Appendix F

Variance Approvals

City of Decatur

Brush College Road Improvement Study

Section 09-00933-00-BR

Design Variance Request #1

South Leg of Brush College Road at William Street Intersection

Prepared By:

URS

345 East Ash Avenue, Suite B
Decatur, IL 62526

Illinois Department of Transportation

Approval of Design Variance

Project Identification

Local Agency: City of Decatur (County, Municipality, Road District / Township) County: Macon

Section No.: 09 - 00933 - 00 - BR Route: F.A.U. 7448

Street/Road Name: Brush College Road

Project Limits: Brush College Road from Lake Shore Drive north to 1000 ft. north of Faries Park. Also approximately 1250 ft. east and west on William Street and 500 ft west and 1800 ft east on Faries Park.

Project Length: 1.12 mile Functional Classification: Minor Arterial (Urban)

Design Year: 2035 Design Traffic: ☒ DHV 1900 ☒ ADT 18,950

Existing Structure No.: 058-3013 Proposed Structure No.: _____

Project Scope of Work

a. Is this project located on the NHS? ☐ Yes ☒ No

b. Is this project on a Strategic Regional Arterial (SRA) route? ☐ Yes ☒ No

c. Funding ☐ MFT/State Assistance ☒ Federal

d. Type of Work ☐ New Construction ☒ Reconstruction ☐ 3R

e. Design Guidelines ☒ Urban ☐ Suburban ☐ Rural ☐ 3R ☐ Other _____

f. Provide a brief project description (major construction elements):

Preliminary design study to determine the most feasible option for providing adequate capacity to handle the future traffic volumes in a safe and efficient manner for the Brush College Road crossing of the Norfolk Southern Railroad. The study includes replacement of the existing deteriorating 1923 underpass structure that carries NSRR over Brush College. The study was extended to include the William Street intersection and the Faries Parkway intersection. The project will increase safety and access for businesses and future industrial development along the Brush College Road corridor.

Brush College Road north of William Street Road is classified as an urban minor arterial with a 40 mph design speed. The south leg of Brush College Road, south of William Street Road, and Marietta Street are classified as urban local streets with 30 mph design speeds. This variance request is for the south leg of Brush College Road.

District Coordination Meetings

Has project been previously discussed at district coordination meetings? ☒ Yes ☐ No
(If yes, attach minutes of variance approvals)

Dates: 05/18/11

Level One Design Variance Approval

Local Agency: City of Decatur Section No.: 09-00933-00-BR

Design Criteria for Project (Provide numerical value where indicated)	BLR&S Criteria	Variance Yes	Variance No	Summary of Variance and Justification
1. Design Speed: 30 mph	30	☐	☒	
2. Level of Service (Mainline): C	C	☐	☒	
3. Lane Widths				
a. Through Lanes: 12 feet	12 feet	☐	☒	
b. Turn Lanes: 12 feet	12 feet	☐	☒	
c. Parking Lanes: N/A feet		☐	☐	
d. Bike Lanes: 10 feet	10 feet	☐	☒	
4. Through Travel Lane Cross Slopes				
Inside Lane: 1.5-2.0 %	1.5-2.0%	☐	☒	
Outside Lane: 1.5-2.0 % (if more than 2 lanes)	1.5-2.0%	☐	☒	
5. Shoulder Widths: N/A feet		☐	☒	
6. Horizontal Curvature (Minimum Radius) 500 feet	230	☐	☒	Criteria: w/emax=4.0% (low speed) BLR Fig. 32-3B
List curves not meeting criteria				
Sta. Radius Design Speed		☐	☐	
		☐	☐	
		☐	☐	
7. Superelevation Rates				
e_{max} N/A %		☐	☐	
List curves for which e does not meet criteria				
PI Sta. Radius e Design Speed		☐	☐	
		☐	☐	
		☐	☐	
8. Maximum Grade: 4.8 %	8.0%	☐	☒	
9. Minimum Intersection Sight Distance >335 feet	335 feet	☐	☒	
List locations not meeting the criteria				
Cross Road Distance		☐	☐	
		☐	☐	
		☐	☐	
10. Minimum Stopping Sight Distance _____ feet	200	☐	☐	
a. Crest Vertical Curves – Min. K value _____	19	☐	☐	
List curves not meeting the criteria				
VPI Sta. Sight Distance Design Speed Curve Length		☐	☐	
		☐	☐	
		☐	☐	
b. Sag Vertical Curves – Min. K value 28	37	☒	☐	See Attachment A
List curves not meeting the criteria				
VPI Sta. Sight Distance Design Speed Curve Length				
11+40.4 165.6 feet 30 mph 142.0 feet	200 feet	☒	☐	See Attachment A
		☐	☐	
		☐	☐	

Level One Design Variance Approval

Local Agency: City of Decatur Section No.: 09-00933-00-BR

c. Inside of Horizontal Curves **List curves not meeting the criteria** Sta. / Sight Distance / Design Speed / Radius N/A		☐ ☐ ☐ ☐ ☐ ☐		
11. Clear Roadway Bridge Widths: N/A		☐	☐	
12. Freeboard Above Design High Water: N/A feet		☐	☐	
13. Vertical Clearances: ☒ Over Roadway/RR >=23 feet ☐ Under Structure _____ feet	23 feet	☐ ☐	☒ ☐	
14. Accessibility Criteria for Disabled Persons **List any feature not meeting ADA Criteria** N/A		☐	☐	
15. Roadside Clear Zone: a. Tangent >=1.5 feet b. Outside of Curve >=1.5 feet **List criteria for each radius** Radius (ft) / Clear Zone (ft)	1.5 feet 1.5 feet	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☒ ☒	
16. Intersection(s) Level of Service: C	C	☐	☒	
17. Warrants for Stop Signs or Signals Cross Road / Warrant N/A		☐ ☐ ☐ ☐ ☐ ☐		
18. Pavement Design (list any variance to policy) N/A		☐	☐	

Prepared By: _____ Date: _____
Designer (Local Agency or Consultant)

When Prepared by Consultant
Local Agency Concurrence: Richard G Mady Date: 03-22-12

