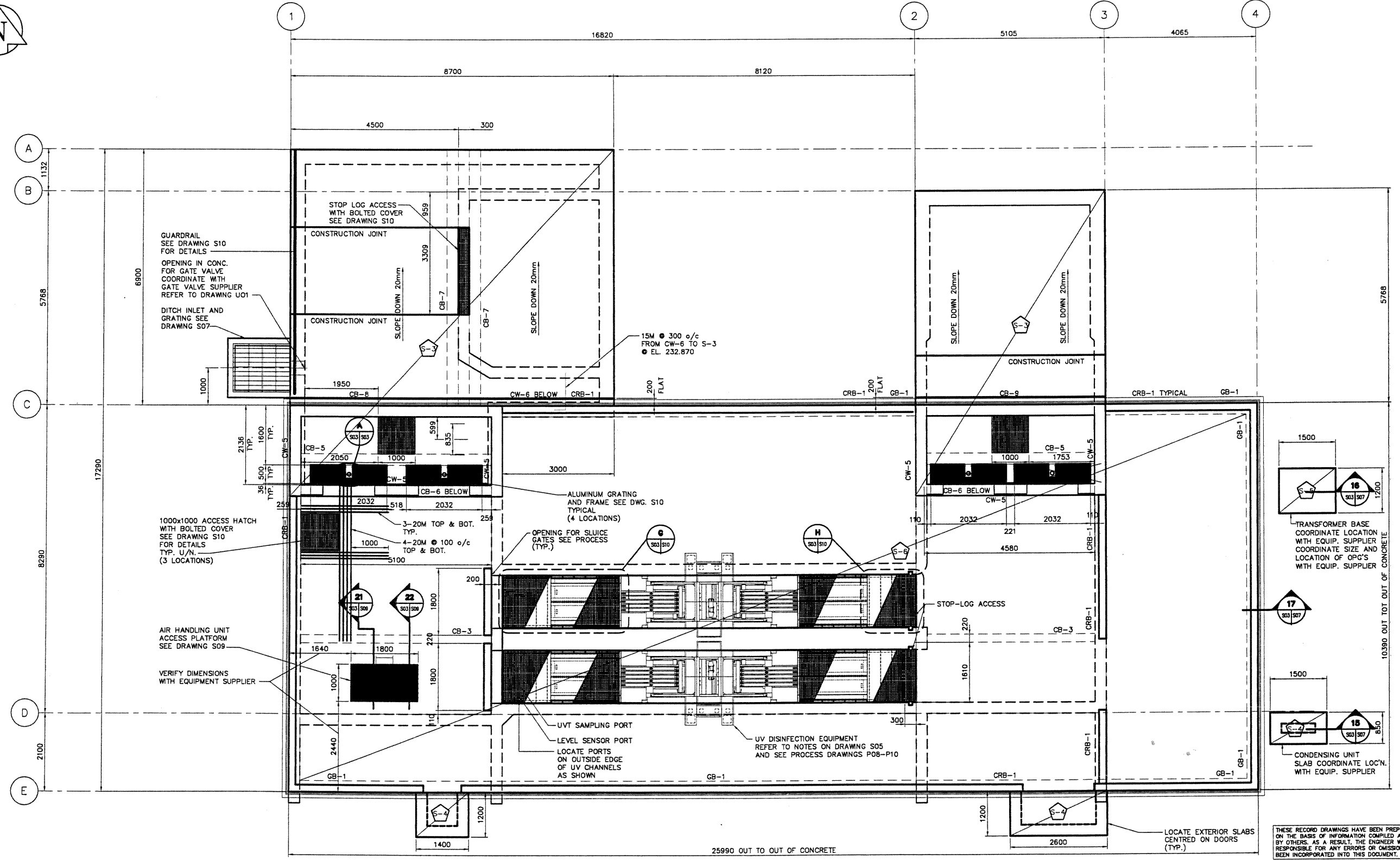
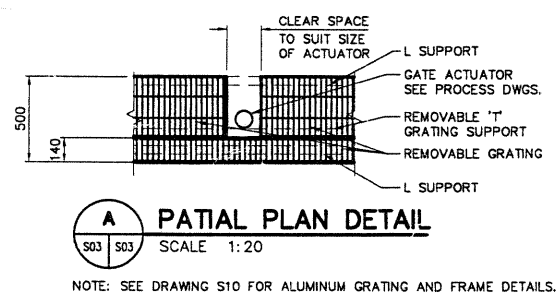


