

QTY	MODEL	MOTOR POWER	POWER SUPPLY	CAPACITY • TDH	WEIGHT
2	XYLEM NSW (6X6X14) VERTICAL END SUCTION CENTRIFUGAL PUMPS OR APPROVED EQUAL	25 HP EACH	600V 3 PHASE / 60 HZ.	85 LS @ 15.5M EACH	1011 Kg INCL. MOTOR

ITEM	QUANTITY	DESCRIPTION	FINISH
1	2	3048mm I.D. FR.P. WELL	-
2	2	150 x 200mm ELBOW	S.S.
3	2	VERTICAL END SUCTION CENTRIFUGAL PUMP	-
4	2	250mm PLUG VALVE	EPOXY
5	2	250mm SUCTION PIPE C/W INTEGRAL WALL SLEEVES	FR.P.
6	1	100mm PIPE C/W INTEGRAL WALL SLEEVES	FR.P.
7	3	200mm PLUG VALVE	EPOXY
8	2	200mm SWING-FLEX CHECK VALVE	EPOXY
9	1	50mm BALL VALVE	S.S.
10	1	PRESSURE GAUGE, DIAPHRAGM, FLUSH OUT	-
11	1	50mm BALL VALVE WITH FEMALE CONNECTION	S.S.
12	1	50mm COMBINATION AIR VALVE, THREADED	S.S.
13	2	250mm x 150mm ECCENTRIC REDUCER, TOP FLAT	S.S.
14	2	200mm 90° ELBOW	S.S.
15	2	200mm x 200mm x 200mm TEE	S.S.
16	1	200mm MAGNETIC FLOW METER	S.S.
17	1	50mm PIPE C/W INTEGRAL WALL SLEEVES	FR.P.
18	1	200# PREFABRICATED WALL SLEEVE, INTEGRAL WITH WALL	FR.P.
19	1	450# PREFABRICATED WALL SLEEVE, INTEGRAL WITH WALL	FR.P.
20	1	ELECTRICAL OUTLET, 120V, 15A	FR.P.
21	-	300 H.D.P.E. FORCEMAIN (BY OTHERS)	H.D.P.E.
22	-	200mm H.D.P.E. PUMP STATION DISCHARGE LINE	H.D.P.E.
23	-	450mm GRAVITY SEWER MAIN	PVC
24	1	SUMP PUMP	-
25	1	200 x 300mm ECCENTRIC INCREASER, TOP FLAT	S.S.
26	1	450 x 450mm SLIDE GATE	S.S.
27	2	FALL ARREST SOCKET (1 WALL MOUNT & 1 C.I.P.)	G.
28	1	LEVEL SENSOR HANGER	S.S.
29	6	SWAY CONTROL RING	S.S.
30	3	LEVEL FLOAT SWITCH	-
31	1	SLIDE GATE STEM C/W SQUARE OPERATING NUT AND STEM GUIDES	S.S.
32	1	VALVE BOX (LOCKABLE)	AL.
33	2	ACCESS LADDER-MARINE GRADE	AL.
34	2	EXTERIOR HAND-HOLD	AL.
35	2	INTERMEDIATE PLATFORM	FR.P.
36	2	ACCESS HATCH ASSEMBLY WITH RUBBERSEAL (FROM THE WELLS SUPPLIER)	AL.
37	2	150# GOOSENECK PIPE AIR VENT C/W SCREENED OPENING	G.
38	1	150# VENT PIPE	PVC
39	10	50mm THREADED ELECTRICAL CONNECTIONS	PVC
40	4	EXPLOSION PROOF LIGHT	-
41	-	ALUMINUM CHECKERED PLATE	AL.
42	1	DP LEVEL TRANSMITTER	-
43	1	MASTER LAMINATED LOCK KEYED ALIKE	-
44	-	200mm PIPE	S.S.
45	1	2 TONS PUSH TROLLEY ELECTRIC CHAIN HOIST	FR.P.
46	1	38# FLEXIBLE PIPE	FR.P.
47	1	100mm PLUG VALVE	EPOXY
48	-	38mm PIPE	COPPER
49	6	38mm BALL VALVE (TYPICAL)	S.S.
50	-	200mm HDPE EXHAUST DUCT	H.D.P.E.
51	-	200 FRESH AIR DUCT	PVC
52	1	EXHAUST FAN	-
53	-	50mm CHECK VALVE	BR.
54	-	38mm CHECK VALVE	BR.
55	-	WATER METER	-
56	-	FLOOR DRAIN @ 50# PVC DWV	PVC
57	1	38# DOUBLE CHECK VALVES BACK FLOW PREVENTER C/W ISOLATION VALVES	EPOXY
58	3	200# UNIFLANGE	S.S.

