

1 Scope of Project

This polarizing beamsplitter is to be used in the Prime Focus Imaging Spectrograph on the Southern African Large Telescope (SALT).

2 Physical specifications

The polarizing beamsplitter shall be a mosaic of 9 identical calcite Wollaston beamsplitters, mounted in a customer-supplied holder. (see drawings)

Physical:

Total clear aperture: 183 mm (direction of splitting) _____
 214 mm (perpendicular to splitting) _____

Elements:

dimensions: 62 x 73 ± 0.1 mm _____
 crystal axis: ± 0.1° to prism axis _____
 prism angle: 14.3 ± 0.2° _____
 splitting plane Aligned to edges within ± 0.2° _____
 surfaces: 1/2 λ at 630 nm, 60/40 scratch/dig _____
 wedge: < 6 arcmin _____
 bevel: < 1 mm 45° bevel _____

Mosaic matching and alignment

prism angle: elements matched to < 1 arcmin _____
 splitting plane: elements matched to < 4 arcmin _____
 wedge: elements matched to 0.25 arcmin _____

Optical:

Prism coupling customer-supplied Dow Corning Q2-2037 coupling grease _____
 Internal Transmission: > 65% (320 nm), > 75% (628 nm) (mean over each element) _____
 Coating: All external surfaces shall have reflectivity < 2% for 320 - 900 nm
 and < 1% 360 - 700 _____

3 Documentation Summary

Document Calcite material internal transmission at 320 and 628 nm _____
 Document wedge and prism angle of each mosaic element to 0.25 arcmin _____
 Document alignment of mosaic element optic axes after assembly _____

