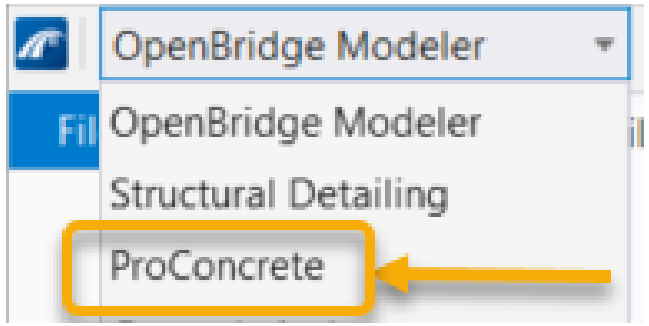
Detailing of Bridge Elements using ProStructures

Sye Chakraborty, Sr. Consultant, Bridge Services, Americas

Bentley®

ProStructures: ProConcrete Capabilities *(within OBM)*



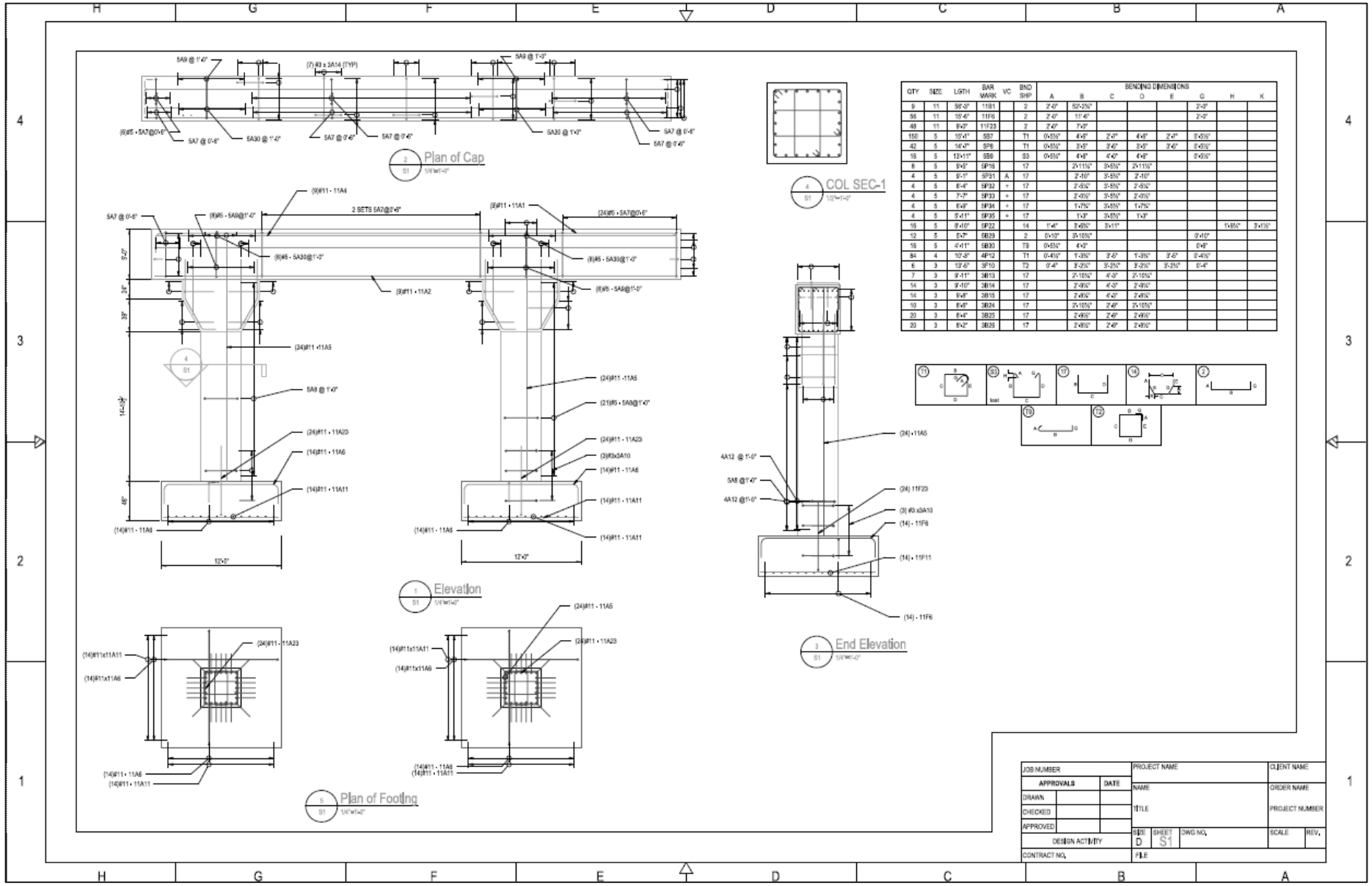
Reinforce concrete members such as beams, piers, abutments, barriers and decks

Modify Rebar Tools

Bar Positioning, Analytics, Marking tools

Bentley

Drawing Generation



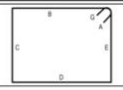
Bentley

Bar Bending Schedule

ProStructures CONNECT Edition

Bar Bending Schedule

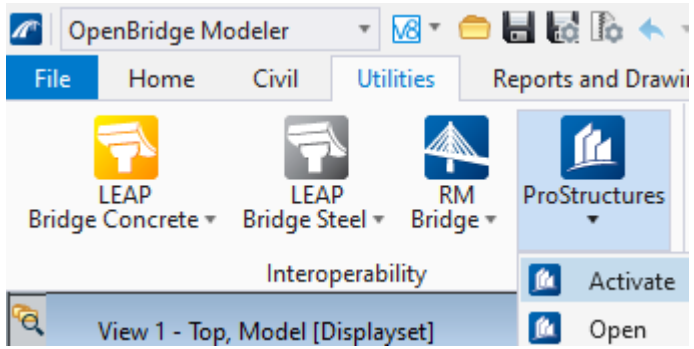
		Status:	007-008
		Drawing No:	
		Sheet :	
	Project: Bentley	**Revision:**	
Project: Training Project	**Prepared by:**	**Date:**	Friday, September 6, 2024
Model / Pour: D1-3D Platform	**Checked by:**	**Last revised:**	

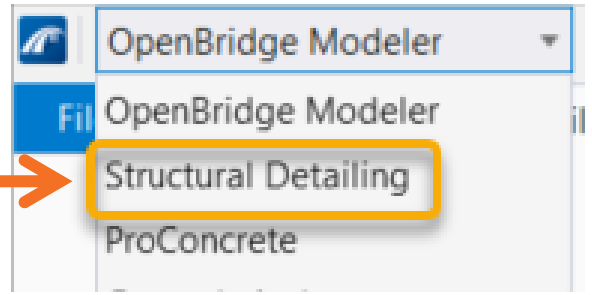
Qty.	Bar Mark	Bar Size	Length of each bar	Shp.	Sketch (labels)	A	B	C	D	E	F	G	Total Weight
84	4A12	#4	10:2 1/2	T1		0:4 1/2	1:3 3/4	3:5	1:3 3/4	3:5		0:4 1/2	573
8	5A16	#5	9:4 1/2	17			2:11 1/2	3:5 1/2	2:11 1/2				78
16	5A22	#5	8:9 3/4	14		1:4	3:6 3/4	3:11					147
8	5A27	#5	7:0										58
8	5A28	#5	5:6										46
12	5A29	#5	5:6 3/4	2		0:10	3:10 3/4					0:10	70
10	5A3	#5	52:5										547
16	5A30	#5	4:11 1/2	T9		0:5 1/2	4:0					0:6	83
4	5A42	#5	8:4	17			2:5 1/4	3:5 1/2	2:5 1/4				35
4	5A43	#5	7:6 1/2	17			2:0 1/2	3:5 1/2	2:0 1/2				31
4	5A44	#5	6:9	17			1:7 3/4	3:5 1/2	1:7 3/4				28
4	5A45	#5	5:11 1/2	17			1:3	3:5 1/2	1:3				25
150	5A7	#5	15:1	T1		0:5 1/2	4:6	2:7	4:6	2:7		0:5 1/2	2,360

