

075

01-18-2019 LETTING ITEM 075

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
**PROPOSED
 HIGHWAY PLANS**

FAI ROUTE 55 (I-55)
 SECTION 60-1B-R-1
 BRIDGE REPAIR - CM
 MADISON COUNTY

C-98-013-19

FAI RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-1B-R-1	MADISON	11	1
ILLINOIS CONTRACT NO. 76M05				

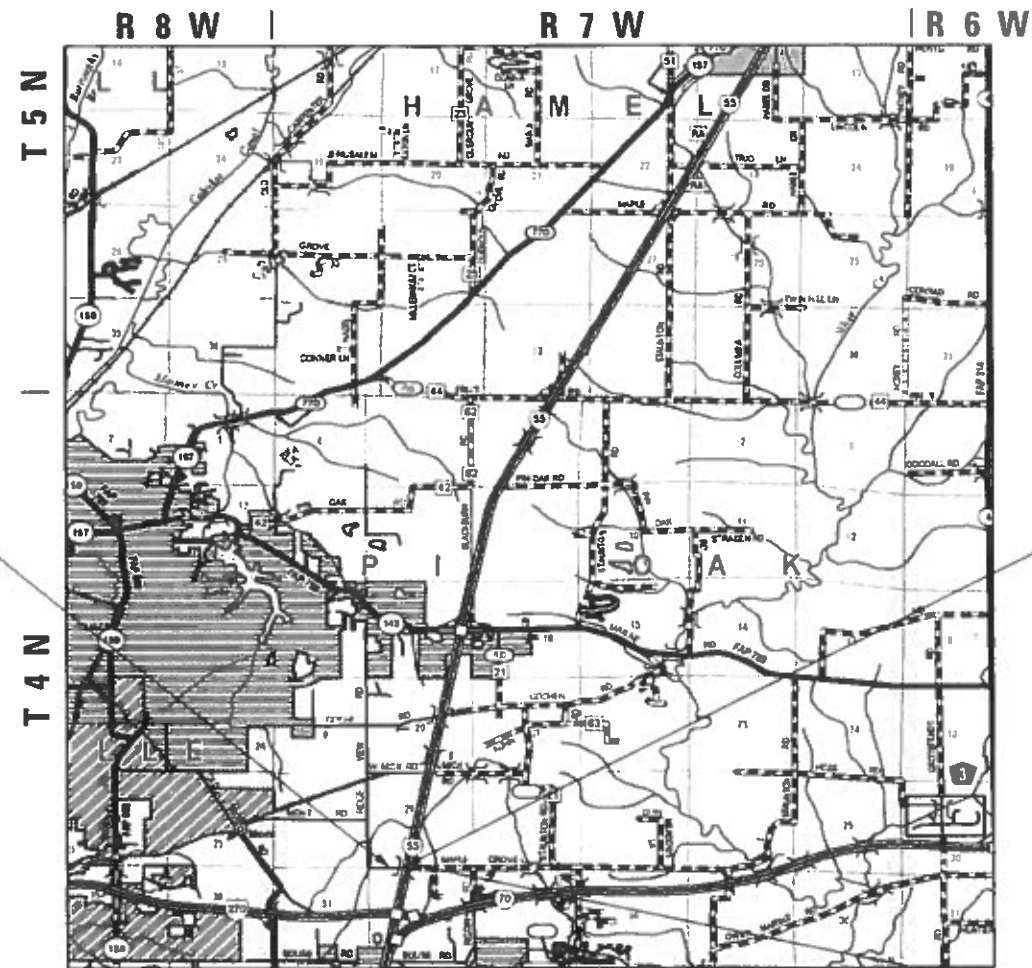
D-98-010-19



FOR INDEX OF SHEETS, SEE SHEET NO. 2

TRAFFIC DATA

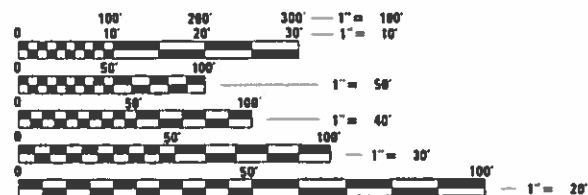
LOCATION	MAPLE GROVE ROAD
2016 ADT	1850 (ACTUAL)
2019 ADT	1900 (ESTIMATED)
2029 ADT	2300 (ESTIMATED)
MU%	0.8
SU%	4.3



BEGIN PROJECT
 STATION 18+61.17
 LAT: 38.75910367
 LONG: -89.90574114

STATION 20+00 - MAPLE GROVE RD.
 STRUCTURE OVER I-55
 S.N. 060-0177

END PROJECT
 STATION 21+44.67
 LAT: 38.75910615
 LONG: -89.90477411



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
 JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
 1-800-892-0123
 OR 811

PROJECT ENGINEER: TIM PADGETT (618)346-3325
 PROJECT MANAGER: DIANA MURRAY (618) 346-3207

CONTRACT NO. 76M05

LOCATION MAP



GROSS LENGTH = 283.5 FT. = 0.053 MILE

NET LENGTH = 283.5 FT. = 0.053 MILE

TOWNSHIP: PIN OAK

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SUBMITTED Oct 26 2018
Jeffrey L. Kern REGIONAL ENGINEER
Dec 7 2018
 ENGINEER OF DESIGN AND ENDORSEMENT
Dec 7 2018
Paul E. Chis DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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 OF THE STATE OF ILLINOIS

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- 8 DETAILS
- 9-11 BRIDGE PLANS

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- 442201-03 CLASS C AND D PATCHES
- 630301-09 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
- 630001-12 STEEL PLATE BEAM GUARDRAIL
- 631032-09 TRAFFIC BARRIER TERMINAL, TYPE 6A
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- 701428-01 TRAFFIC CONTROL SETUP AND FREEWAY/EXPRESSWAY
- 701901-08 TRAFFIC CONTROL DEVICES
- 725001-01 OBJECT AND TERMINAL MARKERS
- 782006 GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
- BLR 21-9 TYPICAL APPLICATIONS OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION OF RURAL LOCAL ROADS

GENERAL NOTES

1. ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE TO BE GIVEN TO ALL UTILITIES WITHIN THE PROJECT AREA BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING J.U.L.I.E. OR FOR NON-MEMBERS, THE UTILITY COMPANY DIRECTLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:

UTILITY	ABOVE GROUND	BELOW GROUND
*AT&T ILLINOIS - (COMMUNICATIONS)	X	X
*CHARTER COMMUNICATIONS, INC. - (CABLE TV)	X	X
*ILLINOIS AMERICAN WATER COMPANY - (WATER)		X
*LEVEL 3 COMMUNICATIONS, LLC - (COMMUNICATIONS)	X	X
*VERIZON BUSINESS - (COMMUNICATIONS)	X	X
*SOUTHWESTERN ELECTRIC COOPERATIVE, INC. (ELECTRIC)	X	X

MEMBERS OF J.U.L.I.E. (800-892-0123 OR 811) ARE INDICATED BY AN *. NON-JULIE MEMBERS MUST BE NOTIFIED INDIVIDUALLY.

2. THE CONTRACTOR AND ENGINEER SHALL BE AWARE THAT NO SURVEY WAS PERFORMED ON THIS PROJECT. THE STATIONING AND TOPOGRAPHY SHOWN IN THE PLANS WERE CREATED USING RECORD PLANS AND FIELD MEASUREMENTS MADE BY DESIGN PERSONNEL. BOTH SHALL BE ASSUMED TO BE APPROXIMATE.

3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.

4. THE THICKNESS OF THE BITUMINOUS MIXTURE SHOWN ON THE PANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE BITUMINOUS MIXTURE IS PLACED.

5. THE ILLINOIS DEPARTMENT OF TRANSPORTATION STRONGLY ENCOURAGES THE PRIME CONTRACTOR AND THEIR APPROVED SUB-CONTRACTORS TO HIRE MINORITY, WOMEN AND DISADVANTAGED INDIVIDUALS FROM ITS FEDERALLY FUNDED HIGHWAY CONSTRUCTION CAREERS TRAINING PROGRAM (HCCTP) TO HELP MEET WORKFORCE AND TRAINEE GOALS. THIS PROGRAM IS TRAINING MINORITIES, WOMEN AND DISADVANTAGED INDIVIDUALS IN HIGHWAY CONSTRUCTION-RELATED SKILLS, E.G., MATH FOR THE TRADES, JOB READINESS, TECHNICAL SKILLS COURSEWORK (CARPENTRY, CONCRETE FLATWORK, BLUEPRINT READING, SITE PLANS, SITE WORK, TOOLS USE, ETC.) AND OSHA 10 HOUR CERTIFICATION, TO PREPARE THEM FOR A CAREER IN THE HIGHWAY CONSTRUCTION TRADES. GRADUATES ARE WELL-TRAINED AND READY TO BECOME PRODUCTIVE ENTRY-LEVEL CONSTRUCTION WORKERS. PLEASE CONTACT THE DISTRICT 8 EEO OFFICE AT 618-346-3360 AND/OR THE HCCTP COORDINATOR AT 618/874-6528 TO LEARN MORE ABOUT THE PROGRAM AND FOR ASSISTANCE IN MEETING WORKFORCE AND TRAINEE GOALS.

