

Andrew Duignan Consulting Engineers

Regus, Conway House,
31 Worcester Street, Gloucester. GL1 3AJ
Tel. 07423493249
email: andrewduignan@adstructural.com
www.adstructural.com



**Weathertop,
Parham Lane,
Nr. Devizes,
Wiltshire.**

STRUCTURAL REPORT

Prepared by: Andrew Duignan
Date: 10th September 2025
Reference: 25/6203 (Barn Survey)

Andrew Duignan Consulting Engineers

Regus, Conway House,
31 Worcester Street, Gloucester. GL1 3AJ
Tel. 07423493249
email: andrewduignan@adstructural.com
www.adstructural.com



Contents

1.0	Description of Structure.....	page 3
2.0	Inspection	page 4
3.0	Analysis Results... ..	page 5
4.0	Conversion.....	page 6
5.0	Conclusion.....	page 7
	Appendix A.....	page 8
	Appendix B.....	page 33

Andrew Duignan Consulting Engineers

Regus, Conway House,
31 Worcester Street, Gloucester. GL1 3AJ
Tel. 07423493249
email: andrewduignan@adstructural.com
www.adstructural.com

Weathertop,
Parham Lane,
Nr. Devizes,
Wiltshire.

RE: Weathertop, Parham Lane, Nr. Devizes, Wiltshire.



Figure 1.1 (Weathertop, Parham Lane, Nr. Devizes, Wiltshire)

Thank you for your request for us to carry out a structural survey at the above site. The purpose of the inspection was to assess the structural integrity of the existing single storey building and consider the potential of converting this structure to a residential property. This report is produced at the request of Phillippa Strickland, Weathertop, Parham Lane, Nr. Devizes, Wiltshire.

We, Andrew Duignan Consulting Engineers, visited the site on Tuesday 2nd September 2025 and carried out a visual inspection of the building. This was a non-invasive inspection so comment can only be made on visual assessment internally and externally. Our observations are made on what is visible internally and externally along with information received from the Client.

1.0 Description of Structure

The building is a single storey pitched roof structure overlaid with concrete tiles and glazed sheeting panels over part of the lower front slope. The roof tiles are supported onto timber battens overlaid with felt, supported on steel C section rafters at 700mm centres. External wall elevations are solid masonry blockwork, (215mm), with piers along the gable elevation next the entrance gateway. The opposite gable is clad above the wall with timber boarding. The walls are partially rendered externally. Internally the roof structure is supported with steel beams and columns and this steelwork provides stability for the overall building. There are internal masonry walls, (100mm), constructed to eaves level which divide the internal space. A brick retaining wall retains the higher level ground along the gable and front of the building. The entrance door to the building is 1.850m wide.

The internal floor area is overlaid with concrete.

The building is used for storing agricultural paraphernalia.

The overall dimensions of the building are;

Length – 13.0m.

Width – 5.5m.

Height – 2.4m to eaves level and 3.6m to ridge level.

Photographs are presented in Appendix B.

2.0 Inspection

The inspection was carried out Tuesday 2nd September 2025 in good weather conditions. The structure is in good condition and structurally stable at the time of the visit. Some minor defects were observed during the inspection.

- There was evidence of rust on all internal steel supporting columns and beams.
- The render on the external elevations has become partially displaced and is not fully bonded to the walls in places.
- There is minor cracking on the front elevation above the large left window head running to eaves level.
- The lintel over the entrance door opening is damaged and in poor condition.
- The entrance door is not functioning properly.
- There are loose tiles along the roof slopes and the clear glazing is not properly fixed to the steel rafters.
- There is a vertical crack running from ground level to eaves level midway along the rear elevation.
- There is a vertical crack running from ground level to roof level along the gable elevation furthest away from the roadway.
- Vegetation is well established along all elevations.
- There are no gutters or downpipes and it could not be determined if surface water drainage is provided around the building.
- There is agricultural machinery stored within the building.
- There are loose and mis-placed bricks along the retaining wall and vegetation is well established along this wall.

3.0 Analysis Results

The following results obtained from calculations carried out on the steel structure are presented in the following table:

	Actual Moment (kNm)	Allowable Moment (kNm)
Beam 203 x 133 x 25UB	24.7	70.9
	<u>Actual Shear (kN)</u>	<u>Allowable Shear (kN)</u>
Beam 203 x 133 x 25UB	19.8	202.2
	Actual Deflection (mm)	Allowable Deflection (mm)
Beam 203 x 133 x 25UB	9.23	14.28
Frame Analysis		
	Actual Moment (kNm)	Allowable Moment (kNm)
Beam 203 x 133 x 25UB	24.75	70.9
	<u>Actual Shear (kN)</u>	<u>Allowable Shear (kN)</u>
Beam 203 x 133 x 25UB	19.80	202.2
	Actual Deflection (mm)	Allowable Deflection (mm)
Beam 203 x 133 x 25UB	9.5	14.28
	Actual Axial Compression (kN)	Allowable Axial Compression (kN)
Column 152UC 23	35.64	200.75
Reactions	Va	15.84kN
	Vb	35.64kN
	Vc	25.64kN
	Vd	15.84kN

Table 1.1

4.0 Conversion

The building can be converted to a residential property with minimum alterations to the existing structure. The following is a list of the proposed works the Client should consider to convert this building to a habitable area.