Bentley

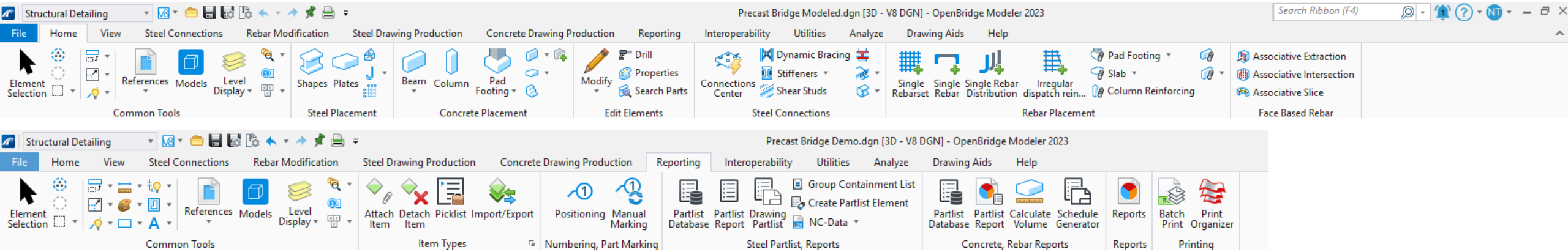
ProStructures: Structural Detailing Workflow

(requires activation)





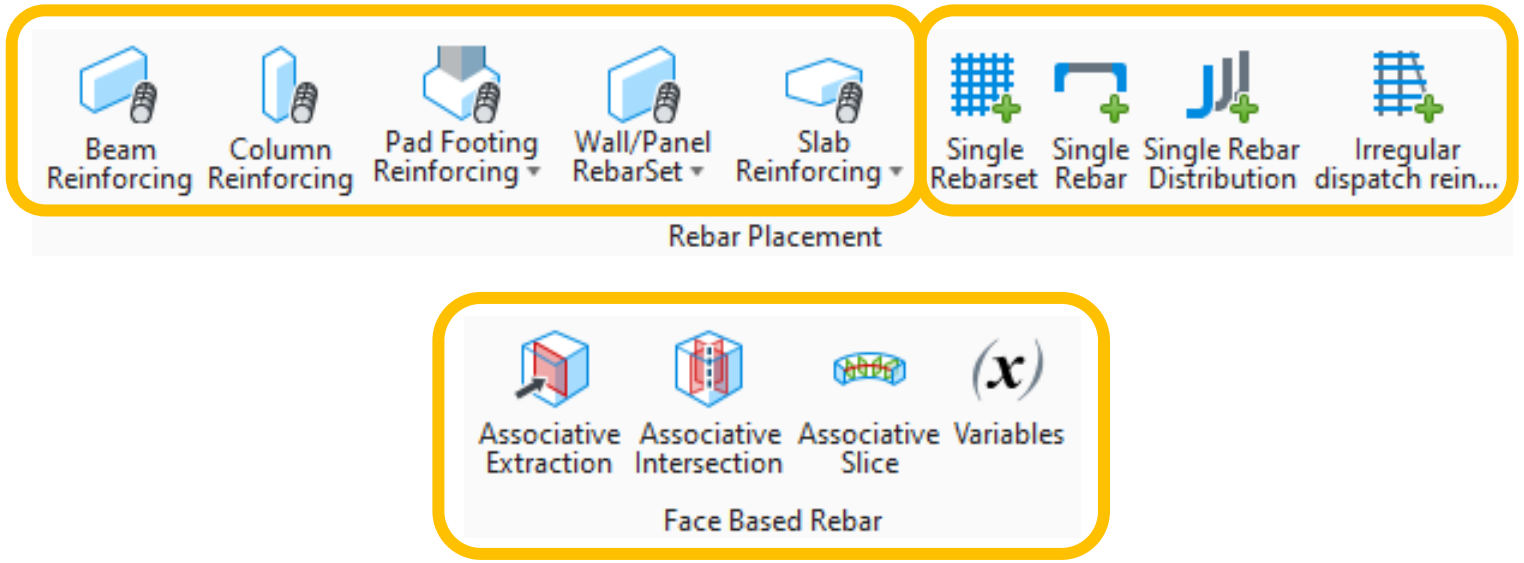
Structural Detailing Workflow (ProSteel)



Bentley

Rebar Placement Tools

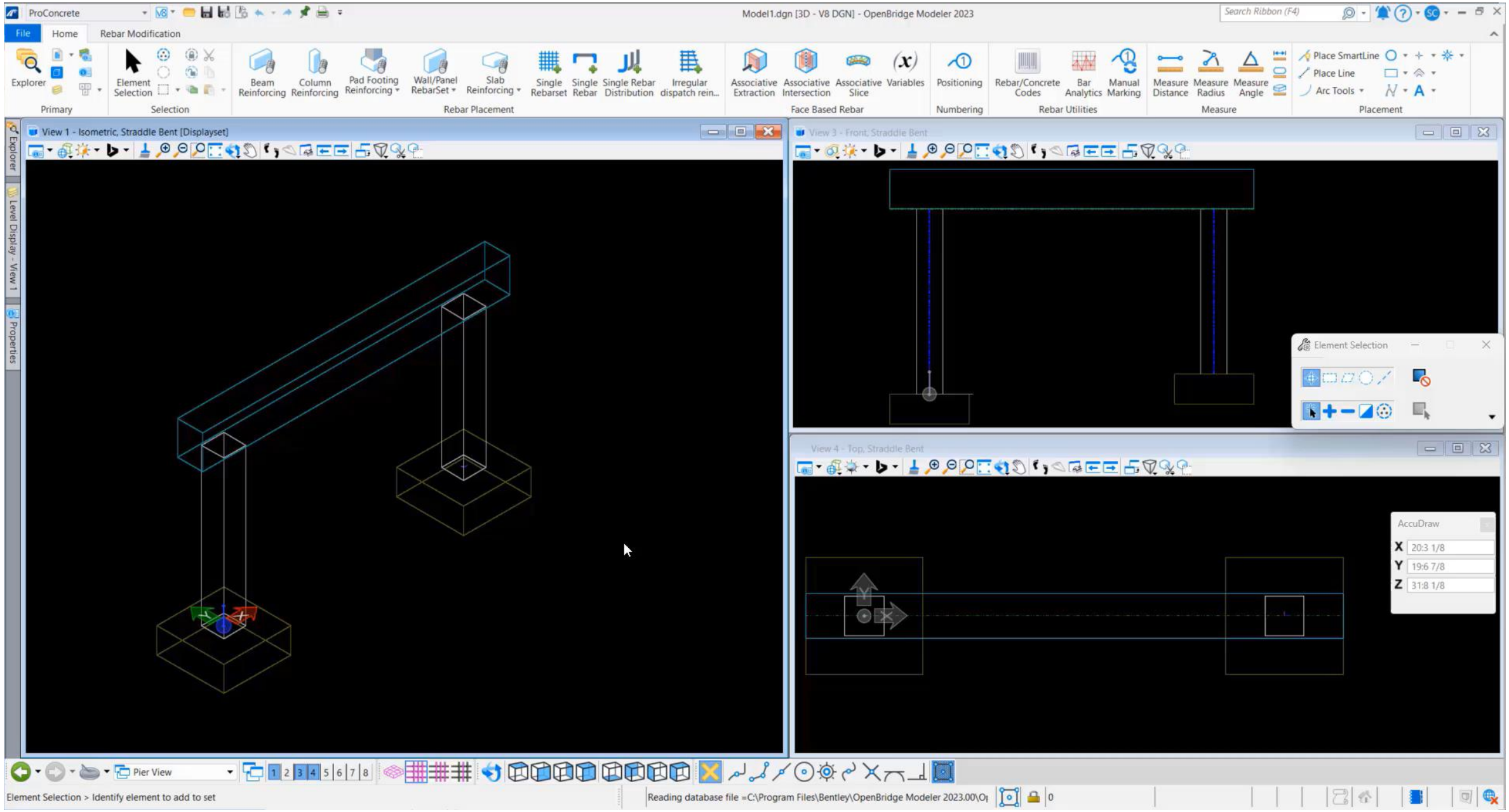
- Parametric
  - Beam
  - Column
  - Pad/Continuous Footing
  - Wall/Panel
  - Slab
- Non-parametric
  - Single Rebarset
  - Single Rebar
  - Single Rebar Distribution
  - Irregular Dispatch
- Face Based Rebar



