SHEET: COW-A1 (05/2005)

GENERAL NOTES

1. READ THE STRUCTURAL DRAWINGS IN CONJUNCTION WITH ALL OTHER PERTINENT CONTRACT DOCUMENTS. IN THE EVENT OF A CONFLICT, THE SPECIFICATIONS SHALL GOVERN.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE. DO NOT SCALE DRAWINGS. ALL INFORMATION CONCERNING EXISTING STRUCTURES HAVE BEEN TAKEN FROM ORIGINAL DRAWINGS AND SITE MEASUREMENTS. CONTRACTOR TO CONFIRM ON SITE ALL EXISTING DIMENSIONS, ELEVATIONS AND DETAILS PRIOR TO COMMENCING WORK. SHOULD INFORMATION DIFFER SIGNIFICANTLY FROM THAT SHOWN, CONTACT THE ADMINISTRATOR PRIOR TO PROCEEDING.
3. THE DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF CANADA 1995, ITS SUPPLEMENTS AND THE LATEST EDITIONS (UNLESS OTHERWISE NOTED) OF REFERENCED CODES AND STANDARDS THEREIN. WATER RETAINING STRUCTURES HAVE BEEN DESIGNED IN ACCORDANCE WITH ACI 350-01.
4. REFER TO THE ARCHITECTURAL, PROCESS MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS AND DIMENSIONS OF OPENINGS, SLEEVES AND OTHER BUILDING COMPONENTS NOT SHOWN ON THE STRUCTURAL DRAWINGS. REPORT DISCREPANCIES TO THE ADMINISTRATOR BEFORE PROCEEDING WITH CONSTRUCTION.
5. NOTIFY THE ADMINISTRATOR A MINIMUM 48 HOURS IN ADVANCE FOR ANY SITE REVIEWS.
6. VERIFY LOCATION OF ALL UNDERGROUND SERVICES PRIOR TO COMMENCING CONSTRUCTION AND BE RESPONSIBLE FOR DISRUPTIONS.

DESIGN LOADS:

1. DEAD LOADS:
   - .1) STRUCTURE SELF WEIGHT
   - .2) ROOFING = 1.0 kPa
   - .3) MECHANICAL & ELECTRICAL LOADS (SUSPENDED FROM JOIST) 1.2 kPa
   - MAX. CONCENTRATED LOAD AT ANY PANEL POINTS UNLESS OTHERWISE NOTED ON STRUCT./MECH. DWG'S 1.3 kN
2. LIVE LOADS
   - .1) GROUND SNOW LOAD – Ss = 1.7 kPa, Sr = 0.2 kPa MODIFY FOR EXPOSURE AND DRIFT AS PER NBC 1995.
   - .2) RAIN LOAD: 0.0 kPa AT PARAPETS VARYING UNIFORMLY TO 0.5 kPa AT DRAINS
   - .3) WIND q(1/30) = 0.42 kPa
   - .4) MAIN FLOOR U/N = 4.8 kPa
   - .5) STAIRS & LANDINGS = 4.8 kPa
   - .6) CATWALK = 4.8 kPa
   - .7) MECHANICAL UNITS = SEE DRAWINGS

FOUNDATION NOTES

1. GENERAL
   - .1 ALL FOUNDATION CONSTRUCTION TO BE IN REFERENCE TO THE IN THE GEOTECHNICAL REPORT BY DYREGROV CONSULTANTS, DATED SEPTEMBER 27, 2005.
   - .2 CONSTRUCTION METHODS REQUIRING TEMPORARY SHORING, OR BRACING, SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. THE CONTRACTOR SHALL RETAIN A PROFESSIONAL ENGINEER, REGISTERED IN THE PROVINCE OF MANITOBA, TO PERFORM AND TAKE RESPONSIBILITY FOR ANY SHORING OR OTHER DESIGNS REQUIRED TO COMPLETE THE CONSTRUCTION.
2. PRECAST PILE FOUNDATION NOTES:
   - .1 BUILDING FOUNDATIONS ARE DESIGNED AS DRIVEN, END BEARING, PRESTRESSED PRECAST CONCRETE PILES WITH THE FOLLOWING DESIGN CAPACITY:
     - 300 DIAMETER = 445kN
     - 350 DIAMETER = 625kN
     - 400 DIAMETER = 800kN
   - .2 SEE PILE SCHEDULE FOR PREBORING.

