

CIV102 Project Team 106 Engineering Assembly.pdf

- **Contents:**
 - **Engineering Drawings**
 - Cutting plan for the mat board.
 - Bridge views: elevation, top, bottom, and cross-sections.
 - Connection details: splices, diaphragms.
 - Optional 3D rendering or sketch.
 - **Construction Documentation**
 - Timestamped and captioned photos of construction sessions.
 - Evidence of safety precautions and workspace cleanliness.
 - Workspace photos before/after construction sessions.
 - **Time Log**
 - Breakdown of tasks, time spent, and team member contributions.
 - Team member signatures.

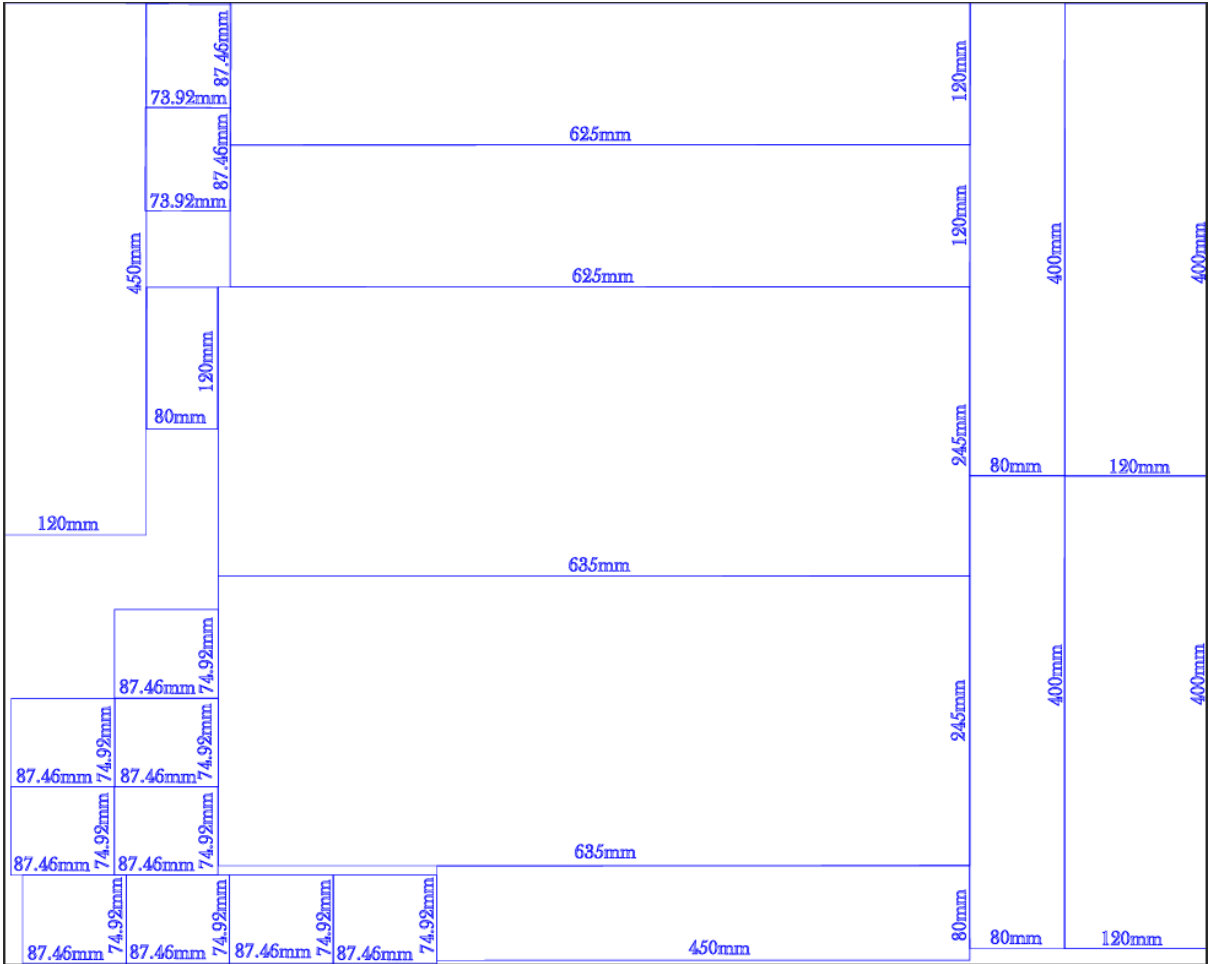
INCLUDE ALL DIMENSIONS IN MILLIMETRES

ENSURE ALL DRAWINGS ARE TO SCALE

- Optional: Create 3D rendering

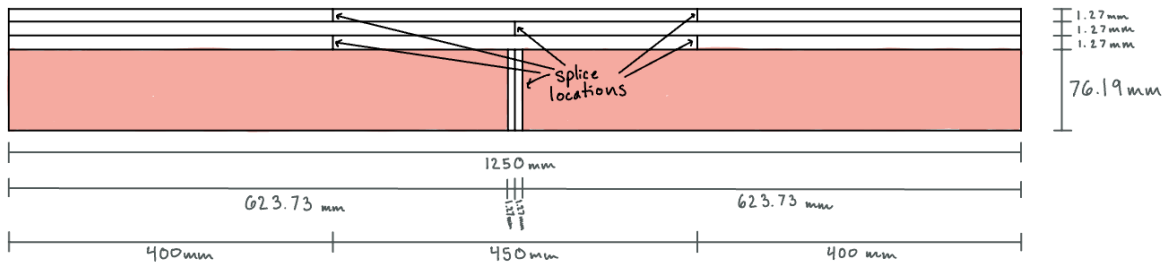
Engineering Drawings

2D Cutting Plan for Matboard

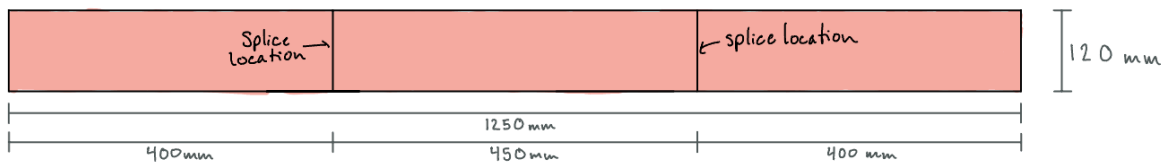


Bridge Views

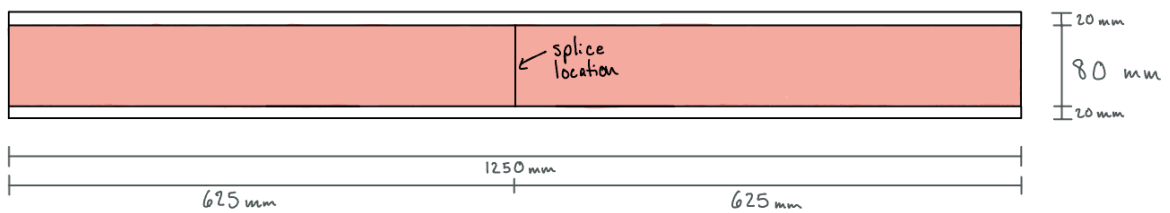
Elevation View:



Top View:

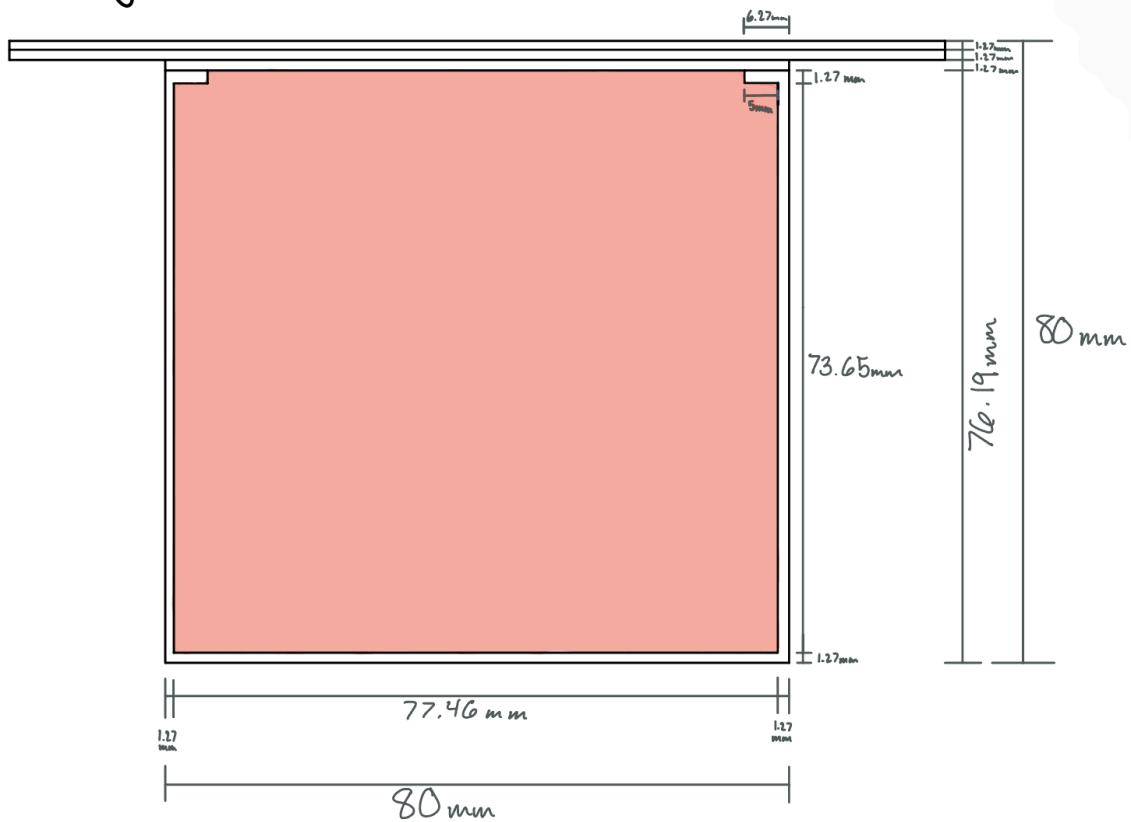


Bottom View:

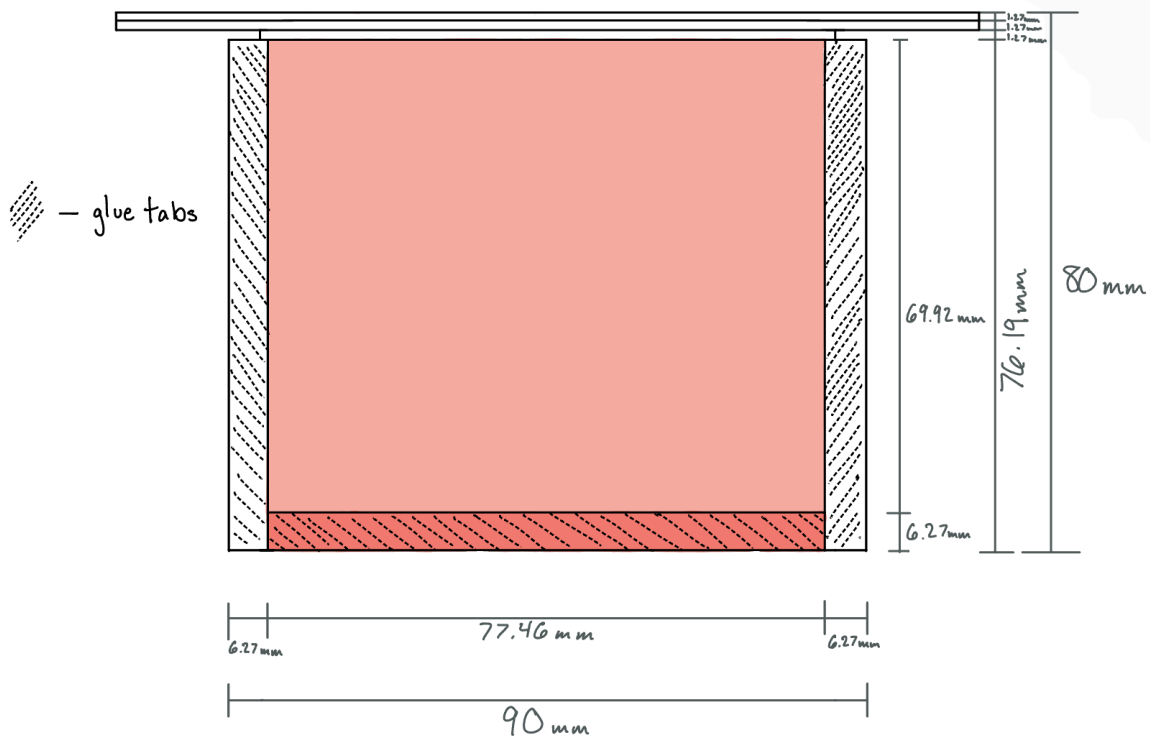


Cross Sections

Regular Cross Section:

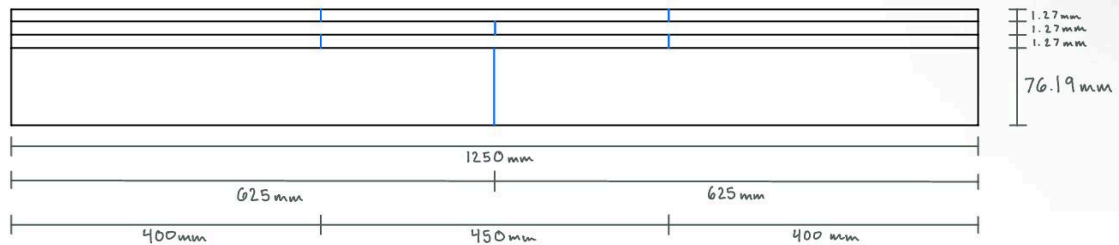


Cross Section at Central Splice:



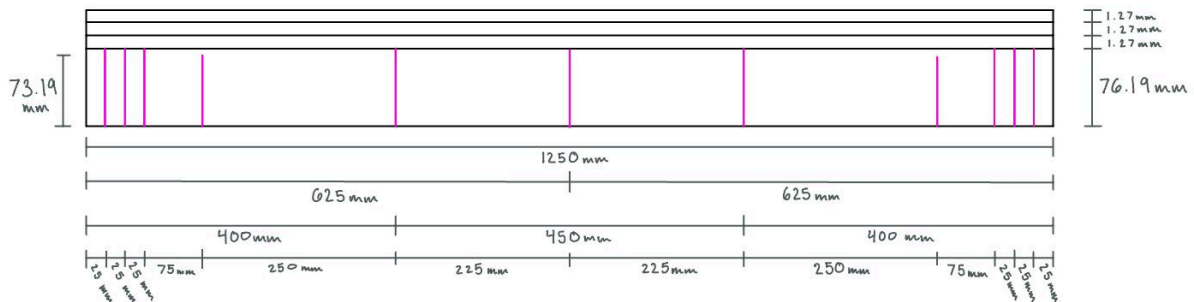
Splice and Diaphragm Connection

Splice Locations (Elevation View):



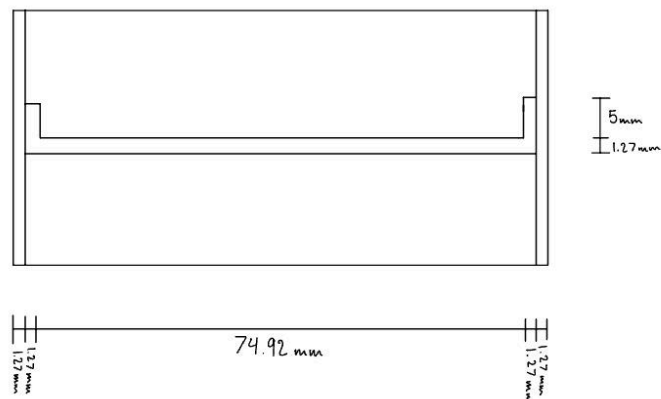
● - splice locations

Diaphragm Locations (Elevation View):

