



MEMORANDUM
Missouri Department of Transportation

DATE: June 23, 2023

TO: Stacy Reese, PE
District Engineer

CC: Randall Glaser
Design Liaison Engineer

PREPARED: Jason Haynes, PE
HDR Project Manager

FROM: Andrew Bowman, PE
Transportation Project Manager

SUBJECT: District SW - Design
US-60, Greene County
Freeway Study - US-65 to Route 125
Job No. J8P0683G
Conceptual Study Report

PROJECT PURPOSE AND NEED

The Missouri Department of Transportation (MoDOT) is updating US Highway 60 east- and westbound between US-65 and Route 125 (east of Springfield) to a Freeway classification by adding outer roads. Improvements include improving vertical and horizontal curves and eliminating all at-grade driveways and intersections along US-60. All existing driveways and north-south crossroads will intersect and tie-in directly to the proposed outer roads. The only proposed access to/from US-60 along this project corridor is at the existing NN/J interchange and the proposed Route 125 interchange that is currently under design in the SW District.

Project History

The original 2-lane roadway constructed in the 1930's was expanded to a highway in the 1960's with a separate set of lanes for eastbound traffic while using the original roadway was used for westbound traffic. However, access was uncontrolled and thus driveways and public roadways had direct access to US-60. In 2013, turn lanes were added at strategic locations along the project corridor to help move turning traffic out of the thru lanes. In 2017, a new interchange was constructed and opened at the NN/J Highway alignment with some adjacent land access removed from the US-60 mainline lanes on the north side.

The Ozarks Transportation Organization (OTO), the Springfield area MPO, developed the Regional Long-Range Transportation Plan, named "Destination 2045." Three projects are identified in the "Destination 2045" plan, and shown in the table below, that identify the need to

improve this project corridor to Freeway standards. The need for these projects is based on several factors include poor volume-to-capacity (v/c) ratios, propensity of crashes and other safety metrics, anticipated area growth, high truck percentages, and others as defined in the plan.

Project No.	Route	Expected Sponsor Project Name	Description	Time Band	Inflated Cost
24	Route 60	MoDOT Rte. 60 Freeway Improvements from Routes NN/J to Farm Road 223	Freeway improvements from e/o Rtes. NN/J to Farm Road 223	2032-2037	\$22,693,133
26	Route 60	MoDOT Rte. 60 Freeway Improvements	Freeway improvements from e/o Rte. 65 to w/o Rtes. NN/J w/o interchange at 189	2032-2037	\$28,939,785
250	Route 60	MoDOT Address flooding on Route 60 between NN and 223	Rodway geometric improvements to reduce flooding on Route 60	2032-2037	\$5,787,957

MoDOT programmed funds for this engineering study in the STIP under project J8P0683G. Future funding is being programmed in the STIP under project SU0107 for engineering and construction of the corridor from US-65 to the NN/J interchange.

Traffic Operations

The scope of this project did not include evaluation of Traffic Operations for existing conditions, future construction year, or future design year. However, when comparing projected design year ADTs to the AASHTO Highway Capacity Manual methodologies it is was found that the constructed freeway and outer road carrying capacities will not be exceeded.

Traffic Safety

The crash reduction factor for constructing outer roads to the project corridor and removing at-grade access points does lower the chances of crashes happening by 57%. Crash Modification Factor (CMF ID: 460) provides a 0.43 CMF and is defined for “Convert at-grade intersection into grade-separated interchange”. This CMF has been previously used to evaluate safety benefits in a previously approved study report that was contemplated for this project corridor.

MoDOT staff has completed a cursory safety evaluation for the corridor and is provided in **Appendix D**.

Based on the issues/needs of the project corridor, the following objectives summarize the purpose and need of this project:

- Eliminate at-grade driveways and intersections on US-60; thus, enhancing safety and reducing crashes.
- Accommodate traffic capacity needs expected from the growing community.
- Construct US-60 to Freeway design standards.

PREFERRED DESIGN CONCEPT

This project's scope provided only one Concept for evaluation with consideration given to possible variations needed based on costs or geographic/geometric challenges. It was determined that the anticipated design concept would need to be "future proofed" to ensure that widening to a six-lane freeway would be possible. Two concepts for future widening were developed and are displayed using typical sections to show where the future lanes could be added to the project corridor. The preferred design concept and typical sections are provided in **Appendix A**.

The preferred design concept was developed to use existing freeway lanes and other existing east-west roadway alignments as much as possible to minimize right-of-way and construction costs. The existing wide median allows for the addition of one new set of freeway mainline lanes and converting the replaced existing set of freeway mainline lanes to a outer road. This methodology was used to develop the preferred design concept.

FUNCTIONAL CLASSIFICATION

US-60 is defined on the MoDOT Function Classification map as a "Rural Freeway" for both east and westbound. Outer roads do not currently exist but are recommended as "Rural Minor Collectors" in this project's Roadway Design Criteria Memorandum.

Major Route

Minor Route

DESIGN TRAFFIC

Appendix C shows design and construction year ADT's and geometric design criteria for the proposed freeway and outer roads. Outer roads do not current exist; therefore, there is no existing data to populate for the design traffic. Design traffic data for the US-60 lanes is summarized here:

Eastbound US 60 – US-65 to NN/J Interchange

ADT (Const.)	= 18,112
ADT (Design)	= 28,915
DHV	= 11.3%
D	= 47.5%
% Trucks	= 13.0%
Operational (Posted) Speed	= 60

Westbound US 60 – US-65 to NN/J Interchange

ADT (Const.)	= 20,003
ADT (Design)	= 31,935
DHV	= 7.7%
D	= 52.5%
% Trucks	= 11.7%
Operational (Posted) Speed	= 60

Eastbound US 60 – NN/J Interchange to SR 125

ADT (Const.)	= 15,119
ADT (Design)	= 24,137
DHV	= 11.3%
D	= 48.0%
% Trucks	= 13.0%
Operational (Posted) Speed	= 60

Westbound US 60 – NN/J Interchange to SR 125

ADT (Const.)	= 16,367
ADT (Design)	= 26,130
DHV	= 7.8%
D	= 52.0%
% Trucks	= 11.7%
Operational (Posted) Speed	= 60

Anticipated traffic volumes were developed for the future outer roads using engineering judgement. It is anticipated that the north and south frontage roads may carry approximately 2,250 vpd in the construction year (2027) and approximately 3,350 vpd in the design year (2047).

CONCEPTUAL COST (\$1,000's)

J8P0683G – US-65 Highway to State Route 125

Construction:	\$43,173
PE:	\$5,181
CE:	\$7,771
R/W:	\$1,362
R/W Incidentals:	\$225
Utilities:	\$1,741
Total:	\$59,453

SU0107 – NN/J Interchange to State Route 125

Construction:	\$16,860
PE:	\$2,023
CE:	\$3,035
R/W:	\$486
R/W Incidentals:	\$60
Utilities:	\$681
Total:	\$23,145

A conceptual cost estimate is shown in **Appendix B**.

EXISTING FACILITIES

US-65 Highway to NN/J Interchange

Beginning Log Mile	Pavement		Year Built	Roadbed Width	Min. R/W Width	Access Control
	Width	Type				
88.337 (EB US 60)	24	Varies	Mid 1960s	38	Minimum 220 ft	None
252.011 (WB US 60)	24	Varies	1930s	38	Minimum 220 ft	None

NN/J Interchange to State Route 125

Beginning Log Mile	Pavement		Year Built	Roadbed Width	Min. R/W Width	Access Control
	Width	Type				
90.339 (EB US 60)	24	Varies	Mid 1960s	38	Minimum 220 ft	None
250.295 (WB US 60)	24	Varies	1930s	38	Minimum 220 ft	None

EXISTING BRIDGES

The conceptual design has no planned impacts to bridges in the area. The NN/J Interchange bridge over US-60 will be utilized in place.

