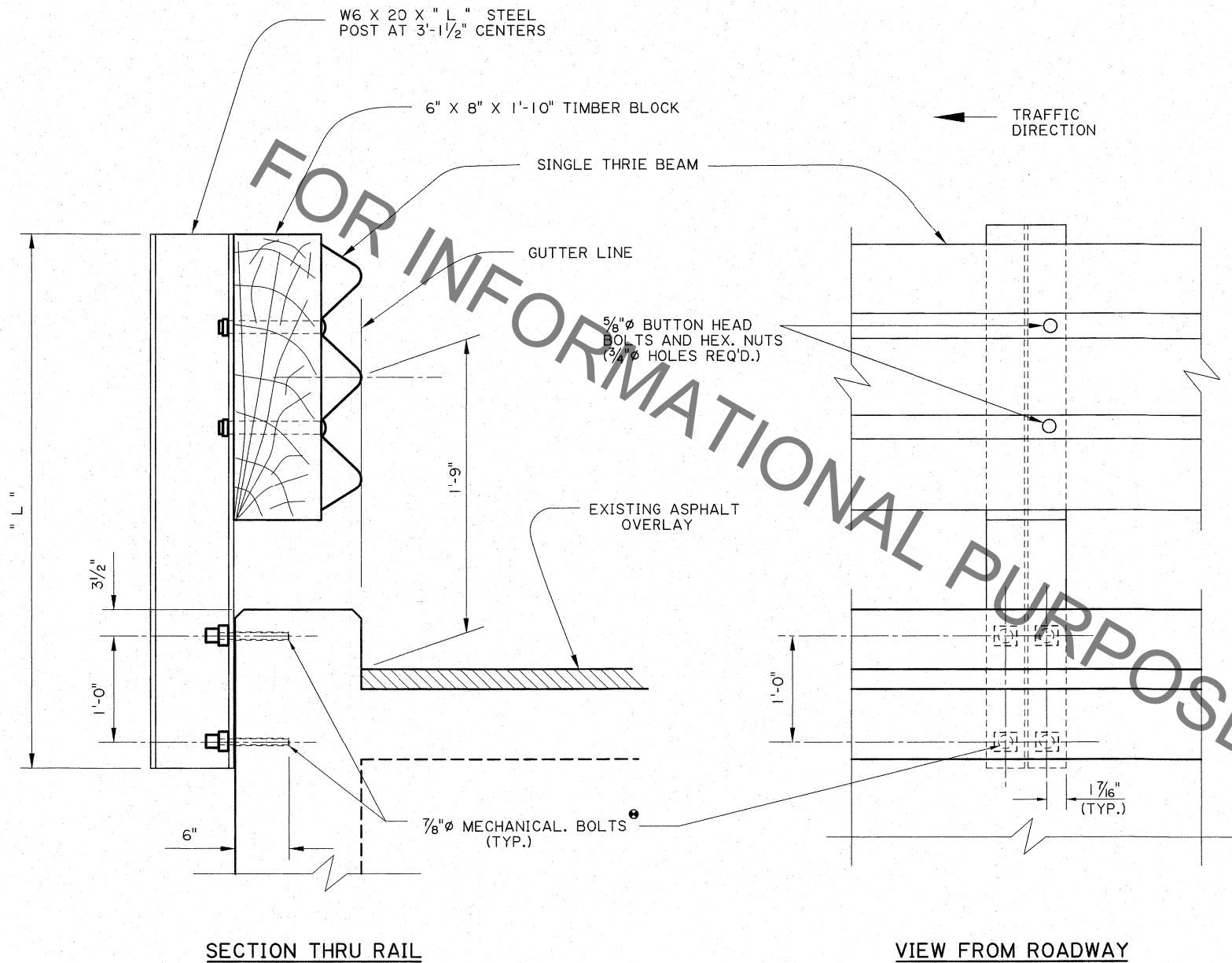




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NOTES

FOR ADDITIONAL INFORMATION ON GUARD RAIL, SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH).

ALL WORK AND MATERIALS REQ'D. TO INSTALL GUARD RAIL ON BOX CULVERTS SHALL BE PAID FOR UNDER ITEM 704-01-01000 GUARD RAIL (SINGLE THRIE BEAM) (3'-1 1/2\"/>


GUARD RAIL SPLICES SHALL BE MADE AT POST LOCATIONS ONLY. LAP IN DIRECTION OF TRAFFIC.


- USE 7/8\"/>

ALL STRUCTURAL STEEL SHALL BE ASTM A-36 AND GALVANIZED. ALL 5/8\"/>

THIS DETAIL WAS DEVELOPED AND APPROVED FOR USE UNDER NCHRP REPORT 350. AS PER LADOTD'S MASH IMPLEMENTATION POLICY, ITS CONTINUED USE IS ALLOWED WHILE A MASH ALTERNATIVE IS DEVELOPED OR EVALUATED.

SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
		P. FOSSIER		J. DOUCET		K. BRAUNER	
DESIGN		CHECK		DETAIL		REVIEW	
C. GAUDRY		J. DOUCET		P. FOSSIER		K. BRAUNER	
						SERIES #	


APPROVED BY CHIEF ENGINEER:  DATE: 5/13/2022



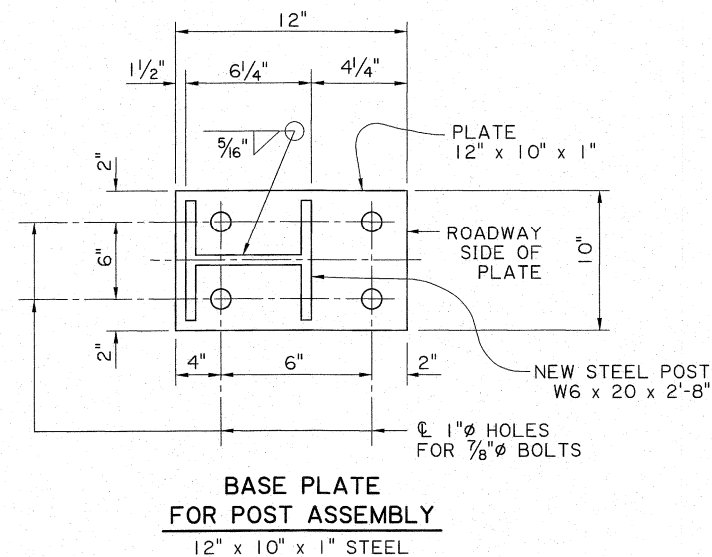
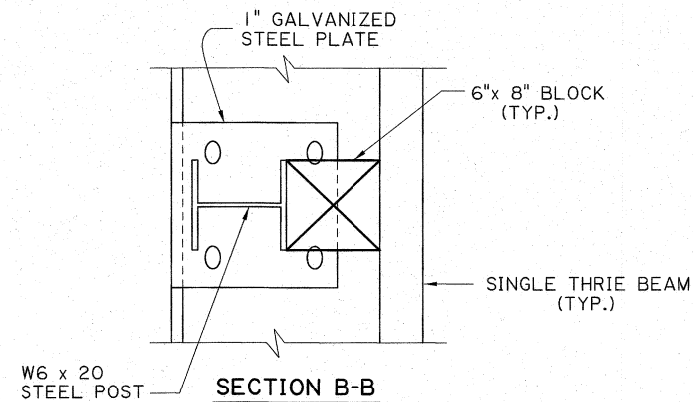
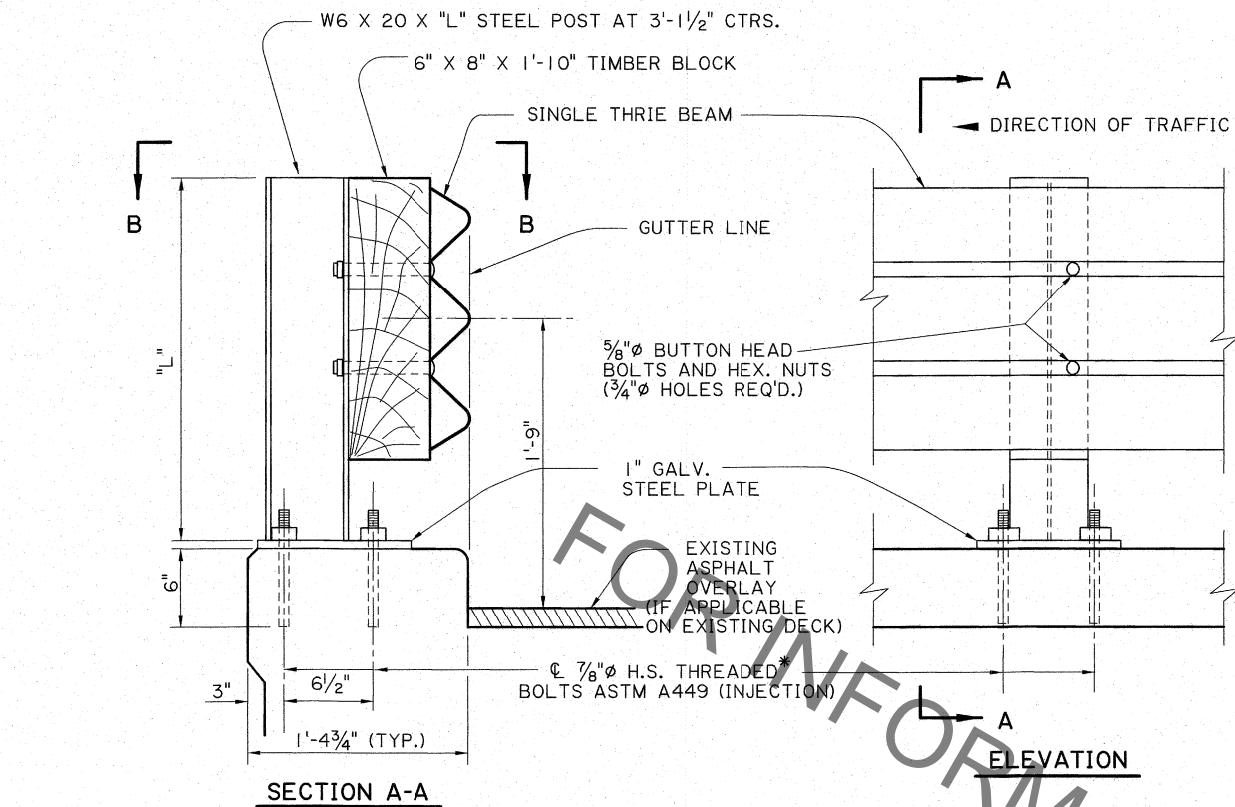
SIDE MOUNT GUARD RAIL
(FOR BOX CULVERTS)

STANDARD PLAN

GRR-01


LOUISIANA DEPARTMENT OF
TRANSPORTATION & DEVELOPMENT

BRIDGE AND
STRUCTURAL
DESIGN



NOTES

FOR ADDITIONAL INFORMATION ON GUARD RAIL, SEE
STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH).

ALL WORK AND MATERIALS REQ'D. TO INSTALL
GUARD RAIL ON BOX CULVERTS SHALL BE PAID
FOR UNDER ITEM 704-01-01000 GUARD RAIL
(SINGLE THRIE BEAM) (3'-1½" POST SPA.)

GUARD RAIL SPLICES SHALL BE MADE AT POST LOCATIONS ONLY. LAP IN DIRECTION OF TRAFFIC.

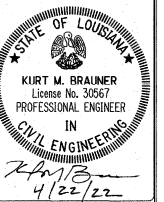
* DRILL 1"Ø HOLES, 6" DEEP FOR 7/8"Ø GALVANIZED BOLT. USE 7/8" GALVANIZED NUT WITH GALVANIZED CUT WASHER.

ALL HOLES DRILLED INTO AN EXISTING CONCRETE STRUCTURE SHALL BE CLEANED WITH COMPRESSED AIR AND MADE FREE OF ANY OIL OR RESIDUE. HOLES SHALL BE FILLED WITH 7/8"Ø INJECTION SYSTEM AS LISTED ON APPROVED MATERIALS LIST, PRODUCT CATEGORY "CONCRETE ANCHOR SYSTEMS." PLACE BOLT IN HOLE IMMEDIATELY AND WAIT FOR MANUFACTURERS CURE TIME.

ALL STRUCTURAL STEEL SHALL BE ASTM A-36
AND GALVANIZED. ALL $\frac{5}{8}$ " ϕ BOLTS SHALL BE
ASTM A307.

THIS DETAIL WAS DEVELOPED AND APPROVED FOR USE UNDER NCHRP REPORT 350. AS PER LADOTD'S MASH IMPLEMENTATION POLICY, ITS CONTINUED USE IS ALLOWED WHILE A MASH ALTERNATIVE IS DEVELOPED OR EVALUATED.

DESIGN	PARISH	SHEET NUMBER
P. FOSSIER		
CHECK	CONTROL	
C. GAUDRY	SECTION	
DETAIL		
J. DOUCET		
CHECK	STATE	
P. FOUSSIER	PROJECT	
REVIEW		
SERIES #	K. BRAUNER	



APPROVED BY CHIEF ENGINEER:

Christoph. F. Koch

DATE: 5/3/2011



TOP MOUNTED GUARD RAIL
(FOR BOX CULVERTS)

STANDARD PLAN	GRR-02
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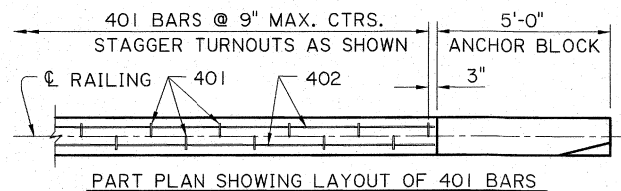
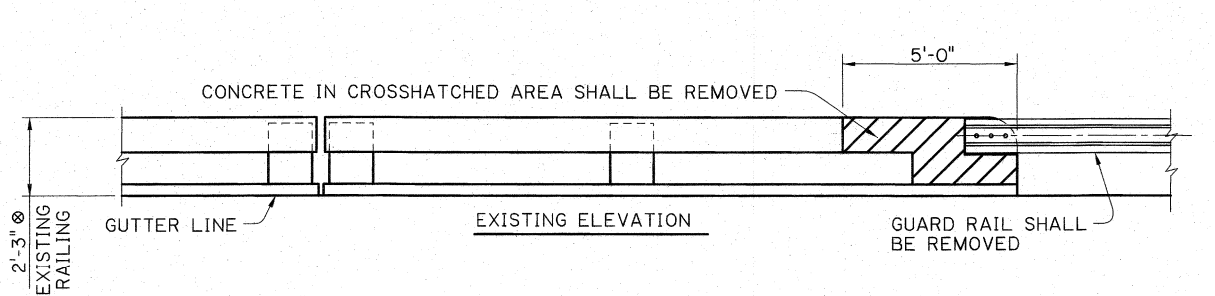
BRIDGE AND
STRUCTURAL
DESIGN



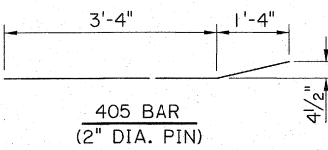
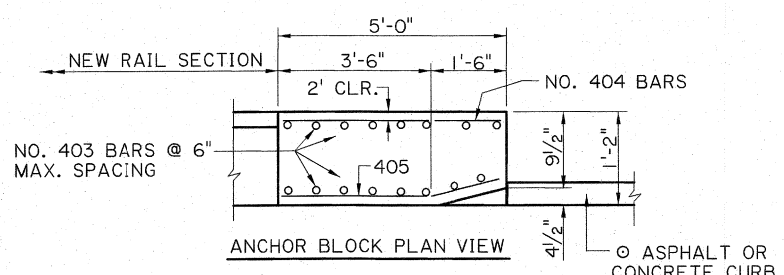
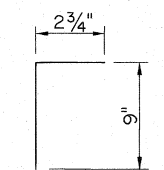
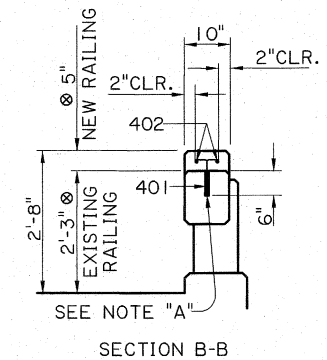
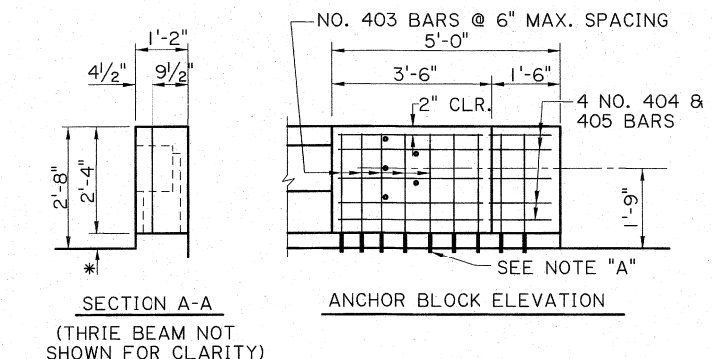
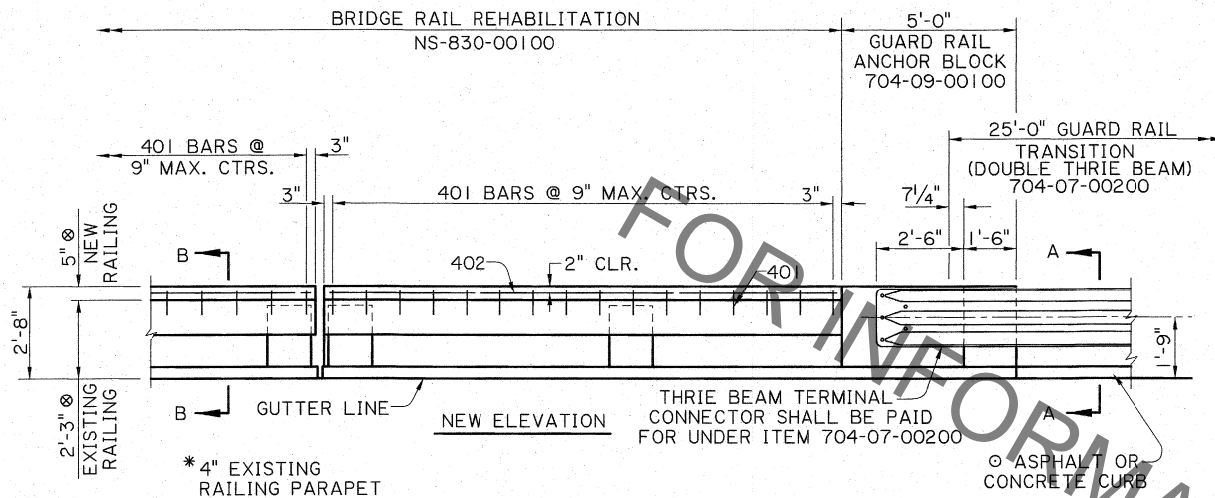
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NOTE: HOLES FOR 401 BARS SHALL BE DRILLED ON CL RAIL



GENERAL NOTES

FOR ADDITIONAL INFORMATION ON GUARD RAIL, SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH).

ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE PROJECT ENGINEER.

○ FOR CURB & TRANSITION INFORMATION, SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH), SHEET 3 OF 11.

○ 2'-3" & 5" DIMENSIONS MAY VARY.

BARRIER RAIL REHABILITATION

ALL WORK AND MATERIALS REQUIRED TO RAISE THE EXISTING BARRIER RAIL TO THE REQUIRED HEIGHT OF 2'-8" SHALL BE PAID FOR UNDER: BARRIER RAIL REHABILITATION, PER LIN. FT.

GUARD RAIL ANCHOR BLOCKS

ALL WORK AND MATERIALS REQUIRED TO REMOVE EXISTING RAILING AND CONSTRUCT THE ANCHOR BLOCK SHALL BE PAID FOR UNDER: GUARD RAIL ANCHOR BLOCK, PER EACH, ITEM 704-09-00100

CONCRETE IN CROSS HATCHED AREA SHALL BE REMOVED. THE EXISTING REINFORCING STEEL SHALL REMAIN IN PLACE AND SHALL BE CLEANED AND STRAIGHTENED TO THE SATISFACTION OF THE PROJECT ENGINEER BEFORE POURING NEW CONCRETE.

CONCRETE

NEW CONCRETE SHALL BE CLASS "A1".

NOTE "A"

NO. 401 & 403 BARS SET IN 3/4" Ø DRILLED HOLES. CLEAN HOLES WITH COMPRESSED AIR AND MAKE THEM FREE OF ANY OIL OR RESIDUE. FILL HOLES WITH A TYPE IV, GRADE 2 OR 3 EPOXY LISTED ON THE APPROVED MATERIALS LIST, PRODUCT CATEGORY "EPOXY RESIN SYSTEMS". PLACE BARS IN HOLES AND WAIT THE MANUFACTURER'S CURE TIME BEFORE POURING NEW CONCRETE.

THIS DETAIL WAS DEVELOPED AND APPROVED FOR USE UNDER NCHRP REPORT 350. AS PER LADOTD'S MASH IMPLEMENTATION POLICY, ITS CONTINUED USE IS ALLOWED WHILE A MASH ALTERNATIVE IS DEVELOPED OR EVALUATED.

SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
DESIGN		CHECK		DETAIL		REVIEW	
P. FOSSIER		C. GAUDRY		J. DOUCET		P. FOSSIER	
K. BRAUNER							

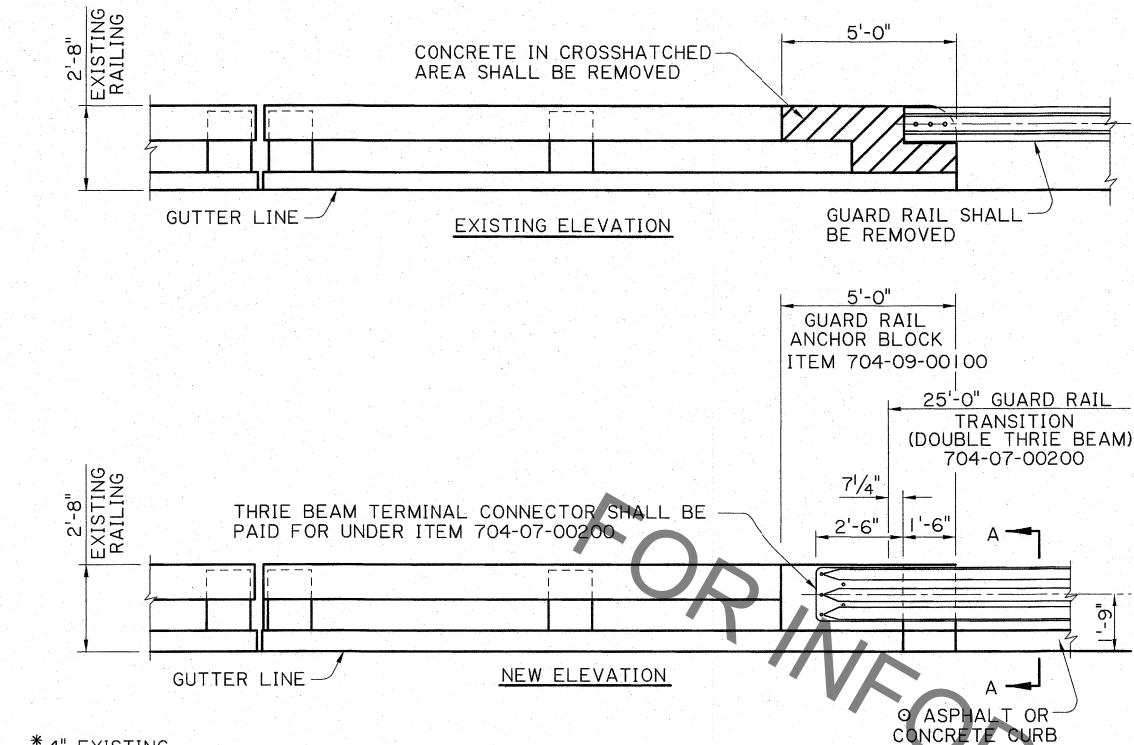
APPROVED BY CHIEF ENGINEER:

DATE: 5/3/2022

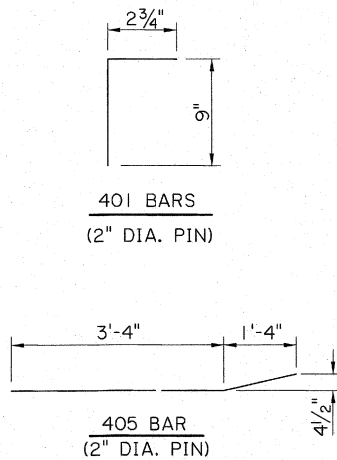
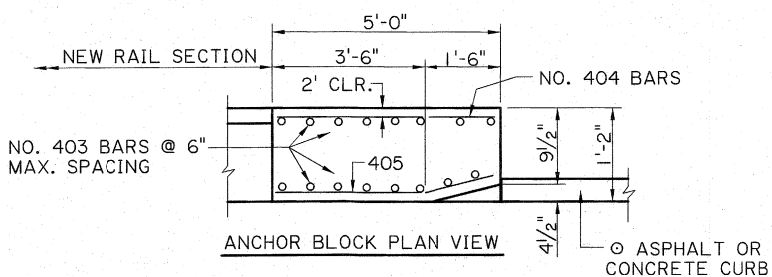
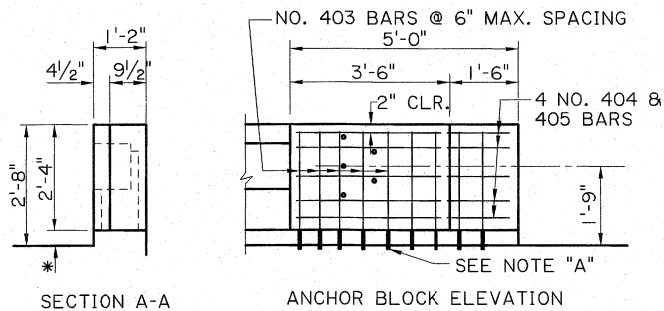
ANCHOR BLOCK & BRIDGE RAIL REHABILITATION FOR LOW CONCRETE POST AND RAIL

BRIDGE AND STRUCTURAL DESIGN

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT



* 4" EXISTING RAILING PARAPET



GENERAL NOTES

FOR ADDITIONAL INFORMATION ON GUARD RAIL, SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH).
ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE PROJECT ENGINEER.

○ FOR CURB & TRANSITION INFORMATION, SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH), SHEET 3 OF 11.

GUARD RAIL ANCHOR BLOCKS

ALL WORK AND MATERIALS REQUIRED TO REMOVE EXISTING RAILING AND CONSTRUCT THE ANCHOR BLOCK SHALL BE PAID FOR UNDER: GUARD RAIL ANCHOR BLOCK, PER EACH, ITEM 704-09-00100

CONCRETE IN CROSS HATCHED AREA SHALL BE REMOVED. THE EXISTING REINFORCING STEEL SHALL REMAIN IN PLACE AND SHALL BE CLEANED AND STRAIGHTENED TO THE SATISFACTION OF THE PROJECT ENGINEER BEFORE POURING NEW CONCRETE. THE REINFORCING STEEL IN THE 1'-6" X 4 1/2" SLOT MAY BE CUT OR BENT TO ACCOMMODATE THIS SLOT.

NOTE "A"

NO. 401 & 403 BARS SET IN 3/4" Ø DRILLED HOLES. CLEAN HOLES WITH COMPRESSED AIR AND MAKE THEM FREE OF ANY OIL OR RESIDUE. FILL HOLES WITH A TYPE IV, GRADE 2 OR 3 EPOXY LISTED ON THE APPROVED MATERIALS LIST, PRODUCT CATEGORY "EPOXY RESIN SYSTEMS". PLACE BARS IN HOLES AND WAIT THE MANUFACTURER'S CURE TIME BEFORE POURING NEW CONCRETE.

THIS DETAIL WAS DEVELOPED AND APPROVED FOR USE UNDER NCHRP REPORT 350. AS PER LADOTD'S MASH IMPLEMENTATION POLICY, ITS CONTINUED USE IS ALLOWED WHILE A MASH ALTERNATIVE IS DEVELOPED OR EVALUATED.

SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
P. FOSSIER	C. GAUDRY	J. DOUCET	P. FOSSIER	K. BRAUNER			
DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #		

APPROVED BY CHIEF ENGINEER: *[Signature]* DATE: 5/3/2022

GUARD RAIL ANCHOR BLOCK
REHABILITATION FOR CONCRETE
POST & RAIL (ALTERNATE 1)

STANDARD PLAN
GRR-04

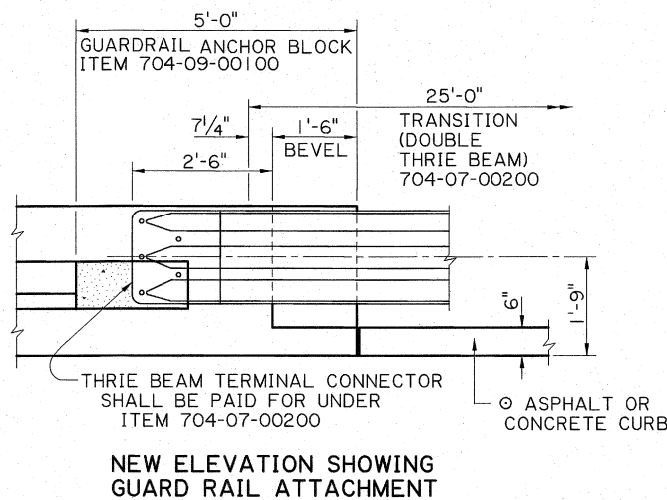
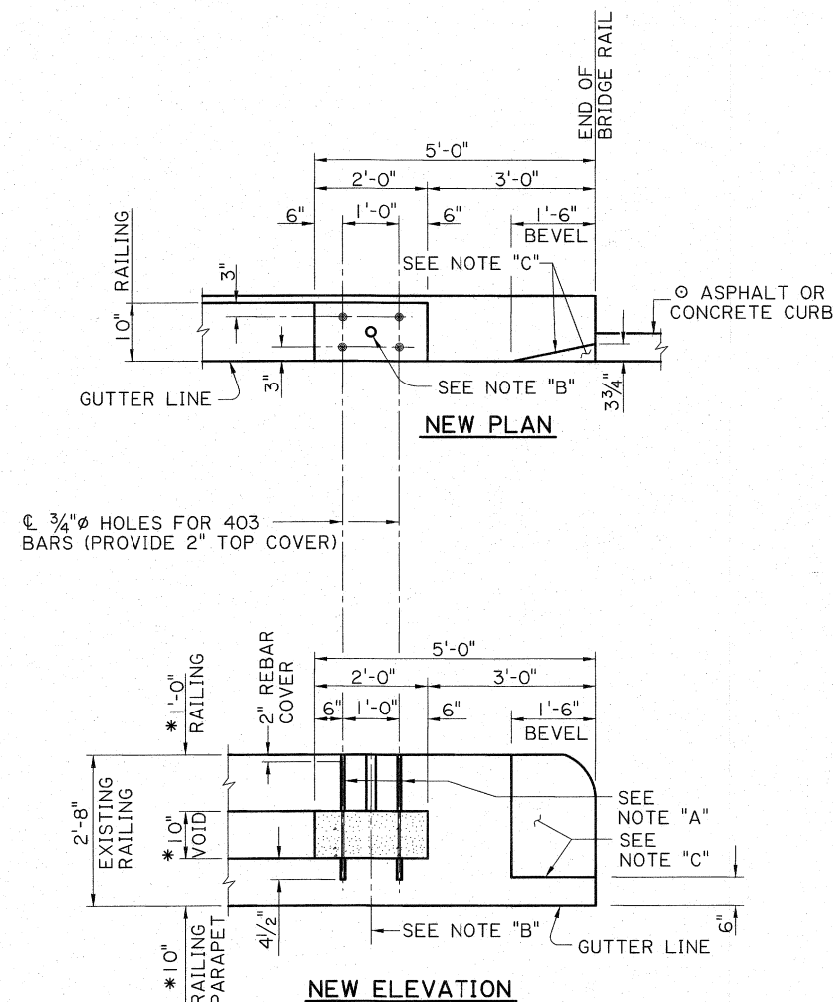
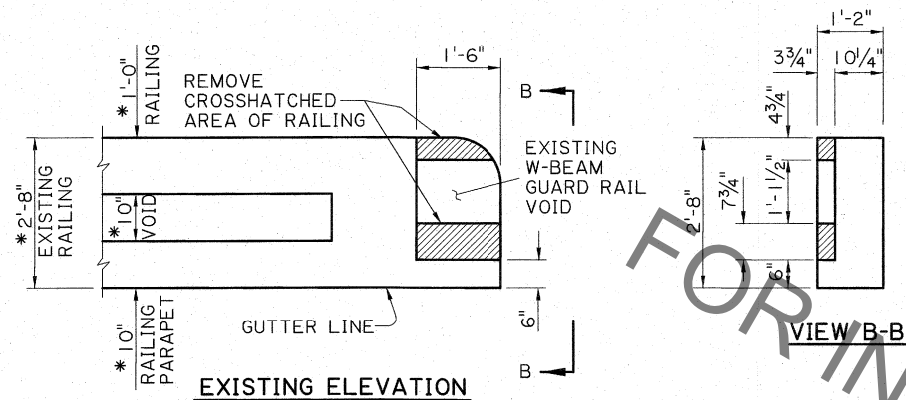
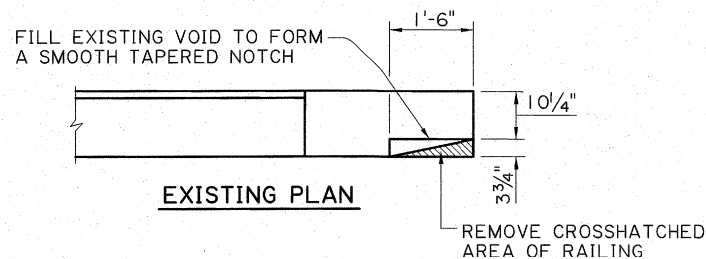
DOTD
LOUISIANA DEPARTMENT OF
TRANSPORTATION & DEVELOPMENT
BRIDGE AND
STRUCTURAL
DESIGN



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6/6/2022

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GENERAL NOTES

FOR ADDITIONAL INFORMATION ON GUARD RAILS, SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH).

