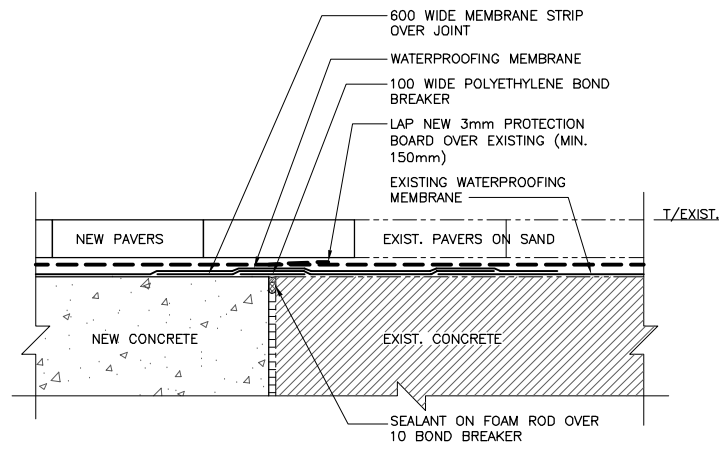
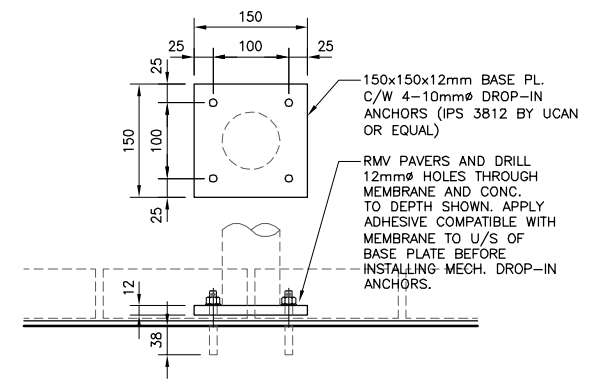


File Name: P:\Projects\2010\10-0109-01\Drawings\Struct\10-0109-01-S3-r0.dwg - Tab: S03 Plotted By: MBFischuk 05/06/2010 [Thu 1:52pm]
 24"x36" PLOT SCALE: 1"=1'



1 MEMBRANE DETAIL
 SCALE: 1:5 (24x36)
 1:10 (11x17)



2 BASEPLATE DETAIL
 SCALE: 1:5 (24x36)
 1:10 (11x17)

FOUNDATIONS (C.I.P. CONCRETE PILES)

- FOUNDATIONS SHALL BE CAST-IN-PLACE CONCRETE FRICTION PILES AS SHOWN ON DRAWINGS.
- THE PILING CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND SERVICES IN PILING AREA WHETHER SHOWN OR NOT. EXPOSE ALL SERVICES CLOSE TO PILING AS REQUIRED.
- PILES SHALL NOT BE MORE THAN 50mm OUT OF POSITION Laterally at the top and not more than 2% out of plumb.
- REINFORCE ALL PILES AS DETAILED ON THE DRAWINGS. REFER TO CONCRETE NOTES FOR CONCRETE REQUIREMENTS. INSTALL EACH PILE AS A CONTINUOUS POUR.
- VIBRATE TOP 460mm OF CONCRETE IN ALL PILES.
- SLEEVE WHERE REQUIRED SHALL BE INCLUDED IN THE PILING CONTRACT.

REINFORCING STEEL

- REINFORCING STEEL TO BE NEW DEFORMED BILLET STEEL BARS CONFORMING TO CAN/CSA G30.18-M92. GRADES TO BE: 400 MPa FOR 15M BARS AND LARGER; 300 MPa FOR 10M BARS.
- 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, CSA A23.3 AND ACI 315-80 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" EXCEPT AS NOTED. LAP STEEL 36 BAR DIAMETERS (MINIMUM) UNLESS NOTED OTHERWISE.
- LAP BEAM AND STRUCTURAL SLAB TOP REINFORCING AT CENTER SPAN, AND BOTTOM STEEL AT SUPPORTS.
- BEND ALL HORIZONTAL REINFORCING 300mm AROUND CORNERS OR PROVIDE ADDITIONAL 600 X 600mm ANGLE BARS.
- REINFORCING STEEL SHALL BE CLEAN, FREE OF RUST, DIRT, LOOSE SCALE, OIL, GREASE OR ANY OTHER MATERIAL WHICH WOULD REDUCE BOND WITH THE CONCRETE.
- 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.
- PROVIDE MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS FOLLOWS (mm):

