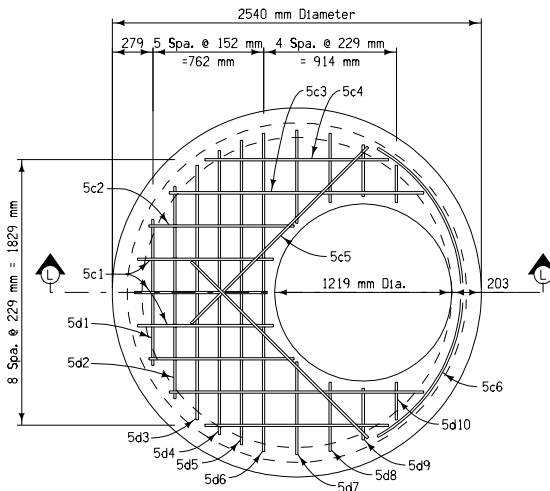
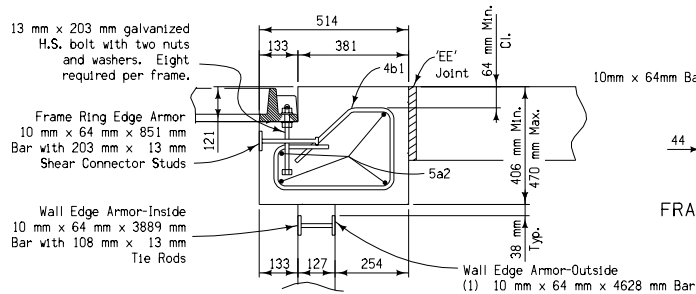


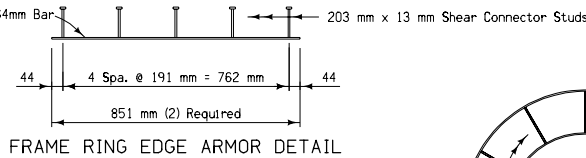
LID PLAN (DEEP)



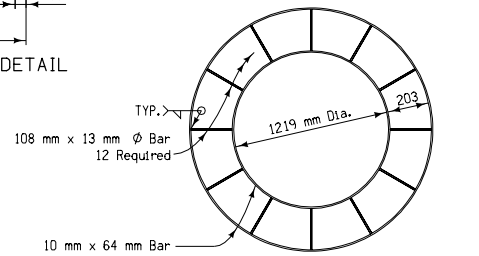
SECTION D-D (DEEP)
INTERMEDIATE LID



SECTION J-J

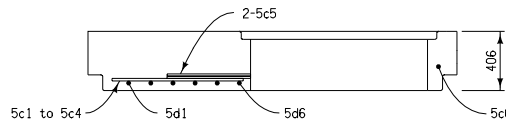


FRAME RING EDGE ARMOR DETAIL

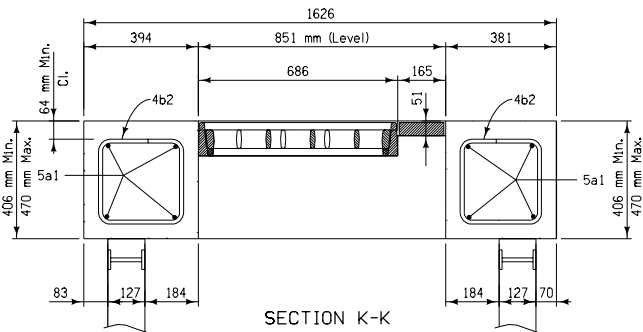


WALL EDGE ARMOR DETAIL (DEEP)

All edge armor steel to be ASTM A36, hot dip galvanized after fabrication.



SECTION L-L



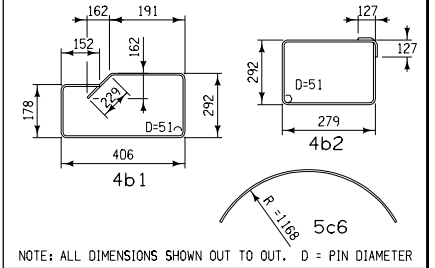
SECTION K-K

BILL OF REINFORCING STEEL

ONE GRATE INTAKE LIDS - EPOXY COATED

BAR	LOCATION	SHAPE	NO.	LENGTH	MASS
5a1	Lid, Longitudinal	—	8	1880	23.1
5a2	Lid, Transverse	—	8	1824	19.0
4b1	Lid Hoop	⌈	4	1448	5.9
4b2	Lid Hoop	⌋	6	1397	8.2
5c1	Intermediate Lid	—	3	914	4.1
5c2	Intermediate Lid	—	2	991	3.2
5c3	Intermediate Lid	—	2	1753	5.4
5c4	Intermediate Lid	—	2	1270	4.1
5c5	Intermediate Lid	—	2	1727	5.4
5c6	Intermediate Lid	—	1	2489	4.1
5d1	Intermediate Lid	—	1	1041	1.8
5d2	Intermediate Lid	—	1	1473	2.3
5d3	Intermediate Lid	—	1	1753	2.7
5d4	Intermediate Lid	—	1	1956	3.2
5d5	Intermediate Lid	—	1	2083	3.2
5d6	Intermediate Lid	—	1	2184	3.2
5d7	Intermediate Lid	—	2	635	1.8
5d8	Intermediate Lid	—	2	457	1.4
5d9	Intermediate Lid	—	2	356	1.0
5d10	Intermediate Lid	—	2	279	1.0
EPOXY COATED REINFORCING STEEL - TOTAL				103.9	

BENT BAR DETAILS



QUANTITY SUMMARY FOR ONE GRATE INTAKE LID

Concrete - Lid	0.9 m3
Concrete - Intermediate Lid	1.6 m3
Epoxy Coated Reinforcing Steel	103.9 kg

All dimensions given in millimeters unless noted.

M METRIC VERSION	<p>Iowa Department of Transportation</p>	REVISION	
		1 10-17-06	
	STANDARD ROAD PLAN		RA-48B(4) SHEET 4 of 5
	<p>REVISIONS: Changed Headed Anchors to Shear Connector Studs.</p> <p style="text-align: center;"><i>Deanna Mayfield</i> APPROVED BY DESIGN METHODS ENGINEER</p>		
<p>SINGLE GRATE BARRIER INTAKE, CIRCULAR</p>			