* THESE DIMENSIONS MAY VARY. THE NON-SHRINK GROUT QUANTITY AND 403 BAR LENGTH SHALL BE ADJUSTED ACCORDINGLY.

ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE PROJECT ENGINEER.

○ FOR CURB & TRANSITION, SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH), SHEET 3 OF 11.

GUARD RAIL ANCHOR BLOCKS

ALL WORK AND MATERIALS REQUIRED TO MODIFY EXISTING RAILING SHALL BE PAID FOR UNDER: GUARD RAIL ANCHOR BLOCK, PER EACH, ITEM 704-09-00100.

NOTE "A"

DRILL 3/4" HOLES THROUGH THE RAILING AND INTO THE RAILING PARAPET AS SHOWN. CLEAN HOLES WITH COMPRESSED AIR TO REMOVE ALL OIL AND RESIDUE. FILL HOLES WITH A TYPE IV, GRADE 2 OR 3 EPOXY LISTED ON THE APPROVED MATERIALS LIST, PRODUCT CATEGORY "EPOXY RESIN SYSTEMS". PLACE 403 BARS (2'-2" LONG) IN HOLES AND WAIT THE MANUFACTURER'S CURE TIME BEFORE POURING NEW CONCRETE.

NOTE "B"

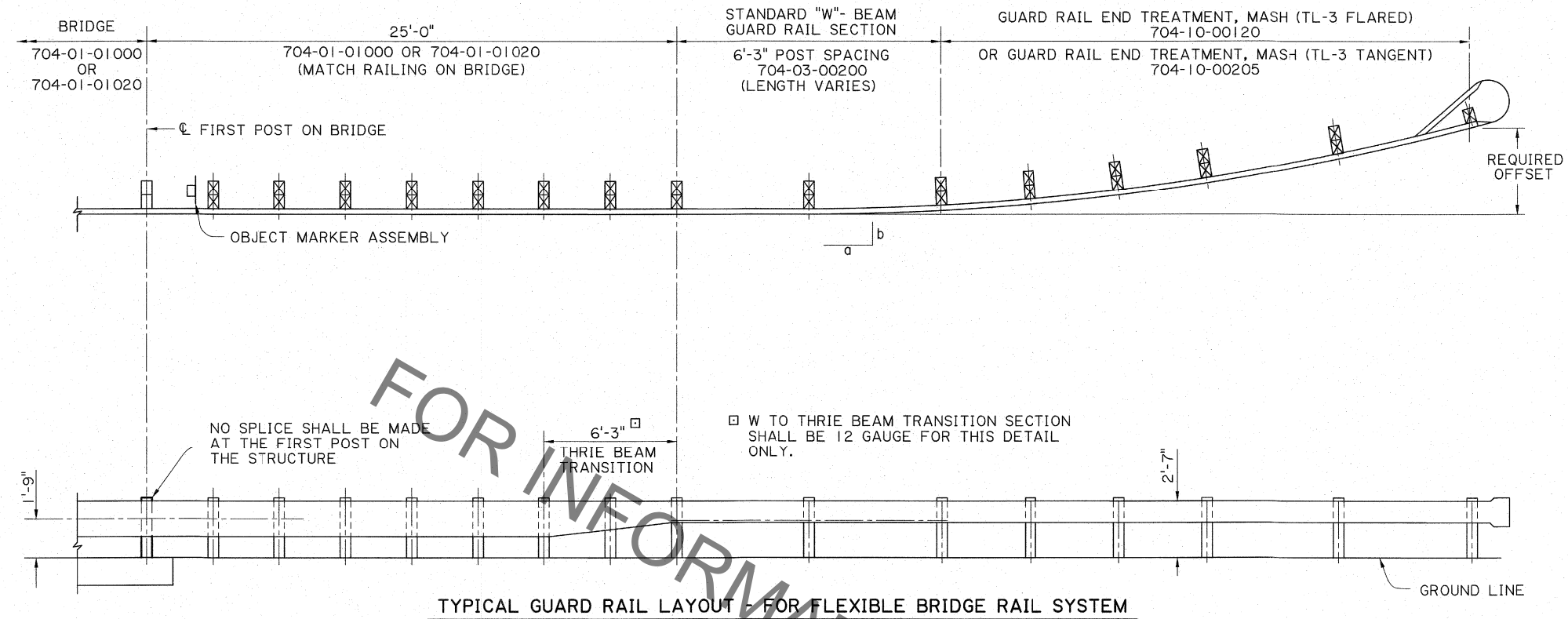
DRILL A 2" HOLE THROUGH THE DEPTH OF RAILING. FILL VOID BETWEEN RAILING AND RAILING PARAPET THROUGH THE 2" HOLE WITH AN APPROVED FLOWABLE NON-SHRINK GROUT LISTED ON APPROVED MATERIALS LIST, PRODUCT CATEGORY "NON-SHRINK GROUT."

NOTE "C"

AFTER REMOVING THE EXISTING CONCRETE TO CONSTRUCT THE 1'-6" BEVEL FULL HEIGHT, PREPARE THE VERTICAL SURFACE OF THE EXISTING VOID FOR AN EPOXY RESIN JOINT ACCORDING TO SUBSECTION 805.05.8.2 AND PLACE CONCRETE IN VOID. REDRESS AND FORM THE ENTIRE SURFACE OF THE BEVEL TO GIVE A SMOOTH APPEARANCE BY USING A FLOWABLE NON-SHRINK GROUT LISTED ON APPROVED MATERIALS LIST, PRODUCT CATEGORY "NON-SHRINK GROUT."

THIS DETAIL WAS DEVELOPED AND APPROVED FOR USE UNDER NCHRP REPORT 350. AS PER LADOTD'S MASH IMPLEMENTATION POLICY, ITS CONTINUED USE IS ALLOWED WHILE A MASH ALTERNATIVE IS DEVELOPED OR EVALUATED.

SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
P. FOSSIER	C. GAUDRY	J. DOUCET	P. FOSSIER	K. BRAUNER			
DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES	#	
APPROVED BY CHIEF ENGINEER: DATE: 5/13/2022							
GUARD RAIL ANCHOR BLOCK REHABILITATION FOR CONCRETE POST & RAIL (ALTERNATE 2)							
BRIDGE AND STRUCTURAL DESIGN							

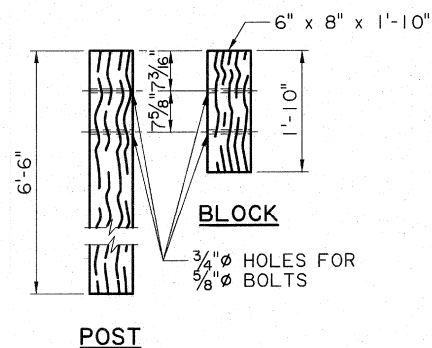
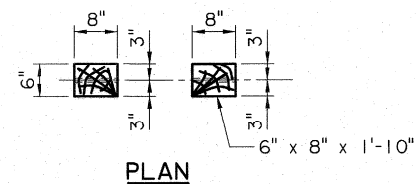


NOTES

LAYOUTS SHOWN ARE FOR BRIDGE STRUCTURES WHICH HAVE FLEXIBLE BRIDGE RAILING.

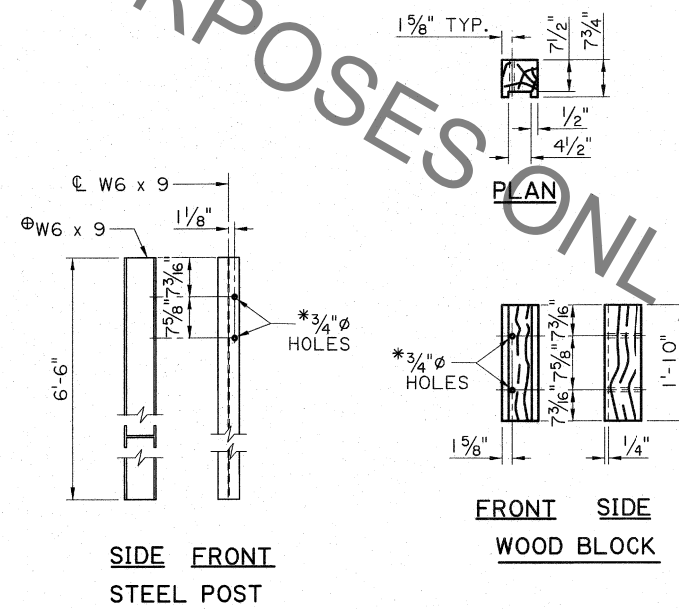
FOR ADDITIONAL INFORMATION ON GUARD RAILS, SEE
STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH).

THIS DETAIL WAS DEVELOPED AND APPROVED FOR USE UNDER NCHRP REPORT 350. AS PER LADOTD'S MASH IMPLEMENTATION POLICY, ITS CONTINUED USE IS ALLOWED WHILE A MASH ALTERNATIVE IS DEVELOPED OR EVALUATED.



WOOD POST AND WOOD BLOCK FOR
STANDARD THRIE BEAM GUARD RAIL

N.T.S.



STEEL POST AND ROUTED WOOD BLOCK
FOR STANDARD THRIE BEAM GUARD RAIL

N.T.S.

⊕ A W6 x 8.5 STEEL POST MAY BE USED AS AN ALTERNATE FOR A W6 x 9 POST.

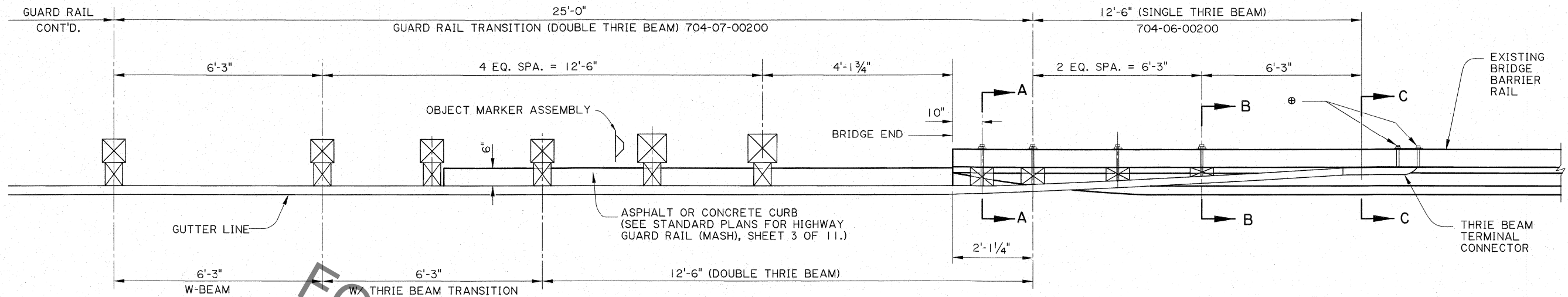
* POST AND BLOCK HOLES SHALL BE DRILLED ADJACENT TO THE DIRECTION OF THE TRAFFIC.



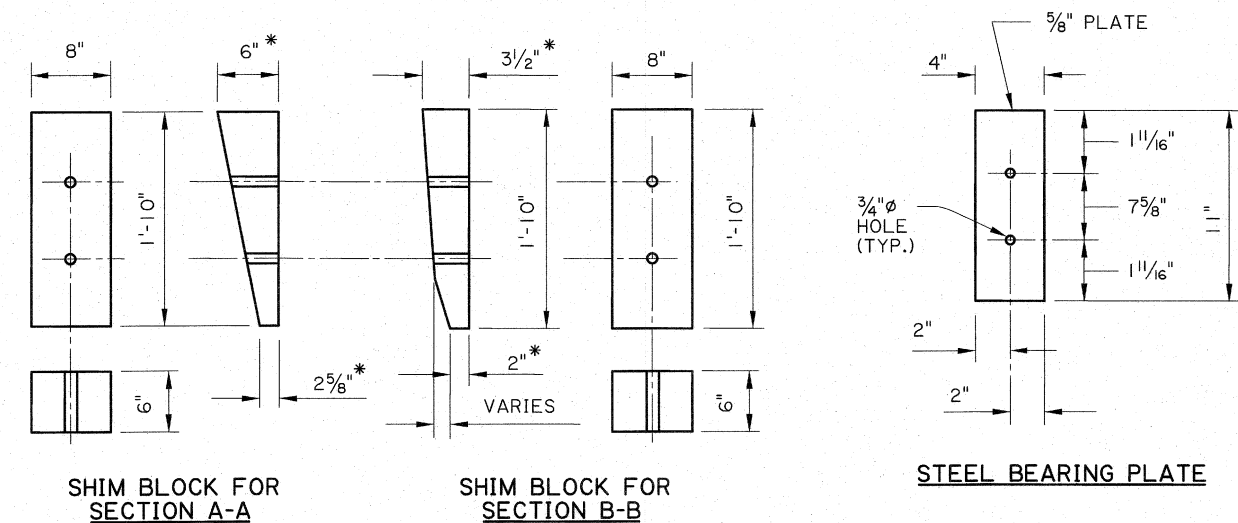
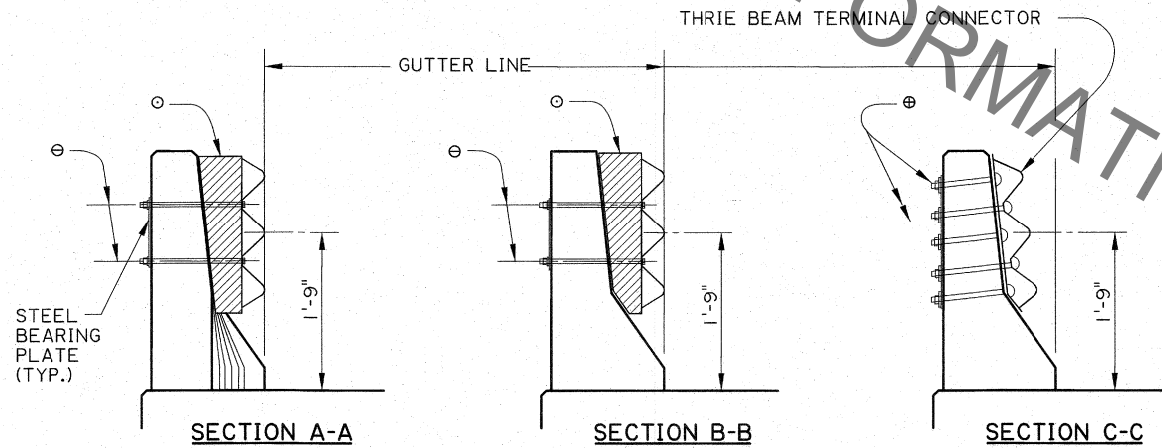
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PLAN VIEW



* DIMENSIONS ARE ASSUMED. ADJUST IN THE FIELD AS REQUIRED.
HOLES SHALL BE DRILLED IN THE FIELD. SEE NOTE NO. 8.

- ⊕ 5 - 7/8" H.S. ASTM A449 HEX THROUGH BOLTS WITH 5/8" BEARING PLATE (SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH), SHEET 9 OF 11.)
- ⊕ 2 - 5/8" BUTTON HEAD BOLTS WITH 5/8" BEARING PLATE, NUTS, & WASHERS
- ⊕ 6" x 8" x 1'-10" TREATED TIMBER BLOCK (CUT & SHAPE IN THE FIELD TO FIT).

