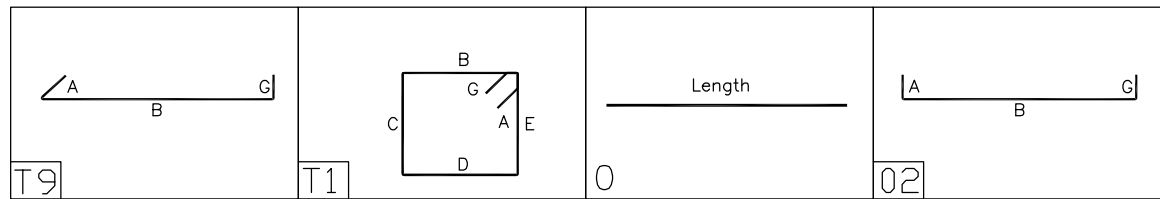


Release Code: R3.0 COL F-GF P#1 BENDING DETAILS.													
Bar Mark	Qty	Size	Total length	Type	A'	B'	C'	D'	E'	F'	G'	H'	I'
	60	20M	3950			3950							
	60	20M	3200			3200							
1001	168	10M	2360	T1	100	840	240	840	240			100	
1002	336	10M	440	T9	100	240						100	
2001	120	20M	1410	Z	310	1100							



NOTES

- ALL STEEL TO BE GRADE 400W
- STRENGTH OF CONCRETE  
35MPa - INTERIOR COLUMNS & WALLS
- CONCRETE COVER:  
TIES --- 30mm
- COMPRESSION LAP SPLICE

BAR SIZE	STANDARD LAP (mm)
10M	300
15M	440
20M	590
25M	730
30M	880
35M	1030

- TENSION LAP SPLICE (L.S.) & DEVELOPMENT LENGTH (Ld)  
(FOR WALL OR COL & Ld IN CAP OR FTG.)

BAR SIZE	fc=25		fc=30		fc=35	
	L.S	L.d	L.S	L.d	L.S	L.d
10M	490	380	450	350	420	320
15M	740	570	670	520	620	480
20M	980	750	890	690	830	640
25M	1530	1170	1390	1070	1290	990
30M	1830	1410	1670	1290	1550	1190
35M	2130	1640	1950	1500	1800	1390

DRAWING REVIEW

This review of this drawing does not in any way relieve the contractor of responsibility for its accuracy or for compliance with the contract documents.

No comment	See comment
Amend & Resubmit	Rejected See Remarks

Submission No.  
Project No. 19066  
By A.F.  
Date 16 Apr 2021  
JABLONSKY, AST AND PARTNERS  
Consulting Engineers  
9 Concorde Gate, North York, ON M3C 4H6

- ELEVATIONS AND DIMENSIONS SHOWN ARE FOR VERIFICATION PURPOSES ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION
- ALL CONFIRMS/VERIFIES WILL BE ASSUMED CORRECT AND APPROVED AS IS UNLESS COMMENTED ON THE APPROVAL DRWGS

LEGEND			
ALT = ALTERNATE	FF = FAR FACE	OF = OUTSIDE FACE	
BOT = BOTTOM	FS = FORM SAWER	SC = SAW CUT END	
BIS = BEND INTO SLAB	GID = GROUT 'N DOWELS	STG = STAGGER	
CB = CORNER BAR	H = HORIZONTAL	STR = STRIPS	
CJ = CONTROL JOINT	IF = INSIDE FACE	T = TOP	
CUT = CUT TO SUIT SITE COND.	LL = LOWER LAYER	THR/1 = THREAD LEND	
DWL = DOWELS	MD = MIDDLE	THR/2 = THREAD ZENDS	
EE = EACH END	MIN = MINIMUM	UL = UPPER LAYER	
EF = EACH FACE	NF = NEAR FACE	V = VERTICAL	
EJ = EXPANSION JOINT	OC = ON CENTER	TT = TEMPL. TIES	
ES = EACH SIDE			
EW = EACH WAY			

STRAIGHT BARS LABEL FORMAT		BENT BARS LABEL FORMAT		GRADES OF STEEL	
7 B15M X 3600	QUANTITY	7 B15M B1501	QUANTITY	B = GRADE 400W	
				C = CRACK COATED	
				F = F660	
				S = GALVANIZED	
				W = WELDABLE	

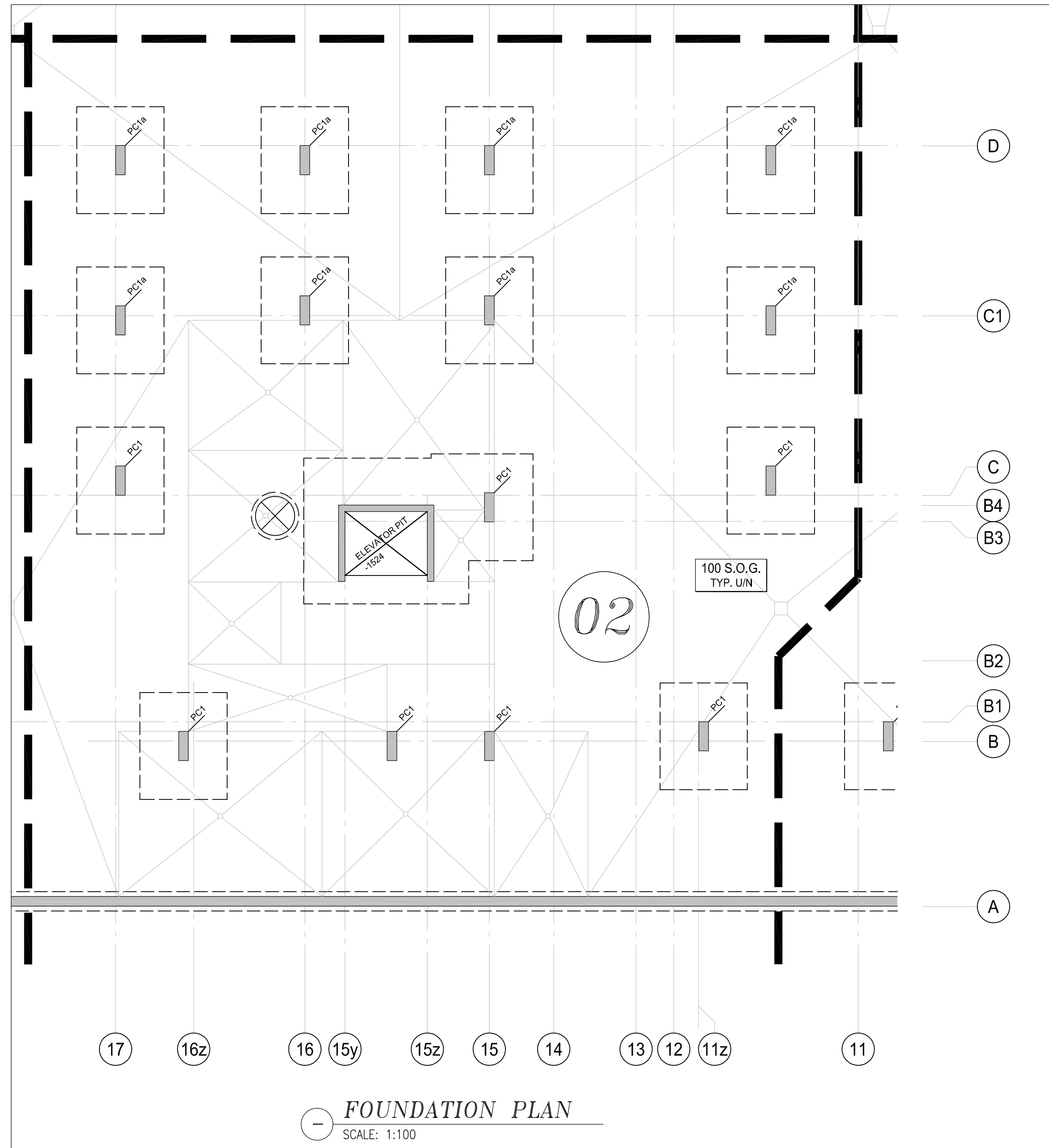
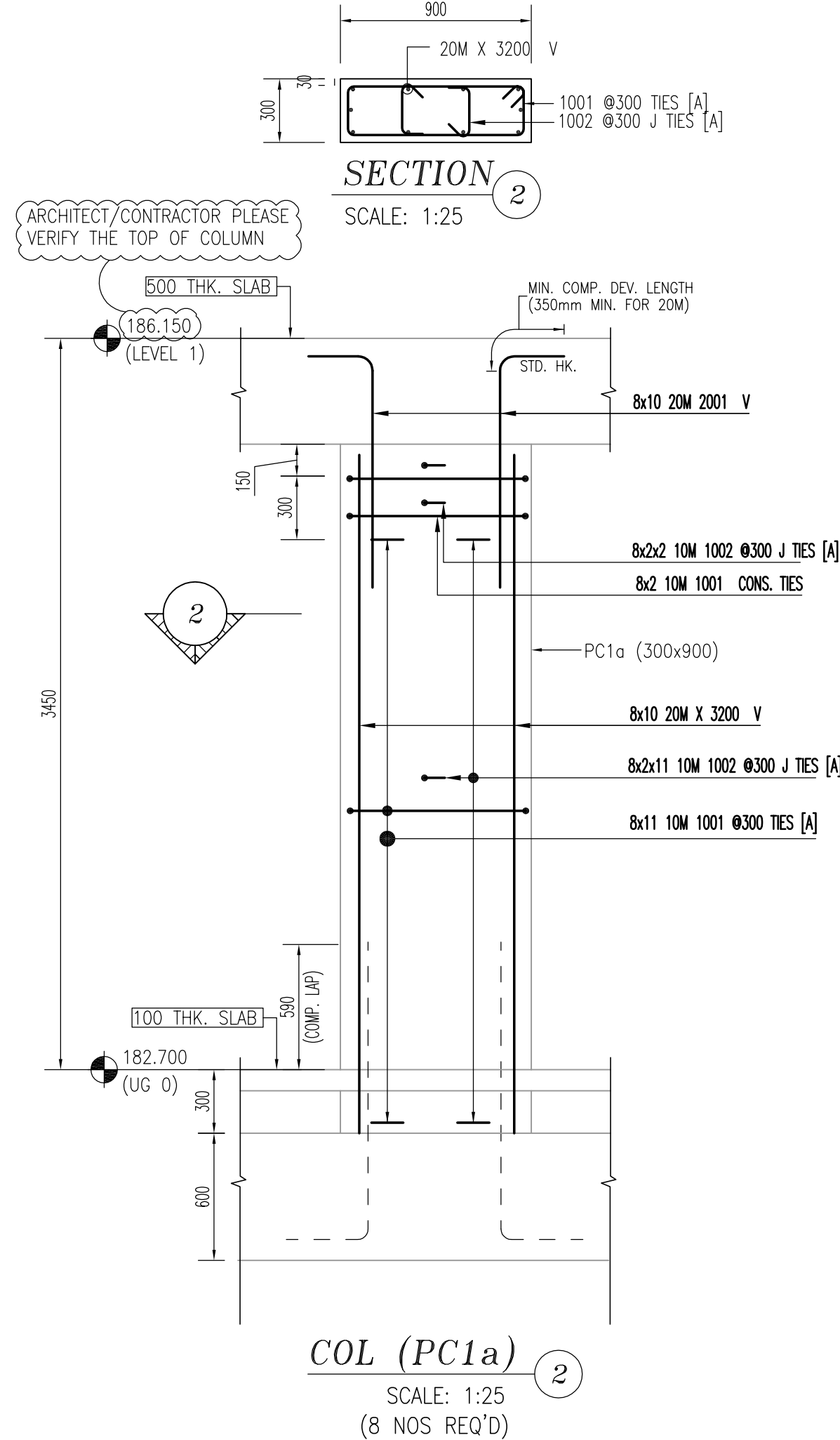
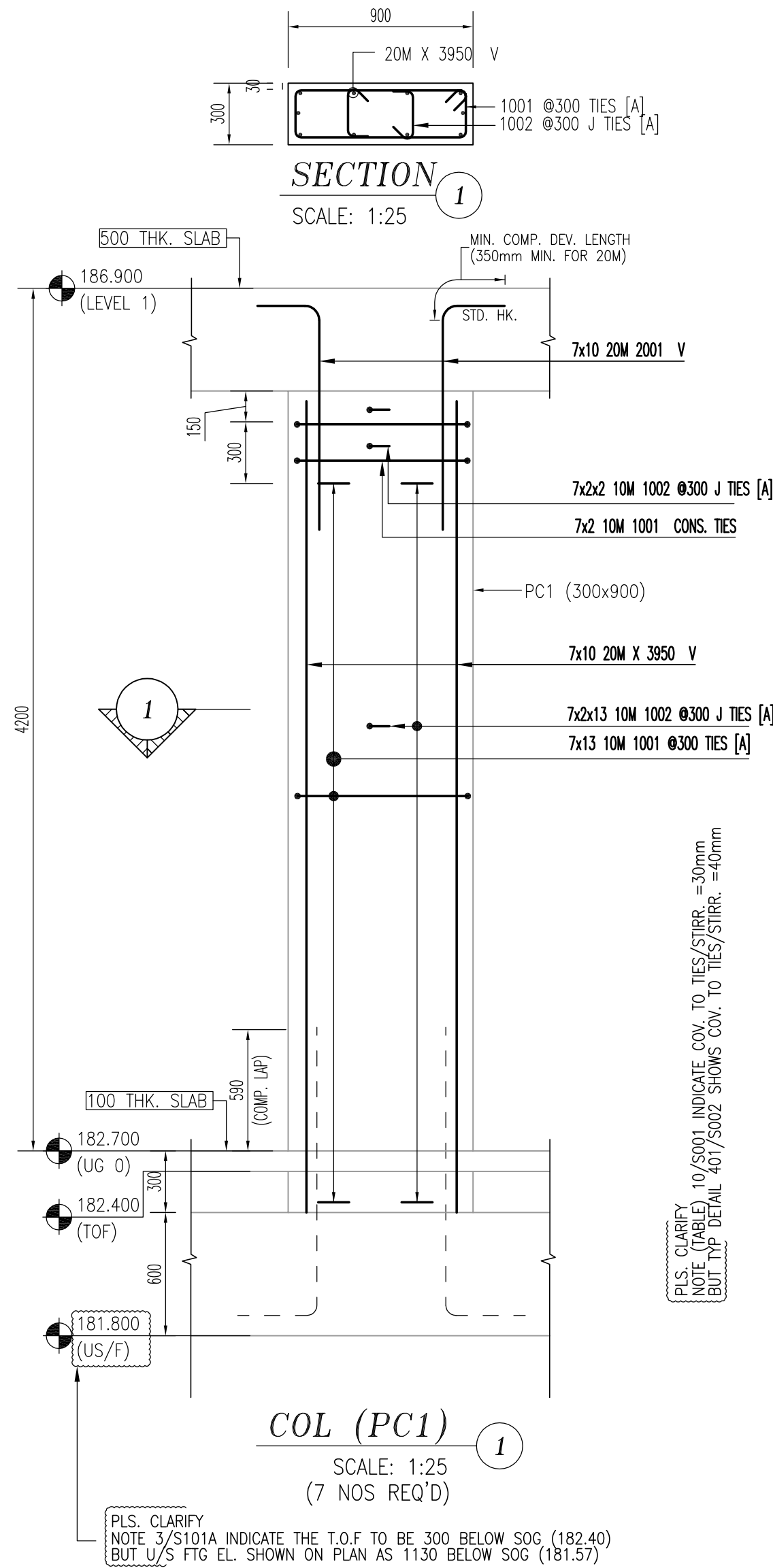
0	FOR APPROVAL	APR/14/21	JJ
ISSUE	REMARKS	DATE	BY

