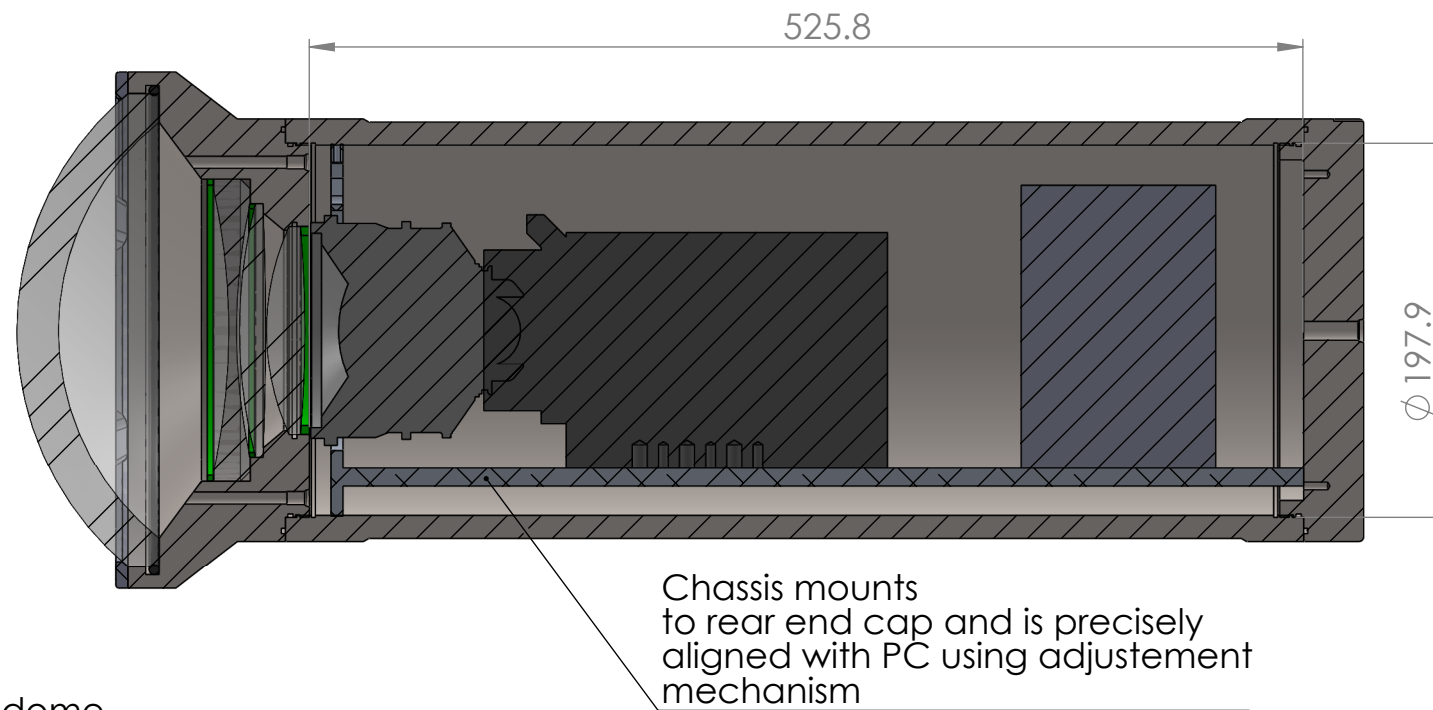