Roger L Dushkoff 7/16/12
IDOT Regional Engineer Concurrence Date

James K. Klein (FTW) 8/1/2012
Central BLR&S Approval Date

Level Two Design Variance Approval

Local Agency: City of Decatur Section No.: 09-00933-00-BR

Design Criteria for Project (Provide numerical value where indicated)	BLR&S Criteria	Variance Yes	Variance No	Summary of Variance and Justification
1. Design Period: 20 years	20 years	☐	☒	
2. Horizontal Alignment (Mainline)				
a. Minimum Superelevation Transition Lengths: N/A feet		☐	☐	
b. Superelevation Distribution Between Tangent and Curve: N/A	2/3 : 1/3	☐	☐	
3. Vertical Alignment (Mainline)				
a. Minimum Grade of Urban Cross Section 0.30 %	0.3%	☐	☒	
b. Minimum Length of Vertical Curves 64 feet	90 feet	☒	☐	See Attachment A
c. Maximum K value of Vertical Curves (for curbed facilities) 28	167	☐	☒	
4. Cross Section Elements (Mainline)				
a. Design of Parking Lanes				
• Cross Slope: N/A %		☐	☐	
b. Design of Sidewalks				
• Width: 5 feet	4 feet	☐	☒	
• Buffer Distance: 5 feet	2 feet	☐	☒	
• Cross Slope: 2.0 %	2% max.	☐	☒	
• Longitudinal Grades: <=5.0 %	5% max.	☐	☒	
c. Median				
• Type: B-6.12		☐	☒	
• Width: 4-18 feet		☐	☒	
d. Shoulder Cross Slopes: N/A %		☐	☐	
e. Rollover Factor N/A %		☐	☐	
f. Curb and Gutter Type B-6.24		☐	☒	
g. Roadway Element				
• Steepest Front Slopes: 2.5:1 (H:V)		☐	☒	
• Steepest Back Slopes: 3:1 (H:V)		☐	☒	
5. Drainage (Flood Frequency)				
a. Pavement: 10 years	10	☐	☒	
b. Structure: N/A years		☐	☐	
c. Storm Sewer: 50 years	50	☐	☒	
6. Intersections				
a. Level of Service for Individual Movement:				
• Through Lanes: C&D		☐	☒	
• Turn Lanes: A,B,C&D		☐	☒	
b. Skew Angle: 19.52 degrees		☐	☒	
c. Approach Grades: 1.5%		☐	☒	
d. Design Vehicle: WB-65		☐	☒	
e. Turning Radius for Design Vehicle: 60', 90', 125'		☐	☒	

Level Two Design Variance Approval

Local Agency: City of Decatur | Section No.: 09-00933-00-BR

f. Minimum Corner Island Size: 535 sq ft			75 sq ft	☐	☒	
g. Minimum Turn Lane Length 115 feet			115 feet	☐	☒	
• Approach Taper: N/A_____ feet				☐	☐	
• Departure Taper: 175_____ feet			175 feet	☐	☒	
• Bay Taper: 120 feet			135 feet	☒	☐	See Attachment A
h. Entrances						
Entrance Type	Max. Width (ft.)	Min. Width (ft.)	Max. Grade(%)			
Commercial	35	24	10	10% max.	☐	☒	
Residential	24	12	15	15% max.	☐	☒	
7. RR Crossings						
a. Type of Railroad Protection: N/A					☐	☐	
b. Crossing Width (at 90° angle) _____ feet					☐	☐	
8. Lighting						
a. Illuminance N/A lux					☐	☐	
b. Uniformity Ratio _____					☐	☐	
9. Other Items						
_____					☐	☐	

Prepared By: Keith W. Berg — Designer (Local Agency or Consultant) — Date: 8/15/12

When Prepared by Consultant Local Agency Concurrence: Richard G Marley — Date: 03-22-2012

Roger L Dushek — IDOT Regional Engineer Concurrence — 7/16/12 Date

James K. Klein (ZW) — Central BLR&S Approval — 8/1/2012 Date

Attachment A – Summary of Variances and Justification

Criteria: Urban Local Street (South Leg of Brush College Road at William St.)

Level One Design Variance:

10.b. Minimum Stopping Sight Distance:
Short Sight Distances (Sag Vertical Curves):

Sta. 11+40.37 (Brush College Road) 165.6 feet req'd – 200 feet min.

Sta. 11+40.37 (Brush College Road) - K value of 28 results in stopping sight distance of 165.6 feet. Proposed curve geometry needed to avoid excessive cut and impact to adjacent property. Note: Curve is adjacent to stop condition at T-intersection.

Level Two Design Variances:

3. Vertical Alignment (Mainline):
Minimum Length of Vertical Curves

Sta. 13+31.65 (Brush College Road) 64 feet req'd – 90 feet min.

Sta. 13+31.65 (Brush College Road) – 64 feet curve (K=19) length needed to avoid excessive cut and impact to adjacent property, and to avoid vertical curve extending into crosswalk area of intersection.

6.g. Minimum Turn Lane Length

Brush College Road N.B. approach at William St. left turn Bay Taper – 120 feet Req'd – 135 feet min.

Brush College Road N.B. approach at William St. left turn Bay Taper – 120' length required due to physical constraints. Note: Design speed cannot be reached since approaching traffic is from a stopped condition.

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = $SCALE$	CHECKED -	REVISED -
	PLOT DATE = $DATE$	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
BRUSH COLLEGE ROAD
STA 10+54.36 TO STA 17+00

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		MACON		
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

City of Decatur

Brush College Road Improvement Study

Section 09-00933-00-BR

Design Variance Request #2 – Rev. 1

North Leg of Brush College Road at William Street Intersection

Prepared By:

URS

345 East Ash Avenue, Suite B
Decatur, IL 62526

Illinois Department of Transportation

Approval of Design Variance

Project Identification

Local Agency: City of Decatur (County, Municipality, Road District / Township) County: Macon

Section No.: 09 - 00933 - 00 - BR Route: F.A.U. 7448

Street/Road Name: Brush College Road

Project Limits: Brush College Road from Lake Shore Drive north to 1000 ft. north of Faries Park. Also approximately 1250 ft. east and west on William Street and 500 ft west and 1800 ft east on Faries Park.

Project Length: 1.12 mile Functional Classification: Minor Arterial (Urban)

Design Year: 2035 Design Traffic: ☒ DHV 1900 ☒ ADT 18,950

Existing Structure No.: 058-3013 Proposed Structure No.: _____

Project Scope of Work

a. Is this project located on the NHS? ☐ Yes ☒ No

b. Is this project on a Strategic Regional Arterial (SRA) route? ☐ Yes ☒ No

c. Funding ☐ MFT/State Assistance ☒ Federal

d. Type of Work ☐ New Construction ☒ Reconstruction ☐ 3R

e. Design Guidelines ☒ Urban ☐ Suburban ☐ Rural ☐ 3R ☐ Other _____

f. Provide a brief project description (major construction elements):

Preliminary design study to determine the most feasible option for providing adequate capacity to handle the future traffic volumes in a safe and efficient manner for the Brush College Road crossing of the Norfolk Southern Railroad. The study includes replacement of the existing deteriorating 1923 underpass structure that carries NSRR over Brush College. The study was extended to include the William Street intersection and the Faries Parkway intersection. The project will increase safety and access for businesses and future industrial development along the Brush College Road corridor.

Brush College Road north of William Street Road is classified as an urban minor arterial with a 40 mph design speed. The south leg of Brush College Road, south of William Street Road, and Marietta Street are classified as urban local streets with 30 mph design speeds. This variance request is for Brush College Road north of William Street Road.