APPENDIX E

UV FACILITY DRAWINGS



- NOTES:**
- REFER TO DRAWING S05 FOR GENERAL NOTES AND SCHEDULES.
 - ALL CURBS TO BE CRB-1 UNLESS NOTED OTHERWISE. SEE DRAWING S06 FOR DETAIL. COORDINATE DOOR OPENING LOCATIONS IN CURB WITH FINAL DOOR LOCATION.
 - HOUSEKEEPING PADS NOT SHOWN HERE. COORDINATE SIZE & LOCATION WITH EQUIPMENT SUPPLIERS. SEE DRAWING S08 FOR TYP. DETAIL.
 - SLOPE ALL FLOOR SLABS S-1 TO U/V CHANNELS TO DRAIN. UNLESS NOTED OTHERWISE ON PLAN. MAINTAIN MIN. SLAB THICKNESS AS SHOWN IN SCHEDULE.
 - THE UVT SAMPLING PORT AND THE LEVEL SENSOR ARE TO BE LOCATED ON THE OUTSIDE EDGE OF THE UV CHANNELS (AS SHOWN).



MAIN FLOOR FRAMING PLAN
SCALE: 1:50

B.M. ELEV.					
DESIGNED BY	MEB/NHK	CHECKED BY	DGN/DLH	DATE	98/04/11
DRAWN BY	C.T.	APPROVED BY	AL	DATE	
HOR. SCALE:	AS NOTED	RELEASED FOR CONSTRUCTION BY:			
VERTICAL:					
NO. REVISIONS	DATE	BY	DATE		

ENGINEER'S SEAL	ORIGINAL SIGNED BY D.G. NICHOLLS 7/22/1998
CONSULTANT DRAWING NO.	61786.01 S03

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

SOUTH END WATER POLLUTION CONTROL CENTRE
EFFLUENT DISINFECTION FACILITY

CITY DRAWING NUMBER SEP-2416
SHEET OF

MAIN FLOOR FRAMING PLAN
REV-1

THESE RECORD DRAWINGS HAVE BEEN PREPARED, IN PART, ON THE BASIS OF INFORMATION COMPILED AND FURNISHED BY OTHERS. AS A RESULT, THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THIS DOCUMENT.

REID CROWTHER & PARTNERS LIMITED
WINNIPEG
RECORD DRAWING
SIG. DATE: 98/09/24

PRECAST CONCRETE PILE SCHEDULE				
MARK	DIA.	CUT-OFF	REMARKS	
P-1	300	SEE PLAN	EXPOSE, CLEAN & EXTEND STRANDS 450 INTO DROP PANELS, SLAB AND PILE CAP	
P-2	400	SEE PLAN	EXPOSE, CLEAN & EXTEND STRANDS 450 INTO DROP PANELS, SLAB AND PILE CAP	

PILE CAP SCHEDULE				
MARK	SIZE	DEPTH	REINFORCING	REMARKS
PC-1	600#	VARIABLES	6-15M VERT'S. 3-10M TIES	4-20M DOWELS TO GRADE BEAM ABOVE, 200 VOID FORM.
PC-2	800 WDE	1000	8-25M TOP & BOT., HOOK BOT. BARS, 10M TIES @ 300	8-20M DOWELS TO CONCRETE BEAM ABOVE. ADD'L 2-20M EACH FACE
PC-3	1700x2000	1000	8-25M E.W. BOT. 8-20M E.W. TOP	4-20M DOWELS TO SLAB ABOVE, 4-20M DOWELS TO CONCRETE WALL
PC-4	800x2300	1000	8-25M E.W. TOP & BOT.	4-20M DOWELS TO GRADE BEAM ABOVE, 200 VOID FORM.

CONCRETE GRADE BEAM SCHEDULE								
MARK	WIDTH	DEPTH	REINFORCING				ADD'L	REMARKS
			TOP	MID.	BOT.	STIRRUPS		
GB-1	350	1000	4-20M	2-15M EA. SIDE	4-20M	10M @ 300 O/C	SEE PLAN	ON 200 MIN. VOID FORM

CONCRETE BEAM SCHEDULE								
MARK	WIDTH	DEPTH	REINFORCING				ADD'L	REMARKS
			TOP	MID.	BOT.	STIRRUPS		
CB-1	900	500	6-25M		6-25M	10M @ 150 O/C		
CB-2	1000	500	6-25M		6-25M	10M @ 150 O/C		
CB-3	220	600	3-20M		3-20M	10M @ 200 O/C		
CB-4	1000	600	8-25M	1-15M E.F.	8-25M	10M @ 300 O/C		KEY INTO WALL/BEAM 50mm AT ENDS WITH DOWELS TO MATCH TOP AND BOTTOM STEEL
CB-5	300	600	4-25M	1-15M E.F.	4-25M	10M @ 300 O/C		
CB-6	300	1470	4-25M	3-15M E.F.	4-25M	10M @ 300 O/C		
CB-7	350	700	4-15M	1-15M E.F.	4-25M	10M @ 300 O/C		KEY INTO WALL/BEAM 50mm AT ENDS WITH DOWELS TO MATCH TOP AND BOTTOM STEEL
CB-8	350	1900	4-15M	4-15M	4-25M	10M @ 300 O/C		UPSTAND BEAM, EXTEND BOT. REINF. 1200 MIN. INTO BEAM OR WALL WHERE APPLICABLE
CB-9	350	1400	4-15M	3-15M	4-25M	10M @ 300 O/C		UPSTAND BEAM, EXTEND BOT. REINF. 1200 MIN. INTO BEAM OR WALL WHERE APPLICABLE

