DESIGN DATA:

1. DESIGN CODE: CHBDC S6-06
2. THESE DRAWINGS TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS.
3. EXISTING DIMENSIONS ARE APPROXIMATE ONLY. CONTRACTOR SHALL SITE VERIFY ALL DIMENSIONS.
4. ALL COORDINATES ARE NAD 83 UTM COORDINATES. ALL DIMENSIONS ARE GIVEN IN GROUND COORDINATES. GROUND = GRID/0.9997688

DESIGN LOADS

1. CL 625
2. CITY OF WINNIPEG LRT LOADING
   - DLA = 0.25
   - SLS LIVE LOAD FACTOR = 0.9
   - ULS LIVE LOAD FACTOR = 1.4
   - EMERGENCY BRAKING LOAD = 50% OF WORK TRAIN LOAD (ON THE TRACK ONLY)

   - DESIGN LOAD COMBINATION:
   WORK TRAIN (ONE TRACK) + PASSENGER TRAIN (ONE TRACK)

FOUNDATIONS

1. FOUNDATION DESIGN IS BASED ON THE FOLLOWING REPORTS:
   - "THE CITY OF WINNIPEG BUS RAPID TRANSIT SYSTEM - SOUTHWEST CORRIDOR GEOTECHNICAL INVESTIGATION AND PRELIMINARY RECOMMENDATIONS", PREPARED BY KHOHN CRIPPEN AND DATED MAY 2004.
   - "CITY OF WINNIPEG - BUS RAPID TRANSIT PROJECT, OSBORNE OVERPASS' - GEOTECHNICAL RECOMMENDATIONS" PREPARED BY AECOM DATED APRIL 9, 2010

   THE CONTRACTOR SHALL READ AND UNDERSTAND THE REQUIREMENTS OUTLINED IN THESE REPORTS PRIOR TO COMMENCING THE FOUNDATION WORK.
2. PROTECT SUBSTRUCTURE FOUNDATION EXCAVATION FROM RAIN, SNOW, FREEZING TEMPERATURES AND STANDING WATER.
3. PLACE A MAT OF LEAN MIX CONCRETE 10 MPa IMMEDIATELY UPON COMPLETION OF AN EXCAVATION TO MINIMIZE LOSS OF MOISTURE OR DEGRADATION OF THE BASE.
4. REMOVE GROUND WATER ENTERING EXCAVATION BY AN APPROVED DEWATERING METHOD.
5. DO NOT PLACE CONCRETE AGAINST FROZEN GROUND, THAW BY AN APPROVED METHOD, THEN PROTECT EXCAVATION FROM FREEZING PRIOR TO PLACING CONCRETE.

CAST IN PLACE CONCRETE

1. CONCRETE MATERIAL, QUALITY, MIXING, PLACING, FORM WORK AND OTHER CONSTRUCTION PRACTICES TO CONFORM TO CSA-A23. 1/A23.2 - 2004

SUPPLY AND PLACE STRUCTURAL CONCRETE:	TYPE	STRENGTH	EXP. CLASS
• RETAINING WALLS, FOOTINGS, CAISSONS, PILES, PILE CAPS, GRADE BEAMS, MANHOLE, ABUTMENTS, SLOPE PAVING, FLOOR SLABS	1	35 @ 56 DAYS	S-1
• PIER CAPS, IN-FILL BETWEEN STEEL GIRDERS, PEDESTRIAN RAMP, PEDETRIAN PLAZA, TRENCHES	2	35 @ 28 DAYS	C-1
• DECK SLAB, SIDEWALKS, CURBS, MEDIAN BARRIERS, APPROACH SLABS, TRANSITION SLABS, TRENCH COVERS	3	35 @ 28 DAYS	C-1
• HIGH PERFORMANCE CONCRETE OVERLAY	4	50 @ 56 DAYS	C-XL

REINFORCING STEEL

1. REINFORCING STEEL SHALL CONFORM TO CSA G30.18 GRADE 400W
2. ALL REINFORCEMENT SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A767M-00a TO A MINIMUM ZINC THICKNESS OF 610 g/m².
3. GALVANIZED REBAR SHALL BE STORED ON WOOD BLOCKING AT THE SITE
4. CONCRETE CLEAR COVER TO REINFORCEMENT UNLESS NOTED OTHERWISE:

   EXPOSED TO EARTH 75 mm TO 90 mm
   ALL OTHER LOCATIONS 60 mm TO 80 mm
5. NO ADDITIONAL CONSTRUCTION TOLERANCES SHALL BE APPLIED TO THESE VALUES.
6. SUPPLY SUPPORT BARS TO SUPPORT MAIN REINFORCING AS REQUIRED.

