NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	1	180
PROJECT FILE NO.	606503		

TITLE SHEET & INDEX

606503_HD(TITLE SHEET).DWG 12-Jun-2015

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

PLAN AND PROFILE OF

CLIPPER CITY RAIL TRAIL - PHASE 2

IN THE CITY / TOWN OF

NEWBURYPORT / NEWBURY

ESSEX COUNTY

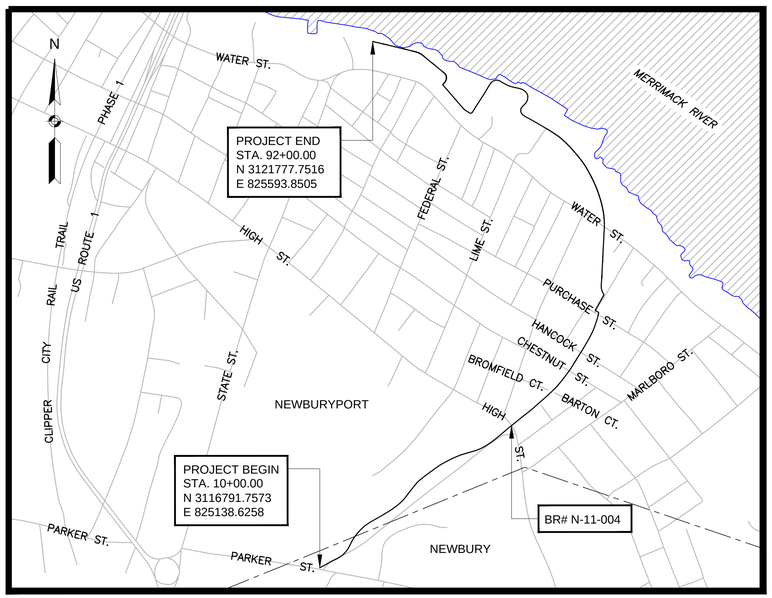
FEDERAL AID PROJECT NO. xx-xxxx(xxx)x

100% SUBMITTAL

THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 1988, AS AMENDED, THE SUPPLEMENTAL SPECIFICATIONS DATED JUNE 15, 2012, THE 2014 CONSTRUCTION STANDARD DETAILS, THE 1996 CONSTRUCTION AND TRAFFIC STANDARD DETAILS (AS RELATES TO TRAFFIC STANDARD DETAILS ONLY), THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS WITH MASSACHUSETTS AMENDMENTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, THE GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES (4TH EDITION), AND THE GUIDE FOR THE PLANNING, DESIGN, AND OPERATION OF PEDESTRIAN FACILTIIES DATED JULY 2004 WILL GOVERN.

INDEX

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1,500 0 1,500 3,000

SCALE 1" = 1,500'

LENGTH OF PROJECT = 8,200.00 FEET = 1.553 MILES

DESIGN DESIGNATION (BIKE PATH)

DESIGN SPEED	18 MPH
ADT (YYYY)	N/A
ADT (YYYY)	N/A
K	N/A
D	N/A
T (PEAK HOUR)	N/A
T (AVERAGE DAY)	N/A
DHV	N/A
DDHV	N/A
FUNCTIONAL CLASSIFICATION	BIKE PATH

DATE	DESCRIPTION	REV #
10-30-2014	75% DESIGN SUBMISSION	2
06-28-2013	25% DESIGN SUBMISSION	1

JUNE 12, 2015

Stantec
226 Causeway Street
Boston, MA 02114
Tel. 617.523.8103
www.stantec.com

massDOT Massachusetts Department of Transportation Highway Division

RECOMMENDED FOR APPROVAL

CHIEF ENGINEER DATE

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

APPROVED

HIGHWAY ADMINISTRATOR DATE

LEGEND

GENERAL SYMBOLS

EXISTING	PROPOSED	
JB OR BRJB	JB OR BRJB	JERSEY BARRIER ON BRIDGE OR JERSEY BARRIER
CB	CB	CATCH BASIN
CI	CI	CURB INLET
	BUOY	BUOY
	FPL	FLAG POLE
		GAS PUMP
DI	DI	DROP INLET
MB	MB	MAIL BOX
GR	GRAN POST	GRANITE POST
PLN	PLANTER	PLANTER
PST	POST	POST
TBH	TBH	TELEPHONE BOOTH
VLT	VLT	VAULT
VLV	VLV	VALVE
WELL	WELL	WELL
EHH	EHH	ELECTRIC MANHOLE (HANDHOLE)
FCGA		GATE POST
FL	FL	FLOW LINE
GG		GAS GATE
SP	SP	SOIL PROBE
MW	MW	MONITORING WELL
TB	TB	TEST BORE
HC	CONC. HDWL	CONCRETE HEADWALL
HH		HANDHOLE
HS	STONE DHWL	STONE HEADWALL
HYD	HYD	HYDRANT
LPL	LPL	LIGHT POLE
CO. BO.	CO. BD.	COUNTY BOUND
GPS		GPS POINT
CMH		CABLE MANHOLE
DMH	Ⓓ	DRAINAGE MANHOLE
EMH		ELECTRIC MANHOLE
GMH		GAS MANHOLE
MMH		MISC MANHOLE
OMH		OTHER MANHOLE
SMH	Ⓢ	SEWER MANHOLE
TMH		TELEPHONE MANHOLE
WMH		WATER MANHOLE
MHB	MHB	MHD BOUND
MON	MON	MONUMENT
SB	SB	STONE BOUND
TOWN OR CITY BD.	TOWN OR CITY BD.	TOWN OR CITY BOUND
	TSN	TRAVERSE OR TRIANGULATION STATION
TPL OR GUY	TPL OR GUY	TROLLEY POLE OR GUY POLE
TRNP		TRANS. POLE
UFB	UFB	UP W ITH FIREBOX
LPDL	LPDL	POLE WITH DOUBLE LIGHT
ULT	ULT	UP W ITH 1 LIGHT
UPL	UPL	UTILITY POLE
	BUSH	BUSH
	TREE	TREE
STUMP		STUMP
		SWAMP / MARSH
WG	WG	WATER GATE
FA	FA	FIRE ALARM BOX
PM	PM	PARKING METER
		ELECTRICAL GROUND
	GV	GATE VALVE
		RIP RAP
		OVERHEAD CABLE
		DIRECT BURIAL CABLE
		CURBING
185	185	CONTOURS
		DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		ELECTRIC DUCT
		GAS MAIN
		SEWER MAIN
		TELEPHONE DUCT
		WATER MAIN
		BALANCE STONE WALL
		CULVERT
		GUARD RAIL
		GUTTER LINE AT DRIVEWAYS
CLF		CHAIN LINK FENCE
		STOCKADE FENCE

GENERAL SYMBOLS (CONT.)

EXISTING	PROPOSED	
		HAY BALES/SILT FENCE
		RETAINING WALL
		TREE LINE OR LIMIT OF CLEARING AND GRUBBING
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF PAVEMENT OR COLD PLAN & OVERLAY
		BANK OF RIVER OR STREAM
WF-#		BORDER OF WETLAND
		100 FT WETLAND OR 200 FT RIVERFRONT BUFFER
DATE OF LAYOUT		STATE HIGHWAY LAYOUT
DATE OF LAYOUT		TOWN OR CITY LAYOUT
DATE OF LAYOUT		COUNTY LAYOUT
R.R. S/L		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
ℙ OR APPROX. ℙ		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT

TRAFFIC SIGNAL SYMBOLS

EXISTING	PROPOSED	
1	1	CONTROLLER PHASE ACTUATED
		TRAFFIC SIGNAL HEAD (SIZE AS NOTED)
		WIRE LOOP DETECTOR (6'X 6' TYPICAL UNLESS OTHERWISE SPECIFIED)
		VIDEO SURVEILLANCE CAMERA
		MICROWAVE DETECTOR
		MAGNETOMETER (2 SHOWN)
		PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE
	*	OPTICOM CONFIRMATION STROBE LIGHT
		VEHICULAR SIGNAL HEAD
		VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED
		FLASHING BEACON
		PEDESTRIAN SIGNAL HEAD (TYPE AS NOTED OR AS SPECIFIED)
		PEDESTRIAN SIGNAL HEAD, OPTICALLY PROGRAMMED
		PEDESTRIAN SIGNAL POST AND BASE
RRSG	RRSG	RAILROAD SIGNAL
OR		SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)
20'	20'	STEEL OR ALUMINUM MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)
		HIGH MAST POLE OR TOWER
		SIGN AND POST
		SIGN AND POST (TWO POSTS)
20'		SIGNAL AND LIGHTING MAST ARM (OPTICOM)
		EMERGENCY PRE-EMPTION DETECTOR
		CONTROL CABINET, GROUND MOUNTED
		CONTROL CABINET, POLE MOUNTED
		FLASHING BEACON CONTROL & METER PEDESTAL
		LOAD CENTER ASSEMBLY
		PULL BOX 12"X12" (AND AS NOTED)
		ELECTRIC HANDHOLE 12" X 24"
		TRAFFIC SIGNAL INTERCONNECT CONDUIT
		TRAFFIC SIGNAL CONDUIT (TYPE AS NOTED)

PAVEMENT MARKINGS AND SIGNING SYSBOLS

EXISTING	PROPOSED	
		PAVEMENT ARROW - WHITE
ONLY	ONLY	LEGEND "ONLY" - WHITE
	SL	STOP LINE - 12"
	CW	CROSSWALK
	SWLL	SOLID WHITE LANE LINE
	BWLL	BROKEN WHITE LANE LINE (10' LINE, 30' SPACE TYP.)
	SWEL	SOLID WHITE EDGE LINE
	YGL	YELLOW GORE LINE - 12"
	DYCL	DOUBLE YELLOW CENTER LINE
	SWCHL	SOLID WHITE CHANNELIZATION LINE - 8"
	WGL	WHITE GORE LINE - 12"
	SYEL	SOLID YELLOW EDGE LINE
	BYCL	BROKEN YELLOW CENTER LINE (10' LINE, 30' SPACE TYP.) - 4"
	SYCL	SOLID YELLOW CENTER LINE
	DWLL	DOTTED WHITE LANE LINE - 4" (2' LINE, 4' SPACE)
		DIRECTION OF TRAFFIC FLOW

ABBREVIATIONS

GENERAL

AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADJ	ADJUST
APPROX.	APPROXIMATE
A.C.	ASPHALT CONCRETE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE
BIT.	BITUMINOUS
BC	BOTTOM OF CURB
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCH MARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR.	BRIDGE
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CEM	CEMENT
CI	CURB INLET
CIP	CAST IRON PIPE
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CSP	CORRUGATED STEEL PIPE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
CR GR	CROWN GRADE
DHV	DESIGN HOURLY VOLUME
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DW	STEADY DON'T WALK - PORTLAND ORANGE
DWY	DRIVEWAY
ELEV (OR EL.)	ELEVATION
EMB	EMBANKMENT
EOP	EDGE OF PAVEMENT
EXIST (OR EX)	EXISTING
EXC	EXCAVATION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FDN.	FOUNDATION
FLDSTN	FIELDSTONE
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
HDPE	HIGH-DENSITY POLYETHYLENE
HDW	HEADWALL
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HYD	HYDRANT
INV	INVERT
JCT	JUNCTION
L	LENGTH OF CURVE
LB	LEACHING BASIN
LP	LIGHT POLE
LT	LEFT
MAX	MAXIMUM
MB	MAIL BOX
MH	MANHOLE
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
NIC	NOT IN CONTRACT
NO.	NUMBER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
P.G.L.	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PROJ	PROJECT
PROP	PROPOSED
PSB	PLANTABLE SOIL BORROW
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
PWW	PAVED WATER WAY

GENERAL (CONT.)

R	RADIUS OF CURVATURE
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT-OF-WAY
RR	RAILROAD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
SB	STONE BOUND
SHLD	SHOULDER
SMH	SEWER MANHOLE
ST	STREET
STA	STATION
SSD	STOPPING SIGHT DISTANCE
SHLO	STATE HIGHWAY LAYOUT LINE
SW	SIDEWALK
T	TANGENT DISTANCE OF CURVE/
TE	TEMPORARY EASEMENT
	TRUCK PERCENTAGE
TAN	TANGENT
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TYP	TYPICAL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VC	VERTICAL CURVE
WCR	WHEELCHAIR RAMP
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN
X-SECT	CROSS SECTION

TRAFFIC SIGNAL

CAB.	CABINET
CCVE	CLOSED CIRCUIT VIDEO EQUIPMENT
DW	STEADY DON'T WALK - PORTLAND ORANGE
FDW	FLASHING DON'T WALK - PORTLAND ORANGE
FYV	FLASHING AMBER VERTICAL ARROW
FR	FLASHING CIRCULAR RED
FW	FLASHING WALK - LUNAR WHITE
FY	FLASHING CIRCULAR AMBER
FRL	FLASHING RED LEFT ARROW
FRR	FLASHING RED RIGHT ARROW
FRV	FLASHING RED VERTICAL ARROW
G	STEADY CIRCULAR GREEN
GL	STEADY GREEN LEFT ARROW
GR	STEADY GREEN RIGHT ARROW
GSL	STEADY GREEN SLASH LEFT ARROW
GSR	STEADY GREEN SLASH RIGHT ARROW
GV	STEADY GREEN VERTICAL ARROW
OL	OVERLAP
OP	OPTICOM
PED	PEDESTRIAN
PTZ	PAN, TILE, ZOOM
R	STEADY CIRCULAR RED
RV	STEADY RED VERTICAL ARROW
RL	STEADY RED LEFT ARROW
RR	STEADY RED RIGHT ARROW
TR SIG	TRAFFIC SIGNAL
TSC	TRAFFIC SIGNAL CONDUIT
W	STEADY WALK - LUNAR WHITE
Y	STEADY CIRCULAR AMBER
YL	STEADY AMBER LEFT ARROW
YR	STEADY AMBER RIGHT ARROW
YV	STEADY AMBER VERTICAL ARROW

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	2	180
PROJECT FILE NO.	606503		

LEGEND & ABBREVIATIONS

606503_HDLEGEND & ABBREV.DWG 12-Jun-2015

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	3	180
PROJECT FILE NO.		606503	

KEY PLAN & BORING LOCATIONS

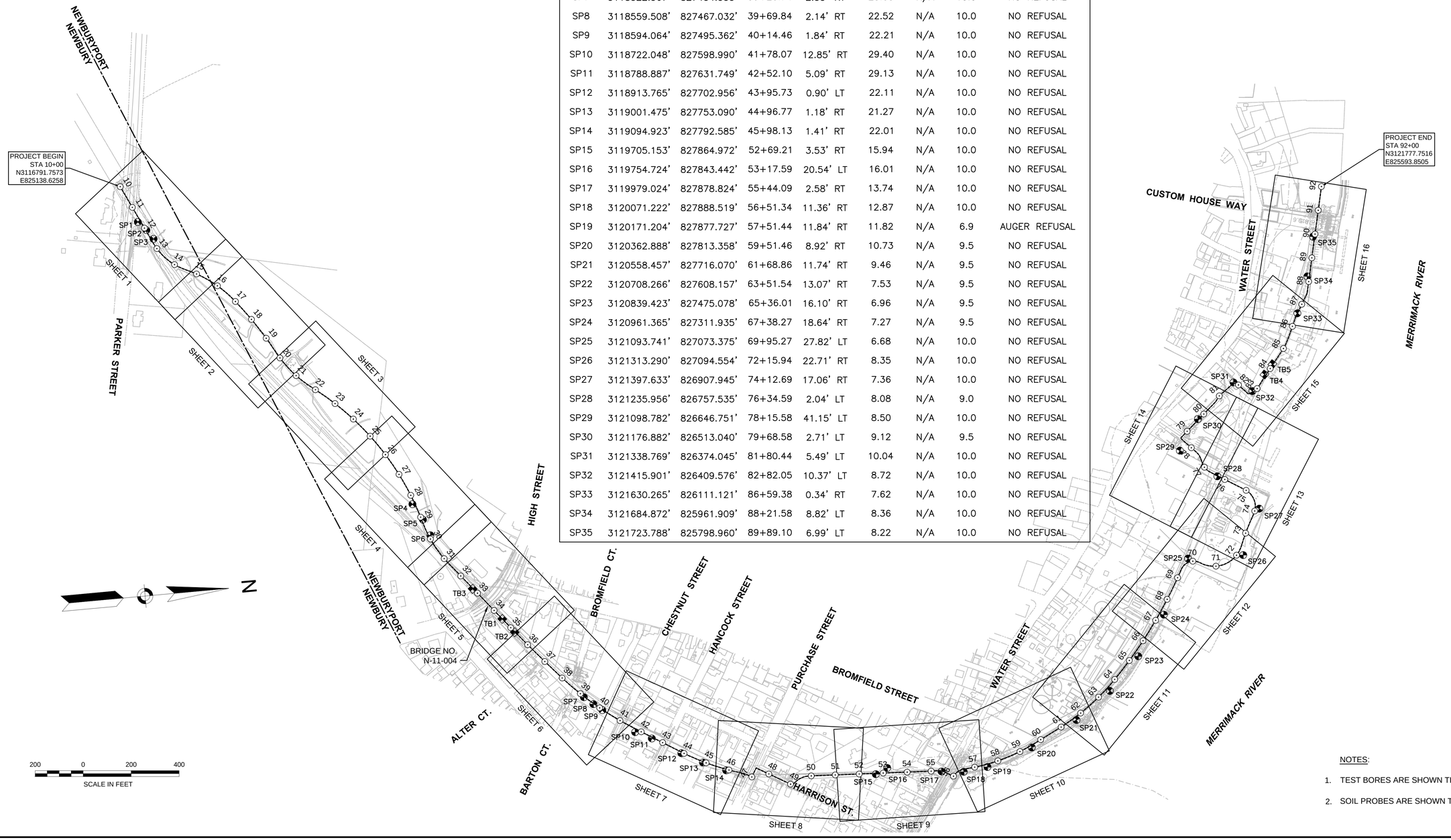
606503_HD(KEY PLAN).DWG 12-Jun-2015

BORING LOCATIONS (FEET)

BORING	NORTHING	EASTING	STATION	OFFSET	SURFACE ELEVATION	H.B.E.	ACTUAL DEPTH (FT)	COMMENT
TB1	3118213.283'	827078.602'	34+49.13	0.06' RT	26.67	N/A	16.0	NO REFUSAL
TB2	3118259.917'	827138.358'	34+24.91	1.44' RT	25.59	N/A	16.5	NO REFUSAL
TB3	3118101.734'	826942.399'	32+73.07	2.12' RT	29.52	N/A	14.7	SAMPLER REFUSAL
TB4	3121470.215'	826352.530'	83+67.27	6.57 LT	8.34	N/A	46.0	NO REFUSAL
TB5	3121507.030'	826312.690'	84+21.37	2.56 LT	8.46	N/A	26.0	NO REFUSAL

BORING LOCATIONS (FEET)

BORING	NORTHING	EASTING	STATION	OFFSET	SURFACE ELEVATION	H.B.E.	ACTUAL DEPTH (FT)	COMMENT
SP1	3116851.436'	825292.079'	11+64.28	11.00' RT	29.40	N/A	10.0	NO REFUSAL
SP2	3116880.131'	825321.686'	12+03.26	2.44' LT	30.15	N/A	10.0	NO REFUSAL
SP3	3116910.175'	825368.214'	12+58.14	9.93' LT	30.76	N/A	10.0	NO REFUSAL
SP4	3117884.253'	826568.137'	28+36.74	9.85' RT	28.67	N/A	10.0	NO REFUSAL
SP5	3117921.878'	826628.275'	29+05.65	7.34' LT	29.44	N/A	10.0	NO REFUSAL
SP6	3117950.663'	826710.919'	29+94.24	8.20' LT	28.59	N/A	9.5	NO REFUSAL
SP7	3118522.567'	827434.553'	39+20.74	2.55' RT	23.05	N/A	10.0	NO REFUSAL
SP8	3118559.508'	827467.032'	39+69.84	2.14' RT	22.52	N/A	10.0	NO REFUSAL
SP9	3118594.064'	827495.362'	40+14.46	1.84' RT	22.21	N/A	10.0	NO REFUSAL
SP10	3118722.048'	827598.990'	41+78.07	12.85' RT	29.40	N/A	10.0	NO REFUSAL
SP11	3118788.887'	827631.749'	42+52.10	5.09' RT	29.13	N/A	10.0	NO REFUSAL
SP12	3118913.765'	827702.956'	43+95.73	0.90' LT	22.11	N/A	10.0	NO REFUSAL
SP13	3119001.475'	827753.090'	44+96.77	1.18' RT	21.27	N/A	10.0	NO REFUSAL
SP14	3119094.923'	827792.585'	45+98.13	1.41' RT	22.01	N/A	10.0	NO REFUSAL
SP15	3119705.153'	827864.972'	52+69.21	3.53' RT	15.94	N/A	10.0	NO REFUSAL
SP16	3119754.724'	827843.442'	53+17.59	20.54' LT	16.01	N/A	10.0	NO REFUSAL
SP17	3119979.024'	827878.824'	55+44.09	2.58' RT	13.74	N/A	10.0	NO REFUSAL
SP18	3120071.222'	827888.519'	56+51.34	11.36' RT	12.87	N/A	10.0	NO REFUSAL
SP19	3120171.204'	827877.727'	57+51.44	11.84' RT	11.82	N/A	6.9	AUGER REFUSAL
SP20	3120362.888'	827813.358'	59+51.46	8.92' RT	10.73	N/A	9.5	NO REFUSAL
SP21	3120558.457'	827716.070'	61+68.86	11.74' RT	9.46	N/A	9.5	NO REFUSAL
SP22	3120708.266'	827608.157'	63+51.54	13.07' RT	7.53	N/A	9.5	NO REFUSAL
SP23	3120839.423'	827475.078'	65+36.01	16.10' RT	6.96	N/A	9.5	NO REFUSAL
SP24	3120961.365'	827311.935'	67+38.27	18.64' RT	7.27	N/A	9.5	NO REFUSAL
SP25	3121093.741'	827073.375'	69+95.27	27.82' LT	6.68	N/A	10.0	NO REFUSAL
SP26	3121313.290'	827094.554'	72+15.94	22.71' RT	8.35	N/A	10.0	NO REFUSAL
SP27	3121397.633'	826907.945'	74+12.69	17.06' RT	7.36	N/A	10.0	NO REFUSAL
SP28	3121235.956'	826757.535'	76+34.59	2.04' LT	8.08	N/A	9.0	NO REFUSAL
SP29	3121098.782'	826646.751'	78+15.58	41.15' LT	8.50	N/A	10.0	NO REFUSAL
SP30	3121176.882'	826513.040'	79+68.58	2.71' LT	9.12	N/A	9.5	NO REFUSAL
SP31	3121338.769'	826374.045'	81+80.44	5.49' LT	10.04	N/A	10.0	NO REFUSAL
SP32	3121415.901'	826409.576'	82+82.05	10.37' LT	8.72	N/A	10.0	NO REFUSAL
SP33	3121630.265'	826111.121'	86+59.38	0.34' RT	7.62	N/A	10.0	NO REFUSAL
SP34	3121684.872'	825961.909'	88+21.58	8.82' LT	8.36	N/A	10.0	NO REFUSAL
SP35	3121723.788'	825798.960'	89+89.10	6.99' LT	8.22	N/A	10.0	NO REFUSAL



NOTES:

1. TEST BORES ARE SHOWN THUS: ■ TB
2. SOIL PROBES ARE SHOWN THUS: ⊕ SP

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	4	180
PROJECT FILE NO.	606503		

BORING LOGS
SHEET 1 OF 6

606503_HD\BORING LOGS\DWG 12-Jun-2015

BOREHOLE LOG — TB-1

CLIENT: City of Newburyport, MA
LOCATION: Clipper City Rail Trail - Phase II, Newburyport, Massachusetts
EXPLORATION DATE: 10/3/2012 to 10/3/2012 WATER LEVEL: 12.7 DATUM:
PROJECT No. 210800843 EXPLORATION No. TB-1

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	NUMBER	RECOVERY (in.)	SPT blows / 6"	SPT N-Value	PID Reading (PPM)
0	25.0									
	24.6	Dark brown, silty fine SAND, moist (SM)								
		Very dense, yellowish brown, silty fine to coarse SAND, with fine gravel, moist (SM)			SS	1	10	4 26 35 52	61	
	23.0									
		Very dense, olive brown, fine to coarse SAND with gravel, little silt, moist (SM)			SS	2	7	60 50/3"	--	
	21.0									
5	20.0	Very dense, yellowish brown, fine to medium SAND, little silt, moist (SM)			SS	3	14	14 20 33 23	58	
	18.0	-MARINE SAND-								
		Medium dense, yellowish brown, fine to medium SAND, little silt, moist (SM)			SS	4	13	6 8 9 9	17	
10	13.0		▽2							
	11.0	Medium dense, yellowish brown, fine to medium SAND, little silt, wet (SM) with a layer of fine to coarse SAND, trace gravel from 14 to 14.5.			SS	5	12	3 5 6 9	13	
15	9.0	Boring terminated at 16.0 feet below the ground surface. No refusal.								
20										

Driller: NB Boring, Dietrich D-50 track mounted rig with autohammer, 3.25 inch HSA; Supervisor: David Chapman (STANTEC)

Undrained Shear Strength – tsf: 1 2 3 4
Water Content & Atterberg Limits: W_P w W_L
Dynamic Penetration Test, blows/foot
Standard Penetration Test, blows/foot
10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG — TB-2

CLIENT: City of Newburyport, MA
LOCATION: Clipper City Rail Trail - Phase II, Newburyport, Massachusetts
EXPLORATION DATE: 10/3/2012 to 10/3/2012 WATER LEVEL: 12.8 DATUM:
PROJECT No. 210800843 EXPLORATION No. TB-2

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	NUMBER	RECOVERY (in.)	SPT blows / 6"	SPT N-Value	PID Reading (PPM)
0	25.0									
	24.6	Dark brown, silty fine SAND, moist (SM)								
		Loose, yellowish-brown, fine to medium SAND, little fine gravel, little silt, moist (SM)			SS	1	15	3 4 6 6	10	
	23.0									
		Dense, yellowish brown, fine to coarse SAND, little fine gravel, little silt, moist (SM)			SS	2	12	15 16 17 15	33	
	21.0									
5	20.0	Very dense, yellowish brown, fine to medium SAND, some fine gravel, little silt, moist (SM)			SS	3	14	15 24 27 32	51	
	18.0	-MARINE SAND-								
		Dense, yellowish brown, fine to medium SAND, some fine gravel, little silt, moist (SM)			SS	4	5	10 15 25 20	40	
10	13.0		▽2							
	10.5	Medium dense, yellowish brown, fine to medium SAND, little silt, wet (SM)			SS	5	24	7 11 12 14	23	
15	8.8	(Olive, silty CLAY, wet (CH)								
	8.5	Boring terminated at 16.5 feet below the ground surface. No refusal.								
20										

Driller: NB Boring, Dietrich D-50 track mounted rig with autohammer, 3.25 inch HSA; Supervisor: David Chapman (STANTEC)

Undrained Shear Strength – tsf: 1 2 3 4
Water Content & Atterberg Limits: W_P w W_L
Dynamic Penetration Test, blows/foot
Standard Penetration Test, blows/foot
10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG — TB-3

CLIENT: City of Newburyport, MA
LOCATION: Clipper City Rail Trail - Phase II, Newburyport, Massachusetts
EXPLORATION DATE: 10/2/2012 to 10/2/2012 WATER LEVEL: NR DATUM:
PROJECT No. 210800843 EXPLORATION No. TB-3

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	NUMBER	RECOVERY (in.)	SPT blows / 6"	SPT N-Value	PID Reading (PPM)
0	30.0									
		Medium dense, yellowish brown, fine to medium SAND, little silt, moist (SM)			SS	1	16	3 9 9 9	18	
	28.0									
		Medium dense, yellowish brown to dark gray, fine to medium SAND, little silt , moist (SM)			SS	2	13	7 4 9 24	13	
	26.0									
5	25.0	Dense, light yellowish brown, fine SAND, little silt moist (SM)			SS	3	17	14 14 29 35	43	
	23.0	-MARINE SAND-								
		Dense, light yellowish brown, fine SAND, little silt moist (SM)			SS	4	18	10 19 29 29	48	
10	18.0									
	16.0	Light yellowish brown, fine SAND, little silt, moist (SM)			SS	5	4	33 100/2"	--	
15	15.3	Sampler refusal at 14.7 feet below the ground surface.								
20										

Driller: NB Boring, Dietrich D-50 track mounted rig with autohammer, 3.25 inch HSA; Supervisor: David Chapman (STANTEC)

Undrained Shear Strength – tsf: 1 2 3 4
Water Content & Atterberg Limits: W_P w W_L
Dynamic Penetration Test, blows/foot
Standard Penetration Test, blows/foot
10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG — TB-4

CLIENT: City of Newburyport, MA
LOCATION: Clipper City Rail Trail - Phase II, Newburyport, Massachusetts
EXPLORATION DATE: 9/28/2012 to 9/28/2012 WATER LEVEL: 6.0 DATUM:
PROJECT No. 210800843 EXPLORATION No. TB-4

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	NUMBER	RECOVERY (in.)	SPT blows / 6"	SPT N-Value	PID Reading (PPM)
0	8.0									
		Very dense, grayish brown to brown, well-graded SAND with silt and gravel, moist (SW-SM)			SS	1	11	12 17 70 16	87	
	6.0									
		Dense, grayish brown to brown, well-graded SAND with silt and gravel, moist (SW-SM)			SS	2	12	18 27 14 9	41	
	4.0									
5	3.0	-FILL-								
	2.2	Very dark gray ORGANIC SILT, some wood fragments, wet (OL)	▽2		SS	3	3	16 50/5"	---	
		-ORGANIC SILT-								
	0.0									
10	-2.0	Very loose, dark olive, silty fine SAND, wood and shells, wet (SM)			SS	4	8	1 1/12" 1	1	
	-4.0	-MARINE SAND-								
		Medium dense, dark olive, silty fine SAND, some fine gravel, wet (SM)			SS	5	19	5 9 16 15	25	
15	-8.0									
	-11.0	Medium dense, dark olive, silty fine SAND, wet (SM)						3 5		
20										

Driller: NB Boring, Dietrich D-50 track mounted rig with autohammer, 3.25 inch HSA (0-26 ft), 4 inch casing (26 - 46 ft); Supervisor: David Chapman (STANTEC)

Undrained Shear Strength – tsf: 1 2 3 4
Water Content & Atterberg Limits: W_P w W_L
Dynamic Penetration Test, blows/foot
Standard Penetration Test, blows/foot
10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane
Continued Next Page

BOREHOLE LOG — TB-4

CLIENT: City of Newburyport, MA
LOCATION: Clipper City Rail Trail - Phase II, Newburyport, Massachusetts
EXPLORATION DATE: 9/28/2012 to 9/28/2012 WATER LEVEL: 6.5 DATUM:
PROJECT No. 210800843 EXPLORATION No. TB-4

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	NUMBER	RECOVERY (in.)	SPT blows / 6"	SPT N-Value	PID Reading (PPM)
20	-13.0									
		Medium dense, olive fine SAND, trace silt, wet (SP)			SS	6	19	6 8 8	13	
	-16.0									
25		-MARINE SAND-			SS	7	24	WOH 3 8 15	11	
	-18.0									
		Very dense, yellowish brown, fine SAND, trace silt, wet (SP)			SS	8	12	69 37 28 36	95	
30	-21.0									
	-23.0									
		Dense, yellowish brown, fine to medium SAND, trace silt, wet (SP)			SS	9	10	28 18 28 22	44	
35	-28.0									
	-31.0	Very dense, yellowish brown, fine SAND, trace silt, wet (SP)						17 21		
40										

Driller: NB Boring, Dietrich D-50 track mounted rig with autohammer, 3.25 inch HSA (0-26 ft), 4 inch casing (26 - 46 ft); Supervisor: David Chapman (STANTEC)

Undrained Shear Strength – tsf: 1 2 3 4
Water Content & Atterberg Limits: W_P w W_L
Dynamic Penetration Test, blows/foot
Standard Penetration Test, blows/foot
10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane
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BOREHOLE LOG — TB-4

CLIENT: City of Newburyport, MA
LOCATION: Clipper City Rail Trail - Phase II, Newburyport, Massachusetts
EXPLORATION DATE: 9/28/2012 to 9/28/2012 WATER LEVEL: 6.5 DATUM:
PROJECT No. 210800843 EXPLORATION No. TB-4

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	NUMBER	RECOVERY (in.)	SPT blows / 6"	SPT N-Value	PID Reading (PPM)
40	-33.0	-MARINE SAND-			SS	10	14	25 39	66	
	-36.0	Very dense, yellowish brown, fine SAND, trace silt, wet (SP)			SS	11	11	24 39 38 48	77	
45	-38.0	Boring terminated at 46 feet below ground surface. No refusal.								
50										
55										
60										

Driller: NB Boring, Dietrich D-50 track mounted rig with autohammer, 3.25 inch HSA (0-26 ft), 4 inch casing (26 - 46 ft); Supervisor: David Chapman (STANTEC)

Undrained Shear Strength – tsf: 1 2 3 4
Water Content & Atterberg Limits: W_P w W_L
Dynamic Penetration Test, blows/foot
Standard Penetration Test, blows/foot
10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG — TB-5

CLIENT: City of Newburyport, MA
LOCATION: Clipper City Rail Trail - Phase II, Newburyport, Massachusetts
EXPLORATION DATE: 9/28/2012 to 9/28/2012 WATER LEVEL: 6.5 DATUM:
PROJECT No. 210800843 EXPLORATION No. TB-5

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	NUMBER	RECOVERY (in.)	SPT blows / 6"	SPT N-Value	PID Reading (PPM)
0	8.0									
		Very dense, light olive brown to light yellowish brown, fine to coarse SAND, little fine gravel, trace silt, moist (SW)			SS	1	13	20 27 43 39	70	
	6.0									
		Dense, light olive brown to light yellowish brown, fine to coarse SAND, little fine gravel, trace silt, moist (SW)			SS	2	4	25 30 17 20	47	
	4.0									
5	3.0	-FILL-								
	1.5	Very loose, mottled reddish brown and olive brown, silty fine SAND, moist (SM)	▽2		SS	3	21	1/12" 2 5	3	
	1.0	Grayish brown, silty fine SAND, wet (SM)								
10	-2.0	Very loose, dark olive, silty fine SAND, wet (SM) Note: organic odor			SS	4	2	1 1/12" 2	1	
	-4.0	-MARINE SAND-								
	-6.0	Dense, dark olive, silty fine SAND, wet (SM) Note: organic odor			SS	5	2	14 11 19 23	30	
15	-8.0									
	-11.0	Medium dense, dark brown to grayish brown, silty fine SAND, wet (SM) Note: organic odor						5 7		
20	-12.0									

Driller: NB Boring, Dietrich D-50 track mounted rig with autohammer, 3.25 inch HSA; Supervisor: David Chapman (STANTEC)

Undrained Shear Strength – tsf: 1 2 3 4
Water Content & Atterberg Limits: W_P w W_L
Dynamic Penetration Test, blows/foot
Standard Penetration Test, blows/foot
10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane
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BOREHOLE LOG — TB-5

CLIENT: City of Newburyport, MA
LOCATION: Clipper City Rail Trail - Phase II, Newburyport, Massachusetts
EXPLORATION DATE: 9/28/2012 to 9/28/2012 WATER LEVEL: 6.5 DATUM:
PROJECT No. 210800843 EXPLORATION No. TB-5

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	NUMBER	RECOVERY (in.)	SPT blows / 6"	SPT N-Value	PID Reading (PPM)
20	-13.0									
		Medium dense, brown, ORGANIC SILT, with wood fragments, wet (OL)			SS	6	22	5 10	12	
	-15.0	-ORGANIC SILT-								
25	-16.0									
		Loose, gray, fine to coarse SAND, some fine gravel, trace silt, wet (SW)			SS	7	8	3 2 8 21	10	
	-18.0	-MARINE SAND-								
		Boring terminated at 26.0 feet below ground surface. No refusal.								
30										
35										
40										

Driller: NB Boring, Dietrich D-50 track mounted rig with autohammer, 3.25 inch HSA; Supervisor: David Chapman (STANTEC)

Undrained Shear Strength – tsf: 1 2 3 4
Water Content & Atterberg Limits: W_P w W_L
Dynamic Penetration Test, blows/foot
Standard Penetration Test, blows/foot
10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	5	180
PROJECT FILE NO.	606503		

BORING LOGS
SHEET 2 OF 6

606503_HD(BORING LOGS).DWG 12-Jun-2015

BOREHOLE LOG SP-1

CLIENT: City of Newburyport, MA — PROJECT No.: 210800843
LOCATION: Clipper City Rail Trail - Phase II, Newburyport, Massachusetts — EXPLORATION No.: SP-1
EXPLORATION DATE: 10/2/2012 to 10/2/2012 — WATER LEVEL: NE — DATUM:

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
	29.5	
0		0 to 66 inches Soil Horizon/Layer: A - C Yellowish brown, silt loam, 0% gravel, friable - firm
	24.0	
5		66 to 120 inches Soil Horizon/Layer: C Olive, silty clay, 0% gravel, firm
	19.5	
10		Probe terminated at 10.0 feet below the ground surface. No refusal.
15		

Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Stanley)

Undrained Shear Strength - tsf (1 2 3 4); Water Content & Atterberg Limits (W_P ✕ W W_L); Dynamic Penetration Test, blows/foot ★; Standard Penetration Test, blows/foot ●; 10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-2

CLIENT: City of Newburyport, MA — PROJECT No.: 210800843
LOCATION: Clipper City Rail Trail - Phase II, Newburyport, Massachusetts — EXPLORATION No.: SP-2
EXPLORATION DATE: 10/2/2012 to 10/2/2012 — WATER LEVEL: NE — DATUM:

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
	30.0	
0		0 to 48 inches Soil Horizon/Layer: A - C Olive, silt loam, 0% gravel, friable - firm
	20.0	
5		48 to 120 inches Soil Horizon/Layer: C Olive, silty clay, 0% gravel, firm
10		Probe terminated at 10.0 feet below the ground surface. No refusal.
15		

Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Stanley)

Undrained Shear Strength - tsf (1 2 3 4); Water Content & Atterberg Limits (W_P ✕ W W_L); Dynamic Penetration Test, blows/foot ★; Standard Penetration Test, blows/foot ●; 10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-3

CLIENT: City of Newburyport, MA — PROJECT No.: 210800843
LOCATION: Clipper City Rail Trail - Phase II, Newburyport, Massachusetts — EXPLORATION No.: SP-3
EXPLORATION DATE: 10/2/2012 to 10/2/2012 — WATER LEVEL: NE — DATUM:

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
	30.5	
0		0 to 24 inches Soil Horizon/Layer: A - B Brown, silt loam, 0% gravel, friable
	28.5	
		24 to 48 inches Soil Horizon/Layer: B Yellowish brown, silt loam, 0% gravel, firm
	26.5	
5		48 to 120 inches Soil Horizon/Layer: C Olive, clay loam, 0% gravel, firm
	20.5	
10		Probe terminated at 10.0 feet below the ground surface. No refusal.
15		

Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Stanley)

Undrained Shear Strength - tsf (1 2 3 4); Water Content & Atterberg Limits (W_P ✕ W W_L); Dynamic Penetration Test, blows/foot ★; Standard Penetration Test, blows/foot ●; 10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-4

CLIENT: City of Newburyport, MA — PROJECT No.: 210800843
LOCATION: Clipper City Rail Trail - Phase II, Newburyport, Massachusetts — EXPLORATION No.: SP-4
EXPLORATION DATE: 10/2/2012 to 10/2/2012 — WATER LEVEL: NE — DATUM:

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
	29.0	
0		0 to 60 inches Soil Horizon/Layer: A - C Light yellowish brown, fine sand, 0% gravel, loose
	24.0	
5		60 to 120 inches Soil Horizon/Layer: C Yellowish brown, fine-medium sand, 1% gravel, loose
	19.0	
10		Probe terminated at 10.0 feet below the ground surface. No refusal.
15		

Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Stanley)

Undrained Shear Strength - tsf (1 2 3 4); Water Content & Atterberg Limits (W_P ✕ W W_L); Dynamic Penetration Test, blows/foot ★; Standard Penetration Test, blows/foot ●; 10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-5

CLIENT: City of Newburyport, MA — PROJECT No.: 210800843
LOCATION: Clipper City Rail Trail - Phase II, Newburyport, Massachusetts — EXPLORATION No.: SP-5
EXPLORATION DATE: 10/2/2012 to 10/2/2012 — WATER LEVEL: NE — DATUM:

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
	29.5	
0	29.0	0 to 6 inches Soil Horizon/Layer: A Brown, loamy sand, 0% gravel, friable
		6 to 120 inches Soil Horizon/Layer: B - C Light yellowish brown, fine sand, 1% gravel, loose
5		
	19.5	
10		Probe terminated at 10.0 feet below the ground surface. No refusal.
15		

Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Stanley)

Undrained Shear Strength - tsf (1 2 3 4); Water Content & Atterberg Limits (W_P ✕ W W_L); Dynamic Penetration Test, blows/foot ★; Standard Penetration Test, blows/foot ●; 10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-6

CLIENT: City of Newburyport, MA — PROJECT No.: 210800843
LOCATION: Clipper City Rail Trail - Phase II, Newburyport, Massachusetts — EXPLORATION No.: SP-6
EXPLORATION DATE: 10/2/2012 to 10/2/2012 — WATER LEVEL: NE — DATUM:

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
	28.5	
0	28.0	0 to 6 inches Soil Horizon/Layer: A Brown, loamy sand, 0% gravel, friable
		6 to 114 inches Soil Horizon/Layer: B - C Light yellowish brown, fine sand, 1% gravel, loose
5		
	19.0	
10		Probe terminated at 9.5 feet below the ground surface. No refusal.
15		

Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Stanley)

Undrained Shear Strength - tsf (1 2 3 4); Water Content & Atterberg Limits (W_P ✕ W W_L); Dynamic Penetration Test, blows/foot ★; Standard Penetration Test, blows/foot ●; 10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-7

CLIENT: City of Newburyport, MA — PROJECT No.: 210800843
LOCATION: Clipper City Rail Trail - Phase II, Newburyport, Massachusetts — EXPLORATION No.: SP-7
EXPLORATION DATE: 10/3/2012 to 10/3/2012 — WATER LEVEL: NE — DATUM:

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
	23.0	
0	22.5	0 to 6 inches Soil Horizon/Layer: A Dark brown, sandy loam, 7% gravel, friable
		6 to 120 inches Soil Horizon/Layer: B - C Light yellowish brown, fine - coarse sand, 5-10% gravel, loose
5		
	13.0	
10		Probe terminated at 10.0 feet below the ground surface. No refusal.
15		

Driller: NB Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Stanley)

Undrained Shear Strength - tsf (1 2 3 4); Water Content & Atterberg Limits (W_P ✕ W W_L); Dynamic Penetration Test, blows/foot ★; Standard Penetration Test, blows/foot ●; 10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-8-GMW

CLIENT: City of Newburyport, MA — PROJECT No.: 210800843
LOCATION: Clipper City Rail Trail - Phase II, Newburyport, Massachusetts — EXPLORATION No.: SP-8-GMW
EXPLORATION DATE: 10/3/2012 to 10/3/2012 — WATER LEVEL: NE — DATUM:

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
	22.5	
0	22.0	0 to 6 inches Soil Horizon/Layer: A Dark brown, sandy loam, 0% gravel, friable
		6 to 120 inches Soil Horizon/Layer: B - C Yellowish brown, fine - medium sand, 1% gravel, loose
5		
	12.5	
10		Probe terminated at 10.0 feet below the ground surface. No refusal. 1 inch diameter PVC well installed with screen from 5 to 10 feet below ground surface.
15		

Driller: NB Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Stanley)

Undrained Shear Strength - tsf (1 2 3 4); Water Content & Atterberg Limits (W_P ✕ W W_L); Dynamic Penetration Test, blows/foot ★; Standard Penetration Test, blows/foot ●; 10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	6	180
PROJECT FILE NO.	606503		

BORING LOGS
SHEET 3 OF 6

12-Jun-2015

606503_HD\BORING LOGS\DWG

BOREHOLE LOG SP-9

CLIENT City of Newburyport, MA
LOCATION Clipper City Rail Trail - Phase II, Newburyport, Massachusetts
EXPLORATION DATE 10/3/2012 to 10/3/2012 WATER LEVEL NE DATUM
PROJECT No. 210800843 EXPLORATION No. SP-9

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SPT Blows / 6"	SPT N-Value	PID Reading (PPM)
0	22.0				In.			
	21.5	0 to 6 inches Soil Horizon/Layer: A Dark brown, sandy loam, 0% gravel, friable						
		6 to 120 inches Soil Horizon/Layer: B - C Light yellowish brown, sand, 0% gravel, loose						
10	12.0	Probe terminated at 10.0 feet below the ground surface. No refusal.						
15		Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Shanley)						

Undrained Shear Strength - tsf: 1 2 3 4 (W_P W W_L)
Water Content & Atterberg Limits
Dynamic Penetration Test, blows/foot ★
Standard Penetration Test, blows/foot ●
10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-10

CLIENT City of Newburyport, MA
LOCATION Clipper City Rail Trail - Phase II, Newburyport, Massachusetts
EXPLORATION DATE 10/3/2012 to 10/3/2012 WATER LEVEL NE DATUM
PROJECT No. 210800843 EXPLORATION No. SP-10

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SPT Blows / 6"	SPT N-Value	PID Reading (PPM)
0	29.5				In.			
	29.0	0 to 6 inches Soil Horizon/Layer: A Dark brown, sandy loam, 1% gravel, friable						
		6 to 120 inches Soil Horizon/Layer: B - C Yellowish brown, fine - medium sand, 0% gravel, loose						
10	19.5	Probe terminated at 10.0 feet below the ground surface. No refusal.						
15		Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Shanley)						

Undrained Shear Strength - tsf: 1 2 3 4 (W_P W W_L)
Water Content & Atterberg Limits
Dynamic Penetration Test, blows/foot ★
Standard Penetration Test, blows/foot ●
10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-11-GMW

CLIENT City of Newburyport, MA
LOCATION Clipper City Rail Trail - Phase II, Newburyport, Massachusetts
EXPLORATION DATE 10/3/2012 to 10/3/2012 WATER LEVEL NE DATUM
PROJECT No. 210800843 EXPLORATION No. SP-11-GMW

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SPT Blows / 6"	SPT N-Value	PID Reading (PPM)
0	29.5				In.			
	29.0	0 to 6 inches Soil Horizon/Layer: A Dark brown, loamy sand, 1% gravel, friable						
		6 to 120 inches Soil Horizon/Layer: B - C Light yellowish brown, sand, 5% gravel, loose						
10	19.5	Probe terminated at 10.0 feet below the ground surface. No refusal. 1 inch diameter PVC well installed with screen from 5 to 10 feet below ground surface.						
15		Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Shanley)						

Undrained Shear Strength - tsf: 1 2 3 4 (W_P W W_L)
Water Content & Atterberg Limits
Dynamic Penetration Test, blows/foot ★
Standard Penetration Test, blows/foot ●
10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-12

CLIENT City of Newburyport, MA
LOCATION Clipper City Rail Trail - Phase II, Newburyport, Massachusetts
EXPLORATION DATE 10/4/2012 to 10/4/2012 WATER LEVEL NE DATUM
PROJECT No. 210800843 EXPLORATION No. SP-12

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SPT Blows / 6"	SPT N-Value	PID Reading (PPM)
0	22.0				In.			
	21.0	0 to 12 inches Soil Horizon/Layer: A Brown, loamy sand, 1% gravel, friable						
		12 to 84 inches Soil Horizon/Layer: B - C Light yellowish brown, fine - medium sand, 1% gravel, loose						
	15.0	84 to 120 inches Soil Horizon/Layer: C Light yellowish brown, fine sand, 0% gravel, loose						
10	12.0	Probe terminated at 10.0 feet below the ground surface. No refusal.						
15		Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Shanley)						

Undrained Shear Strength - tsf: 1 2 3 4 (W_P W W_L)
Water Content & Atterberg Limits
Dynamic Penetration Test, blows/foot ★
Standard Penetration Test, blows/foot ●
10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-13-GMW

CLIENT City of Newburyport, MA
LOCATION Clipper City Rail Trail - Phase II, Newburyport, Massachusetts
EXPLORATION DATE 10/4/2012 to 10/4/2012 WATER LEVEL NE DATUM
PROJECT No. 210800843 EXPLORATION No. SP-13-GMW

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SPT Blows / 6"	SPT N-Value	PID Reading (PPM)
0	21.5				In.			
	20.5	0 to 12inches Soil Horizon/Layer: A Dark brown, loamy sand, 1% gravel, friable						
		12 to 120 inches Soil Horizon/Layer: B - C Light yellowish brown, fine - medium sand, 1% gravel, loose						
10	11.5	Probe terminated at 10.0 feet below the ground surface. No refusal. 1 inch diameter PVC well installed with screen from 5 to 10 feet below ground surface.						
15		Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Shanley)						

Undrained Shear Strength - tsf: 1 2 3 4 (W_P W W_L)
Water Content & Atterberg Limits
Dynamic Penetration Test, blows/foot ★
Standard Penetration Test, blows/foot ●
10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-14

CLIENT City of Newburyport, MA
LOCATION Clipper City Rail Trail - Phase II, Newburyport, Massachusetts
EXPLORATION DATE 10/4/2012 to 10/4/2012 WATER LEVEL NE DATUM
PROJECT No. 210800843 EXPLORATION No. SP-14

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SPT Blows / 6"	SPT N-Value	PID Reading (PPM)
0	22.0				In.			
	21.5	0 to 6 inches Soil Horizon/Layer: A Dark brown, loamy sand, 10% gravel, friable						
	20.5	6 to 18 inches Soil Horizon/Layer: B Brown, loamy fine - coarse sand, 10% gravel, friable						
		18 to 60 inches Soil Horizon/Layer: B - C Light yellowish brown, fine - coarse sand, 15% gravel						
	17.0	60 to 120 inches Soil Horizon/Layer: C Light yellowish brown, fine - medium sand, 2% gravel						
10	12.0	Probe terminated at 10.0 feet below the ground surface. No refusal.						
15		Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Shanley)						

Undrained Shear Strength - tsf: 1 2 3 4 (W_P W W_L)
Water Content & Atterberg Limits
Dynamic Penetration Test, blows/foot ★
Standard Penetration Test, blows/foot ●
10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-15

CLIENT City of Newburyport, MA
LOCATION Clipper City Rail Trail - Phase II, Newburyport, Massachusetts
EXPLORATION DATE 10/4/2012 to 10/4/2012 WATER LEVEL 8.0 DATUM
PROJECT No. 210800843 EXPLORATION No. SP-15

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SPT Blows / 6"	SPT N-Value	PID Reading (PPM)
0	16.0				In.			
	15.7	0 to 3 inches Soil Horizon/Layer: A Dark brown, sandy loam, 0% gravel, friable						
	15.0	3 to 12 inches Soil Horizon/Layer: B Brown, loamy sand, 0% gravel, friable						
		12 to 120 inches Soil Horizon/Layer: B - C Light yellowish brown, fine - medium sand, 1% gravel, loose						
10	6.0	Probe terminated at 10.0 feet below the ground surface. No refusal.						
15		Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Shanley)						

Undrained Shear Strength - tsf: 1 2 3 4 (W_P W W_L)
Water Content & Atterberg Limits
Dynamic Penetration Test, blows/foot ★
Standard Penetration Test, blows/foot ●
10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-16

CLIENT City of Newburyport, MA
LOCATION Clipper City Rail Trail - Phase II, Newburyport, Massachusetts
EXPLORATION DATE 10/4/2012 to 10/4/2012 WATER LEVEL 8.0 DATUM
PROJECT No. 210800843 EXPLORATION No. SP-16

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SPT Blows / 6"	SPT N-Value	PID Reading (PPM)
0	16.0				In.			
		0 to 36 inches Soil Horizon/Layer: A - B Brown, loamy sand, 1% gravel, friable						
	13.0	36 to 120 inches Soil Horizon/Layer: C Yellowish brown, fine - medium sand, 1% gravel, loose						
10	6.0	Probe terminated at 10.0 feet below the ground surface. No refusal.						
15		Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Shanley)						

Undrained Shear Strength - tsf: 1 2 3 4 (W_P W W_L)
Water Content & Atterberg Limits
Dynamic Penetration Test, blows/foot ★
Standard Penetration Test, blows/foot ●
10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	7	180
PROJECT FILE NO.	606503		

BORING LOGS
SHEET 4 OF 6

606503_HD(BORING LOGS).DWG 12-Jun-2015

BOREHOLE LOG SP-17

CLIENT City of Newburyport, MA — PROJECT No. 210800843
LOCATION Clipper City Rail Trail - Phase II, Newburyport, Massachusetts — EXPLORATION No. SP-17
EXPLORATION DATE 10/2/2012 to 10/2/2012 — WATER LEVEL 7.5 — DATUM

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
	13.5	
0		0 to 12 inches Soil Horizon/Layer: Fill Grey - brown, loamy sand, 5% gravel, firm Crushed gravel on surface. Driveway subbase under
	12.5	12 to 24 inches Soil Horizon/Layer: B Yellowish brown, loamy sand, 2% gravel, friable
	11.5	24 to 120 inches Soil Horizon/Layer: B - C Yellowish brown, loamy sand to sand, 1% gravel, loose
5		
10	3.5	Probe terminated at 10.0 feet below the ground surface. No refusal.
15		

Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Shanley)

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-18

CLIENT City of Newburyport, MA — PROJECT No. 210800843
LOCATION Clipper City Rail Trail - Phase II, Newburyport, Massachusetts — EXPLORATION No. SP-18
EXPLORATION DATE 10/2/2012 to 10/2/2012 — WATER LEVEL 9.0 — DATUM

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
	12.5	
0		0 to 96 inches Soil Horizon/Layer: Fill Yellowish brown, sand, 1% gravel, friable
	4.5	96 to 108 inches Soil Horizon/Layer: A - B Yellowish brown, sandy loam, 1% gravel, friable
	3.5	108 to 120 inches Soil Horizon/Layer: C Olive brown, sand, 1% gravel, loose
10	2.5	Probe terminated at 10.0 feet below the ground surface. No refusal.
15		

Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Shanley)

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-19

CLIENT City of Newburyport, MA — PROJECT No. 210800843
LOCATION Clipper City Rail Trail - Phase II, Newburyport, Massachusetts — EXPLORATION No. SP-19
EXPLORATION DATE 10/2/2012 to 10/2/2012 — WATER LEVEL NE — DATUM

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
	12.0	
0	11.9	0 to 1 inches Soil Horizon/Layer: Fill Dark brown, loamy sand, 2% gravel, friable
	11.0	1 to 12 inches Soil Horizon/Layer: Fill Light yellowish brown, loamy sand, 25% gravel, friable
		12 to 83 inches Soil Horizon/Layer: Fill Olive brown, loamy sand, 15% gravel, friable
5		
10	5.1	Probe terminated at 6.9 feet below the ground surface on auger refusal. Initial attempt refused at 6.1 feet below ground surface.
15		

Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Shanley)

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-20

CLIENT City of Newburyport, MA — PROJECT No. 210800843
LOCATION Clipper City Rail Trail - Phase II, Newburyport, Massachusetts — EXPLORATION No. SP-20
EXPLORATION DATE 10/2/2012 to 10/2/2012 — WATER LEVEL 6.0 — DATUM

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
	10.0	
0		0 to 12 inches Soil Horizon/Layer: A Dark brown, sandy loam, 0% gravel, friable
	9.0	12 to 30 inches Soil Horizon/Layer: B Yellowish brown, sandy loam, 0% gravel, friable
	7.5	30 to 72 inches Soil Horizon/Layer: C Yellowish brown, sand, 0% gravel, loose
5	4.0	72 to 114 inches Soil Horizon/Layer: C Olive brown, sand, 15% gravel, loose
10	0.5	Probe terminated at 9.5 feet below the ground surface. No refusal.
15		

Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Shanley)

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-21

CLIENT City of Newburyport, MA — PROJECT No. 210800843
LOCATION Clipper City Rail Trail - Phase II, Newburyport, Massachusetts — EXPLORATION No. SP-21
EXPLORATION DATE 10/1/2012 to 10/1/2012 — WATER LEVEL 6.3 — DATUM

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
	9.5	
0		0 to 12 inches Soil Horizon/Layer: A Yellowish brown, sandy loam, 5% gravel, friable
	8.5	12 to 30 inches Soil Horizon/Layer: B Yellowish brown, sandy loam, 15% gravel, friable
	7.0	30 to 114 inches Soil Horizon/Layer: C Olive brown, sand, 10% gravel, loose
5		
10	0.0	Probe terminated at 9.5 feet below the ground surface. No refusal.
15		

Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Shanley)

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-22

CLIENT City of Newburyport, MA — PROJECT No. 210800843
LOCATION Clipper City Rail Trail - Phase II, Newburyport, Massachusetts — EXPLORATION No. SP-22
EXPLORATION DATE 10/1/2012 to 10/1/2012 — WATER LEVEL 6.0 — DATUM

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
	7.5	
0		0 to 30 inches Soil Horizon/Layer: A - B Yellowish brown, sandy loam, 2% gravel, friable
	5.0	30 to 114 inches Soil Horizon/Layer: C Olive brown, sand, 2% gravel, loose
5		
10	-2.0	Probe terminated at 9.5 feet below the ground surface. No refusal.
15		

Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Shanley)

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-23

CLIENT City of Newburyport, MA — PROJECT No. 210800843
LOCATION Clipper City Rail Trail - Phase II, Newburyport, Massachusetts — EXPLORATION No. SP-23
EXPLORATION DATE 10/1/2012 to 10/1/2012 — WATER LEVEL 4.0 — DATUM

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
	7.0	
0		0 to 30 inches Soil Horizon/Layer: A - B Yellowish brown, sandy loam, 2% gravel, friable
	4.5	30 to 114 inches Soil Horizon/Layer: C Light olive brown, sand, 1% gravel, loose
5		
10	-2.5	Probe terminated at 9.5 feet below the ground surface. No refusal.
15		

Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Shanley)

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG SP-24

CLIENT City of Newburyport, MA — PROJECT No. 210800843
LOCATION Clipper City Rail Trail - Phase II, Newburyport, Massachusetts — EXPLORATION No. SP-24
EXPLORATION DATE 10/1/2012 to 10/1/2012 — WATER LEVEL 4.1 — DATUM

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
	7.5	
0		0 to 24 inches Soil Horizon/Layer: Fill Yellowish brown, loamy sand, 5% gravel, friable
	5.5	24 to 60 inches Soil Horizon/Layer: Fill Dark gray, silt loam, 0% gravel, friable - firm
5	2.5	60 to 114 inches Soil Horizon/Layer: Fill Dark olive, clay loam, 5% gravel, friable - firm
10	-2.0	Probe terminated at 9.5 feet below the ground surface. No refusal.
15		

Driller: NH Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Shanley)

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	8	180
PROJECT FILE NO.	606503		

BORING LOGS
SHEET 5 OF 6

12-Jun-2015

606503_HD\BORING LOGS\DWG

BOREHOLE LOG — SP-25

CLIENT City of Newburyport, MA — PROJECT No. 210800843
LOCATION Clipper City Rail Trail – Phase II, Newburyport, Massachusetts — EXPLORATION No. SP-25
EXPLORATION DATE 10/1/2012 to 10/1/2012 — WATER LEVEL 5.0 — DATUM

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
0	7.0	0 to 60 inches Soil Horizon/Layer: Fill Yellowish brown, loamy sand, 2% gravel, friable
5	2.0	60 to 120 inches Soil Horizon/Layer: Fill Yellowish brown, loamy sand, 5% gravel, friable
10	-3.0	Probe terminated at 10.0 feet below the ground surface. No refusal.
15		

STRATA PLOT: SC
SAMPLES: TYPE, NUMBER, RECOVERY (in.), SPT blows / 6", SPT N-Value
PID Reading (PPM)
Undrained Shear Strength – tsf: 1 2 3 4; W_P W W_L
Water Content & Atterberg Limits
Dynamic Penetration Test, blows/foot ★
Standard Penetration Test, blows/foot ●
10 20 30 40 50 60 70 80 90

Driller: NB Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Stantec)

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG — SP-26

CLIENT City of Newburyport, MA — PROJECT No. 210800843
LOCATION Clipper City Rail Trail – Phase II, Newburyport, Massachusetts — EXPLORATION No. SP-26
EXPLORATION DATE 10/1/2012 to 10/1/2012 — WATER LEVEL 3.5 — DATUM

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
0	8.5	0 to 12 inches Soil Horizon/Layer: Fill Dark brown, loamy sand, 10% gravel, friable, coal ash in soil
5	7.5	12 to 42 inches Soil Horizon/Layer: Fill Yellowish brown, loam, 20% gravel, 10% cobbles & stone, friable, coal ash and brick in soil
10	5.0	42 to 120 inches Soil Horizon/Layer: Fill Olive brown, loam, 5-10% gravel, friable, coal ash and brick in soil
15	-1.5	Probe terminated at 10.0 feet below the ground surface. No refusal.

STRATA PLOT: SC
SAMPLES: TYPE, NUMBER, RECOVERY (in.), SPT blows / 6", SPT N-Value
PID Reading (PPM)
Undrained Shear Strength – tsf: 1 2 3 4; W_P W W_L
Water Content & Atterberg Limits
Dynamic Penetration Test, blows/foot ★
Standard Penetration Test, blows/foot ●
10 20 30 40 50 60 70 80 90

Driller: NB Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Stantec)

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG — SP-27

CLIENT City of Newburyport, MA — PROJECT No. 210800843
LOCATION Clipper City Rail Trail – Phase II, Newburyport, Massachusetts — EXPLORATION No. SP-27
EXPLORATION DATE 10/1/2012 to 10/1/2012 — WATER LEVEL 4.0 — DATUM

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
0	7.5	0 to 24 inches Soil Horizon/Layer: Fill Very dark gray, sandy loam, 20% gravel, coal ash in soil
5	5.5	24 to 60 inches Soil Horizon/Layer: Fill Very dark gray, loam, 10% gravel, coal ash and wood in soil
10	2.5	60 to 120 inches Soil Horizon/Layer: A – C Olive brown, loam, 5% gravel
15	-2.5	Probe terminated at 10.0 feet below the ground surface. No refusal.

STRATA PLOT: SC
SAMPLES: TYPE, NUMBER, RECOVERY (in.), SPT blows / 6", SPT N-Value
PID Reading (PPM)
Undrained Shear Strength – tsf: 1 2 3 4; W_P W W_L
Water Content & Atterberg Limits
Dynamic Penetration Test, blows/foot ★
Standard Penetration Test, blows/foot ●
10 20 30 40 50 60 70 80 90

Driller: NB Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Stantec)

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG — SP-28

CLIENT City of Newburyport, MA — PROJECT No. 210800843
LOCATION Clipper City Rail Trail – Phase II, Newburyport, Massachusetts — EXPLORATION No. SP-28
EXPLORATION DATE 10/1/2012 to 10/1/2012 — WATER LEVEL 6.0 — DATUM

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
0	8.0	0 to 12 inches Soil Horizon/Layer: Fill Dark brown, sandy loam, 10% gravel, friable, coal ash and wood in soil
5	3.0	12 to 60 inches Soil Horizon/Layer: Fill Yellowish brown, loamy sand, 10% gravel, friable, coal ash and wood in soil
10	-1.0	60 to 108 inches Soil Horizon/Layer: Fill Dark olive, loam, 20% gravel, friable, wood and brick in soil
15		Probe terminated at 9.0 feet below the ground surface. No refusal.

STRATA PLOT: SC
SAMPLES: TYPE, NUMBER, RECOVERY (in.), SPT blows / 6", SPT N-Value
PID Reading (PPM)
Undrained Shear Strength – tsf: 1 2 3 4; W_P W W_L
Water Content & Atterberg Limits
Dynamic Penetration Test, blows/foot ★
Standard Penetration Test, blows/foot ●
10 20 30 40 50 60 70 80 90

Driller: NB Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Stantec)

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG — SP-29

CLIENT City of Newburyport, MA — PROJECT No. 210800843
LOCATION Clipper City Rail Trail – Phase II, Newburyport, Massachusetts — EXPLORATION No. SP-29
EXPLORATION DATE 10/1/2012 to 10/1/2012 — WATER LEVEL 6.5 — DATUM

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
0	8.5	0 to 72 inches Soil Horizon/Layer: Fill Dark brown, loam, 10% gravel, friable
5	2.5	72 to 80 inches Soil Horizon/Layer: Fill 90% gravel, 1 inch diameter semi-rounded to semi-angular
10	1.8	80 to 120 inches Soil Horizon/Layer: A – C Very dark gray, 20% gravel, friable
15	-1.5	Probe terminated at 10.0 feet below the ground surface. No refusal.

STRATA PLOT: SC
SAMPLES: TYPE, NUMBER, RECOVERY (in.), SPT blows / 6", SPT N-Value
PID Reading (PPM)
Undrained Shear Strength – tsf: 1 2 3 4; W_P W W_L
Water Content & Atterberg Limits
Dynamic Penetration Test, blows/foot ★
Standard Penetration Test, blows/foot ●
10 20 30 40 50 60 70 80 90

Driller: NB Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Stantec)

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG — SP-30

CLIENT City of Newburyport, MA — PROJECT No. 210800843
LOCATION Clipper City Rail Trail – Phase II, Newburyport, Massachusetts — EXPLORATION No. SP-30
EXPLORATION DATE 10/1/2012 to 10/1/2012 — WATER LEVEL 5.0 — DATUM

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
0	9.5	0 to 12 inches Soil Horizon/Layer: Fill Dark brown, sandy loam, 10% gravel, friable
5	8.5	12 to 48 inches Soil Horizon/Layer: Fill Dark olive brown, loam, 10% gravel, friable
10	5.5	48 to 84 inches Soil Horizon/Layer: Fill Dark olive, clay loam 5% gravel, friable – firm
15	2.5	84 to 96 inches Soil Horizon/Layer: Fill Dark olive, clay loam 5% gravel, friable – firm
	1.5	96 to 114 inches Soil Horizon/Layer: Fill Dark olive, clay loam 5% gravel, friable – firm
	0.0	Probe terminated at 9.5 feet below the ground surface. No refusal.

STRATA PLOT: SC
SAMPLES: TYPE, NUMBER, RECOVERY (in.), SPT blows / 6", SPT N-Value
PID Reading (PPM)
Undrained Shear Strength – tsf: 1 2 3 4; W_P W W_L
Water Content & Atterberg Limits
Dynamic Penetration Test, blows/foot ★
Standard Penetration Test, blows/foot ●
10 20 30 40 50 60 70 80 90

Driller: NB Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Stantec)

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG — SP-31

CLIENT City of Newburyport, MA — PROJECT No. 210800843
LOCATION Clipper City Rail Trail – Phase II, Newburyport, Massachusetts — EXPLORATION No. SP-31
EXPLORATION DATE 10/4/2012 to 10/4/2012 — WATER LEVEL 8.2 — DATUM

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
0	10.0	0 to 2 inches Soil Horizon/Layer: Fill Dark brown, sandy loam, 10% gravel, friable
5	9.8	2 to 12 inches Soil Horizon/Layer: Fill Brown, loamy sand, 10% gravel, friable
10	9.0	12 to 84 inches Soil Horizon/Layer: Fill Brown to black, sand, 10% gravel, friable, coal ash, shells, glass and metal in soil
15	3.0	84 to 120 inches Soil Horizon/Layer: Fill Dark gray, loam to clay loam, 10% gravel, friable – firm, wood and shells in soil
	0.0	Probe terminated at 10.0 feet below the ground surface. No refusal.

STRATA PLOT: SC
SAMPLES: TYPE, NUMBER, RECOVERY (in.), SPT blows / 6", SPT N-Value
PID Reading (PPM)
Undrained Shear Strength – tsf: 1 2 3 4; W_P W W_L
Water Content & Atterberg Limits
Dynamic Penetration Test, blows/foot ★
Standard Penetration Test, blows/foot ●
10 20 30 40 50 60 70 80 90

Driller: NB Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Stantec)

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG — SP-32

CLIENT City of Newburyport, MA — PROJECT No. 210800843
LOCATION Clipper City Rail Trail – Phase II, Newburyport, Massachusetts — EXPLORATION No. SP-32
EXPLORATION DATE 10/4/2012 to 10/4/2012 — WATER LEVEL – — DATUM

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
0	8.5	0 to 72 inches Soil Horizon/Layer: Fill Gray, loam, 10% gravel, shells in soil
5	2.5	72 to 120 inches Soil Horizon/Layer: Fill Black, clay loam, 5% gravel, wood in soil and petroleum odor
10	-1.5	Probe terminated at 10.0 feet below the ground surface. No refusal.
15		

STRATA PLOT: SC
SAMPLES: TYPE, NUMBER, RECOVERY (in.), SPT blows / 6", SPT N-Value
PID Reading (PPM)
Undrained Shear Strength – tsf: 1 2 3 4; W_P W W_L
Water Content & Atterberg Limits
Dynamic Penetration Test, blows/foot ★
Standard Penetration Test, blows/foot ●
10 20 30 40 50 60 70 80 90

Driller: NB Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Stantec)

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	9	180
PROJECT FILE NO.	606503		

BORING LOGS
SHEET 6 OF 6

606503_HD\BORING LOGS\DWG 12-Jun-2015

BOREHOLE LOG — SP-33

CLIENT City of Newburyport, MA — PROJECT No. 210800843
LOCATION Clipper City Rail Trail - Phase II, Newburyport, Massachusetts — EXPLORATION No. SP-33
EXPLORATION DATE 9/28/2012 to 9/28/2012 — WATER LEVEL 6 — DATUM

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
0	7.5	
	6.8	0 to 8 inches Soil Horizon/Layer: Fill Light yellowish brown, loamy sand, 20% gravel, friable
		8 to 48 inches Soil Horizon/Layer: Fill Very dark gray, loamy sand, 20% gravel, friable
5	3.5	48 to 120 inches Soil Horizon/Layer: Fill Very dark gray, silt loam, 20% gravel, firm
10	-2.5	Probe terminated at 10.0 feet below the ground surface. No refusal. Gravel surfaced parking lot.
15		

Driller: NE Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Shaslee)

STRATA PLOT: SM

SAMPLES: WATER LEVEL | TYPE | NUMBER | RECOVERY (in.) | SPT blows / 6" | SPT N-Value

PID Reading (PPM)

Undrained Shear Strength – tsf: 1 2 3 4
Water Content & Atterberg Limits: W_P W W_L
Dynamic Penetration Test, blows/foot: *
Standard Penetration Test, blows/foot: ●
10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG — SP-34

CLIENT City of Newburyport, MA — PROJECT No. 210800843
LOCATION Clipper City Rail Trail - Phase II, Newburyport, Massachusetts — EXPLORATION No. SP-34
EXPLORATION DATE 9/27/2012 to 9/27/2012 — WATER LEVEL 7 — DATUM

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
0	10.0	0 to 36 inches Soil Horizon/Layer: Fill Brown, sandy loam, 2% gravel, loose
5	7.0	36 to 60 inches Soil Horizon/Layer: Fill Brown, sandy loam, 2% gravel, loose
10	5.0	60 to 120 inches Soil Horizon/Layer: Fill Olive gray, loamy sand, 2% gravel, loose
15	0.0	Probe terminated at 10.0 feet below the ground surface. No refusal.

Driller: NE Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Shaslee)

STRATA PLOT: SM

SAMPLES: WATER LEVEL | TYPE | NUMBER | RECOVERY (in.) | SPT blows / 6" | SPT N-Value

PID Reading (PPM)

Undrained Shear Strength – tsf: 1 2 3 4
Water Content & Atterberg Limits: W_P W W_L
Dynamic Penetration Test, blows/foot: *
Standard Penetration Test, blows/foot: ●
10 20 30 40 50 60 70 80 90

△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane

BOREHOLE LOG — SP-35

CLIENT City of Newburyport, MA — PROJECT No. 210800843
LOCATION Clipper City Rail Trail - Phase II, Newburyport, Massachusetts — EXPLORATION No. SP-35
EXPLORATION DATE 9/27/2012 to 9/27/2012 — WATER LEVEL 7 — DATUM

DEPTH (ft)	ELEVATION (ft)	MATERIAL DESCRIPTION
0	8.5	0 to 36 inches Soil Horizon/Layer: Fill Brown, loamy sand, 5% gravel, glass and brick in soil
5	5.5	36 to 60 inches Soil Horizon/Layer: Fill Yellowish brown, loamy sand, 5% gravel
10	3.5	60 to 108 inches Soil Horizon/Layer: Fill Olive brown, loamy sand, 5% gravel
	-0.5	108 to 120 inches Soil Horizon/Layer: Fill Dark olive brown, loamy sand, 5% gravel
15	-1.5	Probe terminated at 10.0 feet below the ground surface. No refusal.

Driller: NE Boring, Dietrich D-50 track mounted rig, 3.25 inch HSA; Supervisor: David Chapman (Shaslee)

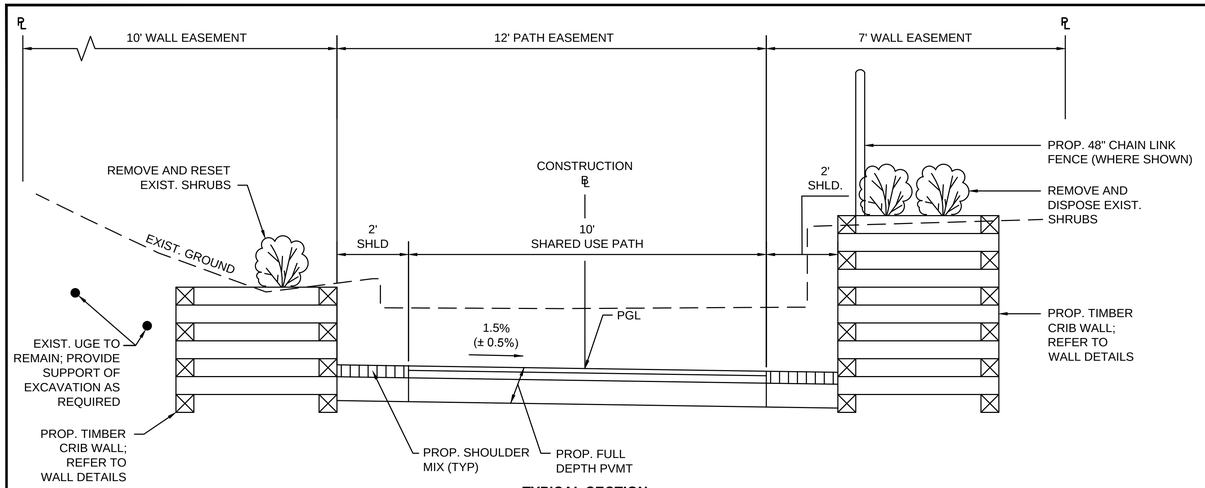
STRATA PLOT: SM

SAMPLES: WATER LEVEL | TYPE | NUMBER | RECOVERY (in.) | SPT blows / 6" | SPT N-Value

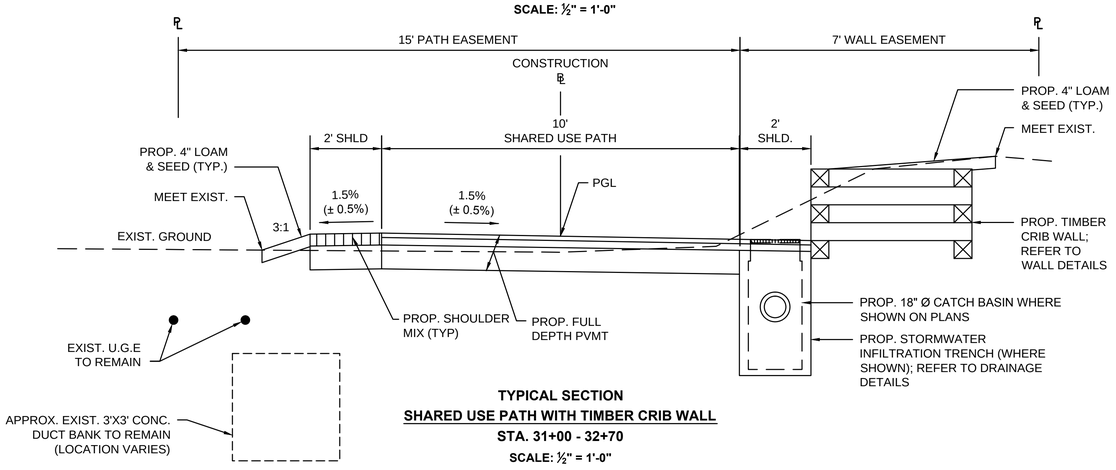
PID Reading (PPM)

Undrained Shear Strength – tsf: 1 2 3 4
Water Content & Atterberg Limits: W_P W W_L
Dynamic Penetration Test, blows/foot: *
Standard Penetration Test, blows/foot: ●
10 20 30 40 50 60 70 80 90

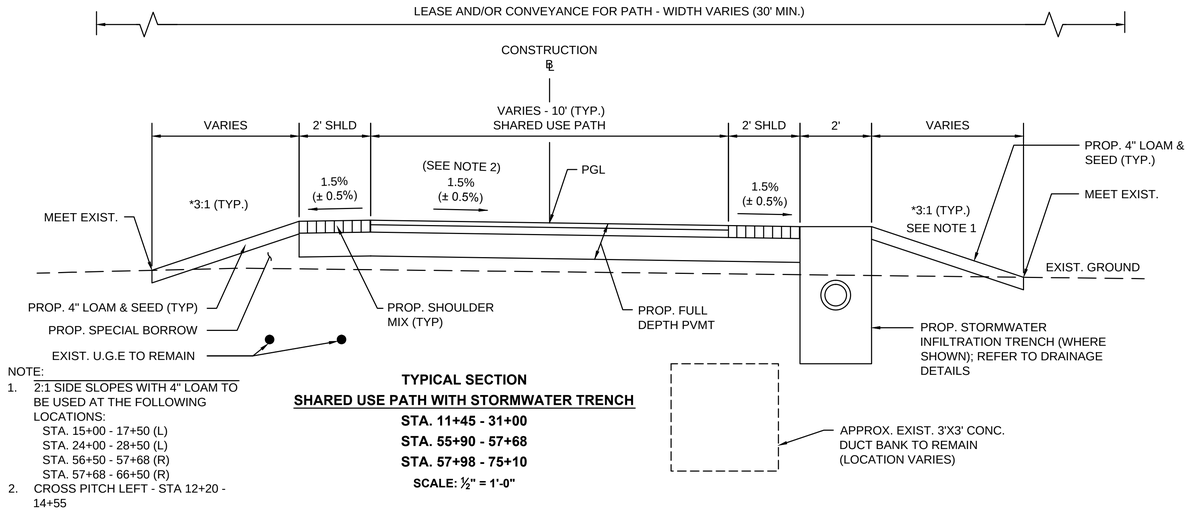
△ Unconfined Compression Test
□ Field Vane Test ■ Remolded
✖ Pocket Penetrometer / Torvane



TYPICAL SECTION
SHARED USE PATH WITH TIMBER CRIB WALLS
STA. 32+70 - 33+16
SCALE: ½" = 1'-0"



TYPICAL SECTION
SHARED USE PATH WITH TIMBER CRIB WALL
STA. 31+00 - 32+70
SCALE: ½" = 1'-0"



NOTE:
1. 2:1 SIDE SLOPES WITH 4" LOAM TO BE USED AT THE FOLLOWING LOCATIONS:
   STA. 15+00 - 17+50 (L)
   STA. 24+00 - 28+50 (L)
   STA. 56+50 - 57+68 (R)
   STA. 57+68 - 66+50 (R)
2. CROSS PITCH LEFT - STA 12+20 - 14+55

TYPICAL SECTION
SHARED USE PATH WITH STORMWATER TRENCH
STA. 11+45 - 31+00
STA. 55+90 - 57+68
STA. 57+98 - 75+10
SCALE: ½" = 1'-0"

PAVEMENT NOTES

PROPOSED HMA SHARED USE PATH, PARKING, AND DRIVEWAYS

SURFACE	1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER 2.5" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0)
BASE	8" GRAVEL BORROW, TYPE b FOR LEVELING OR EXISTING GRAVEL BORROW TO REMAIN
SHOULDERS	4" DEPTH 'SHOULDER MIX' (ITEM 402.121) + SEED (ITEM 765)

PROPOSED HIGH ST. CONNECTION

SURFACE	1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER 2.5" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0)
BASE	8" GRAVEL BORROW, TYPE b FOR LEVELING OR EXISTING GRAVEL BORROW TO REMAIN
SHOULDERS	4" DEPTH 'SHOULDER MIX' & SEED

PROPOSED CEMENT CONCRETE WALKS / WHEELCHAIR RAMPS

SURFACE	4 " CEMENT CONCRETE AIR ENTRAINED 4000 PSI, ¾", 610
BASE	8" GRAVEL BORROW, TYPE b

PROPOSED RAISED CROSSWALK

SURFACE	1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER 2.5" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0)
BASE	2.0" TO 7.0" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC - 19.0)
SUB-BASE	8" GRAVEL BORROW (TYP. B) OVER 4" DENSE GRADED CRUSHED STONE FOR SUB-BASE

PROPOSED DENSE GRADED PARKING AREA

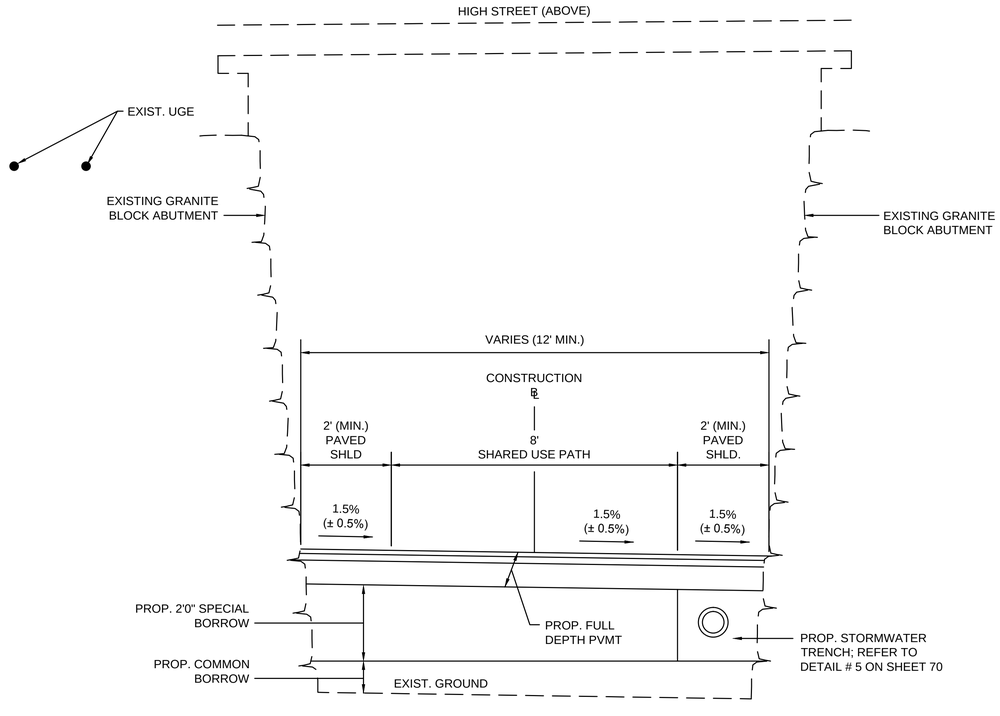
SURFACE	4" DENSE GRADED CRUSHED STONE

PROPOSED DENSE GRADED DRIVEWAYS

SURFACE	4" DENSE GRADED CRUSHED STONE
BASE	6" GRAVEL BORROW, TYPE b

PROPOSED CEMENT CONCRETE SIDEWALK AT DRIVEWAY

SURFACE	6" CEMENT CONCRETE AIR ENTRAINED 4000 PSI, 3/4", 610
BASE	8" GRAVEL BORROW, TYPE b



TYPICAL SECTION
HIGH STREET UNDERPASS
STA. 33+21 - 34+10
SCALE: ½" = 1'-0"

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	10	177
PROJECT FILE NO.	606503		

TYPICAL SECTIONS
SHEET 1 OF 7

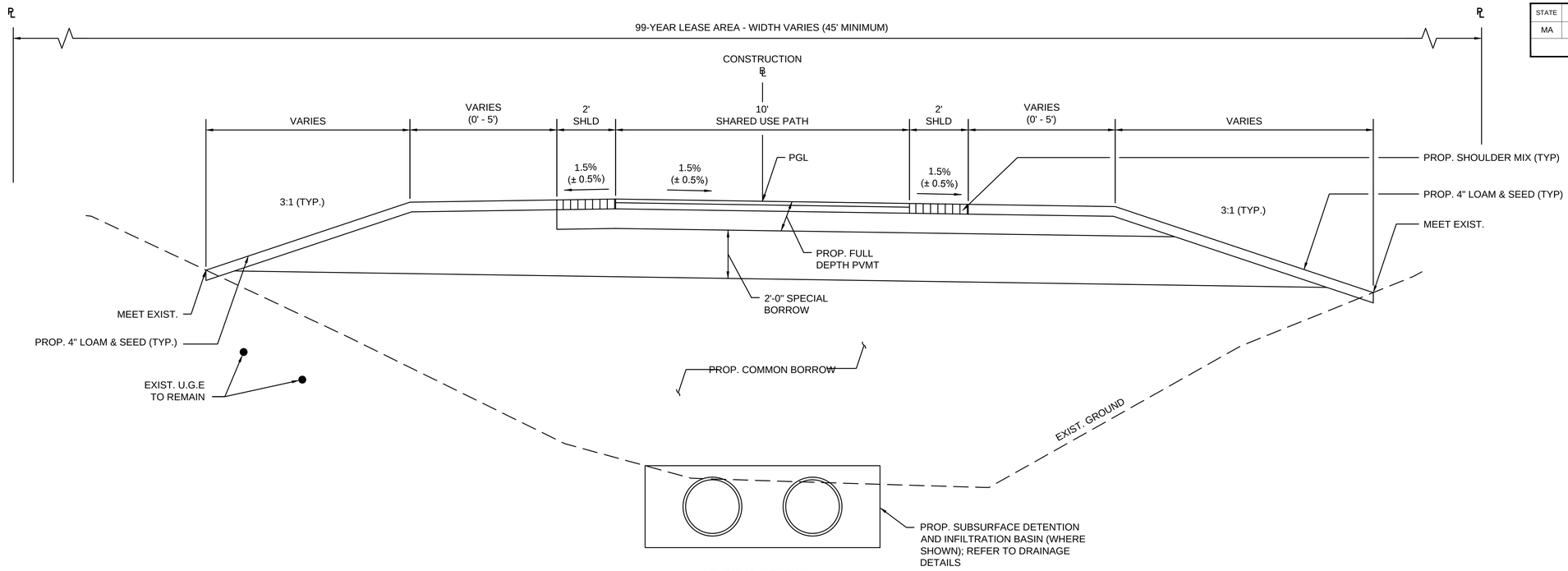
606502_HD(TYPICAL SECTIONS).DWG 12-Jun-2015

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

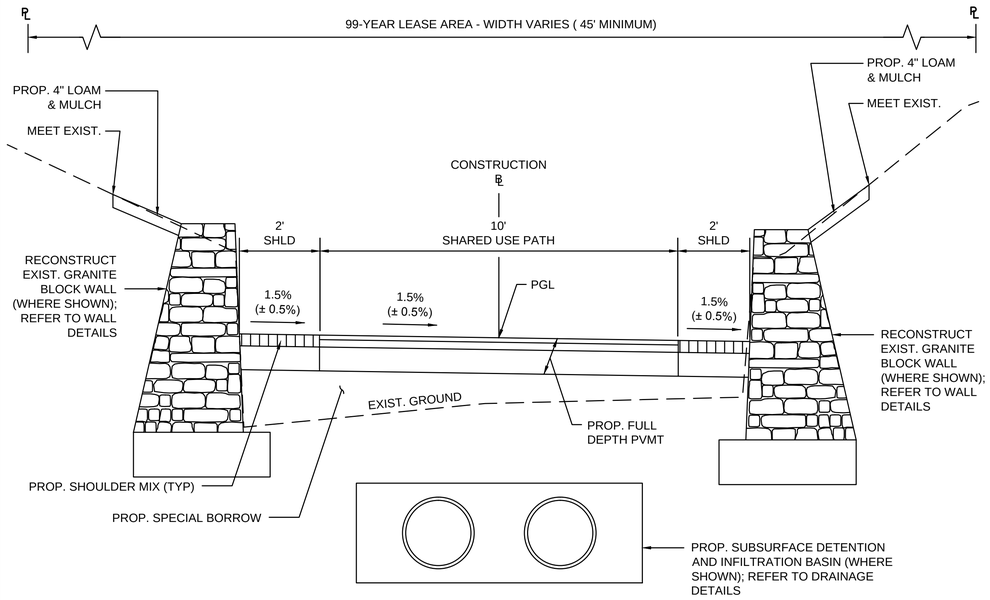
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	11	177
PROJECT FILE NO.	606503		

TYPICAL SECTIONS
SHEET 2 OF 7

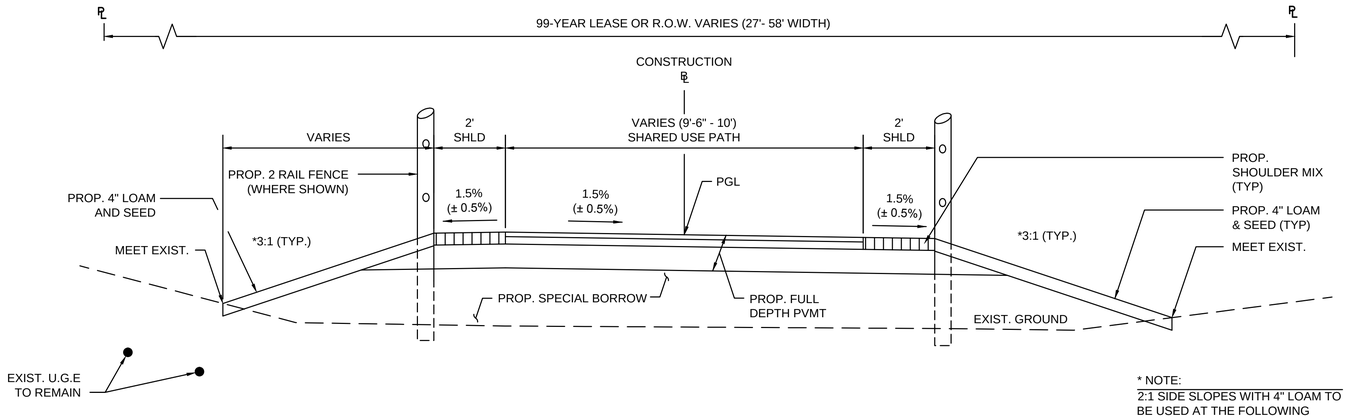
606502_HD(TYPICAL SECTIONS).DWG 12-Jun-2015



TYPICAL SECTION
SHARED USE PATH WITH WIDENED SHOULDERS
STA. 35+45 - 40+25
SCALE: ½" = 1'-0"



TYPICAL SECTION
SHARED USE PATH WITH GRANITE BLOCK WALLS
STA. 35+10 - 35+45
SCALE: ½" = 1'-0"



TYPICAL SECTION
SHARED USE PATH AT FILL SECTION
STA. 40+25 - 40+91
STA. 41+25 - 42+98
STA. 43+32 - 45+90
STA. 46+51 - 46+76
SCALE: ½" = 1'-0"

* NOTE:
2:1 SIDE SLOPES WITH 4" LOAM TO BE USED AT THE FOLLOWING LOCATIONS:
STA. 42+00 - 42+50 (R)
STA. 43+50 - 44+00 (L)
STA. 45+00 - 45+50 (R)

1.5:1 SIDE SLOPES WITH MOD. ROCKFILL TO BE USED AT THE FOLLOWING LOCATIONS:
STA. 43+35 - 45+25 (R)

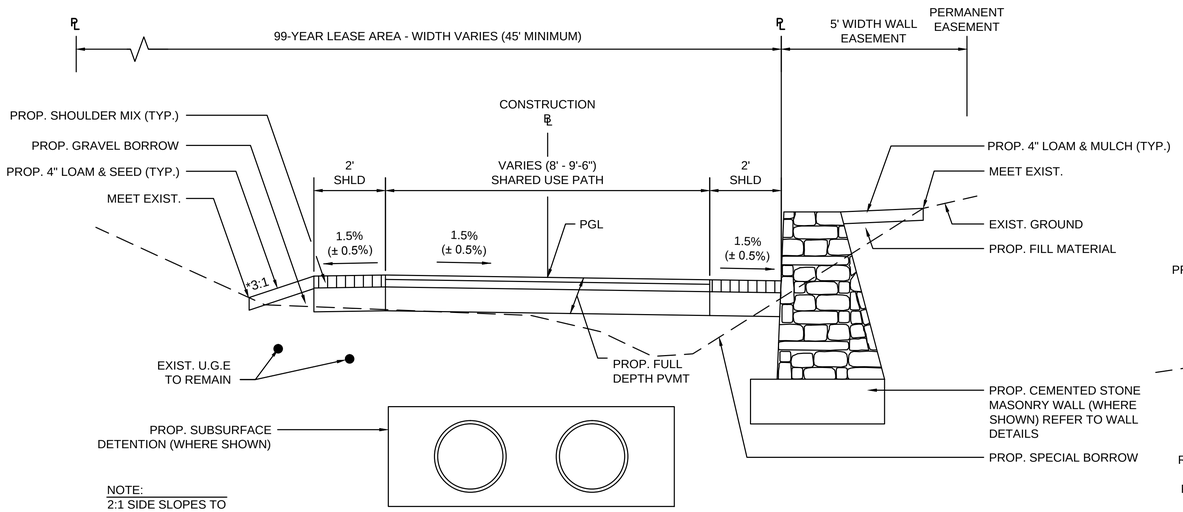
REFER TO DETAIL 2 ON SHEET 140 FOR MODIFIED ROCKFILL SLOPE TREATMENT

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	12	177
PROJECT FILE NO.	606503		

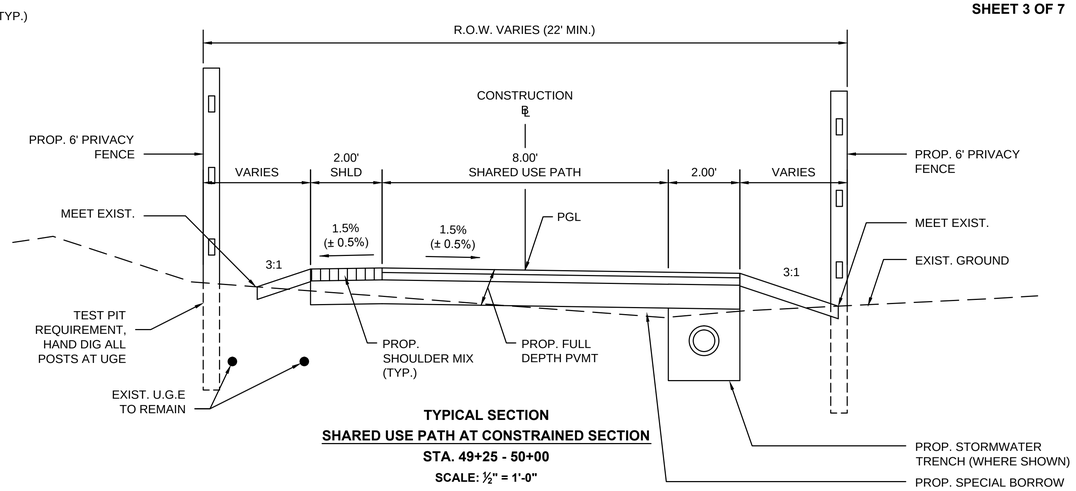
TYPICAL SECTIONS
SHEET 3 OF 7

606502_HD(TYPICAL SECTIONS).DWG 12-Jun-2015

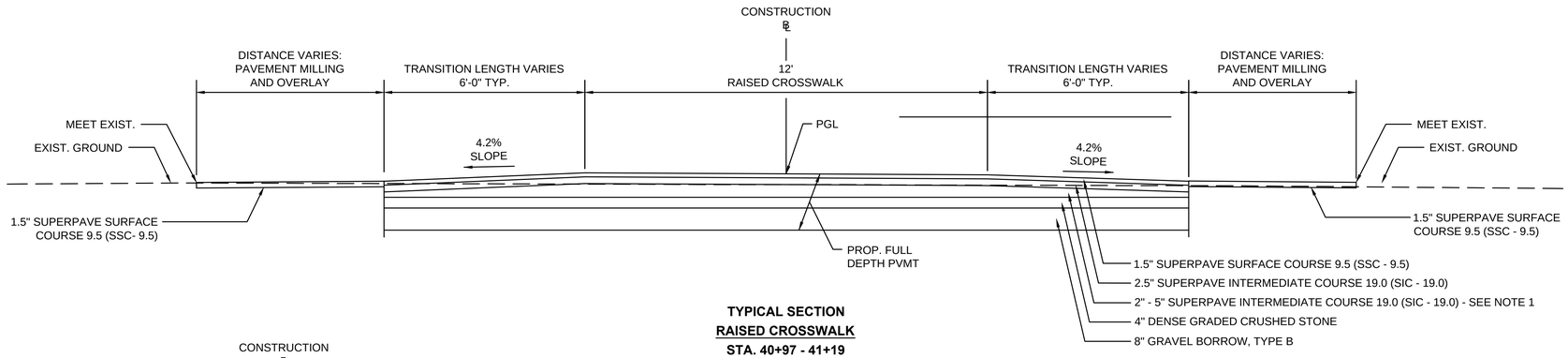


NOTE:
2:1 SIDE SLOPES TO BE USED AT THE FOLLOWING LOCATIONS:
46+50 (L)

TYPICAL SECTION
SHARED USE PATH WITH STONE MASONRY WALL
STA. 45+90 - 46+51
SCALE: ½" = 1'-0"

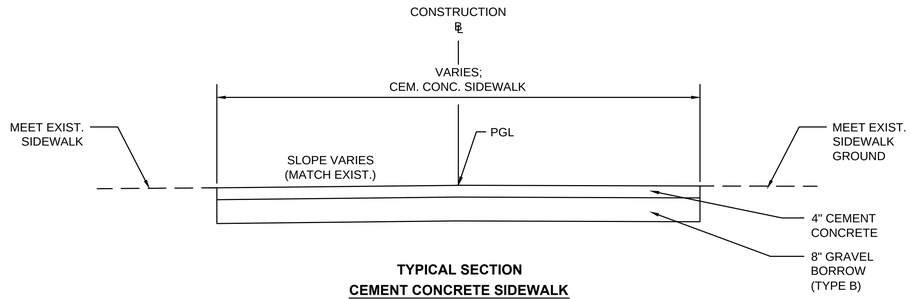


TYPICAL SECTION
SHARED USE PATH AT CONSTRAINED SECTION
STA. 49+25 - 50+00
SCALE: ½" = 1'-0"

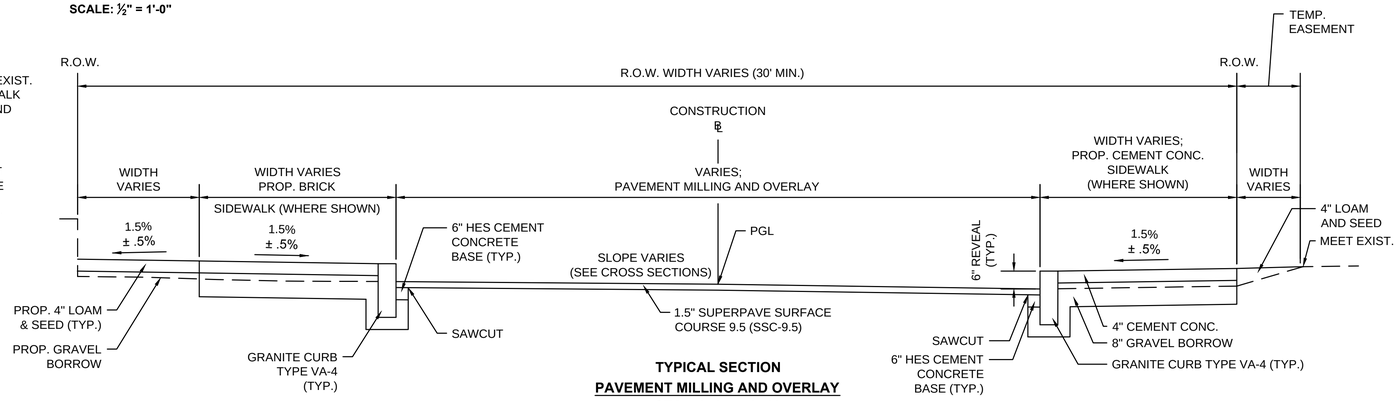


NOTES:
1. RAISED CROSSWALK SECTION (SHAPE) WILL BE CONSTRUCTED FROM 2-INCHES TO 5-INCHES THICK PRIOR TO PAVING INTERMEDIATE AND SURFACE COURSES.
2. RAISED CROSSWALK WILL BE CONSTRUCTED TO A 3" HEIGHT (TYP) AT CROWN OF ROAD. HEIGHT AT GUTTER LINE WILL BE GREATER.
3. SLOPE OF TRANSITION WILL BE SET AT 4.2%. LENGTH OF RAMP WILL VARY BASED ON CROWN OF ROAD.

