All Dipoles between F17-4 and F34-5 powered by HP3US located at F3.

F-17-4 F-26-2 F-26-3 F-18-2 F-26-4 F-18-3 F-26-5 F-18-4 F-18-5 F-27-2 F-27-3 F-19-2 F-27-4 F-19-3 F-27-5 F-19-4 F-19-5 F-28-2 F-28-3 F-21-2 F-28-4 F-21-3 F-28-5 F-21-4 F-21-5 F-29-2 F-29-3 F-22-2 F-29-4 F-22-3 F-29-5 F-22-4 F-22-5 F-32-2 F-32-3 F-23-2 F-32-4 F-23-3 F-32-5 F-23-4 F-23-5 F-33-2 F-33-3 F-24-2 F-33-4 F-24-3 F-33-5 F-24-4 F-24-5 F-34-2 F-34-3 F-25-2 F-34-4 F-25-3 F-34-5 F-25-4 F-25-5

All Dipoles between F35-2 and F48-4 powered by HP3DS located at F4.

F-35-2 F-44-2 F-35-3 F-44-3 F-35-4 F-44-4 F-35-5 F-44-5 F-36-2 F-45-2 F-36-3 F-45-3 F-36-4 F-45-4 F-36-5 F-45-5 F-37-2 F-46-2 F-37-3 F-46-3 F-37-4 F-46-4 F-37-5 F-46-5 F-38-2 F-47-2 F-38-3 F-47-3 F-38-4 F-47-4 F-38-5 F-47-5 F-39-2 F-39-3 F-48-3 F-39-4 F-48-4 F-39-5 F-42-2 F-42-3 F-42-4 F-42-5 F-43-2 F-43-3 F-43-4 F-43-5

Critical Device Names:
S:HP3US (power supply @ F3)
S:HP4DS (power supply @ F4)

All Quads powered by QP3 located at F4

F-18-1 F-19-1 F-21-1 F-22-1 F-23-1 F-24-1 F-25-1 F-26-1 F-27-1 F-28-1 F-29-1 F-32-1 F-33-1 F-34-1 F-35-1 F-36-1 F-37-1 F-38-1 F-39-1 F-42-1 F-43-1 F-44-1 F-45-1 F-46-1 F-47-1 Q49 Q49A Q49B Q49C Q49D

HF19(4)
gate valve
HPF19
QF19
HF18(4)
VPF18R
VF18
VPF18
QF18 to AP1 line
double strength B2
P3
F17B3
beam pipe crotch
VTF17 (this supply trips @ ~9A)
HTF17 (this supply trips @ ~9A)
HPF17
I:MF17
HPF17/VPF17
start of P3 beam & end of P2 beam
QF17
I:HVF12(4)
TORF16
MR BPM (v)
QF16
I:HVF12(4)
P2
MR BPM (h)
QF15
I:HVF12(4)
MR BPM (v)
QF14
I:HVF12(4)
QF13
I:HVF12(4)
MR BPM (v)
QF12
I:FFSPIL/I:MSPILL
I:HVF12(4)
QF11B
I:HTF11
I:VTF11
8 Amp max. other S18 <10> trims are 20 Amp supplies except for VTF17 (30 Amps) & VTF19 (560 Amps)
BPM (v)
BPM (h)
QF11A
BPM (v)
P2
T:ILAM
Start of P2 beam line & end of P1 beam line
toroid 714
P1
Q14 I:Q714
Q13 I:Q713
Q12 I:Q712
Q11 I:Q711
MW712A
trim
Q10 (2) I:Q710
Q9
(2)
Q8
(2)
Q7 MW707
(2) I:HV703
bpm I:Q703
Q6
(2)
Q5
(2)
Q4 I:H703
(2)
bpm?
bpm?
Q3
T0R702
bpm?
Q2 I:Q702
I:V701
bpm?
LM701
I:Q701
LM522H
LM522G
LM522F
LM522E
LM522D
LM522C
I:LAM52
LM522B
Q522
LM522A
LM521B
H522
TAR521
T0R521
LM521A
Q521
LM520E
ES520B
LM520D
ES520A
LM520C
LM520B
K520B
K520A
LM520A