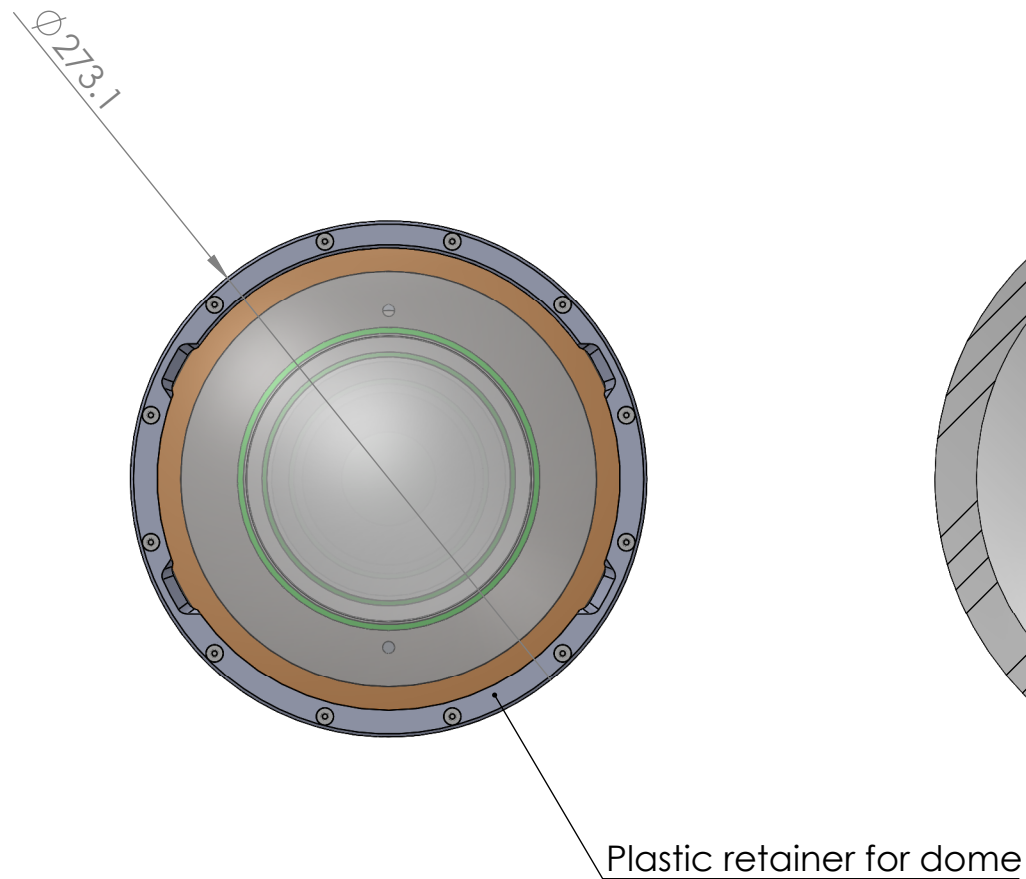
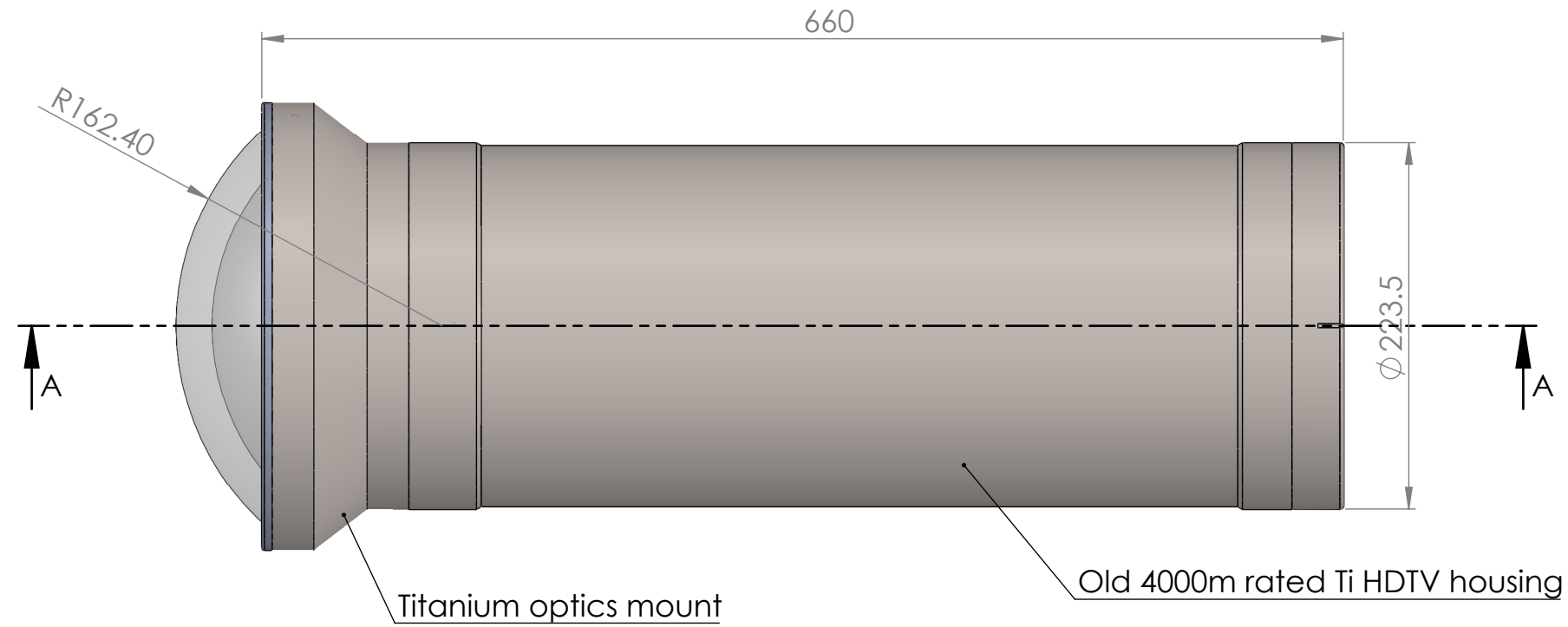