- All roof sheeting should be removed and replaced with a light weight standing-seam tin roof. This form of roof is light weight and should be supported on the existing steel rafters and internal steel beams and columns. Insulation can be placed to the underside of the tin roof between the steel rafters. Small roof windows can be placed on the roof slopes if required.
- The remaining render along the external elevations should be removed and walls re-rendered. Cracks should be repaired with Heli-fix bars, filled and made good.
- The timber cladding above the wall along the gable should be removed and the wall built to roof level and rendered.
- The external walls should be insulated internally with insulated plaster board on battens fixed to the walls.
- The lintel over the entrance door should be replaced and the door width reduced. New doors and windows can be easily incorporated in the existing masonry walls.
- All machinery items should be removed and the area cleaned.
- The internal masonry walls can be removed and the area divided with structural timber wall panels chemical fixed to the concrete floor and external walls.
- A damp proof membrane / radon barrier should be placed over the existing concrete floor. Minimum insulation and screed should be placed over.
- All existing steel columns and beams should be cleaned, primer applied and painted with a weather resistant paint. All elements should be fire protected for a minimum of 1.5 hours with two layers of fire board.
- The brick retaining wall to the front should be repaired.
- Gutters and downpipes should be replaced, and surface water discharged to a soakaway.
- All internal timber wall panels should be fire protected for a minimum of 1.5 hours.
- All vegetation along the perimeter of the building should be removed and a hardstanding area should be provided along the perimeter of the building for a minimum of 1.0m.

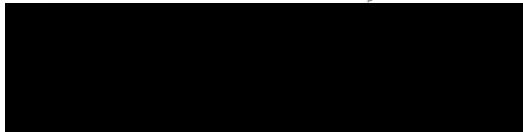
5.0 Conclusion

From the visual inspection above it is clear the structure is in good condition and structurally stable with no major structural issues. The current building can be converted to a residential property without any changes to the existing height or plan area to comply with Current Building Regulations. All works listed above are commonplace with a barn conversion. Structural calculations are presented in Appendix A.

As a practice, Andrew Duignan Consulting Engineers have dealt with scores of barn conversions under Class Q and do not see this building as being anything other than eminently convertible within the intention of the regulations.

We trust the above is satisfactory for your immediate requirements. However, should you require any further information, please do not hesitate to contact the above office.

Yours sincerely



Andrew Duignan
MSc, CEng MIEI
Andrew Duignan, Consulting Engineers.
www.adstructural.com

Appendix A



Figure 1.2 – Front Elevation



Figure 1.3 – Brick Retaining wall along gable



Figure 1.4 – Gable Elevation next entrance



Figure 1.5 – Established vegetation along retaining wall and gable



Figure 1.6 Front Elevation partially rendered



Figure 1.7– Roof slope with glazing and roof tiles



Figure 1.8 – Front roof slope



Figure 1.9 – Front entrance



Figure 1.10 – Front entrance



Figure 1.11 – Gable elevation furthest away from entrance



Figure 1.12 – Vertical crack on gable elevation



Figure 1.13 – Rear elevation – no gutters



Figure 1.14 – Established vegetation along gable wall



Figure 1.15– Brick retaining wall



Figure 1.16 – Internal floor area



Figure 1.17 – Rear Wall



Figure 1.18 – Internal masonry walls



Figure 1.19 – Internal concrete floor



Figure 1.20– Underside of roof structure



Figure 1.21 –Steel Framing supporting roof structure



Figure 1.22 –Roof support detail



Figure 1.23 –Timber strut supporting roof structure

Andrew Duignan Consulting Engineers

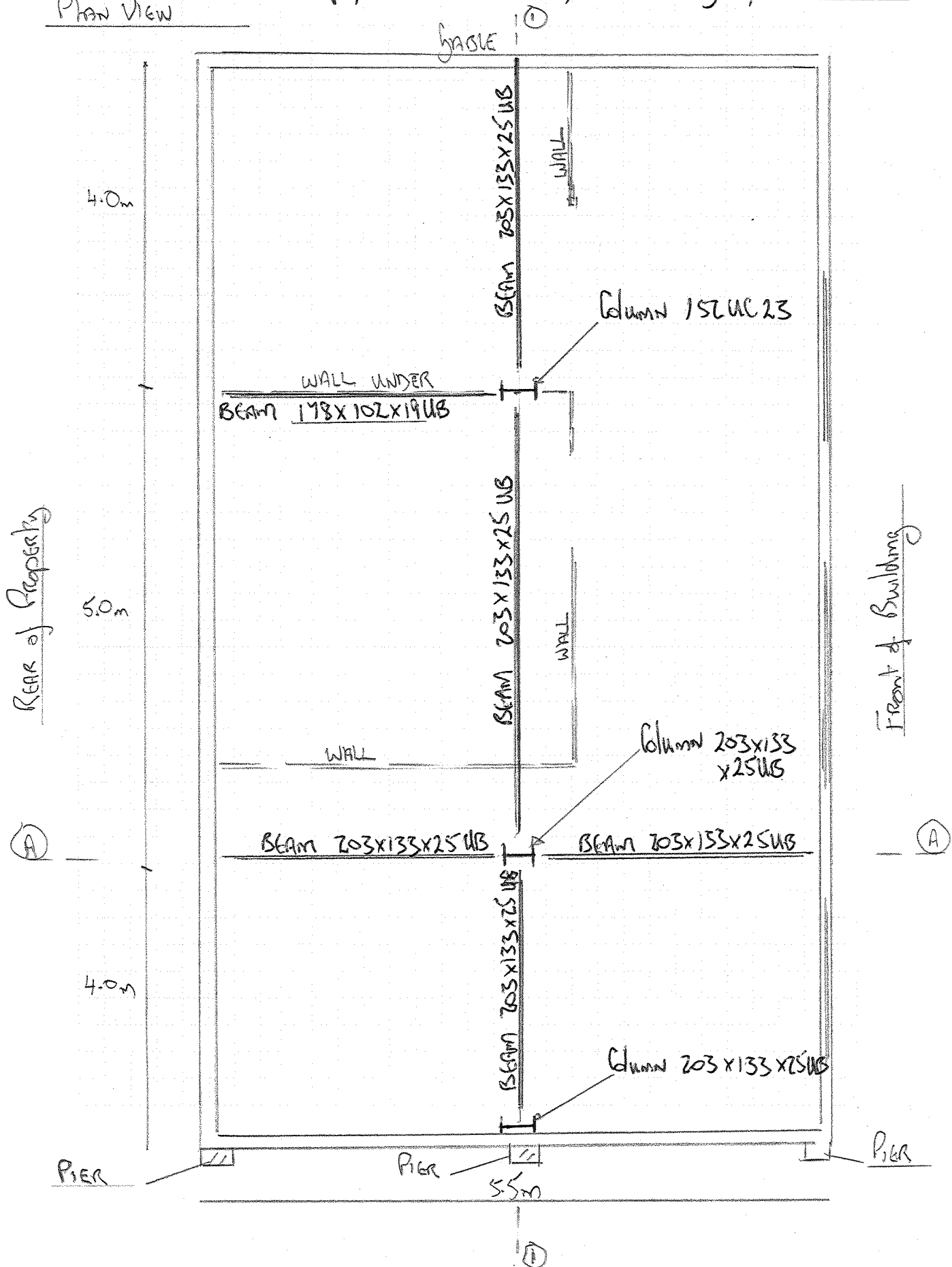
Regus, Conway House,
31 Worcester Street, Gloucester. GL1 3AJ
Tel. 07423493249
email: andrewduignan@adstructural.com
www.adstructural.com