NOTES:

- FOR ADDITIONAL INFORMATION ON GUARD RAIL TRANSITION, SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH), SHEET 3 OF 11.
- ALL HARDWARE AND TIMBER USED FOR CONNECTING THE SINGLE THRIE BEAM TO THE EXISTING BRIDGE RAIL SHALL BE PAID FOR UNDER ITEM 704-06-00200, GUARD RAIL BRIDGE ATTACHMENTS (SINGLE THRIE BEAM), PER LIN. FT.
- ANY DAMAGE DONE TO THE EXISTING STRUCTURE DURING INSTALLATION OF THE GUARD RAIL SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE AND TO THE SATISFACTION OF THE PROJECT ENGINEER.
- GALV. STEEL Ogee WASHER MAY BE USED IN LIEU OF THE STEEL BEARING PLATE.
- ALL H.S. BOLTS SHALL BE ASTM A449. ALL 5/8" BOLTS SHALL BE ASTM A307.
- A 25'-0" SECTION OF THRIE BEAM RAIL (WITH NO SPLICE) SHALL BE INSTALLED SYMMETRICALLY WITH RESPECT TO THE SECOND TIMBER BLOCK USED AT THE END OF THE STRUCTURE.
- THE WOOD SHIM BLOCKS SHALL BE CUT & SHAPED IN THE FIELD TO FIT THE LOCATION WITH A SNUG FIT.
- THE BOLT HOLES SHALL BE FIELD DRILLED THRU THE GUARD RAIL, SHIM BLOCKS AND THE BARRIER RAIL AT THE SAME TIME.
- THE GUARD RAIL SHALL NOT PROTRUDE BEYOND THE GUTTER LINE.
- THIS DETAIL WAS DEVELOPED AND APPROVED FOR USE UNDER NCHRP REPORT 350. AS PER LADOTD'S MASH IMPLEMENTATION POLICY, ITS CONTINUED USE IS ALLOWED WHILE A MASH ALTERNATIVE IS DEVELOPED OR EVALUATED.

SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
P. FOSSIER		K. BRAUNER		J. DOUCET		P. FOSSIER	
DESIGN		CHECK		DETAIL		CHECK	
REVIEW		SERIES		REVIEW		SERIES	
C. GUIDRY		C. GUIDRY		C. GUIDRY		C. GUIDRY	

APPROVED BY CHIEF ENGINEER: *[Signature]* DATE: 5/13/2022

NEW JERSEY BARRIER RAIL RETROFIT (FOR STRUCTURES GREATER THAN 60 FT. LONG)

DOTD LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

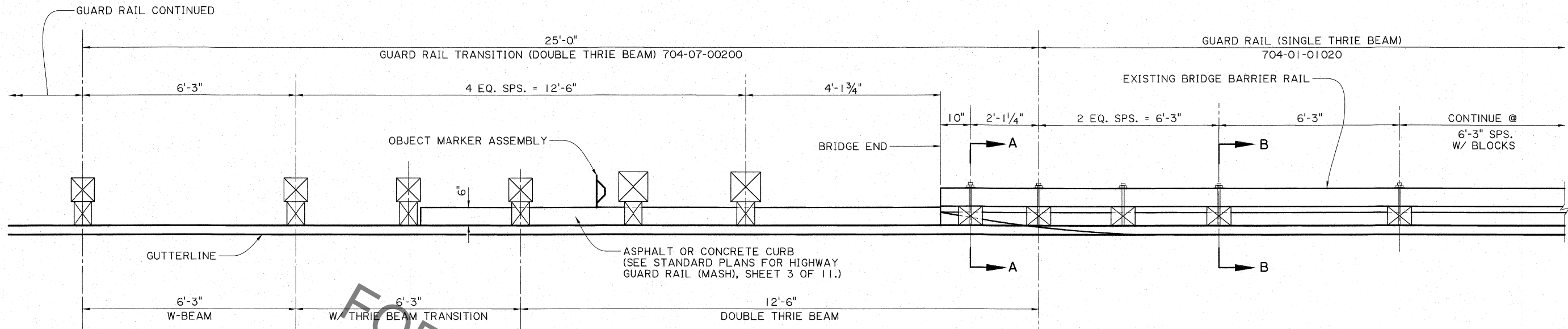
BRIDGE AND STRUCTURAL DESIGN



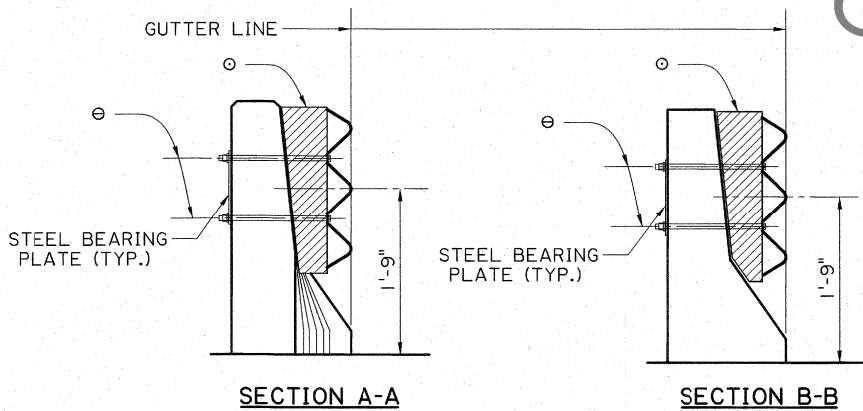
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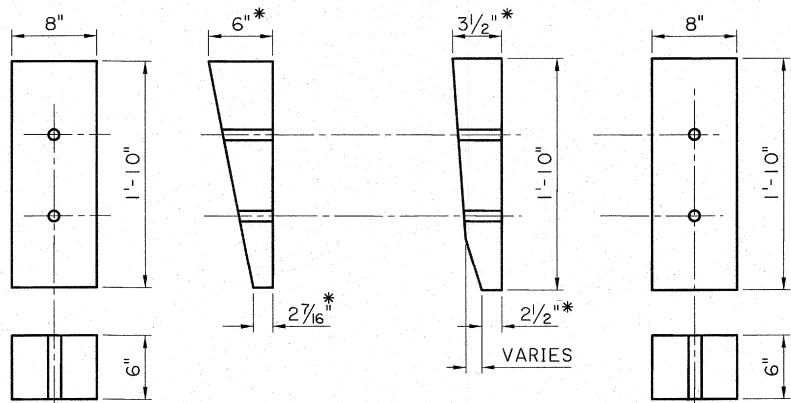
PLAN VIEW



SECTION A-A

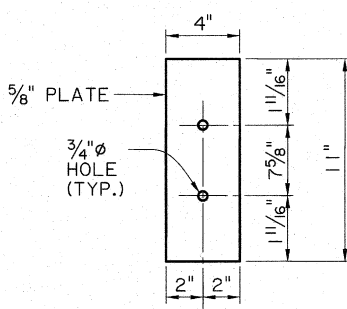
SECTION B-B

- 2 - 5/8" Ø BUTTON HEAD BOLTS WITH 5/8" BEARING PLATE, NUTS, & WASHERS. (TYP.)
- 6" X 8" X 1'-10" TREATED TIMBER BLOCK (CUT & SHAPE IN THE FIELD TO FIT).



SHIM BLOCK FOR SECTION A-A

SHIM BLOCK FOR SECTION B-B



STEEL BEARING PLATE

NOTES:

- FOR ADDITIONAL INFORMATION ON GUARD RAIL TRANSITION, SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH), SHEET 3 OF 11.
- ALL HARDWARE AND TIMBER USED FOR CONNECTING THE SINGLE THRIE BEAM TO THE EXISTING BRIDGE RAIL SHALL BE PAID FOR UNDER ITEM 704-01-01020, GUARD RAIL (SINGLE THRIE BEAM), (6'-3" POST SPACING) PER LIN. FT.
- ANY DAMAGE DONE TO THE EXISTING STRUCTURE DURING INSTALLATION OF THE GUARD RAIL SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE AND TO THE SATISFACTION OF THE PROJECT ENGINEER.
- GALV. STEEL OGEE WASHER MAY BE USED IN LIEU OF THE STEEL BEARING PLATE.
- ALL 5/8" Ø BOLTS SHALL BE ASTM A307.
- A 25'-0" SECTION OF GUARD RAIL (WITH NO SPLICE) SHALL BE INSTALLED SYMMETRICALLY WITH RESPECT TO THE SECOND POST ON EACH END OF THE STRUCTURE.
- THE WOOD SHIM BLOCKS SHALL BE CUT & SHAPED IN THE FIELD TO FIT THE LOCATION WITH A SNUG FIT.
- THE BOLT HOLES SHALL BE FIELD DRILLED THRU THE GUARD RAIL, SHIM BLOCKS AND THE BARRIER RAIL AT THE SAME TIME.
- THE GUARD RAIL SHALL NOT PROTRUDE BEYOND THE GUTTER LINE.
- THIS DETAIL WAS DEVELOPED AND APPROVED FOR USE UNDER NCHRP REPORT 350. AS PER LADOTD'S MASH IMPLEMENTATION POLICY, ITS CONTINUED USE IS ALLOWED WHILE A MASH ALTERNATIVE IS DEVELOPED OR EVALUATED.

* DIMENSIONS ARE ASSUMED. ADJUST IN THE FIELD AS REQUIRED. HOLES SHALL BE DRILLED IN THE FIELD. SEE NOTE NO. 8.

SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
P. FOSSIER		K. BRAINER		J. DOUCET		P. FOSSIER	
DESIGN		CHECK		DETAIL		CHECK	
REVIEW		SERIES		REVIEW		SERIES	
C. GUIDRY		C. GUIDRY		C. GUIDRY		C. GUIDRY	

APPROVED BY CHIEF ENGINEER: *[Signature]* DATE: 5/13/2022

NEW JERSEY BARRIER RAIL RETROFIT (FOR STRUCTURES LESS THAN 60 FT. LONG)

BRIDGE AND STRUCTURAL DESIGN

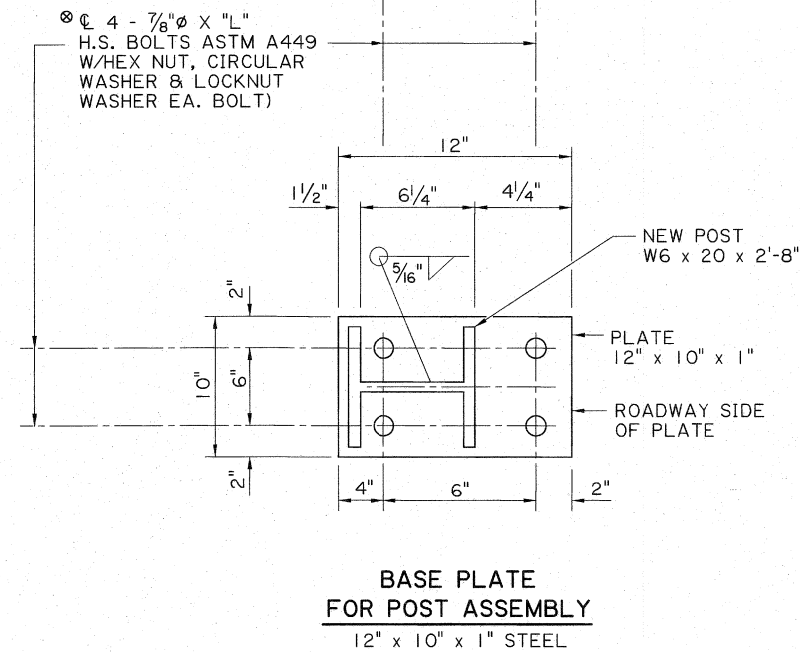
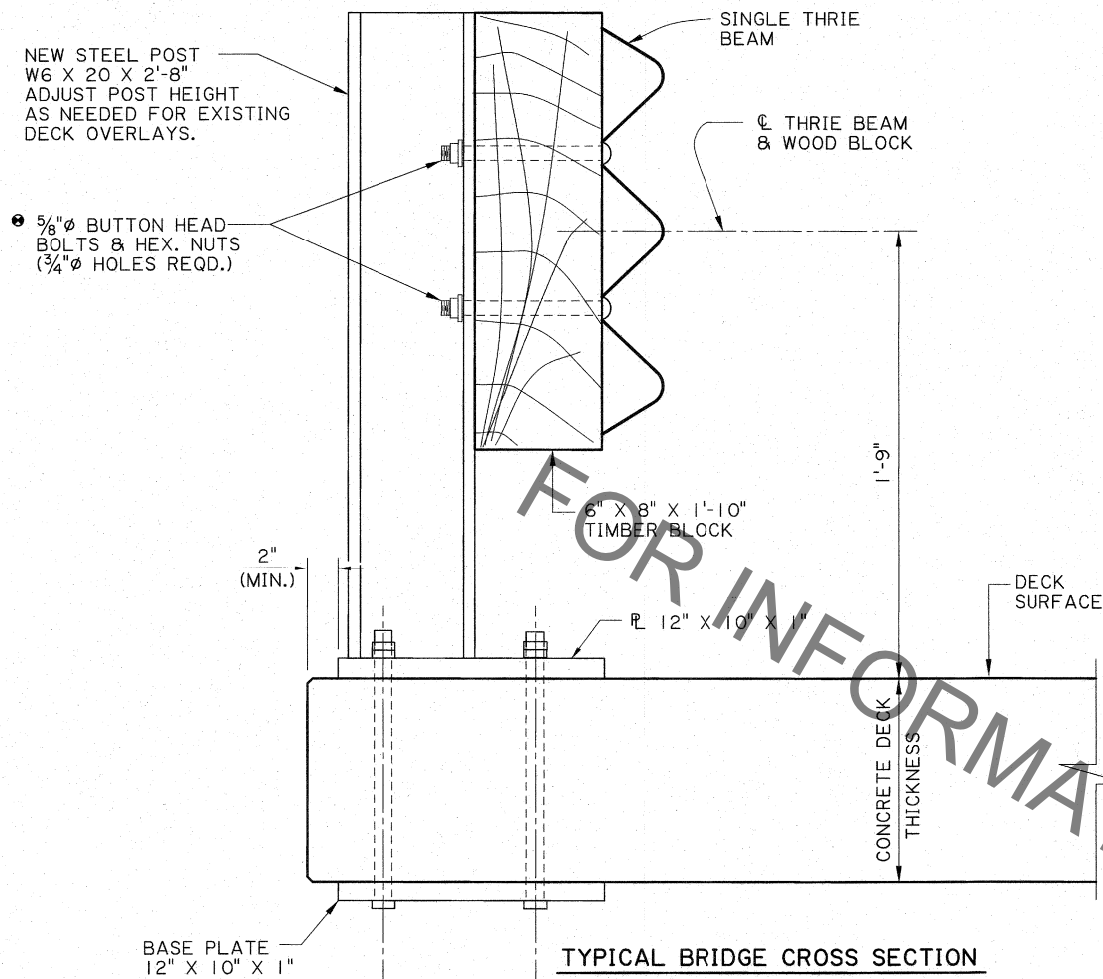
DOTD LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT



6/6/2022

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⊗ BOLTS LENGTH TO BE FIELD MEASURED AND ADJUSTED BASED ON ACTUAL DECK THICKNESS. SUBMIT TO DOTD BRIDGE DESIGN ENGINEER FOR REVIEW BEFORE INSTALLATION

NOTES

ALL HARDWARE INVOLVED SHALL BE REPLACED BY NEW HARDWARE.

FOR ADDITIONAL INFORMATION ON GUARD RAIL, SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH).

ALL STRUCTURAL STEEL, POST AND PLATES, SHALL BE ASTM A-36 AND GALVANIZED. ALL $\frac{5}{8}$ " \varnothing BOLTS SHALL BE ASTM A307.

- THE BOLTS IN THE GUARD RAIL SHALL BE LOCATED ON THE ONCOMING FLANGE TRAFFIC SIDE.

ALTHOUGH ITEM 704-01-01020 CALLS FOR 6'-3" MAX. POST SPACING, THE NEW POST FOR EXISTING PRECAST BRIDGES SHALL BE INSTALLED AT THE SAME LOCATION AS THE OLD ONES. ALL GUARD RAIL SPLICES SHALL BE MADE AT POST LOCATIONS ONLY.

ALL WORK AND MATERIALS REQUIRED TO INSTALL THE NEW GUARD RAIL SHALL BE PAID FOR UNDER ITEM 704-01-01020 GUARD RAIL (SINGLE THRIE BEAM) (6'-3" POST SPA.) PER LIN. FT.

THIS DETAIL WAS DEVELOPED AND APPROVED FOR USE UNDER NCHRP REPORT 350. AS PER LADOTD'S MASH IMPLEMENTATION POLICY, ITS CONTINUED USE IS ALLOWED WHILE A MASH ALTERNATIVE IS DEVELOPED OR EVALUATED.

SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
P. FOSSIER	C. GAUDRY	J. DOUCET	P. FOSSIER	K. BRAUNER			
DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES		

APPROVED BY CHIEF ENGINEER:

Christy P. P. [Signature]

DATE: 5/3/2022

GUARD RAIL REHABILITATION
(FLAT DECK PRECAST BRIDGES)

BRIDGE AND STRUCTURAL DESIGN

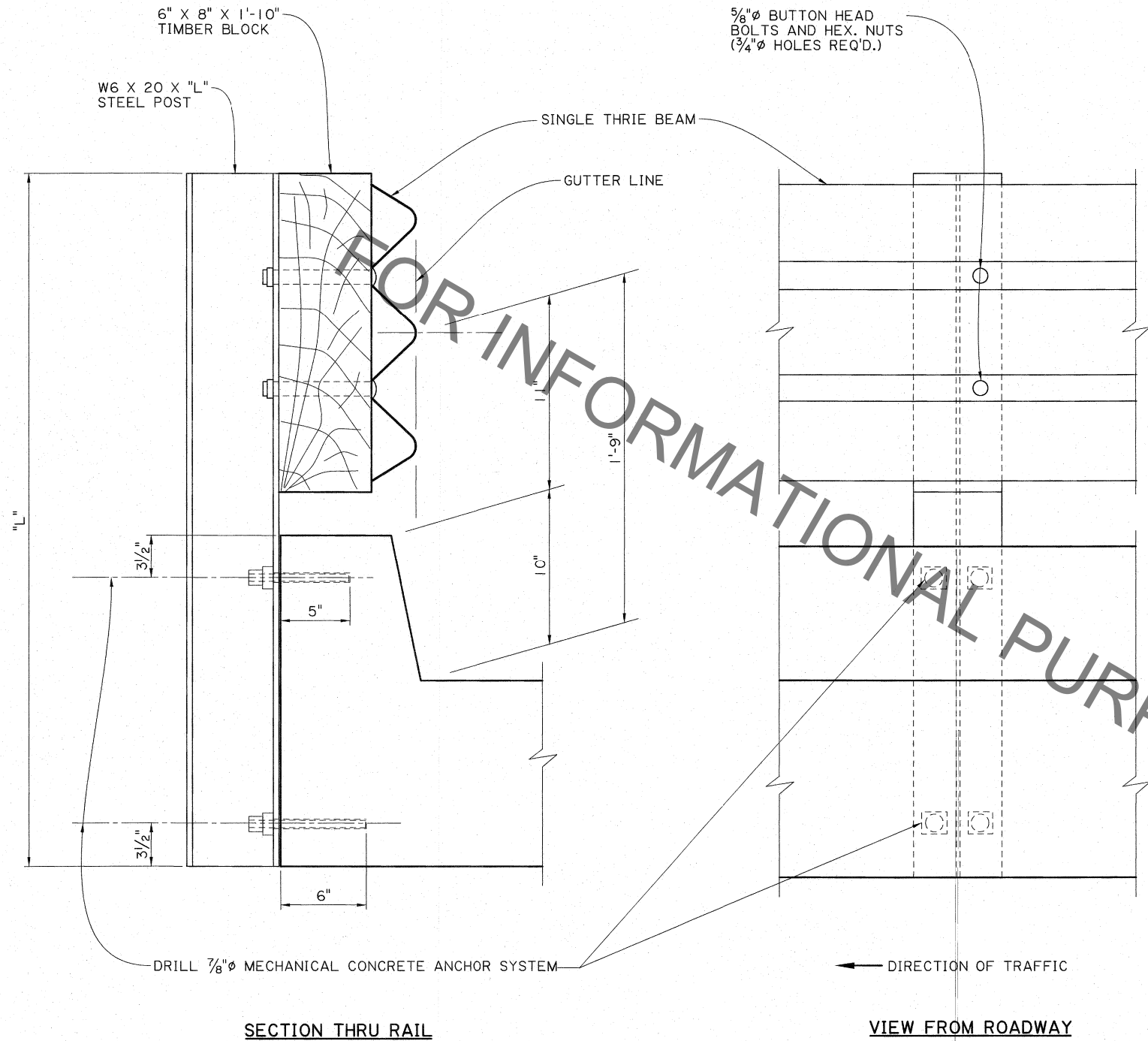
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LOUISIANA DEPARTMENT OF
TRANSPORTATION & DEVELOPMENT



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6/6/2022

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NOTES

FOR ADDITIONAL INFORMATION ON GUARD RAIL, SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH).

ALL WORK AND MATERIALS REQ'D. TO INSTALL GUARD RAIL ON THIS TYPE STRUCTURE SHALL BE PAID FOR UNDER ITEM 704-01-01020 GUARD RAIL (SINGLE THRIE BEAM).

ALTHOUGH ITEM 704-01-01020 CALLS FOR 6'-3" POST SPACING, THE NEW POST ON THIS TYPE STRUCTURE SHALL BE PLACED IN THE SAME LOCATION AS THE EXISTING ONES.




GUARD RAIL SPLICES SHALL BE MADE AT POST LOCATIONS ONLY. LAP IN DIRECTION OF TRAFFIC.

USE 7/8"Ø MECHANICAL SYSTEM AS LISTED ON APPROVED MATERIALS LIST, PRODUCT CATEGORY "CONCRETE ANCHOR SYSTEMS."

ALL STRUCTURAL STEEL SHALL BE ASTM A-36 AND GALVANIZED. ALL 5/8"Ø BOLTS SHALL BE ASTM A307.

THIS DETAIL WAS DEVELOPED AND APPROVED FOR USE UNDER NCHRP REPORT 350. AS PER LADOTD'S MASH IMPLEMENTATION POLICY, ITS CONTINUED USE IS ALLOWED WHILE A MASH ALTERNATIVE IS DEVELOPED OR EVALUATED.

FOR INFORMATIONAL PURPOSES ONLY

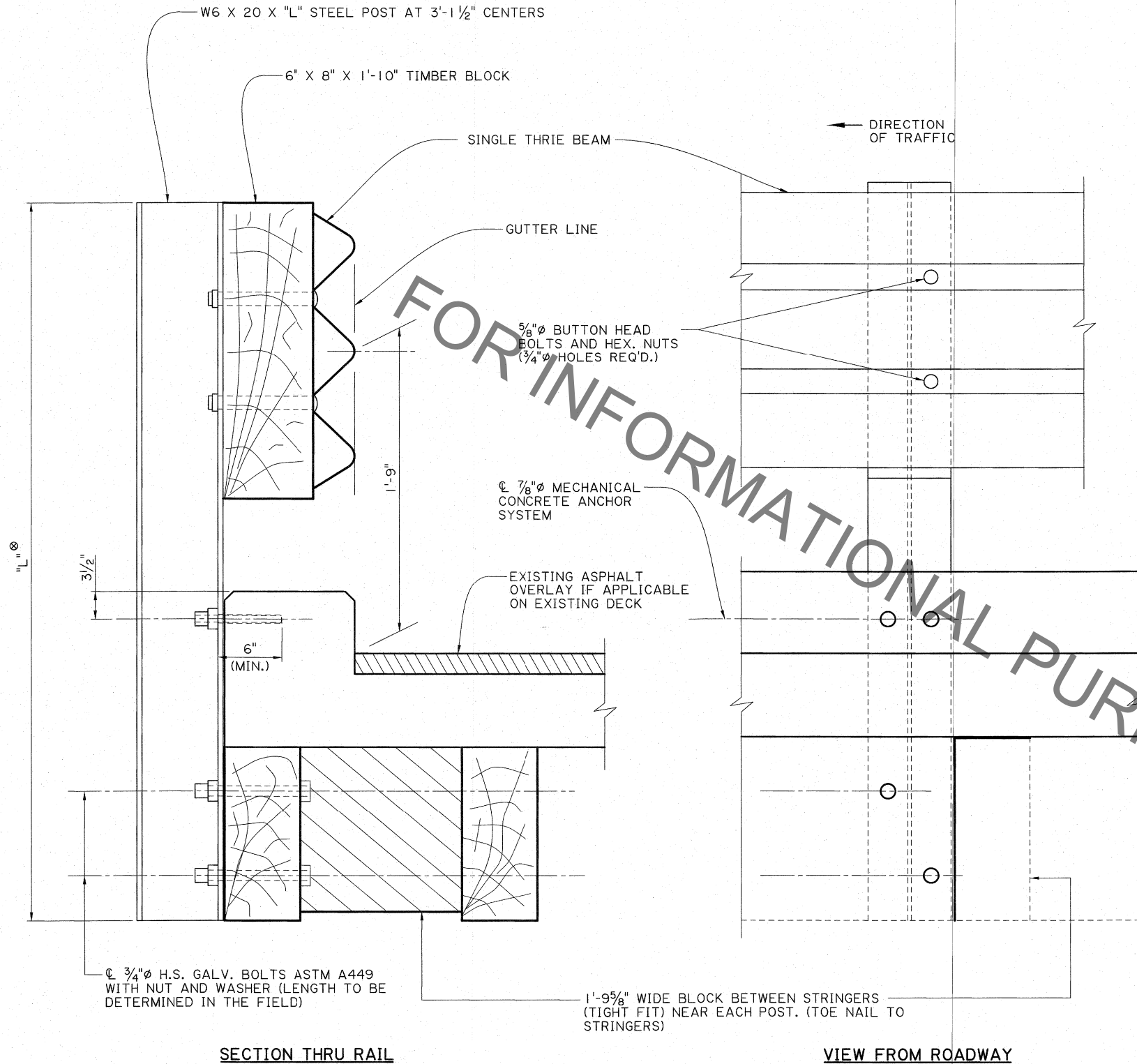
SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
DESIGN	CHECK	P. FOSSIER	C. GAUDRY	DETAIL	CHECK	P. FOSSIER	K. BRAUNER
						SERIES #	
<div></div>							
APPROVED BY CHIEF ENGINEER:  DATE: 5/3/2022							
<div></div>							
SIDE MOUNTED GUARD RAIL FOR BRIDGES							
STANDARD PLAN							
GRR-10							
 LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT BRIDGE AND STRUCTURAL DESIGN							



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6/6/2022

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NOTES

FOR ADDITIONAL INFORMATION ON GUARD RAIL, SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH).

ALL WORK AND MATERIALS REQ'D. TO INSTALL GUARD RAIL ON BRIDGE SHALL BE PAID FOR UNDER ITEM 704-01-01020 GUARD RAIL (SINGLE THRIE BEAM) (6'-3" POST SP.).

GUARD RAIL SPLICES SHALL BE MADE AT POST LOCATIONS ONLY. LAP IN DIRECTION OF TRAFFIC.

USE 7/8"Ø MECHANICAL CONCRETE ANCHOR SYSTEM AS LISTED ON APPROVED MATERIALS LIST, PRODUCT CATEGORY "CONCRETE ANCHOR SYSTEMS."

ALL STEEL SHALL BE ASTM A-36 AND GALVANIZED.

ALL 5/8"Ø BOLTS SHALL BE ASTM A307.

⊗ W6 x 20 POST TO BE FIELD MEASURED TO DETERMINE LENGTH "L" BY CONTRACTOR.

THIS DETAIL WAS DEVELOPED AND APPROVED FOR USE UNDER NCHRP REPORT 350. AS PER LADOTD'S MASH IMPLEMENTATION POLICY, ITS CONTINUED USE IS ALLOWED WHILE A MASH ALTERNATIVE IS DEVELOPED OR EVALUATED.

SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
P. FOSSIER	C. GAUDRY	J. DOUCET	P. FOSSIER	K. BRAUNER			
DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #		

APPROVED BY CHIEF ENGINEER: *Christy P. Fossier* DATE: 5/13/2022

SIDE MOUNTED GUARD RAIL
(CONCRETE DECK WITH
TIMBER STRINGERS)

GRR-11

STANDARD PLAN

BRIDGE AND STRUCTURAL DESIGN



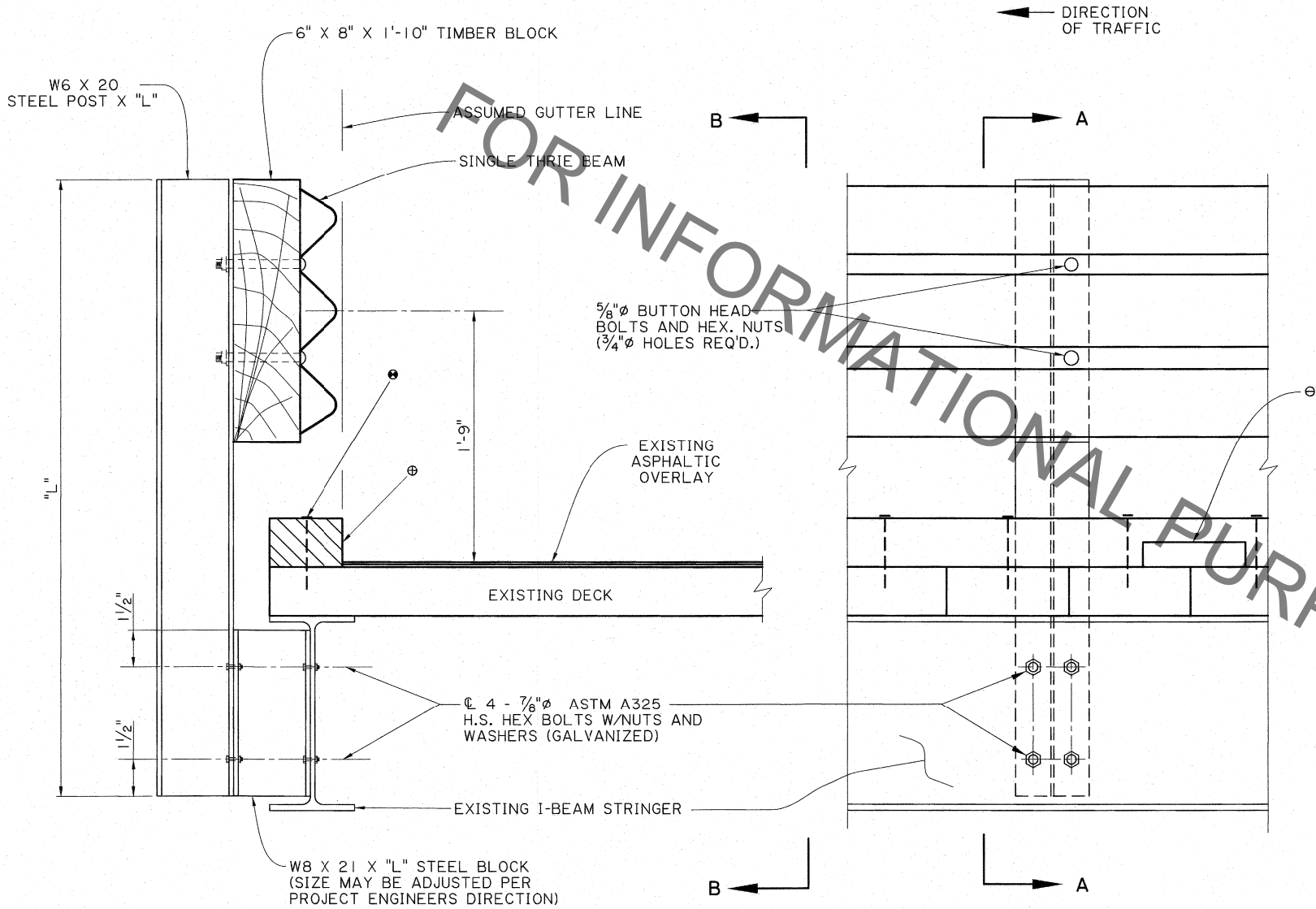
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6/6/2022

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- ⊖ 2" X 1'-0" NOTCH FOR DRAINAGE
- ⊕ 6⁷/₈" SPIKE AT EACH FLOOR PLANK

- ⊕ 4" X 6" X LGTH. OF BRIDGE FELLOE GUARD (NEW) (NOTCH FOR DRAINAGE)



SECTION A-A

SECTION B-B

NOTES

ALL WORK AND MATERIAL (INCLUDING THE NEW FELLOE GUARD) REQUIRED TO INSTALL THE NEW BRIDGE RAIL SHALL BE PAID FOR UNDER ITEM 704-01-01020 GUARDRAIL (SINGLE THRIE BEAM) (6'-3" POST SPA.)

EXISTING ASPHALT SHALL BE CLEARED FROM AREA WHERE FELLOE GUARD IS TO BE PLACED SO THAT THE FELLOE GUARD WILL BE ON THE TIMBER DECK.

POST SHALL BE LOCATED AT EACH BENT AND AT INTERMEDIATE POINTS NOT TO EXCEED 6'-3" (EQUALLY SPACED)

IF DIRECTED BY THE PROJECT ENGINEER, A DIAPHRAGM SHALL BE PLACED AT EACH INTERMEDIATE POST BETWEEN THE FIRST AND SECOND STRINGER. (TO BE INCLUDED IN 704-01-01020.

