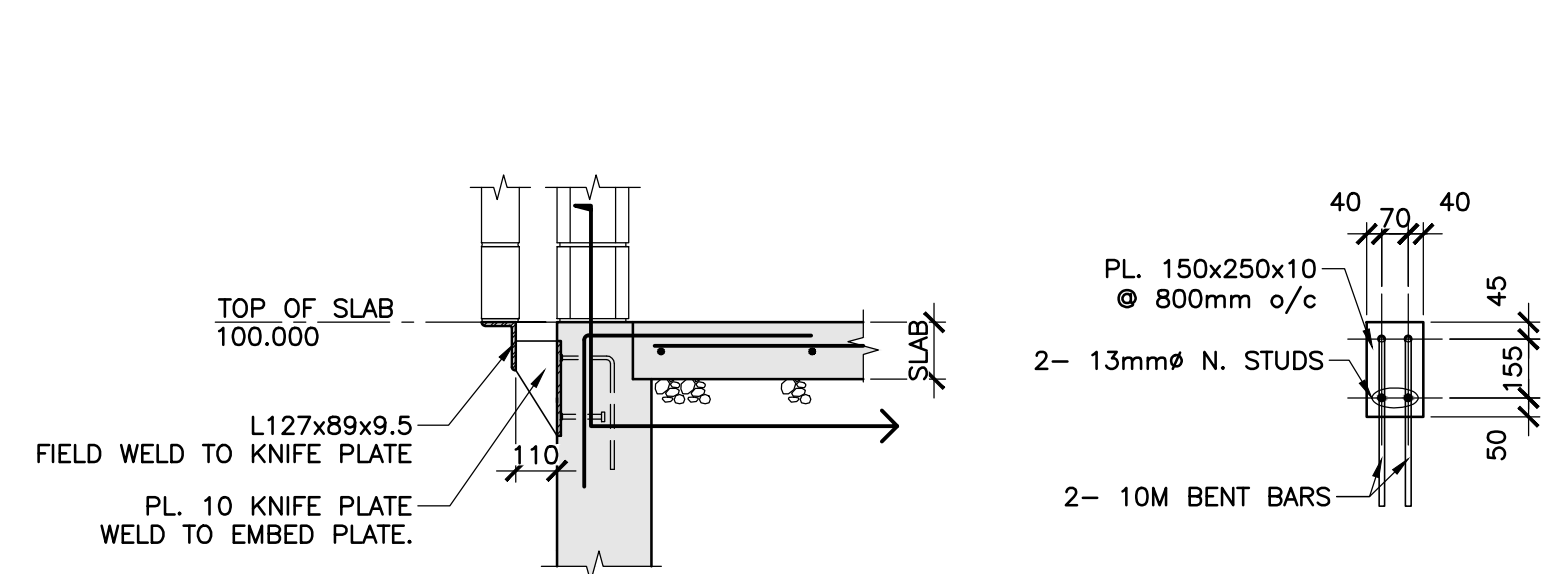
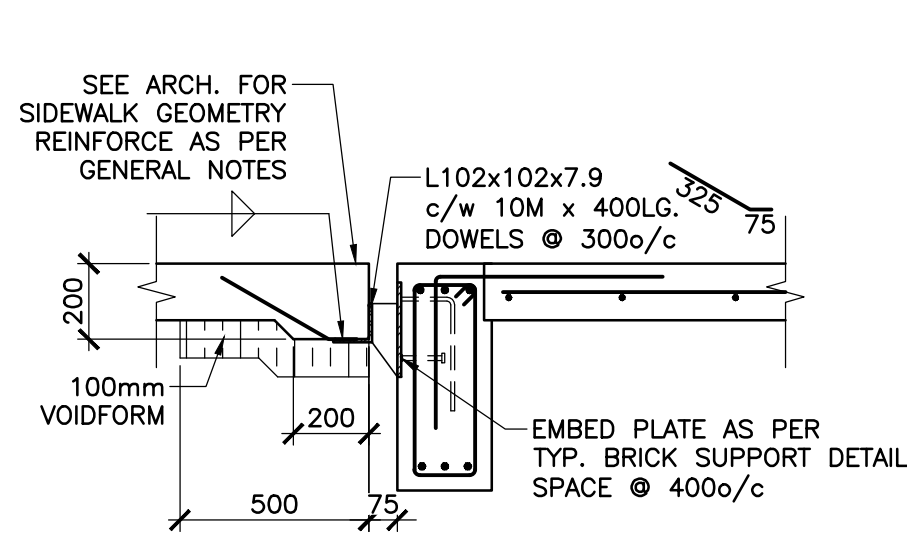