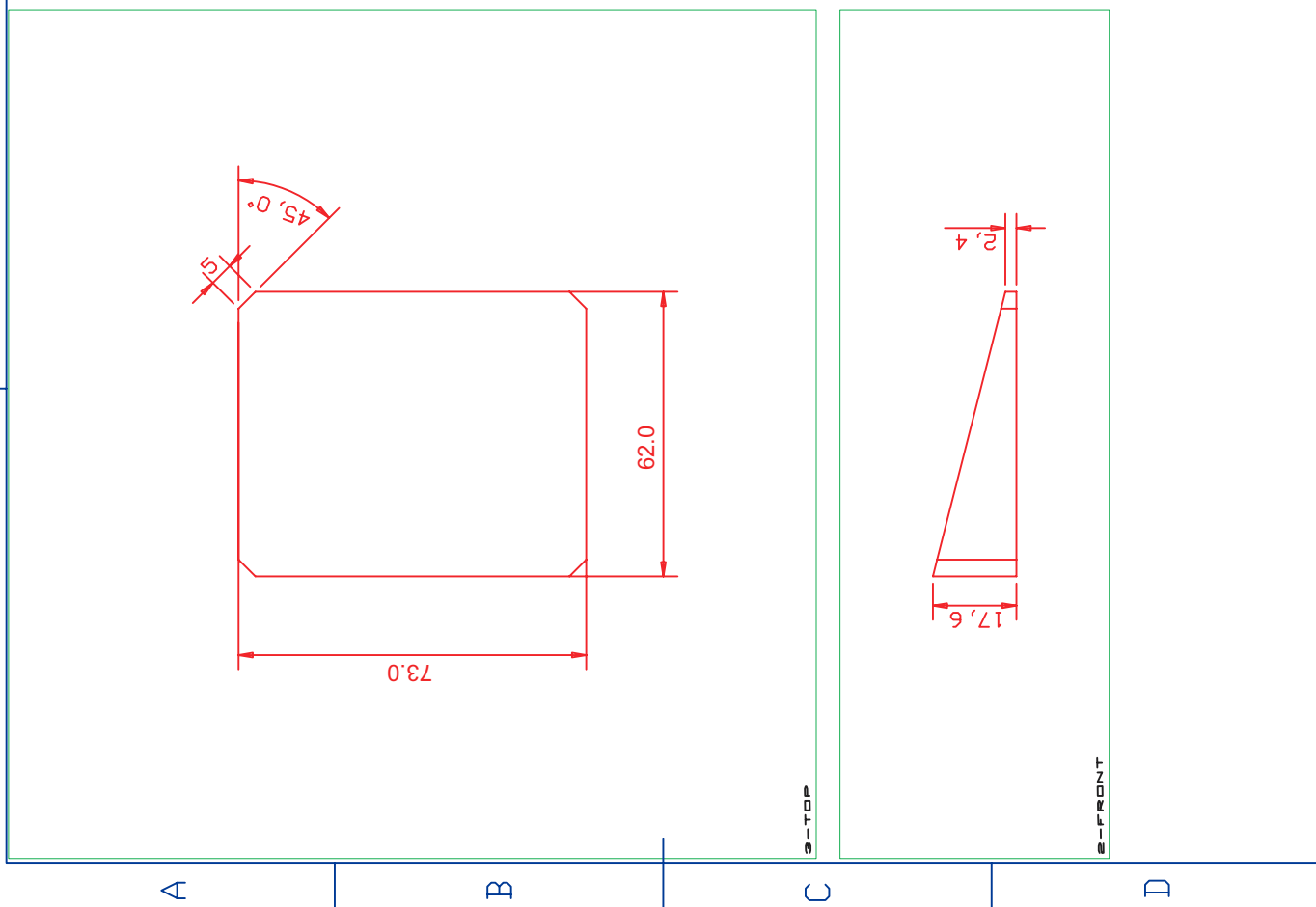
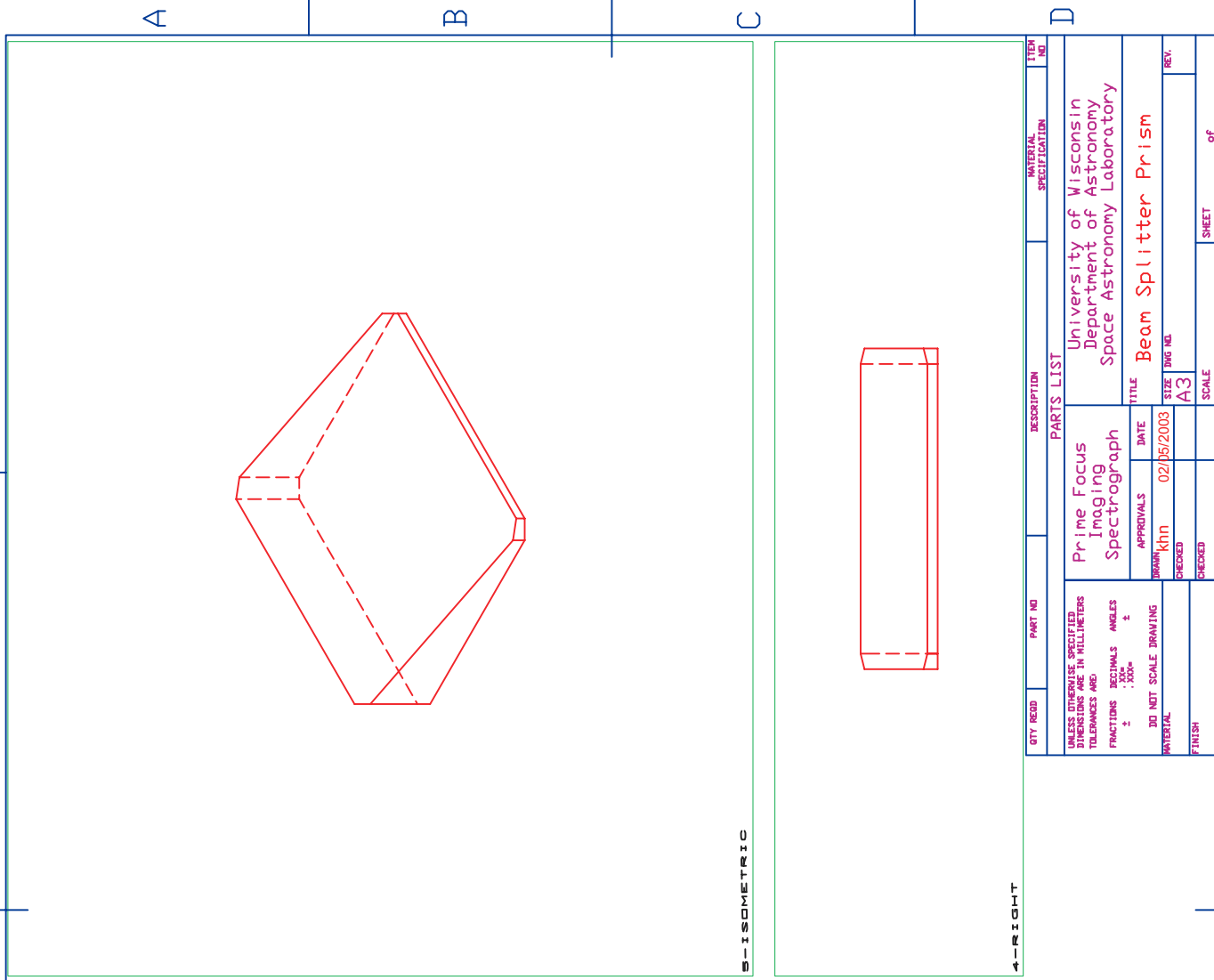
4 Delivery

Delivery is desired on or before 30 weeks ARO. Please state in itemized Bid List when delivery will be made. Timeliness of delivery may be used in evaluation for bid award. Order will be made between 1 and 15 April, 2003.

