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 - TOLERANCES SHALL BE DEGREE OF ACCURACY UNLESS OTHERWISE SPECIFIED.
 - ALL OVER - EXCAVATION SHALL BE MADE GOOD USING MASS CONCRETE FOR THE CONTRACTORS ACCOUNT.

- CONCRETE**
- NO-FINES CONCRETE, WHERE STRUCTURAL CONCRETE IS TO BE PLACED ON TOP, SHALL BE FINISHED WITH A SKIMMED COAT OF MORTAR TO LIMIT BLEEDING OF STRUCTURAL CONCRETE AND OR BLINDING OF THE NO-FINE LAYER.
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 - ALL CONCRETE SHALL BE MECHANICALLY COMPACTED THROUGH THE USE OF VIBRATORS.
 - CONCRETE SHALL BE CAST CONTINUOUSLY. IF STOPPAGES OF MORE THAN 40 MINUTES ARE UNAVOIDABLE, CONSTRUCTION JOINTS SHALL BE FORMED IN THE POSITIONS AND ACCORDING TO THE DETAILS AS PER PROJECT SPECIFICATION
 - OPENINGS IN THE CONCRETE WALLS TO BE GROUTED CLOSED WITH ANTI-CORROSION PRODUCT AS PER PROJECT SPECIFICATION AFTER THE INSTALLATION OF THE PIPEWORK.
 - ALL EXPOSED CORNERS TO HAVE A 25 x 25mm CHAMFER.
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 WALLS - 60mm
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- LEGEND:**
- CJ = CONSTRUCTION JOINT
 - FGL = FINISHED GROUND LEVEL
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 - NGL = NATURAL GROUND LEVEL
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Consulting Engineers

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FAX: +27 15 291 1993

CLIENT

CITY OF Polokwane
NATURALLY PROGRESSIVE

REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
A	2022/01/20	ISSUED FOR TENDER
0	2023/03/08	ISSUED FOR CONSTRUCTION
1	2023/03/24	WALL THICKNESSES UPDATED

T.BANDA
ENGINEER

PR ENG no. _____ DATE _____

CLIENT _____ DATE _____

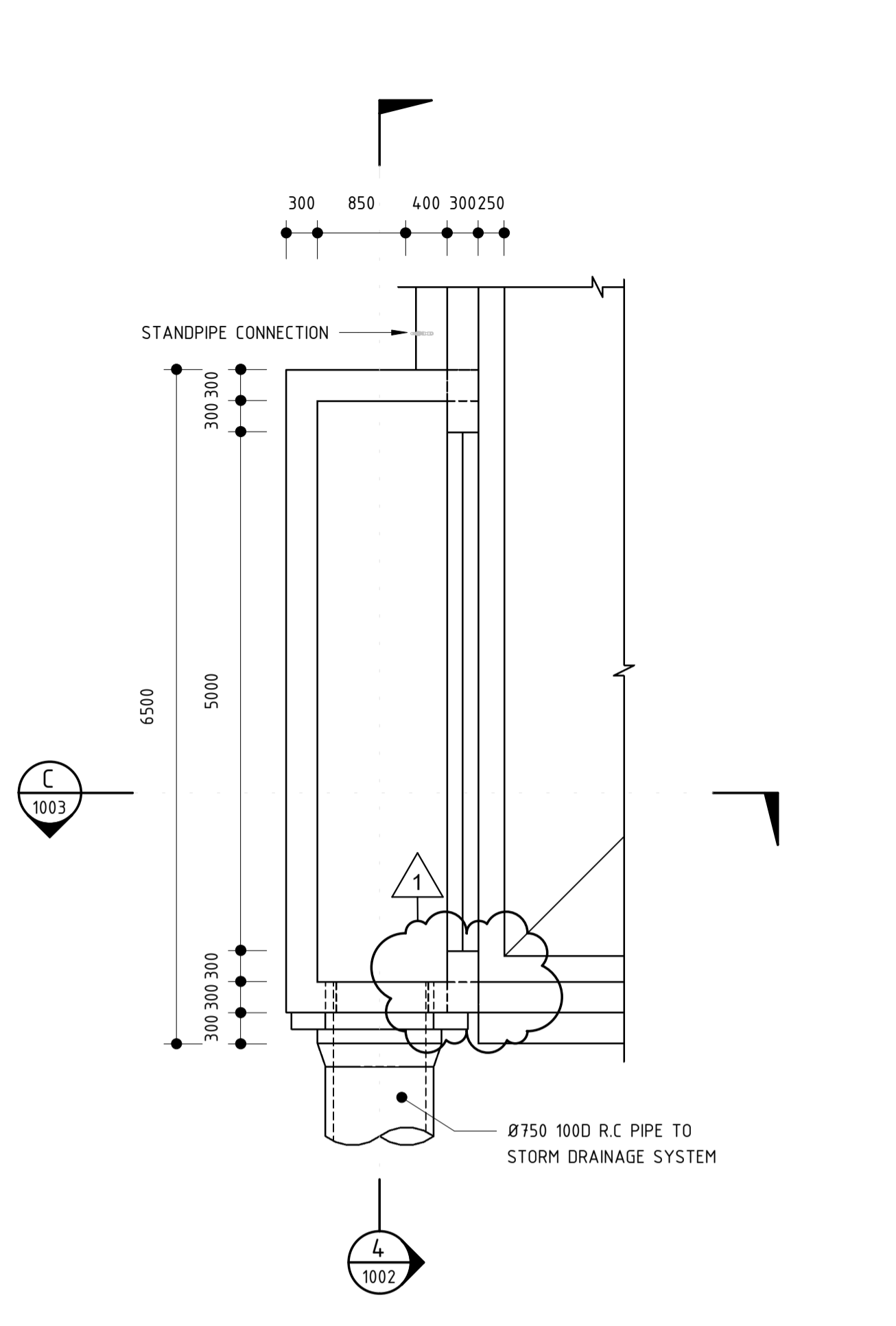
PROJECT

POLOKWANE REGIONAL WASTEWATER TREATMENT WORKS

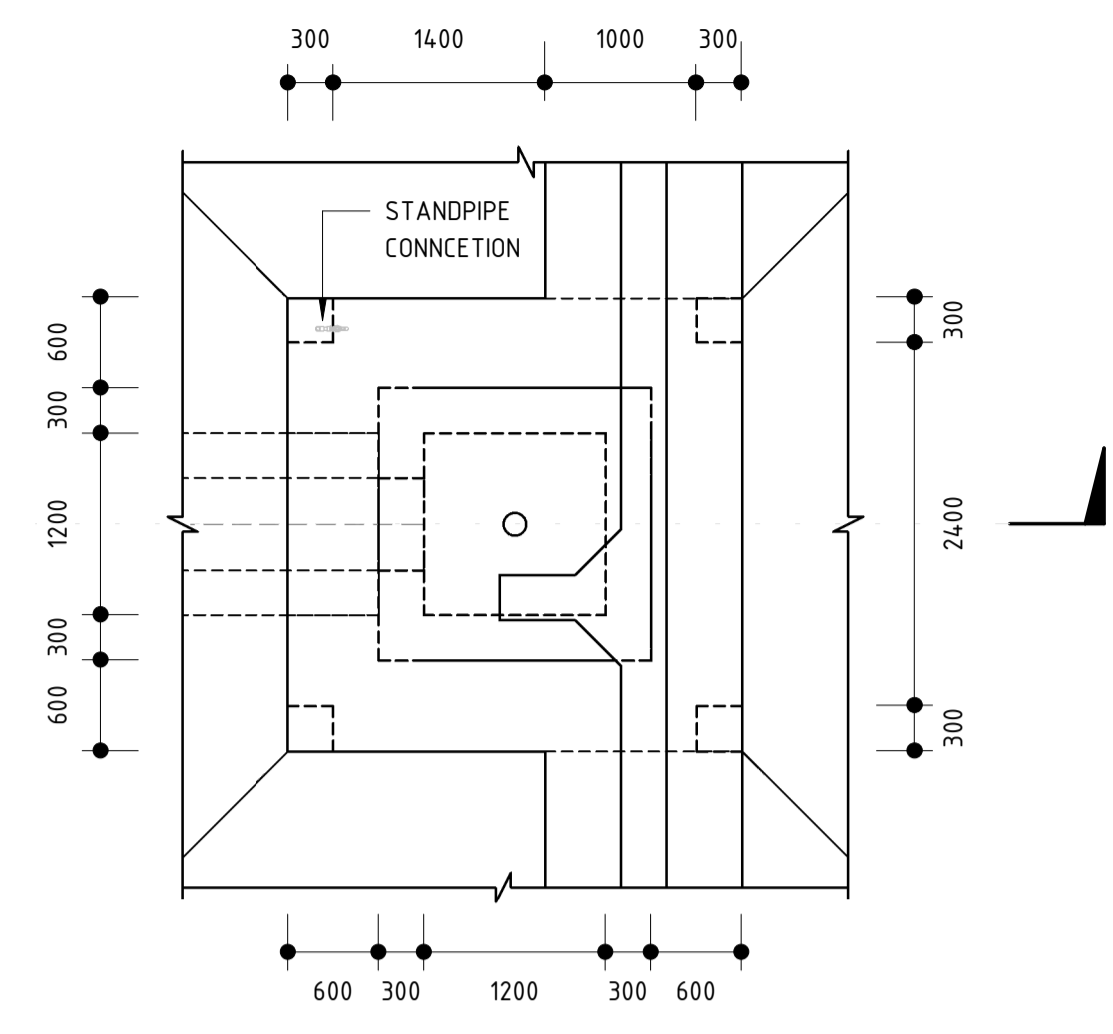
DRAWING DESCRIPTION

PLAN VIEW
BALANCING TANK

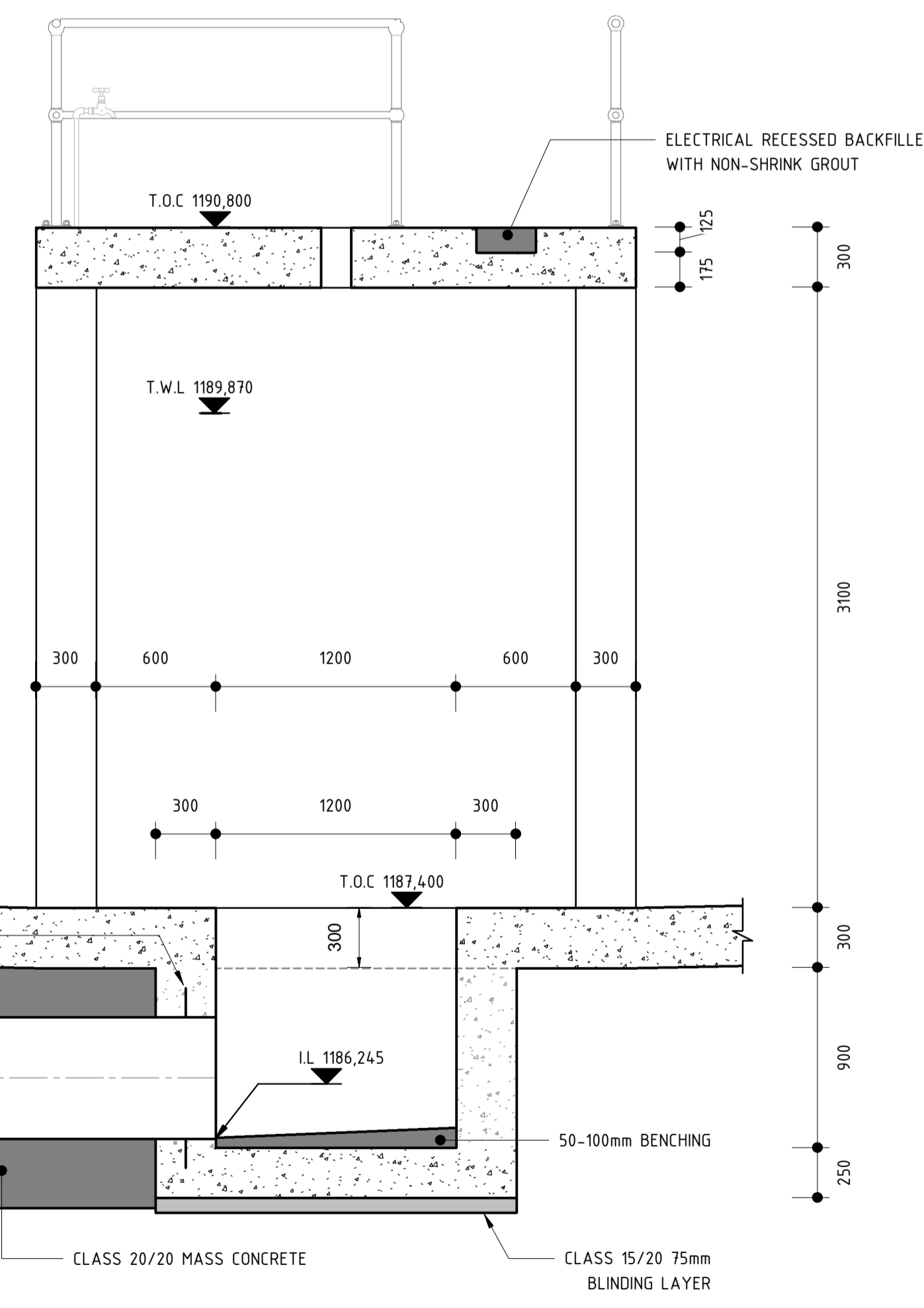
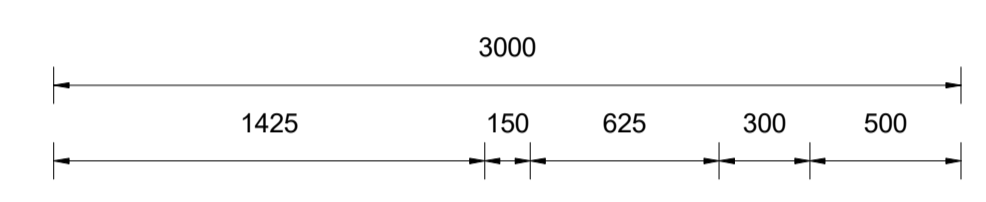
DESIGNED	DRAWN	CHECKED
DESIGNER	DRAFTER	L MIDLBERG
REV DATE	SCALE	ORIGINAL SIZE
2023/03/24	As indicated	A1
DRAWING NUMBER		
PROJ No - DISCIPLINE - SERV - SEQ No - (SHEET)	REV	
PK278-STR-DRG-0002-1001	1	



