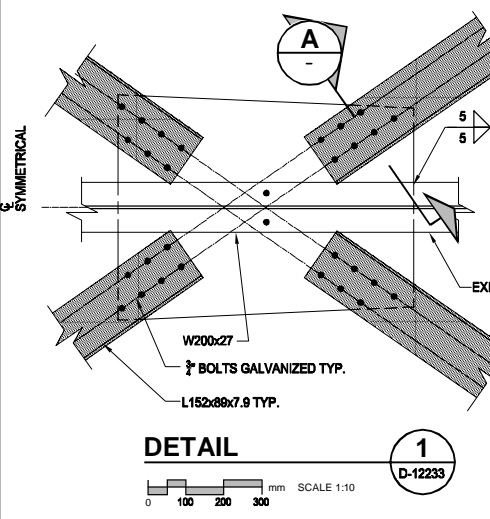


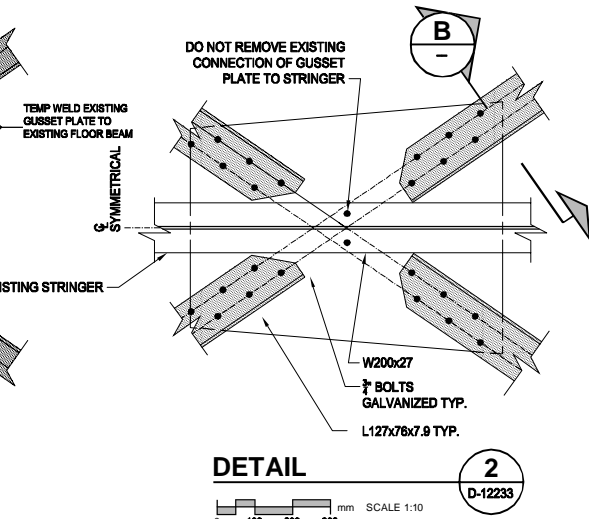
D SIZE 22" x 34" 650mm x 86

PLOT: 1/28/2012 2:03:07 PM

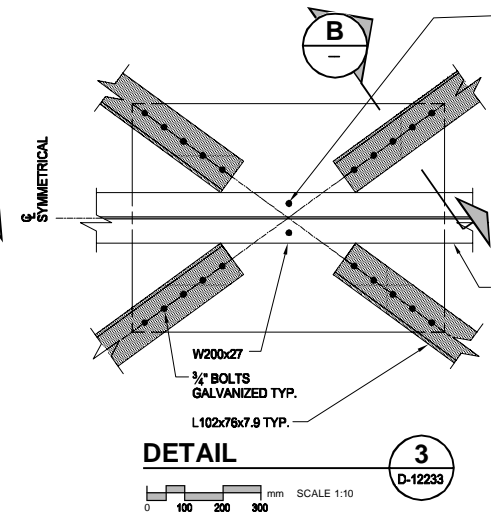
AECOM REVIEW: DRFT CHK KC



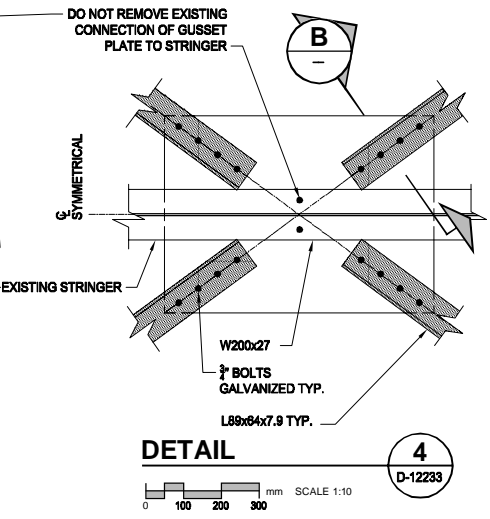
**DETAIL 1**  
SCALE 1:10  
D-12233



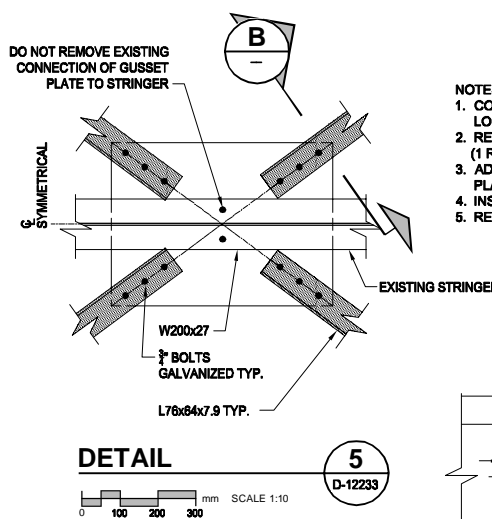
**DETAIL 2**  
SCALE 1:10  
D-12233



**DETAIL 3**  
SCALE 1:10  
D-12233



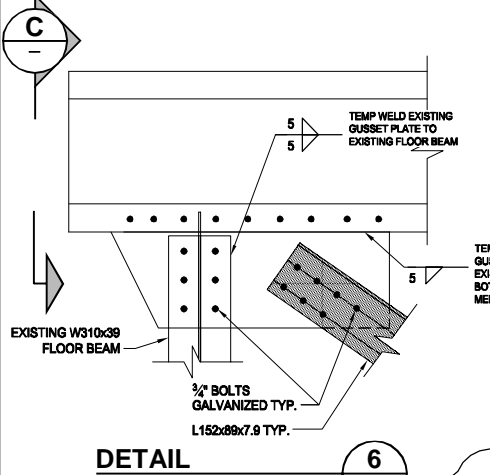
**DETAIL 4**  
SCALE 1:10  
D-12233



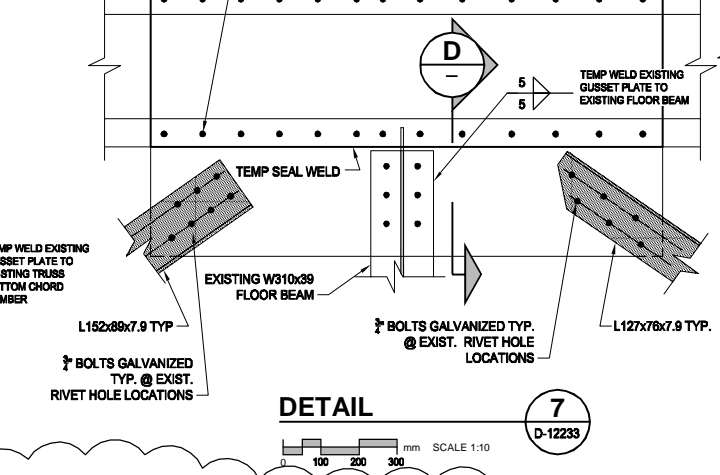
**DETAIL 5**  
SCALE 1:10  
D-12233

**NOTES FOR DETAIL 1:**  
 1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO SITE WORK, INCLUDING LOCATIONS OF ALL RIVET HOLES, PLATE DIMENSIONS, EDGE DISTANCE ETC.  
 2. REPLACE EXISTING RIVETS WITH GALVANIZED A325 BOLTS, JUST SNUG TIGHT (1 RIVET AT A TIME) INCLUDING CONNECTION OF GUSSET PLATES TO STRINGERS.  
 3. TEMP. WELD EXISTING GUSSET PLATE TO EXISTING STRINGER.  
 4. ADD TEMPORARY MECHANISM TO KEEP BOLTS IN PLACE AND EXISTING GUSSET PLATE TIGHT TO EXISTING ANGLES AND REMOVE NUTS FROM BOLTS.  
 5. INSTALL ADDITIONAL 10mm PLATE TO UNDERSIDE OF EXISTING GUSSET PLATE.  
 6. INSTALL PROPOSED ANGLES AND REINSTALL NUTS, THEN TIGHTEN BOLTS.  
 7. REMOVE TEMPORARY MECHANISM (INCLUDING TEMP. WELD OF EXISTING GUSSET PLATE TO EXISTING STRINGER).

