

GENERAL NOTES

- These notes are to be read in conjunction with the specifications.
- This building has been designed in accordance with the 2011 edition of the Manitoba Building Code.
- The Contractor shall be responsible for the design and installation of all necessary shoring, bracing and formwork. Formwork for new construction shall be bridged over existing services. Procedure must be approved by an Engineer registered in the Province of Manitoba.
- Any unsound structural conditions observed or created during construction are to be reported to the registered Engineer on record immediately.
- Coordinate size and location of all openings in structural members with trades involved. All openings not indicated on structural drawings to be approved by the Contract Administrator.
- Confirm the location of all sub-grade services prior to commencing site work.
- Verify all dimensions and elevations with architectural drawings prior to construction. Any discrepancies to be reported to the Contract Administrator and engineer on record immediately. Do not scale drawings.
- Do not backfill against structure until main floor is in place.
- Confirm all existing conditions prior to construction. Any discrepancies or conflicts to be reported to the Contract Administrator.

C.I.P. CONC. PILES

- Cast-in-place piles are designed for an assumed ULS factored skin friction of 17 kPa and a SLS skin friction of 14 kPa in soil depths between 2.4m to 11.0m as per Trek geotechnical report of August 21, 2014.
- Concrete for cast-in-place piles shall be 32 MPa @ 28 days using Sulfate Resisting Type 50 cement, 1 1/2" maximum size aggregate, 3 1/2" slump and 3% to 5% air entrainment. Vibrate the top 10 feet of each pile.
- Piles shall be no more than 2% out of plumb; and no more than 2" out of alignment.
- Pile reinforcing shall extend a minimum of 2'-0" into pilecap or grade beam/wall.
- Slab sub-base to be built up of 'C-Base' granular fill compacted to 95% Standard Proctor Density in maximum 8" lifts. Final lift to be 6" 'A-Base' granular fill compacted to 98% Standard Proctor Density. All compaction densities to be confirmed by an independent testing agency prior to placement of any concrete.
- Trek Geotechnical to review pile installation. Refer to report for all other installation requirements.

CONCRETE

- Concrete work shall be in accordance with CSA A23.1-09 for "Concrete Materials and Methods of Concrete Construction" including cold weather requirements when the temperature falls below 5°C.
- Provide one set of concrete test cylinders in accordance with CSA A23.1-09 for every 50 m³ of concrete placed and a minimum of one set for each structural component.
- Performance specification as per A23.1-09 Table 5:
Concrete Strength @ 28 days:
a. Piles & Pile Caps 32 MPa
b. Curbs/Sidewalks/Driveways 32 MPa
c. All other conc. 30 MPa

Exposure Class:
i. Piles & pile caps S-2
ii. Curbs/sidewalks/driveways C-2
- Walls, piers and columns shall be poured a minimum of 24 hours before slabs and beams.
- Provide dovetail anchor slots in concrete walls and columns where masonry abuts.
- All structural slabs framing into concrete walls or beams shall have a minimum 1 1/2" chase into supporting member x the height of the slab.
- Where concrete beams frame into concrete walls or other concrete beams and are poured later, provide 1 1/2" chase (height and width to match beam).
- The use of calcium chloride is not permitted.
- Construction joint keys in grade beams shall be formed at pile locations only.
- Construction joint keys in structural slabs to be formed at 1/3 span. Provide key width equal to half the thickness of the slab. Provide 15M dowels @ 24" o/c top & bottom.
- Saw cuts for slab on grade shall be 1" deep & 1/8" wide. Cutting to be done not sooner than 12 hours, and not later than 24 hours after the slab is poured. Cuts to be filled with approved bituminous compound or caulking.
- Saw cuts for slab to be spaced at maximum 20'-0" o/c unless noted otherwise on drawings. Provide diamond saw cuts around all column unless noted otherwise on drawings.
- Slip joint all paving against structural members with 1/2" impregnated fibreboard.
- Provide minimum 6 mil poly vapour barrier below all slab on grade concrete slabs unless noted otherwise on drawings.
- Coordinate the location of all items embedded in concrete work with Architectural, Mechanical & Electrical drawings.
- The registered Engineer on record is to be notified at least 48 hours in advance of all major pours.
- Refer to architectural drawings for concrete surfaces requiring architectural finishes.
- Where voidform is indicated on drawings use cardboard shearmat below structural slabs and low-density polystyrene below walls and gradebeams.
- Exterior sidewalks to be 4" thick concrete on compacted granular fill reinforced with 10M @ 12" o/c each way mid depth. Provide toolled control joints @ maximum 5'-0" o/c and construction joints @ maximum 20'-0" o/c.
- Concrete slab at exterior refuse container to be 6" thick concrete on compacted granular fill reinforced with 15M @ 12" o/c each way mid depth.