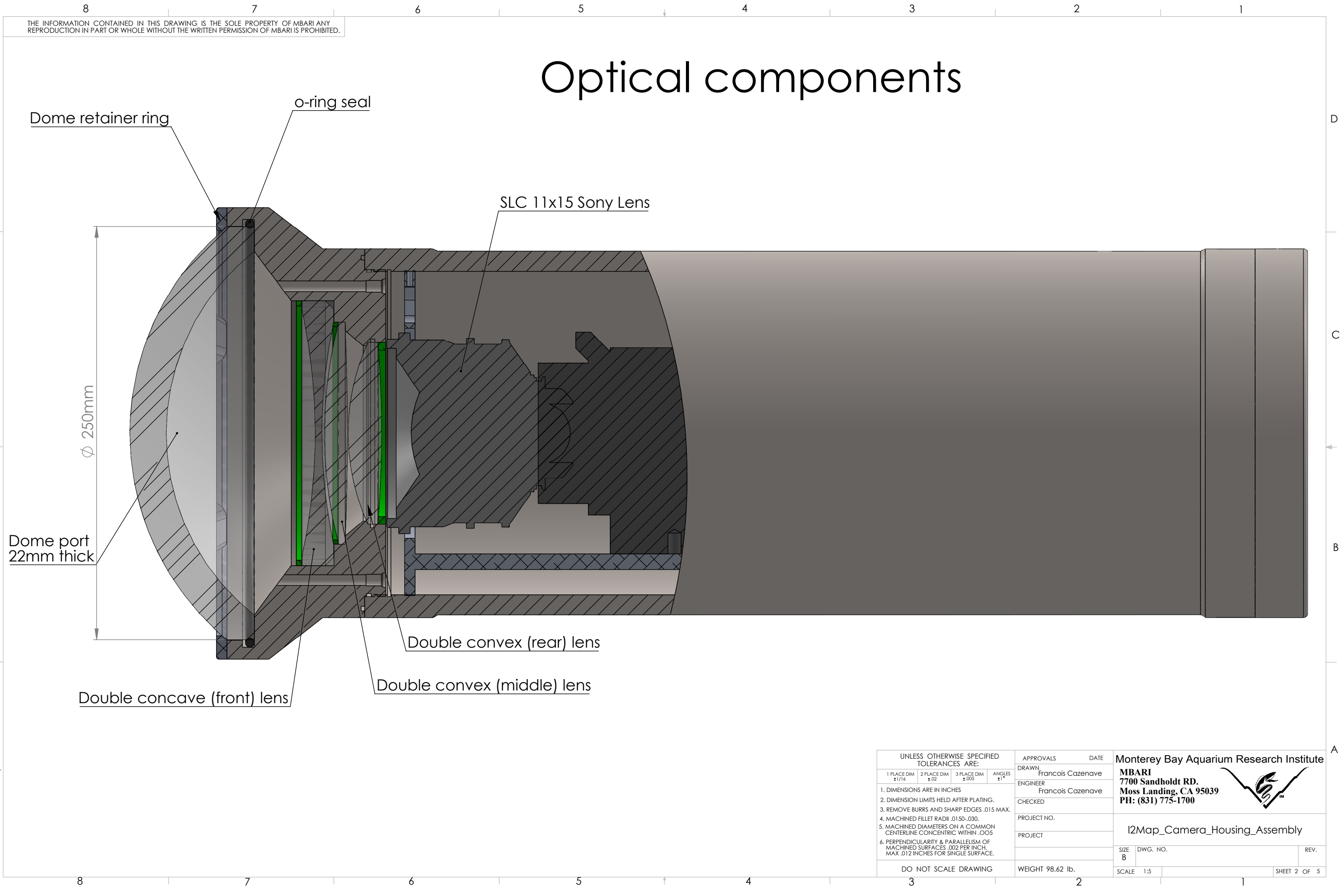