Max. Amps (all @ 1.6 sec. time bump)
H (520, 522, 524) mult: +9, -3, +14A
H (606, 608, 610) mult: +27, +12, +27A
H (618, 620, 622) mult: +18, +4, +6 A
H (220, 222, 224) mult: -17, +1, -13A
H320 +8A
H322 +12A
H402 +7A
H606 current can be lowered H(602, 604) = -8, +9A
H610 current can be lowered H(612, 614) = +7, -7A
H220 current can be lowered H(216, 218) = -8, -3A
Entries by Chuck Brown, M. I. E-log of 14:17:05, 22Jan04

Key to Symbols
- absorber (dump)
- Aperture restriction (usually a magnet that's not used anymore)
- BPM Horizontal
- BPM Vertical
- BPM associated with quad
- C magnet
- Cerenkov counter
- Dipole Main bending
- Dipole Trim
- Dipole Pulsed
- Gate valve
- hodoscope
- ion chamber
- Ion profile monitor
- kicker
- Lambertson (this one bends upper beam East)
- Loss monitor
- pin hole collimator
- Quad Horizontally focusing
- Quad Vertically focusing
- quad (polarity unspecified)
- RF monitor
- Scanning target
- scintillator
- scraper
- SEM
- Septa
- sweeping magnet
- SWIC or Multiwire or PWC
- target
- target wheel
- vacuum window
- water pressure

DRAFT
FNAL SY120 BEAM LINE
On file as: "Extracted Beam 8Feb10" this is an updated version of "Extracted Beam 23 Sept 2010

S:S106
V100-2
V100-1
VT201(2) LVT201 (yellow loss mon. on top)
VT105 LV105 (yellow loss mon. on top of V105)
HT105 LH105 (yellow loss mon. on top of H105)
Q202
Q201 LQ201(yellow loss mon. ~1m from U.S. end)
HP105 (long BPM)
VP105 (long BPM)
gate valve
(long BPM) HP201
S:S105(old V100)
LBP2 (yellow loss mon., approx. 1.5m U.S. of S105)
(long BPM) VP201
gate valve (for both lines)
MLAM(2)
LMLAM2
LMLAM1(U.S. end of MLAM-1)
(old MLAM) S:S200
LMLAMU
HP200
VP200
LBDSMN (yellow loss mon. D.S. of gate valve)
gate valve
VT103 LVT103 (yellow loss mon. on top of VT101)
HP103 (long BPM)
VP103 (long BPM)
S:S103
LM103U (approx. 3m U.S. of S103)
LMESD (approx. 4m D.S. of septa)
LMES2D (D.S. end 2nd septa)
LMES1D (D.S. end 1st septa)
LMES1U (U.S. end 1st septa)
Q102 LQ102U (U.S. end of Q102)
VT102 LVT102 (yellow loss mon., west side of VT102)
HP102 (long BPM)
VP102 (long BPM)
Q101 LQ101U (U.S. end of Q101)
Q100 LQ100U (yellow loss mon., U. S. end of Q100)
VT101 LVT101 (yellow loss mon., on top of VT101)
LH100D (yellow loss mon. 3m D.S. of HT100 & just D.S. of labyrinth to B)
HT100 LHT100 (yellow loss mon., on top of HT100)
LSHLD2 LBSHLD(yellow loss mon., approx. 1' D.S. of U.S. LH90D)
HP100 (long BPM)
VP100 (long BPM)
COLL LBCOLU (yellow loss mon., on top at U.S. end of collimator)
B
S:S094 (multiwire, 1 mm spacing) This multiwire canbe left in the beam.
VH94(2) LV94D (yellow loss mon., D.S. end of VH94-2)
LVH94U (approx. 2' from U.S. end of VH94-1)
VT92 LVT92 (yellow loss mon., top of VT92)
S:S094
HP94 (long BPM)
VP94 (long BPM)
Transfer Hall
RF monitor NOT CONNECTED
LVP94B (approx. 3m U.S. of RF monitor)
LVP94A (approx. 6m U.S. of RF monitor)
LQ90D (approx. 1.5m D.S. of Q90)
Q90 LQ90 (yellow loss mon., on top of Q90)
VT91 LV90D (yellow loss mon., D.S. end of V91)
HT91 LH90 (yellow loss mon., middle of H90)
S:O90
HP90 (long BPM)
VP90 (long BPM)
(Q80)
LVP90U (yellow loss mon., approx. 7m U.S. of VP90)
QF49D
QF49C
QF49B
VP49R
HP49R
ion profile monitor (NOT CONNECTED)
Transfer Hall
HF48(1.5)
QF49A
S:SF49
QF48 BLM48 (D.S. end of QF48)
vacuum window
HF47(4)
VPF47
end of P3 beam
QF47
INTERLOCKED GATE
HF46(4)
HPF46
QF46
HF45(4)
S:MF45
VPF45
QF45
HF44(4)
S:MF44
HPF44
QF44
HF43(4)
VPF43
QF43
HF42(4)
VPF42R
HPF42R
HPF42
QF42
HF39(4)
gate valve
VPF39
QF39
HF38(4)
HPF38
QF38
HF37(4)
VTF37 (max. current 20 Amps)
S:MF37
VPF37
QF37
HF36(4)
HTF36
HPF36
QF36
HF35(4)
VPF35
QF35
HF34(4)
HPF34R
HPF34
QF34
HF33(4)
VPF33R
VPF33
QF33
HF32(4)
HPF32
QF32
HF29(4)
gate valve
VPF29
QF29
HF28(4)
HPF28
QF28
HF27(4)
VTF27
S:MF27
VPF27
QF27
HF26(4)
HTF26
HPF26
QF26
HF25(4)
VPF25
QF25
HF24(4)
S:MF24
HPF24
QF24
HF23(4)
VPF23
QF23
HF22(4)
HPF22
QF22
HF21(4)
S:MF21
VPF21
QF21