CONCRETE NOTES

1. PROVIDE CONCRETE AND PERFORM WORK TO CSA A23.1-00, TEST CONCRETE TO CSA A23.2-00. THE CONTRACTOR SHALL HAVE A COPY OF THESE STANDARDS ON SITE AT ALL TIMES.
2. PROVIDE 20mm CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
3. ALL STRUCTURAL CONCRETE STRENGTH REFER TO SPECS
4. CHEMICAL BUILDING ONLY – APPLY SPECIAL COATING TO CONCRETE FLOOR AND INTERIOR FACE OF CONC. WALLS. SEE SPECS.

MASONRY NOTES

1. ALL MASONRY WORK SHALL CONFORM TO CSA S304.1, A371 AND TO DETAILS SHOWN ON DRAWINGS.
2. MASONRY BLOCK UNITS SHALL CONFORM TO CSA A165. CLASSIFICATION H/15/A/M.
3. ALL MORTAR SHALL CONFORM TO CSA A179 AND SHALL BE TYPE 'S'.
4. ALL LINTELS, BOND BEAMS, AND PILASTERS SHALL BE FILLED WITH CONCRETE HAVING A MINIMUM COMPRESSIVE STRENGTH OF 25 MPa.
5. PROVIDE DOWELS FROM CONCRETE BEAMS OR WALLS TO MATCH MASONRY REINFORCING.

STRUCTURAL & MISC. STEEL NOTES

1. FABRICATE AND ERECT STRUCTURAL STEEL TO CSA-S16.1.
2. PROVIDE STRUCTURAL STEEL SHAPES AND PLATES TO CSA-G40.21, GRADE 350W.
3. STEEL PLATES AND SECTIONS: CONFORMING TO CSA G40.21; TYPE W WITH A MINIMUM YIELD STRENGTH OF 300 MPa.
4. HOLLOW STRUCTURAL SECTIONS: CONFORMING TO CSA G40.21; TYPE W WITH A MINIMUM YIELD STRENGTH OF 350 MPa.
5. ANCHOR BOLTS: CONFORMING TO ASTM A307.
6. WELDING MATERIALS: CONFORMING TO CSA W59.
7. WELDING OF ALL LOAD CARRYING ASSEMBLIES IS TO BE PERFORMED BY A FIRM CERTIFIED BY THE CANADIAN WELDING BUREAU TO THE REQUIREMENTS OF CSA W47.1 IN DIVISION 1 OR DIVISION 2.1.
8. GROUT: NON-SHRINK, NON-METALLIC, 35 MPa AT 28 DAYS.
9. SUPPLY ALL COMPONENTS REQUIRED FOR PROPER ANCHORAGE OF MISCELLANEOUS METALS. FABRICATE ANCHORAGE AND RELATED COMPONENTS OF SAME MATERIAL AND FINISH AS METAL FABRICATIONS, UNLESS OTHERWISE SPECIFIED OR SHOWN.
10. GALVANIZING CONFORMING TO CSA G164.
11. CLEAN ALL STEEL PRIOR TO PRIMING TO SSPC SURFACE PREPARATION SPECIFICATION No. 7 "BRUSH-OFF BLAST CLEANING".
12. PRIME STEEL SURFACES WITH ONE COAT OF PRIMER TO CISC/CPMA 2-75.
13. SEE SPECS FOR SPECIAL COATING OCCURRING BELOW ELEV. 231.128 FOR CHEMICAL BUILDING AND STAIRS AND LANDING FOR RAILCAR SHELTER.

