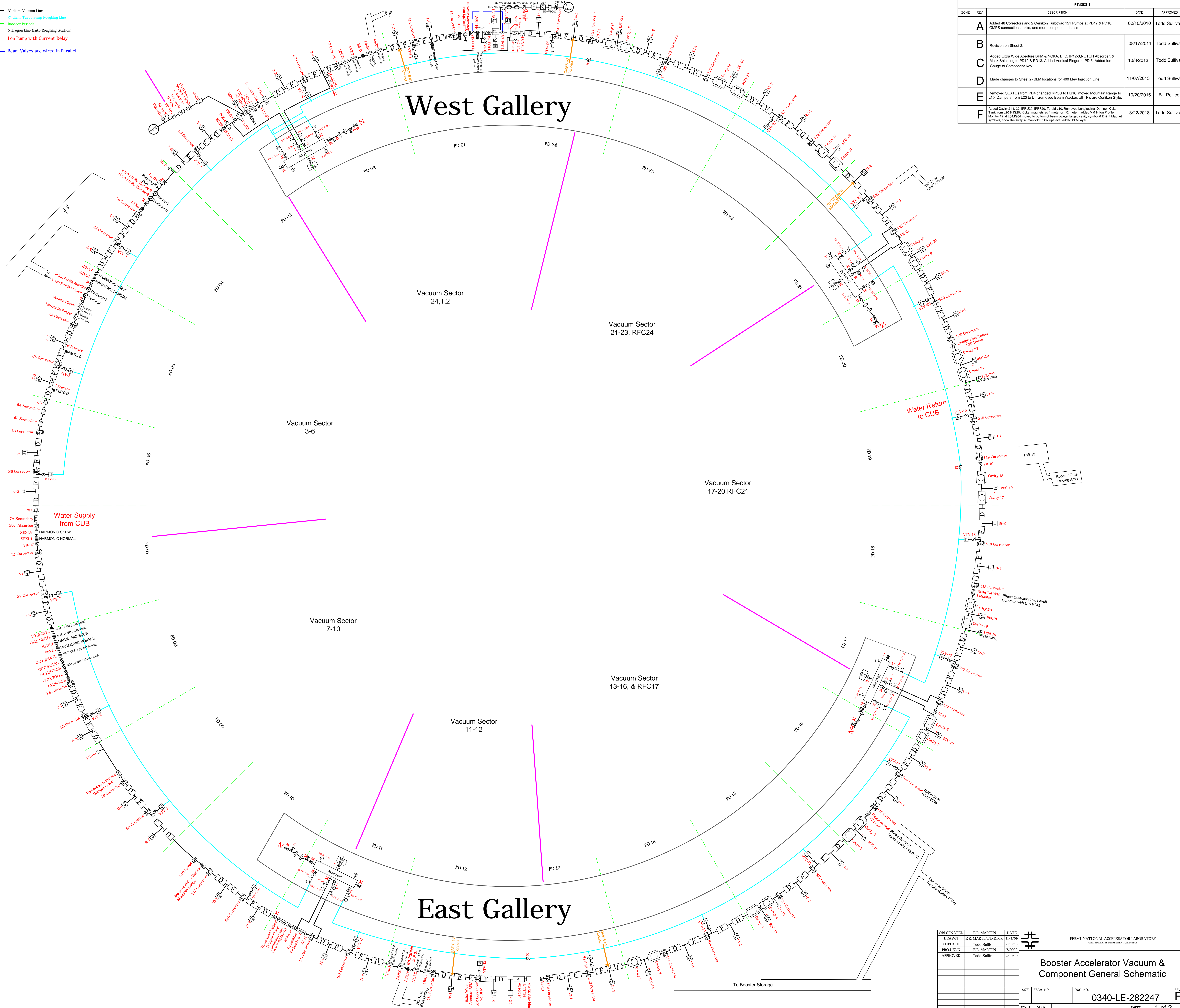


	Ball Valve		Collimator
	Pinning Gauge		Correction Element
	Trim		Machinist
	MPS13 Magnet		Octapole
	MPS12 Magnet		OR Pump
	Connection Gauge		Phase Detector
	Vacuum Gauge Board		BEX Bump
	Regulator		Dog Leg
	Turbo Pump-Oerlikon 151		RF Cavity
	Foil Box		Beam Position Monitor
	Gate Valve		Sextupole
	Ion Pump		Damper
	Horizontal Trim		Teroid
	Ion Profile Monitor		Processing Magnet
	Extraction Kicker		Defocusing Magnet
	Current Monitor		Gamma-T (Obsolote)
	300L Ion Pump		Wipe Scavenger
	Corrector with Internal BPM		Griffin Detector
	Oerlikon Turbovac Pump 151		Resistive Wall Current Monitor
	Damper Pick-Up		Dipole Magnet
	Ion Gauge		Absorber
			Booster Loss Monitor
			Photo Multiplier Tube