MC7
MC7AN2 "Rosie"
MC7AN1 "Jolly Green Giant"
E907 target
MC7HCD
MC7WC2
yield to E907 Experiment MC7TO1
MC7BC3
MC7CR2
MC7BC2
MC7CR1
MC7BC1
MC7WC1
MC7TBD
MC6Q4-6
MC6D-4
MC6Q5
MC6D-3
MC6Q4-1
MC7TOO
MC6H2
MC6V2
MC6CV vertical collimator
MC6HT1
MC6VT1
MC6Q3
MC6D-2
MC6Q2
MC6D-1 (note: MC6D has a voltage readout MC6DV)
MCTQ1(2)
MC6ABS
MC6T1 target
MC6IC
MC6SC
MC6WC (PWC)
MT6 Section 1
MT6SC2
MT6SC1
MT6WC1
MT6FP
MT5CC2
MT5CC1
MT5FP2
MT5HT2
MT5VT2
MT5Q2
MT5Q1
MT5E(5)
MT5VT1
MT5CON
MT5SC
MT5FP1
MT4Q6
MT4CV2
MT4Q5
MT4CH2
MT4Q4
MT4HT
MT4CH1
MT4FP
MT4VT
MT4CV1
MT4Q3
MT4W2
MT4Q2
MTBABS
MT4W1
MT4Q1
MTABS
MT4TGT
MT4PWC MT4PWCHV
MT3U2
MT3U1
MT3W
MT3CN2
MT3Q4
MT3Q3
MT3BS
MT3SW
MT3CON
MT3PWC MT3PWCHV
vacuum pipe
MT3PUH
MT3PDH
MT3PUV
MT3PDV
pin hole collimator 1mm × 1mm
MT3V
MT3Q2
MT3Q1
MW3WC
MC5U(3)
MC5H1
MC5V1
MC5Q2
MC5Q1
MC5LM1
MC5WC1
Use these to tune beam onMC6T1 target and MC7TO1 yield
MC4LM2
MC4LM1
900' Area
MT3CN2:
position 0: empty
position 1: 3 sheets of Pb, total of 5/16"
position 2: 2" polyethylene
position 3: 2 sheets of Pb, total of 3/16"
MT3CON:
position 0: empty
position 1: 3 sheets of Pb, total of 5/16"
position 2: 5 sheets of Pb, total of 3/4"
position 3: 1 3/8" Al
MC3CH Intensity collimator for MC
MC3CV Intensity collimator for MC
500' Area
MT2WU(5)
MT2V
MT2WD2(3)
MT2BD
MT2WD1(2)
MT2Q2
MT2Q1
MW2WC
MC2V
MC2BS
MC2H
MC2WC1
MCQ1
MC2Q1
MC2PH pin hole collimator
MC2LM
MP2E1-1
Use these to tune to MC5WC
400' area
M02
80' Cu TARGET TRAIN COLLI -MAT0R Z=0
MC collimator: (absorbs MT if MW1W is off) (absorbs MC if MC1D is off) (absorbs ME if ME1E is off)
MT1TARG
MW1WC1
MW1SEM
MC Absorber (Dump)
MW1LM1
MC1D
ME (off)
MC1WC1
MC1SEM
MC1LBP
MO1LBP2
MW1W(6)
MO1TLM
MW1 shield
MO1SH1
M11
MO1D(7)
MO1LD7
MO1LD1
M1
MOO
MO1BP1
S:Q230-2
LF3DS
F3
S:S230
MOOLM
LV230
MOOU(3)
LQ203
S:Q230-1
LF3US
LF2DS
MOOV
MOOH
LMOOV)
LMOOH)
Use these to tune beam to MC
HP220
VP220
(V220)
S:S220
F2
