CW-9-M564-1

1.0 GENERAL NOTES:

1.1 FIELD VERIFY ALL DIMENSIONS, CLEARANCES AND QUANTITIES PRIOR TO FABRICATION.

1.2 EXISTING BUILDINGS, EQUIPMENT AND SERVICES SHALL BE PROTECTED FROM ANY DAMAGE THROUGHOUT CONSTRUCTION.

1.3 ALL CONSTRUCTION AND ERECTION WORK TO BE CARRIED OUT IN SUCH A MANNER SO AS NOT TO ENDANGER OR INTERFERE WITH PLANT OPERATION.

1.4 DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE PROJECT TECHNICAL SPECIFICATIONS.

2.0 STRUCTURAL AND MISCELLANEOUS STEEL:

2.1 STRUCTURAL AND MISCELLANEOUS STEEL FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH CAN/CSA-S16.1 (LATEST).

2.2 STRUCTURAL STEEL SHALL MEET THE REQUIREMENTS OF CAN/CSA-G40.20/G40.21 (LATEST EDITION).

ROLLED W-SHAPES.....CSA G40.21-350W
ROLLED SHAPES & PLATES.....CSA G40.21-300W (MIN.)
HSS SECTIONS.....CSA G40.21-350W-CLASS C
STANDARD PIPE .....ASTM A53
COLD FORMED STEEL.....CSA S136-07
ANCHOR BOLTS .....ASTM A307M
BOLTS, NUTS & WASHERS.....ASTM A325M
WELDING ELECTRODES.....CSA W48.1
STEEL BARS (CARBON).....A29M

2.3 WELDING SHALL BE IN ACCORDANCE WITH CSA W59, BY WELDERS CERTIFIED AND QUALIFIED IN ACCORDANCE WITH CSA W47 (LATEST). ALL WELDS TO BE 6mm UNLESS NOTED OTHERWISE.

2.4 FIELD CONNECTIONS SHALL BE BOLTED 3/4" DIAMETER A325 UNLESS NOTED OTHERWISE. BOLTS SHALL BE TORQUED IN ACCORDANCE WITH CAN/CSA S16.1 (LATEST).

2.5 STRUCTURAL AND MISC. STEEL SHALL BE PAINTED AS FOLLOWS:

WEAR PLATE
- SURFACE PREPARATION TO SSPC-SP10 (NEAR WHITE BLAST)
- 2 COATS BAR-RUST 235 EPOXY (6-8 MILS DFT PER COAT)

SLUDGE COLLECTOR MECHANISM
- SPOT ABRASIVE BLAST CLEANING TO SSPC-SP10 (NEAR WHITE BLAST)
- 2 COATS BAR-RUST 235 EPOXY (6-8 MILS DFT PER COAT)

COUNTERWEIGHT (REFINISHING)
- SURFACE PREPARATION TO SSPC-SP10 (NEAR WHITE BLAST).
- 2 COATS BAR-RUST 235 EPOXY (6-8 MILS DFT PER COAT).

NEW STEEL
- SURFACE PREPARATION TO SSPC-SP10 (NEAR WHITE BLAST)
- 2 COATS BAR-RUST 235 EPOXY (6-8 MILS DFT PER COAT)

2.6 CONTRACTOR SHALL SUBMIT SHOP DRAWINGS (3 COPIES) FOR REVIEW PRIOR TO COMMENCING FABRICATION.

2.7 PAINTED SURFACES OF EXISTING STEEL SHALL BE GROUND SMOOTH TO BARE METAL PRIOR TO FIELD WELDING.

2.8 PAINT COLOUR: BLACK (TO MATCH EXIST.)

2.9 FIELD TOUCH-UPS WITH BAR-RUST 235 EPOXY (2 COATS).

3.0 ALUMINUM:

3.1 ALUMINUM: TO CAN/CSA S517 AND THE ALUMINUM ASSOCIATION 'SPECIFICATIONS FOR ALUMINUM STRUCTURES'. ALUMINUM FOR PLATES AND EXTRUDED SHAPES SHALL BE TYPE 6061-T651.

3.2 ALUMINUM WELDING SHALL BE IN ACCORDANCE WITH CSA W59.2 (LATEST) BY WELDERS CERTIFIED AND QUALIFIED IN ACCORDANCE WITH CSA W47.2 (LATEST). ALL WELDS TO BE 6mm UNLESS NOTED OTHERWISE.