ADHESIVE ANCHORING SYSTEM

- Drill holes with ANSI B212.15 matched tolerance carbide tipped drill bits. Diamond coring holes is not permitted.
- Drilled hole specifications (diameter & depths) shall comply with manufacturer specifications and ICBP ER-5193.
- Allowable loads may be increased by 33-1/3% for short-term wind or seismic load resistance IAW ICBP ER-5193.
- When conducted, field proof test anchors 150-200% of manufacturer published allowable tension load. Torque testing is not permitted.
- Installation in holes with standing water is not permitted.
- Anchors will be tightened with a torque wrench. Use of an impact wrench is not permitted.
- Prepare base material and install all anchors as per manufacturer's requirements.

REINFORCING

- All bars to conform to CSA G30.18-M92:
15M bars and larger to be grade 400
10M bars and supporting rods to be grade 300 or better
- All steel to be detailed in accordance with the current ACI Detailing Manual.
- Minimum clear cover to reinforcing:
3/4" structural slabs
1" interior face of walls
1 1/2" face of grade beams
2" exterior face of walls, bottom of grade beams & walls
3" pile caps
3" bottom of footings
- All reinforcing shall be held in place with proper accessories.
- In concrete beams, bend horizontal reinforcing 24" around corners, or use extra corner bars 36" x 36".
- All openings in concrete walls and/or grade beams to have minimum 2-15M extra reinforcing all around, extend minimum 2'-0" past unless noted otherwise. Maximum opening size 3'-0" wide; top of opening to be minimum 2'-0" below top of wall elevation. For all openings greater than 3'-0" contact the registered Engineer on record for further instruction. Coordinate all openings with Architectural, Electrical and Mechanical drawings.
- Top steel in beams shall be lapped at centre span, bottom steel shall be lapped at support.
- All reinforcing steel shall be cleaned of all dirt, grease and other deleterious materials prior to placing.
- All reinforcing shall be new billet deformed bars.
- Minimum reinforcing for equipment bases 10M @ 12" o/c each way.
- Reinforcing steel supplier to confer with Contractor as to desired construction joint locations and supply dowels and bar lengths to accommodate these joints.
- Reinforcing steel supplier shall submit shop drawings for review of fabrication, sizes, dimensions, placement and splice locations.
- Reinforcing steel supplier shall submit shop drawings for review and approval by the Contract Administrator.