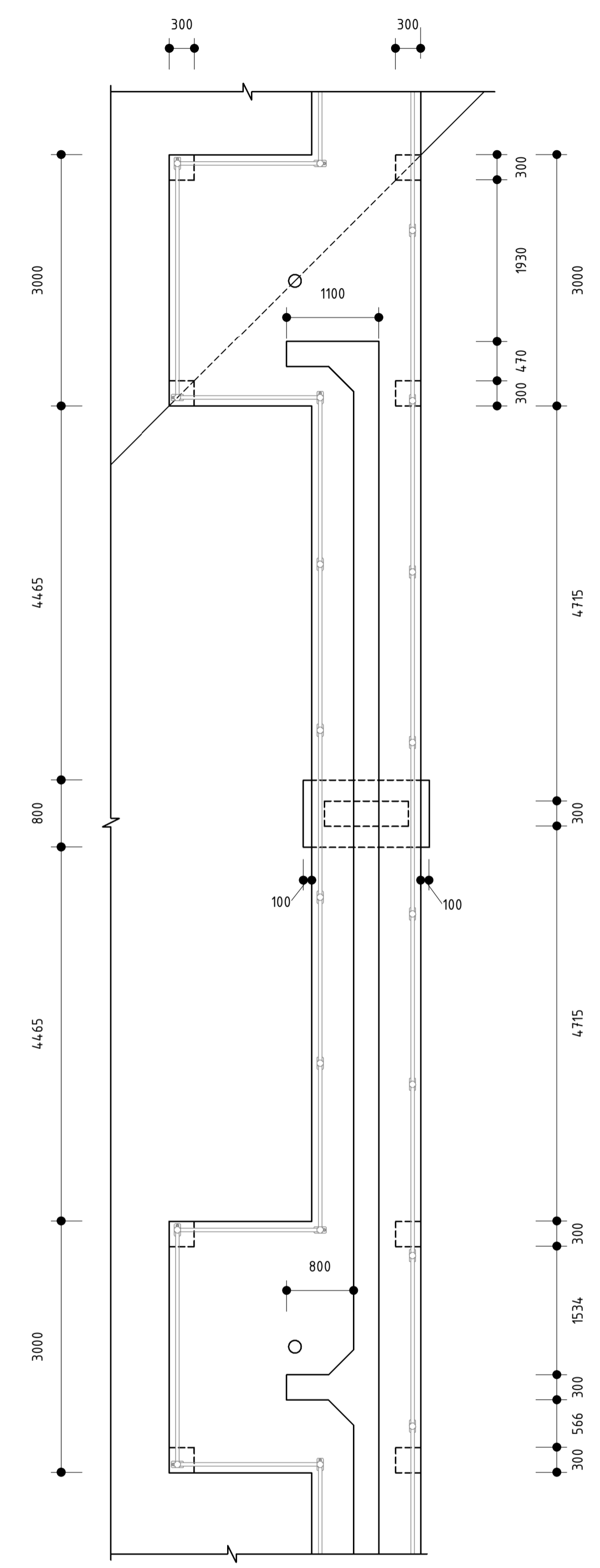
DETAIL 1
SCALE 1 : 50



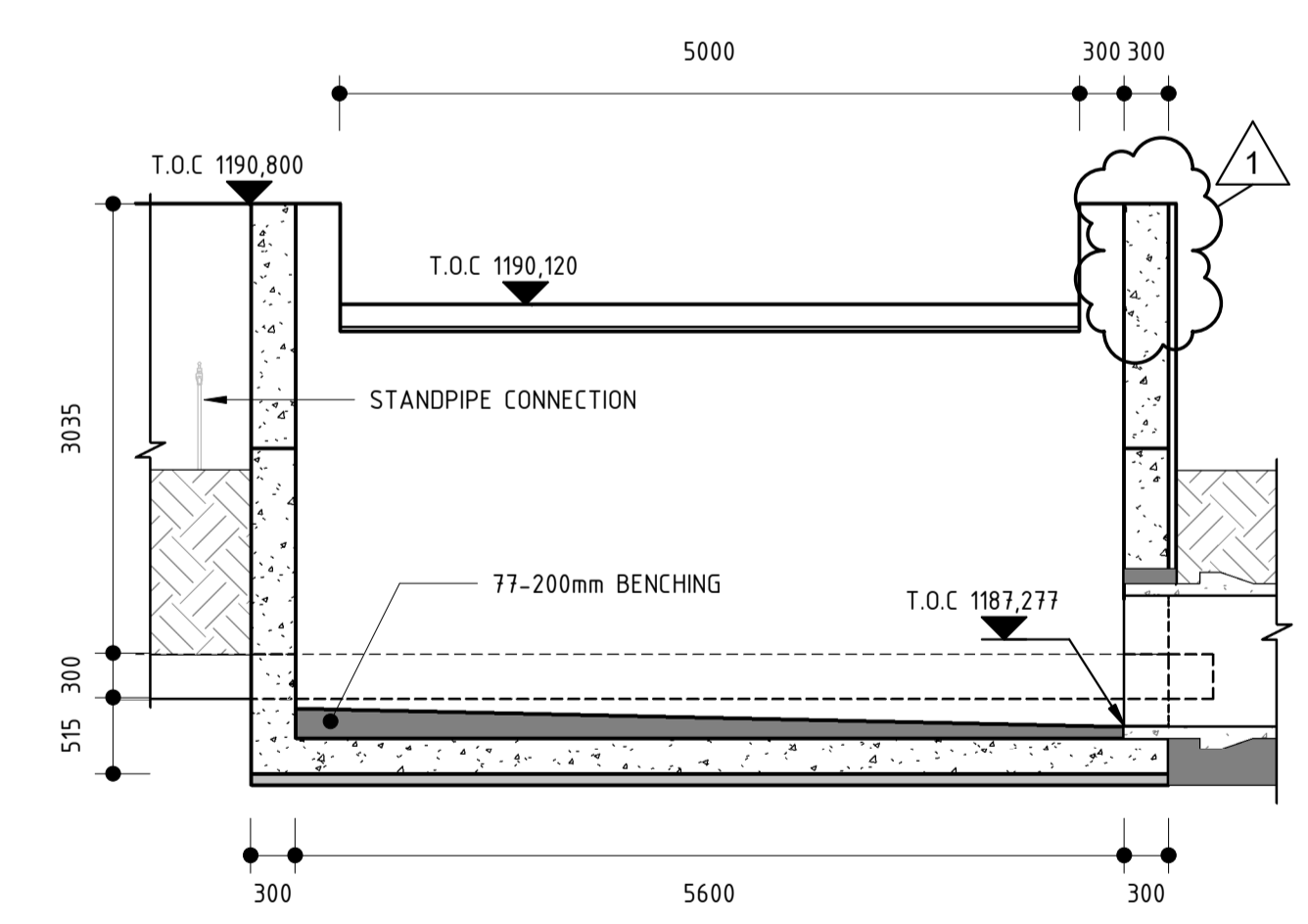
DETAIL 2
SCALE 1 : 50



SECTION A
SCALE 1 : 25



DETAIL 3
SCALE 1 : 50



SECTION 4
SCALE 1 : 50

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CITY OF Polokwane
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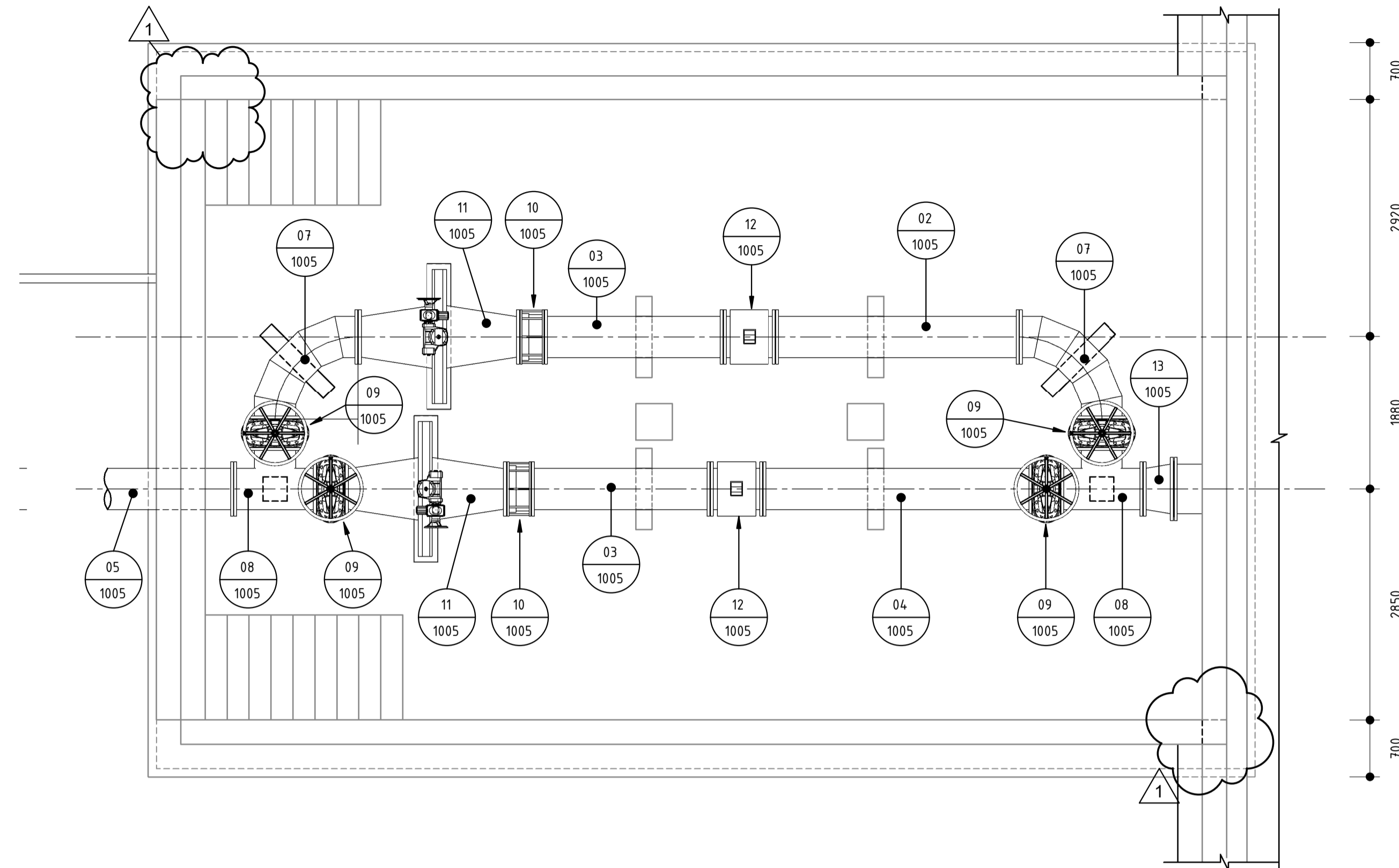
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T.BANDA
 ENGINEER
 PR ENG no. _____ DATE _____
 CLIENT _____ DATE _____

PROJECT
 POLOKWANE REGIONAL WASTEWATER TREATMENT WORKS

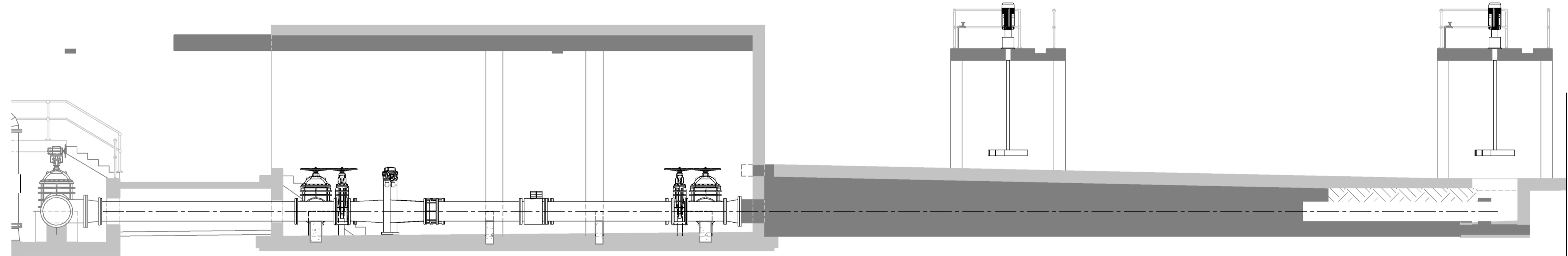
DRAWING DESCRIPTION
 DETAILS AND SECTION 1
 BALANCING TANK

DESIGNED	DRAWN	CHECKED
Designer	Author	Checker
REV DATE	SCALE	ORIGINAL SIZE
2023/03/24	As indicated	A1
DRAWING NUMBER		
PROJ No - DISCIPLINE - SERV - SEQ No - (SHEET)	REV	
PK278--STR-DRG-0002-1002	1	