6. AN ESTIMATED QUANTITY OF AGGREGATE SHOULDER (SPECIAL) - 96 TONS IS USED FOR INSTALLING TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT. THIS QUANTITY WAS CALCULATED BASED ON THE EXISTING 4:1 SLOPE AT EDGE OF PAVEMENT WITH A PROJECTED 10:1 FOR 4 FEET THEN A 3:1 TO TIE INTO THE EXISTING SIDE SLOPE. THIS CROSS-SECTIONAL AREA WAS ESTIMATED AS 3.6 SQ FT.

7. DELIVER 200 FEET EACH OF USED GUARDRAIL INCLUDING POSTS, BLOCK OUTS, NUT BOLTS, ETC. TO THE FOLLOWING YARDS:

*PIERRON YARD (TROY)
INTERCHANGE OF I-70 AND US 40 (EXIT 30/PIERRON EXIT)
CONTACT: DARION DOUGLAS - (618)667-0720

*HAMEL YARD
6284 HAMEL DRIVE
HAMEL, IL 62046
CONTACT: DUANE BEISER - (618)633-2206

8. ROADWAY COMMISSIONER ROBERT HELMS, MADISON COUNTY ENGINEER MARK GVILLO, TRIAD SCHOOL DISTRICT AND ALL OTHER PERTINENT BUSINESSES AS LISTED BELOW MUST BE NOTIFIED BY THE RESIDENT ENGINEER TWO WEEKS PRIOR TO THE TEMPORARY ROAD CLOSURE OF MAPLE GROVE ROAD OVER I-55.

* ROADWAY COMMISSIONER ROBERT HELMS - (PIN OAK TOWNSHIP) - 618-410-2136
7835 GOSHEN ROAD, EDWARDSVILLE, IL 62025

* MADISON COUNTY ENGINEER MARK GVILLO - 618-296-4540
7037 MARINE ROAD, EDWARDSVILLE, IL 62025

* SUPERINTENDENT LEIGH LEWIS - (TRIAD SCHOOL DISTRICT)
201 E. THROP STREET, TROY, IL 62294

* CHIEF RICK MCCURDY - (TROY FIRE DISTRICT)
116 W. CLAY STREET, TROY, IL 62294

* SHERIFF JOHN D. LAKIN - (MADISON COUNTY)
405 RANDLE STREET, EDWARDSVILLE, IL 62025

COMMITMENTS

MIXTURE REQUIREMENTS

ROUTE	FAI 55
SECTION	60-1B-R-1
COUNTY	MADISON
CONTRACT	76M05

DESCRIPTION	CONTRACT MAINTENANCE - BRIDGE REPAIR - SN 060-0177 - BRIDGE DECK SCARIFICATION AND MICROSILICA OVERLAY - MAPLE GROVE ROAD OVER I-55.
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ADT (CONSTRUCTION YR):	1900
MU%	0.8
SU%	4.3
20 YR. ESAL'S:	0.21

MIXTURE USE	PATCHING			
	BINDER (6")	SURFACE (2")	SHOULDERS ≥ 2.25"	SHOULDERS < 2.25"
AC/PG	PG 64-22	PG 64-22	PG 64-22	PG 64-22
RAP % (MAX)	SEE SPECIAL PROVISION	SEE SPECIAL PROVISION	SEE SPECIAL PROVISION	SEE SPECIAL PROVISION
DESIGN AIR VOIDS	4.0% @ Ndes = 70	4.0% @ Ndes = 70	4.0% @ Ndes = 30	4.0% @ Ndes = 30
MIX COMPOSITION (GRADATION MIXTURE)	IL 19.0	IL 9.5L	IL 19.0L	IL 9.5L
FRICTION AGG	MIXTURE "B"	MIXTURE "C"		
QUALITY MGMT PROGRAM	QC/QA	QC/QA	QC/QA	QC/QA

PLAN QUANTITIES FOR BITUMINOUS CONCRETE SURFACE COURSE ITEMS ARE CALCULATED USING A UNIT WEIGHT OF 112 LBSQ YD/IN (59.8 KGSQ M/25 MM THICKNESS).

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REV. - MS

USER NAME =murrayda	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, HIGHWAY STANDARDS GENERAL NOTES & COMMITMENTS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
DRAWN -	REVISED -	55			60-1B-R-1	MADISON	11	2		
PLOT SCALE = 2.0000' / in.	CHECKED -	REVISED -			CONTRACT NO. 76M05					
PLOT DATE = 10/25/2018	DATE -	REVISED -			ILLINOIS FEDERAL PROJECT					
				SCALE:	SHEET 1	OF 1	SHEETS	STA.	TO STA.	

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CODE NO.	ITEM	UNIT	TOTAL QUANTITY	100% STATE	
				CONSTR. CODE	
				ROADWAY	
				0047	060-0177
42001300	PROTECTIVE COAT	SQ YD	537	537	
44201747	CLASS D PATCHES, TYPE IV, 8 INCH	SQ YD	177.8	177.8	
50157300	PROTECTIVE SHIELD	SQ YD	236	236	
50300100	FLOOR DRAINS	EACH	12	12	
50300260	BRIDGE DECK GROOVING	SQ YD	492	492	
50900200	STEEL RAILING, TYPE 2399	FOOT	407	407	
58700300	CONCRETE SEALER	SQ FT	330	330	
* 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	138	138	
* 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4	4	
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4	4	
63200310	GUARDRAIL REMOVAL	FOOT	1875	1875	
67100100	MOBILIZATION	L SUM	1	1	
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	L SUM	1	1	
70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1	1	

* SPECIALTY ITEM

REV. - MS

USER NAME = murrayda	DESIGNED - _____	REVISED - _____
	DRAWN - _____	REVISED - _____
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PLOT DATE = 10/25/2018	DATE - _____	REVISED - _____

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

SCALE: _____ SHEET 1 OF 2 SHEETS STA. _____ TO STA. _____

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-1B-R-1	MADISON	11	3
CONTRACT NO. 76M05				
ILLINOIS FED. AID PROJECT				

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CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE	
				ROADWAY	
				100%	STATE
				0047	
				060-0177	
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	600	600	
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4	
* 78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	8	8	
* 78200011	BARRIER WALL REFLECTORS, TYPE C	EACH	6	6	
X4811900	AGGREGATE SHOULDERS (SPECIAL)	TON	96	96	
X5870015	BRIDGE DECK CONCRETE SEALER	SQ FT	2039	2039	
X6060505	CONCRETE CURB (SPECIAL)	FOOT	60	60	
Z0012130	BRIDGE DECK SCARIFICATION 3/4"	SQ YD	537	537	
Z0012166	BRIDGE DECK MICROSILICA CONCRETE OVERLAY 2 3/4"	SQ YD	536	536	
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	4	4	
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	20	20	
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	80	80	
Z0041895	POLYMER CONCRETE	CU FT	4.6	4.6	

* SPECIALTY ITEM

REV. - MS

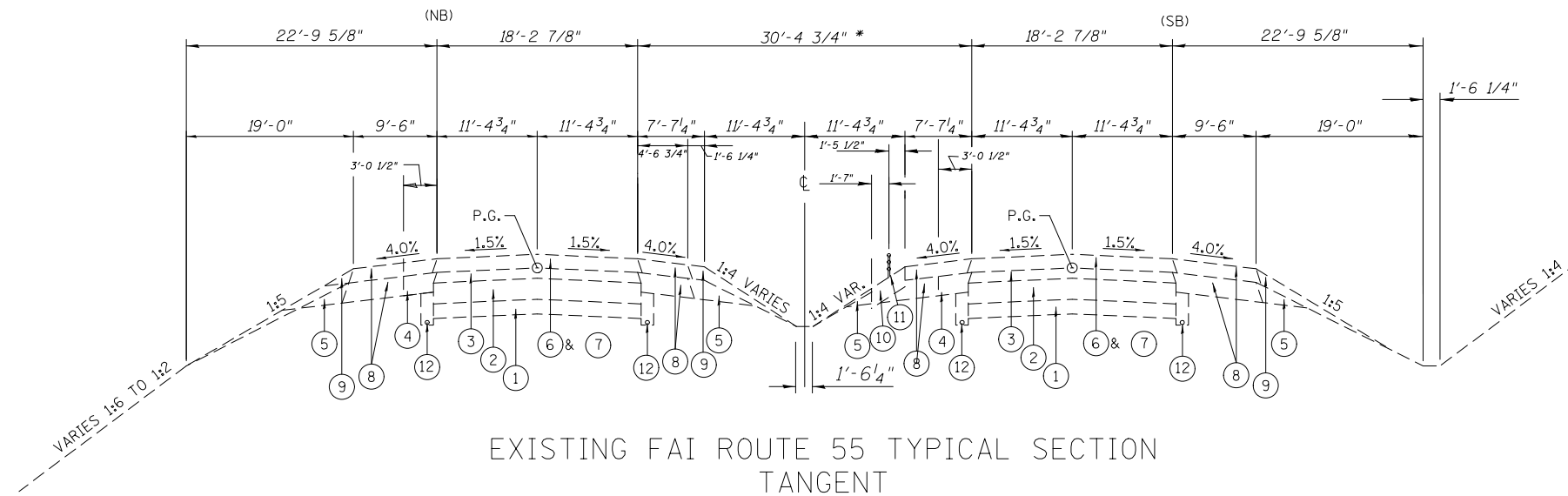
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