3" diam. Vacuum Line
 2" diam. Turbo Pump Roughing Line
 Booster Periods
 Nitrogen Line (Into Roughing Station)
 Ion Pump with Current Relay
 Beam Valves are wired in Parallel

ZONE		REV	DESCRIPTION	DATE	APPROVED
A			Added 48 Correctors and 2 Oerlikon Turbovac 151 Pumps at PD17 & PD18, GAPS correctors, exits, and more component details	02/10/2010	Todd Sullivan
B			Revision on Sheet 2.	08/17/2011	Todd Sullivan
C			Added Extra Wide Aperture BPM & NOKA, B. C. IP13-NOTCH Absorber, & Mask Shielding to PD12 & PD13. Added Vertical Pump to PD 5, Added Ion Gauge to Component Key.	10/3/2013	Todd Sullivan
D			Made changes to Sheet 2- BLM locations for 400 MeV Injection Line.	11/07/2013	Todd Sullivan
E			Removed SEXTLs from PDA, changed RPOS to HS16, moved Mountain Range to L10, changed from L20 to L11, removed Beam Washer, all TPA, and Oerlikon 151s.	10/20/2016	Bill Pellico
F			Added Cavity 21 & 22, RPOS, RNF20, Torsion L10, Removed Longitudinal Charge Kicker Tank from L20 & L20, Kicker magnets as 1 meter or 1/2 meter, added 1 & 1/2 inch Profile Monitor at 20, L10, added monitor to bottom of beam pipe, changed cavity symbol & D & F Magnet symbols, show the sweep at monitor PDC0, update sector BLM layer.	3/22/2018	Todd Sullivan



ORIGINATED	E.R. MARTIN	DATE	11/4/09
DRAWN	E.R. MARTIN/D.DICK	DATE	11/4/09
CHKD BY	Todd Sullivan	DATE	2/10/10
PROJ. ENG.	E.R. MARTIN	DATE	7/20/02
APPROVED	Todd Sullivan	DATE	2/10/10

FERMI NATIONAL ACCELERATOR LABORATORY
 DIVISION OF PHYSICS

Booster Accelerator Vacuum & Component General Schematic

SIZE	FORM NO.	REV
		0340-LE-282247
SCALE	N/A	SHEET 1 of 2

Ball Valve	Vertical Bend Magnet
Penning Gauge	Chopper
Longe Trim	Vertical Bend Magnet
MP03 Septum Magnet	Multiwire
MP02 Septum Magnet	IR Bump
Convection Gauge - C	Current Monitor
Vacuum Gauge Bourdon	BEX Bump
Beam Position Monitor	Super Trim Magnet
Turbo Pump Derikon 155	Horizontal Bend Magnet
Debuncher	Bipole Magnet
Gate Valve	Correction Element
Ion Pump 600L	Quadrupole
SL Ion Pump	Forcoid
Pump	Steering Element
Spectrometer	Trim Magnet
Single Wire Scaler	GriffIn Detector
Vertical Trim Magnet	Beam Stop
Laser Profile Monitor	Resistive Wall Current Monitor
Connector with Internal	Beam Loss Monitor
Ion Gauge	Total Loss Monitor
Cold Cathode Gauge-MKS	Convection Gauge-MKS

3" diam. Vacuum Line
 --- Booster Ring
 * Ion Pump with Current Relay
 --- Valves are wired in Parallel

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
A		Moved IBV809, added BV803T, added LPM to 400MeV Line, added MTA line	3/05/10	Todd Sullivan
B		Added MWSPEC to BD2 Dump Line, Rename IBV810, added MTA Hall Vacuum components, added BLM details to MI-8 Line.	8/17/11	Todd Sullivan
C		Added Text in black, added Ion Gauge Symbol, added Chopper word, added Penning Gauge instead of PIG, changes to BD2, Momentum Dump Line, moved Loss Monitors in BD1 Line.	9/17/13	Todd Sullivan
D		Moved BLM locations and added locations of BLM's for Straight Dump, Momentum Dump, and 400 MeV Injection Line.	1/14/14	Todd Sullivan
E		Added VT/LAM, VTBD01, VTBD02, VTQ4 Diagnostic to Linac and VTQ12, VTMI2 Diagnostic to 400 MeV Injection Line.	10/11/16	Todd Sullivan
F		Show BLM locations and layout with 400 MeV beam pipe space.	3/22/18	Todd Sullivan

Booster PD 1-1
 Booster PD 24-2

400 Mev Injection Line

MI8 Extraction Line

ORIGINATED	E.R. MARTIN	DATE	3/5/10
DRAWN	E.R. MARTIN	DATE	3/5/10
CHECKED	Todd Sullivan	DATE	7/2002
PROJ. ENG.	E.R. MARTIN	DATE	3/5/10
APPROVED	Todd Sullivan	DATE	3/5/10

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 UNITED STATES DEPARTMENT OF ENERGY

Booster Accelerator Vacuum & Component General Schematic

SIZE FROM NO. DWG NO. **0340-LE-282247** REV **F**

SCALE N/A SHEET 2 of 2