PLAN VIEW - PIPE LAYOUT
SCALE 1 : 50

PIPE SCHEDULE				
MARK	DIAMETER	MATERIAL	DESCRIPTION	NO.
01/1005	Ø500mm	MILD STEEL 4.5mm W.T	FBE COATED AND LINED PIPE 2 000mm FLANGED BOTH ENDS	1.0
02/1005	Ø500mm	MILD STEEL 4.5mm W.T	FBE COATED AND LINED PIPE 3 000mm FLANGED BOTH ENDS	1.0
03/1005	Ø500mm	MILD STEEL 4.5mm W.T	FBE COATED AND LINED PIPE 2 200mm FLANGED BOTH ENDS (NOTE: REQUIRED PIPE LENGTH TO BE MEASURED ON SITE)	2.0
04/1005	Ø500mm	MILD STEEL 4.5mm W.T	FBE COATED AND LINED PIPE 3 316mm FLANGED BOTH ENDS	1.0
05/1005	Ø500mm	MILD STEEL 4.5mm W.T	FBE COATED AND LINED PIPE 5 175mm O.A FLANGED BOTH ENDS (NOTE: REQUIRED PIPE LENGTH TO BE MEASURED ON SITE)	1.0
06/1005	Ø500mm	MILD STEEL 4.5mm W.T	19 150mm PIPE. ONE END FLANGED AND THE OTHER END PLAIN WITH P.F. 150mm FROM PLAIN END	1.0
07/1005	Ø500mm	MILD STEEL 4.5mm W.T	FBE COATED AND LINED 90° BEND 1 020mm CENTRE TO FLANGE. FLANGED BOTH ENDS	2.0
08/1005	Ø500mm	MILD STEEL 4.5mm W.T	FBE COATED AND LINED 90° FLANGED BOTH ENDS EQUAL TEE 510mm CENTRE TO FLANGE	2.0
09/1005	Ø500mm	CARBON STEEL	D.F PN10 RESILENT SEAL GATE VALVE 350mm O.A COMPLETE WITH HAND WHEEL	4.0
10/1005	Ø500mm	CARBON STEEL	D.F PIPE DECOPELING JOINT TO SUIT Ø500 MILD STEEL PIPES	2.0
11/1005	Ø500mm	CONTRACTOR DESIGN	ACTUATED PINCH VALVE TO BE SUPPLIED BY MECHANICAL CONTRACTOR	2.0
12/1005	Ø500mm	CONTRACTOR DESIGN	MAGNETIC FLOW METER TO BE SUPPLIED BY ELECTRICAL CONTRACTOR	2.0
13/1005	Ø500mm - 600mm	MILD STEEL 4.5mm W.T	FBE COATED AND LINED Ø600mm TO Ø500mm CONCENTRIC REDUCER 380mm FLANG TO FLANGE	2.0



SECTION 1
SCALE 1 : 75

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REVISION SCHEDULE	
NO.	DATE
A	2022/01/20
0	2023/03/08
1	2023/03/24

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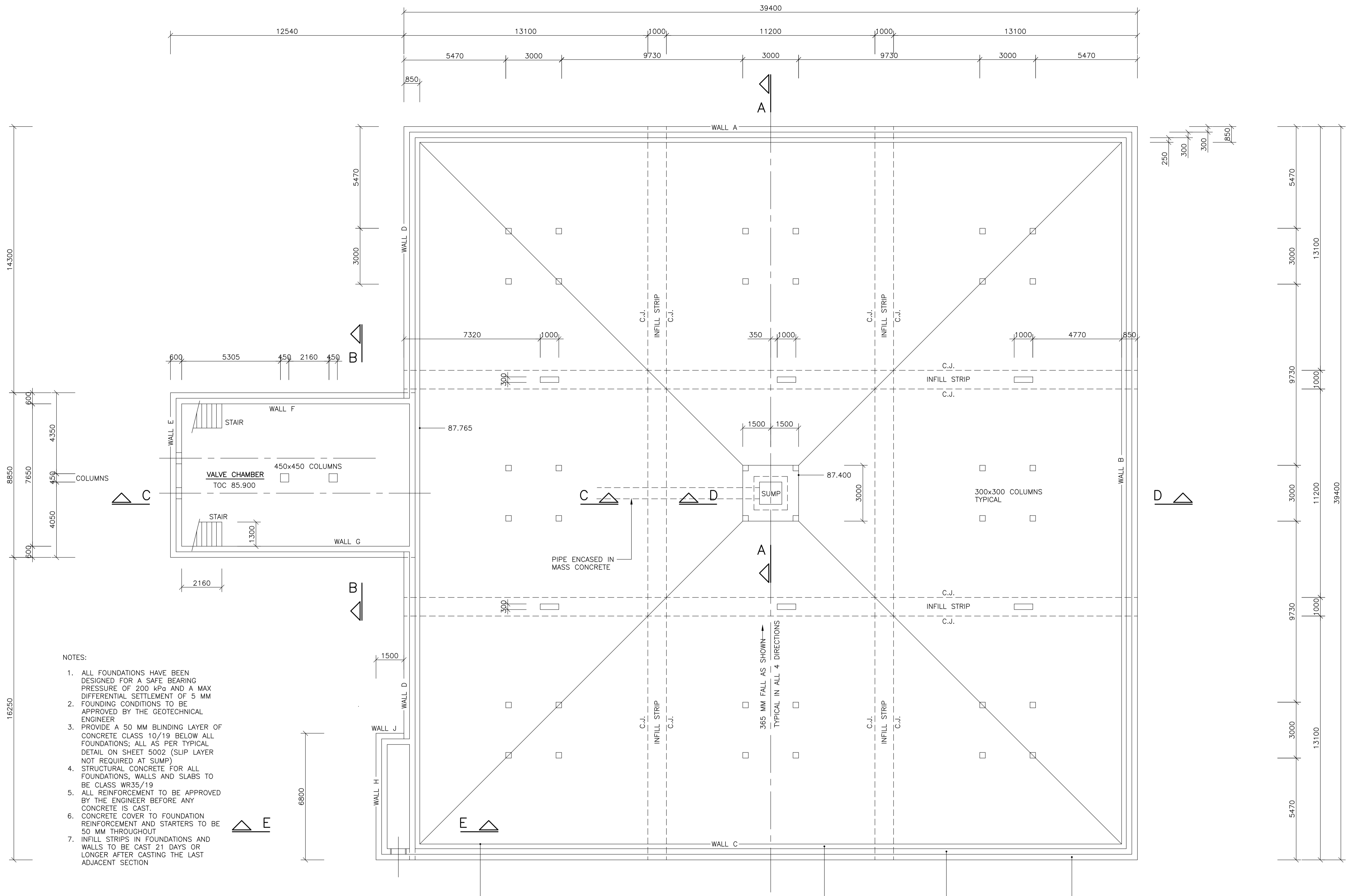
PROJECT

POLOKWANE REGIONAL WASTEWATER TREATMENT WORKS

DRAWING DESCRIPTION

PIPE LAYOUT AND SCHEDULE BALANCING TANK

DESIGNED	DRAWN	CHECKED
Designer	Author	Checker
REV DATE	SCALE	ORIGINAL SIZE
2023/03/24	As indicated	A1
DRAWING NUMBER		
PROJ No - DISCIPLINE - SERV - SEQ No - (SHEET)	REV	
PK278--STR-DRG-0002-1005	1	



NOTES:

1. ALL FOUNDATIONS HAVE BEEN DESIGNED FOR A SAFE BEARING PRESSURE OF 200 kPa AND A MAX DIFFERENTIAL SETTLEMENT OF 5 MM
2. FOUNDING CONDITIONS TO BE APPROVED BY THE GEOTECHNICAL ENGINEER
3. PROVIDE A 50 MM BLINDING LAYER OF CONCRETE CLASS 10/19 BELOW ALL FOUNDATIONS; ALL AS PER TYPICAL DETAIL ON SHEET 5002 (SLIP LAYER NOT REQUIRED AT SUMP)
4. STRUCTURAL CONCRETE FOR ALL FOUNDATIONS, WALLS AND SLABS TO BE CLASS WR35/19
5. ALL REINFORCEMENT TO BE APPROVED BY THE ENGINEER BEFORE ANY CONCRETE IS CAST.
6. CONCRETE COVER TO FOUNDATION REINFORCEMENT AND STARTERS TO BE 50 MM THROUGHOUT
7. INFILL STRIPS IN FOUNDATIONS AND WALLS TO BE CAST 21 DAYS OR LONGER AFTER CASTING THE LAST ADJACENT SECTION

PLAN ON FOUNDATION SLAB
SCALE 1:100

TOP OF FLOOR LEVEL AT THIS LINE = 87.765 TYPICAL AT ALL 4 SIDES
 250 MM WIDE HORIZONTAL FOUNDATION AT LEVEL 87.765 TYPICAL AT ALL 4 SIDES
 300 MM THICK EXTERNAL WALL TYPICAL AT ALL 4 SIDES
 300 MM WIDE FOUNDATION "TOE" TYPICAL AT ALL 4 SIDES

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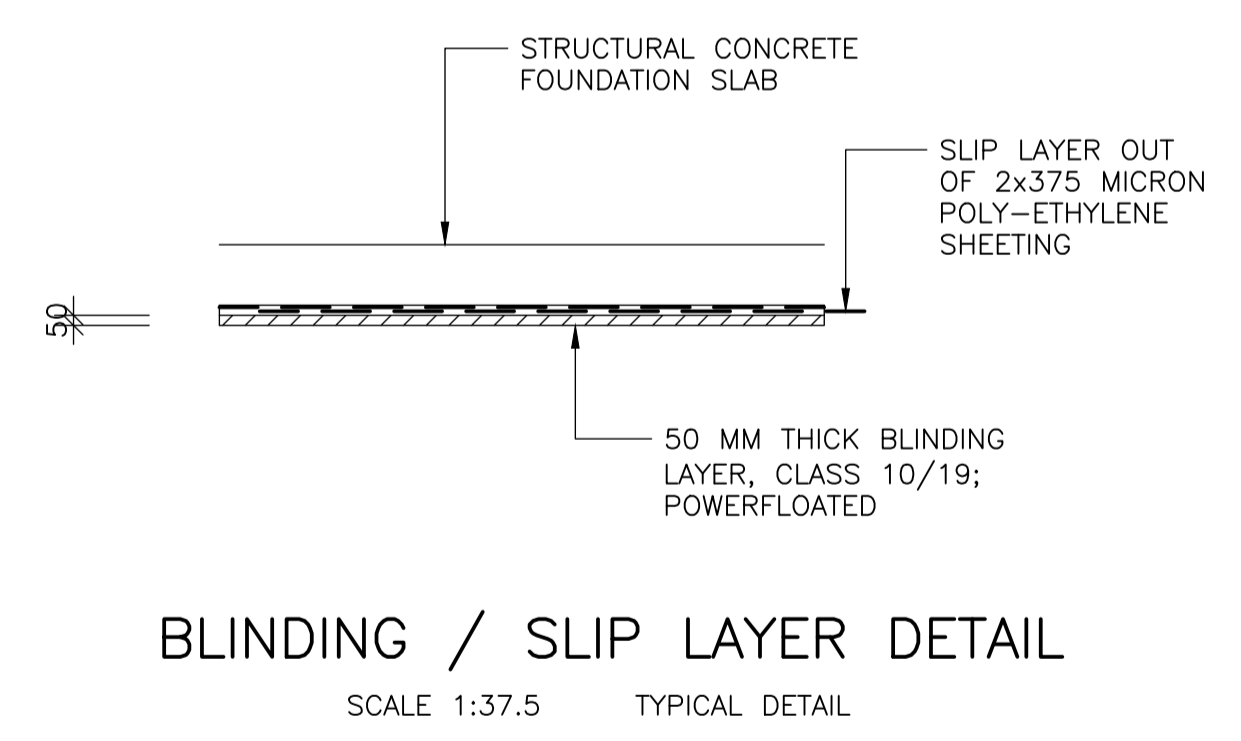
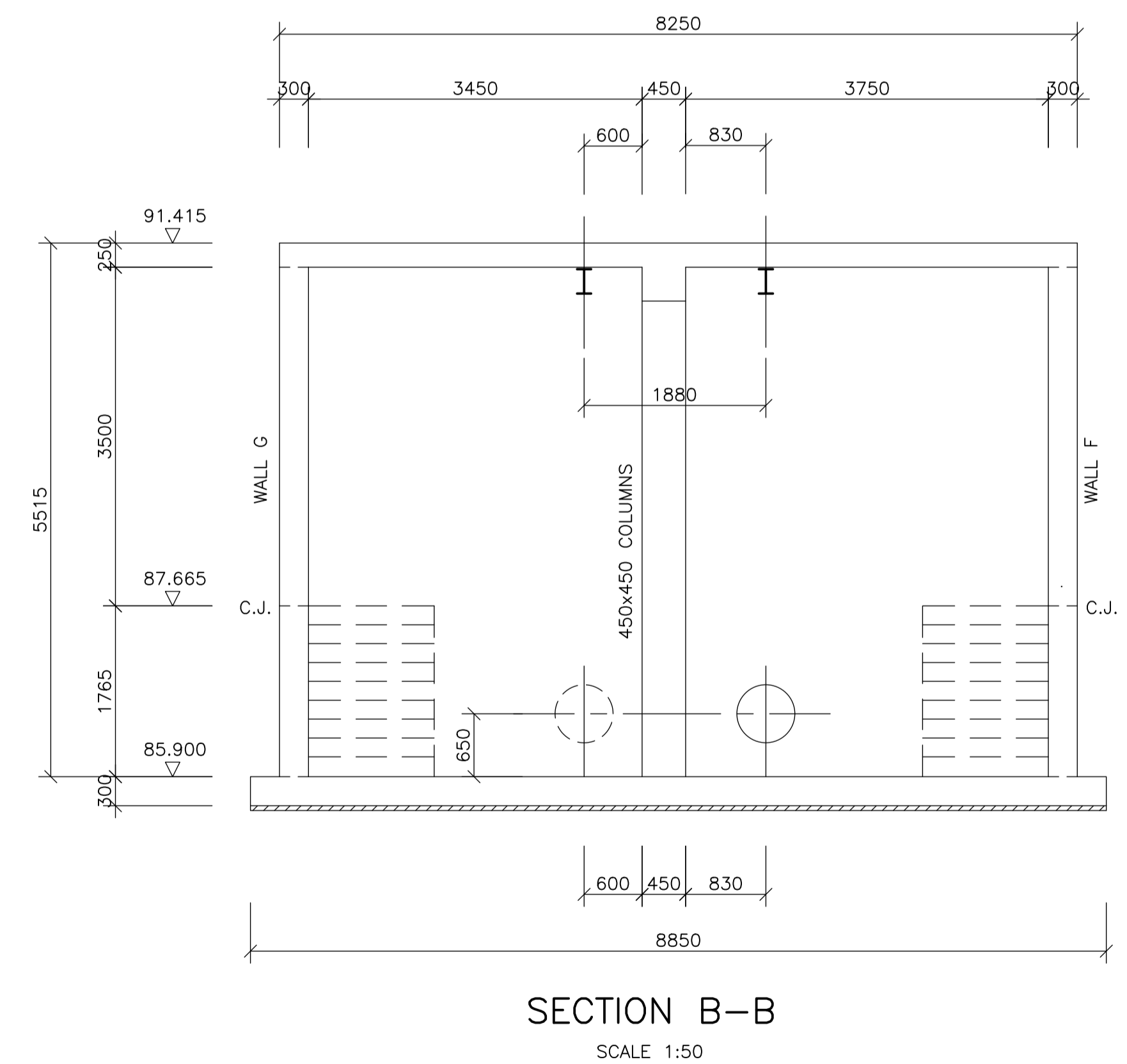
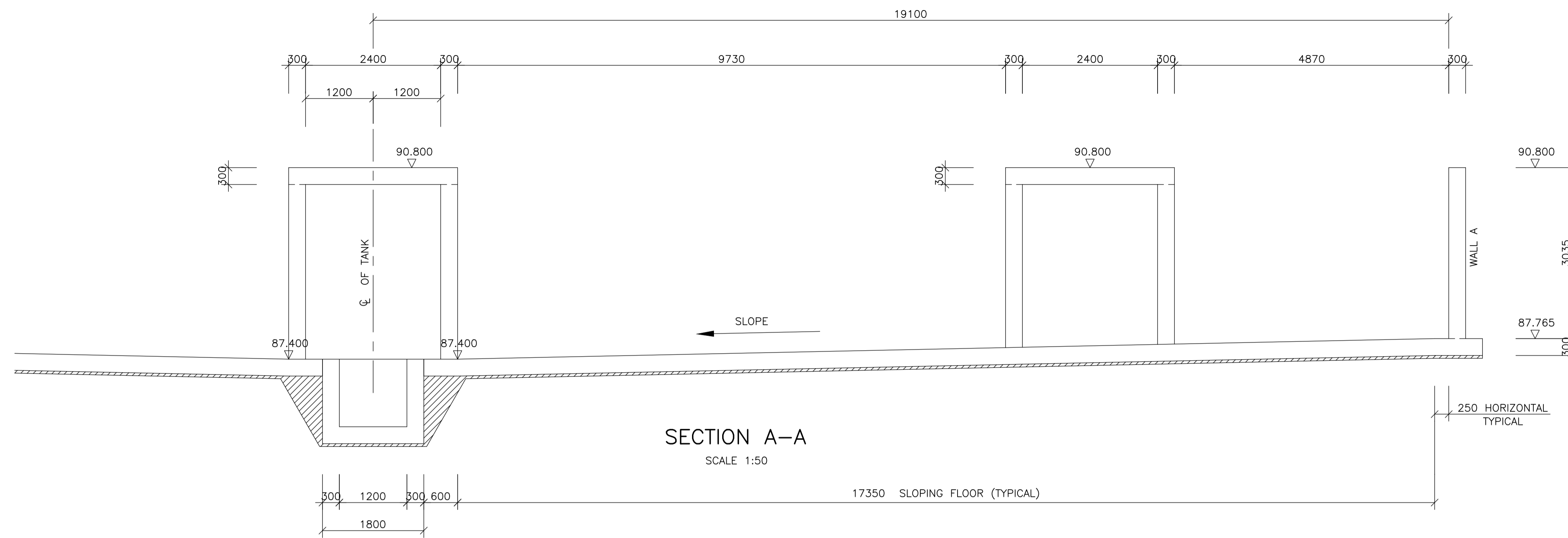
REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
0	2023-04-18	ISSUED FOR CONSTRUCTION