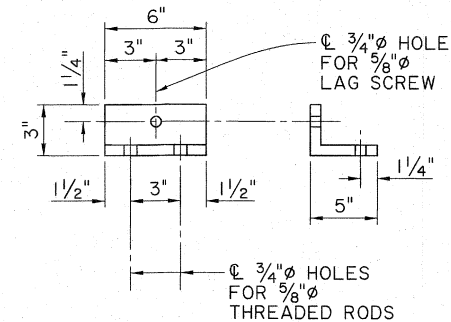
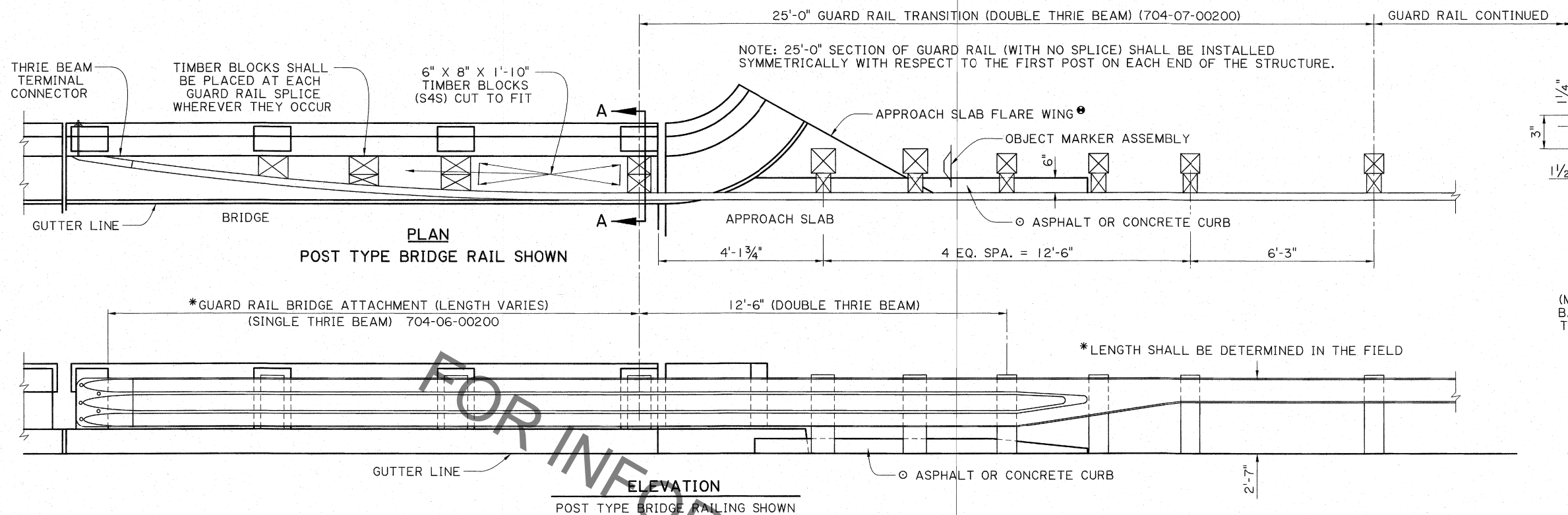
"L" (POST HEIGHT & STEEL BLOCK) SHALL BE DETERMINED IN THE FIELD.

FOR ADDITIONAL INFORMATION ON GUARDRAIL, SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH).

ALL STRUCTURAL STEEL SHALL BE ASTM A36 AND GALVANIZED. ALL 5/8"Ø BOLTS SHALL BE ASTM A307.

THIS DETAIL WAS DEVELOPED AND APPROVED FOR USE UNDER NCHRP REPORT 350. AS PER LADOTD'S MASH IMPLEMENTATION POLICY, ITS CONTINUED USE IS ALLOWED WHILE A MASH ALTERNATIVE IS DEVELOPED OR EVALUATED.

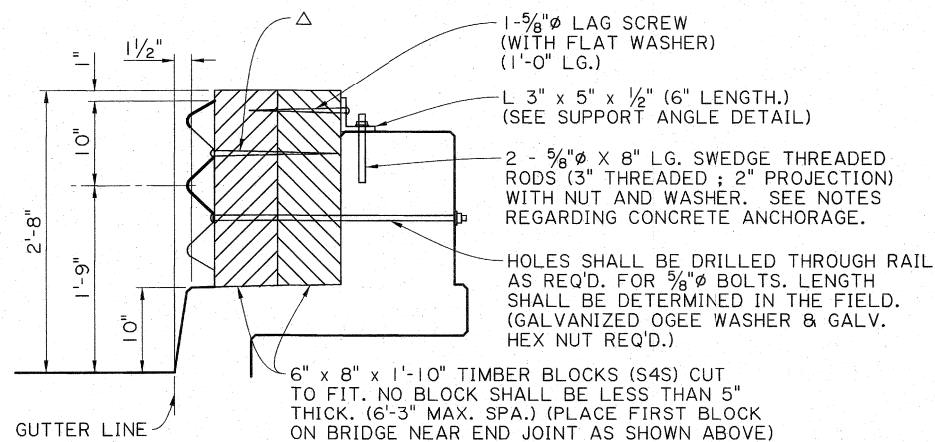
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P. FOSSIER		C. GAUDRY		J. DOUCET		P. FOSSIER	
DESIGN		CHECK		DETAIL		REVIEW	
KURT M. BRAUNER		KURT M. BRAUNER		KURT M. BRAUNER		KURT M. BRAUNER	
License No. 30567		License No. 30567		License No. 30567		License No. 30567	
PROFESSIONAL ENGINEER		PROFESSIONAL ENGINEER		PROFESSIONAL ENGINEER		PROFESSIONAL ENGINEER	
IN		IN		IN		IN	
CIVIL ENGINEERING		CIVIL ENGINEERING		CIVIL ENGINEERING		CIVIL ENGINEERING	
4/22/22		4/22/22		4/22/22		4/22/22	
APPROVED BY CHIEF ENGINEER:		APPROVED BY CHIEF ENGINEER:		APPROVED BY CHIEF ENGINEER:		APPROVED BY CHIEF ENGINEER:	
5/13/2022		5/13/2022		5/13/2022		5/13/2022	
DATE:		DATE:		DATE:		DATE:	
SIDE MOUNTED BRIDGE RAIL		SIDE MOUNTED BRIDGE RAIL		SIDE MOUNTED BRIDGE RAIL		SIDE MOUNTED BRIDGE RAIL	
STANDARD PLAN		STANDARD PLAN		STANDARD PLAN		STANDARD PLAN	
GRR-12		GRR-12		GRR-12		GRR-12	
DOTD		DOTD		DOTD		DOTD	
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT		LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT		LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT		LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT	
BRIDGE AND STRUCTURAL DESIGN		BRIDGE AND STRUCTURAL DESIGN		BRIDGE AND STRUCTURAL DESIGN		BRIDGE AND STRUCTURAL DESIGN	



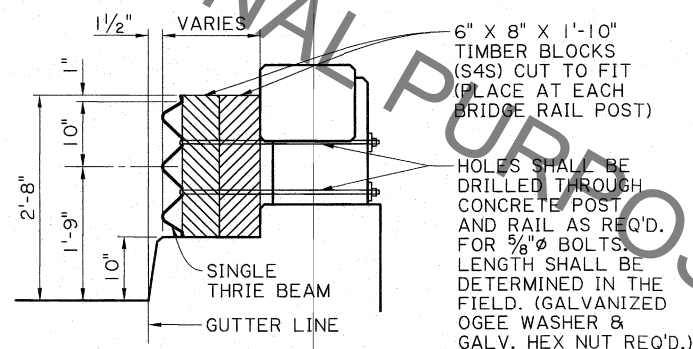
(MOUNT TO TOP OF RAIL FOR BLOCK BACKUP) THE HOLES MAY BE OFFSET TO ACHIEVE INSTALLATION BUT THE 1/2" EDGE DISTANCE SHALL BE MAINTAINED.

SUPPORT ANGLE

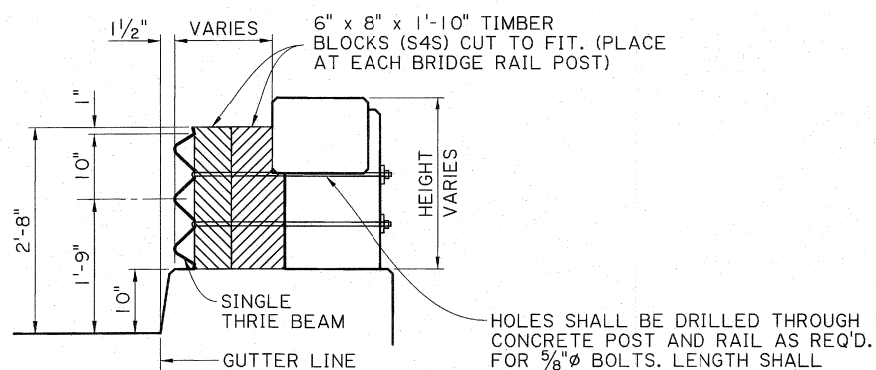
Δ 5/8" Ø LAG SCREW (WITH PLATE WASHER) SHALL PENETRATE TO THE BACK OF THE REAR BLOCK (LENGTH TO BE DETERMINED IN THE FIELD)



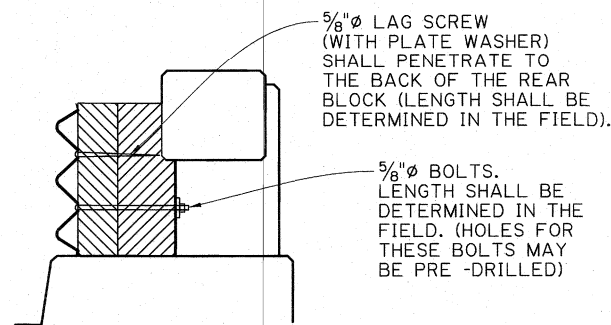
SECTION A-A
SOLID WALL RAILING



SECTION A-A
POST AND RAIL BRIDGE RAIL



SECTION A-A
POST AND RAIL BRIDGE RAIL



VIEW AT GUARD RAIL SPLICES

NOTES:

FOR ADDITIONAL INFORMATION ON GUARD RAIL, SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH).

○ FOR CURB & TRANSITION INFORMATION, SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH), SHEET 3 OF 11.

ALL MATERIALS AND LABOR REQ'D. TO PLACE THE GUARD RAIL ONTO THE BRIDGE SHALL BE PAID FOR UNDER ITEM 704-06-00200.

IF THE EXISTING CONCRETE IS DAMAGED DUE TO DRILLING HOLES FOR BOLTS AND RODS, THE CONTRACTOR SHALL REPAIR THE DAMAGE WITH THE APPROPRIATE MATERIALS AT HIS EXPENSE AND TO THE SATISFACTION OF THE PROJECT ENGINEER.

EXISTING HANDRAIL SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AS DIRECTED BY THE PROJECT ENGINEER.

ALL HOLES (VERTICAL OR HORIZONTAL) DRILLED INTO AN EXISTING CONCRETE STRUCTURE SHALL BE 3/4" Ø. THEY SHALL BE CLEANED WITH COMPRESSED AIR AND MADE FREE OF ANY OIL OR RESIDUE. HOLES SHALL BE FILLED WITH AN EPOXY INJECTION SYSTEM LISTED ON THE APPROVED MATERIALS LIST, PRODUCT CATEGORY "CONCRETE ANCHOR SYSTEMS." PLACE ROD IN HOLE IMMEDIATELY AND WAIT FOR THE MANUFACTURER'S CURE TIME.

THE LOWER BOLTS IN THE GUARD RAIL AT EACH POST SHALL BE ON THE ONCOMING TRAFFIC SIDE.

IF TIMBER BLOCKS ARE LESS THAN 3" ABOVE THE CONCRETE RAIL IN THE SOLID RAIL ALTERNATE, THE METHOD SHOWN IN THE POST AND RAIL BRIDGE RAIL ALTERNATE SHALL BE UTILIZED.

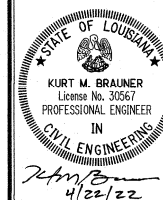
THE LENGTHS OF THE LAG SCREWS SHALL BE VERIFIED BY THE PROJECT ENGINEER BEFORE INSTALLATION TO ACHIEVE THE PENETRATION CALLED FOR IN THE SOLID WALL ALTERNATE.

● IF APPROACH SLAB FLARES EXIST, A 1'-0" X 1'-0" HOLE SHALL BE CUT THRU THE CONCRETE IN THE PROPER LOCATION TO INSTALL POST. AFTER POST IS IN PLACE, COMPACT SOIL AROUND POST AND REDRESS THE SLAB WITH CONCRETE TO THE FINISHED ELEVATION. (NO DIRECT PAY).

ALL STRUCTURAL STEEL SHALL BE ASTM A36 AND GALVANIZED. ALL 5/8" Ø BOLTS SHALL BE ASTM A307.

THIS DETAIL WAS DEVELOPED AND APPROVED FOR USE UNDER NCHRP REPORT 350. AS PER LADOT'S MASH IMPLEMENTATION POLICY, ITS CONTINUED USE IS ALLOWED WHILE A MASH ALTERNATIVE IS DEVELOPED OR EVALUATED.

SHEET NUMBER	
PARISH	
CONTROL SECTION	
STATE PROJECT	
DESIGN	P. FOSSIER
CHECK	C. GAUDRY
DETAIL	J. DOUCET
CHECK	P. FOSSIER
REVIEW	K. BRAUNER
SERIES #	



APPROVED BY CHIEF ENGINEER:
Christy P. Hays
DATE: 5/3/2022



GUARD RAIL TERMINATING ON
BRUSH CURB BRIDGE RAIL

GRR-13

STANDARD
PLAN



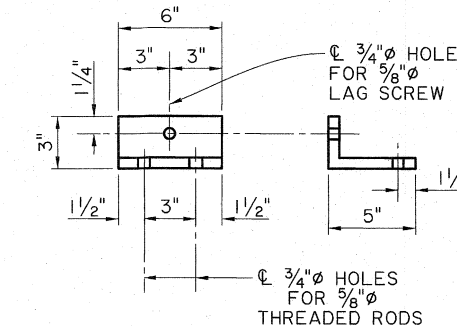
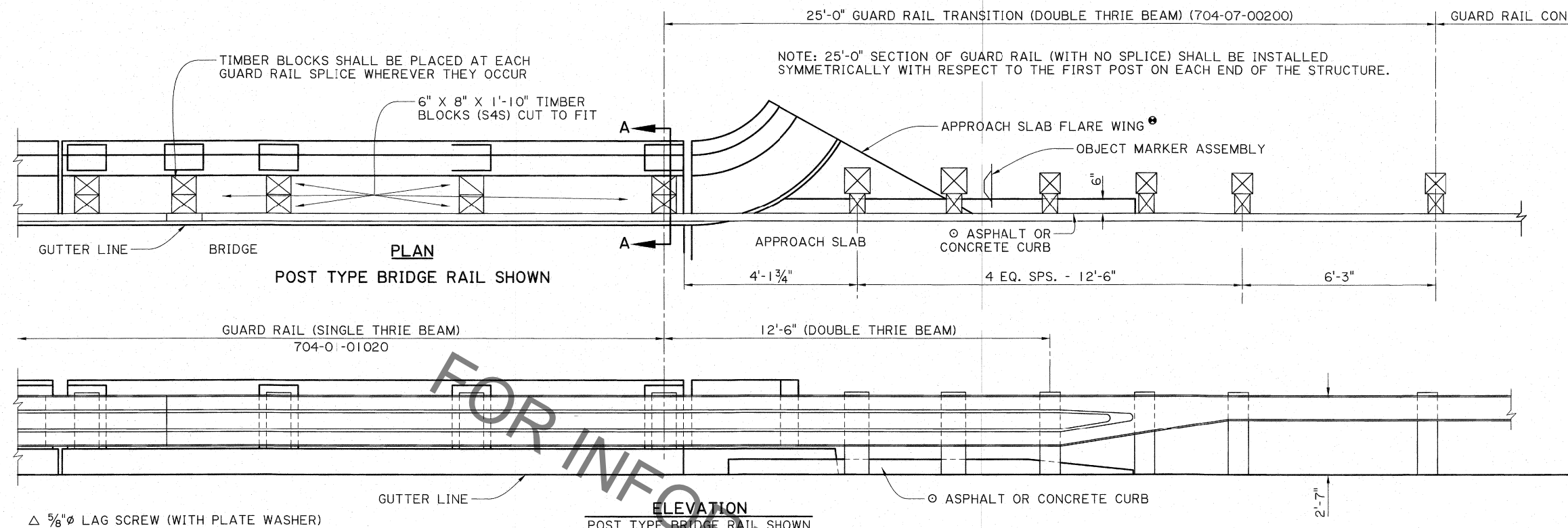
BRIDGE AND
STRUCTURAL
DESIGN



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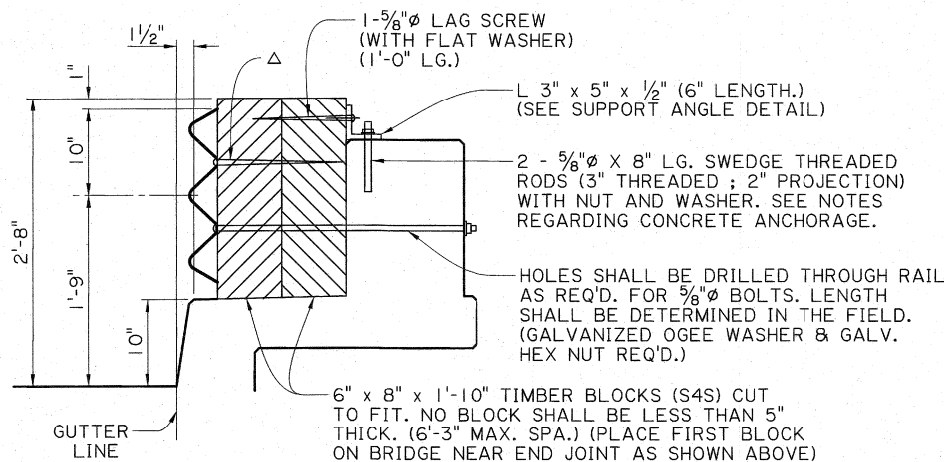
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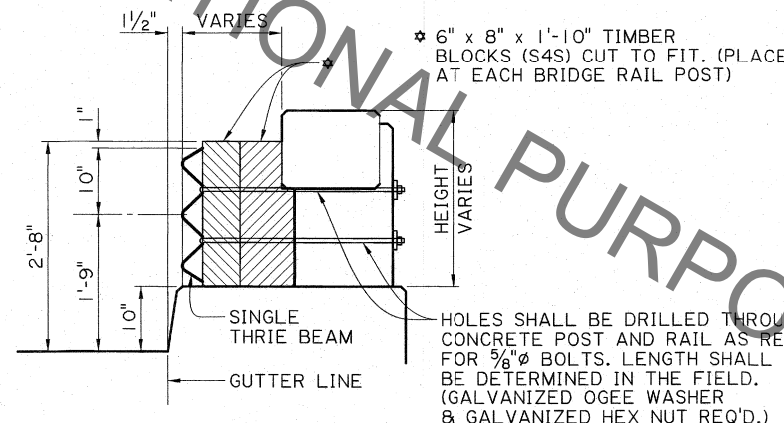
(MOUNT TO TOP OF RAIL FOR BLOCK BACKUP) THE HOLES MAY BE OFFSET TO ACHIEVE INSTALLATION BUT THE 1 1/2" EDGE DISTANCE SHALL BE MAINTAINED.