CONCRETE SLAB SCHEDULE					
MARK	DEPTH 'D'	REINFORCING			REMARKS
		TOP	BOT.	ADD'L	
S-1	300	15M @ 200 E.W.	15M @ 200 E.W.	SEE PLAN	ON 200 VOID FORM
S-2	300	15M @ 150 U.T.L. N/S DIR. 20M @ 150 L.T.L. E/W DIR.	20M @ 150 L.B.L. E/W DIR. 15M @ 150 U.B.L. N/S DIR.		ON 200 VOID FORM
S-3	200	15M @ 150 E.W.	15M @ 150 E.W.		
S-4	150	15M @ 300 E.W.			SEE TYPICAL DETAIL
S-5	400	20M @ 200 E.W.	20M @ 200 E.W.	SEE SECTION	ON 200 VOID FORM
S-6	200	15M @ 200 E.W.	15M @ 200 E.W.	SEE SECTION	

LEGEND

U.T.L. - UPPER TOP LAYER N/S - NORTH, SOUTH
 L.T.L. - LOWER TOP LAYER E/W - EAST, WEST
 U.B.L. - UPPER BOTTOM LAYER DIR. - DIRECTION
 L.B.L. - LOWER BOTTOM LAYER

CONCRETE CURB SCHEDULE					
MARK	WIDTH	DEPTH	REINFORCING		REMARKS
			HORIZ.	TIES	
CRB-1	190	200	2-10M CONT.	10M @ 300	

CONCRETE WALL SCHEDULE								
MARK	WIDTH	DEPTH	REINFORCING				ADD'L	REMARKS
			VERT.		HORIZ.			
			I.F.	O.F.	I.F.	O.F.		
CW-1	300	VARIABLES	20M @ 200	20M @ 200	15M @ 150	15M @ 150	SEE PLAN	
CW-2	600	3300	20M @ 200	20M @ 200	20M @ 200	20M @ 200		
CW-3	300	2900	20M @ 150	20M @ 150	15M @ 200	15M @ 200		
CW-4	300	1300	15M @ 200	15M @ 200	15M @ 200	15M @ 200		
CW-5	300	1200	15M @ 200	15M @ 200	15M @ 200	15M @ 200		BOND BARS INTO SLAB
CW-6	400	4470	20M @ 150	20M @ 150	15M @ 150	15M @ 150	SEE PLAN	
CW-7	200	VARIABLES	15M @ 200	15M @ 200	15M @ 200	15M @ 200		DWL'S TO CW6 TO MATCH

MASONRY WALL SCHEDULE				
MARK	SIZE	REINFORCING	REMARKS	
MW-1	200	15M VERT. EVERY THIRD CORE	SEE ARCHITECTURAL. SHEAR CONNECTORS TO BE INSTALLED BETWEEN 200 BLOCK AND MASONRY VENEER, MAX. SPACING 800 o/c	

- DOWELS FROM GRADE BEAM/WALL TO MASONRY WALLS 15Mx1400 LONG @ 600 O/C EXTEND 800 INTO CONCRETE FILLED MASONRY CORES.
- FILL ALL PARAPET BLOCK WALLS WITH GROUT.

LINTEL SCHEDULE						
MARK	TYPE	SIZE	REINFORCING	MIN. BEARING OR SUPPORT	LOOSE LINTEL	REMARKS
L-1	MASONRY	200 DEEP	2-15M BOT.	200	L90x90x8 MIN BRG 200	FILL TWO CORES & REINFORCE EACH WITH 1-15M VERTICAL UNDER ALL LINTEL BEARINGS
L-2	MASONRY	400 DEEP	1-15M TOP AND BOTTOM	200	L90x90x8 MIN BRG 200	FILL TWO CORES & REINFORCE EACH WITH 1-15M VERTICAL UNDER ALL LINTEL BEARINGS

STEEL JOIST SCHEDULE				
MARK	DEPTH	SPACING	FINISH	REMARKS
J-1	600	2000 U/N	PAINTED - SEE SPEC.	SEE PLAN FOR U/S JOIST BEARING ELEVATION

