

GENERAL NOTES

1. READ THE STRUCTURAL DRAWINGS IN CONJUNCTION WITH ALL OTHER PERTINENT CONTRACT DOCUMENTS. IN THE EVENT OF A CONFLICT, GENERAL CONTRACTOR SPECIFICS ORDER OF PRECEDENCE.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL VERIFY DIMENSIONS BEFORE BEGINNING CONSTRUCTION AND REPORT DISCREPANCIES TO THE CONTRACT ADMINISTRATOR BEFORE PROCEEDING WITH THE WORK.
3. THE DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF CANADA 2005, ITS SUPPLEMENTS AND THE LATEST EDITIONS (UNLESS OTHERWISE NOTED) OF REFERENCED CODES AND STANDARDS THEREIN.
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 CONTRACT ADMINISTRATOR BEFORE PROCEEDING WITH CONSTRUCTION

DESIGN LOADS

1. LOADS SHALL CONFORM TO THE NATIONAL BUILDING CODE OF CANADA 2005 AND SUPPLEMENTS.
2. DEAD LOADS: AS INDICATED ON CORRESPONDING DRAWINGS.
3. LIVE LOADS: AS INDICATED ON CORRESPONDING DRAWINGS.
4. WIND LOADS: $q (1/50)=0.45 \text{ kPa}$
5. ADDITIONAL DESIGN LOADS FOR EQUIPMENT ARE INDICATED ON CORRESPONDING DRAWINGS.
6. CONTRACTOR TO VERIFY FINAL EQUIPMENT WITH CONTRACT AND REPORT DISCREPANCIES AND OBTAIN APPROVAL FROM THE ADMINISTRATOR PRIOR TO PROCEEDING WITH CONSTRUCTION.

FOUNDATION NOTES:

1. ALL FOUNDATION CONSTRUCTION SHALL BE PERFORMED WITH REFERENCE TO THE RECOMMENDATIONS GIVEN IN THE GEOTECHNICAL INFORMATION AVAILABLE FOR THE SITE.
2. FOUNDATIONS ARE DESIGNED IN COMBINATION WITH CAST IN PLACE REINFORCED CONCRETE PILES.

EXCAVATION, BACKFILLING AND COMPACTION NOTES

1. AN EXCAVATION PLAN SHALL BE PREPARED, SEALED AND SIGNED BY A QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA. SUBMIT EXCAVATION PLAN FOR REVIEW. VERIFY LOCATION OF ALL UNDERGROUND SERVICES PRIOR TO COMMENCING EXCAVATION AND BE RESPONSIBLE FOR DISRUPTIONS.
2. EXCAVATE TO LINES AND LEVELS INDICATED IN THE CONSTRUCTION SEQUENCE AND DRAWINGS NECESSARY TO PROPERLY COMPLETE THE WORK. (IF INDICATED)
3. CONSTRUCTION METHODS REQUIRING TEMPORARY SHORING OR BRACING, SHALL BE DESIGNED, SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA. SUBMIT SHORING PLAN AND DETAILS FOR REVIEW.
4. CAST IN PLACE CONCRETE PILES
 - .1) DESIGN SKIN FRICTION OF 15.2kN/m² IS IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
 - .2) TOLERANCES:
 - OUT OF POSITION ± 50
 - OUT OF PLUMB 2% OF PILE LENGTH
 - CUT-OFF ELEVATION +0 TO - 75
 - .3) UNLESS SHOWN OTHERWISE, CENTER PILES UNDER COLUMNS, GRADE BEAMS OR WALLS.
 - .4) ALL PILES TO BE REINFORCED AS SHOWN ON PLAN, REINFORCING STEEL TO CSA 630.18 GRADE 300 FOR TIES, GRADE 400 FOR 15M AND LARGER BARS. LAP SPLICES 36 BAR DIAMETERS OR 460, WHICHEVER IS GREATER.
 - .5) ENSURE ALL LOOSE MATERIAL AND WATER IS THOROUGHLY REMOVED FROM PILE EXCAVATIONS PRIOR TO PLACING REINFORCEMENT AND CONCRETE. CONCRETING OPERATIONS TO PROCEED WITHIN 3 HOURS OF EXCAVATION OR IMMEDIATELY IF GROUNDWATER EXISTS. CASTING OF ALL PILES SHALL BE CONTINUOUS; CONSTRUCTION JOINTS IN PILE SHAFTS SHALL NOT BE ALLOWED. VIBRATE CONCRETE IN UPPER 15' OF SHAFT OR UPPER 50% OF THE REINFORCING LENGTH, WHICH EVER IS GREATER.
 - .6) PROVIDE REMOVABLE CASING IF REQUIRED DUE TO WATER OR SLOUGHING SOILS.
 - .7) PILING CONTRACTOR SHALL KEEP AN ACCURATE RECORD OF DEPTHS OF PILES, EXCAVATED SOILS PENETRATED, WATER SEEPAGE AND OTHER PERTINENT CONDITIONS. REPORT ANY ABNORMAL CONDITIONS TO THE ENGINEER.
 - .8) DO NOT DRILL ADJACENT PILES LESS THAN 48 HOURS AFTER PILES HAVE BEEN FORMED UNLESS PILES ARE MORE THAN 6 PILE DIAMETERS APART.
 - .9) SEE CONCRETE SPECIFICATION SECTIONS FOR CONCRETE PERFORMANCE REQUIREMENTS.
 - .10) CONC. STRENGTH SHALL BE 35 MPa SULPHATE RESISTANT CONCRETE.