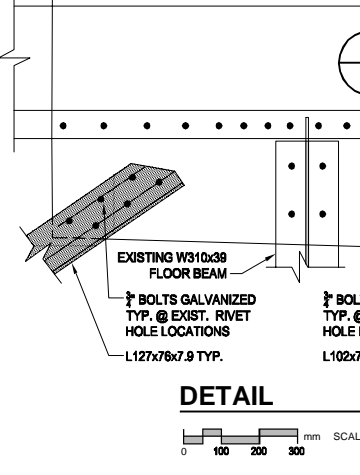
**NOTES FOR DETAILS 2, 3, 4 AND 5:**  
 1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO SITE WORK, INCLUDING LOCATIONS OF ALL RIVET HOLES, PLATE DIMENSIONS, EDGE DISTANCE ETC.  
 2. REPLACE EXISTING RIVETS WITH GALVANIZED A325 BOLTS, JUST SNUG TIGHT, (1 RIVET AT A TIME) EXCEPT FOR CONNECTION OF GUSSET PLATE TO STRINGERS.  
 3. ADD TEMPORARY MECHANISM TO KEEP BOLTS IN PLACE AND EXISTING GUSSET PLATE TIGHT TO EXISTING ANGLES WHILE NUTS ARE REMOVED FROM BOLTS.  
 4. INSTALL PROPOSED ANGLES AND REINSTALL NUTS, THEN TIGHTEN BOLTS.  
 5. REMOVE TEMPORARY MECHANISM.