TYPICAL SECTION
RAISED CROSSWALK
STA. 40+97 - 41+19
STA. 43+04 - 43+26
SCALE: ½" = 1'-0"



TYPICAL SECTION
CEMENT CONCRETE SIDEWALK
STA. 40+91 - 40+97
STA. 41+19 - 41+25
STA. 42+98 - 43+04
STA. 43+26 - 43+32
STA. 46+76 - 46+85
STA. 49+19 - 49+25
STA. 55+57 - 55+62
STA. 55+84 - 55+90
SCALE: ½" = 1'-0"



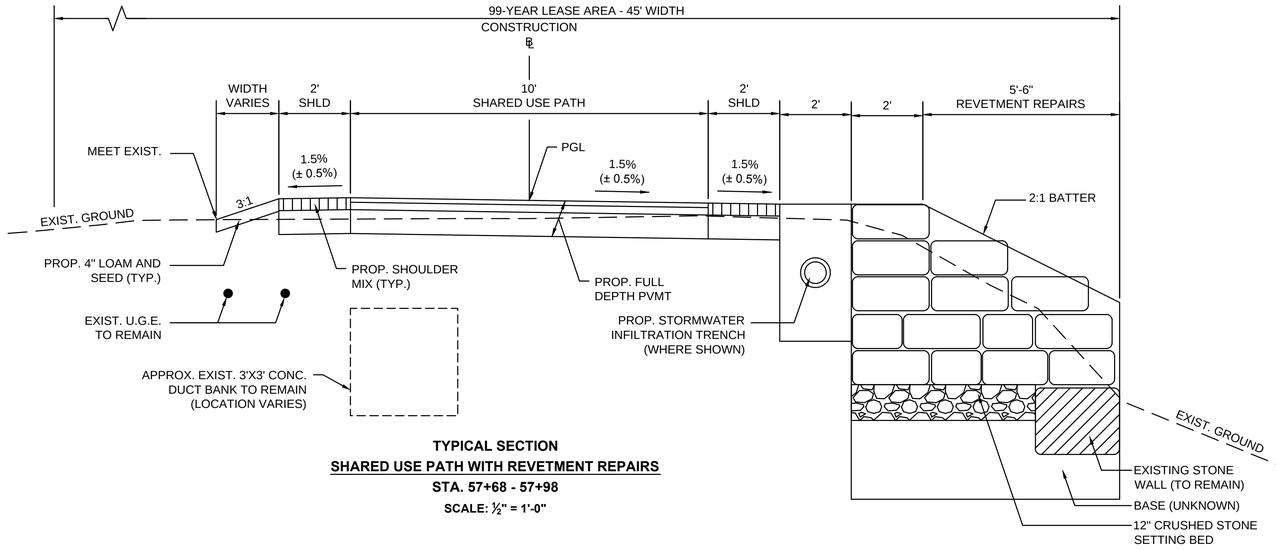
TYPICAL SECTION
PAVEMENT MILLING AND OVERLAY
STA. 46+85 - 49+19
STA. 78+68 - 78+88
STA. 601+24 - 602+27
SCALE: ½" = 1'-0"

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

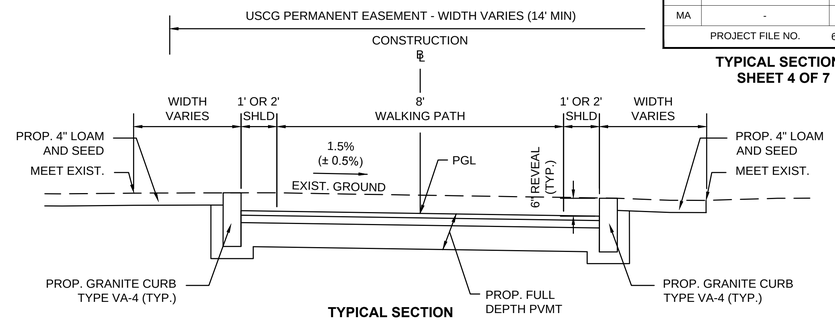
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	13	177
PROJECT FILE NO.	606503		

TYPICAL SECTIONS
SHEET 4 OF 7

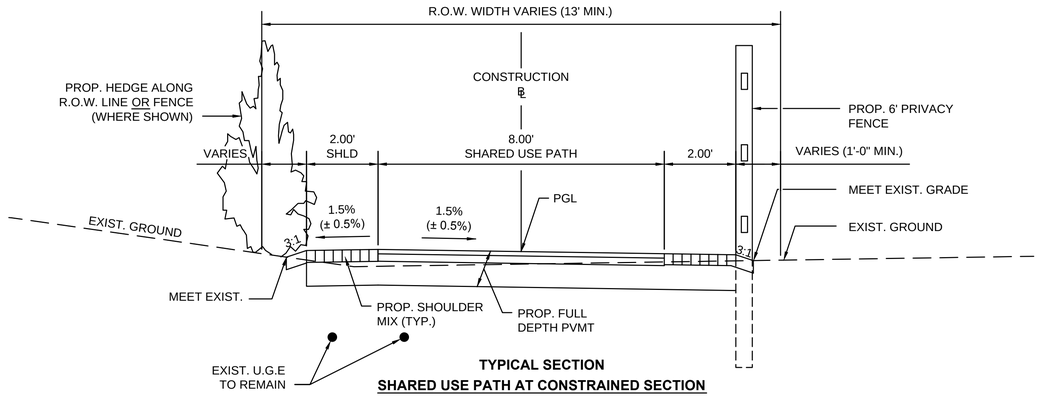
606502_HD(TYPICAL SECTIONS).DWG 12-Jun-2015



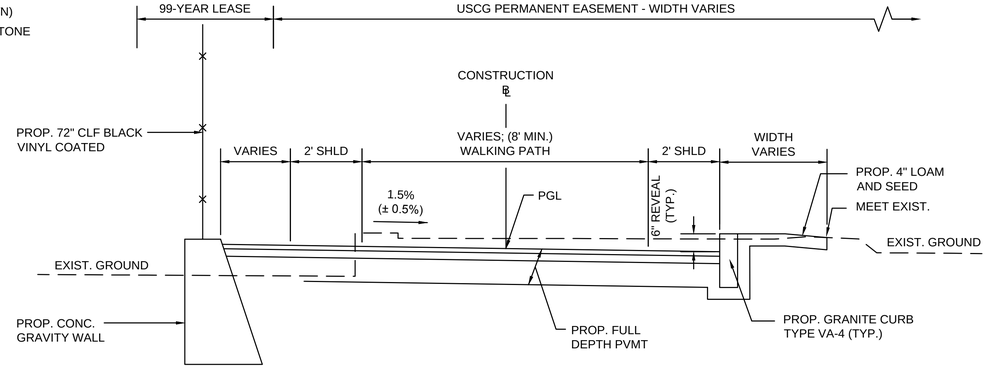
TYPICAL SECTION
SHARED USE PATH WITH REVETMENT REPAIRS
STA. 57+68 - 57+98
SCALE: ½" = 1'-0"



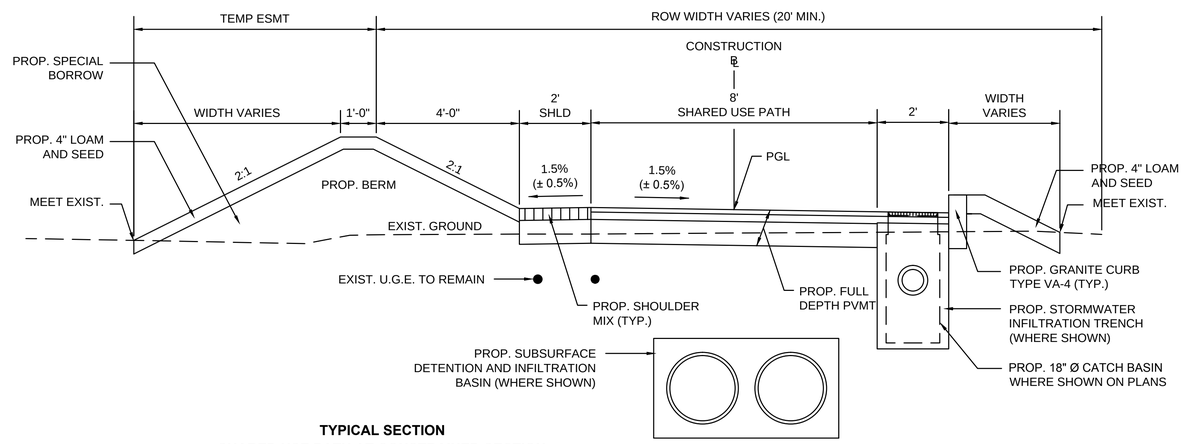
TYPICAL SECTION
WALKING PATH WITH GRANITE CURB
STA. 78+61 - 78+68
STA. 90+83 - 91+28
SCALE: ½" = 1'-0"



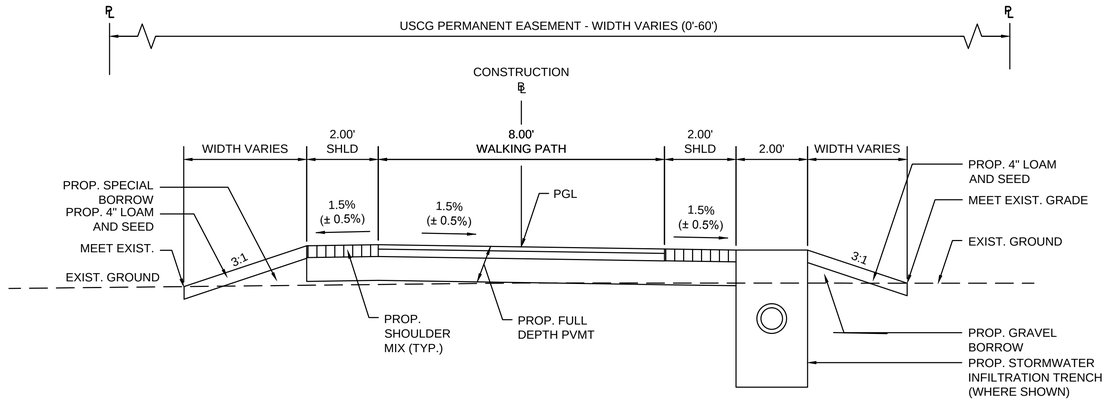
TYPICAL SECTION
SHARED USE PATH AT CONSTRAINED SECTION
STA. 53+75 - 55+57
SCALE: ½" = 1'-0"



TYPICAL SECTION
WALKING PATH WITH CONCRETE GRAVITY WALL
STA. 78+44 - 78+61
SCALE: ½" = 1'-0"



TYPICAL SECTION
SHARED USE PATH AT CONSTRAINED SECTION
STA. 50+00 - 53+75
SCALE: ½" = 1'-0"



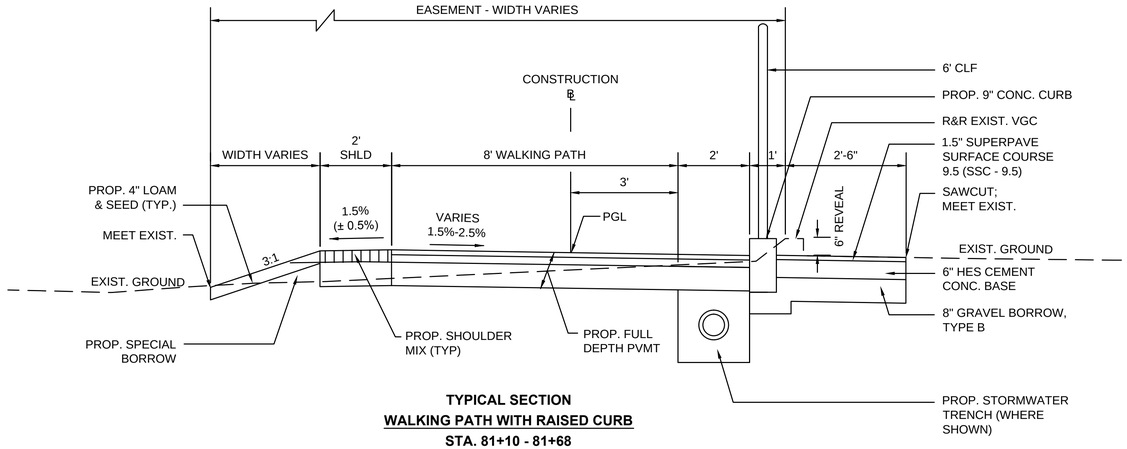
TYPICAL SECTION
WALKING PATH WITH STORMWATER TRENCH
STA. 76+10 - 78+44
SCALE: ½" = 1'-0"

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

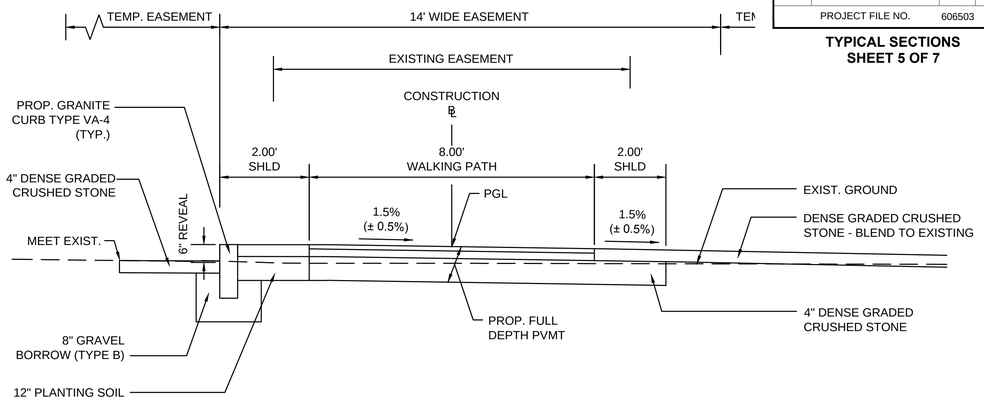
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	14	177
PROJECT FILE NO.	606503		

TYPICAL SECTIONS
SHEET 5 OF 7

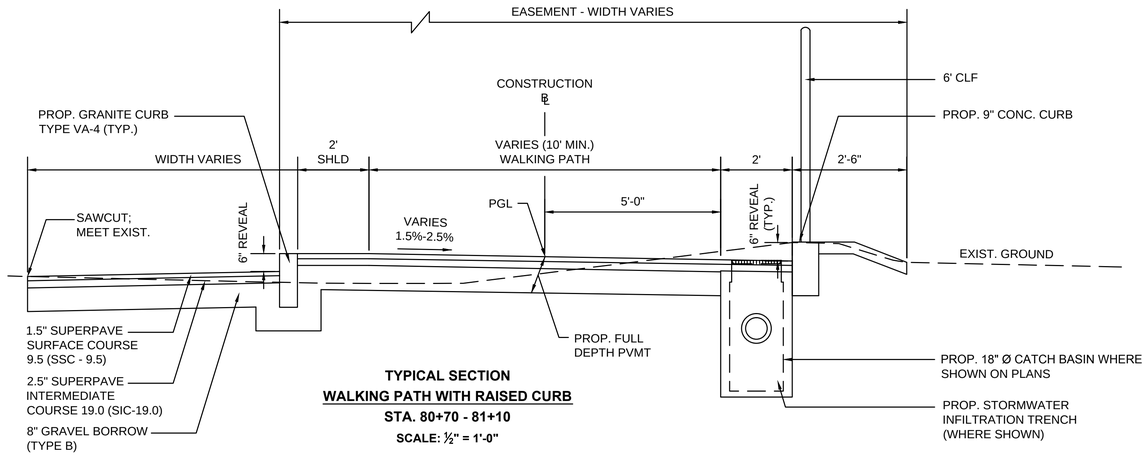
606502_HD(TYPICAL SECTIONS).DWG 12-Jun-2015



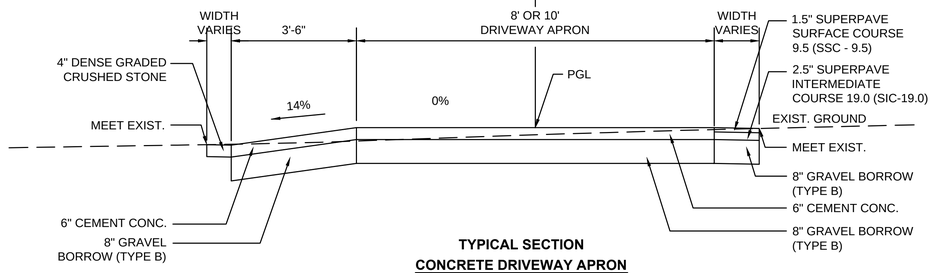
TYPICAL SECTION
WALKING PATH WITH RAISED CURB
STA. 81+10 - 81+68
SCALE: ½" = 1'-0"



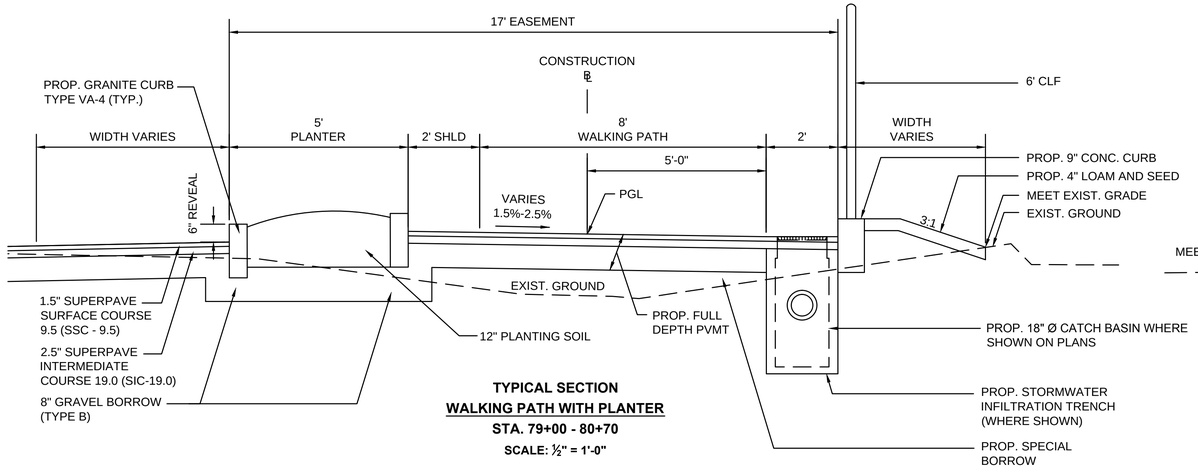
TYPICAL SECTION
WALKING PATH WITH GRASS STRIP
STA. 84+18 - 84+59
SCALE: ½" = 1'-0"



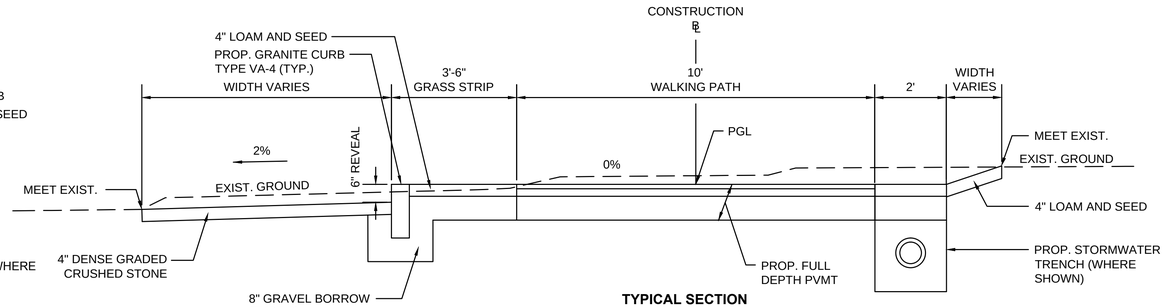
TYPICAL SECTION
WALKING PATH WITH RAISED CURB
STA. 80+70 - 81+10
SCALE: ½" = 1'-0"



TYPICAL SECTION
CONCRETE DRIVEWAY APRON
STA. 82+10 - 82+29
SCALE: ½" = 1'-0"



TYPICAL SECTION
WALKING PATH WITH PLANTER
STA. 79+00 - 80+70
SCALE: ½" = 1'-0"



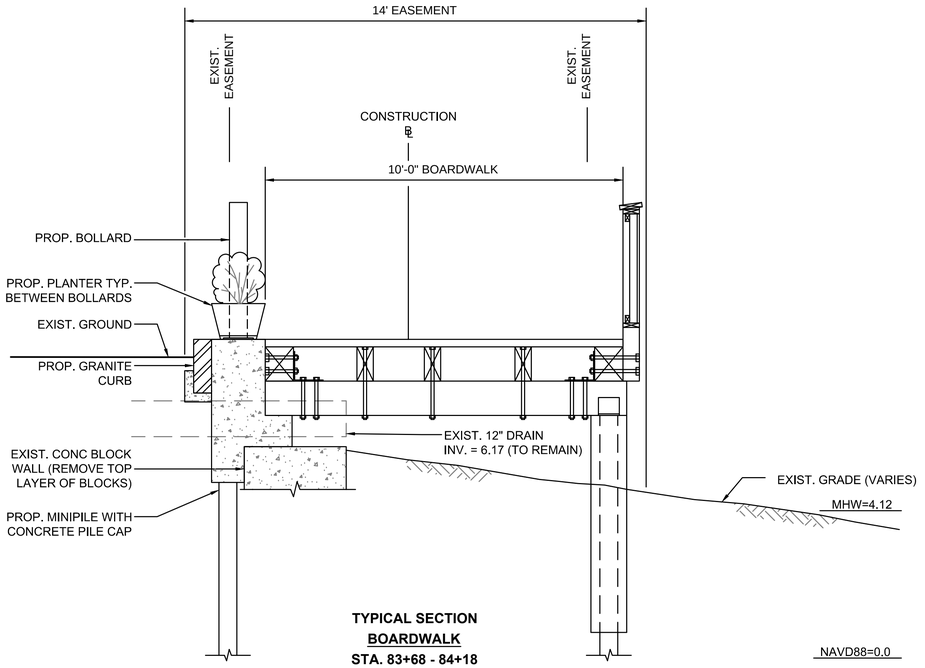
TYPICAL SECTION
WALKING PATH WITH GRASS STRIP
STA. 81+68 - 82+10
STA. 82+29 - 82+66
SCALE: ½" = 1'-0"

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

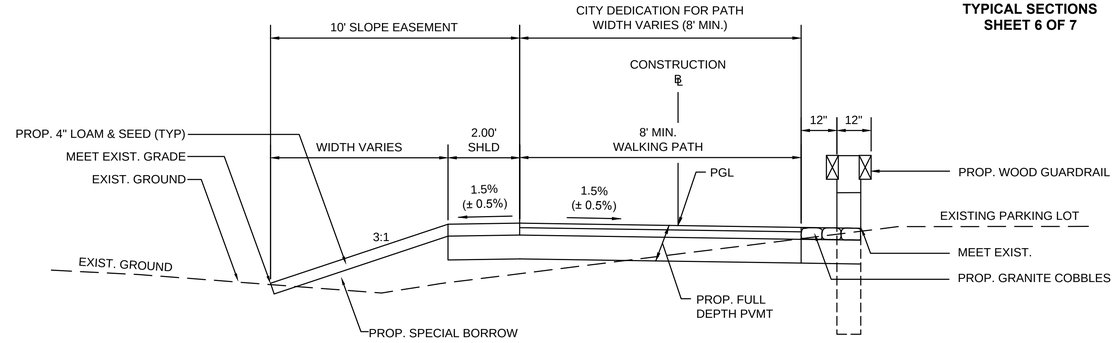
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	15	177
PROJECT FILE NO.	606503		

TYPICAL SECTIONS
SHEET 6 OF 7

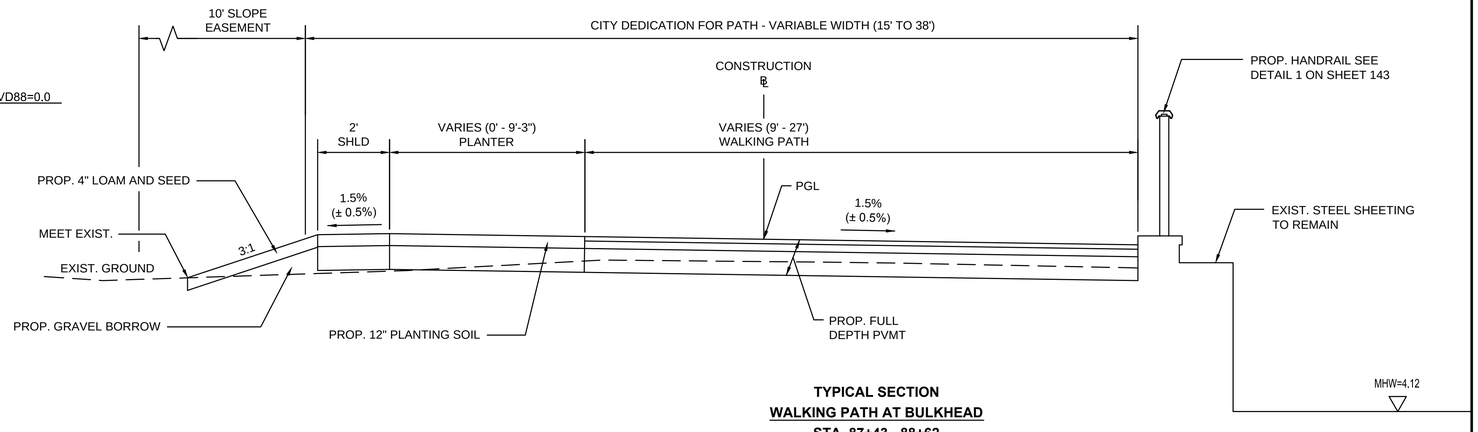
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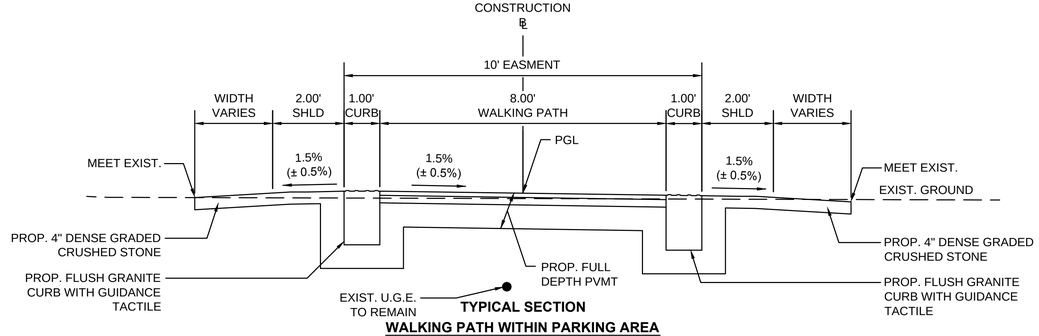
TYPICAL SECTION
BOARDWALK
STA. 83+68 - 84+18
SCALE: ½" = 1'-0"



TYPICAL SECTION
WALKING PATH
STA. 88+62 - 90+22
SCALE: ½" = 1'-0"



TYPICAL SECTION
WALKING PATH AT BULKHEAD
STA. 87+43 - 88+62
SCALE: ½" = 1'-0"



TYPICAL SECTION
WALKING PATH WITHIN PARKING AREA
STA. 82+53 - 83+55
STA. 84+59 - 87+43
SCALE: ½" = 1'-0"

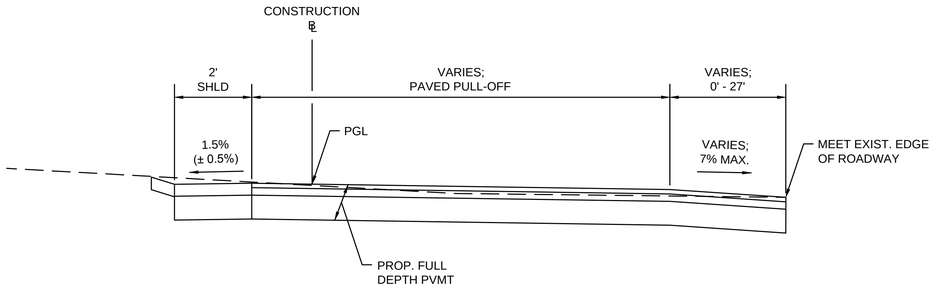
NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	16	177
PROJECT FILE NO.	606503		

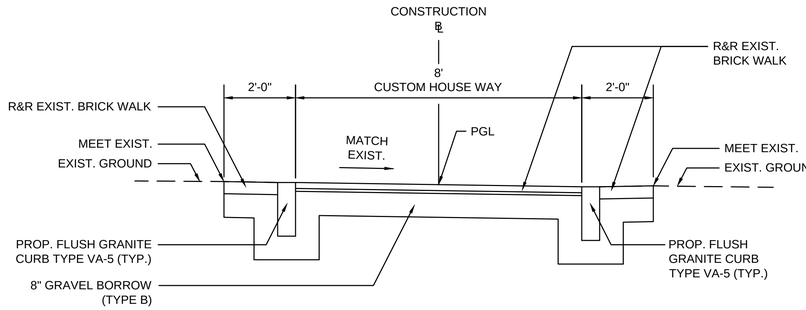
TYPICAL SECTIONS
SHEET 7 OF 7

12-Jun-2015

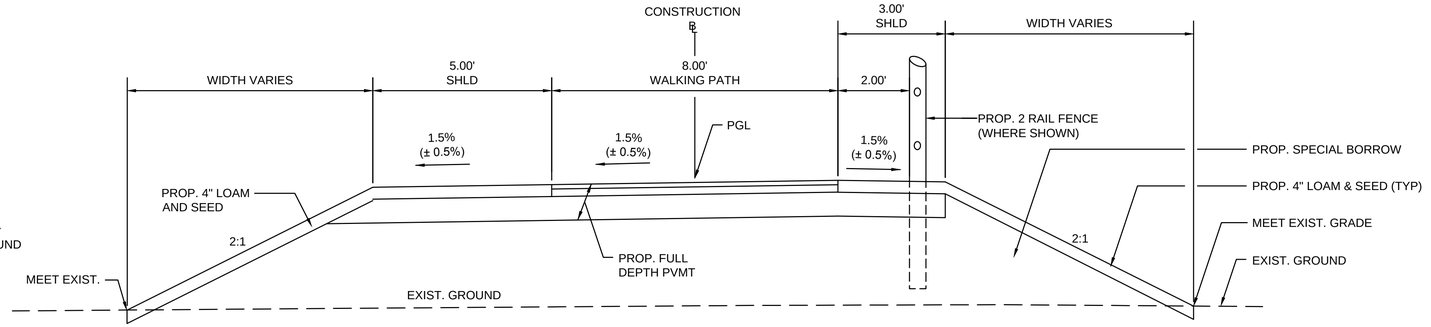
606503_HD(TYPICAL SECTIONS).DWG



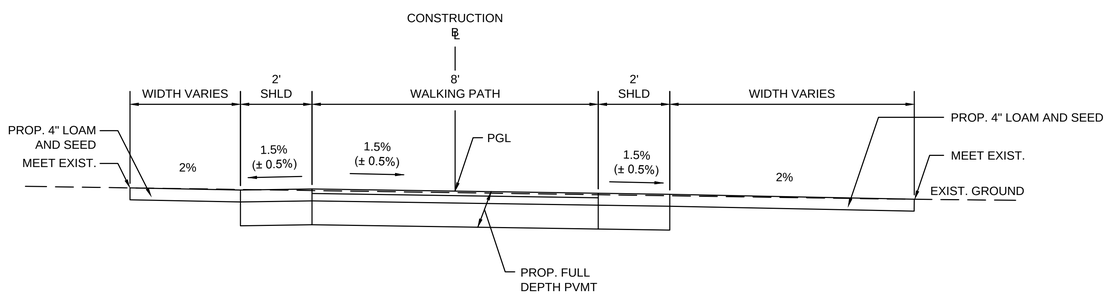
TYPICAL SECTION
PULL-OFF AREA
STA. 10+91 - 11+72
SCALE: ½" = 1'-0"



TYPICAL SECTION
WALKING PATH AT CUSTOM HOUSE WAY
STA. 90+68 - 90+83
SCALE: ½" = 1'-0"



TYPICAL SECTION
HIGH STREET CONNECTION
STA. 200+05 - 203+10
SCALE: ½" = 1'-0"



TYPICAL SECTION
WALKING PATH AT LAWN AREA
STA. 90+22 - 90+68
SCALE: ½" = 1'-0"

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	17	180
PROJECT FILE NO.		606503	

CONSTRUCTION PLANS
SHEET 1 OF 16

606503_HD\CONSTRUCTION PLANS\.DWG 12-Jun-2015

HIGHWAY GUARD DETAILS
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
NONE

DRAINAGE DETAILS
SEE SHEET NO. 70-74

N

CITY LAYOUT LINE

NEWBURYPORT
NEWBURY

MAP 34 PARCEL 8
N/F
OAK HILL CEMETERY
3414/4

MAP U-07 PARCEL 24
N/F OAK HILL CEMETERY
BOOK 3414 PAGE 4

PARKER STREET
(PUBLIC - VARIABLE WIDTH)

RET.

MAP R-47 PARCEL 41
N/F
MASS. ELECTRIC CO.
BOOK 2838 PAGE 399

PROJECT BEGIN
STA 10+00
N3116791.7573
E825138.6258

PROP. POST AND RAIL FENCE

PROP. HOT MIX ASPHALT DROP-OFF AREA

SPACE RESERVED FOR FUTURE UTILITY POLE - W/ 3' OFFSET

PRUNE EXIST. TREE; PROP. TREE PROTECTION FENCE (TYP.)

PROP. TRAFFIC CONTROL BOULDERS

PROP. BENCH

PROP. TRAIL GATE

MAP U-07 PARCEL 25
N/F
MASS. ELECTRIC CO.
BOOK 2838 PAGE 399

PROP. COMPOST FILTER TUBES (TYP.)

SPACE RESERVED FOR FUTURE UTILITY POLE - W/ 3' OFFSET

R&D

BOS

N 64° 55' 07" E 273.48'

PC +73.48

D=41° 10' 35"
L=179.67' R=250.00'

10.00'

BOS

R&D EXIST. GATE

STA: 10+73.98 Main ℄ =
STA: 103+01.29 Parker St ℄

CITY LAYOUT LINE

PROP. DETECTABLE WARNING PANEL; E 107.6.5 (TYP.)

SAWCUT

16.50'

D=2° 23' 05"
L=575.00' R=2385.50'

PROP. 2.00' PAVT. MILLINGS @ SHLDR

MAP U-07 PARCEL 26
N/F
CITY OF NEWBURY
NO REF

MAP U-07 PARCEL 23
N/F
MATTHEW J. KOZAKCKI
BOOK 30798 PAGE 377

#41

#41R

MAP 34 PARCEL 20
N/F
CITY OF NEWBURYPORT
25956/191

PROP. EROSION CONTROL BLANKET STA 15+00 - 17+50 LT.

PROP. TREE PROTECTION FENCE (TYP.)

R&D EXIST. TREE (TYP.)

PROP. DENSE GRADED CRUSHED STONE

D=27° 29' 48"
L=239.95' R=500.00'

PRC +53.14

20.00'

BOS

PROP. 40' WIDE SELECTIVE TARGETED PLANT AND POISON IVY CONTROL, AREA 'A' - STA 14+00 TO 29+00.

RET.

MASSACHUSETTS ELEC. CO. EASEMENT BK 25953 PG 463

PROP. TRAIL GATE

PROP. 10.00' DENSE GRADED CRUSHED STONE DRIVEWAY

WARNING
40'± CLEARANCE TO (2) 23kv OVERHEAD WIRES

MAP U-07 PARCEL 25A
N/F TOWN OF NEWBURY
25956/212

PROP. POST AND RAIL FENCE

PROP. 10.00' HOT MIX ASPHALT PATH WITH 2' SHOULDERS

PROP. COMPOST FILTER TUBES (TYP.)

MAP U-07 PARCEL 27
N/F KATHLEEN E. MURRAY & THOMAS W. GREELEY
BOOK 24633 PAGE 296

#46

CONTINUED ON SHEET NO. 18

NOTES:

1. TREE REMOVALS AND LIMITS OF CLEARING & GRUBBING TO BE DETERMINED OR APPROVED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.
2. TREES LABELED TO BE RETAINED SHALL BE REVIEWED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.

FOR PROFILE: SEE SHEET NO. 33

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	18	180
PROJECT FILE NO.		606503	

CONSTRUCTION PLANS
SHEET 2 OF 16

12-Jun-2015

606503_HD\CONSTRUCTION PLANS\.DWG

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

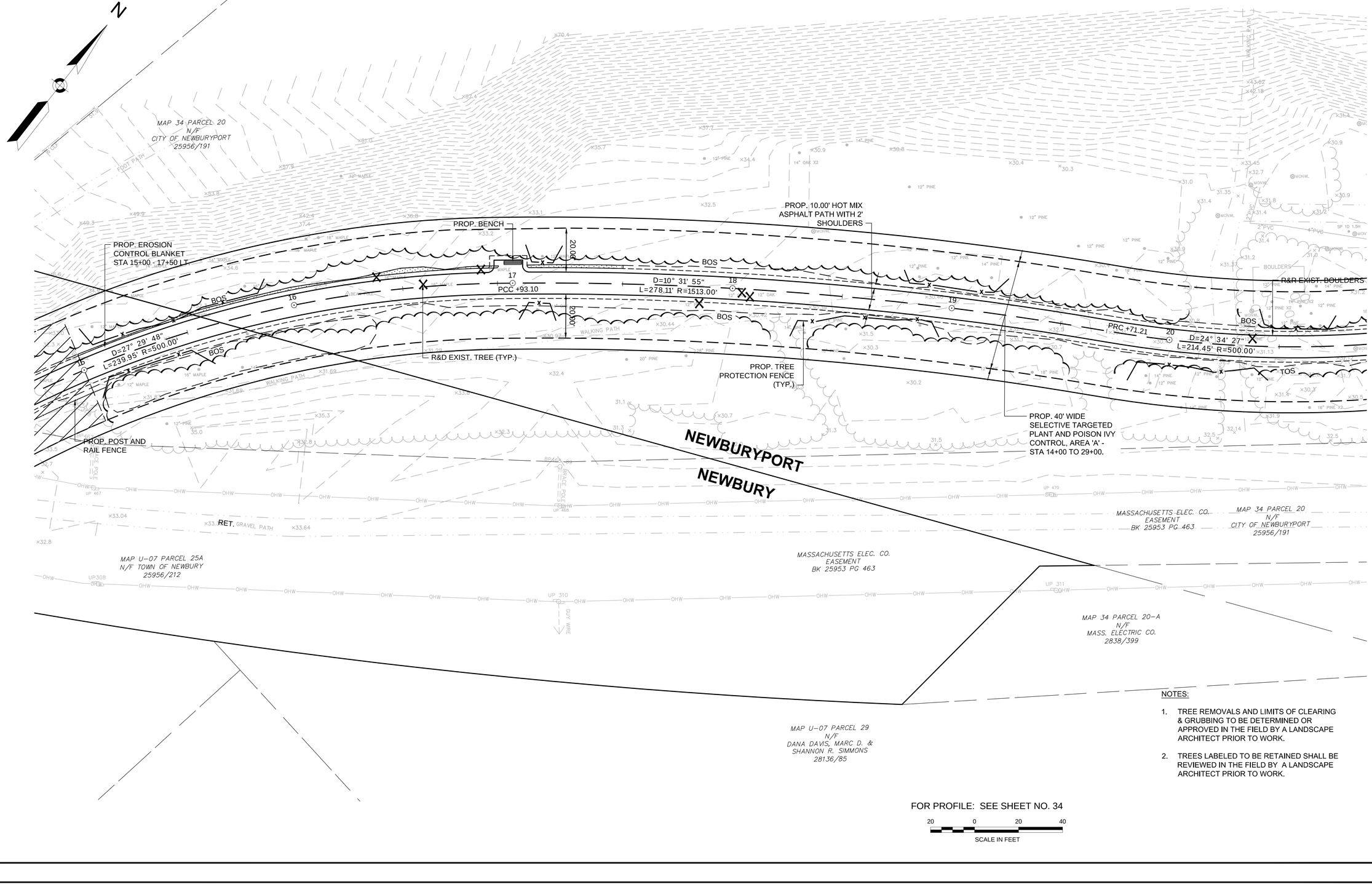
NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET NO. 70-74



CONTINUED ON SHEET NO. 17

CONTINUED ON SHEET NO. 19

NOTES:

1. TREE REMOVALS AND LIMITS OF CLEARING & GRUBBING TO BE DETERMINED OR APPROVED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.
2. TREES LABELED TO BE RETAINED SHALL BE REVIEWED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.

FOR PROFILE: SEE SHEET NO. 34

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	19	180
PROJECT FILE NO.		606503	

CONSTRUCTION PLANS
SHEET 3 OF 16

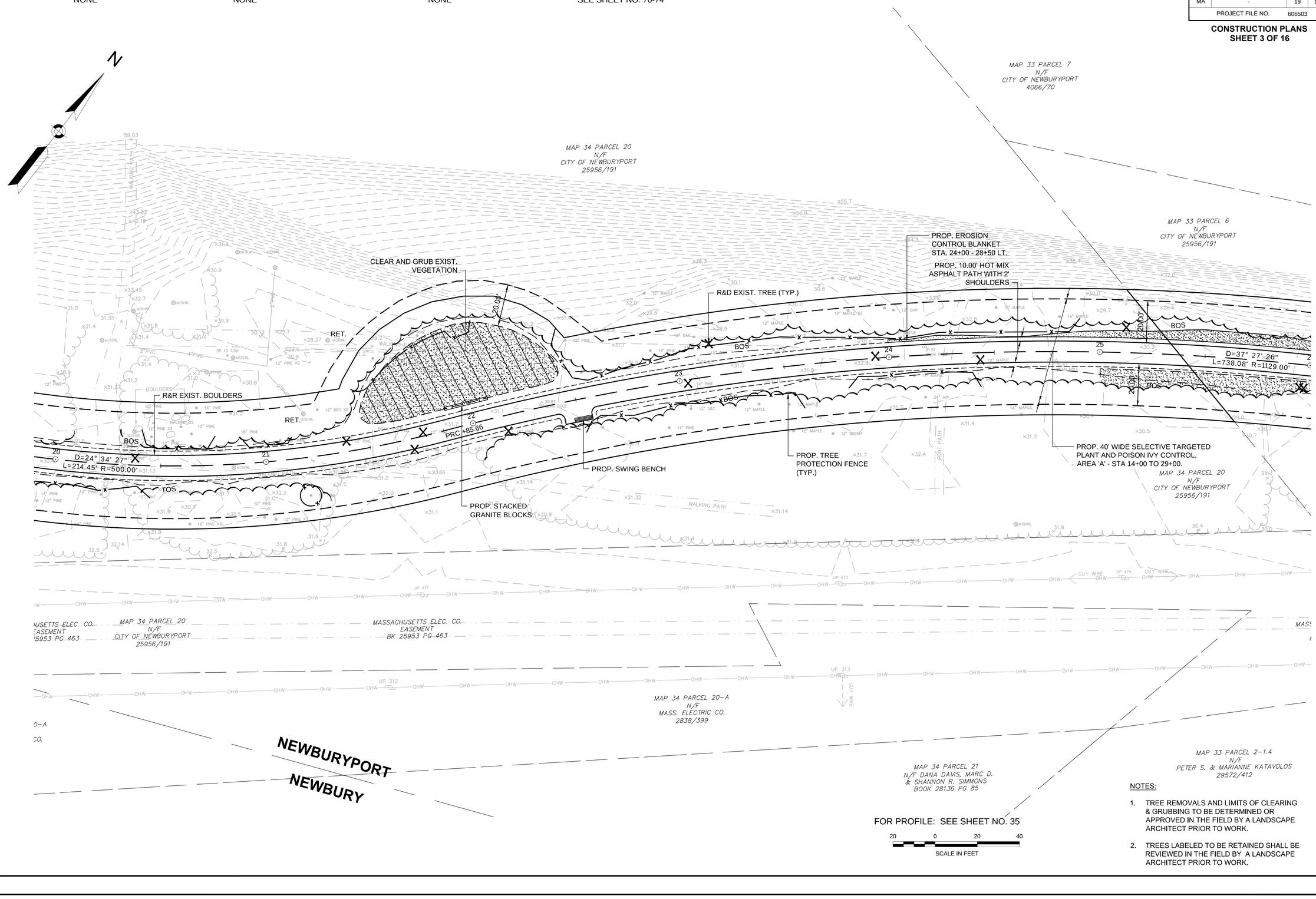
606503_HD\CONSTRUCTION PLANS\.DWG 12-Jun-2015

HIGHWAY GUARD DETAILS
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
NONE

DRAINAGE DETAILS
SEE SHEET NO. 70-74



CONTINUED ON SHEET NO. 18

CONTINUED ON SHEET NO. 20

FOR PROFILE: SEE SHEET NO. 35

20 0 20 40
SCALE IN FEET

NOTES:

1. TREE REMOVALS AND LIMITS OF CLEARING & GRUBBING TO BE DETERMINED OR APPROVED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.
2. TREES LABELED TO BE RETAINED SHALL BE REVIEWED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	20	180
PROJECT FILE NO.		606503	

CONSTRUCTION PLANS
SHEET 4 OF 16

606503_HD\CONSTRUCTION PLANS\.DWG 12-Jun-2015

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

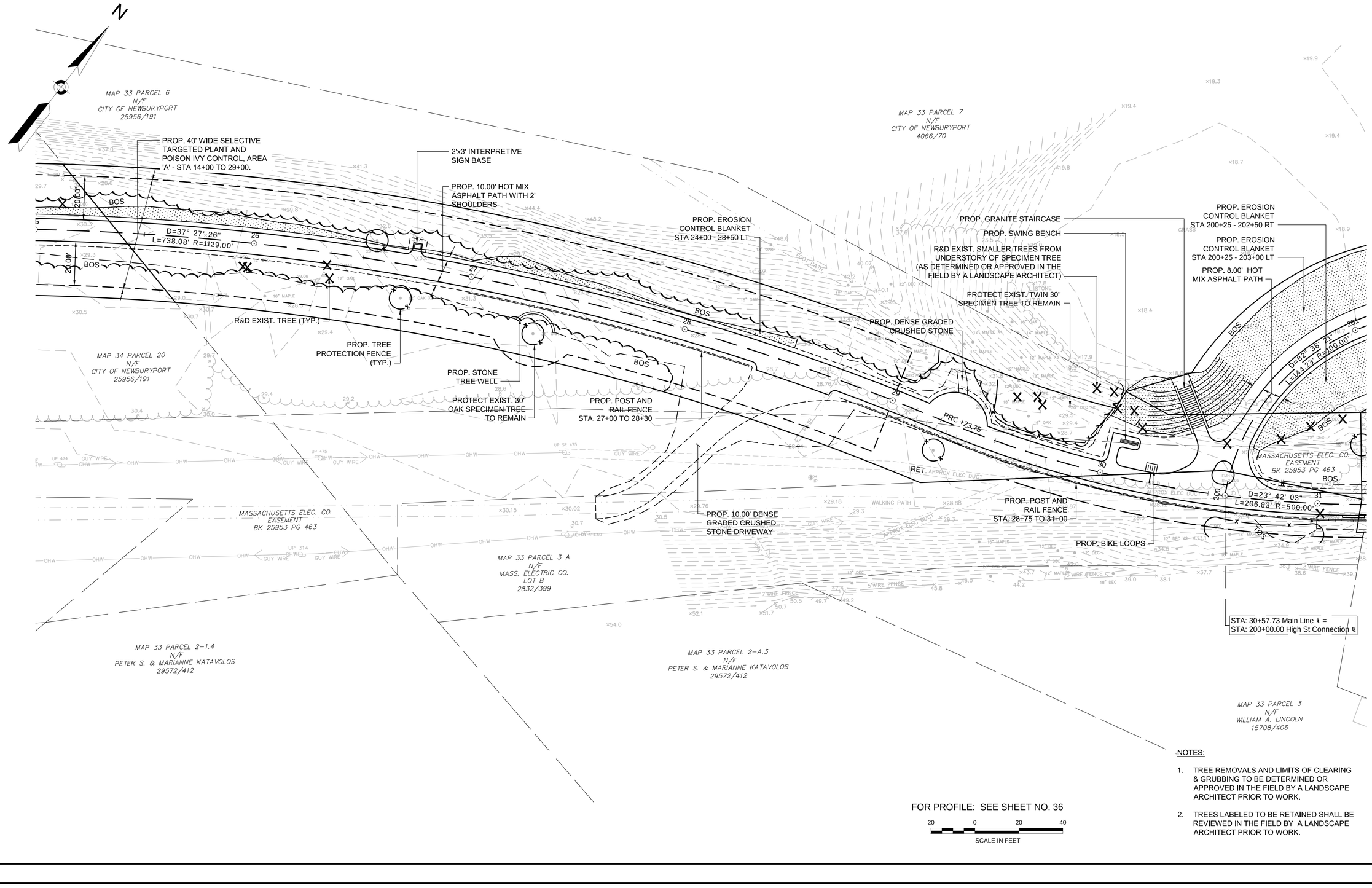
NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET NO. 70-74



FOR PROFILE: SEE SHEET NO. 36

20 0 20 40
SCALE IN FEET

NOTES:

1. TREE REMOVALS AND LIMITS OF CLEARING & GRUBBING TO BE DETERMINED OR APPROVED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.
2. TREES LABELED TO BE RETAINED SHALL BE REVIEWED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	21	180
PROJECT FILE NO.	606503		

CONSTRUCTION PLANS
SHEET 5 OF 16

606503_HD\CONSTRUCTION PLANS\.DWG 12-Jun-2015

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET NO. 70-74

CONTINUED ON SHEET NO. 20

CONTINUED ON SHEET NO. 22

N

HIGH STREET
(PUBLIC – VARIABLE WIDTH)

BROMFIELD STREET
(PUBLIC – VARIABLE WIDTH)

(ROUTE 1A)

MARCH'S HILL

MAP 33 PARCEL 7
N/F
CITY OF
NEWBURYPORT
4066/70

#33

#42

#75

#77–79

#81–83

#40

#38

#39

#31

#29

#27

#36

#34

PROP. SAWCUT

PROP. GRANITE STAIRCASE

END +48.60

N 0° 43' 33" E 64.68'

EXIST. GRAN. CURB (RET)

PROP. EROSION CONTROL BLANKET STA 200+25 - 202+50 RT

PROP. EROSION CONTROL BLANKET STA 200+25 - 203+00 LT

PROP. POST AND RAIL FENCE

R&D EXIST. CEMENT CONC. STEPS AND HANDRAILS

R&R EXIST. SIGN

PT +83.92

RET.

PROP. SAWCUT

PROP. POST AND RAIL FENCE

PROP. 8.00' HOT MIX ASPHALT PATH

PT +44.23

N 54° 16' 50" E 46.22'

D=53° 33' 18"
L=93.47' R=100.00'

D=82° 38' 21"
L=144.73' R=100.00'

PC +90.45

R&D

PROP. TEMP. EASEMENT

EXIST. (PERM.) RAIL TRAIL EASEMENT

PROP. TEMP. EASEMENT

MAP 33 PARCEL 5–A
N/F
SALEM FIVE MORTGAGE CO.
BOOK 33029 PG 16

PROP. TIMBER STEPS

REMOVE GRAFFITI FROM NORTHERN & SOUTHERN WING WALLS

MASSACHUSETTS ELEC. CO. EASEMENT
BK 25953 PG 463

PROP. TEMP. EASEMENT

RAIL TRAIL EASEMENT
BK 30425/PG 122

TEMP. EASEMENT

BRIDGE NO. N-11-004

D=23° 42' 03"
L=206.83' R=500.00'

PT +30.57

N 50° 57' 10" E 184.89'

PI +15.47

N 51° 30' 56" E 100.00'

PC +15.47

D=3° 06' 34"
L=379.89' R=7000.00'

RET. TEMP. EASEMENT

REMOVE GRAFFITI AND RECHINK ALL JOINTS AT NORTHERN & SOUTHERN BRIDGE ABUTMENTS (REFER TO WALL DETAILS)

RECONSTRUCT SELECT AREAS OF EXIST. GRANITE BLOCK WALLS (REFER TO WALL DETAILS)

R&D EXIST. TIMBER WALL AND CONCRETE FOOTINGS

REMOVE GRAFFITI FROM NORTHERN & SOUTHERN APPROACH WALLS

2'X3' WALL MOUNTED INTERPRETIVE SIGN

REMOVE AND REPLACE TIMBER CRIB WALL (REFER TO WALL DETAILS)

PROP. TEMP. EASEMENT

R&D VERTICAL STEEL RAIL

R&D VERTICAL STEEL RAIL

R&R EXIST. STONE

PROP. POST AND RAIL FENCE

REMOVE AND REPLACE TIMBER CRIB WALLS (REFER TO WALL DETAILS)

R&R EXIST. PLANT MATERIALS NEAR CRIB WALLS AS REQUIRED

R&D NGRID MARKER

R&R EXIST. CONC. POST

PROP. 10.00' HOT MIX ASPHALT PATH WITH 2' SHOULDERS

INVASIVE PLANT CONTROL AREA 'B'

STA: 30+57.73 Main Line ℄ =
STA: 200+00.00 High St Connection ℄

MAP 24– PARCEL 71–C
N/F
MASS. ELECTRIC CO.
2838/399

MAP 24 PARCEL 69
N/F
JULIA M. HINES
25118/418

MAP 24 PARCEL 70
N/F
SCOTT TILEY
10717/12

MAP 24 PARCEL 71
N/F
JANICE DESANTIS
6497/153

MAP 24– PARCEL 71–A
N/F
MASS. ELECTRIC CO.
2838/399

MAP 24– PARCEL 71–B
N/F
MASS. ELECTRIC CO.
2838/399

MAP 24 PARCEL 72
N/F
DOUGLAS H. CROSSMAN
2510/320

MAP 33 PARCEL 5
N/F
SALEM FIVE MORTGAGE CO.
BOOK 32917/PG 422

MAP 33 PARCEL 4
N/F
DANIEL O. POTVIN
23723/99

MAP 33 PARCEL 3
N/F
WILLIAM A. LINCOLN
15708/406

COMMONWEALTH OF MA EASEMENT
BK 6203 PG 343
PLAN 456 OF 1975

COMMONWEALTH OF MA EASEMENT
BK 6203 PG 343
PLAN 456 OF 1975

CITY LAYOUT LINE

CITY LAYOUT LINE

NOTES:

1. TREE REMOVALS AND LIMITS OF CLEARING & GRUBBING TO BE DETERMINED OR APPROVED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.
2. TREES LABELED TO BE RETAINED SHALL BE REVIEWED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.

FOR PROFILE: SEE SHEET NO. 37

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	22	180
PROJECT FILE NO.		606503	

CONSTRUCTION PLANS
SHEET 6 OF 16

12-Jun-2015

606503_HD\CONSTRUCTION PLANS\.DWG

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET NO. 70-74

CONTINUED ON SHEET NO. 21

CONTINUED ON SHEET NO. 23

BROMFIELD CT. (PUBLIC – VARIABLE WIDTH)

CHESTNUT STREET (PUBLIC – VARIABLE WIDTH)

ALTER CT. (PUBLIC – VARIABLE WIDTH)

BARTON CT. (PUBLIC – VARIABLE WIDTH)

CITY LAYOUT LINE

PROP. FULL DEPTH PAVEMENT
PROP. PAVEMENT MILLING AND OVERLAY
LIMIT OF WORK STA 300+71
PROP. SAWCUT

S 69° 18' 39" E 1311.08'

PROP. 72 INCH PRIVACY FENCE

PROP. TREE PROTECTION FENCE (TYP.)

PROP. GRANITE CURB TYPE VA4

R&D

PROP. WCR #1

R&R EXIST. BOULDERS STA. 301+00

PROP. GRANITE CURB TYPE VA5

PROP. 6' GRAN. TRANS. CURB

EXIST. HYDRANT TO REMAIN

PROP. BENCH

PROP. FLUSH CONCRETE SPLITTER ISLANDS

D=3° 06' 34"
L=379.89' R=7000.00'

PCC +95.36

D=16° 19' 14"
L=369.93' R=1300.00'

PROP. WCR #2

PROP. RAISED CROSSWALK

S 58° 35' 13" E 250.00'

STA: 38+59.10 Main Line ℄ =
STA: 301+33.39 Bromfield - Barton Ct ℄

R&D VERTICAL STEEL RAIL

R&D EXIST. TREE (TYP.) #4

PROP. 10.00' HOT MIX ASPHALT PATH WITH 2' SHOULDERS

LIMIT OF WORK STA XXX+XX
PROP. SAWCUT

PROP. FULL DEPTH PAVEMENT
PROP. PAVEMENT MILLING AND OVERLAY

PROP. GRANITE CURB CORNER TYPE A (TYP)

PROP. GRANITE CURB TYPE VA4

PROP. 6' GRAN. TRANS. CURB

LIMIT OF WORK STA 301+90
PROP. SAWCUT

PROP. FULL DEPTH PAVEMENT
PROP. PAVEMENT MILLING AND OVERLAY

MAP 24– PARCEL 71–C N/F MASS. ELECTRIC CO. 2838/399

MAP 24 PARCEL 69 N/F JULIA M. HINES 25118/418

MAP 24 PARCEL 70 N/F SCOTT TILEY 10717/12

MAP 24– PARCEL 71–D N/F MASS. ELECTRIC CO. 2838/399

MAP 24– PARCEL 71–G N/F MASS. ELECTRIC CO. 2838/399

MAP 24– PARCEL 71–B N/F MASS. ELECTRIC CO. 2838/399

MAP 24– PARCEL 71–E N/F MASS. ELECTRIC CO. 2838/399

MAP 24 PARCEL 67 N/F SCOTT C. BASHORE 11213/349

MAP 24 PARCEL 60 N/F ALLEN R. FROST 11896/364

MAP 24 PARCEL N/F JAMES B. NELSON 15405/422

MAP 24– PARCEL 71–I N/F MASS. ELECTRIC CO. 2838/399

MAP 24– PARCEL 71–K N/F MASS. ELECTRIC CO. 2838/399

MAP 24 PARCEL 57 N/F DONG S. BETH A. ANDERSON SONG–DONG TRUSTEE 16323/271

MAP 24 PARCEL 56–A N/F RICHARD COLBURN 8232/82

MAP 24– PARCEL 71–L N/F MASS. ELECTRIC CO. 2838/399

MAP 24– PARCEL 71–M N/F MASS. ELECTRIC CO. 2838/399

MAP 24 PARCEL 51 N/F VACANCE 7625/24

MAP 24– PARCEL 71–F N/F MASS. ELECTRIC CO. 2838/399

MAP 24– PARCEL 37 N/F JILL FRANCES GRAY 25928/286

MAP 24– PARCEL 36 N/F CATHERINE T. COMPARONE – SEYLER 8329/470

MAP 24– PARCEL 71–H N/F MASS. ELECTRIC CO. 2838/399

MAP 24 PARCEL 44 N/F JOHN H. GREENE 26131/95

MAP 24– PARCEL 71–J N/F MASS. ELECTRIC CO. 2838/399

MAP 24 PARCEL 45 N/F MARYLOU MANCHESKI 30798/336

MAP 24 PARCEL 50 N/F SEAMUS McCORMICK 29621/450

#75 #73 #2 #4 #3 #6 #8 #5 #10 #12–14 #16–18 #9 #11 #24 #1 #2 #3 #4 #6 #77–79

1.5 STORY WOOD HOUSE #11

2 STORY WOOD HOUSE

WOOD GARAGE

FOR PROFILE: SEE SHEET NO. 38

20 0 20 40
SCALE IN FEET

NOTES:

1. TREE REMOVALS AND LIMITS OF CLEARING & GRUBBING TO BE DETERMINED OR APPROVED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.
2. TREES LABELED TO BE RETAINED SHALL BE REVIEWED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	23	180
PROJECT FILE NO.	606503		

CONSTRUCTION PLANS
SHEET 7 OF 16

606503_HD\CONSTRUCTION PLANS\.DWG 12-Jun-2015

HIGHWAY GUARD DETAILS
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
NONE

DRAINAGE DETAILS
SEE SHEET NO. 70-74

CHESTNUT STREET
(PUBLIC – VARIABLE WIDTH)

HANCOCK STREET
(PUBLIC – VARIABLE WIDTH)

LUNT STREET
(PUBLIC – VARIABLE WIDTH)

CITY LAYOUT LINE

#12–14
#16–18
MAP 24– PARCEL 71–L N/F MASS. ELECTRIC CO. 2838/399
MAP 24– PARCEL 71–M N/F MASS. ELECTRIC CO. 2838/399
MAP 24 PARCEL 51 N/F DEBRA LACHANCE 26362/564
#7
#9
#14
#16
#15
#17
#13
#7–9
#3
#54
MAP 25 PARCEL 65 N/F LISA STEWART 26225/353
MAP 25 PARCEL 50 N/F PATRICIA BUCKLEY 22846/328
#11
#22
#24
MAP 25 PARCEL 14 N/F AARON COFFIN 26983/569
MAP 25 PARCEL 19 N/F ROBERT FOLEY 25637/385
MAP 25 PARCEL 18 N/F ANTHONY LOWTHER 25513/365
MAP 25 PARCEL 17 N/F GARY WELCH 6109/691
MAP 25 PARCEL 16 N/F DANIEL CARLAT 29018/402
MAP 25 PARCEL 14 N/F ROGER BLOCK 22874/266
MAP 25 PARCEL 42 N/F ROBERT DOUGHTY 9471/518
MAP 25 PARCEL 49 N/F JOSHUA PIKE 26135/150
MAP 25 PARCEL 66 N/F SYLVIA TATTERSALL 29757/306
MAP 24 PARCEL 50 N/F SEAMUS McCORMICK 29621/450
MAP 25 PARCEL 13–A N/F CHRISTOPHER D. DAVIS/ LORI B. DAVIS 28856/245
MAP 25 PARCEL 13–B N/F CHRISTOPHER P. ZYBERT/ JULIE A. CHAKRIN 33683/282 & CHRISTOPHER D. DAVIS/ LORI B. DAVIS 28856/545
N/F CITY OF NEWBURYPORT 25956/191

PROP. PAVEMENT MILLING AND OVERLAY
STA: 401+08.00 Hancock St ℄ =
STA: 401+24.55 Chestnut St ℄
END STA. 401+06.18

PROP. 6.00' CEMENT CONC. SIDEWALK; R&R GRAN. CURB

PROP. RAISED CROSSWALK
PROP. SAWCUT
LIMIT OF WORK STA 400+99

PROP. 10.00' HOT MIX ASPHALT PATH WITH 2' SHOULDERS

PROP. RAISED CROSSWALK

PROP. PAVEMENT MILLING AND OVERLAY
BEGIN STA. 501+00.00
END STA. 501+05.00

PROP. 6.00' CEMENT CONC. SIDEWALK; R&R GRAN. CURB

PROP. SAWCUT
LIMIT OF WORK STA 501+00

PROP. EROSION CONTROL BLANKET STA 43+50 - 44+00 LT

PROP. 72 INCH PRIVACY FENCE

PROP. 10.00' HOT MIX ASPHALT PATH WITH 2' SHOULDERS

PROP. TREE PROTECTION FENCE (TYP.)

L=24.66' R=100.00'
Δ=14° 07' 46"
PRC +54.35

D=15° 26' 57"
L=269.64' R=1000.00'

PC +84.71

PT +65.28

N 32° 06' 08" E 219.43'

S 58° 35' 15" E 250.00'

S 58° 20' 21" E 250.00'

STA: 43+14.65 Main Line ℄ =
STA: 501+23.00 Hancock St ℄

R&D CLF
R&D CLF AND GATE
R&D
R&R SIGN
BOS
RET.
ADJ.
TEMP. EASEMENT
R&D EXIST. TREE (TYP.)
R&D EXIST. RIP-RAP; PROP. CEMENTED STONE MASONRY RET. WALL (REFER TO WALL DETAILS)
PROP. TEMP. EASEMENT

PROP. DETECTABLE WARNING PANEL; E 107.6.5 (TYP.)
PROP. POST AND RAIL FENCE
PROP. EROSION CONTROL BLANKET STA 42+00 - 42+50 RT
PROP. 6.00' CEMENT CONC. SIDEWALK; R&R GRAN. CURB
PROP. PAVEMENT MILLING AND OVERLAY BEGIN STA. 401+42.18 END STA. 401+47.18
LIMIT OF WORK STA 401+47
PROP. SAWCUT

PROP. DETECTABLE WARNING PANEL; E 107.6.5 (TYP.)
LIMIT OF WORK STA 501+46
PROP. SAWCUT

PROP. 6.00' CEMENT CONC. SIDEWALK; R&R GRAN. CURB
PROP. PAVEMENT MILLING AND OVERLAY BEGIN STA. 501+41.00 END STA. 501+46.00

PROP. POST AND RAIL FENCE
PROP. EROSION CONTROL BLANKET STA 43+50 - 45+50 RT

MASSACHUSETTS ELEC. CO. EASEMENT BK 25953 PG 463

END +50.00

CONCRETE GARAGE
BITUMINOUS PARKING LOT
SHED

NOTES:

1. TREE REMOVALS AND LIMITS OF CLEARING & GRUBBING TO BE DETERMINED OR APPROVED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.
2. TREES LABELED TO BE RETAINED SHALL BE REVIEWED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.

CONTINUED ON SHEET NO. 22
CONTINUED ON SHEET NO. 24

FOR PROFILE: SEE SHEET NO. 39

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	24	180
PROJECT FILE NO.		606503	

CONSTRUCTION PLANS
SHEET 8 OF 16

606503_HD\CONSTRUCTION PLANS\.DWG 12-Jun-2015

HIGHWAY GUARD DETAILS
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
NONE

DRAINAGE DETAILS
SEE SHEET NO. 70-74

CONTINUED ON SHEET NO. 23

CONTINUED ON SHEET NO. 25

CITY LAYOUT LINE
N LUNT STREET
(PUBLIC - VARIABLE WIDTH)
CITY LAYOUT LINE

PURCHASE STREET
(PUBLIC - VARIABLE WIDTH)

#7-9
#3
#52
#54
#39
#41
#56
#58-60
#64
#45
#47-47.5
#49
#17
#15
#12-14
#10
#13-15

LIMIT OF WORK
STA XXX+XX

PROP. 6.50' CEMENT CONC. SIDEWALK; PROP. GRAN. CURB

PROP. BRICK SIDEWALK (WIDTH VARIES)

PROP. (TEMP.) RIGHT-OF-ENTRY

PROP. WCR #6

PROP. 72 INCH PRIVACY FENCE

PROP. 4' HIGH SPACED BOARD FENCE

PROP. 5.50' BRICK SIDEWALK; PROP. GRAN. CURB

PROP. 6.00' GRAN. TRANS. CURB

PROP. EROSION CONTROL BLANKET STA 50+00 - 54+00 LT

PROP. 72 INCH PRIVACY FENCE

PROP. 8.00' HOT MIX ASPHALT PATH WITH 2' SHOULDERS

PROP. 2' HT. EARTHEN BERM

PROP. 10.00' HOT MIX ASPHALT PATH WITH 2' SHOULDERS

R&D EXIST. STONE WALL

PROP. SAWCUT

PROP. 6' GRAN. TRANS. CURB

L=24.66' R=100.00'
Δ=14° 07' 46"
PRC +54.35
PT +79.01

D=15° 26' 57"
L=269.64' R=1000.00'

PI +41.46

N 59° 10' 52" W 41.57'

PI +99.89

N 30° 46' 56" E 20.88'

N 30° 23' 14" E 168.20'

PC +09.66

D=52° 45' 06"
L=82.86' R=90.00'
PT +92.52

PROP. EROSION CONTROL BLANKET STA 46+30 - 46+70 LT

R&D EXIST. RIP-RAP; PROP. CEMENTED STONE MASONRY RET. WALL (REFER TO WALL DETAILS)

PROP. TEMP. EASEMENT

PROP. 9.00' CEM. CONC. SIDEWALK

(2) PROP. 2' CURB RETURNS

PROP. WCR #3

SEE ENLARGED SCALE PLAN - SHEET 146

SEE ENLARGED SCALE PLAN - SHEET 147

PROP. WCR #4

PROP. CEMENT CONC. DRIVEWAY APRON

PROP. 6.00' GRAN. TRANS. CURB

PROP. 6' GRAN. TRANS. CURB

PROP. DETECTABLE WARNING PANEL; E 107.6.5 (TYP.)

PROP. CEM. CONC. WCR #7

PROP. 5.50' BRICK SIDEWALK; PROP. GRAN. CURB

PROP. PAVEMENT MILLING AND OVERLAY

PROP. GRAN. CURB

PROP. 6' SOLID PRIVACY FENCE

PROP. POST AND RAIL FENCE

PROP. STONE WALL

PROP. TEMP. EASEMENT

VEE FENCE AT EXIST. 32" TREE TO REMAIN

PROP. TREE PROTECTION FENCE (TYP.)

PROP. 72 INCH PRIVACY FENCE

PROP. 2' HT. EARTHEN BERM

TEMP. EASEMENT

HARRISON ST.
(PUBLIC - VARIABLE WIDTH)

CITY LAYOUT LINE

MAP 25 PARCEL 17 N/F WELCH 7691

MAP 25 PARCEL 14 N/F ROGER BLOCK 22874/266

MAP 25 PARCEL 13-A N/F CHRISTOPHER P. ZABEL JULIE A. CHAKRIN 33683/282 & CHRISTOPHER D. DAVIS LORI B. DAVIS 2885P

MAP 26 PARCEL 74-A N/F MARY LASELVA 34008/46

MAP 26 PARCEL 74-B N/F RICHARD SALUS 12637/28

MAP 26 PARCEL 57-A N/F DAVID CLARRIDGE 12318/330

MASSACHUSETTS ELEC. CO. EASEMENT BK 25953 PG 463

CITY OF NEWBURYPORT N/F 25956/191

MAP 26 PARCEL 75 N/F IRWIN E. SCHOWENGERDT TRUSTEE 11496/340

MAP 26 PARCEL 34 N/F TERRY MARCILLE 21242/307

MAP 26 PARCEL 35 N/F CITY OF NEWBURYPORT 25956/191

MAP 26 PARCEL 36 N/F MICHAEL J. HOLOHAN / NADINE E. HOLOHAN 15062/203

MAP 26 PARCEL 37 N/F DONNA S. GLICK / JANE MAKI 27388/555

2 STORY WOOD HOUSE

2.5 STORY WOOD HOUSE

1 STORY WOOD HOUSE

FOR PROFILE: SEE SHEET NO. 40

20 0 20 40
SCALE IN FEET

NOTES:

1. TREE REMOVALS AND LIMITS OF CLEARING & GRUBBING TO BE DETERMINED OR APPROVED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.
2. TREES LABELED TO BE RETAINED SHALL BE REVIEWED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	25	180
PROJECT FILE NO.		606503	

CONSTRUCTION PLANS
SHEET 9 OF 16

606503_HD\CONSTRUCTION PLANS\.DWG 12-Jun-2015

HIGHWAY GUARD DETAILS
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
NONE

DRAINAGE DETAILS
SEE SHEET NO. 70-74

N

WATER STREET
(PUBLIC - VARIABLE WIDTH)

LIMIT OF WORK
STA 602+27

PROP. EROSION CONTROL BLANKET STA 50+00 - 54+00 LT

PROP. TEMP. EASEMENT

PROP. 72 INCH PRIVACY FENCE

PROP. 2' HT. EARTHEN BERM

PROP. BENCH (TYP.)

R&R SHED (BY OWNER)

PROP. 8.00' HOT MIX ASPHALT PATH WITH 2' SHOULDERS

PROP. 2' HT. EARTHEN BERM

PROP. (TEMP.) RIGHT-OF-ENTRY

PROP. 72 INCH PRIVACY FENCE

SEE ENLARGED SCALE PLAN - SHEET 148

R&D EXIST. SHRUBS

PROP. PAVEMENT MILLING AND OVERLAY
BEGIN STA. 601+24.16
END STA. 602+27.03

PROP. 3' GRAN. POSTS WITH CHAIN

PROP. 6.25' CEMENT CONC. SIDEWALK; PROP. GRAN. CURB

PROP. TERMINAL RAMP

PROP. WCR #9

PROP. WCR #8

PROP. GATE

PROP. DENSE GRADED CRUSHED STONE DRIVE

R&D TIMBER PLANTER

R&D BUSHES

PROP. COMPOST FILTER TUBES (TYP.)

PROP. EROSION CONTROL BLANKET STA 56+50 - 58+00

SEE ENLARGED SCALE PLAN - SHEET 149

PROP. CEMENT CONC. SIDEWALK (WIDTH VARIES)

PROP. 6.00' HOT MIX ASPHALT SIDEWALK; MEET EXIST.

PROP. TEMP. EASEMENT

PROP. 72 INCH PRIVACY FENCE

PROP. TEMP. EASEMENT

2'x3' INTERPRETIVE SIGN BASE

PROP. TEMP. EASEMENT

PROP. TEMP. EASEMENT

SOMERBY CT.

JOPPA PARK

CITY OF NEWBURYPORT N/F

MAP 26 PARCEL 57-A N/F DAVID CLARRIDGE 12318/330

MAP 26 PARCEL 57-A N/F DAVID CLARRIDGE 12318/330

MAP 26 PARCEL 48-A,B,C N/F MASS. ELECTRIC CO. 2838/399

MAP 26 PARCEL 57-A N/F EDWIN J. BERNAU, III / EILEEN M. BERNAU 32

MAP 26 PARCEL 48-A,B,C N/F MASS. ELECTRIC CO. 2838/399

MAP 26 PARCEL 49 N/F JENNIFER B. BADGER / VINCENT M. BADGER 30341/340

MAP 26 PARCEL 48 N/F LLOYD N. DANIELS, TRUSTEE OF 174 WATER STREET TRUST 23417/19

MAP 26 PARCEL 47 N/F PHILIP L. SCHWARTZ / TAMARA A. SCHWARTZ 33020/545

MAP 26 PARCEL 46 N/F DAVID MOORE / BEVERLY MONCHUN 15885/74

MAP 26 PARCEL 46A N/F DAVID MOORE / BEVERLY MONCHUN 15885/74

MAP 26 PARCEL 45A N/F AUGUSTUS HARRINGTON 13087/104

MAP 26 PARCEL 37 N/F DONNA S. GLICK / JANE MAKI 27588/555

CITY OF NEWBURYPORT N/F 25956/191

#164 #168 #172 #179 #178 #182 #180 #15 #10

2 STORY WOOD HOUSE

1 STORY WOOD GARAGE

2.5 STORY WOOD

ZONE AE (EL 12)

ZONE AE (EL 15)

200' RIVERFRONT AREA

C. 91 JURISDICTION

N 2° 58' 35" E 485.53'

N 34° 43' 35" E 35.12'

L=32.50' R=56.00' Δ=33° 14' 58"

PC +78.06

PRC +30.40

PT +62.90

L=52.34' R=2000.00' Δ=1° 29' 58"

PRC +56.67

Δ=58° 24' 38" ADJ. R=64.12'

L=58.63'

PC +98.01

STA: 55+72.62 Main Line ℄ =
STA: 603+79.89 Water St ℄

NOTES:

1. TREE REMOVALS AND LIMITS OF CLEARING & GRUBBING TO BE DETERMINED OR APPROVED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.

2. TREES LABELED TO BE RETAINED SHALL BE REVIEWED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.

CONTINUED ON SHEET NO. 24

CONTINUED ON SHEET NO. 26

CONTINUED ON SHEET NO. XX

FOR PROFILE: SEE SHEET NO. 41

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	26	180
PROJECT FILE NO.	606503		

CONSTRUCTION PLANS
SHEET 10 OF 16

606503_HD\CONSTRUCTION PLANS\.DWG 12-Jun-2015

HIGHWAY GUARD DETAILS
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
NONE

DRAINAGE DETAILS
SEE SHEET NO. 70-74

CONTINUED ON SHEET NO. 25

CONTINUED ON SHEET NO. 27

N

WATER STREET
(PUBLIC – VARIABLE WIDTH)

CITY LAYOUT LINE

200' RIVERFRONT AREA

C. 91 JURISDICTION

#164

#168

#177

MAP 23 PARCEL 21
12332/19

#175
MAP 23 PARCEL 20
N/F
CHARLES R GRIGG
12331/600

#179

#157

ZONE AE
(EL 12)

ZONE VE
(EL 15)

ZONE VE
(EL 14)

CITY OF NEWBURYPORT
WASTEWATER TREATMENT PLANT

MAP 23 PARCEL 23
N/F
CITY OF NEWBURYPORT
25956/191

MAP 23 PARCEL 22 1/2
N/F
WADE BURRITT
26593-2
ROBERT NELSON.
26466-40

MAP 23 PARCEL 22-A
N/F
MASS. ELECTRIC CO.
2838/399

MAP 23 PARCEL 22-B
N/F
MASS. ELECTRIC CO.
2838/399

MAP 23 PARCEL 22-C
N/F
CITY OF NEWBURYPORT
25956/191

MASSACHUSETTS ELEC. CO.
EASEMENT
BK 25953 PG 463

SAWCUT

BOS

PRC +56.67

PC +78.71

PT +62.00
N 26° 11' 21" W 116.70'

D=23° 19' 33"
L=305.33' R=750.00'

D=19° 27' 28"
L=324.66' R=956.00'

24' 38"
5' R=64.12'

PROP. LANDSCAPE BOULDERS (TYP.)

PROTECT EXIST. PLANTINGS TO REMAIN (TYP.)

PROTECT EXIST. TREES TO REMAIN

PROP. 10.00' HOT MIX ASPHALT PATH WITH 2' SHOULDERS

PROTECT EXIST. TREE TO REMAIN

EXIST. GRANITE BLOCK WALL TO REMAIN

PROP. STORMWATER INFILTRATION TRENCH

PROP. EROSION CONTROL BLANKET STA 56+50 - 58+00 RT

PROP. REPAIRS TO GRANITE BLOCK REVETMENT (APPROX. 30 LF)

EXIST. LOW GRANITE WALL TO REMAIN

EXIST. RIP RAP TO REMAIN

PROP. COMPOST FILTER TUBES (TYP.)

RET. EXIST. 6' CLF

PROP. BENCH

R&D EXIST. FENCE, PRUNE EXIST. TREE; PROP. TREE PROTECTION FENCE (TYP.)

PRUNE EXIST. CHERRY TREE; PROP. TREE PROTECTION FENCE (TYP.)

PRUNE EXIST. TREE; PROP. TREE PROTECTION FENCE (TYP.)

PROP. SWING BENCH

R&D EXIST. PLANTERS

EXIST. RIP RAP TO REMAIN

PROP. COIR LOGS

PROP. FILL MATERIAL BEHIND COIR LOGS AT SCOUR AREAS (TYP.)

PROP. EROSION CONTROL BLANKET STA 59+50 - 66+50 RT

EXIST. LOW GRANITE WALL TO REMAIN

PROP. COIR LOGS

PROP. FILL MATERIAL BEHIND COIR LOGS AT SCOUR AREAS (TYP.)

1 / 136

2 / 136

3 / 136

4 / 136

MERRIMACK RIVER

FLOW

N/F
COMMONWEALTH OF MASSACHUSETTS

NOTES:

1. BITTERSWEET VINES (ON EXIST. 6' CLF NEAR WWTF) TO BE CUT AT GROUND LEVEL AND CAREFULLY REMOVED FROM THE SITE. TREAT STUMPS AS PER SPECIAL PROVISION FOR INVASIVE SPECIES REMOVAL.

NOTES:

1. TREE REMOVALS AND LIMITS OF CLEARING & GRUBBING TO BE DETERMINED OR APPROVED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.

2. TREES LABELED TO BE RETAINED SHALL BE REVIEWED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.

FOR PROFILE: SEE SHEET NO. 42

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	27	180
PROJECT FILE NO.	606503		

CONSTRUCTION PLANS
SHEET 11 OF 16

606503_HD\CONSTRUCTION PLANS\.DWG 12-Jun-2015

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

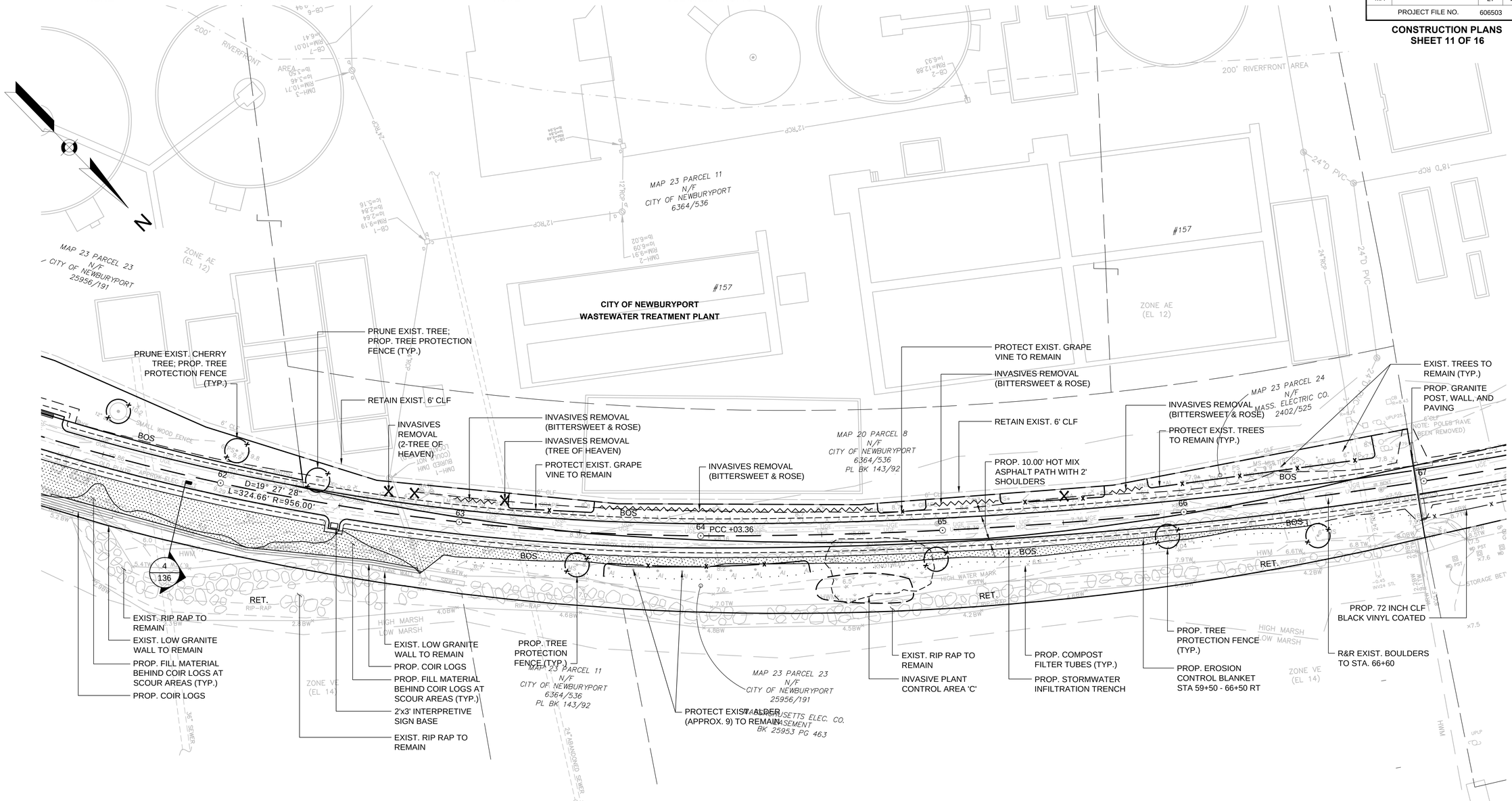
NONE

DRAINAGE DETAILS

SEE SHEET NO. 70-74

CONTINUED ON SHEET NO. 26

CONTINUED ON SHEET NO. 28



MERRIMACK RIVER

FLOW

N/F
COMMONWEALTH OF MASSACHUSETTS

NOTES:

1. BITTERSWEET VINES (ON EXIST. 6' CLF NEAR WWTF) TO BE CUT AT GROUND LEVEL AND CAREFULLY REMOVED FROM THE SITE. TREAT STUMPS AS PER SPECIAL PROVISION FOR INVASIVE SPECIES REMOVAL.

NOTES:

1. TREE REMOVALS AND LIMITS OF CLEARING & GRUBBING TO BE DETERMINED OR APPROVED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.
2. TREES LABELED TO BE RETAINED SHALL BE REVIEWED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.

FOR PROFILE: SEE SHEET NO. 43

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	28	180
PROJECT FILE NO.		606503	

CONSTRUCTION PLANS
SHEET 12 OF 16

606503_HD\CONSTRUCTION PLANS\.DWG 12-Jun-2015

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET NO. 70-74

CONTINUED ON SHEET NO. 27

CONTINUED ON SHEET NO. 29

PROP. 72 INCH PRIVACY FENCE

PROP. GRAN. INTERPRETIVE ELEMENTS

MAP 23 PARCEL 24
N/F
MASS. ELECTRIC CO.
2402/525

MEET EXIST. SIDEWALK

SEE ENLARGED SCALE PLAN - SHEET 150

MAP 20 PARCEL 8
N/F
CITY OF NEWBURYPORT
DOC. 503345
L.C. 15621A
31586 / 329

ACCESS EASEMENT
30314/444

200' RIVERFRONT AREA

MAP 20 PARCEL 1
N/F
MASS. ELECTRIC CO.
2321/133
L.C. 5968A

WOOD GUARDRAIL

PROP. 72 INCH CLF BLACK VINYL COATED

PROP. DOUBLE LEAF CLF GATE

PROP. 72 INCH CLF BLACK VINYL COATED

PRC +37.34

D=16° 02' 36"
L=533.98' R=1907.00'

D=95° 10' 23"
L=94.68' R=57.00'

PROP. TEMP. EASEMENT

PROP. 72 INCH CLF BLACK VINYL COATED

PROP. TEMP EASEMENT

RESET VEHICULAR GATE AND KEY PAD

N/F
MASS. ELECTRIC CO.
2838/399

APPROX. LOCATION OF (2) EXIST. DIRECT BURY 23KV CABLES TO REMAIN

APPROX. LOCATION OF EXIST. ELEC. DUCT BANK TO REMAIN

PROP. EROSION CONTROL BLANKET STA 59+50 - 66+50 RT

PROP. 72 INCH CLF BLACK VINYL COATED

PROP. 10.00' HOT MIX ASPHALT PATH WITH 2' SHOULDERS

PROP. BENCH

PROP. 72 INCH BLACK VINYL COATED CLF

R&D (2) EXIST. CEMENT CONC. FOOTINGS

PRC +45.04

D=101° 42' 23"
L=213.01' R=120.00'

PROP. POST AND RAIL FENCE

PROP. 48 INCH CLF BLACK VINYL COATED

PROP. COMPOST FILTER TUBES (TYP.)

PROP. 72 INCH CLF BLACK VINYL COATED

PROP. 48 INCH CLF BLACK VINYL COATED

#115-119 R
MAP 20 PARCEL 12
N/F
AMERICAN YACHT CLUB
DOC. 61727
L.C. 15621A

MAP 20 PARCEL 13
N/F
MASS. ELECTRIC CO.
2321/133
L.C. 5968A

N/F
CITY OF NEWBURYPORT
25956/191

N/F
MASS. ELECTRIC CO.
2321/133
L.C. 5968A

OLD-BROKEN DOWN BULKHEAD

MERRIMACK RIVER

FLOW

N/F
COMMONWEALTH OF MASSACHUSETTS

ZONE AE (EL 12)

ZONE AE (EL 13)

ZONE VE (EL 14)

HIGH MARSH

LOW MARSH

HWM

NOTES:

1. TREE REMOVALS AND LIMITS OF CLEARING & GRUBBING TO BE DETERMINED OR APPROVED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.
2. TREES LABELED TO BE RETAINED SHALL BE REVIEWED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.

FOR PROFILE: SEE SHEET NO. 44

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	29	180
PROJECT FILE NO.	606503		

CONSTRUCTION PLANS
SHEET 13 OF 16

606503_HD\CONSTRUCTION PLANS\.DWG 12-Jun-2015

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

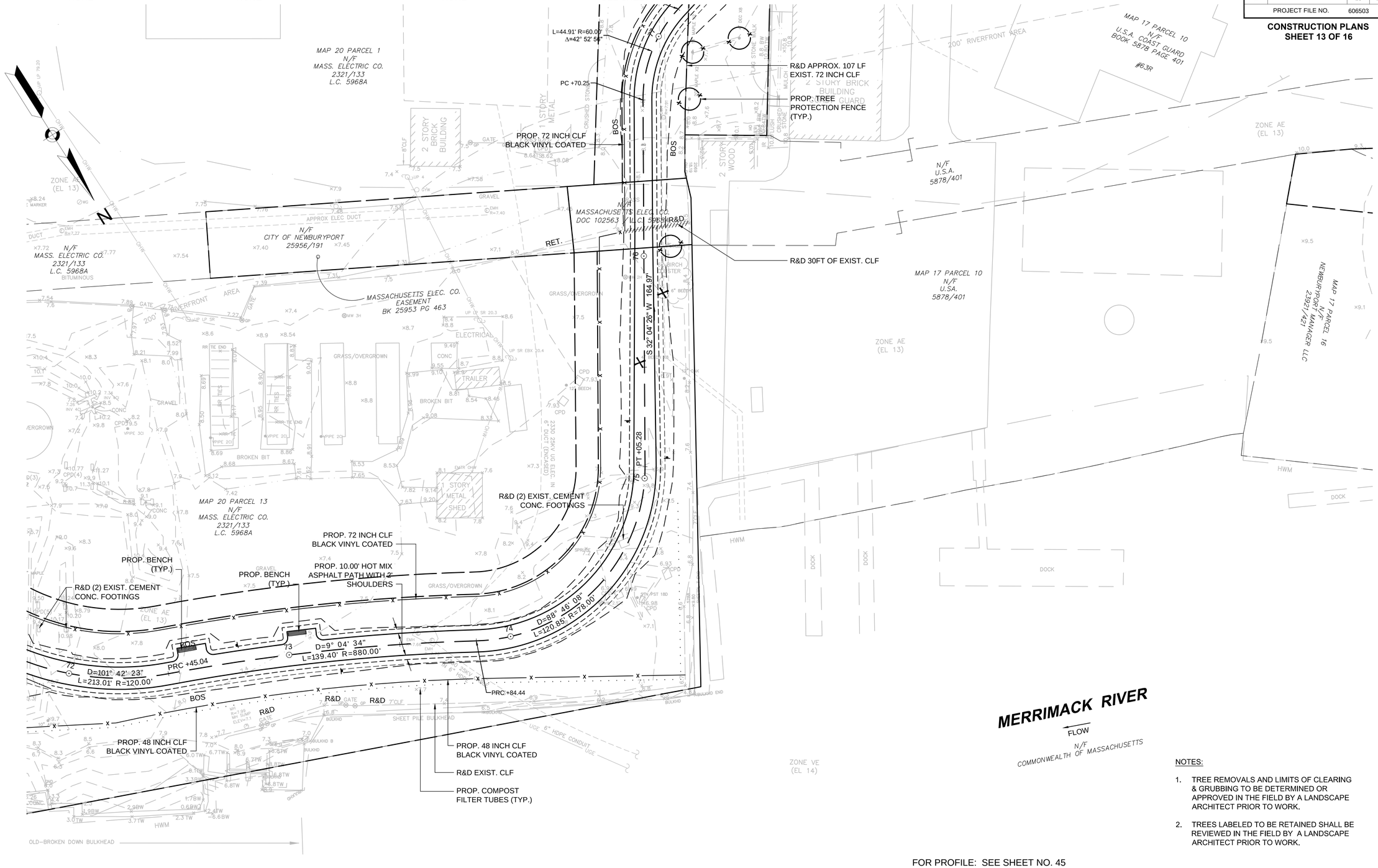
NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET NO. 70-74



CONTINUED ON SHEET NO. 28

CONTINUED ON SHEET NO. 30

NOTES:

1. TREE REMOVALS AND LIMITS OF CLEARING & GRUBBING TO BE DETERMINED OR APPROVED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.
2. TREES LABELED TO BE RETAINED SHALL BE REVIEWED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.

FOR PROFILE: SEE SHEET NO. 45

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	30	180
PROJECT FILE NO.		606503	

CONSTRUCTION PLANS
SHEET 14 OF 16

606503_HD\CONSTRUCTION PLANS\.DWG 12-Jun-2015

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET NO. 70-74

CONTINUED ON SHEET NO. 29

CONTINUED ON SHEET NO. 31

NOTES:

1. TREE REMOVALS AND LIMITS OF CLEARING & GRUBBING TO BE DETERMINED OR APPROVED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.
2. TREES LABELED TO BE RETAINED SHALL BE REVIEWED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.

WATER STREET
(PUBLIC - VARIABLE WIDTH)

CITY LAYOUT LINE

CITY LAYOUT LINE

#95

#85

#73-75

MAP 17 PARCEL 13
N/F
CONSTANTINUS E. KONTATUS
BOOK 2261 PAGE 570

MAP 17 PARCEL 12
N/F
RANGE LIGHT LIMITED PARTNERSHIP
24852/303

MAP 17 PARCEL 14
N/F
MASS ELECTRIC COMPANY
BOOK 4196 PAGE 233

MAP 20 PARCEL 1
N/F
MASS. ELECTRIC CO.
2321/133
L.C. 5968A

MAP 17 PARCEL 10
N/F
U.S.A. COAST GUARD
BOOK 5878 PAGE 401
#63R

N/F
U.S.A.
5878/401

N/F
MASSACHUSETTS ELEC. CO.
DOC 102563 / L.C. 5968A

C. 91 JURISDICTION

200' RIVERFRONT AREA

ZONE AE
(EL 12)

ZONE AE
(EL 13)

ZONE AE

SEE ENLARGED SCALE PLAN - SHEET 151

PROP. DETECTABLE WARNING PANEL; E 107.6.5 (TYP.)

PROP. GRAN. CURB

SAWCUT EXIST. CEM. CONC. RET. WALL

PROP. TREE PROTECTION FENCE (TYP.)

PROP. CEM. CONC. RET. WALL (REFER TO WALL DETAILS)

PROP. 72 INCH CLF BLACK VINYL COATED

EXIST. (PERM.) RAIL TRAIL EASEMENT

R&R EXIST. SHED

R&R STORAGE RACKS

R&D 90 LF CEM. CONC. RET. WALL

PROP. GATE

RESET SHED

R&D SHRUB

R&R EXIST. SHED

S 74° 57' 22" W 25.85'

PT +15.16

L=44.91' R=60.00'
Δ=42° 52' 56"

PC +70.25

PROP. 72 INCH CLF BLACK VINYL COATED

PI +60.15

PROP. TEMP EASEMENT

PROP. TEMP. EASEMENT

PROP. PAVEMENT MILLING AND OVERLAY

PROP. GRAN. CURB

PROP. DETECTABLE WARNING PANEL; E 107.6.5R (TYP.)

PROP. WCR #7 DETECTABLE WARNING PANEL; E 107.6.5R (TYP.)

PROP. RAISED GRAN. CURB PLANTER

PROP. TEMP. EASEMENT

N 40° 50' 49" W 210.74'

PROP. RAISED GRAN. CURB PLANTER

PROP. DETECTABLE WARNING PANEL; E 107.6.5R (TYP.)

PROP. RAISED GRAN. CURB PLANTER

PROP. TEMP. EASEMENT

PI +70.88

N 52° 45' 39" W 28.80'

PI +99.68

PROP. GRAN. TRANS. CURB

PROP. SAWCUT

PROP. PAVEMENT MILLING AND OVERLAY

S 46° 42' 39" W 89.55'

PROP. 72 INCH CLF

2'X3' INTERPRETIVE SIGN MOUNTED ON FENCE

PROP. 72 INCH CLF

PT +70.59

L=29.58' R=60.00'
Δ=28° 14' 43"

PC +41.01

R&D APPROX. 107 LF EXIST. 72 INCH CLF

PROP. TREE PROTECTION FENCE (TYP.)

PROP. TEMP. EASEMENT

2 STORY BRICK GARAGE

2 STORY BRICK BUILDING

2 STORY BRICK BUILDING

1 STORY METAL

2 STORY WOOD

FOR PROFILE: SEE SHEET NO. 46

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	31	180
PROJECT FILE NO.		606503	

CONSTRUCTION PLANS
SHEET 15 OF 16

606503_HD\CONSTRUCTION PLANS\.DWG 12-Jun-2015

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET NO. 70-74

CONTINUED ON SHEET NO. 30

CONTINUED ON SHEET NO. 32

WATER STREET
(PUBLIC – VARIABLE WIDTH)

CITY LAYOUT LINE

PROP. (TEMP.) RIGHT-OF-ENTRY

#73–75

#63–65

#61

#55–57

#51

#47

#45

#43

#41

MAP 17 PARCEL 11
N/F
NEW BURYPORT ART ASSOC., INC.
5646/19

MAP 17 PARCEL 12
N/F
RANGE LIGHT LIMITED PARTNERSHIP
6852/303

MAP 17 PARCEL 9
N/F
GORDON HALL &
MICHAEL B. MOSKOW
8919/491

MAP 17 PARCEL 7
N/F
GORDON HALL &
MICHAEL B. MOSKOW
8919/491

MAP 17 PARCEL 4
N/F HIGGINS
ROBERT W.
13440/469

MAP 17 PARCEL 3
N/F
NEWBURYPORT MANAGER LLC
23921/355

MAP 17 PARCEL 2a
N/F
ROBERT W. HIGGINS
DOC 38/241

MAP 17 PARCEL 1
N/F
NEWBURYPORT MANAGER LLC
23919/170

MAP 17 PARCEL
N/F
FORTY FIVE WATER STREET RRA
8684/227

MAP 17 PARCEL 8
N/F
EUGENE GRECO
9560/597

MAP 17 PARCEL 6
N/F
EUGENE GRECO
6436/100

MAP 17 PARCEL B
N/F
NEWBURYPORT MANAGER LLC
19105/461

MAP 17 PARCEL 10
N/F
U.S.A. COAST GUARD
BOOK 5878 PAGE 401

#63R

MAP 17 PARCEL 16
N/F
NEWBURYPORT MANAGER LLC
23921/421

MAP 17 PARCEL 17
N/F
NEWBURYPORT MANAGER LLC
23921/421

MAP 17 PARCEL 19
N/F
NEWBURYPORT MANAGER LLC
23921/421

MAP 17 PARCEL 20
N/F
NEWBURYPORT MANAGER LLC
23919/170

MAP 17 PARCEL 21
N/F
NEWBURYPORT MANAGER LLC
23919/170

#61 REAR

#51 REAR

#64

PROP. TEMP. EASEMENT
PROP. GRAN. CURB; E 106.3.0R (TYP)
PROP. 8.00' HOT MIX ASPHALT PATH
PI +70.88
N 52° 45' 39" W 28.80'
PI +99.68
TEMP. EASEMENT
RAIL TRAIL EASEMENT
EXIST. (PERM.) RAIL TRAIL EASEMENT
PC +68.83
PROP. WOOD GUARD RAIL
PROP. 72 INCH CLF
PT +99.57
PROP. GRANITE TRANSITION CURB
R&D RADIAL GRANITE CURB (EACH SIDE)
PROP. HOT MIX ASPHALT TRANSITION
R&R EXIST. CLF GATE
PROP. SAWCUT
PROP. GRANITE TRANSITION CURB
PROP. WOOD GUARD RAIL
PROP. 72 INCH CLF
PROP. (PERM.) RAIL TRAIL EASEMENT
PROP. WCR
PROP. CEM. CONC. DRIVEWAY APRON
PI +56.23
N 19° 56' 23" W 33.76'
PI +90.00
PROP. 8.00' HOT MIX ASPHALT PATH
PROP. 12" WIDE FLUSH CURB W/ GUIDANCE TACTILE (EACH SIDE)
PROP. COMPOST FILTER TUBES (TYP.)
PROP. GRAN. CURB
EXIST. (PERM.) RAIL TRAIL EASEMENT
PROP. GRAN. POSTS
PROP. GRAN. CURB; E 106.3.0R (TYP)
PROP. GRAN. TRANS. CURB
PROP. WCR #10
PROP. PILE SUPPORTED BOARDWALK STRUCTURE (REFER TO BOARDWALK DETAILS)
PROP. 8.00' HOT MIX ASPHALT PATH
EXIST. (PERM.) RAIL TRAIL EASEMENT
N 51° 29' 35" W 220.10'
PROP. 12" WIDE FLUSH CURB W/ GUIDANCE TACTILE (EACH SIDE)
N 65° 22' 16" W 99.19'
PI +47.44
N 61° 48' 08" W 37.34'
PI +10.09
PROP. 8.00' HOT MIX #51 REAR ASPHALT PATH
EXIST. (PERM.) RAIL TRAIL EASEMENT
PROP. COMPOST FILTER TUBES (TYP.)
N 61° 26' 35" W 104.12'

MERRIMACK RIVER
FLOW
N/F
COMMONWEALTH OF MASSACHUSETTS

ZONE AE (EL 12)
ZONE AE (EL 13)
ZONE VE (EL 13)
ZONE VE (EL 14)

2 STORY WOOD RESTAURANT
2 STORY WOOD BUILDING
3 STORY WOOD BUILDING
1 STORY BUILDING
NEWBURYPORT MANAGER LLC

TEMP. EASEMENT
N/F NEWBURYPORT MANAGER LLC 23921/421

RIVERFRONT AREA
200' RIVERFRONT AREA

FOR PROFILE: SEE SHEET NO. 47

20 0 20 40
SCALE IN FEET

NOTES:

1. TREE REMOVALS AND LIMITS OF CLEARING & GRUBBING TO BE DETERMINED OR APPROVED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.
2. TREES LABELED TO BE RETAINED SHALL BE REVIEWED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	32	180
PROJECT FILE NO.	606503		

CONSTRUCTION PLANS
SHEET 16 OF 16

606503_HD\CONSTRUCTION PLANS\.DWG 12-Jun-2015

HIGHWAY GUARD DETAILS
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 69

DRAINAGE DETAILS
SEE SHEET NO. 70-74

CONTINUED ON SHEET NO. 31

#47

MAP 17 PARCEL 2
N/F
FORTY FIVE WATER STREET REALTY
8684/227

200' RIVERFRONT AREA

#45

MAP 17 PARCEL 2a
N/F
ROBERT W. HIGGINS
DOC 38/241

MAP 17 PARCEL 1
N/F
NEWBURYPORT MANAGER LLC
23919/170

#43

#35-41

ZONE AE (EL 12)

#27
MAP 12 PARCEL 12
N/F
NEWBURYPORT MANAGER LLC
23919/170

#25

#19-23

#22
MAP 11 PARCEL 1-B
N/F
NEWBURYPORT WATERFRONT TRUST
10711/370

1-23
#23 REAR
MAP 11 PARCEL 1-F
N/F
N.R.A.
BOOK 9658 PG 504

CUSTOM HOUSE WAY (PUBLIC)

MAP 12 PARCEL 10
N/F
N.R.A.
DOC 171181

MAP 11 PARCEL 1-D
N/F
N.R.A.
BOOK 9658 PG 504

PROP. 12" WIDTH FLUSH CURB W/ GUIDANCE TACTILE (EACH SIDE)

PROP. TEMP. EASEMENT

PROP. 8.00' HOT MIX ASPHALT PATH

LIMIT OF 12" WIDTH FLUSH CURB W/ GUIDANCE TACTILE (EACH SIDE)

PROP. GRAN. CURB; E 106.3.0R (TYP)

PROP. 72 INCH PRIVACY FENCE

PROP. TEMP. EASEMENT

PROP. 72 INCH PRIVACY FENCE

PROP. HYDRANT

PROP. TEMP. EASEMENT

2'x3' INTERPRETIVE SIGN BASE

R&R STORAGE BOX (BY OWNER)

PROP. BRICK PAVEMENT

PROP. TEMP. EASEMENT

EXIST. PLANTING TO REMAIN

PROP. GRAN. CURB; E 106.3.0R (TYP)

PROP. WCR #12

PROP. TEMP. EASEMENT

PROJECT END
STA 92+00
N3121777.7516
E825593.8505

PI +46.62

N 58° 49' 35" W 104.12'

#51 REAR
MAP 17 PARCEL 21
N/F
NEWBURYPORT MANAGER LLC
23919/170

PI +50.74

PROP. WCR #11

EXIST. (PERM.) RAIL TRAIL EASEMENT

PROP. TEMP. EASEMENT

PROP. COMPOST FILTER TUBES (TYP.)

