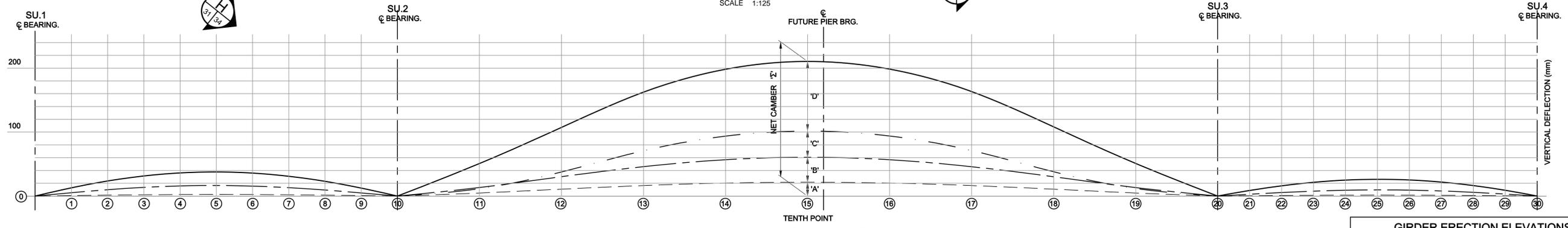


PLAN
SCALE 1:125



RELAXED CAMBER GIRDER
SCALE N.T.S.

STRUCTURAL STEEL NOTES:

- ALL STRUCTURAL STEEL SHALL CONFORM TO CSA STANDARD CAN/CSA-G40.21-04. STEEL MARKED "WT" SHALL BE GRADE 350WT CATEGORY 3, ALL OTHER STRUCTURAL STEEL SHALL BE GRADE 350W.
- MEMBERS OR COMPONENTS OF MEMBERS FOR WHICH "WT" STEEL IS SPECIFIED ARE PRIMARY TENSION MEMBERS. STIFFENERS ATTACHED TO "WT" GIRDERS SHALL BE "WT" STEEL.
- HIGH STRENGTH BOLTS, NUTS AND HARDENED WASHERS SHALL BE GALVANIZED ASTM A325 TYPE 1, M22. BOLT THREADS SHALL BE EXCLUDED FROM THE SHEAR PLANES. BOLT HOLES SHALL BE 24mm DIA. UNLESS OTHERWISE NOTED, IMPERIAL SIZE 7/8" DIA A325 BOLTS MAY BE SUBSTITUTED FOR M22 BOLTS.
- ALL BOLTS SHALL BE PROVIDED WITH TWO WASHERS - ONE UNDER THE HEAD AND ONE UNDER THE NUT.
- MEMBERS WITH OVERSIZED HOLES SHALL BE PROVIDED WITH GALVANIZED PLATE WASHERS 45x45x8 WITH 24mm DIA HOLES.
- SHEAR STUDS SHALL BE 22mm DIA. AND CONFORM TO ASTM A108 AND CSA W59.
- ALL LENGTHS ARE SHOWN IN THE HORIZONTAL PLANE AND MEASURED AT 20°C.
- GIRDERS SHALL BE CAMBERED TO VALUES SHOWN IN THE RELAXED CAMBER DIAGRAM.
- RELAXED CAMBER ORDINATES INCLUDE AN ALLOWANCE FOR GIRDER SELF-WEIGHT, CONCRETE DECK, SUPERIMPOSED DEAD LOADS, CONCRETE DECK SHRINKAGE AND PROFILE OF ROADWAY.
- THE ENDS OF THE GIRDER AND BEARING STIFFENERS SHALL BE TRULY VERTICAL UNDER DEAD LOAD.
- ALL BUTT WELDS IN FLANGE AND WEB SHOP SPLICES SHALL BE FINISHED FLUSH OR SMOOTH AS INDICATED, BY GRINDING WHERE NECESSARY IN THE DIRECTION OF APPLIED STRESSES. THEIR LOCATIONS SHALL BE APPROVED BY THE CONTRACT ADMINISTRATOR.
- UNLESS OTHERWISE NOTED THE MINIMUM FILLET WELD SHALL BE AS FOLLOWS:

MATERIAL THICKNESS OF THICKER PART JOINED (mm)	MATERIAL SIZE OF SINGLE PASS OF FILLET WELD (mm)
TO 12 INCLUSIVE	5
OVER 12 TO 20	6
OVER 20 TO 40	8
OVER 40 TO 60	10
OVER 60 TO 120	12