District Coordination Meetings

Has project been previously discussed at district coordination meetings? ☒ Yes ☐ No
(If yes, attach minutes of variance approvals)

Dates: 05/18/11

Level One Design Variance Approval

Local Agency: City of Decatur Section No.: 09-00933-00-BR

Design Criteria for Project (Provide numerical value where indicated)	BLR&S Criteria	Variance Yes	Variance No	Summary of Variance and Justification
1. Design Speed: 40 mph	40	☐	☒	
2. Level of Service (Mainline): C	C	☐	☒	
3. Lane Widths				
a. Through Lanes: 12 feet	12 feet	☐	☒	
b. Turn Lanes: 12 feet	12 feet	☐	☒	
c. Parking Lanes: N/A feet		☐	☐	
d. Bike Lanes: 10 feet	10 feet	☐	☒	
4. Through Travel Lane Cross Slopes				
Inside Lane: 1.5-2.0 %	1.5-2.0%	☐	☒	
Outside Lane: 1.5-2.0 % (if more than 2 lanes)	1.5-2.0%	☐	☒	
5. Shoulder Widths: N/A feet		☐	☒	
6. Horizontal Curvature (Minimum Radius) 765 feet	490	☐	☒	Criteria: w/emax=4.0% (low speed) BLR Fig. 32-3B
List curves not meeting criteria				
Sta. Radius Design Speed		☐	☐	
		☐	☐	
		☐	☐	
7. Superelevation Rates				
e_{max} N/A %		☐	☐	
List curves for which e does not meet criteria				
PI Sta. Radius e Design Speed		☐	☐	
		☐	☐	
		☐	☐	
8. Maximum Grade: 5.5 %	7.0%	☐	☒	
9. Minimum Intersection Sight Distance >445 feet	445 feet	☐	☒	
List locations not meeting the criteria				
Cross Road Distance		☐	☐	
		☐	☐	
		☐	☐	
10. Minimum Stopping Sight Distance _____ feet	305	☐	☐	
a. Crest Vertical Curves – Min. K value _____	44	☐	☐	
List curves not meeting the criteria				
VPI Sta. Sight Distance Design Speed Curve Length		☐	☐	
		☐	☐	
		☐	☐	
b. Sag Vertical Curves – Min. K value 37	64	☒	☐	See Attachment A
List curves not meeting the criteria				
VPI Sta. Sight Distance Design Speed Curve Length		☐	☐	
16+00.5 202.6 feet 40 mph 264.0 feet	305 feet	☒	☐	See Attachment A
		☐	☐	

Level One Design Variance Approval

Local Agency: City of Decatur Section No.: 09-00933-00-BR

c. Inside of Horizontal Curves **List curves not meeting the criteria** Sta. Sight Distance Design Speed Radius N/A		☐ ☐ ☐	☐ ☐ ☐	
11. Clear Roadway Bridge Widths: N/A		☐	☒	
12. Freeboard Above Design High Water: N/A feet		☐	☐	
13. Vertical Clearances: ☒ Over Roadway/RR >=23 feet ☐ Under Structure _____ feet	23 feet	☐ ☐	☒ ☐	
14. Accessibility Criteria for Disabled Persons **List any feature not meeting ADA Criteria** N/A		☐	☐	
15. Roadside Clear Zone: a. Tangent >=1.5 feet b. Outside of Curve >=1.5 feet **List criteria for each radius** Radius (ft) Clear Zone (ft)	1.5 feet 1.5 feet	☐ ☐ ☐ ☐ ☐	☒ ☒ ☐ ☐ ☐	
16. Intersection(s) Level of Service: C	C	☐	☒	
17. Warrants for Stop Signs or Signals Cross Road Warrant N/A		☐ ☐ ☐	☐ ☐ ☐	
18. Pavement Design (list any variance to policy) N/A		☐	☒	

Prepared By: _____ Date: _____
Designer (Local Agency or Consultant)

When Prepared by Consultant Local Agency Concurrence: Richard G. Morley Date: 03 22-2012

Rozu L. Dushellof 7/16/12 James K. Klein 8/1/2012
IDOT Regional Engineer Concurrence Date Central BLR&S Approval (ATW) Date

Level Two Design Variance Approval

Local Agency: City of Decatur Section No.: 09-00933-00-BR

Design Criteria for Project (Provide numerical value where indicated)	BLR&S Criteria	Variance Yes	Variance No	Summary of Variance and Justification
1. Design Period: 20 years	20 years	☐	☒	
2. Horizontal Alignment (Mainline)				
a. Minimum Superelevation Transition Lengths: N/A feet		☐	☐	
b. Superelevation Distribution Between Tangent and Curve: N/A	2/3 : 1/3	☐	☐	
3. Vertical Alignment (Mainline)				
a. Minimum Grade of Urban Cross Section 0.30 %	0.3%	☐	☒	
b. Minimum Length of Vertical Curves 140 feet	120 feet	☐	☒	
c. Maximum K value of Vertical Curves 140 (for curbed facilities)	167	☐	☒	
4. Cross Section Elements (Mainline)				
a. Design of Parking Lanes				
• Cross Slope: N/A %		☐	☐	
b. Design of Sidewalks				
• Width: 5 feet	4 feet	☐	☒	
• Buffer Distance: 5 feet	2 feet	☐	☒	
• Cross Slope: 2.0 %	2% max.	☐	☒	
• Longitudinal Grades: <=5.0 %	5% max.	☐	☒	
c. Median				
• Type: B-6.12		☐	☒	
• Width: 4-18 feet		☐	☒	
d. Shoulder Cross Slopes: N/A %		☐	☐	
e. Rollover Factor N/A %		☐	☐	
f. Curb and Gutter Type B-6.24		☐	☒	
g. Roadway Element				
• Steepest Front Slopes: 2.5:1 (H:V)		☐	☒	
• Steepest Back Slopes: 3:1 (H:V)		☐	☒	
5. Drainage (Flood Frequency)				
a. Pavement: 10 years	10	☐	☒	
b. Structure: N/A years		☐	☐	
c. Storm Sewer: 50 years	50	☐	☒	
6. Intersections				
a. Level of Service for Individual Movement:				
• Through Lanes: C&D		☐	☒	
• Turn Lanes: A,B,C&D		☐	☒	
b. Skew Angle: 19.52 degrees		☐	☒	
c. Approach Grades: 1.5%		☐	☒	
d. Design Vehicle: WB-65		☐	☒	
e. Turning Radius for Design Vehicle: 60', 90' & 120'		☐	☒	