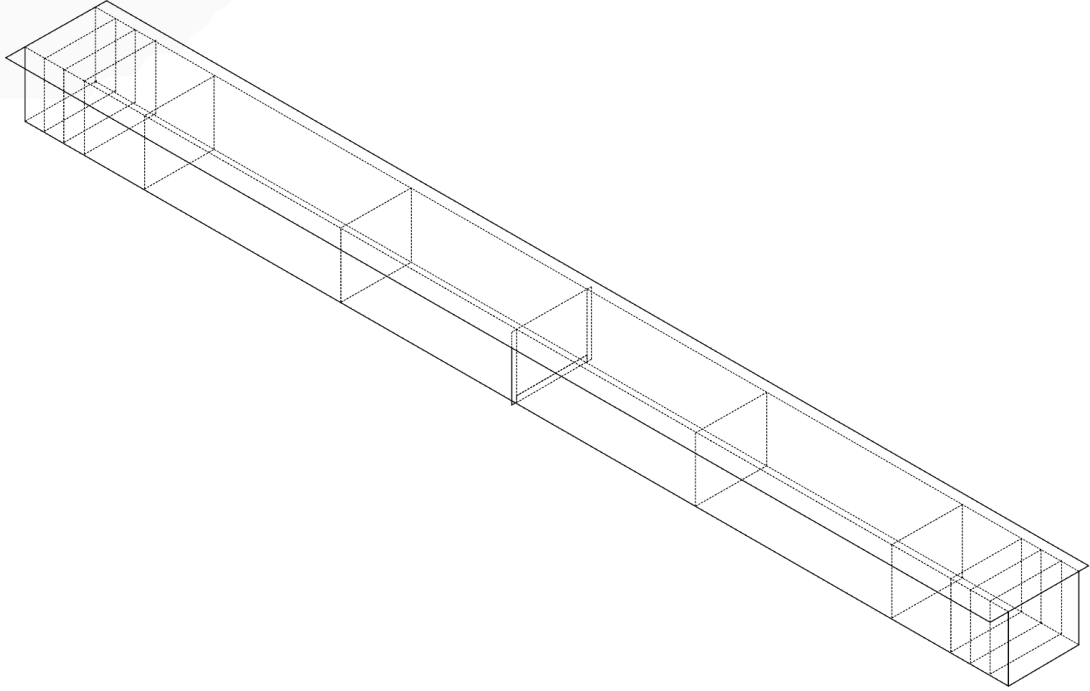


● - diaphragms

Top View of Diaphragm:



3D Isometric Full Bridge :



Construction Photos

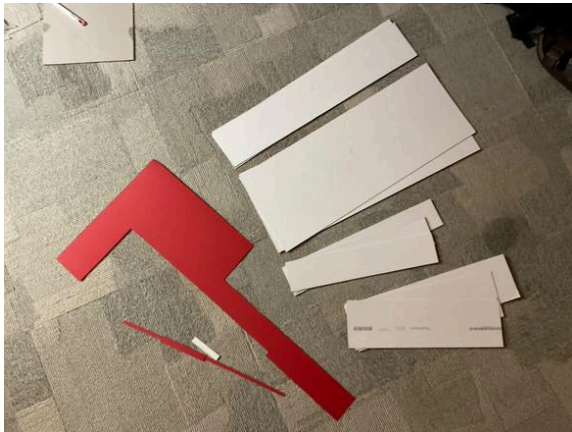


Figure 1 (8:30, Nov 22): End result of Matboard cutting construction session, showing all cut sections. A piece of cardboard shown in the corner was used to protect the floor from box cutters.