STRUCTURAL WOOD

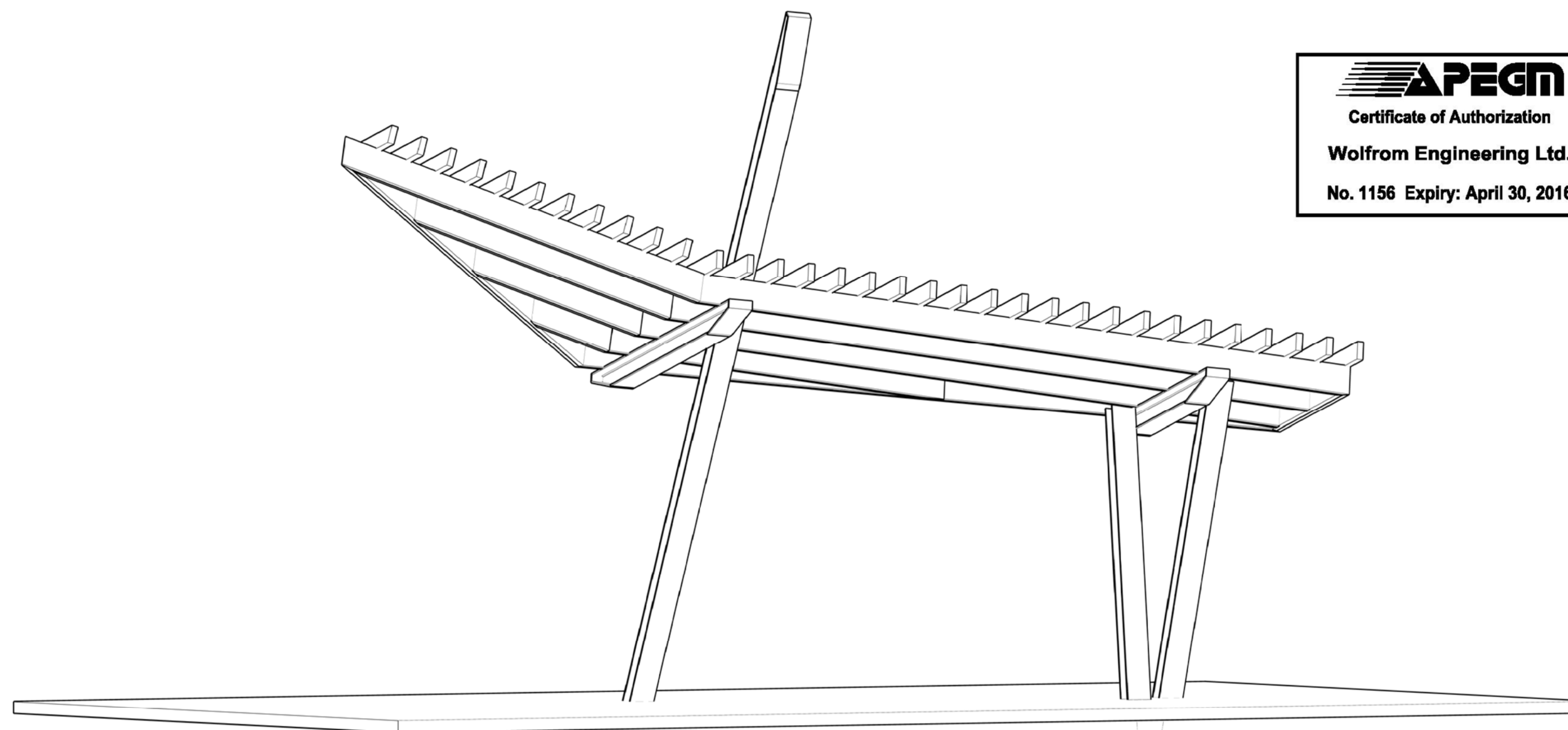
- All wood framing shall be in accordance with CSA 086-09.
- All lumber shall conform to 2014 N.L.G.A. grading rules for Canadian lumber.
- Wood framing to be minimum #2 Spruce-Pine-Fir or better unless noted on drawings, kiln-dried to a maximum moisture content of 19%.
- Joints, lintels, and built-up beams to be minimum #2 Spruce-Pine-Fir or better U/N on drawings, properly seasoned to a maximum moisture content of 19%.
- The carpentry Contractor in conjunction with the General Contractor shall be responsible for supplying and installing all temporary and permanent bracing required to provide the stability of the structure.
- All plywood sheathing to be exterior grade. All sheathing shall conform to CAN/CSA 0325-07 "Construction Sheathing";
All wall and roof sheathing to be nailed secure in a controlled random pattern as follows:
Panel edges - 3" nails @ 6" o/c
Intermediate supports & blocking - 3" nails @ 10" o/c
- No site modifications to be made to floor and/or roof members without prior approval of supplier and registered Engineer on record.
- All repairs made to damaged floor and/or roof members to be approved by supplier and registered Engineer on record.
- All built-up wood columns and post to be continuously blocked down to foundation.
- Provide joint cross-bridging at intervals not exceeding 8 times the member depth.