CONCRETE NOTES

1. PROVIDE CONCRETE AND PERFORM WORK TO CSA A23.1-04, TEST CONCRETE TO CSA A23.2-04. THE CONTRACTOR SHALL HAVE COPIES OF THESE STANDARD ON SITE AT ALL TIMES.
2. SPECIFIED SLUMPS ARE PRIOR TO THE ADDITION OF ANY ACCEPTED PLASTICIZING ADMIXTURE. WHEN CONCRETE IS PLACED BY PUMPING, THE LISTED SLUMPS SHALL BE AT DISCHARGE.
3. ALL CONCRETE SHALL BE NORMAL WEIGHT 2400 KG/CUBIC METER UNLESS NOTED.
4. GROUT: NON-SHRINK, NON-METALLIC WITH MINIMUM STRENGTH 35MPa AT 28 DAYS.
5. VOID FORMS: PROVIDE VOID FORMS UNDER SLABS, GRADE BEAMS, WALLS AND PILE CAPS AS SHOWN ON DRAWINGS, TO ACCOMMODATE FOR 200mm SOIL SWELLING, AS PER GEOTECHNICAL INFORMATION.
6. FORMWORK AND FALSEWORK DESIGN SHALL BE COMPLETED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA. SUBMIT TO CONTRACT ADMINISTRATOR FOR REVIEW.
7. PROVIDE 20mm CHAMFER ON ALL EXPOSED CONCRETE CORNERS.

REINFORCING STEEL NOTES

1. DEFORMED BARS CONFORMING TO CSA-G30.18 GRADE 400 PLAIN FINISH.
2. REINFORCING WORK SHALL BE IN ACCORDANCE WITH CSA-23.1-04 AND CSA-23.3.
3. REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST REINFORCING STEEL INSTITUTE OF CANADA DETAILING MANUAL OF STANDARD PRACTICE.