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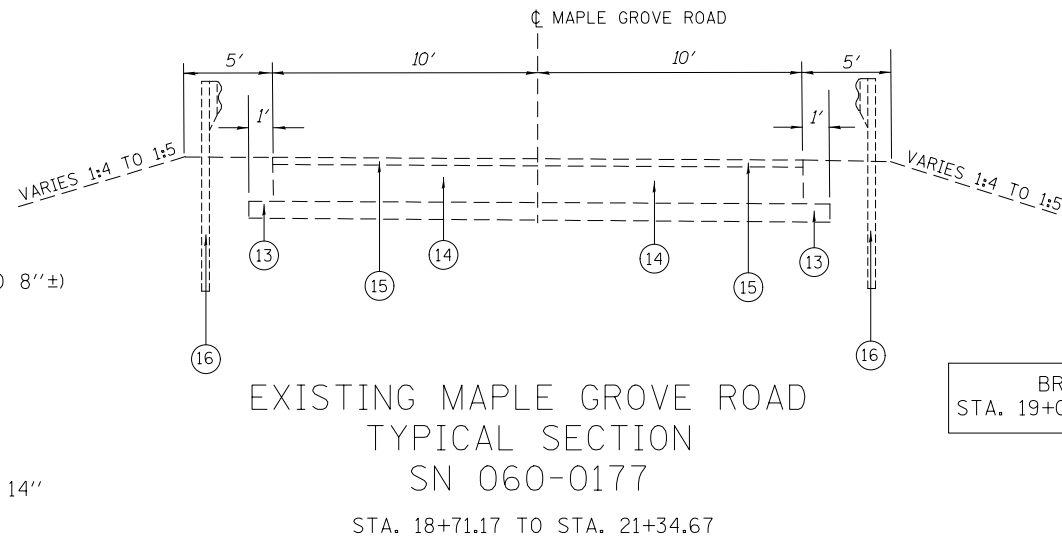
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55	60-1B-R-1	MADISON	11	4
			CONTRACT NO. 76M05	
ILLINOIS FED. AID PROJECT				



EXISTING FAI ROUTE 55 TYPICAL SECTION
TANGENT
(UNDER SN 060-0177 - STA. 1253+65.74)
STA. 1121+00 TO STA. 1263+98

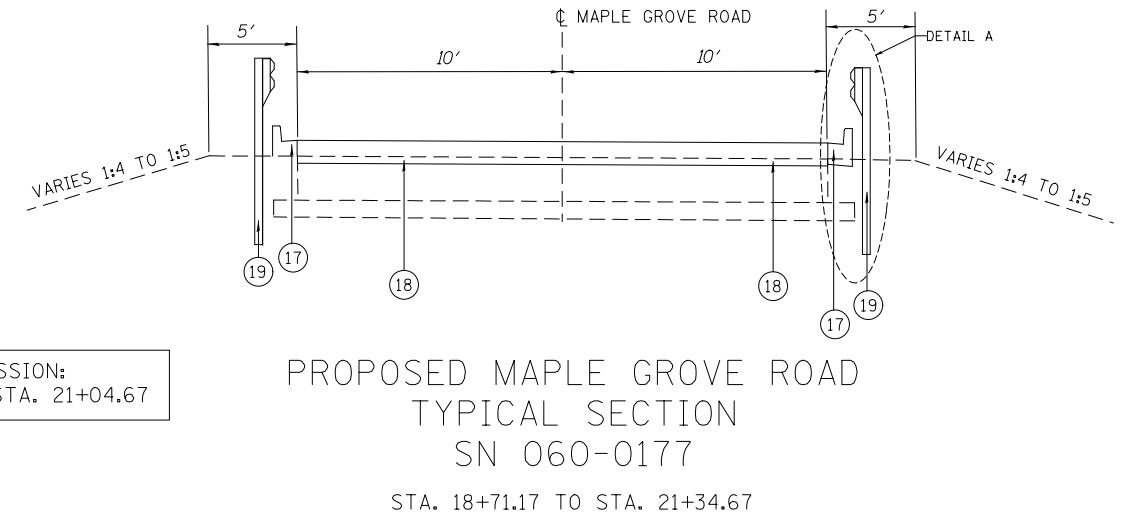
* MEDIAN WIDTH VARIES 40' TO 32' TO 40'
STA. 1184+99.83 TO STA. 1195+11.78

- LEGEND**
- ① EXISTING GRANULAR SUB-BASE 7"
 - ② EXISTING PCC PAVEMENT 10"
 - ③ EXISTING HMA SURFACE COURSE (VARIES 3"± TO 8"±)
 - ④ EXISTING HMA BASE COURSE 12"
 - ⑤ EXISTING AGGREGATE SHOULDER, TYPE A
 - ⑥ EXISTING HMA SURFACE COURSE 2"
 - ⑦ EXISTING HMA BINDER COURSE, VARIES 9 1/2" - 14"
 - ⑧ EXISTING HMA SHOULDER (VARIABLE THICKNESS)
 - ⑨ EXISTING AGGREGATE SHOULDER, TYPE B
 - ⑩ EXISTING RIPRAP, CLASS A2, (6" THICK) WITH FILTER FABRIC
 - ⑪ EXISTING CABLE BARRIER
 - ⑫ EXISTING PIPE UNDERDRAINS 6"
 - ⑬ EXISTING GRANULAR SUB-BASE, TYPE A 6"
 - ⑭ EXISTING GRAVEL OR CRUSHED STONE BASE COURSE, TYPE A
 - ⑮ EXISTING BITUMINOUS SURFACE TREATMENT, SUBCLASS A-3
 - ⑯ EXISTING GUARDRAIL
 - ⑰ PROPOSED CONCRETE CURB (SPECIAL)
 - ⑱ PROPOSED CLASS D PATCHES, TYPE IV, 8 INCH
 - ⑲ PROPOSED GUARDRAIL

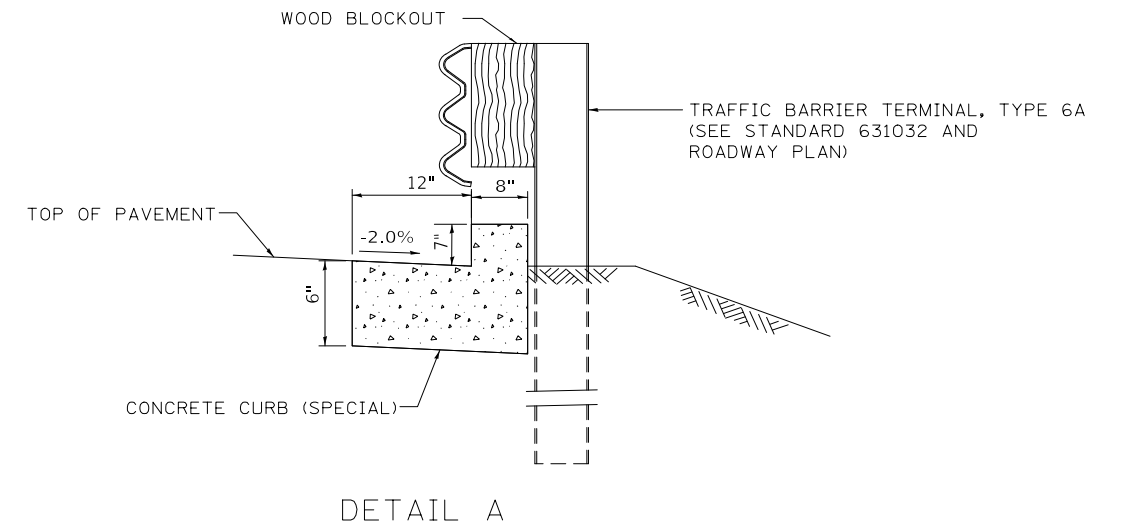


EXISTING MAPLE GROVE ROAD
TYPICAL SECTION
SN 060-0177
STA. 18+71.17 TO STA. 21+34.67

BRIDGE OMISSION:
STA. 19+01.17 TO STA. 21+04.67



PROPOSED MAPLE GROVE ROAD
TYPICAL SECTION
SN 060-0177
STA. 18+71.17 TO STA. 21+34.67



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PLOT DATE = 10/25/2018	DATE - _____	REVISED - _____

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS	
SCALE: _____	SHEET 1 OF 1 SHEETS
STA. _____	TO STA. _____

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-1B-R-1	MADISON	11	5
CONTRACT NO. 76M05				
ILLINOIS FED. AID PROJECT				

GUARDRAIL SCHEDULE									
LOCATION	STEEL PLATE BEAM GUARDRAIL REMOVAL	*LENGTH OF NEED	STEEL PLATE BEAM GUARDRAIL	TRAFFIC BARRIER TERMINAL TYPE 1 (SPECIAL)	TRAFFIC BARRIER TERMINAL, TYPE 6A	**AGGREGATE SHOULDER (SPECIAL)	GUARDRAIL REFLECTORS TYPE A	***BARRIER WALL MARKERS TYPE C	TERMINAL MARKER DIRECT APPLIED
	FOOT	FOOT	FOOT	EACH	EACH	TON	EACH	EACH	EACH
NE QUADRANT	412.5	110	37.5	1	1	24	2		1
NW QUADRANT	537.5	100	25.0	1	1	24	2		1
SE QUADRANT	400.0	85	12.5	1	1	24	2		1
SW QUADRANT	525.0	135	62.5	1	1	24	2		1
NORTH SIDE								3	
SOUTH SIDE								3	
TOTAL	1875		138	4	4	96	8	6	4

* SEE PLAN SHEET 7 FOR LENGTH OF NEED DETAIL.

