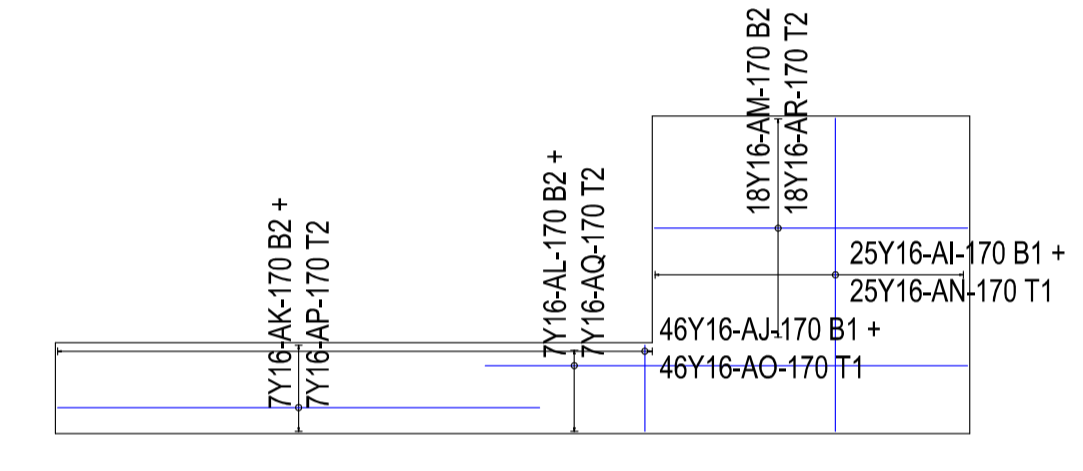
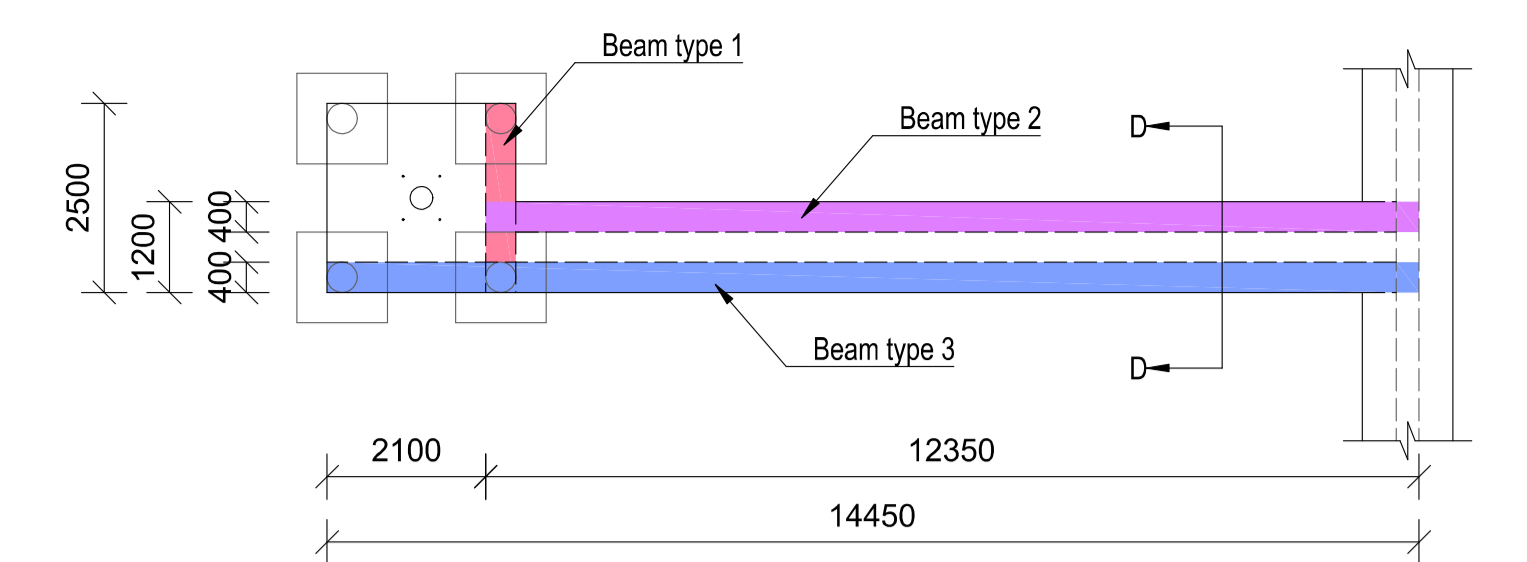