STEEL FABRICATIONS

1. FABRICATE AND ERECT STRUCTURAL STEEL TO CSA-S16.1.
2. STRUCTURAL STEEL WIDE FLANGE SECTIONS: CONFORMING TO CSA G40.21, TYPE W WITH MINIMUM YIELD STRENGTH OF 350 MPa.
3. MISCELLANEOUS STEEL: TO CAN/CSA G40.21; TYPE W WITH A MINIMUM YIELD STRENGTH OF 300 MPa.
4. HOLLOW STRUCTURAL SECTIONS: CONFORMING TO CSA G40.21, TYPE W, MINIMUM YIELD STRENGTH OF 350 MPa, CLASS C.
5. WELDING MATERIALS: CONFORMING TO CSA W59. BY FABRICATORS CERTIFIED BY THE CANADIAN WELDING BUREAU TO THE REQUIREMENTS OF CSA-W47.1, DIVISION 2.
6. GALVANIZING CONFORMING TO CSA G164.
7. CLEAN ALL STEEL PRIOR TO PRIMING TO SSPC SURFACE PREPARATION SPECIFICATION NO. 7 "BRUSH-OFF BLAST CLEANING".
8. PRIME STEEL SURFACES WITH ONE COAT OF PRIMER TO CISC/CPMA 2-75.

MISCELLANEOUS METALS - STEEL

1. STEEL PLATES AND SECTIONS: CONFORMING TO CSA G40.21-94; TYPE W WITH A MINIMUM YIELD STRENGTH OF 300 MPa.
2. HOLLOW STRUCTURAL SECTIONS: CONFORMING TO CSA G40.21-94; TYPE W WITH A MINIMUM YIELD STRENGTH OF 350 MPa.
3. ANCHOR BOLTS: CONFORMING TO ASTM A307.
4. WELDING MATERIALS: CONFORMING TO CSA W59-03.
5. PRIMER: TO CISC/CPMA 2-75.
6. WELDING OF ALL LOAD CARRYING ASSEMBLIES IS TO BE PERFORMED BY A FIRM CERTIFIED BY THE CANADIAN WELDING BUREAU TO THE REQUIREMENTS OF CSA W47.1-03 IN DIVISION 1 OR DIVISION 2.1.
7. GROUT: NON-SHRINK, NON-METALLIC, 50 MPa AT 28 DAYS.
8. VERIFY ALL DIMENSIONS ON SITE PRIOR TO FABRICATION.
9. FABRICATE ITEMS OF SIZES AND PROFILES DETAILED ON DRAWINGS, WITH JOINTS NEATLY FITTED AND PROPERLY SECURED.
10. 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.
11. WELD CONNECTIONS WHERE POSSIBLE, OTHERWISE BOLT CONNECTIONS. COUNTERSINK ALL EXPOSED FASTENINGS. CUT OFF BOLTS FLUSH WITH NUTS. ACCURATELY FORM ALL CONNECTIONS AND JOINTS WITH EXPOSED FACES FLUSH, MITRES AND JOINTS TIGHT.
12. GRIND OR FILE EXPOSED ROUGH WELDS AND METALS SECTIONS SMOOTH AND FLUSH.
14. GALVANIZING CONFORMING TO CSA G164-M92.
15. CLEAN ALL STEEL PRIOR TO PRIMING TO SSPC SURFACE PREPARATION SPECIFICATION No. 7 "BRUSH-OFF BLAST CLEANING".
16. PRIME STEEL SURFACES WITH ONE COAT OF PRIMER TO CISC/CPMA 2-75. FINISH COAT(S) TO OWNER REQUIREMENTS.

WOOD CONSTRUCTION

1. TIMBER CONSTRUCTION SHALL CONFORM TO CSA 086-01 NBC 2005.
2. ROOF AND WALL SHEATHING TO BE PRESSURE TREATED CONSTRUCTION. USE H-CLIPS AS REQUIRED.
3. JOIST HANGERS AND FRAMING ANCHORS CAPABLE TO SUPPORT LOADS INDICATED WITH A MINIMUM CAPACITY OF 3.5 kN (750 lb.) AND TO BE MINIMUM 1.21mm (18 GAUGE) GALVANIZED SHEET METAL MATERIAL. NAIL TO MANUFACTURER'S INSTRUCTIONS. USE COATED SPIRAL NAILS TO CSA B111-1974.
4. WOOD FRAMING MATERIAL (UNLESS OTHERWISE SPECIFIED):
 - LINTELS, BUILT-UP BEAMS - KILN DRIED: D. FIR-L NO. 1/NO. 2 OR HEM-FIR NO. 1/NO. 2 (S-DRY) S-P-F NO. 1/NO. 2 (S-DRY)
 - EXTERIOR WALL STUDS -KILN DRIED S-P-F NO. 1/NO. 2 (S-DRY)
 - INTERIOR PARTITION WALL STUDS -KILN DRIED S-P-F NO. 1/NO. 2 (S-DRY)
 - PLYWOOD SUBFLOOR (TONGUE AND GROOVE): D. FIR
 - RAFTER, JOISTS - KILN DRIED: MINIMUM S-P-F NO. 1/NO. 2 (S-DRY)