OPEN WEB STEEL JOIST NOTES

1. DESIGN AND FABRICATE OPEN WEB STEEL JOISTS TO CSA S16.1 FOR DEPTHS, DETAILS, AND LOADING SHOWN ON THE DRAWINGS. REFER TO DRAWINGS FOR WEIGHT AND LOCATION OF MECHANICAL EQUIPMENT AND CONFIRM WITH MECHANICAL CONTRACTOR. DESIGN AND SUPPLY STEEL FRAMING FOR EQUIPMENT SUPPORT.
2. PROVIDE PERMANENT BRIDGING FOR ALL JOISTS IN ACCORDANCE WITH CSA S16, UNLESS NOTED OTHERWISE.

STEEL DECKING NOTES

1. DESIGN, FABRICATE AND INSTALL STEEL DECK TO CSA-S136 AND THE CANADIAN SHEET STEEL BUILDING INSTITUTE STANDARDS AND FACTORY MUTUAL STANDARDS 4451.
2. DECKING PROFILE: 38mm DEEP, MINIMUM 0.76mm (22Ga), OR AS SHOWN ON THE DRAWINGS, ZINC COATED STEEL CONFORMING TO ASTM A446. ZINC COATING TO ASTM A525 WIPE COAT 75 g/square meter FOR INTERIOR EXPOSURE OR 275 g/square meter FOR EXTERIOR EXPOSURE.
3. WELD DECK TO SUPPORTING STEEL WITH 20mm DIAMETER FUSION WELDS USING WELD WASHERS WHERE NECESSARY. SIDE LAPS FASTENED BY BUTTON PUNCHING @ 600 o/c. CLINCHING, TRANSVERSE WELDS, LONGITUDINAL WELDS AND PERIMETER WELDS @ 300 o/c.
4. INSTALL STEEL DECK CONTINUOUS OVER MINIMUM 3 SPANS EXCEPT WHERE OTHERWISE ACCEPTED. THE MINIMUM BEARING IS EQUAL TO THE DEPTH OF THE STEEL DECK, LAP JOINTS 75mm AT STRUCTURAL SUPPORTS. MINIMUM END BEARING ON MASONRY 100.
5. COAT ALL WELDS WITH GALVACON.

REINFORCING STEEL NOTES:

1. DEFORMED BARS CONFORMING TO CSA G30.18 GRADE 400 PLAIN FINISH.
2. REINFORCING WORK SHALL BE IN ACCORDANCE WITH CSA-A23.1 AND CSA-A23.3.
3. REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST REINFORCING STEEL INSTITUTE OF CANADA DETAILING MANUAL OF STANDARD PRACTICE.
4. PROVIDE CLEAR CONCRETE COVER OVER REBAR AS FOLLOWS:
   - a.) BEAM STIRRUPS: 40; MAIN STEEL 50
   - b.) SLABS (TOP & BOTTOM): 50
   - c.) COLUMN TIES: 40; MAIN STEEL 50
   - d.) WALLS: 50
   - e.) CONCRETE FORM AGAINST EARTH (INCLUDING BOTTOM OF SLAB ON GRADE): 75

FRP GRATING:

1. GRATING TO BE MOULDED BI-DIRECTIONAL 38x38x38 HEIGHT.
2. GRATING TO BE MANUFACTURED WITH VINYL ESTER RESINS, MAXIMUM 70% AND MINIMUM 60% GLASS CONTENT BY WEIGHT OF CONTINUOUS ROVING AND CONTINUOUS STRAND MAT.
3. FIBREGLASS REINFORCEMENT, ASTM E84 FLAME SPREAD RATING OF 25 OR LESS
4. LIMIT LIVE LOAD DEFLECTION TO 1/300 OF SPAN.
5. SURFACE TO CONCAVE FINISH.
6. HARDWARE TO STAINLESS STEEL 316.
7. ALL CUTS AND DRILLED HOLES SHALL BE COATED WITH VINYL ESTER RESIN.