3.3 INSTALL NYLTITE ELECTROCHEMICAL ISOLATION GASKETS TO ELECTRICALLY ISOLATE DISSIMILAR METALS (SUPPLIED BY SPAENAUR).

3.4 ALL ALUMINUM IN CONTACT WITH CONCRETE OR CAST INTO CONCRETE TO HAVE ISOLATION COATING SUCH AS HENRY CM100.

3.5 ALL NUTS, BOLTS AND ANCHORS SHALL CONFORM TO ASTM A276 TYPE 316 STAINLESS STEEL.

4.0 WEAR PLATE REHABILITATION:

4.1 WEAR PLATE IS TO BE REMOVED AND REPLACED AT ALL AREAS IDENTIFIED IN THE DRAWINGS.

4.2 DEMOLISH WEAR PLATE BY CUTTING AND/OR GRINDING PLATE AT WELDED LOCATIONS. FOR CORNER WEAR PLATES, PRYING OF THE WEAR PLATE MAY BE REQUIRED TO LOCATE EMBEDDED ANCHORS. CARE SHALL BE TAKEN TO MINIMIZE CONCRETE DAMAGE AND TO PRESERVE EMBEDDED ANCHORS IN CORNER PORTIONS OF THE WALL.

4.3 REPAIR ANY CONCRETE DAMAGE RESULTING FROM DEMOLITION WITH STRUCTURAL REPAIR MORTAR (EMACO GP OR APPROVED EQUIVALENT IN ACCORDANCE WITH B6 OF THE BID DOCUMENTS).

4.4 NEW WEAR PLATE SHALL MEET THE REQUIREMENTS OF NOTE 2.0 : STRUCTURAL AND MISCELLANEOUS STEEL.

4.5 THE WALL FACING SIDE OF NEW WEAR PLATE SHALL BE SHOP PAINTED IN ACCORDANCE WITH NOTE 2.5.

4.6 EMBEDDED ANCHORS SHALL BE GRADE A307 THREADED ROD C/W CEMENTITIOUS ANCHORING CAPSULES (AMBEX OR APPROVED EQUIVALENT IN ACCORDANCE WITH B6 OF THE BID DOCUMENTS).

4.7 INSTALLATION OF WEAR PLATE.

4.7.1 STRAIGHT PORTIONS OF WEAR PLATE SHALL BE WELDED TO THE EXISTING EMBEDDED WELD PLATES AS INDICATED IN THE DRAWINGS.

4.7.2 CORNER PORTIONS OF WEAR PLATE SHALL BE PRE-BENT TO THE PROPER RADIUS FOR EASE OF INSTALLATION. WEAR PLATE SHALL BE ATTACHED THE EXISTING EMBEDDED ANCHORS BY A PLUG WELD TO ALIGN AND SUPPORT CORNER PLATE DURING REBAR ANCHOR INSTALLATION. DRILL AND GROUT THREADED ROD ANCHOR THROUGH PLATE. THREADED ROD IS TO BE PLUG WELDED TO PLATE AND GROUND SMOOTH PRIOR TO PAINTING.

4.8 PAINT SHALL BE IN ACCORDANCE WITH NOTE 2.5.

5.0 OVERFLOW WEIR PLATE REHABILITATION:

5.1 REMOVE ALL EXISTING MEMBRANE MATERIAL FROM THE WEIR PLATES AND CONCRETE LAUNDER (ENTIRE PERIMETER).

5.2 OVERFLOW WEIR PLATE IS TO BE REMOVED AND REPLACED. NEW WEIR PLATE TO BE IN ACCORDANCE WITH NOTES 3.0 (ALUMINUM). WEIR PLATE IS TO BE REPLACED IN COMPLETE LENGTHS TO MATCH EXISTING.

5.3 THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS (3 COPIES) OF THE OVERFLOW WEIR PLATES FOR REVIEW.

5.4 NEW MEMBRANE COATING 3mm THICK SHALL BE APPLIED BETWEEN THE WEIR PLATE AND CONCRETE FOR ALL NEW AND REINSTALLED OVERFLOW WEIR PLATES IN ACCORDANCE WITH NOTE 3.4. WEIR PLATE SHALL BE REINSTALLED WHILE THE MEMBRANE COATING IS STILL UNCURED.

5.5 ALL NEW OVERFLOW WEIR PLATES SHALL MATCH THE EXISTING TOP OF WEIR PLATE ELEVATIONS.

5.6 INSTALL NEW FASTENERS TO THE OVERFLOW WEIR PLATE (ENTIRE PERIMETER). FASTENERS TO BE HILTI HY150 HAS RODS (SS.) ADHESIVE ANCHORS INSTALL AS PER MANUFACTURERS GUIDELINES.