LF2US
(FSEP tunes MW vertically & provides a triple split)
FSEP(2)
F1SEM
LF2D8
LFES7
LFES6
LFES5
LFES5 is at u.s. end of u.s. septum
LEFS6 is at d.s. end of u.s. septum
LEFS7 is at u.s. end of d.s. septum
LEFS8 is at d.s. end of d.s. septum
FSCCI is F Sector septa vacuum (Only 7th and 8th septa are now present connected, others are still physically there but not connected.)
F1 manhole
HP210
VP210
HT210
Q210
S:S210
QT211
VT210
LH210
LQ210
LV210
LF1US
C
LCNDS(yellow loss mon., against D.S. wall of S.Y. Encl. C)
gate valve
(long BPM) HP208
(long BPM) VP208
S:S208
(old H204)
LV204-1(yellow loss mon., ~6" from U.S. end V204)
V204(2)
Q208
Q207
H203
LH203 (yellow loss mon. ~6" from U.S. end of H203)
H202(14)
LH202-14 (yellow loss mon. ~2' from D.S. od H202-14)
LH202-1(yellow loss mon., ~1' from U.S. end H202-1)
Q206
S:S206
(old Q203)
(long BPM) HP206
(long BPM) VP206
LS206 (yellow loss mon., just U.S. end of VP206)
S203 (old V310)
Q205
LQ205 (yellow loss mon., ~ 6" from U.S. end of Q205)
S:DMPWPR
absorber (dump)
VT202
Q204
(long BPM) HP202
LQ204 (yellow loss mon., ~1' U.S. of Q204)
(long BPM) VP202
S:S202
(old Q201)
LBP4 (yellow loss mon., ~1m U.S. of S202)
LDUMP-0K (loss mon. against wall)
SYDINT
HT202
Q203
H201(14)
LH201-14 (yellow loss mon ~0.5m from D.S. H201-14)
LH201U (yellow loss mon. @ U.S. end, H201-1)
HT201
S:S107
Q107
Q106
NM4
NM3S
Target or
Target Wheel
NM3TGT
NM3IC
NM3
NM2WC2
NM2H
NM2D1
NM2Q2
NM2Q1
Not Used Quads
NM2WC1
NM2V
NM2EU2
NM2EU1
NM2HBPM
NM2VBPM
NM2
gate valve
NM1WC2
NM1H
NM1U-2
NM1U-1
NM1WC1
NM1HBPM
NM1VBPM
NM1
gate valve
LG2DS gate valve
G2WC2
V424
H424
LVT424
LH424
MUBEND-6
LMUBD6
MUBEND-5
MUBEND-4
LMUBD4
MUBEND-3
MUBEND-2
LMUBD2
MUBEND-1
LMUBD1
LVT420
VT420
G2WC1
LQ419U
LQ418
Q419
Q418
gate valve
G2
LG2US
gate valve
Collimator
LMULM3
MuLAM-3
MuLAM-2
LMULM1
MuLAM-1
G1WC1
LPH110
PH110
LVT110
VT110
PV110
G1HBPM
G1VBPM
LG1DS
gate valve
G1Stub