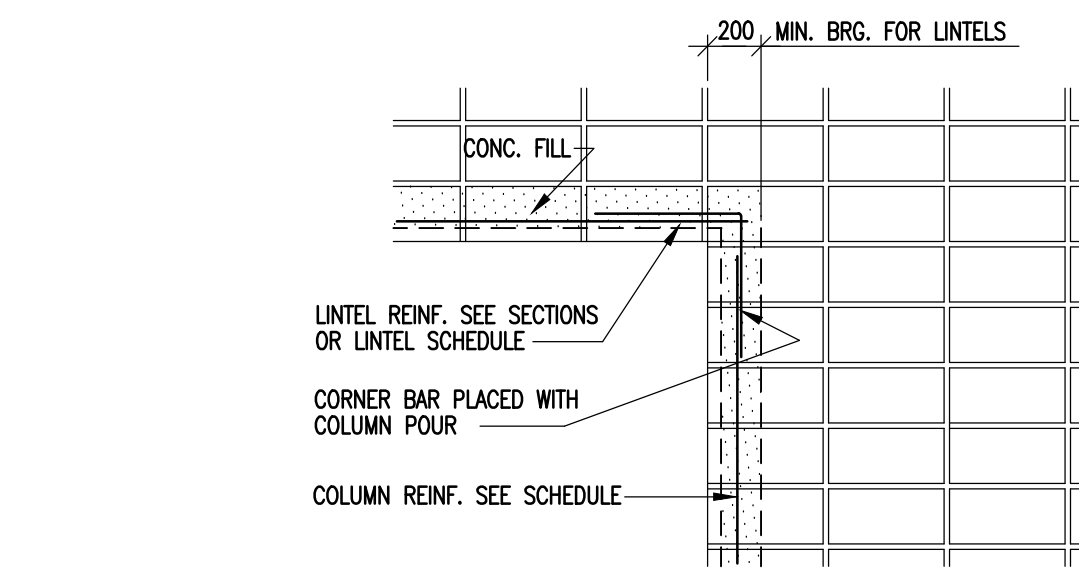
174th STREET



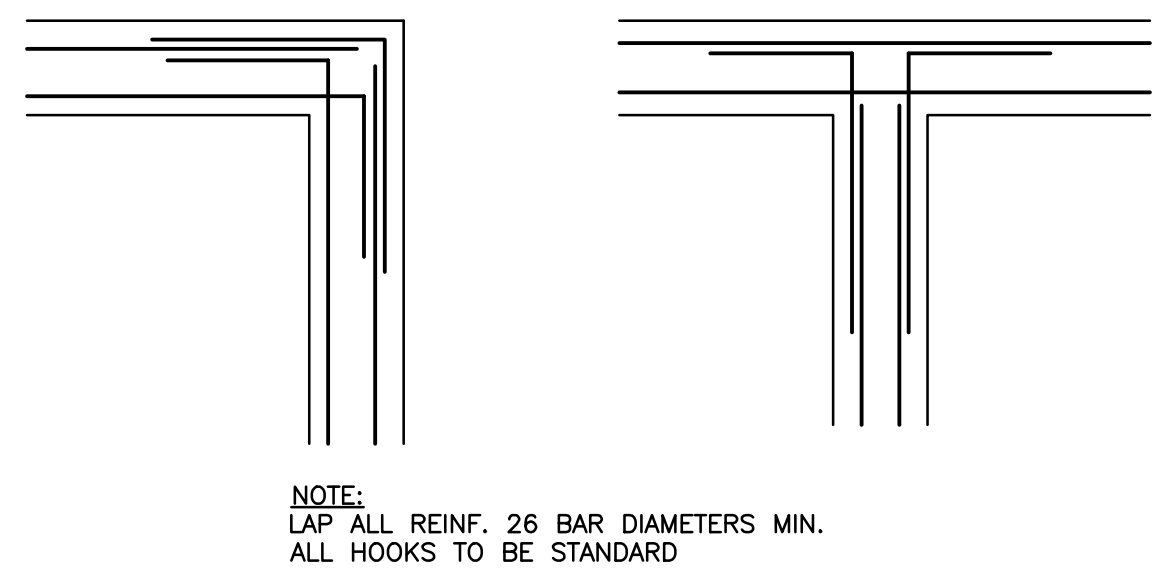
TYP. BRICK SUPPORT DETAIL
Scale: 1:20



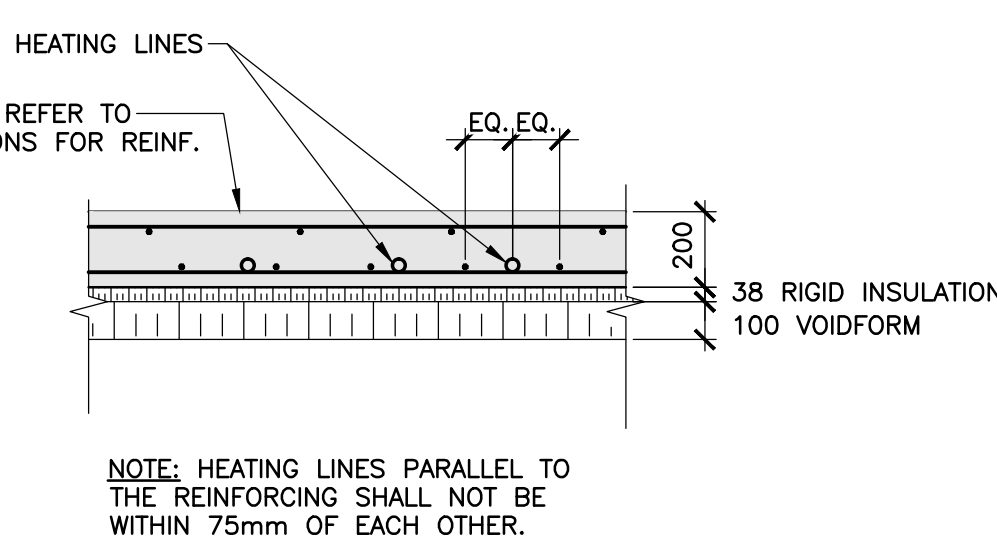
TYPICAL DETAIL AT MANDOORS
Scale: 1:20



MASONRY LINTEL TO COLUMN DETAIL
Scale: 1:20



TYP. FOUNDATION WALL INTERSECTIONS
Scale: 1:20



TYP. PLACEMENT OF
HEATING LINES IN SLAB
Scale: 1:20

- GENERAL NOTES**
- All elevations shown on structural drawings are referenced to top of main floor 100.000.
 - The structural engineer does not have control or charge of, and shall not be responsible for, construction means, methods, techniques, sequences, or procedures, for safety precaution and programs in connection with the work, for the acts or omissions of the contractor, sub-contractor or any other person performing the work, or for the failure of any of them to carry out the work in accordance with the contract documents.
 - The general soil conditions are shown on the test hole sections on this sheet. For details of the sub soil conditions refer to the soils report prepared by EBA Engineering Consultants Ltd., a copy of which is contained in the Specification Section 31.14.1.1.
 - All dimensions shown on the structural drawings are to be confirmed with Architectural drawings and any inconsistencies noted are to be reported to the Architect before proceeding with the work.
 - Details of top of foundation walls and details for windows, doors, thresholds, etc. are to be confirmed with Architectural details and/or Manufacturer's shop drawings. Provide all necessary bucks, reglets, nailers, built-in fixings, etc. as required.
 - Structural sections and details are intended to show, primarily, structural details of support and fixing of structural members. Where details of walls and architectural treatments and finished ceiling height, etc. are indicated or where shown on structural drawings, these are to be confirmed with Architectural drawings and adjusted accordingly.
 - The Consultant does not design nor do field review of excavation, backfill and shoring.
 - Contact the Consultant a minimum of 24 hours prior to scheduling a field review.
 - CONCRETE**
 - Dowels are to be provided from the top of the grade beams to all reinforced masonry columns and concrete filled block cells. The locations of the reinforced masonry units supported on foundation walls and structural slabs are shown on the plans. Required dowels shall be embedded 24 dia. and shall project to the masonry units 24 dia.
 - Concrete Specifications:

Exposure Class	28 Day Strength	Cement Type	Max. Agg. Size	Slump (+/- 20mm)	w/c ratio	
S-2	32 MPa*	HS	20 mm	80 mm	0.45	
N	30 MPa	OU	20 mm	80 mm	0.50	
Grade Beams and Piles						
Interior Structural Slab on Grade	C-2	32 MPa*	HS	20 mm	80 mm	0.45
Sidewalks, Curbs and Gutters, Lightpole bases and Flagpole bases	C-1	32 MPa*	HS	20 mm	80 mm	0.45
Structural Entrance Slabs	C-1	35 MPa*	HS	20 mm	80 mm	0.40
Reinforced Masonry						
* Air entrained OK to 8%						
- REINFORCING STEEL & WELDED WIRE MESH**
- All reinforcing shall conform to CAN/CSA G30.18-M92 - 400 MPa. Provide weldable rebar where required at connections - Grade 400W.
 - Welded wire mesh shall conform to CSA G30.5-M1983.
 - Detail in accordance with AGI 315-86 - Manual of Standard Practice.
 - Provide corner bars equal to main reinforcing - 24 diameter laps, 450 mm minimum.
 - Lap mesh by overlapping wires and tying.
 - All reinforcing is to be reviewed before placing concrete. Notify the Consultant a minimum of 24 hours prior to concrete pours to schedule a field review.
- STRUCTURAL SLABS ON GRADE (SSOG)**
- SSOG shall be thickness and reinforced as per Structural drawings on 6 mil Poly Vapour Barrier on 100mm voidform on compacted sub-base.
 - See specifications for finishes. Hardeners and sealing are not to be used on slab.
- SIDEWALKS**
- Sidewalks shall be 100 mm thick reinforced with 10M @ 400 e.w. mid depth and with reinforced edge thickening as shown on the Architectural drawings on a 150 mm minimum bed of pit run gravel compacted to 95% Standard Proctor density on the native inorganic material or fill material compacted to 95% Standard Proctor Density.
 - Sidewalks shall be wood floated, power steel trowelled, brush finish (or as directed) and shall be edge trowelled.
 - Tooled contraction joints shall be provided at 1200 mm intervals and asphaltic expansion joints shall be provided at 6 metre centres.
 - Layout of contraction and expansion joints shall be approved by the Architect.
- LOAD BEARING MASONRY**
- All vertical reinforcing in exterior walls to be dowelled to structure below. Dowels to match vertical reinforcing in size and location unless noted otherwise.
 - Vertical reinforcing in exterior walls is to have class B tension lap splices.
 - Grout one cell each side of all openings and reinforce with 1- 15M continuous unless noted otherwise.
 - Run all lintels 400mm past openings each side unless noted otherwise.
 - All exterior bearing walls to have filled cells at 1000mm o/c unless noted otherwise. Reinforce each filled cell with 1- 15M continuous vertical.
 - Minimum Bond Beam requirements: Provide min. 200 deep bond beam R/W 1- 15M continuous at top of all walls, at window sills, at all floor and roof levels, and at 4.0m Max. o/c.
 - Stop bond beams and joint reinforcing at control joints.
 - Provide filled cores and bond beams as required to provide solid anchoring for structural and architectural connections and anchorages.
- | MASONRY LINTEL REQUIREMENTS IN LOADBEARING BLOCK WALLS | | | | |
|--|-------|-------------|--------|------------------------------|
| SPAN | DEPTH | REINFORCING | | |
| | | TOP | BOTTOM | STIRRUPS |
| 0 - 2000mm | 400 | 1-15M | 1-20M | 10M @ 200o/c (SINGLE LEGGED) |
| 2001 - 3000mm | 600 | 1-15M | 1-20M | 10M @ 200o/c (SINGLE LEGGED) |
- STRUCTURAL STEEL**
- All structural steel rolled W shapes, and HSS sections shall conform to CAN/CSA-G40.21-350W steel.
 - Pipe sections shall conform to ASTM A53 Grade B with specified yield strength of 240 Mpa.
 - All angles, channels, and plates shall Conform to CAN/CSA-G40.21-300W steel as a minimum.
 - Anchor bolts shall conform to CAN/CSA G40.21-300W. All other bolts shall be ASTM A325.
 - All welding shall be arc welding conforming to CSA W59-03 and to the requirements of CSA W47.1-03, Division 1 or 2 minimum. Structural steel fabricator and erector shall provide written confirmation of certification by the Canadian Welding Bureau.
 - All steel shall be designed, fabricated and erected in accordance with CAN/CSA-S16-09 and the CISC Code of Standard Practice for Structural Steel for Buildings.
 - Steel joist chord sections may be of higher strength steels but at least equal to CAN/CSA-G40.21-300W.
 - Joists shall be cambered.
 - All joist bridging to be design in accordance with CAN/CSA-S16-09.
 - Joists fabricated by means of resistance welding techniques are not acceptable. See Specifications.
 - All O.W.S.J. to have a minimum joist seat depth of 100mm.
 - See Design Loads Item 17. Design beam connections for reactions derived from these loads.
 - All shear connectors to be headed studs to the size specified corresponding to CAN/CSA S16-09.
- METAL DECKS**
- Shall be 38 mm roof steel deck as noted on plans, formed from zinc coated steel conforming to ASTM A446, GradeA or B, coating - wiped coat. Gauge to suit spans, load conditions and support conditions. See snow loading diagram and table of design loadings, below in item 17.
 - Design per CSA S136-07, stress not to exceed 154 MPa and deflection 1/240 of the span. Use 3 span continuous where possible.
 - Cut length of deck units shall be to support spacing, minimum end lap 50 mm and laps shall be over supports.
 - Provide shop drawings.
 - Fixings:
 - Roof areas with ceilings: shall be fixed by fusion welding 300 mm o/c at all supports. Welds shall be touched up after completion.
 - Roof areas with no ceiling: shall be fixed by self-tapping screws complete with washers to structural roof framing members at 300 mm o/c.
 - Cut and make good all required openings, provide reinforcement for openings 150 mm x 150 mm to 450 mm x 450 mm.
 - Provide and install all necessary deck filaments.
 - Metal deck fabricator and erector shall provide written conformation of certification by the Canadian Welding Bureau.
- DESIGN LOADS (Service)**
- Roof Loading (Typical)

