MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

ASHLAND ROUTE 126 (POND STREET)			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	1	331
PROJECT FILE NO. 604123			
TITLE SHEET & INDEX			

604123_HD01(TITLE).DWG 28-Nov-2017

PLAN AND PROFILE OF

ROUTE 126 (POND STREET)

IN THE TOWN OF

ASHLAND

MIDDLESEX COUNTY

FEDERAL AID PROJECT NO. CMQ/TAP/STP-003S(390)

THESE PLANS ARE SUPPLEMENTED BY THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, 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.

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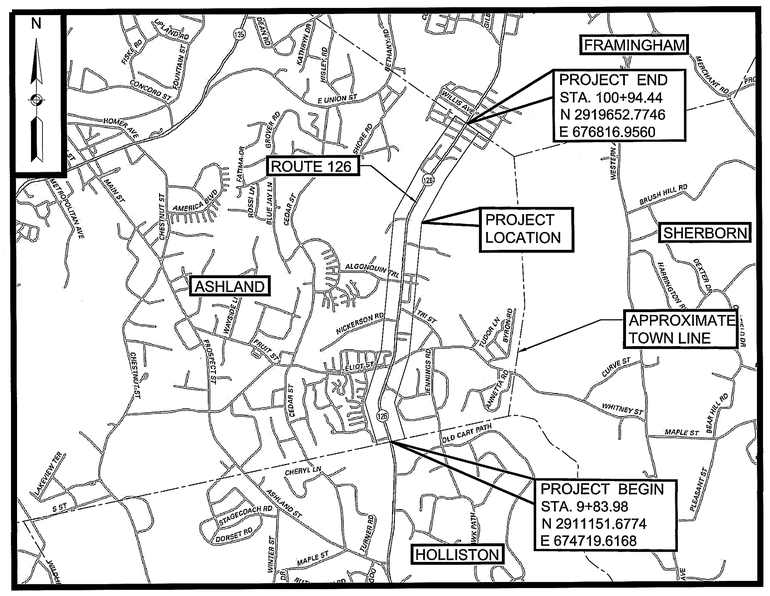


2000 0 2000 4000

SCALE 1" = 2000'

LENGTH OF PROJECT = 9,110.46 FEET = 1.725 MILES

DESIGN DESIGNATION - ROUTE 126 (POND STREET)

DESIGN SPEED	45 MPH - Begin to 15+00, 36+00 to 81+00 40 MPH - 15+00 to 36+00, 81+00 to End	
	Framingham Town Line	South of Spyglass Hill Dr
ADT (2014)	17,730	12,100
ADT (2034)	19,590	13,370
K	7.8	8.1
D	53.4	55.3
T (PEAK HOUR)	6.7	8.9
T (AVERAGE DAY)	7.5	9.3
DHV	1,528	1,083
DDHV	816	599
FUNCTIONAL CLASSIFICATION	URBAN PRINCIPAL ARTERIAL	URBAN PRINCIPAL ARTERIAL

GREEN INTERNATIONAL AFFILIATES, INC.
TRANSPORTATION | STRUCTURAL | WATER RESOURCES | CIVIL/SITE
239 LITTLETON ROAD, SUITE 3 WESTFORD, MA 01886
978.923.0400 | www.greenintl.com

COMMONWEALTH OF MASSACHUSETTS PAUL G. MILEWSKI CIVIL No. 48166 REGISTERED PROFESSIONAL ENGINEER

DATE	DESCRIPTION	REV #

massDOT Massachusetts Department of Transportation Highway Division

APPROVED

CHIEF ENGINEER 6-30-20 DATE

GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
JB	JB	JERSEY BARRIER
CB	CB	CATCH BASIN
		CATCH BASIN CURB INLET
FP	FP	FLAG POLE
GP	GP	GAS PUMP
MB	MB	MAIL BOX
		POST SQUARE
		POST CIRCULAR
WELL	WELL	WELL
EHH	EHH	ELECTRIC HANDHOLE
		FENCE GATE POST
GG	GG	GAS GATE
BHL #	BHL #	BORING HOLE
MW #	MW #	MONITORING WELL
TP #	TP #	TEST PIT
		HYDRANT
		LIGHT POLE
CO.BD.		COUNTY BOUND
		GPS POINT
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
		TELEPHONE MANHOLE
		WATER MANHOLE
MHB	MHB	MASSACHUSETTS HIGHWAY BOUND
MON		MONUMENT
SB		STONE BOUND
TB		TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
TPL or GUY	TPL or GUY	TROLLEY POLE OR GUY POLE
HTP		TRANSMISSION POLE
UFB	UFB	UTILITY POLE W/ FIREBOX
UPDL	UPDL	UTILITY POLE WITH DOUBLE LIGHT
ULT	ULT	UTILITY POLE W / 1 LIGHT
UPL	UPL	UTILITY POLE
		BUSH
SIZE & TYPE		TREE
		STUMP
		SWAMP / MARSH
WG	WG	WATER GATE
PM	PM	PARKING METER
		OVERHEAD CABLE/WIRE
		CURBING
100 99		CONTOURS (ON-THE-GROUND SURVEY DATA)
100 99		CONTOURS (PHOTOGRAMMETRIC DATA)
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
		CHAIN LINK OR METAL FENCE
		WOOD FENCE
		HAY BALES/SILT FENCE
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		EDGE OF PAVEMENT
		LIMIT OF MICROMILLING AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT
		SEDIMENT CONTROL BARRIER
		HAND HOLE FOR LIGHT POST

TRAFFIC SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
1	1	CONTROLLER PHASE ACTUATED
		TRAFFIC SIGNAL HEAD (SIZE AS NOTED)
		WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED)
		VIDEO DETECTION CAMERA
		MICROWAVE DETECTOR
		PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE
	*	EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT
		VEHICULAR SIGNAL HEAD
		VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED
		FLASHING BEACON
		PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)
RRSG	RRSG	RAILROAD SIGNAL
OR		SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)
	20'	MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)
		HIGH MAST POLE OR TOWER
		SIGN AND POST
		SIGN AND POST (2 POSTS)
	20'	MAST ARM WITH LUMINAIRE
		OPTICAL PRE-EMPTION DETECTOR
		CONTROL CABINET, GROUND MOUNTED
		CONTROL CABINET, POLE MOUNTED
		FLASHING BEACON CONTROL AND METER PEDESTAL
		LOAD CENTER ASSEMBLY
		PULL BOX 12"x12" (OR AS NOTED)
		ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)
		TRAFFIC SIGNAL CONDUIT

PAVEMENT MARKINGS SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		PAVEMENT ARROW - WHITE
ONLY	ONLY	LEGEND "ONLY" - WHITE
	SL	STOP LINE - 12"
	CW	CROSSWALK
	SWL	SOLID WHITE LINE - 6"
	SYL	SOLID YELLOW LINE - 6"
	BWL	BROKEN WHITE LINE - 6" (10' LINE SEGMENT, 30' GAP)
	BYL	BROKEN YELLOW LINE - 6" (10' LINE SEGMENT, 30' GAP)
	DWL	DOTTED WHITE LINE - 6" (3' LINE SEGMENT, 9' GAP)
	DYL	DOTTED YELLOW LINE - 6" (3' LINE SEGMENT, 9' GAP)
	DWLEx	DOTTED WHITE LINE EXTENSION - 6" (2' LINE SEGMENT, 6' GAP)
	DWBLEx	DOTTED WHITE BICYCLE LINE EXTENSION - 6" (2' LINE SEGMENT, 2' GAP)
	DYLEx	DOTTED YELLOW LINE EXTENSION - 6" (2' LINE SEGMENT, 6' GAP)
	DWCELEx	DOTTED WHITE CIRCULATORY EDGE LINE EXTENSION - 12" (2' LINE SEGMENT, 2' GAP)
	DBWL	DOUBLE WHITE LINE - 6"
	DBYL	DOUBLE YELLOW LINE - 6"
	SWGL	SOLID WHITE GORE LINE - 12"
	SYGL	SOLID YELLOW GORE LINE - 12"
	YL	YIELD LINE
		SLOTTED PAVEMENT MARKER TWO-WAY YELLOW/YELLOW

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	BENCHMARK
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
CLDI	CEMENT LINED DUCTILE IRON
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
DICL	DUCTILE IRON CEMENT-LINED
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
JCT	JUNCTION
L	LENGTH OF CURVE
LB	LEACH BASIN
LP	LIGHT POLE
LT	LEFT
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
MRJ	MECHANICAL RESTRAINING JOINT
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

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	2	331
PROJECT FILE NO.	604123		

LEGEND & ABBREVIATIONS

ABBREVIATIONS (cont.)

GENERAL

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
RMD	REMODEL
ROW	RIGHT OF WAY
RR	RAILROAD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
RTP	ROADWAY TREE PROTECTION
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 %
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	WHEEL CHAIR RAMP
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN
X-SECT	CROSS SECTION

TRAFFIC SIGNAL ABBREVIATIONS

CAB	CABINET
CCVE	CLOSED CIRCUIT VIDEO EQUIPMENT
DW	STEADY UPRAISED HAND
FDW	FLASHING UPRAISED HAND
FR	FLASHING CIRCULAR RED
FRL	FLASHING RED LEFT ARROW
FRR	FLASHING RED RIGHT ARROW
FY	FLASHING CIRCULAR YELLOW
FYL	FLASHING YELLOW LEFT ARROW
FYR	FLASHING YELLOW RIGHT ARROW
G	STEADY CIRCULAR GREEN
GL	STEADY GREEN LEFT ARROW
GR	STEADY GREEN RIGHT ARROW
GSL	STEADY GREEN SLASH LEFT ARROW
GSR	STEADY GREEN SLASH RIGHT ARROW
GV	STEADY GREEN VERTICAL ARROW
OL	OVERLAP
PED	PEDESTRIAN
PTZ	PAN, TILT, ZOOM
R	STEADY CIRCULAR RED
RL	STEADY RED LEFT ARROW
RR	STEADY RED RIGHT ARROW
TR SIG	TRAFFIC SIGNAL
TSC	TRAFFIC SIGNAL CONDUIT
W	STEADY WALKING PERSON
Y	STEADY CIRCULAR YELLOW
YL	STEADY YELLOW LEFT ARROW

604123_HD02(LEGEND).DWG Plotted on 23-Jun-2020 10:16 PM

GENERAL NOTES

1. THE LOCATION OF THE EXISTING UTILITIES ARE SHOWN APPROXIMATE AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES AND SUBSURFACE STRUCTURES. THE CONTRACTOR IS RESPONSIBLE FOR MAKING FIELD INVESTIGATIONS AND OBTAINING INFORMATION FROM UTILITY COMPANIES AND INDIVIDUALS TO PINPOINT THE LOCATION AND ELEVATION OF ALL SUBSURFACE UTILITIES AND STRUCTURES. DIG-SAFE : TELEPHONE 1-888-344-7233

2. ALL UTILITY POLES REQUIRING RELOCATION ARE TO BE RELOCATED BY OTHERS.

3. ALL SIDEWALKS WITHIN THE LIMITS OF FULL-DEPTH CONSTRUCTION ARE TO BE CEMENT CONCRETE UNLESS OTHERWISE NOTED.

4. WHEN AN OBSTRUCTION IS PLACED ON A SIDEWALK, THE MINIMUM CLEAR PATH ON THE SIDEWALKS SHALL BE 3'-0" EXCLUDING THE SURFACE OF THE CURB.

5. WHEELCHAIR RAMPS AND DRIVEWAYS SHALL CONFORM TO THE CURRENT MASSDOT STANDARDS.

6. INSTALL TRANSITION GRANITE CURB AT PROJECT LIMITS TO MATCH EXISTING ELEVATIONS (PAVEMENT OR EXISTING CURB).

7. THE CONTRACTOR SHALL RETAIN ALL CURBS, FENCES, WALLS, TREES, SHRUBS, POSTS, LANDSCAPE FEATURES, AND OTHER MISCELLANEOUS ITEMS WITHIN ABUTTING PROPERTIES, UNLESS OTHERWISE NOTED. WHEN RETAINING THOSE ITEMS IS NOT PRACTICAL IN THE OPINION OF THE ENGINEER, THE CONTRACTOR SHALL REMOVE, STOCKPILE, PROTECT AND RESET THE ITEMS. THE CONTRACTOR SHALL REPLACE ITEMS DAMAGED DURING REMOVAL, STOCKPILING, OR RESETTING DUE TO NEGLIGENCE, CARELESSNESS, OR MISHANDLING WITH EQUIVALENT NEW ITEMS AT NO COST TO THE OWNER.

8. ALL TREES WITHIN THE SLOPE LIMIT SHALL BE RETAINED AND PROTECTED UNLESS OTHERWISE NOTED.

9. ALL TREES CALLED OUT TO BE RETAINED WITH ROADWAY TREE PROTECTION SHALL BE PROTECTED USING ITEM NO. 102.511 TREE PROTECTION - INDIVIDUAL AND ITEM NO. 102.521 TREE PROTECTION - TEMPORARY FENCE.

10. CONTRACTOR SHALL PROTECT ALL PROPERTY MARKERS OF ABUTTERS.

11. TREATMENT OF SLOPE AREAS SHALL BE REPLACED IN KIND UNLESS OTHERWISE NOTED.

12. THE EXISTING CONDITIONS SHOWN ON THIS BASEMAP ARE THE RESULT OF AN ON THE GROUND INSTRUMENT SURVEY PERFORMED BETWEEN 4/15/2014 AND 12/19/2014 BY GREEN INTERNATIONAL AFFILIATES, INC. (GREEN). ADDITIONAL GROUND SURVEY WAS PERFORMED BETWEEN 1/30/2017 AND 4/27/2017, AND BETWEEN 2/21/18 AND 2/23/18 BY GREEN TO SUPPLEMENT EXISTING GROUND SURVEY.

12. HORIZONTAL AND VERTICAL CONTROL WAS ESTABLISHED WITH STATIC GPS VECTORS ON 4/17/2014 BY GREEN (SEE GREEN FIELD BOOK NO. 290-138). HORIZONTAL DATUM IS BASED ON THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, VERTICAL DATUM IS NAVD88 (COMPUTED USING GEOID12A). THE UNIT OF MEASUREMENTS IS US SURVEY FEET.

13. WETLANDS WERE DELINEATED BY GREEN 4/18/2014, 4/29/2014, 2/22/18, 8/12/2019, 8/13/2019 AND 8/14/2019 IN ACCORDANCE WITH THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION AND FIELD LOCATED BY GREEN ON MAY 2014 AND AUGUST 2019..

14. THE RIGHT OF WAY LINES SHOWN ON THIS PLAN ARE THE DIRECT RESULT OF AN INSTRUMENT SURVEY PERFORMED ON THE GROUND BY GREEN INTERNATIONAL AFFILIATES, INC. WITH AN ERROR OF CLOSURE LESS THAN 1:15,000, AND FROM PLANS AND DEEDS OF RECORD. PRIVATE PROPERTY LINES ARE COMPILED FROM DEEDS AND PLANS AND SHOULD BE CONSIDERED APPROXIMATE.

15. THE SAID PARCELS SHOWN HERE ARE SUBJECT TO RIGHTS AND EASEMENTS AS CONTAINED IN THE VARIOUS DEEDS OF RECORD DESCRIBING SAID PREMISES. THE LOCATIONS AND EXTENT OF SAID RIGHTS AND EASEMENTS ARE NOT THE SUBJECT OF THIS SURVEY.

UTILITY NOTES:

1. ALL UNDERGROUND UTILITIES AS SHOWN WERE COMPILED USING FIELD SURVEY INFORMATION AND AVAILABLE RECORD INFORMATION. THE LOCATION OF EXISTING PIPES OR OTHER UNDERGROUND STRUCTURES OR PROPERTY LINES ARE NOT WARRANTED TO BE EXACT, NOR IS IT WARRANTED THAT ALL UNDERGROUND PIPES OR STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL CALL "DIG SAFE" (1-888-344-7233) 72 HOURS (EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS) PRIOR TO ANY EXCAVATION TO OBTAIN ACCURATE UTILITY LOCATIONS.

2. RECORD UTILITY INFORMATION FROM THE VARIOUS UTILITY COMPANIES AND PUBLIC AGENCIES ARE APPROXIMATE ONLY AND ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD.

3. THE COMPLETION AND ACCURACY OF LATERAL UTILITY SERVICES IS NOT GUARANTEED AND MUST BE VERIFIED BY THE CONTRACTOR IN THE FIELD.

4. ALL UTILITY COMPANIES, PUBLIC AND PRIVATE MUST BE NOTIFIED, INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN, (SEE CHAPTER 370, ACTS OF 1963, MASSACHUSETTS) PRIOR TO DESIGNING, EXCAVATING, BLASTING, INSTALLING, BACKFILLING, GRADING, PAVEMENT RESTORING OR REPAVING. CONTRACTOR SHALL CONTACT SHELL OIL COMPANY PRIOR TO WORKING IN THE VICINITY OF ALGONQUIN TRAIL.

5. SUBSURFACE UTILITY LOCATIONS HAVE BEEN PLOTTED TO MEET UTILITY QUALITY LEVEL "C" AS DESCRIBED IN ASCE STANDARD 38-02 AND SUMMARIZED ON THIS SHEET. THE UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS BASED ON ABOVE-GROUND FIELD OBSERVATION AND EXISTING RECORD INFORMATION RECEIVED FROM UTILITY STAKE-HOLDERS.

6. INVERTS SHOWN ON PLAN ARE NOT GUARANTEED TO BE ACCURATE. DUE TO THE LIMITATIONS OF FIELD OBSERVATION AND SURVEY TECHNIQUES THE INVERTS ARE SHOWN AS APPROXIMATE ONLY AND SHALL NOT BE WARRANTED TO BE CORRECT. ADDITIONAL FIELD INVESTIGATION IS NECESSARY WHERE ACCURATE MEASUREMENTS ARE REQUIRED FOR DESIGN OF CRITICAL AREAS.

7. THE EXISTING CONDITIONS PLAN IS TO BE USED FOR THE SPECIFIED PROJECT ONLY AND IS NOT WARRANTED TO BE COMPLETE FOR ANY OTHER FUTURE PROJECTS.

SUMMARY OF UTILITY MAPPING QUALITY LEVELS:

THE FOLLOWING IS A SUMMARY OF THE SURVEY MAPPING LEVELS FOR UTILITIES AS DESCRIBED IN ASCE STANDARD 38-02, "STANDARD GUIDELINE FOR THE DEPICTION OF EXISTING SUBSURFACE UTILITY DATA". THESE GUIDELINES ARE MORE FULLY DESCRIBED IN THE ASCE STANDARD.

UTILITY QUALITY LEVEL A:
PRECISE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES OBTAINED BY THE ACTUAL EXPOSURE (OR VERIFICATION OF PREVIOUSLY EXPOSED AND SURVEYED UTILITIES) AND SUBSEQUENT MEASUREMENT OF SUBSURFACE UTILITIES, USUALLY AT A SPECIFIC POINT. MINIMALLY INTRUSIVE EXCAVATION EQUIPMENT IS TYPICALLY USED TO MINIMIZE THE POTENTIAL FOR UTILITY DAMAGE. A PRECISE HORIZONTAL AND VERTICAL LOCATION, AS WELL AS OTHER UTILITY ATTRIBUTES, IS SHOWN ON PLAN DOCUMENTS. ACCURACY IS TYPICALLY SET TO 15-MM VERTICAL AND TO APPLICABLE HORIZONTAL SURVEY AND MAPPING ACCURACY AS DEFINED OR EXPECTED BY THE PROJECT OWNER.

UTILITY QUALITY LEVEL B:
INFORMATION OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES. QUALITY LEVEL B DATA SHOULD BE REPRODUCIBLE BY SURFACE GEOPHYSICS AT ANY POINT OF THEIR DEPICTION. THIS INFORMATION IS SURVEYED TO APPLICABLE TOLERANCES DEFINED BY THE PROJECT AND REDUCED ONTO PLAN DOCUMENTS.

UTILITY QUALITY LEVEL C:
INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL D INFORMATION.

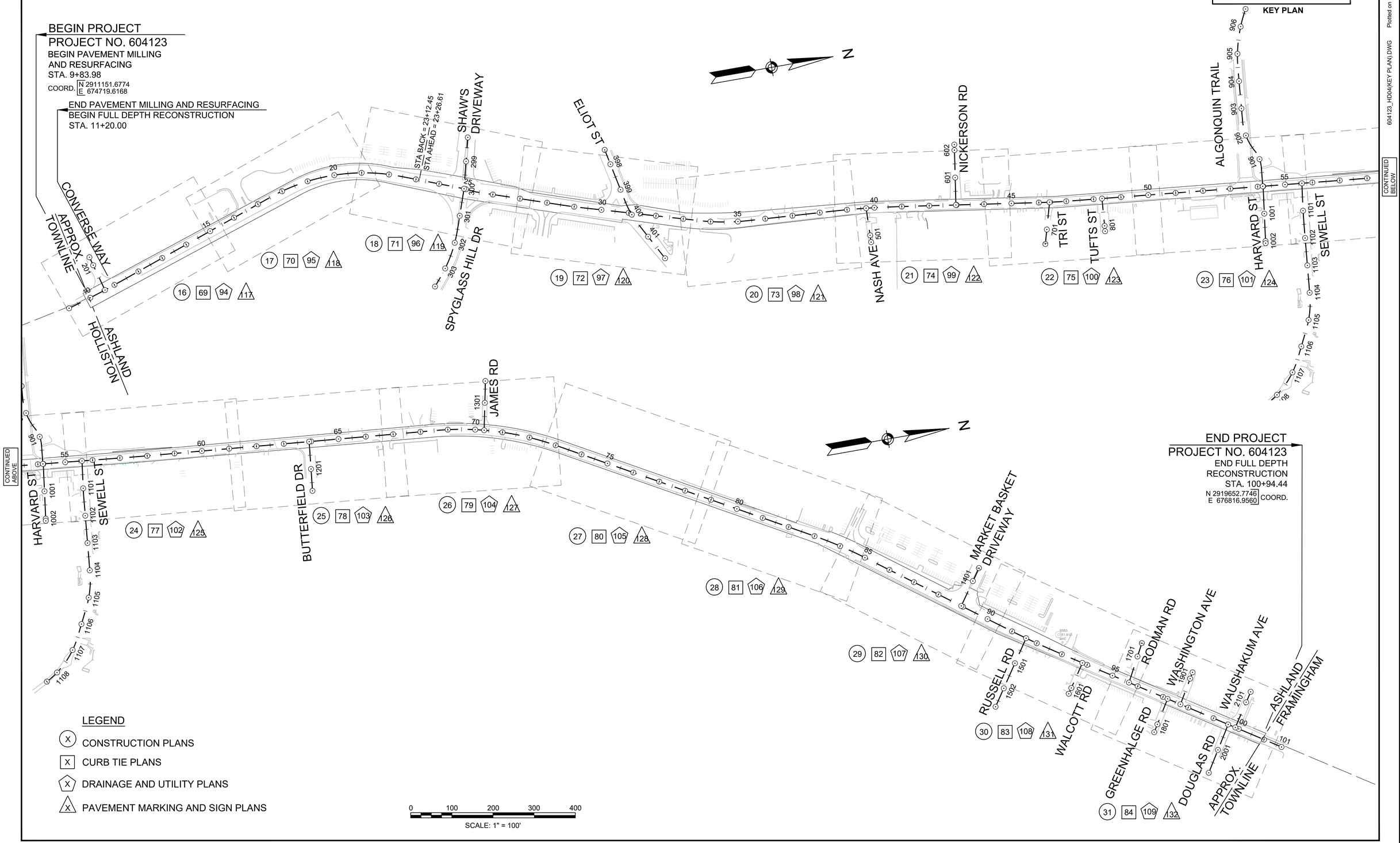
UTILITY QUALITY LEVEL D:
INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS.

604123_HD03(GENERAL NOTES).DWG Plotted on 23-Jun-2020 10:16 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	4	331
PROJECT FILE NO.	604123		

KEY PLAN

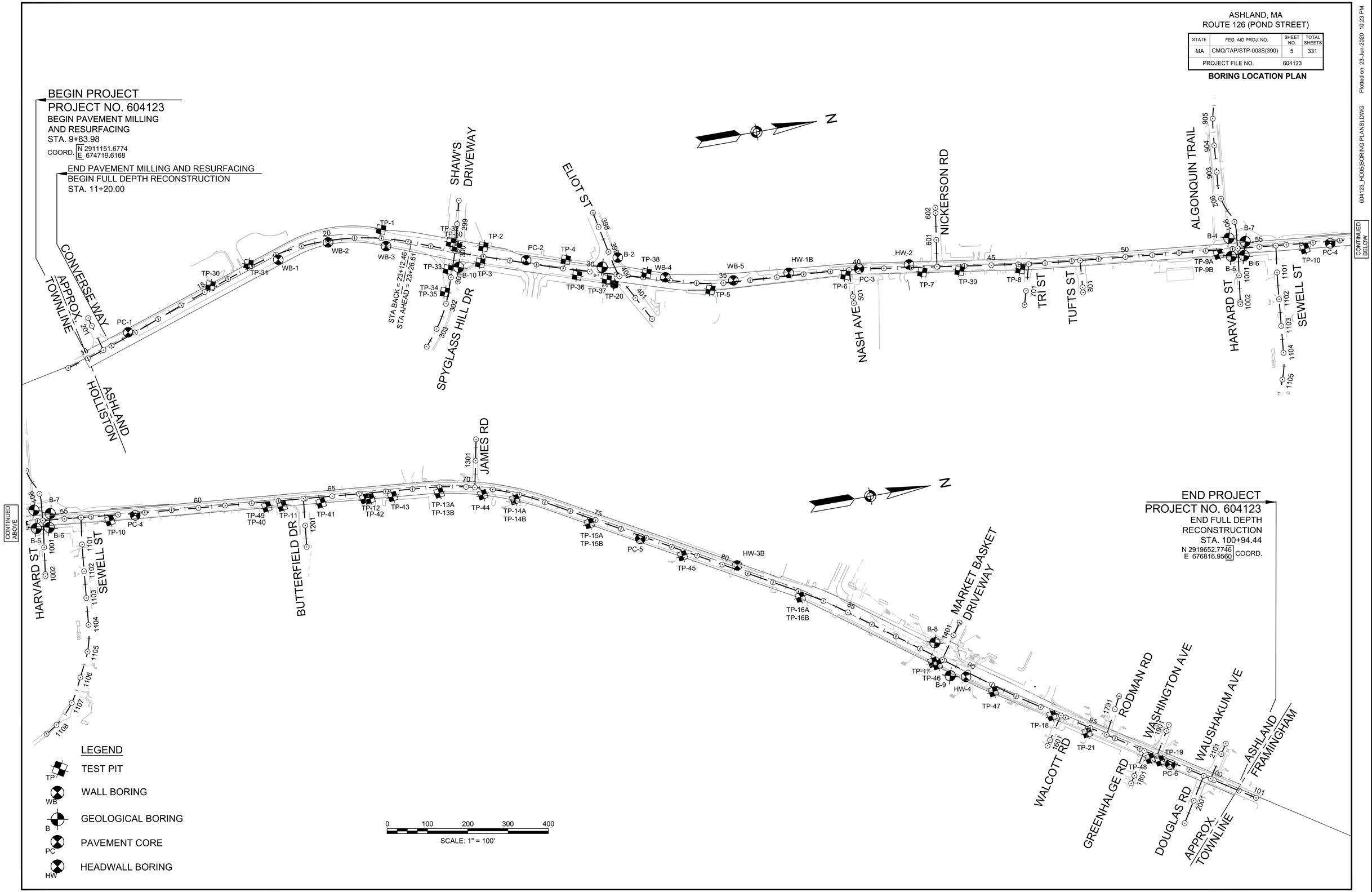


604123_HD04(KEY PLAN).DWG Plotted on 23-Jun-2020 10:19 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	5	331
PROJECT FILE NO.	604123		

BORING LOCATION PLAN



Plotted on 23-Jun-2020 10:23 PM

604123_HD06(BORING PLANS).DWG

ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	6	331
PROJECT FILE NO.	604123		

BORING LOGS 1 OF 7

massDOT Highway — **Boring Log**

LAMSON ENGINEERING CORPORATION
437 Cherry Street, #109, Newton, Massachusetts 02465
Phone: (617) 558-0101 E-Mail: Lamsoneng@msn.com

Boring No. WB-1 (Wall Boring) — Page 1/1 — Scale: 1" = 5'

City/Town: Ashland — Bridge No.: - — Project File No.: 604123 — Contract No.: -
Location: Route 126 (Pond Street) — Date & Time Started: 10/11/17 9:30 pm — Total Hours:
Groundwater Depth (Feet): - — Date & Time: - — Date & Time Completed: 10/12/17 4:00 am — 6.5
Coordinates: N 2,911,924 E 674,478 — Ground Elevation (Feet): 263.5' — Inspector's Name: Weijie Dong
Drilling Company: Geologic Exploration, Inc. — Driller's Name: Damien Jacobs — Helper's Name: Keith Eastwood / John Boyd

Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches (Coring Times Minute Per Foot)	Recovery (inches)	Field Description	Strata Changes
				Asphalt	10"
S-1	1' - 3'	14 48 57 69	15"	Dry, very dense, brown, FINE SAND, some fine gravel, trace coarse sand.	
S-2	4' - 4'5"	120/5"	4"	Dry, very dense, brown, FINE TO COARSE SAND, trace inorganic silt.	4'5"
				Cobbles 4'9"	5'7"
				Sand & Gravel from Wash. Top of Bedrock	
				Rollerbit to 8' and begin coring	
C-1	8' - 13'	6 8 8 7 8	21"	Hard, pinkish/gray, moderately fractured, GRANITE. Recovery = 35%, RQD = 7"/60" = 12% - Jammed at 13', poor recovery.	
C-2	13' - 18'	15 19 25 50 45	35"	Hard, pinkish/gray, GRANITE. Recovery = 58%, RQD = 35"/60" = 58% - Lost rest of bedrock down the hole.	
				Bottom of Exploration at 18'	18'

Notes:
Light Tower: 1 — Signs: 4 — Cones: 25
Protective Device — Stand: - Box: - — Well Depth: - Solid Pipe: - — Stick Up Pipe: - Screen Pipe: -

Penetration Resistance (N) Guide:

Cohesionless Soils (Sands, Gravels) Relative Density	Penetration Resistance	Cohesive Soils (Silts, Clays) Consistency	Penetration Resistance
Very Loose	0 - 4	Very Soft	0 - 2
Loose	4 - 10	Soft	2 - 4
Medium Dense	10 - 30	Medium Stiff	4 - 8
Dense	30 - 50	Stiff	8 - 15
Very Dense	Over 50	Very Stiff	15 - 30
N=Sum of Second and Third 6" Blow Counts		Hard	Over 30

Terms Used for Second Entry of Descriptions: and = 40-50%, some = 10-40%, trace = 10% or less

Type of Drill Rig: Scout
Hammer Weight: 300lb Fall: 24"
Casing Types: HW NW
Size: 4" 3"
Depth: 4' 8'
Sampler Type: S/S Size: 1 3/8" ID
Automatic Hammer Weight:
Safety Hammer Weight: Fall: 30"
Donut Hammer Weight: 140 lb
Core Barrel Type: NX Size: 2.15" ID

WB–1
SCALE: 3/16" = 1'–0"

massDOT Highway — **Boring Log**

LAMSON ENGINEERING CORPORATION
437 Cherry Street, #109, Newton, Massachusetts 02465
Phone: (617) 558-0101 E-Mail: Lamsoneng@msn.com

Boring No. WB-2 (Wall Boring) — Page 1/1 — Scale: 1" = 5'

City/Town: Ashland — Bridge No.: - — Project File No.: 604123 — Contract No.: -
Location: Route 126 (Pond Street) — Date & Time Started: 10/12/17 9:30 pm — Total Hours:
Groundwater Depth (Feet): - — Date & Time: - — Date & Time Completed: 10/13/17 2:00 am — 4.5
Coordinates: N 2,912,118 E 674,447 — Ground Elevation (Feet): 265.3' — Inspector's Name: Weijie Dong
Drilling Company: Geologic Exploration, Inc. — Driller's Name: Damien Jacobs — Helper's Name: Keith Eastwood / John Boyd

Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches (Coring Times Minute Per Foot)	Recovery (inches)	Field Description	Strata Changes
				Asphalt	10"
S-1	1' - 2'	61 75	12"	Dry, very dense, brown, FINE SAND, some fine gravel, trace coarse sand.	
				Top of Bedrock	3'6"
				Rollerbit to 4' and begin coring	
C-1	4' - 9'	7 9 13 15 15	60"	Hard, pinkish/gray, GRANITE. Recovery = 100%, RQD = 60"/60" = 100%	
C-2	9' - 14'	12 15 15 16 16	60"	Hard, pinkish/gray, GRANITE. Recovery = 100%, RQD = 60"/60" = 100%	
				Bottom of Exploration at 14'	14'

Notes:
Light Tower: 1 — Signs: 4 — Cones: 25
Protective Device — Stand: - Box: - — Well Depth: - Solid Pipe: - — Stick Up Pipe: - Screen Pipe: -

Penetration Resistance (N) Guide:

Cohesionless Soils (Sands, Gravels) Relative Density	Penetration Resistance	Cohesive Soils (Silts, Clays) Consistency	Penetration Resistance
Very Loose	0 - 4	Very Soft	0 - 2
Loose	4 - 10	Soft	2 - 4
Medium Dense	10 - 30	Medium Stiff	4 - 8
Dense	30 - 50	Stiff	8 - 15
Very Dense	Over 50	Very Stiff	15 - 30
N=Sum of Second and Third 6" Blow Counts		Hard	Over 30

Terms Used for Second Entry of Descriptions: and = 40-50%, some = 10-40%, trace = 10% or less

Type of Drill Rig: Scout
Hammer Weight: 300lb Fall: 24"
Casing Types: NW
Size: 3"
Depth: 4'
Sampler Type: S/S Size: 1 3/8" ID
Automatic Hammer Weight:
Safety Hammer Weight: Fall: 30"
Donut Hammer Weight: 140 lb
Core Barrel Type: NX Size: 2.15" ID

WB–2
SCALE: 3/16" = 1'–0"

massDOT Highway — **Boring Log**

LAMSON ENGINEERING CORPORATION
437 Cherry Street, #109, Newton, Massachusetts 02465
Phone: (617) 558-0101 E-Mail: Lamsoneng@msn.com

Boring No. WB-3 (Wall Boring) — Page 1/1 — Scale: 1" = 5'

City/Town: Ashland — Bridge No.: - — Project File No.: 604123 — Contract No.: -
Location: Route 126 (Pond Street) — Date & Time Started: 10/13/17 9:30 pm — Total Hours:
Groundwater Depth (Feet): - — Date & Time: - — Date & Time Completed: 10/14/17 3:00 am — 5.5
Coordinates: N 2,912,328 E 674,498 — Ground Elevation (Feet): 263.2' — Inspector's Name: Weijie Dong
Drilling Company: Geologic Exploration, Inc. — Driller's Name: Damien Jacobs — Helper's Name: Keith Eastwood / John Boyd

Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches (Coring Times Minute Per Foot)	Recovery (inches)	Field Description	Strata Changes
				Asphalt	10"
S-1	1' - 3'	34 37 40 47	17"	Dry, very dense, brown, FINE SAND, trace fine gravel.	
S-2	4' - 6'	42 63 54 72	10"	Dry, very dense, brown, FINE SAND, trace fine gravel.	
S-3	9' -9'4"	120/4"	4"	Dry, very dense, brown, FINE SAND, some fine gravel, trace inorganic silt.	9'4"
				Top of Bedrock	
				Rollerbit to 11' and begin coring	
C-1	11' - 16'	15 15 25 12 15	60"	Hard, pinkish/gray, slightly fractured, GRANITE. Recovery = 100%, RQD = 40"/60" = 67%	
C-2	16' - 21'	16 16 17 20 32	60"	Hard, pinkish/gray, slightly fractured, GRANITE. Recovery = 100%, RQD = 48"/60" = 80%	
				Bottom of Exploration at 21'	21'

Notes:
Light Tower: 1 — Signs: 4 — Cones: 25
Protective Device — Stand: - Box: - — Well Depth: - Solid Pipe: - — Stick Up Pipe: - Screen Pipe: -

Penetration Resistance (N) Guide:

Cohesionless Soils (Sands, Gravels) Relative Density	Penetration Resistance	Cohesive Soils (Silts, Clays) Consistency	Penetration Resistance
Very Loose	0 - 4	Very Soft	0 - 2
Loose	4 - 10	Soft	2 - 4
Medium Dense	10 - 30	Medium Stiff	4 - 8
Dense	30 - 50	Stiff	8 - 15
Very Dense	Over 50	Very Stiff	15 - 30
N=Sum of Second and Third 6" Blow Counts		Hard	Over 30

Terms Used for Second Entry of Descriptions: and = 40-50%, some = 10-40%, trace = 10% or less

Type of Drill Rig: Scout
Hammer Weight: 300lb Fall: 24"
Casing Types: NW
Size: 3"
Depth: 11'
Sampler Type: S/S Size: 1 3/8" ID
Automatic Hammer Weight:
Safety Hammer Weight: Fall: 30"
Donut Hammer Weight: 140 lbs
Core Barrel Type: NX Size: 2.15" ID

WB–3
SCALE: 3/16" = 1'–0"

BORING NOTES:

1. LOCATION OF BORINGS SHOWN ON THE PLANS THUS: WB–#, B–#.
2. BORINGS ARE TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORINGS POINTS ONLY, BUT DO NOT NECESSARILY SHOW THE NATURE OF THE MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION.
3. WATER LEVELS SHOWN ON THE BORING LOGS WERE OBSERVED AT THE TIME OF TAKING BORINGS AND DO NOT NECESSARILY SHOW THE TRUE GROUND WATER LEVEL.
4. FIGURES IN COLUMNS INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE A 1 3/8" I.D. SPLIT SPOON SAMPLER 6" USING A 140 POUND WEIGHT FALLING 30".
5. ALL BORING SAMPLES ARE STORED AT A STORAGE FACILITY LOCATED ON ROUTE 114 (219 WINTHROP AVE.) IN LAWRENCE, MA. THE CONTRACTOR MAY EXAMINE THE SOIL AND ROCK SAMPLES BY CONTACTING THE MASSDOT GEOTECHNICAL SECTION AT 10 PARK PLAZA, BOSTON, MA.
6. BORINGS WB–1,2,3,4,5 & B–1,2,3,4 WERE MADE IN OCTOBER 2017.
7. BORINGS WB–1,2,3,4,5 & B–1,2,3,4 WERE MADE BY GEOLOGIC EARTH EXPLORATION, INC., 7 SHERWOOD DRIVE, NORFOLK, MA 02056 AT 508–384–4434.
8. BORINGS HW–1B,2,3B,4 WERE MADE IN DECEMBER 2019.
9. BORINGS HW–1B,2,3B,4 WERE MADE BY NORTHERN DRILL SERVICE, LLC., 130 E MAIN STREET, NORTHBOROUGH, MA 01532 AT 508–393–6900.
10. THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.

604123_HD06(BORING LOGS).DWG Plotted on 21-Mar-2018 9:58 AM
F:\Projects\2013\13033\13033.044 – ashland route 126\604123\DWG\604123_HD06(Boring Logs)

massDOT Highway — **Boring Log**

LAMSON ENGINEERING CORPORATION
437 Cherry Street, #109, Newton, Massachusetts 02465
Phone: (617) 558-0101 E-Mail: Lamsoneng@msn.com

Boring No. WB-4 (Wall Boring) — Page 1/1 — Scale: 1" = 5'

City/Town: Ashland	Bridge No.: -	Project File No.: 604123	Contract No.: -
Location: Route 126 (Pond Street)		Date & Time Started: 10/16/17 9:30 pm	Total Hours:
Groundwater Depth (Feet): - Date & Time: -		Date & Time Completed: 10/17/17 4:00 am	6.5
Coordinates: *N 2,913,332 *E 674,793	Ground Elevation (Feet): *237.2'	Inspector's Name: Weijie Dong	
Drilling Company: Geologic Exploration, Inc.	Driller's Name: Damien Jacobs	Helper's Name: Keith Eastwood / Will Betts	

Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches / Coring Times Minute Per Foot	Recovery (inches)	Field Description	Strata Changes
				Asphalt	10"
S-1	1' - 2'2"	5 98 50/2"	5"	Dry, very dense, dark brown, FINE SAND, trace fine gravel, trace inorganic silt.	
S-2	4' - 6'	21 21 25 86	9"	Dry, dense, brown, FINE SAND, trace fine to medium gravel, trace inorganic silt. Top of Bedrock Rollerbit to 8' and begin coring	6'
C-1	8' - 13'	8 7 12 18 25	50"	Hard, gray, moderately fractured, GRANITE. Recovery = 83%, RQD = 35"/60" = 58%	
C-2	13' - 15'6"	15 18 15/6"	30"	Hard, gray, highly fractured, GRANITE. Recovery = 100%, RQD = 10"/30" = 33%	
				Bottom of Exploration at 15'6"	15'6"
				- Terminated at 15'6" due to machine malfunction, could not advance any further.	

Notes:
* Move boring approximately 11' East of original location due to underground utilities. Coordinates and elevation are estimated.

Light Tower: 1 Signs: 4 Cones: 25 | Protective Device Well Depth: - Stick Up Pipe: - | Stand: - Solid Pipe: - Screen Pipe: - Box: -

Penetration Resistance (N) Guide:

Cohesionless Soils (Sands, Gravels)		Cohesive Soils (Silts, Clays)	
Relative Density	Penetration Resistance	Consistency	Penetration Resistance
Very Loose	0 - 4	Very Soft	0 - 2
Loose	4 - 10	Soft	2 - 4
Medium Dense	10 - 30	Medium Stiff	4 - 8
Dense	30 - 50	Stiff	8 - 15
Very Dense	Over 50	Very Stiff	15 - 30
N=Sum of Second and Third 6" Blow Counts		Hard	Over 30

Terms Used for Second Entry of Descriptions: and = 40-50%, some = 10-40%, trace = 10% or less

Type of Drill Rig: Scout
Hammer Weight: 300lb Fall: 24"
Casing Types: NW
Size: 3"
Depth: 8'
Sampler Type: S/S Size: 1 3/8" ID
Automatic Hammer Weight:
Safety Hammer Weight: Fall: 30"
Donut Hammer Weight: 140 lb
Core Barrel Type: NX Size: 2.15" ID

WB–4
SCALE: 3/16" = 1'–0"

213.8 ▼
(10/19/17)

massDOT Highway — **Boring Log**

LAMSON ENGINEERING CORPORATION
437 Cherry Street, #109, Newton, Massachusetts 02465
Phone: (617) 558-0101 E-Mail: Lamsoneng@msn.com

Boring No. WB-5 (Wall Boring) — Page 1/1 — Scale: 1" = 5'

City/Town: Ashland	Bridge No.: -	Project File No.: 604123	Contract No.: -
Location: Route 126 (Pond Street)		Date & Time Started: 10/18/17 9:30 pm	Total Hours:
Groundwater Depth (Feet): 6'5" Date & Time: 10/19/17 12:25 am		Date & Time Completed: 10/19/17 12:45 am	2.25
Coordinates: N 2,913,579 E 674,848	Ground Elevation (Feet): 220.2'	Inspector's Name: Weijie Dong	
Drilling Company: Geologic Exploration, Inc.	Driller's Name: Damien Jacobs	Helper's Name: Keith Eastwood / Will Betts	

Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches / Coring Times Minute Per Foot	Recovery (inches)	Field Description	Strata Changes
				Asphalt	10"
S-1	1' - 1'8"	48 72/2"	6"	Dry, very dense, dark brown, FINE SAND, trace fine gravel, trace inorganic silt.	
S-2	4' - 5'7"	14 34 103 40/1"	10"	Dry, very dense, brown, FINE SAND, some inorganic silt, trace fine to medium gravel.	
S-3	9' - 11'	32 55 45 67	10"	Moist, very dense, brown, FINE SAND, some inorganic silt, trace fine to medium gravel.	
S-4	14' - 14'3"	120/3"	0"	No Recovery	14'3"
				Cobbles & Boulders	17'
S-5	19' - 19'5"	120/5"	3"	Wet, very dense, brown, FINE SAND AND FINE TO MEDIUM GRAVEL, some inorganic silt. Possible Top of Bedrock	21'
				Rollerbit to 22' and terminate. Bottom of Exploration at 22'	22'

Notes:

Light Tower: 1 Signs: 4 Cones: 25 | Protective Device Well Depth: - Stick Up Pipe: - | Stand: - Solid Pipe: - Screen Pipe: - Box: -

Penetration Resistance (N) Guide:

Cohesionless Soils (Sands, Gravels)		Cohesive Soils (Silts, Clays)	
Relative Density	Penetration Resistance	Consistency	Penetration Resistance
Very Loose	0 - 4	Very Soft	0 - 2
Loose	4 - 10	Soft	2 - 4
Medium Dense	10 - 30	Medium Stiff	4 - 8
Dense	30 - 50	Stiff	8 - 15
Very Dense	Over 50	Very Stiff	15 - 30
N=Sum of Second and Third 6" Blow Counts		Hard	Over 30

Terms Used for Second Entry of Descriptions: and = 40-50%, some = 10-40%, trace = 10% or less

Type of Drill Rig: Scout
Hammer Weight: 300lb Fall: 24"
Casing Types: NW
Size: 3"
Depth: 19'
Sampler Type: S/S Size: 1 3/8" ID
Automatic Hammer Weight:
Safety Hammer Weight: Fall: 30"
Donut Hammer Weight: 140 lb
Core Barrel Type: - Size: -

WB–5
SCALE: 3/16" = 1'–0"

massDOT Highway — **Boring Log**

LAMSON ENGINEERING CORPORATION
437 Cherry Street, #109, Newton, Massachusetts 02465
Phone: (617) 558-0101 E-Mail: Lamsoneng@msn.com

Boring No. B-2 (Wall Boring) — Page 1/1 — Scale: 1" = 5'

City/Town: Ashland	Bridge No.: -	Project File No.: 604123	Contract No.: -
Location: Route 126 (Pond Street)		Date & Time Started: 10/17/17 9:30 pm	Total Hours:
Groundwater Depth (Feet): - Date & Time: -		Date & Time Completed: 10/18/17 3:45 am	6.25
Coordinates: N 2,913,170 E 674,690	Ground Elevation (Feet): 247.2'	Inspector's Name: Weijie Dong	
Drilling Company: Geologic Exploration, Inc.	Driller's Name: Damien Jacobs	Helper's Name: Keith Eastwood / Will Betts	

Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches / Coring Times Minute Per Foot	Recovery (inches)	Field Description	Strata Changes
				Asphalt	10"
S-1	1' - 3'	27 28 27 23	14"	Dry, very dense, brown, FINE SAND, trace fine gravel, trace inorganic silt.	
				Boulder	3'10"
S-2	6' - 6'9"	56 64/5"	9"	Dry, very dense, brown, FINE TO COARSE SAND, some fine gravel, trace inorganic silt.	5'8"
S-3	9' - 9'5"	120/5"	3"	Moist, very dense, brown, FINE SAND AND FINE TO MEDIUM GRAVEL, some inorganic silt.	9'5"
				Cobbles 9'11"	
S-4	14' - 14'4"	120/4"	4"	Moist, very dense, brown, FINE SAND AND FINE TO MEDIUM GRAVEL, some inorganic silt. Top of Bedrock Rollerbit to 17' and begin coring	16'9""
C-1	17' - 22'	8 10 12 11 12	60"	Hard, gray, slightly fractured, GRANITE. Recovery = 100%, RQD = 47"/60" = 78%	
C-2	22' - 27'	11 12 11 15 12	56"	Hard, gray, slightly fractured, GRANITE. Recovery = 93%, RQD = 44"/60" = 73%	
				Bottom of Exploration at 27'	27'

Notes:

Light Tower: 1 Signs: 4 Cones: 25 | Protective Device Well Depth: - Stick Up Pipe: - | Stand: - Solid Pipe: - Screen Pipe: - Box: -

Penetration Resistance (N) Guide:

Cohesionless Soils (Sands, Gravels)		Cohesive Soils (Silts, Clays)	
Relative Density	Penetration Resistance	Consistency	Penetration Resistance
Very Loose	0 - 4	Very Soft	0 - 2
Loose	4 - 10	Soft	2 - 4
Medium Dense	10 - 30	Medium Stiff	4 - 8
Dense	30 - 50	Stiff	8 - 15
Very Dense	Over 50	Very Stiff	15 - 30
N=Sum of Second and Third 6" Blow Counts		Hard	Over 30

Terms Used for Second Entry of Descriptions: and = 40-50%, some = 10-40%, trace = 10% or less

Type of Drill Rig: Scout
Hammer Weight: 300lb Fall: 24"
Casing Types: NW
Size: 3"
Depth: 17'
Sampler Type: S/S Size: 1 3/8" ID
Automatic Hammer Weight:
Safety Hammer Weight: Fall: 30"
Donut Hammer Weight: 140 lb
Core Barrel Type: NX Size: 2.15" ID

B–2
SCALE: 3/16" = 1'–0"

BORING NOTES:

SEE SHEET 6 FOR BORING NOTES.

Plotted on 21-Mar-2018 9:58 AM
604123_HD06(BORING LOGS).DWG
F:\Projects\2013\13033\13033.04x - ashland route 126\604123\DWG\604123_HD06(Boring Log)

604123_HD06A(BORING LOGS).DWG 6-Dec-2017

Geologic - Earth Exploration, Inc.

7 Sherwood Drive
TEL 508 384 4434
Norfolk, MA 02056
FAX 508 384 4452

CLIENT: Green International
PROJECT: Route 126 Improvements
LOCATION: Ashland, MA

BORING #: B-1
PAGE 1 OF 1

File #: 17171
Date Started: 10/19/17
Date Completed: 10/20/17
Driller: D.Jacobs
Site Rep.:

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	
SIZE	3"	24"	
HAMMER	140#	140#	---
FALL	30"	30"	---

Surface Elevation:
Station:
Groundwater level readings
Date Depth
Date Depth

Depth ft	Sample No.	Depth ft	Pen. in	Rec. in	Blows/6"	Sample Description
	S-1	0.0-2.0	24	6	3-7-5-4	S-1 Wet loose gray fine SAND, some Gravel
5	S-2	4.0-6.0	24	5	7-9-9-14	S-2 Wet loose gray fine SAND, large Gravel
10	S-3	9.0-9.0	0	0	120/0"	S-3 Rock at 9.0'; Roller bit refusal Bottom of exploration at 9.0'
15						
20						
25						
30						

Ground Surface to _____ used _____ then _____

Proportions Used		Cohesive Consistency Blows/ft				Cohesionless Density Blows/ft		Sample Type
Trace	0 to 10%	0-2	Very Soft	9-15	Stiff	0-10	Loose	UP = Fixed Piston
Little	10 to 20%	3-4	Soft	16-30	V-Stiff	10-30	M-Dense	UT = Shelby Tube
Some	20 to 35%	5-8	M-Stiff	31+	Hard	30-50	Dense	OE = Open End Rod
And	35 to 50%					50+	V-Dense	* = 300# hammer

Notes:
1. The stratification lines represent the approximate boundary between soil types. The transition may be gradual.
2. Water level readings were made in the drill hole during or at the completion of drilling. The water level may fluctuate over time.

Remarks: NOTE: All soil descriptions are made in the field by the Drilling Foreman. No laboratory analyses were performed for this purpose.

B_ALL_17171_GIA_ASHLAND_MA GPJ, GEOLOGIC.GDT 11/29/17

B–1
SCALE: N.T.S.
N: 2913106
E: 674715
ELEV:245.4'

Geologic - Earth Exploration, Inc.

7 Sherwood Drive
TEL 508 384 4434
Norfolk, MA 02056
FAX 508 384 4452

CLIENT: Green International
PROJECT: Route 126 Improvements
LOCATION: Ashland, MA

BORING #: B-3
PAGE 1 OF 1

File #: 17171
Date Started: 10/19/17
Date Completed: 10/19/17
Driller: D.Jacobs
Site Rep.:

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	
SIZE	3"	24"	
HAMMER	140#	140#	---
FALL	30"	30"	---

Surface Elevation:
Station:
Groundwater level readings
Date Depth
Date Depth

Depth ft	Sample No.	Depth ft	Pen. in	Rec. in	Blows/6"	Sample Description
	S-1	0.0-2.0	24	4	1-2-2-3	S-1 Moist loose brown MULCH and coarse SAND
5	S-2	4.0-4.2	2	2	120/2"	S-2 Moist very dense tan coarse SAND and STONE Roller bit refusal at 4.5' Cored 5 feet of different size boulders to 9.5'
10						Bottom of exploration at 9.5'
15						
20						
25						
30						

Ground Surface to _____ used _____ then _____

Proportions Used		Cohesive Consistency Blows/ft				Cohesionless Density Blows/ft		Sample Type
Trace	0 to 10%	0-2	Very Soft	9-15	Stiff	0-10	Loose	UP = Fixed Piston
Little	10 to 20%	3-4	Soft	16-30	V-Stiff	10-30	M-Dense	UT = Shelby Tube
Some	20 to 35%	5-8	M-Stiff	31+	Hard	30-50	Dense	OE = Open End Rod
And	35 to 50%					50+	V-Dense	* = 300# hammer

Notes:
1. The stratification lines represent the approximate boundary between soil types. The transition may be gradual.
2. Water level readings were made in the drill hole during or at the completion of drilling. The water level may fluctuate over time.

Remarks: NOTE: All soil descriptions are made in the field by the Drilling Foreman. No laboratory analyses were performed for this purpose.

B_ALL_17171_GIA_ASHLAND_MA GPJ, GEOLOGIC.GDT 11/29/17

B–3
SCALE: N.T.S.
N: 2913139
E: 674786
ELEV:243.8'

Geologic - Earth Exploration, Inc.

7 Sherwood Drive
TEL 508 384 4434
Norfolk, MA 02056
FAX 508 384 4452

CLIENT: Green International
PROJECT: Route 126 Improvements
LOCATION: Ashland, MA

BORING #: B-4
PAGE 1 OF 1

File #: 17171
Date Started: 10/23/17
Date Completed: 10/23/17
Driller: D.Jacobs
Site Rep.:

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	
SIZE	3"	24"	
HAMMER	140#	140#	---
FALL	30"	30"	---

Surface Elevation:
Station:
Groundwater level readings
Date Depth
Date Depth

Depth ft	Sample No.	Depth ft	Pen. in	Rec. in	Blows/6"	Sample Description
	S-1	0.0-2.0	24	12	9-15-14-10	S-1 Dry medium dense brown fine TOP SOIL, trace Gravel
5	S-2	4.0-6.0	24	8	13-14-18-36	S-2 Moist dense brown fine SAND, little Silt Drilled down from 6.5' - 7.5' confirmed Rock
						Bottom of exploration at 7.5'
10						
15						
20						
25						
30						

Ground Surface to _____ used _____ then _____

Proportions Used		Cohesive Consistency Blows/ft				Cohesionless Density Blows/ft		Sample Type
Trace	0 to 10%	0-2	Very Soft	9-15	Stiff	0-10	Loose	UP = Fixed Piston
Little	10 to 20%	3-4	Soft	16-30	V-Stiff	10-30	M-Dense	UT = Shelby Tube
Some	20 to 35%	5-8	M-Stiff	31+	Hard	30-50	Dense	OE = Open End Rod
And	35 to 50%					50+	V-Dense	* = 300# hammer

Notes:
1. The stratification lines represent the approximate boundary between soil types. The transition may be gradual.
2. Water level readings were made in the drill hole during or at the completion of drilling. The water level may fluctuate over time.

Remarks: NOTE: All soil descriptions are made in the field by the Drilling Foreman. No laboratory analyses were performed for this purpose.

B_ALL_17171_GIA_ASHLAND_MA GPJ, GEOLOGIC.GDT 11/29/17

B–4
SCALE: N.T.S.
N: 2915422
E: 675014
ELEV:176.8'

BORING NOTES:

SEE SHEET 6 FOR BORING NOTES.

Geologic - Earth Exploration, Inc.
7 Sherwood Drive, Norfolk, MA 02056
TEL 508 384 4434, FAX 508 384 4452

CLIENT: Green International
PROJECT: Route 126 Improvements
LOCATION: Ashland, MA

BORING #: B-5
PAGE 1 OF 1

File #: 17171
Date Started: 10/21/17
Date Completed: 10/21/17
Driller: D.Jacobs
Site Rep.:

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	
SIZE	3"	24"	
HAMMER	140#	140#	---
FALL	30"	30"	---

Surface Elevation:
Station:
Groundwater level readings
Date Depth
Date Depth

Depth ft	Sample No.	Depth ft	Pen. in	Rec. in	Blows/6"	Sample Description
	S-1	0.0-2.0	24	10	52-20-10-10	S-1 Moist dense tan fine SAND, trace Silt, trace Gravel
5	S-2	4.0-6.0	24	4	8-12-12-16	S-2 Moist medium dense tan coarse SAND, some Gravel
10	S-3	9.0-11.0	24	10	12-22-29-36	S-3 Wet dense tan fine SAND
15	S-4	14.0-16.0	24	6	7-13-30-40	S-4 Wet medium dense gray fine SAND, little coarse Sand, trace Gravel
						Rock at 16.5, Roller bit 16.5' - 17.5'
						Bottom of exploration at 17.5'
20						
25						
30						

Ground Surface to _____ used _____ then _____

Proportions Used		Cohesive Consistency Blows/ft				Cohesionless Density Blows/ft		Sample Type
Trace	0 to 10%	0-2	Very Soft	9-15	Stiff	0-10	Loose	UP = Fixed Piston
Little	10 to 20%	3-4	Soft	16-30	V-Stiff	10-30	M-Dense	UT = Shelby Tube
Some	20 to 35%	5-8	M-Stiff	31+	Hard	30-50	Dense	OE = Open End Rod
And	35 to 50%					50+	V-Dense	* = 300# hammer

Notes:
1. The stratification lines represent the approximate boundary between soil types. The transition may be gradual.
2. Water level readings were made in the drill hole during or at the completion of drilling. The water level may fluctuate over time.

Remarks: NOTE: All soil descriptions are made in the field by the Drilling Foreman. No laboratory analyses were performed for this purpose.

B-ALL 17171 GIA_ASHLAND MA GEF - GEOLOGIC.GDT 11/29/17

B-5

SCALE: N.T.S.
N: 2915420
E: 675082
ELEV:176.4'

Geologic - Earth Exploration, Inc.
7 Sherwood Drive, Norfolk, MA 02056
TEL 508 384 4434, FAX 508 384 4452

CLIENT: Green International
PROJECT: Route 126 Improvements
LOCATION: Ashland, MA

BORING #: B-6
PAGE 1 OF 1

File #: 17171
Date Started: 10/21/17
Date Completed: 10/21/17
Driller: D.Jacobs
Site Rep.:

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	
SIZE	3"	24"	
HAMMER	140#	140#	---
FALL	30"	30"	---

Surface Elevation:
Station:
Groundwater level readings
Date Depth
Date Depth

Depth ft	Sample No.	Depth ft	Pen. in	Rec. in	Blows/6"	Sample Description
	S-1	0.0-2.0	24	17	15-15-17-19	S-1 Dry medium dense tan fine SAND
5	S-2	4.0-4.3	4	0	120/4"	S-2 No Recovery
10	S-3	9.0-11.0	24	18	10-12-14-19	S-3 Dry medium dense tan coarse SAND
15	S-4	14.0-15.3	15	8	12-80-120/3"	S-4 Dry very dense tan coarse SAND
						Rock at 15.5', Roler bit to 16.5'
						Bottom of exploration at 16.5'
20						
25						
30						

Ground Surface to _____ used _____ then _____

Proportions Used		Cohesive Consistency Blows/ft				Cohesionless Density Blows/ft		Sample Type
Trace	0 to 10%	0-2	Very Soft	9-15	Stiff	0-10	Loose	UP = Fixed Piston
Little	10 to 20%	3-4	Soft	16-30	V-Stiff	10-30	M-Dense	UT = Shelby Tube
Some	20 to 35%	5-8	M-Stiff	31+	Hard	30-50	Dense	OE = Open End Rod
And	35 to 50%					50+	V-Dense	* = 300# hammer

Notes:
1. The stratification lines represent the approximate boundary between soil types. The transition may be gradual.
2. Water level readings were made in the drill hole during or at the completion of drilling. The water level may fluctuate over time.

Remarks: NOTE: All soil descriptions are made in the field by the Drilling Foreman. No laboratory analyses were performed for this purpose.

B-ALL 17171 GIA_ASHLAND MA GEF - GEOLOGIC.GDT 11/29/17

B-6

SCALE: N.T.S.
N: 2915467
E: 675087
ELEV:175.7'

Geologic - Earth Exploration, Inc.
7 Sherwood Drive, Norfolk, MA 02056
TEL 508 384 4434, FAX 508 384 4452

CLIENT: Green International
PROJECT: Route 126 Improvements
LOCATION: Ashland, MA

BORING #: B-7
PAGE 1 OF 1

File #: 17171
Date Started: 10/25/17
Date Completed: 10/25/17
Driller: D.Jacobs
Site Rep.:

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	
SIZE	3"	24"	
HAMMER	140#	140#	---
FALL	30"	30"	---

Surface Elevation:
Station:
Groundwater level readings
Date Depth
Date Depth

Depth ft	Sample No.	Depth ft	Pen. in	Rec. in	Blows/6"	Sample Description
	S-1	0.0-2.0	24	4	120/4"	S-1 Dry very dense gray coarse SAND and GRAVEL
						Weathered Rock from 4.0' to 5.0', Roller bit to 5.5'
5						Bottom of exploration at 5.5'
10						
15						
20						
25						
30						

Ground Surface to _____ used _____ then _____

Proportions Used		Cohesive Consistency Blows/ft				Cohesionless Density Blows/ft		Sample Type
Trace	0 to 10%	0-2	Very Soft	9-15	Stiff	0-10	Loose	UP = Fixed Piston
Little	10 to 20%	3-4	Soft	16-30	V-Stiff	10-30	M-Dense	UT = Shelby Tube
Some	20 to 35%	5-8	M-Stiff	31+	Hard	30-50	Dense	OE = Open End Rod
And	35 to 50%					50+	V-Dense	* = 300# hammer

Notes:
1. The stratification lines represent the approximate boundary between soil types. The transition may be gradual.
2. Water level readings were made in the drill hole during or at the completion of drilling. The water level may fluctuate over time.

Remarks:

B-ALL 17171 GIA_ASHLAND MA GEF - GEOLOGIC.GDT 11/29/17

B-7

SCALE: N.T.S.
N: 2915480
E: 675036
ELEV:178.3'

BORING NOTES:

SEE SHEET 6 FOR BORING NOTES.

604123_HD06A(BORING LOGS).DWG 6-Dec-2017

Geologic - Earth Exploration, Inc.
7 Sherwood Drive
TEL 508 384 4434
Norfolk, MA 02056
FAX 508 384 4452

CLIENT: Green International
PROJECT: Route 126 Improvements
LOCATION: Ashland, MA

BORING #: B-8
PAGE 1 OF 1

File #: 17171
Date Started: 10/24/17
Date Completed: 10/24/17
Driller: D.Jacobs
Site Rep.:

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	
SIZE	3"	24"	
HAMMER	140#	140#	---
FALL	30"	30"	---

Surface Elevation:
Station:
Groundwater level readings
Date Depth
Date Depth

Depth ft	Sample No.	Depth ft	Pen. in	Rec. in	Blows/6"	Sample Description
	S-1	0.0-2.0	24	13	3-7-8-13	S-1 Dry medium dense brown fine TOP SOIL, some Gravel
5	S-2	4.0-6.0	24	3	11-8-8-6	S-2 Wet medium dense gray coarse SAND and GRAVEL
10	S-3	9.0-11.0	24	6	4-4-6-8	S-3 Wet medium dense gray coarse SAND, little Gravel, trace Silt
15	S-4	14.0-16.0	24	14	8-10-17-12	S-4 Wet medium dense gray fine SAND, little Silt
20	S-5	19.0-21.0	24	12	23-22-17-19	S-5 Wet dense gray fine SAND
25	S-6	24.0-26.0	24	3	7-6-12-18	S-6 Wet medium dense gray fine SAND
30						Bottom of exploration at 26.0'

Ground Surface to _____ used _____ then _____

Proportions Used		Cohesive Consistency Blows/ft				Cohesionless Density Blows/ft		Sample Type
Trace	0 to 10%	0-2	Very Soft	9-15	Stiff	0-10	Loose	UP = Fixed Piston
Little	10 to 20%	3-4	Soft	16-30	V-Stiff	10-30	M-Dense	UT = Shelby Tube
Some	20 to 35%	5-8	M-Stiff	31+	Hard	30-50	Dense	OE = Open End Rod
And	35 to 50%					50+	V-Dense	* = 300# hammer

Notes:
1. The stratification lines represent the approximate boundary between soil types. The transition may be gradual.
2. Water level readings were made in the drill hole during or at the completion of drilling. The water level may fluctuate over time.

Remarks:

B: ALL 17171 GIA_ASHLAND MA GEP GEOLOGIC.DGT 11/28/17

B–8

SCALE: N.T.S.
N: 2918639
E: 676081
ELEV:160.0'

Geologic - Earth Exploration, Inc.
7 Sherwood Drive
TEL 508 384 4434
Norfolk, MA 02056
FAX 508 384 4452

CLIENT: Green International
PROJECT: Route 126 Improvements
LOCATION: Ashland, MA

BORING #: B-9
PAGE 1 OF 1

File #: 17171
Date Started: 10/23/17
Date Completed: 10/23/17
Driller: D.Jacobs
Site Rep.:

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	
SIZE	3"	24"	
HAMMER	140#	140#	---
FALL	30"	30"	---

Surface Elevation:
Station:
Groundwater level readings
Date Depth
Date Depth

Depth ft	Sample No.	Depth ft	Pen. in	Rec. in	Blows/6"	Sample Description
	S-1	0.0-2.0	24	5	2-1-3-3	S-1 Dry loose dark brown fine TOP SOIL
5	S-2	4.0-6.0	24	2	1-2-2-2	S-2 Wet loose dark brown fine SOIL, some Gravel
10	S-3	9.0-11.0	24	4	1-4-7-9	S-3 Wet medium dense gray coarse and fine SAND
15	S-4	14.0-16.0	24	0	11-10-9-10	S-4 No Recovery
20	S-5	19.0-21.0	24	24	12-17-20-17	S-5 Wet dense gray fine SAND, some Gravel
25	S-6	24.0-26.0	24	16	13-15-20-17	S-6 Wet dense gray fine SAND, some Gravel
30						Bottom of exploration at 26.0'

Ground Surface to _____ used _____ then _____

Proportions Used		Cohesive Consistency Blows/ft				Cohesionless Density Blows/ft		Sample Type
Trace	0 to 10%	0-2	Very Soft	9-15	Stiff	0-10	Loose	UP = Fixed Piston
Little	10 to 20%	3-4	Soft	16-30	V-Stiff	10-30	M-Dense	UT = Shelby Tube
Some	20 to 35%	5-8	M-Stiff	31+	Hard	30-50	Dense	OE = Open End Rod
And	35 to 50%					50+	V-Dense	* = 300# hammer

Notes:
1. The stratification lines represent the approximate boundary between soil types. The transition may be gradual.
2. Water level readings were made in the drill hole during or at the completion of drilling. The water level may fluctuate over time.

Remarks:

B: ALL 17171 GIA_ASHLAND MA GEP GEOLOGIC.DGT 11/28/17

B–9

SCALE: N.T.S.
N: 2918674
E: 676213
ELEV:158.1'

Geologic - Earth Exploration, Inc.
7 Sherwood Drive
TEL 508 384 4434
Norfolk, MA 02056
FAX 508 384 4452

CLIENT: Green International
PROJECT: Route 126 Improvements
LOCATION: Ashland, MA

BORING #: B-10
PAGE 1 OF 1

File #: 17171
Date Started: 10/26/17
Date Completed: 10/26/17
Driller: D.Jacobs
Site Rep.:

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	
SIZE	3"	24"	
HAMMER	140#	140#	---
FALL	30"	30"	---

Surface Elevation:
Station:
Groundwater level readings
Date Depth
Date Depth

Depth ft	Sample No.	Depth ft	Pen. in	Rec. in	Blows/6"	Sample Description
	S-1	0.0-2.0	24	14	18-24-24-53	S-1 Dry medium dense coarse SAND and small Gravel
5	s-2	4.0-6.0	24	8	75-100-120/2"	s-2 Moist very dense tan fine SAND and GRAVEL
10	S-3	9.0-11.0	24	7	75-120/4"	S-3 Moist very dense coarse SAND and GRAVEL
15	S-4	14.0-16.0	24	2	120/2"	S-4 Wet very dense coarse SAND and GRAVEL
20						Bottom of exploration at 16.0'
25						
30						

Ground Surface to _____ used _____ then _____

Proportions Used		Cohesive Consistency Blows/ft				Cohesionless Density Blows/ft		Sample Type
Trace	0 to 10%	0-2	Very Soft	9-15	Stiff	0-10	Loose	UP = Fixed Piston
Little	10 to 20%	3-4	Soft	16-30	V-Stiff	10-30	M-Dense	UT = Shelby Tube
Some	20 to 35%	5-8	M-Stiff	31+	Hard	30-50	Dense	OE = Open End Rod
And	35 to 50%					50+	V-Dense	* = 300# hammer

Notes:
1. The stratification lines represent the approximate boundary between soil types. The transition may be gradual.
2. Water level readings were made in the drill hole during or at the completion of drilling. The water level may fluctuate over time.

Remarks:

B: ALL 17171 GIA_ASHLAND MA GEP GEOLOGIC.DGT 11/28/17

B–10

SCALE: N.T.S.
N: 2912580
E: 674623
ELEV:254.0'

BORING NOTES:

SEE SHEET 6 FOR BORING NOTES.

massDOT Highway
Boring Log

LAMSON ENGINEERING CORPORATION
437 Cherry Street, #109, Newton, Massachusetts 02465
Phone: (617) 558-0101 E-Mail: Lamsoneng@msn.com

Boring No. HW-1B (Culvert Boring) Page 1/1
Scale: 1" = 5'

City/Town: Ashland | Bridge No.: - | Project File No.: 604123 | Contract No.: -
Location: Route 126 (Pond Street) | Date & Time Started: 12/16/19 12:00 pm | Total Hours:
Groundwater Depth (Feet): 8' | Date & Time: 12/18/19 12:00 pm | Date & Time Completed: 12/18/19 12:00 pm | 6
Coordinates: N 2,913,786* E 674,856* | Ground Elevation (Feet): 201.3' | Inspector's Name: Jun Jie Li
Drilling Company: Northern Drill Service, LLC | Driller's Name: Zach Nader | Helper's Name: Justin Raymond

Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches (Coring Times Minute Per Foot)				Recovery (inches)	Field Description	Strata Changes
							Asphalt	12"
S-1	1' - 3'	13	26	20	13	11"	Dry, dense, brown, FINE TO COARSE SAND, some fine to coarse gravel.	
S-2	4' - 6'	6	7	6	7	9"	Moist, medium dense, brown, FINE TO COARSE SAND, some fine to medium gravel.	
S-3	9' - 10'9"	16	22	43	50/3"	11"	Wet, very dense, brown-gray, FINE TO COARSE SAND, some fine to coarse gravel.	
							Roller bit to 14' and started coring.	13'
C-1	14' - 15'	3					Boulder	15'
S-4	15' - 17'	21	50	56	39	8"	Wet, very dense, brown, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL.	
S-5	19' - 19'9"	70	50/3"			6"	Wet, very dense, brown-gray, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL, trace inorganic silt.	
S-6	24' - 26'	30	29	20	25	14"	Wet, dense, brown-gray, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL.	26'
							Bottom of Exploration at 26'	

Notes: * Moved boring 12' E to as-drilled location to avoid drilling on a slope.

Light Tower: - | Signs: 4 | Cones: 12
Protective Device | Stand: - | Box: - | Well Depth: - | Solid Pipe: - | Stick Up Pipe: - | Screen Pipe: -

Penetration Resistance (N) Guide:

Cohesionless Soils (Sands, Gravels)		Cohesive Soils (Silts, Clays)	
Relative Density	Penetration Resistance	Consistency	Penetration Resistance
Very Loose	0 - 4	Very Soft	0 - 2
Loose	4 - 10	Soft	2 - 4
Medium Dense	10 - 30	Medium Stiff	4 - 8
Dense	30 - 50	Stiff	8 - 15
Very Dense	Over 50	Very Stiff	15 - 30
N=Sum of Second and Third 6" Blow Counts		Hard	Over 30

Terms Used for Second Entry of Descriptions: and = 40-50%, some = 10-40%, trace = 10% or less

Type of Drill Rig: D-25 ATV
Hammer Weight: 300lb Fall: 24"
Casing Types: HW
Size: 4"
Depth: 20'
Sampler Type: S/S Size: 1 3/8" ID
Automatic Hammer Weight: 140 lb
Safety Hammer Weight: Fall: 30"
Donut Hammer Weight:
Core Barrel Type: NX Size: 2.15" ID

HW–1B
SCALE: 3/16" = 1'–0"

massDOT Highway
Boring Log

LAMSON ENGINEERING CORPORATION
437 Cherry Street, #109, Newton, Massachusetts 02465
Phone: (617) 558-0101 E-Mail: Lamsoneng@msn.com

Boring No. HW-2 (Culvert Boring) Page 1/1
Scale: 1" = 5'

City/Town: Ashland | Bridge No.: - | Project File No.: 604123 | Contract No.: -
Location: Route 126 (Pond Street) | Date & Time Started: 12/26/19 12:00 pm | Total Hours:
Groundwater Depth (Feet): 6' | Date & Time: 12/27/19 12:00 pm | Date & Time Completed: 12/27/19 1:00 pm | 8
Coordinates: N 2,914,233* E 674,904* | Ground Elevation (Feet): 179.8' | Inspector's Name: Jun Jie Li
Drilling Company: Northern Drill Service, LLC | Driller's Name: Zach Nader | Helper's Name: Justin Raymond

Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches (Coring Times Minute Per Foot)				Recovery (inches)	Field Description	Strata Changes
							Asphalt	12"
S-1	1' - 3'	6	7	6	6	9"	Dry, medium dense, brown, FINE TO COARSE SAND, some fine to medium gravel.	
S-2	4' - 6'	11	6	6	5	3"	Moist, medium dense, brown, FINE TO COARSE SAND, trace fine to medium gravel.	
S-3	9' - 11'	30	27	26	30	8"	Wet, very dense, brown, FINE TO COARSE SAND, some fine to medium gravel.	
S-4	14' - 16'	15	16	20	30	8"	Wet, dense, brown, FINE TO COARSE SAND, some fine to coarse gravel.	19'
							Boulder	20'
S-5	20' - 22'	8	14	45	50	12"	Wet, very dense, gray-brown, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL, trace inorganic silt.	
S-6	22' - 24'	21	39	30	27	18"	Wet, very dense, gray-brown, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL, trace inorganic silt.	24'
							Bottom of Exploration at 24'	

Notes: * Moved boring 34'W to as-drilled location to avoid drilling on a slope and being too close to the gas line.

Light Tower: - | Signs: 4 | Cones: 12
Protective Device | Stand: - | Box: - | Well Depth: - | Solid Pipe: - | Stick Up Pipe: - | Screen Pipe: -

Penetration Resistance (N) Guide:

Cohesionless Soils (Sands, Gravels)		Cohesive Soils (Silts, Clays)	
Relative Density	Penetration Resistance	Consistency	Penetration Resistance
Very Loose	0 - 4	Very Soft	0 - 2
Loose	4 - 10	Soft	2 - 4
Medium Dense	10 - 30	Medium Stiff	4 - 8
Dense	30 - 50	Stiff	8 - 15
Very Dense	Over 50	Very Stiff	15 - 30
N=Sum of Second and Third 6" Blow Counts		Hard	Over 30

Terms Used for Second Entry of Descriptions: and = 40-50%, some = 10-40%, trace = 10% or less

Type of Drill Rig: D-25 ATV
Hammer Weight: 300lb Fall: 24"
Casing Types: HW NW
Size: 4" 3"
Depth: 16' 20'
Sampler Type: S/S Size: 1 3/8" ID
Automatic Hammer Weight: 140 lb
Safety Hammer Weight: Fall: 30"
Donut Hammer Weight:
Core Barrel Type: - Size: -

HW–2
SCALE: 3/16" = 1'–0"

massDOT Highway
Boring Log

LAMSON ENGINEERING CORPORATION
437 Cherry Street, #109, Newton, Massachusetts 02465
Phone: (617) 558-0101 E-Mail: Lamsoneng@msn.com

Boring No. HW-3B (Culvert Boring) Page 1/1
Scale: 1" = 5'

City/Town: Ashland | Bridge No.: - | Project File No.: 604123 | Contract No.: -
Location: Route 126 (Pond Street) | Date & Time Started: 12/16/19 10:00 am | Total Hours:
Groundwater Depth (Feet): 7' | Date & Time: 12/16/19 12:00 pm | Date & Time Completed: 12/16/19 12:00 pm | 2
Coordinates: N 2,917,962* E 675,673* | Ground Elevation (Feet): 161.0' | Inspector's Name: Jun Jie Li
Drilling Company: Northern Drill Service, LLC | Driller's Name: Zach Nader | Helper's Name: Justin Raymond

Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches (Coring Times Minute Per Foot)				Recovery (inches)	Field Description	Strata Changes
							Asphalt	12"
S-1	1' - 3'	14	21	20	10	11"	Dry, dense, brown-gray, FINE TO COARSE SAND, some fine to coarse gravel.	4'
S-2	4' - 6'	3	2	2	2	16"	Dry, loose, brown, FINE SAND AND ORGANIC SILT, trace wood pieces	7'
S-3	9' - 11'	5	8	9	9	13"	Wet, medium dense, gray, FINE SAND.	
S-4	14' - 16'	5	4	3	4	12"	Wet, loose, gray, FINE SAND.	
S-5	19' - 21'	4	5	5	6	14"	Wet, medium dense, gray, FINE SAND.	
S-6	24' - 26'	6	6	6	6	14"	Wet, medium dense, gray, FINE SAND.	26'
							Bottom of Exploration at 26'	

Notes: * Moved boring 13'E to as-drilled location to avoid drilling on a slope.

Light Tower: - | Signs: 4 | Cones: 12
Protective Device | Stand: - | Box: - | Well Depth: - | Solid Pipe: - | Stick Up Pipe: - | Screen Pipe: -

Penetration Resistance (N) Guide:

Cohesionless Soils (Sands, Gravels)		Cohesive Soils (Silts, Clays)	
Relative Density	Penetration Resistance	Consistency	Penetration Resistance
Very Loose	0 - 4	Very Soft	0 - 2
Loose	4 - 10	Soft	2 - 4
Medium Dense	10 - 30	Medium Stiff	4 - 8
Dense	30 - 50	Stiff	8 - 15
Very Dense	Over 50	Very Stiff	15 - 30
N=Sum of Second and Third 6" Blow Counts		Hard	Over 30

Terms Used for Second Entry of Descriptions: and = 40-50%, some = 10-40%, trace = 10% or less

Type of Drill Rig: D-25 ATV
Hammer Weight: 300lb Fall: 24"
Casing Types: HW
Size: 4"
Depth: 10'
Sampler Type: S/S Size: 1 3/8" ID
Automatic Hammer Weight: 140 lb
Safety Hammer Weight: Fall: 30"
Donut Hammer Weight:
Core Barrel Type: - Size: -

HW–3B
SCALE: 3/16" = 1'–0"

BORING NOTES:

SEE SHEET 6 FOR BORING NOTES.

604123_HD06(BORING LOGS).DWG Plotted on 21-Mar-2019 9:58 AM
F:\Projects\2013\13033\13033.dv - ashland route 126\604123\DWG\604123_HD06(Boring Logs)

ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	12	331
PROJECT FILE NO.	604123		

BORING LOGS 7 OF 7

massDOT Highway
Boring Log

LAMSON ENGINEERING CORPORATION
437 Cherry Street, #109, Newton, Massachusetts 02465
Phone: (617) 558-0101 E-Mail: Lamsoneng@msn.com

Boring No. HW-4 (Culvert Boring) — Page 1/1
Scale: 1" = 5'

City/Town: Ashland	Bridge No.: -	Project File No.: 604123	Contract No.: - -
Location: Route 126 (Pond Street)		Date & Time Started: 12/26/19 8:30 am	Total Hours:
Groundwater Depth (Feet): 8'	Date & Time: 12/26/19 12:00 pm	Date & Time Completed: 12/26/19 12:00 pm	3.5
Coordinates: N 2,918,730" E 676,225"	Ground Elevation (Feet): 160.1'	Inspector's Name: Jun Jie Li	
Drilling Company: Northern Drill Service, LLC	Driller's Name: Zach Nader	Helper's Name: Justin Raymond	

Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches: Coring Times Minute Per Foot				Recovery (inches)	Field Description	Strata Changes
							Asphalt	12"
S-1	1' - 3'	13	21	20	18	13"	Dry, dense, brown, FINE TO COARSE SAND, some fine to medium gravel.	
S-2	4' - 6'	6	4	4	3	9"	Moist, loose, brown, FINE TO COARSE SAND, trace fine to medium gravel.	8'
S-3	9' - 11'	4	3	3	4	8"	Wet, loose, gray, FINE TO COARSE SAND.	
S-4	14' - 16'	2	3	3	4	0"	No Recovery, 2nd attempt.	
S-5	19' - 21'	3	3	4	7	15"	Wet, loose, gray, FINE TO COARSE SAND.	21'
S-6	24' - 26'	3	3	3	3	0"	No Recovery, 2nd attempt.	
S-7	29' - 31'	4	5	5	6	20"	Wet, medium dense, gray, FINE SAND.	31'
							Bottom of Exploration at 31'	

Notes: * Moved boring 18.5'W to as-drilled location to avoid drilling on a slope and being too close to the gas line.

Light Tower: - Signs: 4 Cones: 12
Protective Device Stand: - Box: - Well Depth: - Solid Pipe: - Stick Up Pipe: - Screen Pipe: -

Penetration Resistance (N) Guide:

Cohesionless Soils (Sands, Gravels)		Cohesive Soils (Silts, Clays)	
Relative Density	Penetration Resistance	Consistency	Penetration Resistance
Very Loose	0 - 4	Very Soft	0 - 2
Loose	4 - 10	Soft	2 - 4
Medium Dense	10 - 30	Medium Stiff	4 - 8
Dense	30 - 50	Stiff	8 - 15
Very Dense	Over 50	Very Stiff	15 - 30
N=Sum of Second and Third 6" Blow Counts		Hard	Over 30

Terms Used for Second Entry of Descriptions: and = 40-50%, some = 10-40%, trace = 10% or less

Type of Drill Rig: D-25 ATV
Hammer Weight: 300lb Fall: 24"
Casing Types: HW
Size: 4"
Depth: 25'
Sampler Type: S/S Size: 1 3/8" ID
Automatic Hammer Weight: 140 lb
Safety Hammer Weight: Fall: 30"
Donut Hammer Weight:
Core Barrel Type: - Size: -

HW-4
SCALE: 3/16" = 1'-0"

BORING NOTES:

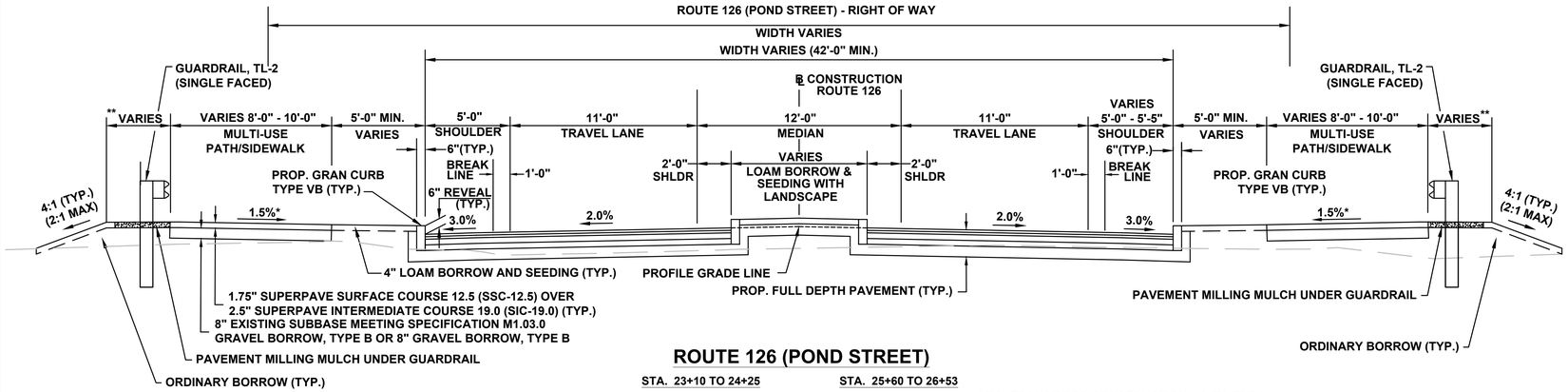
SEE SHEET 6 FOR BORING NOTES.

Plotted on 21-Mar-2018 9:58 AM
604123_HD06(BORING LOGS).DWG
F:\Projects\2013\13033\13033.04a - ashland route 126\604123\DWG\604123_HD06(Boring Logs)

ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	13	331
PROJECT FILE NO.	604123		

TYPICAL SECTION 1



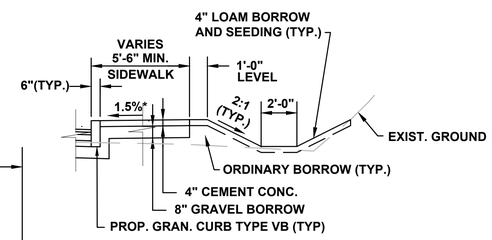
ROUTE 126 (POND STREET)

STA. 23+10 TO 24+25 STA. 25+60 TO 26+53

SCALE: 1"=4'

* TOLERANCE FOR CONSTRUCTION ± 0.5% (TYP.)

**SEE GUARD BENCH AND EMBANKMENT SLOPE TABLE ON TYPICAL SECTION 3

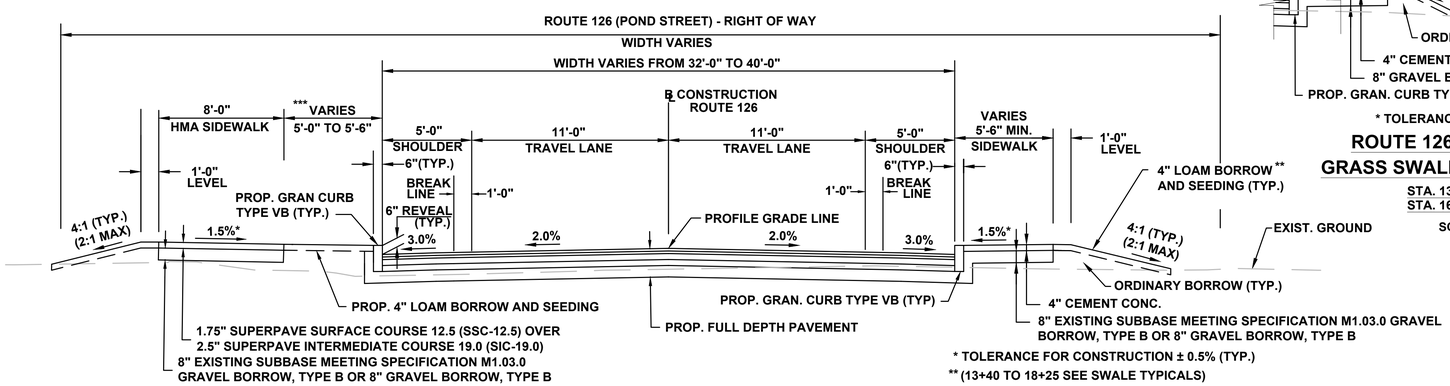


* TOLERANCE FOR CONSTRUCTION ± 0.5% (TYP.)

ROUTE 126 (POND STREET)
GRASS SWALE TYPICAL SECTION

STA. 13+40 - 15+50 RT
STA. 16+00 - 17+85 RT

SCALE: 1"=4'

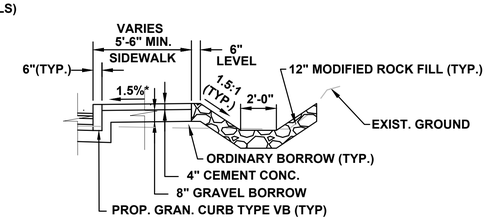


* TOLERANCE FOR CONSTRUCTION ± 0.5% (TYP.)
** (13+40 TO 18+25 SEE SWALE TYPICALS)

ROUTE 126 (POND STREET)

STA. 11+20 TO 23+10 STA. 81+23 TO 84+05
*** BUFFER 5'-6" *** BUFFER 5'-0"

SCALE: 1"=4'

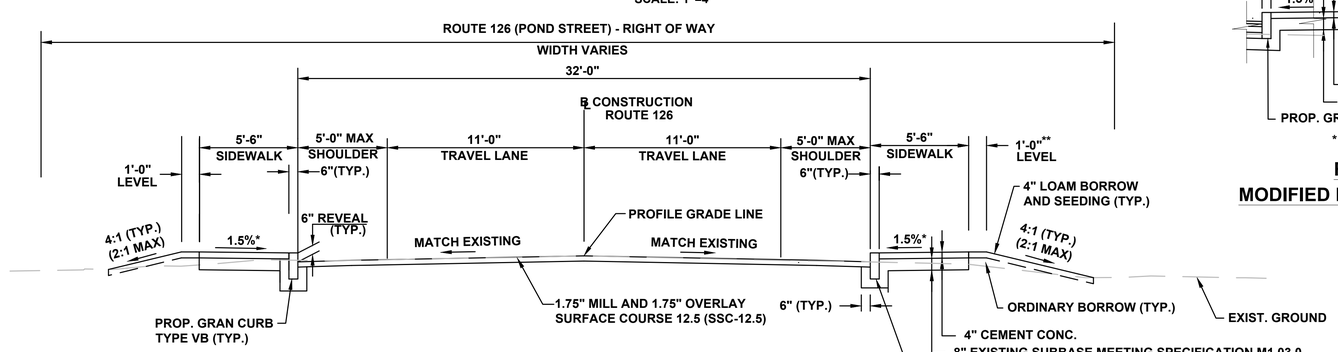


* TOLERANCE FOR CONSTRUCTION ± 0.5% (TYP.)

ROUTE 126 (POND STREET)
MODIFIED ROCK FILL SWALE TYPICAL SECTION

STA. 15+50 - 16+00 RT
STA. 17+85 - 18+25 RT

SCALE: 1"=4'



* TOLERANCE FOR CONSTRUCTION ± 0.5% (TYP.)
** 6" WIDE BENCH STA 10+00 RT TO STA 11+00 RT

ROUTE 126 (POND STREET)

STA. 9+83.98 TO 11+20

SCALE: 1"=4'

PAVEMENT NOTES

PROPOSED FULL DEPTH PAVEMENT AND BOX WIDENING

SURFACE: 1.75" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER ASPHALT EMULSION FOR TACK COAT (RS-1) AT 0.08 GAL/SY OVER 2.5" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0) ASPHALT EMULSION FOR TACK COAT (RS-1) AT 0.08 GAL/SY OVER

BASE: 4.5" SUPERPAVE BASE COURSE 37.5 (SBC-37.5) PLACED IN ONE COURSE.

SUBBASE: 4" DENSE GRADED CRUSHED STONE SUBBASE FOR LEVELING OVER EXISTING SUBBASE MEETING SPECIFICATION M1.03.0 GRAVEL BORROW, TYPE B OR 8" GRAVEL BORROW, TYPE B

PROPOSED PAVEMENT MICROMILLING & PAVEMENT RESURFACING

SURFACE: 1.75" PAVEMENT MICROMILLING

TO MEET PROPOSED GRADING
1.75" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER ASPHALT EMULSION FOR TACK COAT (RS-1) AT 0.09 GAL/SY OVER MILLED SURFACE

PROPOSED HOT MIX ASPHALT MULTI-USE PATH / HOT MIX ASPHALT WALK

SURFACE: 1.75" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER ASPHALT EMULSION FOR TACK COAT (RS-1) AT 0.08 GAL/SY OVER 2.5" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0)

SUBBASE: 8" EXISTING SUBBASE MEETING SPECIFICATION M1.03.0 GRAVEL BORROW, TYPE B OR 8" GRAVEL BORROW, TYPE B

PROPOSED CEMENT CONCRETE WALK/ WHEELCHAIR RAMP

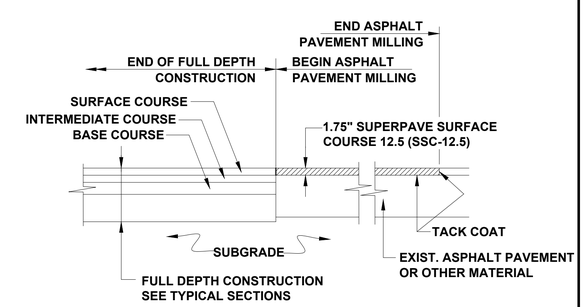
SURFACE: 4" CEMENT CONCRETE

SUBBASE: 8" EXISTING SUBBASE MEETING SPECIFICATION M1.03.0 GRAVEL BORROW, TYPE B OR 8" GRAVEL BORROW, TYPE B

PROPOSED HMA DRIVEWAY AND SLOPE PAVING

SURFACE: 1.75" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER ASPHALT EMULSION FOR TACK COAT (RS-1) AT 0.08 GAL/SY OVER 2.5" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0)

SUBBASE: 8" EXISTING SUBBASE MEETING SPECIFICATION M1.03.0 GRAVEL BORROW, TYPE B OR 8" GRAVEL BORROW, TYPE B



TYPICAL TRANSITION DETAIL

NOT TO SCALE

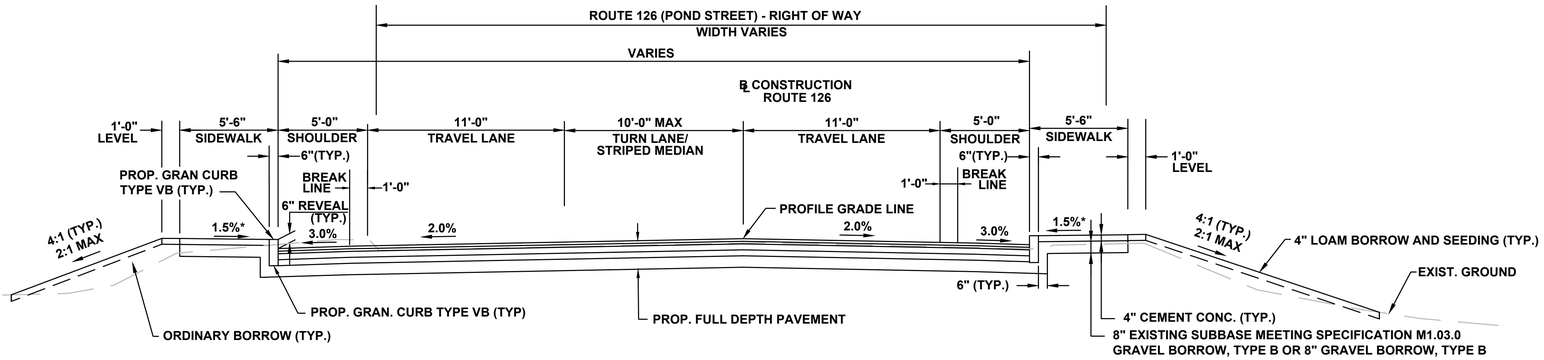
604123_HD07(TYP-SECTIONS).DWG 6-Dec-2017

ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	14	331
PROJECT FILE NO.	604123		

TYPICAL SECTION 2

604123_HD07(TYP-SECTIONS).DWG 6-Dec-2017



ROUTE 126 (POND STREET)

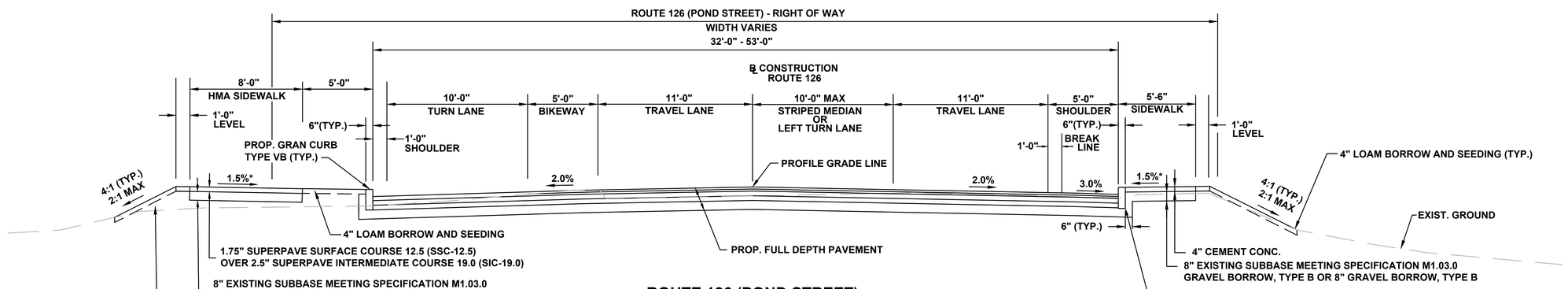
STA. 26+53 TO 31+42**
STA. 49+90 TO 57+57***
STA. 67+94 TO 73+30
STA. 86+76 TO 89+36**
STA. 91+63 TO 92+48**

SCALE: 1"=4'

* TOLERANCE FOR CONSTRUCTION ± 0.5% (TYP.)

**HAS 10' HMA MULTI-USE PATH WITH GRASS BUFFER OR 8' HMA SIDEWALK WITH GRASS BUFFER ON LEFT SIDE INSTEAD OF SIDEWALK. SEE CONSTRUCTION PLANS.

***52+33 TO 53+57 HAS 10' LEFT SHOULDER FOR BUS STOP
***54+41 TO 55+21 HAS 10' RIGHT SHOULDER FOR BUS STOP



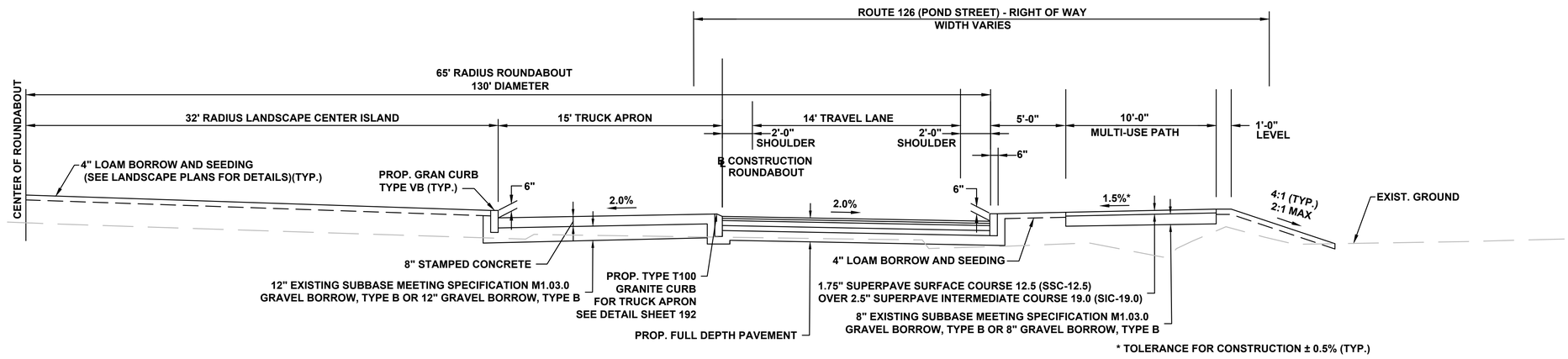
ROUTE 126 (POND STREET)

STA. 31+42 TO 35+16**
STA. 84+05 TO 86+76
STA. 89+36 TO 91+63**

SCALE: 1"=4'

**HAS 5'-6" CEM CONC SIDEWALK ON LEFT SIDE INSTEAD OF 8' HMA SIDEWALK WITH GRASS BUFFER

* TOLERANCE FOR CONSTRUCTION ± 0.5% (TYP.)



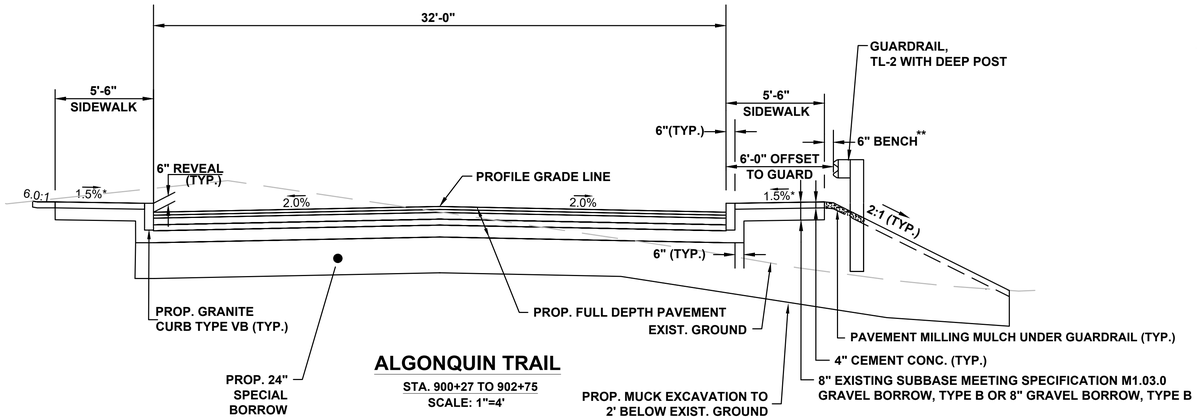
* TOLERANCE FOR CONSTRUCTION ± 0.5% (TYP.)

TYPICAL ROUNDABOUT SECTION

STA. 24+25 TO 25+60
SCALE: 1"=4'

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	15	331
PROJECT FILE NO.	604123		

TYPICAL SECTION 3



ALGONQUIN TRAIL

STA. 900+27 TO 902+75
SCALE: 1"=4'

* TOLERANCE FOR CONSTRUCTION ± 0.5% (TYP.)

**6" WIDE 10% BENCH AT BACK OF WALK

GUARD BENCH AND EMBANKMENT SLOPE TABLE

LEFT SIDE					RIGHT SIDE				
STA	STA	BENCH	SLOPE (TYP.)	POST DEPTH	STA	STA	BENCH	SLOPE (TYP.)	POST DEPTH
*399+13	399+61	1'-0"	2:1	8'-0"	35+88	37+00	3'-7"	2:1	8'-0"
*31+33	34+77	1'-0"	2:1	8'-0"	37+00	37+60	6"	2:1	8'-0"
37+10	38+05	6"	2:1	8'-0"	37+60	37+88	3'-7"	2:1	8'-0"
54+48	58+51	6"	2:1	8'-0"	41+78	43+96	6"	2:1	8'-0"
70+60	71+60	3'-7"	2:1	8'-0"	64+50	65+89	6"	2:1	8'-0"
71+60	74+50	6"	2:1	8'-0"	72+38	76+05	6"	2:1	8'-0"
74+50	80+55	1'-0"	**1.5:1	9'-0"	76+05	80+60	1'-0"	**1.5:1	9'-0"
80+55	81+22	3'-7"	2:1	8'-0"	80+60	81+70	3'-7"	2:1	8'-0"
					85+50	86+75	3'-7"	2:1	8'-0"
					86+75	90+10	6"	2:1	8'-0"
					90+10	90+51	6"	2:1	8'-0"
					*900+40	902+15	6"	2:1	8'-0"

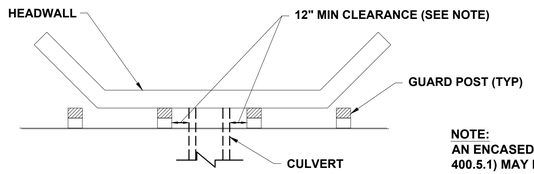
*ROADWAY IN CUT SECTION, GUARDRAIL ALONG PARKING LOT AT TOP OF SLOPE

**MODIFIED ROCKFILL

*ALGONQUIN TRAIL

**MODIFIED ROCKFILL

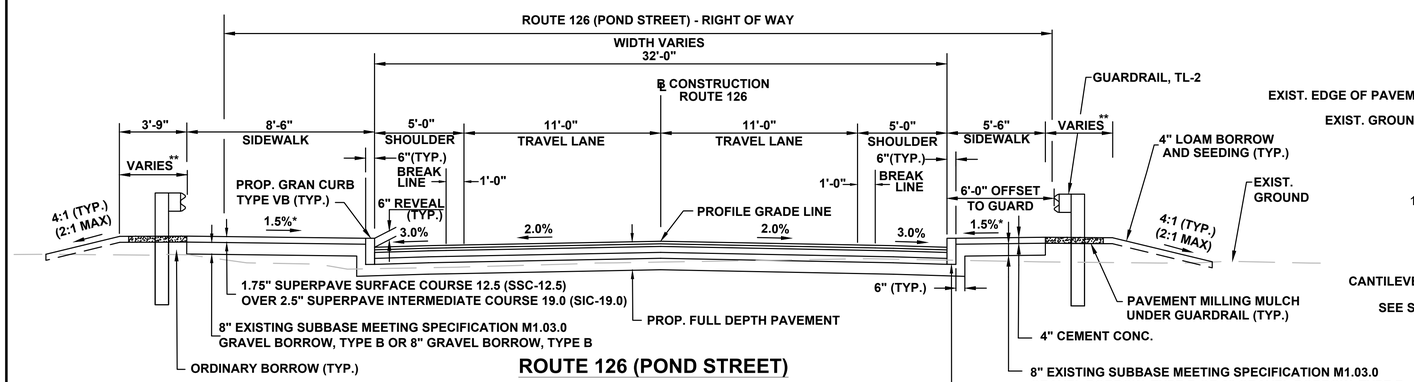
NOTES
1. BENCH 10:1 SLOPE MAX
2. BENCH WIDTH MEASURED FROM BACK OF WALK TO INTERCEPT OF BENCH AND EMBANKMENT SLOPES
3. FACE OF GUARD TO BE SET 6'-0" FROM FACE OF CURB OR AT BACK OF WALK, WHICHEVER IS GREATER



GUARD POST CLEARANCE AT CULVERTS

NOT TO SCALE

NOTE:
AN ENCASED POST FOR SHALLOW MOUNT (MASSDOT STD. 400.5.1) MAY BE USED IN PLACE OF A FULL GUARD POST, AS NEEDED, TO MAINTAIN MINIMUM CLEARANCE AT CULVERT.

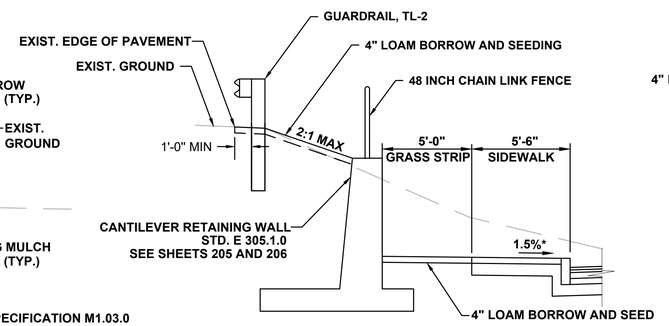


** SEE GUARD BENCH AND EMBANKMENT SLOPE TABLE

ROUTE 126 (POND STREET)

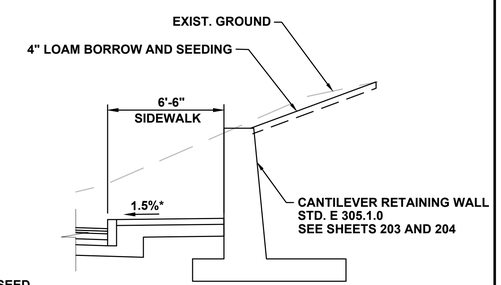
STA. 77+72 TO 81+23
SCALE: 1"=4'

* TOLERANCE FOR CONSTRUCTION ± 0.5% (TYP.)



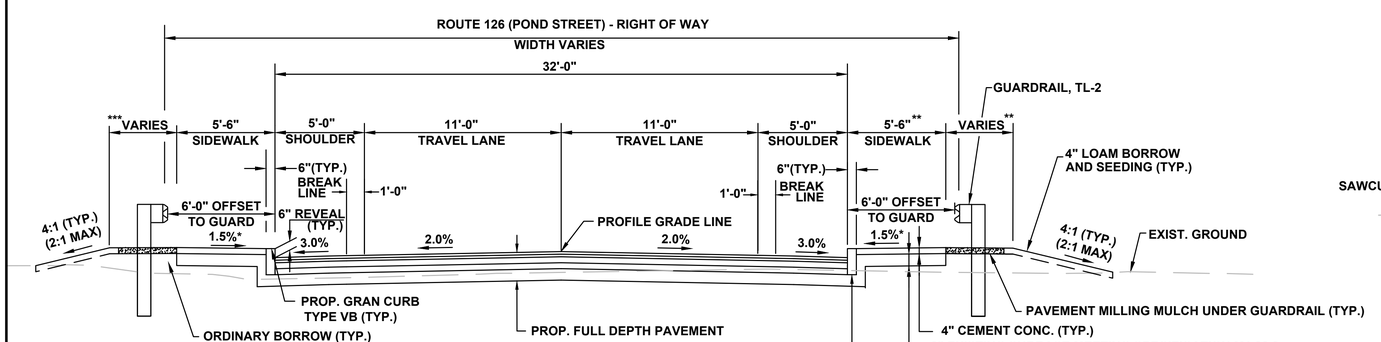
RETAINING WALL

STA. 32+15 TO 34+90 LT
SCALE: 1"=4'



RETAINING WALL

STA. 18+85.13 TO 21+33.13 RT
SCALE: 1"=4'

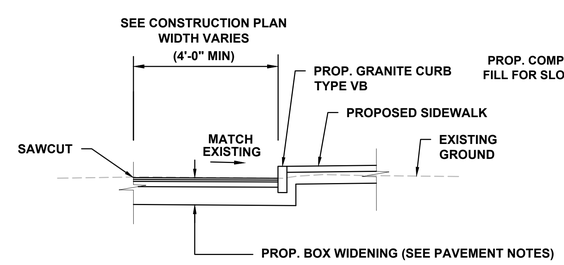


***SEE GUARD BENCH AND EMBANKMENT SLOPE TABLE
GUARDRAIL IS NOT PROPOSED FROM 92+48 TO 100+50

ROUTE 126 (POND STREET)

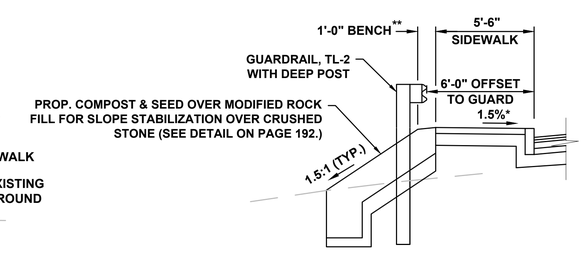
STA. 35+16 TO 49+90 STA. 73+30 TO 77+72
STA. 57+57 TO 67+94 STA. 92+48 TO 100+94
SCALE: 1"=4'

* TOLERANCE FOR CONSTRUCTION ± 0.5% (TYP.)
** RIGHT SIDEWALK IS 6'-0" WIDE FROM STATION 94+02 TO NORTHERN LIMIT OF PROJECT



ROUTE 126 (POND STREET)
BOX WIDENING TYPICAL SECTION

STA. 10+00 TO 12+41 RT
NOT TO SCALE



ROUTE 126 (POND STREET)
SLOPES AT WETLANDS TYPICAL SECTION

STA. 74+50 - 80+55 LT STA. 76+05 - 80+60 RT***
SCALE: 1"=4'

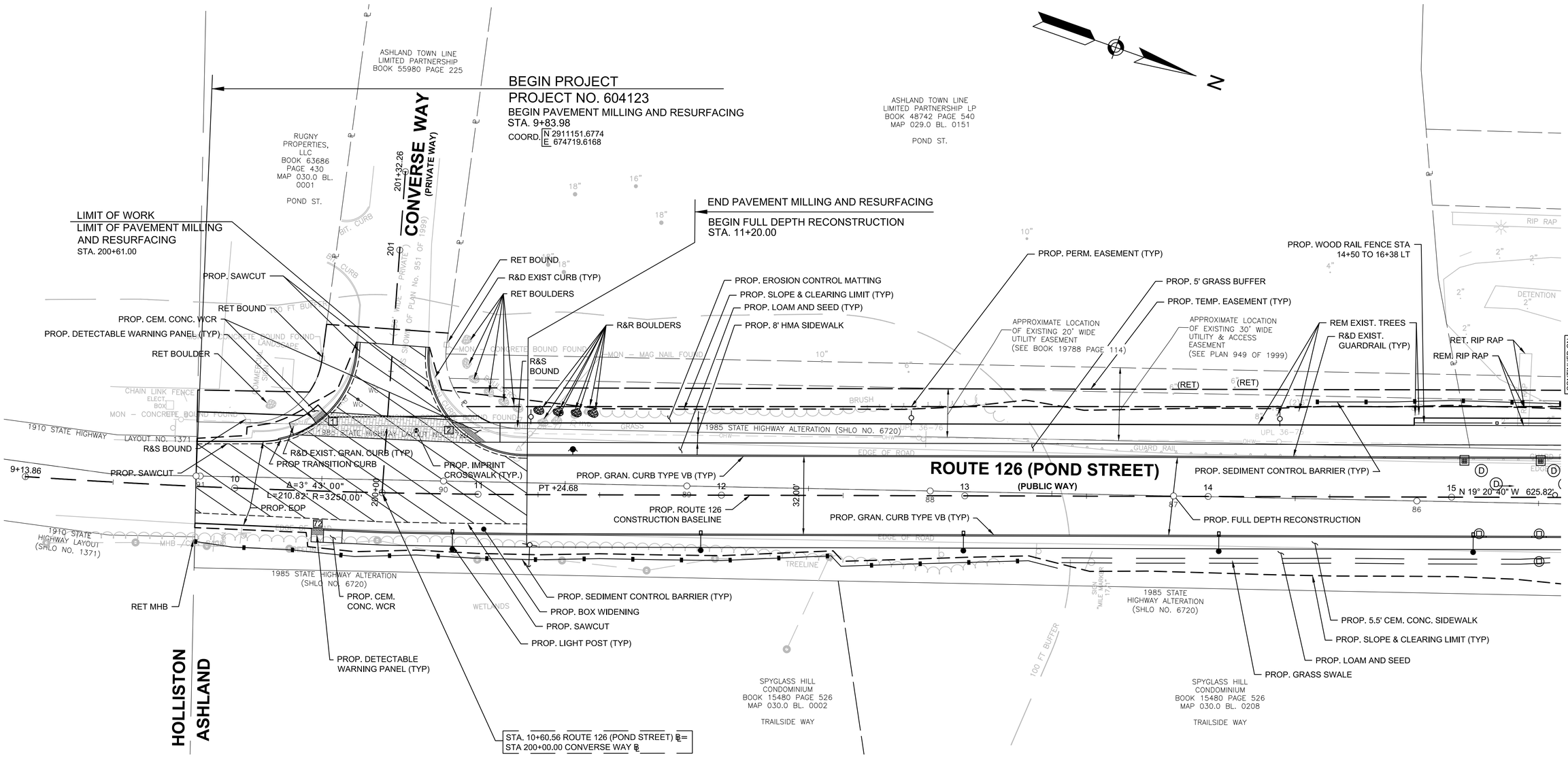
*TOLERANCE FOR CONSTRUCTION ± 0.5% (TYP.)
**1' WIDE 10% BENCH AT BACK OF WALK
***MIRROR TYPICAL FOR RIGHT SIDE

HIGHWAY GUARD DETAILS	TRAFFIC SIGNAL CONDUIT	WATER SUPPLY ALTERATIONS	DRAINAGE DETAILS
NONE	NONE	SEE SHEET NO. 94	SEE SHEET NO. 94

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	16	331
PROJECT FILE NO.	604123		

CONSTRUCTION PLANS (1 OF 17)



FOR PROFILE:
SEE SHEET NO. 33

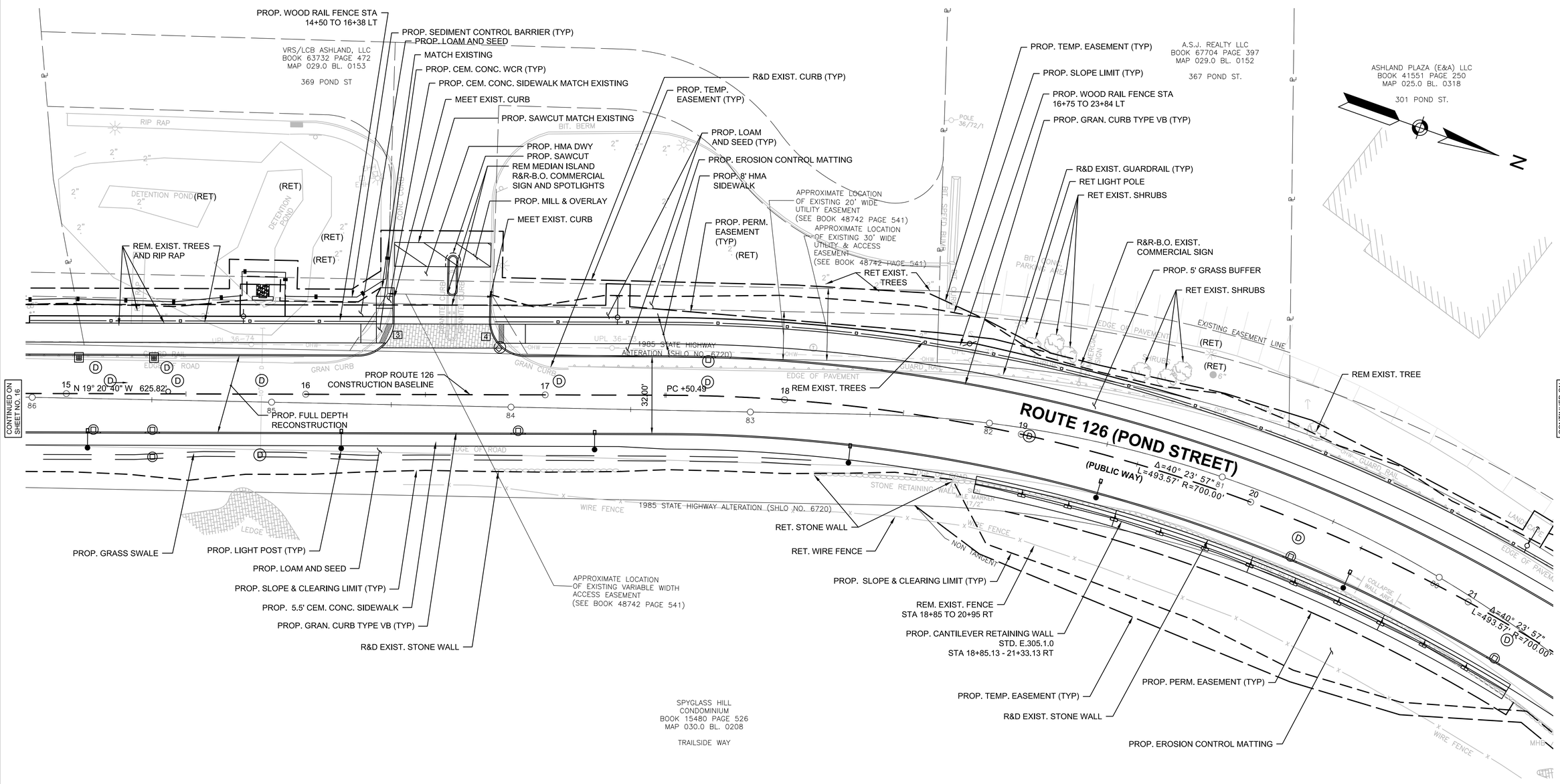
604123_HD08(CONSTRUCTION PLANS).DWG Plotted on 24-Jun-2020 1:32 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	17	331
PROJECT FILE NO.	604123		

CONSTRUCTION PLANS (2 OF 17)

HIGHWAY GUARD DETAILS	TRAFFIC SIGNAL CONDUIT	WATER SUPPLY ALTERATIONS	DRAINAGE DETAILS
NONE	NONE	NONE	SEE SHEET NO. 95



FOR PROFILE:
SEE SHEET NO. 34

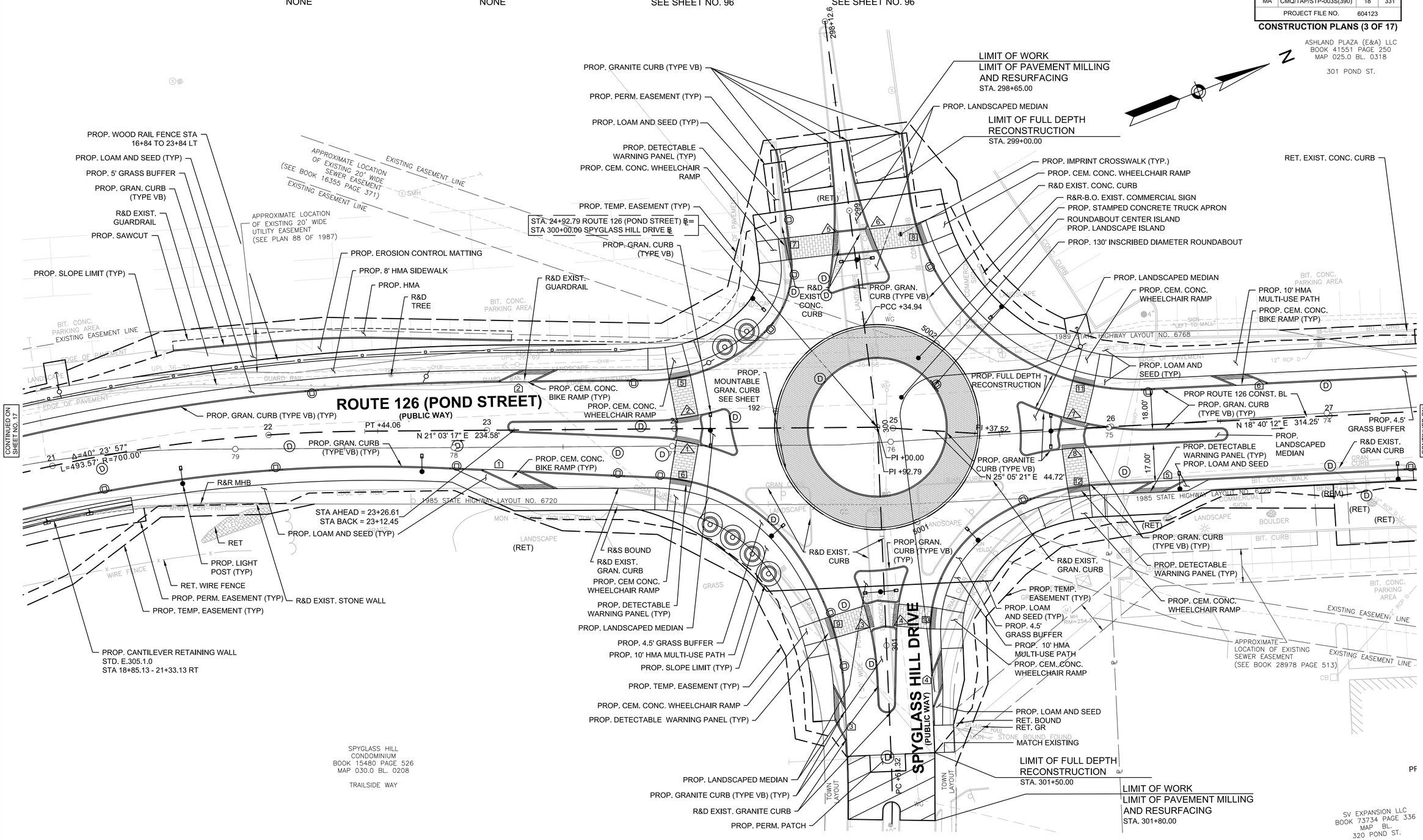
604123_HD08(CONSTRUCTION PLANS).DWG Plotted on 24-Jun-2020 1:32 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	18	331
PROJECT FILE NO.	604123		

CONSTRUCTION PLANS (3 OF 17)

HIGHWAY GUARD DETAILS	TRAFFIC SIGNAL CONDUIT	WATER SUPPLY ALTERATIONS	DRAINAGE DETAILS
NONE	NONE	SEE SHEET NO. 96	SEE SHEET NO. 96



FOR PROFILE:
SEE SHEET NO. 35 & 50

604123_HD08(CONSTRUCTION PLANS).DWG Plotted on 24-Jun-2020 1:32 PM

CONFORMS TO ADDENDUM NO. 5, AUGUST 27, 2020

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	19	331
PROJECT FILE NO.	604123		

CONSTRUCTION PLANS (4 OF 17)

*HIGHWAY GUARD DETAILS

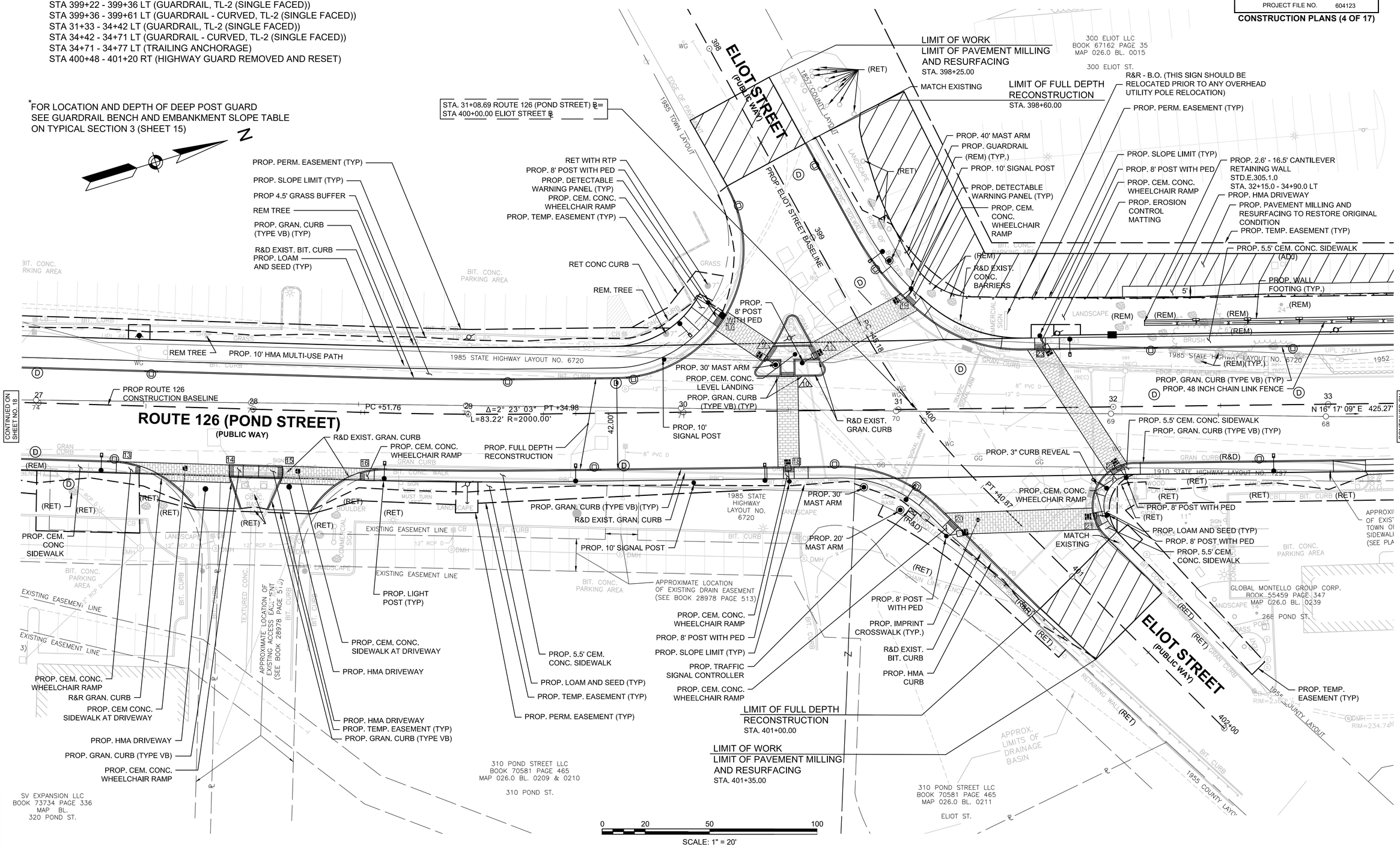
STA 399+13 - 399+22 LT (TRAILING ANCHORAGE)
STA 399+22 - 399+36 LT (GUARDRAIL, TL-2 (SINGLE FACED))
STA 399+36 - 399+61 LT (GUARDRAIL - CURVED, TL-2 (SINGLE FACED))
STA 31+33 - 34+42 LT (GUARDRAIL, TL-2 (SINGLE FACED))
STA 34+42 - 34+71 LT (GUARDRAIL - CURVED, TL-2 (SINGLE FACED))
STA 34+71 - 34+77 LT (TRAILING ANCHORAGE)
STA 400+48 - 401+20 RT (HIGHWAY GUARD REMOVED AND RESET)

TRAFFIC SIGNAL CONDUIT
SEE SHEET NO. 134

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 97

DRAINAGE DETAILS
SEE SHEET NO. 97

*FOR LOCATION AND DEPTH OF DEEP POST GUARD SEE GUARDRAIL BENCH AND EMBANKMENT SLOPE TABLE ON TYPICAL SECTION 3 (SHEET 15)



FOR PROFILE:
SEE SHEET NO. 36 & 51

604123_HD08(CONSTRUCTION PLANS).DWG Plotted on 10-Sep-2020 2:17 PM

CONFORMS TO ADDENDUM NO. 5, AUGUST 27, 2020

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	20	331
PROJECT FILE NO.	604123		

CONSTRUCTION PLANS (5 OF 17)

*HIGHWAY GUARD DETAILS

STA 31+33 - 34+42 LT (GUARDRAIL, TL-2 (SINGLE FACED))
STA 34+42 - 34+71 LT (GUARDRAIL - CURVED, TL-2 (SINGLE FACED))
STA 34+71 - 34+77 LT (TRAILING ANCHORAGE)
STA 35+88 - 36+25 RT (GUARDRAIL TANGENT END TREATMENT, TL-2)
STA 36+25 - 37+78 RT (GUARDRAIL, TL-2 (SINGLE FACED))
STA 37+78 - 37+88 RT (TRAILING ANCHORAGE)
STA 37+10 - 37+19 LT (TRAILING ANCHORAGE)
STA 37+19 - 37+67 LT (GUARDRAIL, TL-2 (SINGLE FACED))
STA 37+67 - 38+05 LT (GUARDRAIL TANGENT END TREATMENT, TL-2)

TRAFFIC SIGNAL CONDUIT

NONE

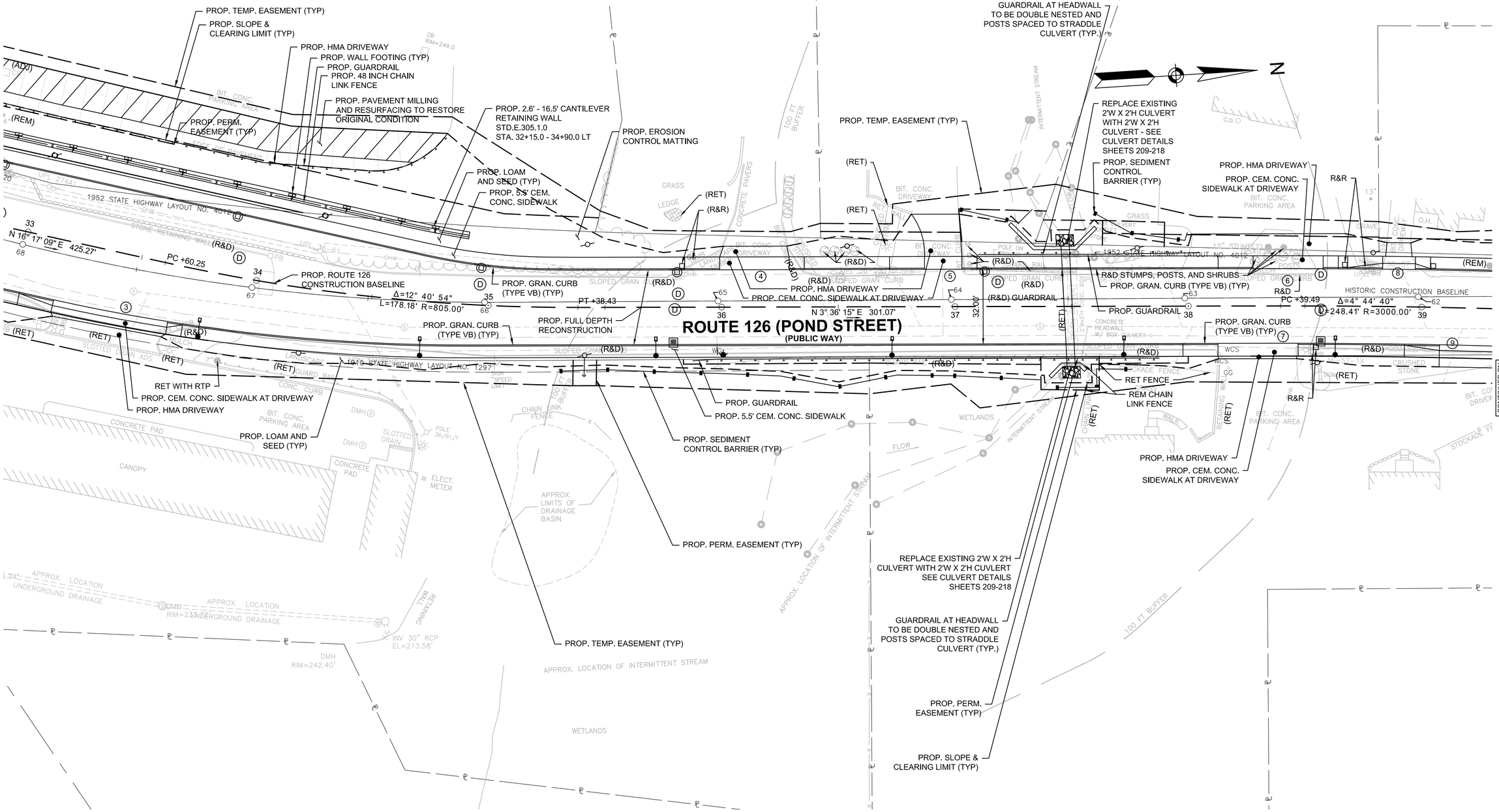
WATER SUPPLY ALTERATIONS

SEE SHEET NO. 98

DRAINAGE DETAILS

SEE SHEET NO. 98

*FOR LOCATION AND DEPTH OF DEEP POST GUARD SEE GUARDRAIL BENCH AND EMBANKMENT SLOPE TABLE ON TYPICAL SECTION 3 (SHEET 15)



NOTE:
ROAD AT STA. 37+48 IS EXPECTED TO BE COVERED BY STEEL PLATES DURING NON-WORK HOURS.

FOR PROFILE:
SEE SHEET NO. 37

604123_HD08(CONSTRUCTION PLANS).DWG Plotted on 10-Sep-2020 2:20 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	21	331
PROJECT FILE NO.	604123		

CONSTRUCTION PLANS (6 OF 17)

*HIGHWAY GUARD DETAILS

STA 41+78 RT (TIE IN EXISTING)
STA 41+78 - 41+89 RT (GUARDRAIL - CURVED, TL-2 (SINGLE FACED))
STA 41+89 - 43+87 RT (GUARDRAIL, TL-2 (SINGLE FACED))
STA 43+87 - 43+96 RT (TRAILING ANCHORAGE)

*FOR LOCATION AND DEPTH OF DEEP POST GUARD SEE GUARDRAIL BENCH AND EMBANKMENT SLOPE TABLE ON TYPICAL SECTION 3 (SHEET 15)

TRAFFIC SIGNAL CONDUIT

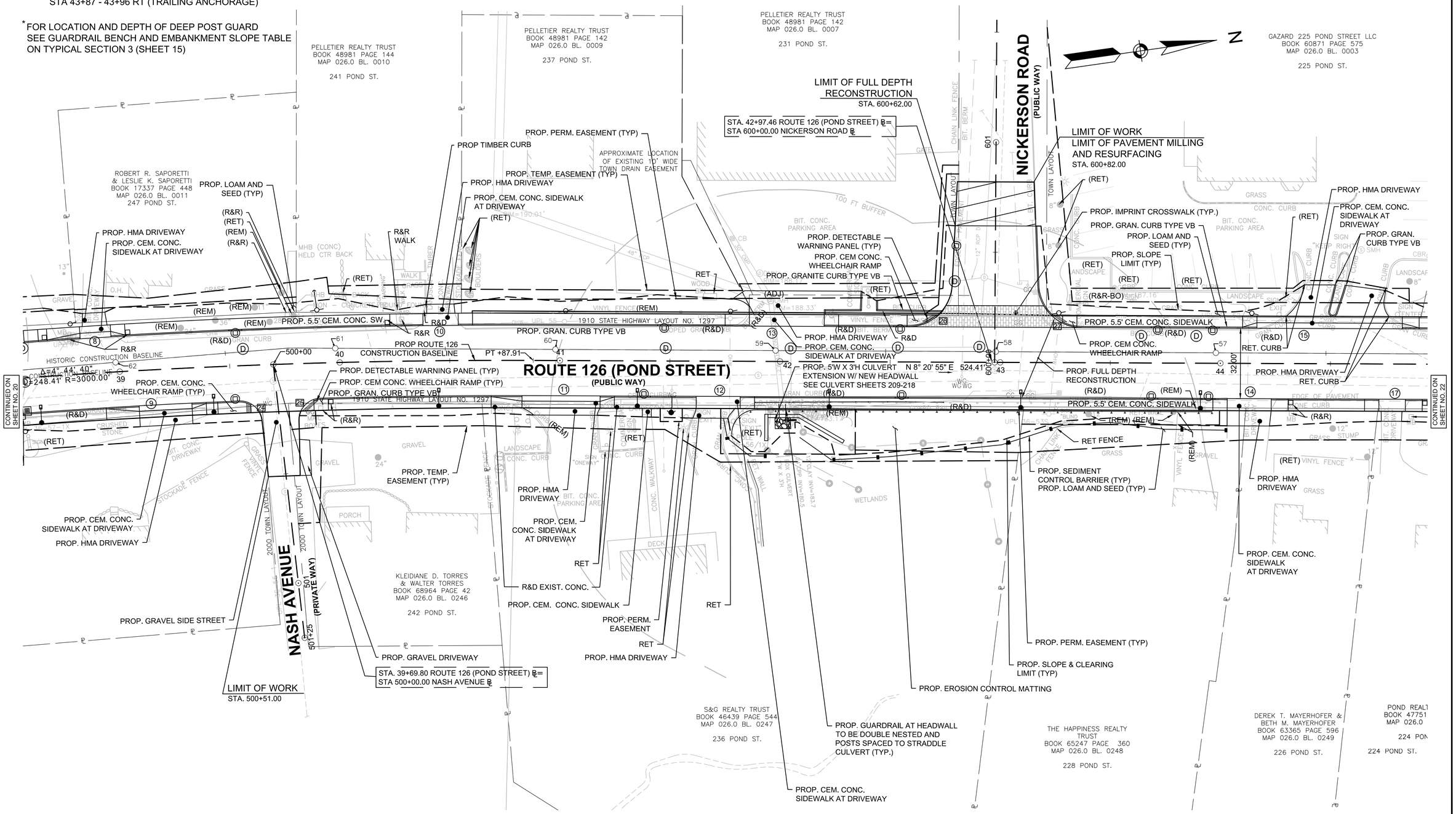
NONE

WATER SUPPLY ALTERATIONS

SEE SHEET NO. 99

DRAINAGE DETAILS

SEE SHEET NO. 99



FOR PROFILE:
SEE SHEET NO. 38, 52, 53

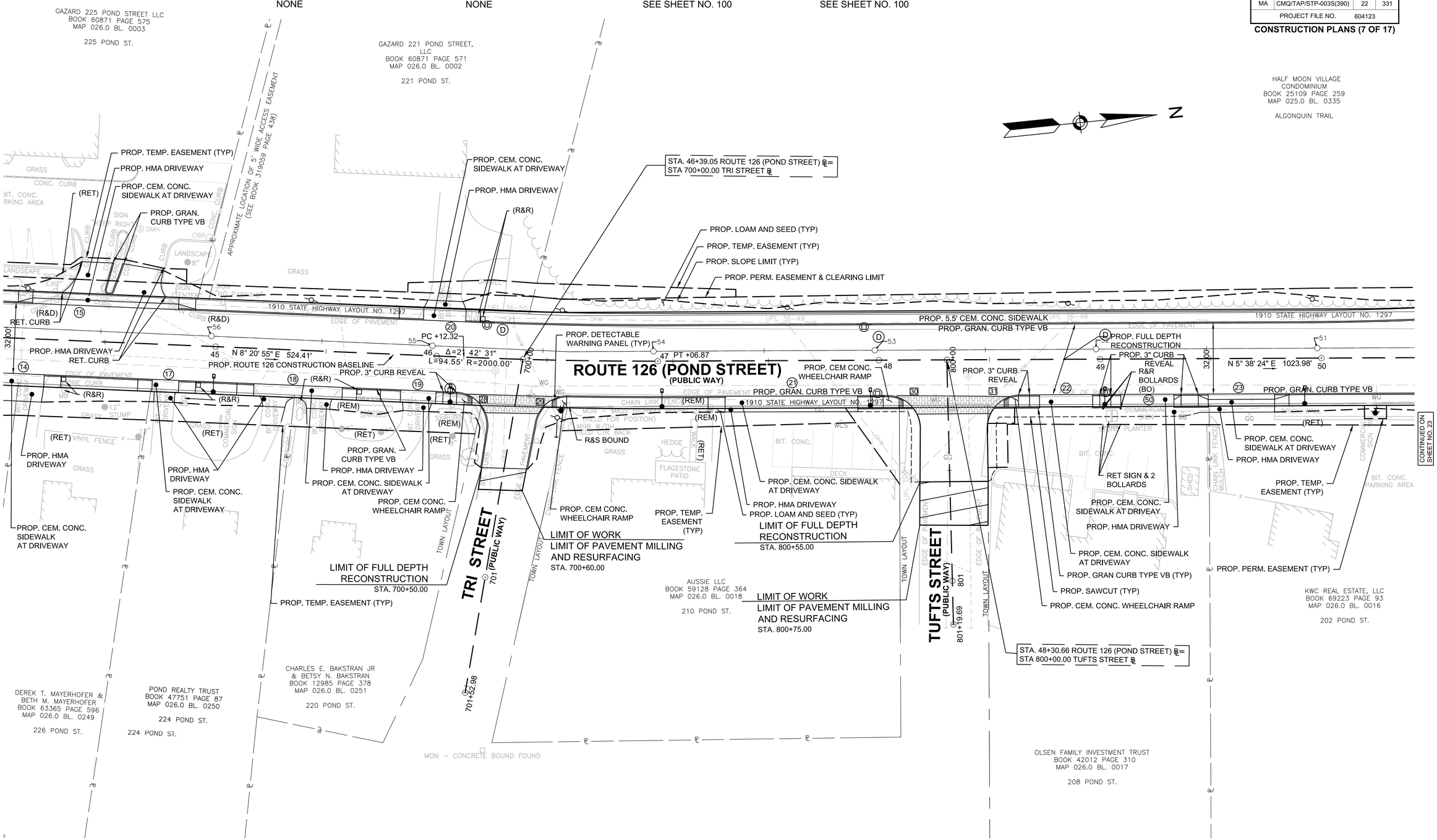
604123_HD08(CONSTRUCTION PLANS).DWG Plotted on 24-Jun-2020 1:33 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	22	331
PROJECT FILE NO.	604123		

CONSTRUCTION PLANS (7 OF 17)

HIGHWAY GUARD DETAILS	TRAFFIC SIGNAL CONDUIT	WATER SUPPLY ALTERATIONS	DRAINAGE DETAILS
NONE	NONE	SEE SHEET NO. 100	SEE SHEET NO. 100



FOR PROFILE:
SEE SHEET NO. 39, 54, 55

604123_HD08(CONSTRUCTION PLANS).DWG Plotted on 24-Jun-2020 1:33 PM

*HIGHWAY GUARD DETAILS

STA 902+15 TO 902+05 RT (TRAILING ANCHORAGE)
STA 902+05 TO 901+36 RT (GUARDRAIL, TL-2 (SINGLE FACED))
STA 901+36 TO 900+71 RT (GUARDRAIL - CURVED, TL-2 (SINGLE FACED))
STA 900+71 TO 900+57 RT (GUARDRAIL, TL-2 (SINGLE FACED))
STA 900+57 RT TO 54+65 LT (GUARDRAIL - CURVED, TL-2 (SINGLE FACED))
STA 54+65 TO 58+13 LT (GUARDRAIL, TL-2 (SINGLE FACED))
STA 58+13 TO 58+51 LT (GUARDRAIL TANGENT END TREATMENT, TL-2)

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 101

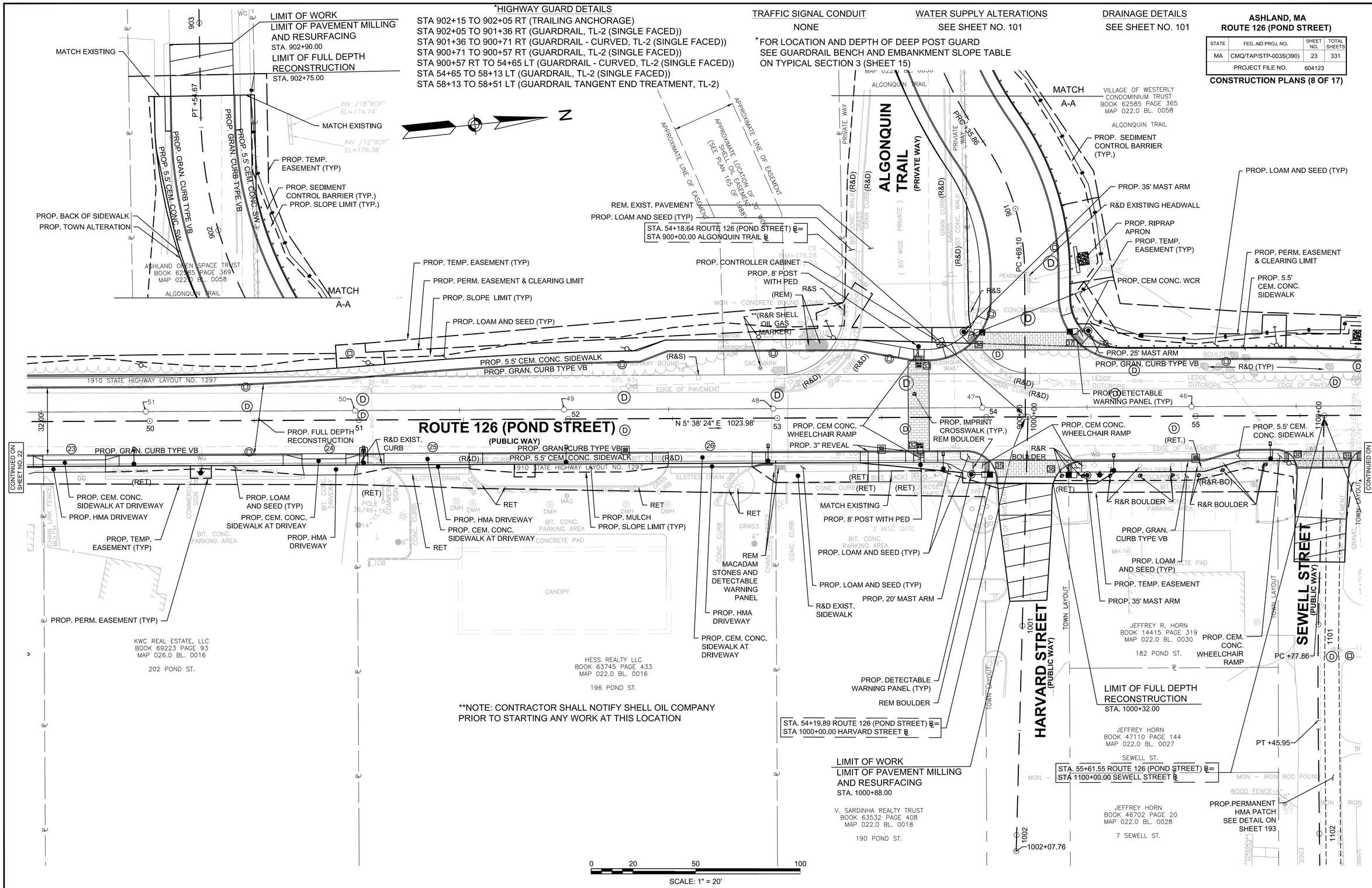
*FOR LOCATION AND DEPTH OF DEEP POST GUARD
SEE GUARDRAIL BENCH AND EMBANKMENT SLOPE TABLE
ON TYPICAL SECTION 3 (SHEET 15)

DRAINAGE DETAILS
SEE SHEET NO. 101

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	23	331
PROJECT FILE NO.	604123		

CONSTRUCTION PLANS (8 OF 17)



FOR PROFILE:
SEE SHEET NO. 40, 56, 57, 58

604123_HD08(CONSTRUCTION PLANS).DWG Plotted on 24-Jun-2020 1:34 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	24	331
PROJECT FILE NO.	604123		

CONSTRUCTION PLANS (9 OF 17)

*HIGHWAY GUARD DETAILS

STA 54+65 TO 58+13 LT (GUARDRAIL, TL-2 (SINGLE FACED))
STA 58+13 TO 58+51 LT (GUARDRAIL TANGENT END TREATMENT, TL-2)

*FOR LOCATION AND DEPTH OF DEEP POST GUARD SEE GUARDRAIL BENCH AND EMBANKMENT SLOPE TABLE ON TYPICAL SECTION 3 (SHEET 15)

TRAFFIC SIGNAL CONDUIT

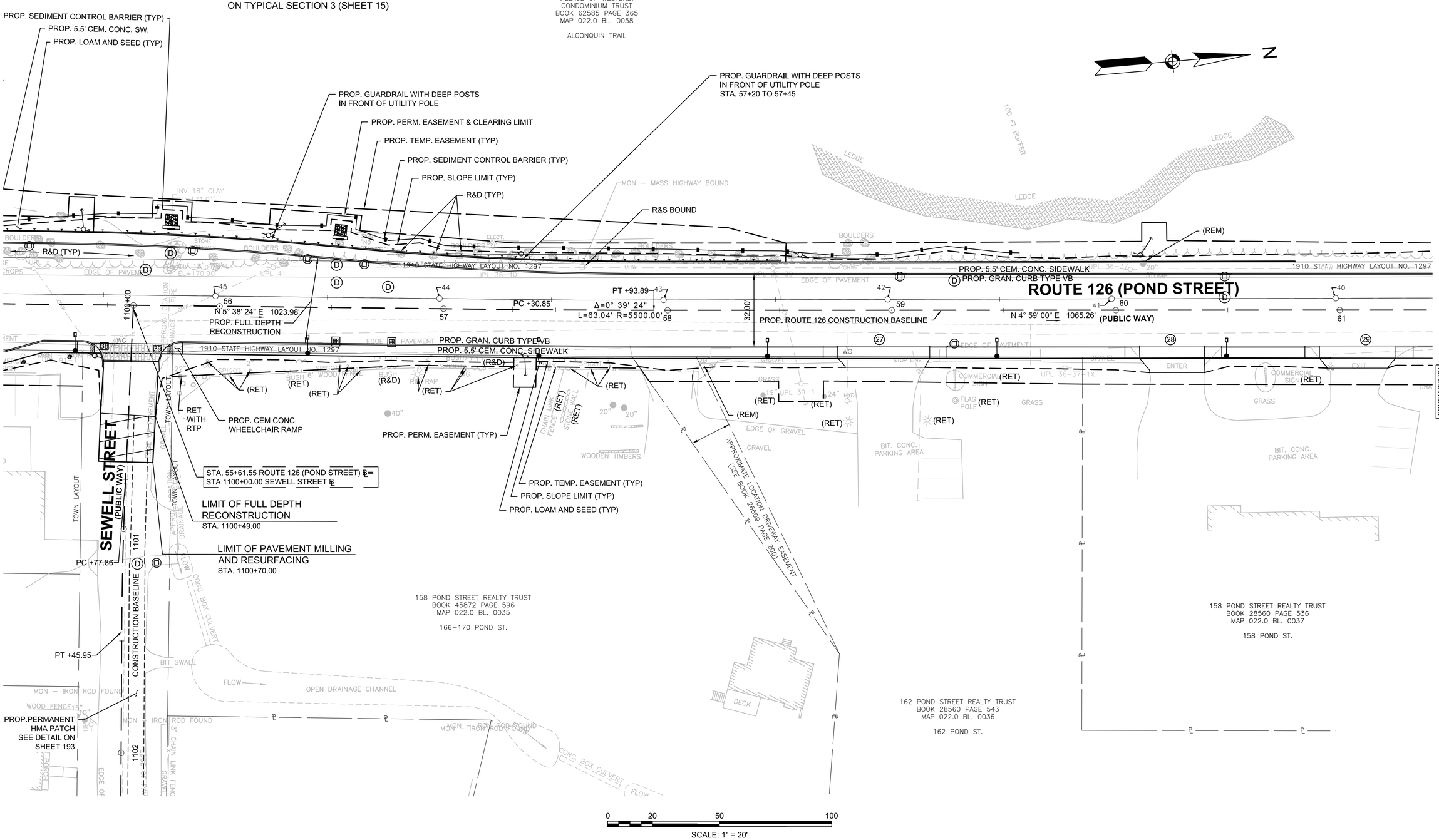
NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE SHEET NO. 102



FOR PROFILE:
SEE SHEET NO. 41 & 58

604123_HD08(CONSTRUCTION PLANS).DWG Plotted on 24-Jun-2020 1:35 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	25	331
PROJECT FILE NO.	604123		

CONSTRUCTION PLANS (10 OF 17)

* HIGHWAY GUARD DETAILS

STA 64+50 TO 64+88 RT (GUARDRAIL TANGENT END TREATMENT, TL-2)
STA 64+88 TO 65+79 RT (GUARDRAIL, TL-2 (SINGLE FACED))
STA 65+79 TO 65+89 RT (TRAILING ANCHORAGE)

* FOR LOCATION AND DEPTH OF DEEP POST GUARD SEE GUARDRAIL BENCH AND EMBANKMENT SLOPE TABLE ON TYPICAL SECTION 3 (SHEET 15)

TRAFFIC SIGNAL CONDUIT

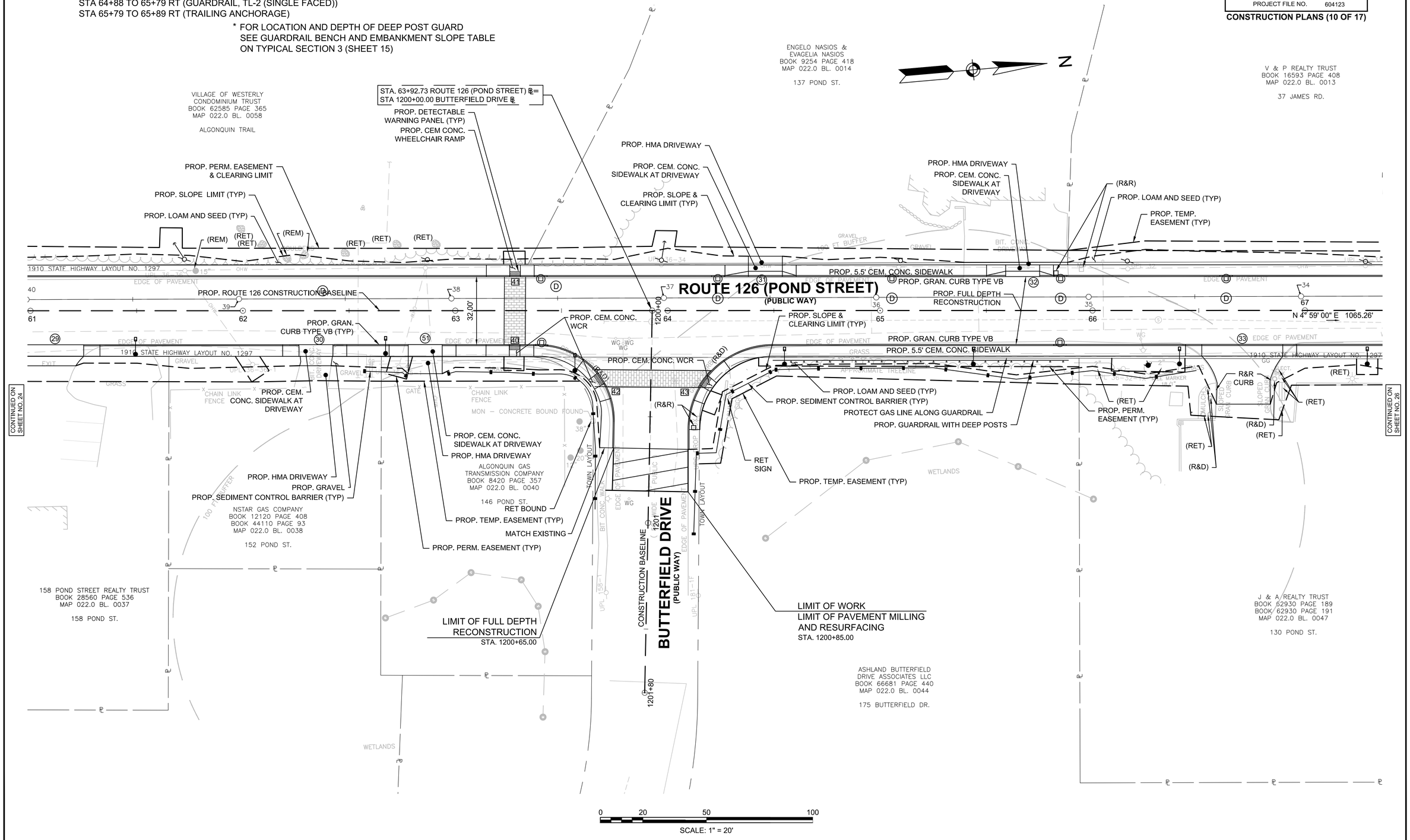
NONE

WATER SUPPLY ALTERATIONS

SEE SHEET NO. 103

DRAINAGE DETAILS

SEE SHEET NO. 103



FOR PROFILE:
SEE SHEET NO. 42 & 59

604123_HD08(CONSTRUCTION PLANS).DWG Plotted on 24-Jun-2020 1:35 PM

*HIGHWAY GUARD DETAILS

STA 70+60 - 70+69 LT (TRAILING ANCHORAGE)
STA 70+69 - 80+85 LT (GUARDRAIL, TL-2 (SINGLE FACED))
STA 72+38 - 72+40 RT (TRAILING ANCHORAGE)
STA 72+44 - 72+82 RT (GUARDRAIL FLARED END TREATMENT, TL-2)
STA 72+82 - 77+61 RT (GUARDRAIL, TL-2 (SINGLE FACED))

* FOR LOCATION AND DEPTH OF DEEP POST GUARD SEE GUARDRAIL BENCH AND EMBANKMENT SLOPE TABLE ON TYPICAL SECTION 3 (SHEET 15)

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

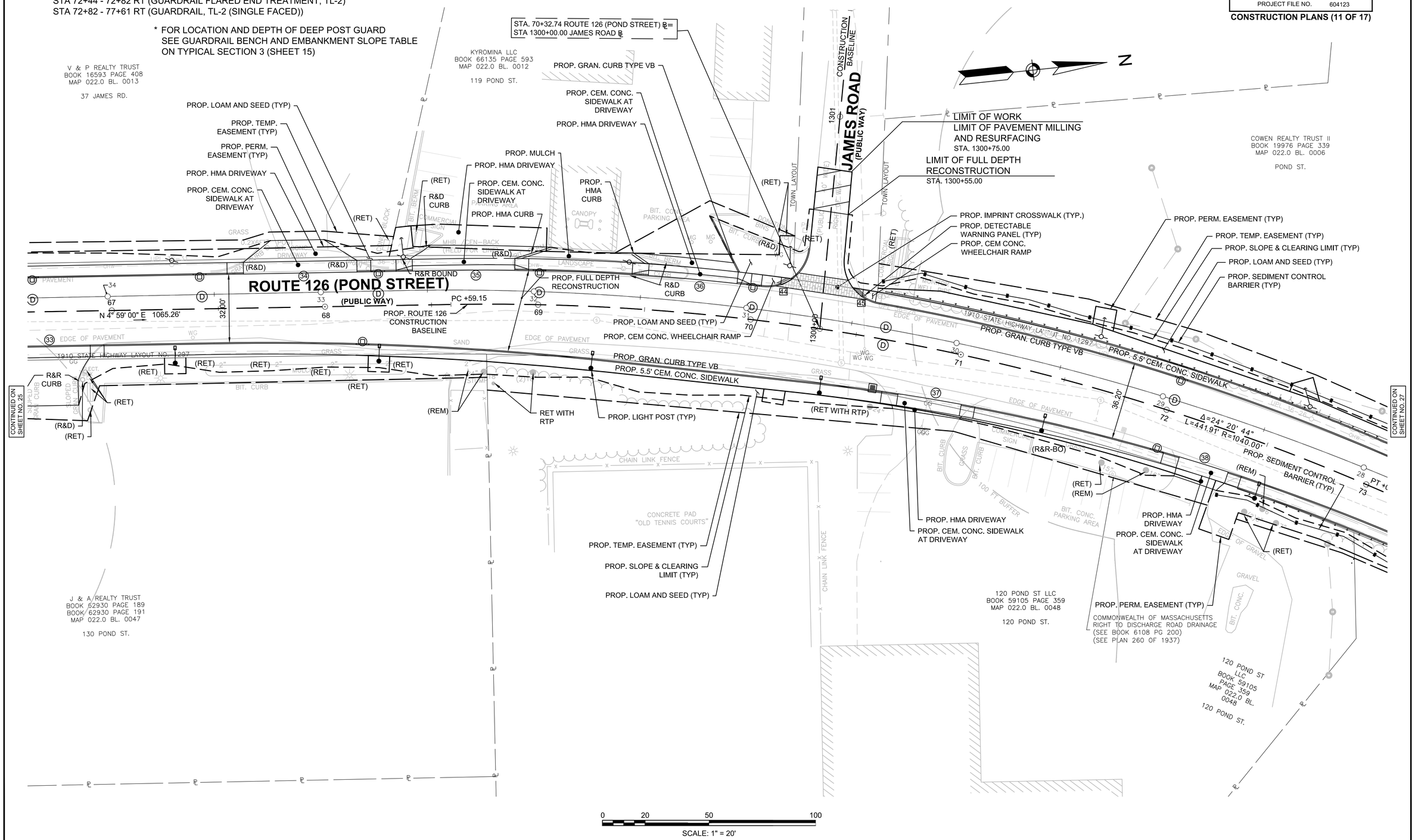
DRAINAGE DETAILS

SEE SHEET NO. 104

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	26	331
PROJECT FILE NO.	604123		

CONSTRUCTION PLANS (11 OF 17)



FOR PROFILE:
SEE SHEET NO. 43 & 60

604123_HD08(CONSTRUCTION PLANS).DWG Plotted on 24-Jun-2020 1:35 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	27	331
PROJECT FILE NO.	604123		

CONSTRUCTION PLANS (12 OF 17)

*HIGHWAY GUARD DETAILS

STA 70+69 - 80+85 LT (GUARDRAIL, TL-2 (SINGLE FACED))
STA 80+85 - 81+22 LT (GUARDRAIL FLARED END TREATMENT, TL-2)
STA 72+51 - 77+61 RT (GUARDRAIL, TL-2 (SINGLE FACED))
STA 77+61 - 77+70 RT (TRAILING ANCHORAGE)
STA 77+78 - 78+15 RT (GUARDRAIL TANGENT END TREATMENT, TL-2)
STA 78+15 - 81+61 RT (GUARDRAIL, TL-2 (SINGLE FACED))
STA 81+61 - 81+70 RT (TRAILING ANCHORAGE)

*FOR LOCATION AND DEPTH OF DEEP POST GUARD
SEE GUARDRAIL BENCH AND EMBANKMENT SLOPE TABLE
ON TYPICAL SECTION 3 (SHEET 15)

TRAFFIC SIGNAL CONDUIT

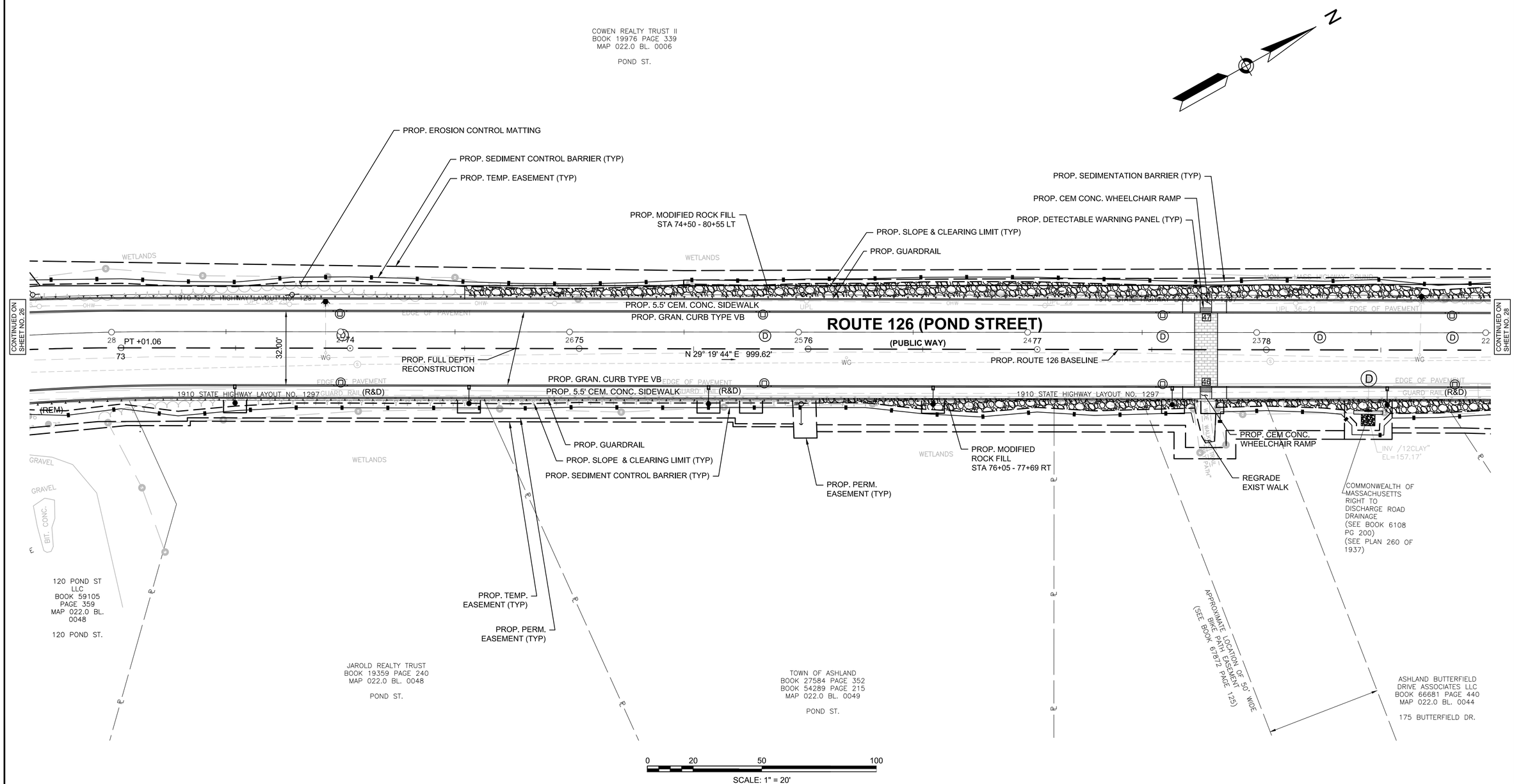
NONE

WATER SUPPLY ALTERATIONS

SEE SHEET NO. 105

DRAINAGE DETAILS

SEE SHEET NO. 105



FOR PROFILE:
SEE SHEET NO. 44

604123_HD08(CONSTRUCTION PLANS).DWG Plotted on 24-Jun-2020 1:35 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	28	331
PROJECT FILE NO.	604123		

CONSTRUCTION PLANS (13 OF 17)

*HIGHWAY GUARD DETAILS

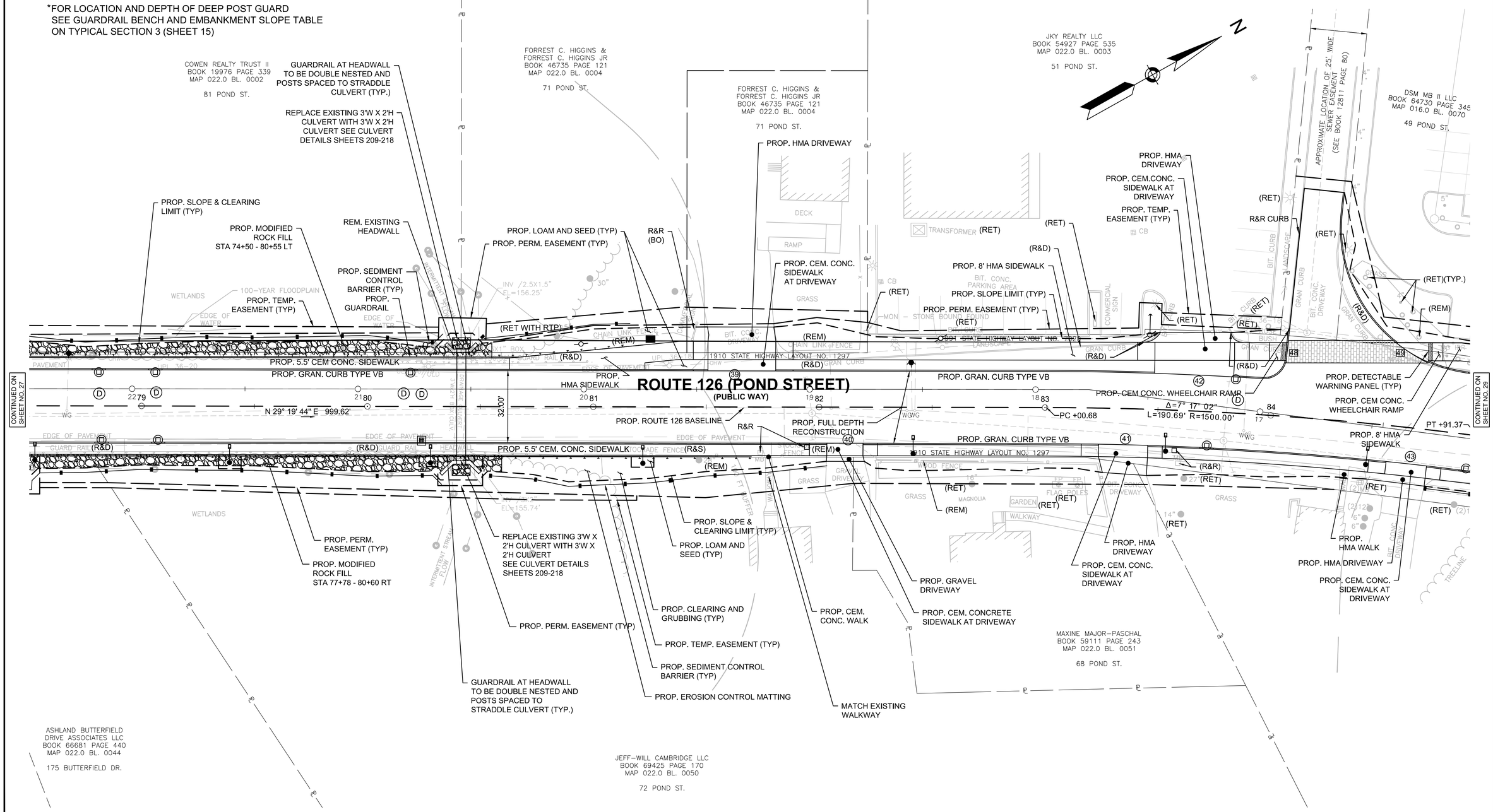
STA 70+69 - 80+85 LT (GUARDRAIL, TL-2 (SINGLE FACED))
STA 80+85 - 81+22 LT (GUARDRAIL FLARED END TREATMENT, TL-2)
STA 78+15 - 81+61 RT (GUARDRAIL, TL-2 (SINGLE FACED))
STA 81+61 - 81+70 RT (TRAILING ANCHORAGE)

*FOR LOCATION AND DEPTH OF DEEP POST GUARD SEE GUARDRAIL BENCH AND EMBANKMENT SLOPE TABLE ON TYPICAL SECTION 3 (SHEET 15)

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 106

DRAINAGE DETAILS
SEE SHEET NO. 106



FOR PROFILE:
SEE SHEET NO. 45

604123_HD08(CONSTRUCTION PLANS).DWG Plotted on 24-Jun-2020 1:35 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	29	331
PROJECT FILE NO.	604123		

CONSTRUCTION PLANS (14 OF 17)

*HIGHWAY GUARD DETAILS

STA 85+50 - 85+88 RT (GUARDRAIL TANGENT END TREATMENT, TL-2)
STA 85+88 - 90+41 RT (GUARDRAIL, TL-2 (SINGLE FACED))
STA 90+41 - 90+51 RT (TRAILING ANCHORAGE)

*FOR LOCATION AND DEPTH OF DEEP POST GUARD
SEE GUARDRAIL BENCH AND EMBANKMENT SLOPE TABLE
ON TYPICAL SECTION 3 (SHEET 15)

TRAFFIC SIGNAL CONDUIT

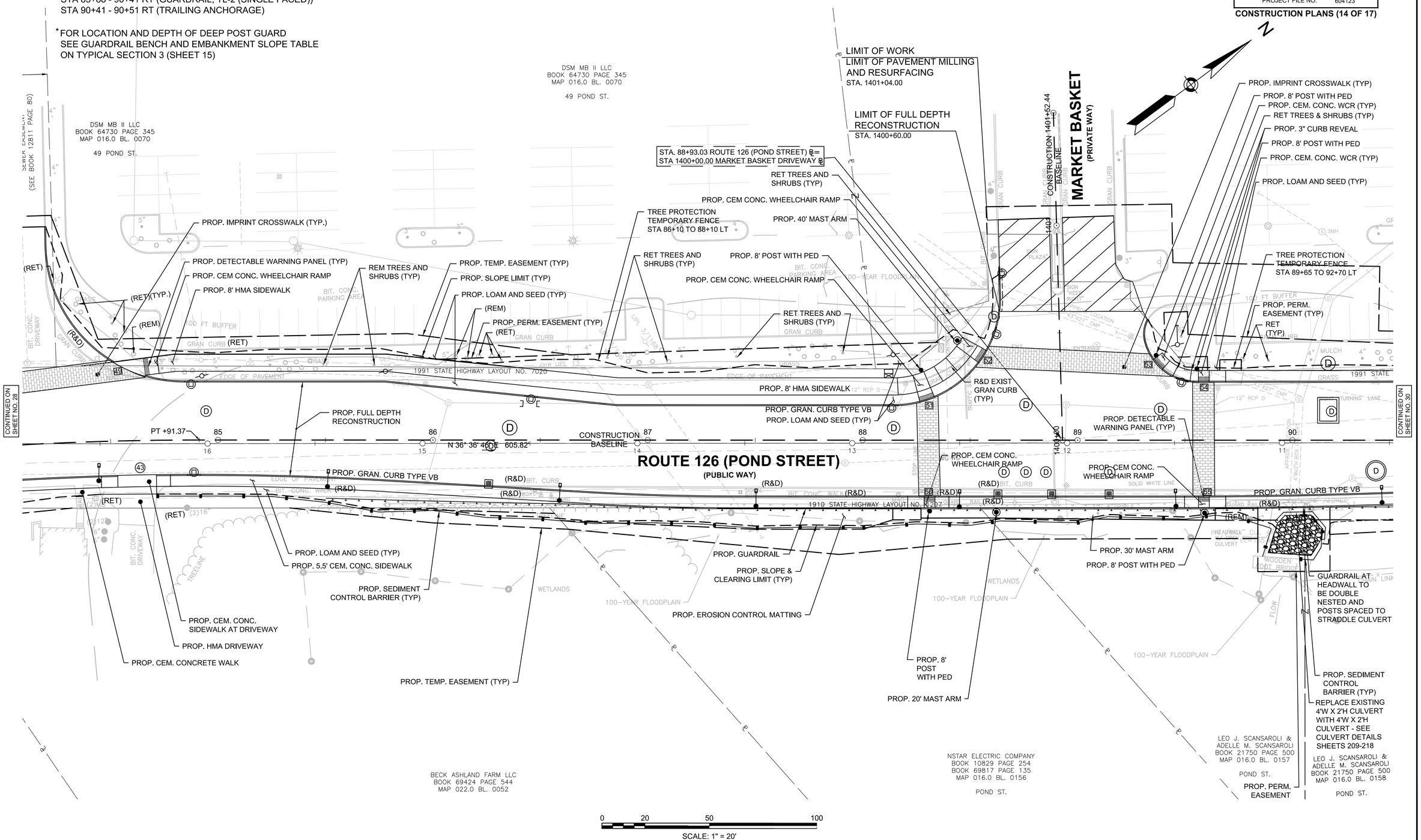
NONE

WATER SUPPLY ALTERATIONS

SEE SHEET NO. 107

DRAINAGE DETAILS

SEE SHEET NO. 107



FOR PROFILE:
SEE SHEET NO. 46 & 61

604123_HD08(CONSTRUCTION PLANS).DWG Plotted on 24-Jun-2020 1:36 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	30	331
PROJECT FILE NO.	604123		

CONSTRUCTION PLANS (15 OF 17)

*HIGHWAY GUARD DETAILS

STA 85+88 - 90+41 RT (GUARDRAIL, TL-2 (SINGLE FACED))
STA 90+41 - 90+51 RT (TRAILING ANCHORAGE)

*FOR LOCATION AND DEPTH OF DEEP POST GUARD SEE GUARDRAIL BENCH AND EMBANKMENT SLOPE TABLE ON TYPICAL SECTION 3 (SHEET 15)

TRAFFIC SIGNAL CONDUIT

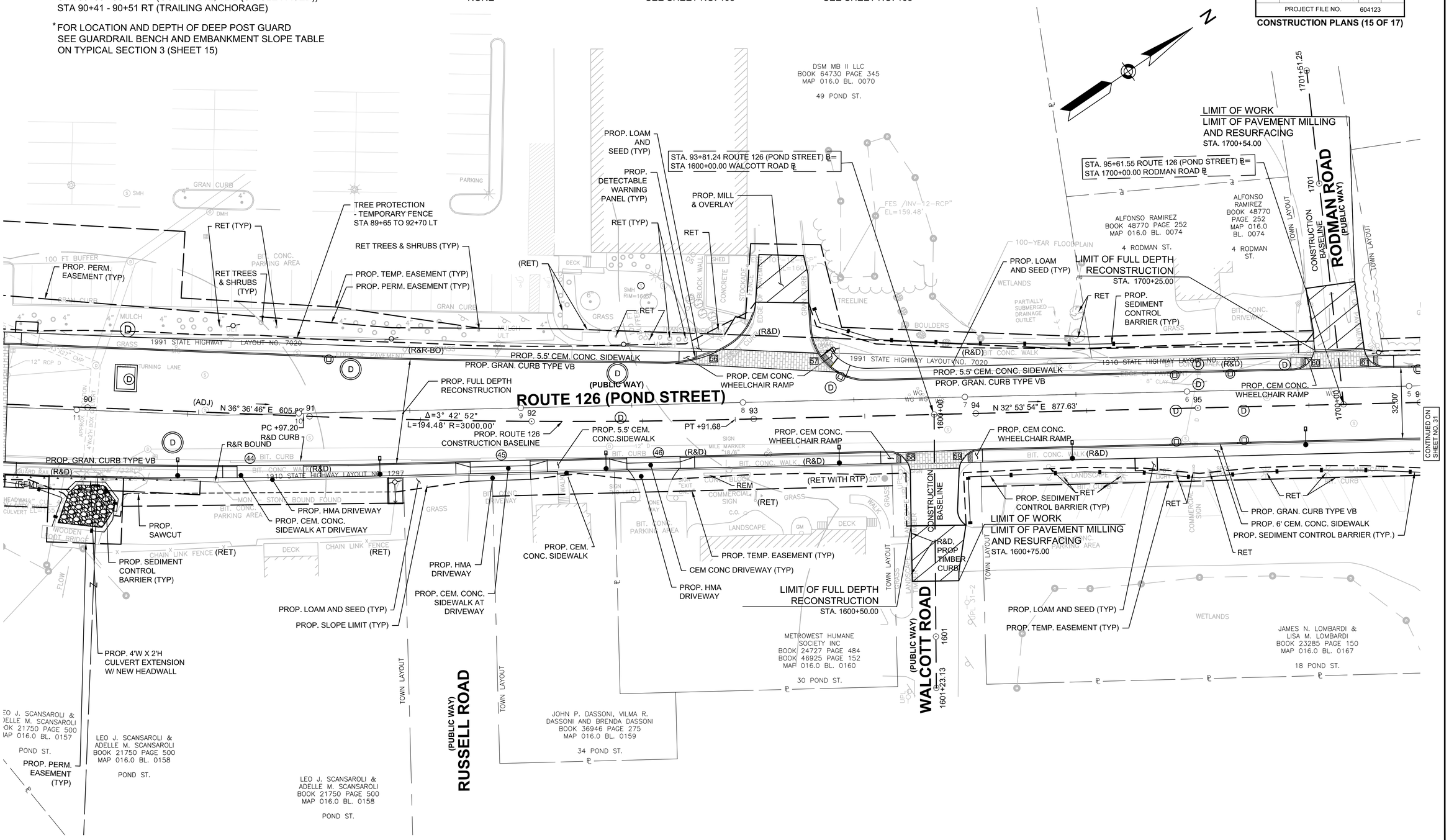
NONE

WATER SUPPLY ALTERATIONS

SEE SHEET NO. 108

DRAINAGE DETAILS

SEE SHEET NO. 108



FOR PROFILE:
SEE SHEET NO. 47, 62, 63

604123_HD08(CONSTRUCTION PLANS).DWG Plotted on 24-Jun-2020 1:36 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	31	331
PROJECT FILE NO.	604123		

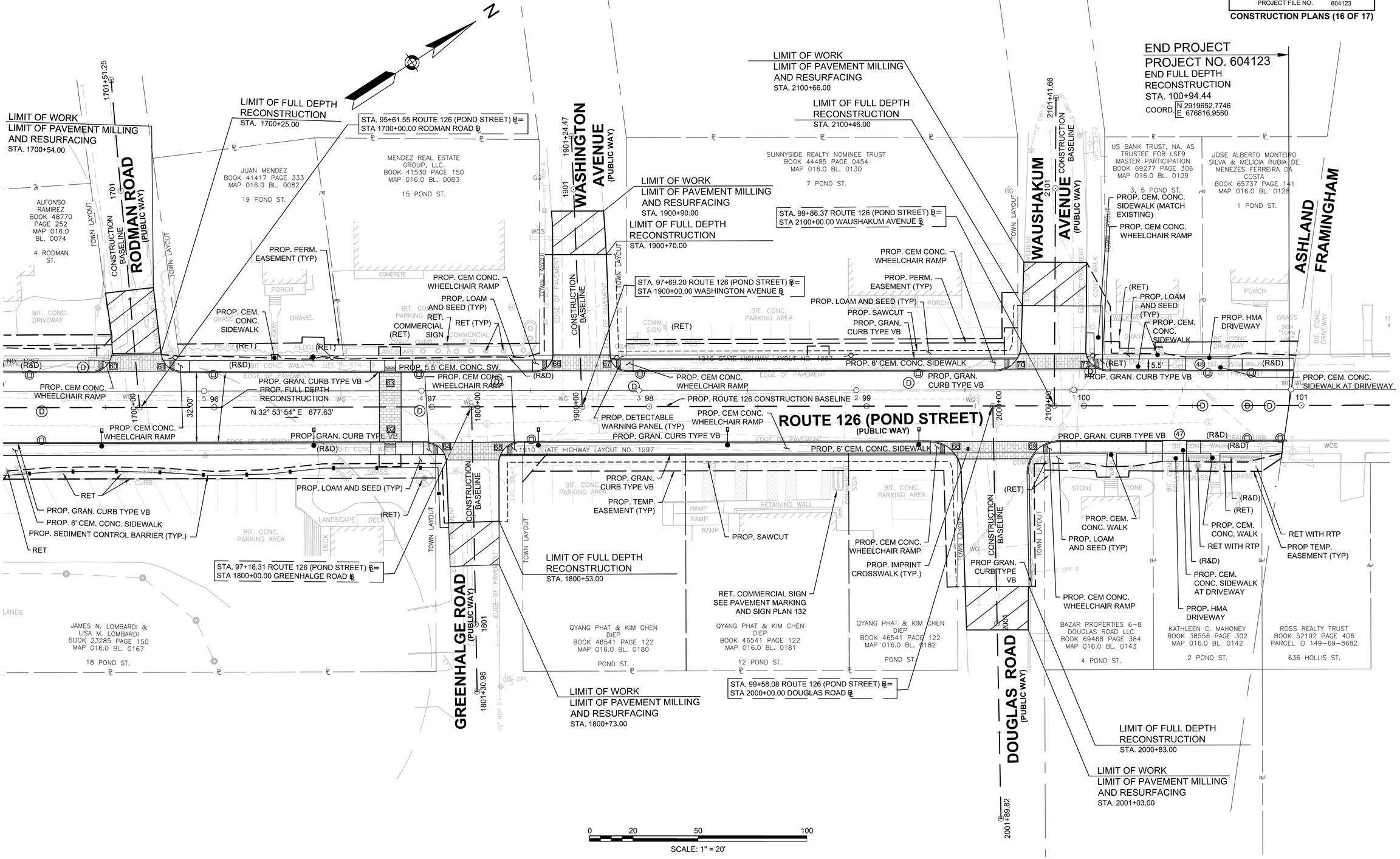
CONSTRUCTION PLANS (16 OF 17)

HIGHWAY GUARD DETAILS
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 109

DRAINAGE DETAILS
SEE SHEET NO. 109



FOR PROFILE:
SEE SHEET NO. 48, 64, 65, 66, 67

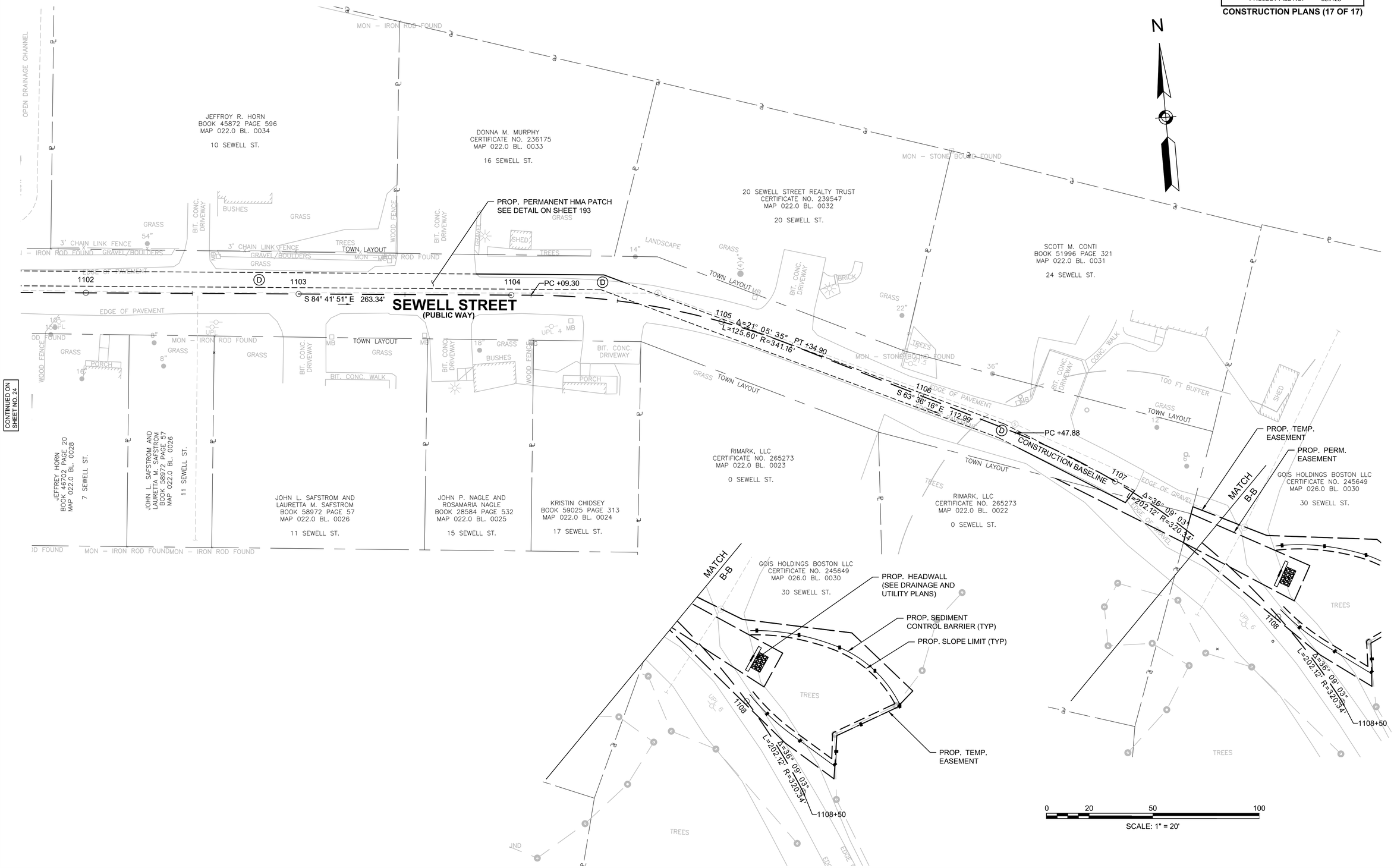
604123_HD08(CONSTRUCTION PLANS).DWG Plotted on 24-Jun-2020 1:36 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	32	331
PROJECT FILE NO.	604123		