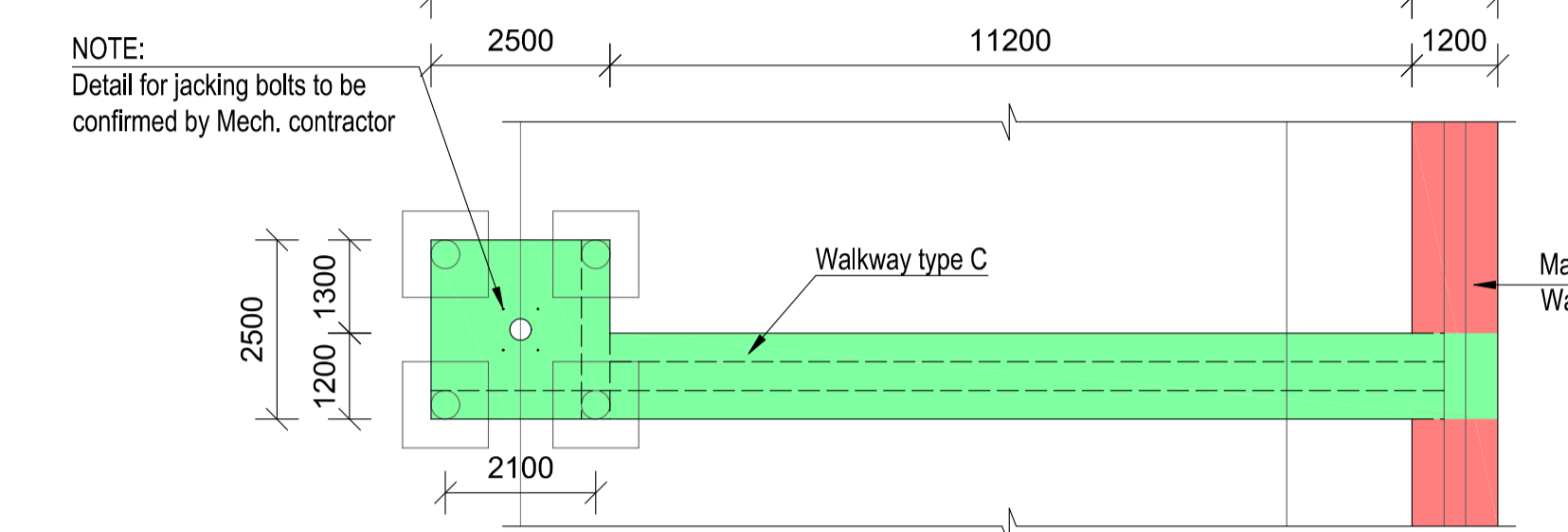
WALKWAY TYPE B: REINFORCEMENT scale n.t.s.



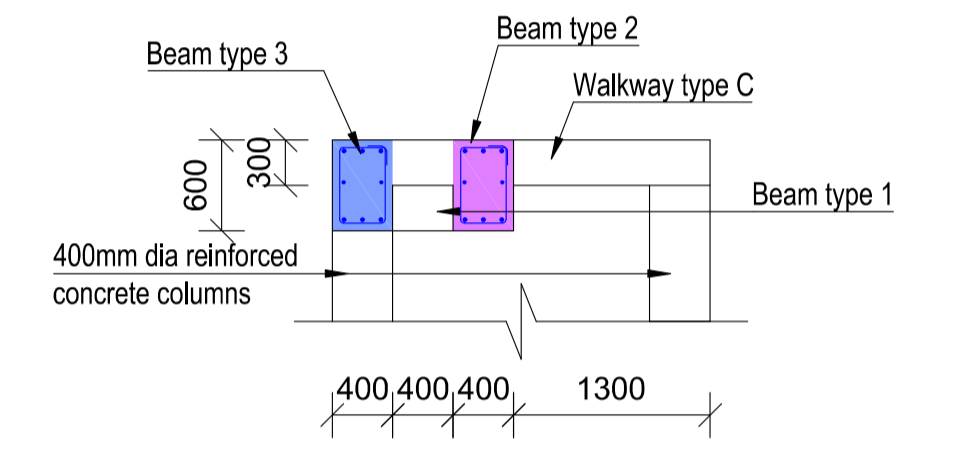
WALKWAY TYPE D: REINFORCEMENT scale n.t.s.