PROPOSED DESIGN CRITERIA

The proposed roadway design criteria are outlined in the more detail in the design criteria tables in **Appendix C**.

PROPOSED DESIGN

The proposed design is shown in **Appendix A**, including Typical sections for the proposed design and two options for future six-laning of the project corridor. The design uses the existing (newer) eastbound mainline lanes alignment through much of the corridor, except for adjacent to Highland Springs Country Club where the existing westbound mainline lanes alignment is used. Much of the existing (older) westbound mainline lanes alignment will be used as the new north outer road, except for adjacent to Highland Springs Country Club where the existing eastbound mainline lanes will be used for the new south outer road. All improvements recently constructed at the NN/J interchange will be used-in-place. The existing vertical profile of the newer eastbound mainline lanes will be matched throughout the project limits for any new mainline lanes and nearly matched for the new north outer road. The new south outer road vertical alignment is designed to a lower design speed and therefore does not always match the existing eastbound mainline lanes vertical alignment.

Two future six-lane options were developed and are displayed in the Typical Sections shown in **Appendix A**. Option 1 includes adding two additional lanes (one lane in each direction) to US-60 in the median. In Option 1, determination will need to be made if the median should be raised to avoid collection of storm water in the median or if a stormwater collection system will be installed in the median. Option 2 includes adding only one lane in the median and adding the other to the outside of one of the sets of mainline lanes. The median shoulder widths in Option 1 and 2 would meet design standards through most of the project corridor except for the existing section constructed in the NN/J interchange project. Both options are contained within rights-of-way that will exist following completions of this outer roads project.

LAND USE IN STUDY AREA

Existing land use along the study corridor is generally agricultural, residential, some highway commercial and/or general retail, one golf course, and some churches. There appears to be no wetlands contained along the study corridor. There are no lands that are defined as publicly owned lands having national, state, or local significance along the study corridor. The proposed outer roads create no significant impact to any of the existing land uses with the exception of some right-of-way needed from one of the churches located in the southwest quadrant of US-60 / State Route 125.

ACCIDENT DATA AND SAFETY ENHANCEMENTS

A safety evaluation was not included in the scope of this study; however, anecdotally this project would drastically improve safety since it will disconnect at-grade driveways and intersections from US-60 freeway and provide that access to slower speed outer roads.

UTILITIES IMPACTS

Field topographic survey including known utilities was not completed during the conceptual study; therefore, existing utilities that will require relocation are currently unknown. Available utility shapefiles for known utilities in the project limits were obtained (when available) and placed in the base design file. Alignments of new outer roads were set in an effort to avoid those utilities and avoid costly utility relocations. The project corridor contains two significant gas mains, one owned by Summit Natural Gas and one owned by City Utilities of Springfield. The outer road alignments were set to avoid these gas mains except the south outer road east of the NN/J interchange. The south outer road alignment east of the NN/J interchange will need further evaluation and additional communication with property owners and utility companies to determine the final alignment. Other utilities that may require minor relocations include electrical distribution lines, City Utilities of Springfield's water mains, and some private communication lines.


The conceptual level cost estimate for each project phase includes costs for utility relocations set at eight (8) percent of the total grading, drainage, and pavement surface and base costs.

MULTIMODAL IMPACTS

No significant multimodal impacts anticipated. Outer roads could be utilized by bicycle riders in lieu of them using US-60.

ENVIRONMENTAL SUMMARY

MoDOT staff will complete a conceptual-level RES to initiate the NEPA process.

Prepared by: 

Jason Haynes, PE
Senior Traffic Engineer

Submitted by: _____
Andrew Bowman, PE
Transportation Project Manager

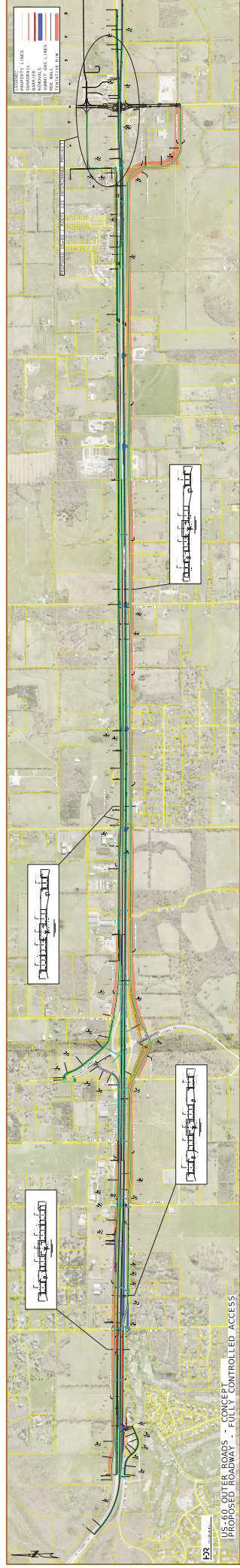
Design Liaison Engineer's Comments & Recommendation: _____

Attachments:

- Appendix A – Preferred Design Concept Exhibit & Typical Sections
- Appendix B – Roadway Design Criteria
- Appendix C – BidTabsPro Conceptual Cost Estimate
- Appendix D – Safety Evaluation

Approved by: _____
Stacy Reese, PE
District Engineer

cc: Design Division
Construction and Materials Division
Traffic Division



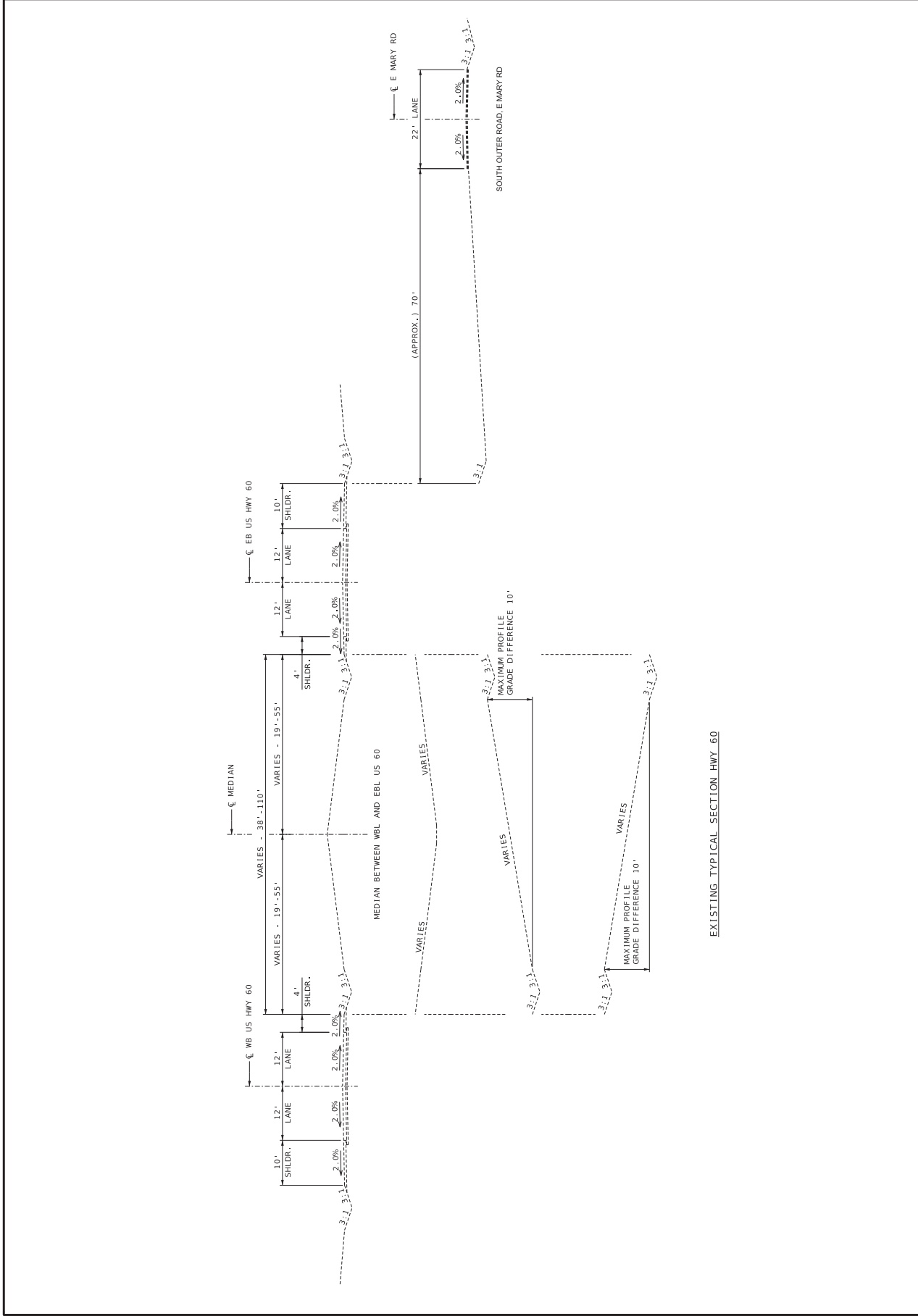
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED	
\$ DATES	
ROUTE	MO 60
DISTRICT	SW
COUNTY	GREENE
JOB NO.	J8P0683G
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
 105 WEST CAPITOL JEFFERSON CITY, MO 65102
 1-888-ASK-HMODOT (1-888-275-6993)