T. BANDA
ENGINEER
 PR ENG no. _____ DATE _____
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PROJECT
 POLOKWANE REGIONAL
 WASTE WATER TREATMENT
 WORKS

DRAWING DESCRIPTION
 BALANCING TANK
 CONCRETE DETAILS
 FOUNDATION SLAB

DESIGNED	DRAWN	CHECKED
Designer	Author	Checker
REV DATE	SCALE	ORIGINAL SIZE
2023-04	AS SHOWN	A1
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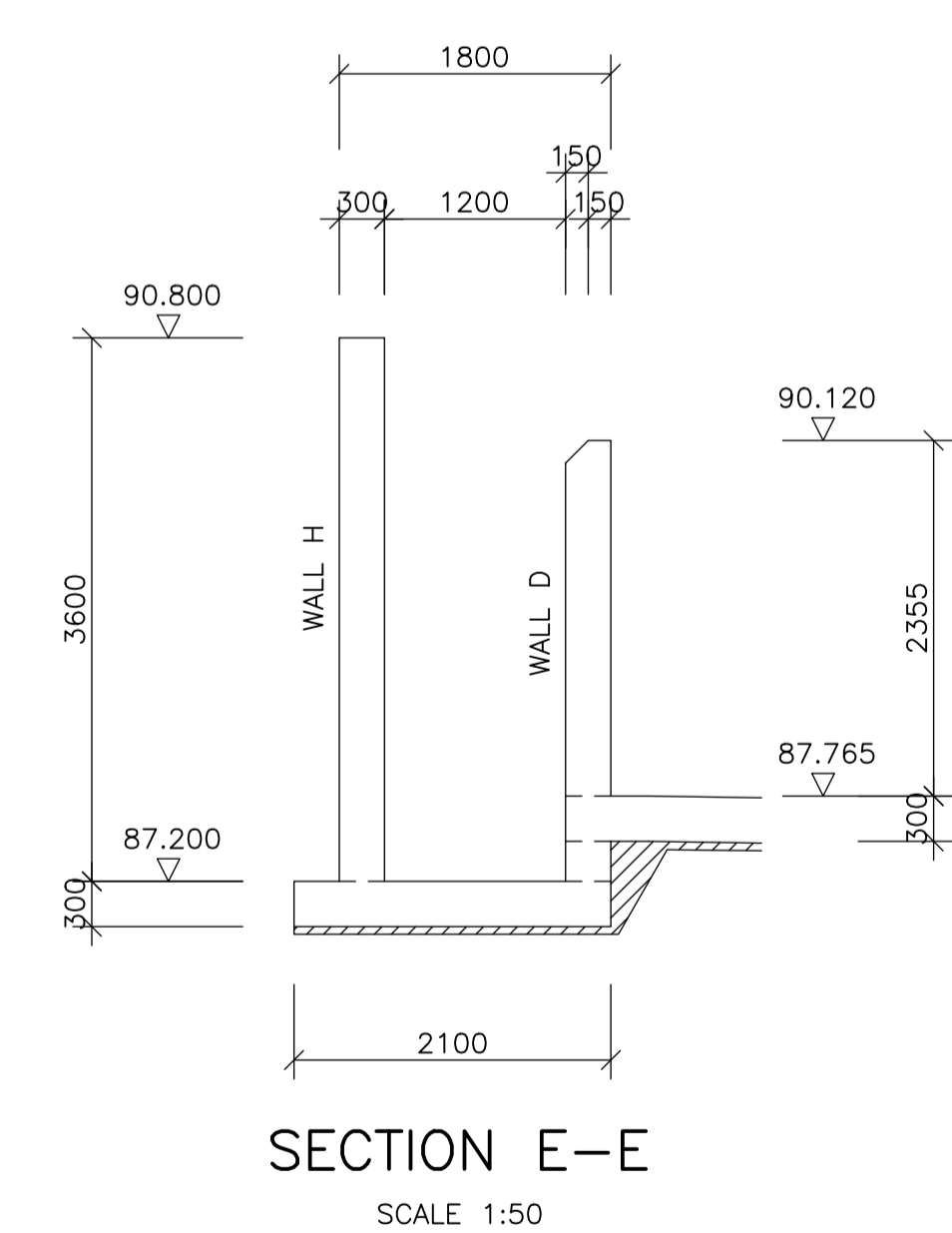
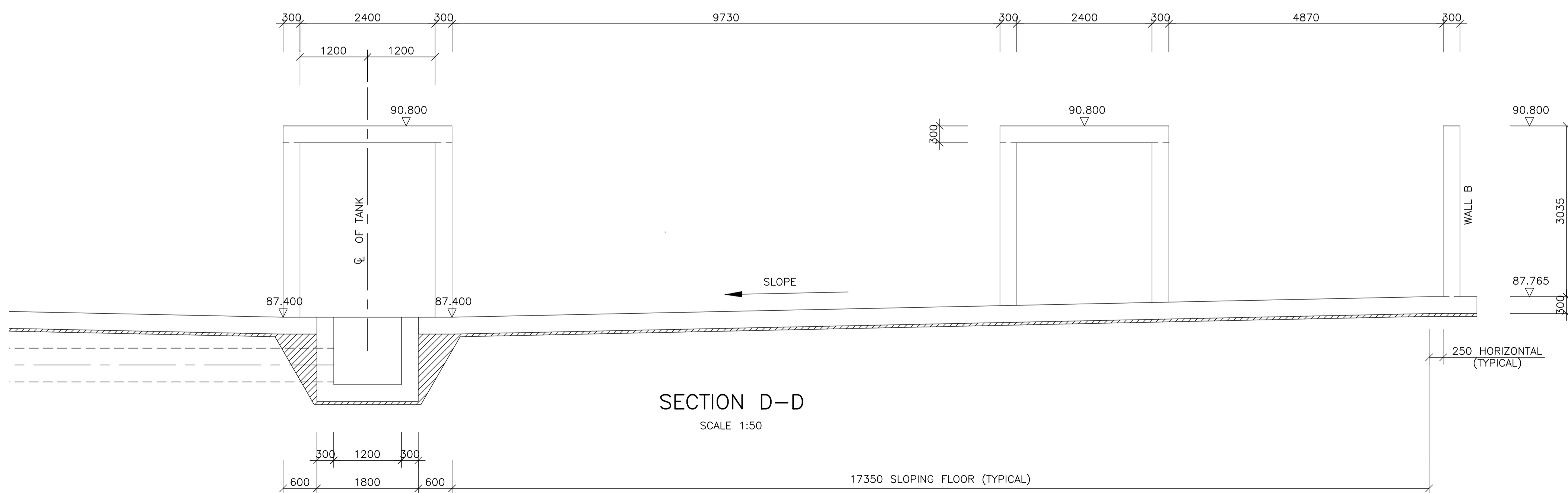
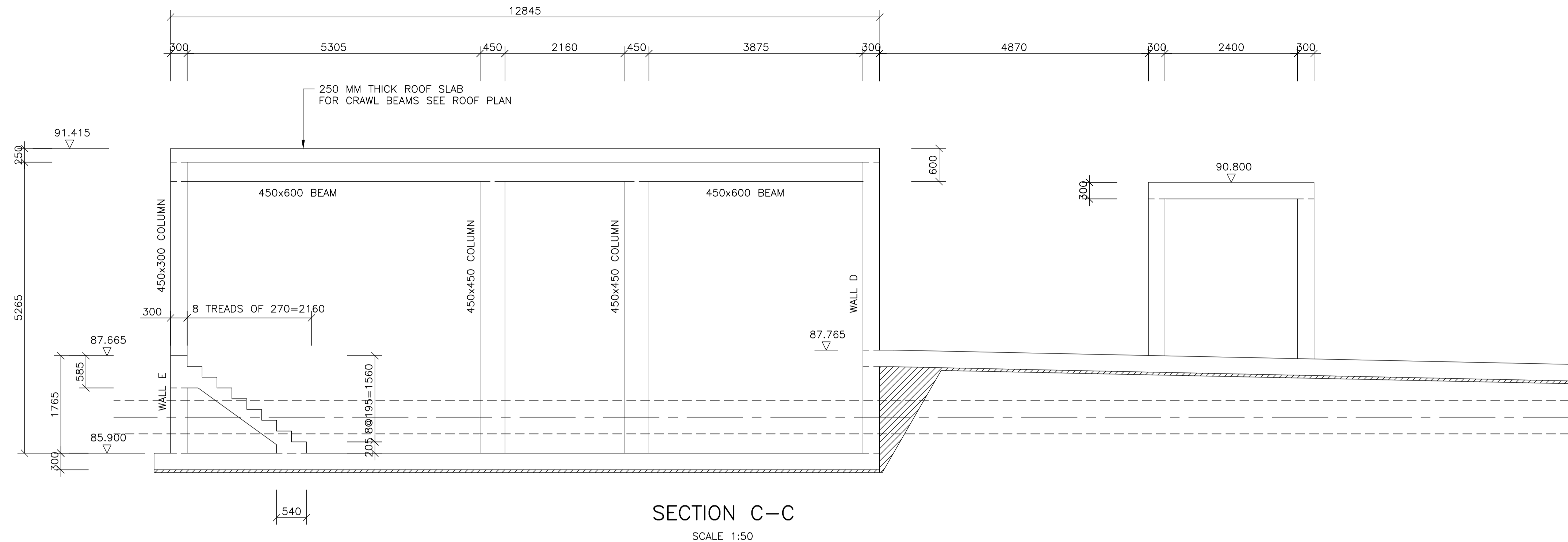
PROJECT