MANSTEEL REBAR	MANSTEEL REBAR 105 Industrial Road, Richmond Hill, Ontario L4C 2Y4 Canada Phone: 905-737-9797 Fax: 905-737-9704 Email: Info@mansteelrebar.com
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PROJECT  
FORESTSIDE TOWNHOUSES  
-BRAMPTON, ON

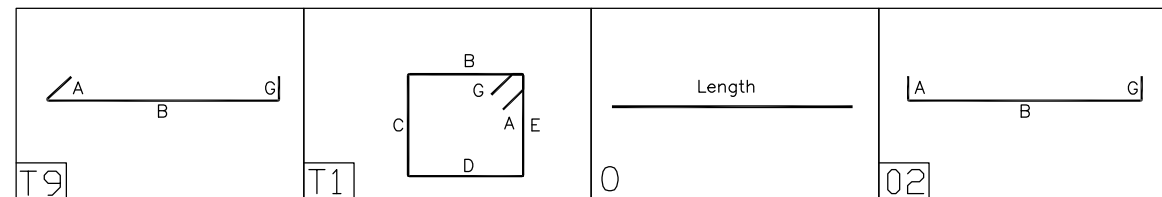
PART OF STRUCTURE  
COLUMNS FTG-GF -P#1

CUSTOMER : ROYAL PINE HOMES	Project no. 2177 SCALE AS SHOWN DRAWING No. R3.0
DETAILED BY: JJ	BAR LIST No.
CHECKED BY:	



Release Code: R3.1 COL F-GF P#2 BENDING DETAILS.

Bar Mark	Qty	Size	Total length	Type	A'	B'	C'	D'	E'	F'	G'	H'	I'	J'	K'	L'	M'
70 20M	3950					3950											
80 20M	3200					3200											
1001	209 10M	2360 T1			100	840	240	840	240					100			
1002	418 10M	440 T9			100	240								100			
2001	150 20M	1410 Z			310	1100											



NOTES

1. ALL STEEL TO BE GRADE 400W  
2. STRENGTH OF CONCRETE  
35MPa - INTERIOR COLUMNS & WALLS

3. CONCRETE COVER:  
TIES --- 30mm

4. COMPRESSION LAP SPLICE

BAR SIZE	STANDARD LAP (mm)
10M	300
15M	440
20M	590
25M	730
30M	880
35M	1030

5. TENSION LAP SPLICE (Ls) & DEVELOPMENT LENGTH (Ld) (FOR WALL OR COL & Ld IN CAP OR FTG.)

BAR SIZE	fc=25		fc=30		fc=35	
	L.S	L.d	L.S	L.d	L.S	L.d
10M	490	380	450	350	420	320
15M	740	570	670	520	620	480
20M	980	750	890	690	830	640
25M	1530	1170	1390	1070	1290	990
30M	1830	1410	1670	1290	1550	1190
35M	2130	1640	1950	1500	1800	1390

DRAWING REVIEW

This review of this drawing does not in any way relieve the contractor of responsibility for its accuracy or for compliance with the contract documents.

No comment	See comment
Amend & Resubmit	Rejected See Remarks

Submission No. 19066  
Project No. 19066  
By: AL  
Date: 16 Apr 2021  
JABLONSKY, AST AND PARTNERS  
Consulting Engineers  
3 Concorde Gate, North York, ON M3C 4H9

- \* ELEVATIONS AND DIMENSIONS SHOWN ARE FOR VERIFICATION PURPOSES ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION  
\* ALL CONFIRMS/VERIFIES WILL BE ASSUMED CORRECT AND APPROVED AS IS UNLESS COMMENTED ON THE APPROVAL DRWGS

LEGEND

ALT = ALTERNATE	FF = FAR FACE	OF = OUTSIDE FACE
BOT = BOTTOM	FS = FORM SAVER	SC = SAW CUT END
BIS = BEND INTO SLAB	GID = GROUT IN DOWELS	STG = STAGGER
CB = CORNER BAR	H = HORIZONTAL	STR = STRIPS
CJS = CONTROL JOINT	IF = INSIDE FACE	T = TOP
CUT = CUT TO SUIT SITE COND.	LL = LOWER LAYER	THR/1 = THREAD LENG
DWL = DOWELS	MD = MIDDLE	THR/2 = THREAD ZENDS
EE = EACH END	MIN = MINIMUM	UL = UPPER LAYER
EF = EACH FACE	NF = NEAR FACE	V = VERTICAL
EJ = EXPANSION JOINT	OC = ON CENTER	TT = TEMPL. TIES
ES = EACH SIDE		
EW = EACH WAY		

STRAIGHT BARS LABEL FORMAT	BENT BARS LABEL FORMAT	GRADES OF STEEL
7 B15M X 3600 QUANTITY SPACE LENGTH	7 B15M B1501 QUANTITY SPACE LENGTH SIZE BAR WKT	B = GRADE 400W C = CRACK COATED E = EPOXY S = GALVANIZED W = WELDABLE

