



PUMP STATION 2

(A) BENDING SCHEDULE												
SEWER PUMP STATION NO. 2												
ELEMENT: SCREENING CHANNEL												
MARK	TYPE & DIA	NO. PER UNIT	TOTAL NO.	LENGTH (mm)	TOTAL LENGTH	MASS (tons)	SHAPE CODE	A	B	C	D	E/R
01	Y12	9	18	2600	46800	0.0416	38	1200	175	1200		
02	Y12	9	18	3200	57600	0.0511	20	3200				
03	Y12	18	36	2600	93600	0.0831	38	1200	175	1200		
04	R8	10	10	1000	10000	0.0089	83	300	180	100		
05	Y12	36	36	1900	68400	0.0607	38	850	175	850		
06	Y12	8	8	4500	36000	0.0320	20	4500				
07	Y12	2	4	2000	8000	0.0071	99	600	400	300	600	
08	Y12	2	4	1800	7200	0.0114	99	400	300	300	600	
09	Y12	2	4	1600	6400	0.0057	99	450	450	600		
10	Y12	2	4	1500	6000	0.0053	99	400	400	600		
ELEMENT: INLET WORKS FLOOR												
MARK	TYPE & DIA	NO. PER UNIT	TOTAL NO.	LENGTH (mm)	TOTAL LENGTH	MASS (tons)	SHAPE CODE	A	B	C	D	E/R
12	Y12	40	40	1900	76000	0.0675	38	850	175	850		
13	Y12	34	68	3600	244800	0.2174	38	1700	175	1700		
14	Y12	18	36	8200	295200	0.2621	20	8200				
15	Y12	20	40	2400	96000	0.0852	38	1100	175	1100		
16	Y12	5	10	3200	32000	0.0284	20	3200				
17	Y12	27	54	3600	194400	0.1726	20	3600				
18	R8	40	40	1000	40000	0.0158	83	300	100			
ELEMENT: INLET WORKS WALLS												
MARK	TYPE & DIA	NO. PER UNIT	TOTAL NO.	LENGTH (mm)	TOTAL LENGTH	MASS (tons)	SHAPE CODE	A	B	C	D	E/R
20	Y12	50	50	1975	98750	0.0877	38	900	175			
21	Y12	50	50	1975	98750	0.0877	38	900	175			
22	Y12	7	28	2200	61600	0.0547	38	1000	175			
23	Y12	7	28	1600	44800	0.0390	20	1600				
24	Y12	7	28	6150	172200	0.1529	20	6150				
25	R8	50	50	400	20000	0.4308	35	100	175	100		
TOTAL MASS (tons) OF STEEL						1.5720						



BENDING SCHEDULE										
STRUCTURE: BEAMS (GB1), (GB2), (GB3), (GB4)										
TYPE & DIA	MARK	NO/UNIT	TOTAL LENGTH	CODE	TOTAL LENGTH	DIMENSIONS				
						Ann	Beam	Conn	D/Plat	
Y12	01	2	8	4800	35	39200	4800	150		
Y12	02	2	8	4900	35	39200	4800	150		
RB	03	15	60	1500	80	90000	450	250		

STRUCTURE: BEAM (GB5), (GB6), (GB7)										
TYPE & DIA	MARK	NO/UNIT	TOTAL LENGTH	CODE	TOTAL LENGTH	DIMENSIONS				
						Ann	Beam	Conn	D/Plat	
Y12	04	2	8	8350	35	38100	8050	150		
Y12	05	2	8	8350	35	38100	8050	150		
RB	06	22	66	1500	80	90000	450	250		

STEEL LAYOUT AS ABOVE

STRUCTURE: RING BEAM 1										
TYPE & DIA	MARK	NO/UNIT	TOTAL LENGTH	CODE	TOTAL LENGTH	DIMENSIONS				
						Ann	Beam	Conn	D/Plat	
Y12	07	2	2	4900	35	9800	4800			
Y12	08	2	2	4900	35	9800	4800			
Y12	09	2	2	2950	35	6900	2850			
RB	10	15	15	2200	80	33000				
Y12	11	2	2	1650	35	3300	1350			