- PROVIDE BRIDGING IN ACCORDANCE WITH CSA S16.1-M94

STEEL DECK SCHEDULE				
MARK	DEPTH	THICKNESS	FINISH	REMARKS
SD-1	38mm	.076mm	PAINTED SEE SPEC.	DIAPHRAGM

GENERAL NOTES

- READ THE STRUCTURAL DRAWINGS IN CONJUNCTION WITH THE SPECIFICATION. IN THE EVENT OF A CONFLICT, THE SPECIFICATION SHALL GOVERN.
- THE DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF CANADA 1995, THE SUPPLEMENT, AND REFERENCED STANDARDS THEREIN. WATER RETAINING STRUCTURES HAVE BEEN DESIGNED IN ACCORDANCE WITH ACI 350R-89.
- CONTRACTOR TO CONFIRM WITH EQUIPMENT SUPPLIERS DIMENSIONS, WEIGHTS, AND ALL OTHER CRITICAL DETAILS PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER AND OBTAIN INSTRUCTIONS IN WRITING BEFORE PROCEEDING WITH CONSTRUCTION.
- NOTIFY THE CONTRACT ADMINISTRATOR 48 HOURS IN ADVANCE FOR REVIEWS.
- DRAWINGS SHOW COMPLETED STRUCTURES ONLY. CONTRACTOR TO PROVIDE TEMPORARY BRACING FOR CONSTRUCTION LOADING CONDITIONS AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN LOADS.
- VERIFY LOCATION OF ALL UNDERGROUND SERVICES PRIOR TO COMMENCING CONSTRUCTION AND BE RESPONSIBLE FOR DISRUPTIONS.
- ALL INFORMATION CONCERNING EXISTING CONSTRUCTION HAS BEEN TAKEN FROM ORIGINAL DRAWINGS, AND SITE MEASUREMENTS. CONTRACTOR TO CONFIRM ON SITE ALL EXISTING DIMENSIONS, ELEVATIONS, AND DETAILS PRIOR TO COMMENCING WORK.
- DO NOT SCALE THE DRAWINGS.

DESIGN LOADS



- DEAD LOADS: STRUCTURE SELF WEIGHTS PLUS:
 - 1) ROOFING DEAD LOAD: 1.0 kPa
 - 2) MECHANICAL LOAD (SUSPENDED FROM JOIST): 1.2 kPa
 - MAX. CONCENTRATED LOAD @ ANY PANEL POINTS: 1.3 kN
 - 3) BELOW GRADE ROOFS: SOIL DEPTH x 22 kN/m³
- LIVE LOADS:
 - 1) GROUND SNOW LOAD - S_s: 1.7 kPa
 - S_r: 0.2 kPa
 - MODIFY FOR EXPOSURE AND DRIFT AS PER NBC 1995. INCLUDING DRIFT FROM ANTICIPATED FUTURE STRUCTURES. LOADING INDICATED ON DRAWINGS.
 - 2) RAIN LOAD: 0.0 kPa AT PARAPETS VARYING UNIFORMLY TO 0.5 kPa AT DRAINS.
 - 3) WIND LOAD: q(1:30) 0.42 kPa
 - MODIFY AS PER NBC 1995.
 - 4) SEISMIC: N/A
 - 5) FLOOR LOADS: MAIN FLOOR: 9.6 kPa
 - 6) BELOW GRADE WALLS: LATERAL EARTH PRESSURE COEFFICIENT (K_a) = 0.5
 - 7) RETAINED LIQUID SPECIFIC GRAVITY: 1.0

