MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

PLAN AND PROFILE OF

WAKEFIELD-LYNNFIELD

RAIL TRAIL EXTENSION

IN THE CITY/TOWN OF

WAKEFIELD-LYNNFIELD

MIDDLESEX COUNTY

WAKEFIELD - LYNNFIELD RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	1	132
PROJECT FILE NO. 607329			

TITLE SHEET & INDEX

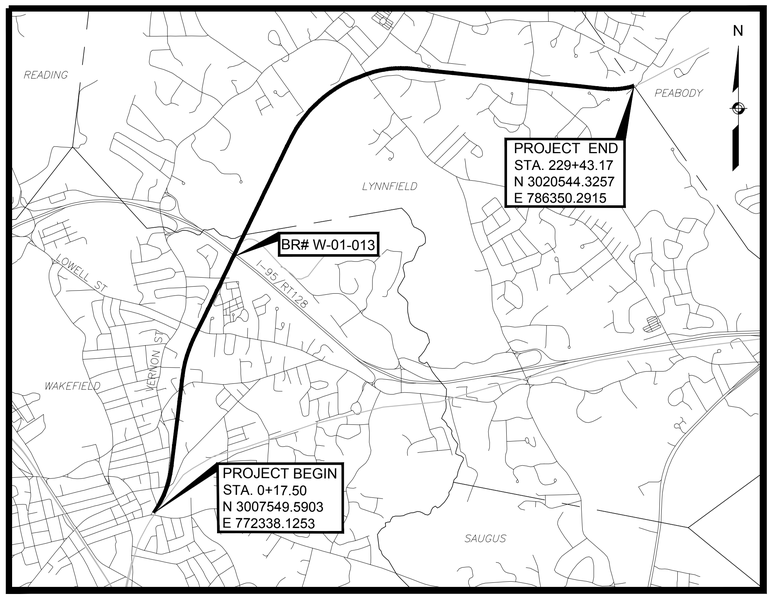
607329_HD1(COVER).DWG Plotted on 1-Mar-2017 2:03 PM

THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 1988, AS AMENDED, THE SUPPLEMENTAL SPECIFICATIONS DATED JULY 1, 2015, THE 2016 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, THE 1996 CONSTRUCTION AND TRAFFIC STANDARD DETAILS, (AS RELATED TO TRAFFIC STANDARD DETAILS ONLY), THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS WITH MASSACHUSETTS AMENDMENTS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, WILL GOVERN.

25% SUBMITTAL

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET & INDEX
2	LEGEND & ABBREVIATIONS
3 - 6	KEY PLAN & BORING LOCATIONS
7 - 15	BORING & TEST PIT LOGS
16	TYPICAL SECTIONS
17 - 37	CONSTRUCTION PLANS
38 - 57	PROFILES
58 - 67	SIGN AND PAVEMENT MARKING PLANS
68	TRAFFIC SIGNAL PLAN
69	TRAFFIC SIGNAL DATA
70 - 71	TEMPORARY TRAFFIC CONTROL PLANS
72 - 92	LANDSCAPING PLANS
93 - 94	LANDSCAPING DETAILS
95 - 96	CONSTRUCTION DETAILS
97 - 103	BOARDWALK DETAILS
104 - 132	CROSS SECTIONS



0 2000 4000 6000 8000

SCALE: 1" = 2000'

LENGTH OF PROJECT = 22,925.67 FEET = 4.342 MILES

DESIGN DESIGNATION (WAKEFIELD-LYNNFIELD RAIL TRAIL)

DESIGN SPEED 18 MPH

WORLDTECH ENGINEERING

BETA ENGINEERING SUCCESS **TOGETHER**

DATE	DESCRIPTION	REV #
03-03-2017	25% DESIGN SUBMISSION	0

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
BH	BH	BORING HOLE
		MONITORING WELL
	TEP	TEST PIT
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	
		COMPOST FILTER TUBES
		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	
ø1	Ø1	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'	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 SYMBOLS

EXISTING	PROPOSED	
		PAVEMENT ARROW - WHITE
ONLY	ONLY	LEGEND "ONLY" - WHITE
	SL	STOP LINE
	CW	CROSSWALK
	SWL	SOLID WHITE LINE
	SYL	SOLID YELLOW LINE
	BWL	BROKEN WHITE LINE
	BYL	BROKEN YELLOW LINE
	DWL	DOTTED WHITE LINE
	DYL	DOTTED YELLOW LINE
	DWLEx	DOTTED WHITE LINE EXTENSION
	DYLEx	DOTTED YELLOW LINE EXTENSION
	DWL	DOUBLE WHITE LINE
	DYL	DOUBLE YELLOW LINE

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
HDW	HEADWALL
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HYD	HYDRANT
INV	INVERT
IT	INTERSECTING TANGENT
JCT	JUNCTION
L	LENGTH OF CURVE
LB	LEACHING BASIN
LP	LIGHT POLE
LT	LEFT
MAX	MAXIMUM
MB	MAIL BOX

GENERAL (CONT.)

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
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
RRFB	RECTANGULAR RAPID FLASHING BEACON
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/ 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
WGL	WHITE GORE LINE (12 INCH)
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN
X-SECT	CROSS SECTION

GENERAL NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
2. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
3. THE CONTRACTOR SHALL AVOID ANY IMPACTS TO EXISTING UTILITIES ASIDE FROM ADJUSTMENT OF SURFACE STRUCTURES IN AREAS OF PAVING, THE RELOCATION OF AN EXISTING UTILITY POLE, AND THE REMOVAL OF AN ABANDONED UTILITY POLE.
4. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
5. THE TERM "PROPOSED" (PROP.) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, REUSING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET" (R&R).
6. JOINTS BETWEEN NEW BITUMINOUS CONCRETE ROADWAY PAVEMENT AND SAWCUT EXISTING PAVEMENT SHALL BE SEALED IN ACCORDANCE WITH ITEM 453. OF THE SPECIAL PROVISIONS.
7. ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
8. ALL PROPOSED PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
9. DRAINAGE ELEVATIONS ARE PROVIDED FOR DESIGN PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY BY TEST PIT, THE LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH THE PROPOSED DRAINAGE DESIGN. ANY FIELD ADJUSTMENTS REQUIRED WILL BE MADE AS APPROVED OR DIRECTED BY THE ENGINEER. ONLY AFTER THE CONTRACTOR VERIFIES ELEVATIONS FOR THE CONSTRUCTABILITY OF THE DRAINAGE SYSTEM SHALL ANY STRUCTURES BE ORDERED. ANY FIELD ADJUSTMENTS TO LINE & GRADE UP TO A DEPTH OF 5' SHALL BE INCLUDED IN THE COST OF THE PIPE. PIPE EXCAVATION GREATER THAN 5' WILL BE PAID UNDER CLASS B TRENCH EXCAVATION.
10. PHOTOGRAMMETRY AND FIELD SURVEY PROVIDED BY SURVEYING AND MAPPING CONSULTANTS (SMC), 325 WOOD ROAD, SUITE 109, BRAINTREE, MA 02184. HORIZONTAL DATUM IS BASED ON MASS GRID SYSTEM NAD 1983. ELEVATIONS SHOWN ON THIS PLAN REFER TO THE NAVD OF 1988.

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	2	132
PROJECT FILE NO. 607329			

LEGEND & ABBREVIATIONS

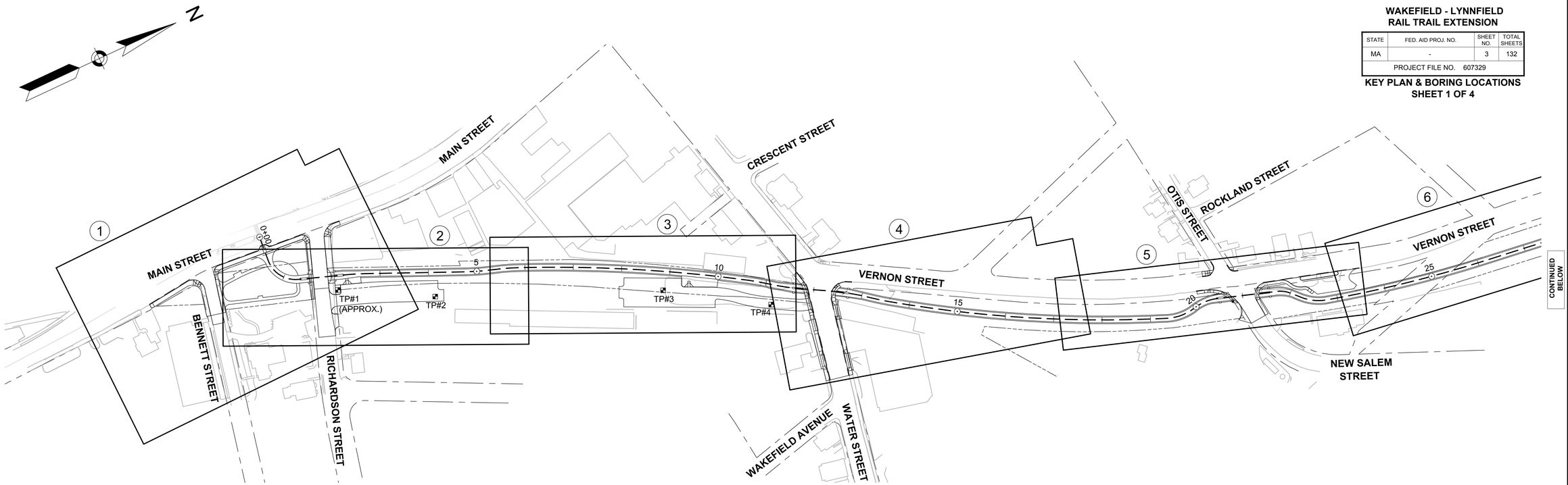
607329_HDG(LEGEND_ABBREV).DWG Plotted on 1-Mar-2017 2:04 PM

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	3	132
PROJECT FILE NO. 607329			

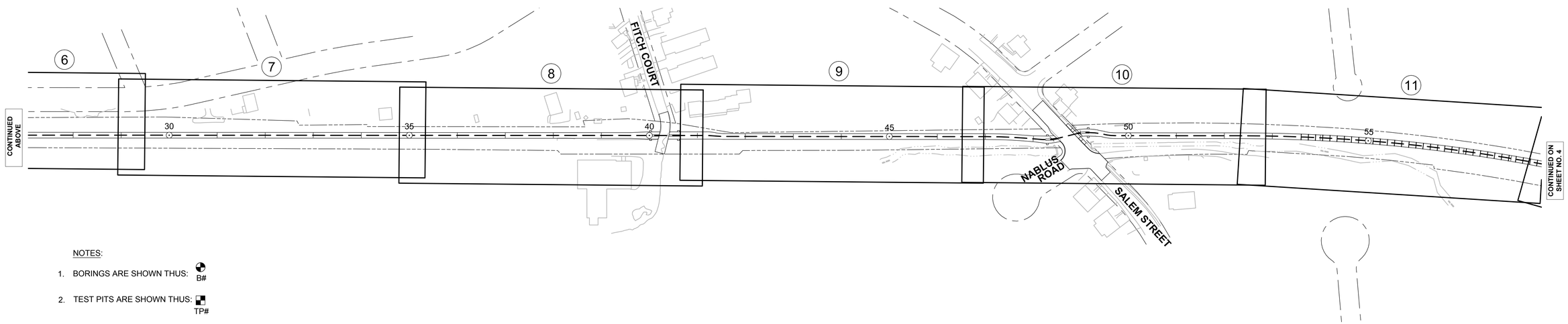
KEY PLAN & BORING LOCATIONS
SHEET 1 OF 4

607329_HD3\KEY PLAN1.DWG Plotted on 1-Mar-2017 2:08 PM



BORING/TEST PIT LOCATIONS (FEET)							
BORING	NORTHING	EASTING	BASELINE	STATION	OFFSET	SURFACE ELEVATION	H.B.E.
TP#1	3007652.4826	772487.3846	BIKEWAY	2+09.81	+29.67'	84.4'	78.9'
TP#2	3007829.9100	3772583.5070	BIKEWAY	4+13.30	+50.12'	84.0'	78.0'
TP#3	3008263.6919	772767.5202	BIKEWAY	8+88.84	+39.19'	85.8'	79.8'
TP#4	3008454.5300	772887.2280	BIKEWAY	11+18.86	+40.85'	84.9'	79.9'

SHEET REFERENCE:	1	2	3	4	5	6	7	8	9	10	11
Drawing Title:	Sheet Number:										
Construction Plans	17	18	18	19	19	20	20	21	21	22	22
Profiles	38	38	38	39	39	40	40	41	41	42	42
Sign and Pavement Marking Plans	58	58	-	59	60	-	-	61	-	62	-
Landscape Plans and Details	72	73	73	74	74	75	75	76	76	77	77
Boardwalk Plans and Details	-	-	-	-	-	-	-	-	-	-	97



NOTES:

1. BORINGS ARE SHOWN THUS: B#
2. TEST PITS ARE SHOWN THUS: TP#

0 100 250 500

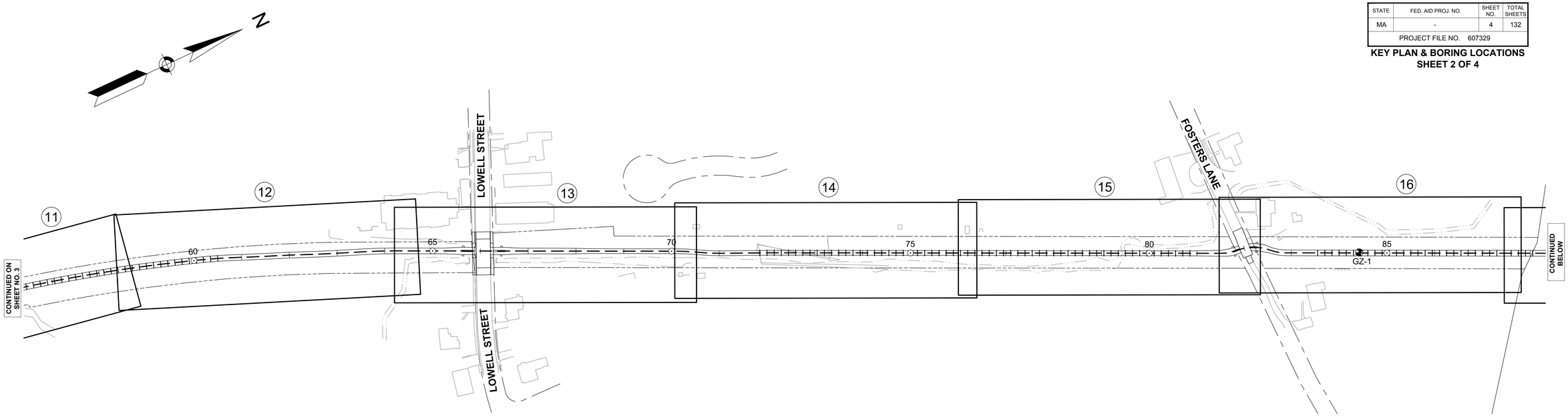
SCALE: 1" = 100'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	4	132
PROJECT FILE NO. 607329			

KEY PLAN & BORING LOCATIONS
SHEET 2 OF 4

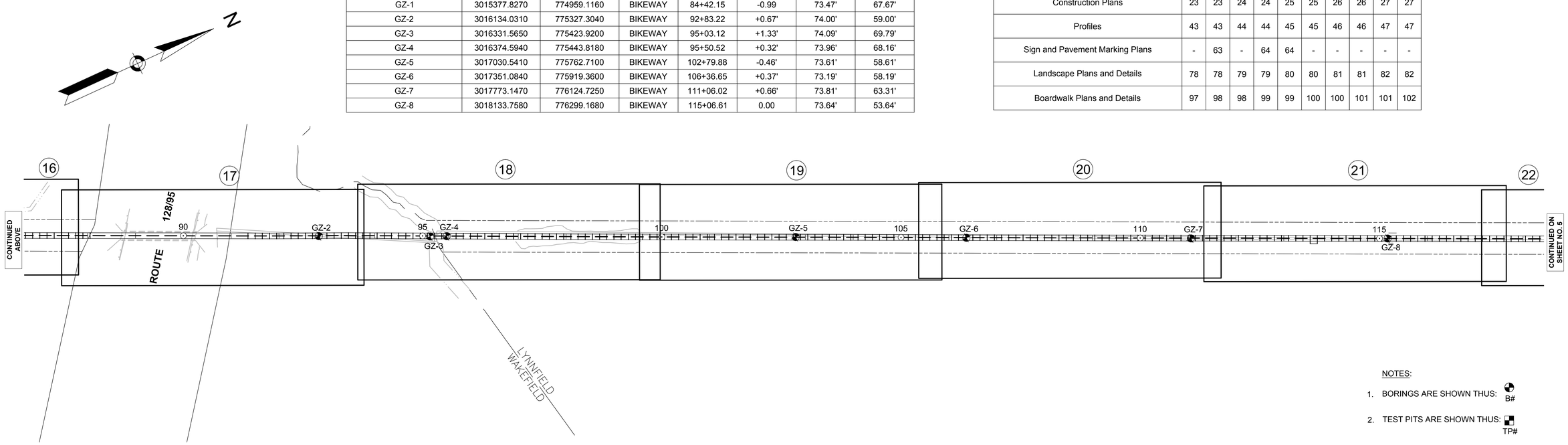
607329_HD3\KEY PLAN).DWG Plotted on 1-Mar-2017 2:08 PM



BORING/TEST PIT LOCATIONS (FEET)

BORING	NORTHING	EASTING	BASELINE	STATION	OFFSET	SURFACE ELEVATION	H.B.E.
GZ-1	3015377.8270	774959.1160	BIKEWAY	84+42.15	-0.99	73.47'	67.67'
GZ-2	3016134.0310	775327.3040	BIKEWAY	92+83.22	+0.67'	74.00'	59.00'
GZ-3	3016331.5650	775423.9200	BIKEWAY	95+03.12	+1.33'	74.09'	69.79'
GZ-4	3016374.5940	775443.8180	BIKEWAY	95+50.52	+0.32'	73.96'	68.16'
GZ-5	3017030.5410	775762.7100	BIKEWAY	102+79.88	-0.46'	73.61'	58.61'
GZ-6	3017351.0840	775919.3600	BIKEWAY	106+36.65	+0.37'	73.19'	58.19'
GZ-7	3017773.1470	776124.7250	BIKEWAY	111+06.02	+0.66'	73.81'	63.31'
GZ-8	3018133.7580	776299.1680	BIKEWAY	115+06.61	0.00	73.64'	53.64'

SHEET REFERENCE:	12	13	14	15	16	17	18	19	20	21
Drawing Title:	Sheet Number:									
Construction Plans	23	23	24	24	25	25	26	26	27	27
Profiles	43	43	44	44	45	45	46	46	47	47
Sign and Pavement Marking Plans	-	63	-	64	64	-	-	-	-	-
Landscape Plans and Details	78	78	79	79	80	80	81	81	82	82
Boardwalk Plans and Details	97	98	98	99	99	100	100	101	101	102



NOTES:

1. BORINGS ARE SHOWN THUS: B#
2. TEST PITS ARE SHOWN THUS: TP#

0 100 250 500

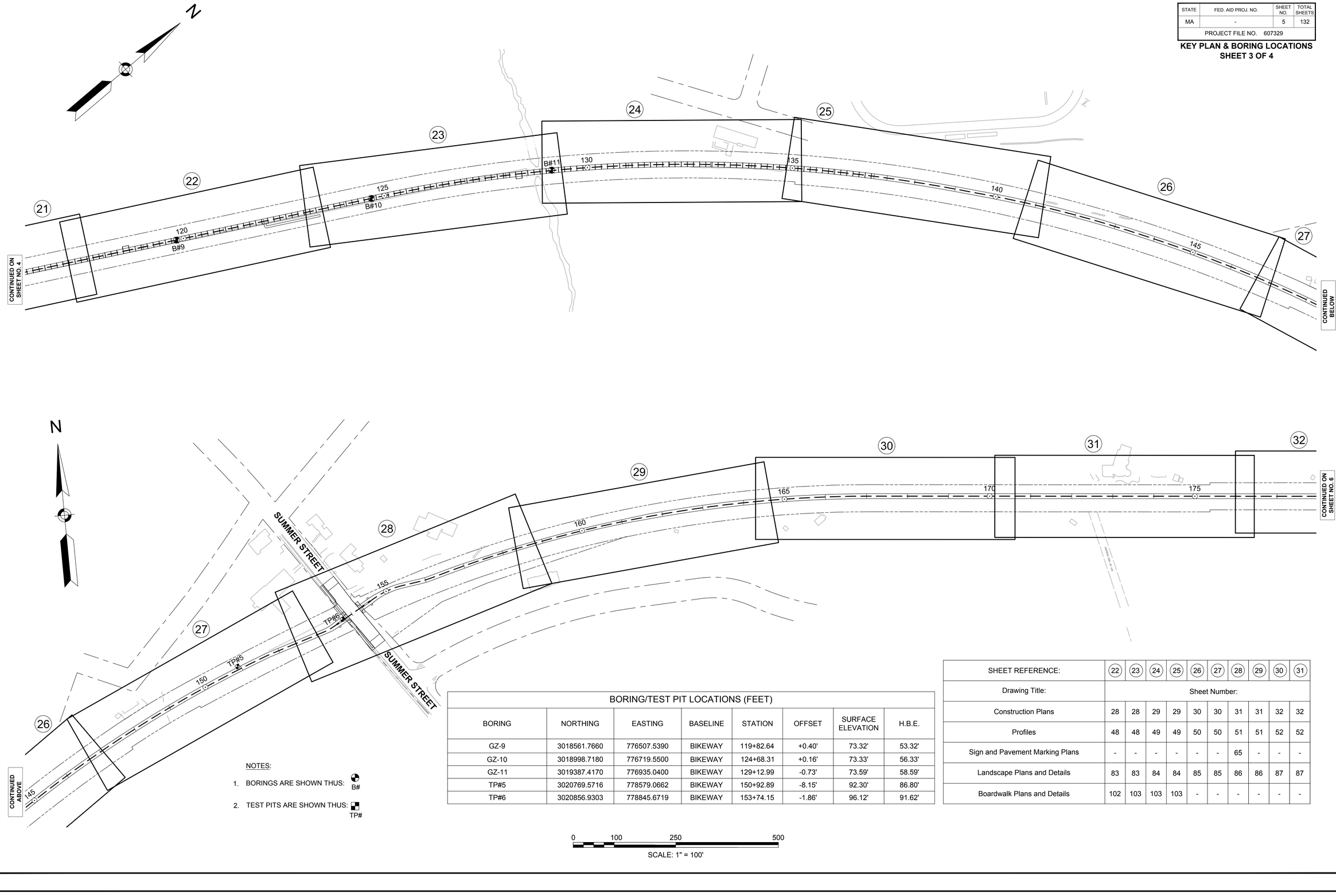
SCALE: 1" = 100'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	5	132
PROJECT FILE NO. 607329			

KEY PLAN & BORING LOCATIONS
SHEET 3 OF 4

607329_HD3(KEY PLAN).DWG Plotted on 1-Mar-2017 2:09 PM



NOTES:

1. BORINGS ARE SHOWN THUS: B#
2. TEST PITS ARE SHOWN THUS: TP#

BORING/TEST PIT LOCATIONS (FEET)

BORING	NORTHING	EASTING	BASELINE	STATION	OFFSET	SURFACE ELEVATION	H.B.E.
GZ-9	3018561.7660	776507.5390	BIKEWAY	119+82.64	+0.40'	73.32'	53.32'
GZ-10	3018998.7180	776719.5500	BIKEWAY	124+68.31	+0.16'	73.33'	56.33'
GZ-11	3019387.4170	776935.0400	BIKEWAY	129+12.99	-0.73'	73.59'	58.59'
TP#5	3020769.5716	778579.0662	BIKEWAY	150+92.89	-8.15'	92.30'	86.80'
TP#6	3020856.9303	778845.6719	BIKEWAY	153+74.15	-1.86'	96.12'	91.62'

0 100 250 500
SCALE: 1" = 100'

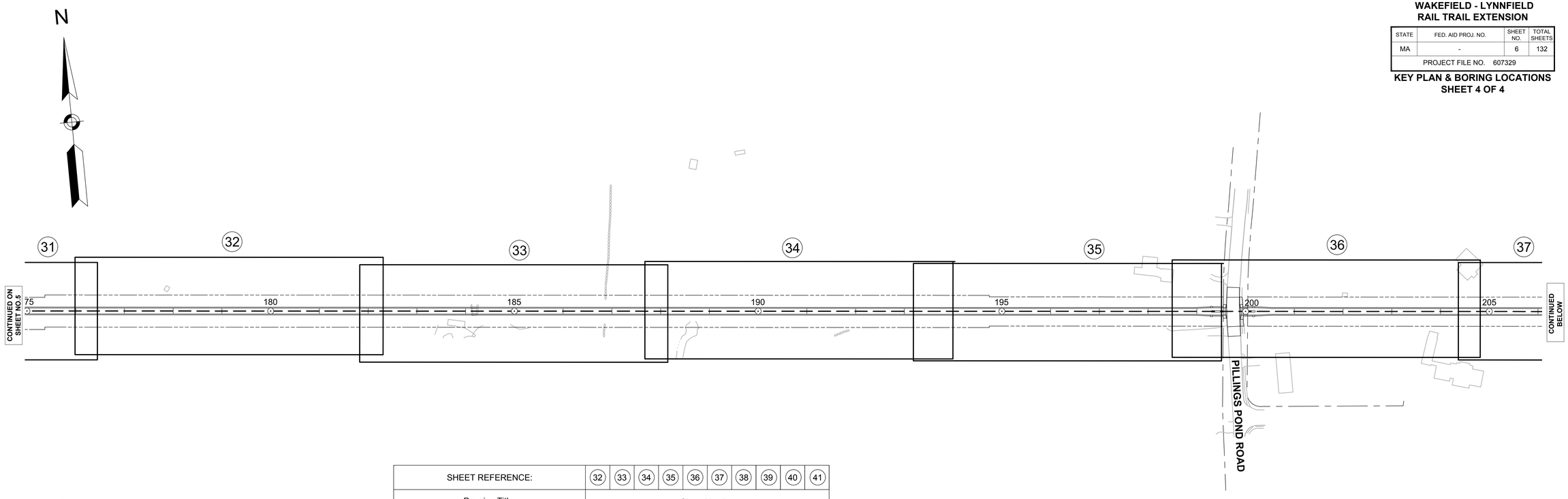
SHEET REFERENCE:	22	23	24	25	26	27	28	29	30	31
Drawing Title:	Sheet Number:									
Construction Plans	28	28	29	29	30	30	31	31	32	32
Profiles	48	48	49	49	50	50	51	51	52	52
Sign and Pavement Marking Plans	-	-	-	-	-	-	65	-	-	-
Landscape Plans and Details	83	83	84	84	85	85	86	86	87	87
Boardwalk Plans and Details	102	103	103	103	-	-	-	-	-	-

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

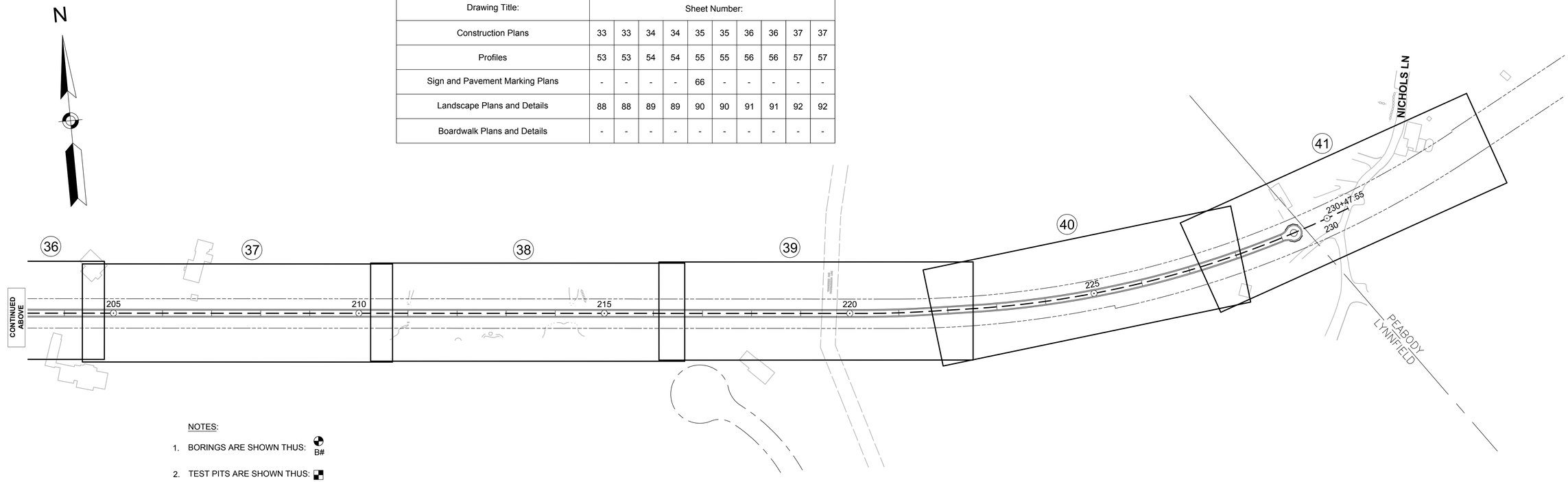
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	6	132
PROJECT FILE NO. 607329			

KEY PLAN & BORING LOCATIONS
SHEET 4 OF 4

607329_HD3\KEY PLAN1.DWG Plotted on 1-Mar-2017 2:09 PM



SHEET REFERENCE:	32	33	34	35	36	37	38	39	40	41
Drawing Title:	Sheet Number:									
Construction Plans	33	33	34	34	35	35	36	36	37	37
Profiles	53	53	54	54	55	55	56	56	57	57
Sign and Pavement Marking Plans	-	-	-	-	66	-	-	-	-	-
Landscape Plans and Details	88	88	89	89	90	90	91	91	92	92
Boardwalk Plans and Details	-	-	-	-	-	-	-	-	-	-



NOTES:

1. BORINGS ARE SHOWN THUS: B#
2. TEST PITS ARE SHOWN THUS: TP#

0 100 250 500

SCALE: 1" = 100'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	7	132
PROJECT FILE NO. 607329			

BORING & TEST PIT LOGS
SHEET 1 OF 9

607329_HD10\BORING LOGS\.DWG Plotted on 1-Mar-2017 2:10 PM

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Wakefield/Lynnfield RTT
Reedy Meadow
Wakefield/Lynnfield, Massachusetts

BORING NO.: GZ-1
SHEET: 1 of 1
PROJECT NO: 172102.00
REVIEWED BY: MAR

Drilling Co.: New England Boring
Foreman: Chris Knight
Logged By: Alex Karp

Type of Rig: Tracked ATV
Rig Model: Morooka
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 73.5
Final Boring Depth (ft.): 5.8
Date Start - Finish: 11/12/2014 - 11/12/2014

H. Datum:
V. Datum:

Auger/Casing Type: HW
I.D/O.D.(in): 4"/4.5"
Hammer Weight (lb.): 300 #
Hammer Fall (in.): 30"
Other:

Sampler Type: Split Spoon
I.D./O.D. (in.): 1-3/8"/2"
Sampler Hmr Wt (lb): 140 lbs
Sampler Hmr Fall (in): 30"
Other: Safety Hammer

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time
11/12/14	1600	0	none	1 hr

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
		S-1	0-2	24	4	12 20 23 26	43	S-1: Moist, dense, brown, GRAVEL, some fine to coarse Sand, trace Silt, trace Organic Matter (Root/Wood in top of sample).	1 2				
		S-2	2-4	24	14	9 20 58 49	78	S-2: Moist, very dense, brown to gray, fine to coarse SAND, little Silt, little Gravel (Gravel in tip of spoon).				FILL	
5		S-3	4-6	21	13	19 32 51 55/3"	83	S-3: Moist, very dense, brown/gray, fine to coarse SAND, some Silt, some Gravel.	3 4 5 6		5.8'		67.7'
						Bottom of boring at 5.8 feet.							
10													
15													
20													
25													
30													

REMARKS

1. Ground surface elevations estimated from an electronic file entitled, "607329_SV(EXIST).DWG", transmitted from WorldTech Engineering on 11/13/14.
2. Advanced casing to 4 feet.
3. Difficulty extracting split spoon after sample S-3.
4. Increased rollerbit resistance, no advancement observed after 3 minutes at 5.8 feet. Fine, sharp particles observed in wash water.
5. Relocated boring 8 feet south, rollerbitted to 5.5 feet and attempted to advance split spoon sampler at 5.5 feet; encountered refusal at 5.5' ±.
6. Upon completion, borehole backfilled with drill cuttings.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Boring No.: GZ-1

172102.00 WAKEFIELD-LYNNFIELD RTT_REEDY MEADOW_LYNNFIELD_MA.GPJ; STRATUM ONLY; 9/23/2015

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Wakefield/Lynnfield RTT
Reedy Meadow
Wakefield/Lynnfield, Massachusetts

BORING NO.: GZ-2
SHEET: 1 of 1
PROJECT NO: 172102.00
REVIEWED BY: MAR

Drilling Co.: New England Boring
Foreman: Chris Knight
Logged By: Alex Karp

Type of Rig: Tracked ATV
Rig Model: Morooka
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 74
Final Boring Depth (ft.): 15
Date Start - Finish: 11/12/2014 - 11/12/2014

H. Datum:
V. Datum:

Auger/Casing Type: HW
I.D/O.D.(in): 4"/4.5"
Hammer Weight (lb.): 300 #
Hammer Fall (in.): 30"
Other:

Sampler Type: Split Spoon
I.D./O.D. (in.): 1-3/8"/2"
Sampler Hmr Wt (lb): 140 lbs
Sampler Hmr Fall (in): 30"
Other: Safety Hammer

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time
11/12/14	1300	0	none	1 hr

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
	85	S-1	0-2	24	10	10 14 21 18	35	S-1: Moist, dense, gray/brown, fine to coarse SAND, little Gravel, trace Silt, (trace Wood Fibers observed in top of sample).	1 2 3				
	90	S-2	2-4	24	12	41 23 33 27	56	S-2: Wet, very dense, fine to coarse SAND, some Gravel, little Silt, trace Roots.	4			FILL	
5	90	S-3	4-6	24	11	9 4 6 5	10	S-3A: Top 3": Wet, gray, fine to coarse SAND, some Silt, trace Gravel. S-3B: Middle 5": Moist, black, Fibrous PEAT, visible plant matter. Slight Hydrogen Sulfide-like odor observed. S-3C: Bottom 3": Wet, brown, fine to coarse SAND, some Silt, trace Roots, trace Gravel.			4.5'		69.5'
											6'	ORGANICS	68.0'
		S-4	8-10	24	20	24 31 35 38	66	S-4: Moist, very dense, gray, fine to coarse SAND, trace Gravel, trace Silt.					
10												SAND	
		S-5	13-15	24	6	17 17 16 14	33	S-5: Wet, medium dense, gray, fine to coarse SAND, trace Gravel, trace Silt.	5		15'		59.0'
15								Bottom of boring at 15 feet.					
20													
25													
30													

REMARKS

1. Ground surface elevations estimated from an electronic file entitled, "607329_SV(EXIST).DWG", transmitted from WorldTech Engineering on 11/13/14.
2. Groundwater observed at 6 inches below top of rail. Boring location submerged during drilling.
3. Advanced casing to 8 feet. Borehole advanced from 8 to 13 feet bgs with open-hole techniques.
4. Observed change in wash water color from gray/brown to black to brown to gray/brown between about 5 to 6 feet.
5. Upon completion, borehole backfilled with drill cuttings.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Boring No.: GZ-2

172102.00 WAKEFIELD-LYNNFIELD RTT_REEDY MEADOW_LYNNFIELD_MA.GPJ; STRATUM ONLY; 9/23/2015

WAKEFIELD - LYNNFIELD RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	8	132
PROJECT FILE NO. 607329			

BORING & TEST PIT LOGS
SHEET 2 OF 9

607329_HD10\BORING LOGS\.DWG Plotted on 1-Mar-2017 2:11 PM

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Wakefield/Lynnfield RTT
Reedy Meadow
Wakefield/Lynnfield, Massachusetts

BORING NO.: GZ-3
SHEET: 1 of 1
PROJECT NO: 172102.00
REVIEWED BY: MAR

Drilling Co.: New England Boring
Foreman: Chris Knight
Logged By: Alex Karp

Type of Rig: Tracked ATV
Rig Model: Morooka
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 74
Final Boring Depth (ft.): 4.3
Date Start - Finish: 11/12/2014 - 11/12/2014

H. Datum:
V. Datum:

Auger/Casing Type: HW
I.D/O.D.(in): 4"/4.5"
Hammer Weight (lb.): 300 #
Hammer Fall (in.): 30"
Other:

Sampler Type: Split Spoon
I.D./O.D. (in.): 1-3/8"/2"
Sampler Hmr Wt (lb): 140 lbs
Sampler Hmr Fall (in): 30"
Other: Safety Hammer

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time
11/12/14	0945	0.2'	none	45 mins

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (in)	Sample Rec. (in)	Sample Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
0	99	S-1	0-2	24	12	8 10		S-1: Moist, dense, brown, fine to coarse SAND, some Gravel, trace Silt, (negligible amount of organics/topsoil observed in top of sample).	1				
	99					31 22	41		2				
	185	S-2	2-4	9	4	38 75		S-2: Wet, very dense, brown/gray, fine to coarse SAND and GRAVEL, trace Silt (coarse gravel in tip of spoon).				FILL	
	185					3"			3				
5		S-3	4-6	2	0	100/2"		S-3: No Recovery.	4				
							R	Bottom of boring at 4.3 feet.			6'		68.0'
10													
15													
20													
25													
30													

REMARKS

1. Ground surface elevations estimated from an electronic file entitled, "607329_SV(EXIST).DWG", transmitted from WorldTech Engineering on 11/13/14.
2. Water observed at approximately 8 inches below top of rail on either side.
3. Max down pressure applied for approximately 20 minutes, less than 1-inch of advancement observed at 4.3 feet.
4. Upon completion, borehole backfilled with drill cuttings.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Boring No.: GZ-3

172102.00 WAKEFIELD-LYNNFIELD RTT_REEDY MEADOW_LYNNFIELD_MA.GPJ; STRATUM ONLY; 9/23/2015

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Wakefield/Lynnfield RTT
Reedy Meadow
Wakefield/Lynnfield, Massachusetts

BORING NO.: GZ-4
SHEET: 1 of 1
PROJECT NO: 172102.00
REVIEWED BY: MAR

Drilling Co.: New England Boring
Foreman: Chris Knight
Logged By: Alex Karp

Type of Rig: Tracked ATV
Rig Model: Morooka
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 74
Final Boring Depth (ft.): 5.8
Date Start - Finish: 11/12/2014 - 11/12/2014

H. Datum:
V. Datum:

Auger/Casing Type: HW
I.D/O.D.(in): 4"/4.5"
Hammer Weight (lb.): 300 #
Hammer Fall (in.): 30"
Other:

Sampler Type: Split Spoon
I.D./O.D. (in.): 1-3/8"/2"
Sampler Hmr Wt (lb): 140 lbs
Sampler Hmr Fall (in): 30"
Other: Safety Hammer

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time
See Note 2				

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (in)	Sample Rec. (in)	Sample Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
0		S-1	0-2	24	14	10 14		S-1: Moist, dense, brown, fine to coarse SAND, trace Gravel, trace Silt, (trace organic matter observed in top of sample).	1				
						24 25	38		2				
		S-2	2-4	24	14	13 26		S-2: Moist, very dense, gray, fine to coarse SAND, little Gravel, trace Silt.	3			FILL	
						35 50	61						
5		S-3	4-6	22	8	52 50		S-3: Moist, very dense, brown/gray, fine to coarse SAND, little Gravel, little Silt (slight Hydrogen Sulfide-like odor).	4				
						38 50/4"	88		5				
								Bottom of boring at 5.8 feet.	6		6'		68.0'
10													
15													
20													
25													
30													

REMARKS

1. Ground surface elevations estimated from an electronic file entitled, "607329_SV(EXIST).DWG", transmitted from WorldTech Engineering on 11/13/14.
2. Water observed at approximately 10 inches below top of rail on either side of rail (about 4 inches bgs)
3. Advanced borehole with open-hole techniques.
4. Significant rollerbit resistance, fine, sharp particles observed in wash water at about 5.8 feet.
5. Upon completion, borehole backfilled with drill cuttings.
6. Borehole not cleaned out immediately prior to samples S-2 and S-3. Therefore, SPT-N values may not be representative of actual in-situ density.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Boring No.: GZ-4

172102.00 WAKEFIELD-LYNNFIELD RTT_REEDY MEADOW_LYNNFIELD_MA.GPJ; STRATUM ONLY; 9/23/2015

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	9	132
PROJECT FILE NO. 607329			

BORING & TEST PIT LOGS
SHEET 3 OF 9

607329_HD10\BORING LOGS\.DWG Plotted on 1-Mar-2017 2:11 PM

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Wakefield/Lynnfield RTT
Reedy Meadow
Wakefield/Lynnfield, Massachusetts

BORING NO.: GZ-5
SHEET: 1 of 1
PROJECT NO: 172102.00
REVIEWED BY: MAR

Drilling Co.: New England Boring
Foreman: Chris Knight
Logged By: Alex Karp

Type of Rig: Tracked ATV
Rig Model: Morooka
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 73
Final Boring Depth (ft.): 15
Date Start - Finish: 11/11/2014 - 11/11/2014

H. Datum:
V. Datum:

Auger/Casing Type: HW
I.D/O.D.(in): 4"/4.5"
Hammer Weight (lb.): 300 #
Hammer Fall (in.): 30"
Other:

Sampler Type: Split Spoon
I.D./O.D. (in.): 1-3/8"/2"
Sampler Hmr Wt (lb): 140 lbs
Sampler Hmr Fall (in): 30"
Other: Safety Hammer

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time
See Note 2				

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (in)	Sample Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
		S-1	0-2	24	12	4 8 14 14	22	S-1A: Top 9": Wet, brown, fine to coarse SAND and GRAVEL, little Organic Matter, little Silt, (root/wood). S-1B: Bottom 3": Wet, medium dense, gray, fine to coarse SAND, trace Silt.	1 2 3			FILL	
		S-2	2-4	24	14	20 21 17 19	38	S-2: Wet, dense, gray, fine to coarse SAND, little Gravel, trace Silt.					
5		S-3	4-6	16	19	24 41 55/4"	R	S-3: Wet, very dense, gray, fine to coarse SAND, little Gravel, trace Silt (trace organics observed in tip of spoon).			6'		67.0'
											8'	POSSIBLE ORGANICS	65.0'
		S-4	8-10	24	14	7 3 15 20	18	S-4: Moist, very stiff, gray, SILT and fine SAND, trace Root/Wood fiber.					
10													
15		S-5	13-15	24	18	12 16 19 17	35	S-5: Moist, dense, gray, fine SAND, some Silt (slight Hydrogen Sulfide-like odor).	4				
								Bottom of boring at 15 feet.					
20													
25													
30													

REMARKS

1. Ground surface elevations estimated from an electronic file entitled, "607329_SV(EXIST).DWG", transmitted from WorldTech Engineering on 11/13/14.
2. Standing water observed at approximately 5 inches below top of rail on either side of rail; borehole submerged at time of drilling.
3. Advanced casing to 8 feet; advanced borehole with open-hole techniques from 8 to 15 feet.
4. Upon completion, borehole backfilled with drill cuttings.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Boring No.: GZ-5

172102.00 WAKEFIELD-LYNNFIELD RTT_REEDY MEADOW_LYNNFIELD_MA.GPJ; STRATUM ONLY; 9/23/2015

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Wakefield/Lynnfield RTT
Reedy Meadow
Wakefield/Lynnfield, Massachusetts

BORING NO.: GZ-6
SHEET: 1 of 1
PROJECT NO: 172102.00
REVIEWED BY: MAR

Drilling Co.: New England Boring
Foreman: Chris Knight
Logged By: Alex Karp

Type of Rig: Tracked ATV
Rig Model: Morooka
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 73
Final Boring Depth (ft.): 15
Date Start - Finish: 11/11/2014 - 11/11/2014

H. Datum:
V. Datum:

Auger/Casing Type: HW
I.D/O.D.(in): 4"/4.5"
Hammer Weight (lb.): 300 #
Hammer Fall (in.): 30"
Other:

Sampler Type: Split Spoon
I.D./O.D. (in.): 1-3/8"/2"
Sampler Hmr Wt (lb): 140 lbs
Sampler Hmr Fall (in): 30"
Other: Safety Hammer

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time
11/11/14	1250	0.3"	none	
See Note 2				

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (in)	Sample Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
		S-1	0-2	24	6	12 9 13 12	22	S-1: Wet, medium dense, brown, fine to coarse SAND, trace Gravel, trace Silt, trace Root/Wood fiber.	1 2 3			FILL	
		S-2	2-4	24	16	13 18 17 11	35	S-2: Wet, dense, gray, fine to coarse SAND, little Gravel, trace Silt.					
5		S-3	4-6	24	12	15 19 49 45	68	S-3: Wet, very dense, gray, fine to coarse SAND and GRAVEL, trace Silt (gravel observed in tip of spoon).	4		7'		66.0'
											9'	ORGANICS	64.0'
		S-4	8-10	24	19	5 1 2 12	3	S-4A: Top 10": Moist, fibrous to fine-grained, PEAT. S-4B: Middle 3": Moist, brown, fine to medium SAND and SILT, trace Organic matter, trace Gravel. S-4C: Bottom 6": Moist, gray, fine to medium SAND and SILT.	5				
10												SILT/SAND	
15		S-5	13-15	24	1	9 9 11 13	20	S-5: Moist, very stiff, gray, SILT, some fine to coarse Sand, little (-) Gravel.	6		15'		58.0'
								Bottom of boring at 15 feet.					
20													
25													
30													

REMARKS

1. Ground surface elevations estimated from an electronic file entitled, "607329_SV(EXIST).DWG", transmitted from WorldTech Engineering on 11/13/14.
2. Standing water observed at approximately 3 inches below top of rail (3 inches above ground surface) at time of drilling
3. Wood/Fiber chips observed at top of sample.
4. Advanced borehole with open-hole techniques from 4 to 8 feet, pushed casing to 8 feet.
5. wash water observed to be black in color; Root/Wood fiber observed in wash water.
6. Upon completion, borehole backfilled with drill cuttings.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Boring No.: GZ-6

172102.00 WAKEFIELD-LYNNFIELD RTT_REEDY MEADOW_LYNNFIELD_MA.GPJ; STRATUM ONLY; 9/23/2015

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	10	132
PROJECT FILE NO. 607329			

BORING & TEST PIT LOGS
SHEET 4 OF 9

607329_HD10\BORING LOGS\.DWG Plotted on 1-Mar-2017 2:12 PM

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Wakefield/Lynnfield RTT
Reedy Meadow
Wakefield/Lynnfield, Massachusetts

BORING NO.: GZ-7
SHEET: 1 of 1
PROJECT NO: 172102.00
REVIEWED BY: MAR

Drilling Co.: New England Boring
Foreman: Chris Knight
Logged By: Alex Karp

Type of Rig: Tracked ATV
Rig Model: Morooka
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 74
Final Boring Depth (ft.): 10.5
Date Start - Finish: 11/11/2014 - 11/11/2014

H. Datum:
V. Datum:

Auger/Casing Type: HW
I.D/O.D.(in): 4"/4.5"
Hammer Weight (lb.): 300 #
Hammer Fall (in.): 30"
Other:

Sampler Type: Split Spoon
I.D./O.D. (in.): 1-3/8"/2"
Sampler Hmr Wt (lb): 140 lbs
Sampler Hmr Fall (in): 30"
Other: Safety Hammer

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time
11/11/14	1135	0.8'	none	30 mins

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (in)	Sample Rec. (in)	Sample Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
		S-1	0-2	24	19	4 6 12 14	18	S-1A: Top 10": Moist, medium dense, black/brown, fine to coarse SAND, little Silt, little Gravel, trace Root/Wood/Leaves/Topsoil.	1 2				
		S-2	2-4	24	20	20 25 24 21	49	S-1B: Bottom 8": Moist, medium dense, fine to coarse SAND, trace Gravel, trace Silt.				FILL	
5		S-3	4-6	14	1	13 3 50/2"	R	S-2: Moist, dense, brown/gray, fine to coarse SAND, little Silt, little Gravel.			4'		70.0'
								S-3: Wet, very dense, gray, fine to coarse SAND, little Silt, little Gravel, (gravel observed in tip of spoon).	3 4 5			SILT/SAND	
		S-4	8-10	5	1	100/5"		S-4: Recovered 1-inch Gravel/Organics (possible wash)					
		S-5	8.5-10.5	1	0	75/1"	R R	S-5: No Recovery.	6 7		10.5'		63.5'
10								Bottom of boring at 10.5 feet.					
15													
20													
25													
30													

REMARKS

1. Ground surface elevations estimated from an electronic file entitled, "607329_SV(EXIST).DWG", transmitted from WorldTech Engineering on 11/13/14.
2. Advanced borehole with open-hole techniques from 0 to 6 feet.
3. Advanced casing to 8 feet.
4. Increased rollerbit resistance from 6 to 7 feet, gravel observed in wash water.
5. Approximately 8 inches black wash recovered; Root/Organics observed in wash water.
6. Rollerbit advanced < 6 inches in 30 minutes at 8.5 foot depth. Sharp angular gravel in wash water.
7. Upon completion, borehole backfilled with drill cuttings.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Boring No.: GZ-7

172102.00 WAKEFIELD-LYNNFIELD RTT_REEDY MEADOW_LYNNFIELD_MA.GPJ; STRATUM ONLY; 9/23/2015

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Wakefield/Lynnfield RTT
Reedy Meadow
Wakefield/Lynnfield, Massachusetts

BORING NO.: GZ-8
SHEET: 1 of 1
PROJECT NO: 172102.00
REVIEWED BY: MAR

Drilling Co.: New England Boring
Foreman: Chris Knight
Logged By: Alex Karp

Type of Rig: Tracked ATV
Rig Model: Morooka
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 74
Final Boring Depth (ft.): 20
Date Start - Finish: 11/11/2014 - 11/11/2014

H. Datum:
V. Datum:

Auger/Casing Type: HW
I.D/O.D.(in): 4"/4.5"
Hammer Weight (lb.): 300 #
Hammer Fall (in.): 30"
Other:

Sampler Type: Split Spoon
I.D./O.D. (in.): 1-3/8"/2"
Sampler Hmr Wt (lb): 140 lbs
Sampler Hmr Fall (in): 30"
Other: Safety Hammer

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time
11/11/14	0945	1.7'	none	45 mins

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (in)	Sample Rec. (in)	Sample Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
		S-1	0-2	24	18	3 8 13 12	21	S-1A: Top 10": Moist, medium dense, brown, fine to coarse SAND, some Silt, trace Gravel, trace Root/Wood fiber.	1 2				
		S-2	2-4	24	20	17 21 28 20	49	S-1B: Bottom 8": Moist, medium dense, gray/brown, fine to coarse SAND, little Silt, trace Gravel.				FILL	
5		S-3	4-6	24	24	14 15 16 17	31	S-2: Moist, dense, gray/brown, fine to coarse SAND, little Silt, trace Gravel.			7'		67.0'
								S-3: Moist, dense, gray/brown, fine to coarse SAND, little Silt, trace fine Gravel.	3			ORGANICS	
		S-4	8-10	24	20	3 3 15 17	18	S-4A: Top 7": Moist, Fibrous PEAT.			9'		65.0'
10								S-4B: Bottom 13": Moist, medium dense, gray, fine to medium SAND and SILT, trace Root/Wood.					
		S-5	13-15	24	12	8 8 10 9	18	S-5: Moist, medium dense, gray, fine SAND and SILT.				SILT/SAND	
15													
		S-6	18-20	24	18	6 8 15 14	23	S-6: Moist, very stiff, gray, SILT, trace fine Sand.	4		20'		54.0'
20								Bottom of boring at 20 feet.					
25													
30													

REMARKS

1. Ground surface elevations estimated from an electronic file entitled, "607329_SV(EXIST).DWG", transmitted from WorldTech Engineering on 11/13/14.
2. Drove casing to 8 feet. Observed wash water change in color from brown/gray to black/gray at about 8 feet bgs.
3. Advanced borehole with open-hole techniques from 0 to 20 feet.
4. Upon completion, borehole backfilled with drill cuttings.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Boring No.: GZ-8

172102.00 WAKEFIELD-LYNNFIELD RTT_REEDY MEADOW_LYNNFIELD_MA.GPJ; STRATUM ONLY; 9/23/2015

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	11	132

PROJECT FILE NO. 607329

BORING & TEST PIT LOGS
SHEET 5 OF 9

607329_HD10\BORING LOGS\.DWG Plotted on 1-Mar-2017 2:12 PM

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Wakefield/Lynnfield RTT
Reedy Meadow
Wakefield/Lynnfield, Massachusetts

BORING NO.: GZ-9
SHEET: 1 of 1
PROJECT NO: 172102.00
REVIEWED BY: MAR

Drilling Co.: New England Boring
Foreman: Chris Knight
Logged By: Alex Karp

Type of Rig: Tracked ATV
Rig Model: Morooka
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 73
Final Boring Depth (ft.): 20
Date Start - Finish: 11/10/2014 - 11/10/2014

H. Datum:
V. Datum:

Auger/Casing Type: HW
I.D/O.D.(in): 4"/4.5"
Hammer Weight (lb.): 300 #
Hammer Fall (in.): 30"
Other:

Sampler Type: Split Spoon
I.D./O.D. (in.): 1-3/8"/2"
Sampler Hmr Wt (lb): 140 lbs
Sampler Hmr Fall (in): 30"
Other: Safety Hammer

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time
11/10/14	1500	1.3'	none	45 mins

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (in)	Sample Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
		S-1	0-2	24	15	5 6 21 16	27	S-1A: Top 6": Medium dense, dark brown, fine to coarse SAND, some Silt, trace Gravel, trace Organic Root/Wood fiber.	1 2				
		S-2	2-4	24	19	14 20 16 10	36	S-1B: Middle 2": Medium dense, brown/red, fine to coarse GRAVEL, little Sand, trace Silt.				FILL	
5		S-3	4-6	24	24	8 16 15 13	31	S-1C: Bottom 7": Moist, medium dense, brown, fine to coarse SAND, trace Silt, trace fine Gravel. (Possible ballast)	3				
								S-2: Moist, dense, gray, fine to coarse SAND, little Silt, trace fine Gravel.			7'		66.0'
		S-4	8-10	24	12	4 2 9 16	11	S-3A: Top 18": Dense, gray/brown, fine to coarse SAND, trace Silt.	4		8.5'	ORGANICS	64.5'
10								S-3B: Bottom 6": Gray, fine to coarse SAND and SILT, little Gravel.					
								S-4A: Top 4": Fine-grained PEAT.					
								S-4B: Bottom 8": Stiff, gray, SILT, trace fine to medium Sand.					
		S-5	13-15	24	18	10 9 11 14	20	S-5: Very stiff, gray, SILT, trace fine Sand.					
15												SILT	
		S-6	18-20	24	12	10 9 14 17	23	S-6A: Top 8": Moist, very stiff, gray, SILT, trace fine Sand.					
								S-6B: Bottom 4": Medium dense, fine to coarse GRAVEL, some Silt, trace fine to coarse Sand.	5 6		20'		53.0'
20								Bottom of boring at 20 feet.					
25													
30													

REMARKS

1. Ground surface elevations estimated from an electronic file entitled, "607329_SV(EXIST).DWG", transmitted from WorldTech Engineering on 11/13/14.
2. Advanced borehole with open-hole techniques to 6 feet.
3. Advanced casing to 8 feet.
4. Advanced borehole with open-hole techniques from 8 to 20 feet.
5. Upon completion, borehole backfilled with drill cuttings.
6. Borehole not cleaned out immediately prior to samples S-2 and S-3. Therefore, SPT-N values may not be representative of actual in-situ density.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Boring No.: GZ-9

172102.00 WAKEFIELD-LYNNFIELD RTT_REEDY MEADOW_LYNNFIELD_MA.GPJ; STRATUM ONLY; 9/23/2015

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Wakefield/Lynnfield RTT
Reedy Meadow
Wakefield/Lynnfield, Massachusetts

BORING NO.: GZ-10
SHEET: 1 of 1
PROJECT NO: 172102.00
REVIEWED BY: MAR

Drilling Co.: New England Boring
Foreman: Chris Knight
Logged By: Alex Karp

Type of Rig: Tracked ATV
Rig Model: Morooka
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 73
Final Boring Depth (ft.): 17
Date Start - Finish: 11/10/2014 - 11/10/2014

H. Datum:
V. Datum:

Auger/Casing Type: HW
I.D/O.D.(in): 4"/4.5"
Hammer Weight (lb.): 300 #
Hammer Fall (in.): 30"
Other:

Sampler Type: Split Spoon
I.D./O.D. (in.): 1-3/8"/2"
Sampler Hmr Wt (lb): 140 lbs
Sampler Hmr Fall (in): 30"
Other: Safety Hammer

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time
11/10/14	1220	1.2'	none	45 mins

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (in)	Sample Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
		S-1	0-2	24	12	4 5 10 12	15	S-1A: Top 8": Moist, medium dense, brown, fine to coarse SAND, trace Gravel, trace Silt, trace Root/Wood fiber.	1 2				
		S-2	2-4	24	18	14 12 14 13	26	S-1B: Bottom 4": Moist, medium dense, brown, fine to coarse SAND, trace Silt.				FILL	
5		S-3	4-6	24	20	13 7 5 5	12	S-2A: Top 10": Medium dense, brown, fine to coarse SAND, trace Silt, trace fine Gravel.	3				
								S-2B: Middle 4": Medium dense, brown, fine to medium SAND and SILT, slight Hydrogen Sulfide-like odor.	4		6.5'		67.5'
								S-2C: Bottom 4": Medium dense, brown/gray, fine to medium SAND and SILT.			6"	ORGANICS	67.0'
		S-4	8-10	24	13	10 13 15 14	28	S-3A: Top 16": Medium dense, brown, fine to coarse SAND, some Silt.	5				
10								S-3B: Bottom 4": Fine-grained PEAT.					
								S-4: Very stiff, gray, SILT, some fine Sand.				SILT/SAND	
		S-5	13-15	24	14	9 8 17 12	25	S-5: Very stiff, gray, SILT, little fine Sand.					
15		S-6	15-17	24	12	10 29 22 8	51	S-6: Very dense, gray/black, fine to coarse SAND, some Silt, trace Gravel.	6 7		17'		56.0'
								Bottom of boring at 17 feet.					
20													
25													
30													

REMARKS

1. Ground surface elevations estimated from an electronic file entitled, "607329_SV(EXIST).DWG", transmitted from WorldTech Engineering on 11/13/14.
2. Advanced borehole using open-hole techniques to 6 feet bgs.
3. Organics, brown, spongy root/wood, silt, peat.
4. Advanced casing to 8 feet. Observed change in color of wash water from brown/black to gray.
5. Advanced borehole with open-hole techniques from about 8 to 17 feet.
6. Upon completion, borehole backfilled with drill cuttings.
7. Borehole not cleaned out immediately prior to samples S-2 and S-3. Therefore, SPT-N values may not be representative of actual in-situ density.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Boring No.: GZ-10

172102.00 WAKEFIELD-LYNNFIELD RTT_REEDY MEADOW_LYNNFIELD_MA.GPJ; STRATUM ONLY; 9/23/2015

607329_HD10\BORING LOGS\.DWG Plotted on 1-Mar-2017 2:13 PM

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wakefield/Lynnfield RTT
Reedy Meadow
Wakefield/Lynnfield, Massachusetts

BORING NO.: GZ-11
SHEET: 1 of 1
PROJECT NO: 172102.00
REVIEWED BY: MAR

Drilling Co.: New England Boring
Foreman: Chris Knight
Logged By: Alex Karp

Type of Rig: Tracked ATV
Rig Model: Morooka
Drilling Method: Drive & Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): 74
Final Boring Depth (ft.): 15
Date Start - Finish: 11/10/2014 - 11/10/2014

H. Datum:
V. Datum:

Auger/Casing Type: HW
I.D/O.D.(in): 4"/4.5"
Hammer Weight (lb.): 300 #
Hammer Fall (in.): 30"
Other:

Sampler Type: Split Spoon
I.D./O.D. (in.): 1-3/8"/2"
Sampler Hmr Wt (lb): 140 lbs
Sampler Hmr Fall (in): 30"
Other: Safety Hammer

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time
11/10/14	1035	2'	none	45 mins

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
		S-1	0-2	24	13	3 3 7 8	10	S-1A: Top 7": Loose, fine to coarse SAND, little Silt, trace Gravel, trace Root Organics.	1				
								S-1B: Bottom 6": Loose, brown, fine to coarse SAND, little Silt, trace Gravel.	2				
		S-2	2-4	24	20	2 2 6 13	8	S-2A: Top 13": Loose, brown, fine to coarse SAND, trace Silt, trace fine Gravel.				FILL	
5		S-3	4-6	24	20	7 8 10 3	18	S-2B: Bottom 7": Loose, brown, fine to coarse SAND, trace Silt, trace fine Gravel.	3		6'		68.0'
								S-3: Moist, medium dense, gray, fine to coarse SAND, trace Silt.				POSSIBLE ORGANICS	
		S-4	8-10	24	14	6 8 8 20	16	S-4: , Medium dense, gray, fine SAND and SILT, black streaking observed in sample, Hydrogen Sulfide-like odor.			8'		66.0'
10									4			SILT/SAND	
		S-5	13-15			7 7 6 6	13	S-5: Stiff, gray, SILT, trace fine Sand.	5				
15									6		15'		59.0'
								Bottom of boring at 15 feet.					
20													
25													
30													

REMARKS

1. Ground surface elevations estimated from an electronic file entitled, "607329_SV(EXIST).DWG", transmitted from WorldTech Engineering on 11/13/14.
2. Samples from 0 to 6 feet obtained with open-hole techniques.
3. Begin advancing casing, push 6 to 8 feet, uncased from 8 to 15 feet.
4. Wash water observed to be light gray in color.
5. Upon completion, borehole backfilled with cuttings and native soils.
6. Borehole not cleaned out immediately prior to samples S-2 and S-3. Therefore, SPT-N values may not be representative of actual in-situ density.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Boring No.: GZ-11

172102.00 WAKEFIELD-LYNNFIELD RTT_REEDY MEADOW_LYNNFIELD_MA.GPJ; STRATUM ONLY: 9/23/2015

WAKEFIELD - LYNNFIELD RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	13	132
PROJECT FILE NO. 607329			

BORING & TEST PIT LOGS
SHEET 7 OF 9

607329_HD10\BORING LOGS\.DWG Plotted on 1-Mar-2017 2:13 PM

GZA GeoEnvironmental, Inc. *Engineers/Scientists*

Wakefield/Lynnfield Rail-to-Trail
Richardson Street - Wakefield, MA
Proposed Parking Area

Test Pit No. TP-1
Page No. 1 of 1
File No. 01.0172102.00
Checked By: RDH

Excavation Equipment

GZA Rep. Alex Karp
Weather 50's sun/clouds
Contractor Wakefield DPW
Operator Joe
Make Case Model 580 Backhoe
Capacity 0.25 cu/yd Reach 17 ft.
Date 12/1/2014
Ground Elev. 83 (See Note 1)
Time Started 1400
Time Completed 1440

Depth	Soil Description	Sample No.	PID Reading (ppm)	Excav. Effort	Boulders: Count/ Class	Note No.
0	Brown fine to medium SAND, some Silt, trace Gravel, trace Root/Wood Fibers/	S-1				
1'	1' Organics/debris/rubbish. (TOPSOIL)	(0-6")	N/A	E		1
2'				M	12A	
3'	Brown fine to coarse SAND, some Gravel, trace Silt, trace	S-2				
4'	(+) Cobbles/Boulders, trace Root/Wood Fiber, trace Root	(0.5-4.5')		M	13A	
5'	Wood Fibers, Debris/glass. (FILL)			M	6A	
6'	4.5'					2
7'	5' Moist, brown/black fine to medium SAND and SILT, some Root/Wood Fibers (BURIED TOPSOIL)	S-3		M		
8'	5.5' Moist, gray/brown, fine to coarse SAND and SILT, trace Root/Wood/Fibers	(4.5-5')				
9'	Bottom of Excavation at approximately 5.5 Feet	S-4				3
10'		(5-5.5')				
11'						
12'						
13'						
14'						
15'						
16'						

Notes:

1. Ground surface elevation estimated from a drawing entitled, "607329_SV (EXIST).DWG", transmitted by WorldTech Engineering via email on 11/13/14.
2. Portion of bulk sample No. S-3a obtained from 0.5 to 4.5 feet (submitted for laboratory gradation, Modified Proctor and CBR testing).
3. Upon completion, test pit backfilled with excavated material in approximately 1 foot lifts and tamped with backhoe bucket.

Test Pit Plan
9' × 4'
NORTH
Volume = 7 cu. yd.

Boulder Class
Letter Designation: A, B, C
Size Range Classification: 6" - 17", 18" - 36", 36" and Larger

Excavation Effort
E-----Easy
M-----Moderate
D-----Difficult

Proportions Used
TRACE (TR.) 0 - 10%
LITTLE (LI.) 10 - 20%
SOME (SO.) 20 - 35%
AND 35 - 50%

Abbreviations
F = Fine
M = Medium
C = Coarse
V = Very
F/M = Fine to medium
F/C = Fine to coarse
GR = Gray
BN = Brown
YEL = Yellow

GROUNDWATER
( ) Encountered
(X) Not Encountered
Elapsed Time to Reading (Hours)
Depth to Ground-water

Stratification lines represent approximate boundaries between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated.
Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.

GZA GeoEnvironmental, Inc. *Engineers/Scientists*

Wakefield/Lynnfield Rail-to-Trail
Richardson Street - Wakefield, MA
Proposed Parking Area

Test Pit No. TP-2
Page No. 1 of 1
File No. 01.0172102.00
Checked By: RDH

Excavation Equipment

GZA Rep. Alex Karp
Weather 50's sun/clouds
Contractor Wakefield DPW
Operator Joe
Make Case Model 580 Backhoe
Capacity 0.25 cu/yd Reach 17 ft.
Date 12/1/2014
Ground Elev. 84 (See Note 1)
Time Started 1300
Time Completed 1350

Depth	Soil Description	Sample No.	PID Reading (ppm)	Excav. Effort	Boulders: Count/ Class	Note No.
0	0.7' Brown fine to medium SAND, some Silt, trace Gravel, trace Root/Wood/Fiber/Organics (TOPSOIL)	S-1 (0-0.7')				
1'	1' Light brown, fine to coarse SAND, little Grave, trace Silt, Cobbles, Root/Organics, Debris (FILL)	S-2 (0.5-1')	N/A	E		1
2'				M	2A	
3'	Brown, fine to coarse SAND and GRAVEL, little Cobbles/Boulders trace SILT, trace Organics and Debris (FILL)	S-3 (1-3.5')		M	18A	
4'	3.5'					2, 3
5'	Moist, black/brown SAND, some Silt, some Organics	S-4 (3.5-5')		M	5A	
6'	5' (BURIED TOPSOIL)			M		4
7'	6' Wet, gray/brown fine to coarse SAND and SILT, trace Roots.	S-5 (5-6')		M		5
8'	Bottom of Excavation at approximately 6 Feet					
9'						
10'						
11'						
12'						
13'						
14'						
15'						
16'						

Notes:

1. Ground surface elevation estimated from a drawing entitled, "607329_SV (EXIST).DWG", transmitted by WorldTech Engineering via email on 11/13/14.
2. Observed water entering excavation through black/brown Fibrous peat at approximately 3.5 feet depth below ground surface.
3. Approximately 5" diameter root observed in west face of excavation at approximately 4 feet.
4. Portion of bulk sample No. S-2a obtained from 0.5 to 4.5 feet (submitted for laboratory gradation, Modified Proctor and CBR testing).
5. Upon completion, test pit backfilled with excavated material in approximately 1 foot lifts and tamped with backhoe bucket.

Test Pit Plan
8' × 3'
NORTH
Volume = 5 cu. yd.

Boulder Class
Letter Designation: A, B, C
Size Range Classification: 6" - 17", 18" - 36", 36" and Larger

Excavation Effort
E-----Easy
M-----Moderate
D-----Difficult

Proportions Used
TRACE (TR.) 0 - 10%
LITTLE (LI.) 10 - 20%
SOME (SO.) 20 - 35%
AND 35 - 50%

Abbreviations
F = Fine
M = Medium
C = Coarse
V = Very
F/M = Fine to medium
F/C = Fine to coarse
GR = Gray
BN = Brown
YEL = Yellow

GROUNDWATER
(X) Encountered
( ) Not Encountered
Elapsed Time to Reading (Hours)
Depth to Ground-water
See Note 2

Stratification lines represent approximate boundaries between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated.
Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	14	132
PROJECT FILE NO. 607329			

BORING & TEST PIT LOGS
SHEET 8 OF 9

607329_HD10\BORING LOGS\.DWG Plotted on 1-Mar-2017 2:13 PM

GZA GeoEnvironmental, Inc. *Engineers/Scientists*

Wakefield/Lynnfield Rail-to-Trail
Richardson Street - Wakefield, MA
Proposed Parking Area

Test Pit No. TP-3
Page No. 1 of 1
File No. 01.0172102.00
Checked By: RDH

Excavation Equipment

GZA Rep. Alex Karp
Weather 50's sun/clouds
Contractor Wakefield DPW
Operator Joe
Make Case Model 580 Backhoe
Capacity 0.25 cu/yd Reach 17 ft.
Date 12/1/2014
Ground Elev. 84 (See Note 1)
Time Started 1200
Time Completed 1250

Depth	Soil Description	Sample No.	PID Reading (ppm)	Excav. Effort	Boulders: Count/ Class	Note No.
0	0.5' Brown fine to medium SAND, some Silt, trace Gravel, trace Root/Wood (TOPSOIL)	S-1				
1'	Brown/gray, fine to coarse SAND and GRAVEL, trace Cobbles/Boulders,		N/A	E		1
	1.5' Root/Organics, and Debris/cloth/glass, (FILL)	S-2			1B, 5A	
2'				M		
3'	Brown, fine to coarse SAND and GRAVEL, trace Cobbles/Boulders Root/Organics and Debris/glass. (FILL)	S-3		M	8A	
	3.5'					
4'	Moist, black/brown SAND, some Silt, some Fibrous Peat with visible Roots			M		2
	4.5' (BURIED TOPSOIL)	S-4		E		3
5'	Moist, gray/brown, fine to medium SAND and SILT					
6'	6' trace Root/Organics	S-5				4
	Bottom of Excavation at approximately 6 Feet					
7'						
8'						
9'						
10'						
11'						
12'						
13'						
14'						
15'						
16'						

Notes:

1. Ground surface elevation estimated from a drawing entitled, "607329_SV (EXIST).DWG", transmitted by WorldTech Engineering via email on 11/13/14.
2. Observed water weeping into excavation at approximately 4 feet.
3. Portion of bulk sample No. S-2a obtained from 0.5 to 4.5 feet (submitted for laboratory gradation, Modified Proctor and CBR testing).
4. Upon completion, test pit backfilled with excavated material in approximately 1 foot lifts and tamped with backhoe bucket.

Test Pit Plan
10' × 3'
NORTH
Volume = 7 cu. yd.

Boulder Class

Letter Designation	Size Range Classification
A	6" - 17"
B	18" - 36"
C	36" and Larger

Excavation Effort
E-----Easy
M-----Moderate
D-----Difficult

Proportions Used

TRACE (TR.)	0 - 10%
LITTLE (LI)	10 - 20%
SOME (SO.)	20 - 35%
AND	35 - 50%

Abbreviations
F = Fine
M = Medium
C = Coarse
V = Very
F/M = Fine to medium
F/C = Fine to coarse
GR = Gray
BN = Brown
YEL = Yellow

GROUNDWATER
(X) Encountered
( ) Not Encountered
Elapsed Time to Reading (Hours) | Depth to Ground-water
See Note 2

Stratification lines represent approximate boundaries between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.

GZA GeoEnvironmental, Inc. *Engineers/Scientists*

Wakefield/Lynnfield Rail-to-Trail
Water Street - Wakefield, MA
Proposed Parking Area

Test Pit No. TP-4
Page No. 1 of 1
File No. 01.0172102.00
Checked By: RDH

Excavation Equipment

GZA Rep. Alex Karp
Weather 50's sun/clouds
Contractor Wakefield DPW
Operator Joe
Make Case Model 580 Backhoe
Capacity 0.25 cu/yd Reach 17 ft.
Date 12/1/2014
Ground Elev. 85 (See Note 1)
Time Started 1050
Time Completed 1120

Depth	Soil Description	Sample No.	PID Reading (ppm)	Excav. Effort	Boulders: Count/ Class	Note No.
0	Gray, fine to coarse SAND, some Gravel, little Silt, trace (-) Root/Organics (FILL)	S-1			6A	
1'	0.5'	(0-0.5')	N/A	E		1, 2
2'	Brown, fine to coarse SAND and GRAVEL, little Cobbles/Boulders			M	8A	
3'	trace Silt, trace Root/Organics, trace Debris/glass (FILL)	S-2 (0.5-4')		M-D	15A	
4'	4'			D	10A	3
5'	Brown, fine to medium SAND, some Silt, trace (-) Gravel	S-3 (4-5')		M		4
	5' Bottom of Excavation at approximately 5 Feet					5
6'						
7'						
8'						
9'						
10'						
11'						
12'						
13'						
14'						
15'						
16'						

Notes:

1. Ground surface elevation estimated from a drawing entitled, "607329_SV (EXIST).DWG", transmitted by WorldTech Engineering via email on 11/13/14.
2. About <1-inch-thick layer of approximately 3/8-inch crushed stone at ground surface.
3. Encountered increased excavation resistance between 3 to 4 feet, possible nested cobbles/boulders.
4. Portion of bulk sample No. S-2a obtained from 0.5 to 4.5 feet (submitted for laboratory gradation, Modified Proctor and CBR testing).
5. Upon completion, test pit backfilled with excavated material in approximately 1 foot lifts and tamped with backhoe bucket.