-USE PARALLAM PSL PRODUCTS DESIGNED AND MANUFACTURED TO THE STANDARDS SET FORTH IN THE NATIONAL EVALUATION SERVICE INC. (NES) REPORT NO. NER-481 OR CCMC REPORT NO. 11161-R.

-EACH OF THE BEAMS SHALL BE IDENTIFIED BY A STAMP INDICATING THE PRODUCT TYPE AND GRADE, NEC OR CCMC REPORT NO., MANUFACTURER'S NAME, PLANT NO. AND THE INDEPENDENT INSPECTION AGENCY'S LOGO.

-HOLES, CUTS OR NOTCHES NOT PREVIOUSLY AUTHORIZED BY MANUFACTURER'S ENGINEERING SHALL NOT BE PERMITTED.

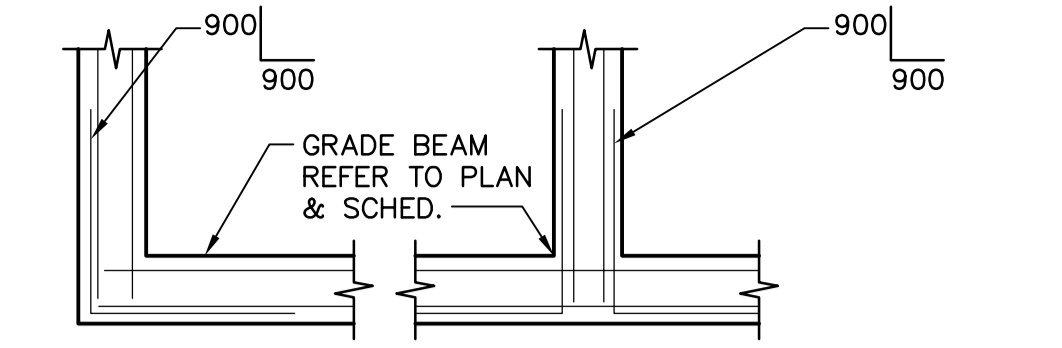
5. CONNECT ALL NON-LOAD BEARING PARTITIONS TO THE STRUCTURE ABOVE. CONNECTION TO ALLOW FOR VERTICAL DEFLECTION OF THE STRUCTURE.
6. ALL TRUSSES, JOISTS, FRAMING, AND DECKING DELIVERED TO THE SITE SHALL BE KEPT DRY. NO WARPED MATERIAL SHALL BE USED.

STANDARD ABBREVIATIONS:

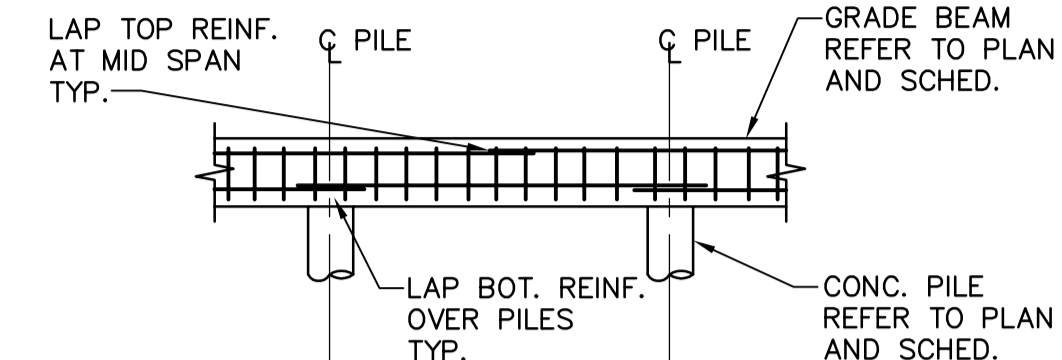
ADDITIONAL	ADDL	GALVANIZE	GALV
ANCHOR BOLT	⊙	GUARD RAIL	G.R.
ALUMINUM	ALUM	GRANULAR	GRAN.
APPROXIMATE	APPROX	GRAVEL	GR.L.
ARCHITECTURAL	ARCH	HANGER	HGR
AVERAGE	AVG.	HORIZONTAL	HORIZ
BOTTOM	BOT	HOLLOW STRUCTURAL STEEL	HSS
BOTTOM LOWER LAYER	BLL	HEIGHT	HT
BOTTOM UPPER LAYER	BUL	INSIDE FACE	I.F.
BETWEEN	BETW	INSIDE DIAMETER	I.D.
BUILDING	BLDG	INSULATION	INSUL
BEARING	BRG	INTERIOR	INT
CLEAR COVER	CL.	JUNCTION	JCT
CENTERLINE	⊕	KILONEWTON	KN
CENTER TO CENTER	C/C	LOCATION	LOC'N
CAST IN PLACE	C.I.P.	LONG	LG
CONSTRUCTION JOINT	C.J.	LONG LEG HORIZONTAL	LLH
COMPLETE WITH	C/W	LONG LEG VERTICAL	LLV
CIRCULAR	CIRC	LIVE LOAD	L.L.
CONCRETE	CONC	LONGITUDE	LONG
CONSTRUCTION	CONSTR	MAXIMUM	MAX
CONTINUOUS	CONT	MECHANICAL	MECH
DIMENSION	DIM	MINIMUM	MIN
DEAD LOAD	D.L.	MISCELLANEOUS	MISC
DOWN	DN.	MILLIMETER	mm
DRAWING	DWG	METER	M
DOWEL	DWL	NELSON STUD	N.STUD
DIAMETER	DIA	NUMBER	No.
DEGREE	°	NOT TO SCALE	N.T.S.
EACH FACE	E.F.	ON CENTER	O.C.
EACH END	E.E.	OUTSIDE FACE	O.F.
EACH SIDE	E.S.	OUT TO OUT	O.O.
EXPANSION JOINT	E.J.	OUTSIDE DIAMETER	O.D.
EACH WAY	E.W.	OPENING	OPNG
ELECTRICAL	ELECT	ORIGINAL	ORIG
ELEVATION	EL.		
EQUAL	EQ		
EXISTING	EXIST		
EXPANSION	EXP.		
EXTERIOR	EXT		
FAR SIDE	F.S.		
FACE TO FACE	F/F		
FACE OF CONCRETE	F.O.C.		
FOUNDATION	F.O.C.		
FOOTING	FTG		
FULL TENSION SPLICE	F.T.S.		

STANDARD ABBREVIATIONS (CONT.):

PAINT	PT	PERIMETER	PERIP
PERPENDICULAR	PL	PLATE	PL
PRECAST	P/C	PRELIMINARY	R or RAD
RADIUS	R/W	REINFORCING	REINF
REINFORCING	REQD	REQUIRED	REQD
REVISION	REV.	RETAINING WALL	R.W.
SECTION	SECT.	SHEET	SHT
SIMILAR	SIM	SPECIFICATION	SPEC
STAINLESS STEEL	S.S.	STANDARD	STD
STIFF	STIFF	STIRRUP	STRIRR
STRUCTURAL	STRUCT	TOP LOWER LAYER	TLL
TOP OF	T.O.	TOP OF	T.O.
TOP UPPER LAYER	TUL	TYPICAL	TYP
UNLESS NOTED	U/N	UNDER	U/S
VERTICAL	VERT	WIND LOAD	W.L.
WORK POINT	W.P.		