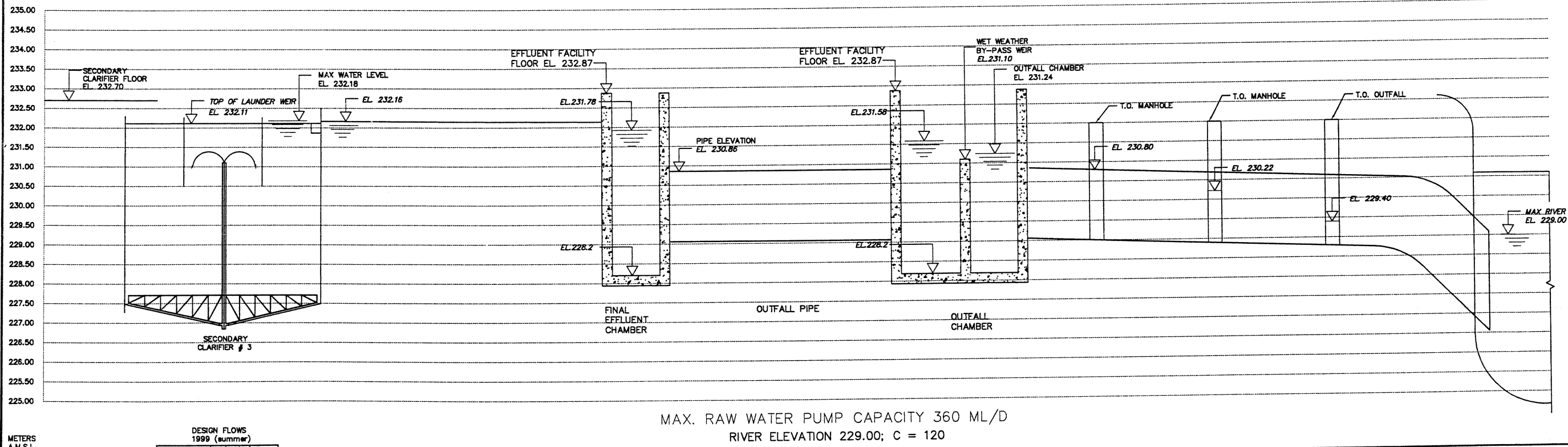
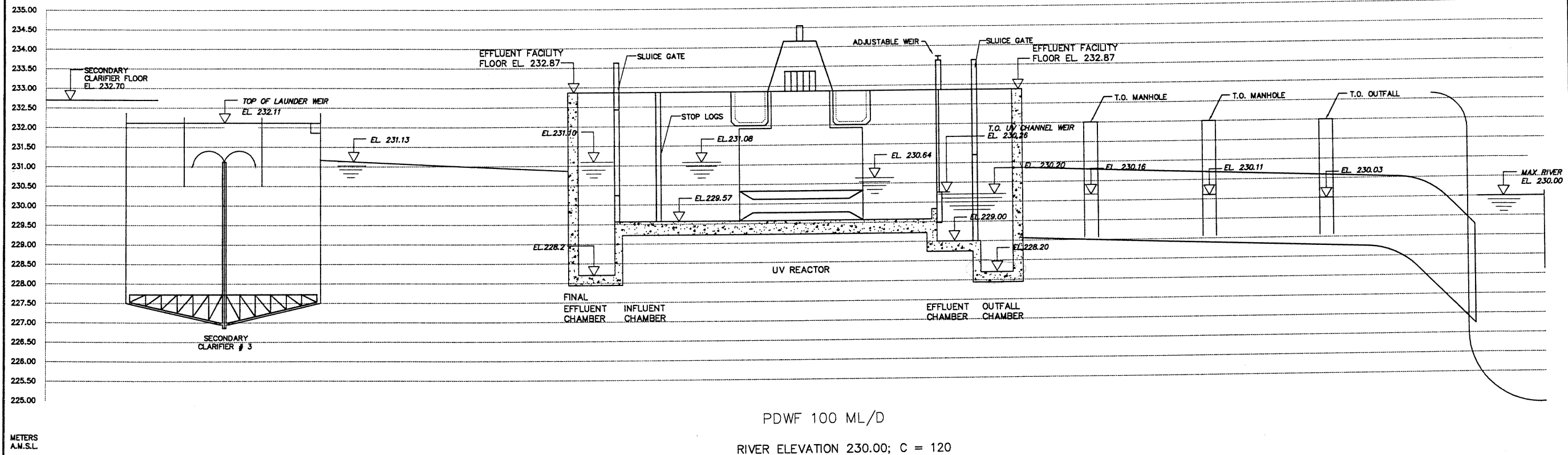
FOUNDATION NOTES

- ALL FOUNDATION CONSTRUCTION TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS GIVEN IN DYREGROV CONSULTANTS FEBRUARY 1998 GEOTECHNICAL REPORT (PROJECT NO. 981754).
- DESIGN BEARING CAPACITY: RAFT SLAB: 240 kPa
- CAPACITIES FOR DRIVEN PRECAST PILES: 300 DIAMETER 445 kN, 400 DIAMETER 800 kN

THESE RECORD DRAWINGS HAVE BEEN PREPARED, IN PART, ON THE BASIS OF INFORMATION COMPILED AND FURNISHED BY OTHERS. AS A RESULT, THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THIS DOCUMENT.

REID CROWTHER & PARTNERS LIMITED
 WINNIPEG
RECORD DRAWING
 SIG..... DATE 98/08/24.....