Appendix B

STRUCTURAL CALCULATIONS

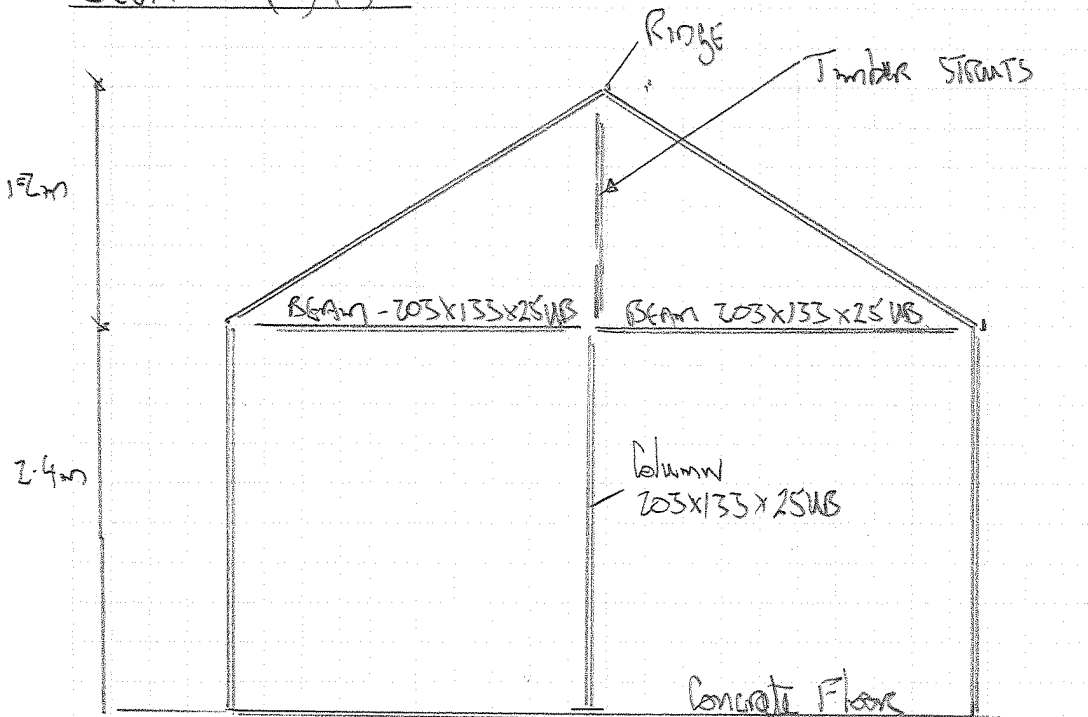
Andrew Duignan Consulting Engineers , Regus, Conway House, 31 Worcester Street, Gloucester. Tel: 07423493249	Project No: 25/6203	Sheet No: 1
	Engineer: AD	Revision:
	Date: 8/9/2025	Checked:
Project WEATHERSTAP, PARHAM LANE, NR DUNZES, WILTSHIRE		

Plan View



Andrew Duignan Consulting Engineers , Regus, Conway House, 31 Worcester Street, Gloucester. Tel: 07423493249	Project No: 25/6203	Sheet No: 2
	Engineer: AD	Revision:
	Date: 8/9/2025	Checked:
Project WEATHERTOP, PARHAM LANE, NR. DUNES.		

Section (A)-(A)



Andrew Duignan Consulting Engineers , Regus, Conway House, 31 Worcester Street, Gloucester. Tel: 07423493249	Project No: 25/6203	Sheet No: 3
	Engineer: AD	Revision:
	Date: 8/9/2025	Checked:
Project WEATHERTOP, PARKMAN LANE, NR DORSET		

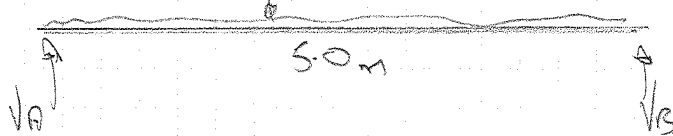
BEAM - LOADING
 - 203 x 133 x 25 UB

Lightweight STANDING
 SEAM SHEETING -
 Slope Load - 0.35 kN/m²

Insulation / Ceiling / Services
 Internal STUD PROP WALL

G_k - 2.75 kN/m
 Q_k - 2.58 kN/m

kN/m ²		Area m	kN/m	
G _k	Q _k		G _k	Q _k
0.39	0.150	3.44	1.34	2.58
0.20	0	3.44	0.69	0
0.6	0	11.12	0.72	0
			2.75	2.58