H2R HDR Engineering, Inc.
 2139 E. Platteau
 Springfield, MO 65804
 417-551-6800
 Certificate of Authority: 000856



EXISTING TYPICAL SECTION HWY 60


REV. STILES \$DATES

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

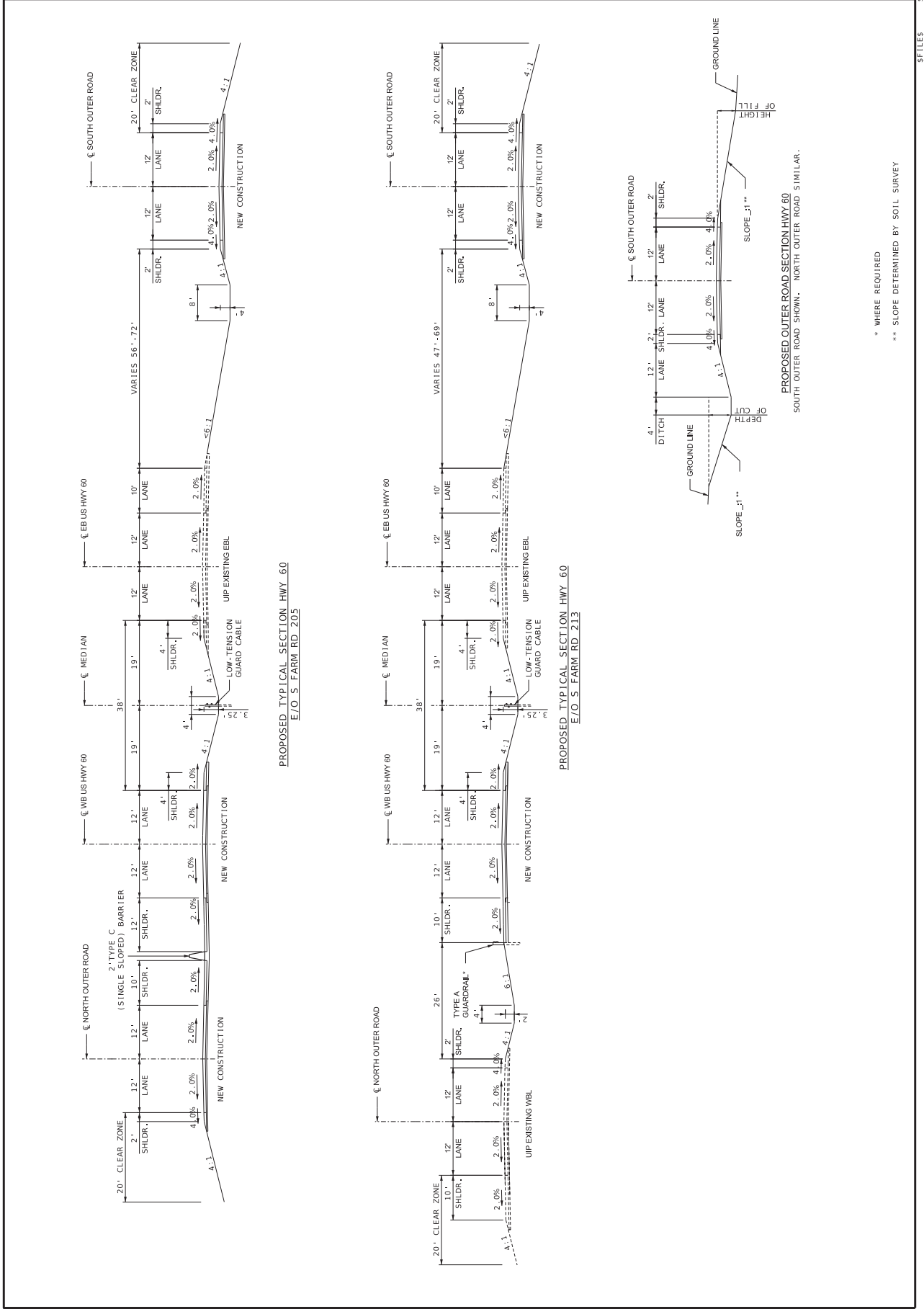
DATE PREPARED	DATE
ROUTE	MO
PROJECT NO.	JOB NO.
COUNTY	CITY
CONTRACT NO.	CONTRACT ID.
PROJECT NO.	PROJECT NO.
BRIDGE NO.	BRIDGE NO.
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6936)