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SECTION A-A
SCALE 1 : 4

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				APPROVALS	DATE	Monterey Bay Aquarium Research Institute MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700		
1 PLACE DIM $\pm 1/16$	2 PLACE DIM $\pm .02$	3 PLACE DIM $\pm .005$	ANGLES $\pm 1^\circ$	DRAWN Francois Cazenave				
1. DIMENSIONS ARE IN INCHES 2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILLET RADII .0150-.030. 5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005 6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.				ENGINEER Francois Cazenave		I2Map_Camera_Housing_Assembly		
				CHECKED				
				PROJECT NO.		SCALE 1:5		
				PROJECT				
DO NOT SCALE DRAWING				WEIGHT 98.62 lb.		SIZE B	DWG. NO.	REV.
						SCALE 1:5		SHEET 1 OF 5



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Optical components

Dome retainer ring

o-ring seal

SLC 11x15 Sony Lens

Ø 250mm

Dome port
22mm thick

Double convex (rear) lens

Double convex (middle) lens

Double concave (front) lens

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1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN Francois Cazenave				
1. DIMENSIONS ARE IN INCHES 2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILLET RADII .0150-.030. 5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005 6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.				ENGINEER Francois Cazenave		I2Map_Camera_Housing_Assembly		
				CHECKED				
				PROJECT NO.		SIZE B		
				PROJECT				
DO NOT SCALE DRAWING				WEIGHT 98.62 lb.		SCALE 1:5	DWG. NO.	REV.
								SHEET 2 OF 5

3/16" EPDM o-ring.
A70 durometer.
Seals and centers dome
The o-ring is placed so that hydrostatic pressure is exerted to the edge of the port, helping reduce deformation of dome and of titanium retainer. This position also prevents o-ring extrusion.

Chamfer is intentionally small to avoid reducing contact area between dome and kapton ring, and to minimize o-ring deformation.

Clearance is large enough to avoid metal to glass contact during deformation, even at 2200 PSI (1500m)

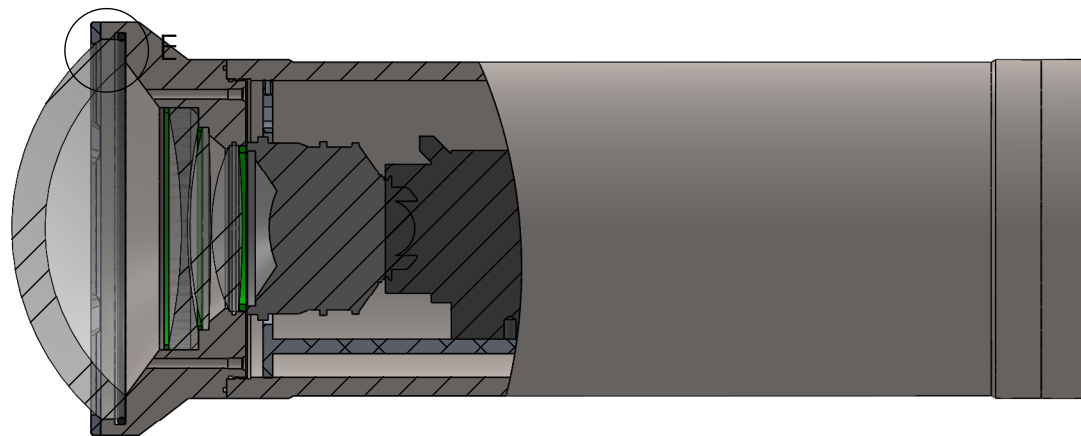
5 mil Kapton (polyimide) ring (possibly adhesive backed).
Helps distribute load between glass and metal

Retainer is held by 12 screws
and can be used to insert dome in position

Contact pressure at 1500m depth: 10KSI assuming even distribution. Pressure will likely be higher on inner edge.