** SEE GENERAL NOTE 6 ON SHEET 2 FOR ESTIMATE OF AGGREGATE SHOULDER (SPECIAL).

*** BARRIER WALL MARKERS, TYPE C SHALL BE MOUNTED ON EACH BRIDGE RAIL AT BOTH ENDS AND IN THE CENTER.

PATCH SCHEDULE	
LOCATION	CLASS D PATCHES TYPE IV 8 INCH
SN 060-0177	SQ YD
EASTBOUND	88.9
WESTBOUND	88.9
TOTAL	177.8

CONCRETE CURB SCHEDULE	
LOCATION	CONCRETE CURB (SPECIAL)
SN 060-0177	FOOT
NE QUADRANT	15
NW QUADRANT	15
SE QUADRANT	15
SW QUADRANT	15
TOTAL	60

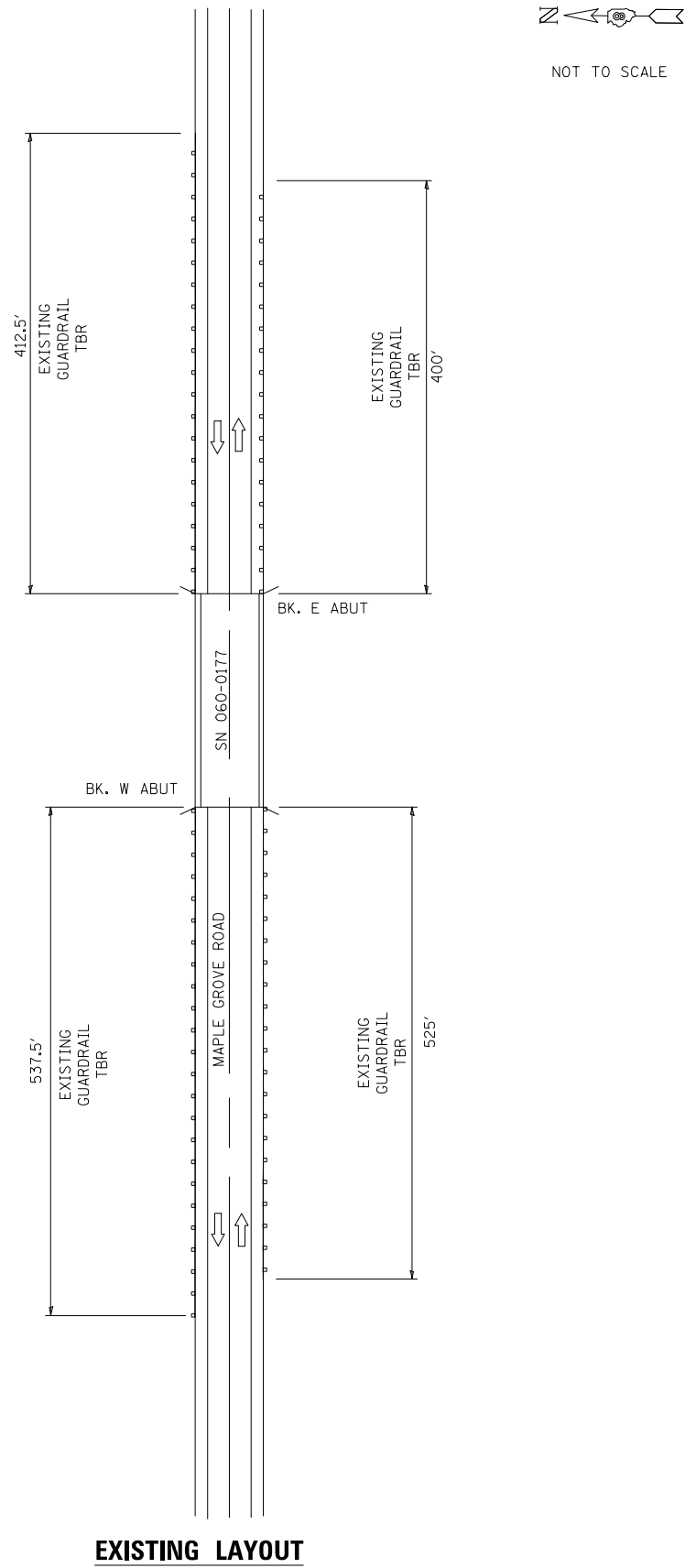
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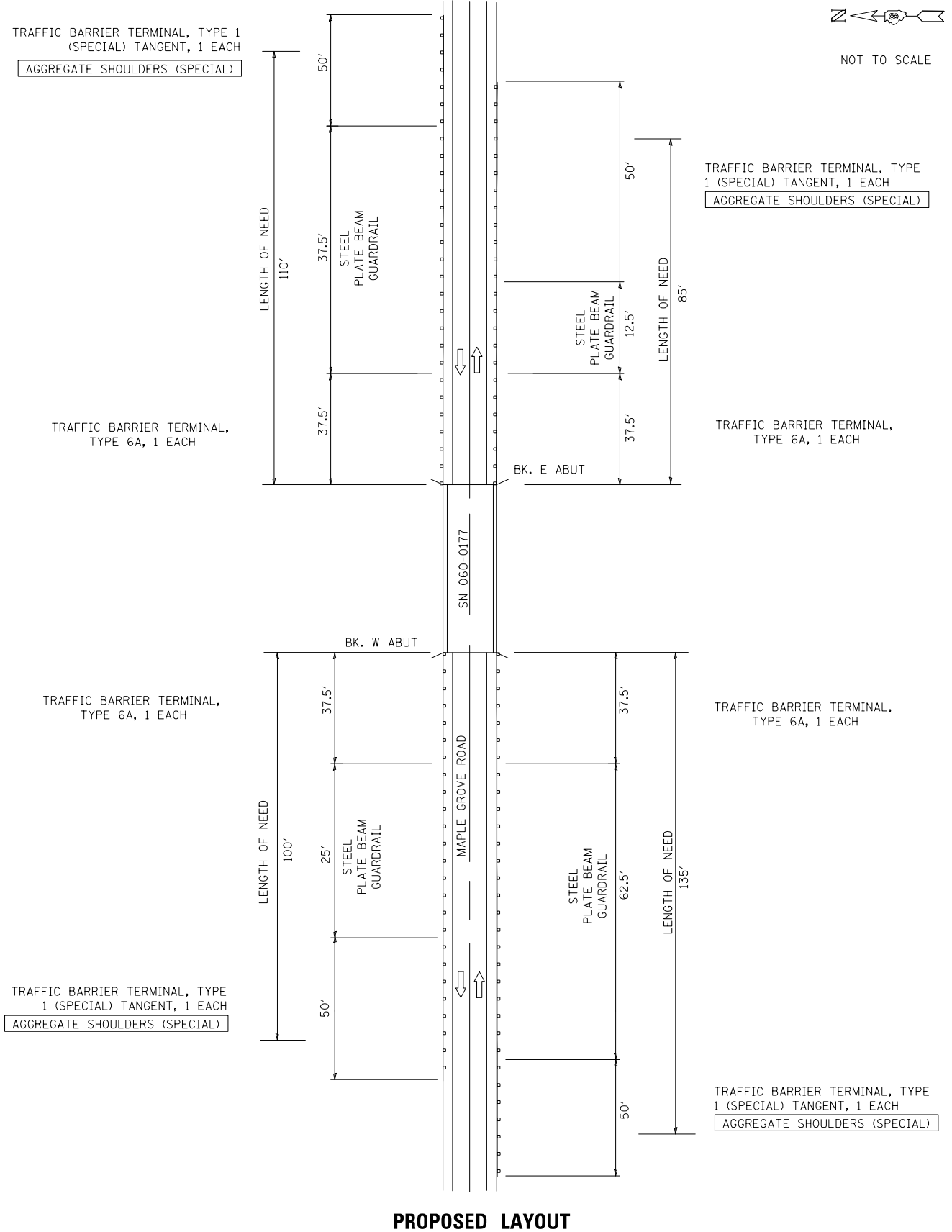
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SCHEDULE OF QUANTITIES			
SCALE: _____	SHEET _____	OF 1 SHEETS	STA. _____ TO STA. _____