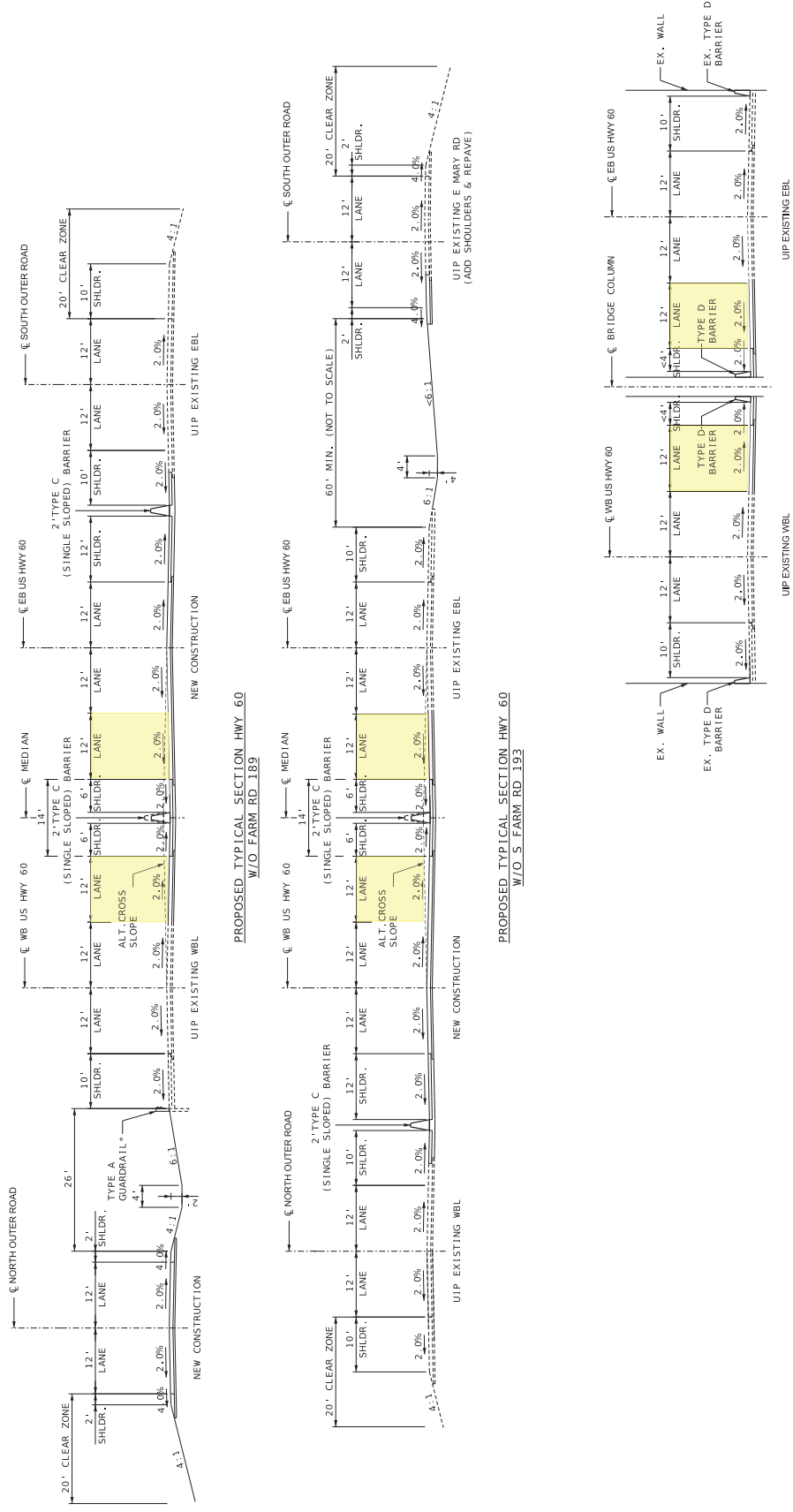
H2R HDR Engineering, Inc.
2139 E. Pittmore
Suite E
Springfield, MO 65804
417-551-4800
Certificate of Authority: 000856



* WHERE REQUIRED
** SLOPE DETERMINED BY SOIL SURVEY

REV. STILES SDATES

OPTION 1 - 3RD LANES WIDEN TO INSIDE



* WHERE REQUIRED
LEGEND
 ADDITIONAL 3RD LANE

PROPOSED TYPICAL SECTION HWY 60
 NN/J INTERCHANGE

DATE PREPARED	DATE
\$ DATES	MO
ROUTE	NO.
PROJECT NO.	SW
COUNTY	GREENE
JOB NO.	J9P0683G
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	

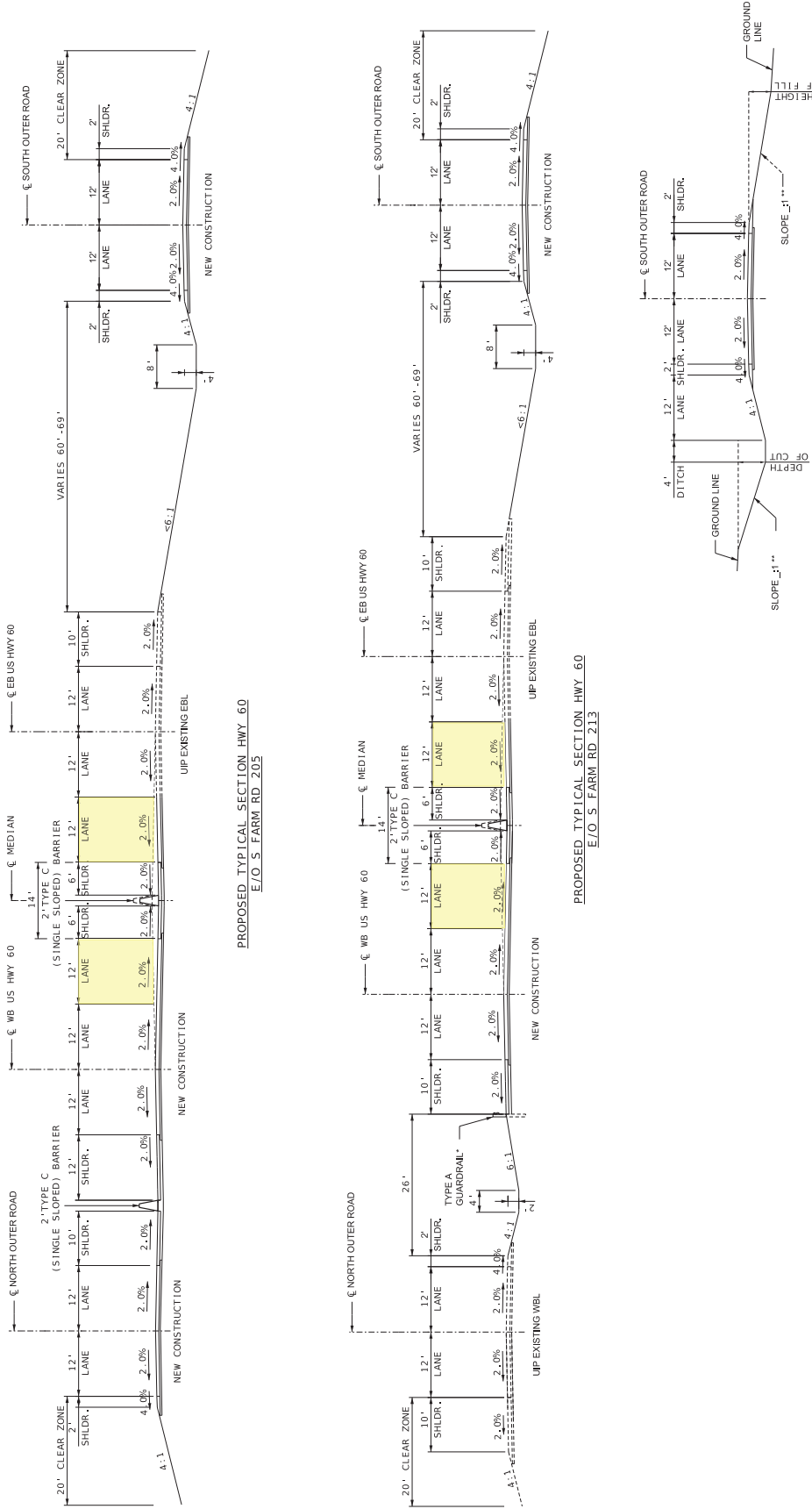
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
 105 WEST CAPITOL
 JEFFERSON CITY, MO 65102
 1-888-ASK-HODOT (1-888-275-6593)



HDR Engineering, Inc.
 2139 E. Pittmore
 Springfield, MO 65904
 417-551-4800
 Certificate of Authority: 000856

REV. STILES

OPTION 1 - 3RD LANES WIDEN TO INSIDE



PROPOSED OUTER ROAD SECTION HWY 60
SOUTH OUTER ROAD SHOWN. NORTH OUTER ROAD SIMILAR.