Test Pit Plan
3' × 9'
NORTH
Volume = 5 cu. yd.

Boulder Class

Letter Designation	Size Range Classification
A	6" - 17"
B	18" - 36"
C	36" and Larger

Excavation Effort
E-----Easy
M-----Moderate
D-----Difficult

Proportions Used

TRACE (TR.)	0 - 10%
LITTLE (LI)	10 - 20%
SOME (SO.)	20 - 35%
AND	35 - 50%

Abbreviations
F = Fine
M = Medium
C = Coarse
V = Very
F/M = Fine to medium
F/C = Fine to coarse
GR = Gray
BN = Brown
YEL = Yellow

GROUNDWATER
( ) Encountered
(X) Not Encountered
Elapsed Time to Reading (Hours) | Depth to Ground-water

Stratification lines represent approximate boundaries between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	15	132
PROJECT FILE NO. 607329			

BORING & TEST PIT LOGS
SHEET 9 OF 9

607329_HD10(BORING LOGS).DWG Plotted on 1-Mar-2017 2:14 PM

GZA GeoEnvironmental, Inc. *Engineers/Scientists*

Wakefield/Lynnfield Rail-to-Trail
Water Street - Wakefield, MA
Proposed Parking Area

Test Pit No. TP-5
Page No. 1 of 1
File No. 01.0172102.00
Checked By: RDH

Excavation Equipment

GZA Rep. Alex Karp
Weather 50's sun/clouds
Contractor Wakefield DPW
Operator Joe
Make Case Model 580 Backhoe
Capacity 0.25 cu/yd Reach 17 ft.
Date 12/1/2014
Ground Elev. 86 (See Note 1)
Time Started 1015
Time Completed 1045

Depth	Soil Description	Sample No.	PID Reading (ppm)	Excav. Effort	Boulders: Count/ Class	Note No.
0	Gray, fine to coarse SAND and GRAVEL, trace Silt, trace Cobbles, trace (-) Root/Organics	S-1				
1'	(FILL)	(0-1')	N/A	E	5A	1
2'				M	12A	
3'	Brown, fine to coarse SAND and GRAVEL, little Cobbles/Boulders	S-2		M	16A	
4'	trace Root/Organics (FILL)	(1-4')		M	3A	
5'	Brown, fine to coarse SAND, some silt, trace Gravel	S-3		M		2
5.5'		(3.5-5.5')				3
6'	Bottom of Excavation at approximately 5.5 Feet					
7'						
8'						
9'						
10'						
11'						
12'						
13'						
14'						
15'						
16'						

Notes:
1. Ground surface elevation estimated from a drawing entitled, "607329_SV (EXIST).DWG", transmitted by WorldTech Engineering via email on 11/13/14.
2. Portion of bulk sample No. S-2a obtained from 0.5 to 4.5 feet (submitted for laboratory gradation, Modified Proctor and CBR testing).
3. Upon completion, test pit backfilled with excavated material in approximately 1 foot lifts and tamped with backhoe bucket.

Test Pit Plan
10'
3'
NORTH
Volume = 6.1 cu. yd.

Boulder Class

Letter Designation	Size Range Classification
A	6" - 17"
B	18" - 36"
C	36" and Larger

Excavation Effort
E-----Easy
M-----Moderate
D-----Difficult

Proportions Used

TRACE (TR.)	0 - 10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 - 35%
AND	35 - 50%

Abbreviations
F = Fine
M = Medium
C = Coarse
V = Very
F/M = Fine to medium
F/C = Fine to coarse
GR = Gray
BN = Brown
YEL = Yellow

GROUNDWATER
( ) Encountered
(x) Not Encountered
Elapsed Time to Reading (Hours) | Depth to Ground-water

Stratification lines represent approximate boundaries between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated.
Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.

GZA GeoEnvironmental, Inc. *Engineers/Scientists*

Wakefield/Lynnfield Rail-to-Trail
Water Street - Wakefield, MA
Proposed Parking Area

Test Pit No. TP-6
Page No. 1 of 1
File No. 01.0172102.00
Checked By: RDH

Excavation Equipment

GZA Rep. Alex Karp
Weather 50's sun/clouds
Contractor Wakefield DPW
Operator Joe
Make Case Model 580 Backhoe
Capacity 0.25 cu/yd Reach 17 ft.
Date 12/1/2014
Ground Elev. 85 (See Note 1)
Time Started 0900
Time Completed 0945

Depth	Soil Description	Sample No.	PID Reading (ppm)	Excav. Effort	Boulders: Count/ Class	Note No.
0	Gray, fine to coarse SAND and GRAVEL, trace Silt, Cobbles, trace (-) Root/Organics	S-1				
1'	and Debris (FILL)	(0-1')	N/A	E	7A	1
2'	Brown, fine to coarse SAND and GRAVEL, some Cobbles/Boulders	S-2			22A	
2'	trace Silt, trace Root/Organics (FILL)	(1'-2')		M	1B	
3'	Brown, fine to coarse SAND, trace Gravel, Cobbles, trace (-) Root/Organics, trace (-) Silt	S-3		M	9A	
4.5'	(Possible FILL)	(2-4.5')				2
4'	Bottom of Excavation at approximately 4.5 Feet			M	7A	3
5'						
6'						
7'						
8'						
9'						
10'						
11'						
12'						
13'						
14'						
15'						
16'						

Notes:
1. Ground surface elevation estimated from a drawing entitled, "607329_SV (EXIST).DWG", transmitted by WorldTech Engineering via email on 11/13/14.
2. Portion of bulk sample No. S-2a obtained from 0.5 to 4.5 feet (submitted for laboratory gradation, Modified Proctor and CBR testing).
3. Upon completion, test pit backfilled with excavated material in approximately 1 foot lifts and tamped with backhoe bucket.

Test Pit Plan
12'
3'
NORTH
Volume = 6 cu. yd.

Boulder Class

Letter Designation	Size Range Classification
A	6" - 17"
B	18" - 36"
C	36" and Larger

Excavation Effort
E-----Easy
M-----Moderate
D-----Difficult

Proportions Used

TRACE (TR.)	0 - 10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 - 35%
AND	35 - 50%

Abbreviations
F = Fine
M = Medium
C = Coarse
V = Very
F/M = Fine to medium
F/C = Fine to coarse
GR = Gray
BN = Brown
YEL = Yellow

GROUNDWATER
( ) Encountered
(X) Not Encountered
Elapsed Time to Reading (Hours) | Depth to Ground-water

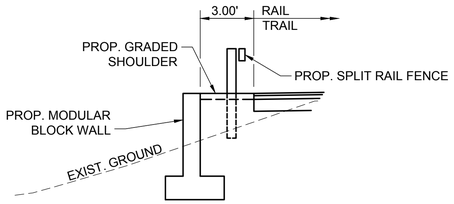
Stratification lines represent approximate boundaries between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated.
Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

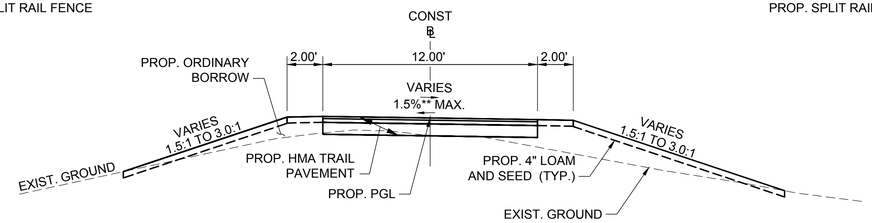
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	16	132
PROJECT FILE NO. 607329			

TYPICAL SECTIONS
SHEET 1 OF 1

607329_HD4(TYPICAL SECTIONS).DWG Plotted on 1-Mar-2017 2:15 PM



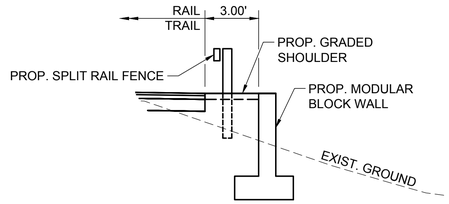
RETAINING WALL
STA 53+00± TO STA 53+50±
STA 60+50± TO STA 61+00±
STA 71+25± TO STA 71+75±
STA 80+90± TO STA 81+50±
STA 83+00± TO STA 83+50±
STA 88+15± TO STA 88+65±
STA 90+50± TO STA 91+25±
STA 137+00± TO STA 137+30±
NOT TO SCALE



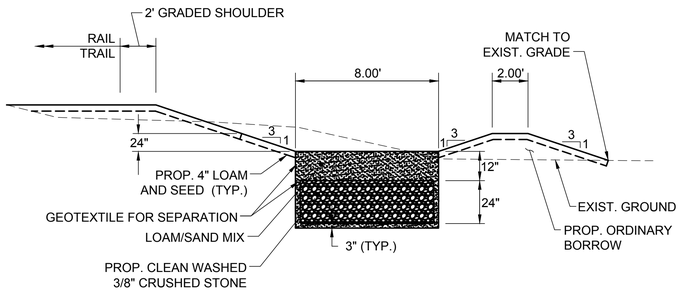
**TOLERANCE FOR CONSTRUCTION ±0.5%

RAIL TRAIL
STA 0+35± TO 53+50±
STA 60+50± TO 71+75±
STA 80+92± TO 83+50±
STA 88+15± TO 91+25±
STA 137+00± TO 229+40±
NOT TO SCALE

NOTE: SEE DETAIL SHEETS FOR BOARDWALK TYPICAL SECTION



RETAINING WALL
STA 41+50± TO STA 42+25±
STA 47+25± TO STA 48+30±
STA 53+00± TO STA 53+50±
STA 60+50± TO STA 61+00±
STA 71+25± TO STA 71+75±
STA 80+90± TO STA 81+50±
STA 83+00± TO STA 83+50±
STA 88+15± TO STA 88+65±
STA 90+50± TO STA 91+25±
STA 137+00± TO STA 137+30±
STA 186+00± TO STA 186+75±
NOT TO SCALE



DRAINAGE SWALE
STA 4+50± TO STA 6+25±
STA 61+50± TO STA 64+50±
STA 143+50± TO STA 147+00±
NOT TO SCALE

PAVEMENT NOTES

PROPOSED PAVEMENT MICROMILLING & OVERLAY

SURFACE COURSE: 2" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5)

PAVEMENT MICROMILLING: 2" PAVEMENT MICROMILLING

PROPOSED HOT MIX ASPHALT TRAIL PAVEMENT

SURFACE COURSE: 1 ½" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER

INTERMEDIATE COURSE: 2 ½" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER

SUBBASE: 8" GRAVEL BORROW, TYPE B

PROPOSED FULL DEPTH PAVEMENT (BENNETT STREET, RICHARDSON STREET, NEW SALEM STREET, FITCH COURT, FOSTERS LANE, AND PILLINGS POND ROAD)

SURFACE COURSE: 1 ½" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5) OVER

INTERMEDIATE COURSE: 2" SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC-12.5) OVER

BASE COURSE: 3 ½" SUPERPAVE BASE COURSE - 25.0 (SBC - 25.0)

SUBBASE: 12" GRAVEL BORROW, TYPE B

PROPOSED FULL DEPTH PAVEMENT (MAIN STREET, WATER STREET, SALEM STREET, LOWELL STREET, AND SUMMER STREET)

SURFACE COURSE: 1 ¾" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5) OVER

INTERMEDIATE COURSE: 1 ¾" SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC-12.5) OVER

BASE COURSE: 3 ½" SUPERPAVE BASE COURSE - 25.0 (SBC - 25.0)

SUBBASE: 4" DENSE GRADED CRUSHED STONE
8" GRAVEL BORROW, TYPE B

PROPOSED HOT MIX ASPHALT PARKING LOT - RICHARDSON STREET

SURFACE COURSE: 1 ½" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER

INTERMEDIATE COURSE: 1 ½" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER

SUBBASE: 15" DENSE GRADED CRUSHED STONE FOR SUB-BASE

PROPOSED HOT MIX ASPHALT PARKING LOT - WATER STREET

SURFACE COURSE: 1 ½" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER

INTERMEDIATE COURSE: 1 ½" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER

SUBBASE: 10" DENSE GRADED CRUSHED STONE FOR SUB-BASE

PROPOSED CEMENT CONCRETE SIDEWALK AND WHEELCHAIR RAMPS

SURFACE COURSE: 4" CEMENT CONCRETE OVER

SUBBASE: 8" GRAVEL BORROW, TYPE B

PROPOSED CEMENT CONCRETE SIDEWALK AT DRIVEWAY

SURFACE COURSE: 6" CEMENT CONCRETE OVER

SUBBASE: 8" GRAVEL BORROW, TYPE B

PROPOSED HOT MIX ASPHALT DRIVEWAY

SURFACE COURSE: 1½" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER

INTERMEDIATE COURSE: 2" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER

SUBBASE: 8" GRAVEL BORROW, TYPE B

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	17	132
PROJECT FILE NO. 607329			

CONSTRUCTION PLAN
SHEET 1 OF 21

607329_H06(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 12:47 PM

N

14+31.72 MAIN=
20+00.00 BENNETT

15+53.60 MAIN=
0+00.00 BIKEWAY BASELINE

16+79.26 MAIN=
30+00.00 RICHARDSON

MAIN STREET
(PUBLIC WAY)

BENNETT STREET
(PUBLIC WAY)

RICHARDSON STREET
(PUBLIC WAY)

BEGIN PROJECT
STA 12+85
N3007286.1355
E772352.0969
MEET EXISTING

R&D RR SIGNAL MAST ARM & FOUNDATION

PROP. GRANITE CURB TYPE VA-4 (TYP.)

PROP. SAWCUT

R&D EXIST. RAIL (B.O.)

R&R EXIST. GRAN. CURB

PROP. CEM. CONC. SIDEWALK (TYP.)

PROP. FULL DEPTH RECONSTRUCTION

RET.

WCR 1

WCR 2

WCR 3

WCR 4

WCR 5

WCR 6

WCR 7

WCR 8

REM. CONC. PAD R&S BENCH

PROP. HMA BIKE PATH

PROP. BIKE RACK (TYP.)

REM. RAILROAD TIES & RAIL (TYP.) (B.O.)

R&D FENCE

REM. (10)

PROP. LANDSCAPED AREA

TEMPORARY EASEMENT (TYP.)

PROP. LIMIT OF GRADING (TYP.)

PROP. STOCKADE FENCE (TYP.)

PROP. MILL AND OVERLAY

END PROP. FULL DEPTH CONSTRUCTION
STA 21+20.00
N3007404.1166
E772429.1947
PROP. SAWCUT

LIMIT OF WORK
STA 21+40.00
N3007399.9061
E772448.7465
PROP. SAWCUT

END PROP. FULL DEPTH CONSTRUCTION
STA 31+50.00
N3007626.5549
E772471.8697
PROP. SAWCUT

LIMIT OF WORK
STA 32+50.00
N3007593.4416
E772566.2281
PROP. SAWCUT

LIMIT OF WORK
STA 17+50.00
N3007746.7521
E772335.7697
PROP. SAWCUT

PROP. G.I.

6'-12" RCP

CIT CB TO DMH

R&D EXIST. RAIL

1+80.36 BIKEWAY BASELINE=
31+26.50 RICHARDSON

PROP. 12' WIDE HMA PATH (TYP.)

PROP. LOAM AND SEED

PROP. 2' GRADED SHOULDER (TYP.)

PROP. KIOSK

TEST PIT LOCATION (TYP.)

PROP. GRAN. CURB TYPE VA-4 (TYP.)

PROP. CONC. WHEEL STOP (TYP.)

PROP. TREE PROTECTION (TYP.)

31+77.50 RICHARDSON=
10+00.00 PARKING LOT 1

PROP. HMA PARKING LOT

RET. UP

PROP. MILL AND OVERLAY

TOWN L.O.

R.R. S/L

BOSTON & MAINE RAILROAD

N/F NEW ENGLAND TEL. & TEL CO. DEED BOOK 9321 PG 237 MAP 18 PARCEL 13

N/F SANTONELLI TRS., STEVEN& ROBERT DEED BOOK 26907 PG 543 MAP 18 PARCEL 232

N/F CONDOMINIUMS MAP 18 PARCEL 73

SHADOWS

STEPS

RAMP

BIT CONC PARKING

FENCE

STOCKADE FENCE

TRAILER

AWNING

CONTINUED ON SHEET NO. 18

0 20 50 100

SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	18	132

PROJECT FILE NO. 607329

CONSTRUCTION PLAN SHEET 2 OF 21

CONTINUED ON SHEET NO. 17

CONTINUED BELOW

PC +51.59 (REM.)
PROP. GRAN. BOLLARD (TYP.)
PROP. 4' WIDE LANDSCAPED AREA
REM. CONC. PAD R&S BENCH
(REM.)
PROP. HMA BIKE TRAIL (WIDTH VARIES)
PI 1+30.53
1 R=60.00' L=78.93'
REM. RAILROAD TIES & RAIL (TYP.) (B.O.)
R&D FENCE
REM. (10)
WCR 6
WCR 7
PROP. TREE PROTECTION (TYP.)
TEMPORARY EASEMENT (TYP.)
END PROP. FULL DEPTH CONSTRUCTION STA 31+50.00 N3007626.5549 E772471.8697 PROP. SAWCUT
PROP. SAWCUT
PROP. GRANITE CURB TYPE VA-4 (TYP.)
LIMIT OF WORK STA 32+50.00 N3007593.4416 E772566.2281 PROP. SAWCUT
RICHARDSON STREET (PUBLIC WAY)
1+80.36 BIKEWAY BASELINE= 31+26.50 RICHARDSON
PROP. 4' WIDE LANDSCAPED AREA
PROP. 12' WIDE HMA BIKE TRAIL (TYP.)
PROP. LIMIT OF GRADING (TYP.)
(REM.)
PC +70.62
2 PI 1+30.32 R=500.00' L=39.30'
3 N23°32'16"E 205.70'
PC +76.32
WCR 8
PROP. CLEARING AND GRUBBING
PROP. KIOSK
TP#1 (APPROX.)
PROP. BIKE RACK (TYP.)
PROP. 2' GRADED SHOULDER (TYP.)
PROP. EDGE OF PAVEMENT
PROP. CONC. WHEEL STOP (TYP.)
PROP. DRAINAGE SWALE (TYP.)
PROP. LOAM AND SEED (TYP.)
PERMANENT EASEMENT
PROP. HMA PARKING LOT
PROP. EDGE OF PAVEMENT
REM. EXIST. BUSHES (5)
10+00
S70°39'45"E 400.00'
N19°02'03"E 68.94'
PC +68.94
11 R=969.00' L=76.17'
PT +45.11
12 N23°32'16"E 104.89'
TP#2
43.00'
12+50
31+77.50 RICHARDSON= 10+00.00 PARKING LOT 1
TP#3
N25°01'54"E 217.09'
60.00'
LIMIT OF CLEARING AND GRUBBING
PROP. CLEARING AND GRUBBING
PROP. LIMIT OF GRADING (TYP.)
TEST PIT LOCATION (TYP.)
PROP. CONC. WHEEL STOP (TYP.)
PROP. GRANITE CURB TYPE VA-4 (TYP.)
PROP. BIKE RACK (TYP.)
PROP. 2' GRADED SHOULDER (TYP.)
PROP. CLEARING AND GRUBBING
PROP. 12' WIDE HMA PATH (TYP.)
PROP. EDGE OF PAVEMENT
TEMPORARY EASEMENT (TYP.)
PROP. CLEARING AND GRUBBING
REM. RAILROAD TIES & RAIL (TYP.) (B.O.)
PROP. LOAM AND SEED (TYP.)
PROP. DRAINAGE SWALE
PCC +89.04
PRC +34.14
R=500.00' L=54.90
R=2996.00' L=478.64
PROP. KIOSK
PROP. CEM. CONC. SIDEWALK
WCR 9
PC +17.09
R=212.00' L=58.70
PCC +62.98
PRC +75.78
PRC +04.96
R=500.00' L=41.98'
PT +39.86
R=312.00' L=64.08'
N29°07'43"E 56.88'
TP#4
24.00'
RET. FENCE
PROP. HMA PARKING LOT
PROP. EDGE OF PAVEMENT
RET. CLF
WATER STREET (PUBLIC WAY)

R.R. S/L
RR TRACKS
BOSTON & MAINE RAILROAD
BIT CONC PARKING
CONC RAMP
DENSE TREES
STEPS
RAMP
TOWN L.O.
SIGNAL BOX
STOCKADE FENCE
CHAIN LINK FENCE
BIT CONC CURB
GRASS
GRAVEL
TRAILER
FENCE/ TRASH CONTAINER
CONDOS MAP 18 PARCEL 213

N/F MYSTIC RUG & INC., NOVELTY MILL DEED BOOK 6929 PG 61 MAP 18 PARCEL 226
N/F TOWN OF WAKEFIELD PARKING LOT DEED BOOK 9540 PG 471 MAP 18 PARCEL 72
N/F PASCIUTO, TR FRANCESCO DEED BOOK 16641 PG 184 MAP 18 PARCEL 214
N/F KEOUGH JR, GERALD J. DEED BOOK 17185 PG 5 MAP 18 PARCEL 212

0 20 50 100
SCALE: 1" = 20'

607329_HDB(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 12:48 PM

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	19	132
PROJECT FILE NO. 607329			

CONSTRUCTION PLAN
SHEET 3 OF 21

607329_HDB(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 12:49 PM

CONTINUED ON SHEET NO. 18

PROP. 3' WIDE LANDSCAPED AREA
RET. UP
12+09.91 BIKEWAY BASELINE= 41+93.73 WATER
R=100.00' L=44.62'
R=500.00' L=84.86'
PROP. 3' WIDE LANDSCAPED AREA
PROP. GRAN. BOLLARD (TYP.)
WCR 11
END GRANITE CURB
PROP. CLEARING AND GRUBBING
PROP. LIMIT OF GRADING (TYP.)
PROP. EDGE OF PAVEMENT
WCR 10
PT +75.18
PT +90.41
N29°01'50"E 57.66'
PC +32.84
PRC +17.71
N29°07'43"E 56.88'
PC +96.74
PT +24.72
14+50 STATION N: 300 E: 772 EL: 84 MAG:
WCR 12
PROP. GRANITE CURB TYPE VA-4 (TYP.)
42+16.88 WATER= 14+49.99 PARKING LOT 2
PROP. 12' HMA PATH (TYP.)
PROP. 2' GRADED SHOULDER (TYP.)
PROP. CEM. CONC. SIDEWALK AT DRIVEWAY
RET. UP
REM. TREE
REM. RAILROAD TIES & RAIL (TYP.) (B.O.)
PROP. CLEARING AND GRUBBING
PROP. CEM. CONC. SIDEWALK AT DRIVEWAY
PROP. HMA DRIVEWAY
PERMANENT EASEMENT (TYP.)
R&R GRAN. CURB
RET. UP
PROP. CEM. CONC. SIDEWALK
PROP. HMA DRIVEWAY
PROP. CEM. CONC. SIDEWALK AT DRIVEWAY
PROP. HMA DRIVEWAY
PROP. CEM. CONC. SIDEWALK AT DRIVEWAY
LIMIT OF WORK STA 43+80.00 N3008520.9079 E773083.7526 PROP. SAWCUT
TEMPORARY EASEMENT (TYP.)

VERNON STREET (PUBLIC WAY)
PLEASANT STREET (PUBLIC WAY)
WATER STREET (PUBLIC WAY)
TOWN L.O.
GRASS
GRAVEL
R.R. S/L
BOSTON & MAINE RAILROAD
N/F KEOUGH JR. GERALD J. DEED BOOK 17185 PG 5 MAP 18 PARCEL 212
N/F RUFO DEVELOPMENT LLC DEED BOOK 47877 PG 101 MAP 17 PARCEL 101
N/F SANTONELLI ROBERT DEED BOOK 28392 PG 231 MAP 18 PARCEL 6
N/F ALPINE REALTY TRS. TRUST DEED BOOK 12115 PG 576 MAP 17 PARCEL 7
N/F ALPINE REALTY TRUST DEED BOOK 812 PG 144 MAP 17 PARCEL 8

CONTINUED BELOW

CONTINUED ABOVE

11+19.76 VERNON ST= 51+50.00 OTTIS
OTIS STREET (PUBLIC WAY)
11+26.33 VERNON ST= 50+00.00 NEW SALEM
21+01.13 BIKEWAY BASELINE= 50+41.45 NEW SALEM
WCR 13
WCR 14
WCR 15
N15°51'39"E 400.00'
PROP. SAWCUT
PROP. GRAN. BOLLARD (TYP.)
PROP. GRANITE CURB TYPE VA-4 (TYP.)
PROP. LANDSCAPED AREA
PROP. CLEARING AND GRUBBING
LIMIT OF CLEARING AND GRUBBING
RET. UP
PROP. CEM. CONC. SIDEWALK (TYP.)
PROP. CONC. WHEEL STOP (TYP.)
PROP. EDGE OF PAVEMENT (TYP.)
WCR 16
WCR 17
WCR 18
WCR 19
PROP. 2' GRADED SHOULDER (TYP.)
PROP. 12' HMA PATH (TYP.)
PROP. CLEARING AND GRUBBING
PROP. LOAM AND SEED (TYP.)
PC +98.34
PT +93.65
R=92.00' L=48.46
PCC +34.10
R=2600.00' L=578.46
R=100.00' L=56.55
PT +46.81
RELOCATE UP (BY OTHERS)
N12°27'37"W 4.69'
PROP. MILL AND OVERLAY
PROP. HMA DRIVEWAY
PROP. LIMIT OF GRADING (TYP.)
TEMPORARY EASEMENT (TYP.)
N81°59'03"E 118.18'
LIMIT OF WORK STA 51+00.00 N3009357.4384 E773333.5781 PROP. SAWCUT
NEW SALEM STREET (PUBLIC WAY)
PC +71.61
PT +01.73
PC +22.22
R=60.00' L=30.13'
R=100.00' L=56.17'
PCC +78.90
N46°29'23"E 20.99'
PROP. LOAM AND SEED
32.75'
TRAILER
CONC. RET. WALL

0 20 50 100
SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	20	132
PROJECT FILE NO. 607329			

CONSTRUCTION PLAN
SHEET 4 OF 21

607329_H06(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 12:51 PM

N

SUGAR HILL LN
(PUBLIC WAY)

TOWN L.O.

14+00

VERNON STREET
(PUBLIC WAY)

N/F
TOWN OF WAKEFIELD
DEED BOOK 9276 PG 28
MAP 17 PARCEL 253

100' WL BUFFER

GRASS

DENSE TREES

GRAVEL

R.R. S/L

LIMIT OF CLEARING AND GRUBBING

PROP. 12' WIDE HMA BIKE PATH (TYP.)

PROP. 2' GRADED SHOULDER (TYP.)

REM. RAILROAD TIES & RAIL (TYP.) (B.O.)

PROP. SPLIT RAIL FENCE (TYP.)

PROP. LIMIT OF GRADING (TYP.)

PROP. LOAM AND SEED (TYP.)

PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)

TEMPORARY EASEMENT (TYP.)

BIT CONC PARKING

18"CIP

N/F
BOSTON & MAINE RAILROAD

D.TREES

CONTINUED ON SHEET NO. 19

CONTINUED BELOW

24 25 26 27 28 29

PC sta 11+46
R=2600.00'
L=332.58'

N61°38'32"E
1506.63'

CONTINUED ABOVE

29 30 31 32 33 34 35

N/F
CHAPMAN JR RICHARD P.
DEED BOOK 16253 PG 15
MAP 16 PARCEL 285

N/F
STEVENS RICHARD A. TR
DEED BOOK 1226 PG 93
MAP 16 PARCEL 284

N/F
REELAND REBECCA S.
DEED BOOK 40368 PG 146
MAP 16 PARCEL 283

N/F
MELLY NORA T.
DEED BOOK 44135 PG 405
MAP 17 PARCEL 286

N/F
GILLINGHAM ROBERT C.
DEED BOOK 50152 PG 51
MAP 17 PARCEL 252

GARAGE

PKF

STOCKADE FENCE

RET WALL

REM. EXIST. FENCE

N/F
GUILLOW INC. PAUL K.
DEED BOOK 8287 PG 325
MAP 17 PARCEL 259

N/F
MAITLAND CORP
DEED BOOK 21616 PG 313
MAP 16 PARCEL 287

CLF

0 20 50 100

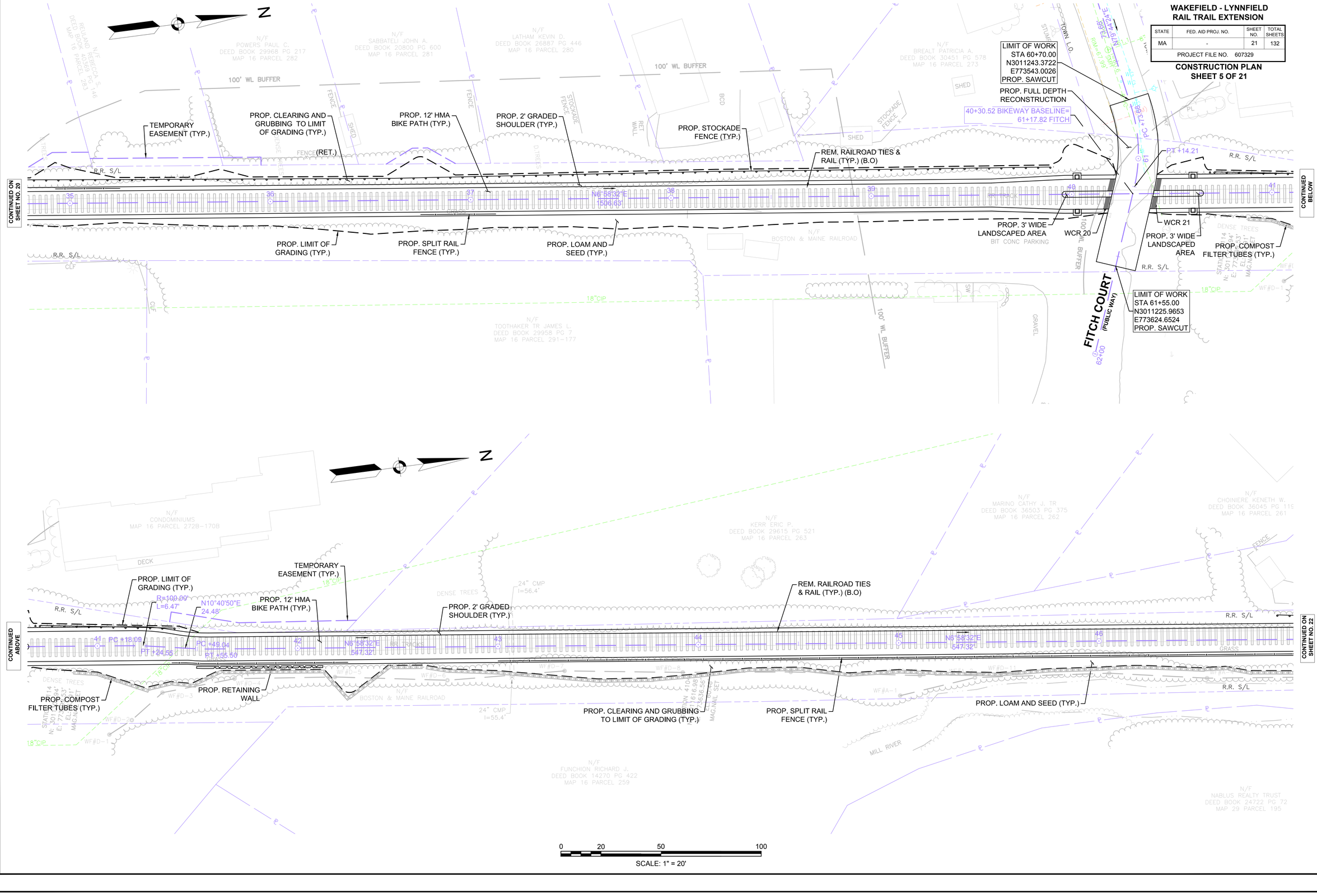
SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	21	132

PROJECT FILE NO. 607329

CONSTRUCTION PLAN SHEET 5 OF 21



607329_H06(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 12:52 PM

HIGHWAY GUARD DETAILS

TANGENT END TREATMENT
STA 72+12.00 ± LT
STA 72+54.00 ± LT
STA 71+74.25 ± RT
STA 71+99.00 ± RT

W-BEAM GUARDRAIL
STA 72+12.00± LT TO STA 72+54.00± LT
STA 71+74.25 ± RT TO STA 71+99.00 ± RT

WAKEFIELD - LYNNFIELD RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	22	132
PROJECT FILE NO. 607329			

CONSTRUCTION PLAN SHEET 6 OF 21

LIMIT OF WORK
STA 70+85.00
N3012019.2896
E773621.8768
PROP. SAWCUT

BEGIN PROP. FULL DEPTH CONSTRUCTION
STA 71+25.00
N3012043.3082
E773653.8628
PROP. SAWCUT

PROP. MILL AND OVERLAY

PROP. FULL DEPTH RECONSTRUCTION

TEMPORARY EASEMENT (TYP.)

PROP. CEM. CONC. SIDEWALK

WCR 23

PROP. 12' HMA BIKE PATH (TYP.)

PROP. RETAINING WALL

PROP. SPILT RAIL FENCE (TYP.)

PROP. 3' WIDE LANDSCAPED AREA

WCR 22

PROP. STEEL W-BEAM GUARDRAIL

PROP. GRANITE CURB TYPE VA4 (TYP.)

PROP. MILL AND OVERLAY

48+71.19 BIKEWAY BASELINE= 71+73.41 SALEM

END PROP. FULL DEPTH CONSTRUCTION
STA 72+80.00
N3012136.4120
E773777.7849
PROP. SAWCUT

LIMIT OF WORK
STA 72+90.00
N3012142.4186
E773785.7799
PROP. SAWCUT

PROP. 3' WIDE LANDSCAPED AREA

PROP. CEM. CONC. SIDEWALK

R&D EXIST. GUARDRAIL

PROP. STEEL W-BEAM GUARDRAIL

PROP. MILL AND OVERLAY

PROP. 2' GRADED SHOULDER (TYP.)

REM. RAILROAD TIES & RAIL (TYP.) (B.O.)

PROP. STOCKADE FENCE (TYP.)

PROP. COMPOST FILTER TUBES (TYP.)

PROP. LIMIT OF GRADING (TYP.)

PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)

PROP. LOAM AND SEED (TYP.)

PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)

PROP. SPLIT RAIL FENCE (TYP.)

PROP. RET. WALL (TYP.)

REM. RAILROAD TIES & RAIL (TYP.) (B.O.)

PROP. 12' WIDE ELEVATED BOARDWALK (TYP.)

PROP. MILE MARKER

PROP. LIMIT OF GRADING (TYP.)

PROP. LOAM AND SEED (TYP.)

PROP. COMPOST FILTER TUBES (TYP.)

HARRISON LANE (PUBLIC WAY)

SALEM STREET (PUBLIC WAY)

NABLUS ROAD (PUBLIC WAY)

MILL RIVER

CONTINUED ON SHEET NO. 21

CONTINUED BELOW

CONTINUED ABOVE

CONTINUED ON SHEET NO. 23

SCALE: 1" = 20'

607329_HDBB(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 1:01 PM

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	23	132
PROJECT FILE NO. 607329			

CONSTRUCTION PLAN
SHEET 7 OF 21

607329_HDBB(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 1:03 PM

CONTINUED ON SHEET NO. 22

CONTINUED BELOW

PROP. RET. WALL (TYP.)

PROP. 12' HMA BIKE PATH (TYP.)

PROP. COMPOST FILTER TUBES (TYP.)

REM. RAILROAD TIES & RAIL (TYP.) (B.O.)

PROP. STOCKADE FENCE (TYP.)

R=1000.00' L=24.07'

R=1000.00' L=55.26'

PT +82.14

PT +83.30

R=1000.00' L=60.21'

R=1000.00' L=28.24'

PROP. 12' ELEVATED BOARDWALK (TYP.)

PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)

PROP. 2' GRADED SHOULDER (TYP.)

PROP. LIMIT OF GRADING (TYP.)

TEMPORARY EASEMENT (TYP.)

PROP. LOAM AND SEED (TYP.)

PROP. DRAINAGE SWALE (TYP.)

CONTINUED ABOVE

LIMIT OF WORK
STA 81+10.00
N3013746.0343
E774122.7685
PROP. SAWCUT

PROP. MILL AND OVERLAY

PROP. LOAM & SEED

PROP. CEM. CONC. SIDEWALK (TYP.)

BEGIN PROP. FULL DEPTH CONSTRUCTION
STA 81+24.98
N3013739.7834
E774136.3865
PROP. SAWCUT

PROP. FULL DEPTH RECONSTRUCTION

PROP. 3' WIDE LANDSCAPED AREA

PROP. 2' GRADED SHOULDER (TYP.)

PROP. 12' HMA BIKE PATH

PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)

REM. RAILROAD TIES & RAIL (TYP.) (B.O.)

PROP. STOCKADE FENCE (TYP.)

PROP. 3' WIDE LANDSCAPED AREA

WCR 24

WCR 25

PROP. GRANITE CURB TYPE VA-4 (TYP.)

PROP. CEM. CONC. SIDEWALK (TYP.)

66+06.87 BIKEWAY BASELINE=
81+50.04 LOWELL NEW

R=500.00' L=41.69'

PROP. LOAM & SEED

PROP. COMPOST FILTER TUBES (TYP.)

PROP. LOAM AND SEED (TYP.)

PROP. SPLIT RAIL FENCE (TYP.)

PERMANENT EASEMENT

TEMPORARY EASEMENT (TYP.)

END PROP. FULL DEPTH CONSTRUCTION
STA 81+85.00
N3013714.8223
E774190.9654
PROP. SAWCUT

LIMIT OF WORK
STA 82+00.00
N3013708.5798
E774204.6047
PROP. SAWCUT

PROP. MILL AND OVERLAY

LOWELL STREET (PUBLIC WAY)

SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	24	132
PROJECT FILE NO. 607329			

CONSTRUCTION PLAN
SHEET 8 OF 21

CONTINUED ON SHEET NO. 23

PROP. STOCKADE FENCE (TYP.)
PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)
PROP. LOAM AND SEED (TYP.)
PROP. LIMIT OF GRADING (TYP.)
PROP. 10' HMA BIKE PATH (TYP.)
PROP. COMPOST FILTER TUBES (TYP.)
PROP. 10' WIDE ELEVATED BOARDWALK (TYP.)
REM. RAILROAD TIES & RAIL (TYP.) (B.O.)
PROP. 2' GRADED SHOULDER (TYP.)
PROP. SPLIT RAIL FENCE (TYP.)
PROP. RET. WALL (TYP.)

PT +51.25
N30°38'10"E
9.25'
PC +09.56
R=500.00'
L=47.58'
PT +08.06
R=500.00'
L=41.69'
PC +60.50
N25°11'08"E
100.10'
PC +08.16
R=500.00'
L=5.87'
PT +14.04
N25°51'31"E
934.37'

CONTINUED BELOW

CONTINUED ABOVE

CONTINUED ON SHEET NO. 25

LIMIT OF WORK
STA 90+75.00
N3015169.1017
E774805.4588
PROP. SAWCUT

PC +86.00
PT +91.44
PRC +84.31
PC +48.41
R=100.00'
L=35.90'
PI +16.50
PC +41.33

LIMIT OF WORK
STA 91+50.00
N3015164.6044
E774880.3024
PROP. SAWCUT

WCR 26
WCR 27

PROP. HMA BIKE PATH (TYP.)
PROP. GRAVEL DRIVEWAY
PROP. LIMIT OF GRADING (TYP.)
PROP. LOAM AND SEED (TYP.)

FOSTERS LANE (PUBLIC WAY)

SCALE: 1" = 20'

607329_HDBB(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 1:13 PM

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	25	132

PROJECT FILE NO. 607329

CONSTRUCTION PLAN
SHEET 9 OF 21

607329_HDBB(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 1:15 PM

FOSTERS LANE (PUBLIC WAY)

LIMIT OF WORK
STA 90+75.00
N3015169.1017
E774805.4588
PROP. SAWCUT

PC +86.00
PT +91.44
PROP. FULL DEPTH RECONSTRUCTION
PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)
PROP. LIMIT OF GRADING (TYP.)
PROP. STOCKADE FENCE (TYP.)
WCR 26
PRC +84.31
R=100.00'
L=70.01'
PRC +54.31
R=100.00'
L=34.05'
PT +88.36
PROP. 2' GRADED SHOULDER (TYP.)
PROP. COMPOST FILTER TUBES (TYP.)
WCR 27
PROP. 12' ELEVATED BOARDWALK (TYP.)
REM. RAILROAD TIES & RAIL (TYP.) (B.O.)
R=100.00'
L=35.90'
PI +16.50
PROP. 12' HMA BIKE PATH (TYP.)
82+01.82 BIKEWAY BASELINE=
91+16.50 FOSTERS
PROP. SPLIT RAIL FENCE (TYP.)
PROP. RET. WALL (TYP.)
PROP. GRAVEL DRIVEWAY
PC +41.33
PT +59.63
PROP. LOAM AND SEED (TYP.)
LIMIT OF WORK
STA 91+50.00
N3015164.6044
E774880.3024
PROP. SAWCUT
N25°53'27"E
901.92'
CZ = 1
R.R.
CONTINUED ON SHEET NO. 24
CONTINUED BELOW

N/F
HARRIS TR, CAMILLE L.
DEED BOOK 55128 PG 116
MAP 14B PARCEL 150

N/F
TOWN OF WAKEFIELD FCLTT
DEED BOOK 8641 PG 156
MAP 14B PARCEL 149

N/F
ELLIS RICHARD W.
DEED BOOK 23216 PG 133
MAP 36 PARCEL 21

1947 STATE HIGHWAY

RT 128 / I-95 (ABOVE) (PUBLIC WAY)

PROP. LOAM AND SEED (TYP.)
PROP. LIMIT OF GRADING (TYP.)
PROP. RET. WALL (TYP.)
PROP. SPLIT RAIL FENCE (TYP.)
PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)
REM. RAILROAD TIES & RAIL (TYP.) (B.O.)
PI +90.29
N25°30'13"E
154.23'
PROP. BORING LOCATION (TYP.)
PROP. 12' ELEVATED BOARDWALK (TYP.)
PROP. COMPOST FILTER TUBES (TYP.)
200' RA BUFFER
HIGHWAY LAYOUT NO. 3572
CONTINUED ABOVE
CONTINUED ON SHEET NO. 26

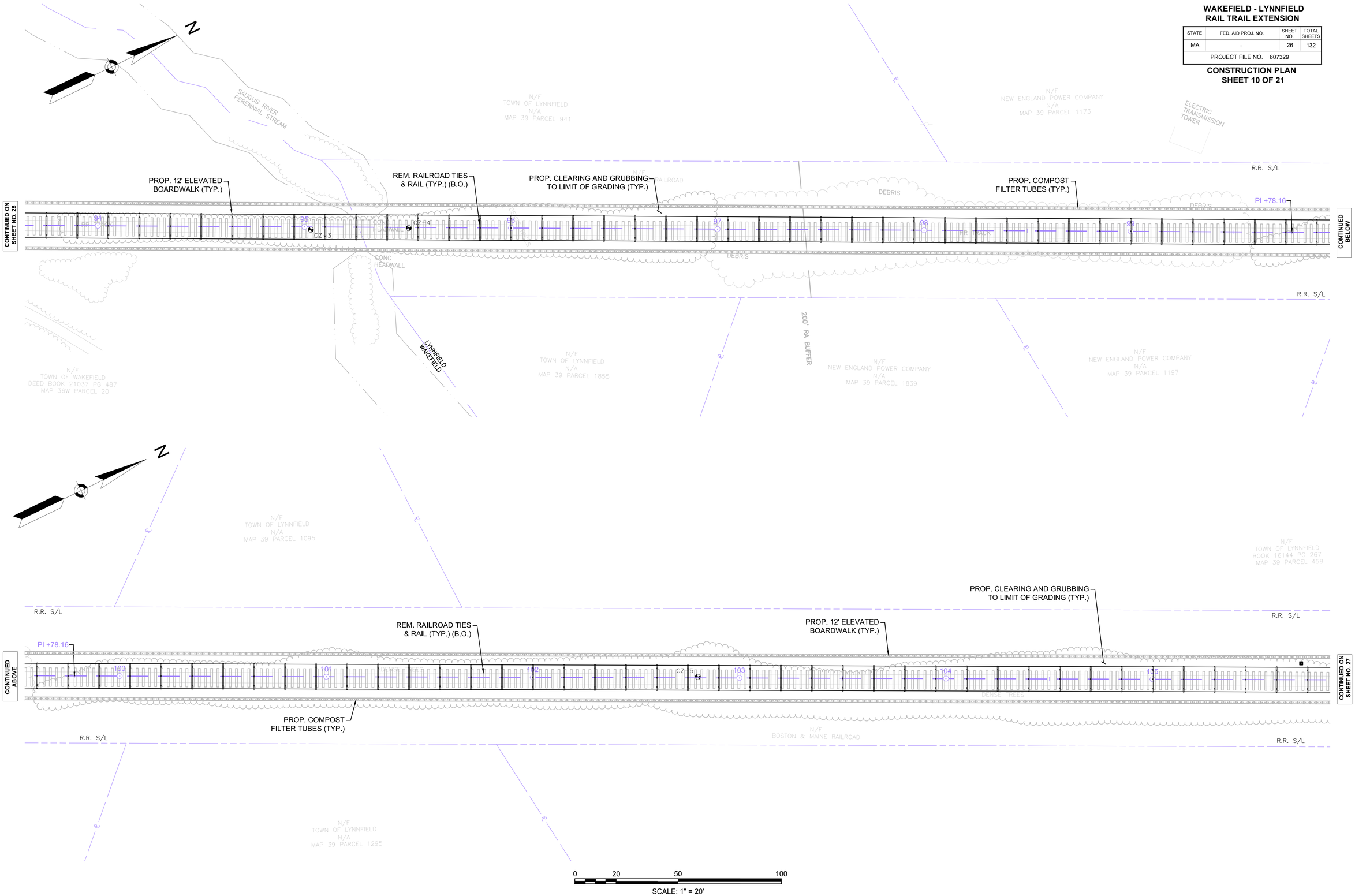
N/F
TOWN OF WAKEFIELD
DEED BOOK 21037 PG 487
MAP 36W PARCEL 20

0 20 50 100
SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	26	132
PROJECT FILE NO. 607329			

CONSTRUCTION PLAN
SHEET 10 OF 21



607329_HDBB(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 1:16 PM

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	27	132

PROJECT FILE NO. 607329

CONSTRUCTION PLAN
SHEET 11 OF 21

607329_HDBC(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 1:30 PM

N/F
TOWN OF LYNNFIELD
BOOK 16144 PG 267
MAP 39 PARCEL 458

R.R. S/L

PROP. 12' ELEVATED BOARDWALK (TYP.)

PROP. COMPOST FILTER TUBES (TYP.)

PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)

REM. RAILROAD TIES & RAIL (TYP.) (B.O.)

N/F
BOSTON & MAINE RAILROAD

N/F
TOWN OF LYNNFIELD
N/A
MAP 33 PARCEL 1756

N/F
TOWN OF LYNNFIELD
N/A
MAP 33 PARCEL 1869

N/F
TOWN OF LYNNFIELD
N/A
MAP 33 PARCEL 575

N/F
NA
DEED BOOK 24679 PG 171
MAP 29 PARCEL 2414

N/F
GIANANTONIO JOSEPH TELFE
DEED BOOK 13788 PG 371
MAP 33 PARCEL 2755

DENSE TREES

CONTINUED ON SHEET NO. 26

CONTINUED BELOW

CONTINUED ABOVE

CONTINUED ON SHEET NO. 28

0 20 50 100

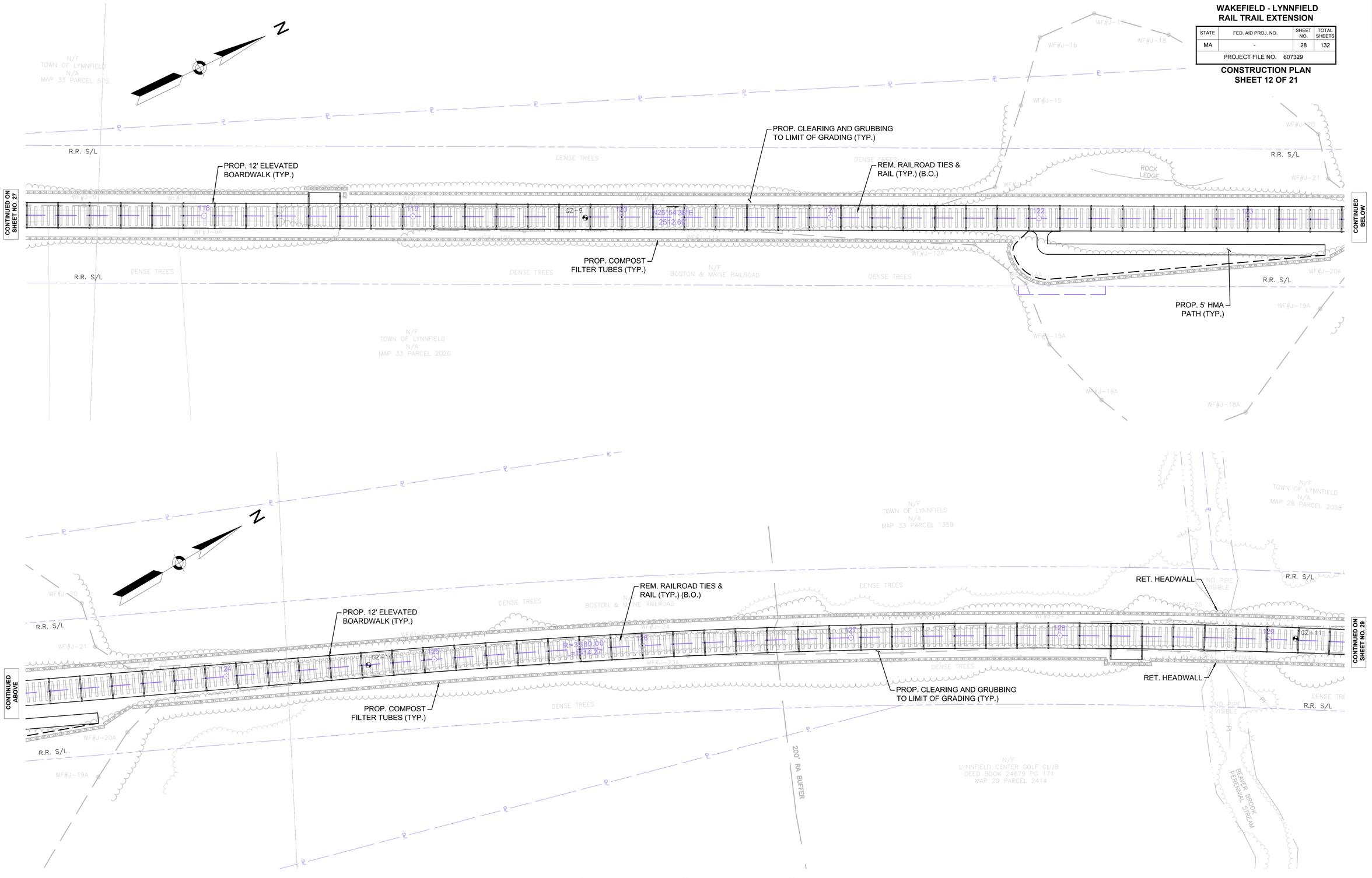
SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	28	132
PROJECT FILE NO. 607329			

CONSTRUCTION PLAN
SHEET 12 OF 21

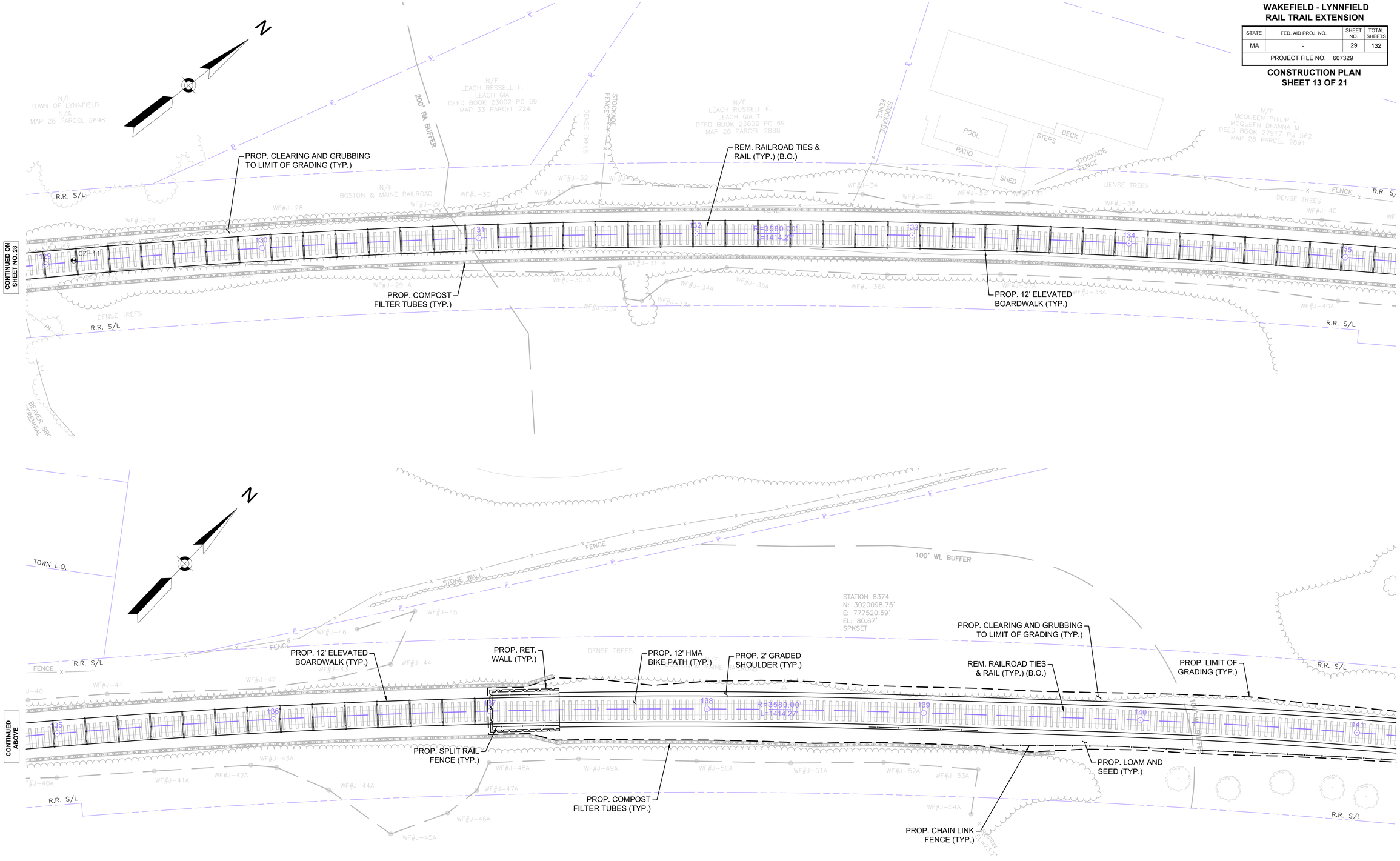
607329_HD6C(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 1:31 PM



WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	29	132
PROJECT FILE NO. 607329			

CONSTRUCTION PLAN
SHEET 13 OF 21



0 20 50 100

SCALE: 1" = 20'

607329_HD6C(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 1:32 PM

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	30	132
PROJECT FILE NO. 607329			

CONSTRUCTION PLAN
SHEET 14 OF 21

607329_HDBC(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 1:33 PM

CONTINUED ON SHEET NO. 29

N/F
71 PARSONS AVE REALTY TRUST
ROMBULT JULIUS B. TR.
DEED BOOK 13359 PG 368
MAP 29 PARCEL 1617

PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)
RET. STONE WALL
PROP. 12' HMA BIKE PATH (TYP.)
PROP. 2' GRADED SHOULDER (TYP.)
PROP. STOCKADE FENCE (TYP.)
PROP. LOAM AND SEED (TYP.)
REM. RAILROAD TIES & RAIL (TYP.) (B.O.)
PROP. CHAIN LINK FENCE (TYP.)
PROP. LIMIT OF GRADING (TYP.)
PROP. DRAINAGE SWALE
REM. TREES (TYP.)
PROP. TEMP. EASEMENT (TYP.)

STONE WALL
R.R. S/L
N/F BOSTON & MAINE RAILROAD
BOULDER
R=3900.00'
L=258.32'
141 142 143 144 145 146 147

N/F
SANNI HEDWIG
DEED BOOK 5233 PG 730
MAP 29 PARCEL 1073

N/A
BRESLOW DEBORAH A.
BRESLOW ROBERT J.
DEED BOOK 12764 PG 188
MAP 29 PARCEL 998

STONE WALL
SHED
POOL
PATIO
FENCE
DENSE TREES
CULVBOX
I=83.4'
HDWL
1'/1.5'X1.5' STONE
I/ BOX CULVERT
PROP. STOCKADE FENCE (TYP.)
PROP. 12' HMA BIKE PATH (TYP.)
PROP. 2' GRADED SHOULDER (TYP.)
PROP. SPLIT RAIL FENCE (TYP.)
PROP. TEST PIT LOCATION (TYP.)
REM. RAILROAD TIES & RAIL (TYP.) (B.O.)
R=3000.00'
L=832.60'
147 148 149 150 151 152
WF#B-61
WF#B-62
WF#B-63
WF#B-60
24" RCP
I=79.5'
PROP. COMPOST FILTER TUBES (TYP.)
PROP. CHAIN LINK FENCE (TYP.)
PROP. LOAM AND SEED (TYP.)
PROP. LIMIT OF GRADING (TYP.)
PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)
100' WL BUFFER
BIT CONC PARKING
N/F
LYNNFIELD CENTER GOLF CLUB
DEED BOOK 24679 PG 171
MAP 29 PARCEL 2414

0 20 50 100
SCALE: 1" = 20'

CONTINUED ABOVE
CONTINUED ON SHEET NO. 31

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	31	132
PROJECT FILE NO. 607329			

CONSTRUCTION PLAN
SHEET 15 OF 21

607329_HD6C(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 1:34 PM

N

LIMIT OF WORK
STA 100+50.00
N3020955.0781
E778820.7690
PROP. SAWCUT

BEGIN PROP. FULL DEPTH CONSTRUCTION
STA 100+70.00
N3020938.2372
E778831.5572
PROP. SAWCUT

PROP. MILL AND OVERLAY
PROP. LOAM AND SEED
PROP. CEM. CONC. SIDEWALK
PROP. CEM. CONC. SIDEWALK AT DRIVEWAY
PROP. HMA DRIVEWAY
PROP. TEST PIT LOCATION (TYP.)
PROP. 3' WIDE LANDSCAPED AREA
PROP. SPLIT RAIL FENCE
PROP. GRANITE CURB TYPE VA-4 (TYP.)
PROP. TEMP. EASEMENT (TYP.)
PROP. LOAM AND SEED
PROP. CEM. CONC. SIDEWALK
PROP. PERM. EASEMENT (TYP.)

SUMMER STREET (PUBLIC WAY)

154+06.31 BIKEWAY BASELINE=
101+50.00 SUMMER

PROP. LANDSCAPED AREA
PROP. RRFB
WCR 28
WCR 29
PROP. 12' HMA BIKE PATH
PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)
PROP. LIMIT OF GRADING (TYP.)
PROP. 2' GRADED SHOULDER (TYP.)
PROP. STOCKADE FENCE (TYP.)
REM. RAILROAD TIES & RAIL (TYP.) (B.O.)
PROP. COMPOST FILTER TUBES (TYP.)
PROP. LOAM AND SEED (TYP.)
PROP. 10' HMA BIKE PATH
PROP. MILE MARKER (TYP.)

END PROP. FULL DEPTH CONSTRUCTION
STA 102+30.00
N3020803.5101
E778917.8625
PROP. SAWCUT

PROP. MILL AND OVERLAY

LIMIT OF WORK
STA 102+50.00
N3020786.6692
E778928.6506
PROP. SAWCUT

CONTINUED ON SHEET NO. 30
CONTINUED BELOW

N

PROP. COMPOST FILTER TUBES (TYP.)
PROP. 10' HMA BIKE PATH
PROP. 2' GRADED SHOULDER (TYP.)
REM. RAILROAD TIES & RAIL (TYP.) (B.O.)
PROP. 12' HMA BIKE PATH
PROP. LOAM AND SEED (TYP.)
PROP. LIMIT OF GRADING (TYP.)
PROP. STOCKADE FENCE (TYP.)
PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)
REM. TREES

CONTINUED ABOVE
CONTINUED ON SHEET NO. 32

0 20 50 100
SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	32	132
PROJECT FILE NO. 607329			

CONSTRUCTION PLAN
SHEET 16 OF 21

607329_HD6D(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 1:47 PM

N

100' WL BUFFER

PROP. 12' HMA BIKE PATH (TYP.)

PROP. COMPOST FILTER TUBES (TYP.)

PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)

PROP. LOAM AND SEED (TYP.)

REM. RAILROAD TIES & RAIL (TYP.) (B.O.)

PROP. 2' GRADED SHOULDER (TYP.)

PROP. LIMIT OF GRADING (TYP.)

PROP. STOCKADE FENCE (TYP.)

CONTINUED ON SHEET NO. 31

CONTINUED BELOW

CONTINUED ABOVE

CONTINUED ON SHEET NO. 33

R.R. S/L

DENSE TREES

BOULDERS

FENCE

BOUNDARY LINE

BR TRAILS

BOSTON & MAINE RAILROAD

N/F
VORA MARGIN V.
BUCH DHARA
DEED BOOK 487 PG 85383
MAP 29 PARCEL 1344

N/F
BORAS WILLIAM P. & MARY J.
BOOK 202 PG 44927
MAP 29 PARCEL 1357

N/F
MARRAMA SHARON A.
MARRAMA LOUIS J. JR.
BOOK 340 PG 68398
MAP 29 PARCEL 1383

N/F
LOUGHLIN HELEN H.
LOUGHLIN STEVEN F.
BOOK 284 PG 61307
MAP 29 PARCEL 1469

N/F
SWIATKOWSKI JOHN P.
SWIATKOWSKI LINDSAY K.
DEED BOOK 466 PG 83233
MAP 29 PARCEL 1472

N/F
GRAVE RALPH A.
GRAVE NINA M.
DEED BOOK 360 PG 70437
MAP 29 PARCEL 1484

N/F
GRILK NANCY S.
GRILK THOMAS S.
DEED BOOK 9580 PG 199
MAP 29 PARCEL 672

N/F
MELLEN CHRISTOPHER – LINDA
DEED BOOK 13783 PG 93
MAP 29 PARCEL 619

N/F
HOUDA DOUGLAS H.
HOUDA SHELLEY
DEED BOOK 442 PG 79906
MAP 30 PARCEL 812

N/F
BENKUS VIRGINIA T.
BENKUS PETER D.
BOOK 98 PG 23973
MAP 30 PARCEL 825

N/F
GERACE JAMES A.
BURKE MAUREEN A.
DEED BOOK 475 PG 84140
MAP 29 PARCEL 1494

N/F
LAMBE SUSAN E.
LAMBE CHRISTOPHER S.
DEED BOOK 295 PG 63532
MAP 29 PARCEL 1493

N/F
TROISI DEBORAH J.
TROISI MARK
DEED BOOK 13191 PG 452
MAP 30 PARCEL 872

N/F
SERIO JEAN E.
SERIO FRANK E.
DEED BOOK 6215 PG 32
MAP 30 PARCEL 897

STEPS
BOD
RET WALL
POOL
SHED
STOCKADE FENCE

S84°00'47"E
5218.62

0 20 50 100
SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	33	132

PROJECT FILE NO. 607329

CONSTRUCTION PLAN
SHEET 17 OF 21

607329_HD6D(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 1:48 PM

CONTINUED ON SHEET NO. 32

CONTINUED BELOW

N

N/F
BENKUS VIRGINIA T.
BENKUS PETER D.
BOOK 98 PG 23973
MAP 30 PARCEL 825

N/F
BAKER BURTON
BOOK 328 PG 67165
MAP 30 PARCEL 837

N/F
BRANDANO WARREN
BRANDANO PAULA
DEED BOOK 415 PG 76723
MAP 30 PARCEL 839

N/F
FIANTACA REAL ESTATE TRUST
JOSEPH S. SABINA FIANTACA
BOOK 293 PG 62962
MAP 30 PARCEL 918

N/F
RAYMOND J. DORMANN AND ROSE MARIE
DEED BOOK 463 PG 82996
MAP 30 PARCEL 929

100' WL BUFFER

R.R. S/L

DENSE TREES

PROP. 12' HMA BIKE PATH (TYP.)

PROP. 2' GRADED SHOULDER (TYP.)

PROP. LOAM AND SEED (TYP.)

REM. RAILROAD TIES & RAIL (TYP.) (B.O.)

176 177 178 179 180 181 182

S84°00'47"E
5318.62'

PROP. LIMIT OF GRADING (TYP.)

PROP. STOCKADE FENCE (TYP.)

24"RPC EL=100.8

PROP. COMPOST FILTER TUBES (TYP.)

PROP. SPLIT RAIL FENCE

STONE WALL

WF#M-1 WF#M-2 WF#M-3 WF#M-4

RET. STONE WALL

PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)

N/F
SERIO JEAN E.
SERIO FRANK E.
DEED BOOK 6215 PG 32
MAP 30 PARCEL 897

N/F
CHILDREN'S BOURQUE ROAD TRUST
DICESARE ELIZABETH N. TR.
DEED BOOK 23983 PG 289
MAP 30 PARCEL 975

N

N/F
LYNNFIELD HIGH SCHOOL
N/A
MAP 30 PARCEL 333

PROP. 2' GRADED SHOULDER (TYP.)

PROP. COMPOST FILTER TUBES (TYP.)

PROP. 12' HMA BIKE PATH (TYP.)

REM. RAILROAD TIES & RAIL (TYP.) (B.O.)

WF#V-1 WF#V-2 WF#V-3 WF#V-6 WF#V-8

WF#N-1 WF#N-2 WF#N-3 WF#N-4 WF#N-5

ROCK LEDGE

182 183 184 185 186 187 188

S84°00'47"E
5318.62'

BRIDGE ON STONE ABUTMENT

RET. ABUTMENTS

PROP. LIMIT OF GRADING (TYP.)

REM. FENCE

RET. WALL

AWNING

PATIO

POOL

SW

PROP. LOAM AND SEED (TYP.)

PROP. STOCKADE FENCE (TYP.)

PROP. SPLIT RAIL FENCE

WF#O-1 WF#O-2 WF#O-3 WF#O-4

PROP. RETAINING WALL (TYP.)

200' RA BUFFER

PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)

100' WL BUFFER

N/F
LYNNFIELD HIGH SCHOOL
N/A
MAP 30 PARCEL 333

N/F
CHILDREN'S BOURQUE ROAD TRUST
DEED BOOK 424 PG 78177
MAP 30 PARCEL 1075

N/F
TOWN OF LYNNFIELD
CONSERVATION COMM.
N/A
MAP 30 PARCEL 1095

CONTINUED ABOVE

CONTINUED ON SHEET NO. 34

0 20 50 100

SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	34	132
PROJECT FILE NO. 607329			

CONSTRUCTION PLAN
SHEET 18 OF 21

Plotted on 1-Mar-2017 1:49 PM
607329_HDBD\CONSTRUCTION PLANS AND PROFILES\ DWG

N

PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)
PROP. 12' HMA BIKE PATH (TYP.)
PROP. 2' GRADED SHOULDER (TYP.)
PROP. LIMIT OF GRADING (TYP.)
REM. RAILROAD TIES & RAIL (TYP.) (B.O.)
CONTINUED ON SHEET NO. 33
CONTINUED BELOW
PERENIAL STREAM
R.R. S/L
HDWL
INV EL=95.17'
INV EL=95.25'
RET. HEADWALL
PROP. SPLIT RAIL FENCE (TYP.)
PROP. LOAM AND SEED (TYP.)
PROP. COMPOST FILTER TUBES (TYP.)
PROP. STOCKADE FENCE (TYP.)
STONE WALL
200' RA BUFFER
DENSE TREES
BOSTON & MAINE RAILROAD
S84°00'47"E 5318.62'
188 189 190 191 192 193
N/F TOWN OF LYNNFIELD DEED BOOK 10706 PG 430 MAP 30 PARCEL 1145
N/F TOWN OF LYNNFIELD DEED BOOK 5378 PG 660 MAP 30 PARCEL 1165
N/F TOWN OF LYNNFIELD CONSERVATION COMM. N/A MAP 30 PARCEL 1095
N/F DRAKE REALTY TRUST DRESIOS ALAN K. TR. BOOK 277 PG 59850 MAP 30 PARCEL 1811
N/F BOURQUE ROAD 64 LYNNFIELD DRESIOS ALAN K. TR. DEED BOOK 273 PG 58974 MAP 30 PARCEL 1824
N/F AXIOTAKIS GEORGE J. AXIOTAKIS NADIYA DEED BOOK 487 PG 85301 MAP 30 PARCEL 1829
N/F LOWELL SCOTT LOWELL MELANIE R. DEED BOOK 490 PG 85686 MAP 30 PARCEL 1862

N

PROP. COMPOST FILTER TUBES (TYP.)
PROP. SPLIT RAIL FENCE
PROP. 12' HMA BIKE PATH (TYP.)
PROP. 2' GRADED SHOULDER (TYP.)
REM. RAILROAD TIES & RAIL (TYP.) (B.O.)
CONTINUED ABOVE
CONTINUED ON SHEET NO. 35
PROP. LOAM AND SEED (TYP.)
PROP. LIMIT OF GRADING (TYP.)
PROP. STOCKADE FENCE (TYP.)
PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)
PROP. 3' WIDE LANDSCAPED AREA
100' W. BUFFER
BCD
R.R. S/L
DENSE TREES
BOSTON & MAINE RAILROAD
S84°00'47"E 5318.62'
194 195 196 197 198 199
N/F TOWN OF LYNNFIELD CONSERVATION COMM. N/A MAP 30 PARCEL 1257
N/F ZANNI DIANN T. ZANNI PETER J. DEED BOOK 410 PG 76118 MAP 30 PARCEL 1293
N/F BOURQUE ROAD R.T. MARCHIONDA SHARON TR. DEED BOOK 382 PG 72775 MAP 30 PARCEL 1944
N/F BURKE-CARMAN REALTY TRUST CARMAN RICHARD S. TR. DEED BOOK 498 PG 86431 MAP 30 PARCEL 1951
N/F SHEA JOHN M. DEED BOOK 15073 PG 562 MAP 30 PARCEL 1935

0 20 50 100
SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	35	132

PROJECT FILE NO. 607329

CONSTRUCTION PLAN SHEET 19 OF 21

607329_HDBD(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 1:51 PM

N

LIMIT OF WORK
STA 101+75.00
N3020730.2272
E783409.1879
PROP. SAWCUT

END PROP. FULL DEPTH CONSTRUCTION
STA 101+55.00
N3020710.4127
E783406.4758
PROP. SAWCUT

R=1000.00'
L=85.01'

PROP. CEM. CONC. SIDEWALK

199+75.07 BIKEWAY BASELINE=
101+25.85 PILLINGS POND

WCR 31

PROP. 3' WIDE LANDSCAPED AREA

PROP. GRANITE CURB TYPE VA-4 (TYP.)

PROP. CEM. CONC. SIDEWALK

BEGIN PROP. FULL DEPTH CONSTRUCTION
STA 100+95.00
N3020650.6976
E783400.7236
PROP. SAWCUT

LIMIT OF WORK
STA 100+75.00
N3020630.7294
E783399.6036
PROP. SAWCUT

PC +70.30

N2°22'04"E
70.30'

PILLINGS POND ROAD (PUBLIC WAY)

PROP. 12' HMA BIKE PATH (TYP.)

PROP. 2' GRADED SHOULDER (TYP.)

PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)

PROP. LOAM AND SEED (TYP.)

PROP. STOCKADE FENCE (TYP.)

PROP. LIMIT OF GRADING (TYP.)

REM. RAILROAD TIES & RAIL (TYP.) (B.O.)

S84°00'47"E
5318.62'

CONTINUED ON SHEET NO. 34

CONTINUED BELOW

N

PROP. LOAM AND SEED (TYP.)

PROP. 2' GRADED SHOULDER (TYP.)

PROP. COMPOST FILTER TUBES (TYP.)

REM. RAILROAD TIES & RAIL (TYP.) (B.O.)

PROP. 12' HMA BIKE PATH (TYP.)

PROP. STOCKADE FENCE (TYP.)

PROP. LIMIT OF GRADING (TYP.)