CONSTRUCTION PLANS (17 OF 17)

HIGHWAY GUARD DETAILS	TRAFFIC SIGNAL CONDUIT	WATER SUPPLY ALTERATIONS	DRAINAGE DETAILS
NONE	NONE	NONE	SEE SHEET NO. 110



604123_HD08(CONSTRUCTION PLANS).DWG Plotted on 24-Jun-2020 1:37 PM

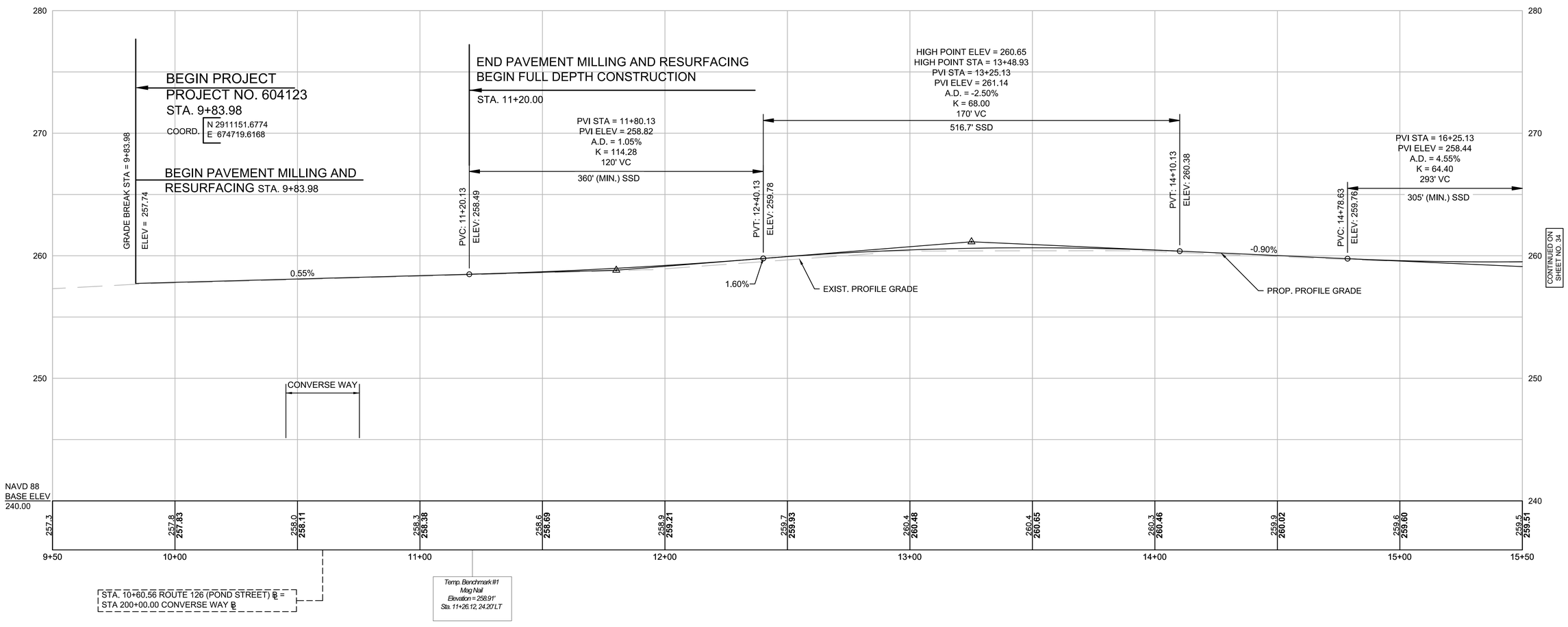
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	33	331
PROJECT FILE NO.	604123		

PROFILES - ROUTE 126 (1 OF 16)

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

ROUTE 126 (POND STREET)



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

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 16

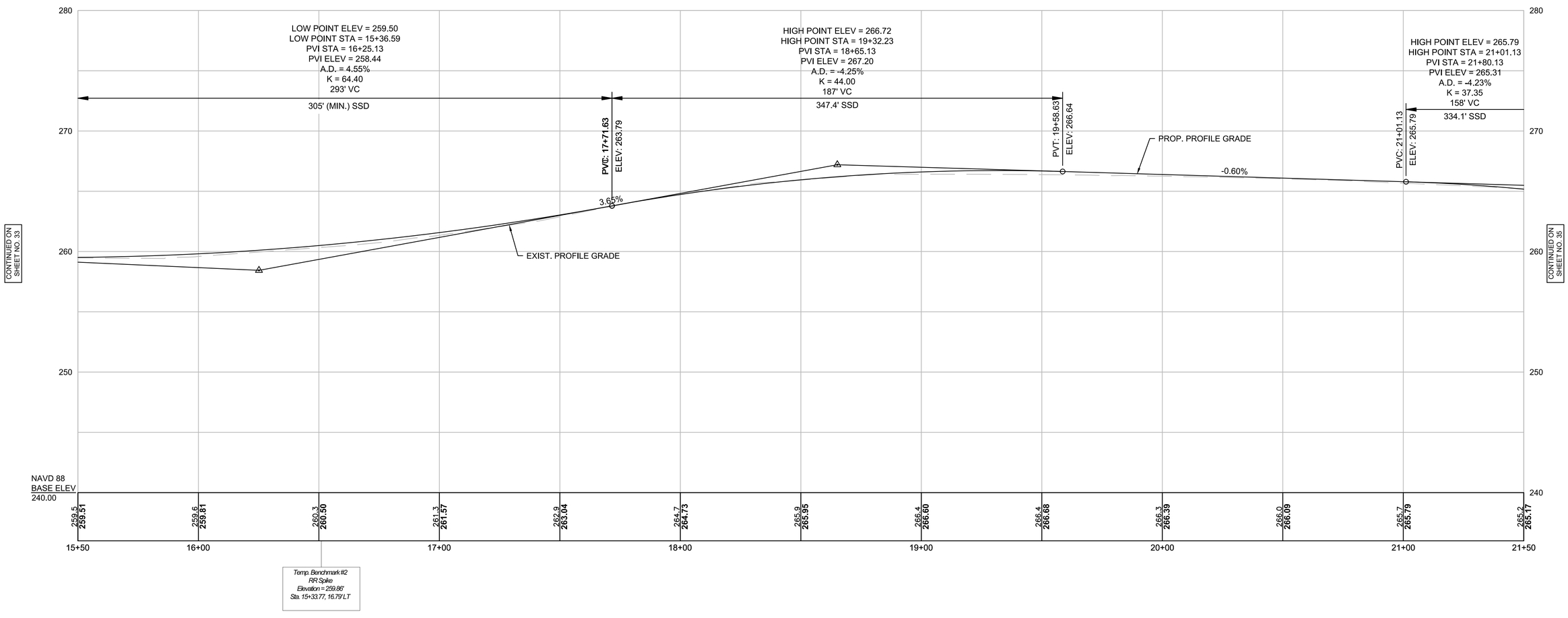
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	34	331
PROJECT FILE NO.	604123		

PROFILES - ROUTE 126 (2 OF 16)

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

ROUTE 126 (POND STREET)



HORIZONTAL
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4 0 4 8
VERTICAL
SCALE IN FEET

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 17

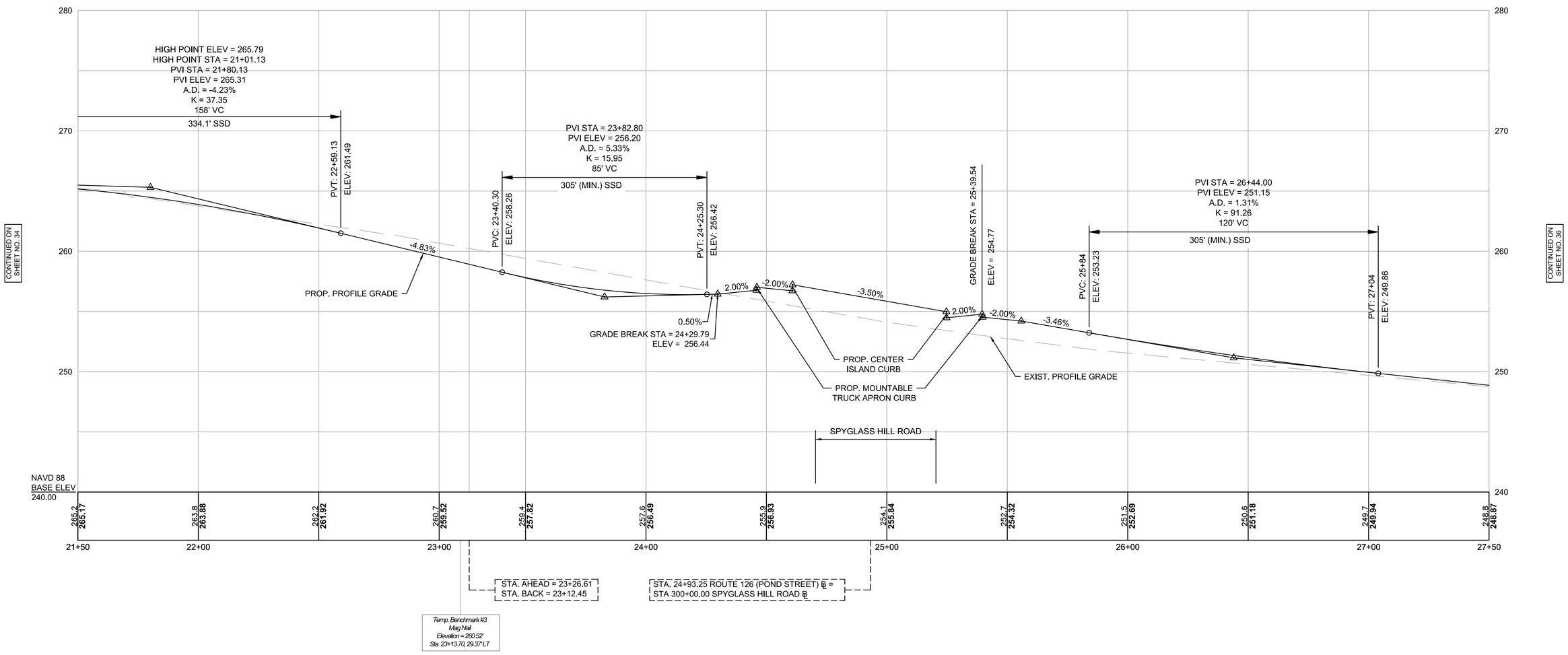
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	35	331
PROJECT FILE NO.	604123		

PROFILES - ROUTE 126 (3 OF 16)

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

ROUTE 126 (POND STREET)



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

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 18

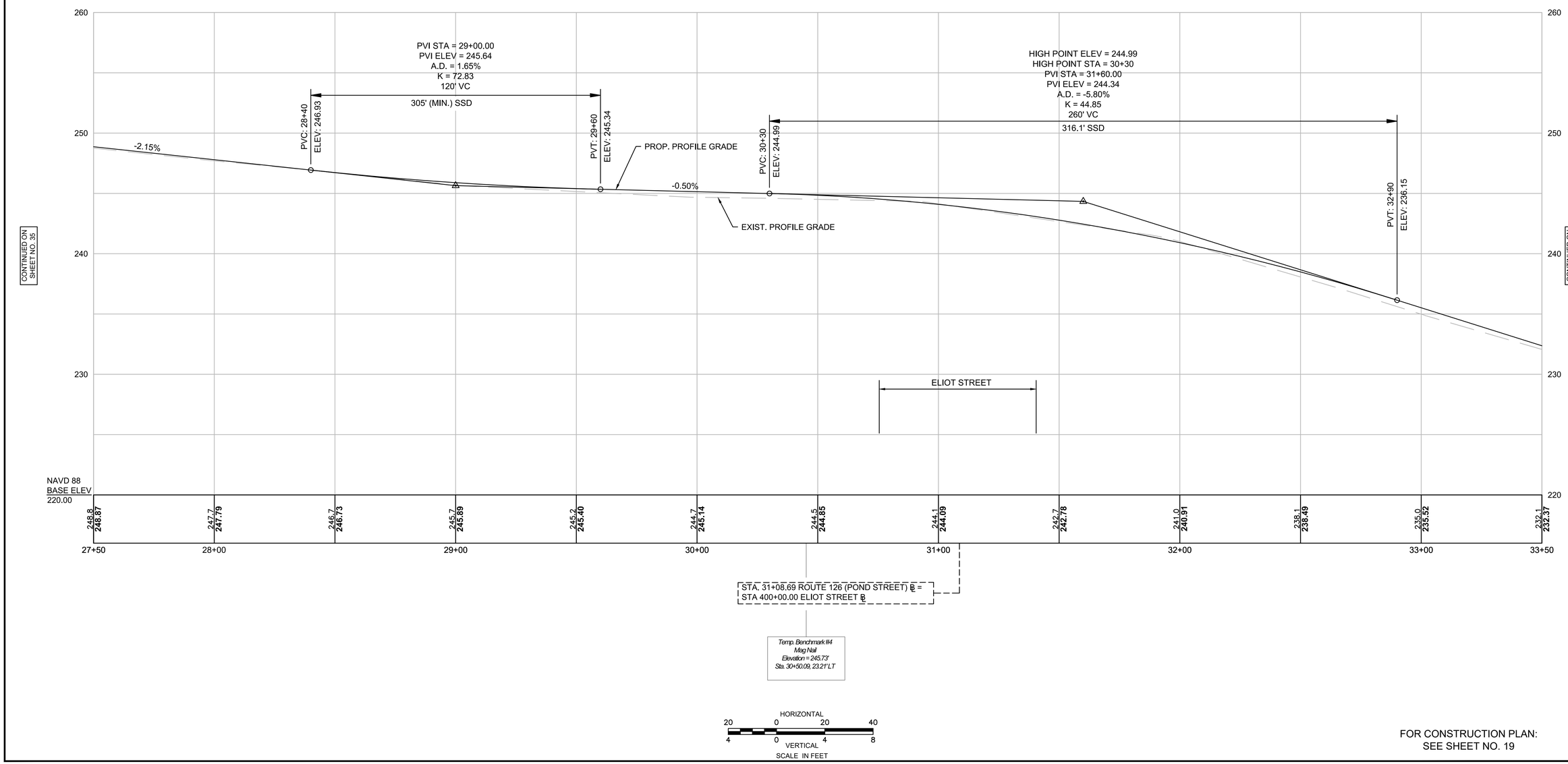
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	36	331
PROJECT FILE NO.	604123		

PROFILES - ROUTE 126 (4 OF 16)

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

ROUTE 126 (POND STREET)



FOR CONSTRUCTION PLAN:
SEE SHEET NO. 19

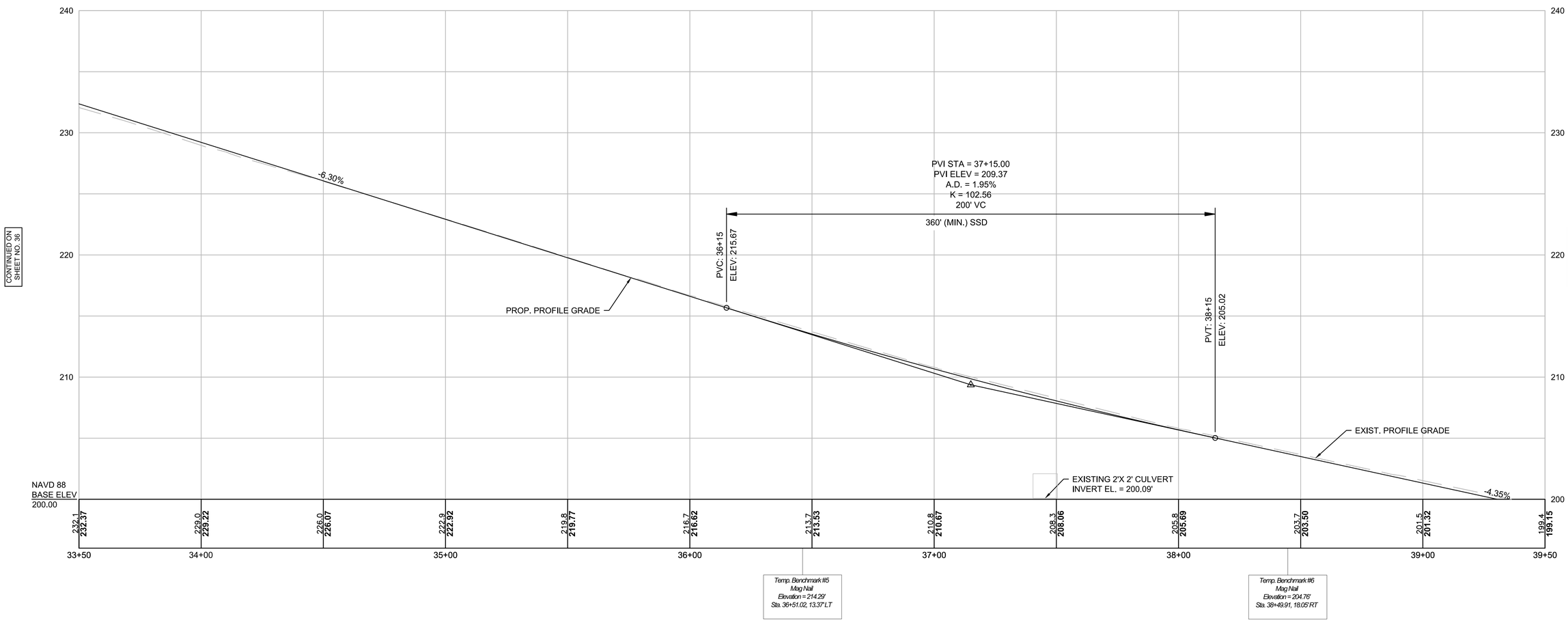
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	37	331
PROJECT FILE NO.	604123		

PROFILES - ROUTE 126 (5 OF 16)

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

ROUTE 126 (POND STREET)



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

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 20

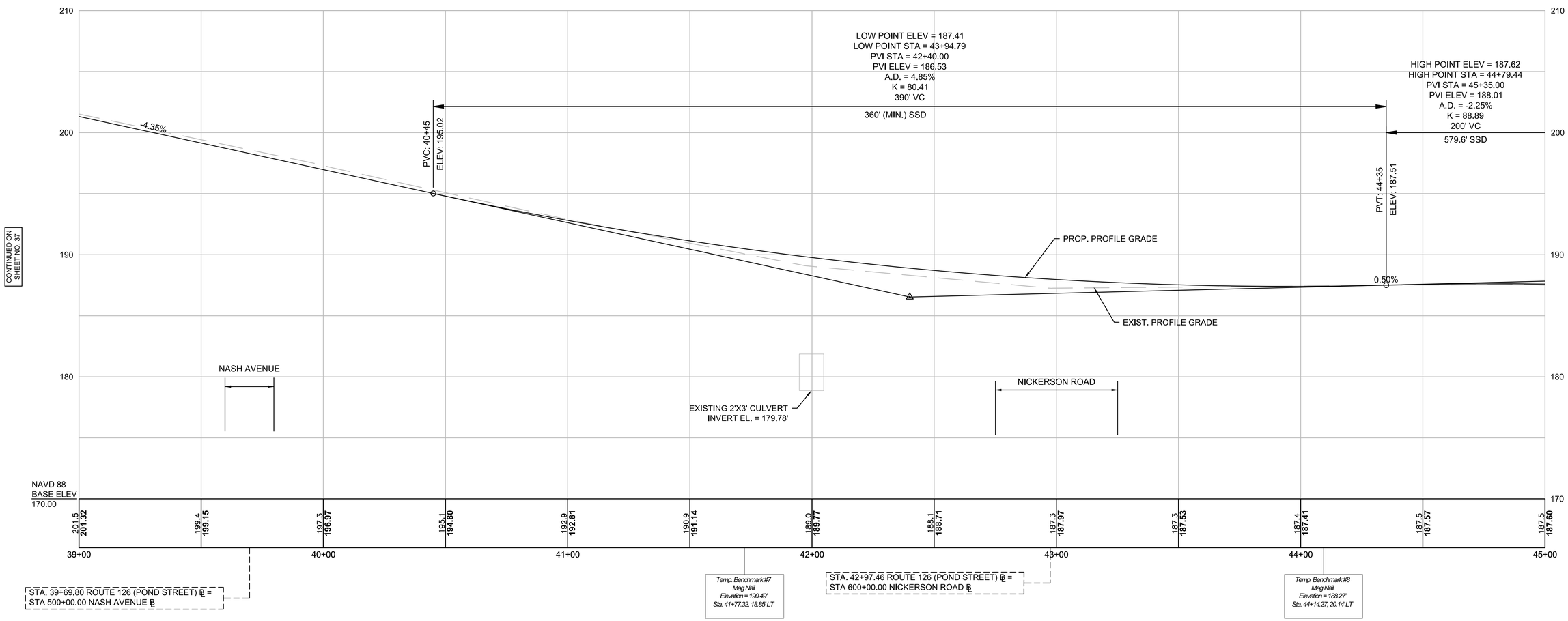
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	38	331
PROJECT FILE NO.	604123		

PROFILES - ROUTE 126 (6 OF 16)

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

ROUTE 126 (POND STREET)



HORIZONTAL
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4 0 4 8
VERTICAL
SCALE IN FEET

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 21

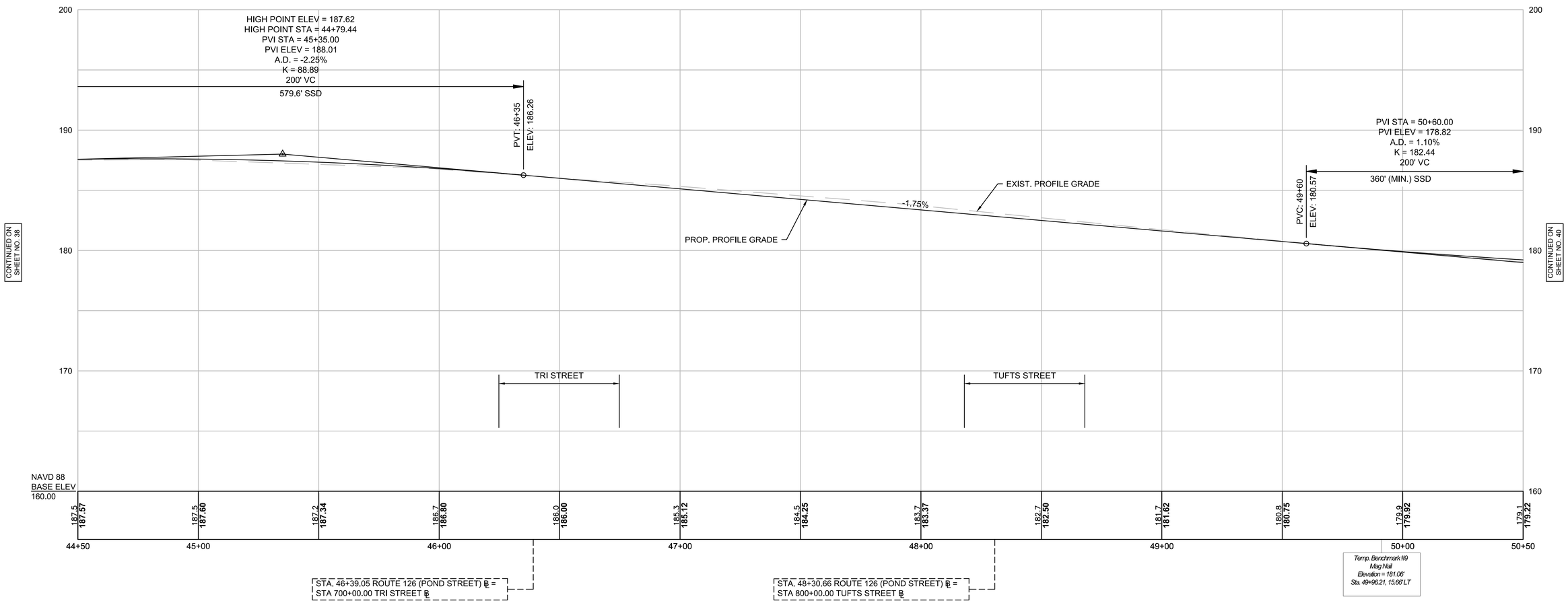
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	39	331
PROJECT FILE NO.	604123		

PROFILES - ROUTE 126 (7 OF 16)

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

ROUTE 126 (POND STREET)



HORIZONTAL
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4 0 4 8
VERTICAL
SCALE IN FEET

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 22

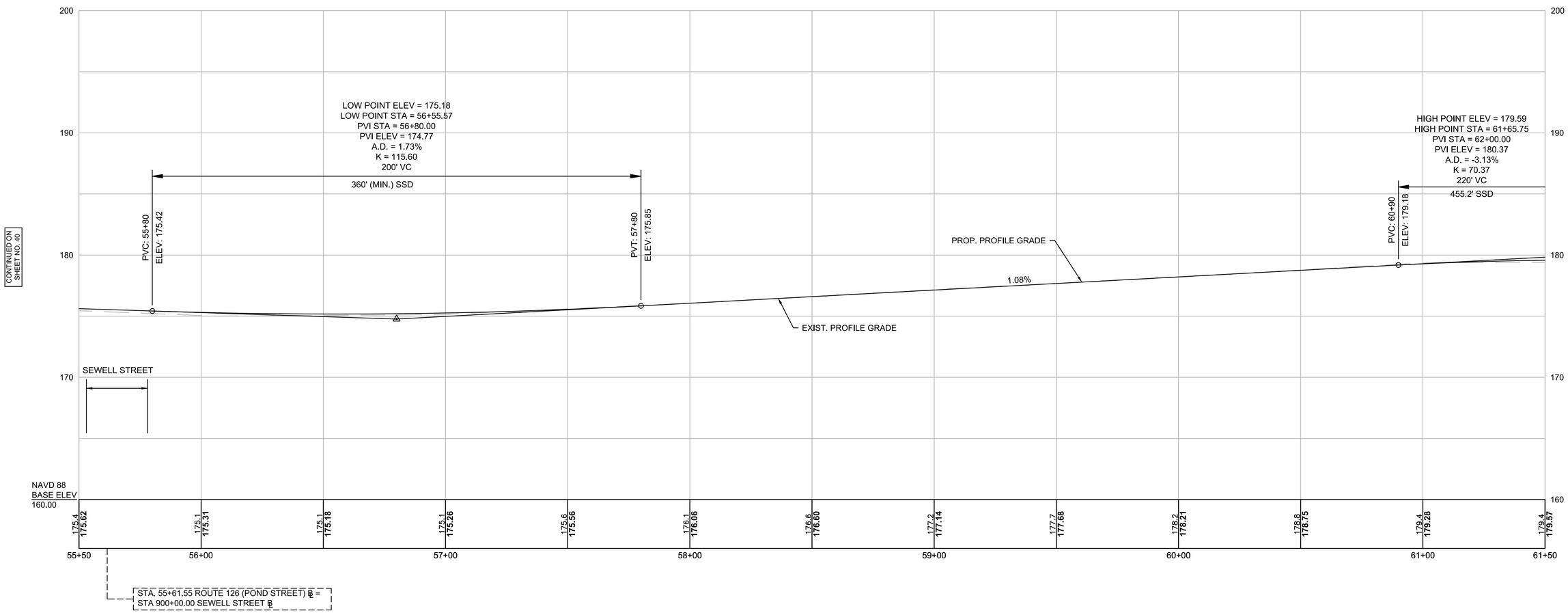
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	41	331
PROJECT FILE NO.	604123		

PROFILES - ROUTE 126 (9 OF 16)

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

ROUTE 126 (POND STREET)



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

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 24

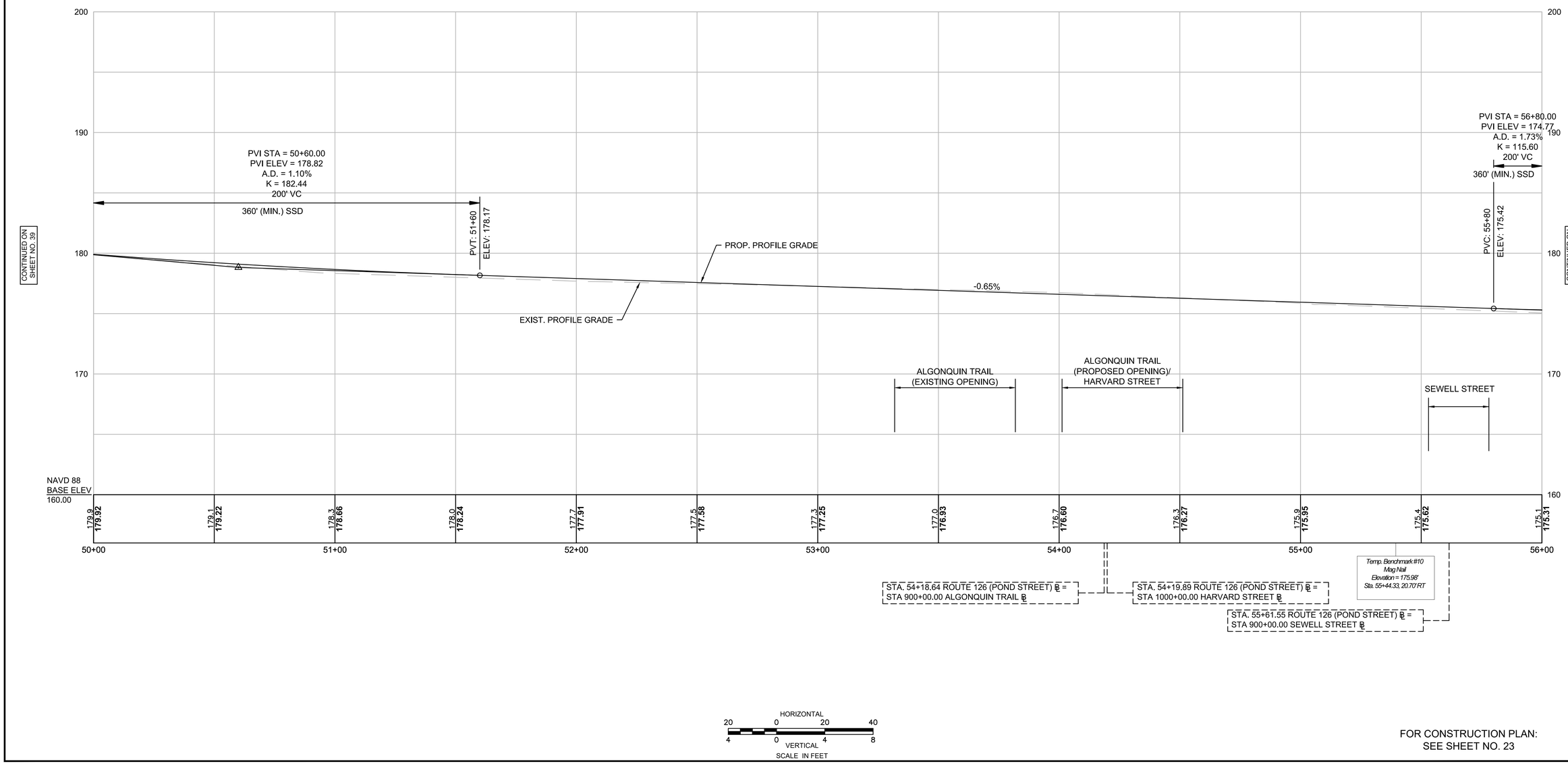
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	40	331
PROJECT FILE NO.	604123		

PROFILES - ROUTE 126 (8 OF 16)

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

ROUTE 126 (POND STREET)



HORIZONTAL
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4 0 4 8
VERTICAL
SCALE IN FEET

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 23

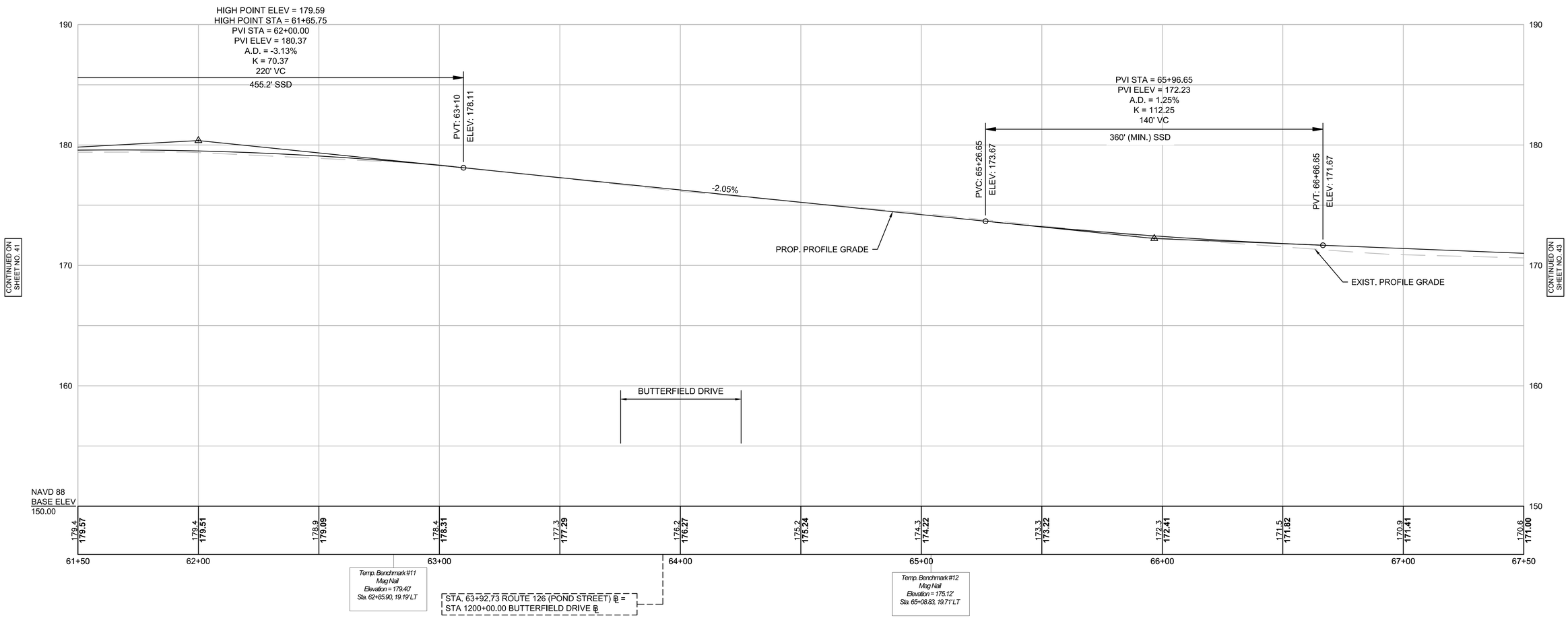
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	42	331
PROJECT FILE NO.	604123		

PROFILES - ROUTE 126 (10 OF 16)

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

ROUTE 126 (POND STREET)



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

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 25

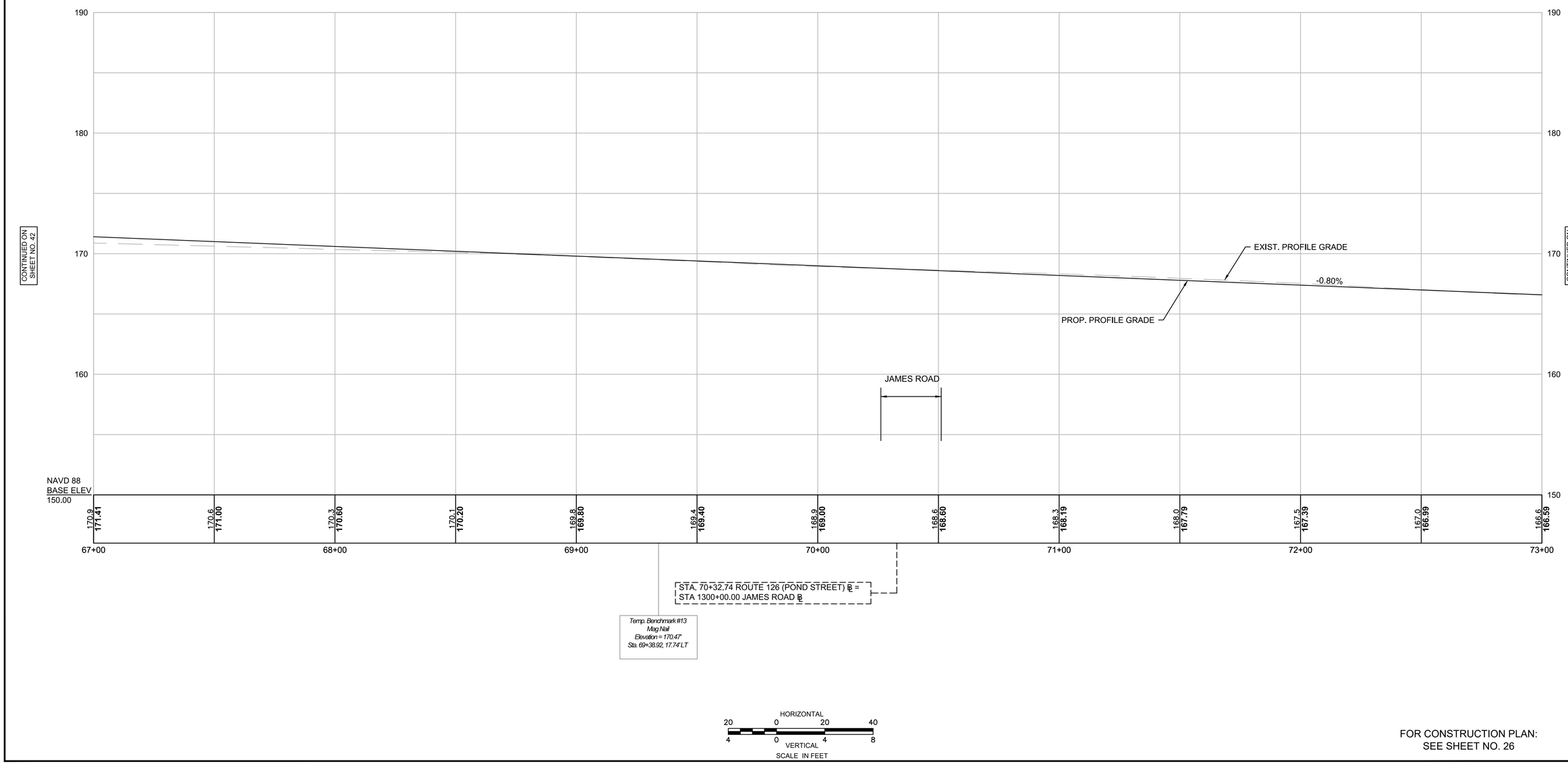
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	43	331
PROJECT FILE NO.	604123		

PROFILES - ROUTE 126 (11 OF 16)

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

ROUTE 126 (POND STREET)



FOR CONSTRUCTION PLAN:
SEE SHEET NO. 26

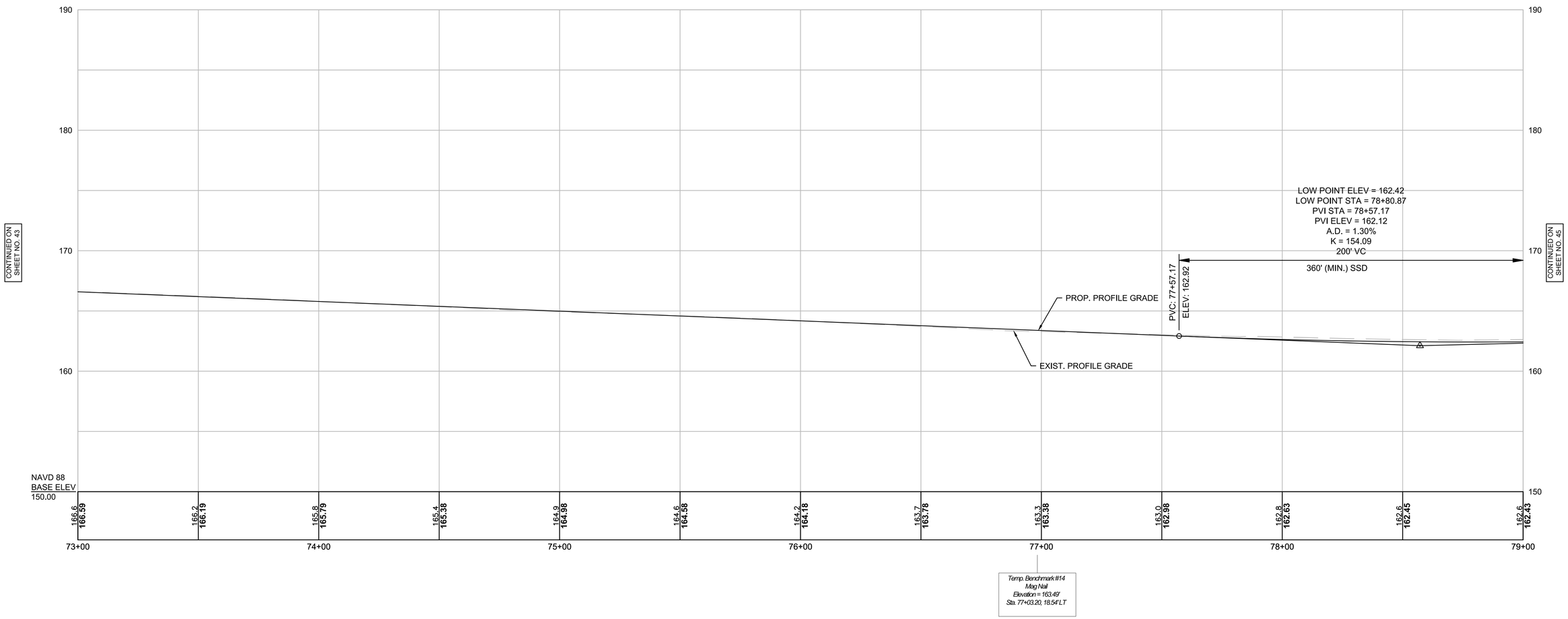
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	44	331
PROJECT FILE NO.	604123		

PROFILES - ROUTE 126 (12 OF 16)

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

ROUTE 126 (POND STREET)



HORIZONTAL
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4 0 4 8
VERTICAL
SCALE IN FEET

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 27

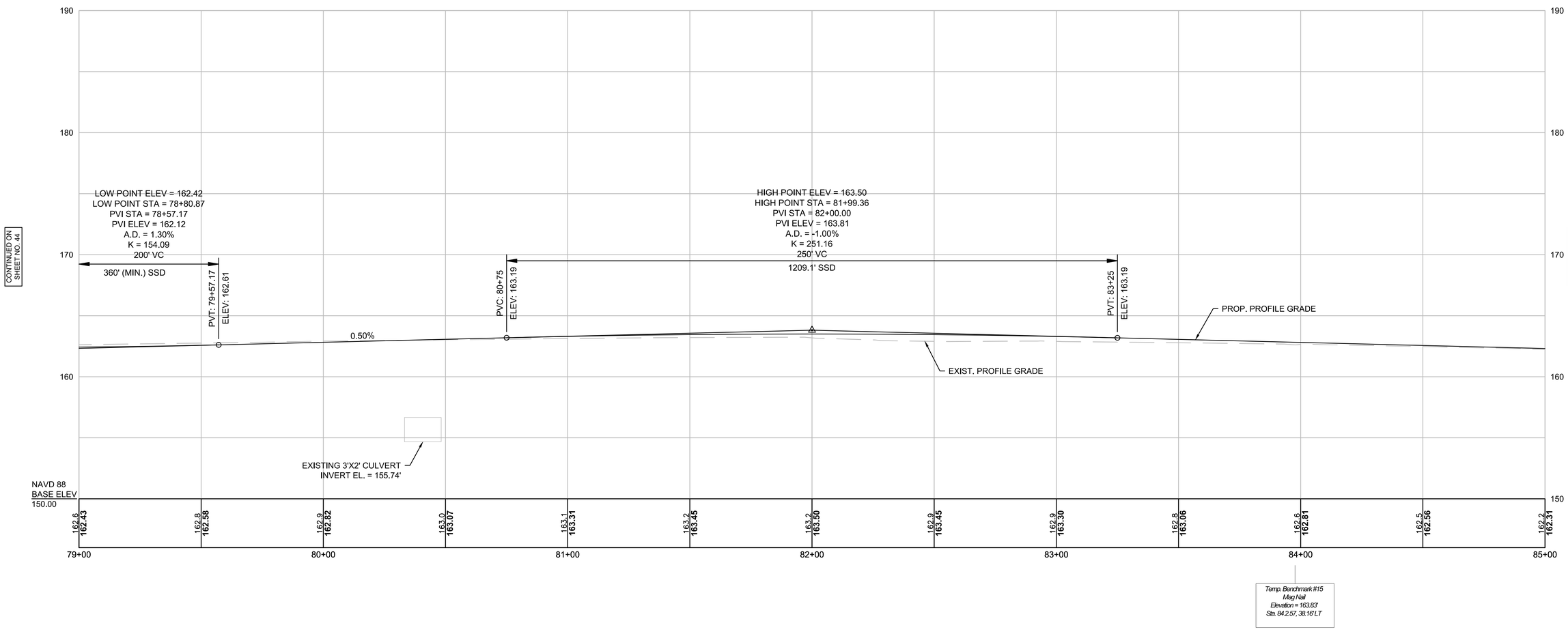
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	45	331
PROJECT FILE NO.	604123		

PROFILES - ROUTE 126 (13 OF 16)

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

ROUTE 126 (POND STREET)



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

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 28

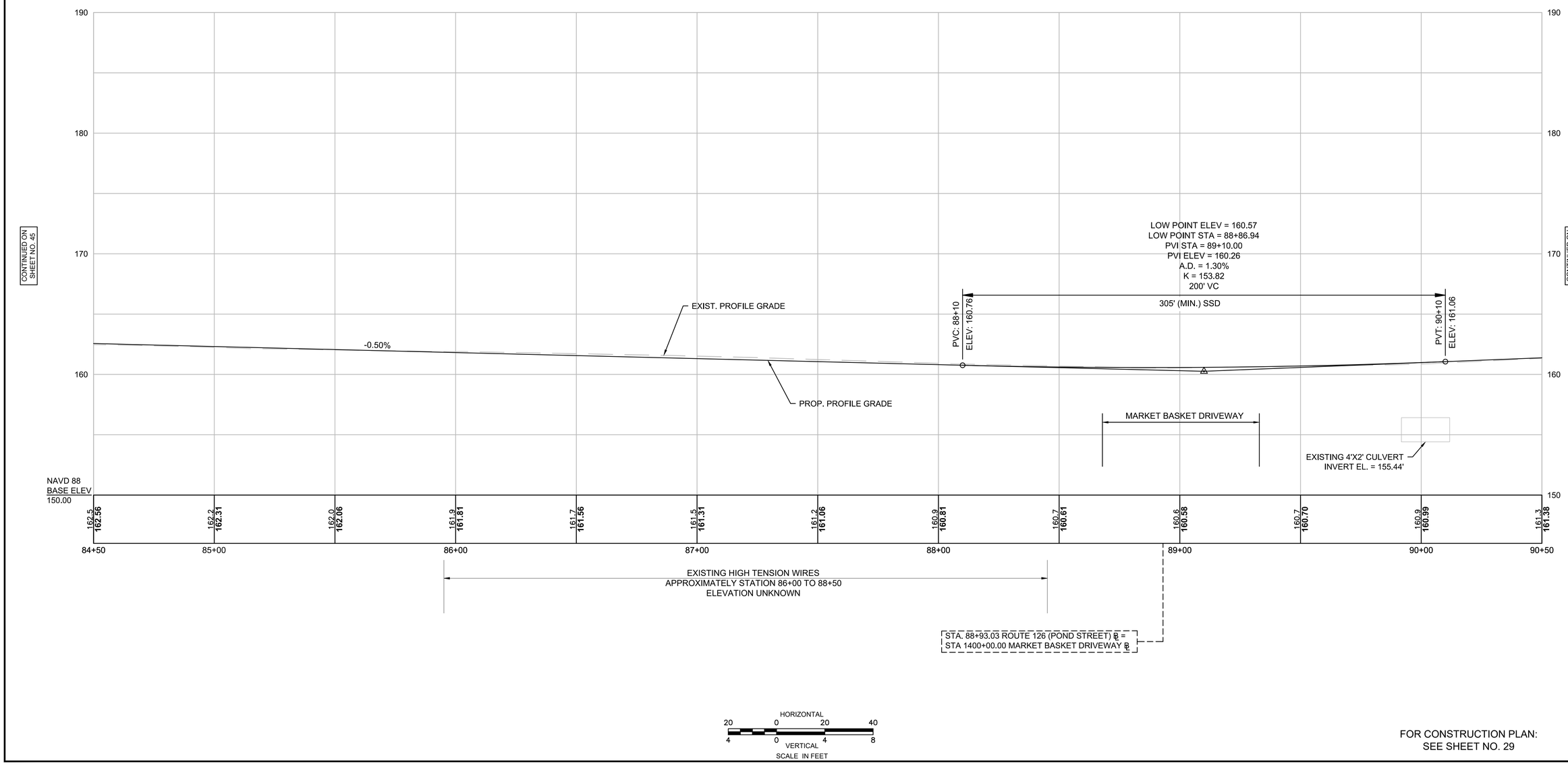
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	46	331
PROJECT FILE NO.	604123		

PROFILES - ROUTE 126 (14 OF 16)

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

ROUTE 126 (POND STREET)



FOR CONSTRUCTION PLAN:
SEE SHEET NO. 29

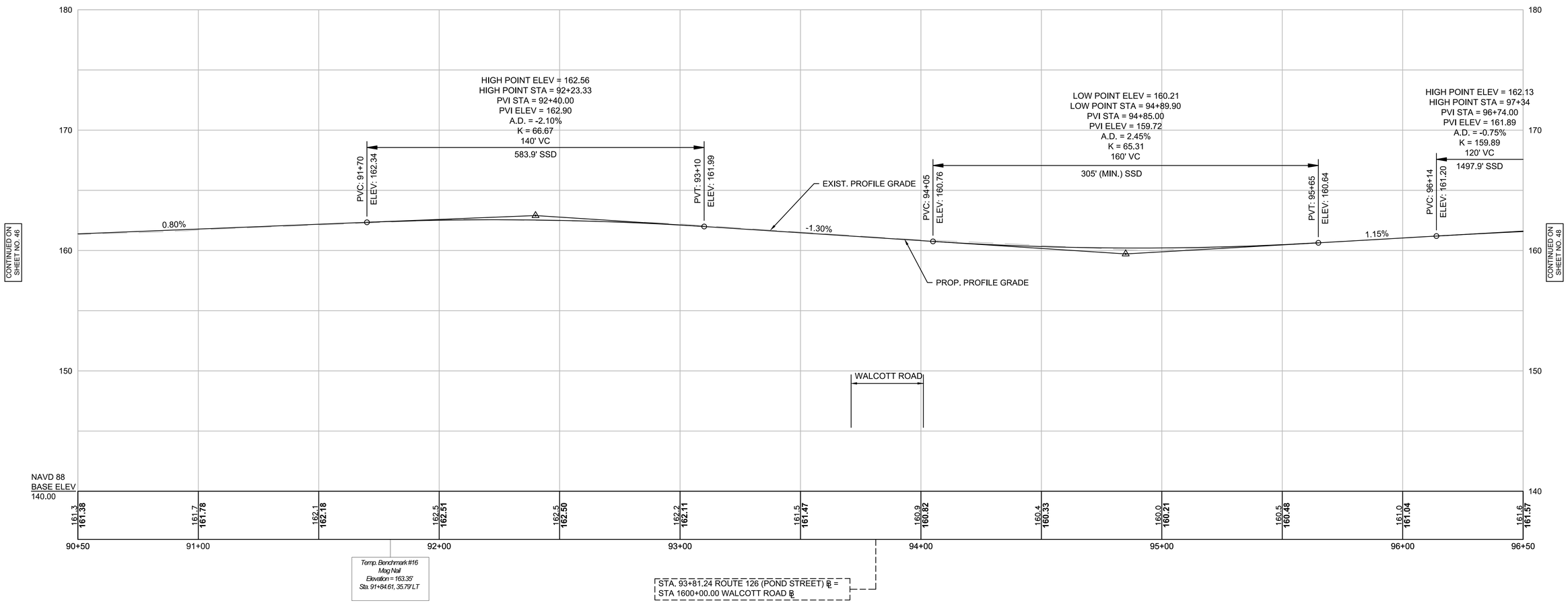
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	47	331
PROJECT FILE NO.	604123		

PROFILES - ROUTE 126 (15 OF 16)

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

ROUTE 126 (POND STREET)



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

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 30

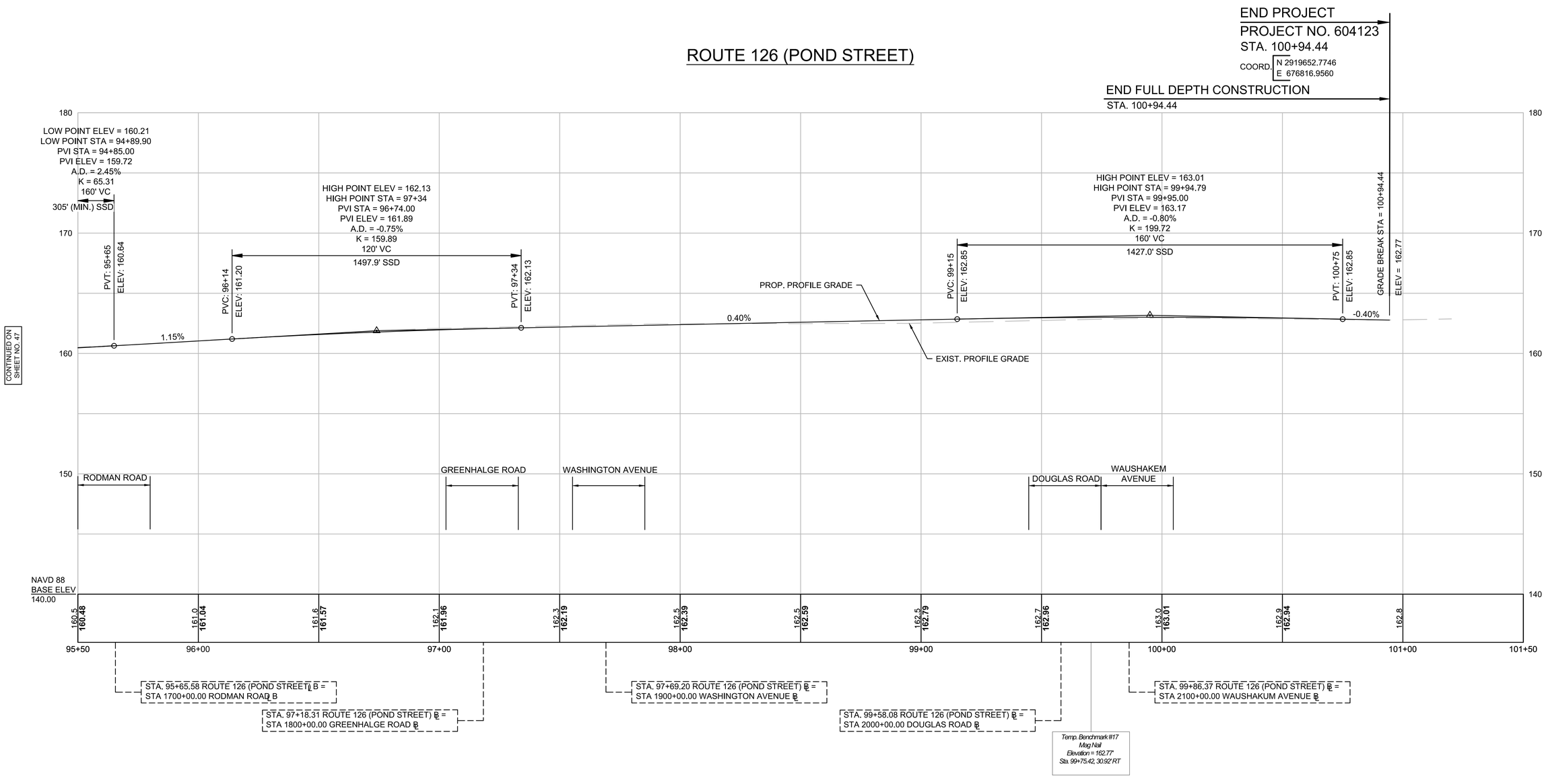
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	48	331
PROJECT FILE NO.	604123		

PROFILES - ROUTE 126 (16 OF 16)

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

ROUTE 126 (POND STREET)



FOR CONSTRUCTION PLAN:
SEE SHEET NO. 31

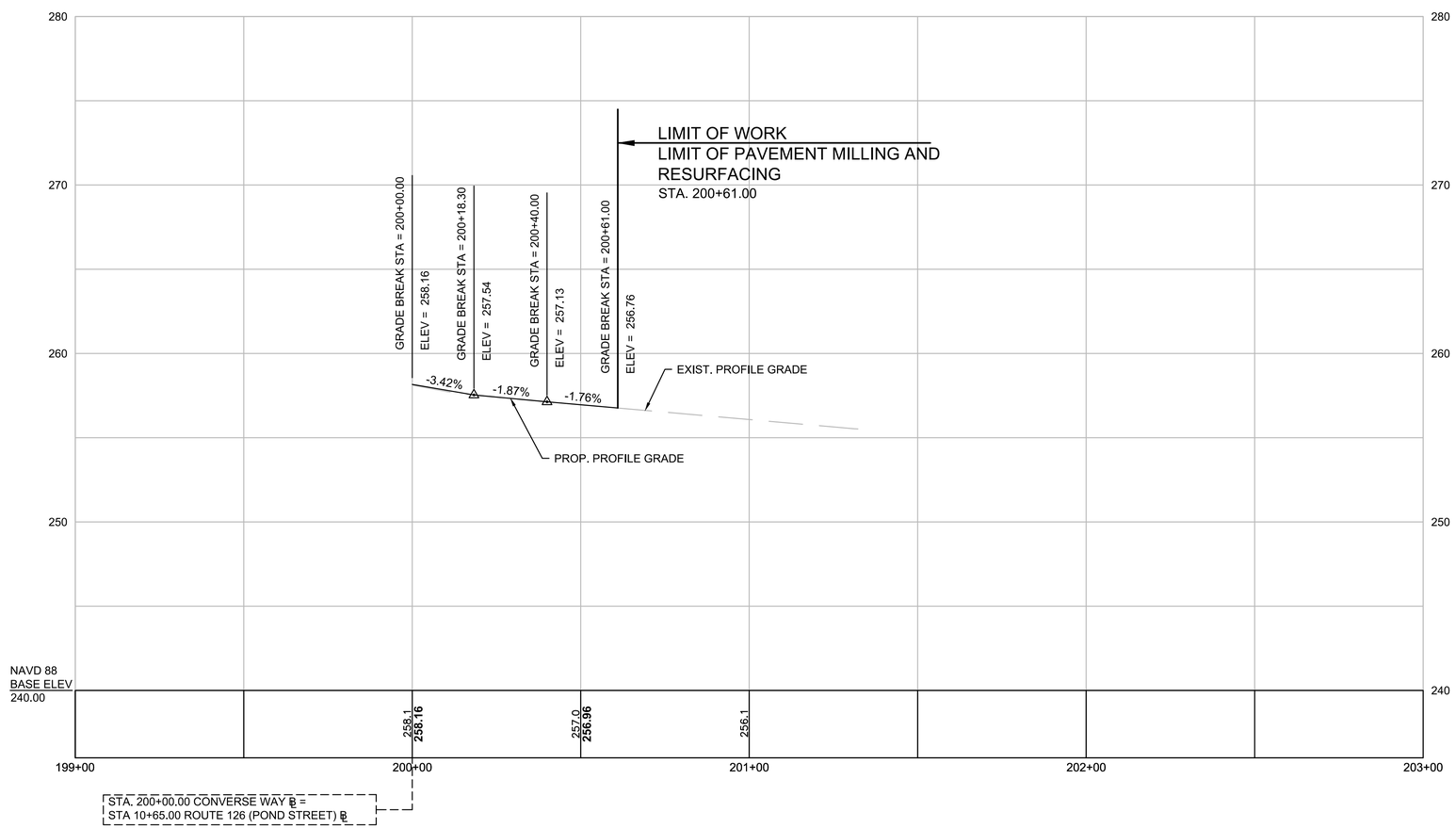
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	49	331
PROJECT FILE NO.	604123		

CONVERSE WAY PROFILE

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

CONVERSE WAY



HORIZONTAL
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VERTICAL
SCALE IN FEET

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 16

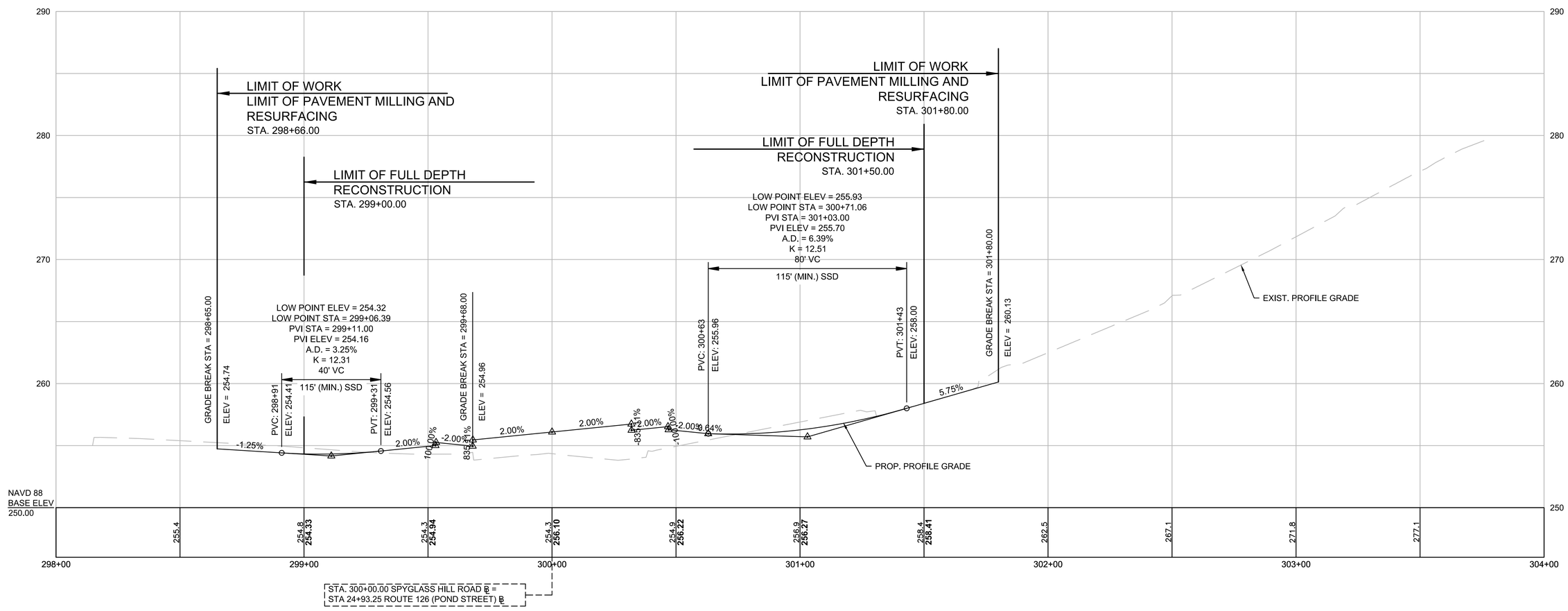
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	50	331
PROJECT FILE NO.	604123		

SPYGLASS HILL ROAD PROFILE

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

SPYGLASS HILL RD



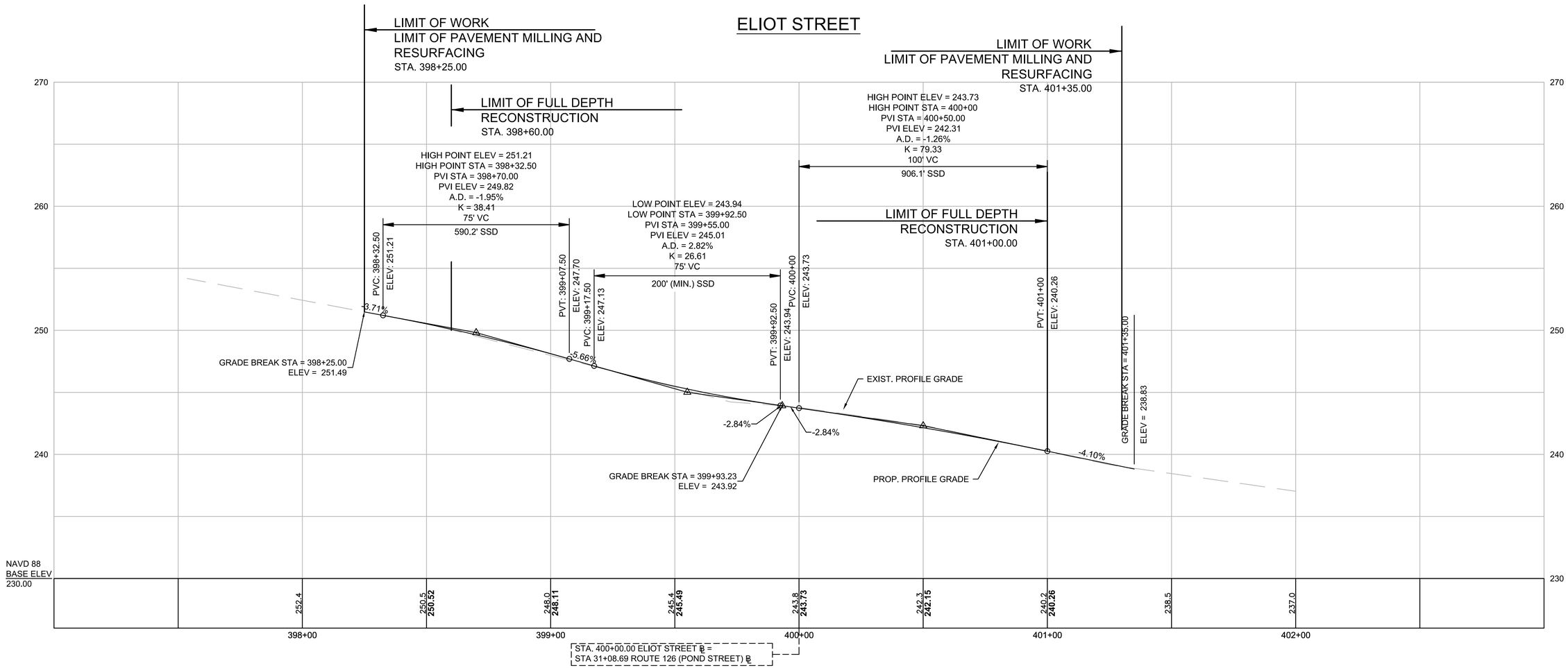
HORIZONTAL
20 0 20 40
4 0 4 8
VERTICAL
SCALE IN FEET

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 18

ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	51	331
PROJECT FILE NO.	604123		

ELIOT STREET PROFILE



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

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 19

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

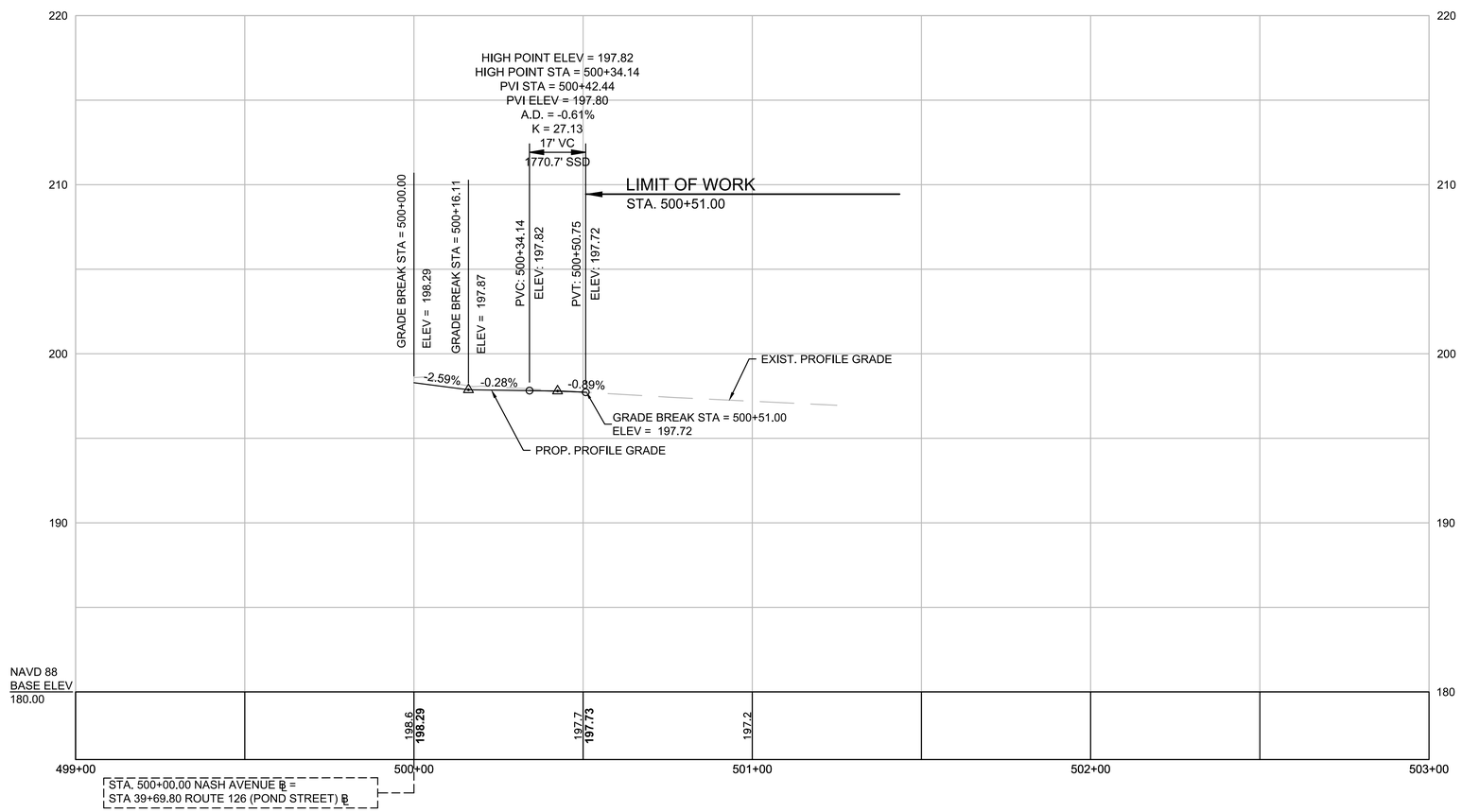
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	52	331
PROJECT FILE NO.	604123		

NASH AVENUE PROFILE

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

NASH AVE



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

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 21

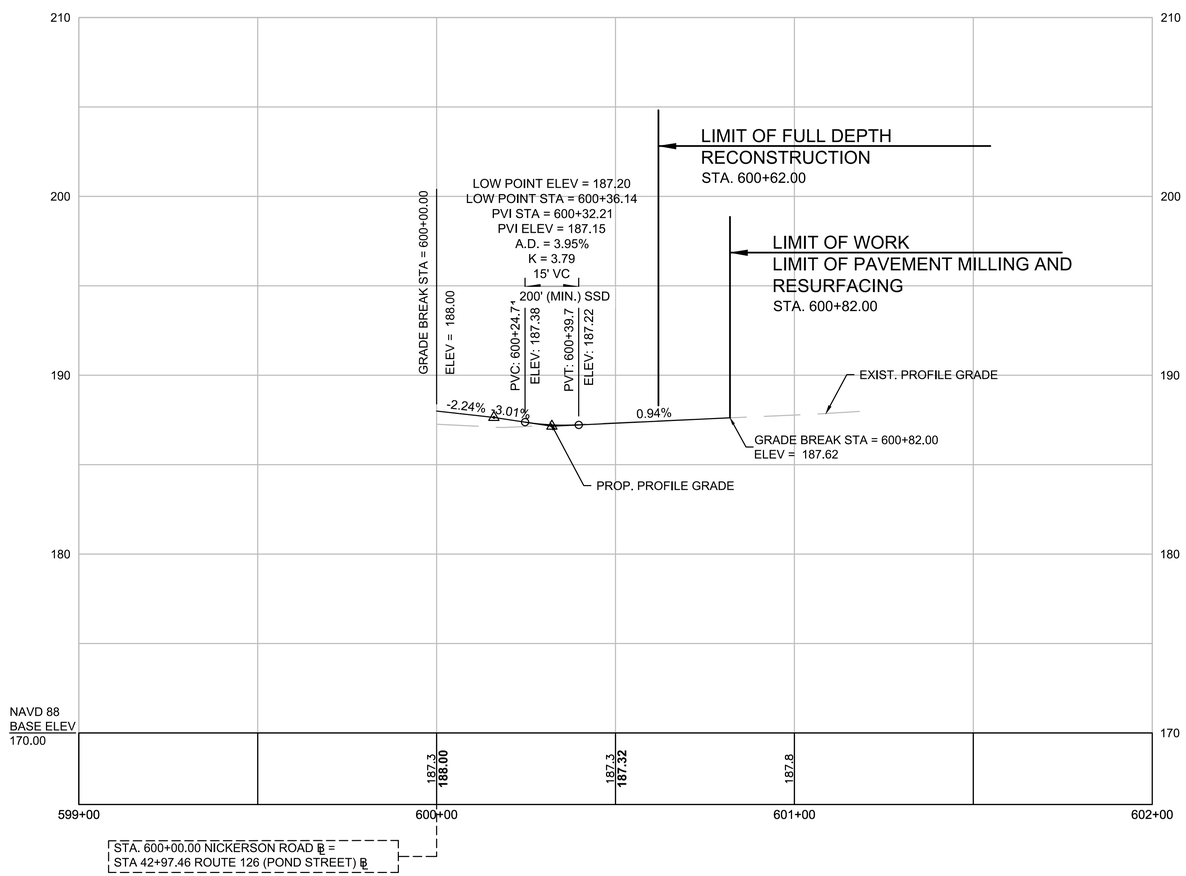
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	53	331
PROJECT FILE NO.	604123		

NICKERSON ROAD PROFILE

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

NICKERSON RD



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

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 21

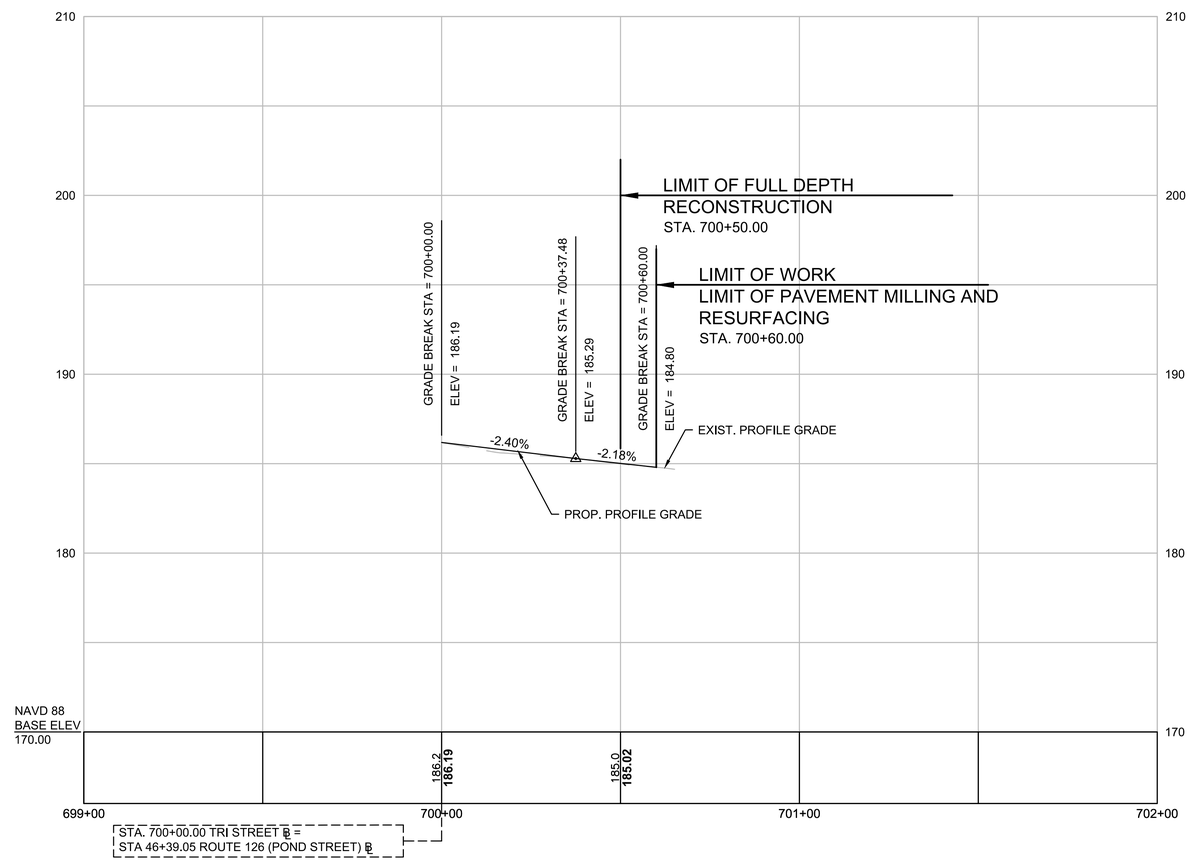
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	54	331
PROJECT FILE NO.	604123		

TRI STREET PROFILE

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

TRI STREET



HORIZONTAL
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4 0 4 8
VERTICAL
SCALE IN FEET

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 22

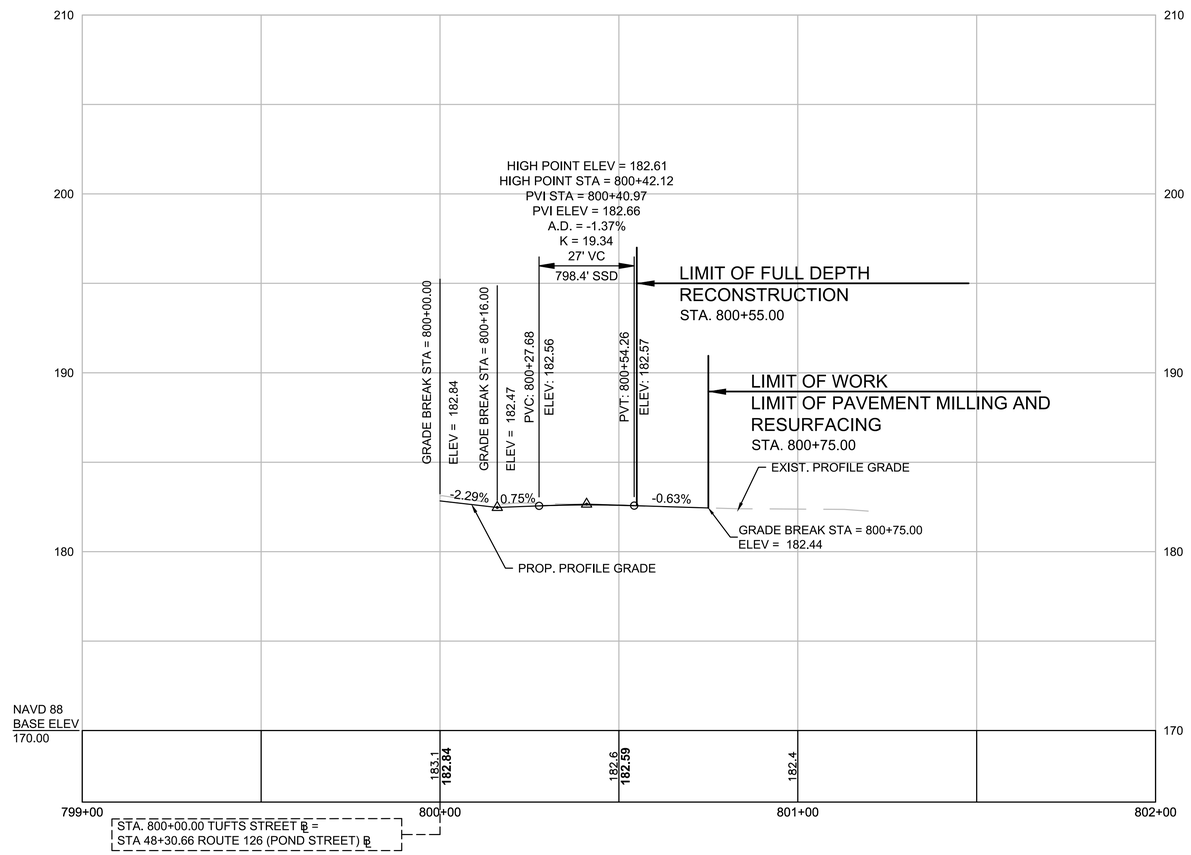
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	55	331
PROJECT FILE NO.	604123		

TUFTS STREET PROFILE

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

TUFTS STREET



HORIZONTAL
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4 0 4 8
VERTICAL
SCALE IN FEET

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 22

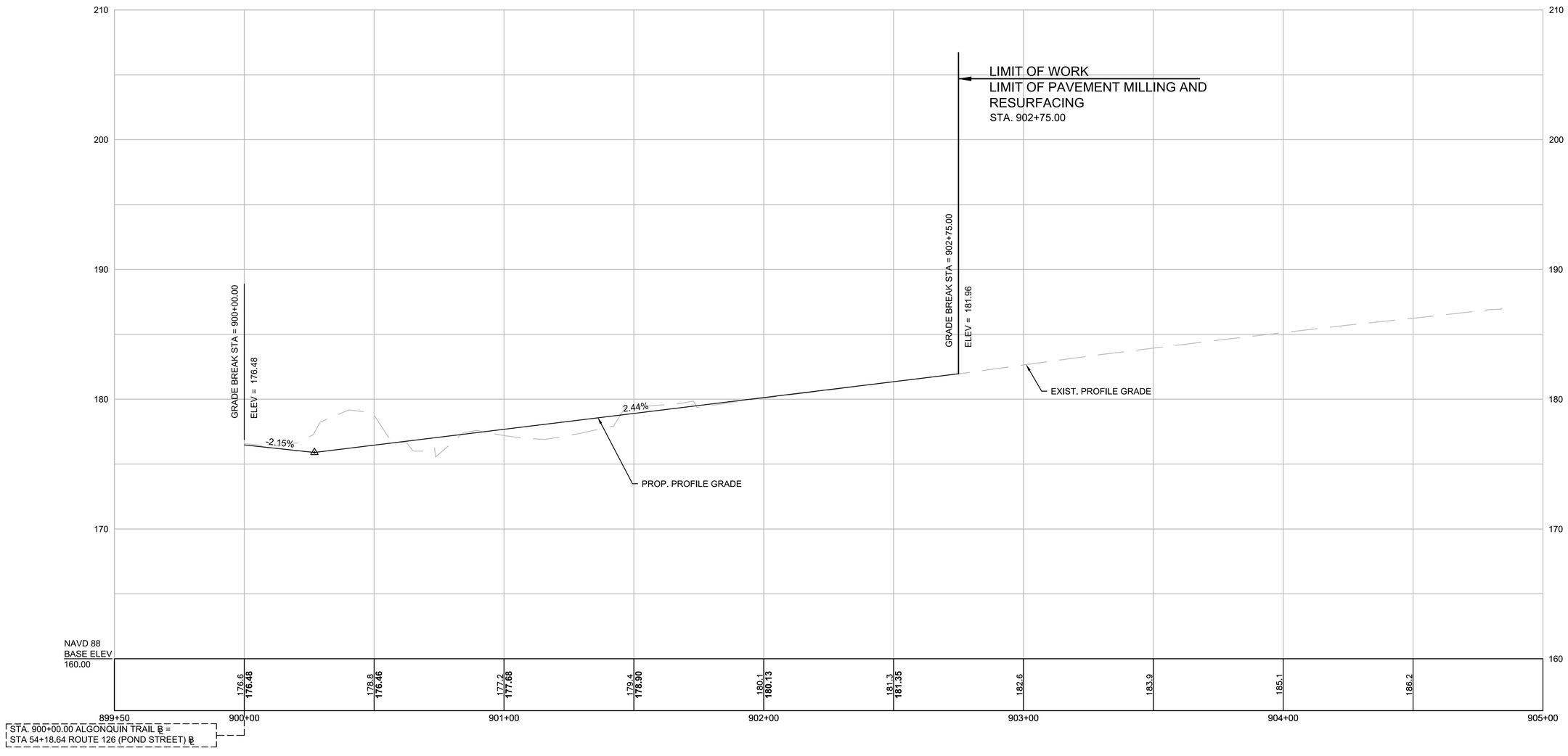
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	56	331
PROJECT FILE NO.	604123		

ALGONQUIN TRAIL PROFILE

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

ALGONQUIN TRAIL



HORIZONTAL
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4 0 4 8
VERTICAL
SCALE IN FEET

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 23

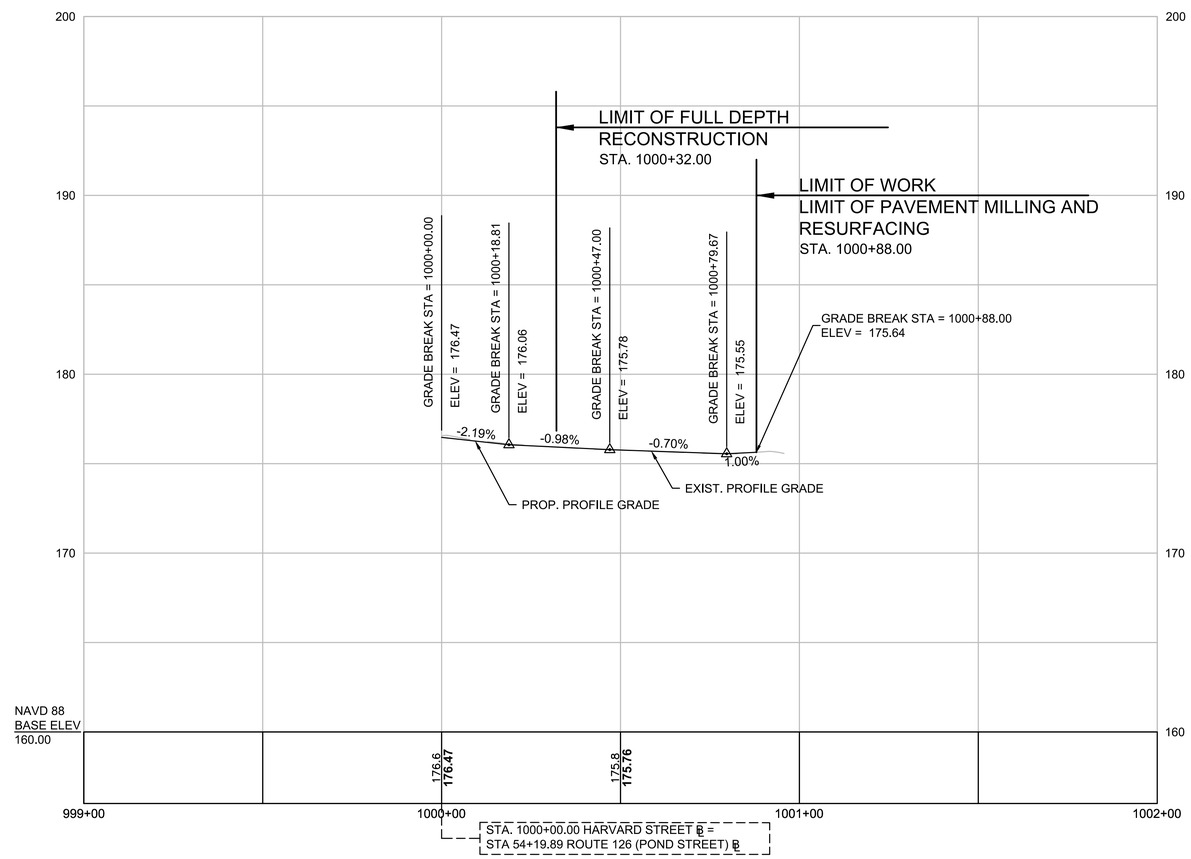
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	57	331
PROJECT FILE NO.	604123		

HARVARD STREET PROFILE

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

HARVARD STREET



HORIZONTAL
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4 0 4 8
VERTICAL
SCALE IN FEET

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 23

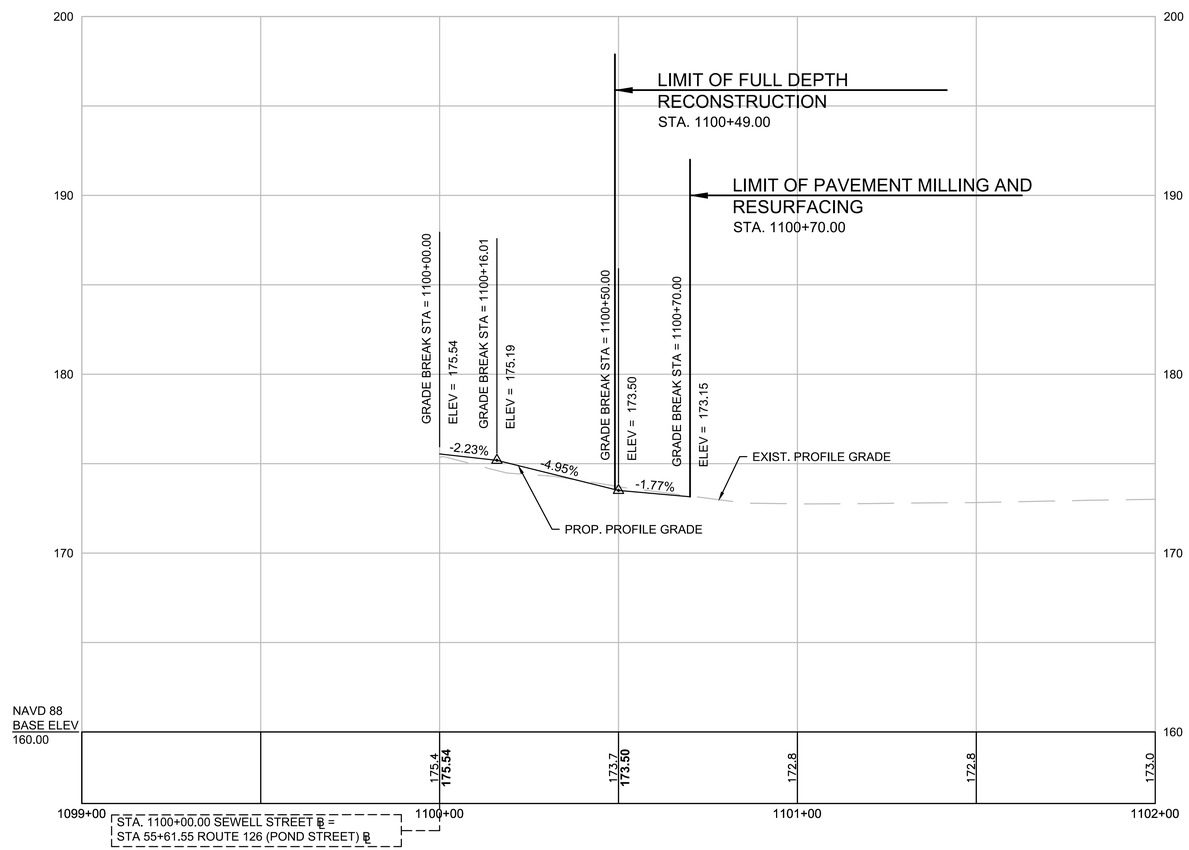
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	58	331
PROJECT FILE NO.	604123		

SEWELL STREET PROFILE

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

SEWELL STREET



HORIZONTAL
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4 0 4 8
VERTICAL
SCALE IN FEET

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 24

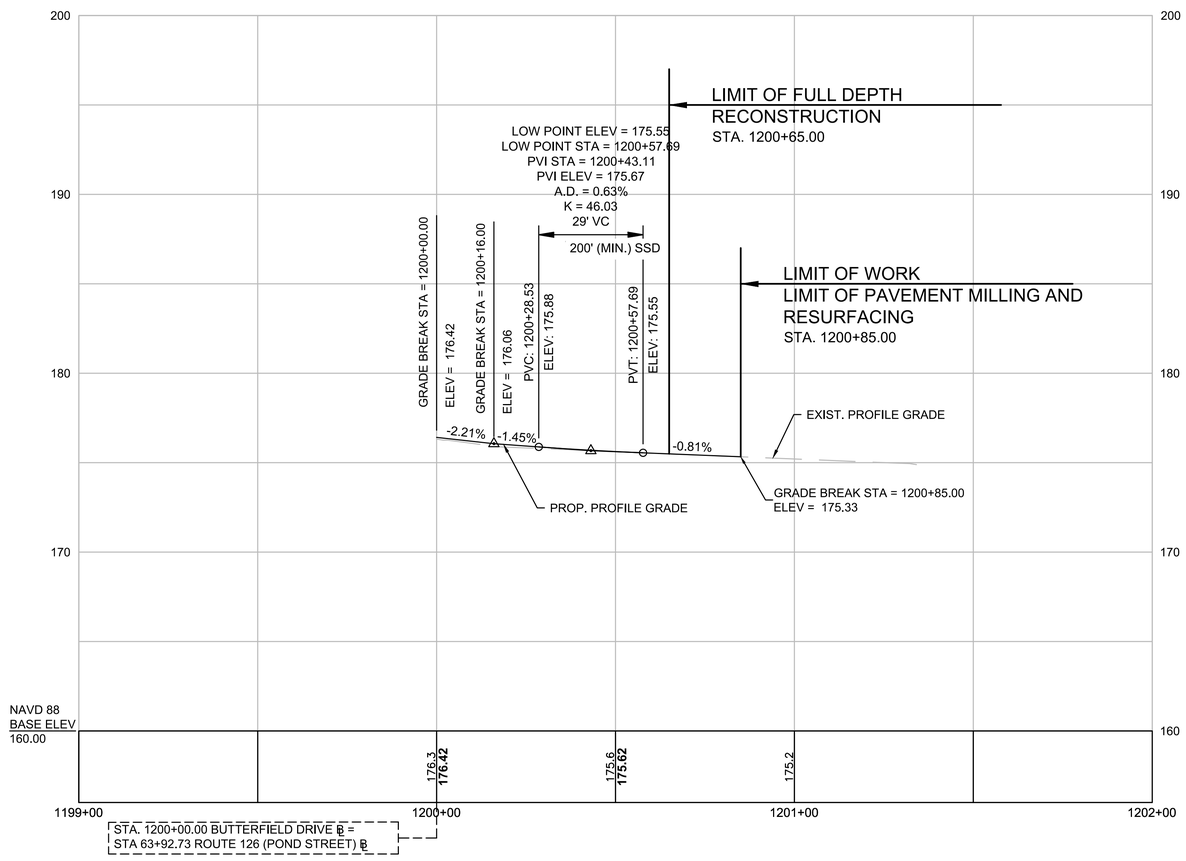
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	59	331
PROJECT FILE NO.	604123		

BUTTERFIELD DRIVE PROFILE

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

BUTTERFIELD DRIVE



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

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 25

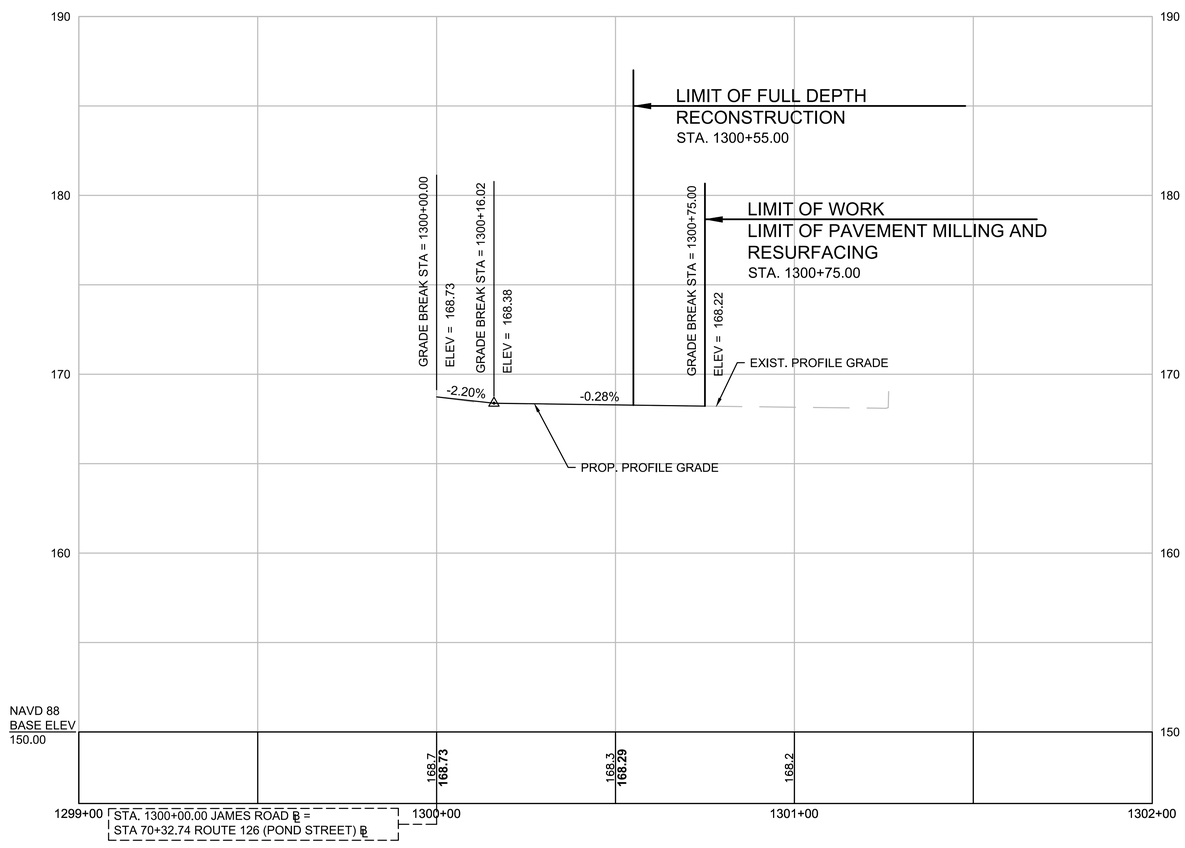
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	60	331
PROJECT FILE NO.	604123		

JAMES ROAD PROFILE

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

JAMES ROAD



HORIZONTAL
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4 0 4 8
VERTICAL
SCALE IN FEET

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 44

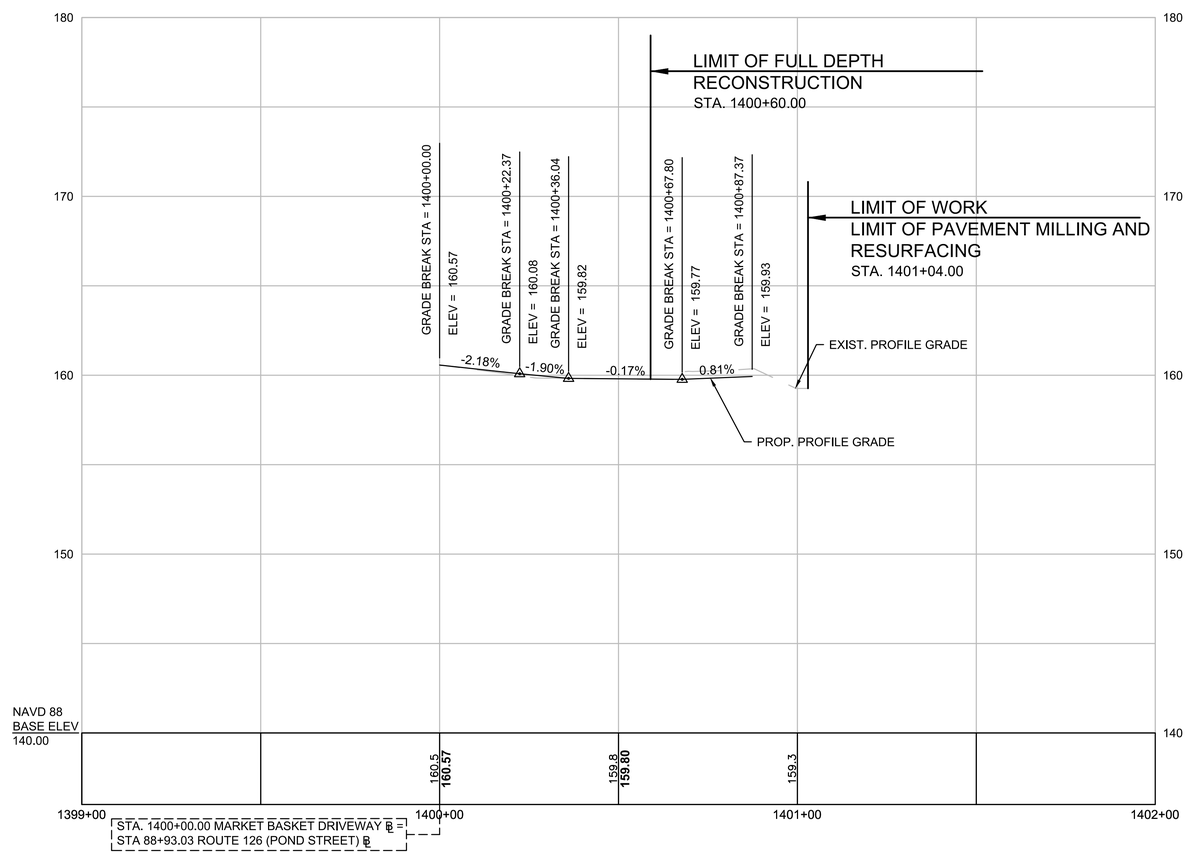
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	61	331
PROJECT FILE NO.	604123		

MARKET BASKET DRIVEWAY PROFILE

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

MARKET BASKET DRIVEWAY



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

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 29

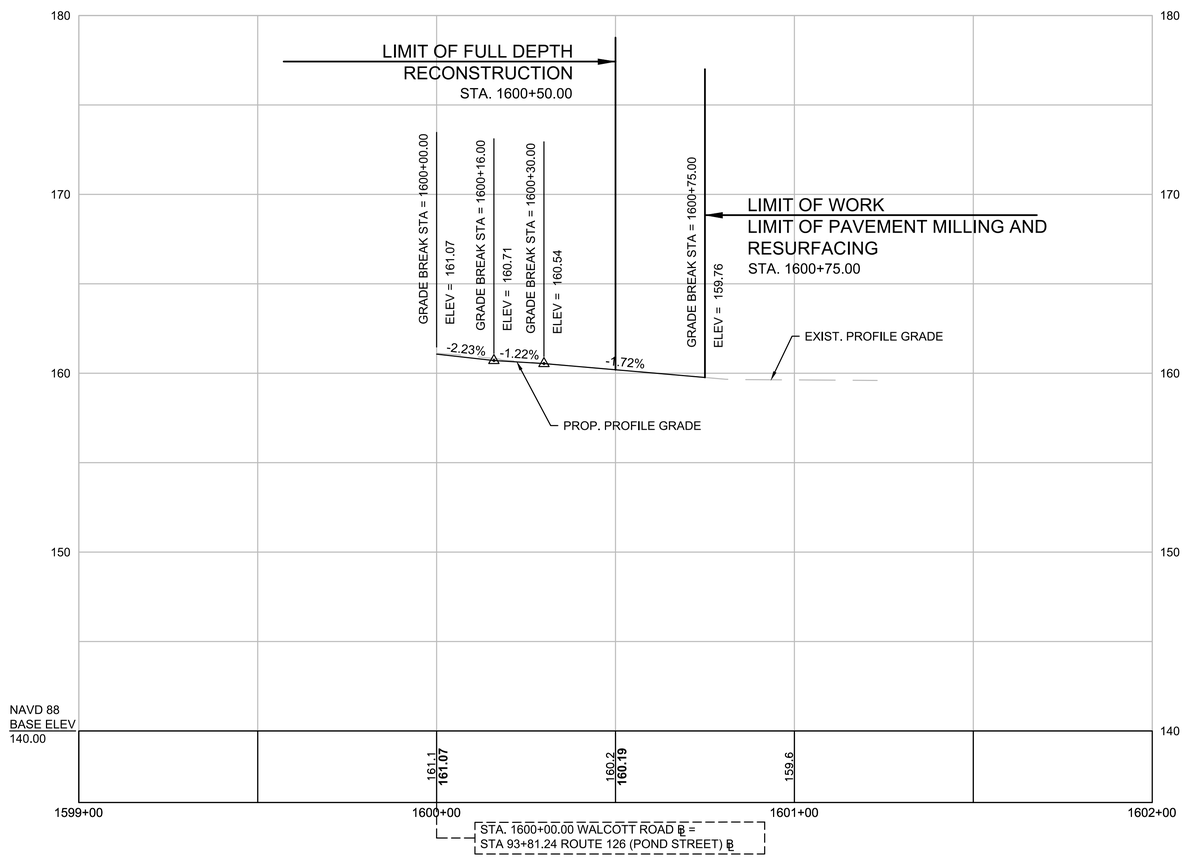
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	62	331
PROJECT FILE NO.	604123		

WALCOTT ROAD PROFILE

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

WALCOTT ROAD



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

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 30

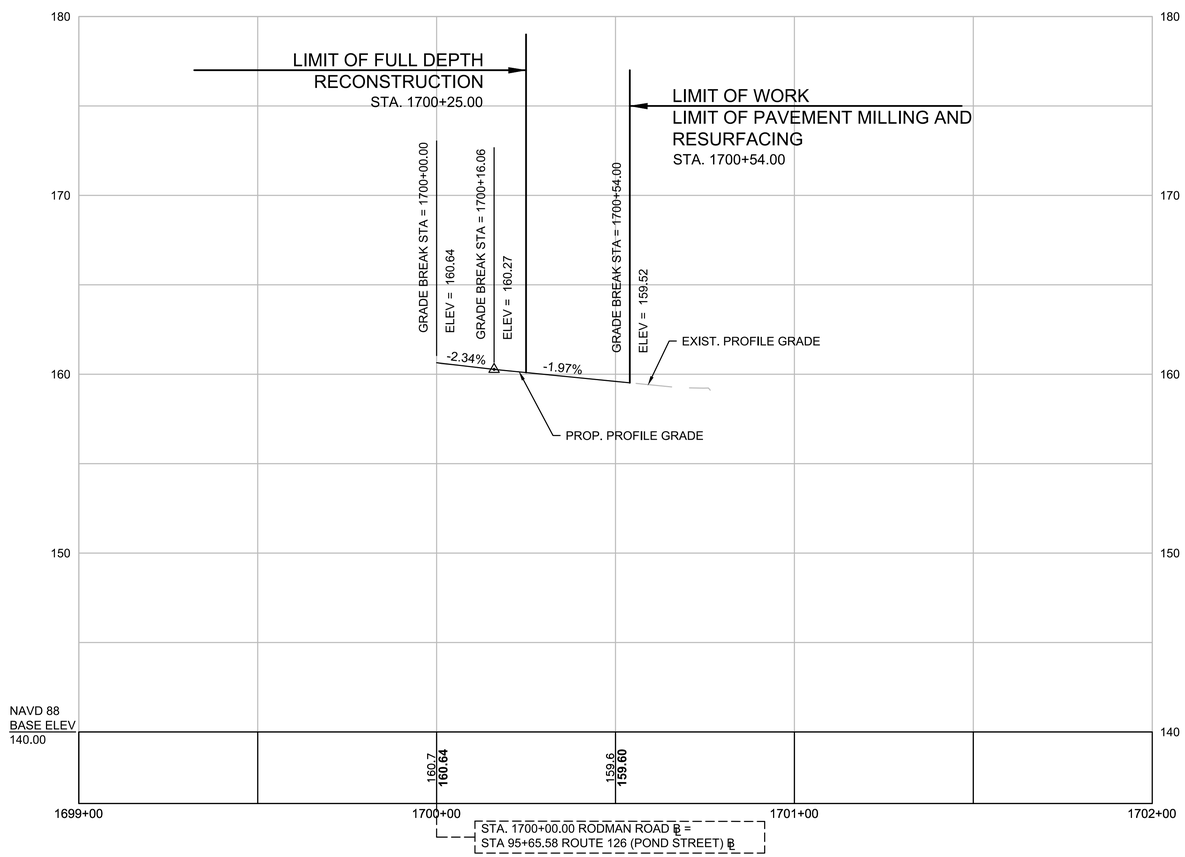
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	63	331
PROJECT FILE NO.	604123		

RODMAN ROAD PROFILE

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

RODMAN ROAD



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

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 30

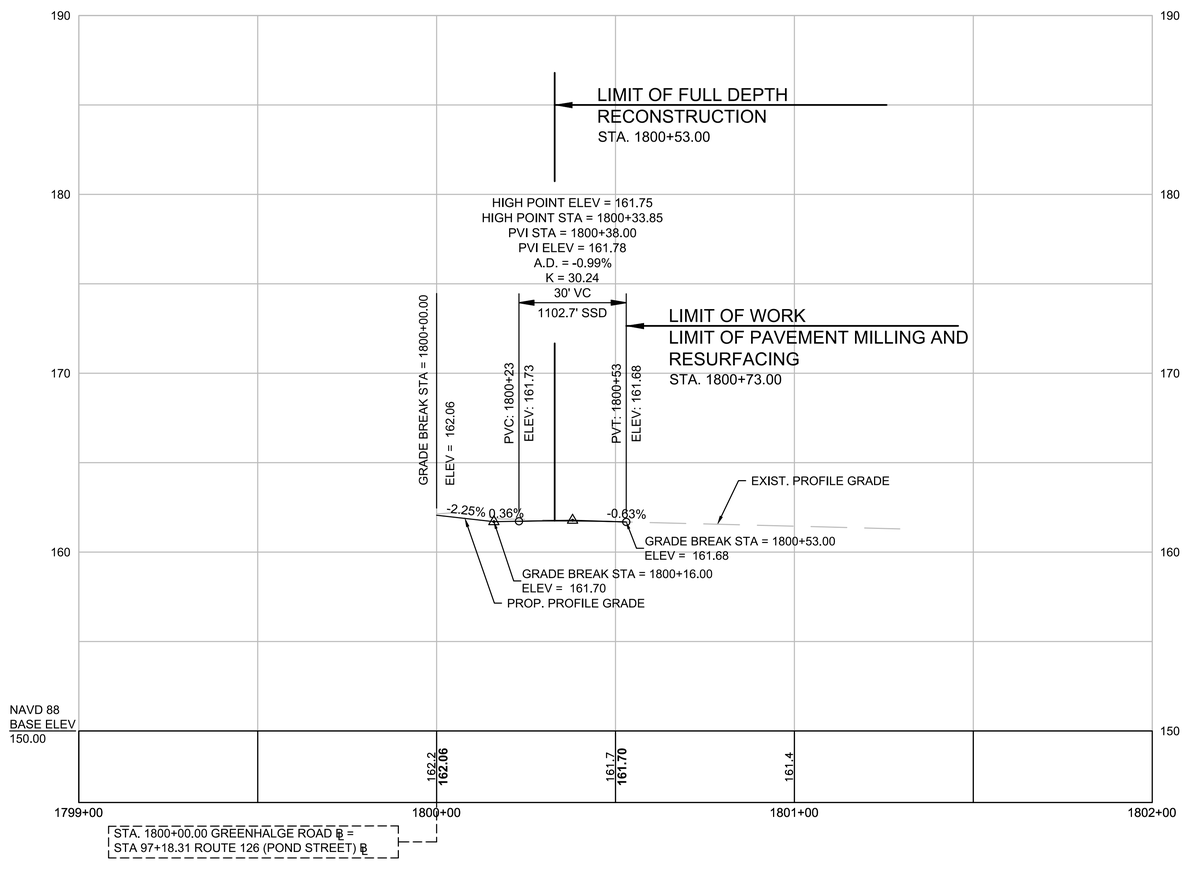
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	64	331
PROJECT FILE NO.	604123		

GREENHALGE ROAD PROFILE

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

GREENHALGE ROAD



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

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 31

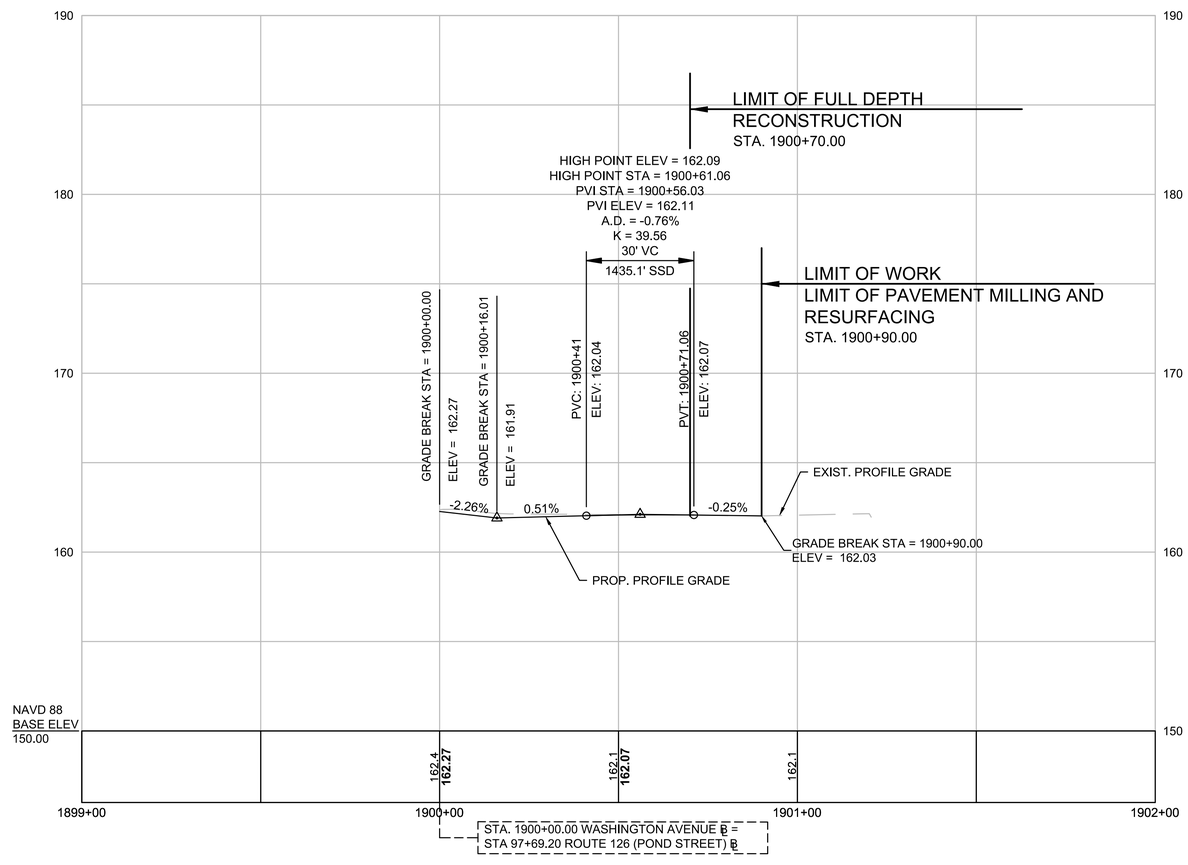
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	65	331
PROJECT FILE NO.	604123		

WASHINGTON AVENUE PROFILE

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

WASHINGTON AVENUE



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

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 31

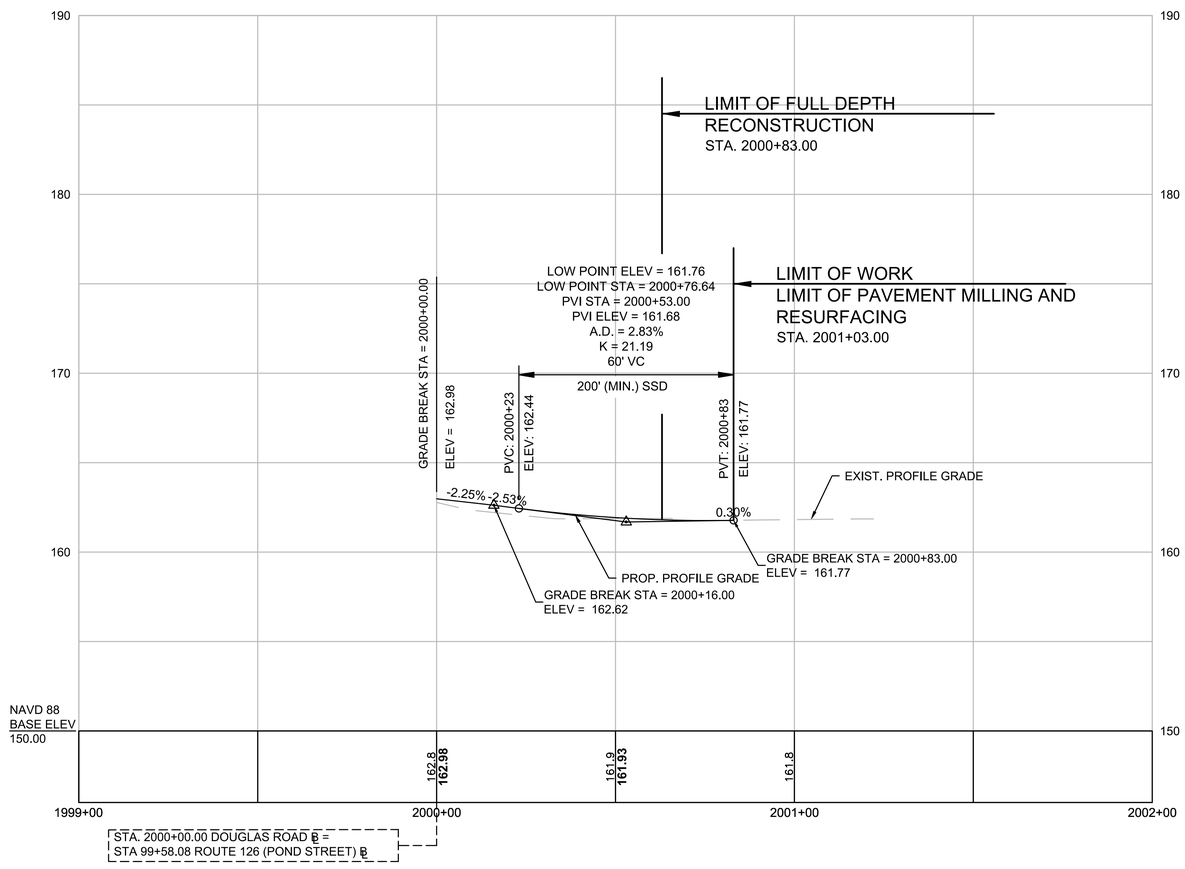
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	66	331
PROJECT FILE NO.	604123		

DOUGLAS ROAD PROFILE

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

DOUGLAS ROAD



HORIZONTAL
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4 0 4 8
VERTICAL
SCALE IN FEET

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 31

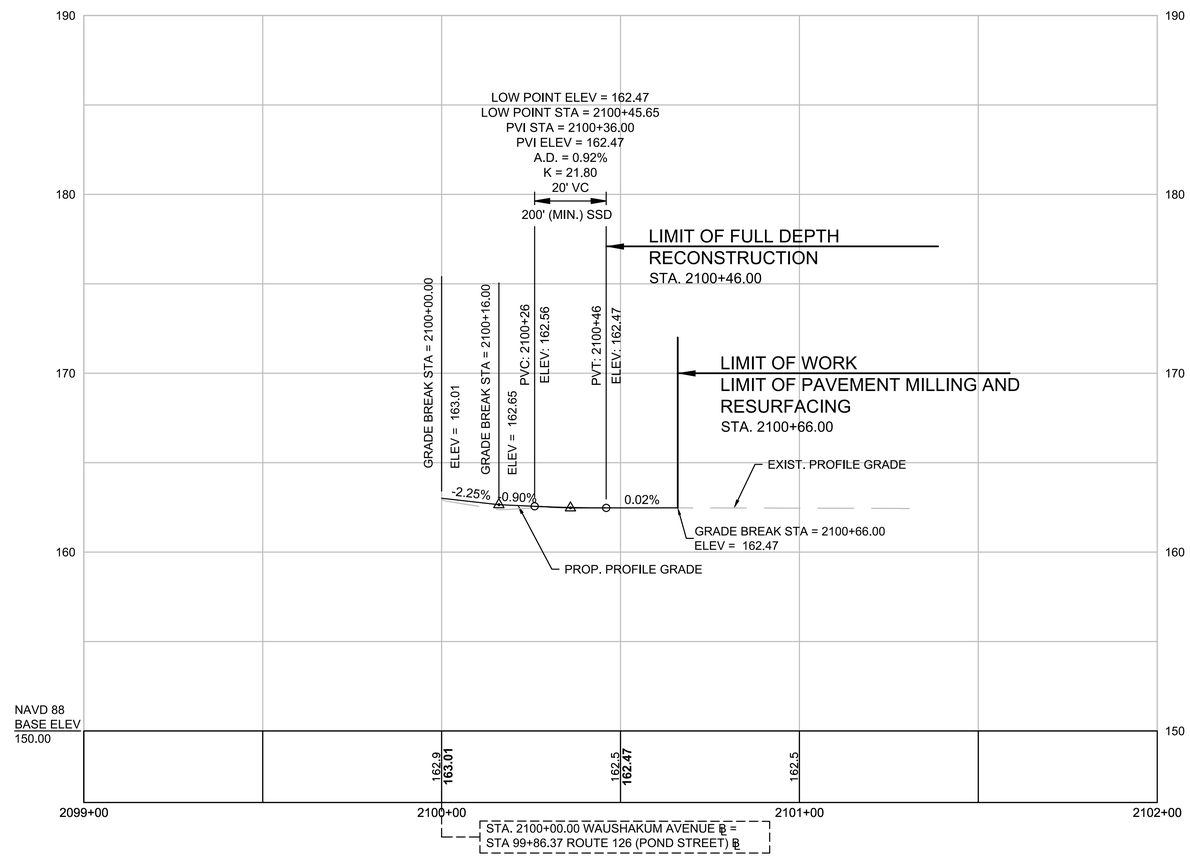
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	67	331
PROJECT FILE NO.	604123		

WAUSHAKUM AVENUE PROFILE

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

WAUSHAKUM AVENUE



HORIZONTAL
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4 0 4 8
VERTICAL
SCALE IN FEET

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 31

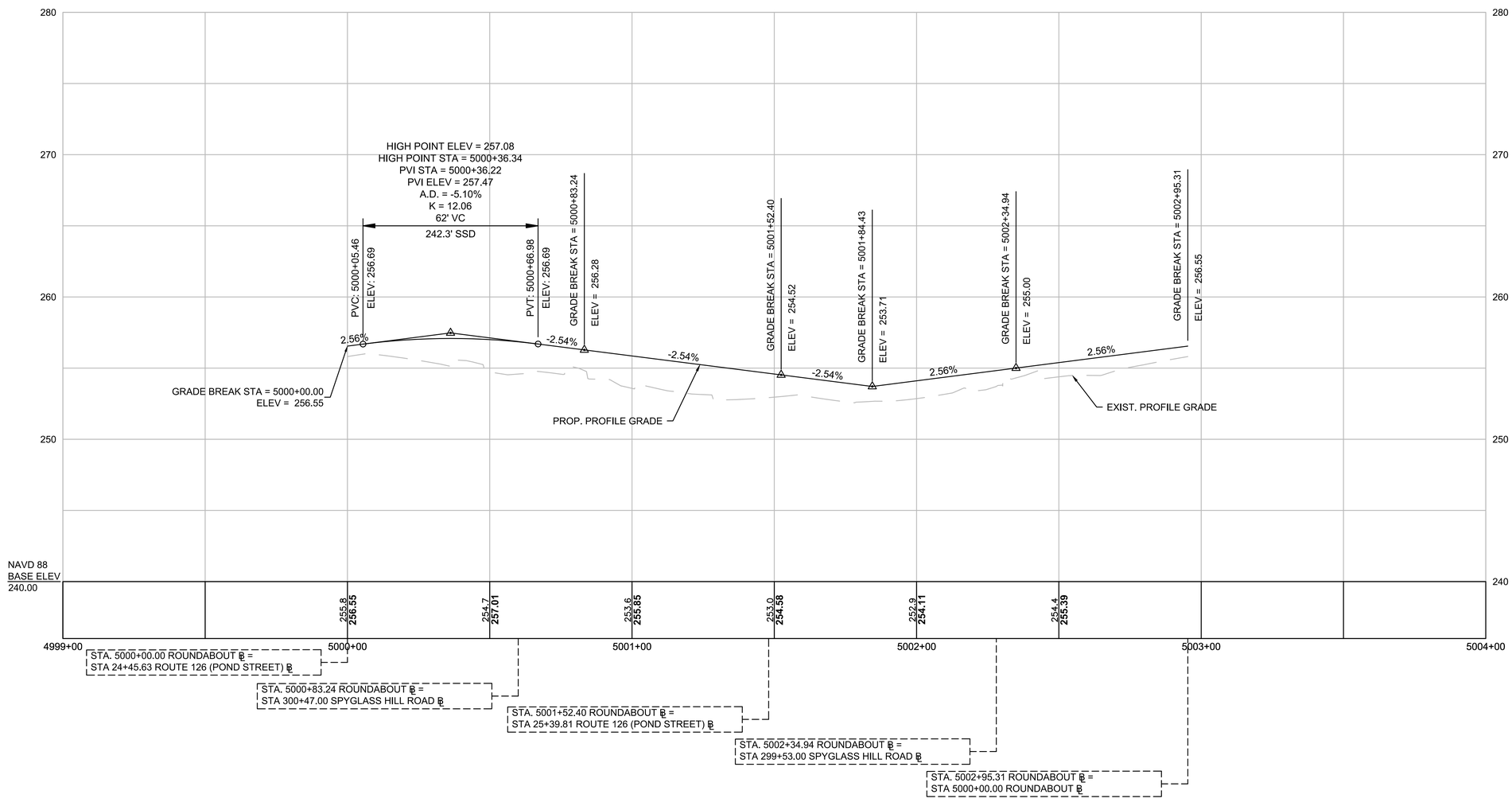
ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	68	331
PROJECT FILE NO.	604123		

ROUNDABOUT PROFILE

604123_HD09(PROFILES).DWG Plotted on 17-Oct-2017 4:44 PM

ROUNDABOUT



HORIZONTAL
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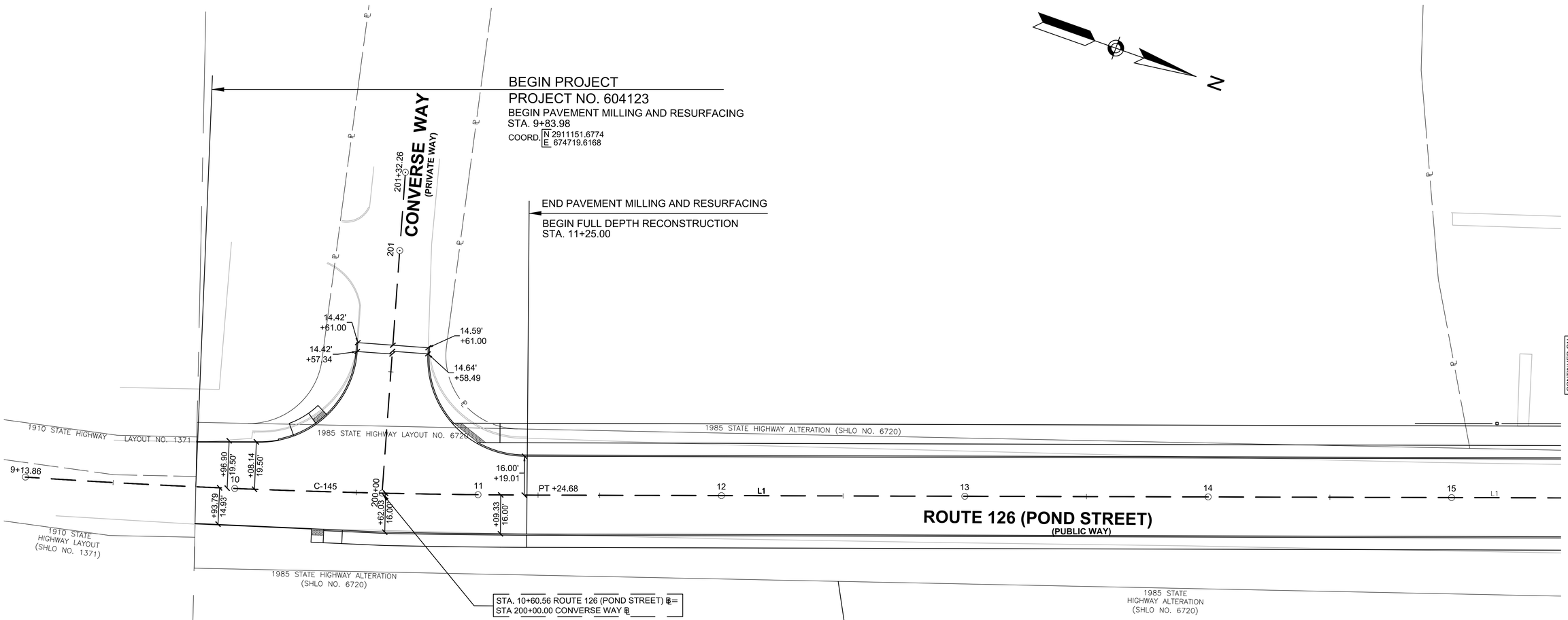
4 0 4 8
VERTICAL
SCALE IN FEET

FOR CONSTRUCTION PLAN:
SEE SHEET NO. 18

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	69	331
PROJECT FILE NO.	604123		

CURB TIE PLANS (1 OF 17)



ROUTE 126 (POND STREET) CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
C-145	9+13.86	2911084.356	674739.235	R=3250.00' Δ=3°43'00" L=210.82' T=105.44'	11+24.68	2911285.394	674675.901
L1	11+24.68	2911285.394	674675.901		17+50.49	2911875.881	674468.602

Curve Table			
Curve #	Delta	Radius	Length
C-100	86°01'04"	40.00	60.05
C-101	92°27'26"	40.00	64.55
C-102	0°54'15"	3011.72	47.53

0 20 50 100
SCALE: 1" = 20'

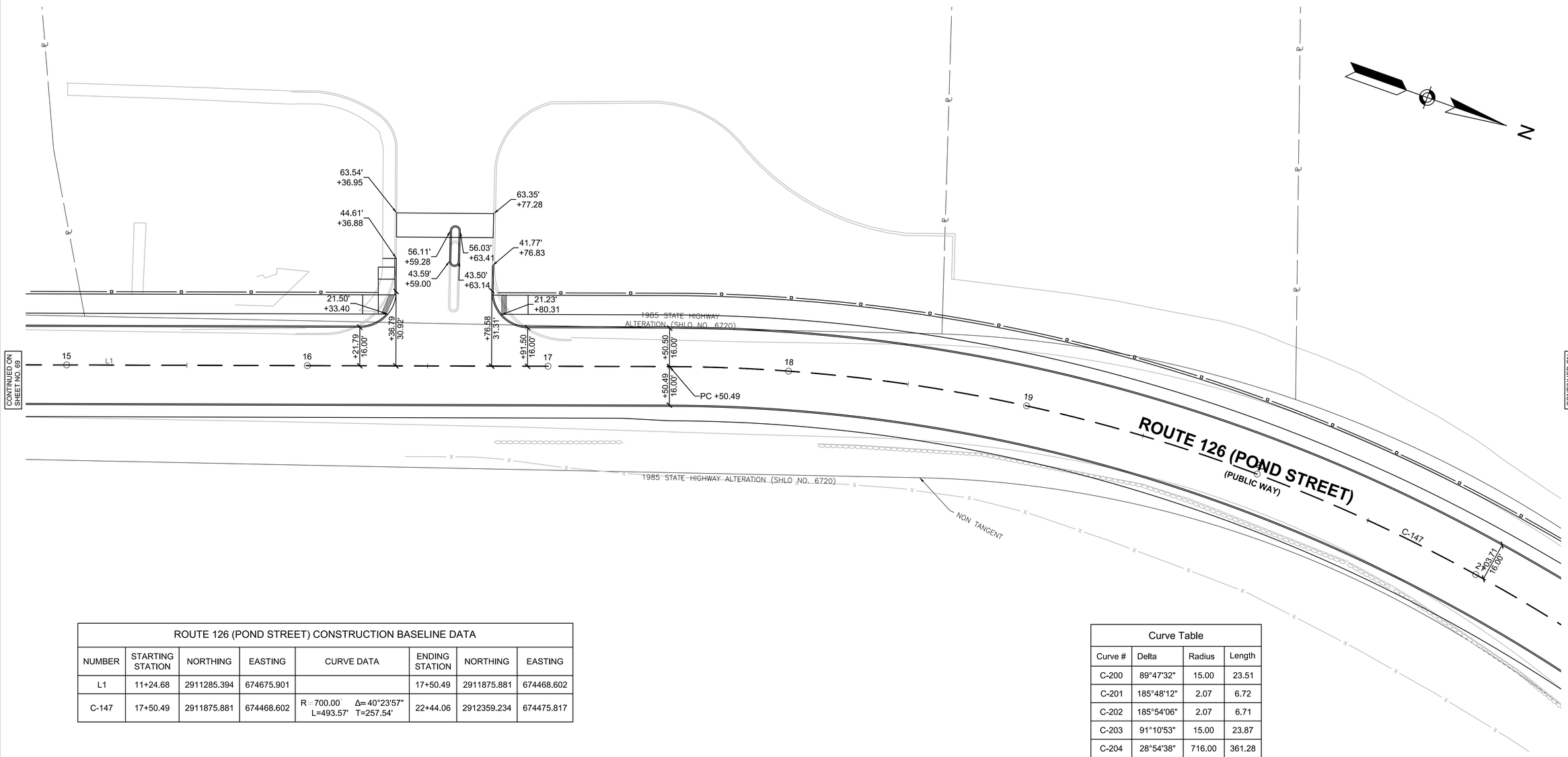
FOR PROFILE:
SEE SHEET NO. 33

604123_HD10(CURB-TIE-PLANS).DWG Plotted on 16-Mar-2018 10:31 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	70	331
PROJECT FILE NO.	604123		

CURB TIE PLANS (2 OF 17)



ROUTE 126 (POND STREET) CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L1	11+24.68	2911285.394	674675.901		17+50.49	2911875.881	674468.602
C-147	17+50.49	2911875.881	674468.602	R=700.00' Δ=40°23'57" L=493.57' T=257.54'	22+44.06	2912359.234	674475.817

Curve Table			
Curve #	Delta	Radius	Length
C-200	89°47'32"	15.00	23.51
C-201	185°48'12"	2.07	6.72
C-202	185°54'06"	2.07	6.71
C-203	91°10'53"	15.00	23.87
C-204	28°54'38"	716.00	361.28
C-205	11°29'17"	1015.50	203.61
C-206	43°22'55"	684.00	517.90

0 20 50 100
SCALE: 1" = 20'

FOR PROFILE:
SEE SHEET NO. 34

604123_HD10(CURB-TIE-PLANS).DWG Plotted on 16-Mar-2018 10:31 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	71	331
PROJECT FILE NO.	604123		

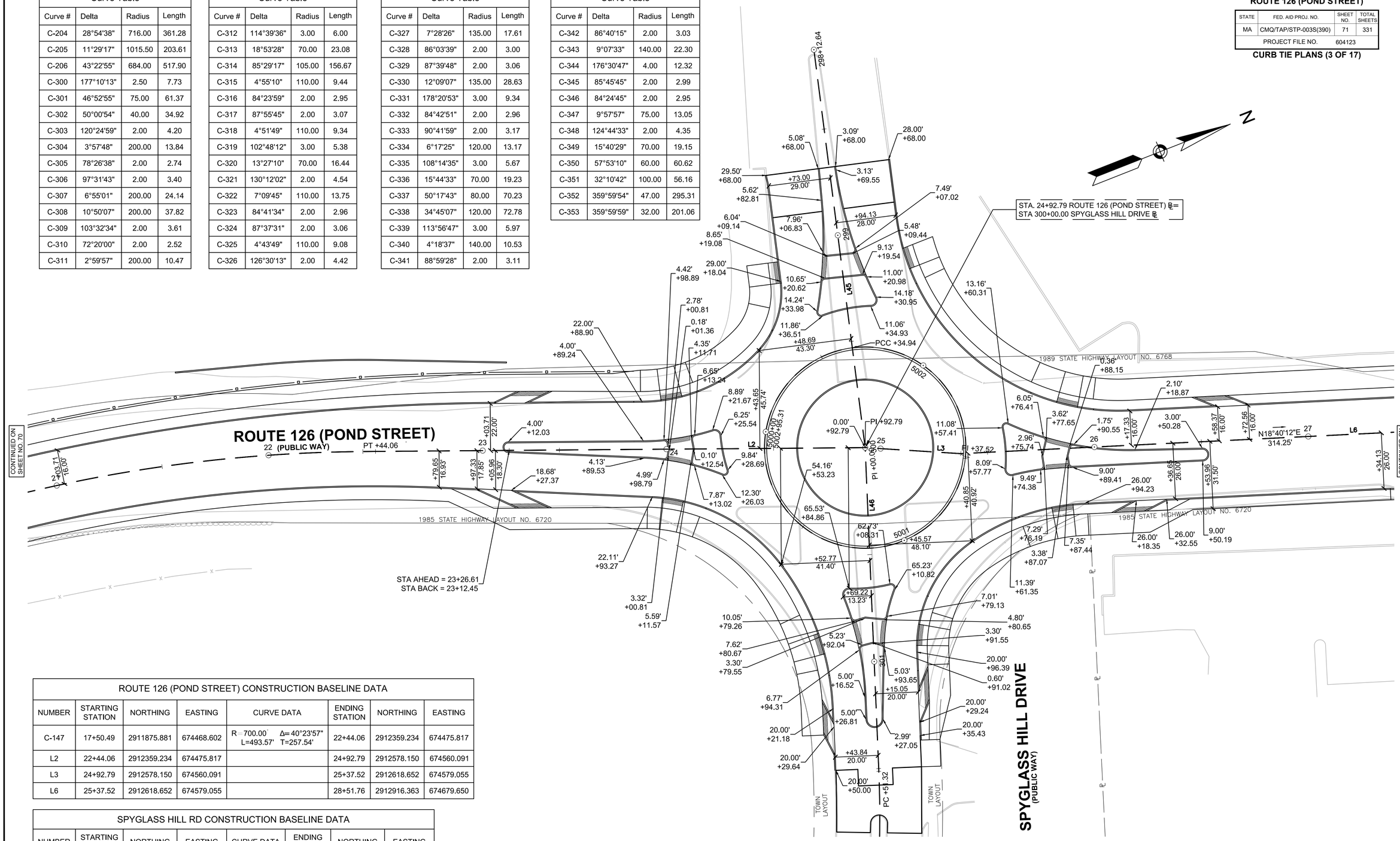
CURB TIE PLANS (3 OF 17)

Curve Table			
Curve #	Delta	Radius	Length
C-204	28°54'38"	716.00	361.28
C-205	11°29'17"	1015.50	203.61
C-206	43°22'55"	684.00	517.90
C-300	177°10'13"	2.50	7.73
C-301	46°52'55"	75.00	61.37
C-302	50°00'54"	40.00	34.92
C-303	120°24'59"	2.00	4.20
C-304	3°57'48"	200.00	13.84
C-305	78°26'38"	2.00	2.74
C-306	97°31'43"	2.00	3.40
C-307	6°55'01"	200.00	24.14
C-308	10°50'07"	200.00	37.82
C-309	103°32'34"	2.00	3.61
C-310	72°20'00"	2.00	2.52
C-311	2°59'57"	200.00	10.47

Curve Table			
Curve #	Delta	Radius	Length
C-312	114°39'36"	3.00	6.00
C-313	18°53'28"	70.00	23.08
C-314	85°29'17"	105.00	156.67
C-315	4°55'10"	110.00	9.44
C-316	84°23'59"	2.00	2.95
C-317	87°55'45"	2.00	3.07
C-318	4°51'49"	110.00	9.34
C-319	102°48'12"	3.00	5.38
C-320	13°27'10"	70.00	16.44
C-321	130°12'02"	2.00	4.54
C-322	7°09'45"	110.00	13.75
C-323	84°41'34"	2.00	2.96
C-324	87°37'31"	2.00	3.06
C-325	4°43'49"	110.00	9.08
C-326	126°30'13"	2.00	4.42

Curve Table			
Curve #	Delta	Radius	Length
C-327	7°28'26"	135.00	17.61
C-328	86°03'39"	2.00	3.00
C-329	87°39'48"	2.00	3.06
C-330	12°09'07"	135.00	28.63
C-331	178°20'53"	3.00	9.34
C-332	84°42'51"	2.00	2.96
C-333	90°41'59"	2.00	3.17
C-334	6°17'25"	120.00	13.17
C-335	108°14'35"	3.00	5.67
C-336	15°44'33"	70.00	19.23
C-337	50°17'43"	80.00	70.23
C-338	34°45'07"	120.00	72.78
C-339	113°56'47"	3.00	5.97
C-340	4°18'37"	140.00	10.53
C-341	88°59'28"	2.00	3.11

Curve Table			
Curve #	Delta	Radius	Length
C-342	86°40'15"	2.00	3.03
C-343	9°07'33"	140.00	22.30
C-344	176°30'47"	4.00	12.32
C-345	85°45'45"	2.00	2.99
C-346	84°24'45"	2.00	2.95
C-347	9°57'57"	75.00	13.05
C-348	124°44'33"	2.00	4.35
C-349	15°40'29"	70.00	19.15
C-350	57°53'10"	60.00	60.62
C-351	32°10'42"	100.00	56.16
C-352	359°59'54"	47.00	295.31
C-353	359°59'59"	32.00	201.06



ROUTE 126 (POND STREET) CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
C-147	17+50.49	2911875.881	674468.602	R=700.00' Δ=40°23'57" L=493.57' T=257.54'	22+44.06	2912359.234	674475.817
L2	22+44.06	2912359.234	674475.817		24+92.79	2912578.150	674560.091
L3	24+92.79	2912578.150	674560.091		25+37.52	2912618.652	674579.055
L6	25+37.52	2912618.652	674579.055		28+51.76	2912916.363	674679.650

SPYGLASS HILL RD CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L45	298+12.64	2912623.980	674378.418		300+00.00	2912578.150	674560.091
L46	300+00.00	2912578.150	674560.091		301+51.32	2912528.676	674703.092

FOR PROFILE:
SEE SHEET NO. 35

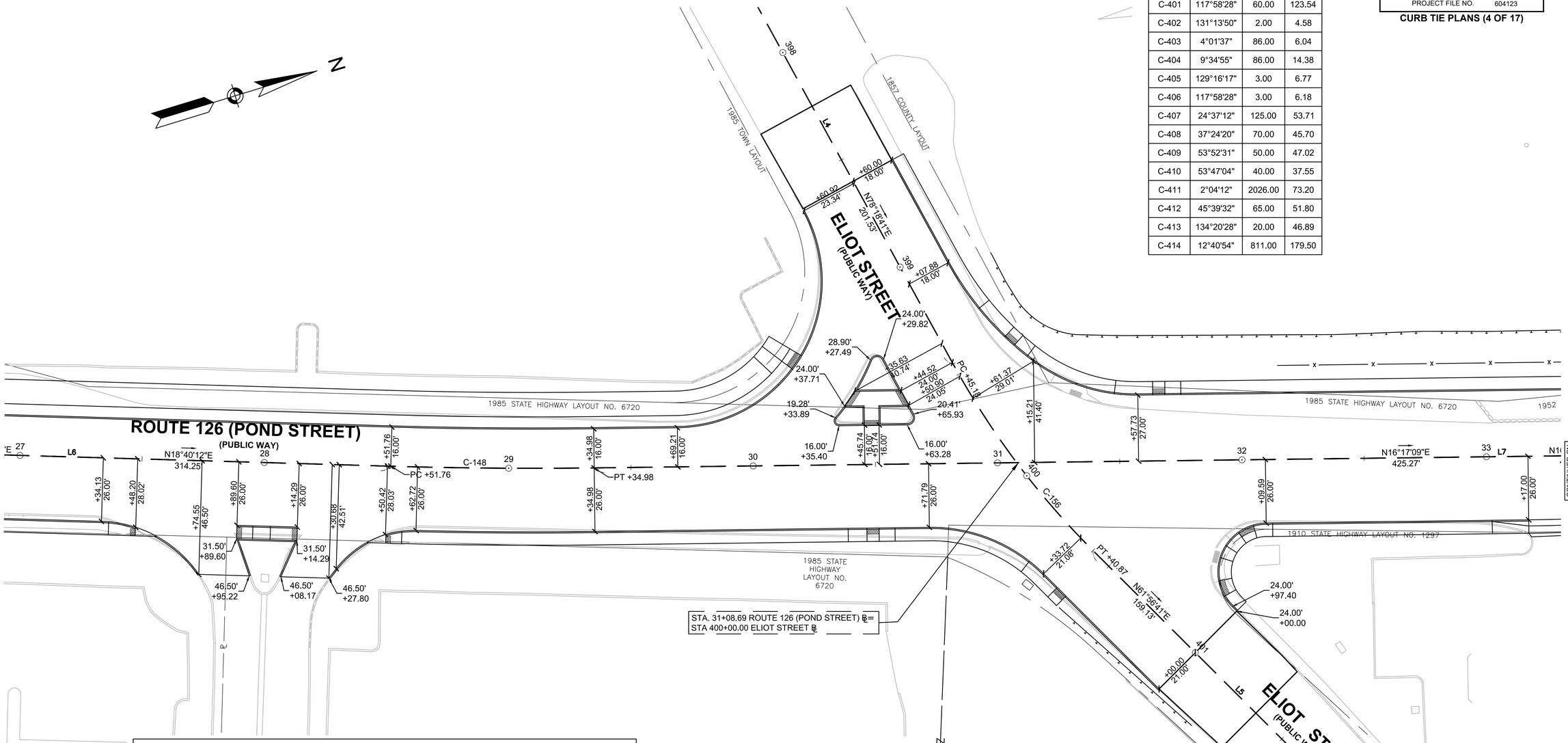
604123_HD10(CURB-TIE-PLANS).DWG Plotted on 16-Mar-2018 10:31 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	72	331
PROJECT FILE NO.	604123		

CURB TIE PLANS (4 OF 17)

Curve Table			
Curve #	Delta	Radius	Length
C-400	2°23'03"	1984.00	82.55
C-401	117°58'28"	60.00	123.54
C-402	131°13'50"	2.00	4.58
C-403	4°01'37"	86.00	6.04
C-404	9°34'55"	86.00	14.38
C-405	129°16'17"	3.00	6.77
C-406	117°58'28"	3.00	6.18
C-407	24°37'12"	125.00	53.71
C-408	37°24'20"	70.00	45.70
C-409	53°52'31"	50.00	47.02
C-410	53°47'04"	40.00	37.55
C-411	2°04'12"	2026.00	73.20
C-412	45°39'32"	65.00	51.80
C-413	134°20'28"	20.00	46.89
C-414	12°40'54"	811.00	179.50



ROUTE 126 (POND STREET) CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L6	25+37.52	2912618.652	674579.055		28+51.76	2912916.363	674679.650
C-148	28+51.76	2912916.363	674679.650	R=2000.00' Δ=2°23'03" L=83.22' T=41.62'	29+34.98	2912995.734	674704.642
L7	29+34.98	2912995.734	674704.642		33+60.25	2913403.939	674823.900

ELIOT STREET CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L4	397+43.64	2913107.756	674509.566		399+45.18	2913148.586	674706.921
C-156	399+45.18	2913148.586	674706.921	R=335.00' Δ=16°22'00" L=95.69' T=48.17'	400+40.87	2913181.003	674796.611
L5	400+40.87	2913181.003	674796.611		402+00.00	2913255.846	674937.043

0 20 50 100
SCALE: 1" = 20'

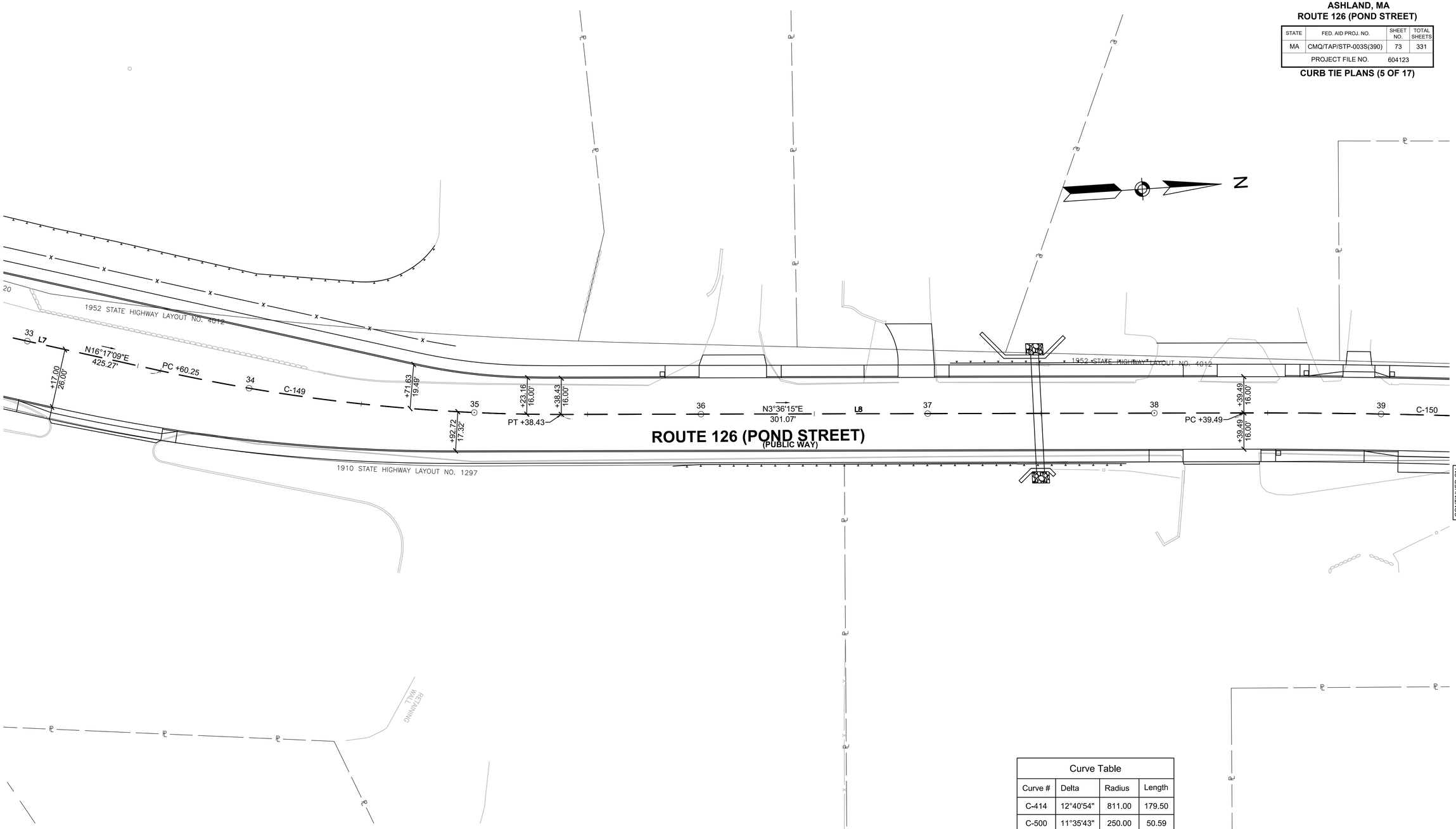
FOR PROFILE:
SEE SHEET NO. 36

604123_HD10(CURB-TIE-PLANS).DWG Plotted on 16-Mar-2018 10:31 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	73	331
PROJECT FILE NO.	604123		

CURB TIE PLANS (5 OF 17)



ROUTE 126 (POND STREET) CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
C-149	33+60.25	2913403.939	674823.900	R=805.00' Δ=12°40'54" L=178.18' T=89.45'	35+38.43	2913579.079	674854.609
L8	35+38.43	2913579.079	674854.609		38+39.49	2913879.552	674873.535
C-150	38+39.49	2913879.552	674873.535	R=3000.00' Δ=4°44'40" L=248.41' T=124.28'	40+87.91	2914126.545	674899.393

Curve Table			
Curve #	Delta	Radius	Length
C-414	12°40'54"	811.00	179.50
C-500	11°35'43"	250.00	50.59
C-501	1°05'11"	789.00	14.96
C-502	4°44'40"	3016.00	249.74
C-503	2°10'52"	2984.00	113.59

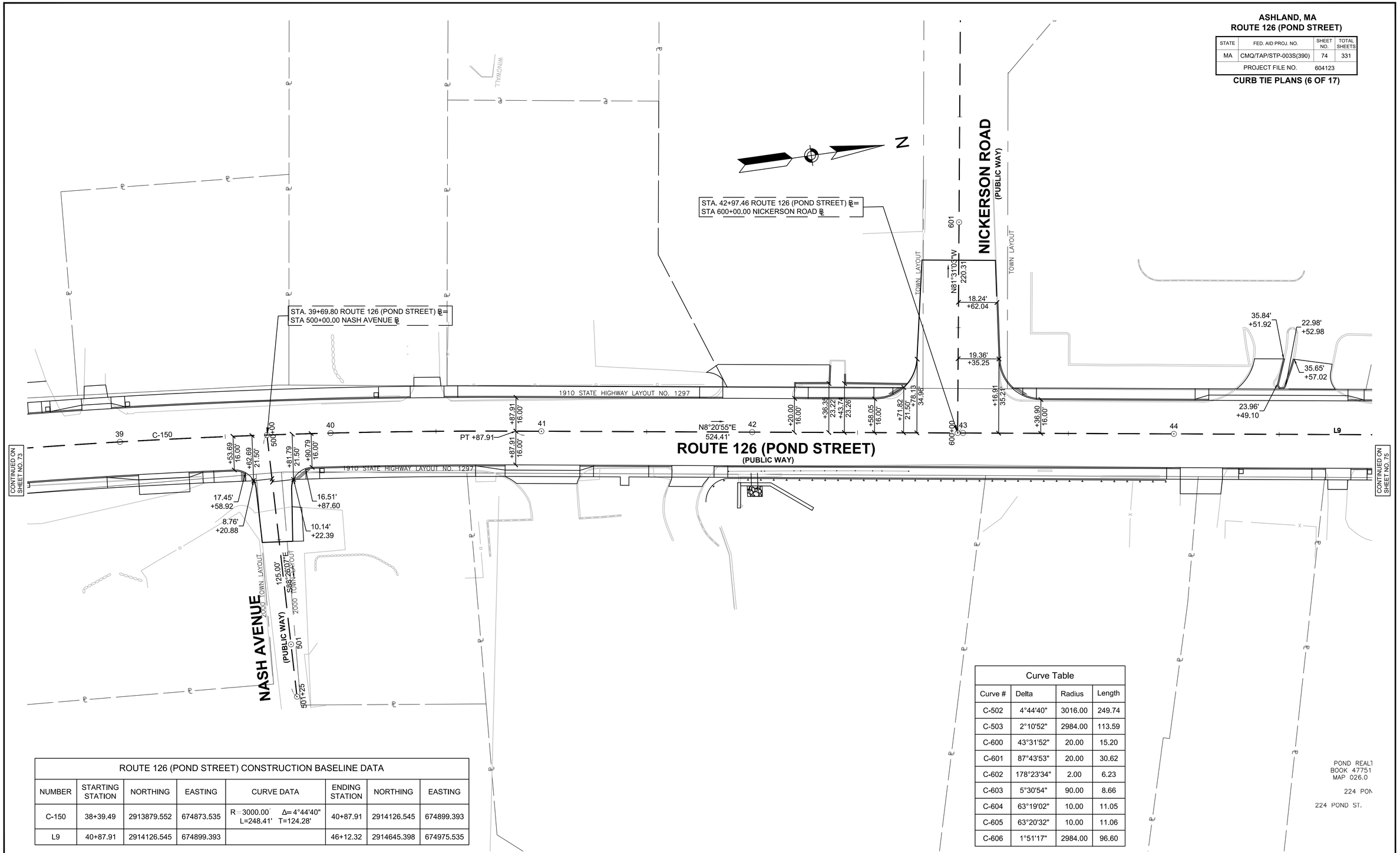
FOR PROFILE:
SEE SHEET NO. 37

604123_HD10(CURB-TIE-PLANS).DWG Plotted on 16-Mar-2018 10:31 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	74	331
PROJECT FILE NO.	604123		

CURB TIE PLANS (6 OF 17)



ROUTE 126 (POND STREET) CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
C-150	38+39.49	2913879.552	674873.535	R=3000.00' Δ=4°44'40" L=248.41' T=124.28'	40+87.91	2914126.545	674899.393
L9	40+87.91	2914126.545	674899.393		46+12.32	2914645.398	674975.535

Curve Table			
Curve #	Delta	Radius	Length
C-502	4°44'40"	3016.00	249.74
C-503	2°10'52"	2984.00	113.59
C-600	43°31'52"	20.00	15.20
C-601	87°43'53"	20.00	30.62
C-602	178°23'34"	2.00	6.23
C-603	5°30'54"	90.00	8.66
C-604	63°19'02"	10.00	11.05
C-605	63°20'32"	10.00	11.06
C-606	1°51'17"	2984.00	96.60

0 20 50 100
SCALE: 1" = 20'

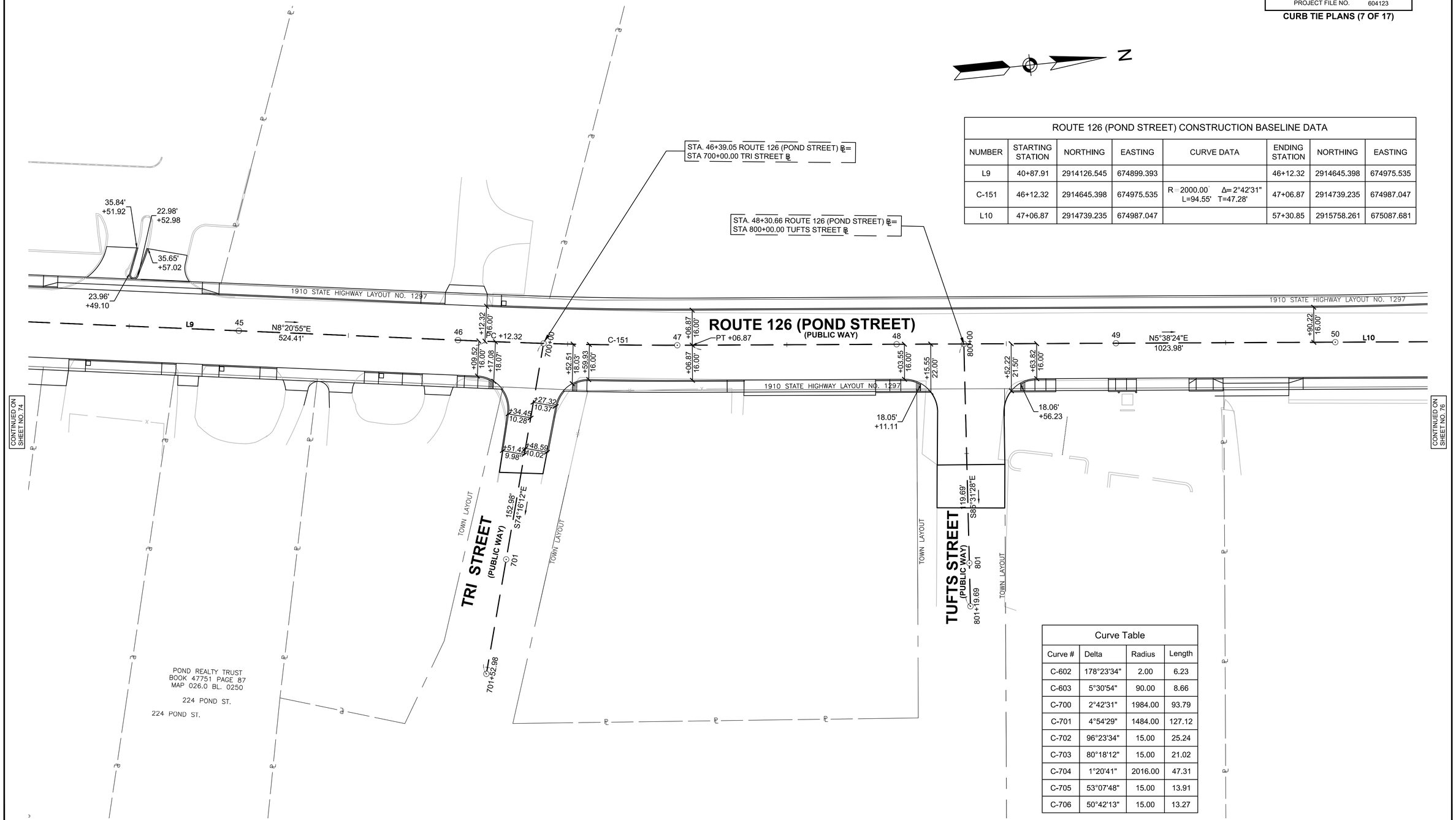
FOR PROFILE:
SEE SHEET NO. 38

604123_HD10(CURB-TIE-PLANS).DWG Plotted on 16-Mar-2018 10:31 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	75	331
PROJECT FILE NO.	604123		

CURB TIE PLANS (7 OF 17)



ROUTE 126 (POND STREET) CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L9	40+87.91	2914126.545	674899.393		46+12.32	2914645.398	674975.535
C-151	46+12.32	2914645.398	674975.535	R=2000.00' Δ=2°42'31" L=94.55' T=47.28'	47+06.87	2914739.235	674987.047
L10	47+06.87	2914739.235	674987.047		57+30.85	2915758.261	675087.681

Curve Table			
Curve #	Delta	Radius	Length
C-602	178°23'34"	2.00	6.23
C-603	5°30'54"	90.00	8.66
C-700	2°42'31"	1984.00	93.79
C-701	4°54'29"	1484.00	127.12
C-702	96°23'34"	15.00	25.24
C-703	80°18'12"	15.00	21.02
C-704	1°20'41"	2016.00	47.31
C-705	53°07'48"	15.00	13.91
C-706	50°42'13"	15.00	13.27

0 20 50 100
SCALE: 1" = 20'

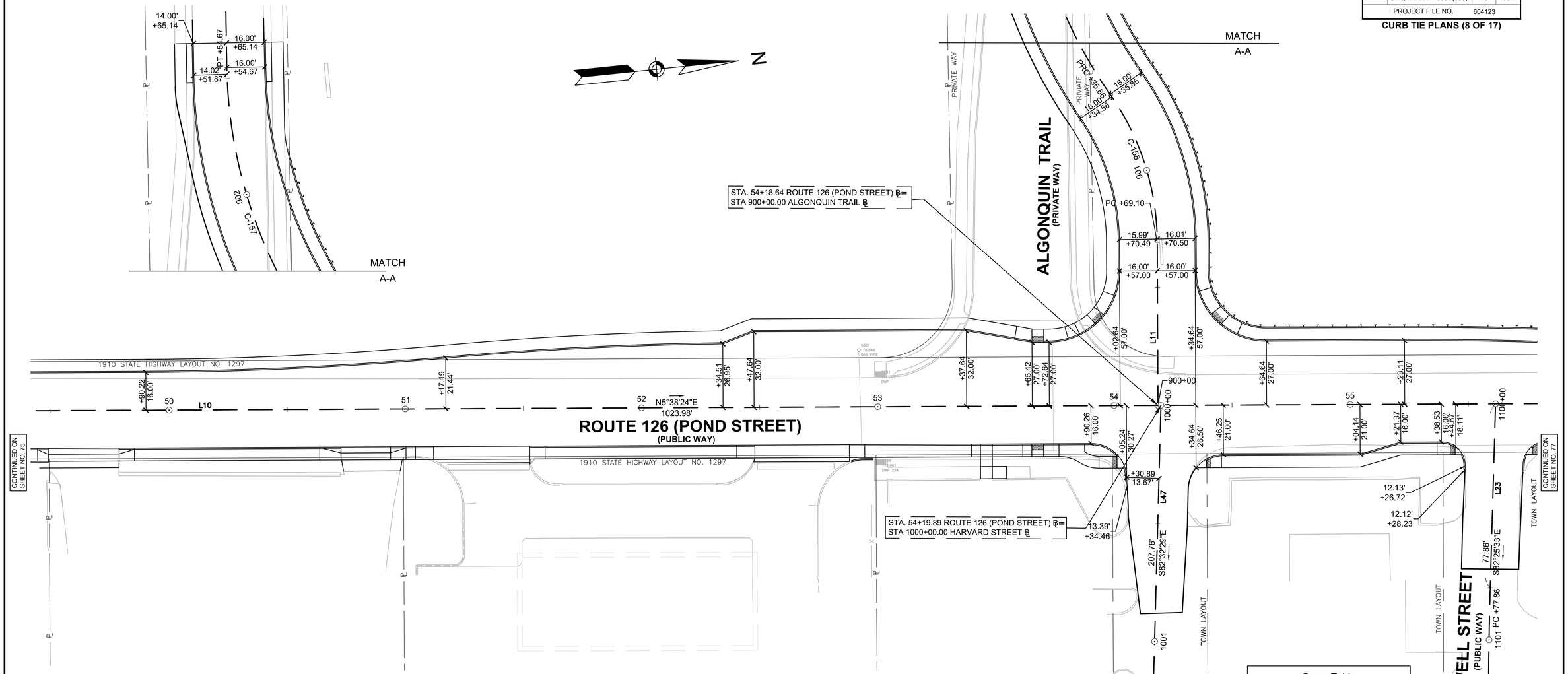
FOR PROFILE:
SEE SHEET NO. 39

604123_HD10(CURB-TIE-PLANS).DWG Plotted on 16-Mar-2018 10:31 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	76	331
PROJECT FILE NO.	604123		

CURB TIE PLANS (8 OF 17)



ROUTE 126 (POND STREET) CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L10	47+06.87	2914739.235	674987.047		57+30.85	2915758.261	675087.681

HARVARD STREET CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L47	1000+00.00	2915448.809	675057.121		1002+07.76	2915421.840	675263.124

ALGONQUIN TRAIL CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L11	900+00.00	2915447.565	675056.999		900+69.10	2915454.357	674988.231
C-158	900+69.10	2915454.357	674988.231	R=110.00' Δ=34°46'12" L=66.75' T=34.44'	901+35.86	2915440.976	674923.873
C-157	901+35.86	2915440.976	674923.873	R=200.00' Δ=34°02'18" L=118.82' T=61.22'	902+54.67	2915416.413	674809.402

SEWELL STREET CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L24	1101+45.95	2915571.884	675215.884		1104+09.30	2915547.548	675478.102
C-191	1100+77.86	2915579.520	675148.223	R=1717.40' Δ=2°16'18" L=68.09' T=34.05'	1101+45.95	2915571.884	675215.884
L23	1100+00.00	2915589.782	675071.043		1100+77.86	2915579.520	675148.223

0 20 50 100
SCALE: 1" = 20'

Curve Table			
Curve #	Delta	Radius	Length
C-701	4°54'29"	1484.00	127.12
C-800	4°26'24"	1516.00	117.48
C-801	90°00'00"	30.00	47.12
C-802	33°22'31"	94.00	54.76
C-803	33°22'31"	216.00	125.82
C-804	34°02'29"	184.00	109.32
C-805	34°02'29"	126.00	74.86
C-806	90°00'00"	30.00	47.12
C-807	4°50'56"	1516.00	128.30
C-808	87°11'47"	15.00	22.83
C-809	50°42'13"	15.00	13.27
C-810	91°42'51"	10.00	16.01
C-811	87°21'08"	10.00	15.25

FOR PROFILE:
SEE SHEET NO. 40

604123_HD10(CURB-TIE-PLANS).DWG Plotted on 16-Mar-2018 10:31 AM

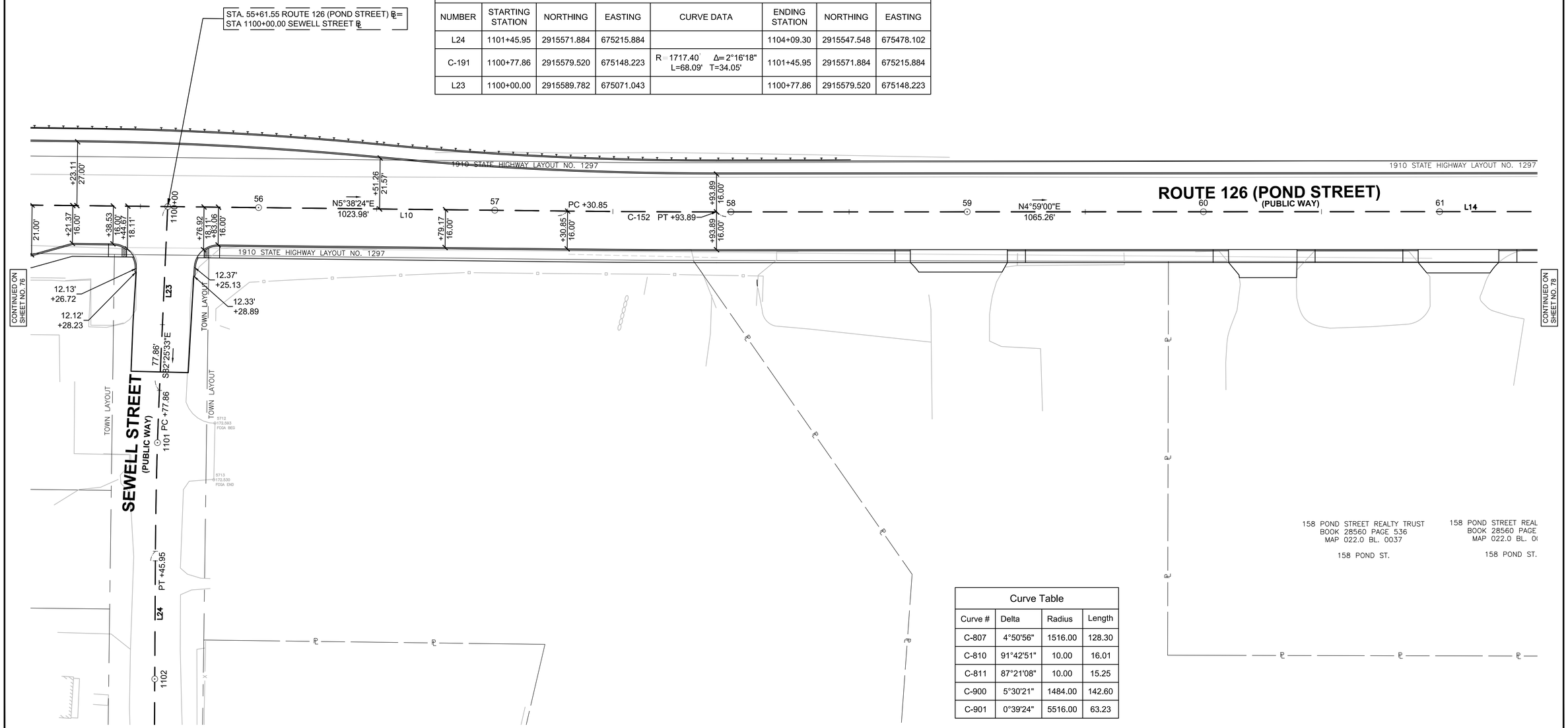
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	77	331
PROJECT FILE NO.	604123		

CURB TIE PLANS (9 OF 17)

ROUTE 126 (POND STREET) CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L13	47+06.87	2914739.235	674987.047		57+30.85	2915758.261	675087.681
C-152	57+30.85	2915758.261	675087.681	R=5500.00' Δ=0°39'24" L=63.04' T=31.52'	57+93.89	2915821.032	675093.517
L14	57+93.89	2915821.032	675093.517		68+59.15	2916882.266	675186.051

SEWELL STREET CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L24	1101+45.95	2915571.884	675215.884		1104+09.30	2915547.548	675478.102
C-191	1100+77.86	2915579.520	675148.223	R=1717.40' Δ=2°16'18" L=68.09' T=34.05'	1101+45.95	2915571.884	675215.884
L23	1100+00.00	2915589.782	675071.043		1100+77.86	2915579.520	675148.223



Curve Table			
Curve #	Delta	Radius	Length
C-807	4°50'56"	1516.00	128.30
C-810	91°42'51"	10.00	16.01
C-811	87°21'08"	10.00	15.25
C-900	5°30'21"	1484.00	142.60
C-901	0°39'24"	5516.00	63.23

0 20 50 100
SCALE: 1" = 20'

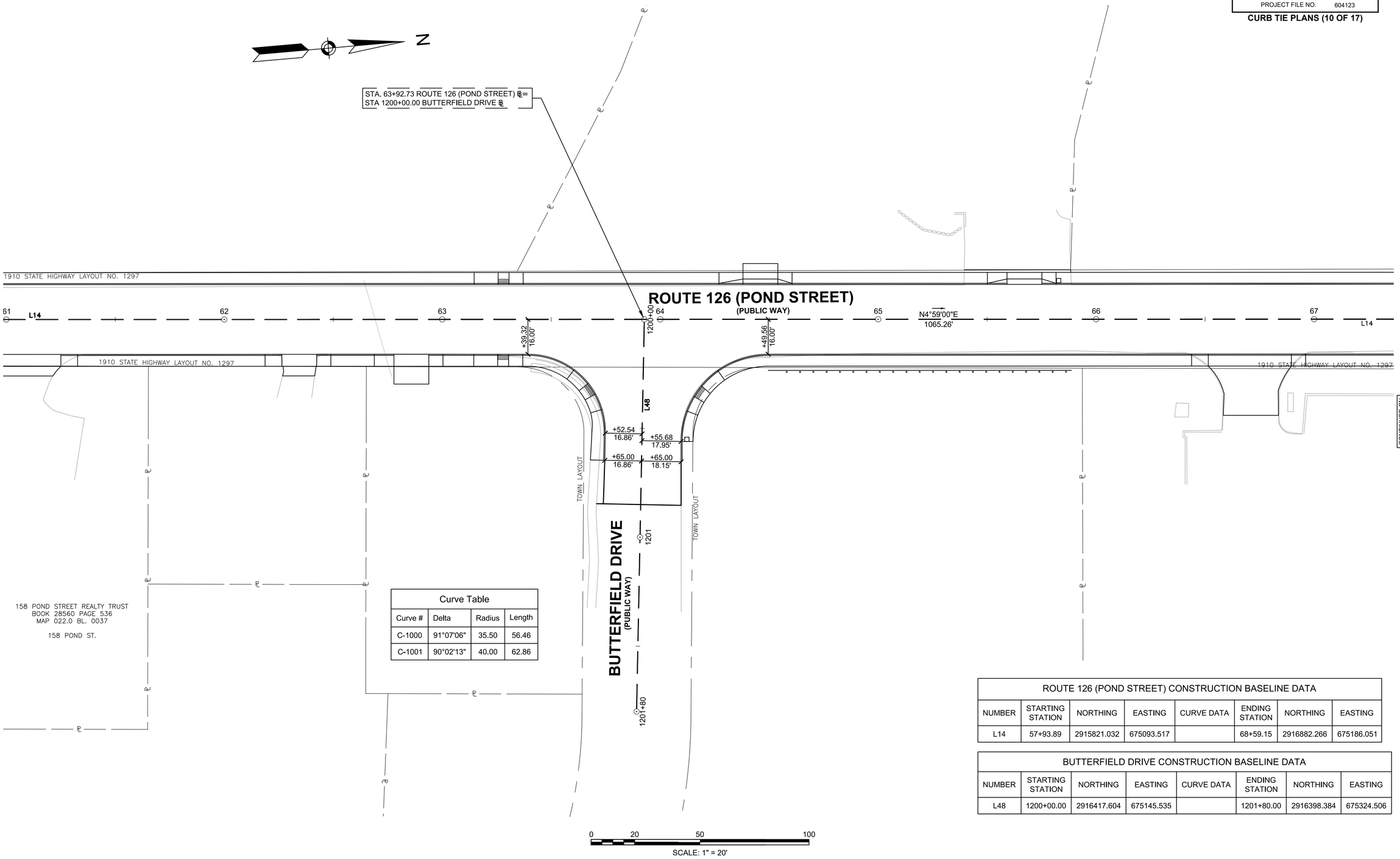
FOR PROFILE:
SEE SHEET NO. 41

604123_HD10(CURB-TIE-PLANS).DWG Plotted on 16-Mar-2018 10:31 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	78	331
PROJECT FILE NO.	604123		

CURB TIE PLANS (10 OF 17)



Curve Table			
Curve #	Delta	Radius	Length
C-1000	91°07'06"	35.50	56.46
C-1001	90°02'13"	40.00	62.86

ROUTE 126 (POND STREET) CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L14	57+93.89	2915821.032	675093.517		68+59.15	2916882.266	675186.051

BUTTERFIELD DRIVE CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L48	1200+00.00	2916417.604	675145.535		1201+80.00	2916398.384	675324.506

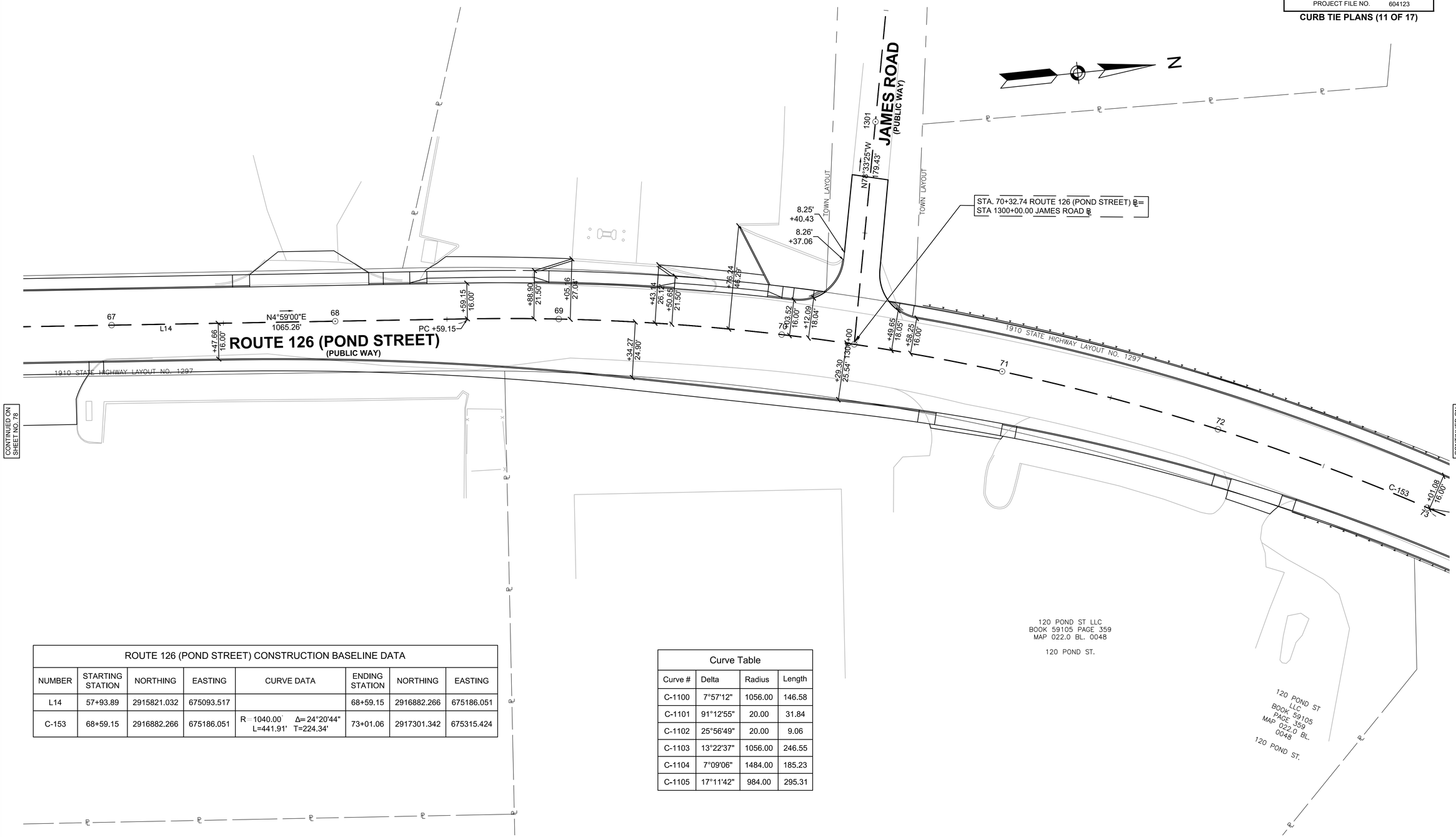
FOR PROFILE:
SEE SHEET NO. 42

604123_HD10(CURB-TIE-PLANS).DWG Plotted on 16-Mar-2018 10:31 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	79	331
PROJECT FILE NO.	604123		

CURB TIE PLANS (11 OF 17)



ROUTE 126 (POND STREET) CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L14	57+93.89	2915821.032	675093.517		68+59.15	2916882.266	675186.051
C-153	68+59.15	2916882.266	675186.051	R=1040.00' Δ=24°20'44" L=441.91' T=224.34'	73+01.06	2917301.342	675315.424

Curve Table			
Curve #	Delta	Radius	Length
C-1100	7°57'12"	1056.00	146.58
C-1101	91°12'55"	20.00	31.84
C-1102	25°56'49"	20.00	9.06
C-1103	13°22'37"	1056.00	246.55
C-1104	7°09'06"	1484.00	185.23
C-1105	17°11'42"	984.00	295.31

0 20 50 100
SCALE: 1" = 20'

FOR PROFILE:
SEE SHEET NO. 43

604123_HD10(CURB-TIE-PLANS).DWG Plotted on 16-Mar-2018 10:31 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

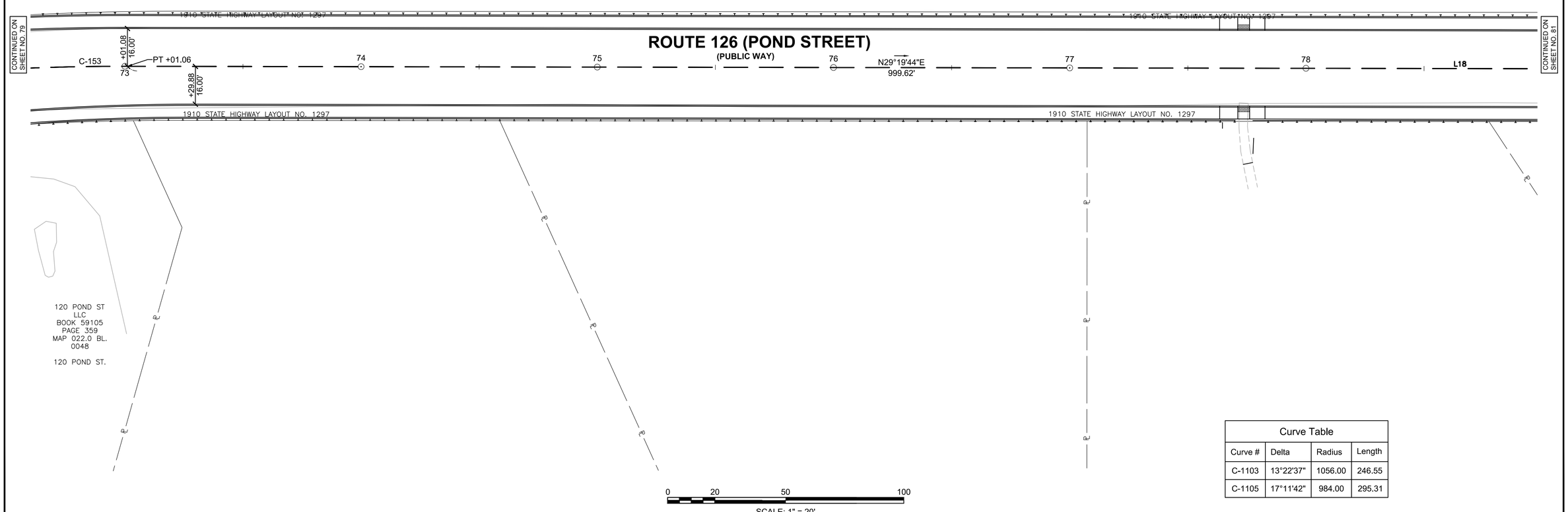
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	80	331
PROJECT FILE NO.	604123		

CURB TIE PLANS (12 OF 17)

604123_HD10(CURB-TIE-PLANS).DWG Plotted on 16-Mar-2018 10:31 AM

ROUTE 126 (POND STREET) CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L18	73+01.06	2917301.342	675315.424		83+00.68	2918172.833	675805.060
C-153	68+59.15	2916882.266	675186.051	R=1040.00' Δ=24°20'44" L=441.91' T=224.34'	73+01.06	2917301.342	675315.424

MARKET BASKET DRIVEWAY CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L49	1400+00.00	2918655.108	676148.316		1401+52.44	2918742.548	676023.442



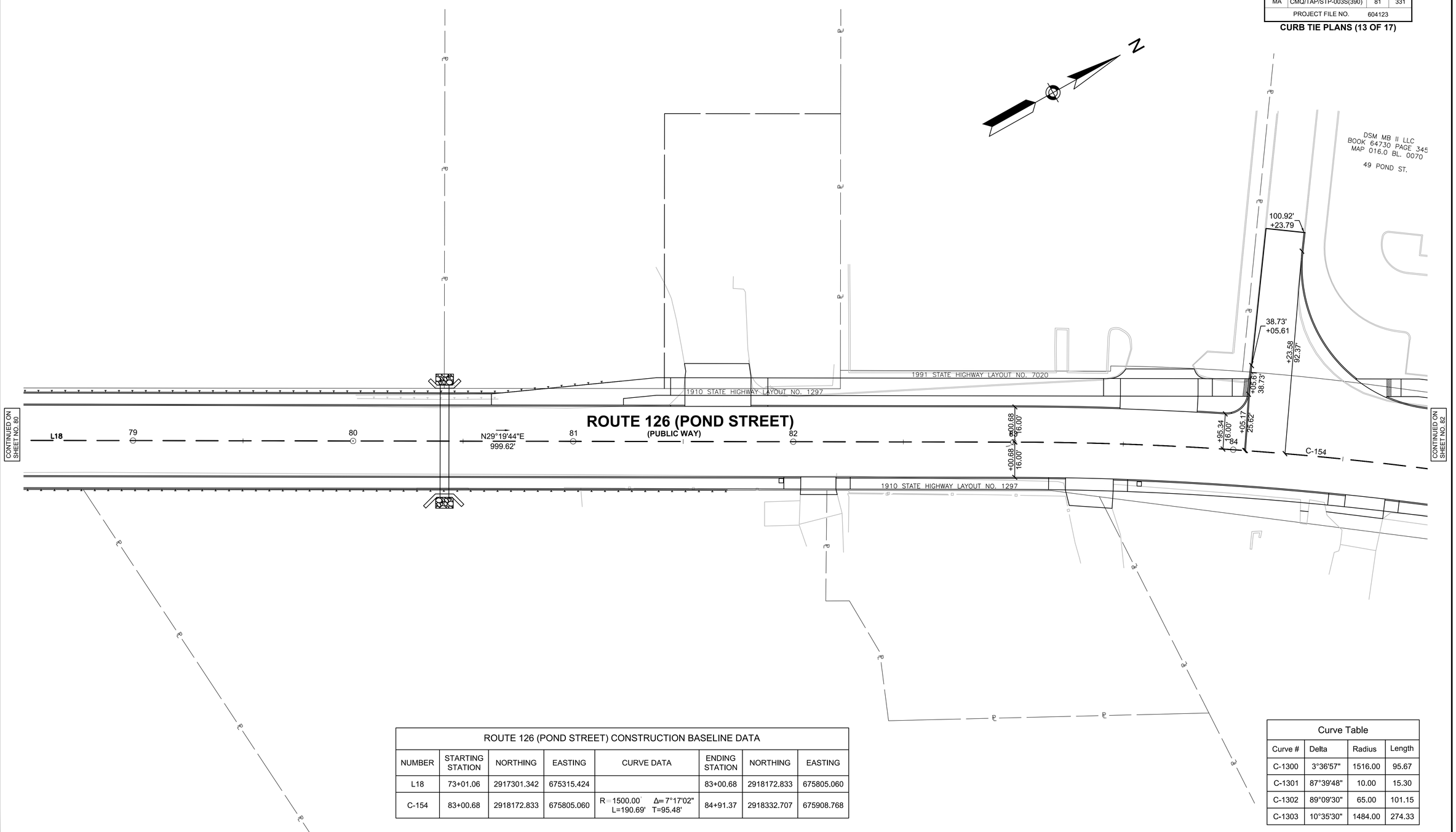
Curve Table			
Curve #	Delta	Radius	Length
C-1103	13°22'37"	1056.00	246.55
C-1105	17°11'42"	984.00	295.31

FOR PROFILE:
SEE SHEET NO. 44

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	81	331
PROJECT FILE NO.	604123		

CURB TIE PLANS (13 OF 17)



ROUTE 126 (POND STREET) CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L18	73+01.06	2917301.342	675315.424		83+00.68	2918172.833	675805.060
C-154	83+00.68	2918172.833	675805.060	R=1500.00' Δ=7°17'02" L=190.69' T=95.48'	84+91.37	2918332.707	675908.768

Curve Table			
Curve #	Delta	Radius	Length
C-1300	3°36'57"	1516.00	95.67
C-1301	87°39'48"	10.00	15.30
C-1302	89°09'30"	65.00	101.15
C-1303	10°35'30"	1484.00	274.33

0 20 50 100
SCALE: 1" = 20'

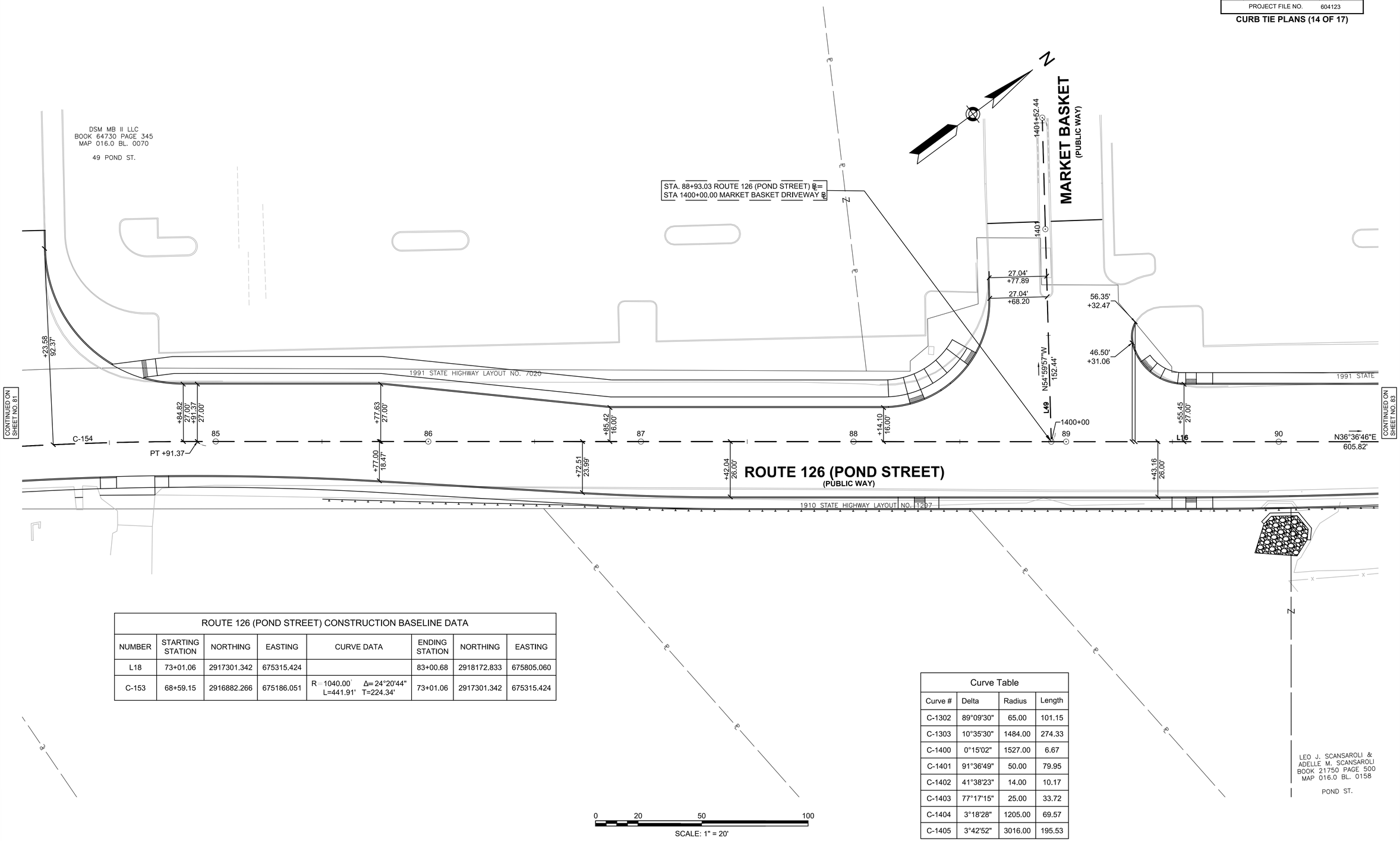
FOR PROFILE:
SEE SHEET NO. 45

604123_HD10(CURB-TIE-PLANS).DWG Plotted on 16-Mar-2018 10:31 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	82	331
PROJECT FILE NO.	604123		

CURB TIE PLANS (14 OF 17)



ROUTE 126 (POND STREET) CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L18	73+01.06	2917301.342	675315.424		83+00.68	2918172.833	675805.060
C-153	68+59.15	2916882.266	675186.051	R=1040.00' Δ=24°20'44" L=441.91' T=224.34'	73+01.06	2917301.342	675315.424

Curve Table			
Curve #	Delta	Radius	Length
C-1302	89°09'30"	65.00	101.15
C-1303	10°35'30"	1484.00	274.33
C-1400	0°15'02"	1527.00	6.67
C-1401	91°36'49"	50.00	79.95
C-1402	41°38'23"	14.00	10.17
C-1403	77°17'15"	25.00	33.72
C-1404	3°18'28"	1205.00	69.57
C-1405	3°42'52"	3016.00	195.53

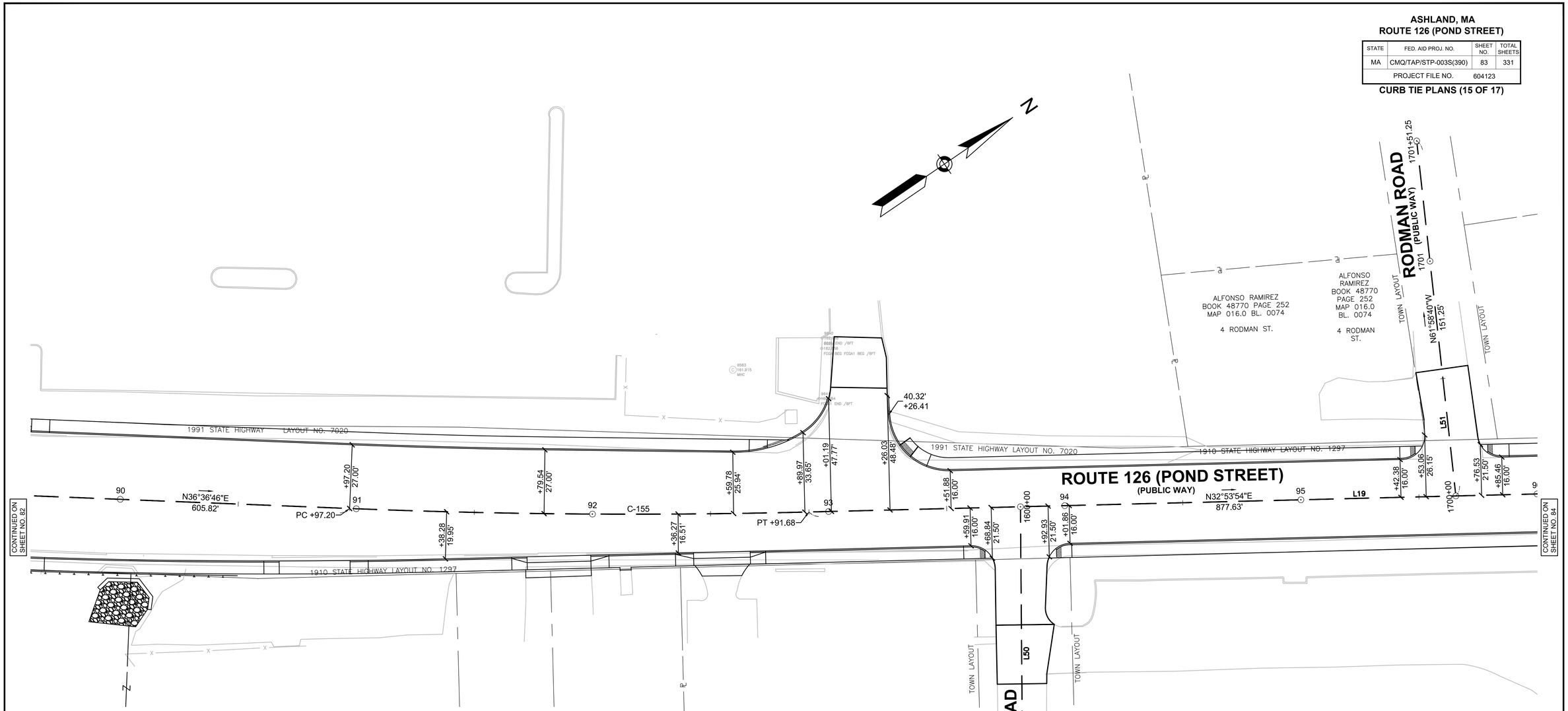
FOR PROFILE:
SEE SHEET NO. 46

604123_HD10(CURB-TIE-PLANS).DWG Plotted on 16-Mar-2018 10:31 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	83	331
PROJECT FILE NO.	604123		

CURB TIE PLANS (15 OF 17)



ROUTE 126 (POND STREET) CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L16	84+91.37	2918332.707	675908.768		90+97.20	2918818.993	676270.085
C-155	90+97.20	2918818.993	676270.085	R=3000.00' Δ=3°42'52" L=194.48' T=97.28'	92+91.68	2918978.752	676380.937
L19	92+91.68	2918978.752	676380.937		101+69.31	2919715.639	676857.622

WALCOTT ROAD CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L50	1600+00.00	2919053.944	676429.578		1601+23.13	2918985.351	676531.833

RODMAN ROAD CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L51	1700+00.00	2919208.769	676529.733		1701+51.25	2919279.828	676396.214

Curve Table			
Curve #	Delta	Radius	Length
C-1405	3°42'52"	3016.00	195.53
C-1500	1°34'22"	2973.00	81.60
C-1501	32°35'23"	55.00	31.28
C-1502	42°15'11"	25.00	18.44
C-1503	87°20'22"	25.50	38.87
C-1504	90°50'52"	10.00	15.86
C-1505	63°15'23"	10.00	11.04
C-1506	63°15'23"	10.00	11.04
C-1507	63°15'23"	10.00	11.04

0 20 50 100
SCALE: 1" = 20'

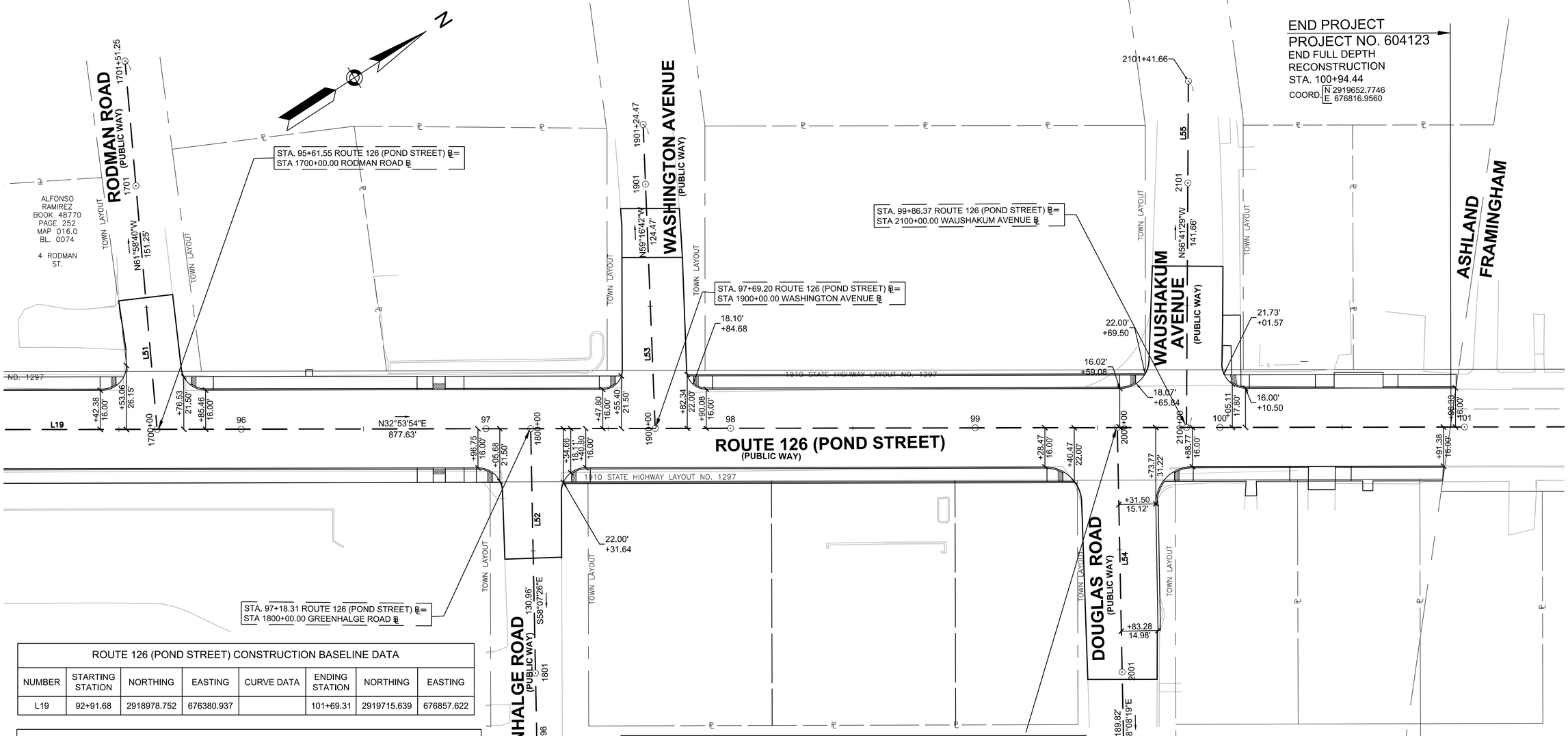
FOR PROFILE:
SEE SHEET NO. 47

604123_HD10(CURB-TIE-PLANS).DWG Plotted on 16-Mar-2018 10:31 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	84	331
PROJECT FILE NO.	604123		

CURB TIE PLANS (16 OF 17)



ROUTE 126 (POND STREET) CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L19	92+91.68	2918978.752	676380.937		101+69.31	2919715.639	676857.622

RODMAN ROAD CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L51	1700+00.00	2919208.769	676529.733		1701+51.25	2919279.828	676396.214

GREENHALGE ROAD CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L52	1800+00.00	2919336.965	676612.662		1801+30.96	2919267.807	676723.871

WASHINGTON AVENUE CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L53	1900+00.00	2919379.701	676640.307		1901+24.47	2919443.288	676533.307

DOUGLAS ROAD CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L54	2000+00.00	2919538.282	676742.892		2001+89.82	2919438.082	676904.112

WAUSHAKUM AVENUE CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L55	2100+00.00	2919562.031	676758.255		2101+41.66	2919639.821	676639.869

0 20 50 100
SCALE: 1" = 20'

Curve Table			
Curve #	Delta	Radius	Length
C-1504	90°50'52"	10.00	15.86
C-1505	63°15'23"	10.00	11.04
C-1600	71°47'24"	8.00	10.02
C-1601	75°31'21"	8.00	10.54
C-1602	60°00'00"	12.00	12.57
C-1603	61°20'13"	10.00	10.71
C-1604	63°15'23"	10.00	11.04
C-1605	66°25'19"	10.00	11.59
C-1606	30°23'10"	15.00	7.96
C-1607	90°49'36"	15.00	23.78

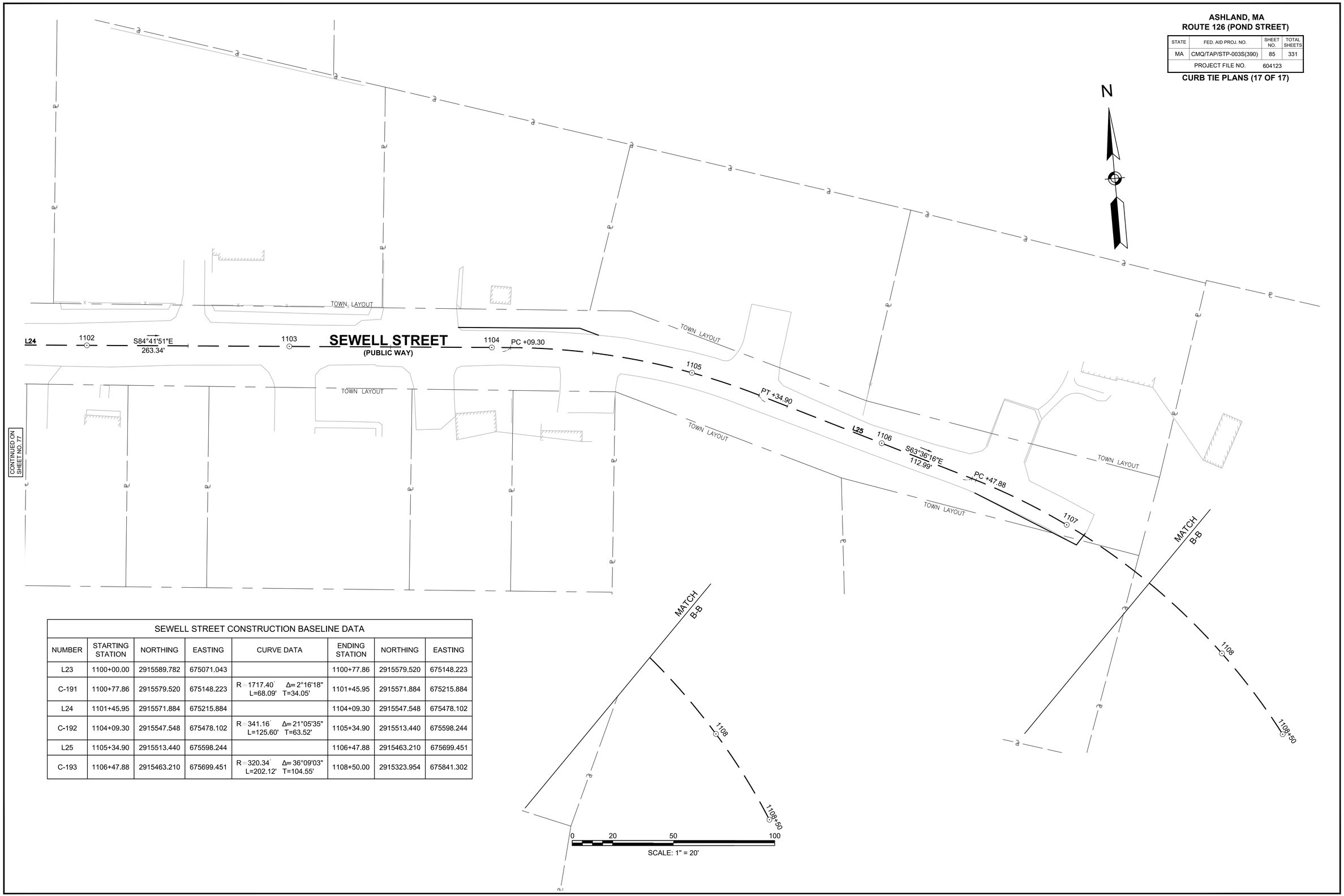
FOR PROFILE:
SEE SHEET NO. 48

604123_HD10(CURB-TIE-PLANS).DWG Plotted on 16-Mar-2018 10:31 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	85	331
PROJECT FILE NO.	604123		

CURB TIE PLANS (17 OF 17)



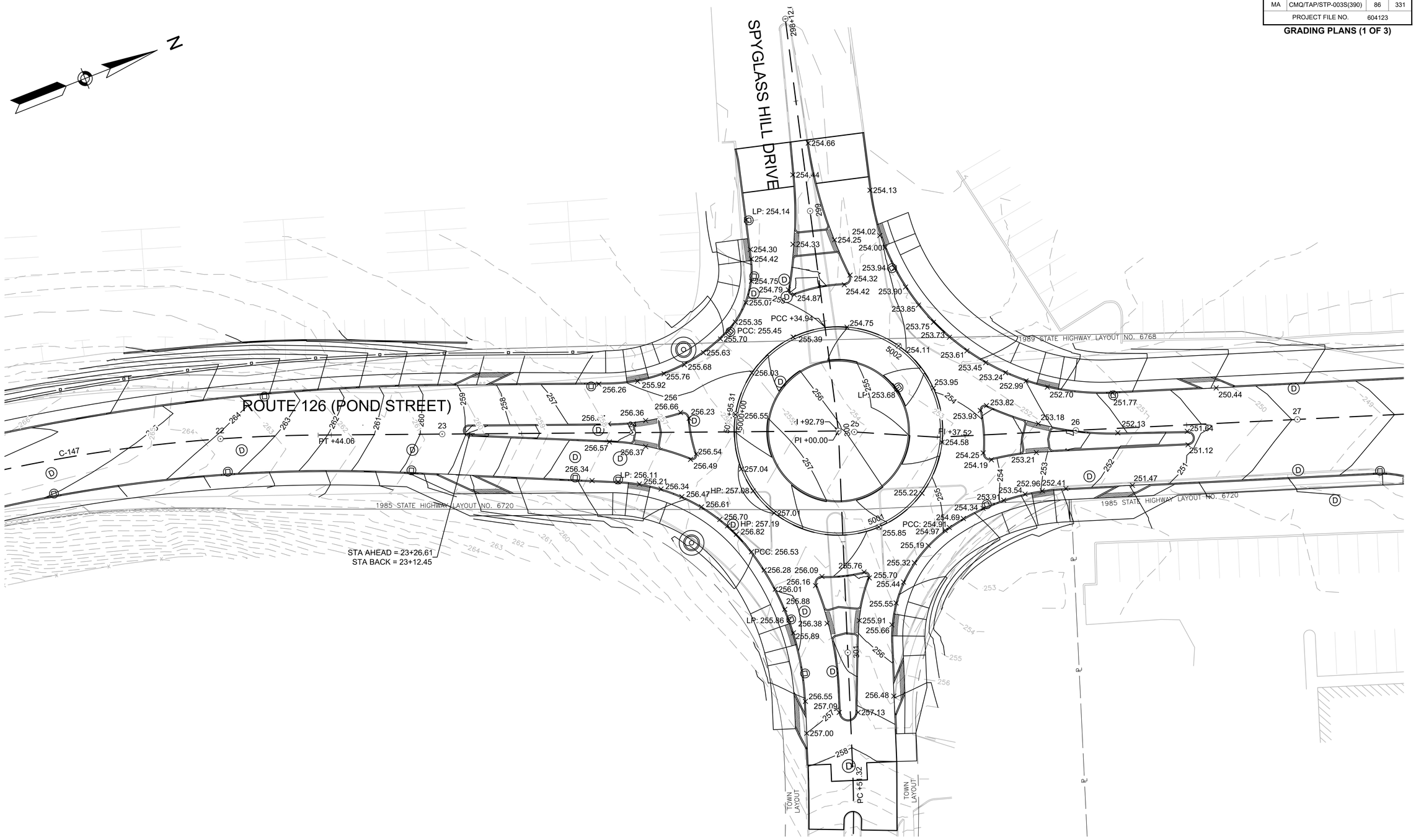
SEWELL STREET CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L23	1100+00.00	2915589.782	675071.043		1100+77.86	2915579.520	675148.223
C-191	1100+77.86	2915579.520	675148.223	R=1717.40' Δ=2°16'18" L=68.09' T=34.05'	1101+45.95	2915571.884	675215.884
L24	1101+45.95	2915571.884	675215.884		1104+09.30	2915547.548	675478.102
C-192	1104+09.30	2915547.548	675478.102	R=341.16' Δ=21°05'35" L=125.60' T=63.52'	1105+34.90	2915513.440	675598.244
L25	1105+34.90	2915513.440	675598.244		1106+47.88	2915463.210	675699.451
C-193	1106+47.88	2915463.210	675699.451	R=320.34' Δ=36°09'03" L=202.12' T=104.55'	1108+50.00	2915323.954	675841.302

604123_HD10(CURB-TIE-PLANS).DWG Plotted on 16-Mar-2018 10:31 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	86	331
PROJECT FILE NO.	604123		

GRADING PLANS (1 OF 3)



0 20 50 100
SCALE: 1" = 20'

NOTE:
1. GRADES ALONG CURVES ARE SPACED EVERY 10 FEET.
2. GRADES ALONG ALIGNMENT ARE SPACED EVERY 25 FEET.