SUPPORT ANGLE

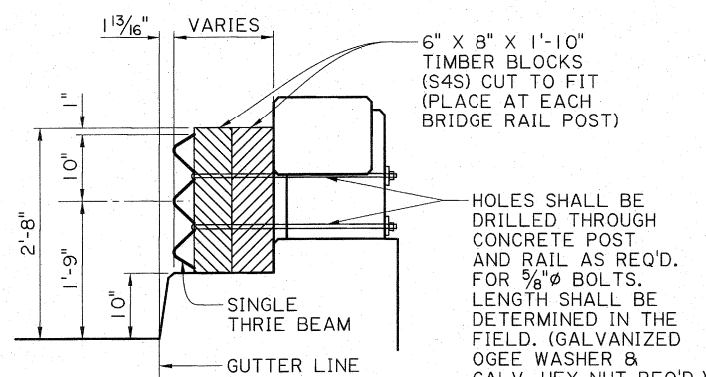
Δ 5/8" LAG SCREW (WITH PLATE WASHER) SHALL PENETRATE TO THE BACK OF THE REAR BLOCK (LENGTH TO BE DETERMINED IN THE FIELD)



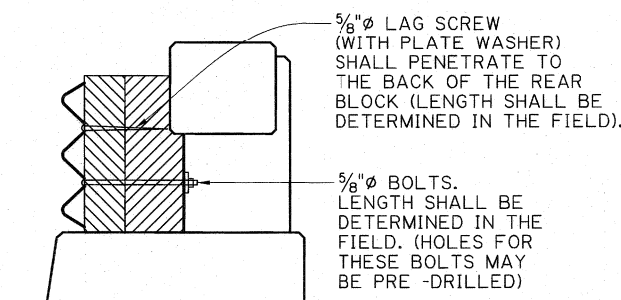
SECTION A-A
SOLID WALL RAILING



SECTION A-A
POST AND RAIL BRIDGE RAIL



SECTION A-A
POST AND RAIL BRIDGE RAIL



VIEW AT GUARD RAIL SPLICES

NOTES:

FOR ADDITIONAL INFORMATION ON GUARD RAIL, SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH).

ALL MATERIALS AND LABOR REQ'D. TO PLACE THE GUARD RAIL ONTO THE BRIDGE SHALL BE PAID FOR UNDER ITEM 704-01-01020

FOR CURB & TRANSITION INFORMATION, SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH), SHEET 3 OF 11.

EXISTING HANDRAIL SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AS DIRECTED BY THE PROJECT ENGINEER.

ALL HOLES (VERTICAL OR HORIZONTAL) DRILLED INTO AN EXISTING CONCRETE STRUCTURE SHALL BE 3/4". THEY SHALL BE CLEANED WITH COMPRESSED AIR AND MADE FREE OF ANY OIL OR RESIDUE. HOLES SHALL BE FILLED WITH AN EPOXY INJECTION SYSTEM LISTED ON THE APPROVED MATERIALS LIST, PRODUCT CATEGORY "CONCRETE ANCHOR SYSTEMS." PLACE ROD IN HOLE IMMEDIATELY AND WAIT FOR THE MANUFACTURER'S CURE TIME.

THE LOWER BOLTS IN THE GUARD RAIL AT EACH POST SHALL BE ON THE ONCOMING TRAFFIC SIDE.

IF TIMBER BLOCKS ARE LESS THAN 3" ABOVE THE CONCRETE RAIL IN THE SOLID RAIL ALTERNATE, THE METHOD SHOWN IN THE POST AND RAIL BRIDGE RAIL ALTERNATE SHALL BE UTILIZED.

THE LENGTHS OF THE LAG SCREWS SHALL BE VERIFIED BY THE PROJECT ENGINEER BEFORE INSTALLATION TO ACHIEVE THE PENETRATION CALLED FOR IN THE SOLID WALL ALTERNATE.

IF APPROACH SLAB FLARES EXIST, A 1'-0" X 1'-0" HOLE SHALL BE CUT THRU THE CONCRETE IN THE PROPER LOCATION TO INSTALL POST. AFTER POST IS IN PLACE, COMPACT SOIL AROUND POST AND REDRESS THE SLAB WITH CONCRETE TO THE FINISHED ELEVATION. (NO DIRECT PAY).

ALL STRUCTURAL STEEL SHALL BE ASTM A36 AND GALVANIZED. ALL 5/8" BOLTS SHALL BE ASTM A307.

THIS DETAIL WAS DEVELOPED AND APPROVED FOR USE UNDER NCHRP REPORT 350. AS PER LADOT'S MASH IMPLEMENTATION POLICY, ITS CONTINUED USE IS ALLOWED WHILE A MASH ALTERNATIVE IS DEVELOPED OR EVALUATED.

SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
P. FOSSIER	C. GAUDRY	J. DOUCET	P. FOSSIER	K. BRAINER			
DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES		

APPROVED BY CHIEF ENGINEER:

Christy P. Hoot

5/3/2022

DATE:

GUARD RAIL CONTINUOUS ACROSS BRUSH CURB BRIDGE RAIL

GRR-14

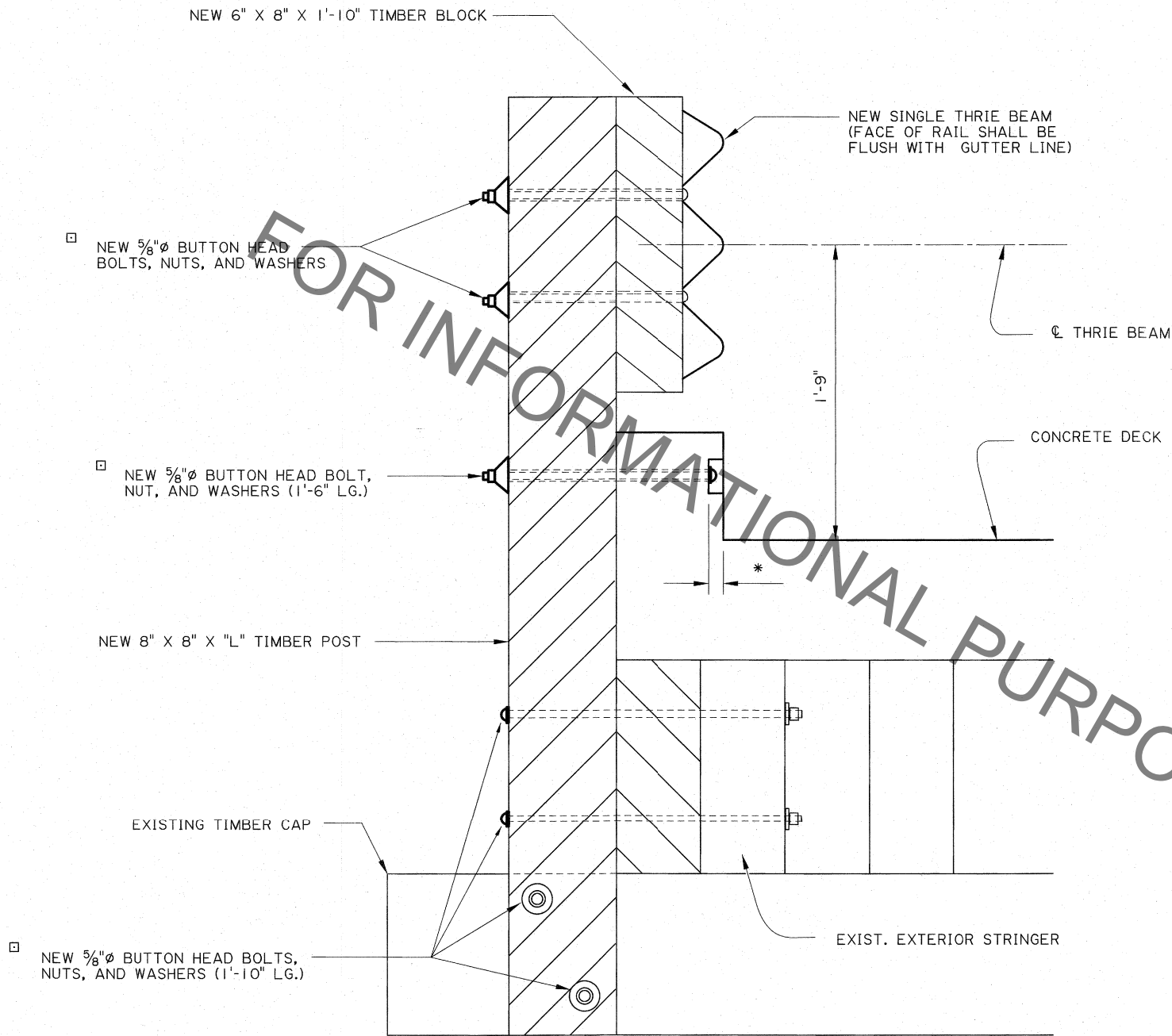
STANDARD PLAN



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NOTES

FOR ADDITIONAL INFORMATION ON GUARD RAIL, SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH).

ALL TIMBER SHALL BE TREATED SOUTHERN YELLOW PINE OR DOUGLAS FIR. (CUT TO FIT). ALL HARDWARE & NAILS INVOLVED SHALL BE REPLACED WITH NEW MATERIALS AND SHALL BE GALVANIZED.

POST SPACING VARIES FROM STRUCTURE TO STRUCTURE. ORIGINAL POST SPACING SHALL BE VERIFIED BY THE PROJECT ENGINEER AND NEW POSTS SHALL BE PLACED AT THESE LOCATIONS. ANY POST AT OTHER THAN THE ORIGINAL POST SPACING SHALL BE REMOVED.

GUARD RAIL SPLICES SHALL BE MADE AT POST LOCATIONS ONLY. LAP IN DIRECTION OF TRAFFIC.

* HOLES IN CONCRETE CURB SHALL BE COUNTER-SUNK SO THE BOLT HEAD WILL NOT PROTRUDE OUTSIDE THE FACE OF CURB. GROUT HOLES WITH APPROPRIATE MATERIAL AFTER BOLT HAS BEEN TIGHTENED.

ALL WORK AND MATERIALS REQ'D. TO COMPLETE GUARD RAIL ON BRIDGE SHALL BE PAID FOR UNDER ITEM 704-01-01020 GUARD RAIL, (SINGLE THRIE BEAM) (6'-3" POST SPA.) PER LIN. FT.

WHEN EXTERIOR STRINGER IS REQ'D. TO BE REPLACED IT SHALL BE DONE AS DIRECTED BY THE PROJECT ENGINEER AND PAID FOR UNDER FORCE ACCOUNT.

□ ALL 5/8"Ø BOLTS SHALL BE ASTM A307.

ALL BOLT LENGTHS SHALL BE VERIFIED BY FIELD MEASUREMENTS.

THIS DETAIL WAS DEVELOPED AND APPROVED FOR USE UNDER NCHRP REPORT 350. AS PER LADOTD'S MASH IMPLEMENTATION POLICY, ITS CONTINUED USE IS ALLOWED WHILE A MASH ALTERNATIVE IS DEVELOPED OR EVALUATED.

SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
P. FOSSIER		C. GAUDRY		J. DOUCET		P. FOSSIER	
DESIGN		CHECK		DETAIL		CHECK	
REVIEW		K. BRAINER		SERIES #			

APPROVED BY CHIEF ENGINEER:

DATE: 5/3/2022

GUARD RAIL REHABILITATION
(CONCRETE DECK)

STANDARD
PLAN

GRR-15

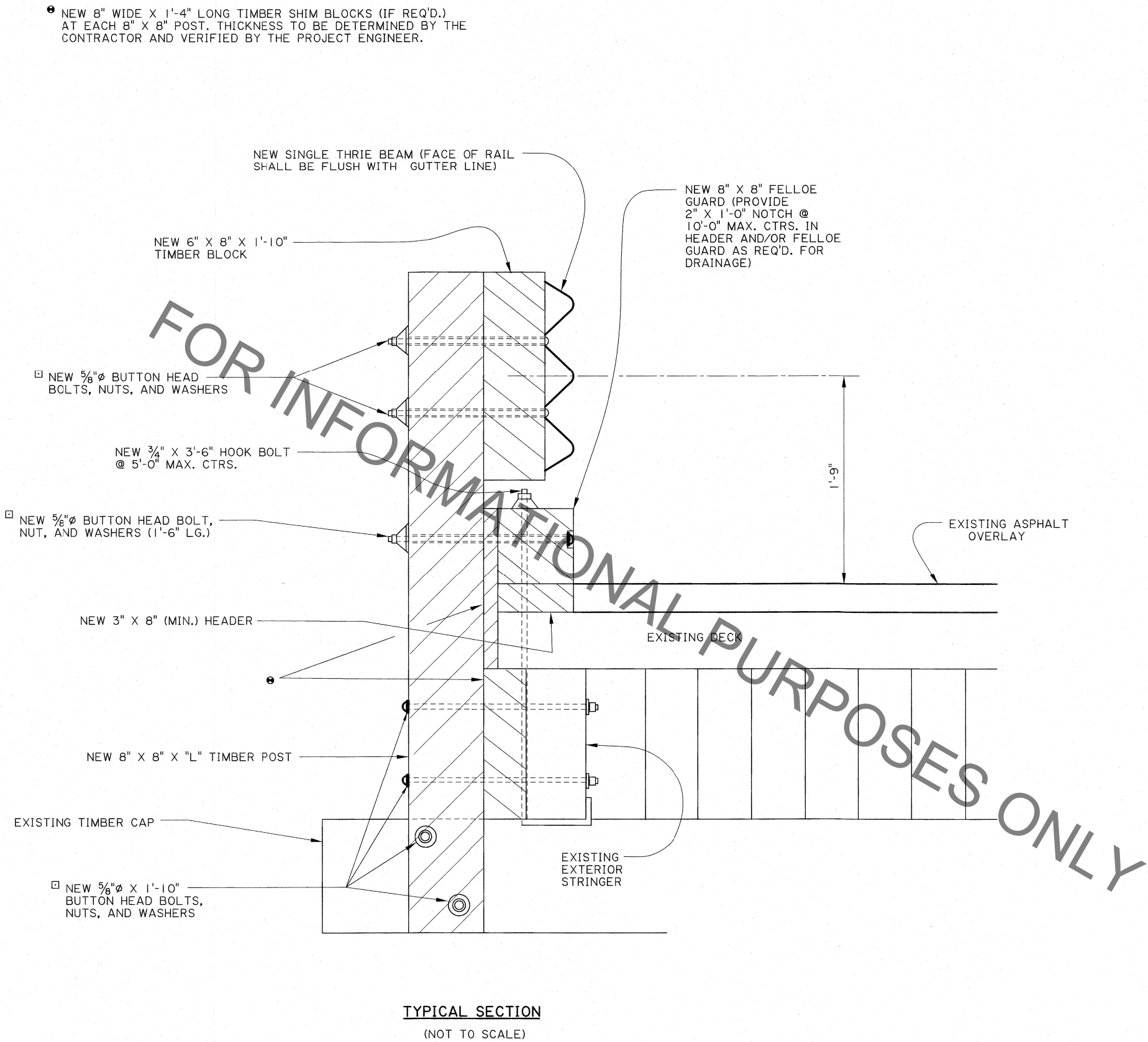
BRIDGE AND STRUCTURAL DESIGN



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6/6/2022

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NOTES

FOR ADDITIONAL INFORMATION ON GUARD
RAIL, SEE STANDARD PLANS FOR HIGHWAY
GUARD RAIL (MASH).