Bentley

- **Parametric Rebar Modeling Tools**

Bentley

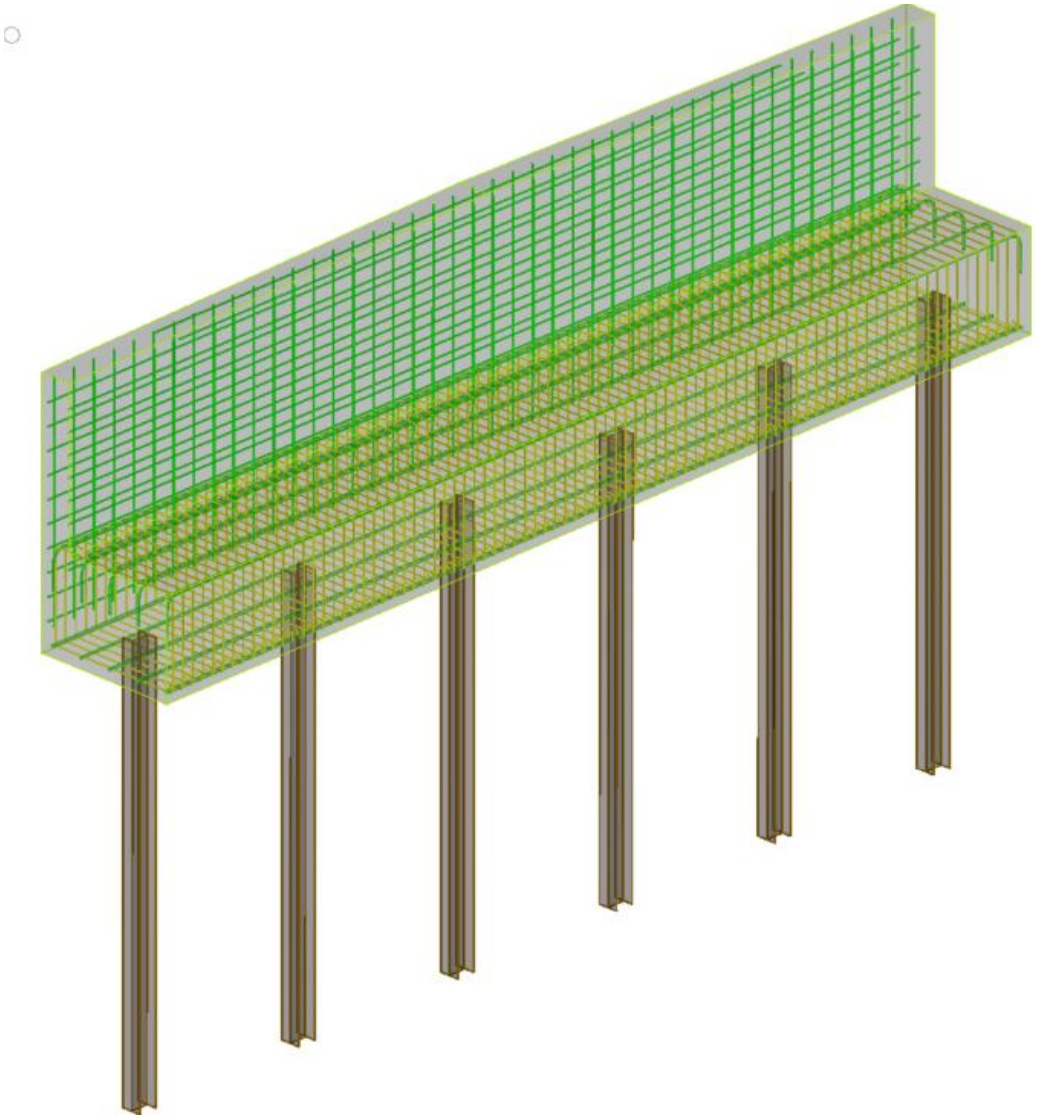


Bentley

- **Non-Parametric Rebar Modeling Tools**

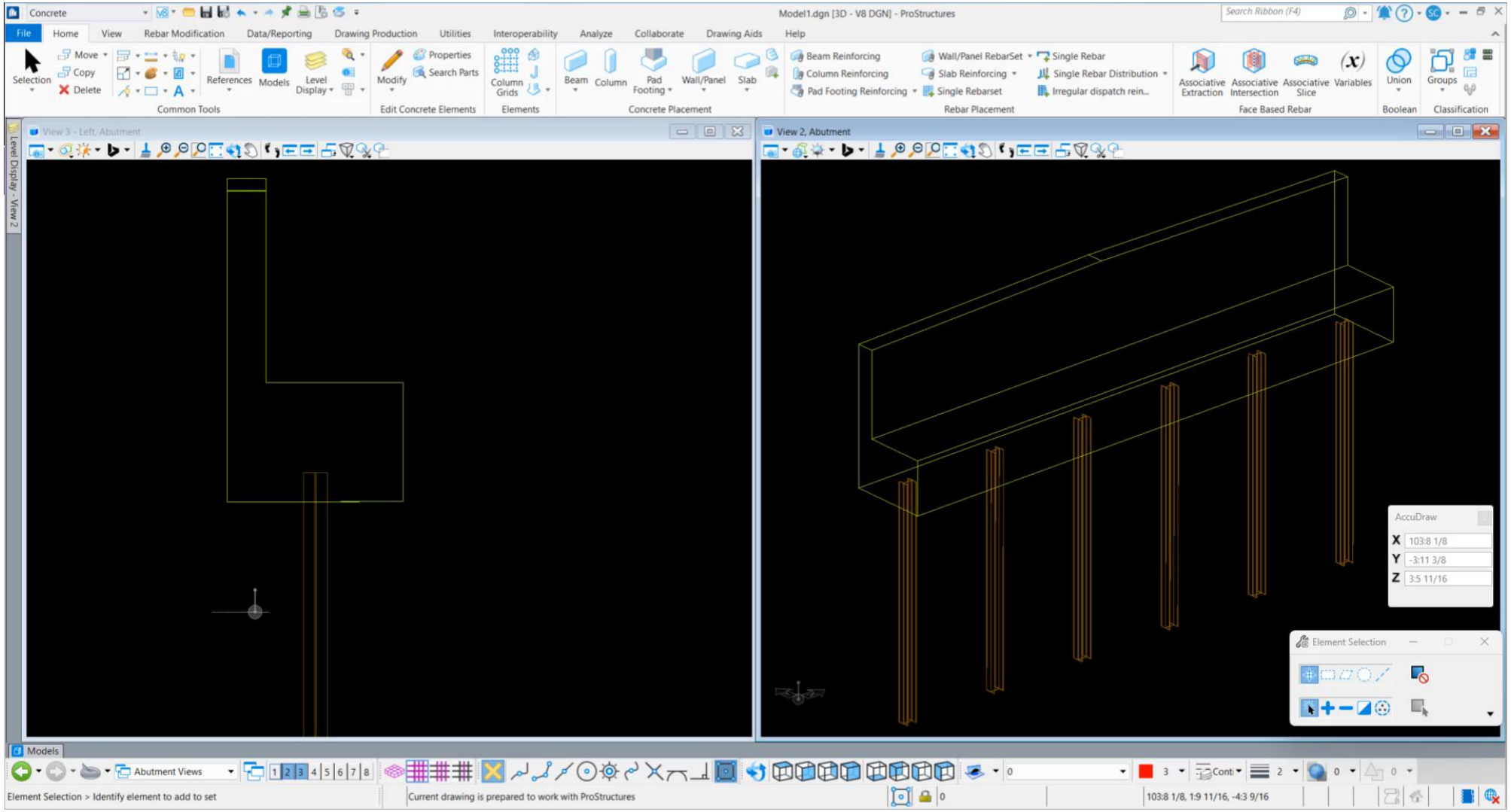
Bentley

Reinforcement for Abutment



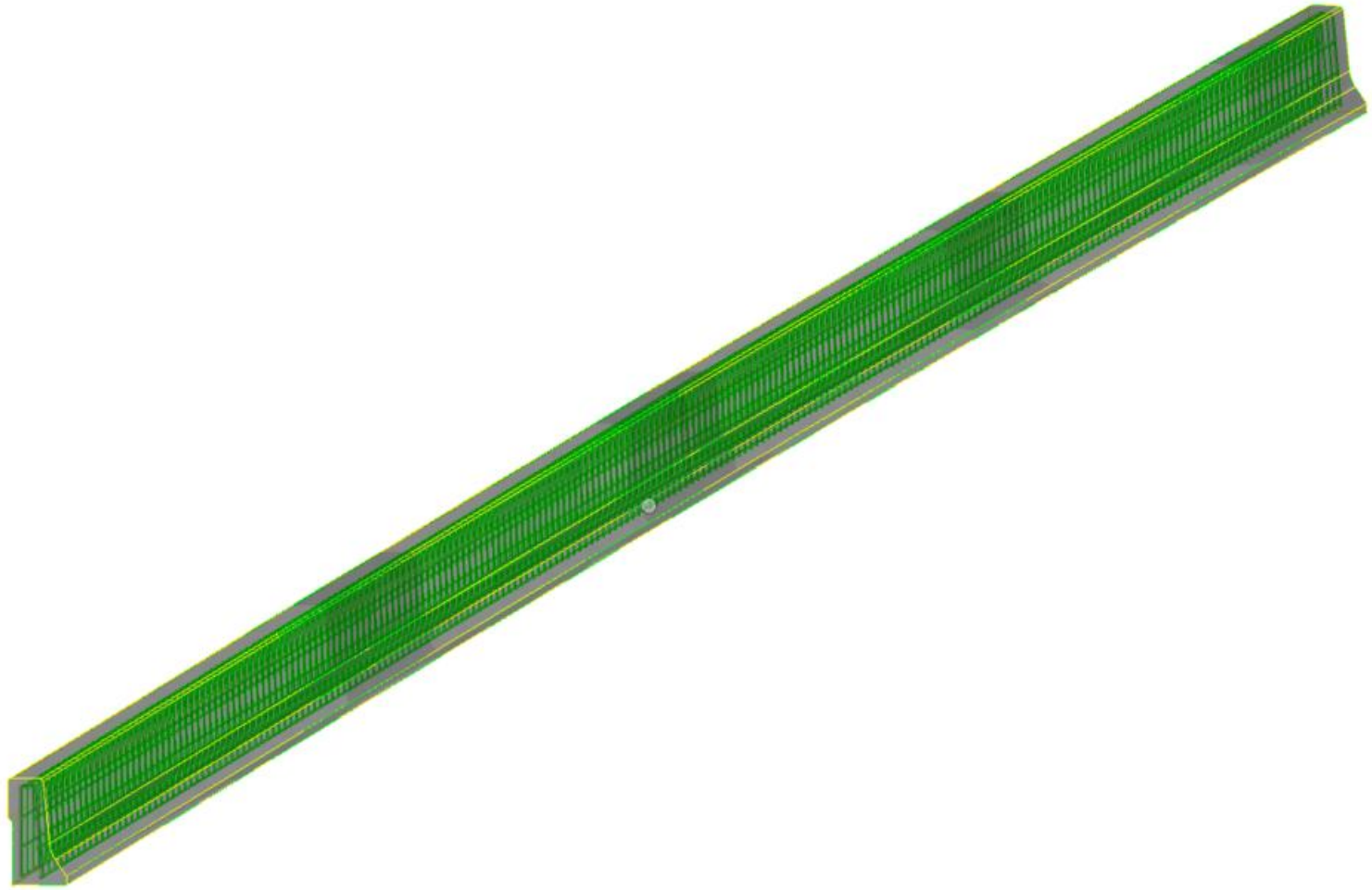
Bentley

Reinforcement for Abutment



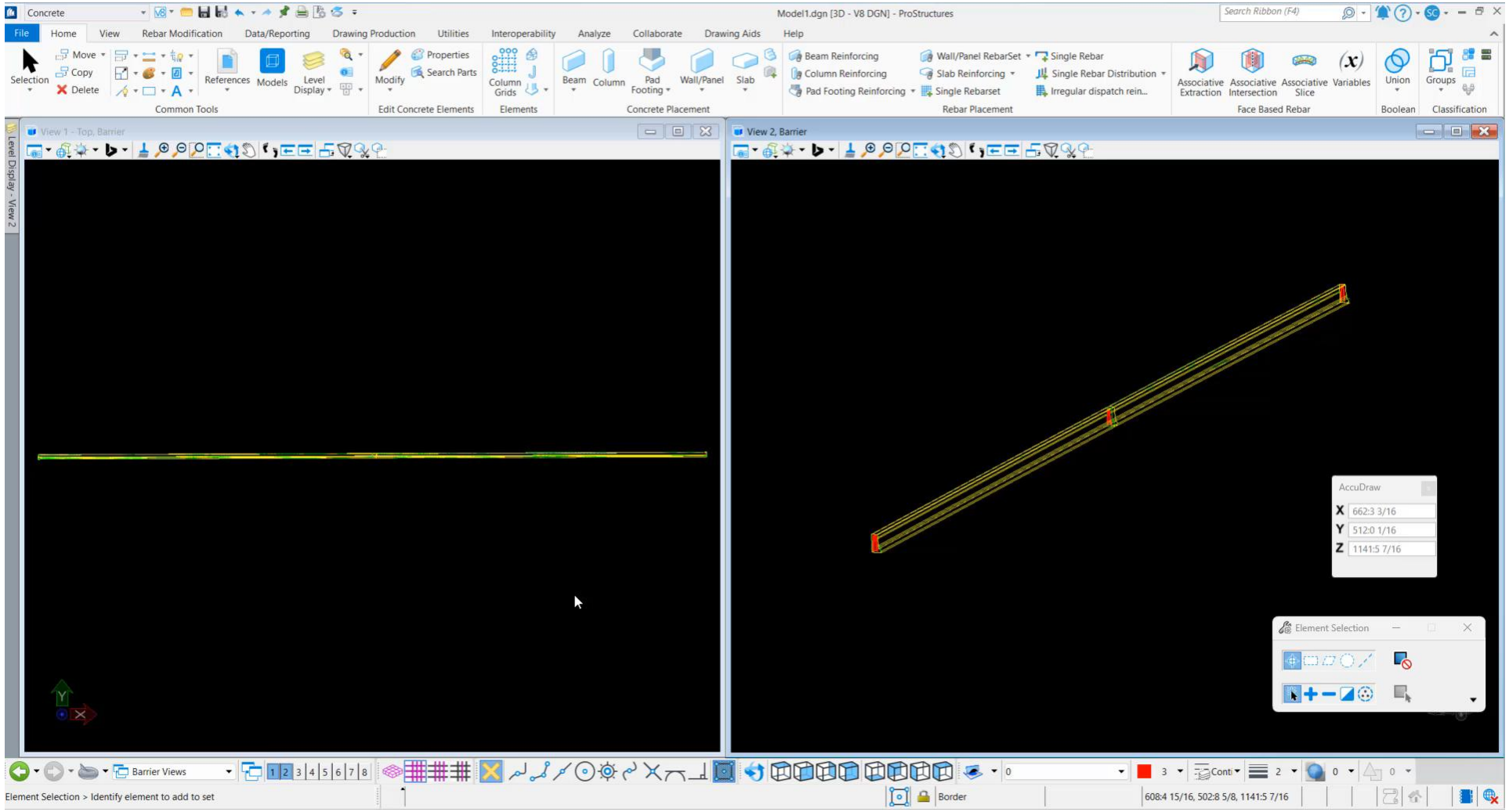
Bentley