* WHERE REQUIRED
** SLOPE DETERMINED BY SOIL SURVEY

LEGEND
ADDITIONAL 3RD LANE

DATE PREPARED: _____
 DATE: _____
 ROUTE: 60
 COUNTY: SW
 PROJECT NO.: JBP0683G
 CONTRACT ID: _____
 BUDGET NO.: _____

2139 E. Pittmore
 Suite E
 Springfield, MO 65804
 417.521.8500
 H2R Engineering, Inc.
 H2R

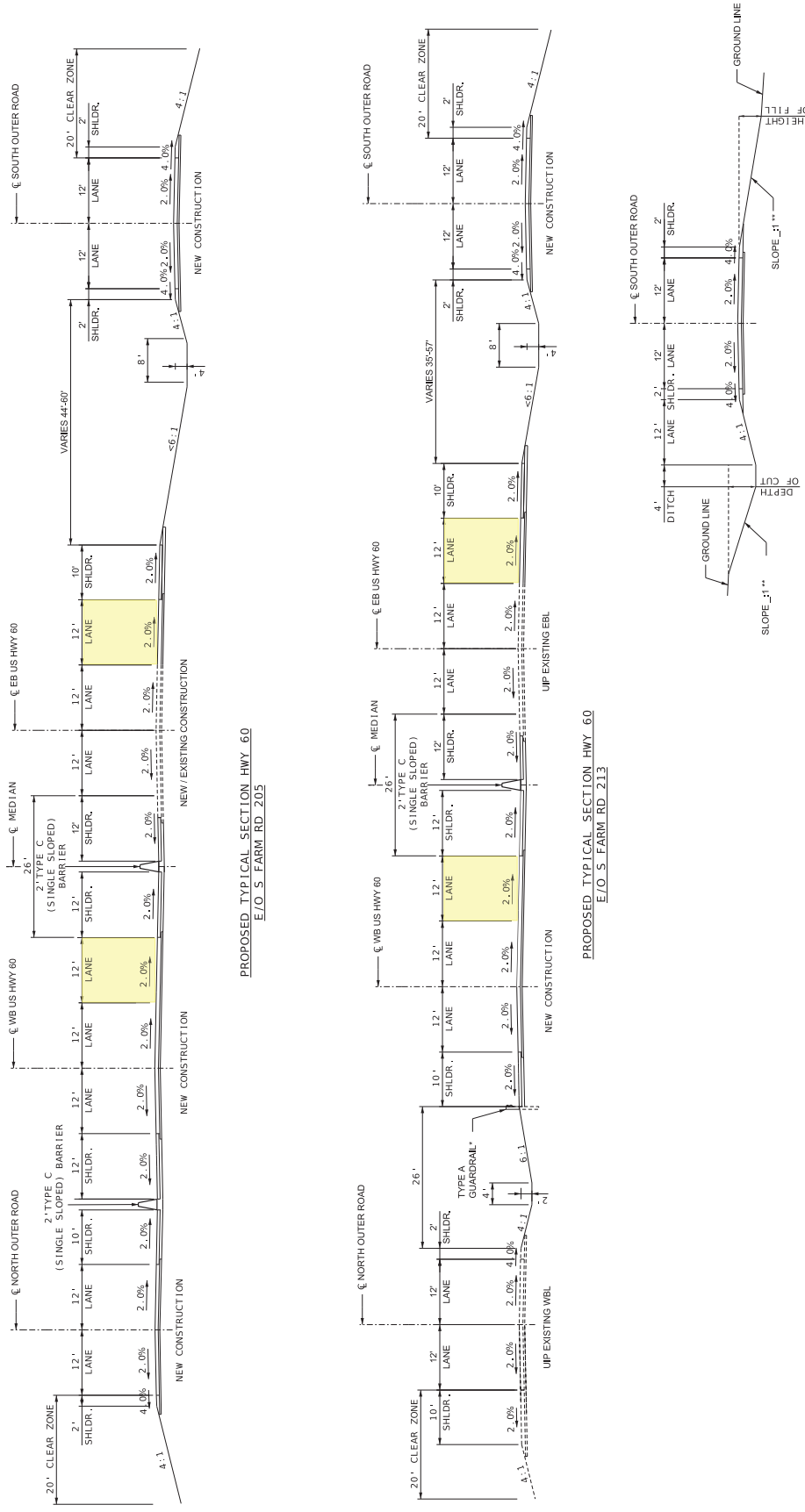
105 WEST CAPITOL
 JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6263)

MISSOURI HIGHWAYS AND TRANSPORTATION
 COMMITTEE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV. _____
 STILES _____
 DATES _____

OPTION 2 - 3RD LANE WIDEN TO INSIDE & OUTSIDE



PROPOSED TYPICAL SECTION HWY 60
E/O S. FARM RD 203

PROPOSED TYPICAL SECTION HWY 60
E/O S. FARM RD 213

* WHERE REQUIRED
** SLOPE DETERMINED BY SOIL SURVEY

LEGEND
ADDITIONAL 3RD LANE

DATE PREPARED	DATE	ROUTE	PROJECT NO.	CONTRACT NO.	BRIDGE NO.	DESCRIPTION	DATE
	06/01/20	60	J8P0683G				
SW	MO	SW	GREENE				
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6693)							
H2R HDR Engineering, Inc. 2139 E. Pittmore Suite E, Pittmore Springfield, MO 65904 417-551-4800 Certificate of Authority: 000856							

REV. 1
STILES

APPENDIX B
Roadway Design Criteria
US HWY 60 – US 65 to Route 125
Greene County
Rural Freeway & Expressway

Design Element		Design Criteria
AADT (1)	Construction (2027)	US-65 to NN/J: WB – 20,003 / EB – 18,112
		NN/J to Rte 125: WB – 16,367 / EB – 15,119
	Design (2047)	US-65 to NN/J: WB – 31,935 / EB – 28,915
		NN/J to Rte 125: WB – 26,130 / EB – 24,137
Design Speed (Posted Speed)		65 mph (60 mph)
Terrain Type		level
Travel Lane Width		12' min.
Auxiliary Turn Lane Width		12' min.
Shoulder Width	Total Width	10' outside/4' inside
Clear Zone		30'-34' (6:1 Fill Slope) 38'-46' (4:1 Fill Slope)
Cross Slope	Travel Lane	2.00%
	Shoulder Paved	2.00%
Break Over		8%
Maximum Superelevation		6%
Slopes	Ditch Bottom Width	4'
		Back Slope
	Fill Section	To Clear Zone
Minimum Length of Horizontal Curve (2)		1800'
Minimum Curve Radii (3)		1660'
Maximum Profile Grade		3.0%
Minimum Profile Grade		0.5%
Stopping Sight Distance (4)		645'
Minimum Sag Vertical Curve Length		157'
Minimum Vertical Curvature (K-values) (5)	Crest	193
	Sag	157

- 1) Estimate based on 2021 Traffic Counts on MoDOT's Traffic Volume Map. 2% growth for future year volumes.
- 2) Value shown is based on MoDOT EPG 230.1.3 and an anticipated posted speed of 60 mph.
- 3) Value shown is based on AASHTO Geometric Design of Highways and Streets (2018, 7th Edition Green Book) Table 3-7.
- 4) Value is for passenger cars on level grade. Value shown is based on the AASHTO Geometric Design of Highways and Streets (2018, 7th Edition Green Book) Table 3-1 with a design speed of 65 mph.
- 5) K-values are based on the level stopping sight distances. Values Shown are based on the AASHTO Geometric Design of Highways and Streets (2018, 7th Edition Green Book) Table 3-35, and Table 3-37.

