

EXIST 8" BLOCK-

1/4" = 1'-0"

- 1" STEEL GRATING

L3"x3"x1/4"

L3"x3"x1/4" GRATING SUPPORT

EMBED 2" MIN INTO EXIST BLOCK W/ HILTI HY20 @ 24" O.C. —

C/W 1/2"ø HAS RODS

R/W 10M @ 12" O.C E.W.

3'-8"

CONFIRM W/ MECH

" CLEAR TOP

CLEAN & ROUGHEN

SECTION

3/4" = 1'-0"

EXISTING SLAB +/- 1/4"

EXIST 12" BLOCK-

# **GENERAL**

- .1 All WORK SHALL BE PERFORMED IN ACCORDANCE WITH NATIONAL BUILDING CODE OF CANADA 2005 AND AND MANITOBA SUPPLIMENTS, THE MANITOBA WORKER SAFETY ACT, LOCAL CODES, BYLAWS, ORDINANCES. AND SAFETY REGULATIONS.
- .2 THE COMPLETE WORK SHALL BE GOVERNED BY THE DICTATES OF GOOD PRACTICE IN ALL DETAILS OF MATERIALS AND METHODS EVEN IF NOT MINUTELY SPECIFIED.
- .3 THE DRAWINGS DESCRIBE THE COMPLETED PROJECT AND DO NOT INDICATE COMPONENTS THAT MAY BE NECESSARY FOR CONSTRUCTION SAFETY. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY IN AND ABOUT THE JOB SITE DURING CONSTRUCTION, AND THE DESIGN AND ERECTION OF ALL TEMPORARY AND PERMANENT STRUCTURES, FORMWORK, FALSEWORK, SHORING, ETC., REQUIRED TO COMPLETE THE PROJECT. MAINTAIN THE SITE, AT LEAST ON A DAILY BASIS, FREE FROM ACCUMULATIONS OF WASTE MATERIAL AND DEBRIS. DISPOSE OF WASTE MATERIAL IN ACCORDANCE WITH LOCAL REGULATIONS.
- .4 DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND ELEVATIONS IN THE FIELD AND REPORT ANY
- DISCREPANCIES. LOCATE AND PROTECT ALL MECHANICAL, ELECTRICAL AND MUNICIPAL SERVICES BEFORE COMMENCING CONSTRUCTION. COORDINATE THE WORK WITH THE REQUIREMENTS OF ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND CIVIL DRAWINGS. VERIFY THE LOCATIONS OF ALL EQUIPMENT AND OPENINGS. DO NOT SEPARATE DRAWING SETS.
- .6 THE CONTRACTOR WILL LEAVE THE SITE IN THE SAME OR BETTER CONDITION THAN IT WAS BEFORE CONSTRUCTION. SITE CLEAN-UP, DRAINAGE, SECURITY, ETC. AND CONDITION OF THE WORK WILL BE TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR BEFORE LEAVING THE SITE.

#### FORMWORK

- FORMWORK TO CAN/CSA -S269.3-M92, "CONCRETE FORMWORK"
- FORM OIL TO BE NON-STAINING, NON-TOXIC, AND NON-VOLATILE ACCESSORIES SUCH AS HI-CHAIRS, SPACERS, ETC., WILL BE SUPPORTED USING PADS OF PLYWOOD OR TEMPERED FIBREBOARD TO PREVENT PUNCTURING. POLYSTYRENE IS
- NOT AN ACCEPTABLE FORM MATERIAL .4 BEFORE CONCRETE IS PLACED, REVIEWED EQUIPMENT SHOP DRAWINGS SHALL BE EXAMINED FOR THE PROVISION OF OPENINGS, ANCHOR BOLTS, INSERTS, ETC.

### CAST-IN-PLACE CONCRETE

- .1 ALL CONCRETE MIXES, PLACING, CURING, AND TESTING WILL BE IN ACCORDANCE WITH CSA-A23.1-04/A23.2-04 CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION/ METHODS OF TEST FOR CONCRETE
- CONCRETE ADMIXTURES CONFORM TO CSA A3000-03 CEMENTITIOUS MATERIALS COMPENDIUM CONCRETE MIXES TO BE IN ACCORDANCE WITH CSA-A23.1-04, ALTERNATIVE 1;

NO.	LOCATION	CLASS OF EXPOSURE	MAX WATER TO CEMENTITIOUS MATERIAL RATIO	MIN. f'c (MPa)	AIR CONTENT CATEGORY	CURING TYPE
1	HOUSEKEEPING SLAB	N	0.50	30 <b>@</b> 28d	2	1