DETAIL 2: BEAMS scale 1:100



DETAIL 2: WALKWAY scale 1:100

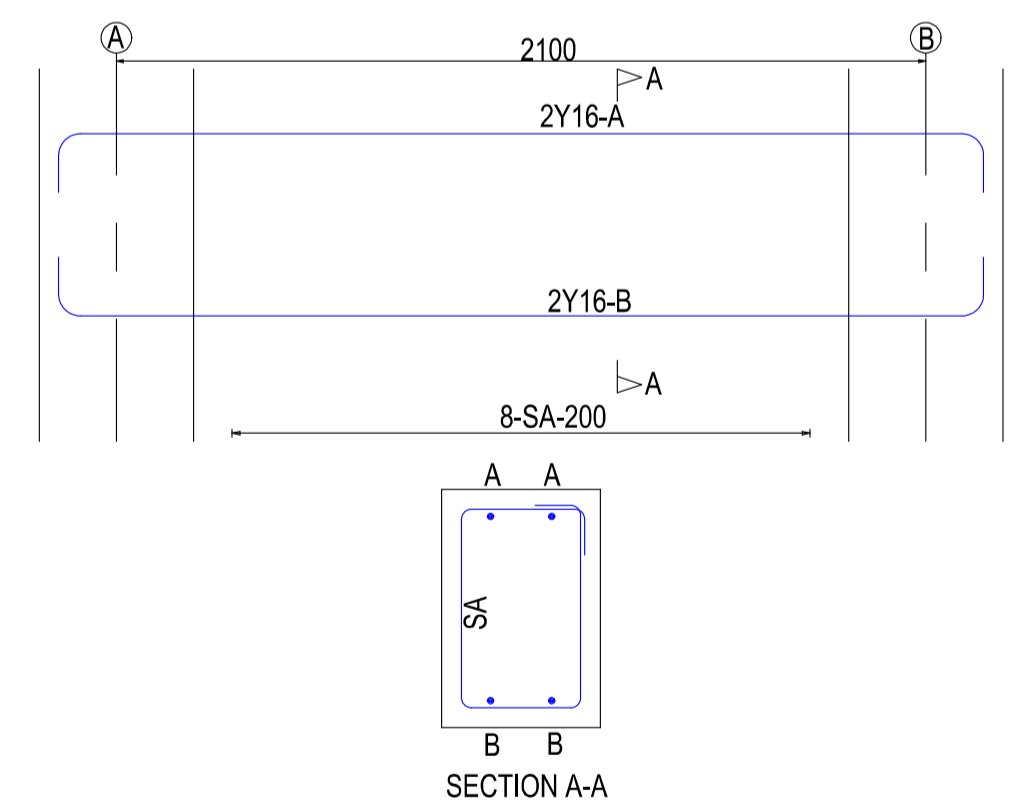


SECTION D-D scale 1:50

GENERAL LAYOUT PLAN: BIOLOGICAL REACTOR PLATFORMS scale 1:250

MEMBER	No OF	BARS PER MEMB	DIA	LENGTH	TOTAL NUMBER	MARK	S C	BENDING							
								A	B	C	D	E/r			
BNR Walkway Type B	4	7	Y16	7750	28	Q	35	7510							
		7	Y16	2700	28	R	35	2440							
		15	Y16	2700	60	S	35	2440							
		29	Y16	1400	116	T	35	1140							
BNR Walkway Type C	4	7	Y16	7750	28	U	35	7510							
		8	Y16	2700	32	V	35	2440							
		15	Y16	2700	60	W	35	2440							
		29	Y16	1400	116	X	35	1140							
BNR Walkway Type D	6	7	Y16	1400	292	Y	35	1140							
		13	Y16	2700	52	Z	35	2440							
		7	Y16	7900	28	AA	34	7780							
		8	Y16	2700	32	AB	35	2440							
		7	Y16	7900	28	AC	34	7780							
		73	Y16	1400	292	AD	35	1140							
		15	Y16	2700	60	AE	35	2440							
		7	Y16	7900	28	AF	34	7780							
		8	Y16	2700	32	AG	35	2440							
		7	Y16	7900	28	AH	34	7780							
		25	Y16	4400	150	AI	35	4140							
		46	Y16	1400	276	AJ	35	1140							
	7	Y16	6500	42	AK	34	6380								
	7	Y16	6500	42	AL	34	6380								
	18	Y16	4400	108	AM	35	4140								
	25	Y16	4400	150	AN	35	4140								
	46	Y16	1400	276	AO	35	1140								
	7	Y16	6500	42	AP	34	6380								
	7	Y16	6500	42	AQ	34	6380								
	18	Y16	4400	108	AR	35	4140								
R	8	10	12	16	20	25	32	40	TOT						
Y					11928				11928						
TOT					11928				11928						