FOR APPROVAL	APR/14/21	JJ
ISSUE	REMARKS	DATE BY

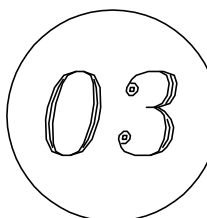
MANSTEEL REBAR  
105 Industrial Road, Richmond Hill, Ontario L4C 2Y4 Canada  
Phone: 905-737-9797  
Fax: 905-737-9704  
Email: info@mansteelrebar.com





PROJECT  
FORESTSIDE TOWNHOUSES  
-BRAMPTON, ON

PART OF STRUCTURE  
COLUMNS FTG-GF -P#2


CUSTOMER : ROYAL PINE HOMES  
Project no. 2177  
SCALE: AS SHOWN  
DRAWING No. R3.1  
DETAILED BY: JJ  
BAR LIST No.  
CHECKED BY:



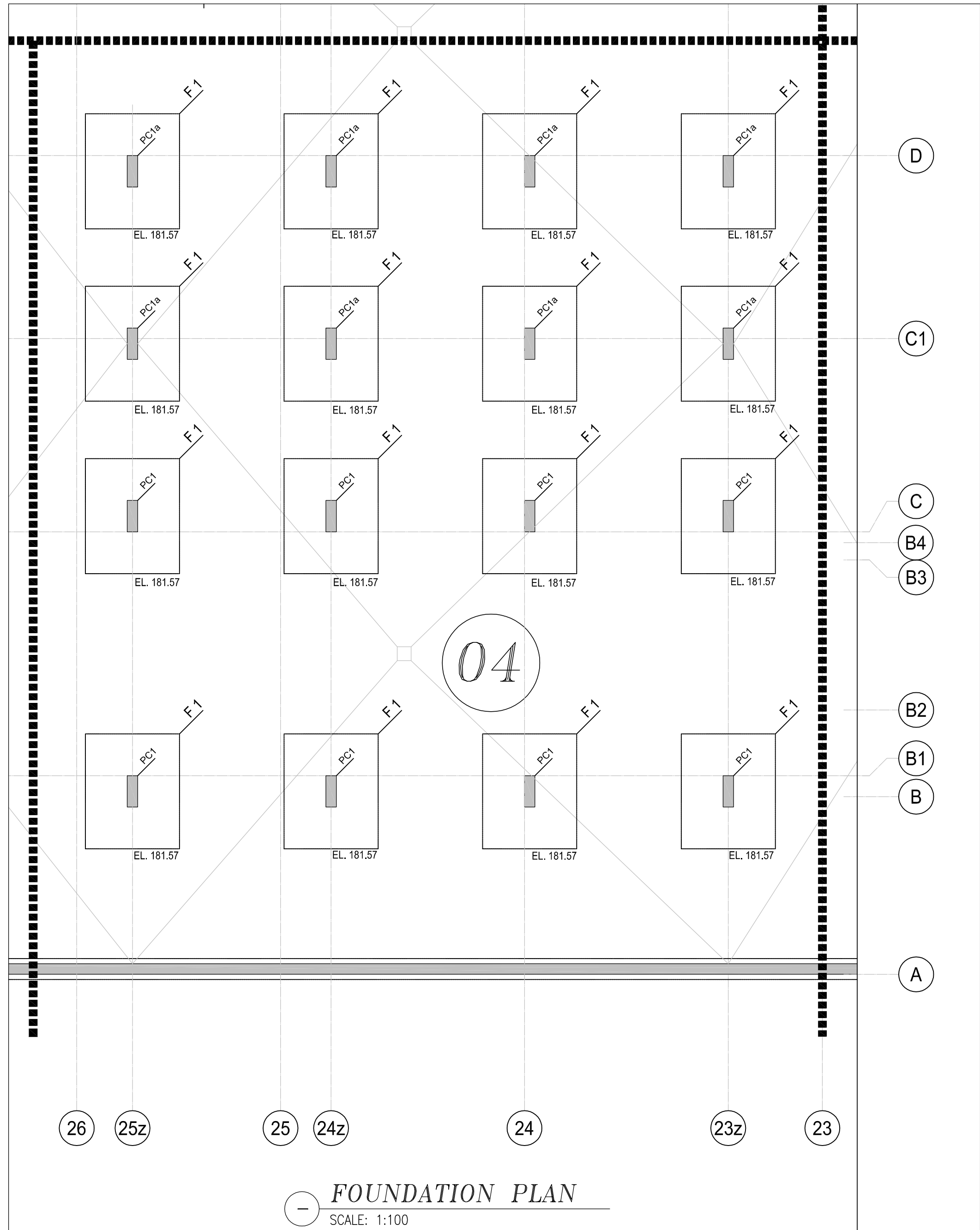
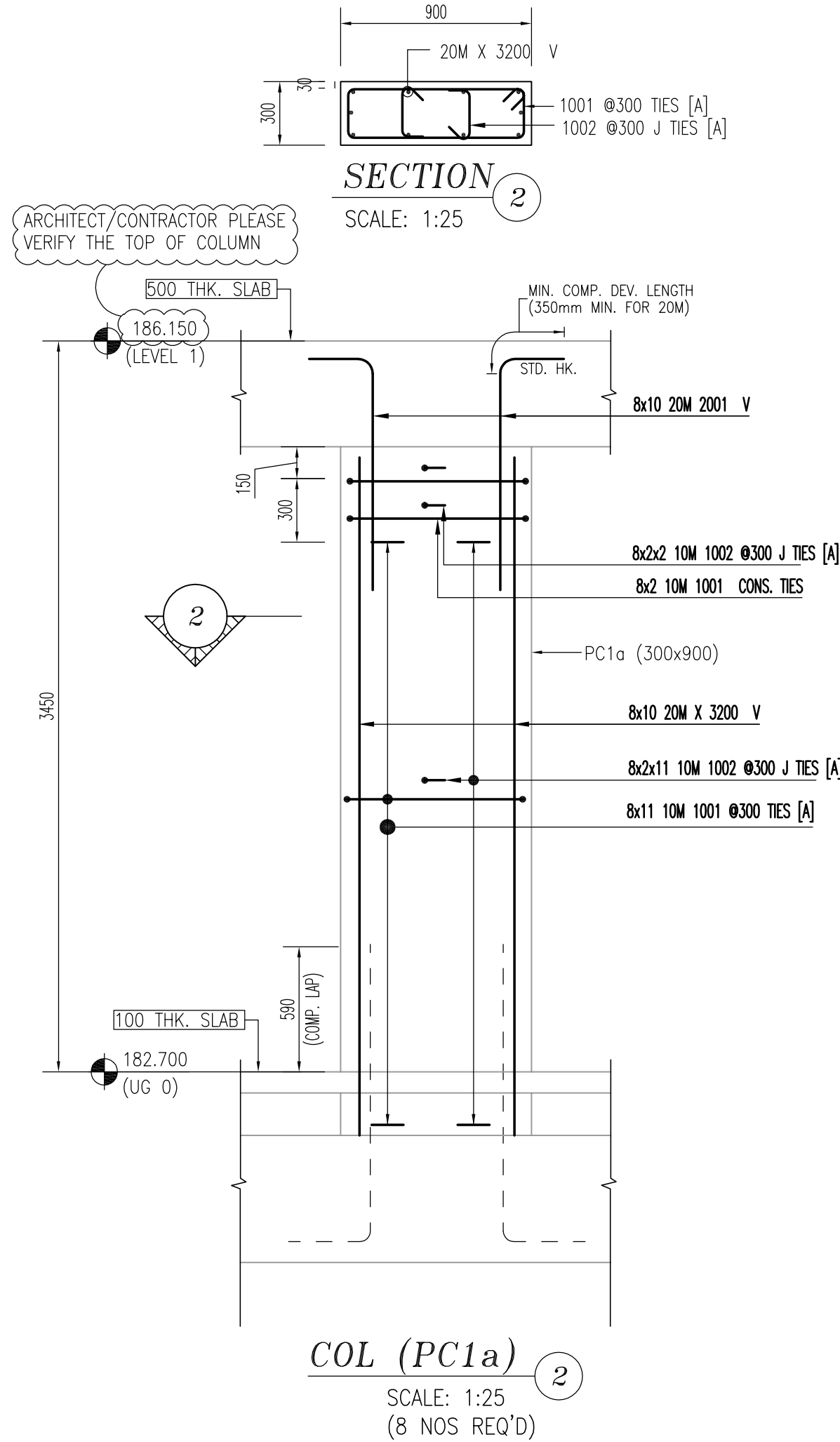
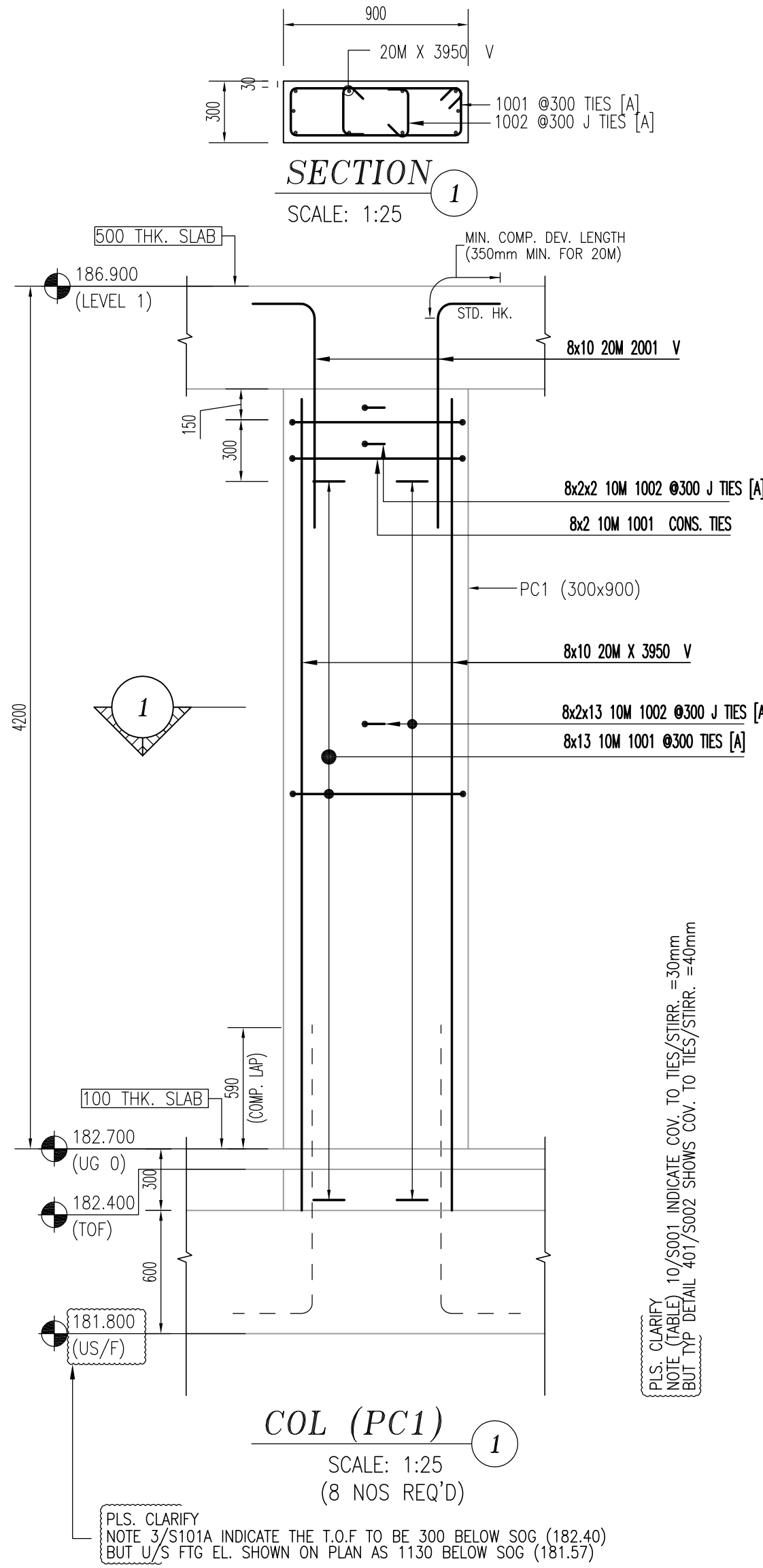


