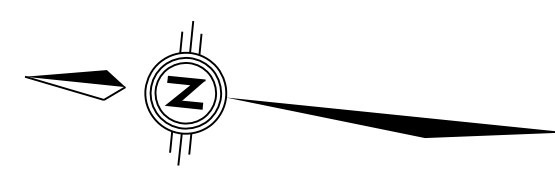




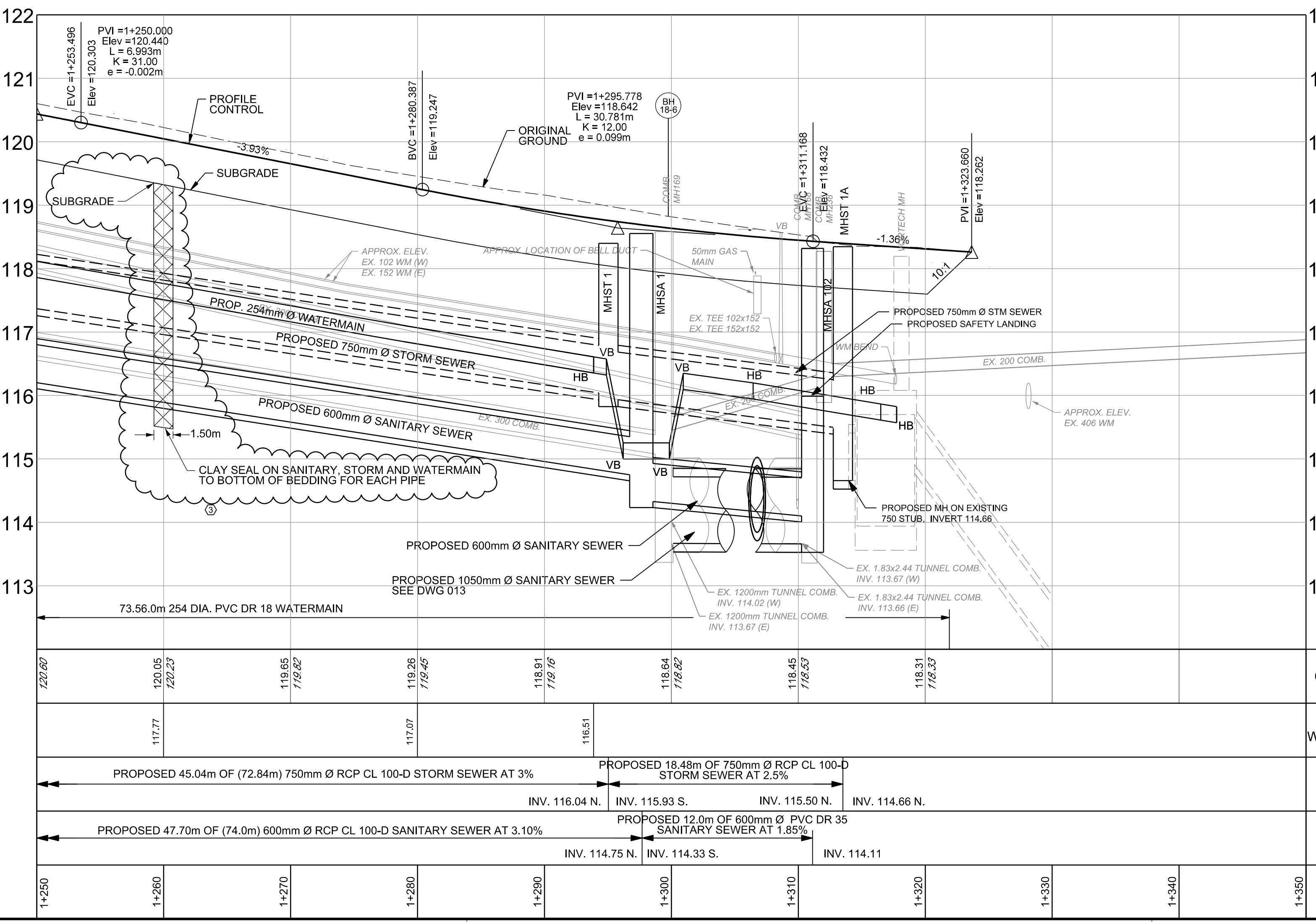
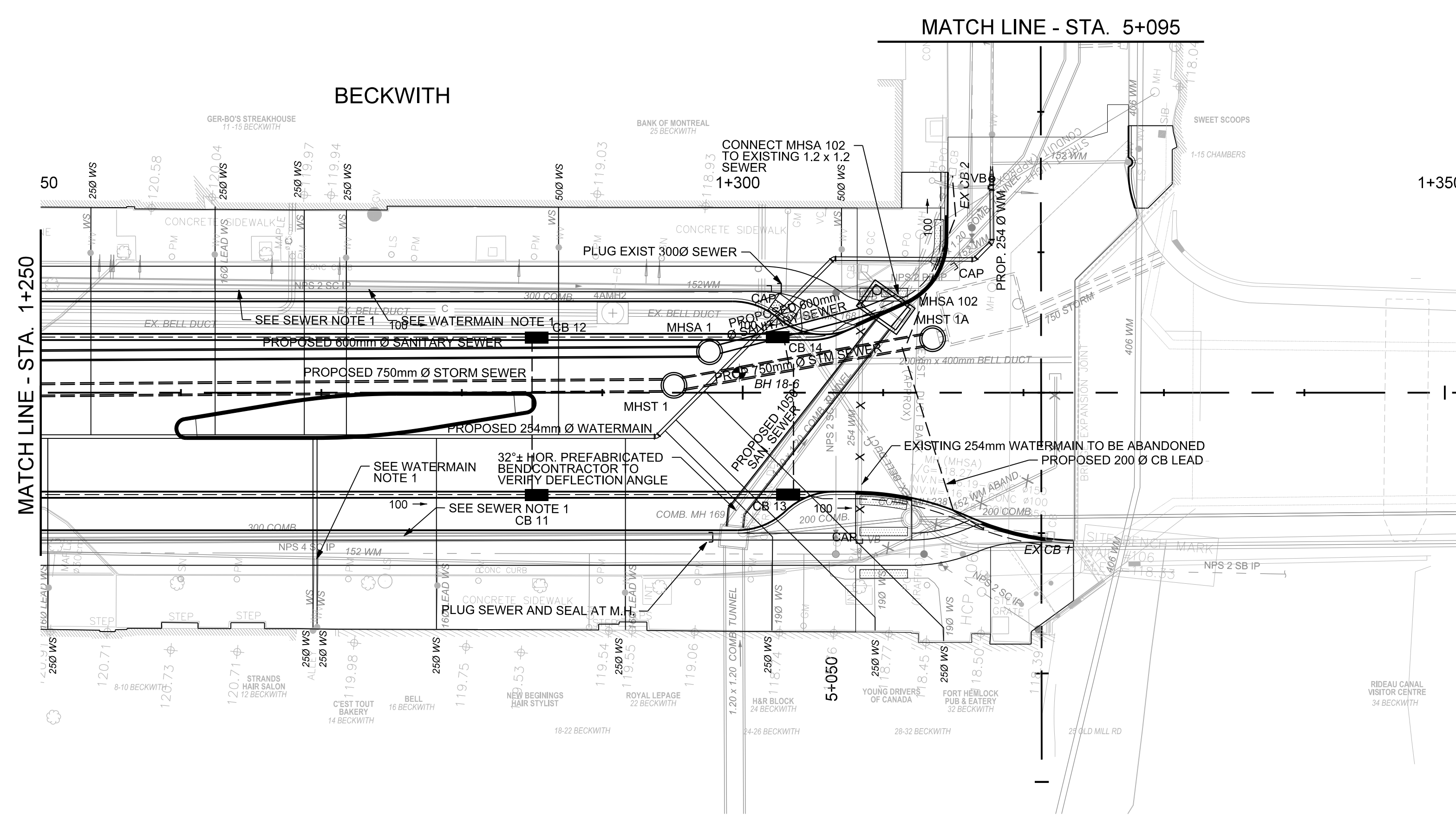
NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned. The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