DL	1.1 kPa
SNOW	1.68 kPa
 - Main Floor (Typ.)

D.L	6.1 kPa
L.L	4.8 kPa
 - Wind Design Data and Factors for Edmonton as per ABC 2006 and NBC 2010.
 - All joists must be designed for the specified roof loads plus a concentrated load of 3 kN applied at any panel point along the top or bottom chord. All roof joists shall be designed for a minimum net factored uplift of 0.50kPa.
 - Climatic Design Data


Snow	S _s (1/50) = 1.7kPa	S _s (1/50) = 0.1kPa	S _s (1/50) = 0.45kPa
Wind	q(1/50) = 0.45kPa	S _s (2.0) = 0.12	S _s (5) = 0.06
Seismic Data	S _s (2.0) = 0.12	PGA = 0.06	S _s (1.0) = 0.02

BELL PILE SCHEDULE				
MARK	SHAFT Ø	BELL Ø	LENGTH *	VERT. REINF.
P1	400mm Ø	1200mm Ø	>8000mm	5 - 20M
-	-	-	-	10M AT 300

NOTE: PILES TO BE CENTRED GRADE BEAMS UNLESS NOTED OTHERWISE

1/10 PILE ELEV. AND LOAD MARKED ON LAYOUT OR SCHEDULE
3 EXTRA 10M TIES AT 75 O.C.
2- 25M DOWELS x 1200 LG. AT ALL LOC. UNDER GRADE BEAMS TO BE CAST IN TOP OF PILES BY PILING CONTRACTOR
VERT. REINF. - SEE SCHEDULE
TIE SPACING AND SIZE SEE SCHEDULE
PILE SHAFT DIAMETER SEE SCHEDULE
NOTE IT IS IMPERATIVE THAT THE BASE OF THE DRILL BEARING PILES BE IN COMPLETE CONTACT WITH UNDISTURBED SOIL - CLEARANCE OF DISCREPANCY MUST BE CONFIRMED BEFORE CONC. IS PLACED
BELL DIAMETER SEE SCHEDULE
NOTED TO BE AT LEAST 1.5m INTO CLAY TILL

C.I.P. END BEARING PILE DETAIL



Public Works and
Government Services
Canada

Travaux publics et
Services gouvernementaux
Canada

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

PRIME CONSULTANT

ONPAarchitects

10415 Princess Elizabeth Avenue, Edmonton, AB T5G 0Y5
T 780.482.4813 F 780.488.4568
E info@onpa.ca W www.onpa.ca

CONSULTANTS



BPTEC - DNW Engineering Ltd.



HEMISPHERE INC.
CONSULTING ENGINEERS
"EDMONTON • CALGARY • REGINA •"



ISL Engineering
and Land Services

5		
4		
3		
2		
1	ISSUED FOR TENDER	MAR. 15/13
0	USER REVIEW	FEB. 28/11
Revision/Revision	Description/Description	Date/Date

Client/Client

EDMONTON ALBERTA
Correctional Services Canada

11151 178 St. NW
Edmonton, AB T5S 2N8

Project title/Titre du projet

EDMONTON INSTITUTION FOR WOMEN
4 Unit ADDITION OF
Structured Living Environment Unit (SLE)

Approved by/Approuvé par

Designed by/Concept par
CWI JMC

Drawn by/Dessiné par
JC

Review by/Examiné par
CWI JMC

PWSSC Project Manager/Administrateur de Projets TPSSC

PWSSC, Architectural and Engineering Resources Manager/
Ressources Architectural et de Directeur d'ingénierie, TPSSC

Client/Client

Drawing title/Titre du dessin

GENERAL NOTES & TYPICAL DETAILS

Project No./No. du projet R.030502.001	Sheet/Feuille S1.0 OF Total 2	Revision no./ La Révision no. 0
---	-------------------------------------	--