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-1B-R-1	MADISON	11	6
CONTRACT NO. 76M05				
ILLINOIS FED. AID PROJECT				



EXISTING LAYOUT



PROPOSED LAYOUT

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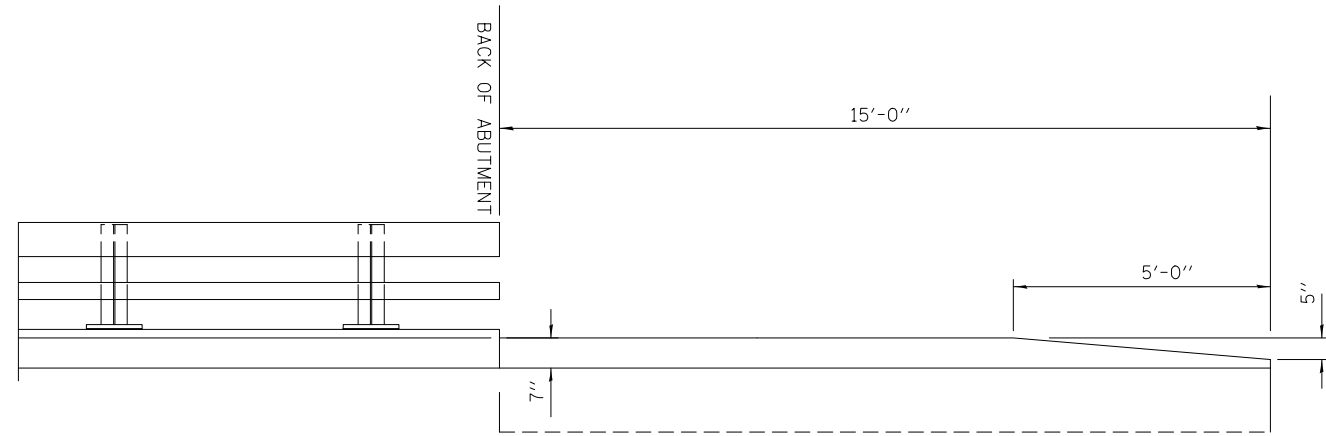
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PLAN SHEET

SCALE: _____ SHEET 1 OF 1 SHEETS STA. _____ TO STA. _____

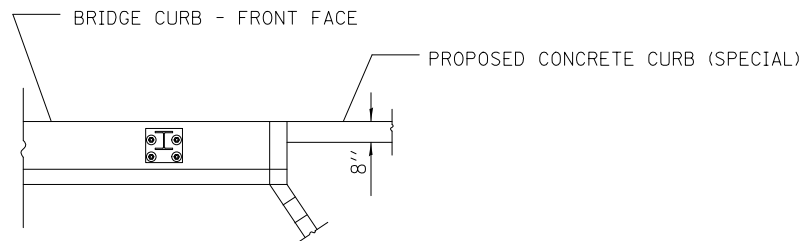
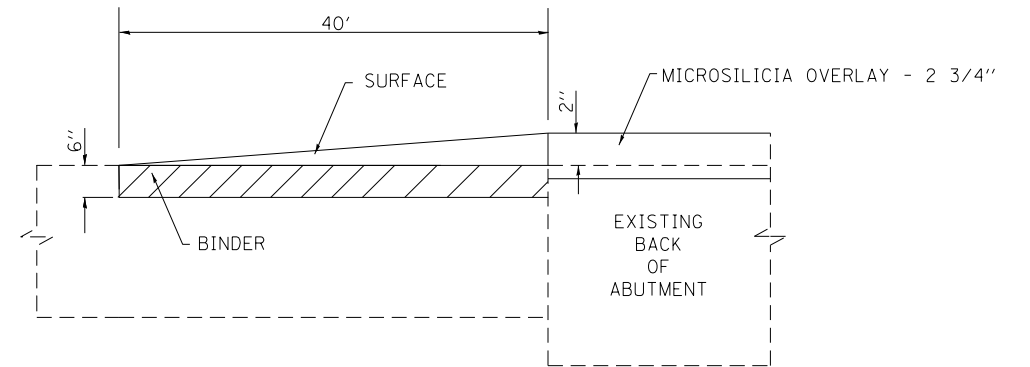
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55	60-1B-R-1	MADISON	11	7
76M05				
ILLINOIS FED. AID PROJECT				

BRIDGE ABUTMENT CONCRETE CURB (SPECIAL) DETAILS

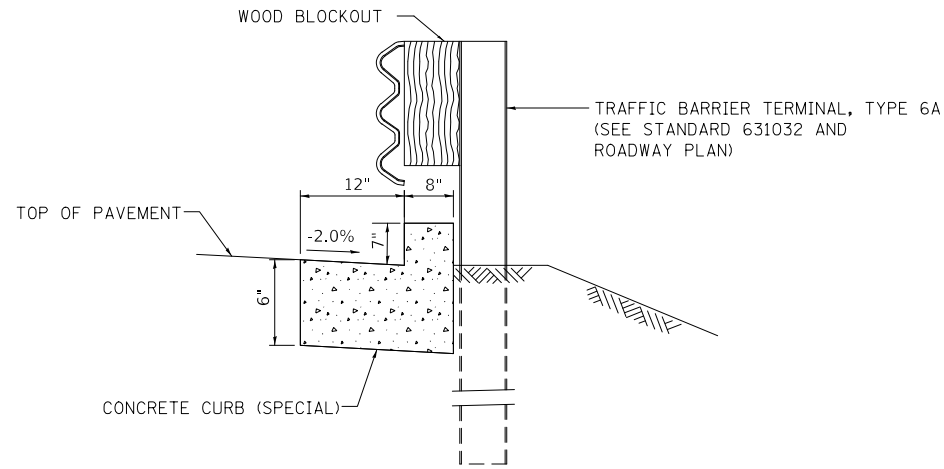


ELEVATION OF BRIDGE RAILING AND CONCRETE CURB (SPECIAL)

CLASS D PATCHES DETAIL



PLAN



CONCRETE CURB (SPECIAL) DETAIL

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USER NAME = murrayda	DESIGNED - _____	REVISED - _____
	DRAWN - _____	REVISED - _____
PLOT SCALE = 2,000' / in.	CHECKED - _____	REVISED - _____
PLOT DATE = 10/25/2018	DATE - _____	REVISED - _____

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DETAILS

SCALE: _____ SHEET 1 OF 1 SHEETS STA. _____ TO STA. _____

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-1B-R-1	MADISON	11	8
CONTRACT NO. 76M05				
ILLINOIS FED. AID PROJECT				

Existing Structure: 060-0177 was built in 1980 under contract 34470, FAI Route 55 Sec 60-1HB. It is a 4 span continuous wide flange supported on pile bent abutments and pile supported hammerhead piers. The deck shall be scarified, patched, and overlaid with microsilica concrete overlay. The road shall be closed to traffic and detoured.

- SHEET INDEX**
- 1) General Plan and Elevation
 - 2) Deck Section & Drain Details
 - 3) Steel Railing, Type 2399

GENERAL NOTES

No field welding is permitted except as specified in the contract documents. All reinforcement bars shall be epoxy coated.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Cleaning and field painting of structural steel shall be done under a separate painting contract.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with "Bridge Deck Scarification 3/4 in."

Hydro-scarification is not allowed since the deck is 6 1/2" thick and deteriorated. The deck shall be scarified mechanically.

The quantity for "Bridge Deck Concrete Sealer" are for the top and inside parapet surface, and the 4 wingwalls.