### INSTALLATION PROCEDURES

- CONTRACTOR TO PROVIDE TEMPORARY SHORING AND DEWATERING AS REQUIRED FOR LIFT STATION EXCAVATION / INSTALLATION / BACKFILLING.
- USE THE LIFTING LUGS PROVIDED FOR VERTICAL HANDLING.
- USE SLINGS AROUND THE MAIN TANK FOR HORIZONTAL HANDLING.
- ENSURE UNIT IS STANDING VERTICAL ON CONCRETE PAD.
- BOLT UNIT FIRMLY AND SQUARELY IN PLACE, PROVIDE SELF LEVELLING GROUT WHERE REQUIRED.
- ENCASE LOWER RIBS IN CONCRETE AS RECOMMENDED BY STATION FABRICATOR TO PROVIDE ANCHORAGE.
- MAINTAIN A DRY SITE UNTIL BACKFILLING OPERATIONS COMMENCE.
- USE COMPACTED GRANULAR AS BACKFILL MATERIAL COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- PLACE THE BACKFILL IN EQUAL INCREMENTS NOT EXCEEDING 300MM THICK AROUND THE STATION TO PREVENT UNBALANCED LOADS BEING IMPOSED DURING BACKFILLING OPERATIONS. PROGRESSIVELY TAMP BACKFILL AROUND STATION TO FULL HEIGHT TO REDUCE SETTLEMENT TO AN ABSOLUTE MINIMUM. PROVIDE COMPACTED GRANULAR TO FULL STATION HEIGHT.
- BACKFILL WITH NATIVE FILL BEYOND 600mm FROM STATION WALLS.

### REINFORCING

- ALL REINFORCING SHALL BE DEFORMED BARS WITH A MINIMUM SPECIFIED YIELD STRENGTH OF 400MPA OR EQUAL IN ACCORDANCE WITH THE LATEST CSA G30.18 AND B7
- CONCRETE COVER TO REINFORCING TO BE 50MM CLEAR
- ALL SPLICES TO BE CLASS "B" MINIMUM
- SUBMIT SHOP DRAWINGS FOR REVIEW
- 15M VERTICALS SHALL BE EPOXY COATED
- TOUCH UP ALL DAMAGED EPOXY REBAR COATING PRIOR TO CONCRETING

### FABRICATION DESIGN STANDARDS

- XYLEM SPECIFICATION GE-1008-04
- AMEC 45-10.01 MANUFACTURE AND INSTALLATION FOR FRP STRUCTURES
- AMEC 45-10.02 FRP PRESSURE PIPE, FITTINGS AND FLANGES
- ASTM #3299 FOR FILAMENT WOUND TANKS
- CANADIAN GOVERNMENT STANDARD 41-GP-22
- THE LIFT STATION MANUFACTURER IS RESPONSIBLE FOR DESIGN OF TANK ANCHORAGE WITHIN THE CONCRETE. THE HEIGHT OF CONCRETE CURB IS TO BE SPECIFIED BY THE LIFT STATION MANUFACTURER TO PREVENT SEPARATION OF WET WELL FROM CONCRETE BASE.

### CONCRETE

- CEMENT: TYPE HS
  - MAXIMUM COARSE AGGREGATE: 20MM
  - MIN. COMPRESSIVE STRENGTH AT 28 DAYS: 30MPA
  - CLASS OF EXPOSURE: S-1
  - MAX. SLUMP: 80MM±30MM
  - AIR CONTENT: 4-7%
- NOTE: NO FLY ASH PERMITTED
- SUBMIT DESIGN TO CONTRACT ADMINISTRATOR FOR REVIEW 14 DAYS PRIOR TO CASTING CONCRETE
- PERFORM ALL CONCRETE WORK TO LATEST CSA A23.1