C.I.P. PILES	75
GRADE BEAMS (SIDES)	38
GRADE BEAMS (BOTTOM)	75
SLAB-ON-GRADE (BOTTOM)	50
STRUCTURAL SLAB (TOP & BOTTOM)	30

CONCRETE

- CONCRETE MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CAN/CSA-A23.1/ A23.2 (LATEST). SEE BELOW FOR MIX REQUIREMENTS.
- CONCRETE MATERIALS, FORMING, PLACING, FORM REMOVAL, REINFORCING, ETC. TO ACI RECOMMENDATIONS AND ACCEPTABLE PRACTICE.
- MIX WATER SHALL BE POTABLE. CALCIUM CHLORIDE SHALL NOT BE USED.
- GRANULAR BASE TO BE 'A-BASE' PLACED ON GRADE COMPACTED TO 98% STANDARD PROCTOR. DO NOT COMPACT FROZEN GRADE OR PLACE GRANULAR BASE ON FROZEN GROUND. PROOF ROLL SUBGRADE TO 98% STD. PROCTOR.
- PROVIDE ADEQUATE PROTECTION FOR CONCRETE DURING CURING PERIOD.
- CONCRETE MIX DESIGN SHALL BE PROPORTIONED AS FOLLOWS:

SLABS AND BEAMS	28 DAY COMP. STRENGTH	32 MPa
CEMENT	TYPE GU	
W/C RATIO	0.45	
AGGREGATE SIZE (MAX.)	20mm	
ENTRAINED AIR	4%-6%	
SLUMP (MAX.)	90mm (±10mm)	

PILES	28 DAY COMP. STRENGTH	32 MPa
CEMENT	TYPE HS	
W/C RATIO	0.45	
AGGREGATE SIZE (MAX.)	20mm	
ENTRAINED AIR	4%-6%	
SLUMP (MAX.)	90mm (±10mm)	

NOTES

- TOOL ALL CONCRETE EDGES ALONG SEALANT JOINTS WITH 6mm RADIUS.
- CHAMFER THE UNDERSIDE EDGES OF ALL PAVERS INSTALLED ALONG THE MEMBRANE PERIMETER, UPSTANDS AND PENETRATIONS TO PREVENT LOCALIZED WEAR OR STRESSING OF MEMBRANE IN ALL THESE OR SIMILAR LOCATIONS AND CONDITIONS.