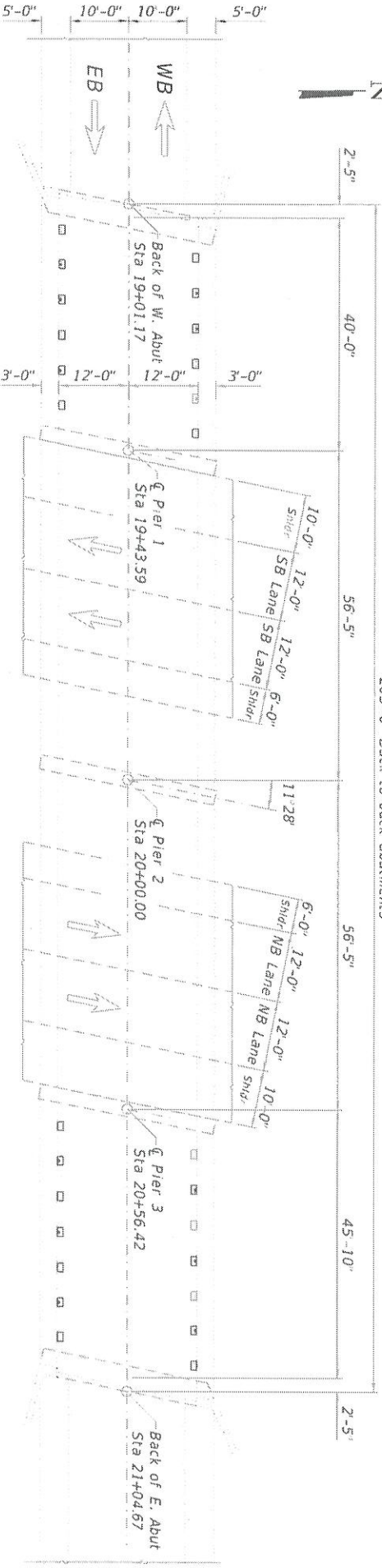
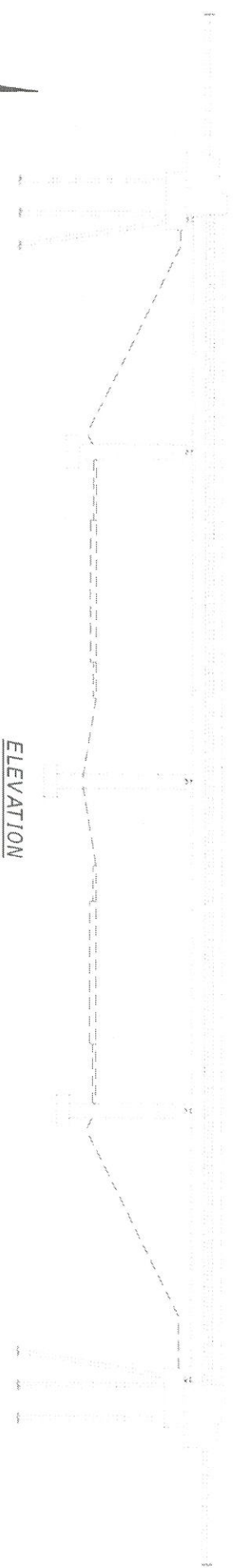
The quantity for "Protective Coat" is for the new microsilica concrete overlay.

The quantity for "Concrete Sealer" is for the 2' vertical surface of backwalls, 2'-9" wide abutment seats, and 1' vertical surface of front of abutment caps. The sealer in these areas shall be a plural component.

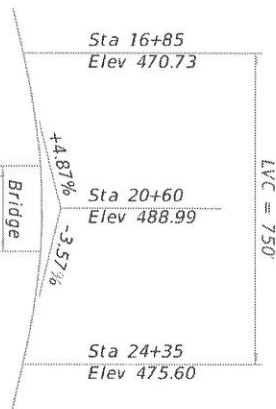
The quantity for "Deck Slab Repair (Partial Depth)" & "Deck Slab Repair (Full Depth, Type II)" are estimated. The location and sizes of repairs are to be determined by the Engineer in the field.

The quantity for "Protective Shield" is for a 40' width over lanes and shoulders, from fascia beam to fascia beam.

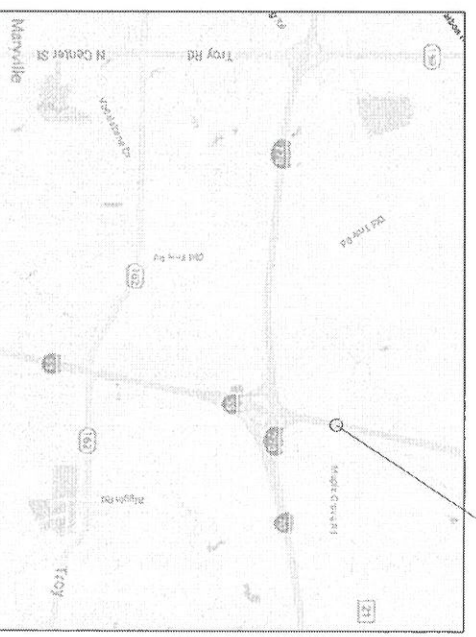
The cost for removal of the drains and drain brackets are included with "Deck Slab Repair (Full Depth, Type I)"



- Remove previously plugged drain with 12"x18" Deck Slab Repair (Full Depth, Type I). (14 Total - 3 each side of span 1 and 4 each side of span 4)
- Remove previously extended drain with 12"x18" Deck Slab Repair (Full Depth, Type I) and install 6"Ø floor drain (12 total - 3 each quad)



DESIGN STRESSES
FIELD UNITS
F_o = 4,000 psi



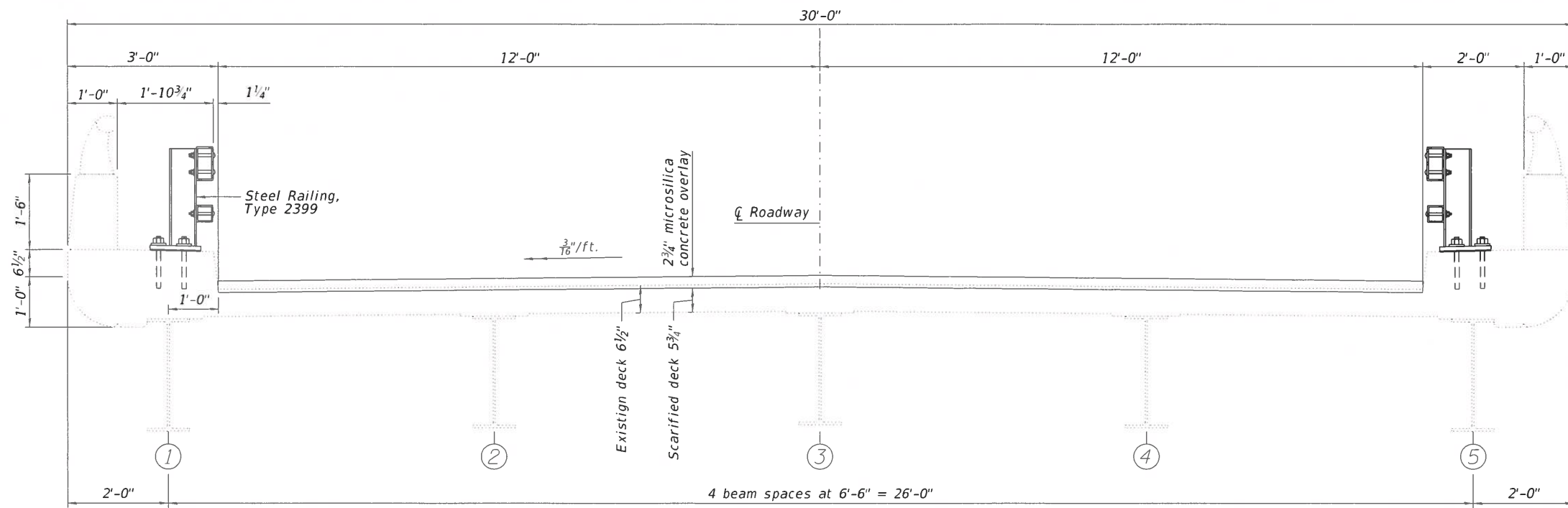
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Protective Coat	Sq. Yd.	537
Bridge Deck Grooving	Sq. Yd.	492
Steel Railing, Type 2399	Foot	407
Protective Shield	Sq. Yd.	236
Floor Drains	Each	12
Concrete Sealer	Sq. Ft.	330
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	4
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	20
Deck Slab Repair (Partial)	Sq. Yd.	80
Bridge Deck Scarification, 3/4"	Sq. Yd.	537
Bridge Deck Microsilica Overlay 2 1/2"	Sq. Ft.	536
Polymer Concrete	Cu. Ft.	4.6
Bridge Deck Concrete Sealer	Sq. Ft.	2039

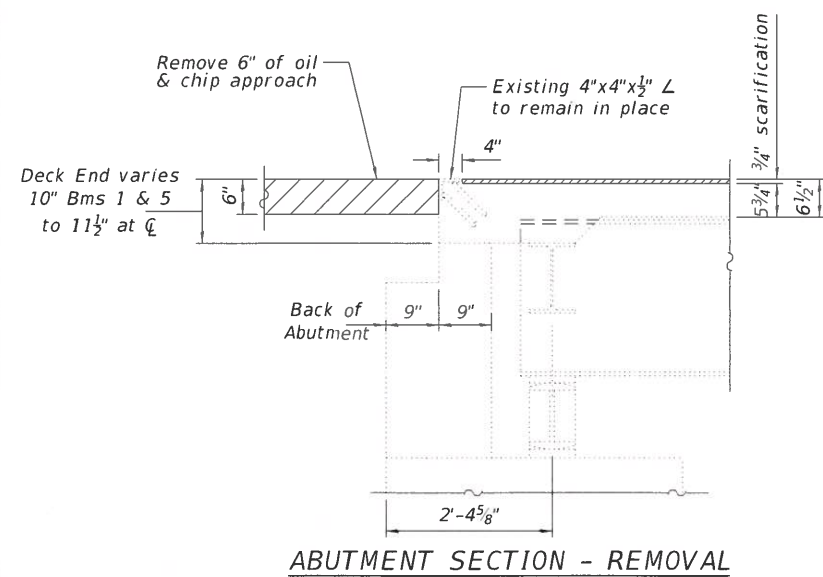
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DESIGNED - J. Urbie	EXAMINED - [Signature]	DATE - OCTOBER 17, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN & ELEVATION	060-0177 (MAPLE GROVE ROAD OVER I-55)
CHECKED - V. Vobe	PASSED - [Signature]	REVISIONS -	ENGINEER OF BRIDGES AND STRUCTURES	DEPARTMENT OF TRANSPORTATION	SHEET 1 OF 3 SHEETS
DRAWN - J. Urbie					
CHECKED - V. Vobe					