APPENDIX B
Roadway Design Criteria
US HWY 60 Frontage Roads – US 65 to Route 125
Greene County
Rural Minor Collector (North of US Hwy 60)
Rural Minor Collector (South of US Hwy 60)

Design Element		Design Criteria
AADT (1)	Construction (2027)	North Frontage - 2,252 South Frontage - 2,252
	Design (2047)	North Frontage - 3,346 South Frontage - 3,346
Design Speed		55 mph
Terrain Type		level
Travel Lane Width		12' min.
Auxiliary Turn Lane Width		12' min.
Shoulder Width (2)	Total Width	2' (full depth)
Clear Zone		20'-22' (6:1 Fill Slope) 24'-30' (4:1 Fill Slope)
Cross Slope	Travel Lane	2.00%
	Shoulder Paved	2.00%
Break Over		8%
Maximum Superelevation		6%
Slopes	Ditch Bottom Width	4'
	Back Slope	Geotechnical Report (Back Slope)
	Fill Section To Clear Zone	4 H: 1V
Minimum Horizontal Curve Length (3)		675'
Minimum Curve Radii (4)		1060'
Maximum Profile Grade		5.0%
Minimum Profile Grade		0.5%
Stopping Sight Distance (5)		495'
Minimum Sag Vertical Curve Length		115'
Minimum Vertical Curvature (K-values) (6)	Crest	114
	Sag	115

- 1) Estimated at 2,000 in 2021 since roads do not currently exist. 2% growth for future year volumes.
- 2) Shoulder width values based on MoDOT Engineering Policy Guide 231.4.2.2. Rural Minor Routes.
- 3) Value shown is based on MoDOT EPG 230.1.3 and an anticipated posted speed of 45 mph.
- 4) Value shown is based on AASHTO Geometric Design of Highways and Streets (2018, 7th Edition Green Book) Table 3-7.
- 5) Value is for passenger cars on level grade. Value shown is based on the AASHTO Geometric Design of Highways and Streets (2018, 7th Edition Green Book) Table 3-1 with a design speed of 55 mph.
- 6) K-values are based on the level stopping sight distances. Values Shown are based on the AASHTO Geometric Design of Highways and Streets (2018, 7th Edition Green Book) Table 3-35, and Table 3-37.

APPENDIX C PLUS Report

Date: 03/01/2023

Time: 09:30:31 AM

bidTABS.NET

Project: US-60 HWY Outer Roads	Job Number: J8P0683G	Bid Date: 01/04/2023	State: MO
Location: US-65 to SR125			

Project Settings

Primary County: GREENE	Urban / Rural:
Addl Counties:	Project Type:
District: Southwest	Work Type:
Latitude: 00° 00' 00"	Traffic:
Longitude: 00° 00' 00"	Estimator: madison.gehl@hdrinc.com
Log Mile: Beg:	Constr Eng: 0.00%
End:	Priced Date:
Station: Beg:	Create Date: 1/4/2023
End:	Fed Project No:
Project Length: 0.0000 miles	Mobe Percent: 5.00%
Route: US-60	Survey Percent: 2.00%

Project Sections

1	Roadway	\$33,122,093.48	76.72%
10	Drainage	\$4,516,649.11	10.46%
30	Signing	\$301,109.94	0.70%
40	MOT	\$1,806,659.64	4.18%
50	Pavement Marking	\$301,109.94	0.70%
60	Temporary Erosion Control	\$301,109.94	0.70%
70	Contractual	\$2,824,411.24	6.54%

Total	\$43,173,143.30	100.0%
--------------	------------------------	---------------

Major Categories

BRIDGE	\$558,864.00	1.29%
GRADE/DRAIN	\$10,980,162.44	25.43%
MISC.	\$11,445,565.03	26.51%
PAVEMENT/BASE	\$20,188,551.82	46.76%

Total	\$43,173,143.29	100.0%
--------------	------------------------	---------------

STIP Information

Construction Cost	\$43,173,143.30	72.62%
PE (12.00% of construction cost)	\$5,180,777.20	8.71%
CE (18.00% of construction cost)	\$7,771,165.79	13.07%
R/W	\$1,362,272.40	2.29%
R/W Incidentals	\$225,000.00	0.38%
Utilities	\$1,741,000.00	2.93%
Incentive	\$0.00	0.00%

Total	\$59,453,358.69	100.0%
--------------	------------------------	---------------

APPENDIX C PLUS Report

Date: 03/01/2023

Time: 09:30:31 AM

bidTABS.NET

Project: US-60 HWY Outer Roads	Job Number: J8P0683G	Bid Date: 01/04/2023	State: MO
Location: US-65 to SR125			

Section: Roadway

0	2029901	MISC. {Removal of Improvements}	1.000	L.S.	Unit Price	Total
Bid Price			--		\$3,011,099.41	3,011,099.41
0	2031000	CLASS A EXCAVATION	0.000	C.Y.	Unit Price	Total
Bid Price			--		\$13.72	0.00
0	2035000	UNCLASSIFIED EXCAVATION	502,094.000	C.Y.	Unit Price	Total
Bid Price			--		\$11.60	5,824,290.40
0	2035500	EMBANKMENT IN PLACE	0.000	C.Y.	Unit Price	Total
Bid Price			--		\$14.52	0.00
0	2036000	COMPACTING EMBANKMENT	68,229.000	C.Y.	Unit Price	Total
Bid Price			--		\$5.57	380,035.53
0	3030600	FURNISHING ROCK BASE MATERIAL	126,912.000	S.Y.	Unit Price	Total
Bid Price			--		\$12.45	1,580,054.40
0	3030610A	PLACING ROCK BASE	126,912.000	S.Y.	Unit Price	Total
Bid Price			--		\$6.54	830,004.48
0	3040506	TYPE 5 AGGREGATE FOR BASE (6 IN. THICK)	125,114.000	S.Y.	Unit Price	Total
Bid Price			--		\$11.39	1,425,048.46
0	4010102	"9 INCHES, BITUMINOUS PAVEMENT"	17,873.300	S.Y.	Unit Price	Total
Bid Price			--		\$85.00	1,519,230.50
0	4010150	TYPE A2 SHOULDER	41,111.000	S.Y.	Unit Price	Total
Bid Price			--		\$58.67	2,411,982.37
0	4011209	"BITUMINOUS PAVEMENT MIXTURE PG64-22, (BP-1) "	10,415.800	TON	Unit Price	Total
Bid Price			--		\$91.63	954,399.75
0	4013000	BITUMINOUS PAVEMENT MIXTURE PG64-22 (BASE)	40,175.100	TON	Unit Price	Total
Bid Price			--		\$117.36	4,714,949.74

APPENDIX C PLUS Report

Date: 03/01/2023

Time: 09:30:31 AM

bidTABS.NET

Project: US-60 HWY Outer Roads	Job Number: J8P0683G	Bid Date: 01/04/2023	State: MO
Location: US-65 to SR125			

0	4030132	ASPHALTIC CONCRETE MIXTURE PG 76-22 (SP125BSM MIX)	8,024.800	TON	Unit Price	Total
----------	----------------	--	------------------	-----	-------------------	--------------

Bid Price			--		\$129.49	1,039,131.35
-----------	--	--	----	--	----------	--------------

0	4030306	ASPHALTIC CONCRETE MIXTURE PG 64-22 (SP250C MIX)	37,831.000	TON	Unit Price	Total
----------	----------------	--	-------------------	-----	-------------------	--------------

Bid Price			--		\$114.67	4,338,080.77
-----------	--	--	----	--	----------	--------------

0	4030317	ASPHALTIC CONCRETE MIXTURE PG 76-22 (SP250B MIX)	13,756.700	TON	Unit Price	Total
----------	----------------	--	-------------------	-----	-------------------	--------------

Bid Price			--		\$100.00	1,375,670.00
-----------	--	--	----	--	----------	--------------