PROP. SPLIT RAIL FENCE

PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)

CONTINUED ABOVE

CONTINUED ON SHEET NO. 36

0 20 50 100

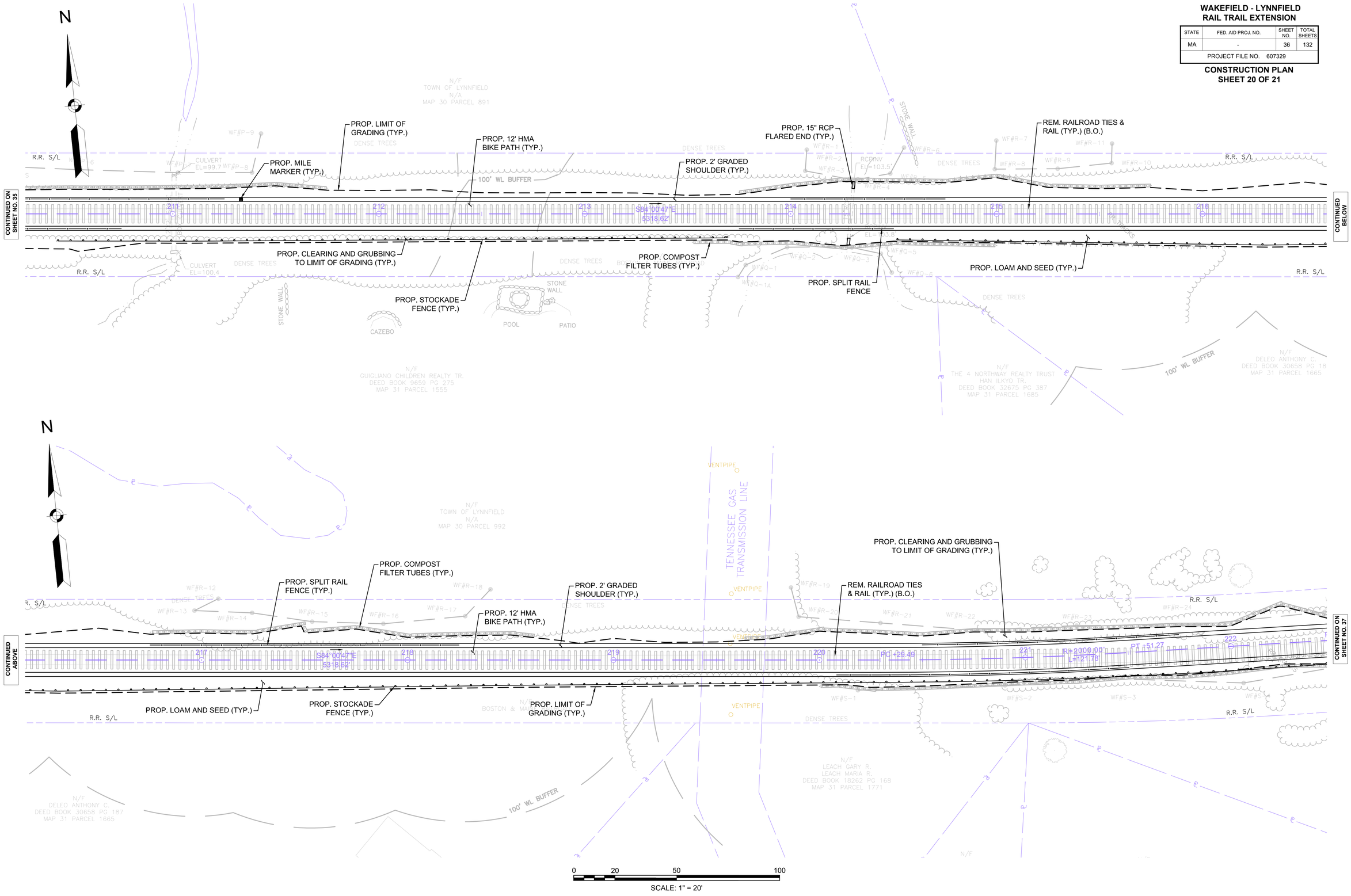
SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	36	132
PROJECT FILE NO. 607329			

CONSTRUCTION PLAN
SHEET 20 OF 21

607329_HD6D(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 1:52 PM



WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	37	132
PROJECT FILE NO. 607329			

CONSTRUCTION PLAN
SHEET 21 OF 21

CONTINUED ON SHEET NO. 36

PROP. 12' HMA BIKE PATH (TYP.)

PROP. 2' GRADED SHOULDER (TYP.)

PROP. SPLIT RAIL FENCE (TYP.)

REM. RAILROAD TIES & RAIL (TYP.) (B.O.)

PROP. COMPOST FILTER TUBES (TYP.)

PROP. LOAM AND SEED (TYP.)

PROP. STOCKADE FENCE (TYP.)

PROP. LIMIT OF GRADING (TYP.)

PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)

CONTINUED BELOW

CONTINUED ABOVE

PROP. CLEARING AND GRUBBING TO LIMIT OF GRADING (TYP.)

PROP. 2' GRADED SHOULDER (TYP.)

PROP. CEMENTED STONE MASONRY WALL

PROP. 12' HMA BIKE PATH (TYP.)

PROP. LIMIT OF GRADING (TYP.)

PROP. LIMIT OF CLEARING AND GRUBBING (TYP.)

REM. RAILROAD TIES & RAIL (TYP.) (B.O.)

PROP. LOAM AND SEED (TYP.)

PROP. LANDSCAPED AREA

PROP. CEMENTED STONE MASONRY WALL

PROP. STOCKADE FENCE (TYP.)

PROJECT END
STA 229+43.17
N3020544.3257
E786350.2915

NICHOLS LANE
(PUBLIC WAY)

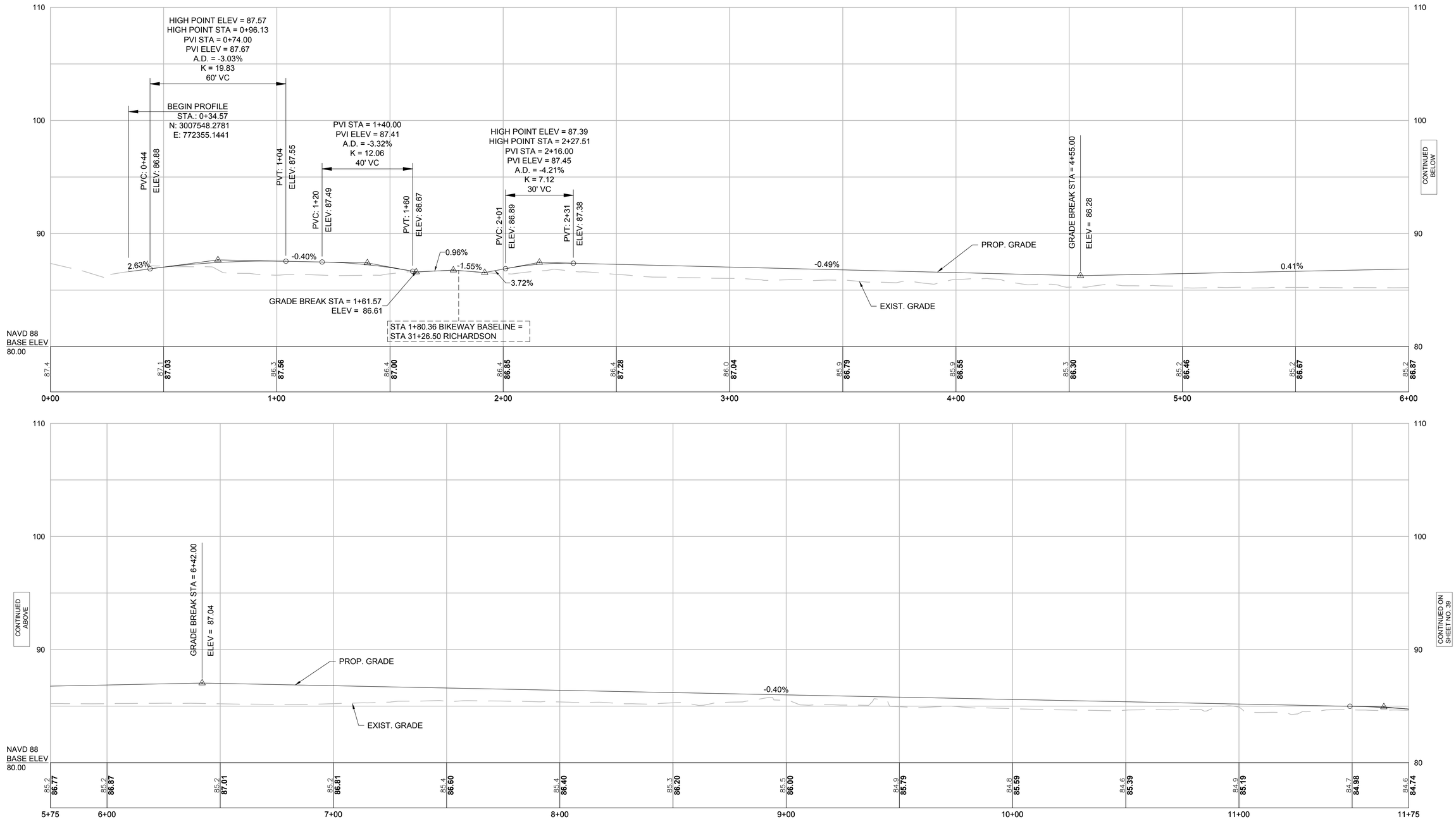
0 20 50 100
SCALE: 1" = 20'

607329_HDBD(CONSTRUCTION PLANS AND PROFILES).DWG Plotted on 1-Mar-2017 1:53 PM

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	38	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 1 OF 20



HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

FOR CONSTRUCTION PLANS:
SEE SHEET NO. 17/18

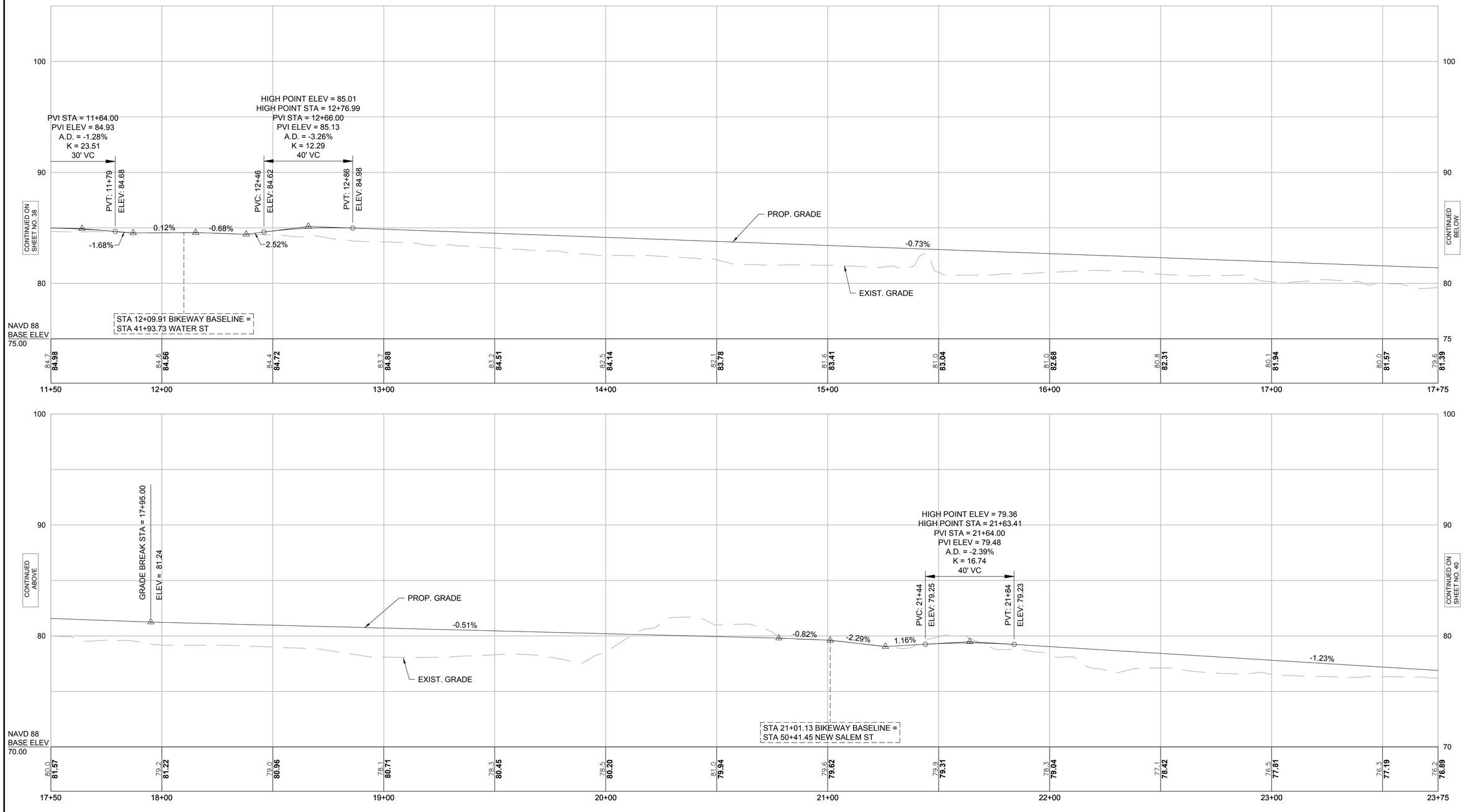
607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:41 PM

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	39	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 2 OF 20

607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:42 PM



HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

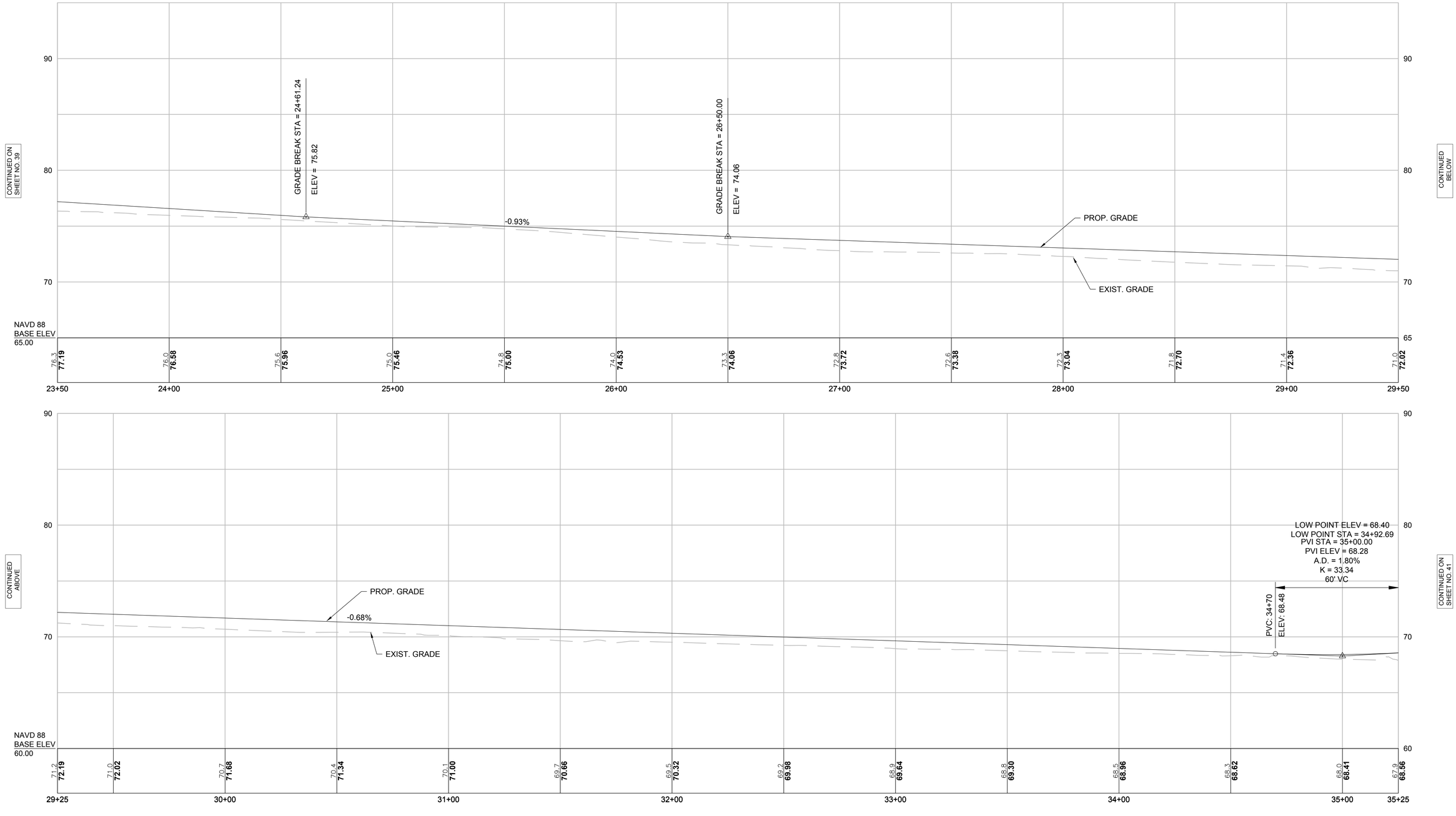
FOR CONSTRUCTION PLANS:
SEE SHEET NO. 19

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	40	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 3 OF 20

607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:43 PM



HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

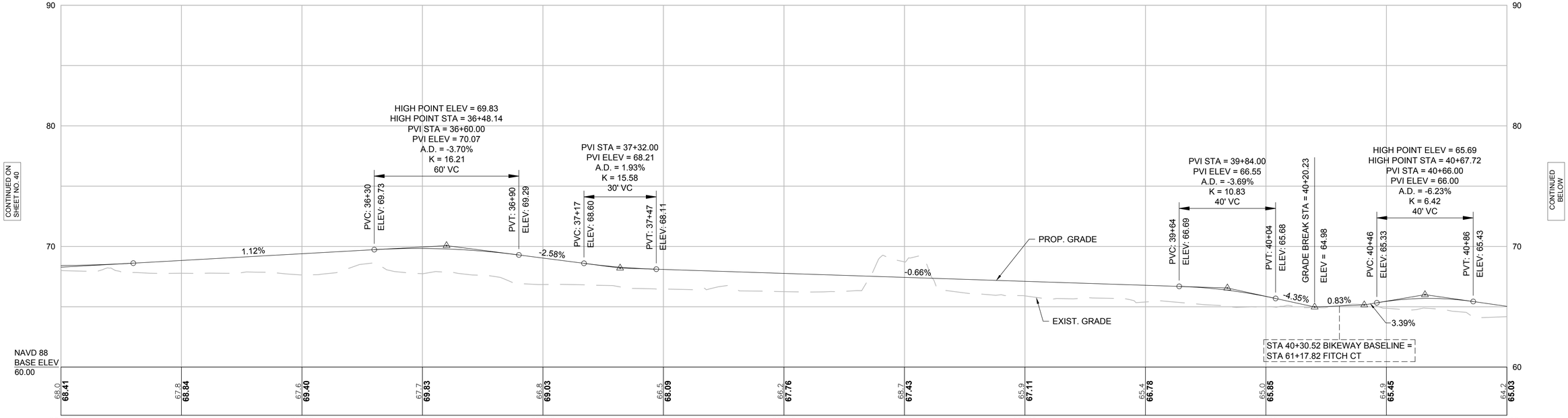
FOR CONSTRUCTION PLANS:
SEE SHEET NO. 20

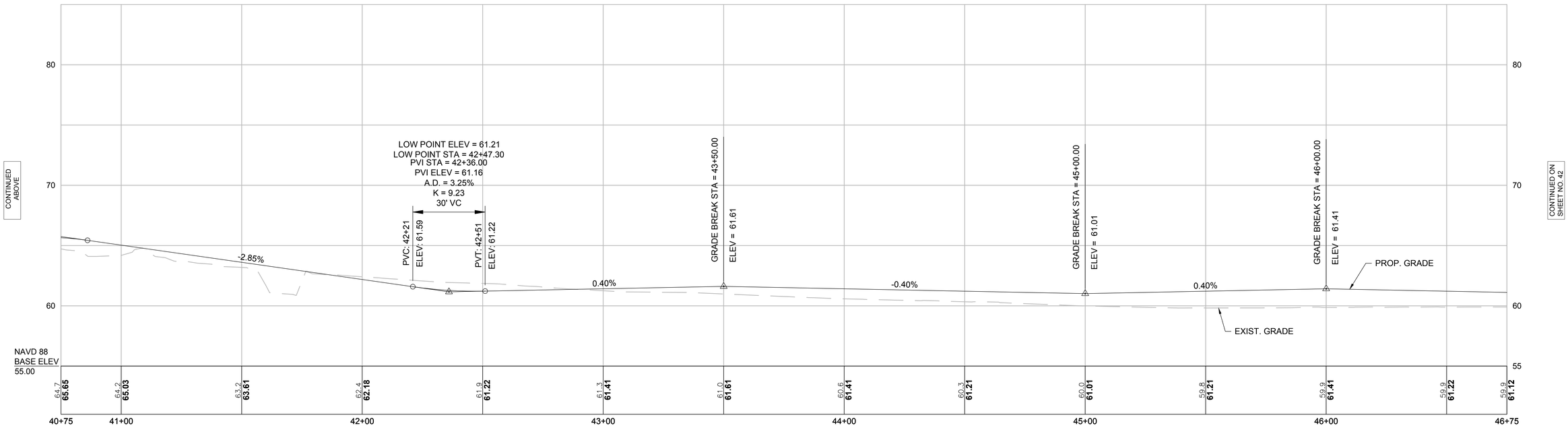
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	41	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 4 OF 20

607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:44 PM





HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

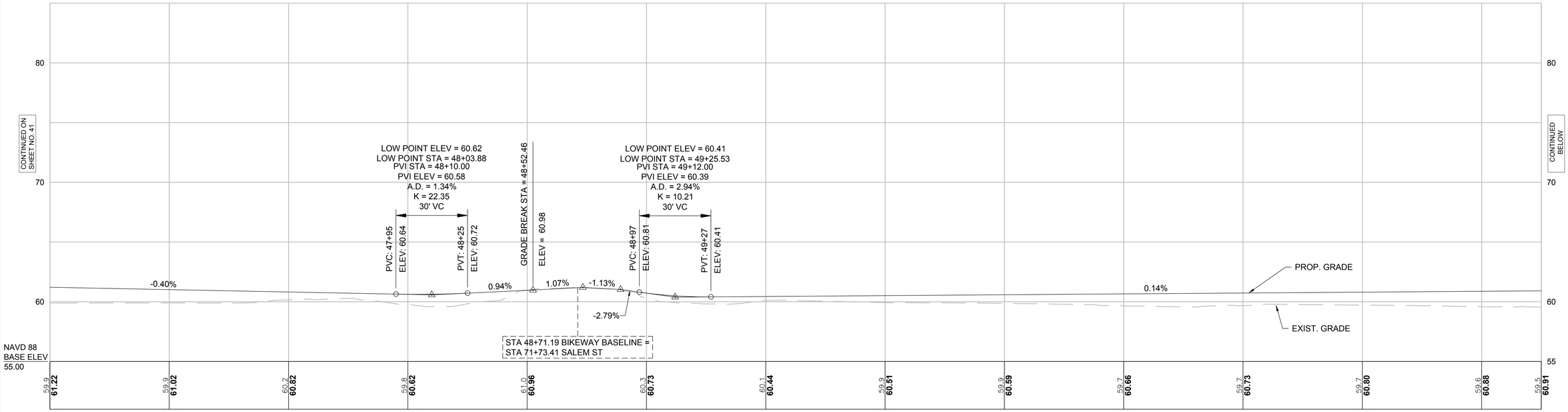
FOR CONSTRUCTION PLANS:
SEE SHEET NO. 21

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	42	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 5 OF 20

607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:44 PM



HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

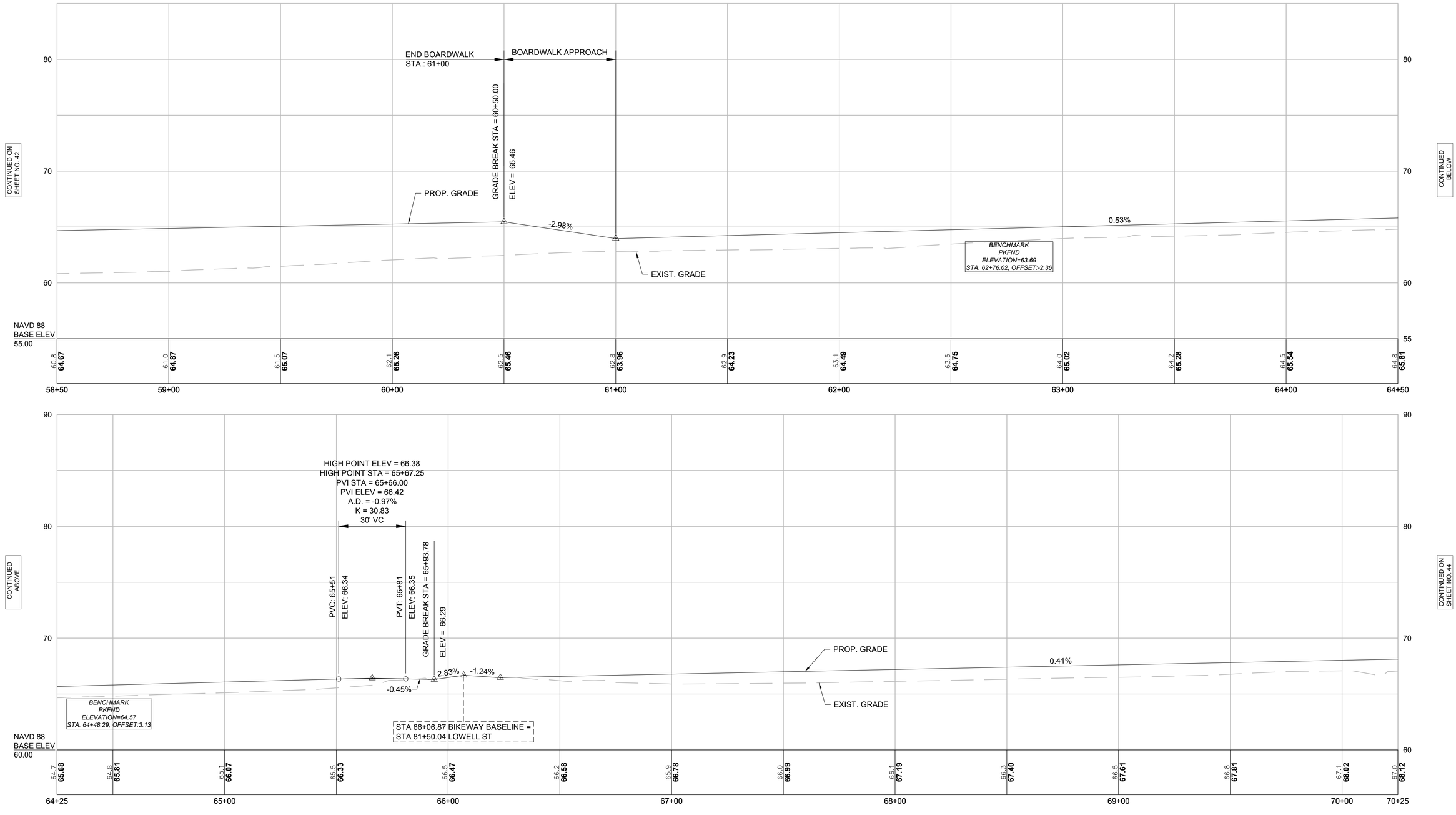
FOR CONSTRUCTION PLANS:
SEE SHEET NO. 22

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	43	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 6 OF 20

607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:45 PM



HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

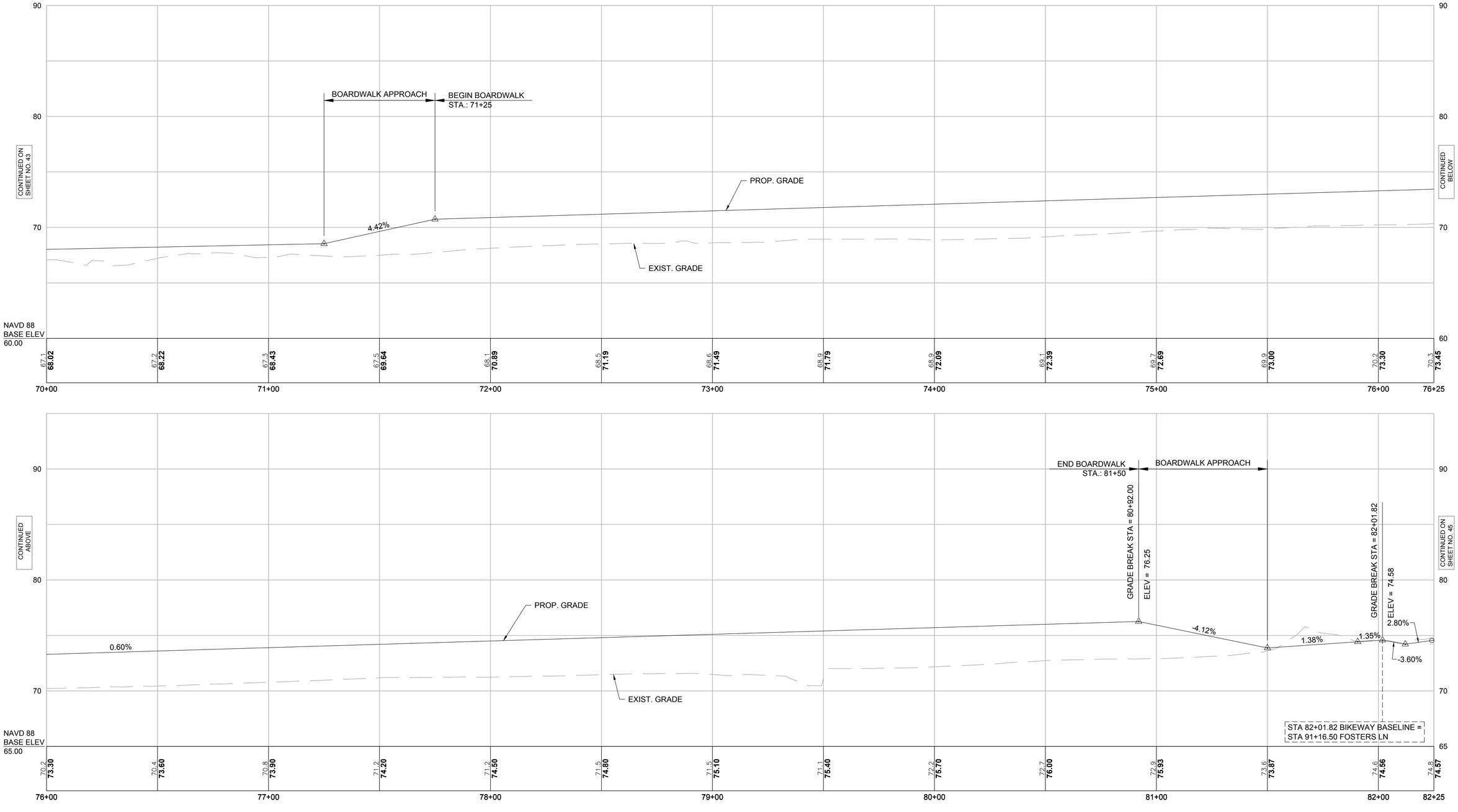
FOR CONSTRUCTION PLANS:
SEE SHEET NO. 23

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	44	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 7 OF 20

607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:46 PM



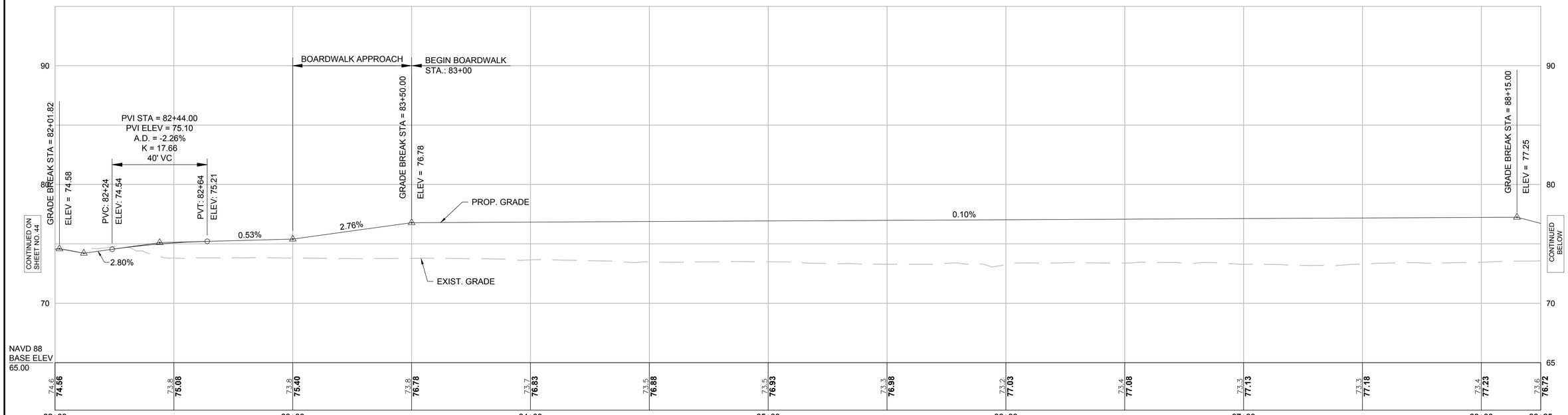
HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

FOR CONSTRUCTION PLANS:
SEE SHEET NO. 24

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	45	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 8 OF 20



HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

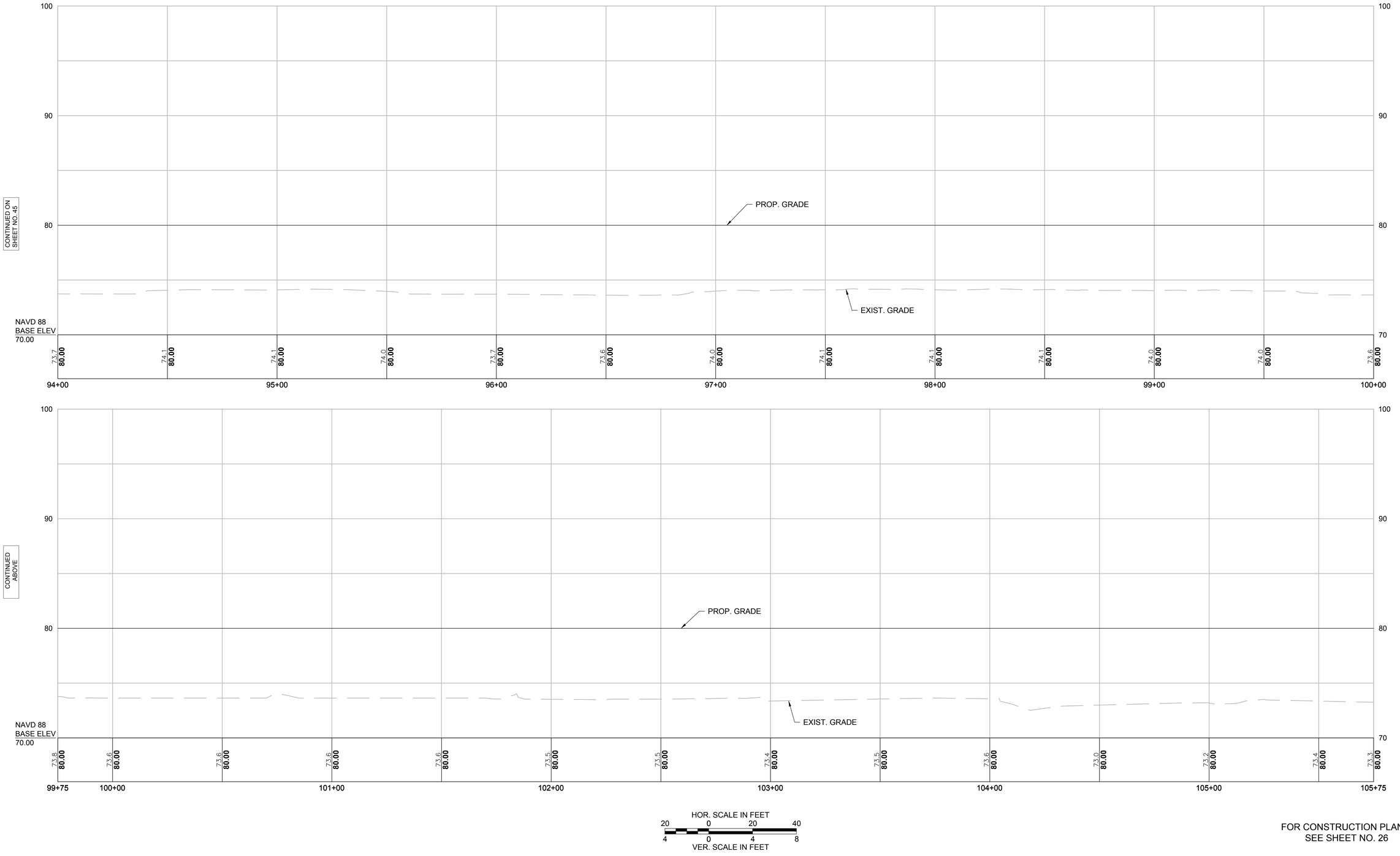
FOR CONSTRUCTION PLANS:
SEE SHEET NO. 25

607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:46 PM

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	46	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 9 OF 20



HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

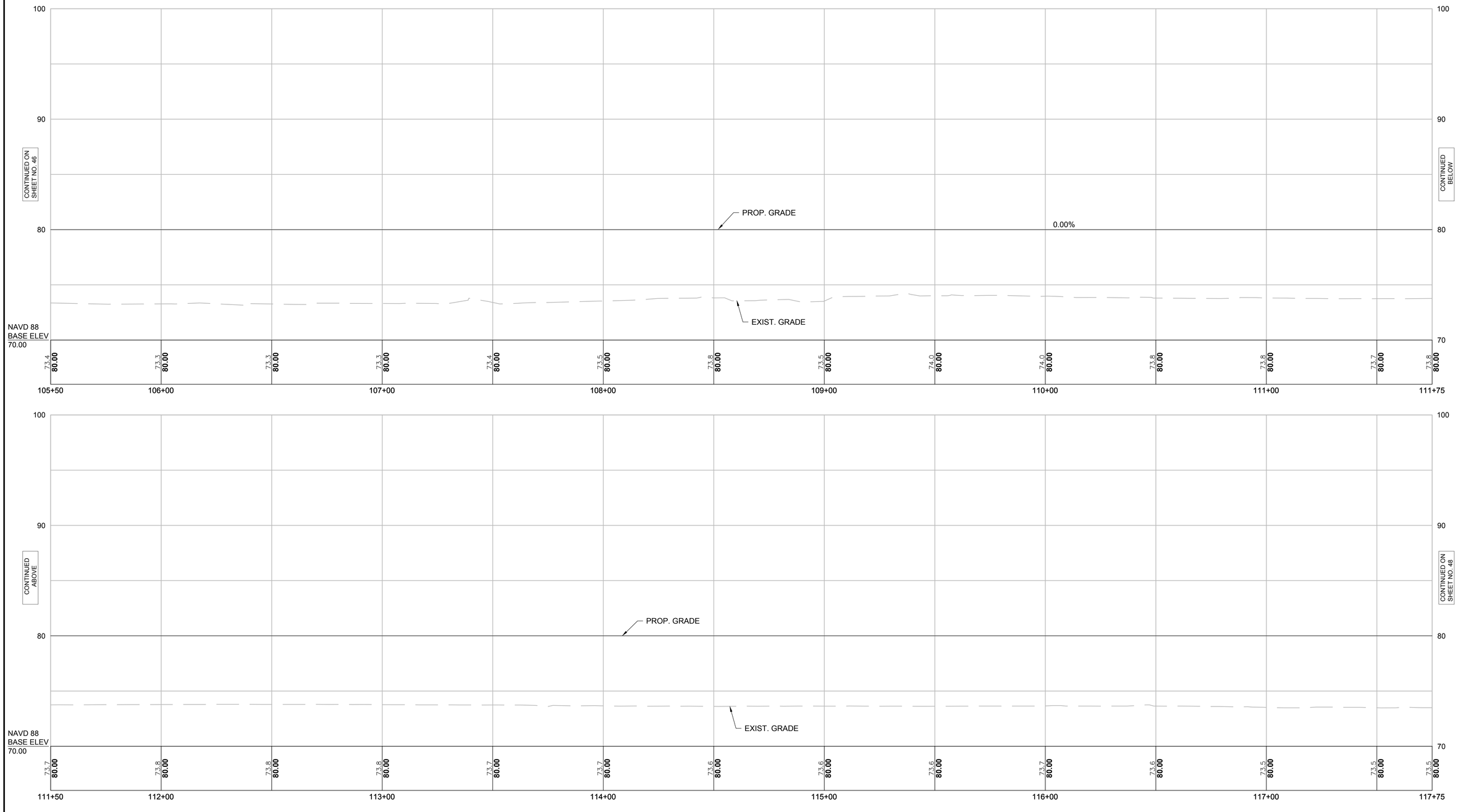
FOR CONSTRUCTION PLANS:
SEE SHEET NO. 26

607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:47 PM

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	47	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 10 OF 20



HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

FOR CONSTRUCTION PLANS:
SEE SHEET NO. 27

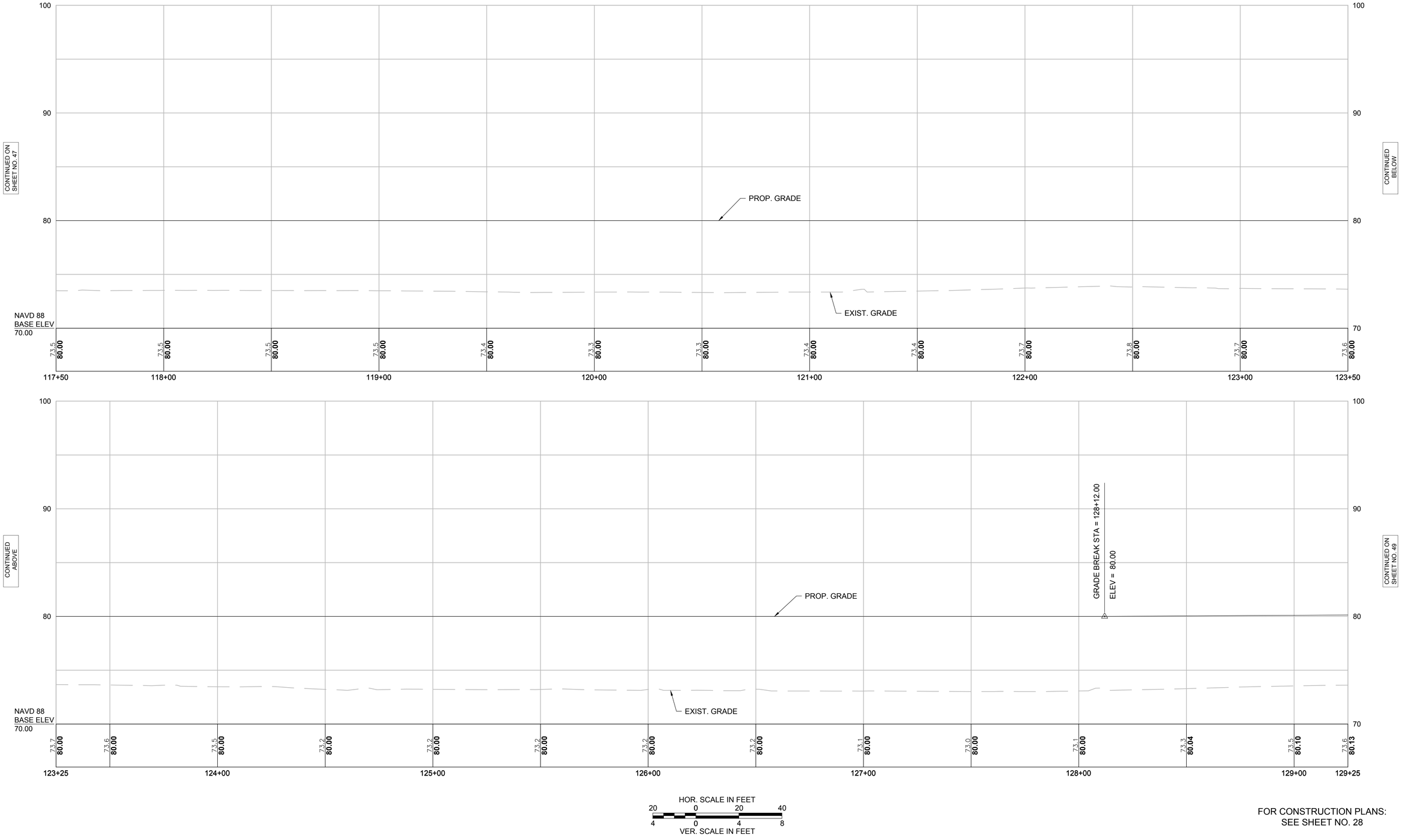
607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:48 PM

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	48	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 11 OF 20

607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:49 PM



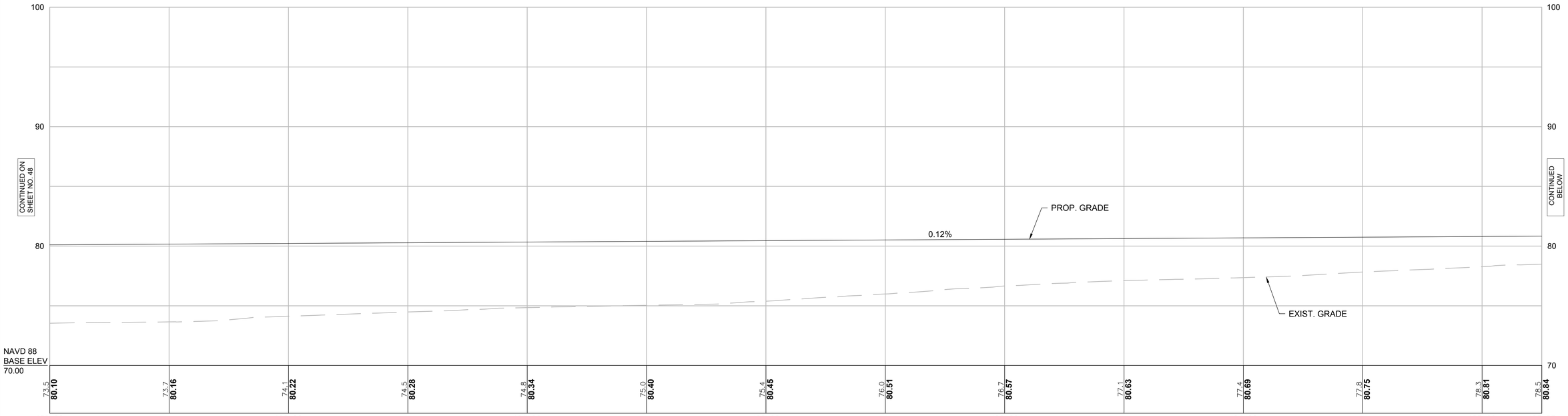
FOR CONSTRUCTION PLANS:
SEE SHEET NO. 28

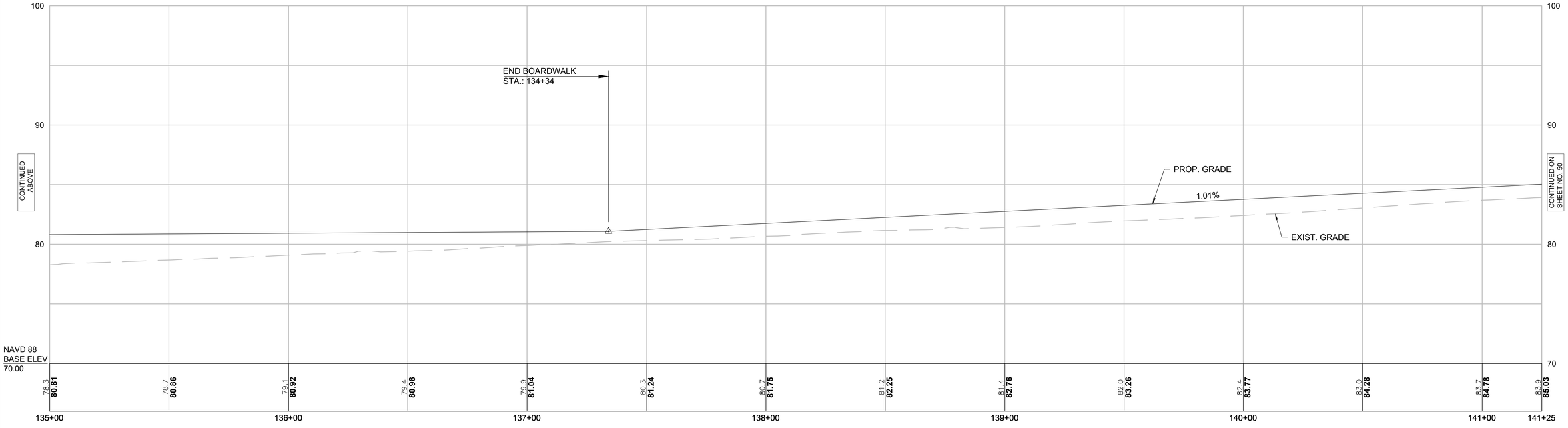
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	49	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 12 OF 20

607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:49 PM





HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

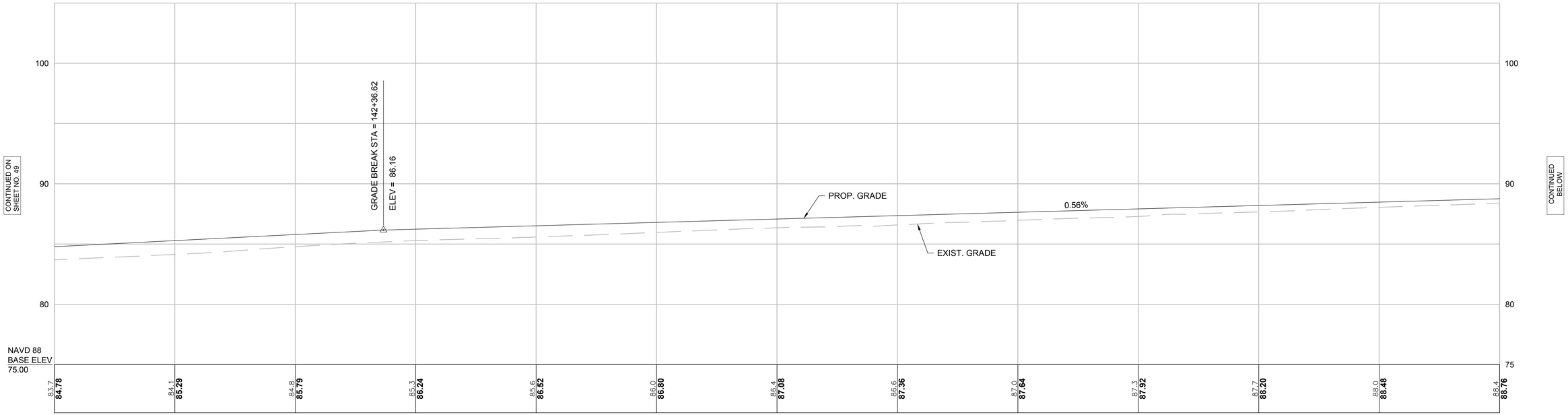
FOR CONSTRUCTION PLANS:
SEE SHEET NO. 29

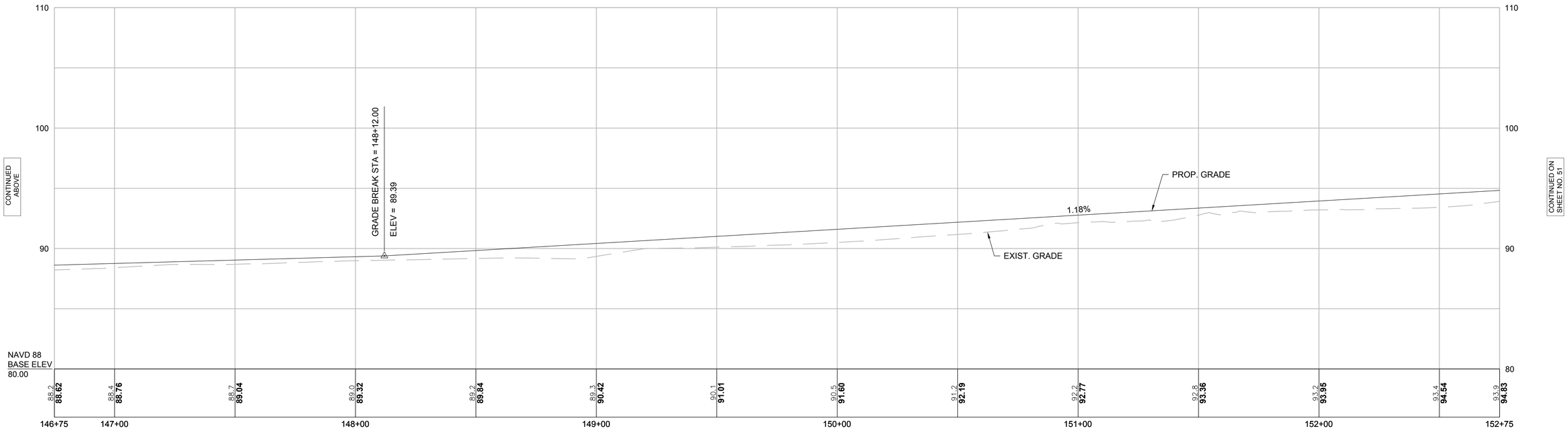
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	50	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 13 OF 20

607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:50 PM





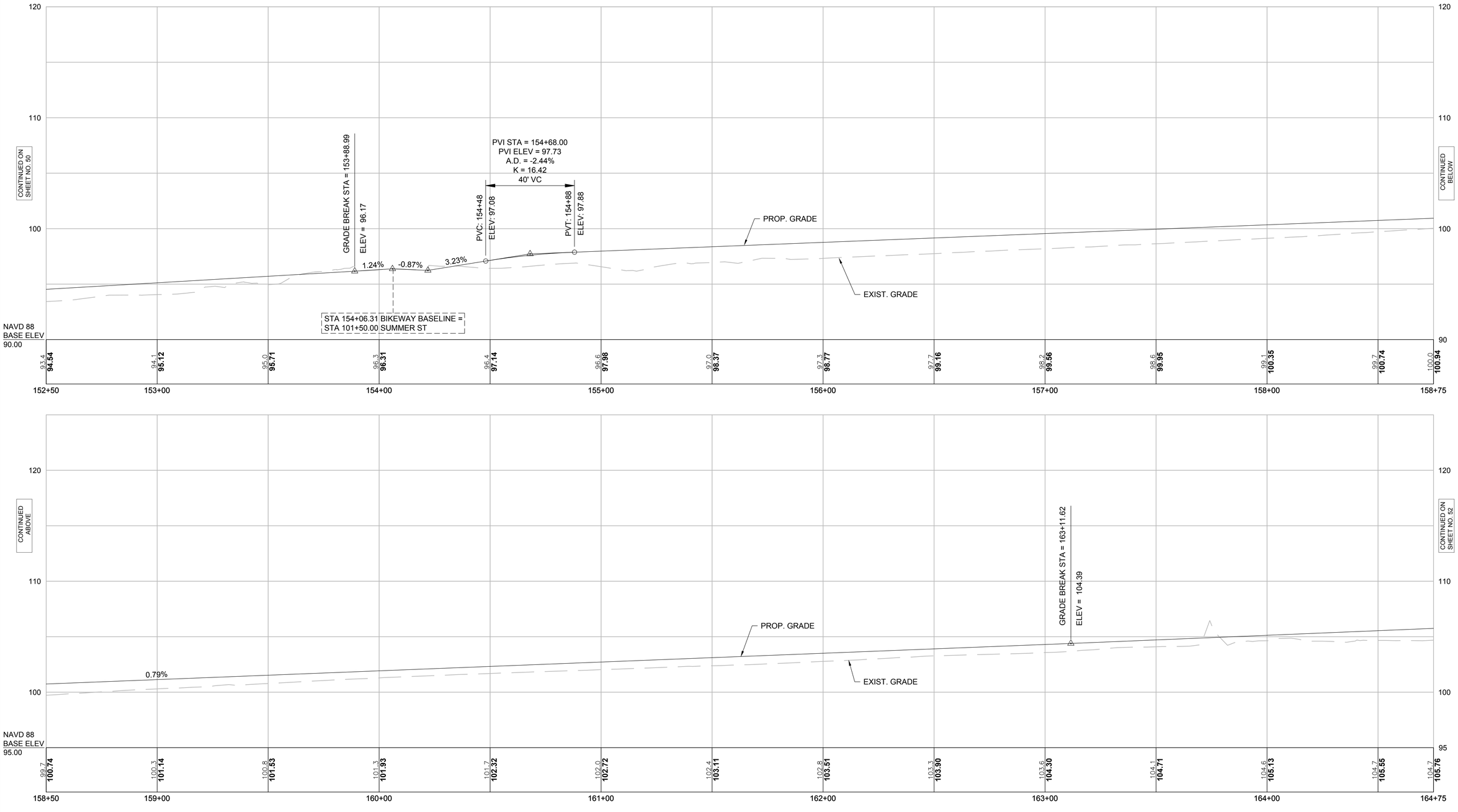
HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

FOR CONSTRUCTION PLANS:
SEE SHEET NO. 30

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	51	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 14 OF 20



HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

FOR CONSTRUCTION PLANS:
SEE SHEET NO. 31

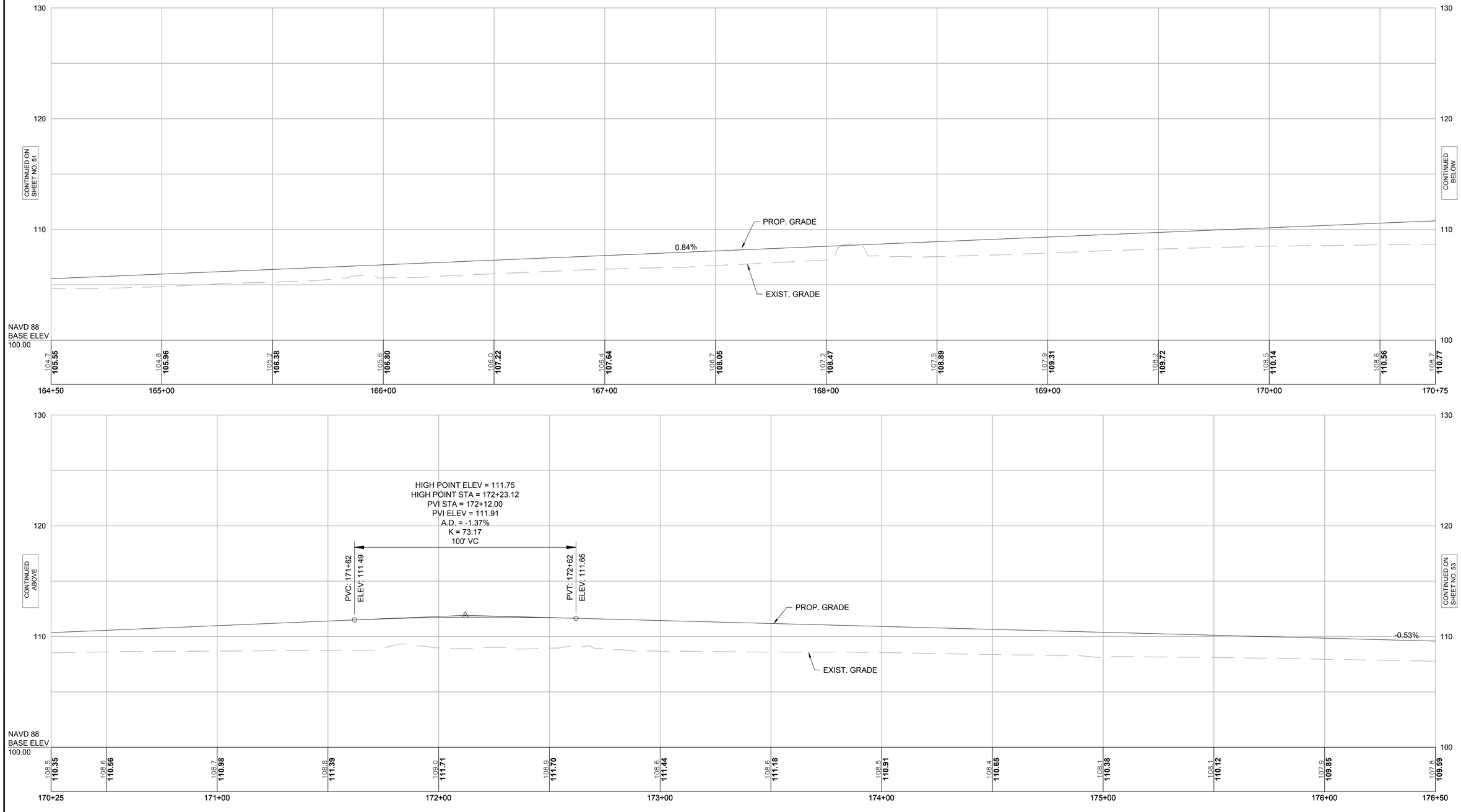
607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:51 PM

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	52	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 15 OF 20

607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:52 PM



HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

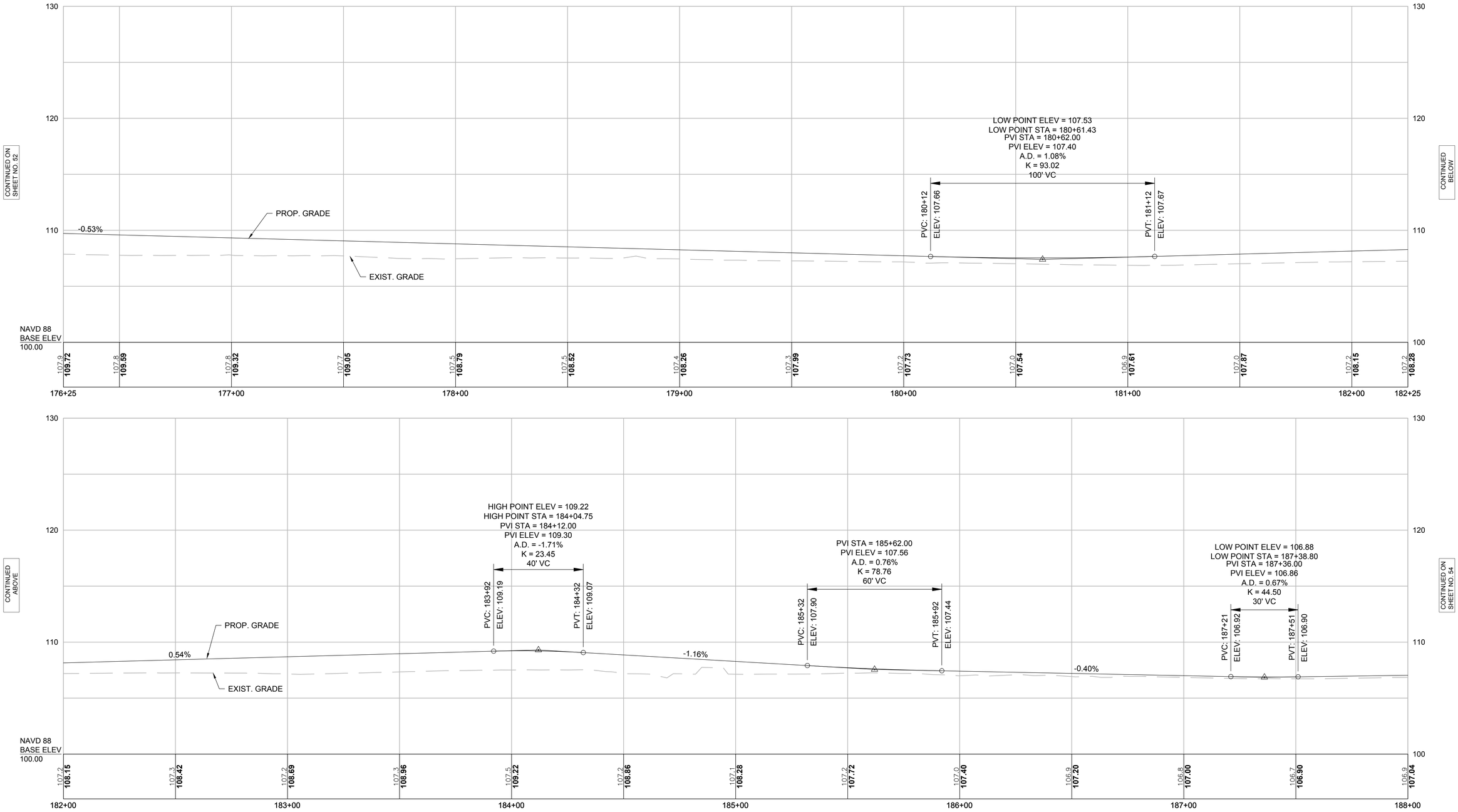
FOR CONSTRUCTION PLANS:
SEE SHEET NO. 32

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	53	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 16 OF 20

607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:52 PM



HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

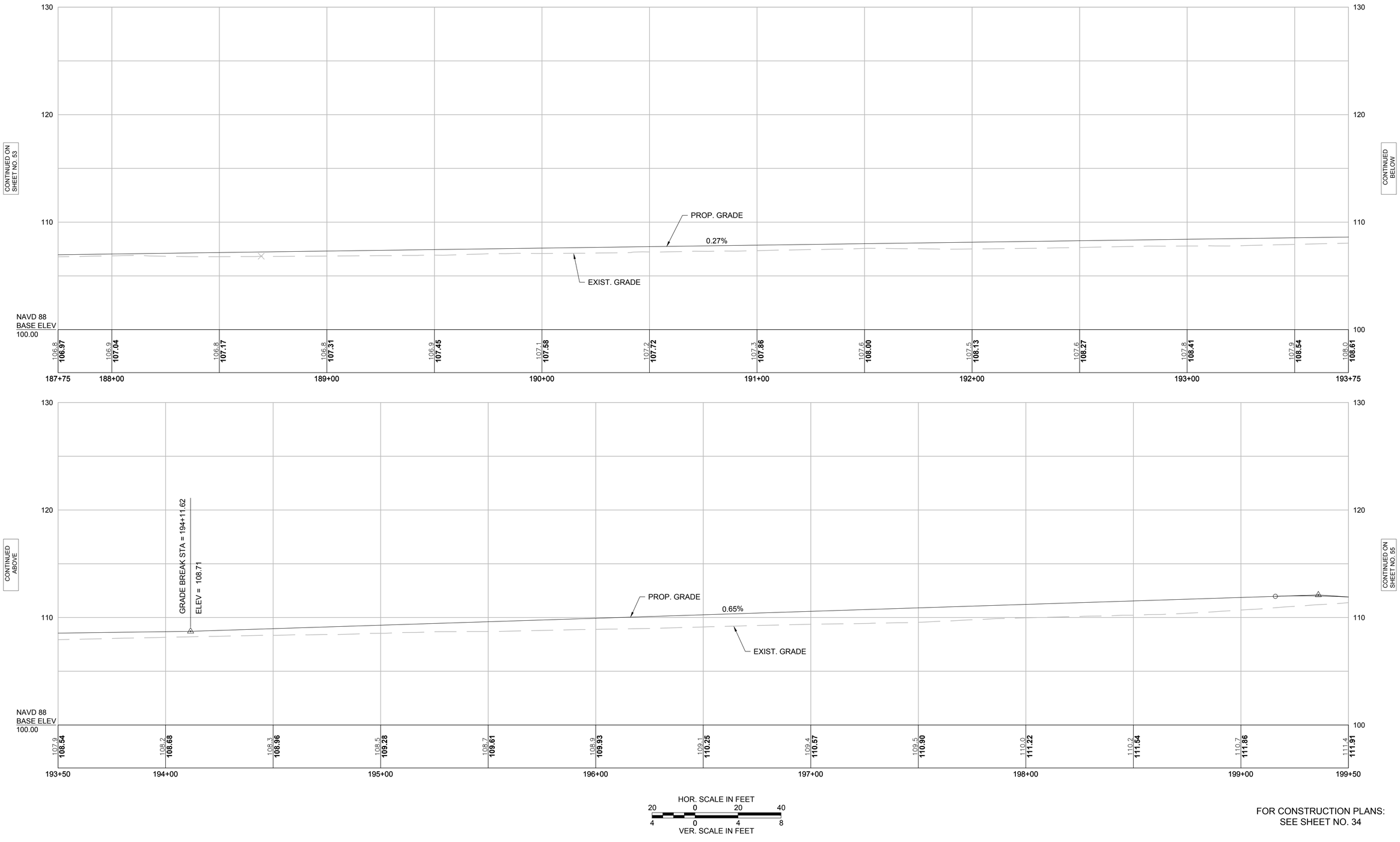
FOR CONSTRUCTION PLANS:
SEE SHEET NO. 33

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	54	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 17 OF 20

607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:53 PM



HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

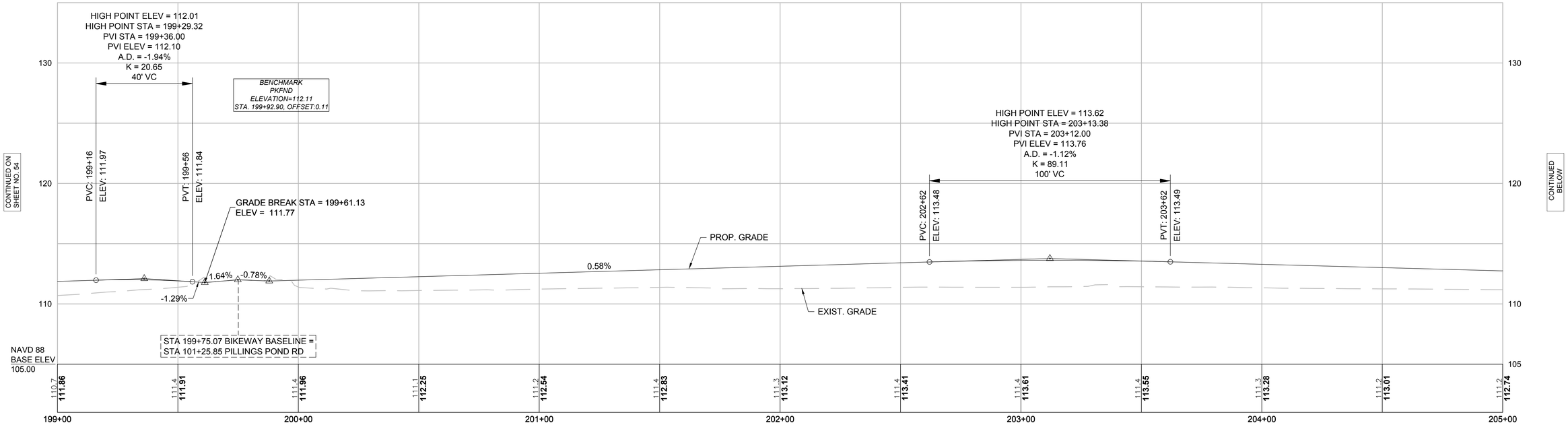
FOR CONSTRUCTION PLANS:
SEE SHEET NO. 34

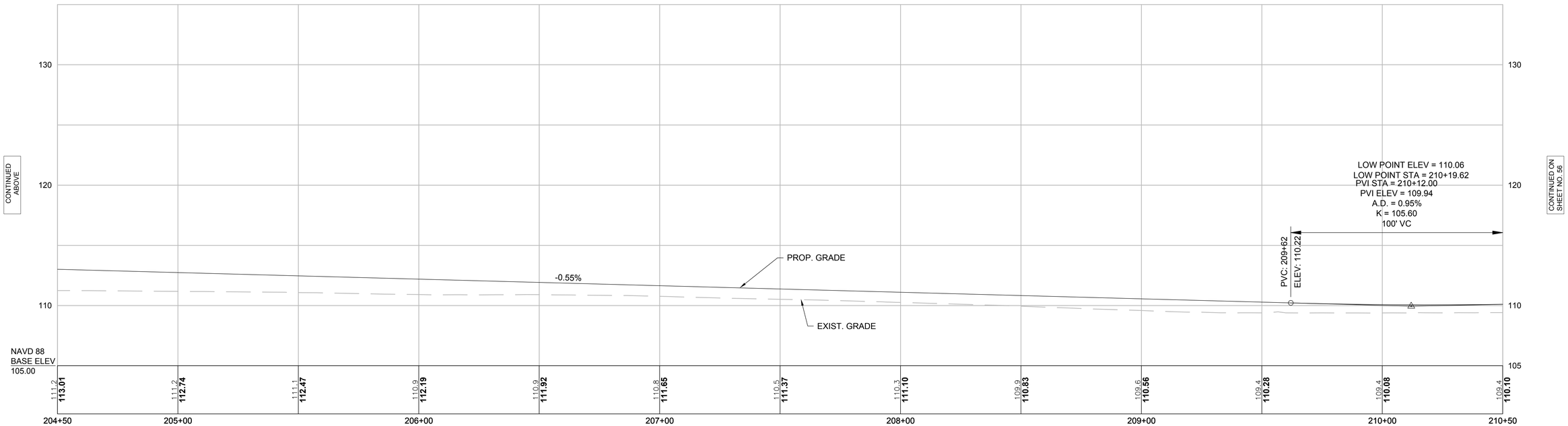
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	55	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 18 OF 20

607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:54 PM





HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

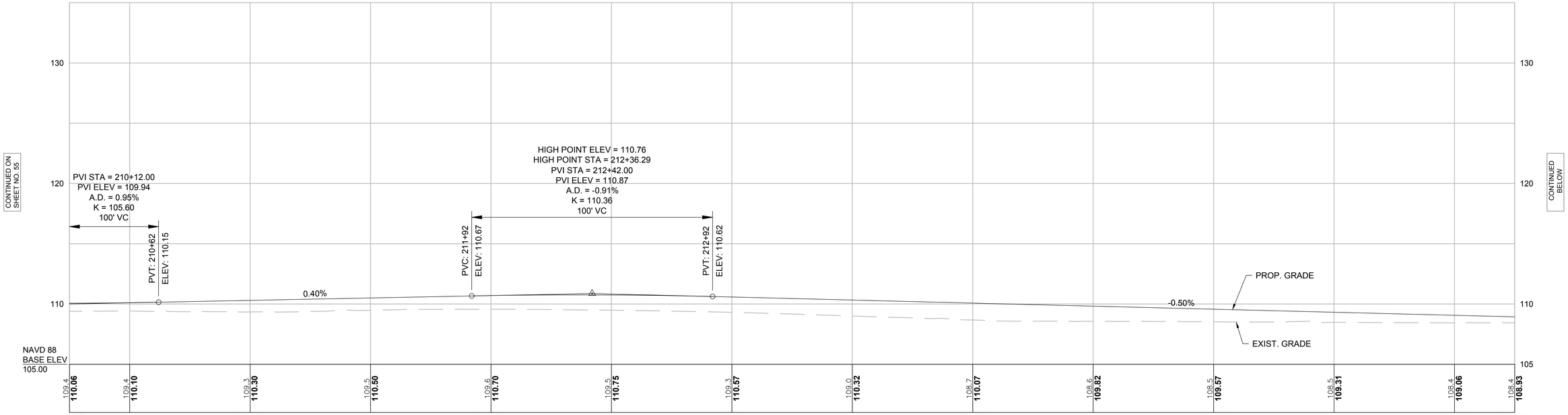
FOR CONSTRUCTION PLANS:
SEE SHEET NO. 35

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	56	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 19 OF 20

607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:55 PM



HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

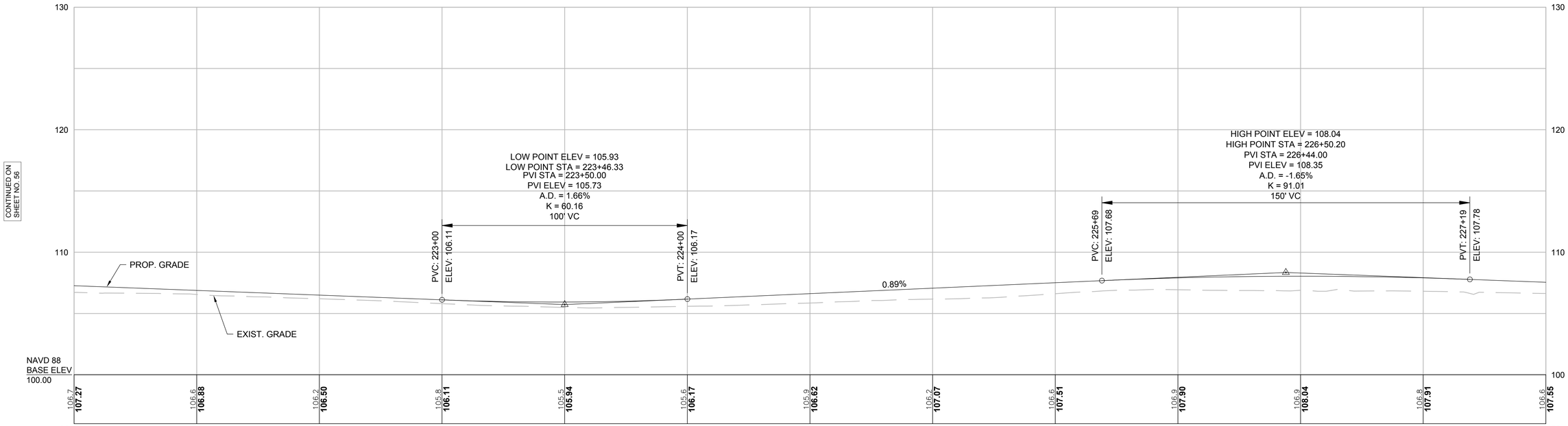
FOR CONSTRUCTION PLANS:
SEE SHEET NO. 36

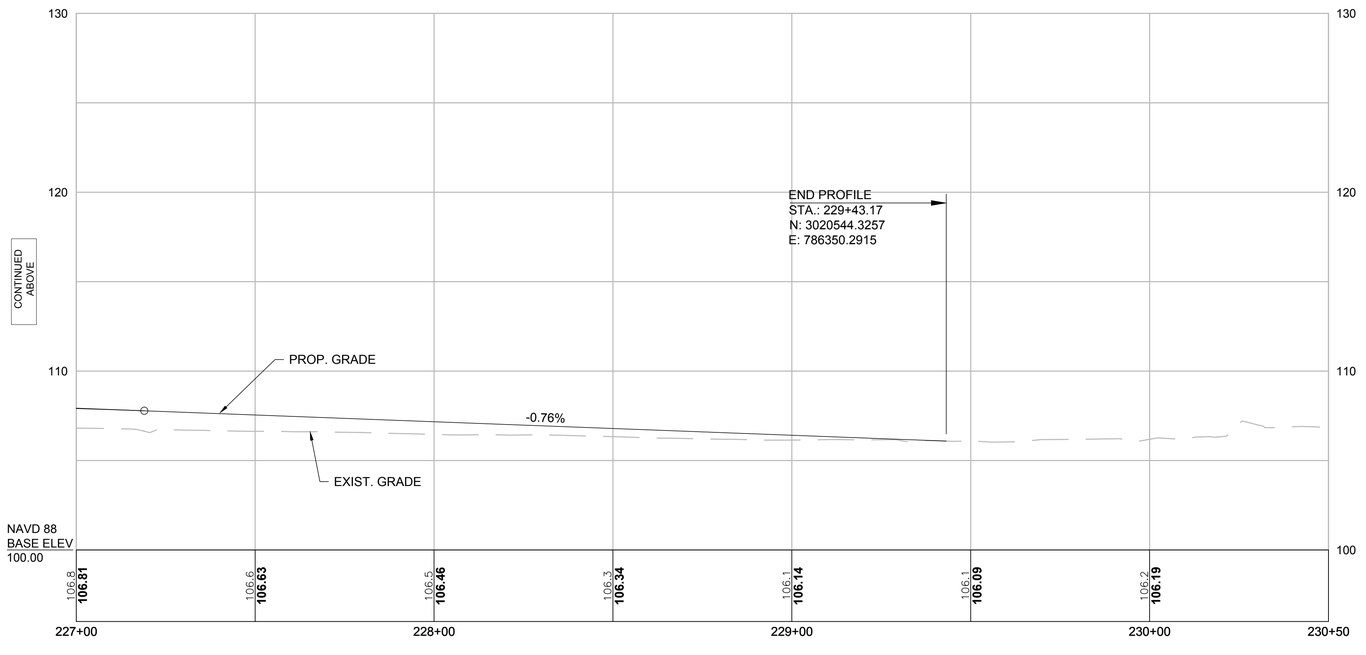
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	57	132
PROJECT FILE NO. 607329			

PROFILES
SHEET 20 OF 20

607329_HD11 (PROFILE).DWG Plotted on 1-Mar-2017 2:55 PM





HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

FOR CONSTRUCTION PLANS:
SEE SHEET NO. 37

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	58	132
PROJECT FILE NO. 607329			

SIGN AND PAVEMENT MARKING PLANS
SHEET 1 OF 10

607329_TR1 (SIGN & PAVEMENT MARKINGS).DWG Plotted on 1-Mar-2017 2:59 PM

N

MAIN STREET

BENNETT STREET

RICHARDSON STREET

PROP. RRFB
S1-1
W16-7p
MTD. ON RRFB

PROP. RRFB

S1-1
W16-7p
MTD. ON RRFB

W11-15
W16-7p

R1-1

R5-3
R1-1

R7-8

W11-15
W16-9p

PROP. WHEEL STOP (TYP.)