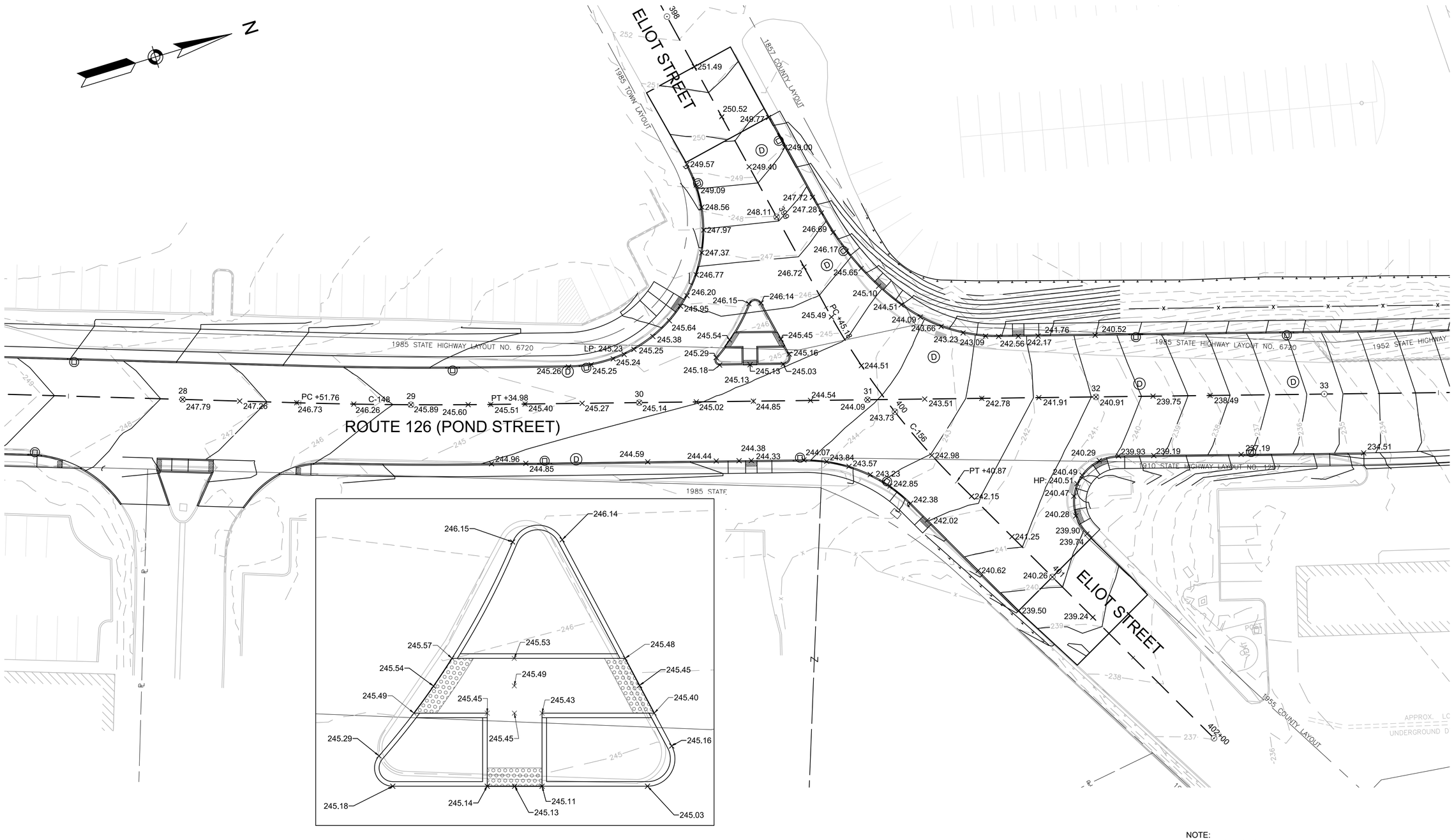
CONTINUED ON SHEET NO. 87

604123_HD11(GRADING-PLANS).DWG Plotted on 16-Mar-2018 10:45 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	87	331
PROJECT FILE NO.	604123		

GRADING PLANS (2 OF 3)



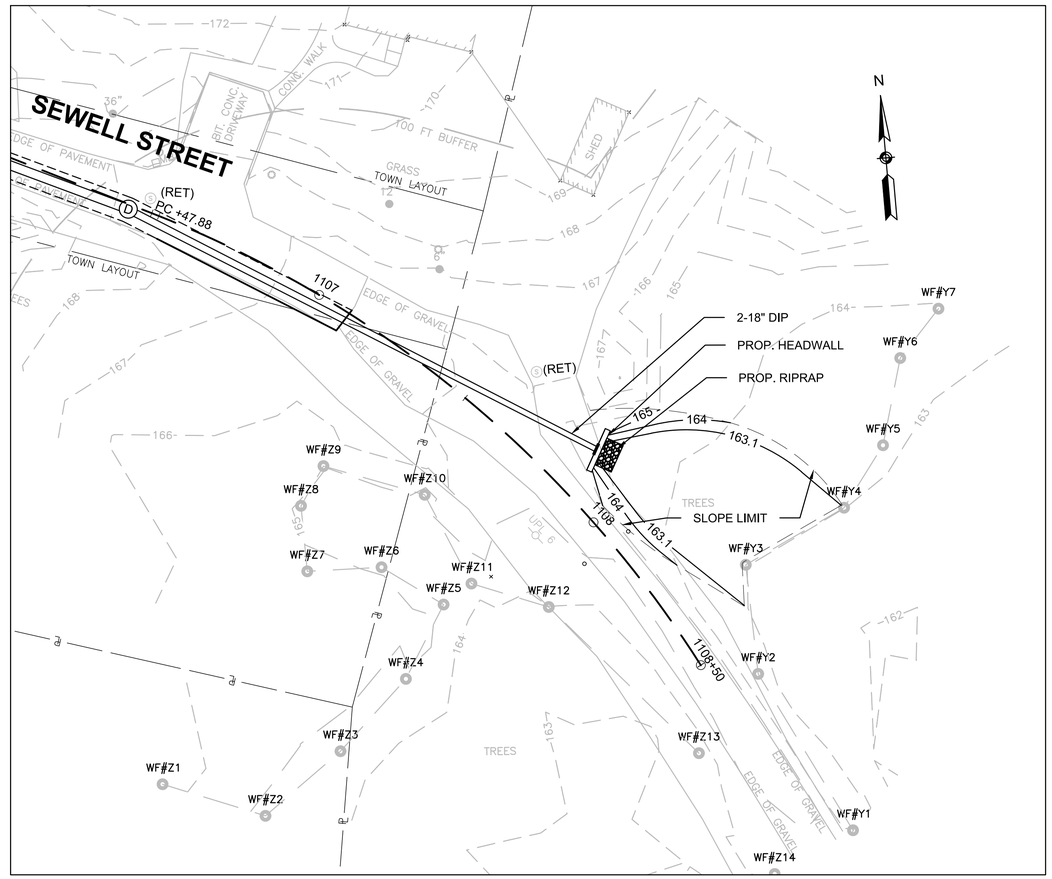
NOTE:
1. GRADES ALONG CURVES ARE SPACED EVERY 10 FEET.
2. GRADES ALONG ALIGNMENT ARE SPACED EVERY 25 FEET.

604123_HD11(GRADING-PLANS).DWG Plotted on 16-Mar-2018 10:45 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	88	331
PROJECT FILE NO.	604123		

GRADING PLANS (3 OF 3)



BASIN GRADING AT SEWELL STREET

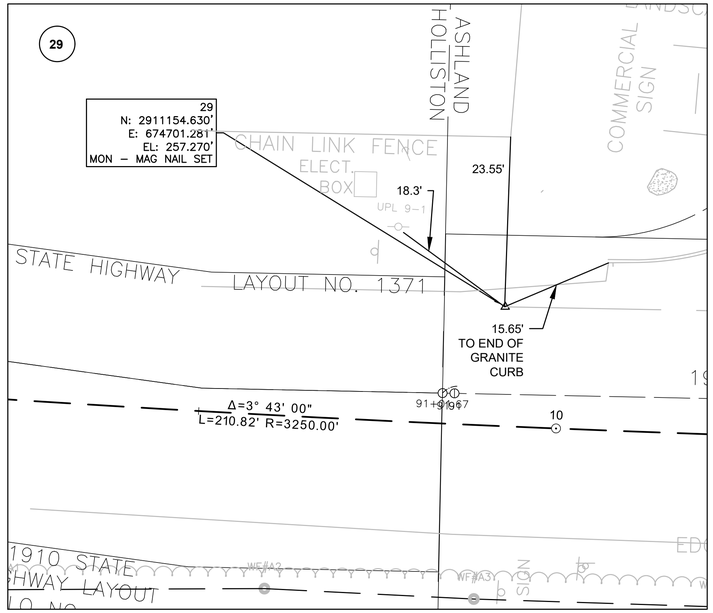
0 20 50 100
SCALE: 1" = 20'

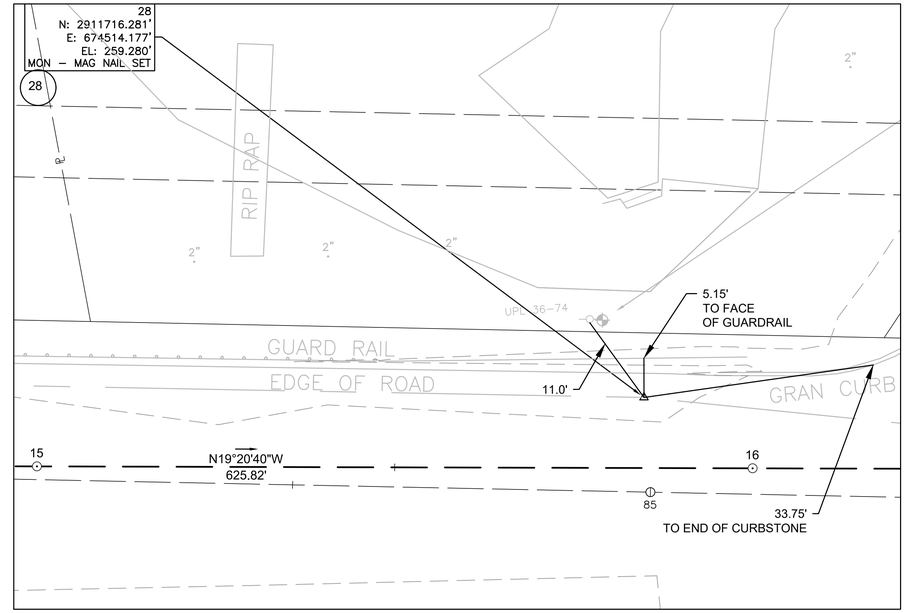
604123_HD05(BASIN GRADING).DWG Plotted on 20-Mar-2018 11:18 AM

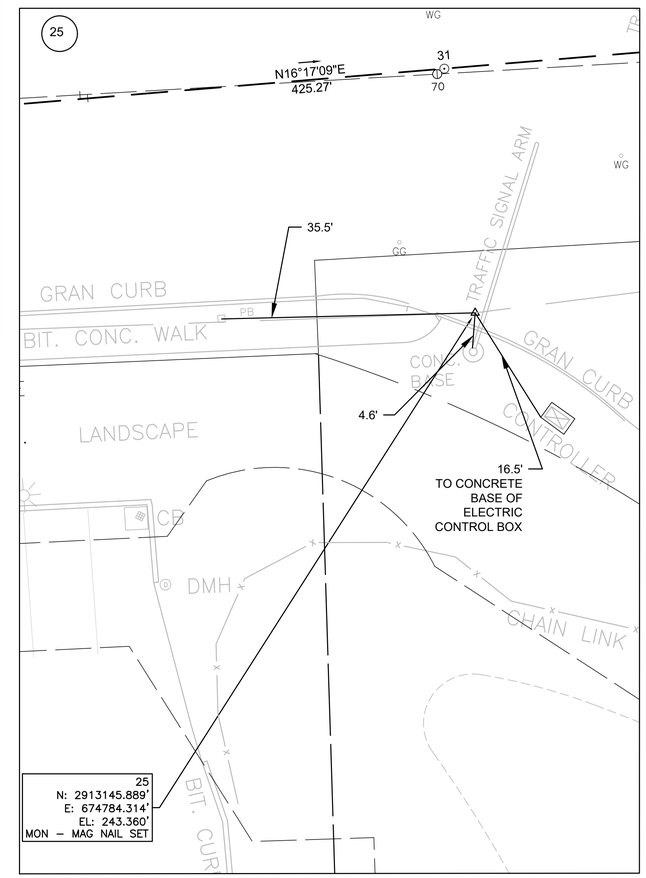
ASHLAND, MA
ROUTE 126 (POND STREET)

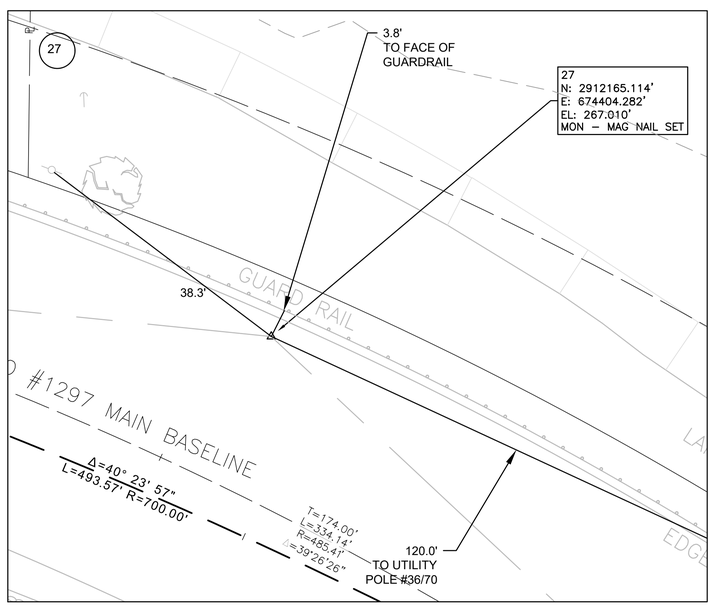
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	89	331
PROJECT FILE NO.	604123		

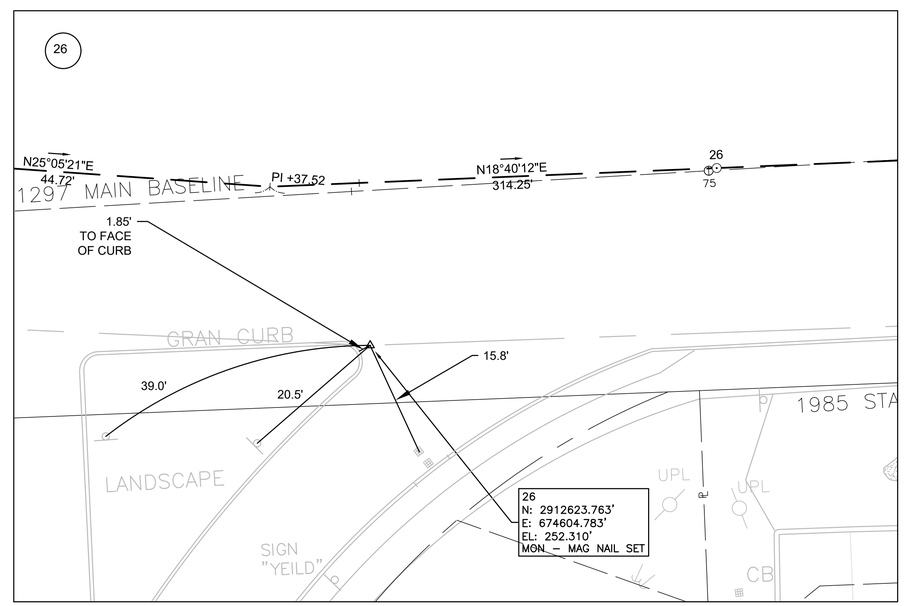
BASELINE TIES AND SKETCHES PLANS (1 OF 5)











0 10 20 30 40
SCALE: 1" = 10'

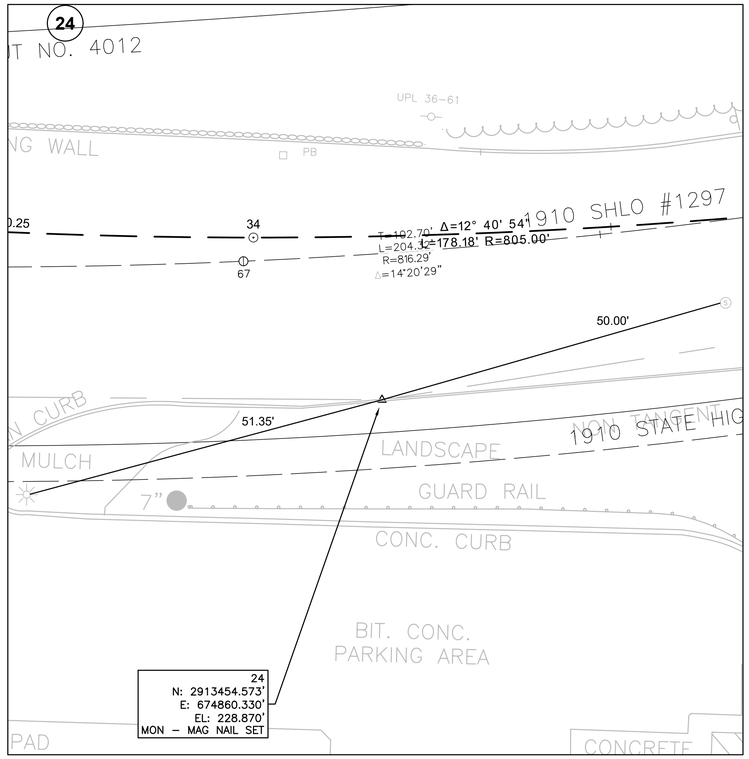
TIE INFORMATION				
#	NORTH	EAST	ELEVATION	DESCRIPTION
29	2911154.630	674701.281	257.270	MAG NAIL
28	2911716.281	674514.177	259.280	MAG NAIL
27	2912165.114	674404.828	267.010	MAG NAIL
26	2912623.763	674604.783	252.310	MAG NAIL
25	2913145.889	674784.314	243.360	MAG NAIL

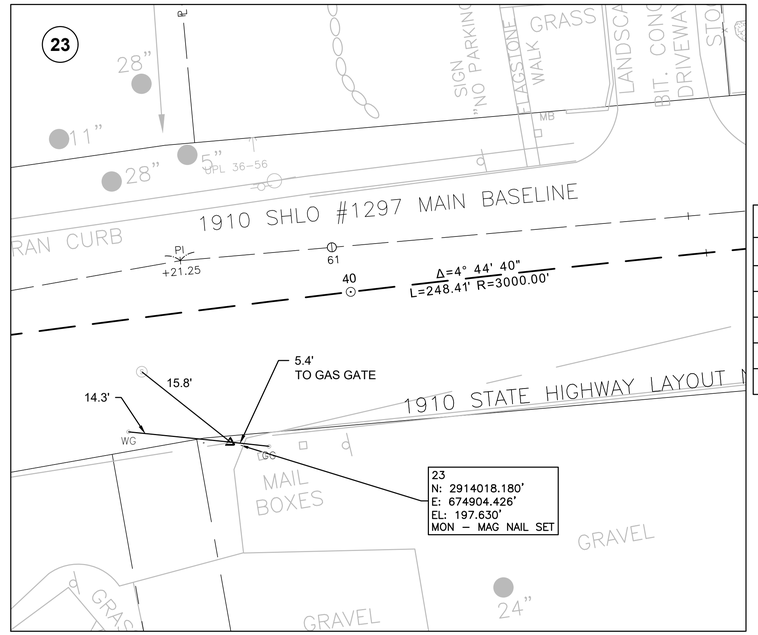
604123_HD12(BASELINE TIES AND SKETCHES).DWG Plotted on 27-Nov-2017 11:27 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

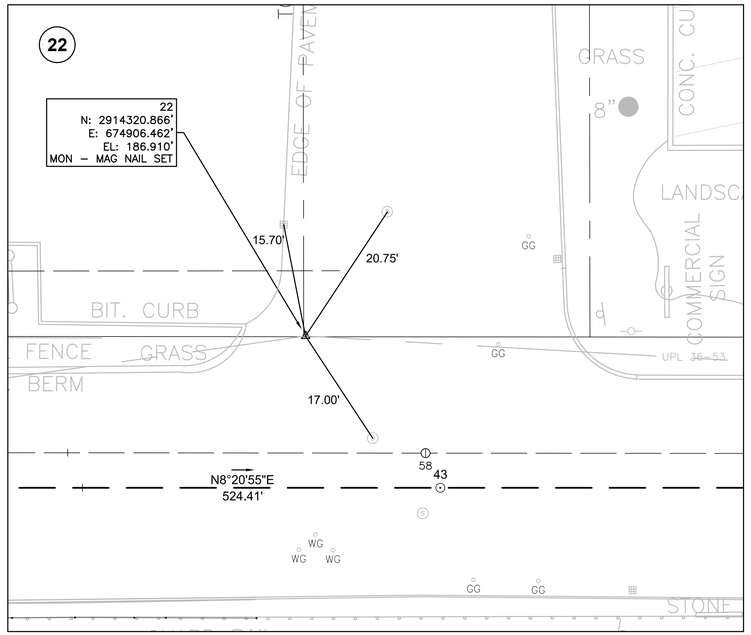
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	90	331
PROJECT FILE NO.	604123		

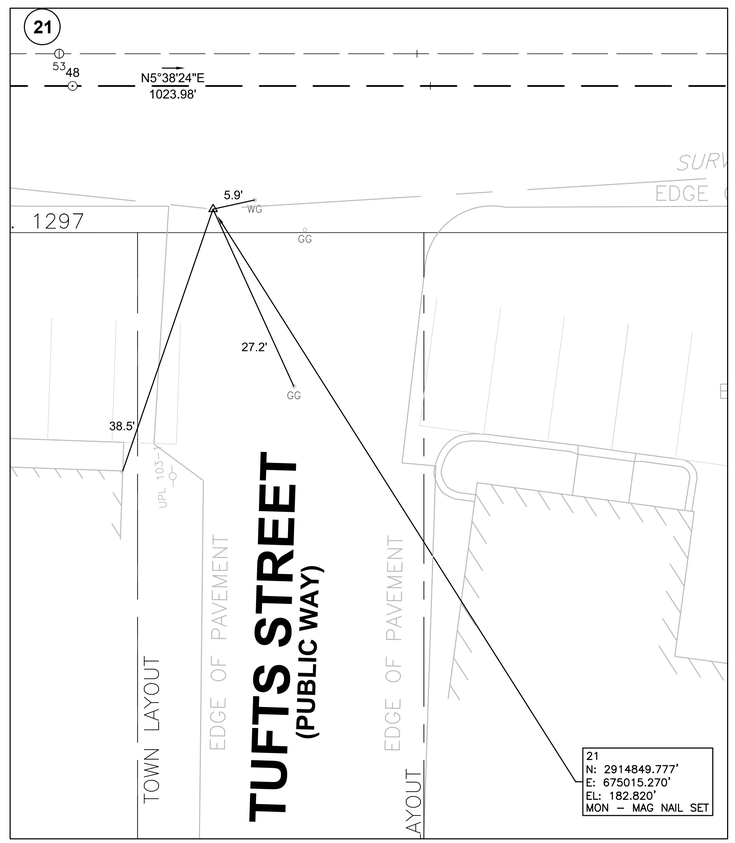
BASELINE TIES AND SKETCHES PLANS (2 OF 5)

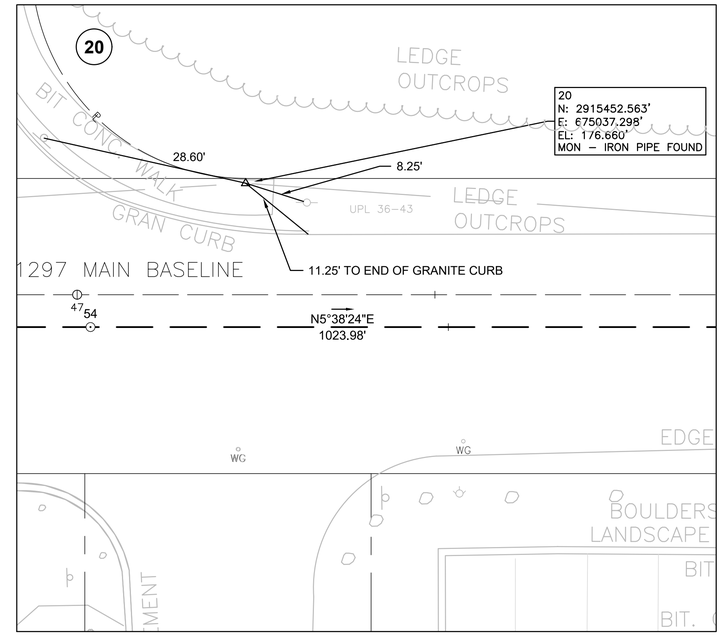




TIE INFORMATION				
#	NORTH	EAST	ELEVATION	DESCRIPTION
24	2913454.573	674860.330	228.870	MAG NAIL
23	2914018.180	674904.426	197.630	MAG NAIL
22	2914320.866	674906.462	186.910	MAG NAIL
21	2914849.777	675015.270	182.820	MAG NAIL
20	2915452.563	675037.2980	176.660	IRON PIPE







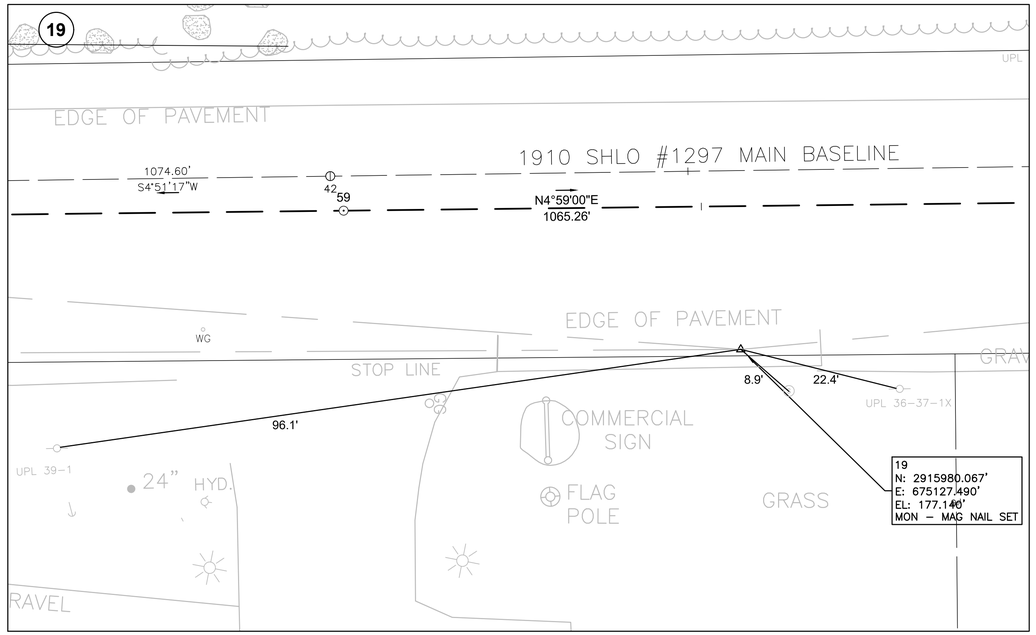
0 10 20 30 40
SCALE: 1" = 10'

604123_HD12(BASELINE TIES AND SKETCHES).DWG Plotted on 27-Nov-2017 11:27 AM

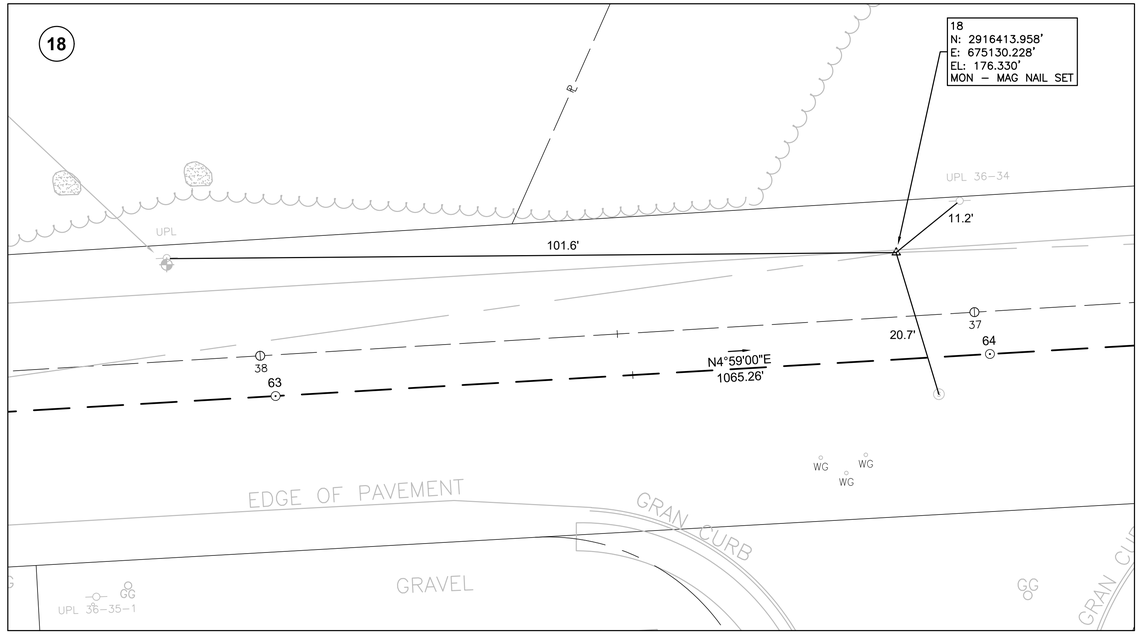
ASHLAND, MA
ROUTE 126 (POND STREET)

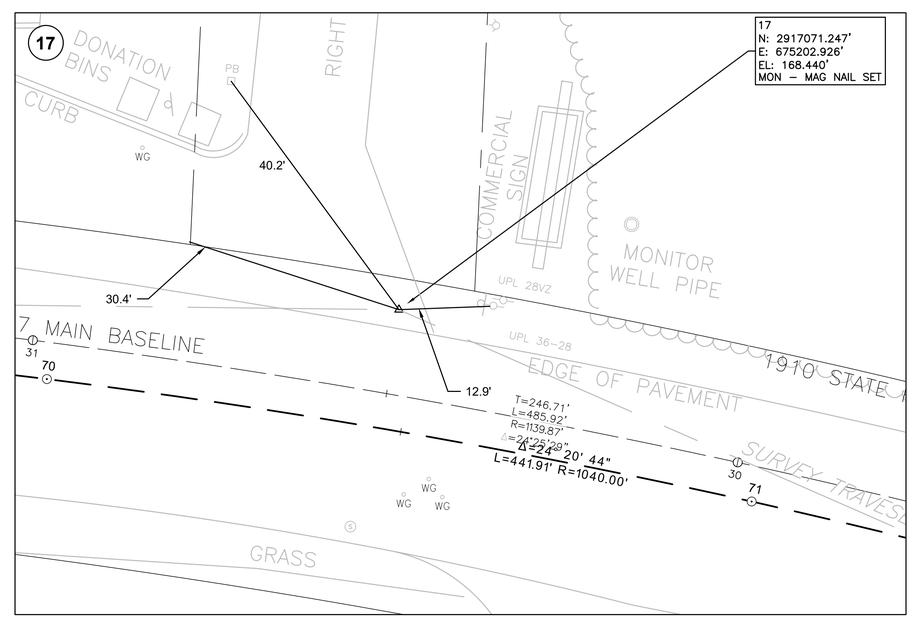
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	91	331
PROJECT FILE NO.	604123		

BASELINE TIES AND SKETCHES PLANS (3 OF 5)



TIE INFORMATION				
#	NORTH	EAST	ELEVATION	DESCRIPTION
19	2915980.067	675127.490	177.140	MAG NAIL
18	2916413.958	675130.228	176.330	MAG NAIL
17	2917071.247	675202.926	158.440	MAG NAIL





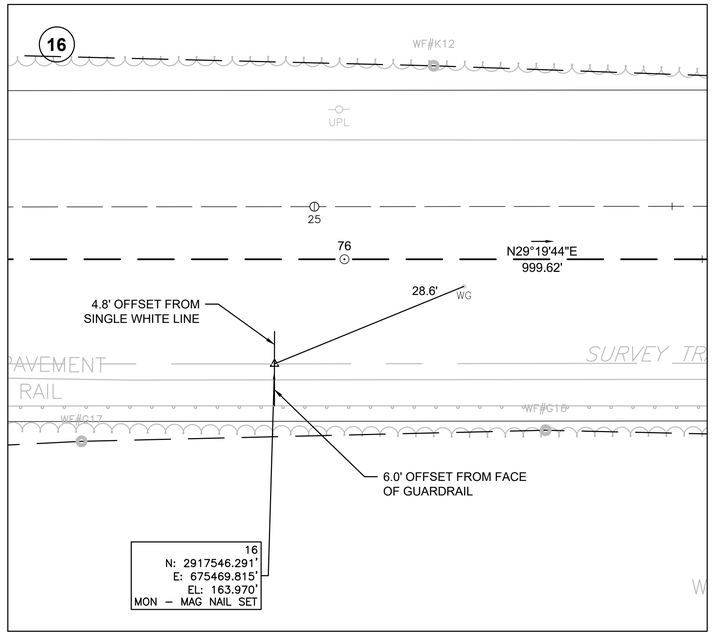
0 10 20 30 40
SCALE: 1" = 10'

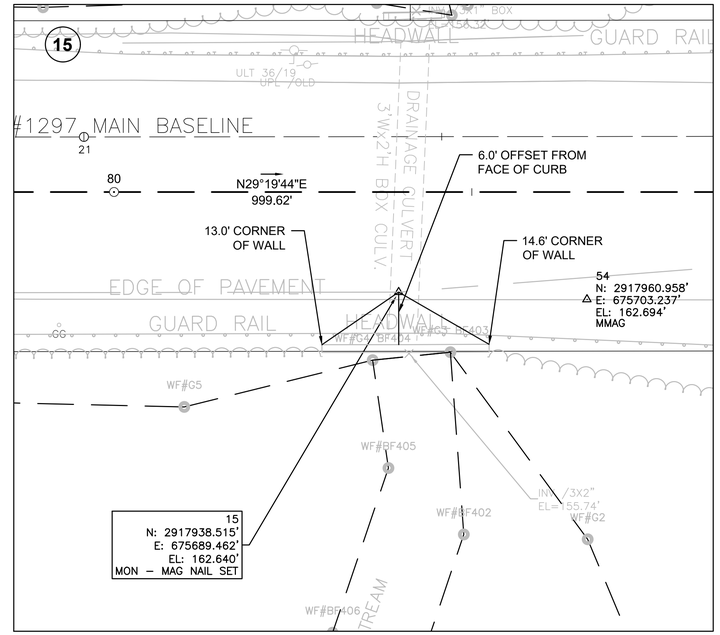
Plotted on 27-Nov-2017 11:27 AM
604123_HD12(BASELINE TIES AND SKETCHES).DWG

ASHLAND, MA
ROUTE 126 (POND STREET)

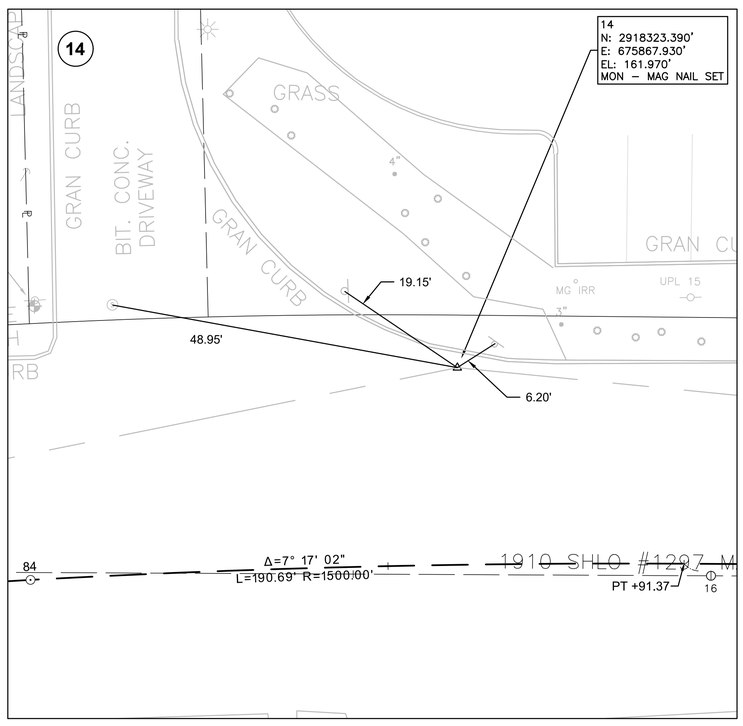
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	92	331
PROJECT FILE NO.	604123		

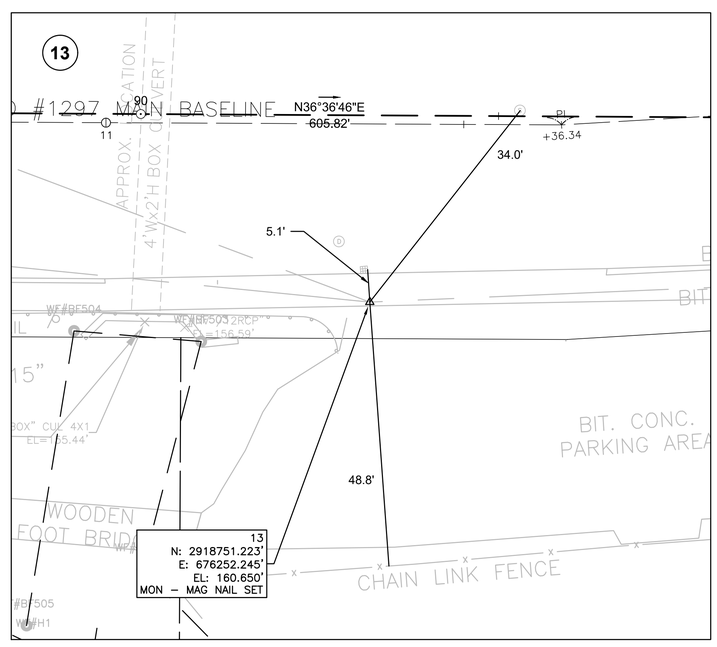
BASELINE TIES AND SKETCHES PLANS (4 OF 5)

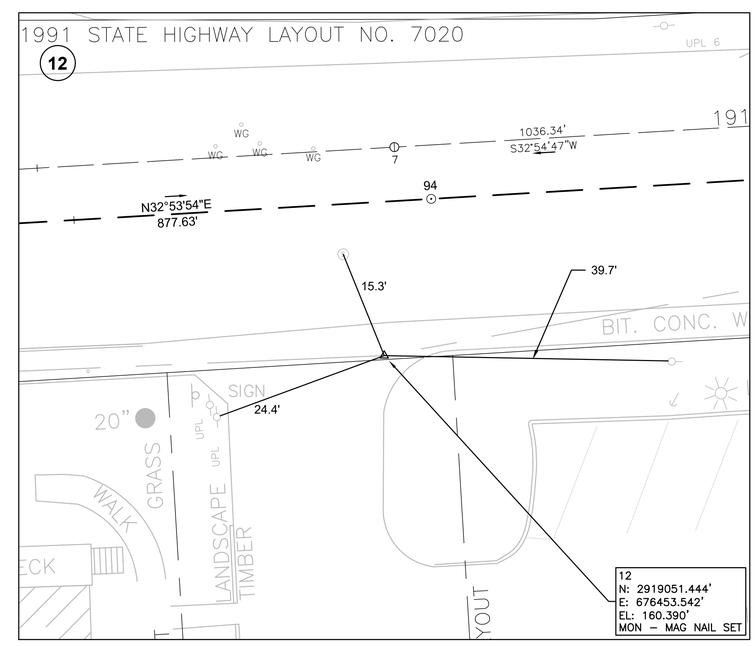




TIE INFORMATION				
#	NORTH	EAST	ELEVATION	DESCRIPTION
16	2917546.291	675469.815	163.970	MAG NAIL
15	2917938.515	675689.462	162.640	MAG NAIL
14	2918323.390	675867.930	161.970	MAG NAIL
13	2918751.223	676255.245	160.650	MAG NAIL
12	2919051.444	676453.542	160.390	MAG NAIL







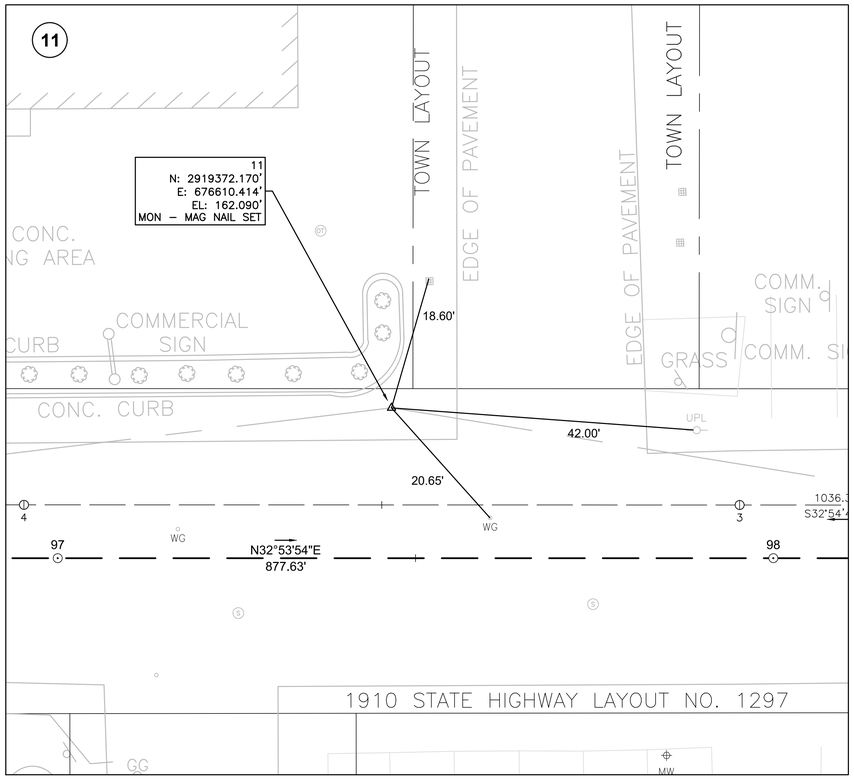
0 10 20 30 40
SCALE: 1" = 10'

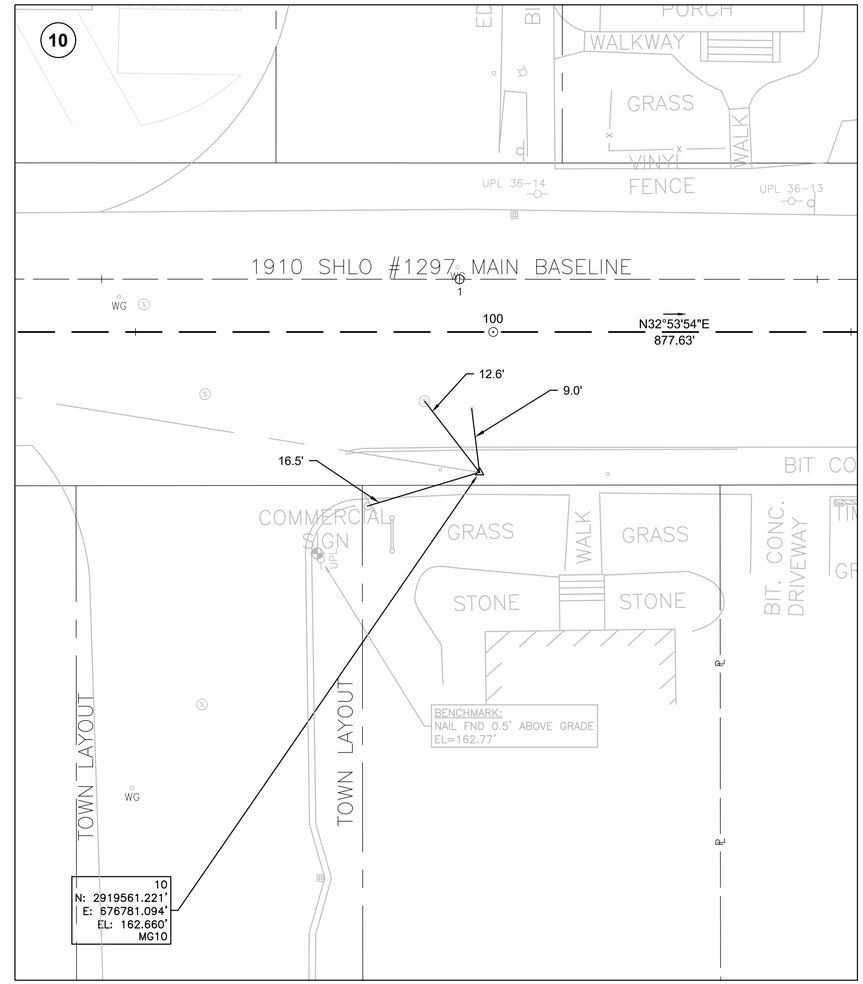
604123_HD12(BASELINE TIES AND SKETCHES).DWG Plotted on 27-Nov-2017 11:27 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	93	331
PROJECT FILE NO.	604123		

BASELINE TIES AND SKETCHES PLANS (5 OF 5)





TIE INFORMATION				
#	NORTH	EAST	ELEVATION	DESCRIPTION
11	2919372.170	676610.414	162.090	MAG NAIL
10	2919561.221	676781.094	162.660	MG

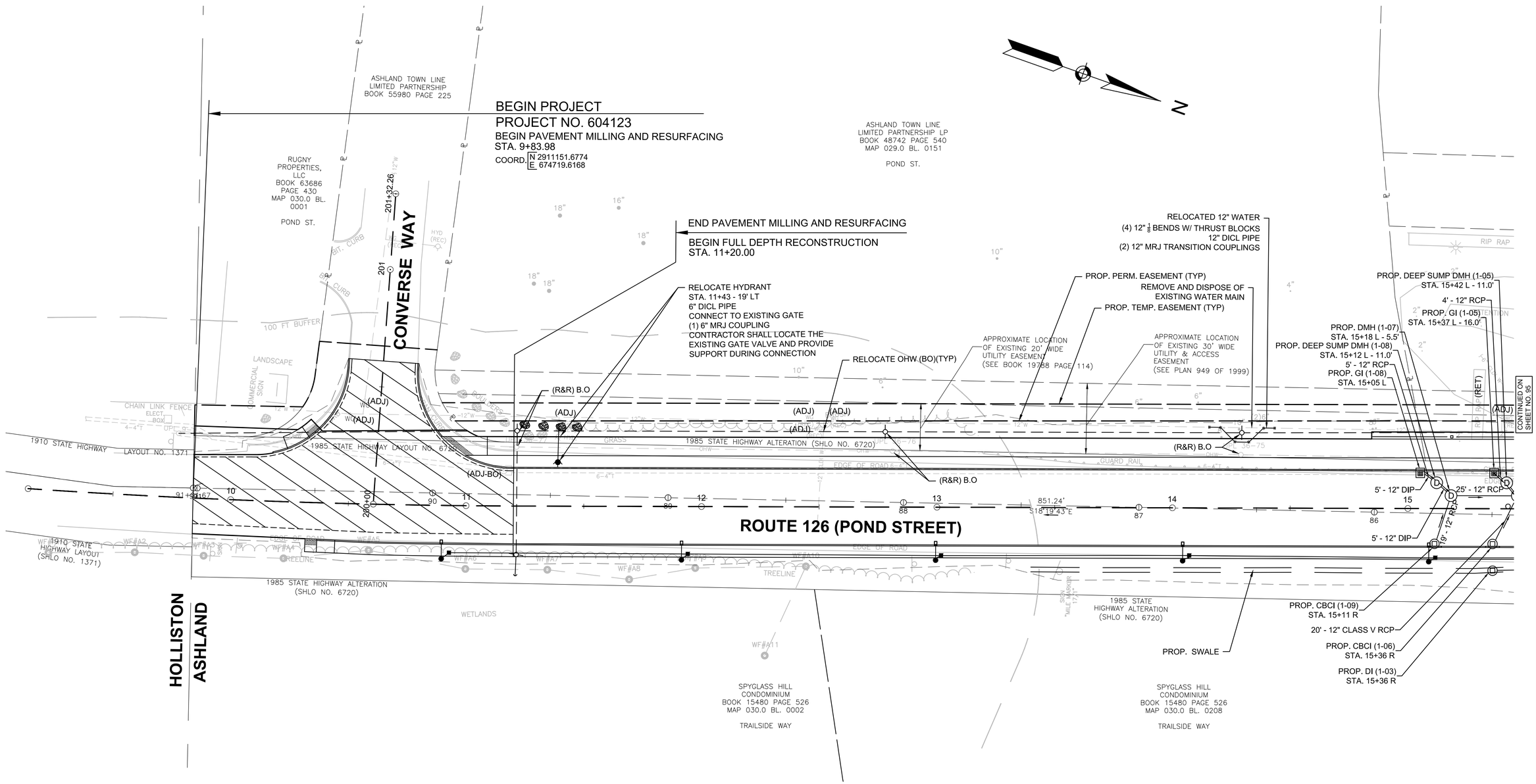
0 10 20 30 40
SCALE: 1" = 10'

604123_HD12(BASELINE TIES AND SKETCHES).DWG Plotted on 27-Nov-2017 11:27 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	94	331
PROJECT FILE NO.	604123		

DRAINAGE AND UTILITY PLANS (1 OF 17)



NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. ALL CATCH BASINS SHALL HAVE ECCENTRIC CONES AND THE STRUCTURE SHALL BE POSITIONED AWAY FROM NEARBY UTILITIES.

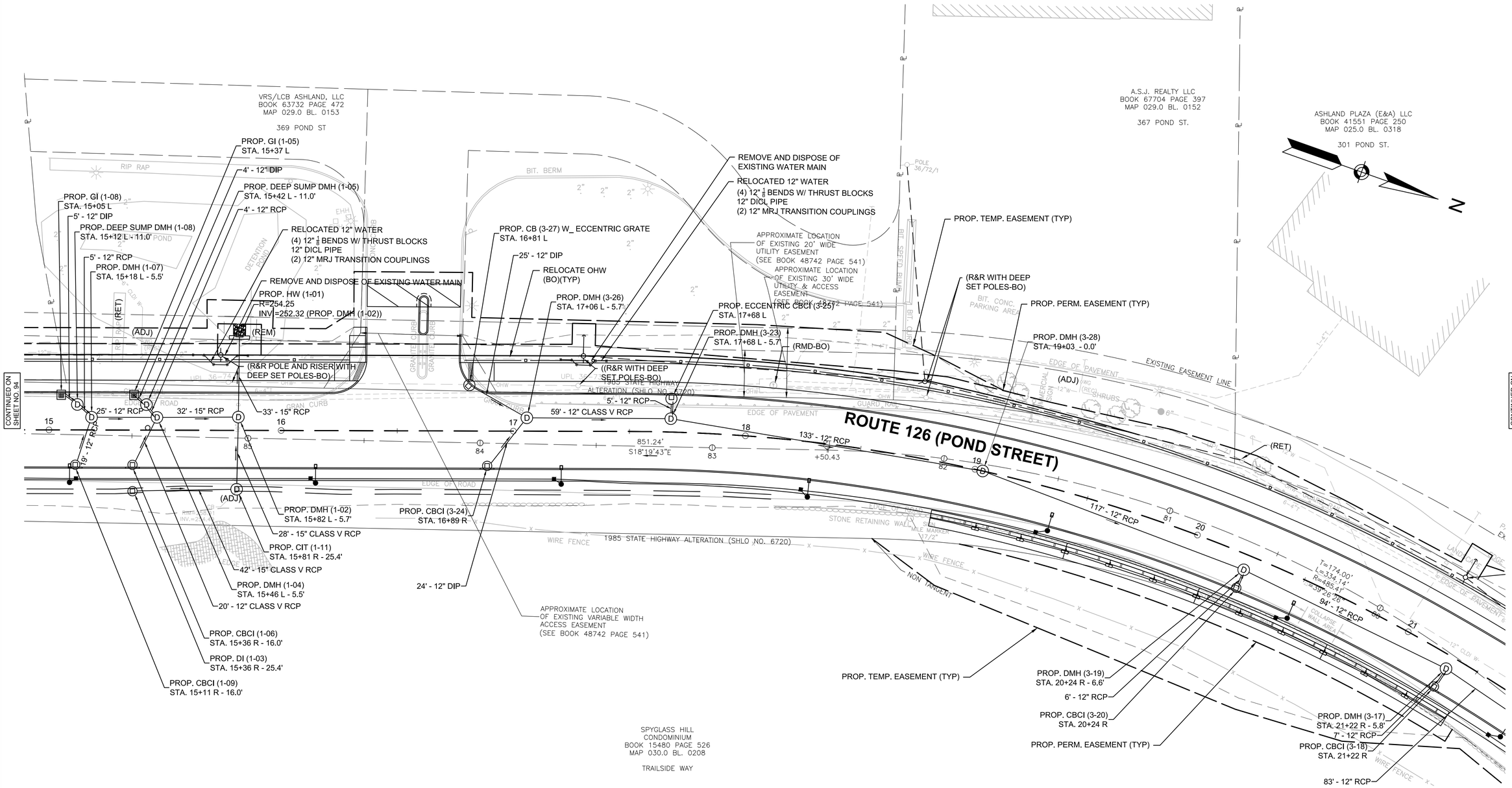
FOR PROFILE:
SEE SHEET NO. 33

604123_HD13(DRAINAGE&UTIL).DWG Plotted on 12-Mar-2018 8:03 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	95	331
PROJECT FILE NO.	604123		

DRAINAGE AND UTILITY PLANS (2 OF 17)



NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. ALL CATCH BASINS SHALL HAVE ECCENTRIC CONES AND THE STRUCTURE SHALL BE POSITIONED AWAY FROM NEARBY UTILITIES.
3. CONTRACTOR SHALL VERIFY THE LOCATION OF THE DUCT BANK PRIOR TO UTILITY POLE RELOCATION FOR UTILITY POLE AT STA. 18+75 LT AND STA. 21+05 LT

0 20 50 100
SCALE: 1" = 20'

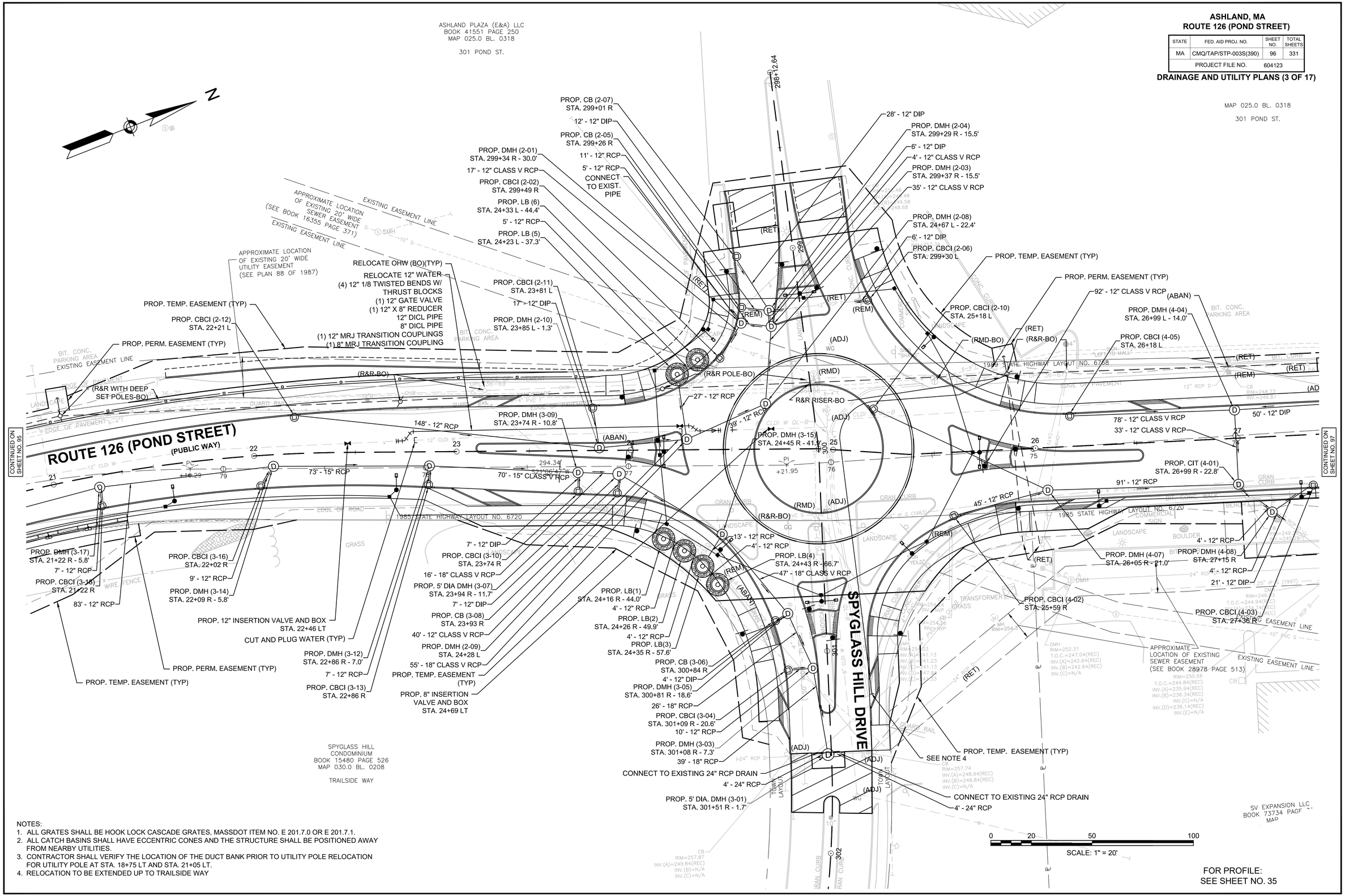
FOR PROFILE:
SEE SHEET NO. 34

604123_HD13(DRAINAGE&UTIL).DWG Plotted on 12-Mar-2018 8:03 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	96	331
PROJECT FILE NO.	604123		

DRAINAGE AND UTILITY PLANS (3 OF 17)



NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. ALL CATCH BASINS SHALL HAVE ECCENTRIC CONES AND THE STRUCTURE SHALL BE POSITIONED AWAY FROM NEARBY UTILITIES.
3. CONTRACTOR SHALL VERIFY THE LOCATION OF THE DUCT BANK PRIOR TO UTILITY POLE RELOCATION FOR UTILITY POLE AT STA. 18+75 LT AND STA. 21+05 LT.
4. RELOCATION TO BE EXTENDED UP TO TRAILSIDE WAY

FOR PROFILE:
SEE SHEET NO. 35

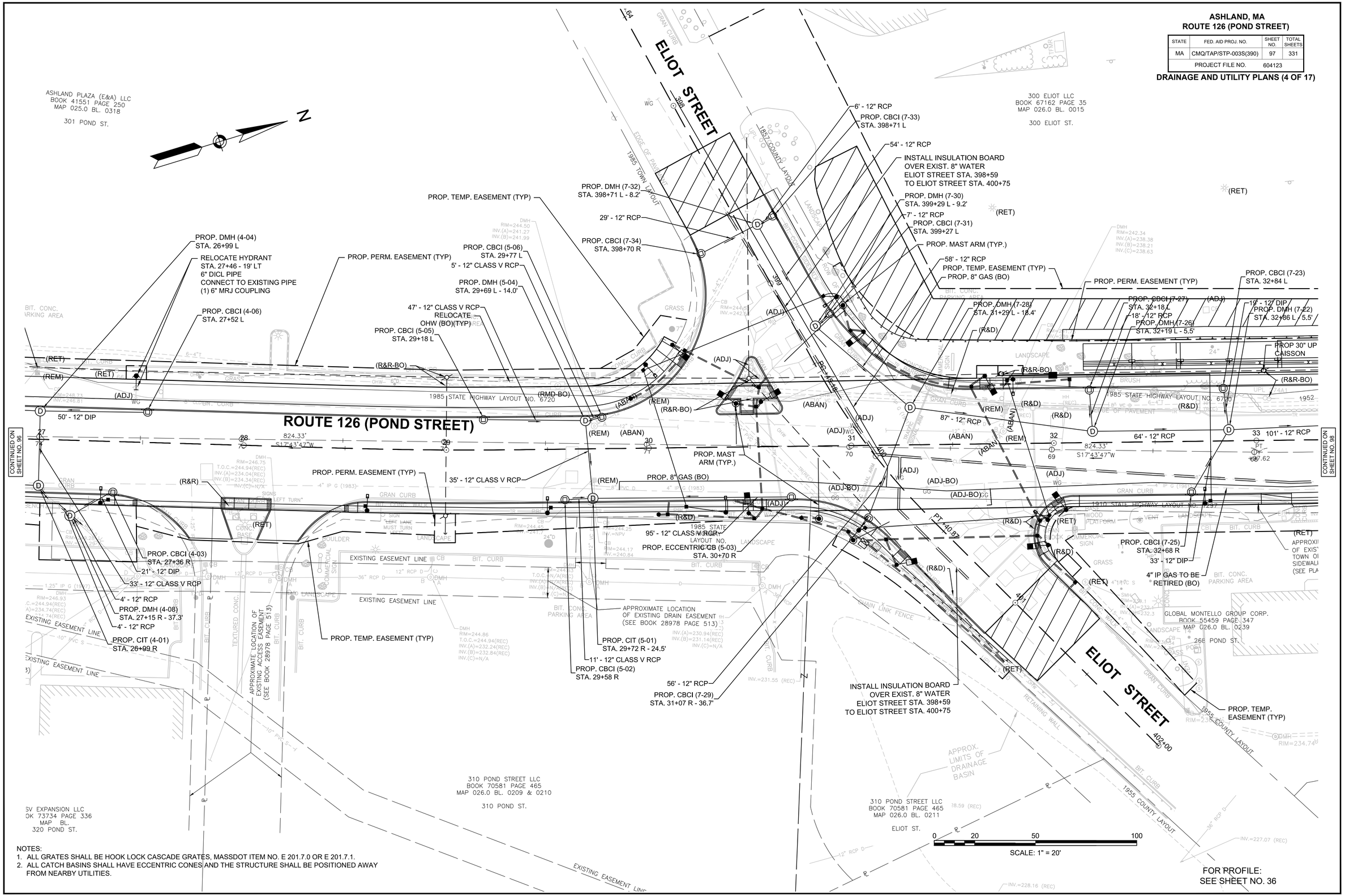
604123_HD13(DRAINAGE&UTIL).DWG Plotted on 12-Mar-2018 8:03 AM

CONFORMS TO ADDENDUM NO. 5, AUGUST 27, 2020

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	97	331
PROJECT FILE NO.	604123		

DRAINAGE AND UTILITY PLANS (4 OF 17)



NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. ALL CATCH BASINS SHALL HAVE ECCENTRIC CONES AND THE STRUCTURE SHALL BE POSITIONED AWAY FROM NEARBY UTILITIES.

FOR PROFILE: SEE SHEET NO. 36

604123_HD13(DRAINAGE&UTIL).DWG Plotted on 12-Mar-2018 8:03 AM

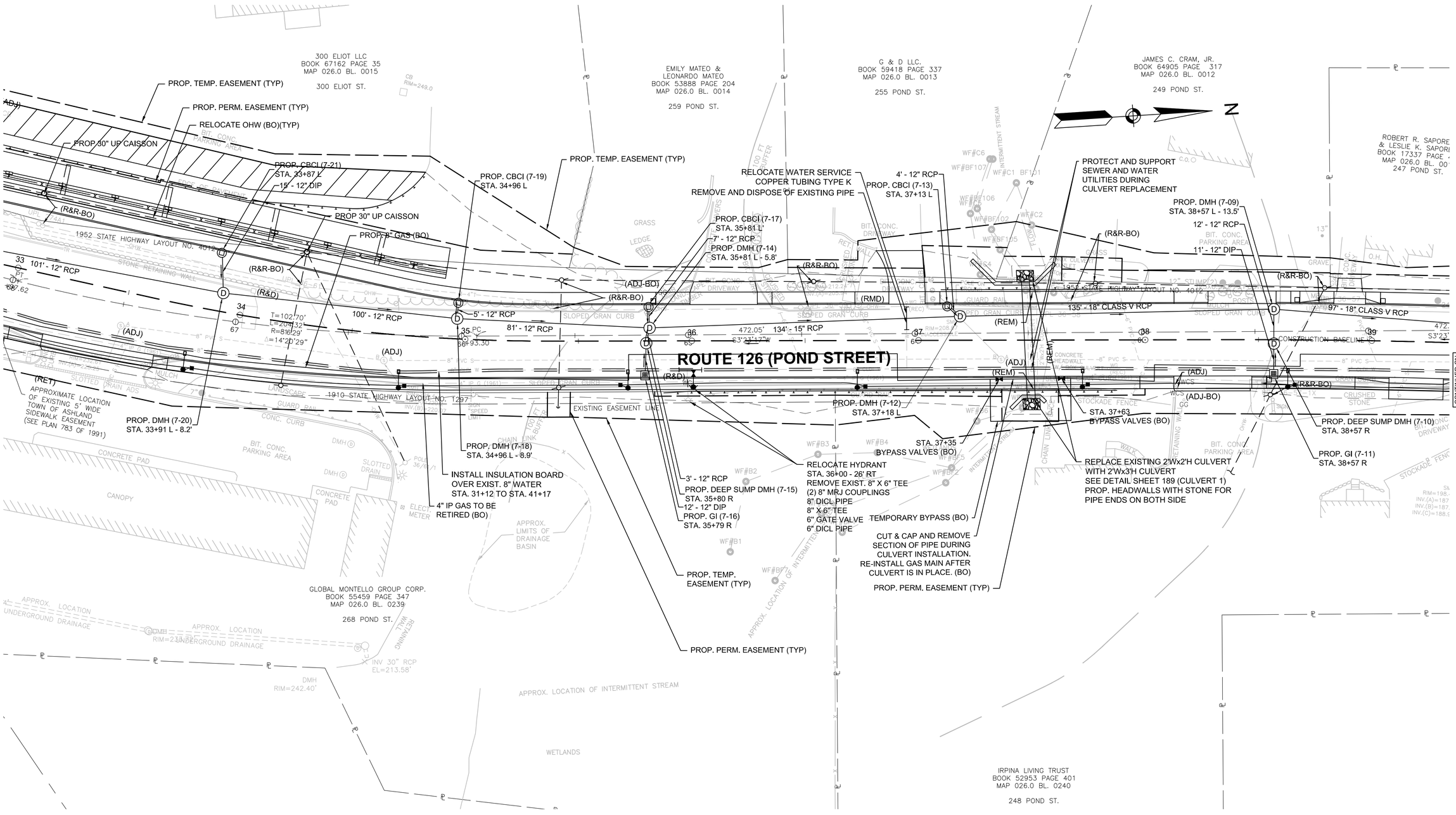
CONFORMS TO ADDENDUM NO. 5, AUGUST 27, 2020

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	98	331
PROJECT FILE NO.	604123		

DRAINAGE AND UTILITY PLANS (5 OF 17)

604123_HD13(DRAINAGE&UTIL).DWG Plotted on 12-Mar-2018 8:03 AM



NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. ALL CATCH BASINS SHALL HAVE ECCENTRIC CONES AND THE STRUCTURE SHALL BE POSITIONED AWAY FROM NEARBY UTILITIES.

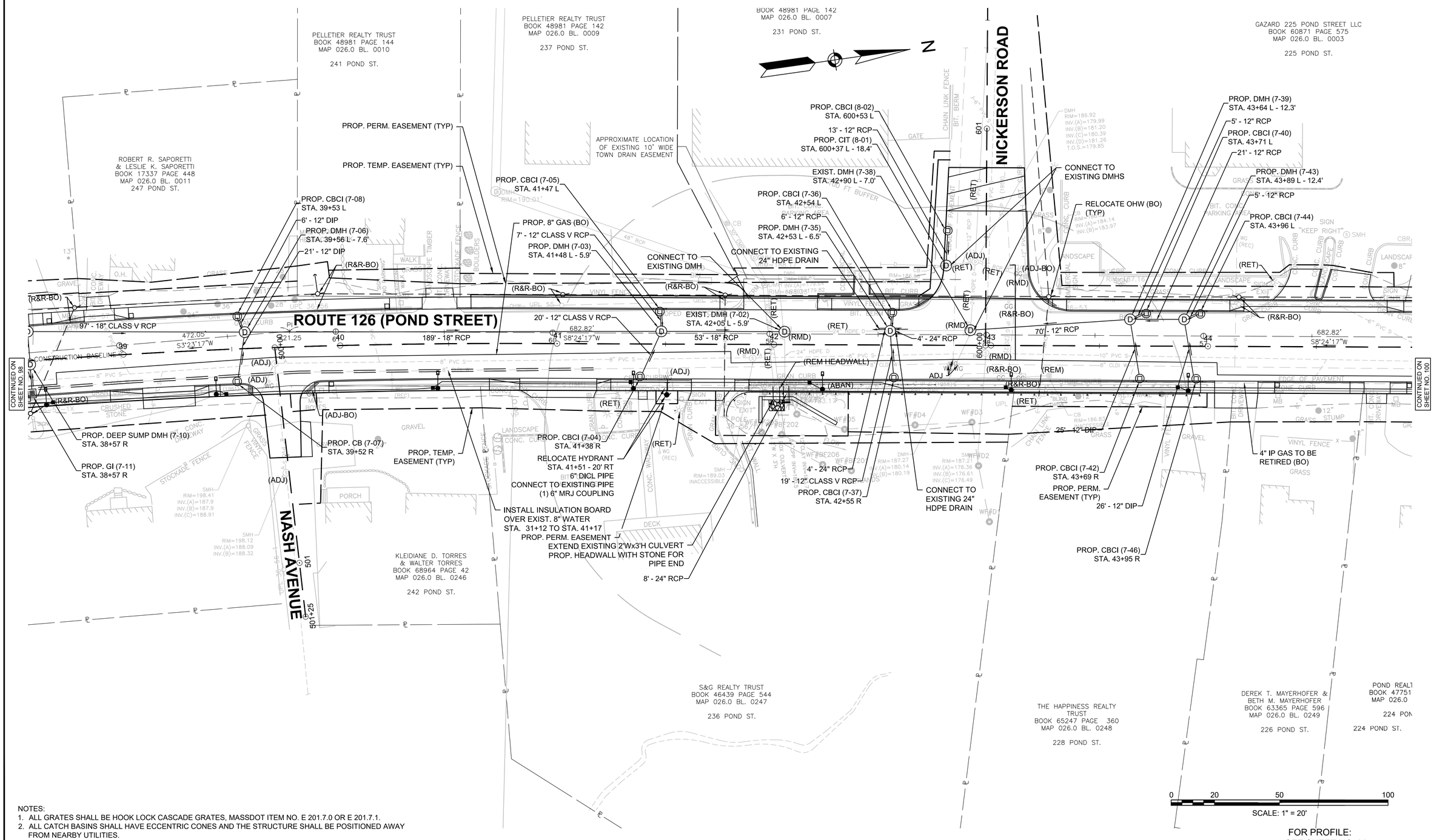
FOR PROFILE:
SEE SHEET NO. 37

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	99	331
PROJECT FILE NO.	604123		

DRAINAGE AND UTILITY PLANS (6 OF 17)

604123_HD13(DRAINAGE&UTIL).DWG Plotted on 12-Mar-2018 8:03 AM



NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. ALL CATCH BASINS SHALL HAVE ECCENTRIC CONES AND THE STRUCTURE SHALL BE POSITIONED AWAY FROM NEARBY UTILITIES.

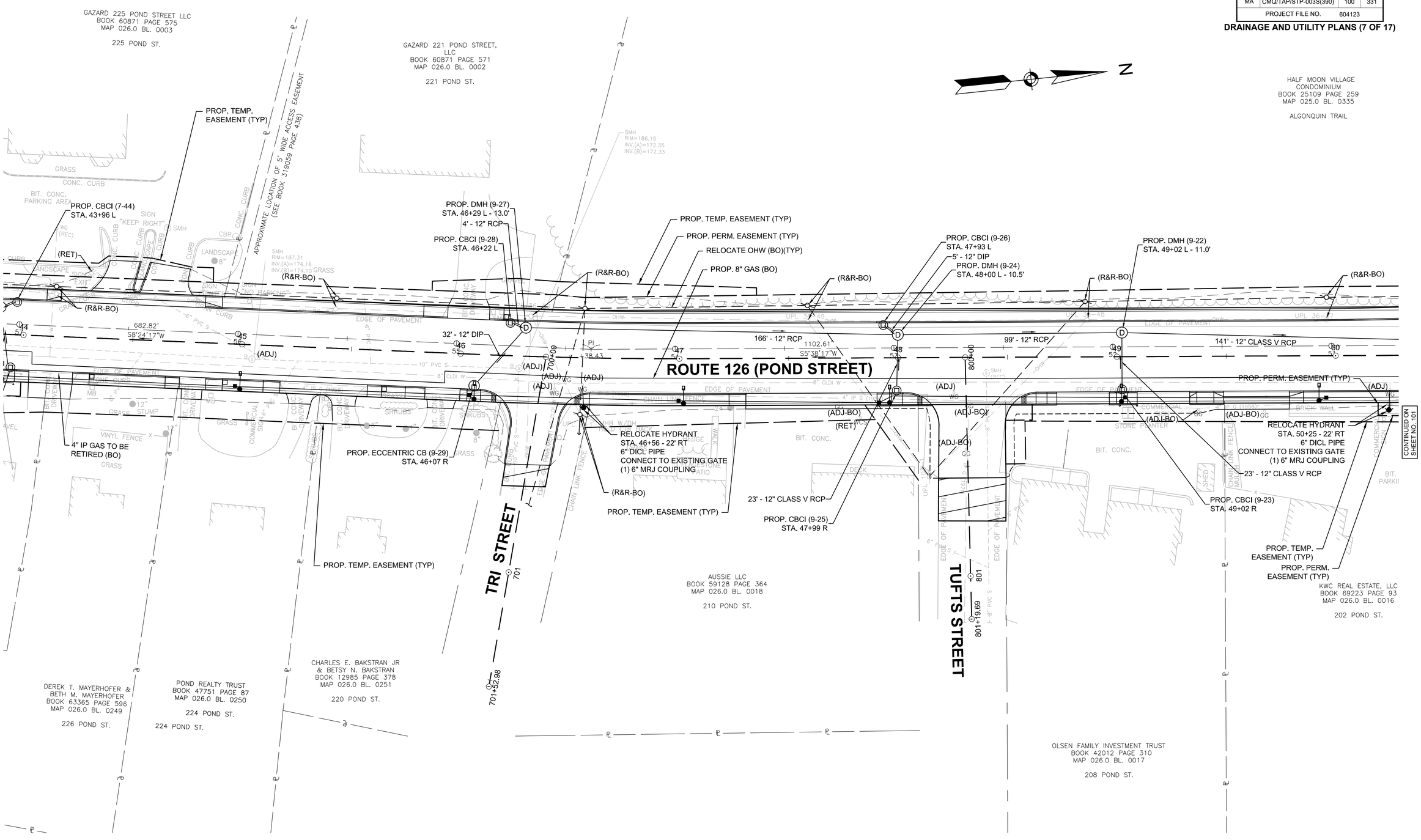
FOR PROFILE:
SEE SHEET NO. 38

CONFORMS TO ADDENDUM NO. 5, AUGUST 27, 2020

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	100	331
PROJECT FILE NO.	604123		

DRAINAGE AND UTILITY PLANS (7 OF 17)



NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. ALL CATCH BASINS SHALL HAVE ECCENTRIC CONES AND THE STRUCTURE SHALL BE POSITIONED AWAY FROM NEARBY UTILITIES.

FOR PROFILE:
SEE SHEET NO. 39

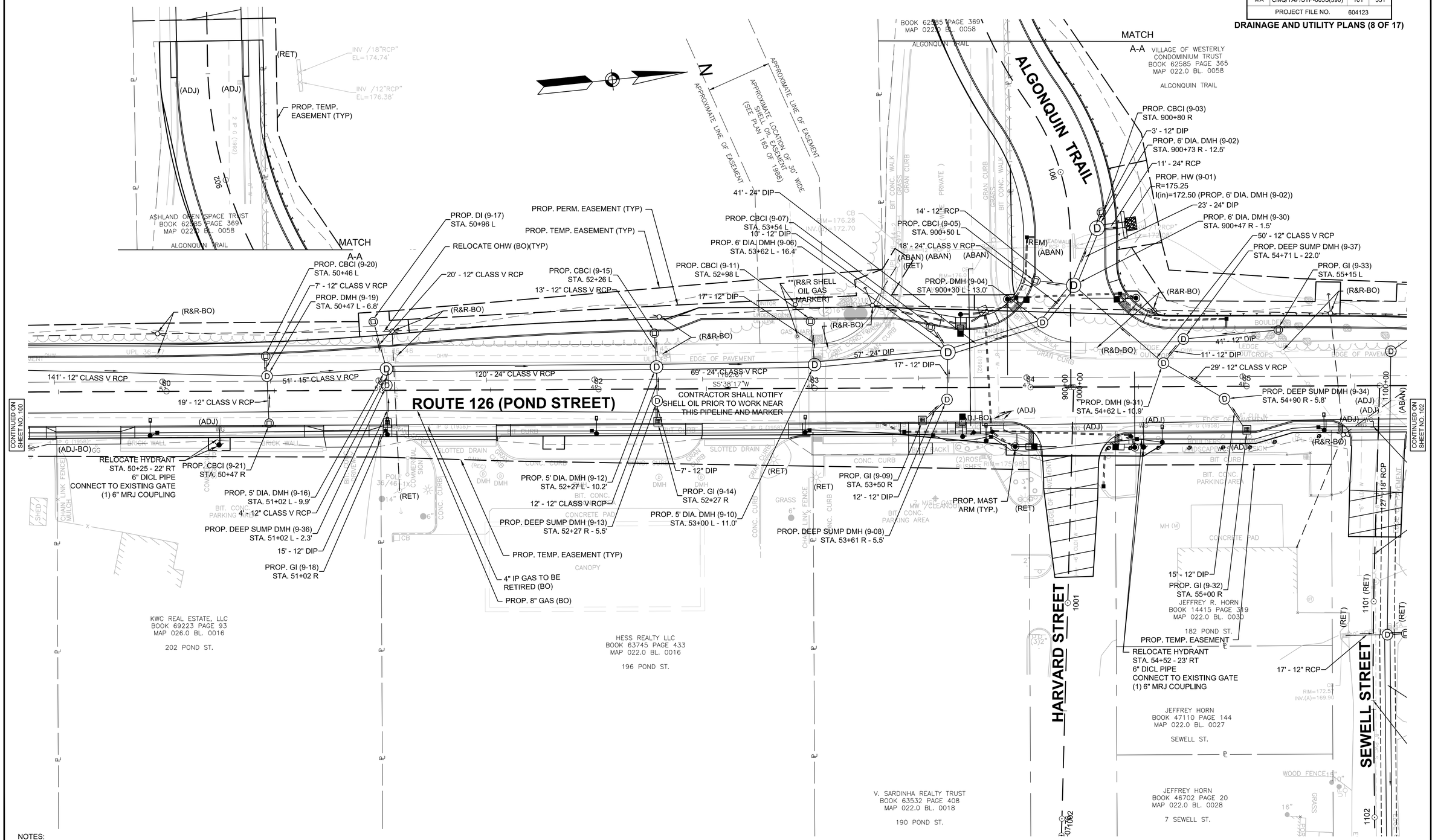
604123_HD13(DRAINAGE&UTIL).DWG Plotted on 12-Mar-2018 8:03 AM

CONFORMS TO ADDENDUM NO. 5, AUGUST 27, 2020

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	101	331
PROJECT FILE NO.	604123		

DRAINAGE AND UTILITY PLANS (8 OF 17)



NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. ALL CATCH BASINS SHALL HAVE ECCENTRIC CONES AND THE STRUCTURE SHALL BE POSITIONED AWAY FROM NEARBY UTILITIES.
3. CONTRACTOR SHALL CONTACT AND COORDINATE WITH SHELL OIL PRIOR TO PERFORMING WORK WITHIN THE LOCATION OF THESE FACILITIES.

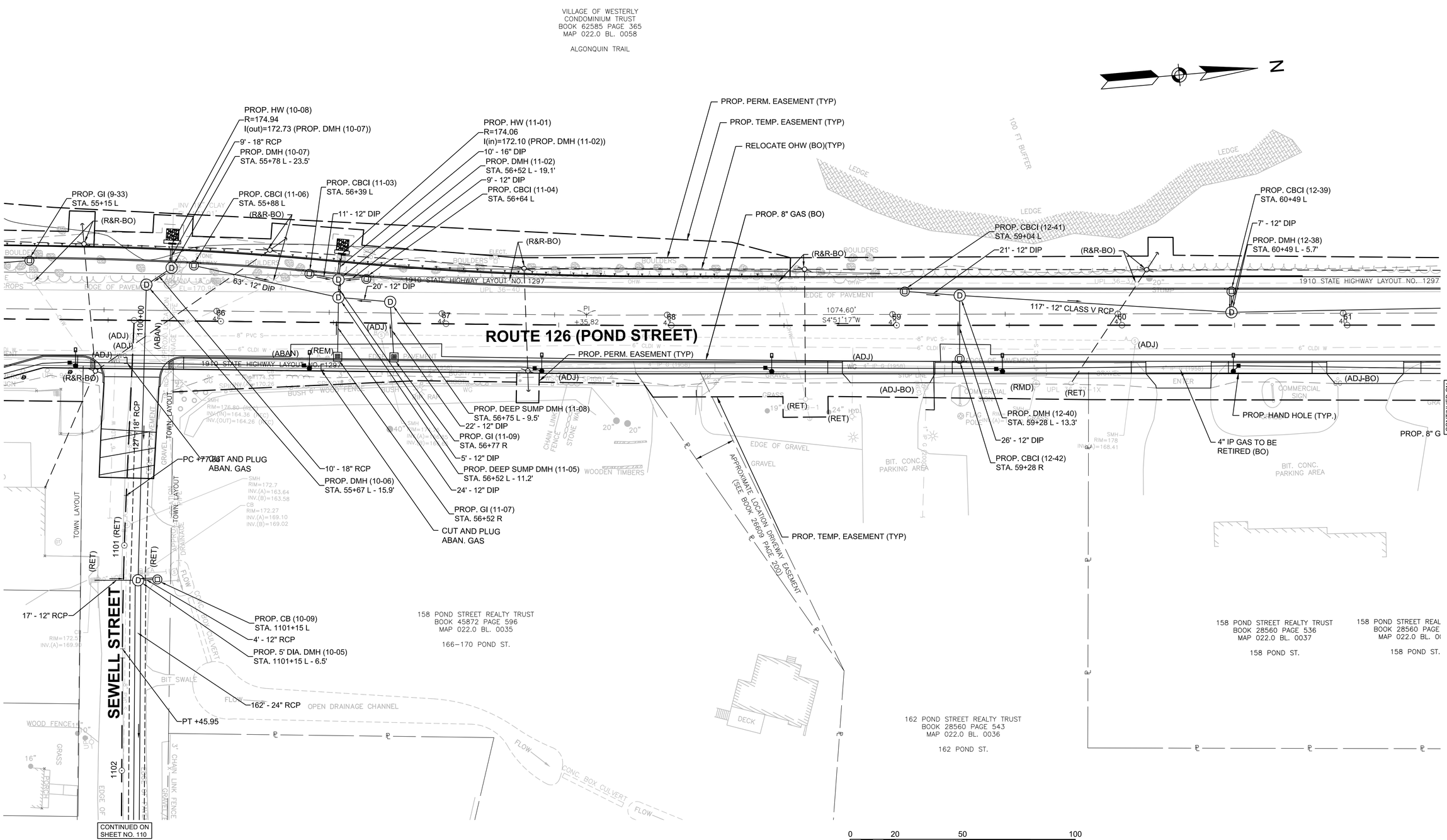
FOR PROFILE: SEE SHEET NO. 40

604123_HD13(DRAINAGE&UTIL).DWG Plotted on 12-Mar-2018 8:03 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	102	331
PROJECT FILE NO.	604123		

DRAINAGE AND UTILITY PLANS (9 OF 17)



NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. ALL CATCH BASINS SHALL HAVE ECCENTRIC CONES AND THE STRUCTURE SHALL BE POSITIONED AWAY FROM NEARBY UTILITIES.

FOR PROFILE:
SEE SHEET NO. 41

604123_HD13(DRAINAGE&UTIL).DWG Plotted on 12-Mar-2018 8:03 AM

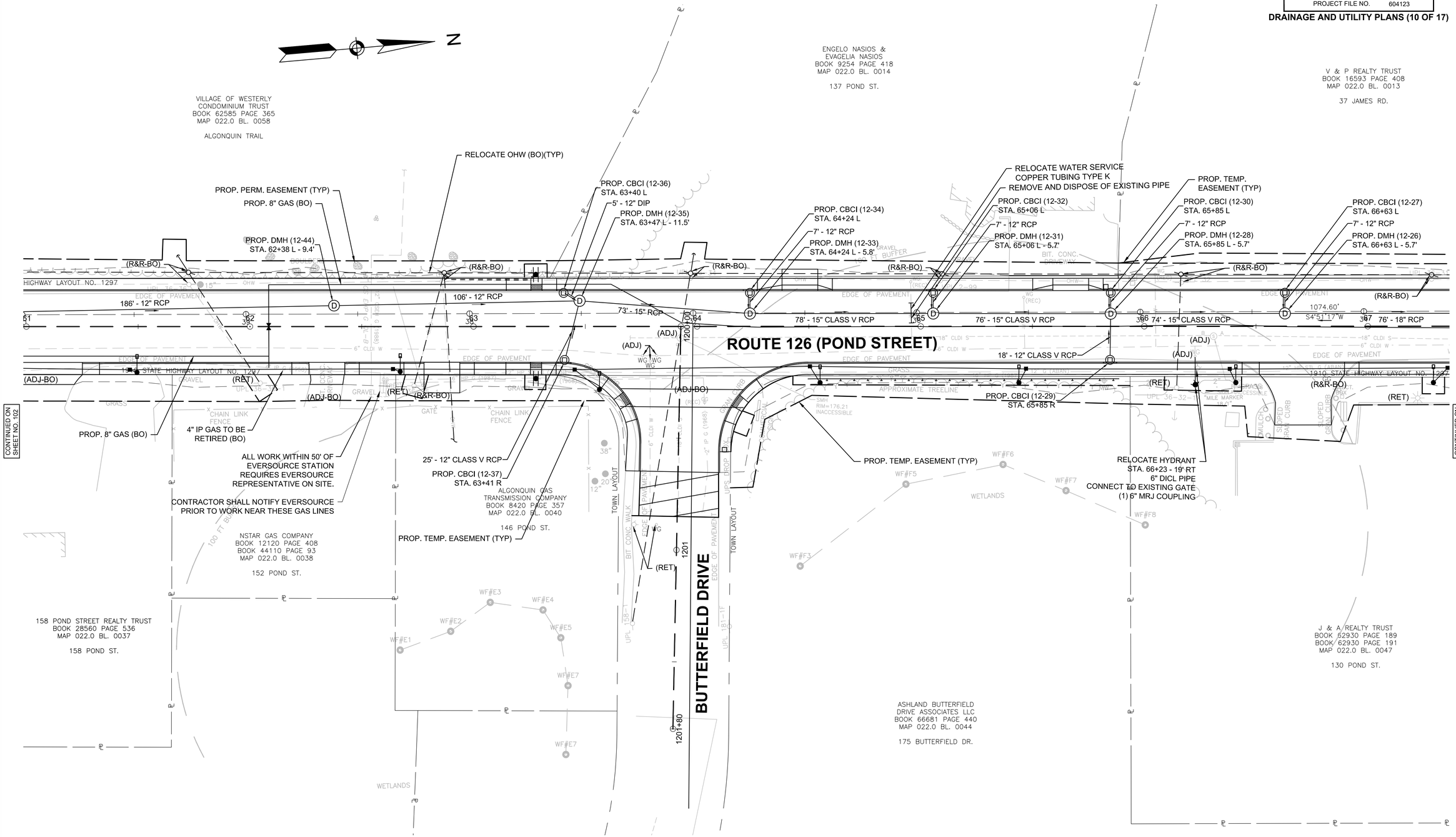
CONFORMS TO ADDENDUM NO. 5, AUGUST 27, 2020

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	103	331
PROJECT FILE NO.	604123		

DRAINAGE AND UTILITY PLANS (10 OF 17)

604123_HD13(DRAINAGE&UTIL).DWG Plotted on 12-Mar-2018 8:03 AM



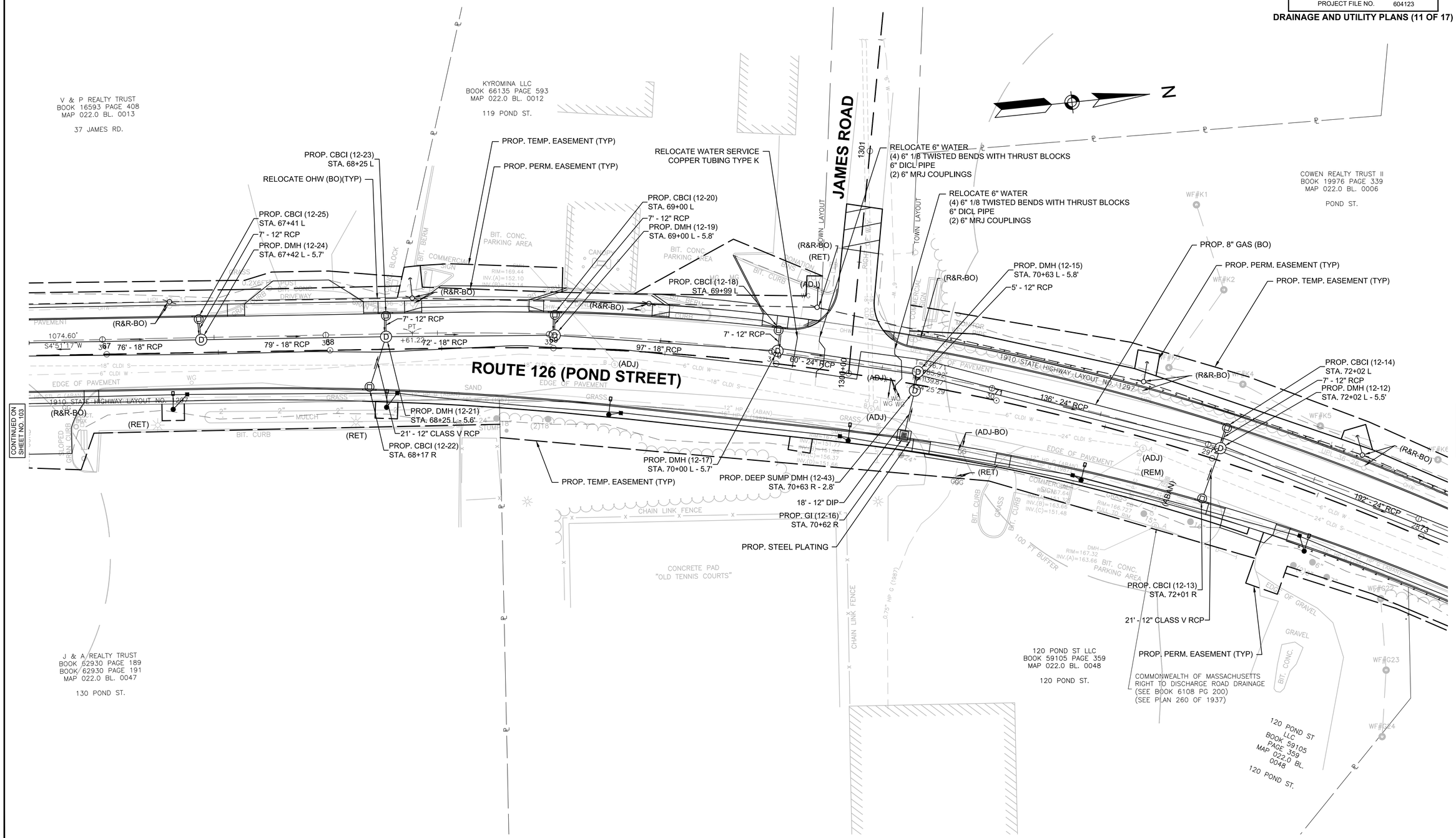
NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. ALL CATCH BASINS SHALL HAVE ECCENTRIC CONES AND THE STRUCTURE SHALL BE POSITIONED AWAY FROM NEARBY UTILITIES.

FOR PROFILE:
SEE SHEET NO. 42

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	104	331
PROJECT FILE NO.	604123		

DRAINAGE AND UTILITY PLANS (11 OF 17)



NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. ALL CATCH BASINS SHALL HAVE ECCENTRIC CONES AND THE STRUCTURE SHALL BE POSITIONED AWAY FROM NEARBY UTILITIES.

FOR PROFILE:
SEE SHEET NO. 43

604123_HD13(DRAINAGE&UTIL).DWG Plotted on 12-Mar-2018 8:03 AM

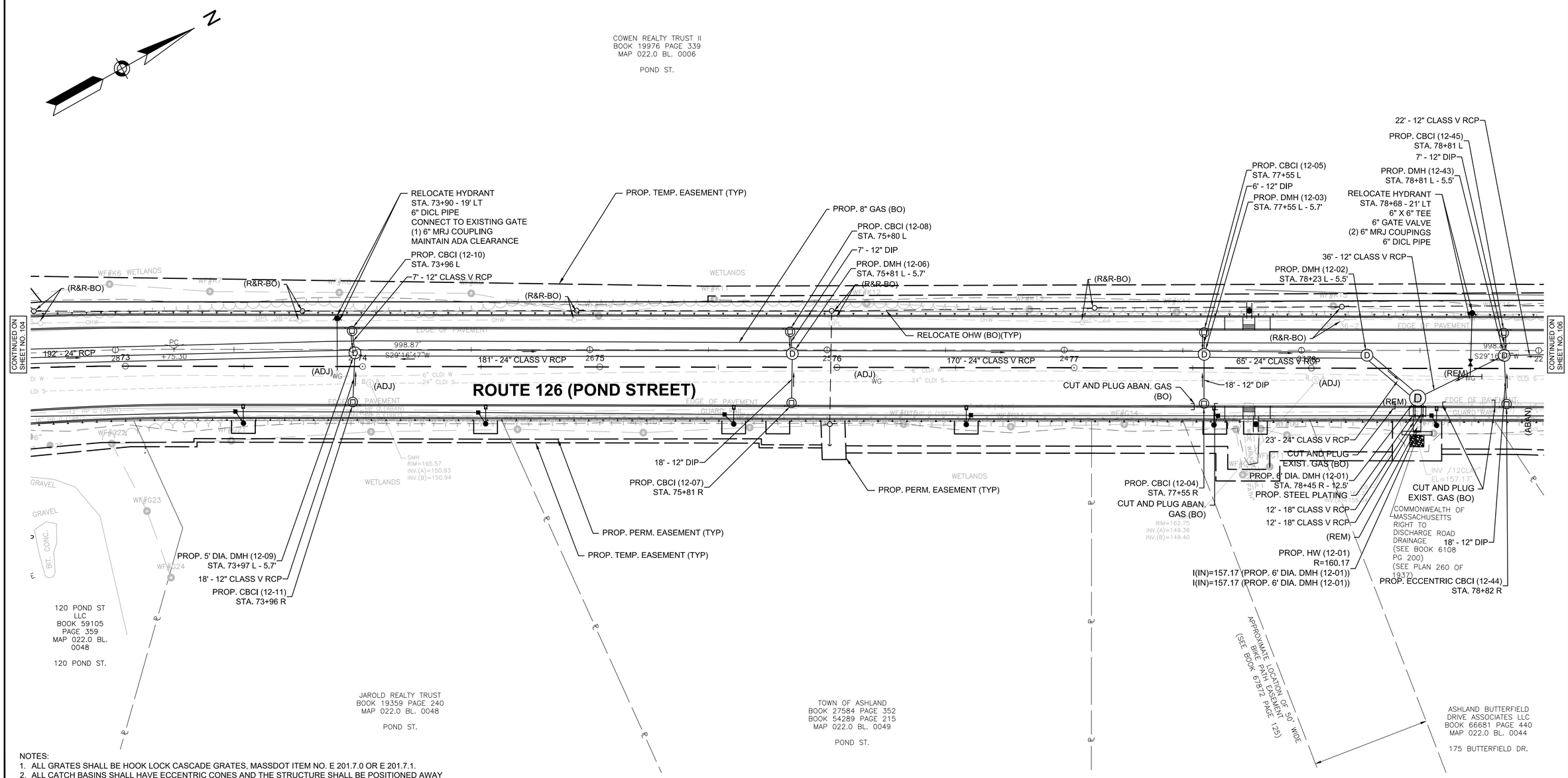
CONFORMS TO ADDENDUM NO. 5, AUGUST 27, 2020

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	105	331
PROJECT FILE NO.	604123		

DRAINAGE AND UTILITY PLANS (12 OF 17)

604123_HD13(DRAINAGE&UTIL).DWG Plotted on 12-Mar-2018 8:03 AM



NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. ALL CATCH BASINS SHALL HAVE ECCENTRIC CONES AND THE STRUCTURE SHALL BE POSITIONED AWAY FROM NEARBY UTILITIES.
3. CONTRACTOR TO COORDINATE WITH EVERSOURCE FOR CUTTING AND CAPPING OF ABANDONED 12" GAS AND INSTALLATION OF STEEL PLATE BETWEEN DRAINAGE PIPE AND EXISTING 16" GAS AT STA. 78+45.
4. THE 16" GAS PIPE SHALL BE PROTECTED AND SUPPORTED WHILE EXPOSED DURING THE DURATION OF ALL WORK, INCLUDING WORK ON THE CULVERT. CONTRACTOR TO COORDINATE WORK WITH EVERSOURCE.

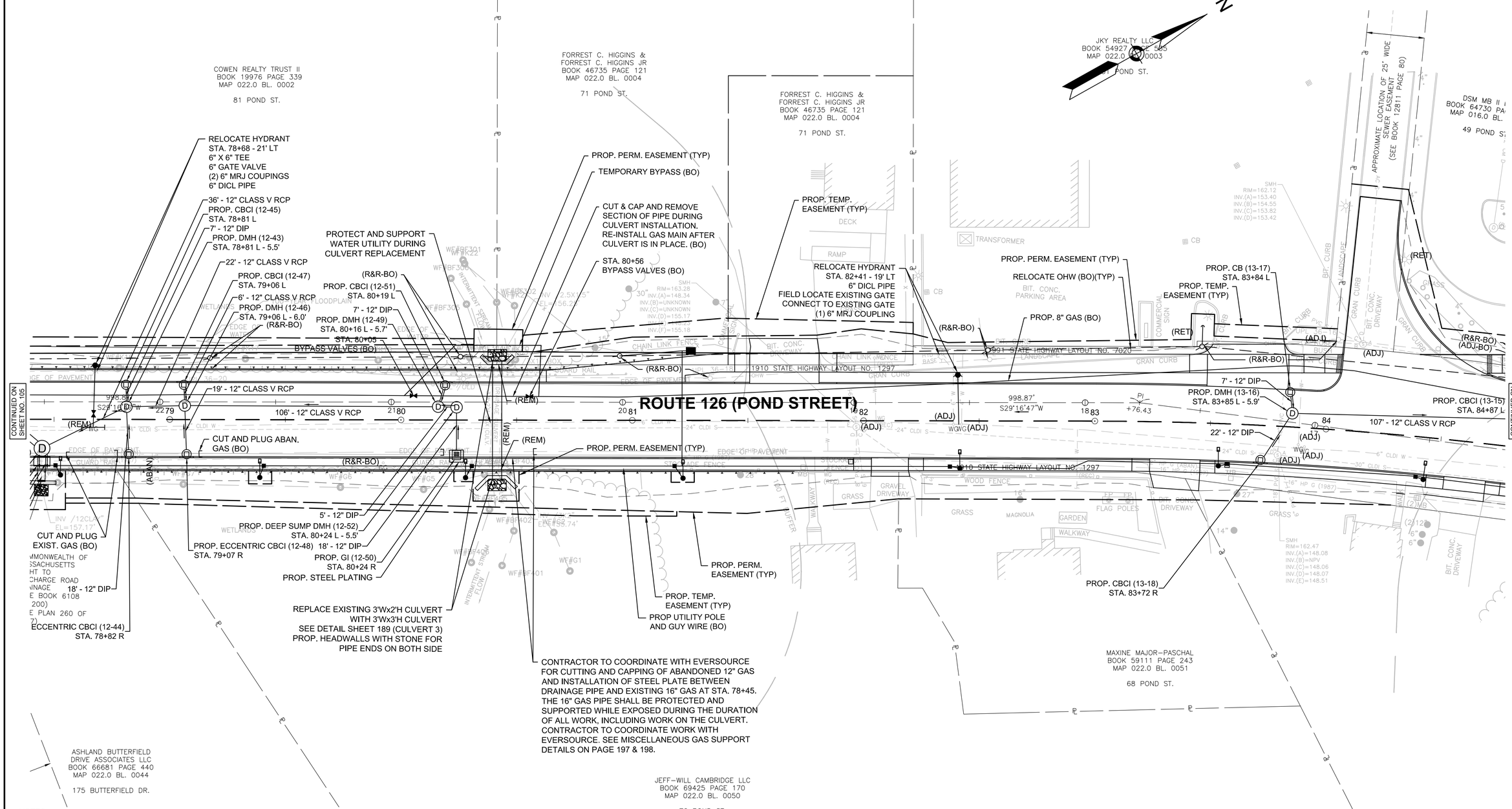
FOR PROFILE:
SEE SHEET NO. 44

CONFORMS TO ADDENDUM NO. 5, AUGUST 27, 2020

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	106	331
PROJECT FILE NO.	604123		

DRAINAGE AND UTILITY PLANS (13 OF 17)



NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. ALL CATCH BASINS SHALL HAVE ECCENTRIC CONES AND THE STRUCTURE SHALL BE POSITIONED AWAY FROM NEARBY UTILITIES.

FOR PROFILE:
SEE SHEET NO. 45

604123_HD13(DRAINAGE&UTIL).DWG Plotted on 12-Mar-2018 8:03 AM

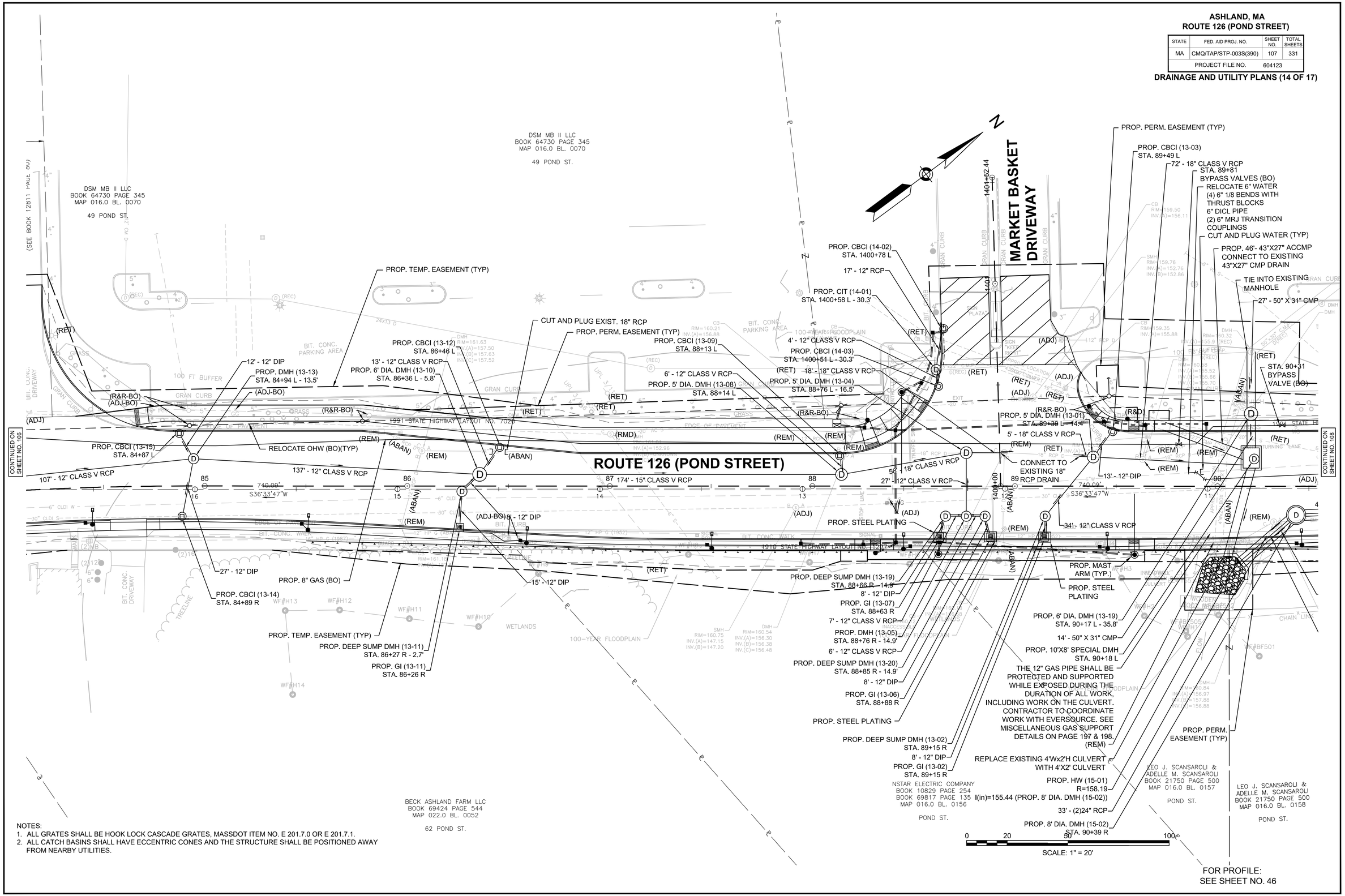
CONFORMS TO ADDENDUM NO. 5, AUGUST 27, 2020

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	107	331
PROJECT FILE NO.	604123		

DRAINAGE AND UTILITY PLANS (14 OF 17)

604123_HD13(DRAINAGE&UTIL).DWG Plotted on 12-Mar-2018 8:03 AM



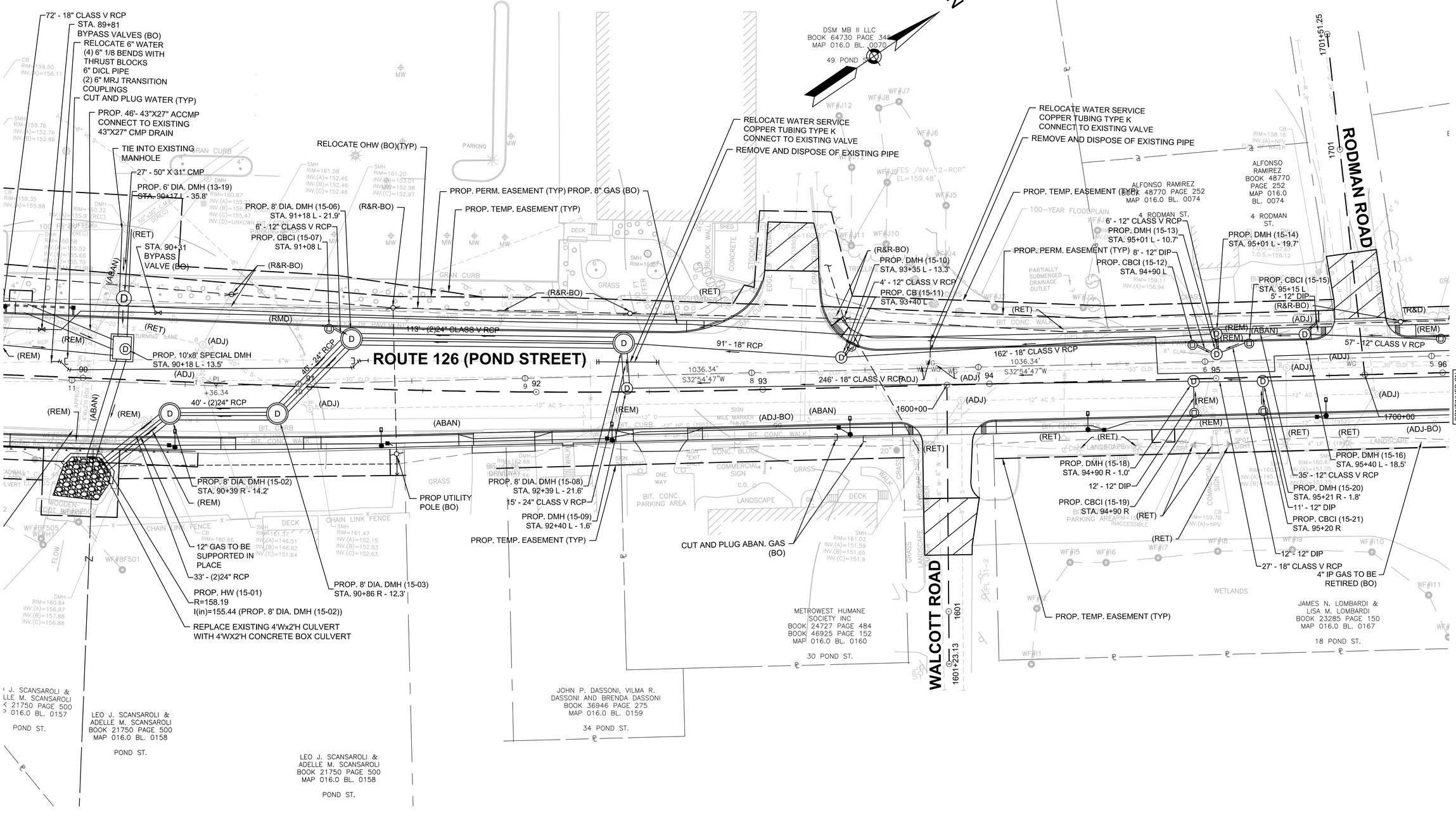
NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. ALL CATCH BASINS SHALL HAVE ECCENTRIC CONES AND THE STRUCTURE SHALL BE POSITIONED AWAY FROM NEARBY UTILITIES.

CONFORMS TO ADDENDUM NO. 5, AUGUST 27, 2020

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	108	331
PROJECT FILE NO.	604123		

DRAINAGE AND UTILITY PLANS (15 OF 17)



NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. ALL CATCH BASINS SHALL HAVE ECCENTRIC CONES AND THE STRUCTURE SHALL BE POSITIONED AWAY FROM NEARBY UTILITIES.

FOR PROFILE:
SEE SHEET NO. 47

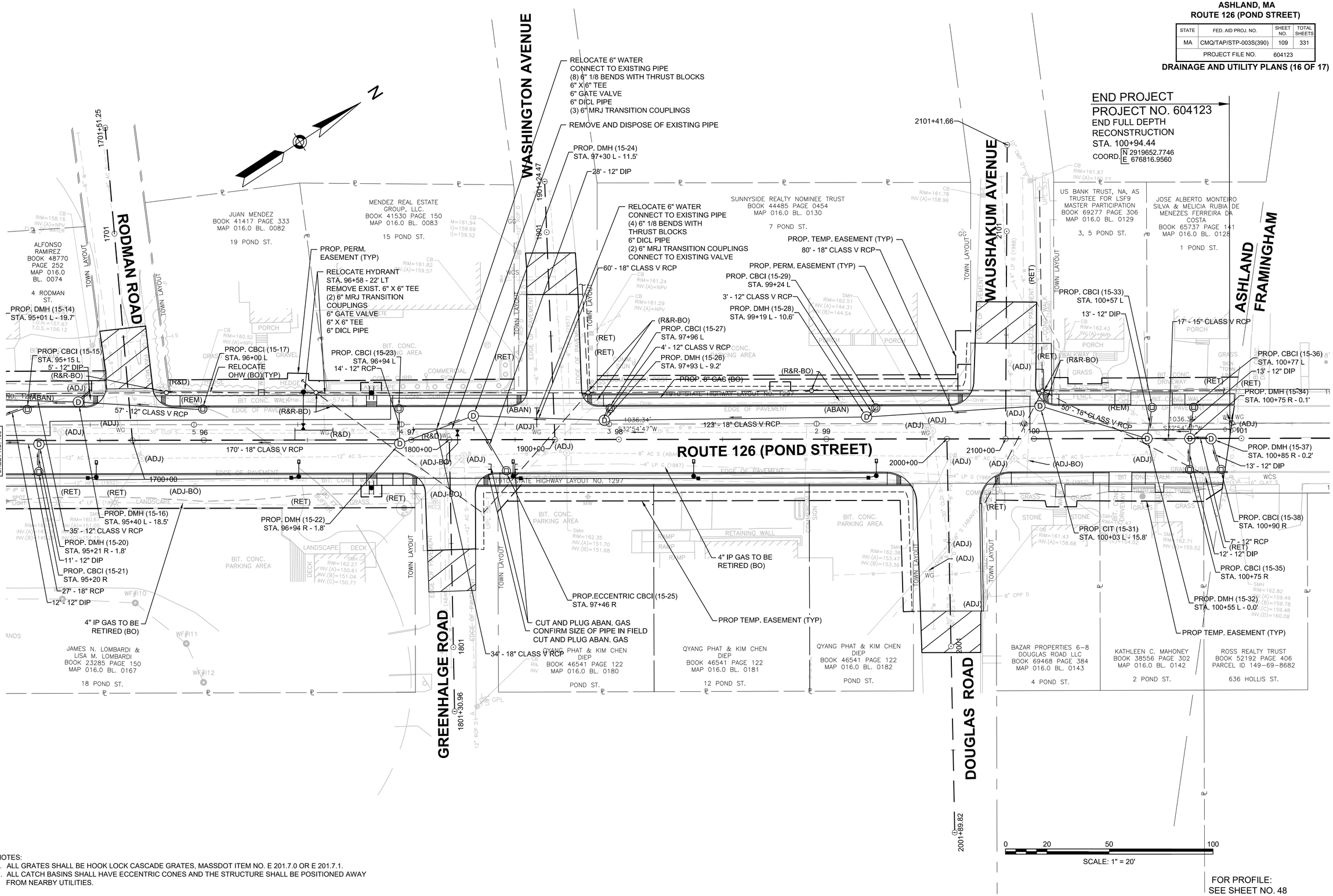
604123_HD13(DRAINAGE&UTIL).DWG Plotted on 12-Mar-2018 8:03 AM

CONFORMS TO ADDENDUM NO. 5, AUGUST 27, 2020

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	109	331
PROJECT FILE NO.	604123		

DRAINAGE AND UTILITY PLANS (16 OF 17)



NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. ALL CATCH BASINS SHALL HAVE ECCENTRIC CONES AND THE STRUCTURE SHALL BE POSITIONED AWAY FROM NEARBY UTILITIES.

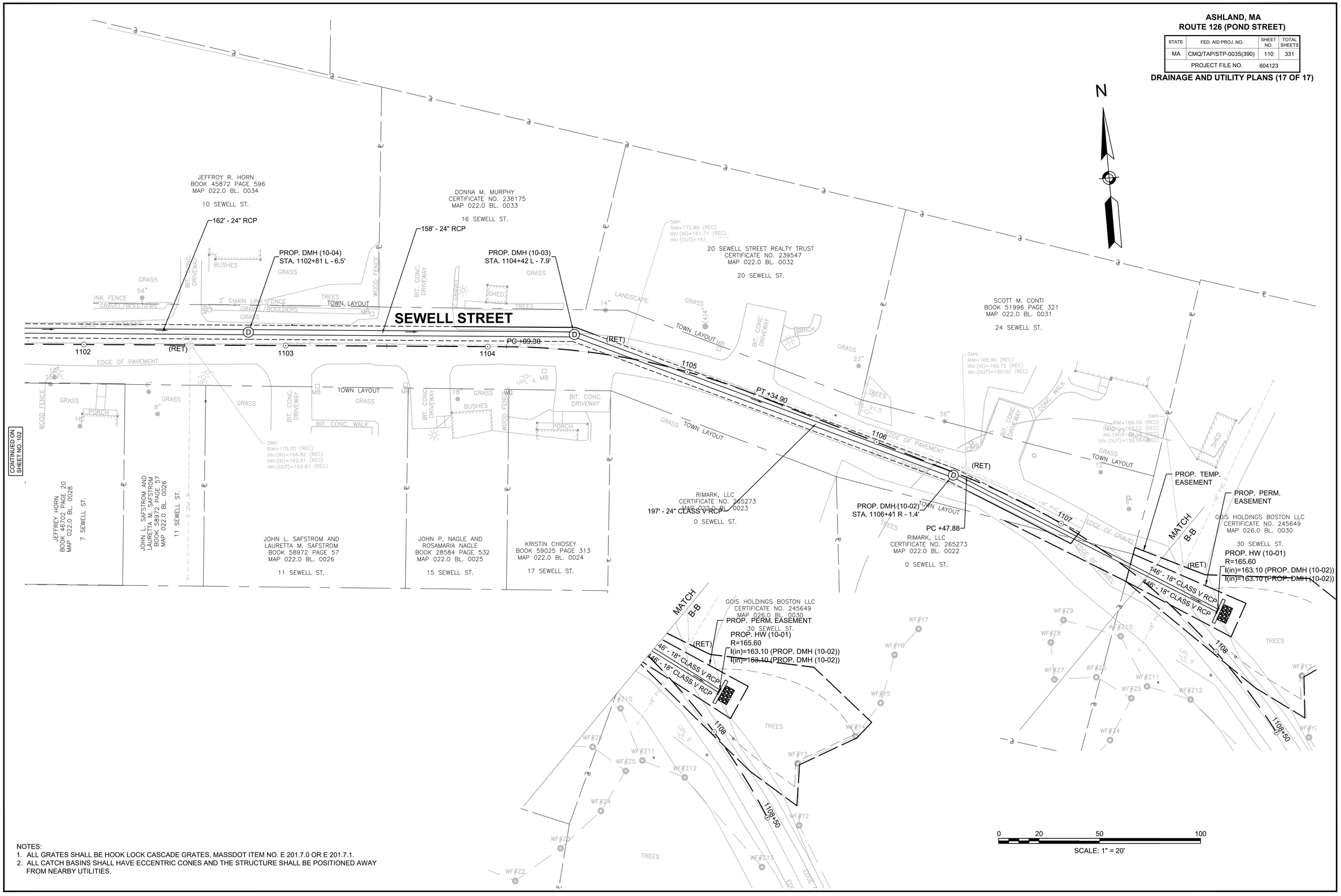
FOR PROFILE:
SEE SHEET NO. 48

604123_HD13(DRAINAGE&UTIL).DWG Plotted on 12-Mar-2018 8:03 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	110	331
PROJECT FILE NO.	604123		

DRAINAGE AND UTILITY PLANS (17 OF 17)



NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. ALL CATCH BASINS SHALL HAVE ECCENTRIC CONES AND THE STRUCTURE SHALL BE POSITIONED AWAY FROM NEARBY UTILITIES.

604123_HD13(DRAINAGE&UTIL).DWG Plotted on 12-Mar-2018 8:03 AM

DRAINAGE PLAN 1

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
PROP. CBCI (1-06)	15+36	16.0 R	259.15		255.64 - (12" TO PROP. DMH (1-04) - W)	Class V RCP	
PROP. CBCI (1-09)	15+11.34	16.0 R	259.19		254.69 - (12" TO PROP. DMH (1-07) - W)	Class III RCP	
PROP. CIT (1-11)	15+80.89	25.4 R	258.36	254.60 - (15" FROM PROP. DI (1-03) - S)	254.49 - (15" TO PROP. DMH (1-02) - W)	Class V RCP	
PROP. DEEP SUMP DMH (1-05)	15+41.94	11.0 L	259.28	256.28 - (12" FROM PROP. GI (1-05) - SW)	254.78 - (12" TO PROP. DMH (1-04) - NE)	Class III RCP	
PROP. DEEP SUMP DMH (1-08)	15+12.19	11.0 L	259.34	256.33 - (12" FROM PROP. GI (1-08) - S)	256.23 - (12" TO PROP. DMH (1-07) - N)	Class III RCP	
PROP. DI (1-03)	15+36	25.4 R	258.22		254.97 - (15" TO PROP. CIT (1-11) - N)	Class III RCP	
PROP. DMH (1-07)	15+18.32	5.5 L	260.38	254.50 - (12" FROM PROP. CBCI (1-09) - E) 256.13 - (12" FROM PROP. DEEP SUMP DMH (1-08) - S)	254.40 - (12" TO PROP. DMH (1-04) - N)	Class III RCP	
PROP. GI (1-05)	15+36.59	16.0 L	259.13		256.63 - (12" TO PROP. DEEP SUMP DMH (1-05) - NE)	Class III RCP	
PROP. GI (1-08)	15+05.25	16.0 L	259.22		256.73 - (12" TO PROP. DEEP SUMP DMH (1-08) - N)	Ductile Iron	

DRAINAGE PLAN 2

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
PROP. CIT (1-11)	15+80.89	25.4 R	258.36	254.60 - (15" FROM PROP. DI (1-03) - S)	254.49 - (15" TO PROP. DMH (1-02) - W)	Class V RCP	
PROP. DMH (1-02)	15+81.56	5.7 L	259.54	253.10 - (15" FROM PROP. DMH (1-04) - S) 253.40 - (15" FROM PROP. CIT (1-11) - E)	252.60 - (15" TO PROP. HW (1-01) - W)	Class III RCP	
PROP. DMH (1-04)	15+46.49	5.5 L	259.40	253.85 - (12" FROM PROP. DMH (1-07) - S) 255.40 - (12" FROM PROP. CBCI (1-06) - E) 254.68 - (12" FROM PROP. DEEP SUMP DMH (1-05) - SW)	253.60 - (15" TO PROP. DMH (1-02) - N)	Class III RCP	
PROP. HW (1-01)	15+81.94	40.5 L	254.25	252.32 - (15" FROM PROP. DMH (1-02) - E)			
PROP. CB (3-27) W_ ECCENTRIC GRATE	16+81	19.8 L	261.14		258.14 - (12" TO PROP. DMH (3-26) - N)	Ductile Iron	
PROP. CBCI (3-18)	21+21.51	16.0 R	264.96		259.56 - (12" TO PROP. DMH (3-17) - W)	Class III RCP	
PROP. CBCI (3-20)	20+24.18	16.0 R	265.61		260.45 - (12" TO PROP. DMH (3-19) - W)	Class III RCP	
PROP. CBCI (3-24)	16+88.75	16.0 R	260.95		258.15 - (12" TO PROP. DMH (3-26) - W)	Ductile Iron	
PROP. DMH (3-17)	21+22.10	5.8 R	265.36	254.85 - (12" FROM PROP. DMH (3-19) - S) 259.46 - (12" FROM PROP. CBCI (3-18) - E)	254.85 - (12" TO PROP. DMH (3-14) - N)	Class III RCP	
PROP. DMH (3-19)	20+24.15	6.6 R	265.98	255.60 - (12" FROM PROP. DMH (3-28) - S) 260.35 - (12" FROM PROP. CBCI (3-20) - E)	255.50 - (12" TO PROP. DMH (3-17) - N)	Class III RCP	
PROP. DMH (3-23)	17+67.68	5.7 L	263.84	257.40 - (12" FROM PROP. DMH (3-26) - S) 259.40 - (12" FROM PROP. ECCENTRIC CBCI (3-25) - W)	257.30 - (12" TO PROP. DMH (3-28) - N)	Class III RCP	
PROP. DMH (3-26)	17+05.79	5.7 L	261.76	257.95 - (12" FROM PROP. CB (3-27) W_ ECCENTRIC GRATE - S) 257.95 - (12" FROM PROP. CBCI (3-24) - E)	257.85 - (12" TO PROP. DMH (3-23) - N)	Class V RCP	
PROP. ECCENTRIC CBCI (3-25)	17+67.71	14.4 L	263.99		259.50 - (12" TO PROP. DMH (3-23) - E)	Class III RCP	

DRAINAGE PLAN 3

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
PROP. CB (2-05)	299+25.73	29.7 R	254.67		252.20 - (12" TO PROP. DMH (2-04) - NE)	Ductile Iron	
PROP. CB (2-07)	299+00.61	29.0 R	254.14		251.14 - (12" TO PROP. DMH (2-04) - E)	Ductile Iron	
PROP. CBCI (2-02)	299+48.66	43.2 R	255.45		250.77 - (12" TO PROP. DMH (2-01) - NW)	Class V RCP	
PROP. CBCI (2-06)	299+29.90	34.3 L	253.95		249.97 - (12" TO - S)	Ductile Iron	*
PROP. CBCI (2-10)	25+17.82	20.6 L	253.68		250.19 - (12" TO PROP. DMH (4-07) - NE)	Class V RCP	
PROP. CBCI (2-11)	23+81.47	22.0 L	256.33		253.30 - (12" TO PROP. DMH (2-10) - E)	Ductile Iron	
PROP. CBCI (2-12)	22+20.58	18.9 L	263.60		259.11 - (12" TO PROP. DMH (2-10) - NE)	Class III RCP	
PROP. DMH (2-01)	299+33.59	30.0 R	254.93	250.66 - (12" FROM PROP. CBCI (2-02) - SE) 250.00 - (12" FROM PROP. DMH (2-03) - NE)	249.60 - (12" TO - W)	Class III RCP	*
PROP. DMH (2-03)	299+37.08	15.5 R	254.94	250.70 - (12" FROM PROP. DMH (2-04) - W) 250.80 - (12" FROM PROP. DMH (2-08) - SE)	250.11 - (12" TO PROP. DMH (2-01) - SW)	Class III RCP	

DRAINAGE PLAN 3 (CONTINUED)

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
PROP. DMH (2-04)	299+29.18	15.5 R	254.64	250.90 - (12" FROM PROP. CB (2-07) - W) 249.69 - (12" FROM - N) 252.10 - (12" FROM PROP. CB (2-05) - SW)	250.80 - (12" TO PROP. DMH (2-03) - E)	Class III RCP	*
PROP. DMH (2-08)	24+66.77	22.4 L	255.90	252.50 - (12" FROM PROP. DMH (2-09) - S)	252.50 - (12" TO PROP. DMH (2-03) - NW)	Class V RCP	
PROP. DMH (2-09)	24+27.78	5.2 L	256.76	252.76 - (12" FROM PROP. DMH (2-10) - S) 251.76 - (12" FROM PROP. LB (5) - W)	252.76 - (12" TO PROP. DMH (2-08) - N)	Class III RCP	
PROP. DMH (2-10)	23+84.57	1.3 L	257.21	253.05 - (12" FROM PROP. CBCI (2-12) - SW) 253.15 - (12" FROM PROP. CBCI (2-11) - W)	253.05 - (12" TO PROP. DMH (2-09) - N)	Class V RCP	
PROP. LB (5)	24+23.26	37.3 L	255.76		251.76 - (12" TO PROP. DMH (2-09) - E) 251.76 - (12" TO PROP. LB (6) - N)	Class III RCP Class III RCP	
PROP. LB (6)	24+33.38	44.4 L	256.16	251.76 - (12" FROM PROP. LB (5) - S)			
PROP. 5' DIA DMH (3-07)	23+94.26	11.7 R	256.34	252.70 - (18" FROM PROP. DMH (3-09) - SW) 253.01 - (12" FROM PROP. CB (3-08) - SE)	252.83 - (18" TO PROP. DMH (3-15) - NE)	Class V RCP	
PROP. 5' DIA. DMH (3-01)	301+51.12	1.7 R	258.44	249.75 - (18" FROM PROP. DMH (3-03) - W) 249.43 - (24" FROM - S)	249.37 - (24" TO - N)	Class III RCP	*
PROP. CB (3-06)	300+84.28	25.8 R	255.86		252.56 - (12" TO PROP. DMH (3-05) - N)	Ductile Iron	
PROP. CB (3-08)	23+93.23	22.1 R	256.11		253.11 - (12" TO PROP. 5' DIA DMH (3-07) - NW)	Class III RCP	
PROP. CBCI (2-12)	22+20.58	18.9 L	263.60		259.11 - (12" TO PROP. DMH (2-10) - NE)	Class III RCP	
PROP. CBCI (3-04)	301+08.70	20.6 R	256.23		250.23 - (12" TO PROP. DMH (3-03) - N)	Class III RCP	
PROP. CBCI (3-10)	23+73.91	21.1 R	256.54		253.54 - (12" TO PROP. DMH (3-09) - W)	Class III RCP	
PROP. CBCI (3-13)	22+85.96	17.2 R	259.76		254.58 - (12" TO PROP. DMH (3-12) - NW)	Class III RCP	
PROP. CBCI (3-16)	22+02.31	16.0 R	263.16		258.15 - (12" TO PROP. DMH (3-14) - NW)	Class III RCP	
PROP. DMH (3-03)	301+08.21	7.3 R	256.62	249.93 - (18" FROM PROP. DMH (3-05) - W) 250.13 - (12" FROM PROP. CBCI (3-04) - S)	249.93 - (18" TO PROP. 5' DIA. DMH (3-01) - E)	Class III RCP	
PROP. DMH (3-05)	300+80.68	18.6 R	256.06	252.46 - (12" FROM PROP. CB (3-06) - S) 250.15 - (18" FROM PROP. DMH (3-15) - W)	250.05 - (18" TO PROP. DMH (3-03) - E)	Class III RCP	
PROP. DMH (3-09)	23+74	10.8 R	256.78	252.90 - (15" FROM PROP. DMH (3-12) - SW) 253.44 - (12" FROM PROP. CBCI (3-10) - E)	252.80 - (18" TO PROP. 5' DIA DMH (3-07) - NE)	Class III RCP	
PROP. DMH (3-12)	22+86.49	7.0 R	260.01	253.75 - (15" FROM PROP. DMH (3-14) - S) 254.48 - (12" FROM PROP. CBCI (3-13) - SE)	253.65 - (15" TO PROP. DMH (3-09) - NE)	Class III RCP	
PROP. DMH (3-14)	22+09.25	5.8 R	263.33	257.95 - (12" FROM PROP. CBCI (3-16) - SE) 254.30 - (12" FROM PROP. DMH (3-17) - S)	254.30 - (15" TO PROP. DMH (3-12) - N)	Class III RCP	
PROP. DMH (3-15)	24+44.91	41.9 R	256.74	252.63 - (18" FROM PROP. 5' DIA DMH (3-07) - SW) 252.40 - (12" FROM PROP. LB(3) - SE)	252.63 - (18" TO PROP. DMH (3-05) - E)	Class V RCP	
PROP. DMH (3-28)	19+03.42	0.0	266.41	256.62 - (12" FROM PROP. DMH (3-23) - S)	256.62 - (12" TO PROP. DMH (3-19) - N)	Class III RCP	
PROP. LB(1)	24+15.95	44.0 R	257.20		252.40 - (12" TO PROP. LB(2) - NE)	Class III RCP	
PROP. LB(2)	24+26.19	49.9 R	257.37	252.40 - (12" FROM PROP. LB(1) - SW)	252.40 - (12" TO PROP. LB(3) - NE)	Class III RCP	
PROP. LB(3)	24+35.10	57.6 R	257.38	252.40 - (12" FROM PROP. LB(2) - SW)	252.40 - (12" TO PROP. LB(4) - E) 252.40 - (12" TO PROP. DMH (3-15) - NW)	Class III RCP Class III RCP	
PROP. LB(4)	24+42.51	66.7 R	257.14	252.40 - (12" FROM PROP. LB(3) - W)			
PROP. CBCI (4-02)	25+58.51	32.3 R	254.25		247.25 - (12" TO PROP. DMH (4-07) - N)	Class III RCP	
PROP. CBCI (4-05)	26+17.62	16.0 L	251.76		246.77 - (12" TO PROP. DMH (4-04) - N)	Class V RCP	
PROP. CIT (4-01)	26+99.21	22.8 R	249.50	245.39 - (12" FROM PROP. DMH (4-07) - S) 245.29 - (12" FROM PROP. DMH (4-04) - W)	245.29 - (12" TO - NE)	Class III RCP	*
PROP. DMH (4-04)	26+99.03	14.0 L	249.67	245.50 - (12" FROM PROP. CBCI (4-06) - N) 245.60 - (12" FROM PROP. CBCI (4-05) - S)	245.50 - (12" TO PROP. CIT (4-01) - E)	Class V RCP	
PROP. DMH (4-07)	26+05.07	21.0 R	252.16	246.20 - (12" FROM PROP. CBCI (4-02) - S) 248.15 - (12" FROM PROP. CBCI (2-10) - SW)	246.10 - (12" TO PROP. CIT (4-01) - N)	Class III RCP	

* MATCH EXISTING INVERT(S). TO BE CONFIRMED IN FIELD.

NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. PIPE CLASSES GIVEN ARE FOR THE DOWNSTREAM CONNECTING PIPE.
3. OFFSETS PROVIDED ARE TO THE CENTER OF THE DMH COVER AND TO THE BACK CENTER OF THE CB GRATE & FRAME.

604123_HD14(DRAINAGE SCHEDULE).DWG Plotted on 12-Mar-2018 7:51 AM

DRAINAGE PLAN 4

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
PROP. CBCI (4-03)	27+35.99	26.0 R	248.61		245.70 - (12" TO PROP. DMH (4-08) - S)	Ductile Iron	
PROP. CBCI (4-06)	27+52.04	16.0 L	248.47		245.84 - (12" TO PROP. DMH (4-04) - S)	Ductile Iron	
PROP. DMH (4-08)	27+15.14	37.3 R	247.06	245.39 - (12" FROM PROP. CBCI (4-03) - N) 245.10 - (12" FROM - SW)	245.00 - (12" TO - NE)	Class III RCP	
PROP. CBCI (5-02)	29+58.26	26.0 R	244.81		241.04 - (12" TO PROP. CIT (5-01) - N)	Class V RCP	
PROP. CBCI (5-05)	29+18.35	16.0 L	245.42		241.54 - (12" TO PROP. DMH (5-04) - N)	Class V RCP	
PROP. CBCI (5-06)	29+76.88	16.5 L	245.25		241.32 - (12" TO PROP. DMH (5-04) - S)	Class V RCP	
PROP. CIT (5-01)	29+72.07	24.5 R	244.78	240.94 - (12" FROM PROP. ECCENTRIC CB (5-03) - N) 240.94 - (12" FROM PROP. CBCI (5-02) - S) 240.85 - (12" FROM PROP. DMH (5-04) - W)			
PROP. DMH (5-04)	29+68.84	14.0 L	245.26	241.22 - (12" FROM PROP. CBCI (5-06) - N) 241.22 - (12" FROM PROP. CBCI (5-05) - S)	241.12 - (12" TO PROP. CIT (5-01) - E)	Class V RCP	
PROP. ECCENTRIC CB (5-03)	30+70.08	26.0 R	245.93		241.60 - (12" TO PROP. CIT (5-01) - S)	Class V RCP	
PROP. CBCI (7-23)	32+83.91	27.0 L	236.11		234.44 - (12" TO PROP. DMH (7-22) - E)	Ductile Iron	
PROP. CBCI (7-25)	32+67.61	26.0 R	236.96		233.96 - (12" TO PROP. DMH (7-22) - NW)	Ductile Iron	
PROP. CBCI (7-27)	32+17.81	27.0 L	239.56		233.00 - (12" TO PROP. DMH (7-26) - E)	Class III RCP	
PROP. CBCI (7-29)	31+07.49	36.7 R	242.94		236.50 - (12" TO PROP. DMH (7-28) - NW)	Class III RCP	
PROP. CBCI (7-31)	399+27	19.5 L	246.21		241.11 - (12" TO PROP. DMH (7-30) - SE)	Class III RCP	
PROP. CBCI (7-33)	398+71.23	17.8 L	249.18		244.18 - (12" TO PROP. DMH (7-32) - S)	Class III RCP	
PROP. CBCI (7-34)	398+70.38	24.1 R	249.11		242.00 - (12" TO PROP. DMH (7-32) - N)	Class III RCP	
PROP. DMH (7-22)	32+86.43	5.5 L	236.26	234.24 - (12" FROM PROP. CBCI (7-23) - W) 227.96 - (12" FROM PROP. DMH (7-26) - S) 233.25 - (12" FROM PROP. CBCI (7-25) - SE)	226.90 - (12" TO PROP. DMH (7-20) - N)	Class III RCP	
PROP. DMH (7-26)	32+19.14	5.5 L	239.93	234.10 - (12" FROM PROP. DMH (7-28) - SW) 232.80 - (12" FROM PROP. CBCI (7-27) - W)	232.70 - (12" TO PROP. DMH (7-22) - N)	Class III RCP	
PROP. DMH (7-28)	31+29.20	18.4 L	243.61	236.10 - (12" FROM PROP. CBCI (7-29) - SE) 237.00 - (12" FROM PROP. DMH (7-30) - SW)	236.00 - (12" TO PROP. DMH (7-26) - NE)	Class III RCP	
PROP. DMH (7-30)	399+29.06	9.2 L	246.32	241.01 - (12" FROM PROP. CBCI (7-31) - NW) 239.70 - (12" FROM PROP. DMH (7-32) - W)	239.64 - (12" TO PROP. DMH (7-28) - NE)	Class III RCP	
PROP. DMH (7-32)	398+71.27	8.2 L	249.41	244.08 - (12" FROM PROP. CBCI (7-33) - N) 241.70 - (12" FROM PROP. CBCI (7-34) - S)	240.70 - (12" TO PROP. DMH (7-30) - E)	Class III RCP	

DRAINAGE PLAN 5

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
PROP. CBCI (7-13)	37+12.72	16.0 L	209.62		205.23 - (12" TO PROP. DMH (7-12) - NE)	Class III RCP	
PROP. CBCI (7-17)	35+80.96	16.0 L	217.46		214.50 - (12" TO PROP. DMH (7-14) - E)	Class III RCP	
PROP. CBCI (7-19)	34+96.28	16.9 L	223.08		217.79 - (12" TO PROP. DMH (7-18) - E)	Class III RCP	
PROP. CBCI (7-21)	33+87.14	26.6 L	229.46		225.96 - (12" TO PROP. DMH (7-20) - E)	Ductile Iron	
PROP. DEEP SUMP DMH (7-15)	35+79.91	1.0 R	217.88	214.88 - (12" FROM PROP. GI (7-16) - E)	214.78 - (12" TO PROP. DMH (7-14) - W)	Class III RCP	
PROP. DMH (7-09)	38+56.74	13.5 L	202.92	198.80 - (12" FROM PROP. DEEP SUMP DMH (7-10) - E) 199.63 - (18" FROM PROP. DMH (7-12) - S)	198.53 - (18" TO PROP. DMH (7-06) - N)	Class V RCP	
PROP. DMH (7-12)	37+18.38	10.6 L	209.47	205.50 - (15" FROM PROP. DMH (7-14) - S) 205.13 - (12" FROM PROP. CBCI (7-13) - SW)	205.25 - (18" TO PROP. DMH (7-09) - N)	Class V RCP	
PROP. DMH (7-14)	35+81.39	5.8 L	217.67	212.22 - (12" FROM PROP. DMH (7-18) - S) 214.68 - (12" FROM PROP. DEEP SUMP DMH (7-15) - E) 214.30 - (12" FROM PROP. CBCI (7-17) - W)	212.12 - (15" TO PROP. DMH (7-12) - N)	Class III RCP	

DRAINAGE PLAN 5 (CONTINUED)

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
PROP. DMH (7-18)	34+96.04	8.9 L	222.99	217.69 - (12" FROM PROP. DMH (7-20) - S) 217.69 - (12" FROM PROP. CBCI (7-19) - W)	217.59 - (12" TO PROP. DMH (7-14) - N)	Class III RCP	
PROP. DMH (7-20)	33+91.07	8.2 L	229.61	225.60 - (12" FROM PROP. CBCI (7-21) - W) 224.70 - (12" FROM PROP. DMH (7-22) - S)	224.60 - (12" TO PROP. DMH (7-18) - N)	Class III RCP	
PROP. GI (7-11)	38+56.75	16.0 R	202.85		200.35 - (12" TO PROP. DEEP SUMP DMH (7-10) - W)	DIP	
PROP. GI (7-16)	35+79.33	16.0 R	217.79		215.29 - (12" TO PROP. DEEP SUMP DMH (7-15) - W)	Ductile Iron	

DRAINAGE PLAN 6

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
EXIST. DMH (7-02)	42+04.80	5.9 L	189.54	184.54 - (18" FROM PROP. DMH (7-03) - S)	179.53 - (24" TO PROP. HW (7-01) - E)	Class III RCP	
EXIST. DMH (7-38)	42+90.50	7.0 L	187.95	181.27 - (12" FROM PROP. DMH (7-39) - N)			
PROP. CB (7-07)	39+51.91	16.0 R	198.71		195.71 - (12" TO PROP. DMH (7-06) - W)	Class V RCP	
PROP. CBCI (7-04)	41+38.25	16.0 R	191.14		187.37 - (12" TO PROP. DMH (7-03) - NW)	Class V RCP	
PROP. CBCI (7-05)	41+47.31	16.0 L	190.86		185.86 - (12" TO PROP. DMH (7-03) - E)	Class V RCP	
PROP. CBCI (7-08)	39+53.19	16.0 L	198.65		195.65 - (12" TO PROP. DMH (7-06) - E)	DIP	
PROP. CBCI (7-36)	42+54.46	16.0 L	188.28		183.28 - (12" TO PROP. DMH (7-35) - E)	Class III RCP	
PROP. CBCI (7-37)	42+55.30	16.0 R	188.26		184.76 - (12" TO PROP. DMH (7-35) - W)	Class V RCP	
PROP. CBCI (7-40)	43+71.49	16.0 L	187.08		184.08 - (12" TO PROP. DMH (7-39) - S)	Class III RCP	
PROP. CBCI (7-42)	43+68.64	16.0 R	187.09		184.09 - (12" TO PROP. DMH (7-39) - W)	Ductile Iron	
PROP. CBCI (7-44)	43+96.49	16.0 L	187.05		182.20 - (12" TO PROP. DMH (7-43) - S)	Class III RCP	
PROP. CBCI (7-46)	43+94.64	16.0 R	187.09		184.09 - (12" TO PROP. DMH (7-43) - W)	Ductile Iron	
PROP. DEEP SUMP DMH (7-10)	38+56.79	1.7 R	203.40	200.20 - (12" FROM PROP. GI (7-11) - E)	198.90 - (12" TO PROP. DMH (7-09) - W)	Class III RCP	CONCENT CYLINDRI STRUCTU
PROP. DMH (7-03)	41+48.05	5.9 L	191.08	185.76 - (18" FROM PROP. DMH (7-06) - S) 187.25 - (12" FROM PROP. CBCI (7-04) - SE) 185.76 - (12" FROM PROP. CBCI (7-05) - W)	185.66 - (18" TO EXIST. DMH (7-02) - N)	Class III RCP	*
PROP. DMH (7-06)	39+56.29	7.6 L	198.72	193.55 - (18" FROM PROP. DMH (7-09) - S) 195.42 - (12" FROM PROP. CBCI (7-08) - W) 195.50 - (12" FROM PROP. CB (7-07) - E)	193.45 - (18" TO PROP. DMH (7-03) - N)	Class III RCP	
PROP. DMH (7-35)	42+53.50	6.5 L	188.52	183.18 - (12" FROM PROP. CBCI (7-36) - W) 180.01 - (24" FROM - N) 184.63 - (12" FROM PROP. CBCI (7-37) - E)	180.00 - (24" TO - S)	Class III RCP	*
PROP. DMH (7-39)	43+64.05	12.3 L	187.22	183.98 - (12" FROM PROP. CBCI (7-40) - N) 183.90 - (12" FROM PROP. CBCI (7-42) - E) 181.75 - (12" FROM PROP. DMH (7-43) - N)	181.65 - (12" TO EXIST. DMH (7-38) - S)	Class III RCP	*
PROP. DMH (7-43)	43+89	12.4 L	187.16	183.90 - (12" FROM PROP. CBCI (7-46) - E) 182.05 - (12" FROM PROP. CBCI (7-44) - N)	181.95 - (12" TO PROP. DMH (7-39) - S)	Class III RCP	
PROP. HW (7-01)	42+05.86	26.6 R	182.25	179.50 - (24" FROM EXIST. DMH (7-02) - W)			

PROP. CBCI (8-02)	600+52.90	18.7 L	187.06		182.06 - (12" TO PROP. CIT (8-01) - E)	Class III RCP	
PROP. CIT (8-01)	600+36.72	18.4 L	187.26	181.50 - (12" FROM PROP. CBCI (8-02) - W)			

* MATCH EXISTING INVERT(S). TO BE CONFIRMED IN FIELD.

NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. PIPE CLASSES GIVEN ARE FOR THE DOWNSTREAM CONNECTING PIPE.
3. OFFSETS PROVIDED ARE TO THE CENTER OF THE DMH COVER AND TO THE BACK CENTER OF THE CB GRATE & FRAME.

604123_HD14(DRAINAGE SCHEDULE).DWG Plotted on 12-Mar-2018 7:51 AM

DRAINAGE PLAN 7

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
PROP. CBCI (9-23)	49+02.32	16.0 R	181.22		177.57 - (12" TO PROP. DMH (9-22) - W)	Class V RCP	
PROP. CBCI (9-25)	47+99.28	16.0 R	183.02		179.08 - (12" TO PROP. DMH (9-24) - W)	Class V RCP	
PROP. CBCI (9-26)	47+93.31	16.0 L	183.13		180.13 - (12" TO PROP. DMH (9-24) - NE)	DIP	
PROP. CBCI (9-28)	46+22.24	16.0 L	186.11		181.22 - (12" TO PROP. DMH (9-27) - NE)	Class III RCP	
PROP. DMH (9-22)	49+02.35	11.0 L	181.36	176.07 - (12" FROM PROP. DMH (9-24) - S) 177.37 - (12" FROM PROP. CBCI (9-23) - E)	175.97 - (12" TO PROP. DMH (9-19) - N)	Class V RCP	
PROP. DMH (9-24)	47+99.91	10.5 L	183.16	177.90 - (12" FROM PROP. DMH (9-27) - S) 178.82 - (12" FROM PROP. CBCI (9-25) - E) 180.03 - (12" FROM PROP. CBCI (9-26) - SW)	177.80 - (12" TO PROP. DMH (9-22) - N)	Class III RCP	
PROP. DMH (9-27)	46+29.44	13.0 L	186.08	183.00 - (12" FROM PROP. ECCENTRIC CB (9-29) - SE) 181.12 - (12" FROM PROP. CBCI (9-28) - SW)	180.93 - (12" TO PROP. DMH (9-24) - N)	Class III RCP	
PROP. ECCENTRIC CB (9-29)	46+06.77	14.4 R	186.40		183.40 - (12" TO PROP. DMH (9-27) - NW)	DIP	

DRAINAGE PLAN 8

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
PROP. 5' DIA. DMH (9-10)	53+00.05	11.0 L	177.03	173.55 - (12" FROM PROP. CBCI (9-11) - W) 172.97 - (24" FROM PROP. 5' DIA. DMH (9-12) - S)	172.97 - (24" TO PROP. 6' DIA. DMH (9-06) - N)	Ductile Iron	
PROP. 5' DIA. DMH (9-12)	52+26.87	10.2 L	177.53	173.35 - (24" FROM PROP. 5' DIA. DMH (9-16) - S) 173.50 - (12" FROM PROP. CBCI (9-15) - W) 173.75 - (12" FROM PROP. DEEP SUMP DMH (9-13) - E)	173.25 - (24" TO PROP. 5' DIA. DMH (9-10) - N)	Class V RCP	
PROP. 5' DIA. DMH (9-16)	51+01.87	9.9 L	178.44	174.59 - (15" FROM PROP. DMH (9-19) - S) 174.09 - (12" FROM PROP. DI (9-17) - W) 173.94 - (12" FROM PROP. DEEP SUMP DMH (9-36) - E)	173.84 - (24" TO PROP. 5' DIA. DMH (9-12) - N)	Class V RCP	
PROP. 6' DIA. DMH (9-02)	900+73.09	12.5 R	178.75	172.54 - (24" FROM PROP. 6' DIA. DMH (9-30) - SE) 174.75 - (12" FROM PROP. CBCI (9-03) - W)	172.54 - (24" TO PROP. HW (9-01) - N)	Class III RCP	
PROP. 6' DIA. DMH (9-06)	53+61.79	16.4 L	176.50	172.80 - (24" FROM PROP. 5' DIA. DMH (9-10) - S) 173.45 - (12" FROM PROP. DEEP SUMP DMH (9-08) - E) 173.30 - (12" FROM PROP. CBCI (9-07) - SW)	172.80 - (24" TO PROP. DMH (9-04) - N)	Ductile Iron	
PROP. 6' DIA. DMH (9-30)	900+47.18	1.5 R	176.37	172.60 - (12" FROM PROP. DMH (9-31) - NE) 172.62 - (24" FROM PROP. DMH (9-04) - SE) 172.60 - (12" FROM PROP. CBCI (9-05) - S)	172.60 - (24" TO PROP. 6' DIA. DMH (9-02) - NW)	Ductile Iron	
PROP. CBCI (9-03)	900+79.53	16.0 R	177.32		174.85 - (12" TO PROP. 6' DIA. DMH (9-02) - E)	Ductile Iron	
PROP. CBCI (9-05)	900+49.57	16.9 L	176.29		172.80 - (12" TO PROP. 6' DIA. DMH (9-30) - N)	Class III RCP	
PROP. CBCI (9-07)	53+53.89	29.1 L	176.37		173.40 - (12" TO PROP. 6' DIA. DMH (9-06) - NE)	Ductile Iron	
PROP. CBCI (9-11)	52+98.23	32.0 L	176.58		173.70 - (12" TO PROP. 5' DIA. DMH (9-10) - E)	Ductile Iron	
PROP. CBCI (9-15)	52+25.95	26.8 L	177.16		173.59 - (12" TO PROP. 5' DIA. DMH (9-12) - E)	Class V RCP	
PROP. CBCI (9-20)	50+45.94	17.0 L	178.89		175.15 - (12" TO PROP. DMH (9-19) - E)	Class V RCP	
PROP. CBCI (9-21)	50+47.42	16.0 R	178.89		175.22 - (12" TO PROP. DMH (9-19) - W)	Class V RCP	
PROP. DEEP SUMP DMH (9-08)	53+61.26	5.5 R	176.74	173.74 - (12" FROM PROP. GI (9-09) - SE)	173.64 - (12" TO PROP. 6' DIA. DMH (9-06) - W)	Ductile Iron	
PROP. DEEP SUMP DMH (9-13)	52+27.16	5.5 R	177.62	174.62 - (12" FROM PROP. GI (9-14) - E)	173.85 - (12" TO PROP. 5' DIA. DMH (9-12) - W)	Class V RCP	
PROP. DEEP SUMP DMH (9-34)	54+89.74	5.8 R	175.90	172.89 - (12" FROM PROP. GI (9-32) - NE)	172.89 - (12" TO PROP. DMH (9-31) - SW)	CLASS V RCP	
PROP. DEEP SUMP DMH (9-36)	51+01.98	2.3 L	178.59	175.00 - (12" FROM PROP. GI (9-18) - E)	174.04 - (12" TO PROP. 5' DIA. DMH (9-16) - W)	Class V RCP	
PROP. DEEP SUMP DMH (9-37)	54+70.81	22.0 L	175.69	172.70 - (12" FROM PROP. GI (9-33) - N)	172.70 - (12" TO PROP. DMH (9-31) - SE)	Ductile Iron	
PROP. DI (9-17)	50+95.75	32.8 L	175.88		174.21 - (12" TO PROP. 5' DIA. DMH (9-16) - E)	Class V RCP	
PROP. DMH (9-04)	900+30.01	13.0 L	176.03	172.68 - (24" FROM PROP. 6' DIA. DMH (9-06) - S)	172.68 - (24" TO PROP. 6' DIA. DMH (9-30) - NW)	CLASS V RCP	
PROP. DMH (9-19)	50+46.56	6.8 L	179.13	175.09 - (12" FROM PROP. DMH (9-22) - S) 175.09 - (12" FROM PROP. CBCI (9-20) - W) 175.09 - (12" FROM PROP. CBCI (9-21) - E)	174.84 - (15" TO PROP. 5' DIA. DMH (9-16) - N)	Class V RCP	
PROP. DMH (9-31)	54+61.55	10.9 L	175.98	172.68 - (12" FROM PROP. DEEP SUMP DMH (9-34) - NE) 172.68 - (12" FROM PROP. DEEP SUMP DMH (9-37) - NW)	172.68 - (12" TO PROP. 6' DIA. DMH (9-30) - SW)	Class V RCP	

DRAINAGE PLAN 8 (CONTINUED)

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
PROP. GI (9-09)	53+49.78	16.0 R	176.57		174.07 - (12" TO PROP. DEEP SUMP DMH (9-08) - NW)	Ductile Iron	
PROP. GI (9-14)	52+27.35	16.0 R	177.37		174.82 - (12" TO PROP. DEEP SUMP DMH (9-13) - W)	Ductile Iron	
PROP. GI (9-18)	51+02.17	16.0 R	178.28		175.78 - (12" TO PROP. DEEP SUMP DMH (9-36) - W)	Ductile Iron	
PROP. GI (9-32)	55+00	21.0 R	175.49		172.99 - (12" TO PROP. DEEP SUMP DMH (9-34) - SW)	Ductile Iron	
PROP. GI (9-33)	55+14.77	27.0 L	175.27		172.77 - (12" TO PROP. DEEP SUMP DMH (9-37) - S)	Ductile Iron	
PROP. HW (9-01)	900+73.99	25.6 R	175.25	172.50 - (24" FROM PROP. 6' DIA. DMH (9-02) - S)			

DRAINAGE PLAN 9

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
PROP. 5' DIA. DMH (10-05)	1101+15.35	6.5 L	172.43	168.40 - (18" FROM PROP. DMH (10-06) - W) 168.80 - (12" FROM PROP. CB (10-09) - N) 169.10 - (12" FROM - S)	168.15 - (24" TO PROP. DMH (10-04) - E)	Class III RCP	
PROP. DMH (10-06)	55+66.80	15.9 L	175.19	171.60 - (18" FROM PROP. DMH (10-07) - NW)	171.50 - (18" TO PROP. 5' DIA. DMH (10-05) - E)	Class III RCP	
PROP. DMH (10-07)	55+77.91	23.5 L	174.95	172.15 - (18" FROM PROP. HW (10-08) - W)	172.05 - (18" TO PROP. DMH (10-06) - SE)	Class III RCP	
PROP. HW (10-08)	55+78.06	34.3 L	174.94		172.73 - (18" TO PROP. DMH (10-07) - E)	Class III RCP	
PROP. CBCI (11-03)	56+39.15	22.5 L	174.70		172.20 - (12" TO PROP. DMH (11-02) - N)	Ductile Iron	
PROP. CBCI (11-04)	56+64.46	20.5 L	174.73		172.23 - (12" TO PROP. DMH (11-02) - S)	Ductile Iron	
PROP. CBCI (11-06)	55+87.85	25.6 L	174.93		172.32 - (12" TO PROP. DEEP SUMP DMH (11-05) - N)	Ductile Iron	
PROP. DEEP SUMP DMH (11-05)	56+52.11	11.2 L	174.95	172.16 - (12" FROM PROP. GI (11-07) - E) 172.16 - (12" FROM PROP. DEEP SUMP DMH (11-08) - N) 172.16 - (12" FROM PROP. CBCI (11-06) - S)	172.16 - (12" TO PROP. DMH (11-02) - W)	Ductile Iron	
PROP. DEEP SUMP DMH (11-08)	56+75.11	9.5 L	175.00	172.26 - (12" FROM PROP. GI (11-09) - E)	172.26 - (12" TO PROP. DEEP SUMP DMH (11-05) - S)	Ductile Iron	
PROP. DMH (11-02)	56+52.02	19.1 L	174.78	172.13 - (12" FROM PROP. CBCI (11-03) - S) 172.13 - (12" FROM PROP. DEEP SUMP DMH (11-05) - E) 172.13 - (12" FROM PROP. CBCI (11-04) - N)	172.13 - (16" TO PROP. HW (11-01) - W)	Ductile Iron	
PROP. GI (11-07)	56+52.06	16.0 R	174.82		172.31 - (12" TO PROP. DEEP SUMP DMH (11-05) - W)	Ductile Iron	
PROP. CBCI (12-39)	60+48.62	16.0 L	178.38		175.35 - (12" TO PROP. DMH (12-38) - E)	DIP	
PROP. CBCI (12-41)	59+03.62	16.0 L	176.82		173.81 - (12" TO PROP. DMH (12-40) - N)	Ductile Iron	
PROP. CBCI (12-42)	59+27.97	15.9 R	177.08		174.08 - (12" TO PROP. DMH (12-40) - W)	Ductile Iron	
PROP. DMH (12-38)	60+48.62	5.7 L	178.62	172.70 - (12" FROM PROP. DMH (12-40) - S) 175.25 - (12" FROM PROP. CBCI (12-39) - W)	172.60 - (12" TO PROP. DMH (12-44) - N)	Class III RCP	
PROP. DMH (12-40)	59+27.99	13.3 L	177.16	173.74 - (12" FROM PROP. CBCI (12-42) - E) 173.65 - (12" FROM PROP. CBCI (12-41) - S)	173.55 - (12" TO PROP. DMH (12-38) - N)	Class V RCP	

* MATCH EXISTING INVERT(S). TO BE CONFIRMED IN FIELD.

NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. PIPE CLASSES GIVEN ARE FOR THE DOWNSTREAM CONNECTING PIPE.
3. OFFSETS PROVIDED ARE TO THE CENTER OF THE DMH COVER AND TO THE BACK CENTER OF THE CB GRATE & FRAME.

604123_HD14(DRAINAGE SCHEDULE).DWG Plotted on 12-Mar-2018 7:51 AM

604123_HD14(DRAINAGE SCHEDULE).DWG Plotted on 12-Mar-2018 7:51 AM

DRAINAGE PLAN 10

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
PROP. CBCI (12-27)	66+62.90	16.0 L	171.34		166.84 - (12" TO PROP. DMH (12-26) - E)	Class III RCP	
PROP. CBCI (12-29)	65+84.67	16.0 R	172.27		168.77 - (12" TO PROP. DMH (12-28) - W)	Class V RCP	
PROP. CBCI (12-30)	65+84.98	16.0 L	172.27		167.76 - (12" TO PROP. DMH (12-28) - E)	Class III RCP	
PROP. CBCI (12-32)	65+05.57	16.0 L	173.74		169.24 - (12" TO PROP. DMH (12-31) - E)	Class III RCP	
PROP. CBCI (12-34)	64+23.62	16.0 L	175.42		170.92 - (12" TO PROP. DMH (12-33) - E)	Class III RCP	
PROP. CBCI (12-36)	63+40.25	16.0 L	177.13		174.13 - (12" TO PROP. DMH (12-35) - NE)	DIP	
PROP. CBCI (12-37)	63+40.64	16.0 R	177.12		173.64 - (12" TO PROP. DMH (12-35) - W)	Class V RCP	
PROP. DMH (12-26)	66+62.90	5.7 L	171.59	166.25 - (15" FROM PROP. DMH (12-28) - S) 166.74 - (12" FROM PROP. CBCI (12-27) - W)	166.00 - (18" TO PROP. DMH (12-24) - N)	Class III RCP	
PROP. DMH (12-28)	65+84.99	5.7 L	172.51	167.80 - (15" FROM PROP. DMH (12-31) - S) 167.66 - (12" FROM PROP. CBCI (12-30) - W) 168.50 - (12" FROM PROP. CBCI (12-29) - E)	167.00 - (15" TO PROP. DMH (12-26) - N)	Class III RCP	
PROP. DMH (12-31)	65+05.57	5.7 L	173.99	169.14 - (12" FROM PROP. CBCI (12-32) - W) 168.44 - (15" FROM PROP. DMH (12-33) - S)	168.34 - (15" TO PROP. DMH (12-28) - N)	Class III RCP	
PROP. DMH (12-33)	64+23.62	5.8 L	175.67	169.09 - (15" FROM PROP. DMH (12-35) - S) 170.82 - (12" FROM PROP. CBCI (12-34) - W)	168.99 - (15" TO PROP. DMH (12-31) - N)	Class III RCP	
PROP. DMH (12-35)	63+47.42	11.5 L	177.11	173.44 - (12" FROM PROP. CBCI (12-37) - E) 174.06 - (12" FROM PROP. CBCI (12-36) - SW) 169.70 - (12" FROM PROP. DMH (12-44) - S)	169.60 - (15" TO PROP. DMH (12-33) - N)	Class III RCP	
PROP. DMH (12-38)	60+48.62	5.7 L	178.62	172.70 - (12" FROM PROP. DMH (12-40) - S) 175.25 - (12" FROM PROP. CBCI (12-39) - W)	172.60 - (12" TO PROP. DMH (12-44) - N)	Class III RCP	
PROP. DMH (12-44)	62+37.60	9.4 L	178.80	171.33 - (12" FROM PROP. DMH (12-38) - S)	170.50 - (12" TO PROP. DMH (12-35) - N)	Class III RCP	

DRAINAGE PLAN 11

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
PROP. CBCI (12-13)	72+01.29	19.5 R	166.95		162.95 - (12" TO PROP. DMH (12-12) - NW)	Class V RCP	
PROP. CBCI (12-14)	72+02.16	16.0 L	167.01		162.51 - (12" TO PROP. DMH (12-12) - SE)	Class III RCP	
PROP. CBCI (12-18)	69+99.32	15.9 L	168.64		164.14 - (12" TO PROP. DMH (12-17) - E)	Class III RCP	
PROP. CBCI (12-20)	69+00.33	15.9 L	169.44		164.44 - (12" TO PROP. DMH (12-19) - E)	Class III RCP	
PROP. CBCI (12-22)	68+17.31	17.7 R	170.07		166.57 - (12" TO PROP. DMH (12-21) - NW)	Class V RCP	
PROP. CBCI (12-23)	68+25.31	16.0 L	170.04		165.11 - (12" TO PROP. DMH (12-21) - E)	Class III RCP	
PROP. CBCI (12-25)	67+41.45	16.0 L	170.71		165.71 - (12" TO PROP. DMH (12-24) - E)	Class III RCP	
PROP. DEEP SUMP DMH (12-43)	70+63.26	2.8 R	168.43	165.32 - (12" FROM PROP. GI (12-16) - E)	163.43 - (12" TO PROP. DMH (12-15) - W)	Class III RCP	
PROP. DMH (12-12)	72+02.17	5.5 L	167.26	160.70 - (24" FROM PROP. DMH (12-15) - S) 162.75 - (12" FROM PROP. CBCI (12-13) - SE) 162.41 - (12" FROM PROP. CBCI (12-14) - NW)	160.70 - (24" TO PROP. 5' DIA. DMH (12-09) - NE)	Class III RCP	
PROP. DMH (12-15)	70+63.13	5.8 L	168.37	161.50 - (24" FROM PROP. DMH (12-17) - S) 163.33 - (12" FROM PROP. DEEP SUMP DMH (12-43) - E)	161.40 - (24" TO PROP. DMH (12-12) - N)	Class III RCP	
PROP. DMH (12-17)	69+99.92	5.7 L	168.88	162.54 - (18" FROM PROP. DMH (12-19) - S) 164.04 - (12" FROM PROP. CBCI (12-18) - W)	161.82 - (24" TO PROP. DMH (12-15) - N)	Class III RCP	
PROP. DMH (12-19)	69+00.43	5.8 L	169.68	163.84 - (18" FROM PROP. DMH (12-21) - S) 164.34 - (12" FROM PROP. CBCI (12-20) - W)	163.74 - (18" TO PROP. DMH (12-17) - N)	Class III RCP	
PROP. DMH (12-21)	68+25.15	5.6 L	170.29	164.76 - (18" FROM PROP. DMH (12-24) - S) 165.01 - (12" FROM PROP. CBCI (12-23) - W) 166.37 - (12" FROM PROP. CBCI (12-22) - SE)	164.51 - (18" TO PROP. DMH (12-19) - N)	Class III RCP	
PROP. DMH (12-24)	67+42.41	5.7 L	170.95	165.46 - (18" FROM PROP. DMH (12-26) - S) 165.61 - (12" FROM PROP. CBCI (12-25) - W)	165.36 - (18" TO PROP. DMH (12-21) - N)	Class III RCP	
PROP. GI (12-16)	70+62.01	24.3 R	167.98		165.98 - (12" TO PROP. DEEP SUMP DMH (12-43) - W)	Ductile Iron	

DRAINAGE PLAN 12

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
PROP. 5' DIA. DMH (12-09)	73+96.74	5.7 L	165.70	161.80 - (12" FROM PROP. CBCI (12-11) - SE) 159.85 - (24" FROM PROP. DMH (12-12) - SW) 161.86 - (12" FROM PROP. CBCI (12-10) - NW)	159.85 - (24" TO PROP. DMH (12-06) - NE)	Class V RCP	
PROP. 6' DIA. DMH (12-01)	78+44.81	12.5 R	162.21	158.14 - (12" FROM PROP. DMH (12-43) - N) 158.04 - (24" FROM PROP. DMH (12-02) - W)	158.04 - (18" TO PROP. HW (12-01) - SE) 158.04 - (18" TO PROP. HW (12-01) - SE)	Class V RCP Class V RCP	
PROP. CBCI (12-04)	77+54.76	16.0 R	162.58		159.58 - (12" TO PROP. DMH (12-03) - NW)	Ductile Iron	
PROP. CBCI (12-05)	77+54.76	16.0 L	162.58		159.58 - (12" TO PROP. DMH (12-03) - SE)	Ductile Iron	
PROP. CBCI (12-07)	75+80.86	16.0 R	163.97		160.97 - (12" TO PROP. DMH (12-06) - NW)	Ductile Iron	
PROP. CBCI (12-08)	75+80.21	16.0 L	163.98		160.98 - (12" TO PROP. DMH (12-06) - SE)	Ductile Iron	
PROP. CBCI (12-10)	73+95.52	16.0 L	165.46		161.96 - (12" TO PROP. 5' DIA. DMH (12-09) - SE)	Class V RCP	
PROP. CBCI (12-11)	73+95.91	16.0 R	165.46		161.96 - (12" TO PROP. 5' DIA. DMH (12-09) - NW)	Class V RCP	
PROP. CBCI (12-45)	78+81.08	16.0 L	162.06		159.06 - (12" TO PROP. DMH (12-43) - SE)	Ductile Iron	
PROP. DMH (12-02)	78+23.39	5.5 L	162.42	158.15 - (24" FROM PROP. DMH (12-03) - SW)	158.15 - (24" TO PROP. 6' DIA. DMH (12-01) - E)	Class V RCP	
PROP. DMH (12-03)	77+54.76	5.7 L	162.82	158.40 - (24" FROM PROP. DMH (12-06) - SW) 159.44 - (12" FROM PROP. CBCI (12-05) - NW) 159.42 - (12" FROM PROP. CBCI (12-04) - SE)	158.40 - (24" TO PROP. DMH (12-02) - NE)	Class V RCP	
PROP. DMH (12-06)	75+81.15	5.7 L	164.22	159.10 - (24" FROM PROP. 5' DIA. DMH (12-09) - SW) 160.88 - (12" FROM PROP. CBCI (12-08) - NW) 160.80 - (12" FROM PROP. CBCI (12-07) - SE)	159.10 - (24" TO PROP. DMH (12-03) - NE)	Class V RCP	
PROP. DMH (12-43)	78+81.28	5.5 L	162.31	158.38 - (12" FROM PROP. DMH (12-46) - NE) 158.94 - (12" FROM PROP. CBCI (12-45) - NW) 158.91 - (12" FROM PROP. ECCENTRIC CBCI (12-44) - SE)	158.38 - (12" TO PROP. 6' DIA. DMH (12-01) - S)	Class V RCP	
PROP. ECCENTRIC CBCI (12-44)	78+82.32	16.0 R	162.06		159.06 - (12" TO PROP. DMH (12-43) - NW)	Ductile Iron	
PROP. HW (12-01)	78+44.56	26.6 R	159.38	157.17 - (18" FROM PROP. 6' DIA. DMH (12-01) - NW) 157.17 - (18" FROM PROP. 6' DIA. DMH (12-01) - NW)			

* MATCH EXISTING INVERT(S). TO BE CONFIRMED IN FIELD.

NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. PIPE CLASSES GIVEN ARE FOR THE DOWNSTREAM CONNECTING PIPE.
3. OFFSETS PROVIDED ARE TO THE CENTER OF THE DMH COVER AND TO THE BACK CENTER OF THE CB GRATE & FRAME.

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	115	331
PROJECT FILE NO.	604123		

DRAINAGE SCHEDULE (5 OF 6)

DRAINAGE PLAN 13

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
PROP. CBCI (12-47)	79+06.08	16.0 L	162.08		158.75 - (12" TO PROP. DMH (12-46) - SE)	Class V RCP	
PROP. CBCI (12-51)	80+19.05	16.0 L	162.56		159.56 - (12" TO PROP. DMH (12-49) - SE)	Ductile Iron	
PROP. DEEP SUMP DMH (12-52)	80+24.03	5.5 L	162.83	159.83 - (12" FROM PROP. GI (12-50) - SE)	159.83 - (12" TO PROP. DMH (12-49) - SW)	Ductile Iron	
PROP. DMH (12-46)	79+06.49	6.0 L	162.32	158.65 - (12" FROM PROP. CBCI (12-47) - NW) 158.55 - (12" FROM PROP. ECCENTRIC CBCI (12-48) - SE) 158.55 - (12" FROM PROP. DMH (12-49) - NE)	158.55 - (12" TO PROP. DMH (12-43) - SW)	Class V RCP	
PROP. DMH (12-49)	80+16.04	5.7 L	162.79	159.73 - (12" FROM PROP. DEEP SUMP DMH (12-52) - NE) 159.46 - (12" FROM PROP. CBCI (12-51) - NW)	159.36 - (12" TO PROP. DMH (12-46) - SW)	Class V RCP	
PROP. ECCENTRIC CBCI (12-48)	79+07.33	16.0 R	162.09		158.70 - (12" TO PROP. DMH (12-46) - NW)	Class V RCP	
PROP. CB (13-17)	83+83.66	16.0 L	162.54		159.39 - (12" TO PROP. DMH (13-16) - SE)	Ductile Iron	
PROP. CBCI (13-18)	83+72.36	16.0 R	162.59		159.49 - (12" TO PROP. DMH (13-16) - NW)	Ductile Iron	
PROP. DMH (13-16)	83+85.12	5.9 L	162.77	159.31 - (12" FROM PROP. CBCI (13-18) - SE) 159.31 - (12" FROM PROP. CB (13-17) - NW)	159.31 - (12" TO PROP. DMH (13-13) - NE)	Class V RCP	

DRAINAGE PLAN 14

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
PROP. 5' DIA. DMH (13-01)	89+38.69	14.4 L	160.35	156.90 - (12" FROM PROP. DEEP SUMP DMH (13-02) - S) 156.16 - (12" FROM PROP. CBCI (13-03) - N) 155.66 - (18" FROM - SW)	155.66 - (18" TO PROP. 10'x8' SPECIAL DMH - NE)	Class V RCP	CONCEN CYLINDR STRUCTU
PROP. 5' DIA. DMH (13-04)	88+75.99	16.5 L	160.24	156.24 - (18" FROM PROP. 5' DIA. DMH (13-08) - SW) 156.36 - (12" FROM PROP. DMH (13-05) - SE)	156.24 - (18" TO - NE)	Class V RCP	*
PROP. 5' DIA. DMH (13-08)	88+14.41	5.7 L	160.63	156.73 - (15" FROM PROP. 6' DIA. DMH (13-10) - SW) 156.68 - (12" FROM PROP. CBCI (13-09) - NW)	156.48 - (18" TO PROP. 5' DIA. DMH (13-04) - NE)	Class V RCP	
PROP. 6' DIA. DMH (13-10)	86+35.75	5.8 L	161.52	158.30 - (12" FROM PROP. DEEP SUMP DMH (13-11) - S) 157.70 - (12" FROM PROP. DMH (13-13) - SW) 157.65 - (12" FROM PROP. CBCI (13-12) - N)	157.60 - (15" TO PROP. 5' DIA. DMH (13-08) - NE)	Class V RCP	CONCEN CYLINDR STRUCTU
PROP. CBCI (13-03)	89+48.59	27.9 L	159.29		156.28 - (12" TO PROP. 5' DIA. DMH (13-01) - S)	Ductile Iron	
PROP. CBCI (13-09)	88+13.47	16.0 L	160.39		156.78 - (12" TO PROP. 5' DIA. DMH (13-08) - SE)	Class V RCP	
PROP. CBCI (13-12)	86+45.72	20.1 L	161.57		157.80 - (12" TO PROP. 6' DIA. DMH (13-10) - S)	Class V RCP	
PROP. CBCI (13-14)	84+88.80	16.0 R	162.01		159.01 - (12" TO PROP. DMH (13-13) - NW)	Ductile Iron	
PROP. CBCI (13-15)	84+87.50	27.0 L	161.80		158.80 - (12" TO PROP. DMH (13-13) - E)	Ductile Iron	
PROP. DEEP SUMP DMH (13-02)	89+14.96	14.9 R	160.30	157.30 - (12" FROM PROP. GI (13-02) - SE)	157.20 - (12" TO PROP. 5' DIA. DMH (13-01) - N)	Class V RCP	
PROP. DEEP SUMP DMH (13-11)	86+26.99	2.7 R	162.69	158.50 - (12" FROM PROP. GI (13-11) - SE)	158.40 - (12" TO PROP. 6' DIA. DMH (13-10) - N)	Ductile Iron	
PROP. DEEP SUMP DMH (13-19)	88+65.76	14.9 R	160.29	157.28 - (12" FROM PROP. GI (13-07) - SE)	156.74 - (12" TO PROP. DMH (13-05) - NE)	Class V RCP	
PROP. DEEP SUMP DMH (13-20)	88+85.28	14.9 R	160.27	157.27 - (12" FROM PROP. GI (13-06) - E)	156.74 - (12" TO PROP. DMH (13-05) - SW)	Class V RCP	
PROP. DMH (13-05)	88+76.02	14.9 R	160.28	156.64 - (12" FROM PROP. DEEP SUMP DMH (13-19) - SW) 156.64 - (12" FROM PROP. DEEP SUMP DMH (13-20) - NE)	156.56 - (12" TO PROP. 5' DIA. DMH (13-04) - NW)	Class V RCP	
PROP. DMH (13-13)	84+94.47	13.5 L	162.07	158.70 - (12" FROM PROP. CBCI (13-15) - W) 158.81 - (12" FROM PROP. CBCI (13-14) - SE) 158.66 - (12" FROM PROP. DMH (13-16) - SW)	158.66 - (12" TO PROP. 6' DIA. DMH (13-10) - NE)	Class V RCP	
PROP. GI (13-02)	89+14.68	26.0 R	160.04		158.04 - (12" TO PROP. DEEP SUMP DMH (13-02) - NW)	Ductile Iron	
PROP. GI (13-06)	88+87.96	26.0 R	160.01		158.01 - (12" TO PROP. DEEP SUMP DMH (13-20) - W)	Ductile Iron	
PROP. GI (13-07)	88+62.96	26.0 R	160.03		158.03 - (12" TO PROP. DEEP SUMP DMH (13-19) - NW)	Ductile Iron	
PROP. GI (13-11)	86+25.91	21.3 R	161.22		158.72 - (12" TO PROP. DEEP SUMP DMH (13-11) - NW)	Ductile Iron	
PROP. CBCI (14-02)	1400+78.48	27.0 L	159.58		155.90 - (12" TO PROP. CIT (14-01) - SE)	Class III RCP	
PROP. CBCI (14-03)	1400+50.51	30.3 L	159.73		155.80 - (12" TO PROP. CIT (14-01) - NW)	Class V RCP	
PROP. CIT (14-01)	1400+58.40	30.3 L	160.23	155.70 - (12" FROM PROP. CBCI (14-02) - NW) 155.70 - (12" FROM PROP. CBCI (14-03) - SE)			

DRAINAGE PLAN 15

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
PROP. 6' DIA. DMH (13-19)	90+16.59	35.8 L	160.90	155.80 - (33" FROM EX. DMH - NW)	155.70 - (33" TO PROP. 10'x8' SPECIAL DMH - SE)	50" X 31" CMP	
PROP. 8' DIA. DMH (15-02)	90+38.86	14.2 R	161.01	155.54 - (24" FROM PROP. 8' DIA. DMH (15-03) - NE) 155.54 - (24" FROM PROP. 8' DIA. DMH (15-03) - NE)	155.54 - (24" TO PROP. HW (15-01) - S) 155.54 - (24" TO - S)	Class III RCP Class III RCP	
PROP. 8' DIA. DMH (15-03)	90+86.27	12.3 R	161.43	155.64 - (24" FROM PROP. 8' DIA. DMH (15-06) - N) 155.64 - (24" FROM PROP. 8' DIA. DMH (15-06) - N)	155.64 - (24" TO PROP. 8' DIA. DMH (15-02) - SW) 155.64 - (24" TO PROP. 8' DIA. DMH (15-02) - SW)	Class III RCP Class III RCP	
PROP. 8' DIA. DMH (15-06)	91+17.80	21.9 L	161.49	157.23 - (12" FROM PROP. CBCI (15-07) - SW) 155.74 - (24" FROM PROP. 8' DIA. DMH (15-08) - NE) 155.74 - (24" FROM PROP. 8' DIA. DMH (15-08) - NE)	155.74 - (24" TO PROP. 8' DIA. DMH (15-03) - S) 155.74 - (24" TO PROP. 8' DIA. DMH (15-03) - S)	Class III RCP Class III RCP	
PROP. 8' DIA. DMH (15-08)	92+38.80	21.6 L	163.86	155.95 - (24" FROM PROP. DMH (15-09) - SE) 155.95 - (18" FROM PROP. DMH (15-10) - NE)	161.11 - (24" TO PROP. 8' DIA. DMH (15-06) - SW) 155.95 - (24" TO PROP. 8' DIA. DMH (15-06) - SW)	Class III RCP Class III RCP	
PROP. 10'x8' SPECIAL DMH	90+18.17	13.5 L	160.86	155.44 - (27" FROM EX. 43 X 27 CMP - SW) 155.60 - (33" FROM PROP. 6' DIA. DMH (13-19) - NW) 155.50 - (18" FROM PROP. 5' DIA. DMH (13-01) - SW)	155.44 - (48" TO PROP. HW (15-01) - SE)	4'W X 2'H (CULVERT 4)	
PROP. CB (15-11)	93+39.99	18.9 L	161.25		158.37 - (12" TO PROP. DMH (15-10) - S)	Class V RCP	
PROP. CBCI (15-07)	91+07.71	27.0 L	161.27		157.33 - (12" TO PROP. 8' DIA. DMH (15-06) - NE)	Class III RCP	
PROP. CBCI (15-12)	94+89.98	16.0 L	159.85		157.14 - (12" TO PROP. DMH (15-13) - NE)	Ductile Iron	
PROP. CBCI (15-15)	95+14.99	16.0 L	159.89		157.19 - (12" TO PROP. DMH (15-13) - S)	Ductile Iron	
PROP. CBCI (15-19)	94+89.99	16.0 R	159.85		156.84 - (12" TO PROP. DMH (15-18) - NW)	Ductile Iron	
PROP. CBCI (15-21)	95+20.49	16.0 R	159.92		156.92 - (12" TO PROP. DMH (15-20) - NW)	Ductile Iron	
PROP. DMH (15-09)	92+40.06	1.6 L	162.50	156.00 - (18" FROM PROP. DMH (15-18) - NE)	156.00 - (24" TO PROP. 8' DIA. DMH (15-08) - NW)	Class V RCP	
PROP. DMH (15-10)	93+34.97	13.3 L	161.37	158.27 - (12" FROM PROP. CB (15-11) - N) 156.20 - (18" FROM PROP. DMH (15-14) - NE)	156.20 - (18" TO PROP. 8' DIA. DMH (15-08) - SW)	Class III RCP	
PROP. DMH (15-13)	95+00.52	10.7 L	161.09	156.50 - (12" FROM PROP. DMH (15-14) - NW) 157.04 - (12" FROM PROP. CBCI (15-12) - SW) 157.09 - (12" FROM PROP. CBCI (15-15) - N)			
PROP. DMH (15-14)	95+00.60	19.7 L	160.40	156.60 - (12" FROM PROP. DMH (15-16) - NE)	156.60 - (12" TO PROP. DMH (15-13) - SE) 156.60 - (18" TO PROP. DMH (15-10) - SW)	Class V RCP Class V RCP	
PROP. DMH (15-16)	95+39.57	18.5 L	160.56	156.70 - (12" FROM - N) 156.80 - (12" FROM PROP. CBCI (15-17) - NE)	156.70 - (12" TO PROP. DMH (15-14) - SW)	Class V RCP	
PROP. DMH (15-18)	94+90.05	1.0 R	160.19	156.64 - (18" FROM PROP. DMH (15-20) - NE) 156.74 - (12" FROM PROP. CBCI (15-19) - SE)	156.64 - (18" TO PROP. DMH (15-09) - SW)	CLASS V RCP	
PROP. DMH (15-20)	95+20.58	1.8 R	160.24	156.74 - (18" FROM PROP. DMH (15-22) - NE) 156.82 - (12" FROM PROP. CBCI (15-21) - SE)	156.74 - (18" TO PROP. DMH (15-18) - SW)	CLASS V RCP	
PROP. HW (15-01)	90+10.26	36.7 R	158.19	155.44 - (24" FROM PROP. 8' DIA. DMH (15-02) - N)			

* MATCH EXISTING INVERT(S). TO BE CONFIRMED IN FIELD.

NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. PIPE CLASSES GIVEN ARE FOR THE DOWNSTREAM CONNECTING PIPE.
3. OFFSETS PROVIDED ARE TO THE CENTER OF THE DMH COVER AND TO THE BACK CENTER OF THE CB GRATE & FRAME.

604123_HD14(DRAINAGE SCHEDULE).DWG Plotted on 12-Mar-2018 7:51 AM

604123_HD14(DRAINAGE SCHEDULE).DWG Plotted on 12-Mar-2018 7:51 AM

DRAINAGE PLAN 16

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
PROP. CBCI (15-17)	95+99.58	16.0 L	160.67		157.17 - (12" TO PROP. DMH (15-16) - SW)	Ductile Iron	
PROP. CBCI (15-23)	96+94.14	16.0 L	161.56		158.06 - (12" TO PROP. DMH (15-22) - SE)	Class III RCP	
PROP. CBCI (15-27)	97+95.85	16.0 L	162.02		158.52 - (12" TO PROP. DMH (15-26) - SE)	Class V RCP	
PROP. CBCI (15-29)	99+23.84	16.0 L	162.53		159.03 - (12" TO PROP. DMH (15-28) - S)	Class V RCP	
PROP. CBCI (15-33)	100+56.99	16.0 L	162.53		159.20 - (12" TO PROP. DMH (15-32) - SE)	Ductile Iron	
PROP. CBCI (15-35)	100+74.98	16.0 R	162.53		159.31 - (12" TO PROP. DMH (15-34) - NW)	Ductile Iron	
PROP. CBCI (15-36)	100+76.98	16.0 L	162.59		159.59 - (12" TO PROP. DMH (15-34) - SE)	Ductile Iron	
PROP. CBCI (15-38)	100+90.22	16.0 R	162.53		159.53 - (12" TO PROP. DMH (15-37) - W)	Ductile Iron	
PROP. CIT (15-31)	100+02.90	15.8 L	162.66	158.80 - (18" FROM PROP. DMH (15-32) - NE)	158.70 - (18" TO PROP. DMH (15-28) - SW)	Class V RCP	
PROP. DMH (15-22)	96+94.42	1.8 R	161.89	157.90 - (12" FROM PROP. CBCI (15-23) - NW) 157.27 - (18" FROM PROP. DMH (15-24) - N)	157.27 - (18" TO PROP. DMH (15-20) - SW)	Class V RCP	*
PROP. DMH (15-24)	97+29.89	11.5 L	161.88	158.58 - (12" FROM PROP.ECCENTRIC CBCI (15-25) - E) 157.42 - (18" FROM PROP. DMH (15-26) - NE)	157.42 - (18" TO PROP. DMH (15-22) - S)	Class V RCP	
PROP. DMH (15-26)	97+93.03	9.2 L	162.18	157.66 - (18" FROM PROP. DMH (15-28) - NE) 158.40 - (12" FROM PROP. CBCI (15-27) - NW)	157.66 - (18" TO PROP. DMH (15-24) - SW)	Class V RCP	
PROP. DMH (15-28)	99+19.38	10.6 L	162.66	158.26 - (18" FROM PROP. CIT (15-31) - NE) 158.90 - (12" FROM PROP. CBCI (15-29) - N)	158.26 - (18" TO PROP. DMH (15-26) - SW)	Class V RCP	
PROP. DMH (15-32)	100+54.52	0.0 L	162.92	159.07 - (15" FROM PROP. DMH (15-34) - NE) 159.05 - (12" FROM PROP. CBCI (15-33) - NW)	159.07 - (18" TO PROP. CIT (15-31) - SW)	Class III RCP	
PROP. DMH (15-34)	100+75.15	0.1 R	162.85	159.49 - (12" FROM PROP. CBCI (15-36) - NW) 159.21 - (12" FROM PROP. CBCI (15-35) - SE) 159.21 - (12" FROM PROP. DMH (15-37) - NE)	159.21 - (15" TO PROP. DMH (15-32) - SW)	Class III RCP	
PROP. DMH (15-37)	100+85.35	0.2 R	162.81	159.41 - (12" FROM PROP. CBCI (15-38) - E)	159.31 - (12" TO PROP. DMH (15-34) - SW)	Class III RCP	
PROP.ECCENTRIC CBCI (15-25)	97+45.77	16.0 R	161.82		158.82 - (12" TO PROP. DMH (15-24) - W)	Ductile Iron	

DRAINAGE PLAN 17

DRAINAGE STRUCTURE TABLE

STRUCTURE	STATION	OFFSET	RIM	INV. IN	INV. OUT	OUT PIPE INFO	NOTES
PROP. CB (10-09)	1101+14.84	14.1 L	172.43		168.90 - (12" TO PROP. 5' DIA. DMH (10-05) - S)	Class III RCP	
PROP. DMH (10-02)	1106+41.36	1.4 R	167.93	163.70 - (24" FROM PROP. DMH (10-03) - NW)	163.70 - (18" TO PROP. HW (10-01) - SE) 163.70 - (18" TO PROP. HW (10-01) - SE)	Class V RCP Class V RCP	
PROP. DMH (10-03)	1104+42.18	7.9 L	172.13	164.50 - (24" FROM PROP. DMH (10-04) - W)	164.50 - (24" TO PROP. DMH (10-02) - SE)	Class V RCP	
PROP. DMH (10-04)	1102+81.41	6.5 L	173.25	165.30 - (24" FROM PROP. 5' DIA. DMH (10-05) - W)	165.30 - (24" TO PROP. DMH (10-03) - E)	Class III RCP	
PROP. HW (10-01)	1107+85.79	14.4 L	165.06	163.10 - (18" FROM PROP. DMH (10-02) - NW) 163.10 - (18" FROM PROP. DMH (10-02) - NW)			

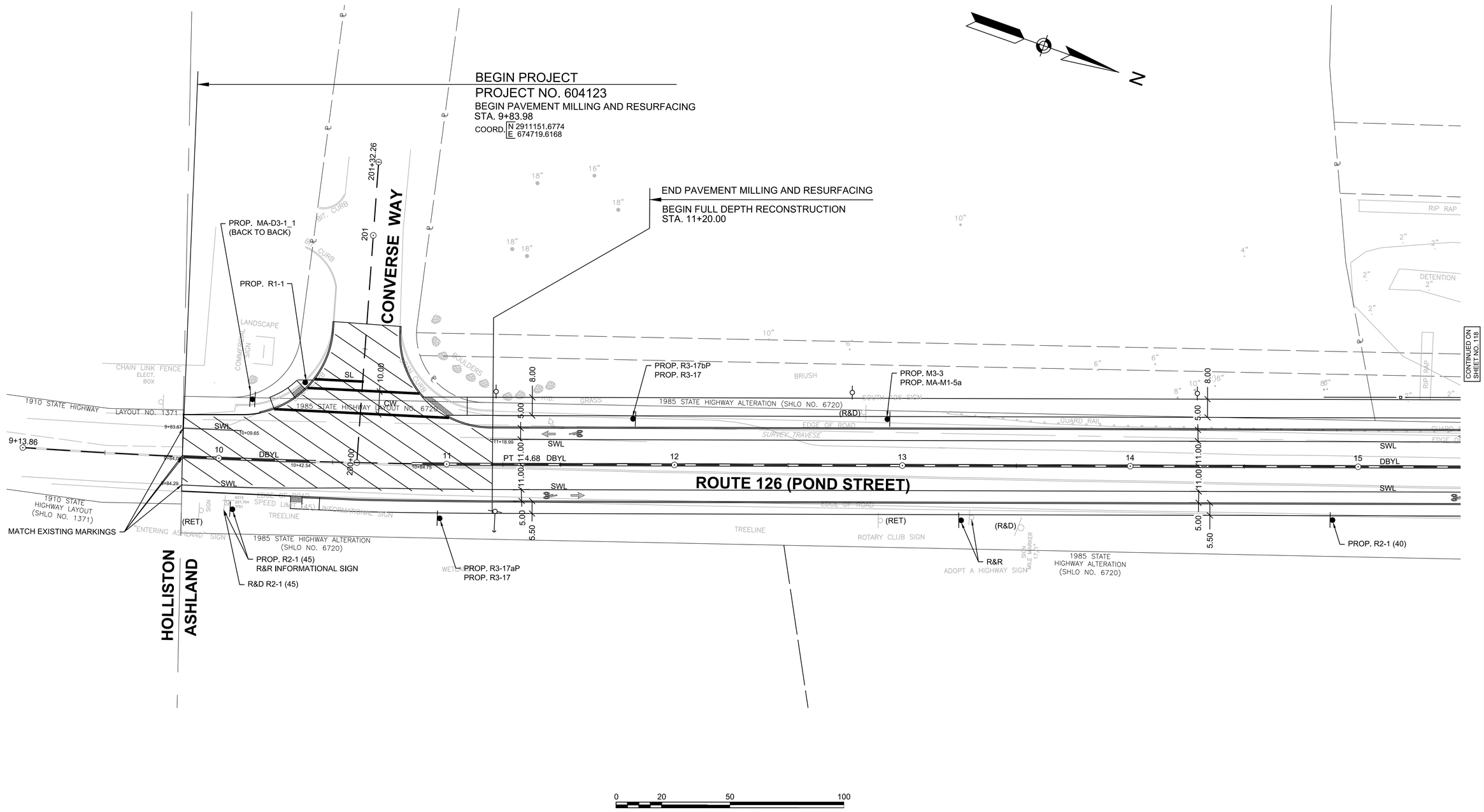
* MATCH EXISTING INVERT(S). TO BE CONFIRMED IN FIELD.

NOTES:
1. ALL GRATES SHALL BE HOOK LOCK CASCADE GRATES, MASSDOT ITEM NO. E 201.7.0 OR E 201.7.1.
2. PIPE CLASSES GIVEN ARE FOR THE DOWNSTREAM CONNECTING PIPE.
3. OFFSETS PROVIDED ARE TO THE CENTER OF THE DMH COVER AND TO THE BACK CENTER OF THE CB GRATE & FRAME.

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	117	331
PROJECT FILE NO.	604123		

PAVEMENT MARKING AND SIGNING PLANS
(1 OF 16)

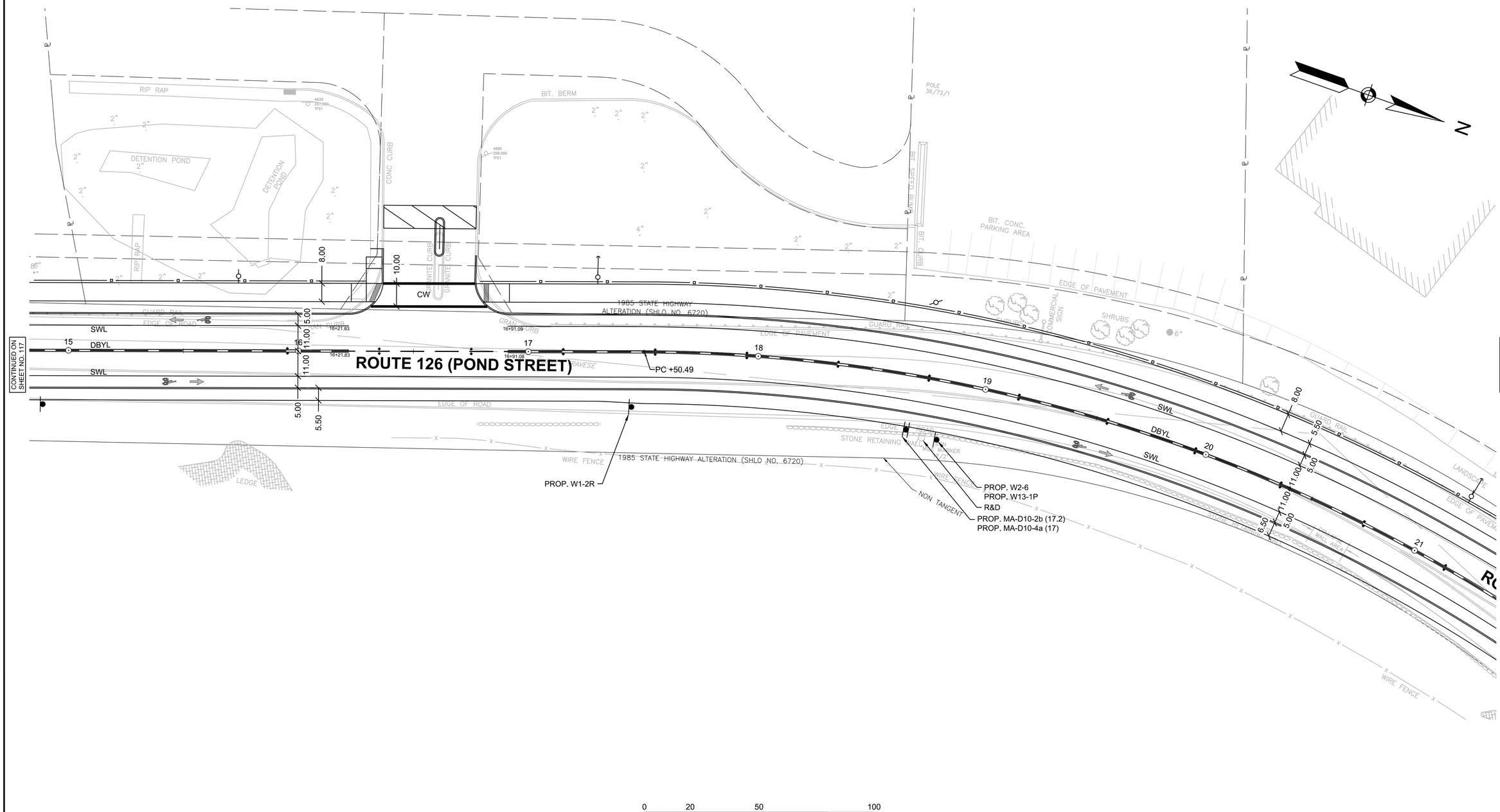


604123_HD15(SIGN&STRIPING).DWG Plotted on 18-Oct-2017 9:00 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	118	331
PROJECT FILE NO.	604123		

PAVEMENT MARKING AND SIGNING PLANS
(2 OF 16)



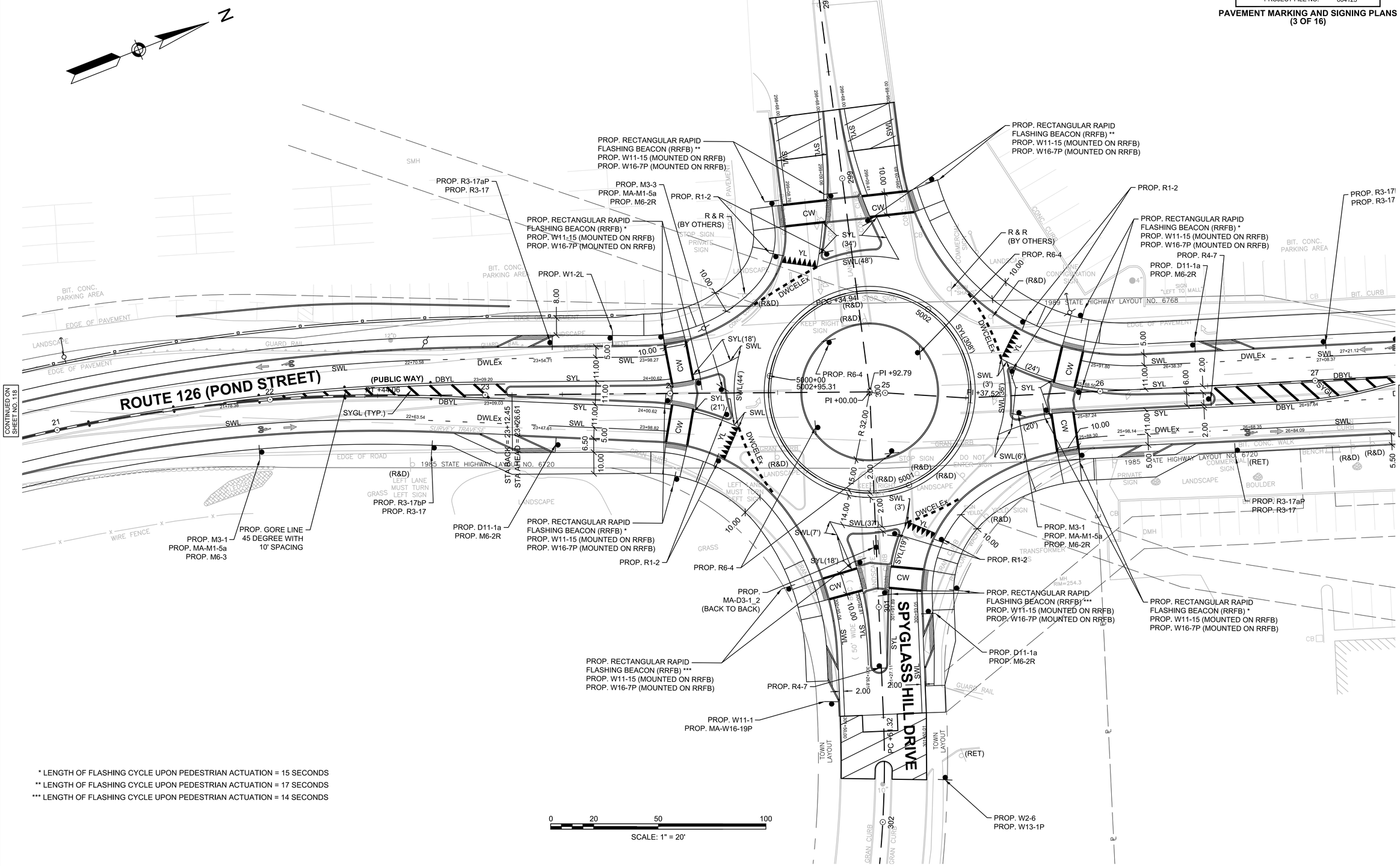
0 20 50 100
SCALE: 1" = 20'

604123_HD15(SIGN&STRIPING).DWG Plotted on 18-Oct-2017 9:00 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	119	331
PROJECT FILE NO.	604123		

PAVEMENT MARKING AND SIGNING PLANS
(3 OF 16)



604123_HD15(SIGN&STRIPING).DWG Plotted on 18-Oct-2017 9:00 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	120	331
PROJECT FILE NO.	604123		

PAVEMENT MARKING AND SIGNING PLANS
(4 OF 16)

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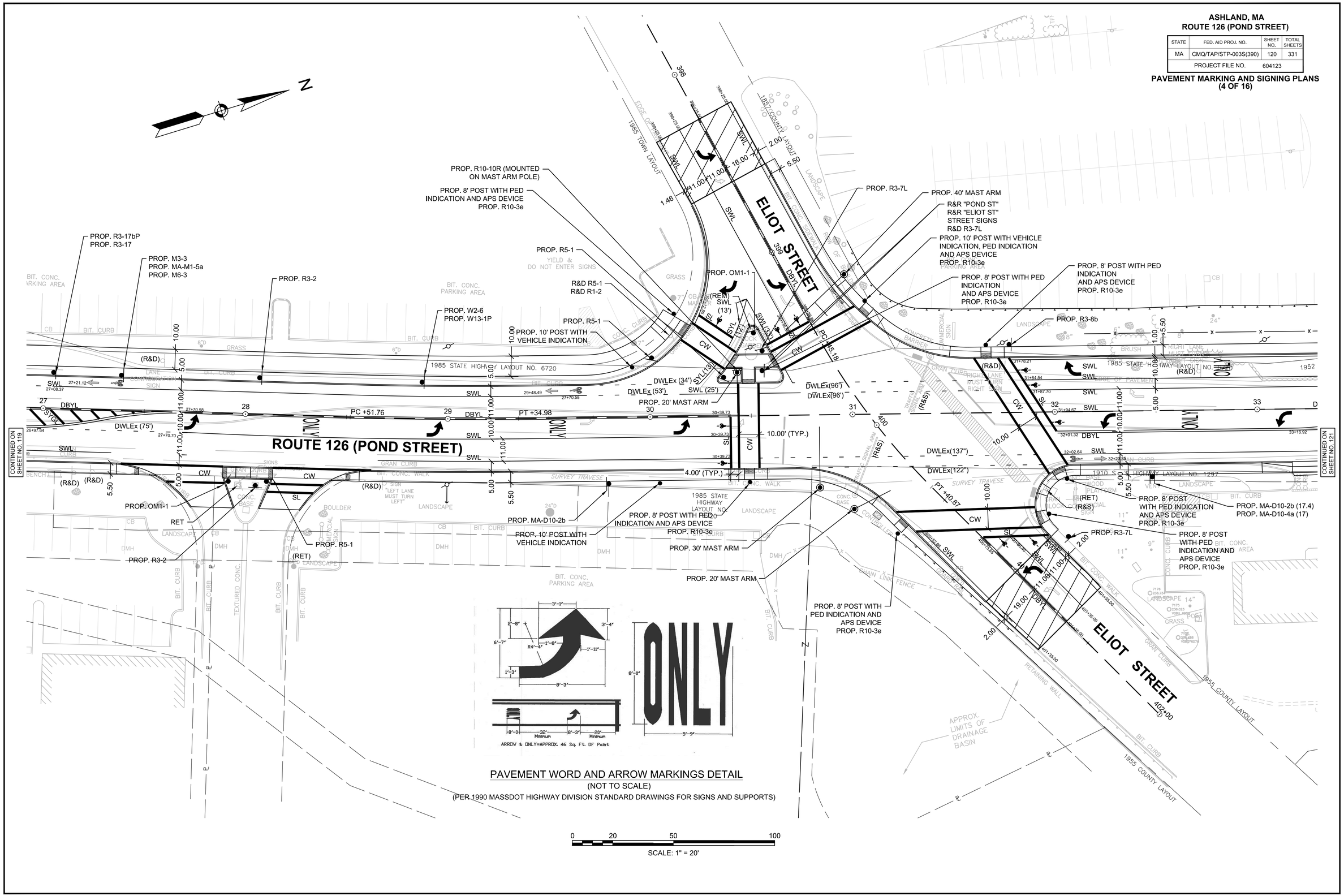
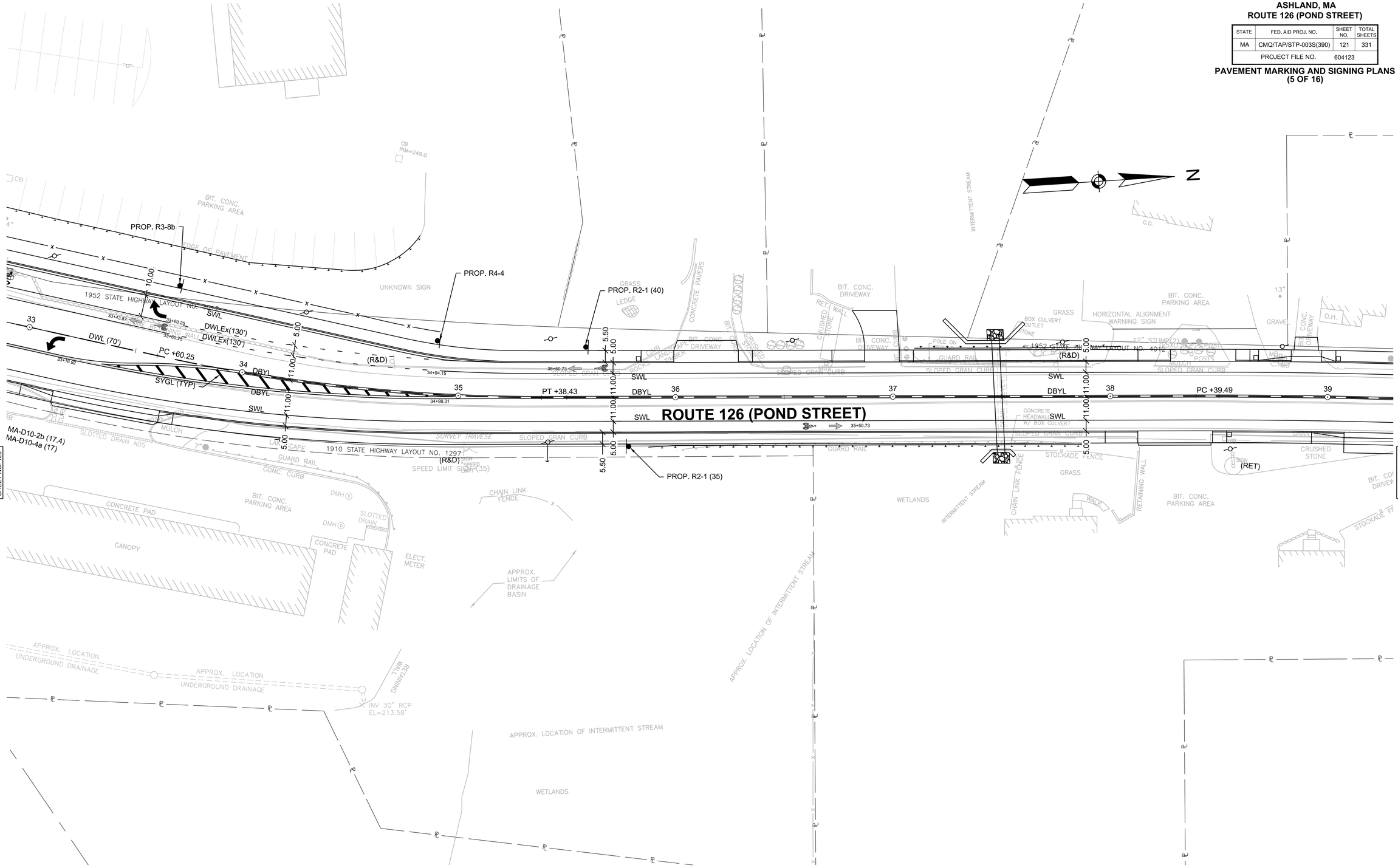


PAVEMENT WORD AND ARROW MARKINGS DETAIL
(NOT TO SCALE)
(PER 1990 MASSDOT HIGHWAY DIVISION STANDARD DRAWINGS FOR SIGNS AND SUPPORTS)

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	121	331
PROJECT FILE NO.	604123		

PAVEMENT MARKING AND SIGNING PLANS
(5 OF 16)



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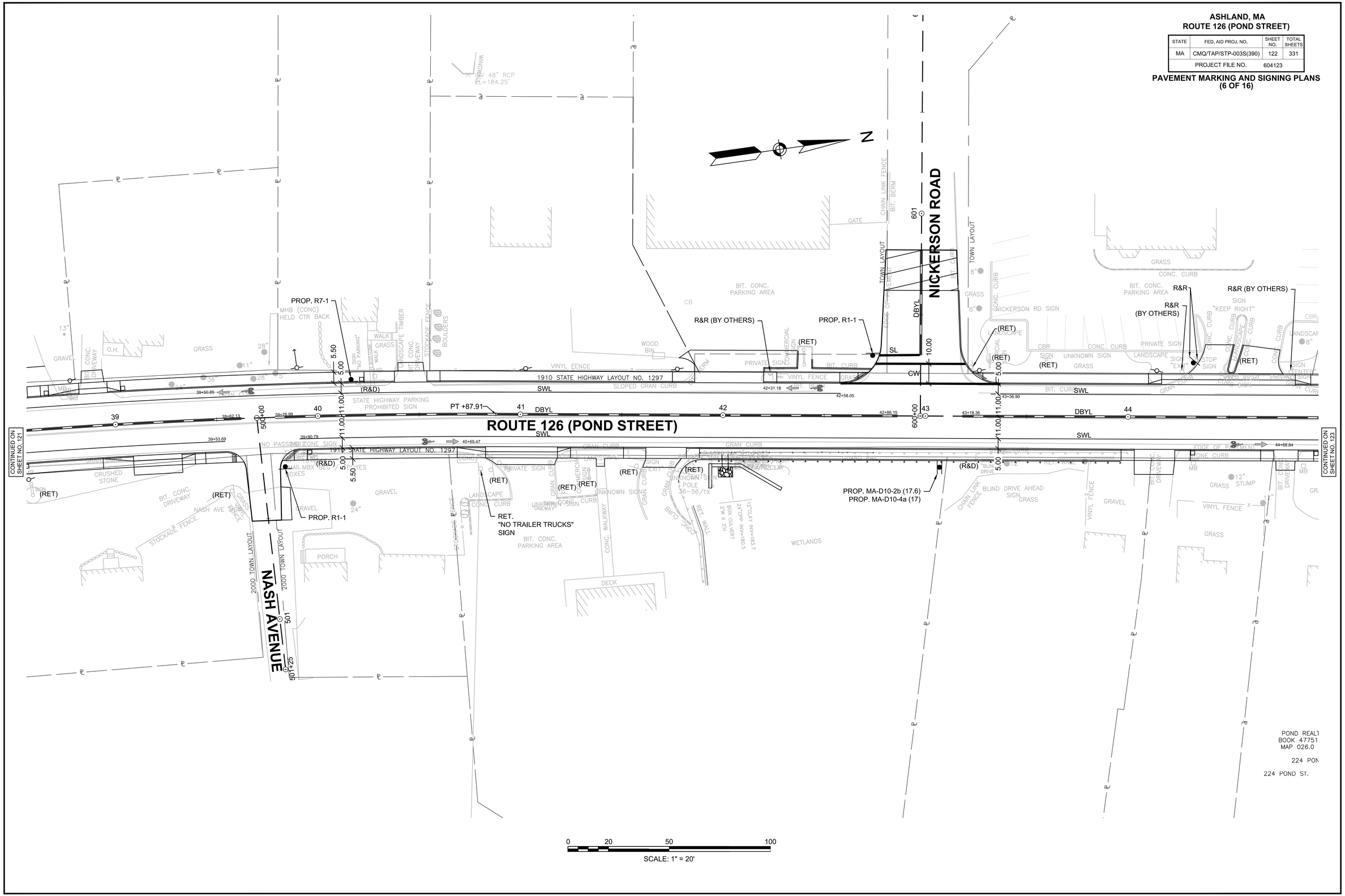
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	122	331
PROJECT FILE NO.	604123		

PAVEMENT MARKING AND SIGNING PLANS
(6 OF 16)

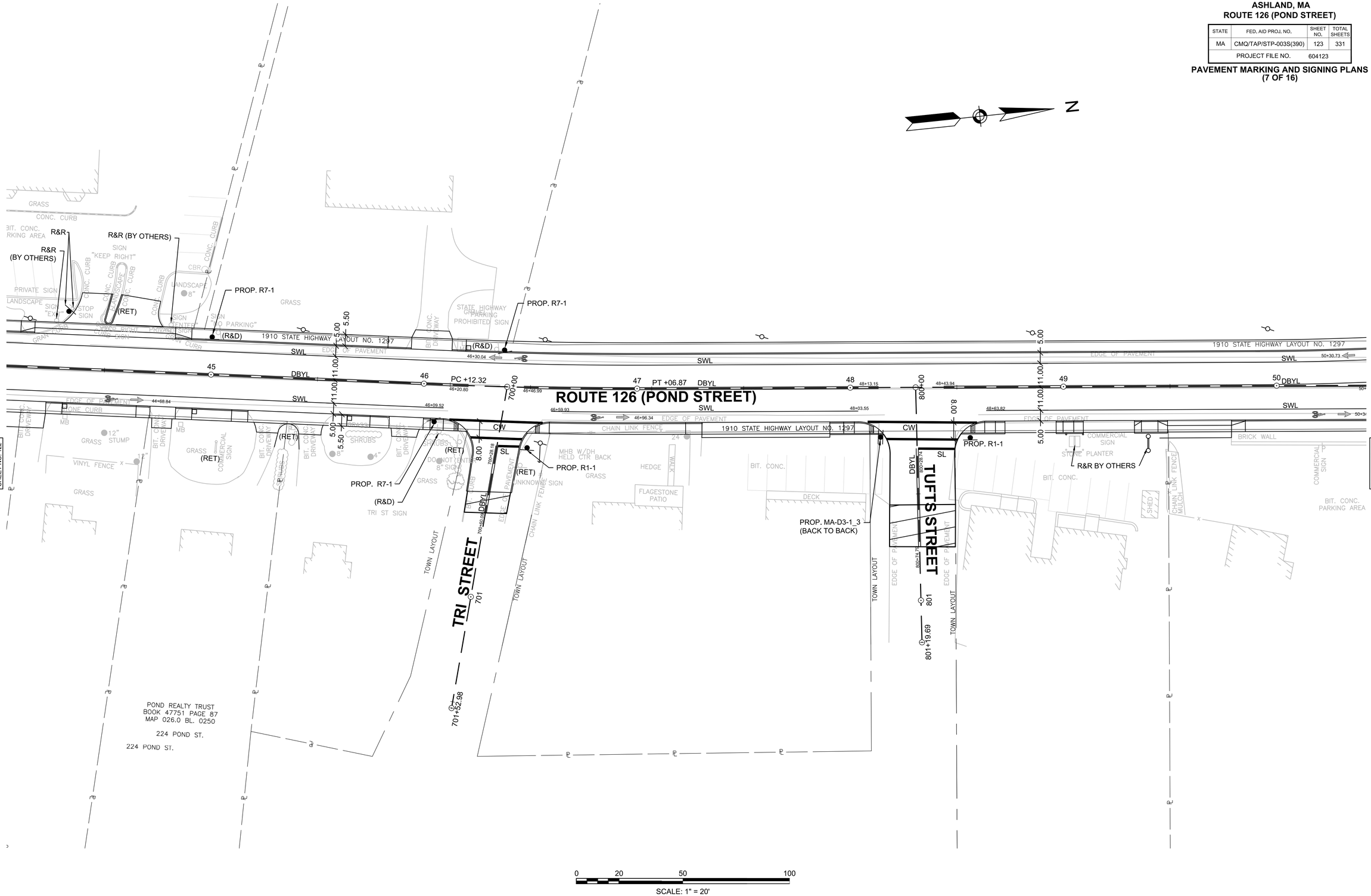


604123_HD15(SIGN&STRIPING).DWG Plotted on 18-Oct-2017 9:00 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	123	331
PROJECT FILE NO.	604123		

PAVEMENT MARKING AND SIGNING PLANS
(7 OF 16)

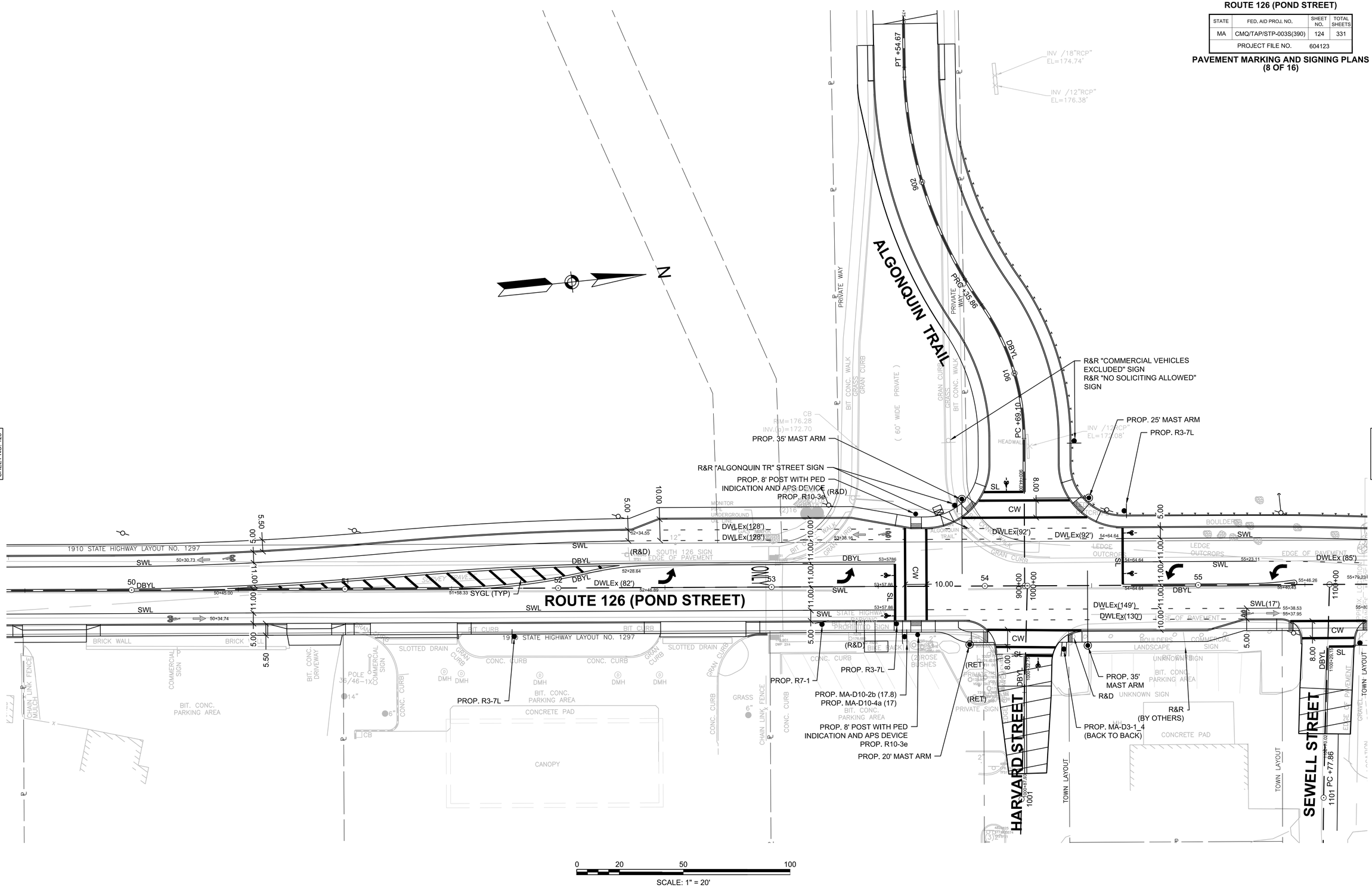


604123_HD15(SIGN&STRIPING).DWG Plotted on 18-Oct-2017 9:00 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	124	331
PROJECT FILE NO.	604123		

PAVEMENT MARKING AND SIGNING PLANS
(8 OF 16)



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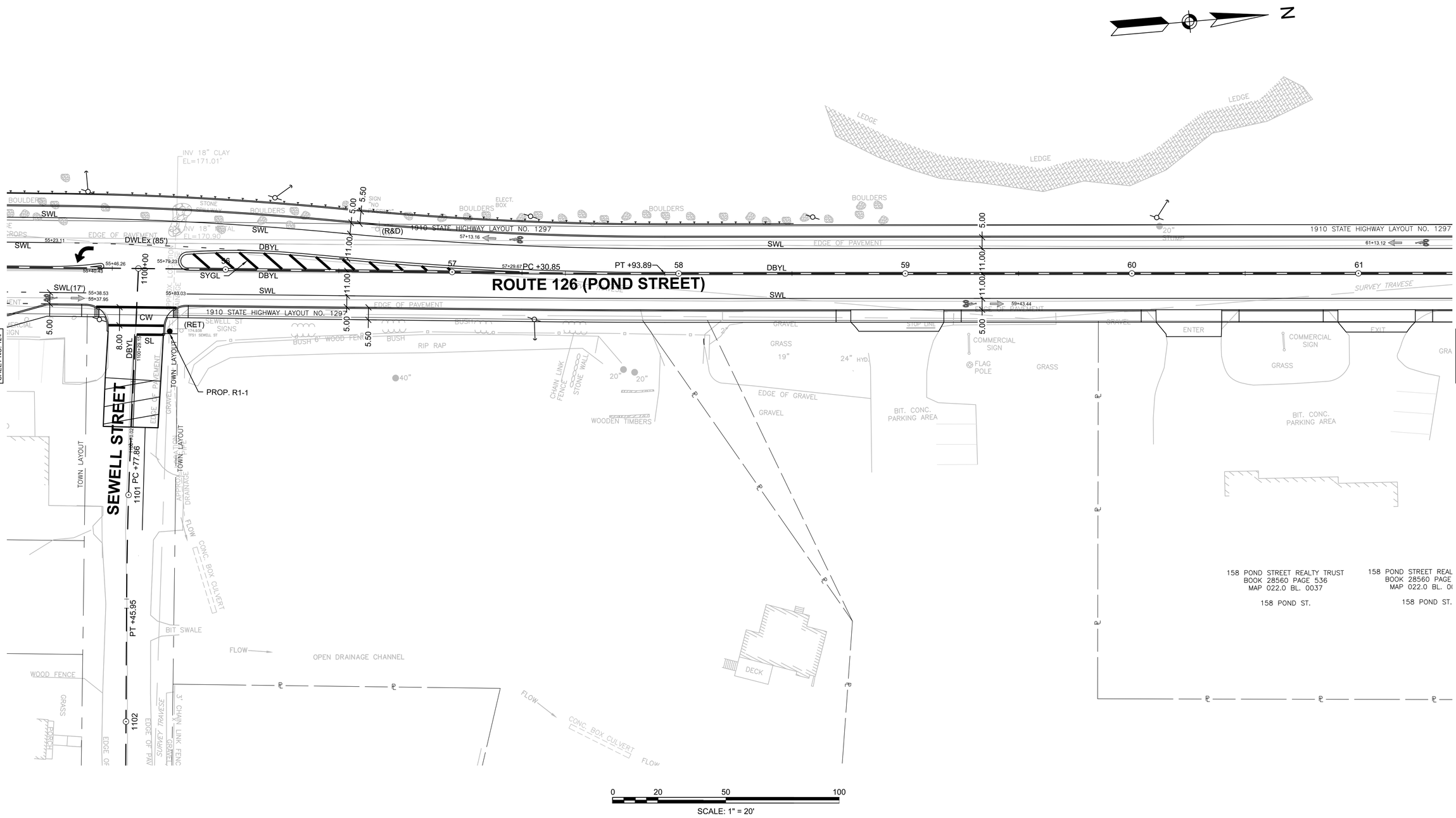
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	125	331
PROJECT FILE NO.	604123		

PAVEMENT MARKING AND SIGNING PLANS
(9 OF 16)



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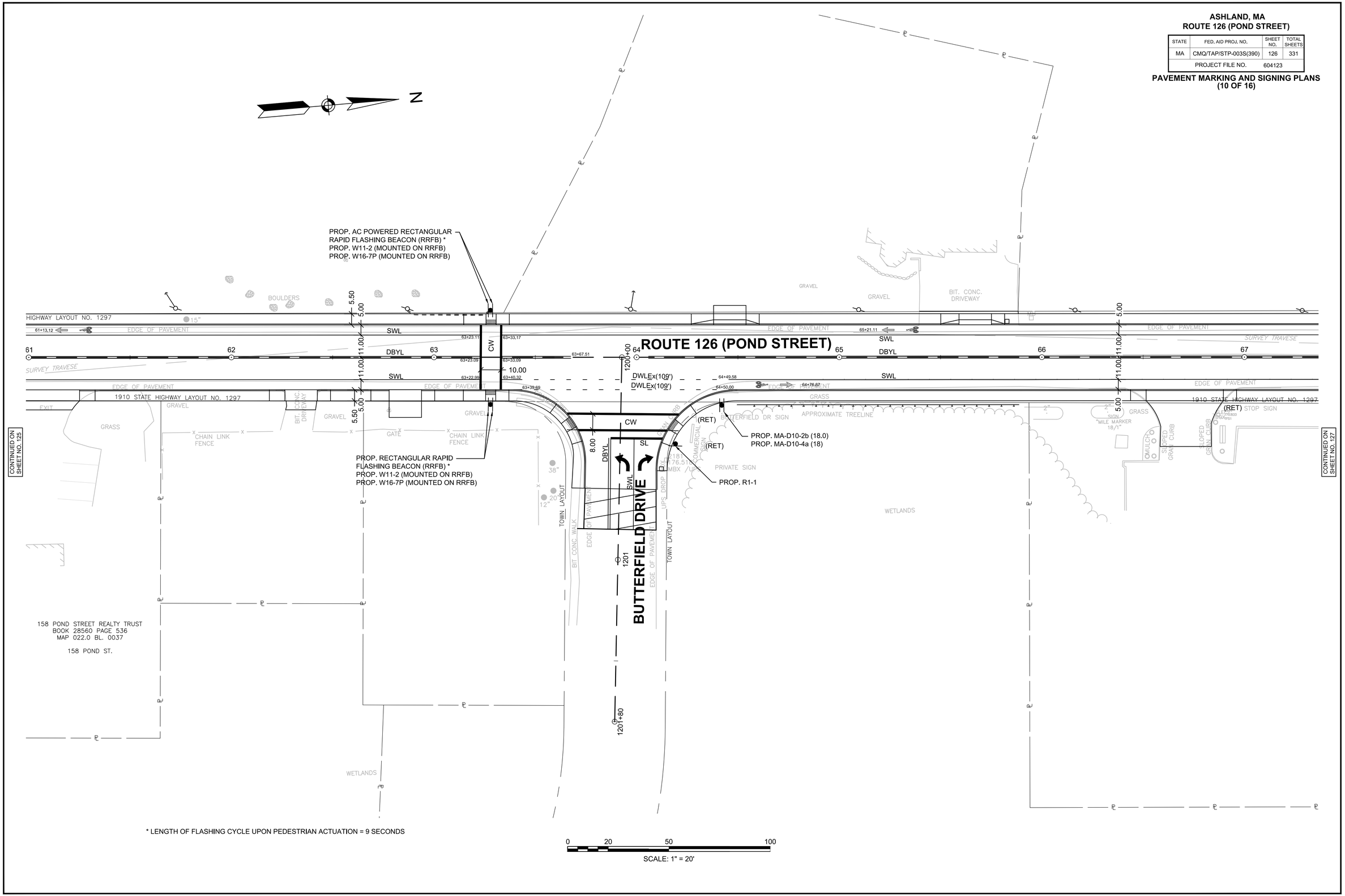
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	126	331
PROJECT FILE NO.	604123		

PAVEMENT MARKING AND SIGNING PLANS
(10 OF 16)



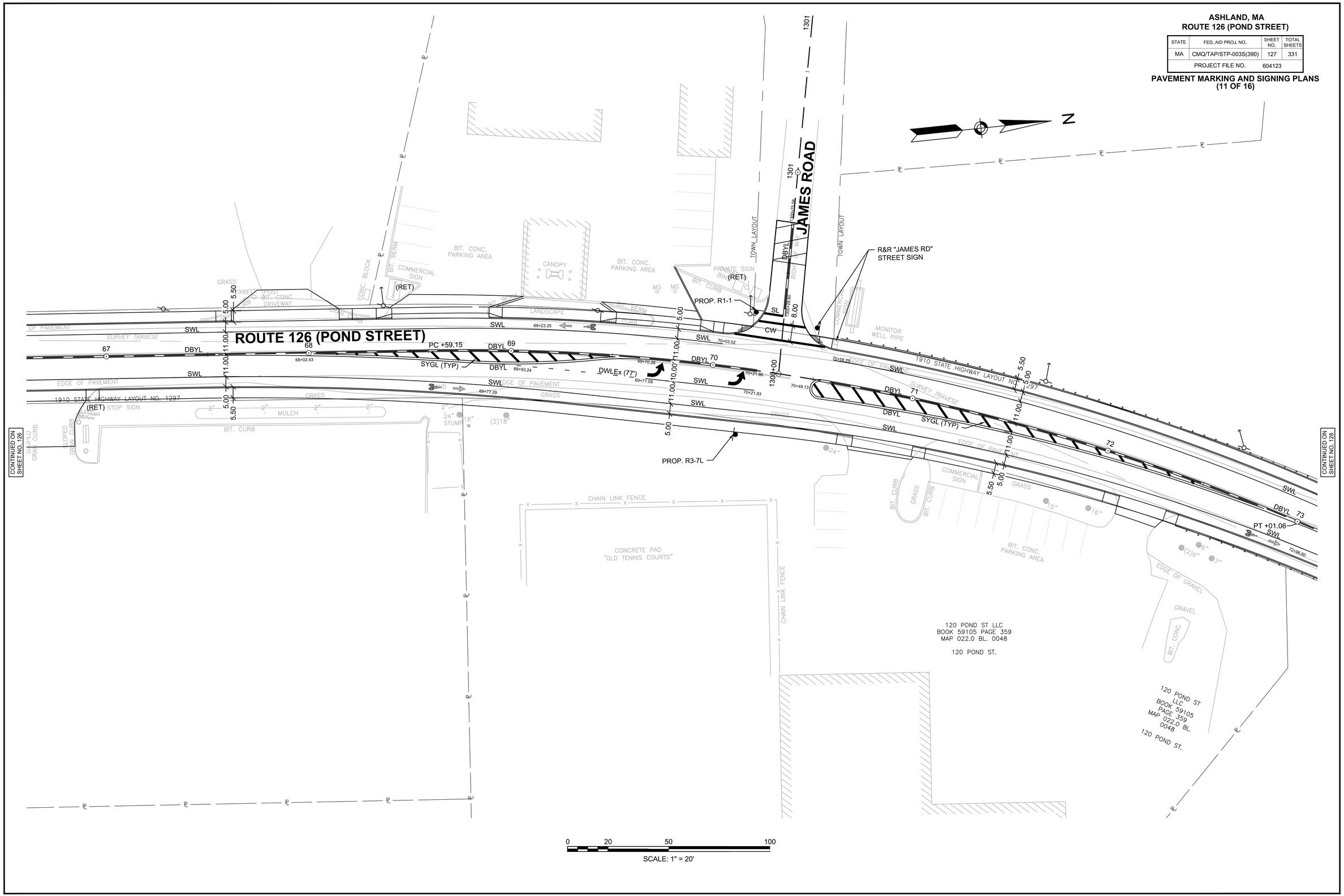
* LENGTH OF FLASHING CYCLE UPON PEDESTRIAN ACTUATION = 9 SECONDS

604123_HD15(SIGN&STRIPING).DWG Plotted on 18-Oct-2017 9:00 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	127	331
PROJECT FILE NO.	604123		

PAVEMENT MARKING AND SIGNING PLANS
(11 OF 16)



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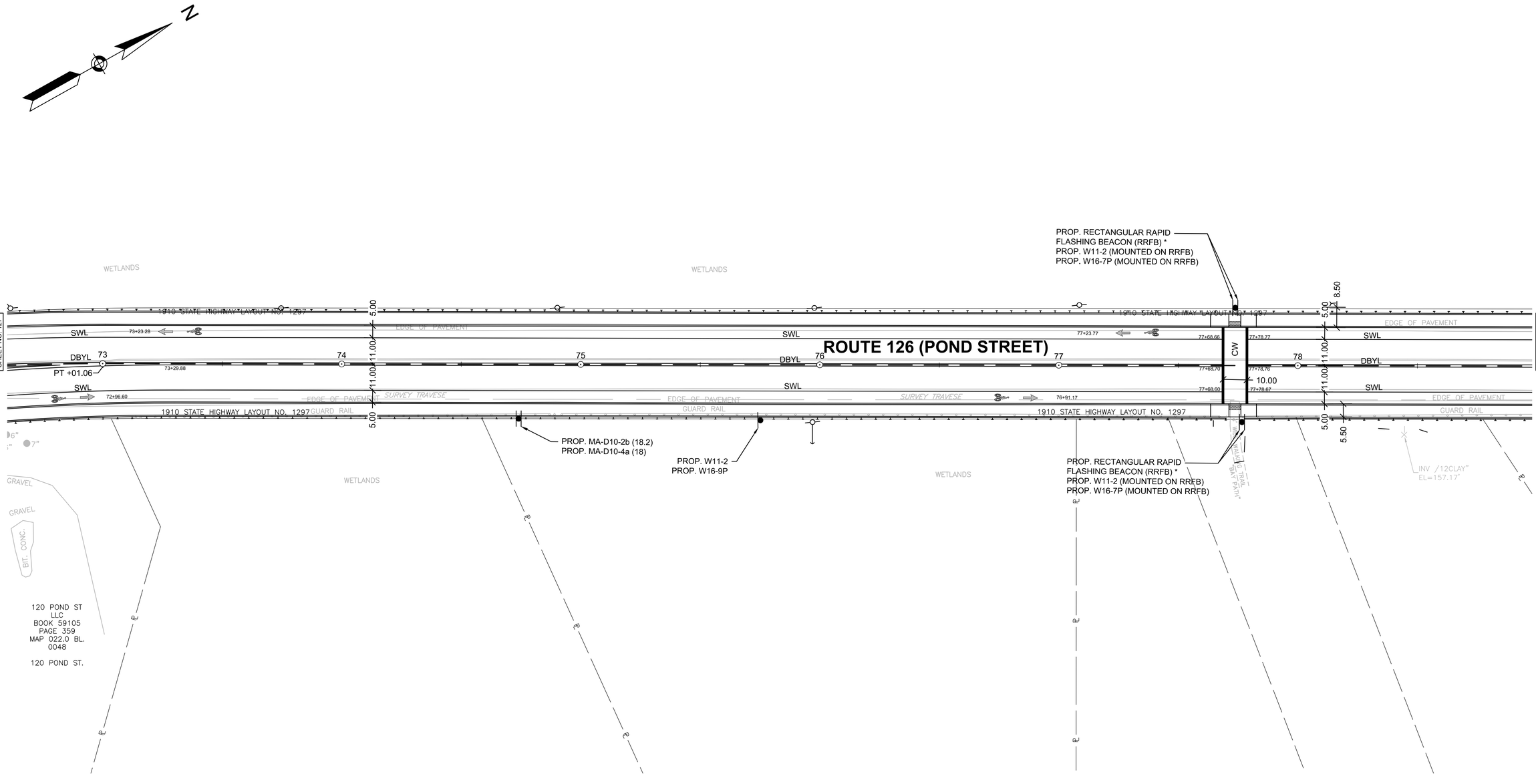
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	128	331
PROJECT FILE NO.	604123		

PAVEMENT MARKING AND SIGNING PLANS
(12 OF 16)



* LENGTH OF FLASHING CYCLE UPON PEDESTRIAN ACTUATION = 9 SECONDS

0 20 50 100

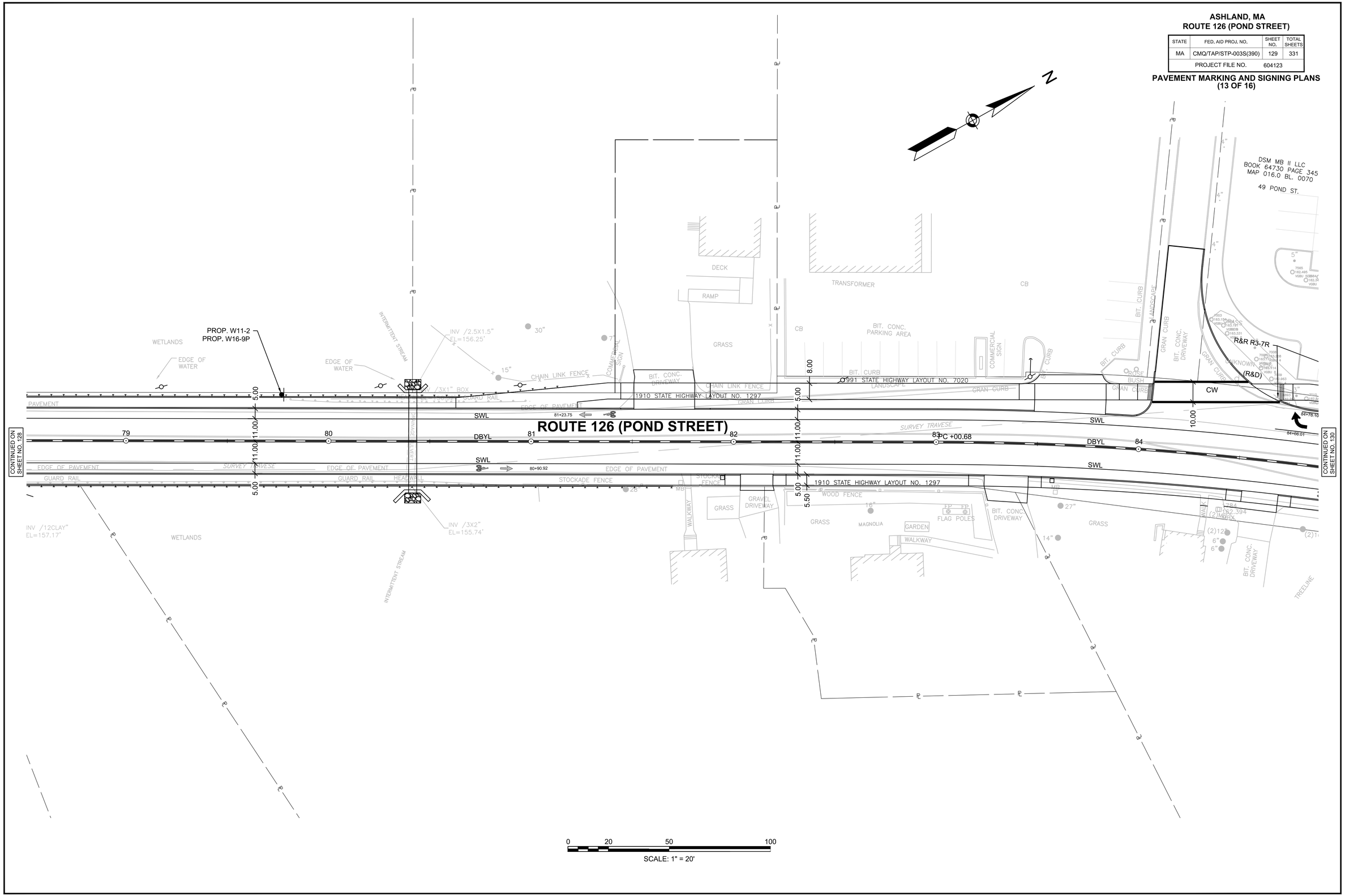
SCALE: 1" = 20'

604123_HD15(SIGN&STRIPING).DWG Plotted on 18-Oct-2017 9:00 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	129	331
PROJECT FILE NO.	604123		

PAVEMENT MARKING AND SIGNING PLANS
(13 OF 16)



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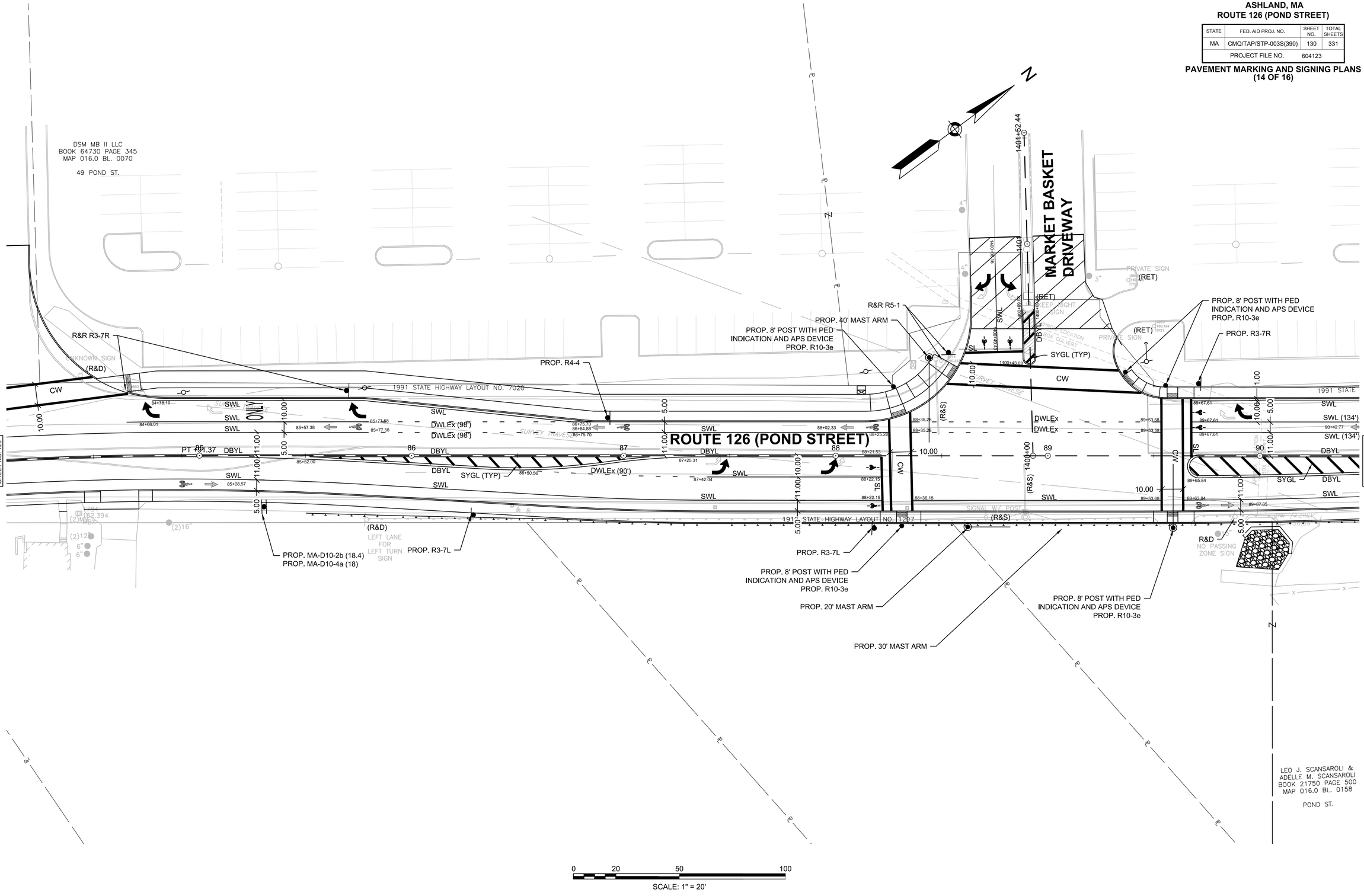
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	130	331
PROJECT FILE NO.	604123		

PAVEMENT MARKING AND SIGNING PLANS
(14 OF 16)



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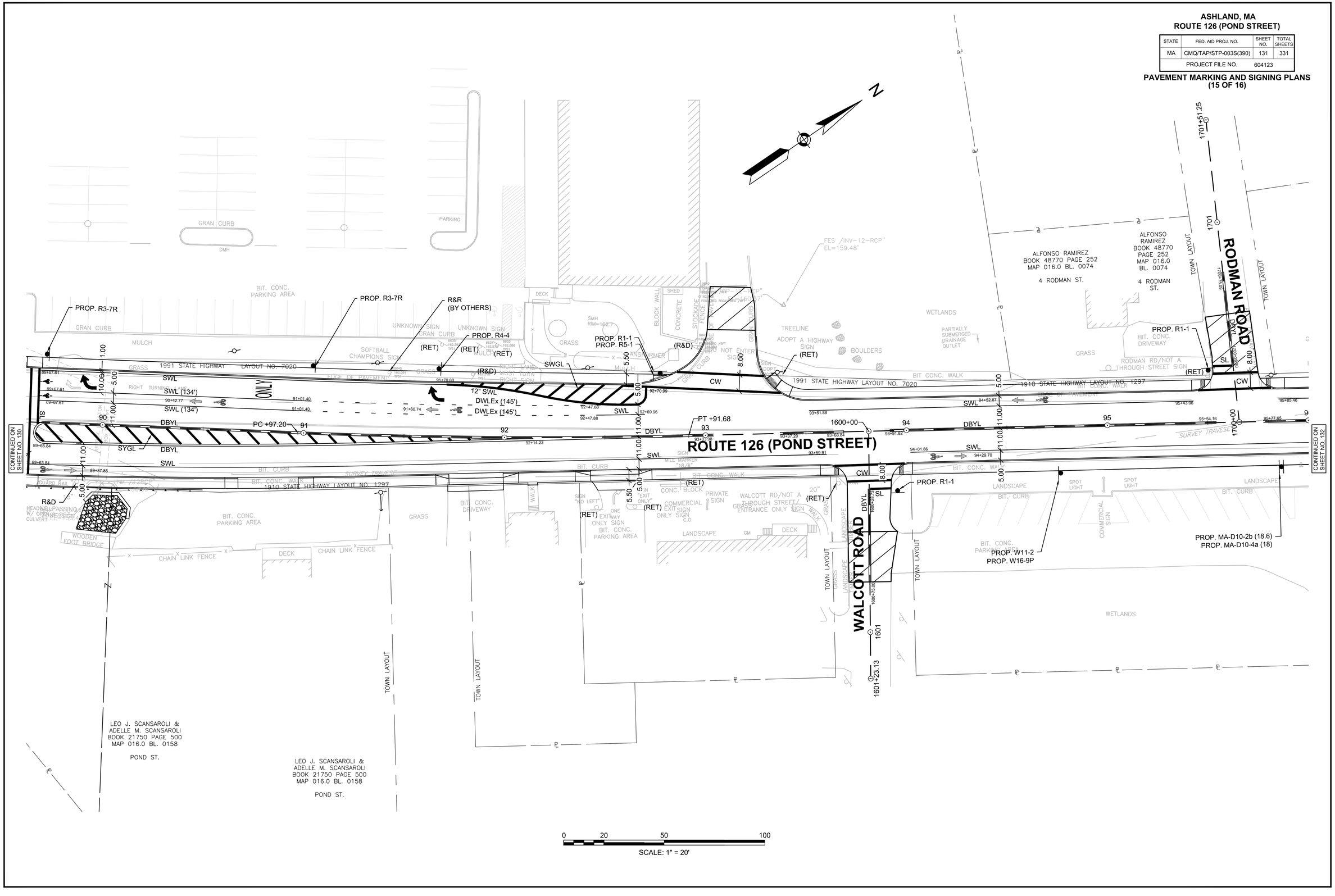
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	131	331
PROJECT FILE NO.	604123		

PAVEMENT MARKING AND SIGNING PLANS
(15 OF 16)

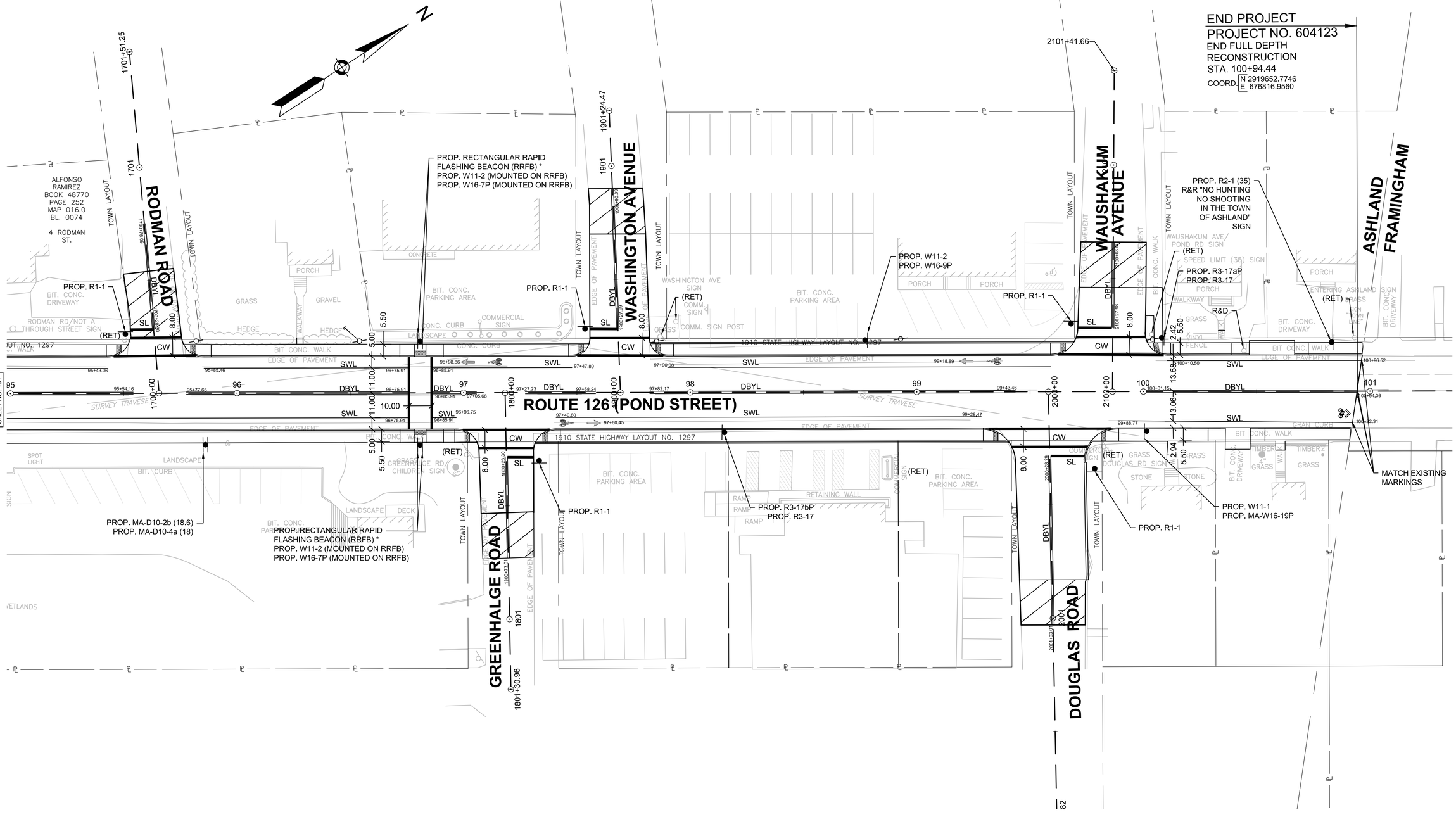


604123_HD15(SIGN&STRIPING).DWG Plotted on 18-Oct-2017 9:00 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	132	331
PROJECT FILE NO.	604123		

PAVEMENT MARKING AND SIGNING PLANS (16 OF 16)



* LENGTH OF FLASHING CYCLE UPON PEDESTRIAN ACTUATION = 9 SECONDS

604123_HD15(SIGN&STRIPING).DWG Plotted on 18-Oct-2017 9:00 AM

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	VERTICAL SPACING	ARROW RTE MKR	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	LEGEND	BORDER	POST SIZE AND NUMBER REQUIRED P-5 (1)	UNIT AREA IN SQUARE FEET	TOTAL AREA IN SQUARE FEET
MA-D3-1_1	66"	12"	Converse Way	SEE SIGN DETAILS ON THIS SHEET			2	RETROREFLECTIVE GREEN	RETROREFLECTIVE WHITE	RETROREFLECTIVE WHITE	1 (MOUNTED BACK TO BACK)	5.50	11.00
MA-D3-1_2	75"	12"	Spyglass Hill Dr				2	RETROREFLECTIVE GREEN	RETROREFLECTIVE WHITE	RETROREFLECTIVE WHITE	1 (MOUNTED BACK TO BACK)	6.25	12.50
MA-D3-1_3	45"	12"	Tufts St				2	RETROREFLECTIVE GREEN	RETROREFLECTIVE WHITE	RETROREFLECTIVE WHITE	1 (MOUNTED BACK TO BACK)	3.75	7.50
MA-D3-1_4	57"	12"	Harvard St				2	RETROREFLECTIVE GREEN	RETROREFLECTIVE WHITE	RETROREFLECTIVE WHITE	1 (MOUNTED BACK TO BACK)	4.75	9.50
D11-1a	18"	18"		SEE MUTCD STD. DETAIL			3	RETROREFLECTIVE GREEN	RETROREFLECTIVE WHITE	RETROREFLECTIVE WHITE	3	2.25	6.75
M3-1	24"	12"	NORTH				2	RETROREFLECTIVE WHITE	BLACK	BLACK	2	2.00	4.00
M3-3	24"	12"	SOUTH				3	RETROREFLECTIVE WHITE	BLACK	BLACK	3	2.00	6.00
M6-2R	12"	9"					5	RETROREFLECTIVE GREEN	BLACK	BLACK	0 (2 MOUNTED W/ MA-M1-5a 3 MOUNTED W/ D11-1a)	0.75	3.75
M6-3	21"	15"					2	RETROREFLECTIVE WHITE	BLACK	BLACK	0 (2 MOUNTED W/ MA-M1-5a)	2.19	4.38
MA-D10-2b	24"	30"	MILE 17 .2	SEE MASSDOT STD. SIGN BOOK			9	RETROREFLECTIVE GREEN	RETROREFLECTIVE WHITE	RETROREFLECTIVE WHITE	9	5.00	45.00
MA-D10-4a	24"	48"	NORTH 126 MILE 17				9	RETROREFLECTIVE GREEN	RETROREFLECTIVE WHITE	RETROREFLECTIVE WHITE	0 (MOUNTED BACK TO BACK W/ MA-D10-2b)	8.00	72.00
MA-M1-5a	30"	24"	126				5	RETROREFLECTIVE WHITE	BLACK	BLACK	0 (5 MOUNTED W/ OTHERS)	5.00	25.00
OM1-1	18"	18"		SEE MUTCD STD. DETAIL			2	YELLOW	RETROREFLECTIVE YELLOW		2	2.25	4.50
R1-1	30"	30"	STOP				14	RETROREFLECTIVE RED	RETROREFLECTIVE WHITE	RETROREFLECTIVE WHITE	14	6.25	87.50
R1-2	36" x 36" x 36"		YIELD				8	RETROREFLECTIVE WHITE	RETROREFLECTIVE RED		8	3.90	31.20
R2-1	24"	30"	SPEED LIMIT 35				2	RETROREFLECTIVE WHITE	BLACK	BLACK	2	5.00	10.00
R2-1	24"	30"	SPEED LIMIT 40				2	RETROREFLECTIVE WHITE	BLACK	BLACK	2	5.00	10.00
R2-1	24"	30"	SPEED LIMIT 45				1	RETROREFLECTIVE WHITE	BLACK	BLACK	1	5.00	5.00
R3-2	24"	24"					2	RETROREFLECTIVE WHITE	RETROREFLECTIVE RED/ BLACK	BLACK	2	4.00	8.00

TRAFFIC SIGN SUMMARY (CONTINUED)

IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	VERTICAL SPACING	ARROW RTE MKR	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	LEGEND	BORDER	POST SIZE AND NUMBER REQUIRED P-5 (1)	UNIT AREA IN SQUARE FEET	TOTAL AREA IN SQUARE FEET
R3-7L	30"	30"	LEFT LANE MUST TURN LEFT	SEE MUTCD STD. DETAIL			9	RETROREFLECTIVE WHITE	BLACK	BLACK	9	6.25	56.25
R3-7R	30"	30"	RIGHT LANE MUST TURN RIGHT				2	RETROREFLECTIVE WHITE	BLACK	BLACK	2	6.25	12.50
R3-8b	48"	30"	ONLY ONLY ONLY				2	RETROREFLECTIVE WHITE	BLACK	BLACK	4	10.00	20.00
R3-17	24"	18"	BIKE LANE				8	RETROREFLECTIVE WHITE	BLACK		8	3.00	24.00
R3-17aP	24"	8"	AHEAD				4	RETROREFLECTIVE WHITE	BLACK	BLACK	0 (4 MOUNTED W/ R3-17)	1.33	5.32
R3-17bP	24"	8"	ENDS				4	RETROREFLECTIVE WHITE	BLACK	BLACK	0 (4 MOUNTED W/ R3-17)	1.33	5.32
R4-4	36"	30"	BEGIN RIGHT TURN LANE YIELD TO BIKES				3	RETROREFLECTIVE WHITE	BLACK	BLACK	3	7.50	22.50
R4-7	24"	30"					2	RETROREFLECTIVE WHITE	BLACK	BLACK	2	5.00	10.00
R5-1	30"	30"	DO NOT ENTER				4	RETROREFLECTIVE WHITE	RETROREFLECTIVE WHITE & RED		2 (2 MOUNTED W/ OTHERS)	6.25	25.00
R6-4	30"	24"					4	RETROREFLECTIVE WHITE	BLACK		4	5.00	20.00
R7-1	12"	18"	NO PARKING ANY TIME				5	RETROREFLECTIVE WHITE	RED	RED	5	1.50	7.50
R10-10R	30"	36"	RIGHT TURN SIGNAL				1	RETROREFLECTIVE WHITE	BLACK	BLACK	0 (MOUNT ON MAST ARM)	7.50	7.50
W1-2L	30"	30"					1	RETROREFLECTIVE YELLOW	BLACK	BLACK	1	6.25	6.25
W1-2R	30"	30"					1	RETROREFLECTIVE YELLOW	BLACK	BLACK	1	6.25	6.25
W2-6	30"	30"					4	RETROREFLECTIVE YELLOW	BLACK	BLACK	4	6.25	25.00
W11-1	30"	30"					2	RETROREFLECTIVE YELLOW	BLACK	BLACK	2	6.25	12.50
W11-2	30"	30"					4	RETROREFLECTIVE YELLOW-GREEN	BLACK	BLACK	4	6.25	25.00
W13-1P	18"	18"	20 MPH				4	RETROREFLECTIVE YELLOW	BLACK	BLACK	0 (4 MOUNTED W/ W2-6)	2.25	9.00
W16-9P	24"	12"	AHEAD				4	RETROREFLECTIVE YELLOW-GREEN	BLACK	BLACK	0 (4 MOUNTED W/ W11-2)	2.00	8.00
MA-W16-19P	24"	18"	ON ROADWAY	SEE MASSDOT STD. SIGN BOOK			2	RETROREFLECTIVE YELLOW-GREEN	BLACK	BLACK	0 (2 MOUNTED W/ W11-1)	3.00	6.00
												TOTAL	677.47

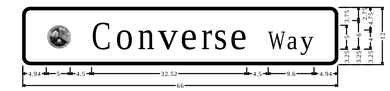
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	133	331
PROJECT FILE NO.	604123		

SIGN SUMMARY SHEET

NOTES:

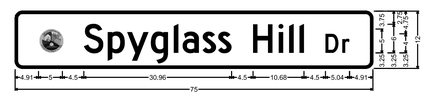
1. UNLESS OTHERWISE NOTED, ALL POSTS TO BE P-5.
2. SEE THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND REVISIONS, MASSDOT MASSACHUSETTS AMENDMENTS TO THE 2009 MUTCD, 1990 MASSDOT HIGHWAY DIVISION STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, 2012 SUPPLEMENT TO THE 2004 STANDARD HIGHWAY SIGNS, AND 2016 MASSDOT STANDARD SIGN BOOK.



1.50" Radius, 0.50" Border, White on, Green;
Town Seal; "Converse", D 2K; "Way", D 2K;
Table of distances between letter and object lefts

4.94	9.50	C	5.04	o	4.62	n	4.20	v	4.74	e	4.38	r	2.64	s	3.36	e	8.04	W	3.88	a	2.72	y	4.94

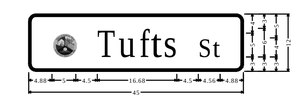
MA-D3-1_1 DETAIL
(PRINTED ON ONE SIDE AND MOUNTED BACK-TO-BACK)
NOT TO SCALE



1.50" Radius, 0.50" Border, White on, Green;
Town Seal; "Spyglass", D 2K; "Hill", D 2K; "Dr", D 2K;
Table of distances between letter and object lefts

4.91	9.50	S	4.98	p	4.08	y	4.98	g	4.80	l	1.86	a	4.20	s	3.24	s	7.32	H	5.40	i	2.16	l	2.16
l	5.46	D	3.52	r	1.52	4.91																	

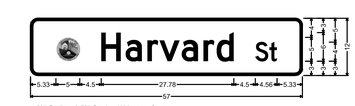
MA-D3-1_2 DETAIL
(PRINTED ON ONE SIDE AND MOUNTED BACK-TO-BACK)
NOT TO SCALE



1.50" Radius, 0.50" Border, White on, Green;
Town Seal; "Tufts", D 2K; "St", D 2K;
Table of distances between letter and object lefts

4.88	9.50	T	4.44	u	4.38	f	2.34	t	2.70	s	7.32	S	2.96	t	1.60	4.88

MA-D3-1_3 DETAIL
(PRINTED ON ONE SIDE AND MOUNTED BACK-TO-BACK)
NOT TO SCALE



1.50" Radius, 0.50" Border, White on, Green;
Town Seal; "Harvard", D 2K; "St", D 2K;
Table of distances between letter and object lefts

5.33	9.50	H	5.10	a	4.56	r	2.52	v	4.68	a	4.56	r	2.76	d	8.10	S	2.96	t	1.60	5.33			

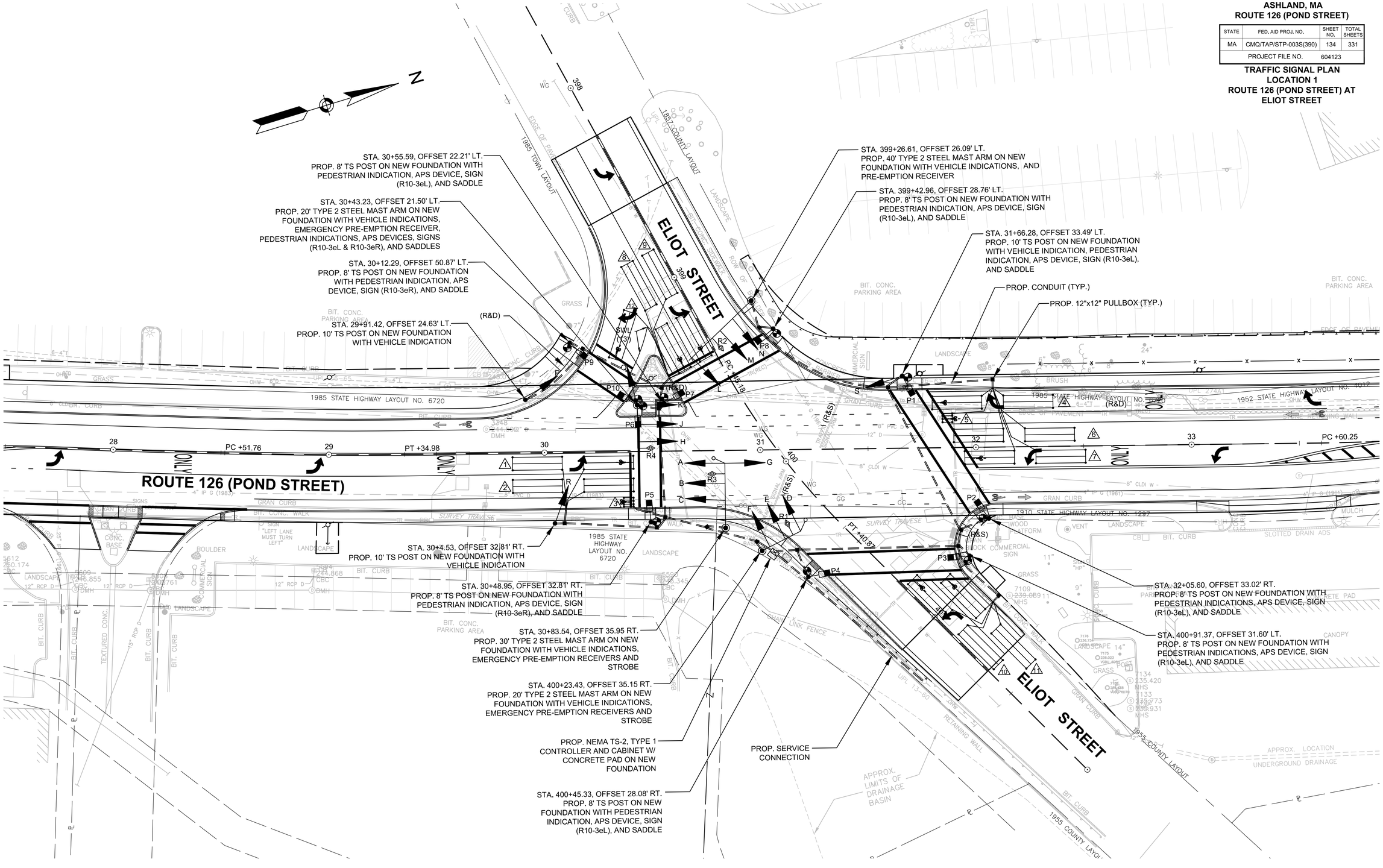
MA-D3-1_4 DETAIL
(PRINTED ON ONE SIDE AND MOUNTED BACK-TO-BACK)
NOT TO SCALE

604123_HD16(SIGN SUMMARY).DWG Plotted on 17-Jul-2017 9:52 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	134	331
PROJECT FILE NO.	604123		

TRAFFIC SIGNAL PLAN
LOCATION 1
ROUTE 126 (POND STREET) AT
ELIOT STREET



NOTES:

1. CONTRACTOR SHALL REMOVE AND DISPOSE ALL EXISTING TRAFFIC SIGNAL EQUIPMENT AS DIRECTED BY THE ENGINEER.
2. EXISTING SIGNAL SHALL BE KEPT OPERATIONAL UNTIL THE NEW SIGNAL IS OPERATIONAL AND TESTED.
3. INSTALL QUEUE DETECTOR FOR POND STREET NORTHBOUND APPROACH AT STA 26+25.

604123_HD17(TRAFFIC SIGNAL PLANS).DWG Plotted on 18-Oct-2017 10:41 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	135	331
PROJECT FILE NO.	604123		

TRAFFIC SIGNAL TIMING PLAN
LOCATION 1
ROUTE 126 (POND STREET) AT ELIOT STREET

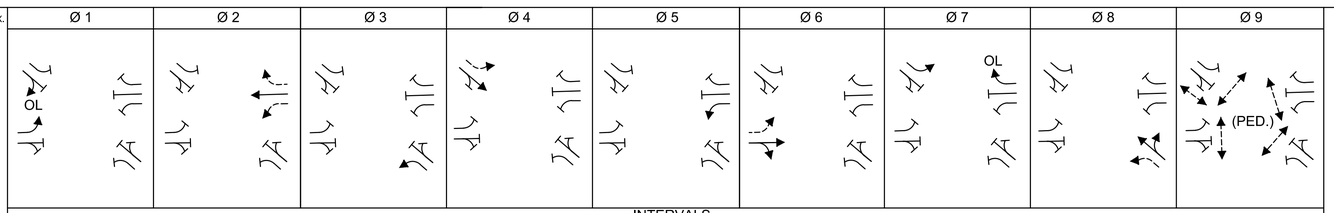
SEQUENCE & TIMING
FOR
FULL ACTUATED CONTROL

ELIOT STREET

AT

ROUTE 126
(POND STREET)

APPROX. NORTH



FLASHING OPERATION

INTERVALS

APPROACH	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	4	5	6	13	14	15	16	17	18	19	20	21	22	23	24	
ROUTE 126 (POND STREET)	NB	A,S	~~G~~	~~SY~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~FY~~	~~SY~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~FR~~
ROUTE 126 (POND STREET)	NB	B,C	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	FY
ROUTE 126 (POND STREET)	SB	G	~~R~~	~~R~~	~~R~~	~~FY~~	~~SY~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	~~SY~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~FR~~
ROUTE 126 (POND STREET)	SB	H,J	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY
ROUTE 126 (POND STREET)	SB	K	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R/ ~~G~~	R/ ~~Y~~	R	R	R	R	R	R	R	FY
ELIOT STREET	EB	D	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~FY~~	~~SY~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	~~SY~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~FR~~
ELIOT STREET	EB	E,F	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
ELIOT STREET	EB	P,Q,R	~~G~~	~~Y~~	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
ELIOT STREET	WB	L	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	~~SY~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~FY~~	~~SY~~	~~R~~	~~R~~	~~R~~	~~R~~	~~FR~~
ELIOT STREET	WB	M,N	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	FR
PEDESTRIAN	ALL	P1-P10	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	OFF

TIMING IN SECONDS

	1	2	3	4	5	6	7	8	9	10	11	12	4	5	6	13	14	15	16	17	18	19	20	21	22	23	24	
MINIMUM GREEN (INITIAL)	8			10			6			8			6			10			6			8						
MAX GREEN 1	12			44			6			28			6			51			17			15						
MAX GREEN 2	11			40			9			25			6			47			12			25						
VEHICLE EXTENSION	3			3			3			3			3			3			3			3						
YELLOW CLEARANCE		3			4			3			3			3			4			3			3					
RED CLEARANCE			4.5			3			5.5			4			4.5			3			5.5			4			3
PED WALK INTERVAL																									7		
PED CLEARANCE INTERVAL																										23	
DETECTION (MEMORY)	NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			LOCK		
RECALL	OFF			MIN			OFF			OFF			OFF			MIN			OFF			OFF			OFF		

EMERGENCY ONLY

NOTES:

1. STANDARD NEMA CLEARANCES SHALL APPLY.
2. MAXIMUM GREEN 1 SHALL BE IN EFFECT ON WEEKDAYS FROM 6AM TO 9AM.
3. MAXIMUM GREEN 2 SHALL BE IN EFFECT ALL OTHER TIMES.
4. PREEMPTION MINIMUM GREENS SHALL BE SIX SECONDS.
5. 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.
6. NORMAL CLEARANCES SHALL BE PROVIDED ON PHASES THAT ARE TERMINATED BY PREEMPTION DEMAND.
7. PEDESTRIAN PHASE SHOULD ONLY BE SERVED UPON PEDESTRIANS' PUSHBUTTON ACTIVATION.

MAJOR ITEMS REQUIRED

PAY ITEM	QUANTITY	ITEM
813.81	1	SERVICE CONNECTION (UNDERGROUND)
815.1	1	CONTROLLER NEMA 8 PHASE TS-2 (TYPE 1), CAB. & FDN
	1	40 FT TYPE II, GALV. STEEL MAST ARM ASSEMBLY, BASE & FDN
	1	30 FT TYPE II, GALV. STEEL MAST ARM ASSEMBLY, BASE & FDN
	2	20 FT TYPE II, GALV. STEEL MAST ARM ASSEMBLY, BASE & FDN
	3	10 FT SIGNAL POST, BASE & FDN
	7	8 FT PEDESTRIAN SIGNAL POST, BASE & FDN
	11	12 INCH 1 WAY 3-SECTION LED VEHICLE SIGNAL INDICATION
	5	12 INCH 1 WAY 4-SECTION LED VEHICLE SIGNAL INDICATION
	1	12 INCH 1 WAY 5-SECTION LED VEHICLE SIGNAL INDICATION
	10	16 INCH LED PEDESTRIAN SIGNAL INDICATION WITH COUNTDOWN
	10	APS DEVICE, SIGN & SADDLE
	1	PREEMPTION PHASE SELECTOR MODULE-FOUR CHANNEL
	1	PREEMPTION CARD RACK
	1	EMERGENCY PRE-EMPTION CONFIRMATION STROBE LIGHT
	4	EMERGENCY PRE-EMPTION RECEIVER (DETECTOR) - ONE WAY
	19	TYPE Q ROADWAY STANDARD QUADRUPOLE LOOP DETECTOR (6'X23')
	2	TYPE D-Q ROADWAY DOUBLE QUADRUPOLE LOOP DETECTOR (5'X4.5')
	3	FOUR CHANNEL LOOP DETECTOR AMPLIFIER
	1	BUS INTERFACE UNIT (SPARE)
	1	DUAL CHANNEL LOOP DETECTOR AMPLIFIER (SPARE)
811.31	15	12" x 12" PULLBOX (SD2.031)

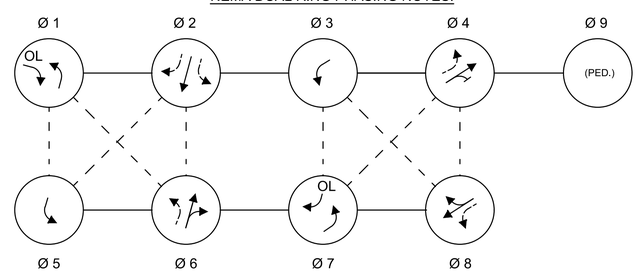
PLUS ALL NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION OF A FULLY OPERATIONAL SIGNAL SYSTEM AS INTENDED ON THESE PLANS

LOOP DETECTOR DATA

SEE PLAN SHEET-LOOP DETECTOR DETAILS FOR LOOP CONSTRUCTION. SPLICING, DETAILS & NOTES. DELAY TIME EFFECTIVE ONLY DURING CALLED Ø RED. TIME IN SEC.

DETECTOR NUMBER	AMPLIFIER NUMBER	CHANNEL NUMBER	LOOP SIZE	NUM. OF TURNS	Ø CALLED	Ø EXT.	MODE A=PULSE B=PRES.	DELAY TIME	EXT. TIME
1	1	1	6'X23'	2-4-2	1	1 & 6	B	-	-
2	1	2	6'X23'	2-4-2	6	6	B	-	-
3	1	3	5'X4.5'	2-4-2	6	6	B	-	-
4	2	1	5'X4.5'	4-8-8-8-4	2	2	B	-	-
5	2	2	6'X23'	4-8-4	2	2	B	-	-
6	2	3	6'X23'	2-4-2	2	2	B	-	-
7	2	4	6'X23'	2-4-2	5	2 & 5	B	-	-
8	3	1	6'X23'	2-4-2	4	4	B	-	-
9	3	2	6'X23'	2-4-2	7	4 & 7	B	-	-
10	3	3	6'X23'	2-4-2	3	3 & 8	B	-	-
11	3	4	6'X23'	2-4-2	8	8	B	-	-
12	1	4	6'X23'	2-4-2	1	1	B	-	-

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.

FIRE PRE-EMPTION SCHEDULE

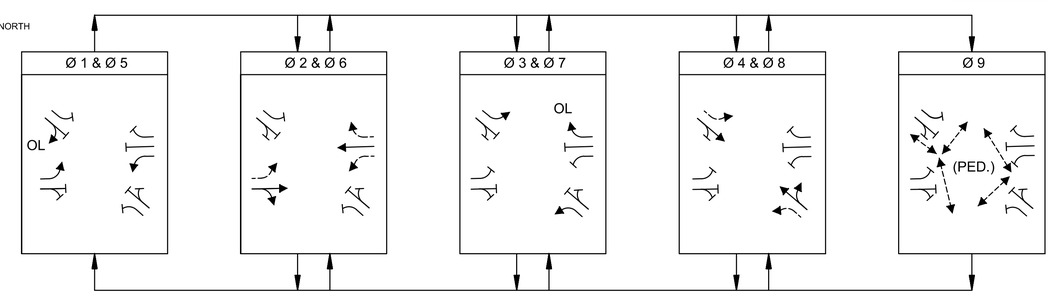
RECEIVER AND PRIORITY	PRE-EMPT PHASE ASSIGNMENT	APPROACH AND MOVEMENT	VEHICLE PHASE ASSIGNMENT	NEXT PHASE CALLED
R1	1	EB	Ø 4 + Ø 7	Ø 4 + Ø 8
R2	2	WB	Ø 3 + Ø 8	Ø 4 + Ø 8
R3	3	NB	Ø 1 + Ø 6	Ø 2 + Ø 6
R4	4	SB	Ø 2 + Ø 5	Ø 2 + Ø 6

NOTES:

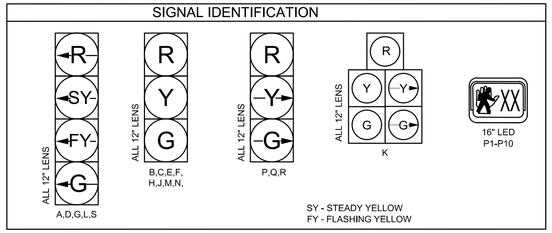
1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE OPTICALLY TRANSMITTED BY OPTICAL EMITTERS MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY OPTICAL RECEIVERS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES AS FOLLOWS: (R2, R1, R4 THEN R3)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY OPTICAL RECEIVER R4 (OR OTHERS AS PROVIDED) THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD IN EMERGENCE PRE-EMPTION THE ASSOCIATED GREEN PHASE FOR A MINIMUM OF TEN (10) SECONDS OR UNTIL, PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN PROVIDE PRE-EMPTION PHASE CLEARANCE SERVICE THEN RESUME NORMAL OPERATION.
4. MINIMUM GREEN, NORMAL VEHICLE AND PEDESTRIAN CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. EMERGENCY VEHICLE PRE-EMPTION SHALL OVERRIDE COORDINATION.
6. ONCE PRE-EMPTION TERMINATES THE SIGNAL WILL RETURN TO PHASE SHOWN IN COLUMN "NEXT PHASE CALLED" TO RESUME NORMAL OPERATION.

PREFERENTIAL PHASING SEQUENCE

APPROX. NORTH



SIGNAL IDENTIFICATION



NOTES:

1. ALL VEHICLE LENSES SHALL BE LED TYPE.
2. ALL VEHICLE SIGNAL HEADS SHALL BE 12 INCHES.
3. ALL HOUSINGS TO BE PROVIDED WITH 3/4 TUNNEL VISORS AND 5-INCH NON-LOUVERED BACKPLATES WITH 3-INCH YELLOW TAPE RETROREFLECTIVE BORDER.
4. ALL HOUSINGS TO BE FIXED MOUNTED.

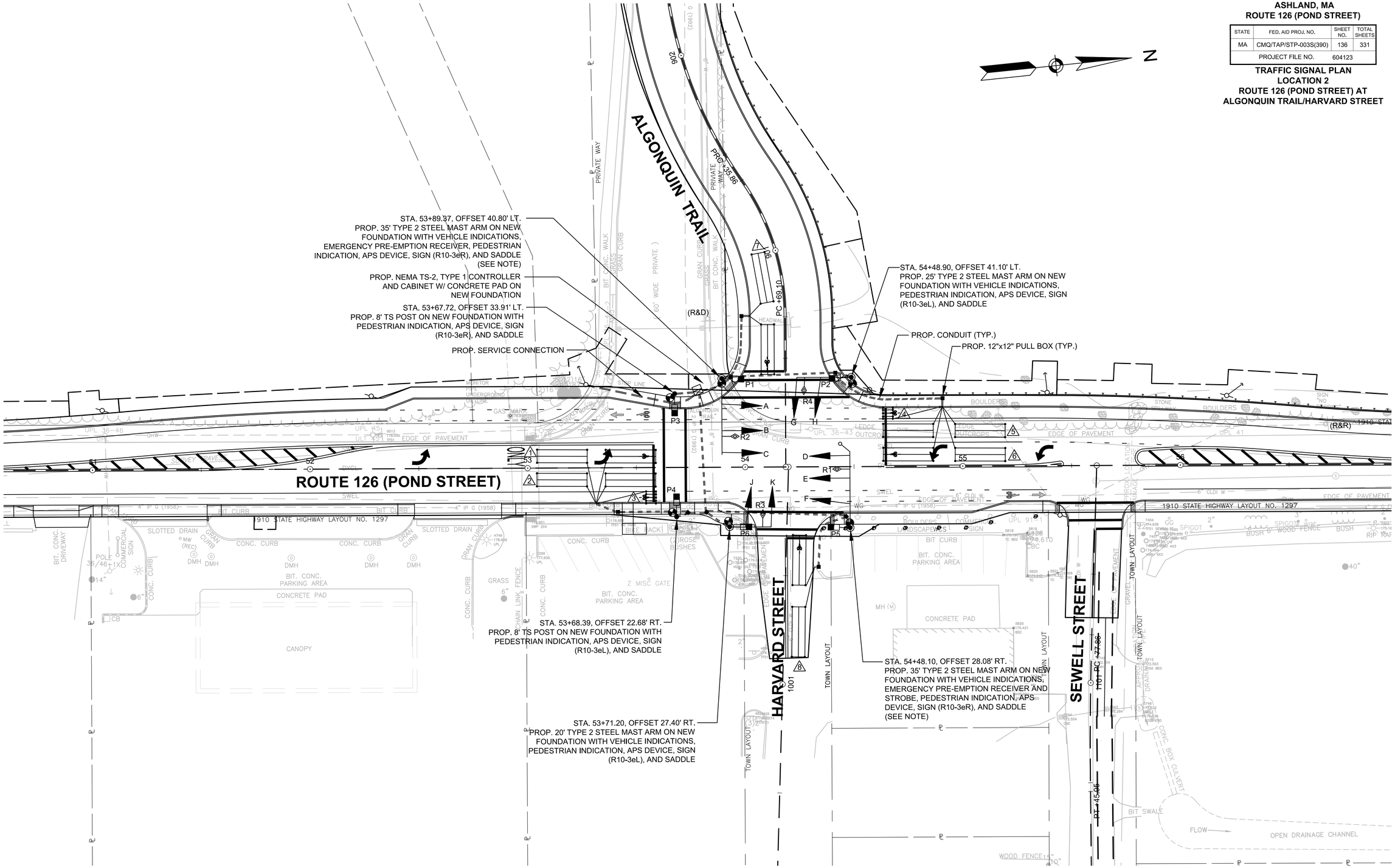
604123_HD18(SEQUENCE & TIMING PLANS).DWG 10-Sep-2020

F:\Projects\2013\13033\13033.04x - ahsland route 126\604123\DW\GI\604123_HD18(Sequence & Timing Plans).dwg, Sep. 10, 2020 1:34pm

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	136	331
PROJECT FILE NO.	604123		

TRAFFIC SIGNAL PLAN
LOCATION 2
ROUTE 126 (POND STREET) AT
ALGONQUIN TRAIL/HARVARD STREET



NOTE:

1. EACH 35' MAST ARM AND ITS FOUNDATION SHALL BE DESIGNED TO ACCOMMODATE LOADING OF A 12 INCH 1 WAY 4-SECTION LED VEHICLE SIGNAL INDICATION FOR SIGNAL HEAD "C" OR "D". SEE SPECIAL PROVISION FOR DETAILS.

0 20 50 100
SCALE: 1" = 20'

604123_HD17(TRAFFIC SIGNAL PLANS).DWG Plotted on 18-Oct-2017 10:41 AM

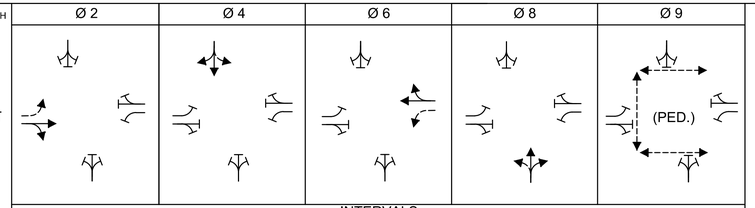
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	137	331
PROJECT FILE NO.	604123		

TRAFFIC SIGNAL TIMING PLAN
LOCATION 2
ROUTE 126 (POND STREET) AT
ALGONQUIN TRAIL/HARVARD STREET

SEQUENCE & TIMING
FOR
FULL ACTUATED CONTROL
ALGONQUIN TRAIL / HARVARD STREET
AT
ROUTE 126
(POND STREET)

APPROX. NORTH



FLASHING OPERATION

INTERVALS

APPROACH	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
ROUTE 126 (POND STREET)	SB	A,B,C	R	R	R	R	R	R	~~FY~~/G	~~SY~~/Y	~~R~~/R	R	R	R	R	R	R	FY
ROUTE 126 (POND STREET)	NB	D,E,F	~~FY~~/G	~~SY~~/Y	~~R~~/R	R	R	R	R	R	R	R	R	R	R	R	R	FY
HARVARD STREET	WB	G,H	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	FR
ALGONQUIN TRAIL	EB	J,K	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	FR
PEDESTRIAN	ALL	P1-P6	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	OFF

TIMING IN SECONDS

MINIMUM GREEN	10			6			10			6							EMERGENCY ONLY
MAX GREEN 1	36			10			36			10							
MAX GREEN 2	36			10			36			10							
VEHICLE EXTENSION	3			3			3			3							
YELLOW CLEARANCE		3.5			3			3.5			3						
RED CLEARANCE			2.5			4.5			2.5			4.5					3
PED WALK INTERVAL														7			
PED CLEARANCE INTERVAL																14	
DETECTION (MEMORY)	NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK					LOCK		
RECALL	MIN			OFF			MIN			OFF					OFF		

NOTES:

1. STANDARD NEMA CLEARANCES SHALL APPLY.
2. MAXIMUM GREEN 1 SHALL BE IN EFFECT ON WEEKDAYS FROM 6AM TO 9AM.
3. MAXIMUM GREEN 2 SHALL BE IN EFFECT ALL OTHER TIMES.
4. NORMAL CLEARANCES SHALL BE PROVIDED ON PHASES THAT ARE TERMINATED BY PREEMPTION DEMAND.
5. PEDESTRIAN PHASE SHOULD ONLY BE SERVED UPON PEDESTRIANS' PUSHBUTTON ACTIVATION.

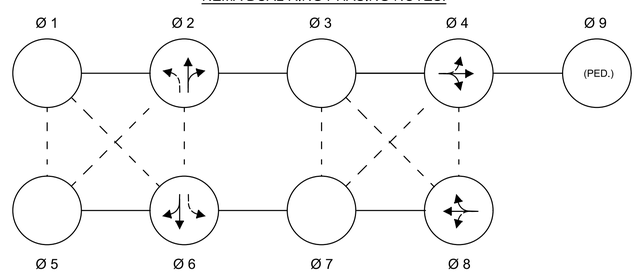
MAJOR ITEMS REQUIRED

PAY ITEM	QUANTITY	ITEM
813.82	1	SERVICE CONNECTION (UNDERGROUND)
815.2	1	CONTROLLER NEMA 8 PHASE TS-2 (TYPE 1), CAB. & FDN
	1	20 FT TYPE II, GALV. STEEL MAST ARM ASSEMBLY, BASE & FDN
	1	25 FT TYPE II, GALV. STEEL MAST ARM ASSEMBLY, BASE & FDN
	2	35 FT TYPE II, GALV. STEEL MAST ARM ASSEMBLY, BASE & FDN *
	2	8 FT PEDESTRIAN SIGNAL POST, BASE & FDN
	10	12 INCH 1 WAY 3-SECTION LED VEHICLE SIGNAL INDICATION
	6	16 INCH LED PEDESTRIAN SIGNAL INDICATION WITH COUNTDOWN
	6	APS DEVICE, SIGN & SADDLE
	1	PREEMPTION PHASE SELECTOR MODULE-FOUR CHANNEL
	1	PREEMPTION CARD RACK
	1	EMERGENCY PRE-EMPTION CONFIRMATION STROBE LIGHT
	4	EMERGENCY PRE-EMPTION RECEIVER (DETECTOR) - ONE WAY
	12	TYPE Q ROADWAY STANDARD QUADRUPOLE LOOP DETECTOR (6'x23')
	2	TYPE D-Q ROADWAY DOUBLE QUADRUPOLE LOOP DETECTOR (5'x3.75')
	4	FOUR CHANNEL LOOP DETECTOR AMPLIFIER
	1	BUS INTERFACE UNIT (SPARE)
	1	DUAL CHANNEL LOOP DETECTOR AMPLIFIER (SPARE)
811.31	9	12" x 12" PULLBOX (SD2.031)

PLUS ALL NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION OF A FULLY OPERATIONAL SIGNAL SYSTEM AS INTENDED ON THESE PLANS

* EACH OF THE TWO 35 FT MAST ARMS SHALL BE DESIGNED TO ACCOMMODATE LOADING OF A NEW 12 INCH 1 WAY 4-SECTION LED VEHICLE SIGNAL INDICATION FOR SIGNAL HEAD "C" OR "D". SEE SPECIAL PROVISIONS FOR DETAILS.

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.

LOOP DETECTOR DATA

SEE PLAN SHEET-LOOP DETECTOR DETAILS FOR LOOP CONSTRUCTION. SPLICING, DETAILS & NOTES. DELAY TIME EFFECTIVE ONLY DURING CALLED Ø RED. TIME IN SEC.

DETECTOR NUMBER	AMPLIFIER NUMBER	CHANNEL NUMBER	LOOP SIZE	NUM. OF TURNS	Ø CALLED	Ø EXT.	MODE A=PULSE B=PRES.	DELAY TIME	EXT. TIME
1	1	1	6'X23'	2-4-2	2	2	B	-	-
2	1	2	6'X23'	2-4-2	2	2	B	-	-
3	1	3	5'X3.75'	4-8-8-8-4	2	2	B	-	-
4	2	1	5'X3.75'	4-8-8-8-4	6	6	B	-	-
5	2	2	6'X23'	2-4-2	6	6	B	-	-
6	2	3	6'X23'	2-4-2	6	6	B	-	-
7	3	1	6'X23'	2-4-2	4	4	B	-	-
8	3	2	6'X23'	2-4-2	8	8	B	-	-

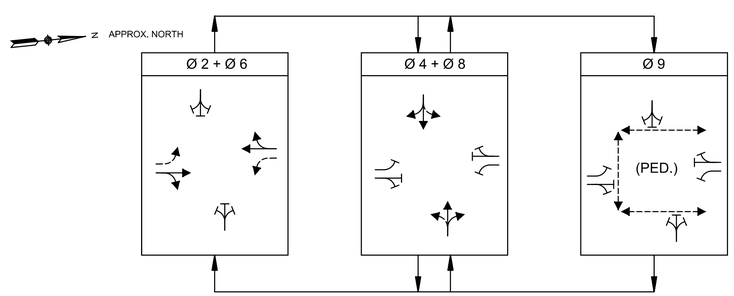
FIRE PRE-EMPTION SCHEDULE

RECEIVER AND PRIORITY	PRE-EMPT PHASE ASSIGNMENT	APPROACH AND MOVEMENT	VEHICLE PHASE ASSIGNMENT	NEXT PHASE CALLED
R1	1	NB	Ø 2	Ø 2 + Ø 6
R2	2	SB	Ø 6	Ø 2 + Ø 6
R3	3	EB	Ø 4	Ø 4 + Ø 8
R4	4	WB	Ø 8	Ø 4 + Ø 8

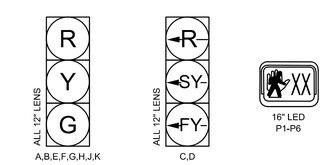
NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE OPTICALLY TRANSMITTED BY OPTICAL EMITTERS MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY OPTICAL RECEIVERS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES AS FOLLOWS: (R2, R1, R3, THEN R4)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY OPTICAL RECEIVER R4 (OR OTHERS AS PROVIDED) THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD IN EMERGENCE PRE-EMPTION THE ASSOCIATED GREEN PHASE FOR A MINIMUM OF TEN (10) SECONDS OR UNTIL, PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN PROVIDE PRE-EMPTION PHASE CLEARANCE SERVICE THEN RESUME NORMAL OPERATION.
4. MINIMUM GREEN, NORMAL VEHICLE AND PEDESTRIAN CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. EMERGENCY VEHICLE PRE-EMPTION SHALL OVERRIDE COORDINATION.
6. ONCE PRE-EMPTION TERMINATES THE SIGNAL WILL RETURN TO PHASE SHOWN IN COLUMN "NEXT PHASE CALLED" TO RESUME NORMAL OPERATION.

PREFERENTIAL PHASING SEQUENCE



SIGNAL IDENTIFICATION



NOTES:

1. ALL VEHICLE LENSES SHALL BE LED TYPE.
2. ALL VEHICLE SIGNAL HEADS SHALL BE 12 INCHES.
3. ALL HOUSINGS TO BE PROVIDED WITH 3/4 TUNNEL VISORS AND 5-INCH NON-LOUVERED BACKPLATES WITH 3-INCH YELLOW TAPE RETROREFLECTIVE BORDER.
4. ALL HOUSINGS TO BE FIXED MOUNTED.

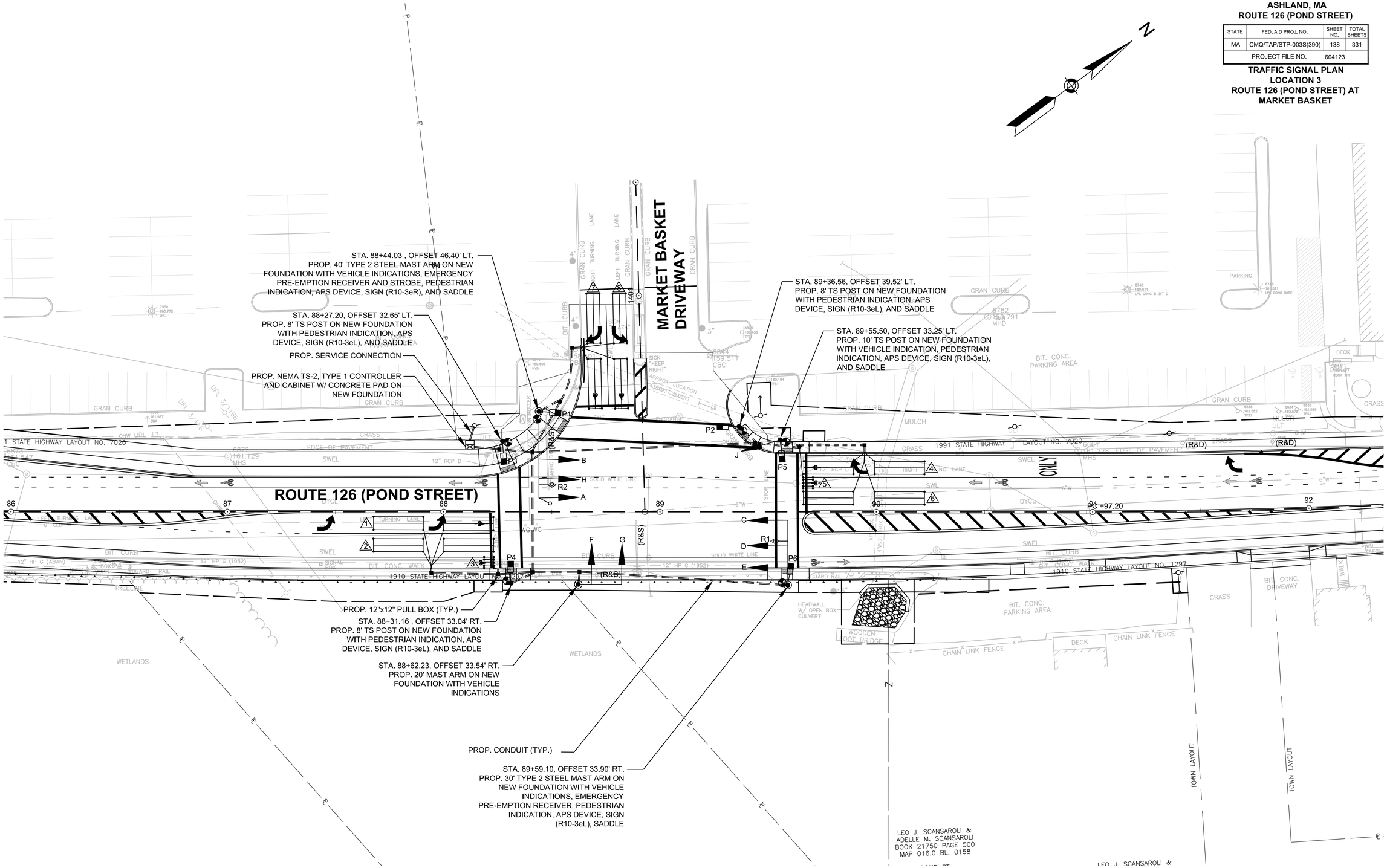
F:\Projects\2013\13033\13033.04x - ashland route 126\604123\DWG\604123_HD18(Sequence & Timing Plans).dwg, Sep. 10, 2020 1:34pm

604123_HD18(SEQUENCE & TIMING PLANS).DWG 10-Sep-2020

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	138	331
PROJECT FILE NO.	604123		

TRAFFIC SIGNAL PLAN
LOCATION 3
ROUTE 126 (POND STREET) AT
MARKET BASKET



NOTES:

1. CONTRACTOR SHALL REMOVE AND DISPOSE ALL EXISTING TRAFFIC SIGNAL EQUIPMENT AS DIRECTED BY THE ENGINEER.
2. EXISTING SIGNAL SHALL BE KEPT OPERATIONAL UNTIL THE NEW SIGNAL IS OPERATIONAL AND TESTED.

604123_HD17(TRAFFIC SIGNAL PLANS).DWG Plotted on 18-Oct-2017 10:41 AM

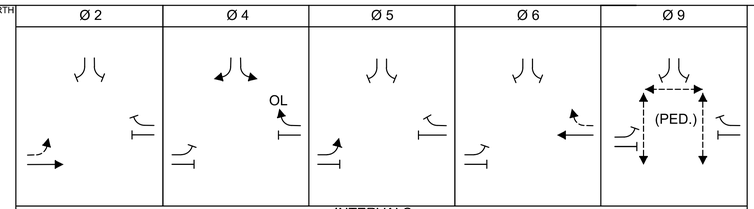
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	139	331
PROJECT FILE NO.	604123		

TRAFFIC SIGNAL TIMING PLAN
LOCATION 3
ROUTE 126 (POND STREET) AT MARKET BASKET

SEQUENCE & TIMING FOR FULL ACTUATED CONTROL

MARKET BASKET DRIVEWAY
AT
ROUTE 126
(POND STREET)



INTERVALS

APPROACH	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
ROUTE 126 (POND STREET)	SB	A,H	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	FY
ROUTE 126 (POND STREET)	SB	B	R	R	R	R/ ~~G~~	R/ ~~Y~~	R	R	R	R	G	Y	R	R	R	R	FY
ROUTE 126 (POND STREET)	NB	C,J	~~FY~~	~~SY~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	~~GY~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~FY~~
ROUTE 126 (POND STREET)	NB	D,E	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FY
MARKET BASKET DRIVEWAY	EB	F,G	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	FR
PEDESTRIAN	ALL	P1-P6	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	OFF

TIMING IN SECONDS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
MINIMUM GREEN	8			6			6			8						EMERGENCY ONLY
MAX GREEN 1	40			6			10			28.5						
MAX GREEN 2	54.5			12			10			42.5						
VEHICLE EXTENSION	3			3			3			3						
YELLOW CLEARANCE		3.5			3			3.5			3.5					
RED CLEARANCE			2			4			2			2			3	
PED WALK INTERVAL													7			
PED CLEARANCE INTERVAL														20		
DETECTION (MEMORY)	NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			LOCK			
RECALL	SOFT			OFF			SOFT			SOFT			OFF			

NOTES:

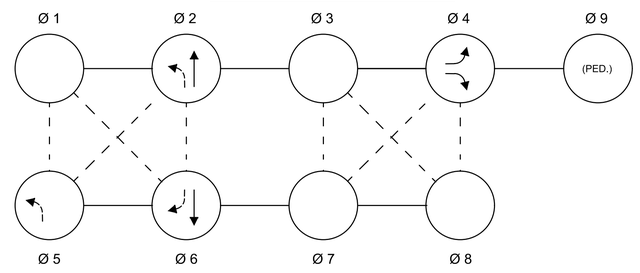
1. STANDARD NEMA CLEARANCES SHALL APPLY.
2. MAXIMUM GREEN 1 SHALL BE IN EFFECT ON WEEKDAYS FROM 6AM TO 9AM.
3. MAXIMUM GREEN 2 SHALL BE IN EFFECT ALL OTHER TIMES.
4. NORMAL CLEARANCES SHALL BE PROVIDED ON PHASES THAT ARE TERMINATED BY PREEMPTION DEMAND.
5. PEDESTRIAN PHASE SHOULD ONLY BE SERVED UPON PEDESTRIANS' PUSHBUTTON ACTIVATION.

MAJOR ITEMS REQUIRED

PAY ITEM	QUANTITY	ITEM
813.83	1	SERVICE CONNECTION (UNDERGROUND)
815.3	1	CONTROLLER NEMA 8 PHASE TS-2 (TYPE 1), CAB. & FDN
	1	20 FT TYPE II, GALV. STEEL MAST ARM ASSEMBLY, BASE & FDN
	1	30 FT TYPE II, GALV. STEEL MAST ARM ASSEMBLY, BASE & FDN
	1	40 FT TYPE II, GALV. STEEL MAST ARM ASSEMBLY, BASE & FDN
	3	8 FT PEDESTRIAN SIGNAL POST, BASE & FDN
	1	10 FT SIGNAL POST, BASE & FDN
	6	12 INCH 1 WAY 3-SECTION LED VEHICLE SIGNAL INDICATION
	2	12 INCH 1 WAY 4-SECTION LED VEHICLE SIGNAL INDICATION
	1	12 INCH 1 WAY 5-SECTION LED VEHICLE SIGNAL INDICATION
	6	16 INCH LED PEDESTRIAN SIGNAL INDICATION WITH COUNTDOWN
	6	APS DEVICE, SIGN & SADDLE
	1	PREEMPTION PHASE SELECTOR MODULE-TWO CHANNEL
	1	PREEMPTION CARD RACK
	1	EMERGENCY PRE-EMPTION CONFIRMATION STROBE LIGHT
	2	EMERGENCY PRE-EMPTION RECEIVER (DETECTOR) - ONE WAY
	12	TYPE Q ROADWAY STANDARD QUADRUPOLE LOOP DETECTOR (6'x23')
	2	TYPE D-Q ROADWAY DOUBLE QUADRUPOLE LOOP DETECTOR (5'x3.75')
	3	FOUR CHANNEL LOOP DETECTOR AMPLIFIER
	1	BUS INTERFACE UNIT (SPARE)
	1	DUAL CHANNEL LOOP DETECTOR AMPLIFIER (SPARE)
811.31	11	12" x 12" PULLBOX (SD2.031)

PLUS ALL NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION OF A FULLY OPERATIONAL SIGNAL SYSTEM AS INTENDED ON THESE PLANS

NEMA DUAL RING PHASING NOTES:



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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.

LOOP DETECTOR DATA

SEE PLAN SHEET-LOOP DETECTOR DETAILS FOR LOOP CONSTRUCTION. SPLICING, DETAILS & NOTES. DELAY TIME EFFECTIVE ONLY DURING CALLED Ø RED. TIME IN SEC.

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1	1	1	6'X23'	2-4-2	5	2 & 5	B	-	-
2	1	2	6'X23'	2-4-2	2	2	B	-	-
3	1	3	5'X3.75'	4-8-8-8-4	2	2	B	-	-
4	2	1	6'X23'	2-4-2	6	6	B	-	-
5	2	2	5'X3.75'	4-8-8-8-4	6	6	B	-	-
6	2	3	6'X23'	2-4-2	6	6	B	-	-
7	3	1	6'X23'	2-4-2	4	4	B	-	-
8	3	2	6'X23'	2-4-2	4	4	B	-	-

FIRE PRE-EMPTION SCHEDULE

RECEIVER AND PRIORITY	PRE-EMPT PHASE ASSIGNMENT	APPROACH AND MOVEMENT	VEHICLE PHASE ASSIGNMENT	NEXT PHASE CALLED
R1	1	NB	Ø 2	Ø 2 + Ø 6
R2	2	SB	Ø 6	Ø 2 + Ø 6

NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE OPTICALLY TRANSMITTED BY OPTICAL EMITTERS MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY OPTICAL RECEIVERS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES AS FOLLOWS: (R2 THEN R1)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY OPTICAL RECEIVER R4 (OR OTHERS AS PROVIDED) THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD IN EMERGENCE PRE-EMPTION THE ASSOCIATED GREEN PHASE FOR A MINIMUM OF TEN (10) SECONDS OR UNTIL, PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN PROVIDE PRE-EMPTION PHASE CLEARANCE SERVICE THEN RESUME NORMAL OPERATION.
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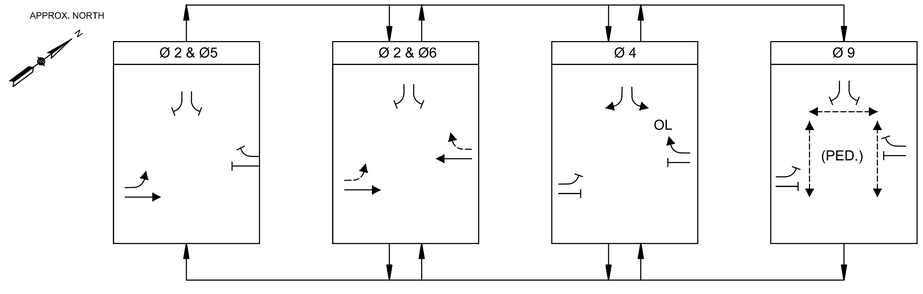
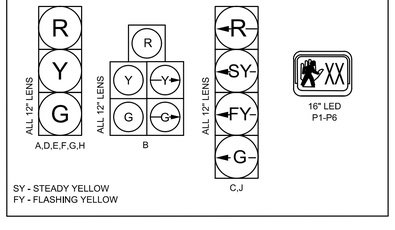
5. EMERGENCY VEHICLE PRE-EMPTION SHALL OVERRIDE COORDINATION.
6. ONCE PRE-EMPTION TERMINATES THE SIGNAL WILL RETURN TO PHASES 2+6 TO RESUME NORMAL OPERATION.

PREFERENTIAL PHASING SEQUENCE



SIGNAL IDENTIFICATION



NOTES:

1. ALL VEHICLE LENSES SHALL BE LED TYPE.
2. ALL VEHICLE SIGNAL HEADS SHALL BE 12 INCHES.
3. ALL HOUSINGS TO BE PROVIDED WITH 3/4 TUNNEL VISORS AND 5-INCH NON-LOUVERED BACKPLATES WITH 3-INCH YELLOW TAPE RETROREFLECTIVE BORDER.
4. ALL HOUSINGS TO BE FIXED MOUNTED.

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604123_HD18(SEQUENCE & TIMING PLANS).DWG 10-Sep-2020

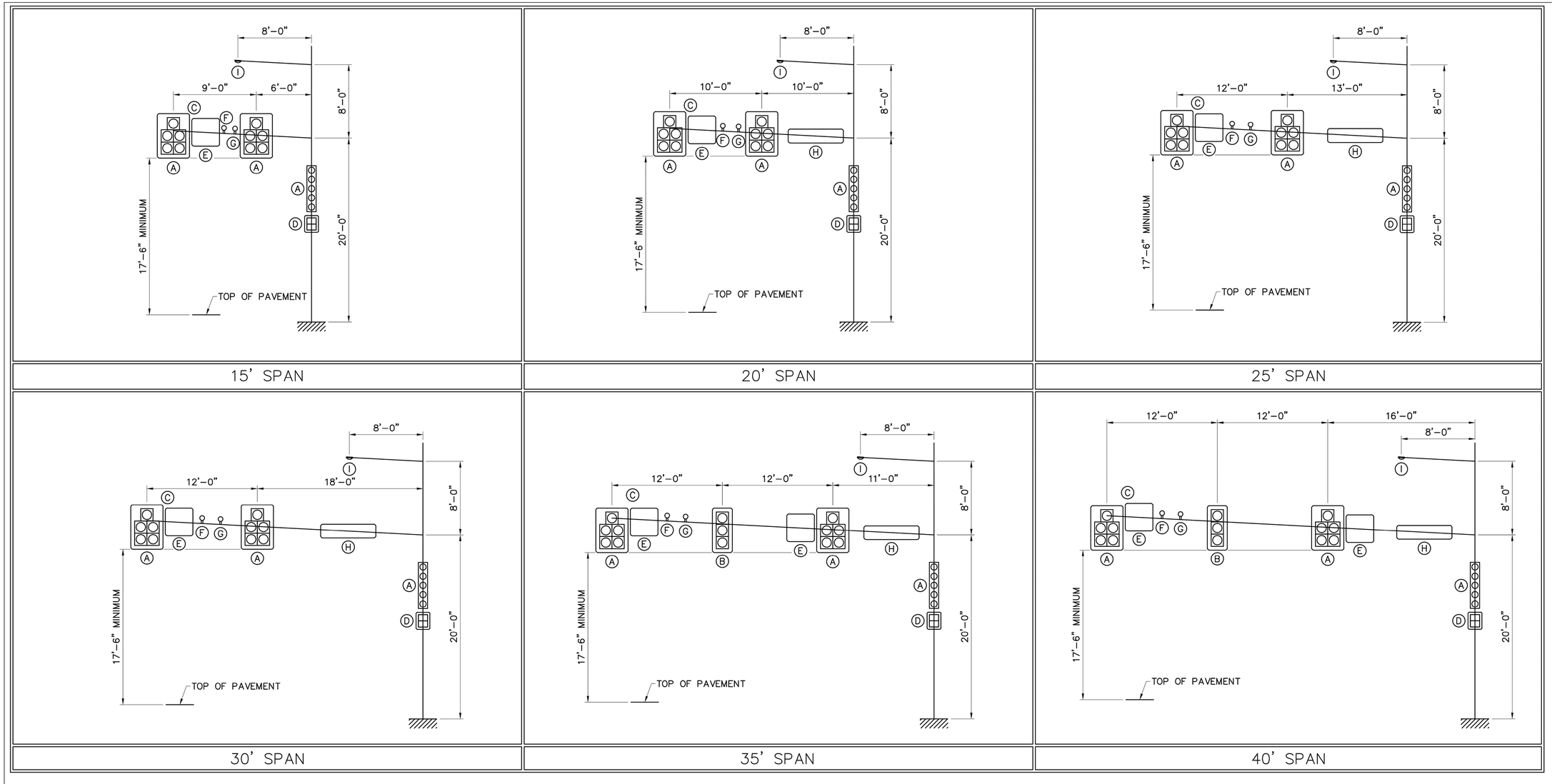
NOTE :

1. DETAILS FROM MASSDOT OVERHEAD SIGNAL STRUCTURE & FOUNDATION STANDARD DRAWINGS (2015).

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	140	331
PROJECT FILE NO.	604123		

TRAFFIC SIGNAL DETAIL 1



DESIGN LOADING							
DEVICE	DESCRIPTION	PROJ. AREA (FT^2)	WEIGHT (LBS)	DEVICE	DESCRIPTION	PROJ. AREA (FT^2)	WEIGHT (LBS)
A	5 SECTION, 1 WAY SIGNAL	13.33	110	F	DETECTOR	1.00	10
B	3 SECTION, 1 WAY SIGNAL	8.67	74	G	STROBE	1.00	10
C	DAMPENER PLATE (NOT SHOWN)	0.00	9	H	72" X 18" STREET NAME SIGN	9.00	12
D	DUAL PEDESTRIAN SIGNAL	8.00	80	I	OPTIONAL LUMINAIRE	3.30	75
E	36" X 36" REGULATORY SIGN	9.00	12				

NOTE: ALL SIGNALS HAVE 5.0" NON–LOUVERED BACKPLATES WITH REFLECTIVE BORDERS

massDOT Massachusetts Department of Transportation Highway Division

STANDARD DRAWINGS

OVERHEAD SIGNAL STRUCTURE & FOUNDATION
15' – 40' ARM
LOAD DIAGRAMS

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
10 PARK PLAZA BOSTON, MASS

DECEMBER, 2015

604123_HD19LOOP DETECTOR DETAILS).DWG Plotted on 24-Jun-2020 9:26 AM

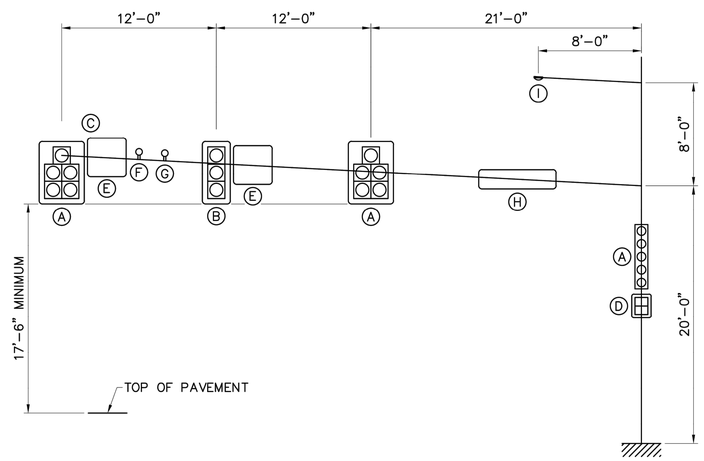
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	141	331
PROJECT FILE NO.	604123		

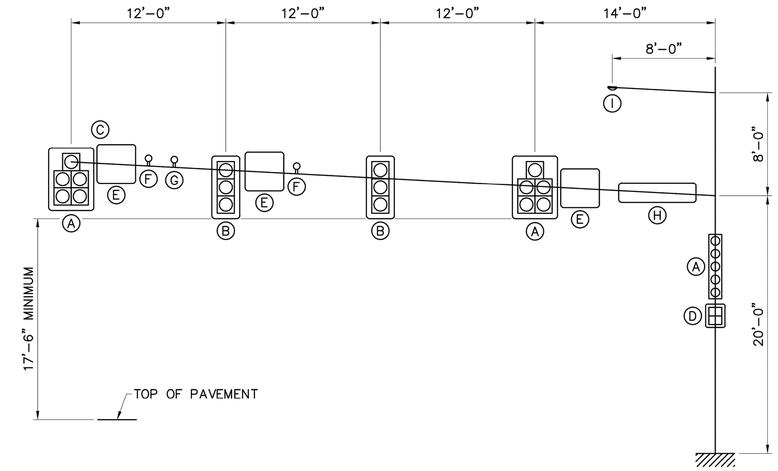
TRAFFIC SIGNAL DETAIL 2

NOTE :

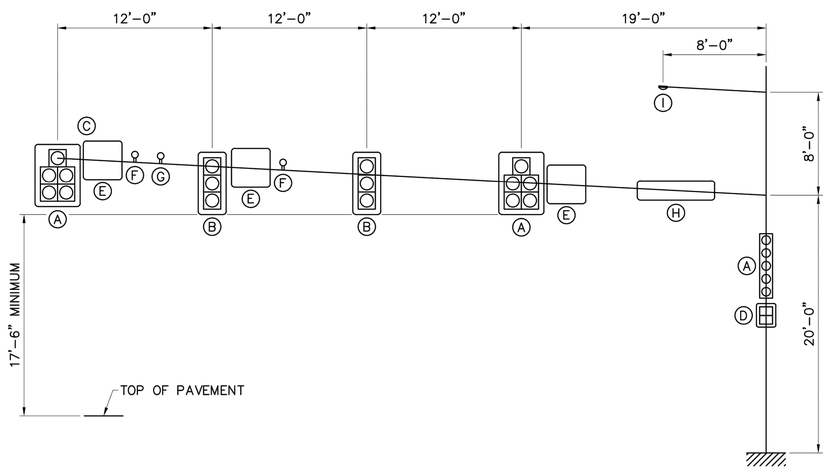
1. DETAILS FROM MASSDOT OVERHEAD SIGNAL STRUCTURE & FOUNDATION STANDARD DRAWINGS (2015).



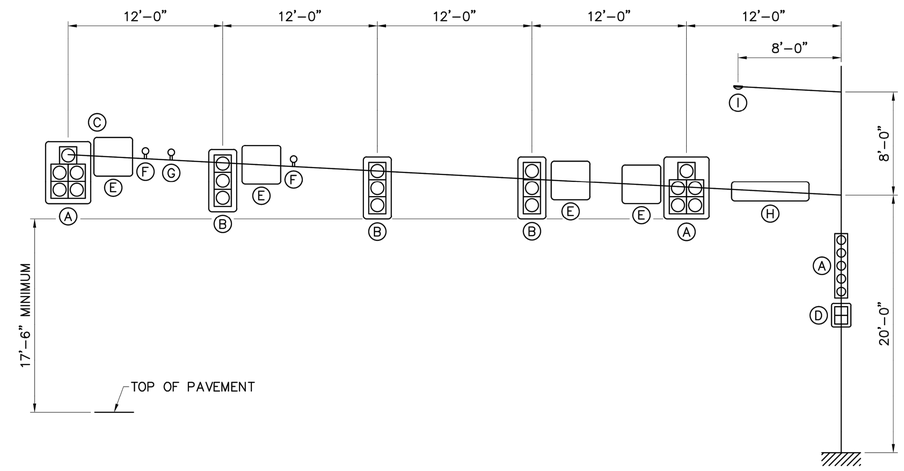
45' SPAN



50' SPAN



55' SPAN



60' SPAN

DESIGN LOADING							
DEVICE	DESCRIPTION	PROJ. AREA (FT^2)	WEIGHT (LBS)	DEVICE	DESCRIPTION	PROJ. AREA (FT^2)	WEIGHT (LBS)
A	5 SECTION, 1 WAY SIGNAL	13.33	110	F	DETECTOR	1.00	10
B	3 SECTION, 1 WAY SIGNAL	8.67	74	G	STROBE	1.00	10
C	DAMPENER PLATE (NOT SHOWN)	0.00	9	H	72" X 18" STREET NAME SIGN	9.00	12
D	DUAL PEDESTRIAN SIGNAL	8.00	80	I	OPTIONAL LUMINAIRE	3.30	75
E	36" X 36" REGULATORY SIGN	9.00	12				

NOTE: ALL SIGNALS HAVE 5.0" NON-LOUVERED BACKPLATES WITH REFLECTIVE BORDERS

massDOT Massachusetts Department of Transportation Highway Division

STANDARD DRAWINGS

OVERHEAD SIGNAL STRUCTURE & FOUNDATION
45' – 60' ARM
LOAD DIAGRAMS

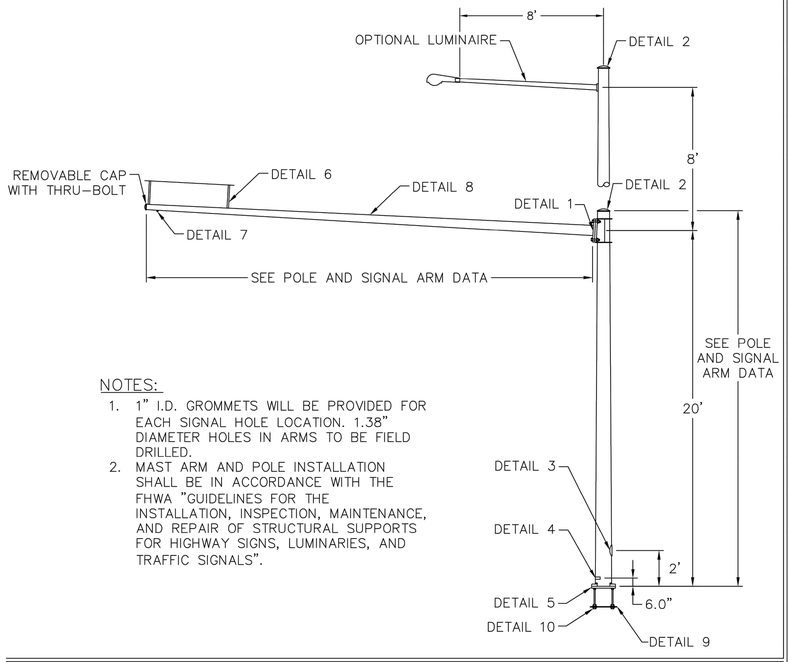
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
10 PARK PLAZA BOSTON, MASS

DECEMBER, 2015

604123_HD19(LOOP DETECTOR DETAILS).DWG Plotted on 24-Jun-2020 9:26 AM

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	142	331
PROJECT FILE NO.	604123		

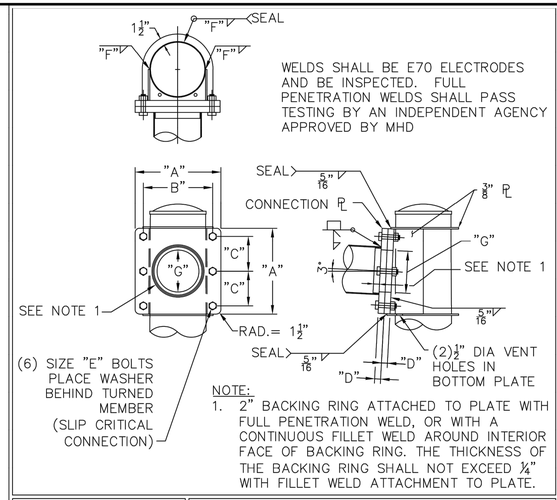
TRAFFIC SIGNAL DETAIL 3



NOTES:

1. 1" I.D. GROMMETS WILL BE PROVIDED FOR EACH SIGNAL HOLE LOCATION. 1.38" DIAMETER HOLES IN ARMS TO BE FIELD DRILLED.
2. MAST ARM AND POLE INSTALLATION SHALL BE IN ACCORDANCE WITH THE FHWA "GUIDELINES FOR THE INSTALLATION, INSPECTION, MAINTENANCE, AND REPAIR OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES, AND TRAFFIC SIGNALS".

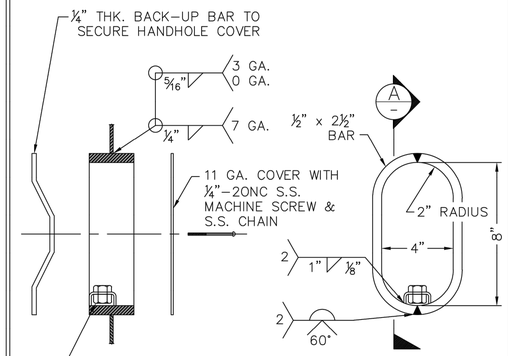
MAST ARM ELEVATION



WELDS SHALL BE E70 ELECTRODES AND BE INSPECTED. FULL PENETRATION WELDS SHALL PASS TESTING BY AN INDEPENDENT AGENCY APPROVED BY MHD

NOTE:
1. 2" BACKING RING ATTACHED TO PLATE WITH FULL PENETRATION WELD, OR WITH A CONTINUOUS FILLET WELD AROUND INTERIOR FACE OF BACKING RING. THE THICKNESS OF THE BACKING RING SHALL NOT EXCEED 1/4" WITH FILLET WELD ATTACHMENT TO PLATE.

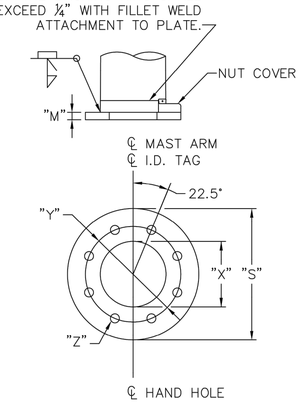
DETAIL 1 | SIGNAL ARM ATTACHMENT



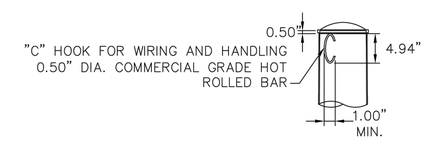
SECTION A FRONT VIEW

DETAIL 3 | 4"x8" HANDHOLE

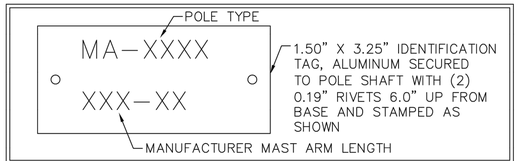
2" BACKING RING ATTACHED TO PLATE WITH FULL PENETRATION WELD, OR WITH A CONTINUOUS FILLET WELD AROUND INTERIOR FACE OF BACKING RING. THE THICKNESS OF THE BACKING RING SHALL NOT EXCEED 1/4" WITH FILLET WELD ATTACHMENT TO PLATE.



DETAIL 5 | POLE BASE

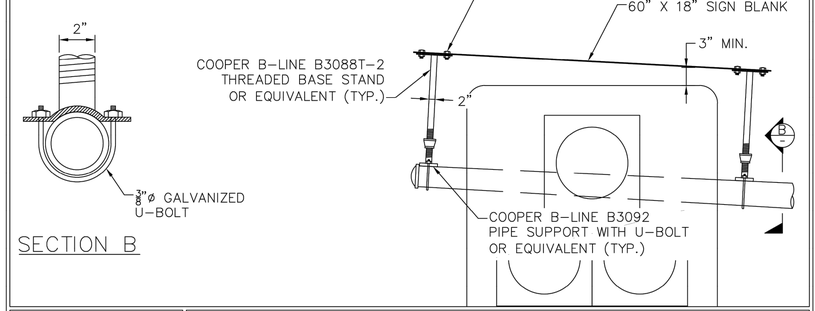


DETAIL 2 | POLE TOP



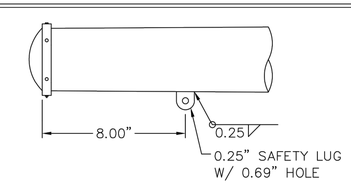
DETAIL 4 | I.D. TAG

NOTE:
DAMPENING PLATE TO BE INSTALLED ON ALL MAST ARM STRUCTURES, AND ATTACHED AS CLOSE TO END OF ARM AS PRACTICAL

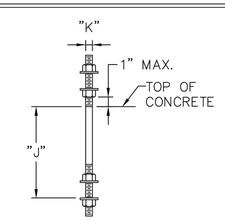


SECTION B

DETAIL 6 | DAMPENER PLATE



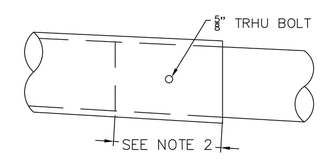
DETAIL 7 | SAFETY HANGER LUG



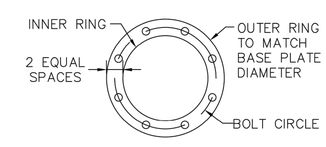
(8) ANCHOR BOLTS WITH (4) HEX NUTS, (4) FLAT WASHERS, AND (1) LOCK-WASHER PER BOLT.

DETAIL 10 | ANCHOR BOLT

NOTES:
1. TELESCOPIC FIELD SPLICE REQUIRED ON ALL MAST ARM LENGTHS OF 45' OR GREATER
2. THE MINIMUM SPLICE LENGTH SHALL BE AT LEAST 1.5 TIMES THE INSIDE DIAMETER OF THE EXPOSED END OF THE FEMALE SECTION.



DETAIL 8 | ARM SPLICE DETAIL



DETAIL 9 | ANCHOR PLATE

MATERIAL DATA

COMPONENT	DESIGNATION	YIELD (KSI)
POLE TUBE	ASTM A595 GR. A	55
POLE BASE PLATE	AASHTO M270, OR ASTM A709	50
ANCHOR BOLTS	AASHTO M314, OR ASTM A307 GR. C	55
GALVANIZING	AASHTO M111 OR M232	
ARM TUBE	ASTM A595 GR. A	55
ARM CONNECTION PLATE	AASHTO M270, OR ASTM A709	50
ARM CONNECTING BOLTS	AASHTO M164, OR ASTM A325 **	

** BOLTS WHICH ACCUMULATE RUST OR DIRT SHALL BE DISCARDED.

POLE AND SIGNAL ARM DATA

LOCATIONS	SIGNAL ARM TUBE				POLE TUBE				POLE BASE					ANCHOR BOLT		SIGNAL ARM ATTACHMENT DATA						
	SPAN (FT)	FIXED END DIA. (IN)	FREE END DIA. (IN)	WALL THK.	BASE DIA. (IN)	TOP DIA. (IN)	LENGTH (FT)	WALL THK.	PLATE CIRCLE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	HOLE "Z" (IN)	HOLE "X" (IN)	DIA. "K" (IN)	EMBED. LENGTH "J" (IN)	"A" (IN)	"B" (IN)	"C" (IN)	"D" (IN)	"E" (IN)	"F" (IN)	"G" (IN)
	15.00	9.00	6.90	7 GA.	13.00	9.92	22.00	7 GA.	24.00	19.00	2.00	1.50	10.00	1.25	36.00	17.25	14.00	7.00	2.00	1.00	0.188	7.00
	20.00	9.00	6.20	7 GA.	13.00	9.92	22.00	3 GA.	27.00	22.00	2.00	1.75	10.00	1.50	36.00	17.75	14.50	7.25	2.00	1.00	0.250	7.00
	25.00	10.00	6.50	7 GA.	13.00	9.92	22.00	3 GA.	27.00	22.00	2.00	1.75	10.00	1.50	36.00	18.25	15.00	7.50	2.00	1.00	0.250	7.50
	30.00	11.00	6.80	7 GA.	13.50	10.42	22.00	3 GA.	27.00	22.00	2.00	1.75	10.50	1.50	36.00	18.75	15.50	7.75	2.00	1.00	0.250	8.75
	35.00	12.00	7.10	3 GA.	15.00	11.92	22.00	3 GA.	27.00	22.00	2.00	1.75	12.50	1.50	36.00	20.25	17.00	8.50	2.00	1.25	0.313	6.50
	40.00	13.00	7.40	3 GA.	16.00	12.92	22.00	3 GA.	29.00	24.00	2.00	2.00	12.00	1.75	36.00	21.25	18.00	9.00	2.00	1.25	0.313	6.75
	45.00	13.50	7.20	3 GA.	17.50	14.42	22.00	3 GA.	29.00	24.00	2.00	2.00	12.00	1.75	48.00	22.25	19.00	9.50	2.25	1.25	0.313	8.00
	50.00	14.50	7.50	3 GA.	17.00	13.92	22.00	0 GA.	29.00	24.00	2.00	2.00	12.00	1.75	48.00	22.75	19.50	9.75	2.25	1.25	0.313	8.50
	55.00	16.00	8.30	3 GA.	18.00	14.92	22.00	0 GA.	31.00	26.00	2.00	2.25	12.00	2.00	48.00	23.75	20.00	10.00	2.25	1.25	0.313	8.75
	60.00	16.00	8.00	0 GA.	19.50	16.42	22.00	0 GA.	31.00	26.00	2.00	2.25	14.00	2.00	48.00	25.75	22.00	11.00	2.50	1.50	0.313	7.50

massDOT Massachusetts Department of Transportation Highway Division

STANDARD DRAWINGS

OVERHEAD SIGNAL STRUCTURE & FOUNDATION MAST ARM DETAILS

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
10 PARK PLAZA BOSTON, MASS

DECEMBER, 2015

604123_HD19(LOOP DETECTOR DETAILS).DWG Plotted on 24-Jun-2020 9:26 AM

PIER FOUNDATIONS FOR 110 MPH WIND SPEED ZONE

SOIL TYPE	15' & 20' MAST ARMS				25' & 30' MAST ARMS				35' & 40' MAST ARMS				45' & 50' MAST ARMS				55' & 60' MAST ARMS			
	DIAMETER	DEPTH	VERT. BARS	TIE BARS	DIAMETER	DEPTH	VERT. BARS	TIE BARS	DIAMETER	DEPTH	VERT. BARS	TIE BARS	DIAMETER	DEPTH	VERT. BARS	TIE BARS	DIAMETER	DEPTH	VERT. BARS	TIE BARS
DRY SAND (LOOSE)	3'–6"	8'–6"	18–#8	#5 @ 12"	3'–6"	9'–0"	18–#8	#5 @ 12"	3'–6"	11'–6"	18–#8	#5 @ 9"	4'–0"	12'–0"	18–#9	#5 @ 9"	4'–6"	13'–0"	18–#10	#5 @ 6"
DRY SAND (DENSE)	3'–6"	7'–6"	18–#8	#5 @ 12"	3'–6"	7'–6"	18–#8	#5 @ 12"	3'–6"	8'–6"	18–#8	#5 @ 9"	4'–0"	9'–0"	18–#9	#5 @ 9"	4'–6"	9'–6"	18–#10	#5 @ 6"
WET SAND (LOOSE)	3'–6"	9'–6"	18–#8	#5 @ 12"	3'–6"	11'–6"	18–#8	#5 @ 12"	3'–6"	14'–6"	18–#8	#5 @ 9"	4'–0"	15'–6"	18–#9	#5 @ 9"	4'–6"	16'–6"	18–#10	#5 @ 6"
WET SAND (DENSE)	3'–6"	8'–6"	18–#8	#5 @ 12"	3'–6"	9'–0"	18–#8	#5 @ 12"	3'–6"	10'–6"	18–#8	#5 @ 9"	4'–0"	11'–6"	18–#9	#5 @ 9"	4'–6"	12'–0"	18–#10	#5 @ 6"
CLAY (SOFT TO MEDIUM STIFF)	3'–6"	12'–0"	18–#8	#5 @ 12"	3'–6"	12'–0"	18–#8	#5 @ 12"	3'–6"	13'–0"	18–#8	#5 @ 9"	4'–0"	14'–0"	18–#9	#5 @ 9"	4'–6"	15'–6"	18–#10	#5 @ 6"
CLAY (STIFF)	3'–6"	10'–6"	18–#8	#5 @ 12"	3'–6"	10'–6"	18–#8	#5 @ 12"	3'–6"	11'–0"	18–#8	#5 @ 9"	4'–0"	12'–0"	18–#9	#5 @ 9"	4'–6"	13'–6"	18–#10	#5 @ 6"

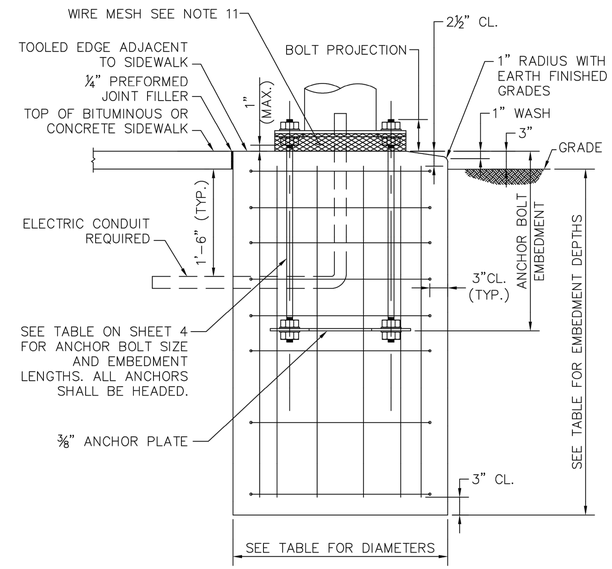
PIER FOUNDATIONS FOR 130 MPH WIND SPEED ZONE

SOIL TYPE	15' & 20' MAST ARMS				25' & 30' MAST ARMS				35' & 40' MAST ARMS				45' & 50' MAST ARMS				55' & 60' MAST ARMS			
	DIAMETER	DEPTH	VERT. BARS	TIE BARS	DIAMETER	DEPTH	VERT. BARS	TIE BARS	DIAMETER	DEPTH	VERT. BARS	TIE BARS	DIAMETER	DEPTH	VERT. BARS	TIE BARS	DIAMETER	DEPTH	VERT. BARS	TIE BARS
DRY SAND (LOOSE)	3'–6"	10'–0"	18–#8	#5 @ 12"	3'–6"	10'–6"	18–#8	#5 @ 12"	3'–6"	13'–6"	18–#8	#5 @ 8"	4'–0"	14'–6"	18–#9	#5 @ 6"	4'–6"	15'–6"	18–#10	#5 @ 5"
DRY SAND (DENSE)	3'–6"	8'–6"	18–#8	#5 @ 12"	3'–6"	9'–0"	18–#8	#5 @ 12"	3'–6"	10'–0"	18–#8	#5 @ 8"	4'–0"	11'–0"	18–#9	#5 @ 6"	4'–6"	11'–6"	18–#10	#5 @ 5"
WET SAND (LOOSE)	3'–6"	11'–6"	18–#8	#5 @ 12"	3'–6"	13'–6"	18–#8	#5 @ 12"	3'–6"	17'–0"	18–#8	#5 @ 8"	4'–0"	18'–6"	18–#9	#5 @ 6"	4'–6"	19'–6"	18–#10	#5 @ 5"
WET SAND (DENSE)	3'–6"	10'–0"	18–#8	#5 @ 12"	3'–6"	10'–0"	18–#8	#5 @ 12"	3'–6"	12'–6"	18–#8	#5 @ 8"	4'–0"	13'–6"	18–#9	#5 @ 6"	4'–6"	14'–6"	18–#10	#5 @ 5"
CLAY (SOFT TO MEDIUM STIFF)	3'–6"	12'–6"	18–#8	#5 @ 12"	3'–6"	13'–0"	18–#8	#5 @ 12"	3'–6"	14'–0"	18–#8	#5 @ 8"	4'–0"	16'–0"	18–#9	#5 @ 6"	4'–6"	17'–6"	18–#10	#5 @ 5"
CLAY (STIFF)	3'–6"	11'–0"	18–#8	#5 @ 12"	3'–6"	11'–0"	18–#8	#5 @ 12"	3'–6"	12'–0"	18–#8	#5 @ 8"	4'–0"	13'–0"	18–#9	#5 @ 6"	4'–6"	14'–0"	18–#10	#5 @ 5"

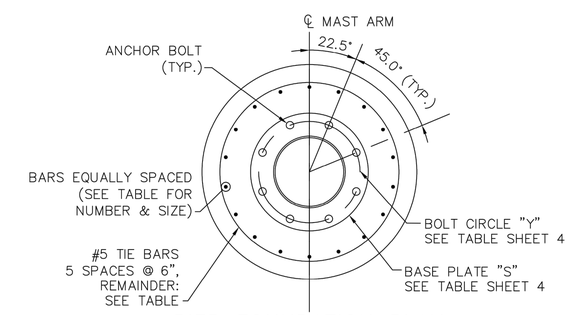
BASIS OF DESIGN

ALL MAST ARM STRUCTURES AND FOUNDATIONS ARE DESIGNED IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, SIXTH EDITION 2013, AND THE FOLLOWING PARAMETERS:

OVERTURNING DESIGN	FOUNDATIONS ARE SIZED TO RESIST OVERTURNING ACCORDING TO BROMS' DESIGN METHOD WITH A SAFETY FACTOR THAT INCLUDES AN OVERLOAD FACTOR OF 2.0 AND A SOIL UNDERSTRENGTH FACTOR OF 0.7.		
SOIL PARAMETERS		UNIT WEIGHT	FRICTION ANGLE
	LOOSE DRY SAND:	γ = 102 PCF	Φ = 33°
	DENSE DRY SAND:	γ = 116 PCF	Φ = 39°
	LOOSE WET SAND:	γ = 125 PCF	Φ = 33°
	DENSE WET SAND:	γ = 135 PCF	Φ = 39°
		UNIT WEIGHT	SHEAR STRENGTH
	SOFT TO MEDIUM STIFF CLAY:	γ = 113 PCF	S_U = 1.0 KSF
	STIFF CLAY:	γ = 120 PCF	S_U = 1.9 KSF
DEFLECTION LIMITS	MAXIMUM LATERAL DEFLECTION AT TOP OF MAST ARM FOUNDATION SHAFTS: ½"		



PIER FOUNDATION DETAIL
NO SCALE



PIER FOUNDATION PLAN
NO SCALE

NOTES:

1. FOUNDATIONS SHALL BE 4000 PSI, 565 MASSDOT APPROVED MIX DESIGN.
2. FOUNDATIONS SHALL BE INSTALLED IN ACCORDANCE WITH MASSDOT STANDARD SPECIFICATIONS ITEM 945 – DRILLED SHAFTS
3. REINFORCEMENT SHALL BE ASTM A615 GRADE 60.
4. ANCHOR BOLTS SHALL BE SET BY TEMPLATE.
5. PROVIDE FOR ELECTRICAL CONDUIT.
6. EXCAVATION SHALL BE BY THE AUGER METHOD TO THE NEAT LINES OF THE OUTSIDE DIMENSION OF THE FOUNDATIONS WITHOUT DISTURBING THE SOIL AROUND AND BELOW THE PROPOSED FOUNDATION BOTTOM. ALTERNATE METHODS OF EXCAVATION MAY BE SUBMITTED TO MASSDOT FOR APPROVAL IF THEY MEET THE REQUIREMENTS LISTED IN NOTES 6, 7, AND 8.
7. THE EARTH WALLS OF THE FOUNDATION SHALL BE ADEQUATELY AND SECURELY PROTECTED AT ALL TIMES AGAINST CAVE–INS, DISPLACEMENT OF THE SURROUNDING EARTH AND FOR THE EXCLUSION OF GROUND WATER. THIS MAY BE DONE BY THE USE OF STEEL CYLINDER LINERS OR CASINGS THAT ARE APPROVED BY MASSDOT. IF LINERS ARE USED THEY MAY BE RECLAIMED PROVIDED THAT THEY ARE WITHDRAWN AS THE CONCRETE IS BEING PLACED, MAINTAINING A SUFFICIENT HEAD OF CONCRETE WITHIN THE LINER TO PREVENT REDUCTION IN THE FOUNDATION DIAMETER AND TO PREVENT EXTRANEOUS MATERIAL FROM FALLING IN FROM THE SIDES AND MIXING WITH THE CONCRETE.
8. IF THE SOIL IS DISTURBED OR REMOVED BEYOND THE NEAT LINES OF THE OUTSIDE DIMENSION OF THE FOUNDATION, IT SHALL BE REPLACED WITH CONCRETE. ANY ADDITIONAL COST FOR THE CONCRETE SHALL BE PAID FOR BY THE CONTRACTOR.
9. SPECIAL CARE SHOULD BE GIVEN TO AREAS WHERE WET SOIL IS ENCOUNTERED, TO INSURE THAT THE PREAUGERED HOLE DOES NOT COLLAPSE. THIS MAY REQUIRE THE USE OF STEEL CYLINDER LINERS OR CASINGS TO HOLD THE SOIL IN PLACE UNTIL READY FOR CONCRETE PLACEMENT, UPON APPROVAL FROM THE MASSDOT. THE STEEL CYLINDERS OR CASINGS SHALL BE WITHDRAWN AS THE FOUNDATION CONCRETE IS PLACED.
10. IF LEDGE OR UNSUITABLE SOIL IS ENCOUNTERED (i.e. ONE WHICH DOES NOT APPLY TO THE DESIGN TABLES SHOWN ON THIS SHEET), AN ALTERNATIVE DESIGN SHALL BE PROVIDED BY THE DESIGN ENGINEER. IF UTILITIES OR OTHER UNDERGROUND OBSTRUCTIONS ARE ENCOUNTERED, THE CONTRACTOR SHALL BACKFILL THE AREA TO ITS ORIGINAL CONDITION UNTIL AN ALTERNATE DESIGN HAS BEEN PROVIDED BY THE DESIGN ENGINEER AND APPROVED BY MASSDOT. SPECIAL FOUNDATIONS SHALL BE DESIGNED IN ACCORDANCE WITH BASIS OF DESIGN TABLE ABOVE.
11. A GALVANIZED WIRE MESH SCREEN SHALL BE INSTALLED AT BASE OF POLE. SCREEN SHALL BE PRESS–FORMED OF 3 OR 4 MESH, 21 GAGE OR HEAVIER, STAINLESS STEEL OR HOT DIPPED GALVANIZED WIRE SCREEN OR APPROVED EQUIVALENT. SCREEN SHALL BE SCREWED INTO POLE BASE PLATE, AND SHALL BE FLUSH WITH THE TOP OF THE PIER FOUNDATION.
12. SANDY SOILS WITH STANDARD PENETRATION VALUES GREATER THAN 20 BLOWS PER FOOT SHALL BE CLASSIFIED AS DENSE DRY SAND AND DENSE WET SAND. SANDY SOILS WITH STANDARD PENETRATION VALUES RANGING FROM 6 TO 20 BLOWS PER FOOT SHALL BE CLASSIFIED LOOSE DRY SAND AND LOOSE WET SAND. SANDY SOILS WITH FEWER THAN 6 BLOWS PER FOOT SHALL REQUIRE SPECIAL FOUNDATION DESIGNS BY THE DESIGN ENGINEER AND APPROVED BY MASSDOT. SPECIAL FOUNDATIONS SHALL BE DESIGNED IN ACCORDANCE WITH BASIS OF DESIGN TABLE ABOVE.
13. CLAYS WITH STANDARD PENETRATION VALUES GREATER THAN 6 BLOWS PER FOOT SHALL BE CLASSIFIED AS STIFF CLAY. CLAYS WITH STANDARD PENETRATION VALUES RANGING FROM 2 TO 6 BLOWS PER FOOT SHALL BE CLASSIFIED AS SOFT TO MEDIUM STIFF CLAY. CLAYS WITH FEWER THAN 2 BLOWS PER FOOT SHALL REQUIRE SPECIAL FOUNDATION DESIGNS BY THE DESIGN ENGINEER AND APPROVED BY MASSDOT. SPECIAL FOUNDATIONS SHALL BE DESIGNED IN ACCORDANCE WITH BASIS OF DESIGN TABLE ABOVE.
14. A SANDY SOIL SHALL ONLY BE CLASSIFIED AS 'DRY' IF THE ENTIRE DRY SAND SHAFT LENGTH SITS ABOVE WET SOILS ACCORDING TO THE BORING LOGS. IF ANY PART OF THE SHAFT LENGTH IS CAST AT OR BELOW THE GROUNDWATER LEVEL, THE SOIL SHALL BE CLASSIFIED AS 'WET'.
15. WHERE THE PREDOMINATING SOIL TYPE IS INORGANIC SILT, THE SOIL SHOULD BE TREATED AS CLAY OR WET LOOSE SAND, WHICHEVER LEADS TO A MORE CONSERVATIVE FOUNDATION. INORGANIC SILTS WITH STANDARD PENETRATION N–VALUES LESS THAN 2 BLOWS PER FOOT, ORGANIC SILTS, AND PEAT SHALL REQUIRE SPECIAL FOUNDATION DESIGNS BY THE DESIGN ENGINEER AND APPROVED BY MASSDOT. SPECIAL FOUNDATIONS SHALL BE DESIGNED IN ACCORDANCE WITH BASIS OF DESIGN TABLE ABOVE.
16. WHERE FILL CONTAINS CLAY OR SILT, IT SHOULD BE TREATED AS SOFT CLAY.
17. MAST ARM FOUNDATIONS ARE DESIGNED TO SUPPORT MAST ARMS WITH OR WITHOUT OPTIONAL LUMINAIRE.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT FOUNDATION DIAMETER IS AT LEAST 17.5" GREATER THAN BOLT CIRCLE DIAMETER FOR ALL STRUCTURES
19. IN ORDER TO CREATE A FLUSH SURFACE, CONTRACTOR SHALL REFER TO THE FINAL ELEVATIONS SHOWN ON THE DESIGN PLANS WHEN INSTALLING FOUNDATIONS IMMEDIATELY ADJACENT TO OR WITHIN A SIDEWALK AREA.

massDOT
Massachusetts Department of Transportation
Highway Division

STANDARD DRAWINGS

OVERHEAD SIGNAL STRUCTURE & FOUNDATION
MAST ARM CORED PIER FOUNDATIONS

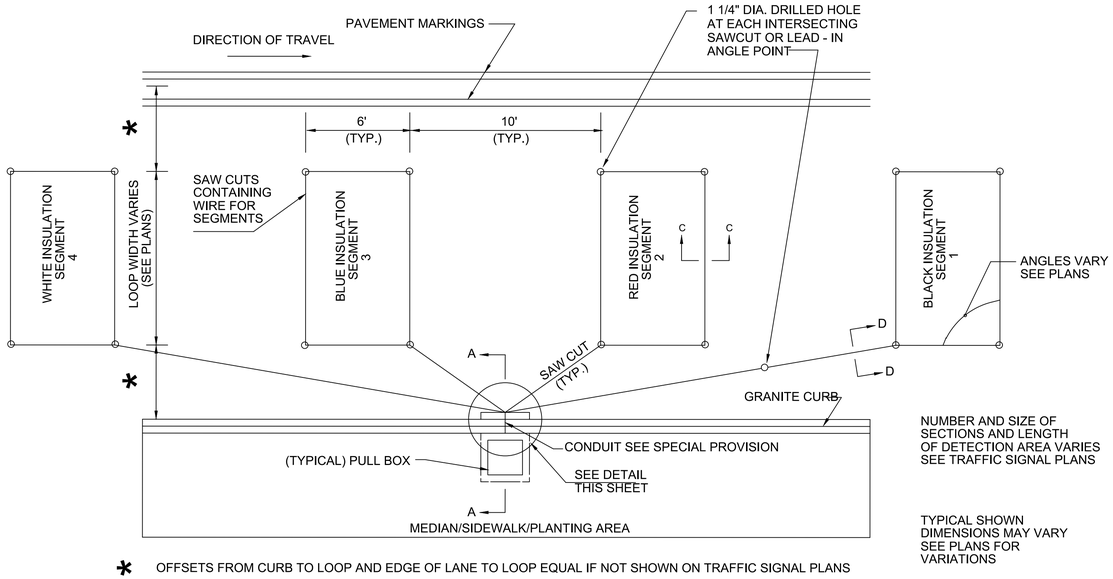
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
10 PARK PLAZA BOSTON, MASS

604123_HD19(LOOP DETECTOR DETAILS).DWG Plotted on 24-Jun-2020 9:26 AM

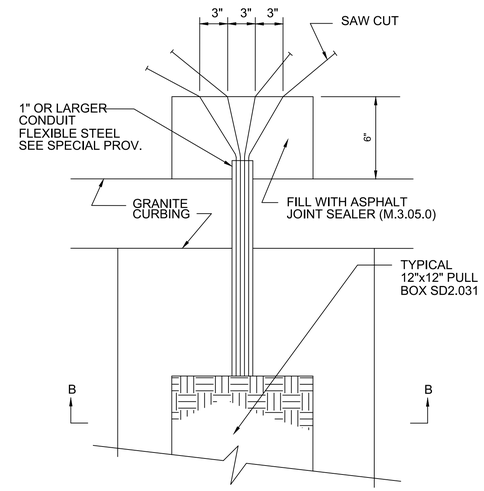
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	144	331
PROJECT FILE NO.	604123		

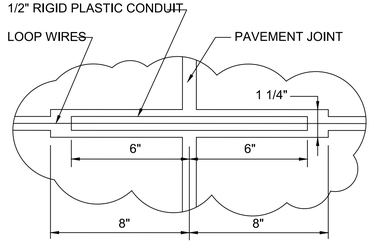
LOOP DETECTOR DETAIL 1



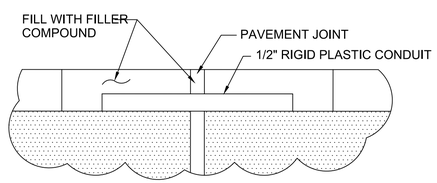
PLAN OF SEGMENTED DETECTOR DETAIL
NOT TO SCALE



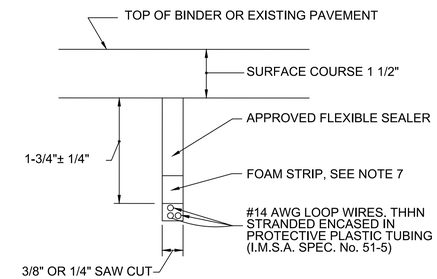
DETAIL – PLAN VIEW
NOT TO SCALE



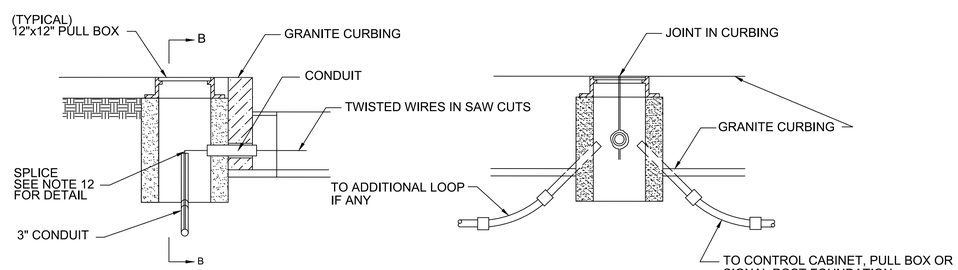
PLAN
TREATMENT AT PAVEMENT JOINTS
NOT TO SCALE



VERTICAL SECTION
TREATMENT AT PAVEMENT JOINTS
NOT TO SCALE

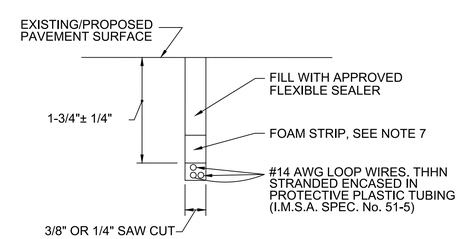


SECTION C–C & D–D
LOOPS IN BINDER COURSE OR EXISTING PAVEMENT TO BE RESURFACED
NOT TO SCALE



SECTION A–A
NOT TO SCALE

SECTION B–B
NOT TO SCALE



SECTION C–C & D–D
LOOPS IN SURFACE COURSE
NOT TO SCALE

(FOR AREAS OUTSIDE LIMITS OF PAVEMENT WORK ONLY)

DETECTOR NOTES

1. IN HANDHOLE, SPLICE ALL SEGMENTS TO TYPE II-SHIELDED LOOP DETECTOR LEAD-IN CABLE. SEGMENTS SHALL BE SPLICED IN PARALLEL, IN SERIES, OR IN A COMBINATION OF PARALLEL & SERIES AS SHOWN ON THE PLAN SHEET FOR EACH DETECTOR. NUMBER OF TURNS OF WIRE SHALL ALSO BE AS SHOWN ON THE PLAN SHEET FOR EACH DETECTOR. SEE NOTE 12.
2. SEE SPECIAL PROVISIONS FOR REQUIREMENTS OF DETECTOR AMPLIFIER.
3. LEAD IN WIRES SHALL BE TWISTED FROM SEGMENT TO SPLICE WITH SHIELDED CABLE FIVE TURNS PER FOOT. LEAD-IN SHALL BE TYPE II (M8. 16. II).
4. BEFORE STARTING ANY SPLICING, THE ELECTRICAL CONTRACTOR SHALL FURNISH DATA SHEETS ON THE MATERIALS AND/OR METHODS TO BE USED IN ACCORDANCE WITH THE DEPARTMENTS STANDARD OPERATING PROCEDURES FOR APPROVAL OF SHOP DRAWINGS SEE SECTION 815.64, ESPECIALLY PARAGRAPH 1.
5. THE METALLIC SHIELD WHICH SHALL ENCASE THE DETECTOR LEADS FROM A SPLICE (TYPICALLY LOCATED IN A PULL BOX NEAR THE ROADWAY COMPONENT OF THE DETECTOR) TO THE CONTROLLER, AND THE DRAIN WIRE UNDER THE METALLIC SHIELD, SHALL NOT BE GROUNDED TO THE EARTH GROUNDING BUS IN THE CONTROLLER, AND THE SHIELD AND DRAIN. WIRE SHALL BE CAREFULLY INSULATED FROM THE TRANSFORMER NEUTRAL OR FROM EARTH GROUND AT ALL POINTS ALONG ITS LENGTH. SPECIFICALLY, THIS INCLUDES CAREFUL INSULATION OF THE EXPOSED PORTION OF THE SHIELD AND THE DRAIN WIRE AT THE END AWAY FROM THE CONTROLLER WHERE IT IS SPLICED TO WIRES LEADING TO THE ROADWAY COMPONENT OF THE DETECTOR. THIS IS IMPORTANT TO AVOID A GROUND RETURN LOOP.
6. FILL ALL CONDUIT OPENINGS WITH DUCT SEAL.
7. AFTER SAW CUTS ARE COMPLETE, BLOW OUT WATER WITH OIL-FREE COMPRESSED AIR UNTIL CUTS ARE CLEAN AND DRY. INSERT WIRE INTO CLEAN SLOT WITH A BLUNT, SMOOTH, ROUND EDGED TOOL OF WOOD OR PLASTIC SUCH AS A PAINT STIRRER. DO NOT USE A SCREWDRIVER. THE INSERT FOAM PLASTIC HOLD DOWN STRIPS, SIMILAR TO ETHA FOAM SB. STRIPS SHALL BE ABOUT 2" LONG, PLACED IN THE SLOT ABOUT EVERY 2 FEET THEN POUR SEALER, TAKING CARE TO ELIMINATE BUBBLES.
8. THE COMBINED ROADWAY LOOP, TWISTED LEAD-IN WIRES, SPLICE AND SHIELDED LEAD-IN CABLE SHALL HAVE A RESISTANCE TO GROUND OF AT LEAST 50 TO 100 MEGOHMS. THE RESISTANCE BE 10 MEGOHMS UNDER WORST CASE CONDITIONS. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.
9. FOR INSTALLATION OF SINGLE (ONE SEGMENT) SMALL WIRE LOOP DETECTOR. DETAIL IS THE SAME.
10. CUT LOOPS IN BINDER AND FILL WITH APPROVED FLEXIBLE SEALER.
11. DETECTOR WIRE SHALL BE A DIFFERENT COLOR FOR EACH SEGMENT OF A DETECTOR GROUP. SEE DETAIL
12. SPLICING PATTERN P = SERIES/PARALLEL: SPLICE SEGMENTS 1 AND 3 OF AN INDIVIDUAL DETECTOR IN SERIES. SPLICE SEGMENTS 2 AND 4 IN SERIES. SPLICE THE RESULTANT TWO GROUPS IN PARALLEL. SPLICE THE RESULTANT COMBINATION TO ONE LEAD-IN CABLE. CONNECT THIS CABLE TO AN OTHERWISE UNUSED AMPLIFIER CHANNEL.