POLOKWANE REGIONAL
WASTE WATER TREATMENT
WORKS

DRAWING DESCRIPTION

BALANCING TANK
CONCRETE DETAILS
SECTIONS A-A AND B-B

CONSTRUCTION DRAWING		
DESIGNED	DRAWN	CHECKED
Designer	Author	Checker
REV DATE	SCALE	ORIGINAL SIZE
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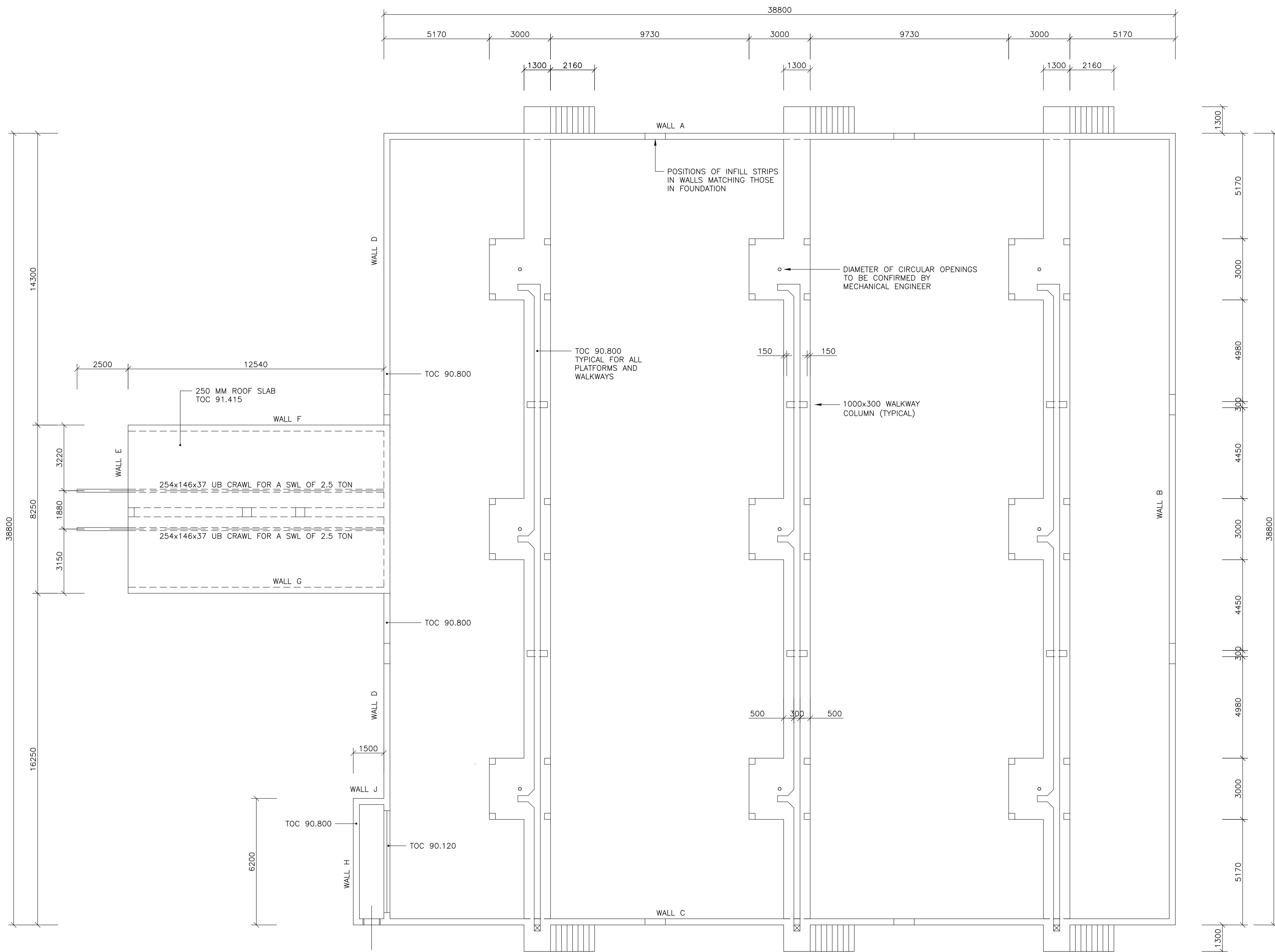
PROJECT

POLOKWANE REGIONAL WASTE WATER TREATMENT WORKS

DRAWING DESCRIPTION

BALANCING TANK CONCRETE DETAILS SECTIONS C-C TO E-E

CONSTRUCTION DRAWING		
DESIGNED	DRAWN	CHECKED
Designer	Author	Checker
REV DATE	SCALE	ORIGINAL SIZE
2023-04	AS SHOWN	A1
DRAWING NUMBER		
PROJ No - DISCIPLINE - SERV - SEQ No - (SHEET)	REV	
PK278-01-STR-DRG-0002-5003	0	



STRUCTURAL PLAN ON PLATFORMS AND CHAMBER ROOF

SCALE 1:100

CONSTRUCTION DRAWING

NOTES
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CLIENT

 CITY OF
Polokwane
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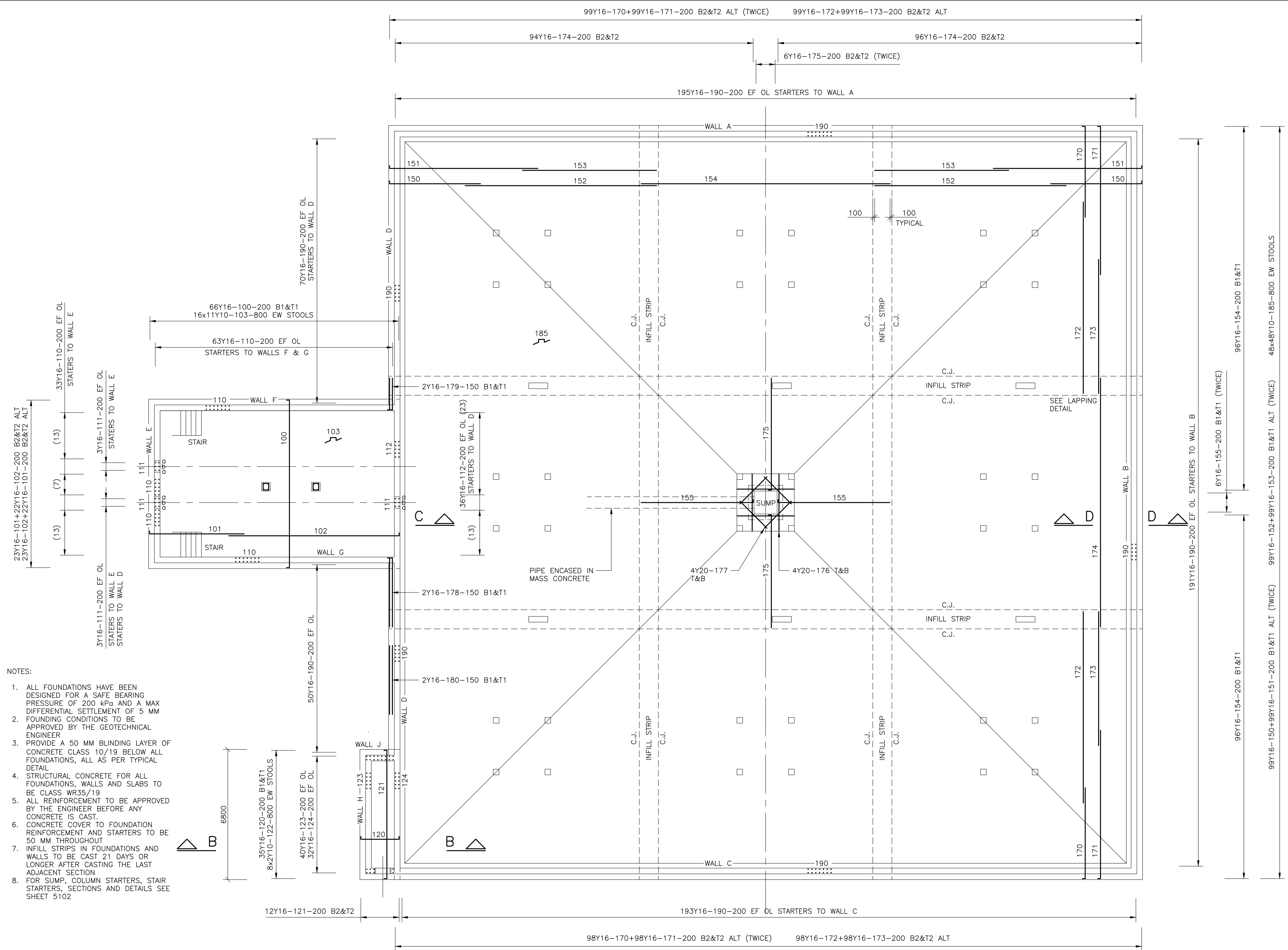
REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
0	2023-04-18	ISSUED FOR CONSTRUCTION

T. BANDA
 ENGINEER
 PR ENG no. _____ DATE _____
 CLIENT _____ DATE _____

PROJECT
 POLOKWANE REGIONAL
 WASTE WATER TREATMENT
 WORKS

DRAWING DESCRIPTION
 BALANCING TANK
 CONCRETE DETAILS
 PLATFORMS AND CHAMBER
 ROOF

DESIGNED	DRAWN	CHECKED
Designer	Author	Checker
REV DATE	SCALE	ORIGINAL SIZE
2023-04	AS SHOWN	A1
DRAWING NUMBER		
PROJ No - DISCIPLINE - SERV - SEQ No - (SHEET)	REV	
PK278-01-STR-DRG-0002-5004	0	



- NOTES:
1. ALL FOUNDATIONS HAVE BEEN DESIGNED FOR A SAFE BEARING PRESSURE OF 200 kPa AND A MAX DIFFERENTIAL SETTLEMENT OF 5 MM
 2. FOUNDING CONDITIONS TO BE APPROVED BY THE GEOTECHNICAL ENGINEER
 3. PROVIDE A 50 MM BLINDING LAYER OF CONCRETE CLASS 10/19 BELOW ALL FOUNDATIONS, ALL AS PER TYPICAL DETAIL
 4. STRUCTURAL CONCRETE FOR ALL FOUNDATIONS, WALLS AND SLABS TO BE CLASS WR35/19
 5. ALL REINFORCEMENT TO BE APPROVED BY THE ENGINEER BEFORE ANY CONCRETE IS CAST.
 6. CONCRETE COVER TO FOUNDATION REINFORCEMENT AND STARTERS TO BE 50 MM THROUGHOUT
 7. INFILL STRIPS IN FOUNDATIONS AND WALLS TO BE CAST 21 DAYS OR LONGER AFTER CASTING THE LAST ADJACENT SECTION
 8. FOR SUMP, COLUMN STARTERS, STAIR STARTERS, SECTIONS AND DETAILS SEE SHEET 5102