Figure 2 (12:13, Nov 23): The beginning of construction session one, showing masks, gloves, a tarp, and a bag to remove all debris. Constructing the top two layers of the top flange.



Figure 3 & 4 (2:35, Nov 23): Connecting Central splice on webs and bottom flange using paper clips to apply compression to the glue tabs.



Figure 5 (3:02, Nov 23): The parking spot that was used for the first construction session after the session was finished.



Figure 6 (3:44, Nov 23): The beginning of construction session two, attaching diaphragms to webs and bottom flange.



Figure 7 (5:10, Nov 23): The construction area for session two after construction had finished.



Figure 8 (6:01, Nov 23): Construction session three, attaching the top flange to the webs of the bridge.

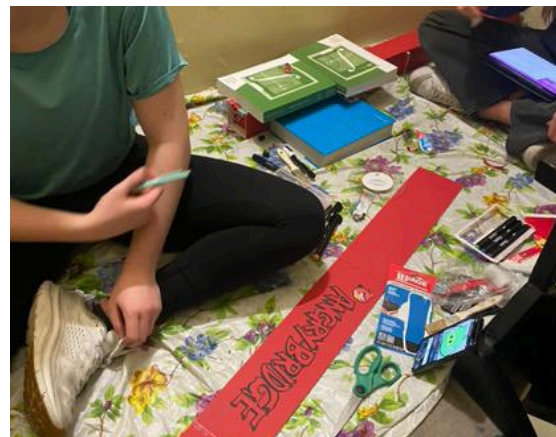


Figure 9 (6:24, Nov 23): Construction session three, adding a design and labels to the bridge.



Figure 10 (8:36, Nov 23): Cleaning up after construction session three, using a trash bag, a tote bag for materials, and facemasks.

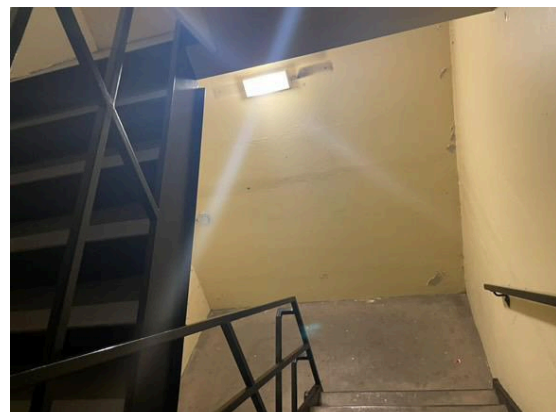



Figure 11 (8:37, Nov 23): The space used for construction session three after finishing construction.


Team 106 Time Log

Tasks	Date	Tannaz	Hannah	Kate
Deliverable 1	Nov 7			
Individual calculations, then cross-check and submit		4	4	4
Report				
Writeups for design iterations + format design report	Nov 25	1	4	2
	Nov 24	1	2	
	Nov 24			3
	Nov 25			2
Formatted calculations report + written sections	Nov 26	2	2	
Iterated designs	Nov 26	4	5	
Drawing				
Cutting plan + cross sectional drawings	Nov 22	1		1
Elevation, sectional views	Nov 25		1	1
drawings	Nov 26			3
	Nov 27			2
Calculations				

Write code for iteration	Nov 16	10		
Calculating failure modes and stresses	Nov 19	1	3	
Edit code	Nov 18	3		
	Nov 24	2		
Load case 1, design 0 maximum SF	Nov 14	3		
	Nov 16	1		1
	Nov 21			3
Load case 1, design 0 maximum BM	Nov 14		3	
	Nov 17		6	
Construction				
Cutting pieces + drawing plan on matboard	Nov 22	2	2	2
Scoring to cut pieces	Nov 22		2	
Planning splice & diaphragm locations	Nov 22			2
Glueing, clamping, assembling	Nov 23	7	7	7
Listing and buying necessary construction supplies	Nov 23			1
Construction Photos and Captions	Nov 27			2

Total (hrs)	42	41	36
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Signature 1: 

Signature 2: 

Signature 3: 