PROP. HANDRAIL

(2) PROP. SWING BENCH

PROP. HOT MIX ASPHALT PATH (WIDTH VARIES)

#27 REAR
N/F
NEWBURYPORT MANAGER LLC
23919/170

1 STORY WOOD BUILDING
OLDIES

N 77° 08' 53" W 449.26'

PROP. 8.00' HOT MIX ASPHALT PATH

PROP. WOOD GUARD RAIL

PROP. GRANITE COBBLES (UNDER GUARD RAIL)

(2) STEEL DOLPHINS

PROP. TEMP. EASEMENT

PROP. GRAN. CURB; E 106.3.0R (TYP)

PROP. FLUSH GRAN. CURB

PROP. BIKE LOOPS

PROP. TEMP EASEMENT

(9) STN POSTS 10" SQUARE
N/F
N.R.A.
DOC 142652

MAP 12 PARCEL 9
N/F
CITY OF NEWBURYPORT
9209/335

#27

1 STORY HARBOR MASTER

PETER J. MATTHEWS BOARDWALK

MERRIMACK RIVER

FLOW

N/F
COMMONWEALTH OF MASSACHUSETTS

ZONE VE (EL 13)

ZONE VE (EL 14)

DOCK

HWM

FOR PROFILE: SEE SHEET NO. 48

20 0 20 40
SCALE IN FEET

NOTES:

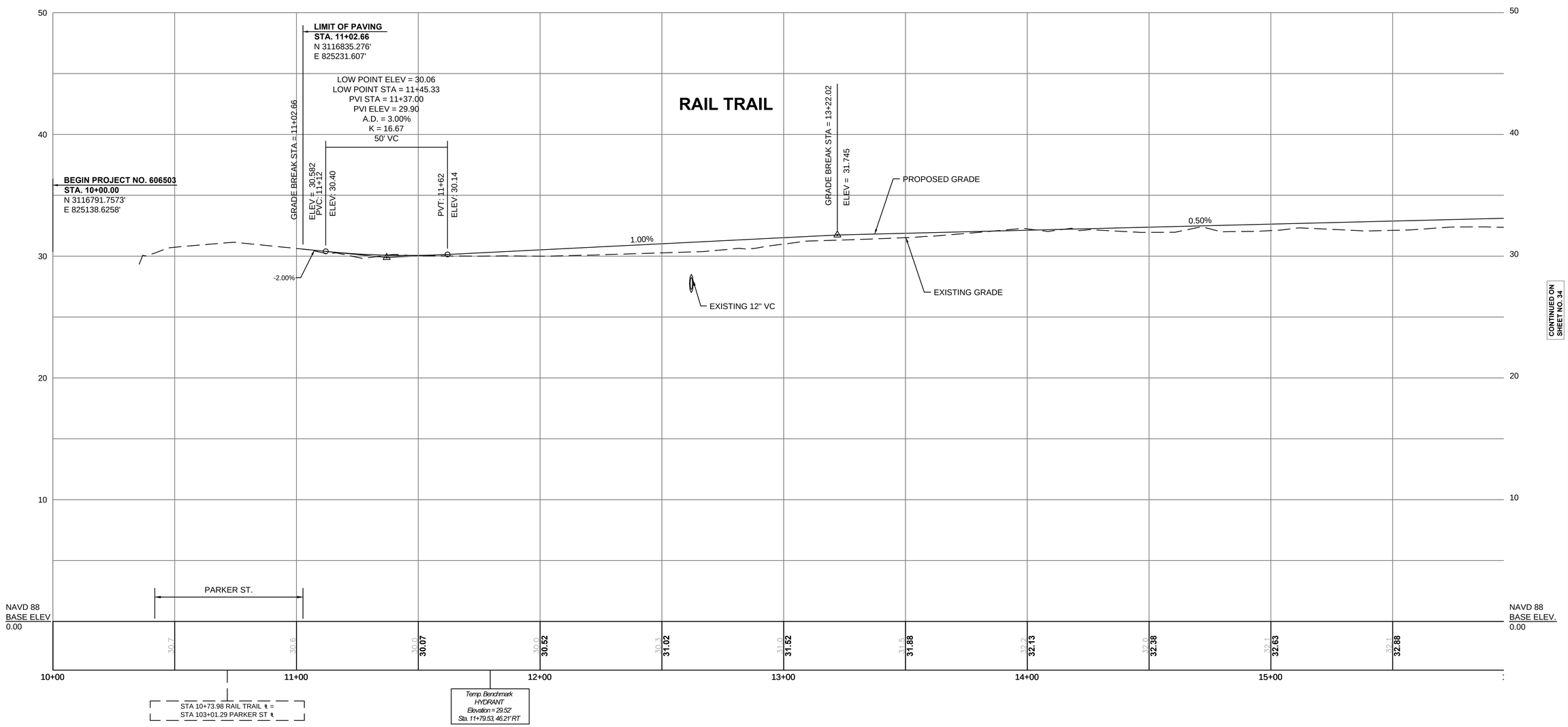
1. TREE REMOVALS AND LIMITS OF CLEARING & GRUBBING TO BE DETERMINED OR APPROVED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.
2. TREES LABELED TO BE RETAINED SHALL BE REVIEWED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	33	180
PROJECT FILE NO.	606503		

PROFILE
RAIL TRAIL
SHEET 1 OF 16

606503_HD(RAIL TRAIL PROFILE).DWG 12-Jun-2015



CONTINUED ON SHEET NO. 34

FOR CONSTRUCTION PLANS:
SEE SHEET NO. 17

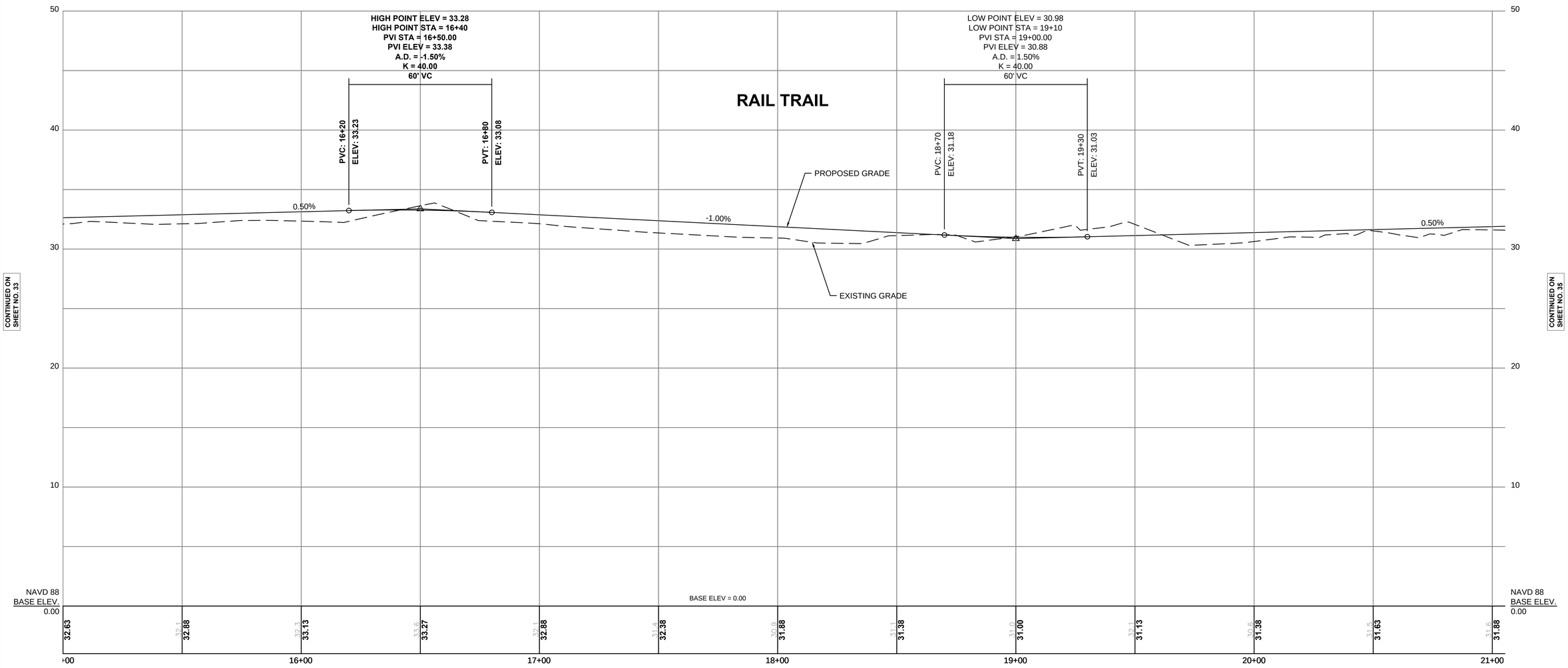
HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	34	180
PROJECT FILE NO.	606503		

PROFILE
RAIL TRAIL
SHEET 2 OF 16

606503_HD(RAIL TRAIL PROFILE).DWG 12-Jun-2015



CONTINUED ON SHEET NO. 33

CONTINUED ON SHEET NO. 35

FOR CONSTRUCTION PLANS:
SEE SHEET NO. 18

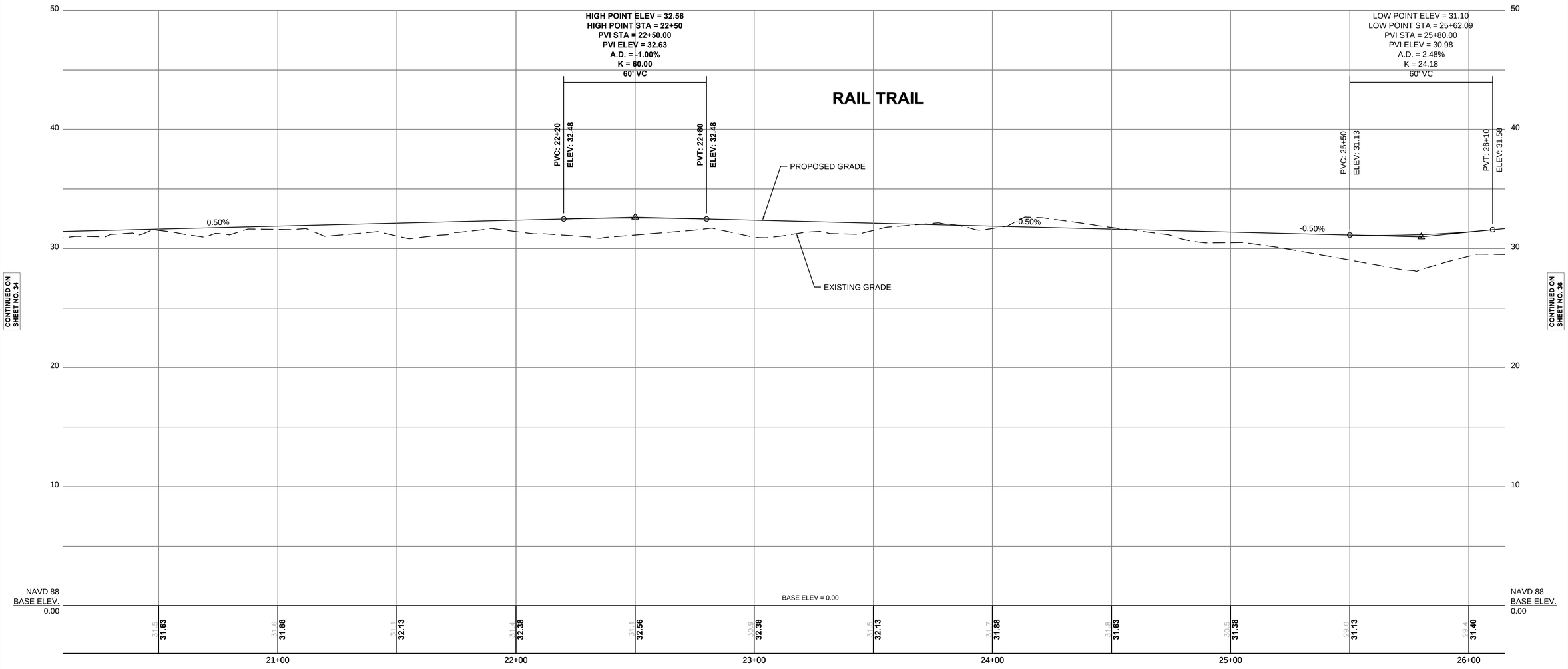
HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	35	180
PROJECT FILE NO.	606503		

PROFILE
RAIL TRAIL
SHEET 3 OF 16

606503_HD(RAIL TRAIL PROFILE).DWG 12-Jun-2015



CONTINUED ON SHEET NO. 34

CONTINUED ON SHEET NO. 36

FOR CONSTRUCTION PLANS:
SEE SHEET NO. 19

HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

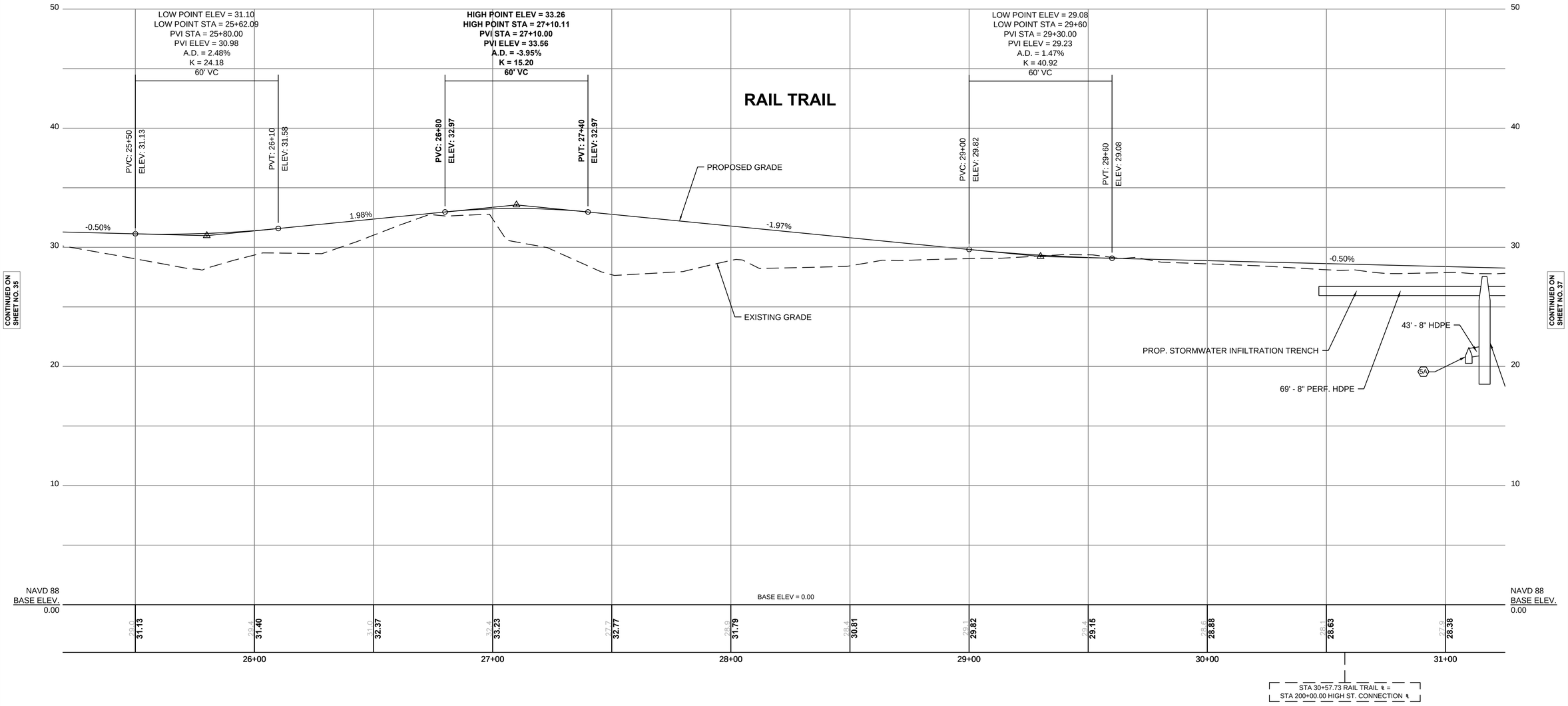
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	36	180
PROJECT FILE NO.	606503		

PROFILE
RAIL TRAIL
SHEET 4 OF 16

606503_HD(RAIL TRAIL PROFILE).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 35

CONTINUED ON SHEET NO. 37



FOR CONSTRUCTION PLANS:
SEE SHEET NO. 20

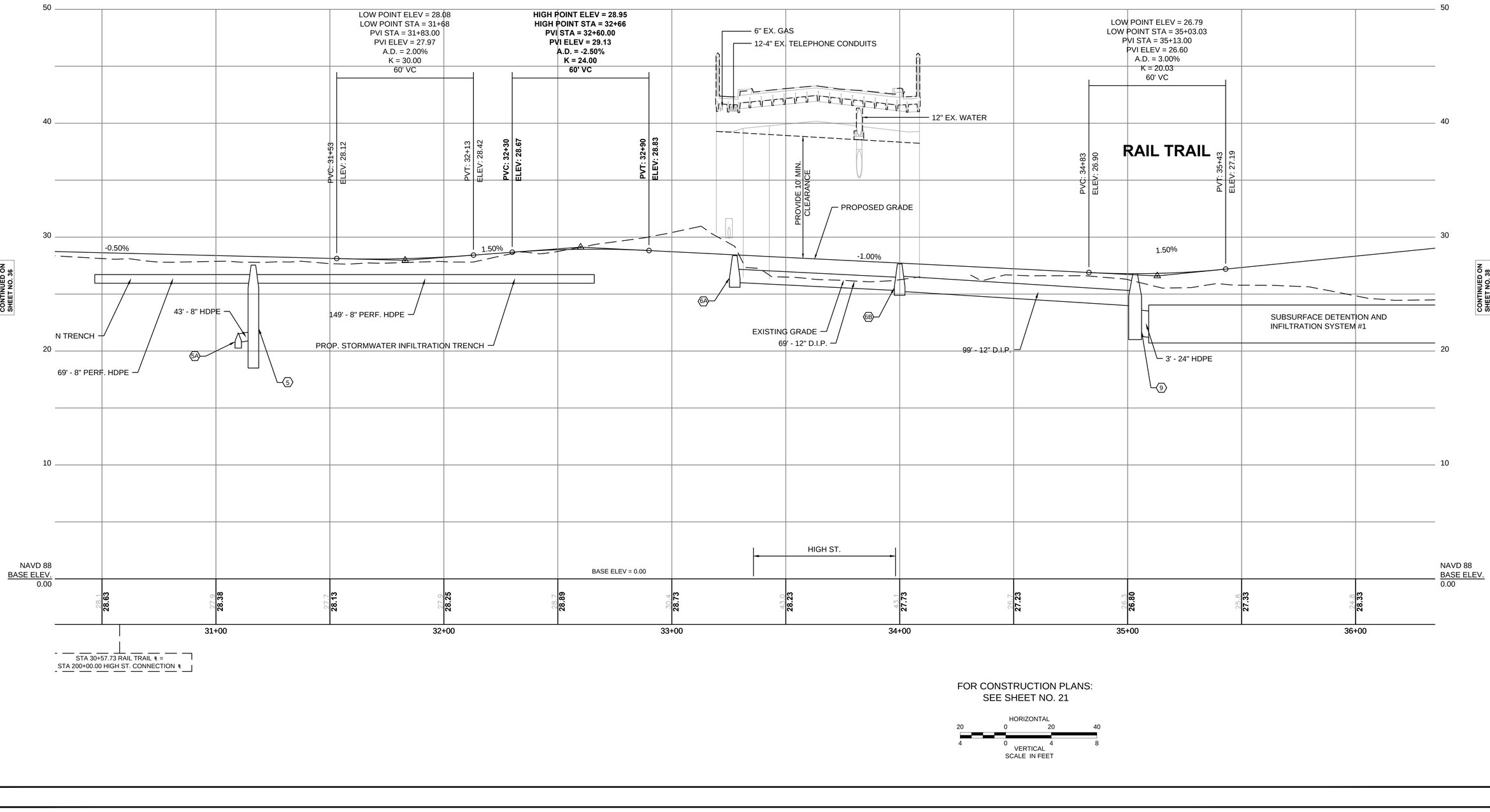
HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	37	180
PROJECT FILE NO.	606503		

PROFILE
RAIL TRAIL
SHEET 5 OF 16

606503_HD(RAIL TRAIL PROFILE).DWG 12-Jun-2015



FOR CONSTRUCTION PLANS:
SEE SHEET NO. 21

HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	38	180
PROJECT FILE NO.	606503		

PROFILE
RAIL TRAIL
SHEET 6 OF 16

606503_HD(RAIL TRAIL PROFILE).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 37

CONTINUED ON SHEET NO. 39

RAIL TRAIL

HIGH POINT ELEV = 33.24
HIGH POINT STA = 38+63.37
PVI STA = 38+59.00
PVI ELEV = 33.50
A.D. = -3.48%
K = 17.22
60' VC

LOW POINT ELEV = 32.23
LOW POINT STA = 39+56.97
PVI STA = 39+82.00
PVI ELEV = 31.67
A.D. = 5.96%
K = 16.78
100' VC

HIGH POINT ELEV = 35.83
HIGH POINT STA = 40+92.50
PVI STA = 40+75.00
PVI ELEV = 35.83
A.D. = -4.47%
K = 7.83
35' VC

HIGH POINT E
HIGH POINT ST
PVI STA = 4
PVI ELEV
A.D. = -
K = 7
25' V

PVT: 35+43
ELEV: 27.19

PVC: 38+29
ELEV: 32.90

PVT: 38+89
ELEV: 33.05

PVC: 39+32
ELEV: 32.41

PVT: 40+32
ELEV: 33.91

PVC: 40+57.50
ELEV: 35.05

PVT: 40+92.50
ELEV: 35.83

GRADE BREAK STA = 40+97.07
ELEV = 35.827

PVC: 41+30.50
ELEV: 35.83

PROPOSED GRADE

2.00%

-1.49%

4.47%

1.64%

-1.49%

0.00%

0.00%

10A

13

RAISED CROSSWALK

12" HDPE

93' - 12" HDPE

RETAIN & REUSE 12" EX. RCP

SUBSURFACE DETENTION AND INFILTRATION SYSTEM #1

EXISTING GRADE

ALTER CT

BROMFIELD CT / BARTON CT

CHESTNUT ST.

BASE ELEV = 0.00

NAVD 88
BASE ELEV.
0.00

25.8	24.8	24.4	24.6	23.6	23.6	23.5	23.7	22.9	22.2	28.2	25.6
27.33	**28.33**	**29.33**	**30.33**	**31.33**	**32.32**	**33.19**	**32.89**	**32.24**	**32.78**	**34.71**	**35.88**

50 40 30 20 10

36+00 37+00 38+00 39+00 40+00 41+00

STA 37+2.27 RAIL TRAIL ℄ =
STA 700+27.70 ALTER CT ℄

STA 38+62.90 RAIL TRAIL ℄ =
STA 301+37.19 BROMFIELD CT / BARTON CT ℄

STA 41+08.19 RAIL TRAIL ℄ =
STA 401+24.23 CHESTNUT ST ℄

FOR CONSTRUCTION PLANS:
SEE SHEET NO. 22

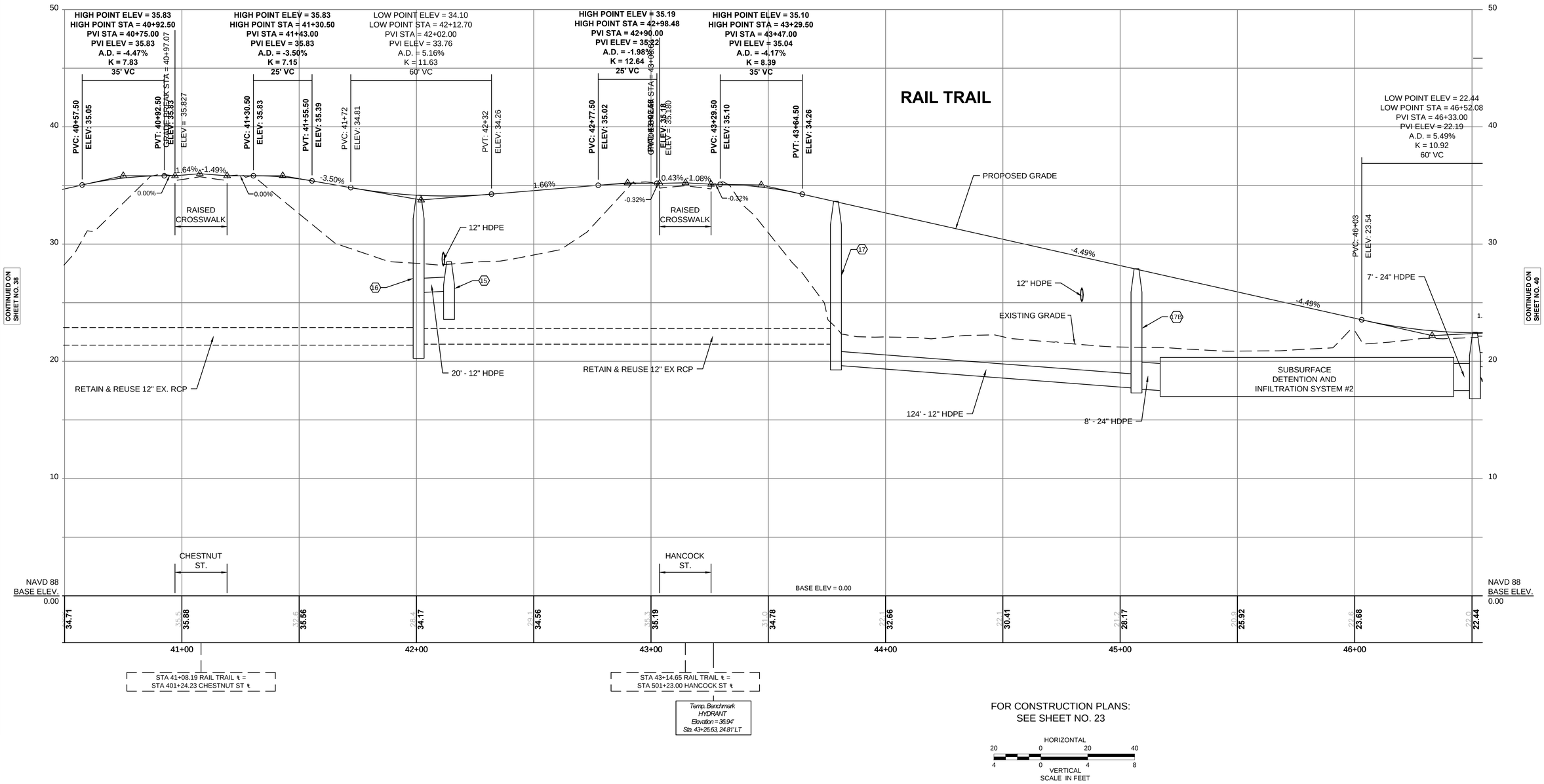
HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	39	180
PROJECT FILE NO.	606503		

PROFILE
RAIL TRAIL
SHEET 7 OF 16

606503_HD(RAIL TRAIL PROFILE).DWG 12-Jun-2015



FOR CONSTRUCTION PLANS:
SEE SHEET NO. 23

HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	40	180
PROJECT FILE NO.	606503		

PROFILE
RAIL TRAIL
SHEET 8 OF 16

606503_HD(RAIL TRAIL PROFILE).DWG 12-Jun-2015

RAIL TRAIL

LIMIT OF FULL DEPTH PAVING
STA. 46+85.12
N 3119176.555'
E 827821.894'

PROP. MILL & OVERLAY

LOW POINT ELEV = 22.44
LOW POINT STA = 46+52.08
PVI STA = 46+33.00
PVI ELEV = 22.19
A.D. = 5.49%
K = 10.92
60' VC

PVC: 46+03
ELEV: 23.54

PVT: 46+63
ELEV: 22.49

GRADE BREAK STA = 46+85.12
ELEV = 22.396

GRADE BREAK STA
ELEV = 22.537

-4.49%
1.00%
-5.62%
0.00%

7' - 24" HDPE
11' - 12"HDPE
14' - 12"HDPE
15' - 12"HDPE
12" HDPE PIPE
36' - 12" HDPE

SUBSURFACE
DETENTION AND
NFILTRATION SYSTEM #2

19A
19E
19D
19H
18

CONNECT TO EXISTING
DRAINAGE SYSTEM ON HARRISON ST.
CONTRACTOR SHALL FIELD VERIFY
INVERTS, LOCATION, MATERIAL, &
SIZE OF EXISTING SYSTEM
PRIOR TO PURCHASING &
INSTALLING MATERIALS

PROP. MILL & OVERLAY

LIMIT OF FULL DEPTH PAVING
STA. 49+18.88
N 3119361.941'
E 827872.112'

GRADE BREAK STA = 49+18.88
ELEV = 21.171

PROPOSED GRADE
1.50%
-1.50%
EXISTING GRADE
439' - 10" PERF. H
PROP. STORMWATER INFILTRATION TRENCH

PURCHASE ST.
HARRISON ST.
BASE ELEV = 0.00

NAVD 88
BASE ELEV.
0.00

46+00	47+00	48+00	49+00	50+00	51+00
22.6 **23.68**	22.0 **22.44**	22.7	22.7	22.2	21.7	21.3	21.7 **21.64**	19.8 **20.89**	19.1 **20.14**	18.0 **19.39**	17.5 **18.64**

Temp. Benchmark
HYDRANT
Elevation = 25.88'
Sta. 47+41.46, 66.46' LT

CONTINUED ON SHEET NO. 39
CONTINUED ON SHEET NO. 41

FOR CONSTRUCTION PLANS:
SEE SHEET NO. 24

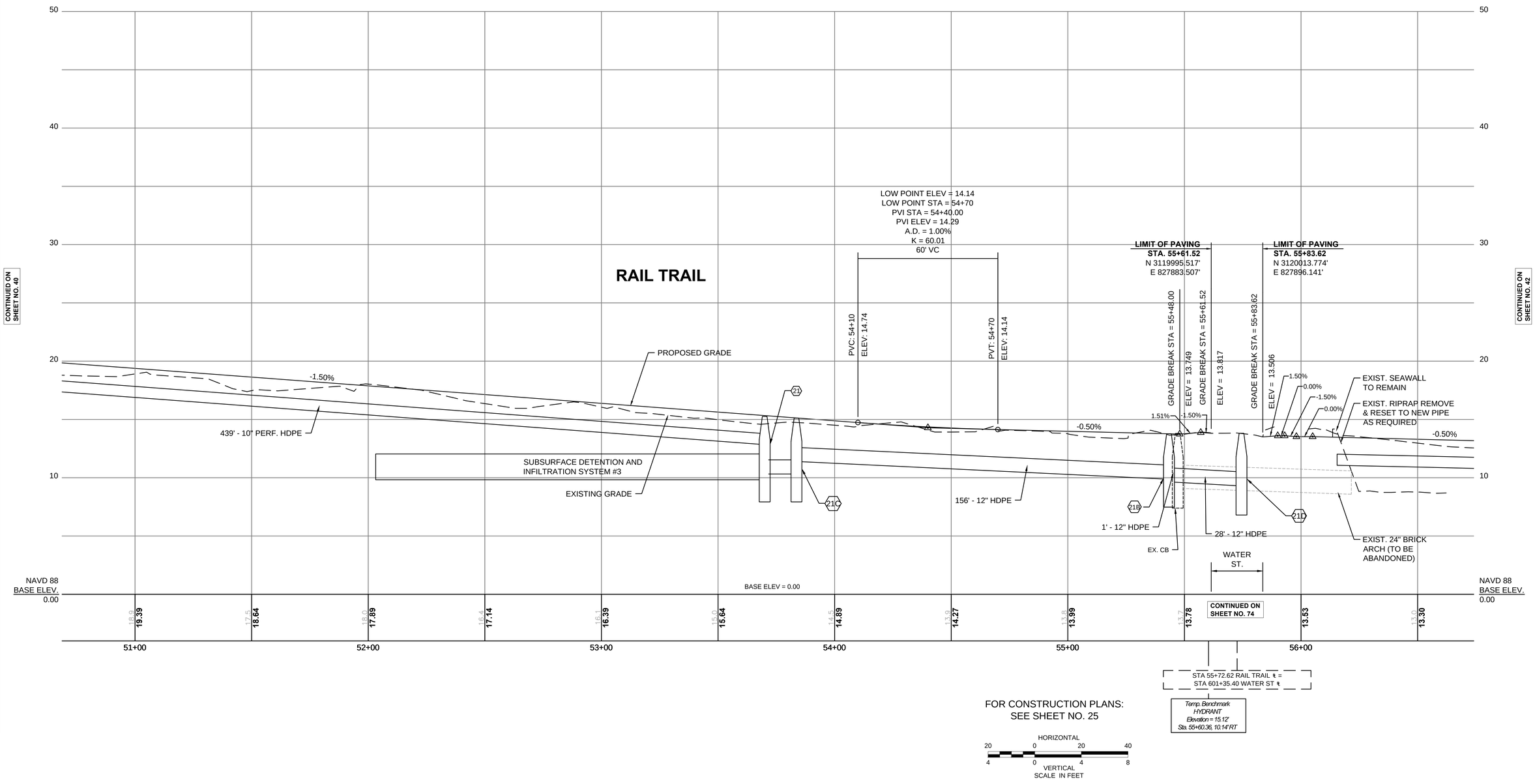
HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	41	180
PROJECT FILE NO.	606503		

PROFILE
RAIL TRAIL
SHEET 9 OF 16

606503_HD(RAIL TRAIL PROFILE).DWG 12-Jun-2015



FOR CONSTRUCTION PLANS:
SEE SHEET NO. 25

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	42	180
PROJECT FILE NO.	606503		

PROFILE
RAIL TRAIL
SHEET 10 OF 16

606503_HD(RAIL TRAIL PROFILE).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 41

CONTINUED ON SHEET NO. 43

50
40
30
20
10

LIMIT OF PAVING
STA. 55+83.62
N 3120013.774'
E 827896.141'

GRADE BREAK STA = 55+83.62
ELEV = 13.506

1.50%
0.00%
-1.50%
0.00%

EXIST. SEAWALL TO REMAIN

EXIST. RIPRAP REMOVE & RESET TO NEW PIPE AS REQUIRED

-0.50%

21D

DPE

EXIST. 24" BRICK ARCH (TO BE ABANDONED)

RAIL TRAIL

PROPOSED GRADE

-0.50%

PROP. STORMWATER INFILTRATION TRENCH

EXISTING GRADE

36" EX. RCP

BASE ELEV = 0.00

NAVD 88
BASE ELEV.
0.00

13.53	13.30	13.05	12.81	12.56	12.31	12.06	11.81	11.56	11.32	11.07	10.82
13.0	12.5	12.0	11.8	12.0	11.2	10.8	10.2	10.1	9.9		

56+00 57+00 58+00 59+00 60+00 61+00

TRAIL ℄ =
TER ST ℄

FOR CONSTRUCTION PLANS:
SEE SHEET NO. 26

HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

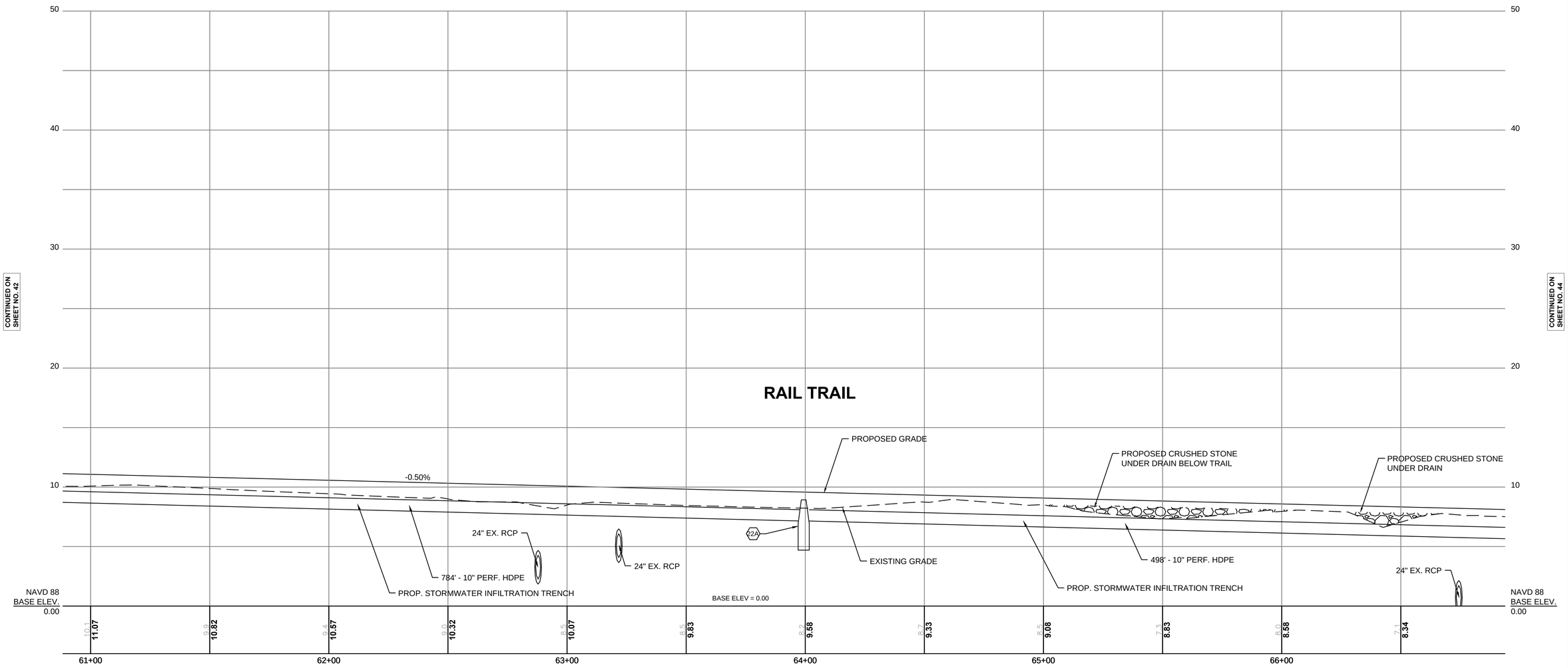
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	43	180
PROJECT FILE NO.	606503		

PROFILE
RAIL TRAIL
SHEET 11 OF 16

606503_HD(RAIL TRAIL PROFILE).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 42

CONTINUED ON SHEET NO. 44



FOR CONSTRUCTION PLANS:
SEE SHEET NO. 27

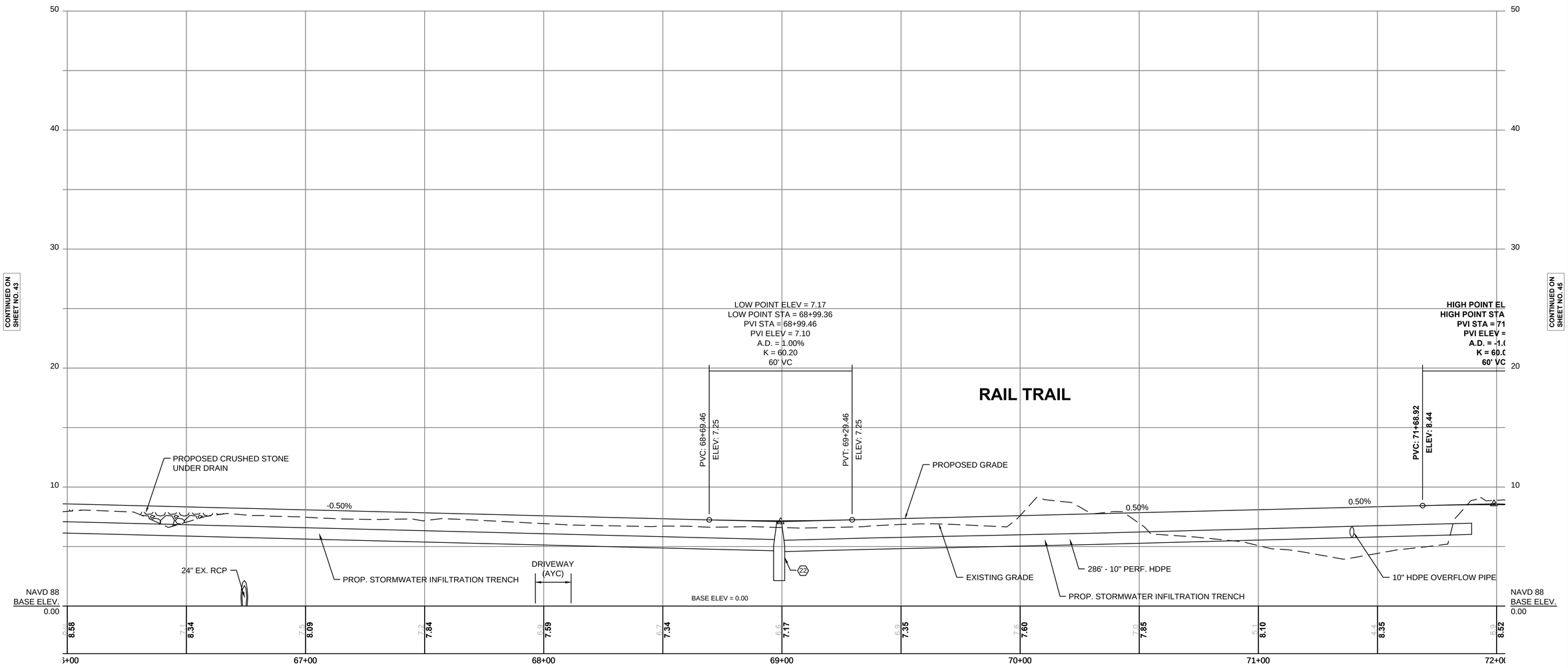
HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	44	180
PROJECT FILE NO.	606503		

PROFILE
RAIL TRAIL
SHEET 12 OF 16

606503_HD(RAIL TRAIL PROFILE).DWG 12-Jun-2015



FOR CONSTRUCTION PLANS:
SEE SHEET NO. 28

HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

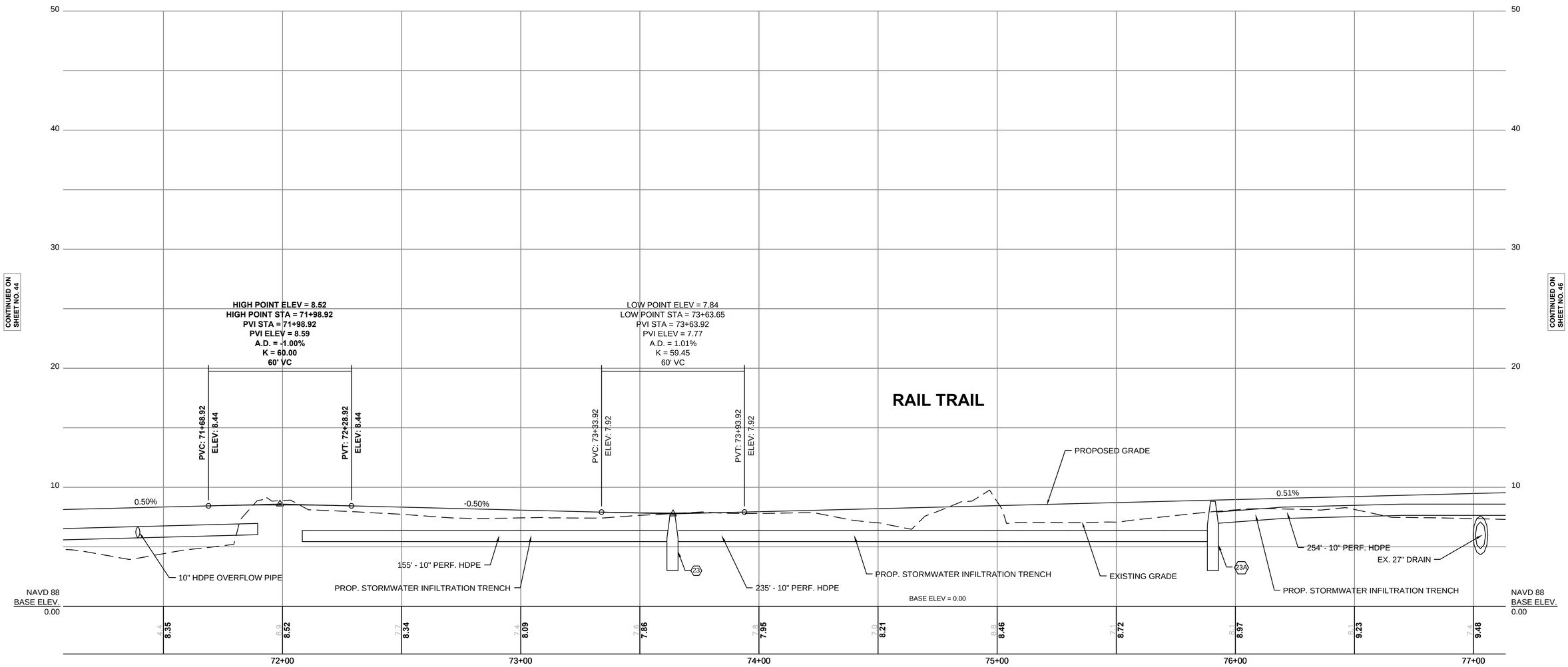
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	45	180
PROJECT FILE NO.	606503		

PROFILE
RAIL TRAIL
SHEET 13 OF 16

606503_HD(RAIL TRAIL PROFILE).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 44

CONTINUED ON SHEET NO. 46



FOR CONSTRUCTION PLANS:
SEE SHEET NO. 29

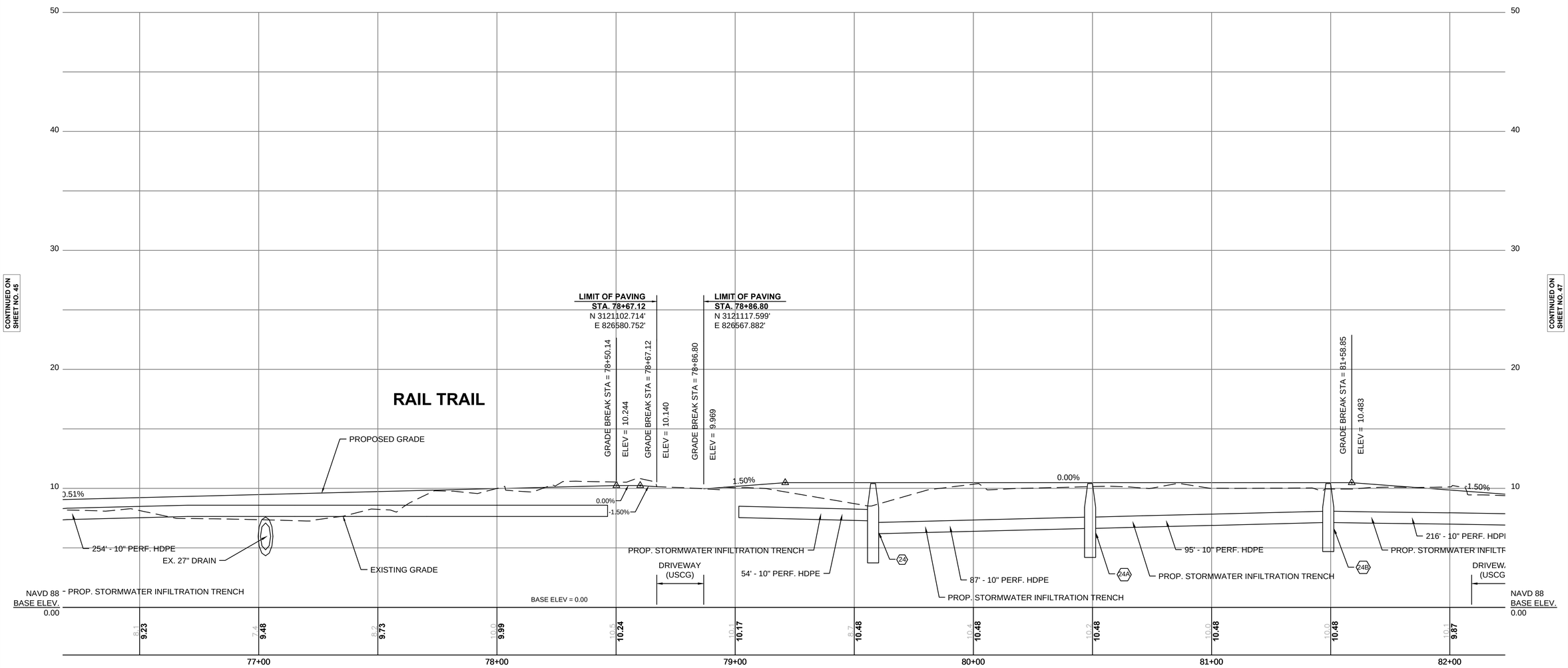
HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	46	180
PROJECT FILE NO.	606503		

PROFILE
RAIL TRAIL
SHEET 14 OF 16

606503_HD(RAIL TRAIL PROFILE).DWG 12-Jun-2015



FOR CONSTRUCTION PLANS:
SEE SHEET NO. 30

HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	47	180
PROJECT FILE NO.	606503		

PROFILE
RAIL TRAIL
SHEET 15 OF 16

606503_HD(RAIL TRAIL PROFILE).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 46

CONTINUED ON SHEET NO. 48

50
40
30
20
10

GRADE BREAK STA = 81+58.85
ELEV = 10.483
GRADE BREAK STA = 82+63.92
ELEV = 8.906
LIMIT OF PAVING
STA. 83+66.92
N 3121475.8100'
E 826356.0478'
BOARDWALK
LIMIT OF PAVING
STA. 84+16.92
N 3121506.9398'
E 826316.9200'
GRADE BREAK STA = 84+59.41
ELEV = 8.906

RAIL TRAIL

PROPOSED GRADE
EXISTING GRADE
1.50%
0.00%
-7.50%
-1.00%
0.00%
CLEANOUT
216' - 10" PERF. HDPE
PROP. STORMWATER INFILTRATION TRENCH
PROP. STORMWATER INFILTRATION TRENC
ATION TRENCH
DRIVEWAY (USCG)
DRIVEWAY (PRIVATE)
DRIVEWAY (PRIVATE)
CONNECT TO EXIST. 30" RCP. WITH CHIMNEY CONNECTION LOCATION AND INVERT TO BE DETERMINED.
241' 8" PERF. HDPE
BASE ELEV = 0.00

24B 25 26 27

NAVD 88 BASE ELEV. 0.00

10.0	9.5	8.4	8.4	8.5	7.9	7.8	7.7	7.6	7.0
10.48	**9.87**	**9.12**	**8.91**	**8.91**	**8.91**	**8.91**	**8.08**	**7.89**	**7.89**	**7.89**	**7.89**

82+00 83+00 84+00 85+00 86+00 87+00

FOR CONSTRUCTION PLANS:
SEE SHEET NO. 31

HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	48	180
PROJECT FILE NO.	606503		

PROFILE
RAIL TRAIL
SHEET 16 OF 16

606503_HD(RAIL TRAIL PROFILE).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 47

50
40
30
20
10
0

NAVD 88 BASE ELEV. 0.00

DETERMINED.

BASE ELEV = 0.00

RAIL TRAIL

HIGH POINT ELEV = 9.53
HIGH POINT STA = 88+93.92
PVI STA = 88+63.92
PVI ELEV = 9.53
A.D. = -1.00%
K = 60.06
60' VC

LOW POINT ELEV = 9.53
LOW POINT STA = 89+17.92
PVI STA = 89+47.92
PVI ELEV = 9.53
A.D. = 1.00%
K = 60.00
60' VC

LIMIT OF PAVING
STA. 91+26.77
N 3121761.4654'
E 825665.2343'

END PROJECT NO. 606503
STA. 92+00.00
N 3121777.7516'
E 825593.8505'

GRADE BREAK STA = 87+41.86
ELEV = 7.891

PVC: 88+33.92
ELEV: 9.23

PVT: 88+93.92
ELEV: 9.53

PVC: 89+17.92
ELEV: 9.53

PVT: 89+77.92
ELEV: 9.83

GRADE BREAK STA = 90+20.92
ELEV = 10.264

GRADE BREAK STA = 91+26.77
ELEV = 10.390

PROPOSED GRADE

1.00%
0.00%
1.00%
0.27%
1.20%
0.00%
1.50%
7.50%

12" EX. RCP

PROP. STORMWATER INFILTRATION TRENCH

241' 8" PERF. HDPE

EXISTING GRADE

CUSTOM HOUSE WAY

87+00	88+00	89+00	90+00	91+00	92+00
7.6 **7.89**	7.9 **7.89**	7.8 **8.40**	8.5 **8.90**	9.0 **9.37**	8.6 **9.53**	7.6 **9.62**	9.5 **10.05**	10.1 **10.34**	**10.56**

NAVD 88 BASE ELEV. 0

FOR CONSTRUCTION PLANS:
SEE SHEET NO. 32

HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

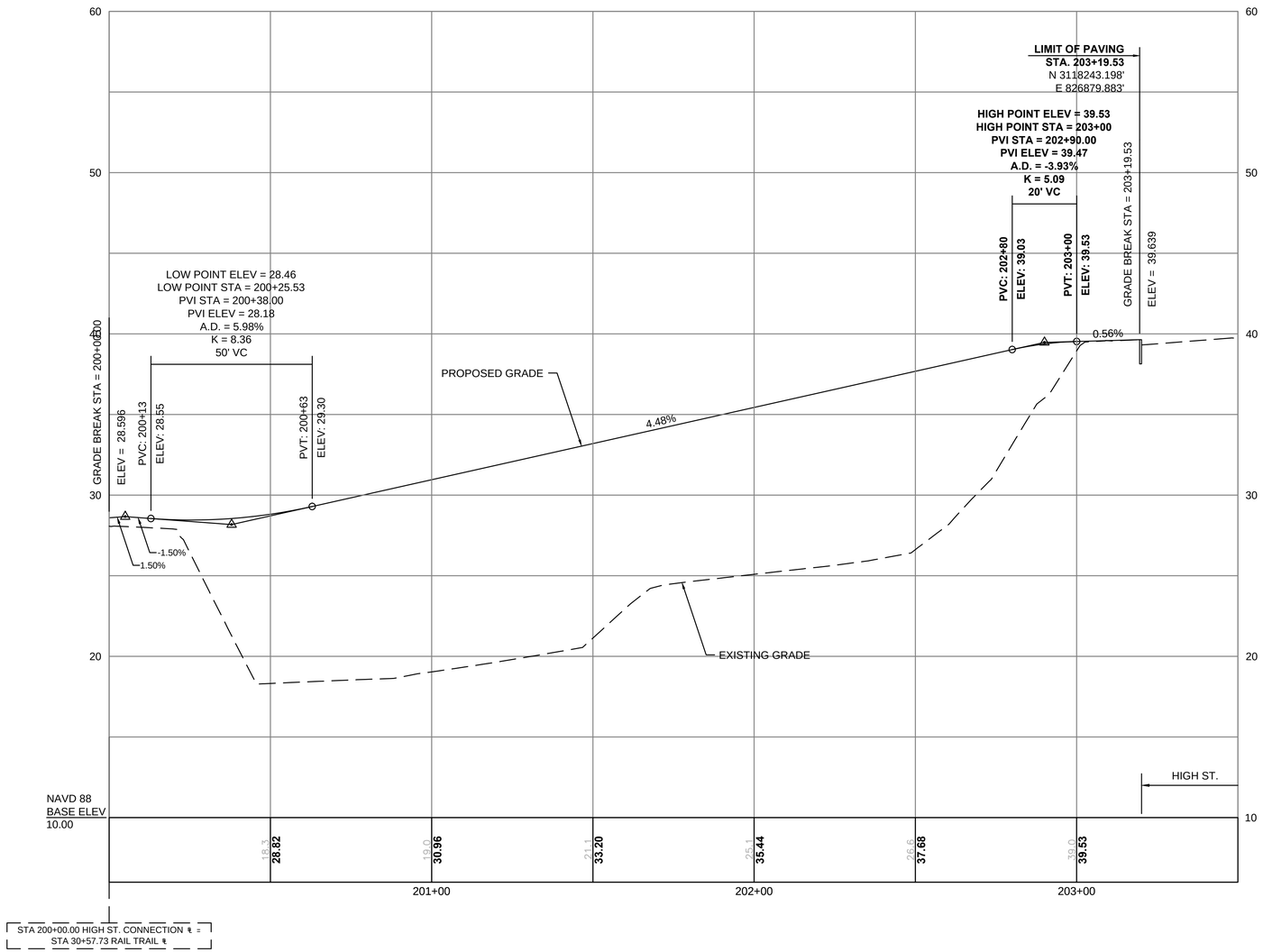
NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	49	180
PROJECT FILE NO.	606503		

PROFILE
HIGH STREET CONNECTION

606503_HD\MISC PROFILES\.DWG 12-Jun-2015

HIGH STREET CONNECTION



FOR CONSTRUCTION PLANS:
SEE SHEET NO. 21

HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

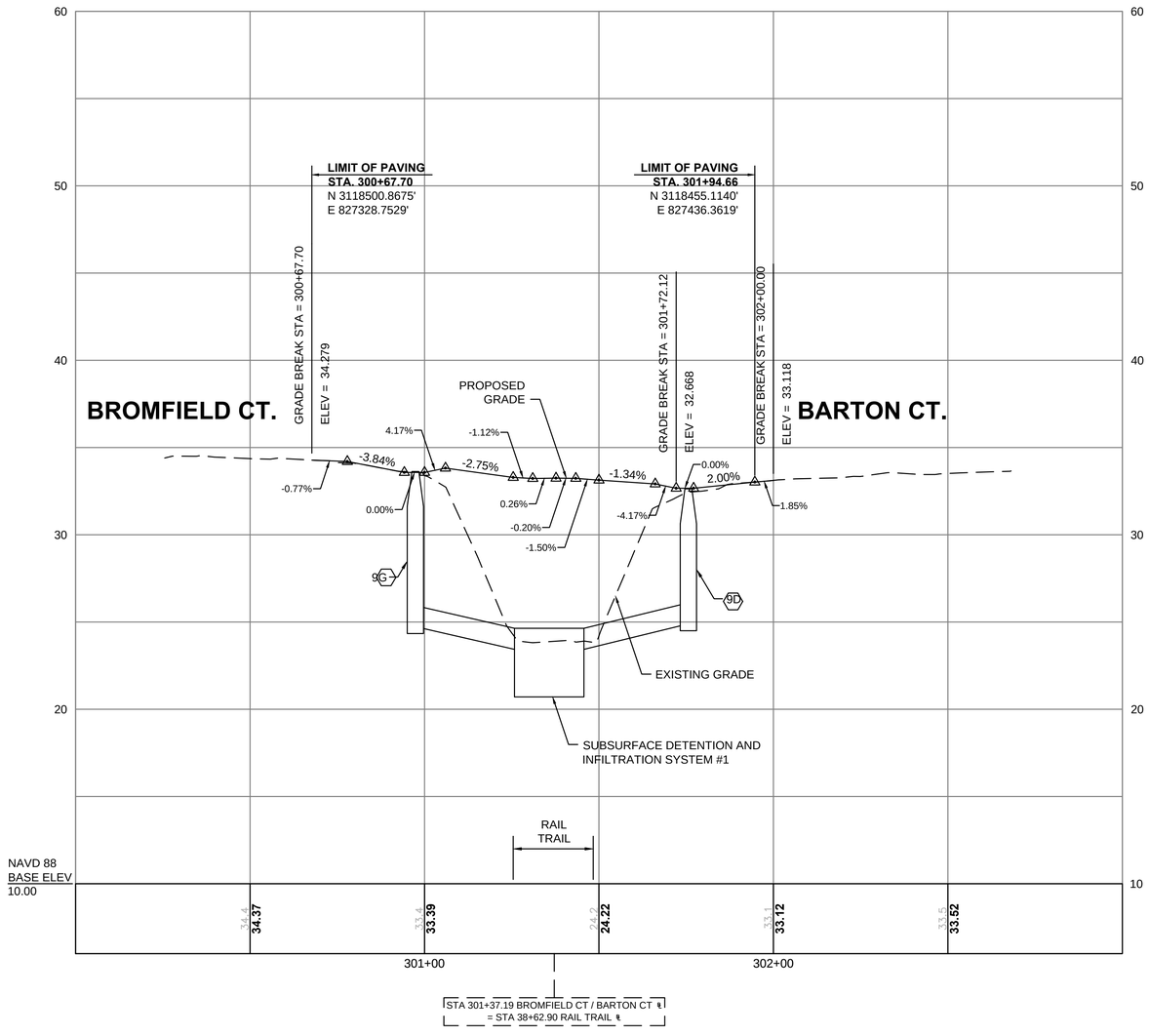
NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	50	180
PROJECT FILE NO.	606503		

PROFILE
BROMFIELD CT. / BARTON CT.

606503_HD\MISC PROFILES\.DWG 12-Jun-2015

BROMFIELD CT. / BARTON CT.



FOR CONSTRUCTION PLANS:
SEE SHEET NO. 22

HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

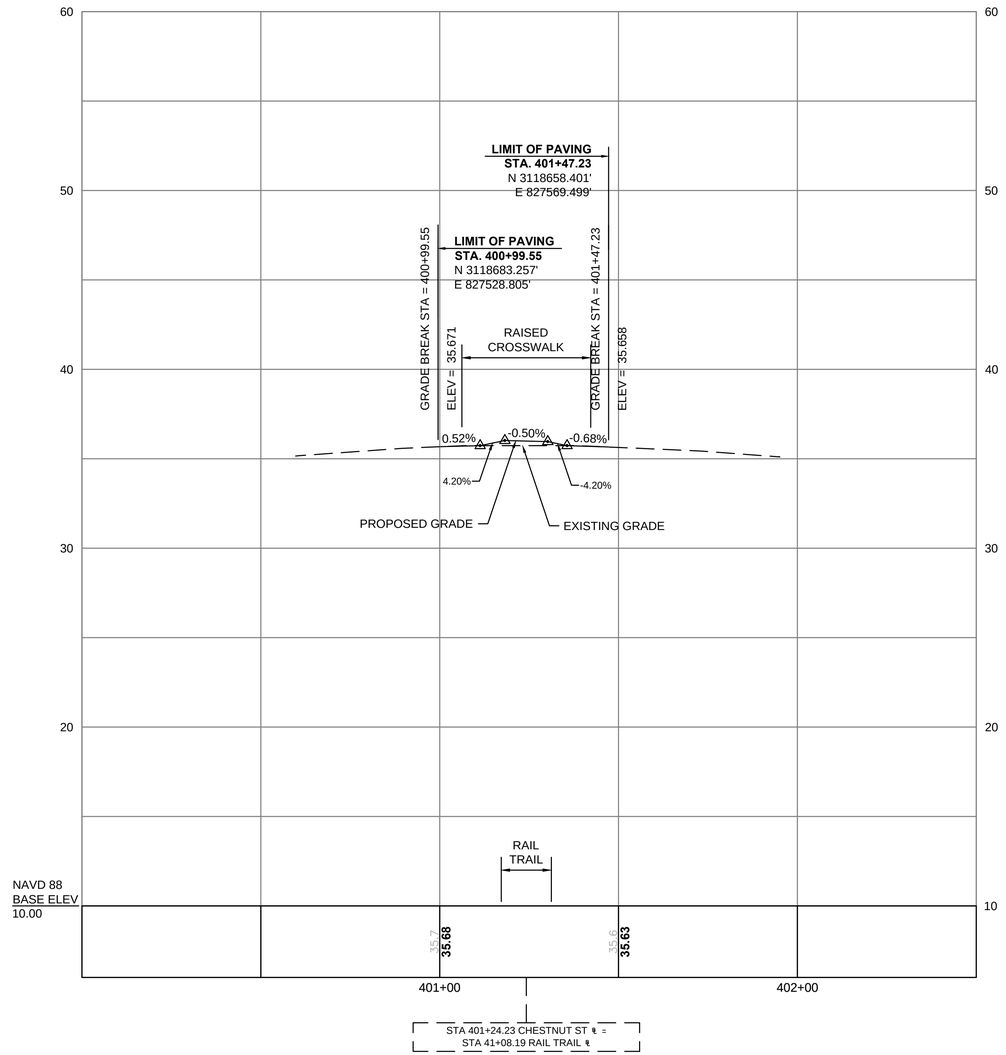
NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	51	180
PROJECT FILE NO.	606503		

PROFILE
CHESTNUT ST.

606503_HD\MISC PROFILES\.DWG 12-Jun-2015

CHESTNUT STREET



FOR CONSTRUCTION PLANS:
SEE SHEET NO. 23

HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

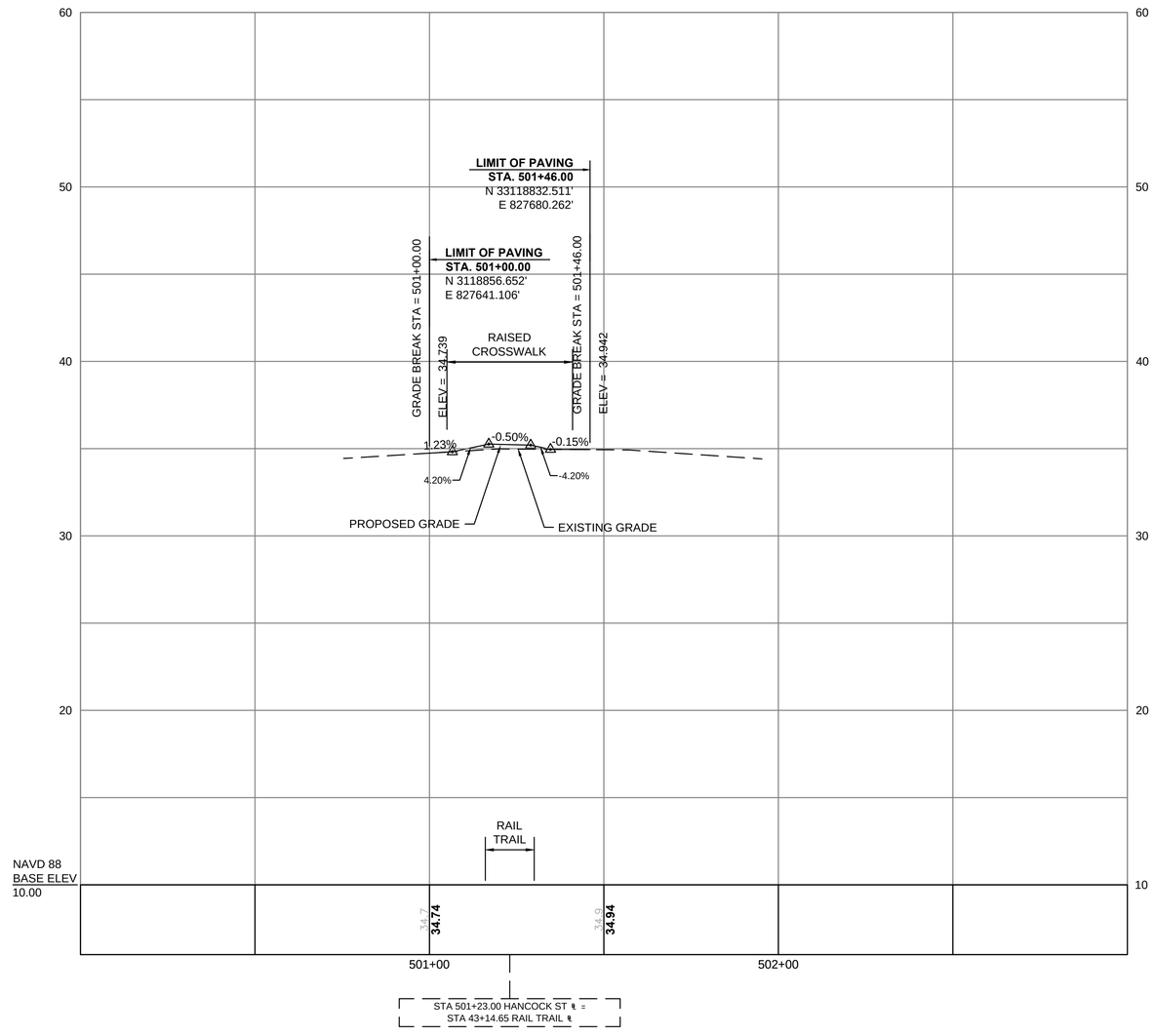
NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	52	180
PROJECT FILE NO.	606503		

PROFILE
HANCOCK ST.

606503_HD\MISC PROFILES\.DWG 12-Jun-2015

HANCOCK STREET



FOR CONSTRUCTION PLANS:
SEE SHEET NO. 23

HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	53	180
PROJECT FILE NO.	606503		

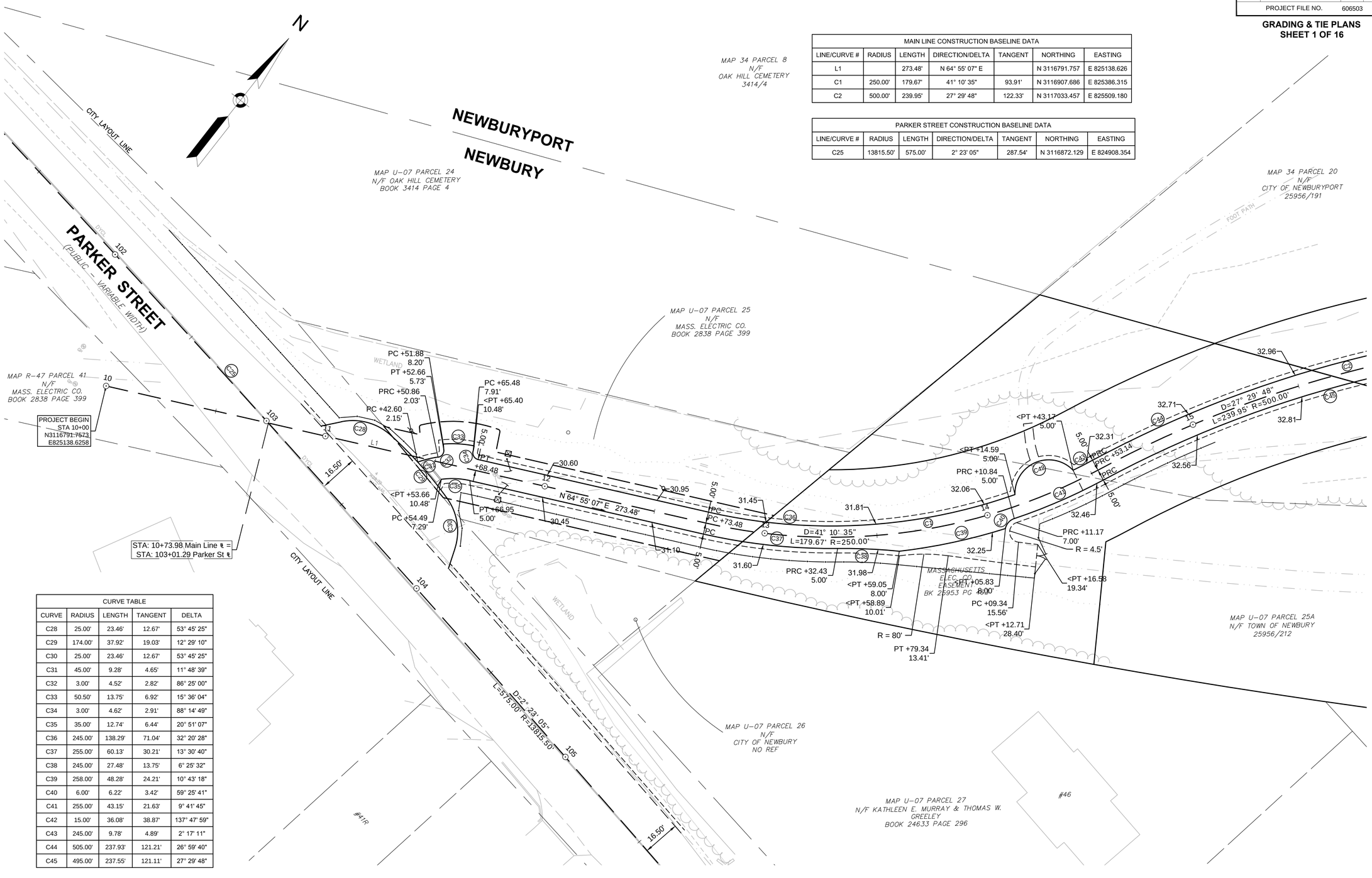
GRADING & TIE PLANS
SHEET 1 OF 16

606503_HD(GRADING AND TIE).DWG 12-Jun-2015

MAIN LINE CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
L1		273.48'	N 64° 55' 07" E		N 3116791.757	E 825138.626
C1	250.00'	179.67'	41° 10' 35"	93.91'	N 3116907.686	E 825386.315
C2	500.00'	239.95'	27° 29' 48"	122.33'	N 3117033.457	E 825509.180

PARKER STREET CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
C25	13815.50'	575.00'	2° 23' 05"	287.54'	N 3116872.129	E 824908.354

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C28	25.00'	23.46'	12.67'	53° 45' 25"
C29	174.00'	37.92'	19.03'	12° 29' 10"
C30	25.00'	23.46'	12.67'	53° 45' 25"
C31	45.00'	9.28'	4.65'	11° 48' 39"
C32	3.00'	4.52'	2.82'	86° 25' 00"
C33	50.50'	13.75'	6.92'	15° 36' 04"
C34	3.00'	4.62'	2.91'	88° 14' 49"
C35	35.00'	12.74'	6.44'	20° 51' 07"
C36	245.00'	138.29'	71.04'	32° 20' 28"
C37	255.00'	60.13'	30.21'	13° 30' 40"
C38	245.00'	27.48'	13.75'	6° 25' 32"
C39	258.00'	48.28'	24.21'	10° 43' 18"
C40	6.00'	6.22'	3.42'	59° 25' 41"
C41	255.00'	43.15'	21.63'	9° 41' 45"
C42	15.00'	36.08'	38.87'	137° 47' 59"
C43	245.00'	9.78'	4.89'	2° 17' 11"
C44	505.00'	237.93'	121.21'	26° 59' 40"
C45	495.00'	237.55'	121.11'	27° 29' 48"



NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	54	180
PROJECT FILE NO.	606503		

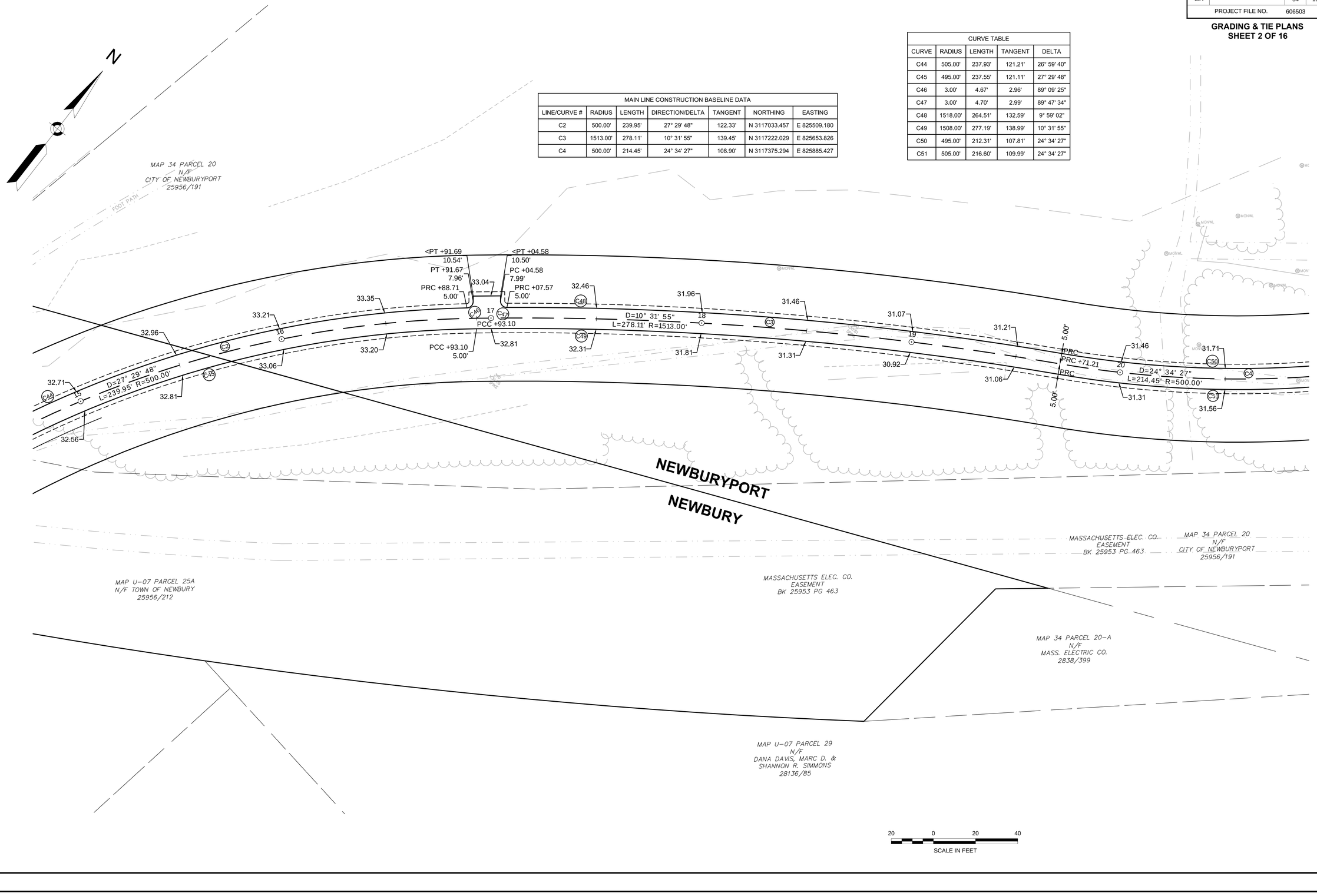
GRADING & TIE PLANS
SHEET 2 OF 16

12-Jun-2015

606503_HD(GRADING AND TIE).DWG

MAIN LINE CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
C2	500.00'	239.95'	27° 29' 48"	122.33'	N 3117033.457	E 825509.180
C3	1513.00'	278.11'	10° 31' 55"	139.45'	N 3117222.029	E 825653.826
C4	500.00'	214.45'	24° 34' 27"	108.90'	N 3117375.294	E 825885.427

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C44	505.00'	237.93'	121.21'	26° 59' 40"
C45	495.00'	237.55'	121.11'	27° 29' 48"
C46	3.00'	4.67'	2.96'	89° 09' 25"
C47	3.00'	4.70'	2.99'	89° 47' 34"
C48	1518.00'	264.51'	132.59'	9° 59' 02"
C49	1508.00'	277.19'	138.99'	10° 31' 55"
C50	495.00'	212.31'	107.81'	24° 34' 27"
C51	505.00'	216.60'	109.99'	24° 34' 27"



CONTINUED ON SHEET NO. 53

CONTINUED ON SHEET NO. 55

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

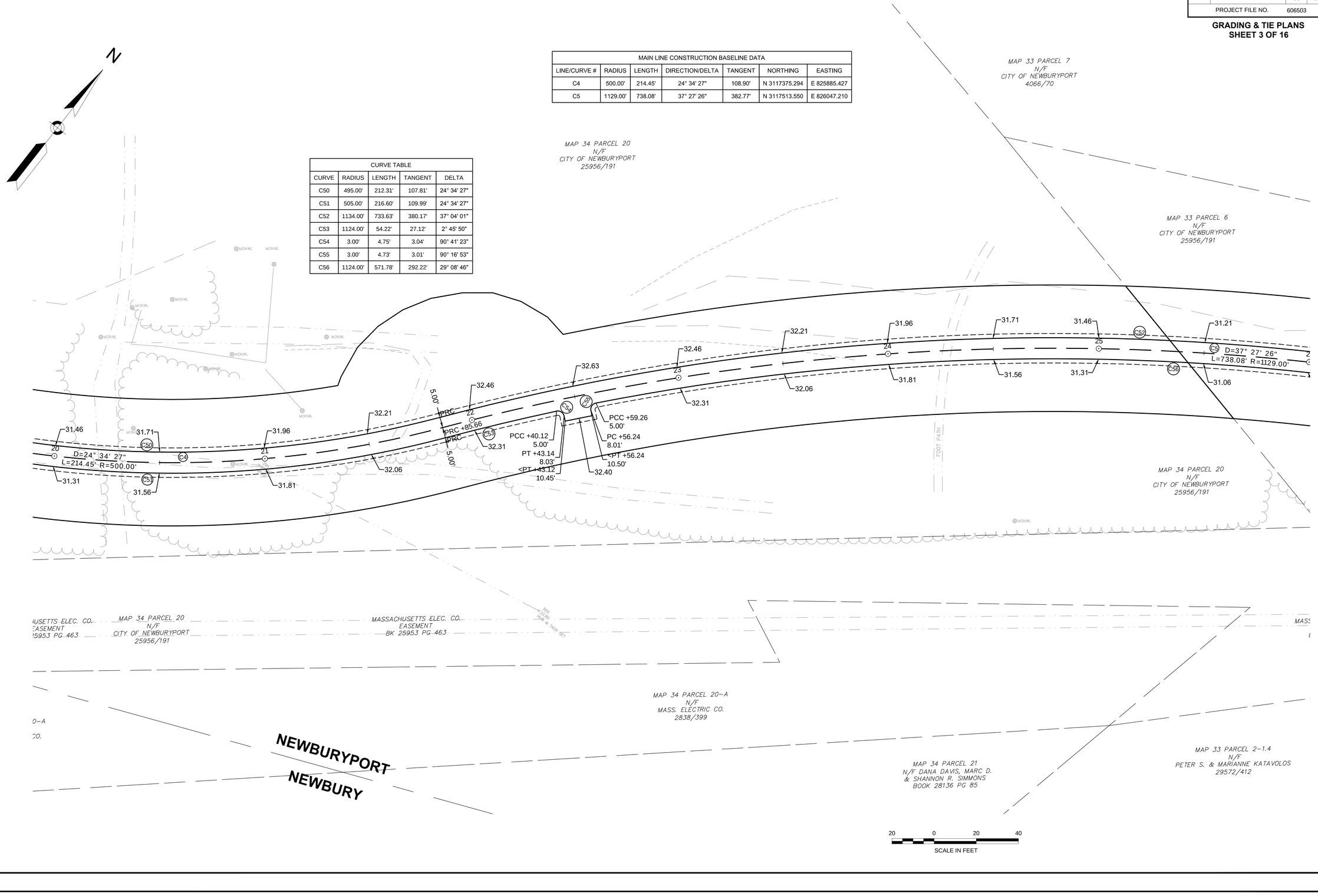
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	55	180
PROJECT FILE NO.	606503		

GRADING & TIE PLANS
SHEET 3 OF 16

606503_HD(GRADING AND TIE).DWG 12-Jun-2015

MAIN LINE CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
C4	500.00'	214.45'	24° 34' 27"	108.90'	N 3117375.294	E 825885.427
C5	1129.00'	738.08'	37° 27' 26"	382.77'	N 3117513.550	E 826047.210

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C50	495.00'	212.31'	107.81'	24° 34' 27"
C51	505.00'	216.60'	109.99'	24° 34' 27"
C52	1134.00'	733.63'	380.17'	37° 04' 01"
C53	1124.00'	54.22'	27.12'	2° 45' 50"
C54	3.00'	4.75'	3.04'	90° 41' 23"
C55	3.00'	4.73'	3.01'	90° 16' 53"
C56	1124.00'	571.78'	292.22'	29° 08' 46"



CONTINUED ON SHEET NO. 54

CONTINUED ON SHEET NO. 56

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

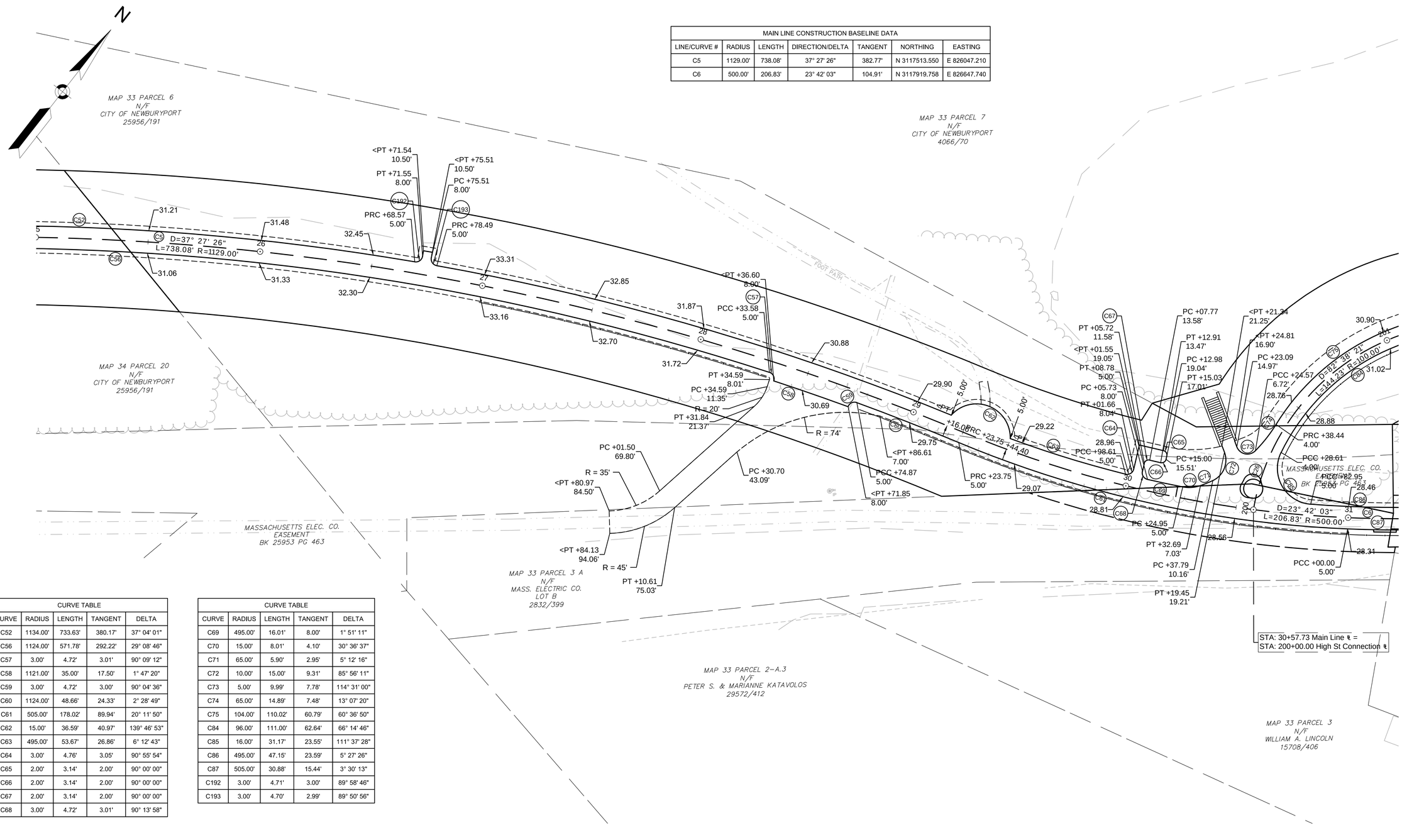
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	56	180
PROJECT FILE NO.	606503		

GRADING & TIE PLANS
SHEET 4 OF 16

12-Jun-2015

606503_HD(GRADING AND TIE).DWG

MAIN LINE CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
C5	1129.00'	738.08'	37° 27' 26"	382.77'	N 3117513.550	E 826047.210
C6	500.00'	206.83'	23° 42' 03"	104.91'	N 3117919.758	E 826647.740



CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C52	1134.00'	733.63'	380.17'	37° 04' 01"
C56	1124.00'	571.78'	292.22'	29° 08' 46"
C57	3.00'	4.72'	3.01'	90° 09' 12"
C58	1121.00'	35.00'	17.50'	1° 47' 20"
C59	3.00'	4.72'	3.00'	90° 04' 36"
C60	1124.00'	48.66'	24.33'	2° 28' 49"
C61	505.00'	178.02'	89.94'	20° 11' 50"
C62	15.00'	36.59'	40.97'	139° 46' 53"
C63	495.00'	53.67'	26.86'	6° 12' 43"
C64	3.00'	4.76'	3.05'	90° 55' 54"
C65	2.00'	3.14'	2.00'	90° 00' 00"
C66	2.00'	3.14'	2.00'	90° 00' 00"
C67	2.00'	3.14'	2.00'	90° 00' 00"
C68	3.00'	4.72'	3.01'	90° 13' 58"

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C69	495.00'	16.01'	8.00'	1° 51' 11"
C70	15.00'	8.01'	4.10'	30° 36' 37"
C71	65.00'	5.90'	2.95'	5° 12' 16"
C72	10.00'	15.00'	9.31'	85° 56' 11"
C73	5.00'	9.99'	7.78'	114° 31' 00"
C74	65.00'	14.89'	7.48'	13° 07' 20"
C75	104.00'	110.02'	60.79'	60° 36' 50"
C84	96.00'	111.00'	62.64'	66° 14' 46"
C85	16.00'	31.17'	23.55'	111° 37' 28"
C86	495.00'	47.15'	23.59'	5° 27' 26"
C87	505.00'	30.88'	15.44'	3° 30' 13"
C192	3.00'	4.71'	3.00'	89° 58' 46"
C193	3.00'	4.70'	2.99'	89° 50' 56"

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	57	180
PROJECT FILE NO.	606503		

GRADING & TIE PLANS
SHEET 5 OF 16

606503_HD(GRADING AND TIE).DWG 12-Jun-2015

MAIN LINE CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
C6	500.00'	206.83'	23° 42' 03"	104.91'	N 3117919.758	E 826647.740
L2		184.89'	N 50° 57' 10" E		N 3118013.616	E 826830.393
L3		100.00'	N 51° 30' 56" E		N 3118130.090	E 826973.985
C7	7000.00'	379.89'	3° 06' 34"	189.99'	N 3118192.320	E 827052.262

HIGH STREET CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
C26	100.00'	144.23'	82° 38' 21"	87.91'	N 3117972.000	E 826770.679
L24		46.22'	N 54° 16' 50" E		N 3118100.688	E 826800.297
C27	100.00'	93.47'	53° 33' 18"	50.46'	N 3118127.671	E 826837.821
L25		64.68'	N 0° 43' 33" E		N 3118207.593	E 826879.432

CONTINUED ON SHEET NO. 56

CONTINUED ON SHEET NO. 58

STA: 30+57.73 Main Line ℄ =
STA: 200+00.00 High St Connection ℄

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C70	15.00'	8.01'	4.10'	30° 36' 37"
C71	65.00'	5.90'	2.95'	5° 12' 16"
C72	10.00'	15.00'	9.31'	85° 56' 11"
C73	5.00'	9.99'	7.78'	114° 31' 00"
C74	65.00'	14.89'	7.48'	13° 07' 20"
C75	104.00'	110.02'	60.79'	60° 36' 50"
C76	96.00'	89.73'	48.45'	53° 33' 18"
C77	2.00'	4.13'	3.34'	118° 10' 34"
C78	2.00'	2.33'	1.32'	66° 49' 51"
C79	10.00'	6.76'	3.52'	38° 45' 09"
C80	363.01'	20.47'	10.24'	3° 13' 54"
C81	10.00'	7.92'	4.18'	45° 21' 12"
C82	2.00'	2.81'	1.69'	80° 24' 21"
C83	104.00'	97.21'	52.48'	53° 33' 18"
C84	96.00'	111.00'	62.64'	66° 14' 46"

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C85	16.00'	31.17'	23.55'	111° 37' 28"
C86	495.00'	47.15'	23.59'	5° 27' 26"
C87	505.00'	30.88'	15.44'	3° 30' 13"
C88	2.00'	3.14'	2.00'	90° 00' 00"
C89	2.00'	3.14'	2.00'	90° 00' 00"
C90	2.00'	3.14'	2.00'	90° 00' 00"
C91	2.00'	3.14'	2.00'	90° 00' 00"
C92	4.00'	6.28'	4.00'	90° 00' 00"
C93	75.00'	21.11'	10.63'	16° 07' 41"
C94	75.00'	31.16'	15.81'	23° 48' 24"
C95	278.27'	21.89'	10.95'	4° 30' 26"
C96	5.67'	9.71'	6.54'	98° 09' 30"
C97	7005.00'	336.07'	168.07'	2° 44' 56"
C98	6995.00'	335.59'	167.83'	2° 44' 56"

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	58	180
PROJECT FILE NO.	606503		

GRADING & TIE PLANS
SHEET 6 OF 16

606503_HD(GRADING AND TIE).DWG 12-Jun-2015

MAIN LINE CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
C7	7000.00'	379.89'	3° 06' 34"	189.99'	N 3118192.320	E 827052.262
C8	1300.00'	369.93'	16° 18' 14"	186.22'	N 3118436.680	E 827343.075

BROMFIELD-BARTON CT. CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
L32		100.00'	S 58° 57' 32" E		N 3118466.739	E 827417.046
L27		12.33'	N 45° 25' 45" E		N 3118478.494	E 827387.998
L31		28.76'	S 44° 47' 40" E		N 3118487.148	E 827396.783
L26		131.03'	S 69° 18' 39" E		N 3118524.785	E 827265.421

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C97	7005.00'	336.07'	168.07'	2° 44' 56"
C98	6995.00'	335.59'	167.83'	2° 44' 56"
C99	1305.00'	56.67'	28.34'	2° 29' 18"
C100	15.00'	23.30'	14.74'	88° 58' 52"
C101	1295.00'	43.32'	21.66'	1° 55' 00"
C102	8.00'	16.17'	12.75'	115° 48' 01"
C103	15.00'	17.10'	9.61'	65° 18' 14"
C104	1295.00'	4.61'	2.31'	0° 12' 14"
C105	3.00'	4.73'	3.02'	90° 25' 17"
C106	10.00'	15.60'	9.90'	89° 24' 28"
C107	3.00'	4.73'	3.02'	90° 25' 17"
C108	1295.00'	199.33'	99.86'	8° 49' 09"
C109	1305.00'	210.81'	105.63'	9° 15' 20"

CONTINUED ON SHEET NO. 57
CONTINUED ON SHEET NO. 59

SCALE IN FEET: 20 0 20 40

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	59	180
PROJECT FILE NO.	606503		

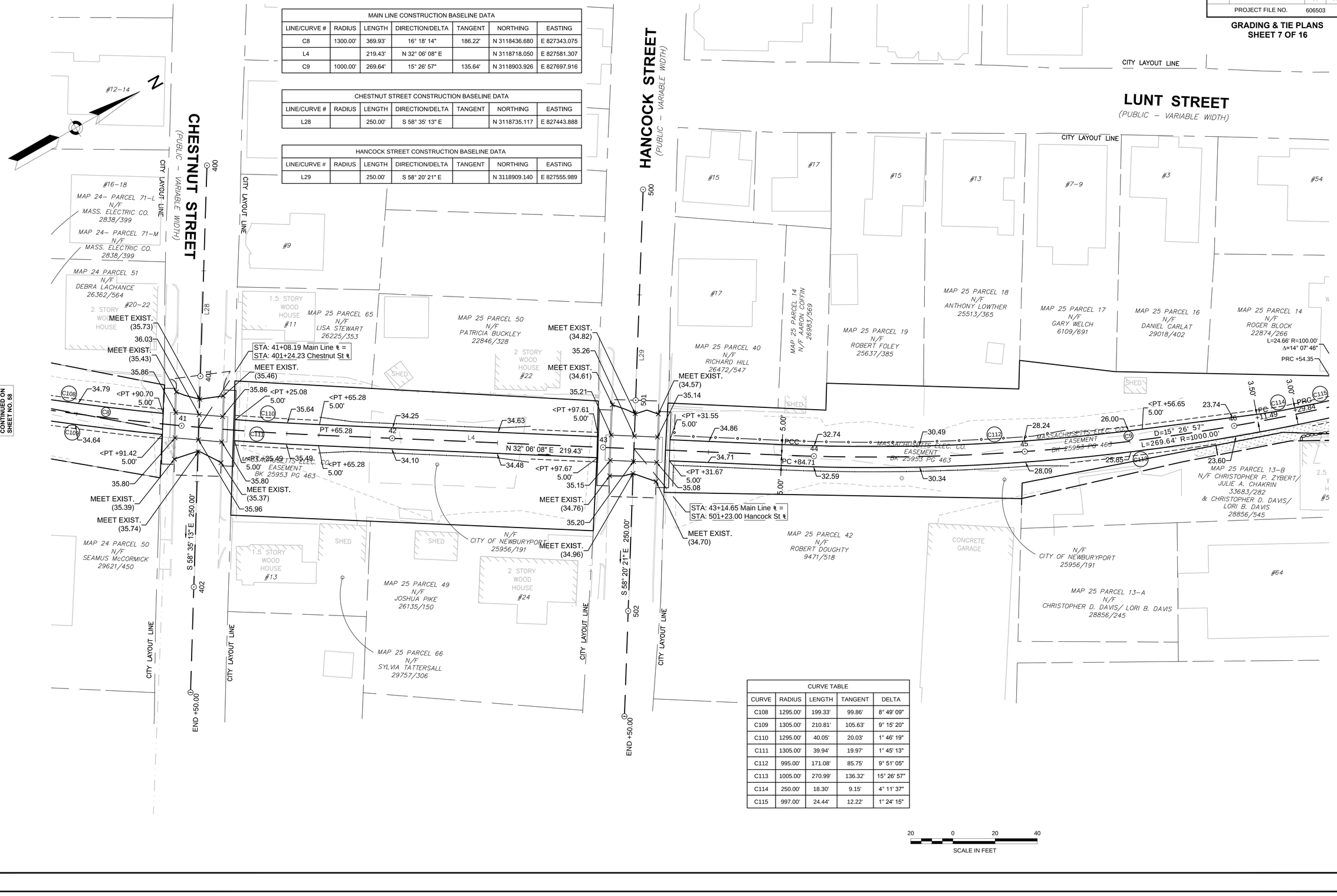
GRADING & TIE PLANS
SHEET 7 OF 16

606503_HD(GRADING AND TIE).DWG 12-Jun-2015

MAIN LINE CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
C8	1300.00'	369.93'	16° 18' 14"	186.22'	N 3118436.680	E 827343.075
L4		219.43'	N 32° 06' 08" E		N 3118718.050	E 827581.307
C9	1000.00'	269.64'	15° 26' 57"	135.64'	N 3118903.926	E 827697.916

CHESTNUT STREET CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
L28		250.00'	S 58° 35' 13" E		N 3118735.117	E 827443.888

HANCOCK STREET CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
L29		250.00'	S 58° 20' 21" E		N 3118909.140	E 827555.989



CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C108	1295.00'	199.33'	99.86'	8° 49' 09"
C109	1305.00'	210.81'	105.63'	9° 15' 20"
C110	1295.00'	40.05'	20.03'	1° 46' 19"
C111	1305.00'	39.94'	19.97'	1° 45' 13"
C112	995.00'	171.08'	85.75'	9° 51' 05"
C113	1005.00'	270.99'	136.32'	15° 26' 57"
C114	250.00'	18.30'	9.15'	4° 11' 37"
C115	997.00'	24.44'	12.22'	1° 24' 15"

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	60	180
PROJECT FILE NO.		606503	

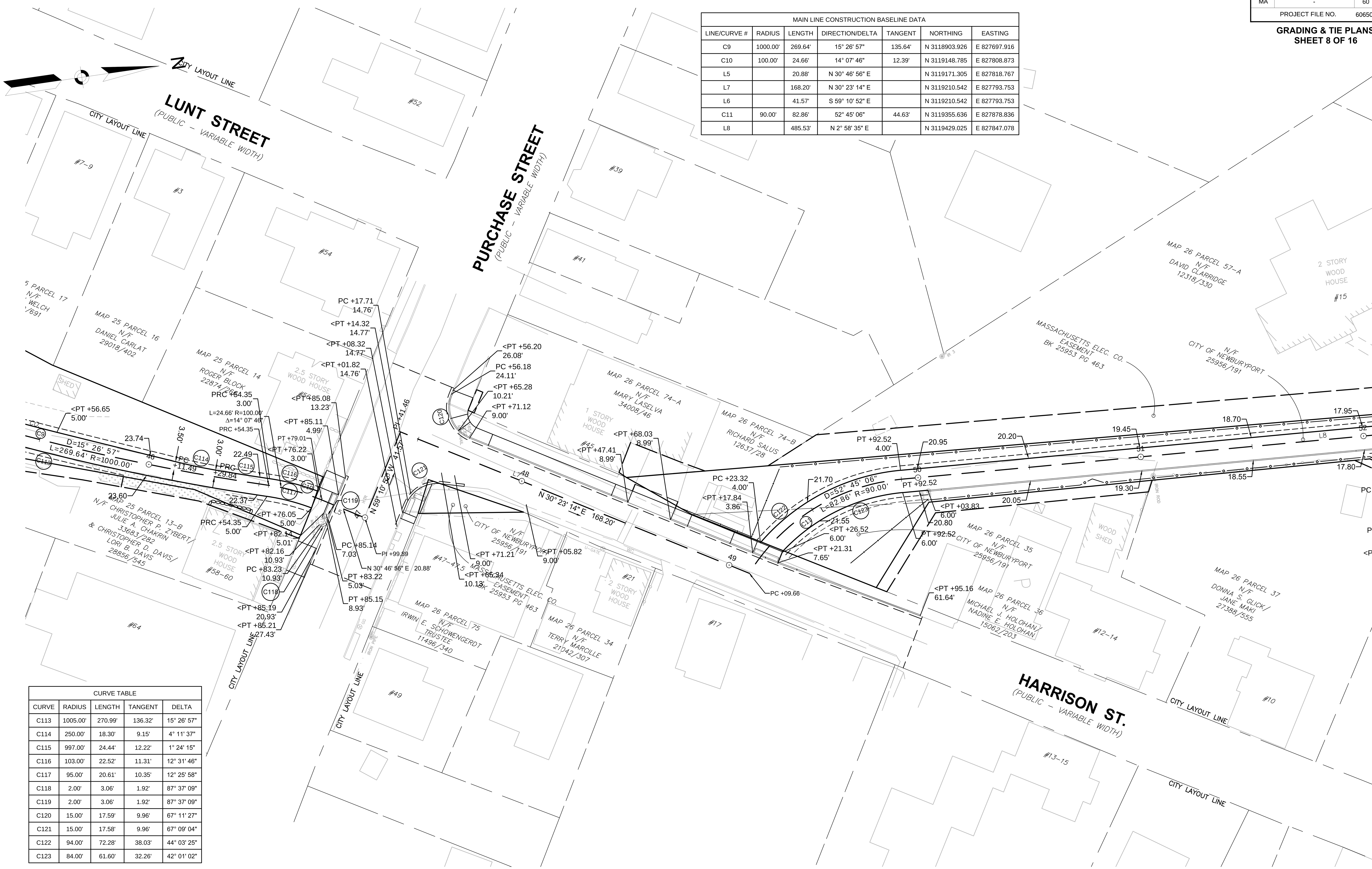
GRADING & TIE PLANS
SHEET 8 OF 16

12-Jun-2015

606503_HD(GRADING AND TIE).DWG

MAIN LINE CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
C9	1000.00'	269.64'	15° 26' 57"	135.64'	N 3118903.926	E 827697.916
C10	100.00'	24.66'	14° 07' 46"	12.39'	N 3119148.785	E 827808.873
L5		20.88'	N 30° 46' 56" E		N 3119171.305	E 827818.767
L7		168.20'	N 30° 23' 14" E		N 3119210.542	E 827793.753
L6		41.57'	S 59° 10' 52" E		N 3119210.542	E 827793.753
C11	90.00'	82.86'	52° 45' 06"	44.63'	N 3119355.636	E 827878.836
L8		485.53'	N 2° 58' 35" E		N 3119429.025	E 827847.078

CONTINUED ON SHEET NO. 59



CONTINUED ON SHEET NO. 61

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C113	1005.00'	270.99'	136.32'	15° 26' 57"
C114	250.00'	18.30'	9.15'	4° 11' 37"
C115	997.00'	24.44'	12.22'	1° 24' 15"
C116	103.00'	22.52'	11.31'	12° 31' 46"
C117	95.00'	20.61'	10.35'	12° 25' 58"
C118	2.00'	3.06'	1.92'	87° 37' 09"
C119	2.00'	3.06'	1.92'	87° 37' 09"
C120	15.00'	17.59'	9.96'	67° 11' 27"
C121	15.00'	17.58'	9.96'	67° 09' 04"
C122	94.00'	72.28'	38.03'	44° 03' 25"
C123	84.00'	61.60'	32.26'	42° 01' 02"

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	61	180
PROJECT FILE NO.	606503		

GRADING & TIE PLANS
SHEET 9 OF 16

606503_HD(GRADING AND TIE).DWG 12-Jun-2015

MAIN LINE CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
L8		485.53'	N 2° 58' 35" E		N 3119429.025	E 827847.078
C12	2000.00'	52.34'	1° 29' 58"	26.17'	N 3119913.903	E 827872.289
C13	56.00'	32.50'	33° 14' 58"	16.72'	N 3119966.203	E 827874.323
L9		35.12'	N 34° 43' 35" E		N 3119996.660	E 827884.279
C14	64.12'	58.65'	52° 24' 38"	31.56'	N 3120025.522	E 827904.283
C15	750.00'	305.33'	23° 19' 33"	154.81'	N 3120075.020	E 827876.769

WATER STREET CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
L30		300.00'	N 54° 44' 59" W		N 3119926.505	E 828000.389

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C124	3.00'	4.71'	3.00'	90° 00' 00"
C125	3.00'	4.71'	3.00'	90° 00' 00"
C126	1.00'	1.57'	1.00'	90° 00' 00"
C127	1996.00'	52.24'	26.12'	1° 29' 58"
C128	2004.00'	52.45'	26.22'	1° 29' 58"
C129	60.00'	28.97'	14.77'	27° 39' 50"
C130	52.00'	24.26'	12.36'	26° 43' 56"
C131	69.12'	41.91'	21.62'	34° 44' 15"
C132	3.00'	4.42'	2.72'	84° 25' 49"
C133	3.00'	4.45'	2.75'	85° 00' 39"
C134	69.12'	56.58'	29.98'	46° 53' 50"
C135	28.00'	42.17'	26.25'	86° 17' 49"
C136	59.12'	36.40'	18.80'	35° 16' 18"
C137	745.00'	303.30'	153.78'	23° 19' 33"
C138	755.00'	307.37'	155.84'	23° 19' 33"
C139	63.12'	21.77'	11.00'	19° 45' 54"
C194	3.00'	4.71'	3.00'	90° 00' 00"
C195	3.00'	4.71'	3.00'	90° 00' 00"

CONTINUED ON SHEET NO. 60

CONTINUED ON SHEET NO. 62

N

WATER STREET (PUBLIC - VARIABLE WIDTH)

SOMERBY CT.