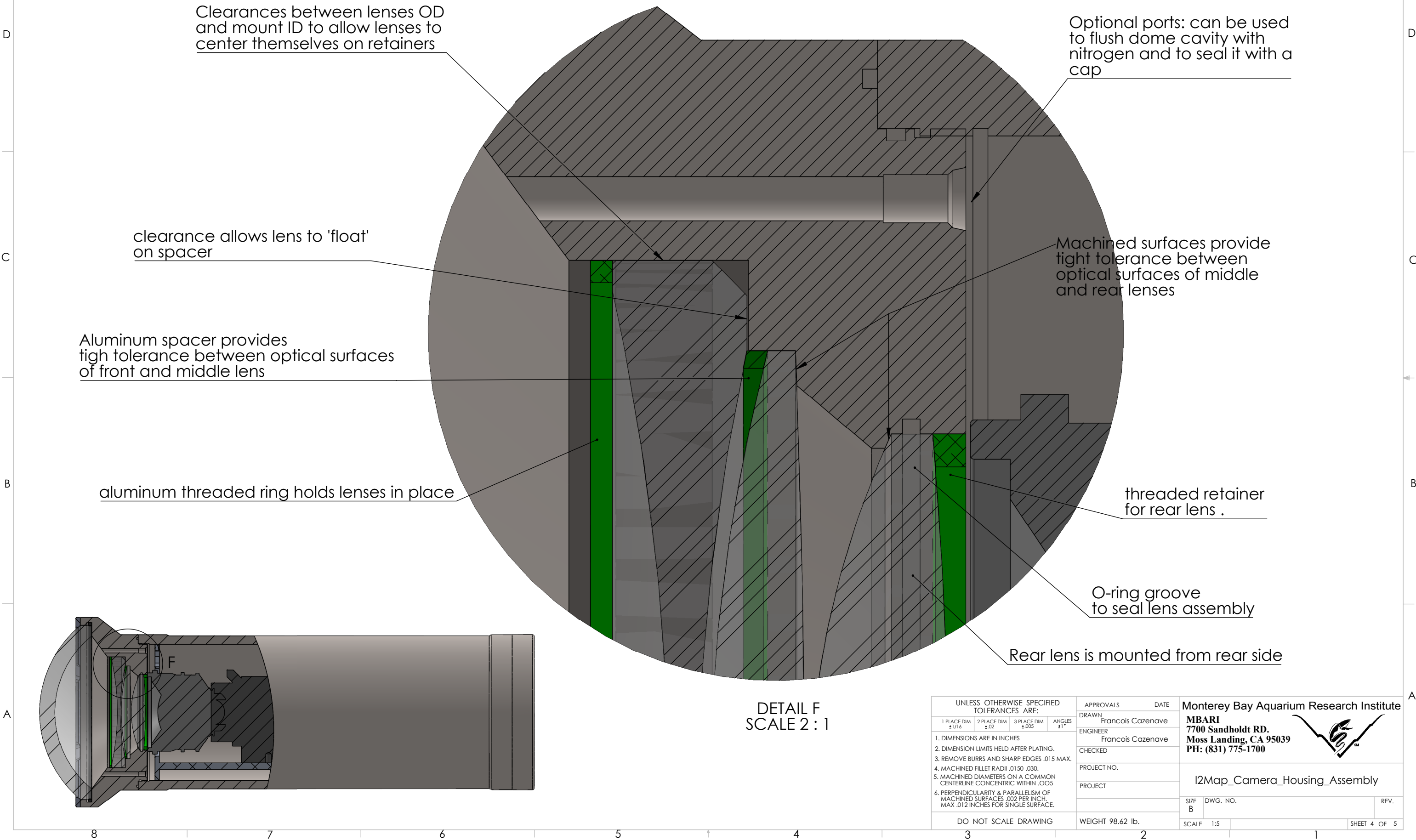
DETAIL E
SCALE 2 : 1

Dome port seal details



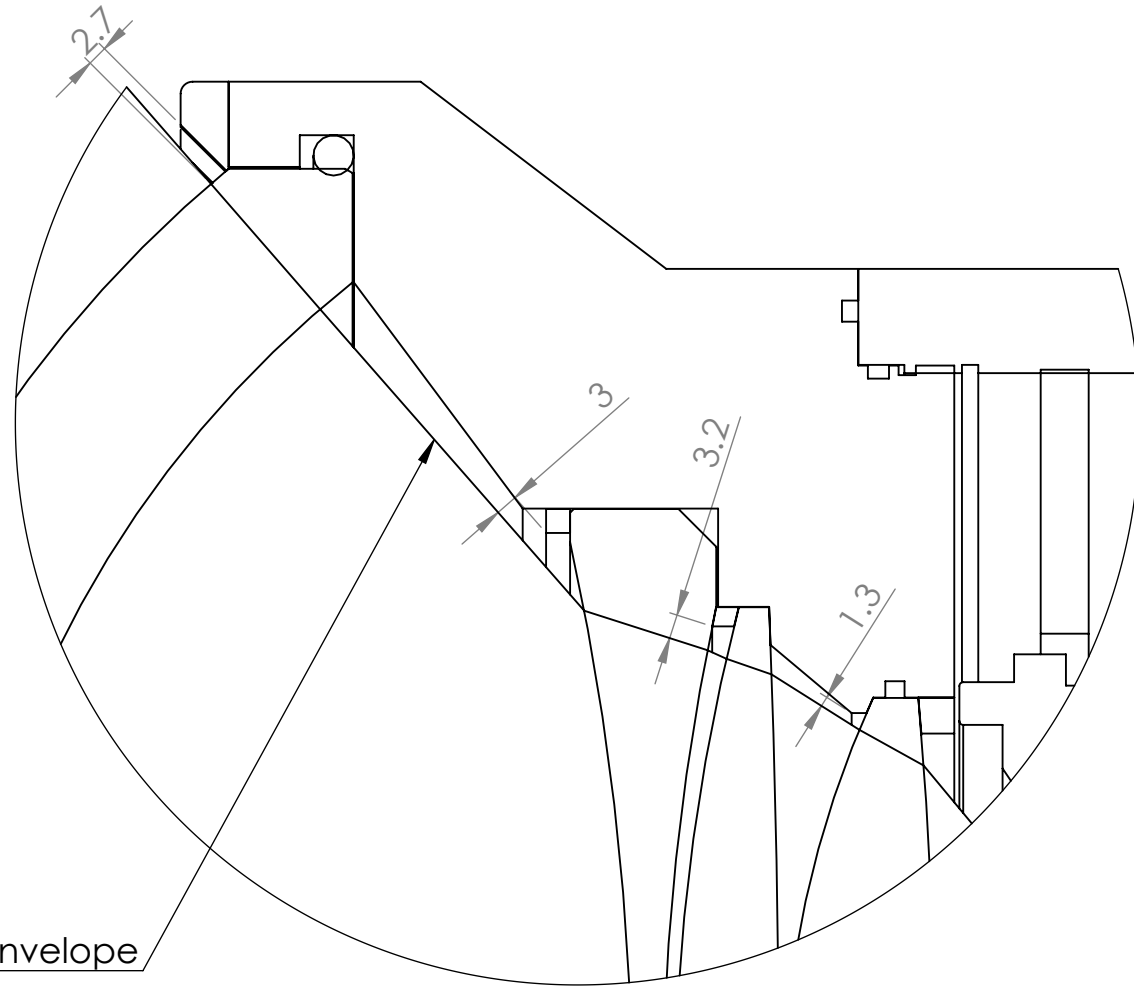
UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				APPROVALS	DATE	Monterey Bay Aquarium Research Institute		
1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN	Francois Cazenave	MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700		
1. DIMENSIONS ARE IN INCHES				ENGINEER	Francois Cazenave			
2. DIMENSION LIMITS HELD AFTER PLATING.				CHECKED		I2Map_Camera_Housing_Assembly		
3. REMOVE BURRS AND SHARP EDGES .015 MAX.				PROJECT NO.				
4. MACHINED FILLET RADII .0150-.030.				PROJECT		SIZE B	DWG. NO.	REV.
5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005				DO NOT SCALE DRAWING			SCALE 1:5	SHEET 3 OF 5
6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.				WEIGHT 98.62 lb.				