STANDARD ABBREVIATIONS:

ADDITIONAL	ADD'L
AT	@
ANCHOR BOLT	A. BOLT
ALTERNATE	ALTER.
ALUMINUM	ALUM.
APPROXIMATE	APPROX.
ARCHITECTURAL	ARCH.
AVERAGE	AVG.
BOTTOM	BOT.
BETWEEN	BET.
BUILDING	BLDG.
BENCH MARK	B.M.
BEARING	BRG.
BY (Between dims)	x (lower case)
CENTERLINE	℄
CAST IN PLACE	C.I.P.
CONCRETE MASONRY UNIT	C.M.U.
CONSTRUCTION JOINT	C.J.
COMPLETE WITH	C/W
COLUMN	COL.
CONCRETE	CONC.
CONTINUOUS	CONT.
DEAD LOAD	D.L.
DIAMETER	DIA.
DOWN	DN.
DRAWING	DWG.
DOWEL	DWL.
EACH FACE	E.F.
EACH	EA.
EACH WAY	E.W.
ELEVATION	EL.
ELECTRICAL	ELEC.
EQUAL	EQ.
EXISTING	EXIST.
EXPANSION JOINT	EXP. J.
EXPANSION	EXP.
EXTERIOR	EXT.
FACE TO FACE	F. to F.
FLOOR	FLR.
FACE OF CONCRETE	F.O.C.
FIBERGLASS REINFORCED	FRP.
FOUNDATION	FDN.
FOOTING	FTG.
GALVANIZE	GALV.
HANGER	HGR.
HORIZONTAL	HORIZ.
HOLLOW STRUCTURAL STEEL	HSS
HEIGHT	HT.
INSIDE FACE	I.F.
INSIDE DIAMETER	I.D.
INTERIOR	INT.
KILONEWTON	kN
K.O. MASORY BLOCK	K.O.
LIVE LOAD	L.L.
LONG	LG.
LOCATION	LOC.
MATERIAL	MATL.
MAXIMUM	MAX.
MEGA PASCAL	MPa
MECHANICAL	MECH.
MILLIMETER	mm
MINIMUM	MIN.
MISCELLANEOUS	MISC.
NUMBER	No.
NOT TO SCALE	N.T.S.
ON CENTER	o/c (lower case)
OUTSIDE FACE	O.F.
OUT TO OUT	O/O
OUTSIDE DIAMETER	O.D.
OPENING	OPNG.
OPEN WEB STEEL JOIST	OWSJ.
OPPOSITE	OPP.
ORIGINAL	ORIG.
PLATE	PL.
POLY VINYL COMPOSITE	PVC.
PRELIMINARY	PRELIM.
PROJECTION	PROJ.
REINFORCE WITH	R/W
REINFORCING	REINF.
REQUIRED	REQ'D
REVISION	REV.
SECTION	SECT.
SHEET	SHT.
SIMILAR	SIM.
SCHEDULE	SCH.
SPECIFICATION	SPEC.
STAINLESS STEEL	S.S.
STANDARD	STD.
STIFFENER	STIFF.
STIRRUP	STIRR.
STRUCTURAL	STRUCT.
SYMMETRICAL	SYM.
TOP OF	T.O.
TYPICAL	TYP.
UNLESS NOTED	U/N
VERTICAL	VERT.
WIND LOAD	W.L.

APEGM
Certificate of Authorization
Earth Tech Canada Inc.
No. 730 Expiry: April 30, 2006

NO.	REVISIONS	DATE	BY
00	ISSUED FOR TENDER	05/12/2	CT

B.M.
ELEV.

EarthTech
A Tyco International Ltd. Company

DESIGNED BY	AP/GGP	CHECKED BY	MK
DRAWN BY	CT	APPROVED BY	D. TANIGUCHI
SCALE:	AS NOTED	RELEASED FOR CONSTRUCTION BY:	K. MARTENS
DATE	2005/09/06	DATE	05/12/02

ENGINEER'S SEAL
ORIGINAL SIGNED BY
M. KLASSON
2005/12/02

CONSULTANT DRAWING NO.
CS1.01

THE CITY OF WINNIPEG
Winnipeg
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

NEWPCC CENTRATE NUTRIENT TREATMENT
PHOSPHORUS REMOVAL FACILITY
CONTRACT No. 1

CITY FILE NUMBER
SHEET OF

STRUCTURAL
GENERAL NOTES

CITY DRAWING NUMBER
1-0101F-D-S0001-001-00-D

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