SPLICING PATTERN S = SERIES: SPLICE ALL SEGMENTS (TYPICALLY FOUR, BUT MAY BE LESS) OF AN INDIVIDUAL DETECTOR IN SERIES. SPLICE THE RESULTANT COMBINATION TO ONE LEAD-IN CABLE TO AN OTHERWISE UNUSED AMPLIFIER CHANNEL.

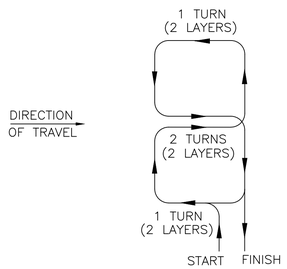
604123_HD19(LOOP DETECTOR DETAILS).DWG Plotted on 24-Jun-2020 9:26 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	145	331
PROJECT FILE NO.	604123		

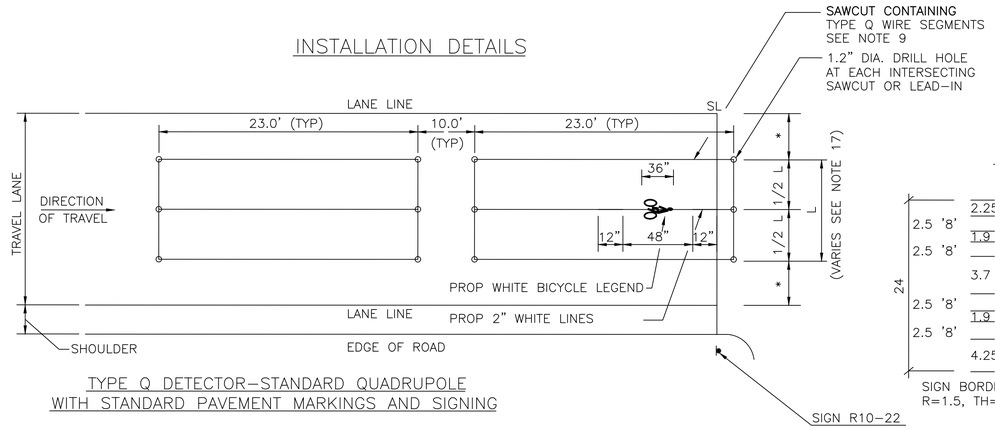
LOOP DETECTOR DETAIL 2

WINDING DETAILS



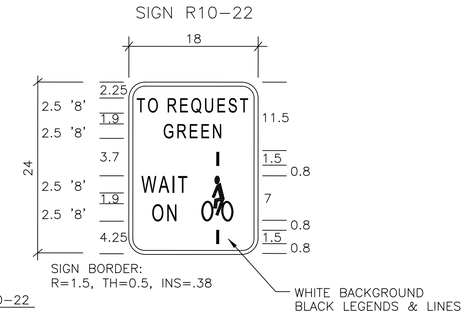
TYPE Q DETECTOR

INSTALLATION DETAILS

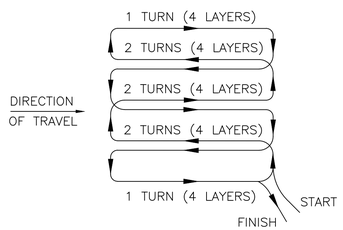


TYPE Q DETECTOR-STANDARD QUADRUPOLE
WITH STANDARD PAVEMENT MARKINGS AND SIGNING

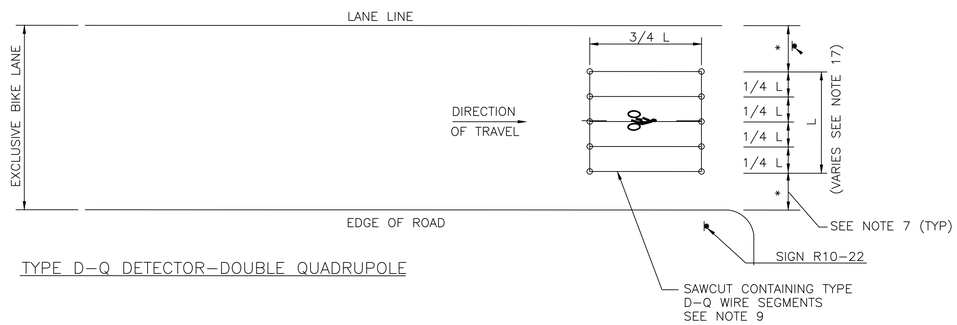
SIGN R10-22



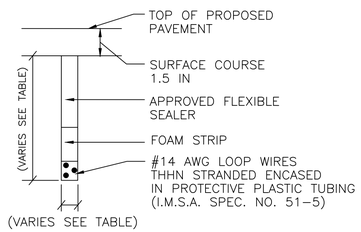
NOTE: ALL SIGN DIMENSIONS IN INCHES
SIGN PANEL NOT SHOWN TO SCALE



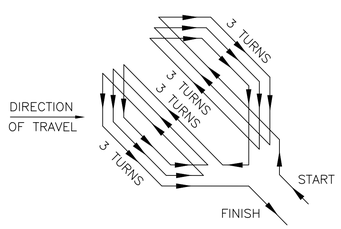
TYPE D-Q DETECTOR



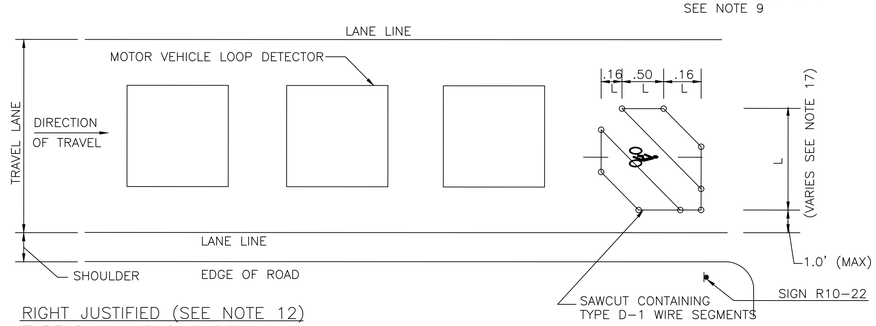
TYPE D-Q DETECTOR-DOUBLE QUADRUPOLE



SECTION THRU LOOP DETECTOR

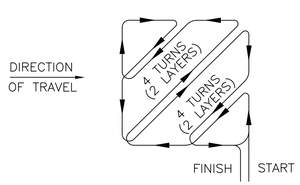


TYPE D-1 DETECTOR

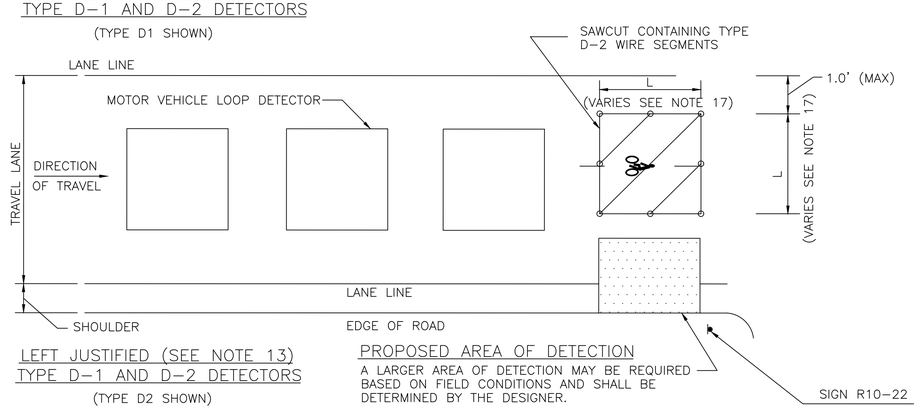


RIGHT JUSTIFIED (SEE NOTE 12)
TYPE D-1 AND D-2 DETECTORS
(TYPE D1 SHOWN)

SAWCUT SLOT DEPTH GUIDE		
TURNS OF WIRE	SLOT SIZE	
	DEPTH (IN)	WIDTH(IN)
1	1.5	0.5
2	1.5	0.5
3	1.5	0.5
4	2.0	0.5
5	2.0	0.5
6	2.0	0.5
7	2.0	0.5
8	2.0	0.5



TYPE D-2 DETECTOR



LEFT JUSTIFIED (SEE NOTE 13)
TYPE D-1 AND D-2 DETECTORS
(TYPE D2 SHOWN)

PROPOSED AREA OF DETECTION
A LARGER AREA OF DETECTION MAY BE REQUIRED BASED ON FIELD CONDITIONS AND SHALL BE DETERMINED BY THE DESIGNER.

NOTES:

1. REFER TO VEHICLE LOOP DETECTOR DETAIL SHEET FOR ADDITIONAL NOTES AND CONSTRUCTION DETAILS.
2. ALL DETAILS ARE GRAPHICAL WITH NO SCALE.
3. THE NUMBER, SIZE, LOCATION AND LENGTH OF DETECTION AREA VARIES AND SHALL BE DETERMINED BY THE DESIGNER REFER TO TRAFFIC SIGNAL PLAN.
4. BICYCLE LOOPS SHALL BE CONNECTED TO SEPARATE LOOP DETECTOR AMPLIFIERS CAPABLE OF HIGHER LEVELS OF SENSITIVITY.
5. BICYCLE LOOPS SHALL BE INSTALLED IN THE BASE COURSE OF EXISTING PAVEMENT. THE EXISTING PAVEMENT SHALL BE COLD PLANED TO THE BASE COURSE AND SAWCUT FOR LOOP INSTALLATION.
6. SIGNS AND PAVEMENT MARKINGS SHALL BE INSTALLED FOR ALL BICYCLE DETECTORS TO INFORM CYCLISTS OF THE DETECTION AREA.
7. OFFSETS FROM LANE LINE EQUAL UNLESS OTHERWISE NOTED. SEE PLANS.
8. TYPE Q DETECTORS SHALL BE WIRED IN A FIGURE EIGHT PATTERN WITH A DOUBLE LAYER DESIGN ("2-4-2") WITH 2 TURNS IN THE PERIMETER SLOTS AND 4 TURNS IN THE CENTER SLOT AS SHOWN IN THE WINDING DETAIL.
9. BICYCLES WILL BE DETECTED WITHIN 4" OF THE INTERIOR LONGITUDINAL LOOP WIRES FOR TYPE Q AND D-Q DETECTORS.
10. PROVIDE 3 TURNS FOR TYPE D-1 DETECTORS.
11. INSTALL 2 LAYERS OF WIRE WOUND IN THE SAME DIRECTION IN BOTH LAYERS FOR TYPE D-2 DETECTORS. THE RESULT IS 4 TURNS IN EACH DIAGONAL.
12. RIGHT JUSTIFIED LOOP DETECTORS SHALL BE CONSIDERED FOR THE FOLLOWING CONDITIONS:
    a. BICYCLE STOPPING ON THE RIGHT SIDE OF A THRU TRAVEL LAN
    b. BICYCLE STOPPING ON THE RIGHT SIDE OF AN EXCLUSIVE LEFT TURN LANE.
13. LEFT JUSTIFIED LOOP DETECTORS SHALL BE CONSIDERED FOR THE FOLLOWING CONDITIONS:
    a, BICYCLE STOPPING ON THE LEFT SIDE OF A SHARED LEFT/THRU LANE. b, BICYCLE STOPPING JUST TO THE RIGHT OF THE CENTERLINE WHEN TURNING LEFT ON A TWO-LANE ROADWAY.
14. RECTANGULAR LOOP DETECTORS SHALL BE CONSIDERED FOR BICYCLES STOPPING 0N EITHER THE LEFT OR RIGHT SIDE OF A TWO-LANE ROADWAY. THE MAXIMUM OFFSET FROM LANE LINE AND CURB LINE SHALL BE 1.0'.
15. PAVEMENT CORES OR TEST PITS MAY BE REQUIRED TO DETERMINE THE DEPTH OF EXISTING PAVEMENT AND CONFIRM THAT THE DETECTION OPTION CHOSEN AND CORRESPONDING WINDING PATTERN CAN BE ACCOMMODATED.
16. THESE DETAILS APPLY TO BICYCLE LOOPS INSTALLED IN ROADWAYS. PUSH BUTTON ACTUATION SHALL BE CONSIDERED FOR RECREATIONAL BIKE PATHS.
17. THE MINIMUM DIMENSION FOR L SHALL BE 6' MIN. FOR DETECTORS TYPE D-Q, D-1 & D-2. FINAL DIMENSIONS SHALL BE DETERMINED BY THE DESIGN ENGINEER.

604123_HD19(LOOP DETECTOR DETAILS).DWG Plotted on 24-Jun-2020 9:27 AM

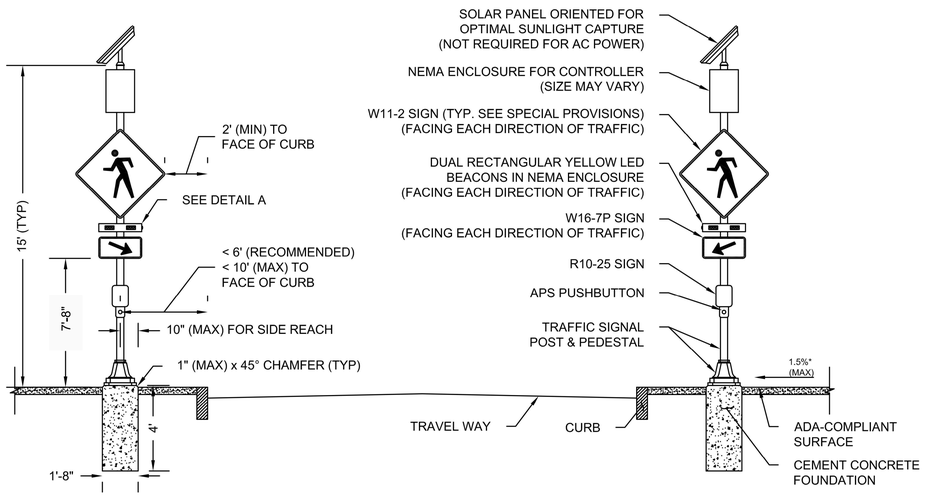
ASHLAND, MA
ROUTE 126 (POND STREET)

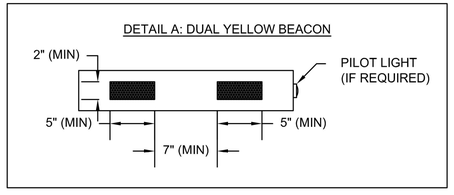
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	146	331
PROJECT FILE NO.	604123		

RRFB DETAILS

NOTES:

1. CROSSWALK AND ADA-COMPLIANT RAMPS NOT SHOWN. SEE PLANS FOR LOCATIONS.
2. REFER TO THE SPECIAL PROVISIONS FOR SIGN DIMENSIONS.
3. ALL CONDUIT, PULL BOXES, SERVICE CONNECTIONS, AND EQUIPMENT GROUNDING REQUIRED FOR AC POWER IS NOT SHOWN IN THIS DETAIL AND SHALL BE PAID FOR SEPARATELY UNDER THEIR RESPECTIVE PAY ITEMS.
4. ACCESS TO ALL PEDESTRIAN ACTUATED CONTROLS SHALL BE ADA/AAB COMPLIANT.
5. *0.5% CONSTRUCTION TOLERANCE FOR CROSS-SLOPE.





RECTANGULAR RAPID FLASHING BEACON (RRFB) SYSTEM DETAILS

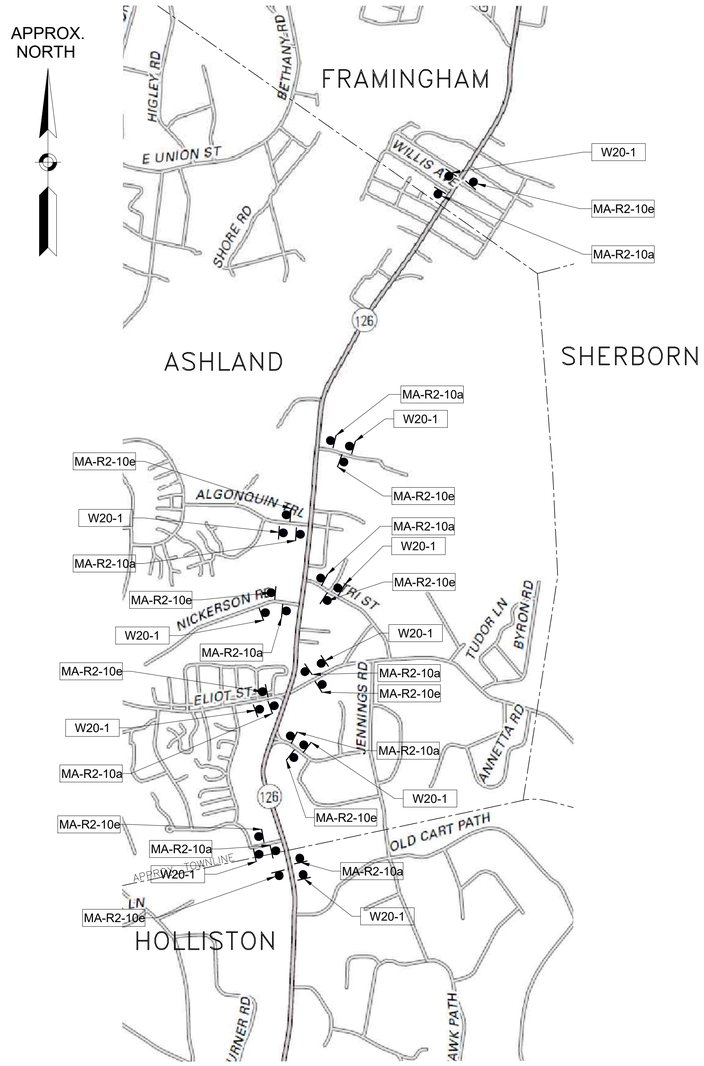
NOT TO SCALE

604123_HD19(LOOP DETECTOR DETAILS).DWG Plotted on 24-Jun-2020 9:27 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

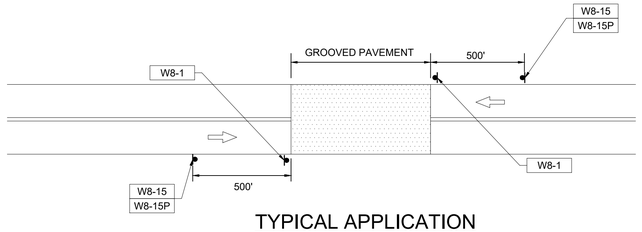
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	147	331
PROJECT FILE NO.	604123		

TEMPORARY TRAFFIC CONTROL PLANS
TYPICAL APPLICATIONS 1



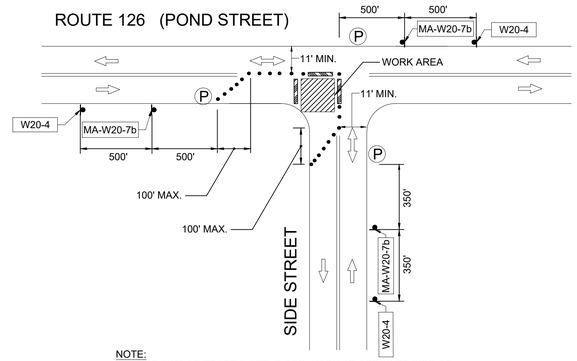
OVERALL TRAFFIC MANAGEMENT PLAN

NOT TO SCALE



TYPICAL APPLICATION GROOVED PAVEMENT

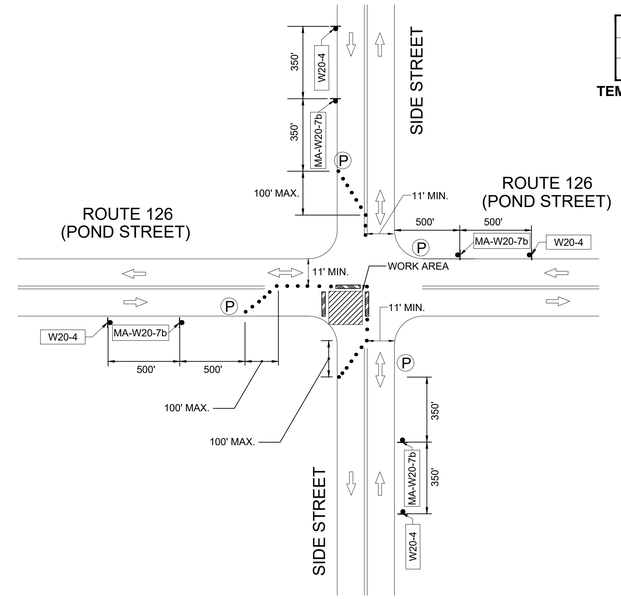
NOT TO SCALE



NOTE:
USE SIMILAR TRAFFIC SETUP FOR WORK AT OPPOSITE SIDE OF INTERSECTION.

TYPICAL APPLICATION - SINGLE LANE APPROACH ONE QUADRANT CLOSURE AT T-INTERSECTION

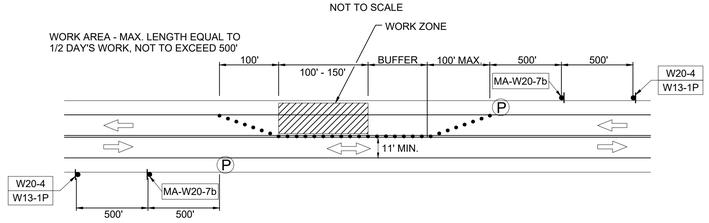
NOT TO SCALE



NOTE:
USE SIMILAR TRAFFIC SETUP FOR WORK AT OPPOSITE SIDE OF INTERSECTION.

TYPICAL APPLICATION - SINGLE LANE APPROACH ONE QUADRANT CLOSURE

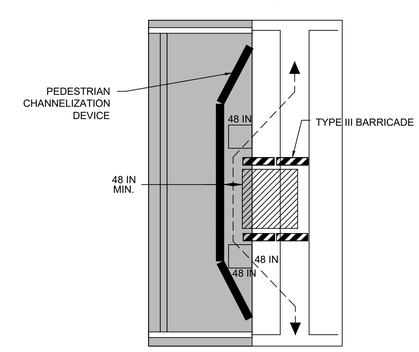
NOT TO SCALE



TYPICAL APPLICATION - TWO LANE ROAD ONE LANE ALTERNATING TRAFFIC

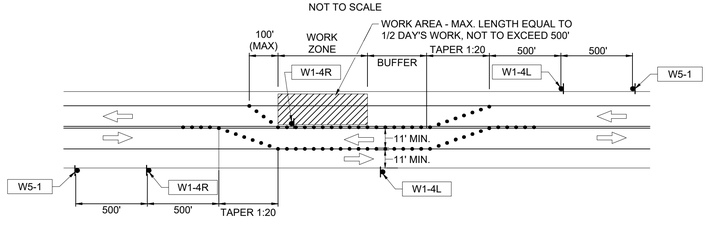
NOT TO SCALE

NOTES:
1. THIS TYPICAL TRAFFIC SETUP MAY BE USED FOR CONSTRUCTION OF DRAINAGE CULVERTS AT FOLLOWING STATIONS:
   - STATION 37+48,
   - STATION 41+98,
   - STATION 80+41, AND
   - STATION 90+14
2. IF THE TRAFFIC CONTROL SETUP IS USED FOR CULVERT INSTALLATION, AT THE END OF EACH WORK DAY, STEEL PLATING SHALL BE USED TO COVER THE TRENCH TO ALLOW FOR SAFE PASSAGE OF TRAFFIC AND RESTORATION OF NORMAL TRAFFIC OPERATIONS



PEDESTRIAN BYPASS

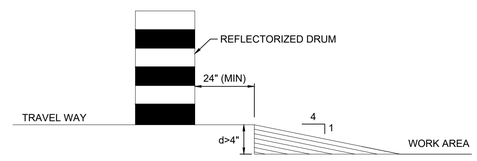
NOT TO SCALE



TYPICAL APPLICATION - TWO LANE ROAD SHOULDER AND TRAVEL LANE CLOSURE

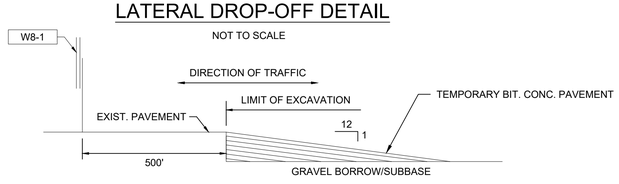
NOT TO SCALE

NOTES:
1. THIS TYPICAL TRAFFIC SETUP MAY BE USED FOR CONSTRUCTION OF DRAINAGE CULVERTS AT FOLLOWING STATIONS:
   - STATION 37+48,
   - STATION 41+98,
   - STATION 80+41, AND
   - STATION 90+14
2. IF THE TRAFFIC CONTROL SETUP IS USED FOR CULVERT INSTALLATION, AT THE END OF EACH WORK DAY, STEEL PLATING SHALL BE USED TO COVER THE TRENCH TO ALLOW FOR SAFE PASSAGE OF TRAFFIC AND RESTORATION OF NORMAL TRAFFIC OPERATIONS



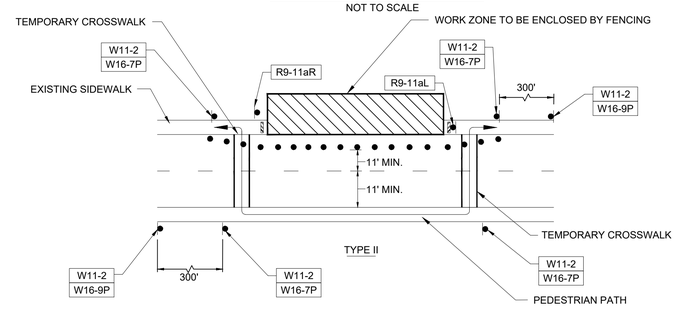
LATERAL DROP-OFF DETAIL

NOT TO SCALE



LONGITUDINAL DROP-OFF DETAIL

NOT TO SCALE



TYPICAL APPLICATION - SIDEWALK WORK MIDBLOCK WITH TEMPORARY PEDESTRIAN PATH

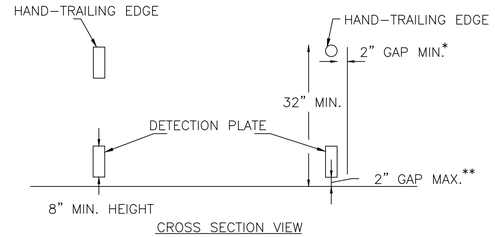
NOT TO SCALE

LEGEND
- DIRECTION OF TRAFFIC
- SIGN
- POLICE OFFICER
- REFLECTORIZED DRUM
- WORK ZONE
- TYPE III BARRICADE
- TEMPORARY BARRIER
- IMPACT ATTENUATOR

604123_HD20(CONSTRUCTION SIGN SUMMARY).DWG Plotted on 18-Oct-2017 11:42 AM

TEMPORARY TRAFFIC CONTROL NOTES:

1. MINIMUM LANE WIDTH OF 11 FEET SHALL BE MAINTAINED ALL THE TIME.
2. THE CONTRACTOR SHALL COORDINATE APPROVAL OF ANY CHANGES TO THE TEMPORARY TRAFFIC CONTROL PLAN WITH MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSDOT) PRIOR TO CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL ALSO NOTIFY MASSDOT AND THE TOWN OF ASHLAND THREE (3) WEEKS IN ADVANCE OF PLACING TEMPORARY TRAFFIC CONTROL SIGNS.
3. THESE PLANS ARE NOT INTENDED TO LIMIT THE CONTRACTOR'S APPROACH TO SCHEDULE THE WORK BUT TO OUTLINE ONE WAY OF PROGRESSING. THE CONTRACTOR IS EXPECTED TO USE KNOWLEDGE AND EXPERIENCE TO PERFORM THE WORK IN THE MOST EFFICIENT AND SAFE MANNER IN COMPLIANCE WITH THE DRAWINGS AND SPECIFICATIONS.
4. PLACE ALL SAFETY DEVICES AND CONSTRUCTION SIGNING BEFORE ACTUAL CONSTRUCTION WORK BEGINS.
5. USE FLAGS ON ADVANCED WARNING SIGNS. FLAGS SHALL BE AT LEAST 16" X16".
6. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED BASED ON FIELD CONDITIONS WITH THE APPROVAL OF THE ENGINEER.
7. WHEN EXISTING SIGNS ARE NO LONGER APPLICABLE THEY SHALL BE TEMPORARILY COVERED DURING CONSTRUCTION OR REMOVED AND RESET UPON COMPLETION OF CONSTRUCTION. THE COST SHALL BE INCIDENTAL TO THE CONTRACT.
8. ALL SIGNS SHALL BE REFLECTORIZED, WITH REFLECTIVE SHEETING CONFORMING TO M9.30.0. ALL SIGN COLORS SHALL BE PER THE CONSTRUCTION SIGN SUMMARY TABLE AND CURRENT MUTCD.
9. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY MUST PASS THE CRITERIA SET FORTH IN THE NCHRP 350 REPORT.
10. WHEN TEMPORARY PAVEMENT MARKINGS ARE NO LONGER APPLICABLE THEY SHALL BE REMOVED. CONTRACTOR SHALL RECORD EXISTING PAVEMENT MARKINGS AND RESTORE ALL MARKINGS TO EXISTING CONDITIONS AT THE CONCLUSION OF CONSTRUCTION AT EACH LOCATION.
11. ALL TRAFFIC CONTROL DEVICES SHALL BE REMOVED IMMEDIATELY WHEN NO LONGER NEEDED.
12. UNLESS OTHERWISE NOTED, ALL PAVEMENT MARKINGS, SIGNS AND OTHER TRAFFIC EQUIPMENT REMOVED OR DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN CONFORMANCE WITH THE CONTACT DOCUMENTS.
13. CONTRACTOR SHALL INSTALL, RENEW, AND MAINTAIN ALL TRAFFIC CONTROL DEVICES AS SHOWN ON THE DRAWINGS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
14. ACCESS/EGRESS TO ALL ABUTTERS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
15. THE CONTRACTOR SHALL MAINTAIN ADA COMPLIANT ACCESS AT ALL TIMES INCLUDING PEDESTRIAN GUIDANCE SYSTEMS. ALL PEDESTRIAN DETOURS OR BYPASSES SHALL BE ADA COMPLIANT WITH PROPER BARRICADES, RAILINGS, RAMPS, SIGNS, ETC.
16. CONTRACTOR SHALL MAINTAIN EMERGENCY PASSAGE AT ALL TIMES TO BUILDINGS WITHIN AND ADJACENT TO THE PROJECT LIMITS AS WELL AS A LARGER AREA IF AFFECTED BY CONSTRUCTION CONDITIONS. CONTRACTOR SHALL MAINTAIN 24 HOUR EMERGENCY VEHICLE ACCESS TO CONSTRUCTION AREAS.
17. CONTRACTOR SHALL COORDINATE WITH ABUTTERS FOR THE PROPOSED WORK AND SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF THE WORK THAT WILL REQUIRE TEMPORARY CLOSURE OF ACCESS TO THEIR PROPERTY.
18. THE CONTRACTOR SHALL COORDINATE THE WORK WITH ALL ABUTTING PROJECTS.



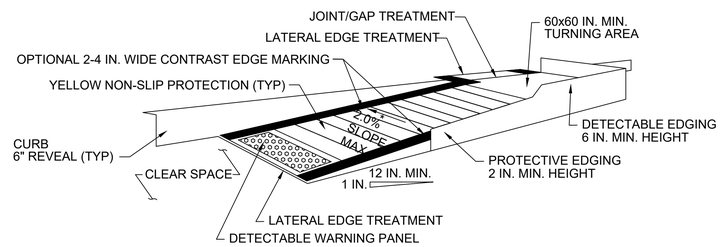
NOTES:

* THERE SHALL BE A 2 INCH GAP BETWEEN THE HAND–TRAILING EDGE AND ITS SUPPORT.

** A MAXIMUM 2 INCH GAP BETWEEN THE BOTTOM OF THE BOTTOM RAIL AND THE SURFACE MAY BE USED TO PROVIDE DRAINAGE.

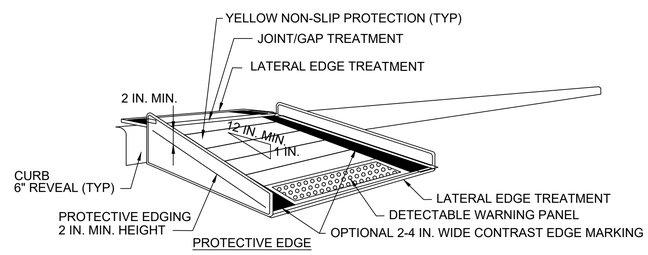
PEDESTRIAN CHANNELIZING DEVICE

NOT TO SCALE



TEMPORARY CURB RAMP - PARALLEL TO CURB

NOT TO SCALE

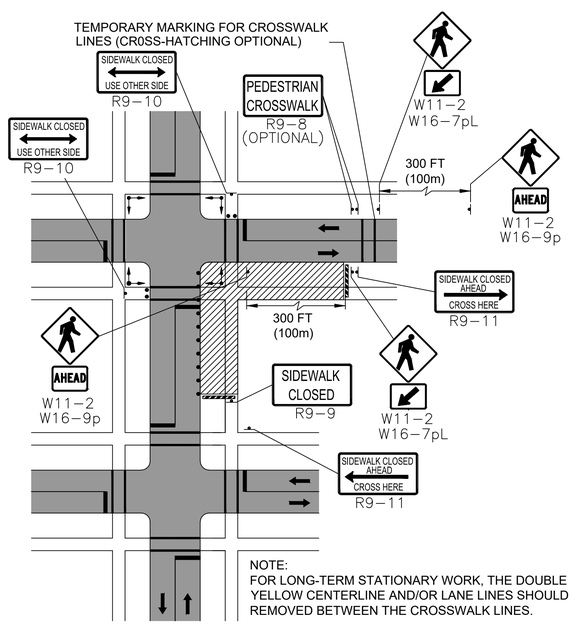


TEMPORARY CURB RAMP - PERPENDICULAR TO CURB

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 SLOPE 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. PROTECTABLE EDGING WITH 6 IN. MINIMUM HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
5. CLEAR SPACE OF 48x48 IN. MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
6. THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A CONTRASTING COLOR ABUTTING UP TO THE EXISTING SIDEWALK.
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. TYPICAL DETAILS ON THIS SHEET MAY NOT BE NEEDED AND ARE PROVIDED FOR REFERENCE PURPOSES.
11. 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 SHALL NOT BE INSTALLED ON THE RAMP.



NOTE:
FOR LONG-TERM STATIONARY WORK, THE DOUBLE YELLOW CENTERLINE AND/OR LANE LINES SHOULD BE REMOVED BETWEEN THE CROSSWALK LINES.

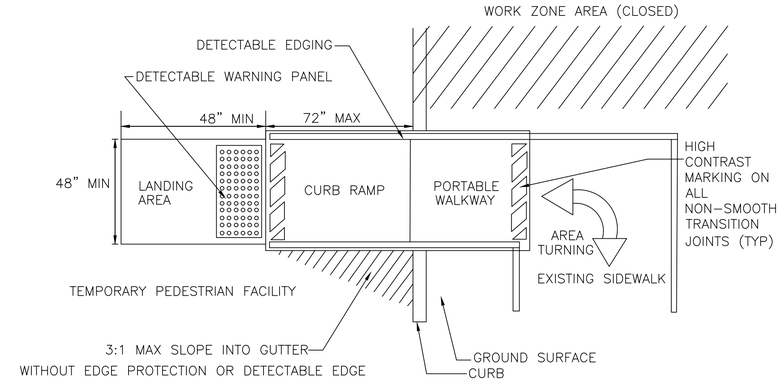
PEDESTRIAN DETOUR

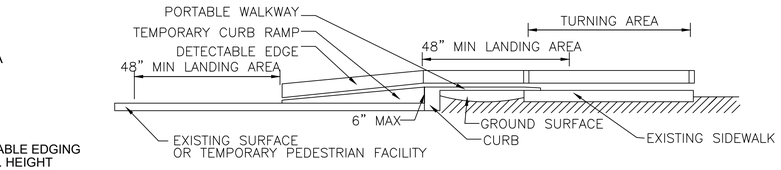
NOT TO SCALE

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	148	331
PROJECT FILE NO.	604123		

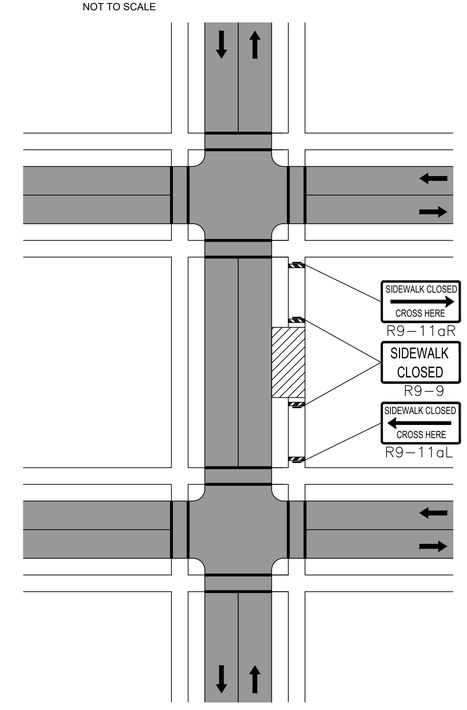
TEMPORARY TRAFFIC CONTROL PLANS
TYPICAL APPLICATIONS 2





TEMPORARY CURB RAMP-TYPE 2

NOT TO SCALE



NOTE: IF A MINIMUM WIDTH OF 48" OF SOLID SMOOTH UNOBSTRUCTED SURFACE REMAINS ALONG THE WORK AREA THEN THE DETAIL CAN BE DISREGARDED. DELINEATION OF THE WORK AREA WILL STILL BE REQUIRED. All PEDESTRIAN DETOUR ROUTES SHALL BE ADA/MAAB COMPLIANT IN THEIR ENTIRETY.

SIDEWALK CLOSED WITHOUT DETOUR

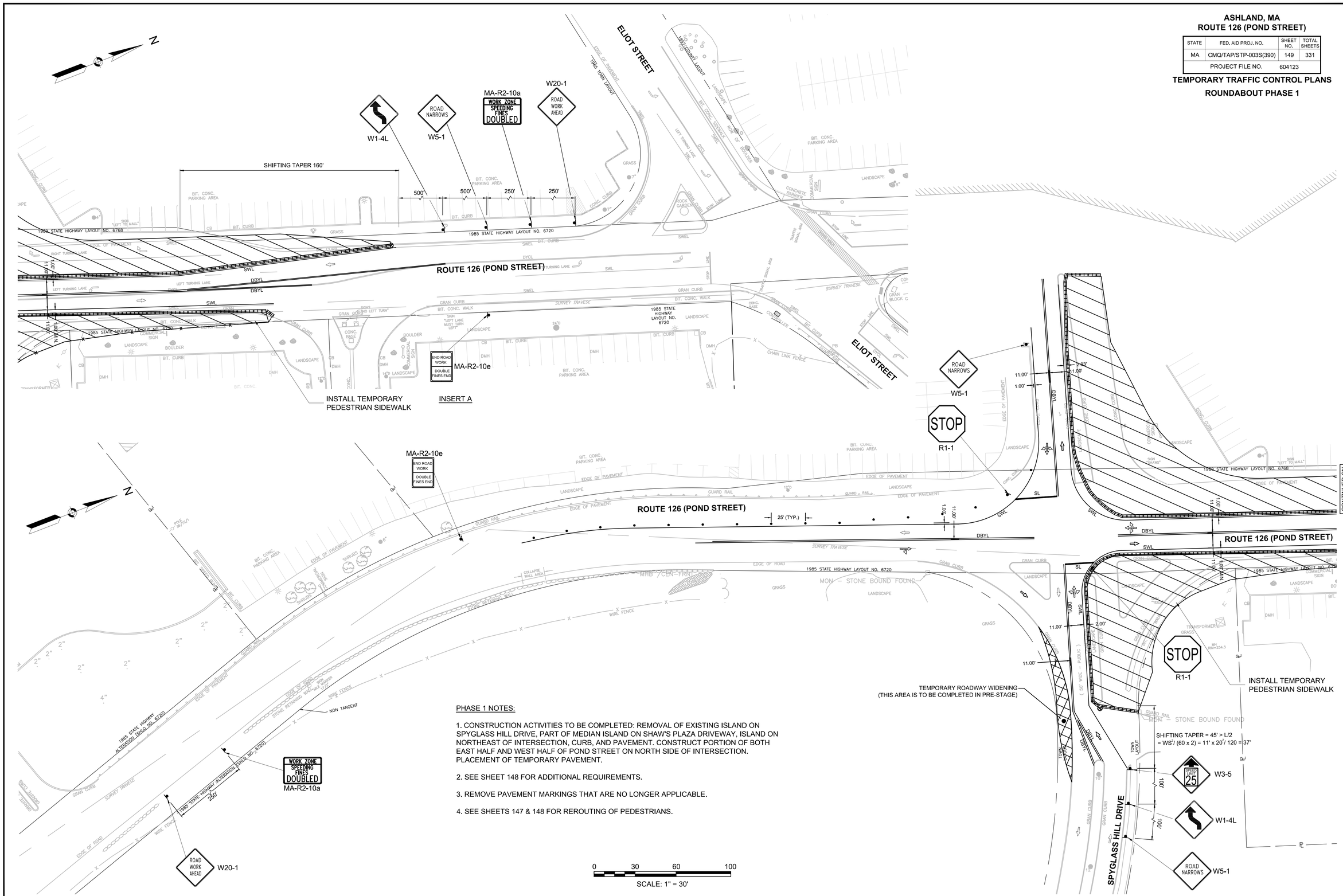
NOT TO SCALE

604123_HD20(CONSTRUCTION SIGN SUMMARY).DWG Plotted on 18-Oct-2017 11:42 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	149	331
PROJECT FILE NO.	604123		

TEMPORARY TRAFFIC CONTROL PLANS
ROUNDABOUT PHASE 1



PHASE 1 NOTES:

1. CONSTRUCTION ACTIVITIES TO BE COMPLETED: REMOVAL OF EXISTING ISLAND ON SPYGLASS HILL DRIVE, PART OF MEDIAN ISLAND ON SHAW'S PLAZA DRIVEWAY, ISLAND ON NORTHEAST OF INTERSECTION, CURB, AND PAVEMENT. CONSTRUCT PORTION OF BOTH EAST HALF AND WEST HALF OF POND STREET ON NORTH SIDE OF INTERSECTION. PLACEMENT OF TEMPORARY PAVEMENT.

2. SEE SHEET 148 FOR ADDITIONAL REQUIREMENTS.

3. REMOVE PAVEMENT MARKINGS THAT ARE NO LONGER APPLICABLE.

4. SEE SHEETS 147 & 148 FOR REROUTING OF PEDESTRIANS.

604123_HD20(CONSTRUCTION SIGN SUMMARY).DWG Plotted on 18-Oct-2017 11:42 AM

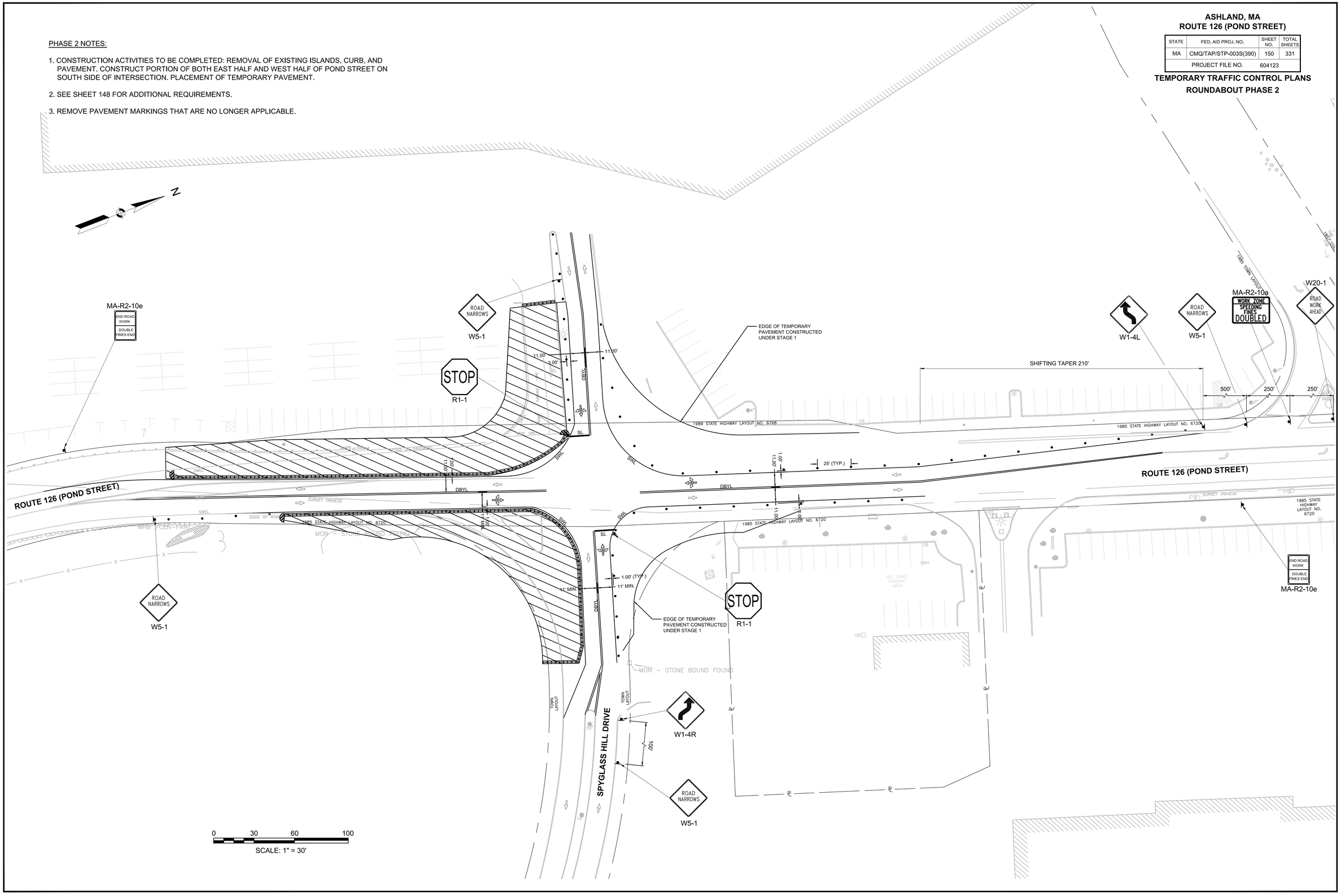
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	150	331
PROJECT FILE NO.	604123		

TEMPORARY TRAFFIC CONTROL PLANS
ROUNDABOUT PHASE 2

PHASE 2 NOTES:

1. CONSTRUCTION ACTIVITIES TO BE COMPLETED: REMOVAL OF EXISTING ISLANDS, CURB, AND PAVEMENT. CONSTRUCT PORTION OF BOTH EAST HALF AND WEST HALF OF POND STREET ON SOUTH SIDE OF INTERSECTION. PLACEMENT OF TEMPORARY PAVEMENT.
2. SEE SHEET 148 FOR ADDITIONAL REQUIREMENTS.
3. REMOVE PAVEMENT MARKINGS THAT ARE NO LONGER APPLICABLE.



604123_HD20(CONSTRUCTION SIGN SUMMARY).DWG Plotted on 18-Oct-2017 11:42 AM

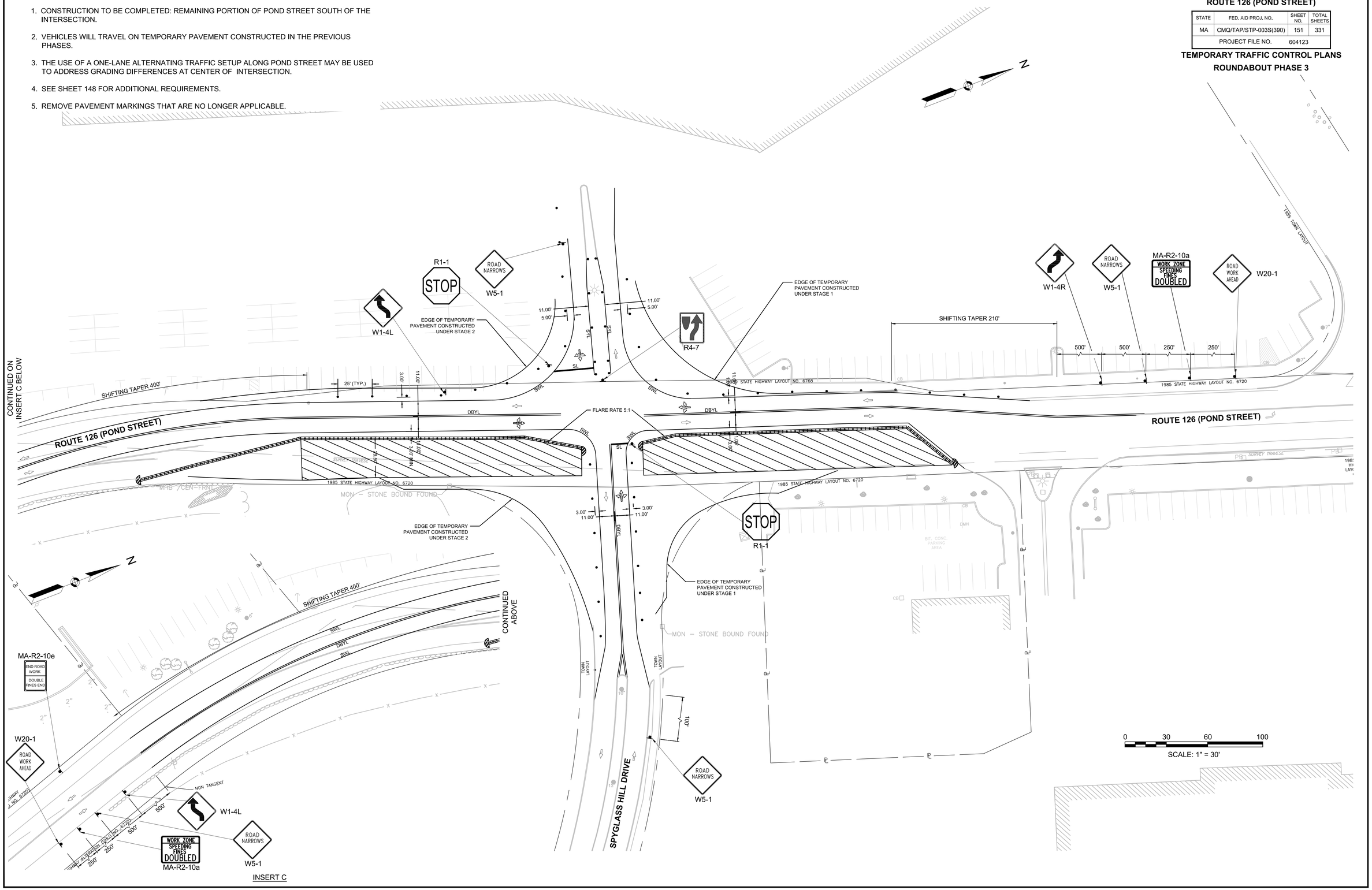
PHASE 3 NOTES:

1. CONSTRUCTION TO BE COMPLETED: REMAINING PORTION OF POND STREET SOUTH OF THE INTERSECTION.
2. VEHICLES WILL TRAVEL ON TEMPORARY PAVEMENT CONSTRUCTED IN THE PREVIOUS PHASES.
3. THE USE OF A ONE-LANE ALTERNATING TRAFFIC SETUP ALONG POND STREET MAY BE USED TO ADDRESS GRADING DIFFERENCES AT CENTER OF INTERSECTION.
4. SEE SHEET 148 FOR ADDITIONAL REQUIREMENTS.
5. REMOVE PAVEMENT MARKINGS THAT ARE NO LONGER APPLICABLE.

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	151	331
PROJECT FILE NO.	604123		

TEMPORARY TRAFFIC CONTROL PLANS
ROUNDABOUT PHASE 3



604123_HD20(CONSTRUCTION SIGN SUMMARY).DWG Plotted on 18-Oct-2017 11:42 AM

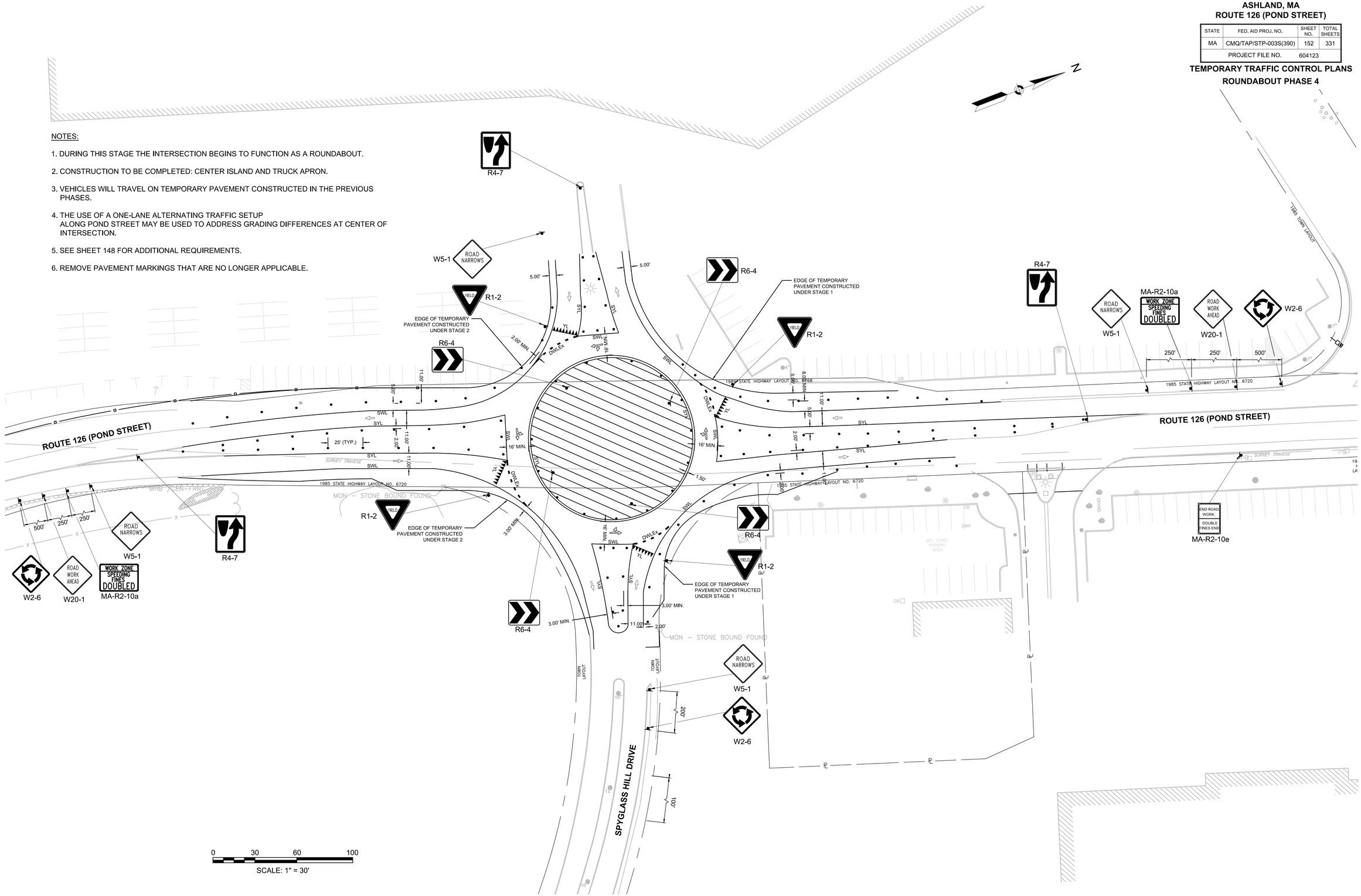
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	152	331
PROJECT FILE NO.	604123		

TEMPORARY TRAFFIC CONTROL PLANS
ROUNDABOUT PHASE 4

NOTES:

1. DURING THIS STAGE THE INTERSECTION BEGINS TO FUNCTION AS A ROUNDABOUT.
2. CONSTRUCTION TO BE COMPLETED: CENTER ISLAND AND TRUCK APRON.
3. VEHICLES WILL TRAVEL ON TEMPORARY PAVEMENT CONSTRUCTED IN THE PREVIOUS PHASES.
4. THE USE OF A ONE-LANE ALTERNATING TRAFFIC SETUP ALONG POND STREET MAY BE USED TO ADDRESS GRADING DIFFERENCES AT CENTER OF INTERSECTION.
5. SEE SHEET 148 FOR ADDITIONAL REQUIREMENTS.
6. REMOVE PAVEMENT MARKINGS THAT ARE NO LONGER APPLICABLE.



604123_HD20(CONSTRUCTION SIGN SUMMARY).DWG Plotted on 18-Oct-2017 11:42 AM

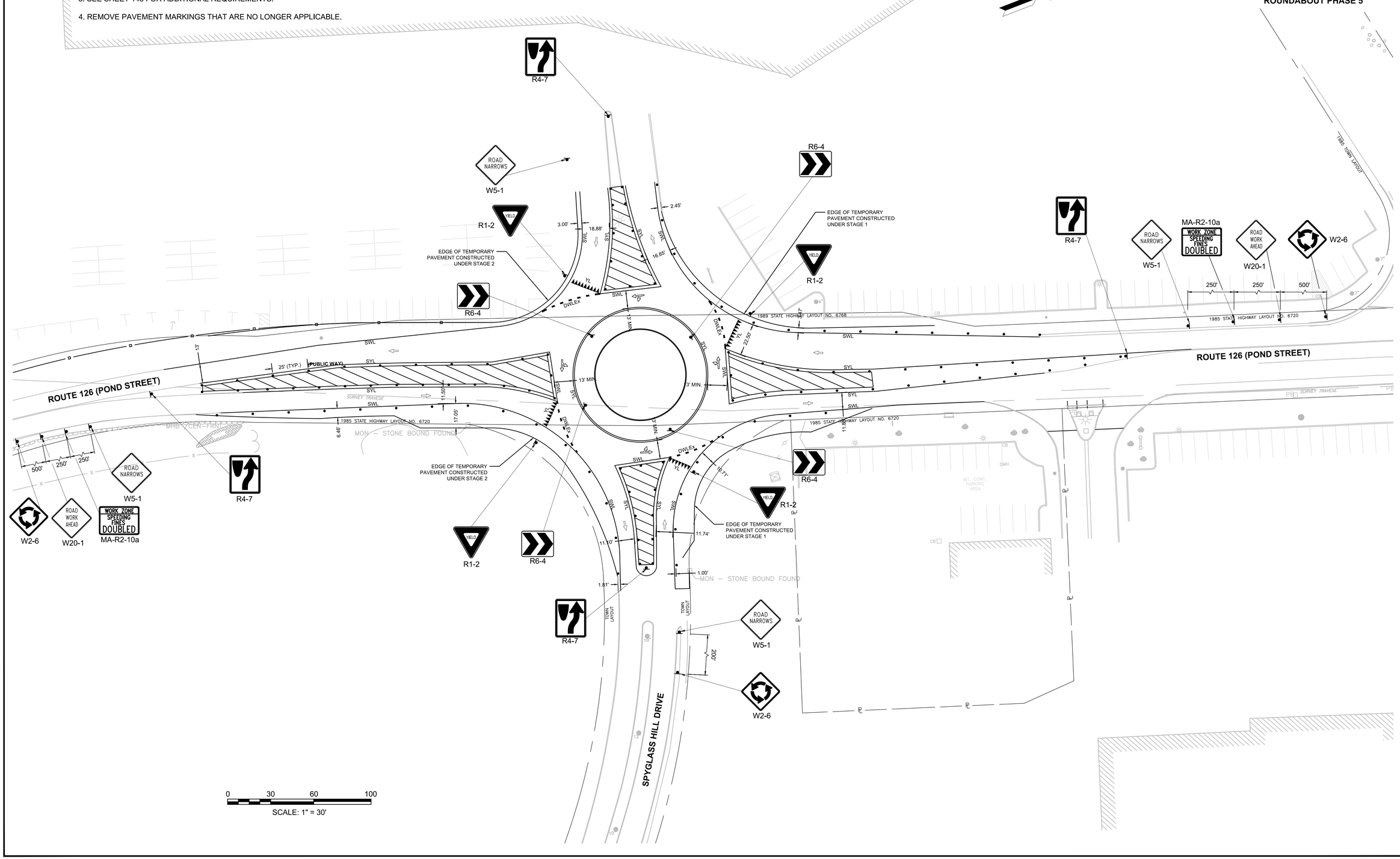
NOTES:

1. CONSTRUCTION TO BE COMPLETED: SPLITTER ISLANDS.
2. VEHICLES WILL TRAVEL ON TEMPORARY PAVEMENT CONSTRUCTED IN THE PREVIOUS PHASES.
3. SEE SHEET 148 FOR ADDITIONAL REQUIREMENTS.
4. REMOVE PAVEMENT MARKINGS THAT ARE NO LONGER APPLICABLE.

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	153	331
PROJECT FILE NO.	604123		

TEMPORARY TRAFFIC CONTROL PLANS
ROUNDABOUT PHASE 5



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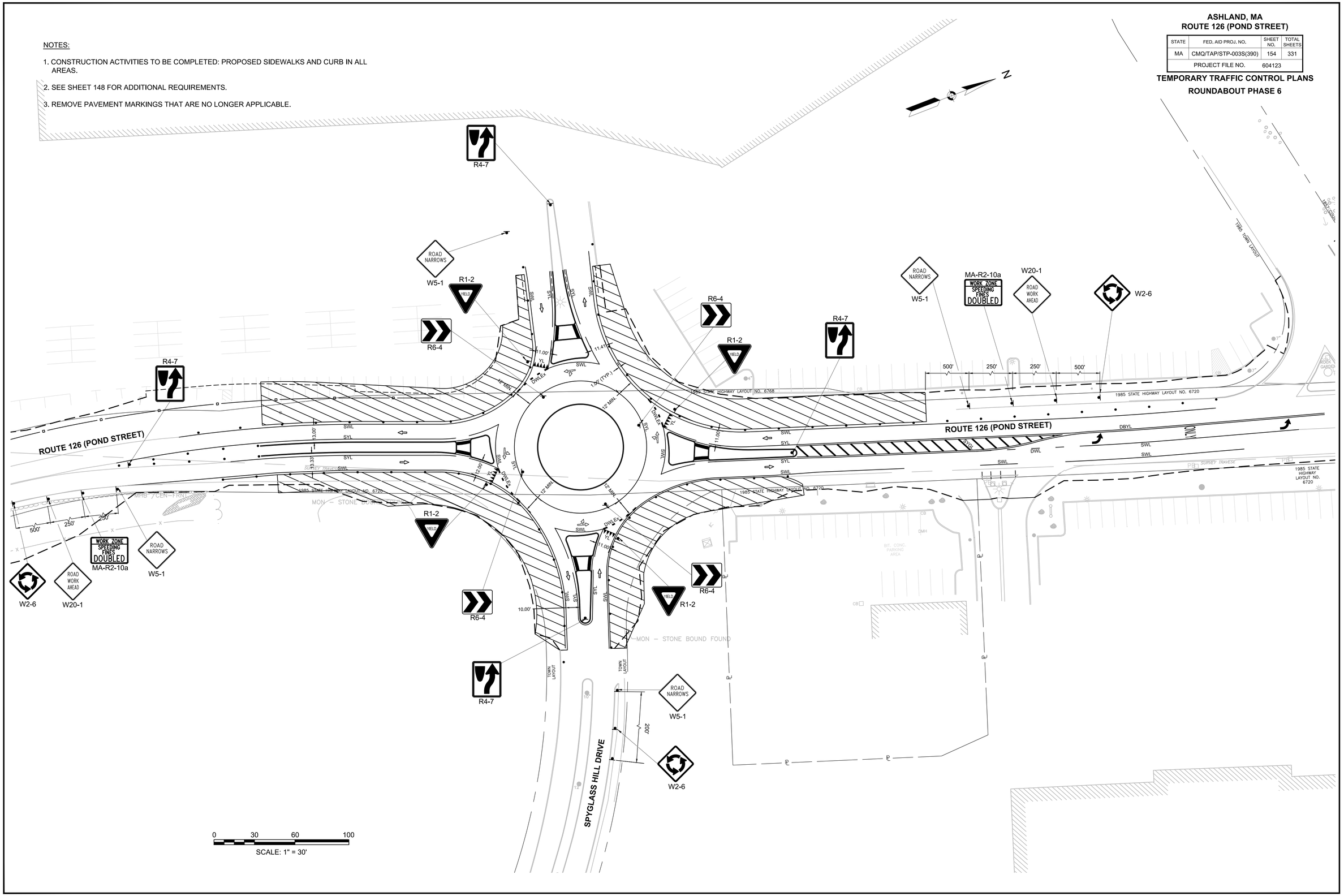
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	154	331
PROJECT FILE NO.	604123		

TEMPORARY TRAFFIC CONTROL PLANS
ROUNDABOUT PHASE 6

NOTES:

1. CONSTRUCTION ACTIVITIES TO BE COMPLETED: PROPOSED SIDEWALKS AND CURB IN ALL AREAS.
2. SEE SHEET 148 FOR ADDITIONAL REQUIREMENTS.
3. REMOVE PAVEMENT MARKINGS THAT ARE NO LONGER APPLICABLE.



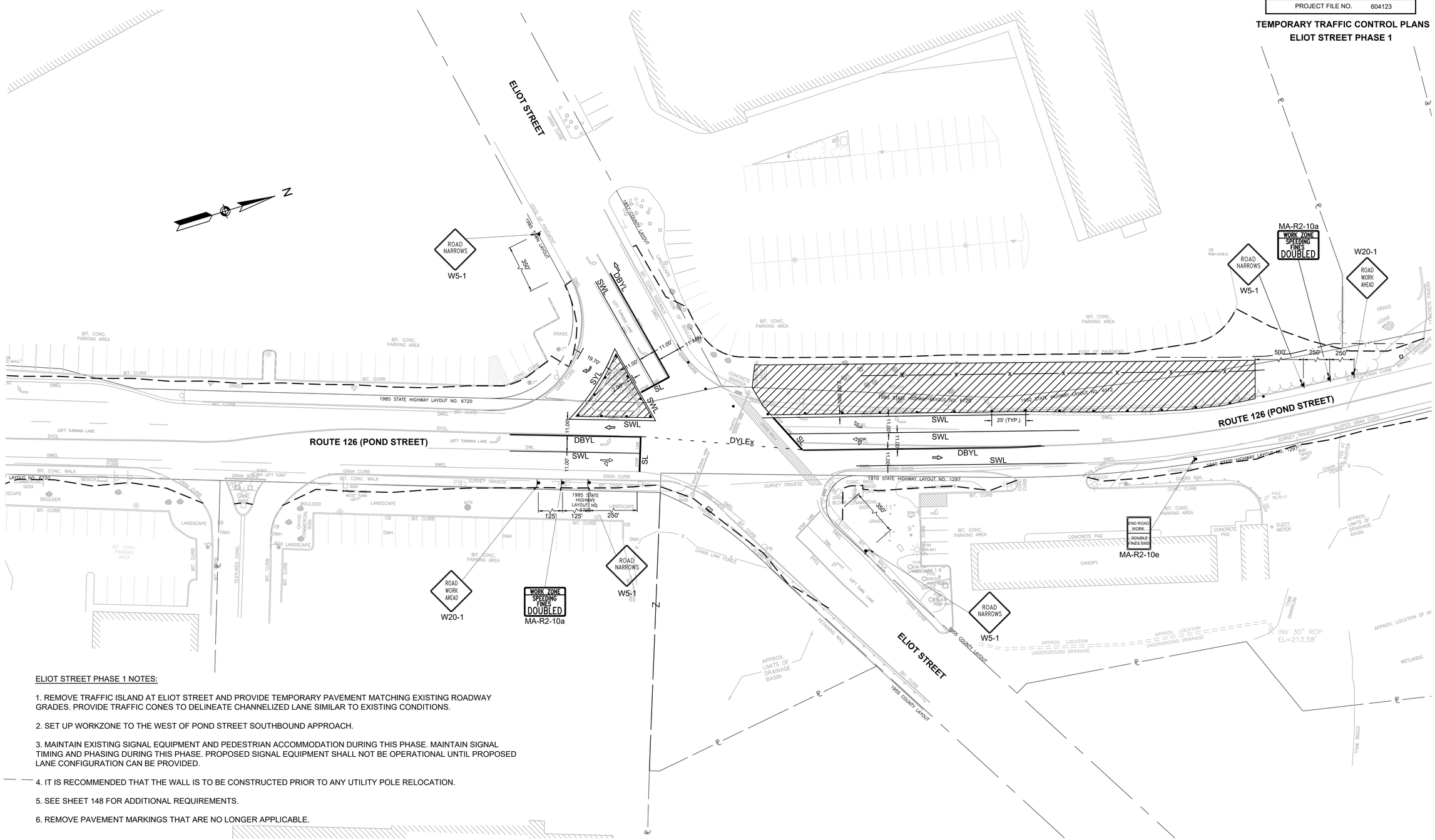
604123_HD20(CONSTRUCTION SIGN SUMMARY).DWG Plotted on 18-Oct-2017 11:42 AM

CONFORMS TO ADDENDUM NO. 5, AUGUST 27, 2020

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	155	331
PROJECT FILE NO.	604123		

TEMPORARY TRAFFIC CONTROL PLANS
ELIOT STREET PHASE 1



ELIOT STREET PHASE 1 NOTES:

1. REMOVE TRAFFIC ISLAND AT ELIOT STREET AND PROVIDE TEMPORARY PAVEMENT MATCHING EXISTING ROADWAY GRADES. PROVIDE TRAFFIC CONES TO DELINEATE CHANNELIZED LANE SIMILAR TO EXISTING CONDITIONS.

2. SET UP WORKZONE TO THE WEST OF POND STREET SOUTHBOUND APPROACH.

3. MAINTAIN EXISTING SIGNAL EQUIPMENT AND PEDESTRIAN ACCOMMODATION DURING THIS PHASE. MAINTAIN SIGNAL TIMING AND PHASING DURING THIS PHASE. PROPOSED SIGNAL EQUIPMENT SHALL NOT BE OPERATIONAL UNTIL PROPOSED LANE CONFIGURATION CAN BE PROVIDED.

4. IT IS RECOMMENDED THAT THE WALL IS TO BE CONSTRUCTED PRIOR TO ANY UTILITY POLE RELOCATION.

5. SEE SHEET 148 FOR ADDITIONAL REQUIREMENTS.

6. REMOVE PAVEMENT MARKINGS THAT ARE NO LONGER APPLICABLE.

0 30 60 100

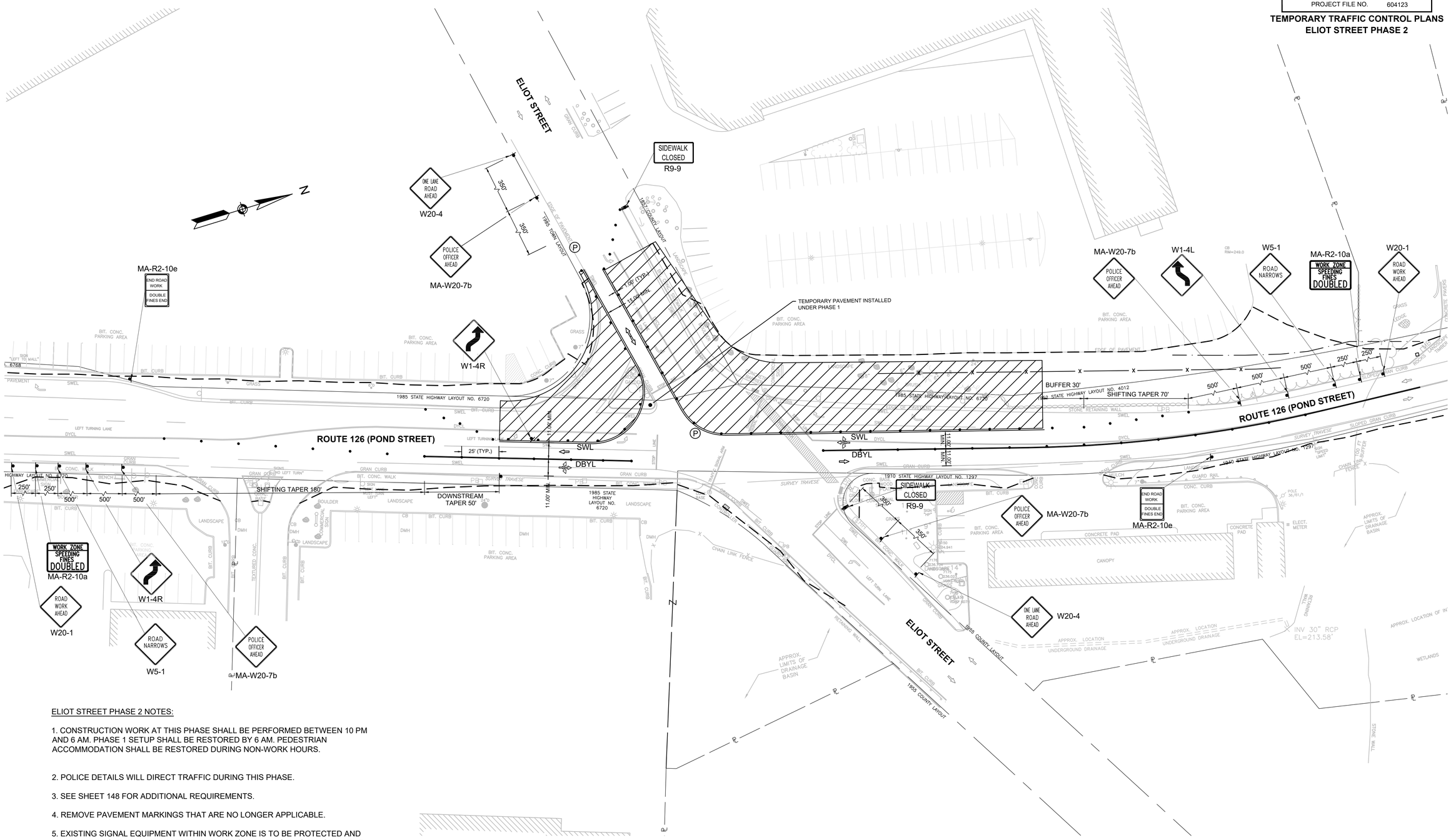
SCALE: 1" = 30'

604123_HD20(CONSTRUCTION SIGN SUMMARY).DWG Plotted on 18-Oct-2017 11:42 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	156	331
PROJECT FILE NO.	604123		

TEMPORARY TRAFFIC CONTROL PLANS
ELIOT STREET PHASE 2



ELIOT STREET PHASE 2 NOTES:

1. CONSTRUCTION WORK AT THIS PHASE SHALL BE PERFORMED BETWEEN 10 PM AND 6 AM. PHASE 1 SETUP SHALL BE RESTORED BY 6 AM. PEDESTRIAN ACCOMMODATION SHALL BE RESTORED DURING NON-WORK HOURS.

2. POLICE DETAILS WILL DIRECT TRAFFIC DURING THIS PHASE.

3. SEE SHEET 148 FOR ADDITIONAL REQUIREMENTS.

4. REMOVE PAVEMENT MARKINGS THAT ARE NO LONGER APPLICABLE.

5. EXISTING SIGNAL EQUIPMENT WITHIN WORK ZONE IS TO BE PROTECTED AND MAINTAINED TO THE MAXIMUM EXTENT PRACTICAL DURING THIS PHASE. IN THE EVENT THE EXISTING SIGNAL CAN NO LONGER BE RETAINED, THE CONTRACTOR MAY INSTALL TEMPORARY SUPPORTS FOR SIGNAL HEADS TO ALLOW FOR CONSTRUCTION ACTIVITIES.

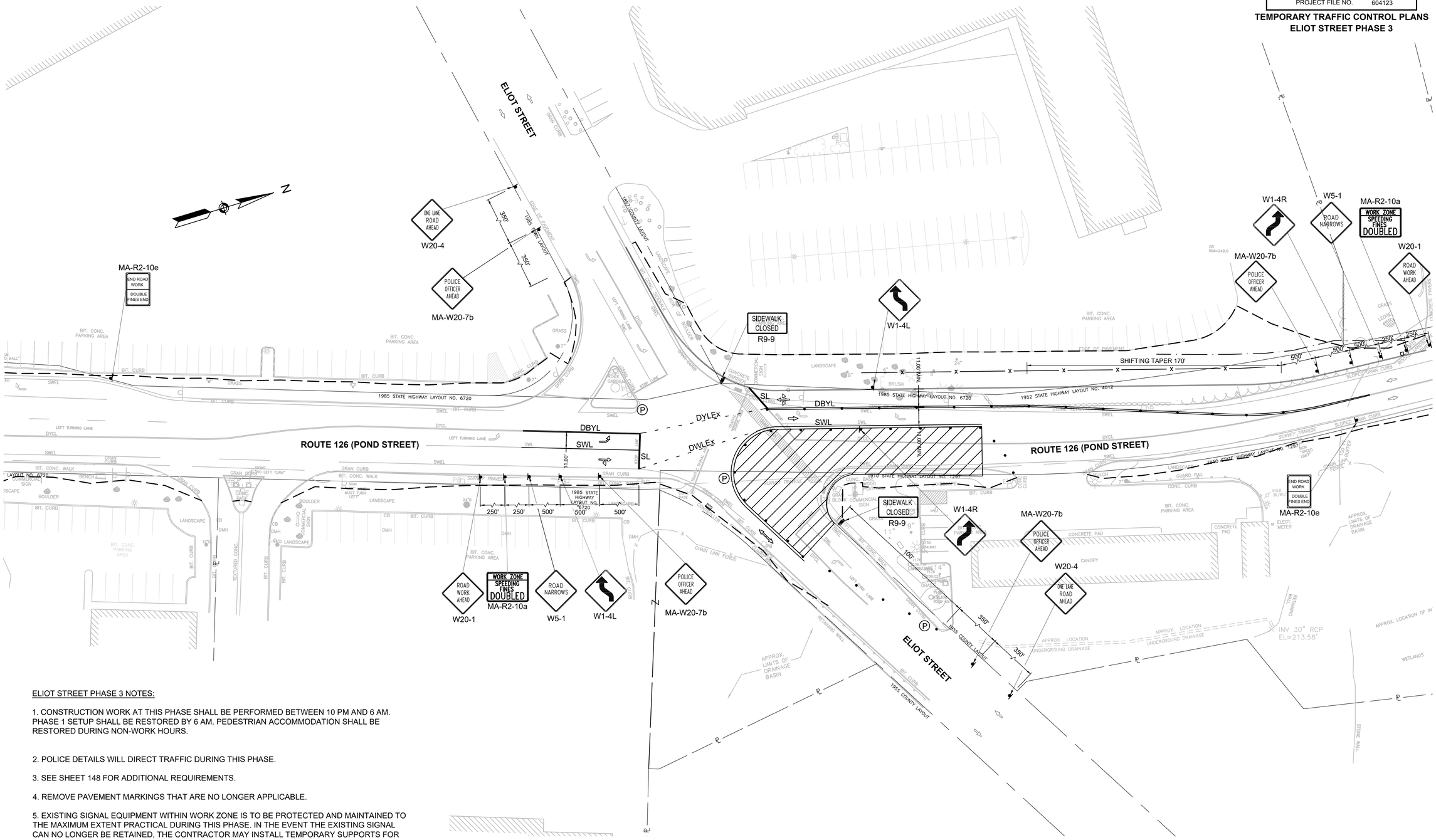
0 30 60 100
SCALE: 1" = 30'

604123_HD20(CONSTRUCTION SIGN SUMMARY).DWG Plotted on 18-Oct-2017 11:42 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	157	331
PROJECT FILE NO.	604123		

TEMPORARY TRAFFIC CONTROL PLANS
ELIOT STREET PHASE 3



ELIOT STREET PHASE 3 NOTES:

1. CONSTRUCTION WORK AT THIS PHASE SHALL BE PERFORMED BETWEEN 10 PM AND 6 AM. PHASE 1 SETUP SHALL BE RESTORED BY 6 AM. PEDESTRIAN ACCOMMODATION SHALL BE RESTORED DURING NON-WORK HOURS.

2. POLICE DETAILS WILL DIRECT TRAFFIC DURING THIS PHASE.

3. SEE SHEET 148 FOR ADDITIONAL REQUIREMENTS.

4. REMOVE PAVEMENT MARKINGS THAT ARE NO LONGER APPLICABLE.

5. EXISTING SIGNAL EQUIPMENT WITHIN WORK ZONE IS TO BE PROTECTED AND MAINTAINED TO THE MAXIMUM EXTENT PRACTICAL DURING THIS PHASE. IN THE EVENT THE EXISTING SIGNAL CAN NO LONGER BE RETAINED, THE CONTRACTOR MAY INSTALL TEMPORARY SUPPORTS FOR SIGNAL HEADS TO ALLOW FOR CONSTRUCTION ACTIVITIES.

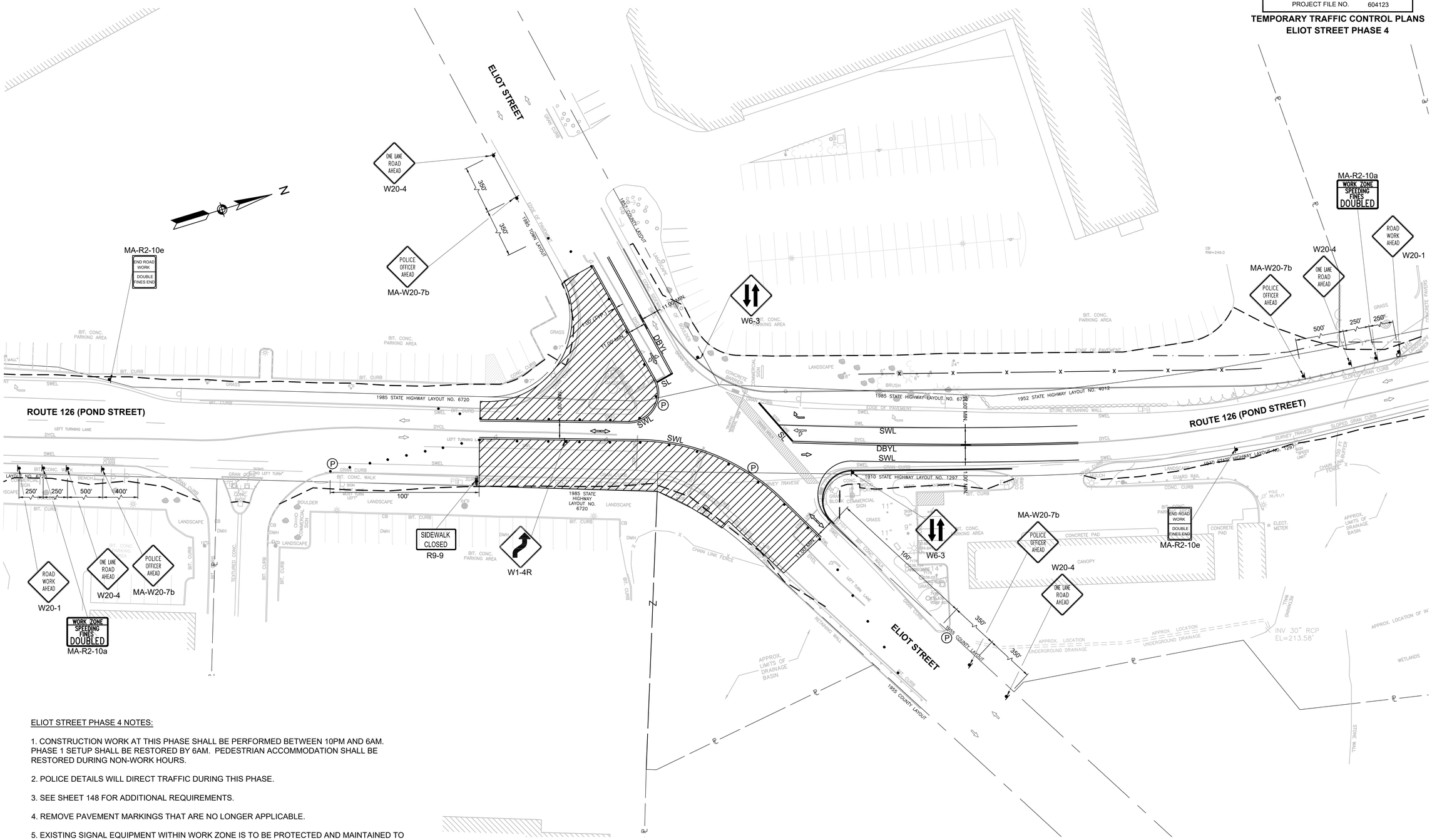
0 30 60 100
SCALE: 1" = 30'

604123_HD20(CONSTRUCTION SIGN SUMMARY).DWG Plotted on 18-Oct-2017 11:42 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	158	331
PROJECT FILE NO.	604123		

TEMPORARY TRAFFIC CONTROL PLANS
ELIOT STREET PHASE 4



ELIOT STREET PHASE 4 NOTES:

1. CONSTRUCTION WORK AT THIS PHASE SHALL BE PERFORMED BETWEEN 10PM AND 6AM. PHASE 1 SETUP SHALL BE RESTORED BY 6AM. PEDESTRIAN ACCOMMODATION SHALL BE RESTORED DURING NON-WORK HOURS.

2. POLICE DETAILS WILL DIRECT TRAFFIC DURING THIS PHASE.

3. SEE SHEET 148 FOR ADDITIONAL REQUIREMENTS.

4. REMOVE PAVEMENT MARKINGS THAT ARE NO LONGER APPLICABLE.

5. EXISTING SIGNAL EQUIPMENT WITHIN WORK ZONE IS TO BE PROTECTED AND MAINTAINED TO THE MAXIMUM EXTENT PRACTICAL DURING THIS PHASE. IN THE EVENT THE EXISTING SIGNAL CAN NO LONGER BE RETAINED, THE CONTRACTOR MAY INSTALL TEMPORARY SUPPORTS FOR SIGNAL HEADS TO ALLOW FOR CONSTRUCTION ACTIVITIES UNTIL THE NEW SIGNAL SYSTEM IS OPERATIONAL.

604123_HD20(CONSTRUCTION SIGN SUMMARY).DWG Plotted on 18-Oct-2017 11:42 AM

CONFORMS TO ADDENDUM NO. 5, AUGUST 27, 2020

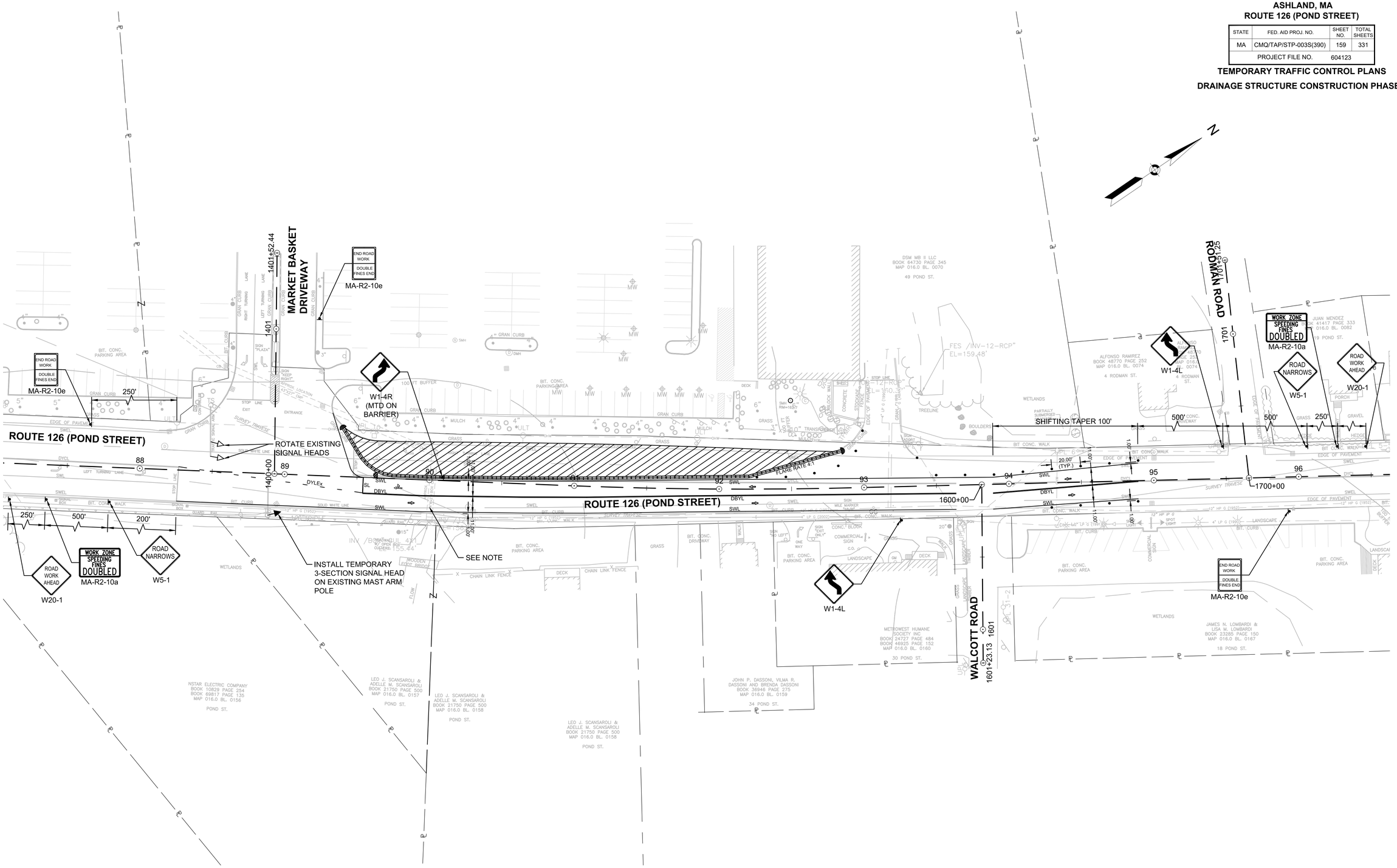
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	159	331
PROJECT FILE NO.	604123		

TEMPORARY TRAFFIC CONTROL PLANS

DRAINAGE STRUCTURE CONSTRUCTION PHASE 1

604123_HD_CULVERT TMP.DWG Plotted on 12-Mar-2018 8:03 AM



NOTE:

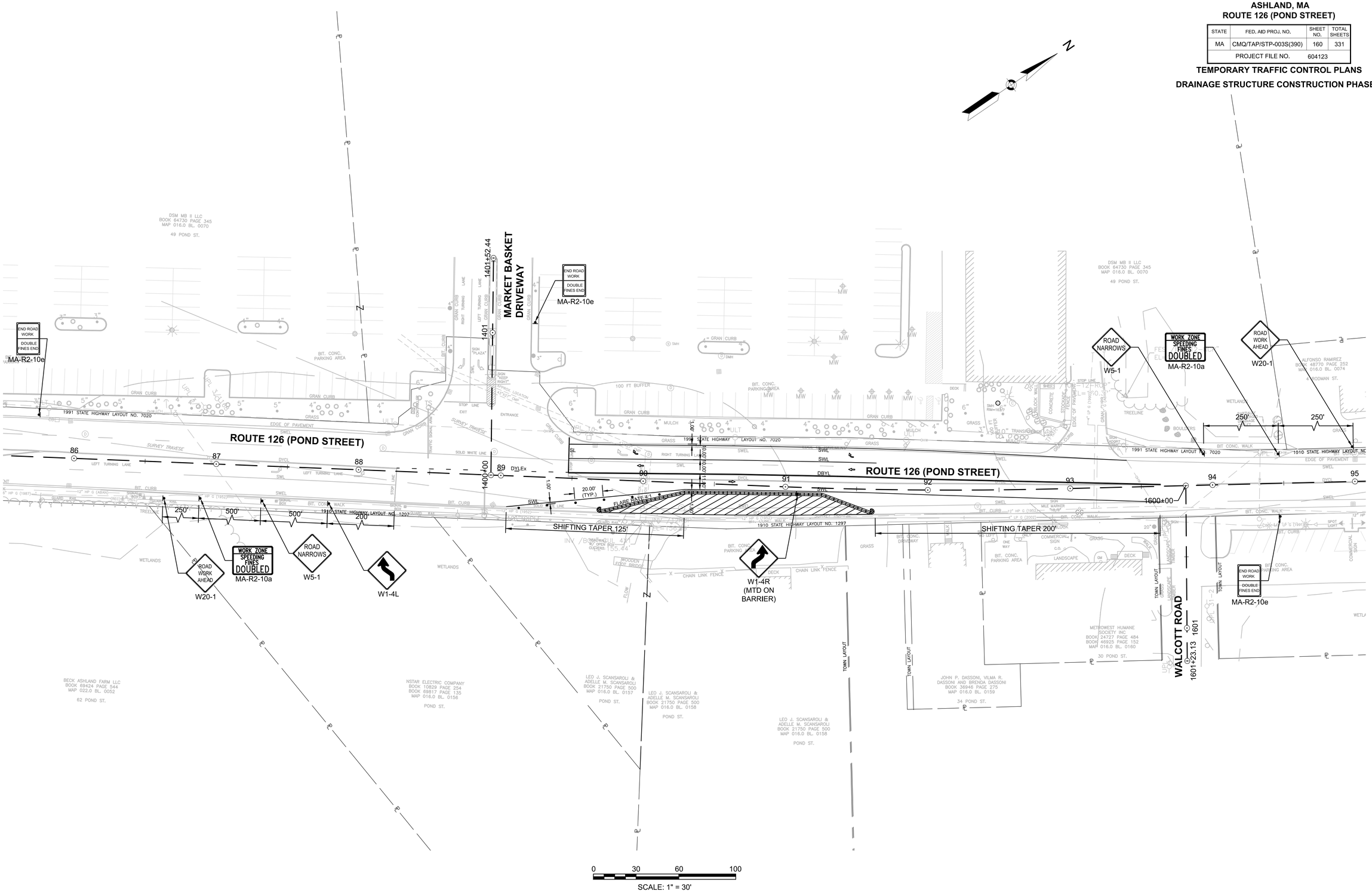
FOR DRAINAGE PIPE INSTALLATION OUTSIDE OF THE LONG-TERM WORKZONES COVERED BY STAGE 1 AND 2 SHOWN ON THIS SHEET AND ON SHEET 160, RESPECTIVELY, TYPICAL TRAFFIC MANAGEMENT SETUPS SHOWN ON SHEET 147 MAY BE USED TO FACILITATE CONSTRUCTION.

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	160	331
PROJECT FILE NO.	604123		

TEMPORARY TRAFFIC CONTROL PLANS

DRAINAGE STRUCTURE CONSTRUCTION PHASE 2



604123_HD_CULVERT TMP.DWG Plotted on 12-Mar-2018 8:03 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	161	331
PROJECT FILE NO.	604123		

TEMPORARY TRAFFIC CONTROL PLANS
CONSTRUCTION SIGN SUMMARY

CONSTRUCTION SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES) WIDTH	SIZE OF SIGN (INCHES) HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	TEXT DIMENSIONS (INCHES) VERTICAL SPACING	TEXT DIMENSIONS (INCHES) ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	COLOR LEGEND	COLOR BORDER	POST SIZE AND NUMBER REQUIRED	UNIT AREA IN SQUARE FEET	AREA IN SQUARE FEET
MA-R2-10a	48	36	WORK ZONE SPEEDING FINES DOUBLED	SEE MASSDOT STD. SIGN BOOK			10	FLUORE-SCENT ORANGE, RETRORE-FLECTIVE WHITE	BLACK	BLACK	MASSDOT SPEC. MOUNT ON POST	12.00	120.00
MA-R2-10e	36	48	END ROAD WORK / DOUBLE FINES END				10	FLUORE-SCENT ORANGE, RETRORE-FLECTIVE WHITE	BLACK	BLACK		12.00	120.00
MA-W20-7b	36	36	POLICE OFFICER AHEAD				8	FLUORE-SCENT ORANGE	BLACK	BLACK		9.00	72.00
R1-1	30	30	STOP	SEE MUTCD STD. DETAIL			2	RETRORE-FLECTIVE RED	RETRORE-FLECTIVE WHITE	RETRORE-FLECTIVE WHITE		6.25	12.50
R1-2	36 x 36 x 36		YIELD				4	RETRORE-FLECTIVE RED	RETRORE-FLECTIVE WHITE	RETRORE-FLECTIVE WHITE		3.91	15.64
R4-7	24	30					4	RETRORE-FLECTIVE WHITE	BLACK	BLACK		5.00	20.00
R6-4	30	24					4	RETRORE-FLECTIVE WHITE	BLACK			5.00	20.00
R9-8	36	18	PEDESTRIAN CROSSWALK				2	RETRORE-FLECTIVE WHITE	BLACK	BLACK		4.50	9.00
R9-9	24	12	SIDEWALK CLOSED				2	RETRORE-FLECTIVE WHITE	BLACK	BLACK		2.00	4.00
R9-10	24	12	SIDEWALK CLOSED USE OTHER SIDE				2	RETRORE-FLECTIVE WHITE	BLACK	BLACK		2.00	4.00
R9-11L	24	18	SIDEWALK CLOSED AHEAD CROSS HERE				1	RETRORE-FLECTIVE WHITE	BLACK	BLACK		3.00	3.00
R9-11R	24	18	SIDEWALK CLOSED AHEAD CROSS HERE				1	RETRORE-FLECTIVE WHITE	BLACK	BLACK		3.00	3.00
R9-11aL	24	12	SIDEWALK CLOSED CROSS HERE				1	RETRORE-FLECTIVE WHITE	BLACK	BLACK		2.00	2.00
R9-11aR	24	12	SIDEWALK CLOSED CROSS HERE				1	RETRORE-FLECTIVE WHITE	BLACK	BLACK		2.00	2.00
W1-4L	36	36					4	RETRORE-FLECTIVE ORANGE	BLACK	BLACK		9.00	36.00
W1-4R	36	36					4	RETRORE-FLECTIVE ORANGE	BLACK	BLACK		9.00	36.00
W2-6	30	30					3	RETRORE-FLECTIVE YELLOW	BLACK	BLACK		6.25	18.75
W3-5	36	36	SPEED LIMIT 25				1	RETRORE-FLECTIVE ORANGE	BLACK	BLACK		9.00	9.00
W4-2R	36	36					1	RETRORE-FLECTIVE ORANGE	BLACK	BLACK		9.00	9.00

CONSTRUCTION SIGN SUMMARY (CONTINUED)

IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES) WIDTH	SIZE OF SIGN (INCHES) HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	TEXT DIMENSIONS (INCHES) VERTICAL SPACING	TEXT DIMENSIONS (INCHES) ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	COLOR LEGEND	COLOR BORDER	POST SIZE AND NUMBER REQUIRED	UNIT AREA IN SQUARE FEET	AREA IN SQUARE FEET
W5-1	36	36	ROAD NARROWS	SEE MUTCD STD. DETAIL			7	RETRORE-FLECTIVE ORANGE	BLACK	BLACK	MASSDOT SPEC. MOUNT ON POST	9.00	63.00
W6-3	36	36					2	RETRORE-FLECTIVE ORANGE	BLACK	BLACK		9.00	18.00
W8-1	36	36	BUMP				2	RETRORE-FLECTIVE ORANGE	BLACK	BLACK		9.00	18.00
W8-15	36	36	GROOVED PAVEMENT				2	RETRORE-FLECTIVE ORANGE	BLACK	BLACK		9.00	18.00
W8-15P	24	18					2	RETRORE-FLECTIVE ORANGE	BLACK	BLACK		3.00	6.00
W11-2	36	36					6	RETRORE-FLECTIVE YELLOW	BLACK	BLACK		9.00	54.00
W13-1P	24	24	XX MPH				2	RETRORE-FLECTIVE ORANGE	BLACK	BLACK		4.00	8.00
W16-7P	24	12					4	RETRORE-FLECTIVE YELLOW	BLACK	BLACK		2.00	8.00
W16-9P	24	12	AHEAD				2	RETRORE-FLECTIVE YELLOW	BLACK	BLACK		2.00	4.00
W20-1	36	36	ROAD WORK AHEAD				10	RETRORE-FLECTIVE ORANGE	BLACK	BLACK		9.00	90.00
W20-4	36	36	ONE LANE ROAD AHEAD				7	RETRORE-FLECTIVE ORANGE	BLACK	BLACK		9.00	63.00
W20-5R	36	36	RIGHT LANE CLOSED AHEAD				1	RETRORE-FLECTIVE ORANGE	BLACK	BLACK		9.00	9.00
												TOTAL	865.89

NOTES:

1. SIGN SUPPORTS SHALL BE AS SET FORTH IN THE NCHRP 350 REPORT.
2. SEE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2009 EDITION AND ALL REVISIONS, THE 2012 MASSACHUSETTS AMENDMENTS TO THE 2009 MUTCD, THE 2016 MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SIGN BOOK, AND THE STANDARD MUNICIPAL TRAFFIC CODE FOR LATEST SPECIFICATION ON TEXT DIMENSIONS AND COLOR. ALSO REFER TO 2020 MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES SUBSECTION M9.30.0.

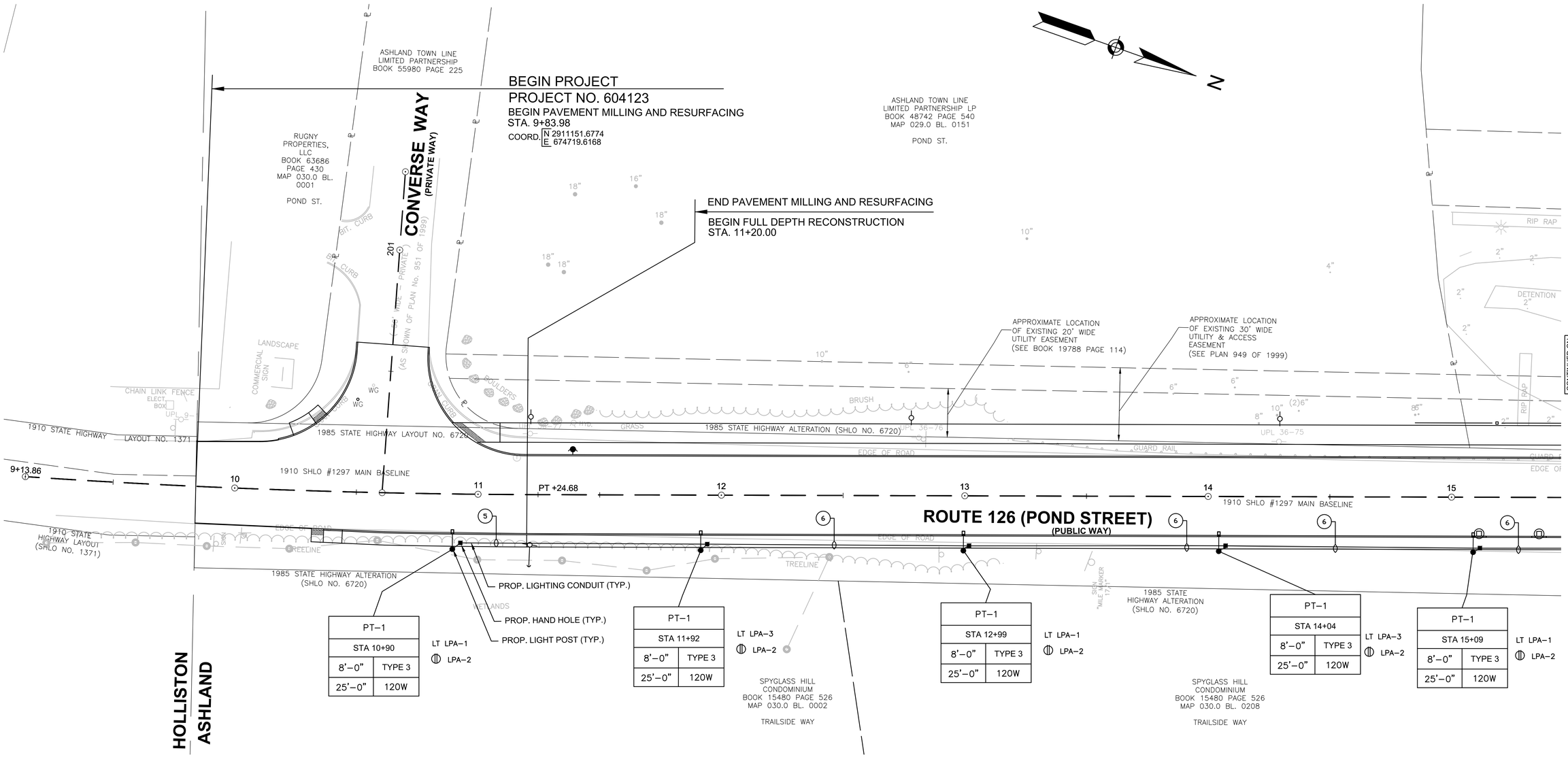
604123_HD20(CONSTRUCTION SIGN SUMMARY).DWG Plotted on 18-Oct-2017 11:42 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	162	331
PROJECT FILE NO.	604123		

LIGHTING PLANS (1 OF 17)

604123_HD211(LIGHTING PLANS).DWG Plotted on 28-Nov-2017 8:09 AM



PT–1	
STA 10+90	
8'–0"	TYPE 3
25'–0"	120W

LT LPA–1
LPA–2

PT–1	
STA 11+92	
8'–0"	TYPE 3
25'–0"	120W

LT LPA–3
LPA–2

PT–1	
STA 12+99	
8'–0"	TYPE 3
25'–0"	120W

LT LPA–1
LPA–2

PT–1	
STA 14+04	
8'–0"	TYPE 3
25'–0"	120W

LT LPA–3
LPA–2

PT–1	
STA 15+09	
8'–0"	TYPE 3
25'–0"	120W

LT LPA–1
LPA–2

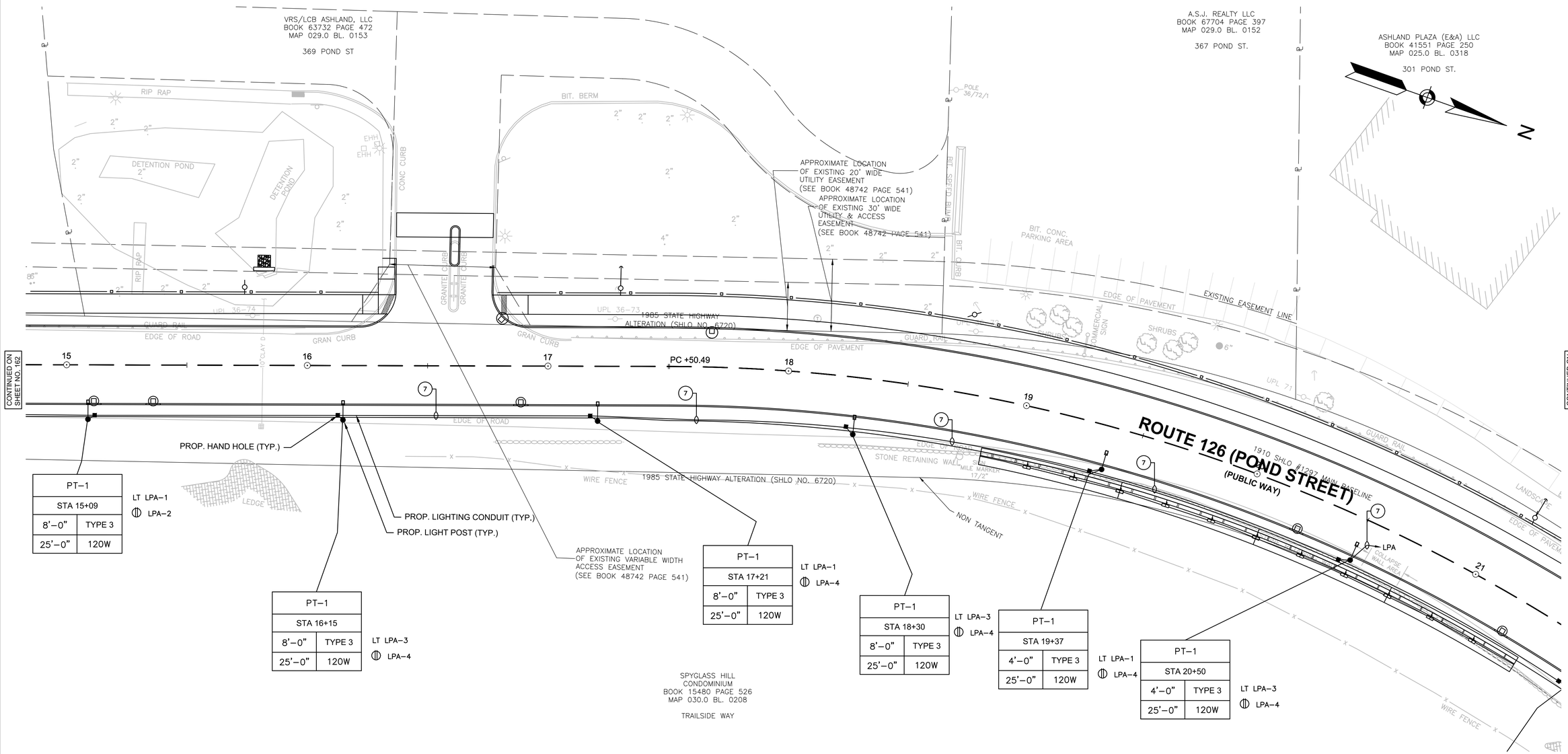
LIGHTING DESCRIPTION BOX SYMBOL

ASSEMBLY TYPE	
POLE STATION & OFFSET	
ARM LENGTH IN FEET	IESNA PHOTOMETRIC DISTRIBUTION
LUMINAIRE MOUNTING HEIGHT	LAMP WATTAGE

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	163	331
PROJECT FILE NO.	604123		

LIGHTING PLANS (2 OF 17)

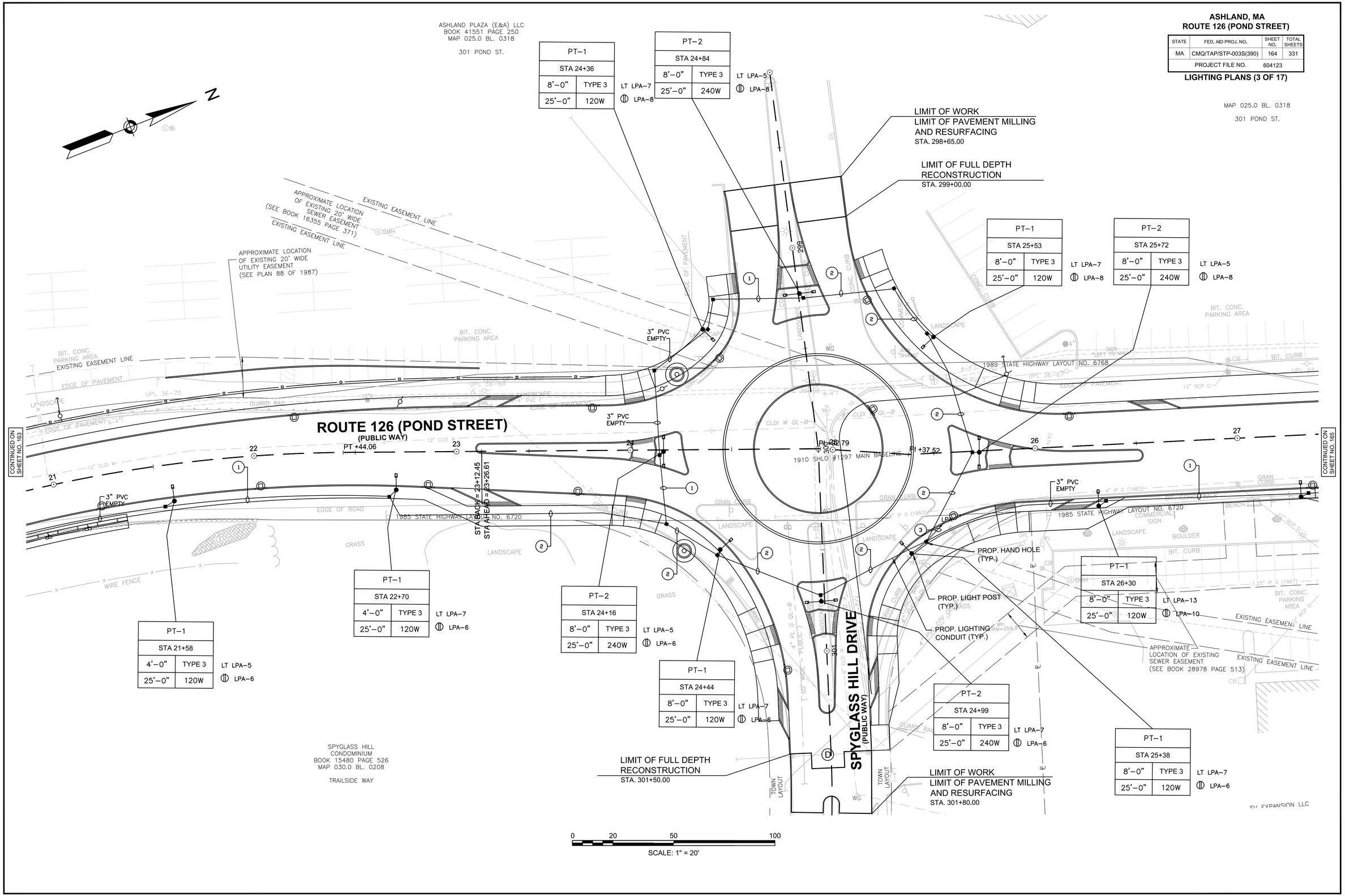


604123_HD21(LIGHTING PLANS).DWG Plotted on 28-Nov-2017 8:09 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	164	331
PROJECT FILE NO.	604123		

LIGHTING PLANS (3 OF 17)

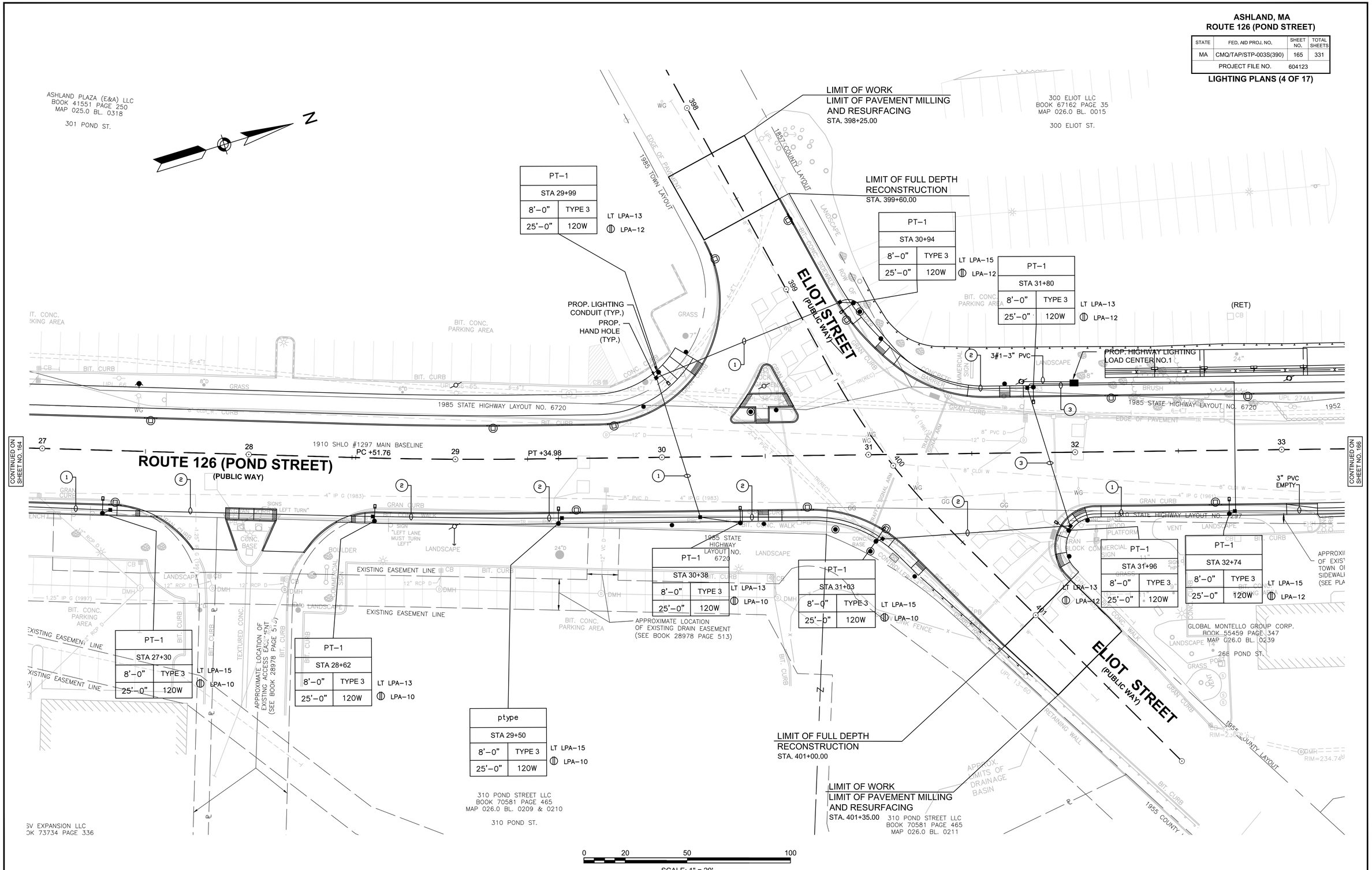


604123_HD21(LIGHTING PLANS).DWG Plotted on 28-Nov-2017 8:09 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	165	331
PROJECT FILE NO.	604123		

LIGHTING PLANS (4 OF 17)



PT-1	
STA 29+99	
8'-0"	TYPE 3
25'-0"	120W

LT LPA-13
LPA-12

PT-1	
STA 30+94	
8'-0"	TYPE 3
25'-0"	120W

LT LPA-15
LPA-12

PT-1	
STA 31+80	
8'-0"	TYPE 3
25'-0"	120W

LT LPA-13
LPA-12

PT-1	
STA 27+30	
8'-0"	TYPE 3
25'-0"	120W

LT LPA-15
LPA-10

PT-1	
STA 28+62	
8'-0"	TYPE 3
25'-0"	120W

LT LPA-13
LPA-10

PT-1	
STA 30+38	
8'-0"	TYPE 3
25'-0"	120W

LT LPA-13
LPA-10

PT-1	
STA 31+03	
8'-0"	TYPE 3
25'-0"	120W

LT LPA-15
LPA-10

ptype	
STA 29+50	
8'-0"	TYPE 3
25'-0"	120W

LT LPA-15
LPA-10

PT-1	
STA 31+96	
8'-0"	TYPE 3
25'-0"	120W

LT LPA-13
LPA-12

PT-1	
STA 32+74	
8'-0"	TYPE 3
25'-0"	120W

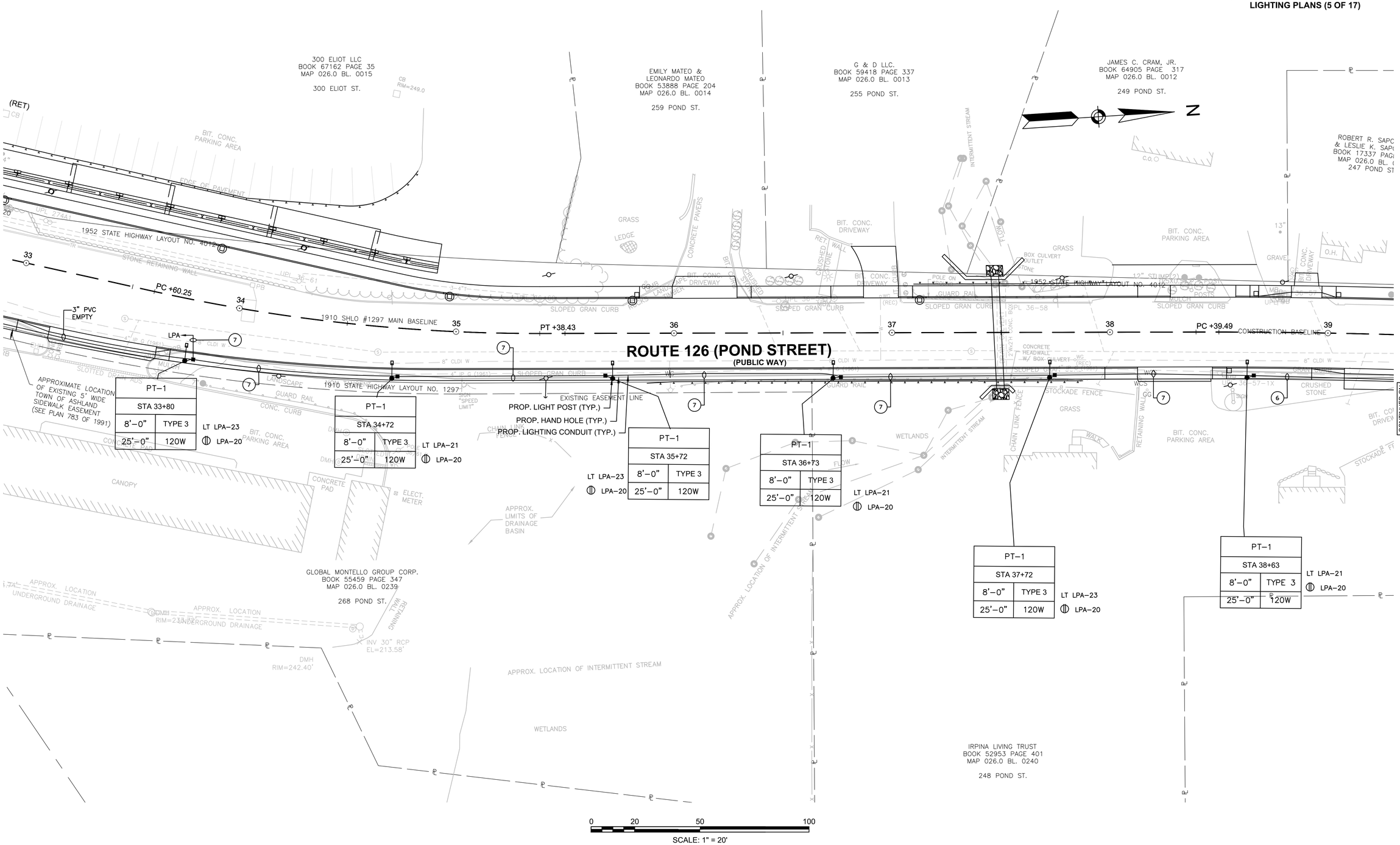
LT LPA-15
LPA-12

604123_HD21(LIGHTING PLANS).DWG Plotted on 28-Nov-2017 8:09 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	166	331
PROJECT FILE NO.	604123		

LIGHTING PLANS (5 OF 17)

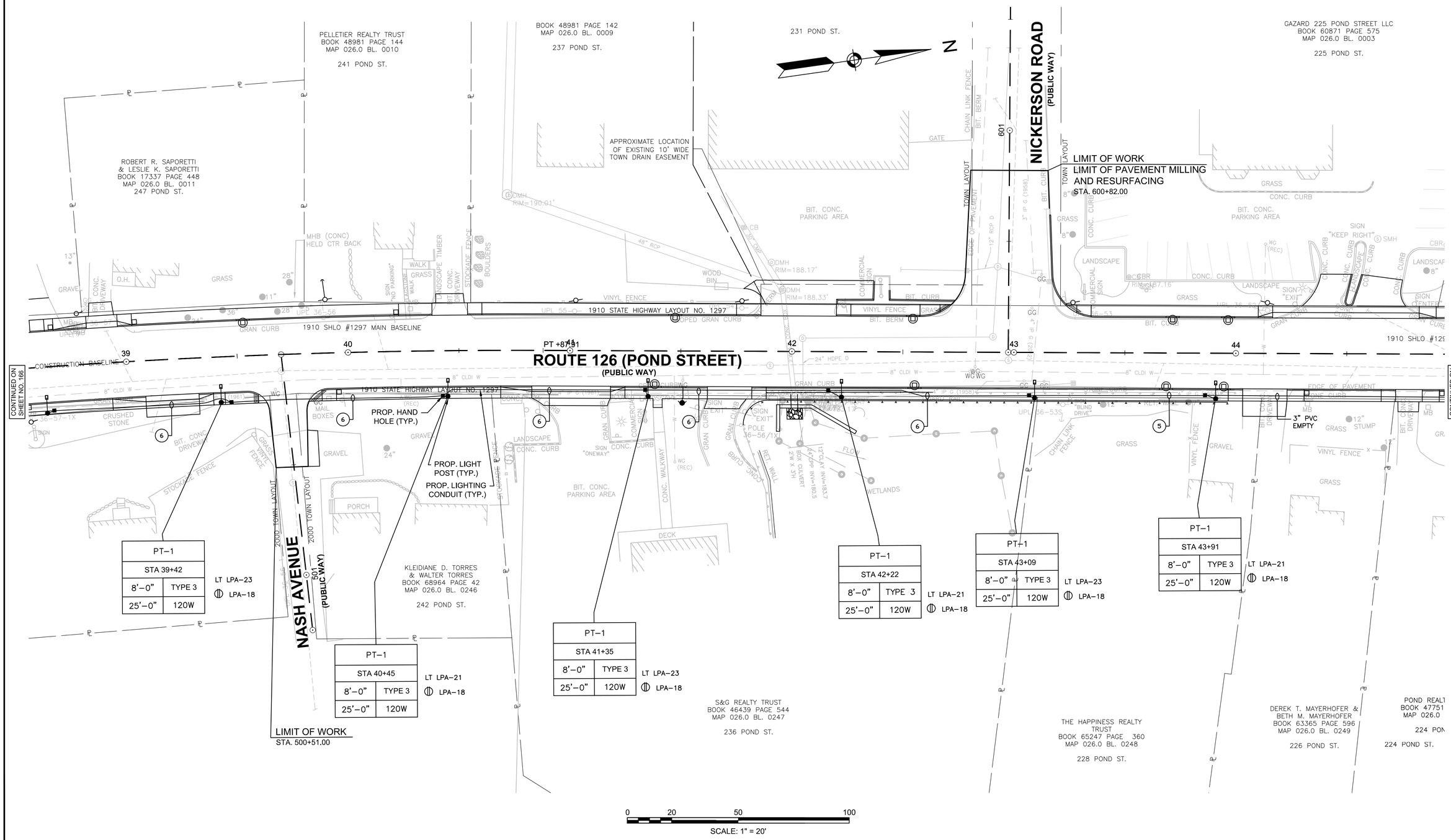


604123_HD21(LIGHTING PLANS).DWG Plotted on 28-Nov-2017 8:09 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	167	331
PROJECT FILE NO.	604123		

LIGHTING PLANS (6 OF 17)

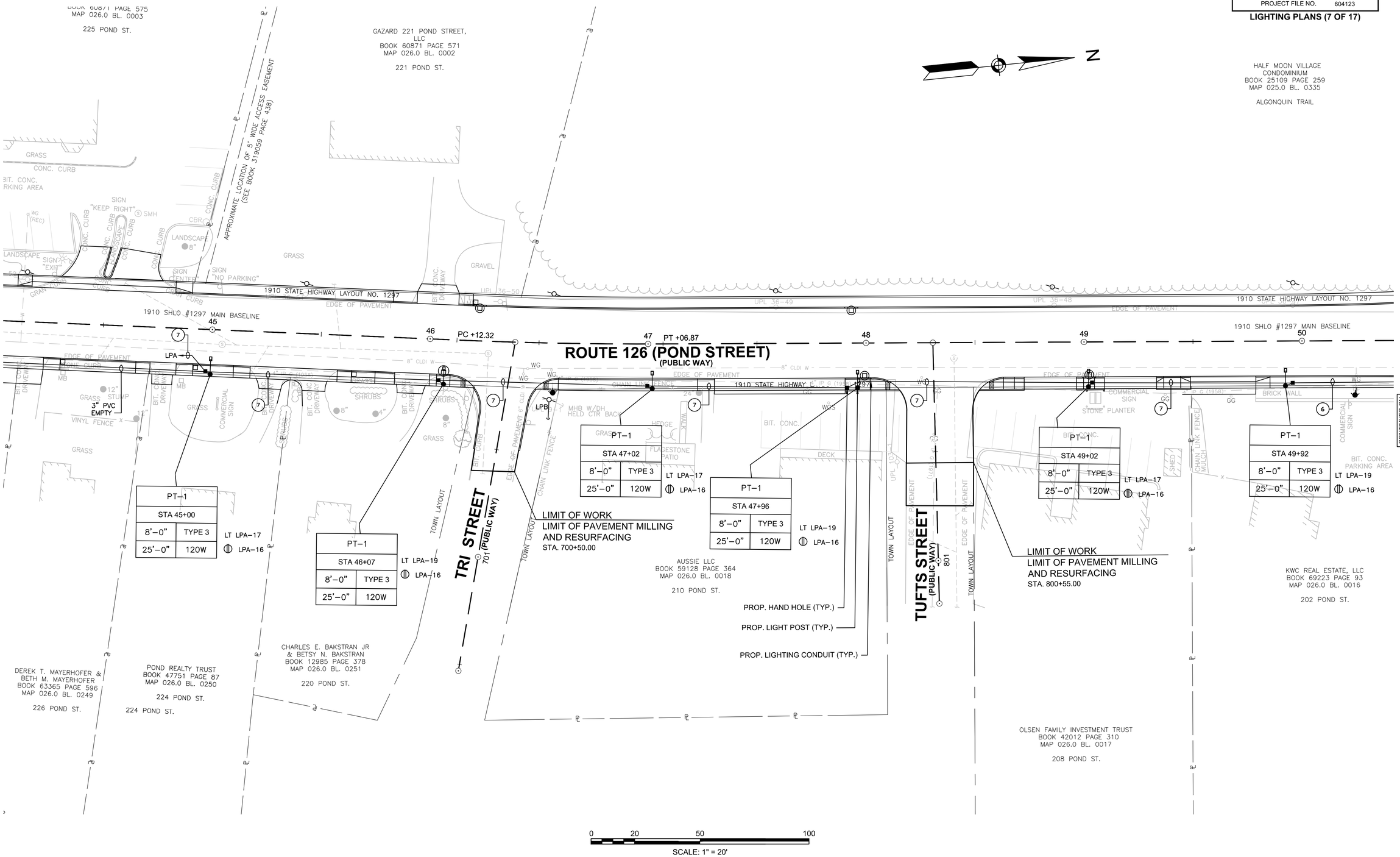


604123_HD211(LIGHTING PLANS).DWG Plotted on 28-Nov-2017 8:09 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	168	331
PROJECT FILE NO.	604123		

LIGHTING PLANS (7 OF 17)



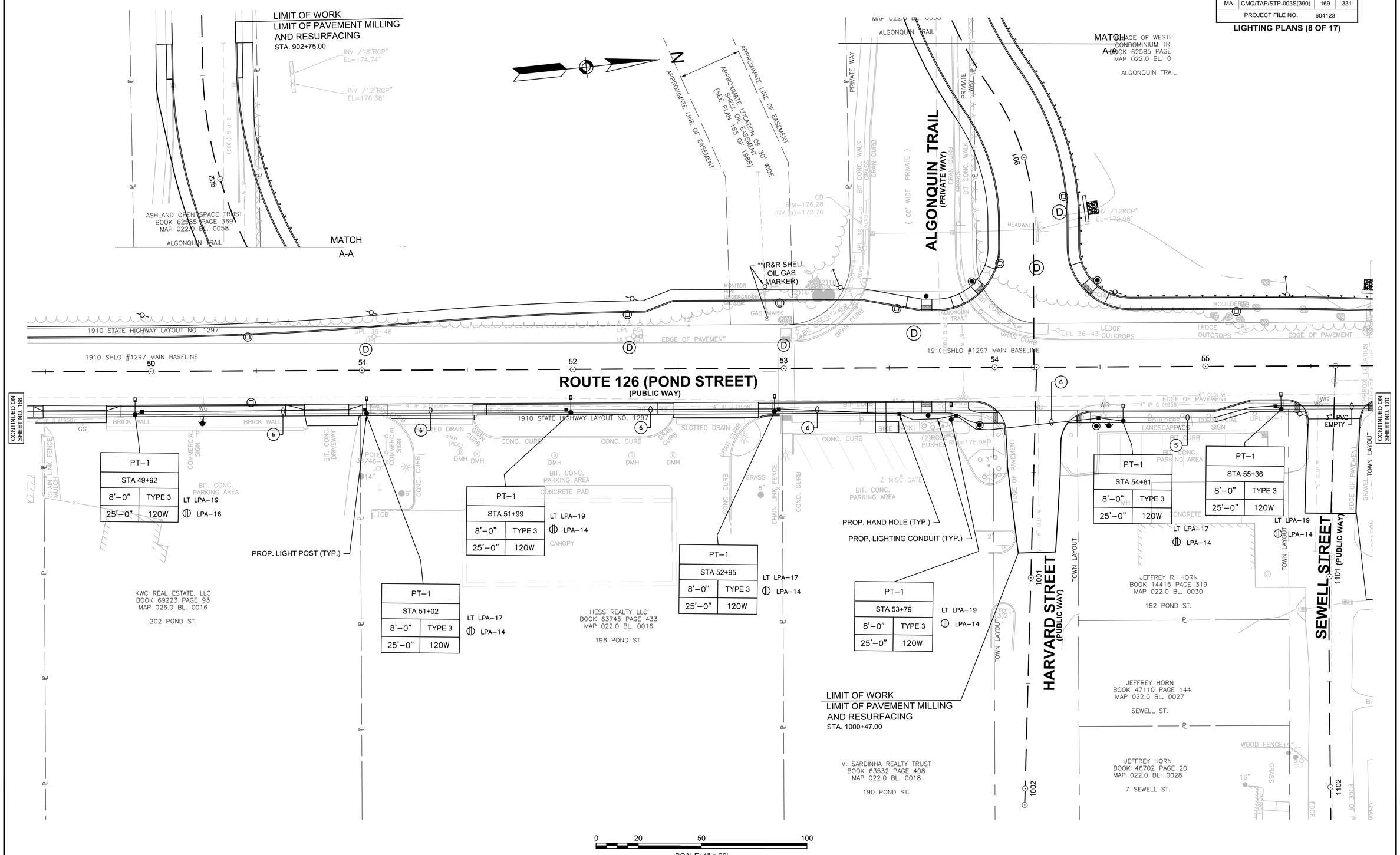
604123_HD21(LIGHTING PLANS).DWG Plotted on 28-Nov-2017 8:09 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	169	331
PROJECT FILE NO.	604123		

LIGHTING PLANS (8 OF 17)

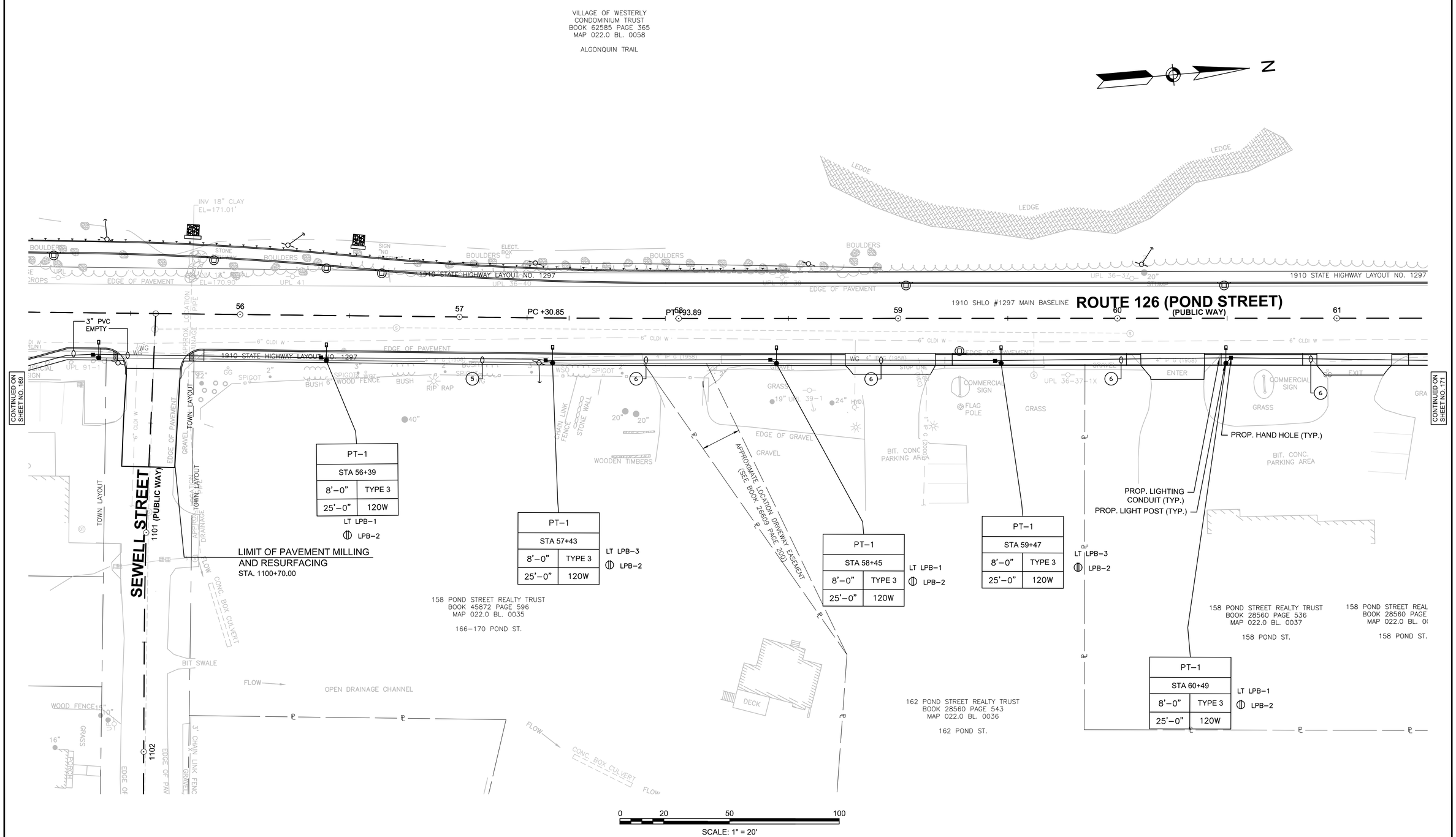
604123_HD21(LIGHTING PLANS).DWG Plotted on 28-Nov-2017 8:09 AM



ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	170	331
PROJECT FILE NO.	604123		

LIGHTING PLANS (9 OF 17)

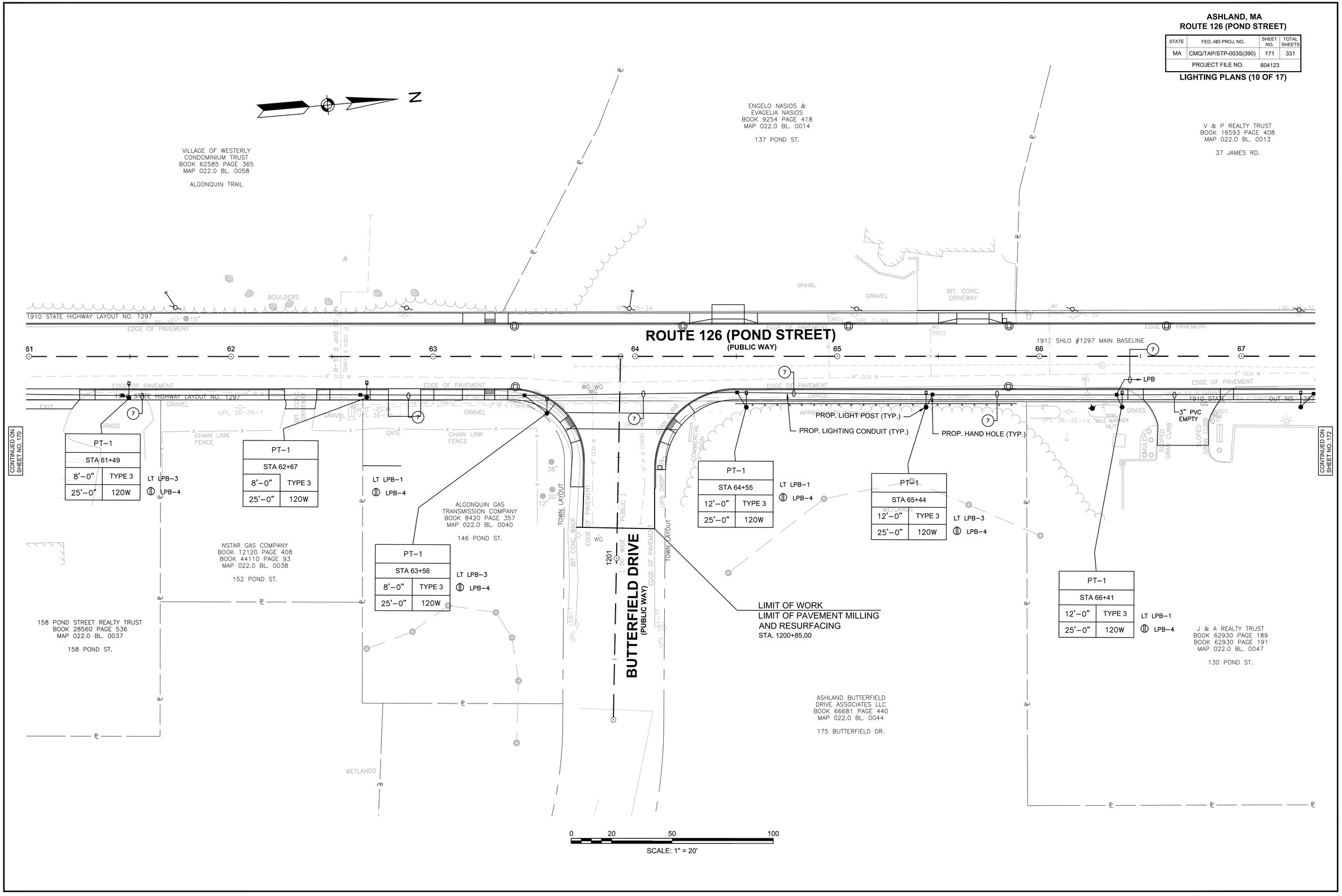


604123_HD21(LIGHTING PLANS).DWG Plotted on 28-Nov-2017 8:09 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	171	331
PROJECT FILE NO.	604123		

LIGHTING PLANS (10 OF 17)

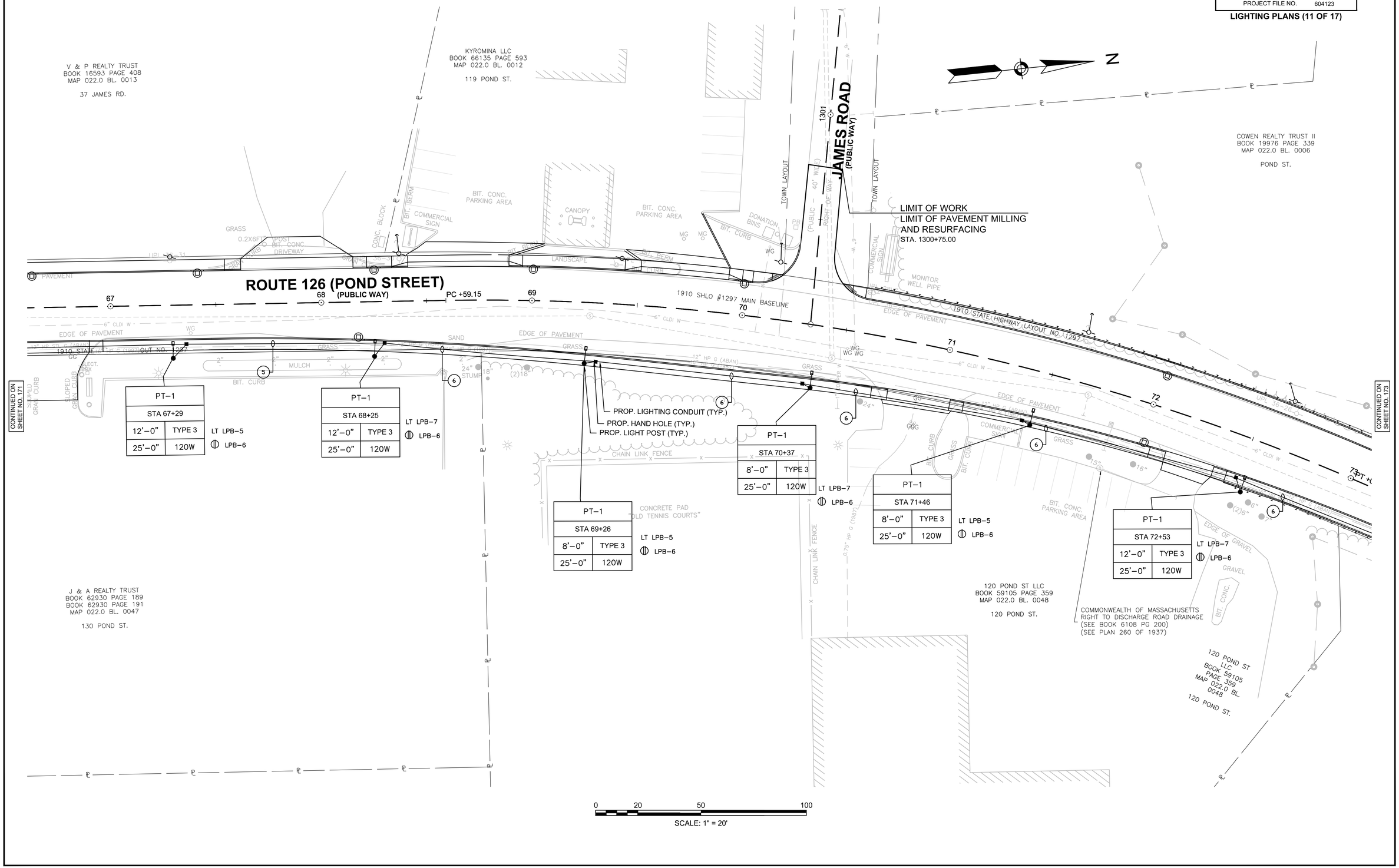


604123_HD21(LIGHTING PLANS).DWG Plotted on 28-Nov-2017 8:09 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	172	331
PROJECT FILE NO.	604123		

LIGHTING PLANS (11 OF 17)



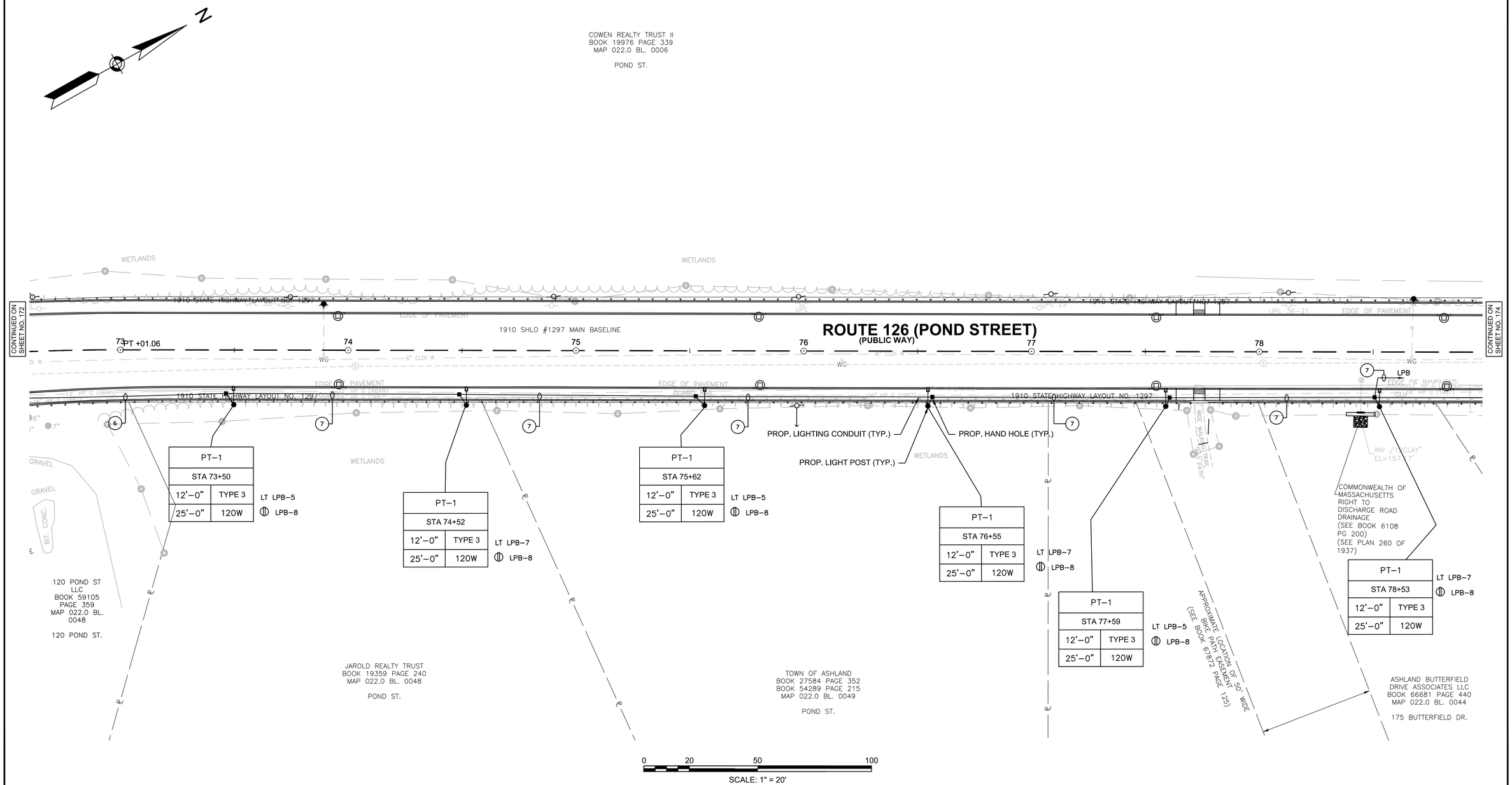
604123_HD21(LIGHTING PLANS).DWG Plotted on 28-Nov-2017 8:09 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	173	331
PROJECT FILE NO.	604123		

LIGHTING PLANS (12 OF 17)

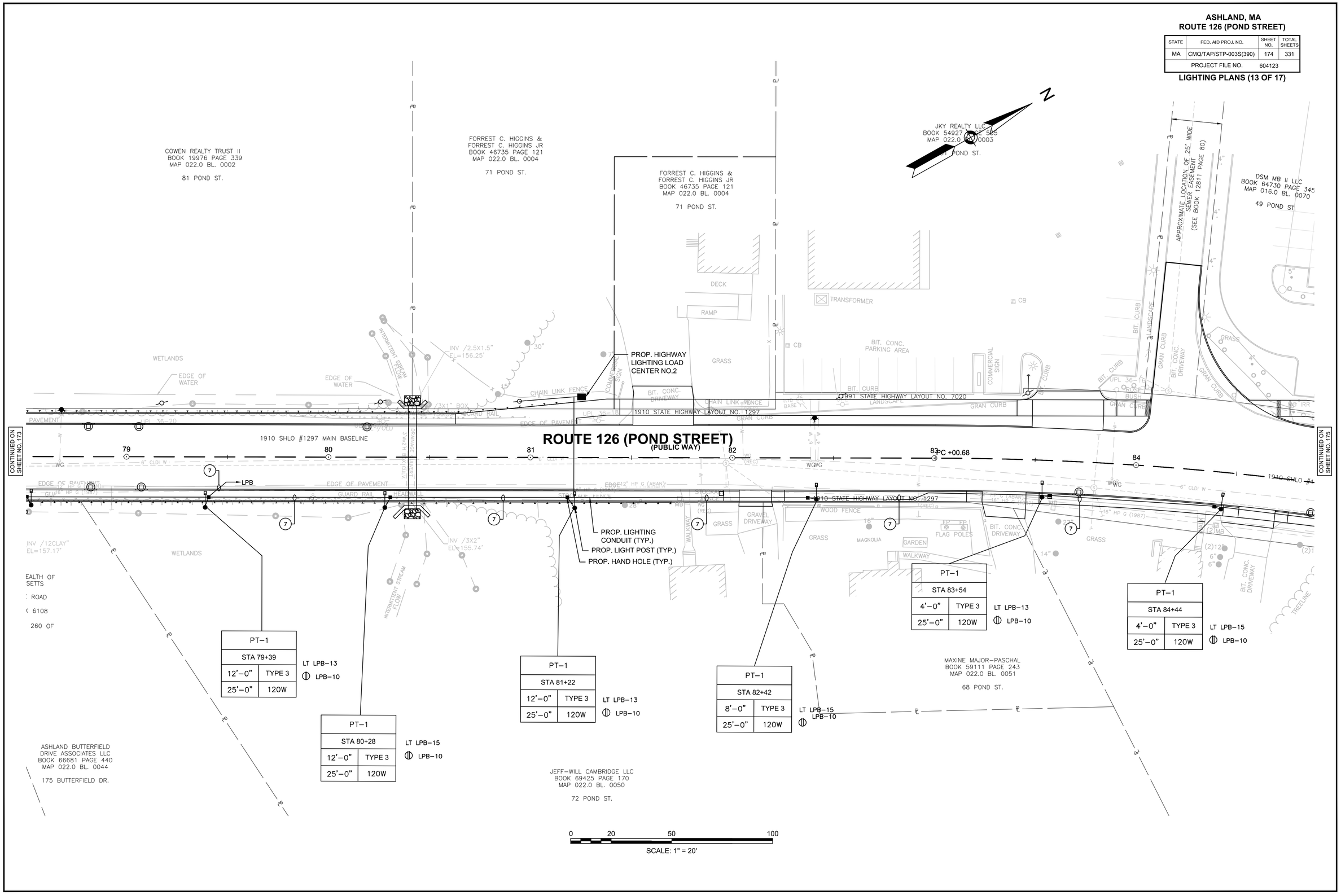
604123_HD21(LIGHTING PLANS).DWG Plotted on 28-Nov-2017 8:09 AM



ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	174	331
PROJECT FILE NO.	604123		

LIGHTING PLANS (13 OF 17)



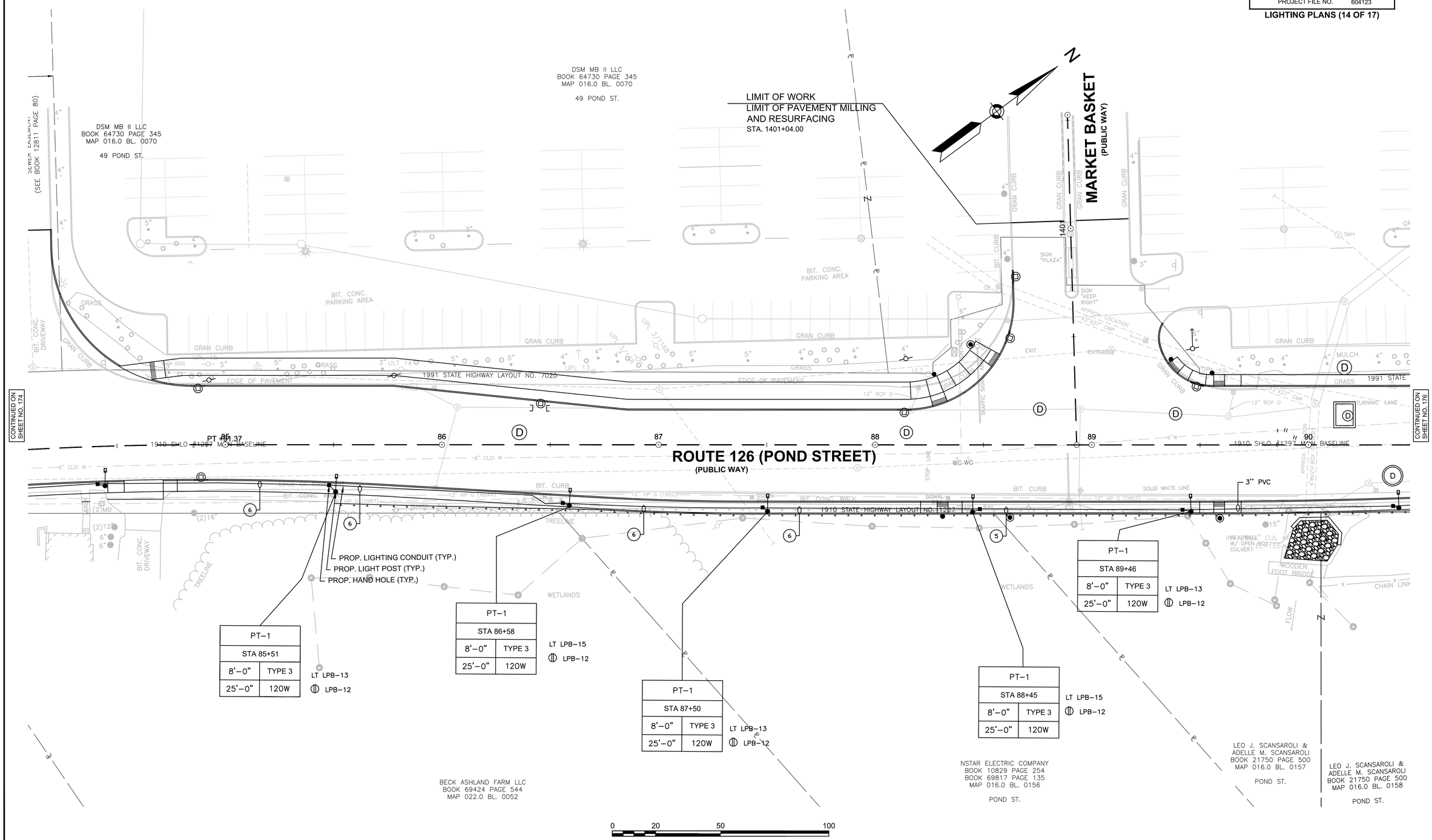
604123_HD211(LIGHTING PLANS).DWG Plotted on 28-Nov-2017 8:09 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	175	331
PROJECT FILE NO.	604123		

LIGHTING PLANS (14 OF 17)

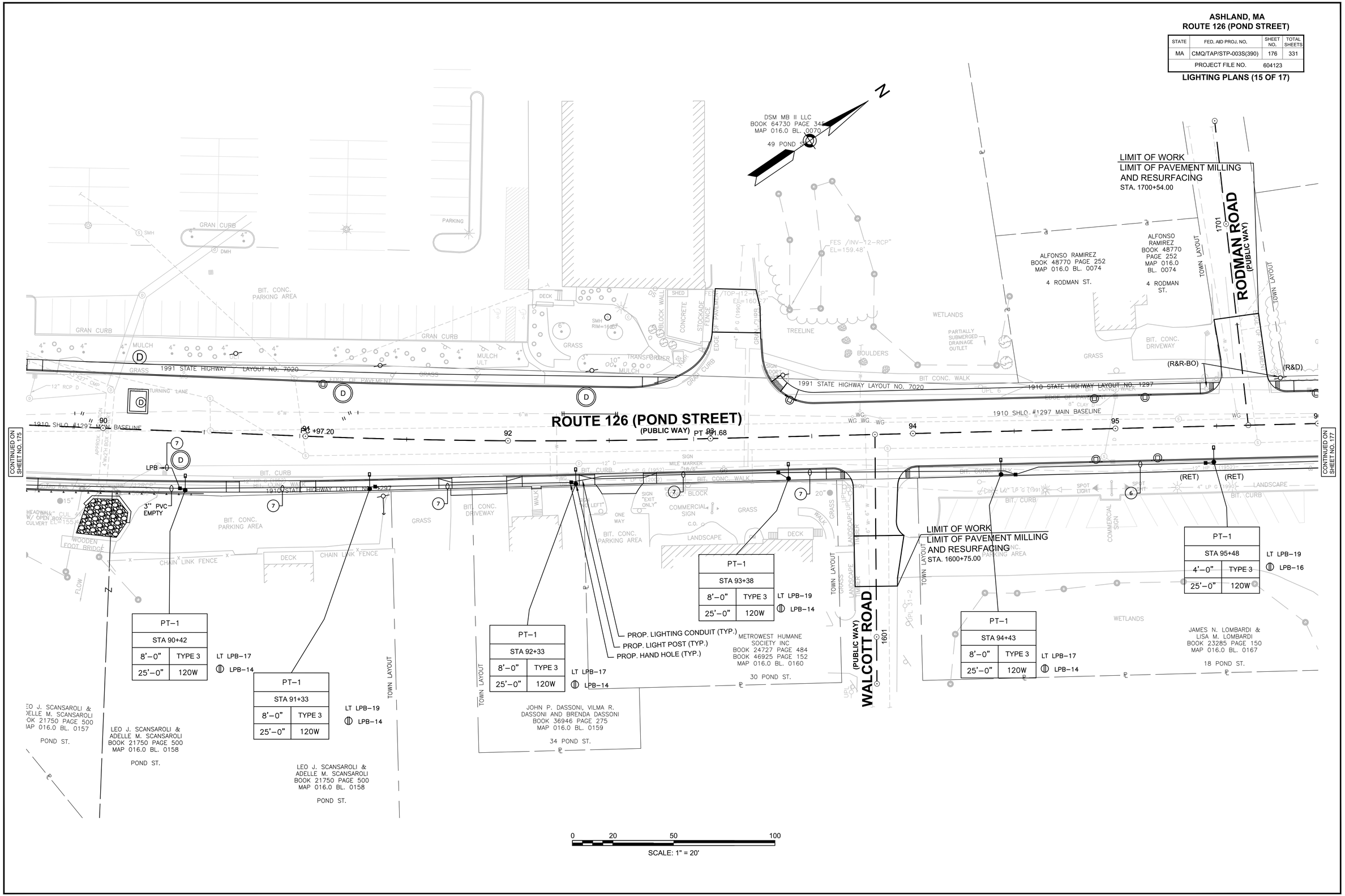
604123_HD21(LIGHTING PLANS).DWG Plotted on 28-Nov-2017 8:09 AM



ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	176	331
PROJECT FILE NO.	604123		

LIGHTING PLANS (15 OF 17)

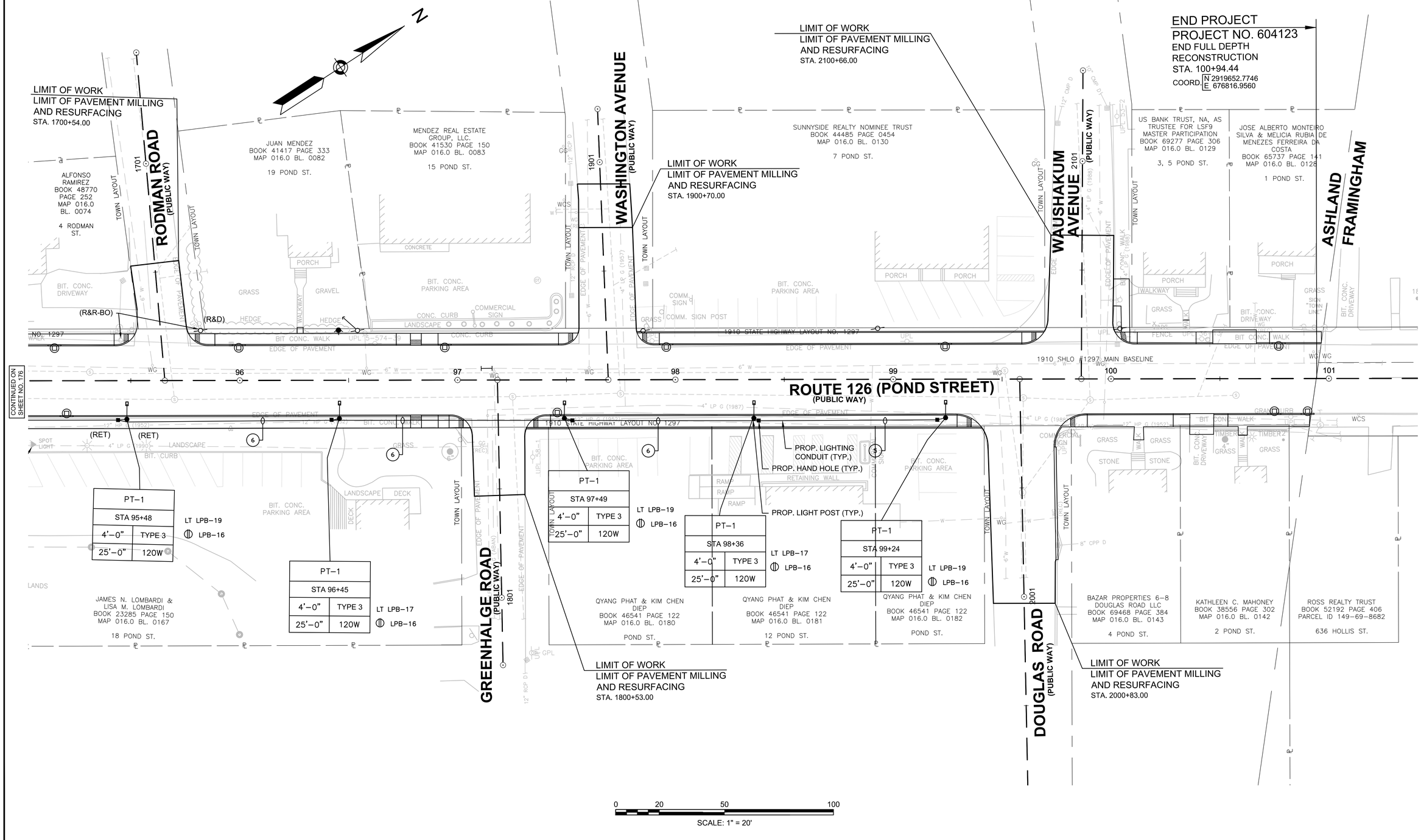


604123_HD21(LIGHTING PLANS).DWG Plotted on 28-Nov-2017 8:09 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	177	331
PROJECT FILE NO.	604123		

LIGHTING PLANS (16 OF 17)



604123_HD21(LIGHTING PLANS).DWG Plotted on 28-Nov-2017 8:09 AM

604123_HD21(LIGHTING PLANS).DWG Plotted on 28-Nov-2017 8:09 AM

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
	74	PT-1 100W Type 3	SINGLE	N.A.	0.720	K800-P4FL-III-100(SSL)-8060
	4	PT-2 100W Type 3	BACK-BACK	N.A.	0.720	K800-P4FL-III-100(SSL)-8060
	10	PT-1 100W Type 3 4' arm	SINGLE	N.A.	0.720	K800-P4FL-III-100(SSL)-8060
	12	PT-1 100W Type 3 12' arm	SINGLE	N.A.	0.720	K800-P4FL-III-100(SSL)-8060

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	LVRatio
Crosswalk - EB @ Eliot Street	Illuminance	Fc	1.01	2.1	0.2	5.05	10.50	N.A.
Crosswalk - WB @ Eliot Street	Illuminance	Fc	2.33	3.0	0.6	3.88	5.00	N.A.
Crosswalk-126NB @ Algonquin	Illuminance	Fc	2.43	3.0	1.6	1.52	1.88	N.A.
Crosswalk-126NB @ Butterfield	Illuminance	Fc	2.25	2.4	2.1	1.07	1.14	N.A.
Crosswalk-126NB @ Eliot	Illuminance	Fc	2.26	3.2	0.3	7.53	10.67	N.A.
Crosswalk-126NB @ MarketBasket	Illuminance	Fc	2.29	2.9	0.6	3.82	4.83	N.A.
Crosswalk-126NB @ STA77	Illuminance	Fc	2.49	3.2	0.8	3.11	4.00	N.A.
Crosswalk-126SB @ Algonquin	Illuminance	Fc	0.79	1.6	0.4	1.98	4.00	N.A.
Crosswalk-126SB @ Butterfield	Illuminance	Fc	1.41	2.0	0.6	2.35	3.33	N.A.
Crosswalk-126SB @ Eliot	Illuminance	Fc	1.97	2.6	0.7	2.81	3.71	N.A.
Crosswalk-126SB @ MarketBasket	Illuminance	Fc	1.07	1.9	0.3	3.57	6.33	N.A.
Crosswalk-126SB @ STA77	Illuminance	Fc	2.47	3.2	1.9	1.30	1.68	N.A.
Crosswalk-E of Rotary (Exiting)	Illuminance	Fc	3.55	3.8	3.2	1.11	1.19	N.A.
Crosswalk-N of Rotary (Entering)	Illuminance	Fc	3.36	3.8	1.8	1.87	2.11	N.A.
Crosswalk-N of Rotary (Exiting)	Illuminance	Fc	3.35	3.7	2.8	1.20	1.32	N.A.
Crosswalk-S of Rotary (Entering)	Illuminance	Fc	3.78	4.3	2.2	1.72	1.95	N.A.
Crosswalk-S of Rotary (Exiting)	Illuminance	Fc	4.68	5.1	4.0	1.17	1.28	N.A.
Crosswalk-W of Rotary (Exiting)	Illuminance	Fc	3.61	4.0	2.9	1.24	1.38	N.A.
Roadway - Eliot Intersection	Illuminance	Fc	1.55	3.8	0.0	N.A.	N.A.	N.A.
Roadway - Rotary	Illuminance	Fc	2.83	6.8	0.2	14.15	34.00	N.A.
RT126 - NB (North Section)_Lumin	Luminance	Cd/Sq.m	1.55	1.8	1.3	1.19	1.38	N.A.
RT126 - NB (North Section)_Veil_	Veiling Luminance	Cd/Sq.m	0.17	0.3	0.0	N.A.	N.A.	0.19
RT126 - NB (South Section)_Lumin	Luminance	Cd/Sq.m	1.36	1.6	1.1	1.24	1.45	N.A.
RT126 - NB (South Section)_Veil_	Veiling Luminance	Cd/Sq.m	0.16	0.3	0.0	N.A.	N.A.	0.22
RT126 - SB (North Section)_Lumin	Luminance	Cd/Sq.m	0.89	1.1	0.7	1.27	1.57	N.A.
RT126 - SB (North Section)_Veil_	Veiling Luminance	Cd/Sq.m	0.14	0.2	0.0	N.A.	N.A.	0.22
RT126 - SB (South Section)_Lumin	Luminance	Cd/Sq.m	0.80	1.0	0.6	1.33	1.67	N.A.
RT126 - SB (South Section)_Veil_	Veiling Luminance	Cd/Sq.m	0.11	0.2	0.0	N.A.	N.A.	0.25

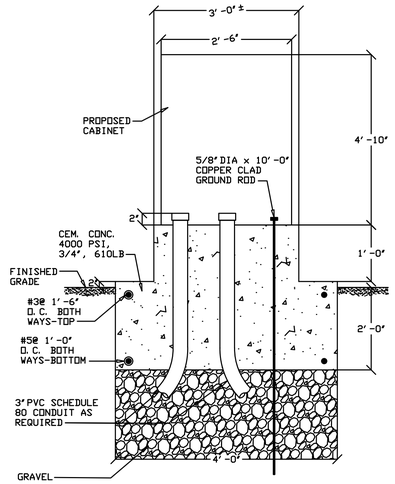
0 20 50 100

SCALE: 1" = 20'

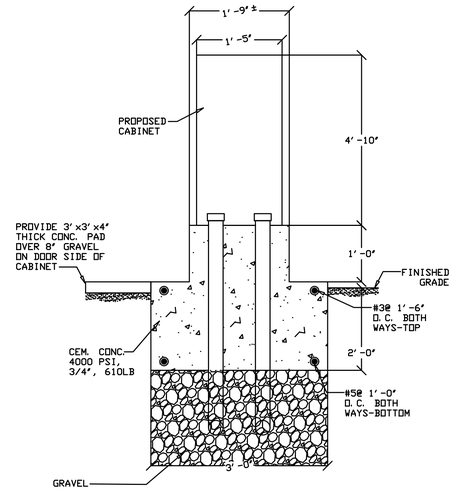
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	179	331
PROJECT FILE NO.	604123		

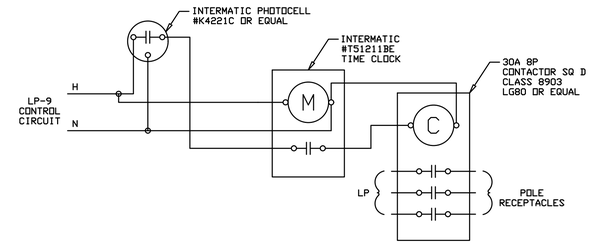
LIGHTING DETAILS 1



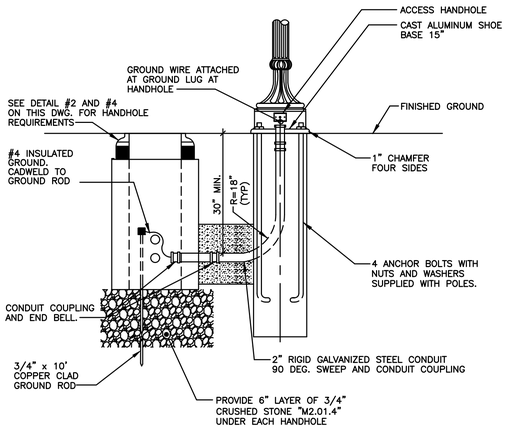
HIGHWAY LIGHTING LOAD CENTER FOUNDATION
FRONT VIEW
NOT TO SCALE



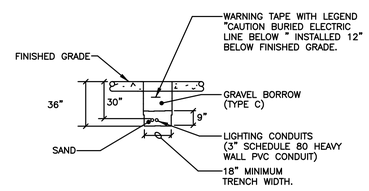
HIGHWAY LIGHTING LOAD CENTER FOUNDATION
SIDE VIEW
NOT TO SCALE



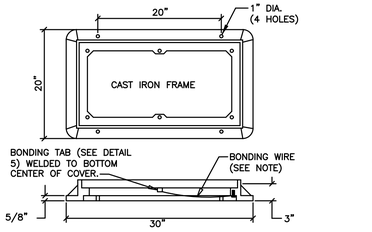
CONTACTOR WIRING DIAGRAM
NOT TO SCALE

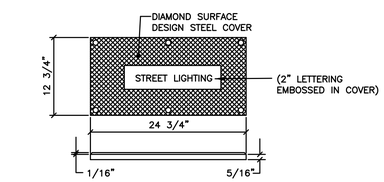


TYPICAL POLE BASE, HANDHOLE AND POLE FOUNDATION
NOT TO SCALE

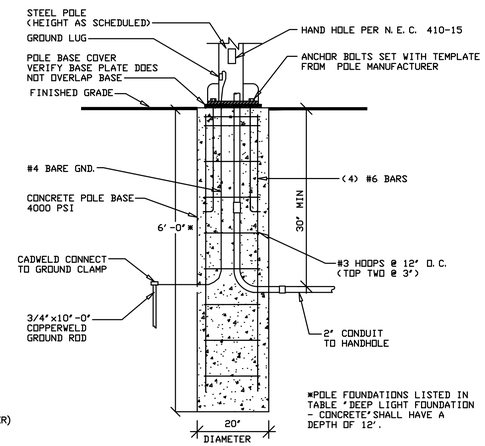


SECTION A
TYPICAL CONDUIT TRENCH
NOT TO SCALE





2 TYPICAL HANDHOLE COVER
NOT TO SCALE

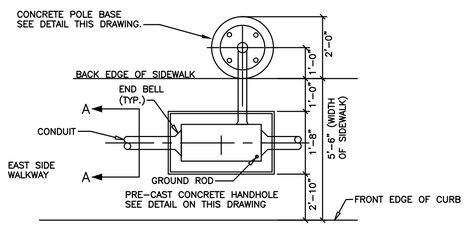


*POLE FOUNDATIONS LISTED IN TABLE "DEEP LIGHT FOUNDATION - CONCRETE" SHALL HAVE A DEPTH OF 12'.

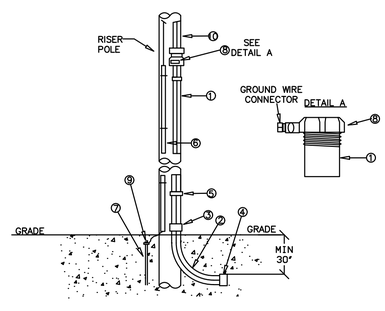
POLE BASE DETAIL
NOT TO SCALE

DEEP LIGHT FOUNDATION - CONCRETE
STATION
14+04
15+09
16+15
17+21
64+55
65+44
66+41
72+53
73+50
74+52
75+62
76+55
77+59
78+53
79+39
80+28
81+22

COORDINATE LOCATIONS OF HANDHOLES WITH EXISTING UNDERGROUND PIPING AND UTILITIES

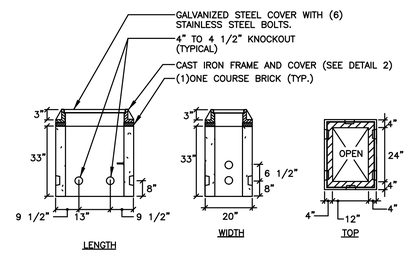


TYPICAL POLE BASE AND HANDHOLE ARRANGEMENT
NOT TO SCALE

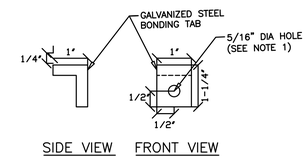


ITEM	MATERIAL DESCRIPTION
1	3" DIA. GALV. STEEL CONDUIT 10' LENGTH 1 EA.
2	3" DIA. GALV. STEEL BEND 36"-RAD.
3	3" DIA. GALV. STEEL COUPLING
4	3" DIA. STEEL TO PVC ADAPTER
5	3" DIA. STEEL STRAP 4 EA.
6	#6 AWG, BARE COPPER WIRE & MOULDING
7	5/8" X 10' COPPERWELD GROUND ROD
8	INSULATED GROUNDING BUSHING
9	GROUND ROD CLAMP
10	4"FIBERGLASS U-DUCT

PRIMARY RISER POLE DETAIL
NOT TO SCALE

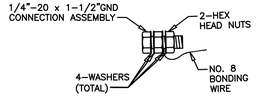


4 TYPICAL PRE-CAST CONCRETE HANDHOLE
NOT TO SCALE



SIDE VIEW FRONT VIEW

NOTES:
1. ATTACH 3 FOOT LENGTH OF NO. 8 BONDING WIRE TO GALVANIZED STEEL BONDING TAB WITH 1/4"-20 x 1-1/2" LONG STAINLESS STEEL HEX HEAD BOLT, STAINLESS STEEL FLAT WASHERS AND 2 HEX NUTS. ATTACH FREE END OF BONDING WIRE TO BONDING WIRE ROUTED THROUGH PULL BOX.
2. BONDING TAB WELDED TO BOTTOM CENTER OF COVER.