Panoramic converter details



D
C
B
A

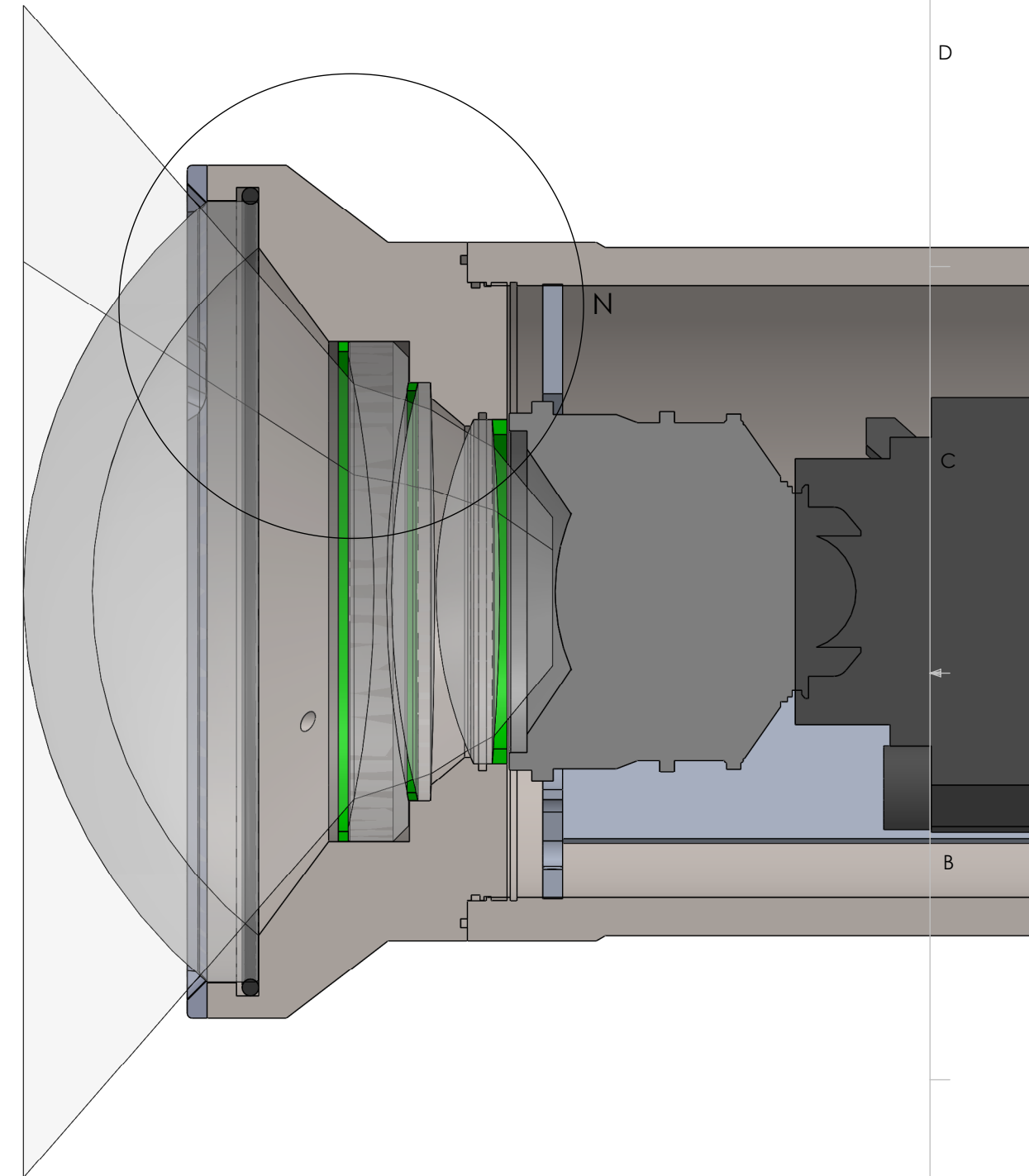
Distance between CA envelope corners
and lens retainer



DETAIL N
SCALE 1 : 1

Clear aperture details

Section view on field of view diagonal



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3. REMOVE BURRS AND SHARP EDGES .015 MAX.				PROJECT NO.		SIZE B		
4. MACHINED FILLET RADII .0150-.030.				PROJECT				
5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005						SCALE 1:5		
6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH. MAX .012 INCHES FOR SINGLE SURFACE.								
DO NOT SCALE DRAWING				WEIGHT 98.62 lb.		SHEET 5 OF 5		