REINFORCING LAP SPLICES/PROJECTION LENGTH

BAR SIZE	PROJECTION LAP (mm)
10M	700
15M	1000
20M	1250
25M	1600
30M	1900
35M	2200

1. LAP SPLICE SCHEDULE IS FOR CLASS B SPLICES OF TOP BARS AND APPLIES TO REINFORCING SPLICES NOT OTHERWISE DETAILED.
2. LOCATE REINFORCING SPLICES NOT INDICATED ON THE DRAWINGS AT POINTS OF MINIMUM STRESS. LOCATION OF SPLICES TO BE APPROVED BY THE CONTRACT ADMINISTRATOR
3. ALL LONGITUDINAL BARS IN PILE CAP, WALLS AND ROOF TO BE SPLICED CONTINUOUS FOR THE FULL STRUCTURE LENGTH.
4. PROJECTION SHOWN SHALL BE PROVIDED AT CONSTRUCTION JOINTS UNLESS NOTED OTHERWISE.

STRUCTURAL STEEL

1. STEEL SHALL CONFORM TO CSA G40.21 STRUCTURAL STEEL MEMBERS MARKED "WT" SHALL BE GRADE 350 WT CATEGORY 3, ALL OTHER STRUCTURAL STEEL SHALL BE GRADE 350W.
2. ALL STEEL SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH CSA G164 TO A MINIMUM ZINC THICKNESS OF 610 g/m².

SHORING

1. ALL SHORING ALONG CN TRACKS SHALL BE INSTALLED AS DESIGNED AND SHOWN ON THE DRAWING. ALL OTHER TEMPORARY SHORING SHALL BE DESIGNED BY THE CONTRACTOR. SHOP DRAWINGS SHALL BE SUBMITTED BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA

PROTECTION OF UNDERGROUND UTILITIES

1. THE UNDERGROUND HYDRO AND MTS DUCTS SHALL BE PORTECTED IN ACCORDANCE WITH DETAILS SHOWN ON THE DRAWINGS.

PLAN LEGEND

	EXISTING	PROPOSED	TO BE REMOVED/ ABANDONED	TO BE ADJUSTED
COMBINED SEWER	300 CS	300 CS	300 CS	
WASTE WATER SEWER	300 WWS	300 WWS	300 WWS	
STORM RELIEF SEWER	300 SRS	300 SRS	300 SRS	
SUB-DRAIN (150mm U.N.O)				
LAND DRAINAGE SEWER	300 LDS	300 LDS	300 LDS	
FORCEMAIN	300 FM	300 FM	300 FM	
WATERMAIN	300 WM	300 WM	300 WM	
FEEDERMAIN	300 FEM	300 FEM	300 FEM	
WATER SERVICE	WS	WS	WS	
GAS	100 GAS	100 GAS	100 GAS	
HYDRO	HYDRO	HYDRO	HYDRO	
MANITOBA TELEPHONE SYSTEM	MTS	MTS	MTS	
TRAFFIC SIGNALS	TS	TS	TS	
CANADIAN NATIONAL RAILWAY	CNR	CNR	CNR	
STEAM HEAT	STEAM	STEAM	STEAM	
TELEGRAPH	TELE	TELE	TELE	
SPRINKLER	50 SPKLR	50 SPKLR	50 SPKLR	
STREET LIGHTING	SL	SL	SL	
CENTER LINE OF RAILWAY TRACK	C.N.R.	C.N.R.	C.N.R.	
MANHOLE	○	●		◎
HYDRO MANHOLE (BY OTHERS)	$○_H$	$●_H$		$◎_H$
TELEPHONE MANHOLE (BY OTHERS)	$○_T$	$●_T$		$◎_T$
TRAFFIC SIGNAL SPLICE PIT (BY OTHERS)	$○_{PIT}$	$●_{PIT}$		$◎_{PIT}$
CURB INLET	▽	▼		▽
CATCH BASIN	□	■		□
CURB & GUTTER INLET C/W CATCH BASIN	□	■		□
CURB & GUTTER INLET C/W CATCH PIT	▽	▼		▽
GUTTER INLET C/W CATCH BASIN	□	■		□
GUTTER INLET C/W CATCH PIT	▽	▼		▽
WATER VALVE	⊗	⊗		⊗
HYDRANT	◇	◆		◇
CURB STOP				
GAS VALVE	$⊗_G$			$⊗_G$
POLE	•			⊙
HYDRO POLE (BY OTHERS)	$•_H$			$⊙_H$
LIGHT STANDARD (STANDARD BY OTHERS)				
LIGHT STANDARD ON CONCRETE BARRIER				
TRAFFIC SIGNAL (POLE BY OTHERS)				
SIGNAL CONTROL BOX (CONTROL BOX BY OTHERS)	⊠			⊠
PEDESTRIAN CROSSWALK (POLE BY OTHERS)				
ORNAMENTAL LIGHT STANDARD				
SIGN	SIGN	SIGN	SIGN	SIGN
OVERHEAD SIGN STRUCTURE	OHSS	OHSS	OHSS	OHSS
BORE HOLE				
SLOPE INDICATOR				
MTS PEDESTAL				
TREE C/W DIAMETER	50ø	50ø	50ø	
BUSH/HEDGE				
CULVERT				
COORDINATE CONTROL SURVEY MONUMENT/BENCH MARK				
IRON PROPERTY BAR				
DITCH/SWALE				
FENCE				
ELEVATIONS	231.647	231.647		
BUILDING				