SWL (TYP.)

19 SP @ 9' EACH

19' (TYP.)

12' 5' 12'

CW 8' SL 4'

20'

LIMIT OF WORK
STA 21+00.00
N3007408.3272
E772409.6430
PROP. SAWCUT

LIMIT OF WORK
STA 32+50.00
N3007593.4416
E772566.2281
PROP. SAWCUT

20+00 21 22

30+00 31 32 33

10+00 11 12

12+50

14 15 16 17

1 2 3 4

TOWN L.O.

R.R. S/L

RR TRACKS

RR SIGNAL

SIGNAL BOX

CP

CB W/BENCH

BCW

LST PL

BOULDER

STOCKADE FENCE

GRASS

BIT CONC PARKING

STEPS

RAMP

DECK

FENCE

SHADOWS

TRAILER

AWNING

FENCE/ TRASH CONTAINER

RET WALL

BIT CONC

D.TREE

STUMP

STOP SIGN

8" POSTS

0 20 50 100

SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	59	132
PROJECT FILE NO. 607329			

SIGN AND PAVEMENT MARKING PLANS
SHEET 2 OF 10

607329_TR1 (SIGN & PAVEMENT MARKINGS).DWG Plotted on 1-Mar-2017 3:00 PM

N

WATER STREET

VERNON STREET

BIT CONC PARKING

RET. EXIST. PAVEMENT MARKINGS

RET.

TOWN L.O.

CONC. CURB

BCV

BCD

FENCE

STEPS

SIGNS

FLAG POLE

SHADOWS

GATE

POST

SIGN

R7-8

R5-3

R10-6

R7-10

R3-7R

SL

4'

CW

15'

12'

4' SL

DVL

SWL

ONLY

21'

10'

10'

R.R. S/L

RR TRACKS

GRASS

GRAVEL

GRAVEL PARKING

DENSE TREES

10 SP @ 9' EACH

21 SP @ 9' EACH

18' (TYP.)

12'

5'

CLF

SWL (TYP.)

PROP. WHEEL STOP (TYP.)

8 9 10 11 12 13 14

10+00

14+50

40+00

41 42 43 44

LIMIT OF WORK
STA 43+80.00
N3008520.9079
E773083.7526
PROP. SAWCUT

0 20 50 100

SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	60	132
PROJECT FILE NO. 607329			

SIGN AND PAVEMENT MARKING PLANS
SHEET 3 OF 10

607329_TR1 (SIGN & PAVEMENT MARKINGS).DWG Plotted on 1-Mar-2017 3:00 PM

N

ROCKLAND STREET

OTIS STREET

VERNON STREET

NEW SALEM STREET

50+00

51

R1-1
R5-1
R10-15bL
R5-1
SL
4'
CW
7'
7'
CW
10+00
11
50+00
51+50
12
13
14+00
R5-3
R1-1
W11-15
W16-7P
R10-15b
CW
15'
21
4'
SL
R1-1
R5-3
R1-1
20
19
22
23
24
R7-8
R7-8a
SWL @45° (TYP.)
WHEEL STOP (TYP.)
9' (TYP.)
13'
20' (TYP.)
LIMIT OF WORK
STA 51+00.00
N3009357.4384
E773333.5781
PROP. SAWCUT
W3-1
52
52+50

SHADDUS
STEPS
PLANTER
RET WALL
TOWN L.O.
D.TREES
BCD
CURB
GRASS
RR TRACKS
R.R. S/L
CONC. RET WALL
CONC. DRIVE
GRAVEL
DENSE TREES
TRAILER
BIT CONC PARKING
TANK
TOWN

0 20 50 100
SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	61	132
PROJECT FILE NO. 607329			

SIGN AND PAVEMENT MARKING PLANS
SHEET 4 OF 10

607329_TR1 (SIGN & PAVEMENT MARKINGS).DWG Plotted on 1-Mar-2017 3:01 PM

N

FITCH COURT

60+00

61

62+00

LIMIT OF WORK
STA 60+70.00
N3011243.3722
E773543.0026
PROP. SAWCUT

LIMIT OF WORK
STA 61+55.00
N3011225.9653
E773624.6524
PROP. SAWCUT

W11-15
W16-7p

R5-3
R1-2

CW

15'

37 38 39 40 41 42 43

R.R. S/L

RR TRACK

RR TRACKS

BIT CONC PARKING

GRASS

DENSE TREES

D.TREES

STOCKADE FENCE

FENCE

RET WALL

SHED

DECK

PL

BOD

BCD

STUMP

STEPS

TOWN L.O.

SCALE: 1" = 20'

0 20 50 100

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	62	132
PROJECT FILE NO. 607329			

SIGN AND PAVEMENT MARKING PLANS
SHEET 5 OF 10

607329_TR1 (SIGN & PAVEMENT MARKINGS).DWG Plotted on 1-Mar-2017 3:01 PM

N

DANIEL ROAD

70+00

W11-15
W16-9p

LIMIT OF WORK
STA 70+85.00
N3012019.2896
E773621.8768
PROP. SAWCUT

W11-15
W16-7p

R5-3
R1-1

71

SWL

DYL

20'

18'

CW

72

NABLUS ROAD

HARRISON LANE

SALEM STREET

LIMIT OF WORK
STA 72+90.00
N3012142.4186
E773785.7799
PROP. SAWCUT

73

R.R. S/L

46

47

48

49

50

51

52

STOCKADE FENCE

FENCE

STEPS

BCD

BOW

TOWN L.O.

DENSE TREES

GRASS

STONE RET. WALL

BIT CONC

LST RET WALL

SHED

RET WALL

CONC SWL

CLF

HDWL

TIMBER HDWL

0 20 50 100

SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	63	132
PROJECT FILE NO. 607329			

SIGN AND PAVEMENT MARKING PLANS
SHEET 6 OF 10

Plotted on 1-Mar-2017 3:02 PM
607329_TR1 (SIGN & PAVEMENT MARKINGS).DWG

N

W11-15
W16-9p

80+00

TOWN L.O.

CLF

LIMIT OF WORK
STA 81+10.00
N3013746.0343
E774122.7685
PROP. SAWCUT

81

BCD

CURB

BOULDERS

EROSION CONTROL

DENSE TREES

R.R. S/L

W11-15
W16-7p

DYL

SWL

CW

20'

R5-3
R1-1

63

64

65

66

15'

67

68

69

GRASS

DENSE TREES

STOCKADE FENCE

PATIO

3'

11'

12'

2'

82

LIMIT OF WORK
STA 82+00.00
N3013708.5798
E774204.6047
PROP. SAWCUT

LOWELL STREET

P&R

W11-15
W16-9p

MILL RIVER

BCW

83

0 20 50 100

SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	64	132
PROJECT FILE NO. 607329			

SIGN AND PAVEMENT MARKING PLANS
SHEET 7 OF 10

607329_TR1 (SIGN & PAVEMENT MARKINGS).DWG Plotted on 1-Mar-2017 3:02 PM

N

FOSTERS LANE

90+00

LIMIT OF WORK
STA 90+75.00
N3015169.1017
E774805.4588
PROP. SAWCUT

R5-3
R1-2

W11-15
W16-7p

91

82

15'

CW

79 80 81 83 84 85

WF = 5

LIMIT OF WORK
STA 91+50.00
N3015164.6044
E774880.3024
PROP. SAWCUT

92

BCD

SHED

ROCK

DENSE TREES

HEADWALL

TOWN L.O.

STONE WALL

GRAVEL

FENCE

PLANTER

0 20 50 100

SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	65	132
PROJECT FILE NO. 607329			

SIGN AND PAVEMENT MARKING PLANS
SHEET 8 OF 10

607329_TR1 (SIGN & PAVEMENT MARKINGS).DWG Plotted on 1-Mar-2017 3:03 PM

N

LIMIT OF WORK
STA 100+50.00
N3020955.0780
E778820.7690
PROP. SAWCUT

W11-15
W16-9p

W11-15
W16-7p
MTD. ON
RRFB

PROP. RRFB

R5-3
R1-1

PROP. RRFB

W11-15
W16-7p
MTD. ON
RRFB

LIMIT OF WORK
STA 102+50.00
N3020786.6692
E778928.6506
PROP. SAWCUT

W11-15
W16-9p

SUMMER STREET

FENCE
STEPS
RET WALL
BCD
RET WALL
STEPS
FENCE
BCD
BCD
R.R. S/L
BIT CONC PARKING
R.R. S/L
DENSE TREES
DENSE TREES
INTERMITTENT STREAM
BANK BOTTOM
STREAM
STREAM
BVW
BVW
BVW
WF#B-70
WF#B-71
WF#B-72
TOWN L.O.
TOWN L.O.
TOWN L.O.
TOWN L.O.
SIGN
DYL
DYL
CW
CW
100+00
101
102
103+00
43'
15'
20'
151
152
153
154
155
156
157

0 20 50 100
SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	66	132
PROJECT FILE NO. 607329			

SIGN AND PAVEMENT MARKING PLANS
SHEET 9 OF 10

607329_TR1 (SIGN & PAVEMENT MARKINGS).DWG Plotted on 1-Mar-2017 3:03 PM

N

PILLINGS POND ROAD

102+50

102

101

100+00

W11-15
W16-9p

LIMIT OF WORK
STA 101+75.00
N3020730.2272
E783409.1879
PROP. SAWCUT

W11-15
W16-7p

R5-3
R1-2

LIMIT OF WORK
STA 100+75.00
N3020630.7294
E783399.6036
PROP. SAWCUT

W11-15
W16-9p

R5-3
R1-2

W11-15
W16-7p

W11-15
W16-9p

DENSE TREES

R.R. S/L

RR TRACKS

TOWN L.O.

CP

BCD

DYL

CW

20'

15'

197 198 199 200 201 202 203

0 20 50 100

SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	67	132
PROJECT FILE NO. 607329			

SIGN AND PAVEMENT MARKING PLANS
SHEET 10 OF 10

607329_TR1 (SIGN & PAVEMENT MARKINGS).DWG Plotted on 1-Mar-2017 3:04 PM

N

OM1-1

PROJECT END
STA 229+43.17
N3020544.3257
E786350.2915

226 227 228 229 230 230+47.55

R.R. S/L

RR TRACKS

DENSE TREES

BCD

RET WALL

GRASS

GRAVEYARD

NICHOLS LN

SBCC

POSTS

UTILITY CABINETS

STOCKADE FENCE

DECK

MP B1A/N26

GRAVEL

BOULDERS

FENCE

STONE WALL
STONE POST(TYP)

PEABODY
LYNNFIELD

STEPS

STONE WALL

0 20 50 100

SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	68	132
PROJECT FILE NO. 607329			

TRAFFIC SIGNAL PLAN WATER STREET AT VERNON STREET

607329_TR4(TRAFFIC SIGNAL PLANS).DWG Plotted on 1-Mar-2017 3:08 PM

N

TOWN L.O.

TOWN L.O.

PROP. 2-WAY PEDESTRIAN SIGNAL HEAD W/COUNTDOWN TIMER AND APS PUSHBUTTON ON EXIST. T.S. POST

PROP. PEDESTRIAN SIGNAL HEAD W/COUNTDOWN TIMER AND APS PUSHBUTTON ON EXIST. T.S. POST. RET. EXIST. VEHICULAR SIGNAL HEAD AND OPTICAL PREEMPTION RECEIVER

PROP. PEDESTRIAN SIGNAL HEAD W/ COUNTDOWN TIMER AND APS PUSHBUTTON ON EXIST. MAST ARM POST

VERNON STREET
(PUBLIC WAY)

P1 P2 P3 P4 P5 P6

A B C D E F

41 42

11 12 13 14

14+50

TP#4

PROP. PEDESTRIAN SIGNAL HEAD W/COUNTDOWN TIMER AND APS PUSHBUTTON ON PROP. 8 FT T.S POST

PROP. 12"X12" PULLBOX (TYP.)

PROP. PEDESTRIAN SIGNAL HEAD W/COUNTDOWN TIMER AND APS PUSHBUTTON ON PROP. 8FT T.S POST

TEMPORARY EASEMENT (TYP.)

PERMANENT EASEMENT (TYP.)

WATER STREET
(PUBLIC WAY)

ONLY

TOWN L.O.

NOTE:

SEE SIGN & MARKING PLAN FOR PROPOSED SIGNAGE AND THE DISPOSITION OF EXISTING SIGNS.

0 10 25 50
SCALE: 1" = 10'

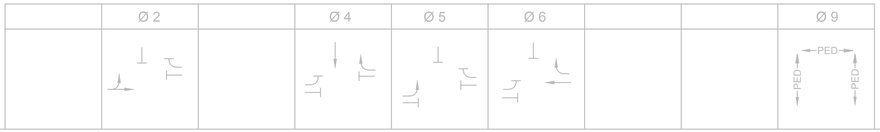
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	69	132
PROJECT FILE NO. 607329			

TRAFFIC SIGNAL DATA WATER STREET
AT VERNON STREET
SHEET 1 OF 1

607329_TR4(TRAFFIC SIGNAL PLANS).DWG Plotted on 1-Mar-2017 3:08 PM

N



SEQUENCE AND TIMING

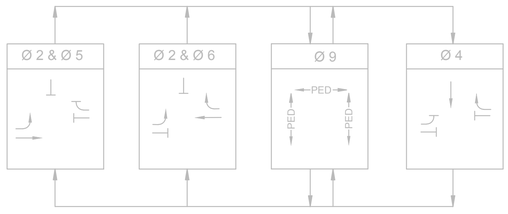
STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	FLASHING OPERATION
WATER STREET	EB	A,C				G	Y	R				R	R	R	R/GRA	R/YRA	R	R	R	R							R	R	R	FY
WATER STREET	EB	B				G	Y	R				R	R	R	R	R	R	R	R	R							R	R	R	FY
WATER STREET	WB	C				R	R	R				R	R	R	R	R	R	G	Y	R							R	R	R	FY
WATER STREET	WB	D				R	R	R				R/GRA	R/YRA	R	R	R	R	G	Y	R							R	R	R	FY
VERNON STREET	SB	E,F				R	R	R				G	Y	R	R	R	R	R	R	R							R	R	R	FR
PEDESTRIANS	ALL	ALL				DW	DW	DW				DW	DW	DW				DW	DW	DW							W	FDW	DW	OFF
TIMING IN SECONDS																														
MINIMUM GREEN (INITIAL)						15						7			3			15												EMERGENCY ONLY
PASSAGE TIME (VEHICLE)						5						5			3			5												
MAXIMUM 1						46						19			6			37												
MAXIMUM 2						46						20			6			37												
YELLOW CLEARANCE							3						3			3			3											
RED CLEARANCE								2						2			0			2										
WALK (W)																											7			
PEDESTRIAN CLEARANCE																												12	3	
RECALL						SOFT						NONE			NONE			SOFT									NONE			
MEMORY						NON-LOCKING						NON-LOCKING			NON-LOCKING			NON-LOCKING									LOCKING			

NOTES:
1. AUTOMATIC FLASHING OPERATION PER 2009 MUTCD, AS AMENDED.
2. STOP AND GO OPERATION FOR 24 HOURS PER DAY, FLASHING OPERATION FOR EMERGENCY ONLY.
3. DURING PEDESTRIAN INTERVAL, FDW THROUGH YELLOW OPERATION SHALL NOT BE IN EFFECT

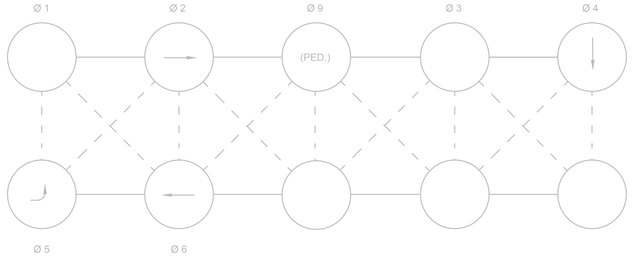
MAJOR ITEMS REQUIRED

PAY ITEM	QUANTITY	ITEM
816.01	1	MODIFY EXISTING CONTROLLER
	2	8' POLE, BASE, & FDN.
	6	PEDESTRIAN HOUSING (16" COUNTDOWN L.E.D.)
	6	APS PEDESTRIAN PUSH BUTTON, SIGN & SADDLES
804.3	300'	3 IN. ELECTRICAL CONDUIT TYPE NM - PLASTIC -(UL)
811.31	3	12" X 12" PULL BOX - SD.031
		PLUS ALL NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION.

PREFERENTIAL PHASING SEQUENCE



NEMA DUAL RING PHASING NOTES:



1. PHASES ASSOCIATED BY A SOLID LINE SHALL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE MAY OPERATE CONCURRENTLY.
3. THROUGH MOVEMENTS MAY INCLUDE RIGHT TURNS.
4. IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT SHALL NOT CHANGE DURING THE CHANGE INTERVAL(S) UNLESS OTHERWISE NOTED.

EMERGENCY PRE-EMPTION DATA

APPROACH	PREEMPTION PHASE	DETECTOR
WATER STREET EASTBOUND	2	OP1
WATER STREET WESTBOUND	6	OP2
VERNON STREET SOUTHBOUND	4	OP3

EMERGENCY VEHICLE PREEMPTION OPERATION:

1. EMERGENCY VEHICLE PREEMPTION SHALL BE ACTUATED BY AN OPTICAL SIGNAL FROM AN OPTICAL EMITTER MOUNTED ON AN EMERGENCY VEHICLE AND RECEIVED BY AN OPTICAL DETECTOR LOCATED AT INTERSECTION. A SEPARATE RECEIVING DETECTOR IS REQUIRED FOR EACH DETECTED APPROACH.
2. PREEMPTION SIGNALS FROM MULTIPLE APPROACHES SHALL BE SERVICED ON A FIRST DETECTED FIRST SERVED BASIS.
3. IN RESPONSE TO A PREEMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL TIME THE CLEARANCE INTERVALS OF THE ACTIVE PHASE (IF DIFFERENT THAT TO BE SERVICED) AND ADVANCE TO AND/OR HOLD IN EMERGENCY VEHICLE PREEMPTION PHASE UNTIL PREEMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME CLEARANCES AND SIMILARLY SERVICE OTHER EMERGENCY VEHICLE PREEMPTION SEQUENCES IN THE ORDER RECEIVED (IF RECEIVED) OTHERWISE, RESUME NORMAL PREFERENTIAL PHASE SEQUENCE.
4. PREEMPTION MINIMUM GREENS SHALL BE TEN SECONDS.
5. NORMAL CLEARANCES SHALL BE PROVIDED ON PHASES THAT ARE TERMINATED BY PREEMPTION DEMAND.
6. ACTUAL TIMING FOR PREEMPTION SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE FIRE DEPARTMENT AND SHALL BE APPROVED BY CITY PRIOR TO OPERATION.

SIGNAL IDENTIFICATION

EXISTING

PROPOSED

ONE SECTION
DUAL DISPLAY

16" LED
COUNTDOWN
P1-P6

607329_TR3 (TMPS).DWG Plotted on 1-Mar-2017 3:10 PM

NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS, UNLESS SUPERCEDED BY THESE PLANS.
2. ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD.
3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
4. TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
5. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN NCHRP REPORT 350, "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES" AND/OR "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
6. CONTRACTORS SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT, AND SIMILAR OPERATIONS.
7. THE FIRST FIVE PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH TYPE A LIGHTS.
8. THE ADVISORY SPEED LIMIT, IF REQUIRED, SHALL BE DETERMINED BY THE ENGINEER.
9. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
10. MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
11. MINIMUM LANE WIDTH IS TO BE 11 FEET (3.3m) UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
12. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.

LEGEND:

- ● REFLECTORIZED PLASTIC DRUM OR 36" CONE
- P/F POLICE/FLAGGER DETAIL
- TYPE III BARRICADE
- CHANGEABLE MESSAGE SIGN
- ARROW BOARD
- WORK ZONE
- DIRECTION OF TRAFFIC
- IMPACT ATTENUATOR
- MEDIAN BARRIER
- MEDIAN BARRIER WITH WARNING LIGHTS
- WORK VEHICLE
- TRUCK MOUNTED ATTENUATOR
- TRAFFIC OR PEDESTRIAN SIGNAL
- SIGN

THE IDEAL CAPACITY OF A MAJOR HIGHWAY IS GENERALLY CONSIDERED TO BE 1900 PASSENGER CARS PER HOUR PER LANE (PCPHPL). IN WORK ZONES ON A MULTI-LANE DIVIDED HIGHWAY, THE FOLLOWING VOLUME GUIDELINES HAVE BEEN SUGGESTED:

MEASURED AVERAGE WORK ZONE CAPACITIES

NUMBER OF LANES		NUMBER OF STUDIES	AVERAGE CAPACITY	
NORMAL (EXISTING)	OPEN (TO TRAFFIC)		VPH	VPHPL
3	1	7	1,170	1,170
2	1	8	1,340	1,340
5	2	8	2,740	1,370
4	2	4	2,960	1,480
3	2	9	2,980	1,490
4	3	4	4,560	1,520

Source: Dudek, C., Notes on Work Zone Capacity and Level of Service. Texas Transportation Institute, Texas A&M University, College Station, Texas (1984)

BY OBTAINING HOURLY TRAFFIC COUNTS FOR A PARTICULAR ROADWAY (WITH A MINIMUM OF A 48-HOUR AUTOMATIC TRAFFIC RECORDER (ATR) COUNT), THIS WILL HELP TO DETERMINE AT WHAT TIMES OF THE DAY OR NIGHT A CERTAIN NUMBER OF LANES MAY BE CLOSED.

SUGGESTED WORK ZONE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS **		
	A	B	C
LOCAL OR LOW VOLUME ROADWAYS*	350 (100)	350 (100)	350 (100)
MOST OTHER ROADWAYS*	500 (150)	500 (150)	500 (150)
FREEWAYS AND EXPRESSWAYS*	1,000 (300)	1,500 (450)	2,640 (800)

* ROAD TYPE TO BE DETERMINED BY MASSDOT OFFICE OF TRANSPORTATION PLANNING.

** DISTANCES ARE SHOWN IN FEET (METERS). THE COLUMN HEADINGS A, B, AND C ARE THE DIMENSIONS SHOWN IN THE DETAIL/ TYPICAL SETUP FIGURES. THE A DIMENSION IS THE DISTANCE FROM THE TRANSITION OR POINT OF RESTRICTION TO THE FIRST SIGN. THE B DIMENSION IS THE DISTANCE BETWEEN THE FIRST AND SECOND SIGNS. THE C DIMENSION IS THE DISTANCE BETWEEN THE SECOND AND THIRD SIGNS. (THE "THIRD" SIGN IS THE FIRST ONE TYPICALLY ENCOUNTERED BY A DRIVER APPROACHING A TEMPORARY TRAFFIC CONTROL (TTC) ZONE.)

THE "THIRD" SIGN ABOVE IS TYPICALLY REFERRED TO AS AN "ADVANCE WARNING" SIGN ON THE TTCP SETUPS. THESE ADVANCE WARNING SIGNS ARE LOCATED PRIOR TO THE PROJECT LIMITS ON ALL APPROACHES (i.e. THE W20-1 SERIES (ROAD WORK XX FT) SIGNS), AND USUALLY REMAIN FOR THE DURATION OF THE PROJECT. ADDITIONAL SIGNS (i.e. "RIGHT LANE CLOSED 1 MILE" AND "LEFT LANE CLOSED 1 MILE") HAVE BEEN SHOWN IN SOME FIGURES AS EXAMPLES OF REINFORCEMENT SIGN PLACEMENT BUT ARE USED IN RARE OCCASIONS.

THE FIRST AND SECOND WARNING SIGNS ABOVE ARE REFERRED TO AS THE OPERATIONAL (DAY-TO-DAY) WORK ZONE SIGNS AND MAY BE MOVED DEPENDING ON WHERE THE SPECIFIC ROADWAY WORK FOR THAT DAY IS LOCATED.

R2-10a SIGNS SHALL BE PLACED BETWEEN THE SECOND AND THIRD SIGNS AS DESCRIBED ABOVE.

R2-10a, R2-10e, AND W20-1 SERIES SIGNS ARE TO BE INCLUDED ON ALL DETAILS/TYPICAL SETUPS.

Based on: Table 6C-1 MUTCD LATEST EDITION

STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED

SPEED* (km/h)	DISTANCE (m)
30	35
40	50
50	65
60	85
70	105
80	130
90	160
100	185
110	220
120	250

SPEED* (mph)	DISTANCE (ft)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820

*POSTED SPEED, OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED

THESE VALUES MAY BE USED TO DETERMINE THE LENGTH OF LONGITUDINAL BUFFER SPACES.

THE DISTANCES IN THE ABOVE CHART REPRESENT THE MINIMAL VALUES FOR BUFFER SPACING.

Source: Table 6C-2 MUTCD LATEST EDITION

CONVENTIONAL ROADWAY- A STREET OR HIGHWAY OTHER THAN A LOW-VOLUME ROAD, EXPRESSWAY, OR FREEWAY.

EXPRESSWAY- A DIVIDED HIGHWAY WITH PARTIAL CONTROL OF ACCESS.

FREEWAY- A DIVIDED HIGHWAY WITH FULL CONTROL OF ACCESS.

LOW-VOLUME ROAD- A FACILITY LYING OUTSIDE OF BUILT-UP AREAS OF CITIES, TOWNS, AND COMMUNITIES, AND IT SHALL HAVE A TRAFFIC VOLUME OF LESS THAN 400 AADT. IT SHALL NOT BE A FREEWAY, EXPRESSWAY, INTERCHANGE RAMP, FREEWAY SERVICE ROAD OR A ROAD ON A DESIGNATED STATE HIGHWAY SYSTEM.

Source: MUTCD LATEST EDITION

TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

TYPE OF TAPER	TAPER LENGTH (L)
MERGING TAPER	AT LEAST L
SHIFTING TAPER	AT LEAST 0.5L
SHOULDER TAPER	AT LEAST 0.33L
ONE-LANE, TWO-WAY TRAFFIC TAPER	50 FT MIN.(15 m) 100 FT(30 m) MAX.
DOWNSTREAM TAPER	50 FT MIN.(15 m) 100 FT MAX.(30 m) PER LANE

Source: Table 6C-3 MUTCD LATEST EDITION

FORMULAS FOR DETERMINING TAPER LENGTHS

SPEED LIMIT (S)	TAPER LENGTH (L) FEET
40 MPH OR LESS	$L = \frac{WS^2}{60}$
45 MPH OR MORE	$L = WS$

SPEED LIMIT (S)	TAPER LENGTH (L) Meters
60 KM/H OR LESS	$L = \frac{WS^2}{155}$
70 KM/H OR MORE	$L = \frac{WS}{1.6}$

WHERE: L = TAPER LENGTH IN FEET (METERS)

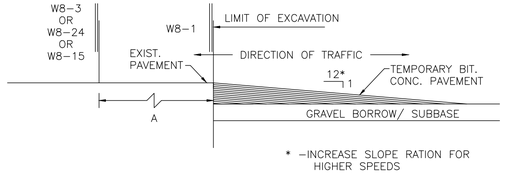
W = WIDTH OF OFFSET IN FEET (METERS)

S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICAPATED OPERATING SPEED IN MPH (KM/H)

Source: Table 6C-4 MUTCD LATEST EDITION

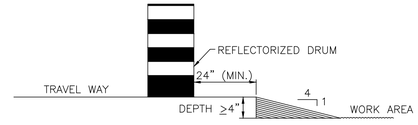
NOTES FOR INSTALLATION:

1. ALL TRAFFIC CONTROL SCENARIOS SHALL CONFORM WITH THE MASSDOT STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TEMPORARY TRAFFIC CONTROL PLANS.
2. ALL CONSTRUCTION SIGNING, DRUMS, BARRICADES AND OTHER DEVICES SHALL CONFORM WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AS AMENDED.
3. ALL DRUMS SHALL BE SET AT 20' ON CENTER MAX. UNLESS OTHERWISE NOTED OR ADJUSTED BY THE ENGINEER.
4. ALL DRUMS SHALL BE APPROXIMATELY PLACED AND MOVED AS NECESSARY TO MAINTAIN ADEQUATE ABUTTER ACCESS AT ALL TIMES.
5. CONTRACTOR SHALL NOTIFY EACH ABUTTER AT LEAST 48 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT AND SIMILAR OPERATIONS.
6. A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION ON TWO WAY STREETS SHALL BE MAINTAINED AT ALL TIMES, EXCEPT DURING WORKING HOURS, TRAFFIC MAY BE REDUCED TO ONE LANE UNDER POLICE OR FLAGGER CONTROL FOR SHORT TIME PERIODS WHEN REQUIRED FOR THE WORK, AS SHOWN.
7. GRADE SEPARATIONS IN EXCESS OF 2" DURING NON-WORKING HOURS WILL REQUIRE DELINEATION BY USE OF DRUMS.
8. EXCAVATION EDGES IN EXCESS OF 4" DEEP SHALL BE PROTECTED DURING NON-WORKING HOURS BY BACKFILLING WITH A WEDGE OF GRAVEL OR SOIL TO COMPACTED 1:4 SLOPE.
9. 10' MINIMUM LANE WIDTHS SHALL BE MAINTAINED.
10. NON-ESSENTIAL TRAFFIC CONTROL DEVICES SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS.
11. ADVISORY SPEED PLATES (W13-1) SHALL BE USED IF APPROPRIATE AND AS DIRECTED BY THE ENGINEER.
12. CONSTRUCTION SIGNS ASSOCIATED WITH THE DAILY LANE CLOSURES AND SHOULDER WORK AREAS WILL NOT BE MEASURED FOR PAYMENT MORE THAN ONCE REGARDLESS OF THE NUMBER OF TIMES THE SIGNS ARE REUSED.
13. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
14. REFER TO SPECIAL PROVISIONS FOR WORK ZONE RESTRICTIONS REGARDING WORK ADJACENT TO THE TANTASQUA REGIONAL SCHOOLS AND WARREN ROAD.



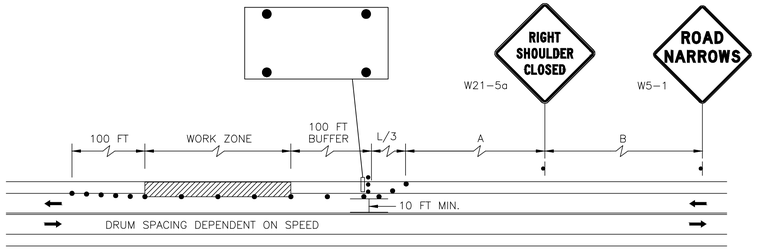
LONGITUDINAL DROP-OFF DETAIL

NOT TO SCALE



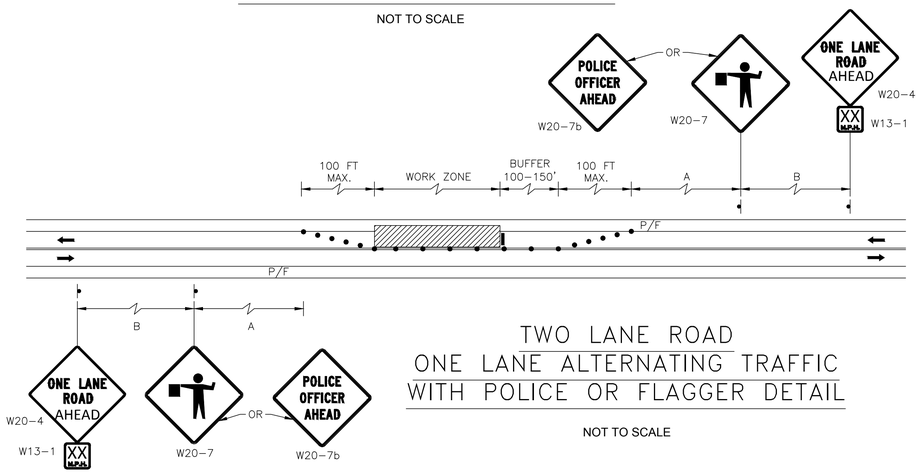
LATERAL DROP-OFF DETAIL

NOT TO SCALE



TYPICAL SHOULDER CLOSURE

NOT TO SCALE



TWO LANE ROAD
ONE LANE ALTERNATING TRAFFIC WITH POLICE OR FLAGGER DETAIL

NOT TO SCALE

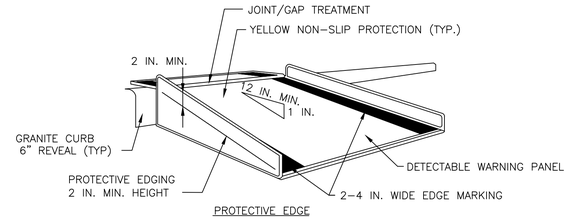
NOTES:

1. CURB RAMPS SHALL BE 60 IN. MINIMUM WIDTH WITH A FIRM, STABLE AND NON-SLIP SURFACE.
2. PROTECTIVE EDGING WITH A 2 IN. MINIMUM HEIGHT SHALL BE INSTALLED WHEN THE CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6 IN. OR GREATER OR HAS A SIDE APRON SLOP STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN THE CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3 IN. OR MORE.
3. DETECTABLE EDGING WITH 6 IN. MINIMUM HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. THE CURB RAMP WALKWAY AND LANDING AREA SURFACE SHALL BE OF A SOLID CONTINUOUS CONTRASTING COLOR ABUTTING UP TO THE EXISTING SIDEWALK.
5. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
6. CLEAR SPACE OF 48x48 IN. MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
7. WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5 IN. WIDTH.
9. CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5 IN. LATERAL EDGES SHOULD BE VERTICAL UP TO 0.25 IN. HIGH, AND BEVELED AT 1:2 BETWEEN 0.25 IN. AND 0.5 IN. HEIGHT.
10. IF A TEMPORARY PEDESTRIAN RAMP LEADS TO A CROSSWALK, THEN A DETECTABLE WARNING PAD MUST BE ADHERED TO THE BASE OF THE RAMP. IF IT LEADS TO A PROTECTED PEDESTRIAN BYPASS THAT DOES NOT CONFLICT WITH VEHICULAR TRAFFIC, THEN A PAD THEN A PAD SHALL NOT BE INSTALLED ON THE RAMP.

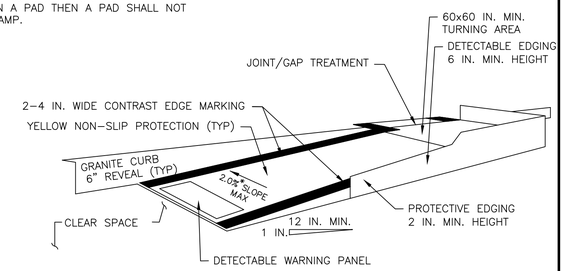
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	71	132
PROJECT FILE NO. 607329			

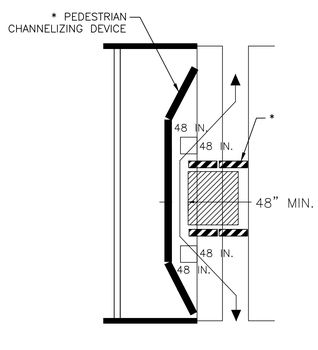
TEMPORARY TRAFFIC CONTROL PLANS
SHEET 2 OF 2

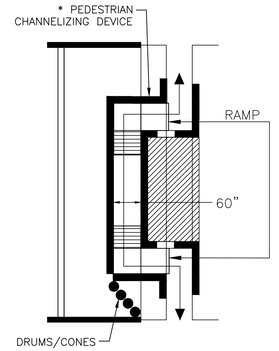


TEMPORARY CURB RAMP-PERPENDICULAR TO CURB



TEMPORARY CURB RAMP-PARALLEL TO CURB

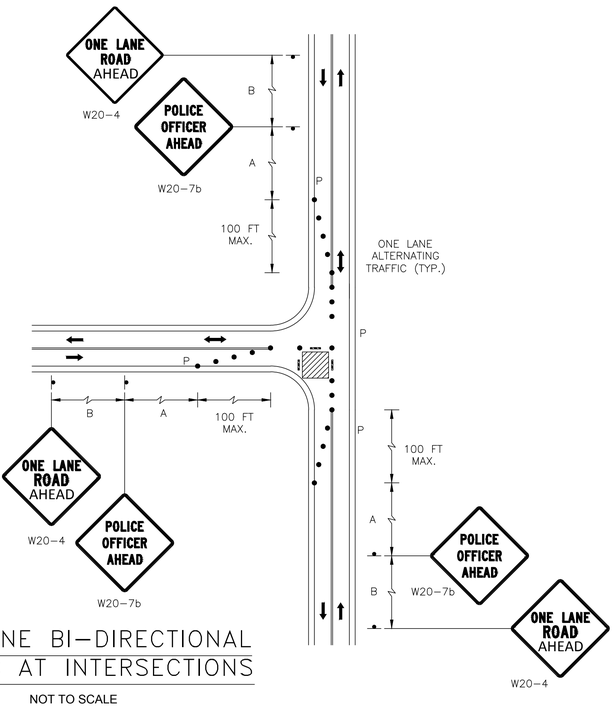




- When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, temporary facilities shall be provided and they shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility.
- A pedestrian channelizing device that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.
- When used, temporary ramps shall comply with Americans with Disabilities Act (see Figures Ped-1 & Ped-2).
- The alternate pathway should have a smooth continuous hard surface for the entire length of the temporary pedestrian facility.
- The protective requirements of a TTC situation have priority in determining the need for temporary traffic barriers and their use in this situation should be based on engineering judgment.
- Audible information devices should be considered where midblock closings and changed crosswalk areas cause inadequate communication to be provided to pedestrians who have visual disabilities.

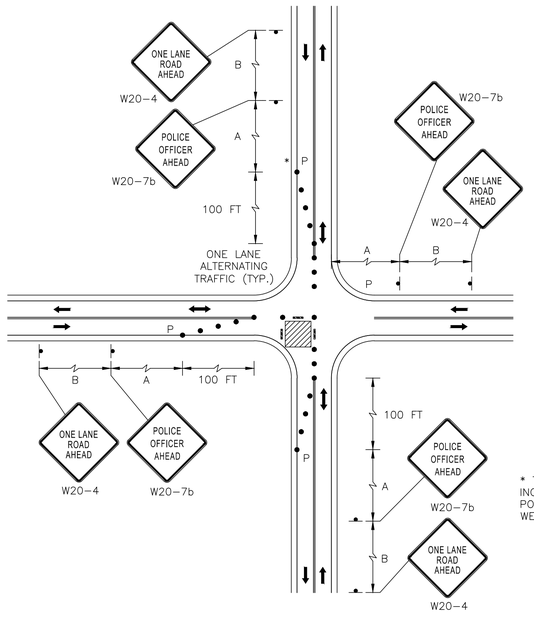
AUDIBLE DEVICES

For long term sidewalk closures (at a minimum overnight) a form of speech messaging for pedestrians with visual disabilities shall be provided. Audible information devices such as detectable barriers or barricades and other passive pedestrian activation (motion activated) devices should be considered for these cases. These audible devices can be mountable or stand alone.



ONE LANE BI-DIRECTIONAL TRAFFIC AT INTERSECTIONS

NOT TO SCALE



* THIS DELINEATION CAN BE REMOVED TO INCREASE CAPACITY OF THE INTERSECTION. POLICE OFFICER CAN BE REMOVED AS WELL

SINGLE LANE APPROACH ONE QUADRANT CLOSURE

NOT TO SCALE

607329_TR3 (TMPS).DWG Plotted on 1-Mar-2017 3:10 PM

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	72	132
PROJECT FILE NO. 607329			

LANDSCAPE PLAN
SHEET 1 OF 21

607329_LD1(LANDSCAPE PLANS).DWG Plotted on 1-Mar-2017 3:14 PM

N

MAIN STREET

BENNETT STREET

RICHARDSON STREET

PROP. BIKE PATH SIGN
PROP. MILE MARKER (TYP.)
PROP. BENCH (TYP.)
PROP. TRASH RECEPTACLE
PROP. TREE (TYP.)
PROP. PLANTING BED
LAWN AREA
PROP. STOCKADE FENCE (TYP.)
RAILROAD ARTIFACT LOCATION
PROP. CEM. CONC. WALK
PROP. TREE PROTECTION (TYP.)
PROP. BOLLARD (TYP.)
PROP. BIKE RACK (TYP.)
PROP. CEM. CONC. SIDEWALK

N/F
NEW ENGLAND TEL & TEL CO.
DEED BOOK 9321 PG 237
MAP 18 PARCEL 13

N/F
SANTONELLI TRS. STEVEN& ROBERT
DEED BOOK 26907 PG 543
MAP 18 PARCEL 232

N/F
BOSTON & MAINE RAILROAD

N/F
TOWN OF WAKEFIELD, DPW
DEED BOOK 7950 PG 472
MAP 18 PARCEL 250

N/F
MEGA-KRONAS LLC
DEED BOOK 24112 PG 229
MAP 18 PARCEL 229

N/F
TUCKER RICHARD W.
DEED BOOK 13202 PG 167
MAP 18 PARCEL 228A

N/F
CONDOMINIUMS
MAP 18 PARCEL 73

CONTINUED ON SHEET NO. 73

0 20 50 100
SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	73	132
PROJECT FILE NO. 607329			

LANDSCAPE PLAN
SHEET 2 OF 21

CONTINUED ON SHEET NO. 72

CONTINUED BELOW

CONTINUED ABOVE

CONTINUED ON SHEET NO. 74

RICHARDSON STREET

PROP. KIOSK

PROP. BIKE RACK (TYP.)

PROP. TREE (TYP.)

TP#1 (APPROX.)

TP#2

TP#3

TP#4

R.R. S/L

TOWN L.O.

N/F TOWN OF WAKEFIELD DPW DEED BOOK 7950 PG 472 MAP 18 PARCEL 230

N/F BOSTON & MAINE RAILROAD

N/F MEGA-KRONAS LLC DEED BOOK 2412 PG 225 MAP 18 PARCEL 14

N/F CONDOMINIUMS MAP 18 PARCEL 73

N/F TOWN OF WAKEFIELD PARKING LOT DEED BOOK 9540 PG 471 MAP 18 PARCEL 72

N/F MYSTIC RUG & INC. NOVELTY MILL DEED BOOK 6929 PG 61 MAP 18 PARCEL 226

N/F PASCIUTO TR FRANCESCO DEED BOOK 16641 PG 184 MAP 18 PARCEL 214

N/F KEOUGH JR. GERALD J. DEED BOOK 17185 PG 5 MAP 18 PARCEL 212

TOWN OF WAKEFIELD N/A MAP 18 PARCEL 213

BIT CONC PARKING

CONC RAMP

DENSE TREES

GRAVEL PARKING

FENCE/ TRASH CONTAINER

TRAILER

SIGNAL BOX

STOCKADE FENCE

RR TRACKS

STEPS

RAMP

0 20 50 100

SCALE: 1" = 20'

607329_L01(LANDSCAPE PLANS).DWG Plotted on 1-Mar-2017 3:15 PM

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	74	132
PROJECT FILE NO. 607329			

LANDSCAPE PLAN
SHEET 3 OF 21

CONTINUED ON SHEET NO. 73

PROP. 3' WIDE LANDSCAPED AREA

PROP. 3' WIDE LANDSCAPED AREA

VERNON STREET

PLEASANT STREET

WATER STREET

OTIS STREET

NEW SALEM STREET

PROP. 3' WIDE LANDSCAPED AREA

PROP. 3' WIDE LANDSCAPED AREA

PROP. BOLLARD (TYP.)

PROP. LANDSCAPED AREA

PROP. TREE (TYP.)

CONTINUED BELOW

CONTINUED ABOVE

CONTINUED ON SHEET NO. 75

SCALE: 1" = 20'

607329_LD1(LANDSCAPE PLANS).DWG Plotted on 1-Mar-2017 3:15 PM

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	75	132
PROJECT FILE NO. 607329			

LANDSCAPE PLAN
SHEET 4 OF 21

Plotted on 1-Mar-2017 3:16 PM
607329_LD1(LANDSCAPE PLANS).DWG

N

SUGAR HILL LN

TOWN L.O.

PROP. LIMIT OF CLEARING

VERNON STREET

N/F
TOWN OF WAKEFIELD
DEED BOOK 9276 PG 28
MAP 17 PARCEL 253

100' WL BUFFER

GRASS

DENSE TREES

GRAVEL

R.R. S/L

CONTINUED ON SHEET NO. 74

CONTINUED BELOW

24 25 26 27 28 29

PKF

TOWN L.O.

N/F
BOSTON & MAINE RAILROAD

BIT CONC PARKING

18"CIP

D.TRI

CONTINUED ABOVE

CONTINUED ON SHEET NO. 76

29 30 31 32 33 34 35

N/F
GILLINGHAM ROBERT C.
DEED BOOK 50152 PG 51
MAP 17 PARCEL 252

N/F
MELLY NORA T.
DEED BOOK 44135 PG 405
MAP 17 PARCEL 286

N/F
CHAPMAN JR RICHARD P.
DEED BOOK 16253 PG 15
MAP 16 PARCEL 285

N/F
STEVENS RICHARD A. TR
DEED BOOK 1226 PG 93
MAP 16 PARCEL 284

N/F
REDLAND REBECCA S.
DEED BOOK 40369 PG 146
MAP 16 PARCEL 283

PATIO

GARAGE

RET WALL

PROP. STOCKADE FENCE (TYP.)

STOCKADE FENCE

D.TREES

CLF

N/F
GUILLOW INC. PAUL K.
DEED BOOK 8287 PG 325
MAP 17 PARCEL 259

N/F
MAITLAND CORP
DEED BOOK 21616 PG 313
MAP 16 PARCEL 287

0 20 50 100

SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	76	132
PROJECT FILE NO. 607329			

LANDSCAPE PLAN
SHEET 5 OF 21

N

N/F
REILAND REBECCA S.
DEED BOOK 40369 PG 146
MAP 16 PARCEL 283

N/F
POWERS PAUL C.
DEED BOOK 29968 PG 217
MAP 16 PARCEL 282

N/F
SABBATELI JOHN A.
DEED BOOK 20800 PG 600
MAP 16 PARCEL 281

N/F
LATHAM KEVIN D.
DEED BOOK 26887 PG 446
MAP 16 PARCEL 280

N/F
BREALT PATRICIA A.
DEED BOOK 30451 PG 578
MAP 16 PARCEL 273

100' WL BUFFER
FENCE
SHED
STOCKADE FENCE
RET WALL
BOD
D.TREES
DENSE TREES
STUMP
TOWN L.O.
RIM=EL 99'
SMH
WG
WM
PL
R.R. S/L
CONTINUED ON SHEET NO. 75
CONTINUED BELOW
35
36
37
38
39
40
41
PROP. BOLLARD (TYP.)
PROP. STOCKADE FENCE (TYP.)
PROP. 3' WIDE LANDSCAPED AREA
BIT CONC PARKING
PROP. 3' WIDE LANDSCAPED AREA
N/F
BOSTON & MAINE RAILROAD
CLF
18"CIP
N/F
TOOTHAKER TR JAMES L.
DEED BOOK 29958 PG 7
MAP 16 PARCEL 291-177
SW
GRAVEL
FITCH COURT
62+00
WF#D-1

N/F
CONDOMINIUMS
MAP 16 PARCEL 272B-170B
DECK
PROP. STOCKADE FENCE (TYP.)
N/F
KERR ERIC P.
DEED BOOK 29615 PG 521
MAP 16 PARCEL 263
N/F
MARINO CATHY J. TR
DEED BOOK 36503 PG 375
MAP 16 PARCEL 262
N/F
CHOINIERE KENETH W.
DEED BOOK 36045 PG 119
MAP 16 PARCEL 261
CONTINUED ABOVE
CONTINUED ON SHEET NO. 77
41
42
43
44
45
46
GRASS
DENSE TREES
WF#D-2
WF#D-3
WF#D-4
WF#D-5
WF#D-6
WF#D-7
WF#D-8
WF#D-9
WF#D-10
WF#D-11
WF#A-1
N/F
FUNCHION RICHARD J.
DEED BOOK 14270 PG 422
MAP 16 PARCEL 259
MILL RIVER
N/F
NABLUS REALTY TRUST
DEED BOOK 24722 PG 72
MAP 29 PARCEL 195

0 20 50 100
SCALE: 1" = 20'

607329_L01(LANDSCAPE PLANS).DWG Plotted on 1-Mar-2017 3:17 PM

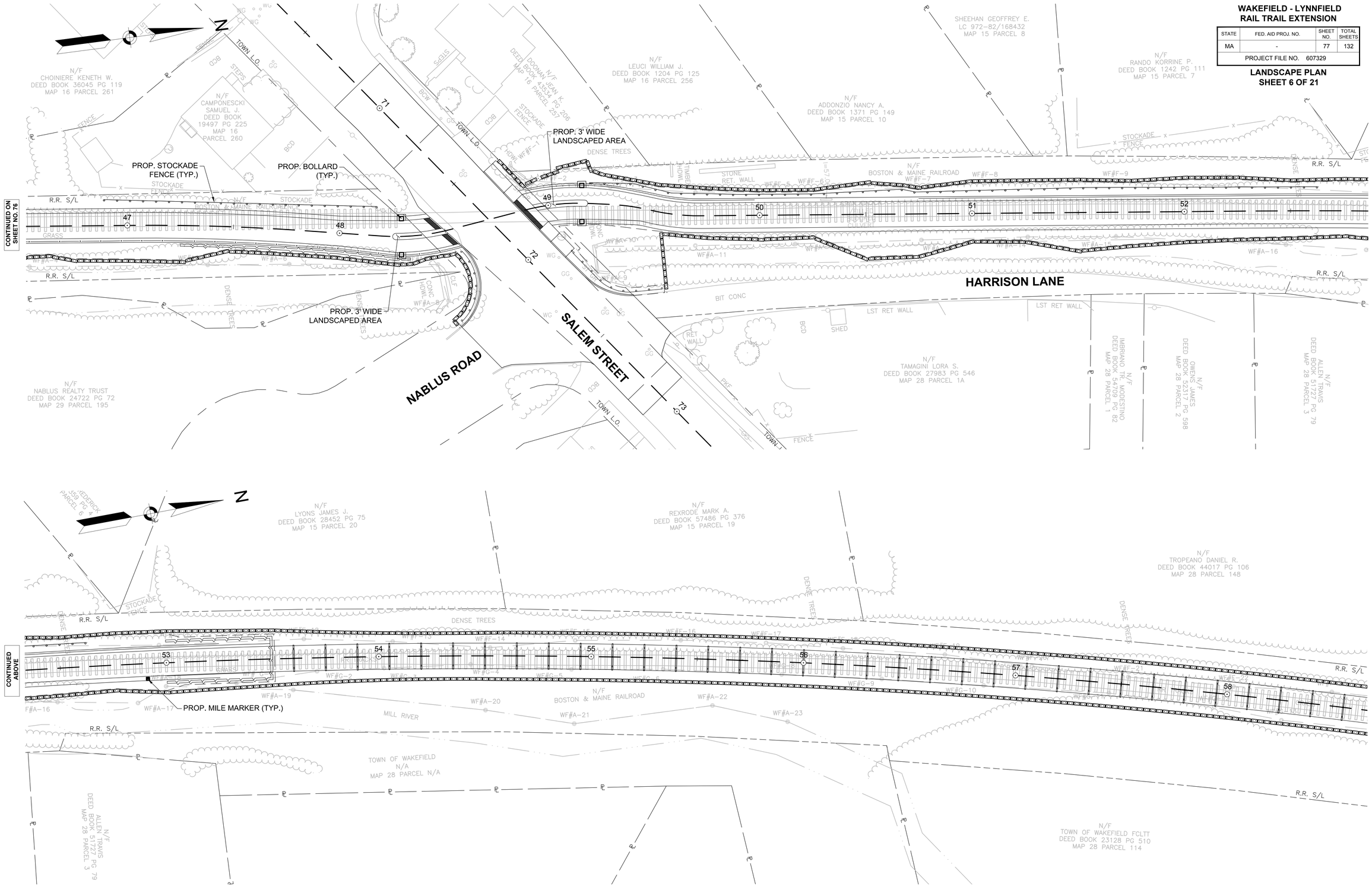
WAKEFIELD - LYNNFIELD RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	77	132

PROJECT FILE NO. 607329

LANDSCAPE PLAN
SHEET 6 OF 21

607329_LD1B(LANDSCAPE PLANS).DWG Plotted on 1-Mar-2017 3:20 PM



WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	78	132
PROJECT FILE NO. 607329			

LANDSCAPE PLAN
SHEET 7 OF 21

607329_LD1B(LANDSCAPE PLANS).DWG Plotted on 1-Mar-2017 3:21 PM

N

N/F
TROPEANO DANIEL R.
DEED BOOK 12076 PG 180
MAP 28 PARCEL 128

N/F
FIRST METHODIST CHURCH
DEED BOOK 8104 PG 78
MAP 28 PARCEL 123

N/F
CARUSO LOWELL STREET LLC.
DEED BOOK 54820 PG 576
MAP 28 PARCEL 118

N/F
MAP 28 PARCEL 116

PROP. STOCKADE FENCE (TYP.)

EROSION CONTROL

BOULDERS

CURB

DENSE TREES

WETLANDS

R.R. S/L

CONTINUED ON SHEET NO. 77

59 60 61 62 63 64

WF#F-28 WF#F-29 WF#F-30 WF#F-31 WF#F-32 WF#F-33 WF#F-35

WF#G-19 WF#G-20 WF#G-21 WF#G-23 WF#G-24

WF#B-2 WF#B-1

N/F
BOSTON & MAINE RAILROAD

CONTINUED BELOW

N/F
TOWN OF WAKEFIELD FCLTT
DEED BOOK 23128 PG 510
MAP 28 PARCEL 114

N/F
MARCIN JOHN R.
DEED BOOK 14842 PG 477
MAP 28 PARCEL 113

N

N/F
CARUSO LOWELL STREET LLC.
DEED BOOK 54820 PG 576
MAP 28 PARCEL 116

N/F
CARDOSO OSCAR P.
DEED BOOK 49523 PG 96
MAP 14C PARCEL 160

N/F
TOWN OF WAKEFIELD
DEED BOOK 38060 PG 468
MAP 14C PARCEL 173

TOWN L.O.

EL BOX

BCD

CLF

PROP. LOAM & SEED

PROP. 3' WIDE LANDSCAPED AREA

PROP. BOLLARD (TYP.)

PROP. STOCKADE FENCE (TYP.)

PROP. 3' WIDE LANDSCAPED AREA

PROP. LOAM & SEED

DENSE TREES

GRASS

STOCKADE FENCE

CONTINUED ABOVE

65 66 67 68 69 70

WF#H-1 WF#H-2 WF#H-3 WF#H-4 WF#H-5 WF#H-6 WF#H-8 WF#H-9

WF#B-5 WF#B-6 WF#B-11 WF#B-13 WF#B-16 WF#B-17

N/F
BOSTON & MAINE RAILROAD

R.R. S/L

81 82

LOWELL STREET

TOWN L.O.

P&R

N/F
MUSE JOAN M.
DEED BOOK 12626 PG 451
MAP 14C PARCEL 163

N/F
SASSO THOMAS
DEED BOOK 50655 PG 181
MAP 14C PARCEL 164C

N/F
COMEAU DONALD C.
DEED BOOK 24904 PG 281
MAP 14C PARCEL 164D

PATIO

BIT CONC

CONTINUED ON SHEET NO. 79

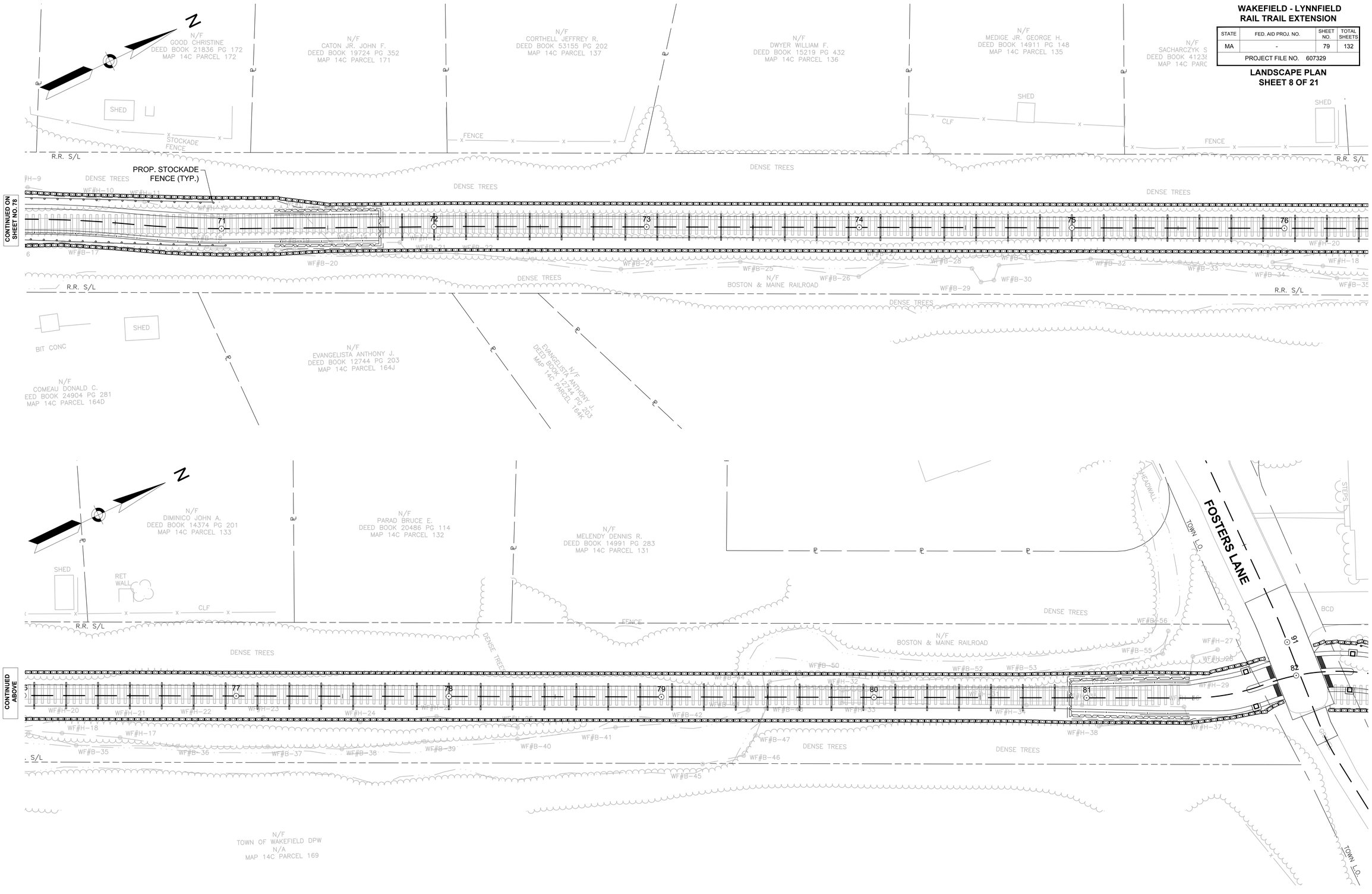
0 20 50 100

SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	79	132
PROJECT FILE NO. 607329			

LANDSCAPE PLAN
SHEET 8 OF 21



607329_LDTB(LANDSCAPE PLANS).DWG Plotted on 1-Mar-2017 3:22 PM

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	80	132
PROJECT FILE NO. 607329			

LANDSCAPE PLAN
SHEET 9 OF 21

607329_LD1B(LANDSCAPE PLANS).DWG Plotted on 1-Mar-2017 3:22 PM

FOSTERS LANE

TOWN L.O.

N/F
HARRIS TR. CAMILLE L.
DEED BOOK 55128 PG 116
MAP 14B PARCEL 150

N/F
TOWN OF WAKEFIELD FCLTT
DEED BOOK 8641 PG 156
MAP 14B PARCEL 149

N/F
BOSTON & MAINE RAILROAD

PROP. STOCKADE FENCE (TYP.)

DENSE TREES

SHED

BCD

ROCK

R.R.

PLANTER

STONE WALL

N/F
ELLIS RICHARD W.
DEED BOOK 23216 PG 133
MAP 36 PARCEL 21

CONTINUED ON SHEET NO. 79

CONTINUED BELOW

CONTINUED ABOVE

CONTINUED ON SHEET NO. 81

1347 STATE HIGHWAY

ROUTE 128/95 (ABOVE)

HIGHWAY LAYOUT NO. 3572

N/F
TOWN OF WAKEFIELD
DEED BOOK 21037 PG 487
MAP 36W PARCEL 20

DENSE TREES

FENCE

WING WALL

ST GR

EROSION CONTROL

200' RA BUFFER

R.R. S/L

0 20 50 100

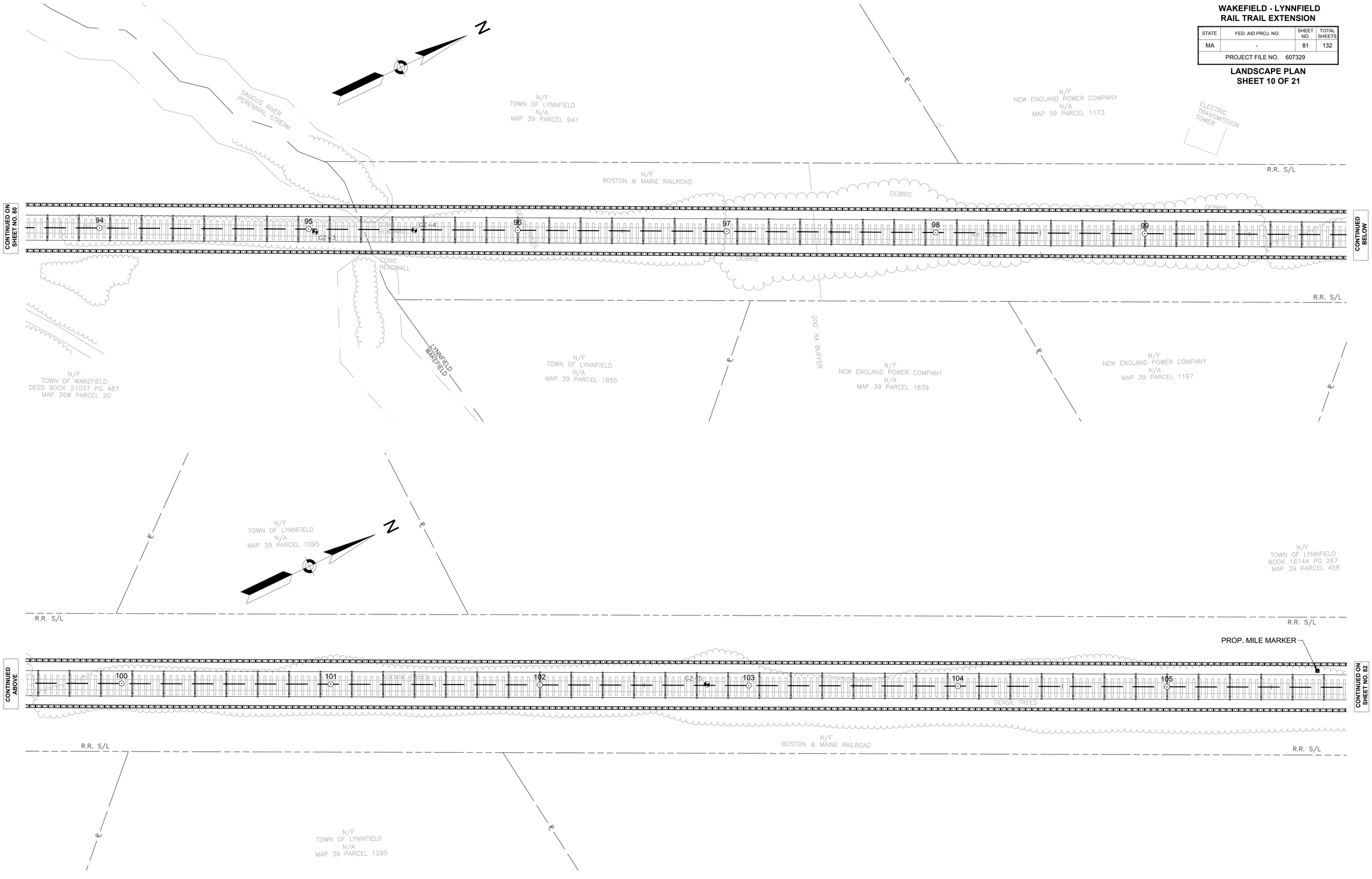
SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	81	132
PROJECT FILE NO. 607329			

LANDSCAPE PLAN
SHEET 10 OF 21

607329_LD1B(LANDSCAPE PLANS).DWG Plotted on 1-Mar-2017 3:23 PM



WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	82	132
PROJECT FILE NO. 607329			

LANDSCAPE 11
SHEET 11 OF 21

607329_LD1C(LANDSCAPE PLANS).DWG Plotted on 1-Mar-2017 3:26 PM

N

N/F
TOWN OF LYNNFIELD
BOOK 16144 PG 267
MAP 39 PARCEL 458

N/F
TOWN OF LYNNFIELD
N/A
MAP 33 PARCEL 1756

N/F
TOWN OF LYNNFIELD
N/A
MAP 33 PARCEL 1758

N/F
TOWN OF LYNNFIELD
N/A
MAP 33 PARCEL 1869

N/F
TOWN OF LYNNFIELD
N/A
MAP 33 PARCEL 575

N/F
NA
DEED BOOK 24679 PG 171
MAP 29 PARCEL 2414

N/F
BOSTON & MAINE RAILROAD

N/F
GIANANTONIO JOSEPH TELFE
DEED BOOK 13788 PG 371
MAP 33 PARCEL 2755

R.R. S/L

PROP. MILE MARKER

N25°54'38"E
2512.69'

DENSE TREES

NO PIPE VISIBLE
CONC. HEADWALL

WF#J-1 JTP 8141

WF#J-1A

WF#J-2

WF#J-3

WF#J-3A

WF#J-4

WF#J-5

WF#J-6

WF#J-7

WF#J-8

106 107 108 109 110 111 112 113 114 115 116 117

GZ-6 GZ-7 GZ-8

CONTINUED ON SHEET NO. 81

CONTINUED BELOW

CONTINUED ABOVE

CONTINUED ON SHEET NO. 83

0 20 50 100

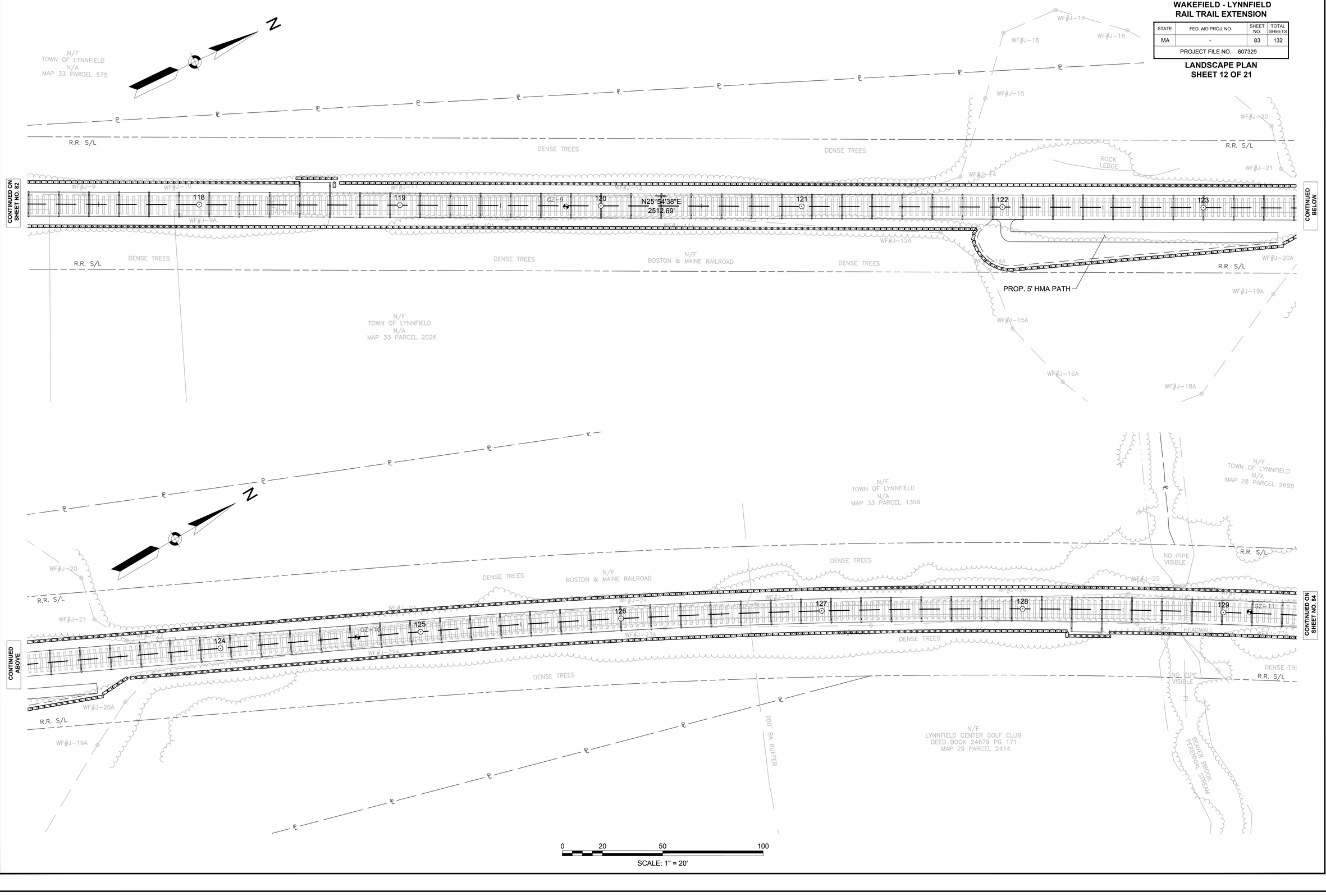
SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	83	132
PROJECT FILE NO. 607329			

LANDSCAPE PLAN
SHEET 12 OF 21

607329_LD1C(LANDSCAPE PLANS).DWG Plotted on 1-Mar-2017 3:27 PM

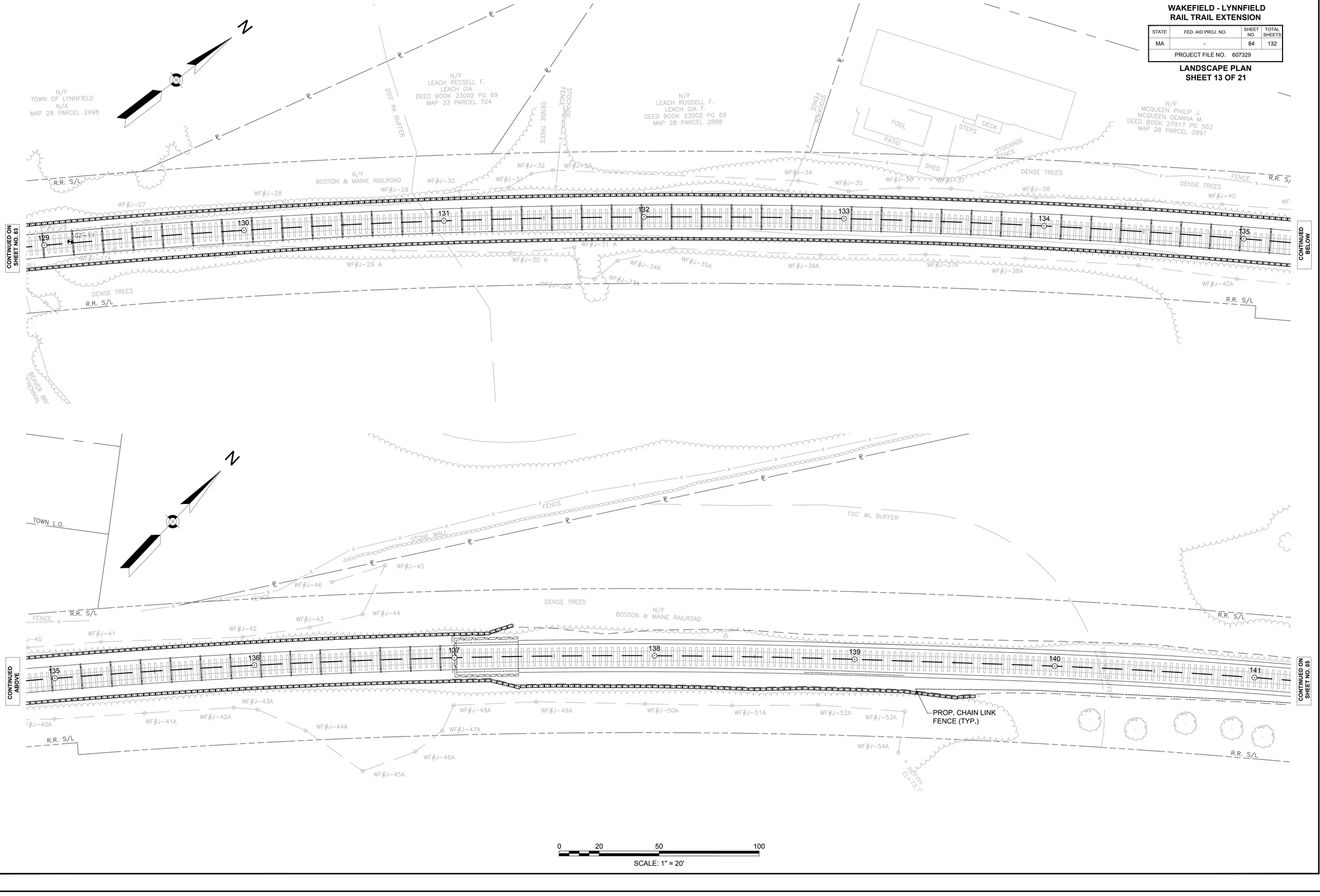


WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	84	132
PROJECT FILE NO. 607329			

LANDSCAPE PLAN
SHEET 13 OF 21

607329_LD1C(LANDSCAPE PLANS).DWG Plotted on 1-Mar-2017 3:28 PM



WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	85	132
PROJECT FILE NO. 607329			

LANDSCAPE PLAN
SHEET 14 OF 21

607329_LD1C(LANDSCAPE PLANS).DWG Plotted on 1-Mar-2017 3:28 PM

CONTINUED ON SHEET NO. 83

N/F
71 PARSONS AVE REALTY TRUST
ROMBULT JULIUS B. TR.
DEED BOOK 13359 PG 368
MAP 29 PARCEL 1617

R.R. S/L
STONE WALL
PROP. STOCKADE FENCE (TYP.)
N/F
BOSTON & MAINE RAILROAD
141 142 143 144 145 146 147
BOULDER
PROP. CHAIN LINK FENCE (TYP.)