JOPPA PARK

CITY LAYOUT LINE

CITY OF NEWBURYPORT N/F

MAP 26 PARCEL 57-A N/F DAVID CLARRIDGE 12318/330

MAP 26 PARCEL 48-A,B,C N/F MASS. ELECTRIC CO. 2838/399

MAP 26 PARCEL 57-A N/F EDWIN J. BERNAU, III EILEEN M. BERNAU 33058/001

MAP 26 PARCEL 49 N/F JENNIFER B. BADGER VINCENT M. BADGER 30343/340

MAP 26 PARCEL 46 N/F DAVID MOORE BEVERLY MONCHUN 15885/74

MAP 26 PARCEL 46A N/F DAVID MOORE BEVERLY MONCHUN 15885/74

MAP 26 PARCEL 45A N/F AUGUSTUS HARRINGTON 13087/104

MAP 26 PARCEL 47 N/F PHILIP L. SCHWARTZ / TAMARA A. SCHWARTZ 33020/545

MAP 26 PARCEL 48 N/F LLOYD N. DANIELS, TRUSTEE OF 174 WATER STREET REALTY TRUST 32347/19

MAP 26 PARCEL N/F DONNA C. JA...

CITY OF NEWBURYPORT 25956/191

2 STORY WOOD HOUSE #15

VINYL GARAGE

1 STORY WOOD GARAGE

2.5 STORY WOOD HOUSE #172

2.5 STORY WOOD HOUSE #174

1 STORY WOOD SHED

#164 #168 #179 #178 #182 #180

IRON PIPE (2)

GRANITE POST AND CHAIN FENCE

TOP WALL 9.76 BOTTOM WALL 8.76

TOP WALL 11.13 BOTTOM WALL 10.13

L8 N 2° 58' 35" E 485.53'

L30 N 54° 44' 59" W 300.00'

L9 N 34° 43' 35" E 35.12'

L=32.50' R=56.00' Δ=33° 14' 58"

L=52.34' R=2000.00' Δ=1° 29' 58"

L=58.65' R=64.12' D=52° 24' 38"

PC +27.60 9.00' <PT +27.60 11.50' C195 PT +30.60 6.00'

PC +53.20 6.00' PT +56.20 9.00' <PT +56.20 11.50'

PC +20.60 6.00' C194 PT +23.60 9.00' <PT +23.60 11.50'

PC +69.20 9.00' <PT +69.20 11.50'

<PT +72.20 6.00'

<PT +68.12 6.00' <PT +72.92 6.00'

PC +72.92 5.00'

PC +78.06

PRC +30.40

<PT +57.44 13.84 4.00' PT +62.90

<PT +84.18 12.08'

<PT +76.20 12.22'

<PT +69.70 12.34'

<PT +70.71 10.49'

PRC +56.67

<PT +56.53 4.00'

<PT +17.19 5.00'

PRC +04.18 5.00'

PC +98.01

PC +90.32 3.93'

<PT +90.05 3.94'

<PT +83.35 1678.69'

PC +82.88 1695.60'

<PT +82.98 1701.15'

<PT +82.86 1700.57'

PRC +93.34 6.71'

<PT +89.32 4.00'

PC +90.35 4.00'

STA: 55+72.62 Main Line ℄ =
STA: 603+79.89 Water St ℄

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

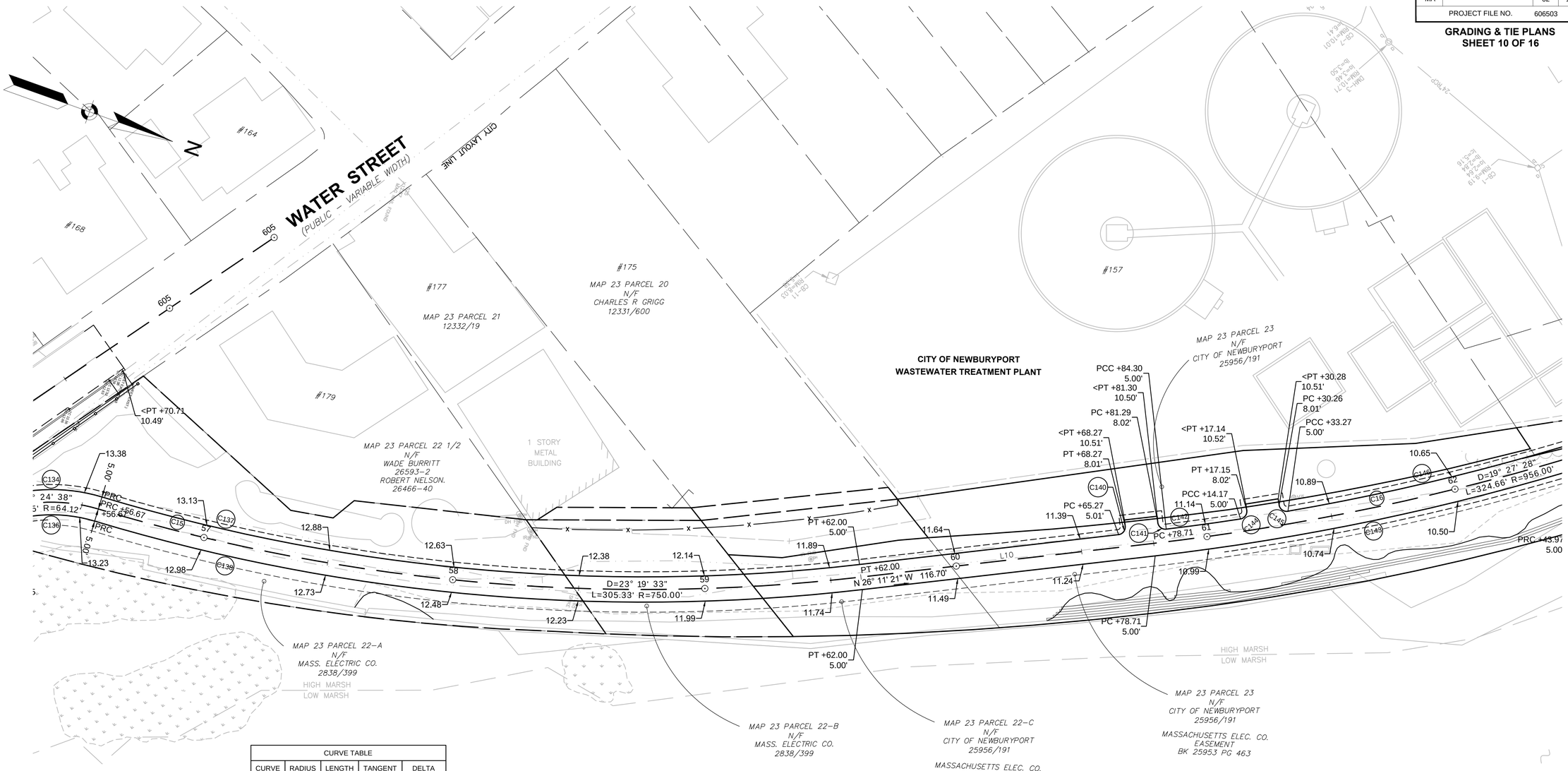
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	62	180
PROJECT FILE NO.		606503	

GRADING & TIE PLANS
SHEET 10 OF 16

606503_HD(GRADING AND TIE).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 61

CONTINUED ON SHEET NO. 63



CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C134	69.12'	56.58'	29.98'	46° 53' 50"
C136	59.12'	36.40'	18.80'	35° 16' 18"
C137	745.00'	303.30'	153.78'	23° 19' 33"
C138	755.00'	307.37'	155.84'	23° 19' 33"
C140	3.00'	4.71'	3.00'	89° 57' 03"
C141	3.00'	4.71'	3.00'	90° 02' 57"
C142	951.00'	29.71'	14.85'	1° 47' 23"
C143	961.00'	326.36'	164.76'	19° 27' 28"
C144	3.00'	4.70'	2.99'	89° 47' 30"
C145	3.00'	4.71'	2.99'	89° 54' 04"
C146	951.00'	268.68'	135.24'	16° 11' 16"

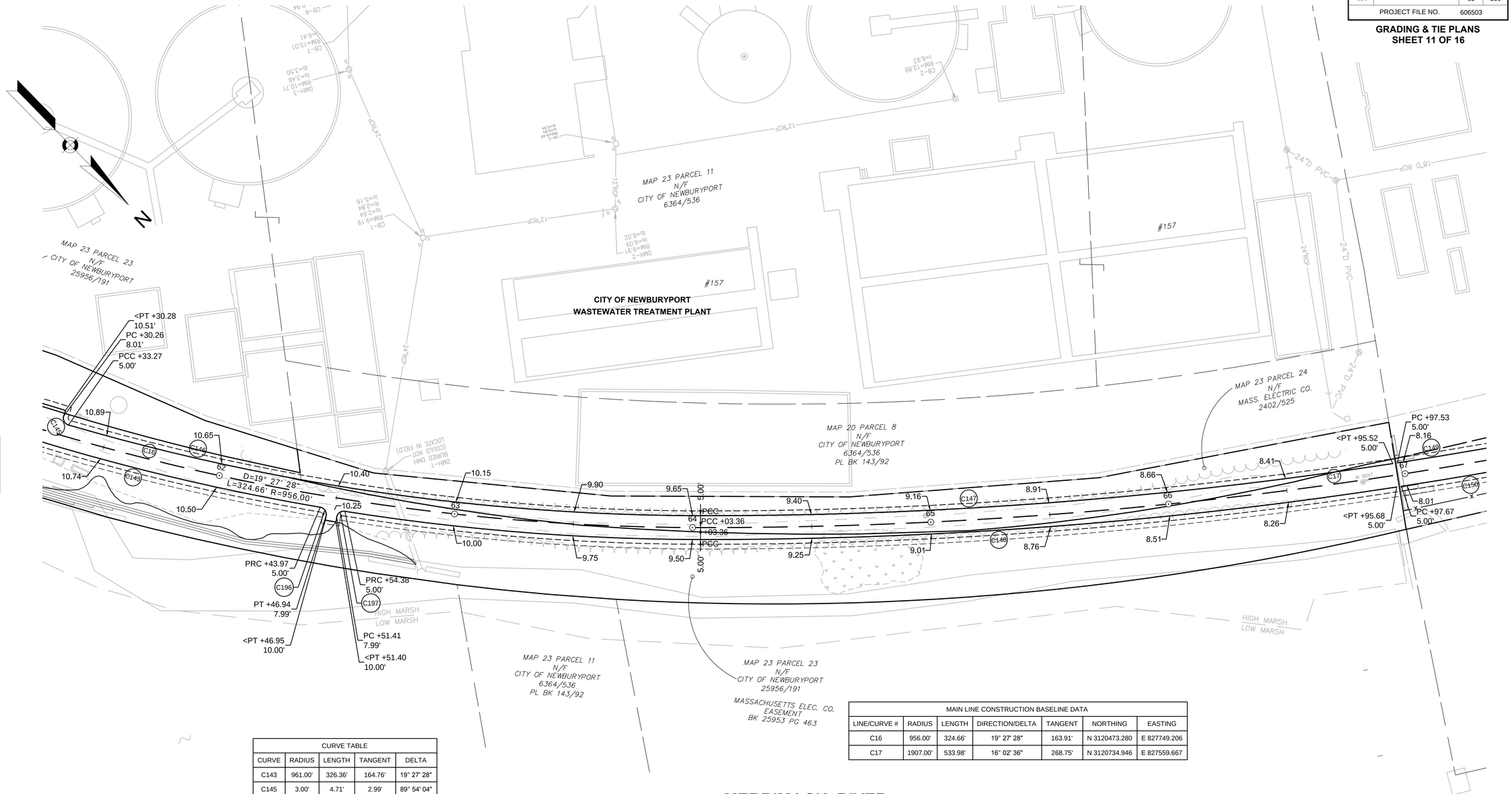
MAIN LINE CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
C15	750.00'	305.33'	23° 19' 33"	154.81'	N 3120075.020	E 827876.769
L10		116.70'	N 26° 11' 21" W		N 3120368.557	E 827800.712
C16	956.00'	324.66'	19° 27' 28"	163.91'	N 3120473.280	E 827749.206

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	63	180
PROJECT FILE NO.	606503		

GRADING & TIE PLANS
SHEET 11 OF 16

606503_HD(GRADING AND TIE).DWG 12-Jun-2015



CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C143	961.00'	326.36'	164.76'	19° 27' 28"
C145	3.00'	4.71'	2.99'	89° 54' 04"
C146	951.00'	268.68'	135.24'	16° 11' 16"
C147	1902.00'	291.39'	145.98'	8° 46' 40"
C148	1912.00'	293.08'	146.83'	8° 46' 58"
C149	1902.00'	71.10'	35.56'	2° 08' 31"
C150	1912.02'	95.04'	47.53'	2° 50' 53"
C196	3.00'	4.70'	2.98'	89° 41' 17"
C197	3.00'	4.70'	2.98'	89° 41' 17"

MAIN LINE CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
C16	956.00'	324.66'	19° 27' 28"	163.91'	N 3120473.280	E 827749.206
C17	1907.00'	533.98'	16° 02' 36"	268.75'	N 3120734.946	E 827559.667

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SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	64	180
PROJECT FILE NO.		606503	

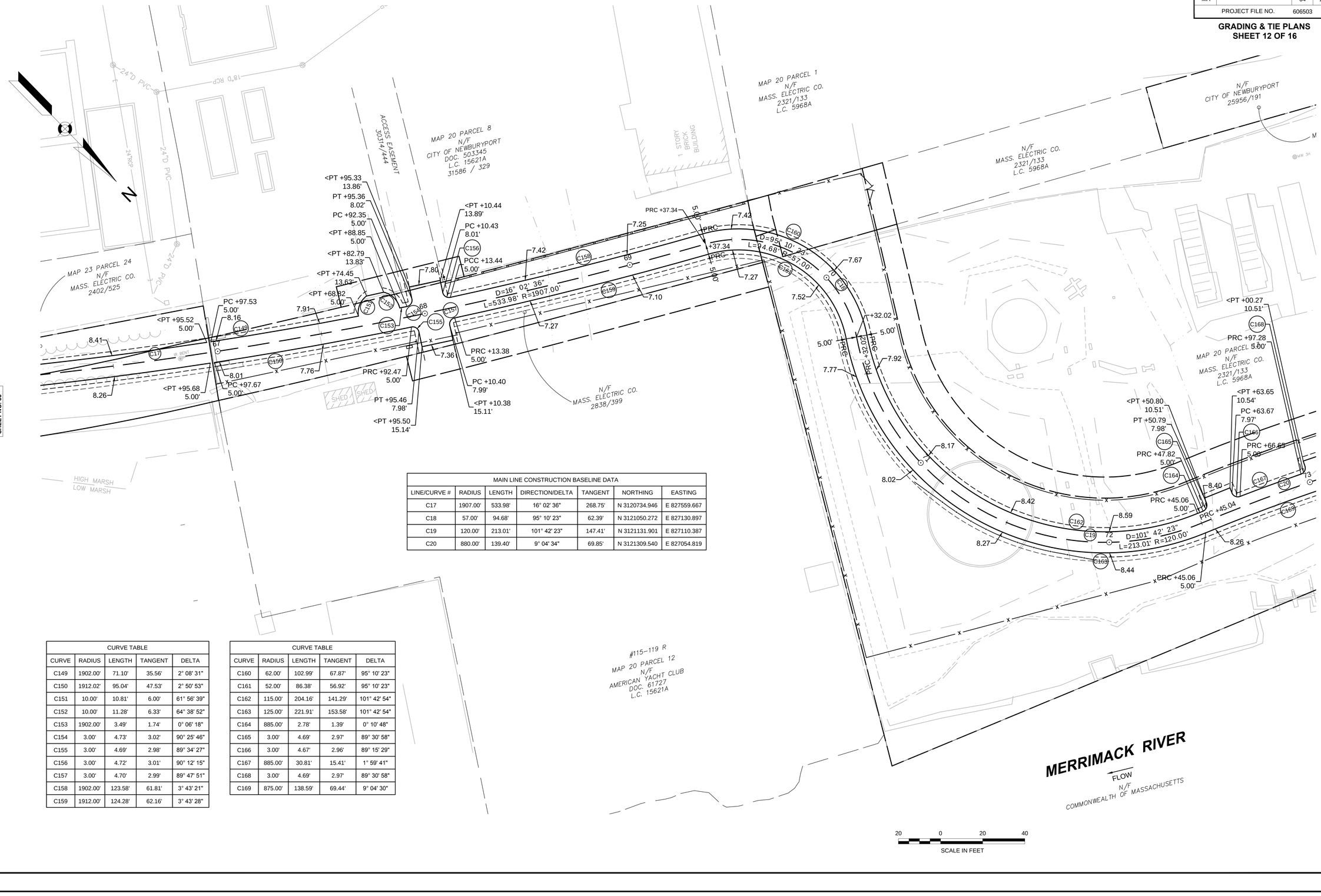
GRADING & TIE PLANS
SHEET 12 OF 16

12-Jun-2015

606503_HD(GRADING AND TIE).DWG

CONTINUED ON SHEET NO. 63

CONTINUED ON SHEET NO. 65



MAIN LINE CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
C17	1907.00'	533.98'	16° 02' 36"	268.75'	N 3120734.946	E 827559.667
C18	57.00'	94.68'	95° 10' 23"	62.39'	N 3121050.272	E 827130.897
C19	120.00'	213.01'	101° 42' 23"	147.41'	N 3121131.901	E 827110.387
C20	880.00'	139.40'	9° 04' 34"	69.85'	N 3121309.540	E 827054.819

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C149	1902.00'	71.10'	35.56'	2° 08' 31"
C150	1912.02'	95.04'	47.53'	2° 50' 53"
C151	10.00'	10.81'	6.00'	61° 56' 39"
C152	10.00'	11.28'	6.33'	64° 38' 52"
C153	1902.00'	3.49'	1.74'	0° 06' 18"
C154	3.00'	4.73'	3.02'	90° 25' 46"
C155	3.00'	4.69'	2.98'	89° 34' 27"
C156	3.00'	4.72'	3.01'	90° 12' 15"
C157	3.00'	4.70'	2.99'	89° 47' 51"
C158	1902.00'	123.58'	61.81'	3° 43' 21"
C159	1912.00'	124.28'	62.16'	3° 43' 28"

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C160	62.00'	102.99'	67.87'	95° 10' 23"
C161	52.00'	86.38'	56.92'	95° 10' 23"
C162	115.00'	204.16'	141.29'	101° 42' 54"
C163	125.00'	221.91'	153.58'	101° 42' 54"
C164	885.00'	2.78'	1.39'	0° 10' 48"
C165	3.00'	4.69'	2.97'	89° 30' 58"
C166	3.00'	4.67'	2.96'	89° 15' 29"
C167	885.00'	30.81'	15.41'	1° 59' 41"
C168	3.00'	4.69'	2.97'	89° 30' 58"
C169	875.00'	138.59'	69.44'	9° 04' 30"

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

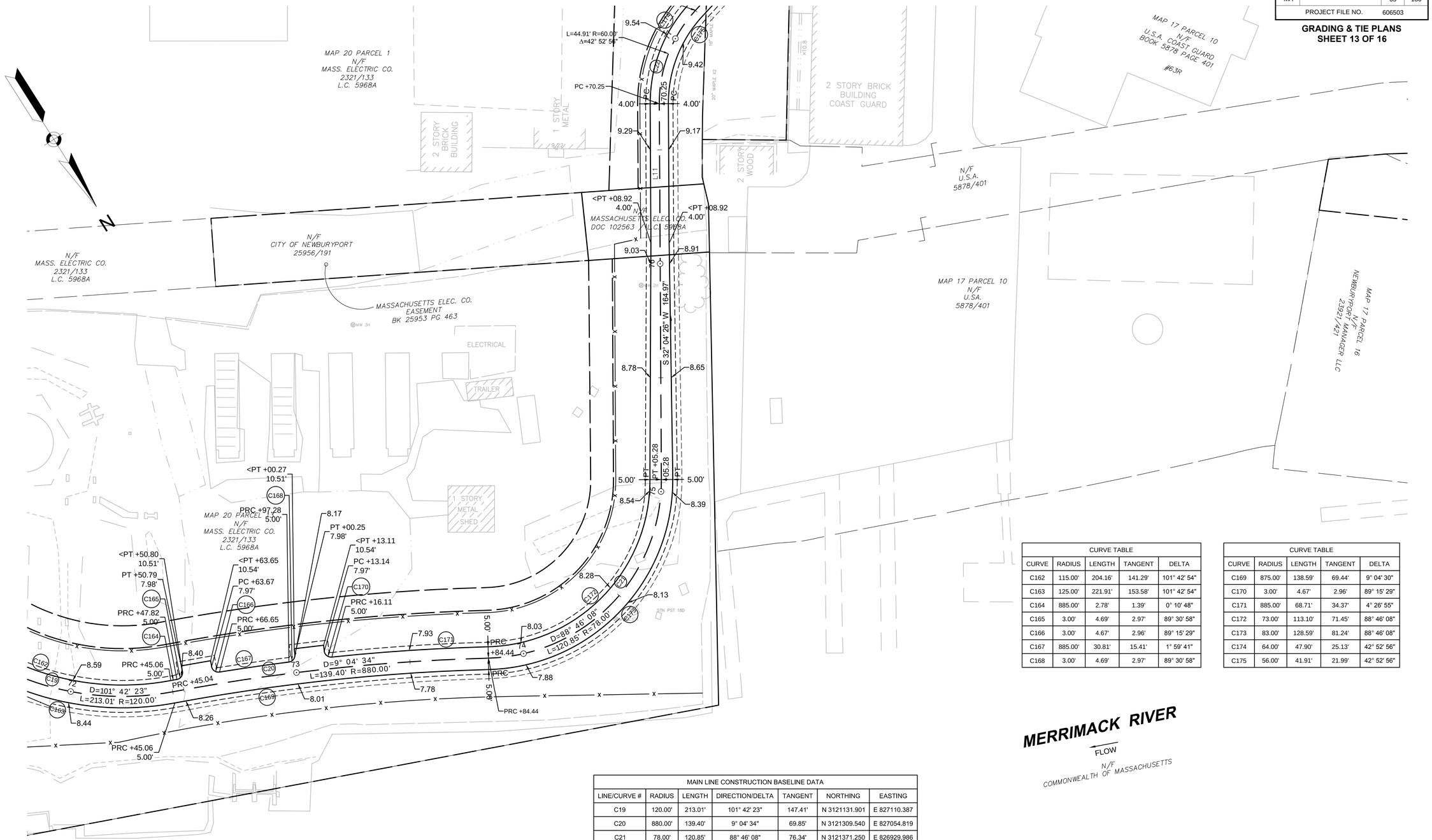
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	65	180
PROJECT FILE NO.		606503	

GRADING & TIE PLANS
SHEET 13 OF 16

606503_HD(GRADING AND TIE).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 64

CONTINUED ON SHEET NO. 66



CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C162	115.00'	204.16'	141.29'	101° 42' 54"
C163	125.00'	221.91'	153.58'	101° 42' 54"
C164	885.00'	2.78'	1.39'	0° 10' 48"
C165	3.00'	4.69'	2.97'	89° 30' 58"
C166	3.00'	4.67'	2.96'	89° 15' 29"
C167	885.00'	30.81'	15.41'	1° 59' 41"
C168	3.00'	4.69'	2.97'	89° 30' 58"

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C169	875.00'	138.59'	69.44'	9° 04' 30"
C170	3.00'	4.67'	2.96'	89° 15' 29"
C171	885.00'	68.71'	34.37'	4° 26' 55"
C172	73.00'	113.10'	71.45'	88° 46' 08"
C173	83.00'	128.59'	81.24'	88° 46' 08"
C174	64.00'	47.90'	25.13'	42° 52' 56"
C175	56.00'	41.91'	21.99'	42° 52' 56"

MAIN LINE CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
C19	120.00'	213.01'	101° 42' 23"	147.41'	N 3121131.901	E 827110.387
C20	880.00'	139.40'	9° 04' 34"	69.85'	N 3121309.540	E 827054.819
C21	78.00'	120.85'	88° 46' 08"	76.34'	N 3121371.250	E 826929.986
L11		164.97'	S 32° 04' 26" W		N 3121345.700	E 826823.902
C22	60.00'	44.91'	42° 52' 56"	23.56'	N 3121205.909	E 826736.300

MERRIMACK RIVER

FLOW

N/F
COMMONWEALTH OF MASSACHUSETTS

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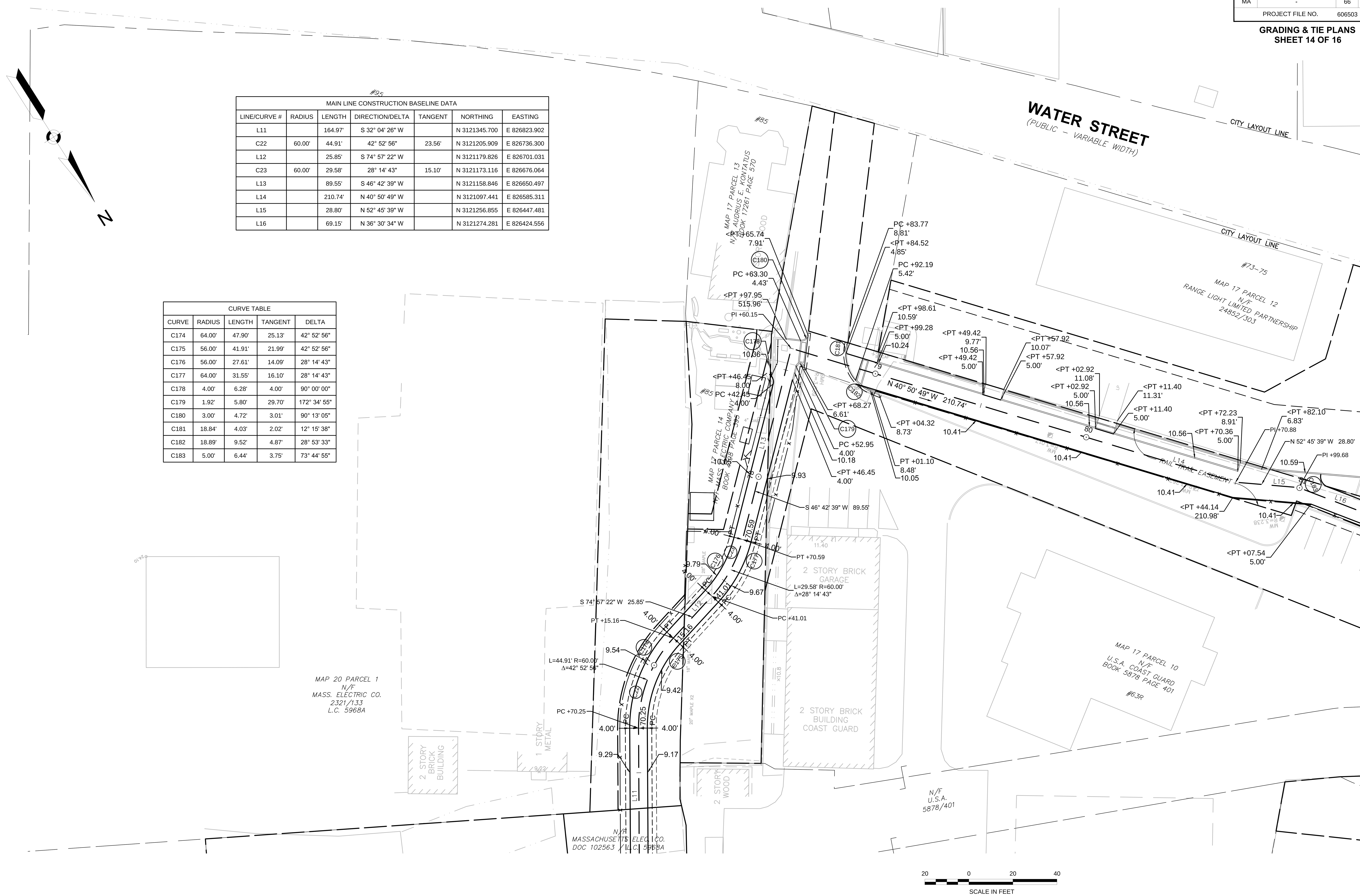
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	66	180
PROJECT FILE NO.		606503	

GRADING & TIE PLANS
SHEET 14 OF 16

12-Jun-2015
606503_HD(GRADING AND TIE).DWG



MAIN LINE CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
L11		164.97'	S 32° 04' 26" W		N 3121345.700	E 826823.902
C22	60.00'	44.91'	42° 52' 56"	23.56'	N 3121205.909	E 826736.300
L12		25.85'	S 74° 57' 22" W		N 3121179.826	E 826701.031
C23	60.00'	29.58'	28° 14' 43"	15.10'	N 3121173.116	E 826676.064
L13		89.55'	S 46° 42' 39" W		N 3121158.846	E 826650.497
L14		210.74'	N 40° 50' 49" W		N 3121097.441	E 826585.311
L15		28.80'	N 52° 45' 39" W		N 3121256.855	E 826447.481
L16		69.15'	N 36° 30' 34" W		N 3121274.281	E 826424.556

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C174	64.00'	47.90'	25.13'	42° 52' 56"
C175	56.00'	41.91'	21.99'	42° 52' 56"
C176	56.00'	27.61'	14.09'	28° 14' 43"
C177	64.00'	31.55'	16.10'	28° 14' 43"
C178	4.00'	6.28'	4.00'	90° 00' 00"
C179	1.92'	5.80'	29.70'	172° 34' 55"
C180	3.00'	4.72'	3.01'	90° 13' 05"
C181	18.84'	4.03'	2.02'	12° 15' 38"
C182	18.89'	9.52'	4.87'	28° 53' 33"
C183	5.00'	6.44'	3.75'	73° 44' 55"

CONTINUED ON SHEET NO. 65

CONTINUED ON SHEET NO. 67

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	67	180
PROJECT FILE NO.		606503	

GRADING & TIE PLANS
SHEET 15 OF 16

606503_HD(GRADING AND TIE).DWG 12-Jun-2015

MAIN LINE CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
L14		210.74'	N 40° 50' 49" W		N 3121097.441	E 826585.311
L15		28.80'	N 52° 45' 39" W		N 3121256.855	E 826447.481
L16		69.15'	N 36° 30' 34" W		N 3121274.281	E 826424.556
C24	21.00'	30.75'	83° 53' 03"	18.87'	N 3121329.861	E 826383.415
L17		56.66'	N 47° 22' 31" E		N 3121357.807	E 826386.072
L18		33.76'	N 19° 56' 23" W		N 3121396.175	E 826427.762
L19		220.10'	N 51° 29' 39" W		N 3121427.915	E 826416.247
L20		37.34'	N 61° 48' 08" W		N 3121564.946	E 826244.011
L21		99.19'	N 65° 22' 16" W		N 3121582.591	E 826211.100
L22		104.12'	N 58° 49' 35" W		N 3121623.927	E 826120.935

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C183	5.00'	6.44'	3.75'	73° 44' 55"
C184	4.50'	7.07'	4.50'	90° 00' 00"
C185	26.00'	38.07'	23.36'	83° 53' 05"
C186	16.00'	23.43'	14.38'	83° 53' 05"

CONTINUED ON SHEET NO. 66

CONTINUED ON SHEET NO. 68

WATER STREET
(PUBLIC – VARIABLE WIDTH)

MAP 17 PARCEL 11 N/F NEW BURYPORT ART ASSOC., INC. 5646/19

MAP 17 PARCEL 9 N/F GORDON HALL & MICHAEL B. MOSKOW 8919/491

CITY LAYOUT LINE

#73–75

MAP 17 PARCEL 12 N/F RANGE LIGHT LIMITED PARTNERSHIP 24852/303

#63–65

#61

MAP 17 PARCEL 7 N/F GORDON HALL & MICHAEL B. MOSKOW 8919/491

#61 REAR

MAP 17 PARCEL 8 N/F EUGENE GRECO 9560/597

MAP 17 PARCEL 6 N/F EUGENE GRECO 6436/100

2 STORY WOOD RESTAURANT #55–57

MAP 17 PARCEL 4 N/F ROBERT W. HIGGINS 13440/469

#51

2 STORY WOOD BUILDING

MAP 17 PARCEL 3 N/F NEWBURYPORT MANAGER LLC 23921/365

#49

MAP 17 PARCEL 2a N/F ROBERT W. HIGGINS DOC 38/241

MAP 17 PARCEL 1 N/F NEWBURYPORT MANAGER LLC 23919/170

#47

#45

MAP 17 PARCEL N/F FORTY FIVE WATER STREET REALTY 8664/227

#43

MAP 17 PARCEL B N/F NEWBURYPORT MANAGER LLC 19105/461

MAP 17 PARCEL 10 N/F U.S.A. COAST GUARD BOOK 5878 PAGE 401

#63R

MAP 17 PARCEL 16 N/F NEWBURYPORT MANAGER LLC 23921/421

MAP 17 PARCEL 17 N/F NEWBURYPORT MANAGER LLC 23921/421

MAP 17 PARCEL 19 N/F NEWBURYPORT MANAGER LLC 23921/421

MAP 17 PARCEL 16 N/F NEWBURYPORT MANAGER LLC 23921/421

1 STORY WOOD BUILDING NEWBURYPORT MARINA'S #51 REAR

MAP 17 PARCEL 19 NEWBURYPORT MANAGER LLC 23921/421

FUEL TANK AREA

MAP 17 PARCEL 20

MAP 17 PARCEL 21 N/F NEWBURYPORT MANAGER LLC 23919/170

#51 REAR

MERRIMACK RIVER

FLOW

N/F COMMONWEALTH OF MASSACHUSETTS

RAIL TRAIL EASEMENT

ELEC. ESMT

SHED

FUEL MH 42 8=7.92

STN PIST 18"

PC +06.79 9.19'
PT +27.09 41.15'
<PT +39.08 42.16'
PT +11.76 5.01'
PC +22.98 36.29'
<PT +82.10 6.83'
PI +70.88
N 52° 45' 39" W 28.80'
PI +99.68
<PT +72.23 8.91'
<PT +70.36 5.00'
10.56
10.59
<PT +24.82 14.44'
10.56
PC +68.83
10.41
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<PT +07.54 5.00'
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PT +99.56 5.00'
9.87
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9.12
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7.95
7.95
7.83
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L14
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L21
L22
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C186
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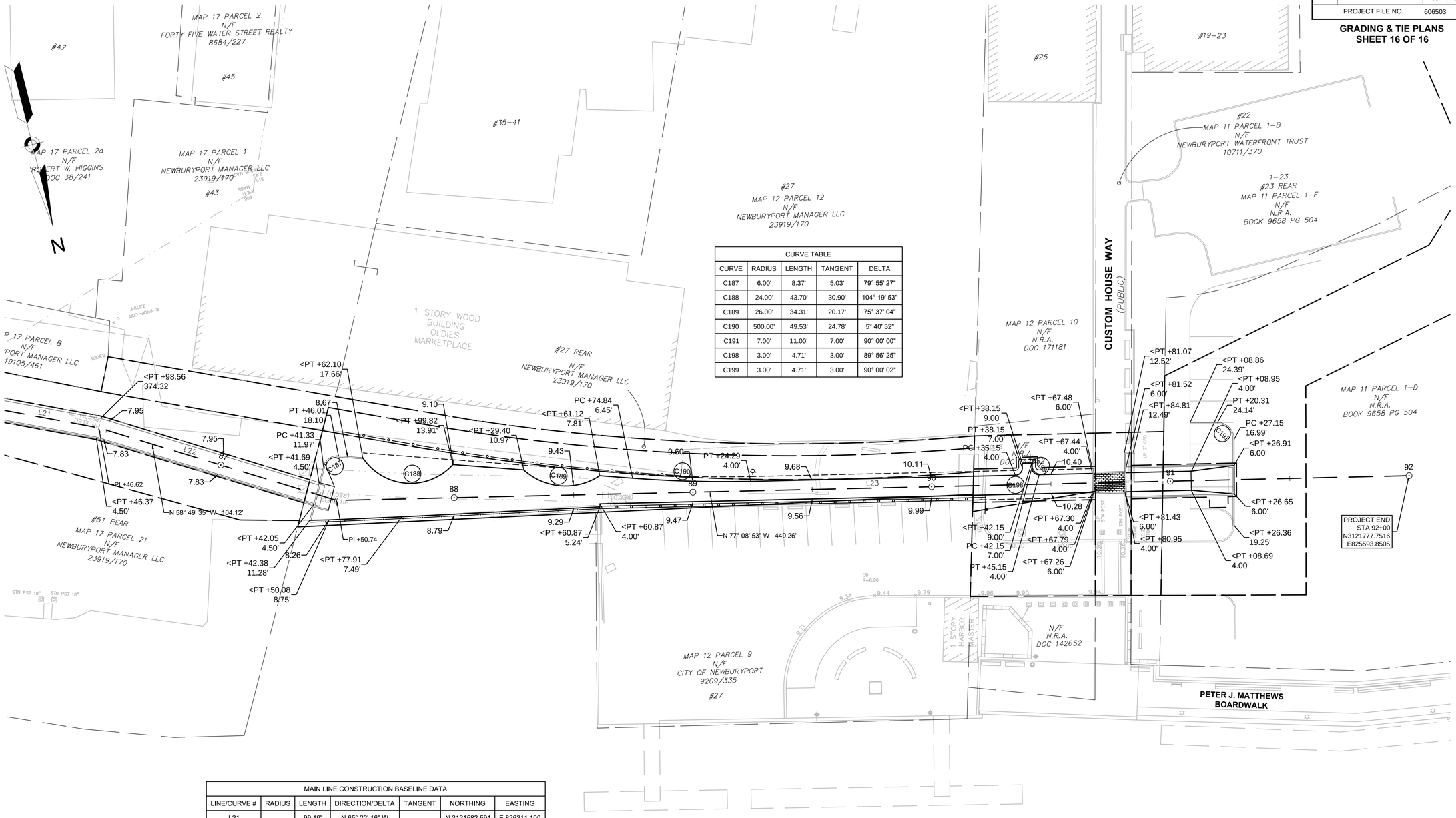
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SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	68	180
PROJECT FILE NO.	606503		

GRADING & TIE PLANS
SHEET 16 OF 16

606503_HD(GRADING AND TIE).DWG 12-Jun-2015



CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C187	6.00'	8.37'	5.03'	79° 55' 27"
C188	24.00'	43.70'	30.90'	104° 19' 53"
C189	26.00'	34.31'	20.17'	75° 37' 04"
C190	500.00'	49.53'	24.78'	5° 40' 32"
C191	7.00'	11.00'	7.00'	90° 00' 00"
C198	3.00'	4.71'	3.00'	89° 56' 25"
C199	3.00'	4.71'	3.00'	90° 00' 02"

MAIN LINE CONSTRUCTION BASELINE DATA						
LINE/CURVE #	RADIUS	LENGTH	DIRECTION/DELTA	TANGENT	NORTHING	EASTING
L21		99.19'	N 65° 22' 16" W		N 3121582.591	E 826211.100
L22		104.12'	N 58° 49' 35" W		N 3121623.927	E 826120.935
L23		449.26'	N 77° 08' 53" W		N 3121677.821	E 826031.853

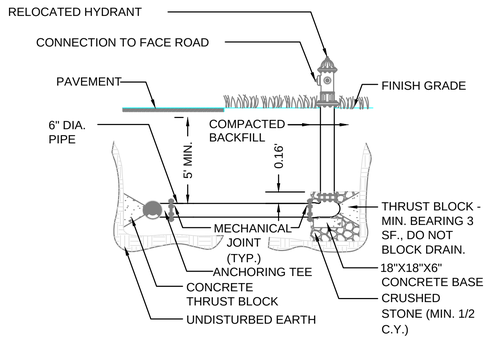
20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	69	180
PROJECT FILE NO.	606503		

WATER SUPPLY DETAILS
SHEET 1 OF 1

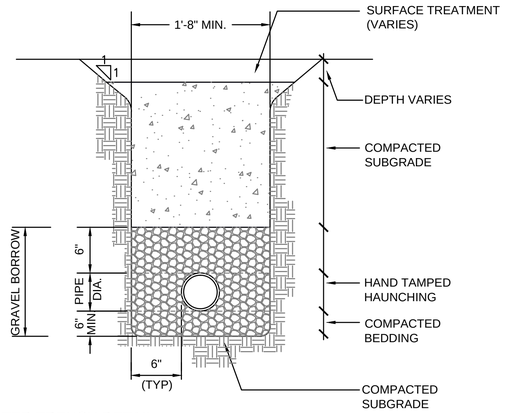
606503_HD(DRAINAGE DETAILS).DWG 12-Jun-2015



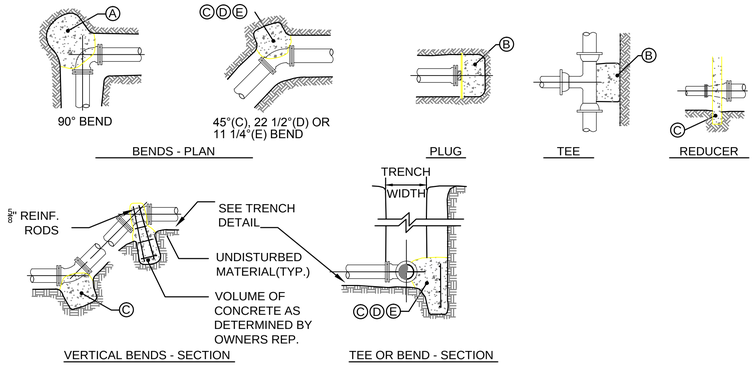
NOTE:

CONCRETE THRUST BLOCKS TO BE USED ONLY WHERE THEY CAN BEAR ON UNDISTURBED EARTH. USE CLAMPS AND TIE RODS OR OTHER ACCEPTABLE METHOD OF JOINT RESTRAINT WHERE SOIL CONDITIONS PROHIBIT THE USE OF THRUST BLOCKS.

1 HYDRANT CONNECTION
NOT TO SCALE



2 WATER TRENCH DETAIL
NOT TO SCALE



THRUST BLOCK SCHEDULE SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL

REACTION TYPE	PIPE SIZE			
	6"	8"	10"	12"
Ⓐ	4.38	7.84	11.14	16.52
Ⓑ	3.10	5.52	8.38	12.18
Ⓒ	2.38	4.24	6.02	9.32
Ⓓ	1.2	2.16	3.08	4.74
Ⓔ	0.60	1.08	1.54	2.38

NOTES:
1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE SOLID CONCRETE BLOCKS IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCK.
4. REQUIREMENTS OF THE ABOVE TABLE PRESUME MINIMUM SOIL BEARING OF 1 TON PER SQUARE FOOT, AND MAY BE VARIED BY THE ENGINEER TO MEET OTHER CONDITIONS ENCOUNTERED.
5. MEGA-LUG RETAINER GLANDS ARE REQUIRED FOR ALL MECHANICAL JOINTS. THESE GLANDS DO NOT REDUCE THE REQUIREMENTS FOR THRUST RESTRAINT.
6. ALL FITTINGS SHALL BE WRAPPED IN POLYETHYLENE OR BUILDING PAPER PRIOR TO INSTALLATION OF CONCRETE RESTRAINT.
7. THREADED ROD SHALL BE ANSI A242 FY50 PIPE RESTRAINT NUTS TO MATCH AWWA C111. THREADED RODS AND NUTS TO BE FIELD COATED WITH BITUMINOUS PAINT.
8. THRUST RESTRAINT IS REQUIRED FOR ALL TEES, BENDS, REDUCERS, CAPS, PLUGS, OR CROSSES.
9. INSTALL LIFT HOOKS INTO THRUST BLOCKS AT END CAPS AND PLUGS.

OTHER TEST PRESSURES FOR THE ABOVE REACTIONS

ABOVE DIMENSIONS ARE MINIMUM THRUST BLOCK SIZES. THEY HAVE BEEN CALCULATED USING A PRESSURE OF 200 PSI.

TEST PRESSURE TO BE 150 PSI MIN, OR AS REQUIRED BY CAMBRIDGE WATER DEPARTMENT.

SQUARE FEET OF CONCRETE THRUST BLOCKING FOR OTHER TEST PRESSURES IS DIRECTLY PROPORTION TO THE ABOVE TABLE. FOR INSTANCE, AT 225 PSI TEST PRESSURE ABOVE NUMBERS SHOULD BE MULTIPLIED BY 1.125 (225 PSI / 200 PSI = 1.125).

3 THRUST BLOCKS
NOT TO SCALE

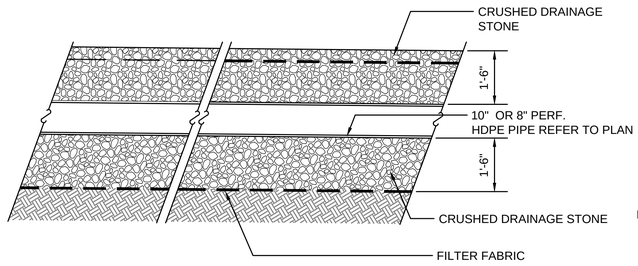
NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	70	180
PROJECT FILE NO.	606503		

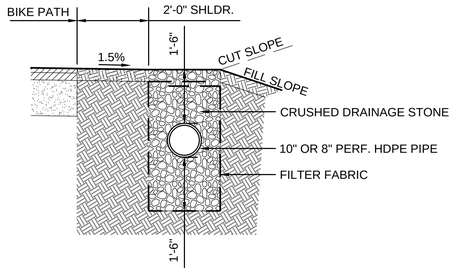
DRAINAGE DETAILS
SHEET 1 OF 5

12-Jun-2015

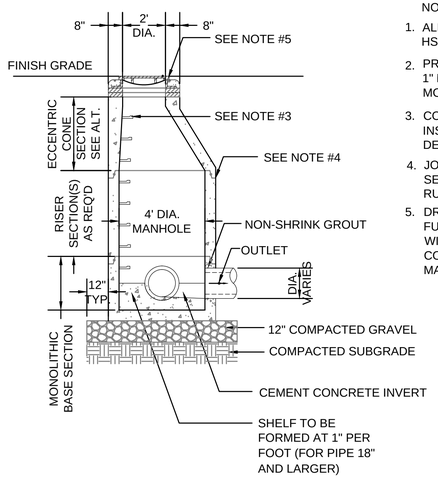
606503_HD(DRAINAGE DETAILS).DWG



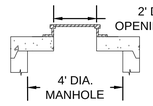
1 STORMWATER INFILTRATION TRENCH
NOT TO SCALE



2 STORMWATER INFILTRATION TRENCH - CROSS SECTION
NOT TO SCALE

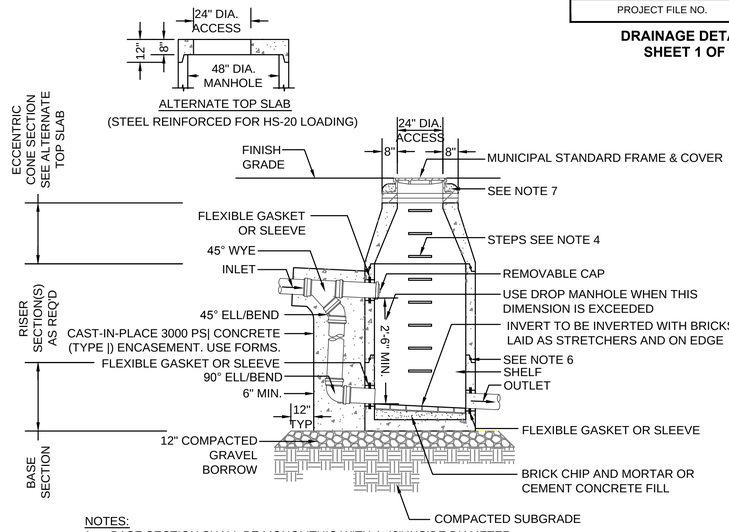


NOTES:
1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 1" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. DRAIN MANHOLE FRAME SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES MINIMUM 5 BRICK COURSES MAXIMUM)



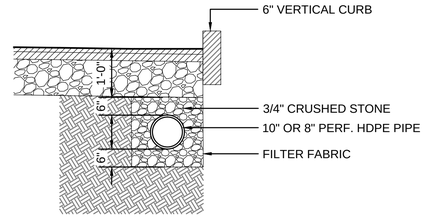
ALTERNATE TOP SLAB
(STEEL REINFORCED FOR HS-20 LOADING)

3 DRAINAGE MANHOLE
NOT TO SCALE

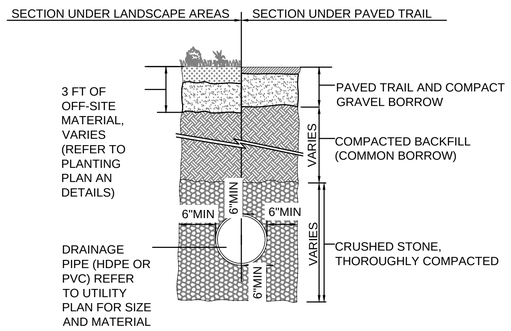


NOTES:
1. BASE SECTION SHALL BE MONOLITHIC WITH A 48" INSIDE DIAMETER.
2. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
3. CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000 PSI, TYPE II CEMENT.
4. MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
5. ALL EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATERPROOFING MATERIAL.
6. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE BUTYL RUBBER.
7. MUNICIPAL STANDARD DRAIN MANHOLE FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM.).

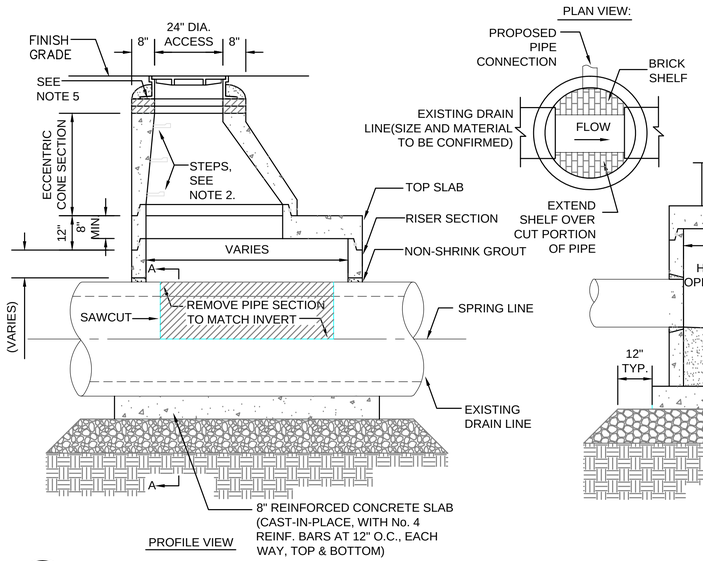
4 OUTSIDE DROP MANHOLE
NOT TO SCALE



5 STORMWATER TRENCH UNDER SHOULDER
NOT TO SCALE



6 TYPICAL DRAIN TRENCH DETAIL
NOT TO SCALE



NOTES:
1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 1" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. MUNICIPAL STANDARD MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)
6. BASE SECTION SHALL HAVE AN INSIDE DIMENSION VERIFIED BY THE CONTRACTOR/ MANUFACTURER TO BE CONSTANT WITH THE GEOMETRICS AND SIZES.

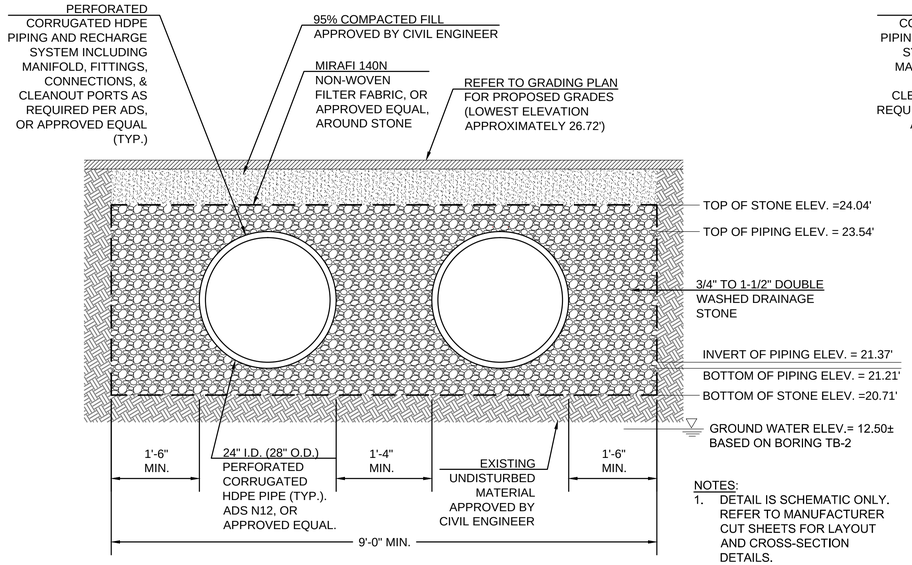
7 DOGHOUSE MANHOLE
NOT TO SCALE

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	71	180
PROJECT FILE NO.	606503		

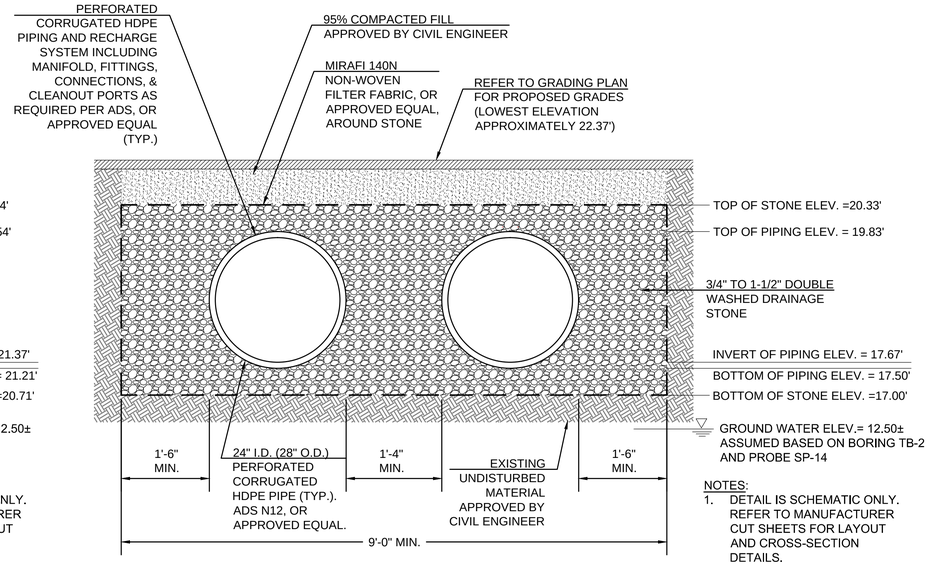
DRAINAGE DETAILS
SHEET 2 OF 5

606503_HD(DRAINAGE DETAILS).DWG 12-Jun-2015



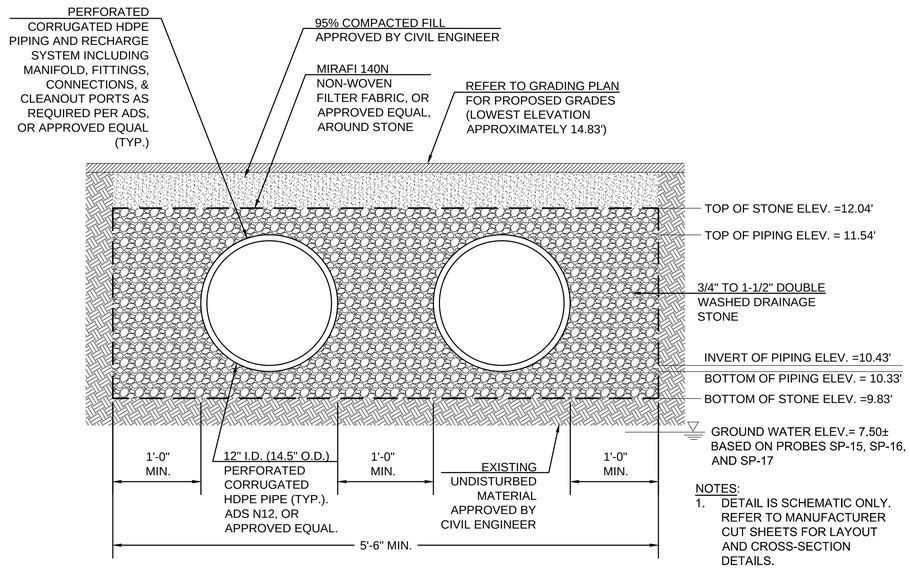
NOTES:
1. DETAIL IS SCHEMATIC ONLY. REFER TO MANUFACTURER CUT SHEETS FOR LAYOUT AND CROSS-SECTION DETAILS.
2. APPROXIMATE LENGTH OF SYSTEM IS 415 LINEAR FEET.

1 SUBSURFACE DETENTION AND INFILTRATION SYSTEM 1
NOT TO SCALE



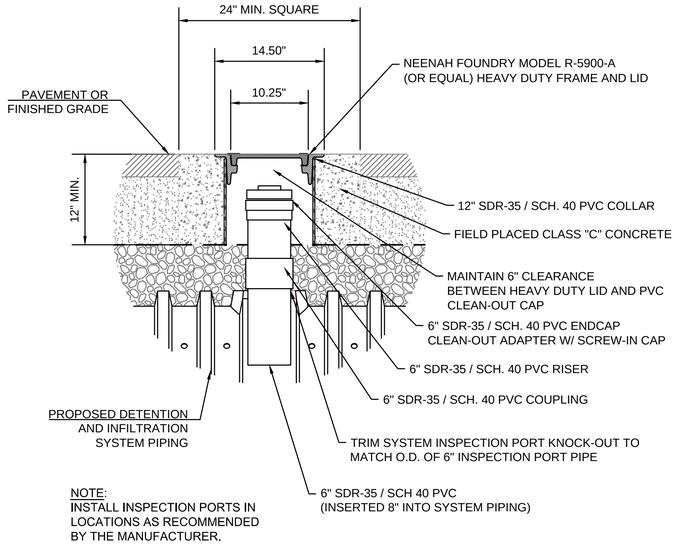
NOTES:
1. DETAIL IS SCHEMATIC ONLY. REFER TO MANUFACTURER CUT SHEETS FOR LAYOUT AND CROSS-SECTION DETAILS.
2. APPROXIMATE LENGTH OF SYSTEM IS 125 LINEAR FEET.

2 SUBSURFACE DETENTION AND INFILTRATION SYSTEM 2
NOT TO SCALE



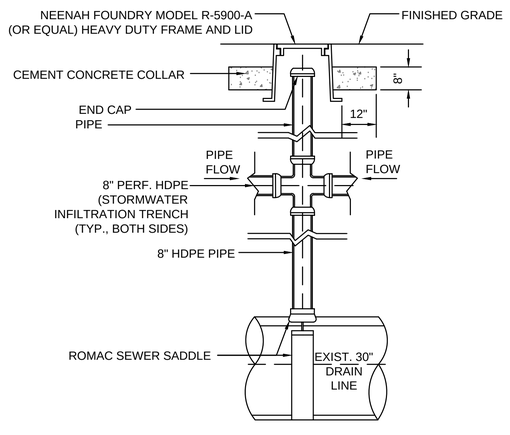
NOTES:
1. DETAIL IS SCHEMATIC ONLY. REFER TO MANUFACTURER CUT SHEETS FOR LAYOUT AND CROSS-SECTION DETAILS.
2. APPROXIMATE LENGTH OF SYSTEM IS 170 LINEAR FEET.

3 SUBSURFACE DETENTION AND INFILTRATION SYSTEM 3
NOT TO SCALE



NOTE:
INSTALL INSPECTION PORTS IN LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.

4 SUBSURFACE DETENTION AND INFILTRATION SYSTEM INSPECTION/CLEANOUT PORT
NOT TO SCALE



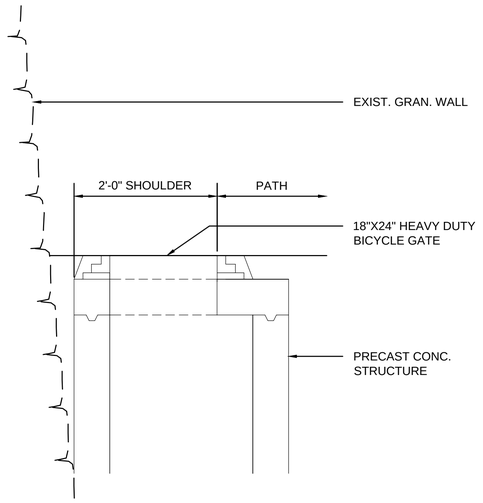
5 CHIMNEY CONNECTION
NOT TO SCALE

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

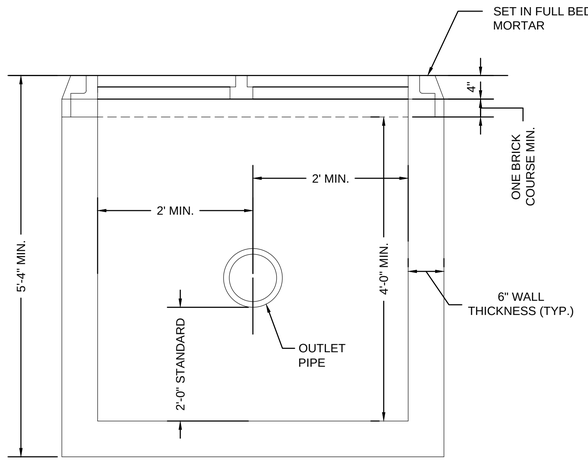
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	72	180
PROJECT FILE NO.	606503		

DRAINAGE DETAILS
SHEET 3 OF 5

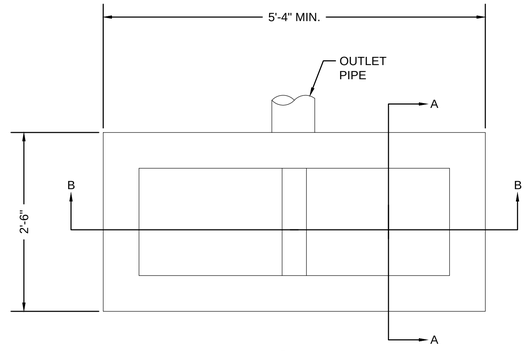
606503_HD(DRAINAGE DETAILS).DWG 12-Jun-2015



SECTION A-A



SECTION B-B

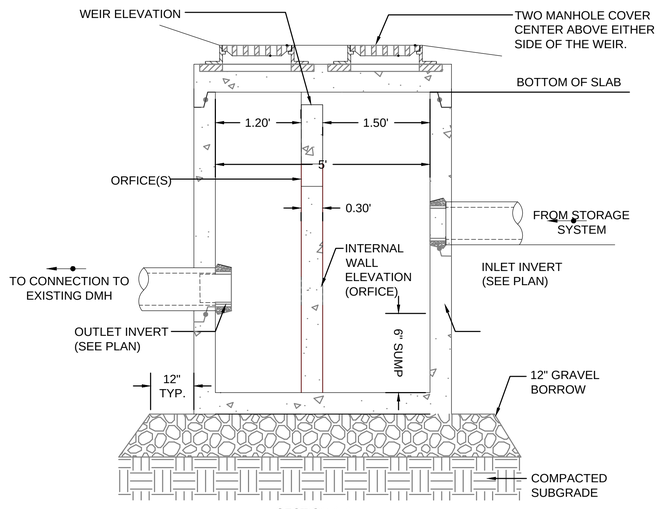


PLAN

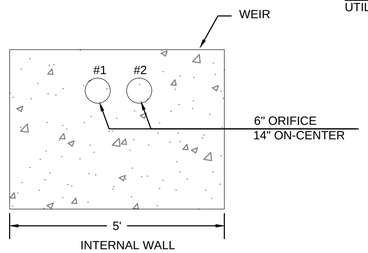
NOTES:
1. STANDARD PARALLEL BAR GRATES TO BE USED. SEE DETAILS ON DRAWINGS E 201.10.0
2. MINIMUM C.I. FRAME MASS - 205 LBS. EACH
3. FOR DESCRIPTIONS, MATERIALS AND CONSTRUCTION METHODS SEE LATEST STANDARD SPECIFCICATIONS

TYPE "A"
4. 4000 PSI - 1 1/2" - 565 LB

1 DOUBLE DROP INLET
NOT TO SCALE

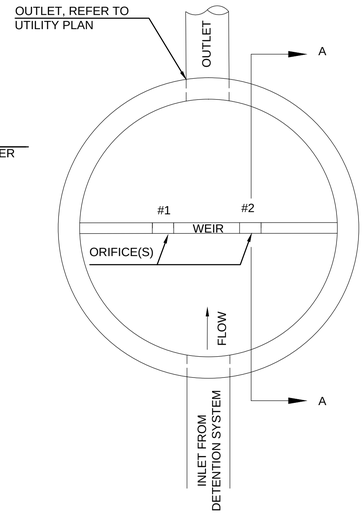


SECTION A-A



NOTES:

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 1" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. FRAME SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR. (2 BRICK COURSES MIN 5 BRICK COURSES MAX.)
5. ALL PIPE SHALL BE HDPE UNLESS OTHERWISE SPECIFIED.



OCS-1

	OCS-1
RIM ELEVATION	34.17±
INLET INVERT	20.76
INLET SIZE	12"
OUTLET INVERT	30.76
OUTLET SIZE	12"
ORIFICE 1 INV. ELEV.	23.96
ORIFICE 2 INV. ELEV	23.96
WEIR ELEVATION	25.72
TOP OF SLAB	32.66
BOTTOM OF SLAB	33.66
STRUCTURE INSIDE DIA.	5.0

ALL UNITS IN FEET UNLESS OTHERWISE NOTED

2 OUTLET CONTROL STRUCTURE (OCS-1)
NOT TO SCALE

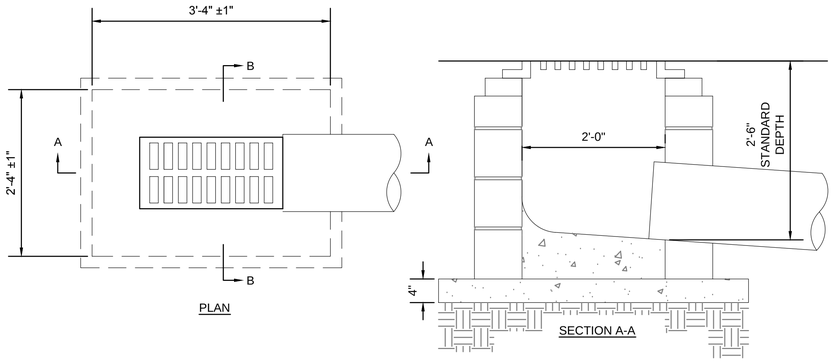
NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

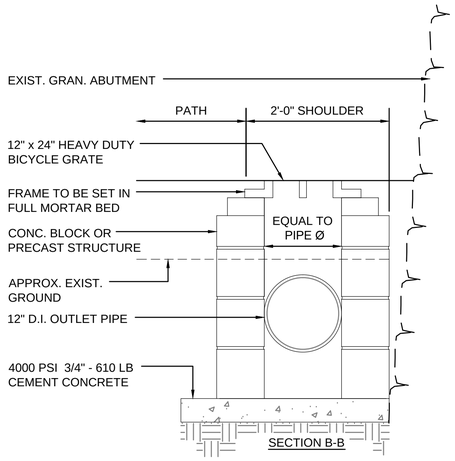
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	73	180
PROJECT FILE NO.	606503		

DRAINAGE DETAILS
SHEET 4 OF 5

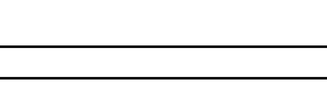
12-Jun-2015

606503_HD(DRAINAGE DETAILS).DWG



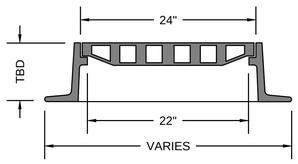


1 GUTTER INLET
NOT TO SCALE



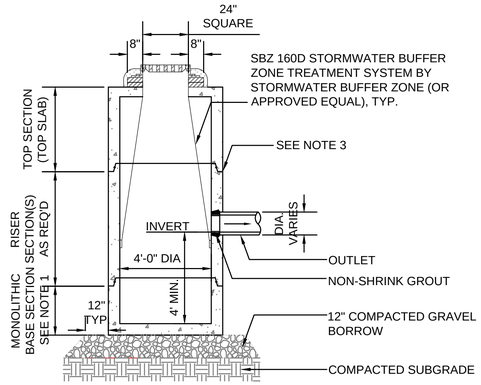
NOTES:
1. FRAME AND COVER SHALL BE MUNICIPAL STANDARD, AND SHALL BE MANUFACTURED BY EAST JORDAN IRON WORKS, OR APPROVED EQUAL.
2. FRAME AND COVER SHALL BE HEAVY-DUTY CAST IRON, H-20 LOAD RATED, AND 24" DIAMETER.
3. EACH COVER SHALL READ DRAIN IN 3" LETTERING.
4. FRAME AND COVER SHALL BE SET IN FULL BED OF MORTAR.
5. FRAME HEIGHT SHALL BE EITHER 4 INCHES, 6 INCHES, OR 8 INCHES, AS NECESSARY, AND SHALL BE DETERMINED BY CONTRACTOR.

3 MUNICIPAL STANDARD MANHOLE FRAME AND COVER
NOT TO SCALE

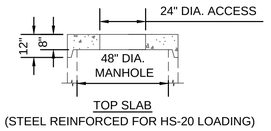


NOTES:
1. FRAME AND GRATE SHALL BE MUNICIPAL STANDARD, AND SHALL BE MANUFACTURED BY EAST JORDAN IRON WORKS, OR APPROVED EQUAL.
2. FRAME AND GRATE SHALL BE BICYCLE FRIENDLY WITH SQUARE OPENINGS.
3. FRAME AND GRATE SHALL BE HEAVY-DUTY CAST IRON, H-20 LOAD RATED, AND 24" SQUARE.
4. FRAME AND GRATE SHALL BE SET IN FULL BED OF MORTAR ON A MINIMUM OF TWO COURSES OF BRICK.
5. FRAME HEIGHT SHALL BE EITHER 4 INCHES, 6 INCHES, OR 8 INCHES, AS NECESSARY, AND SHALL BE DETERMINED BY CONTRACTOR.

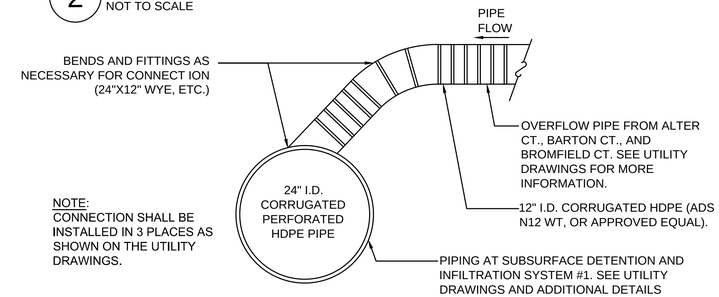
4 MUNICIPAL STANDARD MANHOLE FRAME AND GRATE
NOT TO SCALE



2 CATCH BASIN
NOT TO SCALE

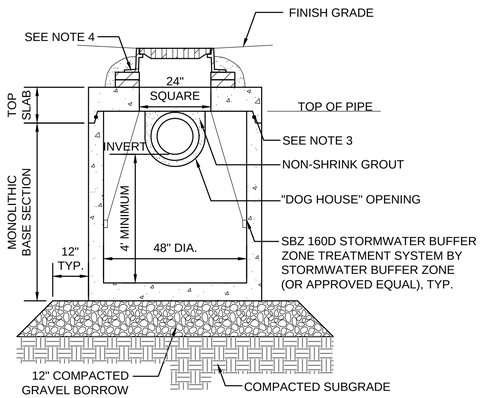


NOTES:
1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 1" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN FRAME SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR. (2 BRICK COURSES MIN. 5 BRICK COURSES MAX.).
5. INSTALL STORMWATER BUFFER ZONE TREATMENT SYSTEM SBZ 160D BY STORMWATER BUFFER ZONE (OR APPROVED EQUAL) IN ALL PROPOSED CATCH BASINS. INSTALL PER MANUFACTURER RECOMMENDATIONS.



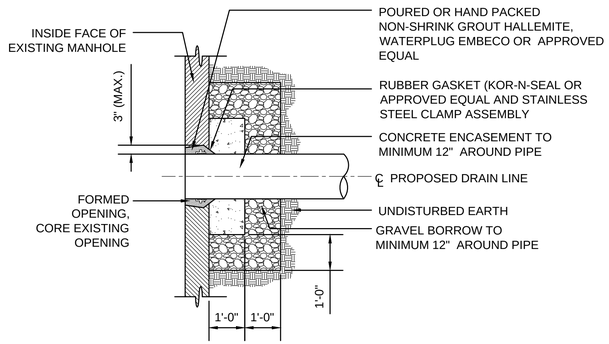
NOTE:
CONNECTION SHALL BE INSTALLED IN 3 PLACES AS SHOWN ON THE UTILITY DRAWINGS.

5 OVERFLOW CONNECTIONS FROM ALTER CT., BROMFIELD CT., & BARTON CT. TO PROPOSED SUBSURFACE DETENTION AND INFILTRATION SYSTEM #1
NOT TO SCALE

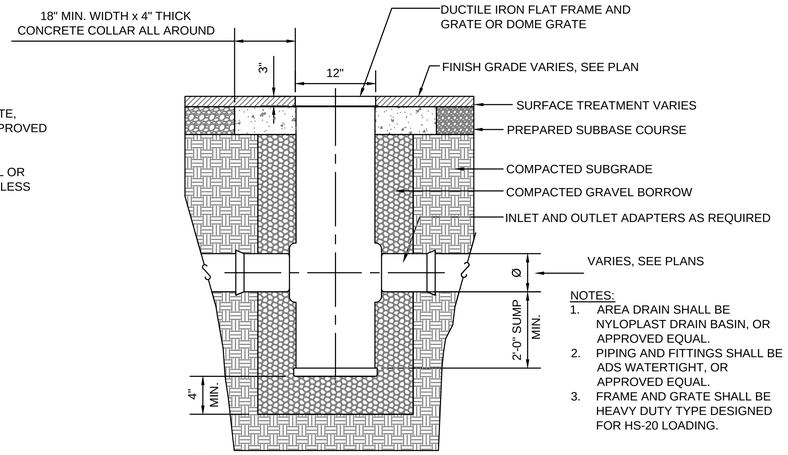


NOTES:
1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 1" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN FRAME SHALL BE SET IN FULL MORTAR BED.
5. INSTALL STORMWATER BUFFER ZONE TREATMENT SYSTEM SBZ 160D BY STORMWATER BUFFER ZONE (OR APPROVED EQUAL) IN ALL PROPOSED CATCH BASINS. INSTALL PER MANUFACTURER RECOMMENDATIONS.

6 FLAT TOP CATCH BASIN W/ NON CONCRETE OPENING
NOT TO SCALE



7 DRAIN CONNECTION TO EXISTING MANHOLE
NOT TO SCALE



NOTES:
1. AREA DRAIN SHALL BE NYLOPLAST DRAIN BASIN, OR APPROVED EQUAL.
2. PIPING AND FITTINGS SHALL BE ADS WATERTIGHT, OR APPROVED EQUAL.
3. FRAME AND GRATE SHALL BE HEAVY DUTY TYPE DESIGNED FOR HS-20 LOADING.

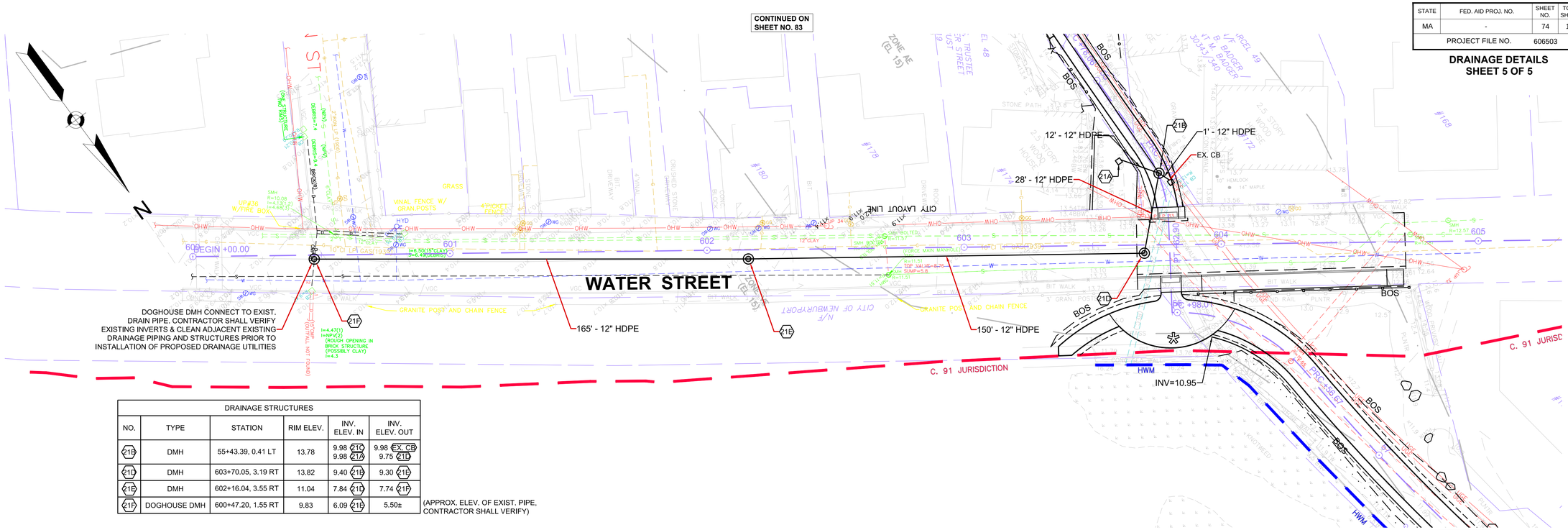
8 ROAD & HIGHWAY BASIN DRAIN (AREA DRAIN)
NOT TO SCALE

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	74	180
PROJECT FILE NO.		606503	

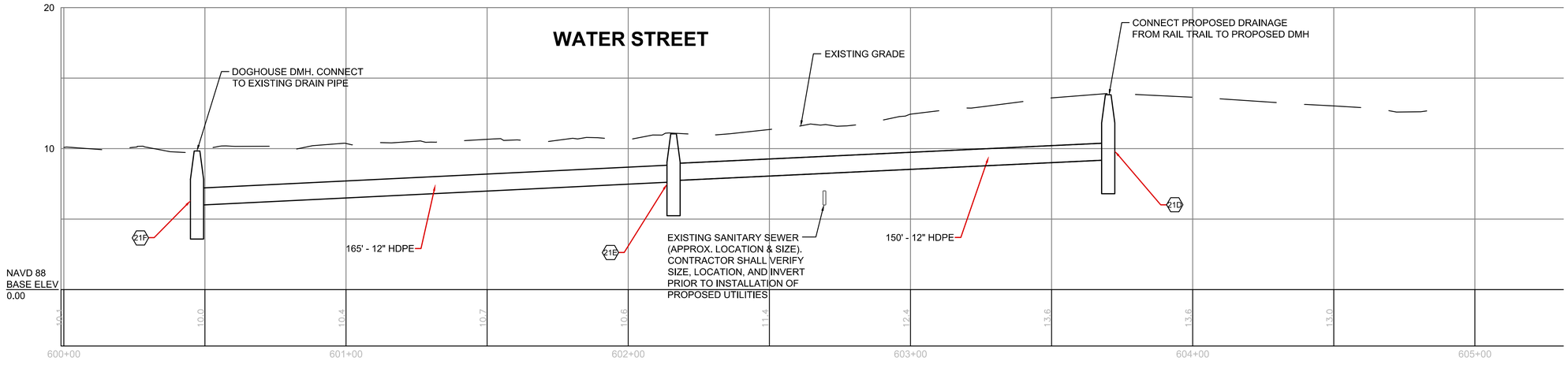
DRAINAGE DETAILS
SHEET 5 OF 5

606503_UT(UTILITY DETAIL 5_WATER ST).DWG 12-Jun-2015



DRAINAGE STRUCTURES					
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT
21B	DMH	55+43.39, 0.41 LT	13.78	9.98 21C 9.98 21A	9.98 EX. CB 9.75 21D
21D	DMH	603+70.05, 3.19 RT	13.82	9.40 21B	9.30 21E
21E	DMH	602+16.04, 3.55 RT	11.04	7.84 21D	7.74 21F
21F	DOGHOUSE DMH	600+47.20, 1.55 RT	9.83	6.09 21E	5.50±

(APPROX. ELEV. OF EXIST. PIPE, CONTRACTOR SHALL VERIFY)



HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	75	180
PROJECT FILE NO.	606503		

DRAINAGE & UTILITY PLANS
SHEET 1 OF 16

606503_UT(UTILITY PLANS).DWG 12-Jun-2015

N

NEWBURYPORT
NEWBURY

PARKER STREET

CITY LAYOUT LINE

MAP 34 PARCEL 8
N/F
OAK HILL CEMETERY
3414/4

MAP U-07 PARCEL 24
N/F OAK HILL CEMETERY
BOOK 3414 PAGE 4

MAP 34 PARCEL 20
N/F
CITY OF NEWBURYPORT
25956/191

MAP U-07 PARCEL 25
N/F
MASS. ELECTRIC CO.
BOOK 2838 PAGE 399

MAP R-47 PARCEL 41
N/F
MASS. ELECTRIC CO.
BOOK 2838 PAGE 399

MAP U-07 PARCEL 23
N/F
MATTHEW J. KOZAKCKI
BOOK 30798 PAGE 377

MAP U-07 PARCEL 26
N/F
CITY OF NEWBURY
NO REF

MAP U-07 PARCEL 27
N/F KATHLEEN E. MURRAY & THOMAS W. GREELEY
BOOK 24633 PAGE 296

MAP U-07 PARCEL 25A
N/F TOWN OF NEWBURY
25956/212

MASSACHUSETTS ELEC. CO.
EASEMENT
BK 25953 PG 463

PROTECT EXIST. DMH TO REMAIN (TYP.)

PROTECT EXIST. 12" VC PIPE TO REMAIN (TYP.)

PROJECT BEGIN
STA 10+00
N3116791.7573
E825138.6258

BEGIN +00:00

PC +73.48

PRC +55.14

50' BUFFER ZONE

100' BUFFER ZONE

WETLAND

BOS

OHW

102

104

105

#41

#41R

#46

CONTINUED ON SHEET NO. 76

20 0 20 40
SCALE IN FEET

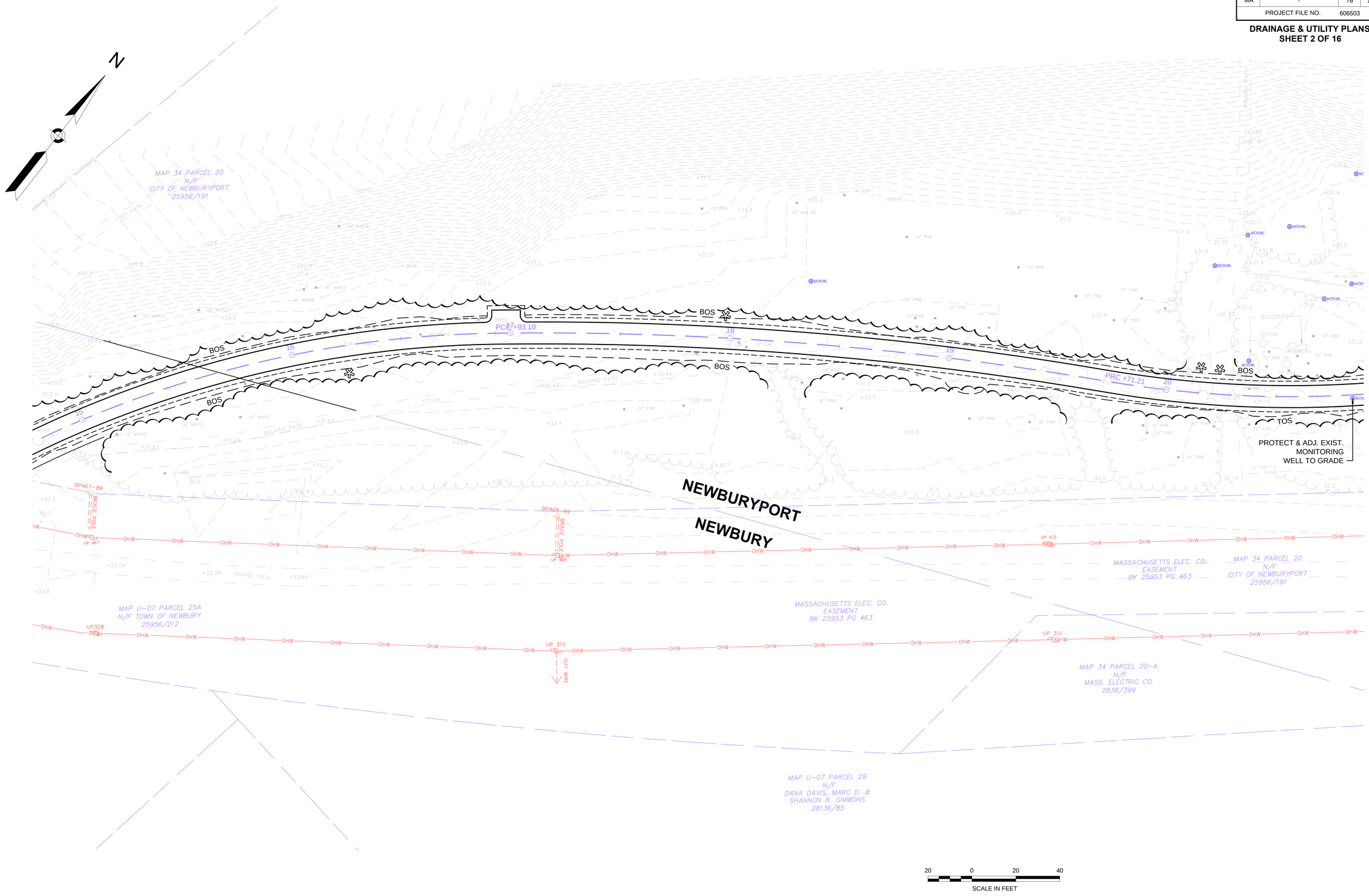
NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	76	180
PROJECT FILE NO.	606503		

DRAINAGE & UTILITY PLANS
SHEET 2 OF 16

12-Jun-2015

606503_UT(UTILITY PLANS).DWG



CONTINUED ON SHEET NO. 75

CONTINUED ON SHEET NO. 77

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	77	180
PROJECT FILE NO.	606503		

DRAINAGE & UTILITY PLANS
SHEET 3 OF 16

606503_UT(UTILITY PLANS).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 76

CONTINUED ON SHEET NO. 78

N

MAP 34 PARCEL 20
N/F
CITY OF NEWBURYPORT
25956/191

MAP 33 PARCEL 7
N/F
CITY OF NEWBURYPORT
4066/70

MAP 33 PARCEL 6
N/F
CITY OF NEWBURYPORT
25956/191

BOS

PRC +85.66

TOS

PROTECT & ADJ. EXIST.
MONITORING
WELL TO GRADE

MONWL

UP 471

UP 473

UP 474

UP 312

UP 313

GUY WIRE

OHW

MASSACHUSETTS ELEC. CO.
EASEMENT
BK 25953 PG 463

MAP 34 PARCEL 20-A
N/F
MASS. ELECTRIC CO.
2838/399

MAP 34 PARCEL 21
N/F DANA DAVIS, MARC D.
& SHANNON R. SIMMONS
BOOK 28136 PG 85

MAP 33 PARCEL 2-1.4
N/F
PETER S. & MARIANNE KATAVOLOS
29572/412

WALKING PATH

NEWBURYPORT

NEWBURY

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	78	180
PROJECT FILE NO.	606503		

DRAINAGE & UTILITY PLANS
SHEET 4 OF 16

606503_UT(UTILITY PLANS).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 77

CONTINUED ON SHEET NO. 79

N

MAP 33 PARCEL 6
N/F
CITY OF NEWBURYPORT
25956/191

MAP 33 PARCEL 7
N/F
CITY OF NEWBURYPORT
4066/70

MAP 34 PARCEL 20
N/F
CITY OF NEWBURYPORT
25956/191

MASSACHUSETTS ELEC. CO.
EASEMENT
BK 25953 PG 463

MAP 33 PARCEL 3 A
N/F
MASS. ELECTRIC CO.
LOT B
2832/399

MAP 33 PARCEL 2-1.4
N/F
PETER S. & MARIANNE KATAVOLOS
29572/412

MAP 33 PARCEL 2-A.3
N/F
PETER S. & MARIANNE KATAVOLOS
29572/412

MAP 33 PARCEL 3
N/F
WILLIAM A. LINCOLN
15708/406

BOS
TOS
PRC 23.75
APPROX ELEC DUCT
APPROX ELEC VAULT
WALKING PATH
GRASS
7' WIRE FENCE
6' WIRE FENCE
UP 474
UP 475
UP SR 475
UP 314
UP 315
GUY WIRE
OHW
64' - 12" RCP
43' - 8" HDPE
69' - 8" PERF. HDPE (LAI
(STORMWATER INFILTR

APPROX. LOCATION OF EXIST. ELEC. DUCT BANK TO REMAIN (CONTRACTOR SHALL PROTECT), TYP.

APPROX. LOCATION OF (2) EXIST. DIRECT BURY 23KV CABLES TO REMAIN (CONTRACTOR SHALL PROTECT), TYP.

ADJ. EMH FRAME AND COVER TO PROP. GRADE (BY OTHERS)

8" PERFORATED HDPE (LAID FLAT) (STORMWATER INFILTRATION TRENCH)

DRAINAGE INVERT ELEVATIONS

NO.	TYPE	STATION	INV. ELEV.(IN)	INV. ELEV.(OUT)
3	HW	200+82.22, 29.30 RT		20.00 (4)
4	HW	200+88.19, 34.72 LT	18.50 (3)	

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	79	180
PROJECT FILE NO.	606503		

DRAINAGE & UTILITY PLANS
SHEET 5 OF 16

606503_UT(UTILITY PLANS).DWG 12-Jun-2015

DRAINAGE INVERT ELEVATIONS				
NO.	TYPE	STATION	INV. ELEV.(IN)	INV. ELEV.(OUT)
3	HW	200+82.22, 29.30 RT		20.00 (4)
4	HW	200+88.19, 34.72 LT	18.50 (3)	

DRAINAGE STRUCTURES					
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT
5	CB	31+16.41, 7.00 RT	27.55	26.00 26.00	21.01 (5A)
5A	FES	31+09.78, 37.10 LT	21.60	20.80 (5)	
6A	GUTTER INLET	33+27.62, 4.94 RT	28.37		26.10 (6B)
6B	GUTTER INLET	33+99.98, 4.97 RT	27.65	25.40 (6A)	25.40 (9)
7	DOUBLE CB	35+03.03, 5.00 RT	26.72		23.07 (9)
8	CB	35+03.03, 5.00 LT	26.87		23.22 (9)
9	DMH	35+03.27, 0.02 LT	26.80	24.12 (6B) 23.17 (8) 23.02 (7)	21.50

CONTINUED ON SHEET NO. 78

CONTINUED ON SHEET NO. 80

HIGH STREET

BROMFIELD STREET

MARCH'S HILL

64' - 12" RCP

43' - 8" HDPE

69' - 8" PERF. HDPE (LAID FLAT) (STORMWATER INFILTRATION TRENCH)

149' - 8" PERF. HDPE (LAID FLAT) (STORMWATER INFILTRATION TRENCH)

69' - 12" D.I.P.