- .4 BEFORE PLACING REVIEW SHOP DRAWINGS FOR EQUIPMENT, OPENINGS, ANCHOR BOLTS, EMBEDS, ETC. TO ENSURE COMPLETENESS.
- A) AN INDEPENDENT INSPECTION/TESTING AGENCY WILL BE ENGAGED BY THE OWNER. RESULTS OF FIELD TESTS WILL BE REPORTED IMMEDIATELY TO THE CONTRACTOR. INSPECTION AND TESTING DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR QUALITY CONTROL AND CONTRACTUAL OBLIGATIONS.
- TESTING FIRM WILL PREPARE THREE TEST CYLINDERS FROM EACH 50 M3 OF CONCRETE, OR FRACTION THEREOF, FOR EACH DAY, TYPE OF CONCRETE, OR TYPE OF STRUCTURAL COMPONENT. ONE SLUMP TEST AND ONE ENTRAINED AIR TEST FOR EACH SET OF CYLINDERS.

SIDE ELEVATON

LADDER DETAL

## **CONCRETE REINFORCING**

- .1 ALL REINFORCING STEEL TO MEET CAN/CSA-G30.18-M92 (R2002) BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT 400 mPa DEFORMED BARS EXCEPT 10M TIES MAY BE 300 mPa.
- .2 ALL STEEL TO BE DETAILED IN ACCORDANCE WITH CSA A23.1-04 CONCRETE MATERIALS AND METHODS OF THE CONCRETE CONSTRUCTION, A23.3-04 DESIGN OF CONCRETE STRUCTURES AND
- STANDARD THE MANUAL OF PRACTICE BY THE REINFORCING INSTITUTE OF CANADA 2004.
- .3 CLEAR COVER TO REINFORCING WILL BE: INTERIOR CONCRETE SLABS & WALLS .
- .4 PROVIDE LAPS TO CSA A23.3 OR THE FOLLOWING MINIMUMS. 10M - 700 mm
  - 15M 1000 mm 20M - 1200 mm 25M - 1900 mm
- .5 ALL REINFORCING TO BE HELD IN PLACE AND TIED WITH PROPER ACCESSORIES, HI-CHAIRS AND SPACERS. DETAIL, SUPPLY AND INSTALL ALL ACCESSORIES.
- HI-CHAIRS TO HAVE 4 LEGS AND TO BE STAPLED OR NAILED TO THE FORMWORK. .6 REINFORCING STEEL SHALL NOT BE WELDED, HEATED OR BENT ON-SITE WITHOUT PRIOR
- APPROVAL OF THE CONSULTANT. DOWELS TO CONCRETE SLABS AND WALLS TO MATCH SLAB REINFORCING (U/N).
- MISCELLANEOUS CONCRETE: 150 mm OR LESS THICK - REINFORCE WITH 15M AT 300 mm O.C., E.W. THICKNESS GREATER THAN 150 mm REINF W/ 15M AT 300 mm O.C., E.W. E. F.