PLAN ON FOUNDATION SLAB

SCALE 1:100

CONSTRUCTION DRAWING

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ENGINEER		
CLIENT		DATE

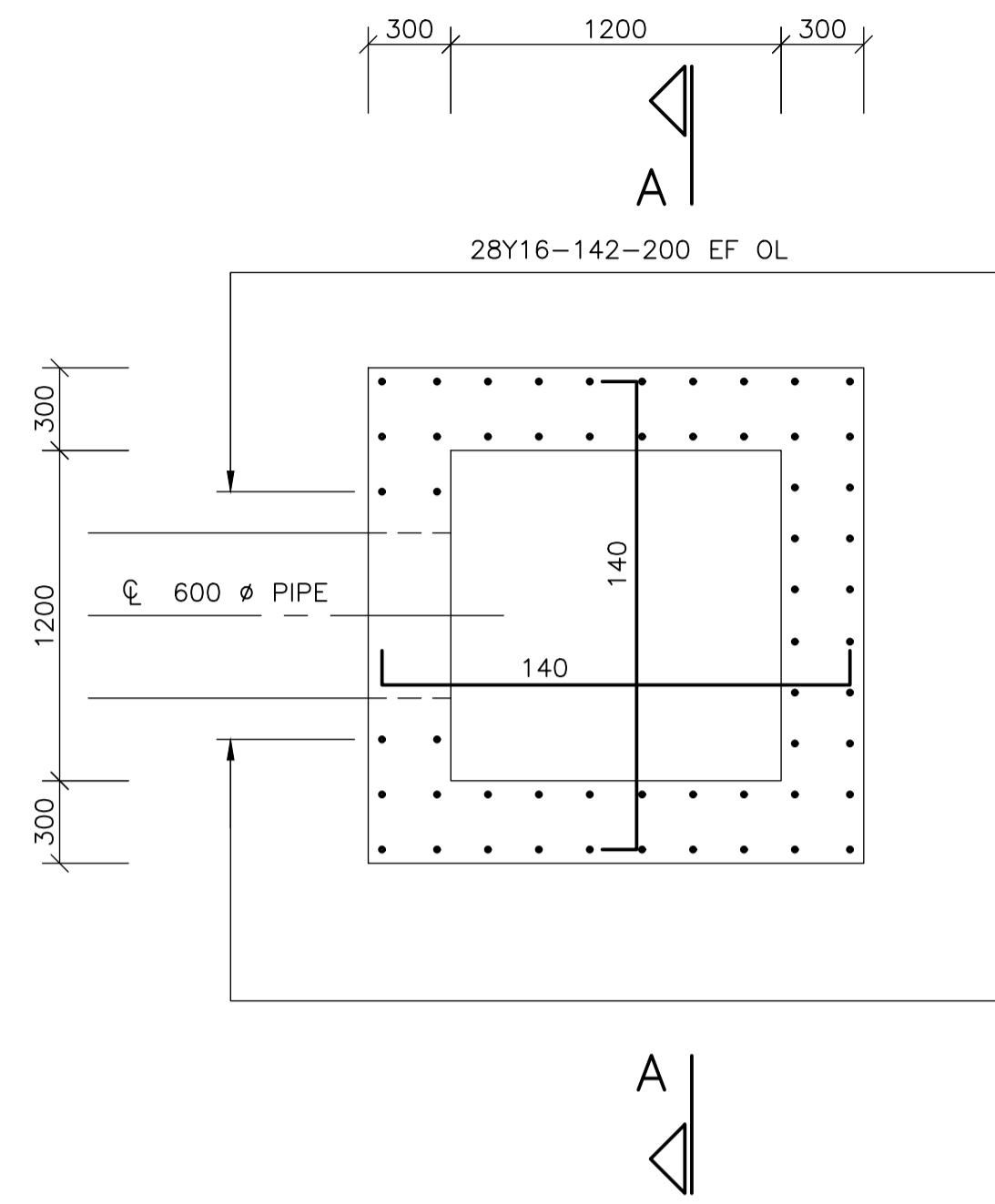
PROJECT

POLOKWANE REGIONAL WASTE WATER TREATMENT WORKS

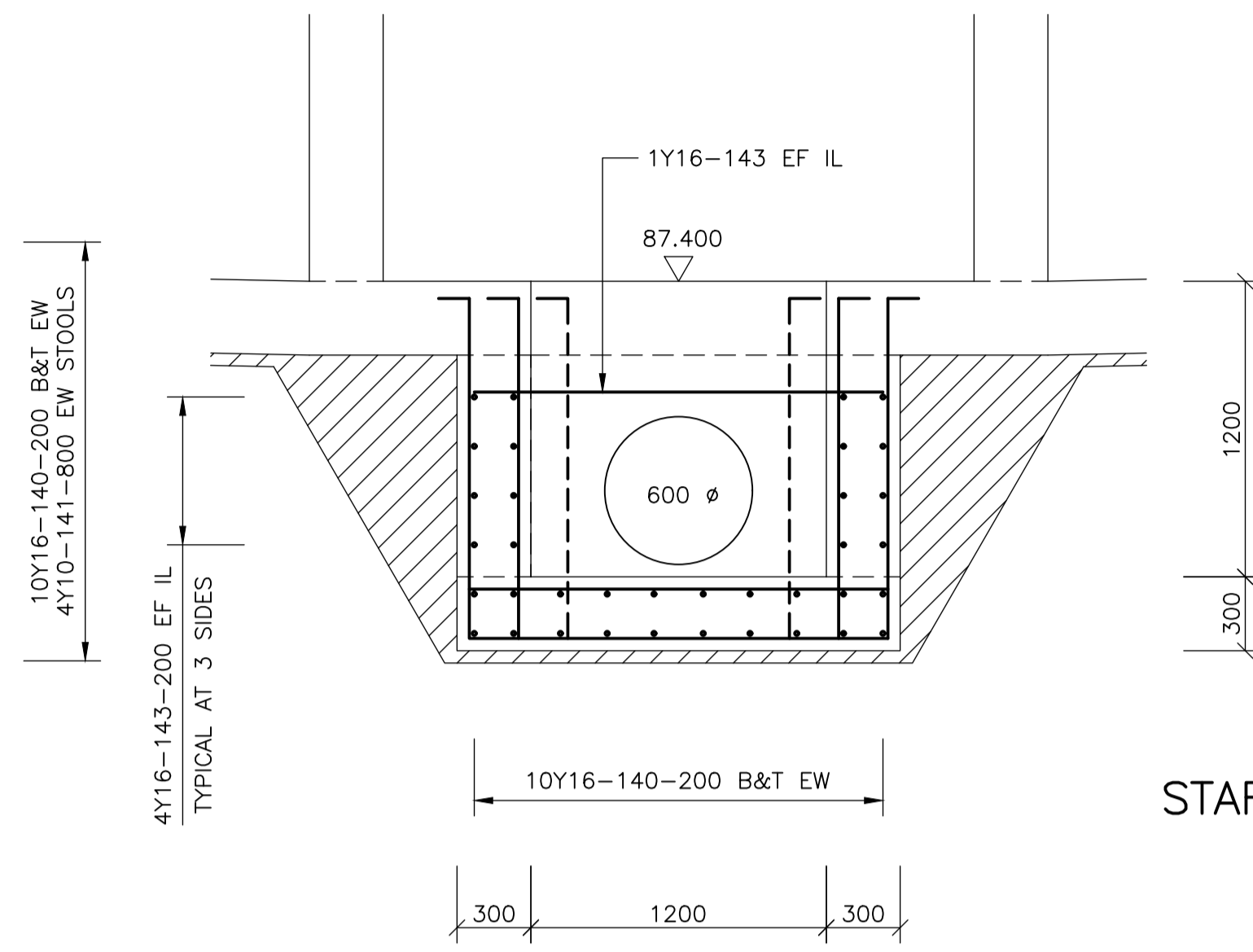
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BALANCING TANK LAYOUT OF FOUNDATION REINFORCEMENT

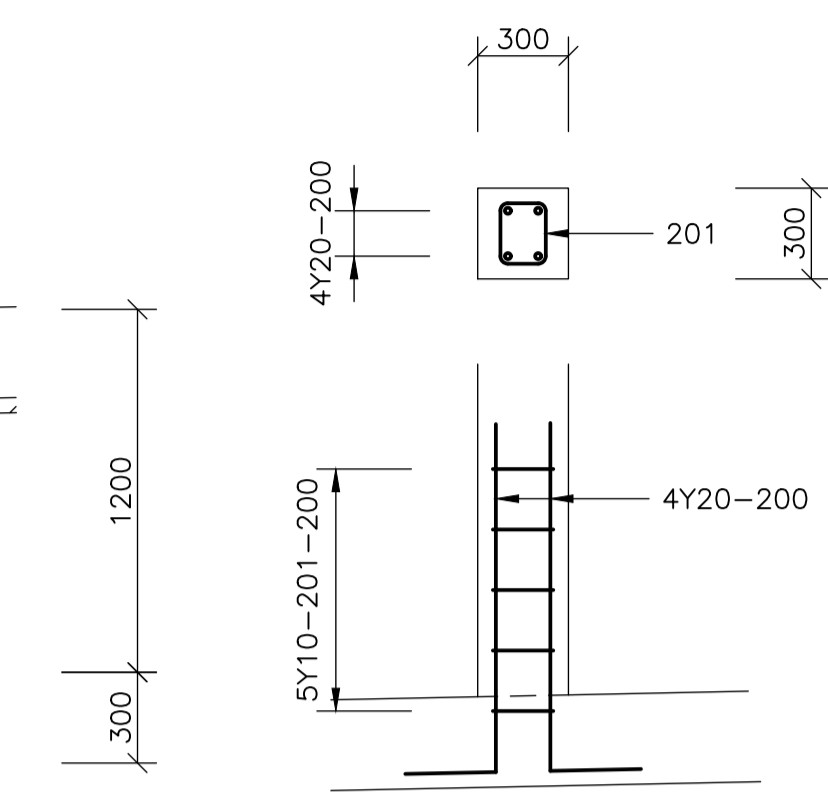
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Designer	Author	Checker
REV DATE	SCALE	ORIGINAL SIZE
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DRAWING NUMBER		
PROJ No - DISCIPLINE - SERV - SEQ No - (SHEET)	REV	
PK278-01-STR-DRG-0002-5101	0	



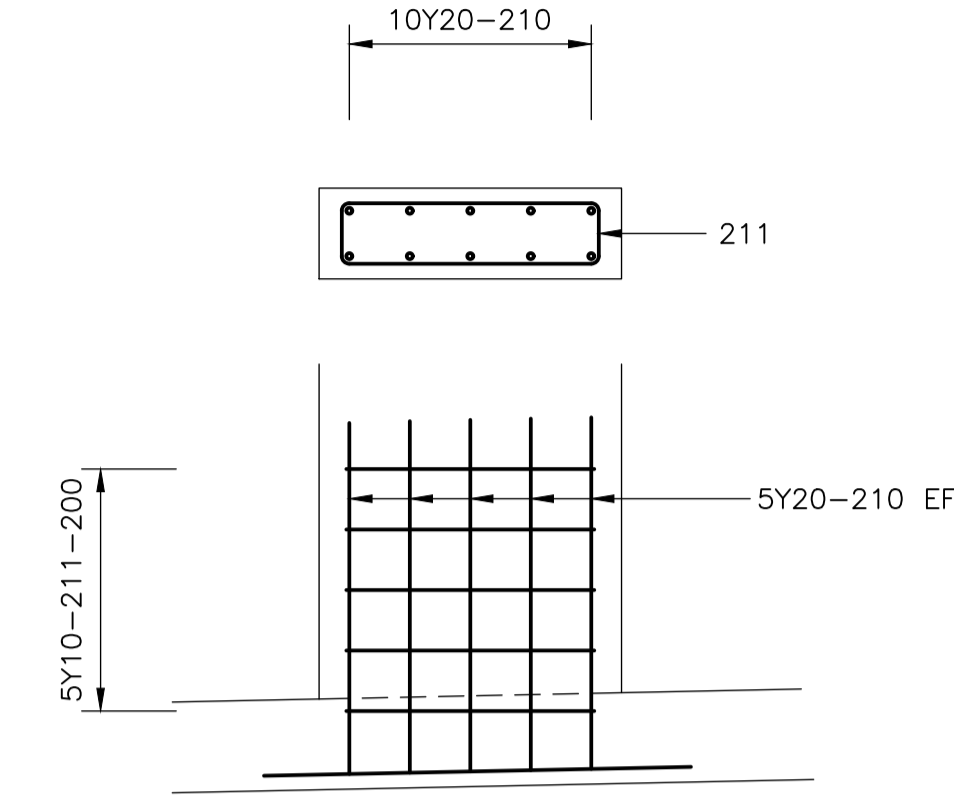
PLAN ON SUMP FOUNDATION
SCALE 1:25



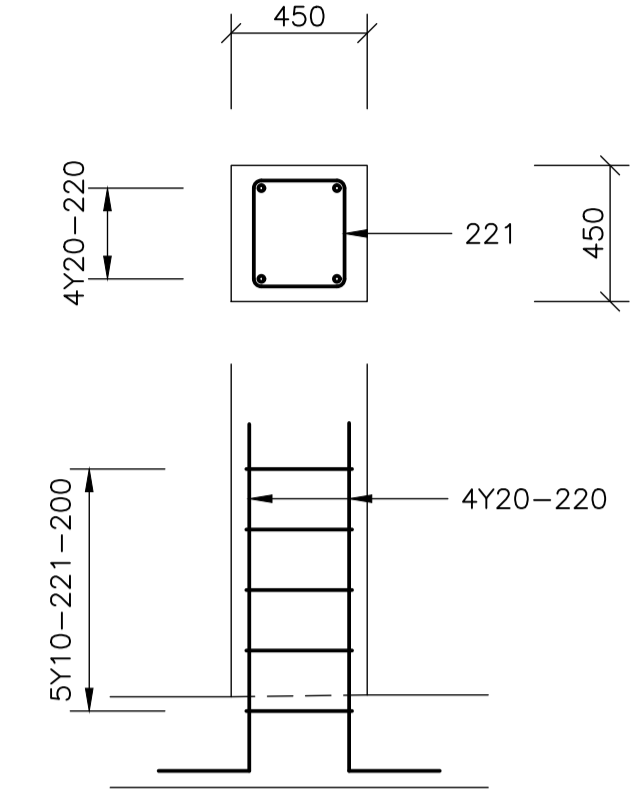
SUMP SECTION/ELEVATION A-A
SCALE 1:25



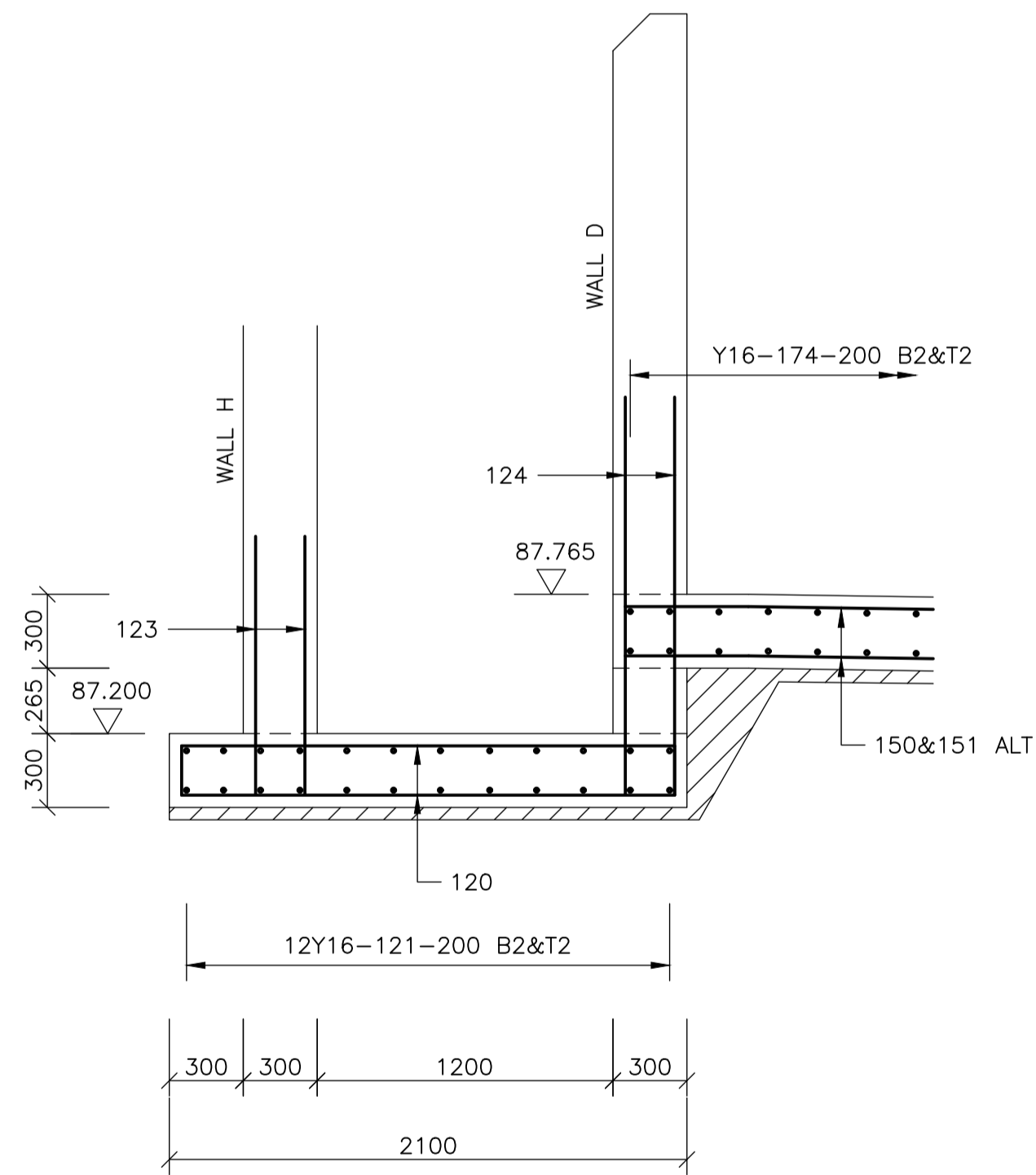
STARTERS FOR PLATFORM COLUMNS
SCALE 1:25 9 PLATFORMS; 36 COLUMNS



