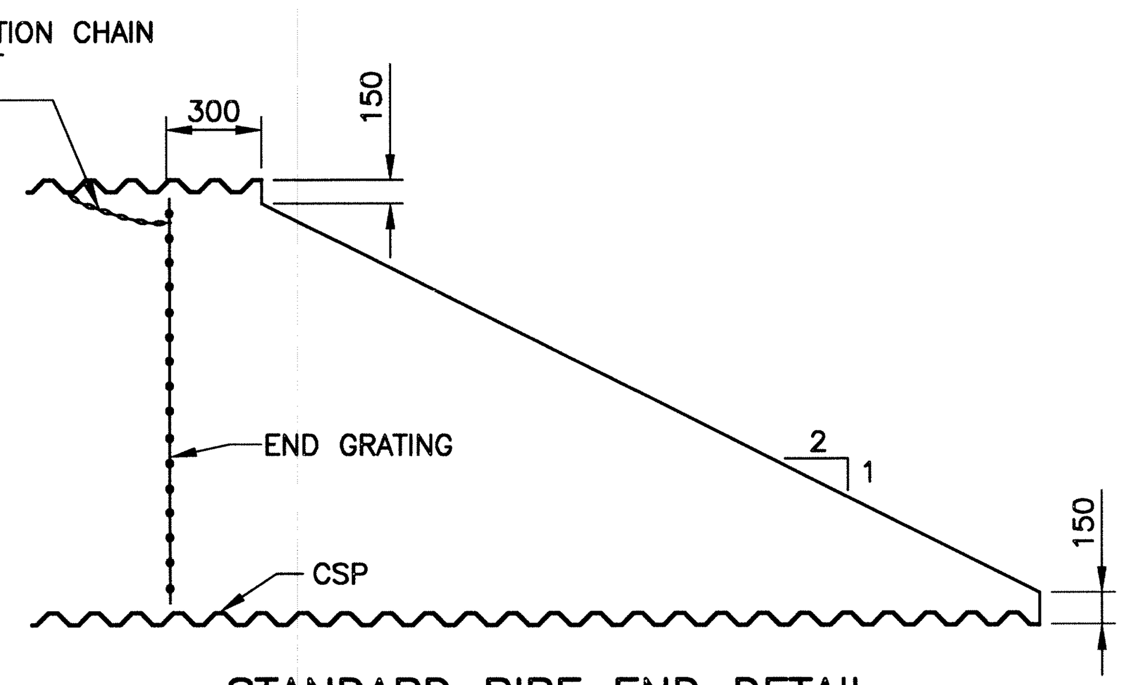
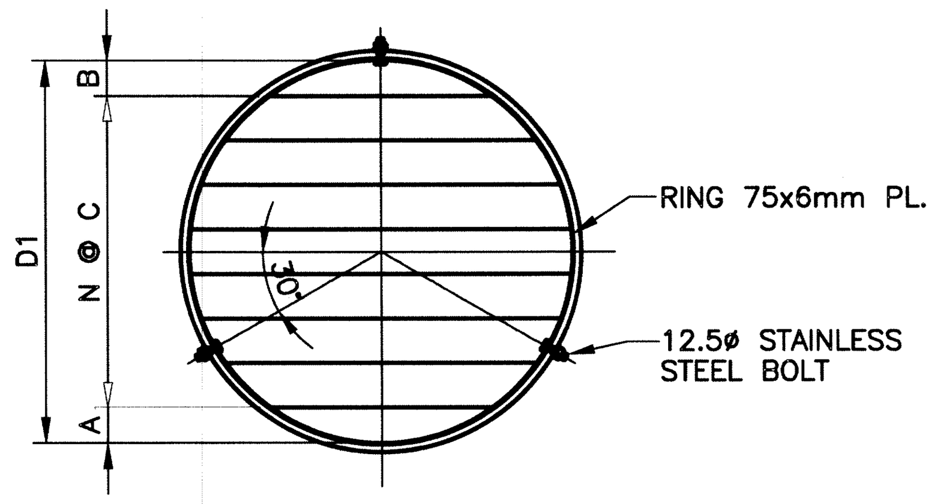


STANDARD PIPE END DETAIL

SCALE: N.T.S.



