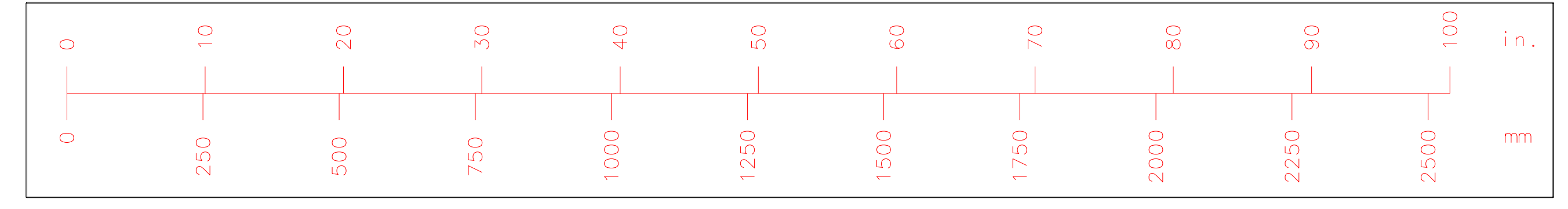


OPTICAL LAYOUT: 40m RECYCLING EXPERIMENT



NOTES:

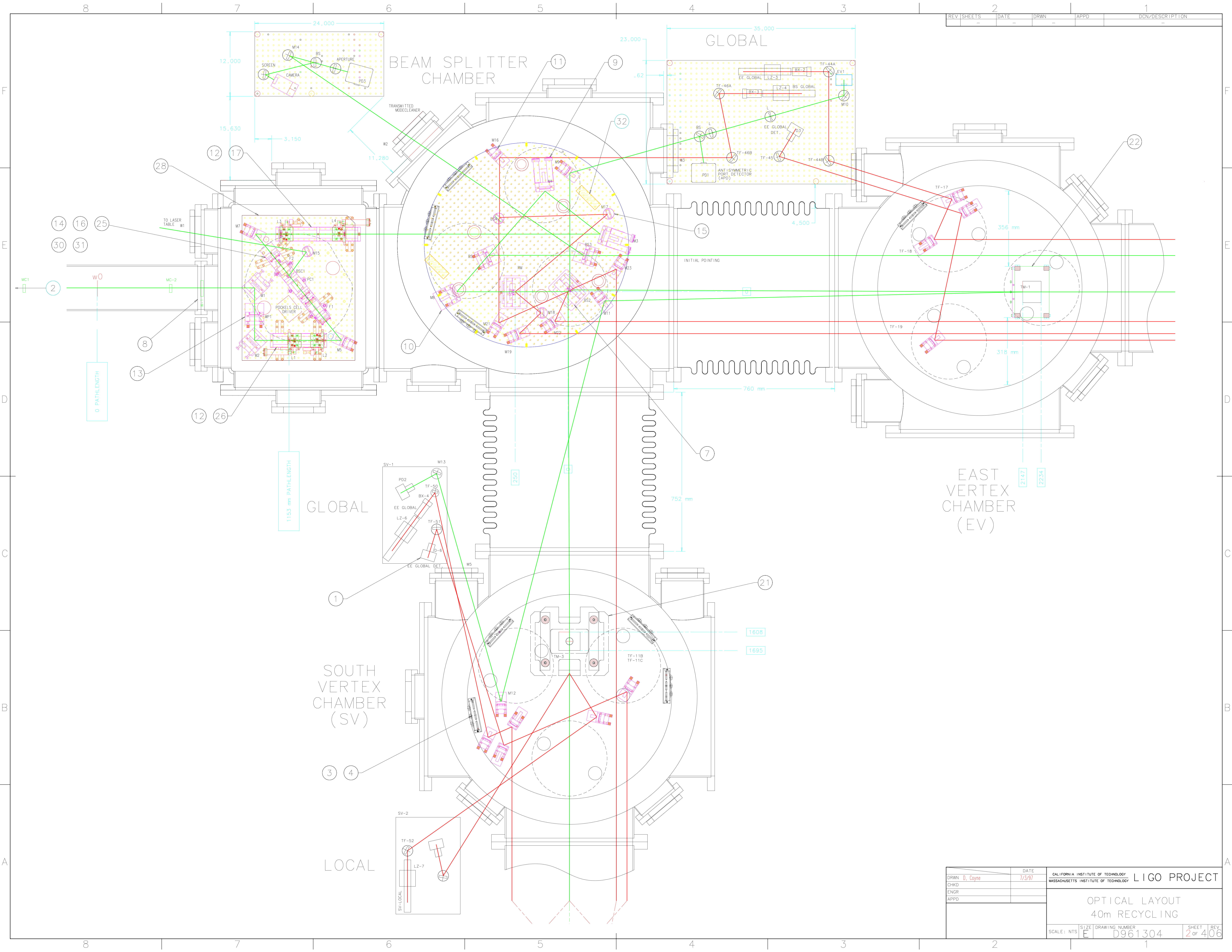
- (1) Dimensions are in mm unless otherwise noted.
- (2) The location of the recycling optics relative to the BSC and side chamber optical table hole pattern is approximate ($\pm 0.25^\circ$) and should be revised after the BS is aligned to the Fabry-Perot cavities. The placement of the optics for the recycling configuration is based upon Nov 96 measurements of the Michelson arm lengths, the 12/15/96 measurement of the locations of the ITMs relative to the optical tables (in the direction transverse to the beam) and the assumption that the two Fabry-Perot arms and the vacuum chambers are perfectly aligned at 90 degrees (i.e. no survey of chamber positioning was performed).
- (3) The optical ray tracing does not include shifts (& tilts) due to refraction through the vacuum chamber (wedged) windows.
- (4) The core optics (Recycling Mirror (RM), BeamSplitter (BS), Input Test Masses (ITM) and End Test Masses (ETM)) all have 0.5 degree wedge angles oriented in the horizontal plane as indicated below:

- (5) The parts list has not been reviewed and may be incomplete.
- (6) The nomenclature for parts labeling has not been made uniform in all documentation.
- (7) Viewport cameras are not shown.
- (8) Table weights (item 23) and clamp dogs (item 27) are not shown.
- (9) The Pre-Stabilized Laser (PSL) Assy (item 2) is not shown.

SEE SEPARATE PARTS LIST (D96XXXX) FOR OPTICAL ELEMENTS

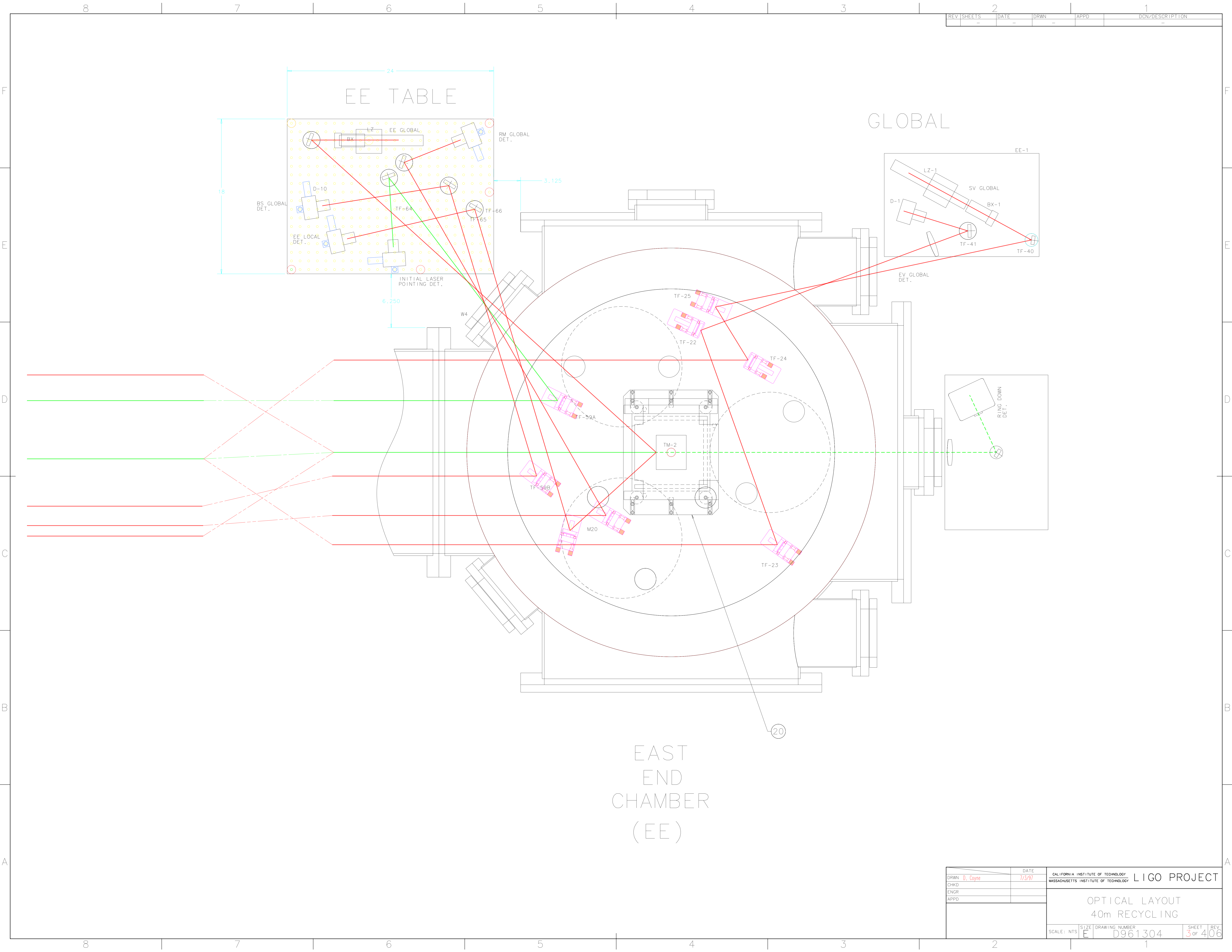
QTY	REQD	DRAWING NO.	DESCRIPTION	MATERIAL SPECIFICATION	ITEM NO.
2	TBD		CABLE BRACKET FOR KAPTON CABLING		32
2	1205044		WAVE PLATE ASSY.		31
1			FARADAY ROTATOR ASSY. (new)		30
5	1202080		SEISMIC ISOLATION STACK		29
1	1205452		ISOLATION STACK ASSY., SIDE CHAMBER		28
AR	1205059		(MODIFIED) DOG CLAMPS		27
1	D960447-2		RAIL ASSY.		26
1	D960447-1		RAIL ASSY.		25
					24
AR	1205087		TABLE WEIGHTS		23
1	D950104		EAST VERTEX TEST MASS ASSY.		22
1	1205081-1		SOUTH VERTEX TEST MASS ASSY.		21
1	1205061-2		EAST END TEST MASS ASSY.		20
1	1205061-1		SOUTH END TEST MASS ASSY.		19
10	1205058		TABLE, OUTSIDE CHAMBER		18