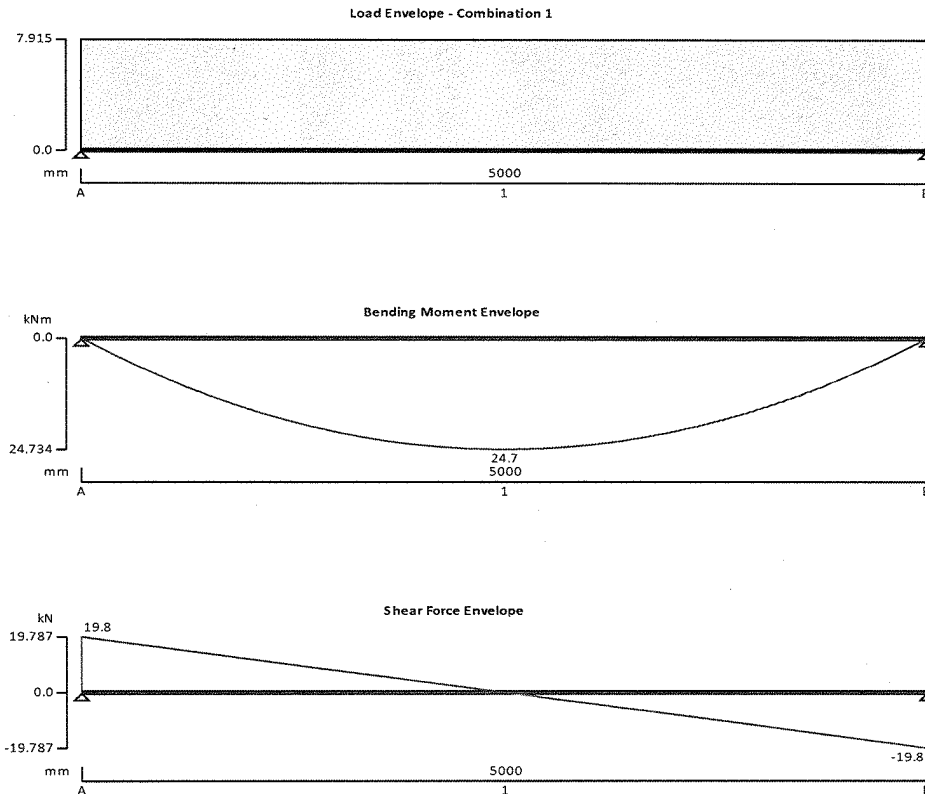
(BEAM 203 x 133 x 25 UB)

Tekla Tedds Andrew Duignan Consulting Engineers Corinium House, Corinium Avenue,	Project WEATHERTOP, PARHAM LANE, DEVIZES				Job no. 25/6203	
	Calcs for BEAM 1				Start page no./Revision 4	
	Calcs by AD	Calcs date 08/09/2025	Checked by	Checked date	Approved by	Approved date

STEEL BEAM ANALYSIS & DESIGN (EN1993-1-1:2005)

In accordance with EN1993-1-1:2005 incorporating Corrigenda February 2006 and April 2009 and the UK national annex

TEDDS calculation version 3.0.14



Support conditions

Support A

Vertically restrained

Rotationally free

Support B

Vertically restrained

Rotationally free

Applied loading

Beam loads

Permanent full UDL 2.75 kN/m

Variable full UDL 2.58 kN/m

Permanent self weight of beam $\times 1$

Load combinations

Load combination 1

Support A

Permanent $\times 1.35$

Variable $\times 1.50$

Permanent $\times 1.35$

Variable $\times 1.50$

Support B

Permanent $\times 1.35$

Variable $\times 1.50$

Project WEATHERTOP, PARHAM LANE, DEVIZES				Job no. 25/6203	
Calcs for BEAM 1				Start page no./Revision 5	
Calcs by AD	Calcs date 08/09/2025	Checked by	Checked date	Approved by	Approved date

Analysis results

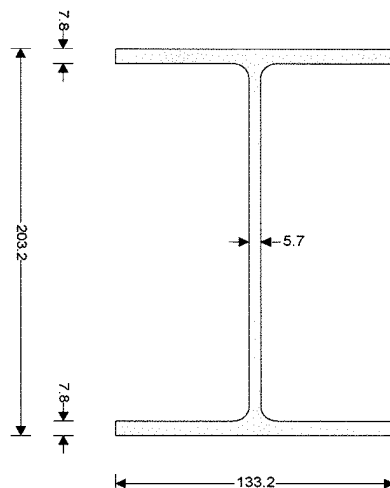
Maximum moment	$M_{max} = 24.7 \text{ kNm}$	$M_{min} = 0 \text{ kNm}$
Maximum shear	$V_{max} = 19.8 \text{ kN}$	$V_{min} = -19.8 \text{ kN}$
Deflection	$\delta_{max} = 9.2 \text{ mm}$	$\delta_{min} = 0 \text{ mm}$
Maximum reaction at support A	$R_{A_max} = 19.8 \text{ kN}$	$R_{A_min} = 19.8 \text{ kN}$
Unfactored permanent load reaction at support A	$R_{A_Permanent} = 7.5 \text{ kN}$	
Unfactored variable load reaction at support A	$R_{A_Variable} = 6.5 \text{ kN}$	
Maximum reaction at support B	$R_{B_max} = 19.8 \text{ kN}$	$R_{B_min} = 19.8 \text{ kN}$
Unfactored permanent load reaction at support B	$R_{B_Permanent} = 7.5 \text{ kN}$	
Unfactored variable load reaction at support B	$R_{B_Variable} = 6.5 \text{ kN}$	

Section details

Section type	UKB 203x133x25 (Tata Steel Advance)
Steel grade	S275

EN 10025-2:2004 - Hot rolled products of structural steels

Nominal thickness of element	$t = \max(t_r, t_w) = 7.8 \text{ mm}$
Nominal yield strength	$f_y = 275 \text{ N/mm}^2$
Nominal ultimate tensile strength	$f_u = 410 \text{ N/mm}^2$
Modulus of elasticity	$E = 210000 \text{ N/mm}^2$



Partial factors - Section 6.1

Resistance of cross-sections	$\gamma_{M0} = 1.00$
Resistance of members to instability	$\gamma_{M1} = 1.00$
Resistance of tensile members to fracture	$\gamma_{M2} = 1.10$

Lateral restraint

Span 1 has lateral restraint at supports only

Effective length factors

Effective length factor in major axis	$K_y = 1.000$
Effective length factor in minor axis	$K_z = 1.000$
Effective length factor for torsion	$K_{LT,A} = 1.000$
	$K_{LT,B} = 1.000$

