

**GENERAL NOTES:**

1. FIELD VERIFY ALL DIMENSIONS, CLEARANCES AND QUANTITIES PRIOR TO FABRICATION.
2. EXISTING BUILDINGS, EQUIPMENT AND SERVICES SHALL BE PROTECTED FROM ANY DAMAGE THROUGHOUT CONSTRUCTION.
3. CONTRACTOR SHALL CONFIRM ALL DIMENSIONS, ELEVATIONS, CONDITION AND CLEARANCES ON THE SITE PRIOR TO CONSTRUCTION.

**EXCAVATION & BACKFILL:**

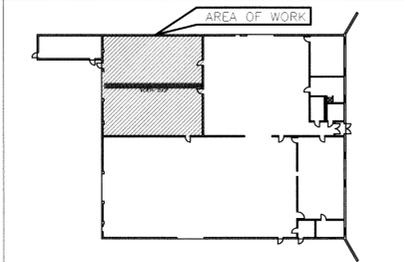
1. GRANULAR BASE TO BE PLACED ON GRADE SHALL BE COMPACTED TO 100% STANDARD PROCTOR DENSITY IN MAXIMUM 150mm LIFTS.
2. DO NOT COMPACT FROZEN BACKFILL OR PLACE ON FROZEN SUBGRADE.
3. SUB-GRADE, SUB-BASE AND BASE COURSE MATERIALS AND CONSTRUCTION METHODS SHALL BE AS PER CITY OF WINNIPEG SPECIFICATION CW3110, SPECIFICATION UNLESS NOTED.

**REINFORCING STEEL:**

1. REINFORCING STEEL TO BE NEW DEFORMED BILLET STEEL BARS CONFORMING TO CSA G30.18 (LATEST). GRADE TO BE 400 MPa.
2. REINFORCING STEEL SHALL BE CLEAN, FREE OF RUST, DIRT, LOOSE SCALE, OIL, GREASE OR ANY OTHER MATERIAL WHICH WOULD REDUCE BOND WITH THE CONCRETE.
3. SUBMIT SHOP DRAWINGS WHICH CLEARLY INDICATE BAR SIZES, SPACINGS, LOCATIONS & QUANTITIES OF REINFORCING STEEL, BENDING & CUTTING SCHEDULES, SUPPORTING & SPACING DEVICES, ETC. FOR REVIEW PRIOR TO FABRICATION. DETAIL, FABRICATE AND PLACE REINFORCING IN ACCORDANCE WITH CSA A23.1 (LATEST), CSA A23.3 (LATEST) AND ACI SP-66 (LATEST) UNLESS NOTED. LAP STEEL 36 BAR DIAMETERS (MINIMUM) UNLESS NOTED.
4. TIE, SUPPORT AND SPACE ALL REINFORCING STEEL WITH PROPER APPROVED DEVICES DESIGNED FOR USE IN REINFORCED CONCRETE, TO PREVENT DISPLACEMENT OF REINFORCING AND ENSURE SPECIFIED CONCRETE COVER.
5. PROVIDE MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS FOLLOWS:  
SLAB-ON-GRADE (TOP) 50mm