5 Itemized Bid List

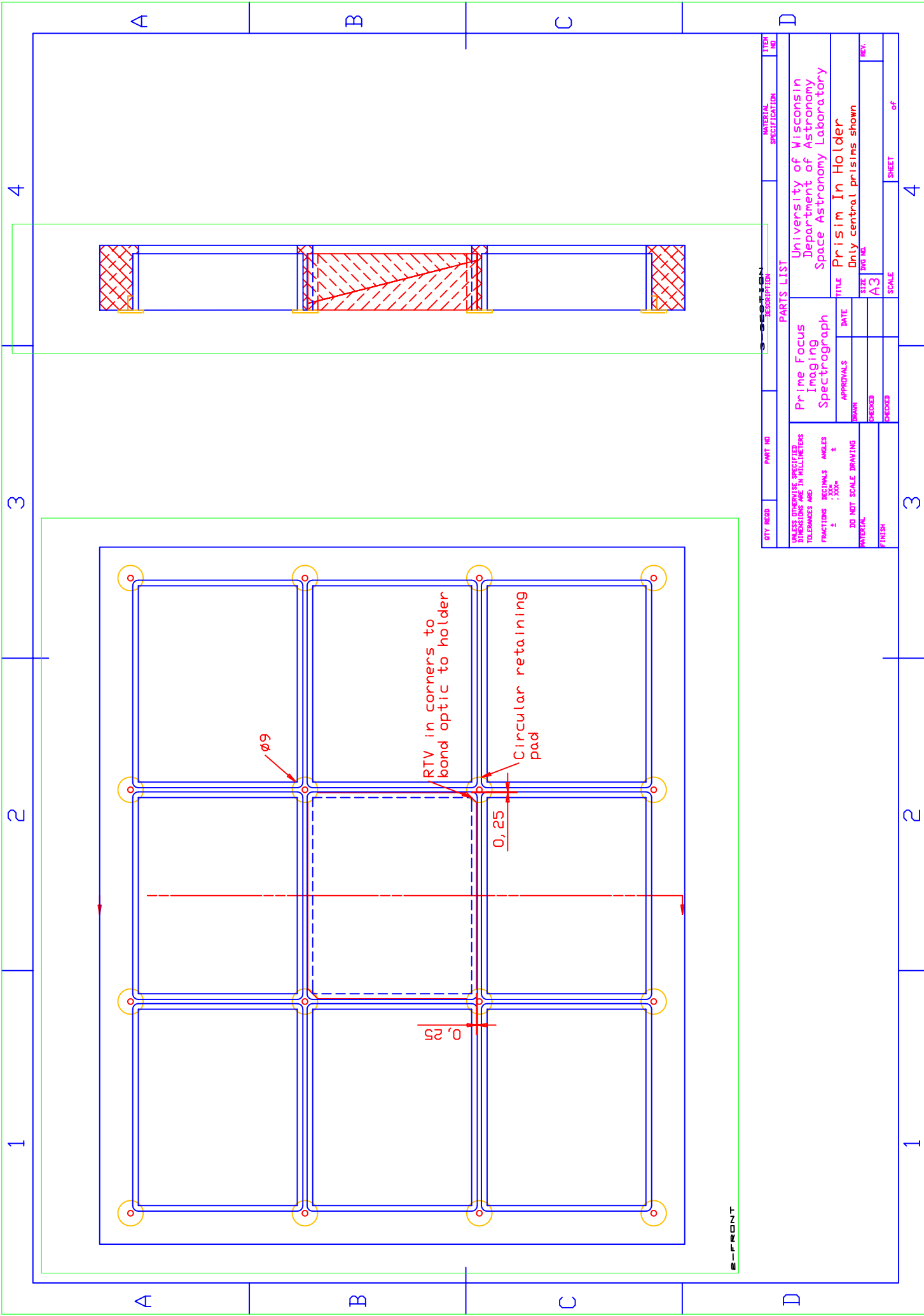
Item	Quantity	Description	Price
1	1	Polarizing Beamsplitter array Delivery: _____ weeks (ARO)	\$_____