No.	Description	By	Date (dd/mm/yy)
1	ISSUED FOR TENDER	K.P.	11/03/2019
2	ISSUED FOR ADDENDUM 1	K.P.	15/03/2019
3	ISSUED FOR ADDENDUM 2	K.P.	15/03/2019

- SEWER NOTES:**
- EXISTING COMBINED SEWER TO BE ABANDONED AND FILLED WITH FLOWABLE 0.40mPa CONCRETE.
 - LOCATE AND CONNECT TO EXISTING SEWER. USE APPROVED SEWER TRANSITION COUPLING WHEN JOINING NEW PIPE TO EXISTING PIPE. SUBMIT SHOP DRAWINGS TO CONTRACT ADMINISTRATOR FOR REVIEW AND APPROVAL.
 - CONTRACTOR TO DETERMINE TYPE OF SEWER LATERAL, SANITARY OR STORM, WHICH LATERAL IS ACTIVE, AND CONNECT ACTIVE LATERALS TO THE NEW SEWERS.
 - FILL ABANDONED SEWER SERVICES WITH FLOWABLE 0.40 mPa CONCRETE. BREAK INTO EXISTING MAINTENANCE HOLE, REMOVE AND REPLACE BENCHING TO MATCH INVERTS TO MAINTAIN FLOW.
 - SEE GRADING AND DRAINAGE 3 FOR CATCHBASIN DATA.
- WATERMAIN NOTES:**
- EXISTING WATERMANS TO BE CAPPED AND FILLED WITH FLOWABLE 0.40 mpa CONCRETE.
 - LOCATE AND CONNECT TO EXISTING WATERMAIN, USE APPROVED WATERMAIN COUPLING WHEN JOINING NEW PIPE TO EXISTING PIPE. SUBMIT SHOP DRAWINGS TO CONTRACT ADMINISTRATOR FOR REVIEW AND APPROVAL.
 - PROVIDE MINIMUM 2.40m OF COVER OVER WATERMAIN.
 - WATER SERVICE MATERIAL SHALL BE COPPER TYPE 'K'.



LIMIT OF CONTRACT
 STA. 1+365



NO.	STATION	OFFSET	COVER	STRUCTURE	ELEVATION	
					T/FRAME	LOW/INV.
CB 1	1+015.07	6.97 RT***	2 x 400.070	705.020 B	128.02	126.64
CB 2	1+015.07	3.93 LT***	2 x 400.070	705.020 B	128.09	126.71
CB 3	1+080.00	7.26 RT***	400.010	705.010 B	125.59	124.21
CB 4	1+080.00	3.96 LT***	400.010	705.010 B	125.65	124.27
CB 5	1+105.86	7.26 RT***	2 x 400.070	705.020 B	124.64	123.26
CB 6	1+108.00	3.96 LT***	2 x 400.070	705.020 B	124.65	123.27
CB 7	1+172.80	7.26 RT***	2 x 400.010	705.020 B	122.62	121.24
CB 8	1+172.80	3.96 LT***	2 x 400.010	705.020 B	122.66	121.28
CB 9	1+205.65	7.26 RT***	2 x 400.070	705.020 B	122.05	120.67
CB 10	1+205.65	3.97 LT***	2 x 400.070	705.020 B	121.97	120.59
CB 11	1+285.00	7.26 RT***	2 x 400.010	705.020 B	118.99	117.61
CB 12	1+285.00	3.96 LT***	2 x 400.010	705.020 B	118.97	117.59
CB 13	1+303.62	7.26 RT***	2 x 400.070	705.020 B	118.42	117.04
CB 14	1+300.92	3.93 LT***	2 x 400.070	705.020 B	118.52	117.14
CB 15	4+093.65	9.95 LT	400.010	705.020 B	121.60	120.23

OFFSETS ARE FROM CONTROL LINE TO FACE OF CURB FOR ALL CATCH BASINS UNLESS NOTED
 *** OFFSETS ARE FROM CONTROL LINE TO CENTER OF SWALE/CATCHBASIN