99' - 12" D.I.P.

INV=26.00

INV=21.37

1' - 12" HDPE

3' - 24"

1' - 12" HDPE

CONNECT TO SUB. SURFACE DET. & INFIL. SYSTEM 1 W/ 24" HDPE TEE AT MANIFOLD (TYP.)

CONNECT TO SUBSURFA & INFILTRA W/ 24"

PROP. ELEC. DISTRIBUTION CABINET

BURIED ELEC. CONDUIT

PROP. RISER IN EXIST. ELEC. UTILITY POLE #1.7

ADJ. EMH FRAME AND COVER TO PROP. GRADE (BY OTHERS)

8" PERFORATED HDPE (LAID FLAT) (STORMWATER INFILTRATION TRENCH)

APPROX. LOCATION OF EXIST. ELEC. DUCT BANK TO REMAIN (CONTRACTOR SHALL PROTECT), TYP.

APPROX. LOCATION OF (2) EXIST. DIRECT BURY 23KV CABLES TO REMAIN (CONRACTOR SHALL PROTECT), TYP.

PI +15.47
PC +15.47
PT +30.57
PT +44.23
PC +30.45

BOS

MAP 33 PARCEL 5-A N/F SALEM FIVE MORTGAGE CO. BOOK 33029 PG 164

MAP 33 PARCEL 5 N/F SALEM FIVE MORTGAGE CO. BOOK 32917/PG 422

MAP 33 PARCEL 3 N/F WILLIAM A. LINCOLN 15708/406

MAP 24- PARCEL 71-C N/F MASS. ELECTRIC CO. 2838/399

MAP 24 PARCEL 69 N/F JULIA M. HINES 25118/418

MAP 24 PARCEL 70 N/F SCOTT PUFF

MAP 24 PARCEL 71 N/F JANICE DESANTIS 6497/153

MAP 24- PARCEL 71-A N/F MASS. ELECTRIC CO. 2838/399

MAP 24- PARCEL 71-B N/F MASS. ELECTRIC CO. 2838/399

MAP 24 PARCEL 72 N/F DOUGLAS H. CROSSMAN 17510/320

COMMONWEALTH OF MA EASEMENT BK 6203 PG 343 PLAN 456 OF 1975

CITY LAYOUT LINE

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	80	180
PROJECT FILE NO.	606503		

DRAINAGE & UTILITY PLANS
SHEET 6 OF 16

12-Jun-2015

606503_UT(UTILITY PLANS).DWG

CONTINUED ON SHEET NO. 79

CONTINUED ON SHEET NO. 81

N

BROMFIELD CT.

CHESTNUT STREET

BARTON CT.

ALTER CT.

CITY LAYOUT LINE

BEGIN =00.00

BEGIN =00.00

BEGIN =00.00

END =72.12

CONNECT TO SUB. SURFACE DET. & INFIL. SYSTEM 1 W/ 24" HDPE TEE AT MANIFOLD (TYP.)

28' - 12" HDPE. CONNECT TO SUBSURFACE DETENTION & INFILTRATION SYSTEM 1 W/ 24"X12" HDPE WYE

6' - 12" HDPE

INV=31.64 (OVERFLOW FROM EXIST. DMH) 15' - 12" HDPE. CONNECT TO EXIST. DMH

169' - 12" EX.

33' - 12" HDPE

INV=24.00

93' - 12" HDPE

INV=23.54

INV=21.37

INV=23.54

10' - 24" HDPE

6' - 12" HDPE

BOS

22' - 12" HDPE

RETAIN & REUSE EXISTING 12" RCP (TYP.)

24' - 12" HDPE. CONNECT TO SUBSURFACE DETENTION & INFILTRATION SYSTEM 1 W/ 24"X12" HDPE WYE

INV=23.54

INV=21.37

3' - 24"

1' - 12" HDPE

4' - 12" HDPE

6' - 12" HDPE

27' - 12" HDPE. CONNECT TO SUBSURFACE DETENTION & INFILTRATION SYSTEM 1 W/ 24"X12" HDPE WYE

SUBSURFACE DETENTION AND INFILTRATION SYSTEM 1:
BY ADS, OR APPROVED EQUAL. SYSTEM SHALL INCLUDE 2 ROWS OF 24" I.D. PERFORATED CORRUGATED HDPE PIPING, MANIFOLD, CONNECTIONS, & CLEANOUT PORTS AS NECESSARY. SEE DETAIL.
BOTTOM OF STONE ELEV. = 20.71'.
INVERT OF PIPING = 21.37'.
APPROXIMATE LENGTH = 415 LINEAR FEET.
INSTALL CLEANOUT PORTS IN LOCATIONS AS RECOMMENDED BY MANUFACTURER.

(SYSTEM 1 CONNECTION)
(OVERFLOW)

DRAINAGE STRUCTURES					
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT
10	DMH	39+37.53, 2.64 RT	32.31	26.25 12	21.37
10A	DMH	39+30.73, 2.37 LT	32.47	21.37	24.00 13
11	HDPE FLARED END SECTION	39+56.36, 16.53 LT	30.66		29.84 12
12	CB	39+58.47, 18.01 RT	30.34	27.00 11	26.39 10
13	DMH	40+28.04, 0.25 RT	33.73	21.63 13	21.63 16

DRAINAGE STRUCTURES						
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	
9A	DROP DMH	37+00.24, 28.72 RT	35.62	32.14 9B 32.45 9C	24.75	(SYSTEM 1 CONNECTION)
9B	CB	37+10.32, 28.99 RT	35.39		32.39 9A	
9C	CB	36+92.58, 27.29 RT	35.71		32.70 9A	
9D	DROP DMH	38+72.64, 31.45 RT	32.64	28.40 9E	25.00	(SYSTEM 1 CONNECTION)
9E	CB	38+82.33, 29.95 RT	32.48		29.05 9D	
9G	DROP DMH	38+45.44, 31.96 LT	33.63	30.00 9H 30.50	24.84	(SYSTEM 1 CONNECTION)
9H	CB	38+36.66, 26.11 LT	33.47		30.25 9G	

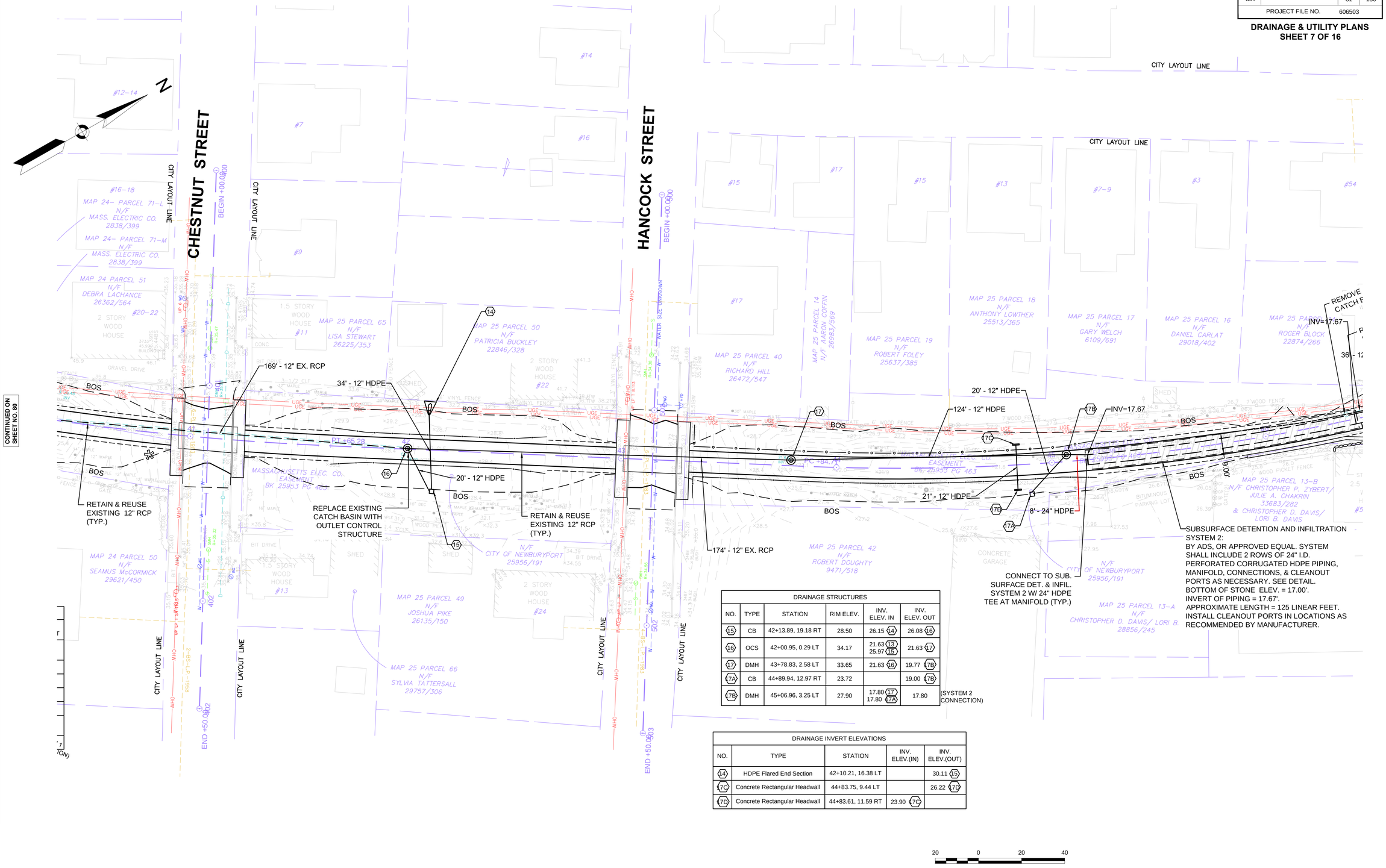
20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	81	180
PROJECT FILE NO.	606503		

DRAINAGE & UTILITY PLANS
SHEET 7 OF 16

606503_UT(UTILITY PLANS).DWG 12-Jun-2015



DRAINAGE STRUCTURES					
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT
15	CB	42+13.89, 19.18 RT	28.50	26.15 (14)	26.08 (16)
16	OCS	42+00.95, 0.29 LT	34.17	21.63 (13) 25.97 (15)	21.63 (17)
17	DMH	43+78.83, 2.58 LT	33.65	21.63 (16)	19.77 (7B)
7A	CB	44+89.94, 12.97 RT	23.72		19.00 (7B)
7B	DMH	45+06.96, 3.25 LT	27.90	17.80 (17) 17.80 (7A)	17.80 (SYSTEM 2 CONNECTION)

DRAINAGE INVERT ELEVATIONS				
NO.	TYPE	STATION	INV. ELEV.(IN)	INV. ELEV.(OUT)
14	HDPE Flared End Section	42+10.21, 16.38 LT		30.11 (15)
7C	Concrete Rectangular Headwall	44+83.75, 9.44 LT		26.22 (7D)
7D	Concrete Rectangular Headwall	44+83.61, 11.59 RT	23.90 (7C)	

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	82	180
PROJECT FILE NO.	606503		

DRAINAGE & UTILITY PLANS
SHEET 8 OF 16

606503_UT(UTILITY PLANS).DWG 12-Jun-2015

DRAINAGE STRUCTURES						
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	
18	DMH	46+51.29, 2.45 LT	22.48	17.67	19.67 9A	(OVERFLOW)
9A	DMH	46+90.11, 4.76 LT	22.51	19.27 18 19.40 9B	19.17 9D	
9B	CB	46+85.19, 3.77 RT	22.38		19.50 9A	
9C	CB	46+85.64, 12.23 LT	22.46		19.50 9D	
9D	DMH	47+19.40, 9.38 LT	22.54	19.02 9A 19.40 9C	18.90 9E	
9E	DMH	47+26.13, 7.83 RT	22.54	18.72 9D 19.20 9C 19.00 9F	18.61 9H	
9F	CB	47+01.33, 14.55 RT	22.52		19.50 9E	
9G	CB	47+24.51, 15.15 RT	22.35		19.30 9E	
9H	DMH	47+65.93, 5.62 RT	22.38	18.42 19E	18.31	(CONNECTION TO EXIST. SYSTEM ON HARRISON ST.)

DRAINAGE STRUCTURES						
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	
18	DMH	46+51.29, 2.45 LT	22.48	17.67	19.67 9A	(OVERFLOW)
20	CB	46+48.25, 6.91 RT	22.35		18.00	(SYSTEM 2 CONNECTION)
20A	CB	48+64.28, 16.68 LT	21.45		19.23	

CONTINUED ON SHEET NO. 81

CONTINUED ON SHEET NO. 83

CITY LAYOUT LINE

N

CITY LAYOUT LINE

PURCHASE STREET

HARRISON ST.

REMOVE & DISPOSE EX. CATCH BASIN

INV=17.67

REMOVE & DISPOSE EX. 15" VC PIPE

7' - 24" HDPE

36' - 12" HDPE

14' - 12" HDPE

5' - 12" HDPE

15' - 12" HDPE

22' - 12" HDPE

11' - 12" HDPE

6' - 12" HDPE

8' - 24" HDPE. CONNECT TO SUB. SURFACE DET. & INFIL. SYSTEM 2 W/ 24" HDPE TEE AT MANIFOLD (TYP.)

SUBSURFACE DETENTION AND INFILTRATION SYSTEM 2:
BY ADS, OR APPROVED EQUAL. SYSTEM SHALL INCLUDE 2 ROWS OF 24" I.D. PERFORATED CORRUGATED HDPE PIPING, MANIFOLD, CONNECTIONS, & CLEANOUT PORTS AS NECESSARY. SEE DETAIL.
BOTTOM OF STONE ELEV. = 17.67'.
BOTTOM OF PIPING = 17.67'.
APPROXIMATE LENGTH = 125 LINEAR FEET.
ALL CLEANOUT PORTS IN LOCATIONS AS RECOMMENDED BY MANUFACTURER.

EXISTING DRAINAGE SYSTEM AT THE INTERSECTION OF HARRISON ST. AND PURCHASE ST. SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. SIZE, MATERIAL, LOCATION, & INVERTS OF EXISTING DRAINAGE SYSTEM (INCLUDING BUT NOT LIMITED TO CATCH BASINS, DRAIN MANHOLES, PIPING, & CULVERTS) SHALL BE FIELD VERIFIED BY CONTRACTOR PRIOR TO DEMOLITION WORK AND PURCHASING & INSTALLING MATERIALS FOR PROPOSED DRAINAGE.

PROPOSED OVERFLOW PIPE CONNECTION TO EXISTING CITY OWNED DRAINAGE SYSTEM.

CONNECT TO EXISTING DRAINAGE SYSTEM AT HARRISON STREET. SIZE, MATERIAL, LOCATION, & INVERTS OF EXISTING DRAINAGE SYSTEM SHALL BE FIELD VERIFIED BY CONTRACTOR PRIOR TO PURCHASING & INSTALLING MATERIALS FOR THE PROPOSED DRAINAGE WORK AT THE INTERSECTION OF HARRISON ST. AND PURCHASE ST.

69' - 10" HDPE

INV=18.88
BEGIN 10" PERF.
HDPE PIPE
(STORMWATER INFILTRATION TRENCH)

PROP. 10" PERF. HDPE
(STORMWATER INFILTRATION TRENCH)

375' - 10" PE
(STORMWA
INFILTRATI

MAP 25 PARCEL 16 N/F DANIEL CARLAT 29018/402

MAP 25 PARCEL 14 N/F ROGER BLOCK 22874/266

MAP 25 PARCEL 13–B N/F CHRISTOPHER P. ZYBERT/ JULIE A. CHAKRIN & CHRISTOPHER P. DAVIS/ LORI B. DAVIS 33683/282

MAP 26 PARCEL 74–A N/F MARY LASELVA 34008/46

MAP 26 PARCEL 74–B N/F RICHARD SALUS 12637/28

MAP 26 PARCEL 57–A N/F DAVID CLARRIDGE 12318/330

MAP 26 PARCEL 35 N/F CITY OF NEWBURYPORT 25956/191

MAP 26 PARCEL 36 N/F MICHAEL J. HOLOHAN / NADINE E. HOLOHAN 15062/203

MAP 26 PARCEL 37 N/F DONNA S. GLICK / JANE MAKI 27388/555

MASSACHUSETTS ELEC. CO. EASEMENT BK 2595 PG 463

N/F CITY OF NEWBURYPORT 25956/191

BOS

SCALE IN FEET
20 0 20 40

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	83	180
PROJECT FILE NO.	606503		

DRAINAGE & UTILITY PLANS
SHEET 9 OF 16

606503_UT(UTILITY PLANS).DWG 12-Jun-2015

N

SUBSURFACE DETENTION AND INFILTRATION SYSTEM 3:
BY ADS, OR APPROVED EQUAL. SYSTEM SHALL INCLUDE 2 ROWS OF 12" I.D. PERFORATED CORRUGATED HDPE PIPING, MANIFOLD, CONNECTIONS, & CLEANOUT PORTS AS NECESSARY. SEE DETAIL.
BOTTOM OF STONE ELEV. = 9.83'.
INVERT OF PIPING = 10.43'.
APPROXIMATE LENGTH = 170 LINEAR FEET.
INSTALL CLEANOUT PORTS IN LOCATIONS AS RECOMMENDED BY MANUFACTURER.

375' - 10" PERF. HDPE (STORMWATER INFILTRATION TRENCH)

3' - 10" HDPE CONNECT TO SUB. SURFACE DET. & INFIL. SYSTEM 3 W/ 10"X12" HDPE TEE

10' - 12" HDPE

CONNECT TO SUB. SURFACE DET. & INFIL. SYSTEM 3 W/ 12" HDPE TEE AT MANIFOLD (TYP.)

156' - 12" HDPE

CONNECT TO EXISTING CATCH BASIN. CONTRACTOR TO FIELD VERIFY INVERTS OF ALL EXISTING STRUCTURES & PIPING TO BE REUSED (TYP.)

EXIST. CB
NEW FRAME AND COVER. CORE OPENING FOR NEW 12" HDPE PIPE

28' - 12" HDPE

1' - 12" HDPE

12' - 12" HDPE

PROP. STORMWATER INFILTRATION TRENCH W/ 10" PERF. HDPE PIPE (TYP.)

INV=10.95

EX. 24" BRICK ARCH PIPE (RECORD). ABANDON IN-PLACE WITH FLOWABLE FILL.

150' - 12" HDPE

DRAINAGE STRUCTURES						
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	
21	CB	53+70.00, 5.01 RT	15.26	12.90	10.43	(SYSTEM 3 CONNECTION)
21A	CB	55+30.59, 10.11 RT	13.50		10.03 (21B)	
21B	DMH	55+43.39, 0.41 LT	13.78	9.98 (21C) 9.98 (21A)	9.98 (EX. CB) 9.75 (21D)	
21C	DMH	53+83.64, 1.10 RT	15.12	10.43	11.50 (21B)	(OVERFLOW)
21D	DMH	603+70.05, 3.19 RT	13.82	9.40 (21B)	9.30 (21E)	
21E	DMH	602+16.04, 3.55 RT	11.04	7.84 (21D)	7.74 (21F)	

CONTINUED ON SHEET NO. 82
CONTINUED ON SHEET NO. 84
CONTINUED ON SHEET NO. 74

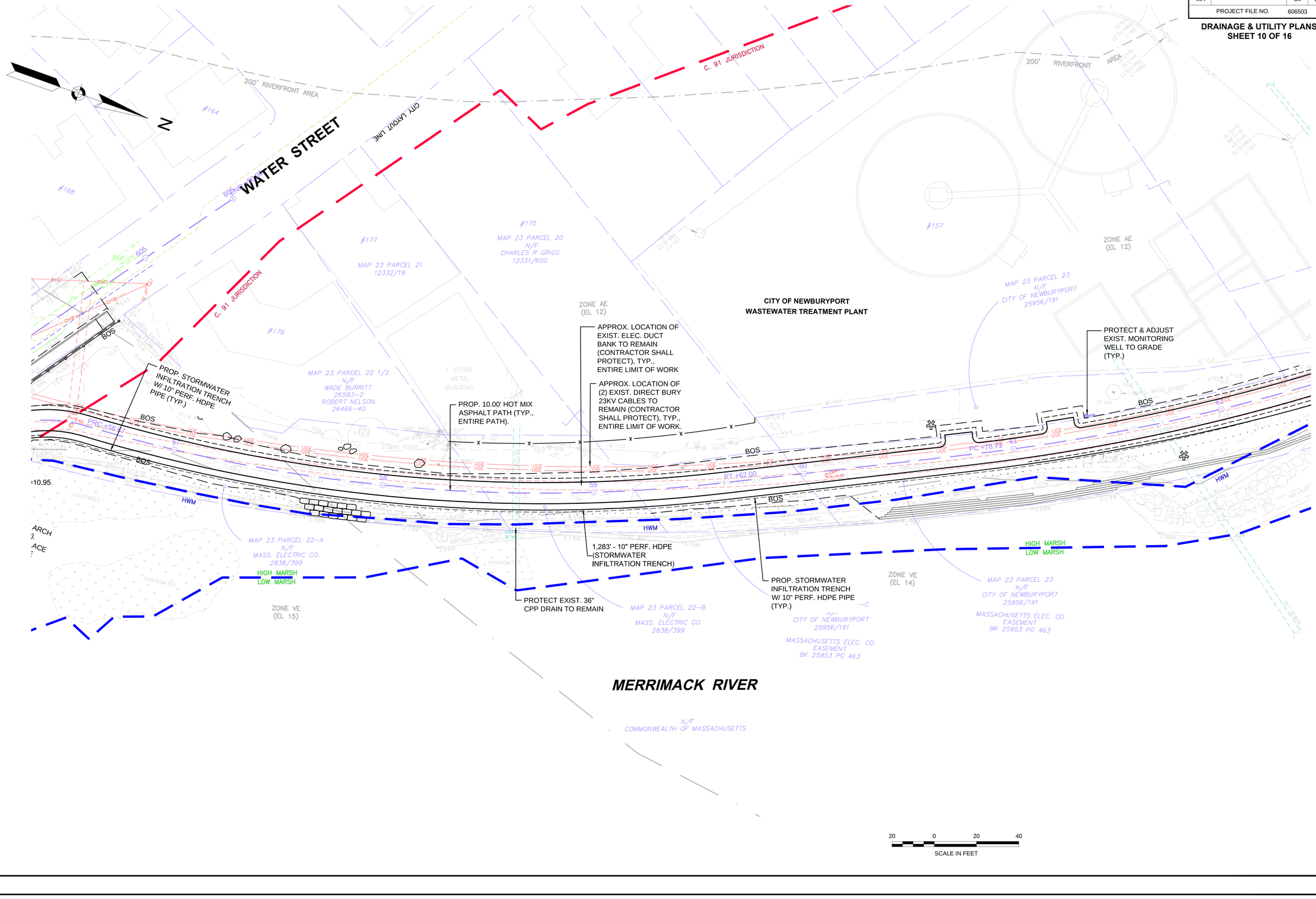
20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	84	180
PROJECT FILE NO.	606503		

DRAINAGE & UTILITY PLANS
SHEET 10 OF 16

606503_UT(UTILITY PLANS).DWG 12-Jun-2015



NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	85	180
PROJECT FILE NO.	606503		

DRAINAGE & UTILITY PLANS
SHEET 11 OF 16

606503_UT(UTILITY PLANS).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 84

CONTINUED ON SHEET NO. 86

200' RIVERFRONT AREA

MAP 23 PARCEL 23
N/F
CITY OF NEWBURYPORT
25956/191

ZONE AE
(EL 12)

MAP 23 PARCEL 11
N/F
CITY OF NEWBURYPORT
6364/536

#157

CITY OF NEWBURYPORT
WASTEWATER TREATMENT PLANT

MAP 23 PARCEL 24
N/F
MASS. ELECTRIC CO.
2402/525

PROTECT & ADJUST EXIST. MONITORING WELL TO GRADE (TYP.)

APPROX. LOCATION OF EXIST. ELEC. DUCT BANK TO REMAIN (CONTRACTOR SHALL PROTECT), TYP.

APPROX. LOCATION OF (2) EXIST. DIRECT BURY 23KV CABLES TO REMAIN (CONTRACTOR SHALL PROTECT), TYP.

MAP 20 PARCEL 8
N/F
CITY OF NEWBURYPORT
6364/536
PL BK 143/92

PROP. CRUSHED STONE UNDER DRAIN BELOW TRAIL. STA 65+00± TO STA. 66+55±.

PROP. STORMWATER INFILTRATION TRENCH W/ 10" PERF. HDPE PIPE (TYP.)

DRAINAGE STRUCTURES					
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT
22A	CB	63+99.32, 12.57 RT	8.93	7.20	7.20

MAP 23 PARCEL 11
N/F
CITY OF NEWBURYPORT
6364/536
PL BK 143/92

MAP 23 PARCEL 23
N/F
CITY OF NEWBURYPORT
25956/191

MASSACHUSETTS ELEC. CO.
EASEMENT
BK 25953 PG 463

ZONE VE
(EL 14)

ZONE VE
(EL 14)

MERRIMACK RIVER

N/F
COMMONWEALTH OF MASSACHUSETTS

HWM
HIGH MARSH
LOW MARSH
BOS
RIP-RAP
24"D RCP
18"D RCP
12"RCP
24"D PVC
6' CLF
6' WOOD FENCE
UGE
OHW
UPLP25-2
UPLP19-1
STORAGE BET

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	86	180
PROJECT FILE NO.	606503		

DRAINAGE & UTILITY PLANS
SHEET 12 OF 16

606503_UT(UTILITY PLANS).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 85

CONTINUED ON SHEET NO. 87

N

APPROX. LOCATION OF (2) EXIST. DIRECT BURY 23KV CABLES TO REMAIN (CONTRACTOR SHALL PROTECT), TYP.

APPROX. LOCATION OF EXIST. ELEC. DUCT BANK TO REMAIN (CONTRACTOR SHALL PROTECT), TYP.

PROP. STORMWATER INFILTRATION TRENCH WITH 10" PERF, HDPE PIPE (TYP.)

PROTECT EXISTING 16" DRAIN PIPE

12' - 10" HDPE

TEE CONNECTION INV=5.24

INV=6.08

INV=5.50

10" PERFORATED HDPE, INV=5.5' (STORMWATER INFILTRATION TRENCH)

DRAINAGE INVERT ELEVATIONS				
NO.	TYPE	STATION	INV. ELEV.(IN)	INV. ELEV.(OUT)
22B	HW	71+39.28, 20.32 RT	4.50 (TEE)	

DRAINAGE STRUCTURES					
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT
22	CB	68+98.85, 7.51 RT	7.06	4.69 4.64	

MERRIMACK RIVER

SCALE IN FEET: 20 0 20 40

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	87	180
PROJECT FILE NO.	606503		

DRAINAGE & UTILITY PLANS
SHEET 13 OF 16

606503_UT(UTILITY PLANS).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 86

CONTINUED ON SHEET NO. 88

PROTECT & ADJUST DRAIN PIPE AS NEEDED NEAR EXISTING DRAIN MANHOLE (TYP.)

10" PERFORATED HDPE PIPE (STORMWATER INFILTRATION TRENCH)

ADJUST DRAIN PIPE AS NEEDED NEAR EXISTING DRAIN MANHOLE

PROTECT EX. 27" DRAIN PIPE (TYP.)

10" PERFORATED HDPE PIPE, LAID FLAT AT INV=5.5' (STORMWATER INFILTRATION TRENCH)

PROTECT & ADJ. (2) EXIST. EMH FRAME & COVER TO MEET PROP. GRADE (TYP.)

10" PERFORATED HDPE, INV=5.5' (STORMWATER INFILTRATION TRENCH)

INV=6.08

INV=5.50

PROP. STORMWATER INFILTRATION TRENCH WITH 10" PERF, HDPE PIPE (TYP.)

PROTECT & ADJ. EXIST. MONITORING WELL TO MEET PROP. GRADE (TYP.)

MAP 20 PARCEL 1 N/F MASS. ELECTRIC CO. 2321/133 L.C. 5968A

MAP 17 PARCEL 10 N/F U.S.A. COAST GUARD BOOK 5878 PAGE 401 #6,3R

N/F U.S.A. 5878/401

MAP 17 PARCEL 10 N/F U.S.A. 5878/401

MAP 17 PARCEL 11 NEWBURYPORT WATER LLC 2382/241

MAP 20 PARCEL 13 N/F MASS. ELECTRIC CO. 2321/133 L.C. 5968A

N/F CITY OF NEWBURYPORT 25956/191

N/F MASS. ELECTRIC CO. 2321/133 L.C. 5968A

MASSACHUSETTS ELEC. CO. EASEMENT BK 25953 PG 463

MASSACHUSETTS ELEC. CO. DOC 102563 L.C. 5968A

200' RIVERFRONT AREA

ZONE AE (EL 13)

ZONE VE (EL 14)

MERRIMACK RIVER

N/F COMMONWEALTH OF MASSACHUSETTS

HWM

DOCK

OLD-BROKEN DOWN BULKHEAD

STEEL PILE BULKHEAD

DRAINAGE STRUCTURES					
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT
23	CB	73+63.69, 8.00 RT	7.74	5.50 5.50	
23A	CB	75+90.55, 7.19 RT	8.83	7.01	5.50

20 0 20 40

SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	88	180
PROJECT FILE NO.		606503	

DRAINAGE & UTILITY PLANS
SHEET 14 OF 16

12-Jun-2015

606503_UT(UTILITY PLANS).DWG

CONTINUED ON SHEET NO. 87

CONTINUED ON SHEET NO. 89

N

C. 91 JURISDICTION

WATER STREET

CITY LAYOUT LINE

CITY LAYOUT LINE

#95

#85

#73-75

MAP 17 PARCEL 13
N/F AUDRIUS F. KONTAUS
BOOK 17261 PAGE 577

2 STORY WOOD

MAP 17 PARCEL 12
N/F
RANGE LIGHT LIMITED PARTNERSHIP
24852/303

ZONE AE
(EL 12)

BOS

INV=7.70

INV=7.61

254' - 10" PERF. HDPE
(STORMWATER
INFILTRATION TRENCH)

54' - 10" PERF. HDPE
(STORMWATER
INFILTRATION TRENCH)

87' - 10" PERF. HDPE
(STORMWATER
INFILTRATION TRENCH)

98' - 10" PERF. HDPE
(STORMWATER
INFILTRATION TRENCH)

TOS

RAIL TRAIL EASEMENT

PI +70.88

PI +95.88

DRAINAGE STRUCTURES					
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT
24	CB	79+57.91, 6.00 RT	10.41	6.24 (24A) 7.34	
24A	CB	80+49.02, 5.99 RT	10.41	6.70	6.70 (24)

MAP 17 PARCEL 14
MASS ELECTRIC CO.
BOOK 4181
PAGE 395

MAP 20 PARCEL 1
N/F
MASS. ELECTRIC CO.
2321/133
L.C. 5968A

MASSACHUSETTS ELEC. CO.
DOC 102563
L.C. 5968A

PROTECT & ADJUST DRAIN PIPE AS NEEDED NEAR EXISTING DRAIN MANHOLE (TYP.)

10" PERFORATED HDPE PIPE (STORMWATER INFILTRATION TRENCH)

200' RIVERFRONT AREA

MAP 17 PARCEL 10
N/F
U.S.A. COAST GUARD
BOOK 5878 PAGE 401

#63R

N/F
U.S.A.
5878/401

2 STORY BRICK GARAGE

2 STORY BRICK BUILDING

2 STORY BRICK BUILDING
COAST GUARD

1 STORY METAL

ZONE AE
(EL 13)

ZONE AE
(EL 13)

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	89	180
PROJECT FILE NO.		606503	

DRAINAGE & UTILITY PLANS
SHEET 15 OF 16

606503_UT(UTILITY PLANS).DWG 12-Jun-2015

WATER STREET

CITY LAYOUT LINE

N

MAP 17 PARCEL 11 N/F NEW BURYPORT ART ASSOC., INC. 5646/19

MAP 17 PARCEL 9 N/F GORDON HALL & MICHAEL B. MOSKOW 8919/491

MAP 17 PARCEL 12 N/F RANGE LIMITED PARTNERSHIP 5882/303

#73-75

#63-65

#61

MAP 17 PARCEL 7 N/F GORDON HALL & MICHAEL B. MOSKOW 8919/491

MAP 17 PARCEL 4 N/F ROBERT W. HIGGINS 13440/469

2 STORY WOOD RESTAURANT #55-57

MAP 17 PARCEL 3 N/F NEWBURYPORT MANAGER LLC 23921/355

MAP 17 PARCEL 20 N/F ROBERT W. HIGGINS DOC 38/241

MAP 17 PARCEL 1 N/F NEWBURYPORT MANAGER LLC 23919/170

MAP 17 PARCEL 17 N/F FORTY FIVE WATER STREET REALTY 8684/227

200' RIVERFRONT AREA

#45

#47

#43

#51

#49

MAP 17 PARCEL B N/F NEWBURYPORT MANAGER LLC 19105/461

#51 REAR MAP 17 PARCEL 21 N/F NEWBURYPORT MANAGER LLC 23919/170

ZONE AE (EL 12)

ZONE AE (EL 13)

ZONE VE (EL 13)

ZONE VE (EL 14)

RIVERFRONT AREA

200'

RAIL TRAIL EASEMENT

PI 70+88

PC 68+83

BOS

TOS

24A

24B

98' - 10" PERF. HDPE (STORMWATER INFILTRATION TRENCH)

230' - 10" PERF. HDPE (STORMWATER INFILTRATION TRENCH)

241' - 8" PERF. HDPE (LAID FLAT) (INFILTRATION TRENCH)

C. 91 JURISDICTION

MAP 17 PARCEL 8 N/F EUGENE GRECO 9560/597

#61 REAR

MAP 17 PARCEL 6 N/F EUGENE GRECO 6436/100

MAP 17 PARCEL 10 N/F U.S.A. COAST GUARD BOOK 5878 PAGE 401

#63R

N/F NEWBURYPORT MANAGER LLC 23921/421

MAP 17 PARCEL 16 N/F NEWBURYPORT MANAGER LLC 23921/421

MAP 17 PARCEL 17 N/F NEWBURYPORT MANAGER LLC 23921/421

MAP 17 PARCEL 19 N/F NEWBURYPORT MANAGER LLC 23921/421

26

25

27

INV=5.75

PI +47.44

PI +10.09

PI 83

POB

CONNECT PROP. DMH TO EXIST. 12" HDPE PIPE. PROVIDE PIPE STUB SECTION FROM PROPOSED DMH AS SHOWN. APPROX. EXIST. INVERT = 6.17. CONTRACTOR SHALL VERIFY INVERT PRIOR TO INSTALLATION.

CONNECT TO EXIST. 30" RCP W/ CHIMNEY CONNECTION (INV SHALL BE CONFIRMED BY CONTRACTOR). PROVIDE CLEANOUT AT LOCATION.

DRAINAGE STRUCTURES					
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT
24B	CB	81+48.99, 6.00 RT	10.41		7.20 7.20
25	CB	83+83.50, 6.13 LT	8.41	6.47	6.47 (26)
26	DMH	83+91.89, 7.22 LT	8.38	6.42 (25) 6.42 (27)	6.30
27	CB	84+01.60, 6.06 LT	8.41		6.47 (26)

(CONNECT TO EXISTING AT INV = 6.17)

MERRIMACK RIVER

N/F COMMONWEALTH OF MASSACHUSETTS

HWM

20 0 20 40

SCALE IN FEET

CONTINUED ON SHEET NO. 88

CONTINUED ON SHEET NO. 90

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	90	180
PROJECT FILE NO.	606503		

DRAINAGE & UTILITY PLANS
SHEET 16 OF 16

12-Jun-2015

606503_UT(UTILITY PLANS).DWG

N

241' - 8" PERF. HDPE
(LAID FLAT)
(INFILTRATION TRENCH)

PROP. HYDRANT
PROP. HEADWALL
PROP. 12" RCP.
CONNECT TO EXISTING
12" RCP PIPE

CONTRACTOR SHALL PROTECT, CLEAN, & REUSE EXISTING 12" RCP PIPE. CONTRACTOR SHALL VERIFY INVERT PRIOR TO INSTALLATION.

INV=5.75

PROJECT END
STA 92+00
N3121777.7516
E825593.8505

CUSTOM HOUSE WAY

PETER J. MATTHEWS BOARDWALK

MAP 17 PARCEL 2
N/F
FORTY FIVE WATER STREET REALTY
8684/227

MAP 17 PARCEL 2a
N/F
ROBERT W. HIGGINS
BOOK 38/241

MAP 17 PARCEL 1
N/F
NEWBURYPORT MANAGER LLC
23919/170

MAP 17 PARCEL B
N/F
NEWBURYPORT MANAGER LLC
19105/461

#51 REAR
MAP 17 PARCEL 21
N/F
NEWBURYPORT MANAGER LLC
23919/170

#27
MAP 12 PARCEL 12
N/F
NEWBURYPORT MANAGER LLC
23919/170

#27 REAR
N/F
NEWBURYPORT MANAGER LLC
23919/170

MAP 12 PARCEL 9
N/F
CITY OF NEWBURYPORT
9209/335
#27

MAP 12 PARCEL 10
N/F
N.R.A.
DOC 171181

N/F
N.R.A.
DOC 142652

#22
MAP 11 PARCEL 1-B
N/F
NEWBURYPORT WATERFRONT TRUST
10711/370

1-23
#23 REAR
MAP 11 PARCEL 1-F
N/F
N.R.A.
BOOK 9658 PG 504

MAP 11 PARCEL 1-D
N/F
N.R.A.
BOOK 9658 PG 504

N/F
COMMONWEALTH OF MASSACHUSETTS

#47
#45
#43
#35-41
#25
#19-23

200' RIVERFRONT AREA

ZONE AE (EL 12)
ZONE AE (EL 13)
ZONE VE (EL 13)
ZONE VE (EL 14)

1 STORY WOOD BUILDING
OLDIES MARKETPLACE

1 STORY HARBOR MASTER

(2) STEEL DOLPHINS

(9) STEEL 10" SQUARE

MERRIMACK RIVER

HWM

BOS

PI 1+40.62

PI 1+50.74

END +00.00

CONTINUED ON SHEET NO. 89

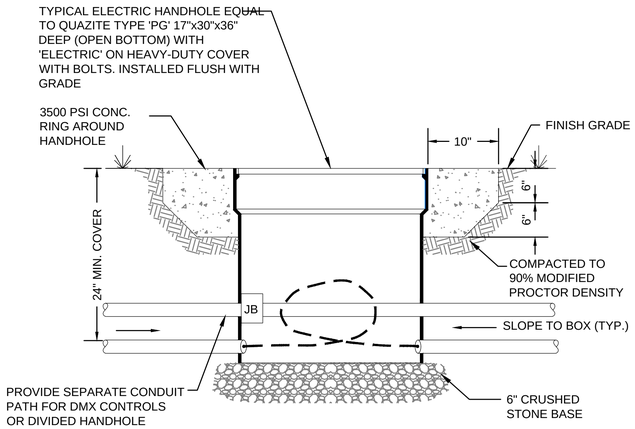
20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	91	180
PROJECT FILE NO.	606503		

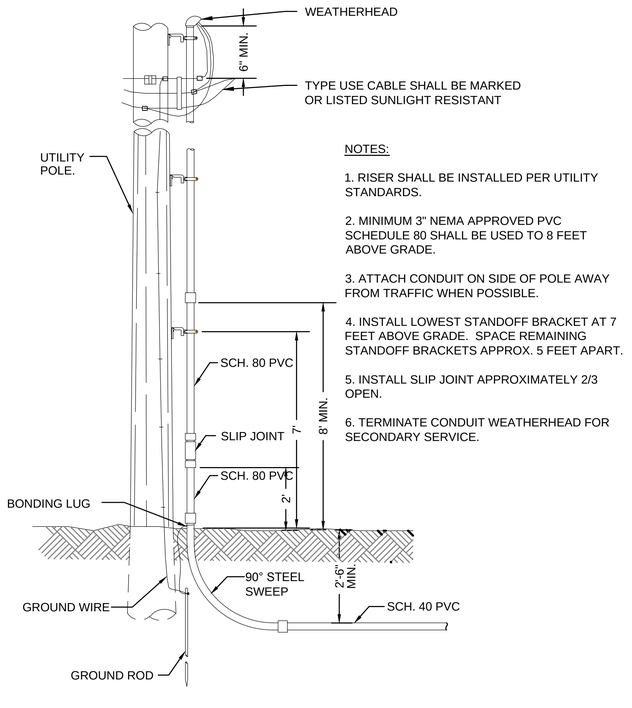
ELECTRICAL & LIGHTING DETAILS
SHEET 1 OF 3

606503_HDI(ELECTRICAL DETAILS).DWG 12-Jun-2015



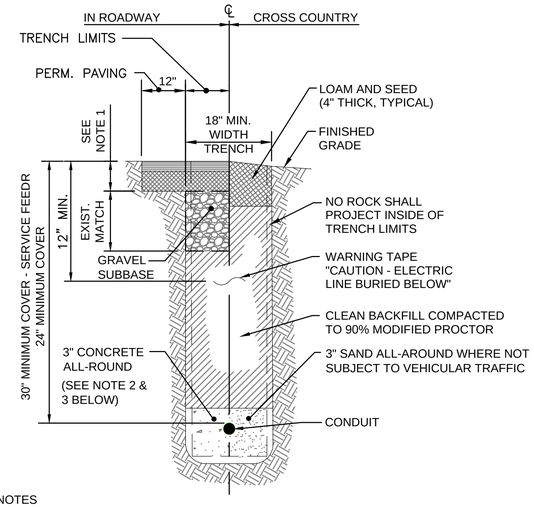
1 TYPICAL SECTION AT HANDHOLE

NOT TO SCALE



2 TYPICAL RISER CONDUIT INSTALLATION

NOT TO SCALE



NOTES

1. BOTTOM OF TRENCH SHALL BE UNDISTURBED ORIGINAL GROUND OR FIRMLY COMPACTED EARTH FREE FROM VOIDS, ROCK OR RUBBLE AND OF RELATIVELY SMOOTH ARCH, AND LINED WITH A MINIMUM OF 3 INCHES OF CLEAN SAND.
2. CONDUIT UNDER AREAS SUBJECT TO VEHICULAR TRAFFIC SHALL BE ENCASED IN CONCRETE. 3" CONCRETE ENCASEMENT AROUND PVC CONDUITS TO FIVE FEET (5') BEYOND EDGE OF PAVEMENT, TYPICAL.
3. CONCRETE SHALL BE 4,000 PSI, 3/4", 610 CEMENT CONC.
4. A 3" SPACING SHALL BE MAINTAINED BETWEEN ADJACENT CONDUITS.
5. PVC CONDUIT SHALL BE PRIMED AND GLUED TO FORM A WATERTIGHT SEAL.

3 TYPICAL ELECTRICAL TRENCH

NOT TO SCALE

GENERAL SITE CONSTRUCTION NOTES:

1. WHERE CONDUIT IS TO BE INSTALLED UNDER EXISTING PAVEMENT, PAVEMENT SHALL BE CUT AND PATCHED.

2. LOCATION OF PROPOSED ELECTRICAL SERVICES ARE INTENDED NOT TO DISTURB ROOT SYSTEMS OF EXISTING TREES OR SHRUBS. CONTRACTOR SHALL EXERCISE DUE CARE TO PREVENT DAMAGE THERETO. ALL GRASS AREAS DISTURBED SHALL BE RESTORED.

3. EXPLORATORY EXCAVATION BY CONTRACTOR SHALL BE PERFORMED AT ALL POTENTIAL UTILITY CONFLICTS TO LOCATE EXISTING UTILITIES, PRIOR TO INSTALLATION OF UNDERGROUND CONDUITS, DUCTBANKS, AND BASES. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL UTILITIES WHETHER OR NOT THEY ARE SHOWN ON THE PLANS. ALL REPAIRS TO DAMAGED UTILITIES SHALL BE MADE BY THE CONTRACTOR USING MATERIALS APPROVED BY THE ENGINEER AT NO ADDITIONAL EXPENSE TO THE OWNER.

4. CONTRACTOR TO CONTACT DIG SAFE AT 1-888-DIG-SAFE, PRIOR TO COMMENCING WORK. CONTRACTOR SHALL VERIFY LOCATION OF ALL OVERHEAD AND UNDERGROUND ELECTRIC AND TELEPHONE LINES AND TAKE NECESSARY PRECAUTIONS IN STRICT ACCORDANCE WITH OSHA STANDARDS DURING CONSTRUCTION. CONTRACTOR SHALL CONTACT LOCAL ELECTRICAL, CABLE AND TELEPHONE UTILITIES REGARDING ANY NECESSARY SUPPORT OF ANY UTILITY POLES DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR THE SUPPORT OR TEMPORARY RELOCATION OF ALL UTILITY POLES AFFECTED BY THE CONSTRUCTION.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING BARRIERS TO PREVENT PUBLIC ENTRY TO ANY AREAS OF CONSTRUCTION INCLUDING HOLES TRENCHED, PILES OF FILL MATERIAL, CONSTRUCTION MATERIALS, AND ANY OTHER CONSTRUCTION HAZARDS. BARRIERS SHALL BE PROVIDED AT ALL HOURS AND SHALL CLEARLY INDICATE THE AREA NOT TO BE TRESPASSED.

GENERAL NOTES AND SPECIFICATIONS

1. THE SCOPE OF WORK IS TO PROVIDE ALL LABOR, MATERIALS, SERVICES, SUPPLIES, TOOLS, EQUIPMENT, TRANSPORTATION, AND FACILITIES NECESSARY TO FURNISH AND INSTALL COMPLETE ELECTRICAL WORK AS CALLED FOR ON THE DRAWINGS, SPECIFIED, OR AS MAY REASONABLY BE IMPLIED AS BEING INCIDENTAL TO THIS WORK.

2. SECURE AND PAY COSTS OF PERMITS, CERTIFICATES, LICENSES, INSPECTIONS, AND APPROVALS. ANY POWER OUTAGE SHALL BE SCHEDULED AND APPROVED BY THE OWNER.

3. DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF WORK. BASIC DESIGN CONCEPTS INDICATED ARE TO BE EITHER FOLLOWED OR BETTERED. WORK IS INTENDED TO INCLUDE ITEMS NECESSARY FOR PROPER OPERATION AND COMPLETION. FIELD VERIFY ALL LOCATIONS, ELEVATIONS, AND DIMENSIONS.

4. EXECUTE ALL WORK IN A NEAT AND WORKMANLIKE MANNER IN CONFORMANCE WITH BEST MODERN TRADE PRACTICE, BY COMPETENT, EXPERIENCED MECHANICS, PRESENTING A NEAT APPEARANCE WHEN COMPLETED. REPLACE WORK NOT APPROVED BY OWNER WITHOUT ADDITIONAL CHARGE.

5. ALL MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, AND ALL CODES, REGULATIONS AND REQUIREMENTS OF ALL MUNICIPAL, STATE, FEDERAL AND OTHER PUBLIC OR PRIVATE AUTHORITIES WHICH HAVE JURISDICTION. IN EACH CASE, CODES ARE MINIMUM REQUIREMENTS.

6. SHOP DRAWINGS: SUBMIT COMPLETE CATALOG INFORMATION FOR ALL MATERIALS AND EQUIPMENT TO BE PURCHASED AND USED ON THIS PROJECT, AS SPECIFIED ON THE DRAWINGS. DO NOT INSTALL MATERIALS OR EQUIPMENT WITHOUT APPROVAL BY THE OWNER. UNAPPROVED MATERIAL ALREADY INSTALLED SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT WITH APPROVED MATERIALS AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT APPROVED SUBSTITUTE ITEMS WILL FIT INTO AVAILABLE SPACES AND FOR ANY EXTRA CHARGES BY OTHER TRADES.

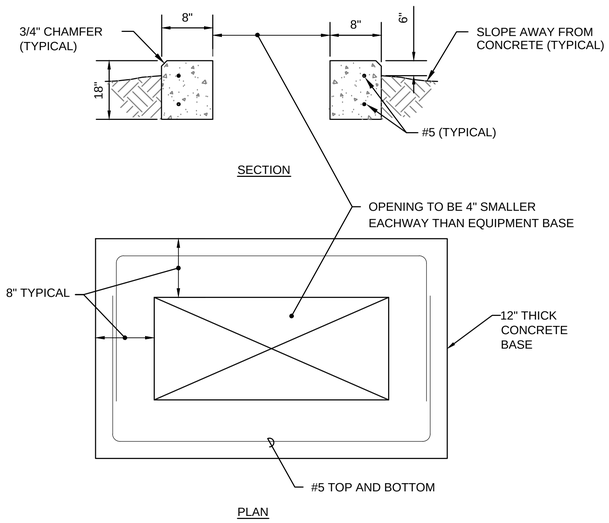
7. AS THERE MAY BE VARIOUS CONDITIONS AT THE SITE WHICH DO NOT SHOW ON THE ACCOMPANYING DRAWINGS, OR WHICH ARE AT VARIANCE WITH THE CONDITIONS INDICATED ON THE DRAWINGS, IT IS IMPORTANT THAT EACH BIDDER VISIT THE SITE AND BECOME ACQUAINTED WITH EXISTING CONDITIONS AND TAKE THESE CONDITIONS INTO CONSIDERATION WHEN PREPARING HIS BID. EACH BIDDER SHALL OBTAIN INFORMATION OR MAKE ANY MEASUREMENT DESIRED. LACK OF KNOWLEDGE RELATIVE TO EXISTING SITE CONDITIONS WILL NOT BE ALLOWED AS A BASIS FOR EXTRA COMPENSATION.

8. THE FINISHED INSTALLATION SHALL BE COMPLETE IN EVERY RESPECT AND DETAIL, TESTED AND LEFT READY IN PERFECT OPERATING CONDITION FOR THE OWNER'S USE.

9. MATERIALS AND EQUIPMENT SHALL BE LISTED BY UNDERWRITERS' LABORATORIES AND SHALL BE INSTALLED IN ACCORDANCE WITH SUCH LISTINGS.

10. THE CONTRACTOR SHALL GUARANTEE THAT MATERIALS, EQUIPMENT AND WORKMANSHIP PROVIDED BY HIM SHALL BE FREE FROM DEFECTS IN MATERIALS OR WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE OF THE WORK DONE UNDER THIS CONTRACT, AND SHALL REPLACE PARTS FOUND TO BE DEFECTIVE WITHIN THE PERIOD COVERED BY SUCH GUARANTEE, WITHOUT COST TO THE OWNER.

11. INSTALLATION SHALL BE MADE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.



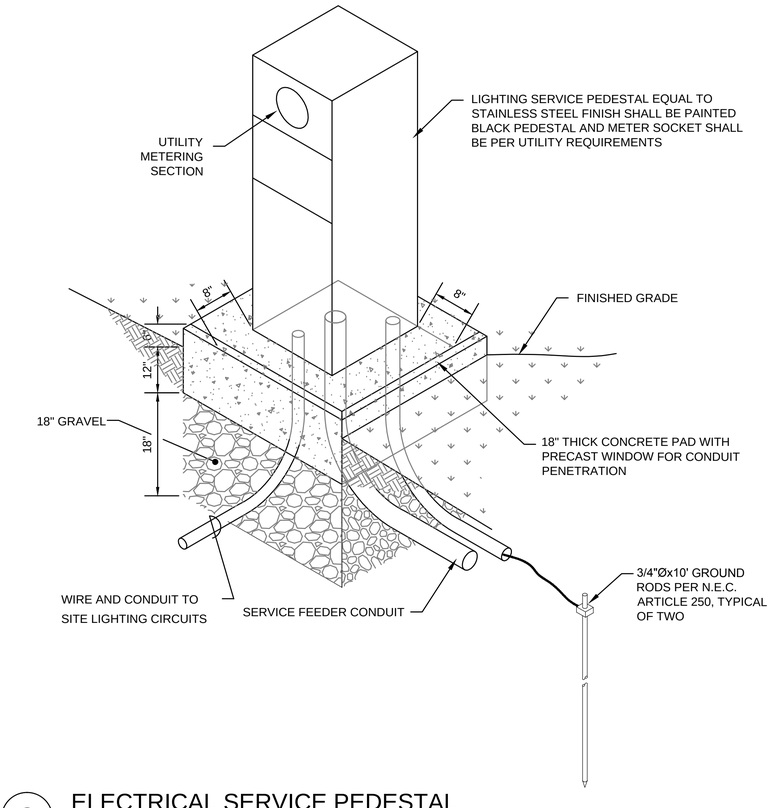
NOTE: PROVIDE LIFTING INSERTS (2 MINIMUM).

1 PRECAST CONCRETE PAD

NOT TO SCALE

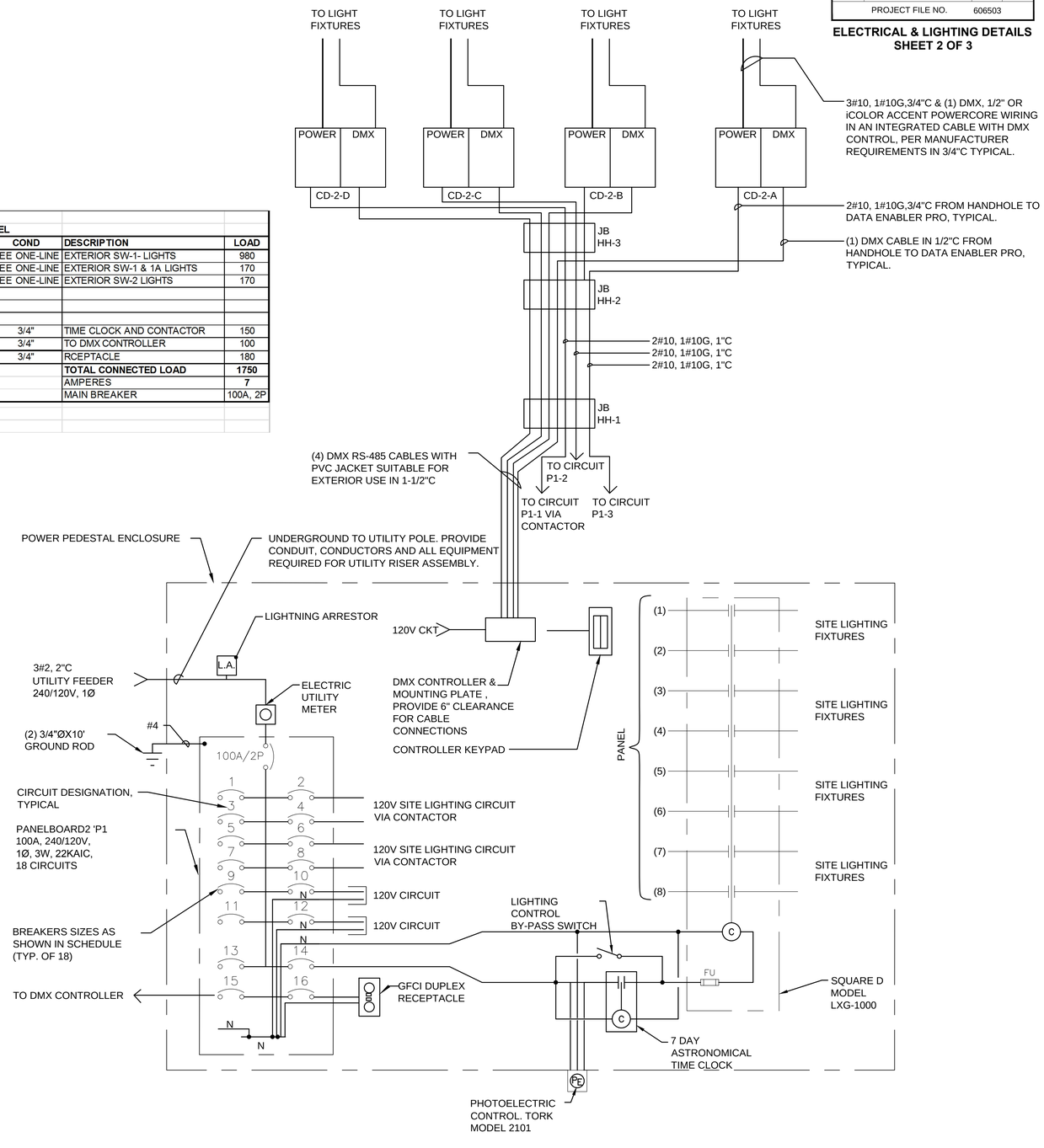
TYPICAL UNIT PANEL - "P1"							
100A, 120/240V, 1 PHASE, 3 WIRE, 10 KAIC RATED PANEL							
CKT #	BREAKER	POLE	TYPE	WIRE	COND	DESCRIPTION	LOAD
1	20A	1		SEE ONE-LINE	SEE ONE-LINE	EXTERIOR SW-1- LIGHTS	980
2	20A	1		SEE ONE-LINE	SEE ONE-LINE	EXTERIOR SW-1 & 1A LIGHTS	170
3	20A	1		SEE ONE-LINE	SEE ONE-LINE	EXTERIOR SW-2 LIGHTS	170
4	20A	1					
5 THRU 12	20A	1					
13	20A	1					
14	20A	1		2#12, 1#12G	3/4"	TIME CLOCK AND CONTACTOR	150
15	20A	1		2#12, 1#12G	3/4"	TO DMX CONTROLLER	100
16	20A	1	GFCI	2#12, 1#12G	3/4"	RCEPTACLE	180
						TOTAL CONNECTED LOAD	1750
* PROVIDE LOCK-ON DEVICE FOR BREAKER						AMPERES	7
PANEL TYPE: QO LOAD CTR - SQ. D						MAIN BREAKER	100A, 2P

NOTES:
1. SEE ONE-LINE FOR FEEDER SIZE



2 ELECTRICAL SERVICE PEDESTAL

NOT TO SCALE



3 ONE-LINE DIAGRAM LIGHTING SERVICE PEDESTAL

NOT TO SCALE

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	92	180
PROJECT FILE NO.	606503		

ELECTRICAL & LIGHTING DETAILS
SHEET 2 OF 3

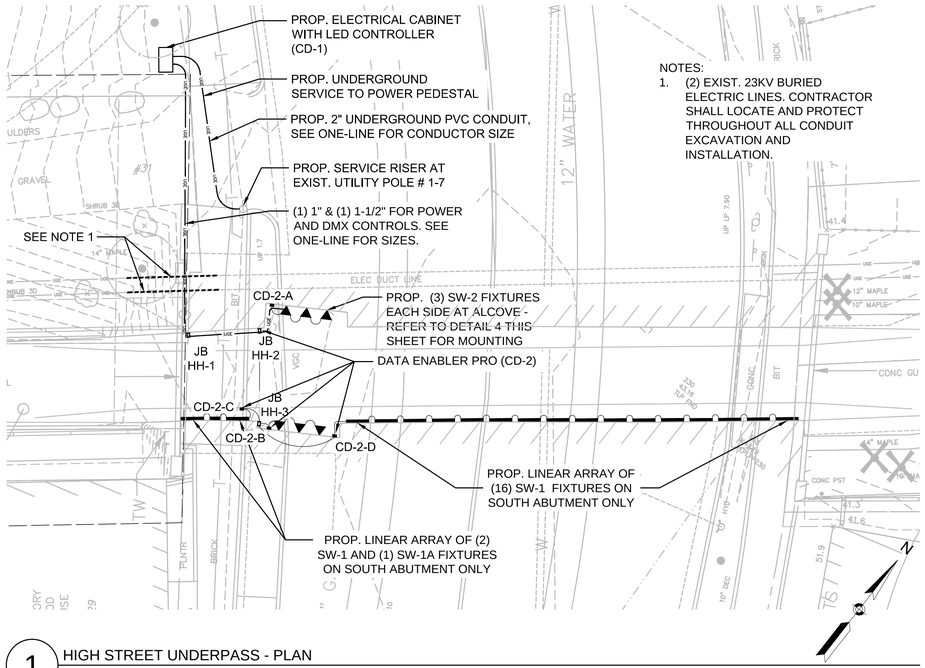
606503_HDI(ELECTRICAL DETAILS).DWG 12-Jun-2015

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

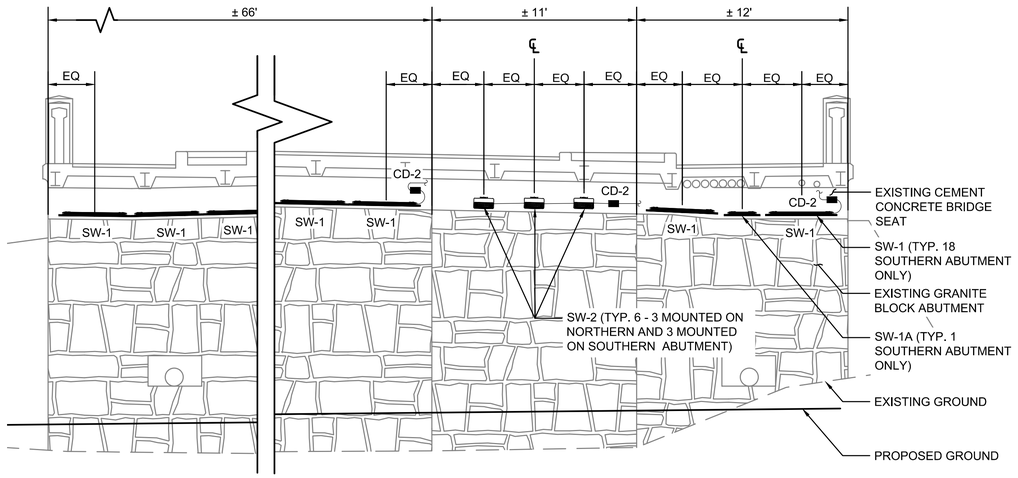
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	93	177
PROJECT FILE NO.		606503	

ELECTRICAL & LIGHTING DETAILS

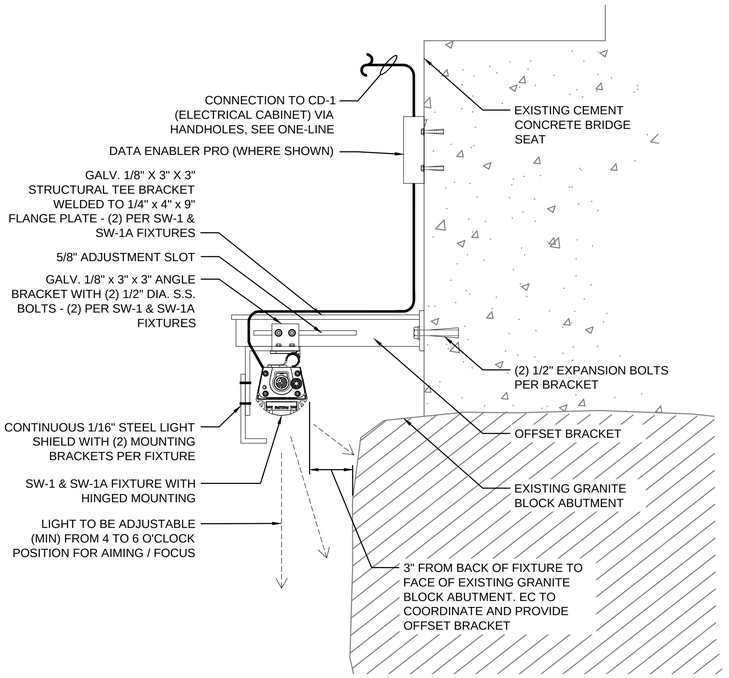
606503_UT(LIGHTING DETAILS).DWG 12-Jun-2015



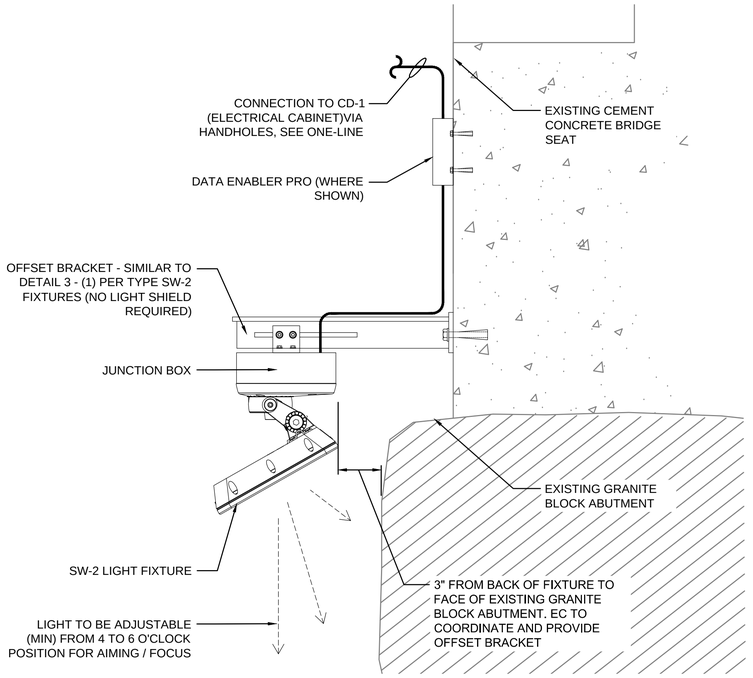
1 HIGH STREET UNDERPASS - PLAN
SCALE: 1" = 10'-0"



2 LIGHTING FIXTURE PLACEMENT - SOUTH ABUTMENT ELEVATION
SCALE: 1/4" = 1'-0"



3 LIGHTING FIXTURE PLACEMENT (SW-1 AND SW-1A) - TYPICAL SECTION
SCALE: 3" = 1'-0"



4 LIGHTING FIXTURE PLACEMENT (SW-2) - TYPICAL SECTION
SCALE: 3" = 1'-0"

LIGHTING FIXTURE SCHEDULE

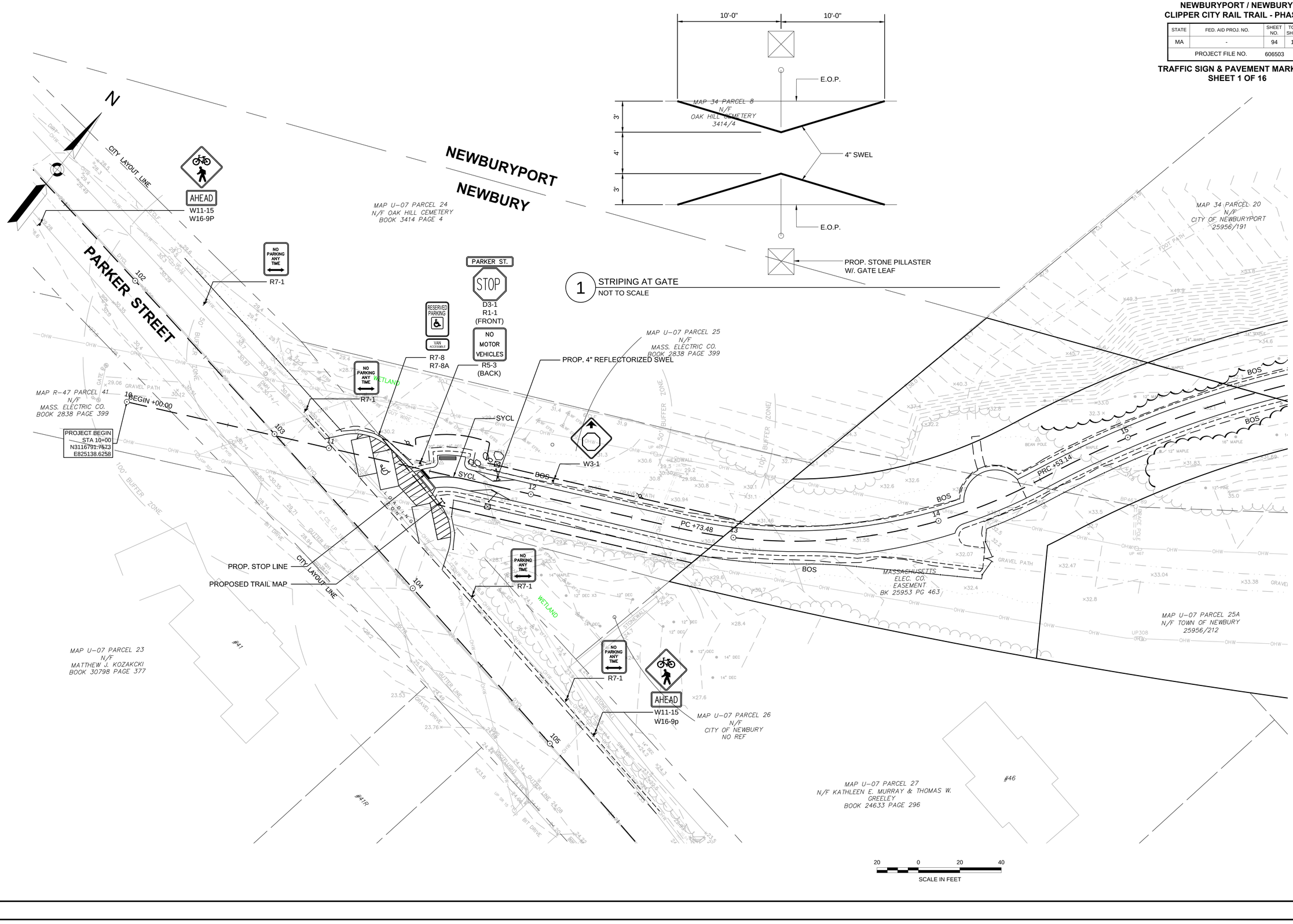
SYMBOL	QTY	TYPE	LAMPING	ELECTRICAL	NOTES
CD-1	1	DMX LED CONTROLLER	N/A	N/A	LOCATION: ELECTRICAL CABINET 1. PROVIDE IN WEATHERPROOF ENCLOSURE. 2. FINAL PROGRAMMING BY LIGHTING DESIGNER IN FIELD.
CD-2	4	DATA ENABLER PRO, INTEGRATED DATA AND POWER FOR LED FIXTURES	N/A	100-227 VAC	LOCATION: NORTH AND SOUTH UNDERPASS 1. EC TO COORDINATE LOCATIONS WITH LIGHT FIXTURES.
SW-1	18	4-FOOT SURFACE MOUNTED RGB LED STRIP LIGHT, RIGID HOUSING WITH 15W/LF COLOR-CHANGING LEDs, 30x60-DEGREE BEAM. OPTICS: POLYCARBONATE CLEAR LENS.	1 - 15W/LF RGB LEDs (INCLUDED)	LED DRIVER	LOCATION: SOUTH SIDE UNDERPASS 1. EC TO PROVIDE OFFSET BRACKET TO MOUNT FIXTURES. BACK OF FIXTURE TO BE MOUNTED 3" OFF FACE OF STONE WALL. 2. EC SHALL COORDINATE RUNS PER PLAN, PRIOR TO ORDERING. 3. FIXTURE SHALL BE ORDERED WITH ALL NECESSARY POWER FEEDS, JUMPER CABLES AND CONNECTORS FOR INSTALLATION OF A COMPLETE SYSTEM. 4. FINAL AIMING IN FIELD BY EC UNDER SUPERVISION OF LIGHTING DESIGNER.
SW-1A	1	2-FOOT SURFACE MOUNTED RGB LED STRIP LIGHT, RIGID HOUSING WITH 15W/LF COLOR-CHANGING LEDs, 30x60-DEGREE BEAM. OPTICS: POLYCARBONATE CLEAR LENS.	1 - 15W/LF RGB LEDs (INCLUDED)	LED DRIVER	LOCATION: SOUTH SIDE UNDERPASS 1. EC TO PROVIDE OFFSET BRACKET TO MOUNT FIXTURES. BACK OF FIXTURE TO BE MOUNTED 3" OFF FACE OF STONE WALL. 2. EC SHALL COORDINATE RUNS PER PLAN, PRIOR TO ORDERING. 3. FIXTURE SHALL BE ORDERED WITH ALL NECESSARY POWER FEEDS, JUMPER CABLES AND CONNECTORS FOR INSTALLATION OF A COMPLETE SYSTEM. 4. FINAL AIMING IN FIELD BY EC UNDER SUPERVISION OF LIGHTING DESIGNER.
SW-2	6	SURFACE MOUNTED, HIGH PERFORMANCE COLOR CHANGING RGB LED WITH 50W MAX POWER CONSUMPTION, 23-DEGREE BEAM, FROSTED TEMPERED GLASS LENS, DIE-CAST ALUMINUM POWDER-COATED HOUSING IN SILVER FINISH.	1 - 50W RGB LEDs (INCLUDED)	DATA ENABLER PRO	LOCATION: UNDERPASS NICHES 1. FIXTURE SHALL BE ORDERED WITH ALL NECESSARY POWER FEEDS, JUMPER CABLES AND CONNECTORS FOR INSTALLATION OF COMPLETE SYSTEM. 2. FINAL AIMING IN FIELD BY EC UNDER SUPERVISION OF LIGHTING DESIGNER. 3. MANUFACTURER TO PROVIDE FIXTURE IN SILVER.

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	94	180
PROJECT FILE NO.	606503		

TRAFFIC SIGN & PAVEMENT MARKINGS
SHEET 1 OF 16

606503_TR(SIGN & PVMT MRKG).DWG 12-Jun-2015



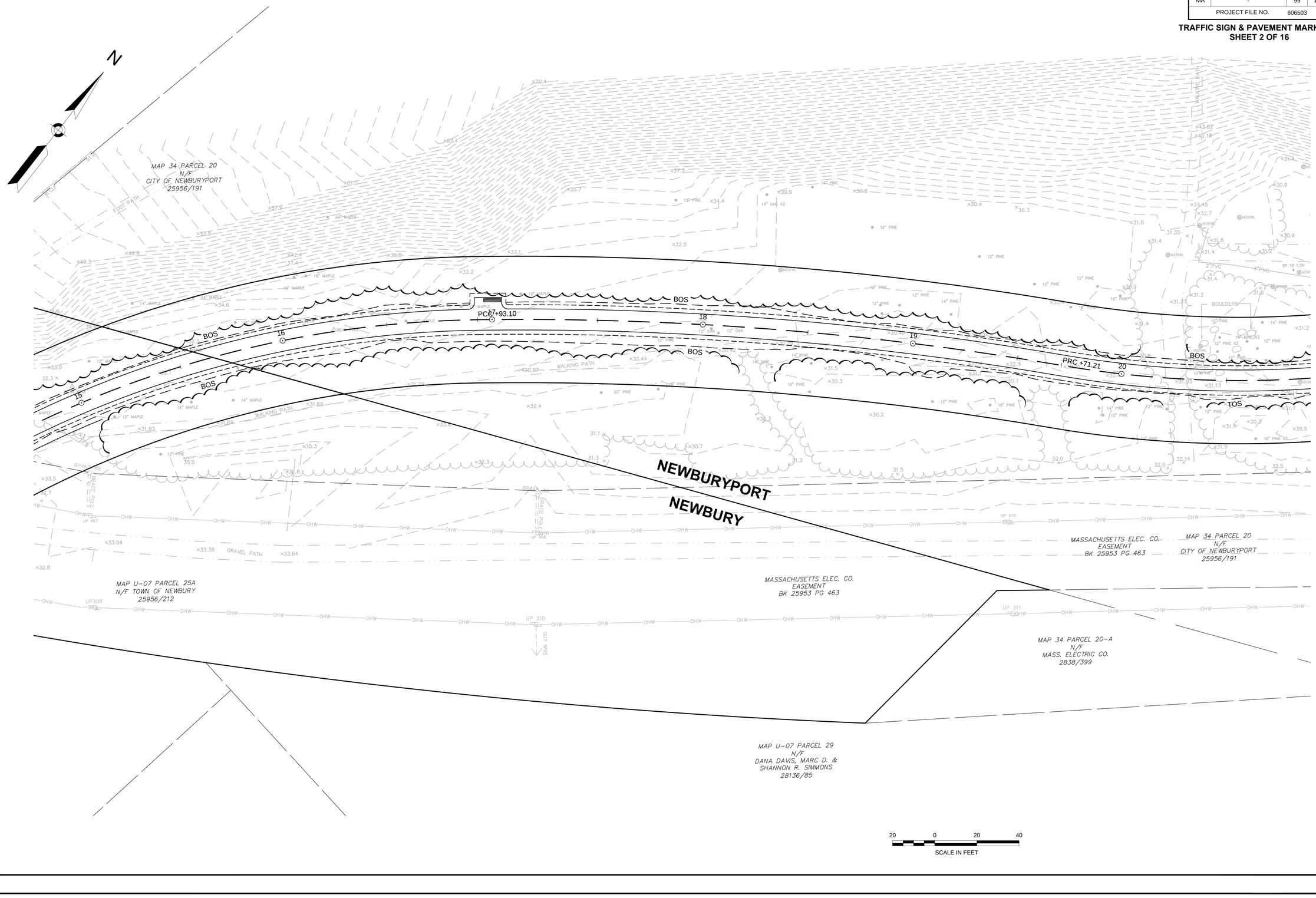
CONTINUED ON SHEET NO. 73

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	95	180
PROJECT FILE NO.	606503		

TRAFFIC SIGN & PAVEMENT MARKINGS
SHEET 2 OF 16

606503_TR(SIGN & PVMT MRKG).DWG 12-Jun-2015



CONTINUED ON SHEET NO. 72

CONTINUED ON SHEET NO. 74

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	96	180
PROJECT FILE NO.	606503		

TRAFFIC SIGN & PAVEMENT MARKINGS
SHEET 3 OF 16

606503_TR(SIGN & PVMT MRKG).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 73

CONTINUED ON SHEET NO. 75

MAP 33 PARCEL 7
N/F
CITY OF NEWBURYPORT
4066/70

MAP 34 PARCEL 20
N/F
CITY OF NEWBURYPORT
25956/191

MAP 33 PARCEL 6
N/F
CITY OF NEWBURYPORT
25956/191

MAP 34 PARCEL 20
N/F
CITY OF NEWBURYPORT
25956/191

MASSACHUSETTS ELEC. CO.
EASEMENT
BK 25953 PG 463

MAP 34 PARCEL 20-A
N/F
MASS. ELECTRIC CO.
2838/399

MAP 34 PARCEL 21
N/F DANA DAVIS, MARC D.
& SHANNON R. SIMMONS
BOOK 28136 PG 85

MAP 33 PARCEL 2-1.4
N/F
PETER S. & MARIANNE KATAVOLOS
29572/412

NEWBURYPORT

NEWBURY

PRC +8966

BOS

TOS

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	97	180
PROJECT FILE NO.	606503		

TRAFFIC SIGN & PAVEMENT MARKINGS
SHEET 4 OF 16

606503_TR(SIGN & PVMT MRKG).DWG 12-Jun-2015

CONTINUED ON SHEET NO.74

CONTINUED ON SHEET NO.76

MAP 33 PARCEL 6
N/F
CITY OF NEWBURYPORT
25956/191

MAP 33 PARCEL 7
N/F
CITY OF NEWBURYPORT
4066/70

MAP 34 PARCEL 20
N/F
CITY OF NEWBURYPORT
25956/191

MASSACHUSETTS ELEC. CO.
EASEMENT
BK 25953 PG 463

MAP 33 PARCEL 3 A
N/F
MASS. ELECTRIC CO.
LOT B
2832/399

MAP 33 PARCEL 2-1.4
N/F
PETER S. & MARIANNE KATAVOLOS
29572/412

MAP 33 PARCEL 2-A.3
N/F
PETER S. & MARIANNE KATAVOLOS
29572/412

MAP 33 PARCEL 3
N/F
WILLIAM A. LINCOLN
15708/406

BOS
PRC +23.75
BEGIN +00.00
FOOT PATH
WALKING PATH
APPROX ELEC DUCT
GRASS
STONE
5' WIRE FENCE
7' WIRE FENCE
D3-1
HIGH ST.
PATH NARROWS
W5-4a

SCALE IN FEET
20 0 20 40

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	98	180
PROJECT FILE NO.	606503		

TRAFFIC SIGN & PAVEMENT MARKINGS
SHEET 5 OF 16

606503_TR(SIGN & PVMT MRKG).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 75

CONTINUED ON SHEET NO. 77

N

HIGH STREET

BROMFIELD STREET

MARCH'S HILL

BEGIN +48.60

PROPOSED TRAIL MAP

PT +33.93

BOS

PT +44.23

PC +30.45

201

202

BITUMINOUS BASKETBALL COURT

BBALL POLE

MAP 33 PARCEL 7
N/F
CITY OF
NEWBURYPORT
4066/70

MAP 33 PARCEL 5–A
N/F
SALEM FIVE MORTGAGE CO.
BOOK 33029 PG 16

MASSACHUSETTS ELEC. CO.
EASEMENT
BK 25953 PG 463

RAIL TRAIL EASEMENT
BK 30425/PG 122

BEGIN +00.00

PT +30.57

31

32

33

PT +15.47

34

PC +15.47

35

36

BRIDGE NO. N-11-004

MAP 33 PARCEL 5
N/F
SALEM FIVE MORTGAGE CO.
BOOK 32917/PG 422

COMMONWEALTH OF MA
EASEMENT
BK 6203 PG 343
PLAN 456 OF 1975

MAP 33 PARCEL 4
N/F
DANIEL O. POTVIN
23723/99

MAP 33 PARCEL 3
N/F
WILLIAM A. LINCOLN
15708/406

D3-1
HIGH ST.

PATH
NARROWS
W5-4a

CITY LAYOUT LINE

MAP 24 PARCEL 71
N/F
JANICE DESANTIS
6497/153

MAP 24– PARCEL 71–A
N/F
MASS. ELECTRIC CO.
2838/399

MAP 24– PARCEL 71–B
N/F
MASS. ELECTRIC CO.
2838/399

MAP 24 PARCEL 72
N/F
DOUGLAS H. CROSSMAN
17510/320

MAP 24 PARCEL 70
N/F
SCOTT TILEY
10717/12

MAP 24 PARCEL 69
N/F
JULIA M. HINES
25118/418

MAP 24– PARCEL 71–C
N/F
MASS. ELECTRIC CO.
2838/399

COMMONWEALTH OF MA
EASEMENT
BK 6203 PG 343
PLAN 456 OF 1975

#27 #29 #31 #33 #34 #36 #38 #40 #42 #75 #77–79 #81–83

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	99	180
PROJECT FILE NO.	606503		

TRAFFIC SIGN & PAVEMENT MARKINGS
SHEET 6 OF 16

606503_TR(SIGN & PVMT MRKG).DWG 12-Jun-2015

N

#77–79 #75 #73 #2 #4 #3 #6 #8 #5 #10 #1 #2 #3 #4 #1 #2 #4 #6 #12–14 #16–18 #20–22 #9 #11

BROMFIELD CT.

BEGIN +00.00

CITY LAYOUT LINE

MAP 24– PARCEL 71–I N/F MASS. ELECTRIC CO. 2838/399

MAP 24– PARCEL 71–K N/F MASS. ELECTRIC CO. 2838/399

MAP 24 PARCEL 56–A N/F RICHARD COBURN 8232/82

MAP 24 PARCEL 57 N/F DONG S. BETH A. ANDERSON SONG–DONG TRUSTEE 16323/271

MAP 24 PARCEL 60 N/F ALLEN R. FROST 11896/364

MAP 24 PARCEL 67 N/F SCOTT C. BASHORE 11213/349

MAP 24– PARCEL 71–C N/F MASS. ELECTRIC CO. 2838/399

MAP 24 PARCEL 69 N/F JULIA M. HINES 25118/418

MAP 24 PARCEL 70 N/F SCOTT TILEY 10717/12

MAP 24– PARCEL 71–D N/F MASS. ELECTRIC CO. 2838/399

MAP 24– PARCEL 71–G N/F MASS. ELECTRIC CO. 2838/399

MAP 24 PARCEL N/F JAMES B. NELSON 15405/422

MAP 24– PARCEL 71–B N/F MASS. ELECTRIC CO. 2838/399

MAP 24– PARCEL 71–E N/F MASS. ELECTRIC CO. 2838/399

MAP 24– PARCEL 36 N/F CATHERINE T. COMPARONE – SEYLER 8329/470

MAP 24– PARCEL 71–F N/F MASS. ELECTRIC CO. 2838/399

MAP 24– PARCEL 37 N/F JILL FRANCES GRAY 25928/286

MAP 24– PARCEL 71–H N/F MASS. ELECTRIC CO. 2838/399

MAP 24 PARCEL 44 N/F JOHN H. GREENE 26131/95

MAP 24 PARCEL 45 N/F MARYLOU MANCHESKI 30798/336

MAP 24– PARCEL 71–J N/F MASS. ELECTRIC CO. 2838/399

MAP 24– PARCEL 71–L N/F MASS. ELECTRIC CO. 2838/399

MAP 24– PARCEL 71–M N/F MASS. ELECTRIC CO. 2838/399

MAP 24 PARCEL 51 N/F DEBRA LACHANCE 26362/564

MAP 24 PARCEL 50 N/F SEAMUS McCORMICK 29621/450

CHESTNUT STREET

BEGIN +00.00

CITY LAYOUT LINE

RAISED CROSSWALK AHEAD

TRAIL X–ING AHEAD

W11-15
W11-15P
W16-9P

W11-15
W16-7P

PROP. STOP LINE

BROMFIELD CT.
D3-1
R5-3
NO MOTOR VEHICLES

PATH NARROWS
W5-4a

BOS

PC +95.36

PT +43.36

SYCL

W3-1

D3-1
R1-1
(FRONT)
CHESTNUT ST.
STOP
R5-3
(BACK)
NO MOTOR VEHICLES

D3-1
BARTON CT.

R5-3
NO MOTOR VEHICLES

ALTER CT.

BARTON CT.

BEGIN +72.12

1.5 STORY WOOD HOUSE

2 STORY WOOD HOUSE

WOOD SHED

WOOD GARAGE

CONC. PAVER DRIVEWAY

BIT. DRIVEWAY

GRAVEL DRIVE

SLATE WALK

CONC. PAD

CONC. WALL

4' VINYL FENCE

6' WOOD FENCE

4' WOOD PICKET FENCE

OLD WIRE FENCE

WIRE FENCE

CONTINUED ON SHEET NO. 76

CONTINUED ON SHEET NO. 78

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	100	180
PROJECT FILE NO.	606503		

TRAFFIC SIGN & PAVEMENT MARKINGS
SHEET 7 OF 16

606503_TR(SIGN & PVMT MRKG).DWG 12-Jun-2015

CONTINUED ON SHEET NO.77

CONTINUED ON SHEET NO.79

CHESTNUT STREET

HANCOCK STREET

CITY LAYOUT LINE

BEGIN +00.00

END +50.00

100.00'

100'

RAISED CROSSWALK AHEAD #14

TRAIL X-ING AHEAD #16
W11-15
W11-15P
W16-9P

STOP
R1-1 (FRONT)
NO MOTOR VEHICLES
R5-3 (BACK)

PROP. PAVEMENT MARKINGS FOR SPEED HUMP WITH CROSSWALK

PROP. 12.00' CROSSWALK

W11-15
W16-7P

HANCOCK ST. #24

D3-1
R1-1 (FRONT)

SYCL
PROP. STOP LINE

'NO DUMPING' SIGN TO REMAIN

W3-1

TRAIL X-ING AHEAD
W11-15
W11-15P
W16-9P

RAISED CROSSWALK AHEAD

#12-14
#16-18
#20-22
#7
#9
#11
#13
#22
#15
#17
#3
#7-9
#54
#64

MAP 24– PARCEL 71–L N/F MASS. ELECTRIC CO. 2838/399
MAP 24– PARCEL 71–M N/F MASS. ELECTRIC CO. 2838/399
MAP 24 PARCEL 51 N/F DEBRA LACHANCE 26362/564
MAP 24 PARCEL 50 N/F SEAMUS McCORMICK 29621/450
MAP 25 PARCEL 65 N/F LISA STEWART 26225/353
MAP 25 PARCEL 50 N/F PATRICIA BUCKLEY 22846/328
MAP 25 PARCEL 49 N/F JOSHUA PIKE 26135/150
MAP 25 PARCEL 66 N/F SYLVIA TATTERSALL 29757/306
MAP 25 PARCEL 40 N/F RICHARD HILL 26472/547
MAP 25 PARCEL 14 N/F AARON L COFFIN 26981/569
MAP 25 PARCEL 19 N/F ROBERT FOLEY 25637/385
MAP 25 PARCEL 18 N/F ANTHONY LOWTHER 25513/365
MAP 25 PARCEL 17 N/F GARY WELCH 6109/691
MAP 25 PARCEL 16 N/F DANIEL CARLAT 29018/402
MAP 25 PARCEL 14 N/F ROGER BLOCK 22874/266
MAP 25 PARCEL 42 N/F ROBERT DOUGHTY 9471/518
MAP 25 PARCEL 13–A N/F CHRISTOPHER D. DAVIS/ LORI B. DAVIS 28856/245
MAP 25 PARCEL 13–B N/F CHRISTOPHER P. ZYBERT/ JULIE A. CHAKRIN 33683/282 & CHRISTOPHER D. DAVIS/ LORI B. DAVIS 28856/545

N/F CITY OF NEWBURYPORT 25956/191

MASSACHUSETTS ELEC. CO. EASEMENT BK 25953 PG 463

1.5 STORY WOOD HOUSE #11
2 STORY WOOD HOUSE #20-22
2 STORY WOOD HOUSE #22
1.5 STORY WOOD HOUSE #13
CONCRETE GARAGE
BITUMINOUS PARKING LOT
SHED

BOS
GRAVEL DRIVE
BIT DRIVE
CONC

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	101	180
PROJECT FILE NO.	606503		

TRAFFIC SIGN & PAVEMENT MARKINGS
SHEET 8 OF 16

606503_TR(SIGN & PVMT MRKG).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 78

CONTINUED ON SHEET NO. 80

PURCHASE STREET

HARRISON ST.

CITY LAYOUT LINE

TRAIL X-ING AHEAD
W11-15
W11-15P
W16-9P

PROP. 8.00' CROSSWALK

NO PARKING ANY TIME
R7-1L

PROP. STOP LINE

SYCL

W11-15
W16-7P

STOP
R1-1

NO PARKING ANY TIME
R7-1R

HARRISON ST.
STOP
D3-1
R1-1
(FRONT)

NO MOTOR VEHICLES
R5-3
(BACK)

TRAIL CONTINUES

W3-1

PROP. SHARROW(TYP.)

CLIPPER CITY RAIL TRAIL

PURCHASE ST.
STOP
D3-1
R1-1
(FRONT)
R5-3
(BACK)
NO MOTOR VEHICLES

SIGN

100'

PI 141.46

PRC 54.35

PT 592.52

PI 499.89

BOS

MAP 25 PARCEL 17 N/F WELCH /691

MAP 25 PARCEL 16 N/F DANIEL CARLAT 29018/402

MAP 25 PARCEL 14 N/F ROGER BLOCK 22874/266

MAP 25 PARCEL 13-B N/F CHRISTOPHER P. ZYBERT JULIE ANN CHAMBERLAIN & CHRISTOPHER DAVIS/ LAURIE DAVIS 28830/345

MAP 26 PARCEL 74-A N/F MARY LASELVA 34008/46

MAP 26 PARCEL 74-B N/F SALUS 27718

MAP 26 PARCEL 75 N/F IRWIN E. STRATTEE & MARGERDT 11496/340

MAP 26 PARCEL 34 N/F TERRY MARCILLE 21042/307

MAP 26 PARCEL 57-A N/F DAVID CLARRIDGE 12318/330

MAP 26 PARCEL 35 N/F CITY OF NEWBURYPORT 25956/191

MAP 26 PARCEL 36 N/F MICHAEL J. HOLOHAN / NADINE E. HOLOHAN 15062/203

MAP 26 PARCEL 37 N/F DONNA S. GLICK/ JANE MAKI 27358/556

MASSACHUSETTS ELEC. CO. EASEMENT BK 25953 PG 463

CITY OF NEWBURYPORT 25956/191

2 STORY WOOD HOUSE #15

#52 #7-9 #3 #54 #39 #41 #45 #58-60 #64 #49 #17 #12-14 #10 #13-15

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	102	180
PROJECT FILE NO.	606503		

TRAFFIC SIGN & PAVEMENT MARKINGS
SHEET 9 OF 16

606503_TR(SIGN & PVMT MRKG).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 79

CONTINUED ON SHEET NO. 81

N

WATER STREE

SOMERBY CT.

MAP 26 PARCEL 57-A N/F DAVID CLARRIDGE 12318/330

2 STORY WOOD HOUSE #15

MAP 26 PARCEL 57-A N/F DAVID CLARRIDGE 12318/330

MAP 26 PARCEL 48-A,B,C N/F MASS. ELECTRIC CO. 2838/399

MAP 26 PARCEL 57-A N/F EDWIN J. BERNAU, III / EILEEN M. BERNAU 33058/001

CITY OF NEWBURYPORT N/F 25956/191

GRAVEL DRIVE

VINYL GARAGE

BOS

52

53

54

55

MAP 26 PARCEL 48-A,B,C N/F MASS. ELECTRIC CO. 2838/399

MAP 26 PARCEL 49 N/F JENNIFER B. BADGER / VINCENT M. BADGER 30547/316

1 STORY WOOD GARAGE

PROP. STOP LINE

SYCL

PC +78.06

PRC +80.40

W11-15 W16-7P

TRAIL X-ING AHEAD

W11-15 W16-9P

#168

#164

#179

ZONE AE (EL 12)

200' RIVERFRONT AREA

C. 91 JURISDICTION

STOP

R1-1 (FRONT)

NO MOTOR VEHICLES

R5-3 (BACK)

604

PRC +56.67

PT +98.01

SYCL

PROP. STOP LINE

PROP. TRAIL MAP

W11-15 W16-7P

PROP. 8.00' CROSSWALK

W11-15 W11-15P W16-9P

TRAIL X-ING AHEAD

602

W3-1

D3-1 R1-1 (FRONT) WATER ST.

STOP

R5-3 (BACK)

NO MOTOR VEHICLES

MAP 26 PARCEL 48 N/F LLOYD N. DANIELS, TRUSTEE OF 174-176 WATER STREET REALTY TRUST 32341/19

#174

MAP 26 PARCEL 46 N/F DAVID MOORE BEVERLY MONCHUN 15885/74

MAP 26 PARCEL 46A N/F DAVID MOORE BEVERLY MONCHUN 15885/74

MAP 26 PARCEL 45A N/F AUGUSTUS HARRINGTON 13087/104

MAP 26 PARCEL 47 N/F PHILIP L. SCHWARTZ / TAMARA A. SCHWARTZ 33020/545

MAP 26 PARCEL 37 N/F DONNA S. GLICK / JANE MAKI 27388/555

#10

#178

#182

#180

ZONE AE (EL 15)

LAYOUT LINE

CITY LAYOUT LINE

CITY OF NEWBURYPORT N/F

ORANGE POST AND CHAIN FENCE

100'

20 0 20 40

SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	103	180
PROJECT FILE NO.	606503		

TRAFFIC SIGN & PAVEMENT MARKINGS
SHEET 10 OF 16

606503_TR(SIGN & PVMT MRK(G).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 80

CONTINUED ON SHEET NO. 82

N

WATER STREET

CITY LAYOUT LINE

200' RIVERFRONT AREA

C. 91 JURISDICTION

#164

#168

#177

MAP 23 PARCEL 21
12332/19

#175
MAP 23 PARCEL 20
N/F
CHARLES R GRIGG
12331/600

#179

#157

ZONE AE
(EL 12)

CITY OF NEWBURYPORT
WASTEWATER TREATMENT PLANT

MAP 23 PARCEL 23
N/F
CITY OF NEWBURYPORT
25956/191

MAP 23 PARCEL 22 1/2
N/F
WADE BURRITT
26593-2
ROBERT NELSON.
26466-40

1 STORY
METAL
BUILDING

BOS

PRC +56.67

PT +62.00

PC +78.71

57

58

59

60

61

62

605

605

SMALL WOOD FENCE

6' CLF

8' CLF

GATE

WIRE FENCE

STONE WALL

KNOTWEED

PHRAGMITES

RIP-RAP

HIGH WATER MARK

HWM

APPROX ELEC DUCT

WALKING PATH

SCOUR

MAP 23 PARCEL 22-A
N/F
MASS. ELECTRIC CO.
2838/399

HIGH MARSH
LOW MARSH

ZONE VE
(EL 15)

MAP 23 PARCEL 22-B
N/F
MASS. ELECTRIC CO.
2838/399

MAP 23 PARCEL 22-C
N/F
CITY OF NEWBURYPORT
25956/191

MASSACHUSETTS ELEC. CO.
EASEMENT
BK 25953 PG 463

ZONE VE
(EL 14)

MAP 23 PARCEL 23
N/F
CITY OF NEWBURYPORT
25956/191

MASSACHUSETTS ELEC. CO.
EASEMENT
BK 25953 PG 463

HIGH MARSH
LOW MARSH

36" SEWER

MERRIMACK RIVER

N/F
COMMONWEALTH OF MASSACHUSETTS

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	104	180
PROJECT FILE NO.	606503		

TRAFFIC SIGN & PAVEMENT MARKINGS
SHEET 11 OF 16

606503_TR(SIGN & PVMT MRKG).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 81

CONTINUED ON SHEET NO. 83

N

200' RIVERFRONT AREA

MAP 23 PARCEL 23
N/F
CITY OF NEWBURYPORT
25956/191

ZONE AE
(EL 12)

MAP 23 PARCEL 11
N/F
CITY OF NEWBURYPORT
6364/536

#157

CITY OF NEWBURYPORT
WASTEWATER TREATMENT PLANT

MAP 20 PARCEL 8
N/F
CITY OF NEWBURYPORT
6364/536
PL BK 143/92

MAP 23 PARCEL 24
N/F
MASS. ELECTRIC CO.
2402/525

24"D PVC

18"D RCP

24"RCP

12"RCP

6' CLF

(NOTE: POLES HAVE BEEN REMOVED)

BOS

62 63 64 PCC +03.36 65 66 67

HIGH MARSH
LOW MARSH

ZONE VE
(EL 14)

MAP 23 PARCEL 11
N/F
CITY OF NEWBURYPORT
6364/536
PL BK 143/92

MAP 23 PARCEL 23
N/F
CITY OF NEWBURYPORT
25956/191

MASSACHUSETTS ELEC. CO.
EASEMENT
BK 25953 PG 463

24" ABANDONED SEWER

36" SEWER

HWM

HIGH WATER MARK

RIP-RAP

STORAGE BET

YIELD
TO ONCOMING TRAFFIC
R1-2
R1-2aP

MERRIMACK RIVER

N/F
COMMONWEALTH OF MASSACHUSETTS

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	105	180
PROJECT FILE NO.	606503		

TRAFFIC SIGN & PAVEMENT MARKINGS
SHEET 12 OF 16

606503_TR(SIGN & PVMT MRKG).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 82

CONTINUED ON SHEET NO. 84

N

YIELD
TO ONCOMING TRAFFIC
R1-2
R1-2aP

W11-15
W16-7P

Water St.
D3-1

SLOW
W1-3R
SP-5

BOS
PRC +37.34
PRC +32.02
PRC +45.04
PDS

MAP 20 PARCEL 8
N/F
CITY OF NEWBURYPORT
DOC. 503345
L.C. 15621A
31586 / 329

MAP 20 PARCEL 1
N/F
MASS. ELECTRIC CO.
2321/133
L.C. 5968A

MAP 23 PARCEL 24
N/F
MASS. ELECTRIC CO.
2402/525

N/F
MASS. ELECTRIC CO.
2838/399

N/F
CITY OF NEWBURYPORT
25956/191

MAP 20 PARCEL 13
N/F
MASS. ELECTRIC CO.
2321/133
L.C. 5968A

#115-119 R
MAP 20 PARCEL 12
N/F
AMERICAN YACHT CLUB
DOC. 61727
L.C. 15621A

N/F
COMMONWEALTH OF MASSACHUSETTS

MERRIMACK RIVER

ACCESS EASEMENT
30314/444

200' RIVERFRONT AREA

ZONE AE (EL 12)
ZONE AE (EL 13)
ZONE VE (EL 14)

HIGH MARSH
LOW MARSH

OLD-BROKEN DOWN BULKHEAD

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	106	180
PROJECT FILE NO.	606503		

TRAFFIC SIGN & PAVEMENT MARKINGS
SHEET 13 OF 16

606503_TR(SIGN & PVMT MRK(G).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 83

CONTINUED ON SHEET NO. 85

MAP 20 PARCEL 1
N/F
MASS. ELECTRIC CO.
2321/133
L.C. 5968A

2 STORY BRICK BUILDING

1 STORY METAL

2 STORY BRICK BUILDING COAST GUARD

2 STORY WOOD

MAP 17 PARCEL 10
N/F
U.S.A. COAST GUARD
BOOK 5878 PAGE 401
#63R

200' RIVERFRONT AREA

N/F
U.S.A.
5878/401

MAP 17 PARCEL 10
N/F
U.S.A.
5878/401

MAP 17 PARCEL 16
N/F
NEWBURYPORT HARBOR MASTER
23921/421

N/F
CITY OF NEWBURYPORT
25956/191

N/F
MASSACHUSETTS ELEC. CO.
DOC 102563 & L.C. 5968A

MASSACHUSETTS ELEC. CO.
EASEMENT
BK 25953 PG 463

N/F
MASS. ELECTRIC CO.
2321/133
L.C. 5968A
BITUMINOUS

MAP 20 PARCEL 13
N/F
MASS. ELECTRIC CO.
2321/133
L.C. 5968A

ZONE AE
(EL 13)

ZONE VE
(EL 14)

GRASS/OVERGROWN

GRAVEL

BROKEN BIT

SHEET PILE BULKHEAD

ELECTRICAL

TRAILER

APPROX ELEC DUCT

230 25KV UG ELEC. IN 6" DUCT (ENCASED)

UGE 6" HDPE CONDUIT

OLD-BROKEN DOWN BULKHEAD

HWM

DOCK

MERRIMACK RIVER

N/F
COMMONWEALTH OF MASSACHUSETTS

PC +70.36
PT +05.28
PRC +84.34
PRC +45.04
BOS
76
75
74
73
72

W1-1R
SP-5

SLOW

PATH NARROWS

W5-4a

W1-3R
SP-5

SLOW

W1-1
SP-5

TRAFFIC
R1-2
R1-2aP

NO MOTOR VEHICLES
R5-3
(BACK)

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	107	180
PROJECT FILE NO.	606503		

TRAFFIC SIGN & PAVEMENT MARKINGS
SHEET 14 OF 16

606503_TR(SIGN & PVMT MRKG).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 84

CONTINUED ON SHEET NO. 86

WATER STREET

CITY LAYOUT LINE

CITY LAYOUT LINE

#73-75

MAP 17 PARCEL 12
N/F
RANGE LIGHT LIMITED PARTNERSHIP
24892/303

#95

#85

#85

#85

#63R

C. 91 JURISDICTION

C. 91 JURISDICTION

MAP 17 PARCEL 13
N/F AUDRIUS E. KONTAUS
BOOK 17261 PAGE 570

2 STORY WOOD

MAP 17 PARCEL 14
N/F MASS ELECTRIC COMPANY
BOOK 4198 PAGE 395

MAP 20 PARCEL 1
N/F
MASS. ELECTRIC CO.
2321/133
L.C. 5968A

N/F
MASSACHUSETTS ELEC CO.
DOC 102563 / L.C. 5968A

MAP 17 PARCEL 10
N/F
U.S.A. COAST GUARD
BOOK 5878 PAGE 401

N/F
U.S.A.
5878/401

W1-6R

W1-6L

STOP

R1-1

PROP. STOP LINE

PROP. STOP LINE

PROP. STOP LINE

BOS

SYCL

PROP. 8.00' CROSSWALK

W3-1

PAINTED PARKING

PI 160.15

PI +70.59

PC +41.01

PT +84.16

PC +70.26

PI +70.88

PT +99.68

RAIL TRAIL EASEMENT

2 STORY BRICK GARAGE

2 STORY BRICK BUILDING COAST GUARD

2 STORY BRICK BUILDING

1 STORY METAL

2 STORY WOOD

ZONE AE (EL 12)

ZONE AE (EL 13)

ZONE AE (EL 13)

200' RIVERFRONT AREA

BITUMINOUS

CRUSHED STONE

FLAG STONE WALK

MULCH

GRAVEL

APPROX ELEC DUCT

TO ONCOMING TRAFFIC

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	108	180
PROJECT FILE NO.	606503		

TRAFFIC SIGN & PAVEMENT MARKINGS
SHEET 15 OF 16

606503_TR(SIGN & PVMT MRK(G).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 85

CONTINUED ON SHEET NO. 87

WATER STREET

CITY LAYOUT LINE

#73-75

MAP 17 PARCEL 12
N/F
RANGE LIGHT LIMITED PARTNERSHIP
852/303

MAP 17 PARCEL 11
N/F
NEW BURYPORT ART ASSOC., INC.
5646/19

#63-65

MAP 17 PARCEL 9
N/F
GORDON HALL &
MICHAEL B. MOSKOW
8919/491

#61

MAP 17 PARCEL 7
N/F
GORDON HALL &
MICHAEL B. MOSKOW
8919/491

ZONE AE
(EL 12)

2 STORY WOOD
RESTAURANT
#55-57

MAP 17 PARCEL 4
N/F
ROBERT W. HIGGINS
13440/469

MAP 17 PARCEL 3
N/F
NEWBURYPORT MANAGER LLC
23921/355

2 STORY
WOOD
BUILDING
#51

#49

MAP 17 PARCEL
N/F
FORTY FIVE WATER STREET RRA
8684/227

200' RIVERFRONT AREA

#45

#47

MAP 17 PARCEL 2a
N/F
ROBERT W. HIGGINS
DOC 38/241

MAP 17 PARCEL 1
N/F
NEWBURYPORT MANAGER LLC
23919/170

#43

ZONE AE
(EL 13)

MAP 17 PARCEL B
N/F
NEWBURYPORT MANAGER LLC
19105/461

RAIL TRAIL EASEMENT

RIVERFRONT AREA

BOS

TOS

W1-3R

PROP. STOP LINE

YIELD

TO ONCOMING TRAFFIC

R1-2
R1-2aP

NO MOTOR VEHICLES

R5-3
(BACK)

MAP 17 PARCEL 6
N/F
EUGENE GRECO
6436/100

MAP 17 PARCEL 8
N/F
EUGENE GRECO
9560/597

#61 REAR

PROP. DWLL
PROP. BIKE LANE
MARKING (TYP.)

