



BISHOP GRANDIN CONTROL LINE

CONTROL POINT	STATION	COORDINATES		CURVE TABLE ALIGNMENTS					
		NORTHING	EASTING	CURVE #	RADIUS	DELTA	Tc	L	LC
P.I.	5+999	5518995.010	630285.559	C 36	76	28°22'22"	19.098	37.412	37.031
T.C.	6+000	5518995.963	630285.861	C 37	51	34°14'47"	15.574	30.214	29.767
P.O.C.	6+037.412	5519027.447	630305.357	C 38	380	11°43'58"	39.044	77.815	77.679
C.T.	6+067.626	5519040.925	630331.897						
T.S.	6+097.687	5519046.042	630361.518						
S.C.	6+129.187	5519051.833	630392.479						
C.S.	6+207.002	5519075.891	630466.339						
S.T.	6+275.502	5519107.352	630527.159						
P.I.	6+598.029	5519264.075	630809.049						

SPIRAL TABLE ALIGNMENTS

SPIRAL #	A VALUE	RADIUS	LENGTH	START POINT (N,E)	END POINT (N,E)
S1	109.4	INFINITY	31.500	5519046.042, 630361.518	5519051.833, 630392.479
S2	161.3	380.000	68.500	5519075.891, 630466.339	5519107.352, 630527.159

ATP 4 CONTROL LINE

CONTROL POINT	STATION	COORDINATES		CURVE TABLE ALIGNMENTS					
		NORTHING	EASTING	CURVE #	RADIUS	DELTA	Tc	L	LC
P.I.	14+000	5519023.431	630302.239	C 20	4	52°50'56"	1.739	3.228	3.115
P.I.	14+003.163	5519021.290	630304.557						
P.I.	14+006.768	5519020.731	630308.129						
T.C.	14+013.760	5519015.998	630313.274						
C.T.	14+016.988	5519013.089	630314.389						
P.I.	14+020.214	5519009.877	630314.082						
P.I.	14+033.612	5518996.540	630312.807						
T.C.	14+070.854	5518959.467	630309.264						
C.T.	14+125.191	5518935.239	630346.299						
P.I.	14+353.600	5519046.226	630545.930						
P.I.	14+554.228	5519165.153	630707.510						
P.I.	14+592.009	5519187.548	630737.937						
P.I.	14+745.036	5519271.952	630865.583						

ATP 8 CONTROL LINE

CONTROL POINT	STATION	COORDINATES	
		NORTHING	EASTING
P.I.	18+000	5518983.974	630441.161
P.I.	18+002.003	5518982.225	630442.137
P.I.	18+059.477	5518932.031	630470.134

ATP 6 CONTROL LINE

CONTROL POINT	STATION	COORDINATES		CURVE TABLE ALIGNMENTS					
		NORTHING	EASTING	CURVE #	RADIUS	DELTA	Tc	L	LC
P.I.	16+000	5518959.800	630305.780	C25	20	18°06'17"	3.186	6.320	6.293
T.C.	16+013.986	5518945.878	630304.450						
C.T.	16+020.306	5518939.785	630302.873						
P.I.	16+040.773	5518921.025	630294.691						

ATP 7 CONTROL LINE

CONTROL POINT	STATION	COORDINATES		CURVE TABLE ALIGNMENTS					
		NORTHING	EASTING	CURVE #	RADIUS	DELTA	Tc	L	LC
T.C.	17+000	5518909.865	630291.204	C26	230	15°11'30"	30.672	60.984	60.806
C.T.	17+060.984	5518932.074	630347.809						



METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

- WARNING**
- IF POWER EQUIPMENT OR EXPLOSIVES ARE TO BE USED FOR EXCAVATION ON THIS PROJECT THE CONTRACTOR MUST:
- NOTIFY THE GAS COMPANY OF THE PROPOSED LOCATION OF EXCAVATION.
 - TAKE PRECAUTION TO AVOID DAMAGE TO GAS COMPANY INSTALLATIONS SEE PROVINCIAL REGULATION 210/72 FOR DETAILS.
 - OBTAIN EXCAVATION PERMITS PRIOR TO CONSTRUCTION.
 - A MINIMUM VERTICAL SEPARATION OF 300 mm FROM GAS MAINS AND 100 mm FROM GAS SERVICE MUST BE MAINTAINED BETWEEN ANY MANITOBA HYDRO FACILITY AND ANY NEW INSTALLATIONS.
 - A MINIMUM 900 mm OF COVER SHALL BE MAINTAINED IN ALL AREAS WHERE EQUIPMENT WILL BE CROSSING, TRAVELING OR COMPACTING OVER THE HIGH PRESSURE GAS MAINS.
 - IF EQUIPMENT MUST CROSS, TRAVEL, OR COMPACT OVER THE GAS MAIN WITH LESS THAN THE MINIMUM DEPTH COVER, EARTH BRIDGING OR STEEL PLATES SHALL BE PLACED OVER THE MAIN AND EXTEND A MINIMUM OF 1.0 METRE ON EITHER SIDE AT EACH CROSSING LOCATION.

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150 WM	WATERMAIN	150 WM	M.T.S.	M.T.S.	150 mm W.M.	WATERMAIN	150 mm W.M.
	HYDRANT VALVE		CONCRETE ASPHALT		WATERMAIN VALVE		LAND DRAINAGE SEWER
	LAND DRAINAGE SEWER		PAVING STONES		NORTH/WEST GUTTER		WASTE WATER SEWER
	WASTE WATER SEWER		PROPERTY LINE		SOUTH/EAST GUTTER		NORTH/WEST T/LANE
	MANHOLE		SURVEY BAR		SOUTH/EAST T/LANE		DITCH
	CATCH BASIN		CURB RAMP		SWALE		
	TEST HOLES		JUNCTIONS				
	CULVERT						
	GAS						
	EXISTING		PROPOSED		EXISTING		PROPOSED

UNDERGROUND STRUCTURES SUPV. U/G STRUCTURES COMMITTEE DATE: _____		B.M. 654008 N: 5515764.610 E: 633359.697 654210 N: 5514436.957 E: 630550.534		DESIGNED BY: MRD DRAWN BY: PMW CHECKED BY: DBW APPROVED BY: DPK	DESIGN TEAM 	ENGINEER'S SEAL 	THE CITY OF WINNIPEG PUBLIC WORKS DEPARTMENT WAVERLEY WEST ARTERIAL ROADS PROJECT (WWARP) PART 3 - CONTRACT 2 ROUTE 90 TO ROUTE 165 OVERPASS (KENASTON BLVD.) AND ASSOCIATED WORKS	CITY DRAWING NUMBER: B242-13-83 SHEET: 83 OF 128
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.		HORIZONTAL GEOMETRY STA: 1+920 TO 2+450		CONSULTANT PROJECT NUMBER: 12-6606		CONSULTANT DRAWING NUMBER: P-3349-83		