LOCATION	DIA. (mm)	TYPE	LENGTH (m)	INVERT ELEVATIONS	
				UPSTR.	DOWNSTR.
CB 1 TO MAIN	200	PVC SDR35	6.64	126.64	124.8
CB 2 TO MAIN	200	PVC SDR35	3.71	126.71	124.8
CB 3 TO MAIN	200	PVC SDR35	7.26	124.21	122.8
CB 4 TO MAIN	200	PVC SDR35	3.96	124.27	122.8
CB 5 TO MAIN	200	PVC SDR35	7.62	123.26	121.8
CB 6 TO MAIN	200	PVC SDR35	3.96	123.27	121.8
CB 7 TO MAIN	200	PVC SDR35	7.27	121.24	120.1
CB 8 TO MAIN	200	PVC SDR35	3.96	121.28	120.1
CB 9 TO MAIN	200	PVC SDR35	7.30	120.67	119.0
CB 10 TO MAIN	200	PVC SDR35	4.00	120.59	119.0
CB 11 TO MAIN	200	PVC SDR35	7.71	117.61	116.8
CB 12 TO MAIN	200	PVC SDR35	3.51	117.59	116.8
CB 13 TO MAIN	200	PVC SDR35	9.30	117.04	116.0
CB 14 TO MAIN	200	PVC SDR35	2.00	117.14	116.0
CB 15 TO MAIN	200	PVC SDR35	8.60	120.23	118.65
EXIST. CB 1 TO MAIN	200	PVC SDR35	17.10	EXIST	116.0
EXIST. CB 2 TO MAIN	200	PVC SDR35	12.60	EXIST	116.0
EXIST. CB 3 TO MAIN	200	PVC SDR35	12.70	EXIST	118.65
EXIST. CB 4 TO MAIN	200	PVC SDR35	8.15	EXIST	118.65
EXIST. CB 5 TO MAIN	200	PVC SDR35	9.40	EXIST	118.65
EXIST. CB 6 TO MAIN	200	PVC SDR35	5.00	EXIST	121.95
EXIST. CB 7 TO MAIN	200	PVC SDR35	6.00	EXIST	121.95
EXIST. CB 8 TO MAIN	200	PVC SDR35	9.20	EXIST	125.00
EXIST. CB 9 TO MAIN	200	PVC SDR35	15.10	EXIST	124.95
EX. PARKING LOT CB	TBD	PVC SDR35	13.3	EXIST	119.75

NO.	STATION	OFFSET	COVER	STRUCTURE	ELEVATION	
					T/GRATE	LOW/INV.
MHSA 1	1+297.64	2.53 LT	OPSD	OPSD	118.65	114.33
MHSA 102	1+310.19	7.28 LT	OPSD	M-CON	118.48	114.33

- OFFSETS ARE FROM CONTROL LINE TO CENTRE OF STRUCTURE
 - SLF DENOTES SELF LEVEL FRAME

NO.	STATION	OFFSET	COVER	STRUCTURE	ELEVATION	
					T/GRATE	LOW/INV.
MHST 1A	1+295.10	0.52 LT	OPSD	OPSD	118.76	115.93
MHST 1A	1+313.52	3.84 LT	OPSD	OPSD	118.31	114.66

- OFFSETS ARE FROM CONTROL LINE TO CENTRE OF STRUCTURE
 - SLF DENOTES SELF LEVEL FRAME

STATION	OFFSET	FITTING	TOP OF WATERMAIN ELEVATION
1+293.88	3.13 RT	254 45° HOR. BEND	116.61
1+294.88	2.14 RT	254 45° VER. BEND	116.58
1+296.21	0.78 RT	254 45° VER. BEND	115.25
1+299.85	2.89 LT	254 45° VER. BEND	115.25
1+300.95	4.05 LT	254 45° VER. BEND	116.35
1+306.45	9.54 LT	254 45° HOR. BEND	116.20
1+316.50	9.50 LT	254 45° HOR. BEND	115.87
1+317.75	10.73 LT	254 45° HOR. BEND	115.83

THRUST BLOCKS AND RESTRAINT JOINTS SHALL BE IN ACCORDANCE WITH OPSD 1103.010, 1103.020, 1103.021 CATHODIC PROTECTION PER OPSD 1109.011, 1109.025 INSULATION FOR WATERMANS PER OPSD 1109.030 WATERMAIN MATERIALS: PVC, CL 150, DR-18