B.M. ELEV.	 Consulting Engineering Worldwide		ENGINEER'S SEAL	 THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT	CITY DRAWING NUMBER SEP-2418 SHEET OF
			ORIGINAL SIGNED BY D.G. NICHOLLS 7/22/1998		
DESIGNED BY MEB/NHK	CHECKED BY DGN/DLH	HOR. SCALE: AS NOTED VERTICAL:	RELEASED FOR CONSTRUCTION BY:	CONSULTANT DRAWING NO. 61786.01 S05	REV-1
DRAWN BY C.T.	APPROVED BY AL				



DESIGN FLOWS 1999 (summer)		
MMDWF* (ML/day)	70	
PDWF** (ML/day)	100	
MAX RAW WATER PUMP CAPACITY (ML/day)	360	

* MAXIMUM MONTH DRY WEATHER FLOW
** PEAK DRY WEATHER FLOW; MAX. DESIGN FLOW FOR UV DISINFECTION SYSTEM

B.M. ELEV.	NO.	REVISIONS	DATE	BY
	0	ISSUED FOR TENDER	98/07/27	LLJ
			98/05/07	

Reid Crowther
Consulting Engineering Worldwide

DESIGNED BY: KAS	CHECKED BY:
DRAWN BY: LSD/LLJ	APPROVED BY:
HOR. SCALE: AS NOTED	RELEASED FOR CONSTRUCTION BY:
VERTICAL:	

ENGINEER'S SEAL
PROVINCE OF MANITOBA
D. TANGUCH
REGISTERED PROFESSIONAL ENGINEER
7/22/198

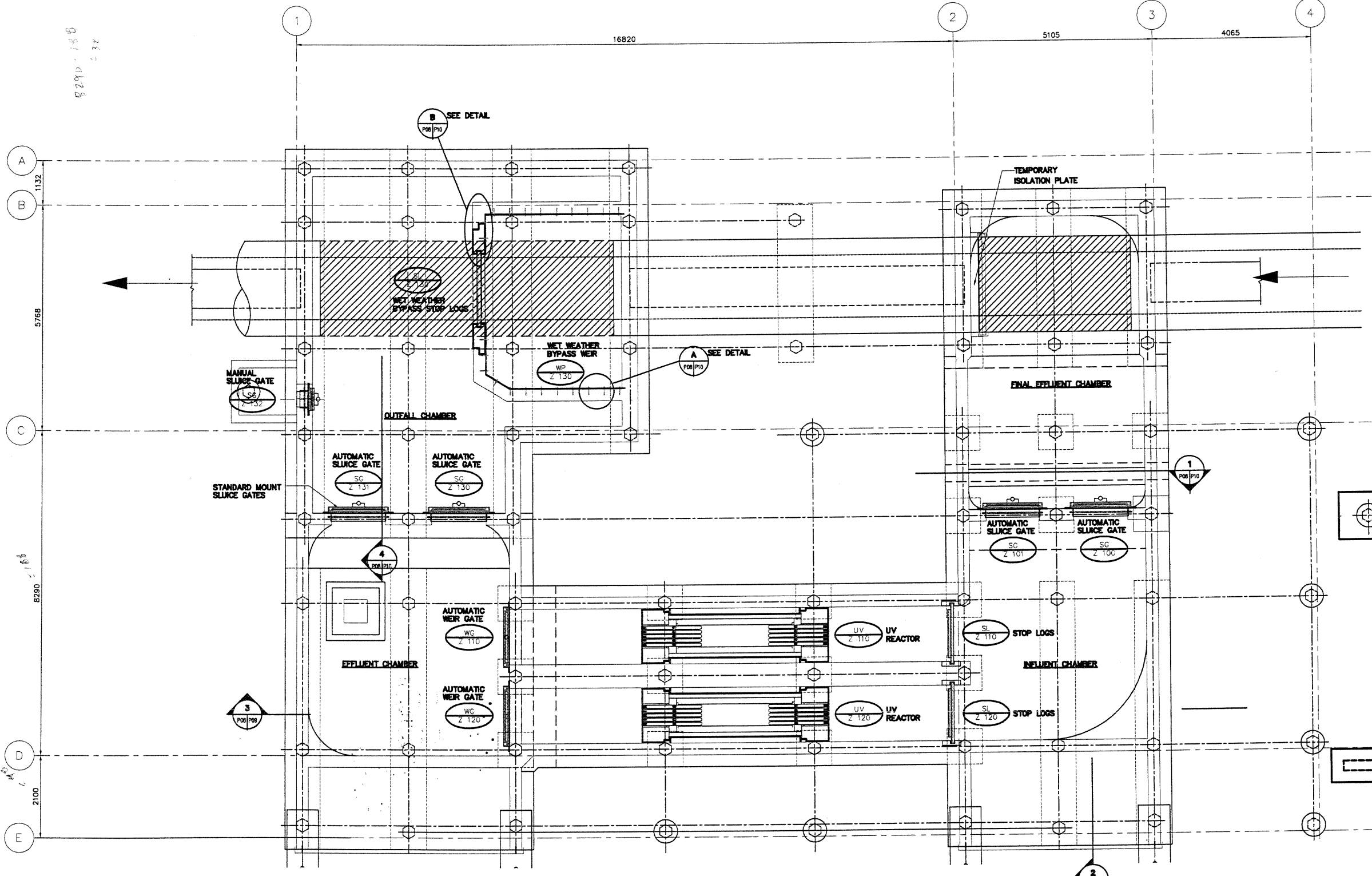
THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