STRUCTURAL STEEL

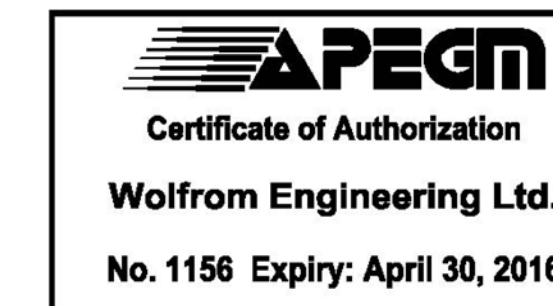
- All 'W' and 'HSS' sections shall be in accordance with CAN/CSA G40.21-04 M350W, all other sections shall be in accordance with CAN/CSA G40.21-04 M300W.
- All welding shall conform to CSA W59-03 (R2008); fabricators to be certified in accordance with CSA W47.1-09.
- Fabrication and erection shall be in accordance with CAN/CSA S16-09, "Limit States Design of Steel Structures".
- Steel erector shall be responsible for supplying and erecting all temporary bracing to provide stability for the structure as a whole, until all related structural framing is erected and completely installed.
- Fabricator shall notify the Engineer on record of any proposed member substitutions or changed connection details.
- Holes required in steel sections must be approved by the registered Engineer on record.
- All beams continuous over columns shall have 2 web stiffeners on each side, the same thickness as column unless noted, but not less than 3/8".
- No holes permitted in top of beams at columns where beams are continuous over columns, unless loss of section by holes is compensated by equal material area welded to side of flange.
- All structural steel shall receive at least one coat primer to CISC/CPMA standard 1-73a 1975.
- Use asphalt base paint (flintkote 410-02 or eq.) at columns below slab.
- All high strength bolts to be in accordance with the latest edition of ASTM A325M.
- The shear capacity of all shear splices shall be at least equal to the shear capacity of the smaller beam, unless noted.
- The steel supplier shall shop weld 1 1/2" x 1/8" masonry anchors to all steel members in contact with masonry walls. Maximum spacing of ties shall be 32" o/c unless noted.
- Steel supplier is responsible for design and detailing of all structural steel connections not shown on drawings.
- Anchor bolts shall be supplied by structural steel supplier & set by General Contractor. General Contractor to supply and install 1" non-shrink grout under all base plates unless noted.
- Expansion anchors to be zinc-plated steel wedge type with the following design values in 30 MPa concrete:
1/2" @ - 2000 lbs shear, 2000 lbs pull-out
3/4" @ - 4000 lbs shear, 4000 lbs pull-out
- All exposed portions of ledge angles and connections to be coated with bituminous paint.
- Provide 3" x 3" x 1/4" angle framing around all deck openings greater than 18" x 18" unless noted.
- All steel beams supporting masonry walls to have minimum 3/8" @ 12" long nelson studs welded to beam at 24" o/c unless noted otherwise on drawings.
- Provide minimum SB18.4 Elevator Hoist beam c/w end bearing connections unless noted otherwise.
- Structural steel supplier shall submit shop drawings for review of fabrication, sizes, dimensions and placement. All connections not shown on drawings are to be sealed by a Professional Engineer registered in the Province of Manitoba.
- Structural steel supplier shall submit shop drawings sealed by a Professional Engineer registered in the Province of Manitoba for review and approval by the Contract Administrator.

PRESSURE TREATED WOOD FOUNDATION

- Construction to conform to CAN/CSA-S406-92 R2008 "Construction of Preserved Wood Foundations"
- All lumber to bear PWF certification stamp visible for inspection.
- All PWF material cut or drilled during construction must have the cut surfaces protected by a special non-leachable field-cut preservative.
- Studs to have cut ends turned up. Avoid drilling holes in studs below grade.
- Nails to be hot-dipped galvanized. Frames shall be nailed with 3 1/2" nails (3 nails per stud per plate) and plywood sheathing shall be nailed with 2 1/2" nails at 4" o/c along all plates, studs and blocking with a double row at all joints in plywood.



PERSPECTIVE VIEW (FOR REFERENCE ONLY)
N.T.S.



0	ISSUED FOR CONSTRUCTION	2015.06.12	JR
No.	REVISION	DATE	BY

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SEAL



JOB TITLE
**Assiniboine Forest
Pond Overlook**

DRAWING TITLE

GENERAL NOTES

DRAWN BY AVP	SCALE AS NOTED	DRAWING NO. S-0
FILE NO. W14211	DATE 2014.09.15	REVISION NO. 0