Level Two Design Variance Approval

Local Agency: City of Decatur Section No.: 09-00933-00-BR

f. Minimum Corner Island Size: 535 sq ft				75 sq ft	☐	☒	
g. Minimum Turn Lane Length 115 feet				115 feet	☐	☒	
• Approach Taper: N/A____ feet					☐	☐	
• Departure Taper: 175____ feet				175 feet	☐	☒	
• Bay Taper: 175 feet				320 feet	☒	☐	See Attachment A
h. Entrances							
Entrance Type	Max. Width (ft.)	Min. Width (ft.)	Max. Grade(%)				
Commercial	35	24	10	10% max.	☐	☒	
Residential	24	12	15	15% max.	☐	☒	
7. RR Crossings							
a. Type of Railroad Protection: N/A					☐	☐	
b. Crossing Width (at 90° angle) ____ feet					☐	☐	
8. Lighting							
a. Illuminance N/A lux					☐	☐	
b. Uniformity Ratio ____					☐	☐	
9. Other Items							
____					☐	☐	

Prepared By: Keith W. Berk Date: 8/15/12
Designer (Local Agency or Consultant)

When Prepared by Consultant
Local Agency Concurrence: Richard G. Morley Date: 03-22-2012

Roger F. Druchellph 7/16/12 James K. Klein 8/1/2012
IDOT Regional Engineer Concurrence Date Central BLR&S Approval Date

Attachment A – Summary of Variances and Justification

Design Criteria: Minor Arterial (Urban) (Brush College Road north of William St.)

Level One Design Variance:

10.b. Minimum Stopping Sight Distance:
Short Sight Distances (Sag Vertical Curves):

Sta. 16+00.49 (Brush College Road) 202.6 feet req'd – 305 feet min.

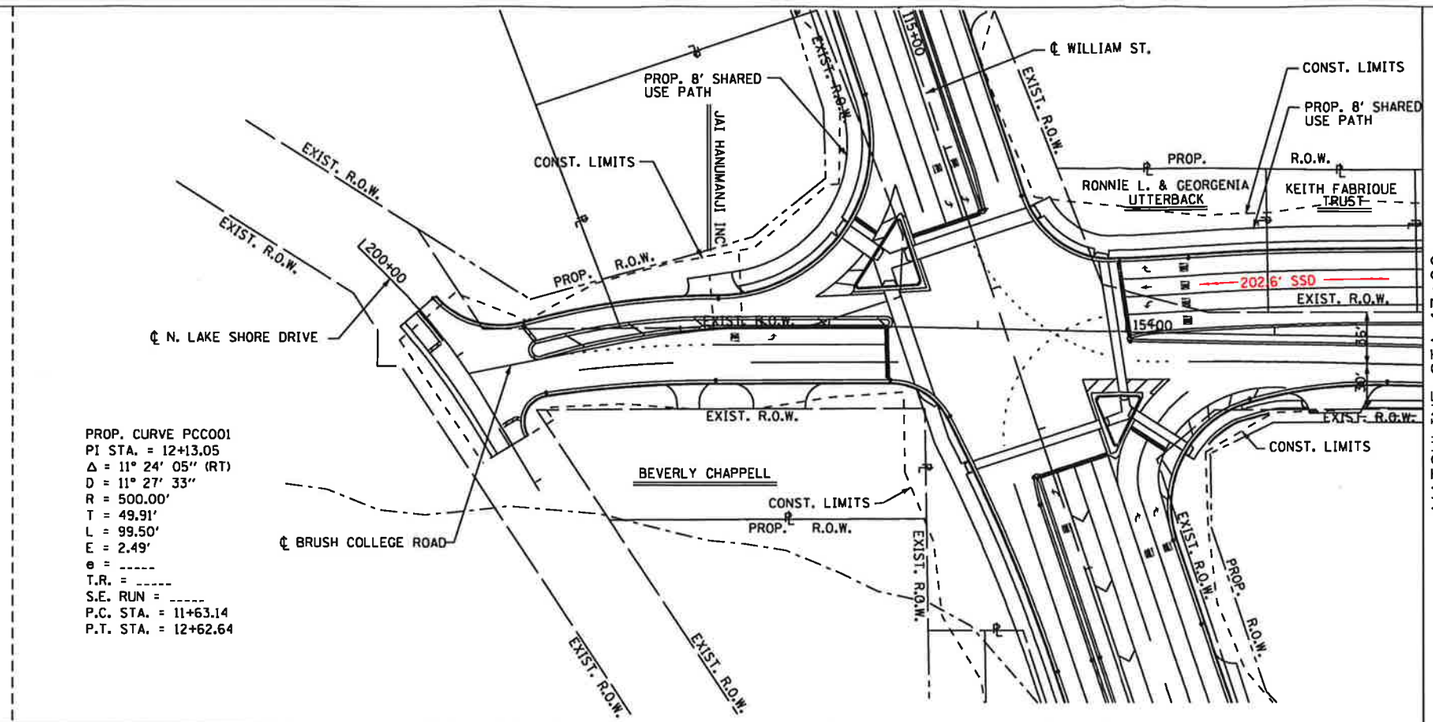
Sta. 16+00.49 (Brush College Road) – K value of 37 results in stopping sight distance of 202.6 feet. Proposed curve geometry needed due to existing steep grades and to avoid impacts to adjacent property. Note: Curve is approaching traffic signal at intersection.

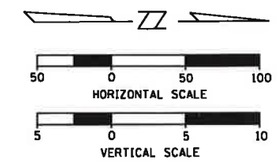
Level Two Design Variances:

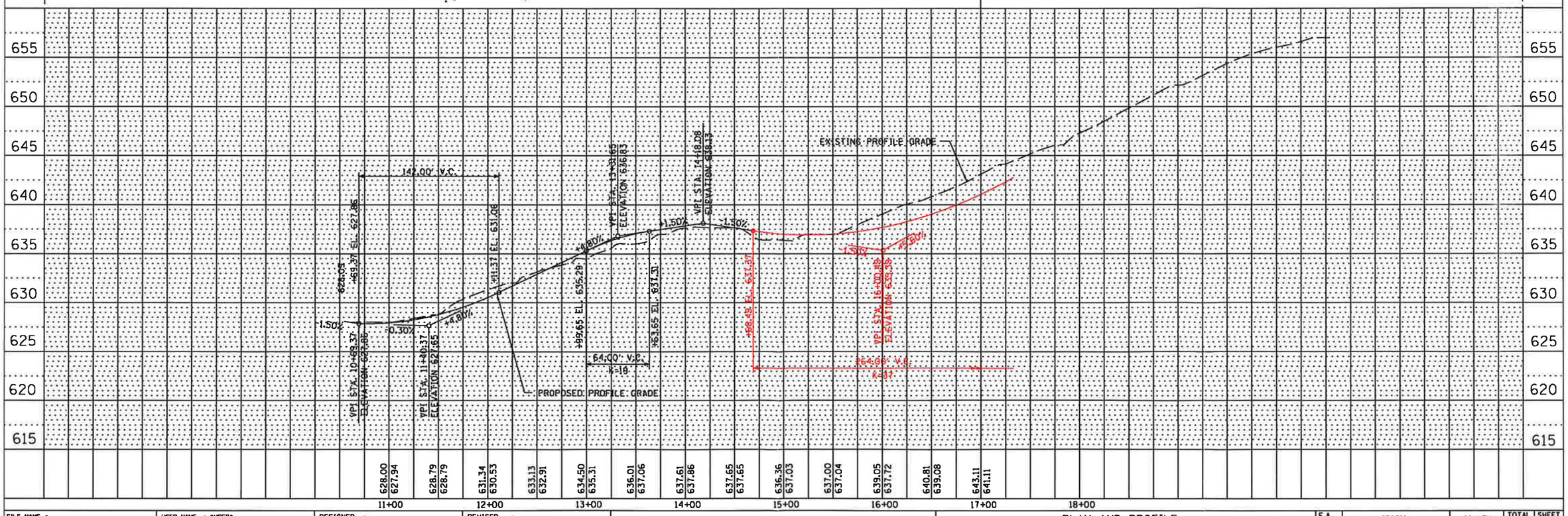
6.g. Minimum Turn Lane Length

Brush College Road S.B. left turn lane length at Sta. 23+59 175'
(75' taper + 100' storage)
Req'd. – 320 feet min. (175' taper + 145' storage) (BDE Fig. 36-3.I)

Brush College Road S.B. left turn lane length at Sta. 23+59 – 175' length required due to physical constraints – limited space between proposed intersection and Cerro Gordo Street.







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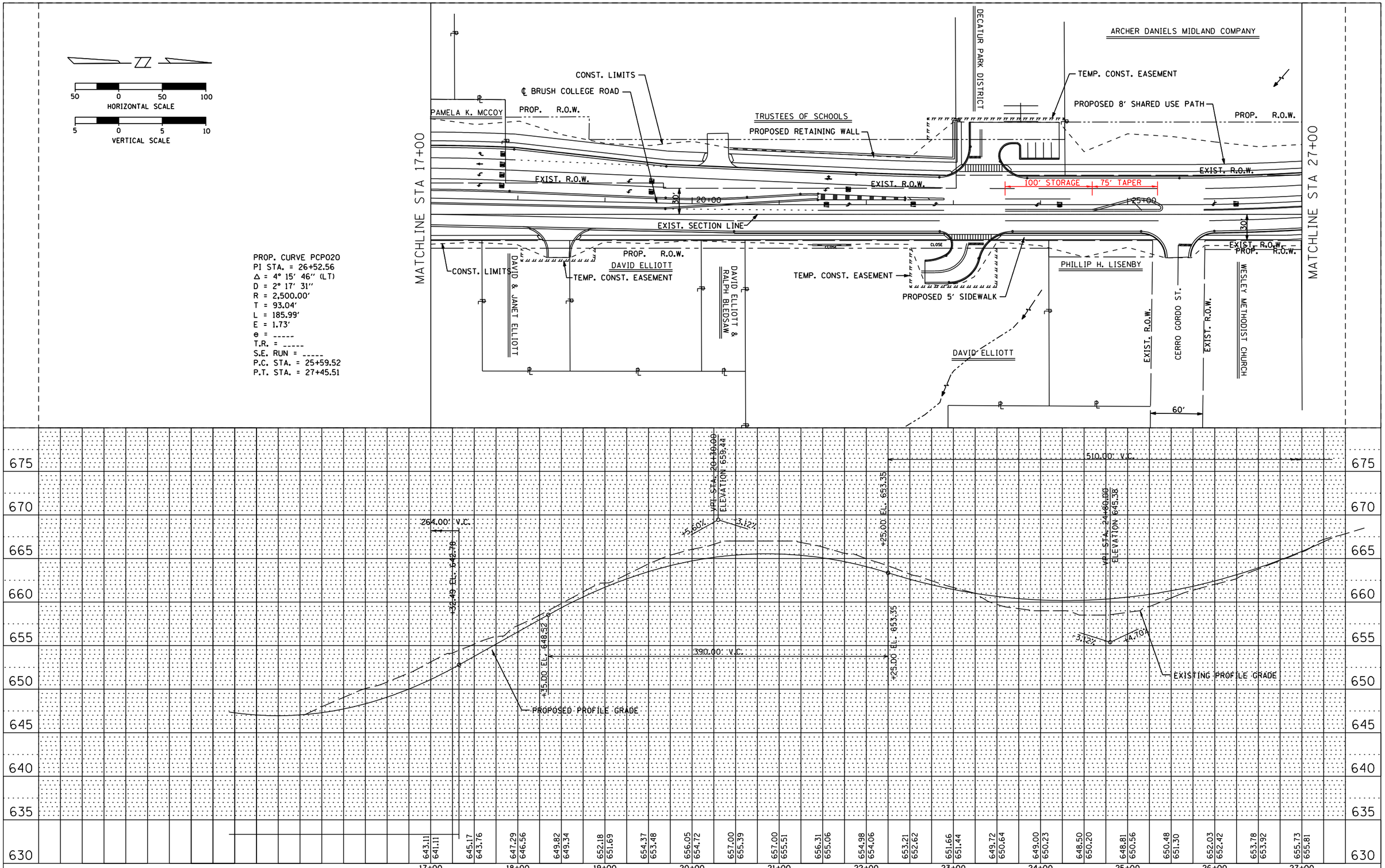
		DRAWN -	REVISED -					MACON		
	PLOT SCALE = @SCALE@	CHECKED -	REVISED -					CONTRACT NO.		
	PLOT DATE = @DATE@	DATE -	REVISED -		SCALE: 1" = 50' SHEET NO. OF SHEETS STA. TO STA.		ILLINOIS FED. AID PROJECT			



FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = $SCALE$	CHECKED -	REVISED -
	PLOT DATE = $DATE$	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
BRUSH COLLEGE ROAD
STA 17+00 TO STA 27+00

SCALE: 1″ = 50′ | SHEET NO. OF SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		MACON		
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

City of Decatur

Brush College Road Improvement Study

Section 09-00933-00-BR

Design Variance Request #3

Marietta Street at Brush College Road

Prepared By:

URS

345 East Ash Avenue, Suite B
Decatur, IL 62526

Illinois Department of Transportation

Approval of Design Variance

Project Identification

Local Agency: City of Decatur (County, Municipality, Road District / Township) County: Macon

Section No.: 09 - 00933 - 00 - BR Route: F.A.U. 7448

Street/Road Name: Brush College Road

Project Limits: Brush College Road from Lake Shore Drive north to 1000 ft. north of Faries Park. Also approximately 1250 ft. east and west on William Street and 500 ft west and 1800 ft east on Faries Park.