SOUTH END WATER POLLUTION CONTROL CENTRE
EFFLUENT DISINFECTION FACILITY

HYDRAULIC PROFILE

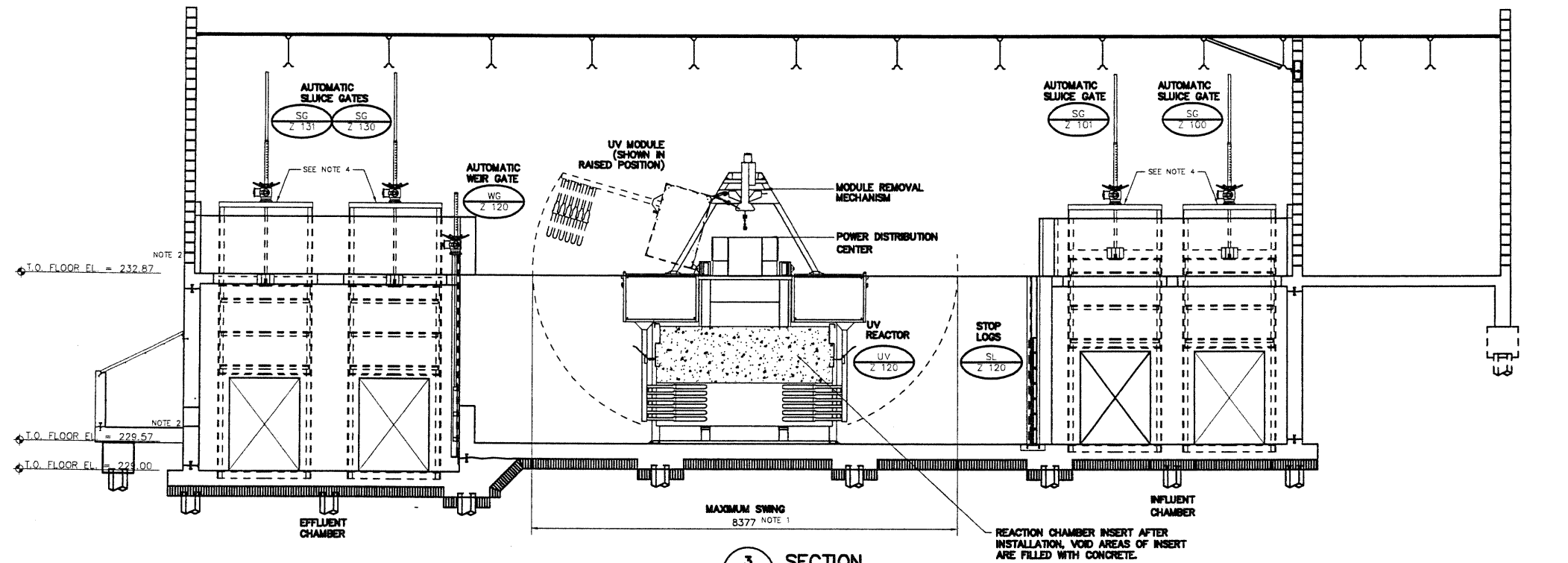
CITY DRAWING NUMBER: SEP-2425
SHEET: OF
REV-0