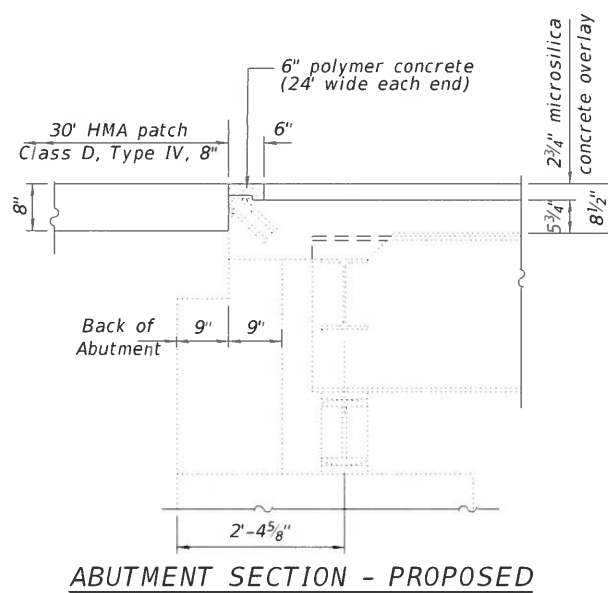
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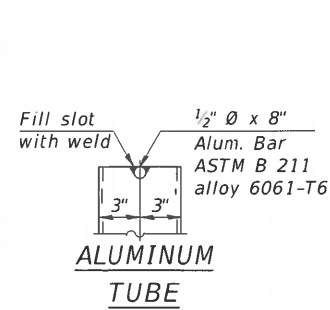
DECK SECTION



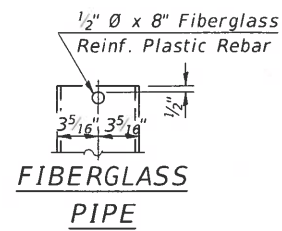
ABUTMENT SECTION - REMOVAL



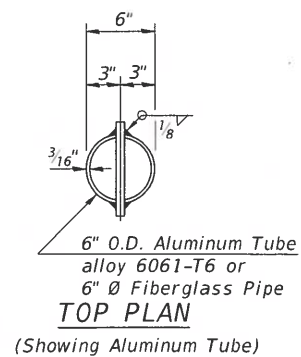
ABUTMENT SECTION - PROPOSED



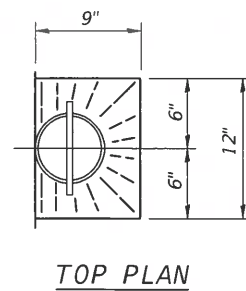
ALUMINUM TUBE



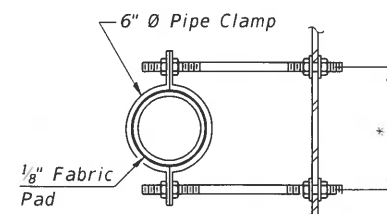
FIBERGLASS PIPE



TOP PLAN (Showing Aluminum Tube)

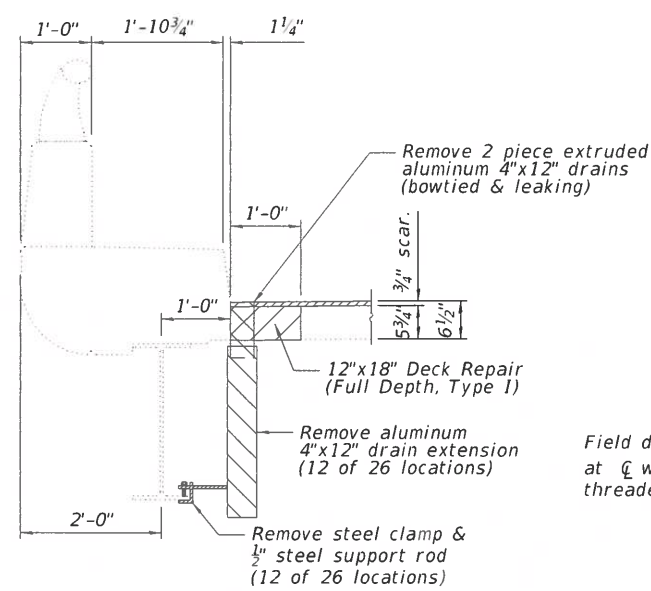


TOP PLAN

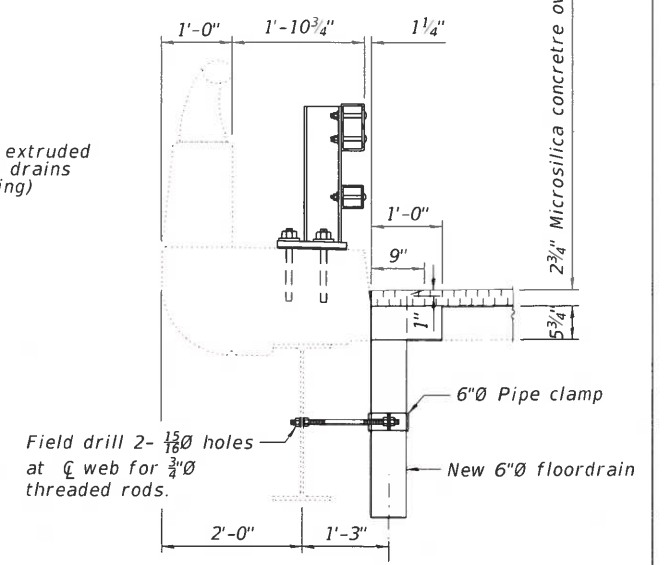


SECTION A-A

* Dimension as required by Pipe Clamp



DRAIN REMOVAL (26 locations)



NEW DRAIN (12 locations)

Notes:

- Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
- The exterior surfaces of the floor drains shall be painted according to Article 506 with the finish coat as specified. The exterior surfaces of the drains shall be cleaned according to the Society of Protective Coatings Spec. SSPC-SP1 prior to painting.
- The top portion of aluminum floor drains shall be coated to minimize reaction with wet concrete.
- The clamping device shall be galvanized according to AASHTO M 232. Cost of clamping device included with Floor Drains.
- See sheet 1 for locations of drains. 12 locations will have new floor drains. 14 locations will have removal of previously plugged drains.

MODEL: 0600177-76M05-002
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DESIGNED - J. UEHLE	EXAMINED	DATE - OCTOBER 17, 2018
CHECKED - V. VELIZ	ACTING ENGINEER OF STRUCTURAL SERVICES	
DRAWN - J. UEHLE	PASSED	REVISED -
CHECKED - V. VELIZ	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

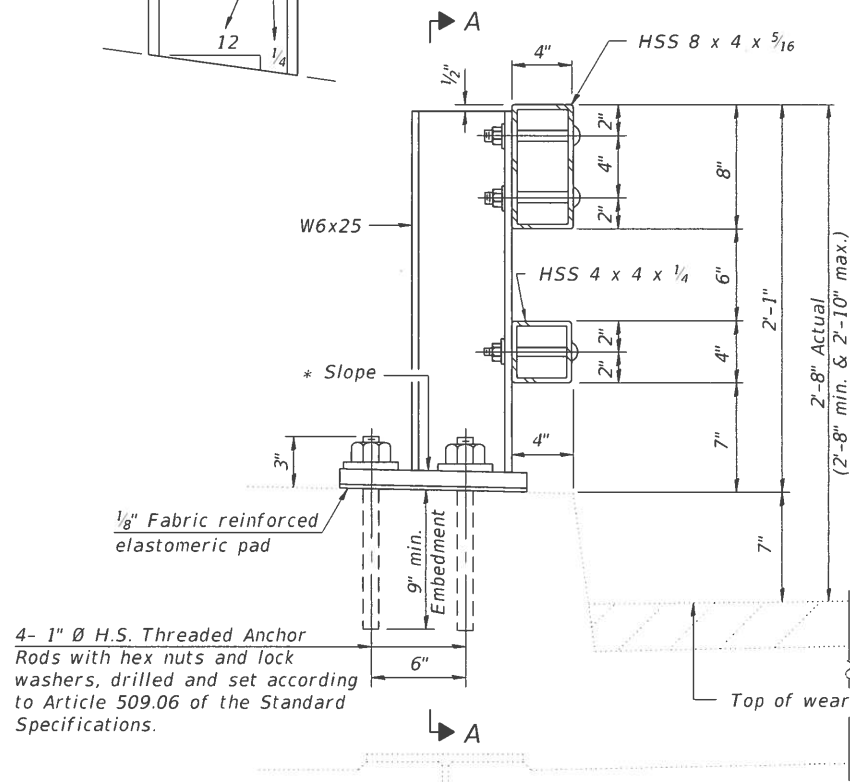
**DECK SECTION & DRAIN DETAILS
SN 060-0177**