1 2 3 4

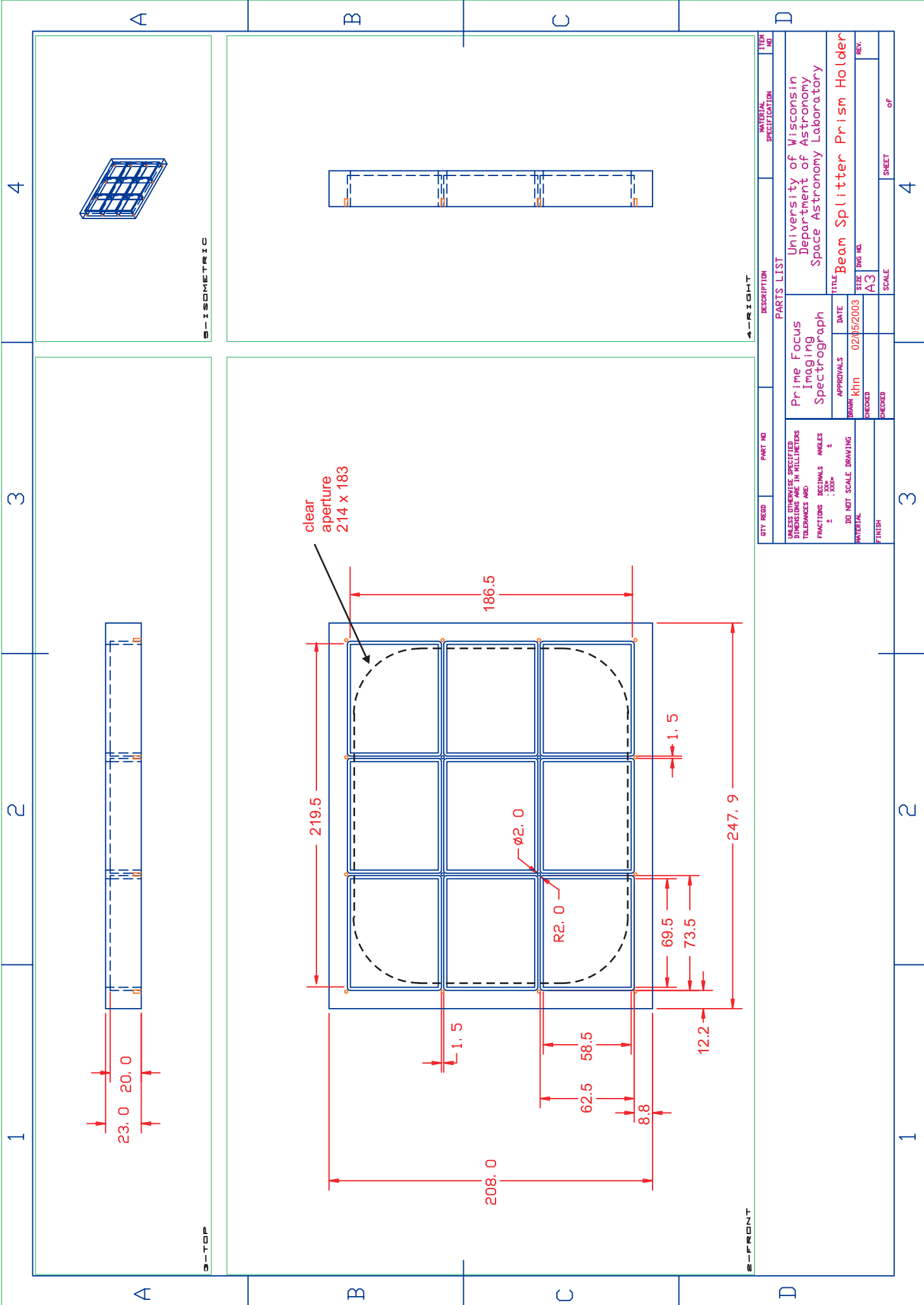


CITY RESID	PART NO	DESCRIPTION	MATERIAL SPECIFICATION	SHEET NO
		PRIME FOCUS IMAGING SPECTROGRAPH	UNIVERSITY OF WISCONSIN DEPARTMENT OF ASTRONOMY SPACE ASTRONOMY LABORATORY	4
		APPROVALS	TITLE	
		DATE	Beam Splitter Prism	
		02/05/2003		
			SIZE	
			A3	
			SCALE	
				4
				of

1 2 3 4



QTY REQD	PART NO	DESCRIPTION	MATERIAL SPECIFICATION	ITEM NO
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS TOLERANCES ARE:				
FRACTIONS	DECIMALS	ANGLES		
±	.XXX	±		
DO NOT SCALE DRAWING				
FINISH				
UNIVERSITY OF WISCONSIN Department of Astronomy Space Astronomy Laboratory				
TITLE Prism In Holder				
APPROVALS	DATE	DRAWN		
CHECKED		REV.		
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QTY REQD	PART NO	DESCRIPTION	MATERIAL SPECIFICATION	ITER NO
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS TOLERANCES ARE:		Prime Focus Imaging Spectrograph		
FRACTIONS	DECIMALS	ANGLES	University of Wisconsin in Department of Astronomy Space Astronomy Laboratory	
$\frac{1}{2}$.200	\pm	TITLE: Beam Splitter Prism Holder	
DO NOT SCALE DRAWING		APPROVALS	DATE	SIZE
		khn	02/05/2003	A3
MATERIAL		DRAWN	CHKD	REV.
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