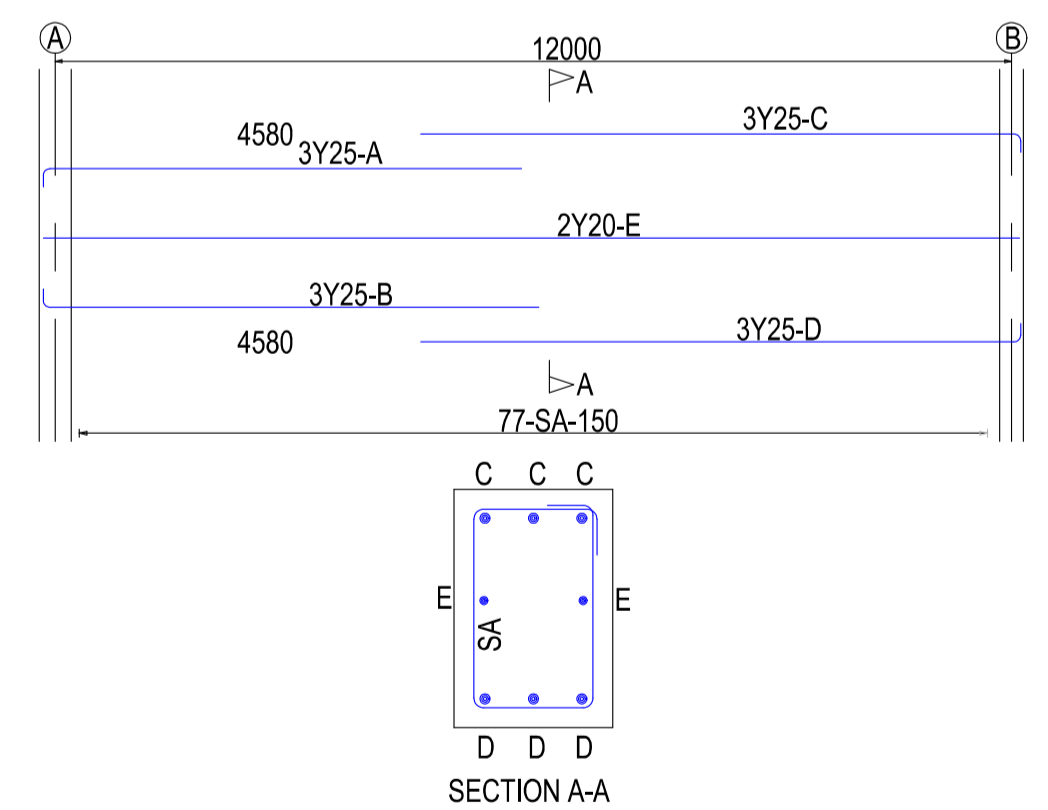
MEMBER	No OF	BARS PER MEMB	DIA	LENGTH	TOTAL NUMBER	MARK	S C	BENDING						
								A	B	C	D	E/r		
BNR Beam Type 1	4	2	Y16	2650	8	A	35	2400						
		8	R10	2650	8	B	35	2400						
				1750	32	SA	60	500	300					