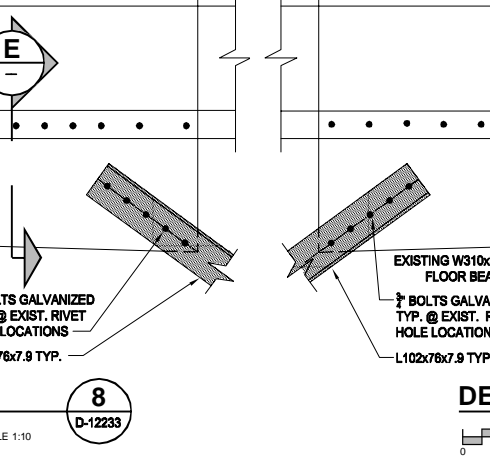
**DETAIL 6**  
SCALE 1:10  
D-12233



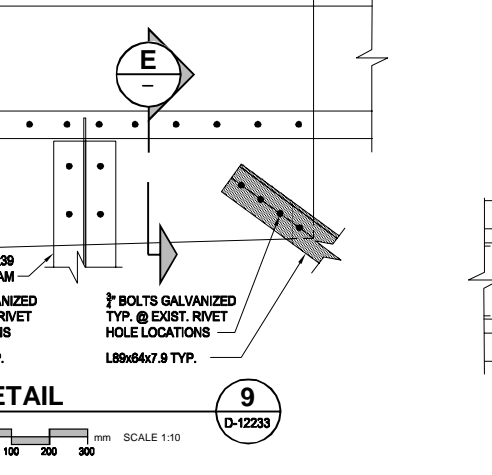
**DETAIL 7**  
SCALE 1:10  
D-12233



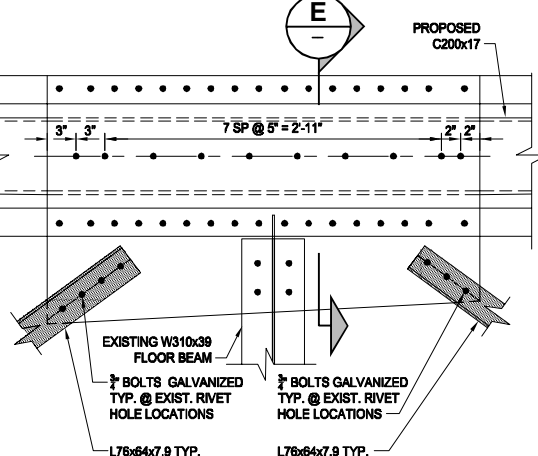
**DETAIL 8**  
SCALE 1:10  
D-12233



**DETAIL 9**  
SCALE 1:10  
D-12233



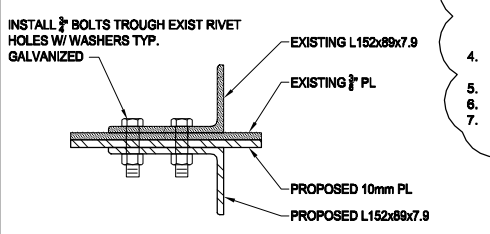
**DETAIL 10**  
SCALE 1:10  
D-12233



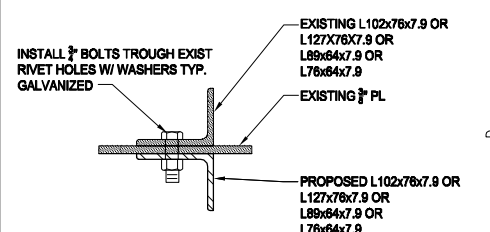
**DETAIL 11**  
SCALE 1:10  
D-12233

**NOTES FOR DETAILS 6 AND 7:**  
 1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO SITE WORK, INCLUDING LOCATIONS OF ALL RIVET HOLES, PLATE DIMENSIONS, EDGE DISTANCE ETC.  
 2. REPLACE EXISTING RIVETS WITH GALVANIZED A325 BOLTS, JUST SNUG TIGHT (1 RIVET AT A TIME).  
 3. TEMP. WELD EXISTING PLATE TO EXISTING FLOOR BEAM AND BOTTOM CHORD. ONLY PLACE WELD AS NECESSARY TO TEMPORARILY HOLD THE EXISTING GUSSET PLATE IN PLACE AND ONLY WELD WHERE THE TEMPORARY WELD CAN BE REMOVED LATER BY MECHANICAL MEANS.  
 4. ADD TEMPORARY MECHANISM TO KEEP BOLTS IN PLACE AND EXISTING GUSSET PLATE TIGHT TO EXISTING ANGLES AND REMOVE NUTS FROM BOLTS.  
 5. INSTALL ADDITIONAL 10mm PLATE TO UNDERSIDE OF EXISTING GUSSET PLATE.  
 6. INSTALL PROPOSED ANGLES AND REINSTALL NUTS, THEN TIGHTEN BOLTS.  
 7. REMOVE TEMPORARY MECHANISM (INCLUDING TEMP WELDS OF EXISTING GUSSET PLATE TO EXISTING FLOOR BEAM AND BOTTOM CHORD).

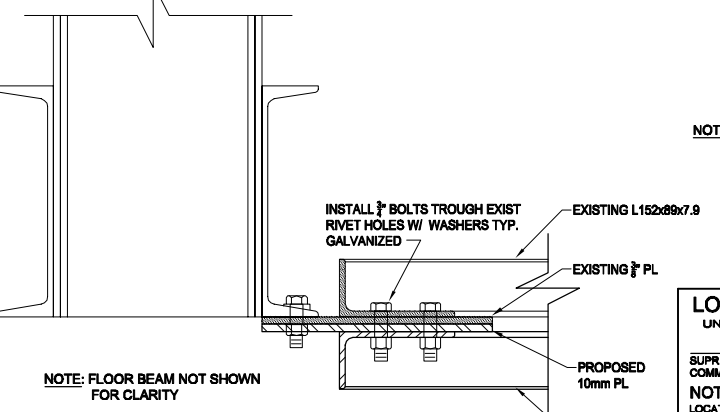
**NOTES FOR DETAILS 8, 9, 10 AND 11:**  
 1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO SITE WORK, INCLUDING LOCATIONS OF ALL RIVET HOLES, PLATE DIMENSIONS, EDGE DISTANCE ETC.  
 2. REPLACE EXISTING RIVETS WITH GALVANIZED A325 BOLTS FOR HORIZ DIAGONAL MEMBERS ONLY, JUST SNUG TIGHT, (1 RIVET AT A TIME).  
 3. ADD TEMPORARY MECHANISM TO KEEP BOLTS IN PLACE AND EXISTING GUSSET PLATE TIGHT TO EXISTING ANGLES AND REMOVE NUTS FROM BOLTS.  
 4. INSTALL PROPOSED ANGLES AND REINSTALL NUTS, THEN TIGHTEN BOLTS.  
 5. REMOVE TEMPORARY MECHANISM.