CONTINUED BELOW

CONTINUED ABOVE

NA
BRESLOW DEBORAH A.
BRESLOW ROBERT J.
DEED BOOK 12764 PG 188
MAP 29 PARCEL 998

N/F
SANNI HEDWIG
DEED BOOK 5233 PG 730
MAP 29 PARCEL 1073

SHED
POOL
PATIO
FENCE
DENSE TREES
CULVBOX I=83.4'
HDWL W/1.5'X1.5' STONE W/BOX CULVERT
WF#B-60 WF#B-61 WF#B-62 WF#B-63
24" RCP I=79.8'
CULVBOX I=79.8'
RR TRACKS
TP#5
BIT CONC PARKING
100' WL
100' WL BUFFER
147 148 149 150 151 152 153
N/F
BOSTON & MAINE RAILROAD
N/F
LYNNFIELD CENTER GOLF CLUB
DEED BOOK 24679 PG 171
MAP 29 PARCEL 2414

CONTINUED ON SHEET NO. 85

0 20 50 100
SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	86	132
PROJECT FILE NO. 607329			

LANDSCAPE PLAN
SHEET 15 OF 21

607329_LD1C(LANDSCAPE PLANS).DWG Plotted on 1-Mar-2017 3:29 PM

N

N/F ST. PAULS EPISCOPAL CHURCH N/A MAP 29 PARCEL 1059

CENTERPIPE CO

FLOODLIGHT

L.O.

STEPS

MAP 29 PARCEL 1118

100' WL BUFFER

TOWN L.O.

PROP. LOAM AND SEED

SUMMER STREET

101

BVW

UP/LP

FENCE

PROP. 3' WIDE LANDSCAPED AREA

PROP. BOLLARD (TYP.)

BCD

CB RIM=96.23'

6"RCP

12"RCP i=92.9

12"RCP

CB RIM=96.09'

V=92.2(SE) NO ACCESS (FROZEN/ BENT RIM)

GG

N/F CAMPBELL L PETER DEED BOOK 14279 PG 326 MAP 29 PARCEL 1125

INTERMITTENT STREAM

DENSE TREES

15"CMP i=96.07'

15" CMP i=96.84'

PROP. MILE MARKER

CONTINUED BELOW

R.R. S/L

155

156

157

158

154

153

TP#6

WF#K-10

WF#K-2

WF#K-3

WF#K-1

WF#B-7

WF#B-8

WF#B-9

WF#B-10

PROP. STOCKADE FENCE (TYP.)

CONTINUED ON SHEET NO. 85

N/F BOSTON & MAINE RAILROAD

DMH RIM=95.85' NO ACCESS OVER 7" PVC(W) 7" PVC(E)

DUCT 12"RCP

CB RIM=95.44'

i=92.9(NW) i=92.6(SE)

UP/LP

24"RCP

DMH RIM=94.48' i=87.3(SW) i=87.8(NE) i=87.8(N)

N/F LYNNFIELD CENTER GOLF CLUB DEED BOOK 24679 PG 171 MAP 29 PARCEL 2414

18" RCP i=93.60'

DMH RIM=97.59'

N/F DUPREY ROBERT W. III DUPREY ERIN M. DEED BOOK 483 PG 84922 MAP 29 PARCEL 1183

N

N/F CARPENTER SCOTT E. CARPENTER CHRISTINE M. DEED BOOK 20483 PG 2 MAP 29 PARCEL 597

PROP. MILE MARKER

DENSE TREES

R.R. S/L

159

160

161

162

163

164

PROP. STOCKADE FENCE (TYP.)

CONTINUED ABOVE

CONTINUED ON SHEET NO. 87

BOULDERS

N/F CONNORS NICHOLAS L. CONNORS KERI S. DEED BOOK 32885 PG 179 MAP 29 PARCEL 1256

0 20 50 100

SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	87	132
PROJECT FILE NO. 607329			

LANDSCAPE PLAN
SHEET 16 OF 21

Plotted on 1-Mar-2017 3:32 PM
607329_LD1D(LANDSCAPE PLANS).DWG

CONTINUED ON SHEET NO. 86

CONTINUED BELOW

N

100' WL BUFFER

DENSE TREES

WF#L-1

WF#L-2

WF#L-3

WF#L-4

R.R. S/L

RR TRACKS

165 166 167 168 169 170

PROP. STOCKADE FENCE (TYP.)

N/F
BOSTON & MAINE RAILROAD

BOULDERS

FENCE

N/F
VORA MARGIN V.
BUCH DHARA
DEED BOOK 487 PG 85383
MAP 29 PARCEL 1344

N/F
BORAS WILLIAM P. & MARY J.
BOOK 202 PG 44927
MAP 29 PARCEL 1357

N/F
MARRAMA SHARON A.
MARRAMA LOUIS J. JR.
BOOK 340 PG 68398
MAP 29 PARCEL 1383

N/F
LOUGHLIN HELEN H.
LOUGHLIN STEVEN F.
BOOK 284 PG 61307
MAP 29 PARCEL 1469

N/F
SWIATKOWSKI JOHN P.
SWIATKOWSKI LINDSAY K.
DEED BOOK 466 PG 83233
MAP 29 PARCEL 1472

N/F
GRAVE RALPH A.
GRAVE NINA M.
DEED BOOK 360 PG 70437
MAP 29 PARCEL 1484

N

N/F
GRILK NANCY S.
GRILK THOMAS S.
DEED BOOK 9580 PG 199
MAP 29 PARCEL 672

N/F
MELLEN CHRISTOPHER – LINDA
DEED BOOK 13783 PG 93
MAP 29 PARCEL 619

N/F
HOUDA DOUGLAS H.
HOUDA SHELLEY
DEED BOOK 442 PG 79906
MAP 30 PARCEL 812

N/F
BENKUS VIRGINIA T.
BENKUS PETER D.
BOOK 98 PG 23973
MAP 30 PARCEL 825

BOD

STEPS

POOL

SHED

RET WALL

CONTINUED ABOVE

CONTINUED ON SHEET NO. 88

171 172 173 174 175 176

PROP. STOCKADE FENCE (TYP.)

STOCKADE FENCE

N/F
GRAVE RALPH A.
GRAVE NINA M.
DEED BOOK 360 PG 70437
MAP 29 PARCEL 1484

N/F
GERACE JAMES A.
BURKE MAUREEN A.
DEED BOOK 475 PG 84140
MAP 29 PARCEL 1494

N/F
LAMBE SUSAN E.
LAMBE CHRISTOPHER S.
DEED BOOK 295 PG 63532
MAP 29 PARCEL 1493

N/F
TROISI DEBORAH J.
TROISI MARK
DEED BOOK 13191 PG 452
MAP 30 PARCEL 872

N/F
SERIO JEAN E.
SERIO FRANK E.
DEED BOOK 6215 PG 32
MAP 30 PARCEL 897

0 20 50 100

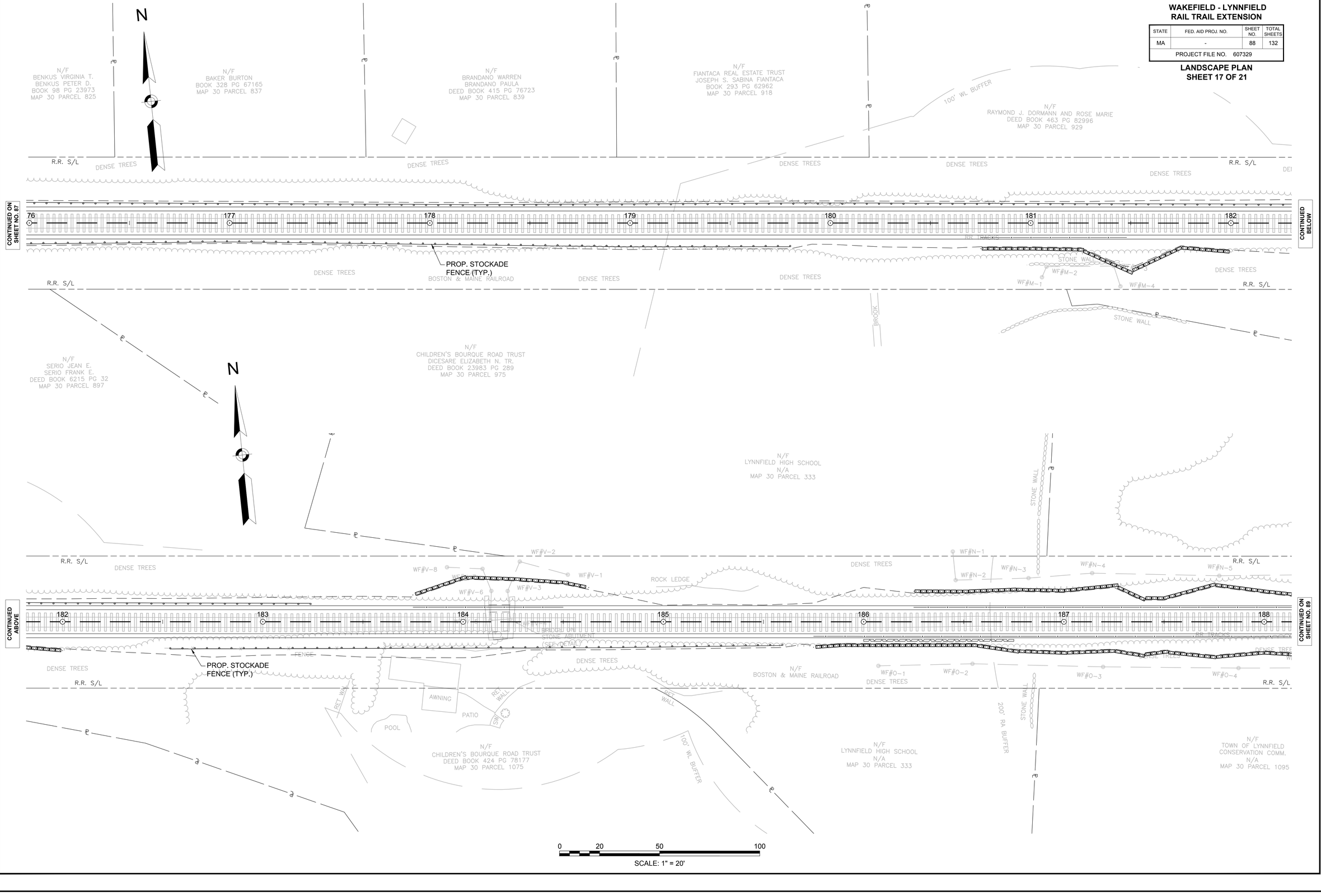
SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	88	132
PROJECT FILE NO. 607329			

LANDSCAPE PLAN
SHEET 17 OF 21

607329_LD1D(LANDSCAPE PLANS).DWG Plotted on 1-Mar-2017 3:33 PM



WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	89	132
PROJECT FILE NO. 607329			

LANDSCAPE PLAN
SHEET 18 OF 21

607329_LD1D(LANDSCAPE PLANS).DWG Plotted on 1-Mar-2017 3:34 PM

N

N/F
TOWN OF LYNNFIELD
DEED BOOK 10706 PG 430
MAP 30 PARCEL 1145

N/F
TOWN OF LYNNFIELD
DEED BOOK 5378 PG 660
MAP 30 PARCEL 1165

PERENNIAL STREAM

R.R. S/L

WF#N-5 WF#N-6 WF#N-7 BVW/MAHW WF#N-8 BVW/MAHW WF#N-9 BVW/MAHW WF#N-10 BVW/MAHW WF#N-11 BVW/MAHW WF#N-12BVW/MAHW WF#N-13BVW/MAHW WF#N-14 WF#N-15 WF#N-16 WF#N-17

HDWL

CONTINUED ON SHEET NO. 88

188 189 190 191 192 193 194

RR TRACKS

DENSE TREES

WF#O-4 WF#O-5BVW/MAHW WF#O-6BVW/MAHW WF#O-7BVW/MAHW WF#O-8BVW/MAHW WF#O-9 WF#O-10 WF#O-13 WF#O-14 WF#O-15 WF#O-16 WF#O-17

N/F
BOSTON & MAINE RAILROAD

PROP. STOCKADE FENCE (TYP.)

CONTINUED BELOW

N/F
TOWN OF LYNNFIELD
CONSERVATION COMM.
N/A
MAP 30 PARCEL 1095

PERENNIAL STREAM

N/F
DRAKE REALTY TRUST
DRESIOS ALAN K. TR.
BOOK 277 PG 59850
MAP 30 PARCEL 1811

N/F
BOURQUE ROAD 64 LYNNFIELD
DRESIOS ALAN K. TR.
DEED BOOK 273 PG 58974
MAP 30 PARCEL 1824

STONE WALL

N/F
AXIOTAKIS GEORGE J.
AXIOTAKIS NADIYA
DEED BOOK 487 PG 85301
MAP 30 PARCEL 1829

200' RA BUFFER

DENSE TREES

N/F
LOWELL SCOTT
LOWELL MELANIE R.
DEED BOOK 490 PG 85686
MAP 30 PARCEL 1862

N

N/F
TOWN OF LYNNFIELD
CONSERVATION COMM.
N/A
MAP 30 PARCEL 1257

N/F
ZANNI DIANN T.
ZANNI PETER J.
DEED BOOK 410 PG 76118
MAP 30 PARCEL 1293

BCD

WF#N-16 WF#N-17 WF#N-18 WF#N-19 WF#N-20

DENSE TREES

R.R. S/L

CONTINUED ABOVE

194 195 196 197 198 199

RR TRACKS

WF#O-17

PROP. BOLLARD (TYP.)

PROP. 3' WIDE LANDSCAPED AREA

CONTINUED ON SHEET NO. 90

N/F
BOURQUE ROAD R.T.
MARCHIONDA SHARON TR.
DEED BOOK 382 PG 72775
MAP 30 PARCEL 1944

100' WL BUFFER

N/F
BOSTON & MAINE RAILROAD

N/F
BURKE-CARMAN REALTY TRUST
CARMAN RICHARD S. TR.
DEED BOOK 498 PG 86431
MAP 30 PARCEL 1951

N/F
SHEA JOHN M.
DEED BOOK 15073 PG 562
MAP 30 PARCEL 1935

0 20 50 100

SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	90	132
PROJECT FILE NO. 607329			

LANDSCAPE PLAN
SHEET 19 OF 21

607329_LD1D(LANDSCAPE PLANS).DWG Plotted on 1-Mar-2017 3:35 PM

N

N/F
ZANNI DIANN T.
ZANNI PETER J.
DEED BOOK 410 PG 76118
MAP 30 PARCEL 1293

N/F
LYNCH MARGARET A.
DEED BOOK 206 PG 45882
MAP 30 PARCEL 1381

N/F
DAUGUSTA DARREN A.
SORENSEN RACHEL G.
DEED BOOK 453 PG 81038
MAP 30 PARCEL 1361

TOWN L.O.

BCD

DENSE TREES

R.R. S/L

PROP. BOLLARD (TYP.)

PROP. STOCKADE FENCE (TYP.)

BOULDERS

CONTINUED ON SHEET NO. 89

CONTINUED BELOW

199 200 201 202 203 204

PROP. 3' WIDE LANDSCAPED AREA

KR TRACKS

GUY POLE

N/F
BOSTON & MAINE RAILROAD

N/F
CAROL J. SAXON IRREVOCABLE TR.
SAXON KATHRYN A. TR.
DEED BOOK 32546 PG 426
MAP 30 PARCEL 2026

N/F
MACNICHOL PATRICIA M.
MACNICHOL STEPHEN F.
DEED BOOK 14183 PG 95
MAP 30 PARCEL 2118

102

101

PILLINGS POND ROAD

N/F
SHEA JOHN M.
DEED BOOK 15073 PG 562
MAP 30 PARCEL 1935

N

N/F
JORGENSON JILL T.
SORENTINO STEPHEN J.
DEED BOOK 444 PG 80167
MAP 30 PARCEL 1339

N/F
ROSBERG FAMILY IRREVOCABLE TRUST
ROSBERG JOSEPH B. JR. TR.
DEED BOOK 495 PG 86101
MAP 30 PARCEL 1458

100' WL BUFFER

WF#P-1 WF#P-2 WF#P-3 WF#P-4 WF#P-5 WF#P-6

CONTINUED ABOVE

CONTINUED ON SHEET NO. 91

205 206 207 208 209 210

STOCKADE FENCE

N/F
ROSATONE ANTONIO & MARIA
DEED BOOK 10735 PG 294
MAP 30 PARCEL 2152

N/F
VACCARO LISA M.
VACCARO STEVEN C.
DEED BOOK 24778 PG 289
MAP 30 PARCEL 2168

0 20 50 100

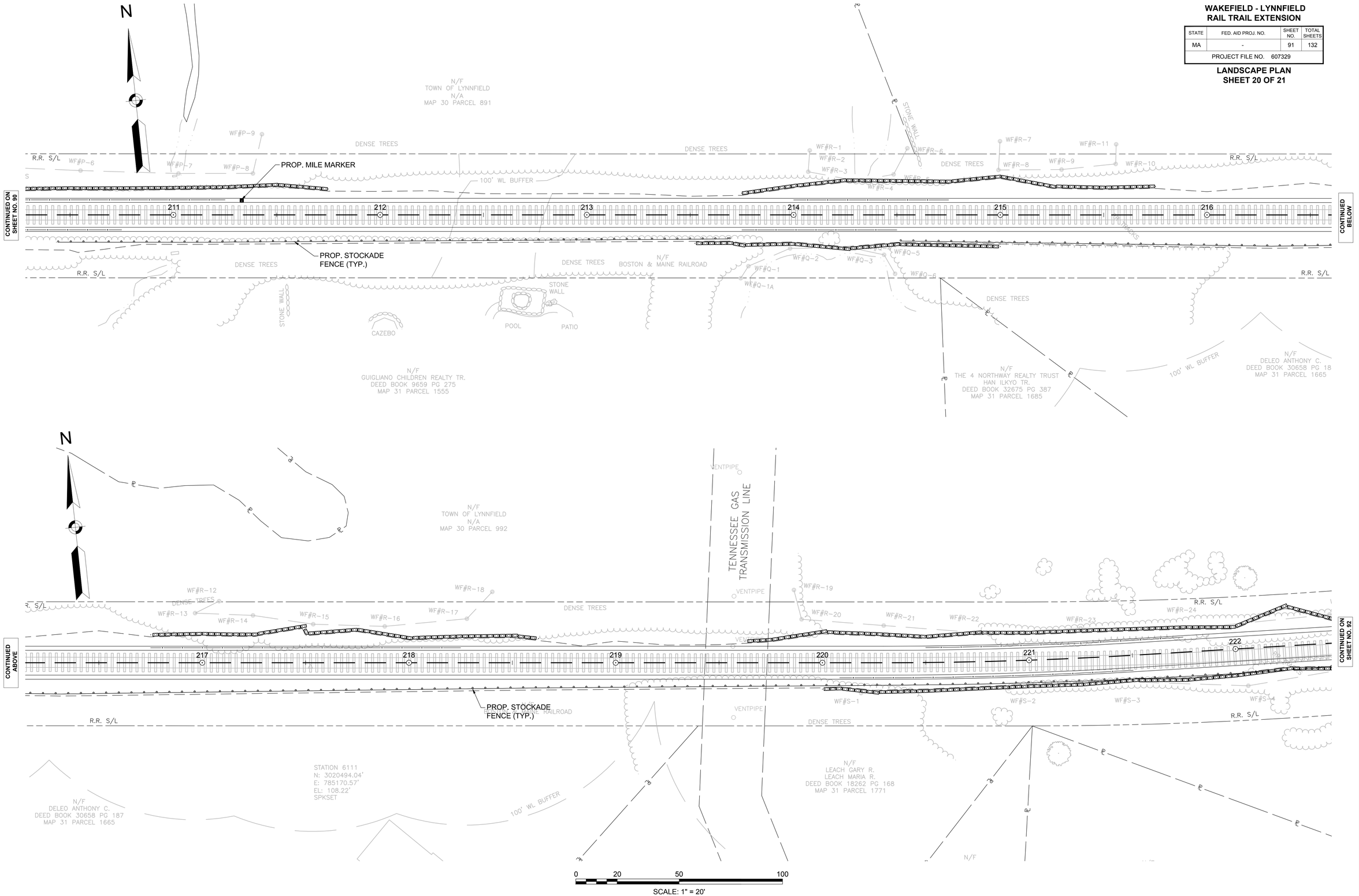
SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	91	132
PROJECT FILE NO. 607329			

LANDSCAPE PLAN
SHEET 20 OF 21

607329_LD1D(LANDSCAPE PLANS).DWG Plotted on 1-Mar-2017 3:35 PM



WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	92	132
PROJECT FILE NO. 607329			

LANDSCAPE PLAN
SHEET 21 OF 21

607329_LDTD(LANDSCAPE PLANS).DWG Plotted on 1-Mar-2017 3:36 PM

CONTINUED ON SHEET NO. 91

CONTINUED BELOW

N/F
TOWN OF LYNNFIELD
N/A
MAP 30 PARCEL 992

N/F
WEISSLEDER RALPH
PETROPOULOS ANNA
DEED BOOK 17082 PG 29
MAP 31 PARCEL 1832

N/F
TOWN OF LYNNFIELD
CONSERVATION COMMISSION
DEED BOOK 13668 PG 141
MAP 31 PARCEL 1759

N/F
BOSTON & MAINE RAILROAD

N/F
NEW ENGLAND POWER CO.
N/A
MAP 31 PARCEL 1885

N/F
BANDINI JANE V.
DEED BOOK 8873 PG 277
MAP 31 PARCEL 1865

N/F
GUPTILL JOHN A.
GUPTILL JANET E.
DEED BOOK 18054 PG 301
MAP 31 PARCEL 1836

N/F
ALFE PETER & STEPHANIE
DEED BOOK 23819 PG 513
MAP 31 PARCEL 2651

NICHOLS LANE

R.R. S/L

DENSE TREES

FENCE

WF#R-24 WF#R-25 WF#R-26 WF#R-27 WF#R-28 WF#R-29 WF#R-30 WF#R-31

WF#S-4 WF#S-5 WF#S-6 WF#S-7 WF#S-8 WF#S-9 WF#S-10 WF#S-11 WF#S-12

222 223 224 225 226 227 228 229 230

PROP. STOCKADE FENCE (TYP.)

LIMIT OF CLEARING AND GRUBBING (TYP.)

PROP. LANDSCAPED AREA

MP B14/N26

RET. WALL

BOULDERS

GRAVEL

STONE WALL
STONE POST(TYP)

DEARBORN LYNNFIELD

GRAVEYARD

BCD

GRASS

DECK

STEPS

POOL

POSTS

UTILITY CABINETS

STOCKADE FENCE

2 TRACKS

SBCC

0 20 50 100

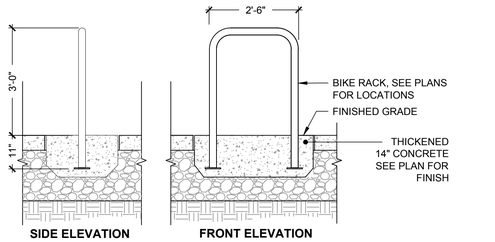
SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	93	132
PROJECT FILE NO. 607329			

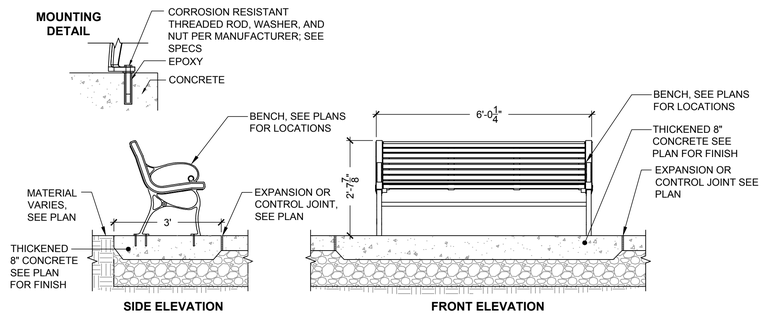
LANDSCAPE DETAILS
SHEET 1 OF 2

607329_LD2(LANDSCAPE DETAILS).DWG Plotted on 1-Mar-2017 3:37 PM



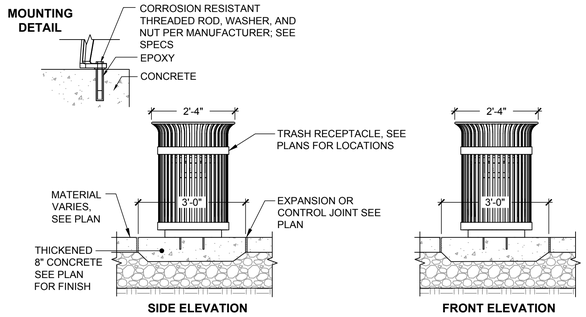
NOTES:
1. EXPANSION ANCHOR BOLTS PROVIDED BY MANUFACTURER.
2. SEE SPECIFICATIONS FOR COLOR & FINISH.
3. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURE'S SPECIFICATIONS.

BICYCLE RACK
SCALE: ½"=1'



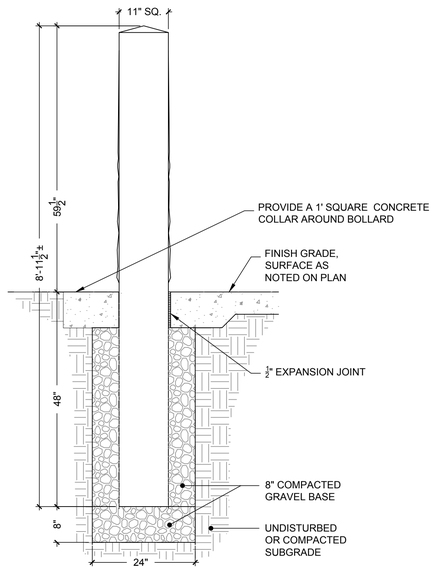
NOTES:
1. EXPANSION SHIELD AND TAMPER PROOF ANCHOR BOLTS PROVIDED BY MANUFACTURER.
2. SEE SPECIFICATIONS FOR COLOR & FINISH.
3. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURE'S SPECIFICATIONS.

BENCH
SCALE: ½"=1'

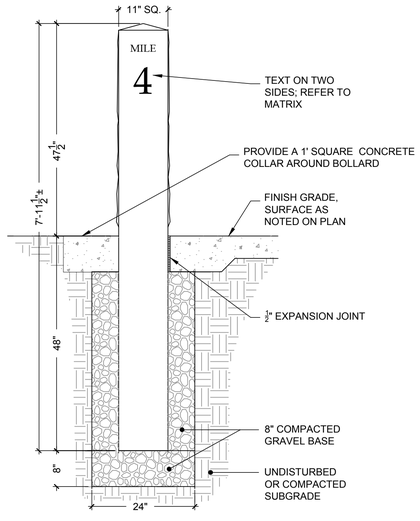


NOTES:
1. EXPANSION SHIELD AND TAMPER PROOF ANCHOR BOLTS PROVIDED BY MANUFACTURER.
2. SEE SPECIFICATIONS FOR COLOR & FINISH.
3. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURE'S SPECIFICATIONS.

TRASH RECEPTACLE
SCALE: ½"=1'



GRANITE BOLLARD
SCALE: ¾"=1'



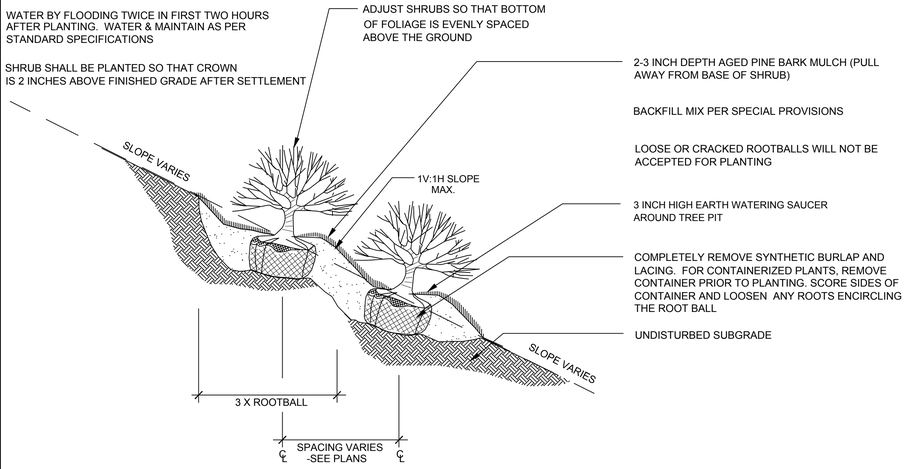
MILE MARKER
SCALE: ¾"=1'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

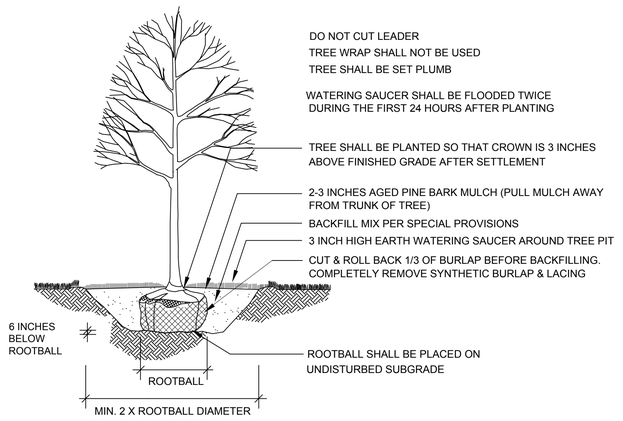
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	94	132
PROJECT FILE NO. 607329			

LANDSCAPE DETAILS
SHEET 2 OF 2

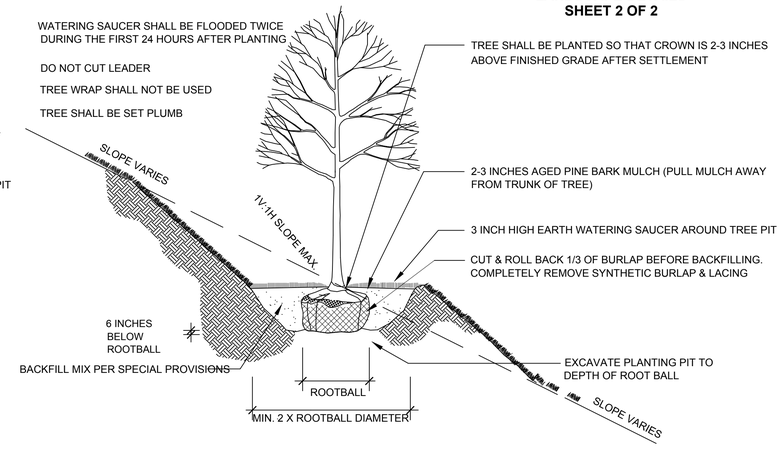
607329_LD2(LANDSCAPE DETAILS).DWG Plotted on 1-Mar-2017 3:38 PM



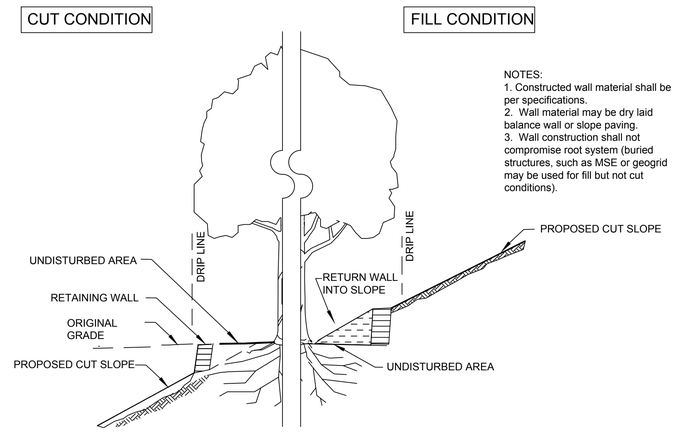
CONTAINERIZED SHRUB PLANTING (SLOPE) DETAIL
SCALE: NTS



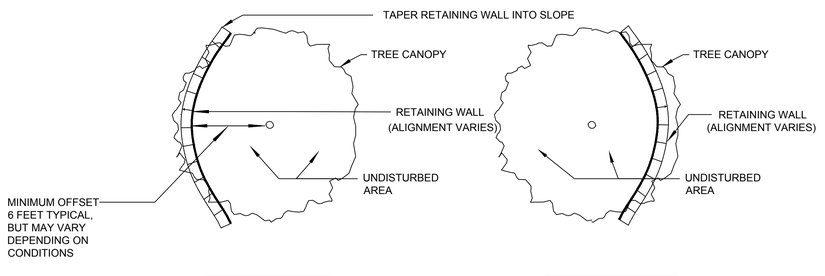
DECIDUOUS TREE PLANTING
SCALE: NTS



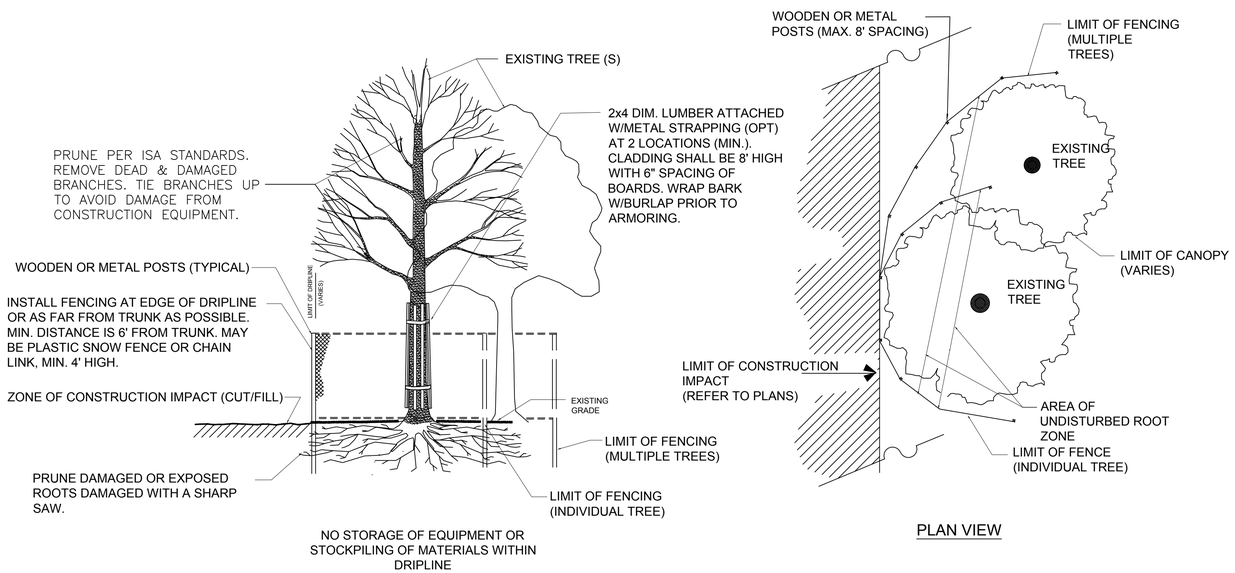
DECIDUOUS TREE PLANTING (SLOPE)
SCALE: NTS



SECTION VIEW



PLAN VIEW
TREE WALL
SCALE: NTS



TREE PROTECTION - EXISTING TREE(S)
SCALE: NTS

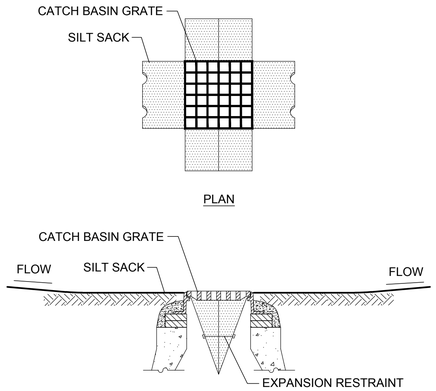
PLAN VIEW

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	95	132
PROJECT FILE NO. 607329			

CONSTRUCTION DETAILS
SHEET 1 OF 1

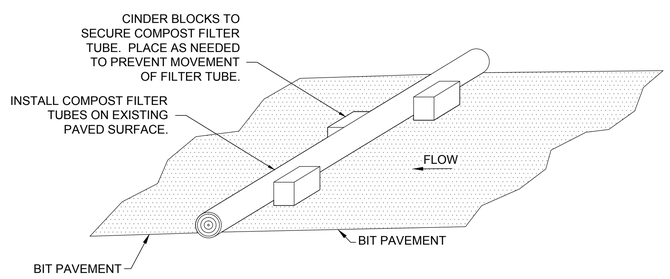
607329_HD7(CONSTRUCTION DETAILS).DWG Plotted on 1-Mar-2017 3:39 PM



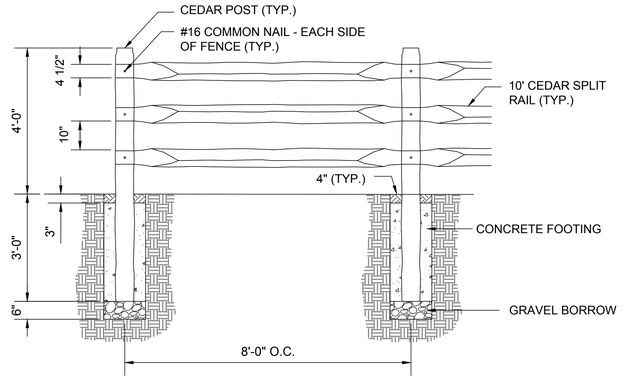
NOTES:

1. INSTALL SILT SACK IN ALL CATCH BASINS BEFORE COMMENCING WORK OR IN PAVED AREAS AFTER BINDER COURSE IS PLACED AND COMPOST FILTER TUBES 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.

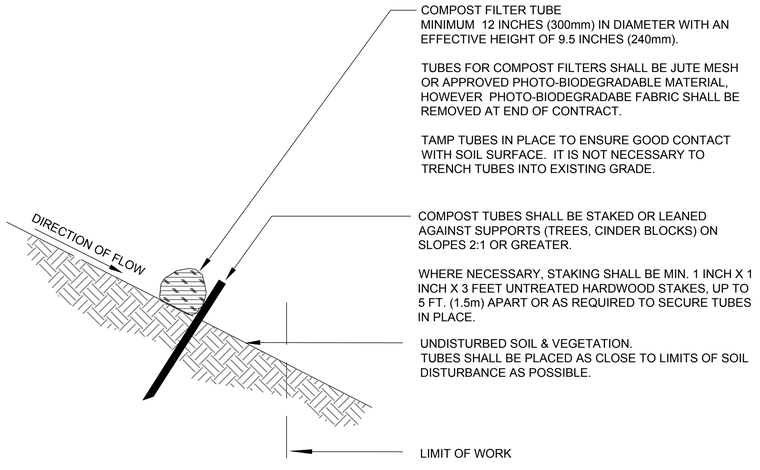
CATCH BASIN SILT SACK SEDIMENT TRAP
NOT TO SCALE

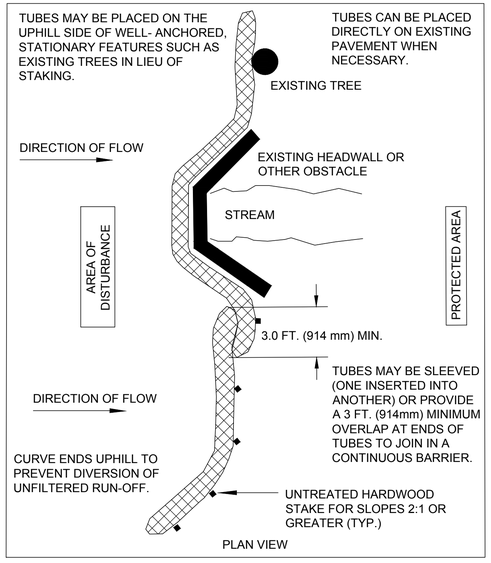


COMPOST FILTER TUBE ON PAVED SURFACES
NOT TO SCALE



SPLIT RAIL FENCE
NOT TO SCALE





GENERAL NOTES:

1. PROVIDE A MINIMUM TUBE DIAMETER OF 12 INCHES (300mm) FOR SLOPES UP TO 50 FEET (15.24m) 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. TUBE LOCATION MAY BE SHIFTED TO ADJUST TO LANDSCAPE FEATURES, BUT SHALL PROTECT UNDISTURBED AREA AND VEGETATION TO MAXIMUM EXTENT POSSIBLE.
4. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
5. ADDITIONAL TUBES SHALL BE USED AT THE DIRECTION OF THE ENGINEER.
6. ADDITIONAL STAKING SHALL BE USED AT THE DIRECTION OF THE ENGINEER.

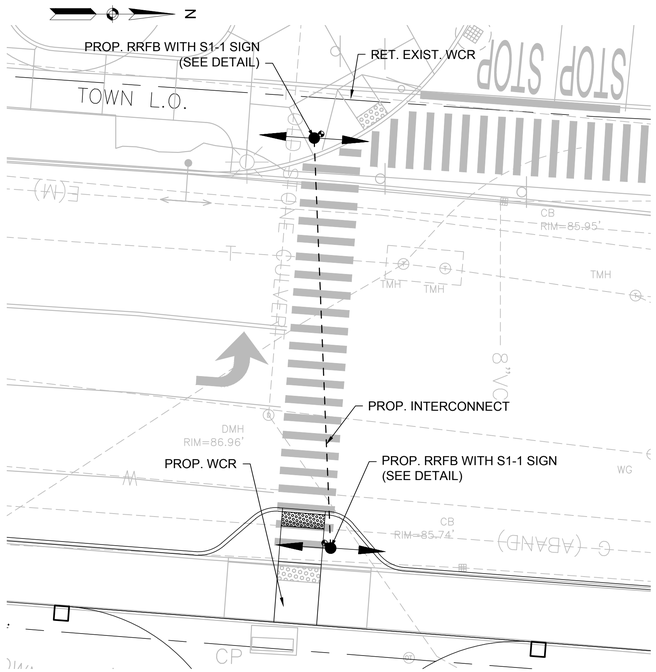
COMPOST FILTER TUBE DETAIL
NOT TO SCALE

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

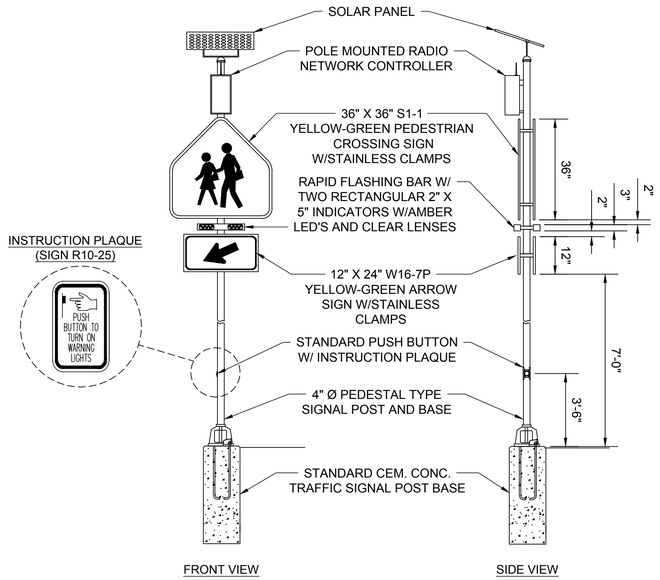
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	96	132
PROJECT FILE NO. 607329			

RECTANGULAR RAPID FLASHING BEACON DETAILS
SHEET 1 OF 1

607329_TRS(RRFB DETAILS).DWG Plotted on 1-Mar-2017 3:44 PM



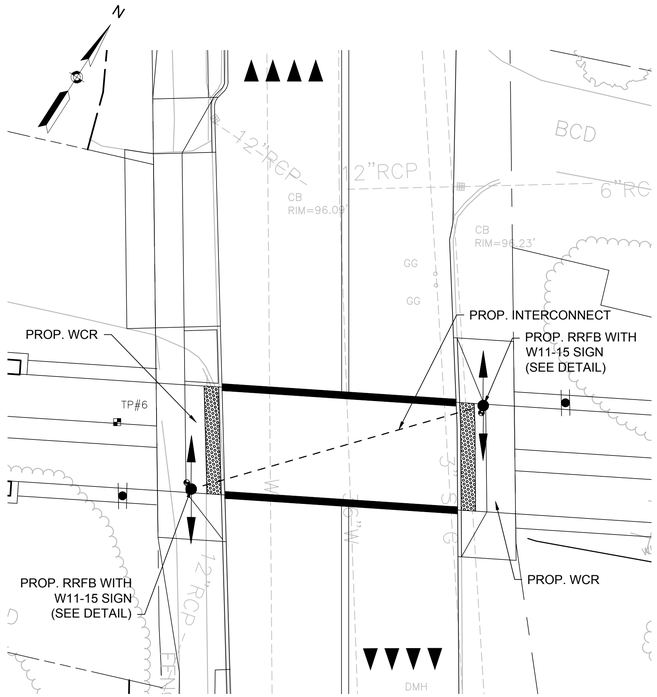
RECTANGULAR RAPID FLASHING BEACON
LOCATION NO. 1
SCALE 1" = 10'



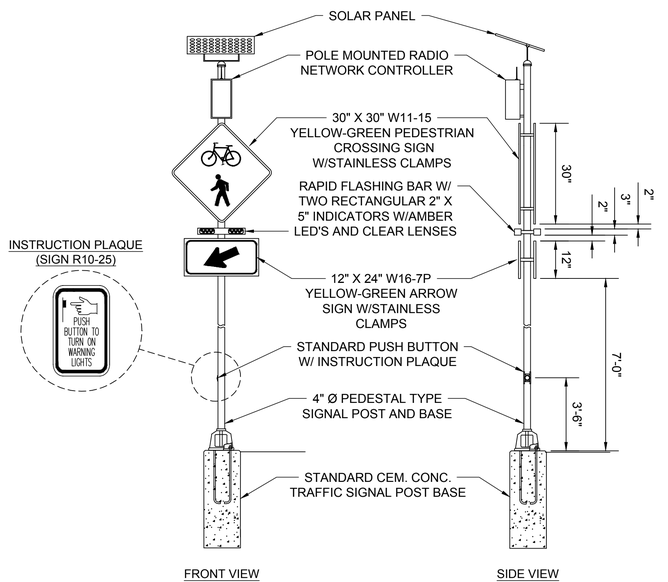
RECTANGULAR RAPID FLASHING BEACON - SCHOOL ZONE
NOT TO SCALE

RRFB NOTES:

1. RECTANGULAR RAPID FLASHING BEACONS (RRFB) SHALL BE SUPPLIED FROM A MANUFACTURER LISTED ON THE MASSDOT APPROVED EQUIPMENT LIST.
2. EACH LOCATION SHALL HAVE TWO (2) RRFB INSTALLED (ONE ON EACH SIDE OF THE CROSSWALK).
3. R10-25 SIGNS SHALL BE INSTALLED ABOVE ALL PEDESTRIAN PUSH BUTTONS.
4. OPERABLE CONTROLS ON RRFB SHALL BE LOCATED PER 521 CMR 22.10
5. WARNING SIGNS AND INSTRUCTIONAL SIGNS ARE PAID SEPARATELY UNDER ITEM 832.



RECTANGULAR RAPID FLASHING BEACON
LOCATION NO. 2
SCALE 1" = 10'



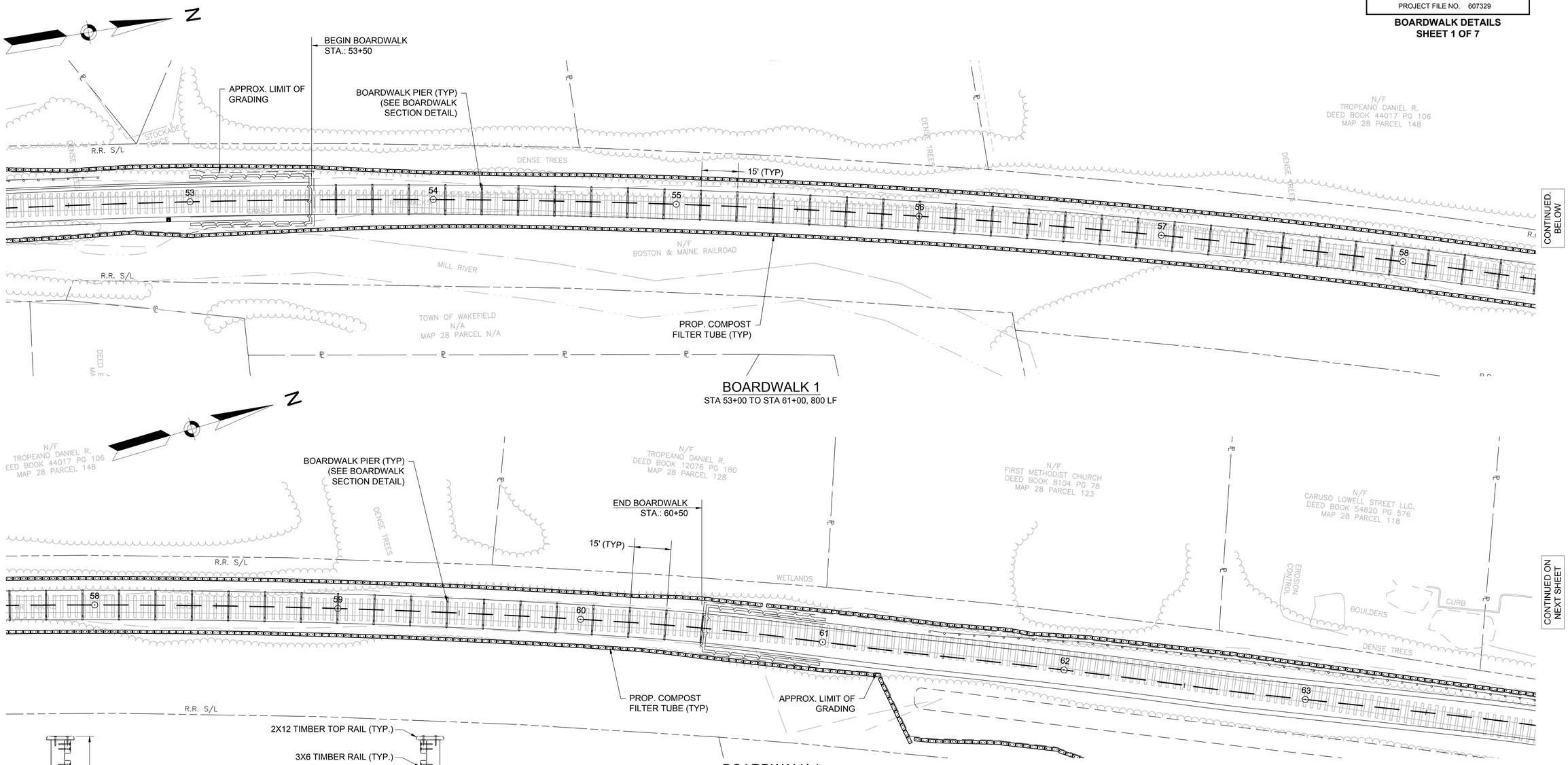
RECTANGULAR RAPID FLASHING BEACON - BICYCLE/PEDESTRIAN
NOT TO SCALE

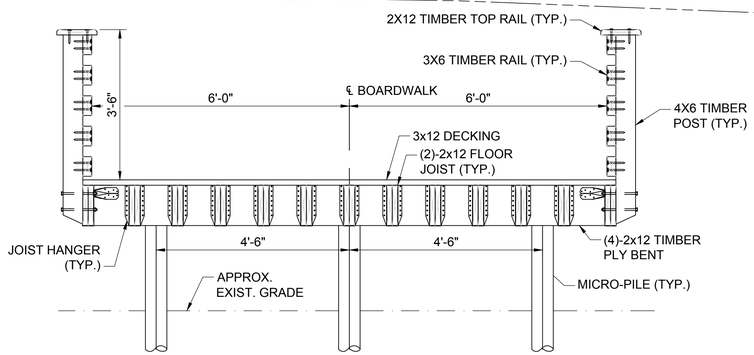
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	97	132
PROJECT FILE NO. 607329			

BOARDWALK DETAILS
SHEET 1 OF 7

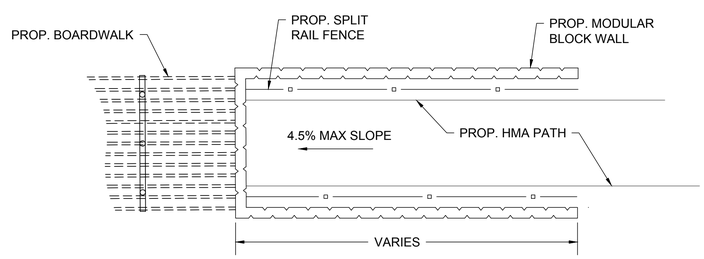
607329_LD3(BOARDWALK DETAILS).DWG Plotted on 1-Mar-2017 3:47 PM





BOARDWALK SECTION TYPICAL DETAIL
SCALE: NTS

0 20 50 100
SCALE: 1" = 20'



BOARDWALK APPROACH TYPICAL DETAIL
NOT TO SCALE

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	98	132
PROJECT FILE NO. 607329			

BOARDWALK DETAILS
SHEET 2 OF 7

607329_LD3(BOARDWALK DETAILS).DWG Plotted on 1-Mar-2017 3:48 PM

N

N/F GOOD CHRISTINE DEED BOOK 21836 PG 172 MAP 14C PARCEL 172
N/F CATON JR. JOHN F. DEED BOOK 19724 PG 352 MAP 14C PARCEL 171
N/F CORTHELL JEFFREY R. DEED BOOK 53155 PG 202 MAP 14C PARCEL 137
N/F DWYER WILLIAM F. DEED BOOK 15219 PG 432 MAP 14C PARCEL 136
N/F MEDIGE JR. GEORGE H. DEED BOOK 14911 PG 148 MAP 14C PARCEL 135
N/F SACHARCZYK STEVEN DEED BOOK 41238 PG 417 MAP 14C PARCEL 134
N/F DIMINICO JOHN DEED BOOK 14374 MAP 14C PARCEL

STOCKADE FENCE
APPROX. LIMIT OF GRADING
FENCE
BEGIN BOARDWALK STA.: 71+75
BOARDWALK PIER (TYP) (SEE BOARDWALK SECTION DETAIL)
SHED
CLF
RET WALL
DENSE TREES
15' (TYP)
R.R. S/L
CONTINUED ON PREVIOUS SHEET
CONTINUED. BELOW
71
72
73
74
75
76
PROP. SPLIT RAIL FENCE (TYP)
PROP. COMPOST FILTER TUBE (TYP)
N/F BOSTON & MAINE RAILROAD
STATION 8012
N: 3014569.08'
E: 774616.54'
EL: 73.25'
SPIKE SET
N/F EVANGELISTA ANTHONY J. DEED BOOK 12744 PG 203 MAP 14C PARCEL 164J

BOARDWALK 2
STA 71+25 TO STA 81+50
1,025 LF

N

N/F DIMINICO JOHN A. DEED BOOK 14374 PG 201 MAP 14C PARCEL 133
N/F PARAD BRUCE E. DEED BOOK 20486 PG 114 MAP 14C PARCEL 132
N/F MELENDY DENNIS R. DEED BOOK 14991 PG 283 MAP 14C PARCEL 131

BOARDWALK PIER (TYP) (SEE BOARDWALK SECTION DETAIL)
END BOARDWALK STA.: 80+92
18"CIP (R) NOT FOUND IN FIELD AREA WASHED OUT
FENCE
DENSE TREES
R.R. S/L
15' (TYP)
CONTINUED. ABOVE
CONTINUED ON NEXT SHEET
76
77
78
79
80
81
PROP. COMPOST FILTER TUBE (TYP)
APPROX. LIMIT OF GRADING
N/F BOSTON & MAINE RAILROAD
STATION 8012
N: 3014569.08'
E: 774616.54'
EL: 73.25'
SPIKE SET
STATION 8010
N: 3014804.73'
E: 774737.93'
EL: 75.75'
SPIKE SET
STATION 8008
N: 3015018.76'
E: 774821.59'
EL: 76.25'
SPIKE SET
STATION 8009
N: 3014925.70'
E: 774828.49'
N/F TOWN OF WAKEFIELD DPW N/A MAP 14C PARCEL 169

BOARDWALK 2
STA 71+25 TO STA 81+50
1,025 LF

0 20 50 100
SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	99	132
PROJECT FILE NO. 607329			

BOARDWALK DETAILS
SHEET 3 OF 7

607329_LD3(BOARDWALK DETAILS).DWG Plotted on 1-Mar-2017 3:49 PM

N

BEGIN BOARDWALK
STA.: 83+50

BOARDWALK PIER (TYP)
(SEE BOARDWALK
SECTION DETAIL)

15' (TYP)

CONTINUED ON
PREVIOUS SHEET

CONTINUED.
BELOW

APPROX. LIMIT OF
GRADING

PROP. COMPOST
FILTER TUBE (TYP)

N/F
HARRIS TR. CAMILLE L.
DEED BOOK 55128 PG 116
MAP 14B PARCEL 150

N/F
TOWN OF WAKEFIELD FCLTT
DEED BOOK 8641 PG 156
MAP 14B PARCEL 149

N/F
BOSTON & MAINE RAILROAD

N/F
ELLIS RICHARD W.
DEED BOOK 23216 PG 133
MAP 36 PARCEL 21

TOWN L.O.

RIM=74.30

T=2.4' S=0.5% L=69.8' P.C.

SMH

BCD

ROCK

SHED

DENSE TREES

STATION 80007
N: 2945172.92'
E: 688288.17'
74.27'

GRAVEL

RIM=77.43

T=2.4' S=0.5% L=72.5' P.C.

STONE WALL

PLANTER

82 83 84 CZ=1 85 86 87

BOARDWALK 3
STA 83+00 TO STA 88+65
565 LF

N

BOARDWALK PIER (TYP)
(SEE BOARDWALK
SECTION DETAIL)

END BOARDWALK
STA.: 88+15

15' (TYP)

R.R. S/L

DENSE TREES

WING WALL

ST. GR.