STRUCTURE: RING BEAM 2										
TYPE & DIA	MARK	NO/UNIT	TOTAL LENGTH	CODE	TOTAL LENGTH	DIMENSIONS				
						Ann	Beam	Conn	D/Plat	
Y12	12	2	2	4900	35	9800	4800			
Y12	13	2	2	4900	35	9800	4800			
RB	14	15	15	1000	60	15000	280	160		

STRUCTURE: PUMP PLINTHS										
TYPE & DIA	MARK	NO/UNIT	TOTAL LENGTH	CODE	TOTAL LENGTH	DIMENSIONS				
						Ann	Beam	Conn	D/Plat	
Y12	15	5	15	1450	35	21750	1150			
Y12	16	5	15	1450	35	21750	1150			
RB	17	5	15	950	83	14250	250	250	100	100
Y12	18	7	21	1100	35	23100	800			
Y12	19	7	21	1100	35	23100	800			

STRUCTURE: FLOOR SLAB - MESH REF. No.245 = 30.0m²



BENDING SCHEDULE												
PUMPSTATION NO. 2: SUMP												
ELEMENT: SUMP FLOOR												
MARK	TYPE & DIA	NO. PER UNIT	TOTAL NO.	LENGTH (mm)	TOTAL LENGTH	MASS (tons)	SHAPE CODE	A	B	C	D	E/R
01	Y12	38	144	2400	345600	0.3070	38	1100	175	1100		
02	Y12	72	72	8750	630000	0.5590	20	8750				
03	Y12	82	82	8750	717500	0.6380	20	14700				
04	R8	80	80	880	68800	0.0272	83	300	180	100	100	
ELEMENT: SUMP WALLS												
MARK	TYPE & DIA	NO. PER UNIT	TOTAL NO.	LENGTH (mm)	TOTAL LENGTH	MASS (tons)	SHAPE CODE	A	B	C	D	E/R
05	Y12	36	180	2400	432000	0.3840	38	1100	175	1100		
06	Y12	36	180	2400	432000	0.3840	38	1100	175	1100		
07	Y12	38	190	8750	1662500	1.4760	20	8750				
08	Y12	36	180	3550	639000	0.5670	20	3550				
12	R8	6	30	550	16500	0.0085	35	100	175	100		
ELEMENT: COVER SLAB (PRE-STRESSED HOLLOW CORE)												
TOTAL MASS (tons) OF STEEL						4.349						

BENDING SCHEDULE												
INLET WORKS STAIRCASE												
ELEMENT: STAIRCASE AND LANDING												
MARK	TYPE & DIA	NO. PER UNIT	TOTAL NO.	LENGTH (mm)	TOTAL LENGTH	MASS (tons)	SHAPE CODE	A	B	C	D	E/R
01	Y10	7	7	1650	11550	0.0071	45	1000	300	350		
02	Y10	7	7	3900	27300	0.0168	62	1800	900	1200		
03	Y10	7	7	1100	7700	0.0048	35	900				
04	Y10	12	12	1150	13800	0.0085	35	950				
05	Y10	9	9	1150	40250	0.0241	35	950				
10	R8	6	6	500	3000	0.0012	83	200	100	100	100	
11	R8	2	2	500	1000	0.0004	83	200	100	100	100	
TOTAL MASS (tons) OF STEEL						0.2141						



BENDING SCHEDULE												
PUMPSTATION NO. 2												
STRUCTURE: BEAMS (GB1), (GB2)												
MARK	TYPE & DIA	NO. PER UNIT	TOTAL NO.	LENGTH (mm)	TOTAL LENGTH	MASS (tons)	SHAPE CODE	A	B	C	D	E/R
01	Y12	2	4	2250	9000	0.008	35	1850				
02	Y12	2	4	2250	9000	0.008	35	1850				
03	RB	8	16	1500	24000	0.0095	60	450	250			
STRUCTURE: BEAMS (GB3) [3]												
MARK	TYPE & DIA	NO. PER UNIT	TOTAL NO.	LENGTH (mm)	TOTAL LENGTH	MASS (tons)	SHAPE CODE	A	B	C	D	E/R
04	Y12	2	2	3250	6500	0.0058	35	1850				
05	Y12	2	2	3250	6500	0.0058	35	1850				
06	RB	13	13	1500	19500	0.0077	60	450	250			
MESH REF. 183 - 5.76m ²						0.0110						
TOTAL MASS (tons) OF STEEL						0.0688						