CONSULTANT DRAWING NO. 61786.01 P02

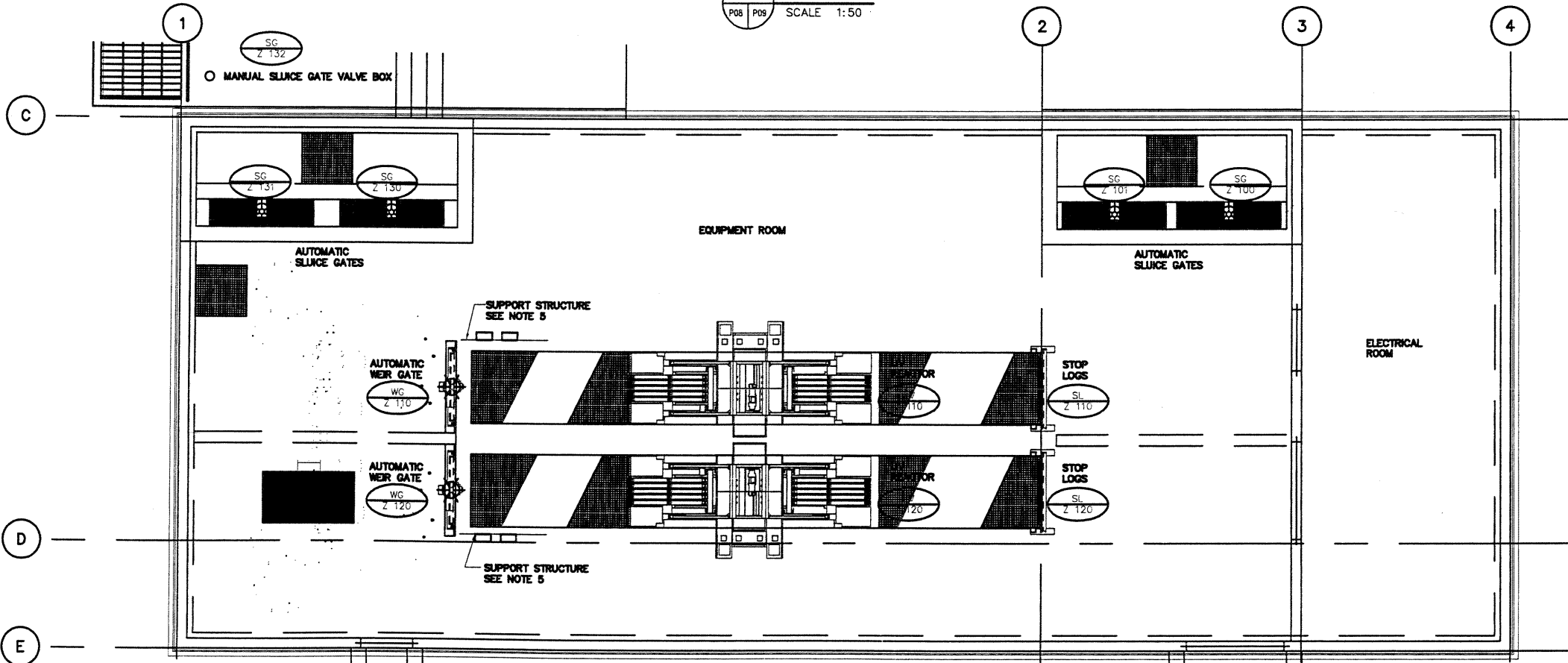


LOWER FLOOR PLAN
SCALE 1:50

B.M. ELEV.				THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT	
	DESIGNED BY: KAS	CHECKED BY:		SOUTH END WATER POLLUTION CONTROL CENTRE EFFLUENT DISINFECTION FACILITY	
	DRAWN BY: K.H./LLJ	APPROVED BY:	CITY DRAWING NUMBER SEP-2431		
	HOR. SCALE: 1:50	RELEASED FOR CONSTRUCTION BY:	SHEET OF		
	VERTICAL:		LOWER FLOOR PLAN		
0 ISSUED FOR TENDER	98/07/27 LLJ	DATE: 98/04/21	CONSULTANT DRAWING NO. 61786.01 POB		
NO. REVISIONS	DATE BY	DATE	REV-0		



3 SECTION
SCALE 1:50



MAIN FLOOR PLAN
SCALE 1:50

- NOTES:
- 1). DIMENSIONS GIVEN BY EQUIPMENT SUPPLIER TO BE CONFIRMED ON SHOP DRAWINGS.
 - 2). DIFFERENCE IN ELEVATION IS EQUAL TO HEIGHT OF EQUIPMENT GIVEN BY EQUIPMENT SUPPLIER. TO BE CONFIRMED ON SHOP DRAWINGS.
 - 3). EXISTING ELEVATIONS AND DIMENSIONS.
 - 4). ACTUATORS TO BE LOCATED ABOVE CONCRETE WALL.
 - 5). PROVIDE AN ALUMINUM SUPPORT STRUCTURE FOR THE UVT PANEL, THE LEVEL SENSOR AND THE WEIR GATE CONTROL. REFER TO SECTION 18800.3.1.4

B.M. ELEV.		Reid Crowther Consulting Engineering Worldwide		ENGINEER'S SEAL PROVINCE OF MANITOBA P. Tanguchi REGISTERED PROFESSIONAL ENGINEER 7/22/98		THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT	
DESIGNED BY	KAS	CHECKED BY		SOUTH END WATER POLLUTION CONTROL CENTRE EFFLUENT DISINFECTION FACILITY		CITY DRAWING NUMBER SEP-2432	
DRAWN BY	K.H./LLJ	APPROVED BY		MAIN FLOOR PLAN AND SECTION		SHEET OF	
HOR. SCALE:		RELEASED FOR CONSTRUCTION BY:		CONSULTANT DRAWING NO. 61786.01 P09		REV-0	
NO. REVISIONS		DATE	98/04/8				
ISSUED FOR TENDER	98/07/27	DATE					