CONTINUED.
ABOVE

PROP. COMPOST
FILTER TUBE (TYP)

APPROX. LIMIT OF
GRADING

BEGIN BOARDWALK
STA.: 91+25

EROSION CONTROL

FENCE

CONTINUED ON
NEXT SHEET

86 87 88 89 90 91 92

ROUTE 128/95

HIGHWAY LAYOUT NO. 3572

BOARDWALK 3
STA 83+00 TO STA 88+65
565 LF

0 20 50 100

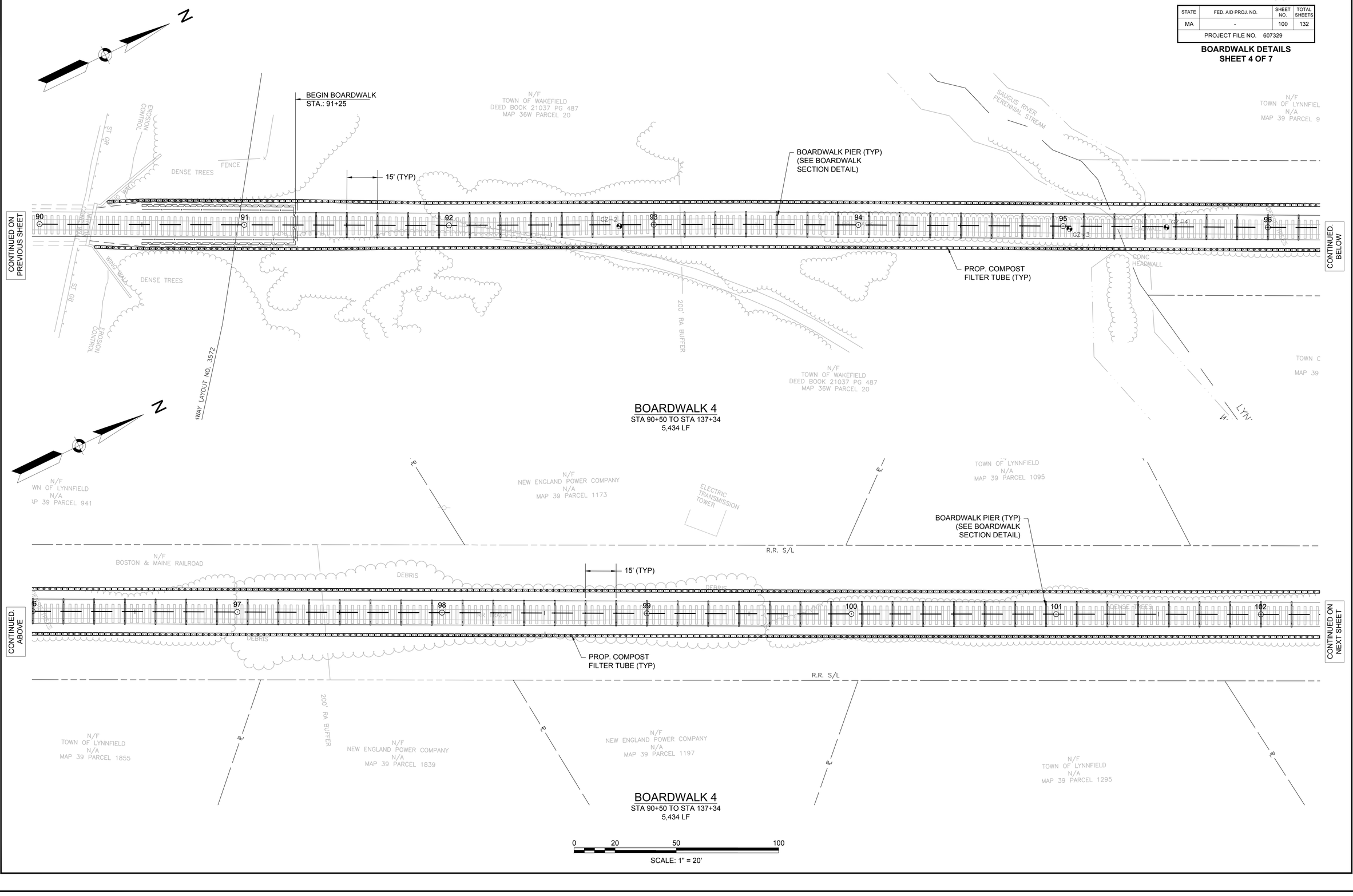
SCALE: 1" = 20'

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	100	132
PROJECT FILE NO. 607329			

BOARDWALK DETAILS
SHEET 4 OF 7

607329_LD3(BOARDWALK DETAILS).DWG Plotted on 1-Mar-2017 3:50 PM

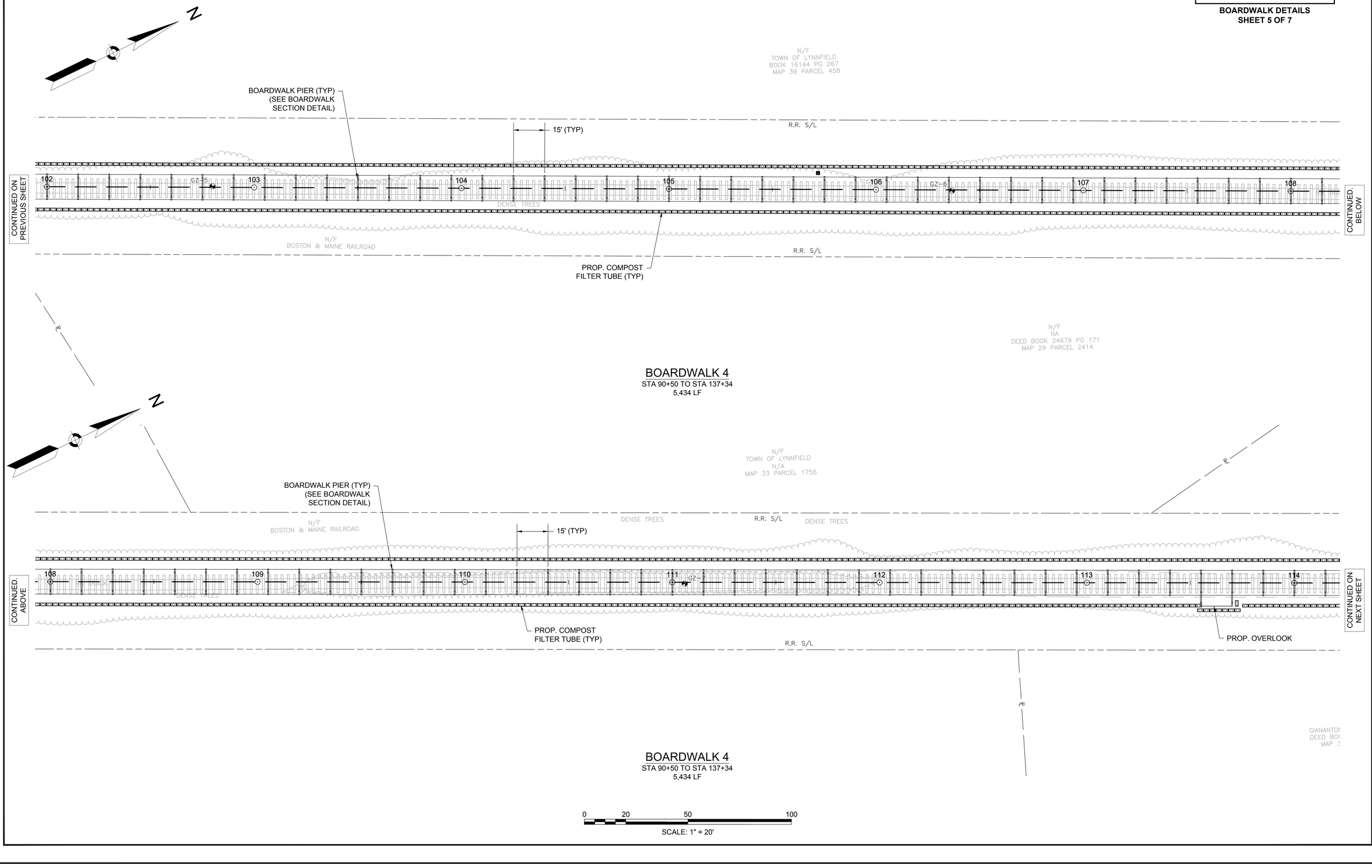


WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	101	132
PROJECT FILE NO. 607329			

BOARDWALK DETAILS
SHEET 5 OF 7

607329_LD3(BOARDWALK DETAILS).DWG Plotted on 1-Mar-2017 3:50 PM

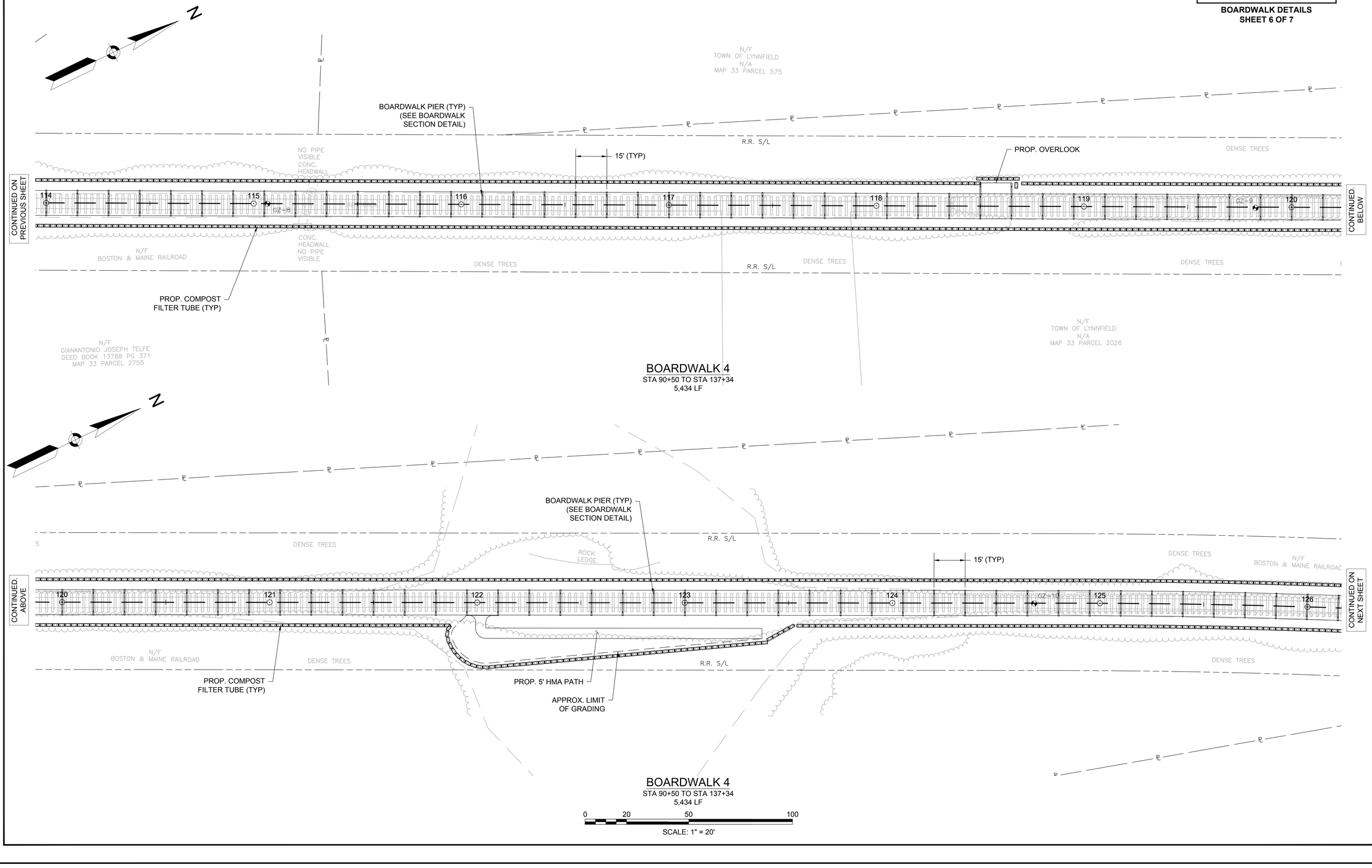


WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	102	132
PROJECT FILE NO. 607329			

BOARDWALK DETAILS
SHEET 6 OF 7

607329_LD3(BOARDWALK DETAILS).DWG Plotted on 1-Mar-2017 3:51 PM

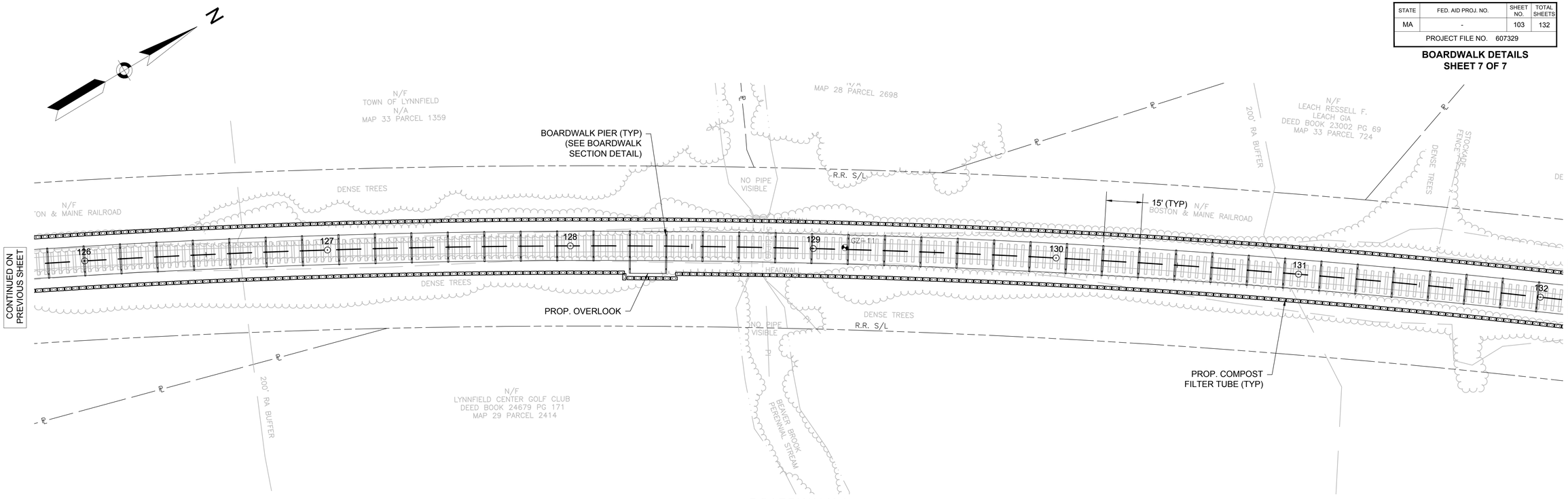


WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	103	132
PROJECT FILE NO. 607329			

BOARDWALK DETAILS
SHEET 7 OF 7

Plotted on 1-Mar-2017 4:05 PM
607329_LD3(BOARDWALK DETAILS).DWG



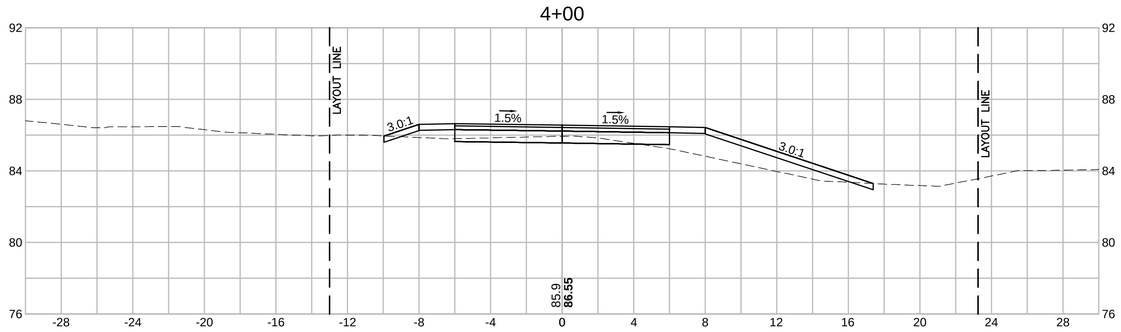
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

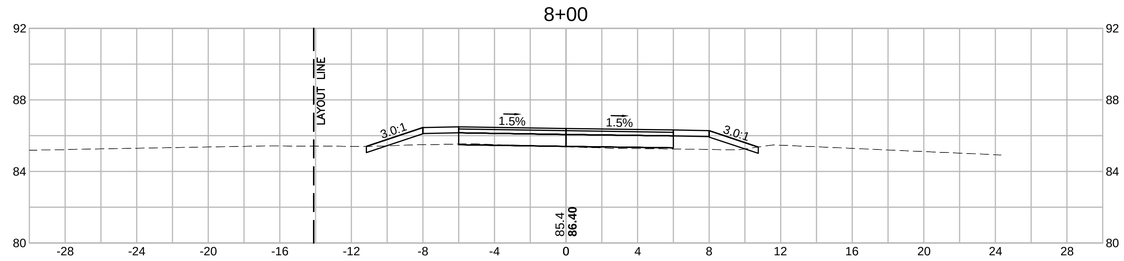
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

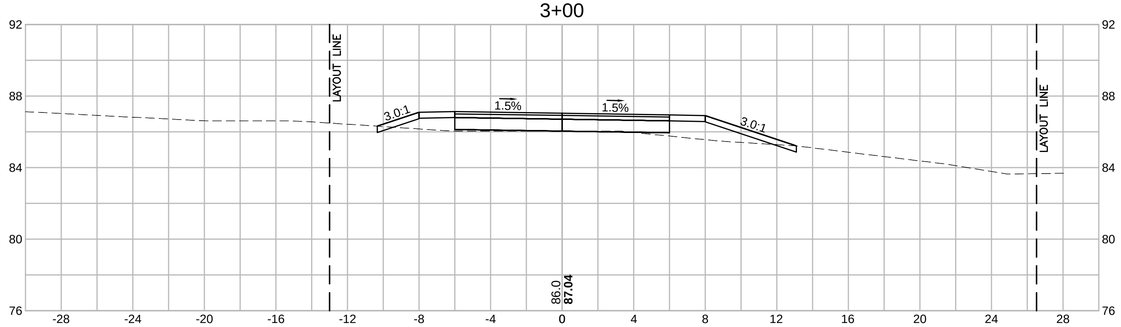
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	104	132
PROJECT FILE NO. 607329			

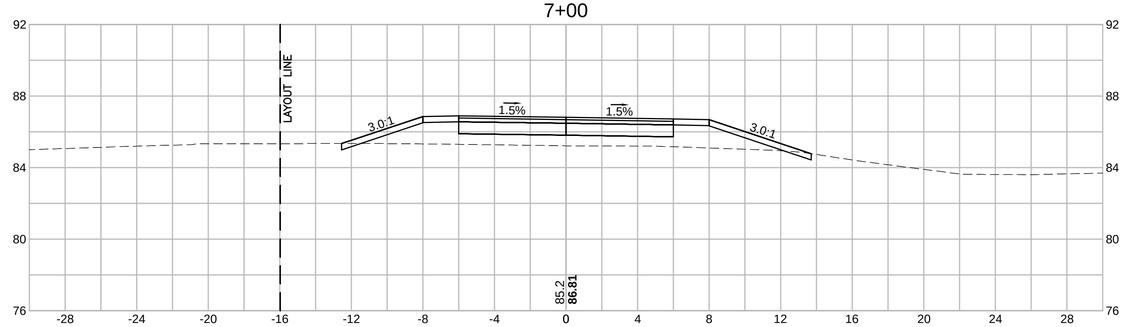
CROSS SECTION

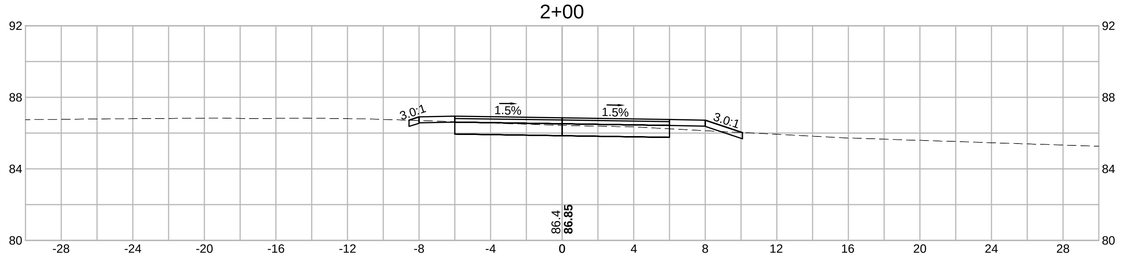
Plotted on 15-Feb-2017 1:03 PM
607329_HDXX CROSS SECTION PLAN.DWG

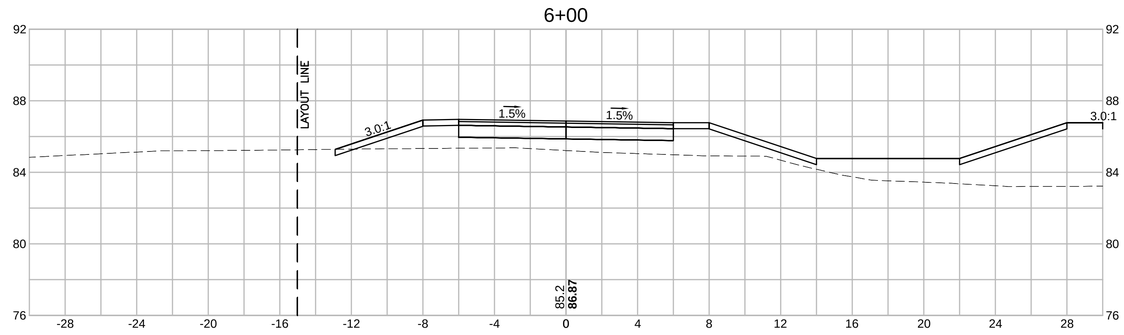


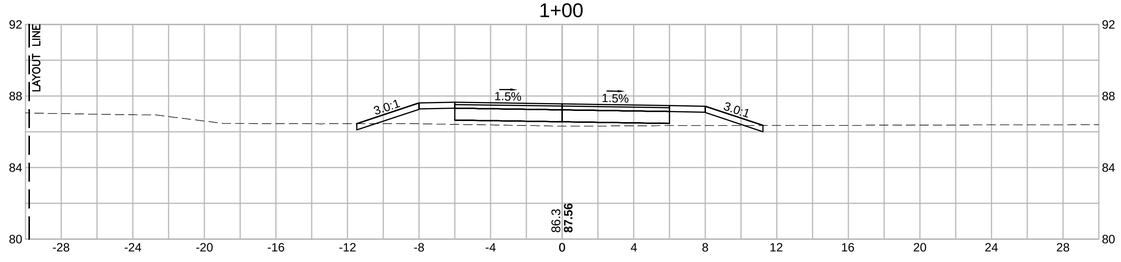


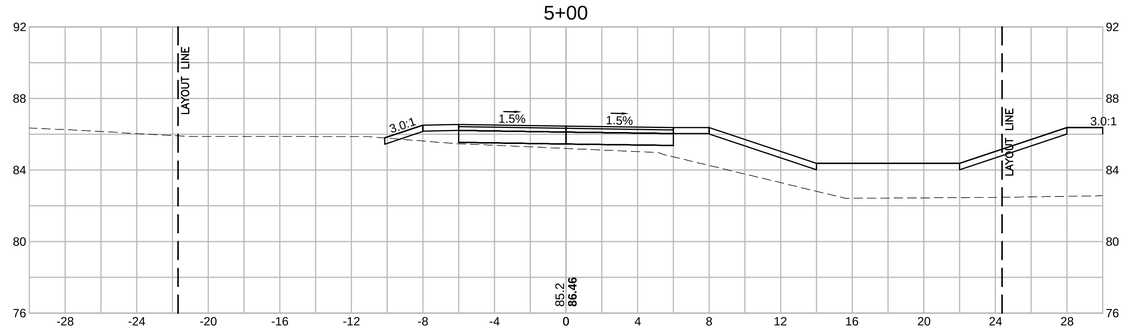












HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

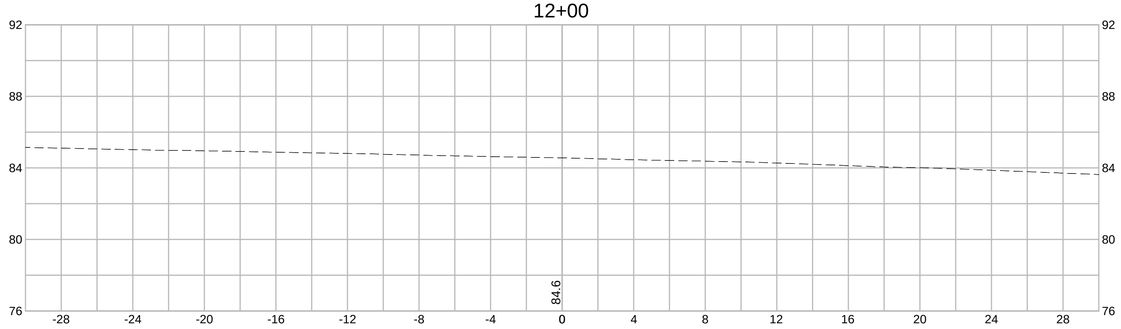
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	105	132
PROJECT FILE NO. 607329			

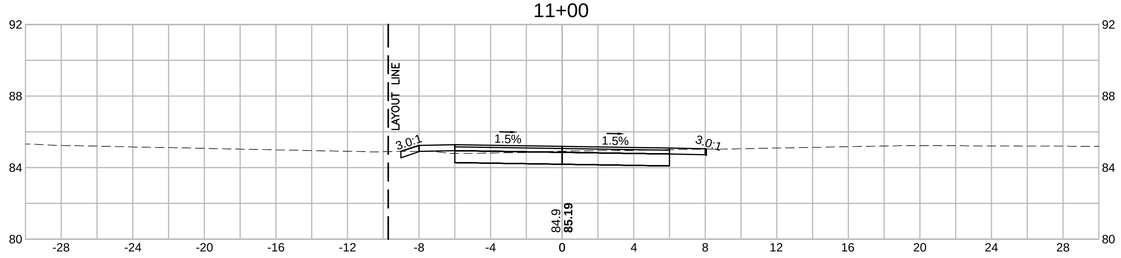
CROSS SECTION

Plotted on 15-Feb-2017 1:03 PM
607329_HDXX CROSS SECTION PLAN.DWG

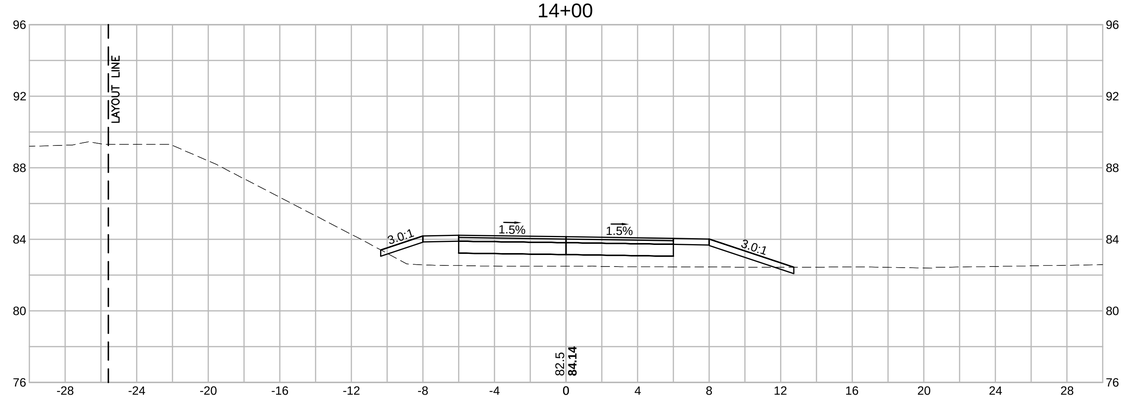
12+00



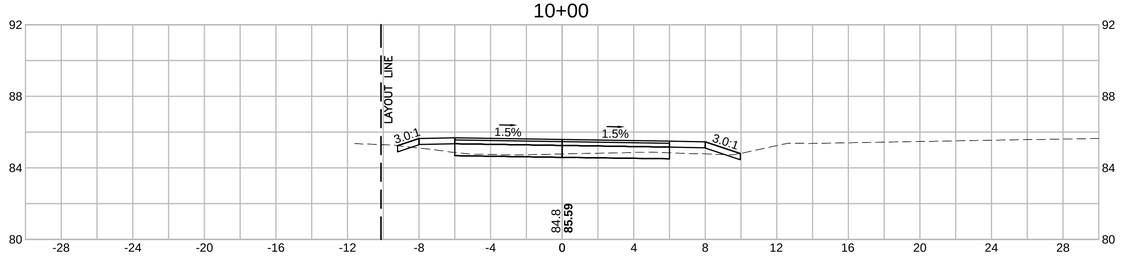
11+00



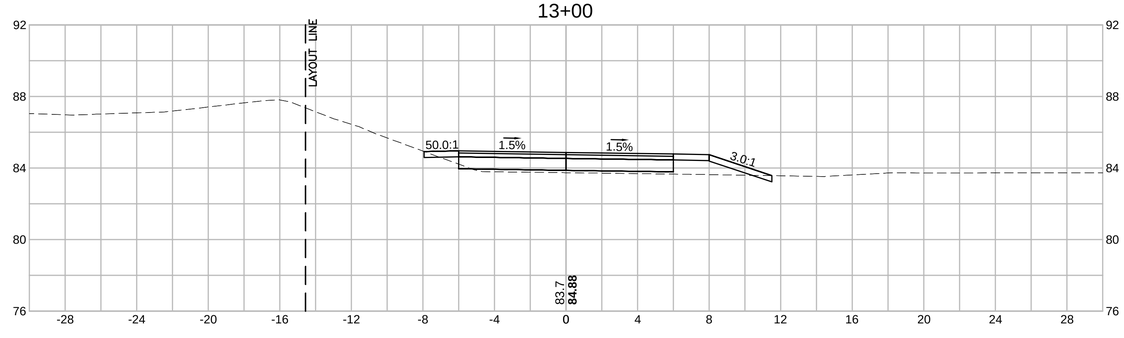
14+00



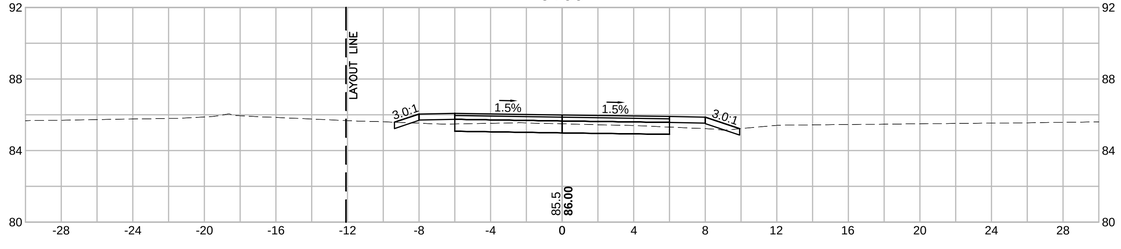
10+00



13+00



9+00

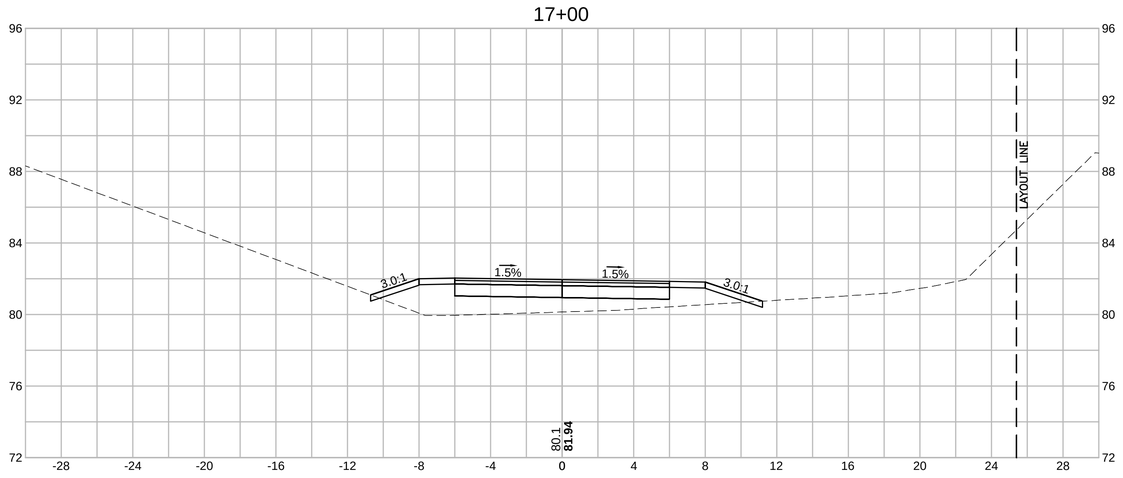


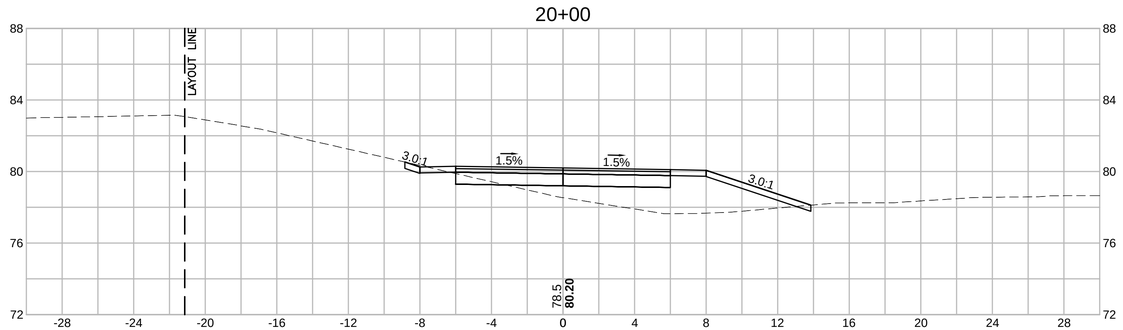
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

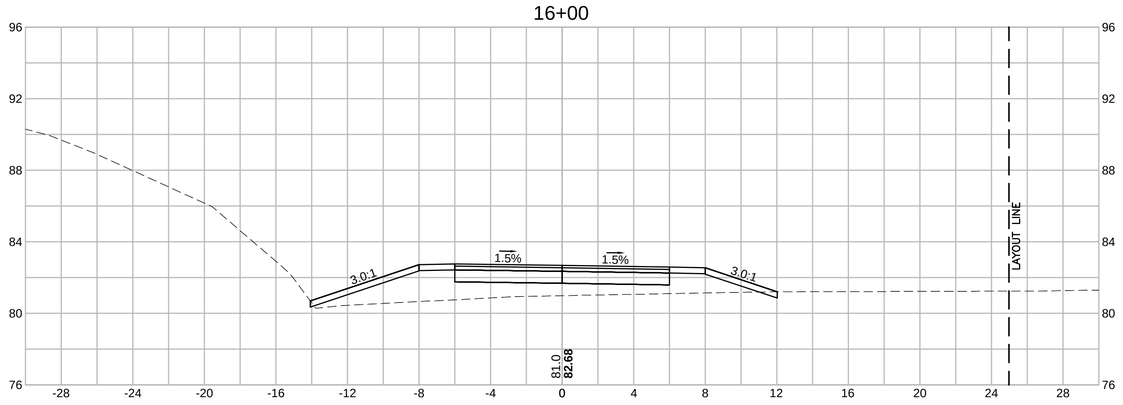
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

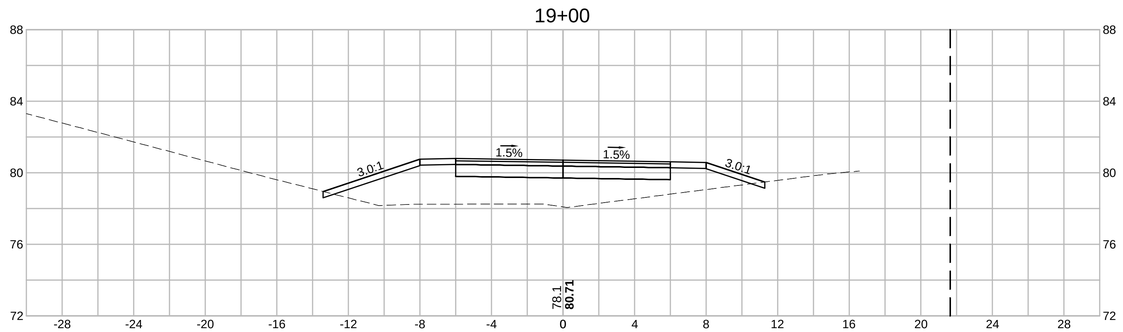
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	106	132
PROJECT FILE NO. 607329			

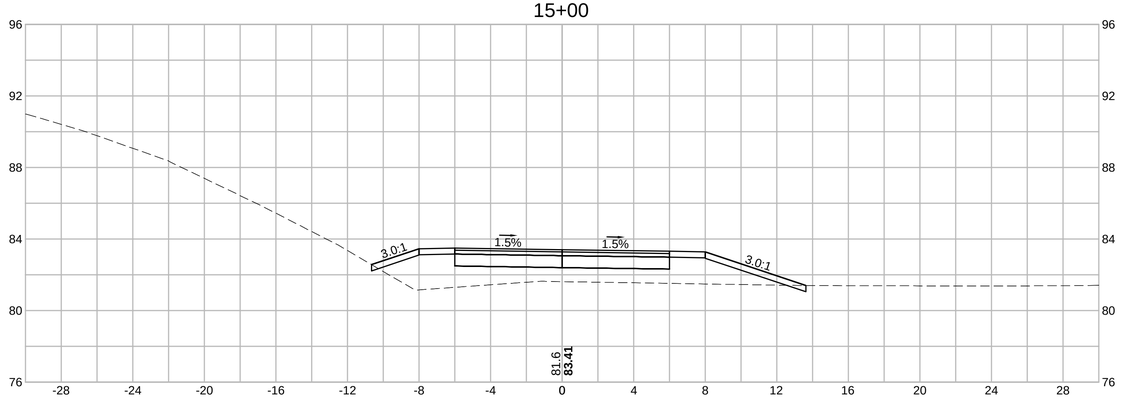
CROSS SECTION

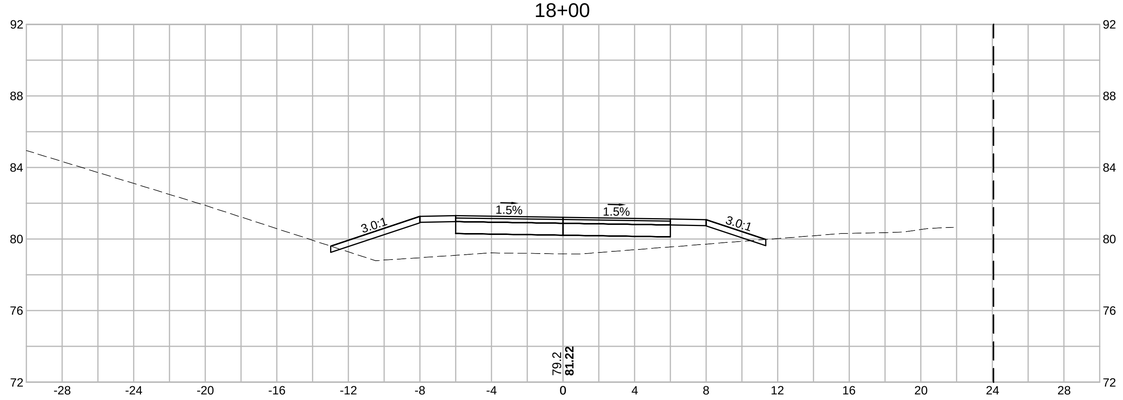












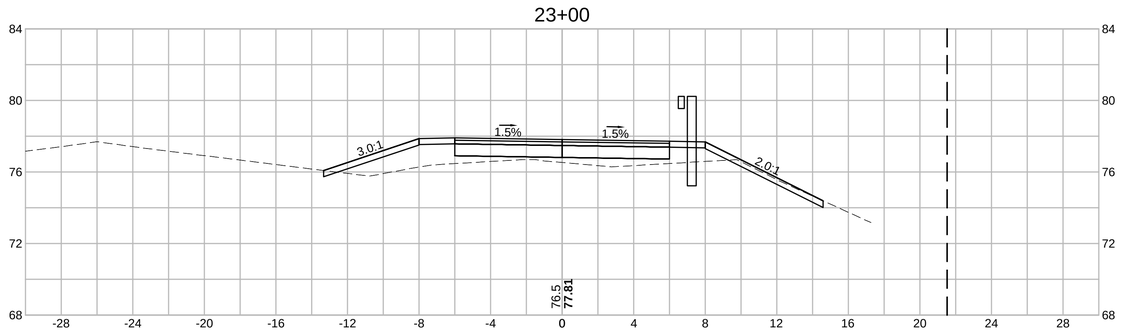
607329_HDXX CROSS SECTION PLAN.DWG Plotted on 15-Feb-2017 1:04 PM

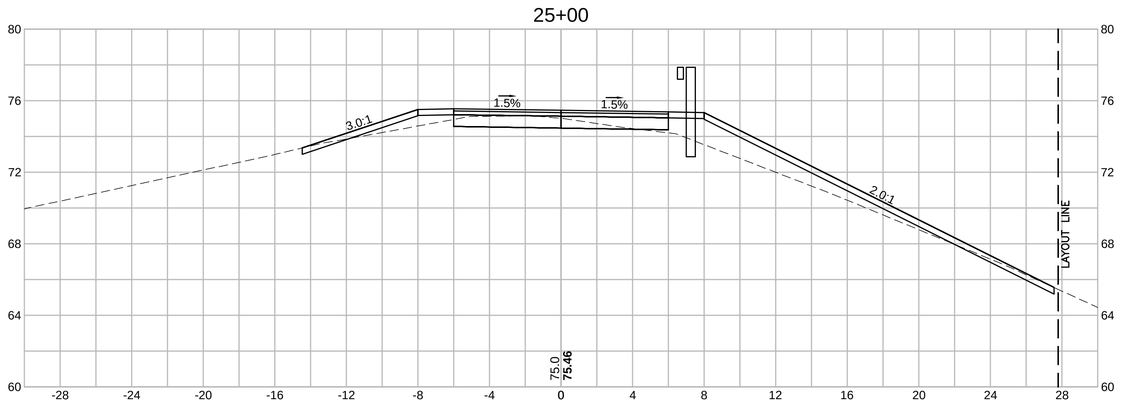
HOR. SCALE IN FEET
4 0 4 8
VER. SCALE IN FEET
4 0 4 8

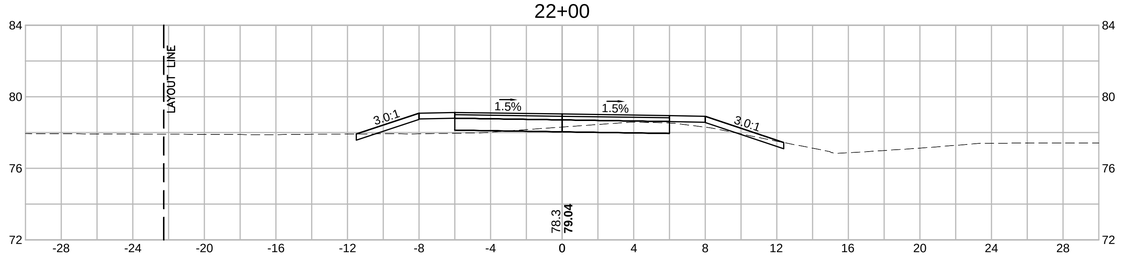
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

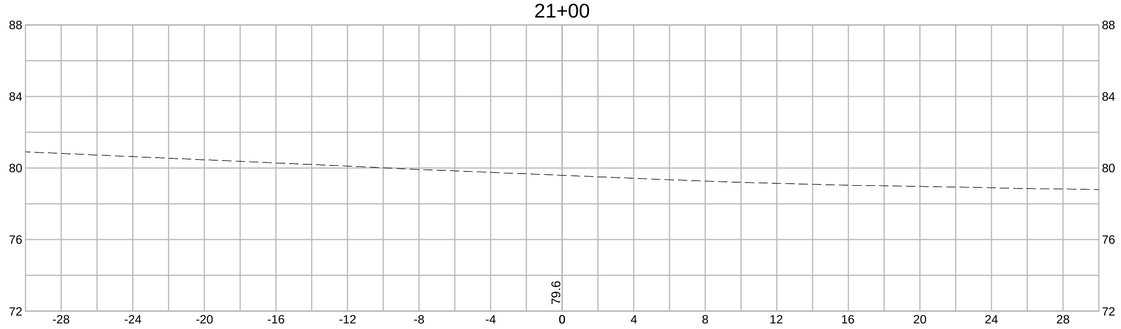
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	107	132
PROJECT FILE NO. 607329			

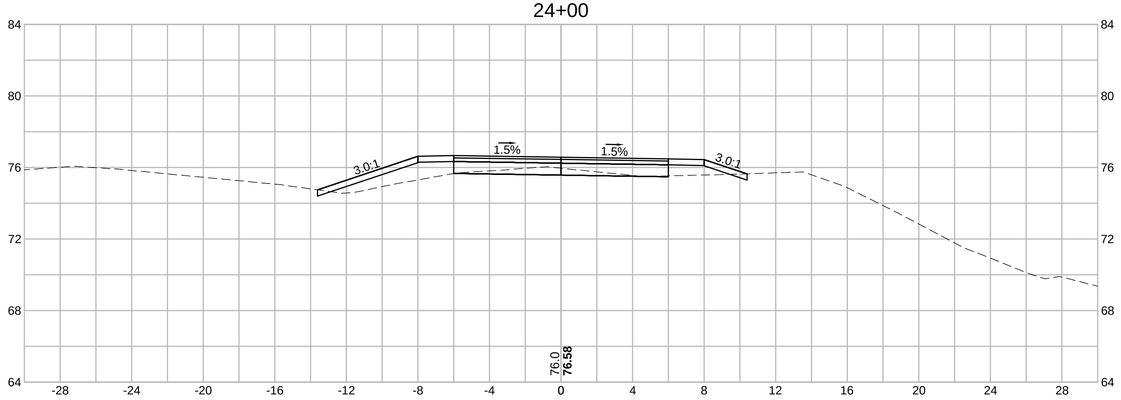
CROSS SECTION











607329_HDXX CROSS SECTION PLAN.DWG Plotted on 15-Feb-2017 1:05 PM

HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

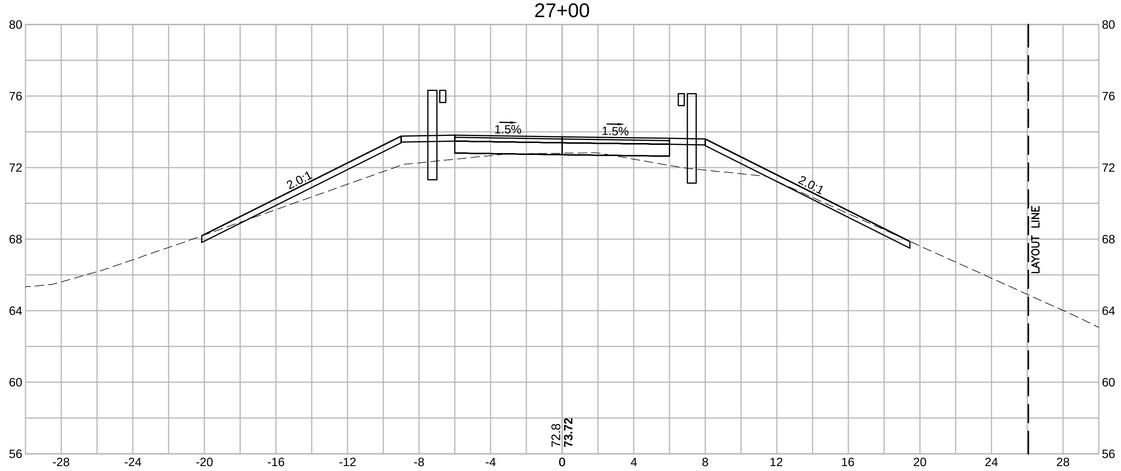
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	108	132
PROJECT FILE NO. 607329			

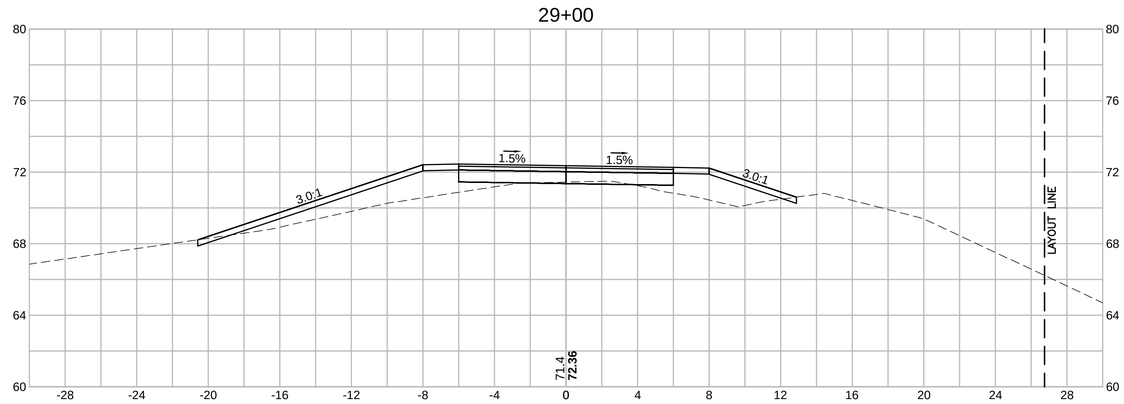
CROSS SECTION

Plotted on 15-Feb-2017 1:05 PM
607329_HDXX CROSS SECTION PLAN.DWG

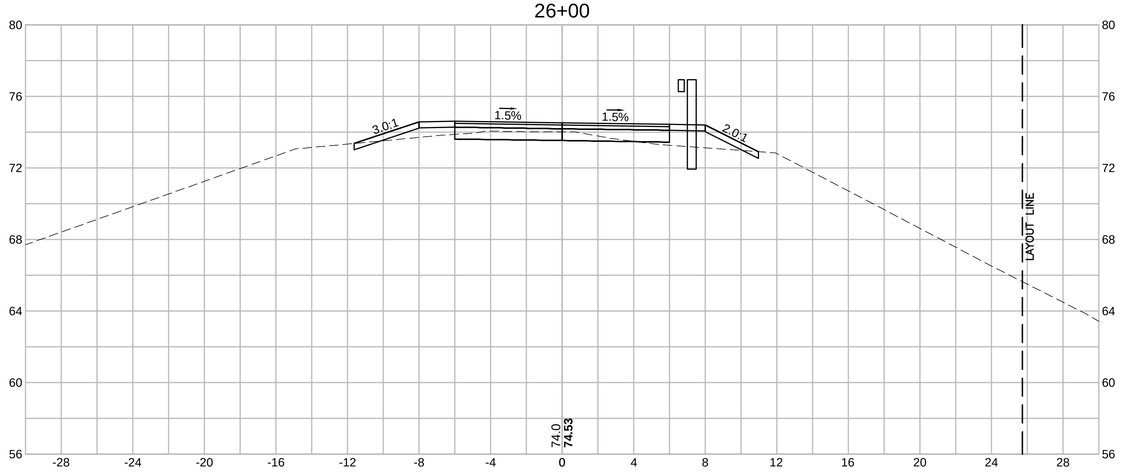
27+00



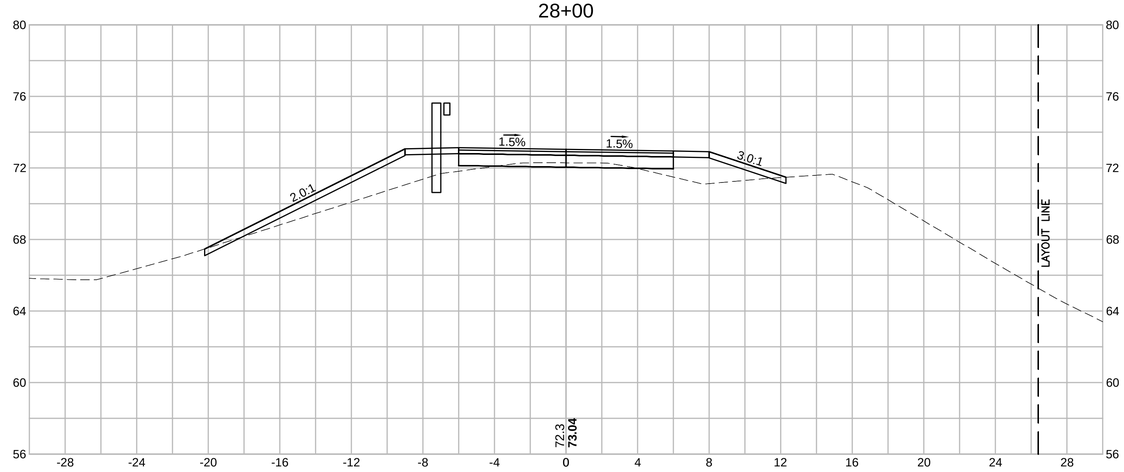
29+00



26+00



28+00



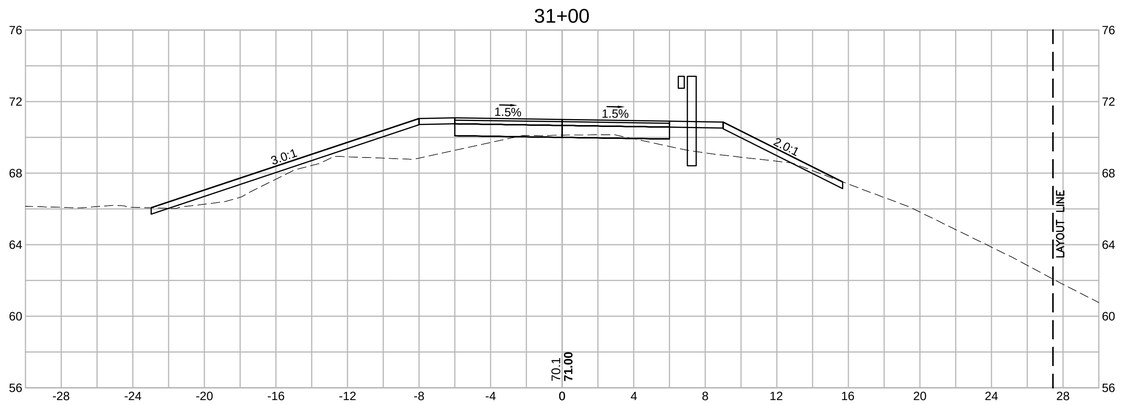
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

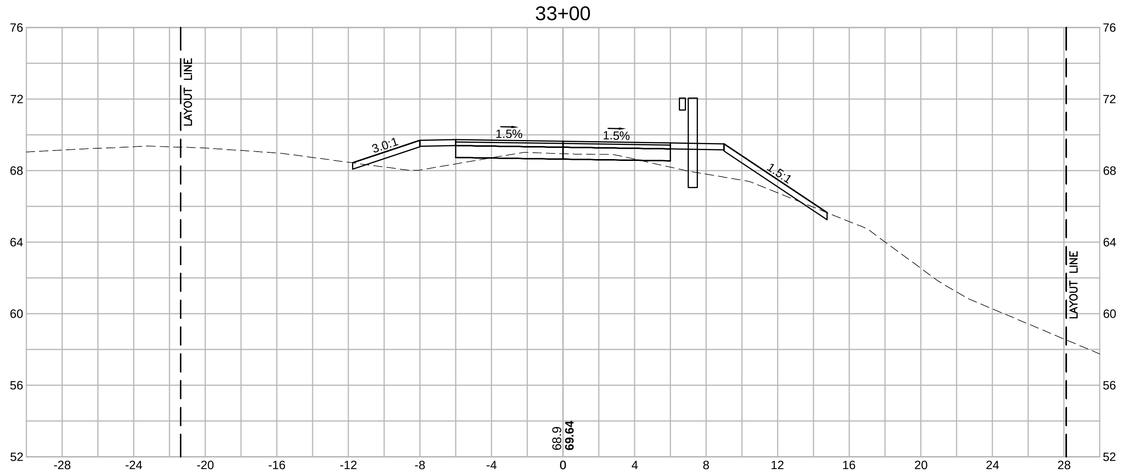
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

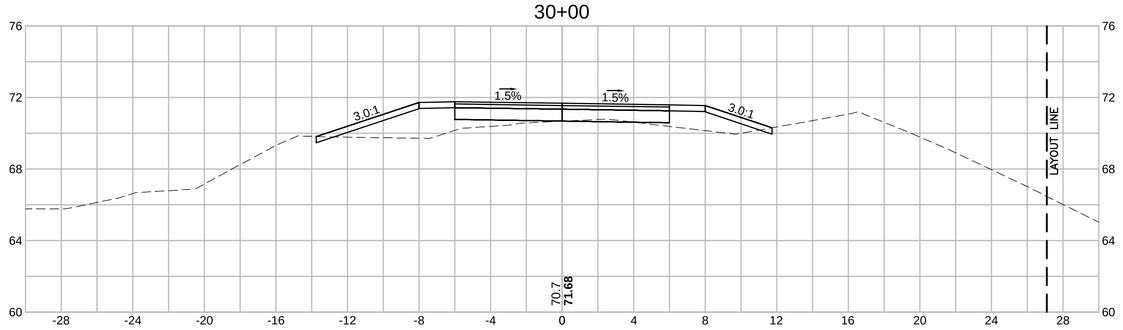
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	109	132
PROJECT FILE NO. 607329			

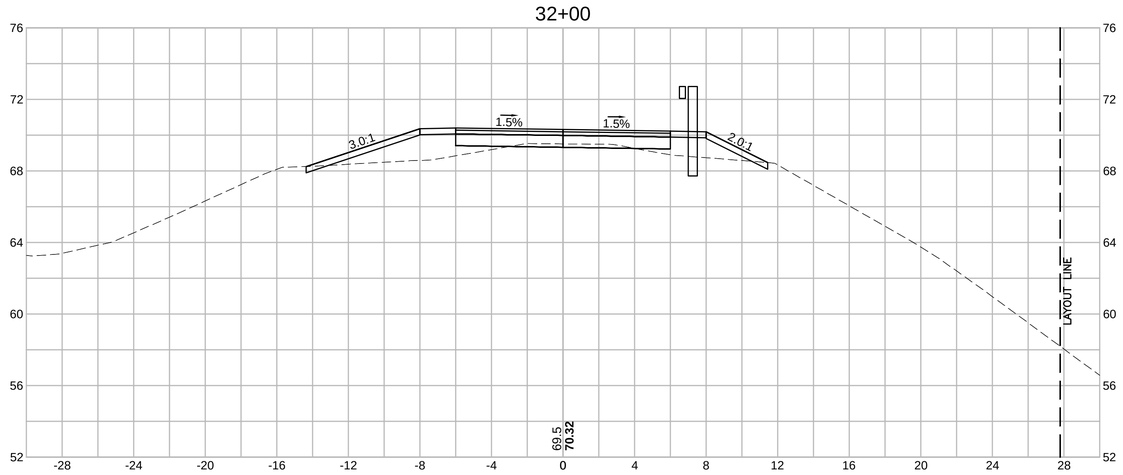
CROSS SECTION

Plotted on 15-Feb-2017 1:06 PM
607329_HDXX CROSS SECTION PLAN.DWG







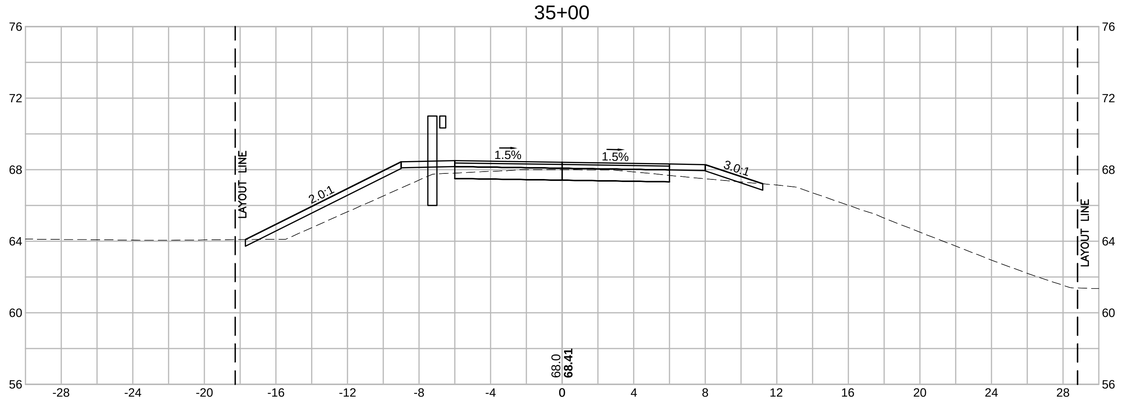


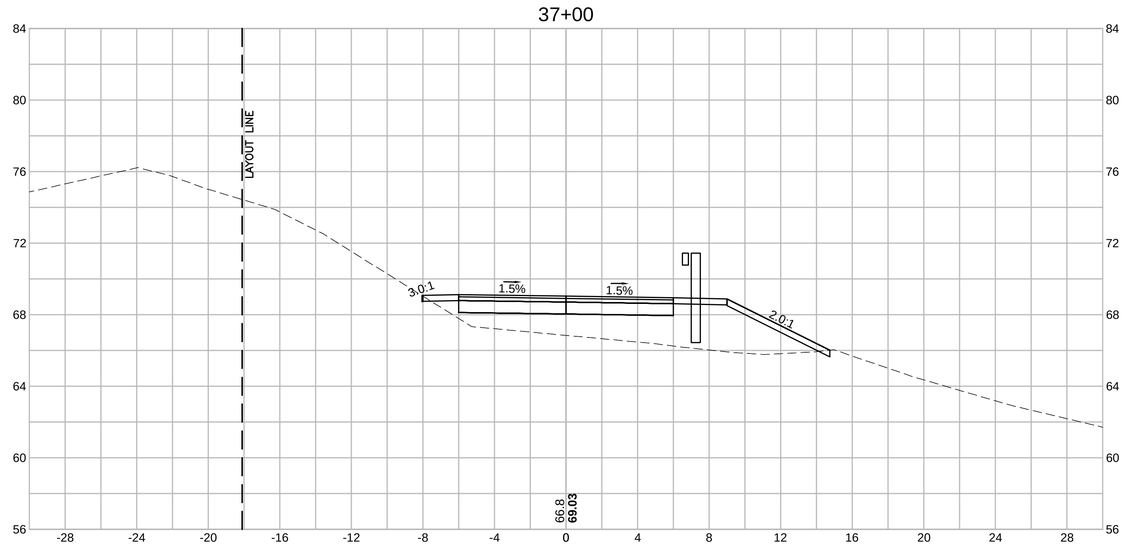
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

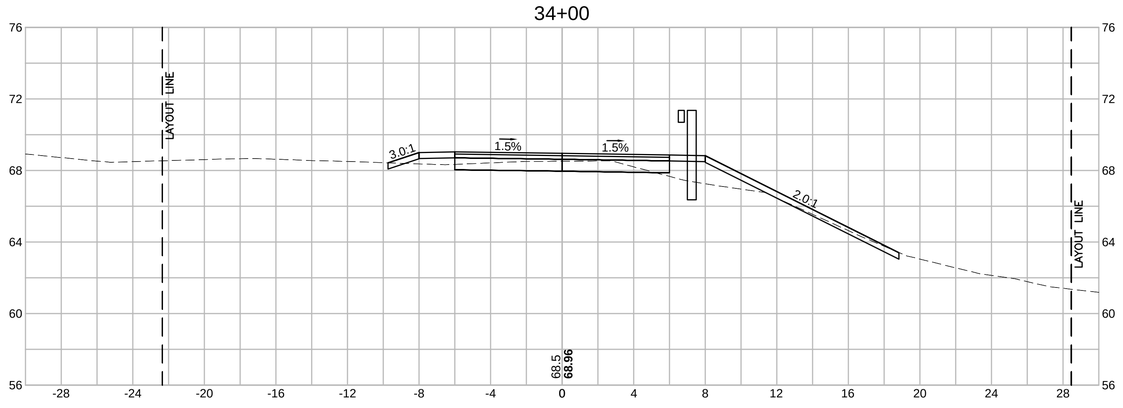
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

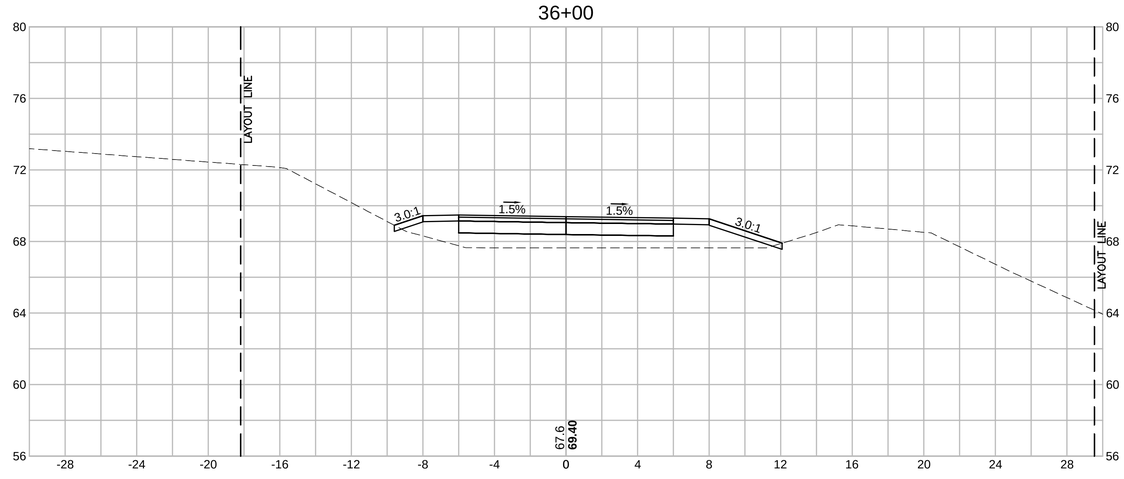
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	110	132
PROJECT FILE NO. 607329			

CROSS SECTION









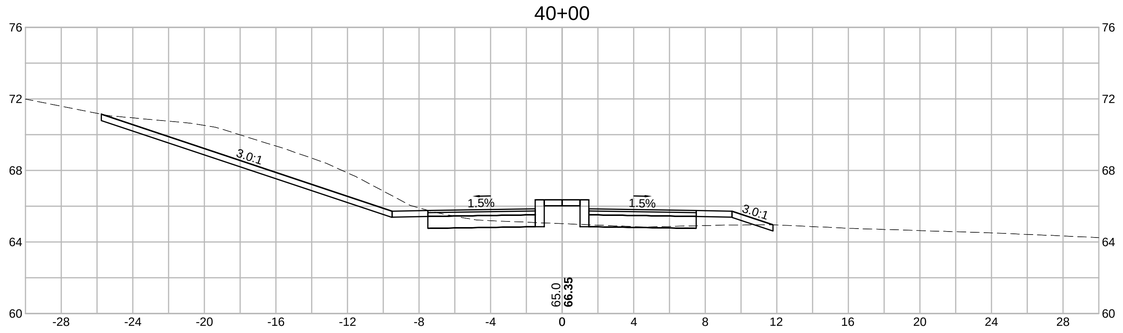
607329_HDXX CROSS SECTION PLAN.DWG Plotted on 15-Feb-2017 1:07 PM

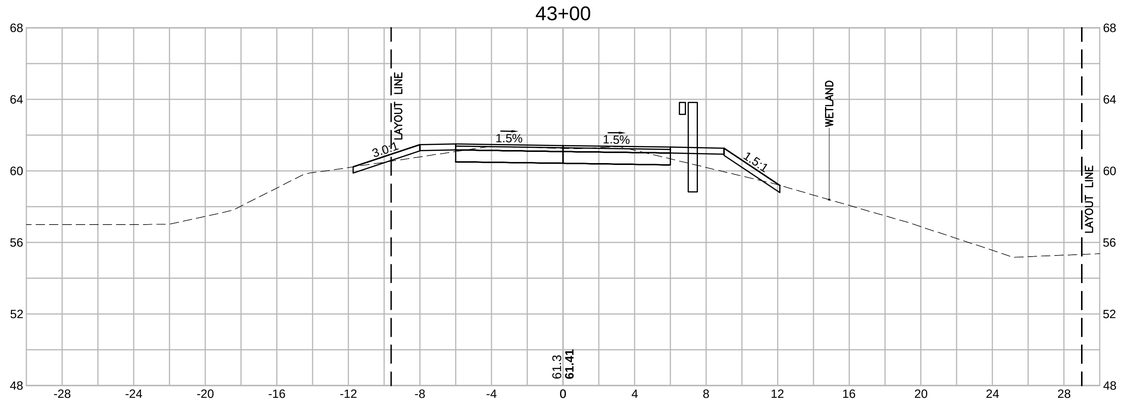
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

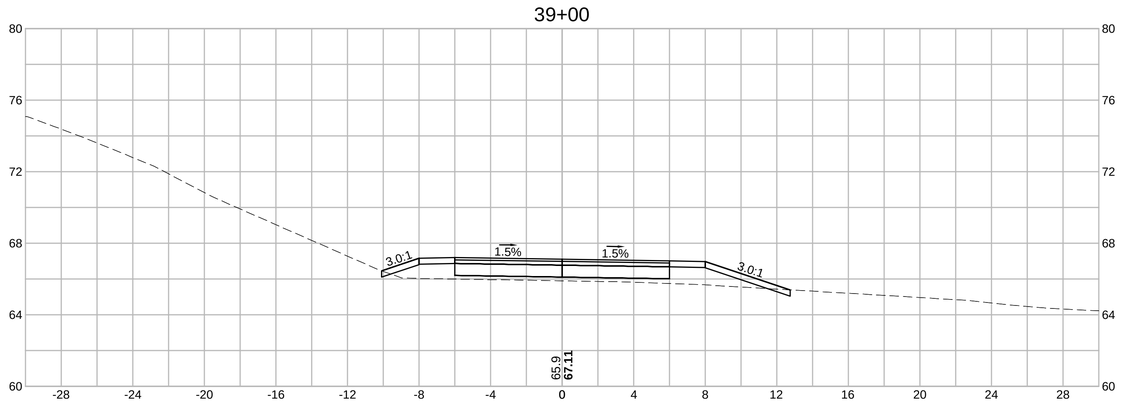
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

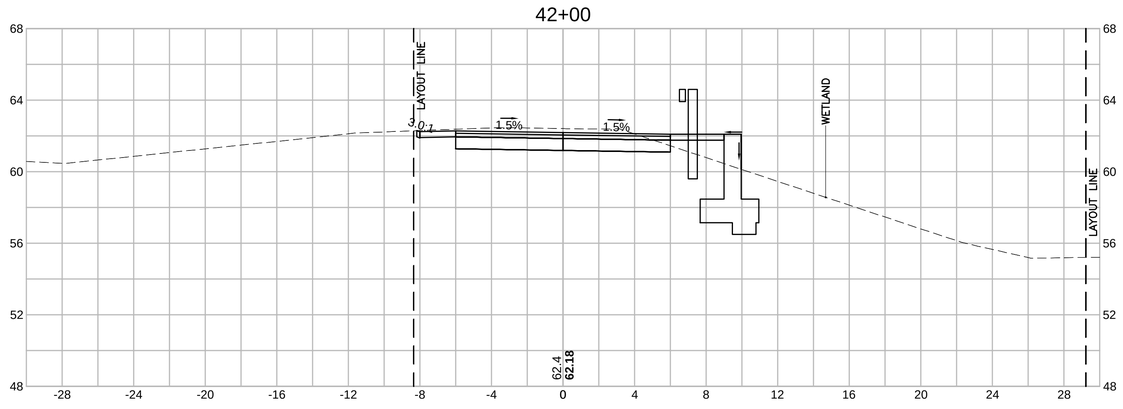
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	111	132
PROJECT FILE NO. 607329			

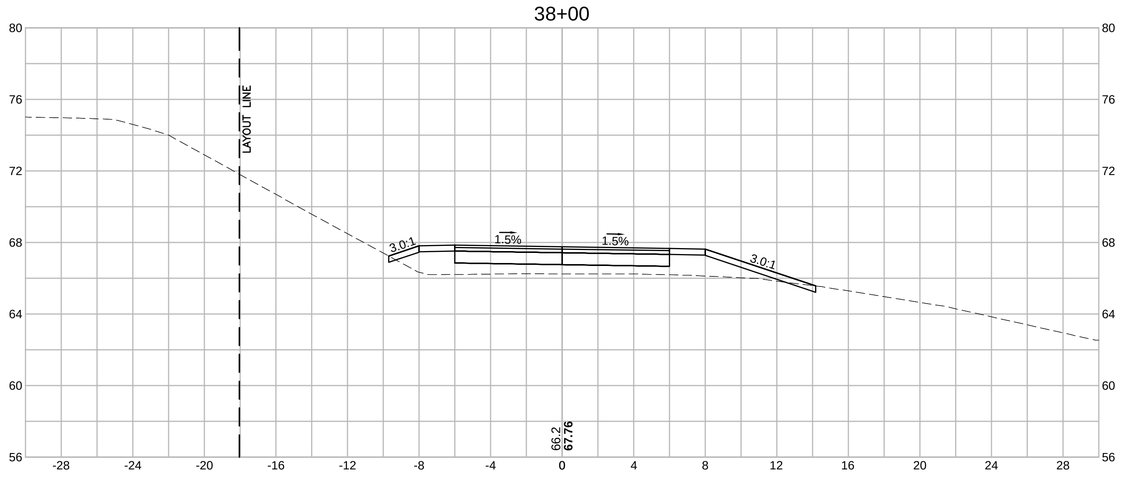
CROSS SECTION

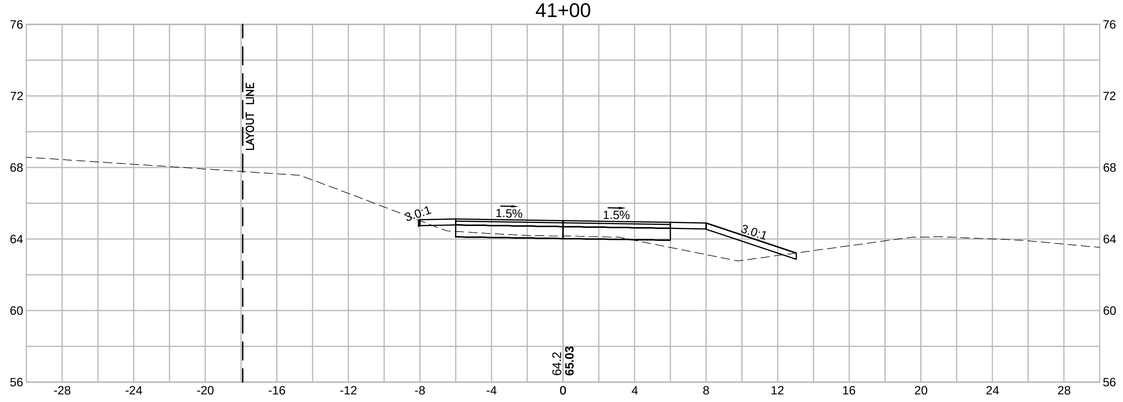












Plotted on 15-Feb-2017 1:07 PM
607329_HDXX CROSS SECTION PLAN.DWG

HOR. SCALE IN FEET
4 0 4 8
VER. SCALE IN FEET
4 0 4 8

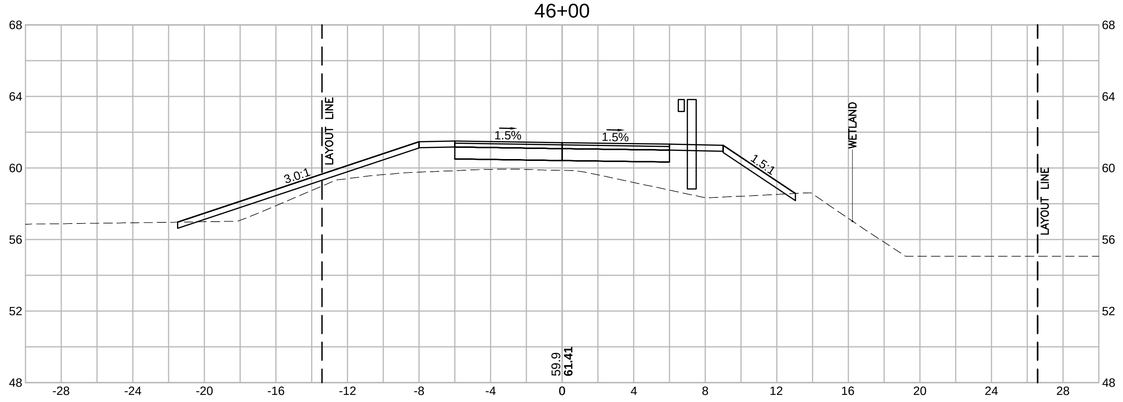
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	112	132
PROJECT FILE NO. 607329			

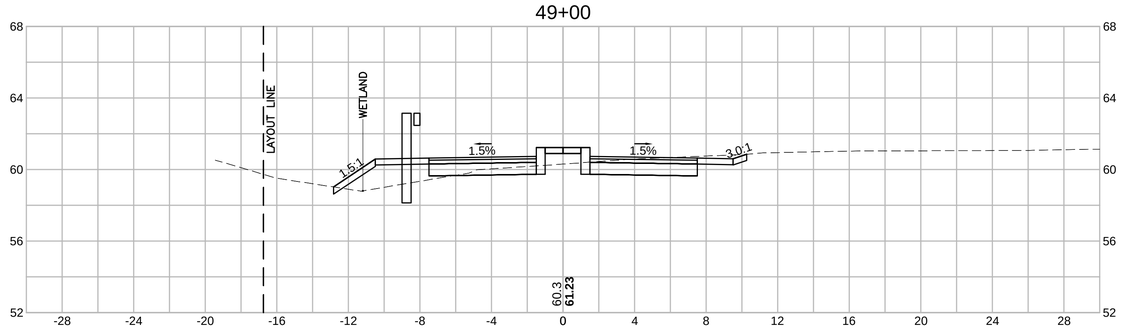
CROSS SECTION

607329_HDXX CROSS SECTION PLAN.DWG Plotted on 15-Feb-2017 1:08 PM

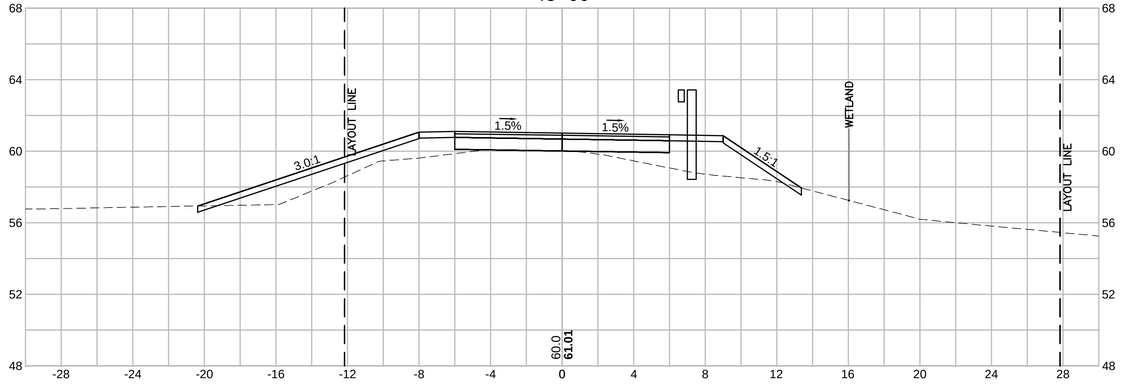
46+00



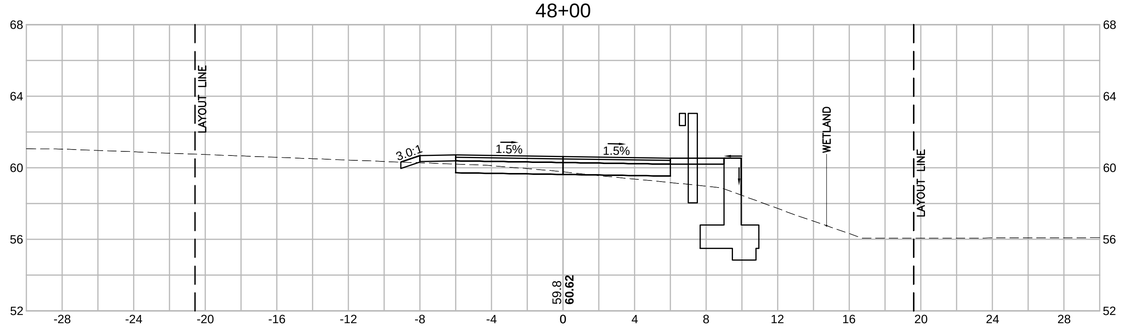
49+00



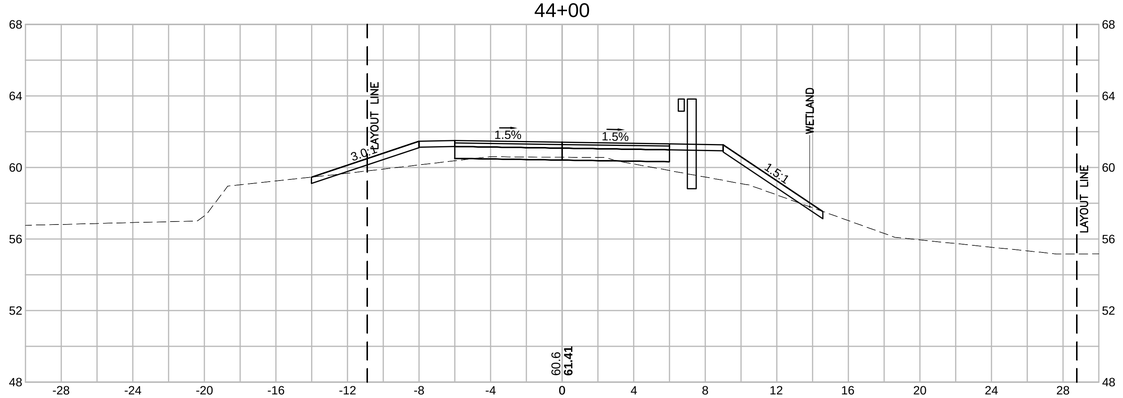
45+00



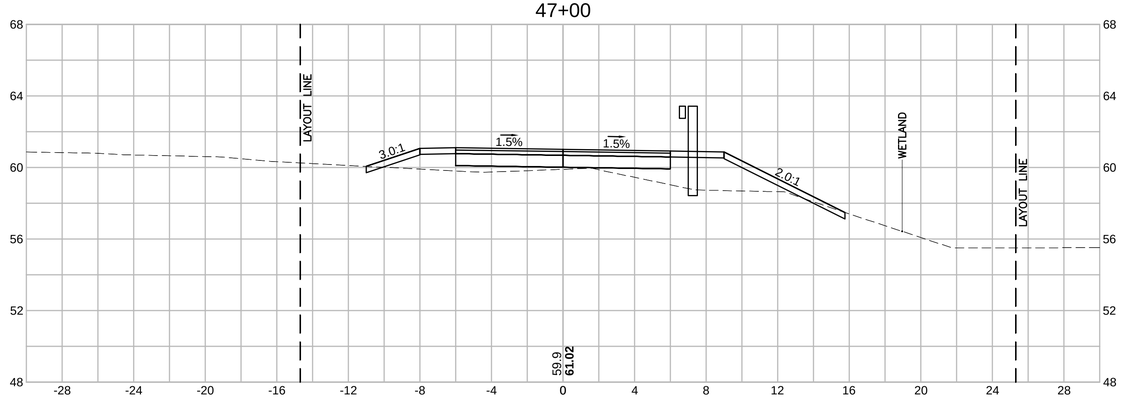
48+00



44+00



47+00



HOR. SCALE IN FEET
4 0 4 8
VER. SCALE IN FEET
4 0 4 8

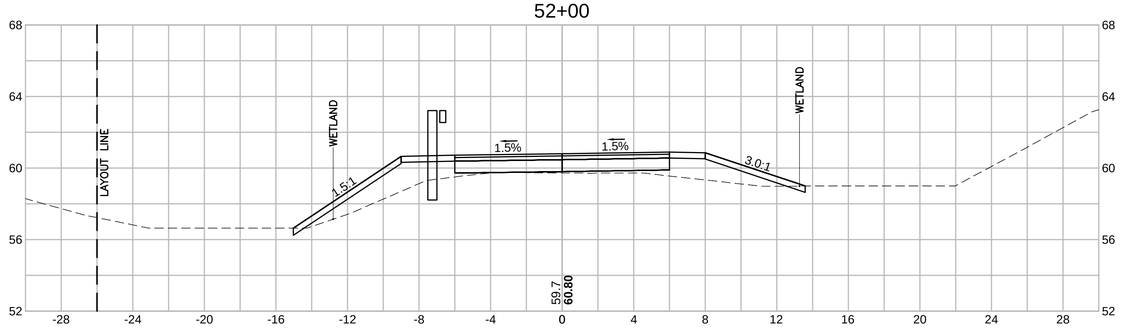
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	113	132
PROJECT FILE NO. 607329			