PROFILE LEGEND

	EXISTING	PROPOSED
PROFILE CENTER LINE/CTL		
PROFILE SOUTH/EAST GUTTER/CTL		
PROFILE NORTH/WEST GUTTER/CTL		
PROFILE SOUTH/EAST MEDIAN GUTTER/CTL		
PROFILE NORTH/WEST MEDIAN GUTTER/CTL		
PROFILE SOUTH/EAST DITCH		
PROFILE NORTH/WEST DITCH		
PROFILE SOUTH/EAST BACK OF SIDEWALK		
PROFILE NORTH/WEST BACK OF SIDEWALK		
PROFILE SOUTH/EAST PROPERTY LINE		
PROFILE NORTH/WEST PROPERTY LINE		
PROFILE SOUTH/EAST DOOR SILL	D	
PROFILE NORTH/WEST DOOR SILL	D	
PROFILE SOUTH/EAST PRIVATE SIDEWALK		
PROFILE NORTH/WEST PRIVATE SIDEWALK		

HATCH LEGEND

	TO BE REMOVED	PROPOSED
CONCRETE PAVEMENT/CONCRETE PAVEMENT (WITH ASPHALT OVERLAY)		
CONCRETE SIDEWALK/MEDIAN 100 mm (MIN)		
CONCRETE PAVEMENT 150 mm, 200 mm, 230 mm		
ASPHALT PAVEMENT		
ASPHALT OVERLAY/PLANING		
RED TINTED CONCRETE PAVEMENT		
GRAVEL SURFACE		
SOD		