			
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5. TENSION LAP SPlice (L.S.) & DEVELOPMENT LENGTH (L <sub>d</sub> ) (FOR WALL OR COL & L <sub>d</sub> IN CAP OR FTG.)						
BAR SIZE	fc=25		fc=30		fc=35	
	L.S.	L <sub>d</sub>	L.S.	L <sub>d</sub>	L.S.	L <sub>d</sub>
10M	490	380	450	350	420	320
15M	740	570	670	520	620	480
20M	980	750	890	690	830	640
25M	1530	1170	1390	1070	1290	990
30M	1830	1410	1670	1290	1550	1190
35M	2130	1640	1950	1500	1800	1390

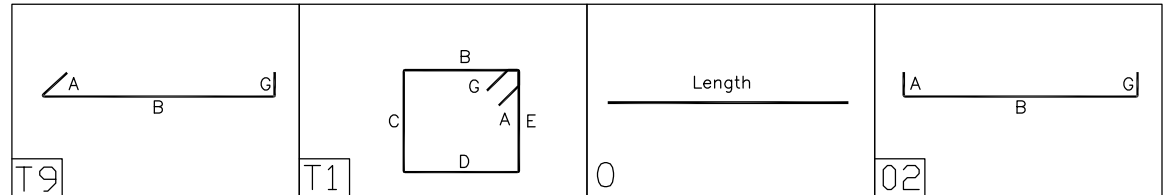
CUSTOMER :		Project no. 2177	
ROYAL PINE HOMES		SCALE: AS SHOWN	
DETAILED BY: JU		BAR LIST No.	<div style="display: flex; align-items: center;"> <div style="font-size: 2em; margin-right: 10px;">R3.2</div> <div style="text-align: center;">  <div style="font-size: 1.5em; margin-top: -10px;">0</div> </div> </div>
CHECKED BY:			

D3 2  $\Delta$



Release Code: R3.3 COL F-GF P#4 BENDING DETAILS.

Bar Mark	Qty	Size	Total length	Type	A'	B'	C'	D'	E'	F'	G'	H'	I'	J'	K'	L'	M'
		80/20M	3950			3950											
		80/20M	3200			3200											
1002	448	10M	440	T9	100	240					100						
1001	224	10M	2360	T1	100	840	240	840	240								
2001	160	20M	1410	2	310	1100											



NOTES

1. ALL STEEL TO BE GRADE 400W  
2. STRENGTH OF CONCRETE  
35MPa - INTERIOR COLUMNS & WALLS

3. CONCRETE COVER:  
TIES

PLS. CLARIFY  
NOT SHOWN IN SCHED.

4. COMPRESSION LAP SPLICE

BAR SIZE	STANDARD LAP (mm)
10M	300
15M	440
20M	590
25M	730
30M	880
35M	1030

5. TENSION LAP SPLICE (Ls) & DEVELOPMENT LENGTH (Ld)  
(FOR WALL OR COL & Ld IN CAP OR FTG.)

BAR SIZE	fc=25		fc=30		fc=35	
	L.S	L.d	L.S	L.d	L.S	L.d
10M	490	380	450	350	420	320
15M	740	570	670	520	620	480
20M	980	750	890	690	830	640
25M	1530	1170	1390	1070	1290	990
30M	1830	1410	1670	1290	1550	1190
35M	2130	1640	1950	1500	1800	1390

DRAWING REVIEW

This review of this drawing does not in any way relieve the contractor of responsibility for its accuracy or for compliance with the contract documents.

No comment	See comment
Amend & Resubmit	Rejected See Remarks

Submission No. 19066  
Project No. 19066  
By AF  
Date 16 Apr 2021  
JABLONSKY, AST AND PARTNERS  
Consulting Engineers  
3 Concorde Gate, North York, ON M3C 4H9

- \* ELEVATIONS AND DIMENSIONS SHOWN ARE FOR VERIFICATION PURPOSES ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION  
\* ALL CONFIRMS/VERIFIES WILL BE ASSUMED CORRECT AND APPROVED AS IS UNLESS COMMENTED ON THE APPROVAL DRWS

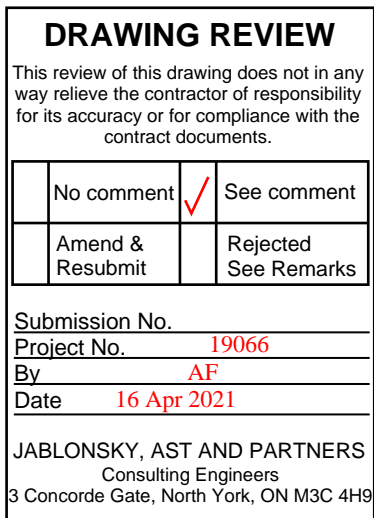
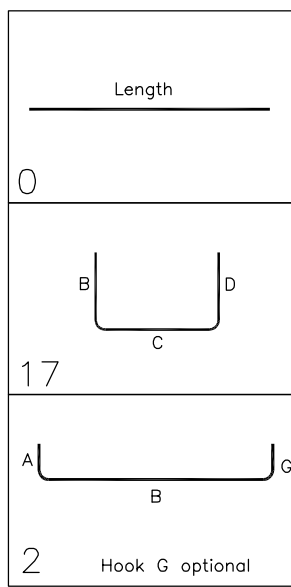
LEGEND	STRAIGHT BARS LABEL FORMAT	BENT BARS LABEL FORMAT	GRADES OF STEEL
ALT = ALTERNATE BOT = BOTTOM BIS = BEND INTO SLAB CB = CORNER BAR CJ = CONTROL JOINT CJS = CUT TO SUIT SITE COND. DNL = DOWELS EE = EACH END EF = EACH FACE EJ = EXPANSION JOINT ES = EACH SIDE EW = EACH WAY	7 B15M X 3600 QUANTITY SIZE LENGTH	7 B15M B1501 QUANTITY SIZE LENGTH BAR WORK	B = GRADE 400W C = GRADE 400W COATED F = F660 S = GALVANIZED W = WELDABLE

FOR APPROVAL	APR/14/21	JJ
ISSUE	REMARKS	DATE BY

MANSTEEL REBAR  
105 Industrial Road, Richmond Hill, Ontario L4C 2Y4 Canada  
Phone: 905-737-9797  
Fax: 905-737-9704  
Email: info@mansteelrebar.com

PROJECT  
FORESTSIDE TOWNHOUSES  
-BRAMPTON, ON  
COLUMNS FTG-CF -P#4  
CUSTOMER : ROYAL PINE HOMES  
DETAILED BY: JJ  
CHECKED BY:  
Project no. 2177  
SCALE: AS SHOWN  
DRAWING No. R3.3  
0






<b>LEGEND</b>					
ALT =	ALTERNATE	FF =	FAIR FACE	OF =	OUTSIDE FACE
B1 =	BOTTOM BAR	FS =	FORM SAVE	SC =	SAW CUT END
B2 =	BEND INTO SLAB	GD =	GROUT IN DOWELS	STG =	STAGGER
CD =	CORNER DOWEL	HD =	HORIZONTAL	TRD =	THRU END
CL =	CONTROL JOINT	IF =	INSIDE FACE	T =	TOP
CLD =	CORNER CONTROL JOINT	LD =	LOWER LAYER	THD =	THRU END
D =	DOWELS	MD =	MIDDLE	THD J =	THRU END JOINTS
DWT =	DOWEL TO SPLIT SURF	MIN =	MINIMUM	UP =	UPPER LAYER
EF =	EACH FACE	NF =	NEAR FACE	U/V =	UNLESS NOTED
ES =	EACH SIDE	OC =	ON CENTER	V =	VERTICAL
EW =	EACH WAY			TEMP =	TEMP. TIES

<b>STRAIGHT BARS LABEL FORMAT</b>			<b>BENT BARS LABEL FORMAT</b>			<b>GRADES OF STEEL</b>		
<b>7 B15M x 3600</b> 			<b>7 B15M B1501</b> 					