Reinforcement for Barrier



Bentley

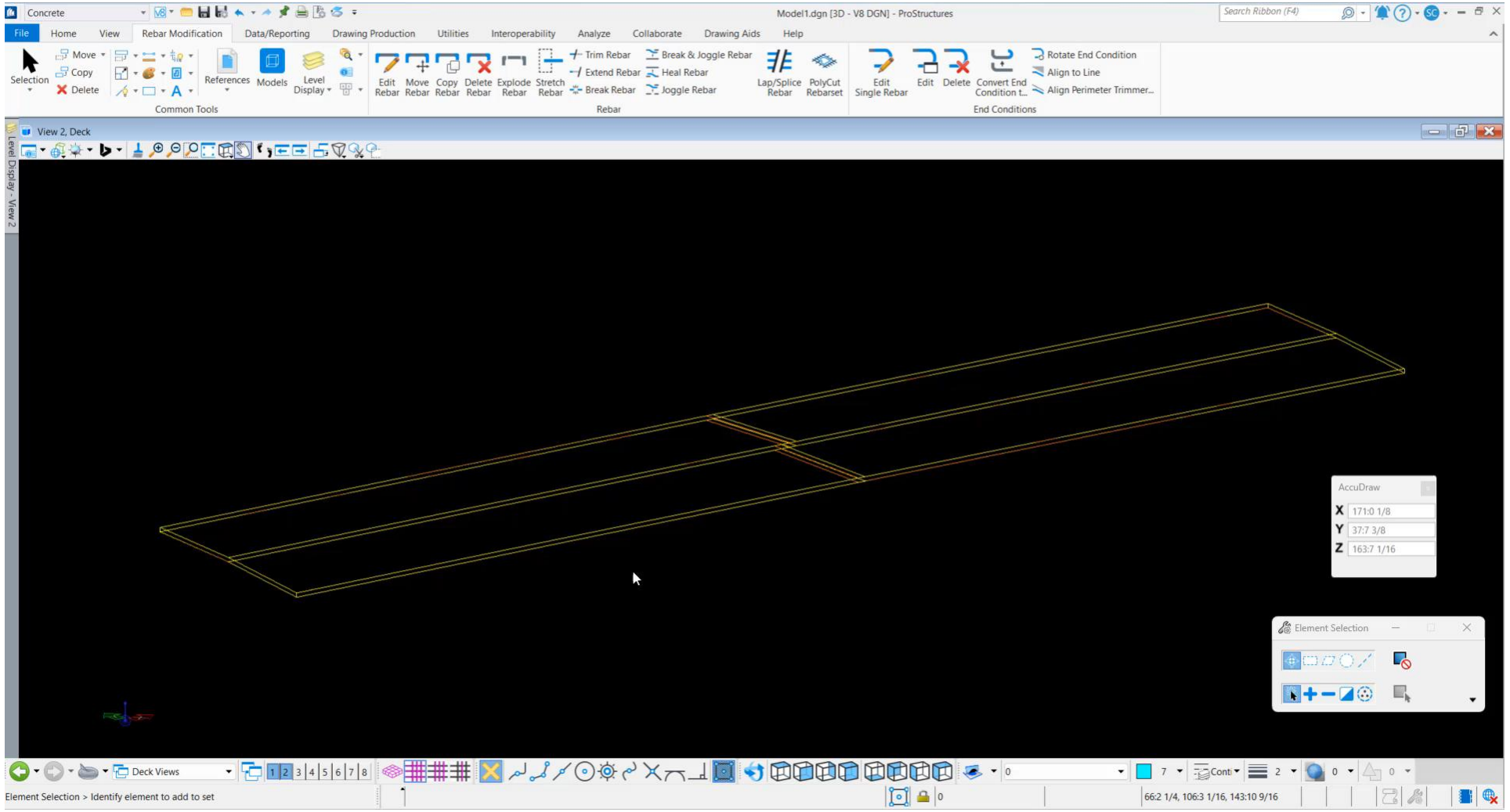
Reinforcement for Barrier



Bentley

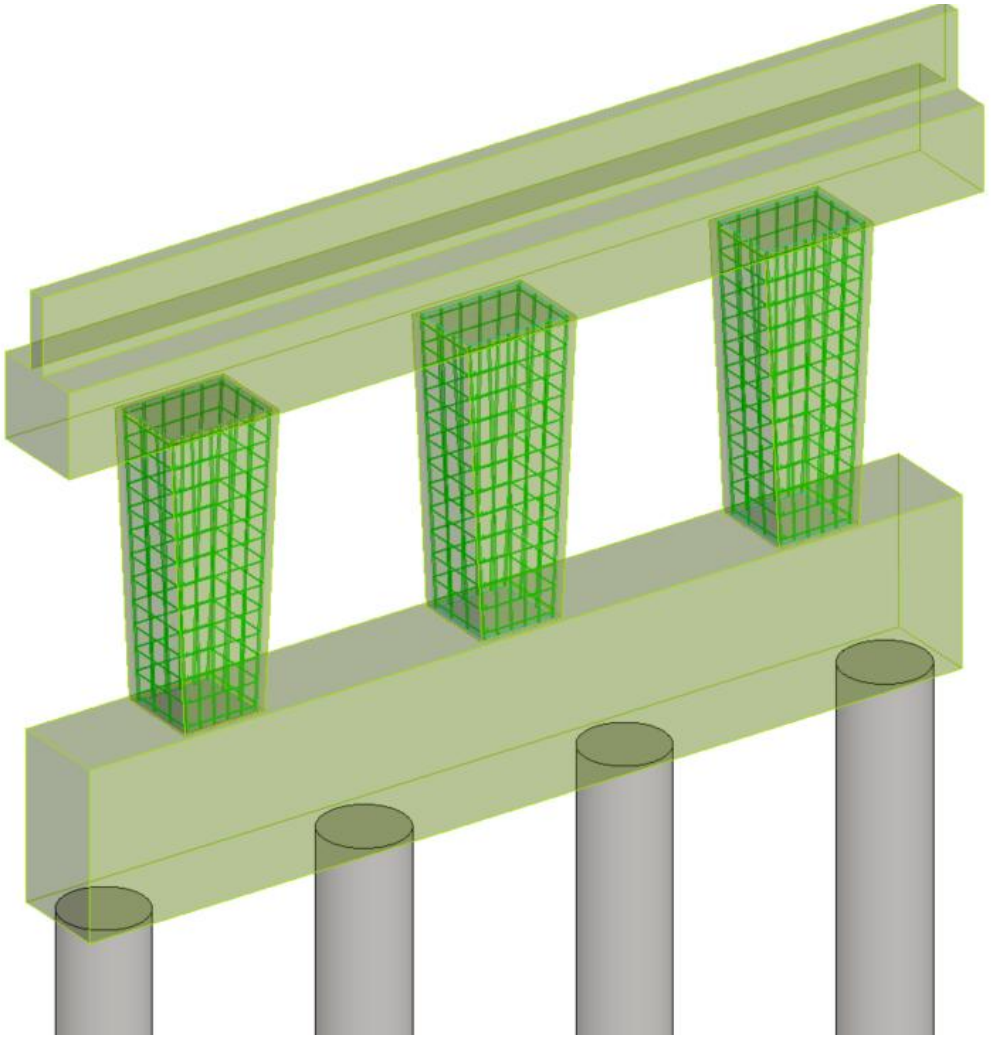
Reinforcement for Deck

Reinforcement for Deck



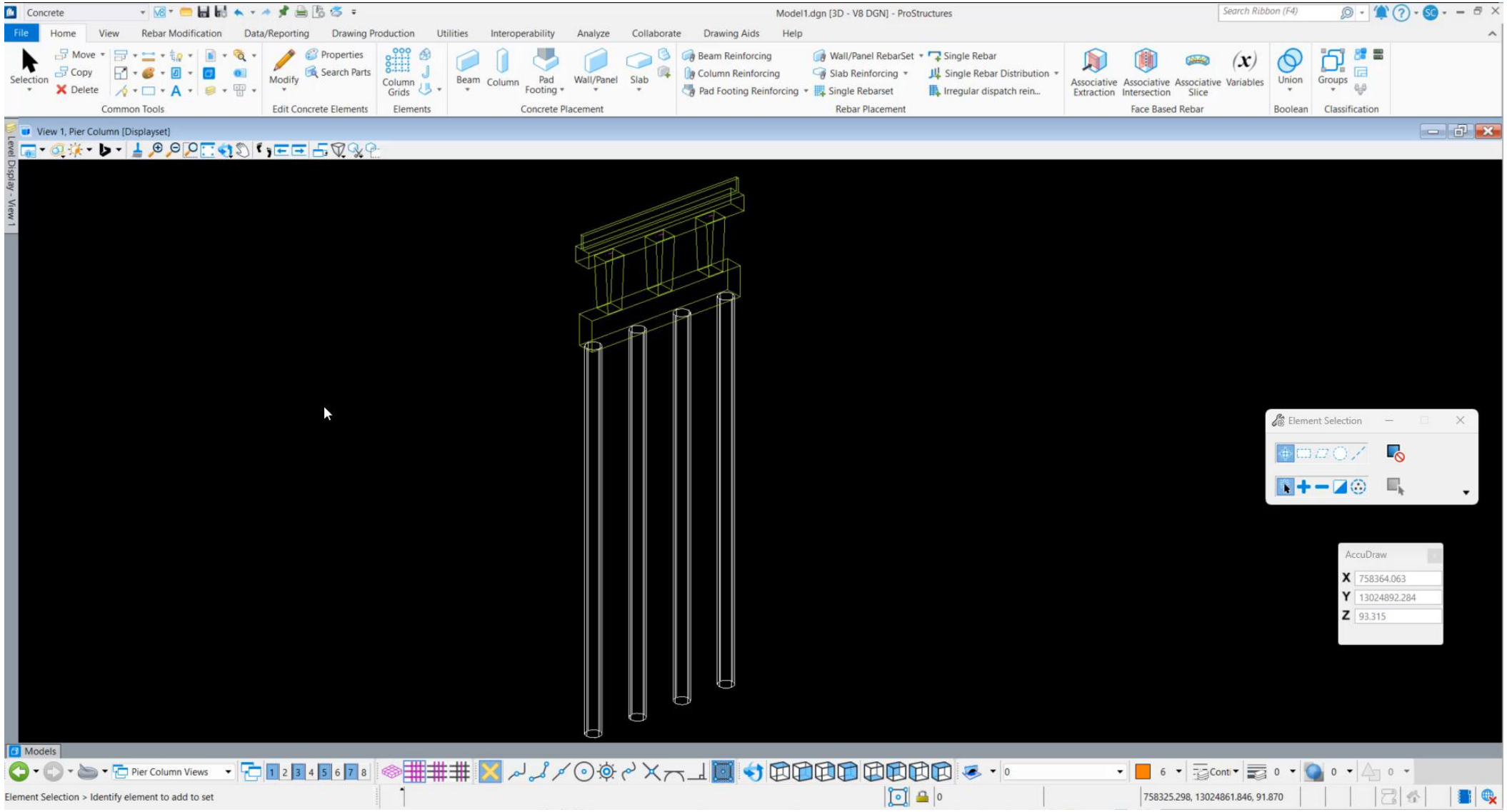
Bentley

Reinforcement for Pier Column



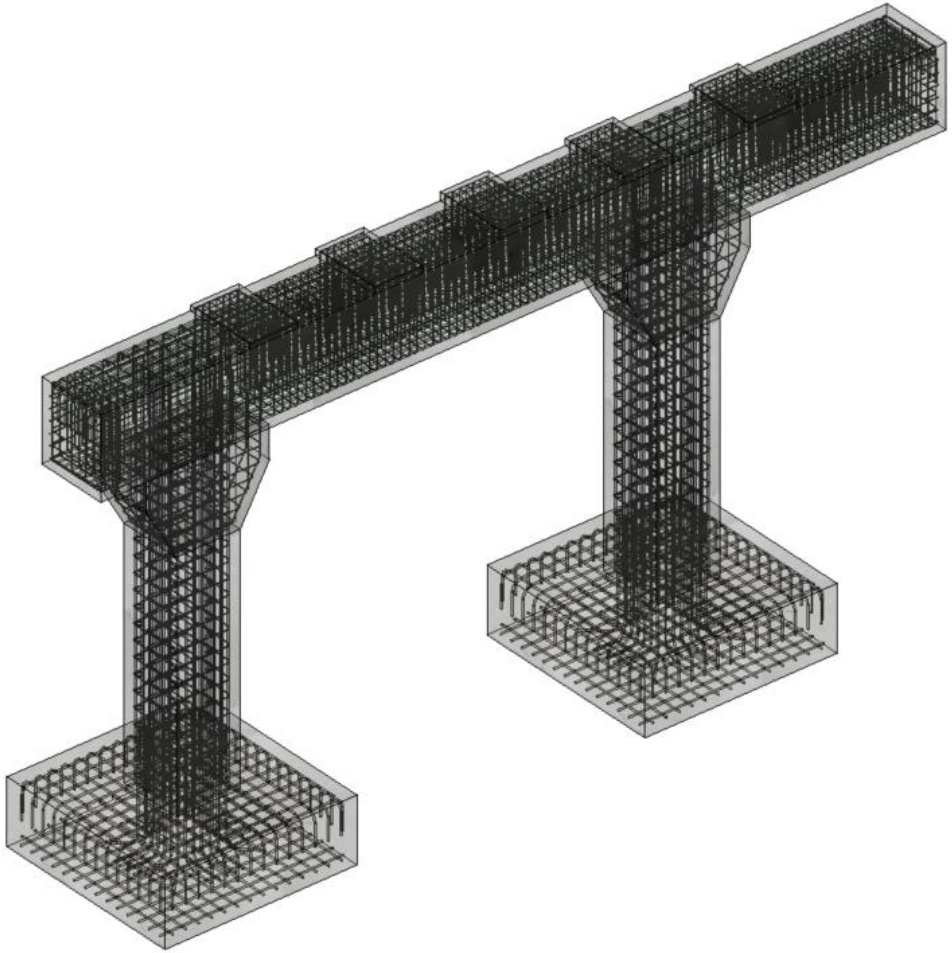
Bentley

Reinforcement for Pier Column