PUMP STATION 4

BENDING SCHEDULE												
PUMPSTATION NO. 4												
STRUCTURE: BEAMS (BB1), (BB2)												
MARK	TYPE & DIA	NO. PER UNIT	TOTAL NO.	LENGTH (mm)	TOTAL LENGTH	MASS (tons)	SHAPE CODE	A	B	C	D	E/R
01	Y12	2	4	2250	9000	0.008	35	1850				
02	Y12	2	4	2250	9000	0.008	35	1850				
03	R8	6	16	1500	24000	0.0095	60	450	250			
STRUCTURE: BEAMS (BB3) (B)												
MARK	TYPE & DIA	NO. PER UNIT	TOTAL NO.	LENGTH (mm)	TOTAL LENGTH	MASS (tons)	SHAPE CODE	A	B	C	D	E/R
04	Y12	2	2	3250	6500	0.0058	35	1850				
05	Y12	2	2	3250	6500	0.0058	35	1850				
06	R8	13	13	1500	19500	0.0077	60	450	250			
MESH REF. 183 - 5.75m ²						0.0110						
TOTAL MASS (tons) OF STEEL						0.0808						

(A) BENDING SCHEDULE												
INLET WORKS STAIRCASE												
ELEMENT: STAIRCASE AND LANDING												
MARK	TYPE & DIA	NO. PER UNIT	TOTAL NO.	LENGTH (mm)	TOTAL LENGTH	MASS (tons)	SHAPE CODE	A	B	C	D	E/R
01	Y10	7	7	1650	11550	0.0071	45	1000	300	350		
02	Y10	7	7	3900	27300	0.0168	62	1800	900	1200		
03	Y10	7	7	1100	7700	0.0048	35	900				
04	Y10	12	12	1150	13800	0.0085	35	950				
05	Y10	9	9	1150	40250	0.0241	35	950				
10	R8	6	6	500	3000	0.0012	83	200	100	100	100	
11	R8	2	2	500	1000	0.0004	83	200	100	100	100	
TOTAL MASS (tons) OF STEEL						0.2141						



BENDING SCHEDULE										
STRUCTURE: BEAMS (GB1), (GB2), (GB3), (GB4)										
TYPE & DIA	MARK	NO/UNIT	TOTAL LENGTH	CODE	TOTAL LENGTH	DIMENSIONS				
						Ann	Beam	Con	D/Plate	
Y12	01	2	8	4800	35	39200	4800	150		
Y12	02	2	8	4900	35	39200	4800	150		
RB	03	15	60	1500	60	90000	450	250		
STRUCTURE: BEAM (GB5), (GB6), (GB7)										
TYPE & DIA	MARK	NO/UNIT	TOTAL LENGTH	CODE	TOTAL LENGTH	DIMENSIONS				
						Ann	Beam	Con	D/Plate	
Y12	04	2	8	6350	35	38100	6050	150		
Y12	05	2	8	6350	35	38100	6050	150		
RB	06	22	66	1500	60	90000	450	250		
STEEL LAYOUT AS ABOVE										
STRUCTURE: RING BEAM 1										
TYPE & DIA	MARK	NO/UNIT	TOTAL LENGTH	CODE	TOTAL LENGTH	DIMENSIONS				
						Ann	Beam	Con	D/Plate	
Y12	07	2	2	4900	35	9800	4800			
Y12	08	2	2	4900	35	9800	4800			
Y12	09	2	2	2950	35	5900	2850			
RB	10	15	15	2200	60	33000				
Y12	11	2	2	1650	35	3300	1350			
STRUCTURE: RING BEAM 2										
TYPE & DIA	MARK	NO/UNIT	TOTAL LENGTH	CODE	TOTAL LENGTH	DIMENSIONS				
						Ann	Beam	Con	D/Plate	
Y12	12	2	2	4900	35	9800	4800			
Y12	13	2	2	4900	35	9800	4800			
RB	14	15	15	1000	60	9000	280	160		
STRUCTURE: PUMP PLINTHS										
TYPE & DIA	MARK	NO/UNIT	TOTAL LENGTH	CODE	TOTAL LENGTH	DIMENSIONS				
						Ann	Beam	Con	D/Plate	
Y12	15	5	15	1450	35	21750	1150			
Y12	16	5	15	1450	35	21750	1150			
RB	17	5	15	950	63	14250	250	250	100	100
Y12	18	7	21	1100	35	23100	800			
Y12	19	7	21	1100	35	23100	800			
STRUCTURE: FLOOR SLAB - MESH REF. No. 245 = 30.0m ²										