**CONCRETE:**

1. CONCRETE MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CSA A23.1 (LATEST). SEE BELOW FOR MIX REQUIREMENTS.
2. ADMIXTURES SHALL NOT BE USED UNLESS SPECIFIED HEREIN OR APPROVED BY THE CONTRACT ADMINISTRATOR. CALCIUM CHLORIDE SHALL NOT BE USED.
3. MIX WATER SHALL BE POTABLE.
4. DESIGN, FABRICATE AND ERECT FORMWORK/SHORING IN ACCORDANCE WITH CAN/CSA-S269.3 (LATEST). ALLOW SUFFICIENT CONCRETE CURING TIME PRIOR TO REMOVAL.
5. CONCRETE FINISHING SHALL MEET THE REQUIREMENTS OF CSA A23.1 (LATEST).
6. FORM RELEASE AGENT SHALL BE BIODEGRADABLE, NON-STAINING AND NON-VOLATILE.
7. PROVIDE ADEQUATE COLD/HOT WEATHER PROTECTION AS REQUIRED DURING CURING PERIOD.
8. PLACE AND SECURE ALL EMBEDDED ANCHORS, WELD PLATES, SLEEVES, BUCKS, DOWELS, INSERTS, WATERSTOPS, ETC., PRIOR TO PLACING CONCRETE. CO-ORDINATE WITH ALL TRADES FOR EMBEDDING OF ALL OTHER, CONDUIT, SERVICES, BLOCKING, ETC.
9. LOCATE AND FABRICATE ALL CONSTRUCTION JOINTS, CONTROL JOINTS AND EXPANSION JOINTS AS DETAILED ON THE DRAWINGS. JOINTS NOT SHOWN SHALL BE APPROVED BY THE CONTRACT ADMINISTRATOR PRIOR TO THE PLACEMENT OF CONCRETE.
10. EXPANSION ANCHORS SHALL BE HILTI KWIK-BOLT TZ OR APPROVED EQUAL (IN ACCORDANCE WITH B6), UNLESS NOTED. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.
11. GROUT REINFORCING DOWELS WITH EPOXY GROUT HILTI HIT-HY150 MAX, OR APPROVED EQUAL. GROUT BASE PLATES WITH NON-SHRINK GROUT SIKKA M-BED STANDARD, OR APPROVED EQUAL (IN ACCORDANCE WITH B6). PLACE AND CURE ALL GROUT WITHIN TEMPERATURE RANGE RECOMMENDED BY MANUFACTURER.
12. BONDING AGENTS SHALL BE USED TO ADHERE NEW CONCRETE TO EXISTING CONCRETE OR STEEL. ACCEPTABLE PRODUCT: SIKADUR 32 HI-MOD (EPOXY) OR APPROVED EQUAL (IN ACCORDANCE WITH B6).
13. THE CONCRETE SUPPLIER SHALL BE CERTIFIED TO MEET THE REQUIREMENTS OF CSA A23.1.
14. THE CONCRETE SUPPLIER SHALL SUBMIT CONCRETE MIX DATA SUBMISSION FORMS FOR EACH TYPE OF CONCRETE SPECIFIED FOR REVIEW PRIOR TO BATCHING ANY CONCRETE.



**CONCRETE MIX DESIGNS:**

CONCRETE MIX DESIGN SHALL BE PROPORTIONED TO MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:

EXPOSURE CLASS	N
MIN. 28 DAY COMP. STRENGTH	30 MPa
CEMENT TYPE	GU
MAX. W/C RATIO	0.45
MAX. AGGREGATE SIZE	3/4"
ENTRAINED AIR CONTENT	N/A

**STRUCTURAL AND MISCELLANEOUS STEEL:**

1. STRUCTURAL AND MISCELLANEOUS STEEL FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH CAN/CSA S16 (LATEST).
2. STRUCTURAL STEEL SHALL MEET THE REQUIREMENTS OF CAN/CSA G40.20/G40.21 (LATEST).  
ROLLED W-SHAPES CSA G40.21-350W  
ROLLED SHAPES & PLATES CSA G40.21-300W  
HSS SECTIONS CSA G40.21-350W CLASS C  
STANDARD PIPE ASTM A53  
BOLTS, NUTS, & WASHERS ASTM A325  
WELDING ELECTRODES CSA W48.1
3. WELDING SHALL BE IN ACCORDANCE WITH CSA W59 (LATEST), BY WELDERS CERTIFIED AND QUALIFIED IN ACCORDANCE WITH CSA W47.1 (LATEST). ALL WELDS TO BE 6mm UNLESS NOTED OTHERWISE.
4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.
5. STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE FINISHED AS INDICATED BELOW, UNLESS OTHERWISE NOTED, OR APPROVED EQUAL:
  - SURFACE PREP. TO SP6 (COMMERCIAL BLAST)
  - ONE PRIME COAT INTERZINC 52 ZINC-RICH EPOXY (2.5 MIL DFT.)
  - ONE FINISH COAT INTERGARD 345 HIGH BUILD EPOXY (6.0 MIL DFT.)

**TOUCH-UP PAINT**  
TOUCH-UP PAINT TO CONNECTIONS, WELDS, BURNED OR DAMAGED SURFACES AND UNFINISHED SURFACES AT COMPLETION OF ERECTION AND SHALL MATCH THICKNESS AS SPECIFIED.

6. COLOUR OF STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE AS FOLLOWS:
  - STRUCTURAL STEEL - NEUTRAL GREY
  - HANDRAILS & LADDERS - SAFETY YELLOW
7. PAINTED SURFACES OF EXISTING STEEL SHALL BE GROUND SMOOTH TO BARE METAL PRIOR TO FIELD WELDING.
8. HEAT STRAIGHTENING PROCEDURE SHALL BE APPROVED BY A WELDING ENGINEER AND BE SUBMITTED PRIOR TO REPAIR OF BENT MEMBERS.