SYCL

R5-3
(BACK)

R1-2
R1-2aP
(FRONT)

#51 REAR
MAP 17 PARCEL 21
N/F
NEWBURYPORT MANAGER LLC
23919/170

MAP 17 PARCEL 20

1 STORY WOOD
BUILDING
NEWBURYPORT MARINA'S
#51 REAR

MAP 17 PARCEL 10
N/F
U.S.A. COAST GUARD
BOOK 5878 PAGE 401

#63R

MAP 17 PARCEL 16
N/F
NEWBURYPORT MANAGER LLC
23921/421

MAP 17 PARCEL 17
N/F
NEWBURYPORT MANAGER LLC
23921/421

MAP 17 PARCEL 19
N/F
NEWBURYPORT MANAGER LLC
23921/421

MAP 17 PARCEL 19
N/F
NEWBURYPORT MANAGER LLC
23921/421

ZONE AE
(EL 13)

ZONE VE
(EL 13)

ZONE VE
(EL 14)

MERRIMACK RIVER

N/F
COMMONWEALTH OF MASSACHUSETTS

HWM

20 0 20 40
SCALE IN FEET

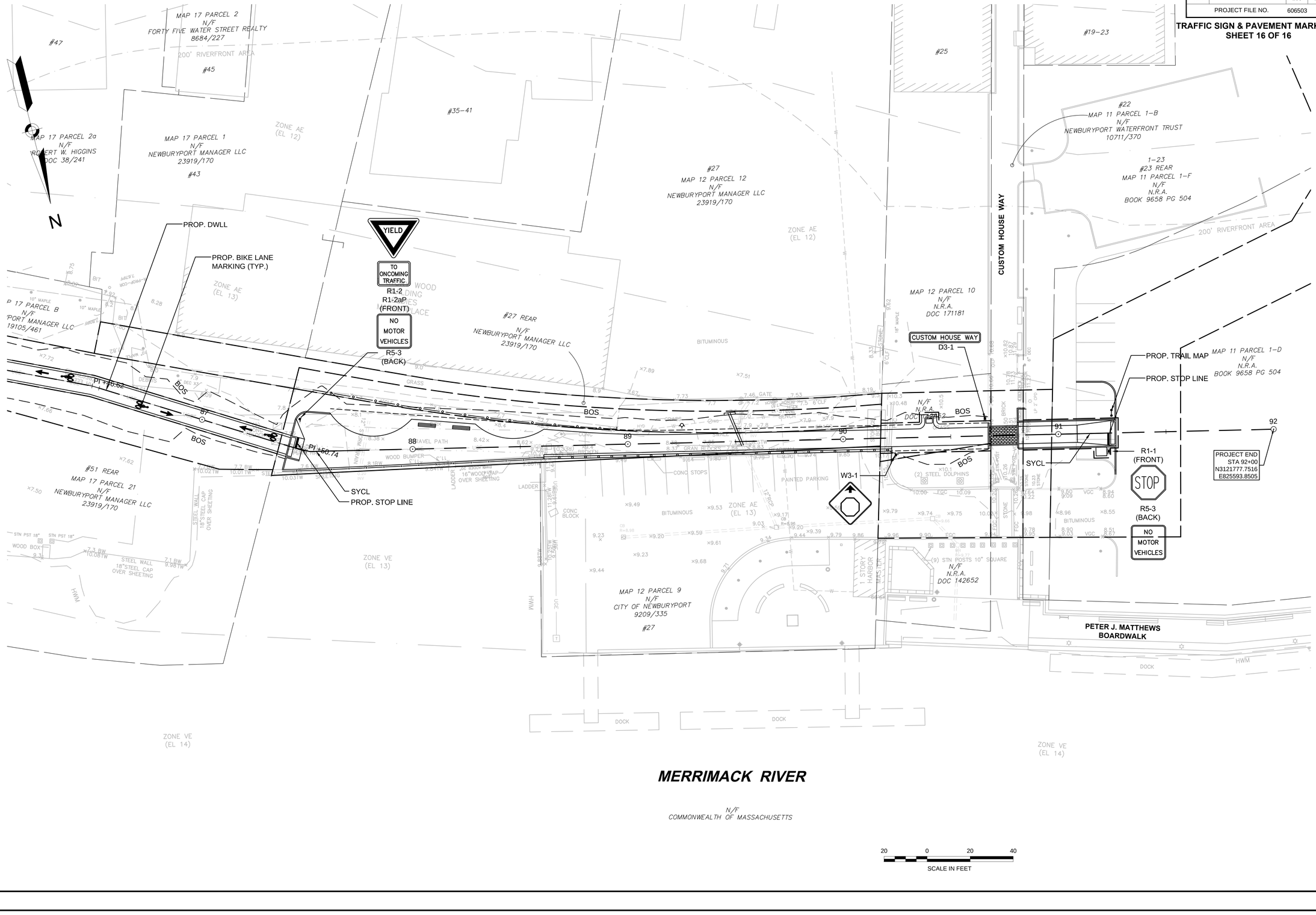
NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

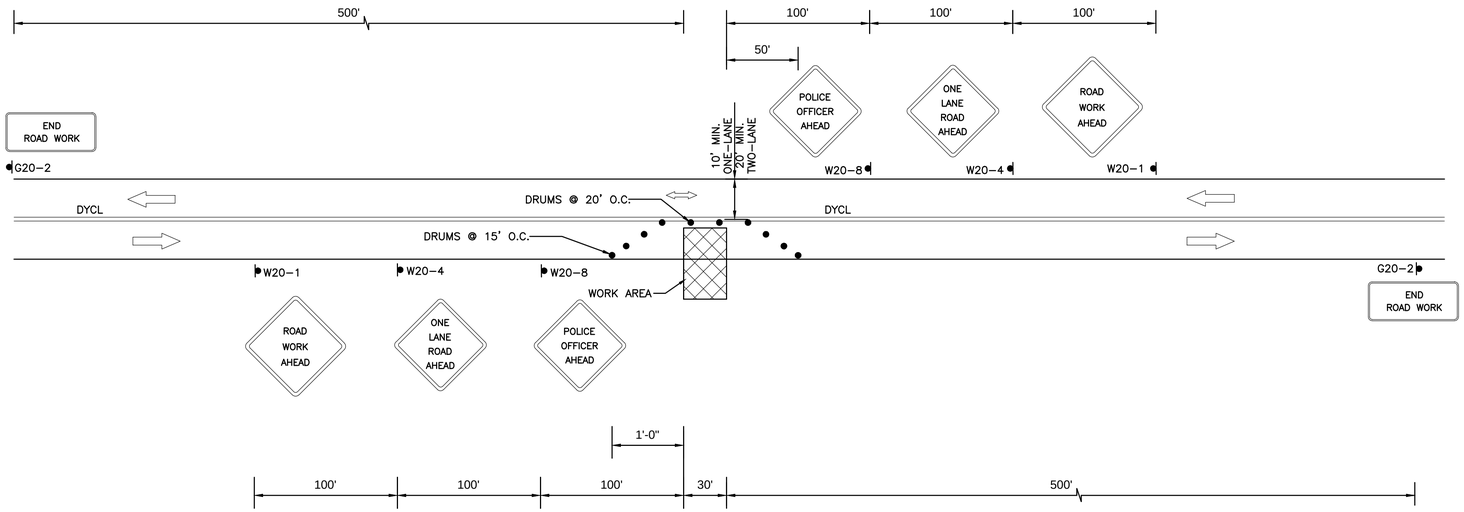
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	109	180
PROJECT FILE NO.	606503		

TRAFFIC SIGN & PAVEMENT MARKINGS
SHEET 16 OF 16

606503_TR(SIGN & PVMT MRKG).DWG 12-Jun-2015

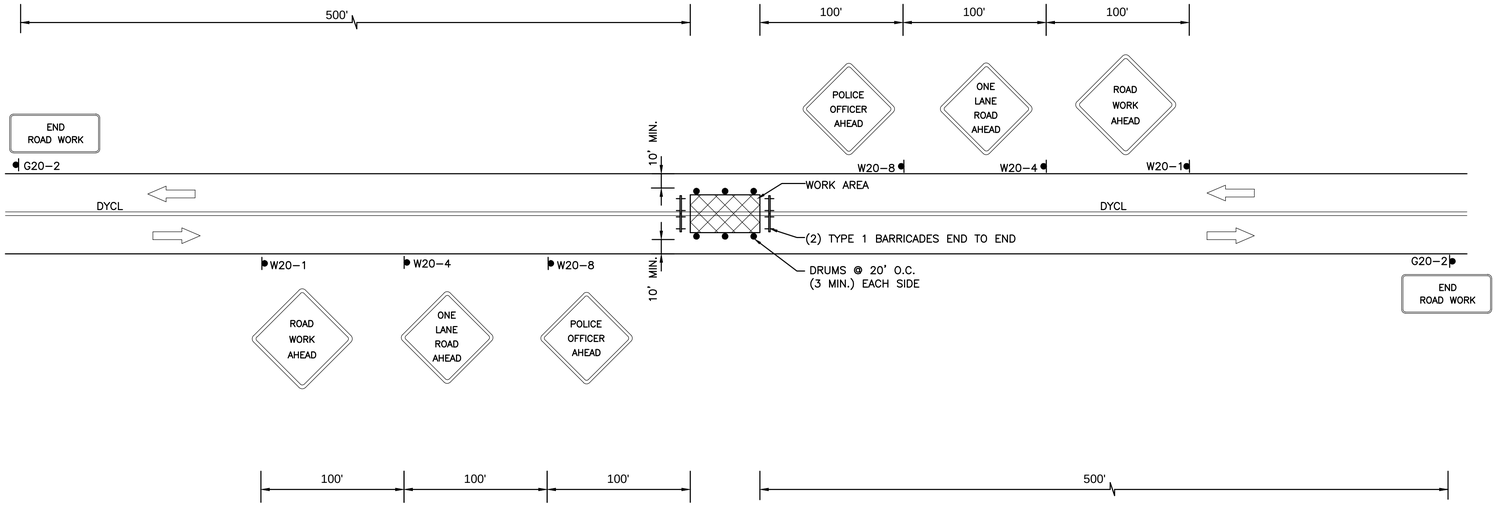
CONTINUED ON SHEET NO. 86





TRAFFIC MANAGEMENT FOR PARTIAL OR FULL LANE CLOSURE

NTS



TRAFFIC MANAGEMENT FOR CENTER WORK AREA

NTS

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	110	180
PROJECT FILE NO.	606503		

TEMPORARY TRAFFIC CONTROL PLANS
SHEET 1 OF 3

606503_TR(TMP).DWG 12-Jun-2015

NOTES

1. THE TRAFFIC MANAGEMENT PLANS PRESENT SUGGESTED CONSTRUCTION STAGING WITH PERTINENT TRAFFIC CONTROLS. THE CONTRACTOR MAY SUBMIT ALTERNATE STAGING AND TRAFFIC CONTROL PLAN FOR APPROVAL BY THE ENGINEER IN WRITING.
2. ALL DISTANCES MAY BE ADJUSTED TO FIT FIELD CONDITIONS, AS DIRECTED BY THE ENGINEER. HOWEVER, MINIMUM DISTANCES, WHERE INDICATED, SHOULD BE MAINTAINED.
3. CHANNELIZATION WILL BE ACCOMPLISHED THROUGH THE USE OF REFLECTORIZED PLASTIC DRUMS. FOR THE FIRST FIVE DRUMS, ATTACH FLASHER TYPE "A".
4. PLASTIC DRUMS WITH ANY FORM OF LIGHTING DEVICE MOUNTED ON THEM MUST PASS THE CRITERIA AS SET FORTH IN NCHRP 350 "RECOMMEND PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES." IF THEY DO NOT MEET THE CRITERIA THEY MUST BE REMOVED FROM THE PROJECT.
5. ALL CONSTRUCTION SIGNS SHALL BE BLACK LEGEND ON A REFLECTIVE ORANGE BACKGROUND. WARNING AND REGULATORY SIGNS SHALL BE MUTCD STANDARD COLORS. ALL CONSTRUCTION SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND MASSDOT STANDARDS. ALL CONSTRUCTION SIGNS SHALL BE ATTACHED TO THEIR OWN INDEPENDENT SUPPORTS.
6. FLASHING WARNING LIGHTS AND/OR FLAGS MAY BE USED ON ADVANCE WARNING SIGNS AS DIRECTED BY THE ENGINEER. FLAGS SHALL BE A MINIMUM OF 16" X 16".
7. ALL CONSTRUCTION TRAFFIC CONTROL DEVICES SHALL BE REMOVED IMMEDIATELY WHEN NO LONGER NEEDED.
8. THE CONTRACTOR MUST MAINTAIN ACCESS AND EGRESS AT ALL TIMES TO ALL PROPERTIES ABUTTING THE WORK ZONE.
9. FOR CONSTRUCTION OPERATIONS OF LONG DURATION (MORE THAN 3 DAYS). EXISTING CENTERLINE MARKINGS SHALL BE REMOVED AND A TEMPORARY CENTERLINE STRIPED IN A PROPER LOCATION.
10. ADVANCE WARNING SIGNS NO LONGER APPLICABLE, WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS, SHALL EITHER BE COVERED OR REMOVED AS SOON AS POSSIBLE. NO SIGN SHALL BE VISIBLE TO TRAFFIC THAT MAY CONFLICT WITH ACTUAL ROADWAY CONDITIONS.
11. PAVEMENT MARKINGS NO LONGER APPLICABLE, WHICH MAY CREATE CONFUSION, SHALL BE REMOVED. TEMPORARY PAVEMENT MARKINGS SHALL BE USED AS NECESSARY TO PROPERLY DELINEATE THE ROADWAY AND SHALL BE IN PLACE BEFORE WORK IS COMPLETED EACH DAY.
12. AT THE END OF EACH WORKDAY, NO TRAFFIC CONTROL DEVICES SHALL REMAIN IN THE ROADWAY, AND ALL ROADWAYS SHALL BE OPEN FOR TWO-WAY TRAFFIC BY FILLING EXCAVATIONS TO GRADE OR USING STEEL PLATES.
13. THE CONTRACTOR SHALL NOT PERFORM ANY WORK IN THE ROADWAY AREA THAT WILL DISRUPT TRAVEL BETWEEN THE HOURS OF 6:00AM TO 9:00AM AND 3:00PM TO 6:00PM.
14. SIGNS W20-8 (POLICE OFFICER AHEAD) OR W20-7A (FLAGGER AHEAD) SHALL BE COVERED OR REMOVED DURING NON-CONSTRUCTION HOURS OR WHEN POLICE OFFICERS OR FLAGGERS ARE NOT PRESENT TO DIRECT TRAFFIC.
15. SIGNS R9-10 SHALL BE RESET FOR EACH PHASE OF THE WORK.

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	111	180
PROJECT FILE NO.	606503		

TEMPORARY TRAFFIC CONTROL PLANS
SHEET 2 OF 3

606503_TR(TMP2).DWG 28-Mar-2013

ROAD WORK AHEAD W20–1
ROAD NARROWS W5–1
POLICE OFFICER AHEAD W20–8

PURCHASE STREET
HARRISON ST.
DRUMS @20' O.C. (TYP.) TO PREVENT PARKING
20' MIN.
TAPER 50'
DRUMS @15' O.C.
KEEP DRIVE CLEAR (TYP.)
DRUMS @20' O.C. PHASE 1 WORK AREA
WORK AREA
50' TAPER
100'
ONE LANE
CITY LAYOUT LINE
PI 41+46
PRC 54+35
PT 79.01
PI +99.89
BOS
PT 82.52
W20–8
W20–4
W20–1
ONE LANE ROAD AHEAD
MAP 25 PARCEL 14 N/F ROGER BLOCK 22874/266
MAP 25 PARCEL 13–B N/F CHRISTOPHER P. ZYBERT/ JULIE A. CHAKRIN 33683/282 & CHRISTOPHER D. DAVIS/ LORI B. DAVIS 28856/545
MAP 26 PARCEL 74–A N/F MARY LASELVA 34008/46
MAP 26 PARCEL 74–B N/F RICHARD SALUS 12637/28
MAP 26 PARCEL 35 N/F CITY OF NEWBURYPORT 25956/191
MAP 26 PARCEL 36 N/F TIMOTHY J. HOLOHAN/ NADINE M. HOLOHAN 15762/203
MAP 26 PARCEL 37 N/F DONNA S. GLICK/ JANE MAKI 27388/555
MASSACHUSETTS ELEC. CO. EASEMENT BK 25953 PG 463
MAP 26 PARCEL 75 N/F IRWIN E. SCHOWENGERDT TRUSTEE 11496/340
#39 #41 #45 #47–47.5 #52 #54 #56 #58–60 #64 #10 #12–14 #13–15 #17 #21
2.5 STORY WOOD HOUSE
1 STORY WOOD HOUSE
WOOD SHED
STONEWALL N/F CITY OF NEWBURYPORT 25956/191
CONC EDGE FOR BUILT IN POOL
7' WOOD PICKET FENCE
7' WOOD FENCE
WIRE FENCE
VINYL FENCE
STONE WALL
STONE STEP
BRICK WALK
CONC STEPS
CONC WALK
PAVER DRIVE
BIT DRIVE
CONC DRIVE
CARPORT
RR TRACKS
2–BS–L.P.–1929
2–W–L.P.–1900
WATER–SIZE UNKNOWN
12" MAPLE
10" MAPLE
8" MAPLE
6" MAPLE
12" APPLE
10" APPLE
TREE FARM
FRUIT BUSHES
ROAD SECTION
20 0 20 40
SCALE IN FEET

PHASE 1

DRUMS @20' O.C. TO PREVENT PARKING
50' TAPER
20' MIN.
DRUM @ 15' O.C. TYP.
DRUM @ 20' O.C.
PHASE 2 WORK AREA
50' TAPER
DRUM @ 15' O.C. TYP.

PHASE 2

DRUMS @20' O.C. TO PREVENT PARKING TYP.
50' TAPER
DRUMS @15' O.C.
20 MIN.
DRUMS @20' O.C.
PHASE 3 WORK AREA

PHASE 3

NOTES

1. THE TRAFFIC MANAGEMENT PLANS PRESENT SUGGESTED CONSTRUCTION STAGING WITH PERTINENT TRAFFIC CONTROLS. THE CONTRACTOR MAY SUBMIT ALTERNATE STAGING AND TRAFFIC CONTROL PLAN FOR APPROVAL BY THE ENGINEER IN WRITING.
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3. CHANNELIZATION WILL BE ACCOMPLISHED THROUGH THE USE OF REFLECTORIZED PLASTIC DRUMS. FOR THE FIRST THREE DRUMS, ATTACH FLASHER TYPE "A".
4. PLASTIC DRUMS WITH ANY FORM OF LIGHTING DEVICE MOUNTED ON THEM MUST PASS THE CRITERIA AS SET FORTH IN NCHRP 350 "RECOMMEND PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES." IF THEY DO NOT MEET THE CRITERIA THEY MUST BE REMOVED FROM THE PROJECT.
5. ALL CONSTRUCTION SIGNS SHALL BE BLACK LEGEND ON A REFLECTIVE ORANGE BACKGROUND. WARNING AND REGULATORY SIGNS SHALL BE MUTCD STANDARD COLORS. ALL CONSTRUCTION SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND MASSDOT STANDARDS. ALL CONSTRUCTION SIGNS SHALL BE ATTACHED TO THEIR OWN INDEPENDENT SUPPORTS.
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13. THE CONTRACTOR SHALL NOT PERFORM ANY WORK IN THE ROADWAY AREA THAT WILL DISRUPT TRAVEL BETWEEN THE HOURS OF 6:00AM TO 9:00AM AND 3:00PM TO 6:00PM.
14. SIGNS W20-7b (POLICE OFFICER AHEAD) OR W20-7A (FLAGGER AHEAD) SHALL BE COVERED OR REMOVED DURING NON-CONSTRUCTION HOURS OR WHEN POLICE OFFICERS OR FLAGGERS ARE NOT PRESENT TO DIRECT TRAFFIC.
15. SIGNS R9-10 SHALL BE RESET FOR EACH PHASE OF THE WORK.
16. FIRST (5) PLASTIC DRUMS OF TAPER TO BE MOUNTED WITH TYPE A LIGHTS.

CONSTRUCTION SIGN SUMMARY

IDENTIFI–CATION NUMBER	SIZE OF SIGN (INCHES) WIDTH	HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	VER. SPAC.	ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACK–GROUND	LEGEND BORDER	RADIUS (INCHES)	BORDER SIZE (INCHES)	POST SIZE AND NUMBER REQUIRED	UNIT AREA IN SQUARE FEET	AREA IN SQUARE FEET
W20–1	36	36	ROAD WORK AHEAD	5D	3.682	–	6	ORANGE	BLACK	2.25	.875	P5 (5)	9.00	54.00
W20–7b	36	36	POLICE OFFICER AHEAD	5D	3.682	–	6	ORANGE	BLACK	2.25	.875	P5 (5)	9.00	54.00
W5–1	36	36	ROAD NARROWS	6D	3.5	–	6	ORANGE	BLACK	2.25	.875	P5 (5)	9.00	54.00
R2–10a	24	30	WORK ZONES / SPEEDING FINES DOUBLED	4D	2.5	–	6	ORANGE	BLACK	1.5	.625	P5 (6)	5	30.00
R2–10e	36	48	END ROAD WORK DOUBLE FINES END	5C	4	–	6	ORANGE	BLACK	2.25	.875	P5 (6)	12.00	72.00
R4–7	24	30		–	–	3	6	WHITE	BLACK	1.5	.625	P5 (6)	5	30.00
R9–9	24	12	SIDEWALK CLOSED	4D	1.75	–	4	WHITE	BLACK	1.5	.625	TYPE 1 BARRICADE (8)	2.00	6.00
													TOTAL:	300.00

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	112	180
PROJECT FILE NO.	606503		

TEMPORARY TRAFFIC CONTROL PLANS
SHEET 3 OF 3

606503_TR(TMP2).DWG 28-Mar-2013

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	113	180
PROJECT FILE NO.	606503		

SIGN SUMMARY SHEET
SHEET 1 OF 2

606503_TR(SIGN SUMMARY).DWG 12-Jun-2015

TRAFFIC SIGN SUMMARY

IDENTIFI-CATION NUMBER	SIZE OF SIGN (INCHES) WIDTH	SIZE OF SIGN (INCHES) HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	TEXT DIMENSIONS (INCHES) VER. SPAC.	TEXT DIMENSIONS (INCHES) ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	COLOR LEGEND BORDER	RADIUS (INCHES)	BORDER SIZE (INCHES)	POST SIZE AND NUMBER REQUIRED	UNIT AREA IN SQUARE FEET	AREA IN SQUARE FEET
R1-1	18"	18"	STOP	MUTCD STANDARDS	MUTCD STANDARDS	MUTCD STANDARDS	14	MUTCD STANDARDS	MUTCD STANDARDS	MUTCD STANDARDS	MUTCD STANDARDS	P5 (14)	3.125	3.125
R7-8	12"	18"	RESERVED PARKING				1					P5 (X)	1.50	1.50
R7-8A	18"	9"	VAN ACCESSIBLE				1					P5 (X)	1.125	1.125
R5-3	16"	16"	NO MOTOR VEHICLES				17					MOUNTED ON BACK OF R1-1 (MUST NOT OBSCURE OCTAGONAL SHAPE)	1.77	30.15
R7-1	12"	18"	NO PARKING ANY TIME				4					P5 (4)	1.50	6
R7-1R	12"	18"	NO PARKING ANY TIME				3					P5 (3)	1.50	4.5
R7-1L	12"	18"	NO PARKING ANY TIME				4					P5 (3)	1.50	6
W3-1	18"	18"					8					P5 (6)	2.25	18
W11-15	30"	30"					21					P5 (17)	6.25	131.25
W11-15P	24"	18"	TRAIL X-ING				9					P5 (0)	3.0	27
W16-7P	24"	12"					10					P5 (0)	2.0	20
W16-9P	24"	12"	AHEAD				11					P5 (0)	2.0	22
W1-3R	18"	18"					5					P5 (4)	2.25	11.25

606503_TR(SIGN SUMMARY).DWG 12-Jun-2015

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES) WIDTH	SIZE OF SIGN (INCHES) HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	TEXT DIMENSIONS (INCHES) VER. SPAC.	TEXT DIMENSIONS (INCHES) ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	COLOR LEGEND BORDER	RADIUS (INCHES)	BORDER SIZE (INCHES)	POST SIZE AND NUMBER REQUIRED	UNIT AREA IN SQUARE FEET	AREA IN SQUARE FEET
W1-6R	24"	12"		MUTCD STANDARDS	MUTCD STANDARDS	MUTCD STANDARDS	1	MUTCD STANDARDS	MUTCD STANDARDS	MUTCD STANDARDS	MUTCD STANDARDS	P5 (0)	2.0	2
W1-6L	24"	12"					1					P5 (0)	2.0	2
W41-3	18"	18"	SLOW				2					P5 (2)	2.25	4.50
W5-4A	18"	18"	PATH NARROWS				3					P5 (1)	2.25	6.75
R1-2aP	24"	18"	TO ONCOMING TRAFFIC				6					MOUNTED WITH R1-2	3.0	18
R1-2	18"	18"	YIELD				6					P5 (6)	2.25	13.5
W1-1	18"	18"					1					P5 (X)	2.25	2.25
W1-1R	18"	18"					1					P5 (X)	2.25	2.25
SP-1	18"	18"	RAISED CROSSWALK AHEAD				4					P5 (4)	2.25	9
SP-2	12"	18"	TRAIL CONTINUES	REFER TO DETAILS ON SHEET 141	REFER TO DETAILS ON SHEET 141	REFER TO DETAILS ON SHEET 141	1	REFER TO DETAILS ON SHEET 141	REFER TO DETAILS ON SHEET 141	REFER TO DETAILS ON SHEET 141	REFER TO DETAILS ON SHEET 141	P5 (1)	1.5	1.5
SP-3	12"	12"	TRAIL CONTINUES				1					P5 (1)	1.5	1.5
SP-4			CLIPPER CITY RAIL TRAIL				1					REFER TO DETAILS ON SHEET 141		
SP-5	24"	12"	SLOW				5					P5 (0)	2.0	10
SP-6	VARIES	12"	Parker St.	REFER TO DETAILS ON SHEET 141	REFER TO DETAILS ON SHEET 141	REFER TO DETAILS ON SHEET 141	22	REFER TO DETAILS ON SHEET 141	REFER TO DETAILS ON SHEET 141	REFER TO DETAILS ON SHEET 141	REFER TO DETAILS ON SHEET 141	P5 (5)	VARIES	VARIES

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	115	180
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LANDSCAPE PLANS
SHEET 1 OF 16

606503_LD(LANDSCAPE PLANS).DWG 12-Jun-2015

N

NEWBURYPORT
NEWBURY

CITY LAYOUT LINE

PARKER STREET

MAP U-07 PARCEL 24
N/F OAK HILL CEMETERY
BOOK 3414 PAGE 4

MAP 34 PARCEL 8
N/F
OAK HILL CEMETERY
3414/4

MAP 34 PARCEL 20
N/F
CITY OF NEWBURYPORT
25956/191

MAP R-47 PARCEL 41
N/F
MASS. ELECTRIC CO.
BOOK 2838 PAGE 399

PROJECT BEGIN
STA 10+00
N3116791.7573
E825138.6258

BEGIN +00.00

MAP U-07 PARCEL 25
N/F
MASS. ELECTRIC CO.
BOOK 2838 PAGE 399

APPLE TREE, LIMB UP, PRUNE OUT DEAD WOOD

SEED MIX - TYPE A
STA 11+00 TO 15+00

PROP. SEED MIX - TYPE C

PROP. MOWING AND BRUSH CUTTING

EXIST. TREES TO REMAIN (TYP.)

PROP. LIMIT OF SELECTIVE PRUNING AND THINNING AREA

PC +78.48

PRCC +56.14

PROP. SEED MIX

PROP. 40' WIDE SELECTIVE TARGETED PLANT AND POISON IVY CONTROL, AREA 'A' - STA 14+00 TO 29+00.

MASSACHUSETTS ELEC. CO.
EASEMENT
BK 25953 PG 463

MAP U-07 PARCEL 25A
N/F TOWN OF NEWBURY
25956/212

MAP U-07 PARCEL 26
N/F
CITY OF NEWBURY
NO REF

MAP U-07 PARCEL 27
N/F KATHLEEN E. MURRAY & THOMAS W. GREELEY
BOOK 24633 PAGE 296

#41R

#46

100' BUFFER ZONE

50' BUFFER ZONE

WETLAND

CONTINUED ON SHEET NO. 109

LEGEND

- SEEDING TYPE A, B OR C
- MOWING AND BRUSH CUTTING
- WOOD CHIP MULCH
- PERENNIAL PLANTING
- EXISTING DECIDUOUS TREE
- EXISTING EVERGREEN TREE

NOTES:

1. PLANT LOCATIONS TO BE APPROVED BY A LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
2. LIMITS OF SELECTIVE CLEARING TO BE DETERMINED OR APPROVED IN THE FIELD BY A LANDSCAPE ARCHITECT PRIOR TO WORK.

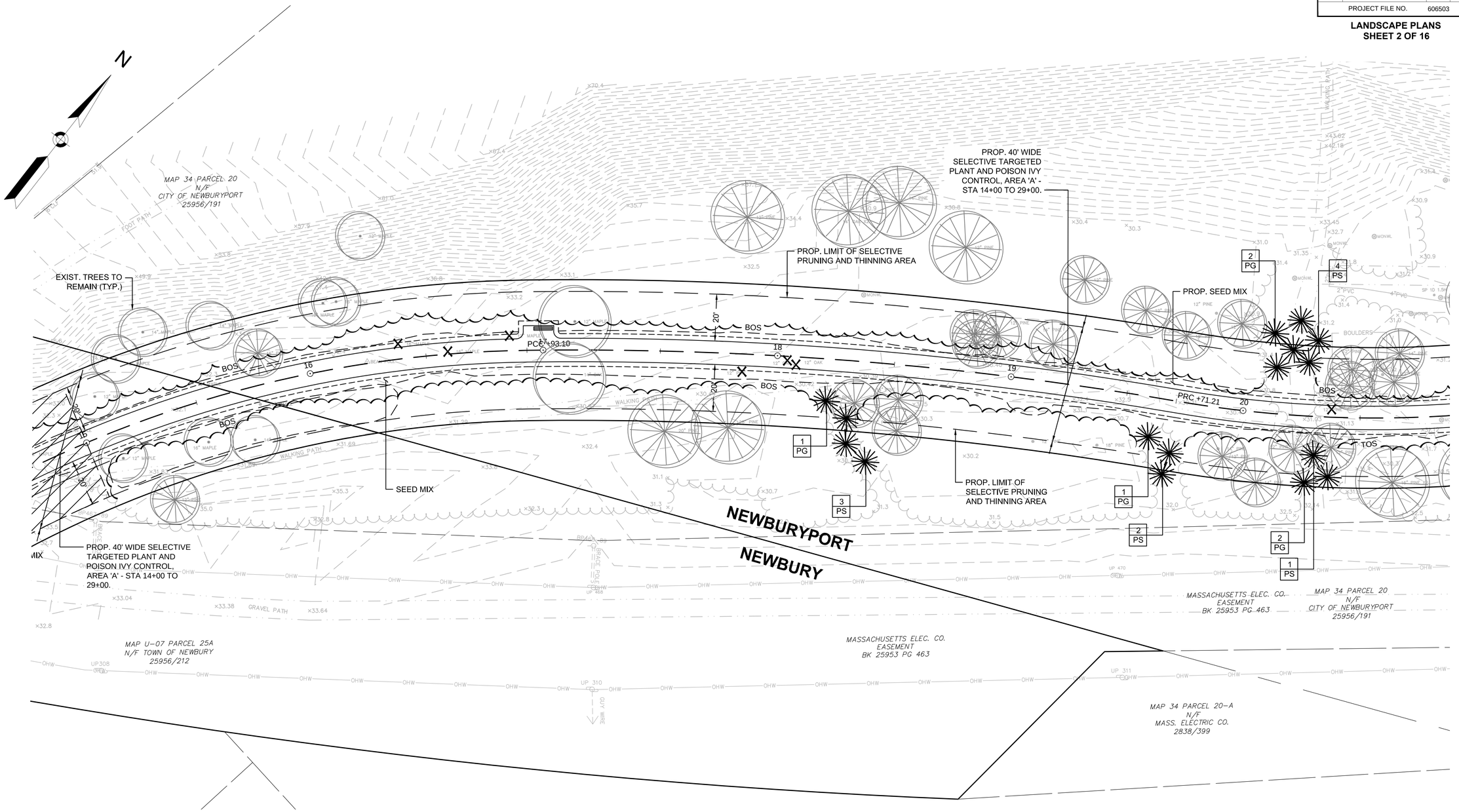
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SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	116	180
PROJECT FILE NO.		606503	

LANDSCAPE PLANS
SHEET 2 OF 16

606503_LD(LANDSCAPE PLANS).DWG 12-Jun-2015



PLANT LIST					
QTY.	ID	BOTANICAL NAME	COMMON NAME	SIZE	COMMENT
6	PG	PICEA GLAUCA	WHITE SPRUCE	5-6 FT.	B&B
10	PS	PINUS STROBUS	WHITE PINE	5-6 FT.	B&B

NOTE:
MAX. 12' SPACING FOR EVERGREENS

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

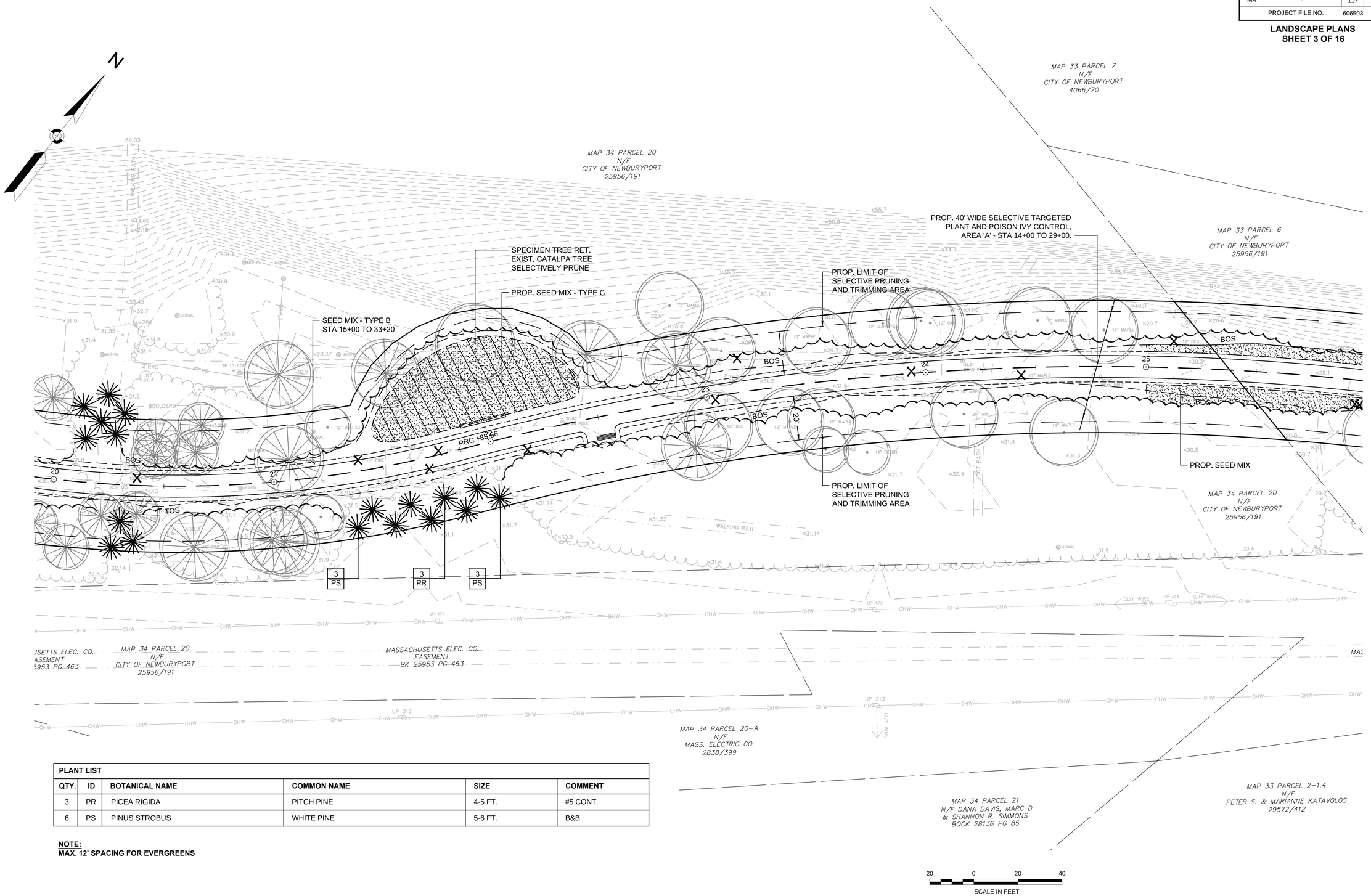
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	117	180
PROJECT FILE NO.		606503	

LANDSCAPE PLANS
SHEET 3 OF 16

606503_LD(LANDSCAPE PLANS).DWG 12-Jun-2015

CONTINUED ON SHEET NO.109

CONTINUED ON SHEET NO.111



PLANT LIST					
QTY.	ID	BOTANICAL NAME	COMMON NAME	SIZE	COMMENT
3	PR	PICEA RIGIDA	PITCH PINE	4-5 FT.	#5 CONT.
6	PS	PINUS STROBUS	WHITE PINE	5-6 FT.	B&B

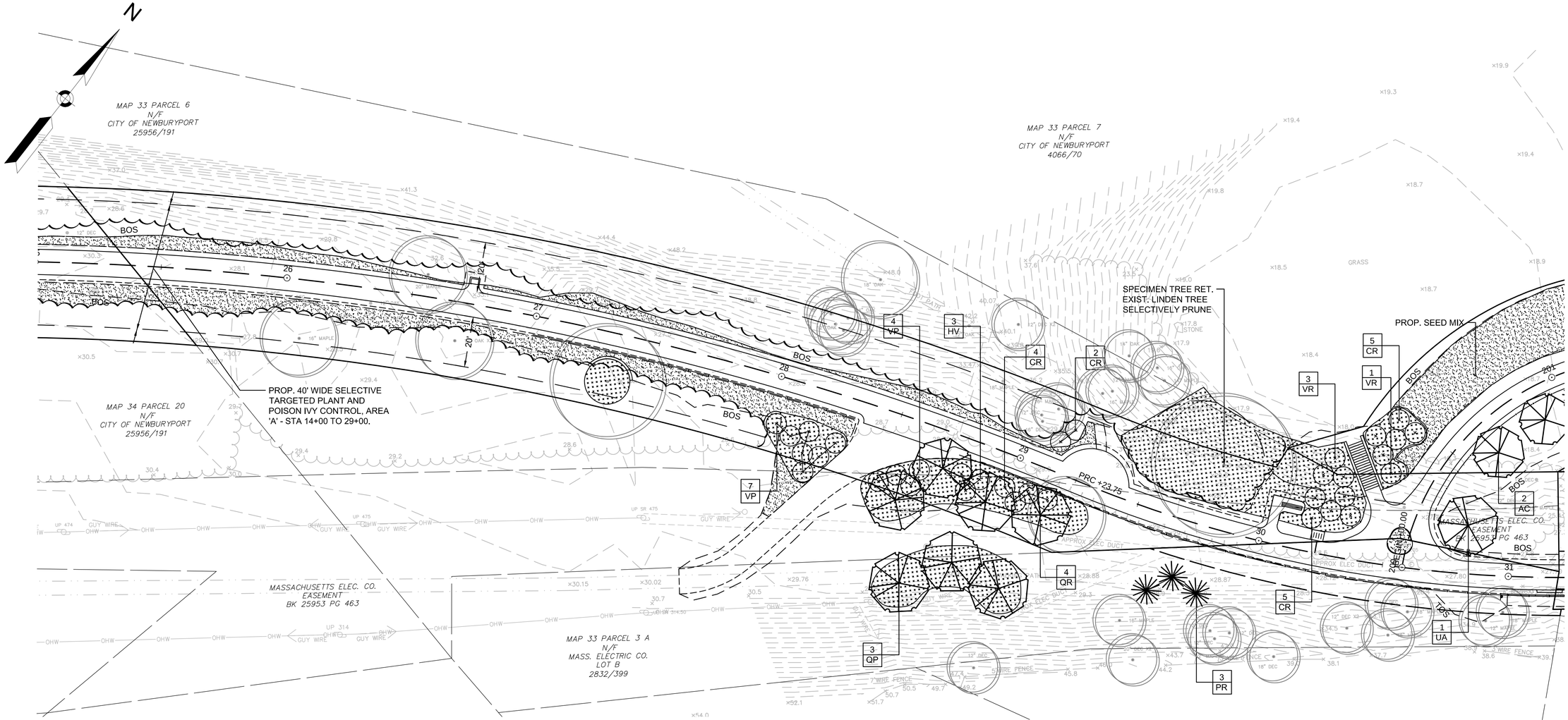
NOTE:
MAX. 12' SPACING FOR EVERGREENS

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	118	180
PROJECT FILE NO.		606503	

LANDSCAPE PLANS
SHEET 4 OF 16

606503_LD(LANDSCAPE PLANS).DWG 12-Jun-2015



PLANT LIST					
QTY.	**ID**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**COMMENT**
2	AC	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY	4-5 FT. CLUMP	B&B
16	CR	CORNUS RACEMOSA	GRAY DOGWOOD	4-5 FT.	B&B
3	HV	HAMAMELIS VIRGINIANA	COMMON WITCH HAZEL	3-4 FT.	#3 CONT.
3	PR	PICEA RIGIDA	PITCH PINE	4-5 FT.	#5 CONT.
3	QP	QUERCUS PALUSTRIS	PIN OAK	2.5-3 INCH CAL.	B&B
4	QR	QUERCUS RUBRA	RED OAK	2.5-3 INCH CAL.	B&B
1	UA	ULMUS AMERICANA 'VALLEY FORGE'	VALLEY FORGE ELM	2.5-3 INCH CAL.	B&B
11	VP	VIBURNUM PRUNIFOLIUM	BLACKHAW VIBURNUM	3-4 FT.	#5 CONT.
5	VR	VIBURNUM RHYTIDOPHYLLUM	LEATHERLEAF VIBURNUM	3-4 FT.	B&B

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	119	180
PROJECT FILE NO.	606503		

LANDSCAPE PLANS
SHEET 5 OF 16

12-Jun-2015

606503_LD(LANDSCAPE PLANS).DWG

CONTINUED ON SHEET NO. 111

CONTINUED ON SHEET NO.113

N

HIGH STREET

BROMFIELD STREET

MARCH'S HILL

PROP. SEED MIX

EXIST. / PROP. GRANITE WALLS

PROP. TIMBER CRIB WALLS

PROP. TIMBER CRIB WALL

EXIST. TREES TO REMAIN (TYP.)

BRIDGE NO. N-11-004

MAP 33 PARCEL 7 N/F CITY OF NEWBURYPORT 4066/70

MAP 33 PARCEL 5-A N/F SALEM FIVE MORTGAGE CO. BOOK 33029 PG 16

MASS. ELECTRIC CO. EASEMENT BK 2695/2 PG 463

RAIL TRAIL EASEMENT BK 30425/PG 122

MAP 33 PARCEL 5 N/F SALEM FIVE MORTGAGE CO. BOOK 32917/PG 422

COMMONWEALTH OF MA EASEMENT BK 6203 PG 343 PLAN 456 OF 1975

MAP 24 PARCEL 71 N/F JANICE DESANTIS 6497/153

MAP 24- PARCEL 71-A N/F MASS. ELECTRIC CO. 2838/399

MAP 24- PARCEL 71-B N/F MASS. ELECTRIC CO. 2838/399

MAP 24- PARCEL 71-C N/F MASS. ELECTRIC CO. 2838/399

MAP 24 PARCEL 69 N/F JULIA M. HINES 25118/418

MAP 24 PARCEL 70 N/F SCOTT TILEY 10717/12

MAP 24 PARCEL 72 N/F DOUGLAS H. CROSSMAN 17510/320

CITY LAYOUT LINE

TREE AND SHRUB SCHEDULE					
QTY.	ID	BOTANICAL NAME	COMMON NAME	SIZE	COMMENT
4	AC	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY	4-5 FT. CLUMP	B&B
3	AR	ACER RUBRUM	RED MAPLE	2.5-3" CAL.	B&B
1	BN	BETULA NIGRA 'HERITAGE'	HERITAGE RIVER BIRCH	8-10 FT. CLUMP	B&B
10	CR	CORNUS RACEMOSA	GRAY DOGWOOD	4-5 FT.	B&B
172	DP	DENNSTAEDTIA PUNCTIOLOBULA	HAY SCENTED FERN	BARE ROOT	24"-30" O.C.
2	LB	LINDERA BENZOIN	COMMON SPICEBUSH	3-4 FT.	B&B
8	PG	PICEA GLAUCA	WHITE SPRUCE	5-6 FT.	B&B
6	RP	RHODODENDRON PERICLYMENOIDES	PINXTERBLOOM AZALEA	2-3 FT,	#3 CONT.
40	SA	SYMPHORICARPOS ALBUS	COMMON SNOWBERRY	3-4 FT.	B&B
16	SC	SYMPHORICARPOS x CHENAULTII	CHENAULT CORALBERRY	3-4 FT.	B&B
5	VR	VIBURNUM RHYTIDOPHYLLUM	LEATHERLEAF VIBURNUM	3-4 FT.	B&B

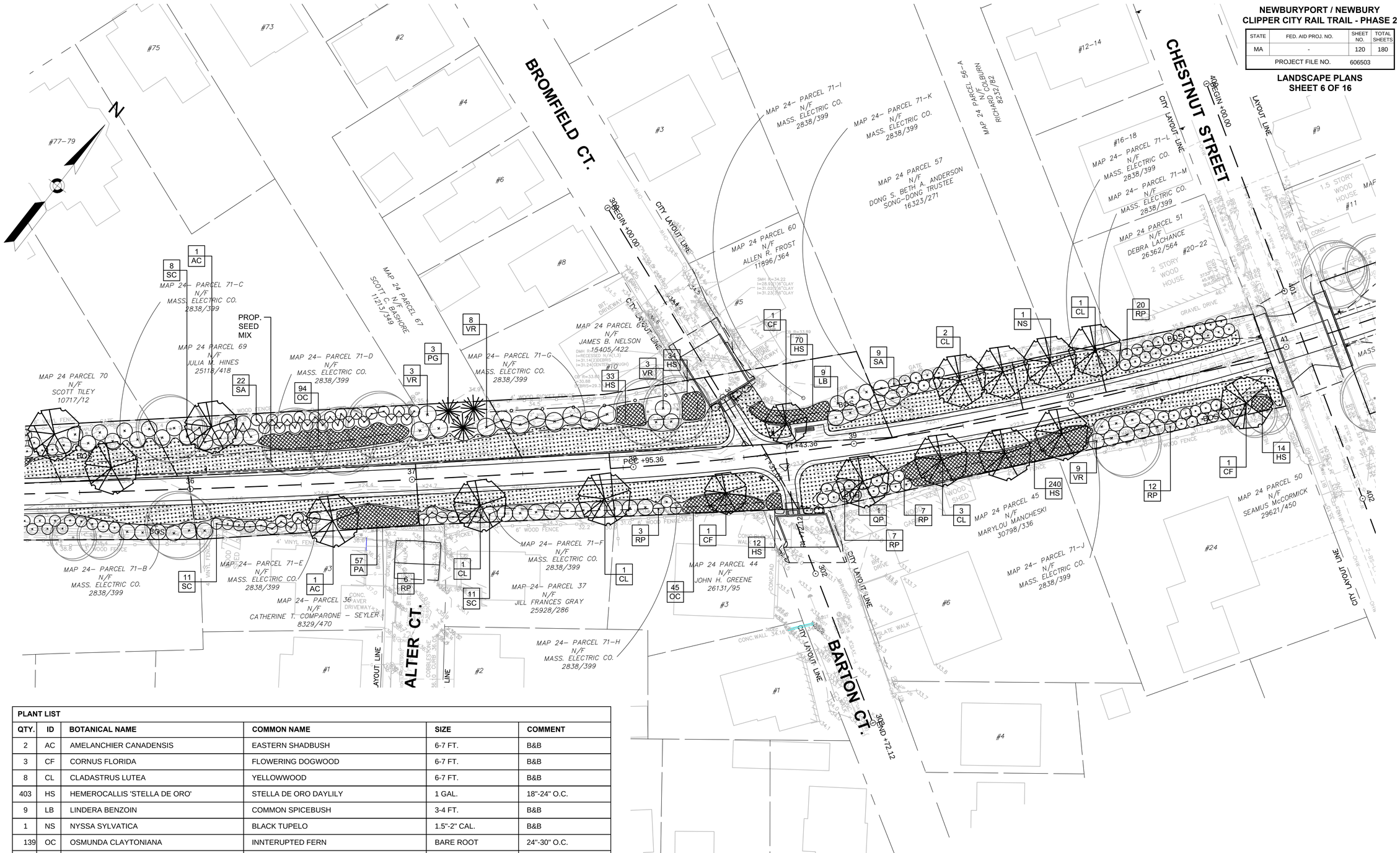
20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	120	180
PROJECT FILE NO.		606503	

LANDSCAPE PLANS
SHEET 6 OF 16

606503_LD(LANDSCAPE PLANS).DWG 12-Jun-2015



PLANT LIST					
QTY.	ID	BOTANICAL NAME	COMMON NAME	SIZE	COMMENT
2	AC	AMELANCHIER CANADENSIS	EASTERN SHADBUSH	6-7 FT.	B&B
3	CF	CORNUS FLORIDA	FLOWERING DOGWOOD	6-7 FT.	B&B
8	CL	CLADASTRUS LUTEA	YELLOWWOOD	6-7 FT.	B&B
403	HS	HEMEROCALLIS 'STELLA DE ORO'	STELLA DE ORO DAYLILY	1 GAL.	18"-24" O.C.
9	LB	LINDERA BENZOIN	COMMON SPICEBUSH	3-4 FT.	B&B
1	NS	NYSSA SYLVATICA	BLACK TUPELO	1.5"-2" CAL.	B&B
139	OC	OSMUNDA CLAYTONIANA	INNTERUPTED FERN	BARE ROOT	24"-30" O.C.
57	PA	POLYSTICHUM ACROSTICHOIDES	CHRISTMAS FERN	BARE ROOT	24"-30" O.C.
3	PG	PICEA GLAUCA	WHITE SPRUCE	5-6 FT.	B&B
1	QP	QUERCUS PALUSTRIS	PIN OAK	1.5"-2" CAL.	B&B
55	RP	RHODODENDRON PERICLYMENOIDES	PINXTERBLOOM AZALEA	2-3 FT.	# 3 CONT.
31	SA	SYMPHORICARPOS ALBUS	COMMON SNOWBERRY	3-4 FT.	B&B
30	SC	SYMPHORICARPOS x CHENAULTII	CHENAULT CORALBERRY	3-4 FT.	B&B
23	VR	VIBURNUM RHYTIDOPHYLLUM	LEATHERLEAF VIBURNUM	3-4 FT.	B&B

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	121	180
PROJECT FILE NO.	606503		

LANDSCAPE PLANS
SHEET 7 OF 16

606503_LD(LANDSCAPE PLANS).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 113

CONTINUED ON SHEET NO. 115

CHESTNUT STREET

HANCOCK STREET

BEGIN +00.000

END +50.003

CITY LAYOUT LINE

EXIST. PLANTING BED TO REMAIN

EXIST. TREES TO REMAIN

PROP. SEED MIX

PT +65.28

PC +84.44

BOS

MASSACHUSETTS ELEC. CO. EASEMENT BK 2595/PG 463

MASSACHUSETTS ELEC. CO. EASEMENT BK 2595/PG 463

MASSACHUSETTS ELEC. CO. EASEMENT BK 25353/PG 463

#12–14

#16–18

MAP 24– PARCEL 71–L N/F MASS. ELECTRIC CO. 2838/399

MAP 24– PARCEL 71–M N/F MASS. ELECTRIC CO. 2838/399

MAP 24 PARCEL 51 N/F DEBRA LACHANCE 26362/564

#20–22

2 STORY WOOD HOUSE

GRAVEL DRIVE

#14

#7

#16

#9

#11

MAP 25 PARCEL 65 N/F LISA STEWART 26225/353

MAP 25 PARCEL 50 N/F PATRICIA BUCKLEY 22846/328

#22

MAP 25 PARCEL 40 N/F RICHARD HILL 26472/547

#17

#15

MAP 25 PARCEL 14 N/F AARON COFFIN 26983/569

#13

MAP 25 PARCEL 18 N/F ANTHONY LOWTHER 25513/365

#7–9

MAP 25 PARCEL 19 N/F ROBERT FOLEY 25637/385

MAP 25 PARCEL 17 N/F GARY WELCH 6109/691

#3

MAP 25 PARCEL 16 N/F DANIEL CARLAT 29018/402

#54

MAP 25 PARCEL 14 N/F ROGER BLOCK 22874/266

MAP 24 PARCEL 50 N/F SEAMUS McCORMICK 29621/450

1.5 STORY WOOD HOUSE #13

MAP 25 PARCEL 49 N/F JOSHUA PIKE 26135/150

2 STORY WOOD HOUSE #24

MAP 25 PARCEL 66 N/F SYLVIA TATTERSALL 29757/306

N/F CITY OF NEWBURYPORT 25956/191

MAP 25 PARCEL 42 N/F ROBERT DOUGHTY 9471/518

CONCRETE GARAGE

MAP 25 PARCEL 13–B N/F CHRISTOPHER P. ZYBERT/ JULIE A. CHAKRIN 33683/282 & CHRISTOPHER D. DAVIS/ LORI B. DAVIS 28856/545

#64

MAP 25 PARCEL 13–A N/F CHRISTOPHER D. DAVIS/ LORI B. DAVIS 28856/245

PLANT LIST					
QTY.	ID	BOTANICAL NAME	COMMON NAME	SIZE	COMMENT
2	AR	ACER RUBRUM	RED MAPLE	1.5"-2" CAL.	B&B
2	AS	ACER SACCHARINUM	SILVER MAPLE	2.5-3 INCH CAL.	B&B
1	BN	BETULA NIGRA 'HERITAGE'	HERITAGE RIVER BIRCH	8-10 FT. CLUMP	B&B
13	CR	CORNUS RACEMOSA	GRAY DOGWOOD	4-5 FT.	B&B
6	HV	HAMAMELIS VIGINIANA	COMMON WITCH HAZEL	3-4 FT.	#3 CONT.
49	IV	ITEA VIRGINICA 'HENRY'S GARNET'	VIRGINIA SWEETSPIRE	2-3 FT.	#3 CONT.
5	SC	SYMPHORICARPOS x CHENAULTII	CHENAULT CORALBERRY	3-4 FT.	B&B
22	VR	VIBURNUM RHYTIDOPHYLLUM	LEATHERLEAF VIBURNUM	3-4 FT.	B&B

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	122	180
PROJECT FILE NO.		606503	

LANDSCAPE PLANS
SHEET 8 OF 16

606503_LD(LANDSCAPE PLANS).DWG 12-Jun-2015



CONTINUED ON SHEET NO. 114

CONTINUED ON SHEET NO. 116

PLANT LIST

QTY.	ID	BOTANICAL NAME	COMMON NAME	SIZE	COMMENT
1	AC	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY	4-5 FT. CLUMP	B&B
1	BN	BETULA NIGRA 'HERITAGE'	HERITAGE RIVER BIRCH	8-10 FT. CLUMP	B&B
13	CR	CORNUS RACEMOSA	GRAY DOGWOOD	4-5 FT.	B&B
65	HS	HEMEROCALLIS 'STELLA DE ORO'	'STELLA DE ORO' DAYLILLY	1 GAL.	18"-24" O.C.
4	HV	HAMAMELIS VIGINIANA	COMMON WITCH HAZEL	3-4 FT.	#3 CONT.
14	IV	ITEA VIRGINICA 'HENRY'S GARNET'	VIRGINIA SWEETSPIRE	2-3 FT.	#3 CONT.

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	123	180
PROJECT FILE NO.	606503		

LANDSCAPE PLANS
SHEET 9 OF 16

606503_LD(LANDSCAPE PLANS).DWG 12-Jun-2015

N

CONTINUED ON SHEET NO. 115

CONTINUED ON SHEET NO. 117

MAP 26 PARCEL 57-A N/F DAVID CLARRIDGE 12318/330

2 STORY WOOD HOUSE #15

MAP 26 PARCEL 57-A N/F DAVID CLARRIDGE 12318/330

MAP 26 PARCEL 48-A,B,C N/F MASS. ELECTRIC CO. 2838/399

MAP 26 PARCEL 57-A N/F EDWIN J. BERNAU, III EILEEN H. BERNAU 33058/001

MAP 26 PARCEL 48-A,B,C N/F MASS. ELECTRIC CO. 2838/399

MAP 26 PARCEL 49 N/F JENNIFER B. BADGER VINCENT M. BADGER 30343/340

2.5 STORY WOOD HOUSE #172

#164

#168

#179

ZONE AE (EL 12)

200' RIVERFRONT AREA

WATER STREET

605

606

C. 91 JURISDICTION

N/F CITY OF NEWBURYPORT 25956/191

GRAVEL DRIVE

PROP. SEED MIX

BOS

VINYL GARAGE

RR TIE WALL

4 WIRE FENCE

STONE WALL

WOOD FENCE

STONE PATH

PLNTR

PROP. SEED MIX

PC +78.06

PRC +30.40

PRC +56.67

PT +42.90

PC +98.01

MAP 26 PARCEL 46 N/F DAVID MOORE BEVERLY MONCHUN 15885/74

MAP 26 PARCEL 46A N/F DAVID MOORE BEVERLY MONCHUN 15885/74

MAP 26 PARCEL 45A N/F AUGUSTUS HARRINGTON 13087/104

MAP 26 PARCEL 47 N/F PHILIP L. SCHWARTZ TAMARA A. SCHWARTZ 33020/545

MAP 26 PARCEL 48 N/F DAVID N. DANIELS, TRUSTEE 174-176 WATER STREET REALTY TRUST 32347/19

2.5 STORY WOOD HOUSE #174

STORY WOOD SHED

SOMERBY CT.

#178

#182

#180

ZONE AE (EL 15)

CITY LAYOUT LINE

CITY OF NEWBURYPORT N/F

GRANITE POST & ROD CHAIN FENCE

JOPPA PARK

C. 91 JURISDICTION

HWM

KNOTWEED

PHRAGMITES

MAP 26 PARCEL 37 N/F DONNA L. GLICK / JANE L. MAKI 27388/555

#10

LAYOUT LINE

OUT LINE

PLANT LIST					
QTY.	ID	BOTANICAL NAME	COMMON NAME	SIZE	COMMENT
1	AC	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY	4-5 FT. CLUMP	B&B
7	CA	CLETHRA ALNIFOLIA	SUMMERSWEET	3-4 FT.	B&B
39	CR	CORNUS RACEMOSA	GRAY DOGWOOD	4-5 FT.	B&B
35	HS	HEMEROCALLIS 'STELLA DE ORO'	'STELLA DE ORO' DAYLILY	1 GAL.	18"-24" O.C.
15	HV	HAMAMELIS VIGINIANA	COMMON WITCH HAZEL	3-4 FT.	#3 CONT.
17	IV	ITEA VIRGINICA 'HENRY'S GARNET'	VIRGINIA SWEETSPIRE	2-3 FT.	#3 CONT.
25	LP	LIGUSTRUM IBOLIUM	IBOLIUM PRIVET	2-3 FT.	#3 CONT.
1	UA	ULMUS AMERICANA 'VALLEY FORGE'	VALLEY FORGE ELM	2.5-3 INCH CAL.	B&B

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	124	180
PROJECT FILE NO.		606503	

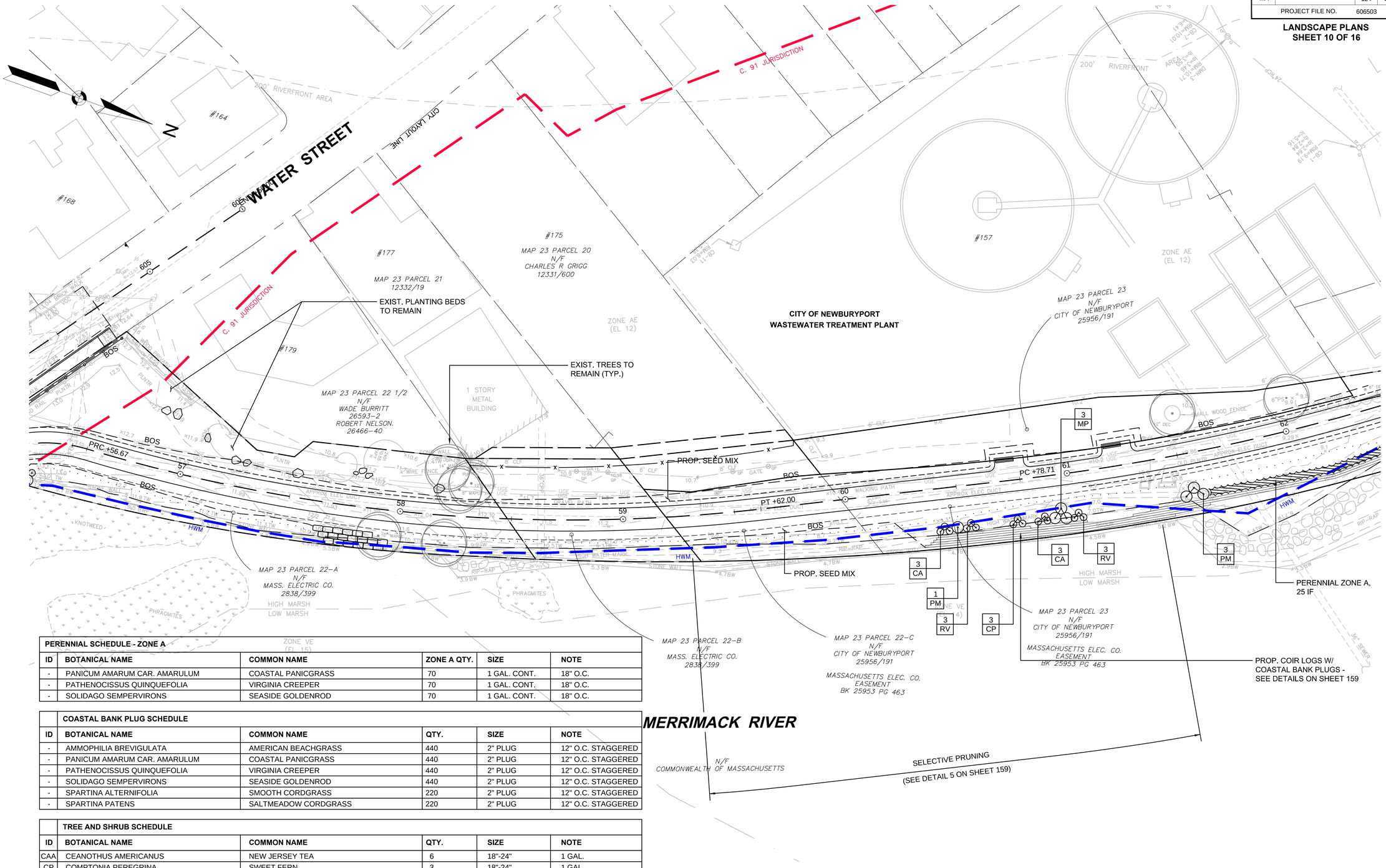
LANDSCAPE PLANS
SHEET 10 OF 16

12-Jun-2015

606503_LD(LANDSCAPE PLANS).DWG

CONTINUED ON SHEET NO. 116

CONTINUED ON SHEET NO. 118



PERENNIAL SCHEDULE - ZONE A

ID	BOTANICAL NAME	COMMON NAME	ZONE A QTY.	SIZE	NOTE
-	PANICUM AMARUM CAR. AMARULUM	COASTAL PANICGRASS	70	1 GAL. CONT.	18" O.C.
-	PATHENOCISSUS QUINQUEFOLIA	VIRGINIA CREEPER	70	1 GAL. CONT.	18" O.C.
-	SOLIDAGO SEMPERVIRONS	SEASIDE GOLDENROD	70	1 GAL. CONT.	18" O.C.

COASTAL BANK PLUG SCHEDULE

ID	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	NOTE
-	AMMOPHILIA BREVIGULATA	AMERICAN BEACHGRASS	440	2" PLUG	12" O.C. STAGGERED
-	PANICUM AMARUM CAR. AMARULUM	COASTAL PANICGRASS	440	2" PLUG	12" O.C. STAGGERED
-	PATHENOCISSUS QUINQUEFOLIA	VIRGINIA CREEPER	440	2" PLUG	12" O.C. STAGGERED
-	SOLIDAGO SEMPERVIRONS	SEASIDE GOLDENROD	440	2" PLUG	12" O.C. STAGGERED
-	SPARTINA ALTERNIFOLIA	SMOOTH CORDGRASS	220	2" PLUG	12" O.C. STAGGERED
-	SPARTINA PATENS	SALTMEADOW CORDGRASS	220	2" PLUG	12" O.C. STAGGERED

TREE AND SHRUB SCHEDULE

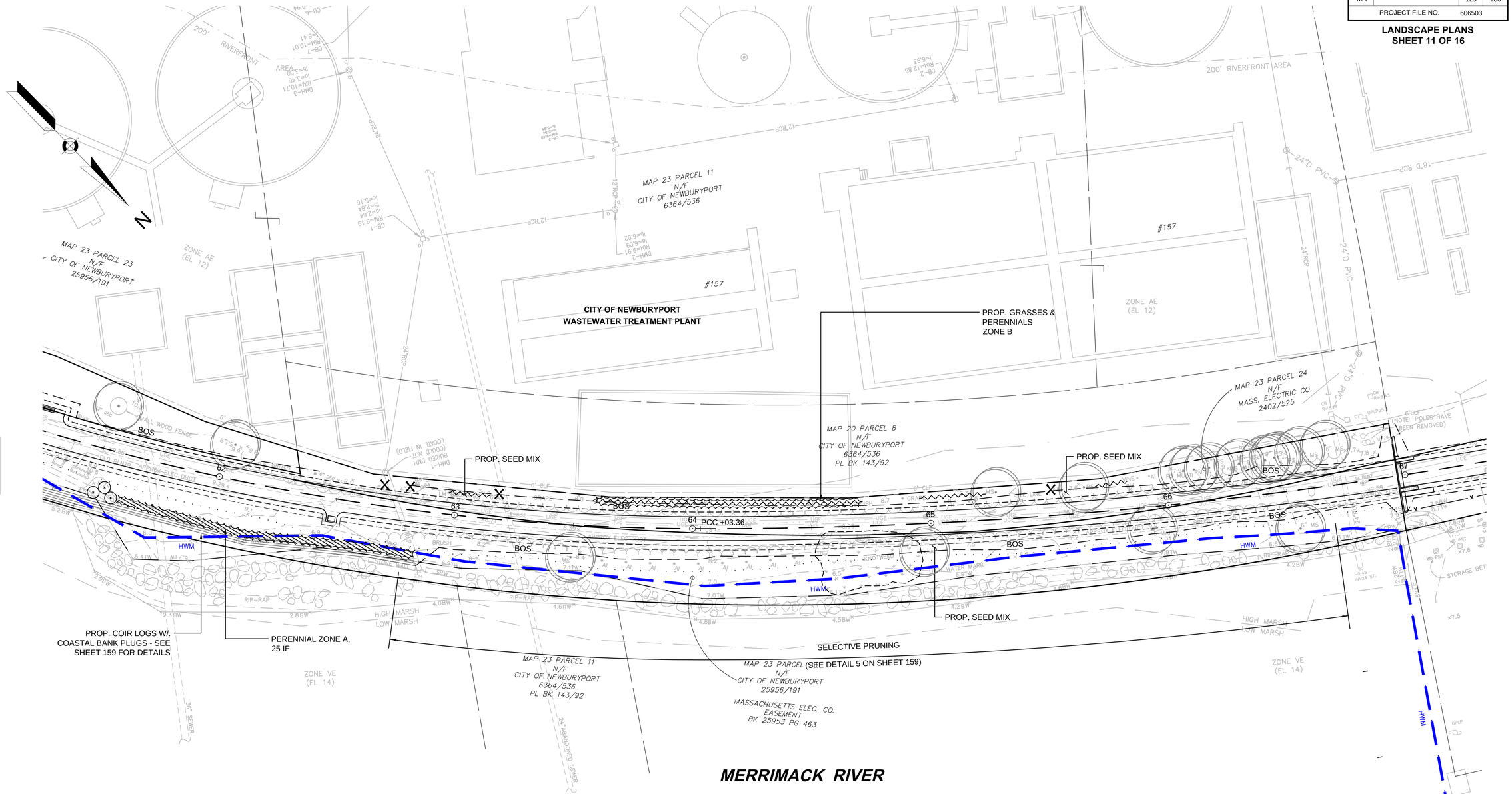
ID	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	NOTE
CAA	CEANOTHUS AMERICANUS	NEW JERSEY TEA	6	18"-24"	1 GAL.
CP	COMPTONIA PEREGRINA	SWEET FERN	3	18"-24"	1 GAL.
IF	IVA FRUTESCENS	MARCH ELDER	25	18"-24"	1 GAL.
MP	MYRICA PENSYLVANICA	BAYBERRY	3	24"-36"	B&B
PM	PRUNUS MARITIMA	BEACH PLUM	4	18"-24"	B&B
RV	ROSA VIRGINIANA	VIRGINIA ROSE	6	18"-24"	B&B

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	125	180
PROJECT FILE NO.		606503	

LANDSCAPE PLANS
SHEET 11 OF 16

606503_LD(LANDSCAPE PLANS).DWG 12-Jun-2015



PERENNIAL SCHEDULE - ZONE B					
ID	BOTANICAL NAME	COMMON NAME	ZONE B QTY.	SIZE	NOTE
-	PANICUM AMARUM CAR. AMARULUM	COASTAL PANICGRASS	50	1 GAL. CONT.	18" O.C.
-	PATHENOCISSUS QUINQUEFOLIA	VIRGINIA CREEPER	10	1 GAL. CONT.	SPACE ALONG FENCE

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

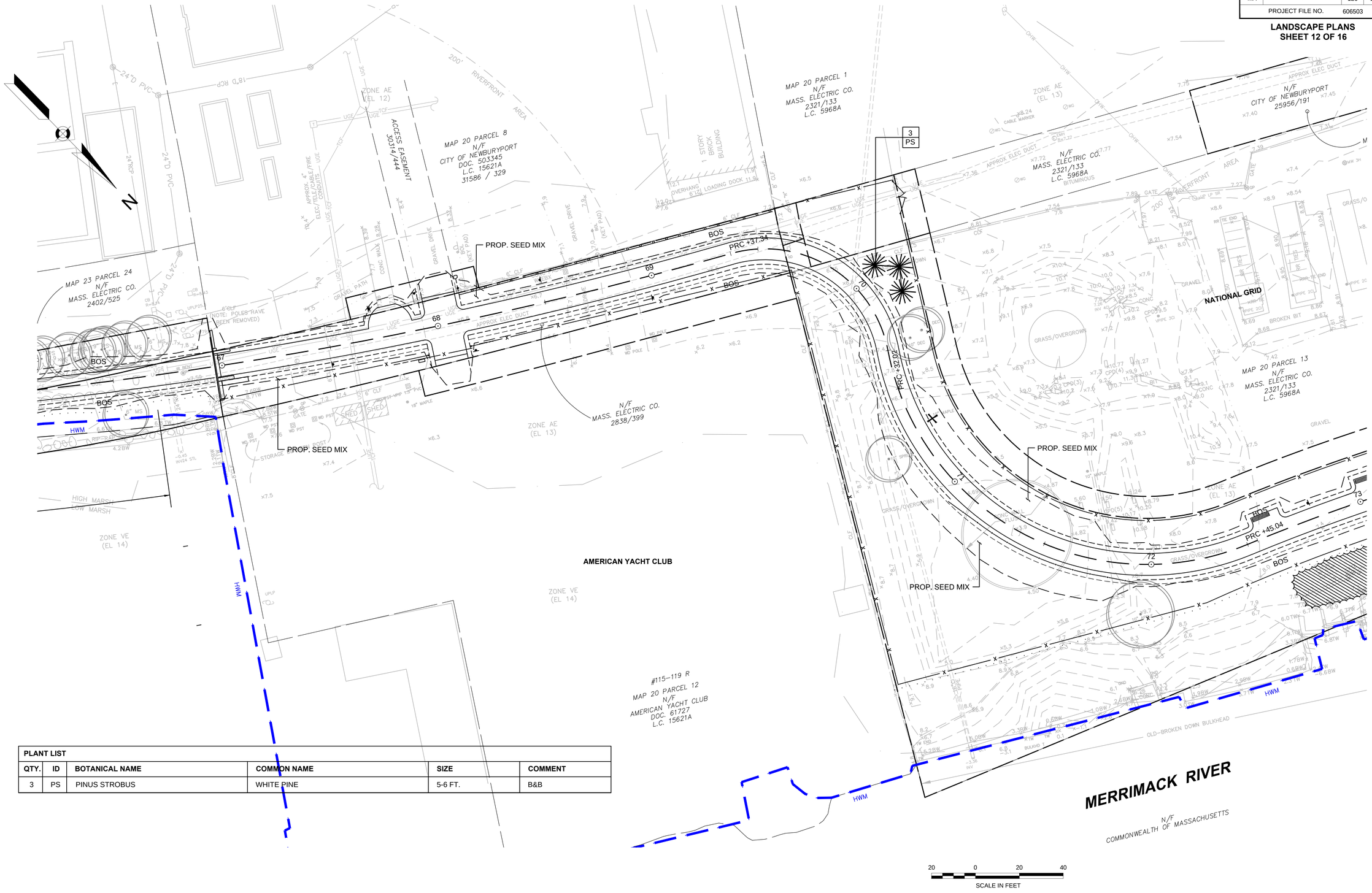
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	126	180
PROJECT FILE NO.		606503	

LANDSCAPE PLANS
SHEET 12 OF 16

606503_LD(LANDSCAPE PLANS).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 118

CONTINUED ON SHEET NO. 120



PLANT LIST

QTY.	ID	BOTANICAL NAME	COMMON NAME	SIZE	COMMENT
3	PS	PINUS STROBUS	WHITE PINE	5-6 FT.	B&B

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	127	180
PROJECT FILE NO.	606503		

LANDSCAPE PLANS
SHEET 13 OF 16

606503_LD(LANDSCAPE PLANS).DWG 12-Jun-2015

PLANT LIST					
QTY.	**ID**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**COMMENT**
39	CR	CORNUS RACEMOSA	GRAY DOGWOOD	4-5 FT.	B&B
25	PM	PRUNUS MARITIMA	BEACH PLUM	18"-24"	1 GAL
100	RR	ROSA RUGOSA	RUGOSA ROSE	18"-24"	B&B

MAP 20 PARCEL 1
N/F
MASS. ELECTRIC CO.
2321/133
L.C. 5968A

MAP 17 PARCEL 10
N/F
U.S.A. COAST GUARD
BOOK 5878 PAGE 401
#63R

200' RIVERFRONT AREA

2 STORY BRICK BUILDING COAST GUARD

N/F
U.S.A.
5878/401

ZONE AE
(EL 13)

N/F
CITY OF NEWBURYPORT
25956/191

MASSACHUSETTS ELEC. CO.
EASEMENT
BK 25953 PG 463

N/F
MASSACHUSETTS ELEC. CO.
DOC 102563 L.L.C. 5968A

N/F
MASS. ELECTRIC CO.
2321/133
L.C. 5968A

MAP 17 PARCEL 16
N/F
NEWBURYPORT MARINA MANAGER LLC
2321/421

MAP 20 PARCEL 13
N/F
MASS. ELECTRIC CO.
2321/133
L.C. 5968A

NATIONAL GRID

2 STORY BRICK BUILDING

1 STORY METAL

2 STORY WOOD

1 STORY METAL SHED

TRAILER

2330 25KV UG ELEC. IN 6" DUCT (ENCASED)

PC +70.36
PT +05.28
PRC +45.04
PRC +84.34
BOS
EOS

PROP. SEED MIX

SHEET PILE BULKHEAD

OLD-BROKEN DOWN BULKHEAD

25 PM

100 RR

50 CP

HWM

DOCK

MERRIMACK RIVER

N/F
COMMONWEALTH OF MASSACHUSETTS

ZONE VE
(EL 14)

CONTINUED ON SHEET NO. 119

CONTINUED ON SHEET NO. 121

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	128	180
PROJECT FILE NO.		606503	

LANDSCAPE PLANS
SHEET 14 OF 16

606503_LD(LANDSCAPE PLANS).DWG 12-Jun-2015

CONTINUED ON SHEET NO. 120

CONTINUED ON SHEET NO. 122

N

WATER STREET

CITY LAYOUT LINE

CITY LAYOUT LINE

#95

#85

#85

#73-75

MAP 17 PARCEL 12
N/F
RANGE LIGHT LIMITED PARTNERSHIP
24852/303

MAP 17 PARCEL 13
N/F AUDRIUS F. KONTAUS
BOOK 17261 PAGE 570

2 STORY WOOD

C. 91 JURISDICTION

ZONE AE
(EL 12)

ZONE AE
(EL 12)

ZONE AE
(EL 13)

ZONE AE
(EL 13)

NATIONAL GRID

MAP 20 PARCEL 1
N/F
MASS. ELECTRIC CO.
2321/133
L.C. 5968A

MAP 17 PARCEL 14
N/F MASS ELECTRIC COMPANY
BOOK 4198 PAGE 395

N/F
MASSACHUSETTS ELEC. CO.
DOC 102563 / L.C. 5968A

PROP. SEED MIX

PROP. SEED MIX

PC 41.01

PT +24.16

PC +70.46

PT +70.59

POT

POT

BOS

BOS

BOS

BOS

BOS

BOS

BOS

BOS

PI +70.88

PI +99.68

RAIL TRAIL EASEMENT

2 STORY BRICK GARAGE

2 STORY BRICK BUILDING COAST GUARD

2 STORY BRICK BUILDING

1 STORY METAL

PAINTED PARKING

CONC RAMP

MAP 17 PARCEL 10
N/F
U.S.A. COAST GUARD
BOOK 5878 PAGE 401

#63R

200' RIVERFRONT AREA

N/F
U.S.A.
5878/401

APPROX ELEC DUCT

GRAVEL

CRUSHED STONE

BITUMINOUS

20 0 20 40
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	129	180
PROJECT FILE NO.		606503	

LANDSCAPE PLANS
SHEET 15 OF 16

606503_LD(LANDSCAPE PLANS).DWG 12-Jun-2015

WATER STREET

CONTINUED ON SHEET NO. 121

CONTINUED ON SHEET NO. 123

CITY LAYOUT LINE

#73-75

MAP 17 PARCEL 12
N/F
RANGE LIGHT LIMITED PARTNERSHIP
852/303

MAP 17 PARCEL 11
N/F
NEW BURYPORT ART ASSOC., INC.
5646/19

#63-65

MAP 17 PARCEL 9
N/F
GORDON HALL &
MICHAEL B. MOSKOW
8919/491

#61

MAP 17 PARCEL 7
N/F
GORDON HALL &
MICHAEL B. MOSKOW
8919/491

ZONE AE
(EL 12)

RIVERFRONT AREA

PROP. SEED MIX

RAIL TRAIL EASEMENT

RAIL TRAIL EASEMENT

PI +70.88

PC +68.83

BOS

TOS

PT +90.68

BOS

C. 91 JURISDICTION

MAP 17 PARCEL 10
N/F
U.S.A. COAST GUARD
BOOK 5878 PAGE 401

#63R

ZONE AE
(EL 13)

BITUMINOUS

PAINTED PARKING

GRASS

GRAVEL

2 STORY WOOD
RESTAURANT
#55-57

MAP 17 PARCEL 4
N/F
ROBERT W. HIGGINS
13440/469

MAP 17 PARCEL 8
N/F
EUGENE GRECO
9560/597

#61 REAR

MAP 17 PARCEL 6
N/F
EUGENE GRECO
6436/100

N/F
NEWBURYPORT MANAGER LLC
23921/421

PI +85.23

PI +85.83

RAIL TRAIL EASEMENT

BOS

HWM

MAP 17 PARCEL 16
N/F
NEWBURYPORT MANAGER LLC
23921/421

MAP 17 PARCEL 17
N/F
NEWBURYPORT MANAGER LLC
23921/421

MAP 17 PARCEL 19
N/F
NEWBURYPORT MANAGER LLC
23921/421

1 STORY WOOD
BUILDING
NEWBURYPORT MARINA'S
#51 REAR

MAP 17 PARCEL 3
N/F
NEWBURYPORT MANAGER LLC
23921/355

C. 91 JURISDICTION

#49

2 STORY WOOD
BUILDING
#51

MAP 17 PARCEL 2a
N/F
ROBERT W. HIGGINS
DOC 38/241

#47

MAP 17 PARCEL
N/F
FORTY FIVE WATER STREET REAL
8684/227

200' RIVERFRONT AREA

#45

MAP 17 PARCEL 1
N/F
NEWBURYPORT MANAGER LLC
23919/170

#43

ZONE AE
(EL 12)

ZONE AE
(EL 13)

MAP 17 PARCEL 8
N/F
NEWBURYPORT MANAGER LLC
19105/461

PI +47.44

PI +10.09

BOS

RAIL TRAIL EASEMENT

BOS

#51 REAR
MAP 17 PARCEL 21
N/F
NEWBURYPORT MANAGER LLC
23919/170

MAP 17 PARCEL 20

CONC LOADING DOCK

FUEL TANK AREA

TRANSFORMER CONC PAD

CONC PAD

CONC WALK

CONC RAMP

WOOD STEPS

STEEL WALL

WOOD BOX

STEEL WALL
18"STEEL CAP
OVER SHEETING

ZONE AE
(EL 13)

ZONE VE
(EL 13)

MAP 17 PARCEL 19
N/F
NEWBURYPORT MANAGER LLC
23921/421

HWM

ZONE VE
(EL 14)

MERRIMACK RIVER

N/F
COMMONWEALTH OF MASSACHUSETTS

20 0 20 40
SCALE IN FEET

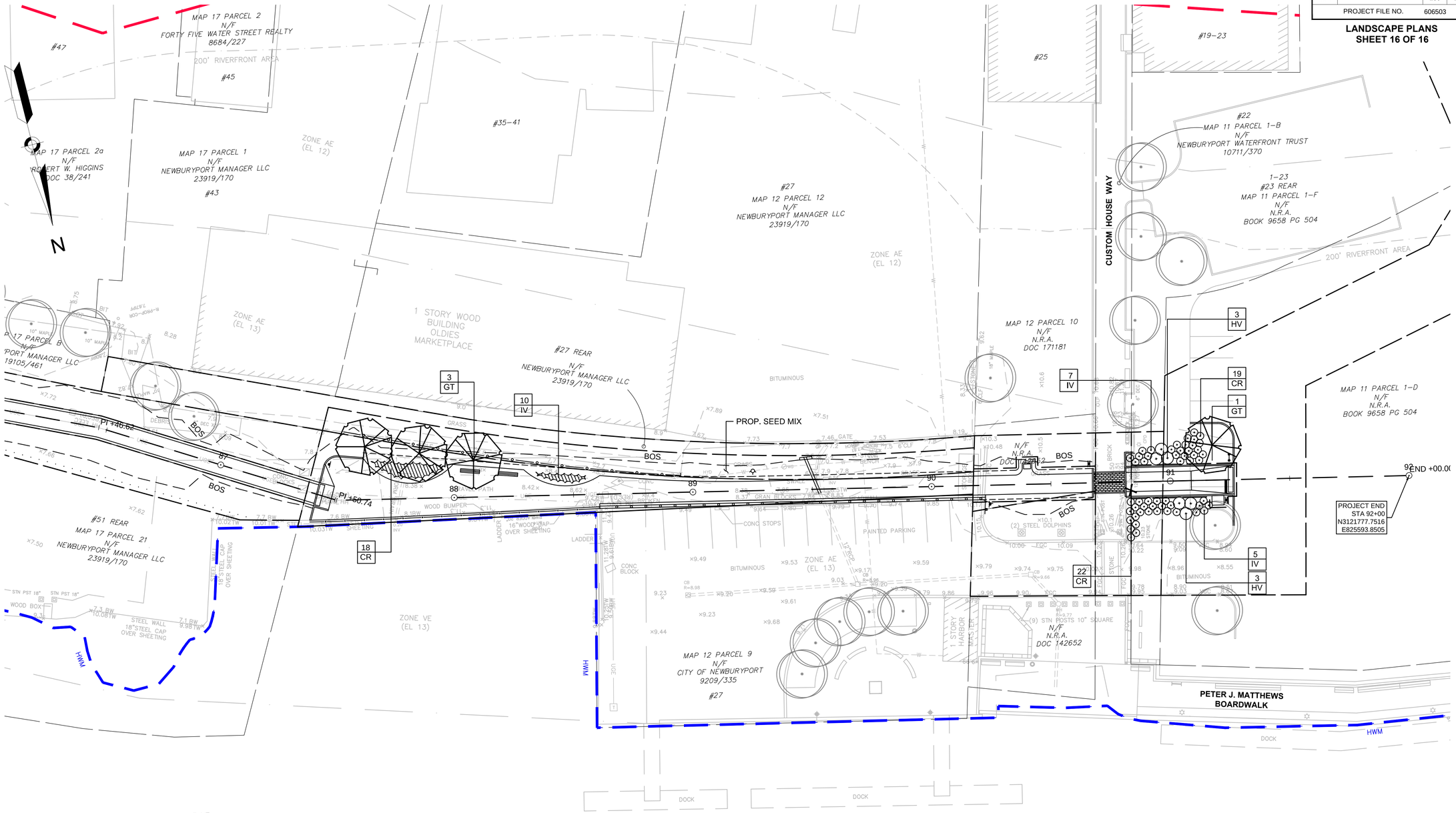
NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	130	180
PROJECT FILE NO.	606503		

LANDSCAPE PLANS
SHEET 16 OF 16

12-Jun-2015

606503_LD(LANDSCAPE PLANS).DWG

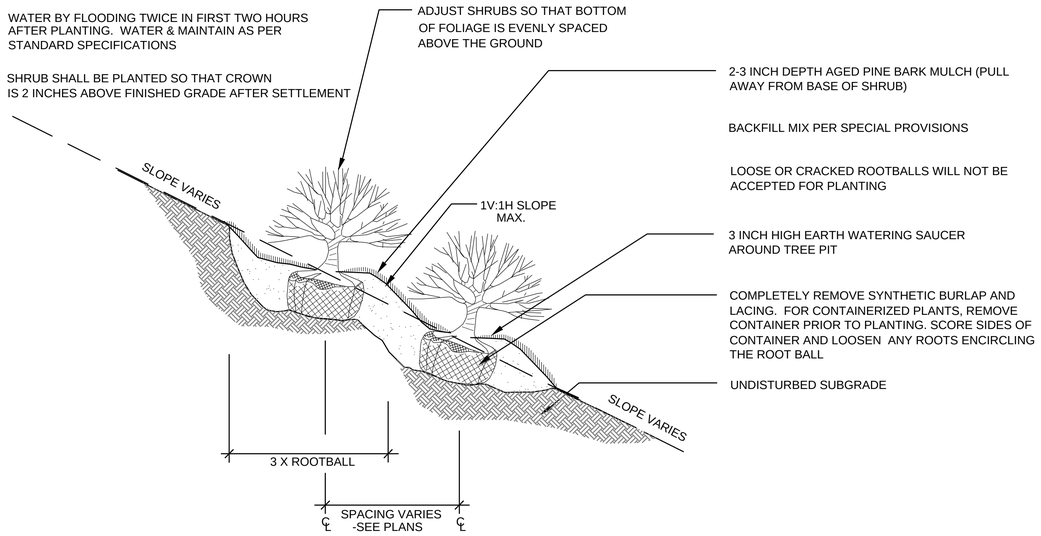


PLANT LIST					
QTY.	ID	BOTANICAL NAME	COMMON NAME	SIZE	COMMENT
4	GT	GLEDITSIA TRIACANTHOS 'INERMIS'	HONEYLOCUST	2.5-3 INCH CAL.	B&B
59	CR	CORNUS RACEMOSA	GRAY DOGWOOD	4-5 FT.	B&B
6	HV	HAMAMELIS VIGINIANA	COMMON WITCH HAZEL	3-4 FT.	#3 CONT.
22	IV	ITEA VIRGINICA 'HENRY'S GARNET'	VIRGINIA SWEETSPIRE	2-3 FT.	#3 CONT.