SECTION A-A

R	Y	TOT
35		35
	67	67
TOT	35	101

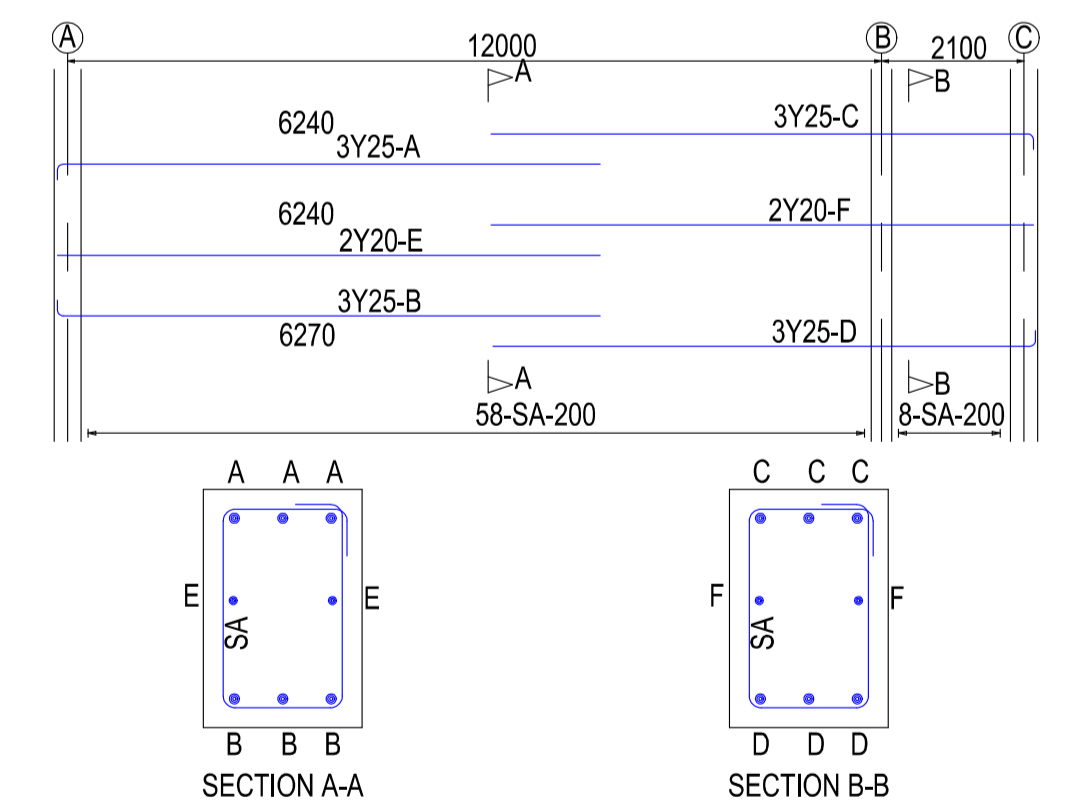
MEMBER	No OF	BARS PER MEMB	DIA	LENGTH	TOTAL NUMBER	MARK	S C	BENDING					
								A	B	C	D	E/r	
BNR Beam Type 2	4	3	Y25	6200	12	A	34	6000					
		3	Y25	6400	12	B	34	6220					
		2	Y20	12250	8	E	20	(12250)					
		3	Y25	7700	12	C	34	7530					
		3	Y25	7700	12	D	34	7530					
		3	Y25	8200	12	D	34	8000					
		66	R12	1750	264	SA	60	500	300				



SECTION A-A

R	Y	TOT
332		332
	242	1295
TOT	332	1869

MEMBER	No OF	BARS PER MEMB	DIA	LENGTH	TOTAL NUMBER	MARK	S C	BENDING				
								A	B	C	D	E/r
BNR Beam Type 3	4	3	Y25	8200	12	A	34	8000				
		3	Y25	8200	12	B	34	8000				
		2	Y20	8000	8	E	20	(8000)				
		3	Y25	8200	12	C	34	8000				
		2	Y20	8000	8	F	20	(8000)				
		3	Y25	8200	12	D	34	8000				
	66	R12	1750	264	SA	60	500	300				



SECTION B-B

R	Y	TOT
410		410
	316	1517
TOT	410	2243

WALKWAY TYPE C: REINFORCEMENT scale n.t.s.

CONSULTANT: CONSULTING ENGINEERS  
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K&A REVISION NO:  
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REV NO	DESCRIPTION	DRAWING

REV NO	DESCRIPTION	DATE	Int

DESIGN BY:	SIGNATURE	DATE
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S. MUTAMBRANWA		
M. KROMHOUT		
M. KROMHOUT		

APPROVAL: DESIGN BY: M. KROMHOUT, DRAWN BY: S. MUTAMBRANWA, CHECKED BY: M. KROMHOUT, APPROVED BY: M. KROMHOUT  
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PROJECT NAME: REFURBISHMENT & UPGRADING OF THE DELMAS WASTE WATER TREATMENT WORKS  
DRAWING NAME: LAYOUT & DETAILS: BIOLOGICAL REACTOR PLATFORMS

CONTRACT NO: 149743  
PROJECT NO: 713  
PROVINCE: MPUMALANGA, DISTRICT: NKANGALA  
DATE: SEPT 2020, SCALE: NTS, SHEET NO: 1 OF 1  
DRAWING NO: 713/M/545