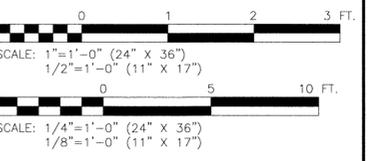
**STRUCTURAL STEEL GRATING:**

1. STEEL GRATING AND GRATING STAIR TREADS TO BE TYPE 19-4 STANDARD FLOWFORGE STEEL GRATING BY FISHER & LUDLOW.
2. BEARING BARS TO BE 1" DEEP X 3/16" WIDE, SPACED AT 1 3/16" CENTERS FOR INTERIOR SURFACES, UNLESS NOTED OTHERWISE.
3. GRATING SHALL HAVE A STANDARD SHOP BLACK FINISH.
4. ALL CUT EDGES SHALL BE BANDED.
5. GRATING STAIR TREADS SHALL HAVE CHECKER PLATE NOSING.
6. ALL GRATING SHALL BE PERMANENTLY WELDED TO STRUCTURAL FRAMING WITH 1 1/2" LONG 3/16" FILLET WELD @ 2 LOCATIONS MINIMUM PER EACH STRUCTURAL SUPPORT.

**NOTES:**  
THESE DRAWINGS SHALL NOT BE SCALED.  
THE CONTRACTOR SHALL VISIT THE SITE AND SATISFY HIMSELF ALL DIMENSIONS, DATUM, AND DETAILED INFORMATION SHOWN ARE CORRECT.  
THE CONTRACTOR IS TO REVIEW AND COORDINATE ALL ARCHITECTURAL, MECHANICAL, ELECTRICAL AND STRUCTURAL DRAWINGS FOR ADDITIONAL OPENINGS THROUGH FLOORS, WALLS, AND CEILINGS FOR DUCT, PIPE & ELECTRICAL RISERS AND ALL OPENINGS NOT SHOWN ON DRAWINGS.  
ALL OPENINGS THROUGH FIRE ASSEMBLIES ARE TO BE FIRE STOPPED AND SEALED WITH UL-C APPROVED FIRE STOPPING TO MAINTAIN THE INTEGRITY OF THE FIRE SEPARATION, AND PROVIDE A SMOKE-TIGHT BARRIER.  
ALL PRODUCTS AND MATERIALS TO BE USED AND INSTALLED SHALL CONFORM WITH MANUFACTURER'S SPECIFICATIONS & APPLICABLE CODES.  
THE CONTRACTOR SHALL BE RESPONSIBLE TO PATCH AND MAKE GOOD ALL EXISTING CONSTRUCTION AFFECTED BY THE REMOVAL OF ALL ITEMS FORMING THE PART OF THE RENOVATION WORK.  
WHERE NEW FLOORING AND BASE IS TO BE INSTALLED IN EXISTING AREAS (REFER TO FLOOR PLAN AND ROOM SCHEDULE) THE EXISTING FLOORING SURFACE AND BASE MUST BE REMOVED, UNLESS OTHERWISE NOTED. ALL FLOOR SURFACES SHALL BE PREPARED IN ACCORDANCE TO MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION OF NEW FLOOR.  
WHERE PAINTING OF EXISTING WALLS IS INDICATED ON THE ROOM SCHEDULE, THESE WALLS MUST BE CLEANED OF ANY EXISTING WALL COVERING, PATCHED & PREPARED TO ACCEPT NEW MATERIAL, UNLESS OTHERWISE NOTED.

**DRAWING LIST**

SHEET No:	SHEET TITLE
S01	NORTH SHOP - STEEL STAND, BOLLARD PLAN & DETAIL
S02	NORTH SHOP - ROOF / WALL PENETRATION PLAN & DET.
S03	NORTH SHOP - PLATFORM PLAN & DETAIL



No.	REVISION/DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	RG	2013/02/08
0	ISSUED FOR TENDER	RG	2012/07/17



DRAWN	FBV	CHECKED	PPG	DESIGNED	PPG	APPROVED	HRF
DATE	2012/04/16	USER	APPROVAL				

THE CITY OF WINNIPEG  
PLANNING, PROPERTY AND  
DEVELOPMENT DEPARTMENT  
MUNICIPAL ACCOMMODATIONS DIVISION  
3-65 GARRY STREET, R3C 4K4

PROJECT  
NORTH SHOP 2170 MAIN STREET  
HVAC UPGRADE

SHEET TITLE  
STRUCTURAL  
STEEL STAND, BOLLARD PLAN & DETAIL

SCALE	PROJECT No:	SHEET No:
AS SHOWN	12-0107-003	S01