Project Length: 1.12 mile Functional Classification: Minor Arterial (Urban)

Design Year: 2035 Design Traffic: ☒ DHV 1900 ☒ ADT 18,950

Existing Structure No.: 058-3013 Proposed Structure No.: _____

Project Scope of Work

a. Is this project located on the NHS? ☐ Yes ☒ No

b. Is this project on a Strategic Regional Arterial (SRA) route? ☐ Yes ☒ No

c. Funding ☐ MFT/State Assistance ☒ Federal

d. Type of Work ☐ New Construction ☒ Reconstruction ☐ 3R

e. Design Guidelines ☒ Urban ☐ Suburban ☐ Rural ☐ 3R ☐ Other _____

f. Provide a brief project description (major construction elements):

Preliminary design study to determine the most feasible option for providing adequate capacity to handle the future traffic volumes in a safe and efficient manner for the Brush College Road crossing of the Norfolk Southern Railroad. The study includes replacement of the existing deteriorating 1923 underpass structure that carries NSRR over Brush College. The study was extended to include the William Street intersection and the Faries Parkway intersection. The project will increase safety and access for businesses and future industrial development along the Brush College Road corridor.

Brush College Road north of William Street Road is classified as an urban minor arterial with a 40 mph design speed. The south leg of Brush College Road, south of William Street Road, and Marietta Street are classified as urban local streets with 30 mph design speeds. This variance request is for Marietta Street.

District Coordination Meetings

Has project been previously discussed at district coordination meetings? ☒ Yes ☐ No
(If yes, attach minutes of variance approvals)

Dates: 05/18/11

Level One Design Variance Approval

Local Agency: City of Decatur Section No.: 09-00933-00-BR

Design Criteria for Project (Provide numerical value where indicated)	BLR&S Criteria	Variance Yes	Variance No	Summary of Variance and Justification
1. Design Speed: 30 mph	30	☐	☒	
2. Level of Service (Mainline): C	C	☐	☒	
3. Lane Widths				
a. Through Lanes: 12 feet	12 feet	☐	☒	
b. Turn Lanes: 12 feet	12 feet	☐	☒	
c. Parking Lanes: N/A feet		☐	☐	
d. Bike Lanes: 10 feet	10 feet	☐	☒	
4. Through Travel Lane Cross Slopes				
Inside Lane: 1.5-2.0 %	1.5-2.0%	☐	☒	
Outside Lane: 1.5-2.0 % (if more than 2 lanes)	1.5-2.0%	☐	☒	
5. Shoulder Widths: N/A feet		☐	☒	
6. Horizontal Curvature (Minimum Radius) N/A feet		☐	☒	
List curves not meeting criteria				
Sta. / Radius / Design Speed		☐	☐	
		☐	☐	
		☐	☐	
7. Superelevation Rates e_{max} N/A %		☐	☐	
List curves for which e does not meet criteria				
PI Sta. / Radius / e / Design Speed		☐	☐	
		☐	☐	
		☐	☐	
8. Maximum Grade: 6.0 %	8.0%	☐	☒	
9. Minimum Intersection Sight Distance >335 feet	335 feet	☐	☒	
List locations not meeting the criteria				
Cross Road / Distance		☐	☐	
		☐	☐	
		☐	☐	
10. Minimum Stopping Sight Distance _____ feet	200	☐	☐	
a. Crest Vertical Curves – Min. K value _____	19	☐	☐	
List curves not meeting the criteria				
VPI Sta. / Sight Distance / Design Speed / Curve Length		☐	☐	
		☐	☐	
		☐	☐	
b. Sag Vertical Curves – Min. K value 17	37	☒	☐	See Attachment A
List curves not meeting the criteria				
VPI Sta. / Sight Distance / Design Speed / Curve Length				
508+70 / 117.4 feet / 30 mph / 110.0 feet	200 feet	☒	☐	See Attachment A
		☐	☐	
		☐	☐	

Level One Design Variance Approval

Local Agency: City of Decatur Section No.: 09-00933-00-BR

c. Inside of Horizontal Curves **List curves not meeting the criteria** Sta. / Sight Distance / Design Speed / Radius N/A		☐ ☐ ☐	☐ ☐ ☐	
11. Clear Roadway Bridge Widths: N/A		☐	☐	
12. Freeboard Above Design High Water: N/A feet		☐	☐	
13. Vertical Clearances: ☒ Over Roadway/RR >=23 feet ☐ Under Structure _____ feet	23 feet	☐ ☐	☒ ☐	
14. Accessibility Criteria for Disabled Persons **List any feature not meeting ADA Criteria** N/A		☐	☐	
15. Roadside Clear Zone: a. Tangent >=1.5 feet b. Outside of Curve >=1.5 feet **List criteria for each radius** Radius (ft) / Clear Zone (ft)	1.5 feet 1.5 feet	☐ ☐ ☐ ☐ ☐	☒ ☒ ☐ ☐ ☐	
16. Intersection(s) Level of Service: C	C	☐	☒	
17. Warrants for Stop Signs or Signals Cross Road / Warrant N/A		☐ ☐ ☐	☐ ☐ ☐	
18. Pavement Design (list any variance to policy) N/A		☐	☒	

Prepared By: _____ Date: _____
Designer (Local Agency or Consultant)

When Prepared by Consultant
Local Agency Concurrence: Richard G. Mauley Date: 3-29-2012

Roger L. Imhoff 7/16/12
IDOT Regional Engineer Concurrence Date

James K. Klein (JKW) 8/1/2012
Central BLR&S Approval Date

Level Two Design Variance Approval

Local Agency: City of Decatur Section No.: 09-00933-00-BR

Design Criteria for Project (Provide numerical value where indicated)	BLR&S Criteria	Variance Yes	Variance No	Summary of Variance and Justification
1. Design Period: 20 years	20 years	☐	☒	
2. Horizontal Alignment (Mainline)				
a. Minimum Superelevation Transition Lengths: N/A feet		☐	☐	
b. Superelevation Distribution Between Tangent and Curve: N/A	2/3 : 1/3	☐	☐	
3. Vertical Alignment (Mainline)				
a. Minimum Grade of Urban Cross Section 0.30 %	0.3%	☐	☒	
b. Minimum Length of Vertical Curves 75 feet	75 feet	☐	☒	
c. Maximum K value of Vertical Curves 40 (for curbed facilities)	167	☐	☒	
4. Cross Section Elements (Mainline)				
a. Design of Parking Lanes				
• Cross Slope: N/A %		☐	☐	
b. Design of Sidewalks				
• Width: 5 feet	4 feet	☐	☒	
• Buffer Distance: 5 feet	2 feet	☐	☒	
• Cross Slope: 2.0 %	2% max.	☐	☒	
• Longitudinal Grades: <=5.0 %	5% max.	☐	☒	
c. Median				
• Type: B-6.12		☐	☒	
• Width: 4-18 feet		☐	☒	
d. Shoulder Cross Slopes: N/A %		☐	☐	
e. Rollover Factor N/A %		☐	☐	
f. Curb and Gutter Type B-6.24		☐	☒	
g. Roadway Element				
• Steepest Front Slopes: 2.5:1 (H:V)		☐	☒	
• Steepest Back Slopes: 3:1 (H:V)		☐	☒	
5. Drainage (Flood Frequency)				
a. Pavement: 10 years	10	☐	☒	
b. Structure: N/A years		☐	☐	
c. Storm Sewer: 50 years	50	☐	☒	
6. Intersections				
a. Level of Service for Individual Movement:				
• Through Lanes: B,C&D		☐	☒	
• Turn Lanes: B&C		☐	☒	
b. Skew Angle: 1.44 Degrees		☐	☒	
c. Approach Grades: 0.7 %		☐	☒	
d. Design Vehicle: WB-55, WB-65		☐	☒	
e. Turning Radius for Design Vehicle: 55'&70'		☐	☒	