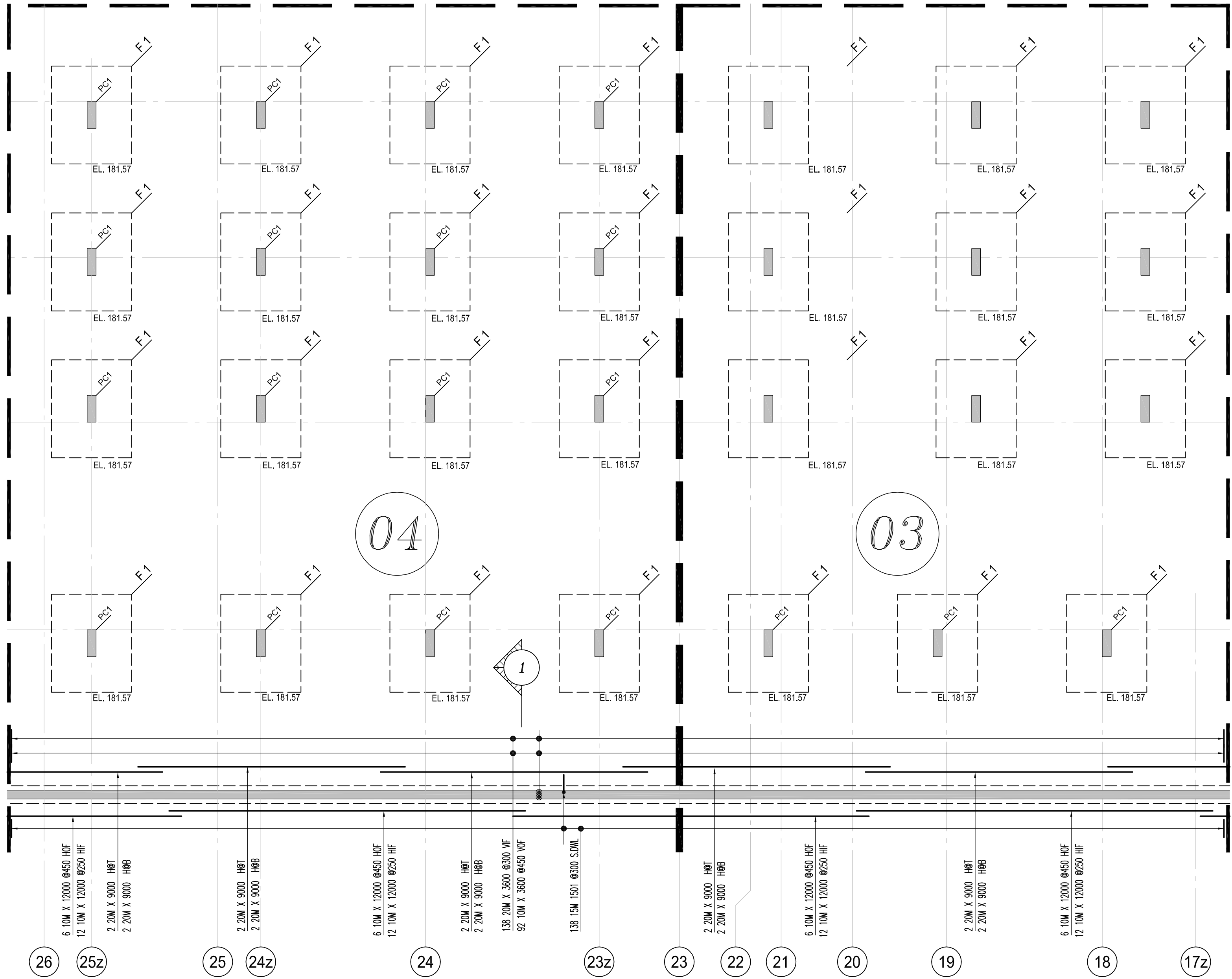
ISSUE	REMARKS	DATE	BY
<p><b>MANSTEEL</b></p>  <p><b>REBAR</b></p>	<p><b>MANSTEEL REBAR</b></p> <p>105 Industrial Road, Richmond Hill, Ontario L4C 2Y4 Canada Phone: 905-737-9797 Fax: 905-737-9704 Email: <a href="mailto:Info@mansteelrebar.com">Info@mansteelrebar.com</a></p>		

PROJECT		FORESTSIDE TOWNHOUSES -BRAMPTON, ON	
PART OF STRUCTURE		EXTERIOR WALLS FTG-GF -P#1,2	
CUSTOMER :		Project no.	2177
ROYAL PINE HOMES		SCALE :	AS SHOWN
DRAWING No. R4.0		DRAWING No. 	
DETAILED BY:	JU	SAR LIST No.	
CHECKED BY:			

-- 30mm

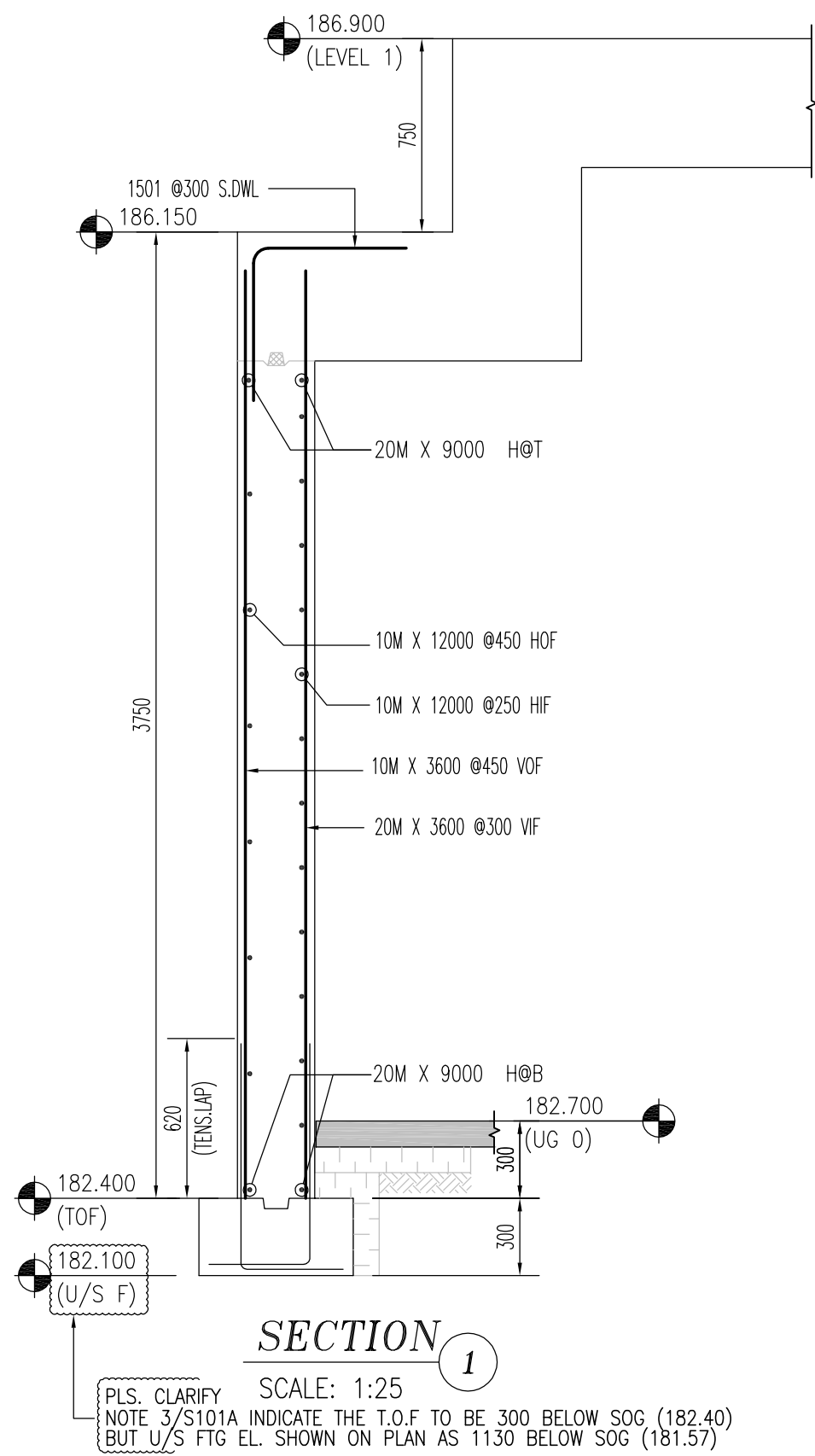
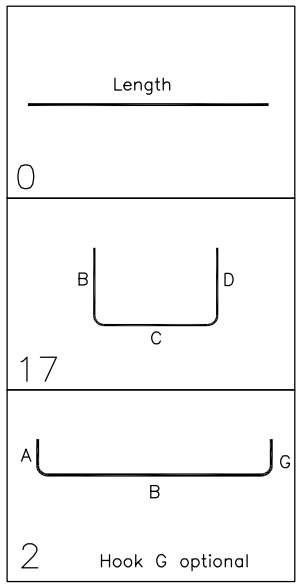
BAR SIZE	STANDARD LAP (mm)
10M	300
15M	440
20M	590
25M	730
30M	880
35M	1030

BAR SIZE	f <sub>c</sub> =25		f <sub>c</sub> =30		f <sub>c</sub> =35	
	L.S	L.d	L.S	L.d	L.S	L.d
10M	490	380	450	350	420	320
15M	740	570	670	520	620	480
20M	980	750	890	690	830	640
25M	1530	1170	1390	1070	1290	990
30M	1830	1410	1670	1290	1550	1190
35M	2130	1640	1950	1500	1800	1390



EXTERNAL WALL PLAN  
SCALE: 1:100

Release Code: R4.0 EXT WALL F-GF P#3 BENDING DETAILS.													
Bar Mark	Qty	Size	Total length	Type	A'	B'	C'	D'	E'	F'	G'	H'	I'
	72	10M	12000			12000							
	20	20M	9000			9000							
	92	10M	3600			3600							
	138	20M	3600			3600							
1501	138	15M	1200	17		600	600						



SECTION 1  
SCALE: 1:25

NOTES

1. ALL STEEL TO BE GRADE 400W
2. STRENGTH OF CONCRETE  
35MPa - INTERIOR COLUMNS & WALLS
3. CONCRETE COVER:  
VERTICALS

PLS. CLARIFY

OK  
30mm

4. COMPRESSION LAP SPLICE

BAR SIZE	STANDARD LAP (mm)
10M	300
15M	440
20M	590
25M	730
30M	880
35M	1030

5. TENSION LAP SPLICE (Ls) & DEVELOPMENT LENGTH (Ld)  
(FOR WALL OR COL & Ld IN CAP OR FTG.)

BAR SIZE	fc=25		fc=30		fc=35	
	L.S	L.d	L.S	L.d	L.S	L.d
10M	490	380	450	350	420	320
15M	740	570	670	520	620	480
20M	980	750	890	690	830	640
25M	1530	1170	1390	1070	1290	990
30M	1830	1410	1670	1290	1550	1190
35M	2130	1640	1950	1500	1800	1390