5.7 INSTALL NEW MEMBRANE MATERIAL TO THE BOTTOM OF THE WEIR PLATE AND CONCRETE TO SEAL GAPS. MEMBRANE SHALL BE HENRY CM100 OR APPROVED EQUIVALENT IN ACCORDANCE WITH B6 OF THE BID DOCUMENTS. MEMBRANE SHALL BE 3mm THICK COMPLETE WITH REINFORCING MESH AND APPLIED IN 1.5mm LIFTS. SURFACE PREPARE CONCRETE AND ALUMINUM TO SSPC-SP3 (POWER TOOL CLEANING) CARE SHALL BE TAKEN TO NOT DAMAGE ALUMINUM PLATE DURING CLEANING PRIOR TO MEMBRANE INSTALLATION.

5.8 FILL VOIDS BETWEEN THE OVERFLOW WEIR PLATE AND CONC. LAUNDER WALL WITH FLOWABLE MEMBRANE MATERIAL (HENRY CM100).

6.0 SLUDGE COLLECTOR MECHANISM REHABILITATION: (FIXED PORTION)

6.1 THE ENTIRE SLUDGE COLLECTOR MECHANISM ASSEMBLY SHALL BE SHIMMED IN PLACE WITH WOOD BLOCKING TO ENSURE OVERALL ELEVATION DOES NOT CHANGE DURING THE WORK PERIOD. BRASS SQUEEGEE STRIPS SHALL REMAIN 25 TO 50 mm ABOVE THE CLARIFIER FLOOR.

6.2 REMOVE ALL EXISTING SCUM COLLECTOR DETECTION CHANNELS.

6.3 COATING SPOT REPAIRS.

6.3.1 COMPLETE COATING SPOT REPAIRS TO CORRODED SECTIONS OF THE EXISTING SLUDGE COLLECTOR MECHANISM ACCORDING TO THE DRAWINGS AND NOTE 2.5.

6.3.2 SPOT REPAIRS SHALL BE FIELD DIRECTED BY THE CONTRACT ADMINISTRATOR OR APPOINTED REPRESENTATIVE.

6.3.3 EXISTING BRASS SQUEEGEE STRIPS ATTACHED TO THE BOTTOM OF THE SWEEP ANGLES SHALL NOT BE REMOVED DURING SPOT REPAIRS.

6.4 TENSION ROD REPLACEMENT.

6.4.1 REPLACE ALL SLUDGE COLLECTOR TENSION ROD ASSEMBLIES ACCORDING TO THE DRAWINGS.

6.4.2 TURNBUCKLES TO BE MANUFACTURED BY CROSBY OR APPROVED EQUIVALENT IN ACCORDANCE WITH B6 OF THE BID DOCUMENTS. TURNBUCKLES SHALL MEET THE REQUIREMENTS OF ASME B30.26 (LATEST REVISION) AND HAVE A CARBON FINISH.

6.4.3 SHALL BE PAINTED WITH FIELD TOUCH UPS AFTER INSTALLATION AND TESTING IN ACCORDANCE WITH NOTE 2.8.

6.5 SQUEEGEE REPLACEMENT

6.5.1 REMOVE EXISTING BRASS SQUEEGEES AFFIXED TO THE SLUDGE COLLECTOR SWEEPS.

6.5.2 PRE-DRILL NEW BOLT HOLES IN SLUDGE COLLECTOR SWEEP ANGLES.

6.5.3 EXISTING STEEL SWEEP ANGLES SHALL BE REFINISHED ACCORDING TO NOTE 2.5 (SLUDGE COLLECTOR MECHANISM).

6.5.4 INSTALL NEW STAINLESS STEEL SQUEEGEES. SQUEEGEES SHALL BE AN AVERAGE OF 25mm ABOVE THE FLOOR TO MATCH THE CURRENT SQUEEGEE ELEVATIONS.

6.5.5 THE SQUEEGEES WILL BE DRY TESTED FOR CLEARANCES IN THE PRESENCE OF THE CONTRACT ADMINISTRATOR OR REPRESENTATIVE CONCURRENT WITH SLUDGE COLLECTOR TESTING (SEE NOTE 7.4.8).

6.6 CENTRE TOWER CROSS BRACING REPAIR.

6.6.1 REPLACE DAMAGED CROSS BRACES OF THE CENTRE TOWER STEEL IN ACCORDANCE WITH THE DRAWINGS.

6.6.2 NEW CROSS BRACES TO MATCH THE GEOMETRY OF EXISTING CROSS BRACES.

6.6.3 CENTRE TOWER CROSS BRACING REPAIRS SHALL BE COMPLETED IN CONJUNCTION WITH COUNTERWEIGHT REHABILITATION AND CORNER SWEEP REHABILITATION TO MINIMIZE LOADING ON THE SLUDGE COLLECTOR ASSEMBLY DURING REPAIRS.