Classification of cross sections - Section 5.5

$$\varepsilon = \sqrt{235 \text{ N/mm}^2 / f_y} = 0.92$$

 Tekla Tedds Andrew Duignan Consulting Engineers Corinium House, Corinium Avenue,	Project WEATHERTOP, PARHAM LANE, DEVIZES				Job no. 25/6203	
	Calcs for BEAM 1				Start page no./Revision 6	
	Calcs by AD	Calcs date 08/09/2025	Checked by	Checked date	Approved by	Approved date

Internal compression parts subject to bending - Table 5.2 (sheet 1 of 3)

Width of section $c = d = 172.4 \text{ mm}$
 $c / t_w = 32.7 \times \varepsilon \leq 72 \times \varepsilon$ Class 1

Outstand flanges - Table 5.2 (sheet 2 of 3)

Width of section $c = (b - t_w - 2 \times r) / 2 = 56.1 \text{ mm}$
 $c / t_f = 7.8 \times \varepsilon \leq 9 \times \varepsilon$ Class 1

Section is class 1

Check shear - Section 6.2.6

Height of web $h_w = h - 2 \times t_f = 187.6 \text{ mm}$
 Shear area factor $\eta = 1.000$
 $h_w / t_w < 72 \times \varepsilon / \eta$

Shear buckling resistance can be ignored

Design shear force $V_{Ed} = \max(\text{abs}(V_{max}), \text{abs}(V_{min})) = 19.8 \text{ kN}$
 Shear area - cl 6.2.6(3) $A_v = \max(A - 2 \times b \times t_f + (t_w + 2 \times r) \times t_f, \eta \times h_w \times t_w) = 1282 \text{ mm}^2$
 Design shear resistance - cl 6.2.6(2) $V_{c,Rd} = V_{pl,Rd} = A_v \times (f_y / \sqrt{3}) / \gamma_{M0} = 203.5 \text{ kN}$

PASS - Design shear resistance exceeds design shear force

Check bending moment major (y-y) axis - Section 6.2.5

Design bending moment $M_{Ed} = \max(\text{abs}(M_{s1_max}), \text{abs}(M_{s1_min})) = 24.7 \text{ kNm}$
 Design bending resistance moment - eq 6.13 $M_{c,Rd} = M_{pl,Rd} = W_{ply} \times f_y / \gamma_{M0} = 70.9 \text{ kNm}$

Slenderness ratio for lateral torsional buckling

Correction factor - Table 6.6 $k_c = 0.94$
 $C_1 = 1 / k_c^2 = 1.132$
 Curvature factor $g = \sqrt{[1 - (I_z / I_y)]} = 0.932$
 Poissons ratio $\nu = 0.3$
 Shear modulus $G = E / [2 \times (1 + \nu)] = 80769 \text{ N/mm}^2$
 Unrestrained length $L = 1.0 \times L_{s1} = 5000 \text{ mm}$
 Elastic critical buckling moment $M_{cr} = C_1 \times \pi^2 \times E \times I_z / (L^2 \times g) \times \sqrt{[I_w / I_z + L^2 \times G \times I_t / (\pi^2 \times E \times I_z)]} = 52.2 \text{ kNm}$

Slenderness ratio for lateral torsional buckling $\bar{\lambda}_{LT} = \sqrt{(W_{ply} \times f_y / M_{cr})} = 1.165$

Limiting slenderness ratio $\bar{\lambda}_{LT,0} = 0.4$

$\bar{\lambda}_{LT} > \bar{\lambda}_{LT,0}$ - Lateral torsional buckling cannot be ignored

Design resistance for buckling - Section 6.3.2.1

Buckling curve - Table 6.5 b
 Imperfection factor - Table 6.3 $\alpha_{LT} = 0.34$
 Correction factor for rolled sections $\beta = 0.75$
 LTB reduction determination factor $\phi_{LT} = 0.5 \times [1 + \alpha_{LT} \times (\bar{\lambda}_{LT} - \bar{\lambda}_{LT,0}) + \beta \times \bar{\lambda}_{LT}^2] = 1.139$
 LTB reduction factor - eq 6.57 $\chi_{LT} = \min(1 / [\phi_{LT} + \sqrt{(\phi_{LT}^2 - \beta \times \bar{\lambda}_{LT}^2)}], 1, 1 / \bar{\lambda}_{LT}^2) = 0.600$
 Modification factor $f = \min(1 - 0.5 \times (1 - k_c) \times [1 - 2 \times (\bar{\lambda}_{LT} - 0.8)^2], 1) = 0.978$
 Modified LTB reduction factor - eq 6.58 $\chi_{LT,mod} = \min(\chi_{LT} / f, 1) = 0.613$
 Design buckling resistance moment - eq 6.55 $M_{b,Rd} = \chi_{LT,mod} \times W_{ply} \times f_y / \gamma_{M1} = 43.5 \text{ kNm}$

PASS - Design buckling resistance moment exceeds design bending moment

Check vertical deflection - Section 7.2.1

Consider deflection due to permanent and variable loads

Limiting deflection $\delta_{lim} = L_{s1} / 360 = 13.9 \text{ mm}$

 Tekla Tedds Andrew Duignan Consulting Engineers Corinium House, Corinium Avenue,	Project				Job no.	
	WEATHERTOP, PARHAM LANE, DEVIZES				25/6203	
	Calcs for				Start page no./Revision	
	BEAM 1				7	
	Calcs by	Calcs date	Checked by	Checked date	Approved by	Approved date
	AD	08/09/2025				