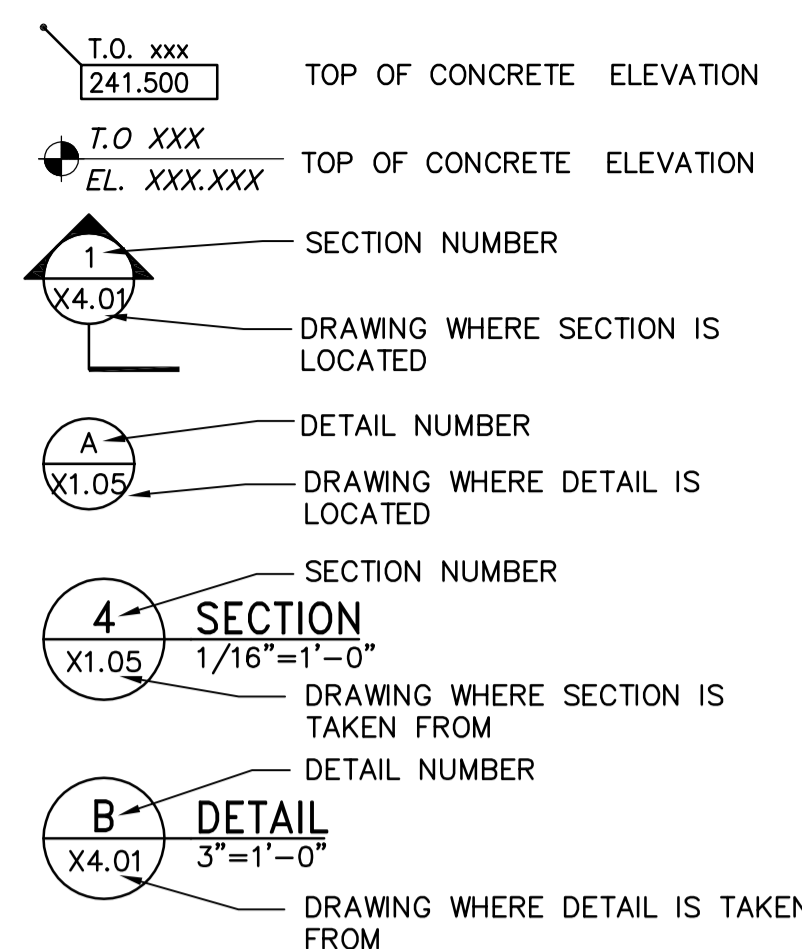


TYPICAL GRADE BEAM CORNER REINFORCING
SCALE N.T.S.
CORNER BARS SAME SIZE AND SPACING AS HORIZONTAL REINFORCING



GRADE BEAM SPLICE DETAIL
SCALE N.T.S.

STANDARD SYMBOLS:



CAST-IN PLACE CONCRETE PILE SCHEDULE						
MARK	DIAMETER	LENGTH	REINFORCING	REMARKS		
P-1 & P-8	400	7.6m	4-15M VERT. FULL HEIGHT, 2-10M TIES TOP REMAINDER 10M TIES @ 250 o/c	C.I.P. PILE, SET T.O. PILE @ 233.858m		
P2 TO P7	400	7.6m	4-15M VERT. FULL HEIGHT, 2-10M TIES TOP REMAINDER 10M TIES @ 250 o/c	C.I.P. PILE, SET T.O. PILE @ 233.558m		
P-9	400	11.0m	4-15M VERT. FULL HEIGHT, 2-10M TIES TOP REMAINDER 10M TIES @ 250 o/c	C.I.P. PILE, SET T.O. PILE @ 233.756m		
P-10	400	11.0m	4-15M VERT. FULL HEIGHT, 2-10M TIES TOP REMAINDER 10M TIES @ 250 o/c	C.I.P. PILE, SET T.O. PILE @ 233.736m		
P-11	400	11.0m	4-15M VERT. FULL HEIGHT, 2-10M TIES TOP REMAINDER 10M TIES @ 250 o/c	C.I.P. PILE, SET T.O. PILE @ 233.506m		
P-12	400	11.0m	4-15M VERT. FULL HEIGHT, 2-10M TIES TOP REMAINDER 10M TIES @ 250 o/c	C.I.P. PILE, SET T.O. PILE @ 233.486m		
P-13	400	7.6m	4-15M VERT. FULL HEIGHT, 2-10M TIES TOP REMAINDER 10M TIES @ 250 o/c	C.I.P. PILE, SET T.O. PILE @ 234.200m (CONFIRM WITH EQUIPMENT SUPPLIER)		