# STRUCTURAL STEEL

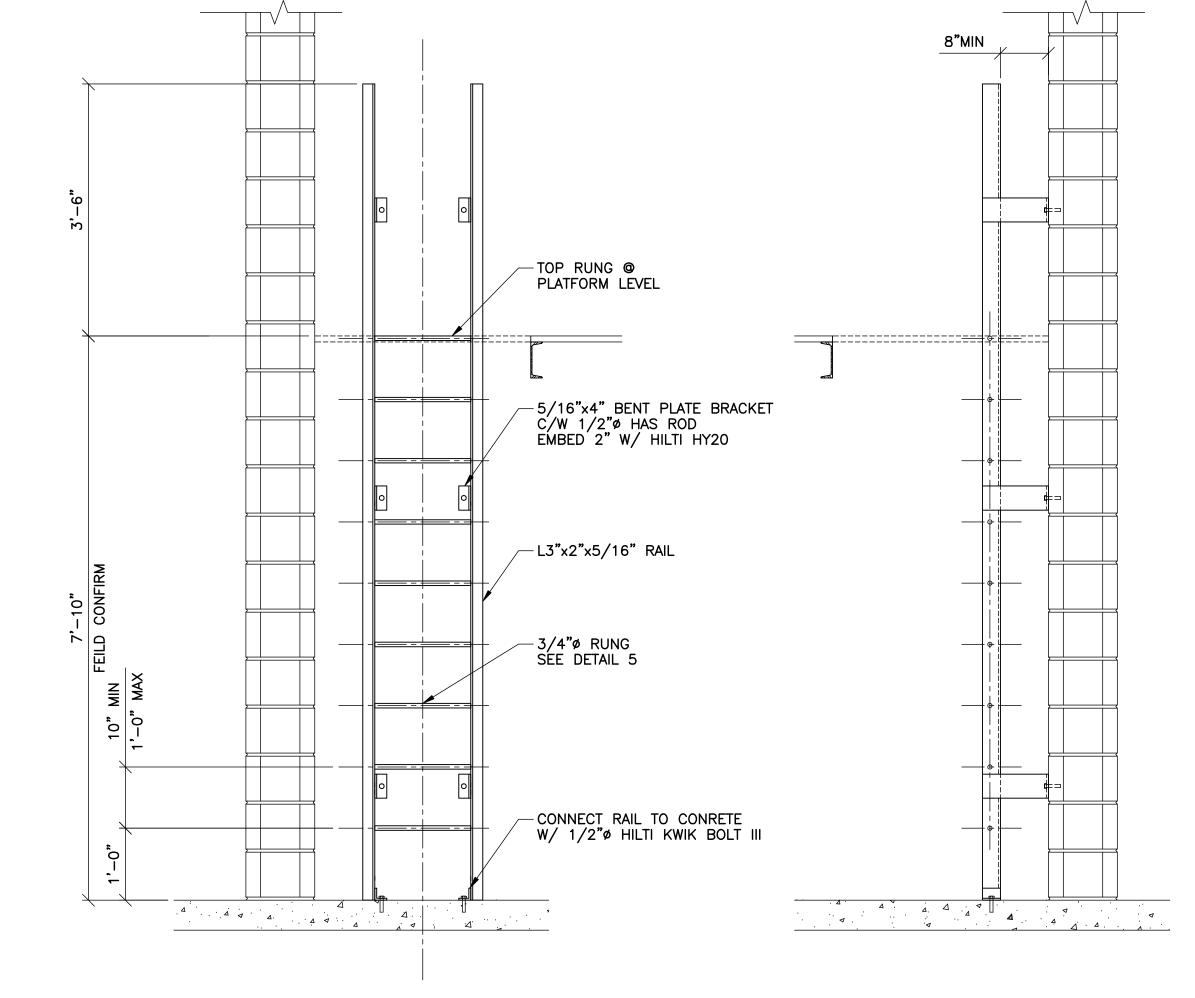
- .1 DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL TO CONFORM TO: 1 CAN3-S16.1-01, LIMIT STATES DESIGN OF STEEL STRUCTURES
  - .2 CSA W59-03, WELDED STEEL CONSTRUCTION.
  - .3 CSA 040.20-04 GENERAL REQUIREMENTS FOR ROLLED OR WELDED STRUCTURAL QUALITY STEEL .4 CSA G40.21-04 STRUCTURAL QUALITY STEELS
- .5 CSA W47.1-03, CERTIFICATION OF COMPANIES FOR FUSION WELDING OF STEEL STRUCTURES .6 ASTM A325M-93, HIGH STRENGTH BOLTS
- CHANNELS, ANGLES, TEES AND PLATES: TO G40.21-04, 300 mPa
- WELDED WIDE FLANGE: TO G40.21-04, 350W W SHAPES, HSS: TO G40.21 GR 350W OR ASTM A992/A572 GR 50 (FY = 345 mPa MIN) CLASS C
- BOLTS: TO ASTM A325, MIN TWO PER CONNECTION U.N.O. ANCHOR RODS: TO G40.21-04, 300 mPa
- STRUCTURAL STEEL SUPPLIER IS RESPONSIBLE FOR DESIGN OF ALL CONNECTIONS NOT SHOWN. SUBMIT SHOP DRAWINGS BEARING SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN MANITOBA FOR REVIEW PRIOR TO FABRICATION.
- STEEL SURFACE PREPARATION AND PAINTING SHALL BE IN ACCORDANCE WITH SSPC (STEEL STRUCTURE PAINTING COUNCIL) VOLUMES 1 AND 2. SURFACE PREPARATION SHALL BE A WIRE BRUSH CLEANING TO SSPC-SP-3 (POWER TOOL). FIELD TOUCH-UP ALL DAMAGED AND UNPAINTED AREAS, WELDS, ABRASIONS, ETC.. STRUCTURAL STEEL TO RECEIVE ONE COAT OF CISC/CPMA 2-75 RED OXIDE SHOP PRIMER.