Level Two Design Variance Approval

Local Agency: City of Decatur Section No.: 09-00933-00-BR

f. Minimum Corner Island Size: N/A					☐	☐
g. Minimum Turn Lane Length 115 feet				115 feet	☐	☒
• Approach Taper: N/A_____ feet					☐	☐
• Departure Taper: N/A feet					☐	☐
• Bay Taper: N/A feet					☐	☐
h. Entrances						
Entrance Type	Max. Width (ft.)	Min. Width (ft.)	Max. Grade(%)			
Commercial	35	24	10	10% max.	☐	☒
Residential	24	12	15	15% max.	☐	☒
7. RR Crossings						
a. Type of Railroad Protection: N/A					☐	☐
b. Crossing Width (at 90° angle) _____ feet					☐	☐
8. Lighting						
a. Illuminance N/A lux					☐	☐
b. Uniformity Ratio _____					☐	☐
9. Other Items						
_____					☐	☐

Prepared By: Keith W. Bart Date: 8-15-12
Designer (Local Agency or Consultant)

When Prepared by Consultant Local Agency Concurrence: Richard G. Mauly Date: 03-29-2012

Roger L. Dushellof 7/16/12
IDOT Regional Engineer Concurrence Date

James K. Klein (AW) 8/1/2012
Central BLR&S Approval Date

Attachment A – Summary of Variances and Justification

Design Criteria: Urban Local Street (Marietta Street)

Level One Design Variance:

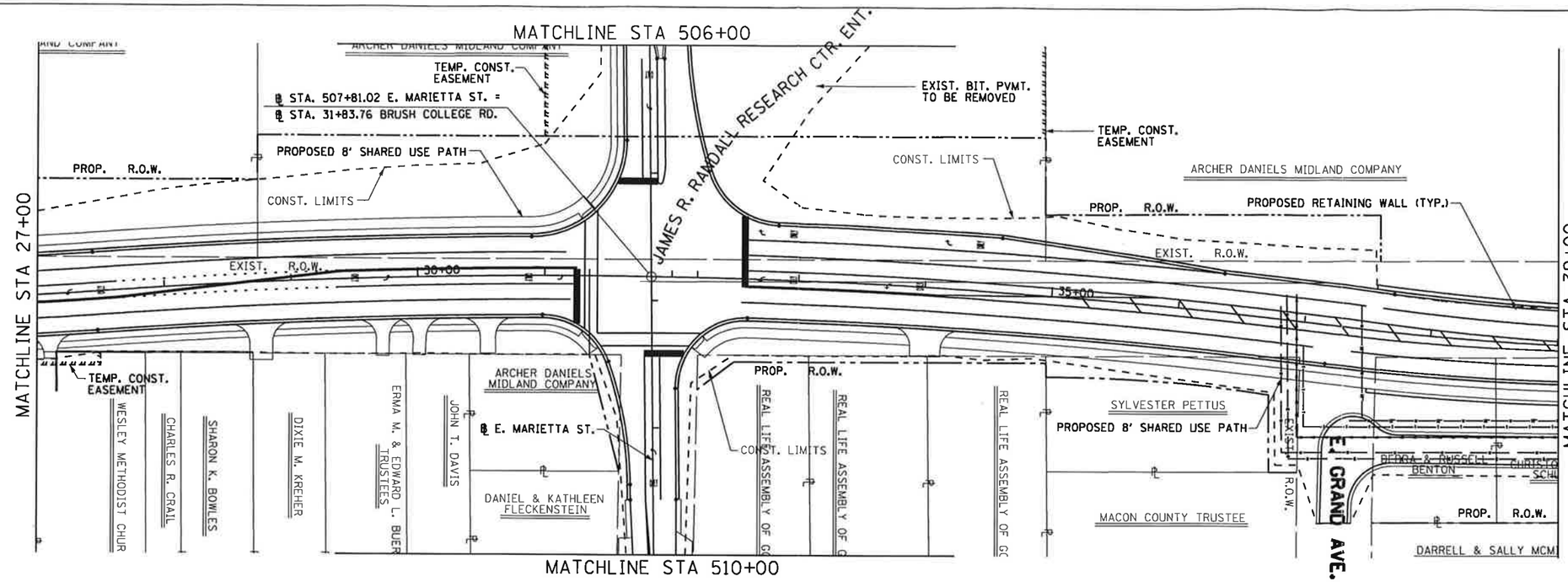
10.b. Minimum Stopping Sight Distance:
Short Sight Distances (Sag Vertical Curves):

Sta. 508+70.00 (Marietta Street)	117.4 feet	req'd – 200 feet min.

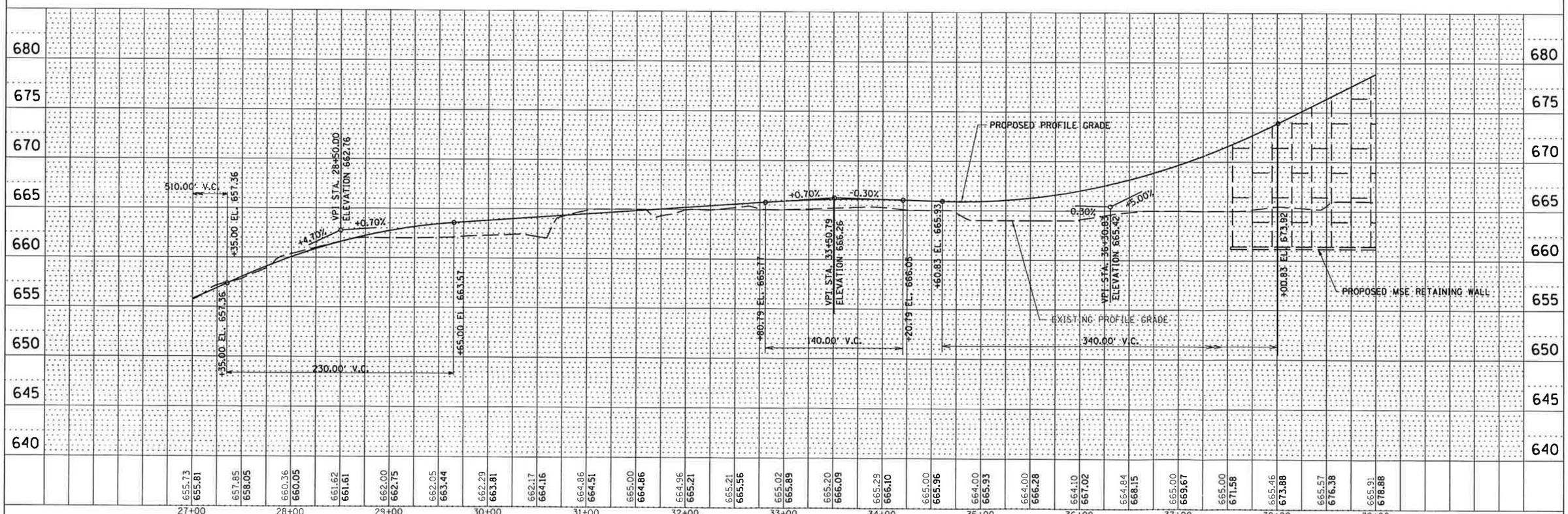
Sta. 508+70 (Marietta St.) – K value of 17 results in stopping sight distance of 117.4 feet. Proposed curve geometry needed to avoid excessive cut and impact to adjacent property. Note: Curve is adjacent to stop condition at intersection where signals are now proposed.