SHEET 2 OF 3 SHEETS

F.A.I. RTE. 55	SECTION 60-1B-R-1	COUNTY MADISON	TOTAL SHEETS 11	SHEET NO. 10
CONTRACT NO. 76M05				
ILLINOIS FED. AID PROJECT				

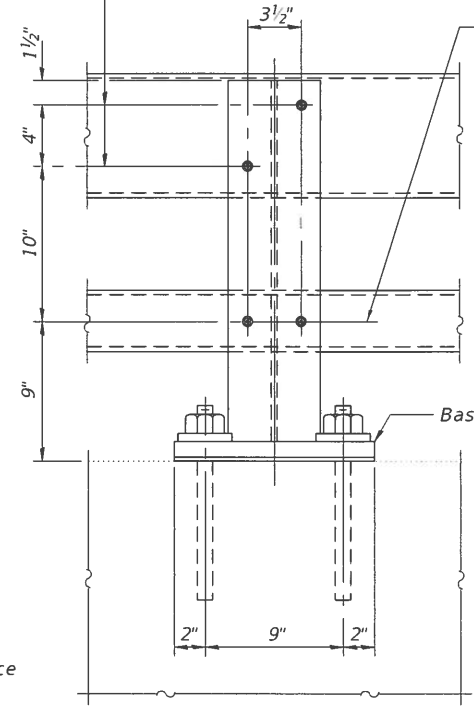
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* Cut bottom end of post to curb slope.



SECTION AT RAIL POST

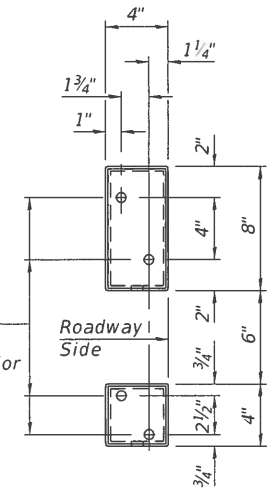
2- 3/4" Ø x 6" Round Head Bolts with locknut and flat washer. 7/8" Ø Holes in tubing and posts. Holes in hollow structural section may be drilled in the field.



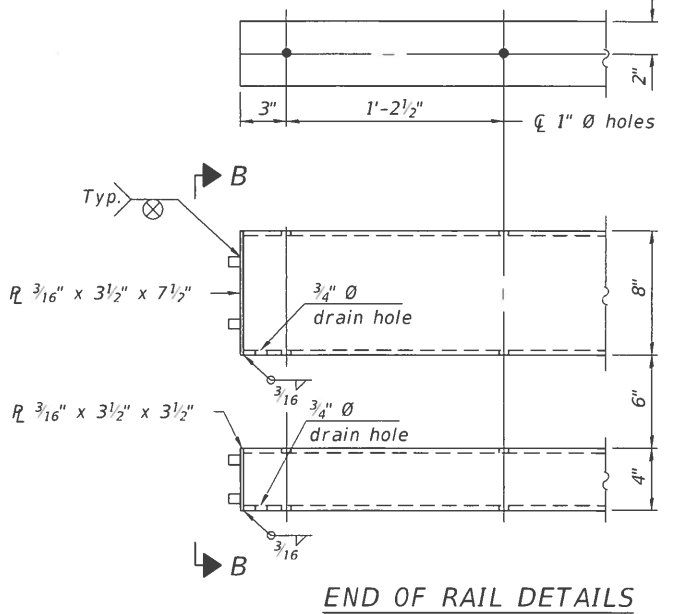
SECTION A-A

2- 1/2" Ø x 6" Round Head Bolts with locknut and flat washer. 5/8" Ø Holes in hollow structural section and post. Holes in hollow structural section may be drilled in the field.

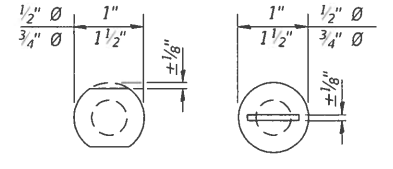
Ø - 5/8" reduced base welded studs. Provide 4 - 5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032.



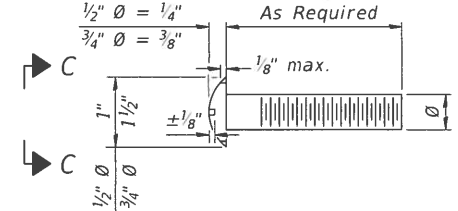
VIEW B-B



END OF RAIL DETAILS

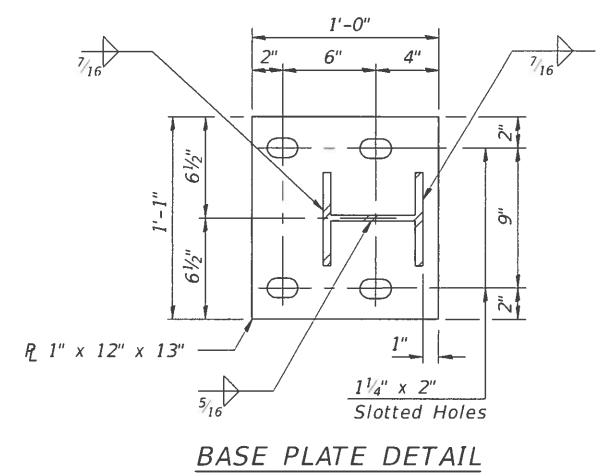


VIEW C-C

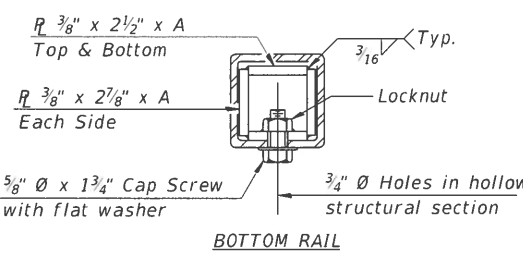


DETAIL OF 1/2" Ø & 3/4" Ø ROUND HEAD BOLTS

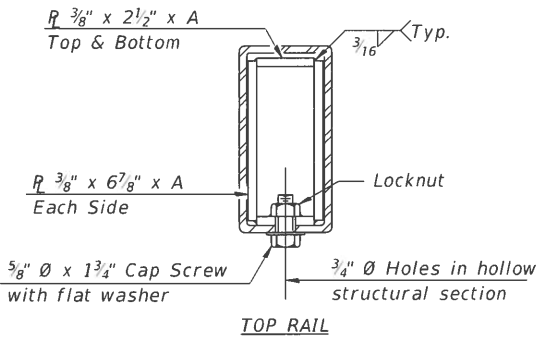
4- 1" Ø H.S. Threaded Anchor Rods with hex nuts and lock washers, drilled and set according to Article 509.06 of the Standard Specifications.



BASE PLATE DETAIL

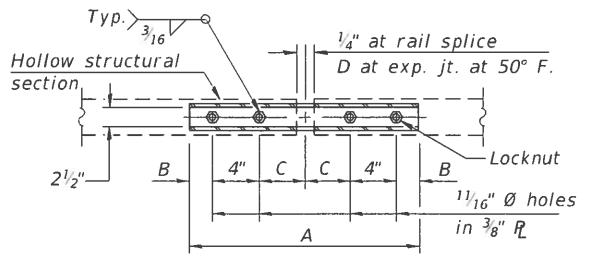


BOTTOM RAIL

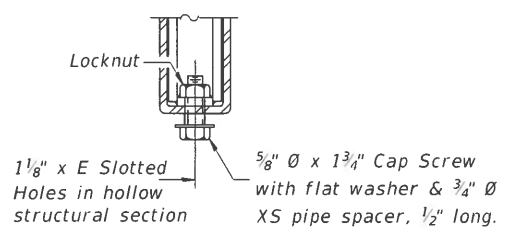


TOP RAIL

SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE R TYPICAL



RAIL SPLICE CONNECTION AT EXPANSION JT.

Notes:
 Posts shall not be located closer than 1'-3" to an existing bridge expansion joint or end of bridge.
 Steel Bridge Rail expansion joint shall be provided between any two (2) posts which span a bridge expansion joint. Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement.
 Provide one 1/8" and two 1/16" steel shims for 25% of the posts. Shims shall be similar to base plates in size and holes.
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

SPLICE DIMENSIONS

T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3 1/2"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1/4"	1'-8"	2"	4"	—

T = Total movement at expansion joint as shown on the design plans.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type 2399	Foot	407

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R-31

8-11-2017

(6'-3" Maximum Post Spacing)

DESIGNED - J. Uehle	EXAMINED	DATE - OCTOBER 17, 2018
CHECKED - V. Veliz	ACTING ENGINEER OF STRUCTURAL SERVICES	
DRAWN - J. Uehle	PASSED	REVISED -
CHECKED - V. Veliz	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL RAILING, TYPE 2399
SN 060-0177

SHEET 3 OF 3 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-1B-R-1	MADISON	11	11
CONTRACT NO. 76M05				
ILLINOIS FED. AID PROJECT				

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