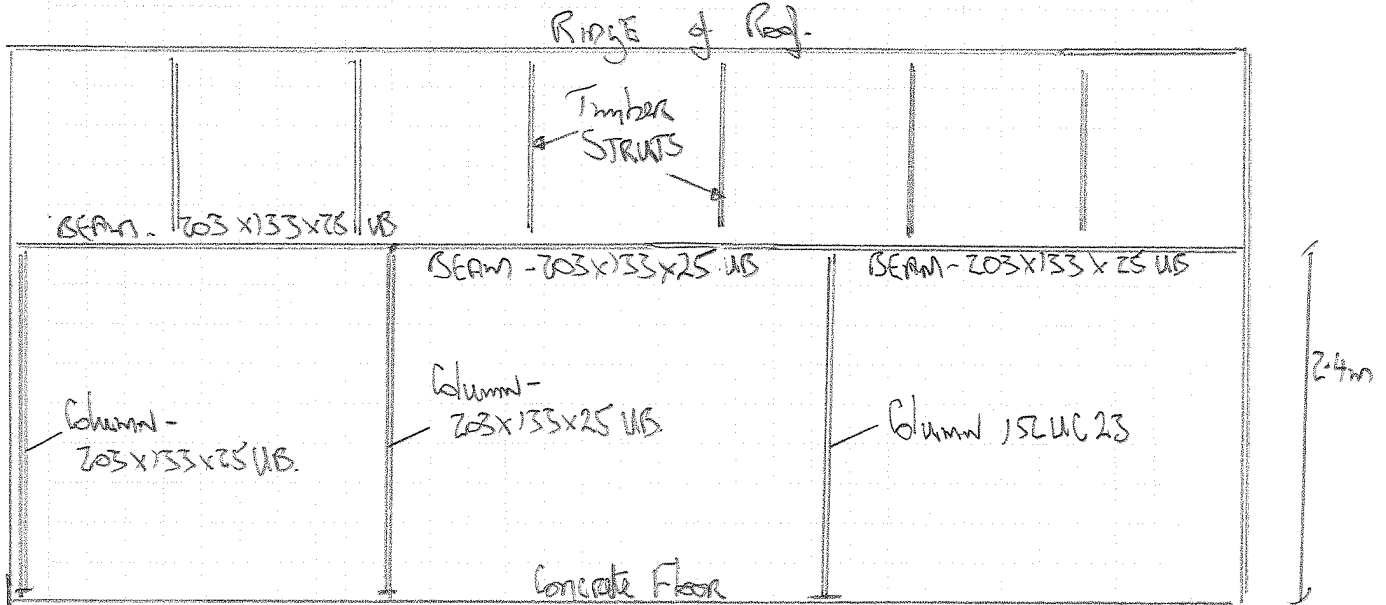
Maximum deflection span 1

$$\delta = \max(\text{abs}(\delta_{\max}), \text{abs}(\delta_{\min})) = \mathbf{9.234 \text{ mm}}$$

PASS - Maximum deflection does not exceed deflection limit

Andrew Duignan Consulting Engineers, Regus, Conway House, 31 Worcester Street, Gloucester. Tel: 07423493249	Project No: 25/6203	Sheet No: 8
	Engineer: AD	Revision:
	Date: 8/9/2025	Checked:
Project WEATHERTOP PARKHAM LANE, NR DORSET.		

FRAME Loading - SECTION 1-1



FRAME Loading

Light weight STANDING SEAM SHEETING

Insulation / Ceiling

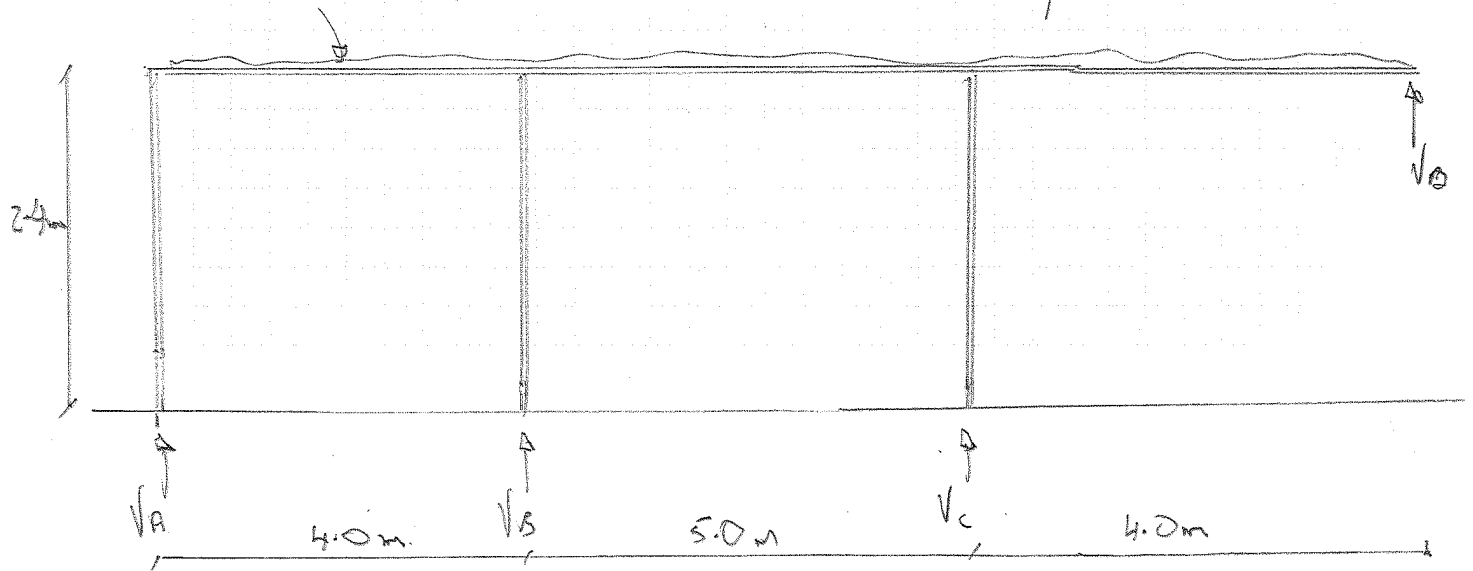
STUD WALL (Internal)
BEAM SELF WT

K/m ²		Area m ²	K/m	
G _k	Q _k		G _k	Q _k
0.39	0.50	3.44	1.34	2.58
0.20		3.44	0.69	
0.60		11.2	0.72	
0.25		1.0	0.25	
			3.0	2.58

$$\text{Loading @ ULS} - F_{ULS} = 1.35(3.0) + 1.5(2.58)$$

$$F_{ULS} = 7.92 \text{ K/m}$$

$$F_{ULS} = 7.92 \text{ K/m}$$



LinPro 2.7

File: D:\Jobs 2025\25_6203 Weathertop, Devizes\Calculations\Frame Analysis.aln

Units: kN-m

Input Data

Coordinates of joints/supports

Joint	X	Y	Rx	Ry	Rt
0:	0.00	0.00	1	1	0
1:	0.00	2.40	0	0	0
2:	4.00	0.00	0	1	0
3:	4.00	2.40	0	0	0
4:	9.00	2.40	0	0	0
5:	9.00	0.00	0	1	0
6:	13.00	2.40	1	1	0