WATERPROOFING MEMBRANE SYSTEM

- THE WATERPROOFING MEMBRANE USED TO SEAL THE NEW STRUCTURAL CONCRETE SLABS AND VERTICAL GRANITE FACES SHALL BE A SELF-ADHERING MODIFIED BITUMENOUS SHEET AND STRIPPING, W.R. GRACE & CO. 'BITUTHENE 3000'. ALL OTHER PRODUCTS REQUIRED AS PART OF THE SYSTEM SUCH AS MASTICS, PRIMERS, CONDITIONERS, ETC. SHALL BE PRODUCTS OF (OR RECOMMENDED BY) THE SYSTEM MANUFACTURER.
- PROVIDE WRITTEN DOCUMENTATION FROM THE SYSTEM MANUFACTURER RECOGNIZING THE SUITABILITY OF THE WATERPROOFING MEMBRANE CONTRACTOR FOR THE EXECUTION OF THE WORK.
- DELIVER, STORE, HANDLE, PREPARE, APPLY, PROTECT AND DISPOSE OF MATERIAL IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS, AND ALL PERTINENT GOVERNMENTAL REQUIREMENTS AND REGULATIONS.
- CONFIRM COMPATIBILITY OF ALL MATERIALS WITH EXISTING SUBSTRATE MATERIALS AT LEAST 2 WEEKS PRIOR TO APPLICATION OF A/B MEMBRANE MATERIALS. ANY INCOMPATIBILITY SHALL BE IMMEDIATELY REPORTED TO THE DESIGN ENGINEER BEFORE PROCEEDING IN THESE AREAS.
- THE ENTIRE AREA AS NOTED IN PLAN SHALL BE SEALED AS DETAILED, NOTED OR APPROVED TO PROVIDE A CONTINUOUS WATERTIGHT SEAL OVER GENERAL SURFACE AREA.
- ALL SURFACES TO RECEIVE WATERPROOFING MEMBRANE SYSTEM SHALL BE SMOOTH, SOUND, DRY, CLEAN AND FREE OF OIL, GREASE, DIRT, OR OTHER CONTAMINANTS.
- APPLY P-3000 PRIMER TO ALL SURFACES TO RECEIVE SELF-ADHERING SHEET IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. COVER AREA ONLY AS LARGE AS WILL BE COVERED THAT DAY. START INSTALLATION OF MEMBRANE MATERIALS AS SOON AS PRIMER IS TACK FREE TO PREVENT CONTAMINATION.
- APPLY STRIP AND SHEET MEMBRANE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. WRINKLED AND OPEN STRIP/SHEET EDGES SHALL BE REJECTED. INSTALL STRIPPING AND SHEETS IN LONGEST PRACTICAL LENGTH TO MINIMIZE LAPS. AVOID STRETCHING STRIPPING/SHEET MATERIAL TO PREVENT STRESSING AND THE RESULTING BOUNCE-BACK. PROVIDE FULL SURFACE ADHERANCE OF ALL STRIP/SHEET MATERIAL. ROLL ENTIRE INSTALLATION INTO PLACE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. INSPECT AREA FOR FLAWS. REPLACE OR SEAL FLAWED AREAS TO THE SATISFACTION OF THE CONSULTANT.
- AVOID ANY CONSTRUCTION TRAFFIC OVER COMPLETED UNPROTECTED MEMBRANE INSTALLATIONS. AFTER INSPECTION OF A COMPLETED AREA PROTECT WITH 3mm W.R. MEADOWS "SEALTIGHT VIBRAFLEX WATERPROOFING PROTECTION BOARD". INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. NOTIFY CONSULTANT AT LEAST 24 HOURS PRIOR TO COVERING TO ALLOW FOR INSPECTION.
- SEAL VERTICAL TERMINATIONS AS DETAILED WITH BITUTHENE MASTIC. APPLY GENEROUS BEAD OVER EDGE OF STRIP/SHEET MATERIAL ENSURING FULL CONTACT AND ADEQUATE OVERLAP WITH BOTH THE SUBSTRATE AND MEMBRANE MATERIAL. ALLOW MATERIAL TO CURE PRIOR TO INSTALLING PAVERS OR LEVELLING SAND. INSTALL MEMBRANE AND MASTIC SEAL APPROXIMATELY 10mm TO 12mm BELOW FINAL TOP SURFACE OF ADJACENT PAVERS.

0	10/05/-	ISSUED FOR TENDER	
NO.	YY/MM/DD	DESCRIPTION	BY
REVISIONS / ISSUE			
CLIENT:			
CITY OF WINNIPEG PLANNING, PROPERTY and DEVELOPMENT CIVIC ACCOMMODATIONS DIVISION			
PROJECT:			
COURTYARD UNIVERSAL ACCESS UPGRADE CITY HALL COURTYARD			
DWG. DESCRIPTION:			
STRUCTURAL			
DETAILS			
DESIGN BY:		DATE:	
R.J.L.		10/01/21	
DESIGN CHECK:		DATE:	
DRAWN BY:		DATE:	
MBB		10/02/10	
DWG CHECK:		DATE:	
DWG. NO. 10-0109-01 S3			
REV: 0			