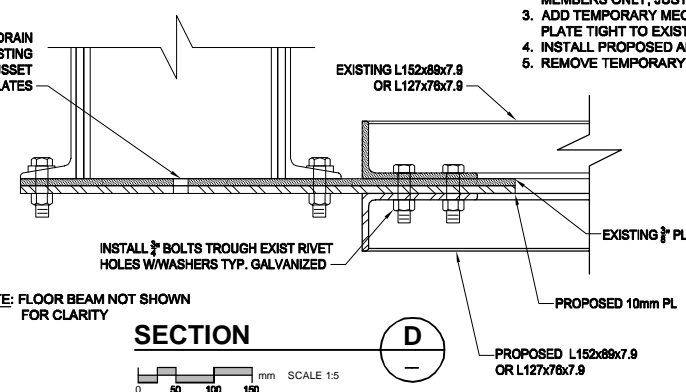
**SECTION A**  
SCALE 1:5



**SECTION B**  
SCALE: NTS

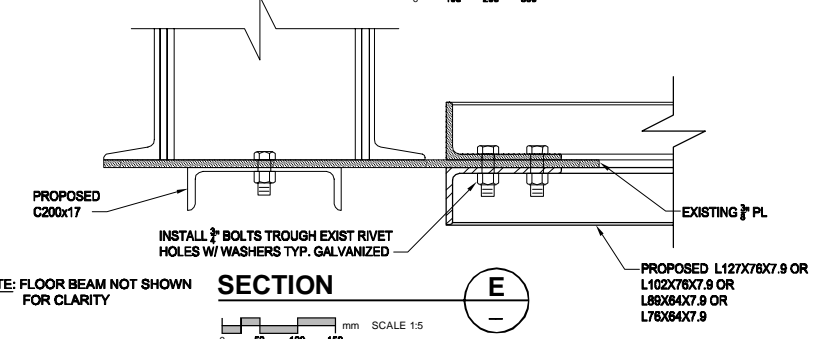


**SECTION C**  
SCALE 1:5



**SECTION D**  
SCALE 1:5

**APEGM**  
 Certificate of Authorization  
 UMA Engineering Ltd. (MB)  
 No. 256 Date: 01 NOV. 2012



**SECTION E**  
SCALE 1:5

**LOCATION APPROVED UNDERGROUND STRUCTURES**

SUPR. U/G STRUCTURES	DATE	COMMITTEE

**NOTE:**  
 LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE. BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

NO.	REVISIONS	BY	DATE
2	ISSUED FOR ADDENDUM #1	DJH	12/11/08
1	RE-ISSUED FOR CONSTRUCTION	DJH	12/10/01
0	ISSUED FOR CONSTRUCTION	DJH	11/08/00

**AECOM**

DESIGNED BY	FT/ARB	CHECKED BY	SBB/KC
DRAWN BY	DJH	APPROVED BY	EBL
HOR. SCALE	AS NOTED	RELEASED FOR CONSTRUCTION	
VERT. SCALE	AS NOTED	DATE	

PROFESSIONAL'S SEAL  
 PROVINCE OF MANITOBA  
 ORIGINAL SIGNED BY  
 S.B. BISWANGER  
 2012/10/31  
 REGISTERED PROFESSIONAL ENGINEER  
 CONSULTANT DRAWING NO.  
 D285-230-02\_01-S-4004\_RX.dwg

**THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT**

**REHABILITATION / REPLACEMENT OF THE MIDTOWN FEEDERMAIN AT THE AT ASSINBOINE RIVER**

**STRUCTURAL DETAILS II**

SHEET 9 OF 19  
 CITY DRAWING NUMBER  
**D-12235**  
 REV 2

BID OPPORTUNITY NO. 830-2012