6.6.4 NEW STEEL SHALL BE PAINTED IN ACCORDANCE WITH NOTE 2.5 (NEW STEEL). FIELD COATINGS TO BE APPLIED AFTER WELDING TO EXISTING TOWER STEEL.

6.7 SCUM COLLECTOR STEEL MODIFICATIONS.

6.7.1 THE SCUM COLLECTOR SUPPORT STEEL SHALL BE MODIFIED TO AVOID POTENTIAL CONTACT WITH THE COUNTERWEIGHT TENSION ROD DURING OPERATION.

6.7.2 THE SCUM COLLECTOR MECHANISMS SHALL BE REPLACED AS SHOWN IN THE DRAWINGS. ASSEMBLIES SHALL BE SHOP PAINTED IN ACCORDANCE WITH NOTE 2.5.

6.8 SCUM COLLECTOR REPLACEMENT:

6.8.1 REMOVE AND REPLACE THE SCUM COLLECTOR ASSEMBLIES AS SHOWN IN THE DRAWINGS.

6.8.2 THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS (3 COPIES) OF THE SCUM COLLECTOR ASSEMBLY FOR REVIEW.

6.8.3 VERIFY EXISTING SCUM COLLECTOR ASSEMBLY DIMENSIONS BY REMOVING A TYPICAL SCUM COLLECTOR PRIOR TO FABRICATION.

7.0 CORNER SWEEP REHABILITATION :

7.1 CONFIRM DIMENSIONS OF EXISTING CORNER SWEEP MECHANISM PRIOR TO REMOVAL AND FABRICATION OF REPLACEMENT CORNER SWEEP.

7.2 HINGE ASSEMBLY :

7.2.1 HINGE HOUSING TO BE PAINTED IN ACCORDANCE WITH NOTE 2.5 (SLUDGE COLLECTOR MECHANISM - NEW).

7.2.2 HINGE SHAFT SHALL BE CARBON STEEL IN ACCORDANCE WITH NOTE 2.2.

7.2.3 SLEEVE BUSHING MATERIAL SHALL BE IGUS TYPE H. THE SLEEVE BUSHINGS SHALL BE THE FULL HEIGHT OF THE SHAFT-PIPE INTERFACE WITH COLLARS AT THE TOP AND BOTTOM OF THE SLEEVE. HINGES ARE TO BE DESIGNED TO BE NON-LUBRICATED DUE TO EXPOSURE TO PARTICULATES IN SUBMERGED CONDITIONS.

7.2.4 CONTRACTOR SHALL SUBMIT SHOP DRAWINGS (3 COPIES) FOR REVIEW PRIOR TO COMMENCING FABRICATION OF HINGES.

7.3 CORNER SWEEP BOOM ROLLER WHEEL SHALL CONSIST OF A 152 mm DIAMETER BY 102 mm WIDE CAST URETHANE WHEEL WITH A 20 mm INNER DIAMETER GSM NYLON BUSHING SUPPLIED BY HI-TECH SEALS OR APPROVED EQUIVALENT IN ACCORDANCE WITH B6 OF THE BID DOCUMENTS. HARDNESS OF CAST URETHANE SHALL BE 65 SHORE D.

7.4 PIVOT ARM REPLACEMENT.

7.4.1 REMOVE EXISTING PIVOT ARMS AND ASSOCIATED EQUIPMENT INCLUDING CORNER SWEEP BOOM AND HINGES.

7.4.2 REMOVE AND REPLACE EXISTING HINGE SUPPORTING ANGLE MEMBERS WITH NEW CHANNEL MEMBERS.

7.4.3 MOUNT NEW HINGES TO NEW PIVOT SUPPORT CHANNELS.

7.4.5 MOUNT NEW PIVOT ARMS.

7.4.6 MOUNT NEW CORNER SWEEP BOOM.

7.4.7 CONNECT COUNTERWEIGHT ASSEMBLY. COUNTERWEIGHT LOADING WILL CREATE TORQUE INDUCED DEFLECTIONS THAT WILL NEED TO BE ACCOMMODATED IN ADJUSTMENT OF THE ASSEMBLY. COMPLETE ADJUSTMENTS TO THE CORNER SWEEP BOOM TO ENSURE IT IS LEVEL AND AT THE PROPER ELEVATION BY ADJUSTING THE SLOTTED HINGE BOLT CONNECTIONS.