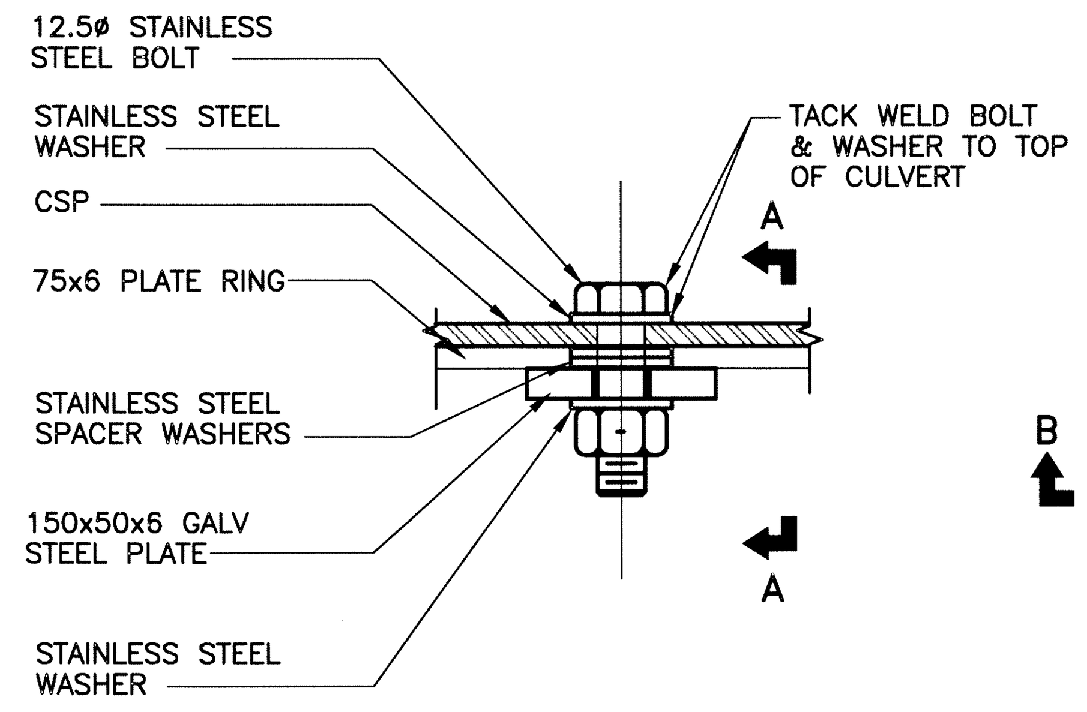
STANDARD GRATE DETAIL

SCALE: N.T.S.

OUTFALL DEBRIS GRATE								
PIPE		GRATING						
DIAMETER D	MATERIAL	DIAMETER D1	BAR DIA.	A	B	C	N	WEIGHT (lbs)
600	CSP	588±	15	150	138	150	2	22
750	CSP	735±	15	150	90	135	3	25

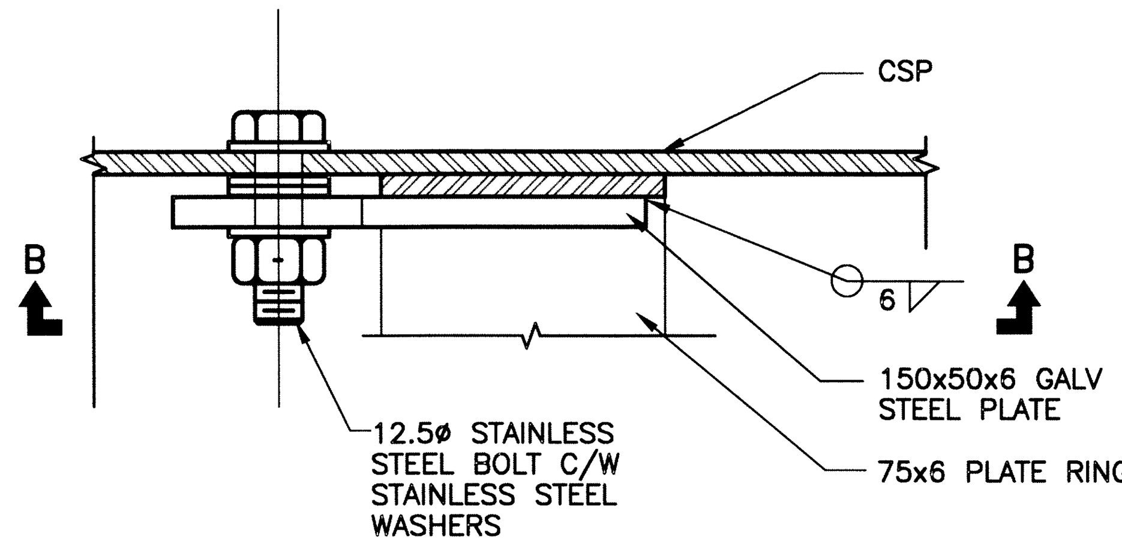
NOTE:

1. ALL PLATES AND BARS ARE CSA G40.21–300W.
2. ALL COMPONENTS ARE GALVANIZED.
3. ALL BOLTS TO BE TYPE 316 STAINLESS STEEL CONFORMING TO ASTM A320 GRADE B8M



12.5ø STAINLESS STEEL BOLT DETAIL

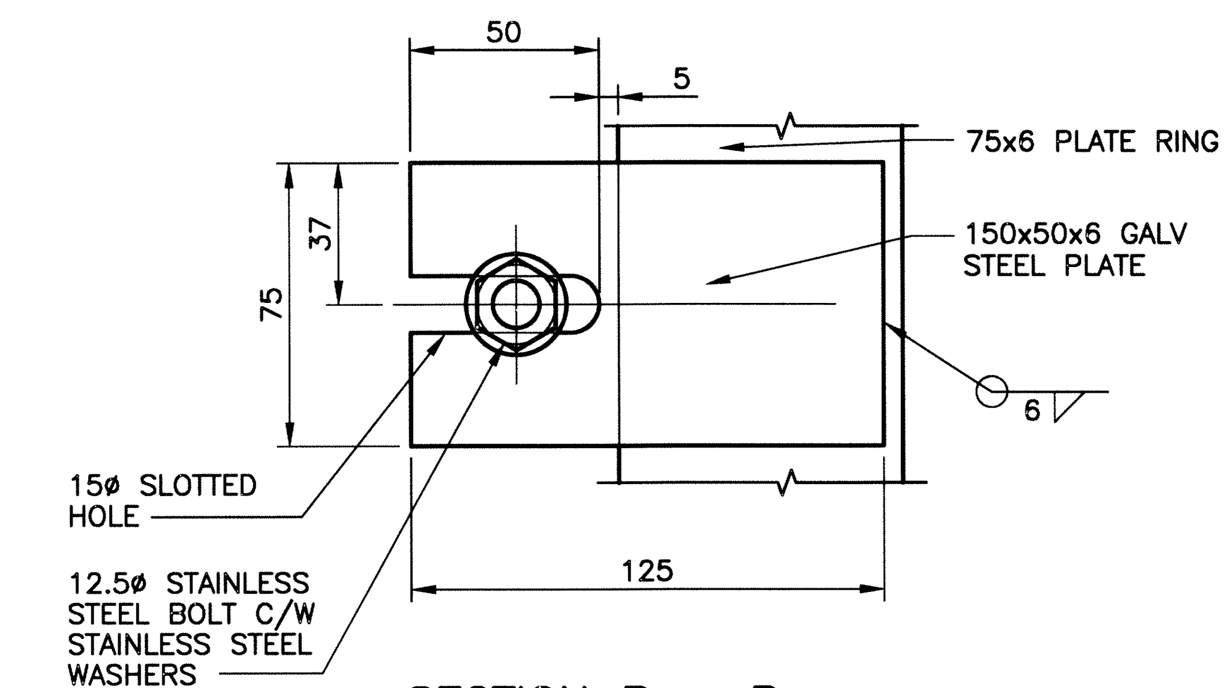
SCALE: N.T.S.



SECTION A – A

SCALE: N.T.S.