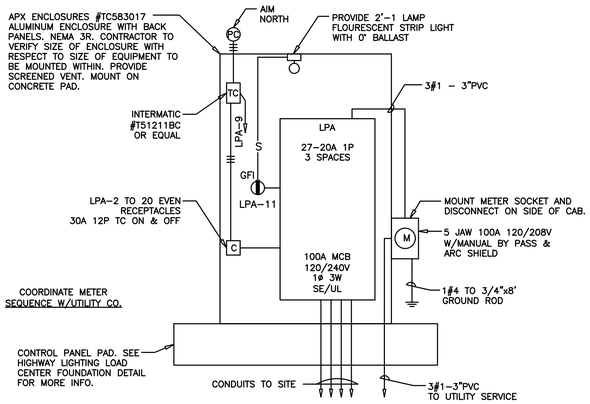
5 GALVANIZED STEEL BONDING TAB
NOT TO SCALE

604123_HD22(LIGHTING DETAILS).DWG Plotted on 24-Jun-2020 12:52 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	180	331
PROJECT FILE NO.	604123		

LIGHTING DETAILS 2



HIGHWAY LIGHTING LOAD CENTER NO.1

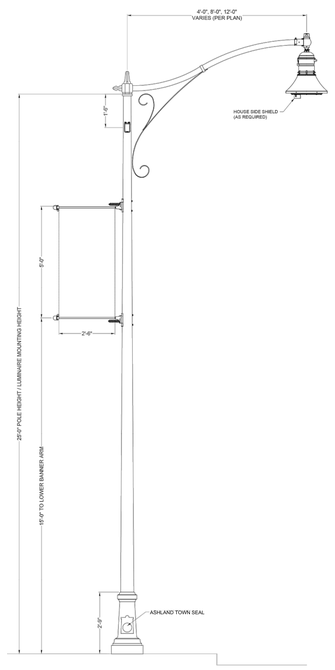
NOT TO SCALE

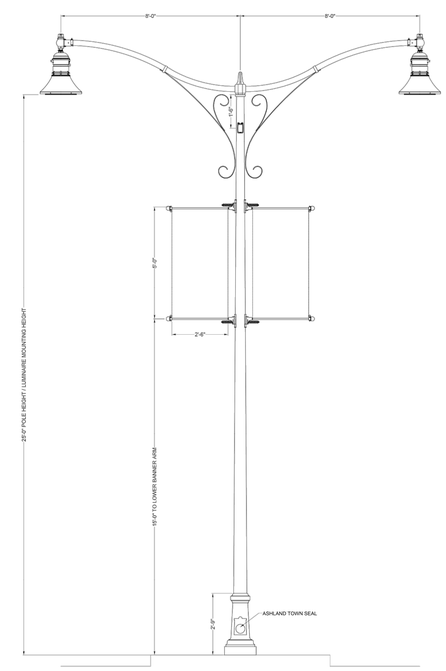
PANEL LPA SCHEDULE — CONNECTED LOAD: 10,150 WATTS — 42.3 AMPS — 120/240 VOLTS 1ø 3W — MAINS: 100A MCB — *HANDLE LOCKS S/P

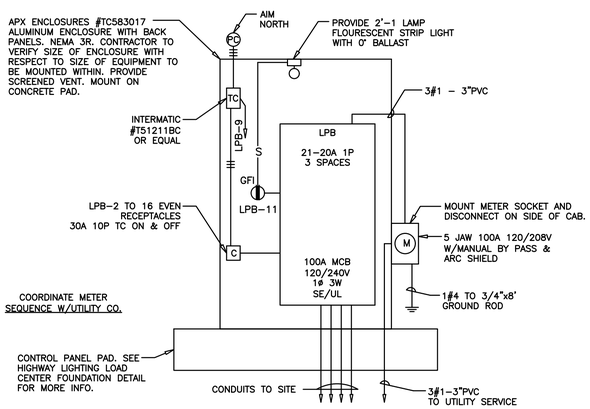
CKT NO	DESCRIPTION	CKT BKR AMP	P	CONNECTED LOAD WATTS A	CONNECTED LOAD WATTS B	CKT BKR AMP	P	DESCRIPTION	CKT NO
1	5 LIGHTS	20	1	600 / 250	—	20	1	POLE RECEPTS	2
3	5 LIGHTS	20	1	—	600 / 250	20	1	POLE RECEPTS	4
5	4 LIGHTS	20	1	480 / 500	—	20	1	POLE RECEPTS	6
7	6 LIGHTS	20	1	—	780 / 300	20	1	POLE RECEPTS	8
9	CONTROL CIRCUIT	20	1	300 / 300	—	20	1	POLE RECEPTS	10
11	CAB. LTG & RECEPT	20	1	—	500 / 300	20	1	POLE RECEPTS	12
13	6 LIGHTS	20	1	780 / 250	—	20	1	POLE RECEPTS	14
15	5 LIGHTS	20	1	—	500 / 300	20	1	POLE RECEPTS	16
17	6 LIGHTS	20	1	780 / 300	—	20	1	POLE RECEPTS	18
19	6 LIGHTS	20	1	—	780 / 300	20	1	POLE RECEPTS	20
21	6 LIGHTS	20	1	780 / —	—	20	1	SPARE	22
23	6 LIGHTS	20	1	—	780 / —	20	1	SPARE	24
25	SPARE	20	1	—	—		1	SPACE	26
27	SPARE	20	1	—	—		1	SPACE	28
29	SPARE	20	1	—	—		1	SPACE	30
		TOTAL							

WIRE SCHEDULE

1. 4#4 & 1#4GND. – 3" PVC
2. 5#4 & 1#4GND. – 3" PVC
3. 6#4 & 1#4GND. – 3" PVC
5. 4#2 & 1#2GND. – 3" PVC
6. 5#2 & 1#2GND. – 3" PVC
7. 6#2 & 1#2GND. – 3" PVC







HIGHWAY LIGHTING LOAD CENTER NO.2

NOT TO SCALE

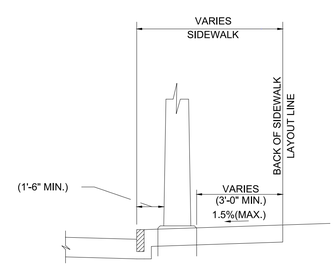
PANEL LPB SCHEDULE — CONNECTED LOAD: 8,380 WATTS — 34.9 AMPS — 120/240 VOLTS 1ø 3W — MAINS: 100A MCB — *HANDLE LOCKS S/P

CKT NO	DESCRIPTION	CKT BKR AMP	P	CONNECTED LOAD WATTS A	CONNECTED LOAD WATTS B	CKT BKR AMP	P	DESCRIPTION	CKT NO
1	6 LIGHTS	20	1	780 / 300	—	20	1	POLE RECEPTS	2
3	5 LIGHTS	20	1	—	600 / 250	20	1	POLE RECEPTS	4
5	6 LIGHTS	20	1	780 / 300	—	20	1	POLE RECEPTS	6
7	6 LIGHTS	20	1	—	780 / 300	20	1	POLE RECEPTS	8
9	CONTROL CIRCUIT	20	1	300 / 300	—	20	1	POLE RECEPTS	10
11	CAB. LTG & RECEPT	20	1	—	500 / 300	20	1	POLE RECEPTS	12
13	6 LIGHTS	20	1	780 / 300	—	20	1	POLE RECEPTS	14
15	5 LIGHTS	20	1	—	600 / 250	20	1	POLE RECEPTS	16
17	5 LIGHTS	20	1	600 / —	—	20	1	SPARE	18
19	5 LIGHTS	20	1	—	600		1	SPACE	20
21	SPARE	20	1	—	—		1	SPACE	22
23	SPARE	20	1	—	—		1	SPACE	24
		TOTAL							

VOLTAGE DROP CALCULATIONS

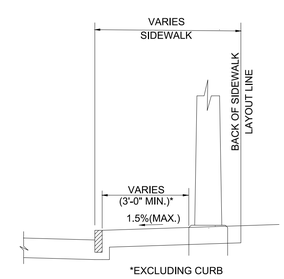
% VD = AMPS X DISTANCE (100') X FACTOR /120

CIR#	AMPS	DIST.	WIRE SIZE	% VD
LPA-1	5	1150'	#2	1.8%
LPA-3	5	650'	#2	1.03%
LPA-5	4	650'	#4	1.3%
LPA-7	6	850'	#4	2.6%
LPA-13	6	500'	#4	1.5%
LPA-15	5	500'	#4	1.3%
LPA-17	6	1200'	#2	2.3%
LPA-19	6	1200'	#2	2.3%
LPA-21	6	900'	#2	1.7%
LPA-23	6	900'	#2	1.7%
LPB-1	6	1400'	#2	2.7%
LPB-3	5	1400'	#2	2.3%
LPB-5	6	1100'	#2	2.1%
LPB-7	6	1100'	#2	2.1%
LPB-13	6	1000'	#2	2.1%
LPB-15	5	1000'	#2	1.6%
LPB-17	5	1300'	#2	2.1%
LPB-19	5	1300'	#2	2.1%



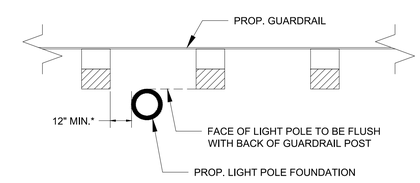
STREET LIGHT POLE NEAR FRONT OF WALK

NOT TO SCALE



STREET LIGHT POLE NEAR BACK OF WALK

NOT TO SCALE



* MINIMUM 12" OFFSET TO THE NEAREST GUARDRAIL POST

STREET LIGHT POLE BEHIND GUARDRAIL

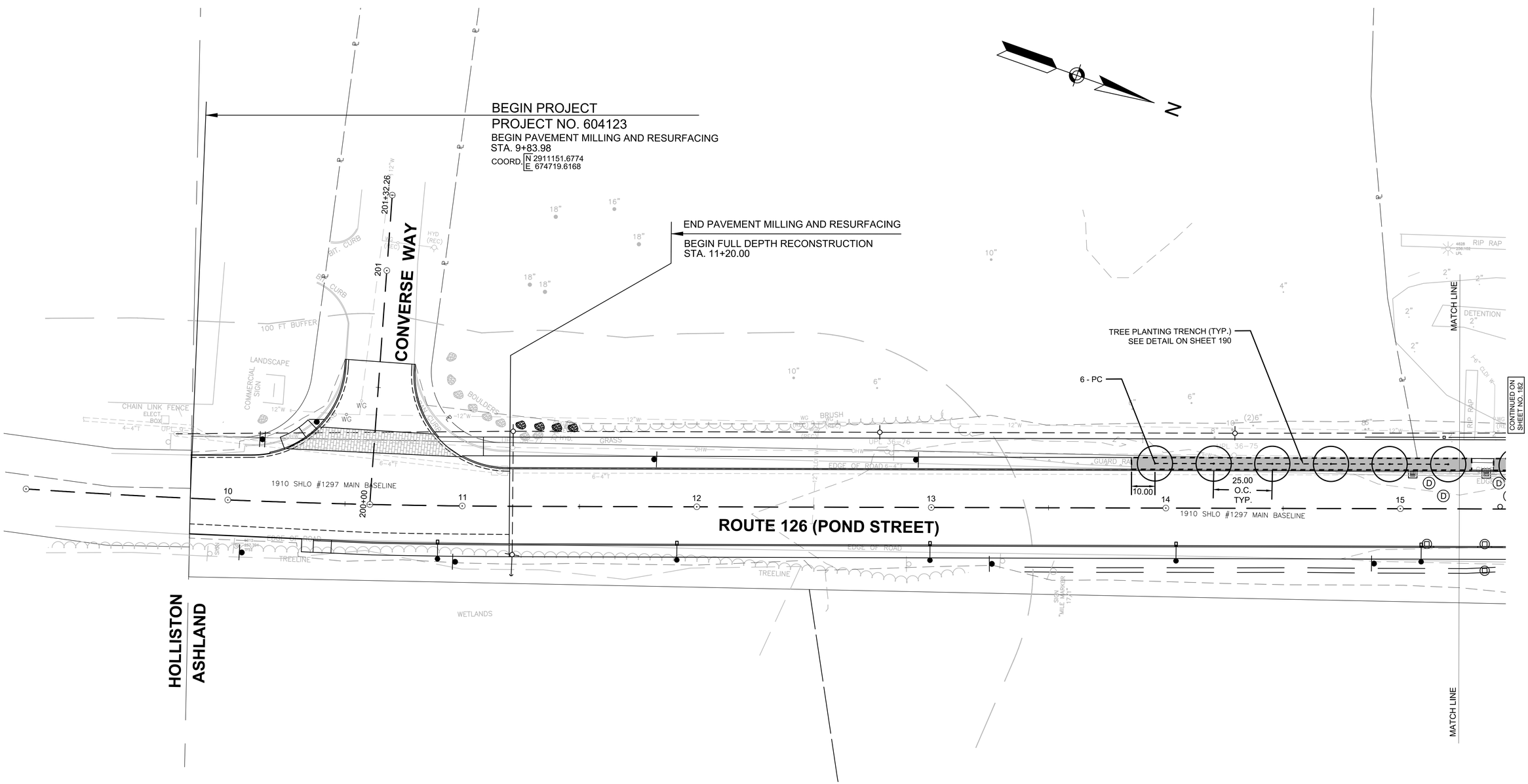
NOT TO SCALE

604123_HD22(LIGHTING DETAILS).DWG Plotted on 24-Jun-2020 12:52 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	181	331
PROJECT FILE NO.	604123		

LANDSCAPE PLANS (1 OF 8)



LEGEND

- TREE PLANTING TRENCH
- SHRUB/PERENNIAL OR ORNAMENTAL GRASS PLANTING
- DECIDUOUS TREE

PLANT LIST

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS/ SPACING	ROOT
		DECIDUOUS TREES				
PC	6	PYRUS CALLERYANA ' CHANTICLEER'	CLEVELAND SELECT PEAR	2-2.5" CAL.		B&B

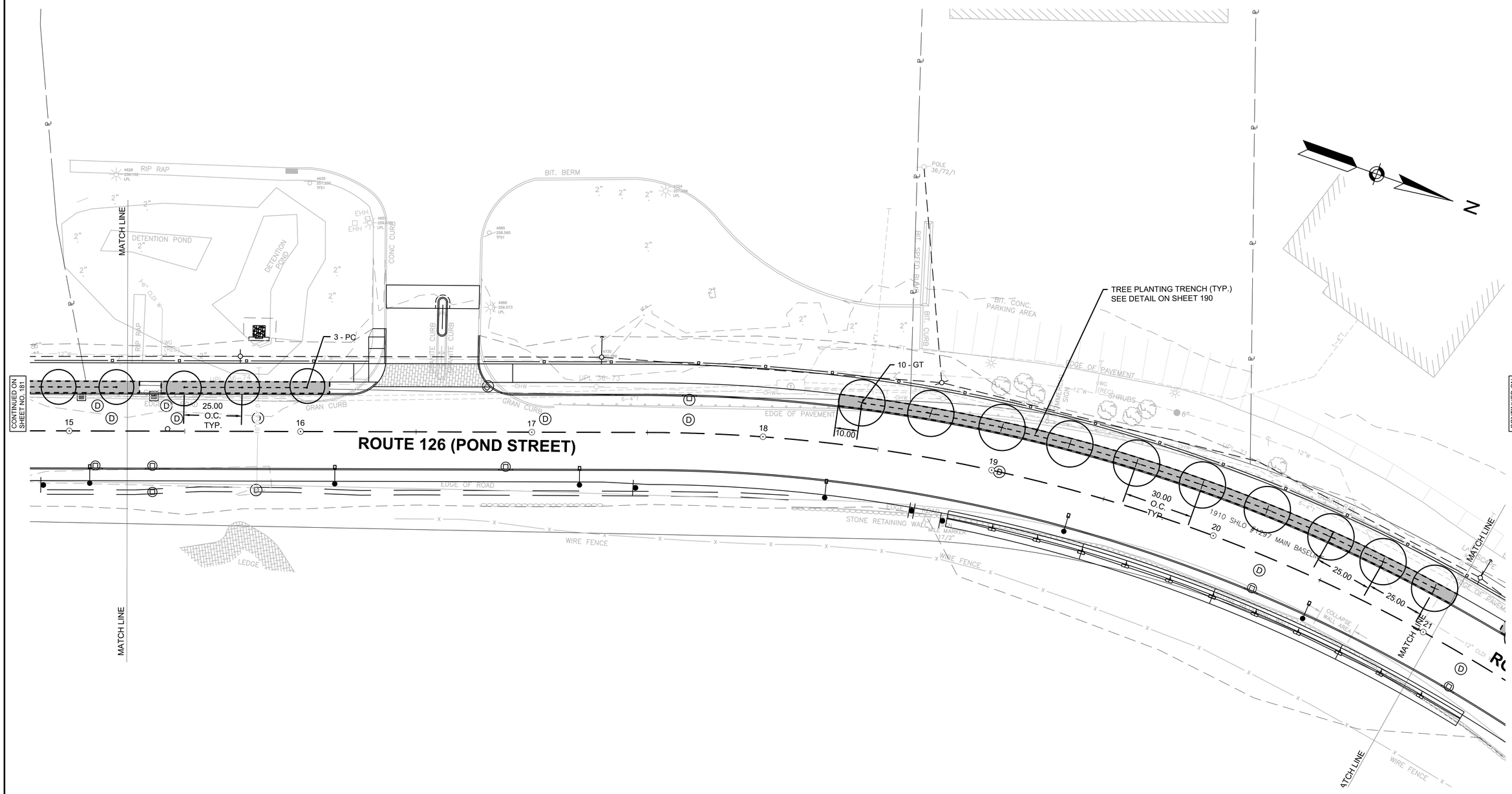
0 20 50 100
SCALE: 1" = 20'

604123_HD23(LANDSCAPE PLANS).DWG Plotted on 18-Dec-2017 8:30 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	182	331
PROJECT FILE NO.	604123		

LANDSCAPE PLANS (2 OF 8)



LEGEND

- TREE PLANTING TRENCH
- SHRUB/PERENNIAL OR ORNAMENTAL GRASS PLANTING
- DECIDUOUS TREE

PLANT LIST

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS/ SPACING	ROOT
		DECIDUOUS TREES				
GT	10	GLEDITSIA TRIACANTHOS 'SHADEMASTER'	SHADEMASTER HONEYLOCUST	2-2.5" CAL.		B&B
PC	3	PYRUS CALLERYANA ' CHANTICLEER'	CLEVELAND SELECT PEAR	2-2.5" CAL.		B&B

0 20 50 100

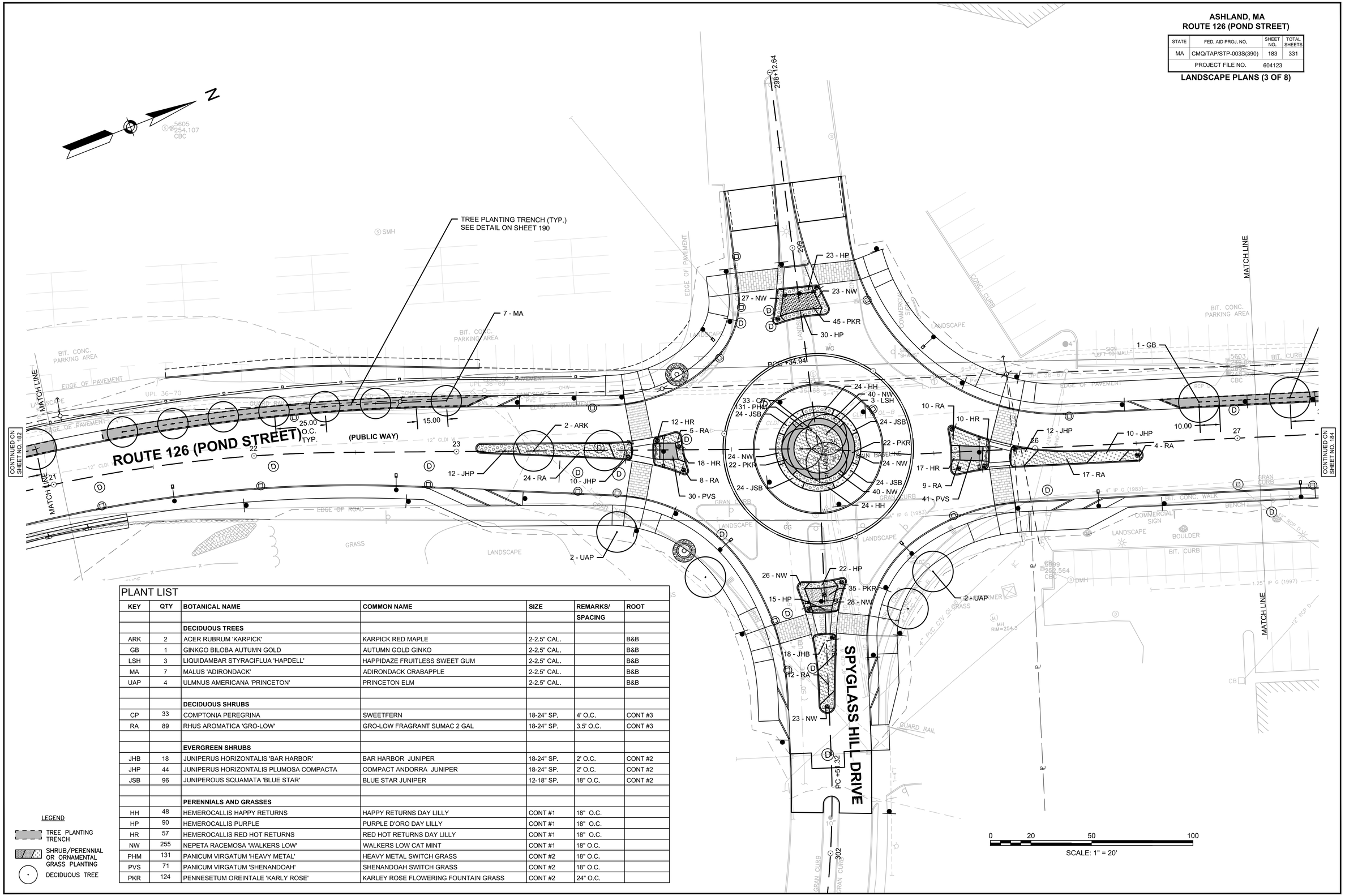
SCALE: 1" = 20'

604123_HD23(LANDSCAPE PLANS).DWG Plotted on 18-Dec-2017 8:30 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	183	331
PROJECT FILE NO.	604123		

LANDSCAPE PLANS (3 OF 8)



PLANT LIST

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS/ SPACING	ROOT
		DECIDUOUS TREES				
ARK	2	ACER RUBRUM 'KARPICK'	KARPICK RED MAPLE	2-2.5" CAL.		B&B
GB	1	GINKGO BILOBA AUTUMN GOLD	AUTUMN GOLD GINKO	2-2.5" CAL.		B&B
LSH	3	LIQUIDAMBAR STYRACIFLUA 'HAPDELL'	HAPPIDAZE FRUITLESS SWEET GUM	2-2.5" CAL.		B&B
MA	7	MALUS 'ADIRONDACK'	ADIRONDACK CRABAPPLE	2-2.5" CAL.		B&B
UAP	4	ULMNUS AMERICANA 'PRINCETON'	PRINCETON ELM	2-2.5" CAL.		B&B
		DECIDUOUS SHRUBS				
CP	33	COMPTONIA PEREGRINA	SWEETFERN	18-24" SP.	4' O.C.	CONT #3
RA	89	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC 2 GAL	18-24" SP.	3.5' O.C.	CONT #3
		EVERGREEN SHRUBS				
JHB	18	JUNIPERUS HORIZONTALIS 'BAR HARBOR'	BAR HARBOR JUNIPER	18-24" SP.	2' O.C.	CONT #2
JHP	44	JUNIPERUS HORIZONTALIS PLUMOSA COMPACTA	COMPACT ANDORRA JUNIPER	18-24" SP.	2' O.C.	CONT #2
JSB	96	JUNIPEROUS SQUAMATA 'BLUE STAR'	BLUE STAR JUNIPER	12-18" SP.	18" O.C.	CONT #2
		PERENNIALS AND GRASSES				
HH	48	HEMEROCALLIS HAPPY RETURNS	HAPPY RETURNS DAY LILLY	CONT #1	18" O.C.	
HP	90	HEMEROCALLIS PURPLE	PURPLE D'ORO DAY LILLY	CONT #1	18" O.C.	
HR	57	HEMEROCALLIS RED HOT RETURNS	RED HOT RETURNS DAY LILLY	CONT #1	18" O.C.	
NW	255	NEPETA RACEMOSA 'WALKERS LOW'	WALKERS LOW CAT MINT	CONT #1	18" O.C.	
PHM	131	PANICUM VIRGATUM 'HEAVY METAL'	HEAVY METAL SWITCH GRASS	CONT #2	18" O.C.	
PVS	71	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	CONT #2	18" O.C.	
PKR	124	PENNESETUM OREINTALE 'KARLY ROSE'	KARLEY ROSE FLOWERING FOUNTAIN GRASS	CONT #2	24" O.C.	

LEGEND

- TREE PLANTING TRENCH
- SHRUB/PERENNIAL OR ORNAMENTAL GRASS PLANTING
- DECIDUOUS TREE

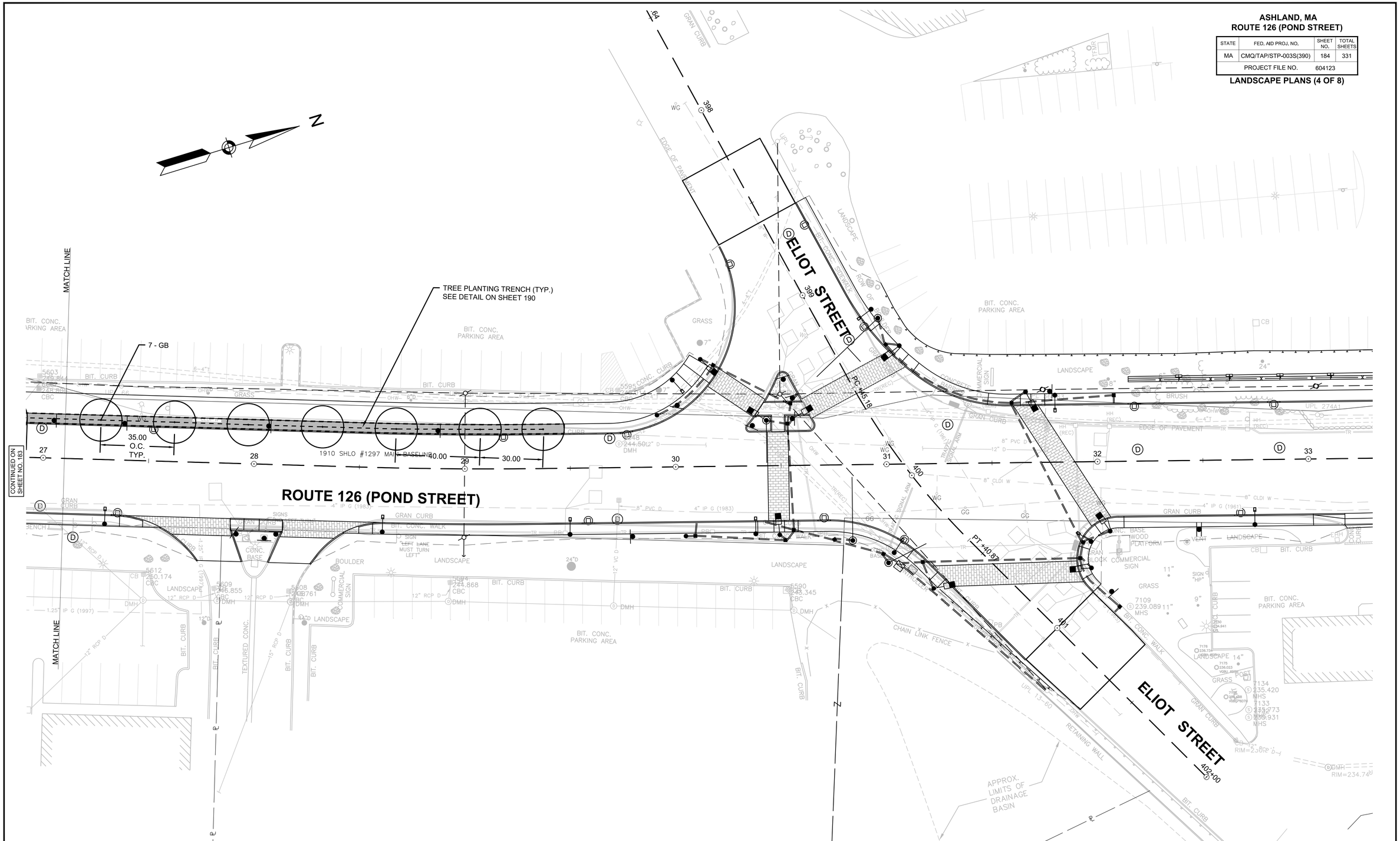
604123_HD23(LANDSCAPE PLANS).DWG Plotted on 18-Dec-2017 8:30 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	184	331
PROJECT FILE NO.	604123		

LANDSCAPE PLANS (4 OF 8)

604123_HD23(LANDSCAPE PLANS).DWG Plotted on 18-Dec-2017 8:30 AM



LEGEND

- TREE PLANTING TRENCH
- SHRUB/PERENNIAL OR ORNAMENTAL GRASS PLANTING
- DECIDUOUS TREE

PLANT LIST

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS/ SPACING	ROOT
		DECIDUOUS TREES				
GB	7	GINKGO BILOBA AUTUMN GOLD	AUTUMN GOLD GINKO	2-2.5" CAL.		B&B

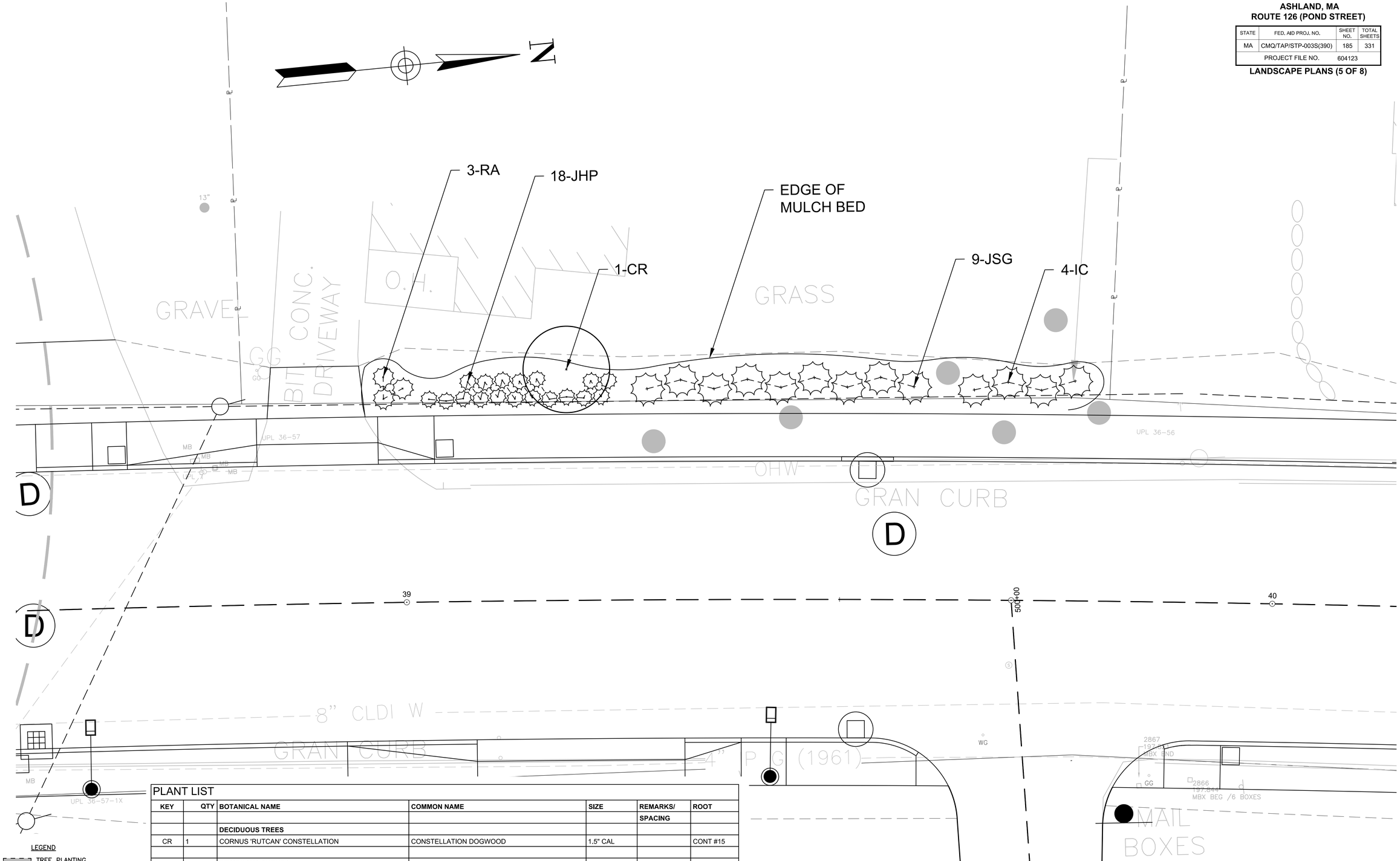
0 20 50 100

SCALE: 1" = 20'

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	185	331
PROJECT FILE NO.	604123		

LANDSCAPE PLANS (5 OF 8)



LEGEND

- TREE PLANTING TRENCH
- SHRUB/PERENNIAL OR ORNAMENTAL GRASS PLANTING
- DECIDUOUS TREE
- SHRUB MASS

PLANT LIST

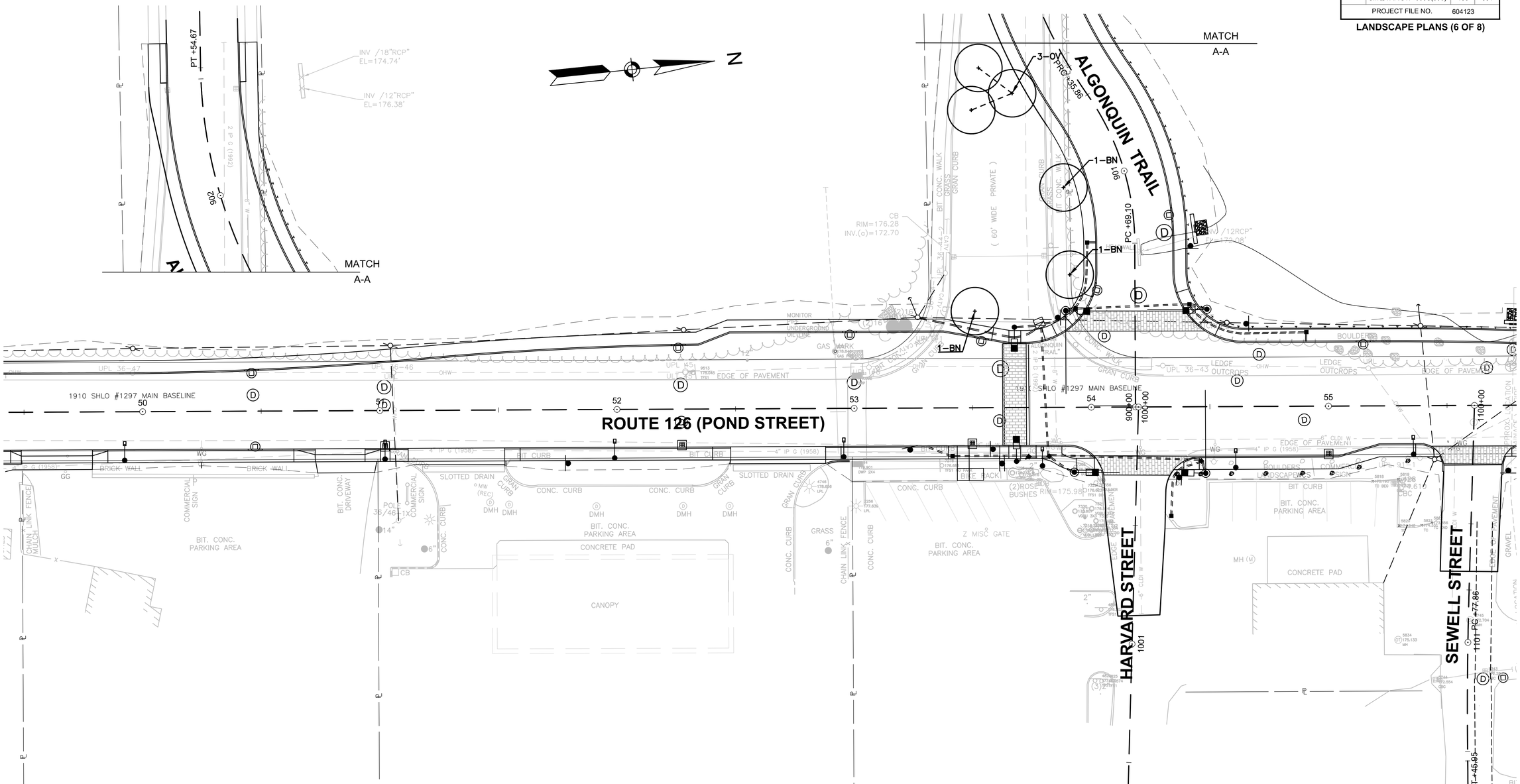
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS/ SPACING	ROOT
		DECIDUOUS TREES				
CR	1	CORNUS 'RUTCAN' CONSTELLATION	CONSTELLATION DOGWOOD	1.5" CAL		CONT #15
		DECIDUOUS SHRUBS				
IC	4	ILEX CRENATA 'HETZII'	HETZ HOLLY	2-2.5 FT	4' O.C.	CONT #5
RA	3	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC 2 GAL	18-24" SP.	2.5' O.C.	CONT #3
		EVERGREEN SHRUBS				
JHP	18	JUNIPERUS HORIZONTALIS PLUMOSA COMPACTA	COMPACT ANDORRA JUNIPER	18-24" SP.	2' O.C.	CONT #2
JSG	9	JUNIPERUS CHINESIS 'SEA GREEN'	SEA GREEN JUNIPER	2-2.5 FT	4' O.C.	CONT #5

604123_HD23(LANDSCAPE PLANS).DWG Plotted on 18-Dec-2017 8:30 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	186	331
PROJECT FILE NO.	604123		

LANDSCAPE PLANS (6 OF 8)



LEGEND

- TREE PLANTING TRENCH
- SHRUB/PERENNIAL OR ORNAMENTAL GRASS PLANTING
- TREE

PLANT LIST

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS/ SPACING	ROOT
		DECIDUOUS TREES				
BN	3	BETULA NIGRA	RIVER BIRCH	2-2.5" CAL.	SINGLE STEM	B&B
OV	3	OSTRYA VIRGINIANA	HOP HORNBEAM	2-2.5" CAL.	SINGLE STEM	B&B

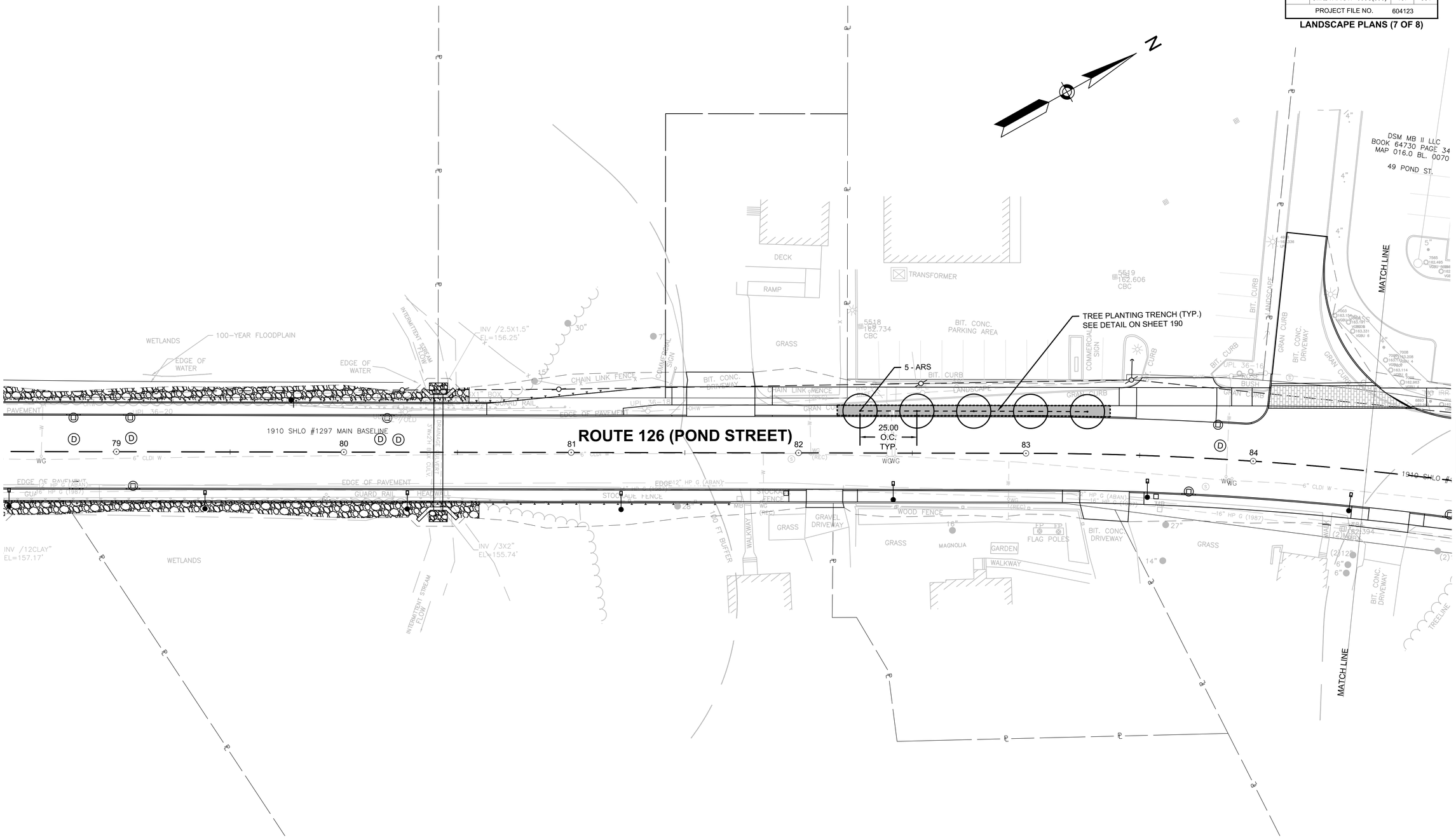
0 20 50 100
SCALE: 1" = 20'

604123_HD23(LANDSCAPE PLANS).DWG Plotted on 18-Dec-2017 8:30 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	187	331
PROJECT FILE NO.	604123		

LANDSCAPE PLANS (7 OF 8)



LEGEND

- TREE PLANTING TRENCH
- SHRUB/PERENNIAL OR ORNAMENTAL GRASS PLANTING
- DECIDUOUS TREE

PLANT LIST

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS/ SPACING	ROOT
		DECIDUOUS TREES				
ARS	5	ACERXFREEDMANI 'ARMSTRONG'	ARMSTRONG FREEDMAN MAPLE	2-2.5" CAL.		B&B

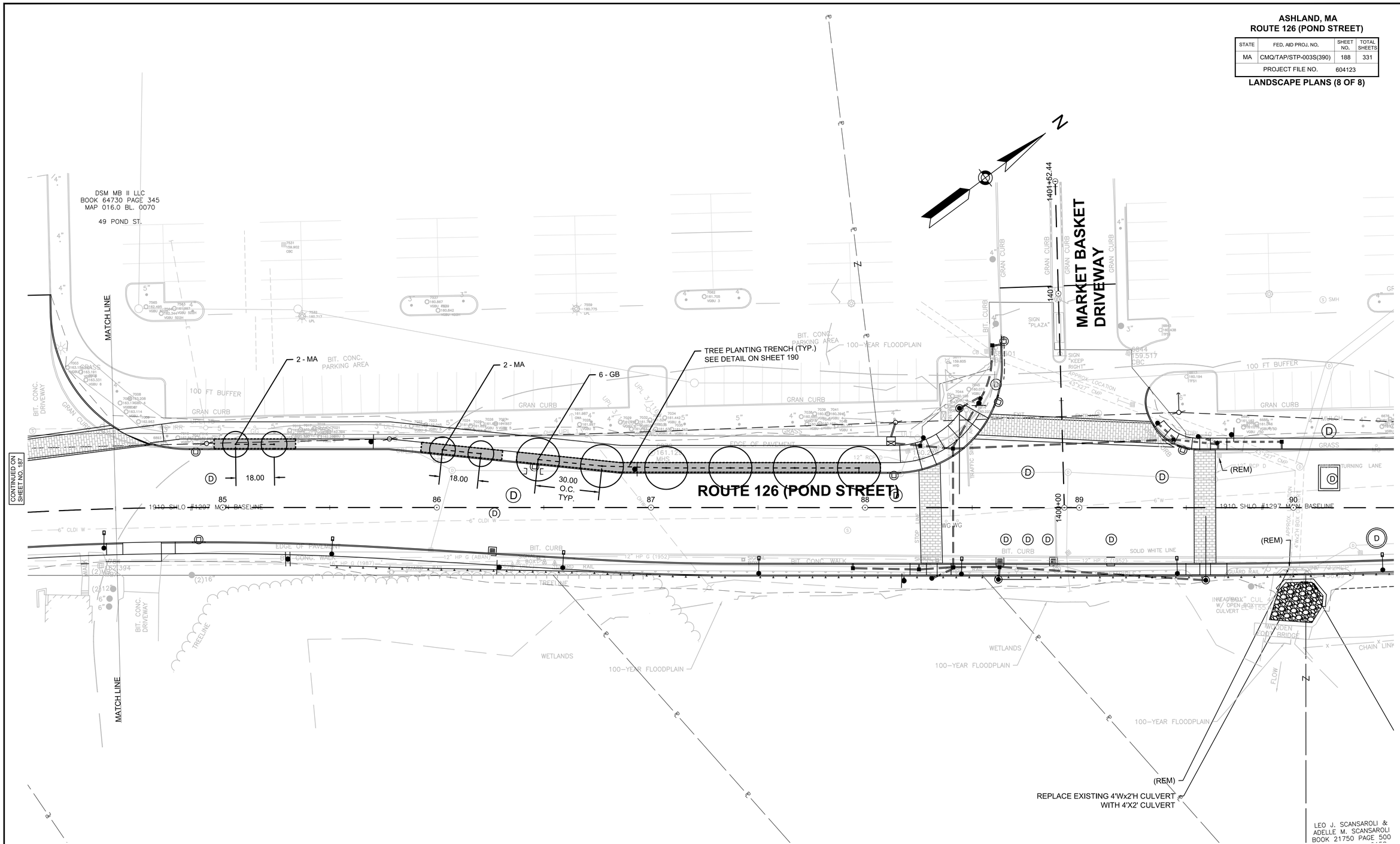
0 20 50 100
SCALE: 1" = 20'

604123_HD23(LANDSCAPE PLANS).DWG Plotted on 18-Dec-2017 8:30 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	188	331
PROJECT FILE NO.	604123		

LANDSCAPE PLANS (8 OF 8)



LEGEND

- TREE PLANTING TRENCH
- SHRUB/PERENNIAL OR ORNAMENTAL GRASS PLANTING
- DECIDUOUS TREE

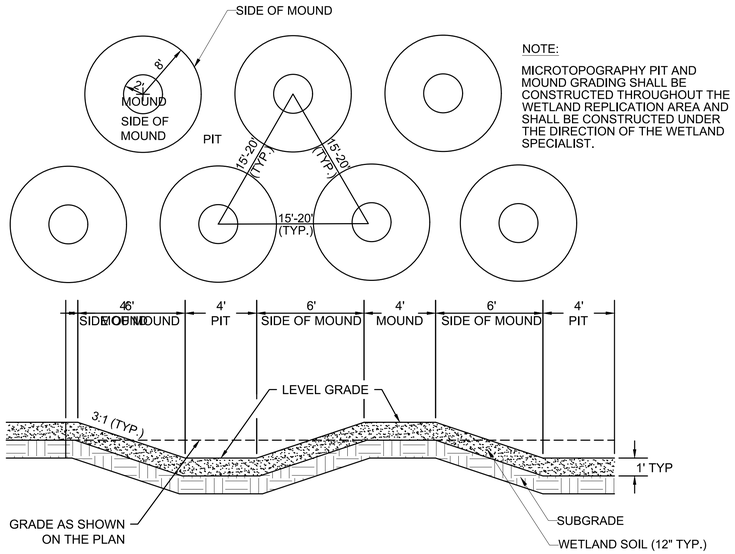
PLANT LIST

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS/ SPACING	ROOT
		DECIDUOUS TREES				
GB	6	GINKGO BILOBA AUTUMN GOLD	AUTUMN GOLD GINKO	2-2.5" CAL.		B&B
MA	4	MALUS 'ADIRONDACK'	ADIRONDACK CRABAPPLE	2-2.5" CAL.		B&B

0 20 50 100

SCALE: 1" = 20'

604123_HD23(LANDSCAPE PLANS).DWG Plotted on 18-Dec-2017 8:30 AM

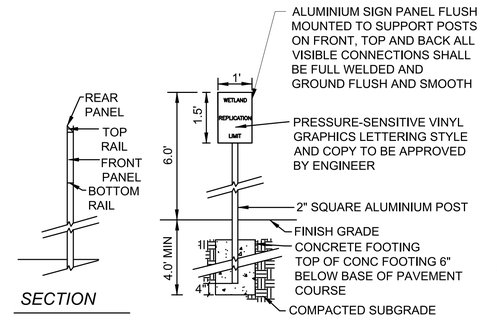


NOTE:

MICROTOPOGRAPHY PIT AND MOUND GRADING SHALL BE CONSTRUCTED THROUGHOUT THE WETLAND REPLICATION AREA AND SHALL BE CONSTRUCTED UNDER THE DIRECTION OF THE WETLAND SPECIALIST.

1 WETLAND REPLICATION MICROTOPOGRAPHY

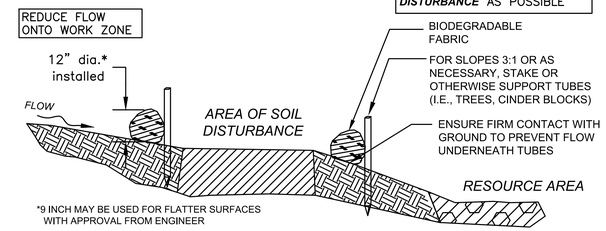
NOT TO SCALE



2 WETLAND REPLICATION LIMIT SIGN

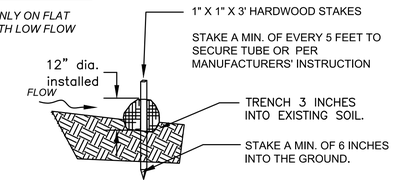
NOT TO SCALE

COMPOST FILTER TUBE

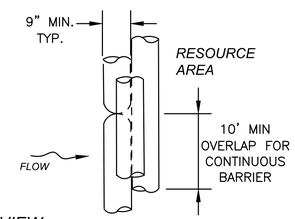


12 INCH STRAW WATTLE

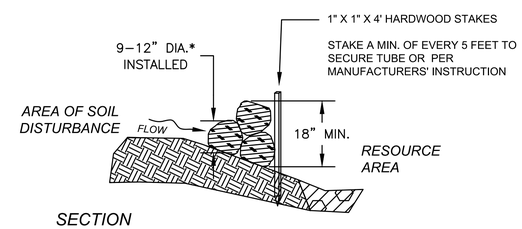
TO BE USED ONLY ON FLAT SURFACES WITH LOW FLOW



SECTION



PLAN VIEW



SECTION

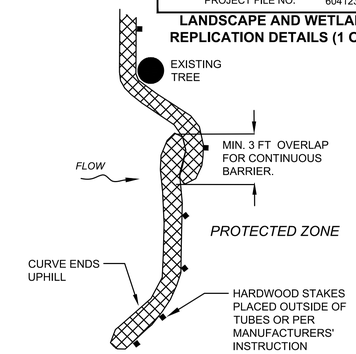
COMPOST FILTER TUBE BERM (SLOPES 2:1 OR STEEPER)

NOT TO SCALE

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	189	331
PROJECT FILE NO. 604123			

LANDSCAPE AND WETLAND REPLICATION DETAILS (1 OF 2)

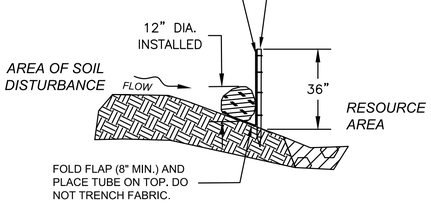


PLACE TUBE ALONG CONTOURS AND PERPENDICULAR TO FLOW.

ADJUST LOCATION AS REQUIRED FOR OPTIMUM EFFECTIVENESS. DO NOT INSTALL IN WATERWAYS.

PLACE STAKES AS NEEDED TO SECURE TUBES IN PLACE.

PLAN VIEW



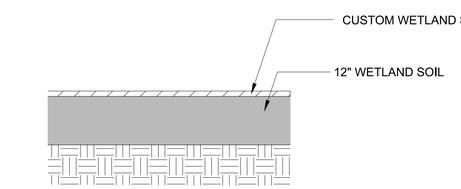
SECTION

COMPOST FILTER TUBE & SILT FENCE

NOT TO SCALE

6 SEDIMENT CONTROL BARRIERS - COMPOST FILTER TUBE & STRAW WATTLES

NOT TO SCALE



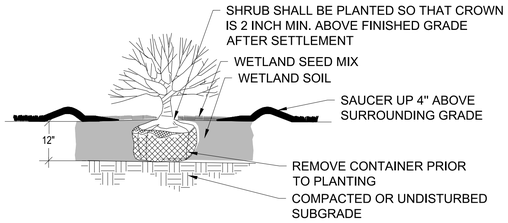
NOTES:
1. WETLAND SPECIALIST SHALL APPROVE GRADES PRIOR TO SOIL INSTALLATION.
2. SEE NON TIDAL WETLAND MITIGATION SPEC FOR SOIL AND PLANTING REQUIREMENTS.

3 WETLAND REPLICATION DETAIL

NOT TO SCALE

RAISE AND REPLANT ANY SHRUBS WHICH SETTLE MORE THAN 2 INCHES AFTER PLANTING & WATERING IN SHRUBS SHALL BE SET PLUMB

WATER BY FLOODING TWICE IN FIRST TWO HOURS AFTER PLANTING. WATER & MAINTAIN AS PER STANDARD SPECIFICATIONS



4 WETLAND SHRUB PLANTING

NOT TO SCALE

PLANT LIST - WETLAND REPLICATION TOTAL

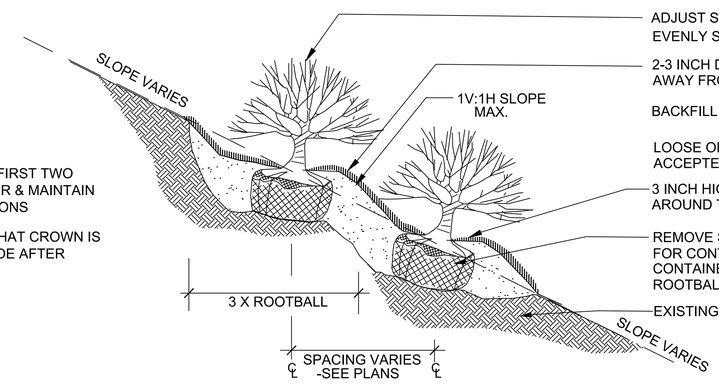
KEY	QTY	WETLAND STATUS	BOTANICAL NAME	COMMON NAME	PLANT SIZE	DENSITY/SPACING
DECIDUOUS TREES						
AR	15	FAC	ACER RUBRUM	RED MAPLE	4-6' HT	RANDOM AT RAISED MOUNDS
OV	2	UP	OSTRYA VIRGINIANA	HOPHORBEAM	4-6' HT	AS SHOWN ON SLOPE
QC	1	UP	QUERCUS COCCINEA	SCARLET OAK	4-6' HT	AS SHOWN ON SLOPE
QP	2	FACW	QUERCUS PALUSTRIS	PIN OAK	4-6' HT	AS SHOWN ON SLOPE
DECIDUOUS SHRUBS						
CA	25	FAC	CLETHRA ALNIFOLIA	SWEET PEPPERBUSH	3-4' HT	5-6' ON CENTER
CO	25	FACW	CORNUS AMOMUM	SILKY DOGWOOD	3-4' HT	5-6' ON CENTER
CR	11	FAC	CORNUS RACEMOSA	GRAY TWIG DOGWOOD	3-4' HT	5' ON CENTER AS SHOWN ON SLOPE
CS	10	FACW	CORNUS SERICEA	RED OSIER DOGWOOD	3-4' HT	5' ON CENTER AS SHOWN ON SLOPE
IV	30	FACW	ILEX VERTICILATA	COMMON WINTERBERRY	3-4' HT	5-6' ON CENTER
LB	35	FACW	LINDERA BENZOIN	SPICEBUSH	3-4' HT	5-6' ON CENTER
VD	16	FAC	VIBURNUM DENTATUM	ARROWWOOD	3-4' HT	5' ON CENTER AS SHOWN ON SLOPE
HERBACEOUS						
	-	-	-	WETLAND SEEED MIX	-	1LB/2,000 SF
	-	-	-	UPLAND/BUFFER SEED MIX	-	1LB/2,000 SF

5 PLANT LIST WETLAND

NOT TO SCALE

WATER BY FLOODING TWICE IN FIRST TWO HOURS AFTER PLANTING. WATER & MAINTAIN AS PER STANDARD SPECIFICATIONS

SHRUB SHALL BE PLANTED SO THAT CROWN IS SLIGHTLY ABOVE FINISHED GRADE AFTER SETTLEMENT



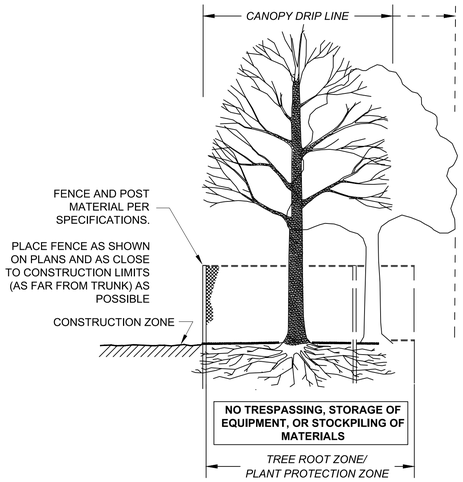
7 CONTAINERIZED SHRUB PLANTING (SLOPE) DETAIL

NOT TO SCALE

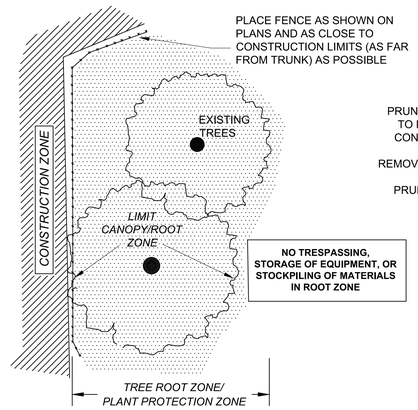
604123_HD24(CONSTRUCTION DETAILS).DWG Plotted on 20-Dec-2017 11:12 AM

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	190	331
PROJECT FILE NO.	604123		

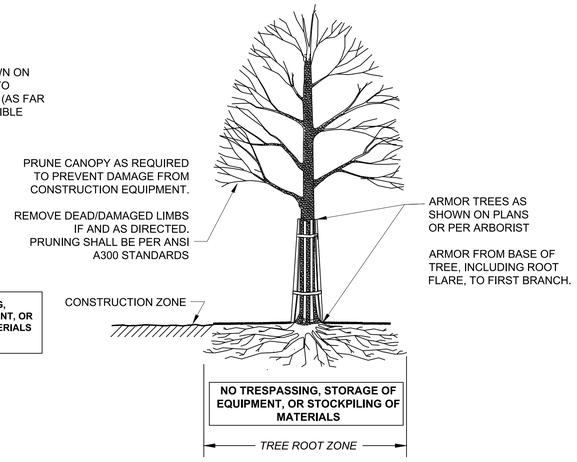
LANDSCAPE AND WETLAND REPLICATION DETAILS (2 OF 2)



SECTION - FENCE PROTECTION OF ROOT ZONE



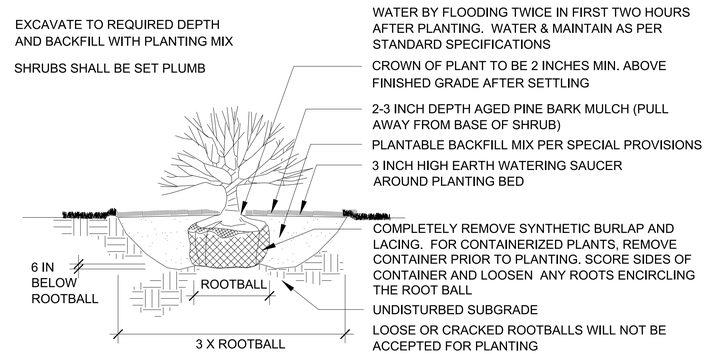
PLAN VIEW - FENCE PROTECTION OF ROOT ZONE



SECTION - TRUNK ARMORING & PRUNING

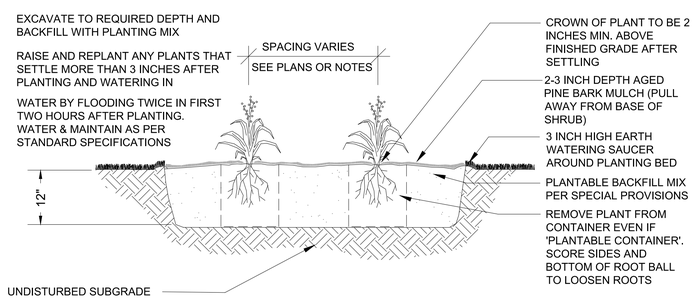
1 TREE PROTECTION DETAILS

NOT TO SCALE



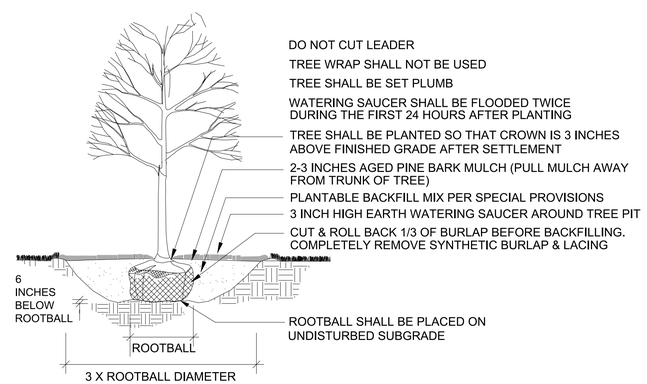
2 SHRUB PLANTING

NOT TO SCALE



3 PERENNIAL AND ORNAMENTAL GRASS PLANTING

NOT TO SCALE



4 TREE PLANTING

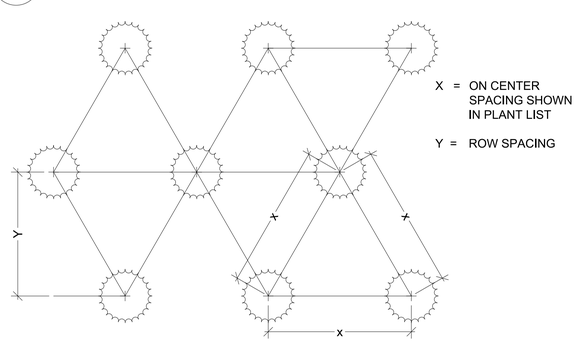
NOT TO SCALE

PLANT LIST - TOTAL FOR UPLAND

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS/ SPACING	ROOT
		DECIDUOUS TREES				
ARS	5	ACERXFREEDMANI 'ARMSTRONG'	ARMSTRONG FREEDMAN MAPLE	2-2.5" CAL.		B&B
ARK	2	ACER RUBRUM 'KARPICK'	KARPICK RED MAPLE	2-2.5" CAL.		B&B
BN	3	BETULA NIGRA	RIVER BIRCH	2-2.5" CAL.	SINGLE STEM	B&B
OV	3	OSTRYA VIRGINIANA	HOP HORNBEAM	2-2.5" CAL.	SINGLE STEM	B&B
CR	1	CORNUS 'RUTCAN' CONSTELLATION	CONSTELLATION DOGWOOD	1.5" CAL		CONT #15
GB	14	GINKGO BILOBA AUTUMN GOLD	AUTUMN GOLD GINKO	2-2.5" CAL.		B&B
GT	10	GLEDITSIA TRIACANTHOS 'SHADEMASTER'	SHADEMASTER HONEYLOCUST	2-2.5" CAL.		B&B
LSH	3	LIQUIDAMBAR STYRACIFLUA 'HAPDELL'	HAPPIDAZE FRUITLESS SWEET GUM	2-2.5" CAL.		B&B
MA	11	MALUS 'ADIRONDACK'	ADIRONDACK CRABAPPLE	2-2.5" CAL.		B&B
PC	9	PYRUS CALLERYANA ' CHANTICLEER'	CLEVELAND SELECT PEAR	2-2.5" CAL.		B&B
UAP	4	ULMNUS AMERICANA 'PRINCETON'	PRINCETON ELM	2-2.5" CAL.		B&B
		DECIDUOUS SHRUBS				
CP	33	COMPTONIA PEREGRINA	SWEETFERN	18-24" SP.	4' O.C.	CONT #3
RA	92	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC 2 GAL	18-24" SP.	3.5' O.C.	CONT #3
		EVERGREEN SHRUBS				
IC	4	ILEX CRENATA 'HETZII'	HETZ HOLLY	24-30" SP.	4' O.C.	CONT #5
JHB	18	JUNIPERUS HORIZONTALIS 'BAR HARBOR'	BAR HARBOR JUNIPER	18-24" SP.	3' O.C.	CONT #2
JHP	62	JUNIPERUS HORIZONTALIS PLUMOSA COMPACTA	COMPACT ANDORRA JUNIPER	18-24" SP.	3' O.C.	CONT #2
JSB	96	JUNIPEROUS SQUAMATA 'BLUE STAR'	BLUE STAR JUNIPER	12-18" SP.	18" O.C.	CONT #2
JSG	9	JUNIPERUS CHINESIS 'SEA GREEN'	SEA GREEN JUNIPER	2-2.5 FT	4' O.C.	CONT #5
		PERENNIALS AND GRASSES				
HH	48	HEMEROCALLIS HAPPY RETURNS	HAPPY RETURNS DAY LILLY	CONT #1	18" O.C.	
HP	90	HEMEROCALLIS PURPLE	PURPLE D'ORO DAY LILLY	CONT #1	18" O.C.	
HR	57	HEMEROCALLIS RED HOT RETURNS	RED HOT RETURNS DAY LILLY	CONT #1	18" O.C.	
NW	255	NEPETA RACEMOSA 'WALKERS LOW'	WALKERS LOW CAT MINT	CONT #1	18" O.C.	
PHM	131	PANICUM VIRGATUM 'HEAVY METAL'	HEAVY METAL SWITCH GRASS	CONT #2	18" O.C.	
PVS	71	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	CONT #2	18" O.C.	
PKR	124	PENNESETUM OREINTALE 'KARLY ROSE'	KARLEY ROSE FLOWERING FOUNTAIN GRASS	CONT #2	24" O.C.	

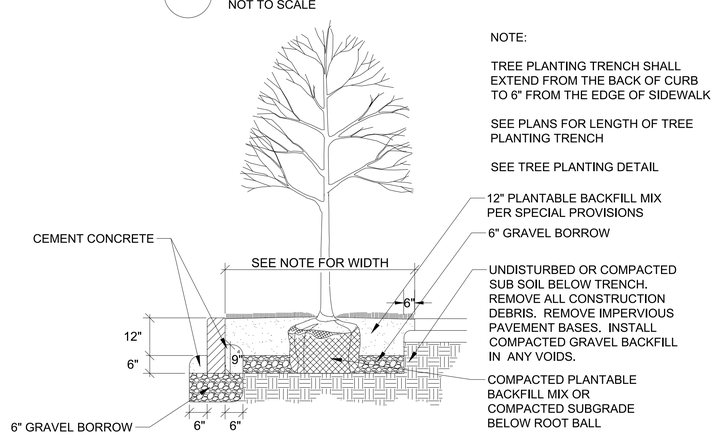
7 PLANT LIST TOTAL FOR PLAN

NOT TO SCALE



5 SHRUB, PERENNIAL AND ORNAMENTAL GRASS SPACING PLAN DETAIL

NOT TO SCALE



6 TREE PLANTING TRENCH

NOT TO SCALE

604123_HD24(CONSTRUCTION DETAILS).DWG Plotted on 20-Dec-2017 11:12 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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PROJECT FILE NO.	604123		

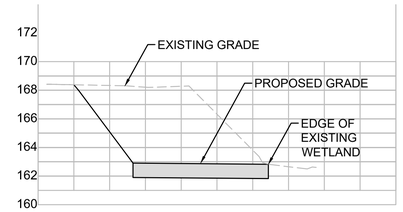
WETLAND REPLICATION PLAN
SHEET 1 OF 1

WETLAND REPLICATION AREA SEDIMENTATION AND EROSION CONTROL NOTES:

1. PRIOR TO STARTING ANY WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION & SEDIMENTATION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN ALL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
2. PERIODIC INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES SHALL BE PROVIDED TO INSURE THAT THE INTENDED PURPOSE IS ACCOMPLISHED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SEDIMENT LEAVING THE LIMIT OF WORK. SEDIMENT CONTROL MEASURES SHALL BE IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
3. ALL POINTS OF CONSTRUCTION INGRESS OR EGRESS WILL BE PROTECTED TO PREVENT TRACKING OF MUD ONTO PUBLIC WAYS.
4. AFTER ANY SIGNIFICANT RAINFALL, SEDIMENT CONTROL STRUCTURES SHALL BE INSPECTED FOR INTEGRITY. ANY DAMAGED DEVICES SHALL BE CORRECTED IMMEDIATELY.
5. ANY SEDIMENT TRACKED ONTO PAVED AREAS SHALL BE SWEPT AT THE END OF EACH WORKING DAY.
6. ALL DEBRIS GENERATED DURING SITE PREPARATION ACTIVITIES SHALL BE LEGALLY DISPOSED OF OFF-SITE.
7. AN EROSION CONTROL BARRIER SHALL BE INSTALLED AS SHOWN ON THE PLANS.
8. MEANS OF EROSION AND SEDIMENT PROTECTION AS NOTED ON THE DRAWINGS INDICATE THE MINIMUM PROVISIONS NECESSARY. ADDITIONAL MEANS OF PROTECTION SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED FOR CONTINUED OR UNFORESEEN EROSION PROBLEMS, AT NO ADDITIONAL EXPENSE TO THE OWNER.

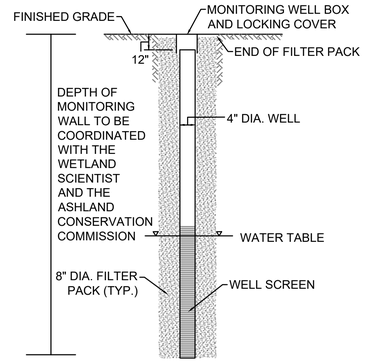
WETLAND REPLICATION AREA PLANTING NOTES AND CONSTRUCTION SEQUENCE:

1. CONTRACTOR SHALL COORDINATE WITH THE TOWN OF ASHLAND REGARDING ACCESS.
2. EROSION CONTROLS WILL BE INSTALLED ALONG THE EXISTING WETLAND BOUNDARY. THIS WILL ALLOW THE SITE CONTRACTOR TO PROPERLY TIE - IN PROPOSED CONTOURS AT THE EDGE OF THE EXISTING WETLAND.
3. UNDER THE DIRECTION OF THE WETLAND SPECIALIST, THE CONTRACTOR SHALL PROVIDE ROUGH GRADING (+/- 3 INCHES) WITHIN THE REPLICATION WETLAND. WETLAND MITIGATION GRADING IS SUBJECT TO MODIFICATION BASED ON ACTUAL SITE CONDITIONS. THE WETLAND SPECIALIST WILL INSPECT THE SUB-GRADE OF THE REPLICATION AREA TO ENSURE THAT THE PROPER HYDROLOGY AND MICROTOPOGRAPHY HAS BEEN ESTABLISHED.
4. PRIOR TO SOIL ADDITIONS AND/OR PLANTINGS, PROJECT SURVEYORS SHOULD VERIFY THAT GRADES HAVE BEEN ACHIEVED AS SHOWN ON THIS DRAWING.
5. PRIOR TO PLANTING, THE MITIGATION AREA SHOULD BE EXCAVATED APPROXIMATELY 1 FOOT BELOW THE FINISHED GRADE OF THE WETLAND MITIGATION AREA. FOLLOWING EXCAVATION OF THE MITIGATION AREA, A SOIL MIXTURE (NATURAL OR MANMADE) CONSISTING OF EQUAL VOLUMES OF ORGANIC (COMPOST) MATERIAL AND MINERAL SOIL MATERIAL SUCH AS A RICH LOAMY SAND (WITH A LOOSE FRIABLE CONSISTENCY) SHALL BE USED TO BRING THE EXCAVATED WETLAND MITIGATION AREA TO FINISHED GRADE. PRIOR TO USE, THE SOIL MIXTURE WILL BE ANALYZED BY A SOIL TESTING LABORATORY FOR TEXTURE AND NUTRIENTS. THE SELECTED CONTRACTOR WILL BE RESPONSIBLE FOR THIS COORDINATION. SEE SPECIAL PROVISION.
6. ESTIMATES OF SEASONAL HIGH GROUNDWATER (SHGW) SHALL BE DETERMINED IN THE FIELD AT THE TIME OF REPLICATION GRADING. THE FINISH GRADE OF THE WETLAND MITIGATION AREA SHALL BE SET SO THAT GROUNDWATER IS WITHIN 12" OF THE SURFACE FOR AT LEAST 14 CONSECUTIVE DAYS DURING THE GROWING SEASON.
7. PENDING SITE AND WEATHER CONDITIONS ALL PLANTINGS WILL TAKE PLACE IN SPRING (MAY 15-JUNE 15) OR FALL (SEPTEMBER 1 - NOVEMBER 1).
8. TREES PLANTED IN THE REPLICATION AREA SHALL BE LOCATED ON AREAS OF HIGHER ELEVATION (I.E., GRADED MOUNDS). TREES SHALL BE LOCATED IN THE FIELD BY THE WETLAND SPECIALIST.
9. 4" OF LOAM (WEED-FREE, FINE SANDY LOAM) AND A CONSERVATION/WILDLIFE SEED MIX WILL BE SPREAD THROUGHOUT THE GRADED 3:1 UPLAND SLOPES AND IN ALL OTHER AREAS DISTURBED BY THE CONTRACTOR AS SPECIFIED. LOAM, SEED MIXTURE AND SOURCE SHALL BE APPROVED BY THE WETLAND SPECIALIST.

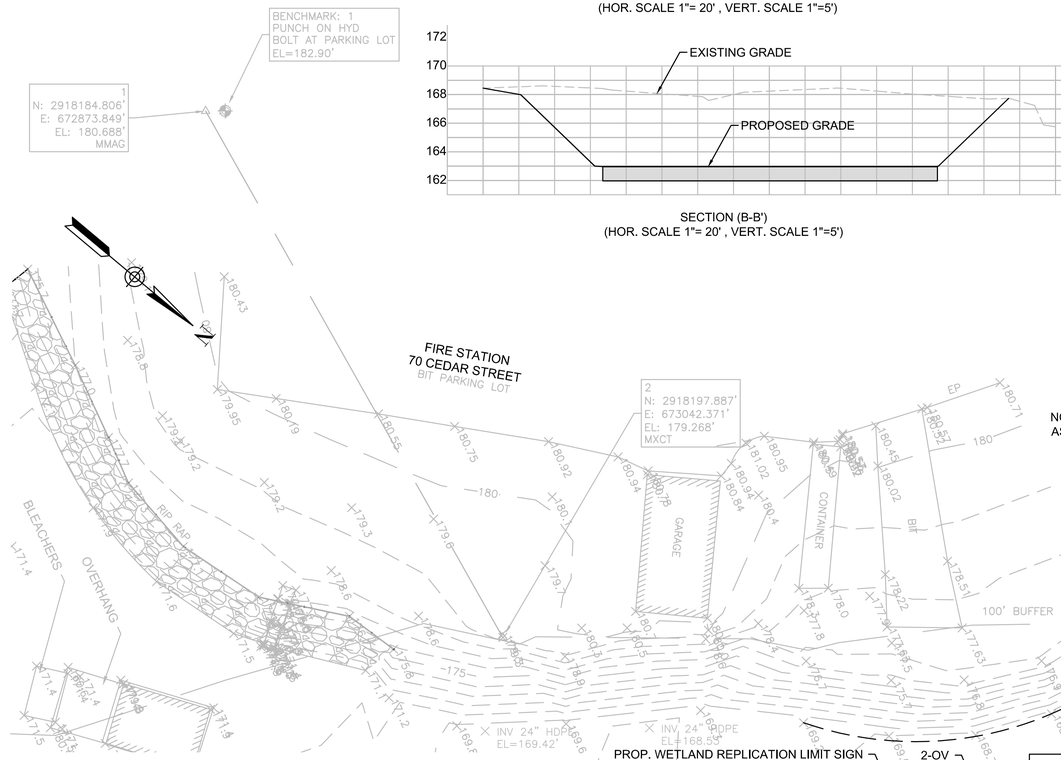


SECTION (A-A')
(HOR. SCALE 1"= 20' , VERT. SCALE 1"=5')

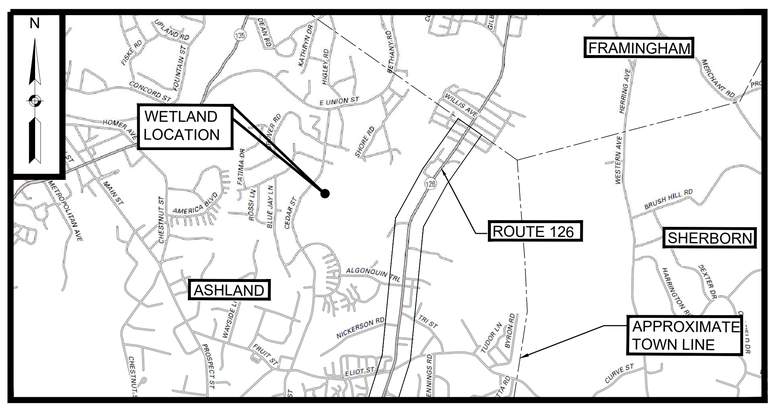
SECTION (B-B')
(HOR. SCALE 1"= 20' , VERT. SCALE 1"=5')



TEMPORARY MONITORING WELL AT WETLAND REPLICATION AREA
NTS



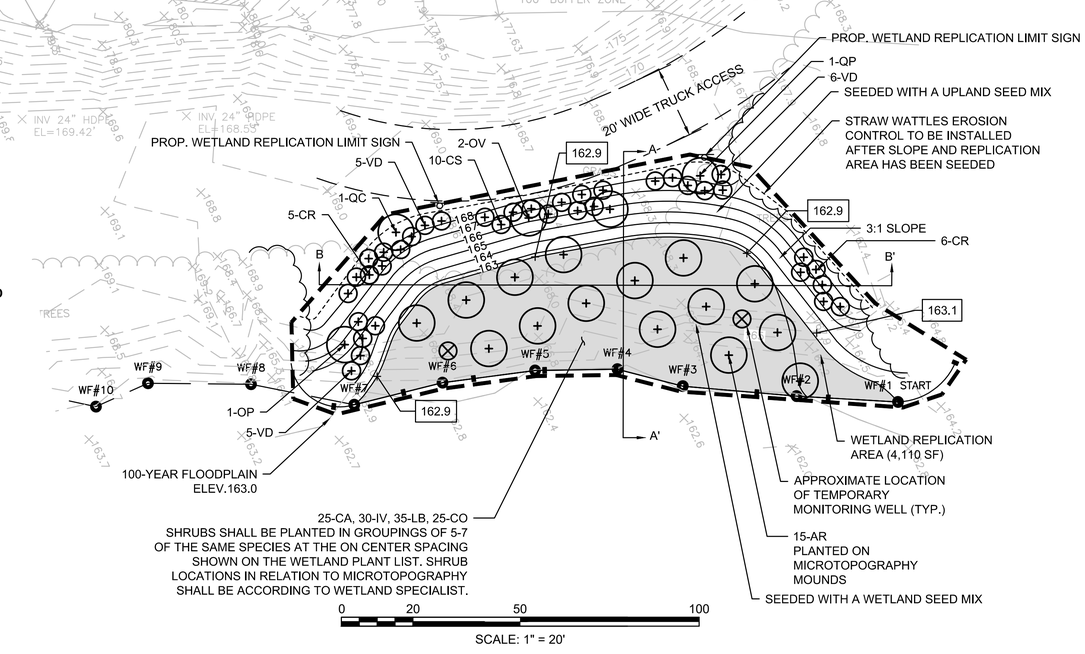
NOTE: ENTIRE LIMIT OF WORK IS LOCATED WITHIN 200' RIVERFRONT AREA ASSOCIATED WITH TRIBUTARY TO WAUSHAKUM POND.



LOCUS PLAN

LEGEND

- 4" LOAM BORROW AND CONSERVATION SEED MIX IN ALL DISTURBED UPLAND AND SLOPED AREAS
- WETLAND SOIL AND WETLAND SEED MIX
- LIMIT OF WORK
- STRAW WATTLES
- 168 PROPOSED CONTOUR
- 170 EXISTING CONTOUR
- COMPOST FILTER TUBE
- 163.3 PROPOSED SPOT GRADE
- TREE

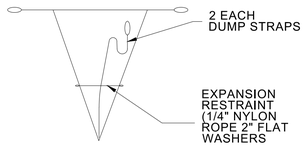


604123_HD26(WETLAND REPLICATION).DWG Plotted on 10-Sep-2020 3:55 PM

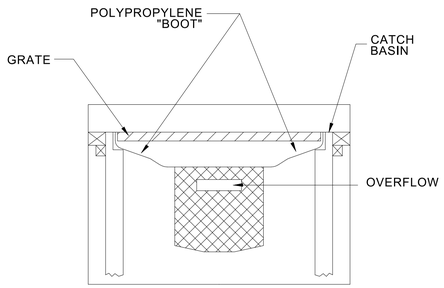
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	192	331
PROJECT FILE NO.	604123		

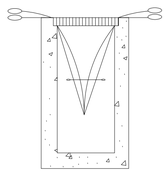
CONSTRUCTION DETAILS



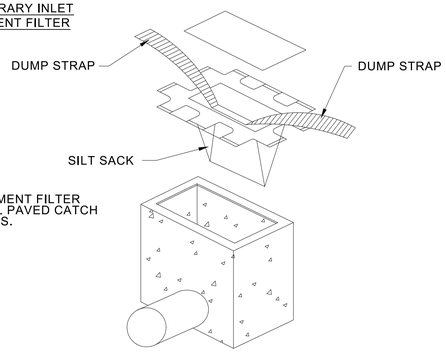
BAG DETAIL



TEMPORARY INLET
SEDIMENT FILTER



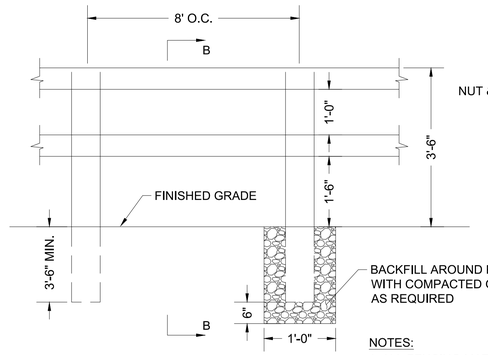
INSTALLATION
DETAIL



NOTE 1:
TEMPORARY INLET SEDIMENT FILTER
TO BE INSTALLED ON ALL PAVED CATCH
BASINS OR STORM INLETS.

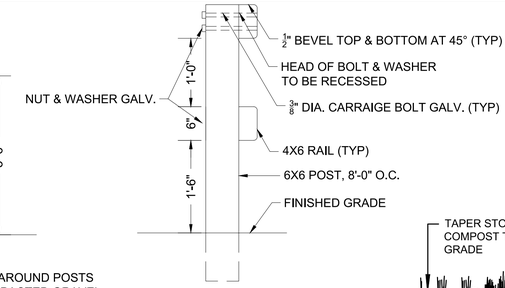
INLET PROTECTION SILT SACK

NOT TO SCALE



ELEVATION

NOT TO SCALE



SECTION B-B

NOT TO SCALE

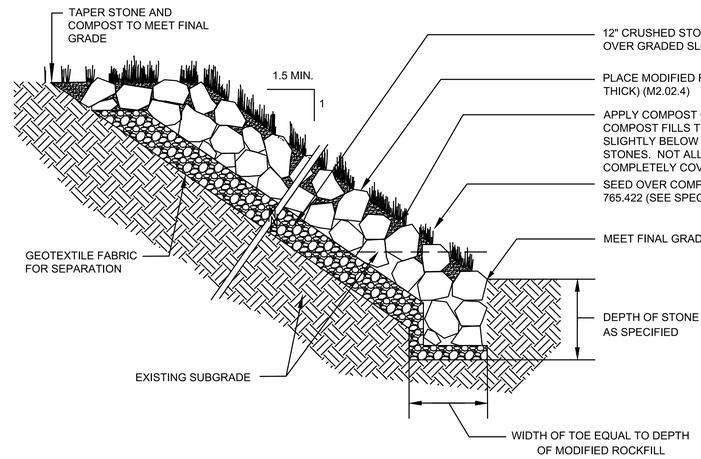
NOTES:

1. ALL FENCING MATERIAL SHALL CONFORM TO THE STANDARD SPECIFICATIONS & SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.

2. MOUNTING OF UPPER RAIL IS SHOWN ON SECTION B-B. MOUNT LOWER RAIL SIMILARLY.

WOOD RAIL FENCE

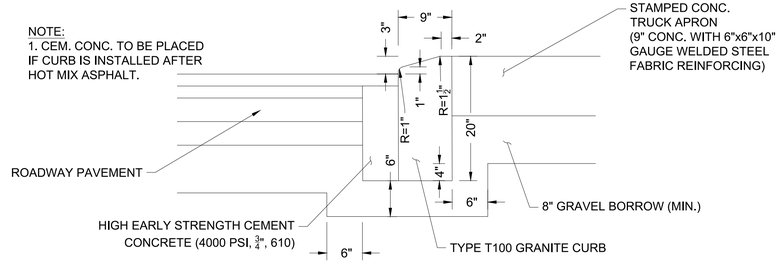
NOT TO SCALE



COMPOST AND SEED OVER MODIFIED ROCK FILL

NOT TO SCALE

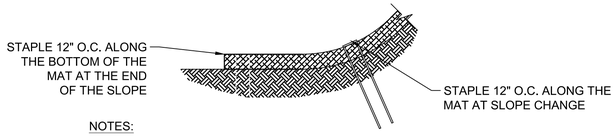
NOTE:
1. CEM. CONC. TO BE PLACED
IF CURB IS INSTALLED AFTER
HOT MIX ASPHALT.



TYPE T100 GRANITE CURB

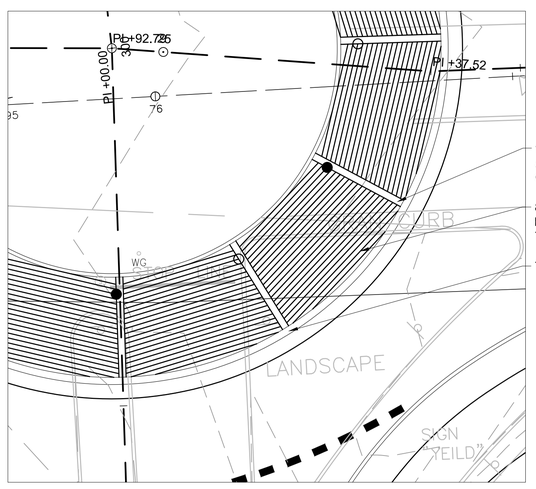
NOT TO SCALE

EROSION CONTROL MATTING SCHEDULE		
BEGIN STA.	END STA.	OFFSET
11+50	16+25	LT
16+80	18+90	LT
18+60	21+40	RT
21+20	22+90	LT
30+75	32+10	LT
34+90	35+75	LT
42+30	43+25	RT
70+55	74+50	LT
80+60	81+60	RT
86+00	89+65	RT



NOTES:

1. SEE MANUFACTURER'S STAPLE PATTERN GUIDE FOR DETAILS.
2. INSTALL EROSION CONTROL MATTING IN LOCATIONS SHOWN ON THE PLANS.
3. AREAS WITH EROSION CONTROL MATS SHALL BE SEEDED.
4. STAPLES SHALL BE BIODEGRADABLE
5. EROSION CONTROL MATS SHALL BE BIODEGRADABLE.



LEGEND:

- EXPANSION JOINT
- CONTRACTION JOINT

12"x12" SLATE STONE, 12" WIDE PATTERNED ACCENT STRIPS AT RADIAL EXPANSION AND CONTRACTION JOINTS

8"x8" RUNNING BOND GRANITE BLOCK PATTERN. PATTERN SHALL BE TANGENT TO ROUNDABOUT CURB.

TYPE T100 GRANITE CURB

NOTE:
1. SUBMIT SCALED SHOP DRAWING SHOWING PATTERN PLACEMENT IN RELATION TO EXPANSION, CONTRACTION, AND SCORE JOINTS.

2. ALL JOINTS SHALL FALL AT BREAKS BETWEEN BLOCKS IN THE PATTERN.

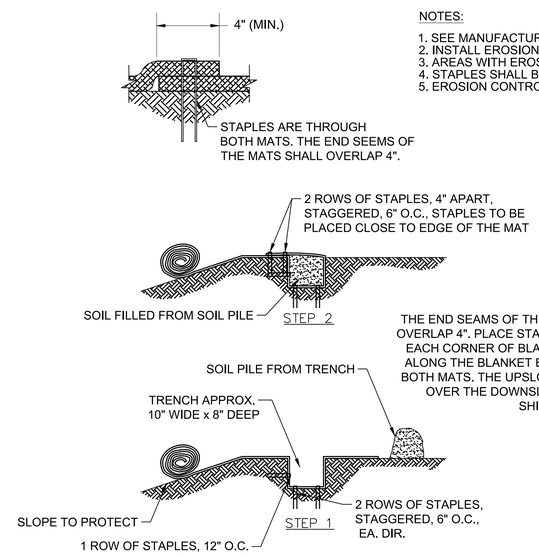
3. STAMPED CONCRETE SHALL BE INTEGRAL COLORED CONCRETE WITH COLOR HARDENER AS PER SPECIAL PROVISION.

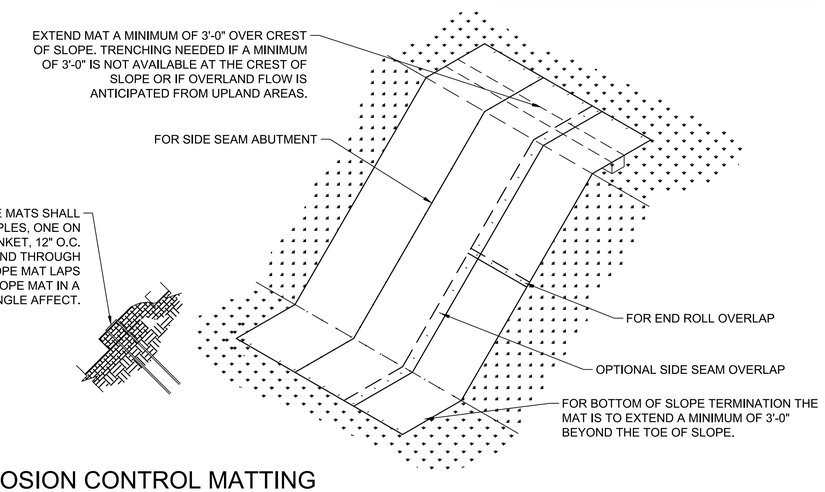
0 10 20 30 40

SCALE: 1" = 10'

ROUNDABOUT APRON DETAIL

NOT TO SCALE



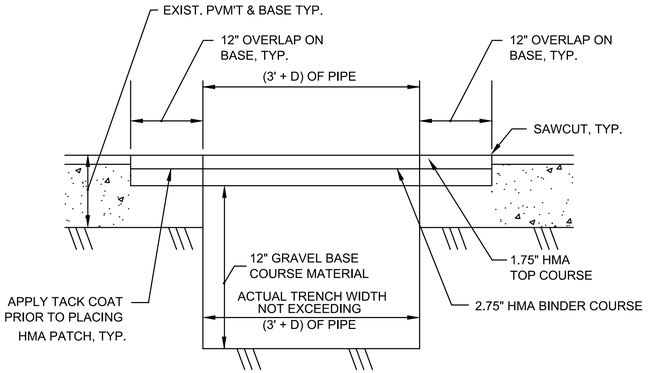


EROSION CONTROL MATTING

NOT TO SCALE

604123_HD24(CONSTRUCTION DETAILS).DWG Plotted on 20-Dec-2017 11:12 AM

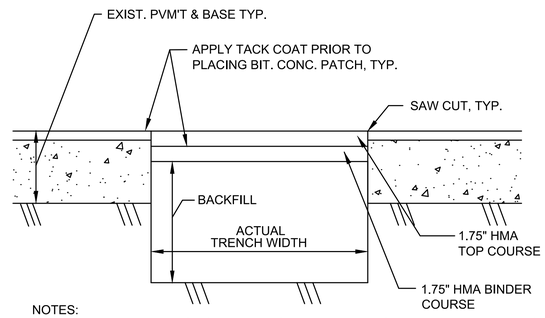
604123_HD26(DRAINAGE DETAILS).DWG Plotted on 21-Mar-2018 10:28 AM



NOTES:
1. PERMANENT PATCH IS TO BE USED ON SEWELL STREET.
2. MATCH EXISTING PAVEMENT ELEVATION.
3. PERMANENT HMA PATCH IS NOT REQUIRED WITHIN THE LIMITS OF FULL DEPTH RECONSTRUCTION, TEMPORARY HMA PATCH SHALL BE MAINTAINED UNTIL FULL DEPTH RECONSTRUCTION IS PERFORMED IN THESE AREAS.
4. PERMANENT PATCH TO BE PAID FOR UNDER ITEM 451.

1 PERMANENT HMA PATCH DETAIL

SCALE: NOT TO SCALE



NOTES:
1. PERMANENT HMA PATCH SHALL BE USED IN ALL AREAS THAT WILL BE MILLED & OVERLAID. PERMANENT HMA PATCH IS NOT REQUIRED WITHIN THE LIMITS OF FULL DEPTH RECONSTRUCTION, TEMPORARY HMA PATCH SHALL BE MAINTAINED UNTIL FULL DEPTH RECONSTRUCTION IS PERFORMED IN THESE AREAS.
2. TEMPORARY HMA PATCH IN AREAS THAT WILL BE SUBJECT TO FULL DEPTH CONSTRUCTION, IN-SITU MATERIAL MAY BE USED FOR BACKFILL.
3. PAVEMENT FOR TEMPORARY HMA PATCH SHALL BE PAID FOR UNDER ITEM 472.

2 TEMPORARY HMA PATCH DETAIL

SCALE: NOT TO SCALE

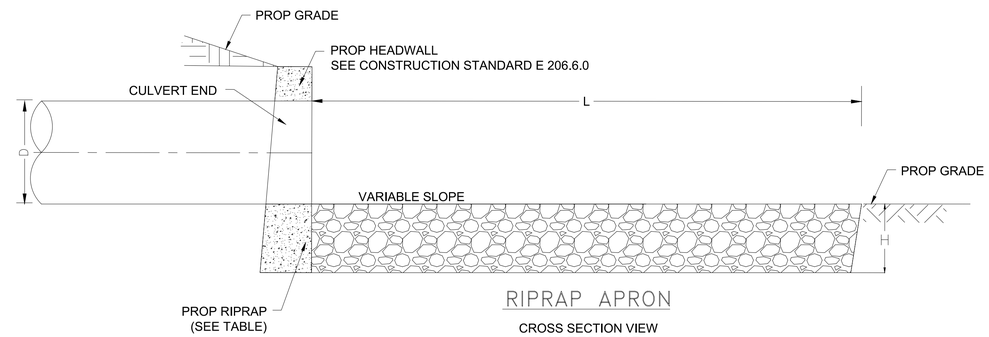
CULVERT SIZE D (INCHES)	LENGTH OF APRON L (FEET)	DEPTH OF APRON H (INCHES)	MASSDOT RIPRAP SIZE
30	12.5	24	M2.02.2
36	16	24	M2.02.2
42	21	30	M2.02.1
48	24	30	M2.02.1

SOURCE:

FHWA STANDARD DRAWING C251-50

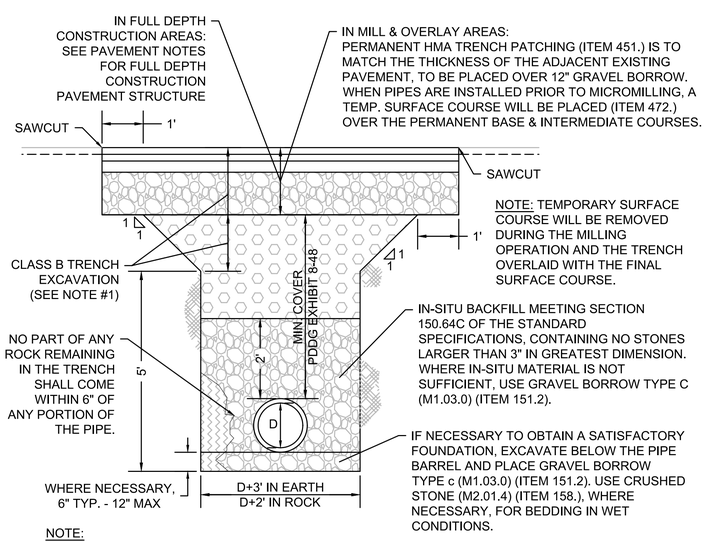
NOTES:

FOR PIPES 24" DIA. AND LESS, USE STONE PIPE ENDS MASSDOT STANDARD DETAIL E 206.7.0



RIPRAP APRON

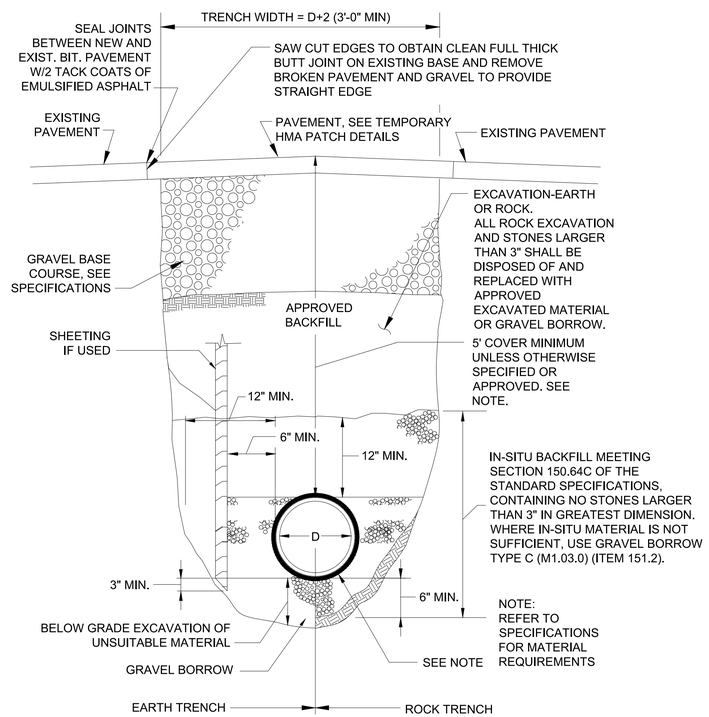
CROSS SECTION VIEW
NOT TO SCALE



NOTE:
1. CLASS B TRENCH EXCAVATION IS MEASURED FROM THE BOTTOM OF THE ROADWAY EXCAVATION OR EXISTING GROUND, WHICHEVER IS LOWER.
2. ALL BACKFILL IS TO BE PLACED AND COMPACTED IN 6" LAYERS.
3. REFER TO HMA PATCH DETAILS.
4. BACKFILL TRENCH TO A POINT 2' OVER THE PIPE USING NO STONES LARGER THAN 3" IN GREATEST DIMENSION.

3 TYPICAL TRENCH DRAIN DETAIL

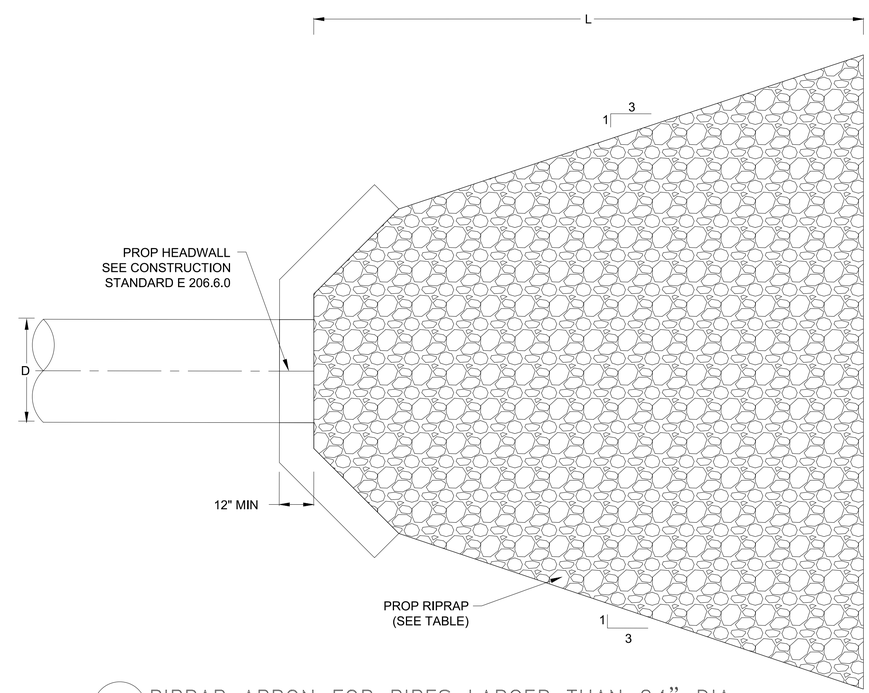
NOT TO SCALE



NOTE: FURNISH AND INSTALL CLOSED CELL GLASS INSULATION, 2" THICK FOAMGLASS ONE BY PITTSBURG CORNING OR EQUAL, WITH PITTWRAPP AA JACKETING BY PITTSBURG CORNING OR EQUAL WHEN WATER MAIN CANNOT BE INSTALLED AT OR BELOW THE REQUIRED BURIAL DEPTH OF FIVE (5) FEET

4 WATER TRENCH SECTION

NOT TO SCALE



5 RIPRAP APRON FOR PIPES LARGER THAN 24" DIA

PLAN VIEW
NOT TO SCALE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	194	331
PROJECT FILE NO.	604123		

DRAINAGE & UTILITY DETAILS (2 OF 4)

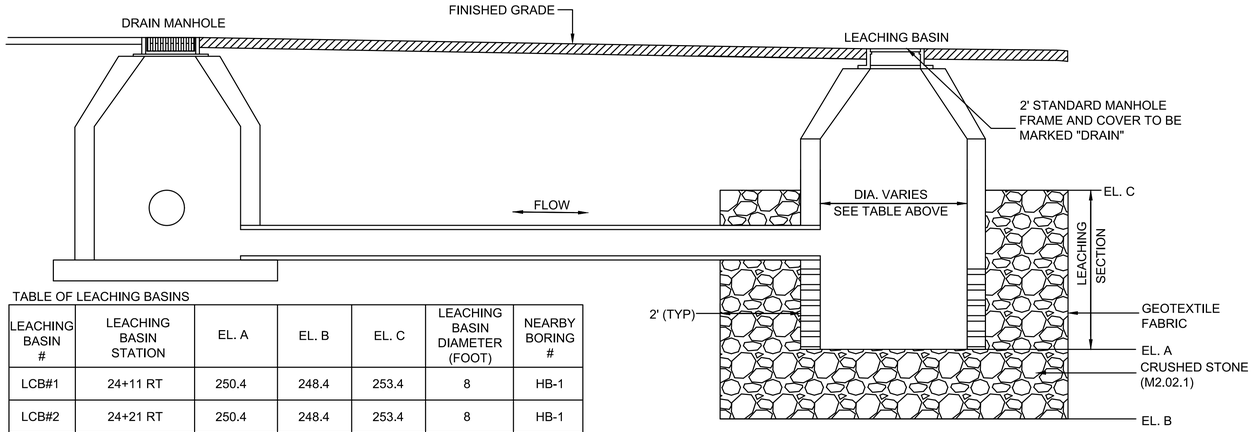


TABLE OF LEACHING BASINS

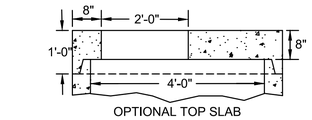
LEACHING BASIN #	LEACHING BASIN STATION	EL. A	EL. B	EL. C	LEACHING BASIN DIAMETER (FOOT)	NEARBY BORING #
LCB#1	24+11 RT	250.4	248.4	253.4	8	HB-1
LCB#2	24+21 RT	250.4	248.4	253.4	8	HB-1
LCB#3	24+30 RT	250.4	248.4	253.4	8	HB-1
LCB#4	24+39 RT	250.4	248.4	253.4	8	HB-1
LCB#5	24+24 LT	247.5	245.5	252.7	8	HB-2
LCB#5	24+24 LT	247.5	245.5	252.7	8	HB-2

NOTES:
1. ALL DIMENSIONS AND ELEVATIONS ARE IN FEET.
2. REFER TO DRAINAGE SCHEDULE FOR RIM, INLET AND OUTLET ELEVATIONS.

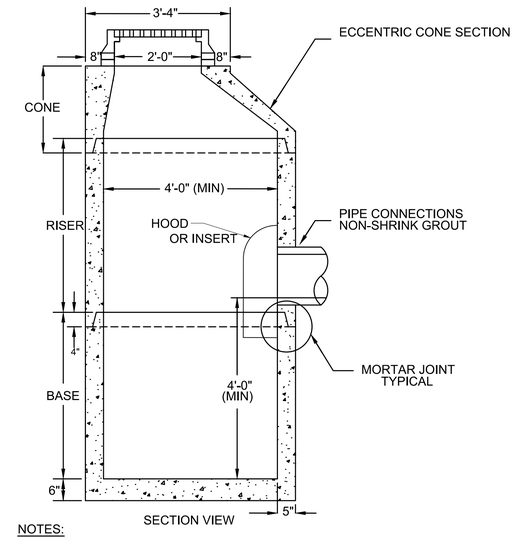
NOTES:
1. SEE MASSDOT DETAIL E 205.2.0 FOR STANDARD CONCRETE LEACHING BASIN DETAIL
2. REPLACING FRAME AND GRATE WITH FRAME AND COVER

6 TYPICAL DRAIN MANHOLE/LEACHING BASIN CONNECTION DETAIL

SCALE: NOT TO SCALE



OPTIONAL TOP SLAB

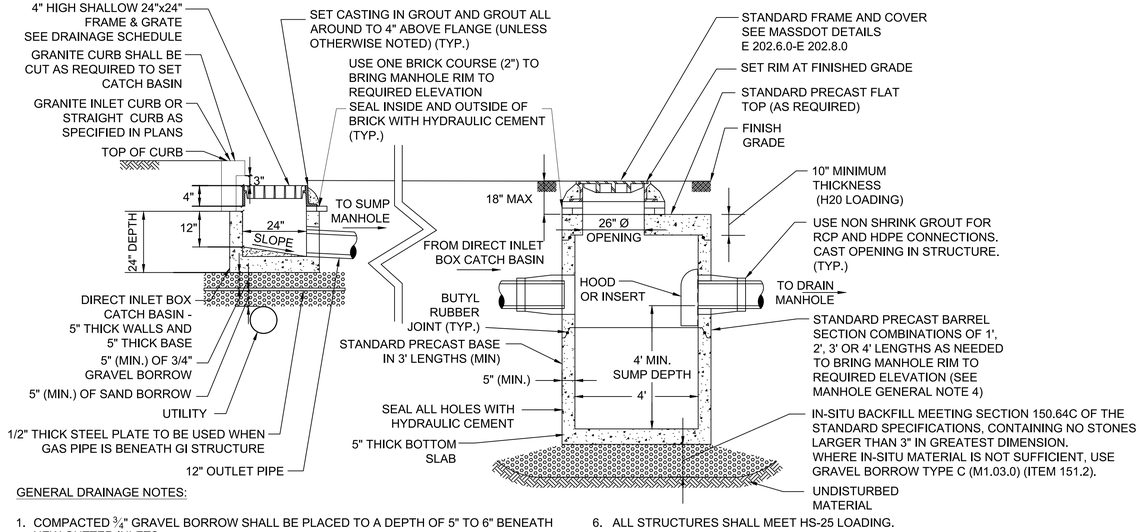


SECTION VIEW

NOTES:
1. CONCRETE: 4,000PSI MINIMUM AFTER 28 DAYS.
2. REINFORCED STEEL CONFORMS TO LATEST ASTM A185 SPEC. 0.12 SQ. IN/LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM.
3. H-20 DESIGN LOADING PER AASHTO HS-20-44; ASTM C478 SPEC FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS."
4. BASED ON ACTUAL FIELD CONDITIONS; THE CONTRACTOR SHALL DETERMINE WHICH TYLE OF TOP SECTION SHOULD BE USED.

8 ECCENTRIC CATCH BASIN DETAIL

NOT TO SCALE



GENERAL DRAINAGE NOTES:

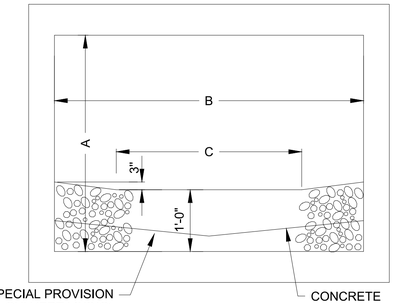
1. COMPACTED ¾" GRAVEL BORROW SHALL BE PLACED TO A DEPTH OF 5" TO 6" BENEATH NEW GUTTER INLETS.
2. SAND BORROW SHALL BE PLACED THE FULL DEPTH BETWEEN THE ½" STEEL PLATE AND UTILITY PIPES.
3. THE DIMENSION OF STEEL PLATES SHALL BE 5'X5' AND SHALL EXTEND 12" ALL AROUND THE GUTTER INLET STRUCTURE.
4. ALL OFFSETS TO THE GUTTER INLETS ARE TO THE BACK CENTER OF THE GRATE. THE LOCATION AND ORIENTATION OF THE BELOW GRADE STRUCTURE SHALL BE FIELD COORDINATED BY THE CONTRACTOR TO AVOID CONFLICTS WITH EXISTING UTILITIES.
5. ALL STRUCTURES SHOULD HAVE ECCENTRIC CONES UNLESS THEY ARE FLAT SLABS OR AS OTHERWISE DIRECTED BY THE ENGINEER.
6. ALL STRUCTURES SHALL MEET HS-25 LOADING.
5. ALL STRUCTURES TO BE MANUFACTURED TO MEET OR EXCEED ASTM C-478 AND AASHTO M199 SPECS.
6. ALL REINFORCING FOR EACH STRUCTURE SHALL CONFORM TO ASTM A-185 AND BE PLACED AS PER ASTM C-478.
7. ALL CONCRETE TO BE 4000 PSI (MINIMUM) CEMENT PER ASTM C-478.
8. BUTYL RUBBER JOINT SEALANT PER ASTM C-990 AND AASHTO M-198. WATERPROFFING PER CONTRACT SPECS.

7 SPECIAL GUTTER INLET AND DEEP SUMP MANHOLE DETAIL

NOT TO SCALE

604123_HD26(DRAINAGE DETAILS).DWG Plotted on 21-Mar-2018 10:28 AM

604123_HD26(DRAINAGE DETAILS).DWG Plotted on 21-Mar-2018 10:28 AM



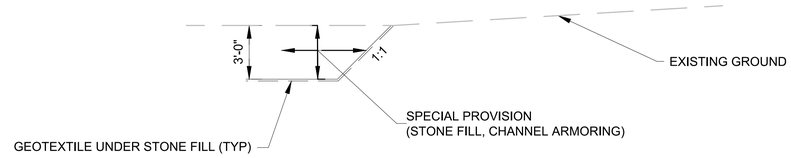
NOTES:

1. PAYMENT FOR BAFFLE WILL BE CONSIDERED INCIDENTAL IN THE COST OF THE PRECAST CULVERT.

11 CULVERT TYPICAL SECTION STA.37+50 & 80+40

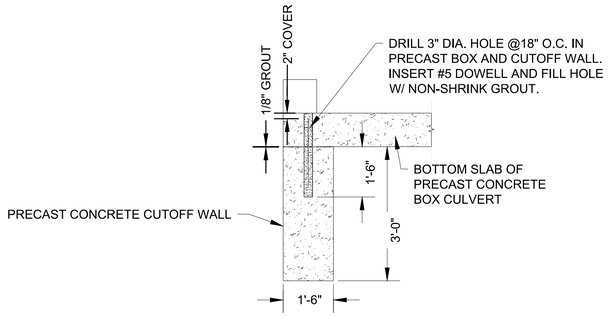
NOT TO SCALE

	DIMENSIONS (FT)			
	A	B	C	D
CULVERT 1 AT STA. 37+50	3	2	1	1
CULVERT 3 AT STA. 80+40	3	3	2	1.5



14 STREAM BED MATERIAL TRANSITION

NOT TO SCALE



NOTES:

1. PAYMENT FOR CUTOFF WALL CONCRETE, REINFORCING STEEL, DOWEL AND NON-SHRINK GROUT SHALL BE INCLUDED IN THE COST OF THE PRECAST CULVERT.

12 CUTOFF WALL DETAIL

NOT TO SCALE

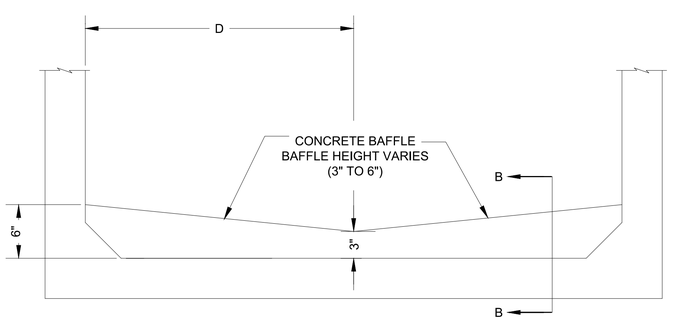
STONE FILL GENERAL NOTES:

1. PRIOR TO PLACING MATERIALS, PREPARE SLOPE AS FOLLOWS:
   A. CUT OFF TREES AND EXISTING STUMPS TO GROUND LEVEL. LEAVE STUMPS & ROOTS BELOW GRADE IN PLACE.
   B. EXCAVATE VEGETATION (EXCEPT STUMPS) AND ORGANIC SOILS FROM SURFACE OF SLOPE.
   C. COMPACT SURFACE OF SLOPE (COMPACTION WITH EXCAVATOR BUCKET ACCEPTABLE).
   D. PLACE MATERIALS AS SHOWN ON THE DETAILS.

2. THE NATURAL STREAMBED MATERIAL SHALL CONSIST OF FIELD STONE OR NATURAL RIVER ROCK SIMILAR IN COLOR AND APPEARANCE TO IN-SITU NATIVE MATERIALS. CRUSHED STONE SHALL NOT BE PERMITTED. THE NATURAL STREAMBED MATERIAL SHALL APPROXIMATE THE FOLLOWING SIZE DISTRIBUTION; AMOUNT FINER THAN EACH LABORATORY SIEVE (SQUARE OPENINGS)(PERCENT BY WEIGHT):

SIEVE OPENING	PERCENT FINER
4-INCH	100%
3.5-INCH	85% - 95%
2.5-INCH	40% - 60%
1.25-INCH	25% - 35%
0.25-INCH	5% - 15%

3. THE CONTRACTOR SHALL INSTALL A 1' - 1'3" THICK LAYER OF STREAMBED MATERIAL WITHIN THE BOX, AS DEPICTED ON THE PLANS OR AS REQUIRED BY THE ENGINEER. THE MATERIAL SHALL BE INSTALLED DURING DEWATERED CONDITIONS AND IN ACCORDANCE WITH THE ENVIRONMENTAL PERMITS. MICROTOPOGRAPHY SHALL BE ESTABLISHED WITHIN THE CULVERT TO CREATE A LOW FLOW THALWEG THROUGHOUT THE STRUCTURE.

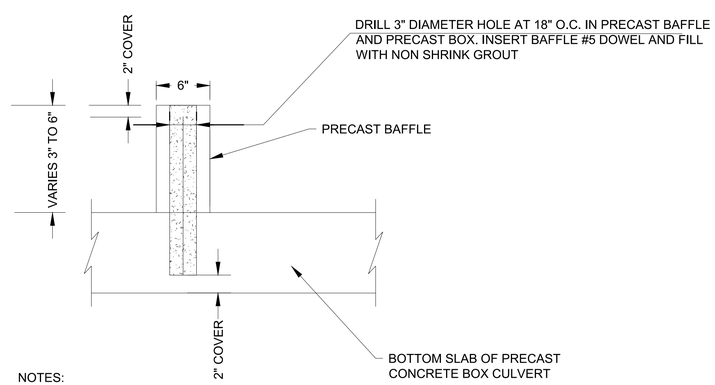


NOTES:

1.BAFFLES SHALL BE 6" DEEP (MAX).
2.BAFFLES TO BE PLACED EVERY 7' INCLUDING AT THE INLET AND OUTLET.

13 PRECAST CONCRETE BAFFLE DETAIL

NOT TO SCALE

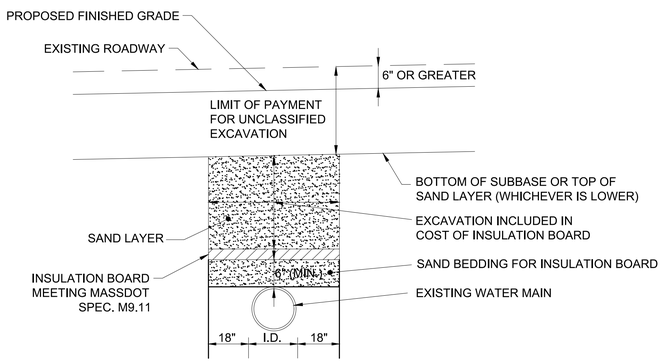


NOTES:
PAYMENT FOR BAFFLE AND #5 DOWEL WILL BE CONSIDERED INCIDENTAL IN THE COST OF THE PRECAST CULVERT.

15 SECTION B-B BAFFLE DETAIL

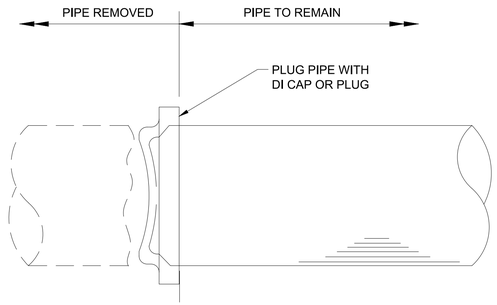
NOT TO SCALE

604123_HD26(DRAINAGE DETAILS).DWG Plotted on 21-Mar-2018 10:28 AM



16 TYPICAL WATER PIPE INSULATION BOARD DETAIL

NOT TO SCALE

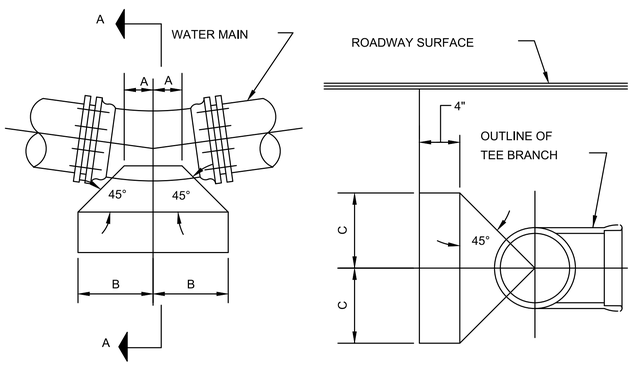


18 TYPICAL PIPE PLUGGING DETAIL

NOT TO SCALE

WATER NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING UTILITY LOCATIONS PRIOR TO FINALIZING WATER MAIN LAYOUT. EXACT LAYOUT OF THE NEW WATER MAIN, VALVES, AND FITTINGS SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER.
2. INSTALL MECHANICAL THRUST RESTRAINT AT ALL MECHANICAL JOINTS, BENDS, TEES, CROSSES, COUPLINGS, AND HYDRANTS.
3. REMOVE AND DISPOSE OFF-SITE, ANY ABANDONED WATER MAIN OR SERVICES APPEARING IN THE SAME TRENCH AS PROPOSED WATER MAIN, HYDRANTS, AND SERVICES AT NO ADDITIONAL COST TO THE OWNER.
4. THE WATER MAIN WORK SHALL INCLUDE CONSTRUCTION OF CONCRETE THRUST BLOCKS AT ALL BELOW GRADE BENDS. CONCRETE THRUST BLOCKS SHALL BE OF THE MINIMUM SIZE AS SHOWN ON THE TABLE (SEE THRUST BLOCK DETAIL) AND ALLOW 48 HOURS FOR CURING BEFORE PRESSURIZING THE LINE . CONSTRUCT THRUST BLOCKS AGAINST UNDISTURBED SOIL. WRAP FITTINGS WITH POLYETHYLENE PRIOR TO CONSTRUCTING THRUST BLOCKS. NO JOINTS SHALL BE COVERED WITH CONCRETE.
5. ALL WATER PIPE SHALL BE CEMENT LINED DUCTILE IRON (C.L.D.I.) MECHANICAL JOINT, THICKNESS CLASS 52 INSULATED PIPE. WEIGHT, CLASS, MANUFACTURER'S MARK, YEAR OF PRODUCTION, AND "D.I." OR "DUCTILE" SHALL BE CAST OR STAMPED ON EACH SECTION OF PIPE.
6. DE-CHLORINATION OF WATER USED FOR DISINFECTION OF THE NEW WATER MAINS SHALL BE REQUIRED. APPROPRIATE LEAKAGE TESTING SHALL BE PROVIDED FOR PROPOSED WATER LINE.
7. ALL EXPOSED PORTIONS OF THE WATER MAIN, AND BURIED PORTIONS LESS THAN 5' BELOW GRADE, ARE TO BE INSULATED AS DESCRIBED IN THE SPECIFICATIONS. INSULATION NOT SHOWN FOR CLARITY PURPOSES, BUT SHALL BE PROVIDED AS REQUIRED.
8. CONTRACTOR IS RESPONSIBLE FOR RESTRAINING EXISTING VALVES DURING INSTALLATION OF NEW WATER MAIN OR HYDRANTS.
9. WHEN GATE VALVES ARE NOT FOUND DURING FIELD SURVEY, CONTRACTOR SHALL LOCATE EXISTING VALVES PRIOR TO INSTALLING NEW WATER MAINS OR BRANCHES.
10. TEST PITS SHALL BE PERFORMED TO VERIFY MATERIAL OF EXISTING WATER PIPES PRIOR TO ORDERING PRODUCTS FOR ALL PROPOSED WATER WORK.
11. ALL COUPLINGS CONNECTED TO EXISTING PIPES SHALL BE RESTRAINED INSULATING MECHANICAL TRANSITION COUPLINGS.



HORIZONTAL THRUST BLOCK SCHEDULE
TABLE OF DIMENSIONS IN INCHES

	A	B	C
6", 8" BEND			
11 1/4°, 22 1/2°	6"	10"	10"
45°	6"	14"	14"
90°	9"	19"	19"
10", 12" BEND			
11 1/4°, 22 1/2°	6"	14"	14"
45°	6"	20"	20"
90°	9"	27	27
TEE (BRANCH)/CAP			
6"	6"	15"	15"
8"	9"	16"	16"
10"	9"	19"	19"
12"	9"	23"	23"

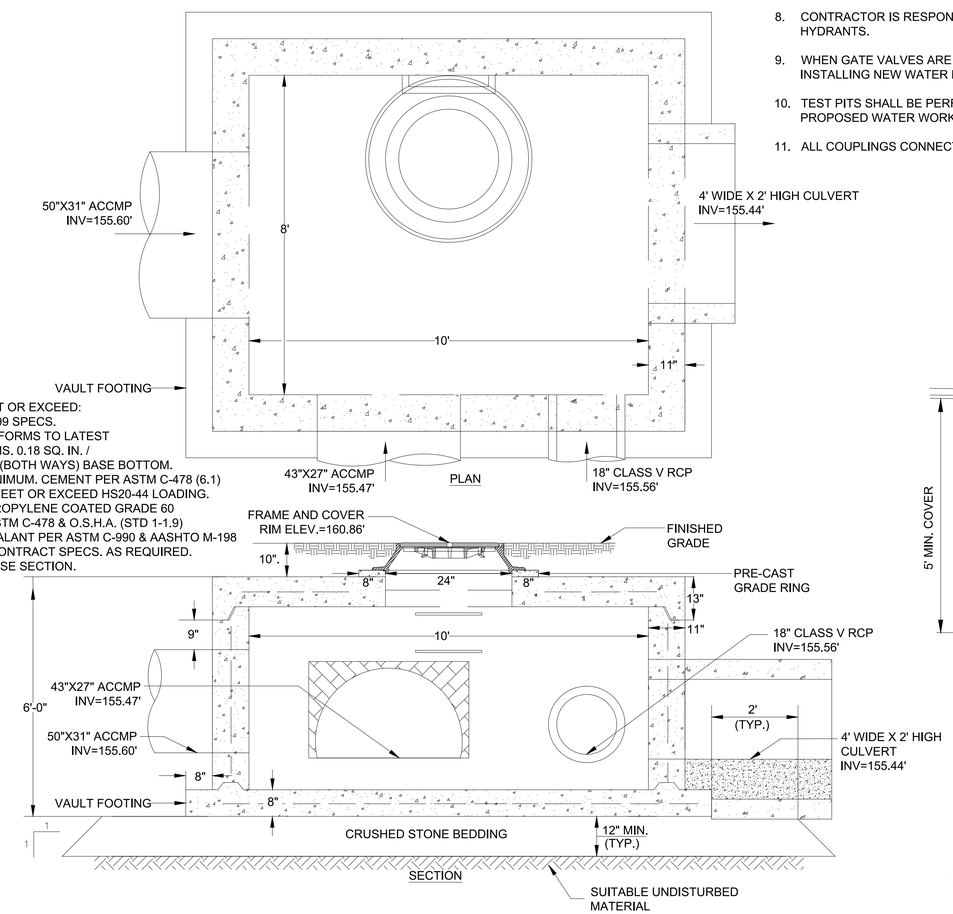
NOTE : REFER TO SPECIFICATIONS FOR MATERIAL REQUIREMENTS

SUBJECT TO FIELD MODIFICATION BY ENGINEER

17 THRUST BLOCK DETAIL

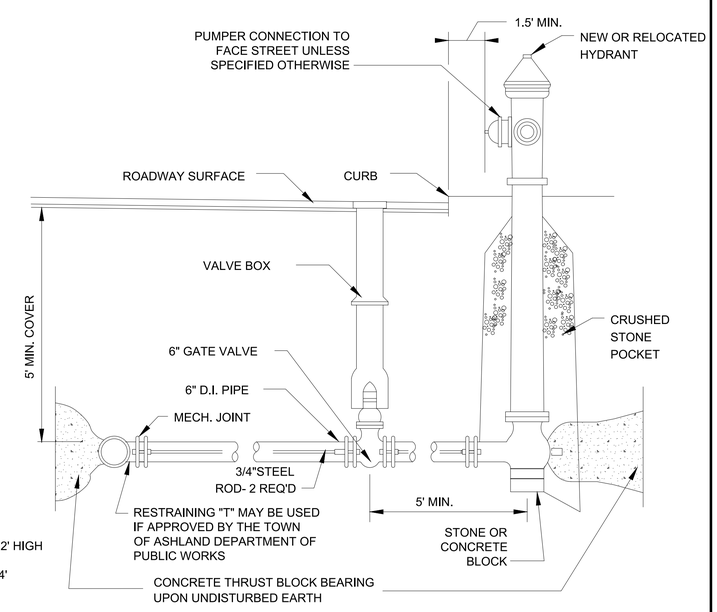
NOT TO SCALE

NOTES:
(1.)MANUFACTURED TO MEET OR EXCEED: ASTM C-478 & AASHTO M 199 SPECS.
(2.)REINFORCED STEEL CONFORMS TO LATEST ASTM A 185 SPECIFICATIONS. 0.18 SQ. IN. / LINEAL FT. AND 0.18 SQ. IN (BOTH WAYS) BASE BOTTOM.
(3.)CONCRETE = 4000 PSI MINIMUM. CEMENT PER ASTM C-478 (6.1)
(4.)STEEL REINFORCED TO MEET OR EXCEED HS20-44 LOADING.
(5.)MANHOLE STEPS-POLYPROPYLENE COATED GRADE 60 REINFORCING BAR, PER ASTM C-478 & O.S.H.A. (STD 1-1.9)
(6.)BUTYL RUBBER JOINT SEALANT PER ASTM C-990 & AASHTO M-198
(7.)WATER PROOFING PER CONTRACT SPECS. AS REQUIRED.
(8.)ONE POUR MONOLITIC BASE SECTION.



19 PRECAST 10'X8' CONCRETE MANHOLE

NOT TO SCALE



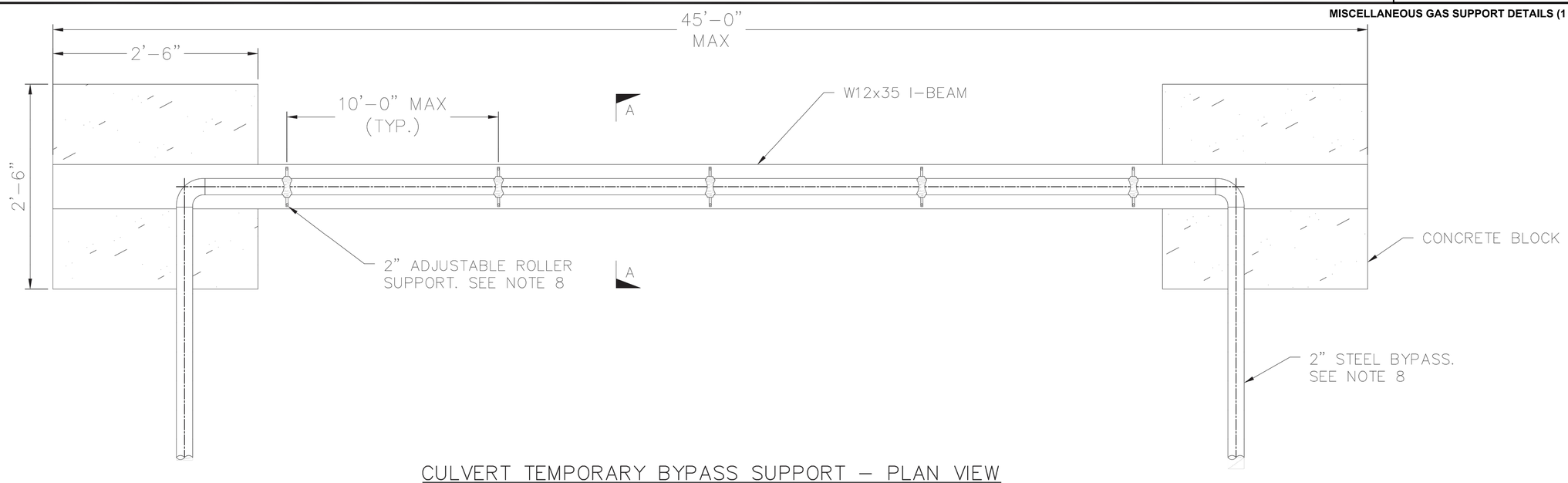
20 FIRE HYDRANT DETAIL

NOT TO SCALE

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	197	331
PROJECT FILE NO.		604123	

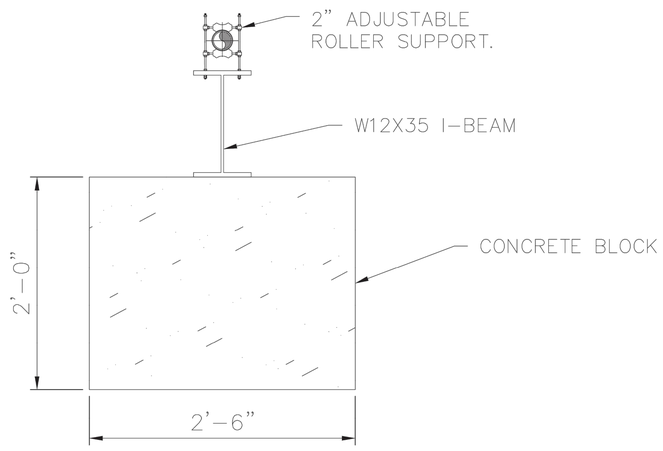
MISCELLANEOUS GAS SUPPORT DETAILS (1 OF 2)



CULVERT TEMPORARY BYPASS SUPPORT – PLAN VIEW

SCALE: N.T.S

BILL OF MATERIALS		
QTY	SIZE	DESCRIPTION
LENGTH AS REQUIRED (NOT EXCEEDING 45 FT.)	W12 X 35	BEAM, ASTM A36
5	2"	PIPE ROLLER SUPPORTS, LBA 3B 2" WITH NONCONDUCTIVE ROLLERS
2	2'-6" X 2'-6" X 2'-0"	CONCRETE BLOCK



CULVERT TEMPORARY BYPASS SUPPORT – SECTION VIEW A–A

SCALE: N.T.S

NOTES:

1. THE DRAWINGS SHOWN ON THIS PLAN ARE STANDARD DETAILS AND DO NOT REPRESENT SITE–SPECIFIC LOCATIONS. AN EXISTING CONDITIONS SURVEY OF EACH LOCATION WAS NOT COMPLETED FOR THIS EFFORT.
2. CONTRACTOR SHALL ENSURE THAT BEAM AND CONCRETE BLOCK SUPPORT PLACEMENT IS IN COMPLIANCE WITH ALLOWABLE WORK AREAS AND ALL PROJECT PERMITS.
3. CONTRACTOR SHALL ENSURE THAT CONCRETE BLOCK SUPPORTS ARE PLACED ON LEVEL, WELL COMPACTED, STABLE, AND EVENLY SUPPORTED GROUND SURFACE.
4. CONTRACTOR SHALL ENSURE THAT CONCRETE BLOCK SUPPORTS ARE PLACED IN AN UPLAND (DRY) AREA AND ON SOIL WITH A BEARING CAPACITY OF AT LEAST 2,000 PSF.
5. THE BEAM LENGTH SHOWN ON THIS PLAN CANNOT BE EXCEEDED. IF CONDITIONS WARRANT A LONGER SPAN, CONTACT EVERSOURCE ENERGY.
6. THE BEAM SHOWN ON THIS DRAWING HAS BEEN DESIGNED FOR THE PURPOSE SHOWN ONLY. IF CONDITIONS OR LOADS CHANGE CONTACT EVERSOURCE ENERGY.
7. PROPOSED GAS MAIN AND HANGER CONSTRUCTION SHALL BE IN COMPLIANCE WITH EVERSOURCE ENERGY CONSTRUCTION AND ENGINEERING STANDARDS.
8. 2–IN STEEL BYPASS PIPE AND ANY APPURTENANCES (HANGERS, ROLLERS, RODS, ETC.) ASSOCIATED WITH THE CONNECTION OF THE PIPE TO THE STEEL BEAM WILL BE DESIGNED, SUPPLIED, AND CONSTRUCTED BY EVERSOURCE.

COMMONWEALTH OF MASSACHUSETTS
BRENDAN C. KEARNS
CIVIL
NO. 53669
REGISTERED PROFESSIONAL ENGINEER

TRI–MONT Engineering Company
Plymouth, MA.

FIELD VERIFY DIMENSIONS PRIOR TO FABRICATION

No.	Description	Date	Dw/Ck/Ap
0	ISSUED FOR CONSTRUCTION	06/23/20	VIR/MJG/BCK

Revision/Status

EVERSOURCE ENERGY

BYPASS SUPPORT
POND STREET, ASHLAND MA
CULVERT TEMPORARY BYPASS SUPPORT - PLAN & SECTION VIEW
SCALE: NTS — SHEET 1 OF 2

Drawn by / Date	Checked by / Date	Sheet Number	Rev. No.
VIR 06/18/20	MJG 06/18/20	D-190-90.02-M01	0
Approved by / Date BCK 06/18/20	Filed: D-190-90.02		

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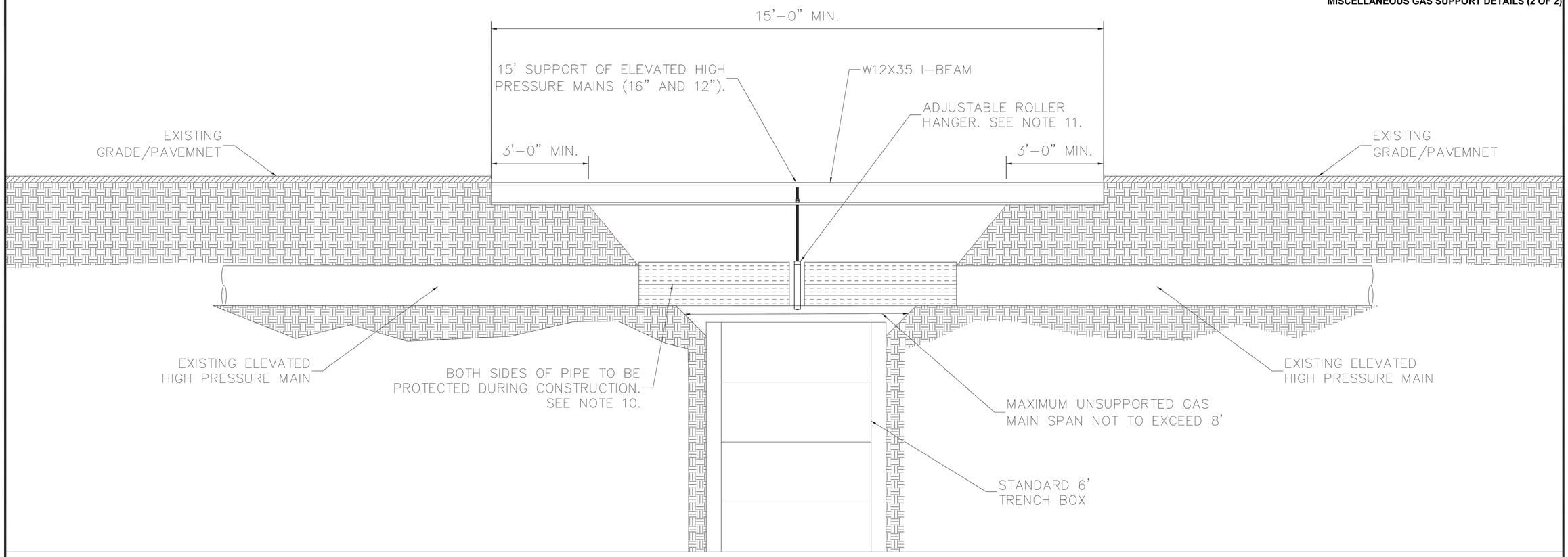
Jun 23, 2020 - 9:58am

604123_HD29\MISCELLANEOUS GAS SUPPORT DETAILS).DWG Plotted on 24-Jun-2020 10:57 AM

MISCELLANEOUS GAS SUPPORT DETAILS (2 OF 2)



ELEVATED HIGH PRESSURE MAINS TEMPORAY SUPPORT (16" & 12")

SCALE: N.T.S.

NOTES:

1. THE DRAWINGS SHOWN ON THIS PLAN ARE STANDARD DETAILS AND DO NOT REPRESENT SITE-SPECIFIC LOCATIONS. AN EXISTING CONDITIONS SURVEY OF EACH LOCATION WAS NOT COMPLETED FOR THIS EFFORT.
2. CONTRACTOR SHALL ENSURE THAT BEAM PLACEMENT IS IN COMPLIANCE WITH ALLOWABLE WORK AREAS AND ALL PROJECT PERMITS.
3. CONTRACTOR SHALL ENSURE THAT BEAMS ARE PLACED ON LEVEL, WELL COMPACTED, STABLE, AND EVENLY SUPPORTED GROUND SURFACE.
4. CONTRACTOR SHALL ENSURE THAT BEAMS ARE PLACED IN AN UPLAND (DRY) AREA AND ON SOIL WITH A BEARING CAPACITY OF AT LEAST 2,000 PSF.
5. THE EXISTING GAS MAIN OPEN SPAN OF 8-FT AS SHOWN ON THE DRAWING CANNOT BE EXCEEDED. IF CONDITIONS WARRANT A LONGER SPAN, CONTACT EVERSOURCE ENERGY.
6. THE BEAM LENGTH SHOWN ON THIS PLAN CANNOT BE EXCEEDED. IF CONDITIONS WARRANT A LONGER SPAN, CONTACT EVERSOURCE ENERGY.
7. THE BEAM SHOWN ON THIS DRAWING HAS BEEN DESIGNED FOR THE PURPOSE SHOWN ONLY. IF CONDITIONS OR LOADS CHANGE CONTACT EVERSOURCE ENERGY.
8. PROPOSED GAS MAIN AND HANGER CONSTRUCTION SHALL BE IN COMPLIANCE WITH EVERSOURCE ENERGY CONSTRUCTION AND ENGINEERING STANDARDS.
9. EXCAVATION NEAR LIVE GAS MAINS SHALL BE DONE IN ACCORDANCE WITH EVERSOURCE STANDARDS.
10. EXPOSED LENGTH OF GAS MAIN TO BE PROTECTED AT ALL TIMES. AT A MINIMUM, ROCKSHIELD OR EQUIVALENT SHALL BE USED. ANY MECHANICAL PROTECTION THAT IS AFFIXED TO THE PIPE (I.E. ROCKSHIELD) SHALL BE DESIGNED, SUPPLIED AND INSTALLED BY EVERSOURCE. THE CONTRACTOR SHALL ENSURE THAT THE PIPE IS ADEQUATELY PROTECTED FROM DAMAGE DURING CONSTRUCTION ACTIVITIES.
11. ANY APPURTENANCES (HANGERS, ROLLERS, RODS, ETC.) ASSOCIATED WITH THE CONNECTION OF THE PIPE TO THE STEEL BEAM WILL BE DESIGNED, SUPPLIED AND CONSTRUCTED BY EVERSOURCE.

BILL OF MATERIALS

QTY	SIZE	DESCRIPTION
15FT	W12 X 35	BEAM, ASTM A36
1	16"	LBA 4B PIPE HANGAR WITH NONCONDUCTIVE ROLLERS FOR 16" PIPE
1	12"	LBA 4B PIPE HANGAR WITH NONCONDUCTIVE ROLLERS FOR 12" PIPE
1	7/8"	BEAM CLAMP, 7/8" ROD FOR 12" PIPE, CARPENTER AND PATTERSON FIGURE 702 OR EQUIVALENT
1	1"	BEAM CLAMP, 1" ROD FOR 16" PIPE, CARPENTER AND PATTERSON FIGURE 702 OR EQUIVALENT
AS NEEDED	7/8"	7/8" THREADED ROD FOR 12" PIPE, ASTM A307
AS NEEDED	1"	1" THREADED ROD FOR 16" PIPE, ASTM A307

COMMONWEALTH OF MASSACHUSETTS
BRENDAN C. KEARNS
CIVIL
NO. 53669
PROFESSIONAL ENGINEER

TRI-MONT Engineering Company
Plymouth, MA.

FIELD VERIFY DIMENSIONS PRIOR TO FABRICATION

No.	Description	Date	Dw/Ck/Ap
0	ISSUED FOR CONSTRUCTION	06/23/20	VIR/MJG/BCK

Revision/Status

EVERSOURCE ENERGY

BYPASS SUPPORT
POND STREET, ASHLAND MA
ELEVATED HIGH PRESSURE MAINS TEMPORARY SUPPORT (16" & 12")

SCALE: NTS — SHEET 2 OF 2

Drawn by / Date	Checked by / Date	Sheet Number	Rev. No.
VIR 06/18/20	MJG 06/18/20	D-190-90.02-M02	0
Approved by / Date BCK 06/18/20	Filed: D-190-90.02		

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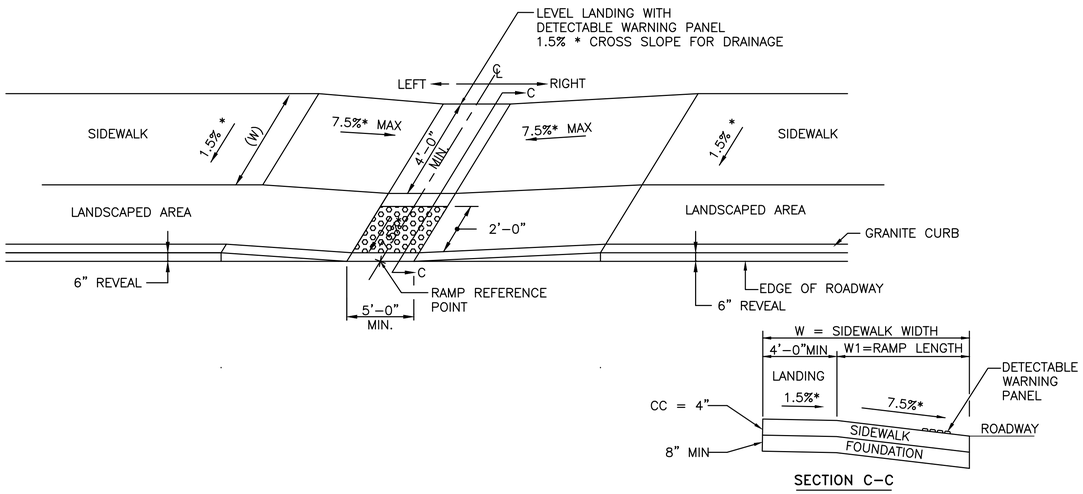
Jun 23, 2020 - 9:58am
604123_HD29\MISCELLANEOUS GAS SUPPORT DETAILS).DWG Plotted on 24-Jun-2020 10:57 AM

ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	199	331
PROJECT FILE NO.	604123		

WHEELCHAIR RAMP DETAILS 1

604123_HD27(DRIVEWAY DETAILS).DWG 3-Jan-2018



SECTION C–C

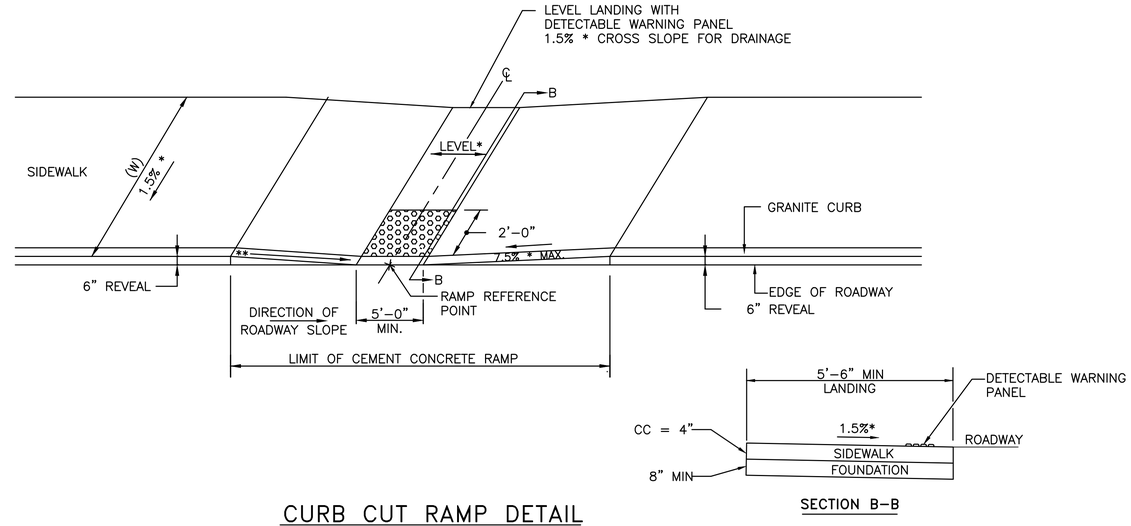
CURB CUT RAMP DETAIL

(LESS THAN 12'–4" SIDEWALK)

NOT TO SCALE

WCR NO.	STATION	OFFSET	WIDTH OF SIDEWALK (W)	DEPTH OF LEVEL LANDING MIN. 4.0'	ROADWAY GUTTER SLOPE	LEFT SIDE TRANSITION LENGTH	RIGHT SIDE TRANSITION LENGTH
5	24+02.60	23.26 L	10.00	10.00	-1.51%	9.00	6.50
6	24+02.90	23.20 R	10.00	10.00	-1.23%	9.00	6.50
7	24+53.65	82.16 L	10.00	10.00	-2.39%	11.00	-
8	25+06.19	89.25 L	10.00	10.00	-0.45%	-	6.50
9	24+71.95	91.32 R	10.00	10.00	2.15%	6.50	11.00
10	25+22.47	85.70 R	10.00	10.00	1.32%	6.50	9.00
11	25+88.15	20.14 L	10.00	10.00	-3.09%	14.00	6.50
12	25+83.68	26.47 R	10.00	10.00	4.65%	6.50	15.00
17	30+18.64	41.98 L	10.00	10.00	4.49%	6.50	-
51	88+30.14	18.64 L	8.00	8.00	-1.22%	9.00	6.50
52	88+55.94	38.62 L	8.00	8.00	-1.29%	9.00	-

(LEFT SIDE/RIGHT SIDE DETERMINED WHEN STANDING IN ROADWAY LOOKING AT RAMP OR DRIVEWAY)



SECTION B–B

CURB CUT RAMP DETAIL

WITH DETECTABLE WARNING PANEL)

NOT TO SCALE

(WHEELCHAIR RAMP ON NARROW SIDEWALK

WCR NO.	STATION	OFFSET	WIDTH OF SIDEWALK (W)	DEPTH OF LEVEL LANDING MIN. 4.0'	ROADWAY GUTTER SLOPE	LEFT SIDE TRANSITION LENGTH	RIGHT SIDE TRANSITION LENGTH
1	10+34.95	29.49 L	5.50	5.00	-1.16%	7.67	-
18	30+48.73	26.00 R	5.50	5.00	0.87%	6.50	7.67
19	31+05.43	49.69 L	5.50	5.00	-4.51%	15.00	6.50
20	31+25.56	53.02 R	5.50	5.00	4.47%	-	15.00
21	31+90.51	52.00 R	5.50	5.00	-3.13%	7.00***	6.50
22	31+99.45	28.75 R	5.50	5.00	2.67%	6.50	5.50***
23	31+66.33	27.00 L	5.50	5.00	-4.81%	15.00	6.50
32	53+67.65	16.00 R	5.50	5.00	0.65%	6.50	3.83***
33	53+67.91	27.00 L	5.50	5.00	1.30%	6.50	9.00
34	53+94.37	36.31 L	5.50	5.00	0.40%	6.50	7.67
37	54+43.10	36.12 L	5.50	5.00	-1.55%	9.00	6.50
40	63+27.96	16.00 R	5.50	5.00	2.05%	6.50	11.00
41	63+28.16	16.00 L	5.50	5.00	-2.05%	11.00	6.50
42	63+68.79	31.71 R	5.50	5.00	0.63%	6.50	7.67
43	64+17.02	32.78 R	5.50	5.00	-1.61%	9.00	6.50
46	77+73.70	16.00 R	5.50	5.00	0.70%	6.50	7.67
47	77+73.60	16.00 L	5.50	5.00	-0.73%	7.67	6.50
50	88+31.15	26.00 R	5.50	5.00	0.40%	6.50	7.67
53	89+36.33	34.81 L	5.50	5.00	1.83%	-	4.5***
54	89+58.75	27.00 L	5.50	5.00	0.50%	3.25***	7.67
55	89+58.82	25.96 R	5.50	5.00	-0.50%	7.67	6.50
57	93+32.75	24.65 L	5.50	5.00	-1.55%	-	6.50
62	96+80.91	16.00 L	5.50	5.50	0.40%	6.50	7.67
63	96+80.91	16.00 R	6.50	6.50	-0.40%	7.67	6.50
72	10+34.57	15.48 R	5.50	5.00	0.55%	7.67	-

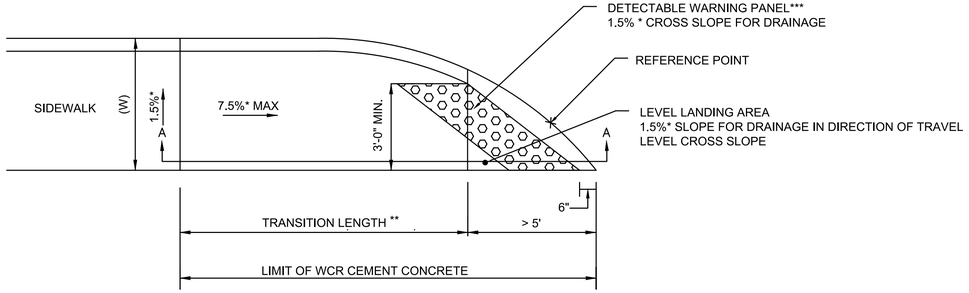
(LEFT SIDE/RIGHT SIDE DETERMINED WHEN STANDING IN ROADWAY LOOKING AT RAMP OR DRIVEWAY)

NOTES:
* CONSTRUCTION TOLERANCE ± 0.5%
– SEE CONSTRUCTION STANDARD E 107.2.1
** SEE CONSTRUCTION STANDARD E 107.9.0
– DETECTABLE WARNING PANELS SHALL BE INSTALLED IN ACCORDANCE WITH CONSTRUCTION STD E 107.6.5
– CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR CONSTRUCTING RAMPS COMPLIANT WITH ADA/AAB RULES, REGULATIONS AND STANDARDS. CONTRACTOR SHALL VERIFY RAMPS ARE ADA/AAB COMPLIANT BEFORE POURING CEMENT CONCRETE.
*** 3 INCH CURB REVEAL

ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	200	331
PROJECT FILE NO.	604123		

WHEELCHAIR RAMP DETAILS 2



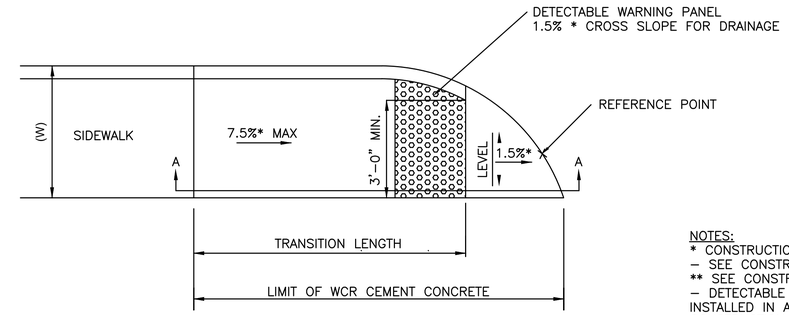
CONTINUOUS DIRECTION WHEELCHAIR RAMP DETAIL

(LEVEL LANDING GREATER THAN 5 FEET)

NOT TO SCALE

WCR NO.	STATION	OFFSET	WIDTH OF SIDEWALK (W)	DEPTH OF LEVEL LANDING MIN. 4.0'	ROADWAY GUTTER SLOPE	LEFT SIDE TRANSITION LENGTH	RIGHT SIDE TRANSITION LENGTH	LEVEL LANDING LENGTH
2	10+90.86	27.33 L	13.00	-	1.10%	-	9.00	< 5'
4	16+77.66	25.50 L	13.50	-	2.85%	-	11.00	< 5'
13	27+52.56	29.51 R	5.50	-	2.75%	-	11.00	> 5'
14	27+89.60	28.75 R	5.50	-	-	-	-	-
15	28+14.29	28.75 R	5.50	-	-	-	-	-
16	28+46.91	29.38 R	5.50	-	-2.15%	6.50		> 5'
24	39+61.56	19.75 R	5.50	-	4.35%	-	15.00	< 5'
25	39+83.35	19.25 R	5.50	-	4.35%	6.50	-	> 5'
26	42+69.70	19.75 L	5.50	-	-1.70%	9.00	-	> 5'
27	43+25.60	19.50 L	5.50	-	-0.80%	-	6.50	> 5'
28	46+19.64	20.00 R	5.50	-	3.35%	-	7.00***	< 5'
29	46+49.86	20.00 R	5.50	-	2.38%	6.50	-	< 5'
30	48+13.74	20.00 R	5.50	-	1.75%	-	9.00	< 5'
31	48+53.62	20.00 R	5.50	-	1.75%	6.50	-	< 5'
35	54+03.52	24.00 R	5.50	-	0.65%	-	7.67	< 5'
36	54+36.05	25.00 R	5.50	-	0.65%	6.50	-	< 5'
38	55+46.53	20.00 R	5.50	-	0.65%	-	7.67	< 5'
39	55+75.06	20.00 R	5.50	-	0.65%	6.50	-	< 5'
44	70+15.20	20.00 L	5.50	-	-1.70%	9.00	-	> 5'
45	70+46.57	20.00 L	5.50	-	-1.90%	-	6.50	> 5'
48	84+05.27	28.66 L	5.50	-	-0.25%	7.67	-	< 5'
49	84+57.81	33.41 L	15.50	-	-0.80%	-	6.50	> 5'
56	92+80.65	29.30 L	5.50	-	-0.50%	7.67	-	> 5'
58	93+67.91	20.00 R	5.50	-	1.30%	-	9.00	< 5'
59	93+93.86	20.00 R	5.50	-	1.30%	6.50	-	< 5'
60	95+51.06	20.00 L	5.50	-	0.85%	6.50	-	< 5'
61	95+77.46	20.00 L	5.50	-	1.15%	-	9.00	< 5'
64	97+04.75	20.00 R	5.50	-	-0.50%	-	6.50	< 5'
65	97+32.80	20.00 R	5.50	-	-0.40%	7.67	-	< 5'
66	97+54.72	20.00 L	5.50	-	0.40%	6.50	-	< 5'
67	97+83.15	20.00 L	5.50	-	0.40%	-	7.67	< 5'
68	99+38.67	20.00 R	5.50	-	0.30%	-	6.50	< 5'
69	99+78.57	20.00 R	5.50	-	0.15%	7.67	-	< 5'
70	99+68.05	20.00 L	5.50	-	0.10%	6.50	-	< 5'
71	100+03.23	19.50 L	5.50	-	-0.10%	-	7.67	< 5'

(LEFT SIDE/RIGHT SIDE DETERMINED WHEN STANDING IN ROADWAY LOOKING AT RAMP OR DRIVEWAY)

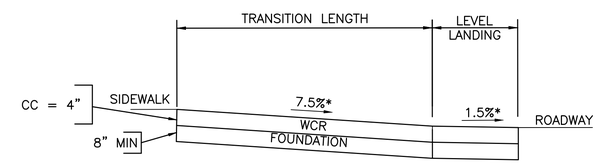


CONTINUOUS DIRECTION WHEELCHAIR RAMP DETAIL

(LEVEL LANDING LESS THAN 5 FEET)

NOT TO SCALE

NOTES:
* CONSTRUCTION TOLERANCE ± 0.5%
– SEE CONSTRUCTION STANDARD E 107.6.0
** SEE CONSTRUCTION STANDARD E 107.9.0
– DETECTABLE WARNING PANELS SHALL BE INSTALLED IN ACCORDANCE WITH CONSTRUCTION STD E 107.6.5
– CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR CONSTRUCTING RAMPS COMPLIANT WITH ADA/AAB RULES, REGULATIONS AND STANDARDS. CONTRACTOR SHALL VERIFY RAMPS ARE ADA/AAB COMPLIANT BEFORE POURING CEMENT CONCRETE.
*** 3 INCH CURB REVEAL



SECTION A–A

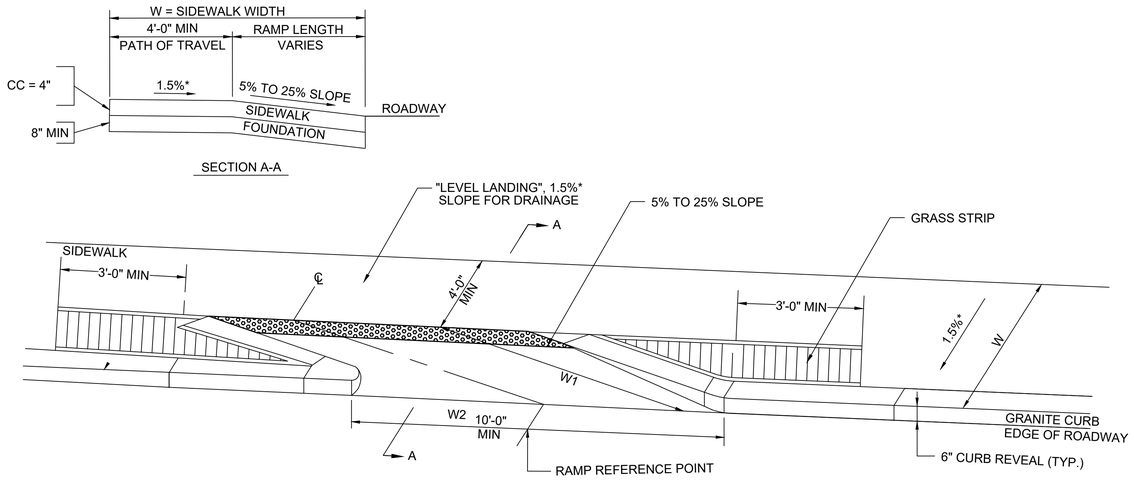
604123_HD27(DRIVEWAY DETAILS).DWG 3-Jan-2018

ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	201	331
PROJECT FILE NO.	604123		

WHEELCHAIR RAMP DETAILS 3

604123_HD27(DRIVEWAY DETAILS).DWG 3-Jan-2018



BIKE RAMP #	STATION	OFFSET	WIDTH OF SIDEWALK (W) (INCLUDING GRASS STRIP)	PATH OF RAMP (W1)	WIDTH OF RAMP ENTRANCE (W2)
1	23+05.27	18.26 R	18.74	20.57	15.91
2	23+26.78	22.00 L	13.50	13.01	14.20
3	301+36.74	20.00 R	15.00	10.80	14.20
4	301+22.14	20.00 L	15.00	11.83	14.20
5	26+25.45	26.00 R	15.00	11.89	14.20
6	26+65.46	16.00 L	15.00	11.83	14.20

NOTES:
* CONSTRUCTION TOLERANCE ± 0.5%
– SEE CONSTRUCTION STANDARD E 107.6.0
** SEE CONSTRUCTION STANDARD E 107.9.0
– DETECTABLE WARNING PANELS SHALL BE INSTALLED IN ACCORDANCE WITH CONSTRUCTION STD E 107.6.5
– CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR CONSTRUCTING RAMPS COMPLIANT WITH ADA/AAB RULES, REGULATIONS AND STANDARDS. CONTRACTOR SHALL VERIFY RAMPS ARE ADA/AAB COMPLIANT BEFORE POURING CEMENT CONCRETE.
*** 3 INCH CURB REVEAL

BICYCLE RAMP INTO SIDEWALK

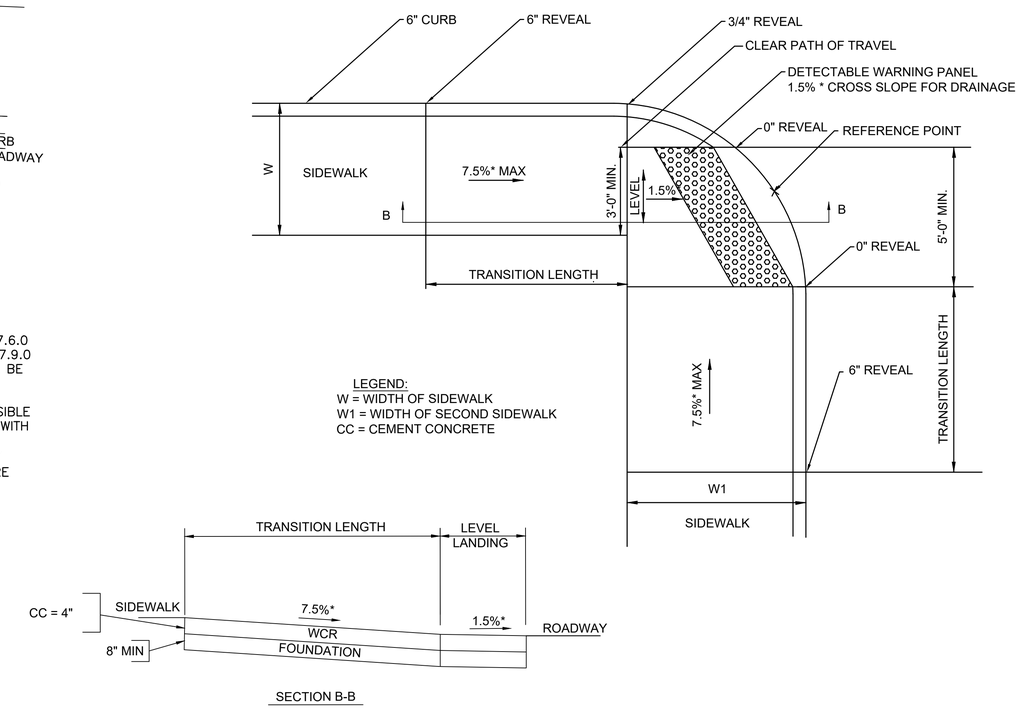
NOT TO SCALE

WCR NO.	STATION	OFFSET	WIDTH OF OPENING
1	24+05.71	6.14 R	14.00
2	24+05.80	5.25 L	13.80
3	24+87.54	86.83 R	14.00
4	25+07.51	84.33 R	13.60
5	24+73.32	84.52 L	14.00
6	24+91.52	86.44 L	14.30
7	25+83.43	3.70 L	10.67
8	25+82.15	9.03 R	10.50
9	30+39.86	26.96 L	7.30
10	30+48.73	16.00 L	6.00
11	30+62.41	27.03 L	6.80

NOTE:
ALL CROSSWALK OPENINGS AT TRAFFIC ISLANDS SHALL CONFORM TO ADA/AAB REQUIREMENTS AND SHALL NOT HAVE SLOPES EXCEED 2% IN ANY DIRECTION.

CROSSWALK OPENINGS AT TRAFFIC ISLANDS

NOT TO SCALE



CURB CUT RAMP DETAIL

("T" INTERSECTION WHEELCHAIR RAMP)

NOT TO SCALE

WCR NO.	STATION	OFFSET	WIDTH OF SIDEWALK (W)	WIDTH OF SECOND SIDEWALK (W1)	ROADWAY GUTTER SLOPE	LEFT SIDE TRANSITION LENGTH	RIGHT SIDE TRANSITION LENGTH
3	16+35.78	25.50 L	8.00	8.00	1.20%	6.50	6.50

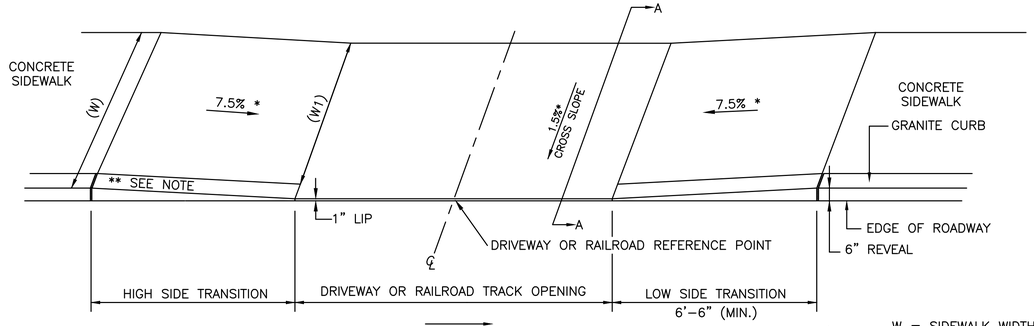
NOTES:
* CONSTRUCTION TOLERANCE ± 0.5%
– SEE CONSTRUCTION STANDARD E 107.6.0
** SEE CONSTRUCTION STANDARD E 107.9.0
– DETECTABLE WARNING PANELS SHALL BE INSTALLED IN ACCORDANCE WITH CONSTRUCTION STD E 107.6.5
– CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR CONSTRUCTING RAMPS COMPLIANT WITH ADA/AAB RULES, REGULATIONS AND STANDARDS. CONTRACTOR SHALL VERIFY RAMPS ARE ADA/AAB COMPLIANT BEFORE POURING CEMENT CONCRETE.
*** 3 INCH CURB REVEAL

ASHLAND
ROUTE 126 (POND STREET)

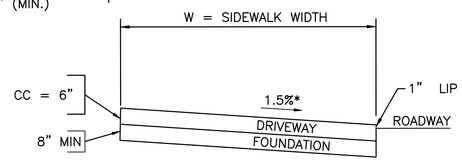
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	202	331
PROJECT FILE NO.	604123		

DRIVEWAY DETAILS

604123_HD27(DRIVEWAY DETAILS).DWG 3-Jan-2018



NOTES:
* CONSTRUCTION TOLERANCE ± 0.5%
** SEE CONSTRUCTION STANDARD E 107.9.0
*** 3 INCH CURB REVEAL



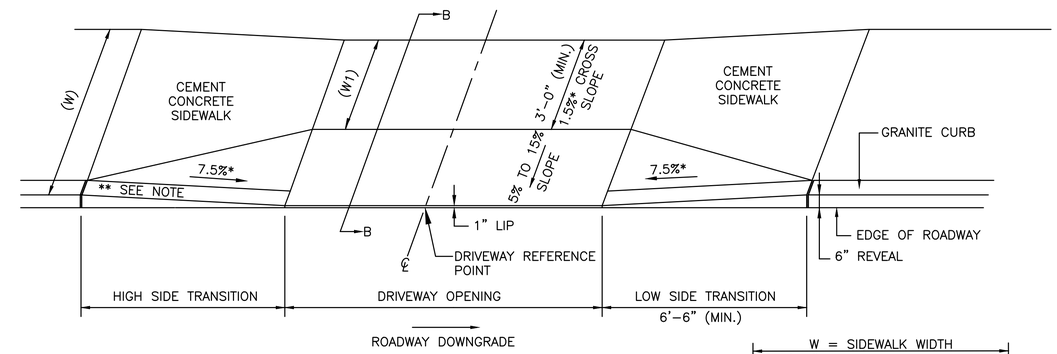
SECTION A–A

DEPRESSED DRIVEWAY DETAILS

NOT TO SCALE

DWY NO.	STATION	OFFSET	WIDTH OF SIDEWALK (W)	WIDTH OF DRIVEWAY OPENING	WIDTH OF TRAVEL PATH (W1)	ROADWAY GUTTER SLOPE	LEFT SIDE TRANSITION LENGTH	RIGHT SIDE TRANSITION LENGTH
4	36+14.11	16.00 L	5.50	29.75	5.00	-6.30%	15.00	6.50
5	36+95.25	16.00 L	5.50	16.00	5.00	-5.65%	15.00	6.50
6	38+42.77	16.00 L	5.50	30.00	5.00	-4.60%	15.00	6.50
7	38+29.82	16.00 R	5.50	34.35	5.00	4.45%	6.50	15.00
10	40+46.00	16.00 L	5.50	16.00	5.00	-4.30%	15.00	6.50
12	41+72.00	16.00 R	5.50	20.00	5.00	2.65%	6.50	11.00
13	42+03.00	16.00 L	5.50	34.00	5.00	-2.65%	11.00	6.50
14	44+13.17	16.00 R	5.50	12.00	5.00	-0.40%	7.67	6.50
17	44+78.08	16.00 R	5.50	12.00	5.00	-0.10%	7.67	6.50
18	45+38.08	16.00 R	5.50	40.00	5.00	0.35%	6.50	7.67
19	45+92.42	16.00 R	5.50	16.00	5.00	1.15%	3.25***	9.00
20	46+02.95	16.00 L	5.50	19.10	5.00	-2.42%	11.00	6.50
21	47+60.33	16.00 R	5.50	60.00	5.00	0.75%	6.50	7.67
22	48+84.48	16.00 R	5.50	24.00	5.00	1.75%	3.25***	4.50***
25	51+32.24	16.00 R	5.50	40.70	5.00	0.85%	6.50	7.67
26	52+67.90	16.00 R	5.50	40.00	5.00	0.65%	6.50	7.67
27	58+96.47	16.00 R	5.50	41.00	5.00	-0.79%	7.67	6.50
28	60+25.12	16.00 R	5.50	29.00	5.00	-0.04%	7.67	6.50
29	61+07.89	16.00 R	5.50	34.10	5.00	-0.83%	7.67	6.50
30	62+34.40	16.00 R	5.50	16.00	5.00	0.80%	6.50	7.67
33	66+70.52	16.00 R	5.50	38.00	5.00	0.95%	6.50	7.67
34	67+88.70	16.00 L	5.50	53.25	5.00	-0.80%	7.67	6.50
37	70+89.92	23.30 R	5.50	30.00	3.00	0.75%	6.50	7.67
38	72+24.86	18.73 R	5.50	24.00	5.00	0.75%	6.50	7.67
39	81+65.75	16.00 L	8.00	30.00	8.00	0.05%	6.50	7.67
40	82+11.43	16.00 R	5.50	16.00	5.00	0.05%	6.50	7.67
41	83+35.01	16.05 R	5.50	21.70	5.00	0.50%	6.50	7.67
42	83+65.32	16.00 L	8.00	35.00	8.00	-0.50%	7.67	6.50
43	84+62.02	16.00 R	5.50	18.00	5.00	-0.50%	6.50	7.67
44	90+83.26	22.74 R	5.50	30.00	5.00	-0.80%	9.00	6.50
47	100+41.68	16.00 R	5.50	11.00	5.00	1.87%	-	-
48	100+56.75	16.00 L	5.50	20.00	5.00	-0.30%	7.67	6.50
49	16+56.73	30.45 L	10.00	40.00	10.00	0.23%	6.50	7.67
50	49+21.23	16.00 R	5.50	24.00	5.00	1.75%	3.25***	4.50***
51	62+85.84	16.00 R	5.50	16.00	5.00	1.54%	6.50	9.00

(LEFT SIDE/RIGHT SIDE DETERMINED WHEN STANDING IN ROADWAY LOOKING AT RAMP OR DRIVEWAY)

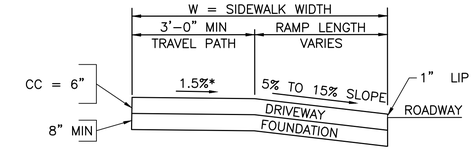


DRIVEWAY DETAILS

(STANDARD CURB CUT)

NOT TO SCALE

NOTES:
* CONSTRUCTION TOLERANCE ± 0.5%
** SEE CONSTRUCTION STANDARD E 107.9.0
*** 3 INCH CURB REVEAL



SECTION B–B

DWY NO.	STATION	OFFSET	WIDTH OF SIDEWALK (W)	WIDTH OF DRIVEWAY OPENING	WIDTH OF TRAVEL PATH (W1)	ROADWAY GUTTER SLOPE	LEFT SIDE TRANSITION LENGTH	RIGHT SIDE TRANSITION LENGTH
3	33+41.86	25.62 R	5.50	49.75	3.00	5.55%	6.50	15.00
8	38+90.00	16.00 L	5.50	14.00	3.00	-4.35%	15.00	6.50
9	39+20.00	16.00 R	5.50	24.00	3.00	4.40%	6.50	15.00
11	41+00.61	16.00 R	5.50	35.50	3.00	3.90%	6.50	14.00
15	44+33.53	16.00 L	5.50	66.00	5.00	0.20%	6.50	7.67
16	DRIVEWAY # 16 IS NOT USED			-	-	-	-	-
23	49+63.76	16.00 R	5.50	30.00	3.00	1.36%	6.50	4.50***
24	50+83.20	16.00 R	5.50	21.00	3.00	1.15%	6.50	9.00
31	64+45.99	16.00 L	5.50	16.00	3.00	-2.05%	11.00	6.50
32	65+67.12	16.00 L	5.50	16.00	3.00	-1.80%	9.00	6.50
35	68+65.26	16.00 L	5.50	48.00	3.00	-0.80%	7.67	6.50
36	69+71.22	16.00 L	5.50	42.00	3.00	-0.80%	7.67	6.50
45	91+85.99	17.87 R	5.50	27.00	3.00	-0.35%	7.67	6.50
46	92+54.60	16.23 R	5.50	24.00	3.00	0.44%	6.50	7.67

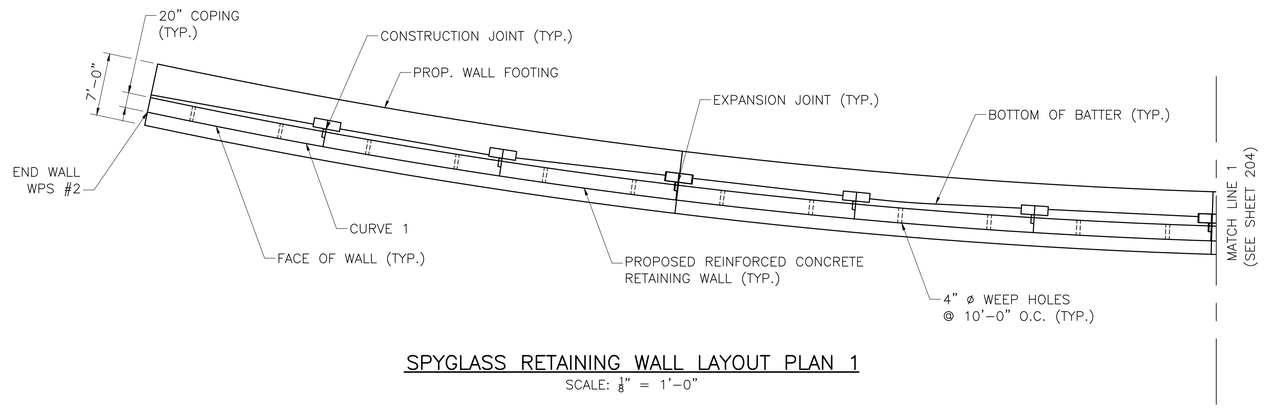
(LEFT SIDE/RIGHT SIDE DETERMINED WHEN STANDING IN ROADWAY LOOKING AT RAMP OR DRIVEWAY)

ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	203	331
PROJECT FILE NO.	604123		

SPYGLASS RETAINING WALL
PLAN AND ELEVATION
SHEET 1 OF 2

N



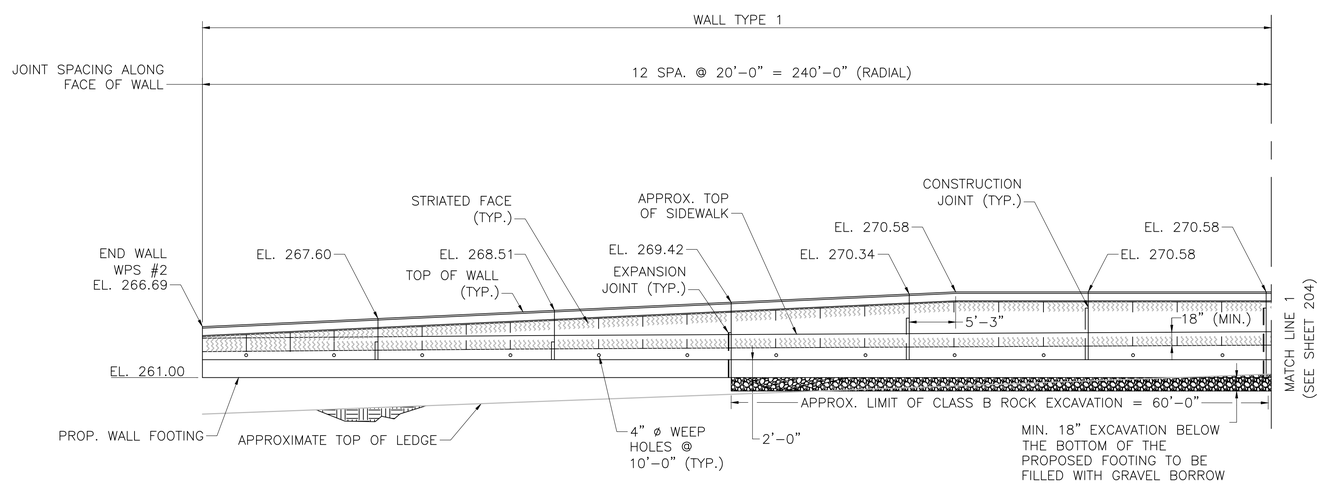
SPYGLASS RETAINING WALL LAYOUT PLAN 1

SCALE: 1/8" = 1'-0"

SPYGLASS RETAINING WALL WORKING POINT TABLE					
WORKING POINT	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
WPS #1	BEGIN WALL	18+85.13	22.50'	2912009.67	674458.72
WPS #2	END WALL	21+33.13	22.50'	2912248.32	674466.33

NOTE:
1. SPYGLASS WORKING POINTS LABELED "WPS".

CURVE 1 DATA		
PC	=	STA. 17+50.49
Δ	=	40°-23'-57"
R	=	700.00'
L	=	493.57'
PT	=	STA. 22+44.06



SPYGLASS RETAINING WALL ELEVATION 1

SCALE: 1/8" = 1'-0"

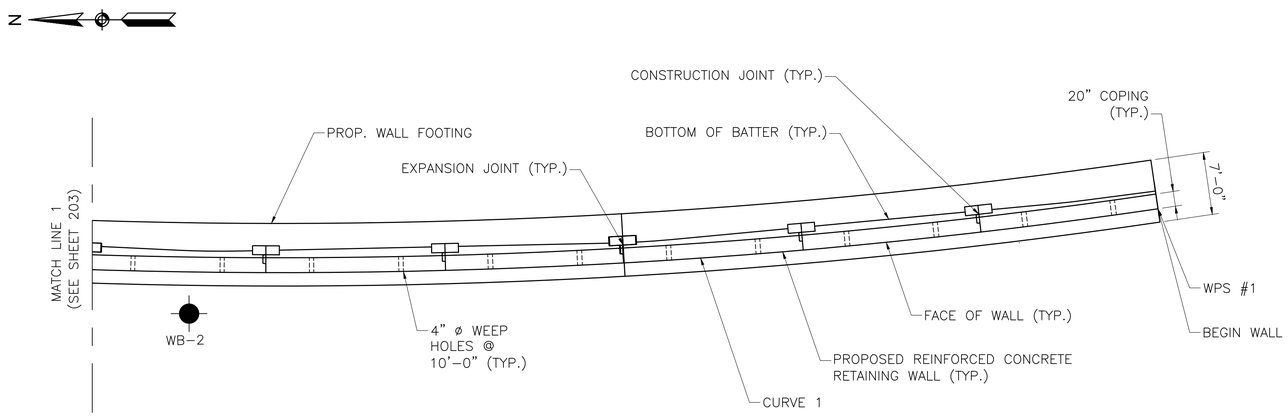
NOTES:
1. CONTRACTOR TO EXCAVATE TO EL. 259.50 (MIN.) AND FILL WITH GRAVEL BORROW.
2. REFER TO TYPICAL WALL CROSS SECTIONS ON SHEET 208, AND HIGHWAY CROSS SECTIONS FOR ADDITIONAL INFORMATION.
3. TEMPORARY SUPPORT OF EXCAVATION SHALL BE PROVIDED AT THE FRONT AND BACK OF THE WALL AS REQUIRED, LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
4. SEE SHEET 17 FOR CONSTRUCTION ALIGNMENT DETAILS.
5. RETAINING WALL LAID OUT BASED ON THE LINE WORK REPRESENTING THE FACE OF CURB (EXTERIOR EDGE OF SIDEWALK AS SPECIFIED ON THE HIGHWAY DESIGN DRAWINGS).
6. CONTRACTOR TO VERIFY TOP OF PROPOSED WALL ELEVATIONS IN THE FIELD BEFORE ORDERING ANY MATERIAL.

604123_HD04&05(RETWALL GENERAL PLAN & ELEVATION).DWG Plotted on 24-Jun-2020 11:02 AM

ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	204	331
PROJECT FILE NO.	604123		

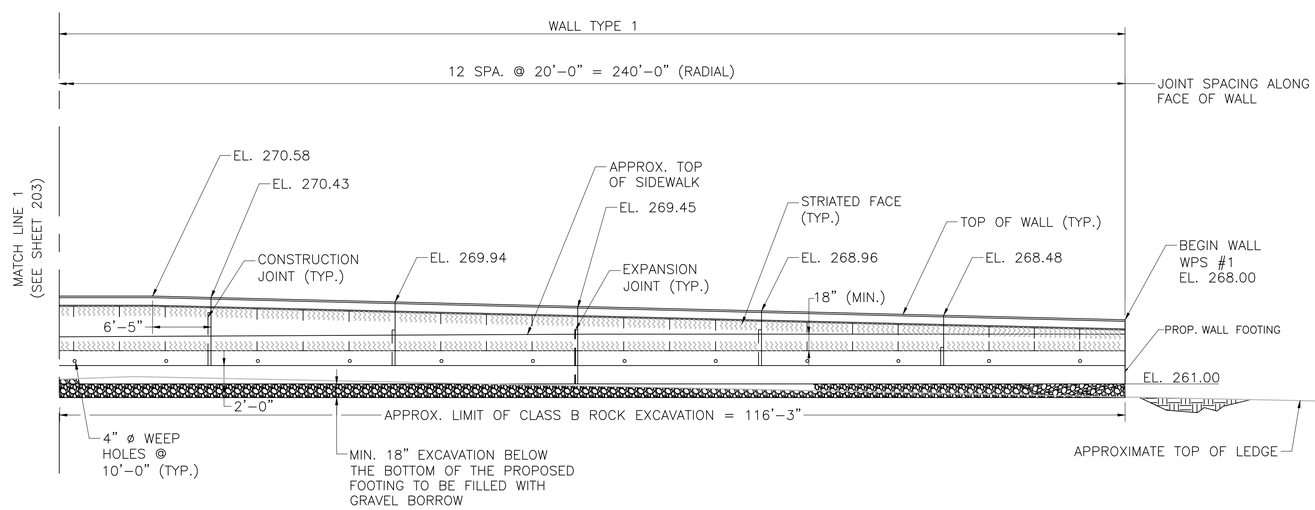
SPYGLASS RETAINING WALL
PLAN AND ELEVATION
SHEET 2 OF 2



CURVE 1 DATA		
PC	=	STA. 17+50.49
Δ	=	40°-23'-57"
R	=	700.00'
L	=	493.57'
PT	=	STA. 22+44.06

SPYGLASS RETAINING WALL LAYOUT PLAN 2

SCALE: 1/8" = 1'-0"



SPYGLASS RETAINING WALL ELEVATION 2

SCALE: 1/8" = 1'-0"

NOTES:

1. CONTRACTOR TO EXCAVATE TO EL. 259.50 (MIN.) AND FILL WITH GRAVEL BORROW.
2. REFER TO TYPICAL WALL CROSS SECTIONS ON SHEET 208, AND HIGHWAY CROSS SECTIONS FOR ADDITIONAL INFORMATION.
3. TEMPORARY SUPPORT OF EXCAVATION SHALL BE PROVIDED AT THE FRONT AND BACK OF THE WALL AS REQUIRED, LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
4. SEE SHEET 17 FOR CONSTRUCTION ALIGNMENT DETAILS.
5. RETAINING WALL LAID OUT BASED ON THE LINE WORK REPRESENTING THE FACE OF CURB (EXTERIOR EDGE OF SIDEWALK AS SPECIFIED ON THE HIGHWAY DESIGN DRAWINGS).
6. CONTRACTOR TO VERIFY TOP OF PROPOSED WALL ELEVATIONS IN THE FIELD BEFORE ORDERING ANY MATERIAL.

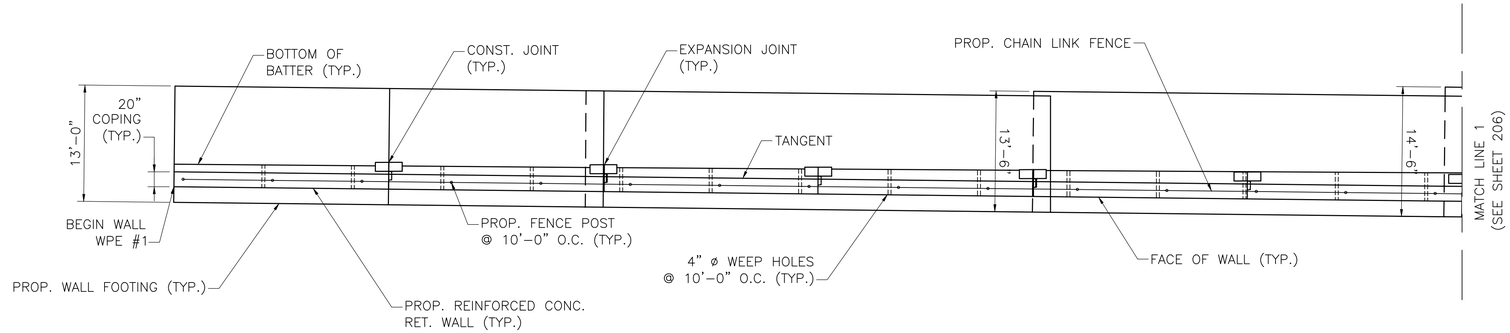
604123_HD04&05(RETWALL GENERAL PLAN & ELEVATION).DWG Plotted on 24-Jun-2020 11:02 AM

CONFORMS TO ADDENDUM NO. 5, AUGUST 27, 2020

ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	205	331
	PROJECT FILE NO.	604123	

ELIOT STREET RETAINING WALL PLAN AND ELEVATION SHEET 1 OF 2



ELIOT RETAINING WALL WORKING POINT TABLE					
WORKING POINT	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
WPE #1	BEGIN WALL	32+15.00	37.62'	2913275.07	674747.05
WPE #2	POINT OF CURVATURE	34+55.95	32.05'	2913502.30	674813.56
WPE #3	END WALL	34+90.00	28.11'	2913534.32	674822.22

NOTE:
1. ELIOT WORKING POINTS LABELED AS "WPE".

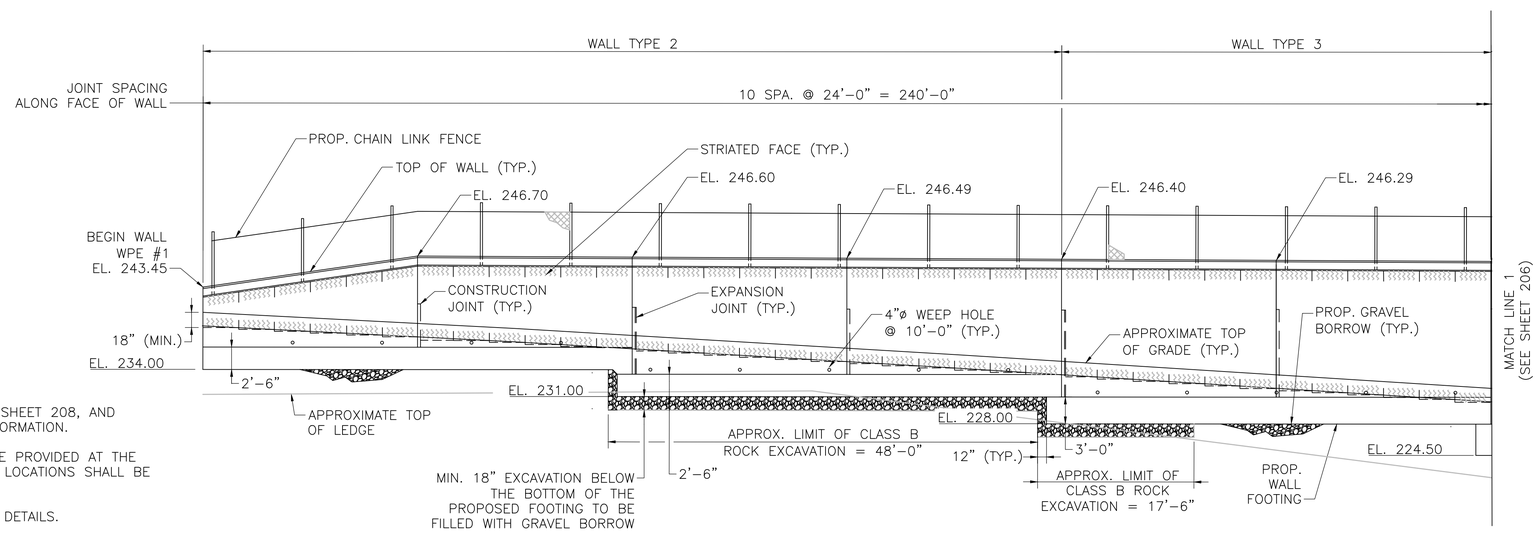
WB-4

ELIOT STREET RETAINING WALL LAYOUT PLAN 1

SCALE: 1/8" = 1'-0"

TANGENT DATA
PT = STA. 29+34.98
L = 425.27'
PC = STA. 33+60.25

CURVE 1 DATA
PC = STA. 33+60.25
Δ = 12°-40'-54"
R = 805.00'
L = 178.18'
PT = STA. 35+38.43



NOTES:
1. REFER TO TYPICAL WALL CROSS SECTIONS ON SHEET 208, AND HIGHWAY CROSS SECTIONS FOR ADDITIONAL INFORMATION.
2. TEMPORARY SUPPORT OF EXCAVATION SHALL BE PROVIDED AT THE FRONT AND BACK OF THE WALL AS REQUIRED, LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
3. SEE SHEET 19 FOR CONSTRUCTION ALIGNMENT DETAILS.
4. RETAINING WALL LAID OUT BASED ON THE LINE WORK REPRESENTING THE FACE OF CURB (EXTERIOR EDGE OF SIDEWALK AS SPECIFIED ON THE HIGHWAY DESIGN DRAWINGS).

