



GENERAL NOTES:

- A. GENERAL
- A.1. ALL DIMENSIONS IN MILLIMETRES EXCEPT FOR STATIONS. ELEVATIONS AND COORDINATES ARE EXPRESSED IN METRES, UNLESS NOTED OTHERWISE.
- A.2. CONTRACTOR SHALL VERIFY ALL EXISTING GEOMETRY AND DETAILS PRIOR TO FABRICATION AND CONSTRUCTION TO ENSURE COMPATIBILITY. NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
- A.3. THESE DRAWINGS ARE INTENDED TO BE AN EXAMPLE OF ACHIEVING AN AVIAN EXCLUSION ZONE. ANY DESIGN CHANGES PROPOSED DURING CONSTRUCTION SHALL REQUIRE PRIOR WRITTEN APPROVAL FROM THE ENGINEER.
- B. WEST APPROACH SPAN, TRUSS 7, AND EAST APPROACH SPAN BIRD DETERRENTS
- B.1. BIRD DETERRENTS
- B.1.1. BIRD DETERRENTS TO PREVENT CLIFF SWALLOWS FROM NESTING ON THE STRUCTURE SHALL BE INSTALLED IN THE AVIAN EXCLUSION ZONE EXTENDING FROM SU-1 TO SU-3 AND PIER 6 TO SU-5 AS SHOWN ON THE ABOVE DIAGRAM.
- B.1.2. SURFACE SHOULD BE THOROUGHLY CLEANED AND FREE OF BIRD DROPPINGS, NESTING MATERIALS, RUST PEELING PAINT OR OTHER DEBRIS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO REMOVING ANY EXISTING NESTS. NESTS SHALL BE REMOVED BY A QUALIFIED AVIAN BIOLOGIST AND RELOCATED TO THE TIMBER NESTING STRUCTURES.
- B.1.3. THE CONTRACTOR IS RESPONSIBLE FOR CONTAINMENT OF DEBRIS DURING REMOVALS SUCH AS RUST PEELING, PAINT, OR OTHER DEBRIS.
- B.2. CONTRACTOR TO UTILIZE HARDWARE ASSOCIATED WITH THE SELECTED NETTING SYSTEM WHEREVER POSSIBLE. IN GENERAL HARDWARE TO BE UTILIZED INCLUDES:
- B.2.1. TWIST LOCKS TO JOIN SEAMS, SPACING AS PER MANUFACTURER'S SPECIFICATIONS.
- B.2.2. UV RESISTANT NET TIES.
- B.2.3. POLY CORDS FOR REINFORCING SEAMS, PATCHING TEARS, AND CLOSING CIRCULAR OPENINGS.
- B.2.4. NET CABLE AND CONNECTION HARDWARE INCLUDING MINIMUM 1.6 mm DIAMETER AIRCRAFT GRADE STAINLESS STEEL CABLE, SMALL, MEDIUM, AND LARGE TURNBUCKLES, NET FERRULES, WIRE ROPE CLAMPS, AND STAINLESS STEEL CABLE THIMBLES.
- B.2.5. CONNECTION HARDWARE INCLUDING EYEBOLTS AND BEAM CLAMPS.
- B.2.6. BIRD NET ZIPPERS TO BE INSTALLED OVER AREAS THAT WILL NEED TO BE OPENED SUCH AS UNDER LIGHTING FIXTURES OR SURFACE ACCESS. ZIPPERS MAKE IT EASY TO GAIN ACCESS BEHIND BIRD NETTING INSTALLATIONS. THE ZIPPERS ARE ATTACHED DIRECTLY TO THE NETTING.
- B.2.7. NYLON 26 mm SLING. 30 kN STRENGTH RATING. LENGTH BETWEEN 1 m AND 3 m.
- B.2.8. NYLON FLAT WEBBING FOR SOLID FRAME INSTALLATION 1"-1.5" RATCHETS. POLYESTER WEBBING IS WEATHER RESISTANT, UV-PROTECTED DESIGN RESISTS WEAR FROM THE ELEMENTS. BREAK STRENGTH OF 2300 lb. PROVIDES EFFECTIVE USE, WORKING LOAD IS 766 lb.
- B.3. BIRD NET CHARACTERISTICS
- B.3.1. PRODUCT: EXTRUDED POLYPROPYLENE, KNOTLESS, PRE-STRETCHED NETS, UV AND ROT RESISTANT. 12.7 mm SQUARE MESH SIZE. 320 °F MELTING POINT, 625 °F FLASH POINT.