1	1205052-2		RAIL ASSY.		17
1	1205049		POCKET CELL ASSY.		16
4	1205048		1.5" MIRROR MOUNT, NON-ADJUSTABLE		15
1	1205045		FARADAY ROTATOR ASSY. (old)		14
1	1205044mod		WAVE PLATE ASSY. (modified)		13
4	1205039		LENS CARRIAGE ASSY. (2 w/ motor mike & 2 w/ screw adj.)		12
31	1205031-3		1.5" MIRROR MOUNT, SCREW ADJ.		11
5	1205031-2		2" MIRROR MOUNT, SCREW ADJ.		10
2	1205031-1		2" MIRROR MOUNT, W/MOTOR MIKE		9
1	1205030		VAC. WINDOW ASSY., MODE CLEANER		8
2	D960001		SMALL OPTICS SUSPENSION (SOS) ASSY.		7
	1205017-4		LEMO CONNECTOR ASSY., STACK		6
	1205017-3		LEMO CONNECTOR BRACKET, TABLE		5
	1205017-2		*D" CONNECTOR ASSY., STACK		4
	1205017-1		*D" CONNECTOR ASSY., TABLE		3
1			PRE-STABILIZED LASER (PSL)		2
10	1205003		QUAD DETECTOR ASSY.		1

REV	SHEETS	DATE	DRWN	APPD	DCN/DESCRIPTION
-	-	-	-	-	-



DRWN	D. Coyne	DATE	7/3/97	CALIFORNIA INSTITUTE OF TECHNOLOGY LIGO PROJECT	
CHKD				MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
ENGR				OPTICAL LAYOUT	
APPD				40m RECYCLING	
SCALE: NTS		SIZE	DRAWING NUMBER	SHEET	REV
		E	D961304	2	OF 406