NOTE: DEBRIS GRATES TO BE INSTALLED AT ALL CULVERT ENDS

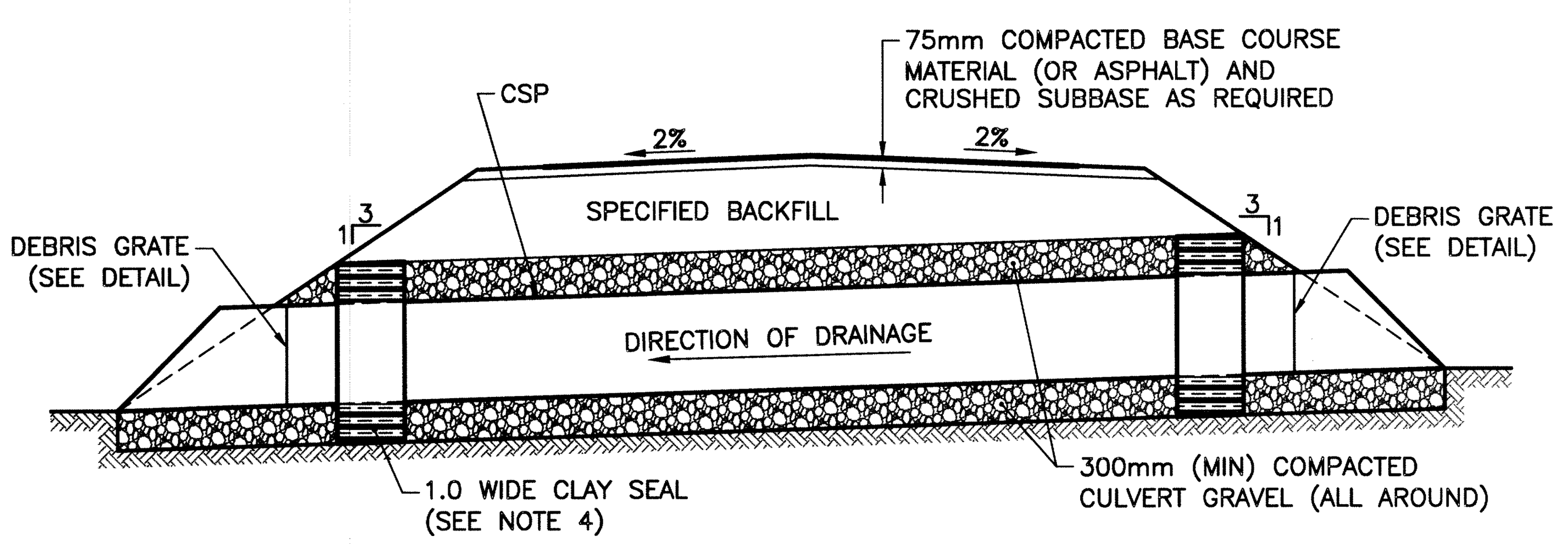


SECTION B – B

SCALE: N.T.S.

STANDARD DEBRIS GRATE DETAILS

N.T.S.



NOTES:

1. REGRADE EXISTING DITCHES AS DIRECTED BY CONTRACT ADMINISTRATOR.
2. RENEW EXISTING APPROACHES AS DIRECTED BY CONTRACT ADMINISTRATOR.
3. NEW CULVERTS TO BE INSTALLED UNDER ALL APPROACHES AS DIRECTED BY CONTRACT ADMINISTRATOR.
4. INSTALL 1.0m LONG COMPACTED CLAY SEAL NEAR BOTH ENDS, IN ACCORDANCE WITH THE SPECIFICATIONS.
5. INSTALL DEBRIS GRATE ON EACH END OF CULVERTS (SEE DETAIL ON DWG 001).

WARNING:

- NOTIFY THE GAS COMPANY OF THE PROPOSED LOCATION OF EXCAVATION.
- TAKE PRECAUTION TO AVOID DAMAGE TO GAS COMPANY INSTALLATION, SEE PROVINCIAL REGULATION 210/72 FOR DETAILS.
- AVOID DAMAGE TO EXISTING MANITOBA HYDRO EASEMENT WITHIN THE LIMITS OF CONSTRUCTION.
- TAKE PRECAUTION TO AVOID DAMAGE TO MTS UNDERGROUND CABLES.

DESIGN CULVERT SECTION

SCALE: H=1:100 V=1:50

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

APEGM
Certificate of Authorization
KGS Group
No. 245

LOCATION APPROVED
UNDERGROUND STRUCTURES

SUPV. U/G STRUCTURES COMMITTEE — DATE

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.

B.M. KGS BASE ELEV. — DRAWING BASED ON C.S.R.S. NAD 83 SYSTEM, UTM GRID

NO.	REVISIONS	DATE	BY
0	ISSUED FOR CONSTRUCTION	15/06/11	

KGS GROUP CONSULTING ENGINEERS

DESIGNED BY: MK
CHECKED BY:
DRAWN BY: GEL
APPROVED BY:
HOR. SCALE: 1:250
VERTICAL: 1:10
RELEASED FOR CONSTRUCTION:
DATE: 2015/02/02
DATE:

ENGINEER'S SEAL
PROVINCE OF MANITOBA — B.J. MIKOLAYENKO — Member 24888 — REGISTERED PROFESSIONAL ENGINEER
JUNE 11/2015

CONSULTANT DRAWING NO.
14–0107–010_028

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

PROJECT TITLE
PIPELINE ROAD
PAVEMENT RECONSTRUCTION

MISCELLANEOUS DETAILS

SHEET 16 OF 16

COMPUTER FILE NAME: PIPELINE–PLOT

CITY DRAWING NUMBER: 028