Members

Member	Joint I	Joint J	Type	Releases
0:	0	1	203 X 133 X25UB	111110 NOT FIXED
1:	1	3	203 X 133 X25UB	111111
2:	3	4	203 X 133 X25UB	110110 NOT FIXED
3:	4	6	203 X 133 X25UB	111111
4:	2	3	203 X 133 X25UB	111111
5:	5	4	152 UC 23	111111

Cross Sections

0: TYPE1
A= 1.000E-02
I= 1.000E-04
E= 200000000.00
alpha= 1.2E-05

1: 203 X 133 X25UB
A= 3.200E-03
I= 3.415E-05
E= 200000000.00
alpha= 1.2E-05

2: 152 UC 23
A= 2.920E-03
I= 1.250E-05
E= 200000000.00
alpha= 1.2E-05

Load

0: Distributed Load
Load Case: CASE1
Load Name: Distributed
Coordinate System: Global Y
a= 0.00
b= 1.00 On Member
p1= -7.92
p2= -7.92

Load Applied on Joints

Joint	Applied Loads
-------	---------------

Load Applied on Members

Member	Applied Loads
1:	0
2:	0
3:	0

Load Cases

0: CASE1

Load Combinations

Masses

Masses Applied on Joints

Joint Applied Masses

Static Analysis Results

Load Case: CASE1

Displacements of joints

Joint	X	Y	fi
0	0.000000	0.000000	0.000000
1	0.000000	-0.000059	-0.003111
2	0.007377	0.000000	0.003074
3	0.000000	-0.000134	0.003074
4	0.000000	-0.000146	-0.003056
5	-0.007333	0.000000	-0.003056
6	0.000000	0.000000	0.003129

Reactions

Joint	Rx	Ry	M
0	0.000000	15.840000	0.000000
2	0.000000	35.640000	0.000000
5	0.000000	35.640000	0.000000
6	0.000000	15.840000	0.000000

Displacements and forces on members ends

Memb:0				
	Joint	X	Y	fi
	0	0.000000	0.000000	0.000000
	1	0.000000	-0.000059	0.000000
		Axial	Shear	Moment
	0	-15.840000	0.000000	0.000000
	1	-15.840000	0.000000	0.000000
Memb:1				
	Joint	X	Y	fi
	1	0.000000	-0.000059	-0.003111
	3	0.000000	-0.000134	0.003074
		Axial	Shear	Moment
	1	0.000000	-15.840000	0.000000
	3	0.000000	15.840000	0.000000
Memb:2				
	Joint	X	Y	fi
	3	0.000000	-0.000134	-0.006042
	4	0.000000	-0.000146	0.006037
		Axial	Shear	Moment
	3	0.000000	-19.800000	0.000000
	4	0.000000	19.800000	0.000000
Memb:3				
	Joint	X	Y	fi
	4	0.000000	-0.000146	-0.003056
	6	0.000000	0.000000	0.003129
		Axial	Shear	Moment
	4	0.000000	-15.840000	0.000000
	6	0.000000	15.840000	0.000000
Memb:4				
	Joint	X	Y	fi
	2	0.007377	0.000000	0.003074
	3	0.000000	-0.000134	0.003074
		Axial	Shear	Moment
	2	-35.640000	0.000000	0.000000
	3	-35.640000	0.000000	0.000000
Memb:5				
	Joint	X	Y	fi
	5	-0.007333	0.000000	-0.003056
	4	0.000000	-0.000146	-0.003056
		Axial	Shear	Moment
	5	-35.640000	0.000000	0.000000
	4	-35.640000	0.000000	0.000000

Displacements and forces along members

Memb:0				
	d(x)	X	Y	fi
	0.000	0.000000	0.000000	0.000000
	0.240	-0.000006	0.000000	0.000000
	0.480	-0.000012	0.000000	0.000000
	0.720	-0.000018	0.000000	0.000000
	0.960	-0.000024	0.000000	0.000000
	1.200	-0.000030	0.000000	0.000000