Bentley

Rebar Modeling in 3D

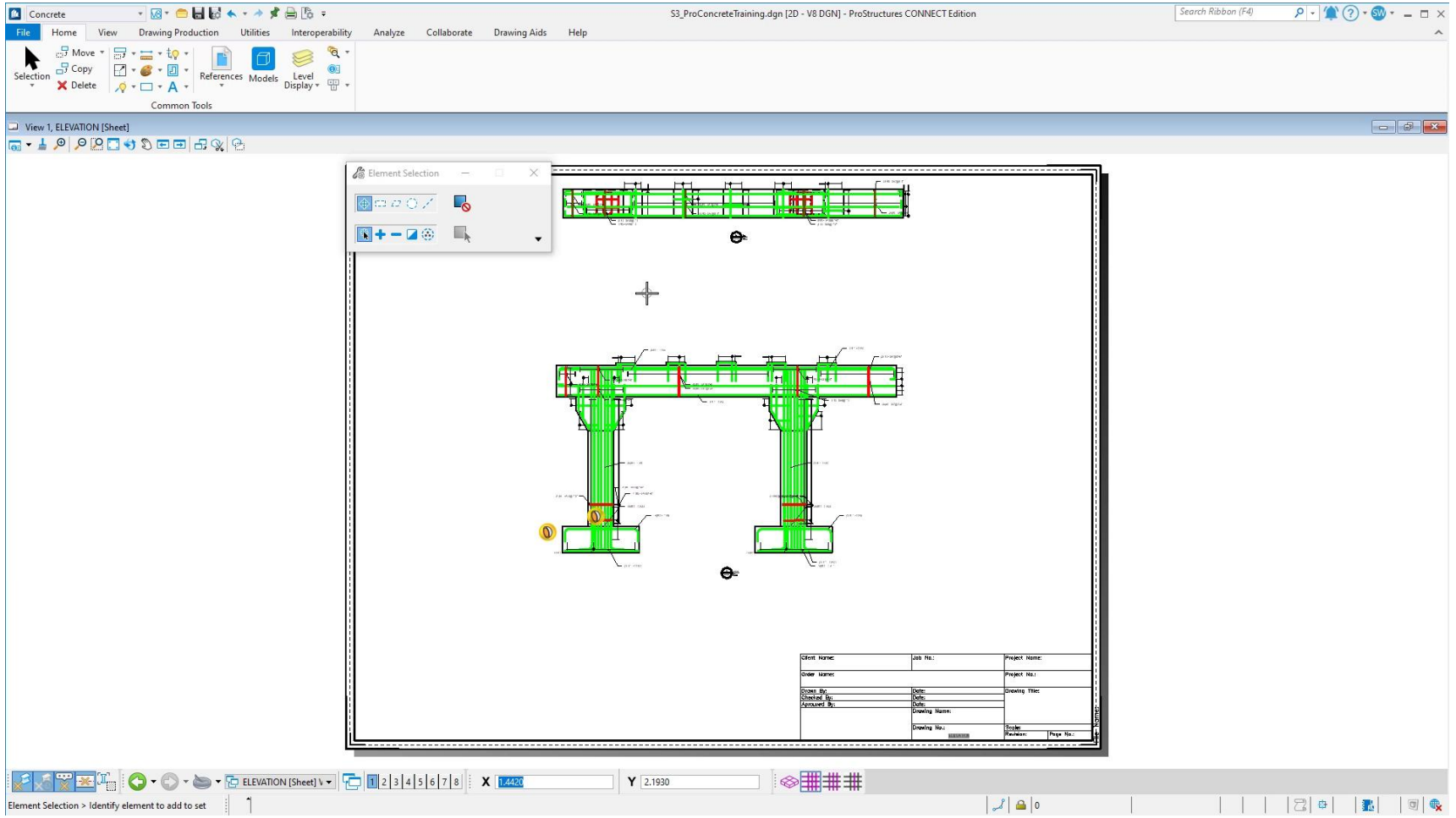


Bentley

- **Drawing Production, Bar Schedules and Charts**

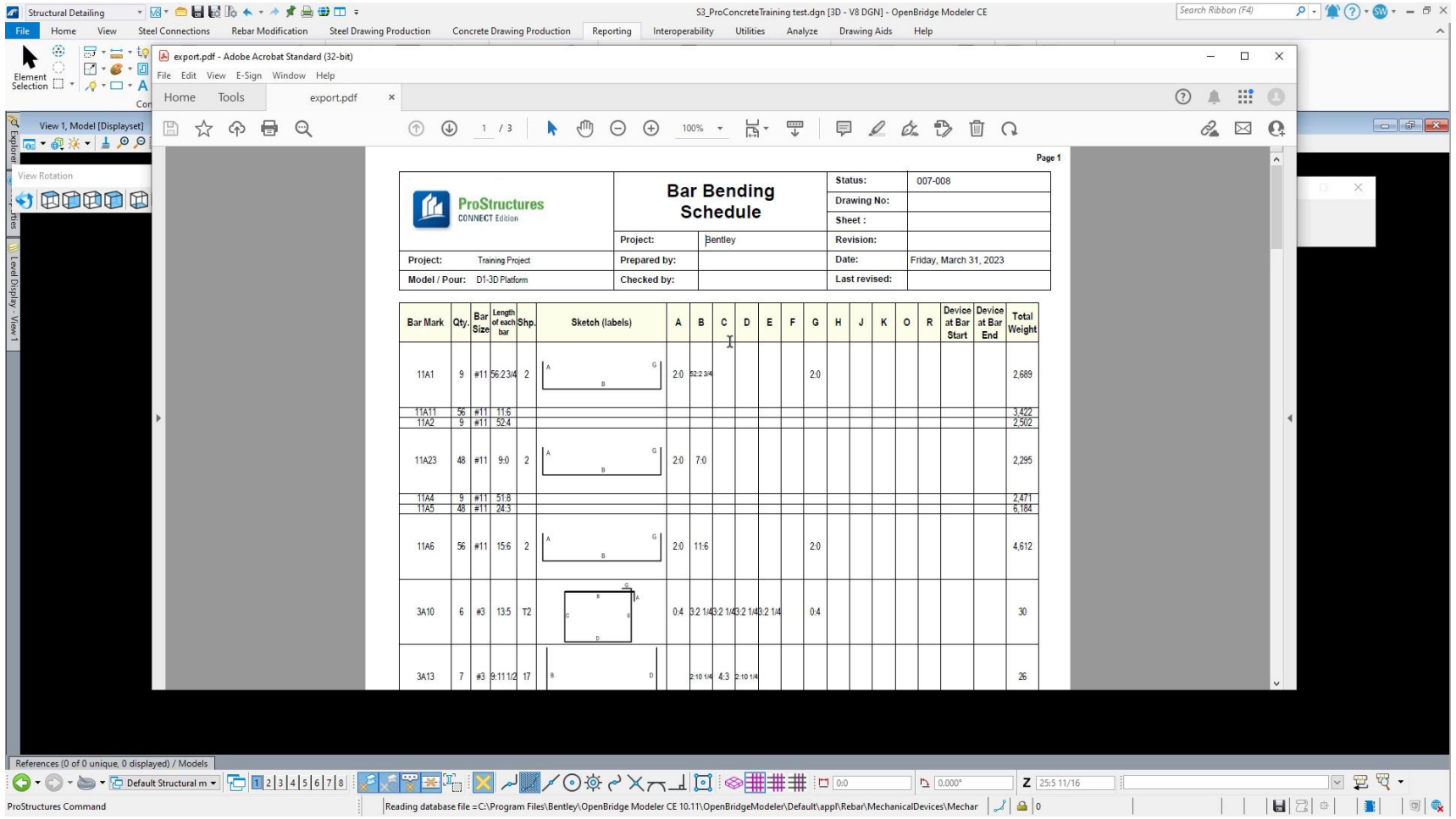
Bentley

Drawing Production



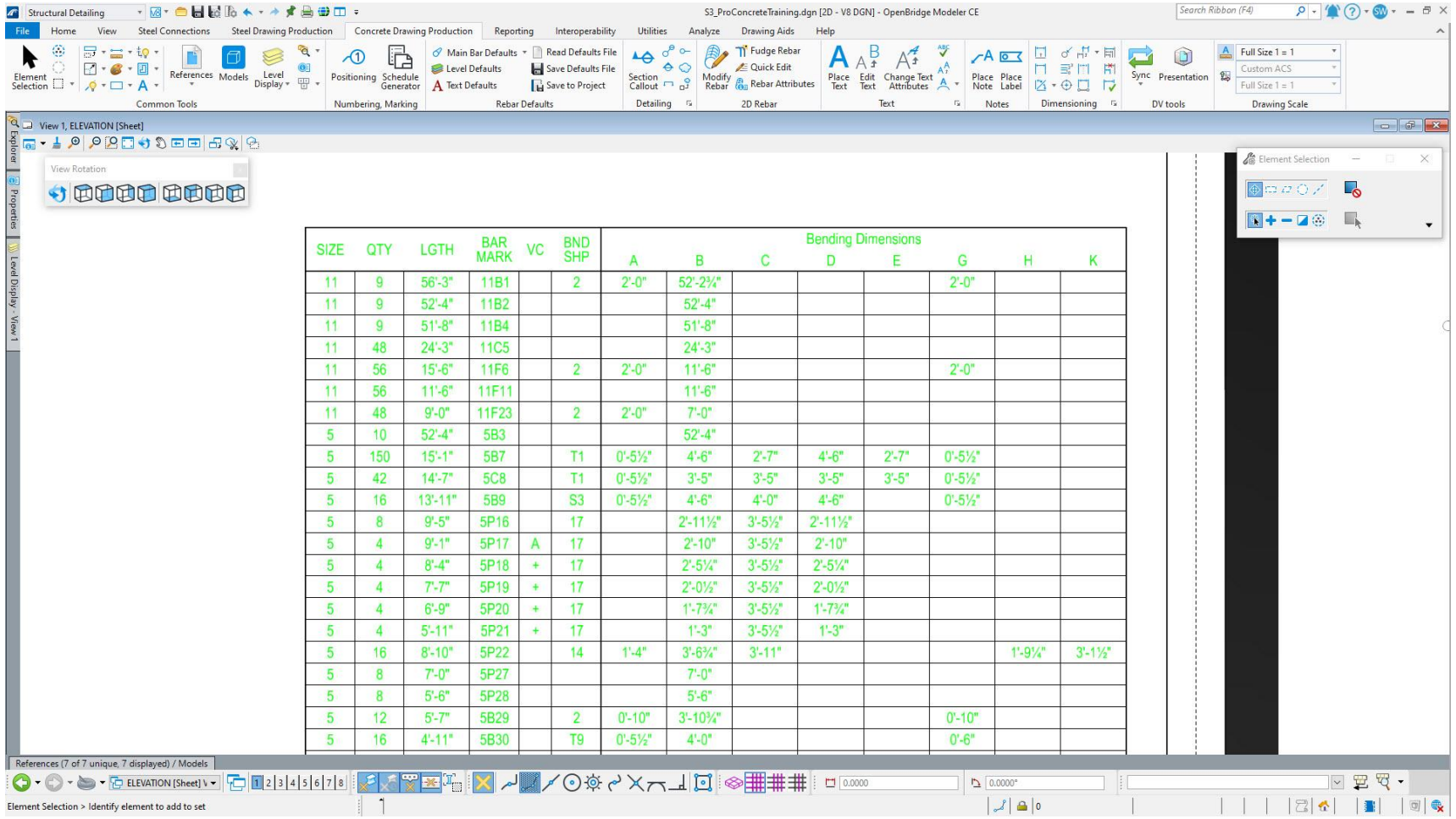
Bentley

Partlist – Bar Schedule



Bentley

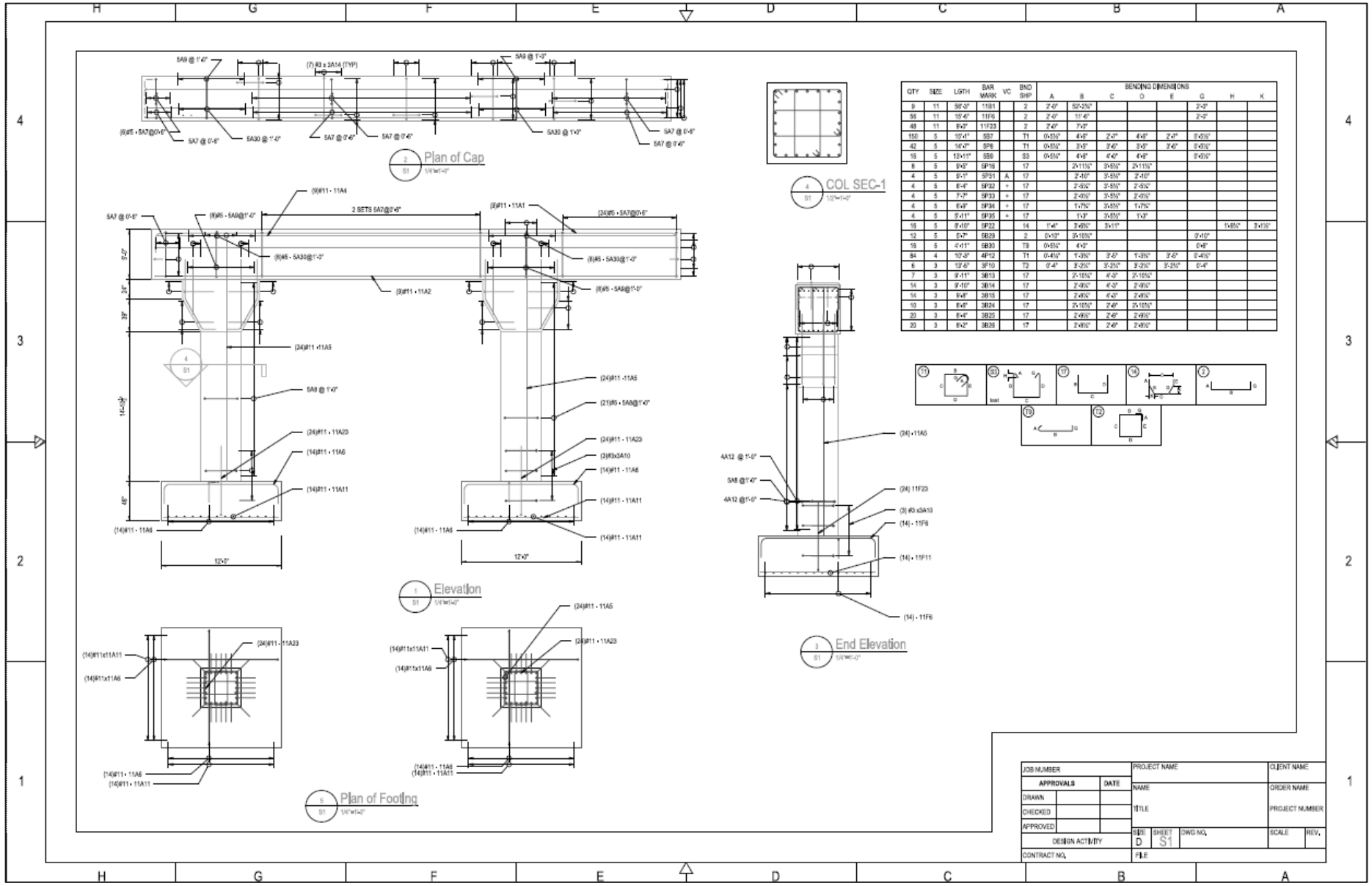
Schedule Generator