7.4.8 THE SLUDGE COLLECTOR MECHANISM SHALL BE DRY TESTED FOR A MINIMUM OF 3 COMPLETE REVOLUTIONS WITH THE PRESENCE OF THE CONTRACT ADMINISTRATOR OR REPRESENTATIVE PRIOR TO RE-COMMISSIONING.

8.0 COUNTERWEIGHT REHABILITATION:

8.1 CONFIRM EXISTING CLEARANCES AND DIMENSIONS OF THE EXISTING COUNTERWEIGHT ASSEMBLY PRIOR TO REMOVAL AND FABRICATION OF NEW COUNTERWEIGHT ASSEMBLY.

8.2 REMOVE ALL COUNTERWEIGHT CABLES, TENSION RODS, PULLEYS, GUIDES, AND TRAYS. CARE SHALL BE TAKEN TO PREVENT DAMAGE TO ALL WELDED CONNECTION POINTS ON THE CENTRE TOWER STEEL.

8.3 COUNTERWEIGHT SHALL BE REMOVED AND REFINISHED ACCORDING TO NOTE 2.5 (COUNTERWEIGHT-REFINISHING).

8.4 INSTALL NEW COUNTERWEIGHT GUIDES AND TRAY.

8.5 INSTALL NEW PULLEY ASSEMBLY. PULLEY ASSEMBLY IS TO BE FIELD ADJUSTED PRIOR TO WELDING TO ENSURE THAT THE CABLE LINE-OF-ACTION THROUGH THE PULLEYS IS LEVEL WITH THE CORNER SWEEP ARM CONNECTION POINT AND IS CENTERED ON THE TRAY ASSEMBLY.

8.6 INSTALL NEW TENSION ROD AND STAINLESS STEEL CABLE. INSTALL NEW BUOYS (FAILURE DETECTION FLOATS) TO THE TENSION ROD.

8.7 REPLACE COUNTERWEIGHT AND CONNECT TO NEW STAINLESS STEEL CABLE. TEMPORARILY SUPPORT THE COUNTERWEIGHT DURING INSTALLATION TO ENSURE THE CABLE REMAINS TENSIONED THROUGHOUT THE COMPLETE RANGE OF OPERATION (COUNTERWEIGHT DOES NOT BOTTOM OUT).

9.0 HANDRAIL REHABILITATION:

9.1 CONFIRM EXISTING CLEARANCE AND DIMENSIONS OF EXISTING CHAIN & POST HANDRAIL PRIOR TO FABRICATION OF NEW HANDRAIL.

9.2 THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS (3 COPIES) OF THE HANDRAIL ASSEMBLIES FOR REVIEW.

9.3 HANDRAIL SHALL BE FABRICATED OF ALUMINUM IN ACCORDANCE WITH NOTES 3.0.

9.4 ANCHOR BOLTS SHALL BE HILTI HAS SS AISI 304 RODS WITH HY150 ANCHORING ADHESIVE.

9.5 REMOVE AND DISPOSE EXIST. CHAIN AND POST HANDRAIL.

9.6 REMOVE EXIST. BOLTS & REPAIR CONCRETE WITH STRUCTURAL REPAIR MORTAR (EMACO GP OR APPROVED EQUIVALENT IN ACCORDANCE WITH B6 OF THE BID DOCUMENTS).

9.7 INSTALL NEW HANDRAIL AS INDICATED ON THE DRAWINGS AND SHOP DRAWINGS.

APEGM
Certificate of Authorization
KGS Group
No. 245

		FIELD BOOK #:	
POSTED TO LBIS			
0	ISSUED FOR CONSTRUCTION	13/06/13	CMS
NO.	REVISIONS	DATE	BY

KGS GROUP CONSULTING ENGINEERS

DESIGNED BY	KRD	CHECKED BY	CMS
DRAWN BY	FBV	APPROVED BY	
HOR. SCALE	AS NOTED	RELEASED FOR CONSTRUCTION	
VERTICAL	AS NOTED		
DATE	2013 04 18	DATE	

ENGINEER'S SEAL
PROVINCE OF MANITOBA
C.M. SIEPMAN
Member
20813
REGISTERED PROFESSIONAL ENGINEER

S12

Winnipeg
THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

NEWPCC
SECONDARY CLARIFIER 1 TO 6 REHABILITATION
GENERAL NOTES

SHEET 2 OF 9
CITY DRAWING NUMBER
1-0101S-S0012-001

FileName: \\k-file-4\p-data\Projects\2011\11-0107-31\Doc.Control\ToBeIssued\DWG\1-0101S-S0012-001_Rev 0.dwg - Tab: S12 Plotted By: DDeroche 06/13/2013 [Thu 2:12pm]