ELIOT STREET RETAINING WALL ELEVATION 1

SCALE: 1/8" = 1'-0"

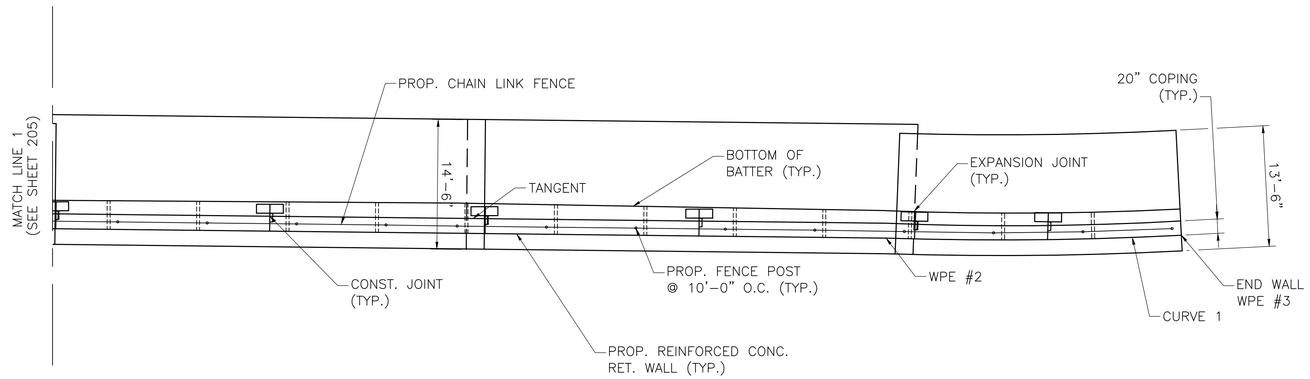
604123_HD04&05(RETWALL GENERAL PLAN & ELEVATION)_REV_1.DWG Plotted on 10-Sep-2020 4:10 PM

CONFORMS TO ADDENDUM NO. 5, AUGUST 27, 2020

ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	206	331
	PROJECT FILE NO.	604123	

ELIOT STREET RETAINING WALL
PLAN AND ELEVATION
SHEET 2 OF 2

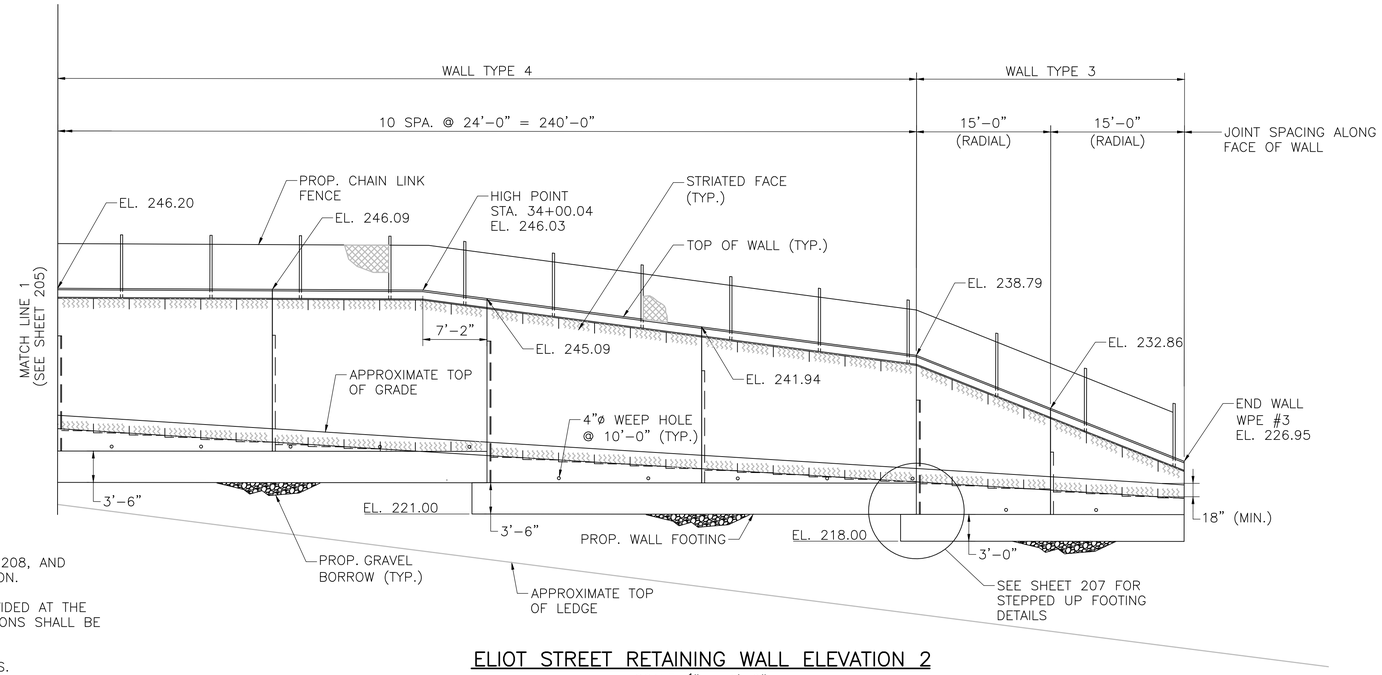


ELIOT STREET RETAINING WALL LAYOUT PLAN 2

SCALE: 1/8" = 1'-0"

TANGENT DATA		
PT	=	STA. 29+34.98
L	=	425.27'
PC	=	STA. 33+60.25

CURVE 1 DATA		
PC	=	STA. 33+60.25
Δ	=	12°-40'-54"
R	=	805.00'
L	=	178.18'
PT	=	STA. 35+38.43



ELIOT STREET RETAINING WALL ELEVATION 2

SCALE: 1/8" = 1'-0"

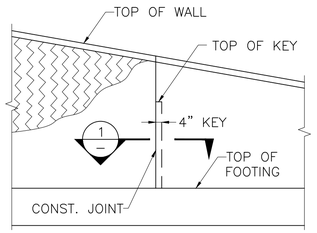
NOTES:

1. REFER TO TYPICAL WALL CROSS SECTIONS ON SHEET 208, AND HIGHWAY CROSS SECTIONS FOR ADDITIONAL INFORMATION.
2. TEMPORARY SUPPORT OF EXCAVATION SHALL BE PROVIDED AT THE FRONT AND BACK OF THE WALL AS REQUIRED, LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
3. SEE SHEET 20 FOR CONSTRUCTION ALIGNMENT DETAILS.
4. RETAINING WALL LAID OUT BASED ON THE LINE WORK REPRESENTING THE FACE OF CURB (EXTERIOR EDGE OF SIDEWALK AS SPECIFIED ON THE HIGHWAY DESIGN DRAWINGS).

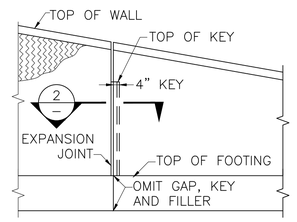
604123_HD04&05(RETWALL GENERAL PLAN & ELEVATION)_REV_1.DWG Plotted on 10-Sep-2020 4:09 PM

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	207	331
PROJECT FILE NO.	604123		

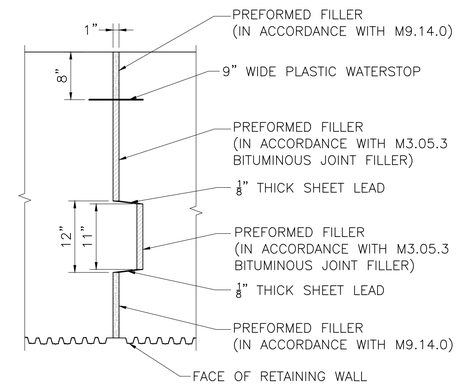
RETAINING WALL DETAILS



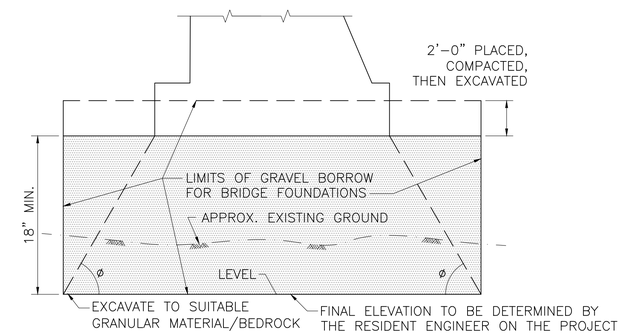
CONSTRUCTION JOINT RETAINING WALL ELEVATION
NOT TO SCALE



EXPANSION JOINT RETAINING WALL ELEVATION
NOT TO SCALE



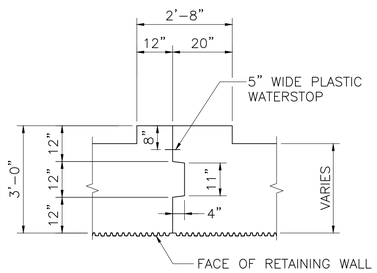
LIMITS OF PREFORMED FILLER
SCALE: 1" = 1'-0"



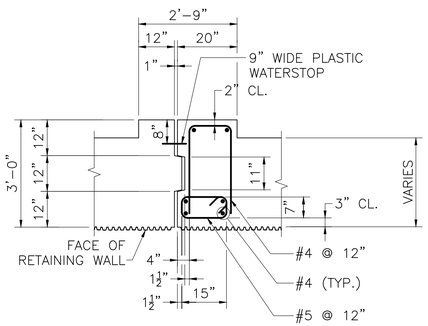
NOTES:

1. ø = 45° FOR DEPTH OF 5'-0" OR LESS.
   ø = 60° FOR DEPTH OVER 5'-0".
2. SAME TREATMENT IS TO BE USED AT ENDS OF WALLS.

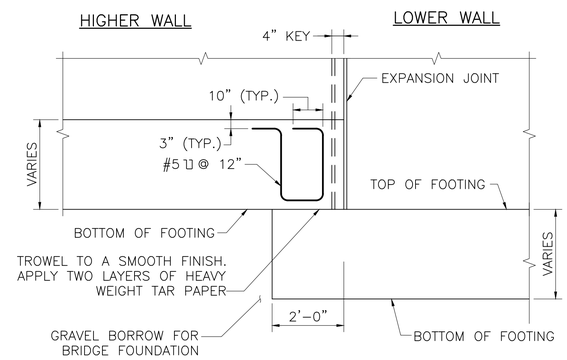
LIMITS OF GRAVEL BORROW FOR BRIDGE FOUNDATIONS
NOT TO SCALE



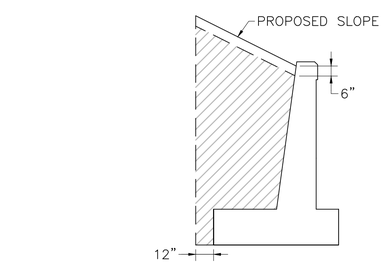
SECTION 1
NOT TO SCALE



SECTION 2
NOT TO SCALE

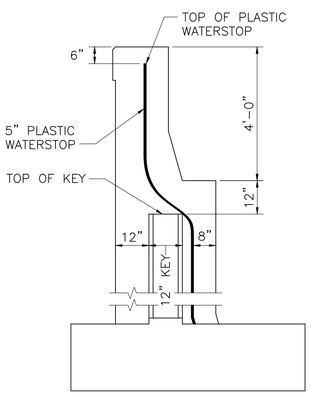


EXPANSION JOINT AT STEPPED UP FOOTING FOR ELIOT ST WALL
SCALE: 1/2" = 1'-0"



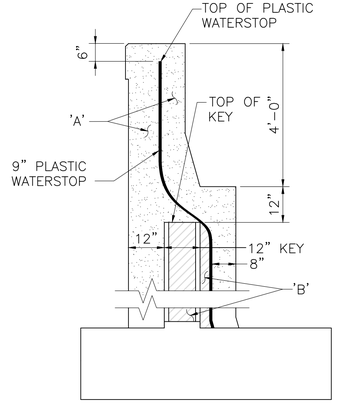
NOTE:
HATCHED AREA INDICATES LIMITS OF GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES.

LIMITS OF GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES
SCALE: 1/4" = 1'-0"



NOTE:
REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS.

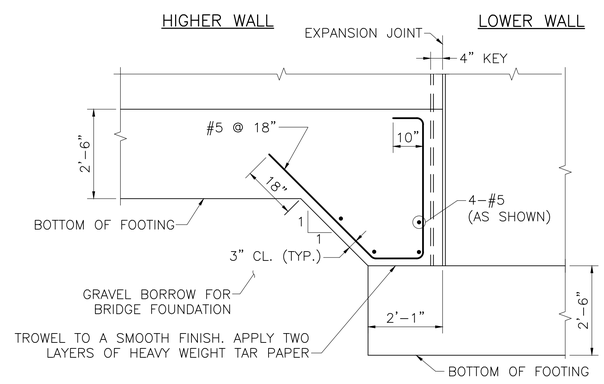
VERTICAL SECTION THROUGH RETAINING WALL CONSTRUCTION JOINT
NOT TO SCALE



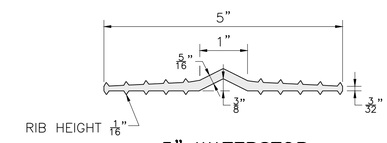
NOTES:

1. LONGITUDINAL REINFORCEMENT SHALL END 2" CLEAR OF EXPANSION JOINT.
2. 'A' – PREFORMED FILLER (IN ACCORDANCE WITH M9.14.0).
   'B' – PREFORMED FILLER (IN ACCORDANCE WITH M3.05.3 BITUMINOUS JOINT FILLER).
3. FILLER MATERIAL SHALL BE FASTENED SECURELY TO ONE SIDE OF JOINT.

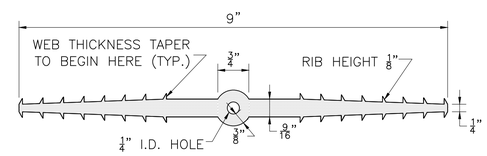
VERTICAL SECTION THROUGH RETAINING WALL EXPANSION JOINT
NOT TO SCALE



EXPANSION JOINT AT STEPPED UP FOOTING FOR ELIOT STREET WALL
SCALE: 1/2" = 1'-0"



5" WATERSTOP
NOT TO SCALE



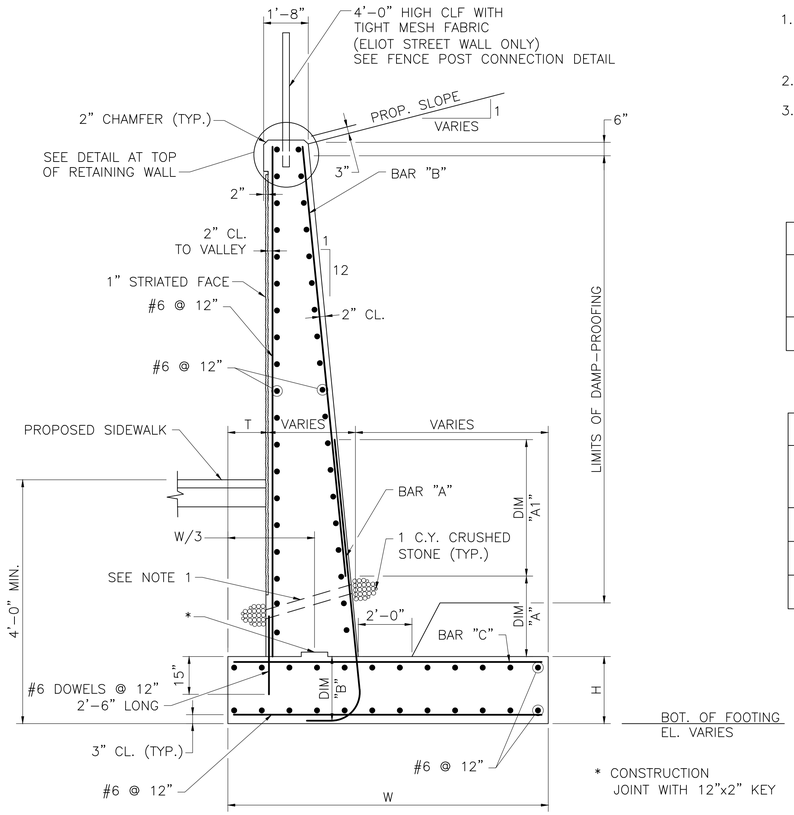
9" WATERSTOP
NOT TO SCALE

604123_HD07(RETAINING WALL SECTION & DETAILS).DWG Plotted on 24-Jun-2020 11:03 AM
\\c61\engineering\Projects\20133\30133\30133.04X – Ashland Route 126\604123\DWG\604123_HD07(Retaining Wall Section & Details)

ASHLAND
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	208	331
PROJECT FILE NO.	604123		

RETAINING WALL SECTION & DETAILS



TYPICAL RETAINING WALL SECTION
SCALE: $\frac{3}{8}$" = 1'-0"

SPYGLASS WALL									
WALL TYPE	W	T	H	BAR "A"	BAR "B"	BAR "C"	DIM "A"	DIM "A1"	DIM "B"
1	7'-0"	1'-6"	2'-0"	#6 @ 12"	#6 @ 12"	#6 @ 12"	0'-0"	3'-1"	1'-3"

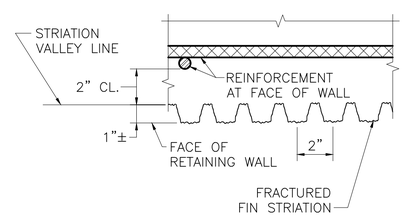
ELIOT STREET WALL									
WALL TYPE	W	T	H	BAR "A"	BAR "B"	BAR "C"	DIM "A"	DIM "A1"	DIM "B"
2	13'-0"	1'-9"	2'-6"	#7 @ 9"	#6 @ 9"	#8 @ 6"	0'-0"	3'-10"	1'-5"
3	13'-6"	1'-9"	3'-0"	#8 @ 9"	#7 @ 9"	#8 @ 6"	2'-0"	5'-1"	1'-7"
4	14'-6"	1'-9"	3'-6"	#9 @ 9"	#8 @ 9"	#9 @ 6"	3'-0"	6'-5"	1'-10"

NOTES:

1. 4" ø WEEP HOLES 10'-0" O.C. LOCATED 12" ABOVE THE HEEL OF THE FOOTING SLOPING 1" PER FOOT TOWARDS THE FRONT FACE. PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
2. ALL CONCRETE SHALL BE 4000 PSI CONCRETE.
3. SEE TABLES BELOW FOR FACTORED BEARING PRESSURES AND FACTORED BEARING RESISTANCES FOR ALL WALL TYPES. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.

SUMMARY OF BEARING PRESSURE AND RESISTANCE – SPYGLASS WALL			
WALL TYPE	MAXIMUM FACTORED BEARING PRESSURE (KSF)	CONTROLLING LOAD CASE	FACTORED BEARING RESISTANCE (KSF)
1	1.85	STRENGTH I	4.4

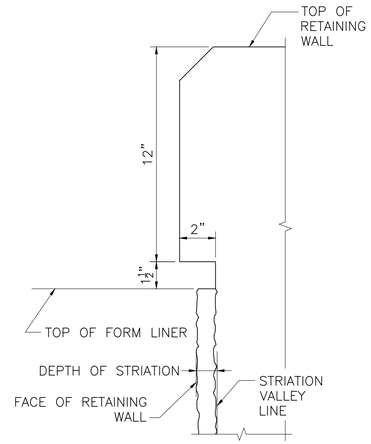
SUMMARY OF BEARING PRESSURES AND RESISTANCES – ELIOT STREET WALL			
WALL TYPE	MAXIMUM FACTORED BEARING PRESSURE (KSF)	CONTROLLING LOAD CASE	FACTORED BEARING RESISTANCE (KSF)
2	3.67	STRENGTH I	6.2
3	4.61	STRENGTH I	6
4	6.47	STRENGTH I	6.7



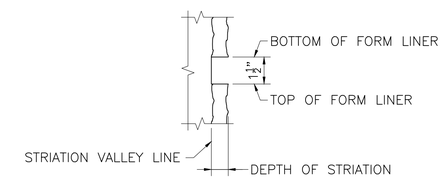
NOTES:

1. THE CONTRACTOR SHALL MAKE SURE THAT THE STRIATION FINS ARE PLUMB AND LINED UP VERTICALLY FROM PANEL TO PANEL FOR THE FULL HEIGHT OF THE WALL.
2. THE HORIZONTAL JOINT MAY BE OMITTED IF THE CONTRACTOR CAN DEMONSTRATE THAT THE FORM LINER PANELS CAN BE INSTALLED END TO END WITHOUT CREATING A VISIBLE SEAM IN THE FINAL CAST CONCRETE.

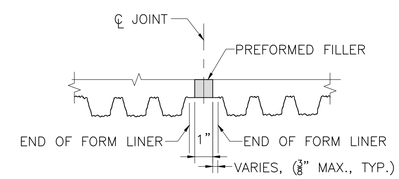
TYPICAL STRIATION DETAILS
SCALE: 3" = 1'-0"



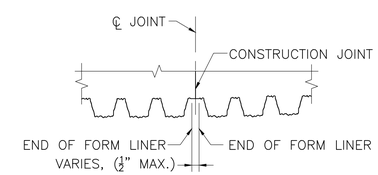
DETAIL AT TOP OF WALL
SCALE: 3" = 1'-0"



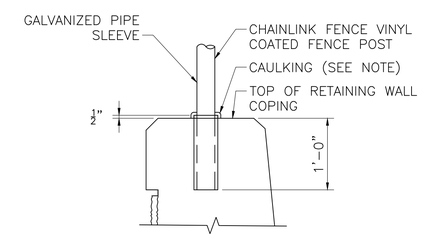
HORIZONTAL PANEL JOINT
SCALE: 3" = 1'-0"



EXPANSION JOINT
SCALE: 3" = 1'-0"



CONSTRUCTION JOINT
SCALE: 3" = 1'-0"



NOTE:

LINE POST SET INTO GALVANIZED PIPE SLEEVE (INSIDE TO BE COATED WITH BITUMINOUS PAINT) AND CALKED AS PER CONSTRUCTION SPECIFICATION. NON-SHRINK ANCHORING GROUT SHALL BE USED TO FILL VOID BETWEEN SLEEVE AND LINE POST.

FENCE POST CONNECTION (ELIOT ST. WALL ONLY)
SCALE:1" = 1'-0"

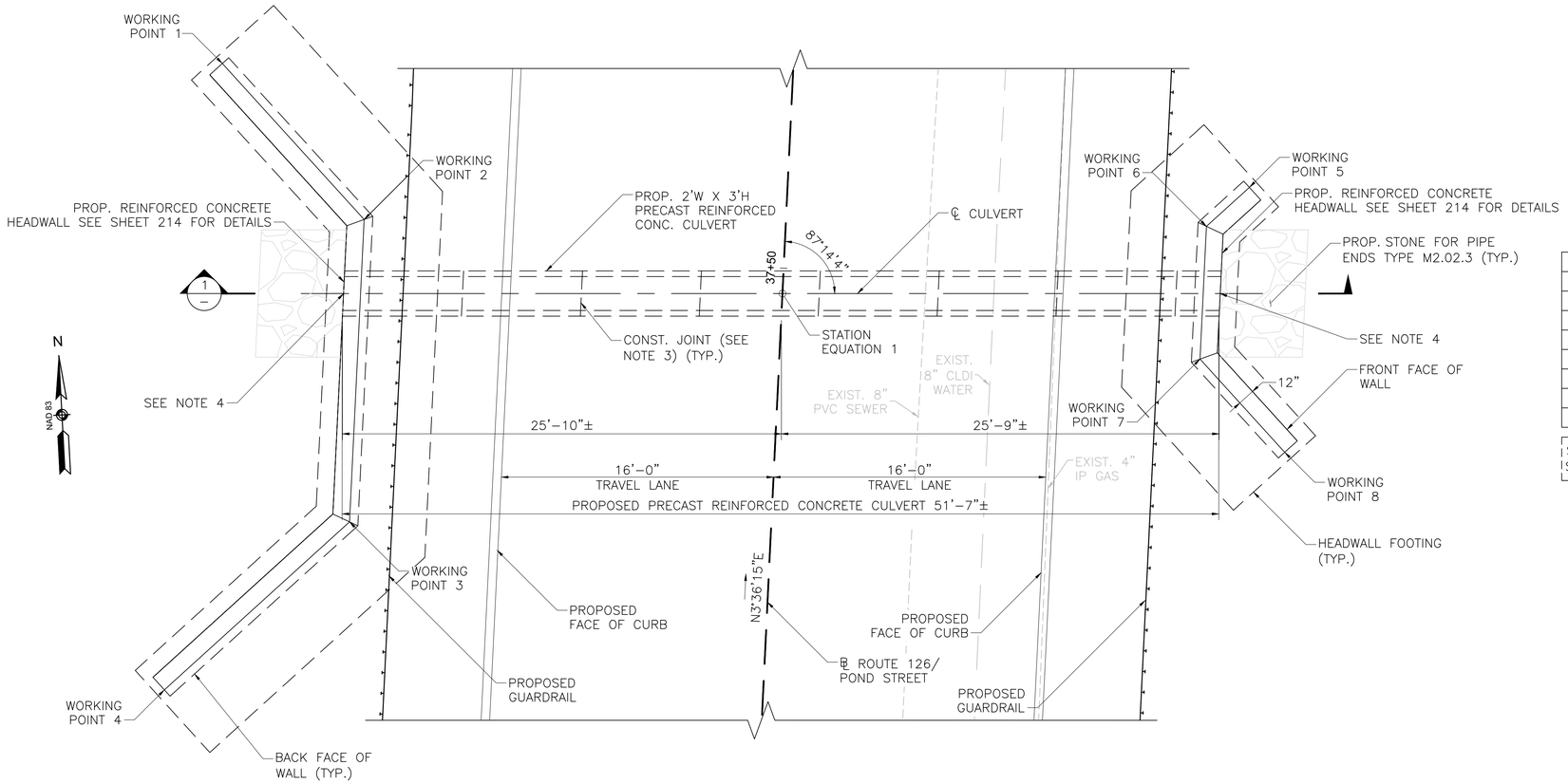
604123_HD07(RETAINING WALL SECTION & DETAILS).DWG Plotted on 24-Jun-2020 11:03 AM

\\ds1\engineering\Projects\2013\1.1033\1.1033.604 – Ashland Route 126\604123\DWG\604123_HD07(Retaining Wall Section & Details)

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	209	331
PROJECT FILE NO.	604123		

SPECIAL DRAINAGE STRUCTURE NO.1
PLAN & SECTION

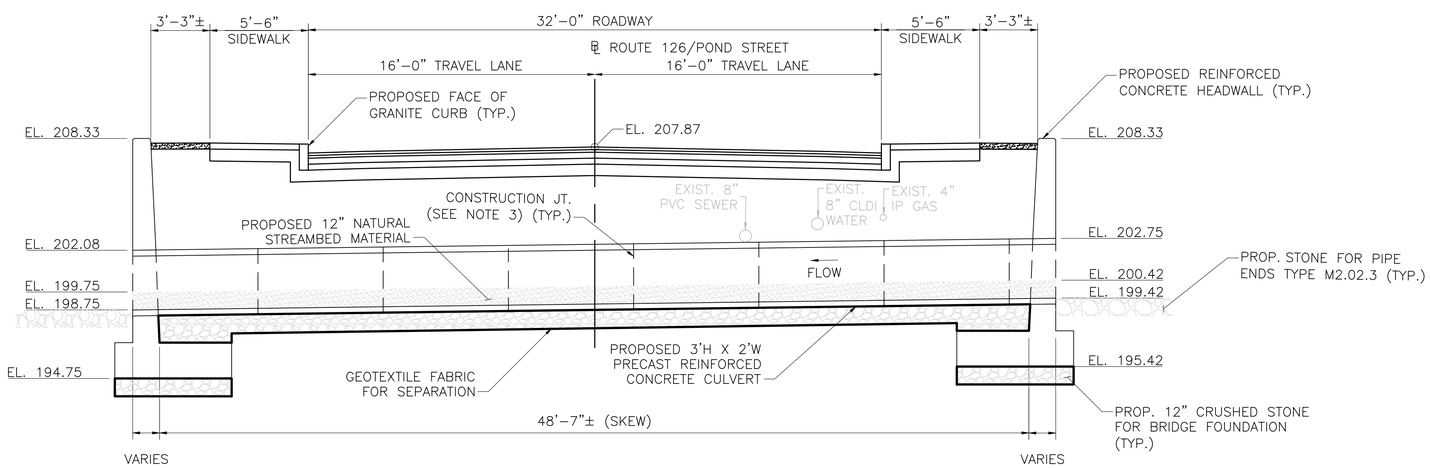


SPECIAL DRAINAGE STRUCTURE NO. 1 PLAN

SCALE: ¼" = 1'-0"

WORKING PT.	STA.	OFFSET R, FT	NORTHING	EASTING
1	37+60.45	-33.58	2913802.78	674835.05
2	37+51.67	-24.80	2913793.47	674843.26
3	37+33.84	-24.80	2913775.67	674842.14
4	37+23.43	-35.21	2913765.94	674831.10
5	37+56.08	27.15	2913794.59	674895.39
6	37+53.66	24.74	2913792.34	674892.83
7	37+45.63	24.24	2913784.35	674891.82
8	37+40.24	29.63	2913778.63	674896.86

STATION EQUATION 1: ROUTE 126 (POND STREET) CONSTRUCTION ℄ STA. 37+48.51 = CULVERT ℄



SECTION 1 – STA. 37+48.51 CULVERT (UPSTATION)

SCALE: ¼" = 1'-0"

NOTES:

1. PROPOSED GUARDRAIL NOT SHOWN AT CULVERT SECTION SINCE ALL PROPOSED GUARDRAIL WILL SPAN OVER PROPOSED CULVERT SECTION.
2. SEE SHEETS 13 – 15 FOR TYPICAL APPROACH/ROADWAY CROSS SECTION AT CULVERT LOCATION.
3. PRECAST REINFORCED CONCRETE CULVERT CONSTRUCTION JOINT SPACING WILL VARY PER PRECASTER UP TO 7'-0" MAXIMUM SPACING.
4. FACE OF PRECAST REINFORCED CONCRETE CULVERT TO BE SKEWED AND WILL REQUIRE SPECIAL FABRICATION FROM THE PRECASTER.
5. ALL EXISTING UTILITY DEPTHS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO WORK.

0 20 50 100

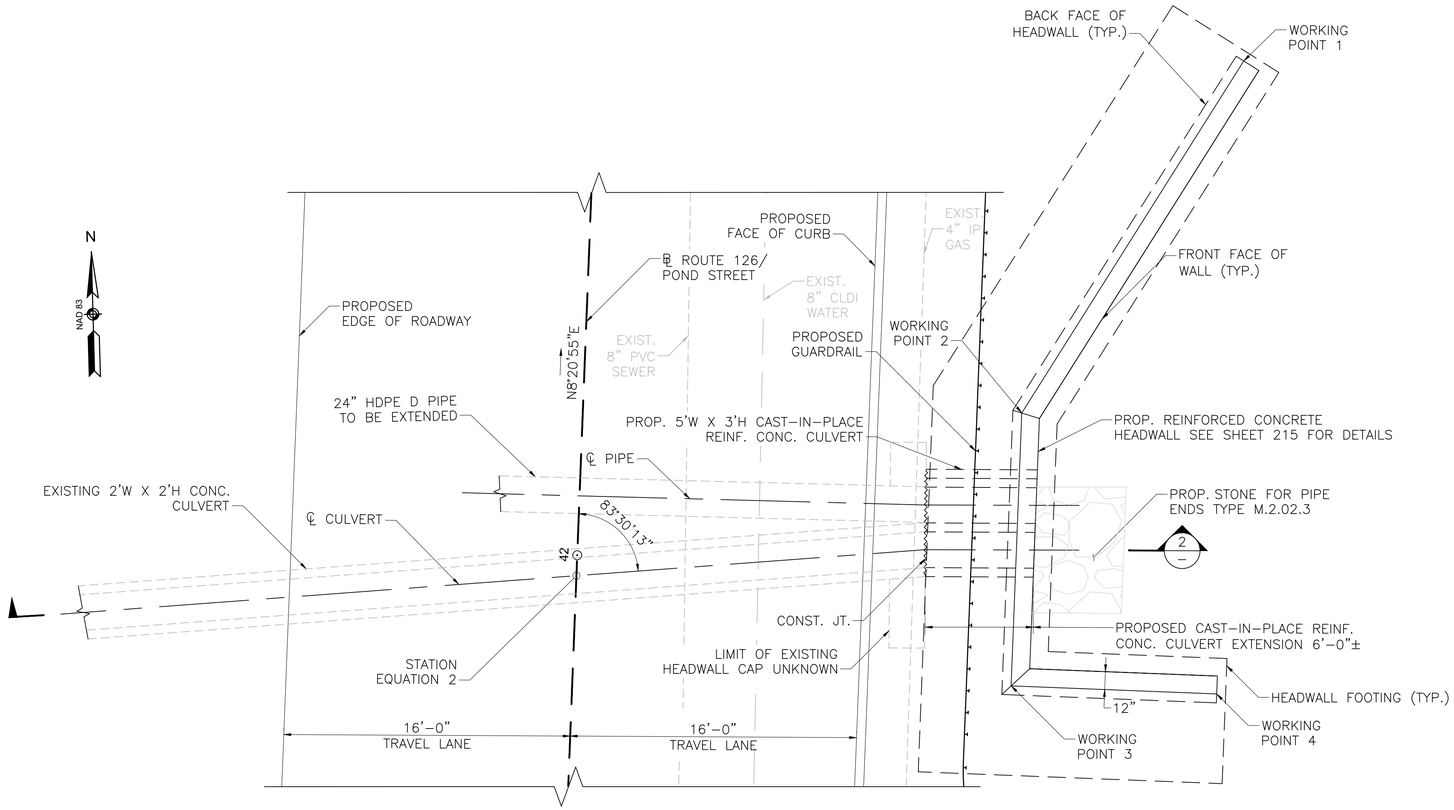
SCALE: 1" = 20'

604123_BR01(CULVERT PLAN & EL).DWG Plotted on 24-Jun-2020 11:04 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	210	331
PROJECT FILE NO.	604123		

SPECIAL DRAINAGE STRUCTURE NO.2
PLAN & SECTION

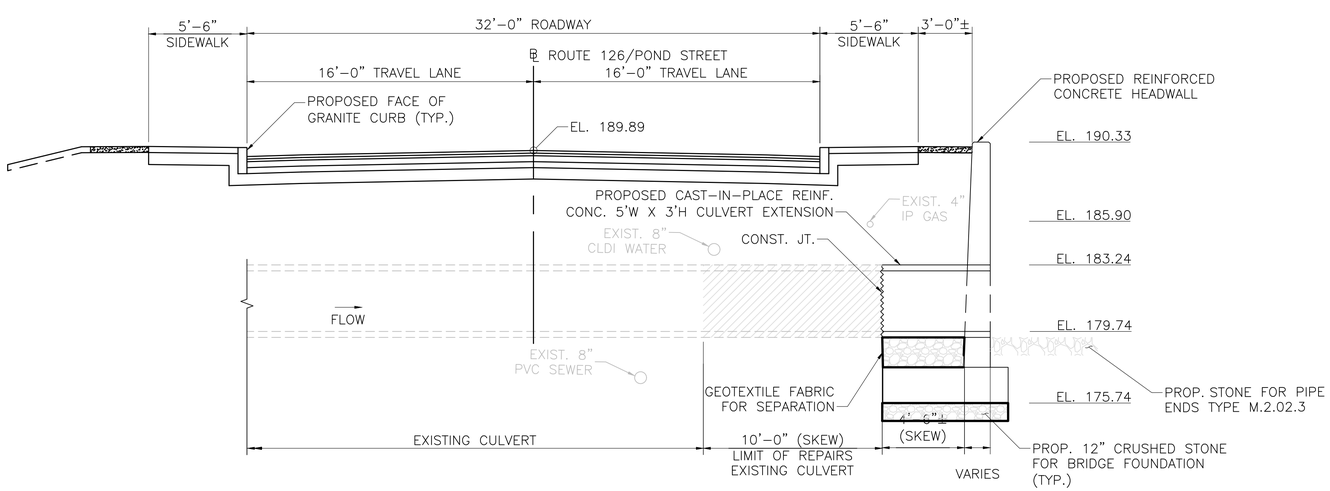


SPECIAL DRAINAGE STRUCTURE NO.2 PLAN

SCALE: $\frac{1}{4}$" = 1'-0"

WORKING PT.	STA.	OFFSET R, FT	NORTHING	EASTING
1	42+29.06	36.15	2914260.95	674955.66
2	42+08.91	24.52	2914242.71	674941.22
3	41+93.64	24.52	2914227.60	674939.01
4	41+93.34	36.02	2914225.93	674950.38

STATION EQUATION 2: ROUTE 126 (POND STREET) CONSTRUCTION ℄
STA. 41+98.85 = CULVERT ℄



SECTION 2 – STA. 41+98.85 CULVERT (UPSTATION)

SCALE: $\frac{1}{4}$" = 1'-0"

NOTES:

1. PROPOSED GUARDRAIL NOT SHOWN AT CULVERT SECTION SINCE ALL PROPOSED GUARDRAIL WILL SPAN OVER PROPOSED CULVERT SECTION.
2. SEE SHEETS 13 – 15 FOR TYPICAL APPROACH/ROADWAY CROSS SECTION AT CULVERT LOCATION.
3. ALL EXISTING UTILITY DEPTHS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO WORK.

0 20 50 100

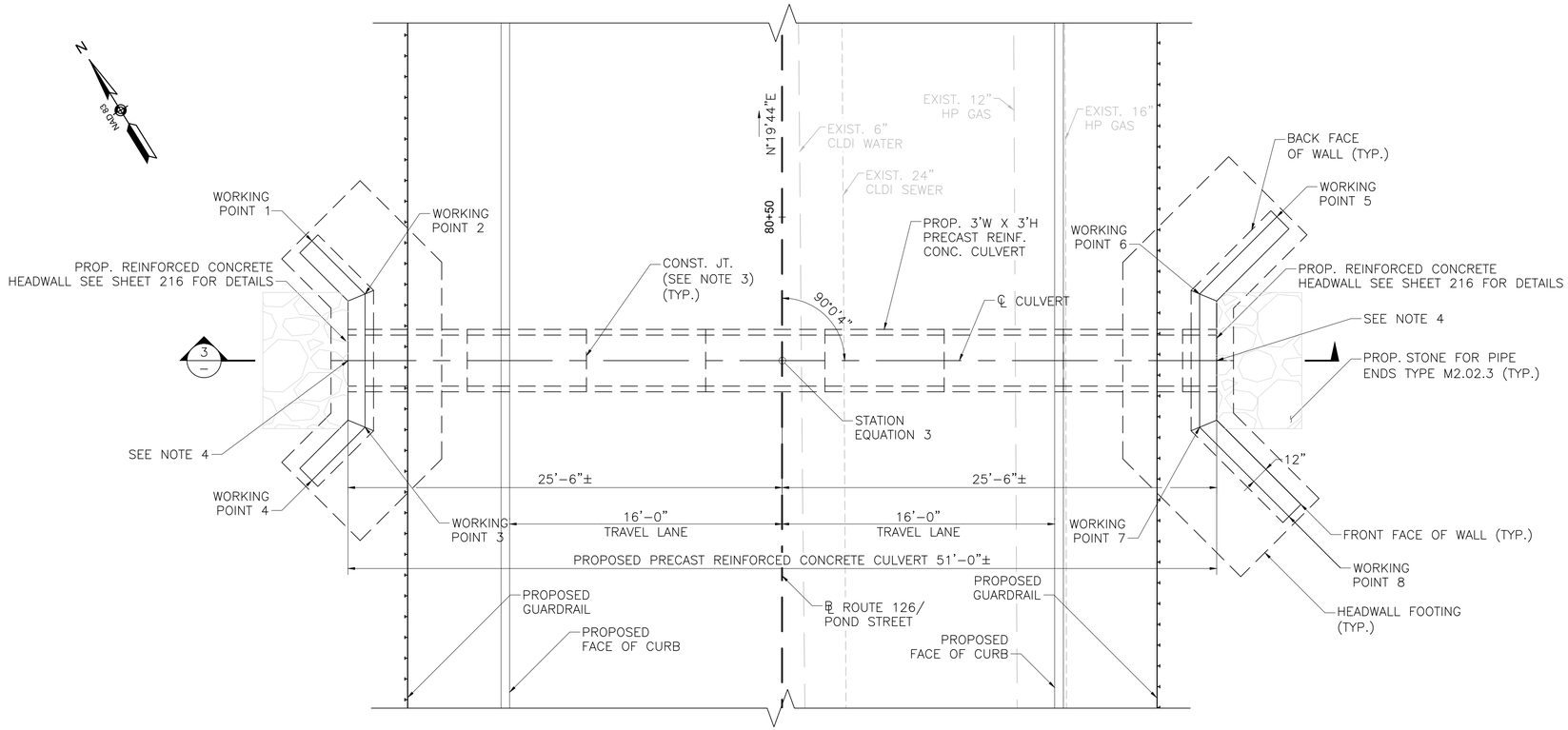
SCALE: 1" = 20'

604123_BR01(CULVERT PLAN & EL).DWG Plotted on 24-Jun-2020 11:04 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	211	331
PROJECT FILE NO.	604123		

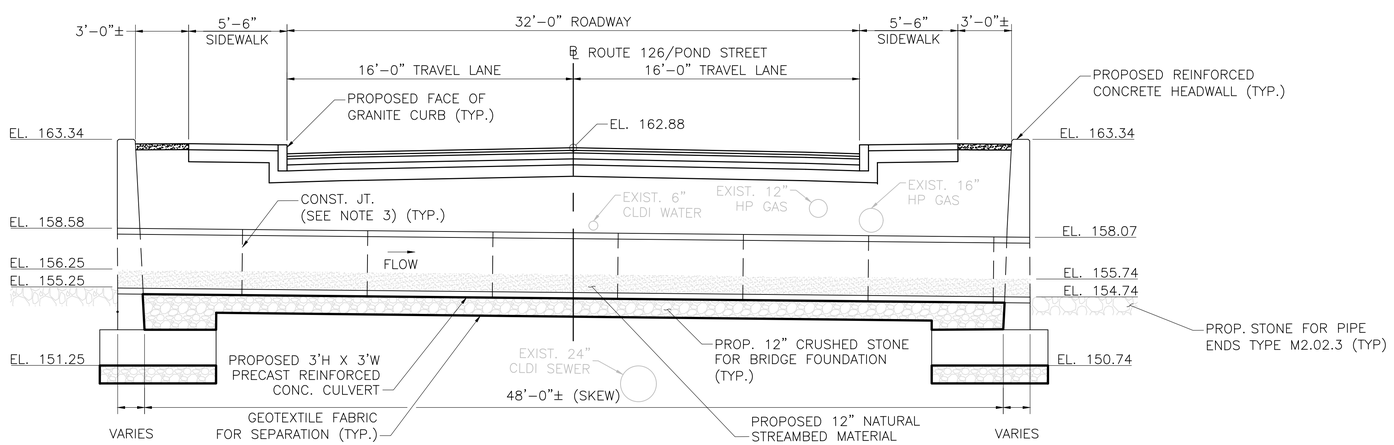
SPECIAL DRAINAGE STRUCTURE NO.3
PLAN & SECTION



SPECIAL DRAINAGE STRUCTURE NO.3 PLAN
SCALE: ¼" = 1'-0"

WORKING PT.	STA.	OFFSET R, FT	NORTHING	EASTING
1	80+48.61	-27.61	2917966.59	675657.52
2	80+45.48	-24.49	2917962.34	675658.71
3	80+37.66	-24.49	2917955.52	675654.88
4	80.34.62	-27.52	2917954.35	675650.74
5	80+50.02	29.05	2917940.07	675707.61
6	80+45.48	24.15	2917938.34	675701.43
7	80+37.66	24.15	2917931.51	675697.60
8	80+32.41	29.76	2917924.38	675699.60

STATION EQUATION 3: ROUTE 126 (POND STREET) CONSTRUCTION ℄ STA. 80+41.57 = CULVERT ℄



SECTION 3 – STA. 80+41.57 CULVERT (UPSTATION)
SCALE: ¼" = 1'-0"

NOTES:

1. PROPOSED GUARDRAIL NOT SHOWN AT CULVERT SECTION SINCE ALL PROPOSED GUARDRAIL WILL SPAN OVER PROPOSED CULVERT SECTION.
2. SEE SHEETS 13 – 15 FOR TYPICAL APPROACH/ROADWAY CROSS SECTION AT CULVERT LOCATION.
3. PRECAST REINFORCED CONCRETE CULVERT CONSTRUCTION JOINT SPACING WILL VARY PER PRECASTER UP TO 7'-0" MAXIMUM SPACING.
4. FACE OF PRECAST REINFORCED CONCRETE CULVERT TO BE SKEWED AND WILL REQUIRE SPECIAL FABRICATION FROM THE PRECASTER.
5. ORGANIC MATERIALS ARE ENCOUNTERED IN BORING HW-3B FROM EL.157 TO 145. CONTRACTOR TO REMOVE ALL THE ORGANIC SILT MATERIALS AND REPLACE WITH CRUSHED STONE FOR BRIDGE FOUNDATION.
6. ALL EXISTING UTILITY DEPTHS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO WORK.

0 20 50 100
SCALE: 1" = 20'

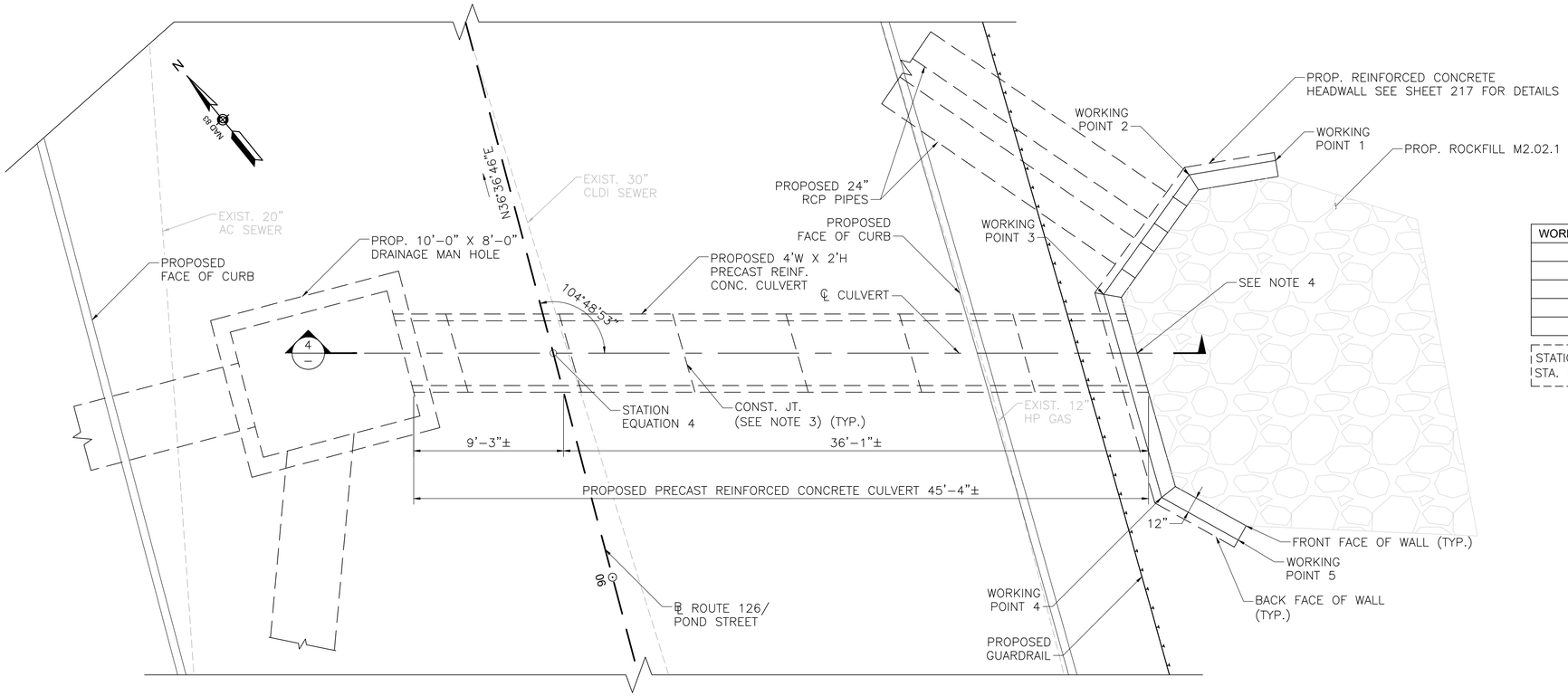
604123_BR01(CULVERT PLAN & EL).DWG Plotted on 24-Jun-2020 11:04 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	212	331
PROJECT FILE NO.	604123		

SPECIAL DRAINAGE STRUCTURE NO.4
PLAN & SECTION

604123_BR01(CULVERT PLAN & EL).DWG Plotted on 10-Sep-2020 3:35 PM

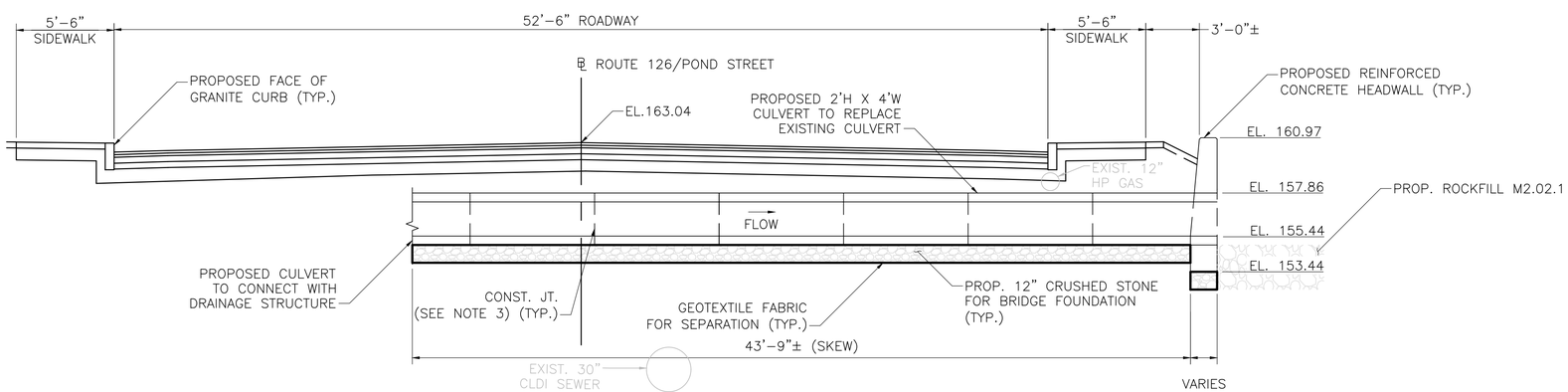


SPECIAL DRAINAGE STRUCTURE NO.4 PLAN

SCALE: ¼" = 1'-0"

WORKING PT.	STA.	OFFSET R, FT	NORTHING	EASTING
1	90+14.42	46.16	2918725.01	676257.76
2	90+14.92	40.77	2918728.64	676253.74
3	90+09.14	33.78	2918728.16	676244.68
4	89+96.09	34.04	2918717.54	676237.11
5	89+92.34	37.94	2918712.20	676238.00

STATION EQUATION 4: ROUTE 126 (POND STREET) CONSTRUCTION ℄
STA. 90+14.32 = CULVERT ℄



SECTION 4 – STA. 90+14.32 CULVERT (UPSTATION)

SCALE: ¼" = 1'-0"

NOTES:

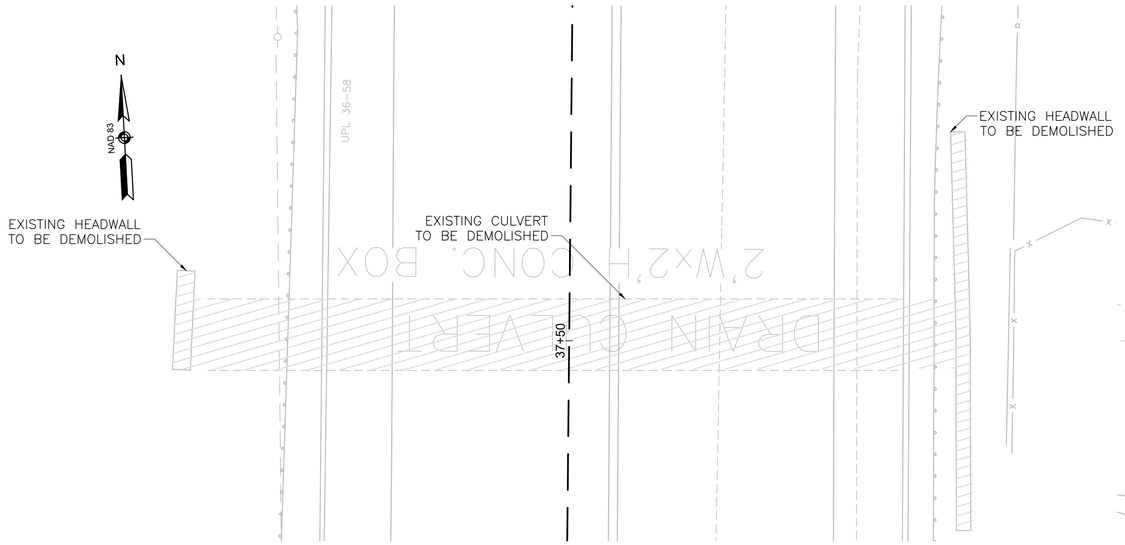
1. PROPOSED GUARDRAIL NOT SHOWN AT CULVERT SECTION SINCE ALL PROPOSED GUARDRAIL WILL SPAN OVER PROPOSED CULVERT SECTION.
2. SEE SHEETS 13 – 15 FOR TYPICAL APPROACH/ROADWAY CROSS SECTION AT CULVERT LOCATION.
3. PRECAST REINFORCED CONCRETE CULVERT CONSTRUCTION JOINT SPACING WILL VARY PER PRECASTER UP TO 7'-0" MAXIMUM SPACING.
4. FACE OF PRECAST REINFORCED CONCRETE CULVERT TO BE SKEWED AND WILL REQUIRE SPECIAL FABRICATION FORM THE PRECASTER.
5. ALL EXISTING UTILITY DEPTHS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO WORK.

0 20 50 100
SCALE: 1" = 20'

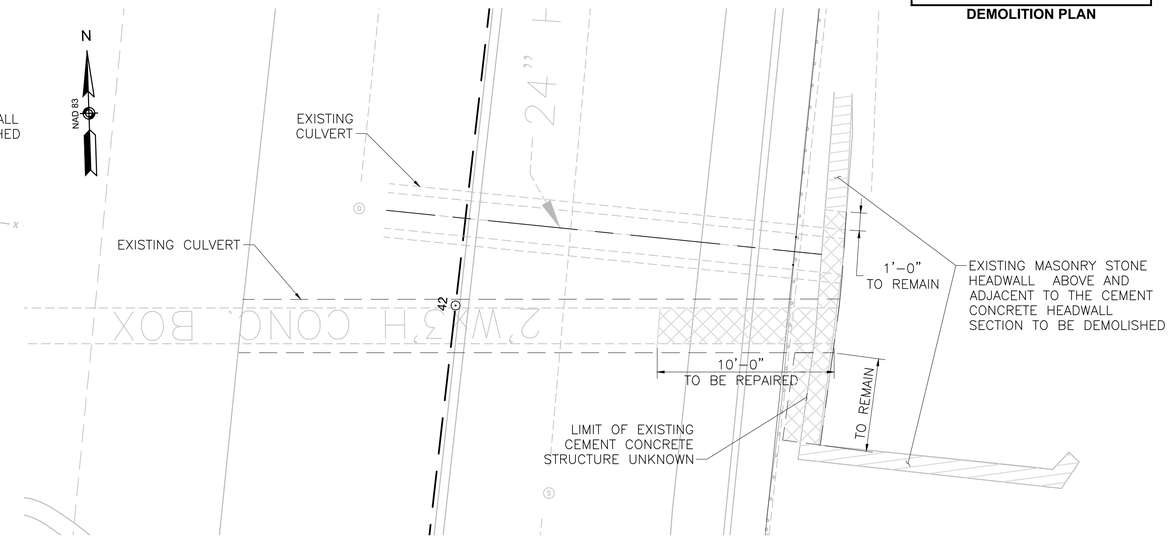
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	213	331
PROJECT FILE NO.	604123		

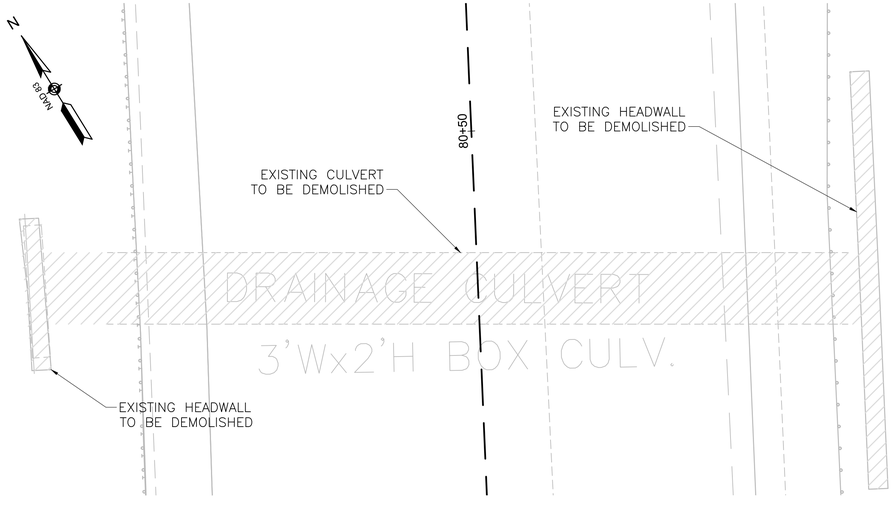
DEMOLITION PLAN



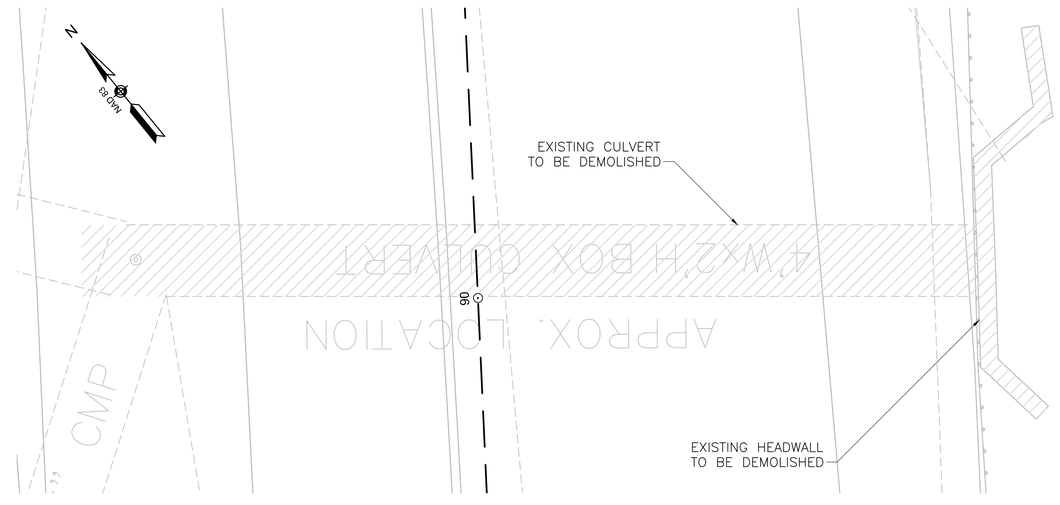
STA. 37+50 CULVERT 1 DEMO. PLAN
SCALE: ¼" = 1'-0"



STA. 42+00 HEADWALL DEMO. PLAN
SCALE: ¼" = 1'-0"



STA. 80+40 CULVERT 3 DEMO. PLAN
SCALE: ¼" = 1'-0"



STA. 90+00 CULVERT 4 DEMO. PLAN
SCALE: ¼" = 1'-0"

NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXISTING UTILITIES AND COORDINATING WITH UTILITY COMPANIES TO FACILITATE THE NECESSARY WORK.
2. THE CONTRACTOR SHALL DETERMINE AND ESTABLISH ALL DIMENSIONS AND DETAILS NECESSARY FOR COMPLETION OF ALL THE WORK BY FIELD MEASUREMENTS AND SURVEY.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF TEMPORARY EXCAVATION SUPPORTS.
4. THE CEMENT CONCRETE PORTION OF THE HEADWALL AT STATION 42+00 SHALL REMAIN. THE MASONRY STONE PORTION OF THE HEADWALL SHALL BE DEMOLISHED. THE LIMITS OF THE CEMENT CONCRETE HEADWALL PORTION THAT EXTEND TOWARDS THE ROADWAY ARE UNKNOWN.

LEGEND:

- TO BE DEMOLISHED
- TO BE REPAIRED

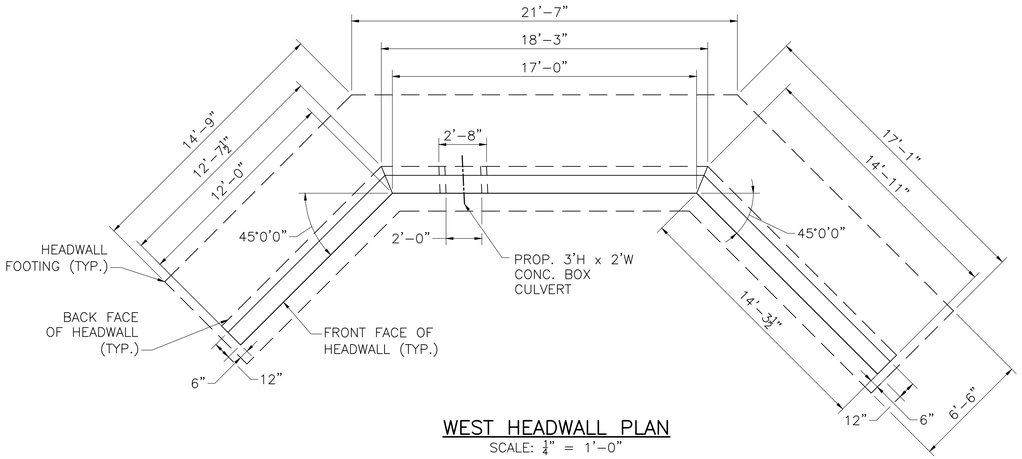
0 20 50 100
SCALE: 1" = 20'

604123_BR02(DEMOLITION PLANS).DWG Plotted on 24-Jun-2020 11:06 AM

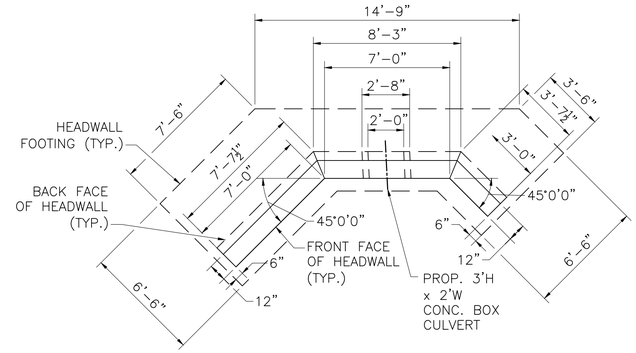
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	214	331
PROJECT FILE NO.	604123		

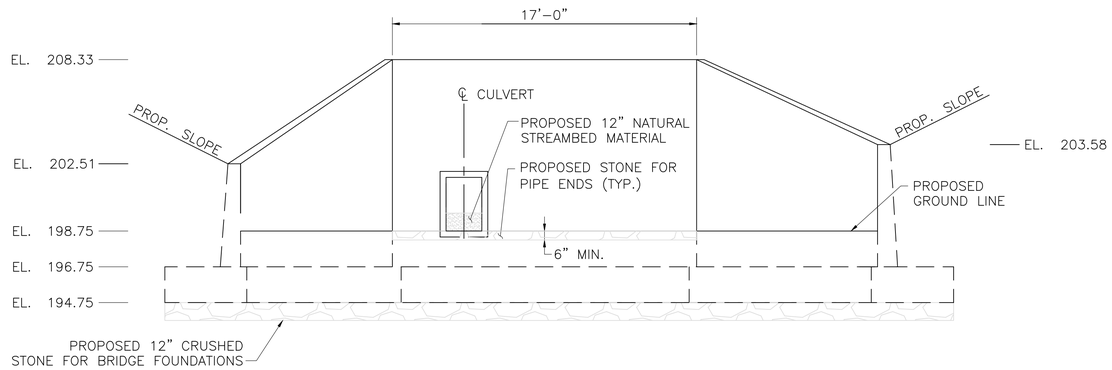
SPECIAL DRAINAGE STRUCTURE NO.1
DETAILS



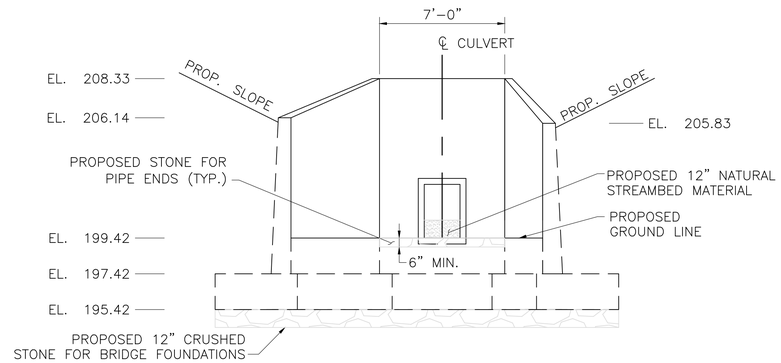
WEST HEADWALL PLAN
SCALE: ¼" = 1'-0"



EAST HEADWALL PLAN
SCALE: ¼" = 1'-0"

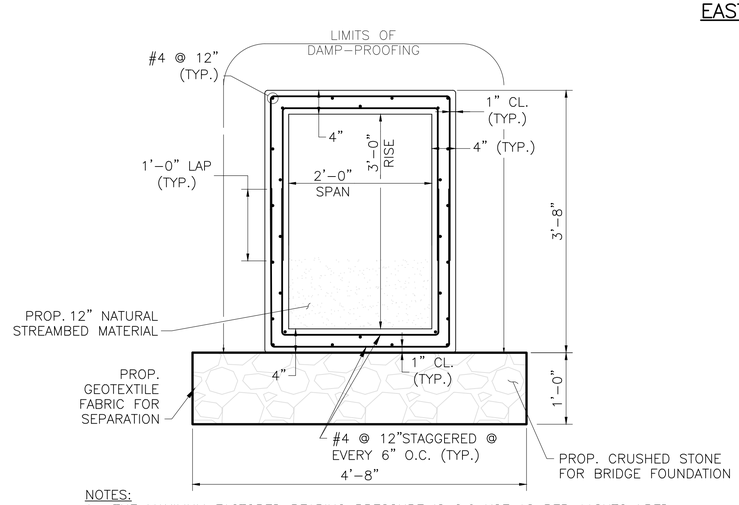


WEST HEADWALL ELEVATION
SCALE: ¼" = 1'-0"



EAST HEADWALL ELEVATION
SCALE: ¼" = 1'-0"

NOTES:
1. SEE SHEET 209 FOR GENERAL PLAN AND ELEVATION OF STRUCTURE.
2. SEE SHEET 218 FOR HEADWALL REINFORCEMENT DETAILS.



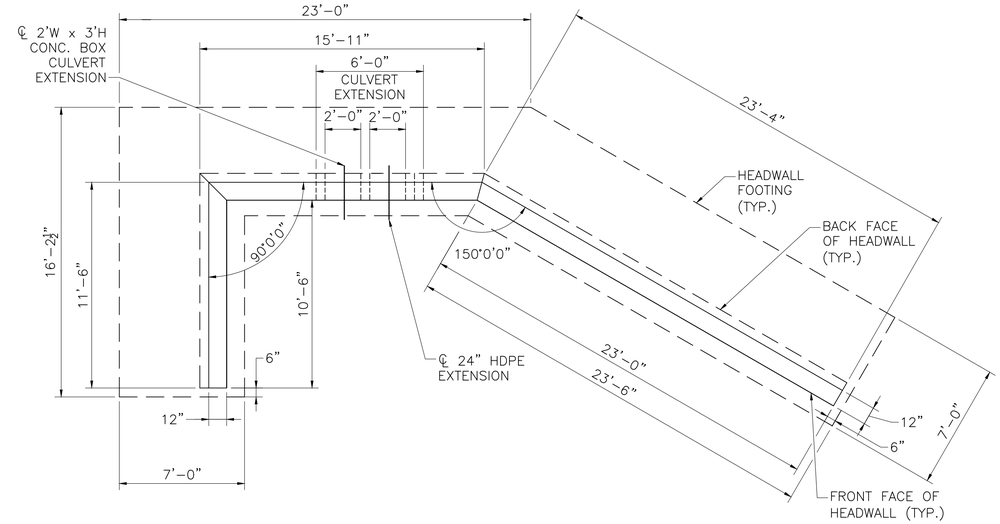
NOTES:
1. THE MAXIMUM FACTORED BEARING PRESSURE IS 2.6 KSF AS PER AASHTO LRFD BRIDGE SPECIFICATION STRENGTH 1 LOAD COMBINATION. FACTORED BEARING RESISTANCE IS 5 KSF. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.
2. TRANSVERSE REINFORCING SHALL BE PLACED NORMAL TO THE ℄ OF THE CULVERT.
3. PRECAST CONCRETE CULVERT TO BE 5000 PSI, ¾ INCH, 686 HP CEMENT CONCRETE.

CULVERT REINFORCEMENT DETAIL
SCALE: 1" = 1'-0"

604123_BR04(STA 37+50 CUL. DET.).DWG Plotted on 24-Jun-2020 11:06 AM

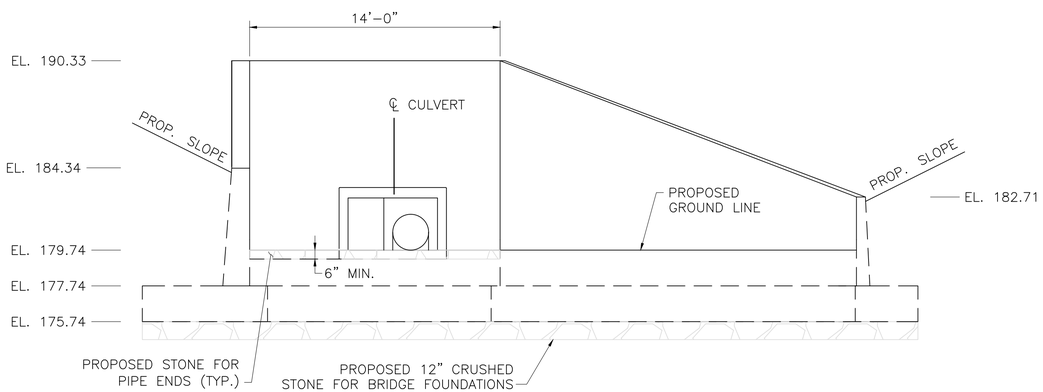
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	215	331
PROJECT FILE NO.	604123		

SPECIAL DRAINAGE STRUCTURE NO.2 DETAILS



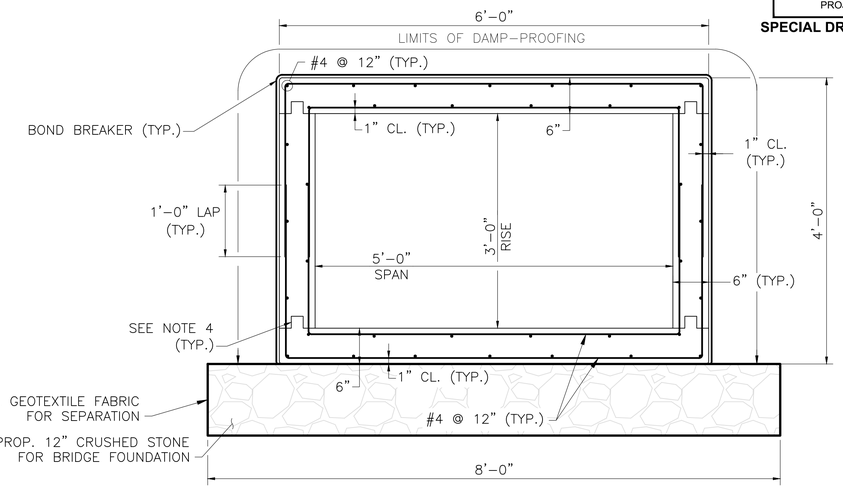
EAST HEADWALL PLAN

SCALE: ¼" = 1'-0"



EAST HEADWALL ELEVATION

SCALE: ¼" = 1'-0"



NOTES:

1. THE MAXIMUM FACTORED BEARING PRESSURE IS 2.95 KSF AS PER AASHTO LRFD BRIDGE SPECIFICATION STRENGTH 1 LOAD COMBINATION. FACTORED BEARING RESISTANCE IS 10 KSF. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.
2. TRANSVERSE REINFORCING SHALL BE PLACED NORMAL TO THE ℄ OF THE CULVERT.
3. CAST-IN-PLACE CONCRETE CULVERT TO BE 5000 PSI, ¾ INCH, 686 HP CEMENT CONCRETE.
4. CONSTRUCTION JOINT WITH 2" x 2" KEY.

CULVERT REINFORCEMENT

SCALE: 1" = 1'-0"

NOTES:

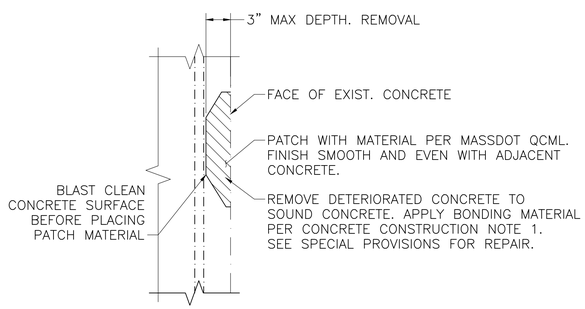
1. SEE SHEET 210 FOR GENERAL PLAN AND ELEVATION OF STRUCTURE.
2. SEE SHEET 218 FOR HEADWALL REINFORCEMENT DETAILS.
3. THE CONTRACTOR SHALL REPORT TO THE ENGINEER ANY DETERIORATION THAT EXCEED THE LIMITS SHOWN ON THE PLANS AND SHALL NOT CONTINUE WORK WITHOUT DIRECTIONS FROM THE ENGINEER.

REPAIRS TO DAMAGES BY CONTRACTOR:

IF DURING REMOVAL OF DETERIORATED CONCRETE, THE CONTRACTOR DAMAGES EXISTING REINFORCEMENT TO THE EXTENT REQUIRING REPLACEMENT, ANY ADDITIONAL CONCRETE REMOVAL, PATCHING MATERIAL, CLEANING EXISTING REINFORCING STEEL, AND FURNISHING AND INSTALLING REPLACEMENT REINFORCING STEEL SHALL BE AT THE CONTRACTOR'S EXPENSE.

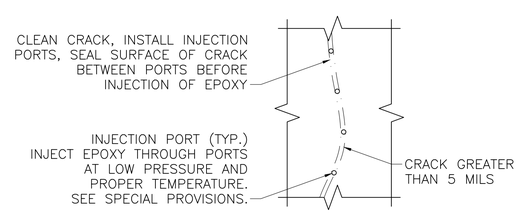
CONCRETE REPAIR NOTES:

1. IMMEDIATELY PRIOR TO PLACING NEW CONCRETE AGAINST EXISTING CONCRETE, CLEAN EXISTING SURFACES AND APPLY SPECIFIED BONDING COMPOUND AS APPROVED UNDER MASSDOT QCML.
2. REMOVAL OF EXISTING CONCRETE FOR REPAIRS SHALL BE INCLUDED IN THE ITEM NO. 997.2 SPECIAL DRAINAGE STRUCTURE NO. 2.
3. ALL EXISTING SURFACES THAT WILL HAVE NEW CONCRETE CAST AGAINST IT MUST BE ROUGHENED TO A MINIMUM AMPLITUDE OF ¼"±.
4. CONCRETE INSIDE WALL WITH 1½" TO 4" GAP SHALL BE FILLED USING FABRIC BAGS WITH GROUT MATERIAL UNDER ITEM 997.2. THE CONTRACTOR SHALL ASSUME THAT 30 FABRIC BAGS WILL BE REQUIRED FOR CONCRETE REPAIR.



SPALL REPAIR DETAIL

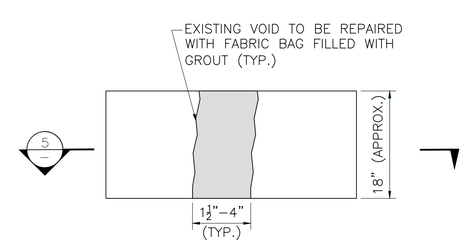
NOT TO SCALE



CRACK REPAIR DETAIL

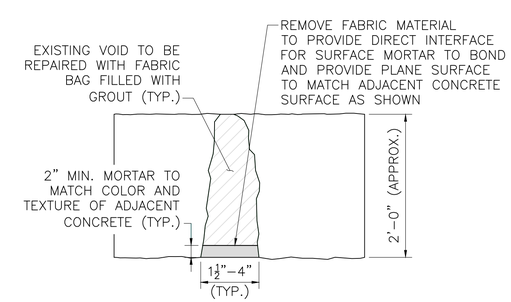
NOT TO SCALE

REPAIR DETAIL AT SPECIAL DRAINAGE STRUCTURE NO. 2



TYPICAL VOID AT CULVERT WALL – ELEVATION

(VOID TO BE FILLED WITH GROUT BAG)
NOT TO SCALE



SECTION 5 – PLAN

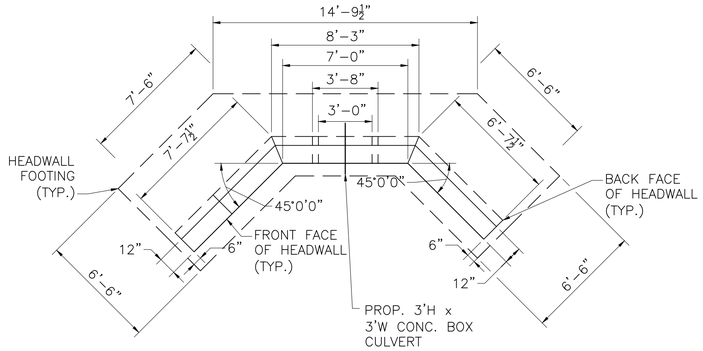
NOT TO SCALE

604123_BR05(STA 42+00 CUL. DET.).DWG Plotted on 24-Jun-2020 11:07 AM

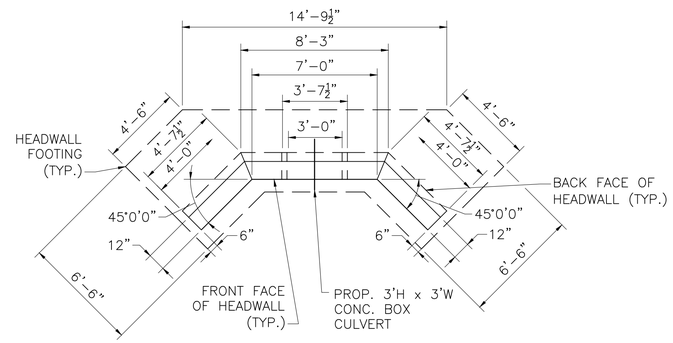
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	216	331
PROJECT FILE NO.	604123		

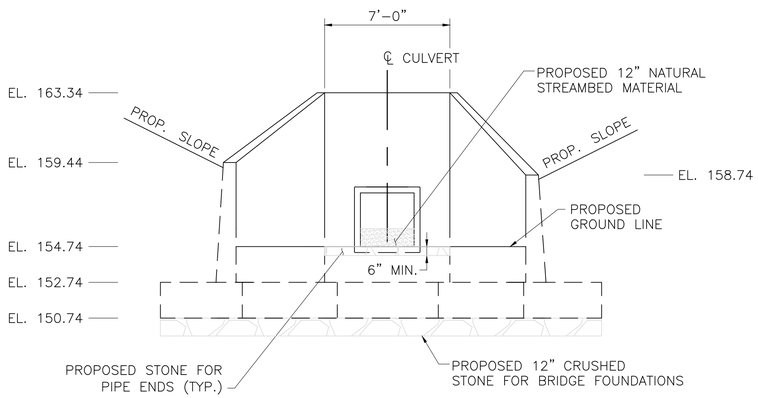
SPECIAL DRAINAGE STRUCTURE NO.3
DETAILS



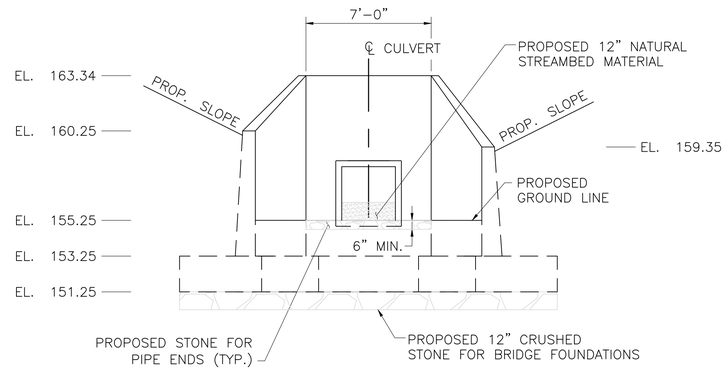
EAST CULVERT PLAN
SCALE: ¼" = 1'-0"



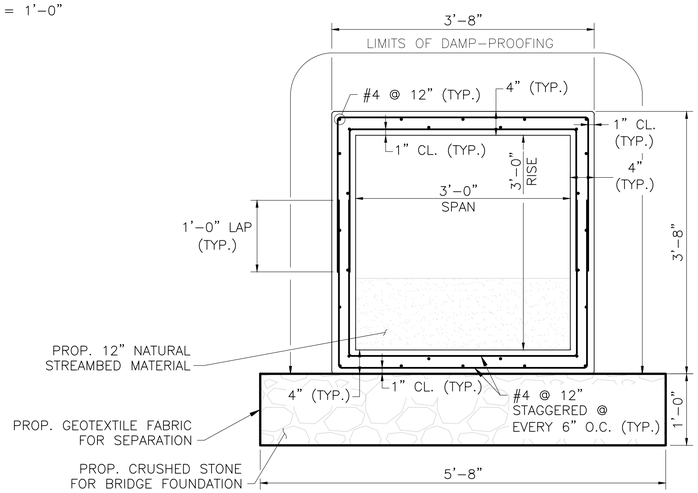
WEST CULVERT PLAN
SCALE: ¼"= 1'-0"



EAST CULVERT ELEVATION
SCALE: ¼" = 1'-0"



WEST CULVERT ELEVATION
SCALE: ¼" = 1'-0"



NOTES:
1. THE MAXIMUM FACTORED BEARING PRESSURE IS 2.02 KSF AS PER AASHTO LRFD BRIDGE SPECIFICATION STRENGTH 1 LOAD COMBINATION. FACTORED BEARING RESISTANCE IS 4.9 KSF. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.
2. TRANSVERSE REINFORCING SHALL BE PLACED NORMAL TO THE ℄ OF THE CULVERT.
3. PRECAST CONCRETE CULVERT TO BE 5000 PSI, ¾ INCH, 686 HP CEMENT CONCRETE.

CULVERT REINFORCEMENT
SCALE: 1" = 1'-0"

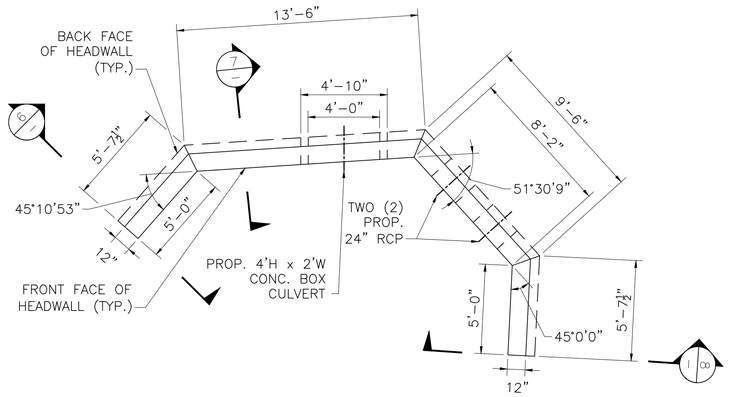
NOTES:
1. SEE SHEET 211 FOR GENERAL PLAN AND ELEVATION OF STRUCTURE.
2. SEE SHEET 218 FOR HEADWALL REINFORCEMENT DETAILS.

604123_BR06(STA 80+40 CUL. DET.).DWG Plotted on 24-Jun-2020 11:07 AM

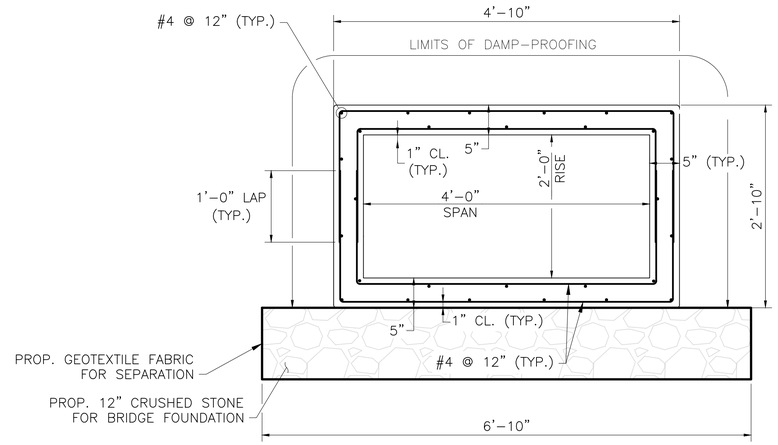
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	217	331
PROJECT FILE NO.	604123		

SPECIAL DRAINAGE STRUCTURE NO.4
DETAILS

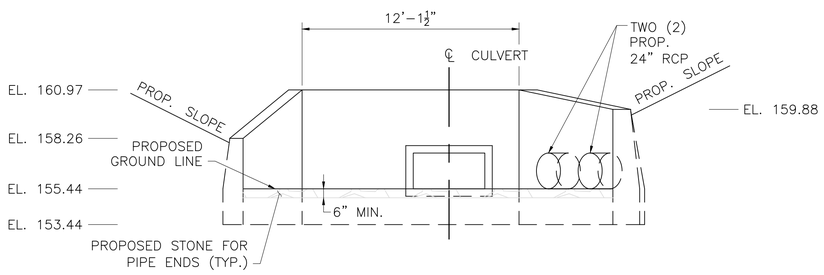


HEADWALL PLAN
SCALE: ¼" = 1'-0"

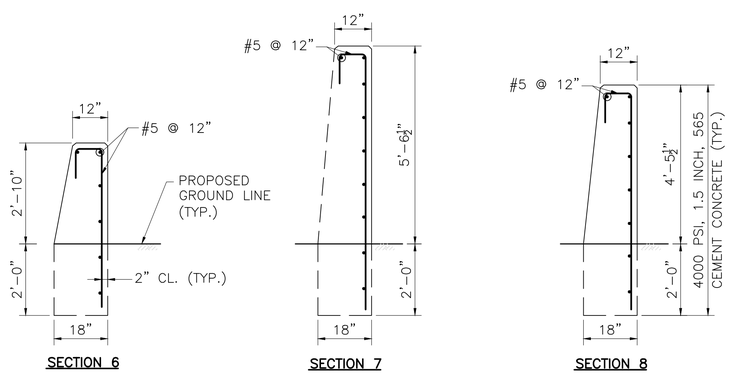


NOTES:
1. THE MAXIMUM FACTORED BEARING PRESSURE IS 1.52 KSF AS PER AASHTO LRFD BRIDGE SPECIFICATION STRENGTH 1 LOAD COMBINATION. FACTORED BEARING RESISTANCE IS 5.3 KSF. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.
2. TRANSVERSE REINFORCING SHALL BE PLACED NORMAL TO THE ℄ OF THE CULVERT.
3. PRECAST CONCRETE CULVERT TO BE 5000 PSI, ¾ INCH, 686 HP CEMENT CONCRETE.

CULVERT REINFORCEMENT
SCALE: 1" = 1'-0"



HEADWALL ELEVATION
SCALE: ¼" = 1'-0"

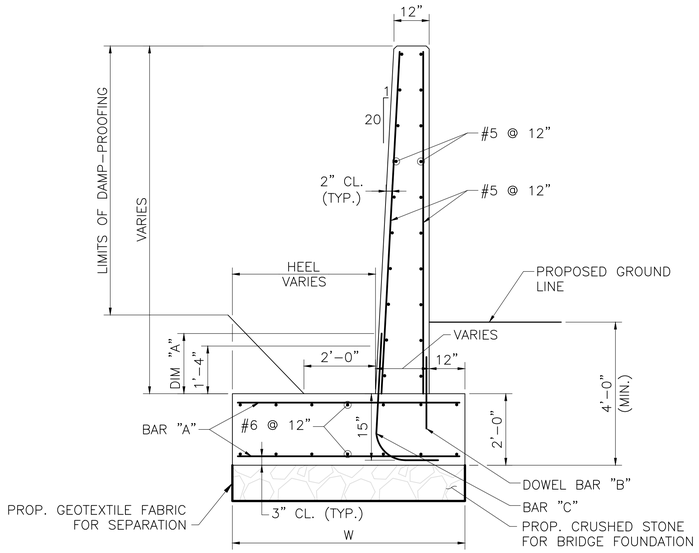


HEADWALL SECTIONS
SCALE: ½" = 1'-0"

604123_BR07(STA 90+00 CUL. DET.).DWG Plotted on 24-Jun-2020 11:07 AM

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	218	331
PROJECT FILE NO.	604123		

HEADWALL & MISCELLANEOUS DETAILS



NOTES:

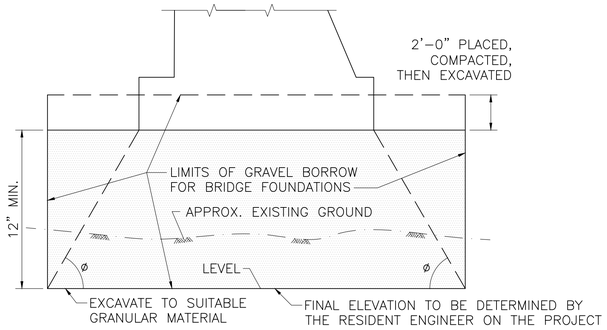
1. ALL CONCRETE SHALL BE 4000 PSI.
2. SEE ADJACENT TABLES FOR FACTORED BEARING PRESSURES AND FACTORED BEARING RESISTANCES FOR ALL WALL TYPES. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.

TYPICAL HEADWALL SECTION

SCALE: $\frac{1}{2}$" = 1'-0"

SUMMARY OF BEARING PRESSURES AND RESISTANCES			
WALL TYPE	MAXIMUM FACTORED BEARING PRESSURE (KSF)	CONTROLLING LOAD CASE	FACTORED BEARING RESISTANCE (KSF)
STA 37+50	2.14	STRENGTH I	4.1
STA 42+00	2.48	STRENGTH I	4.2
STA 80+40	1.97	STRENGTH I	4.7

HEADWALL DIMENSIONS AND REINFORCEMENT SUMMARY							
WALL TYPE	W	HEEL	BAR "A"	BAR "B"	BAR "B" LENGTH	BAR "C"	DIM "A"
STA 37+50	6'-6"	VARIES	#5 @ 12"	#5 @ 12"	2'-0"	#5 @ 12"	19"
STA 42+00	7'-0"	VARIES	#6 @ 12"	#6 @ 12"	2'-6"	#6 @ 12"	23"
STA 80+40	6'-6"	VARIES	#5 @ 12"	#5 @ 12"	2'-0"	#5 @ 12"	19"

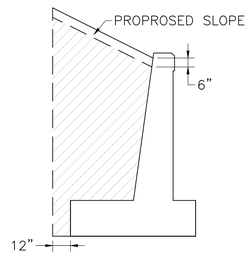


NOTES:

1. ø = 45° FOR DEPTH OF 5'-0" OR LESS.
   ø = 60° FOR DEPTH OVER 5'-0".
2. SAME TREATMENT IS TO BE USED AT ENDS OF WALLS.

LIMITS OF GRAVEL BORROW FOR BRIDGE FOUNDATIONS

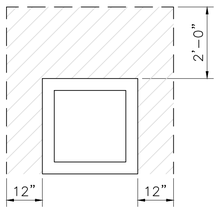
NOT TO SCALE



NOTE:
HATCHED AREA INDICATES LIMITS OF GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES.

LIMITS OF GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES

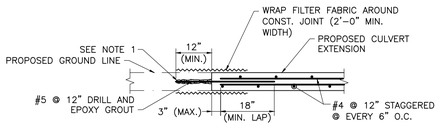
SCALE: $\frac{1}{4}$" = 1'-0"



NOTE:
HATCHED AREA INDICATES LIMITS OF GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES.

LIMITS OF GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES

NOT TO SCALE



CONNECTION NOTES:

1. DOWEL IN #5 BARS AT 1'-0" MAX. SPACING HORIZONTALLY INTO CENTER OF WALL AND FILL HOLES WITH EPOXY GROUT.
2. ROUGHEN AND CLEAN EXISTING OR EXPOSED SURFACE AND COAT WITH TYPE A EPOXY BONDING COMPOUND IN ACCORDING WITH THE MANUFACTURER'S RECOMMENDATIONS.

TYPICAL CONNECTION DETAIL

SCALE: $\frac{3}{4}$" = 1'-0"

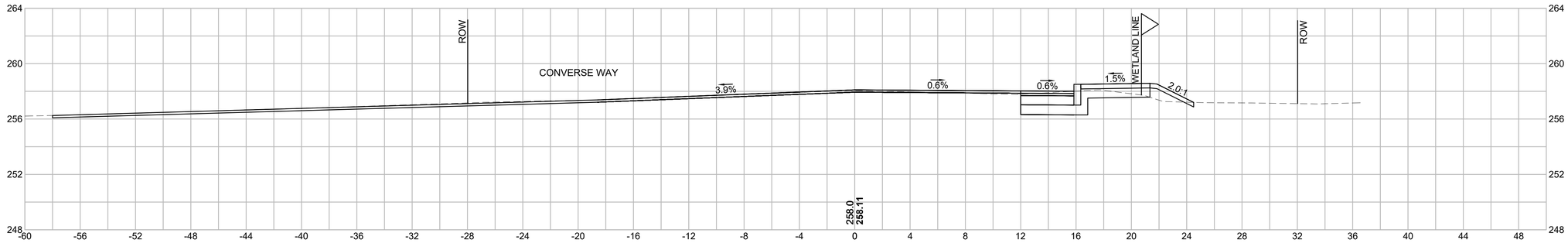
604123_BR09(HEADWALL DETAILS).DWG Plotted on 24-Jun-2020 11:07 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	219	331
PROJECT FILE NO.	604123		

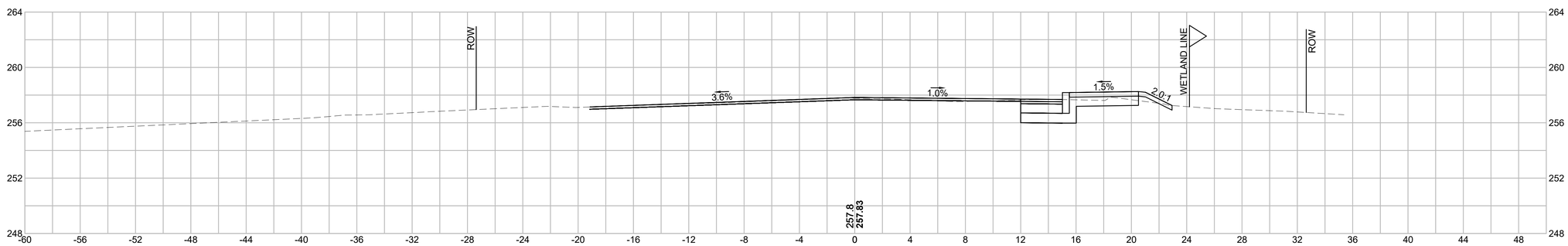
CROSS SECTIONS 1

10+50



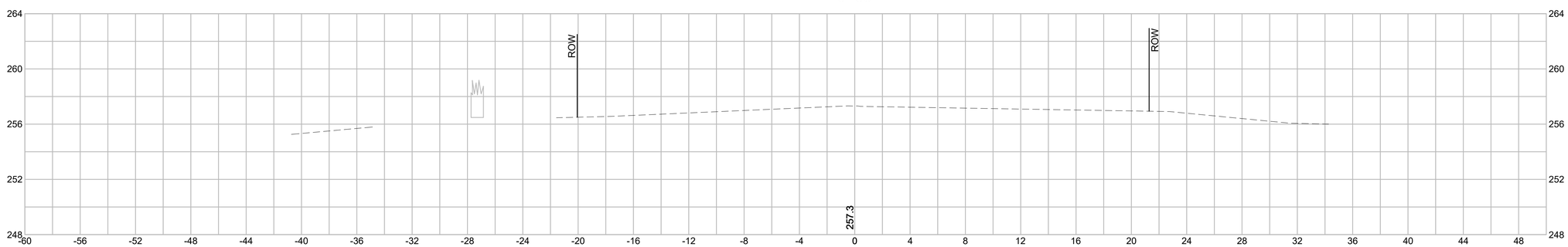
EARTHWORK 10+50	
CUT AREA	18.45 SF
FILL AREA	1.47 SF

10+00



EARTHWORK 10+00	
CUT AREA	12.38 SF
FILL AREA	0.46 SF

9+50



EARTHWORK 9+50	
CUT AREA	0.00 SF
FILL AREA	0.00 SF

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

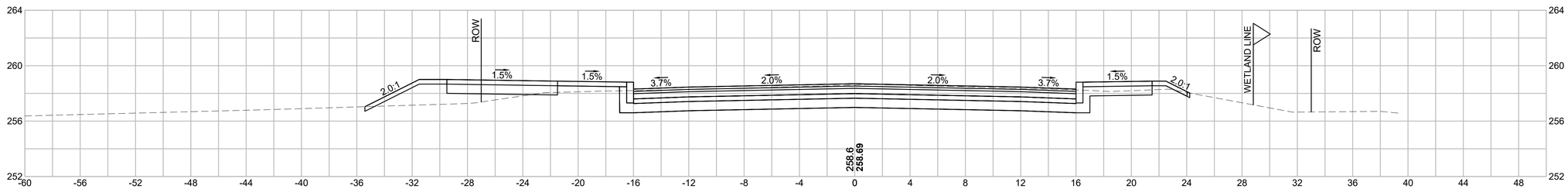
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:38 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	220	331
PROJECT FILE NO.	604123		

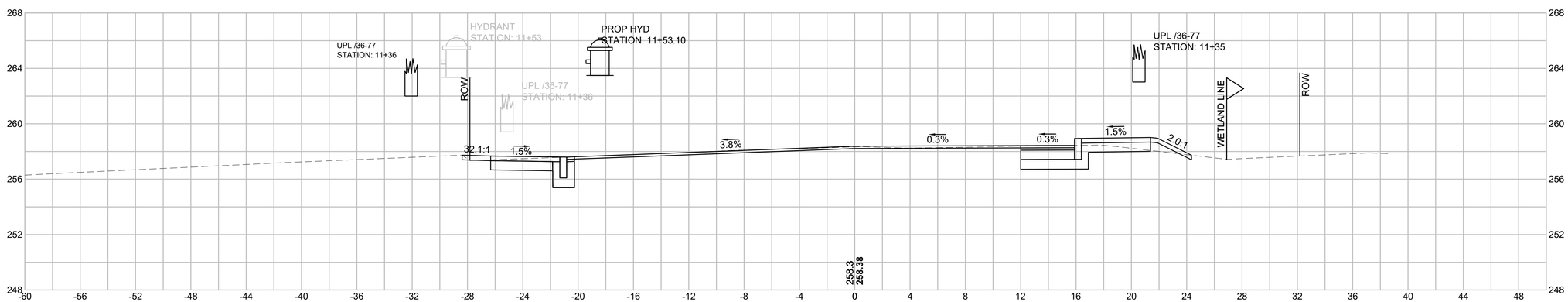
CROSS SECTIONS 2

11+50



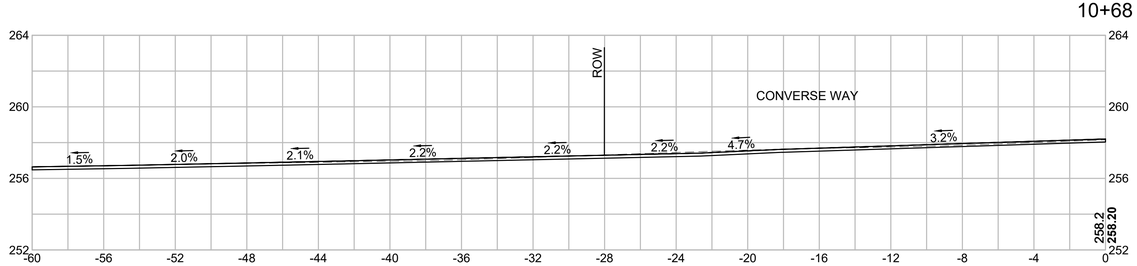
EARTHWORK 11+50	
CUT AREA	56.69 SF
FILL AREA	10.26 SF

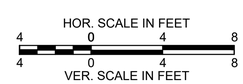
11+00



EARTHWORK 11+00	
CUT AREA	20.90 SF
FILL AREA	1.09 SF

10+68





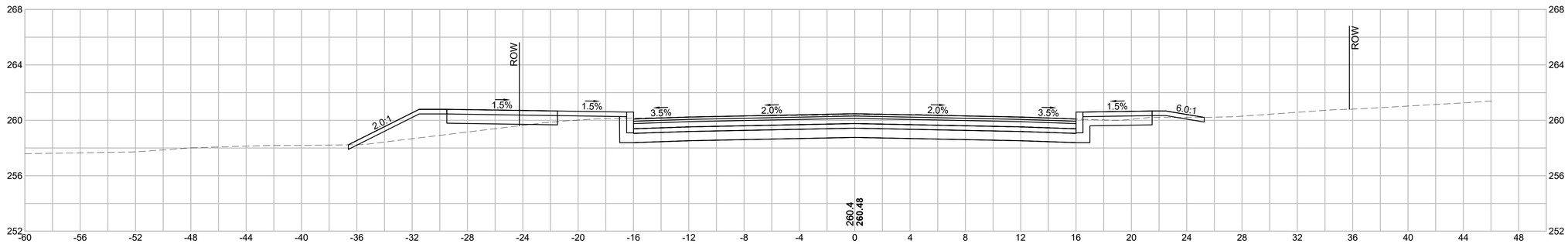
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:39 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	221	331
PROJECT FILE NO.	604123		

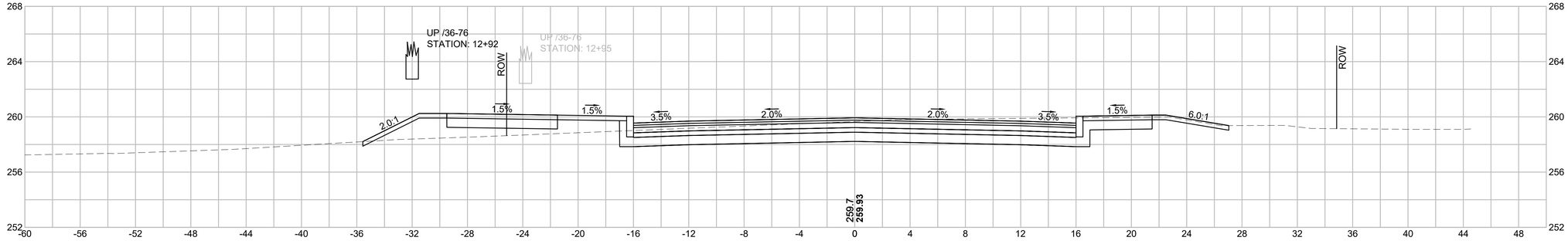
CROSS SECTIONS 3

13+00



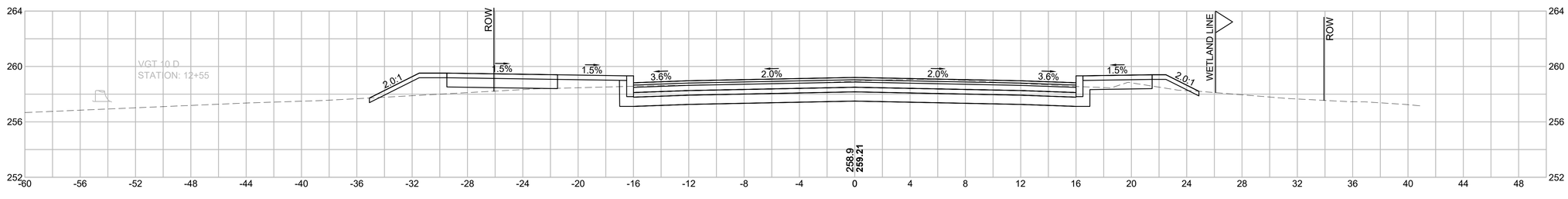
EARTHWORK 13+00	
CUT AREA	60.31 SF
FILL AREA	10.90 SF

12+50



EARTHWORK 12+50	
CUT AREA	57.62 SF
FILL AREA	13.77 SF

12+00



EARTHWORK 12+00	
CUT AREA	51.65 SF
FILL AREA	9.53 SF

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

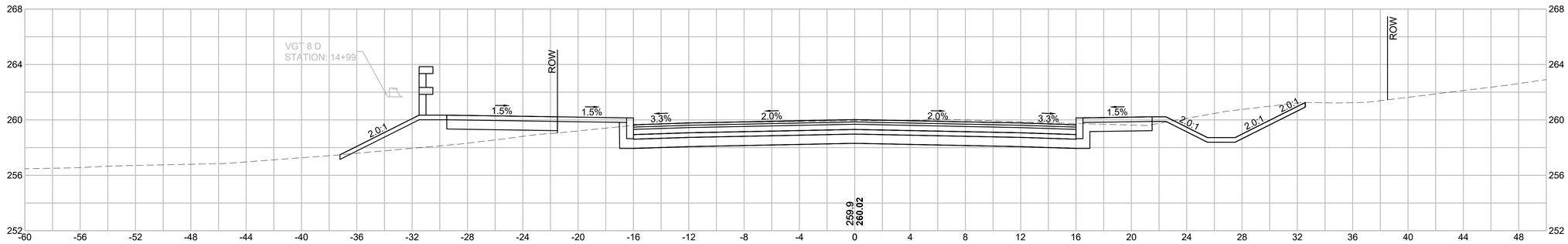
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:40 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	222	331
PROJECT FILE NO.		604123	

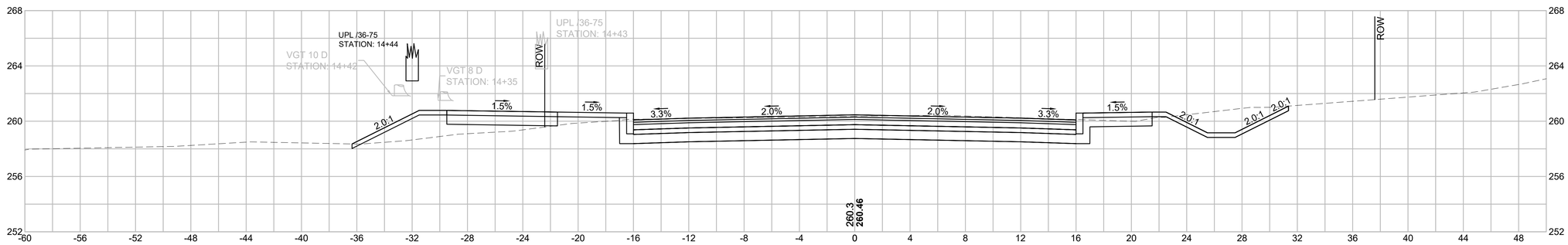
CROSS SECTIONS 4

14+50



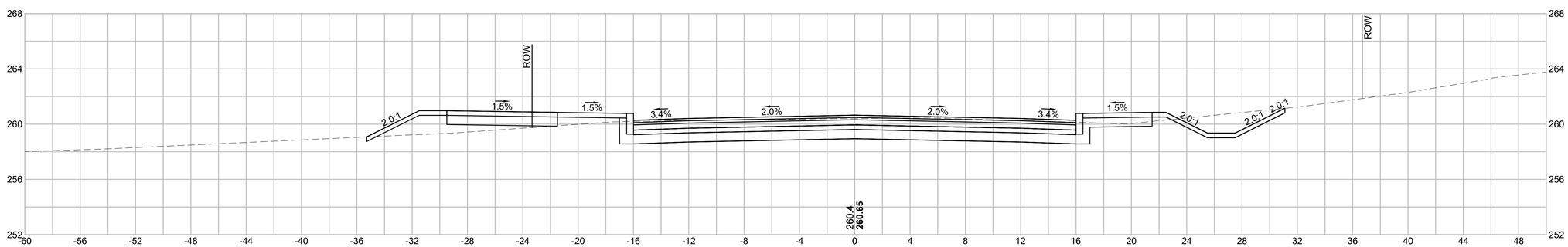
EARTHWORK 14+50	
CUT AREA	74.84 SF
FILL AREA	16.81 SF

14+00



EARTHWORK 14+00	
CUT AREA	71.05 SF
FILL AREA	12.32 SF

13+50



EARTHWORK 13+50	
CUT AREA	63.33 SF
FILL AREA	9.59 SF

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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:41 AM

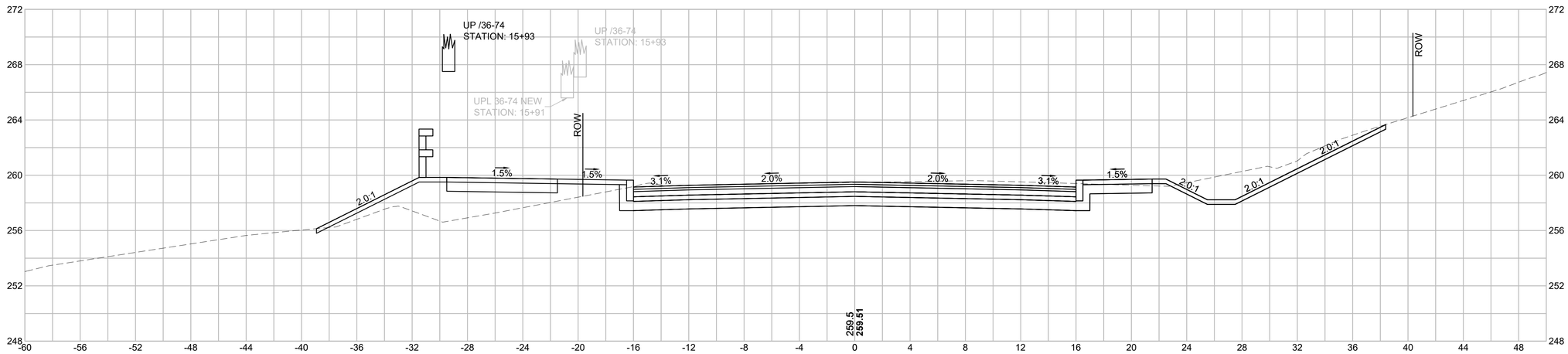
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	223	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 5

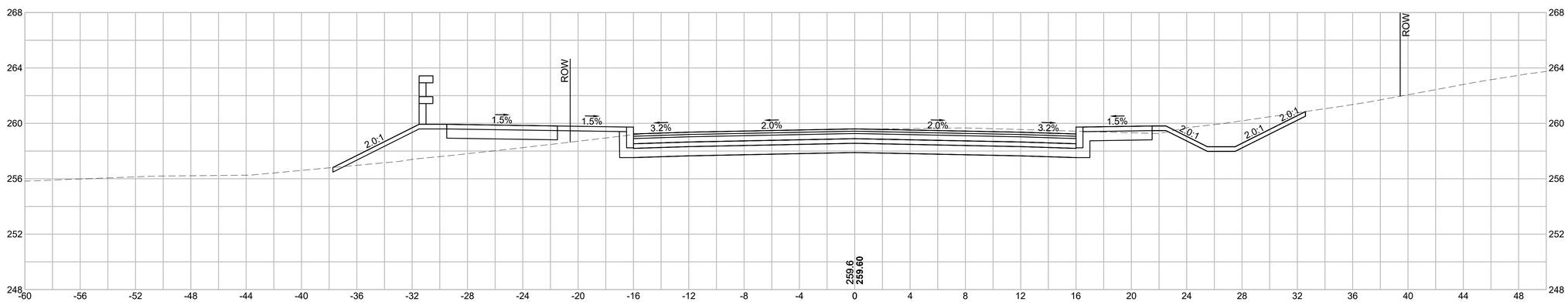
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:42 AM

15+50



EARTHWORK 15+50	
CUT AREA	85.40 SF
FILL AREA	25.14 SF

15+00



EARTHWORK 15+00	
CUT AREA	76.22 SF
FILL AREA	19.37 SF

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

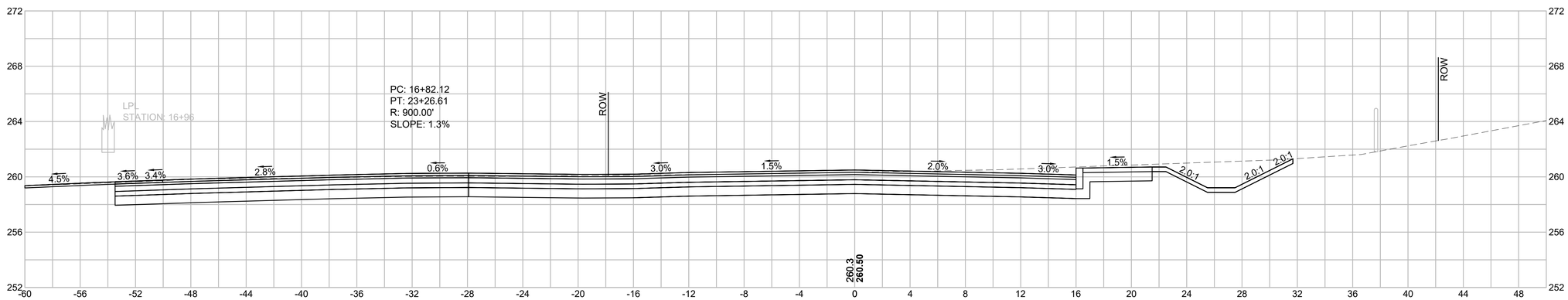
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	224	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 6

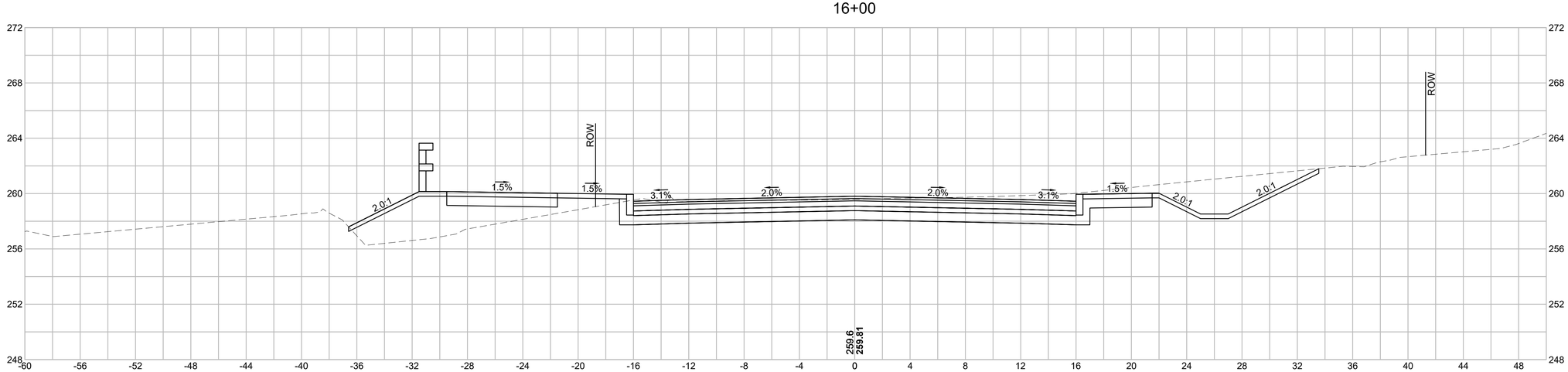
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:43 AM

16+50



EARTHWORK 16+50	
CUT AREA	133.51 SF
FILL AREA	0.00 SF

16+00



EARTHWORK 16+00	
CUT AREA	106.59 SF
FILL AREA	29.03 SF

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

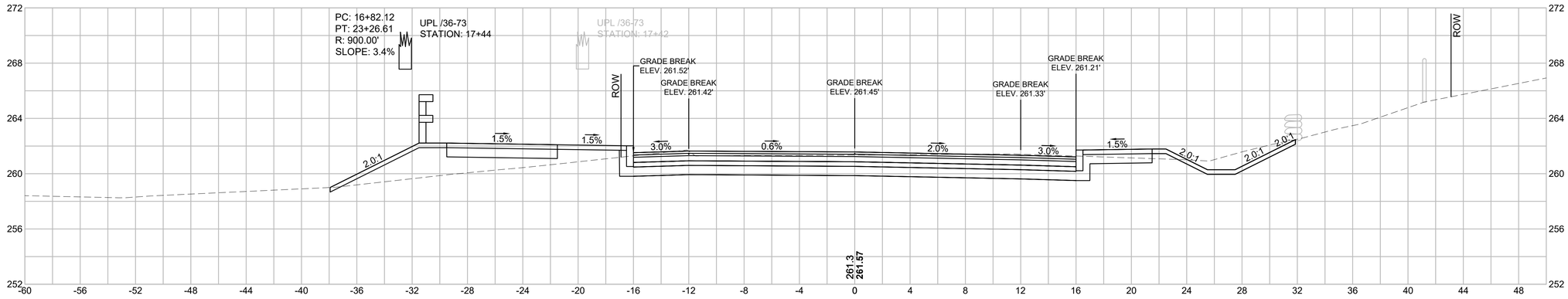
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	225	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 7

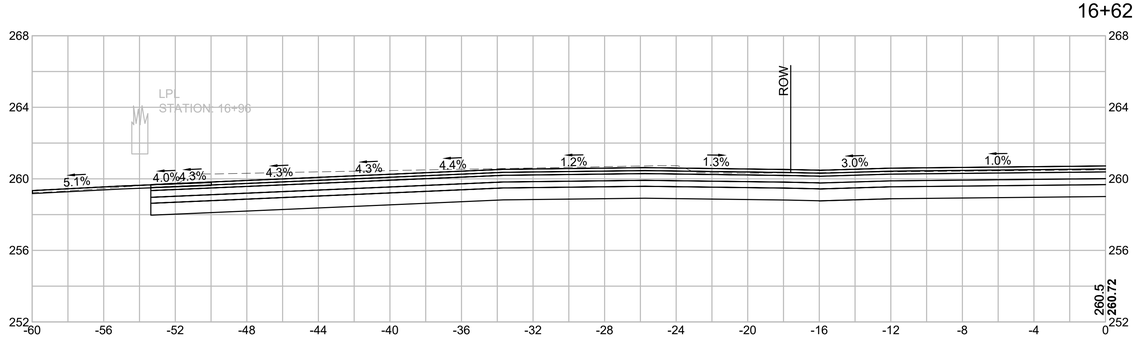
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:44 AM

17+00



EARTHWORK 17+00	
CUT AREA	63.31 SF
FILL AREA	21.21 SF

16+62



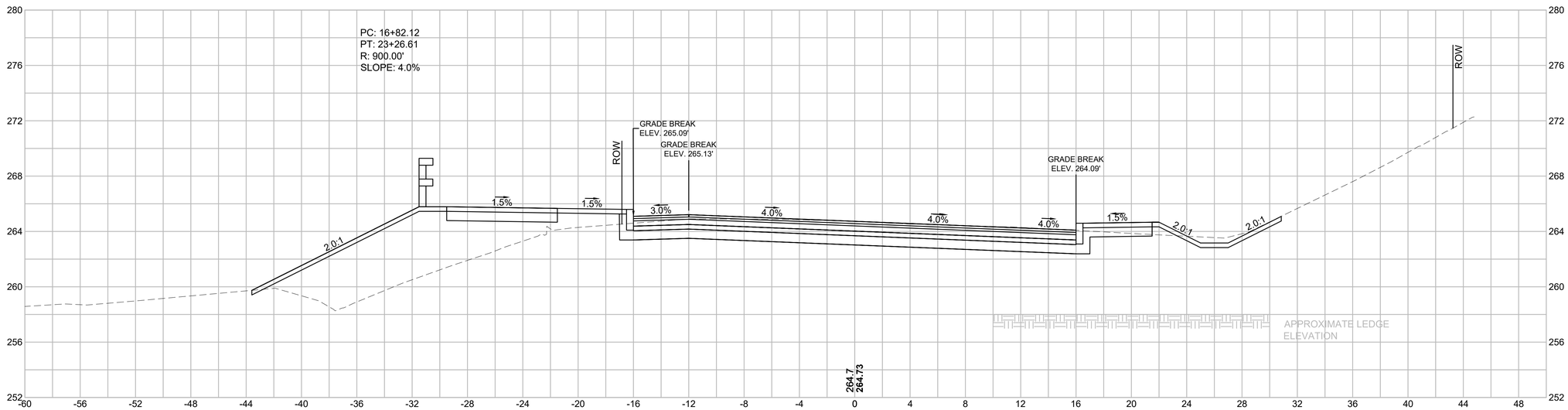
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	226	331
PROJECT FILE NO.	604123		

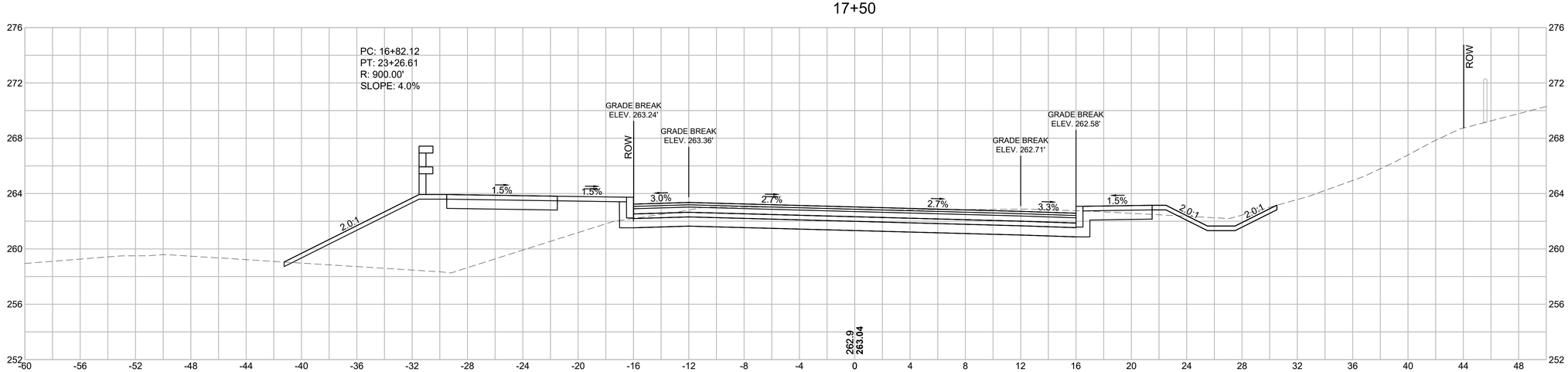
CROSS SECTIONS 8

18+00



EARTHWORK 18+00	
CUT AREA	80.48 SF
FILL AREA	64.90 SF

17+50



EARTHWORK 17+50	
CUT AREA	58.93 SF
FILL AREA	71.15 SF

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

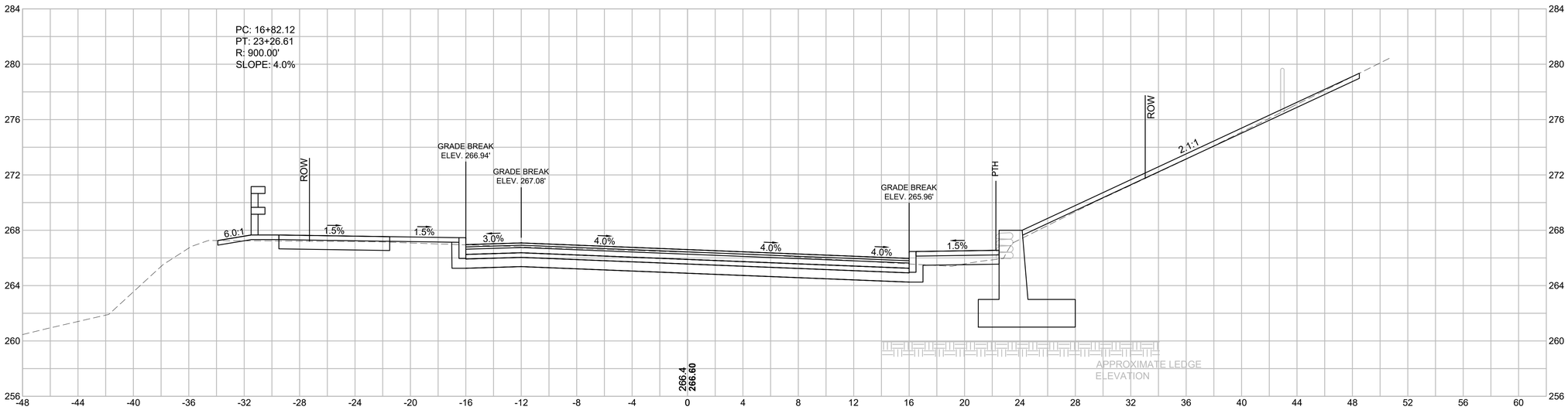
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:45 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	227	331
PROJECT FILE NO.	604123		

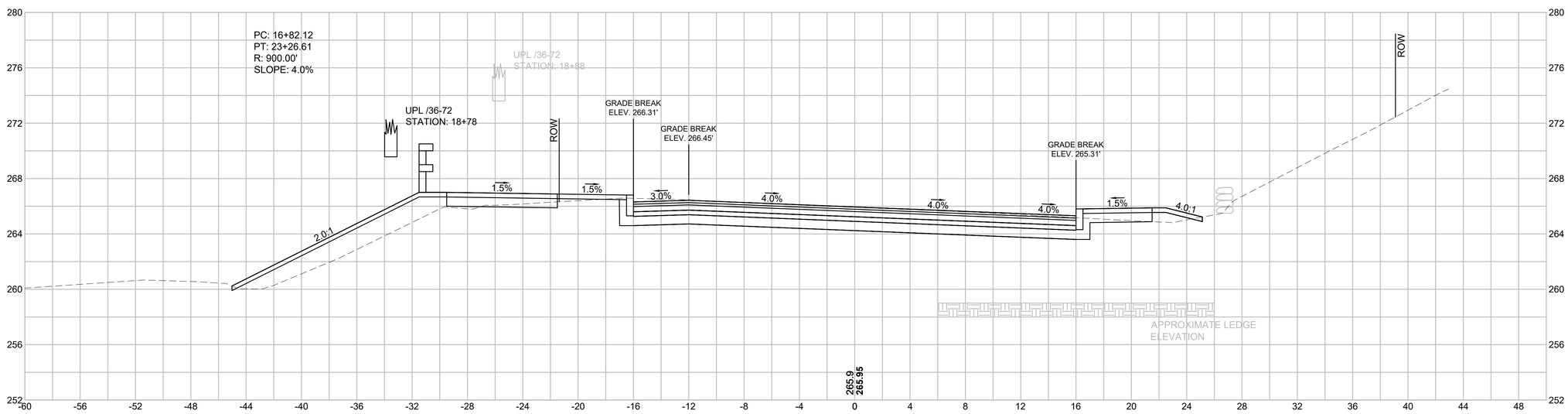
CROSS SECTIONS 9

19+00



EARTHWORK 19+00	
CUT AREA	55.99 SF
FILL AREA	0.82 SF

18+50



EARTHWORK 18+50	
CUT AREA	59.94 SF
FILL AREA	21.52 SF

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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:46 AM

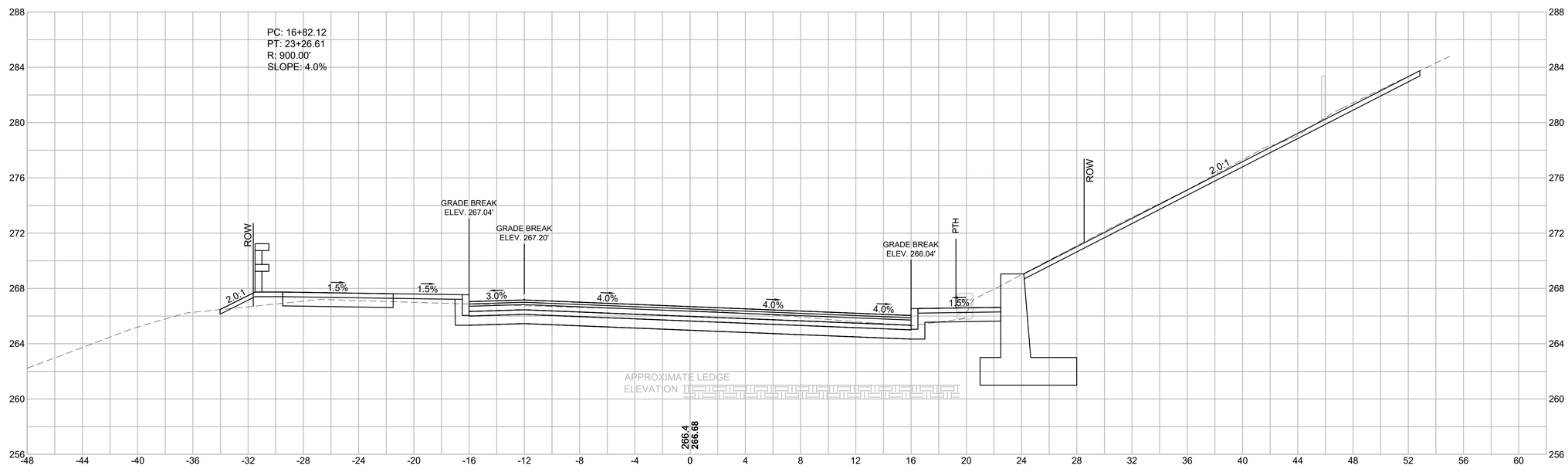
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	228	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 10

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:47 AM

19+50



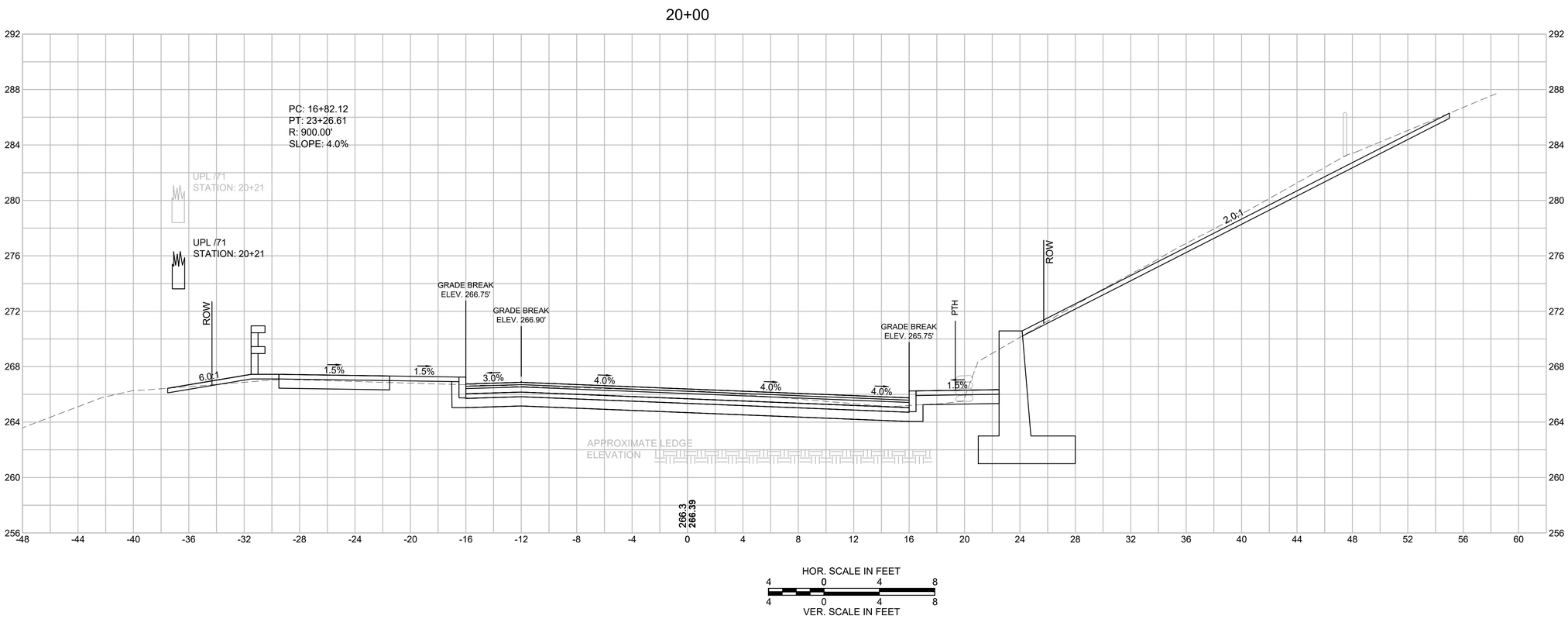
EARTHWORK 19+50	
CUT AREA	52.89 SF
FILL AREA	3.05 SF

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

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	229	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 11



EARTHWORK 20+00	
CUT AREA	60.45 SF
FILL AREA	1.23 SF

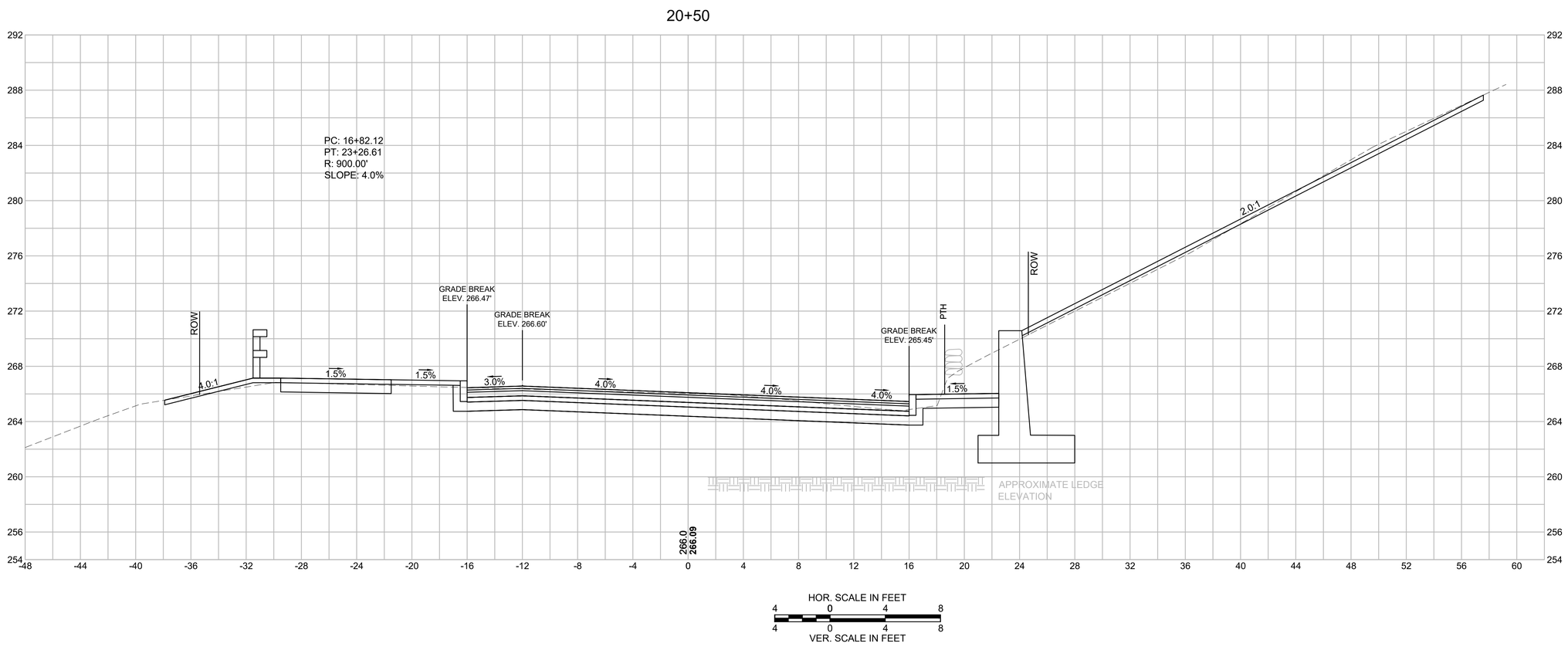
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:46 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	230	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 12

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:49 AM



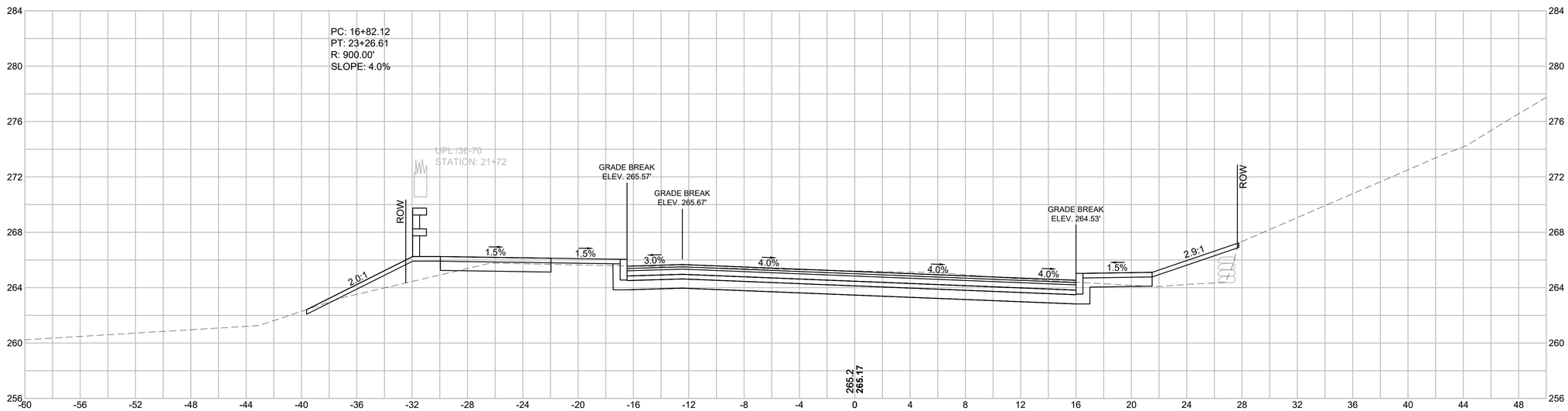
EARTHWORK 20+50	
CUT AREA	69.29 SF
FILL AREA	0.95 SF

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	231	331
PROJECT FILE NO.	604123		

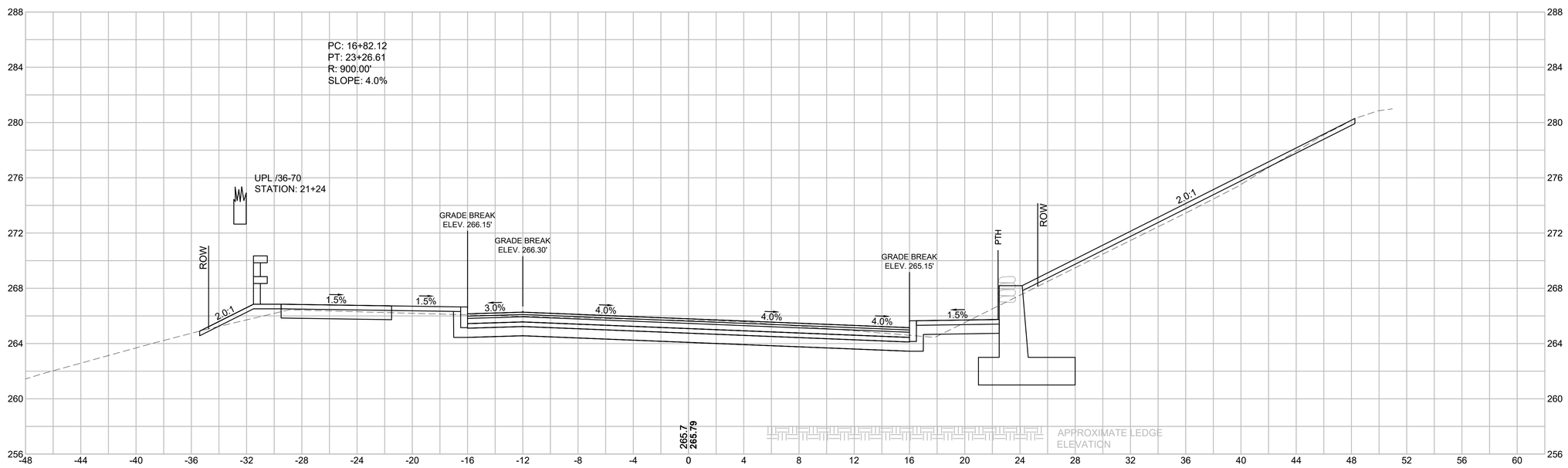
CROSS SECTIONS 13

21+50



EARTHWORK 21+50	
CUT AREA	61.94 SF
FILL AREA	17.97 SF

21+00



EARTHWORK 21+00	
CUT AREA	58.98 SF
FILL AREA	2.83 SF

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

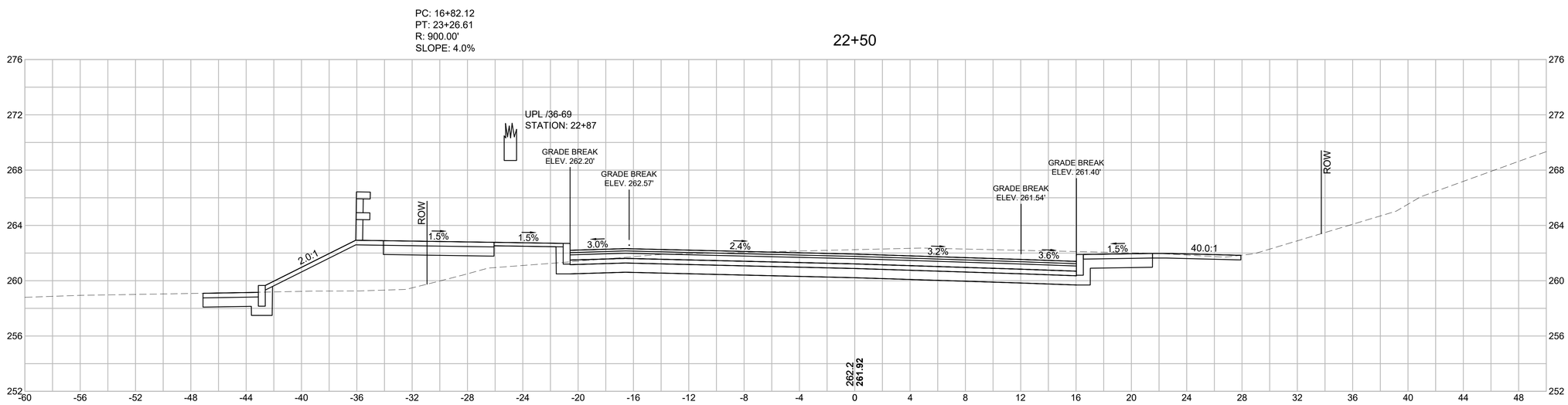
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:50 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	232	331
PROJECT FILE NO.		604123	

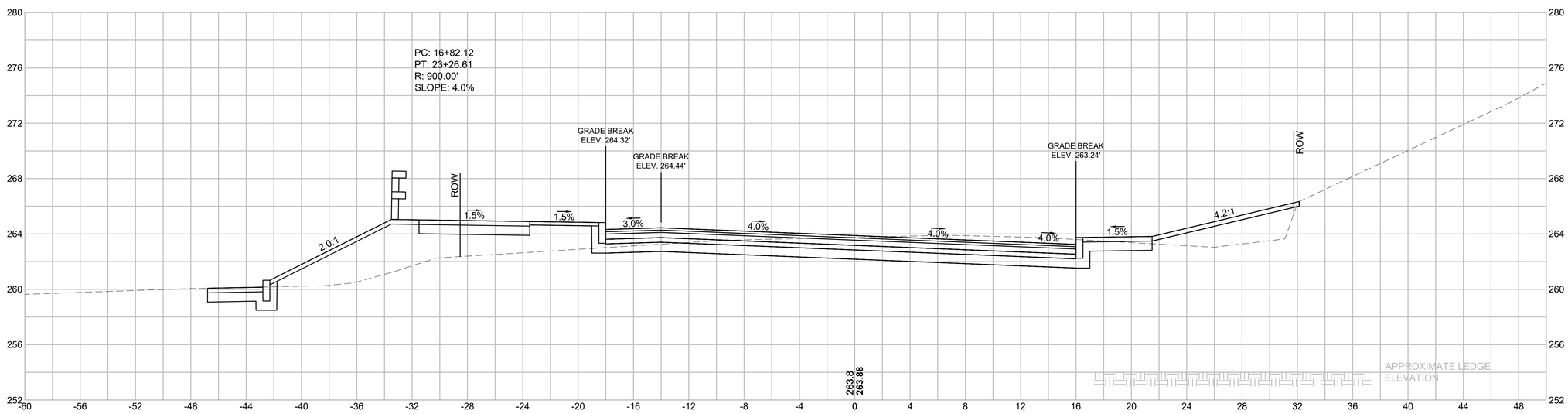
CROSS SECTIONS 14

22+50



EARTHWORK 22+50	
CUT AREA	83.37 SF
FILL AREA	38.53 SF

22+00



EARTHWORK 22+00	
CUT AREA	59.83 SF
FILL AREA	44.97 SF

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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:51 AM

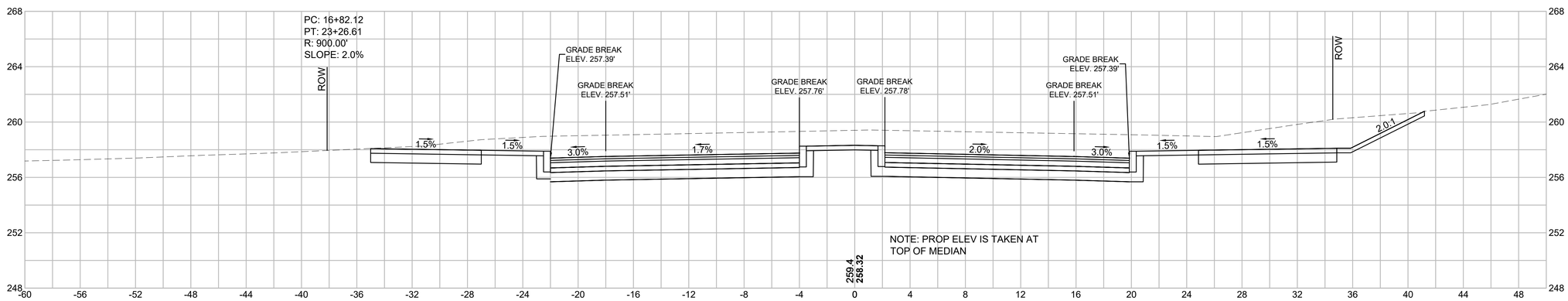
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	233	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 15

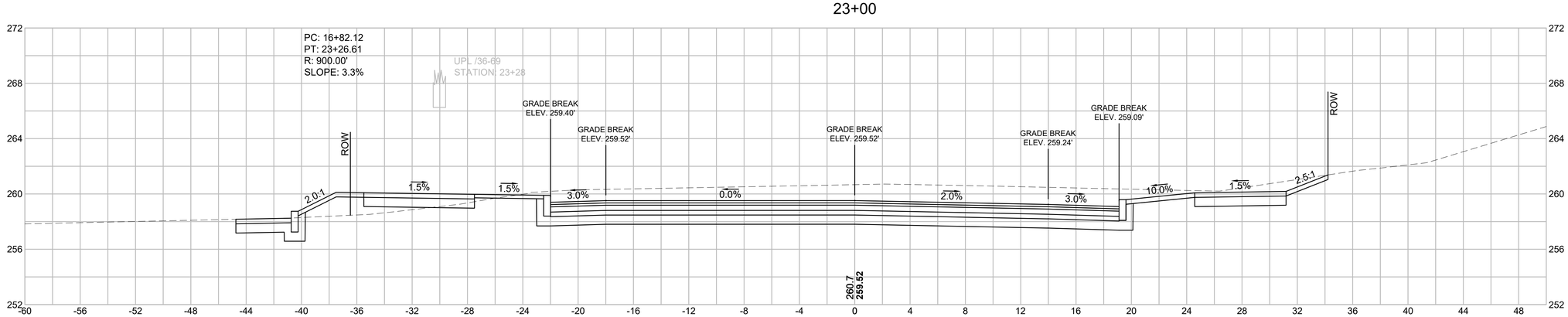
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:52 AM

23+50



EARTHWORK 23+50	
CUT AREA	193.10 SF
FILL AREA	0.00 SF

23+00



EARTHWORK 23+00	
CUT AREA	142.50 SF
FILL AREA	6.30 SF

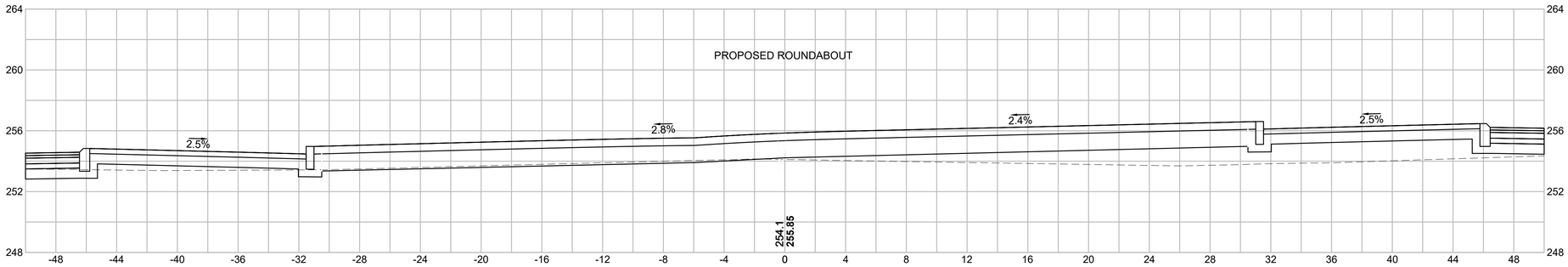
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	234	331
PROJECT FILE NO.	604123		

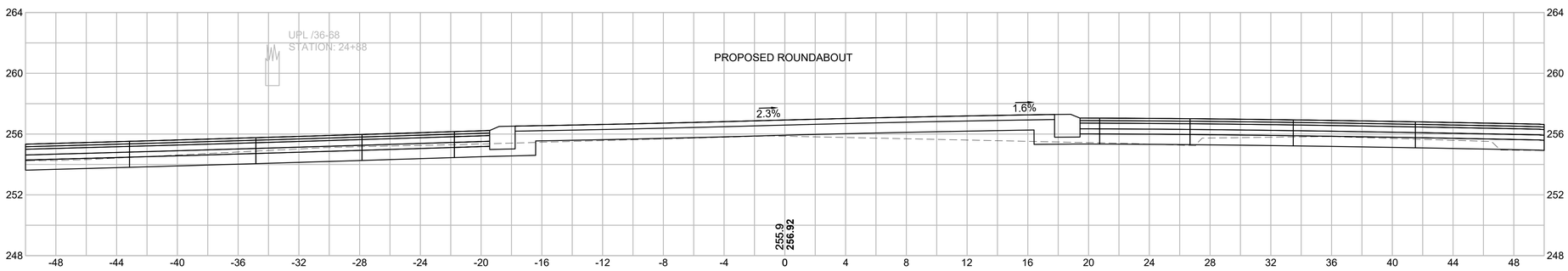
CROSS SECTIONS 16

25+00



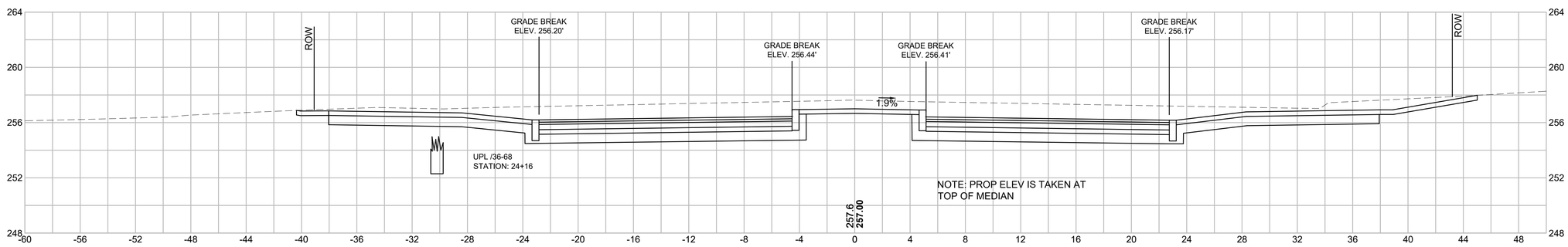
EARTHWORK 25+00	
CUT AREA	3.57 SF
FILL AREA	111.72 SF

24+50



EARTHWORK 24+50	
CUT AREA	37.92 SF
FILL AREA	7.92 SF

24+00



EARTHWORK 24+00	
CUT AREA	166.08 SF
FILL AREA	0.00 SF

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

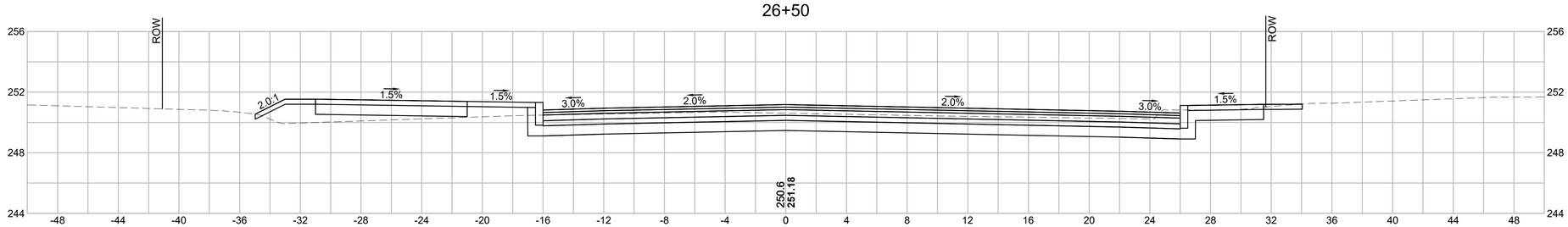
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:53 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	235	331
PROJECT FILE NO.	604123		

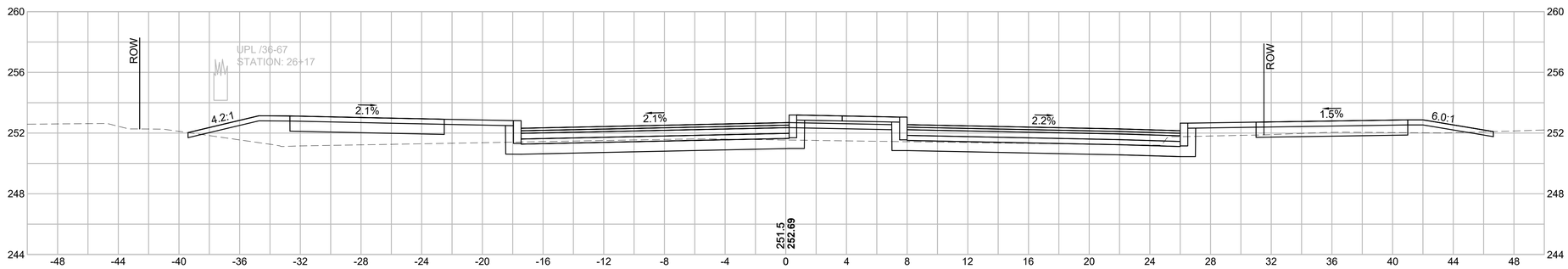
CROSS SECTIONS 17

26+50



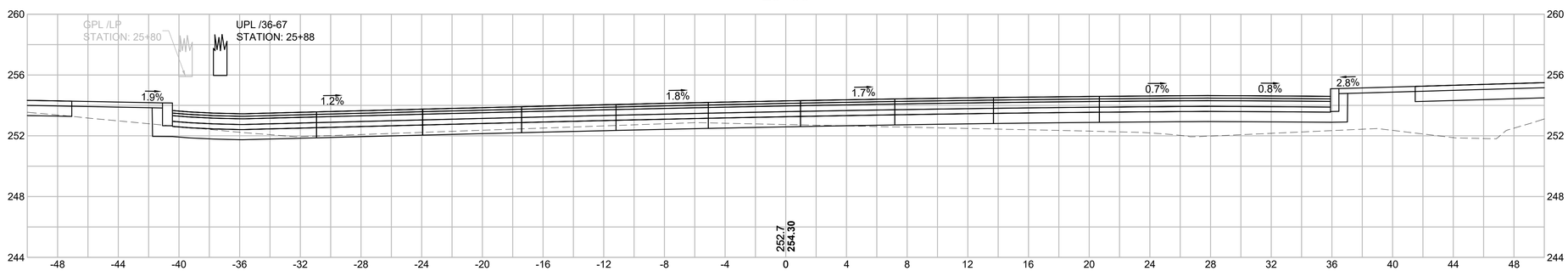
EARTHWORK 26+50	
CUT AREA	59.24 SF
FILL AREA	8.95 SF

26+00



EARTHWORK 26+00	
CUT AREA	31.09 SF
FILL AREA	29.50 SF

25+50



EARTHWORK 25+50	
CUT AREA	13.40 SF
FILL AREA	51.86 SF

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

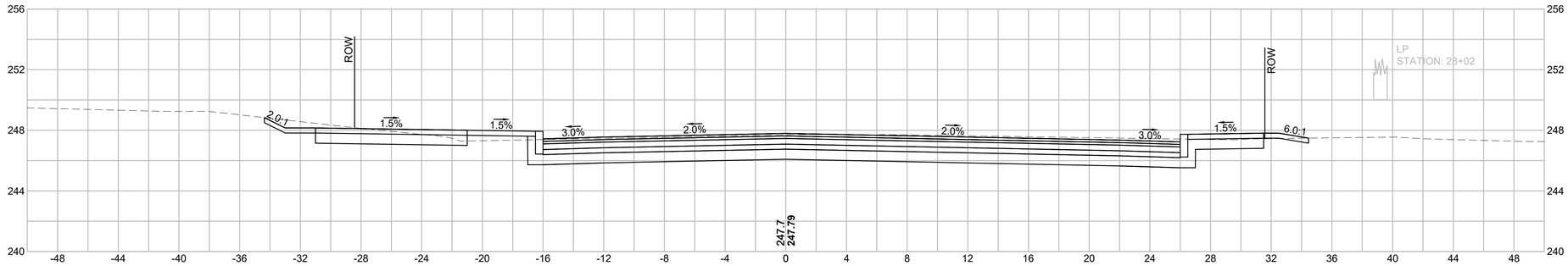
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:54 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	236	331
PROJECT FILE NO.	604123		

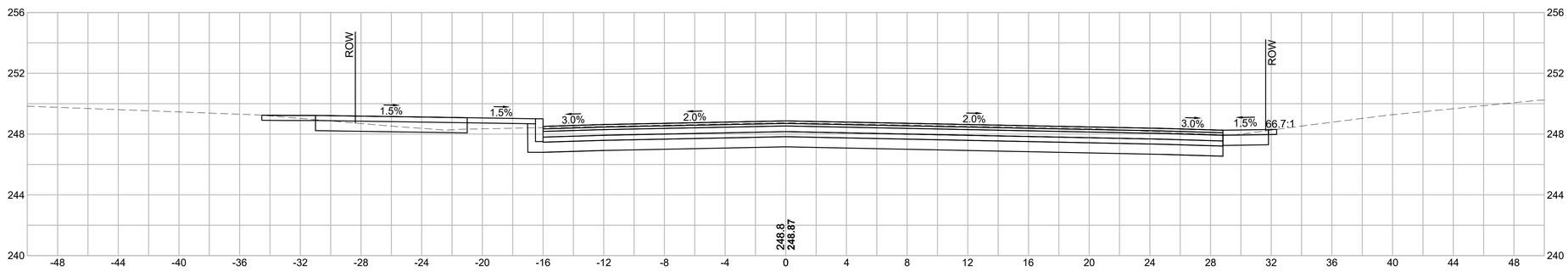
CROSS SECTIONS 18

28+00



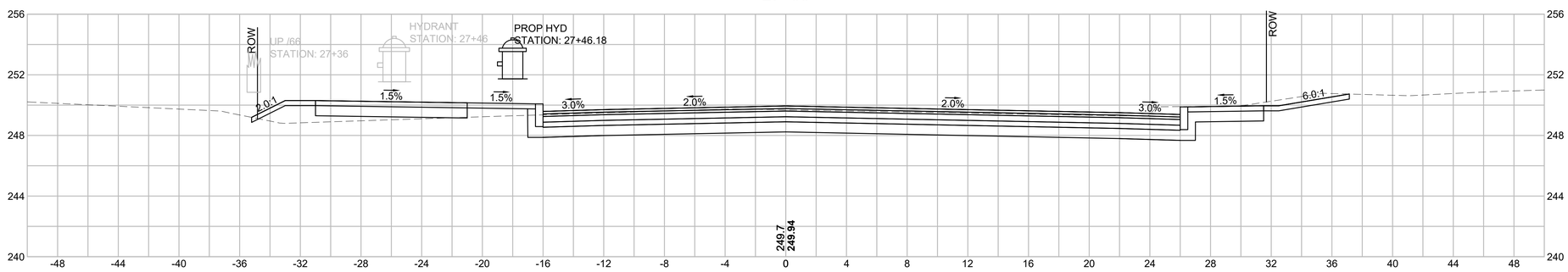
EARTHWORK 28+00	
CUT AREA	89.76 SF
FILL AREA	1.26 SF

27+50



EARTHWORK 27+50	
CUT AREA	79.47 SF
FILL AREA	1.39 SF

27+00



EARTHWORK 27+00	
CUT AREA	76.17 SF
FILL AREA	7.36 SF

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

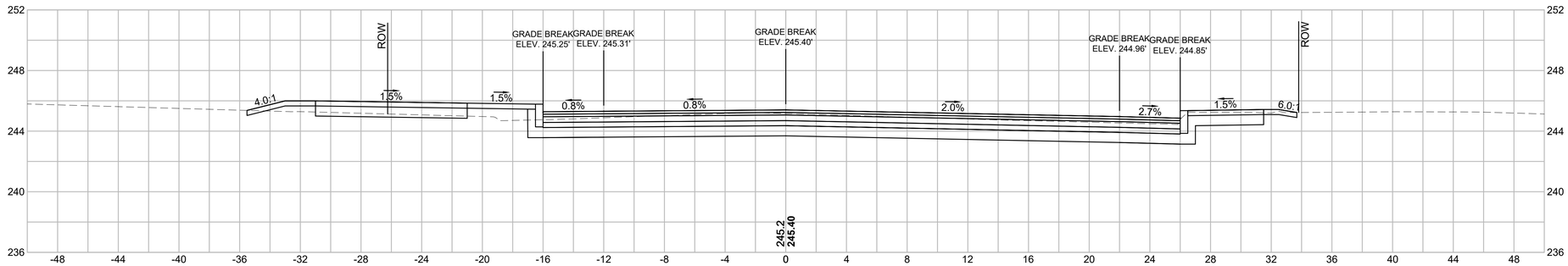
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:55 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	237	331
PROJECT FILE NO.	604123		

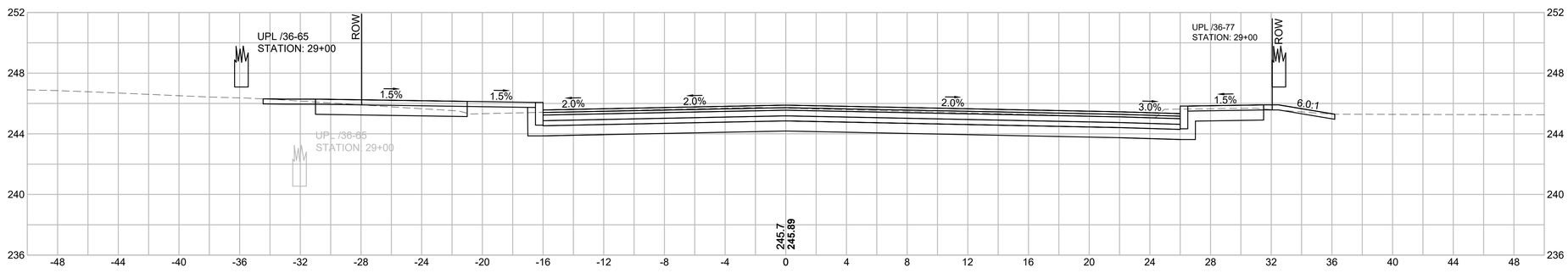
CROSS SECTIONS 19

29+50



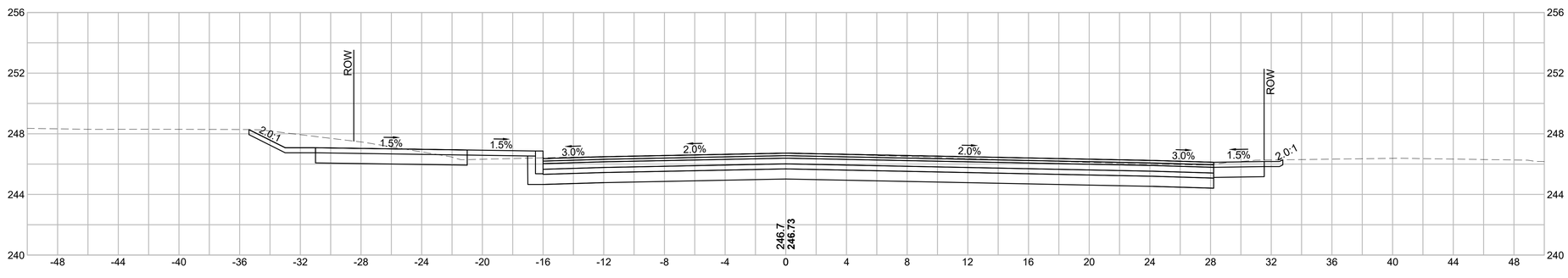
EARTHWORK 29+50	
CUT AREA	66.95 SF
FILL AREA	3.59 SF

29+00



EARTHWORK 29+00	
CUT AREA	77.48 SF
FILL AREA	1.69 SF

28+50



EARTHWORK 28+50	
CUT AREA	93.25 SF
FILL AREA	0.90 SF

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

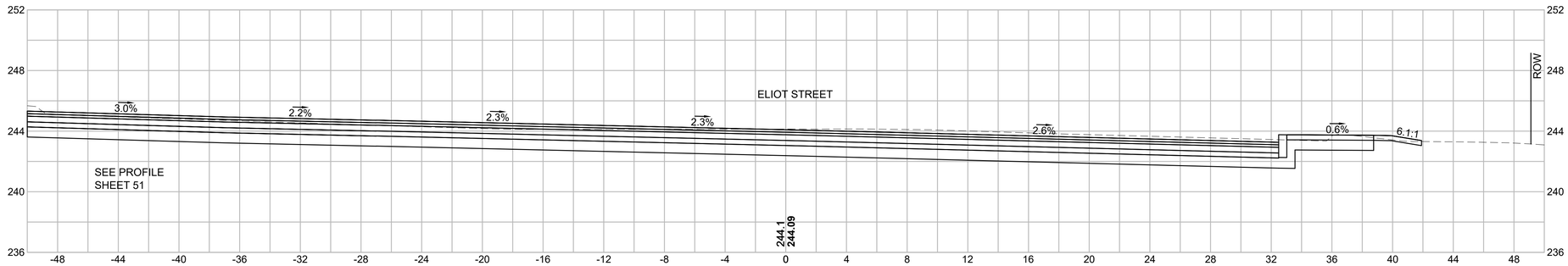
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:56 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	238	331
PROJECT FILE NO.	604123		

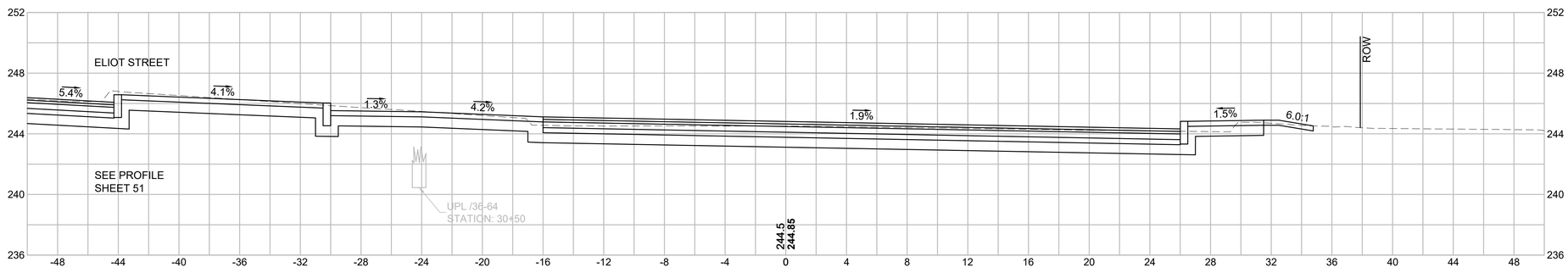
CROSS SECTIONS 20

31+00



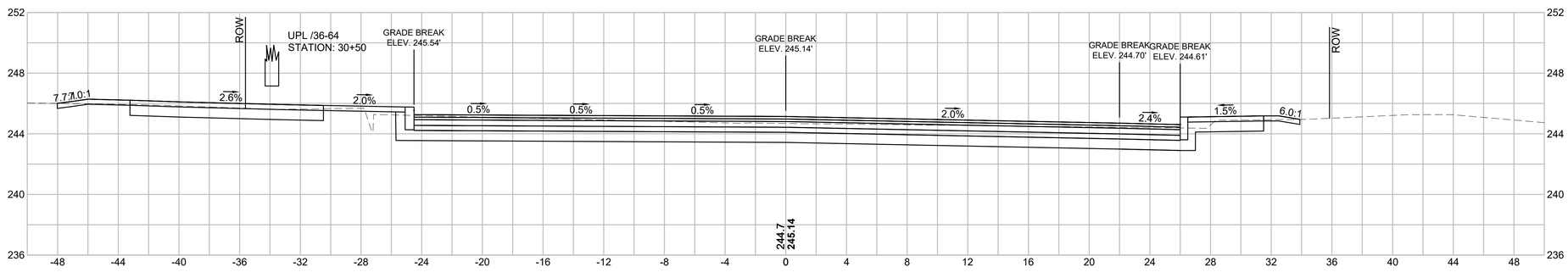
EARTHWORK 31+00	
CUT AREA	141.37 SF
FILL AREA	0.00 SF

30+50



EARTHWORK 30+50	
CUT AREA	107.32 SF
FILL AREA	0.00 SF

30+00



EARTHWORK 30+00	
CUT AREA	87.27 SF
FILL AREA	0.73 SF

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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:57 AM

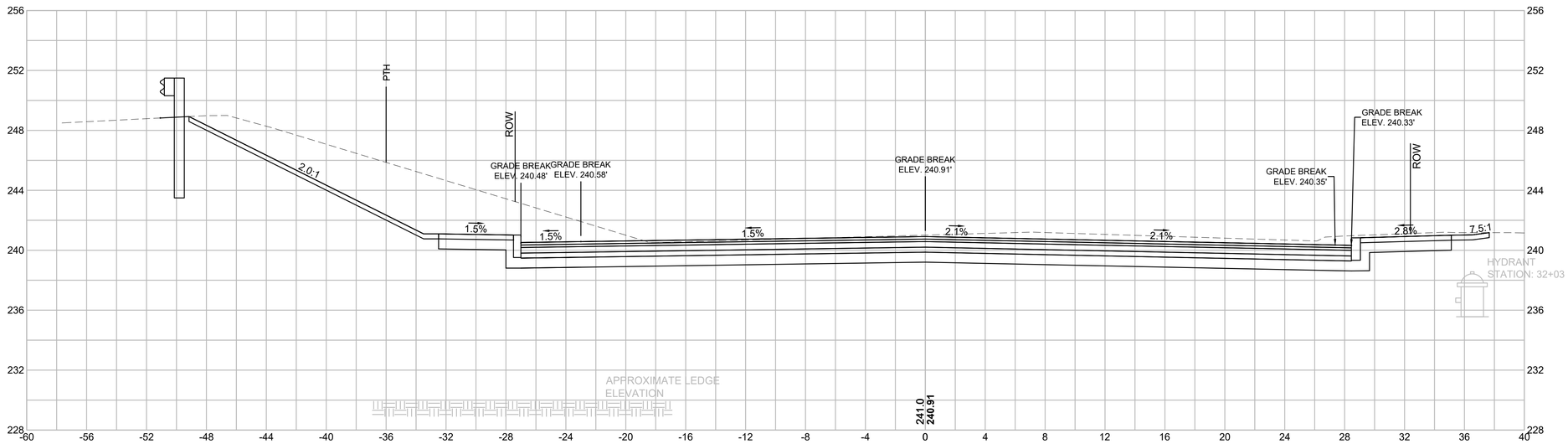
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	239	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 21

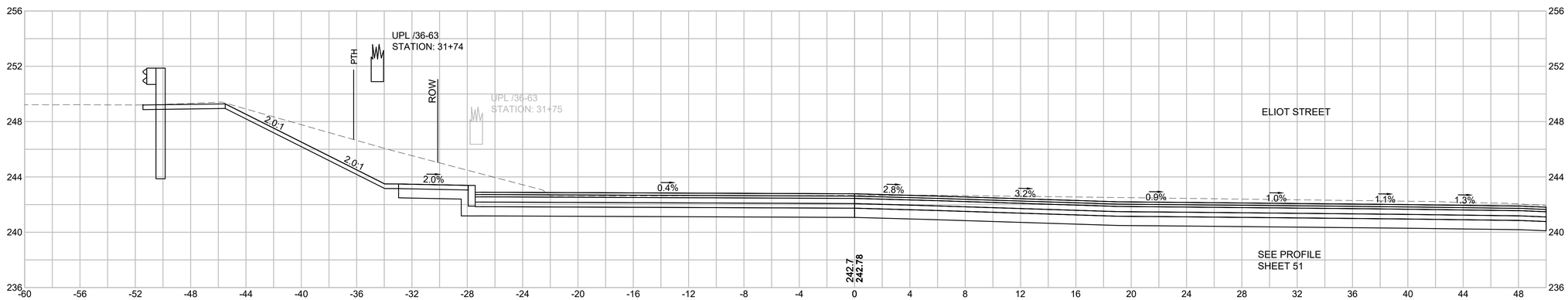
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:58 AM

32+00



EARTHWORK 32+00	
CUT AREA	166.93 SF
FILL AREA	0.00 SF

31+50



EARTHWORK 31+50	
CUT AREA	167.85 SF
FILL AREA	0.00 SF

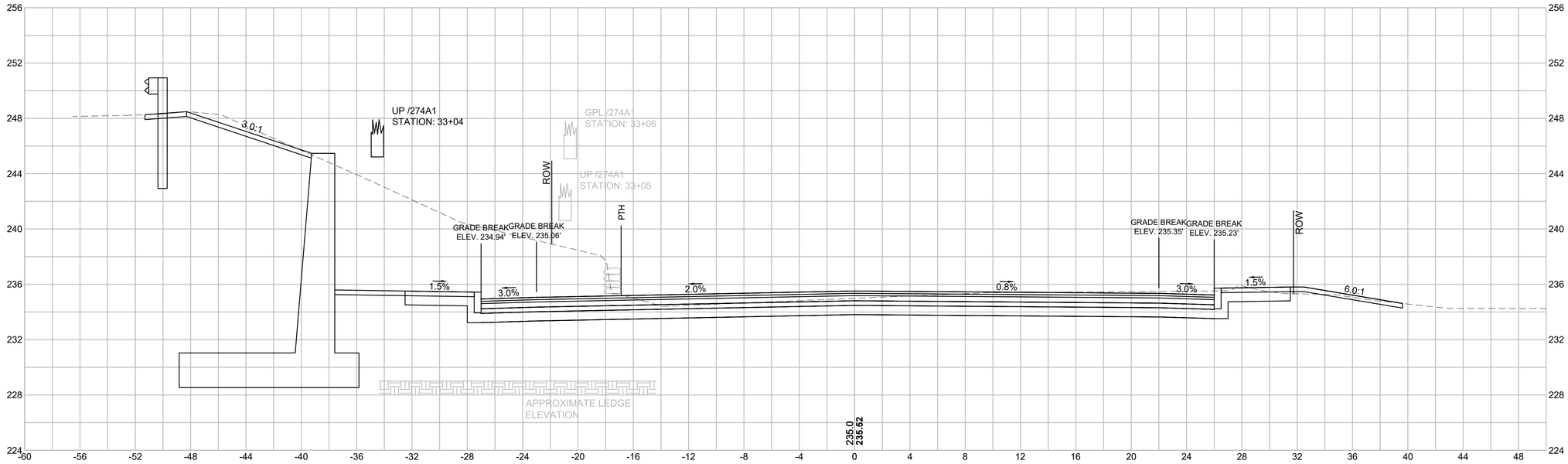
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	240	331
PROJECT FILE NO.	604123		

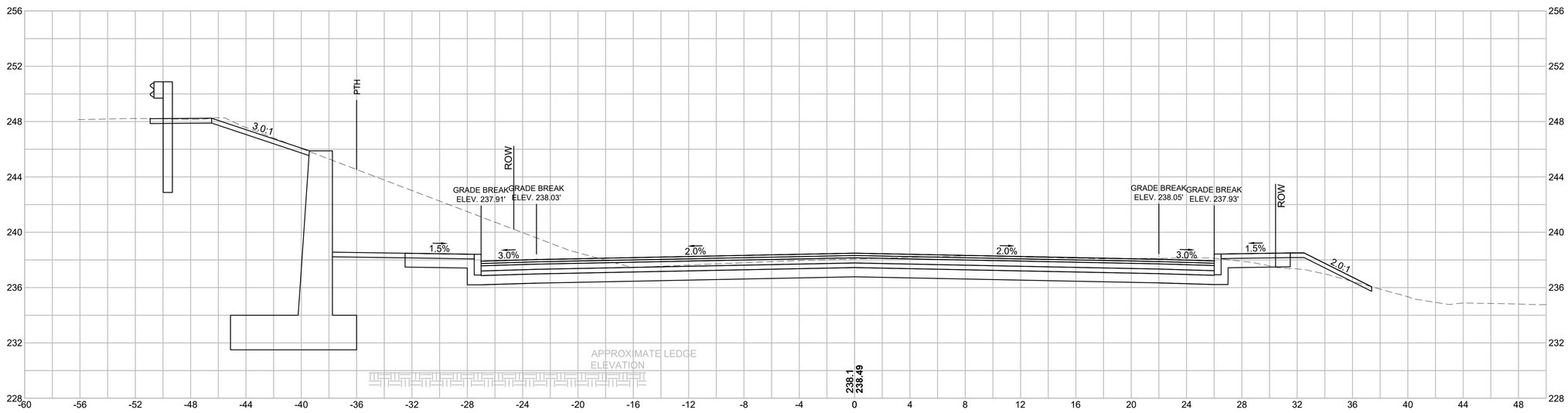
CROSS SECTIONS 22

33+00



EARTHWORK 33+00	
CUT AREA	67.86 SF
FILL AREA	0.26 SF

32+50



EARTHWORK 32+50	
CUT AREA	144.97 SF
FILL AREA	2.29 SF

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

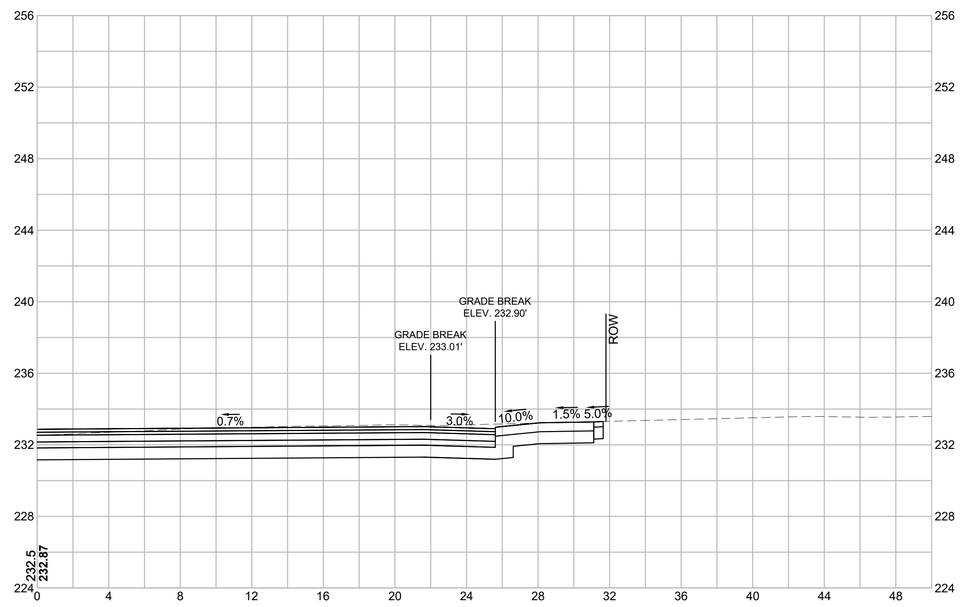
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 11:59 AM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	241	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 23

33+42



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

604123_HD28\CROSS SECTIONS\.DWG Plotted on 23 June 2020 12:00 PM

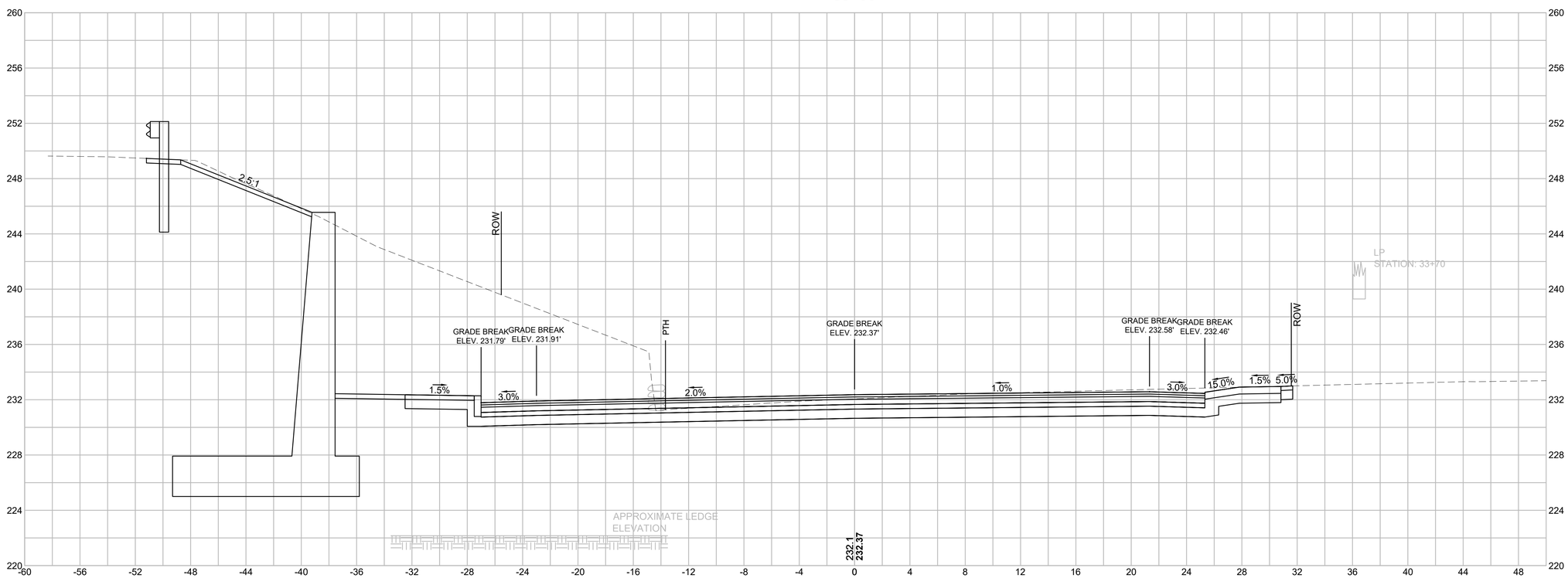
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	242	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 24

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:01 PM

33+50



EARTHWORK 33+50	
CUT AREA	68.32 SF
FILL AREA	0.00 SF

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

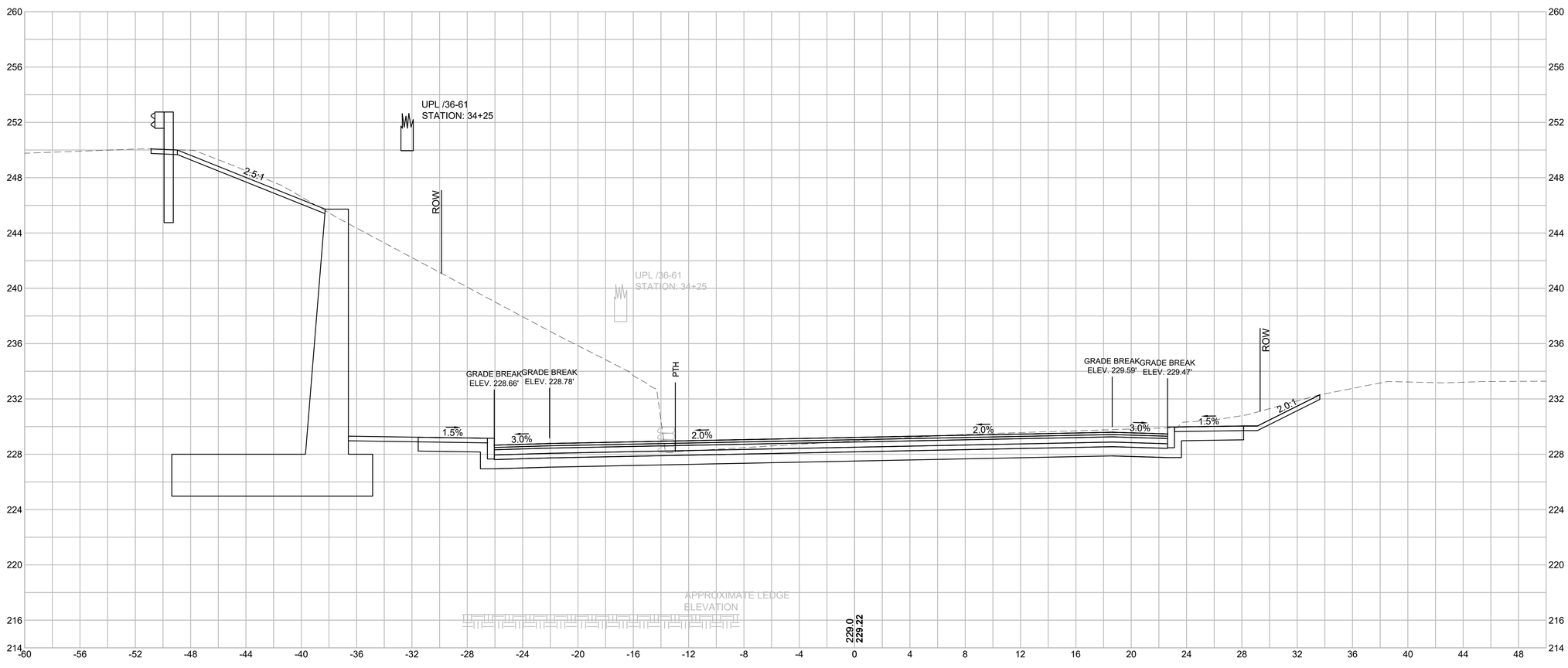
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	243	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 25

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:03 PM

34+00



EARTHWORK 34+00	
CUT AREA	69.95 SF
FILL AREA	0.00 SF

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

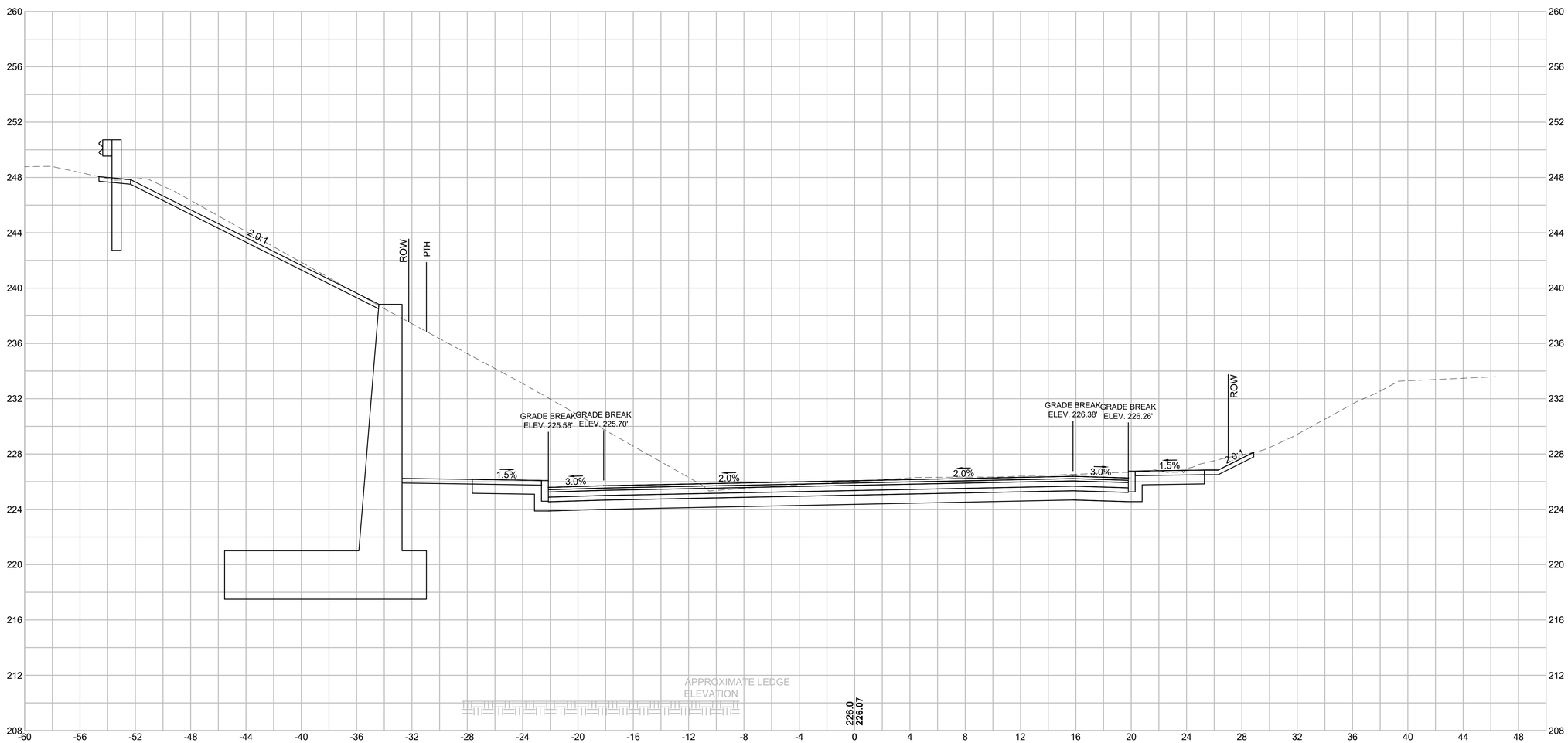
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	244	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 26