PROP. CURVE PCP020
PI STA. = 26+52.56
Δ = 4° 15' 46" (LT)
D = 2° 17' 31"
R = 2,500.00'
T = 93.04'
L = 185.99'
E = 1.73'
e = -----
T.R. = -----
S.E. RUN = -----
P.C. STA. = 25+59.52
P.T. STA. = 27+45.51

PROP. CURVE PCP021
PI STA. = 32+35.56
Δ = 11° 11' 43" (RT)
D = 1° 08' 45"
R = 5,000.00'
T = 490.05'
L = 976.97'
E = 23.96'
e = -----
T.R. = -----
S.E. RUN = -----
P.C. STA. = 27+45.51
P.T. STA. = 37+22.49



PROP. CURVE PCP022
PI STA. = 38+76.53
Δ = 7° 03' 07" (LT)
D = 2° 17' 31"
R = 2,500.00'
T = 154.05'
L = 307.70'
E = 4.74'
e = -----
T.R. = -----
S.E. RUN = -----
P.C. STA. = 37+22.49
P.T. STA. = 40+30.19



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		DRAWN -	REVISED -					MACON	
	PLOT SCALE = #SCALE#	CHECKED -	REVISED -					CONTRACT NO.	
	PLOT DATE = #DATE#	DATE -	REVISED -		SCALE: 1" = 50' SHEET NO. OF SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT	

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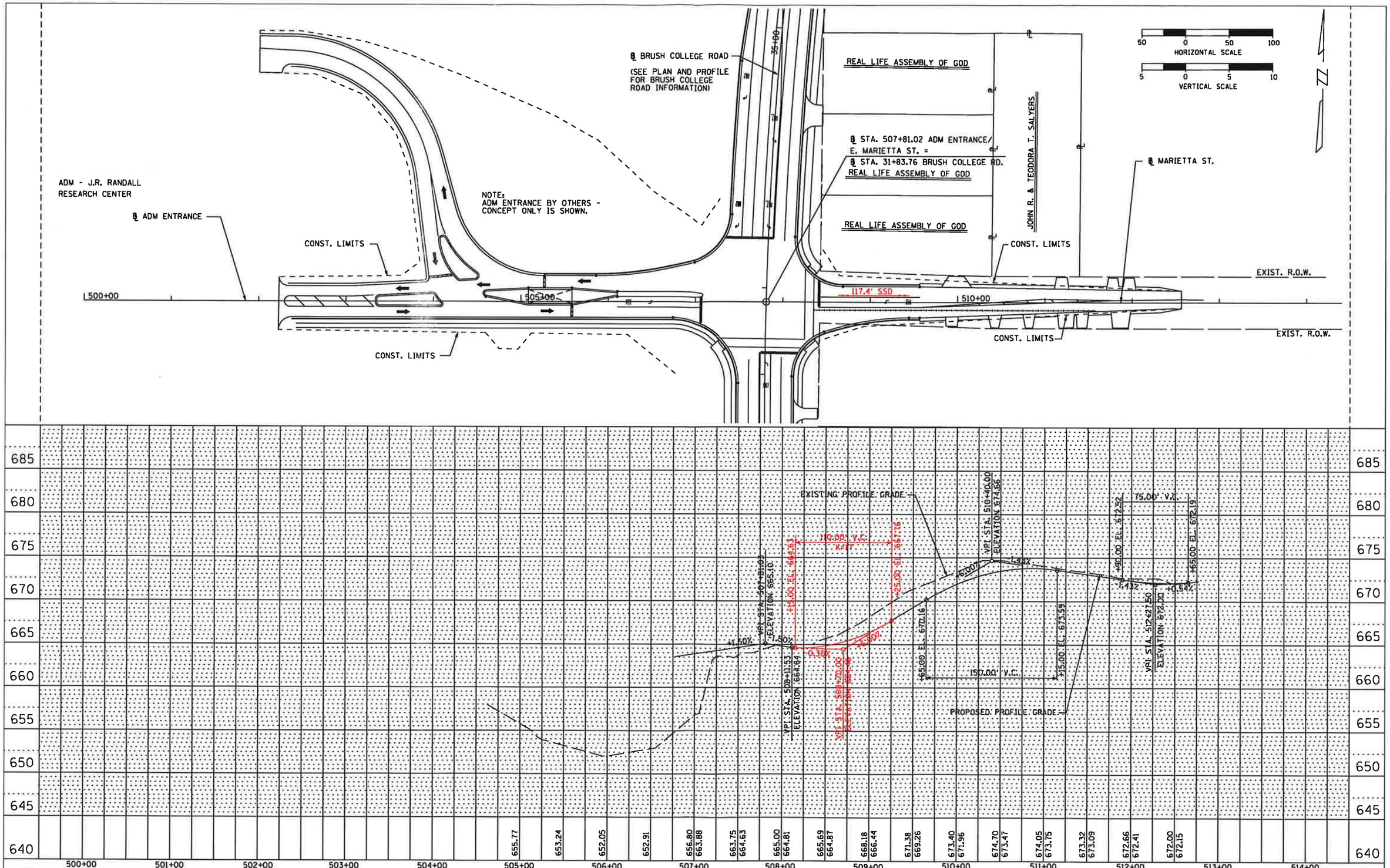

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	PLOT DATE = $DATE$	DATE -	REVISED -	

PLAN AND PROFILE
ADM ENTRANCE / EAST MARIETTA ST.
STA 500+00 TO STA 514+00

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		MACON		
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		