DRAWING REVIEW

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No comment	See comment
Amend & Resubmit	Rejected See Remarks

Submission No. 19066  
Project No. AF  
By 16 Apr 2021  
Date

JABLONSKY, AST AND PARTNERS  
Consulting Engineers  
3 Concorde Gate, North York, ON M3C 4H8

- \* ELEVATIONS AND DIMENSIONS SHOWN ARE FOR VERIFICATION PURPOSES ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION
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LEGEND		
ALT = ALTERNATE	FF = FAR FACE	OF = OUTSIDE FACE
BOT = BOTTOM	FS = FORM SAVER	SC = SAW CUT END
BIS = BEND INTO SLAB	GID = GROUT IN DOWELS	STG = STAGGER
CB = CORNER BAR	H = HORIZONTAL	STR = STRIPS
CJ = CONTROL JOINT	IF = INSIDE FACE	T = TOP
CUT = CUT TO SUIT SITE COND.	LL = LOWER LAYER	THR/1 = THREAD LENG
DWL = DOWELS	MD = MIDDLE	THR/2 = THREAD ZENDS
EE = EACH END	MIN = MINIMUM	UL = UPPER LAYER
EF = EACH FACE	NF = NEAR FACE	U/N = UNLESS NOTED
EJ = EXPANSION JOINT	OC = ON CENTER	V = VERTICAL
ES = EACH SIDE		TT = TEMP. TIES
EW = EACH WAY		

STRAIGHT BARS LABEL FORMAT			BENT BARS LABEL FORMAT			GRADES OF STEEL		
7 B15M X 3600	SPACE	LENGTH	7 B15M B1501	SPACE	LENGTH	B = GRADE 400W		
QUANTITY			QUANTITY			C = CRACK COATED		
						F = F660		
						S = STAINLESS		
						W = WELDABLE		

FOR APPROVAL	APR/14/21	JU
ISSUE	REMARKS	DATE
DATE	BY	

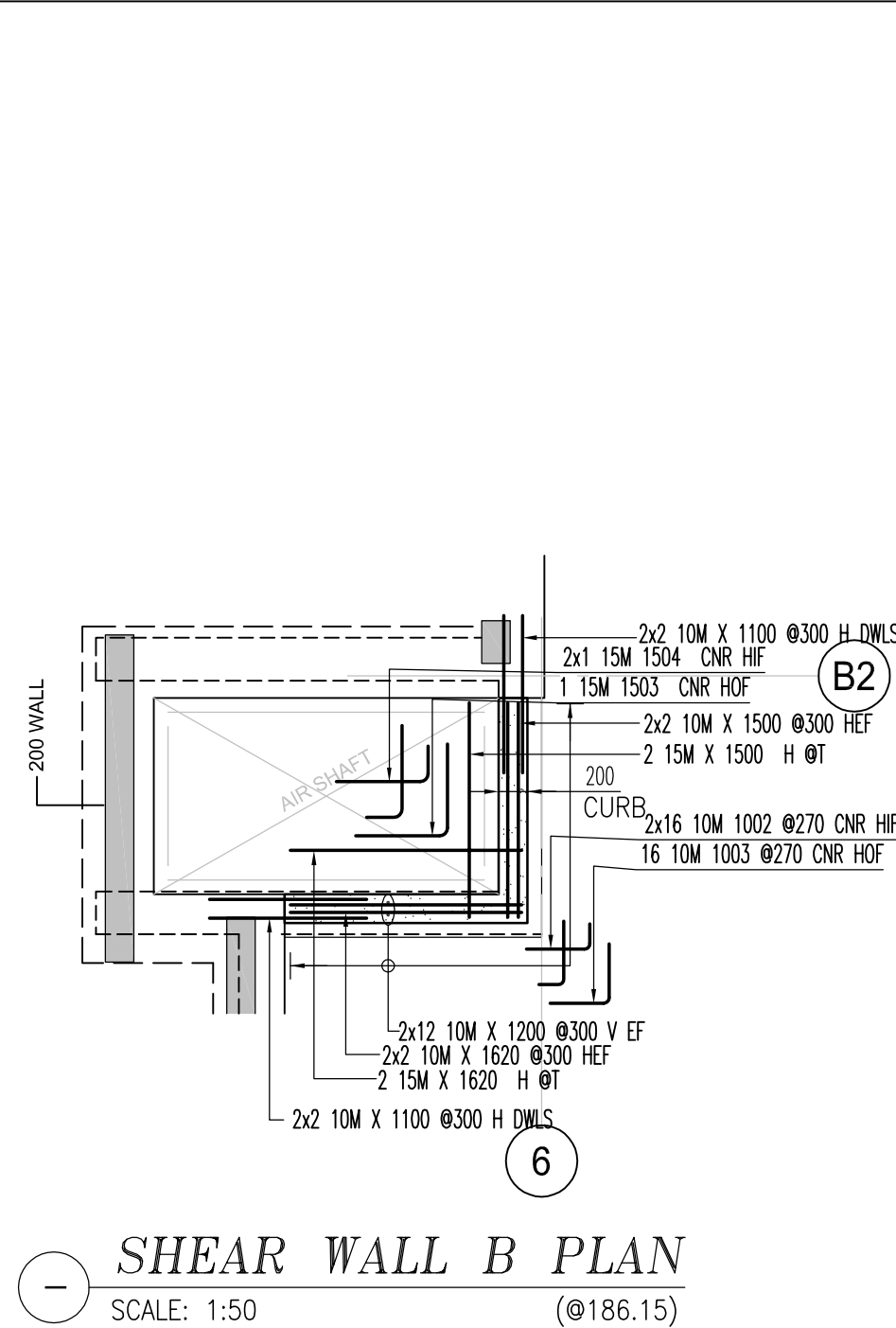
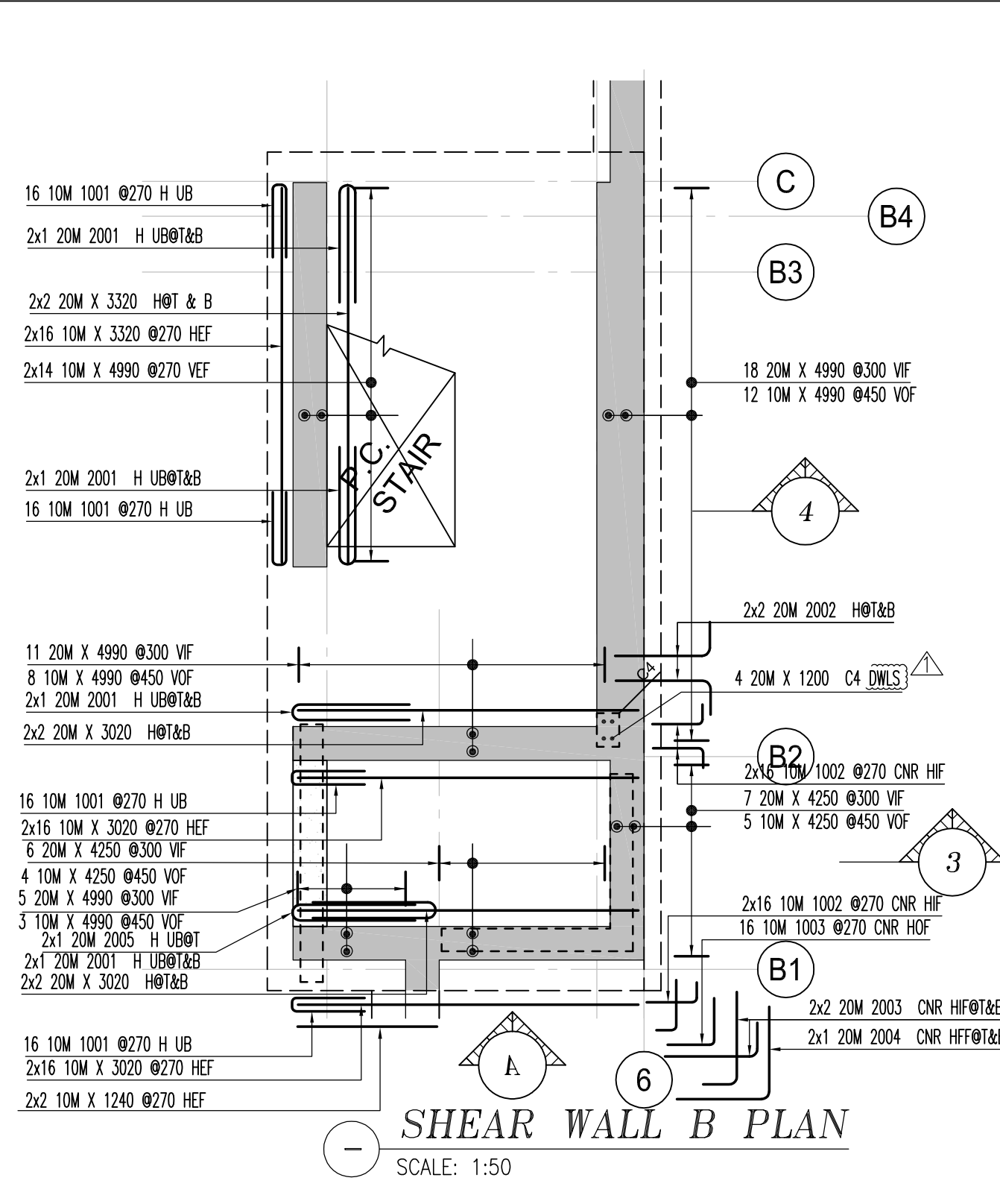
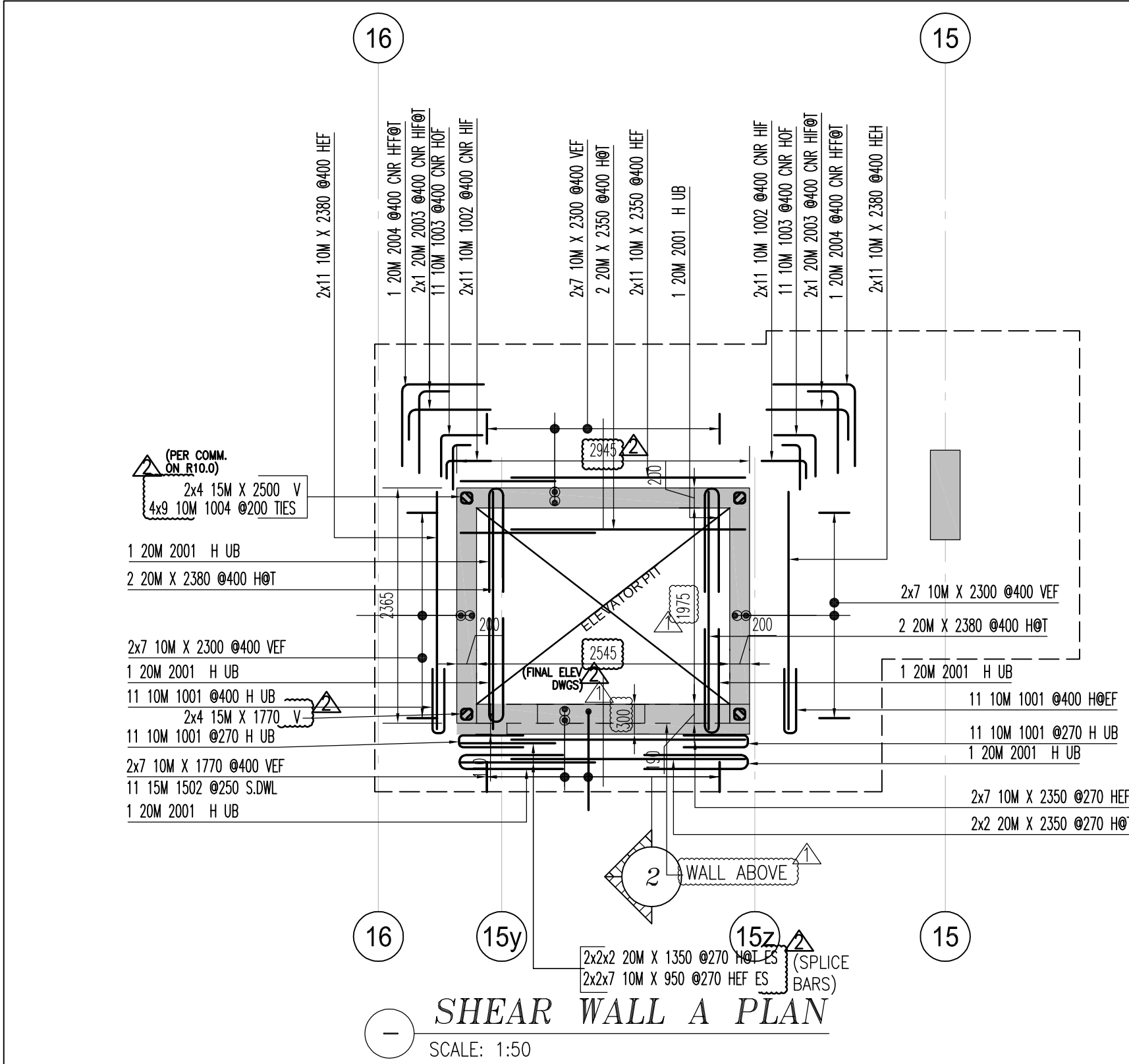
MANSTEEL REBAR  
105 Industrial Road, Richmond Hill, Ontario L4C 2Y4 Canada  
Phone: 905-737-9797  
Fax: 905-737-9704  
Email: info@mansteelrebar.com