SECTIONS AND DETAILS

A / B C

A SECTION LETTER OR DETAIL NUMBER

B DRAWING WHERE SECTION OR DETAILS IS TAKEN

C DRAWING WHERE SECTION OR DETAIL IS DRAWN

CIVIL ABBREVIATIONS

ABAN	ABANDON (ED)	HGP	HYDRO GUY WIRE
ABUT	ABUTMENT	HPOLE	HYDRO POLE
ANG	ANGLE	INV EL	INVERT ELEVATION
APPROX	APPROXIMATE	IB	PROPERTY IRON BAR
AVG	AVERAGE	JUNC	JUNCTION
AZ	AZIMUTH	LDS	LAND DRAINAGE SYSTEM
BG	BEARING	LDMH	LAND DRAINAGE MANHOLE
BC	BEGINNING OF CURVE	LS	LENGTH OF SPIRAL
BVC	BEGINNING OF VERTICAL CURVE	LS	LIGHT STANDARD
BLVD	BOULEVARD	LWL	LOW WATER LEVEL
BLDG	BUILDING	MH	MANHOLE
CNR	CANADIAN NATIONAL RAILWAY	NIL	NORMAL ICE LEVEL
CB	CATCH BASIN	N	NORTH
℄	CENTRELINE	OG	ORIGINAL GROUND
CCSM	COORDINATE CONTROL SURVEY MONUMENT	OD	OUTSIDE DIAMETER
CTR	CENTER OF RADIUS	OHS	OVERHEAD SIGN STRUCTURE
CHK'D	CHECKED	PAVT	PAVEMENT
CS	CIRCULAR CURVE TO SPIRAL	PCC	POINT OF COMPOUND CURVE
CS	COMBINED SEWER	PI	POINT OF INTERSECTION
CONC	CONCRETE	PC	POINT ON CURVE
CC	CONCRETE CURB	PRC	POINT OF REVERSE CURVE
C&G	CURB & GUTTER	PRVC	POINT OF REVERSE VERTICAL CURVE
CI	CURB INLET	PVC	POINT OF VERTICAL CURVE
CGI	CURB & GUTTER INLET	PVCC	POINT OF VERTICAL COMPOUND CURVE
CS	CURB STOP	PVI	POINT OF VERTICAL INTERSECTION
CSW	CONCRETE SIDEWALK	PVT	POINT OF VERTICAL TANGENT
COORD	COORDINATE	PROP	PROPOSED
CMP	CORRUGATED METAL PIPE	R	RADIUS
CRES	CRESCENT	RP	RADIUS POINT
XSEC	CROSS-SECTION	RC	REINFORCED CONCRETE
DEG	DEGREE	REV	REVISED/REVISION
DET	DETOUR	ROW	RIGHT-OF-WAY
DIA	DIAMETER	S	SOUTH
DIST	DISTANCE	SW	SIDEWALK
DWG	DRAWING	SP	SPIRAL
E	EAST	SC	SPIRAL TO CURVE
EPAVT	EDGE OF PAVEMENT	ST	SPIRAL TO TANGENT
ESH	EDGE OF SHOULDER	STD	STANDARD
ELEV	ELEVATION	STA	STATION
PT	END OF CURVE	SRS	STORM RELIEF SEWER
ENT	ENTRANCE	STR	STREET
EXC	EXCAVATION	TAN	TANGENT
FEM	FEEDERMAIN	TS	TANGENT TO SPIRAL
F	FENCE	TEL	TELEPHONE
FM	FORCEMAIN	TS	TRAFFIC SIGNAL
FDN	FOUNDATION	TCS	TRAFFIC SIGNAL CONTROLLER
GVLV	GAS VALVE	UNO	UNLESS NOTED OTHERWISE
GV	GATE VALVE	VAL	VALVE
GRAN	GRANULAR	VERT	VERTICAL
NSWL	NORMAL SUMMER WATER LEVEL	VC	VERTICAL CURVE
HORZ	HORIZONTAL	WWS	WASTE WATER SEWER
HYD	HYDRANT	WL	WATER LEVEL
H	HYDRO	WM	WATERMAIN
HC	HYDRO CABLE	WV	WATER VALVE
		W	WEST
		WP	WORKING POINT

APEGM Certificate of Authorization
Dillon Consulting Limited (MB)
No. 1789 Date: 2010/05/14

LOCATION UNDERGROUND STRUCTURES APPROVED

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. 654265 (633392.694, 5525026.192)
ELEV. 232.518

NO.	REVISIONS	DATE	BY
1	ISSUED FOR TENDER	10/05/14	DPK

DESIGNED BY SSR
DRAWN BY NBG/AJP
CHECKED BY SSR
APPROVED BY DPK
HOR. SCALE
VERTICAL
DATE 2010/05/14

DILLON CONSULTING

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

ENGINEER'S SEAL
PROVINCE OF MANITOBA — ORIGINAL STAMPED BY — D.P. KRAHN — 2010 05 14 — Member 4226 — REGISTERED PROFESSIONAL ENGINEER

CONSULTANT PROJECT NO.
088813

Winnipeg

THE CITY OF WINNIPEG
TRANSIT DEPARTMENT

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1

OSBORNE STATION & ASSOCIATED WORKS

LEGEND & DESIGN DATA

CITY DRAWING NUMBER B237-10- 3
SHEET 3 OF 121
CONSULTANT DRAWING NUMBER C5-G102-T

G:\CAD\088813\Contract\Contract 5-Osborne Station\Current\Bridge\C5-G102-LEGEND.dwg