- ALL STEEL GIRDERS INCLUDING SHEAR STUDS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH CSA STANDARD G164 TO A MINIMUM NET RETAINING OF 600 g/m²
- ALL STRUCTURAL STEEL CONTACT SURFACES OF BOLTED JOINTS (FAYING SURFACES) SHALL BE WIREBRUSHED AFTER HOT-DIP GALVANIZING TO MAINTAIN THE SLIP CRITICAL CHARACTERISTICS AS PER THE CHBDC CSA S6-06.
- TEMPORARY SHORING SUPPORT UNDER THE GIRDERS SHALL BE PROVIDED IN END SPANS 1 AND 3 BEFORE PLACING INFILL CONCRETE. SHORING SHALL REMAIN IN PLACE UNTIL INFILL CONCRETE HAS REACHED A MINIMUM STRENGTH OF 20 MPa.

TENTH POINTS	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
'A' DL GIRDER	0	4	1	2	2	3	2	2	1	1	0	5	11	16	20	22	20	16	11	5	0	0	1	1	1	2	1	1	1	0	0
'B' DL DECK	0	5	9	12	13	14	13	11	8	4	0	9	19	30	36	39	36	29	19	9	0	2	5	6	8	8	8	7	5	3	0
'C' CONC. SHRINKAGE	0	0	0	0	0	0	0	0	0	0	-2	7	25	37	41	37	25	8	-1	0	0	0	0	0	0	0	0	0	0	0	
'D' ROAD PROFILE	0	8	14	18	20	21	20	18	14	8	0	39	70	92	105	109	105	92	70	39	0	6	11	14	16	16	14	11	6	0	
'Σ' NET CAMBER	0	13	24	31	36	38	36	31	23	13	0	51	107	162	198	211	199	163	108	51	0	9	16	22	25	26	25	22	16	9	0

TENTH POINTS	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
'A' DL GIRDER	-	-	-	-	-	-	-	-	0	0	0	5	11	16	20	22	20	16	11	5	0	0	1	1	1	2	1	1	1	0	0
'B' DL DECK	-	-	-	-	-	-	-	-	0	0	0	9	19	30	36	39	36	29	19	9	0	2	5	6	8	8	8	7	5	3	0
'C' CONC. SHRINKAGE	-	-	-	-	-	-	-	-	0	0	0	-2	7	25	37	41	37	25	8	-1	0	0	0	0	0	0	0	0	0	0	
'D' ROAD PROFILE	-	-	-	-	-	-	-	-	0	0	0	39	70	92	105	109	105	92	70	39	0	6	11	14	16	16	14	11	6	0	
'Σ' NET CAMBER	-	-	-	-	-	-	-	-	0	0	0	51	107	162	198	211	199	163	108	51	0	9	16	22	25	26	25	22	16	9	0

GIRDER LINE	SU.1	SU.2	SU.3	SU.4
NORTH (1)	---	233.902	234.275	234.184
(2)	---	233.835	234.226	234.143
(3)	---	233.767	234.177	234.101
(4)	233.250	233.715	234.144	234.075
(5)	233.242	233.717	234.164	234.104
(6)	233.235	233.718	234.184	234.130
(7)	233.227	233.718	234.203	234.156
(8)	233.220	233.719	234.222	234.182
(9)	233.171	233.678	234.200	234.167
(10)	233.123	233.638	234.178	234.153
(11)	233.072	233.597	234.156	234.137
(12)	233.023	233.555	234.133	234.122
(13)	---	233.567	234.163	234.159
(14)	---	233.594	234.209	234.212
SOUTH (15)	---	233.622	234.255	234.266

* NOTE: GIRDER ERECTION ELEVATIONS ARE AT THE TOP OF THE TOP FLANGE.



LOCATION UNDERGROUND	APPROVED STRUCTURES	B.M. ELEV.
SUPY. 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.		
1 ISSUED FOR TENDER	10/05/14	DPK
NO. REVISIONS	DATE	BY

DESIGNED BY	JCL
DRAWN BY	ABH
CHECKED BY	SSR
APPROVED BY	DPK
HOR. SCALE	AS SHOWN
VERTICAL	AS SHOWN
1	ISSUED FOR TENDER
NO.	REVISIONS

RELEASED FOR CONSTRUCTION	ORIGINAL SIGNED BY RANDY FINGAS
DATE	2010/05/14



THE CITY OF WINNIPEG TRANSIT DEPARTMENT

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1
OSBORNE STATION & ASSOCIATED WORKS

STEEL GIRDERS - LAYOUT

CITY DRAWING NUMBER: B237-10-31
SHEET 31 OF 121
CONSULTANT DRAWING NUMBER: C5-S1116-T

ENGINEER'S SEAL: 088813

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