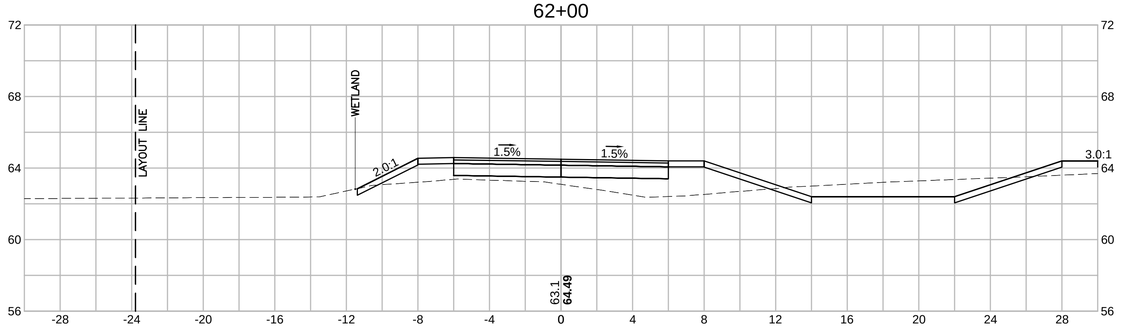
CROSS SECTION

607329_HDXX CROSS SECTION PLAN.DWG Plotted on 15-Feb-2017 1:09 PM

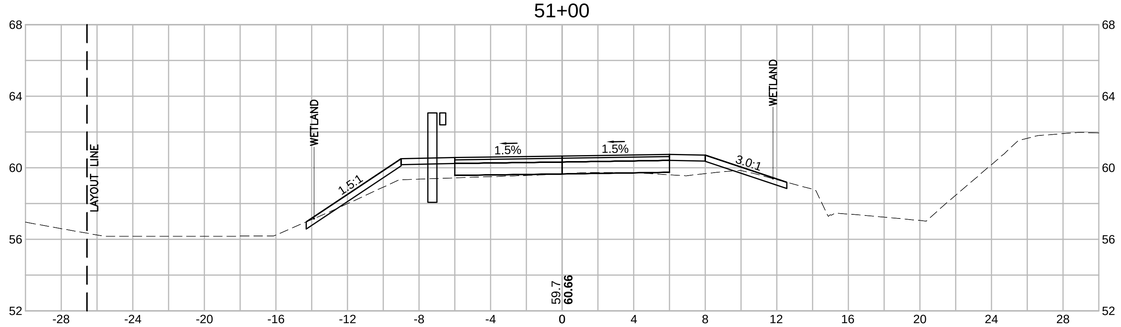
52+00



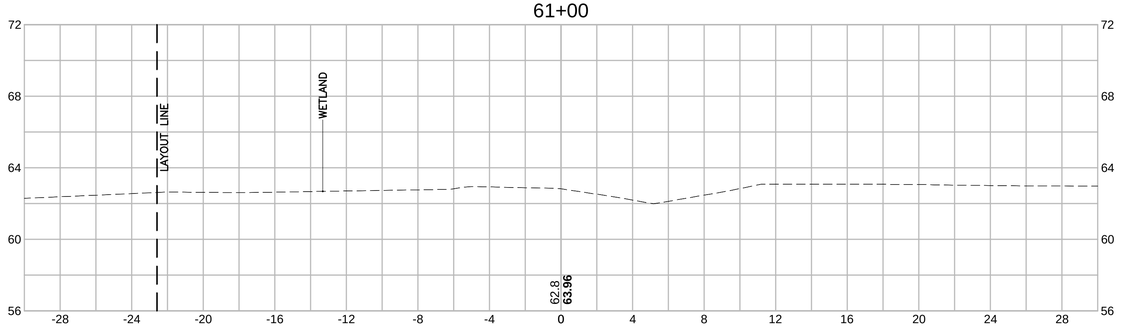
62+00



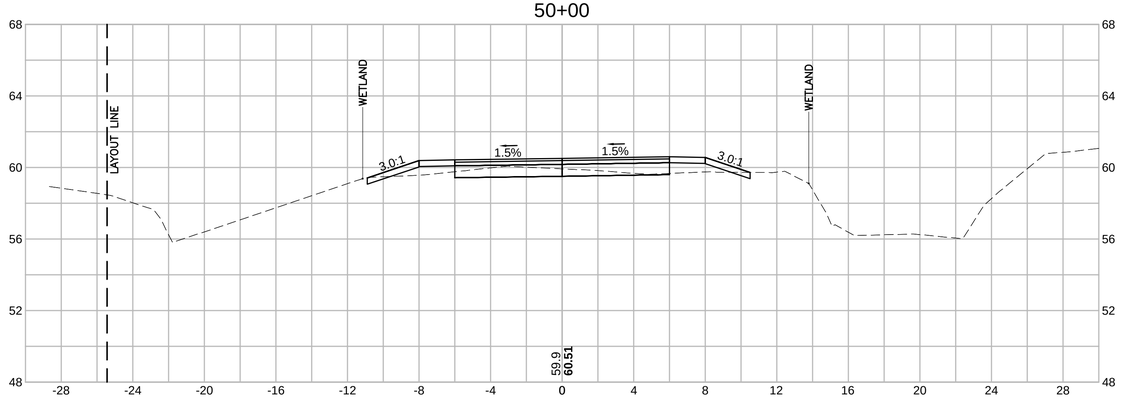
51+00



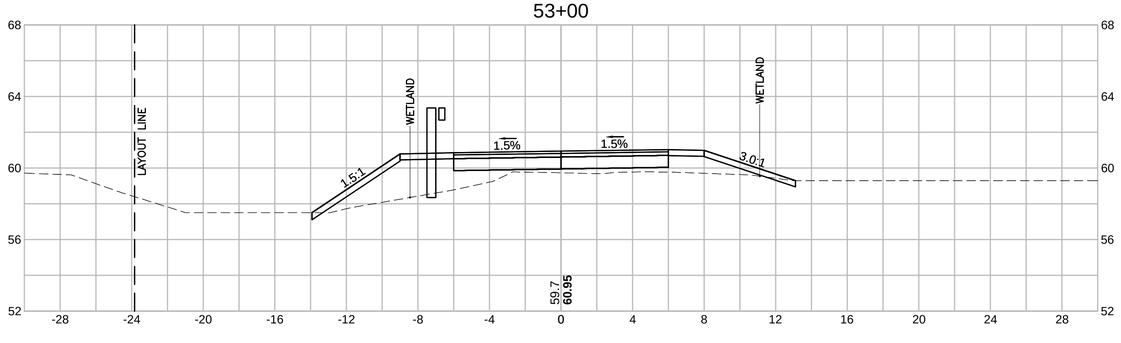
61+00



50+00



53+00



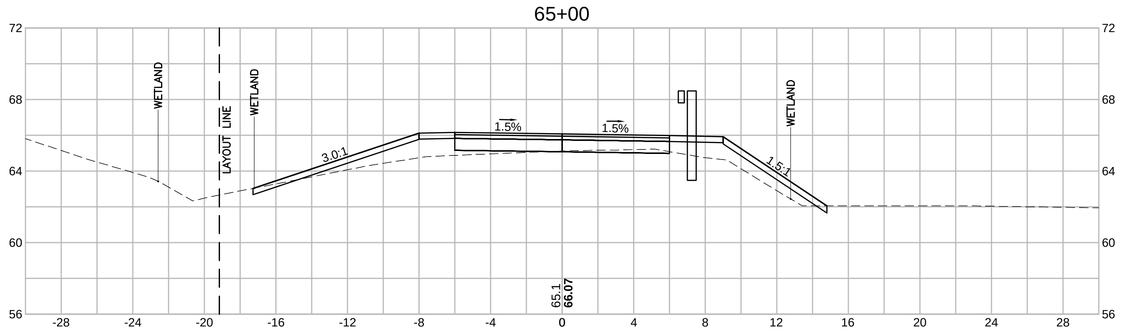
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

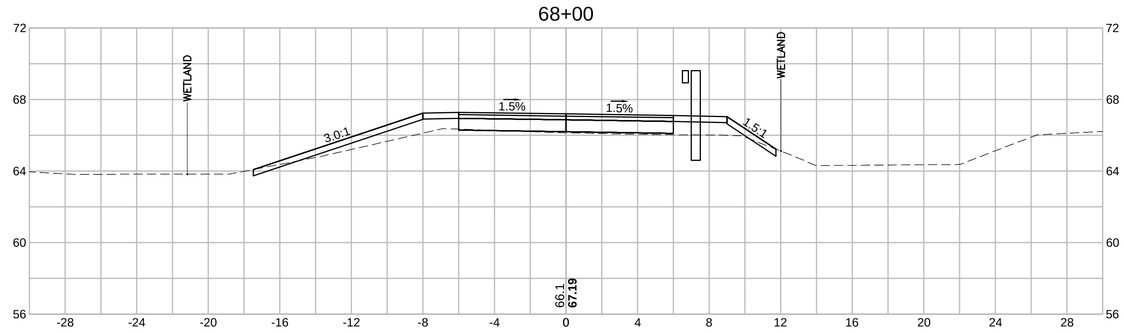
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

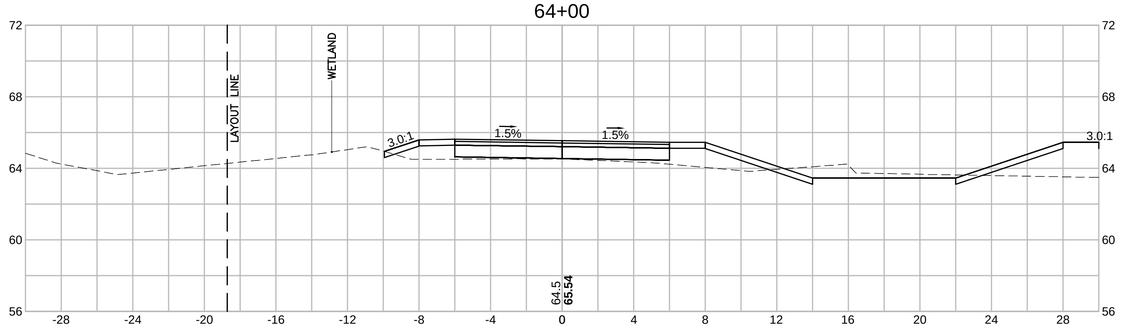
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	114	132
PROJECT FILE NO. 607329			

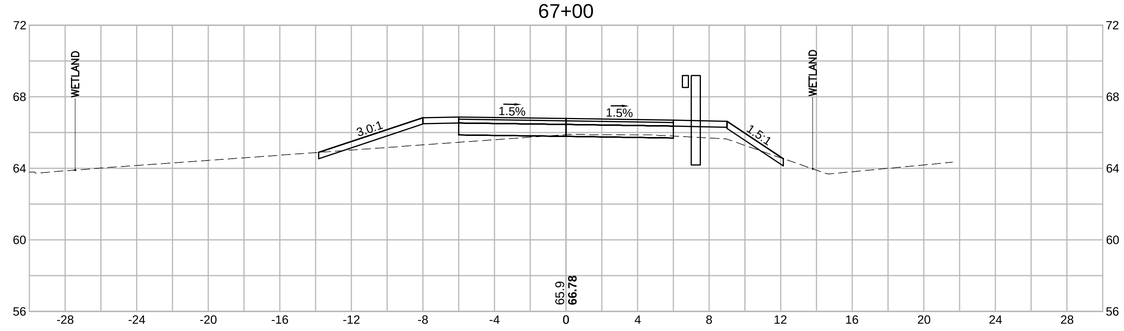
CROSS SECTION

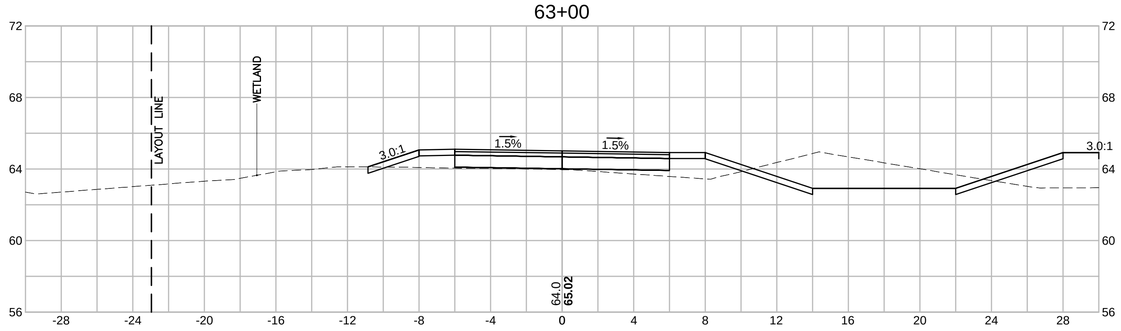
607329_HDXX CROSS SECTION PLAN.DWG Plotted on 15-Feb-2017 1:09 PM

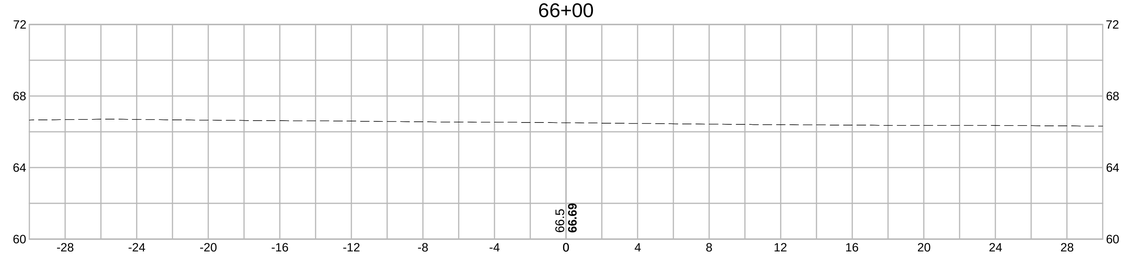












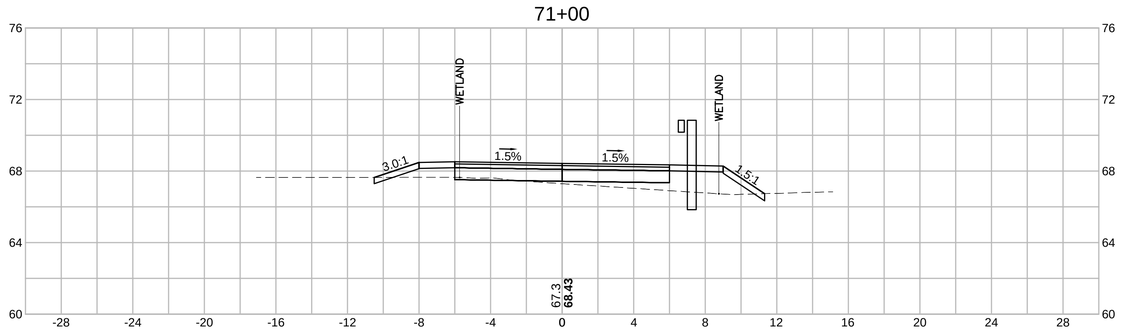
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

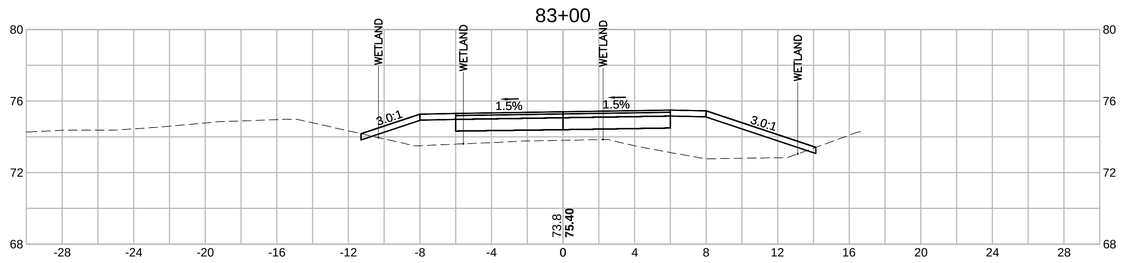
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

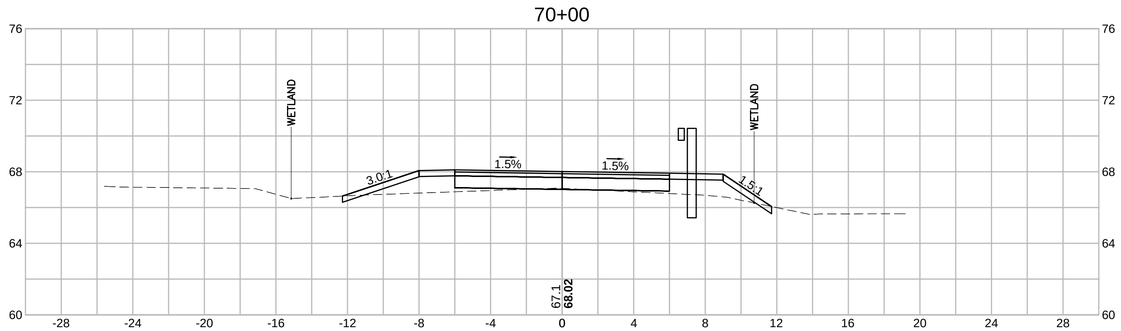
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	115	132
PROJECT FILE NO. 607329			

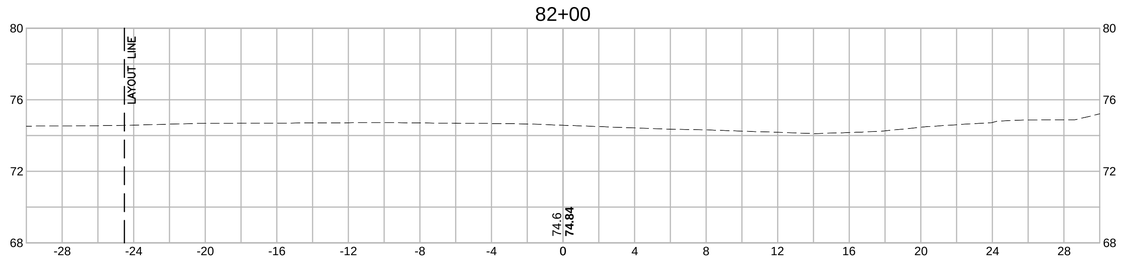
CROSS SECTION

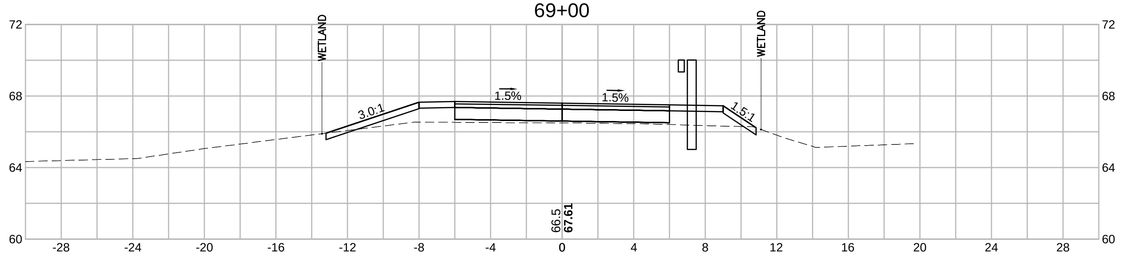
607329_HDXX CROSS SECTION PLAN.DWG Plotted on 15-Feb-2017 1:10 PM

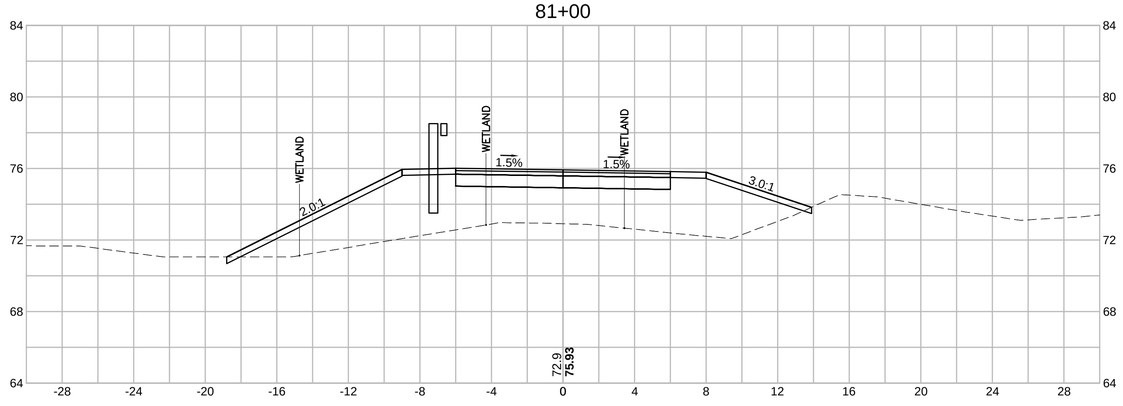












HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

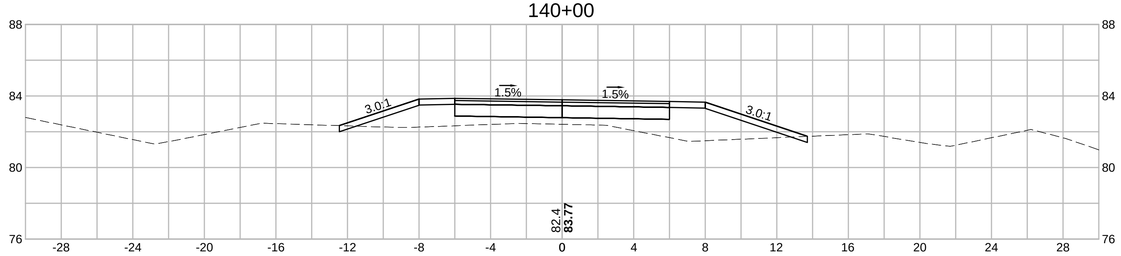
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	116	132
PROJECT FILE NO. 607329			

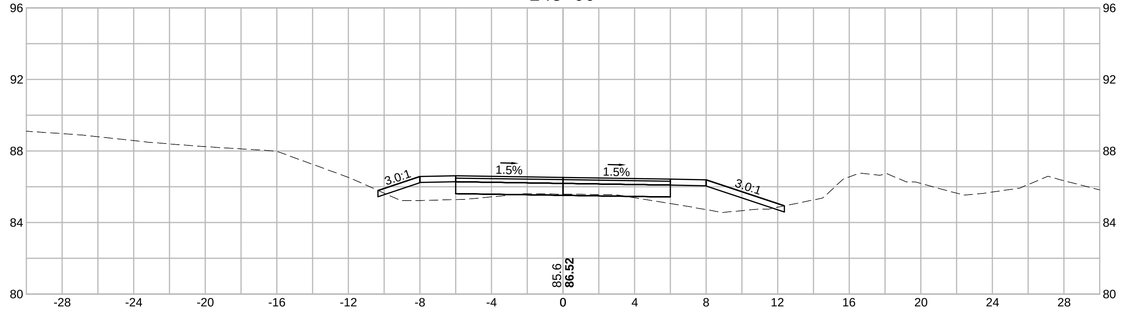
CROSS SECTION

Plotted on 15-Feb-2017 1:11 PM
607329_HDXX CROSS SECTION PLAN.DWG

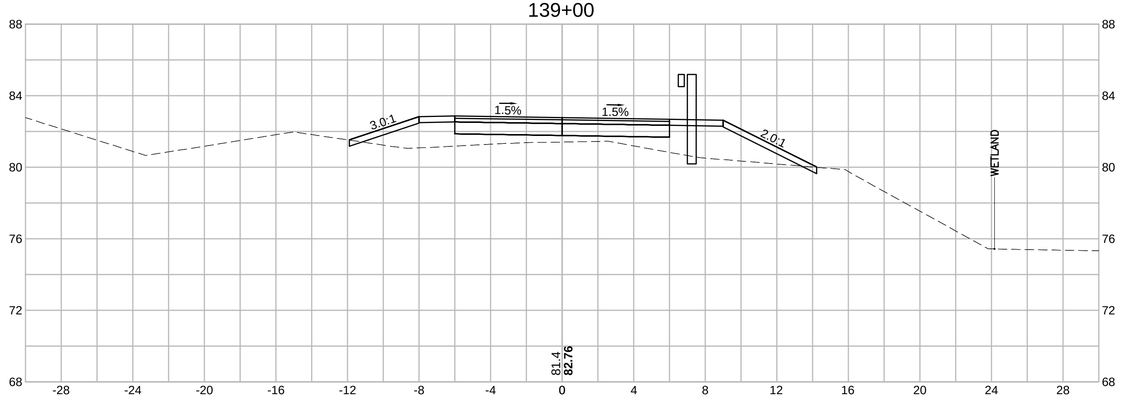
140+00



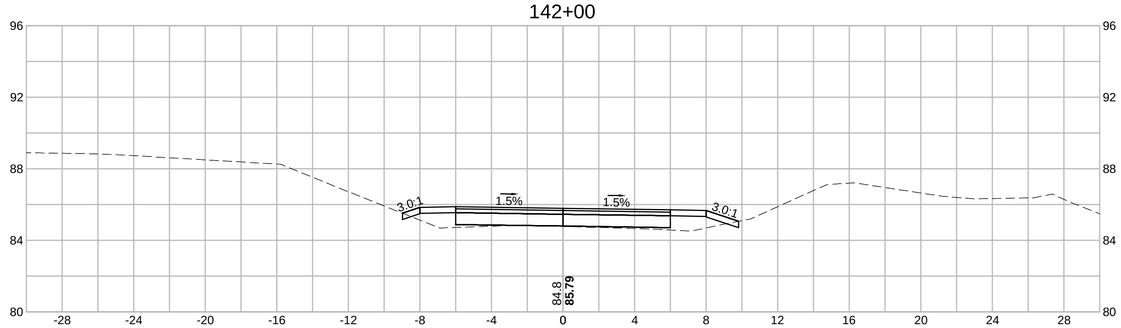
143+00



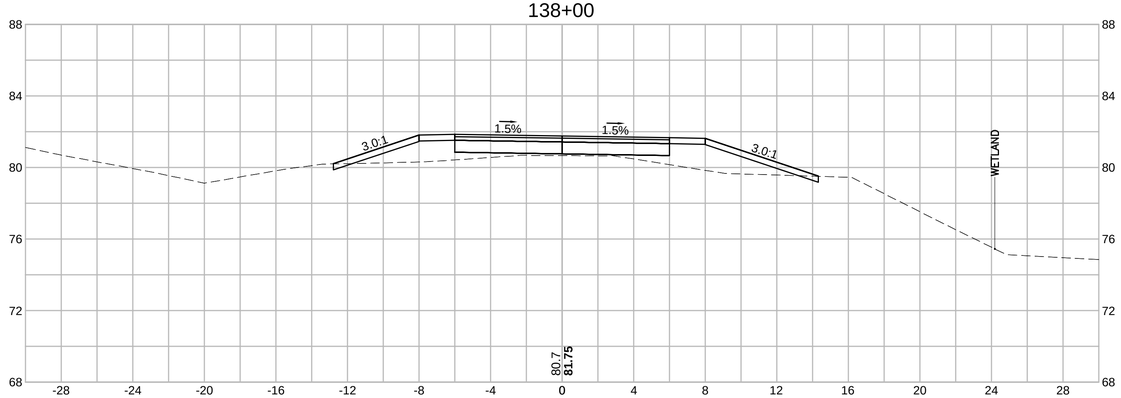
139+00



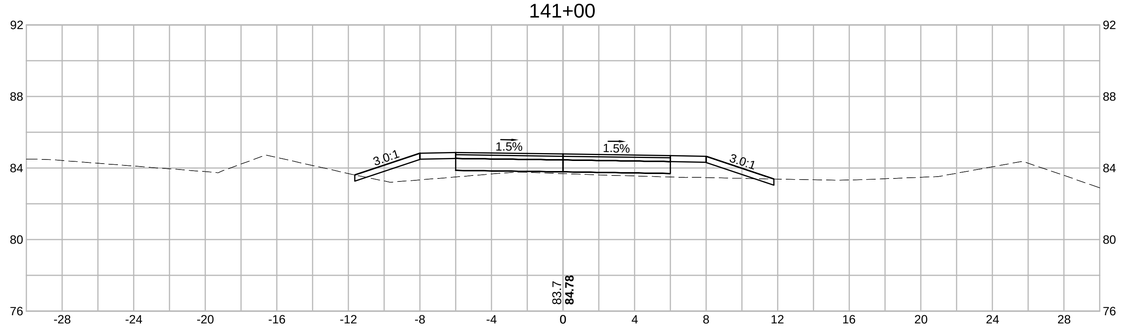
142+00



138+00



141+00



HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

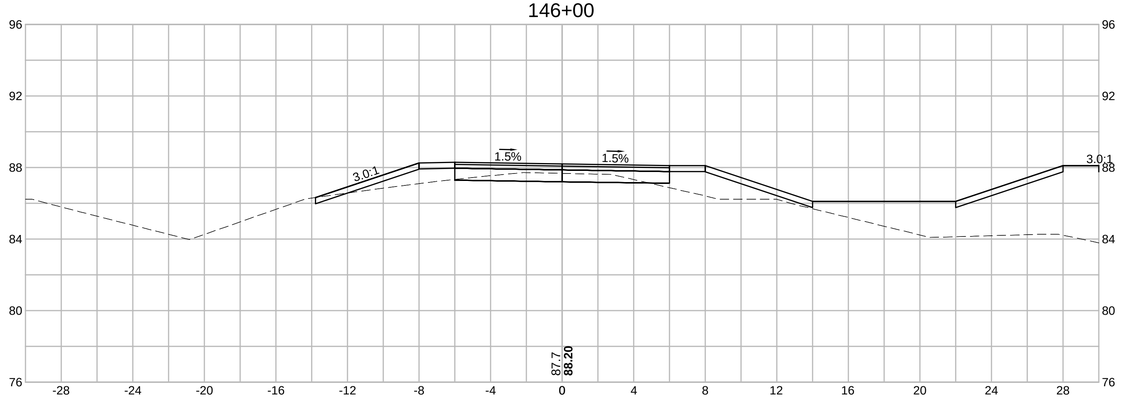
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	117	132
PROJECT FILE NO. 607329			

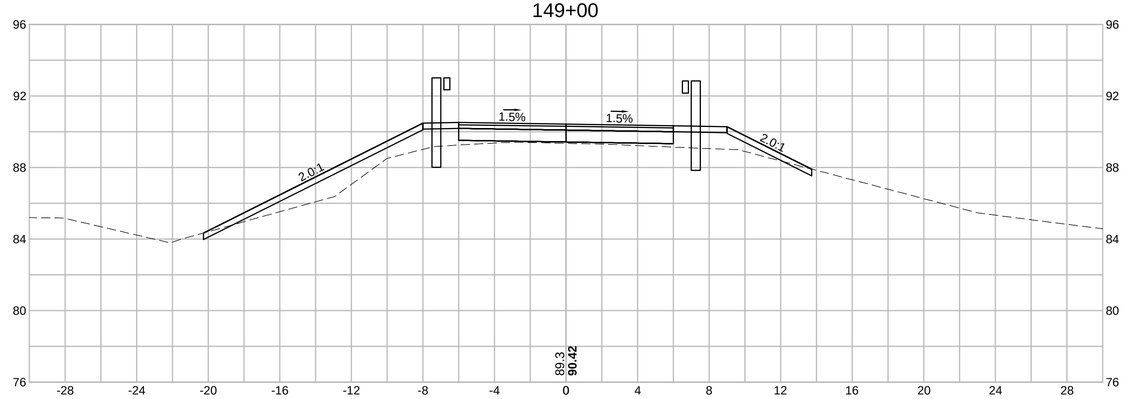
CROSS SECTION

607329_HDXX CROSS SECTION PLAN.DWG Plotted on 15-Feb-2017 1:11 PM

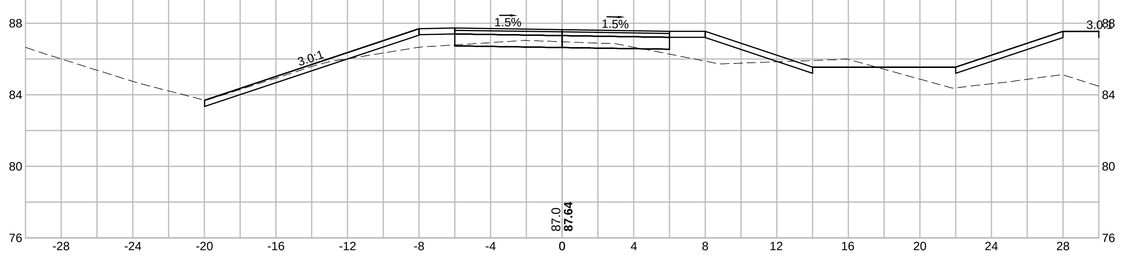
146+00



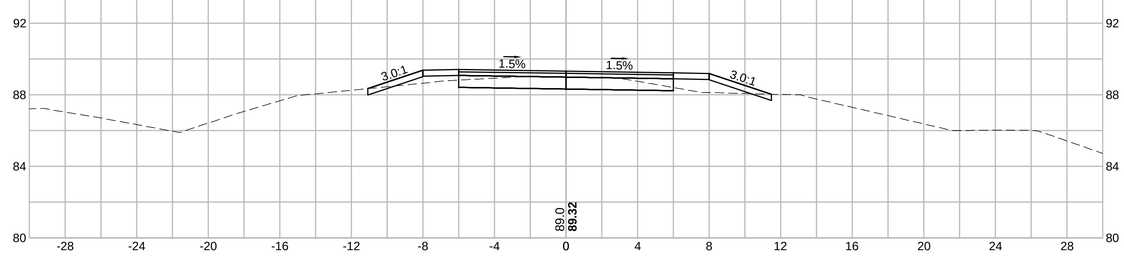
149+00



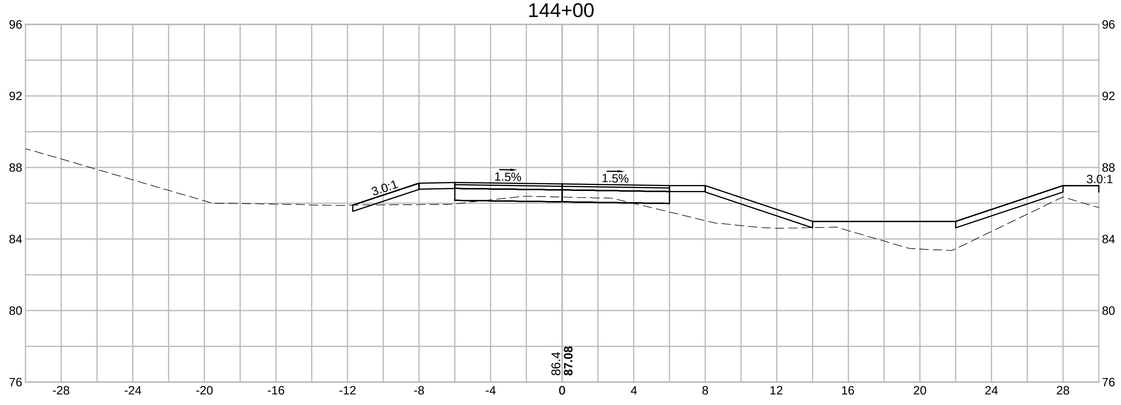
145+00



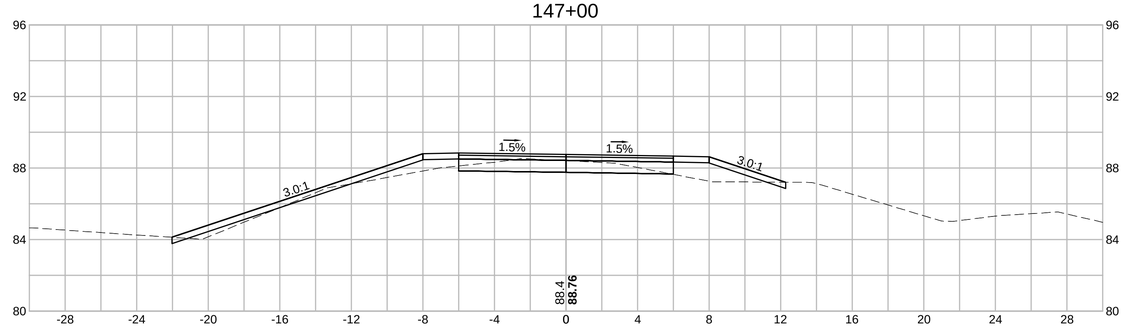
148+00



144+00



147+00



HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

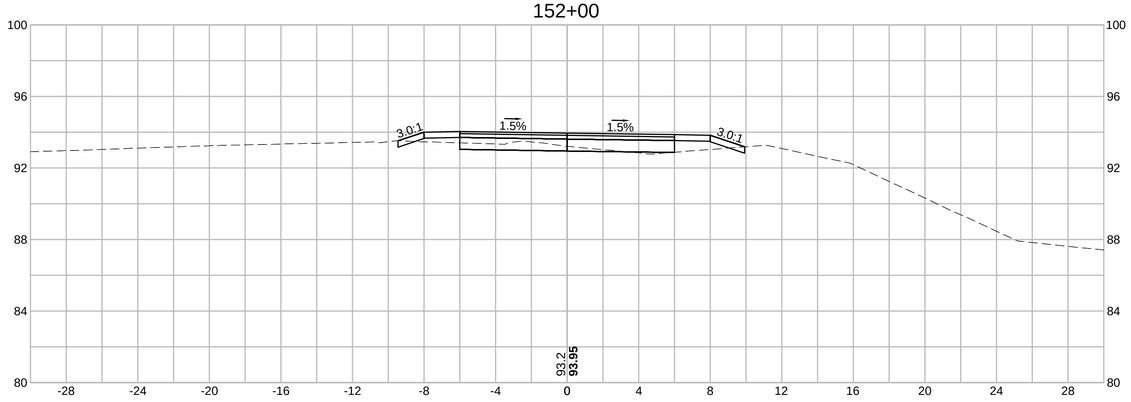
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	118	132
PROJECT FILE NO. 607329			

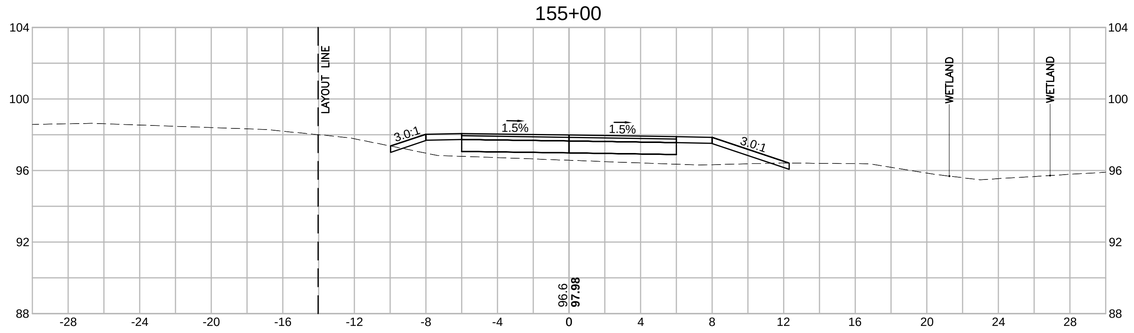
CROSS SECTION

Plotted on 15-Feb-2017 1:12 PM
607329_HDXX CROSS SECTION PLAN.DWG

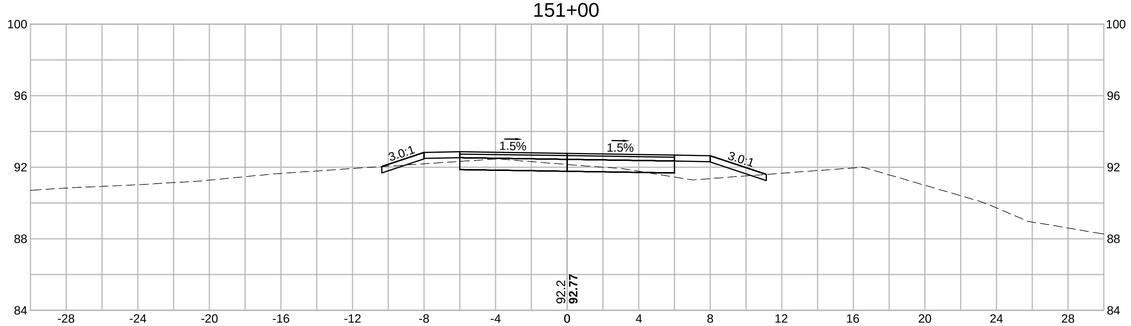
152+00



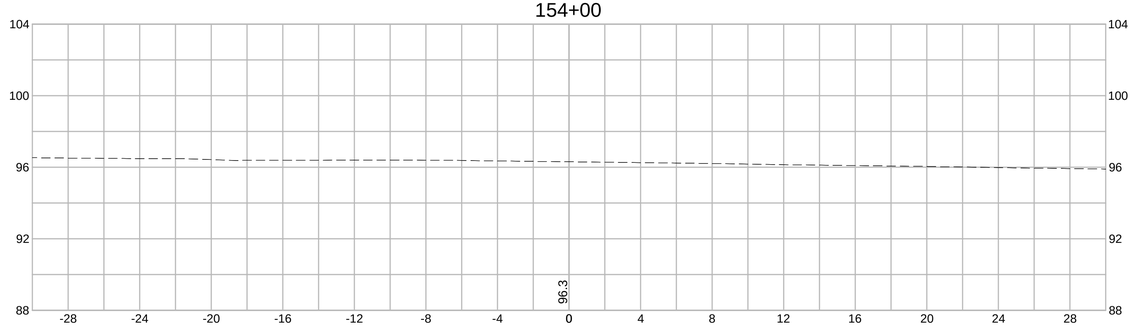
155+00



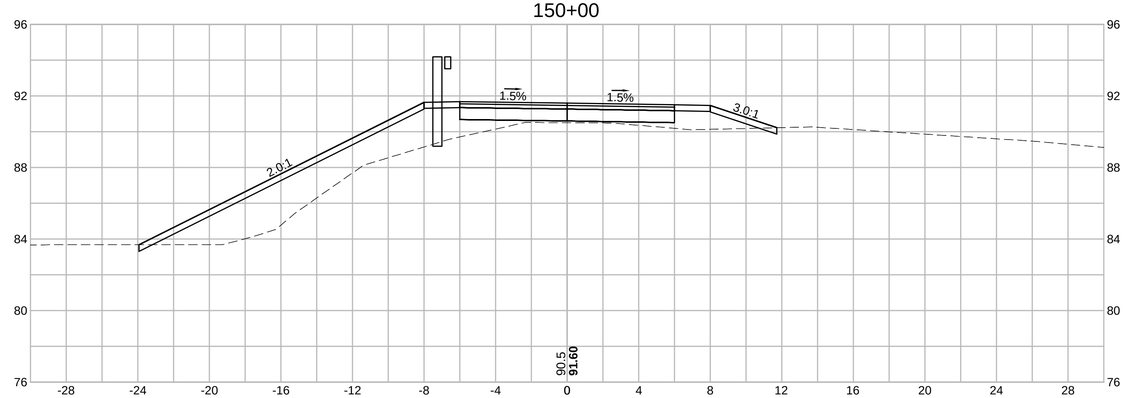
151+00



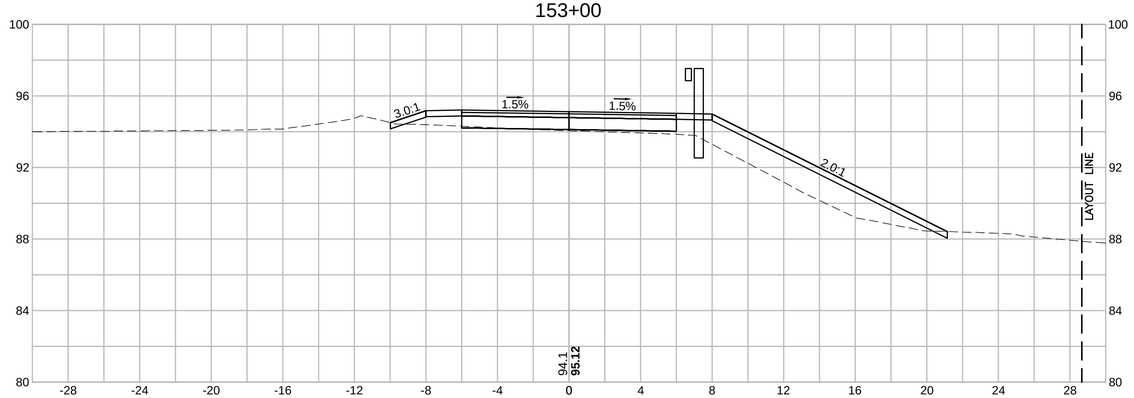
154+00



150+00



153+00



HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

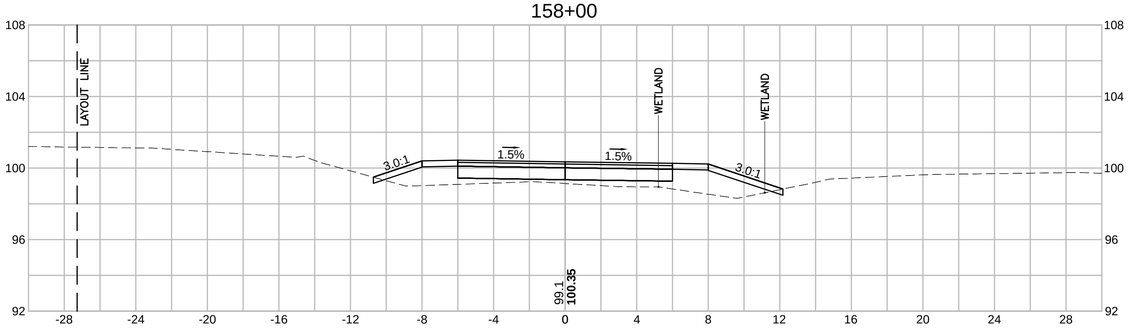
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	119	132
PROJECT FILE NO. 607329			

CROSS SECTION

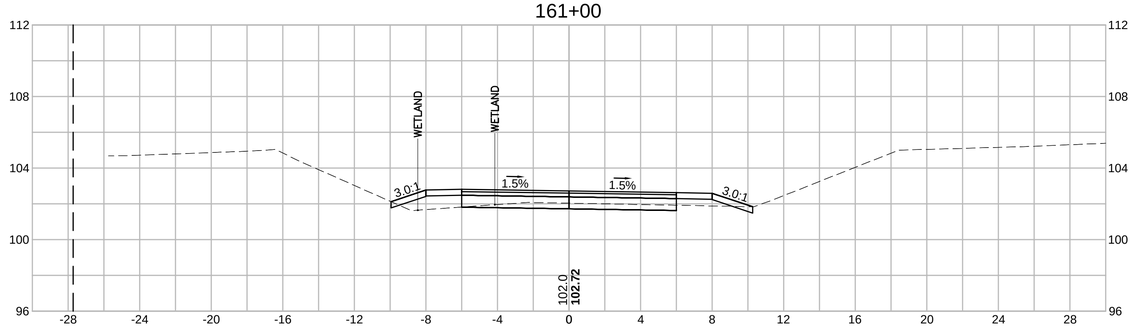
Plotted on 15-Feb-2017 1:13 PM

607329_HDXX CROSS SECTION PLAN.DWG

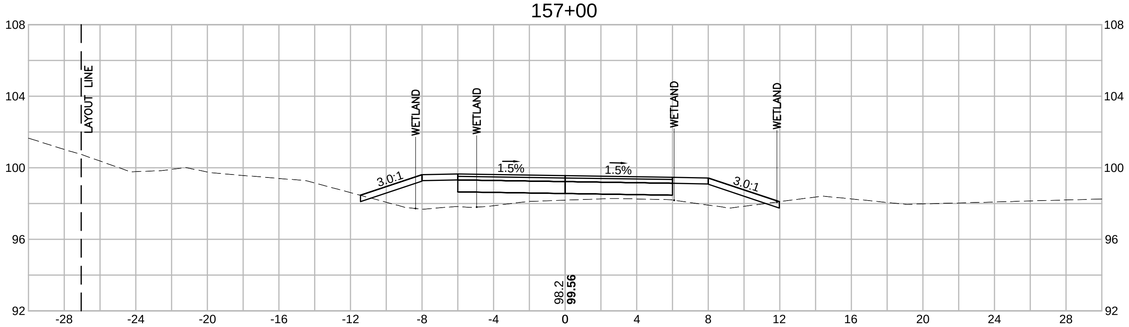
158+00



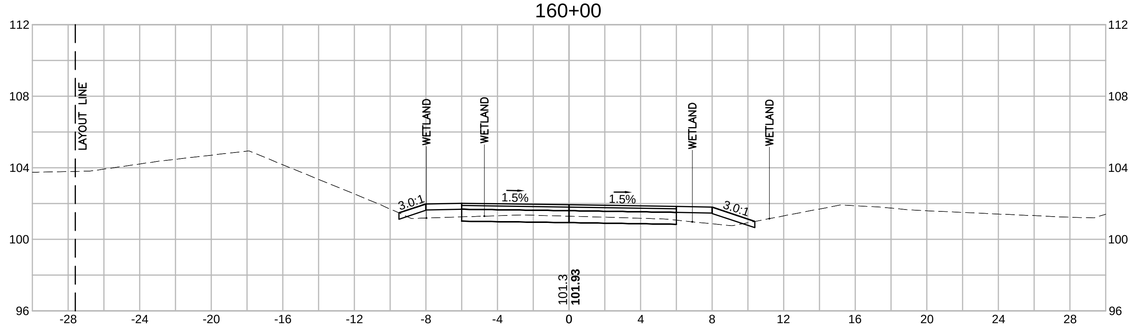
161+00



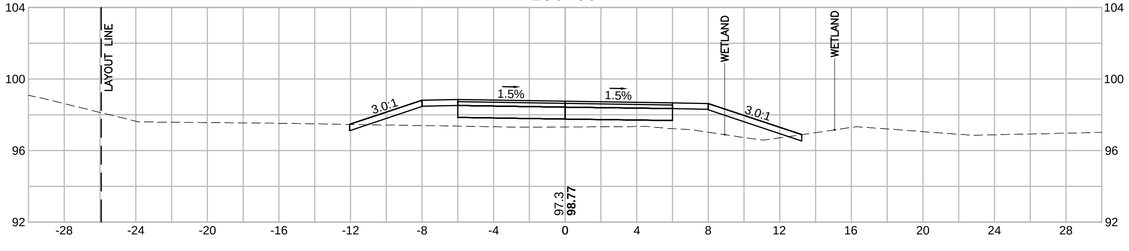
157+00



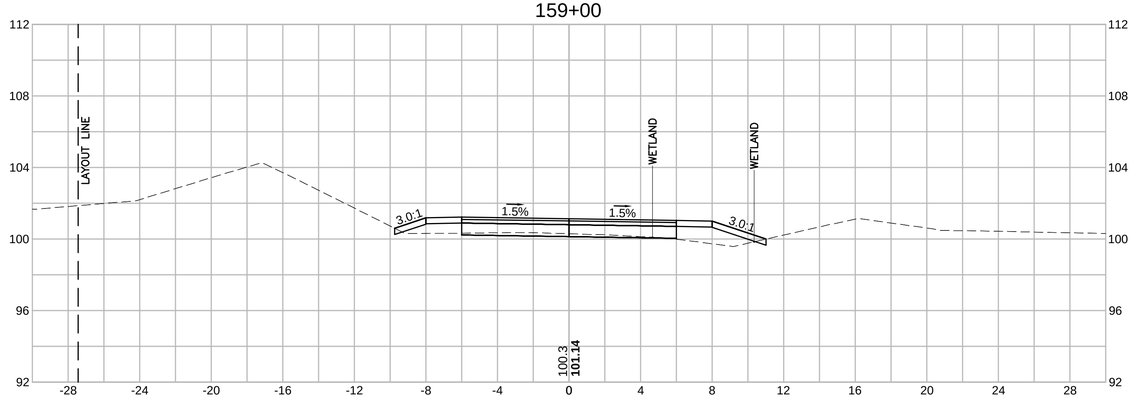
160+00



156+00



159+00



HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

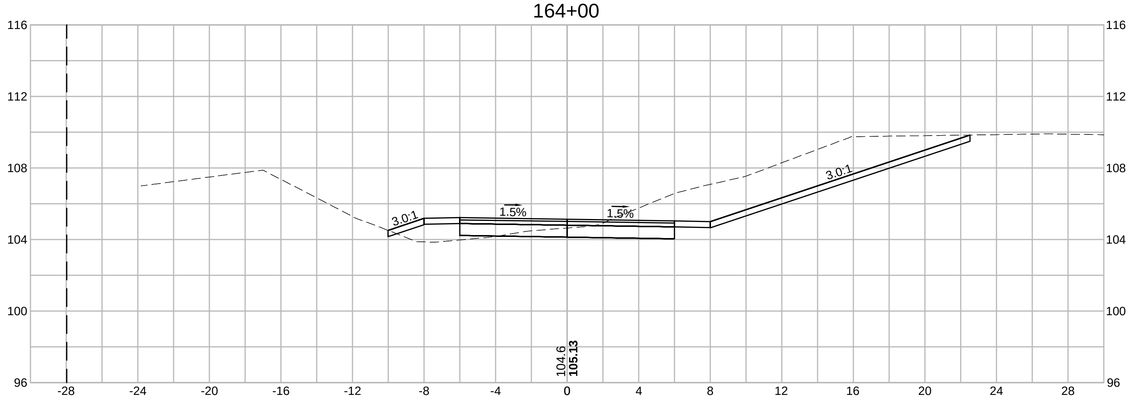
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	120	132
PROJECT FILE NO. 607329			

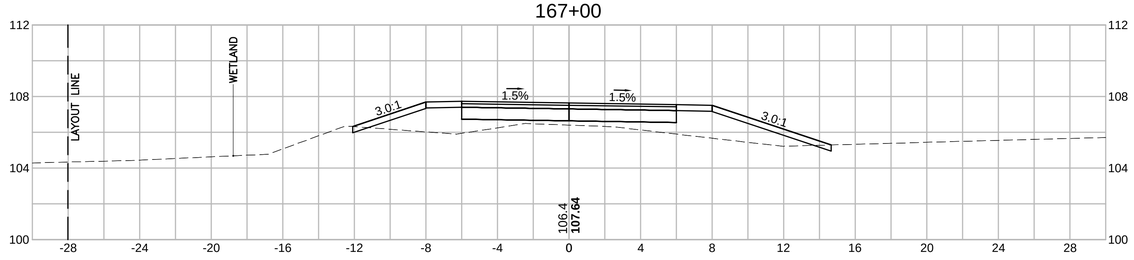
CROSS SECTION

Plotted on 15-Feb-2017 1:13 PM
607329_HDXX CROSS SECTION PLAN.DWG

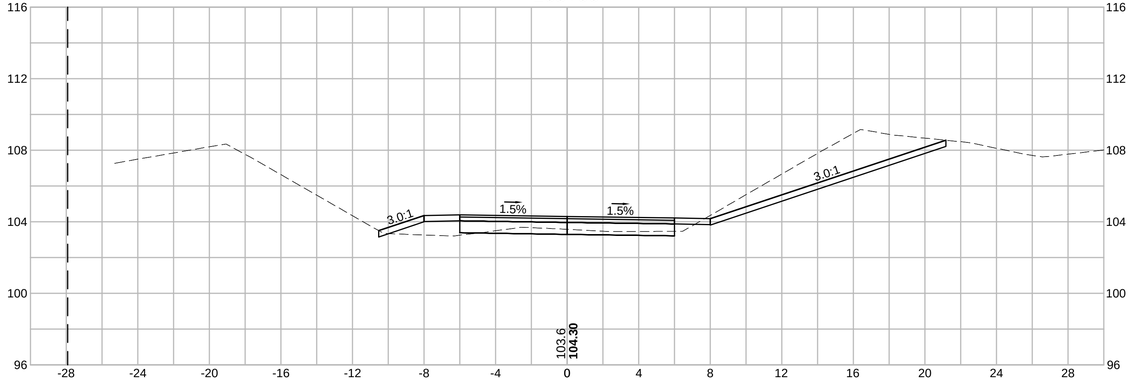
164+00



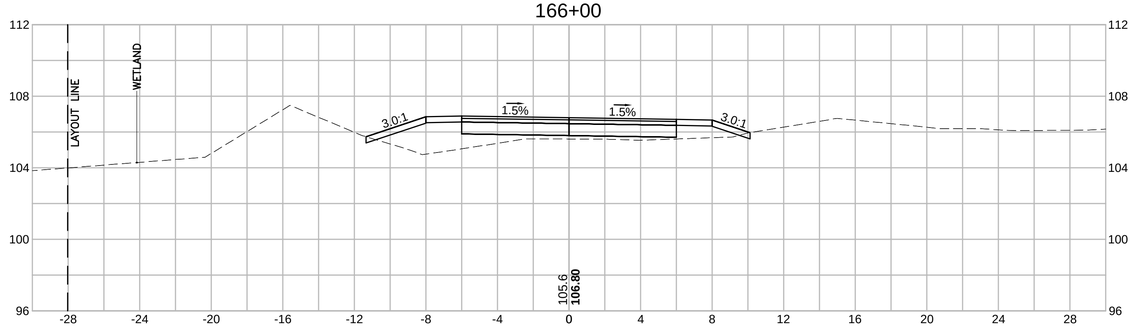
167+00



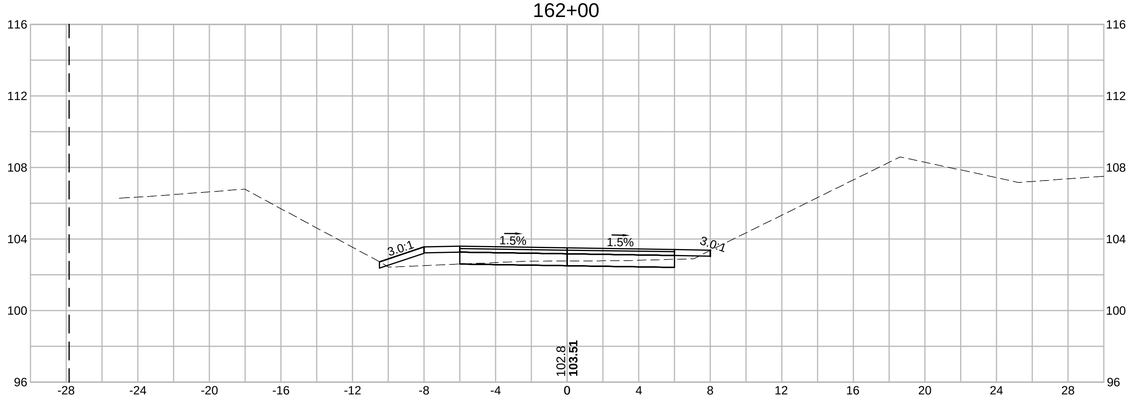
163+00



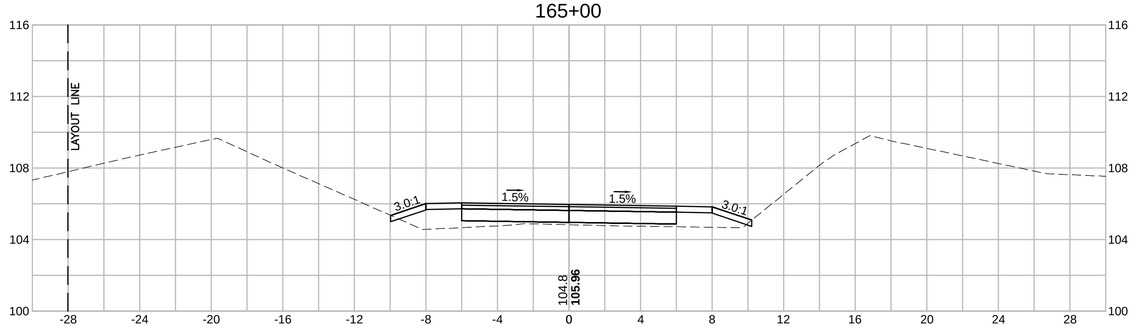
166+00



162+00



165+00



HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

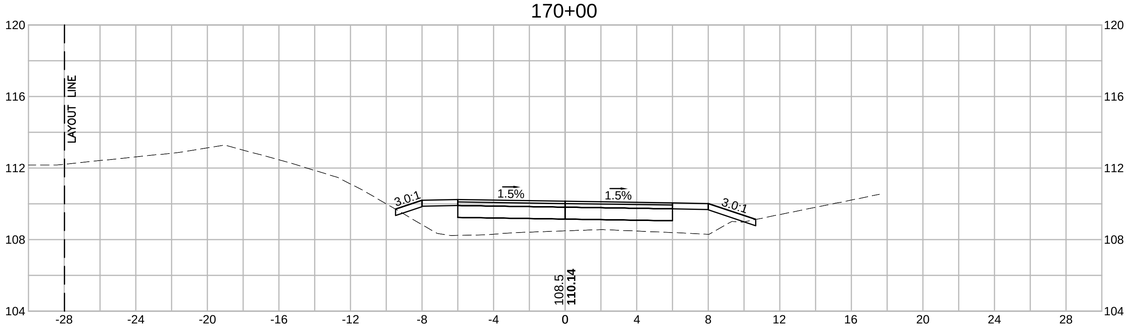
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	121	132
PROJECT FILE NO. 607329			

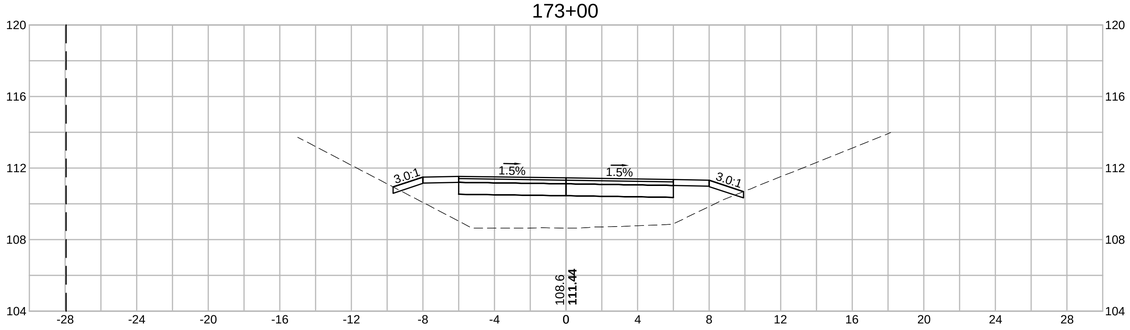
CROSS SECTION

Plotted on 15-Feb-2017 1:14 PM
607329_HDXX CROSS SECTION PLAN.DWG

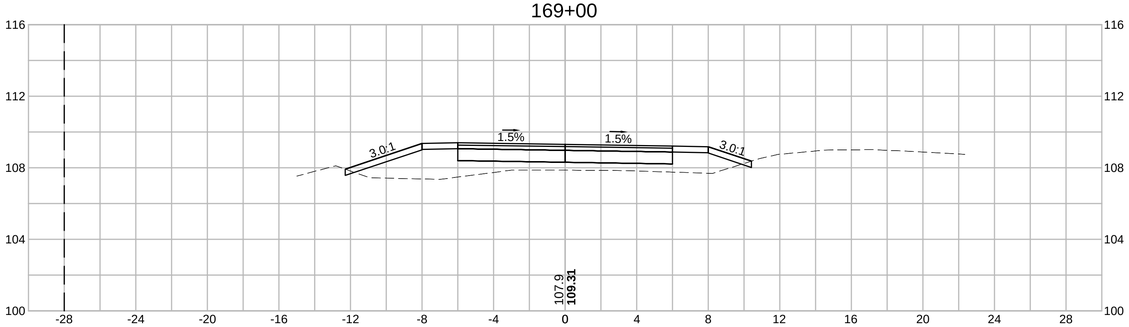
170+00



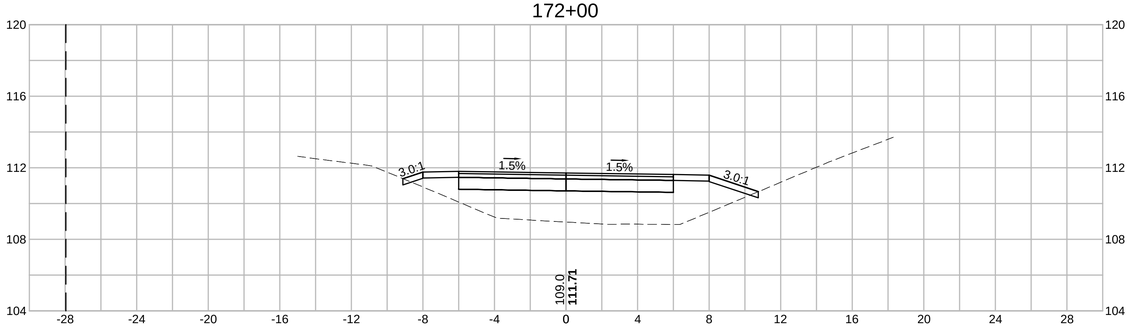
173+00



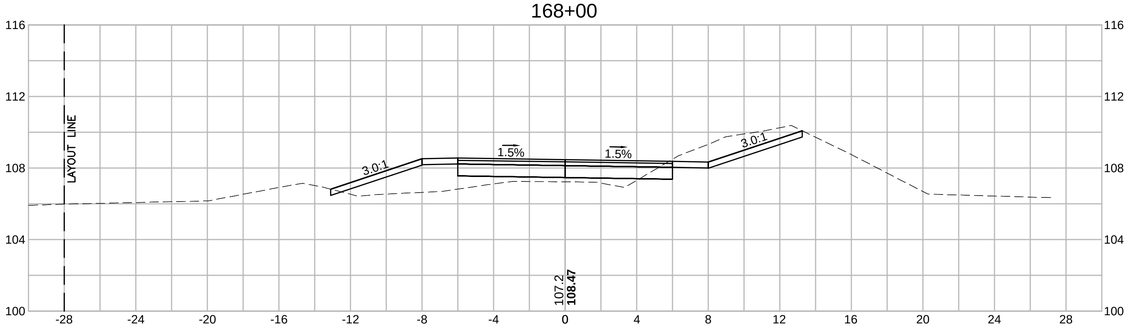
169+00



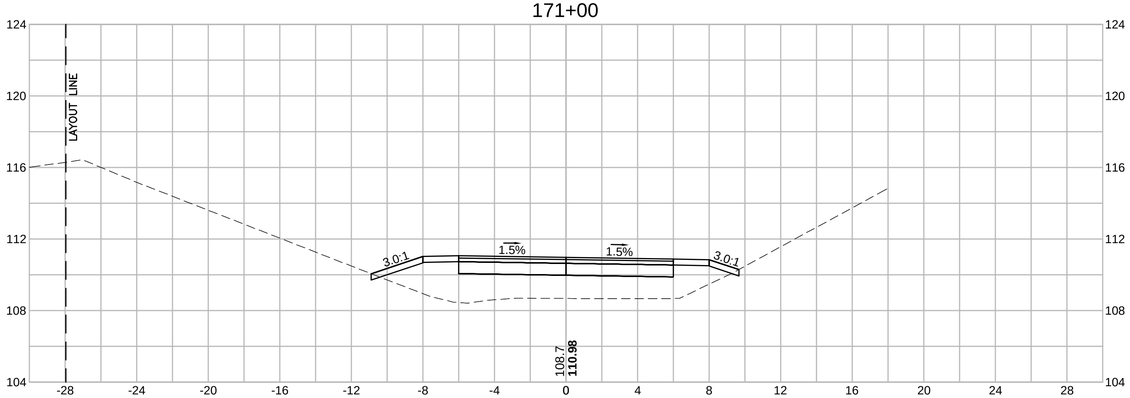
172+00



168+00



171+00



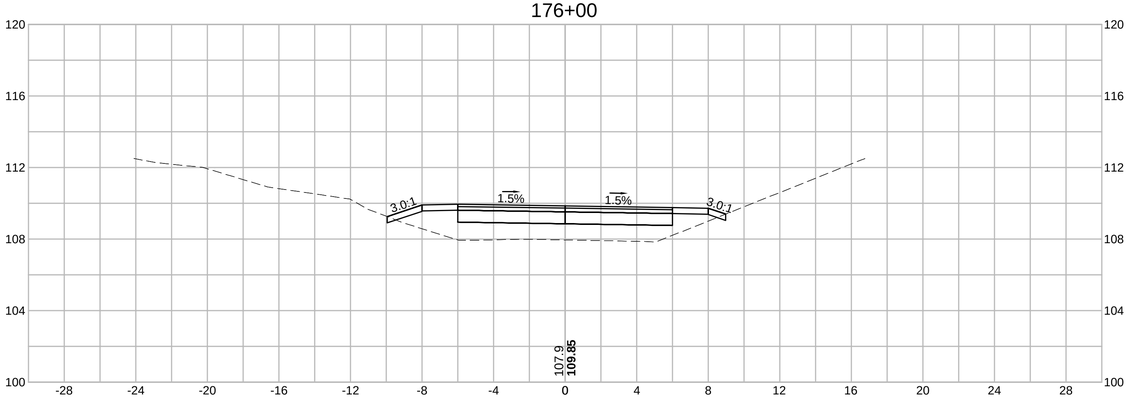
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

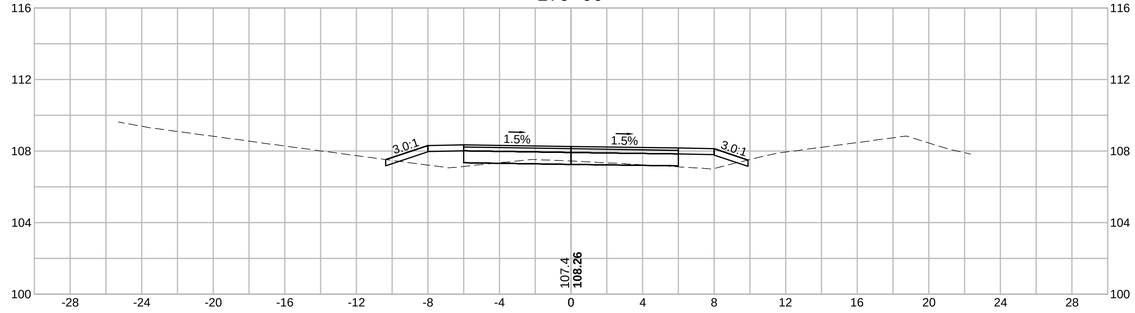
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	122	132
PROJECT FILE NO. 607329			