PROJECT  
FORESTSIDE TOWNHOUSES  
-BRAMPTON, ON

PART OF STRUCTURE  
EXTERIOR WALLS FTG-GF -P#3,4

CUSTOMER : ROYAL PINE HOMES  
Project no. 2177  
SCALE: AS SHOWN  
DRAWING No. R4.1  
DETAILED BY: JU  
BAR LIST No.  
CHECKED BY:



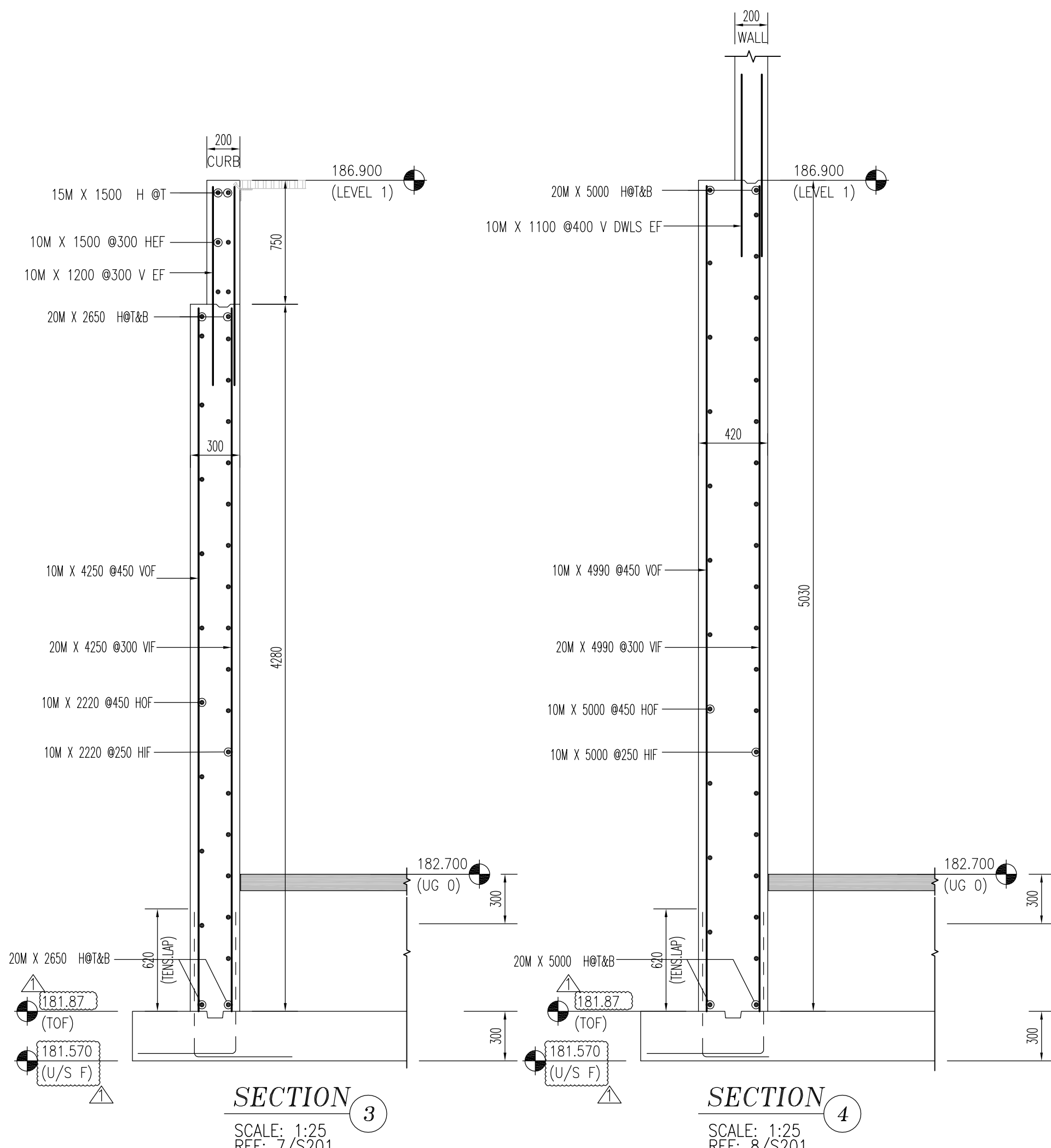
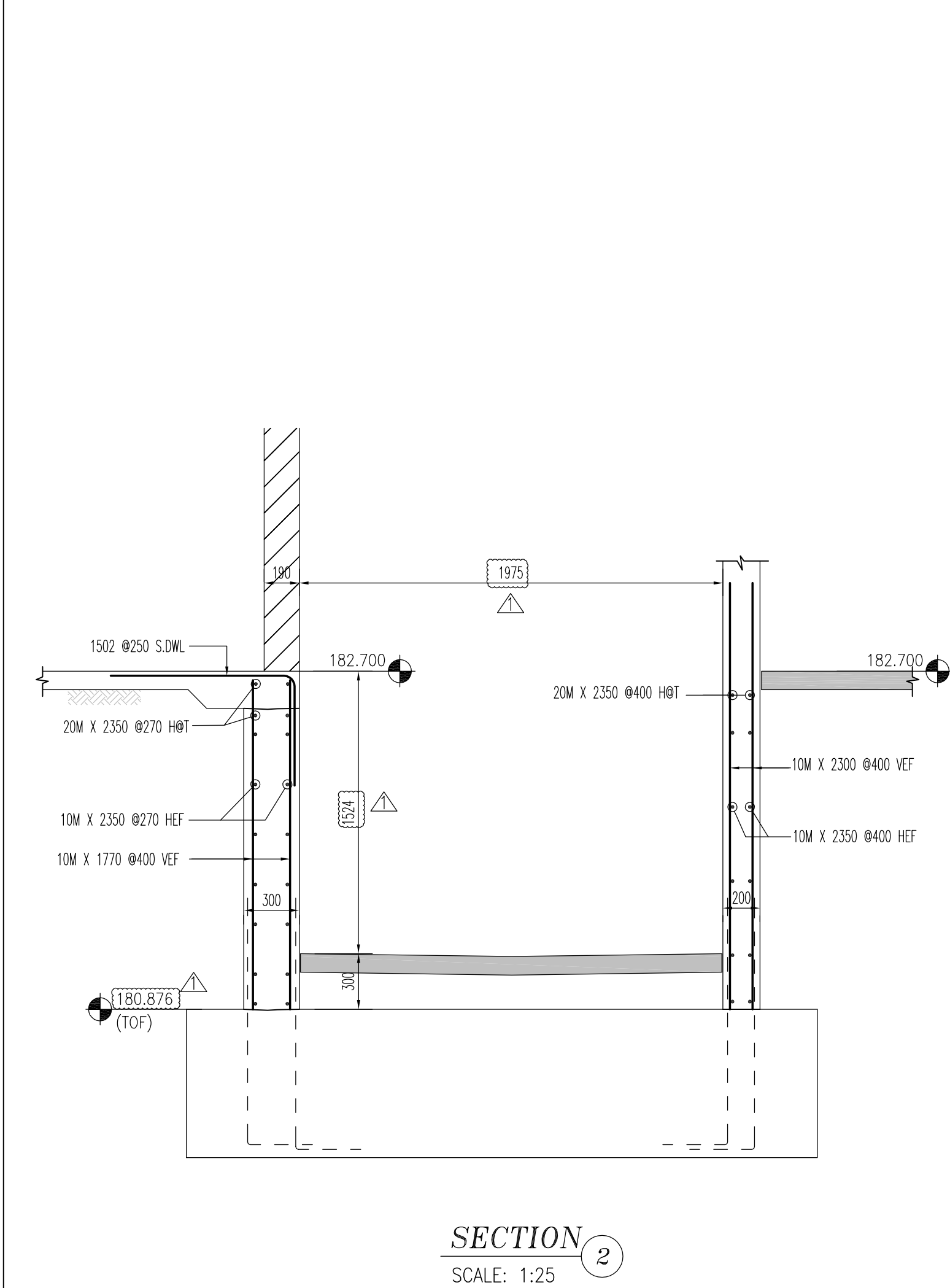