CONCRETE PILECAP SCHEDULE							
MARK	SIZE	DEPTH	REINFORCING				REMARKS
			TOP	MIDDLE	BOTTOM	STIRRUPS	
PC-1	600x1828	600	6-20M	1-15M E.F.	6-20M	10M @ 250 o/c	
PC-2	SEE PLAN	600	6-20M	1-15M E.F.	6-20M	10M @ 250 o/c	SEE PLAN FOR EXACT DIMENSIONS
PC-3	600x4000	600	6-20M	1-15M E.F.	6-20M	10M @ 250 o/c	
PC-4	600Ø	±1200				10M TIES @ 200	7-15M VERT. SITE VERIFY T.O. CAP WITH EQUIPMENT SHOP DWGS.
PC-5	600Ø	±1200				10M TIES @ 200	7-15M VERT. SITE VERIFY T.O. CAP WITH EQUIPMENT SHOP DWGS.
PC-6	600Ø	±1200				10M TIES @ 200	7-15M VERT. SITE VERIFY T.O. CAP WITH EQUIPMENT SHOP DWGS.
PC-7	600Ø	±1200				10M TIES @ 200	7-15M VERT. SITE VERIFY T.O. CAP WITH EQUIPMENT SHOP DWGS.

CONCRETE GRADE BEAM SCHEDULE							
MARK	WIDTH	DEPTH	REINFORCING				REMARKS
			TOP	MIDDLE	BOTTOM	STIRRUPS	
GB-1	250	1200	3-25M	15M@300 o/c E.F.	3-25M	10M @ 400 o/c	
GB-2	250	1500	3-25M	15M@300 o/c E.F.	3-25M	10M @ 400 o/c	

CONCRETE TIE BEAM SCHEDULE							
MARK	WIDTH	DEPTH	REINFORCING				REMARKS
			TOP	MIDDLE	BOTTOM	STIRRUPS	
TB-1	300	600	2-25M	15M MID. E.F.	2-25M	10M @ 300 o/c	

WOOD LINTEL SCHEDULE						
MARK	WIDTH	DEPTH	GRADE / SPECIES			REMARKS
WL-1	38	235	No. 2 SPF OR BETTER			3 PLY c/w 2 PLY 38x140 BEARING STUDS
WL-2	89	235	PARALLAM PSL			1 PLY PARALLAM c/w 3 PLY 38x140 BEARING STUDS
WL-3	38	184	No. 2 SPF OR BETTER			3 PLY c/w 2 PLY 38x140 BEARING STUDS

<p>APEGM Certificate of Authorization Earth Tech Canada Inc. No. 730</p>	B.M. ELEV.	Frederickson Cooper ARCHITECTS	EarthTech A Tyco International Ltd. Company	ENGINEER'S SEAL	<p>THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT SOLID WASTE SERVICES DIVISION</p>
	DESIGNED BY LLR/GGP	CHECKED BY GGP	ORIGINAL SIGNED BY M. KLASSEN	BRADY RD. LANDFILL NEW ENTRANCE AND SCALE FACILITY	
	DRAWN BY KK	APPROVED BY TGS	2007/07/20		
	SCALE: AS SHOWN	RELEASED FOR CONSTRUCTION BY: V. JEANCART	CONSULTANT DRAWING NO. S1.01	SHEET OF	
0 ISSUED FOR TENDER	07/07/20	DATE 2006/07/24	DATE 2007/07/20	STRUCTURAL GENERAL NOTES SCHEDULES	CITY DRAWING NUMBER SWD-D-379