0	6061060	MGS GUARDRAIL	19,590.000	L.F.	Unit Price	Total
----------	----------------	---------------	-------------------	------	-------------------	--------------

Bid Price			--		\$31.55	618,064.50
-----------	--	--	----	--	---------	------------

0	6061080	MGS END ANCHOR	2.000	EACH	Unit Price	Total
----------	----------------	----------------	--------------	------	-------------------	--------------

Bid Price			--		\$1,572.16	3,144.32
-----------	--	--	----	--	------------	----------

0	6063014	TYPE A CRASHWORTHY END TERMINAL (MASH)	2.000	EACH	Unit Price	Total
----------	----------------	--	--------------	------	-------------------	--------------

Bid Price			--		\$3,320.36	6,640.72
-----------	--	--	----	--	------------	----------

0	6064100	MEDIAN GUARD CABLE 3 - STRAND	26,050.000	L.F.	Unit Price	Total
----------	----------------	-------------------------------	-------------------	------	-------------------	--------------

Bid Price			--		\$29.40	765,870.00
-----------	--	--	----	--	---------	------------

0	6064110	"ANCHOR ASSEMBLY, GUARD CABLE 3-STRAND"	13.000	EACH	Unit Price	Total
----------	----------------	---	---------------	------	-------------------	--------------

Bid Price			--		\$4,449.92	57,848.96
-----------	--	--	----	--	------------	-----------

0	6064500	AGGREGATE BEDDING FOR 3 - STRAND GUARD CABLE	1,286.000	C.Y.	Unit Price	Total
----------	----------------	--	------------------	------	-------------------	--------------

Bid Price			--		\$883.47	1,136,142.42
-----------	--	--	----	--	----------	--------------

0	6113010	FURNISHING TYPE 1 ROCK BLANKET	2,778.000	C.Y.	Unit Price	Total
----------	----------------	--------------------------------	------------------	------	-------------------	--------------

Bid Price			--		\$55.57	154,373.46
-----------	--	--	----	--	---------	------------

0	6113030	PLACING TYPE 1 ROCK BLANKET	2,778.000	C.Y.	Unit Price	Total
----------	----------------	-----------------------------	------------------	------	-------------------	--------------

Bid Price			--		\$37.73	104,813.94
-----------	--	--	----	--	---------	------------

0	6173000	"CONCRETE TRAFFIC BARRIER, TYPE C"	3,350.000	L.F.	Unit Price	Total
----------	----------------	------------------------------------	------------------	------	-------------------	--------------

APPENDIX C PLUS Report

Date: 03/01/2023

Time: 09:30:31 AM

bidTABS.NET

Project: US-60 HWY Outer Roads	Job Number: J8P0683G	Bid Date: 01/04/2023	State: MO
Location: US-65 to SR125			

Bid Price -- \$93.24 312,354.00

0	7201000	MECHANICALLY STABILIZED EARTH WALL SYSTEMS	7,200.000	S.F.	Unit Price	Total
---	---------	--	-----------	------	------------	-------

Bid Price -- \$77.62 558,864.00

Category: Roadway	Total
--------------------------	--------------

Bid Price \$33,122,093.48

Section: Drainage

0	7279901	MISC. {Drainage System}	1.000	L.S.	Unit Price	Total
---	---------	-------------------------	-------	------	------------	-------

Bid Price -- \$4,516,649.11 4,516,649.11

Category: Drainage	Total
---------------------------	--------------

Bid Price \$4,516,649.11

Section: Lighting

0	9019901	MISC. {Street Lighting}	1.000	L.S.	Unit Price	Total
---	---------	-------------------------	-------	------	------------	-------

Bid Price -- \$0.00 0.00

Category: Lighting	Total
---------------------------	--------------

Bid Price \$0.00

Section: Signing

0	9039901	MISC. {Signing}	1.000	L.S.	Unit Price	Total
---	---------	-----------------	-------	------	------------	-------

Bid Price -- \$301,109.94 301,109.94

Category: Signing	Total
--------------------------	--------------

Bid Price \$301,109.94

Section: MOT

0	6069901	MISC. {Temporary Traffic Control}	1.000	L.S.	Unit Price	Total
---	---------	-----------------------------------	-------	------	------------	-------

Bid Price -- \$1,806,659.64 1,806,659.64

Category: MOT	Total
----------------------	--------------

Bid Price \$1,806,659.64

Section: Pavement Marking

0	6209901	MISC. {Pavement Marking}	1.000	L.S.	Unit Price	Total
---	---------	--------------------------	-------	------	------------	-------

APPENDIX C PLUS Report

Date: 03/01/2023

Time: 09:30:31 AM

bidTABS.NET

Project: US-60 HWY Outer Roads	Job Number: J8P0683G	Bid Date: 01/04/2023	State: MO
Location: US-65 to SR125			

Bid Price	--	\$301,109.94	301,109.94
Category: Pavement Marking		Total	
Bid Price		\$301,109.94	

Section: Temporary Erosion Control

0	8069901	MISC. {Temporary Erosion Control}	1.000	L.S.	Unit Price	Total
Bid Price			--		\$301,109.94	301,109.94
Category: Temporary Erosion Control					Total	
Bid Price						\$301,109.94

Section: Contractual

0	6181000	MOBILIZATION	1.000	L.S.	Unit Price	Total
Bid Price			--		\$2,017,436.60	2,017,436.60
Category: Contractual					Total	
Bid Price						\$2,824,411.24

Overall Totals	Total
Bid Price	\$43,173,143.29

APPENDIX C PLUS Report

Date: 03/01/2023

Time: 09:21:31 AM

bidTABS.NET

Project: US-60 HWY Outer Roads	Job Number: SU0107	Bid Date: 01/04/2023	State: MO
Location: US-65 to NN_J			

Project Settings

Primary County: GREENE	Urban / Rural:
Addl Counties:	Project Type:
District: Southwest	Work Type:
Latitude: 00° 00' 00"	Traffic:
Longitude: 00° 00' 00"	Estimator: madison.gehl@hdrinc.com
Log Mile:	Constr Eng: 0.00%
Beg:	Priced Date:
End:	Create Date: 1/4/2023
Station:	Fed Project No:
Beg:	Mobe Percent: 5.00%
End:	Survey Percent: 2.00%
Project Length: 0.0000 miles	
Route: US-60	

Project Sections

1 Roadway	\$12,934,479.25	76.72%
10 Drainage	\$1,763,792.62	10.46%
30 Signing	\$117,586.17	0.70%
40 MOT	\$705,517.05	4.18%
50 Pavement Marking	\$117,586.17	0.70%
60 Temporary Erosion Control	\$117,586.17	0.70%
70 Contractual	\$1,102,958.32	6.54%

Total	\$16,859,505.75	100.0%
--------------	------------------------	---------------

STIP Information

Construction Cost	\$16,859,505.75	72.84%
PE (12.00% of construction cost)	\$2,023,140.69	8.74%
CE (18.00% of construction cost)	\$3,034,711.03	13.11%
R/W	\$486,097.20	2.10%
R/W Incidentals	\$60,000.00	0.26%
Utilities	\$681,000.00	2.94%
Incentive	\$0.00	0.00%

Total	\$23,144,454.67	100.0%
--------------	------------------------	---------------

Major Categories

BRIDGE	\$0.00	0.00%
GRADE/DRAIN	\$4,104,938.19	24.35%
MISC.	\$4,442,542.48	26.35%
PAVEMENT/BASE	\$8,312,025.08	49.30%

Total	\$16,859,505.75	100.0%
--------------	------------------------	---------------

APPENDIX C PLUS Report

Date: 03/01/2023

Time: 09:21:31 AM

bidTABS.NET

Project: US-60 HWY Outer Roads	Job Number: SU0107	Bid Date: 01/04/2023	State: MO
Location: US-65 to NN_J			