Release Code: R5.0 SW A F-GF P#2 BENDING DETAILS.									
Bar Mark	Qty	Size	Total length	Type	'A'	'B'	'C'	'D'	'E'
36	10M	2350		2350					
44	10M	2380		2380					
42	10M	2380		2380					
6	20M	2350		2350					
14	10M	1770		1770					
4	20M	2380		2380					
1001	44	10M	1430	17		650	130	650	
1003	22	10M	840	17		420	420		
1002	44	10M	630	2	180	450			
2001	6	20M	2260	17		1050	160	1050	
1502	11	15M	1600	17		600	1000		
2004	2	20M	1660	17		830	830		
2003	4	20M	1140	2	310	830			

**DRAWING REVIEW**  
This review of this drawing does not in any way relieve the contractor of responsibility for its accuracy or for compliance with the contract documents.

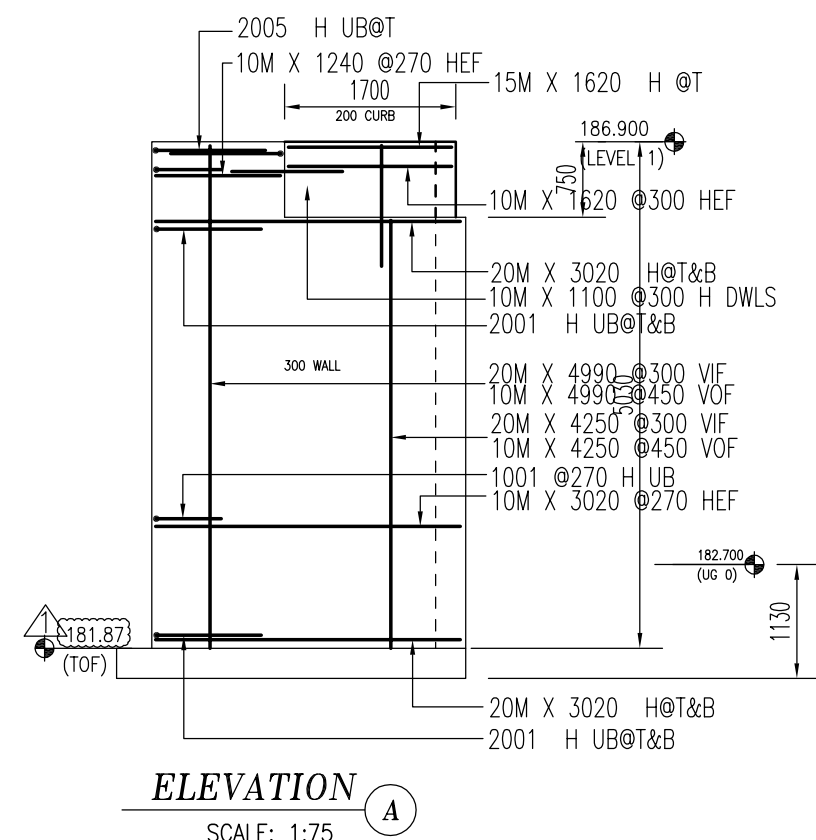
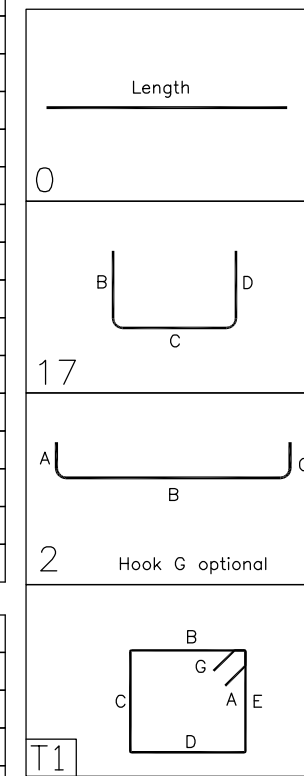
<input checked="" type="checkbox"/> No comment	<input type="checkbox"/> See comment
<input type="checkbox"/> Amend & Resubmit	<input type="checkbox"/> Rejected See Remarks

**Submission No.** 19066  
**Project No.** 19066  
**By** JAB  
**Date** 15 Jun 2021  
JABLONSKY, AST AND PARTNERS  
Consulting Engineers  
3 Concorde Gate, North York, ON M3C 4H9



Release Code: R5.0 SW B F-GF P#1 BENDING DETAILS.									
Bar Mark	Qty	Size	Total length	Type	'A'	'B'	'C'	'D'	'E'
8	20M	3020		3020					
9	10M	4250		4250					
4	10M	1620		1620					
4	10M	1500		1500					
2	15M	1500		1500					
2	15M	1620		1620					
24	10M	1200		1200					
4	10M	1240		1240					
8	10M	1100		1100					
4	20M	1200		1200					
13	20M	4250		4250					
51	10M	4990		4990					
64	10M	3020		3020					
34	20M	4990		4990					
32	10M	3320		3320					
4	20M	3320		3320					
96	10M	630	2	180	450				
1001	64	10M	1430	17		650	130	650	
1003	32	10M	840	17		420	420		
2001	8	20M	2260	17		1050	160	1050	
2005	2	20M	2360	17		1100	160	1100	
1503	1	15M	1300	17		650	650		
1504	2	15M	910	2	260	650			
2002	4	20M	1860	2	310	850			
2004	2	20M	1660	17		830	830		
2003	4	20M	1140	2	310	830			

Release Code: R5.0 SW A F-GF P#2 BENDING DETAILS.									
Bar Mark	Qty	Size	Total length	Type	'A'	'B'	'C'	'D'	'E'
8	15M	2500		2500					
28	10M	950		950					
8	20M	1350		1350					
8	15M	1770		1770					
1004	36	10M	680	11	100	120	120	120	120



* ELEVATIONS AND DIMENSIONS SHOWN ARE FOR VERIFICATION PURPOSES ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION			
* ALL CONFIRMS/VERIFIES WILL BE ASSUMED CORRECT AND APPROVED AS IS UNLESS COMMENTED ON THE APPROVAL DRWGS			
<b>LEGEND</b>			
ALT = ALTERNATE	FF = FAR FACE	OF = OUTSIDE FACE	
BOT = BOTTOM	FS = FORM SAWER	SC = SAW CUT END	
BIS = BEND INTO SLAB	GID = GROUT IN DOWELS	STG = STAGGER	
CB = CORNER BAR	H = HORIZONTAL	STR = STRIPS	
CS = CONTROL JOINT	IF = INSIDE FACE	T = TOP	
CUT = CUT TO SUIT SITE COND.	LR = LOWER LAYER	THR/1 = THREAD LEND	
DWL = DOWELS	LL = LOWER LAYER	THR/2 = THREAD ZENDS	
EE = EACH END	MD = MIDDLE	UL = UPPER LAYER	
EF = EACH FACE	MIN = MINIMUM	U/P = UNLESS NOTED	
EJ = EXPANSION JOINT	NF = NEAR FACE	V = VERTICAL	
ES = EACH SIDE	OC = ON CENTER	TT = TIE	
FW = EACH WAY	TT = TIE		
<b>STRAIGHT BARS LABEL FORMAT</b>			
7 B15M X 3600	QUANTITY	GRADE	LENGTH
<b>BENT BARS LABEL FORMAT</b>			
7 B15M B1501	QUANTITY	GRADE	LENGTH
<b>GRADES OF STEEL</b>			
B = GRADE 400W	C = GRADE 500W	D = GRADE 600W	
E = GRADE 700W	F = GRADE 800W	G = GRADE 900W	
H = GRADE 1000W	I = GRADE 1100W	J = GRADE 1200W	
K = GRADE 1300W	L = GRADE 1400W	M = GRADE 1500W	
N = GRADE 1600W	O = GRADE 1700W	P = GRADE 1800W	
Q = GRADE 1900W	R = GRADE 2000W	S = GRADE 2100W	
T = GRADE 2200W	U = GRADE 2300W	V = GRADE 2400W	
W = GRADE 2500W	X = GRADE 2600W	Y = GRADE 2700W	
Z = GRADE 2800W	AA = GRADE 2900W	AB = GRADE 3000W	

ISSUE			
REMARKS			
DATE			
BY			
MANSTEEL REBAR			
105 Industrial Road, Richmond Hill, Ontario L4C 2Y4 Canada Phone: 905-737-9797 Fax: 905-737-9794 Email: info@mansteelrebar.com			
PROJECT			
FORESTSIDE TOWNHOUSES -BRAMPTON, ON			
PART OF STRUCTURE			
SHEAR WALLS FTG-GF -P#1,2			
CUSTOMER :			
ROYAL PINE HOMES			
DETAILED BY: JU			
CHECKED BY:			
Project no. 2177			
SCALE: AS SHOWN			
DRAWING No.			
R5.0			

### NOTES

1. ALL STEEL TO BE GRADE 400W
2. STRENGTH OF CONCRETE 35MPa - INTERIOR COLUMNS & WALLS

3. CONCRETE COVER: VERTICALS

-- 30mm

### 4. COMPRESSION LAP SPLICE

BAR SIZE	STANDARD LAP (mm)
10M	300
15M	440
20M	590
25M	730
30M	880
35M	1030

### 5. TENSION LAP SPLICE (L.S.) & DEVELOPMENT LENGTH (Ld) (FOR WALL OR COL & LD IN CAP OR FTG.)

BAR SIZE	fc=25	fc=30	fc=35
L.S.	L.S.	L.S.	L.S.
Ld	Ld	Ld	Ld
10M	490	380	450
15M	740	570	670
20M	980	750	890
25M	1530	1170	1390
30M	1830	1410	1670
35M	2130	1640	1950