ALL TIMBER SHALL BE TREATED SOUTHERN
YELLOW PINE OR DOUGLAS FIR. (CUT TO FIT)
ALL HARDWARE & NAILS INVOLVED SHALL BE
REPLACED WITH NEW MATERIALS AND SHALL
BE GALVANIZED.

POST SPACING VARIES FROM STRUCTURE TO
STRUCTURE. ORIGINAL POST SPACING SHALL
BE VERIFIED BY THE PROJECT ENGINEER AND
NEW POST SHALL BE PLACED AT THESE
LOCATIONS. ANY POST OTHER THAN THE
ORIGINAL POST SPACING SHALL BE REMOVED.

GUARD RAIL SPLICES SHALL BE MADE AT
POST LOCATIONS ONLY. LAP IN DIRECTION
OF TRAFFIC.

ALL WORK AND MATERIALS REQ'D. TO
COMPLETE GUARD RAIL ON BRIDGE SHALL
BE PAID FOR UNDER ITEM 704-01-01020
GUARD RAIL, (SINGLE THRIE BEAM)
(6'-3" POST SPA.) PER LIN. FT.

WHEN EXTERIOR STRINGER IS REQ'D. TO BE
REPLACED IT SHALL BE DONE AS DIRECTED
BY THE PROJECT ENGINEER AND PAID FOR
UNDER FORCE ACCOUNT.

ALL 5/8"Ø BOLTS SHALL BE ASTM A307.

ALL BOLT LENGTHS SHALL BE VERIFIED
BY FIELD MEASUREMENTS.

THIS DETAIL WAS DEVELOPED AND APPROVED
FOR USE UNDER NCHRP REPORT 350. AS PER
LADOTD'S MASH IMPLEMENTATION POLICY, ITS
CONTINUED USE IS ALLOWED WHILE A MASH
ALTERNATIVE IS DEVELOPED OR EVALUATED.

SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
P. FOSSIER		C. GAUDRY		J. DOUCET		P. FOSSIER	
DESIGN		CHECK		DETAIL		REVIEW	
K. BRAUNER		K. BRAUNER		K. BRAUNER		K. BRAUNER	
SERIES #		SERIES #		SERIES #		SERIES #	

APPROVED BY CHIEF ENGINEER:
Chris P. Hoots
DATE: 5/3/2022

GUARD RAIL REHABILITATION
(TIMBER DECK)

STANDARD
PLAN

GRR-16

LOUISIANA DEPARTMENT OF
TRANSPORTATION & DEVELOPMENT

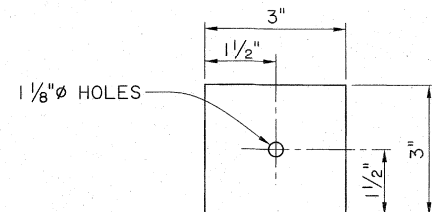
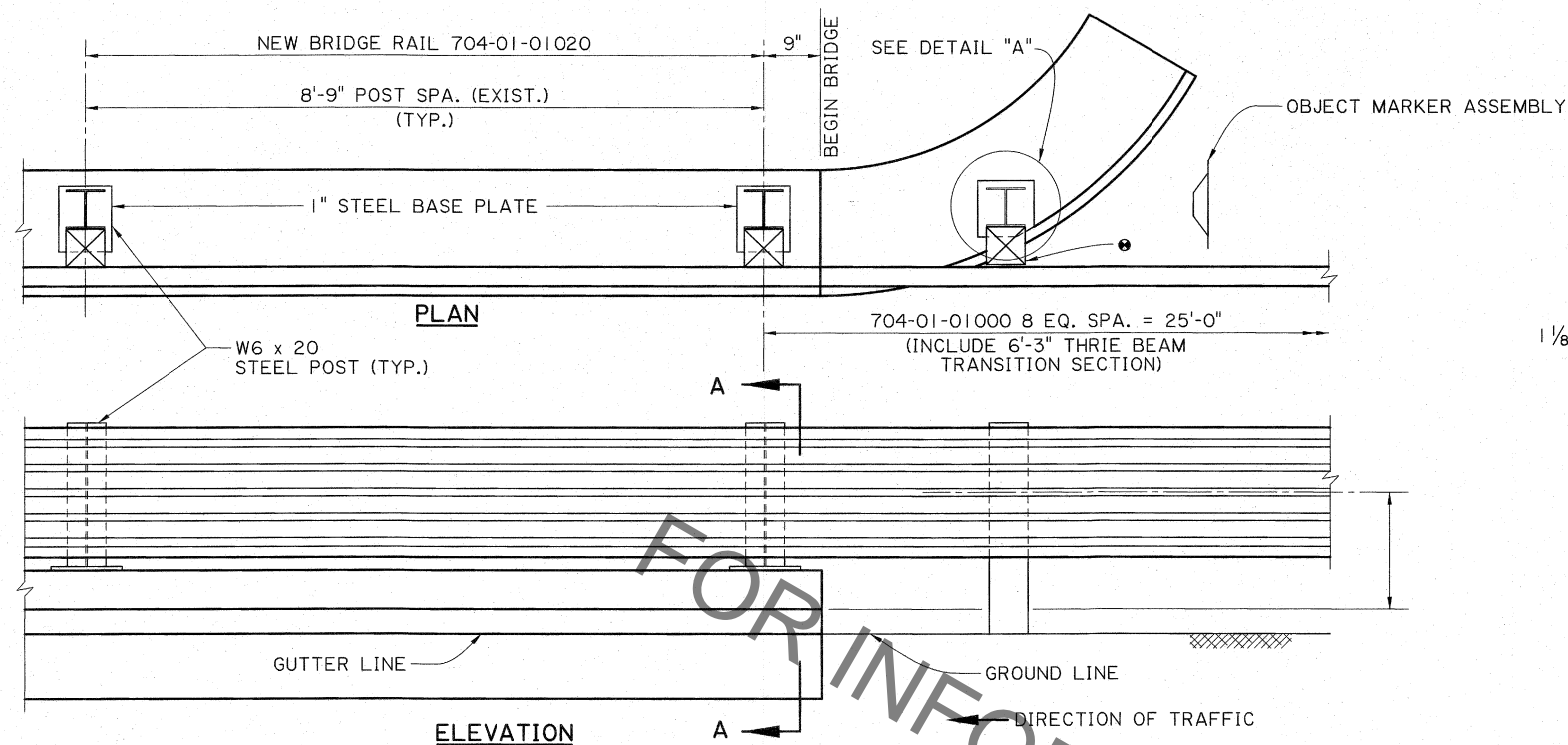
BRIDGE AND
STRUCTURAL
DESIGN



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6/6/2022

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5/8" GALVANIZED STEEL PLATE

NOTES:

FOR ADDITIONAL INFORMATION ON GUARD RAIL, SEE STANDARD PLANS FOR HIGHWAY GUARD RAIL (MASH).

ALL WORK AND MATERIALS REQ'D. TO INSTALL GUARD RAIL ON THE STRUCTURE SHALL BE PAID FOR UNDER ITEM 704-01-01020

ANY DAMAGE DONE TO THE STRUCTURE DURING CONSTRUCTION NOT RELATED TO THE WORK REQUIRED SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE AND TO THE SATISFACTION OF THE PROJECT ENGINEER.

ALL HOLES (VERTICAL OR HORIZONTAL) DRILLED INTO AN EXISTING CONCRETE STRUCTURE SHALL BE CLEANED WITH COMPRESSED AIR AND MADE FREE OF ANY OIL OR RESIDUE. HOLES SHALL BE FILLED WITH AN INJECTION SYSTEM LISTED ON THE APPROVED MATERIALS LIST, PRODUCT CATEGORY "CONCRETE ANCHOR SYSTEMS." PLACE ROD IN HOLE IMMEDIATELY AND WAIT FOR THE MANUFACTURER'S CURE TIME.

NOMINAL POST SPACING ON THIS SPAN IS 8'-9" (ORIGINAL DESIGN). NEW POST ARE REQUIRED AND SHALL BE INSTALLED AS SHOWN. GUARD RAIL SPLICES SHALL BE MADE AT POST LOCATIONS ONLY. THE POST LOCATED ON THE FLARED BRIDGE END SHALL BE INSTALLED AS SHOWN. IF A FLARED END DOES NOT EXIST A NORMAL 6" X 8" TIMBER POST OR A APPROVED ALTERNATE SHALL BE USED.

* NOTE: (AT END SPAN POST LOCATION ONLY) THE INTERIOR BOLT SHALL BE AS SHOWN. THE OUTER BOLT NEARER TO END JOINT) SHALL BE DRILLED IN THE SAME MANNER AS THE FRONT ANCHOR BOLTS.

ALL STRUCTURAL STEEL SHALL BE ASTM A36 AND GALVANIZED.

☑ THE EXISTING POST SHALL BE REMOVED AND NEW POST BE MOUNTED ON THE TOP OF THE STRUCTURE AS SHOWN AND AT THE SAME SPACING.

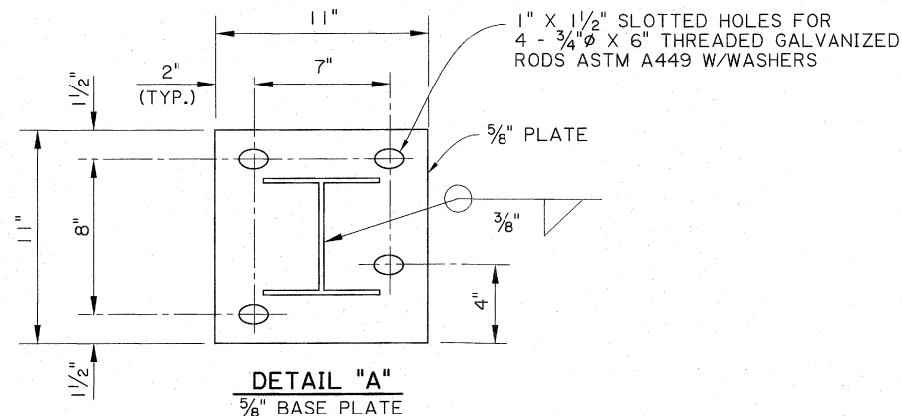
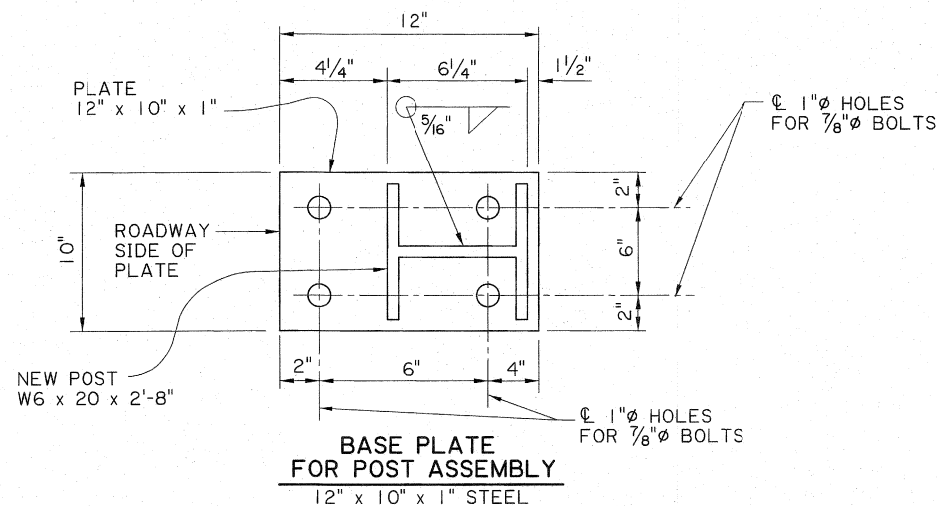
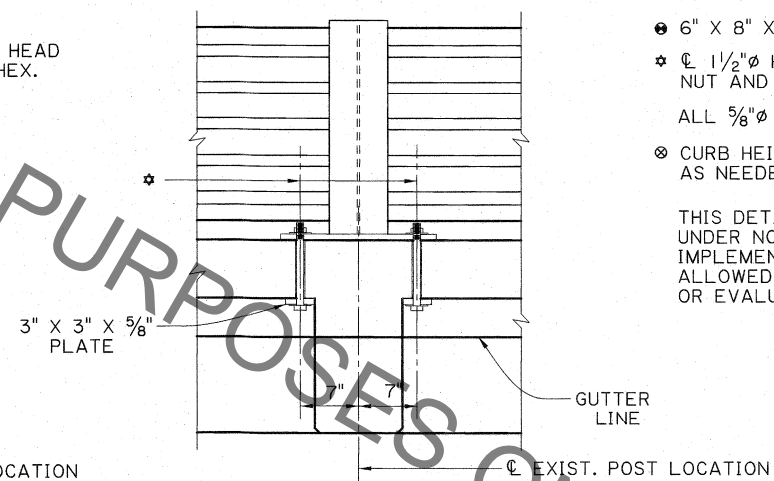
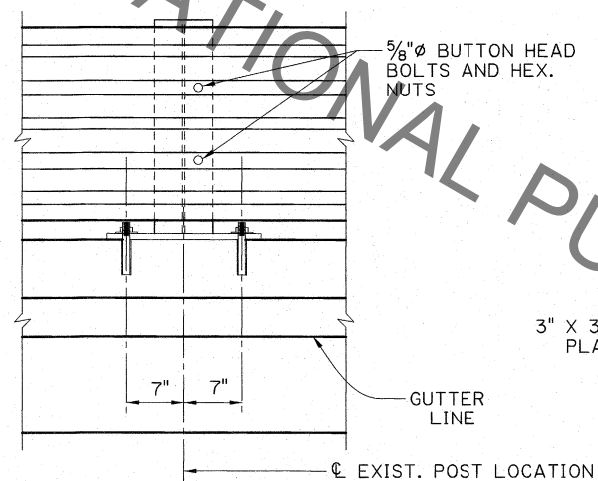
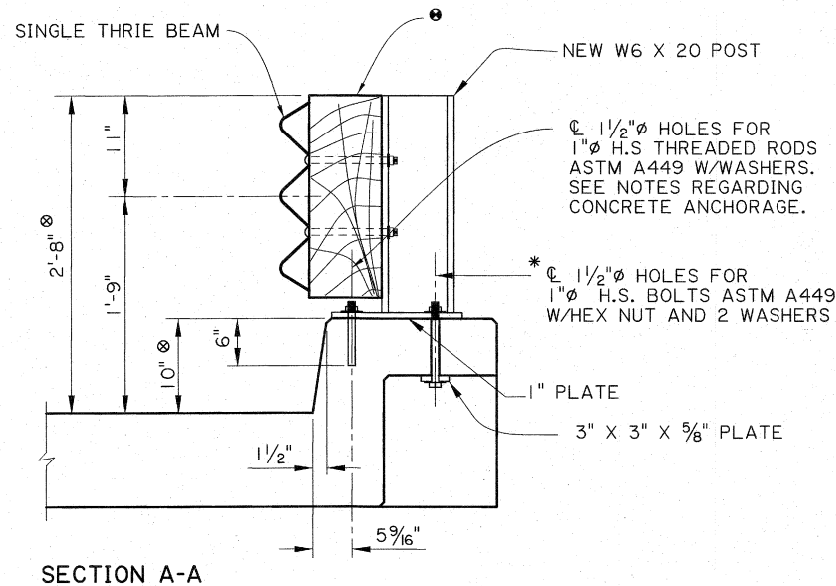
• 6" X 8" X 1'-10" TIMBER BLOCK

* 1 1/2" Ø HOLES FOR 1" Ø H.S. BOLTS. ASTM A449 W/WASHERS. NUT AND 2 WASHERS

ALL 5/8" BOLTS SHALL BE ASTM A307.

☉ CURB HEIGHT MAY VARY, ADJUST W6 x 20 POST LENGTH AS NEEDED TO MEET 2'-8" DIMENSION.

THIS DETAIL WAS DEVELOPED AND APPROVED FOR USE UNDER NCHRP REPORT 350. AS PER LADOT'S MASH IMPLEMENTATION POLICY, ITS CONTINUED USE IS ALLOWED WHILE A MASH ALTERNATIVE IS DEVELOPED OR EVALUATED.



SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
P. FOSSIER	C. GAUDRY	J. DOUCET	P. FOSSIER	K. BRAUNER			
DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES		

KURT M. BRAINER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
4/22/22

APPROVED BY CHIEF ENGINEER: *Michael P. Hays* DATE: 5/3/2022

BRIDGE RAIL REHABILITATION
WASKEY BRIDGES

BRIDGE AND STRUCTURAL DESIGN