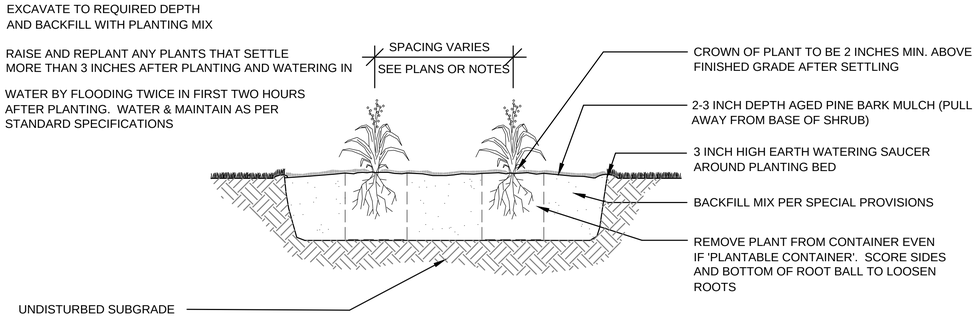
20 0 20 40
SCALE IN FEET

PLANTING SCHEDULE

QTY.	ID	BOTANICAL NAME	COMMON NAME	SIZE	COMMENT	SHEET 1	SHEET 2	SHEET 3	SHEET 4	SHEET 5	SHEET 6	SHEET 7	SHEET 8	SHEET 9	SHEET 10	SHEET 11	SHEET 12	SHEET 13	SHEET 14	SHEET 15	SHEET 16
		DECIDUOUS TREES																			
5	AR	ACER RUBRUM	RED MAPLE	2.5-3 INCH CAL.	B&B	-	-	-	-	3	-	2	-	-	-	-	-	-	-	-	-
2	AS	ACER SACCHARINUM	SILVER MAPLE	2.5-3 INCH CAL.	B&B	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
3	BN	BETULA NIGRA 'HERITAGE'	HERITAGE RIVER BIRCH	8-10 FT. CLUMP	B&B	-	-	-	-	1	-	1	1	-	-	-	-	-	-	-	-
4	GT	GLEDITSIA TRIACANTHOS 'INERMIS'	HONEYLOCUST	2.5-3 INCH CAL.	B&B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
1	NS	NYSSA SLYVATICA	BLACK TUPELO	2.5-3 INCH CAL.	B&B	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
4	QP	QUERCUS PALUSTRIS	PIN OAK	2.5-3 INCH CAL.	B&B	-	-	-	3	-	1	-	-	-	-	-	-	-	-	-	-
4	QR	QUERCUS RUBRA	RED OAK	2.5-3 INCH CAL.	B&B	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
2	UA	ULMUS AMERICANA 'VALLEYFORGE'	VALLEY FORGE ELM	2.5-3 INCH CAL.	B&B	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-
		FLOWERING TREES																			
10	AC	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY	4-5 FT. CLUMP	B&B	-	-	-	2	4	2	-	1	1	-	-	-	-	-	-	-
3	CF	CORNUS FLORIDA	FLOWERING DOGWOOD	6-7 FT.	B&B	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-
8	CL	CLADASTRUS LUTEA	YELLOWWOOD	6-7 FT.	B&B	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-
		EVERGREEN TREES																			
17	PG	PICEA GLAUCA	WHITE SPRUCE	5-6 FT.	B&B	-	6	-	-	8	3	-	-	-	-	-	-	-	-	-	-
6	PR	PINUS RIGIDA	PITCH PINE	4-5 FT.	5 GALLON	-	-	3	3	-	-	-	-	-	-	-	-	-	-	-	-
19	PS	PINUS STROBUS	WHITE PINE	5-6 FT.	B&B	-	10	6	-	-	-	-	-	-	-	-	3	-	-	-	-
		SHRUBS																			
7	CA	CLETHRA ALNIFOLIA	SUMMERSWEET	3-4 FT.	B&B	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-
6	CAA	CEANOTHUS AMERICANUS	NEW JERSEY TEA	18"-24" HT.	1 GALLON	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-
53	CP	COMPTONIA PEREGRINA	SWEETFERN	18"-24" HT.	1 GALLON	-	-	-	-	-	-	-	-		3	-	-	50	-	-	-
150	CR	CORNUS RACEMOSA	GRAY DOGWOOD	4-5 FT.	B&B	-	-	-	16	10	-	13	13	39	-	-	-	-	-	-	59
34	HV	HAMAMELIS VIRGINIANA	COMMON WITCH HAZEL	3-4 FT.	3 GALLON	-	-	-	3	-	-	6	4	15	-	-	-	-	-	-	6
47	IF	IVA FRUTESCENS	MARCH ELDER	18"-24" HT.	1 GALLON	-	-	-	-	-	-	-	-	-	25	-	-	-	-	-	22
80	IV	ITEA VIRGINICA 'HENRY'S GARNET'	VIRGINIA SWEETSPIRE	2-3 FT.	3 GALLON	-	-	-	-	-	-	49	14	17	-	-	-	-	-	-	-
25	LP	LIGUSTRUM IBOLIUM	IBOLIUM PRIVET	2-3 FT.	3 GALLON	-	-	-	-	-	-	-	-	25							
11	LB	LINDERA BENZOIN	COMMON SPICEBUSH	3-4 FT.	B&B	-	-	-	-	2	9	-	-	-	-	-	-	-	-	-	-
3	MP	MYRICA PENSYLVANICA	NORTHERN BAYBERRY	2-3 FT.	B&B	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-
29	PM	PRUNUS MARTIMA	BEACH PLUM	18"-24" HT.	B&B	-	-	-	-	-	-	-	-	-	4	-	-	25	-	-	-
6	RV	ROSA VIRGINIANA	VIRGINIA ROSE	18"-24" HT.	B&B	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-
61	RP	RHODODENDRON PERICYLMENOIDES	PINXTERBLOOM AZALEA	2-3 FT.	3 GALLON	-	-	-	-	6	55	-	-	-	-	-	-	-	-	-	-
71	SA	SYMPHORICARPOS ALBUS	COMMON SNOWBERRY	3-4 FT.	B&B	-	-	-	-	40	31	-	-	-	-	-	-	-	-	-	-
51	SC	SYMPHORICARPOS X CHENAULTII	CHENAULT CORRALBERRY	3-4 FT.	B&B	-	-	-	-	16	30	5	-	-	-	-	-	-	-	-	-
11	VP	VIBURNUM PRUNIFOLIUM	BLACKHAW VIBURNUM	3-4 FT.	5 GALLON	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-
55	VP	VIBURNUM RHYTIDOPHYLLUM	LEATHERLEAF VIBURNUM	3-4 FT.	5 GALLON	-	-	-	5	5	23	22	-	-	-	-	-	-	-	-	-
		GROUNDCOVERS & PERENNIALS																			
120	ZONE	PANICUM AMARUM CAR. AMARULUM	COATAL PANICGRASS	1 GALLON	18" O.C. STAGGERED	-	-	-	-	-	-	-	-	-	70	50	-	-	-	-	-
172	DP	DENNSTAEDTIA PUNCTIOLOBULA	HAY SCENTED FERN	BARE ROOT	24"-30" O.C. STAGGERED	-	-	-	-	172	-	-	-	-	-	-	-	-	-	-	-
468	HS	HEMEROCALLIS 'STELLA D'ORO'	STELLA D'ORO DAYLILY	1 GALLON	18"-24" O.C. STAGGERED	-	-	-	-	-	403	-	65	-	-	-	-	-	-	-	-
139	OC	OSMUNDA CLAYTONIANA	INTERUPTED FERN	BARE ROOT	24"-30" O.C. STAGGERED	-	-	-	-	-	139	-	-	-	-	-	-	-	-	-	-
80	ZONE	PATHENOCISSUS QUINQUEFOLIA	VIRGINIA CREEPER	1 GALLON	18" O.C. STAGGERED	-	-	-	-	-	-	-	-	-	70	10	-	-	-	-	-
57	PA	POLYSTICHUM ACROSTICHOIDES	CHRISTMAS FERN	BARE ROOT	24"-30" O.C. STAGGERED	-	-	-	-	-	57	-	-	-	-	-	-	-	-	-	-
100	RR	ROSA RUGOSA	RUGOSA ROSE	1 GALLON	18" O.C. STAGGERED	-	-	-	-	-	-	-	-	-	-	-	-	100	-	-	-
70	ZONE	SOLIDAGO SEMPERVIRONS	SEASIDE GOLDENROD	1 GALLON	18" O.C. STAGGERED	-	-	-	-	-	-	-	-	-	70	-	-	-	-	-	-
		COASTAL BANK PLUGS																			
440	PLUGS	AMMOPHILIA BREVIGULATA	AMERICAN BEACHGRASS	2" PLUG	12" O.C STAGGERED	-	-	-	-	-	-	-	-	-	440	-	-	-	-	-	-
440		PANICUM AMARUM CAR. AMARULUM	COATAL PANICGRASS	2" PLUG	12" O.C STAGGERED	-	-	-	-	-	-	-	-	-	440	-	-	-	-	-	-
440		PATHENOCISSUS QUINQUEFOLIA	VIRGINIA CREEPER	2" PLUG	12" O.C STAGGERED	-	-	-	-	-	-	-	-	-	440	-	-	-	-	-	-
440		SOLIDAGO SEMPERVIRONS	SEASIDE GOLDENROD	2" PLUG	12" O.C STAGGERED	-	-	-	-	-	-	-	-	-	440	-	-	-	-	-	-
220		SPARTINA ALTERNIFOLIA	SMOOTH CORDGRASS	2" PLUG	12" O.C STAGGERED	-	-	-	-	-	-	-	-	-	220	-	-	-	-	-	-
220		SPARTINA PATENS	SALTMEADOW CORDGRASS	2" PLUG	12" O.C STAGGERED	-	-	-	-	-	-	-	-	-	220	-	-	-	-	-	-



1 CONTAINERIZED SHRUB PLANTING (SLOPE) DETAIL
NOT TO SCALE



2 PERENNIAL PLANTING
NOT TO SCALE

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	131	180
PROJECT FILE NO.	606503		

LANDSCAPE DETAILS
SHEET 1 OF 2

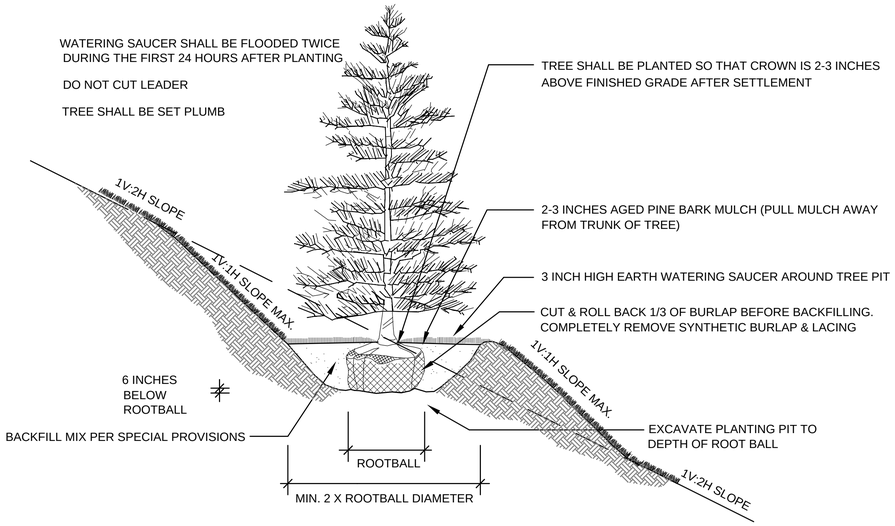
606503_LD(LANDSCAPE DETAILS).DWG 12-Jun-2015

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

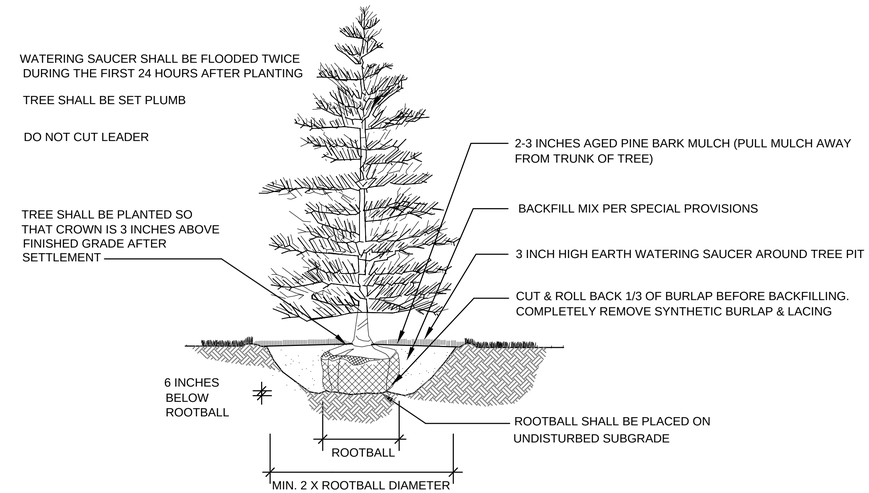
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	132	180
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LANDSCAPE DETAILS
SHEET 2 OF 2

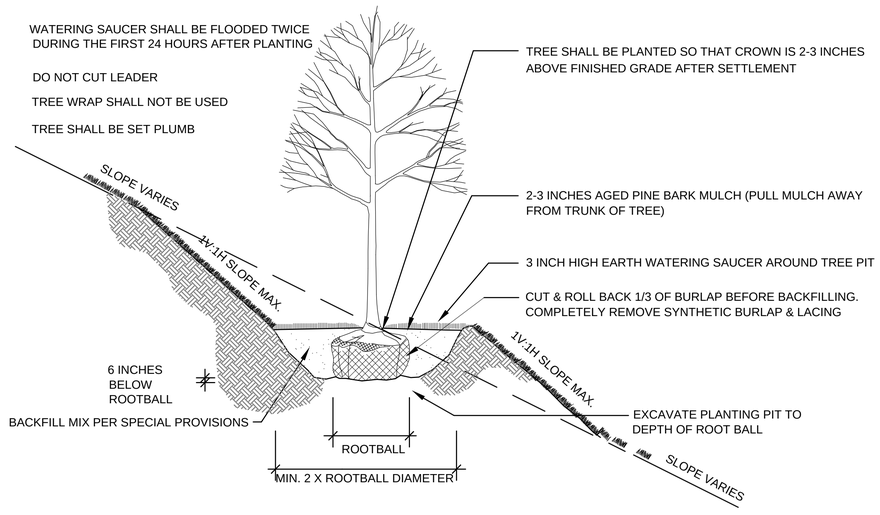
606503_LD(LANDSCAPE DETAILS).DWG 12-Jun-2015



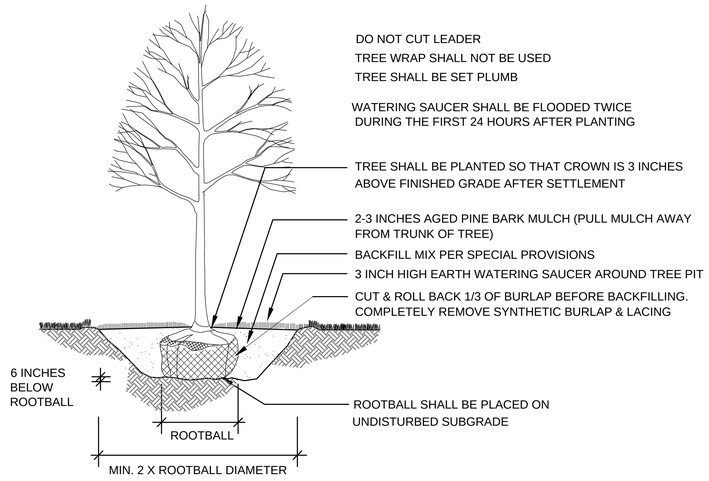
1 EVERGREEN TREE PLANTING (SLOPE)
NOT TO SCALE



2 EVERGREEN TREE PLANTING
NOT TO SCALE



3 DECIDUOUS TREE PLANTING (SLOPE)
NOT TO SCALE



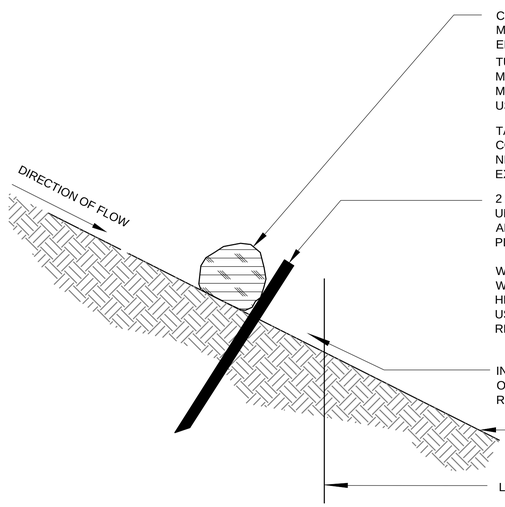
4 DECIDUOUS TREE PLANTING
NOT TO SCALE

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

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EROSION & SEDIMENTATION CONTROL DETAILS
SHEET 1 OF 1

606503_HDI(CONST DETAILS).DWG 12-Jun-2015



COMPOST FILTER TUBE
MINIMUM 12 INCHES IN DIAMETER WITH AN EFFECTIVE HEIGHT OF 9.5 INCHES.

TUBES FOR COMPOST FILTERS SHALL BE JUTE MESH OR APPROVED BIODEGRADABLE MATERIAL. ADDITIONAL TUBES SHALL BE USED AT THE DIRECTION OF THE ENGINEER.

TAMP TUBES IN PLACE TO ENSURE GOOD CONTACT WITH SOIL SURFACE. IT IS NOT NECESSARY TO TRENCH TUBES INTO EXISTING GRADE.

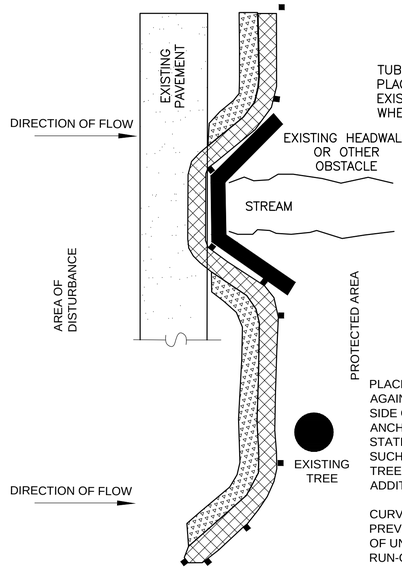
2 INCH X 2 INCH X 3 FEET
UNTREATED HARDWOOD STAKES, UP TO 5 FT. APART OR AS REQUIRED TO SECURE TUBES IN PLACE.

WHEN STAKING IS NOT POSSIBLE, SUCH AS WHEN TUBES MUST BE PLACED ON PAVEMENT, HEAVY CONCRETE OR CINDER BLOCKS CAN BE USED BEHIND TUBES UP TO 5 FT. APART OR AS REQUIRED TO SECURE TUBES IN PLACE.

INSTALLATION TO OCCUR AT OR WIITHIN LIMIT OF WORK TO PREVENT IMPACTS TO RESOURCE AREAS.

UNDISTURBED SUBGRADE

LIMIT OF WORK



TUBES CAN BE PLACED DIRECTLY ON EXISTING PAVEMENT WHEN NECESSARY.

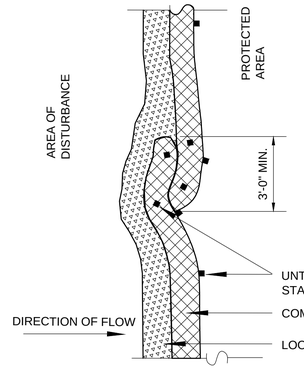
PLACING TUBES AGAINST THE UPHILL SIDE OF WELL-ANCHORED, STATIONARY FEATURES SUCH AS EXISTING TREES CAN PROVIDE ADDITIONAL BRACING.

CURVE ENDS UPHILL TO PREVENT DIVERSION OF UNFILTERED RUN-OFF.

PLAN VIEW - TYPICAL

GENERAL NOTES:

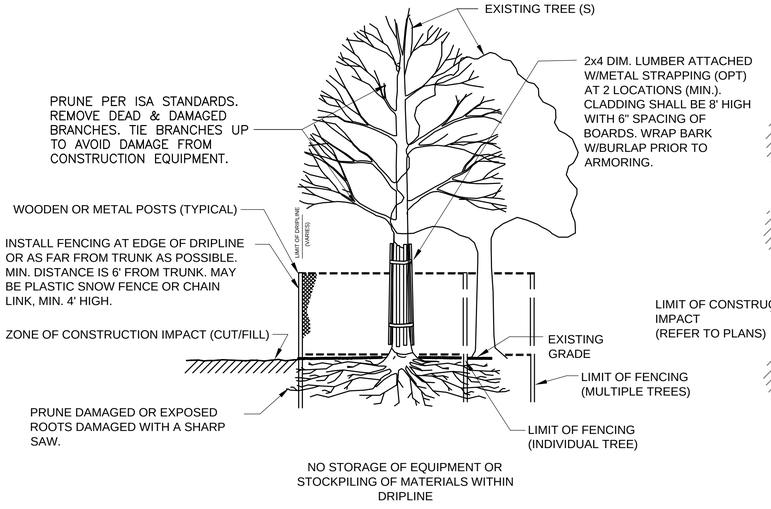
1. PROVIDE A MINIMUM TUBE DIAMETER OF 12 INCHES FOR SLOPES UP TO 50 FEET IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
2. INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
3. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
4. CONFIGURE TUBES AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN-OFF.
5. PROVIDE A 3 FT. MINIMUM OVERLAP AT ENDS OF TUBES TO JOIN IN A CONTINUOUS BARRIER AND MINIMIZE UNIMPEDED FLOW.
6. STAKE JOINING TUBES SNUGLY AGAINST EACH OTHER TO PREVENT UNFILTERED FLOW BETWEEN THEM.
7. SECURE ENDS OF TUBES WITH STAKES SPACED 18 IN. APART THROUGH TOPS OF TUBES.

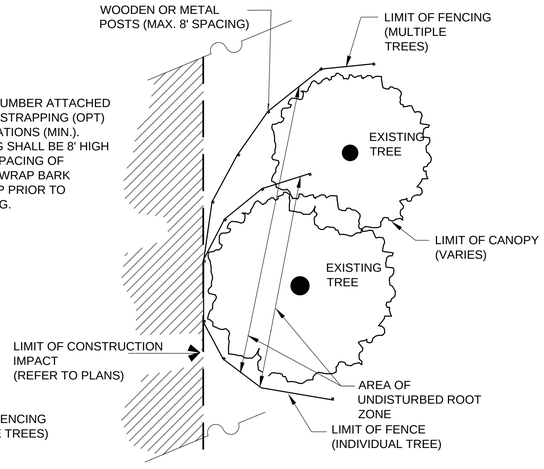


PLAN VIEW - JOIN DETAIL

1 SINGLE COMPOST FILTER TUBE DETAIL

NOT TO SCALE

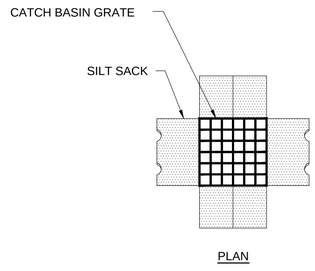




PLAN VIEW

2 TREE PROTECTION-EXISTING TREE(S)

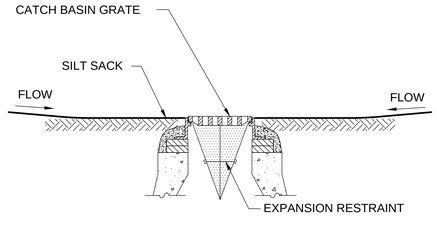
NOT TO SCALE



PLAN

NOTES:

1. INSTALL SILT SACK IN ALL CATCH BASINS BEFORE COMMENCING WORK OR IN PAVED AREAS AFTER BINDER COURSE IS PLACED AND HAY BALES HAVE BEEN REMOVED.
2. GRATE TO BE PLACED OVER SILT SACK.
3. SILT SACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.



SECTION

3 CATCH BASIN SILT SACK SEDIMENT TRAP

NOT TO SCALE

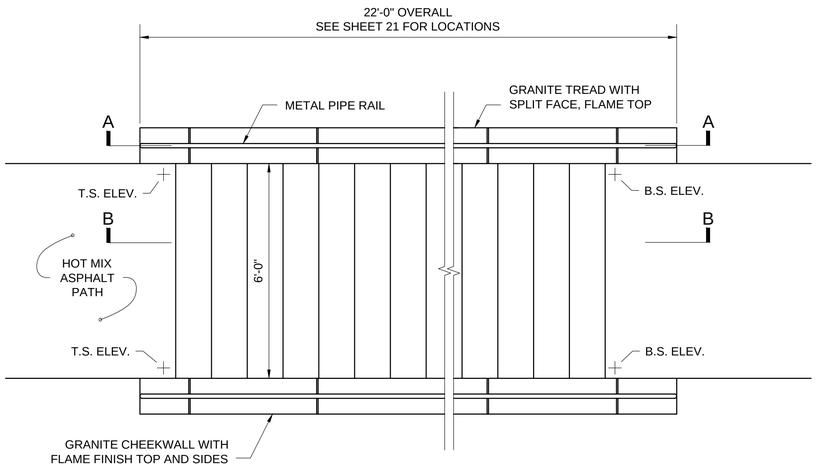
NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

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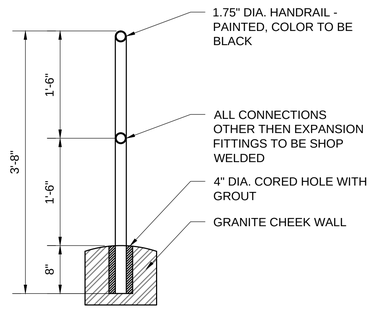
CONSTRUCTION DETAILS
SHEET 1 OF 18

606503_HDI(CONST DETAILS).DWG 12-Jun-2015

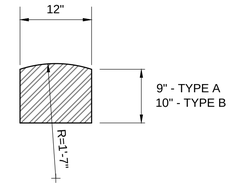
LOCATION	TOP OF STEP (T.S.) ELEV.	BOTTOM OF STAIR (B.S.) ELEV.
STA 200+00 LT	28.50	19.00
STA 203+00 LT	39.50	30.00



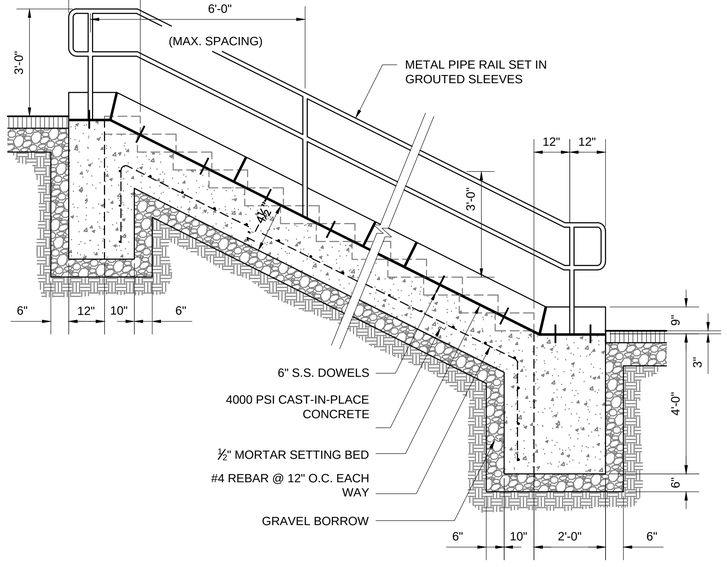
PLAN
SCALE: 1/2" = 1'-0"



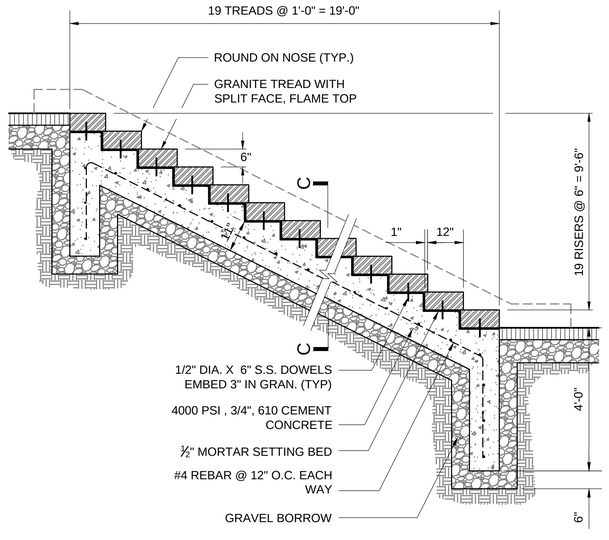
METAL PIPE RAIL DETAIL
SCALE: 1" = 1'-0"



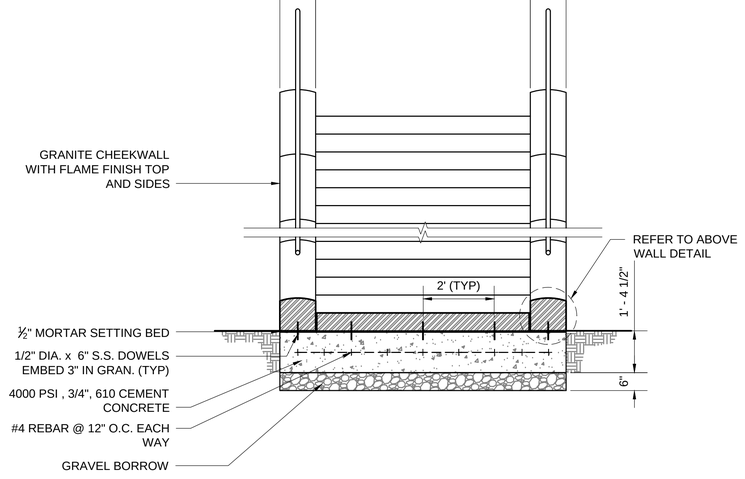
WALL DETAIL
SCALE: 1" = 1'-0"



SECTION A-A
SCALE: 1/2" = 1'-0"



SECTION B-B
SCALE: 1/2" = 1'-0"



SECTION C-C
SCALE: 1/2" = 1'-0"

1 GRANITE STAIRCASE WITH METAL PIPE HANDRAILS

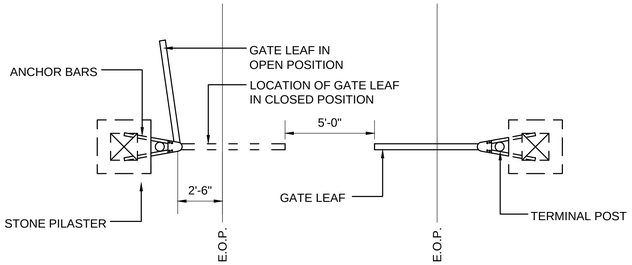
SCALE AS SHOWN

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

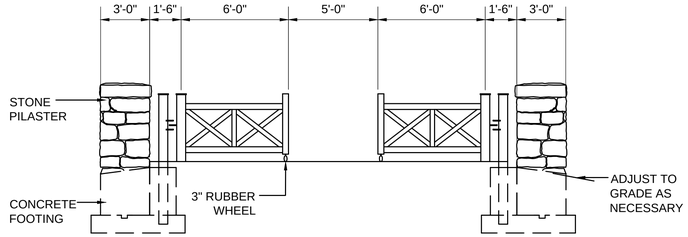
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	135	180
PROJECT FILE NO.	606503		

CONSTRUCTION DETAILS
SHEET 2 OF 18

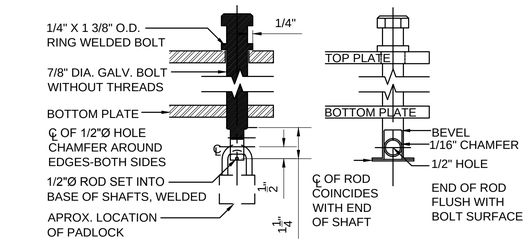
606503_HDI(CONST DETAILS).DWG 12-Jun-2015



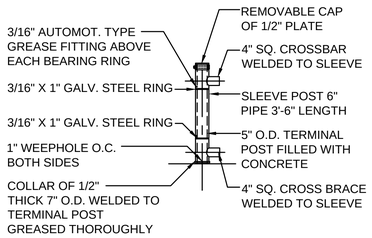
1 DOUBLE LEAF VEHICULAR GATE - PLAN VIEW
NOT TO SCALE



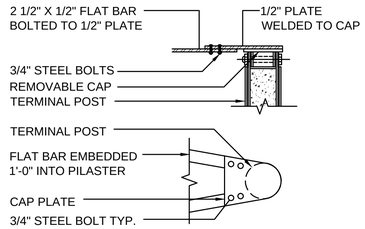
2 DOUBLE LEAF VEHICULAR GATE - ELEVATION
SCALE: 1/4" = 1'-0"



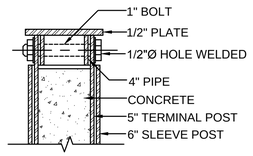
3 LOCK PIN AND PLATE DETAIL
NOT TO SCALE



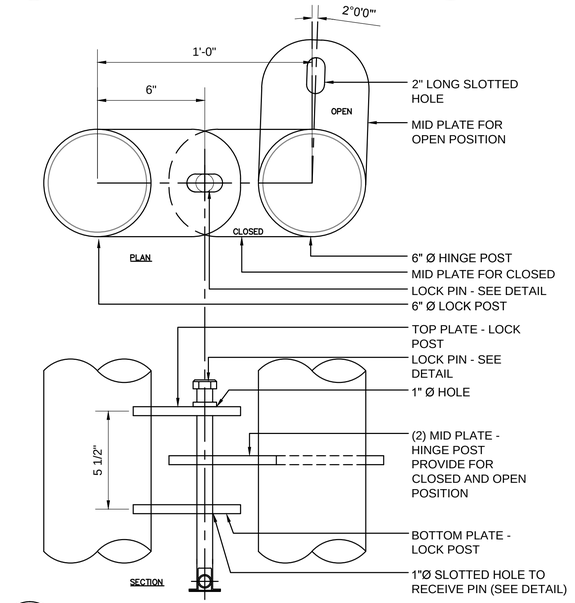
4 TERMINAL POST
NOT TO SCALE



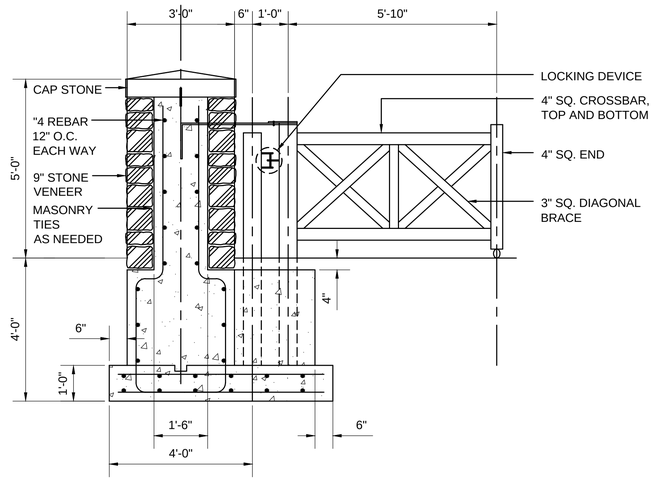
5 TERMINAL POST CONNECTION
NOT TO SCALE



6 CAP DETAIL
NOT TO SCALE



7 COUPLING AND LOCK DETAIL
SCALE: 3" = 1'-0"



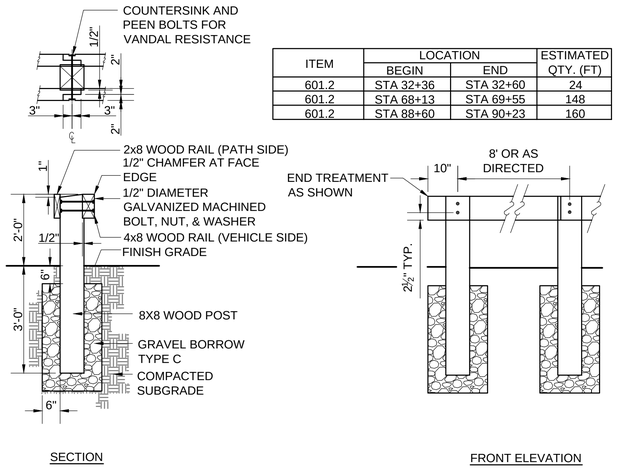
8 PILASTER - SECTION
SCALE: 1/2" = 1'-0"

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	136	180
PROJECT FILE NO.	606503		

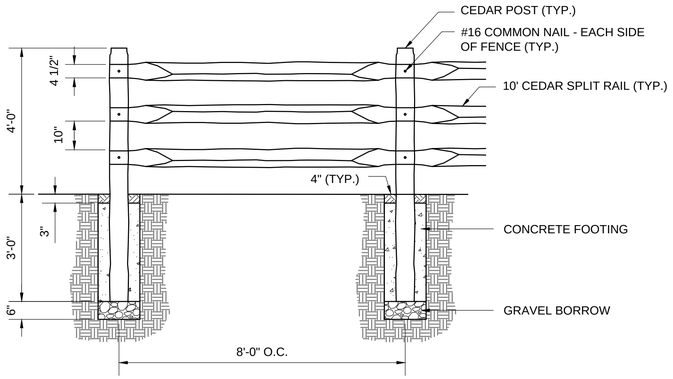
CONSTRUCTION DETAILS
SHEET 3 OF 18

606503_HD(CONST DETAILS).DWG 12-Jun-2015

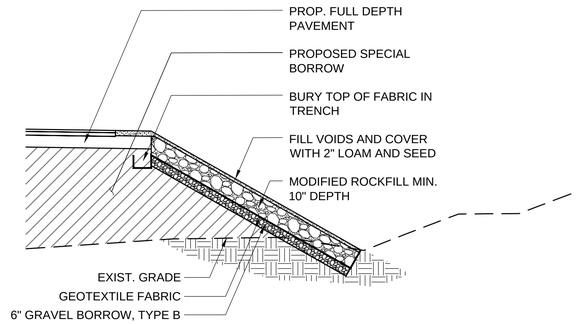


ITEM	LOCATION		ESTIMATED QTY. (FT)
	BEGIN	END	
601.2	STA 32+36	STA 32+60	24
601.2	STA 68+13	STA 69+55	148
601.2	STA 88+60	STA 90+23	160

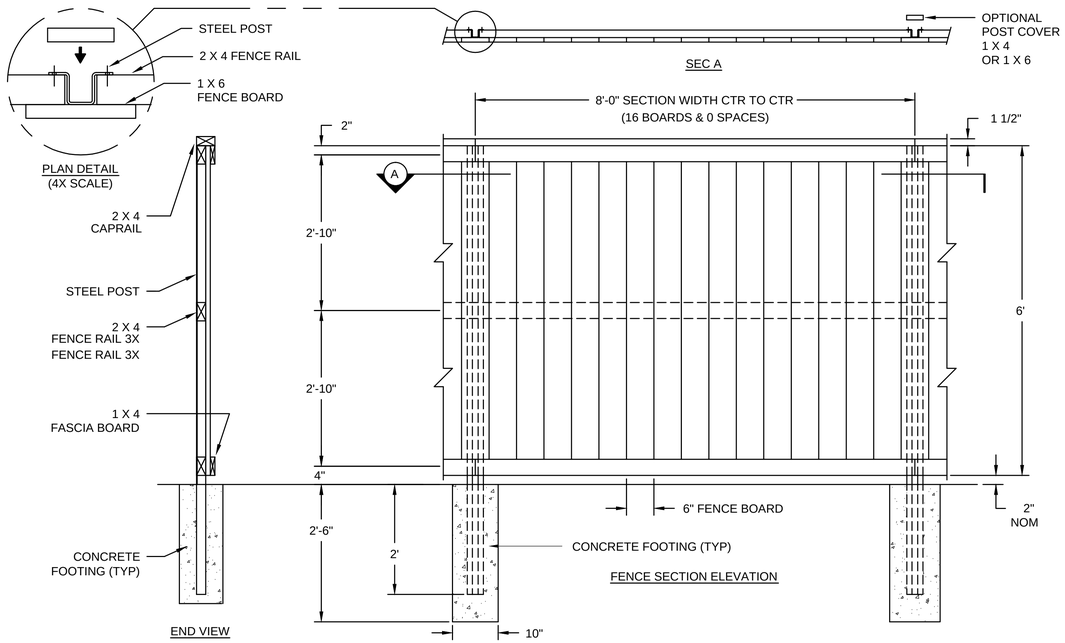
1 POST AND RAIL VEHICLE GUARD
NOT TO SCALE



2 POST AND RAIL WOOD FENCE
NOT TO SCALE

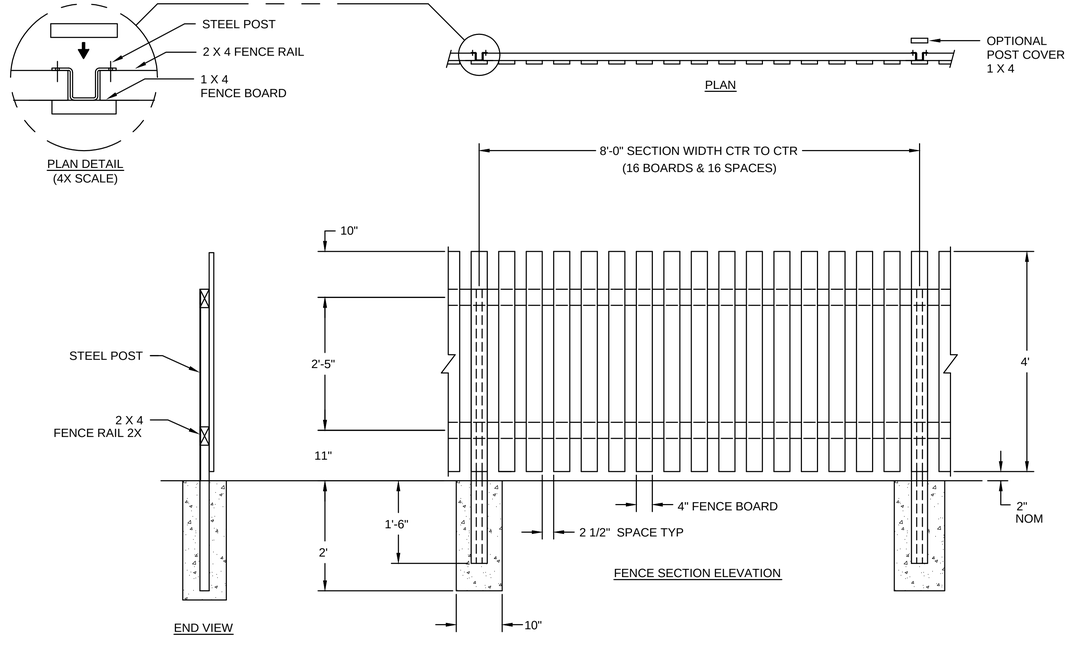


3 MODIFIED ROCKFILL SLOPE (STA. 43+35 TO 45+25)
SCALE: 1/4" = 1'-0"



NOTES:
1. FOOTING WIDTH TO BE 10". MINIMUM DEPTH 30".
2. DIMENSIONS SHOWN ARE NOMINAL FOR WOOD.

4 6' HIGH FLAT TOP BOARD FENCE
NOT TO SCALE



NOTES:
1. FOOTING WIDTH TO BE 10". MINIMUM DEPTH 24".
2. DIMENSIONS SHOWN ARE NOMINAL FOR WOOD.

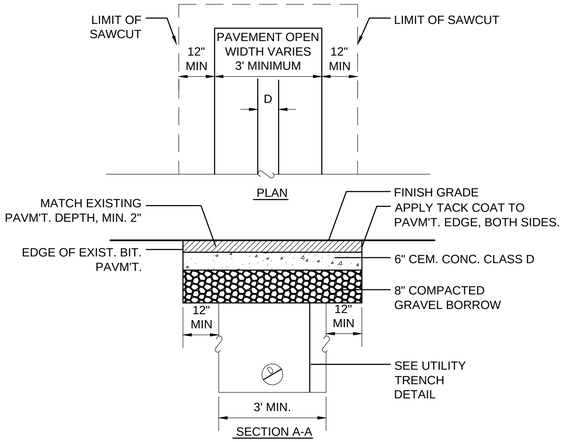
4 6' HIGH FLAT TOP BOARD FENCE
NOT TO SCALE

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

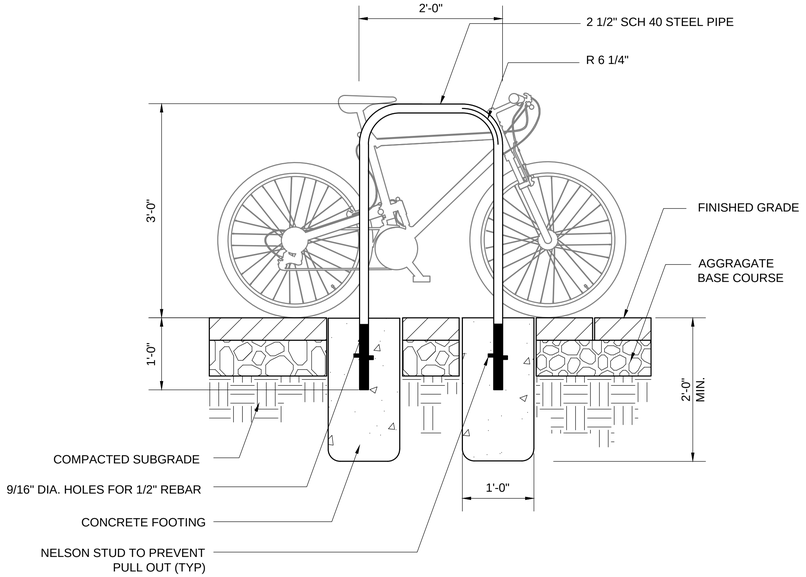
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	137	180
PROJECT FILE NO.	606503		

CONSTRUCTION DETAILS
SHEET 4 OF 12

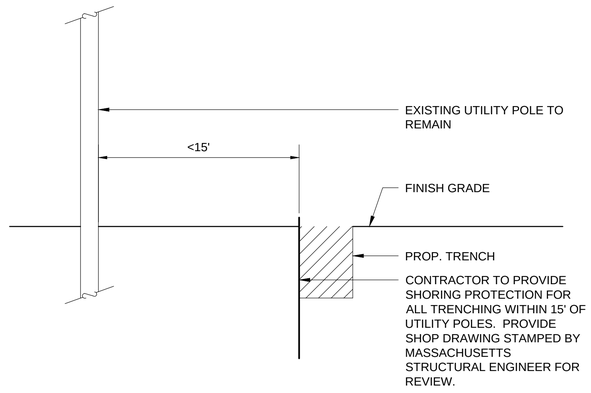
606503_HDI(CONST DETAILS).DWG 12-Jun-2015



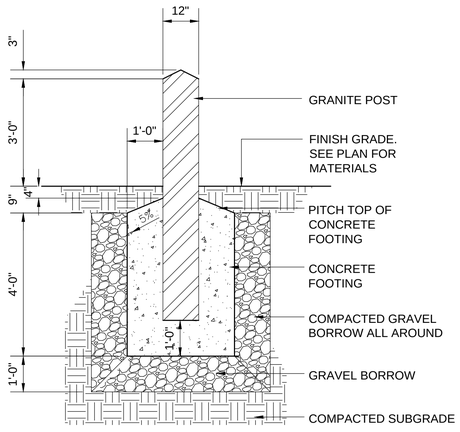
1 UTILITY PATCH
NOT TO SCALE

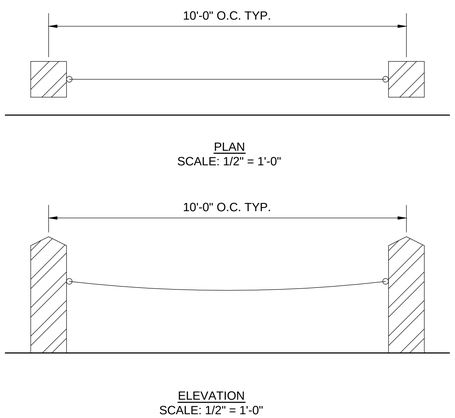


2 "U" STYLE BIKE RACK
NOT TO SCALE

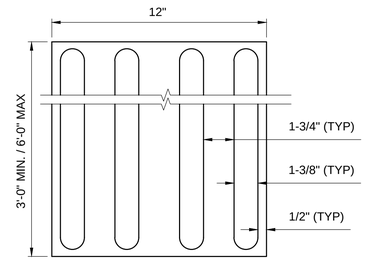


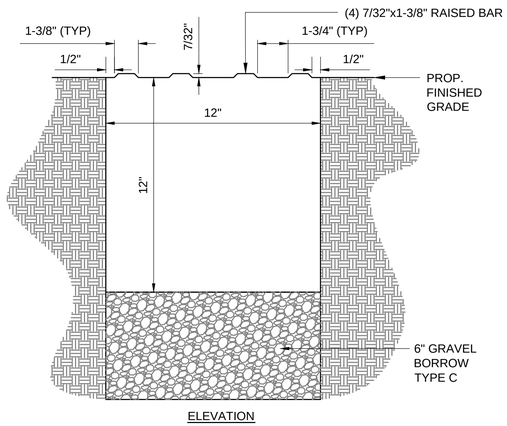
3 TRENCH STABILIZATION NEAR UTILITY POLES
NOT TO SCALE



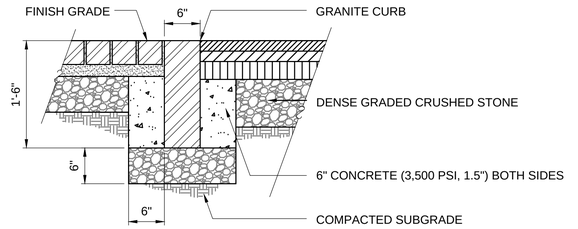


4 GRANITE POST WITH ENGRAVED LOGO
SCALE: AS SHOWN

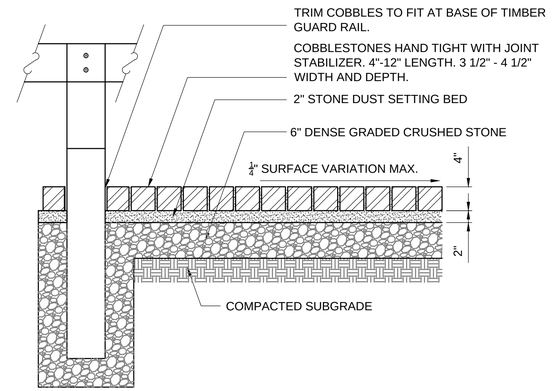




5 12" FLUSH GRANITE CURB W/ GUIDANCE TACTILE
SCALE: 3"=1'-0"



6 FLUSH GRANITE CURB
SCALE: 1"=1'-0"



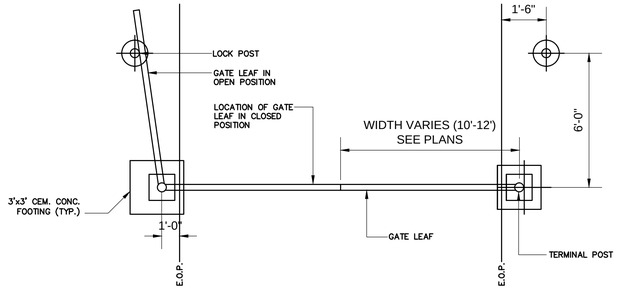
7 GRANITE PAVERS
SCALE: 1"=1'-0"

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

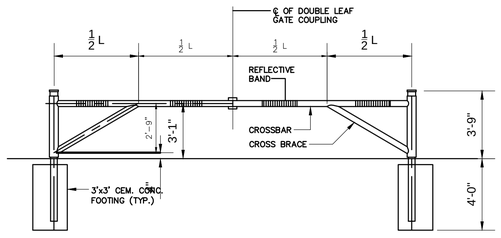
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	138	180
PROJECT FILE NO.		606503	

CONSTRUCTION DETAILS
SHEET 5 OF 18

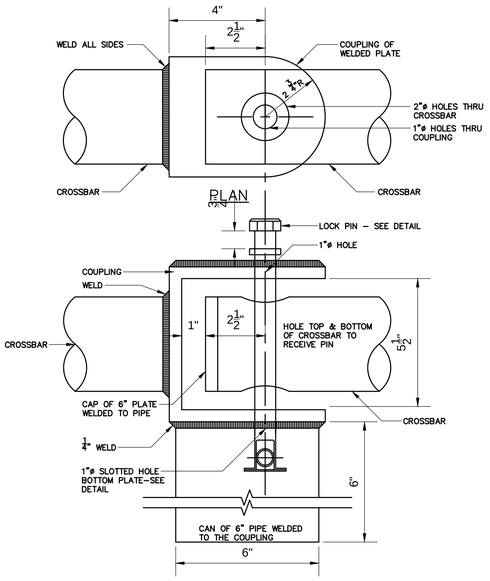
606503_HDI(CONST DETAILS).DWG 12-Jun-2015



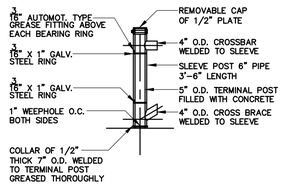
DOUBLE LEAF VEHICULAR GATE – PLAN VIEW
N.T.S.



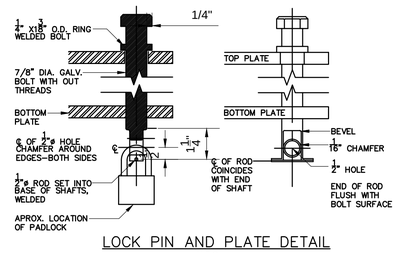
DOUBLE LEAF VEHICULAR GATE – ELEVATION
N.T.S.



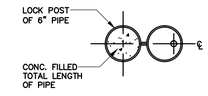
COUPLING AND LOCK DETAIL
N.T.S.



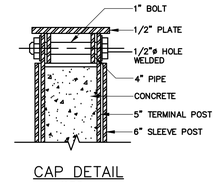
TERMINAL POST
N.T.S.



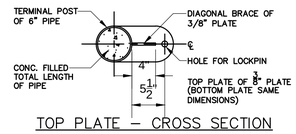
LOCK PIN AND PLATE DETAIL
N.T.S.



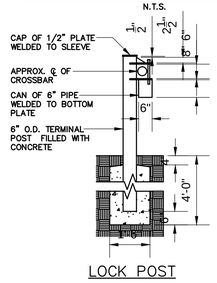
CAN @ LOCK POST – CROSS SECTION
N.T.S.



CAP DETAIL
N.T.S.



TOP PLATE – CROSS SECTION
N.T.S.



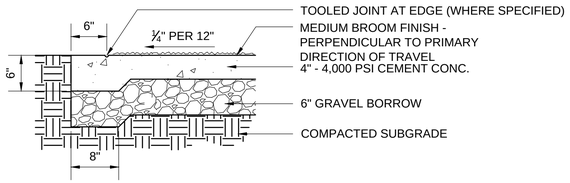
LOCK POST
N.T.S.

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	139	180
PROJECT FILE NO.	606503		

CONSTRUCTION DETAILS
SHEET 6 OF 18

606503_HDI(CONST DETAILS).DWG 12-Jun-2015

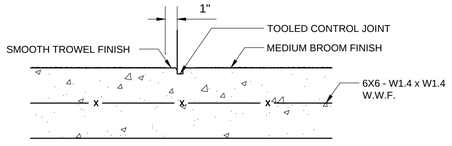


1 CEMENT CONCRETE PAVEMENT

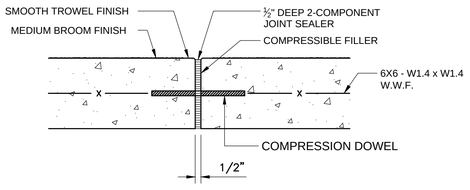
SCALE: 1"=1'-0"

NOTES:

1. ALL JOINTS IN THE CONCRETE PAVING SHALL CONFORM WITH THE JOINT PATTERN SHOWN ON THE PLANS.
2. INSTALL EXPANSION JOINTS AT ALL FIXED OBJECTS AND AT A MAXIMUM OF 30' APART UNLESS OTHERWISE SHOWN ON THE PLANS.



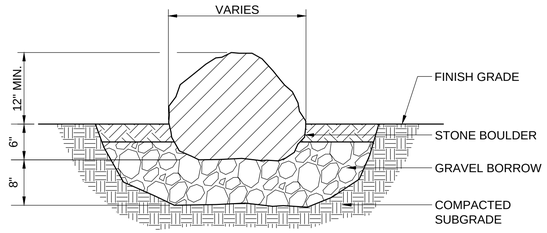
CONTRACTION JOINT



EXPANSION JOINT

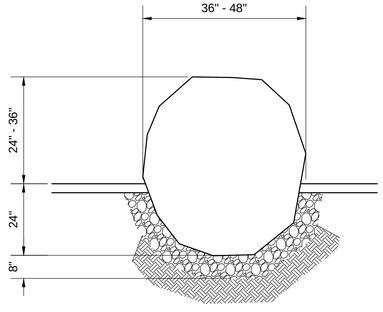
2 CONCRETE JOINT DETAILS

NOT TO SCALE



3 LANDSCAPE BOULDER

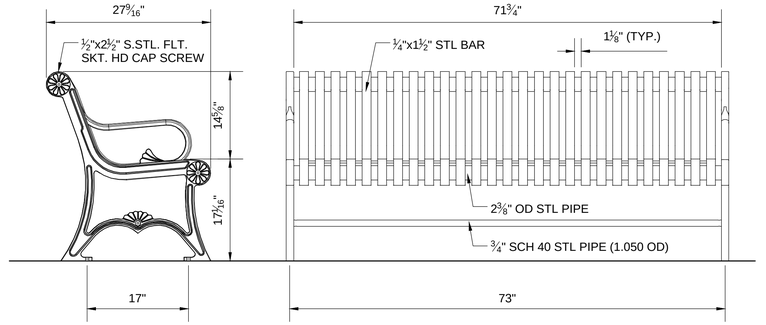
NOT TO SCALE



NOTE:
NATIVE STONE SIZE TO VARY. STONES TO BE GENERALLY ROUND IN SHAPE.

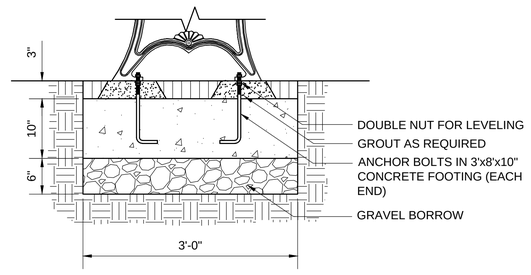
4 VEHICULAR BARRIER STONE

SCALE: 1/2"=1'-0"



5 6' BENCH

SCALE: 1"=1'-0"



6 TYPICAL BENCH FOOTING

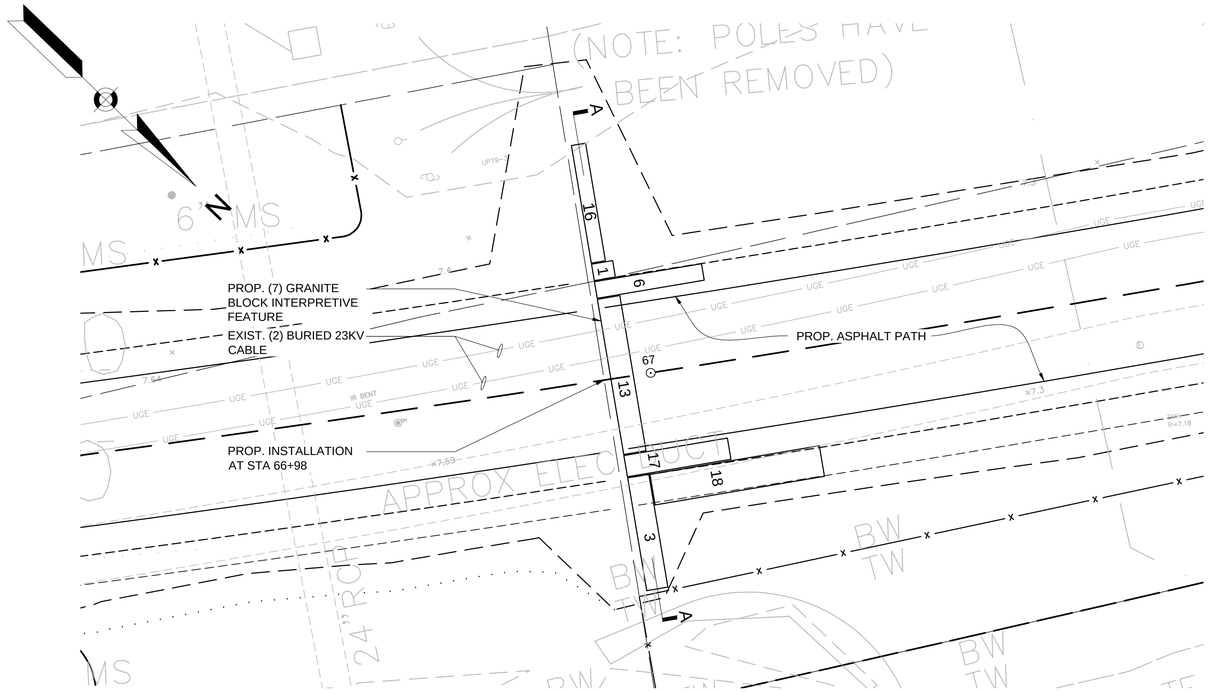
SCALE: 1"=1'-0"

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

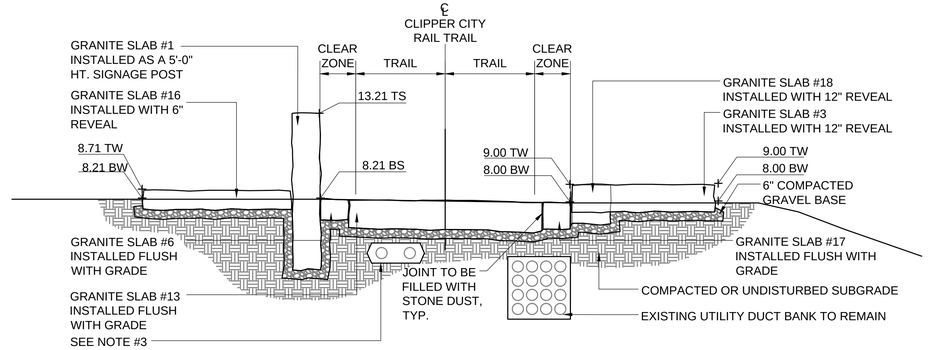
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	140	180
PROJECT FILE NO.		606503	

CONSTRUCTION DETAILS
SHEET 7 OF 18

606503_HDI(CONST DETAILS).DWG 12-Jun-2015



1 INTERPRETIVE GRANITE LAYOUT: STA 66+98
SCALE: 3/16" = 1'-0"



2 INTERPRETIVE GRANITE SECTION: SECTION A-A
SCALE: 1/4" = 1'-0"

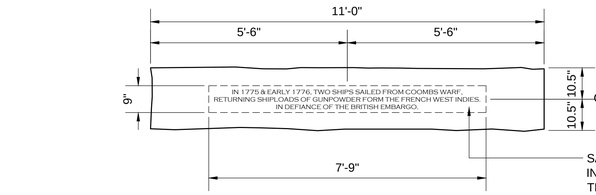
INTERPRETIVE GRANITE LEGEND

NUM.	DESCRIPTION	DIMENSIONS
#1	UPRIGHT STONE W/ ENGRAVING ON UPLAND SIDE OF THRESHOLD AS WHARF EDGE	8'-10"L. X 1'-6"W. X 1'-2"H.
#3	RAISED SEAT HEIGHT STONE ON WATERSIDE OF THRESHOLD AS WHARF EDGE	8'-0"L. X 1'-6"W. X 1'-3"H.
#5	UPLAND ADDITIONAL STONE 1	6'-6"L. X 1'-3"W. X 1'-4"H.
#6	FLUSH THRESHOLD STONE: 10' LONG	7'-7"L. X 1'-2"W. X 1'-6"H.
#7	UPLAND ADDITIONAL STONE 2	7'-10"L. X 1'-0"W. X 1'-10"H.
#13	NOTABLE STONE TO BE SET FLUSH AT THRESHOLD OF RAIL TRAIL	11'-0"L. X 1'-9"W. X 1'-6"H.

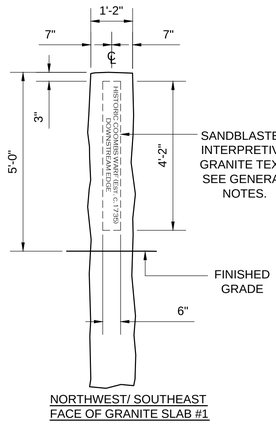
INTERPRETIVE GRANITE LEGEND

NUM.	DESCRIPTION	DIMENSIONS
#16	ADDITIONAL WATERS EDGE STONE 2	8'-4"L. X 1'-0"W. X 1'-3"H.
#17	ADDITIONAL WATERS EDGE STONE 3	7'-4"L. X 1'-6"W. X 1-3"H.
#18	UPLAND ADDITIONAL STONE 3	12'-0"L. X2'-2"W. X 1'-4"H.

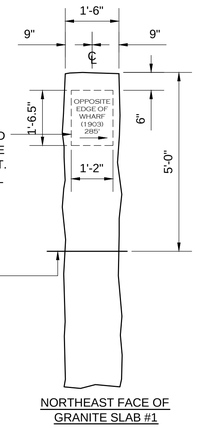
NOTES:
1. GRANITE SLABS HAVE BEEN PRE-SELECTED AND NUMBERED BASED ON LOCATION IN THE FIELD. NUMBERING BEGINS WITH THE EASTERN MOST STONE BEING LABELED #1 AND THE WESTERN MOST STONE BEING LABELED #18. DIMENSIONS SHOULD BE TAKEN TO ENSURE ACCURACY BEFORE THE ARE PLACED.
2. REFER TO DETAIL 3 FOR REQUIRED GRANITE TEXT.
3. (2) EXIST. 23KV BURIED ELECTRICL LINES. CONTRACTOR SHALL LOCATE AND PROTECT THROUGHOUT INTERPRETIVE GRANITE EXCAVATION AND INSTALLATION.



EXPOSED FACE OF GRANITE SLAB #13



NORTHWEST/ SOUTHEAST FACE OF GRANITE SLAB #1



NORTHEAST FACE OF GRANITE SLAB #1

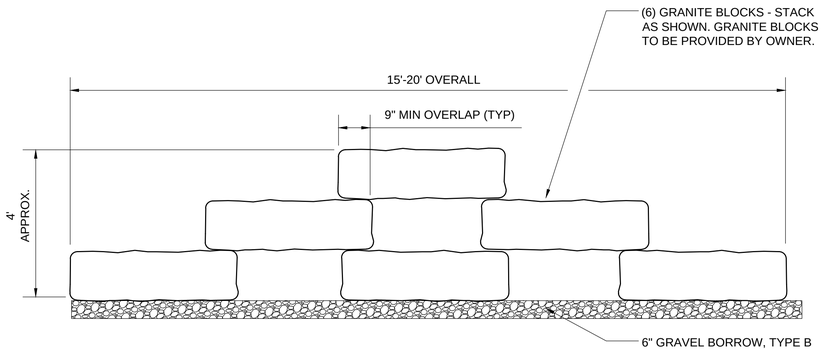
INTERPRETIVE GRANITE TEXT - GENERAL NOTES:
1. SHOP DRAWINGS: SUBMIT SHOP DRAWINGS OF LAYOUT AND DETAILING OF DONOR RECOGNITION AND INTERPRETIVE COPY AND GRAPHICS ON GRANITE. SANDBLAST TEXT IN THE SHOP WITH RUBBER MASKS AND SAND BLASTING IN ACCORDANCE WITH SHOP DRAWINGS AND APPROVED PROOFS.

2. SANDBLASTED TEXT: "V SUNK" DEEP SANDBLASTED TEXT. LETTERS UP TO AND INCLUDING 2" HEIGHT SHALL HAVE 1/8" TO 3/16" MINIMUM DEPTH BLAST AND LETTERS UP TO 3" HIGH SHALL HAVE TO 3/8" MINIMUM DEPTH BLAST. THE TYPE FONT USED THROUGHOUT IS BAKER SIGNET CAPS. NO SUBSTITUTIONS FOR TYPE FONT, ARTWORK, LAYOUT AND POSITIONING WILL BE ACCEPTED WITHOUT PRIOR APPROVAL BY ARCHITECT/ENGINEER.

3. ELECTRONIC FILES: ARCHITECT/ENGINEER TO PROVIDE ELECTRONIC FILES OF LETTERING AND GRAPHICS: PREPARED IN ADOBE ILLUSTRATOR AS OUTLINE FILES IN EPS FORMAT, INDICATING LAYOUT AND SIZES OF LETTERING AND GRAPHICS AND LOCATIONS ON EACH PIECE OF GRANITE . CONTRACTOR TO USE ELECTRONIC FILES FOR FABRICATION OF RUBBERIZED MASKS AND PROOFS USED IN THE SANDBLASTING WORK.

4. INTERPRETIVE TEXT: BLACK STAIN FILL TEXT USING LITHICHROME STONE STAIN AS APPROVED BY ARCHITECT/ENGINEER.

3 INTERPRETIVE GRANITE: TEXT ENGRAVING
Scale: 1/2"=1'-0"



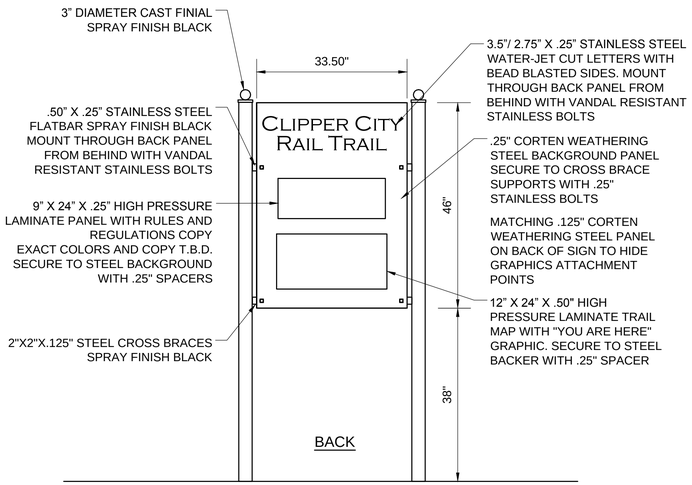
4 STACKED GRANITE BLOCKS: STA 22+00
Scale: 1/2"=1'-0"

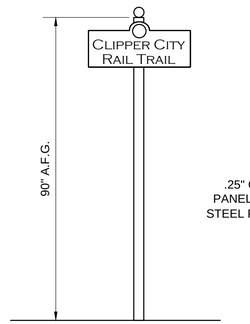
NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

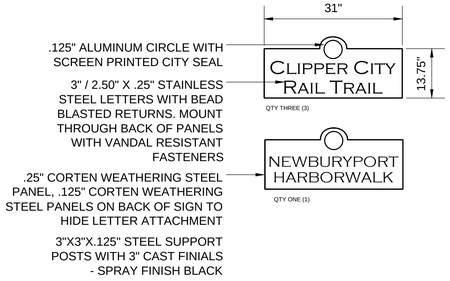
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	141	180
PROJECT FILE NO.	606503		

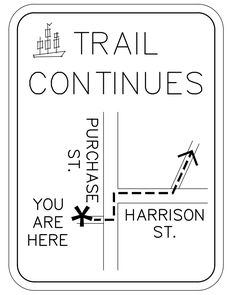
CONSTRUCTION DETAILS
SHEET 8 OF 18

606503_HDI(CONST DETAILS).DWG 12-Jun-2015





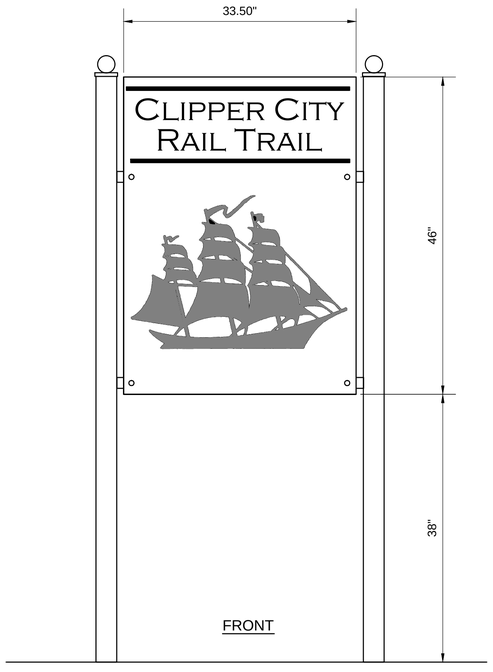






2 PRIMARY TRAILHEAD SIGN
NOT TO SCALE

3 TRAIL CONTINUES MAP SIGN
NOT TO SCALE

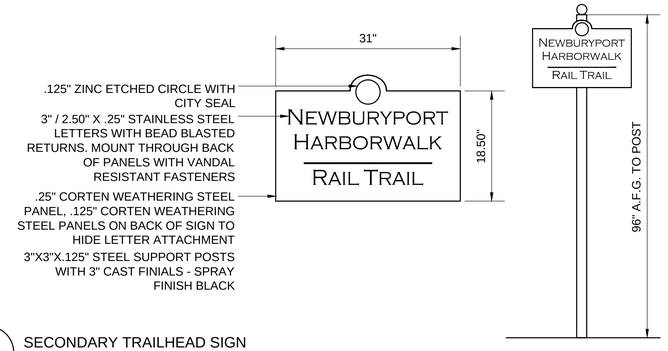


1 DIRECTIONAL SIGN
NOT TO SCALE

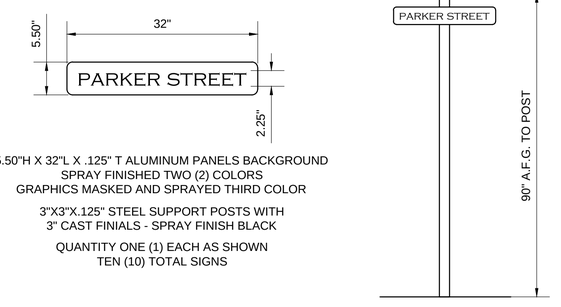


.125" ALUMINUM WITH DIGITALLY PRINTED BACKGROUND AND GRAPHICS
CLEAR LAMINATE OVERLAY
QTY ONE (1)

4 RECOGNITION PLAQUE
NOT TO SCALE



5 SECONDARY TRAILHEAD SIGN
NOT TO SCALE



5.50"H X 32"L X .125" T ALUMINUM PANELS BACKGROUND
SPRAY FINISHED TWO (2) COLORS
GRAPHICS MASKED AND SPRAYED THIRD COLOR

3"X3"X.125" STEEL SUPPORT POSTS WITH
3" CAST FINIALS - SPRAY FINISH BLACK

QUANTITY ONE (1) EACH AS SHOWN
TEN (10) TOTAL SIGNS

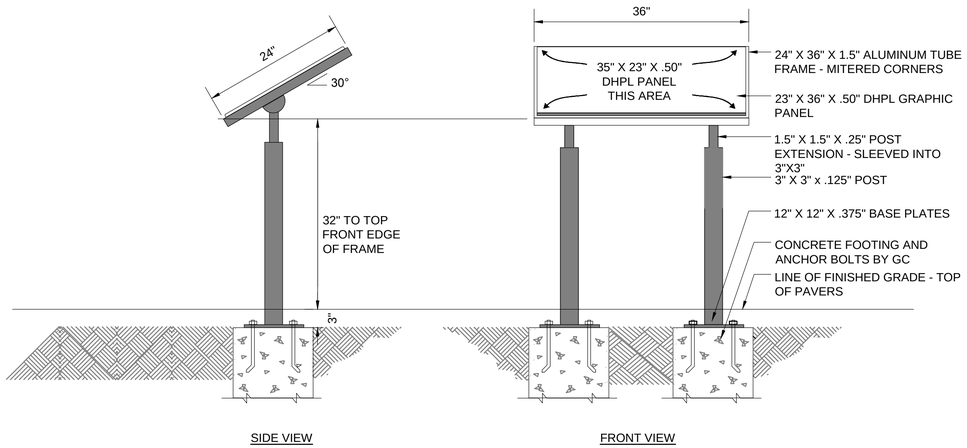
6 STREET NAME
NOT TO SCALE

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

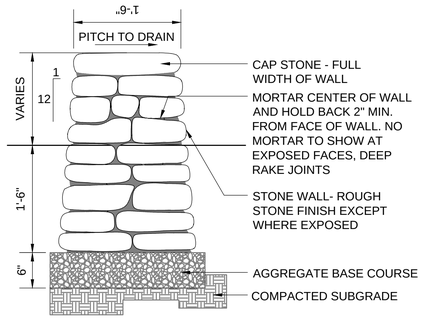
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	142	180
PROJECT FILE NO.	606503		

CONSTRUCTION DETAILS
SHEET 9 OF 18

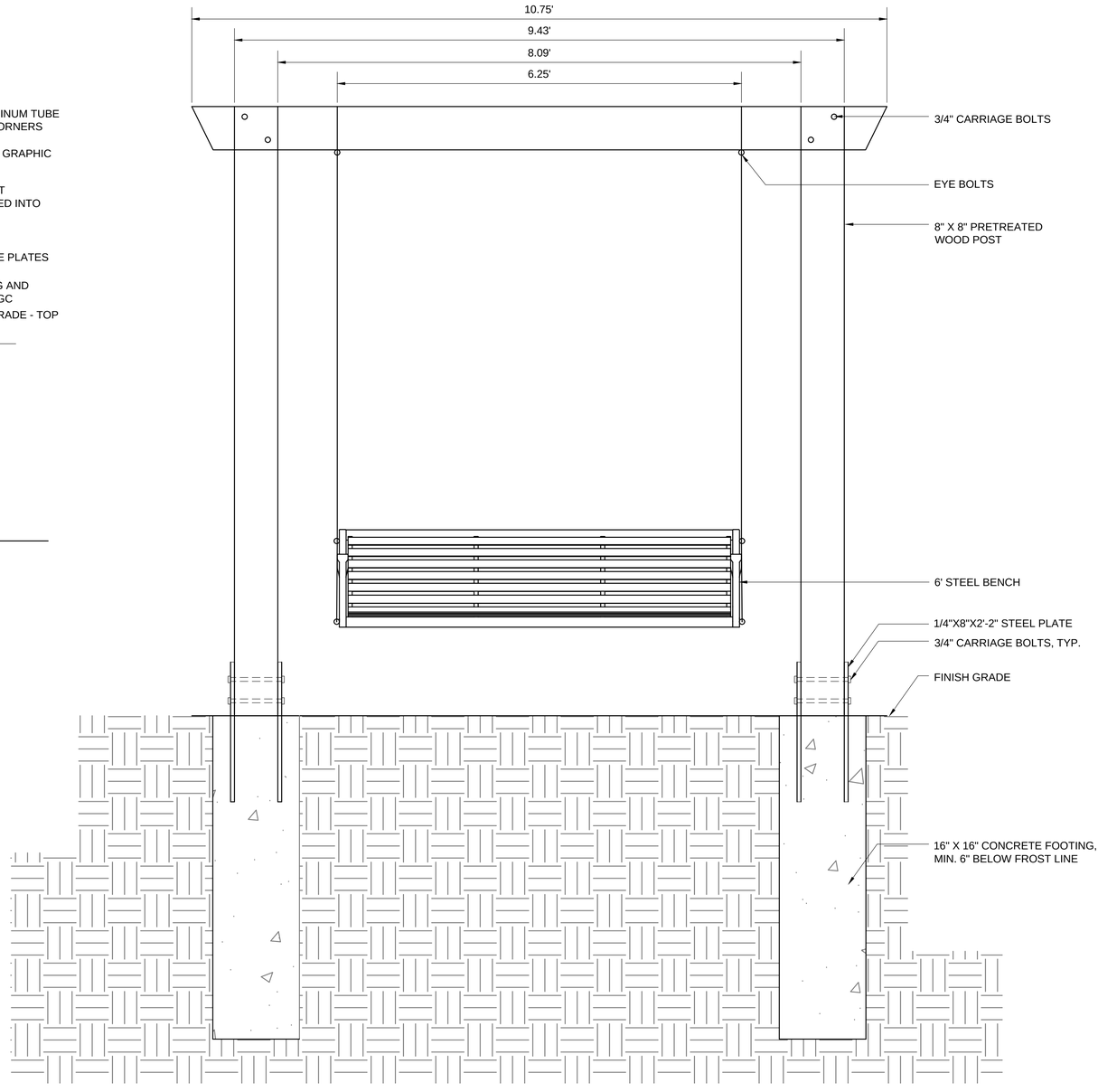
606503_HDI(CONST DETAILS).DWG 12-Jun-2015



1 INTERPRETIVE SIGN
NOT TO SCALE



2 STONE WALL
NOT TO SCALE



3 SWINGING BENCH
NOT TO SCALE

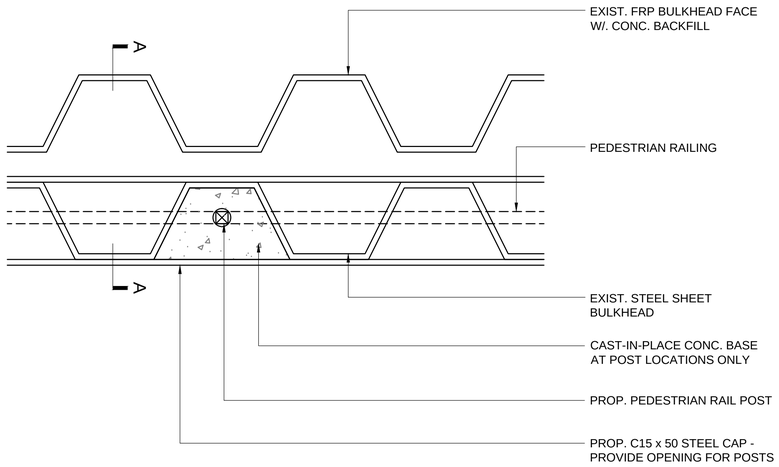
NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

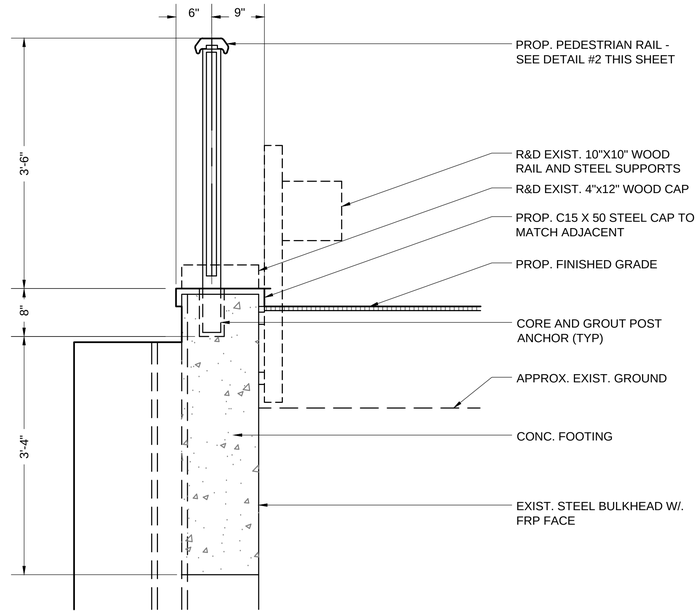
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	143	180
PROJECT FILE NO.	606503		

CONSTRUCTION DETAILS
SHEET 10 OF 18

606503_HDI(CONST DETAILS).DWG 12-Jun-2015

ITEM	LOCATION		QTY
	BEGIN	END	
STEEL CAP	STA XX+XX	STA XX+XX	X FT
PEDESTRIAN RAIL	STA XX+XX	STA XX+XX	X FT

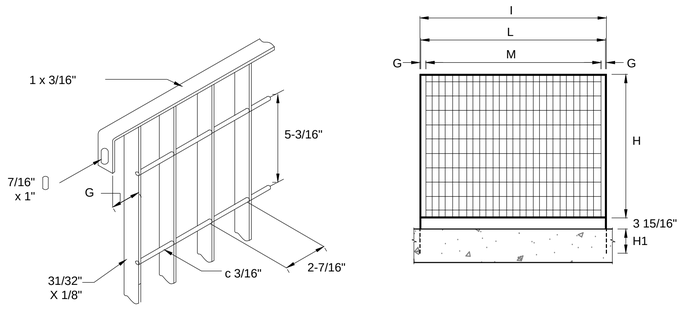




SECTION A-A
SCALE: 1" = 1'-0"

1 PEDESTRIAN RAIL AT FISHERMAN'S WHARF

Scale: 1"=1'-0"



H	PANEL HEIGHT	42" HIGH
H1	ANCHOR LENGTH*	8" UP TO 60" HIGH (AS PER MANUFACTURERS RECOMMENDATION - 8" MINIMUM)
I	POST WIDTH	78-3/4" MAXIMUM
L	PANEL WIDTH	78-7/16" MAXIMUM
M	WIDTH OF GRILL	73-11/32" MAXIMUM
G	LUG PROJECTION	2-7/16" MAXIMUM
	POST SIZE*	2-1/2" X 5/16" FLAT BAR UP TO 60" HIGH
*FINAL DETERMINATION OF ANCHOR LENGTH AND POST SIZE IS BASED ON PANEL SIZE, SITE CONDITIONS AND DESIGN CONSIDERATION.		

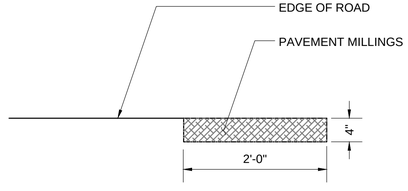
PEDESTRAIN RAILING
NTS

PEDESTRIAN RAILING
TOP RAIL
NTS

NOTES:
1. INSTALLATION OF THE PEDESTRIAN RAILING TO BE COMPLETED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.

2 PEDESTRIAN RAILING

Scale: 1"=1'-0"



2 PAVEMENT MILLINGS AT SHOULDER

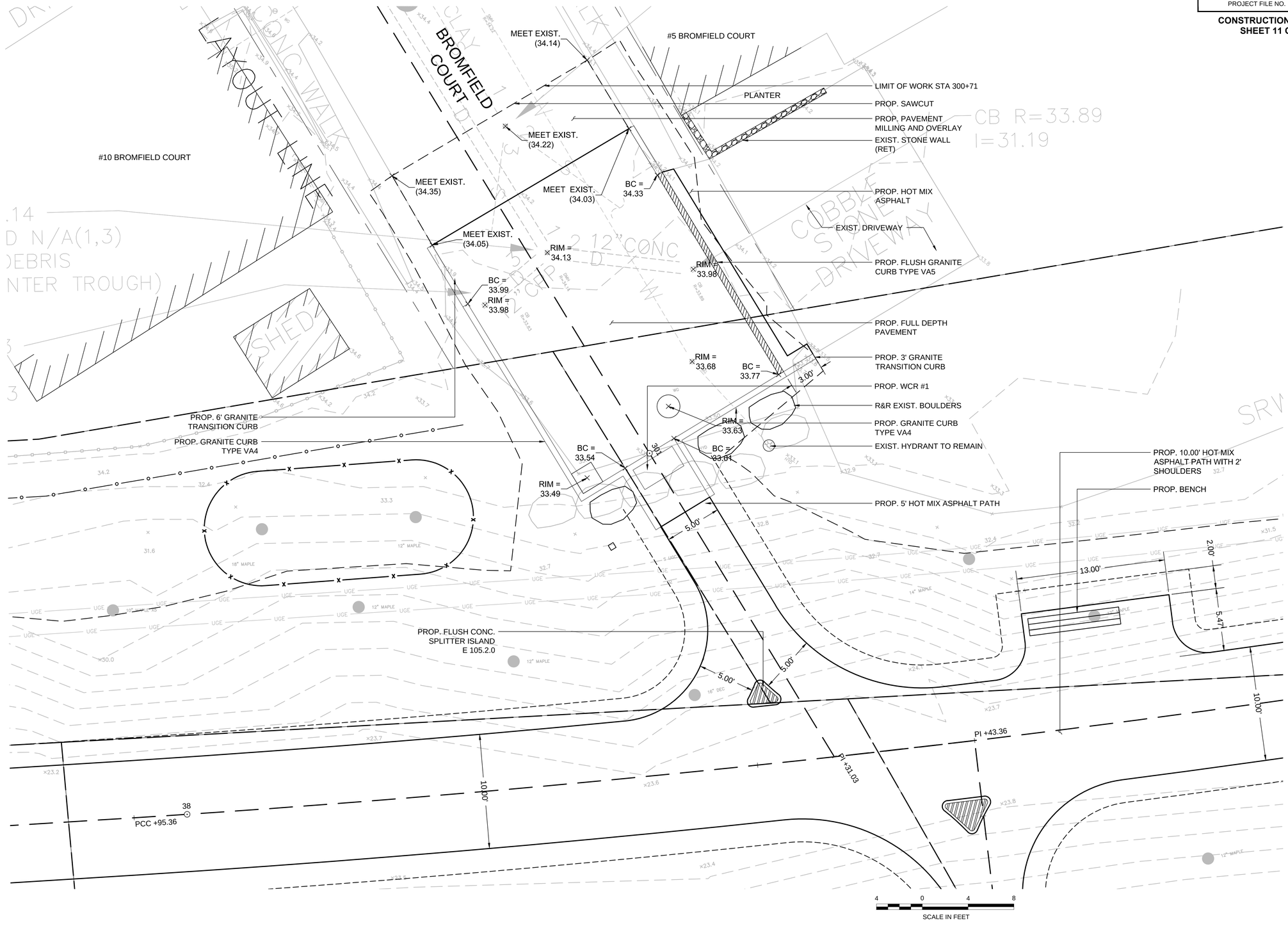
Scale: 1"=1'-0"

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	144	180
PROJECT FILE NO.		606503	

CONSTRUCTION DETAILS
SHEET 11 OF 18

606503_HD(CONST DETAILS3).DWG 12-Jun-2015

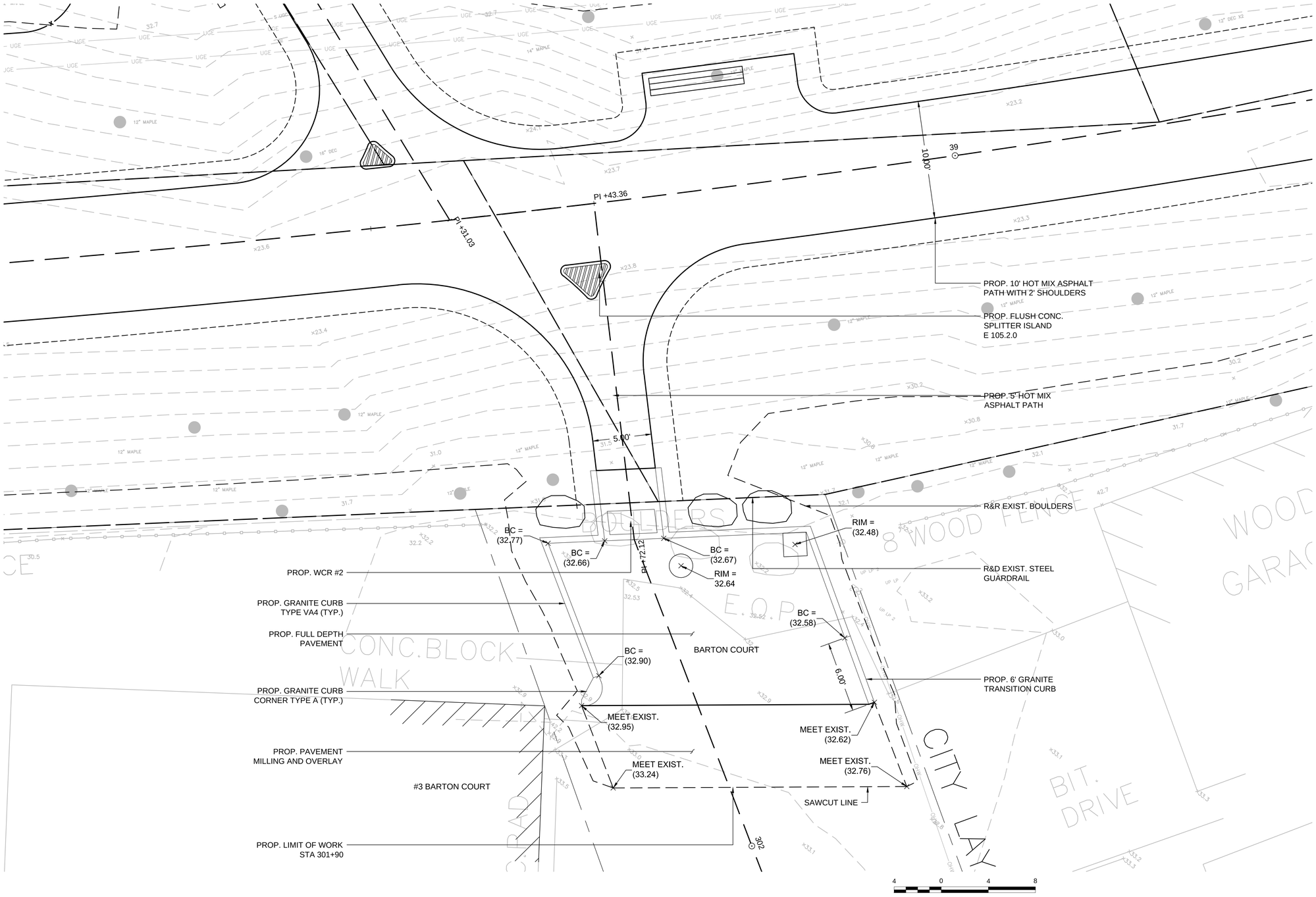


NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	145	180
PROJECT FILE NO.	606503		

CONSTRUCTION DETAILS
SHEET 12 OF 18

606503_HD(CONST DETAILS3).DWG 12-Jun-2015

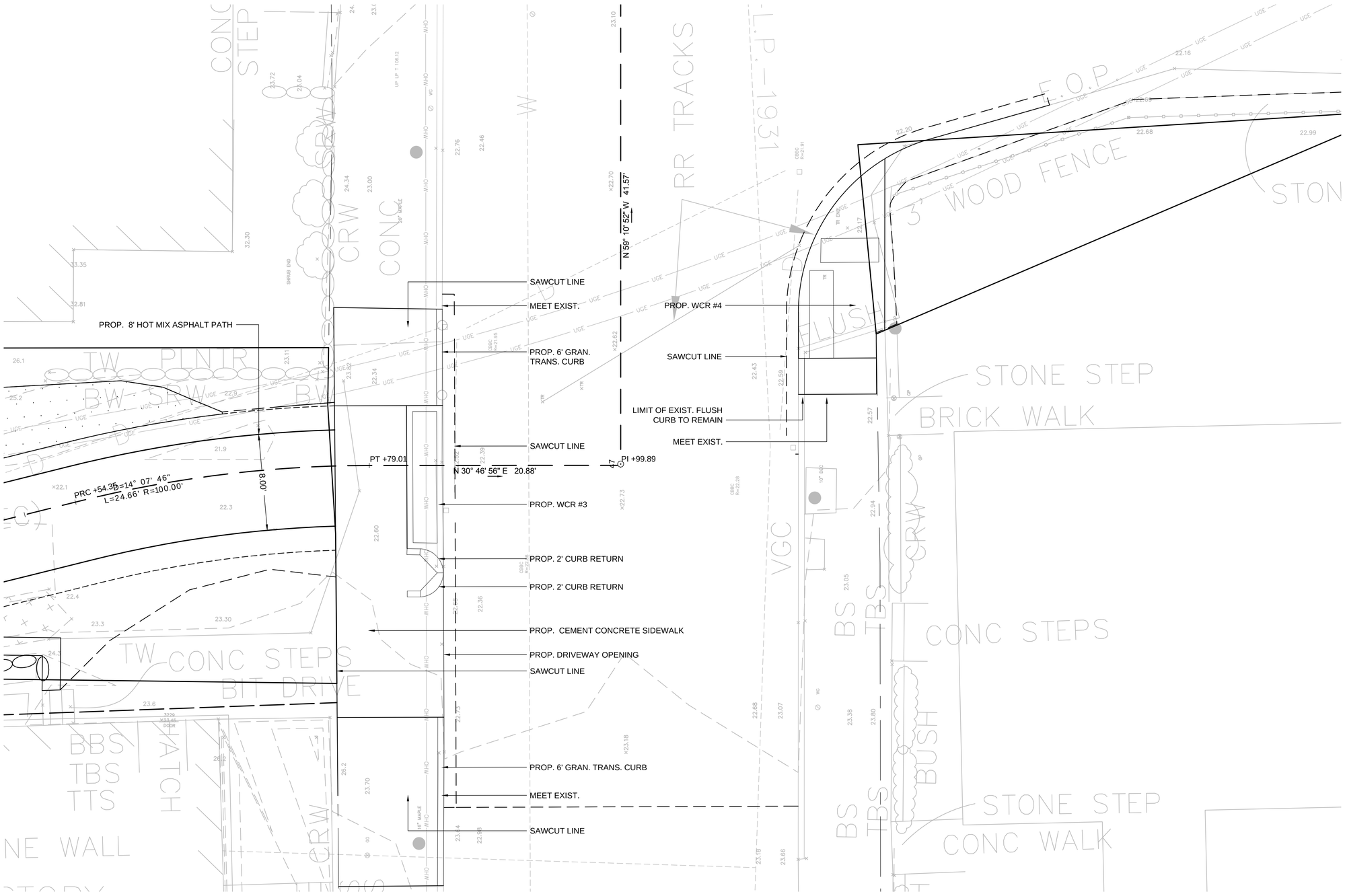


NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	146	180
PROJECT FILE NO.	606503		

CONSTRUCTION DETAILS
SHEET 13 OF 18

606503_HD(CONST DETAILS3).DWG 12-Jun-2015



NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	147	180
PROJECT FILE NO.	606503		

CONSTRUCTION DETAILS
SHEET 14 OF 18

606503_HD(CONST DETAILS3).DWG 12-Jun-2015

MEET EXIST.

PROP. BRICK SIDEWALK; WIDTH VARIES

PROP. GRANITE TRANSITION CURB

PROP. WCR #6

PROP. GRANITE TRANSITION CURB

PROP. BRICK SIDEWALK; WIDTH VARIES

PROP. ASPHALT DRIVEWAY

EXIST. PLANTER CURB (RET.)

PROP. BRICK SIDEWALK; WIDTH VARIES

PROP. 6.5' GRANITE TRANSITION CURB

PROP. BRICK SIDEWALK

PROP. CATCH BASIN

N 30° 23' 14" E 168.20'

PROP. 6.5' GRANITE TRANSITION CURB

VGC

BRICK WALK

1 STORY WOOD HOUSE

2 STORY GARAGE

DECK

BIT DRIVE

FLUSH

CRW

WRW

PENIR

BIT PATCH

WG

CONC

STONEWALL

WOOD FENCE

F.O.P.