SIZE	QTY	LGTH	BAR MARK	VC	BND SHP	Bending Dimensions A	B	C	D	E	G	H	K
11	9	56'-3"	11B1		2	2'-0"	52'-2¾"				2'-0"		
11	9	52'-4"	11B2				52'-4"						
11	9	51'-8"	11B4				51'-8"						
11	48	24'-3"	11C5				24'-3"						
11	56	15'-6"	11F6		2	2'-0"	11'-6"				2'-0"		
11	56	11'-6"	11F11				11'-6"						
11	48	9'-0"	11F23		2	2'-0"	7'-0"						
5	10	52'-4"	5B3				52'-4"						
5	150	15'-1"	5B7		T1	0'-5½"	4'-6"	2'-7"	4'-6"	2'-7"	0'-5½"		
5	42	14'-7"	5C8		T1	0'-5½"	3'-5"	3'-5"	3'-5"	3'-5"	0'-5½"		
5	16	13'-11"	5B9		S3	0'-5½"	4'-6"	4'-0"	4'-6"		0'-5½"		
5	8	9'-5"	5P16		17		2'-11½"	3'-5½"	2'-11½"				
5	4	9'-1"	5P17	A	17		2'-10"	3'-5½"	2'-10"				
5	4	8'-4"	5P18	+	17		2'-5¼"	3'-5½"	2'-5¼"				
5	4	7'-7"	5P19	+	17		2'-0½"	3'-5½"	2'-0½"				
5	4	6'-9"	5P20	+	17		1'-7¾"	3'-5½"	1'-7¾"				
5	4	5'-11"	5P21	+	17		1'-3"	3'-5½"	1'-3"				
5	16	8'-10"	5P22		14	1'-4"	3'-6¾"	3'-11"				1'-9¼"	3'-1½"
5	8	7'-0"	5P27				7'-0"						
5	8	5'-6"	5P28				5'-6"						
5	12	5'-7"	5B29		2	0'-10"	3'-10¾"				0'-10"		
5	16	4'-11"	5B30		T9	0'-5½"	4'-0"				0'-6"		

Bentley

Drawing Generation



Bentley

Thank You!

Bentley®