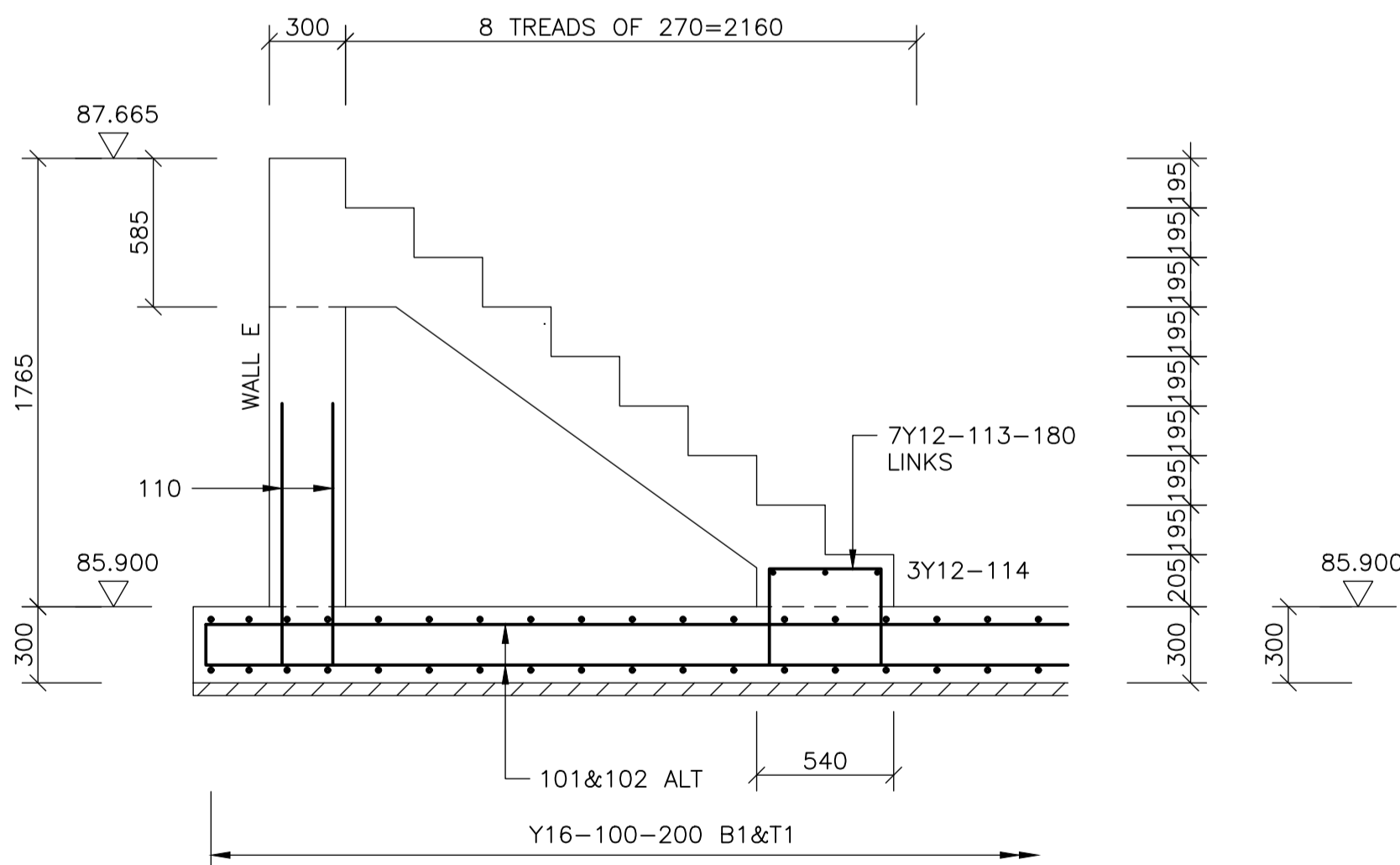
STARTERS FOR WALKWAY COLUMNS
SCALE 1:25 6 COLUMNS



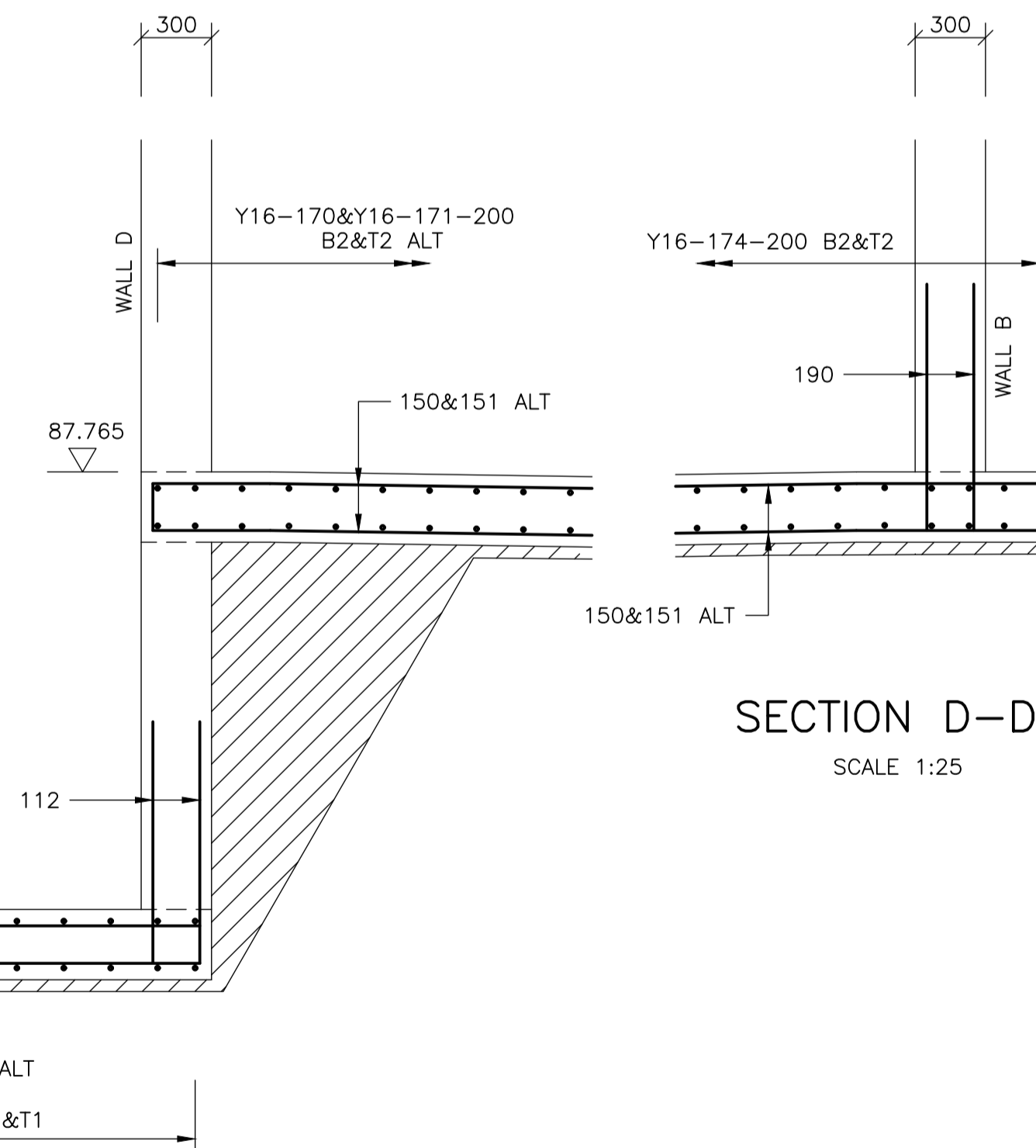
STARTERS FOR VALVE CHAMBER COLUMNS
SCALE 1:25 2 COLUMNS



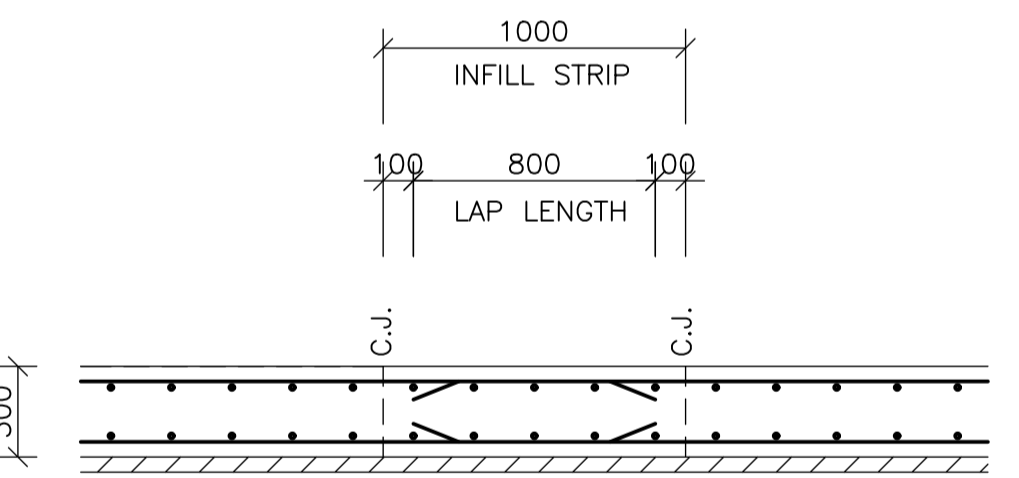
SECTION B-B
SCALE 1:25



SECTION C-C
SCALE 1:25



SECTION D-D
SCALE 1:25



TYPICAL DETAIL OF REBAR LAPPING IN INFILL STRIP
SCALE 1:25

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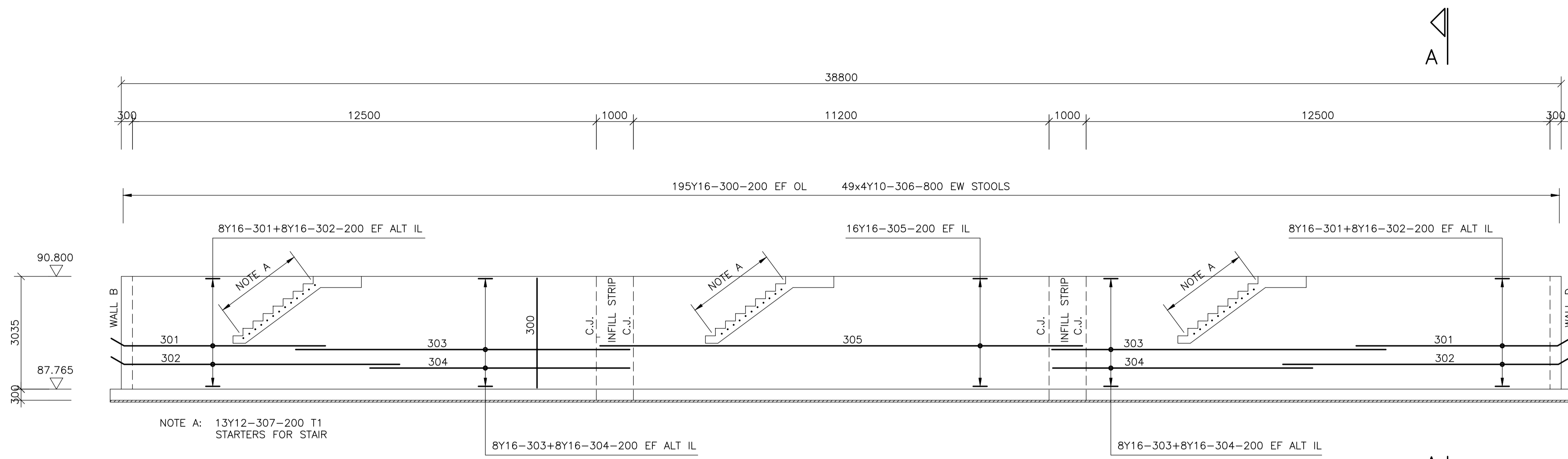
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PROJECT
POLOKWANE REGIONAL
WASTE WATER TREATMENT
WORKS