### METAL FABRICATIONS

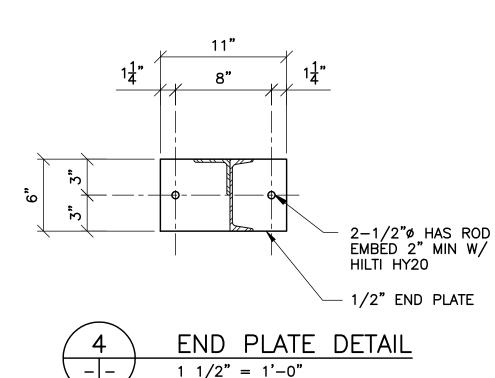
- .1 SHOP DRAWINGS: PROVIDE ENGINEERING DRAWINGS BEARING SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA FOR REVIEW PRIOR TO CONSTRUCTION.
- WELDING: STEEL TO CSA W59-03, ALUMINUM TO CSA CSA W59.2-M1991 (R2003)
- W SHAPES, HSS: TO G40.21 GR 350W OR ASTM A992/A572 GR 50 CLASS C CHANNELS, ANGLES, TEES AND PLATES: TO G40.21-04, 300 mPa
- STEEL PIPE: TO ASTM A53.
- BOLTS AND ANCHOR BOLTS: TO ASTM A307.
- SHOP COAT PRIMER: TO CISC/CPMA 2075.

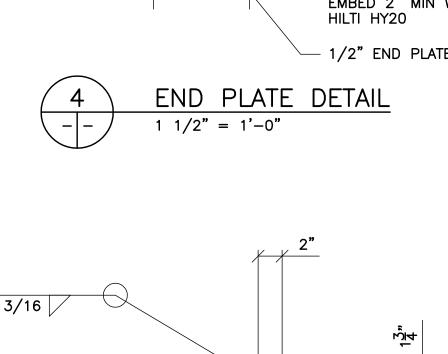
#### <u>GRATING</u>

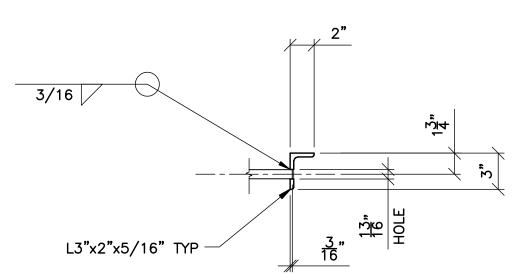
- .1 ALL GRATING SHALL BE FASTENED WITH SADDLE CLIPS. METHODS OF FIXING SHALL
- CONFORM TO THE METAL GRATING INSTITUTE RECOMMENDATIONS. .2 ALL LOOSE EDGES AND REMOVABLE PANELS TO BE BANDED WITH 4.8  $\times$  32 mm
- PLATE UNLESS NOTED OTHERWISE. GRATING SHALL BE CUT AND NEATLY FITTED AROUND COLUMNS, MACHINERY SUPPORTS,
- PIPING, DUCTS, ETC. TOUCH-UP PAINTING SHALL BE PERFORMED ON ANY FIELD BURNING AND WELDING.
- .4 COAT GRATING AS PER STRUCTURAL STEEL.



FRONT ELEVATON







RUNG CONNECTION DETAIL



00 | ISSUED FOR TENDER 08.05.27 T.W.S. NO. DESCRIPTION DATE | ISSUED BY REVISIONS/ISSUE THE CONTENT OF THIS DOCUMENT IS NOT INTENDED FOR THE USE OF, NOR IS IT INTENDED TO BE RELIED UPON BY ANY PERSON, FIRM OR CORPORATION, OTHER THAN THE CLIENT AND WARDROP ENGINEERING INC. WARDROP ENGINEERING DENIES ANY LIABILITY WHATSOEVER TO OTHER PARTIES FOR DAMAGES OR INJURY SUFFERED BY SUCH THIRD PARTY ARISING FROM USE OF THIS DOCUMENT BY THEM, WITHOUT THE EXPRESS PRIOR WRITTEN AUTHORITY OF WARDROP ENGINEERING AND OUR CLIENT. THIS DOCUMENT IS SUBJECT TO FURTHER RESTRICTIONS IMPOSED BY

THE CONTRACT BETWEEN THE CLIENT AND WARDROP ENGINEERING INC. AND THESE PARTIES' PERMISSION MUST E SOUGHT REGARDING THIS DOCUMENT IN ALL OTHER CIRCUMSTANCES. CITY OF WINNIPEG

TRANSIT DEPARTMENT

RAWING DESCRIPTION

**WARDROP** Engineering Inc.

WINNIEG TRANSIT - OSBORNE STREET GARAGE PAINT BOTTH BREATHING AIR SYSTEM UPGRADE

COMPRESSOR ROOM COMPRESSOR SUPPORT PLATFORM

DESIGNED BY: CHECKED BY: T.W.S. J.L.P. **PRELIMINARY DRAWING** SCALE: NOT TO BE AS NOTED USED FOR

08.05.01 DRAWING NO. **CONSTRUCTION** 0829720100-DWG-S0001