Section: Roadway

0	2029901	MISC. {Removal of Improvements}	1.000	L.S.	Unit Price	Total
Bid Price			--		\$1,175,861.75	1,175,861.75
0	2031000	CLASS A EXCAVATION	0.000	C.Y.	Unit Price	Total
Bid Price			--		\$13.72	0.00
0	2035000	UNCLASSIFIED EXCAVATION	187,859.000	C.Y.	Unit Price	Total
Bid Price			--		\$11.60	2,179,164.40
0	2035500	EMBANKMENT IN PLACE	0.000	C.Y.	Unit Price	Total
Bid Price			--		\$14.52	0.00
0	2036000	COMPACTING EMBANKMENT	29,081.000	C.Y.	Unit Price	Total
Bid Price			--		\$5.57	161,981.17
0	3030600	FURNISHING ROCK BASE MATERIAL	59,239.000	S.Y.	Unit Price	Total
Bid Price			--		\$12.45	737,525.55
0	3030610A	PLACING ROCK BASE	59,239.000	S.Y.	Unit Price	Total
Bid Price			--		\$6.54	387,423.06
0	3040506	TYPE 5 AGGREGATE FOR BASE (6 IN. THICK)	42,343.000	S.Y.	Unit Price	Total
Bid Price			--		\$11.39	482,286.77
0	4010102	"9 INCHES, BITUMINOUS PAVEMENT"	6,048.900	S.Y.	Unit Price	Total
Bid Price			--		\$85.00	514,156.50
0	4010150	TYPE A2 SHOULDER	19,489.000	S.Y.	Unit Price	Total
Bid Price			--		\$58.67	1,143,419.63
0	4011209	"BITUMINOUS PAVEMENT MIXTURE PG64-22, (BP-1) "	3,525.100	TON	Unit Price	Total
Bid Price			--		\$91.63	323,004.91
0	4013000	BITUMINOUS PAVEMENT MIXTURE PG64-22 (BASE)	13,596.600	TON	Unit Price	Total
Bid Price			--		\$117.36	1,595,696.98

APPENDIX C PLUS Report

Date: 03/01/2023

Time: 09:21:31 AM

bidTABS.NET

Project: US-60 HWY Outer Roads	Job Number: SU0107	Bid Date: 01/04/2023	State: MO
Location: US-65 to NN_J			

0	4030132	ASPHALTIC CONCRETE MIXTURE PG 76-22 (SP125BSM MIX)	3,717.800	TON	Unit Price	Total
---	----------------	--	-----------	-----	------------	-------

Bid Price		--		\$129.49	481,417.92
-----------	--	----	--	----------	------------

0	4030306	ASPHALTIC CONCRETE MIXTURE PG 64-22 (SP250C MIX)	17,526.500	TON	Unit Price	Total
---	----------------	--	------------	-----	------------	-------

Bid Price		--		\$114.67	2,009,763.76
-----------	--	----	--	----------	--------------

0	4030317	ASPHALTIC CONCRETE MIXTURE PG 76-22 (SP250B MIX)	6,373.300	TON	Unit Price	Total
---	----------------	--	-----------	-----	------------	-------

Bid Price		--		\$100.00	637,330.00
-----------	--	----	--	----------	------------

0	6061060	MGS GUARDRAIL	6,600.000	L.F.	Unit Price	Total
---	----------------	---------------	-----------	------	------------	-------

Bid Price		--		\$31.55	208,230.00
-----------	--	----	--	---------	------------

0	6061080	MGS END ANCHOR	1.000	EACH	Unit Price	Total
---	----------------	----------------	-------	------	------------	-------

Bid Price		--		\$1,572.16	1,572.16
-----------	--	----	--	------------	----------

0	6063014	TYPE A CRASHWORTHY END TERMINAL (MASH)	1.000	EACH	Unit Price	Total
---	----------------	--	-------	------	------------	-------

Bid Price		--		\$3,320.36	3,320.36
-----------	--	----	--	------------	----------

0	6064100	MEDIAN GUARD CABLE 3 - STRAND	9,300.000	L.F.	Unit Price	Total
---	----------------	-------------------------------	-----------	------	------------	-------

Bid Price		--		\$29.40	273,420.00
-----------	--	----	--	---------	------------

0	6064110	"ANCHOR ASSEMBLY, GUARD CABLE 3-STRAND"	5.000	EACH	Unit Price	Total
---	----------------	---	-------	------	------------	-------

Bid Price		--		\$4,449.92	22,249.60
-----------	--	----	--	------------	-----------

0	6064500	AGGREGATE BEDDING FOR 3 - STRAND GUARD CABLE	459.000	C.Y.	Unit Price	Total
---	----------------	--	---------	------	------------	-------

Bid Price		--		\$883.47	405,512.73
-----------	--	----	--	----------	------------

0	6173000	"CONCRETE TRAFFIC BARRIER, TYPE C"	2,050.000	L.F.	Unit Price	Total
---	----------------	------------------------------------	-----------	------	------------	-------

Bid Price		--		\$93.24	191,142.00
-----------	--	----	--	---------	------------

	Category: Roadway		Total
--	--------------------------	--	--------------

Bid Price				\$12,934,479.25
-----------	--	--	--	-----------------

Section: Drainage

APPENDIX C PLUS Report

Date: 03/01/2023

Time: 09:21:31 AM

bidTABS.NET

Project: US-60 HWY Outer Roads	Job Number: SU0107	Bid Date: 01/04/2023	State: MO
Location: US-65 to NN_J			

0	7279901	MISC. {Drainage System}	1.000	L.S.	Unit Price	Total
Bid Price			--		\$1,763,792.62	1,763,792.62
Category: Drainage						Total
Bid Price						\$1,763,792.62

Section: Lighting

0	9019901	MISC. {Street Lighting}	1.000	L.S.	Unit Price	Total
Bid Price			--		\$0.00	0.00
Category: Lighting						Total
Bid Price						\$0.00

Section: Signing

0	9039901	MISC. {Signing}	1.000	L.S.	Unit Price	Total
Bid Price			--		\$117,586.17	117,586.17
Category: Signing						Total
Bid Price						\$117,586.17

Section: MOT

0	6069901	MISC. {Temporary Traffic Control}	1.000	L.S.	Unit Price	Total
Bid Price			--		\$705,517.05	705,517.05
Category: MOT						Total
Bid Price						\$705,517.05

Section: Pavement Marking

0	6209901	MISC. {Pavement Marking}	1.000	L.S.	Unit Price	Total
Bid Price			--		\$117,586.17	117,586.17
Category: Pavement Marking						Total
Bid Price						\$117,586.17

Section: Temporary Erosion Control

0	8069901	MISC. {Temporary Erosion Control}	1.000	L.S.	Unit Price	Total
---	---------	-----------------------------------	-------	------	------------	-------

APPENDIX C PLUS Report

bidTABS.NET

Date: 03/01/2023

Time: 09:21:31 AM

Project: US-60 HWY Outer Roads	Job Number: SU0107	Bid Date: 01/04/2023	State: MO
Location: US-65 to NN_J			

Bid Price	--	\$117,586.17	117,586.17
Category: Temporary Erosion Control		Total	
Bid Price		\$117,586.17	

Section: Contractual

0	6181000	MOBILIZATION	1.000	L.S.	Unit Price	Total
Bid Price			--		\$787,827.37	787,827.37

0	6274000	CONTRACTOR FURNISHED SURVEYING AND STAKING	1.000	L.S.	Unit Price	Total
Bid Price			--		\$315,130.95	315,130.95
Category: Contractual		Total				
Bid Price		\$1,102,958.32				

Overall Totals	Total
Bid Price	\$16,859,505.75