DRAWING DESCRIPTION
BALANCING TANK
DETAILS OF FOUNDATION
REINFORCEMENT

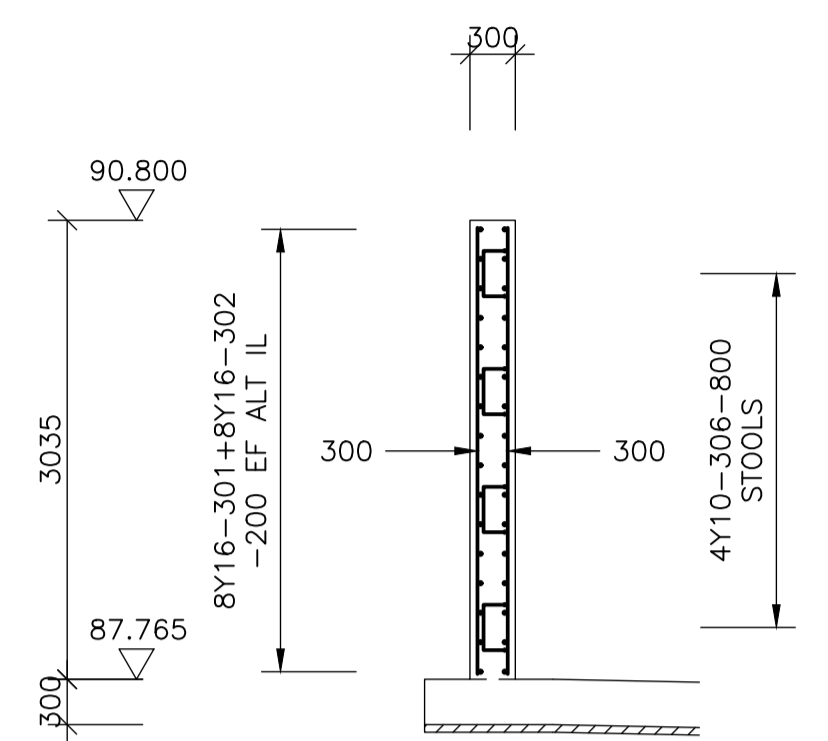
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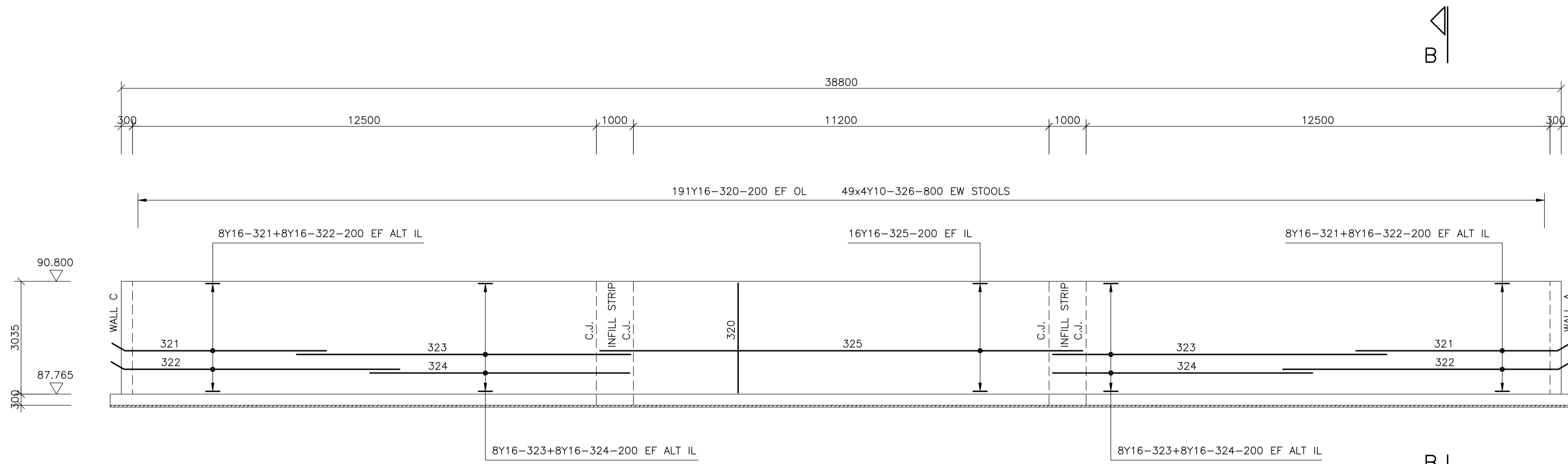
EXTERNAL ELEVATION ON WALL A REINFORCEMENT

SCALE 1:75

- NOTES:
1. CONCRETE COVER TO VERTICAL WALL REINFORCEMENT TO BE 50 MM
 2. INFILL STRIPS TO BE CAST 21 DAYS OR LONGER AFTER CASTING THE LAST ADJACENT SECTION

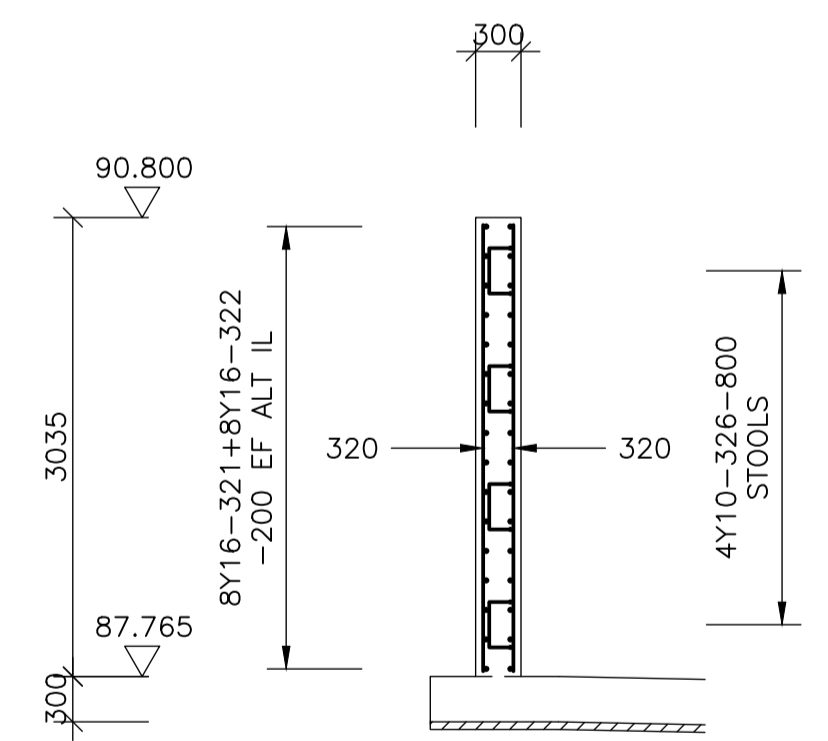


SECTION A-A
SCALE 1:50



EXTERNAL ELEVATION ON WALL B REINFORCEMENT

SCALE 1:75



SECTION B-B
SCALE 1:50

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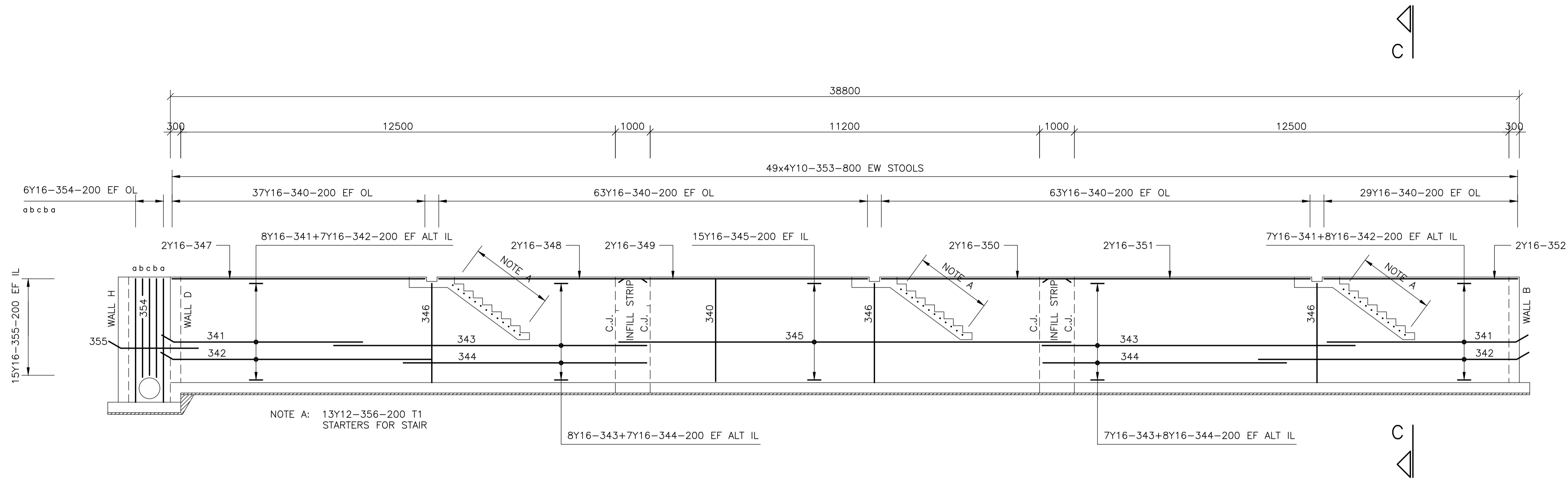
PROJECT

POLOKWANE REGIONAL WASTE WATER TREATMENT WORKS

DRAWING DESCRIPTION

BALANCING TANK REINFORCEMENT OF WALLS A & B

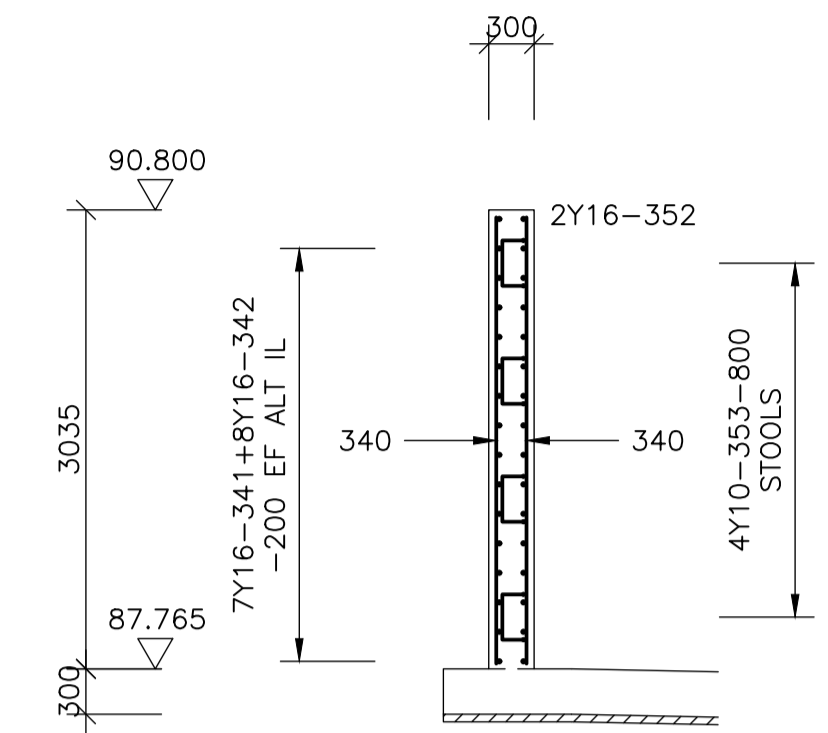
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Designer	Author	Checker
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DRAWING NUMBER		
PROJ No - DISCIPLINE - SERV - SEQ No - (SHEET)	REV	
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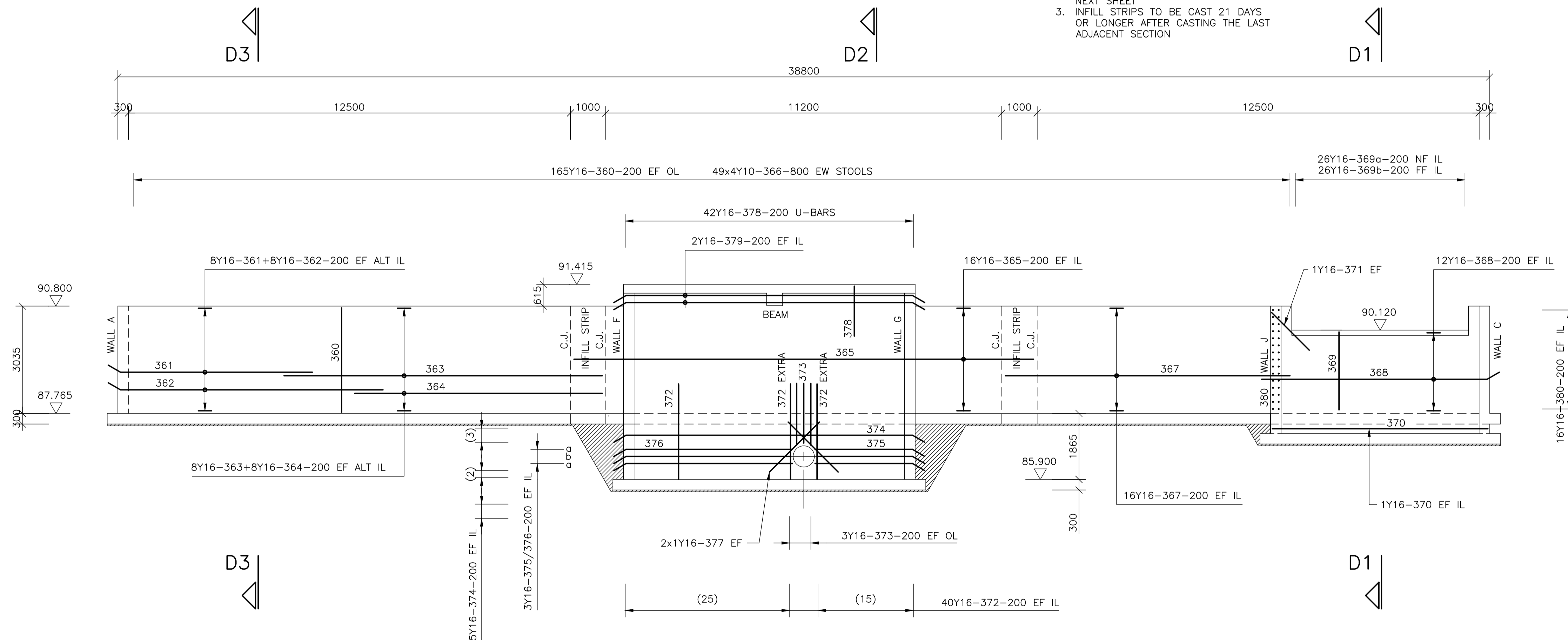
EXTERNAL ELEVATION ON WALL C REINFORCEMENT
SCALE 1:75

NOTES:

1. CONCRETE COVER TO VERTICAL WALL REINFORCEMENT TO BE 50 MM
2. FOR SECTIONS D1-D1 TO D3-D3 SEE NEXT SHEET
3. INFILL STRIPS TO BE CAST 21 DAYS OR LONGER AFTER CASTING THE LAST ADJACENT SECTION



SECTION C-C
SCALE 1:50



EXTERNAL ELEVATION ON WALL D REINFORCEMENT
SCALE 1:75

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ENGINEER

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CLIENT _____ DATE _____

PROJECT

**POLOKWANE REGIONAL
WASTE WATER TREATMENT
WORKS**

DRAWING DESCRIPTION

**BALANCING TANK
REINFORCEMENT OF
WALLS C & D**

CONSTRUCTION DRAWING		
DESIGNED	DRAWN	CHECKED
Designer	Author	Checker
REV DATE	SCALE	ORIGINAL SIZE
2023-04	AS SHOWN	A1
DRAWING NUMBER		
PROJ No - DISCIPLINE - SERV - SEQ No - (SHEET)	REV	
PK278-01-STR-DRG-0002-5104	0	