AL = ALUMINUM	EPOXY = EPOXY COATED STEEL
G = GALVANIZED	S.S. = STAINLESS STEEL
C.I. = CAST IRON	PVC = POLYVINYL CHLORIDE
FR.P. = FIBER REINFORCED PLASTIC	H.D.P.E. = HIGH DENSITY POLYETHYLENE
F.E.E. = FLANGED EACH END	BR. = BRASS

NOTE: ALL CAST IRON FITTINGS TO BE EPOXY COATED

- ### NOTES
- WELD OR FLANGE PIPE FITTING AS SHOWN
  - PROVIDE MINIMUM 75mm CLEARANCE BETWEEN PUMPS AND ACCESS HATCH FRAMING
  - SWAY CONTROL RINGS TO BE 150mm ABOVE LEVEL REGULATORS
  - FR.P. WALL SLEEVES BY STATION FABRICATOR
  - COMPACTED GRANULAR FILL SHALL BE ONE OF:
    - PEA GRAVEL NO LARGER THAN 18mm WITH NO MORE THAN 5% PASSING THROUGH A #8 SIEVE
    - WASHED CRUSHED STONE NO LARGER THAN 13mm WITH NO MORE THAN 5% PASSING THROUGH A #8 SIEVE
  - COLOR INSIDE: WHITE
  - ALL BOLTING SHALL BE STAINLESS STEEL
  - RIB DESIGN AND LOCATION TO BE BY THE SUPPLIER
  - DRY WELL WILL HAVE FRP TOP UNDER THE CONCRETE FLOOR. DRY WELL TO BE ABLE TO SUPPORT TOP CONCRETE DEAD LOAD AND 7.5 KPa LIVE LOAD.
  - CONTRACTOR WILL COORDINATE WITH THE SEWERS CONTRACTOR FOR CONNECTION TO THE PUMP STATIONS INCOMING & DISCHARGE LINES.
  - PROVIDE APPROPRIATE SUPPORT TO THE PIPES AND EQUIPMENT WHEREVER REQUIRED.
  - PLUG VALVES SHALL BE INSTALLED IN SUCH ORIENTATION THAT THEY CAN BE EASILY OPERATED AND FULLY OPENED.
  - PROVIDE SUPPORT TO THE PIPE AS SHOWN IN DETAIL 3, DRAWING NO. D-501
  - PUSH TROLLEY ELECTRIC CHAIN HOIST (2 TONS) WILL BE PROVIDED WITH STAINLESS STEEL CHAIN (15m) TO LIFT THE PUMPS FROM THE DRY WELL TO THE SUPERSTRUCTURE.
  - CONTRACTOR TO COORDINATE WITH THE CITY FOR NAMING/TAGGING THE EQUIPMENT

**A SECTION**  
P101 1:30

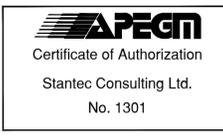
### METRIC

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 140/92 FOR DETAILS



NO.	REVISIONS	DATE	BY
3	ISSUED FOR ADDENDUM # 1	16.01.19	M.H.
2	ISSUED FOR TENDER	15.12.23	M.H.
1	ISSUED FOR 95% REVIEW	15.12.04	M.H.

**LOCATION APPROVED UNDERGROUND STRUCTURES**

SUPV. U/G STRUCTURES COMMITTEE DATE

**Stantec**  
500 - 311 Portage Avenue, Winnipeg MB Canada R3B 2B9  
Tel. 204.489.5900 Fax. 204.453.9012 www.stantec.com

DESIGNED BY: M.H.	CHECKED BY: R.G.
DRAWN BY: K.R.	APPROVED BY: C.L.D.

HOR. SCALE: AS. NOTED  
VERTICAL: RELEASED FOR CONSTRUCTION:

DATE: 2015.11.10

CONSULTANT DRAWING NO. P-101

**THE CITY OF WINNIPEG**  
PLANNING, PROPERTY & DEVELOPMENT

ST. BONIFACE INDUSTRIAL PARK PHASE 2  
**WASTEWATER PUMPING STATION**  
PLAN AND SECTIONS

SHEET 1 OF 1  
CAD FILE DRAWING NUMBER: 09351d-101-846.DWG  
CITY DRAWING NUMBER: I-0215L-PO101-001