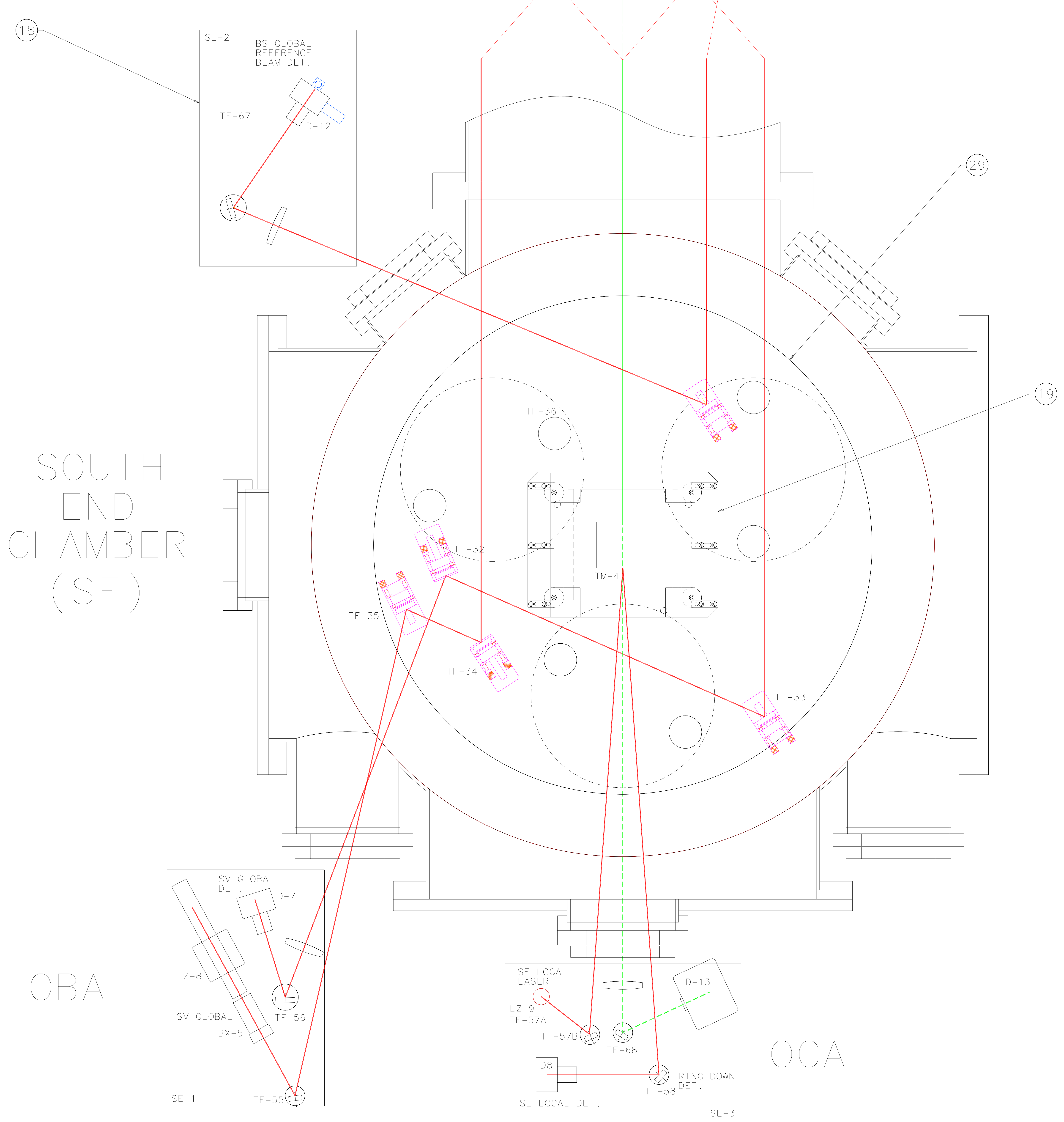
REV	SHEETS	DATE	DRWN	APPD	DCN/DESCRIPTION
-	-	-	-	-	-



EAST
END
CHAMBER
(EE)

DRWN	D. Coyne	DATE	7/3/97	CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY LIGO PROJECT	
CHKD					
ENGR					
APPD					
OPTICAL LAYOUT 40m RECYCLING				SHEET 3 OF 406 REV.	
SCALE	NTS	SIZE	E		DRAWING NUMBER

REV	SHEETS	DATE	DRWN	APPD	DCN/DESCRIPTION
-	-	-	-	-	-



SOUTH
END
CHAMBER
(SE)

GLOBAL

LOCAL

DRWN	D. Coyne	DATE	7/3/97	CALIFORNIA INSTITUTE OF TECHNOLOGY	LIGO PROJECT
CHKD				MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
ENGR				OPTICAL LAYOUT 40m RECYCLING	
APPD					
SCALE	NTS	SIZE	E	DRAWING NUMBER	D961304
				SHEET	4 OF 406