9+C1-L.P.-1931

10" MAPLE

6" CHERRY

U-GATE

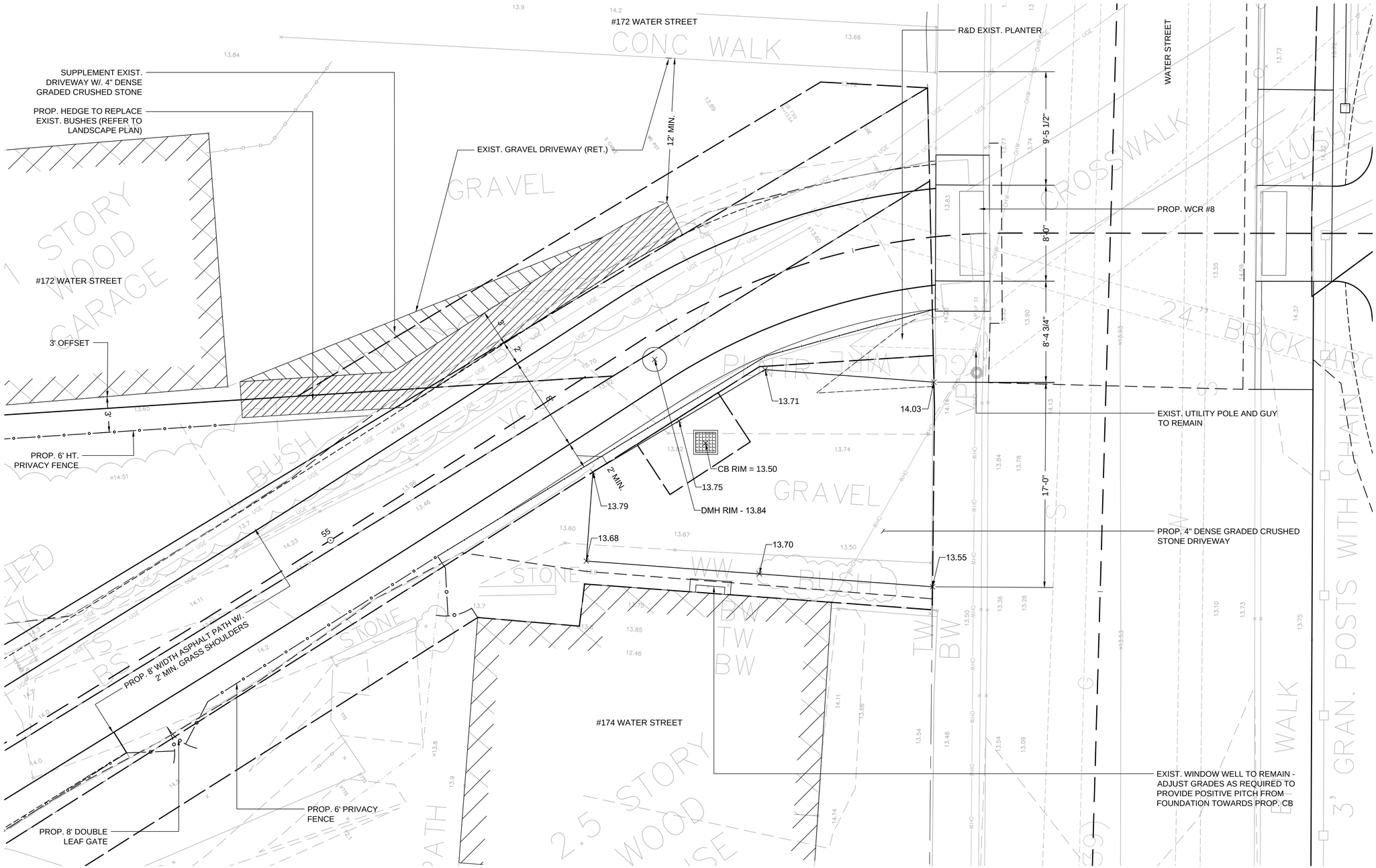
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	148	180
PROJECT FILE NO.	606503		

CONSTRUCTION DETAILS
SHEET 15 OF 18

606503_HD(CONST DETAILS3).DWG 12-Jun-2015

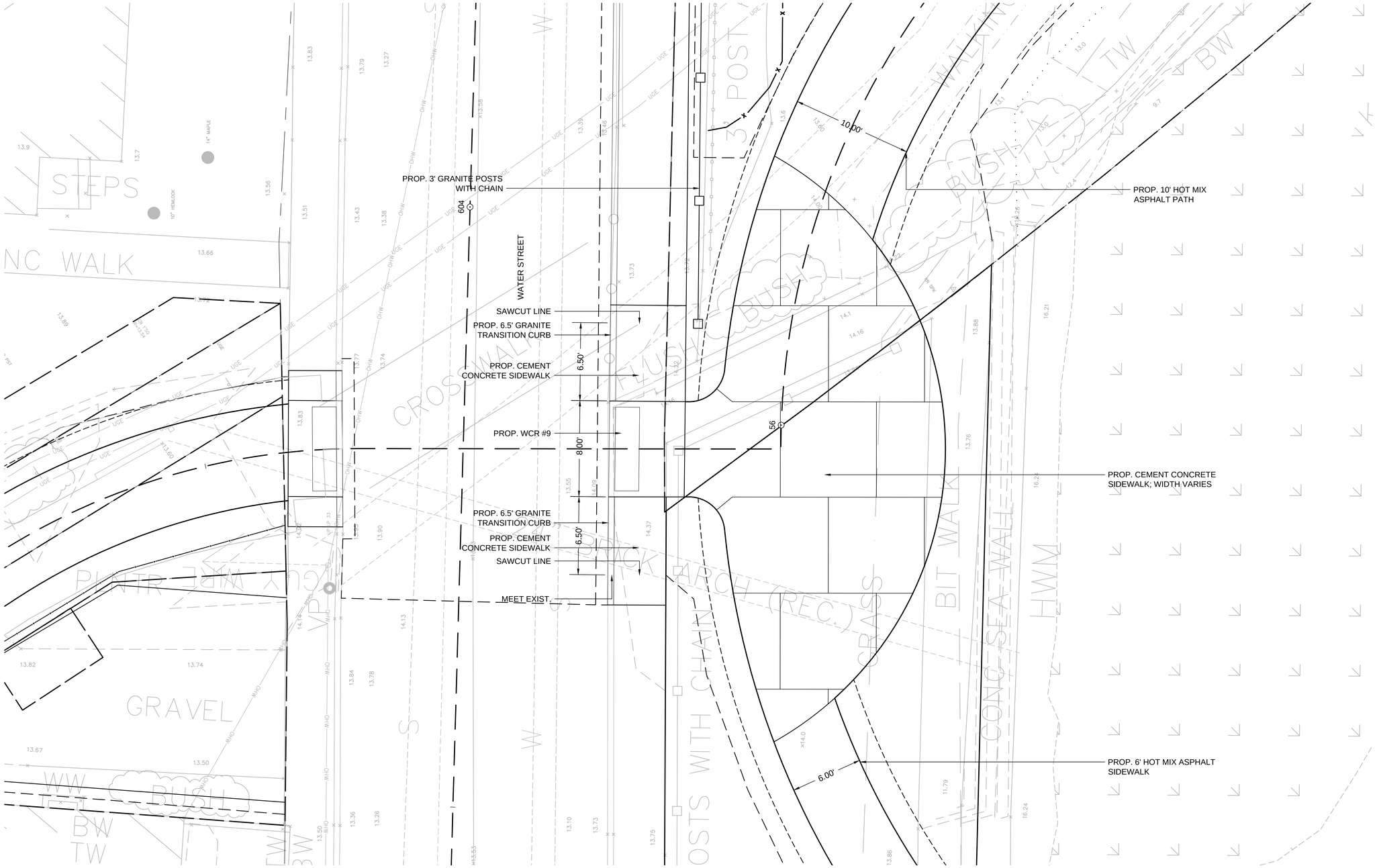


NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	149	180
PROJECT FILE NO.	606503		

CONSTRUCTION DETAILS
SHEET 16 OF 18

606503_HD(CONST DETAILS3).DWG 12-Jun-2015

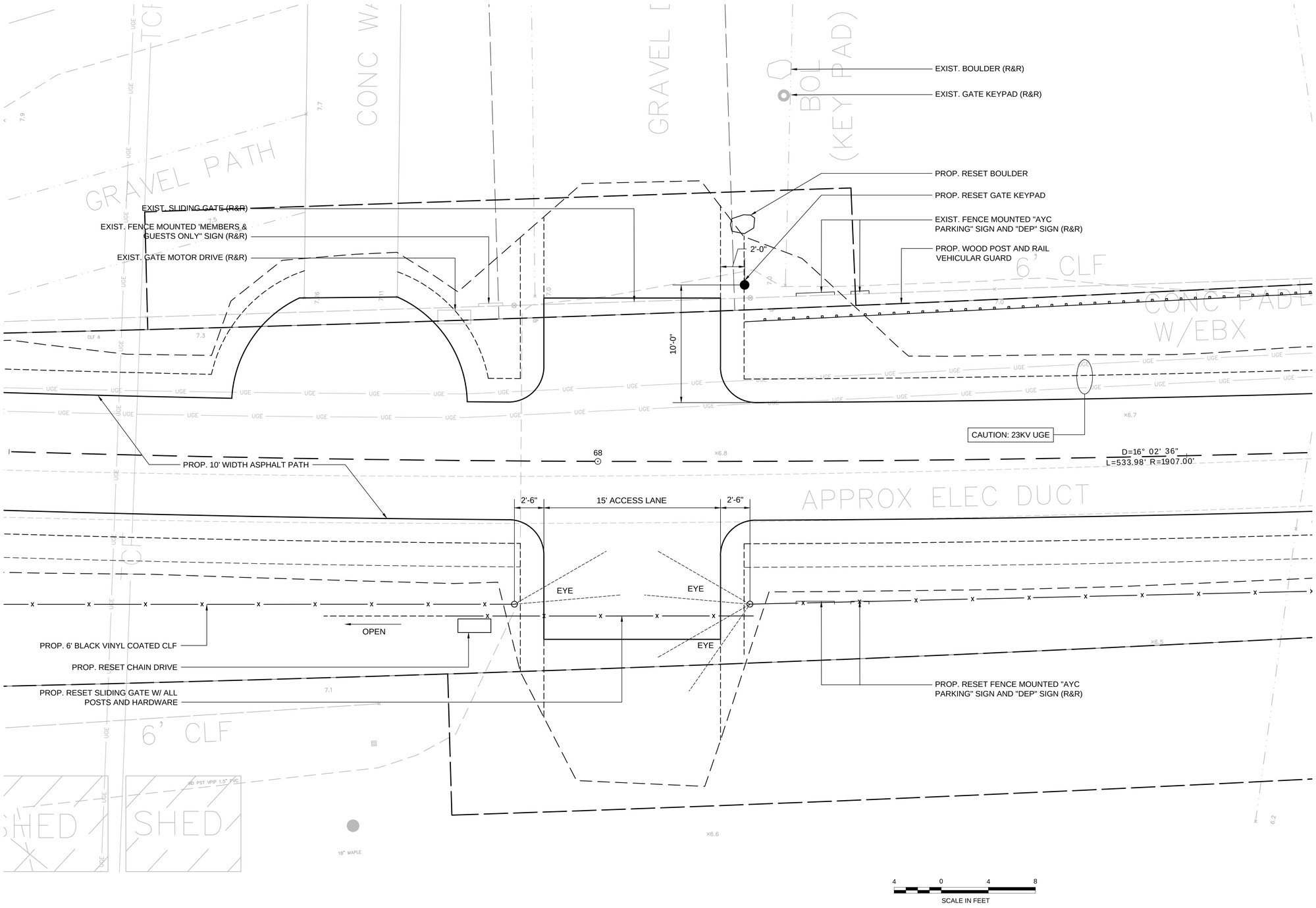


NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	150	180
PROJECT FILE NO.	606503		

CONSTRUCTION DETAILS
SHEET 17 OF 18

606503_HD(CONST DETAILS3).DWG 12-Jun-2015

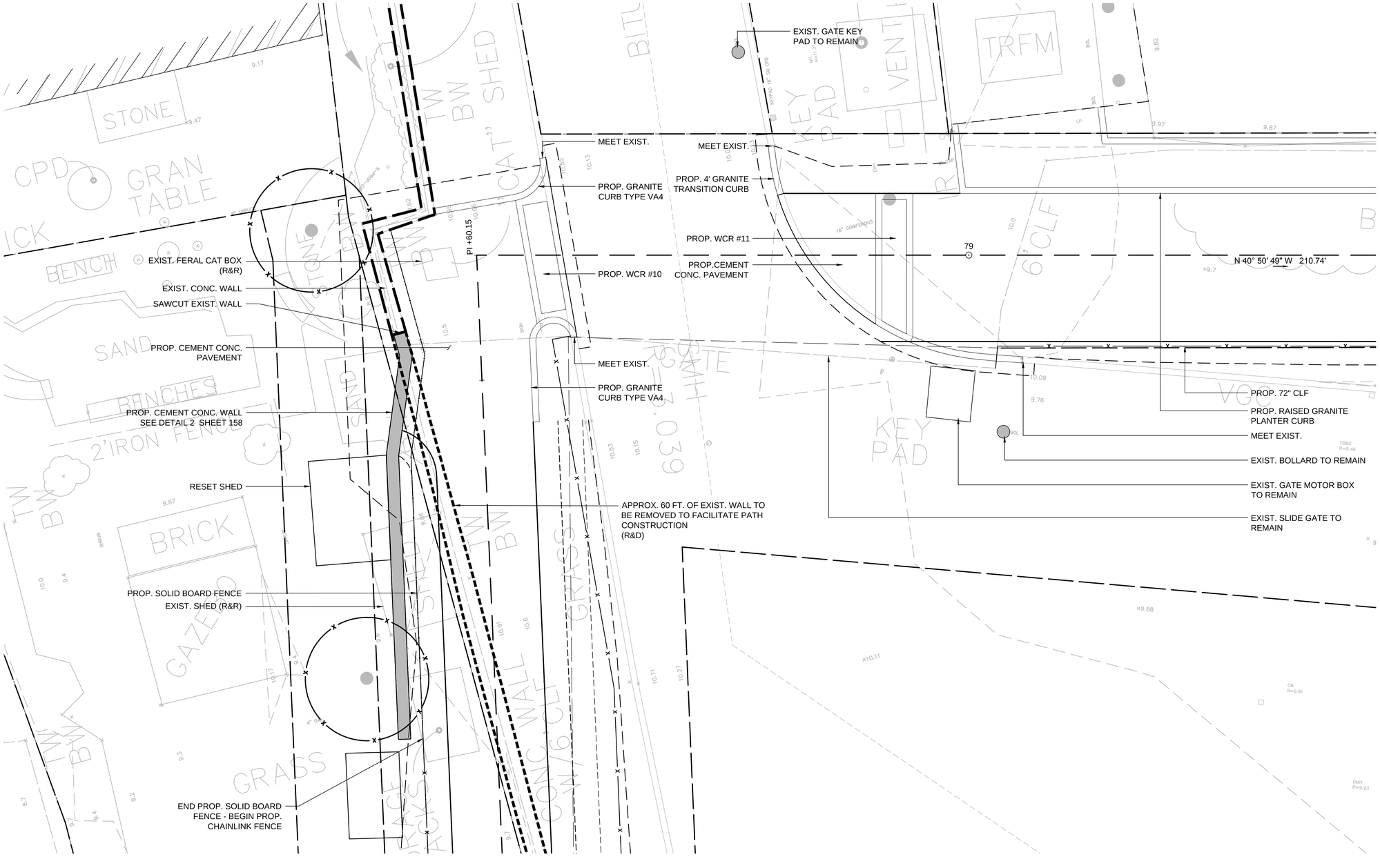


NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	151	180
PROJECT FILE NO.	606503		

CONSTRUCTION DETAILS
SHEET 18 OF 18

606503_HD(CONST DETAILS3).DWG 12-Jun-2015



NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

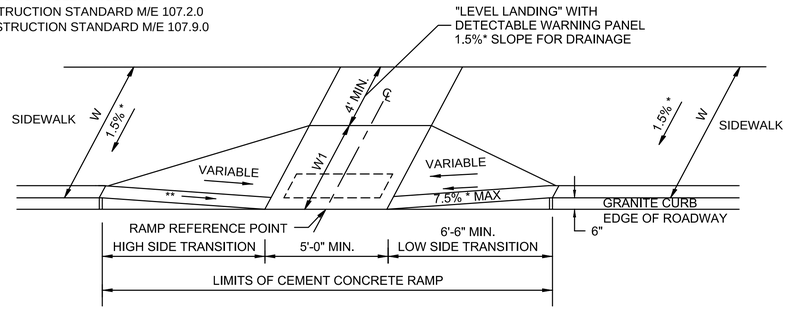
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	152	180
PROJECT FILE NO.	606503		

WHEELCHAIR RAMP DETAILS

606503_HD\WCR_DETAILS).DWG 12-Jun-2015

NOTES:

- * CONSTRUCTION TOLERANCE ±0.5%
- SEE CONSTRUCTION STANDARD M/E 107.2.0
** SEE CONSTRUCTION STANDARD M/E 107.9.0

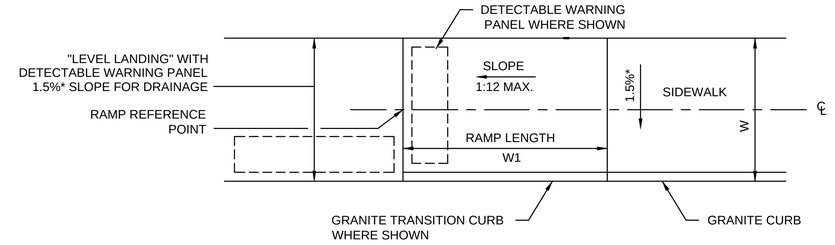


WCR #	RAMP REFERENCE POINT		LENGTH OF PRIMARY RAMP (W1)	WIDTH OF SIDEWALK	WIDTH OF RAMP MIN. 5'	DEPTH OF LEVEL LANDING MIN. 4'	ROADWAY GUTTER SLOPE	TRANSITION LENGTH	
	STATION	OFFSET						DOWNSTATION	UPSTATION
WCR 16	87+41.87	0.00'	6.50'	N/A	10.00'	N/A	1.50%	8.00' (LT)	N/A (RT)

TYPE "A" - WHEELCHAIR RAMP
NOT TO SCALE

NOTES:

- * CONSTRUCTION TOLERANCE ±0.5%
- ** DETECTABLE PANELS SHALL BE INSTALLED IN ACCORDANCE WITH ALL MASSDOT STANDARDS

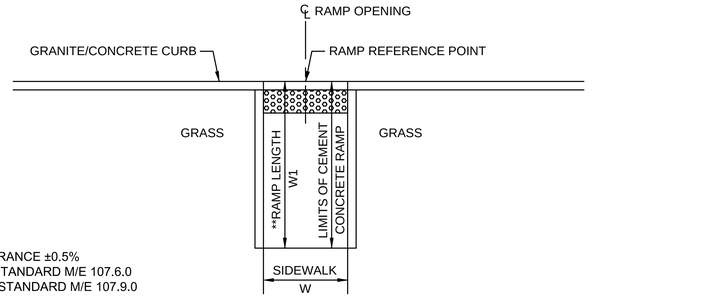


WCR #	RAMP REFERENCE POINT		LENGTH OF PRIMARY RAMP (W1)	WIDTH OF SIDEWALK	WIDTH OF RAMP	DEPTH OF LEVEL LANDING MIN. 4'	ROADWAY GUTTER SLOPE	TRANSITION LENGTH	
	STATION	OFFSET						DOWNSTATION	UPSTATION
WCR 4	47+08.80	8.80' RT	3.00'	6.50'	6.50'	6.50'	.61%	N/A	N/A
WCR 13	82+53.15	1.00' RT	11.00'	8.00'	8.00'	8.00'	1.50%	N/A	N/A
WCR 14	83+46.92	0.00'	9.00'	8.00'	8.00'	8.00'	1.50%	N/A	N/A
WCR 15	84+58.68	0.00'	8.00'	8.00'	8.00'	8.00'	1.50%	N/A	N/A

TYPE "B" - WHEELCHAIR RAMP
NOT TO SCALE

NOTES:

- * CONSTRUCTION TOLERANCE ±0.5%
- SEE CONSTRUCTION STANDARD M/E 107.6.0
** SEE CONSTRUCTION STANDARD M/E 107.9.0



WCR #	RAMP REFERENCE POINT		LENGTH OF PRIMARY RAMP (W1)	WIDTH OF SIDEWALK	WIDTH OF RAMP MIN. 5'	DEPTH OF LEVEL LANDING MIN. 4'	ROADWAY GUTTER SLOPE	TRANSITION LENGTH	
	STATION	OFFSET						DOWNSTATION	UPSTATION
WCR 3	46+85.12	1.00 RT	N/A	9.00'	N/A	9.00'	.61%	14.00' (RT)	8.00' (LT)
WCR 5	NOT USED	-	-	-	-	-	-	-	-
WCR 6	47+68.14	9.31' LT	N/A	5.60'	N/A	5.60'	.05%	6.50'	9.00'
WCR 7	49+19.45	1.98' RT	N/A	5.50'	N/A	5.50'	1.50%	11.00' (LT)	9.00' (RT)
WCR 8	55+61.52	0.00'	N/A	4.50'	N/A	4.50'	1.11%	2.50'	2.50'
WCR 9	55+83.72	0.00'	N/A	6.29'	N/A	6.29'	1.22%	9.00' (RT)	8.00' (LT)

TYPE "C" - WHEELCHAIR RAMP
NOT TO SCALE

WCR #	RAMP REFERENCE POINT		LENGTH OF PRIMARY RAMP (W1)	WIDTH OF SIDEWALK	WIDTH OF RAMP	DEPTH OF LEVEL LANDING MIN. 4'	ROADWAY GUTTER SLOPE	TRANSITION LENGTH	
	STATION	OFFSET						DOWNSTATION	UPSTATION
WCR 1	301+00.00	0.00'	6.00'	5.00'	5.00'	N/A	1.50%	N/A	N/A
WCR 2	301+72.12	0.00'	6.00'	5.00'	5.00'	N/A	.16%	N/A	N/A
WCR 10	NOT USED	-	-	-	-	-	-	-	-
WCR 11	NOT USED	-	-	-	-	-	-	-	-
WCR 12	NOT USED	-	-	-	-	-	-	-	-
WCR 17	91+26.78	0.00'	18.00'	8.00'	8.00'	N/A	1.50%	N/A	N/A

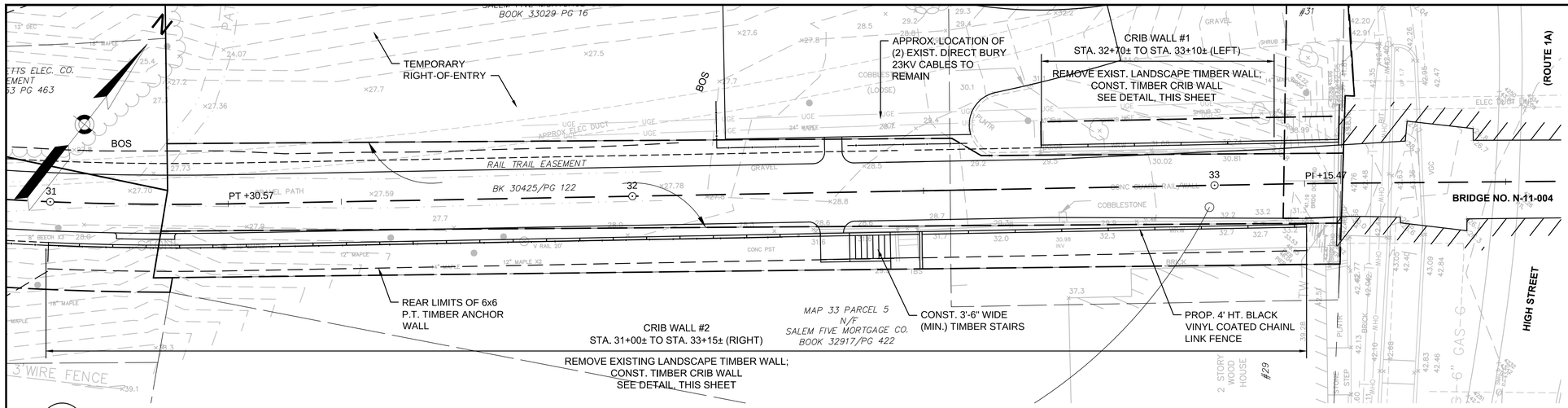
TYPE "D" - WHEELCHAIR RAMP
NOT TO SCALE

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

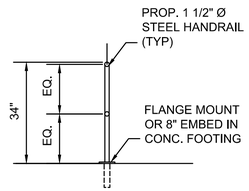
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	153	180
PROJECT FILE NO.	606503		

WALL DETAILS
SHEET 1 OF 6

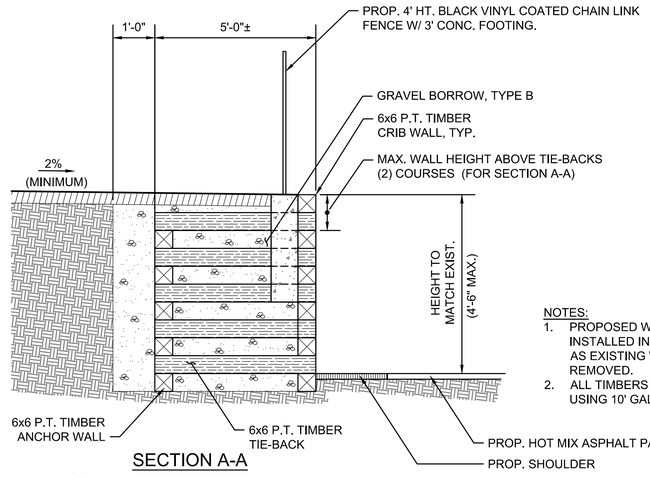
606503_HD(WALL DETAILS).DWG 12-Jun-2015



1 TIMBER CRIB WALLS - PLAN
SCALE: 1" = 10'-0"

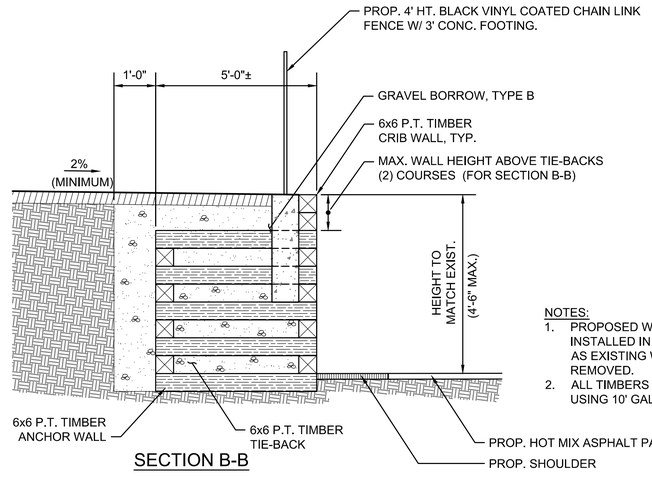


HANDRAIL DETAIL



NOTES:
1. PROPOSED WALL TO BE INSTALLED IN SAME LOCATION AS EXISTING WALL TO BE REMOVED.
2. ALL TIMBERS WILL BE SECURED USING 10' GAL NAILS.

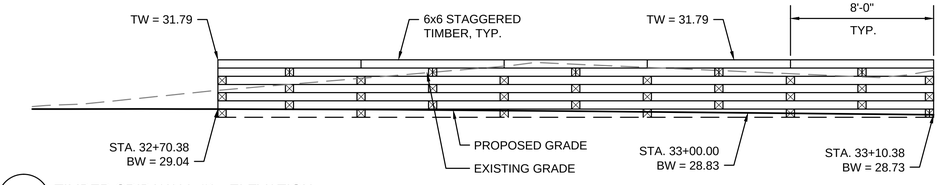
SECTION A-A



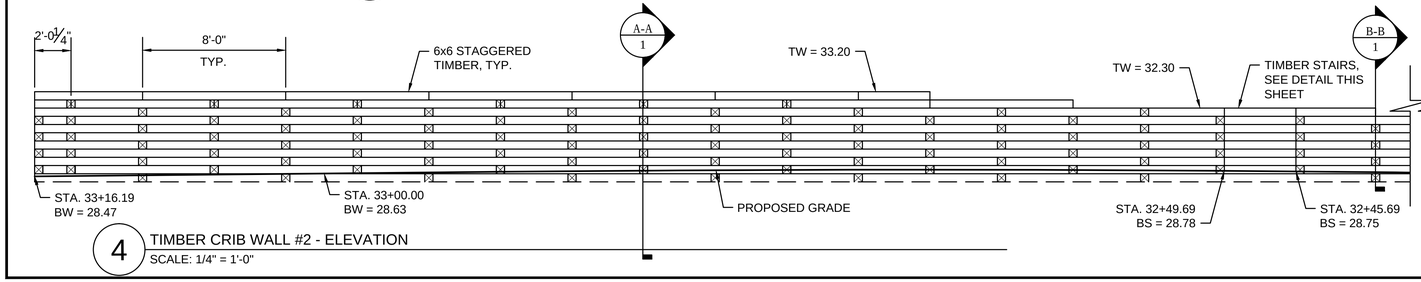
NOTES:
1. PROPOSED WALL TO BE INSTALLED IN SAME LOCATION AS EXISTING WALL TO BE REMOVED.
2. ALL TIMBERS TO BE SECURED USING 10' GALVANIZED NAILS.

SECTION B-B

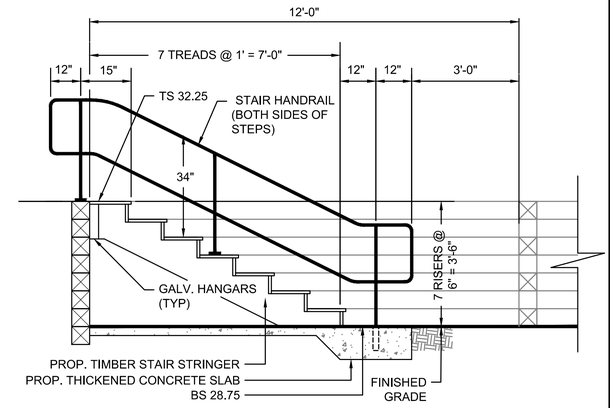
2 TIMBER CRIB WALL DETAILS
SCALE: 1/2" = 1'-0"



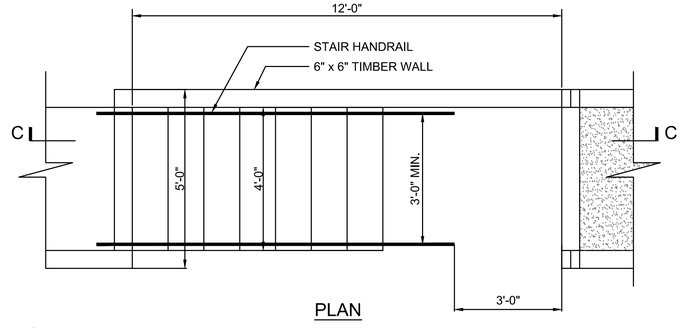
3 TIMBER CRIB WALL #1 - ELEVATION
SCALE: 1/4" = 1'-0"



4 TIMBER CRIB WALL #2 - ELEVATION
SCALE: 1/4" = 1'-0"

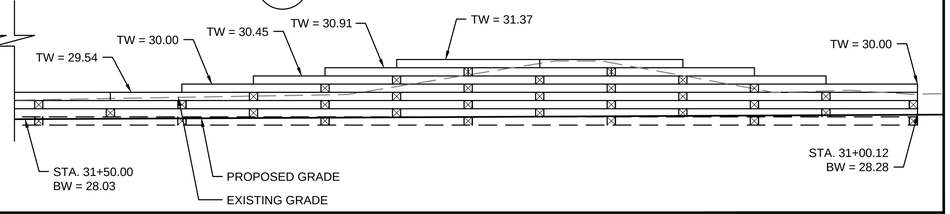


SECTION C-C



PLAN

5 TIMBER STAIR DETAIL
SCALE: 1/2" = 1'-0"

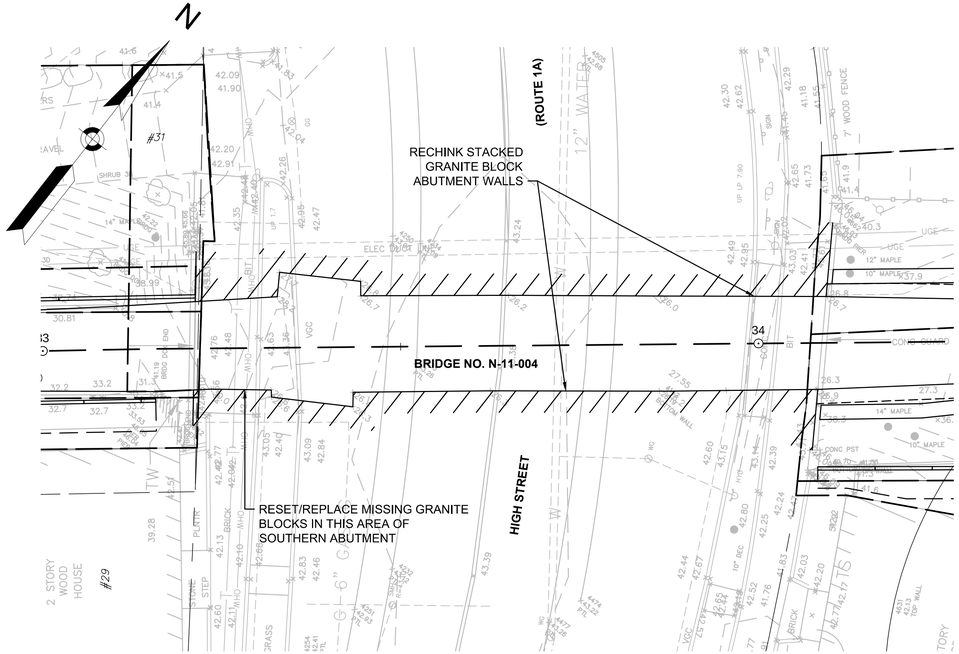


NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

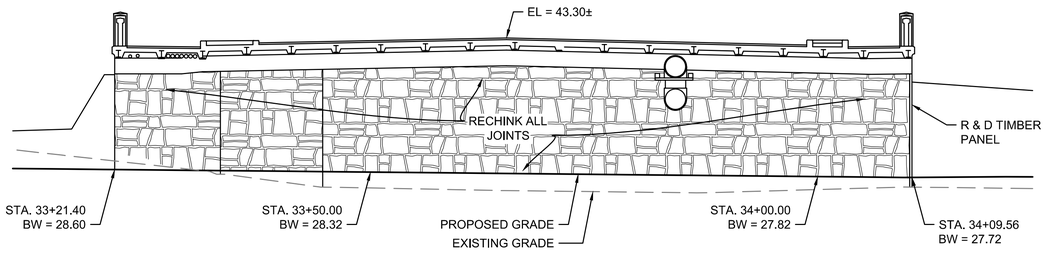
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	154	180
PROJECT FILE NO.	606503		

WALL DETAILS
SHEET 2 OF 6

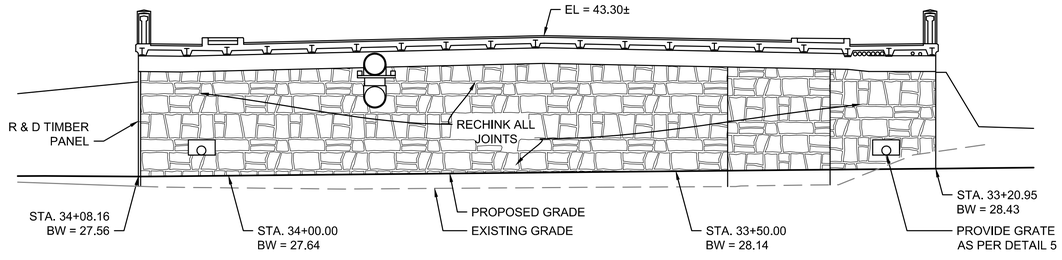
606503_HD(WALL DETAILS).DWG 12-Jun-2015



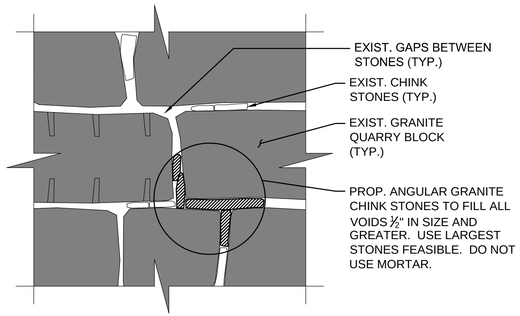
1 HIGH STREET UNDERPASS - PLAN
SCALE: 1" = 10'-0"



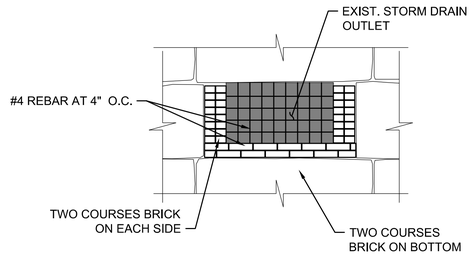
2 NORTHERN ABUTMENT - ELEVATION
SCALE: 1/8" = 1'-0"



3 SOUTHERN ABUTMENT - ELEVATION
SCALE: 1/8" = 1'-0"



4 JOINT CHINKING DETAIL
NOT TO SCALE



NOTES:

1. CONTRACTOR SHALL REMOVE DEBRIS FROM STORM DRAIN OUTLET AND RECONSTRUCT PORTION OF MASONRY WITHIN GRANITE WALL AS REQUIRED.
2. GRATE SHALL BE PREFABRICATED GALVANIZED #4 REBAR SPACED AT 4" O.C. WELDED AT ALL BAR CROSSING LOCATIONS.
3. GRATE SHALL BE EMBEDDED INSIDE MORTAR JOINT BETWEEN BRICK COURSES AT BOTTOM AND SIDES OF PENETRATION.
4. CONTRACTOR SHALL ENSURE SMOOTH TRANSITION FROM VERTICAL PORTION OF STORM DRAIN OUTLET TO FACE OF GRANITE WALL WITH POSITIVE DRAINAGE TOWARDS FACE OF ABUTMENT WALL.

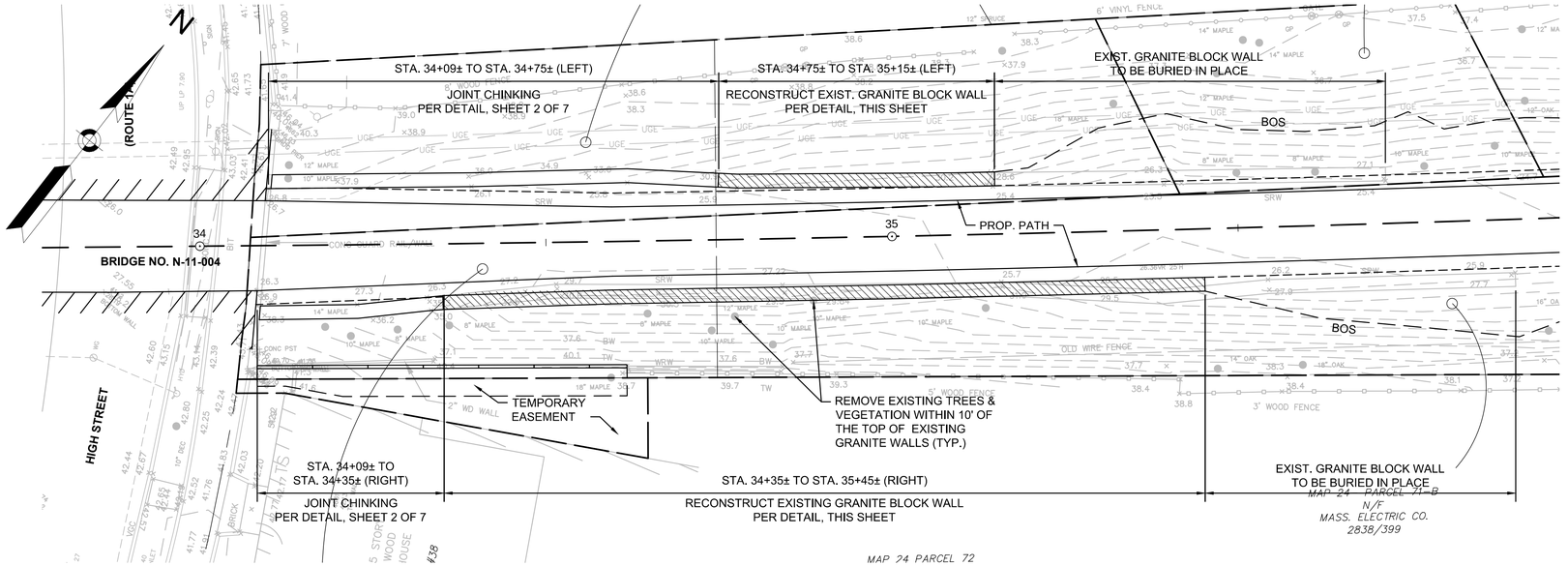
5 GRATE DETAIL
NOT TO SCALE

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

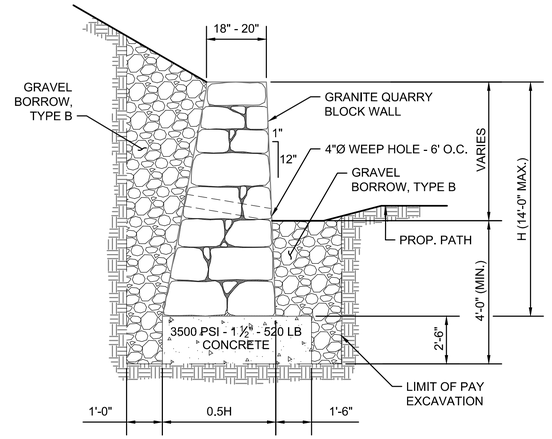
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	155	180
PROJECT FILE NO.		606503	

WALL DETAILS
SHEET 3 OF 6

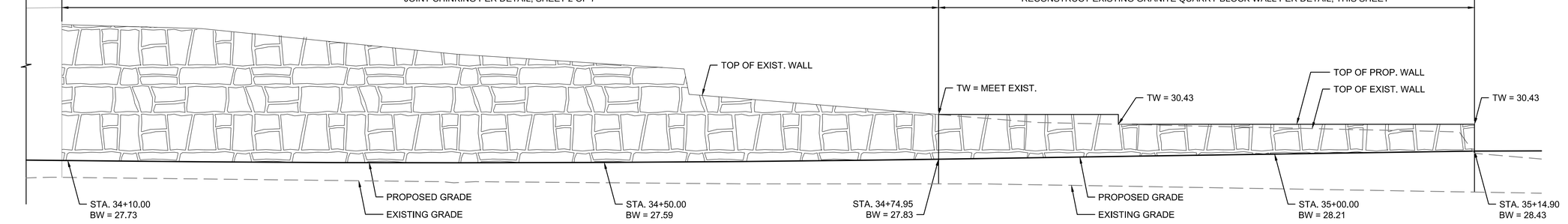
606503_HD(WALL DETAILS).DWG 12-Jun-2015



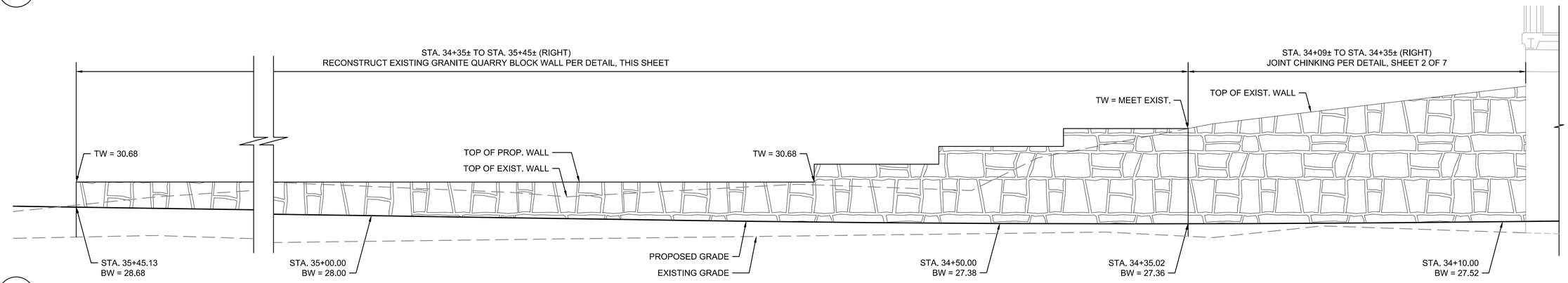
1 GANITE QUARRY BLOCK WALLS - PLAN
SCALE: 1" = 10'-0"



4 GRANITE QUARRY BLOCK WALL - SECTION
SCALE: 1/2" = 1'-0"



2 NORTHERN GRANITE QUARRY BLOCK WALL - ELEVATION
SCALE: 1/4" = 1'-0"



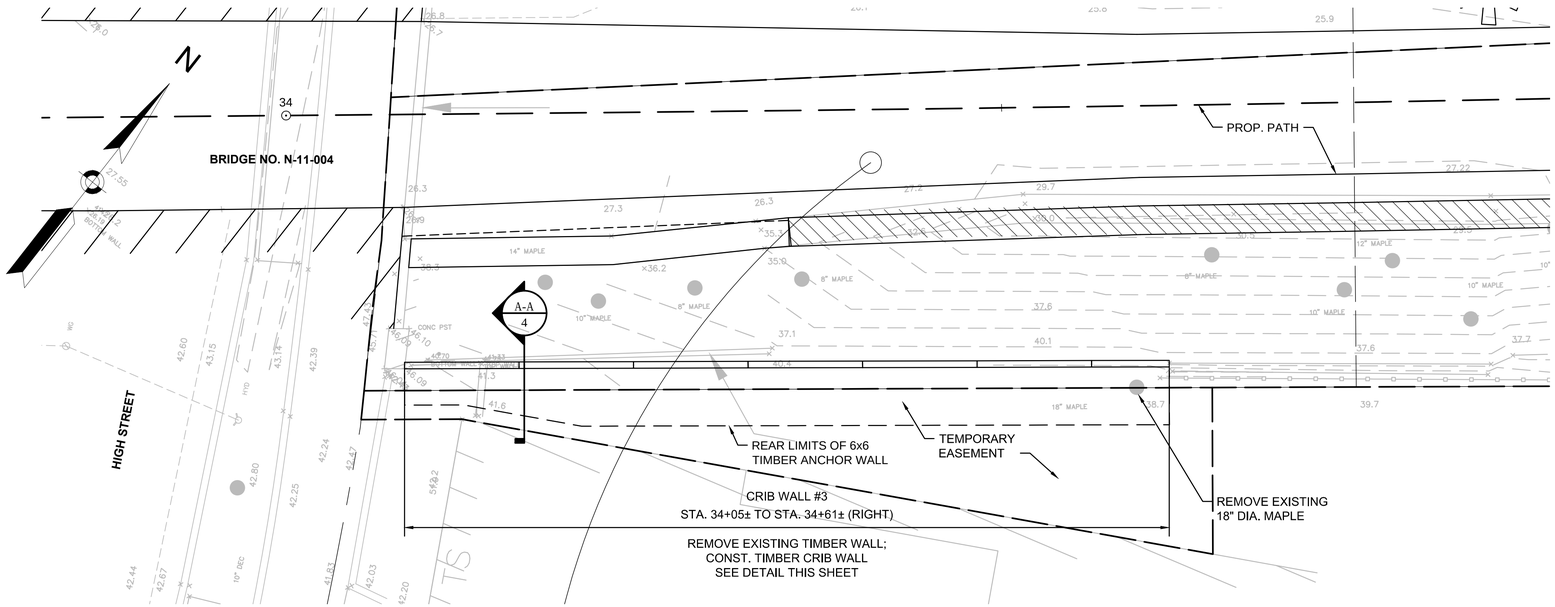
3 SOUTHERN GRANITE QUARRY BLOCK WALL - ELEVATION
SCALE: 1/4" = 1'-0"

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

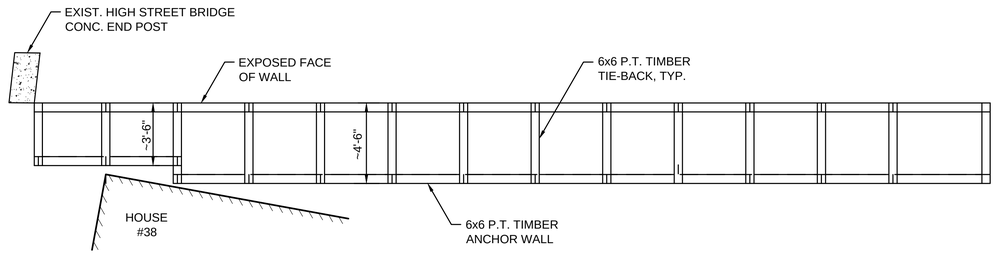
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	156	180
PROJECT FILE NO.	606503		

WALL DETAILS
SHEET 4 OF 6

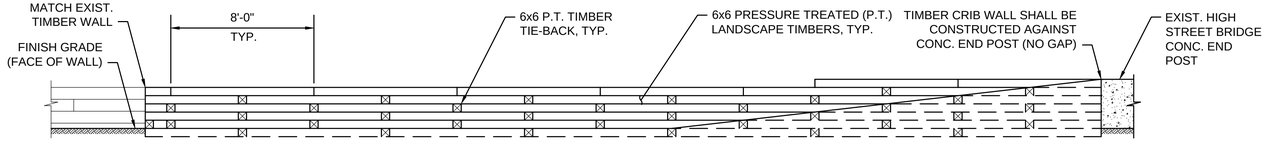
606503_HD(WALL DETAILS).DWG 12-Jun-2015



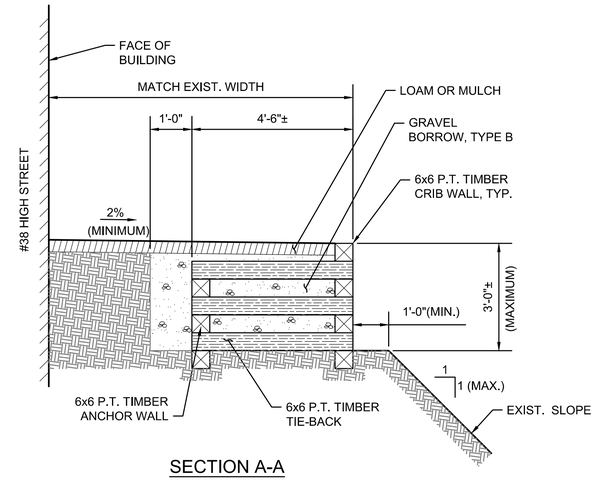
1 TIMBER CRIB WALL - PLAN
SCALE: 1" = 5'-0"



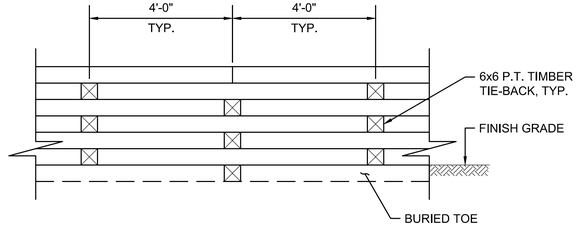
2 TIMBER CRIB WALL #3 - PLAN
SCALE: 1/4" = 1'-0"



3 TIMBER CRIB WALL #3 - NORTH ELEVATION
SCALE: 1/4" = 1'-0"



SECTION A-A



ELEVATION

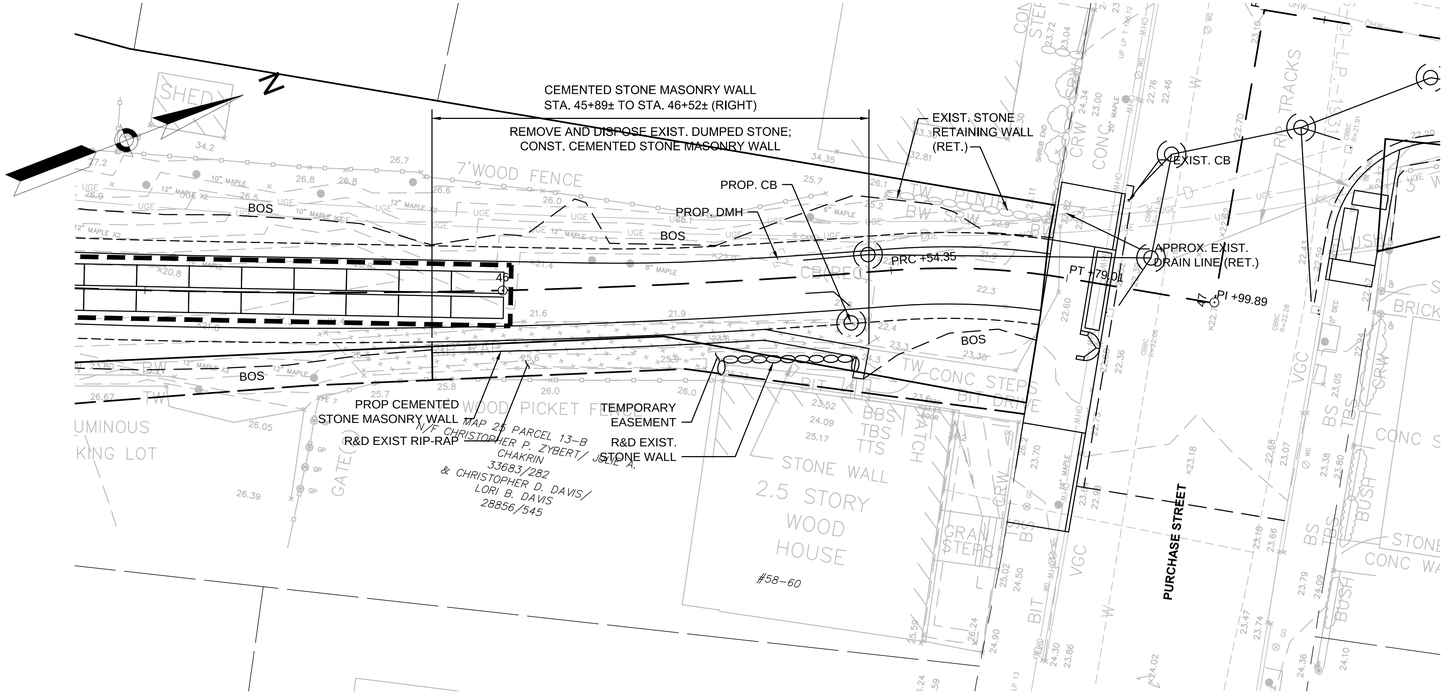
4 TIMBER CRIB WALL DETAIL
SCALE: 1/2" = 1'-0"

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CLIPPER CITY RAIL TRAIL - PHASE 2

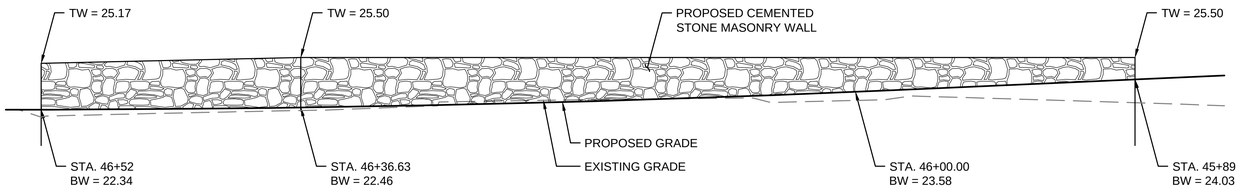
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	157	180
PROJECT FILE NO.		606503	

WALL DETAILS
SHEET 5 OF 6

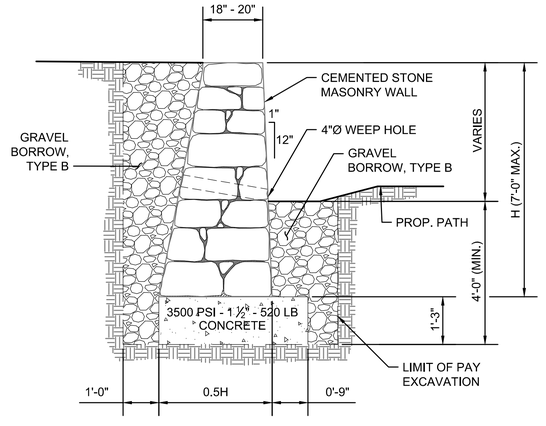
606503_HD(WALL DETAILS).DWG 12-Jun-2015



1 CEMENTED STONE MASONRY WALL - PLAN
SCALE: 1" = 10'-0"



2 CEMENTED STONE MASONRY WALL - ELEVATION
SCALE: 1/4" = 1'-0"



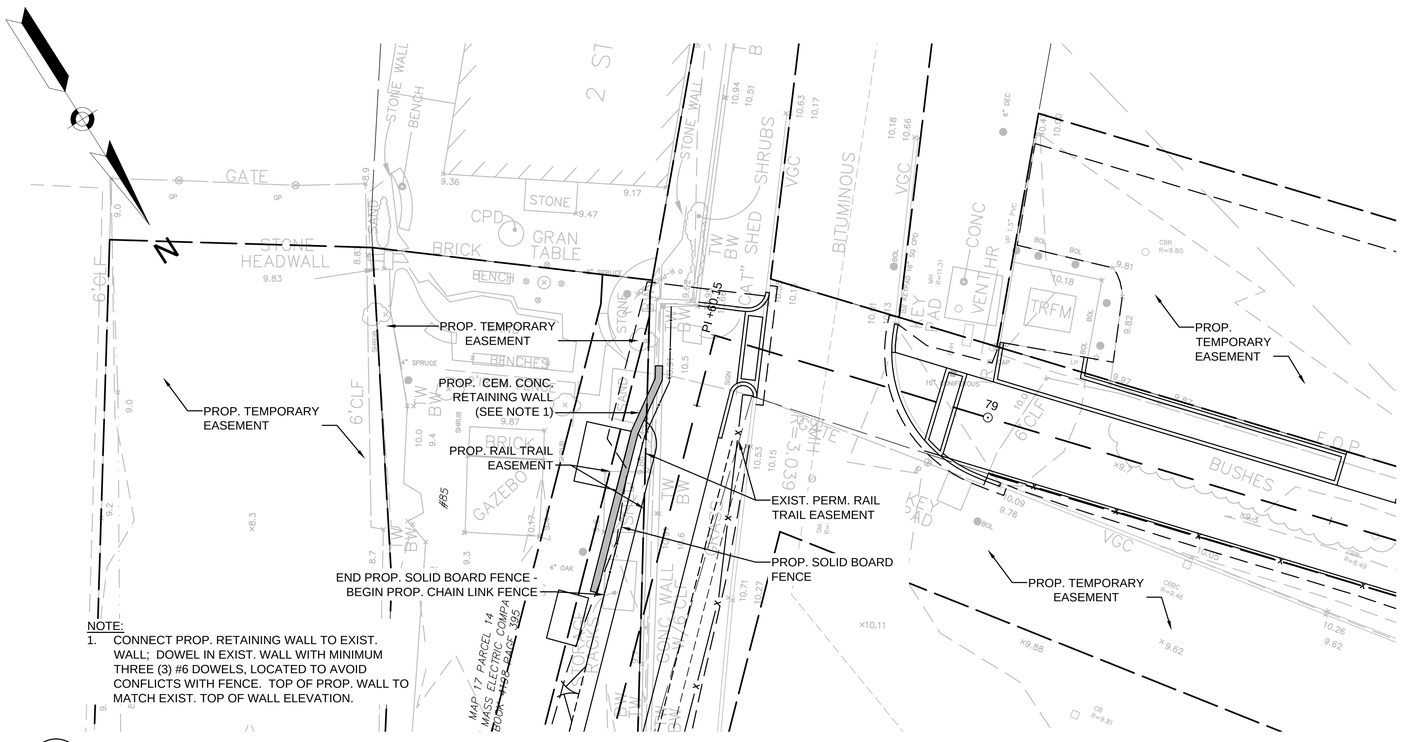
3 CEMENTED STONE MASONRY WALL - SECTION
NOT TO SCALE

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	158	180
PROJECT FILE NO.	606503		

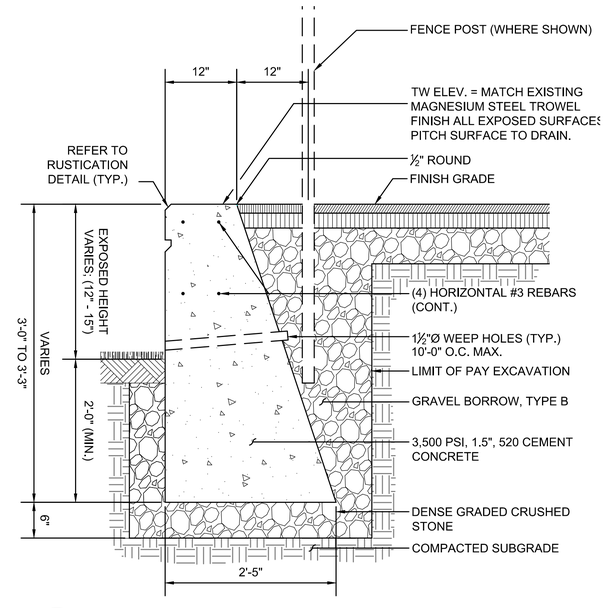
WALL DETAILS
SHEET 6 OF 6

606503_HD(WALL DETAILS).DWG 12-Jun-2015



NOTE:
1. CONNECT PROP. RETAINING WALL TO EXIST. WALL; DOWEL IN EXIST. WALL WITH MINIMUM THREE (3) #6 DOWELS, LOCATED TO AVOID CONFLICTS WITH FENCE. TOP OF PROP. WALL TO MATCH EXIST. TOP OF WALL ELEVATION.

1 CEMENT CONCRETE GRAVITY WALL - PLAN
SCALE: 1" = 10'-0"



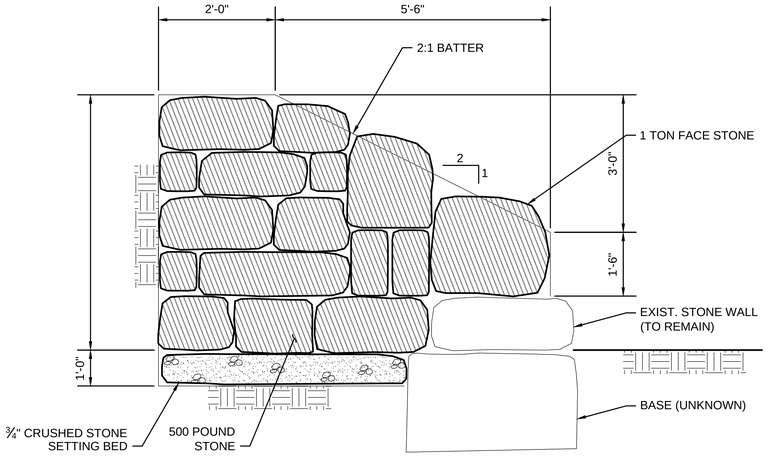
2 CONCRETE RETAINING WALL
SCALE: 1" = 1'-0"

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

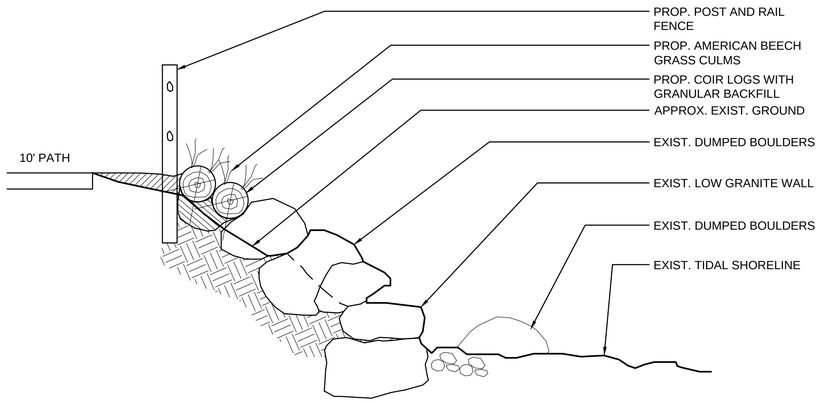
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	159	180
PROJECT FILE NO.	606503		

SHORELINE STABILIZATION DETAILS
SHEET 1 OF 1

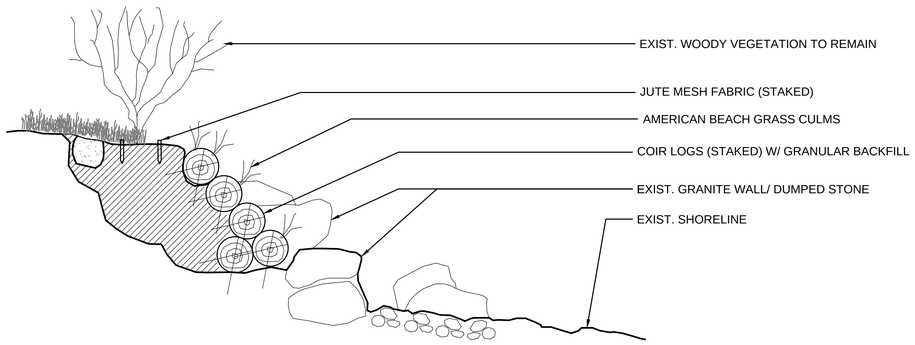
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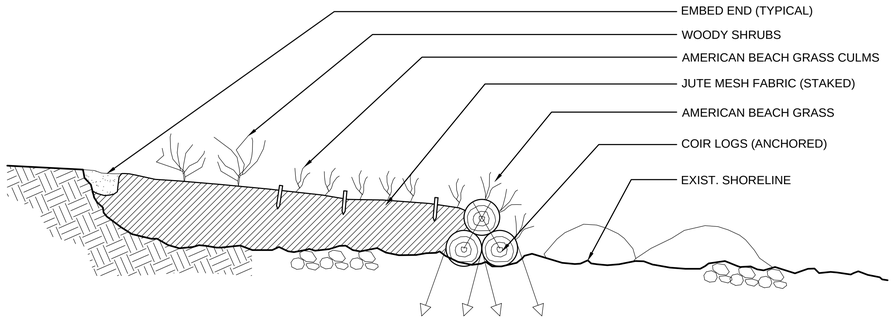
1 REVETMENT DETAIL
SCALE: 1/2" = 1'-0"



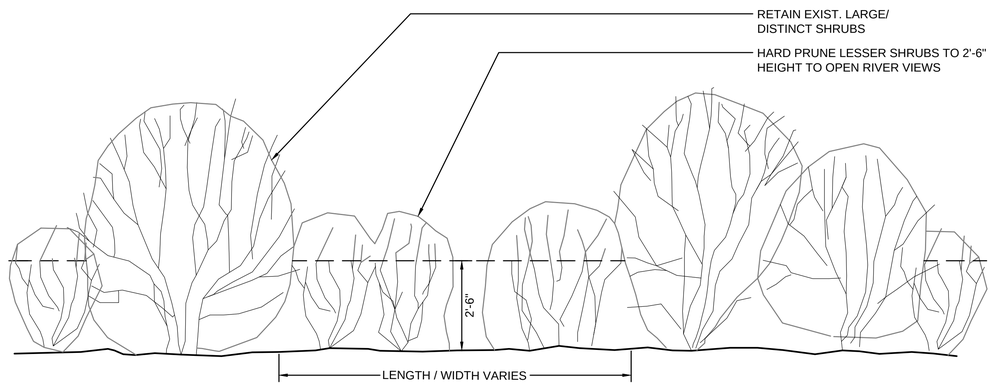
2 SHORELINE STABILIZATION
SCALE: 1/2" = 1'-0"



3 SHORELINE STABILIZATION
SCALE: 1/2" = 1'-0"



4 SHORELINE STABILIZATION
SCALE: 1/2" = 1'-0"



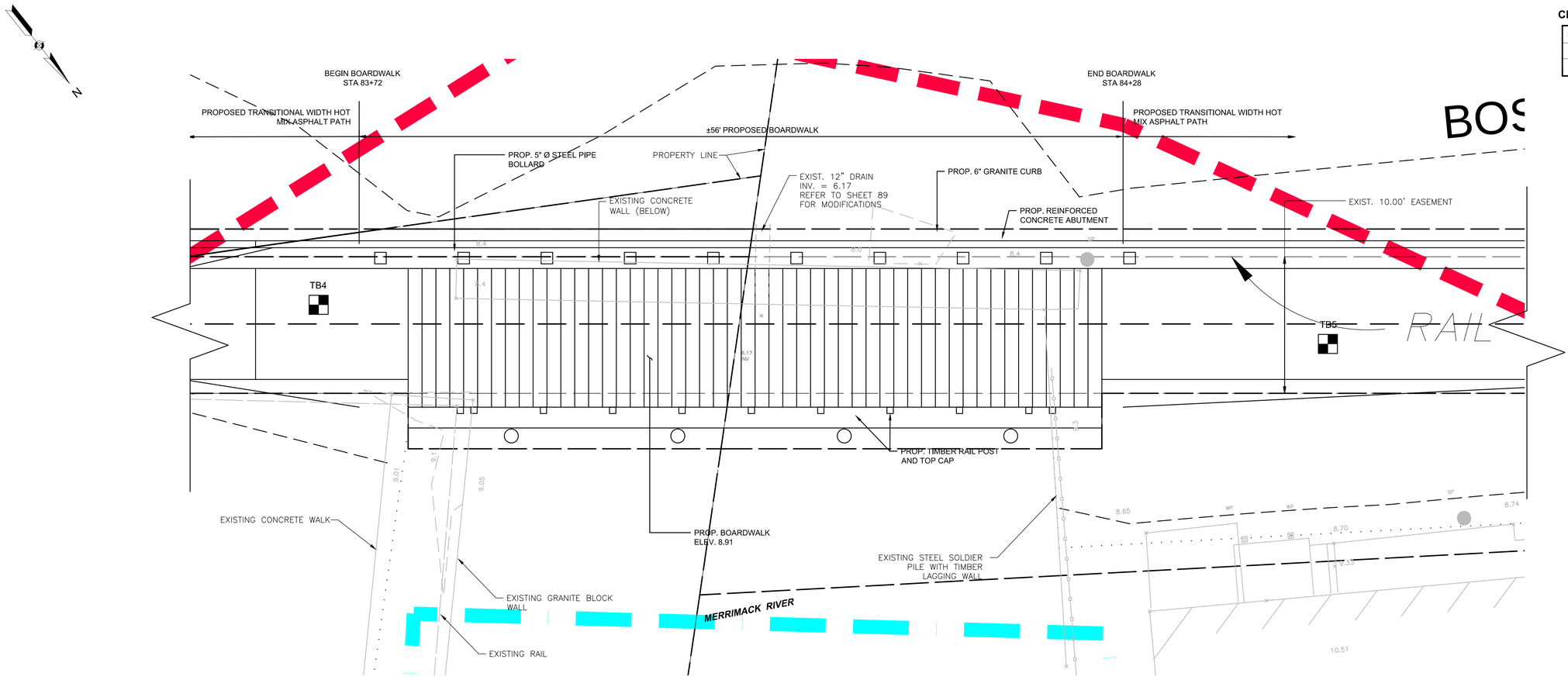
5 SHORELINE- SELECTIVE PRUNING
SCALE: 1/2" = 1'-0"

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	160	180
PROJECT FILE NO.	606503		

BOARDWALK DETAILS
SHEET 1 OF 4

606503[100%]HD\BOARDWALK DETAILS).DWG 12-Jun-2015



BOARDWALK-PLAN

SCALE: 1" =4'-0"

GENERAL

1. BOARDWALK PLAN BASED ON STANTEC'S BASE SURVEY DRAWING AS PROVIDED TO GZA GEOENVIRONMENTAL, INC.
2. WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS. THE CONTRACTOR SHALL KEEP A COPY OF THE DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES DURING THE WORK.
3. THE OWNER AND ENGINEER MAKE NO WARRANTY REGARDING THE ACCURACY OF INFORMATION PRESENTED IN THESE DRAWINGS REGARDING EXISTING CONDITIONS.
4. FIELD VERIFY ALL WORK POINT LOCATIONS AND ADVISE OWNER OF ANY DISCREPANCIES BETWEEN ACTUAL LOCATIONS AND THOSE SHOWN ON THE DRAWINGS BEFORE PROCEEDING WITH WORK.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ENVIRONMENTAL PROTECTION AND TEMPORARY CONSTRUCTION DEBRIS CONTAINMENT EQUIPMENT AND KEEPING THE SURROUNDING WATERS CLEAN AND FREE OF ALL WASTE MATERIAL.
6. THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE ONLY AFTER THE STRUCTURAL WORK CONTAINED IN THE DRAWINGS IS COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE SAFETY DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING OR TEMPORARY BRACING. SUCH MATERIAL SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AFTER COMPLETION OF THE PROJECT.
7. CONTRACTOR IS RESPONSIBLE TO AVOID DAMAGE TO ANY EXISTING UTILITIES THAT REMAIN IN PLACE DURING CONSTRUCTION.

VERTICAL DATUM

1. ELEVATIONS SHOWN REFERENCE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). NAVD88=0.0, MLW=3.97, MHW=4.12.

GEOTECHNICAL

1. SUBSURFACE CONDITIONS ARE BASED ON TEST BORINGS TB4 AND TB5 DRILLED BY NEW HAMPSHIRE BORING AND LOGGED BY STANTEC ON SEPTEMBER 28, 2012. BORING LOCATIONS INDICATED ON THE DRAWINGS ARE APPROXIMATE.
2. ALL UNSUITABLE MATERIAL SHALL BE REMOVED WITHIN THE EXCAVATION LIMITS OF THE STRUCTURE AS DIRECTED BY THE ENGINEER.

STRUCTURAL NOTES

TIMBER

1. TIMBER DECKING SHALL BE 3X8 TROPICAL HARDWOOD, PURPLEHEART OR EQUIVALENT. DECKING SHALL BE FASTENED WITH 316 STAINLESS STEEL DECKING SCREWS, 3 PER CONNECTION. PROVIDE ¼" TO ⅜" GAP BETWEEN DECK PLANKS.
2. TIMBER FRAMING SHALL BE SOUTHERN YELLOW PINE, CCA TREATED TO 2.5 POUNDS PER CUBIC FOOT (MIN), GRADE 1 OR BETTER.
3. TIMBER RAILING POSTS SHALL BE SOUTHERN YELLOW PINE, ACQ TREATED TO 0.6 POUNDS PER CUBIC FOOT (MIN.), GRADE 1 OR BETTER.
4. TIMBER RAILING MEMBERS, EXCEPT POSTS, SHALL BE TROPICAL HARDWOOD, PURPLEHEART OR EQUIVALENT AND FASTENED WITH 316 STAINLESS STEEL SCREWS.
5. TIMBER RAILING TOP RAIL AND TOP CAP SHALL EXTEND 1" AND 2", RESPECTIVELY BEYOND THE END RAIL POSTS.

CONCRETE

1, CONCRETE SHALL BE PORTLAND CEMENT ASTM C150 TYPE II. 28–DAY COMPRESSIVE STRENGTH OF 5,000 PSI. SEE SPECIFICATION 03300– MARINE CONCRETE.
2. REINFORCEMENT SHALL CONFORM TO ASTM A615 GRADE 60, DEFORMED BARS.
3. ALL LAPS, BENDS, AND SPLICES OF REINFORCING STEEL TO CONFORM TO ACI–318 – LATEST EDITION. SPLICE TOP BARS AT MIDSPAN. SPLICE BOTTOM BARS AT PILE BENTS.
4. EXTEND REINFORCING STEEL THROUGH CONSTRUCTION JOINTS.

STRUCTURAL STEEL/MISCELLANEOUS METALS AND HARDWARE

1. MATERIALS
   ROLLED SHAPES AND PLATES: ASTM A572, GRADE 50
   ANCHOR BOLTS: ASTM A307
   HIGH STRENGTH BOLTS: ASTM A325
2. WELDING SHALL BE IN ACCORDANCE WITH ANSI/AWS D1.1–92.
3. ALL HARDWARE, FASTENERS, SHAPES AND PLATES SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123, A153, F2329, AS APPLICABLE, AFTER FABRICATION, TO A MINIMUM WEIGHT OF ZINC COATING OF 2.0 OZ PER SQUARE FOOT OF COATED SURFACE UNLESS OTHERWISE SPECIFIED.
4. CONNECTIONS SHALL BE WITH HOT DIPPED GALVANIZED BOLTS, NUTS AND WASHERS IN ACCORDANCE WITH ASTM A123, A153, F2325 AS APPLICABLE UNLESS OTHERWISE SPECIFIED.
5. FIELD TREAT DAMAGED GALVANIZED FINISH AND EXPOSED THREADED SURFACE WITH TWO COATS OF ZINC RICH PAINT CONFORMING TO ASTM A780.
6. TOP CAP AND RAILING MEMBERS SHALL BE INSTALLED USING A MINIMUM OF 2 ACQ COMPATIBLE 316STAINLESS STEEL OR COATED DECK SCREWS, 3 ½ INCHES LONG, SPACED AT 2.5 FEET ON CENTER.

DESIGN CRITERIA

1. LOADS
   A. 2.8' WIND–GENERATED WAVE BASED ON BOSTON HARBOR 00–YEAR,1 HOUR WIND SPEED.
   B. UNIFORM LIVE LOAD OF 150 PSF PER IBC 2009.
   C. CONCENTRATED LIVE LOAD FROM FORD F350 DESIGN TRUCK AND SNOW REMOVAL EQUIPMENT (AN RTV 1100 WITH A BOSS 7'6" XT POWER V PLOW).
   D. SNOW LOAD OF 55 PSF PER IBC 2009.
   E. ICE LOAD FOR PILE DESIGN PER AASHTO C3.9
2. SPECIFICATIONS AND REFERENCES
   A. AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318–11) (2011)
   B. STEEL CONSTRUCTION MANUAL, AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), 13TH EDITION.
   C. AMERICAN WOOD COUNCIL, NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, ASD/LRFD MANUAL, 2012.
   D. MASSACHUSETTS BUILDING CODE, LATEST EDITION.
   E. INTERNATIONAL BUILDING CODE, 2009.
   F. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE, DESIGN SPECIFICATIONS, 2012.

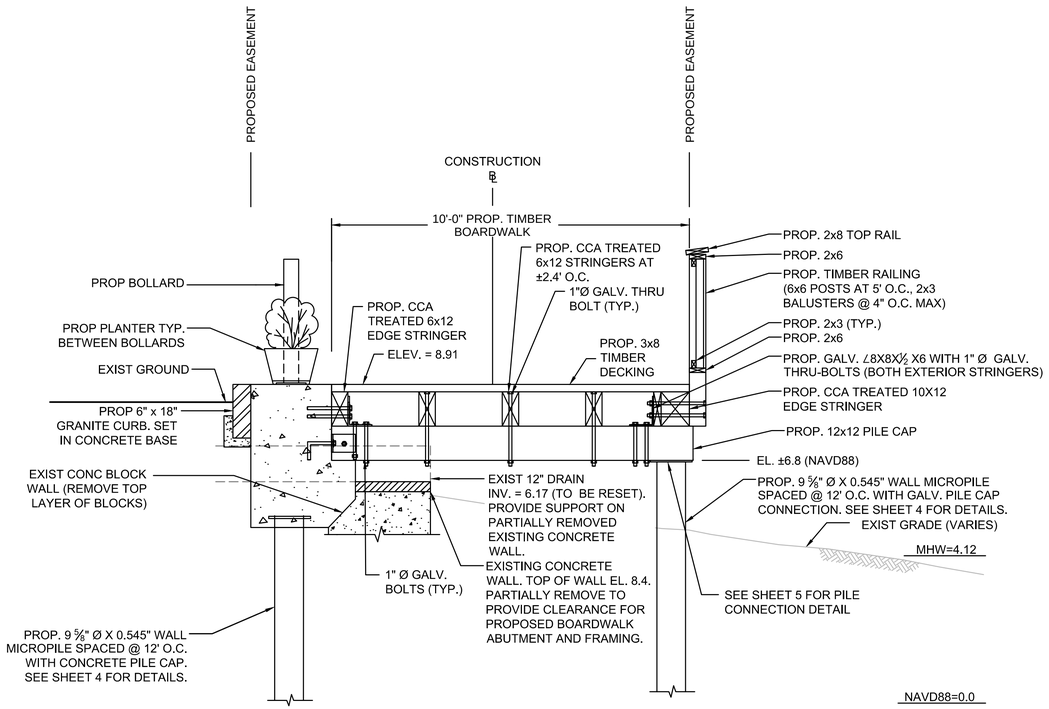
0 2 4 8
SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	161	180
PROJECT FILE NO.	606503		

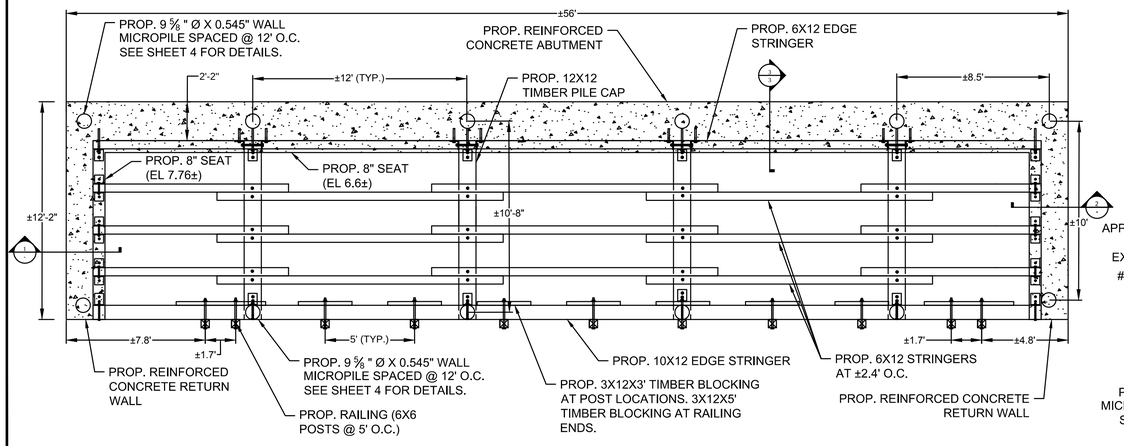
BOARDWALK DETAILS
SHEET 2 OF 4

606503[100%]HD[BOARDWALK DETAILS].DWG 12-Jun-2015



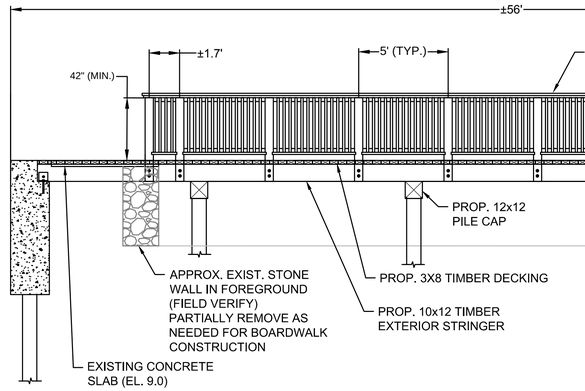
BOARDWALK-SECTION

SCALE: 1/2" = 1'-0"



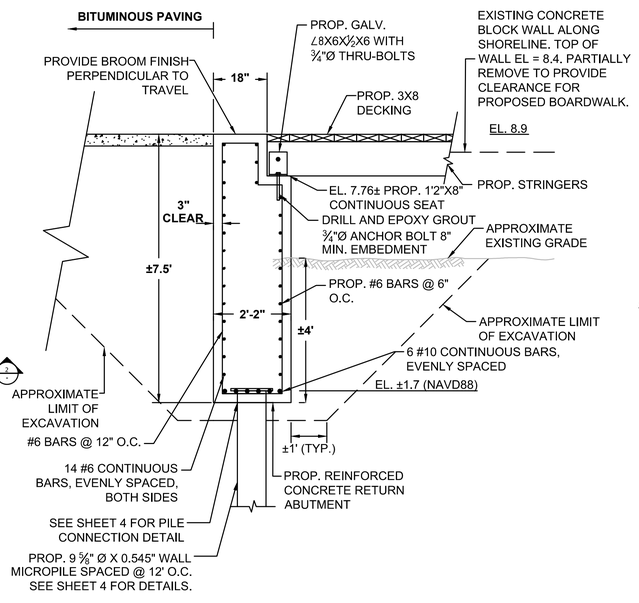
BOARDWALK-FRAMING PLAN

SCALE: 1/4" = 1'-0"



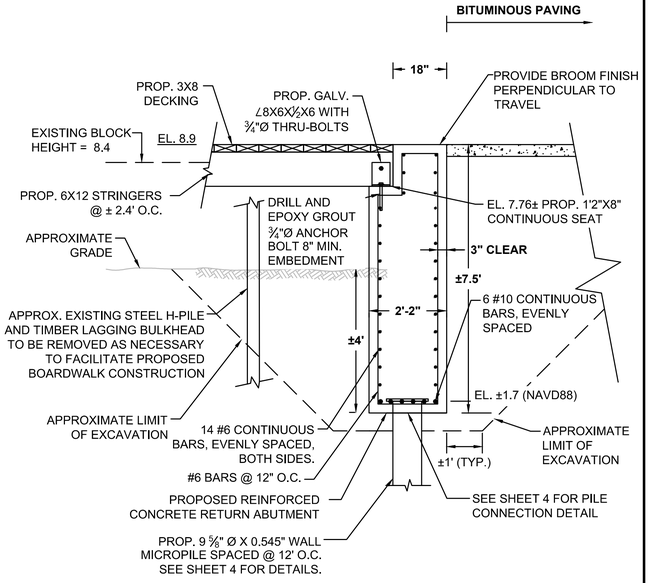
BOARDWALK- NORTH ELEVATION

SCALE: 1/4" = 1'-0"



1 — BEGIN BOARDWALK RETURN WALL- SECTION

SCALE: 1/2" = 1'-0"



2 — END BOARDWALK RETURN WALL-SECTION

SCALE: 1/2" = 1'-0"

0 2 4 8 SCALE IN FEET

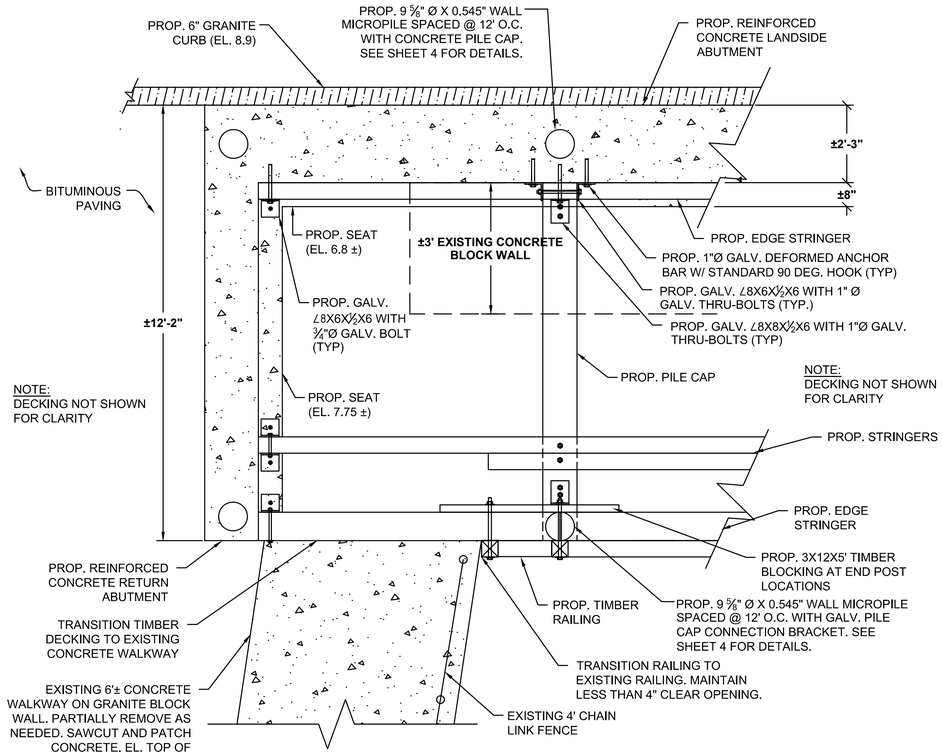
0 1 2 4 SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	162	180
PROJECT FILE NO.	606503		

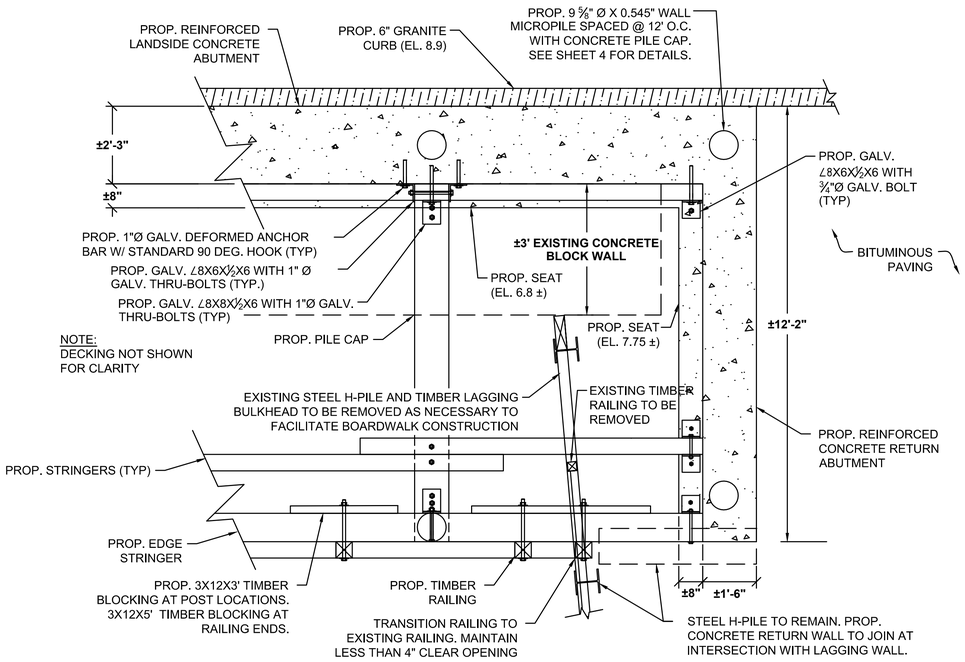
BOARDWALK DETAILS
SHEET 3 OF 4

606503[100%]HD[BOARDWALK DETAILS].DWG 12-Jun-2015



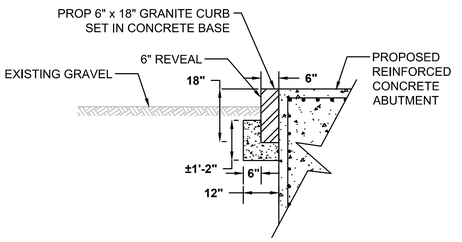
BEGIN BOARDWALK-DETAIL

SCALE: 1/2" = 1'-0"



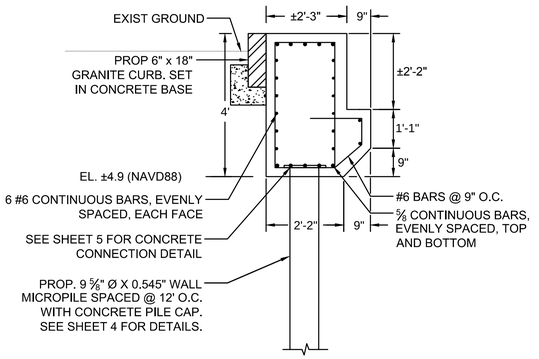
END BOARDWALK-DETAIL

SCALE: 1/2" = 1'-0"



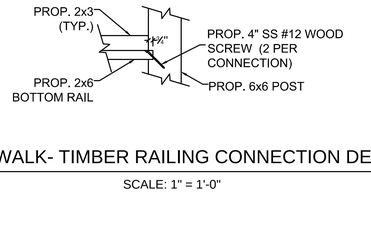
BOARDWALK- GRANITE CURB DETAIL

SCALE: 1/2" = 1'-0"



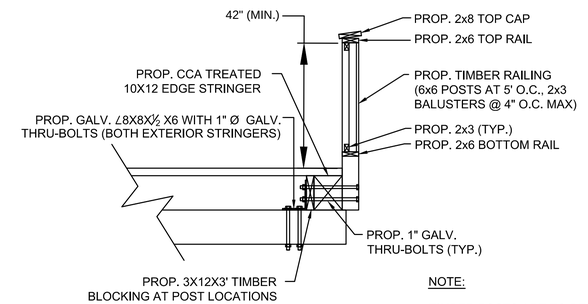
3/2 REINFORCED CONCRETE ABUTMENT DETAIL

SCALE: 1/2" = 1'-0"



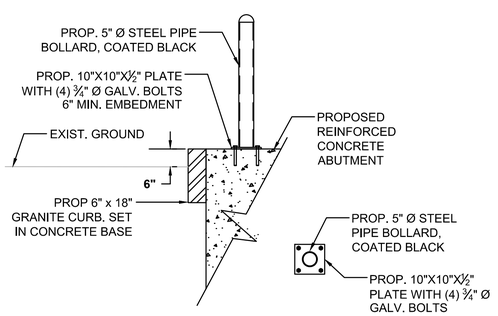
BOARDWALK- TIMBER RAILING CONNECTION DETAIL

SCALE: 1" = 1'-0"



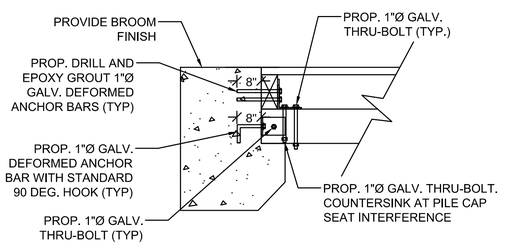
BOARDWALK- TIMBER RAILING DETAIL

SCALE: 1" = 1'-0"



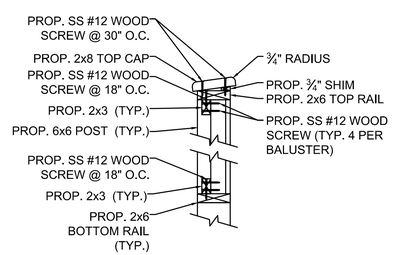
BOARDWALK- BOLLARD DETAIL

SCALE: 1/2" = 1'-0"



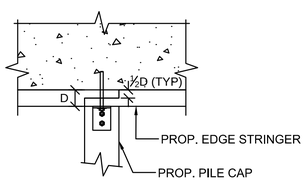
PILE CAP CONNECTION TO CONCRETE ABUTMENT

SCALE: 1/2" = 1'-0"



BOARDWALK- TIMBER RAILING CONNECTION DETAIL

SCALE: 1" = 1'-0"

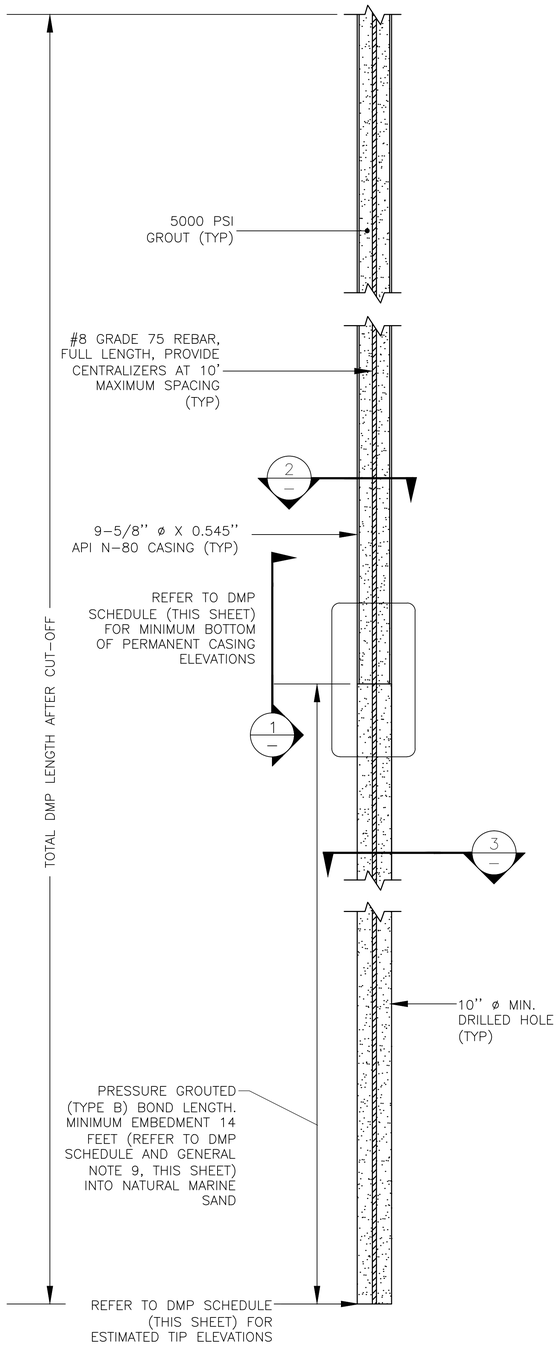


EDGE STRINGER SPLICE DETAIL

SCALE: 1/2" = 1'-0"

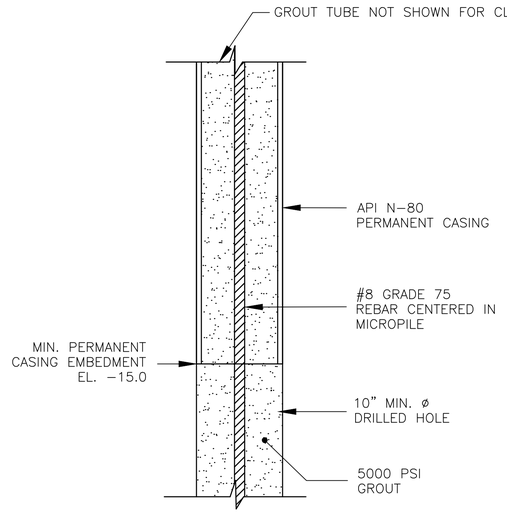
0 1 2 4
SCALE IN FEET

0 1/2 1 2
SCALE IN FEET



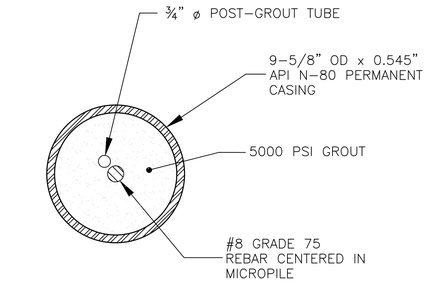
DRILLED MICROPILE SECTION

SCALE: 1" = 20'-0"



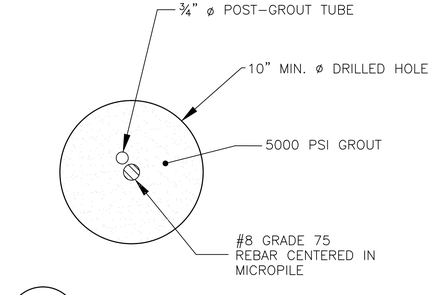
1 — DETAIL

SCALE: 1/8" = 1'-0"



2 — DETAIL

SCALE: 1" = 5'–0"



3 — DETAIL

SCALE: 1" = 5'-0"

GENERAL NOTES

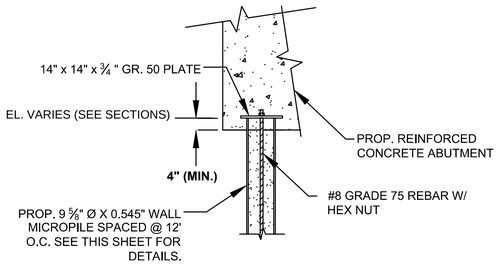
1. CONTRACTOR SHALL LOCATE PROPOSED FOUNDATIONS AND EXISTING UTILITIES PRIOR TO INSTALLING DRILLED MICROPILES (DMPs). CONTRACTOR IS RESPONSIBLE FOR FIELD CONFIRMATION OF EXISTING UTILITIES OR PROPOSED LAYOUT.
2. CONTRACTOR SHALL REVIEW AND VERIFY THE MINIMUM REQUIRED DMP DESIGN SHOWN ON THE DRAWINGS AND SUBMIT ANY PROPOSED REVISIONS TO THE DMP DESIGN TO THE ENGINEER FOR REVIEW. REVIEW OF SUBMITTALS BY THE GEOTECHNICAL ENGINEER WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO PROVIDE AND SAFELY INSTALL DMPs CAPABLE OF SUPPORTING THE FACTORED DESIGN LOADS SPECIFIED HEREIN. REFER TO DMP SCHEDULE (THIS SHEET).
3. FURNISH ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO DESIGN, DELIVER TO THE SITE, INSTALL DMPs AND TEST AS SHOWN ON THE DRAWINGS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   A. FURNISH AND INSTALL STEEL REINFORCING, GROUT, PERMANENT CASING, GROUT TUBES, AND CENTERING DEVICES AS REQUIRED.
   B. FURNISH ALL SURVEYS INCLUDING LAYOUT, INSPECTION AND RECORD KEEPING INCIDENTAL TO DMP INSTALLATION AND AS SPECIFIED IN THE CONTRACT DOCUMENTS.
4. PROTECT ADJACENT GROUND, UTILITIES AND STRUCTURES FROM DAMAGE. PRIOR TO AND DURING THE WORK, THE CONTRACTOR SHALL REPAIR OR REPLACE ANY CONSTRUCTION-INDUCED DAMAGE TO THE SATISFACTION OF THE DEPARTMENT AT THE CONTRACTOR'S EXPENSE.
5. INSTALL DMPs THROUGH WHATEVER MATERIAL ENCOUNTERED TO THE REQUIRED DEPTH. THE EQUIPMENT SHALL BE CAPABLE OF DRILLING THROUGH BOULDERS, COBBLES, CONCRETE DEBRIS ENCOUNTERED IN THE SOIL, AND ANY OTHER OBSTRUCTIONS, AT NO ADDITIONAL COST.
6. FOLLOWING SUCCESSFUL STATIC LOAD TEST PERFORMED ON A SACRIFICIAL MICROPILE ADJACENT TO THE EAST ABUTMENT, AND MUTUAL AGREEMENT WITH THE ENGINEER ON NOMINAL UNIT FRICTION GEOTECHNICAL RESISTANCE IN BEARING STRATUM, DETERMINATION OF THE FACTORED DMP GEOTECHNICAL RESISTANCE MAY BE MADE USING A GEOTECHNICAL RESISTANCE FACTOR OF 0.70.
7. PROJECT LOAD TEST REQUIREMENTS:
   A. ONE STATIC LOAD (VERIFICATION) TEST SHALL BE PERFORMED WITHIN 10 FEET OF THE PROPOSED ABUTMENT WHERE THE WORK WILL COMMENCE, BUT AT LEAST 5 FEET AWAY FROM FUTURE PRODUCTION DMP LOCATIONS. THE VERIFICATION LOAD TEST PILE SHALL BE LOADED TO A MAXIMUM TEST LOAD (COMPRESSION OR TENSION) OF 84 KIPS, WHICH IS THE NOMINAL GEOTECHNICAL RESISTANCE FOR THE ABUTMENT DMPs.
   B. ONE PRODUCTION DMP ON THE ABUTMENT OPPOSITE FROM VERIFICATION LOAD TEST SHALL BE PROOF - TESTED TO A MAXIMUM TEST LOAD OF 63 KIPS, WHICH IS EQUAL TO THE LESSER OF 75 PERCENT OF THE NOMINAL AXIAL GEOTECHNICAL RESISTANCE OR 80 PERCENT OF THE NOMINAL AXIAL STRUCTURAL RESISTANCE.
8. REFER TO ITEM 945.551 OF THE PROJECT SPECIFICATIONS FOR ADDITIONAL PROVISIONS REGARDING MICROPILE INSTALLATION AND LOAD TESTING.
9. DMPS SHALL BE DESIGNED AS FRICTION PILES DERIVING SUPPORT ENTIRELY IN THE MARINE SAND WITH A REQUIRED EMBEDMENT DEPTH OF 14 FEET (REFER TO DMP SCHEDULE) BELOW THE PERMANENT CASING IN THE MARINE SAND. END BEARING RESISTANCE SHALL NOT BE INCLUDED IN THE DMP DESIGN. NO DESIGN RESISTANCE SHALL BE PROVIDED IN THE FILL OR ORGANIC SOILS ABOVE THE MARINE SAND STRATUM.
10. SPLICING OF THE LONGITUDINAL REINFORCING BAR SHALL BE MADE USING MECHANICAL REINFORCING SPLICERS OR THREADED COUPLERS. A MINIMUM OF 2" CLEARANCE SHALL BE PROVIDED BETWEEN THE OUTSIDE SURFACE OF THE SPLICER/COUPLER AND THE INSIDE OF DRILL CASING OR EXCAVATED SURFACE. LAP SPLICING OR WELDING OF LONGITUDINAL REINFORCING BARS SHALL NOT BE PERMITTED.
11. HAUL AND LEGALLY DISPOSE OFF-SITE ALL EXCESS EXCAVATED MATERIALS, DRILL CUTTINGS, AND EXCESS GROUT FROM THE DMPs.
12. PROVIDE DEBRIS SHIELDS, CONTAINMENT BOOMS ALONG THE BANK OF THE RIVER, AND OTHER EQUIPMENT OR MATERIALS REQUIRED TO CONTAIN ALL EXCAVATED MATERIAL WITHIN THE IMMEDIATE WORK AREA, AND COMPLY WITH ALL APPLICABLE PERMITS AND REGULATIONS, INCLUDING ENVIRONMENTAL AND WATERWAYS PERMITS.
13. REMOVE ALL GROUT OVERPOUR OR OTHER IRREGULARITIES WHICH INTERFERE WITH OTHER STRUCTURAL ELEMENTS OR UTILITIES.
14. THE DRILLED MICROPILE GROUT SHALL BE 5000 PSI NEAT CEMENT OR SAND CEMENT GROUT AND PUMPED IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
15. THE LONGITUDINAL REINFORCING BAR(S) SHALL BE SUPPORTED BY A 3" TALL BOLSTER OF AN APPROVED NON-METALIC DURABLE MATERIAL.

DMP SCHEDULE

MINIMUM BOTTOM OF PERMANENT CASING BOTTOM EL. (FT.)	MINIMUM REQUIRED EMBEDMENT LENGTH IN BEARING STRATA (SEE GENERAL NOTE 9)	FACTORED AXIAL COMPRESSION DESIGN LOAD PER PILE (KIPS)	GEOTECHNICAL NOMINAL AXIAL RESISTANCE PER PILE (KIPS)	ESTIMATED TIP ELEVATION (FT, NAVD 88)
-15.0	14.0	45.0	82.0	-29.0

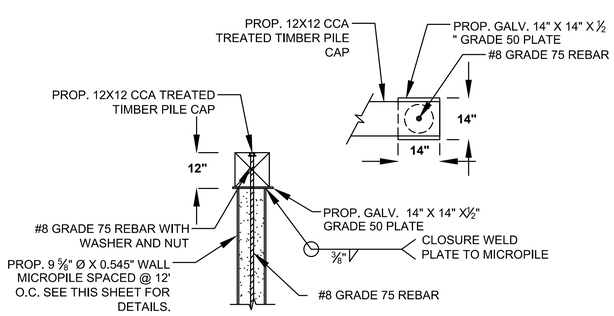
NOTES:

1. THE FACTORED GEOTECHNICAL AXIAL RESISTANCE MAY BE COMPUTED BY MULTIPLYING THE NOMINAL GEOTECHNICAL RESISTANCE BY THE GEOTECHNICAL RESISTANCE FACTOR OF 0.55.



4 — PILE TO CONCRETE CONNECTION DETAIL

SCALE: 1/2" = 1'=0"



5 — PILE TO TIMBER CONNECTION DETAIL

SCALE: 1/2" = 1'-0"

0 10 20 40 SCALE IN FEET

0 2.5 5 10 SCALE IN FEET

0 4 8 16 SCALE IN FEET

0 1 2 4 SCALE IN FEET

NEWBURYPORT / NEWBURY
CLIPPER CITY RAIL TRAIL - PHASE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	163	180
PROJECT FILE NO.	606503		

BOARDWALK DETAILS
SHEET 4 OF 4

606503(100%)HD(MICROPILE DETAILS).DWG Plotted on 12-Jun-2015 2:14 PM