- C. NESTING SHELTER
- C.1. GENERAL
- C.1.1. ALL WORK SHALL CONFORM TO THE MOST RECENT VERSION OF THE MANITOBA BUILDING CODE.
- C.1.2. REPORT ANY DISCREPANCIES BETWEEN THE ASSUMED SITE CONDITIONS AND THE STRUCTURAL DRAWINGS IMMEDIATELY TO THE ENGINEER.
- C.1.3. NOTIFY THE ENGINEER WITH AT LEAST 24 HOURS NOTICE TO ENABLE THE ENGINEER TO CARRY OUT THE NECESSARY SITE REVIEWS.
- C.2. DESIGN LOADS
- C.2.1. DESIGN CODE: NBCC 2010
- C.2.2. IMPORTANCE CATEGORY: NORMAL
- C.2.3. DESIGN LOADS (SPECIFIED):
- C.2.3.1. DEAD LOAD = MATERIAL SELF WEIGHT
- C.2.3.2. SNOW LOAD = $S_s = 1.9 \text{ kPa}$; $S_s = 0.2 \text{ kPa}$
- C.2.3.3. WIND LOAD $1/50 = 0.46 \text{ kPa}$
- C.3. CONCRETE
- C.3.1. CONCRETE STRENGTH FOR ALL CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 32 MPa. THE CONCRETE SHALL BE DESIGNED FOR: S-3 EXPOSURE CLASSIFICATION WITH TYPE GU CEMENT, 2/3" AGGREGATE, SLUMP OF 3" TO 4", AND ENTRAINED AIR OF 4-7%.
- C.4. STEEL
- C.4.1. STRUCTURAL STEEL MATERIALS TO CONFORM TO CSA / CAN 3-G40.20 AND CAN / CSA G40.21 GRADE 300W.
- C.5. WOOD
- C.5.1. DESIGN AND CONSTRUCT WOOD MEMBERS IN ACCORDANCE WITH CAN / CSA 086-14.
- C.5.2. ERECT WOOD FRAMING PLUMB, SQUARE, AND TRUE TO LINES. MAXIMUM TOLERANCE FROM SPECIFIED POSITION IS 6 mm.
- C.5.3. INSTALL STRUCTURAL TIMBER AND METAL CONNECTORS AND HANGERS IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- C.5.4. ALL DIMENSIONAL RAFTERS, BEAMS, AND COLUMNS TO BE SAWN LUMBER; NLGA GRADE SPF NO. 2 OR BETTER IN ACCORDANCE WITH CAN / CSA 0141-05.
- C.5.5. NAILS: CSA-B111-1974 (R2003), HOT DIPPED GALVANIZED FOR EXTERIOR WORK.
- C.5.6. METAL FRAMING CONNECTORS AND HANGERS: FABRICATED ZINC COATED PRODUCTS DESIGNED TO CAN / CSA 086.1-14 AND CAN / CSA S136.1-12.

- D. OTHER REFERENCES
- D.1. DRAWING ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT PROJECT SPECIFICATIONS.

EXISTING UTILITY LEGEND:

— G —	— G —	GAS PIPELINE
— HG —	— HG —	GAS PIPELINE - HIGH PRESSURE
— UT —	— UT —	TELEPHONE SERVICE LINES

ABBREVIATION SCHEDULE:

@	AT
CL	CENTRELINE
C/W	COMPLETE WITH
Ø	DIAMETER
EJ	EXPANSION JOINT
NO.	NUMBER
NTS	NOT TO SCALE
U/N	UNLESS NOTED

HATCH LEGEND:

	AVIAN EXCLUSION ZONE
	CHARACTER DEFINING HERITAGE ELEMENTS OF ST. ANDREWS LOCK AND DAM NATIONAL HISTORIC SITE, TO BE PROTECTED BY GENERAL CONTRACTOR THROUGHOUT CONSTRUCTION.