	1.440	-0.000036	0.000000	0.000000
	1.680	-0.000042	0.000000	0.000000
	1.920	-0.000048	0.000000	0.000000
	2.160	-0.000053	0.000000	0.000000
	2.400	-0.000059	0.000000	0.000000
	d(x)	Axial	Shear	Moment
	0.000	-15.840000	0.000000	0.000000
	0.240	-15.840000	0.000000	0.000000
	0.480	-15.840000	0.000000	0.000000
	0.720	-15.840000	0.000000	0.000000
	0.960	-15.840000	0.000000	0.000000
	1.200	-15.840000	0.000000	0.000000
	1.440	-15.840000	0.000000	0.000000
	1.680	-15.840000	0.000000	0.000000
	1.920	-15.840000	0.000000	0.000000
	2.160	-15.840000	0.000000	0.000000
	2.400	-15.840000	0.000000	0.000000
Memb : 1	d(x)	X	Y	fi
	0.000	0.000000	-0.000059	-0.003111
	0.400	0.000000	-0.001280	-0.002938
	0.800	0.000000	-0.002370	-0.002468
	1.200	0.000000	-0.003225	-0.001775
	1.600	0.000000	-0.003770	-0.000934
	2.000	0.000000	-0.003962	-0.000019
	2.400	0.000000	-0.003785	0.000897
	2.800	0.000000	-0.003254	0.001738
	3.200	0.000000	-0.002414	0.002430
	3.600	0.000000	-0.001340	0.002901
	4.000	0.000000	-0.000134	0.003074
	d(x)	Axial	Shear	Moment
	0.000	0.000000	-15.840000	0.000000
	0.400	0.000000	-12.672000	5.702400
	0.800	0.000000	-9.504000	10.137600
	1.200	0.000000	-6.336000	13.305600
	1.600	0.000000	-3.168000	15.206400
	2.000	0.000000	0.000000	15.840000
	2.400	0.000000	3.168000	15.206400
	2.800	0.000000	6.336000	13.305600
	3.200	0.000000	9.504000	10.137600
	3.600	0.000000	12.672000	5.702400
	4.000	0.000000	15.840000	0.000000
Memb : 2	d(x)	X	Y	fi
	0.000	0.000000	-0.000134	-0.006042
	0.500	0.000000	-0.003097	-0.005704
	1.000	0.000000	-0.005741	-0.004786
	1.500	0.000000	-0.007811	-0.003433
	2.000	0.000000	-0.009126	-0.001790
	2.500	0.000000	-0.009577	-0.000003
	3.000	0.000000	-0.009128	0.001785
	3.500	0.000000	-0.007816	0.003428
	4.000	0.000000	-0.005749	0.004781
	4.500	0.000000	-0.003108	0.005699
	5.000	0.000000	-0.000146	0.006037
	d(x)	Axial	Shear	Moment
	0.000	0.000000	-19.800000	0.000000
	0.500	0.000000	-15.840000	8.910000
	1.000	0.000000	-11.880000	15.840000
	1.500	0.000000	-7.920000	20.790000
	2.000	0.000000	-3.960000	23.760000
	2.500	0.000000	0.000000	24.750000
	3.000	0.000000	3.960000	23.760000
	3.500	0.000000	7.920000	20.790000
	4.000	0.000000	11.880000	15.840000
	4.500	0.000000	15.840000	8.910000
	5.000	0.000000	19.800000	0.000000
Memb : 3	d(x)	X	Y	fi
	0.000	0.000000	-0.000146	-0.003056
	0.400	0.000000	-0.001345	-0.002882
	0.800	0.000000	-0.002413	-0.002412
	1.200	0.000000	-0.003245	-0.001720
	1.600	0.000000	-0.003769	-0.000879
	2.000	0.000000	-0.003939	0.000037
	2.400	0.000000	-0.003740	0.000952
	2.800	0.000000	-0.003187	0.001793
	3.200	0.000000	-0.002325	0.002486
	3.600	0.000000	-0.001228	0.002956
	4.000	0.000000	0.000000	0.003129
	d(x)	Axial	Shear	Moment
	0.000	0.000000	-15.840000	0.000000

	0.400	0.000000	-12.672000	5.702400
	0.800	0.000000	-9.504000	10.137600
	1.200	0.000000	-6.336000	13.305600
	1.600	0.000000	-3.168000	15.206400
	2.000	0.000000	0.000000	15.840000
	2.400	0.000000	3.168000	15.206400
	2.800	0.000000	6.336000	13.305600
	3.200	0.000000	9.504000	10.137600
	3.600	0.000000	12.672000	5.702400
	4.000	0.000000	15.840000	0.000000
Memb : 4	d(x)	X	Y	fi
	0.000	0.000000	-0.007377	0.003074
	0.240	-0.000013	-0.006639	0.003074
	0.480	-0.000027	-0.005901	0.003074
	0.720	-0.000040	-0.005164	0.003074
	0.960	-0.000053	-0.004426	0.003074
	1.200	-0.000067	-0.003688	0.003074
	1.440	-0.000080	-0.002951	0.003074
	1.680	-0.000094	-0.002213	0.003074
	1.920	-0.000107	-0.001475	0.003074
	2.160	-0.000120	-0.000738	0.003074
	2.400	-0.000134	0.000000	0.003074
	d(x)	Axial	Shear	Moment
	0.000	-35.640000	0.000000	0.000000
	0.240	-35.640000	0.000000	0.000000
	0.480	-35.640000	0.000000	0.000000
	0.720	-35.640000	0.000000	0.000000
	0.960	-35.640000	0.000000	0.000000
	1.200	-35.640000	0.000000	0.000000
	1.440	-35.640000	0.000000	0.000000
	1.680	-35.640000	0.000000	0.000000
	1.920	-35.640000	0.000000	0.000000
	2.160	-35.640000	0.000000	0.000000
	2.400	-35.640000	0.000000	0.000000
Memb : 5	d(x)	X	Y	fi
	0.000	0.000000	0.007333	-0.003056
	0.240	-0.000015	0.006600	-0.003056
	0.480	-0.000029	0.005867	-0.003056
	0.720	-0.000044	0.005133	-0.003056
	0.960	-0.000059	0.004400	-0.003056
	1.200	-0.000073	0.003667	-0.003056
	1.440	-0.000088	0.002933	-0.003056
	1.680	-0.000103	0.002200	-0.003056
	1.920	-0.000117	0.001467	-0.003056
	2.160	-0.000132	0.000733	-0.003056
	2.400	-0.000146	0.000000	-0.003056
	d(x)	Axial	Shear	Moment
	0.000	-35.640000	0.000000	0.000000
	0.240	-35.640000	0.000000	0.000000
	0.480	-35.640000	0.000000	0.000000
	0.720	-35.640000	0.000000	0.000000
	0.960	-35.640000	0.000000	0.000000
	1.200	-35.640000	0.000000	0.000000
	1.440	-35.640000	0.000000	0.000000
	1.680	-35.640000	0.000000	0.000000
	1.920	-35.640000	0.000000	0.000000
	2.160	-35.640000	0.000000	0.000000
	2.400	-35.640000	0.000000	0.000000