CROSS SECTION

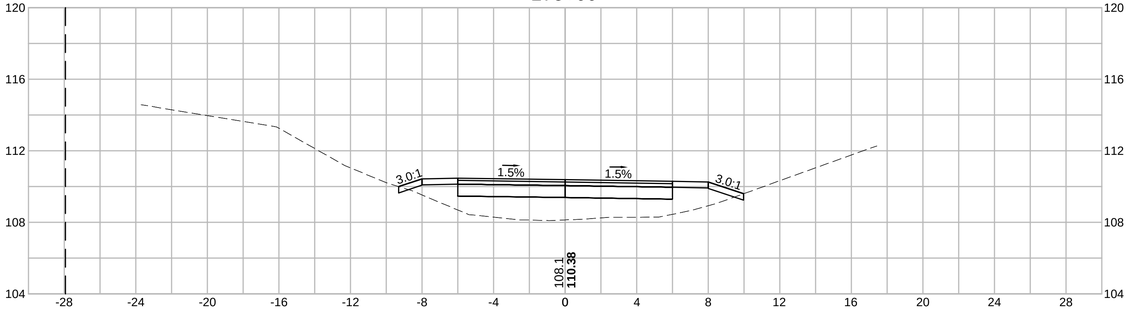
176+00



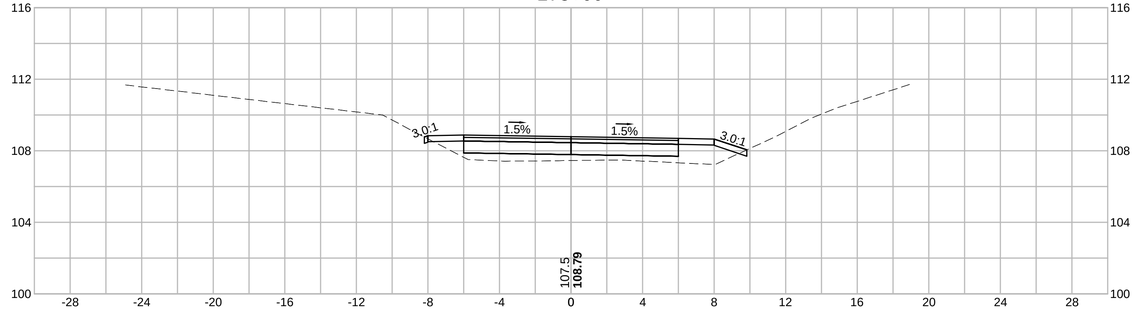
179+00



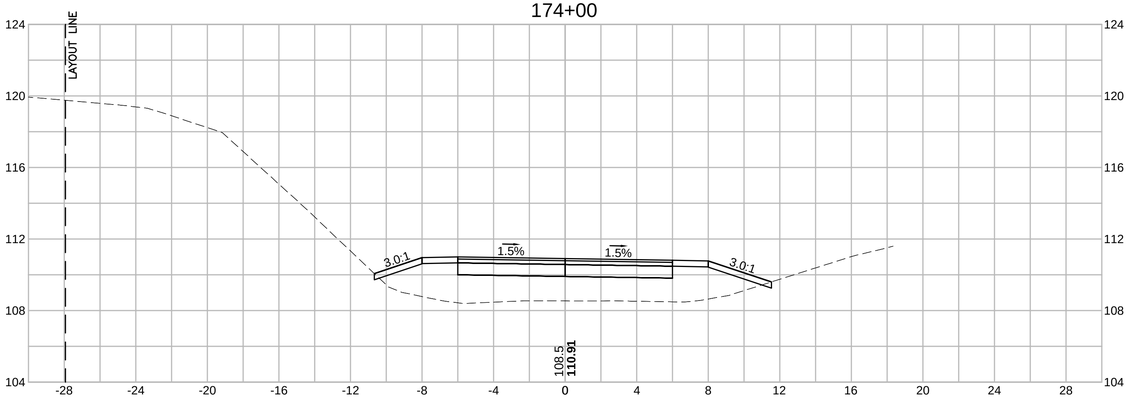
175+00



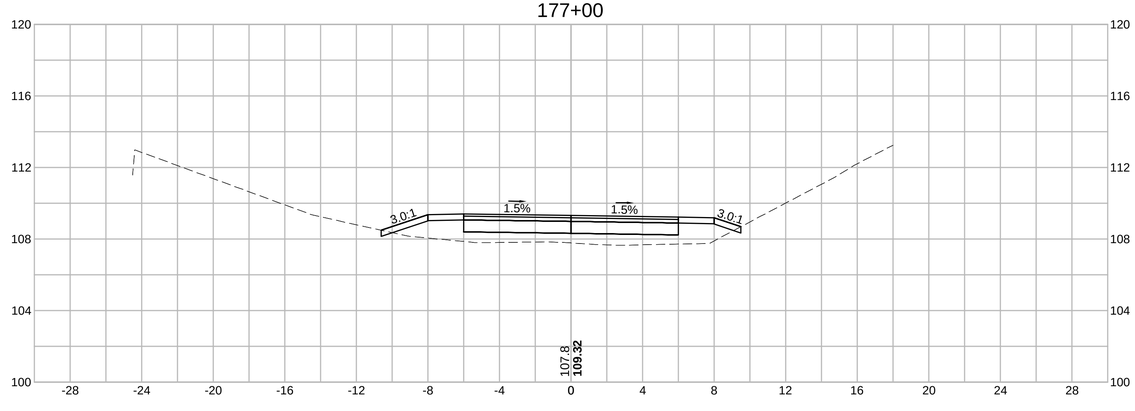
178+00



174+00



177+00



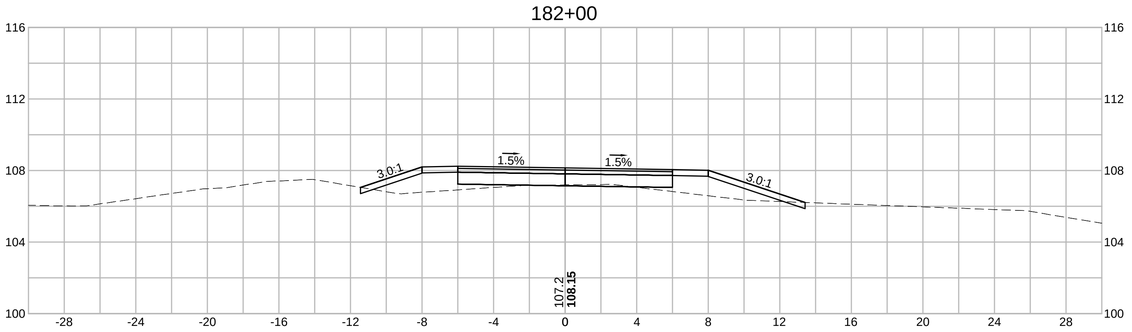
Plotted on 15-Feb-2017 1:15 PM
607329_HDXX CROSS SECTION PLAN.DWG

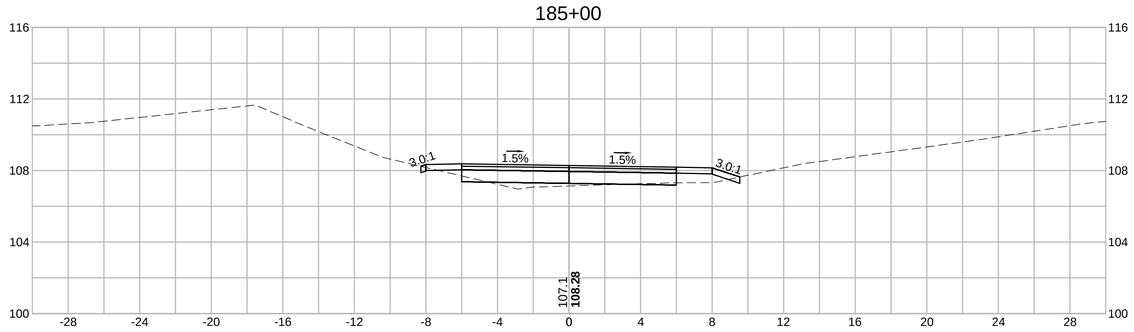
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

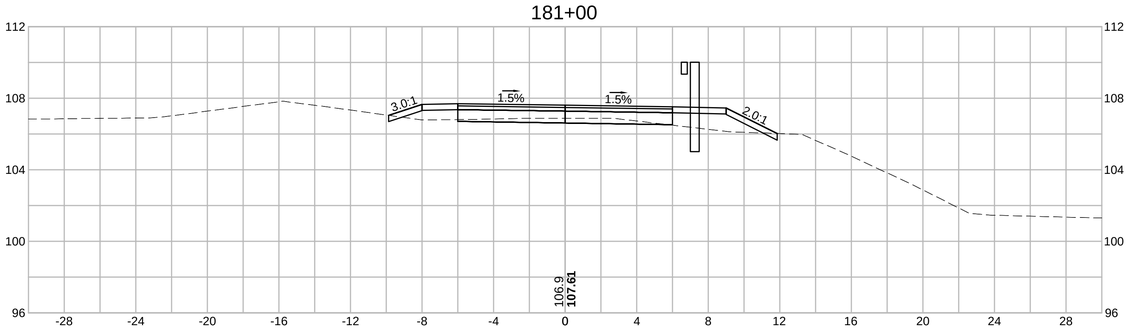
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

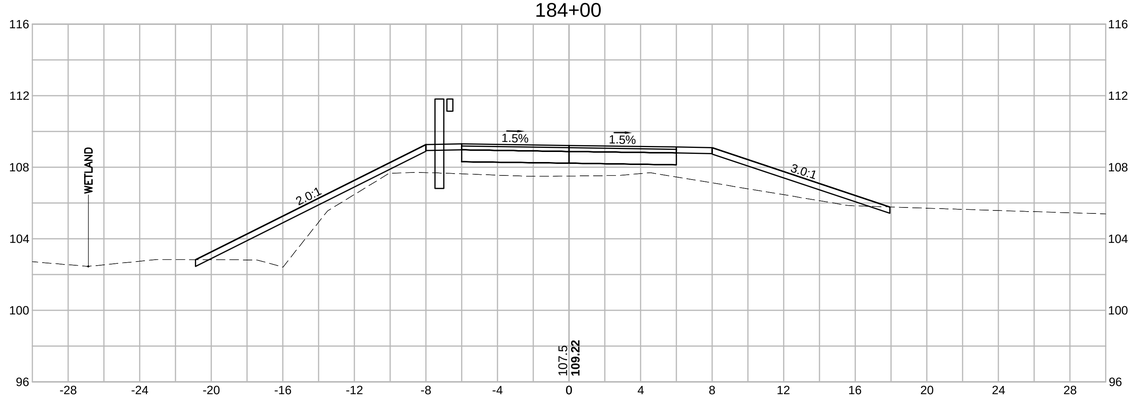
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	123	132
PROJECT FILE NO. 607329			

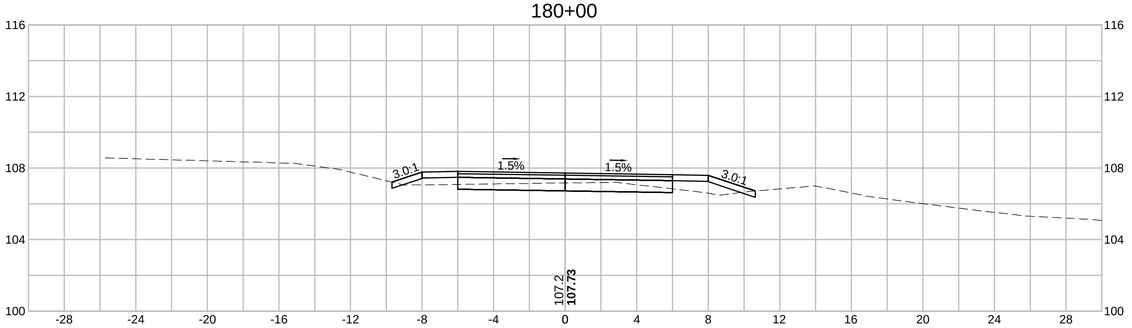
CROSS SECTION

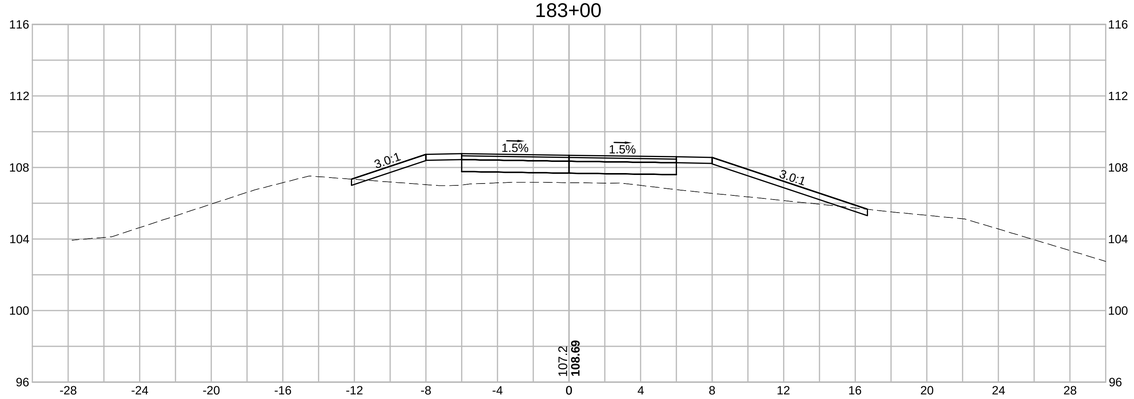












Plotted on 15-Feb-2017 1:15 PM
607329_HDXX CROSS SECTION PLAN.DWG

HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

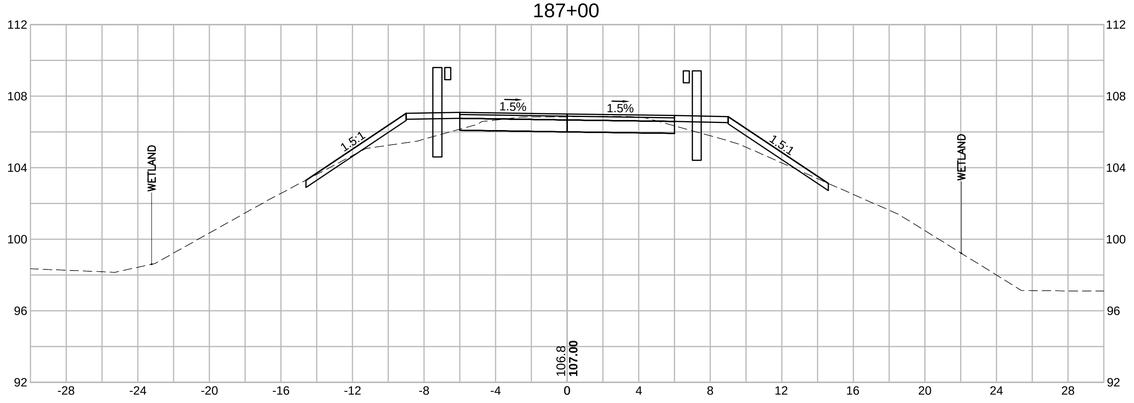
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	124	132
PROJECT FILE NO. 607329			

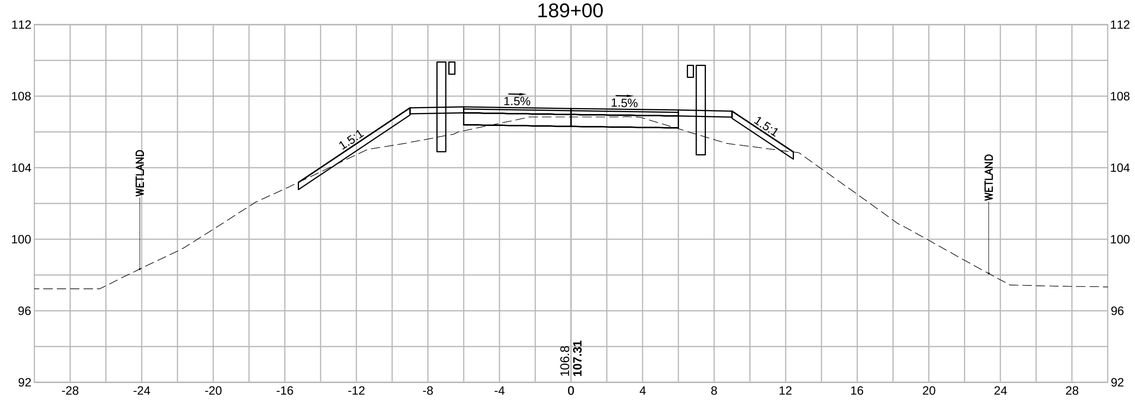
CROSS SECTION

607329_HDXX CROSS SECTION PLAN.DWG Plotted on 15-Feb-2017 1:16 PM

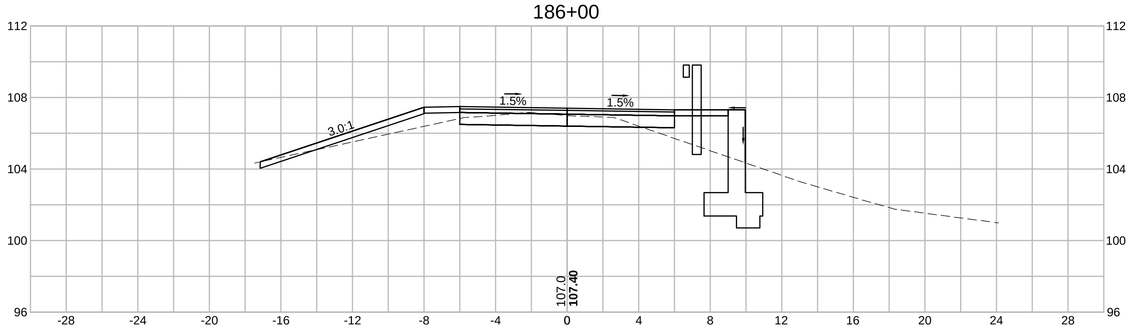
187+00



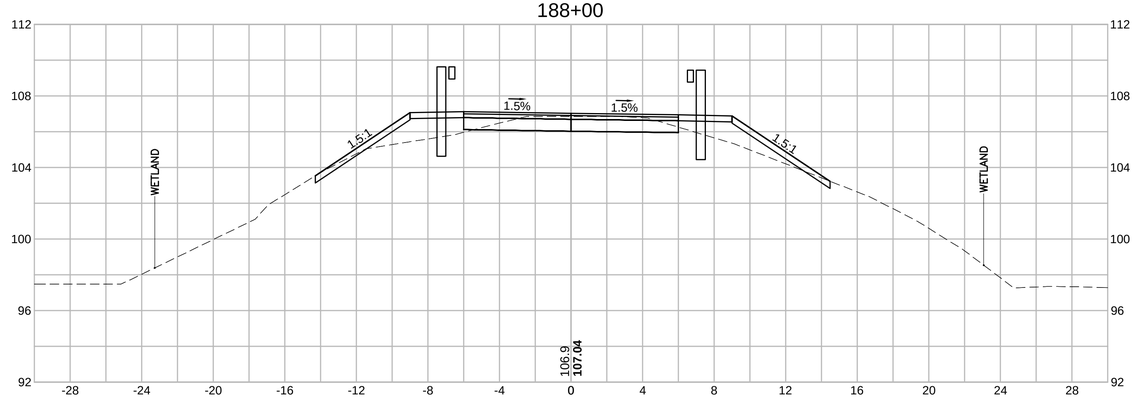
189+00



186+00



188+00



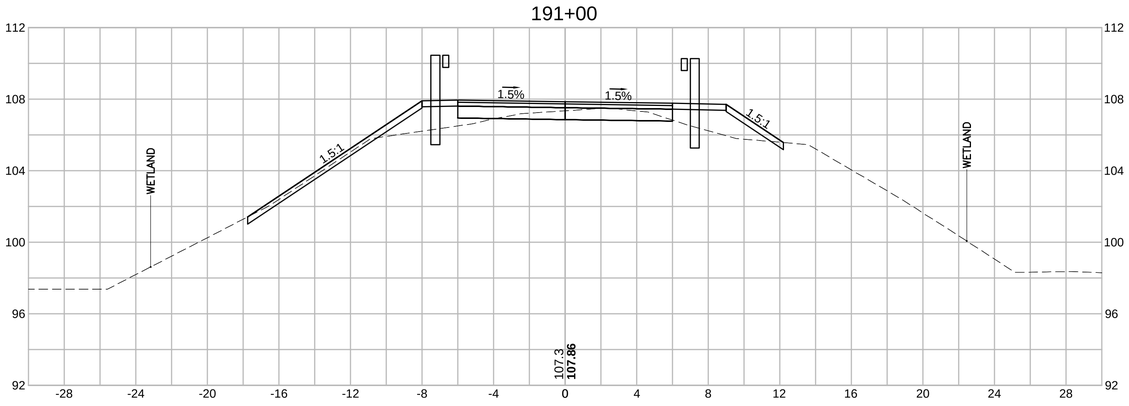
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

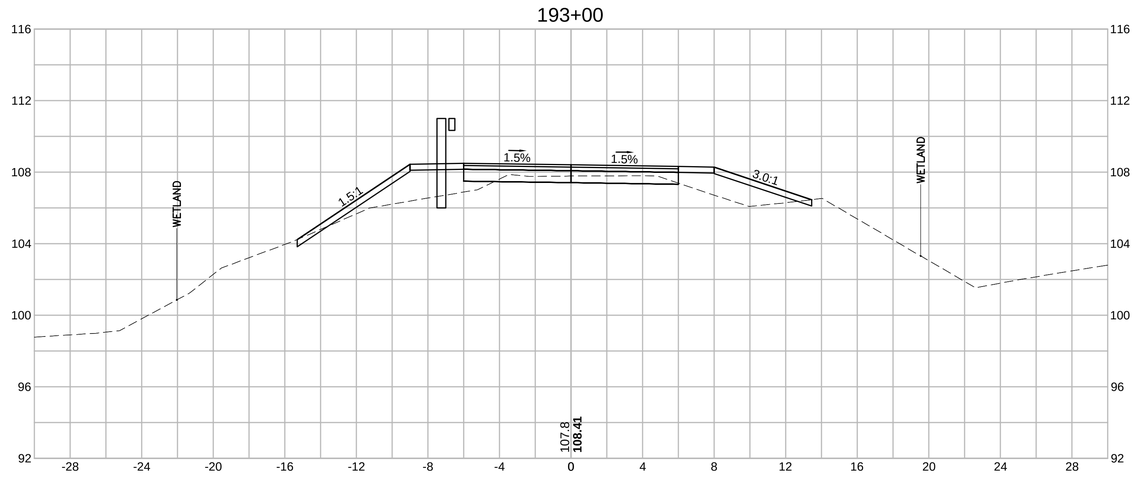
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

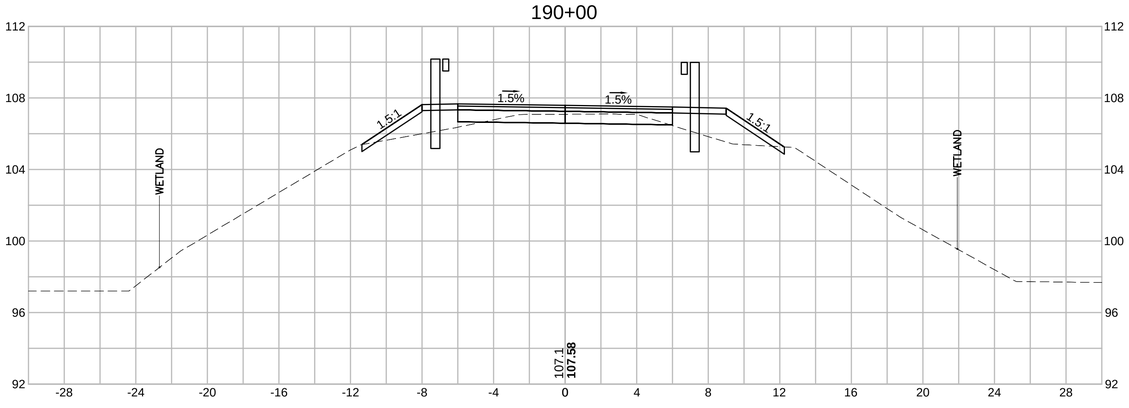
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	125	132
PROJECT FILE NO. 607329			

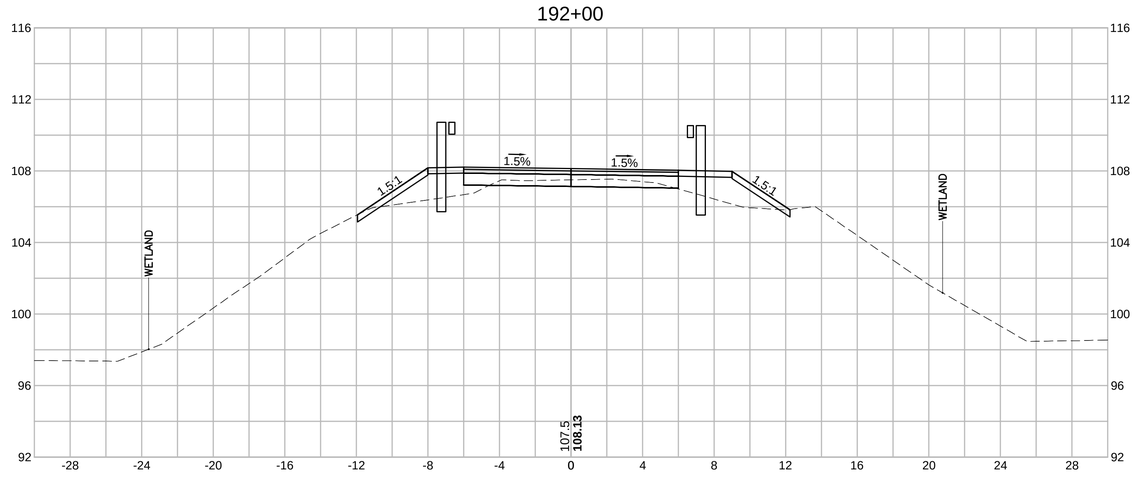
CROSS SECTION

Plotted on 15-Feb-2017 1:17 PM
607329_HDXX CROSS SECTION PLAN.DWG









HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

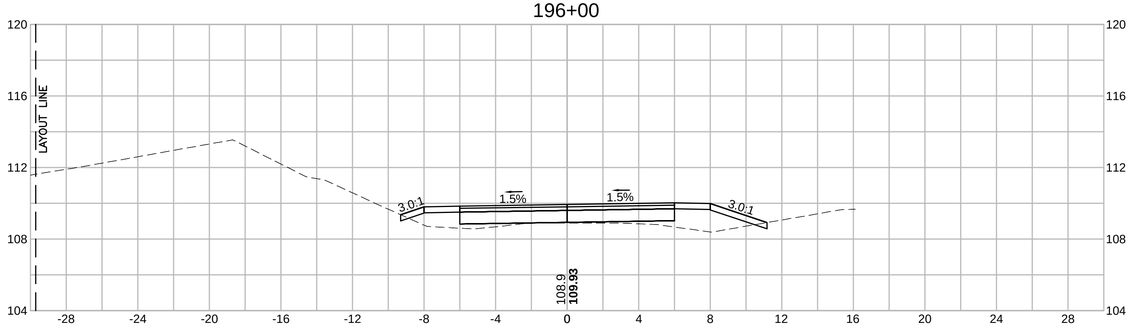
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	126	132
PROJECT FILE NO. 607329			

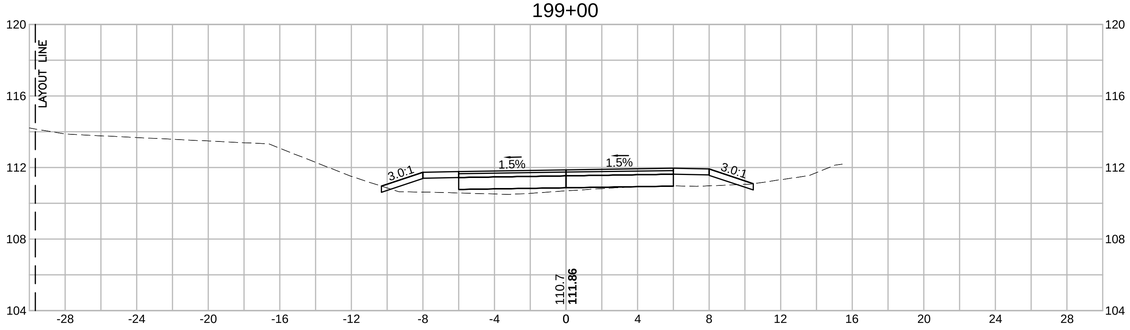
CROSS SECTION

Plotted on 15-Feb-2017 1:17 PM
607329_HDXX CROSS SECTION PLAN.DWG

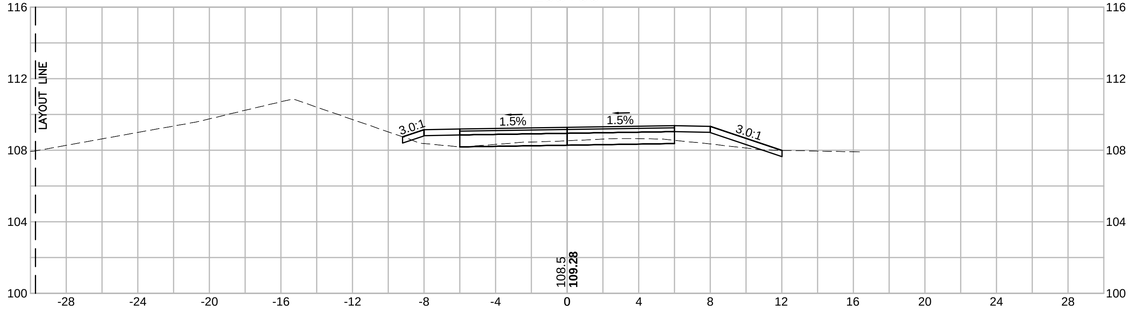
196+00



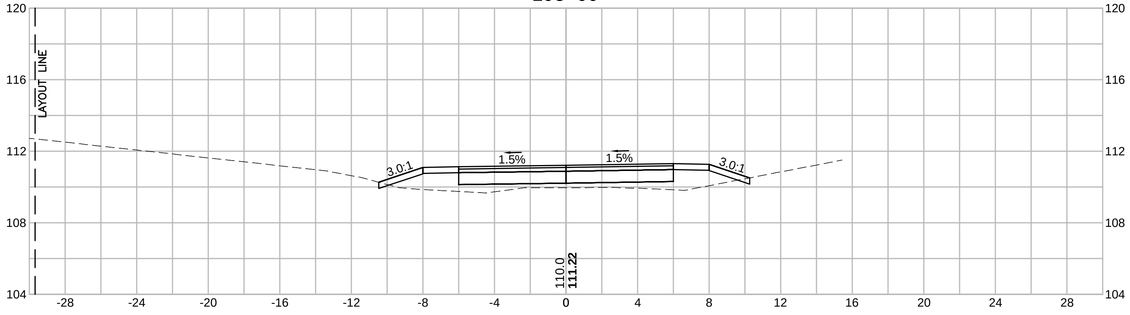
199+00



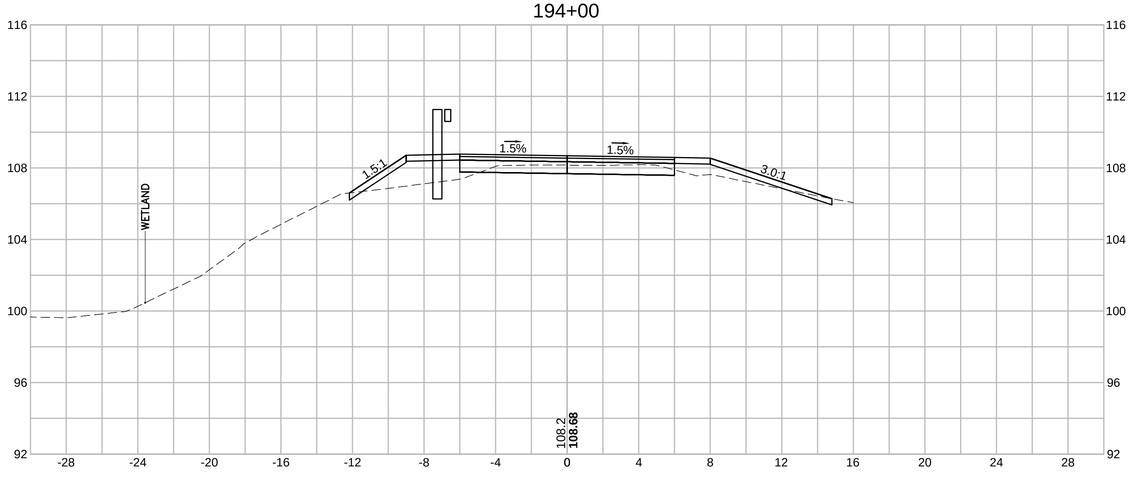
195+00



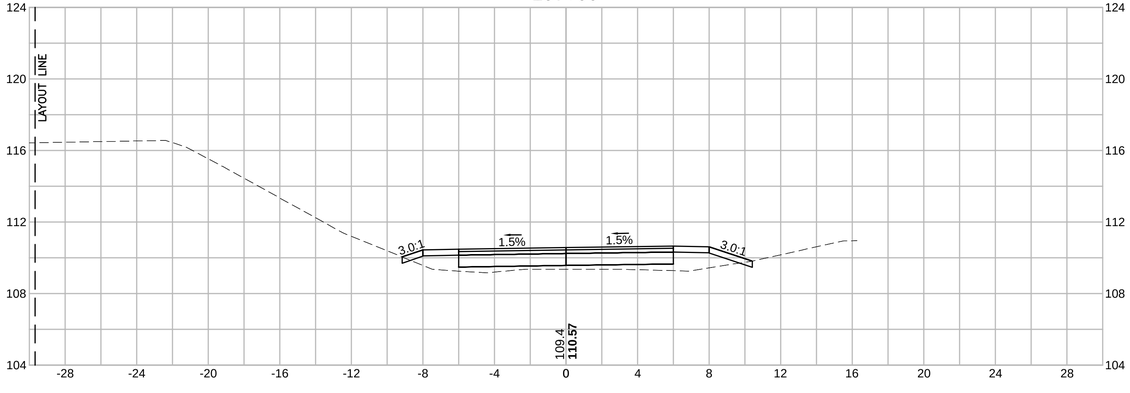
198+00



194+00



197+00



HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

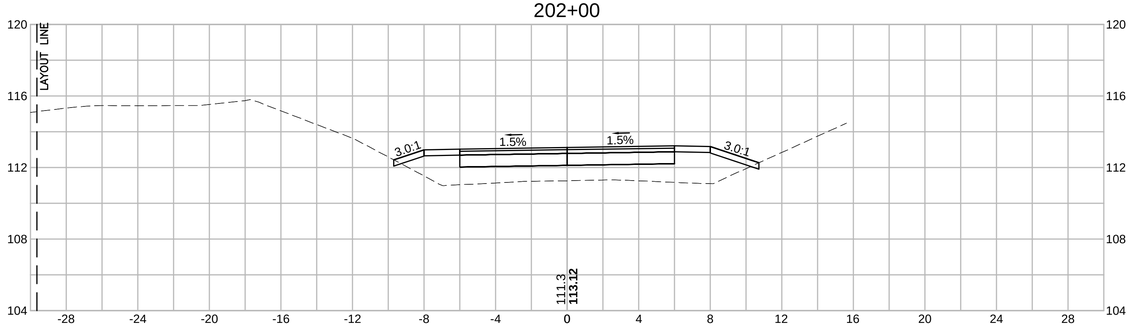
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	127	132
PROJECT FILE NO. 607329			

CROSS SECTION

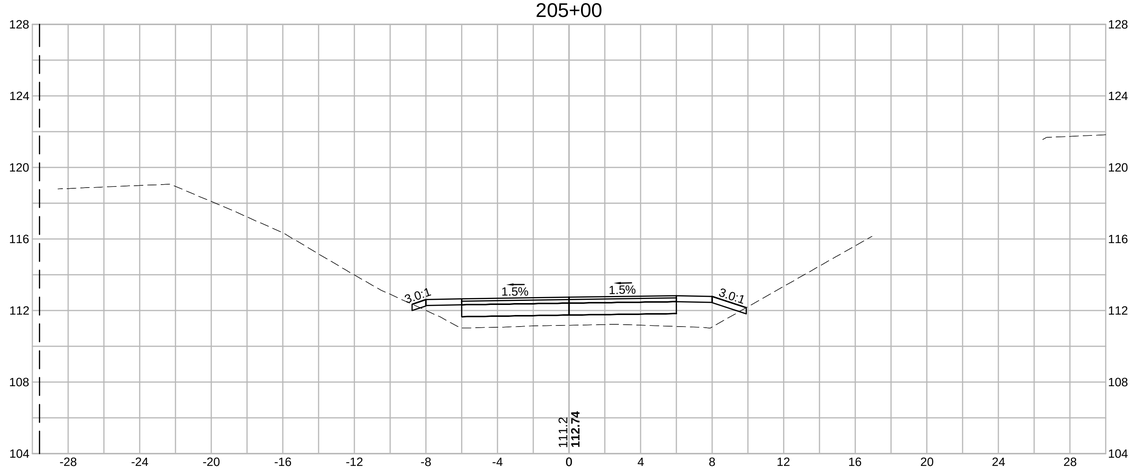
Plotted on 15-Feb-2017 1:18 PM

607329_HDXX CROSS SECTION PLAN.DWG

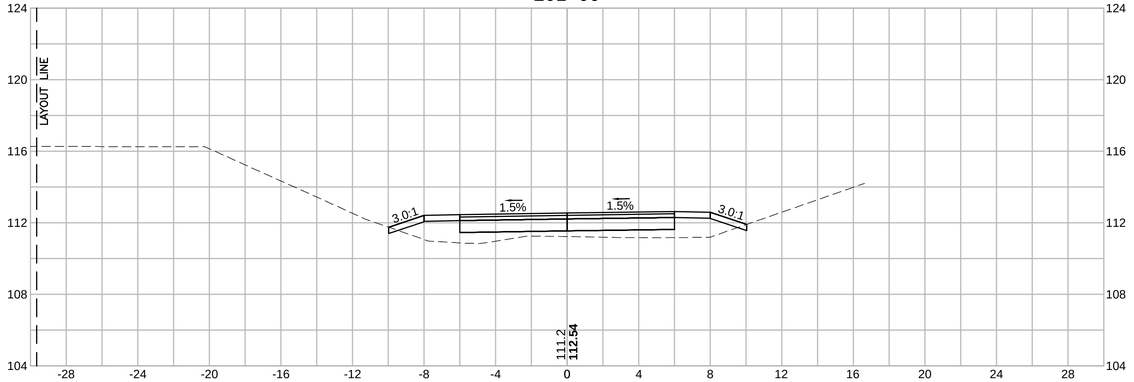
202+00



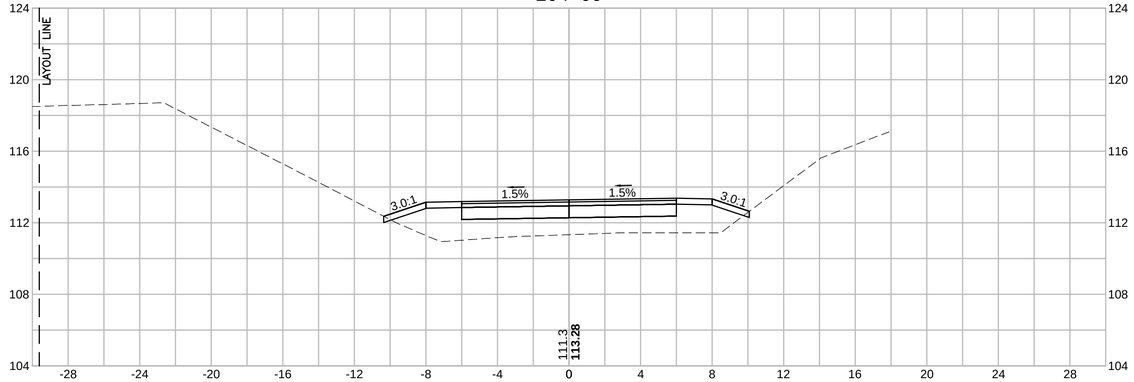
205+00



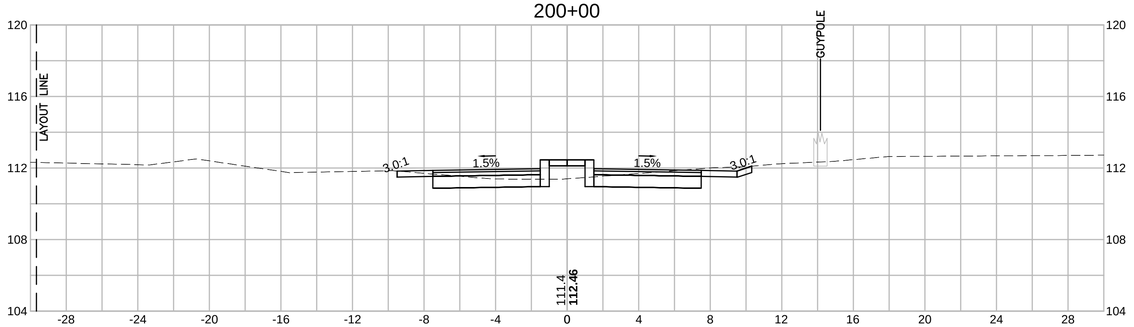
201+00



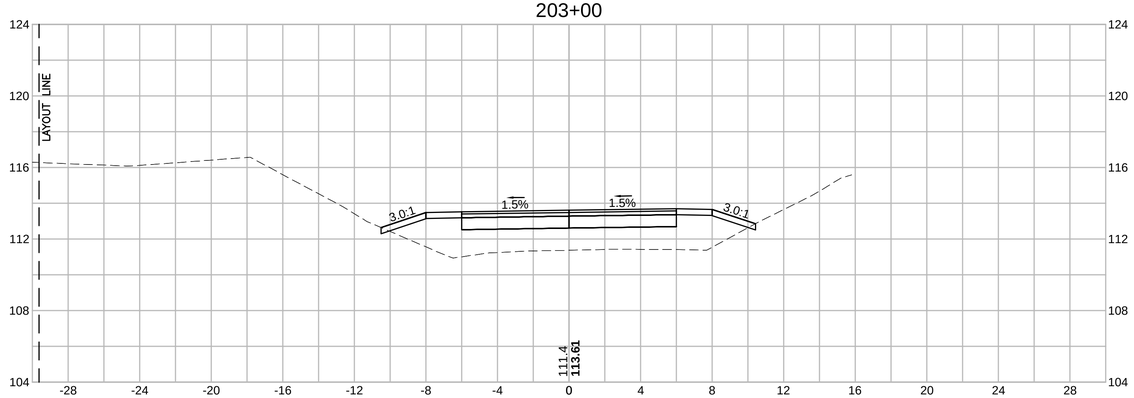
204+00



200+00



203+00



HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

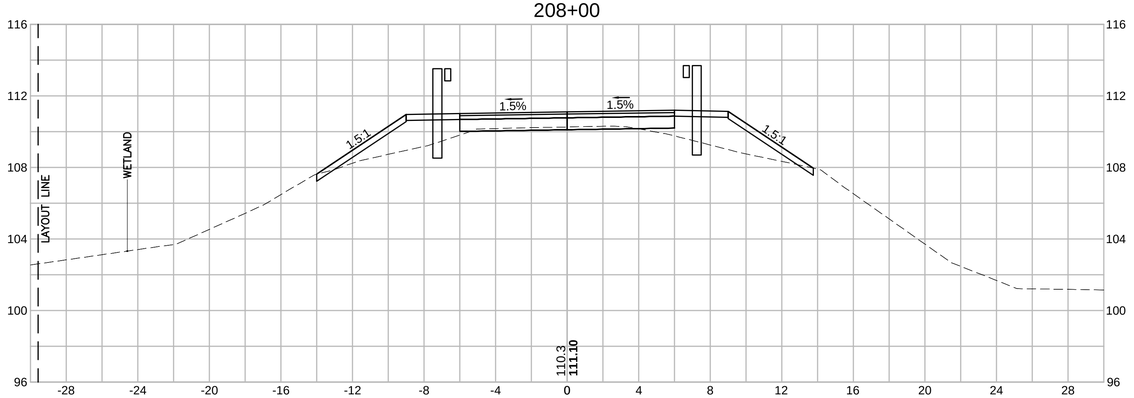
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	128	132
PROJECT FILE NO. 607329			

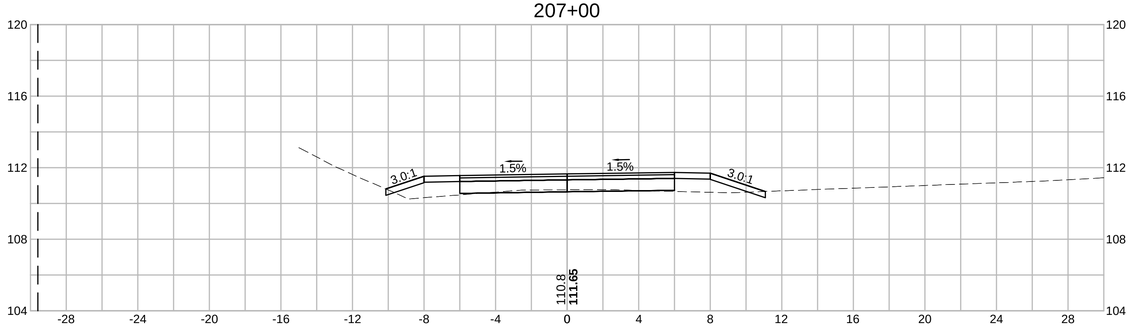
CROSS SECTION

Plotted on 15-Feb-2017 1:19 PM
607329_HDXX CROSS SECTION PLAN.DWG

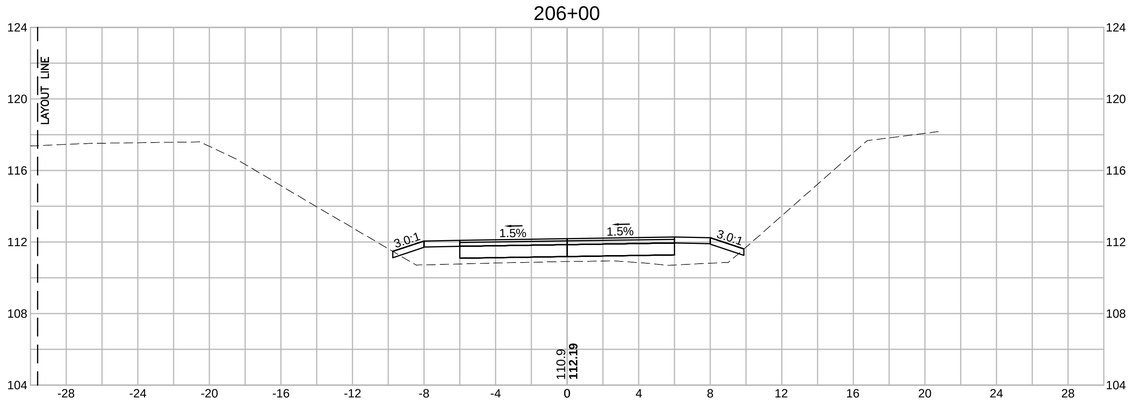
208+00



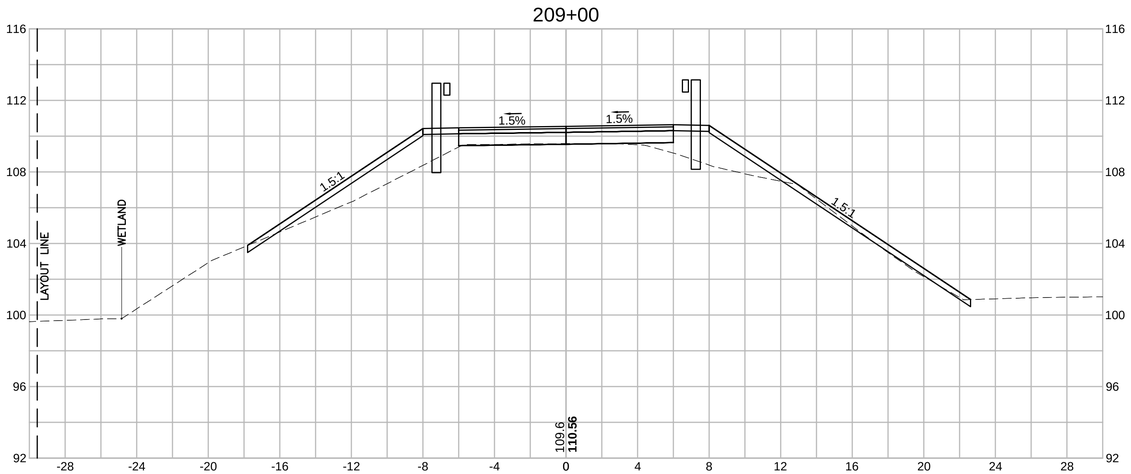
207+00



206+00



209+00



HOR. SCALE IN FEET
4 0 4 8
VER. SCALE IN FEET
4 0 4 8

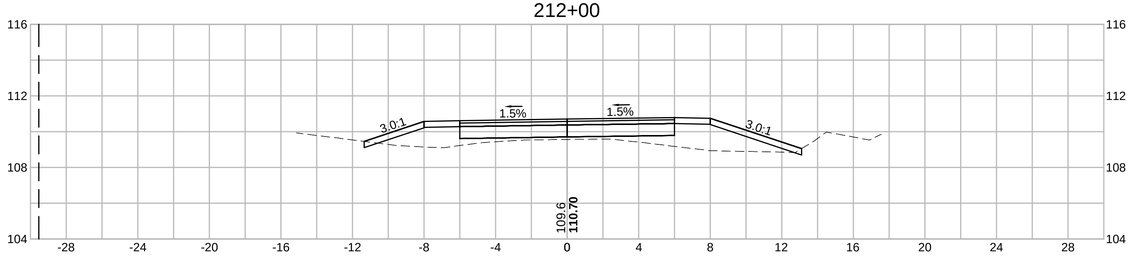
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	129	132
PROJECT FILE NO. 607329			

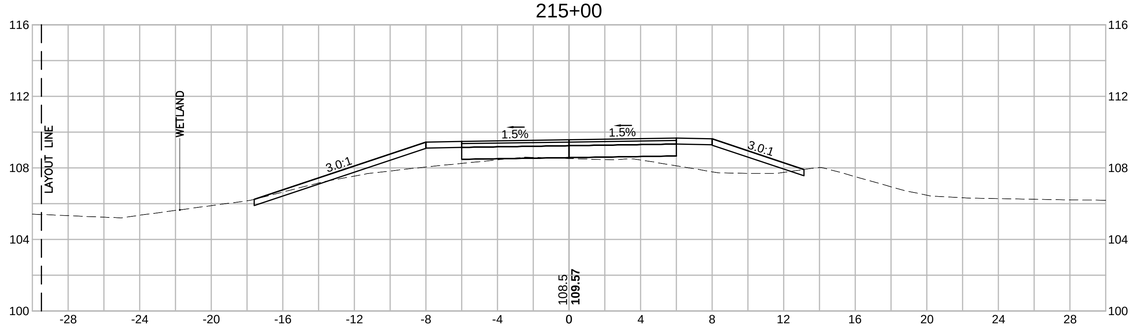
CROSS SECTION

Plotted on 15-Feb-2017 1:20 PM
607329_HDXX CROSS SECTION PLAN.DWG

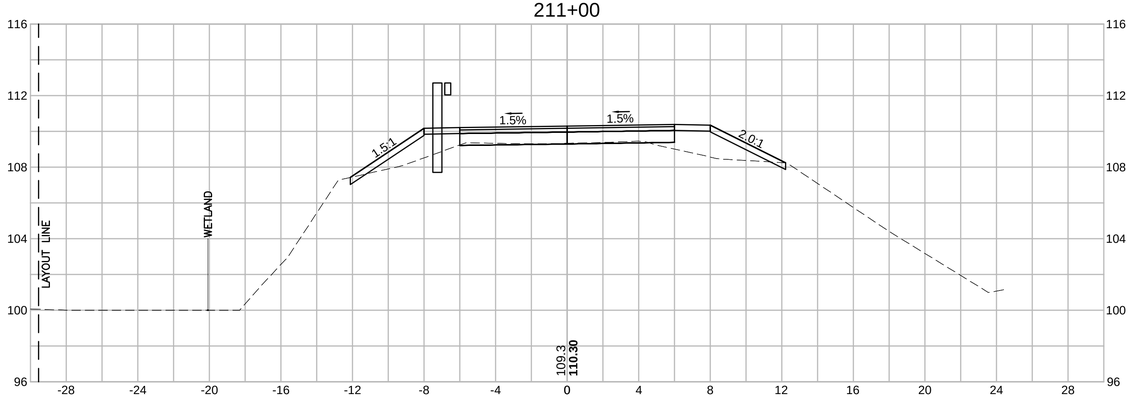
212+00



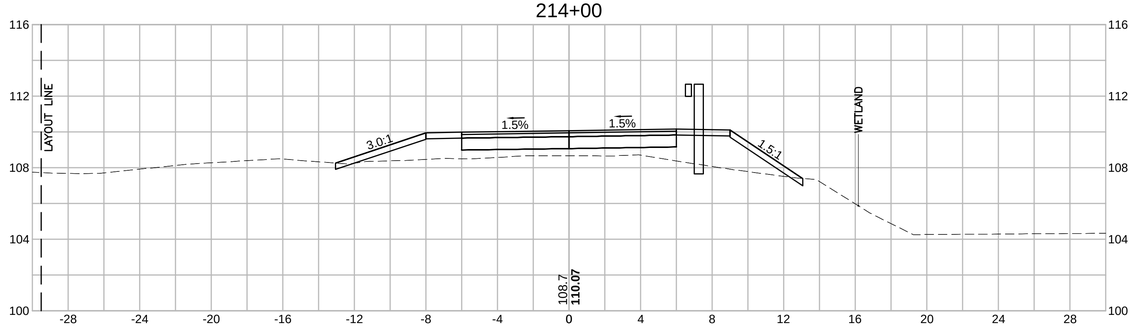
215+00



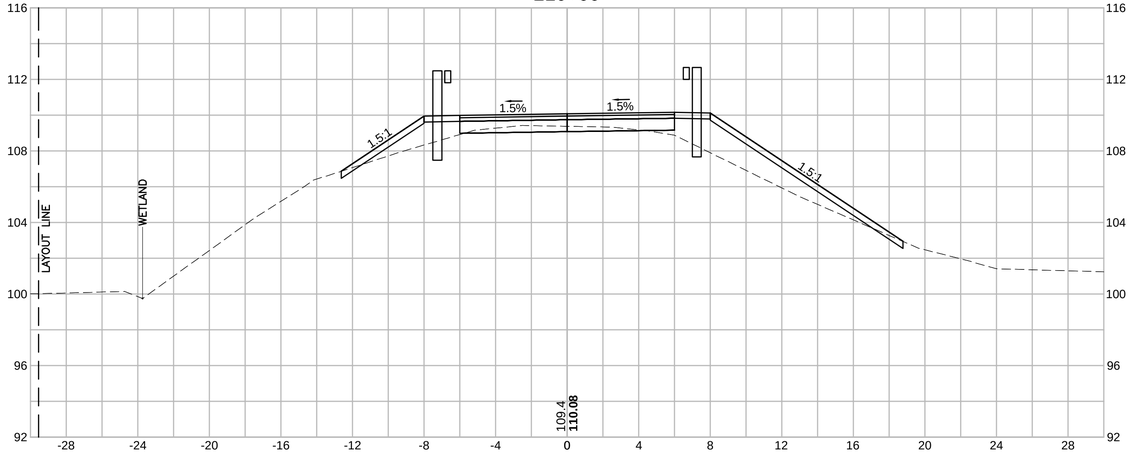
211+00



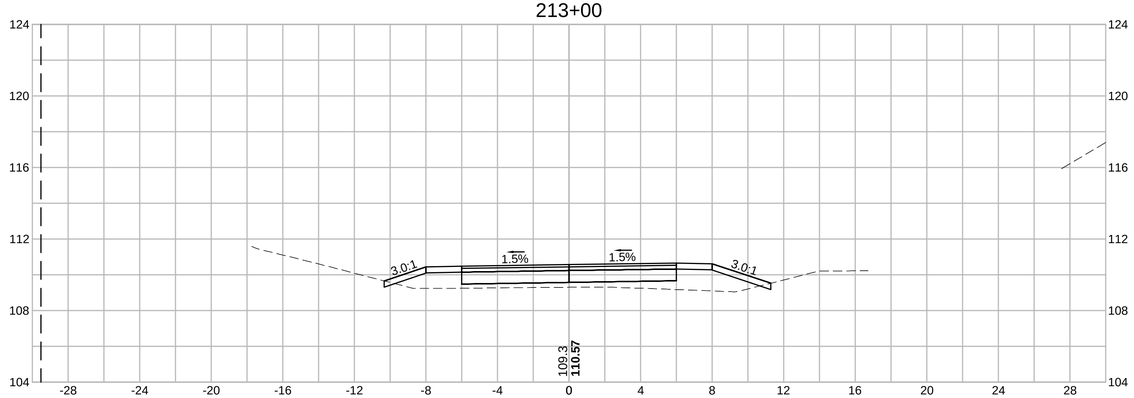
214+00



210+00



213+00

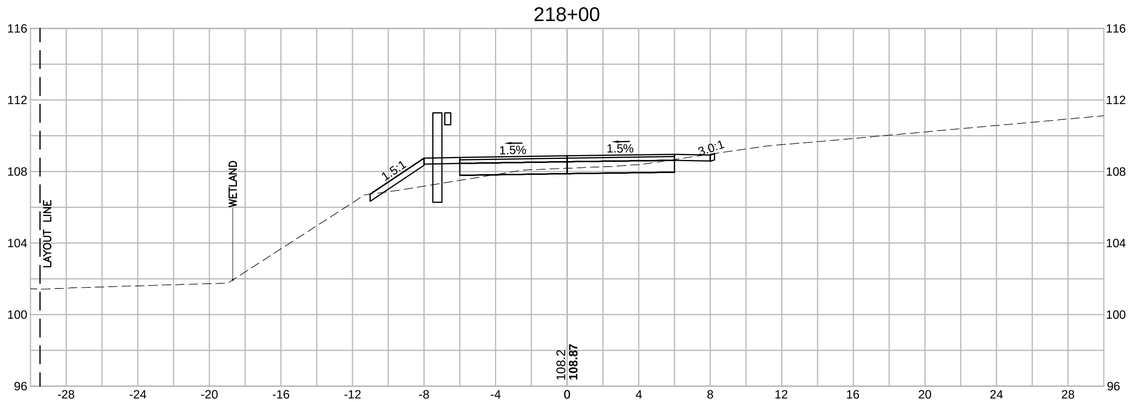


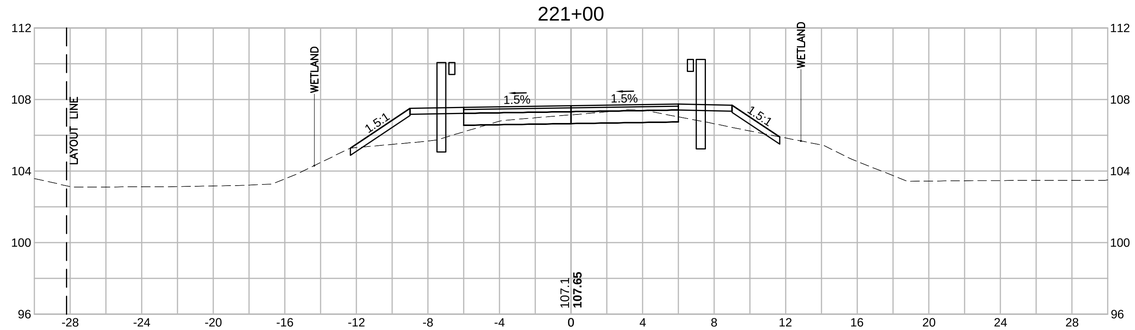
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

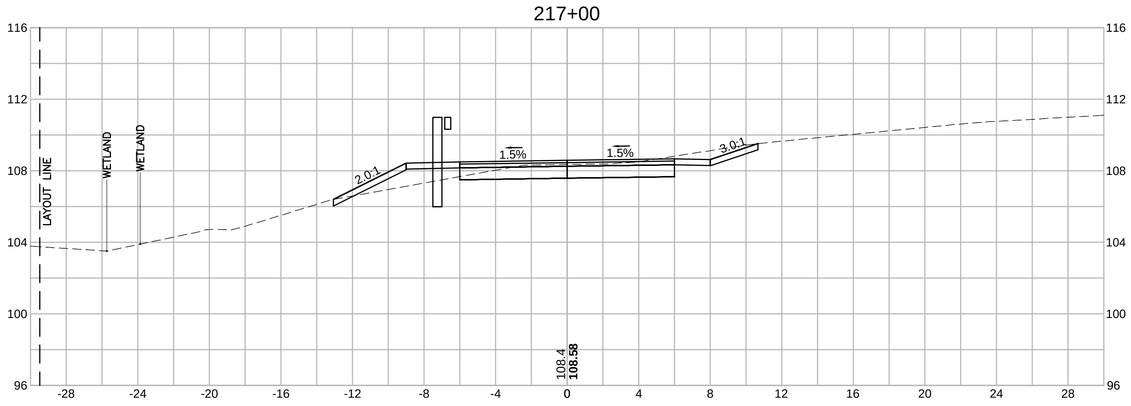
WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

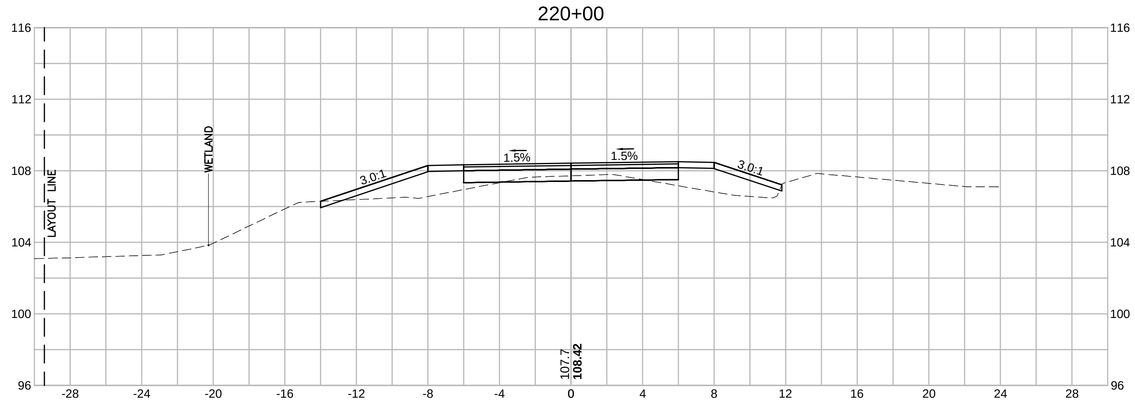
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	130	132
PROJECT FILE NO. 607329			

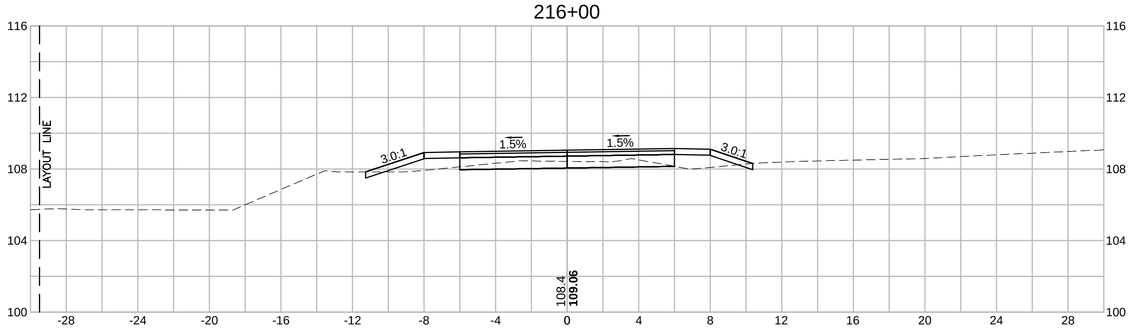
CROSS SECTION

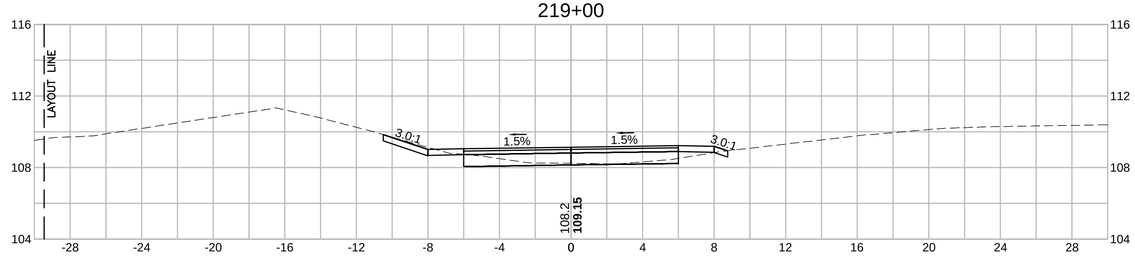












Plotted on 15-Feb-2017 1:20 PM
607329_HDXX CROSS SECTION PLAN.DWG

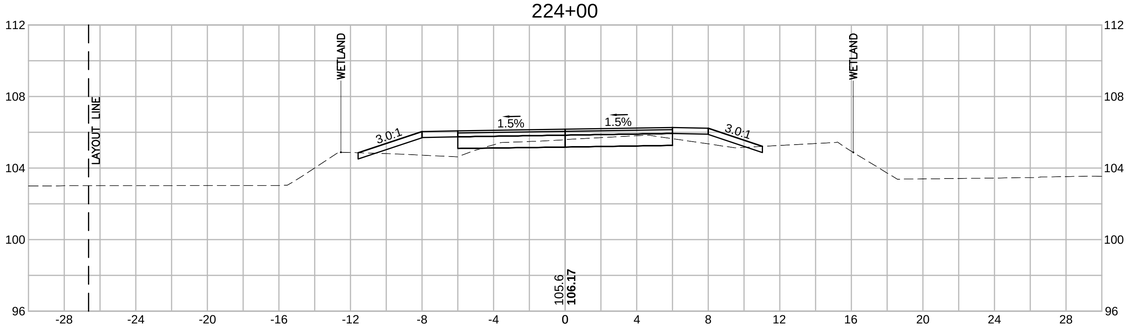
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

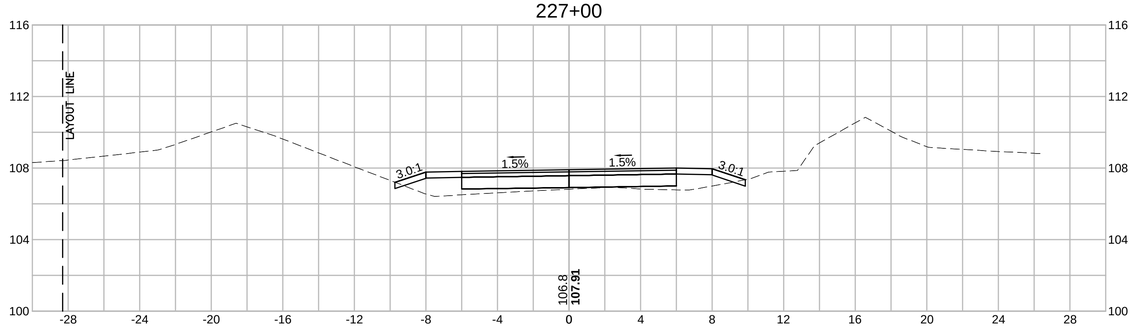
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	131	132
PROJECT FILE NO. 607329			

CROSS SECTION

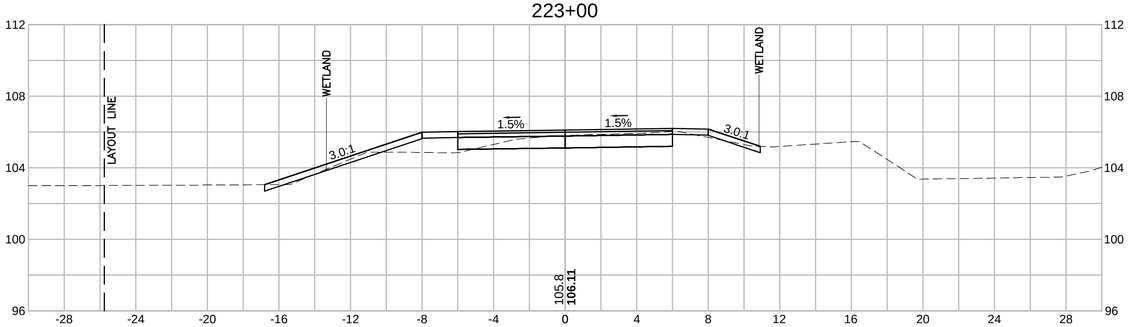
224+00



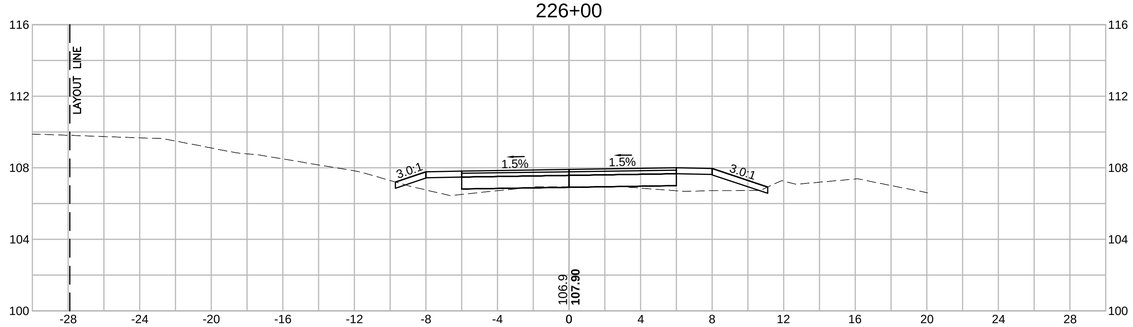
227+00



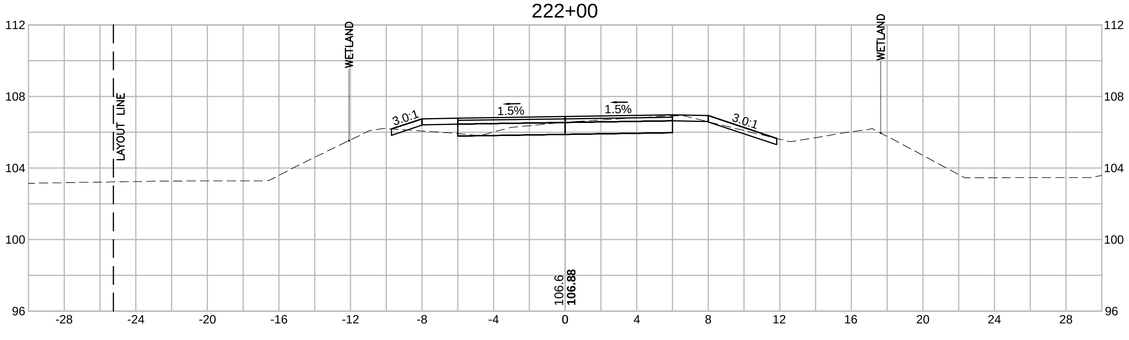
223+00



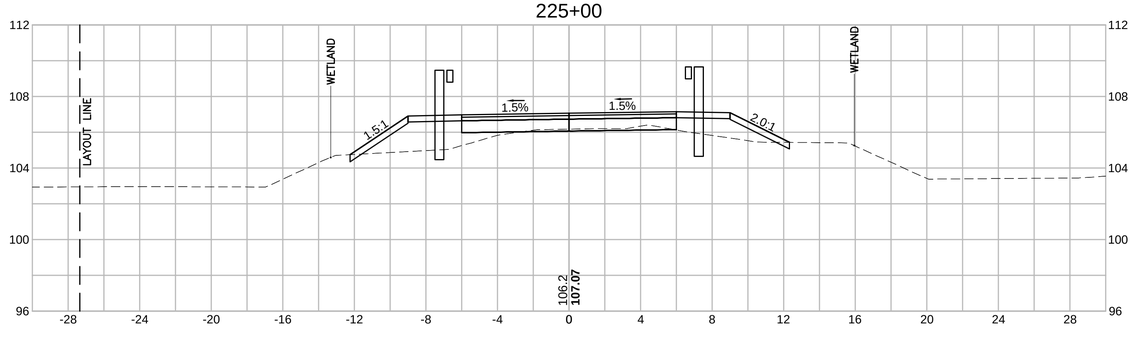
226+00



222+00



225+00



607329_HDXX CROSS SECTION PLAN.DWG Plotted on 15-Feb-2017 1:21 PM

HOR. SCALE IN FEET

4 0 4 8

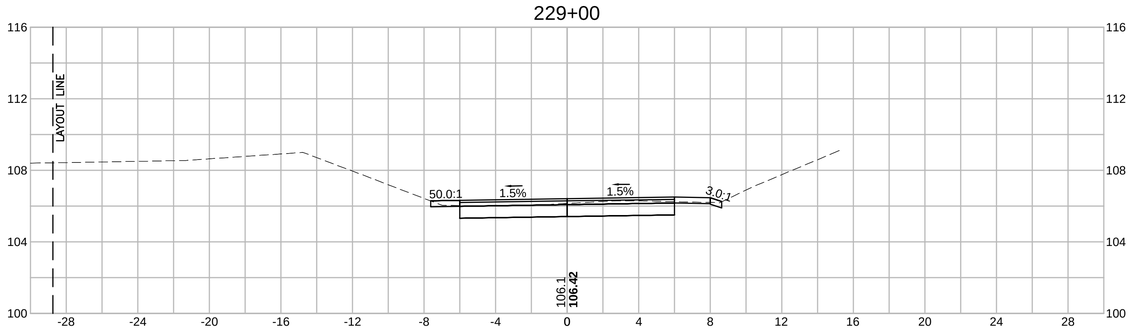
4 0 4 8

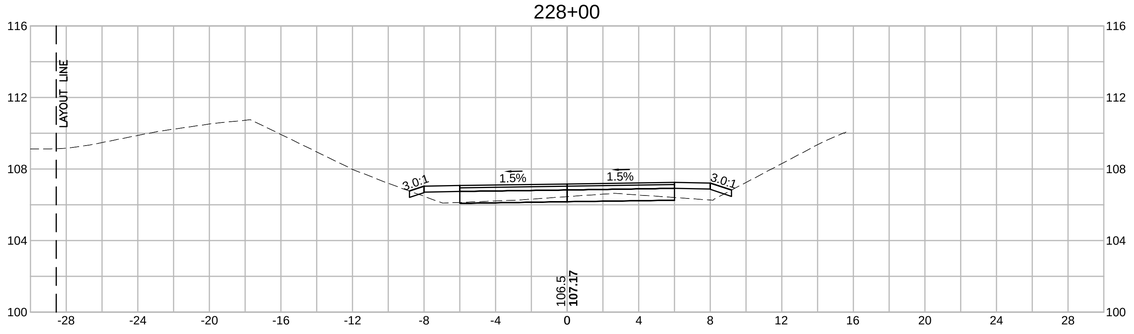
VER. SCALE IN FEET

WAKEFIELD - LYNNFIELD
RAIL TRAIL EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	132	132
PROJECT FILE NO. 607329			

CROSS SECTION





Plotted on 15-Feb-2017 1:22 PM

607329_HDXX CROSS SECTION PLAN.DWG