BENDING SCHEDULE												
SEWER PUMP STATION NO.											4	
ELEMENT: SCREENING CHANNEL												
MARK	TYPE & DIA	NO. PER UNIT	TOTAL NO.	LENGTH (mm)	TOTAL LENGTH	MASS (tons)	SHAPE CODE	A	B	C	D	E/R
01	Y12	9	18	2600	46800	0.0416	38	1200	175	1200		
02	Y12	9	18	3200	57600	0.0511	20	3200				
03	Y12	18	36	2600	93600	0.0831	38	1200	175	1200		
04	R8	10	10	1000	10000	0.0089	83	300	180	100		
05	Y12	36	36	1900	68400	0.0607	38	850	175	850		
06	Y12	8	8	4500	36000	0.0320	20	4500				
07	Y12	2	4	2000	8000	0.0071	99	600	400	300	600	
08	Y12	2	4	1800	7200	0.0114	99	400	300	300	600	
09	Y12	2	4	1600	6400	0.0057	99	450	450	600		
10	Y12	2	4	1500	6000	0.0053	99	400	400	600		
ELEMENT: INLET WORKS FLOOR												
MARK	TYPE & DIA	NO. PER UNIT	TOTAL NO.	LENGTH (mm)	TOTAL LENGTH	MASS (tons)	SHAPE CODE	A	B	C	D	E/R
12	Y12	40	40	1900	76000	0.0675	38	850	175	850		
13	Y12	34	68	3600	244800	0.2174	38	1700	175	1700		
14	Y12	18	36	8200	295200	0.2621	20	8200				
15	Y12	20	40	2400	96000	0.0852	38	1100	175	1100		
16	Y12	5	10	3200	32000	0.0284	20	3200				
17	Y12	27	54	3600	194400	0.1726	20	3600				
18	R8	40	40	1000	40000	0.0158	83	300	100			
ELEMENT: INLET WORKS WALLS												
MARK	TYPE & DIA	NO. PER UNIT	TOTAL NO.	LENGTH (mm)	TOTAL LENGTH	MASS (tons)	SHAPE CODE	A	B	C	D	E/R
20	Y12	50	50	1975	98750	0.0877	38	900	175			
21	Y12	50	50	1975	98750	0.0877	38	900	175			
22	Y12	7	28	2200	61600	0.0547	38	1000	175			
23	Y12	7	28	1600	44800	0.0390	20	1600				
24	Y12	7	28	6150	172200	0.1529	20	6150				
25	R8	50	50	400	20000	0.4308	35	100	175	100		
TOTAL MASS (tons) OF STEEL						1.5720						



BENDING SCHEDULE												
PUMPSTATION NO. 4 SUMP												
ELEMENT: SUMP FLOOR												
MARK	TYPE & DIA	NO. PER UNIT	TOTAL NO.	LENGTH (mm)	TOTAL LENGTH	MASS (tons)	SHAPE CODE	A	B	C	D	E/R
01	Y12	36	144	2400	345600	0.3070	38	1100	175	1100		
02	Y12	72	72	8750	630000	0.5590	20	8750				
03	Y12	82	82	8750	717500	0.8380	20	14700				
04	RB	80	80	860	68800	0.0272	83	300	180	100	100	
ELEMENT: SUMP WALLS												
MARK	TYPE & DIA	NO. PER UNIT	TOTAL NO.	LENGTH (mm)	TOTAL LENGTH	MASS (tons)	SHAPE CODE	A	B	C	D	E/R
05	Y12	36	180	2400	432000	0.3840	38	1100	175	1100		
06	Y12	36	180	2400	432000	0.3840	38	1100	175	1100		
07	Y12	38	190	8750	1662500	1.4760	20	8750				
08	Y12	36	180	3550	639000	0.5670	20	3550				
12	RB	6	30	550	16500	0.0065	35	100	175	100		
ELEMENT: COVER SLAB (PRE-STRESSED HOLLOW CORE)												
TOTAL MASS (tons) OF STEEL						4.349						

RESIDENT ENGINEER:

DATE:06/11/2019