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:04 PM

34+50



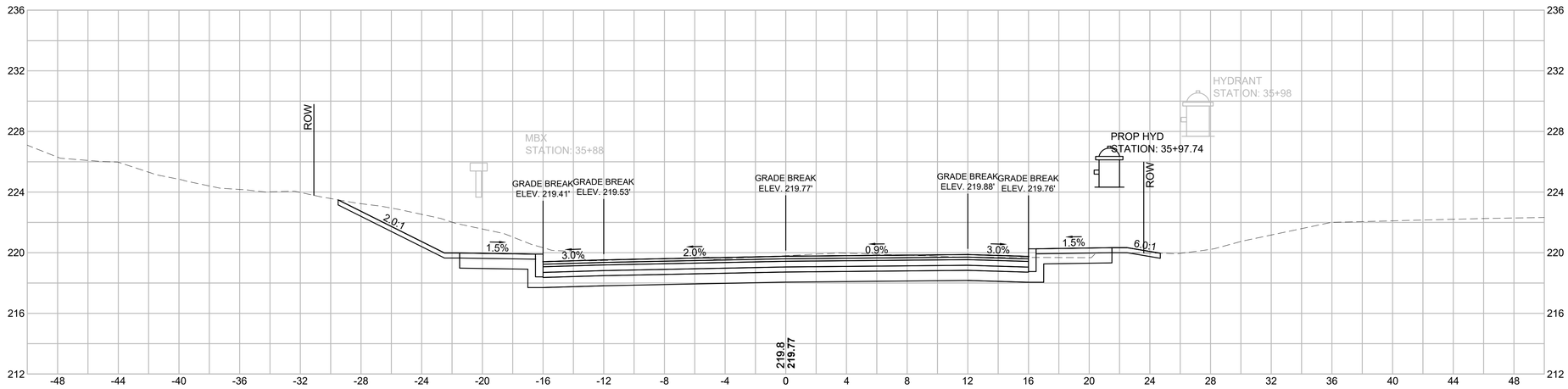
EARTHWORK 34+50	
CUT AREA	199.97 SF
FILL AREA	0.00 SF

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	245	331
PROJECT FILE NO.	604123		

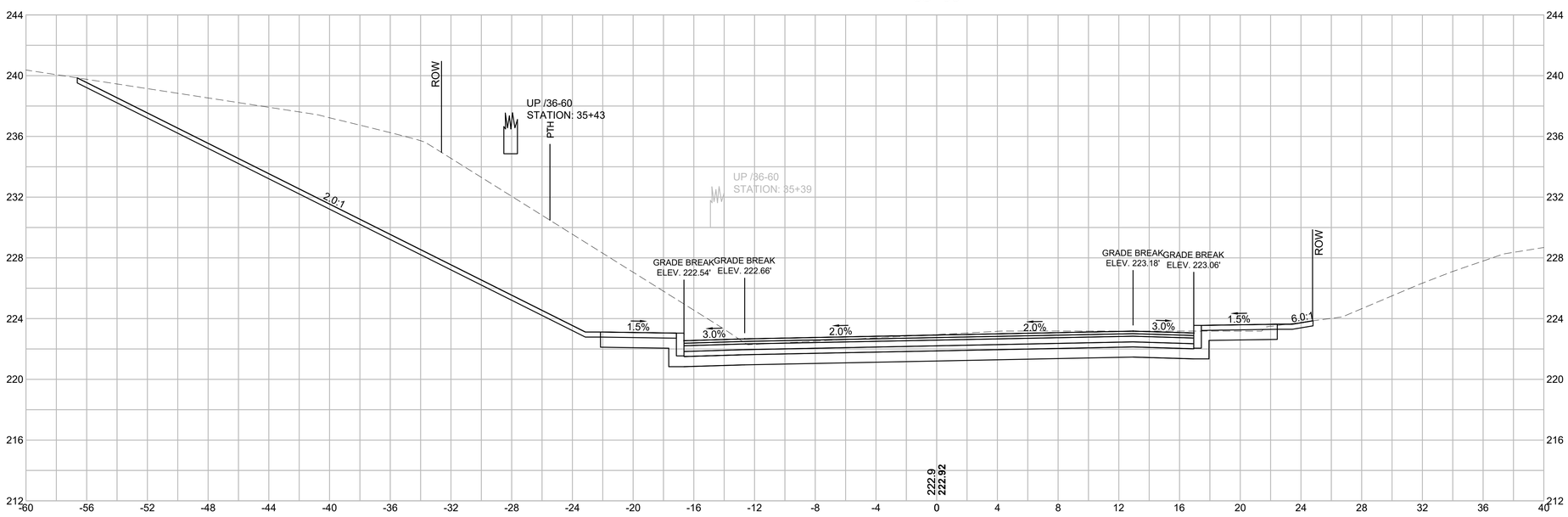
CROSS SECTIONS 27

35+50



EARTHWORK 35+50	
CUT AREA	86.60 SF
FILL AREA	0.01 SF

35+00



EARTHWORK 35+00	
CUT AREA	117.32 SF
FILL AREA	0.00 SF

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

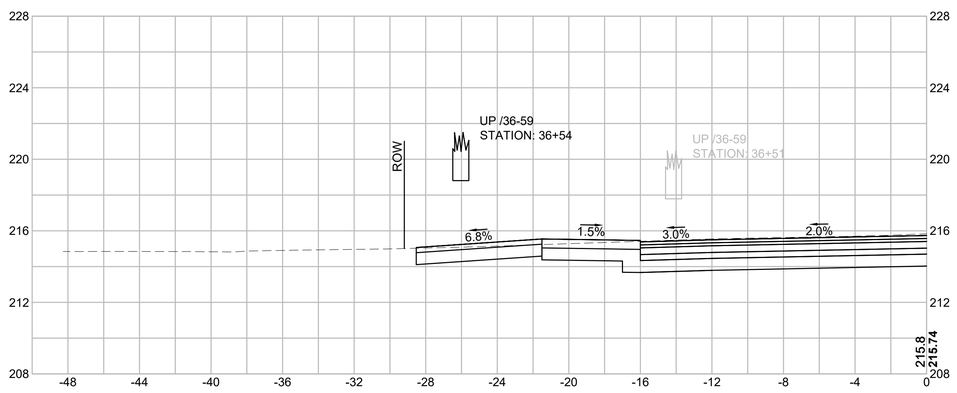
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:05 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

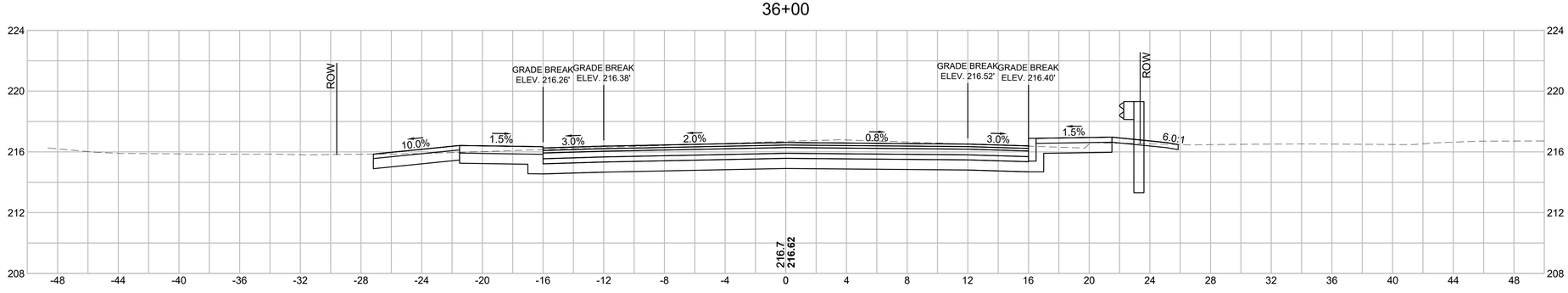
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	246	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 28

36+14



36+00



EARTHWORK 36+00	
CUT AREA	69.25 SF
FILL AREA	0.02 SF

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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:06 PM

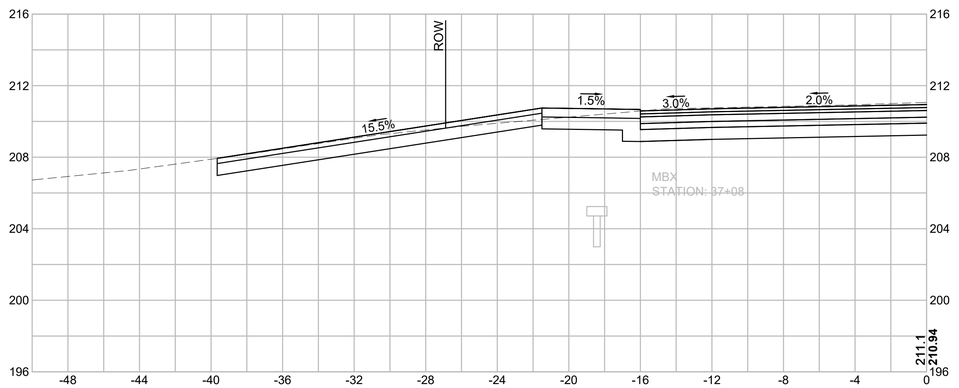
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	247	331
PROJECT FILE NO.	604123		

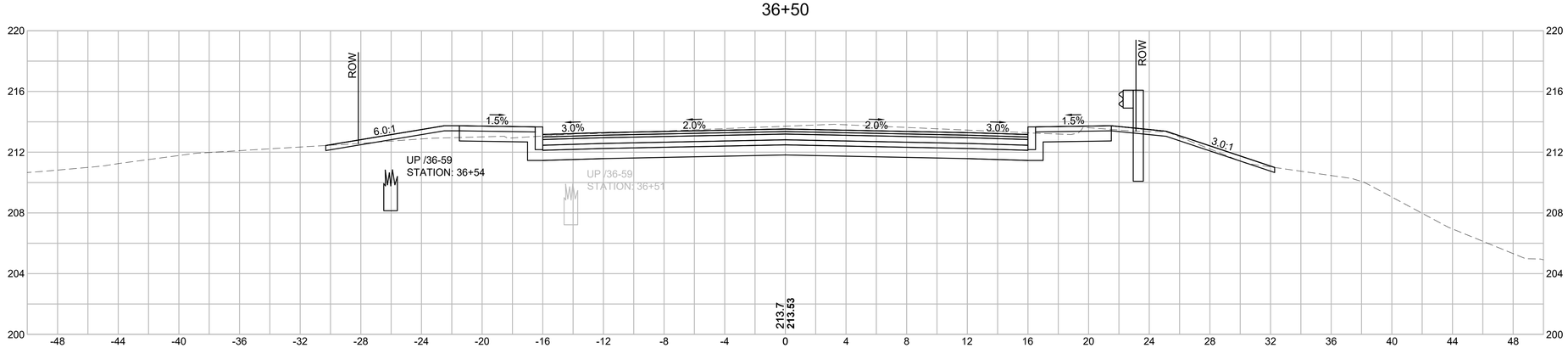
CROSS SECTIONS 29

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:07 PM

36+95



36+50



EARTHWORK 36+50	
CUT AREA	68.94 SF
FILL AREA	1.44 SF

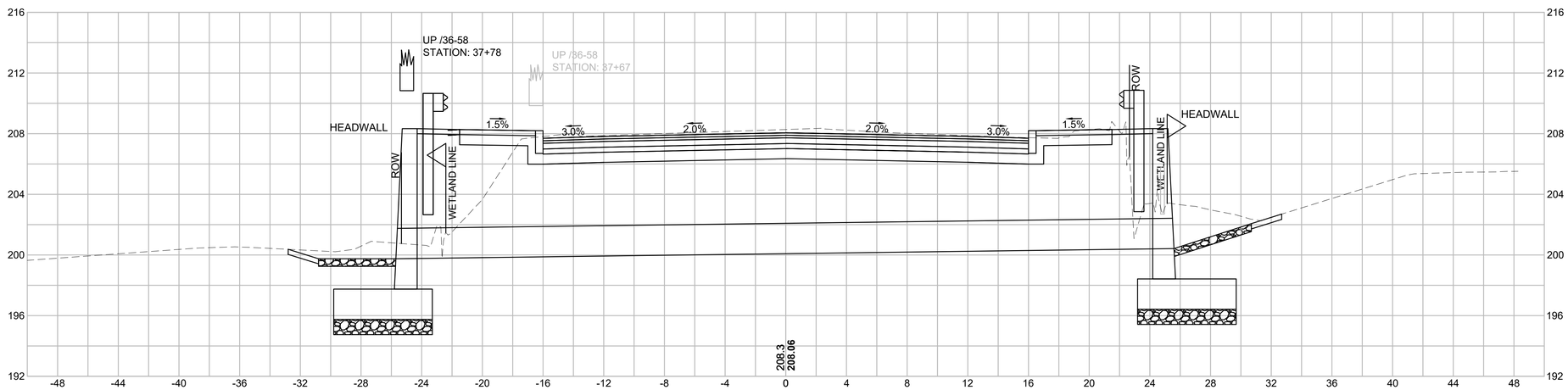
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	248	331
PROJECT FILE NO.		604123	

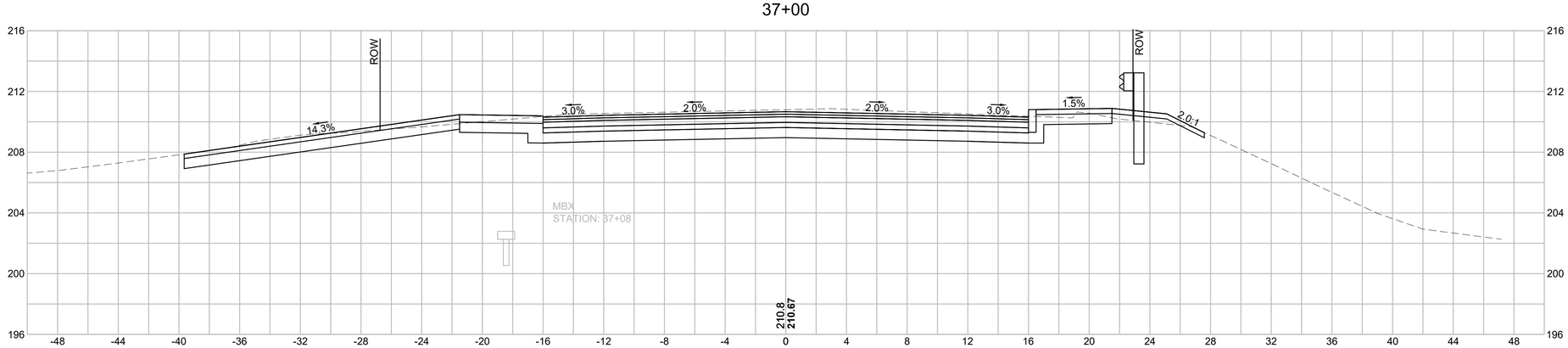
CROSS SECTIONS 30

37+50



EARTHWORK 37+50	
CUT AREA	66.59 SF
FILL AREA	37.28 SF

37+00



EARTHWORK 37+00	
CUT AREA	84.41 SF
FILL AREA	1.31 SF

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

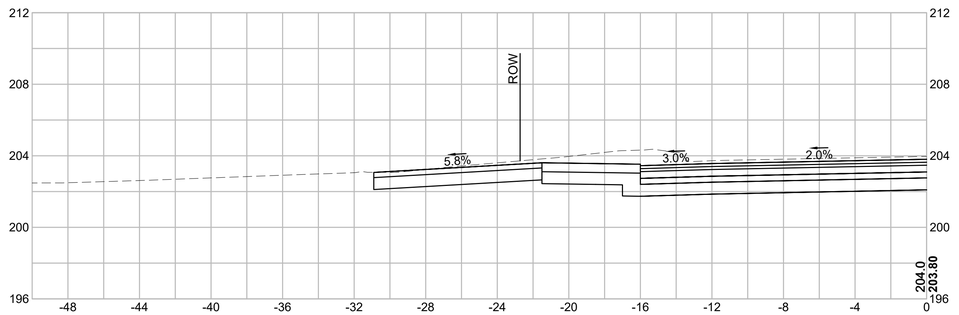
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:08 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

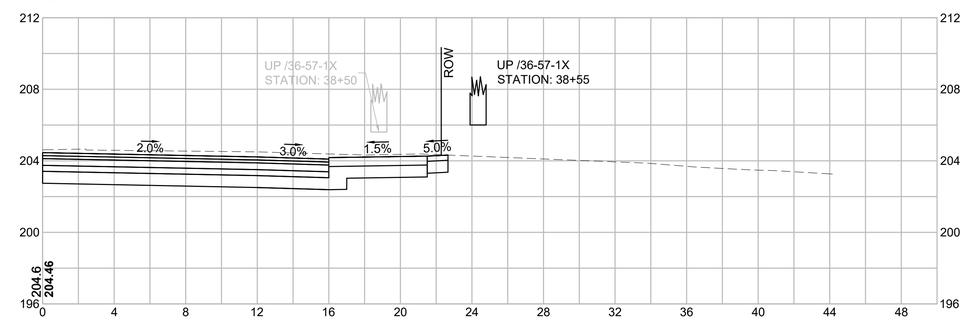
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	249	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 31

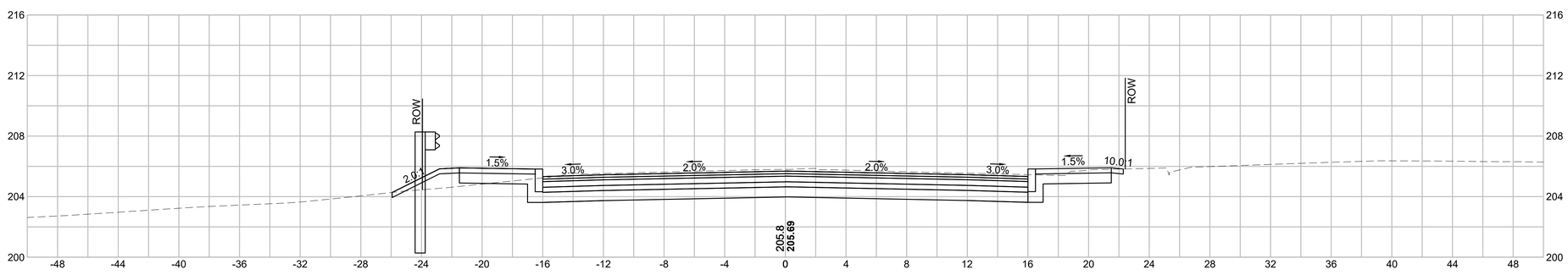
38+43



38+28



38+00



EARTHWORK 38+00	
CUT AREA	65.65 SF
FILL AREA	2.52 SF

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

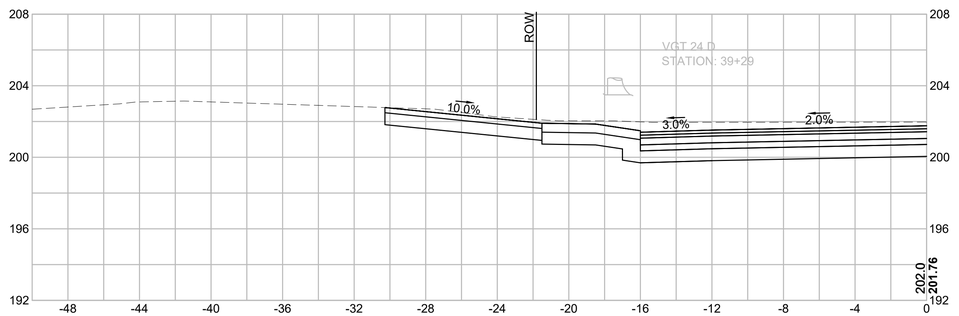
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:09 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

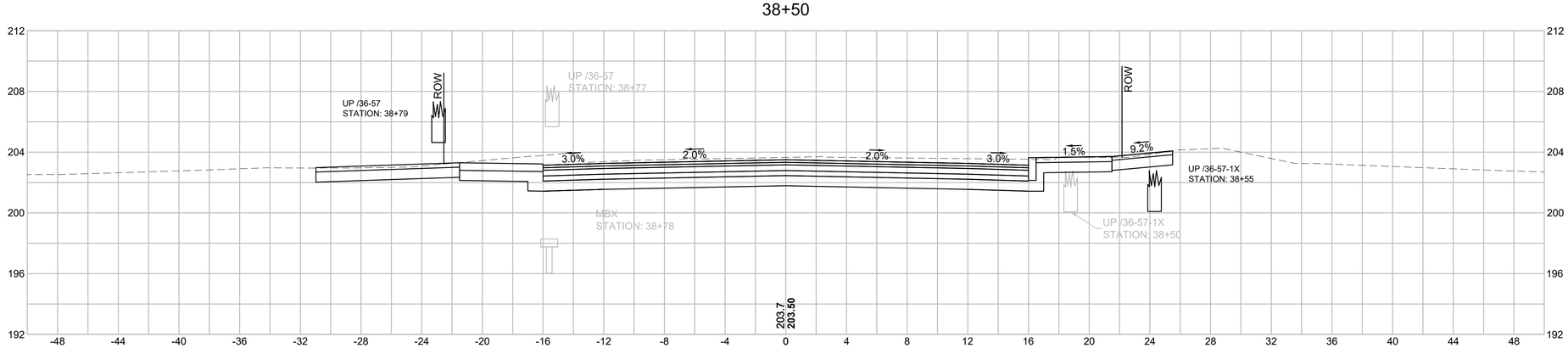
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	250	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 32

38+90



38+50



EARTHWORK 38+50	
CUT AREA	89.30 SF
FILL AREA	0.00 SF

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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:10 PM

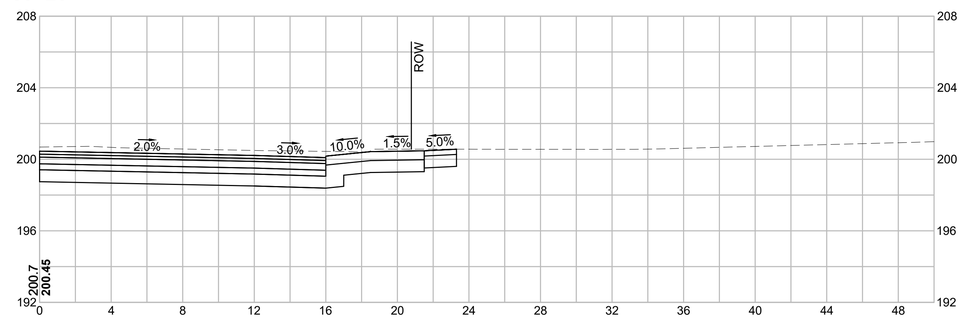
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	251	331
PROJECT FILE NO.	604123		

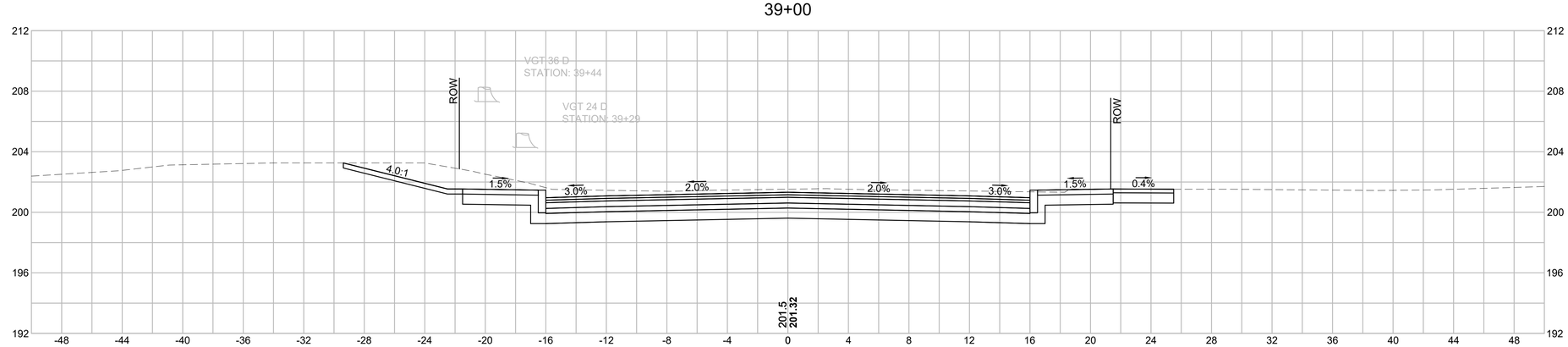
CROSS SECTIONS 33

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:11 PM

39+20



39+00



EARTHWORK 39+00	
CUT AREA	95.06 SF
FILL AREA	0.00 SF

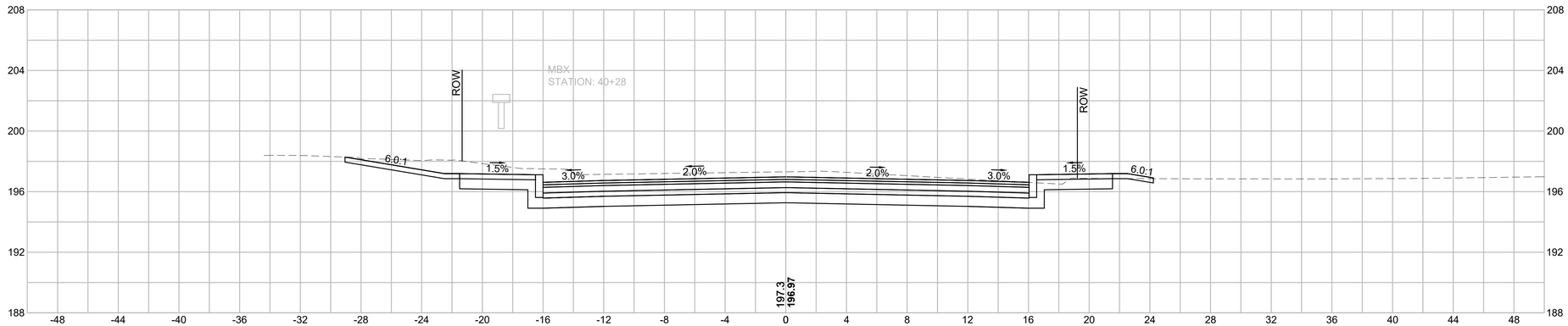
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	252	331
PROJECT FILE NO.	604123		

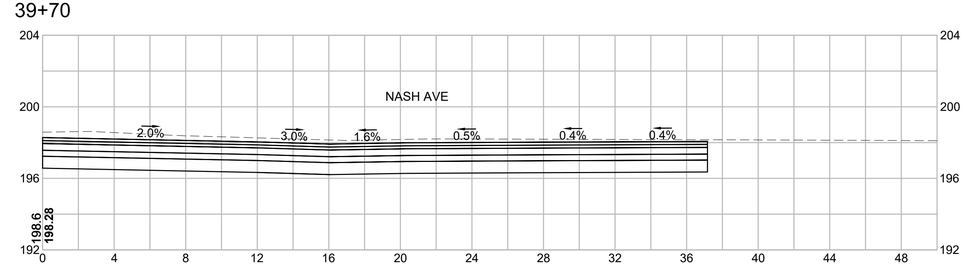
CROSS SECTIONS 34

40+00

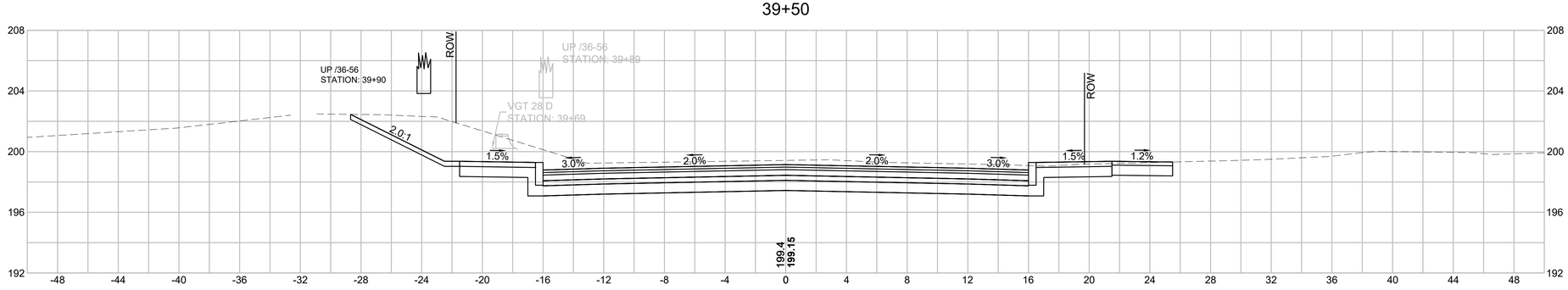


EARTHWORK 40+00	
CUT AREA	86.06 SF
FILL AREA	0.00 SF

39+70



39+50



EARTHWORK 39+50	
CUT AREA	104.90 SF
FILL AREA	0.00 SF

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

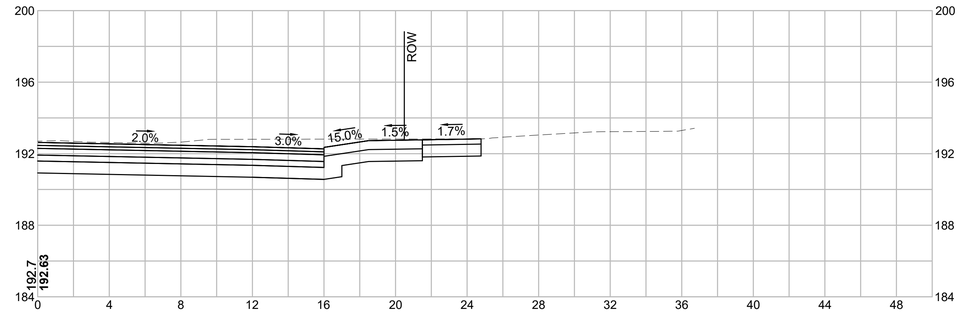
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:12 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

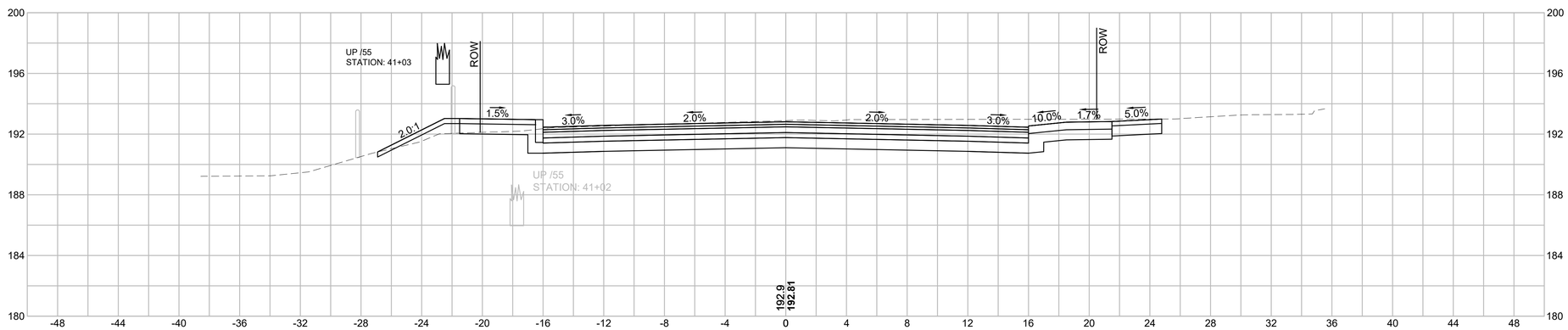
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	253	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 35

41+05

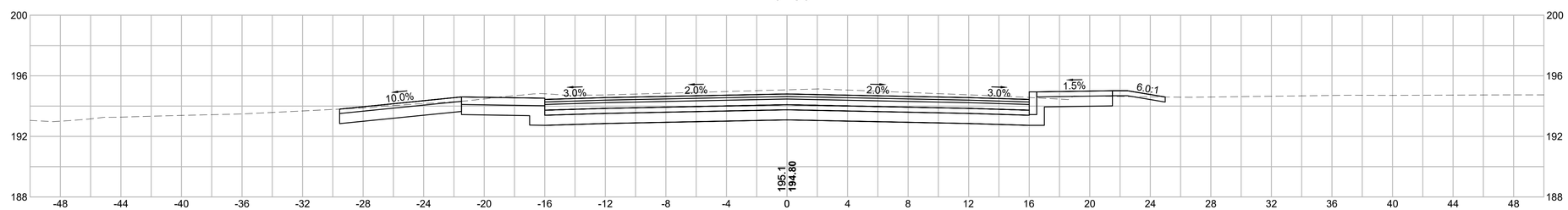


41+00



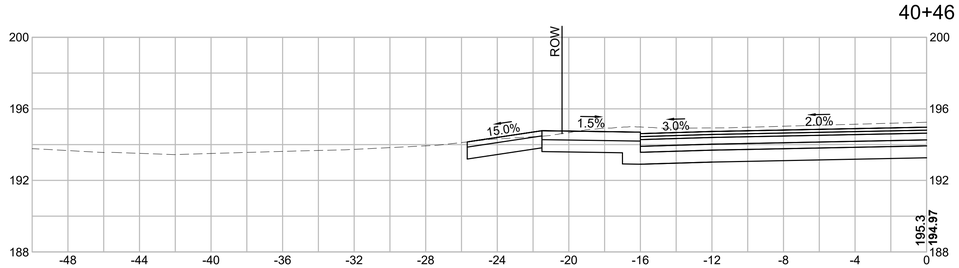
EARTHWORK 41+00	
CUT AREA	73.76 SF
FILL AREA	1.73 SF

40+50



EARTHWORK 40+50	
CUT AREA	81.16 SF
FILL AREA	0.05 SF

40+46



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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:13 PM

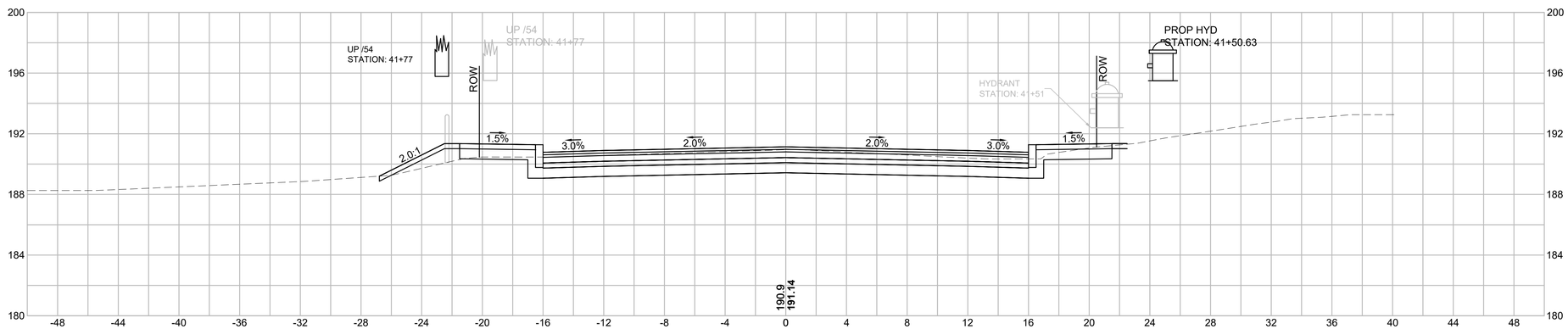
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	254	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 36

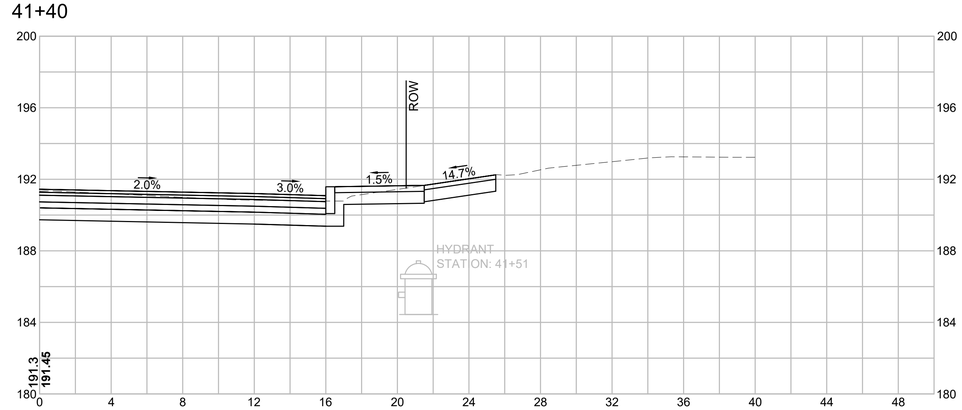
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:14 PM

41+50



EARTHWORK 41+50	
CUT AREA	50.87 SF
FILL AREA	2.51 SF

41+40



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

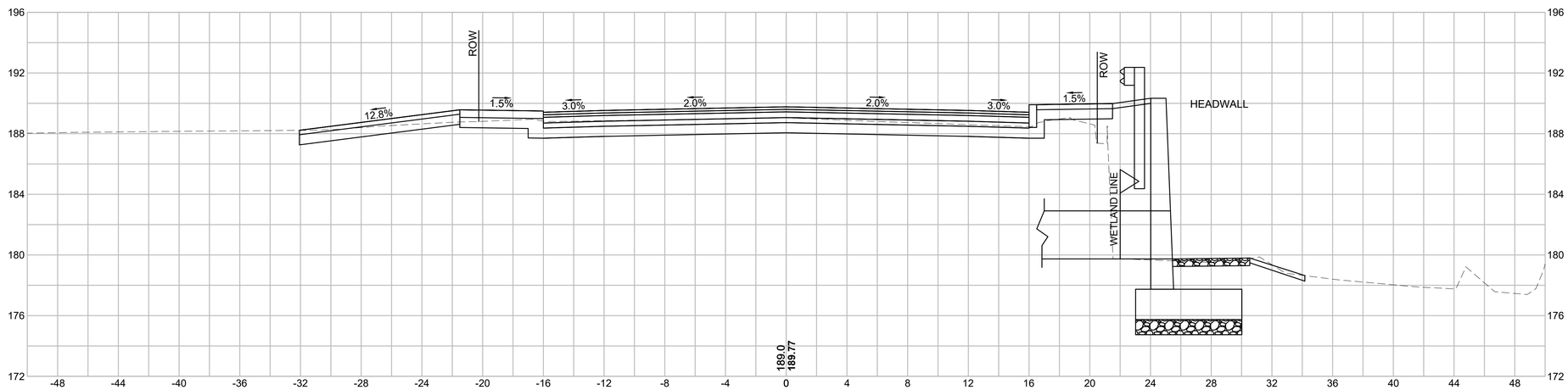
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	255	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 37

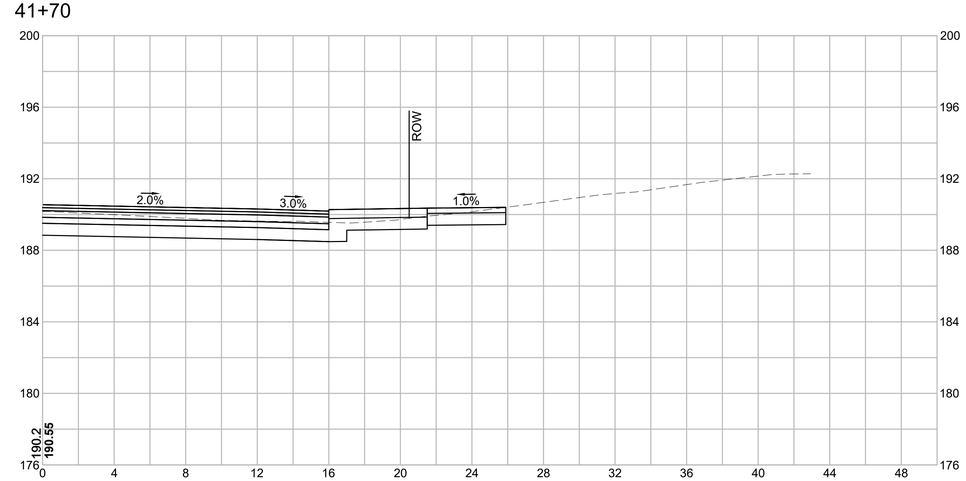
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:15 PM

42+00



EARTHWORK 42+00	
CUT AREA	39.80 SF
FILL AREA	3.23 SF

41+70



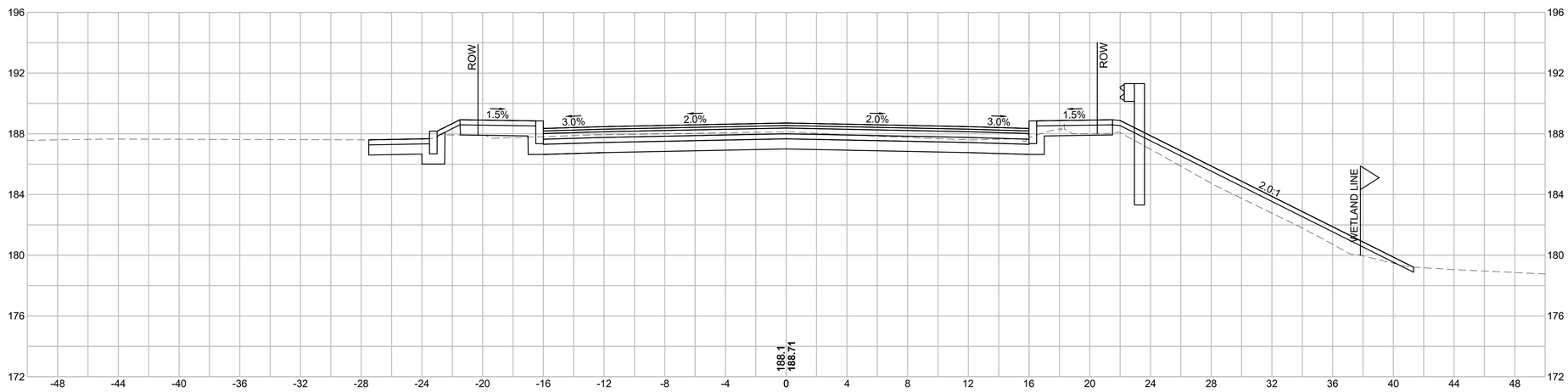
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	256	331
PROJECT FILE NO.	604123		

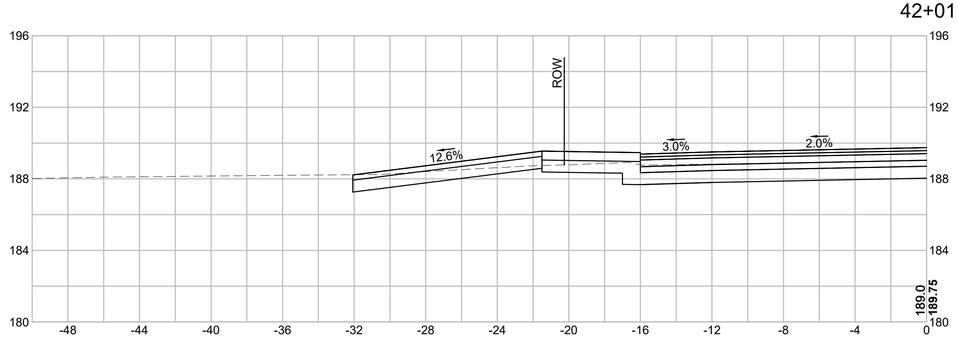
CROSS SECTIONS 38

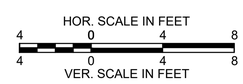
42+50



EARTHWORK 42+50	
CUT AREA	43.58 SF
FILL AREA	13.31 SF

42+01





604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:16 PM

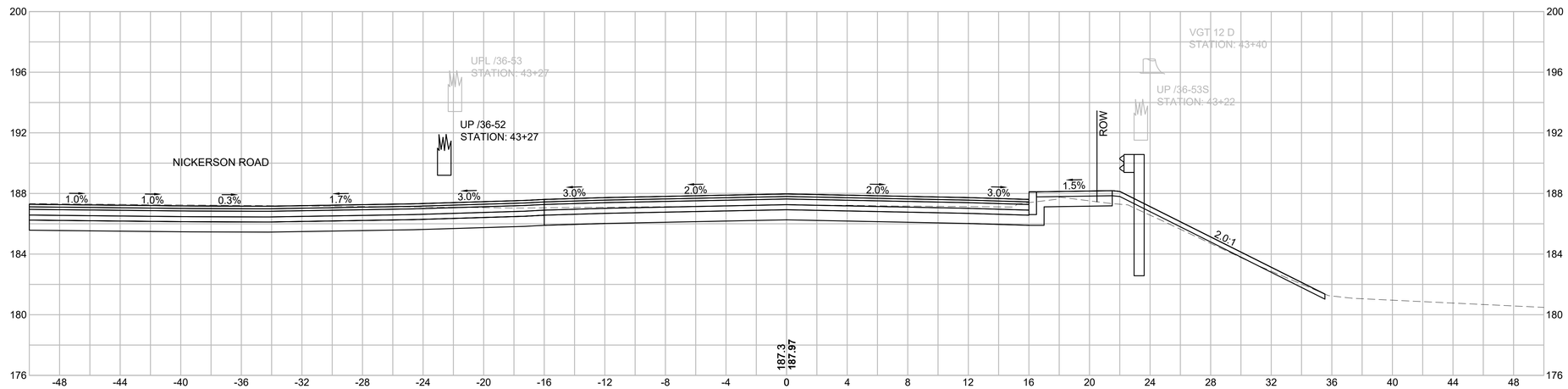
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	257	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 39

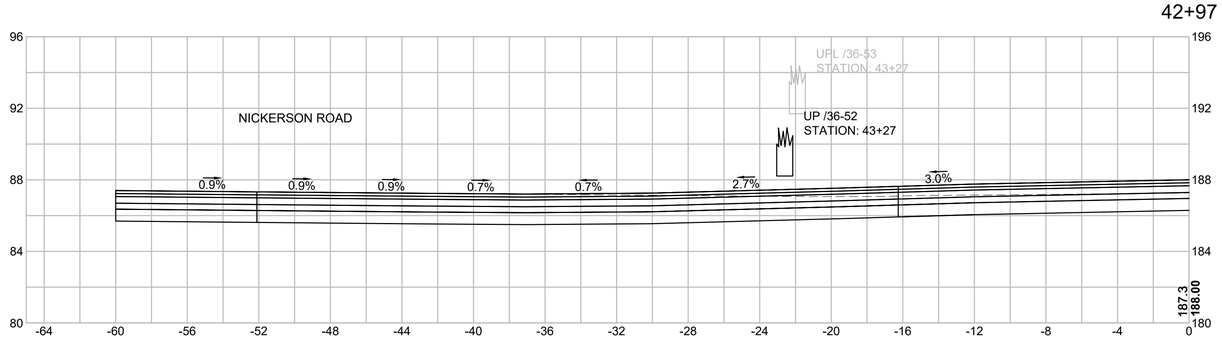
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:17 PM

43+00



EARTHWORK 43+00	
CUT AREA	93.17 SF
FILL AREA	1.65 SF

42+97



HOR. SCALE IN FEET

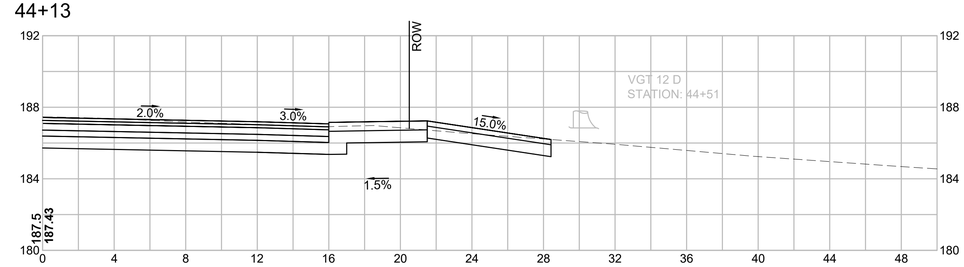
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

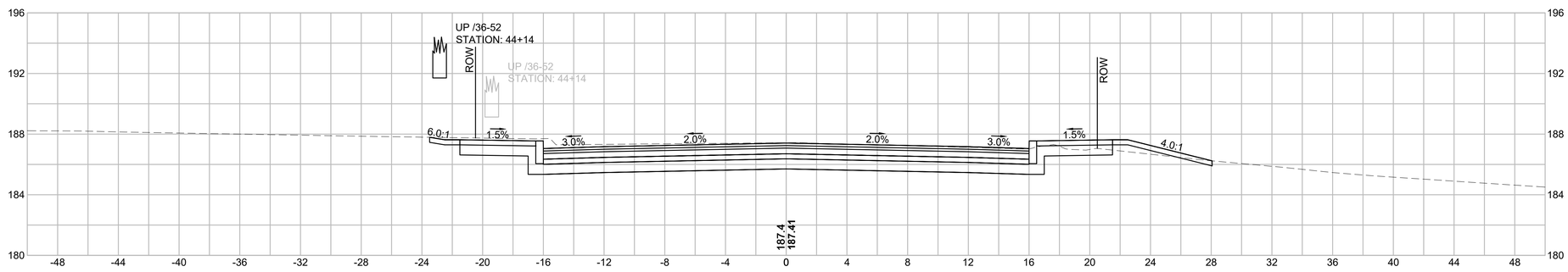
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	258	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 40

44+13

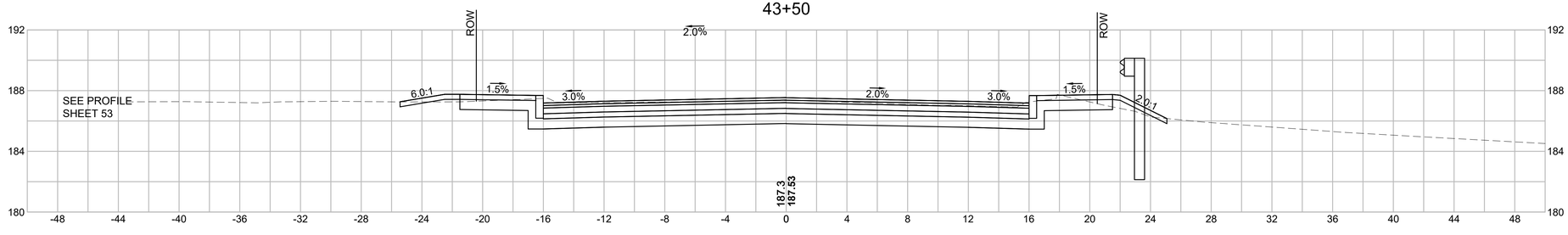


44+00



EARTHWORK 44+00	
CUT AREA	69.20 SF
FILL AREA	1.14 SF

43+50



EARTHWORK 43+50	
CUT AREA	59.13 SF
FILL AREA	1.07 SF

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

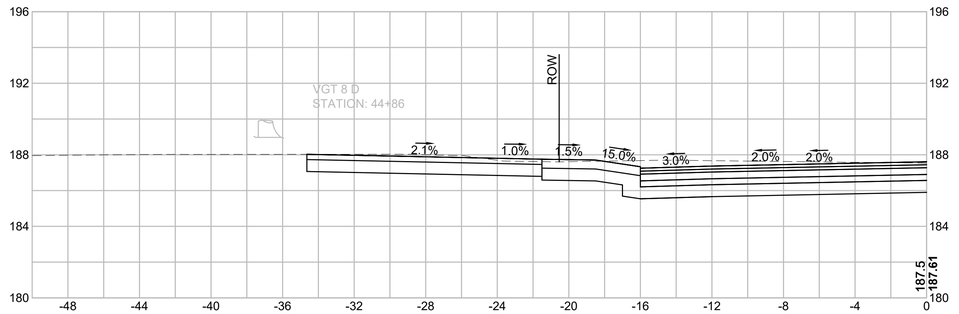
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:18 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

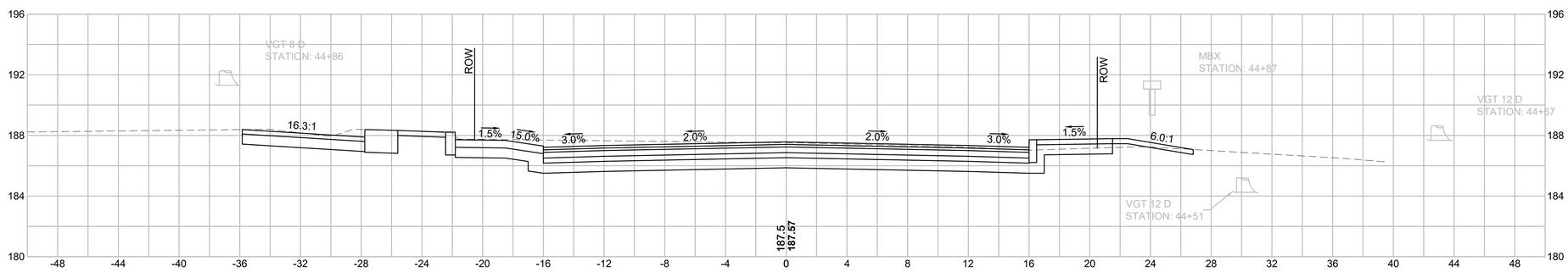
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	259	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 41

44+65

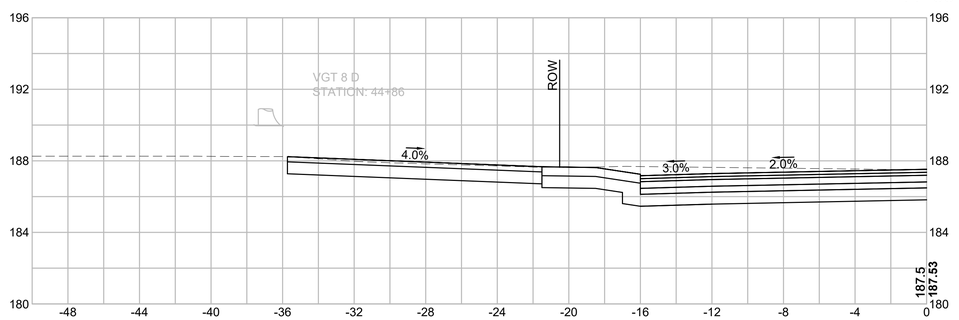


44+50



EARTHWORK 44+50	
CUT AREA	82.33 SF
FILL AREA	0.38 SF

44+39



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

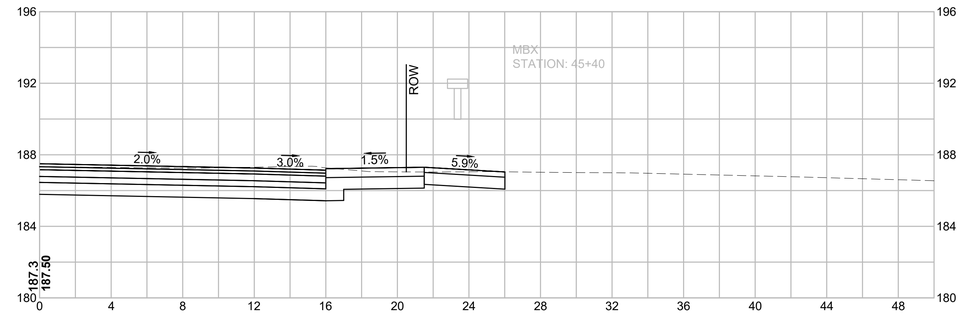
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:19 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

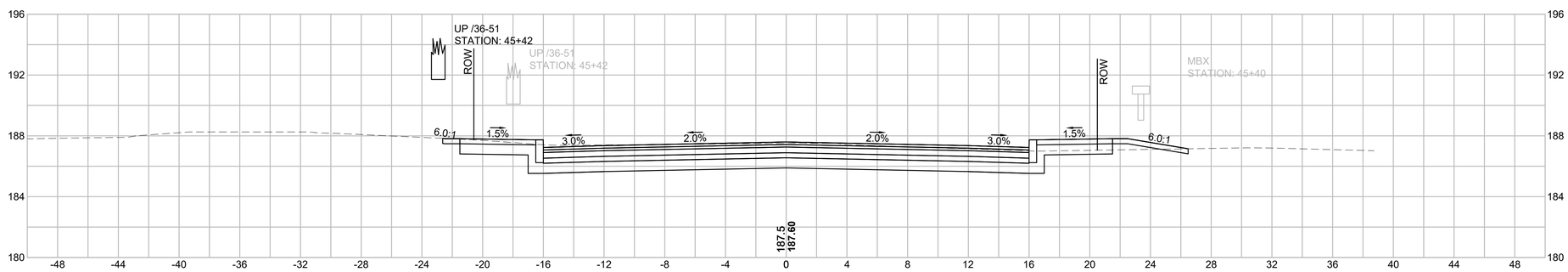
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	260	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 42

45+26

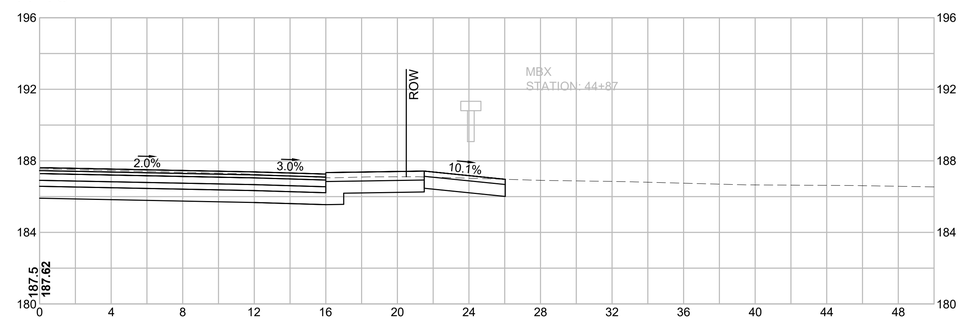


45+00



EARTHWORK 45+00	
CUT AREA	61.53 SF
FILL AREA	0.82 SF

44+78



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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:21 PM

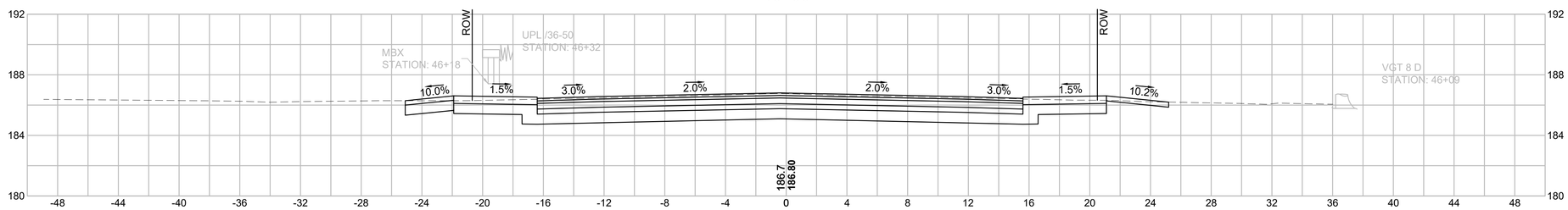
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	261	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 43

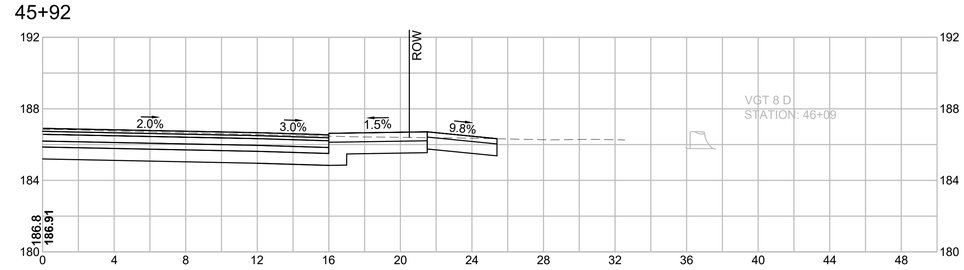
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:22 PM

46+00

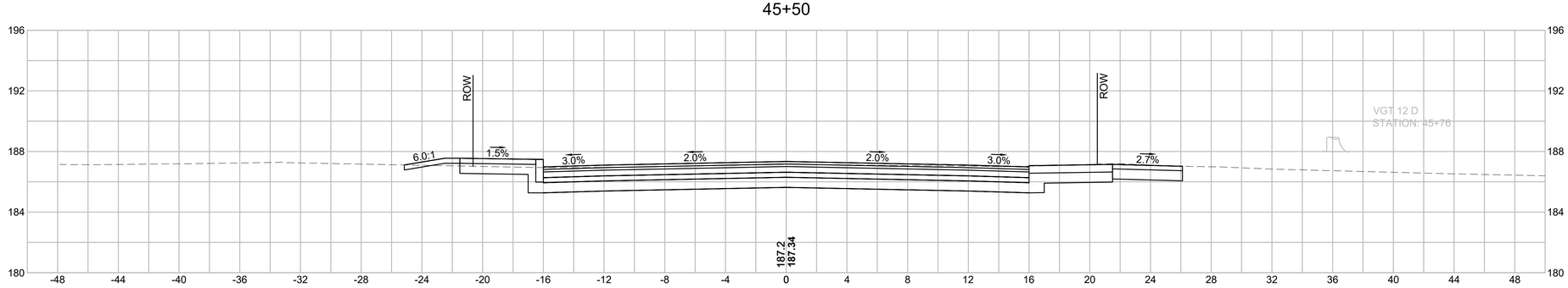


EARTHWORK 46+00	
CUT AREA	67.00 SF
FILL AREA	0.00 SF

45+92



45+50



EARTHWORK 45+50	
CUT AREA	66.23 SF
FILL AREA	0.24 SF

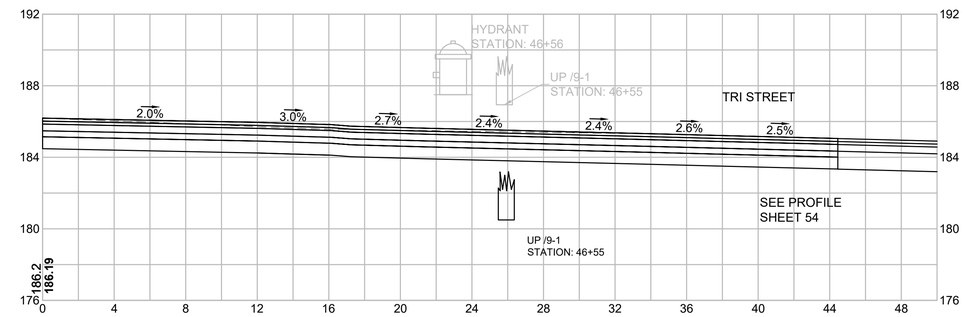
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

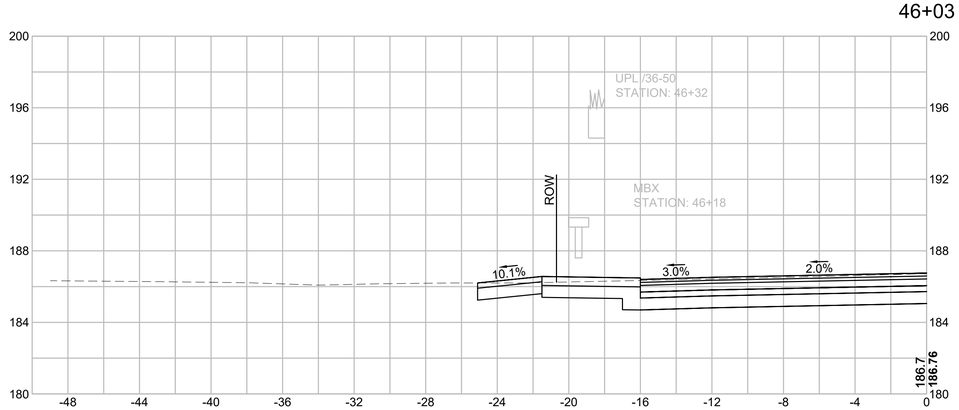
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	262	331
PROJECT FILE NO.	604123		

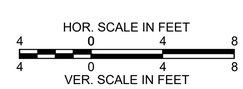
CROSS SECTIONS 44

46+39



46+03





604123_HD28\CROSS SECTIONS\.DWG Plotted on 23 June 2020 12:23 PM

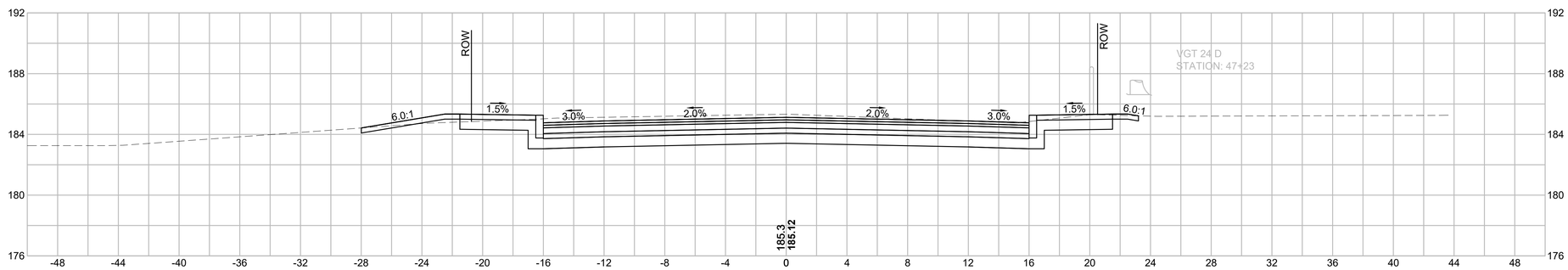
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	263	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 45

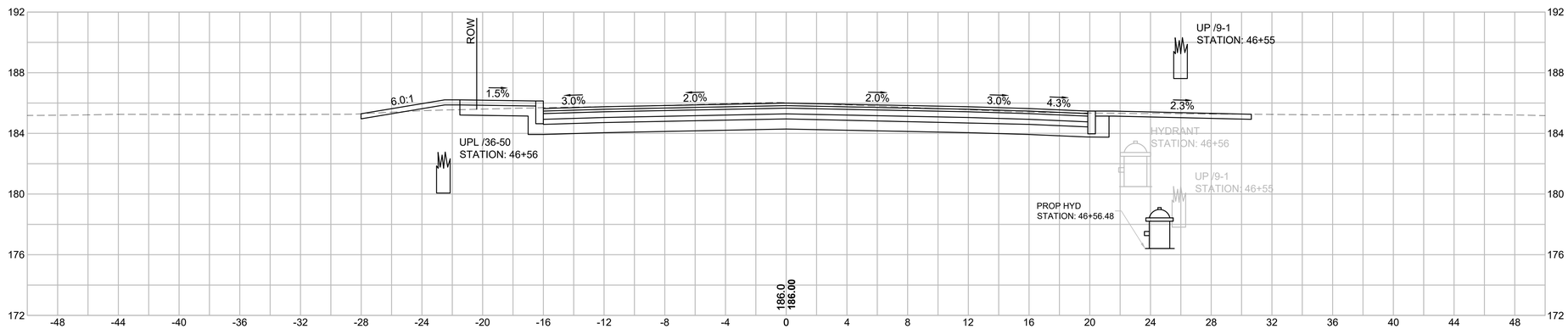
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:24 PM

47+00



EARTHWORK 47+00	
CUT AREA	71.08 SF
FILL AREA	0.41 SF

46+50



EARTHWORK 46+50	
CUT AREA	66.68 SF
FILL AREA	1.41 SF

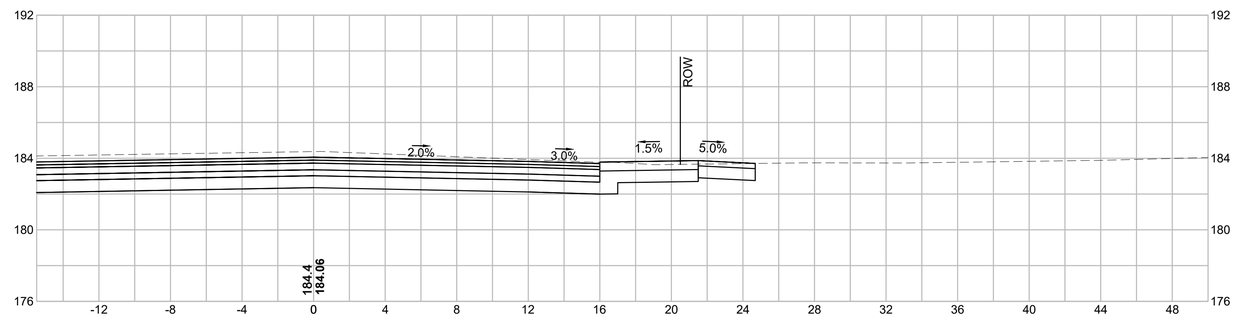
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

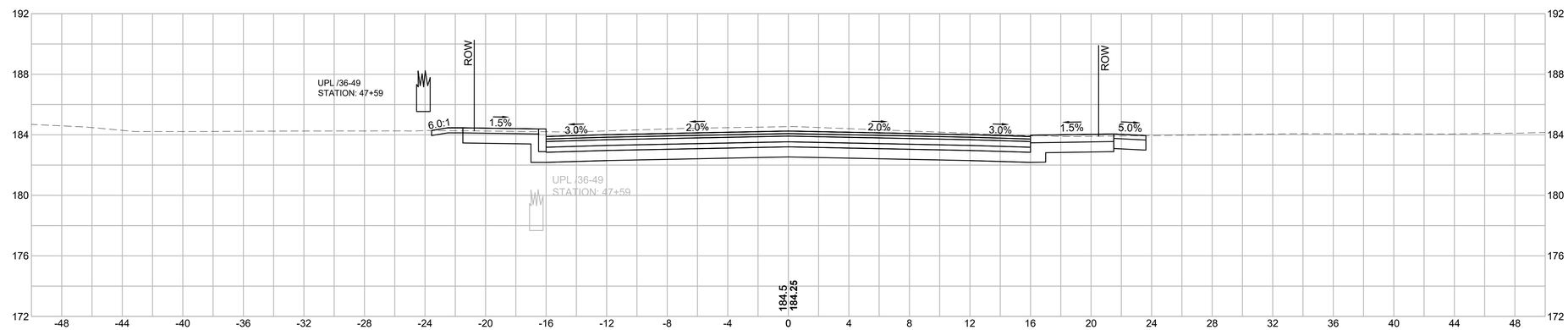
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	264	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 46

47+60.48



47+50



EARTHWORK 47+50	
CUT AREA	76.36 SF
FILL AREA	0.00 SF

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

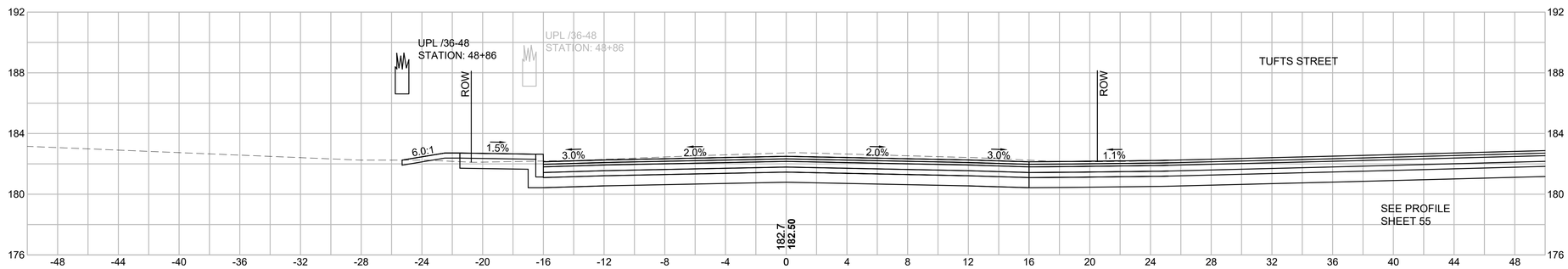
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:25 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	265	331
PROJECT FILE NO.	604123		

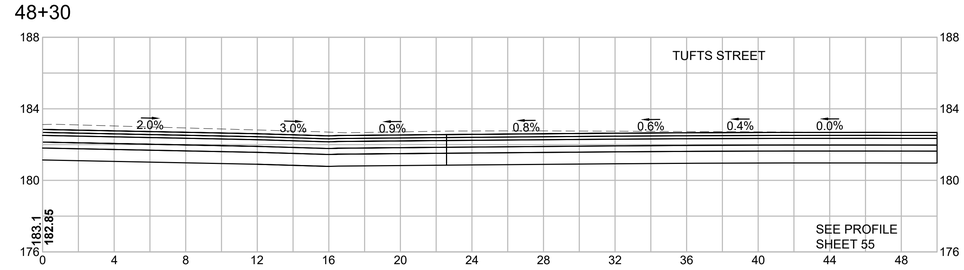
CROSS SECTIONS 47

48+50

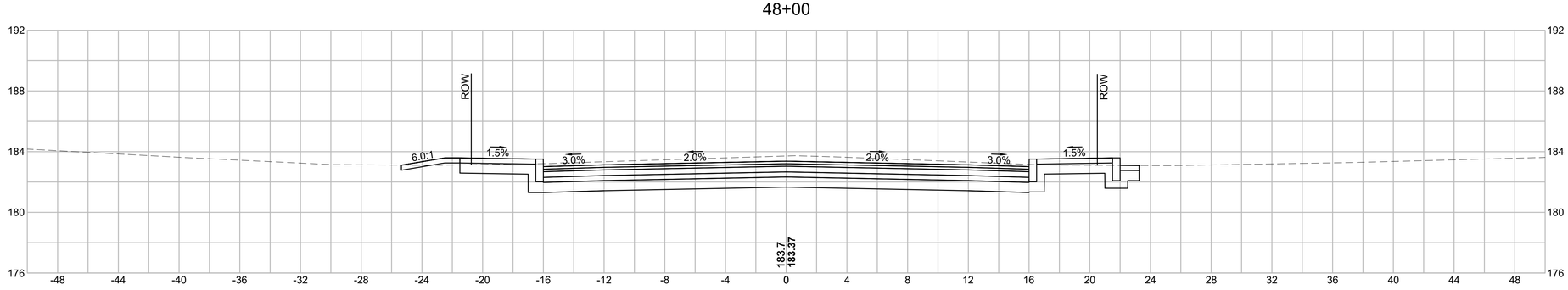


EARTHWORK 48+50	
CUT AREA	122.15 SF
FILL AREA	0.30 SF

48+30



48+00



EARTHWORK 48+00	
CUT AREA	75.33 SF
FILL AREA	0.20 SF

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

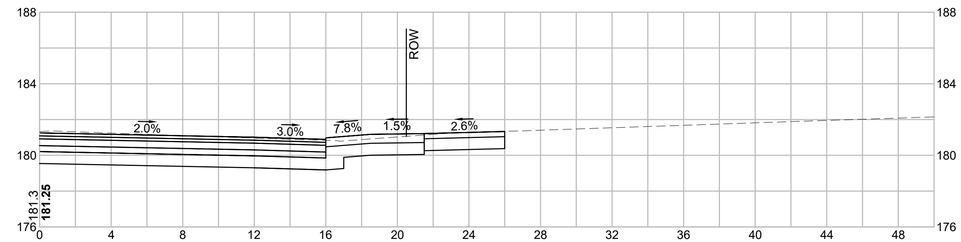
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:26 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

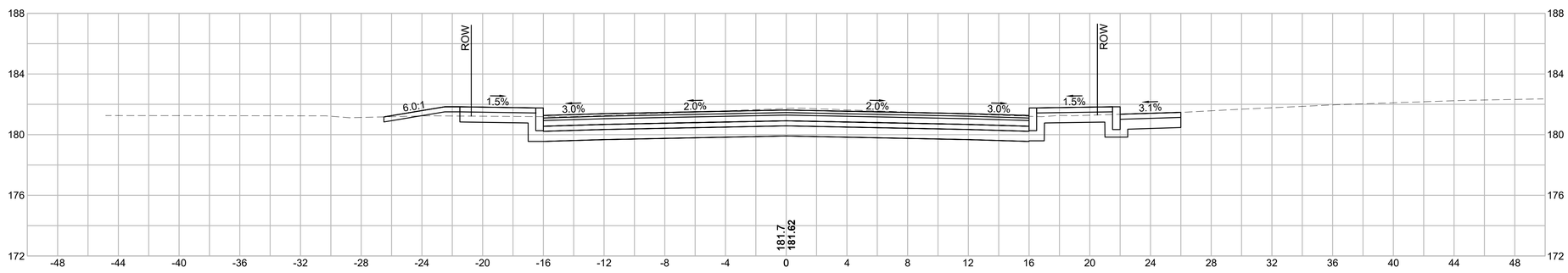
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	266	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 48

49+21

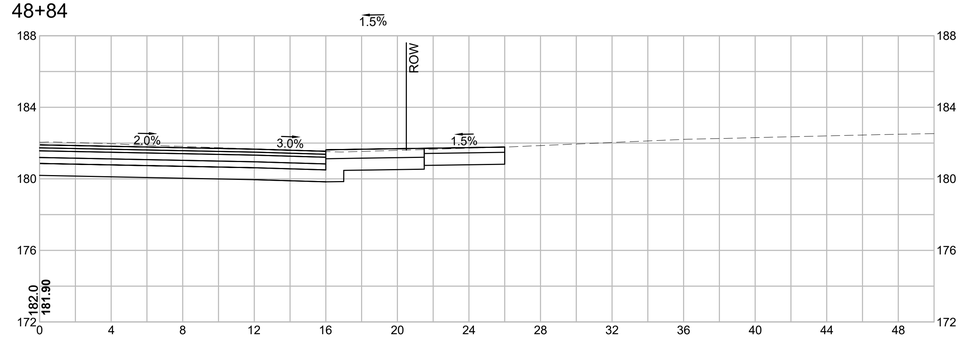


49+00



EARTHWORK 49+00	
CUT AREA	68.48 SF
FILL AREA	0.49 SF

48+84



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

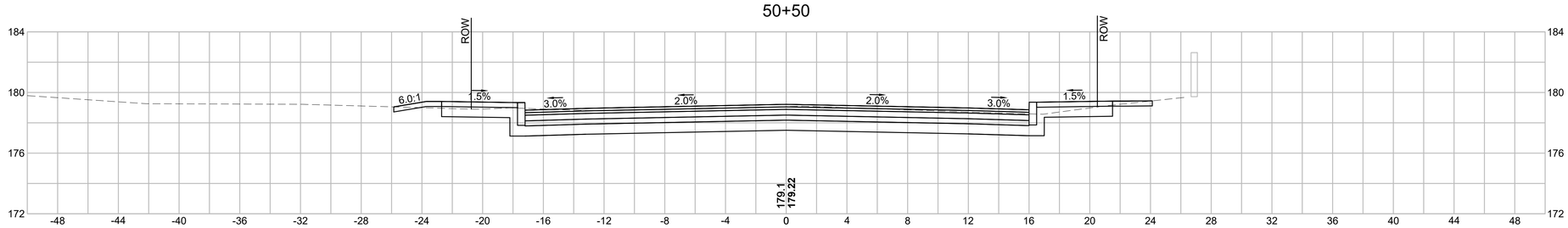
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:27 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	267	331
PROJECT FILE NO.	604123		

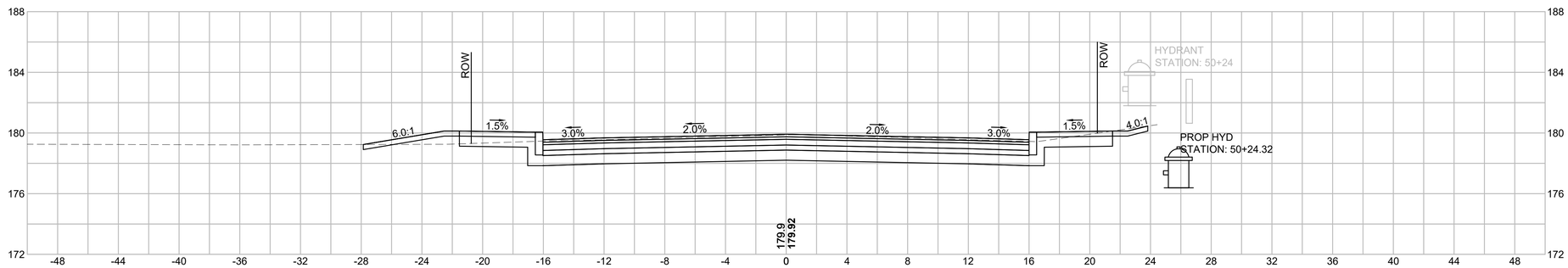
CROSS SECTIONS 49

50+50



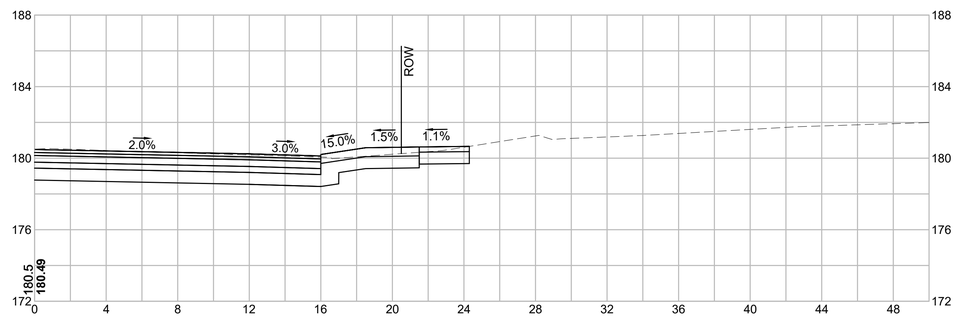
EARTHWORK 50+50	
CUT AREA	60.05 SF
FILL AREA	0.12 SF

50+00

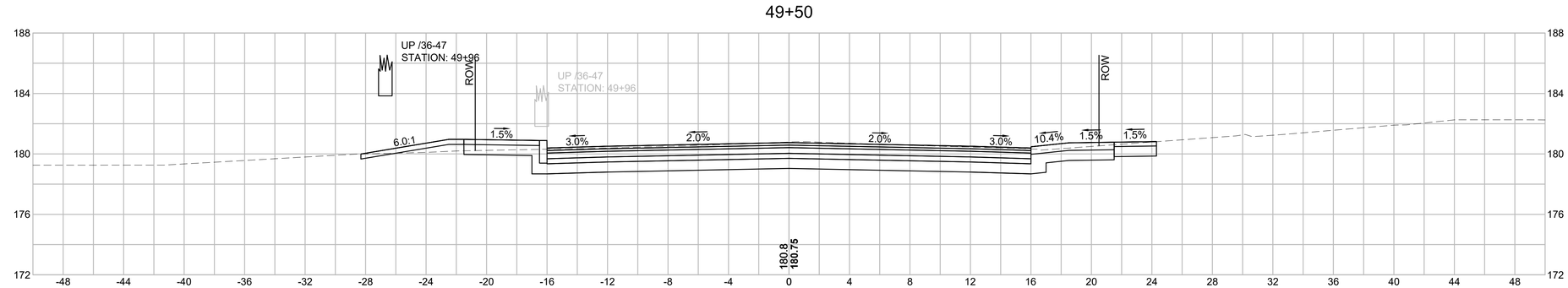


EARTHWORK 50+00	
CUT AREA	61.17 SF
FILL AREA	1.42 SF

49+65



49+50



EARTHWORK 49+50	
CUT AREA	64.98 SF
FILL AREA	1.27 SF

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

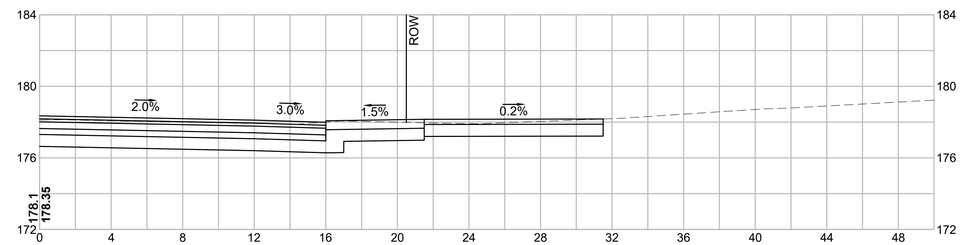
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:28 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

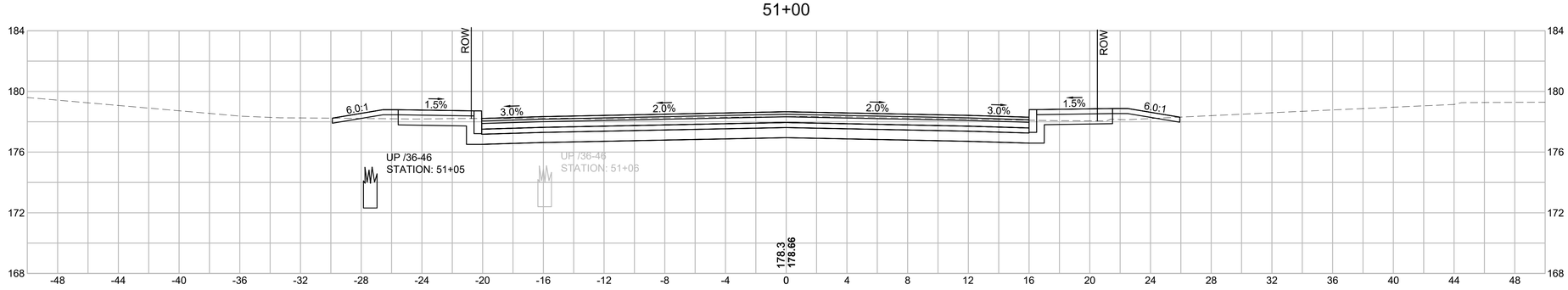
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	268	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 50

51+35

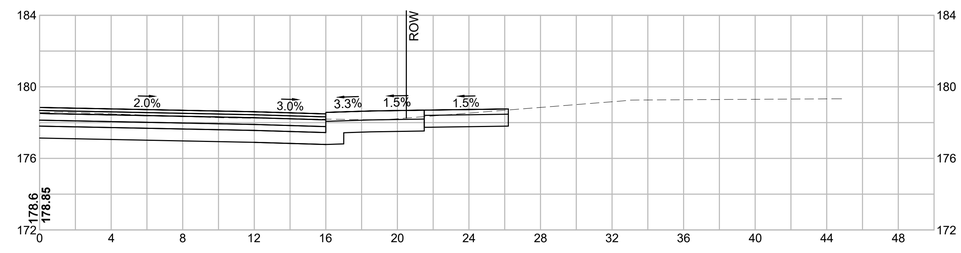


51+00



EARTHWORK 51+00	
CUT AREA	60.20 SF
FILL AREA	1.22 SF

50+82



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

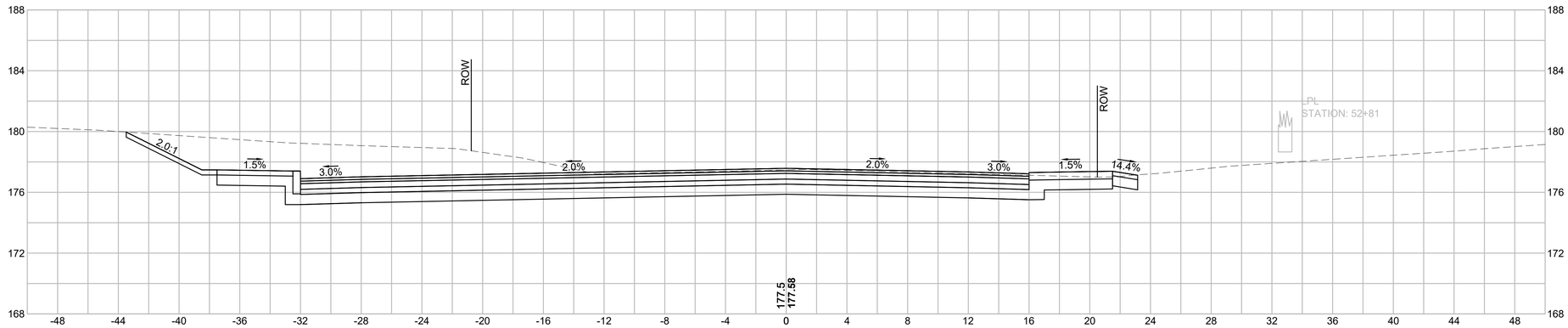
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:29 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	269	331
PROJECT FILE NO.	604123		

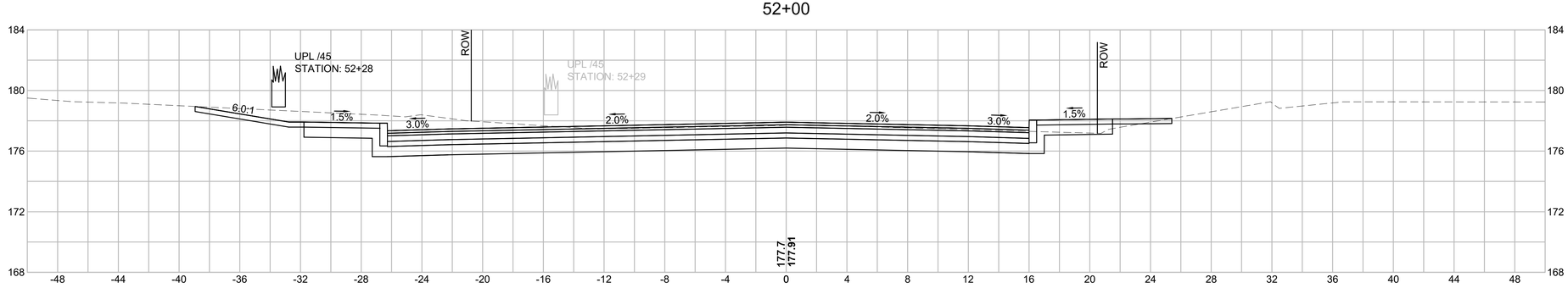
CROSS SECTIONS 51

52+50



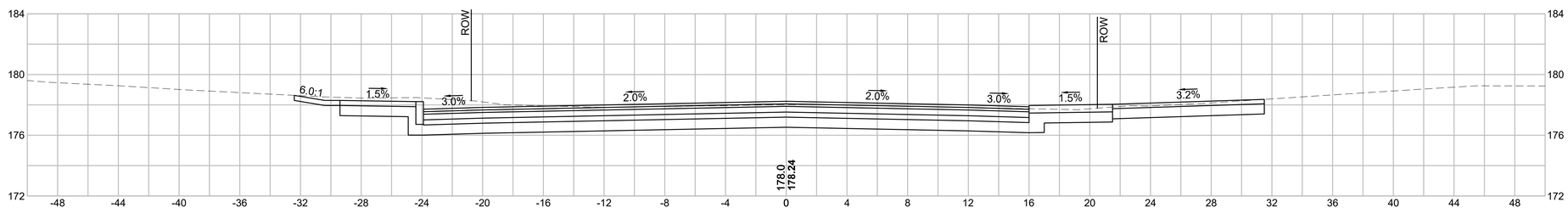
EARTHWORK 52+50	
CUT AREA	141.57 SF
FILL AREA	0.00 SF

52+00



EARTHWORK 52+00	
CUT AREA	89.78 SF
FILL AREA	0.27 SF

51+50



EARTHWORK 51+50	
CUT AREA	88.85 SF
FILL AREA	0.00 SF

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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:30 PM

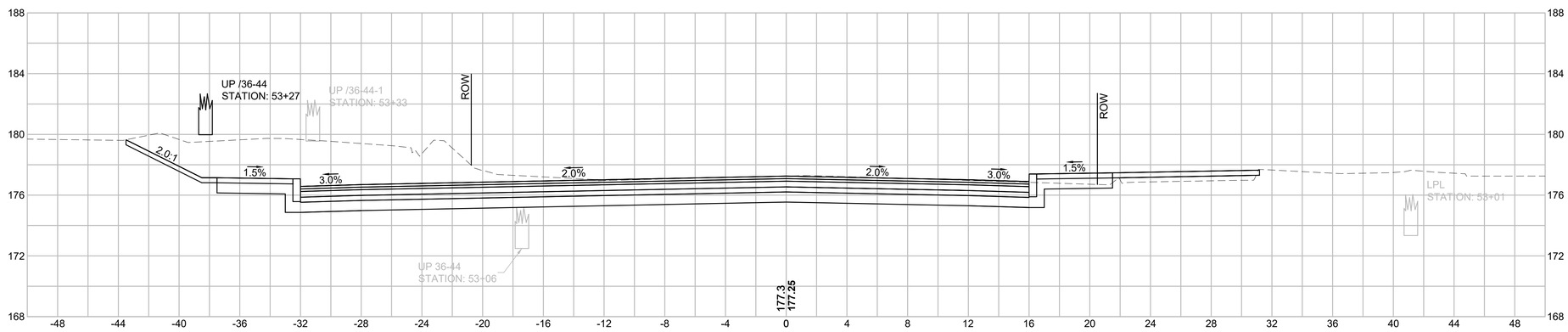
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	270	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 52

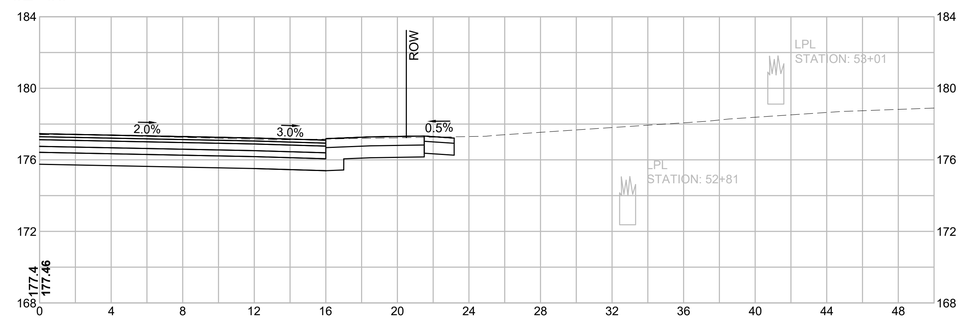
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:31 PM

53+00



EARTHWORK 53+00	
CUT AREA	148.58 SF
FILL AREA	2.09 SF

52+68



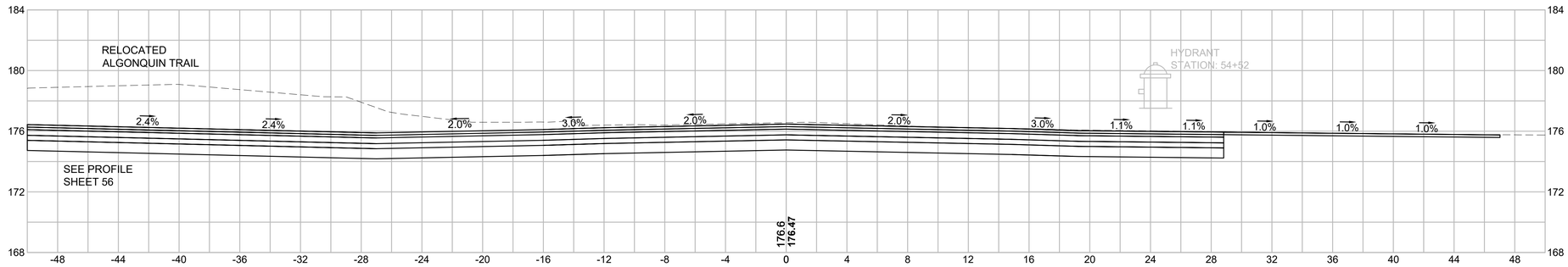
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

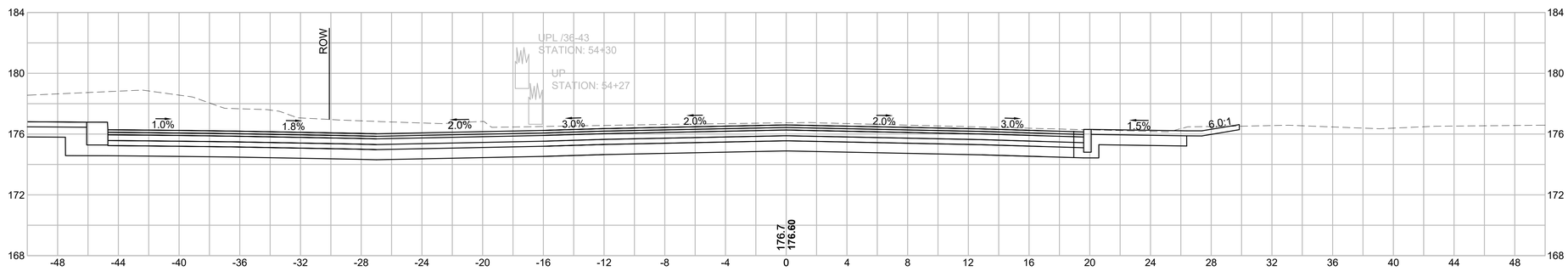
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	271	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 53

54+20

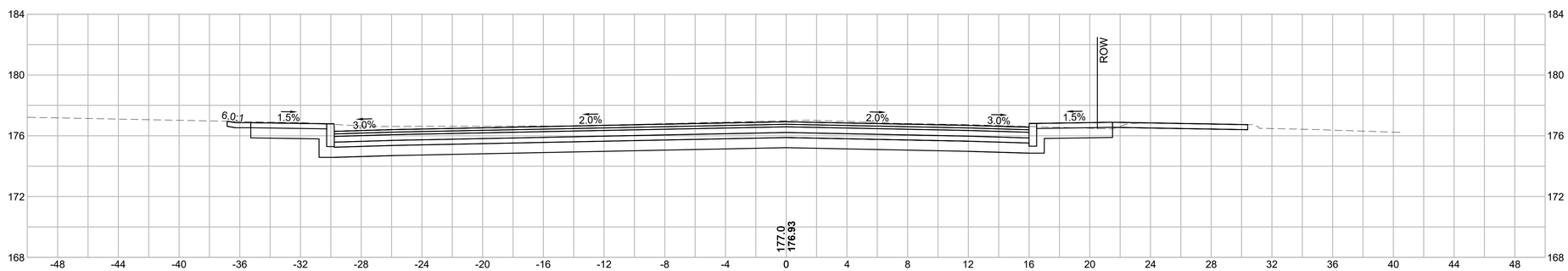


54+00



EARTHWORK 54+00	
CUT AREA	178.59 SF
FILL AREA	0.00 SF

53+50



EARTHWORK 53+50	
CUT AREA	97.28 SF
FILL AREA	0.01 SF

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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:33 PM

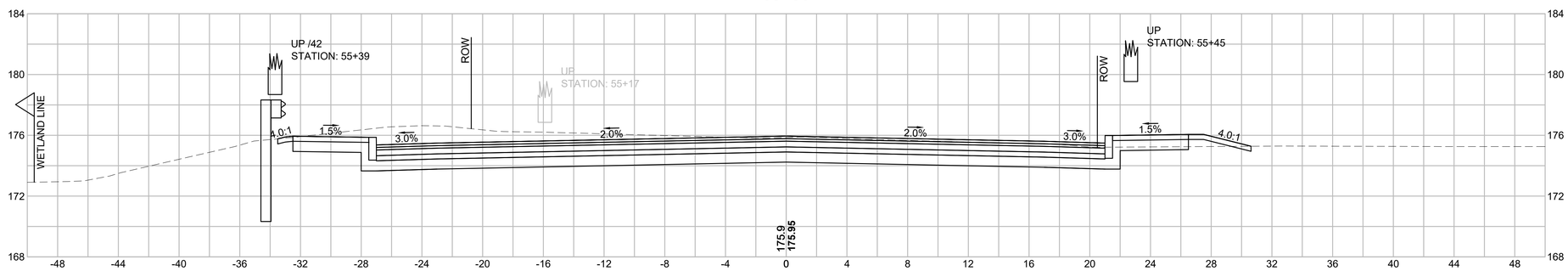
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	272	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 54

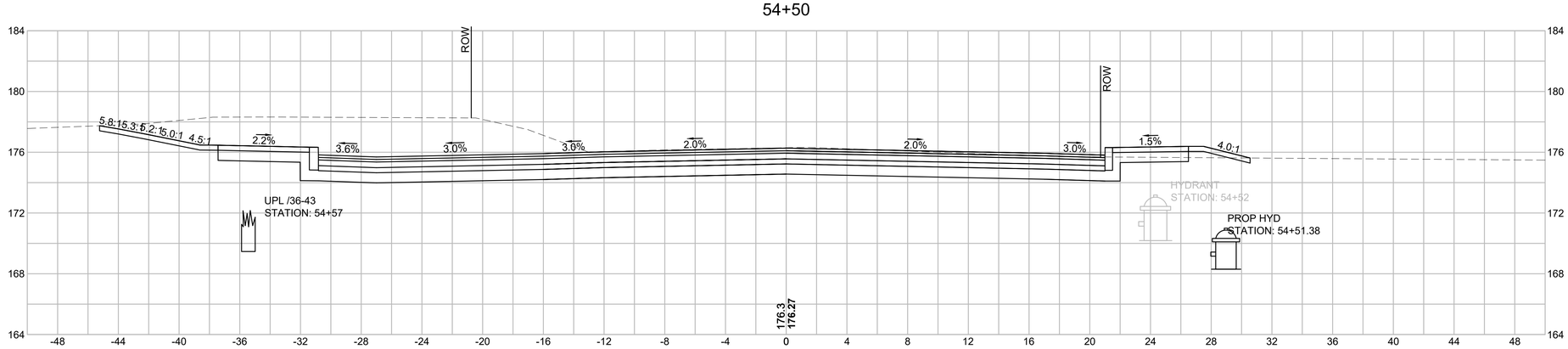
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:34 PM

55+00



EARTHWORK 55+00	
CUT AREA	104.08 SF
FILL AREA	0.90 SF

54+50



EARTHWORK 54+50	
CUT AREA	157.96 SF
FILL AREA	0.75 SF

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

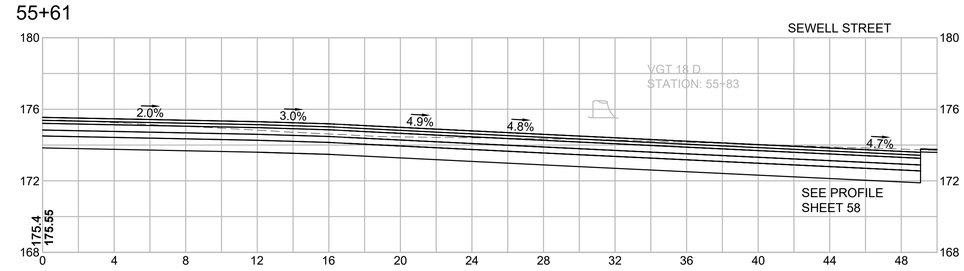
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	273	331
PROJECT FILE NO.		604123	

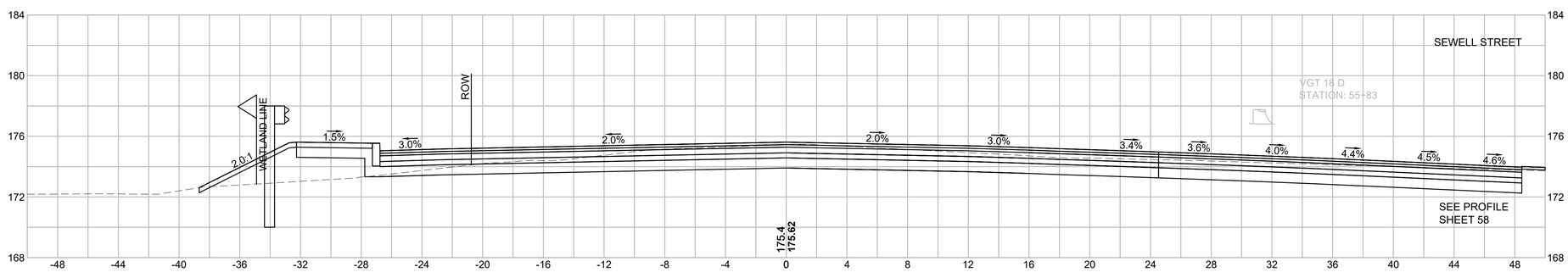
CROSS SECTIONS 55

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:35 PM

55+61



55+50



EARTHWORK 55+50	
CUT AREA	91.60 SF
FILL AREA	13.31 SF

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

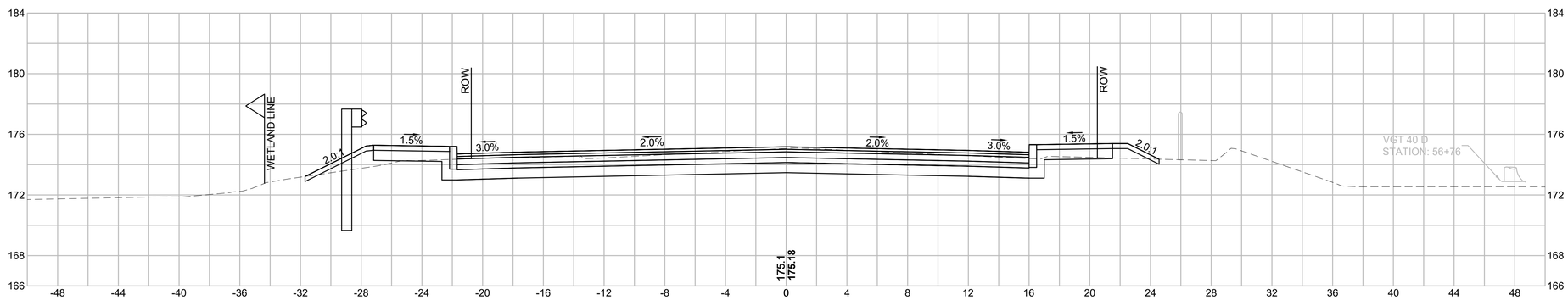
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	274	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 56

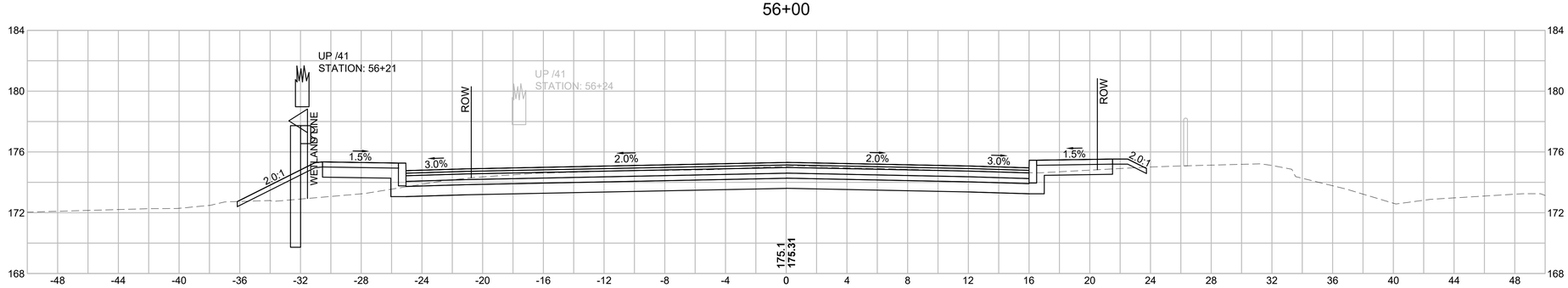
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:36 PM

56+50



EARTHWORK 56+50	
CUT AREA	56.62 SF
FILL AREA	3.68 SF

56+00



EARTHWORK 56+00	
CUT AREA	57.71 SF
FILL AREA	10.66 SF

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

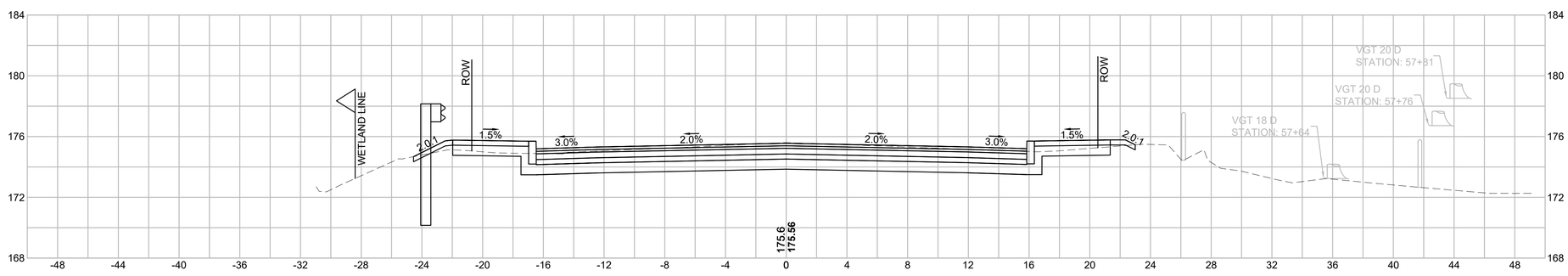
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	275	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 57

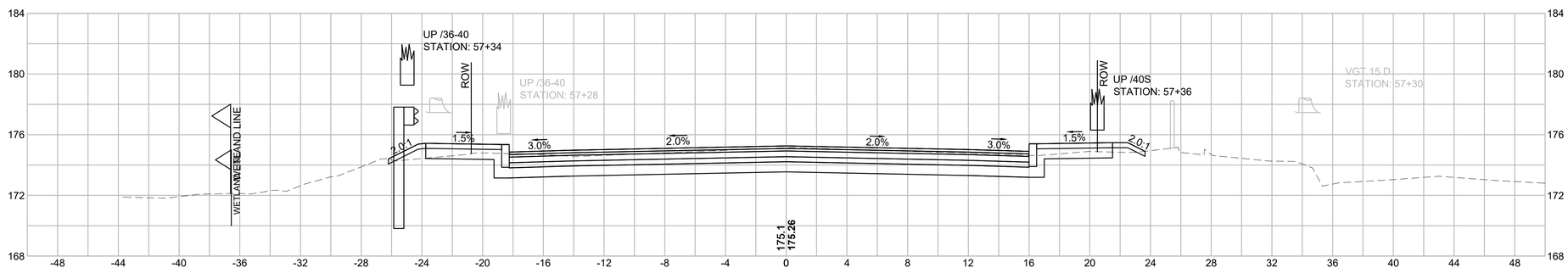
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:45 PM

57+50



EARTHWORK 57+50	
CUT AREA	57.37 SF
FILL AREA	0.36 SF

57+00



EARTHWORK 57+00	
CUT AREA	56.58 SF
FILL AREA	1.22 SF

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

ASHLAND, MA
ROUTE 126 (POND STREET)

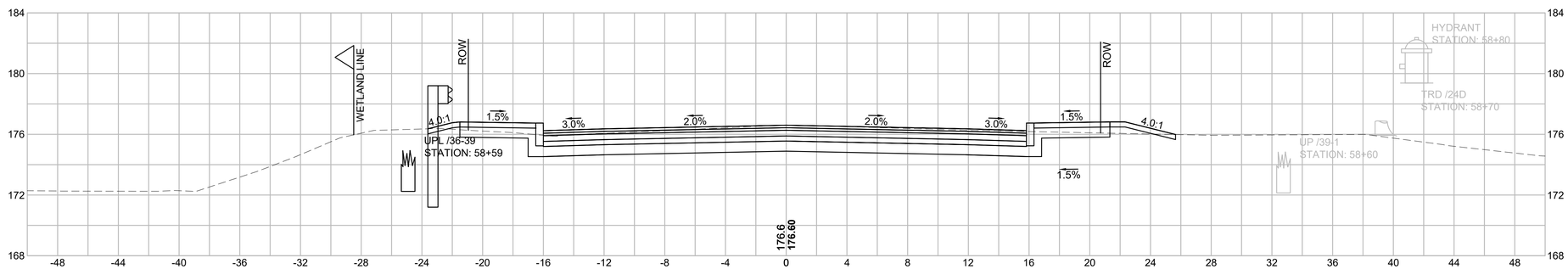
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	276	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 58

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:46 PM

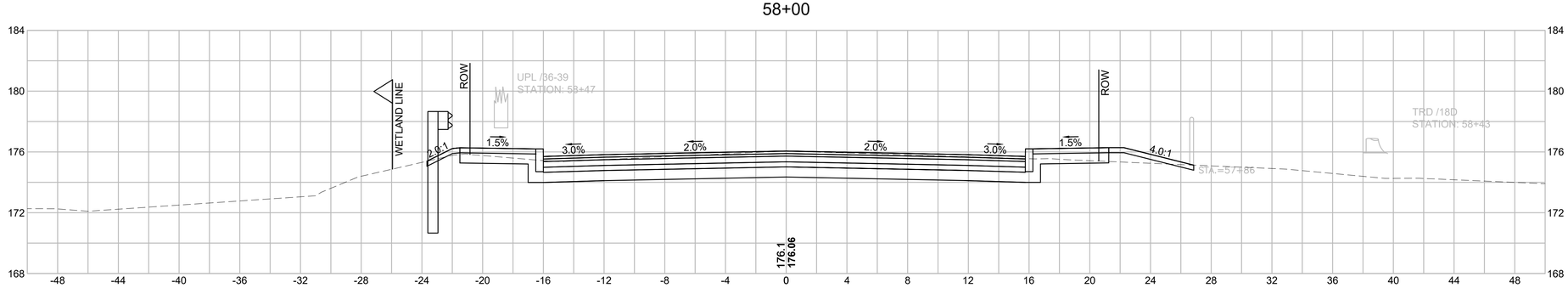
EARTHWORK 58+50	
CUT AREA	57.45 SF
FILL AREA	0.91 SF

58+50



EARTHWORK 58+00	
CUT AREA	56.09 SF
FILL AREA	1.60 SF

58+00



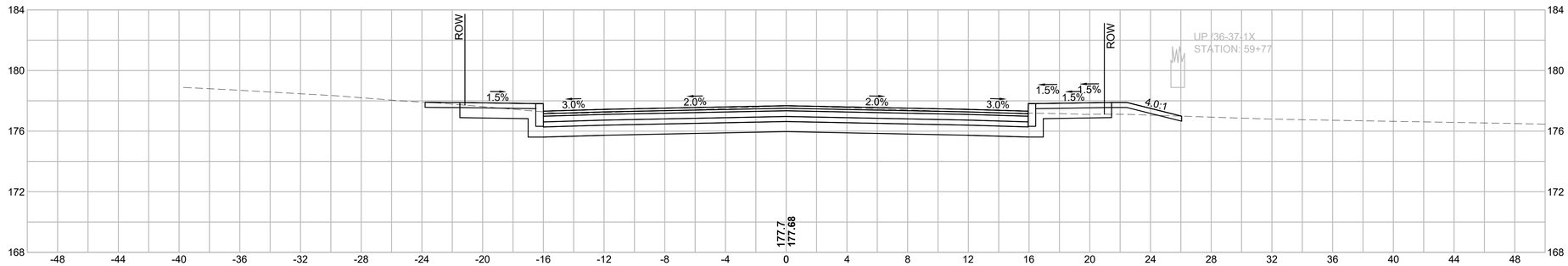
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	277	331
PROJECT FILE NO.	604123		

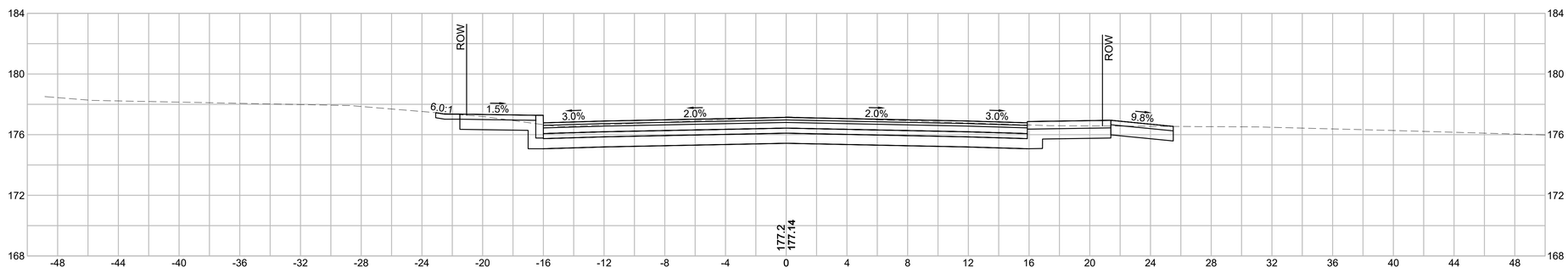
CROSS SECTIONS 59

59+50



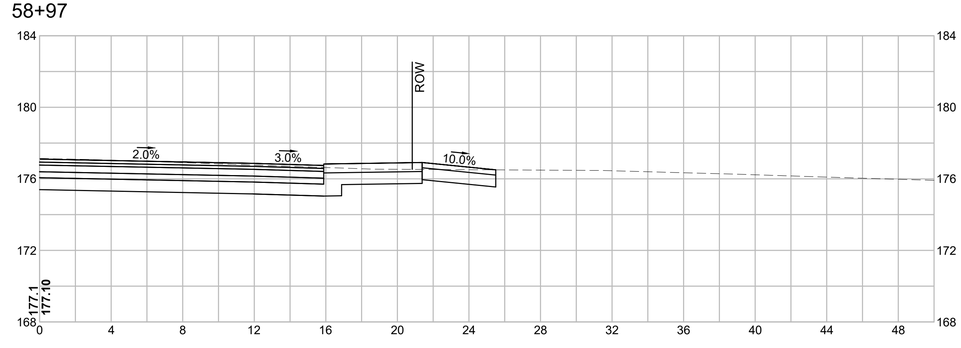
EARTHWORK 59+50	
CUT AREA	59.22 SF
FILL AREA	0.92 SF

59+00



EARTHWORK 59+00	
CUT AREA	65.34 SF
FILL AREA	0.00 SF

58+97



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

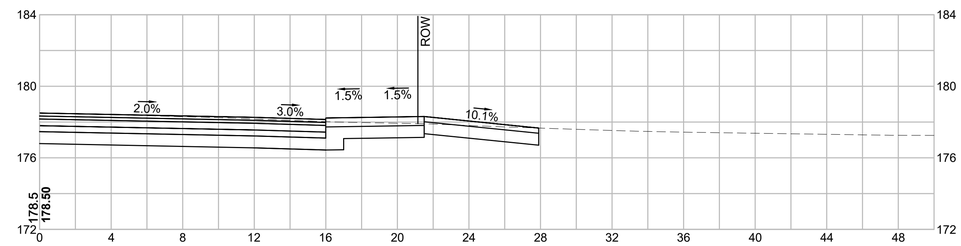
604123_H028(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:47 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

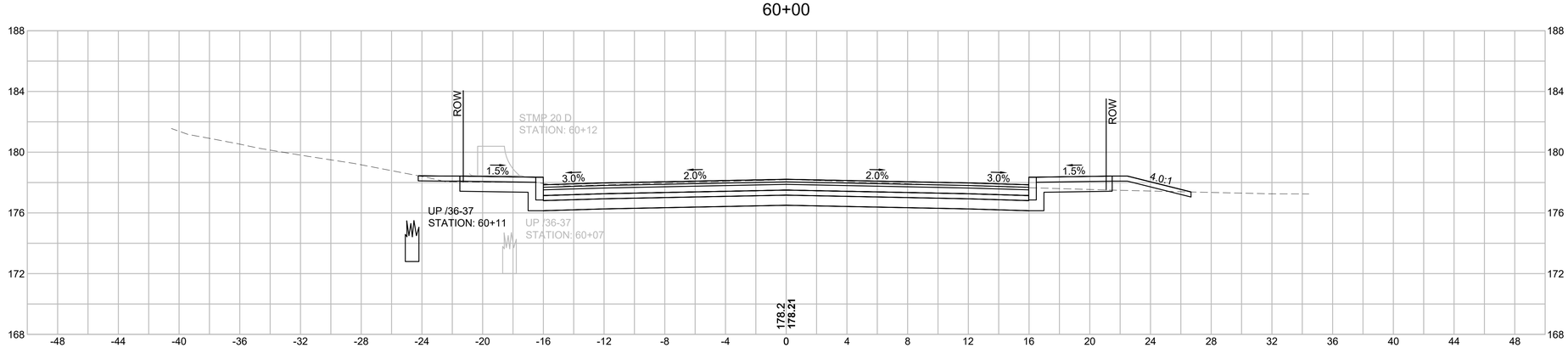
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	278	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 60

60+27



60+00



EARTHWORK 60+00	
CUT AREA	58.96 SF
FILL AREA	1.49 SF

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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:48 PM

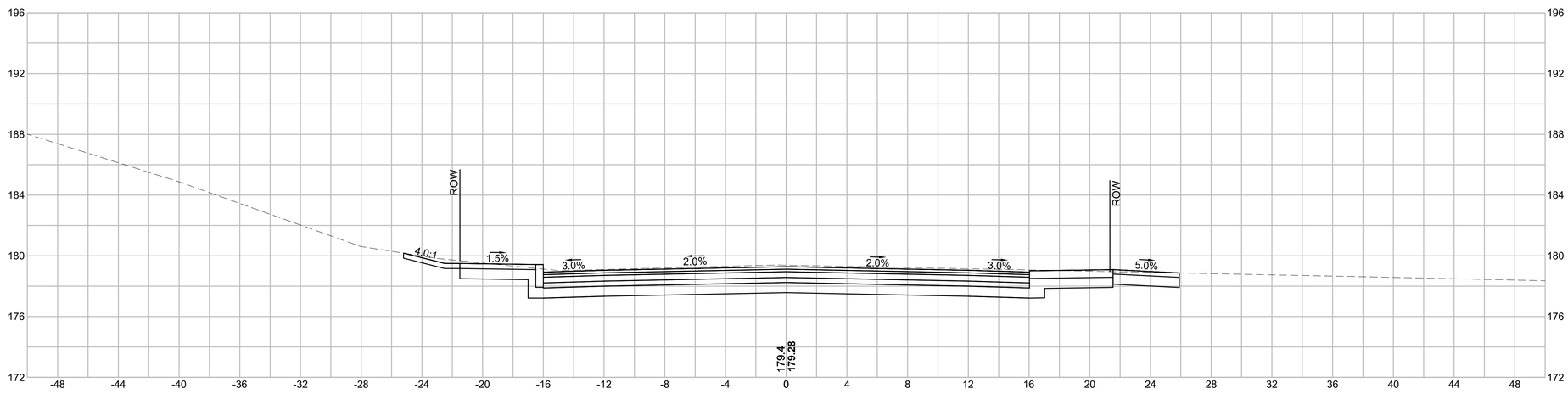
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	279	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 61

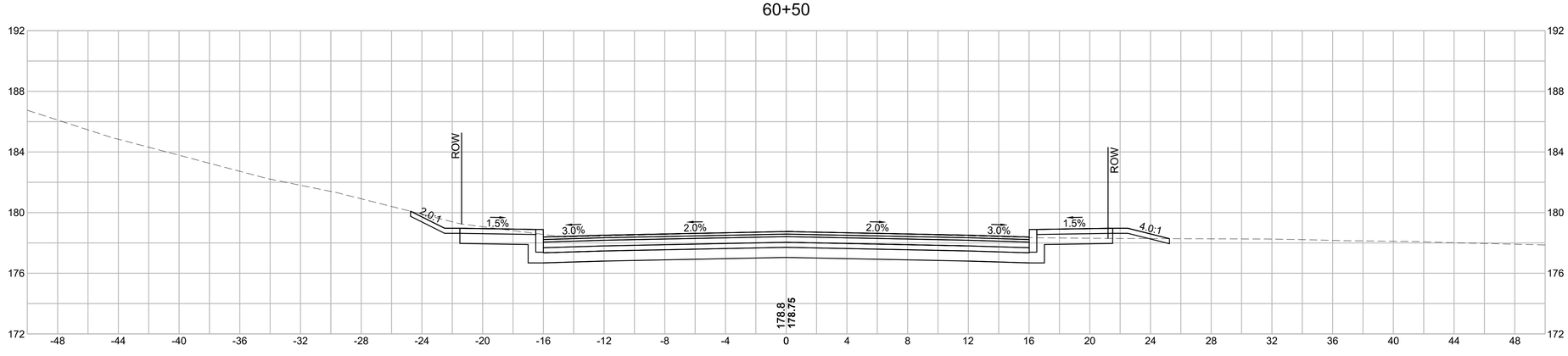
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:49 PM

61+00



EARTHWORK 61+00	
CUT AREA	76.77 SF
FILL AREA	0.00 SF

60+50



EARTHWORK 60+50	
CUT AREA	66.62 SF
FILL AREA	0.58 SF

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

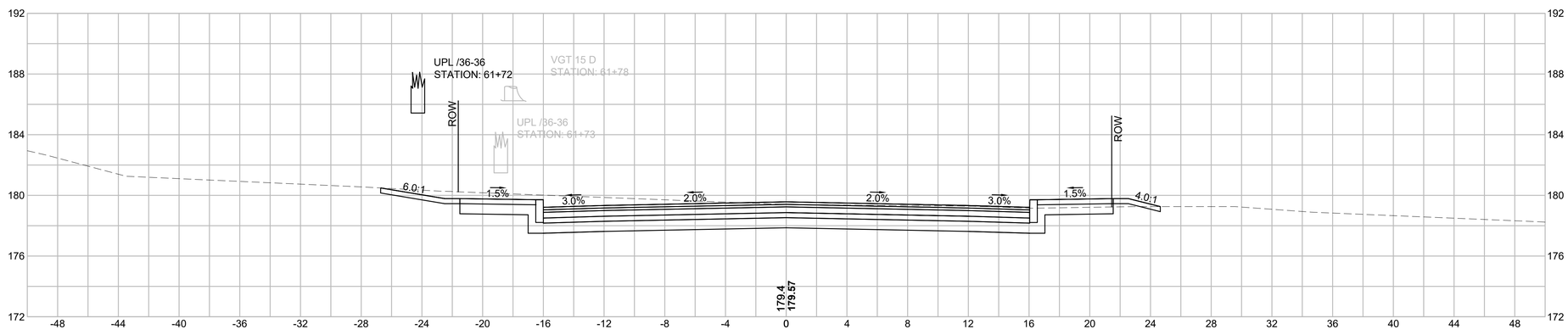
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	280	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 62

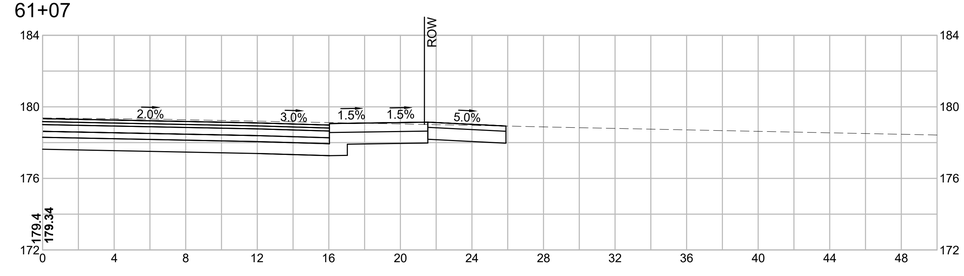
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:50 PM

61+50



EARTHWORK 61+50	
CUT AREA	73.92 SF
FILL AREA	0.28 SF

61+07



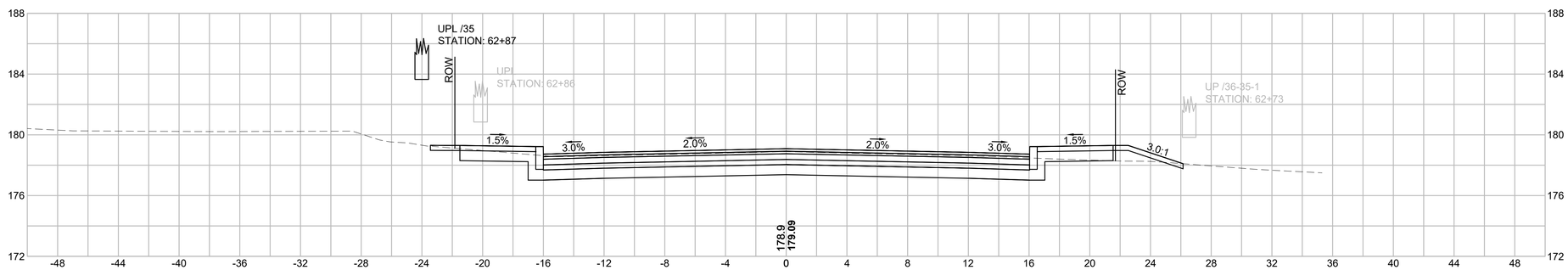
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	281	331
PROJECT FILE NO.	604123		

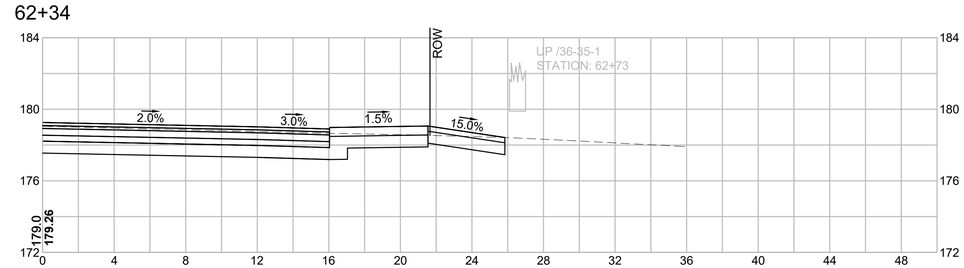
CROSS SECTIONS 63

62+50

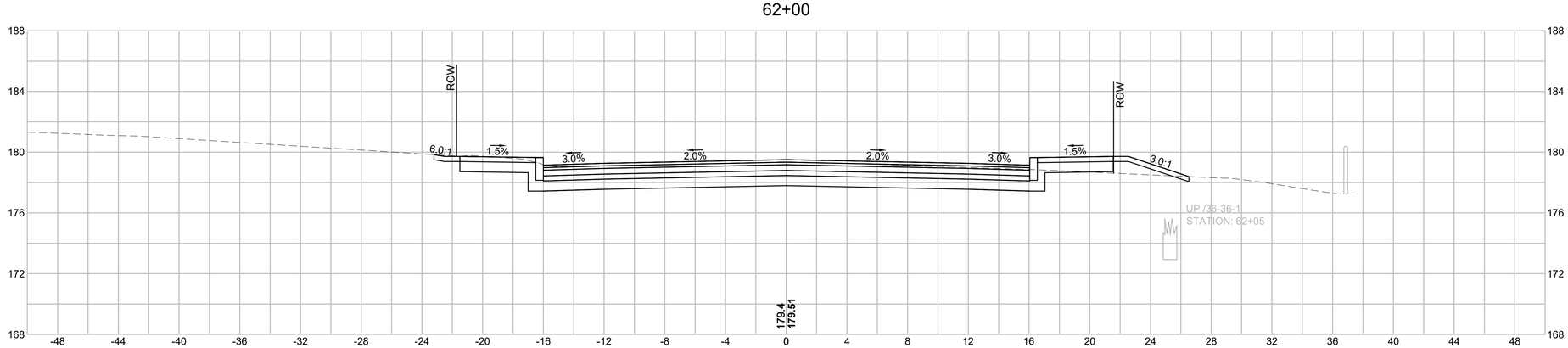


EARTHWORK 62+50	
CUT AREA	54.79 SF
FILL AREA	1.47 SF

62+34



62+00



EARTHWORK 62+00	
CUT AREA	57.82 SF
FILL AREA	2.03 SF

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

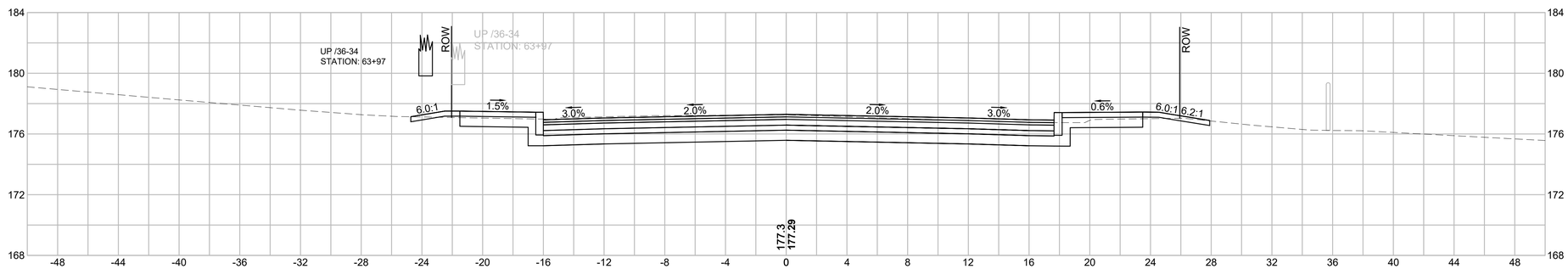
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:51 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	282	331
PROJECT FILE NO.	604123		

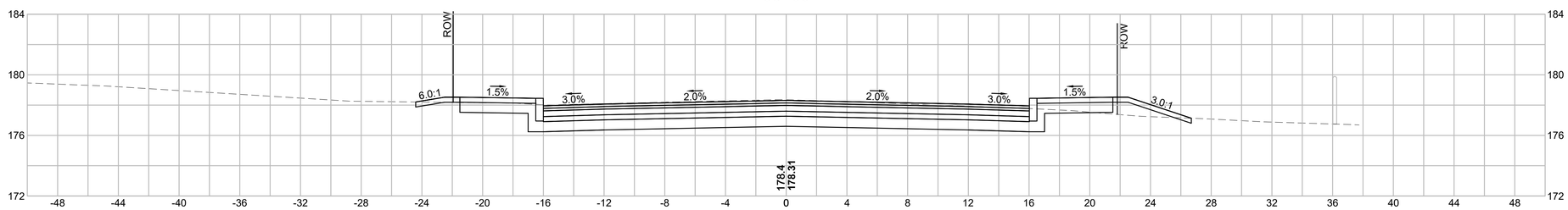
CROSS SECTIONS 64

63+50



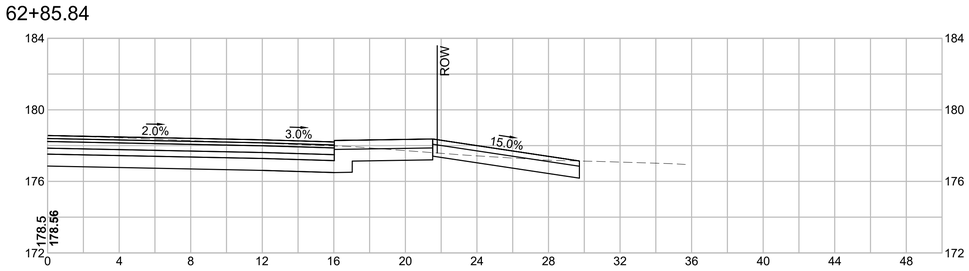
EARTHWORK 63+50	
CUT AREA	65.27 SF
FILL AREA	0.22 SF

63+00



EARTHWORK 63+00	
CUT AREA	61.58 SF
FILL AREA	2.25 SF

62+85.84



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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:52 PM

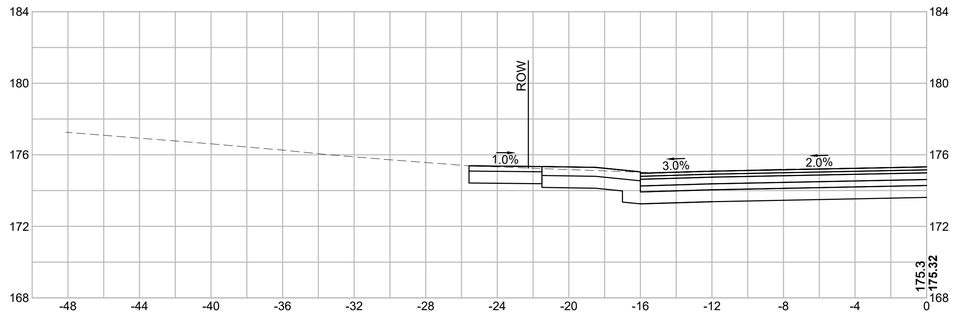
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	283	331
PROJECT FILE NO.		604123	

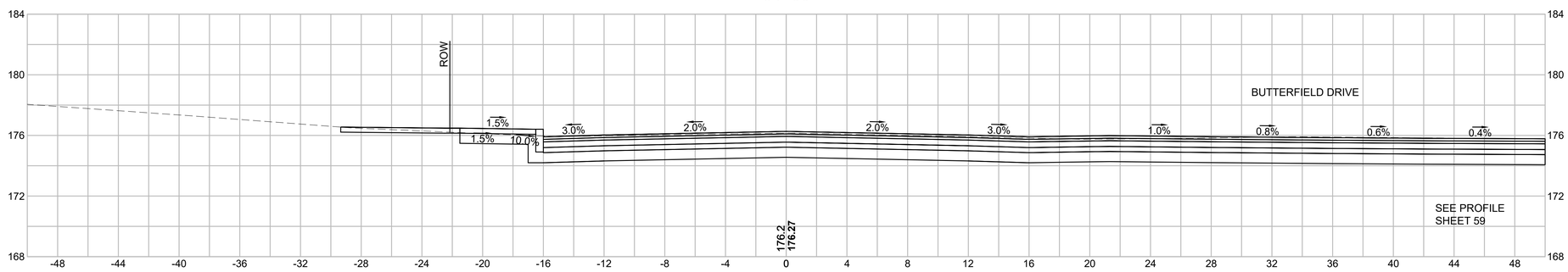
CROSS SECTIONS 65

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:53 PM

64+46

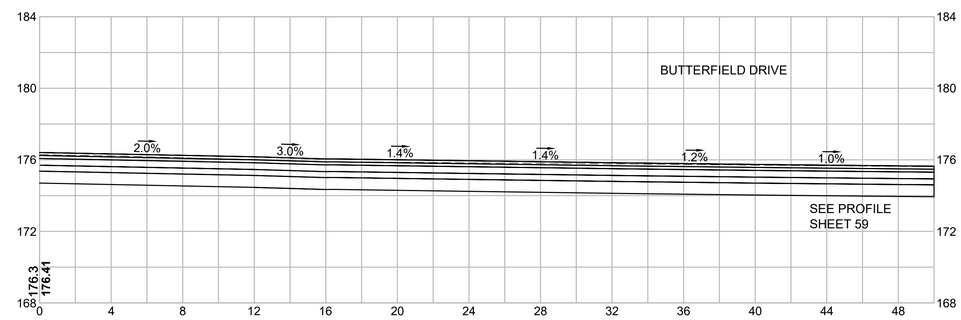


64+00



EARTHWORK 64+00	
CUT AREA	116.54 SF
FILL AREA	0.00 SF

63+93



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

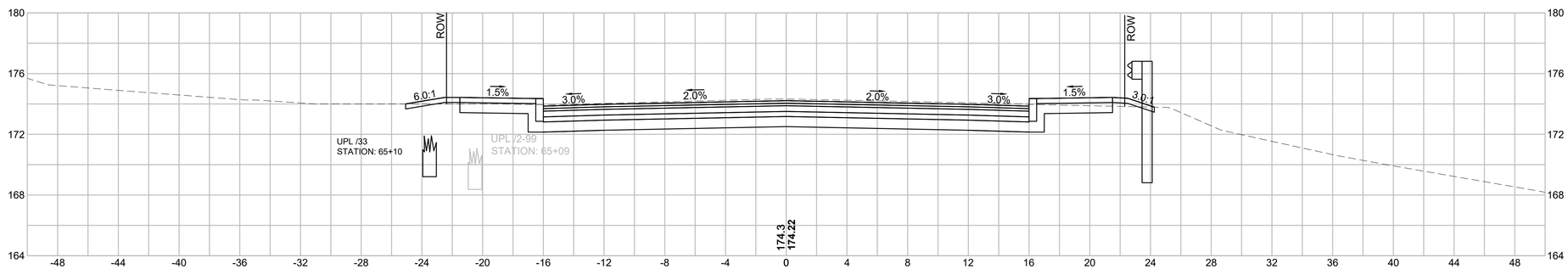
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	284	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 66

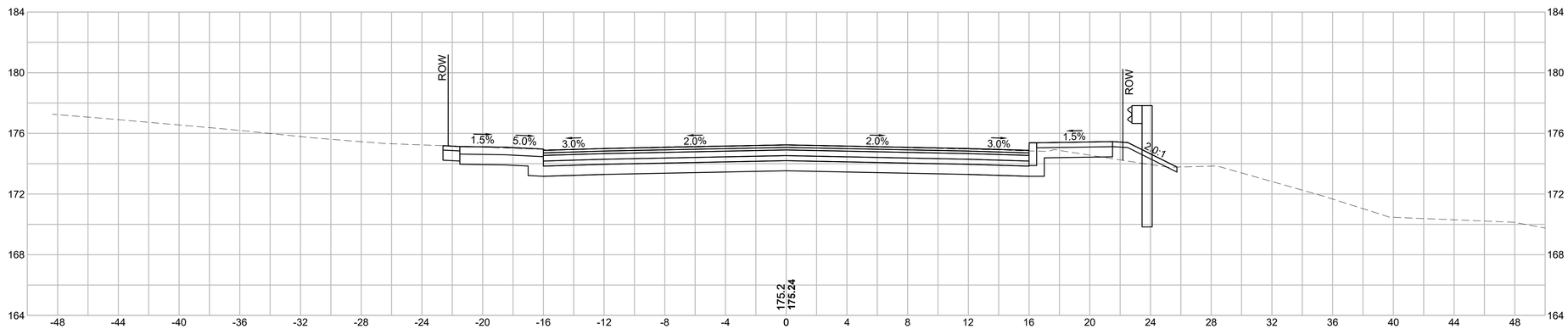
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:54 PM

65+00



EARTHWORK 65+00	
CUT AREA	66.89 SF
FILL AREA	0.42 SF

64+50



EARTHWORK 64+50	
CUT AREA	65.52 SF
FILL AREA	2.04 SF

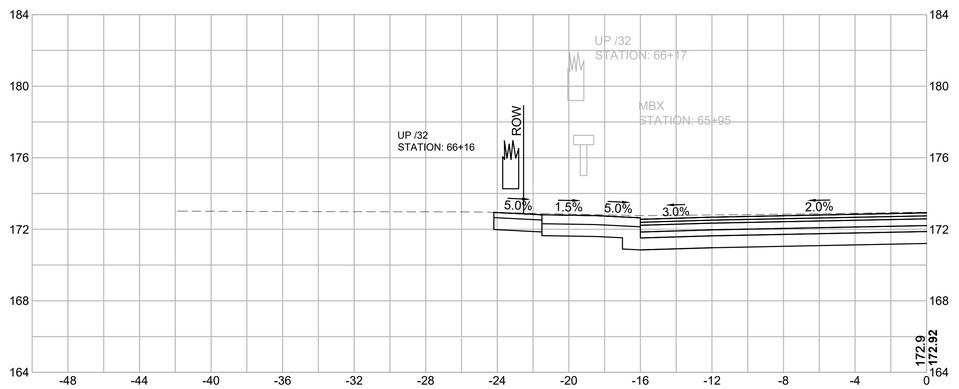
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

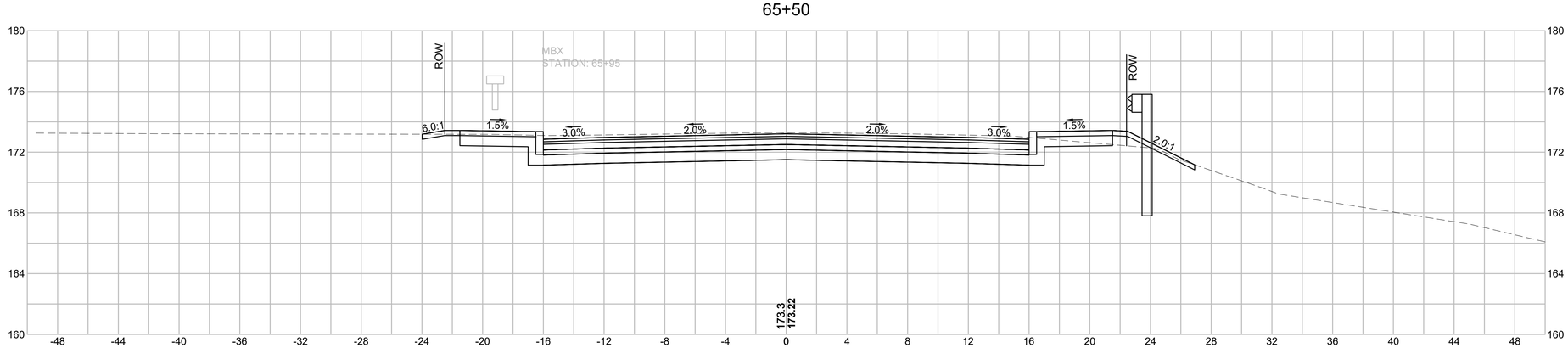
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	285	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 67

65+67



65+50



EARTHWORK 65+50	
CUT AREA	68.55 SF
FILL AREA	1.09 SF

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

604123_H028(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:55 PM

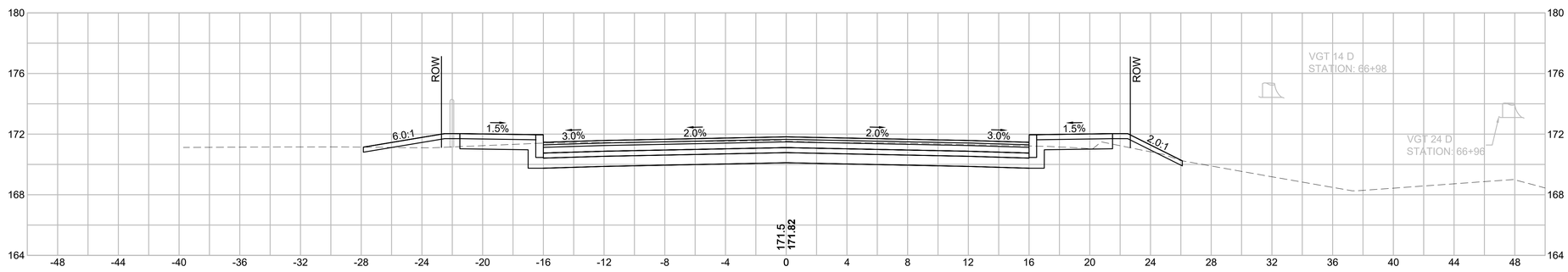
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	286	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 68

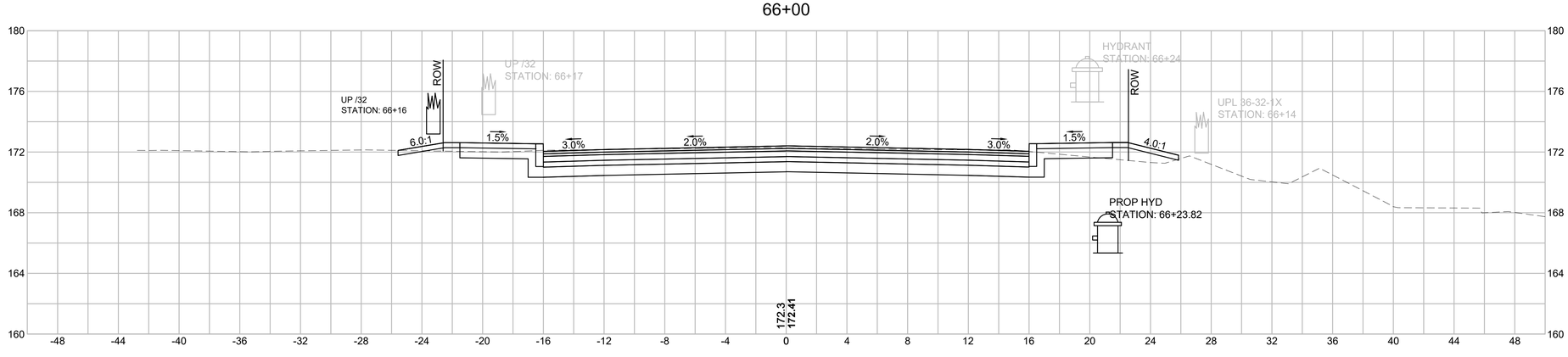
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:56 PM

66+50



EARTHWORK 66+50	
CUT AREA	53.40 SF
FILL AREA	2.61 SF

66+00



EARTHWORK 66+00	
CUT AREA	59.56 SF
FILL AREA	2.41 SF

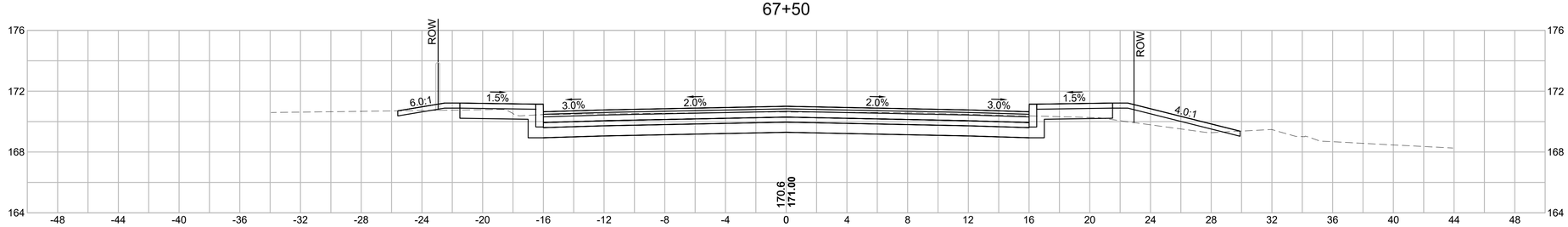
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	287	331
PROJECT FILE NO.	604123		

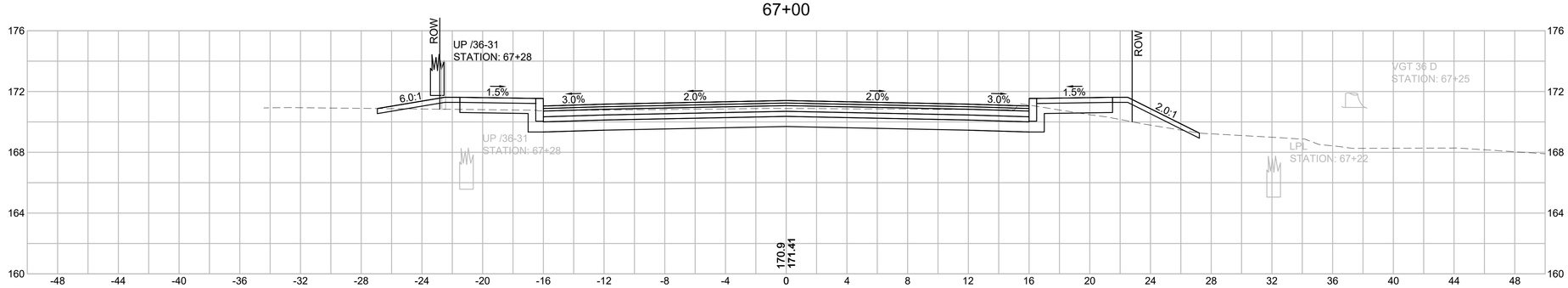
CROSS SECTIONS 69

67+50



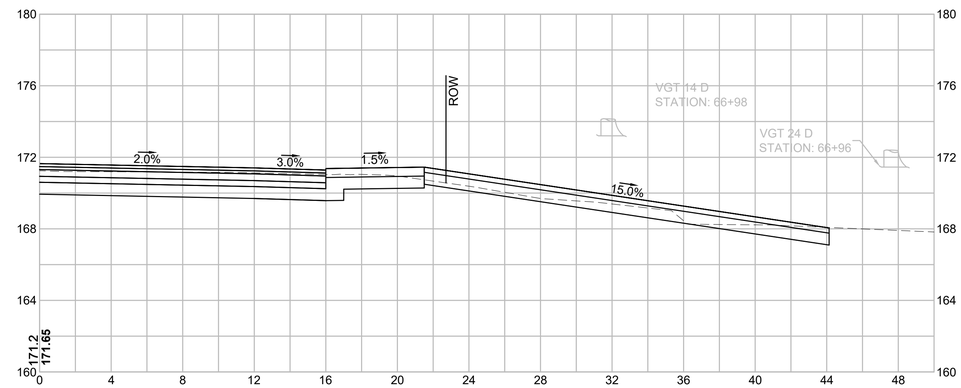
EARTHWORK 67+50	
CUT AREA	51.55 SF
FILL AREA	4.35 SF

67+00



EARTHWORK 67+00	
CUT AREA	46.74 SF
FILL AREA	4.89 SF

66+70



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

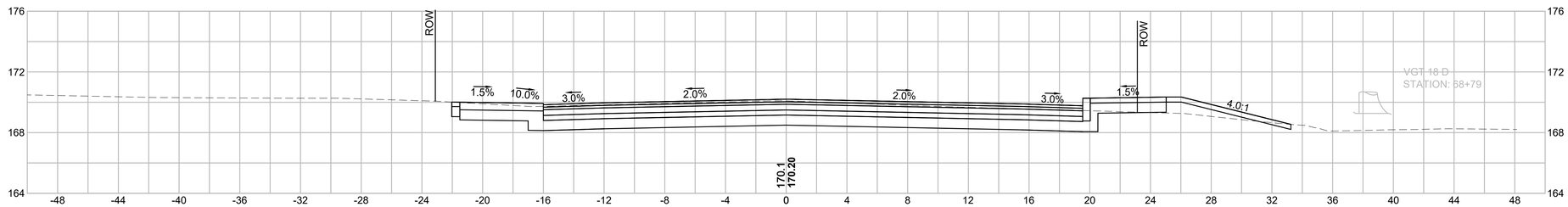
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:57 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	288	331
PROJECT FILE NO.	604123		

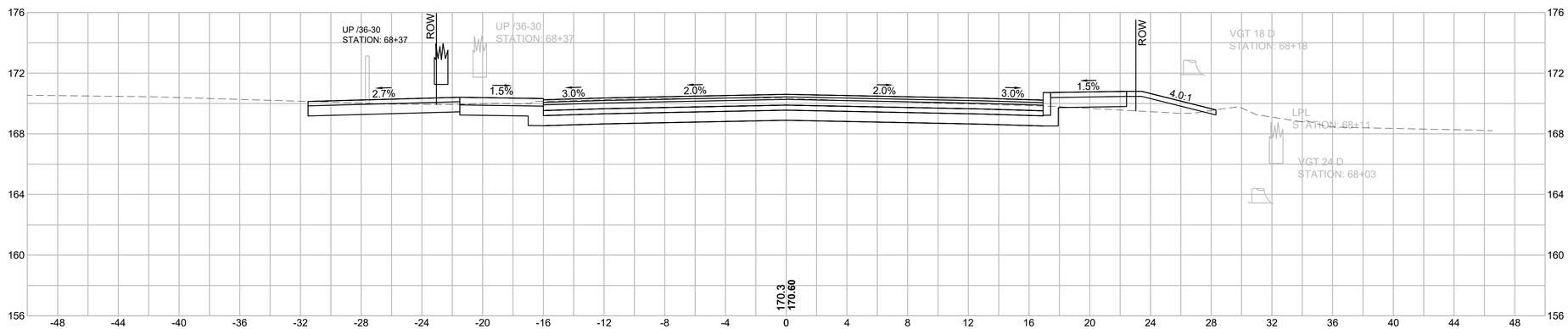
CROSS SECTIONS 70

68+50



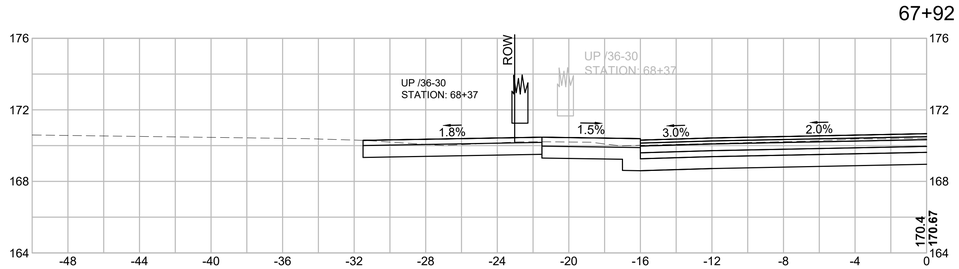
EARTHWORK 68+50	
CUT AREA	62.92 SF
FILL AREA	2.65 SF

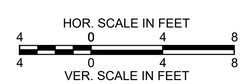
68+00



EARTHWORK 68+00	
CUT AREA	61.38 SF
FILL AREA	3.66 SF

67+92





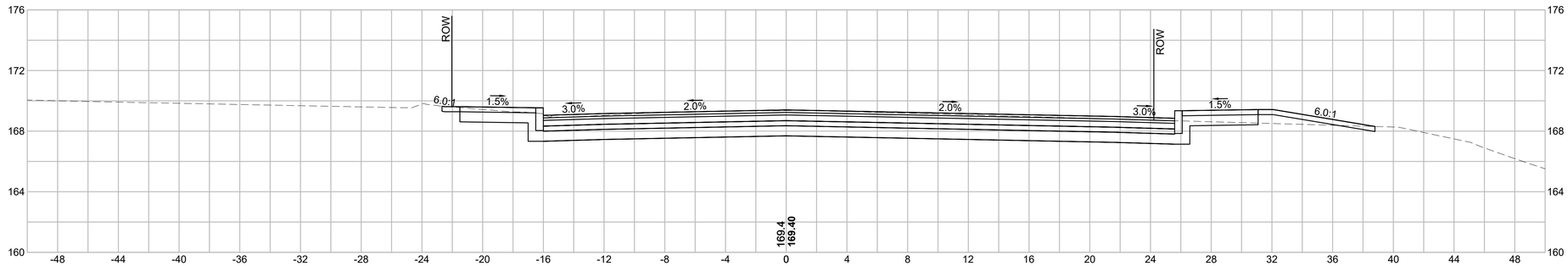
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 12:59 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	289	331
PROJECT FILE NO.	604123		

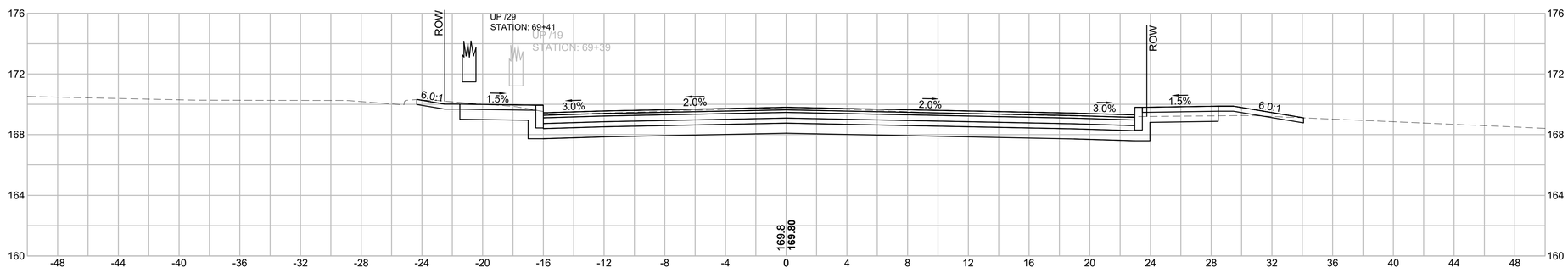
CROSS SECTIONS 71

69+50



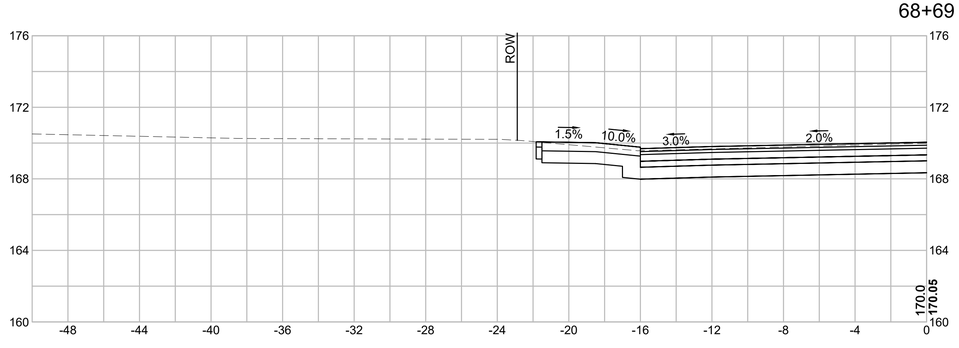
EARTHWORK 69+50	
CUT AREA	77.28 SF
FILL AREA	1.83 SF

69+00



EARTHWORK 69+00	
CUT AREA	73.24 SF
FILL AREA	0.55 SF

68+69



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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:00 PM

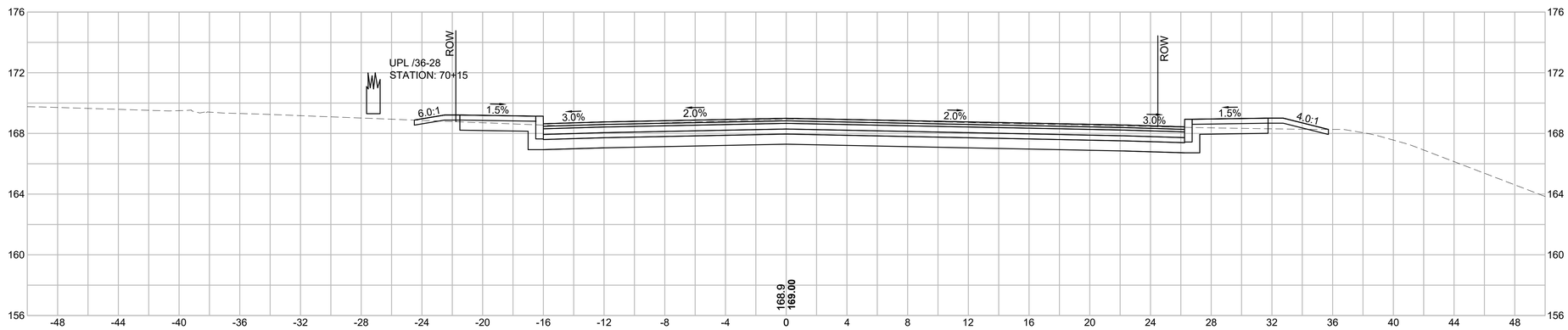
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	290	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 72

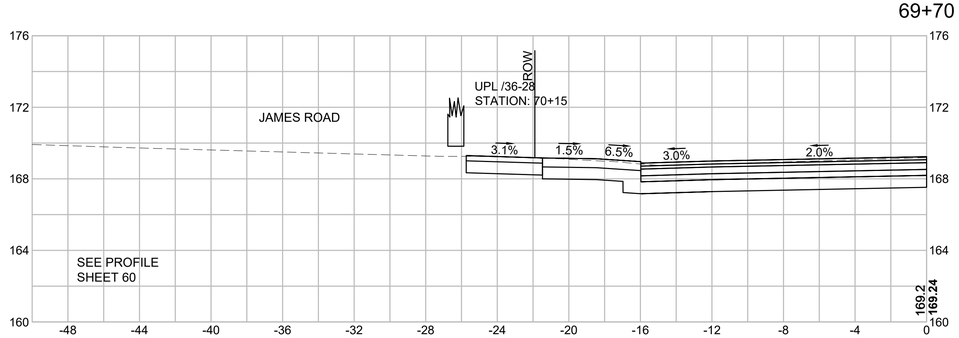
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:01 PM

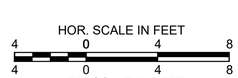
70+00



EARTHWORK 70+00	
CUT AREA	76.61 SF
FILL AREA	0.80 SF

69+70



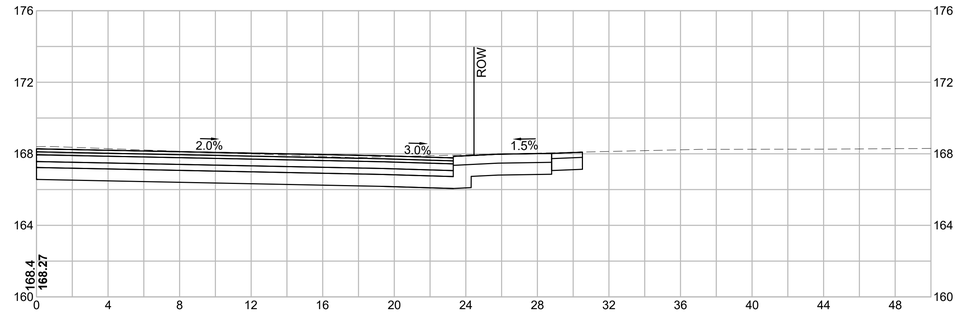


ASHLAND, MA
ROUTE 126 (POND STREET)

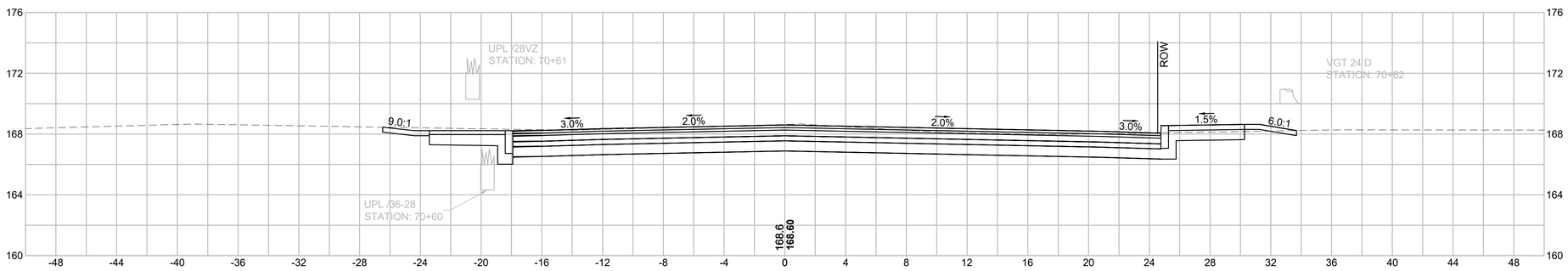
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	291	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 73

70+90

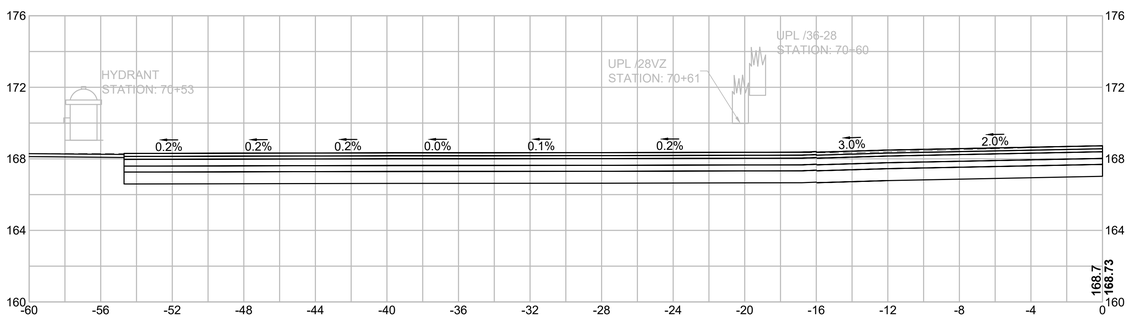


70+50



EARTHWORK 70+50	
CUT AREA	73.43 SF
FILL AREA	0.16 SF

70+33



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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:02 PM

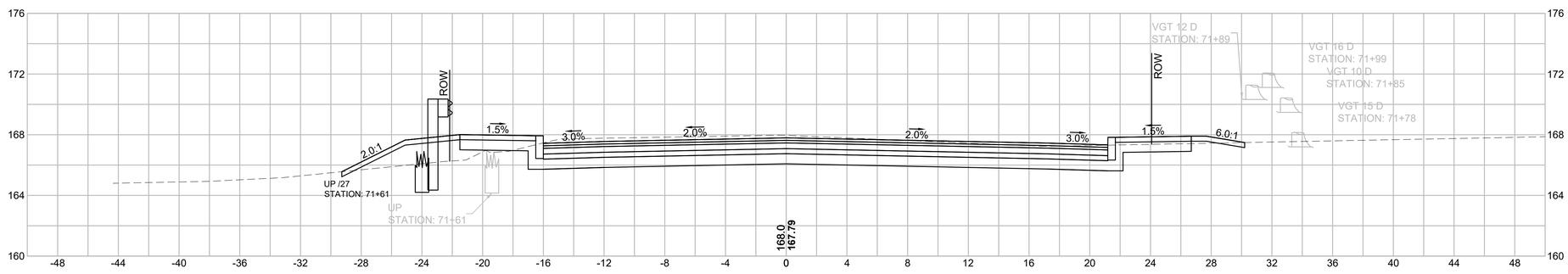
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	292	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 74

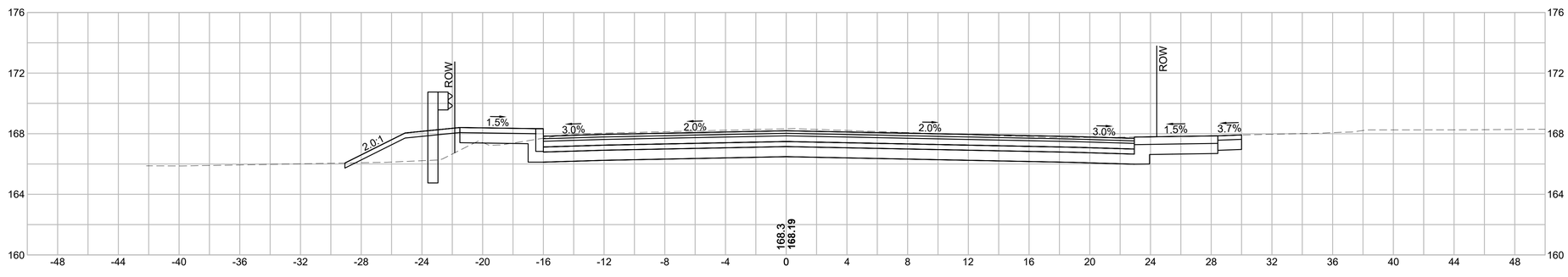
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:03 PM

71+50



EARTHWORK 71+50	
CUT AREA	72.01 SF
FILL AREA	8.13 SF

71+00



EARTHWORK 71+00	
CUT AREA	78.74 SF
FILL AREA	8.53 SF

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

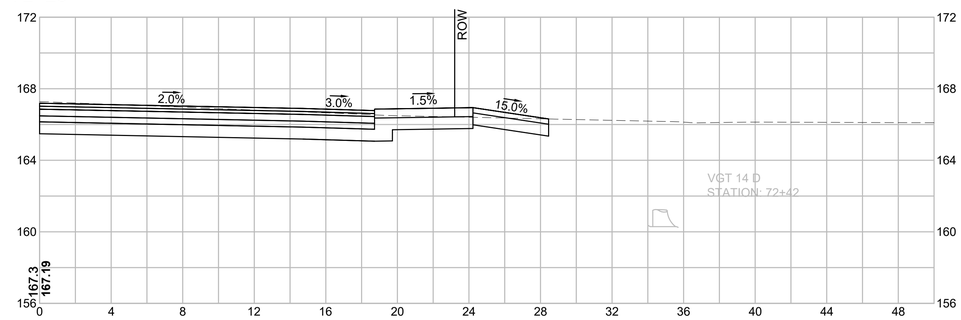
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	293	331
PROJECT FILE NO.		604123	

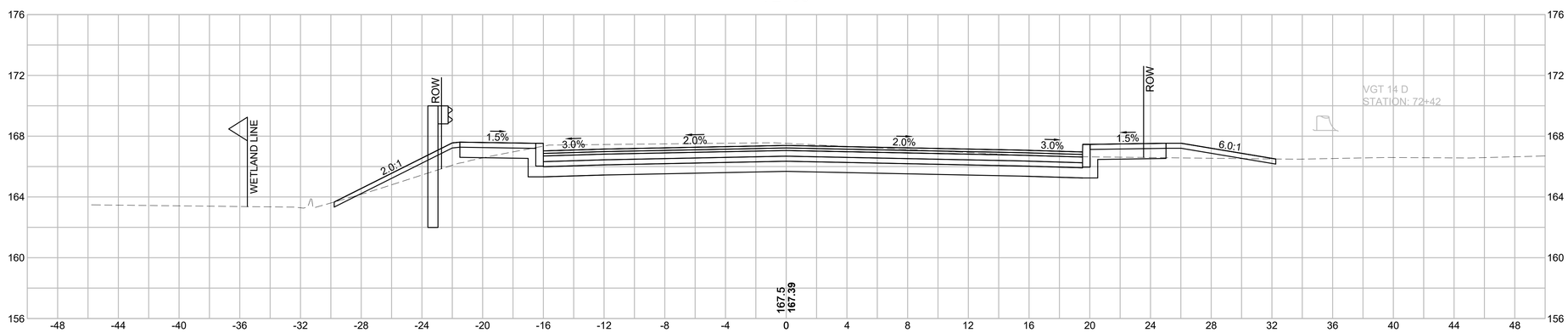
CROSS SECTIONS 75

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:04 PM

72+25



72+00



EARTHWORK 72+00	
CUT AREA	67.33 SF
FILL AREA	6.36 SF

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

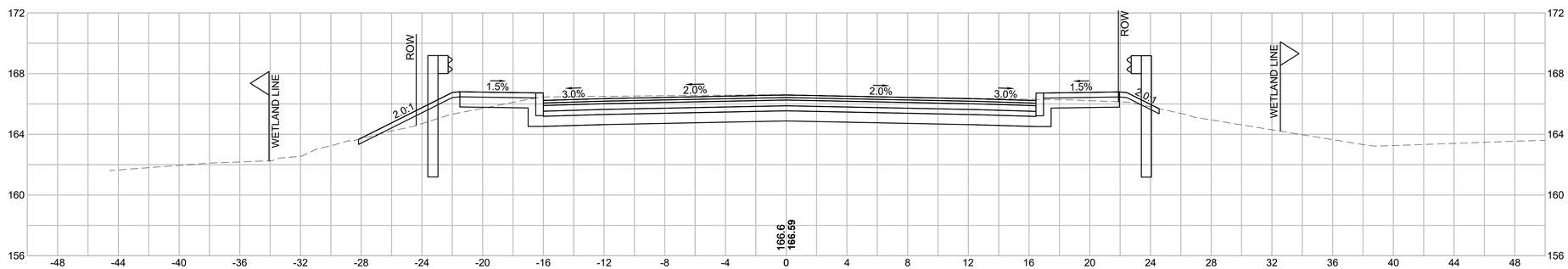
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	294	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 76

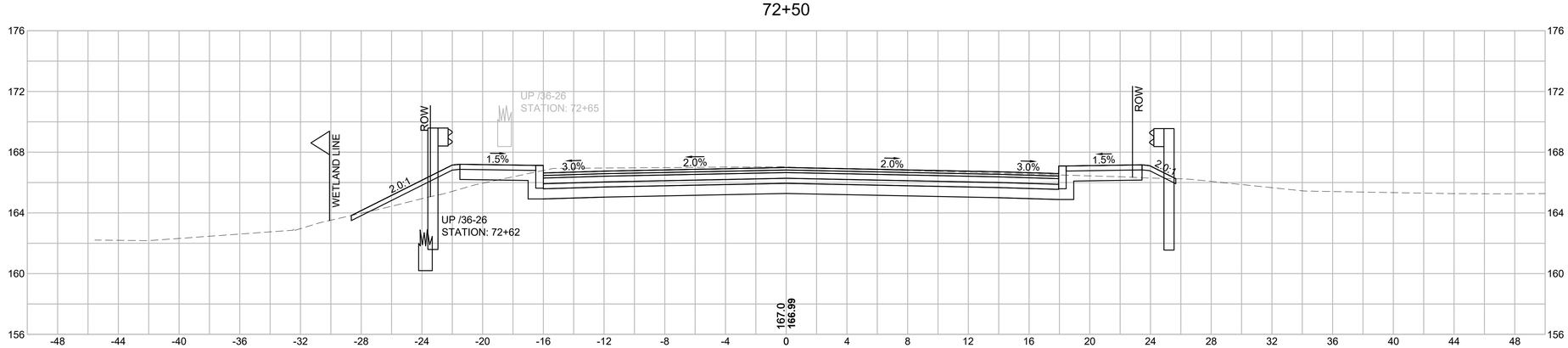
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:05 PM

73+00



EARTHWORK 73+00	
CUT AREA	64.65 SF
FILL AREA	4.00 SF

72+50



EARTHWORK 72+50	
CUT AREA	65.17 SF
FILL AREA	5.77 SF

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

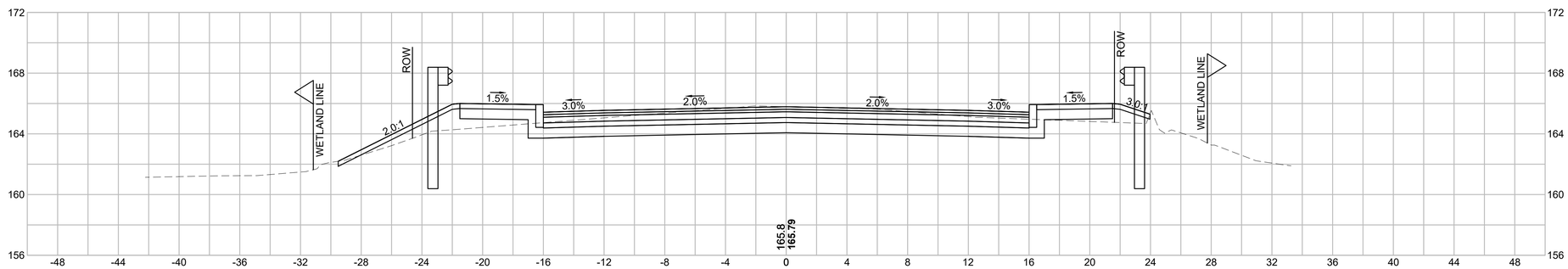
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	295	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 77

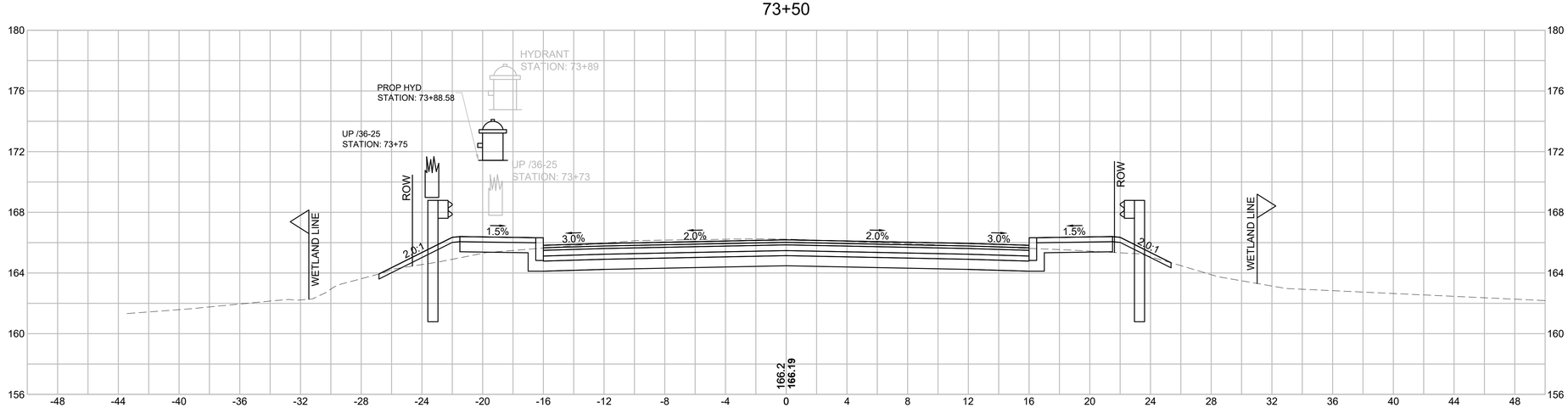
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:06 PM

74+00



EARTHWORK 74+00	
CUT AREA	49.62 SF
FILL AREA	8.34 SF

73+50



EARTHWORK 73+50	
CUT AREA	58.51 SF
FILL AREA	3.73 SF

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

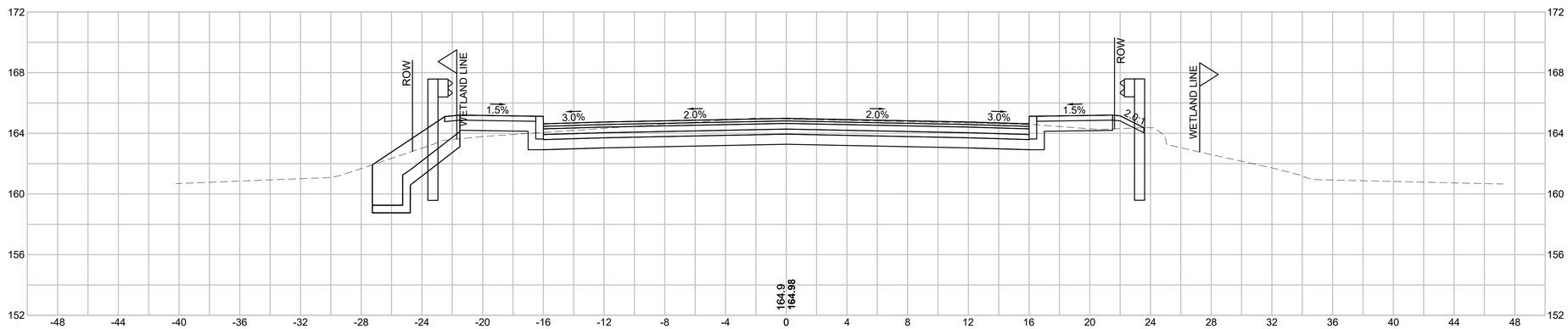
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	296	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 78

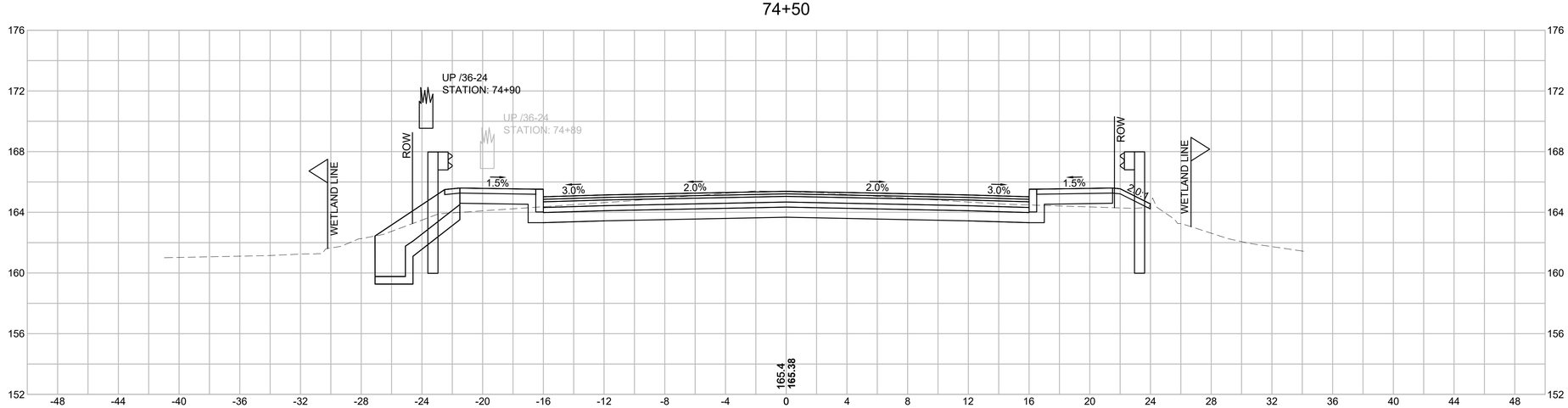
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:07 PM

75+00



EARTHWORK 75+00	
CUT AREA	67.43 SF
FILL AREA	2.01 SF

74+50



EARTHWORK 74+50	
CUT AREA	58.66 SF
FILL AREA	4.17 SF

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

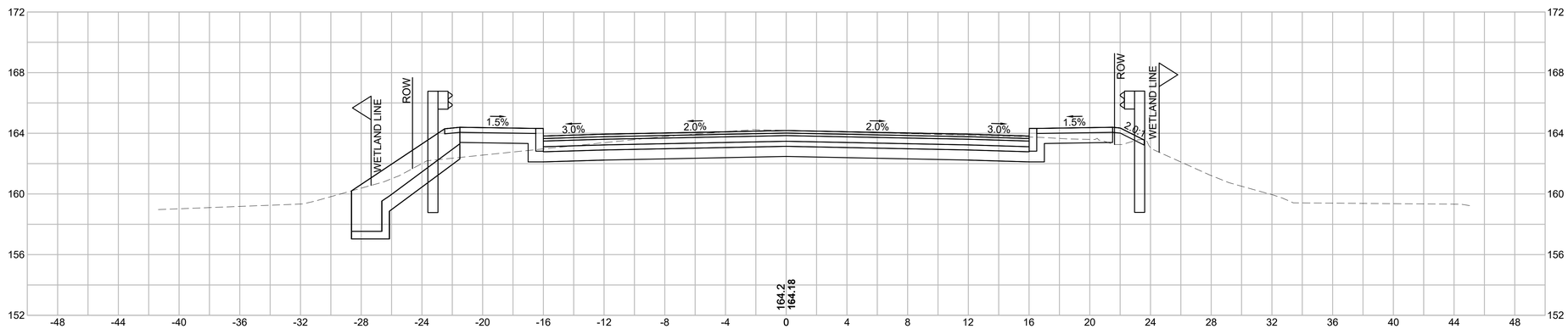
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	297	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 79

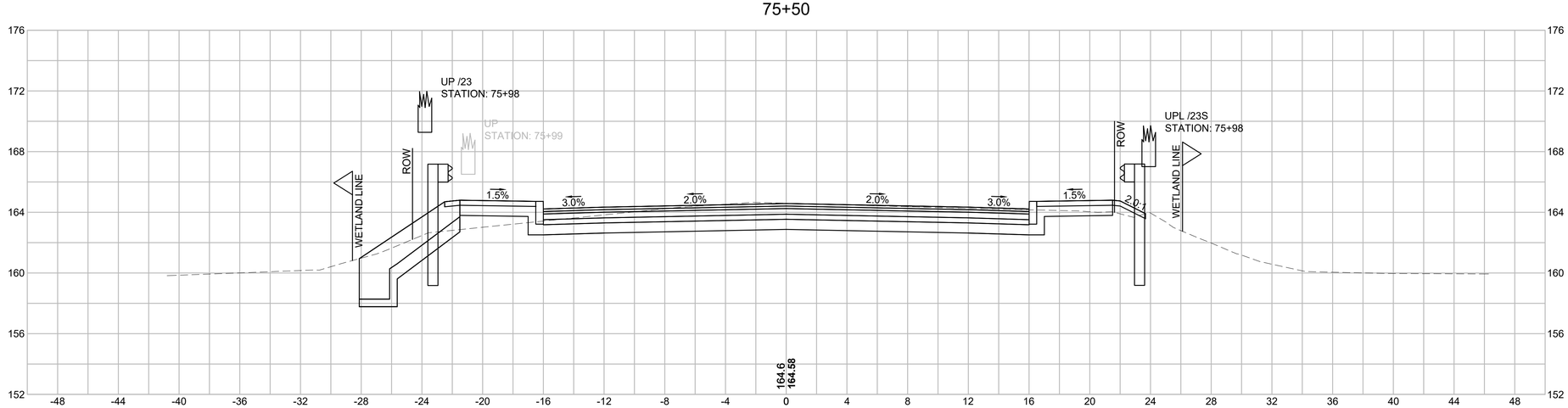
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:08 PM

76+00



EARTHWORK 76+00	
CUT AREA	67.89 SF
FILL AREA	4.05 SF

75+50



EARTHWORK 75+50	
CUT AREA	68.31 SF
FILL AREA	3.67 SF

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

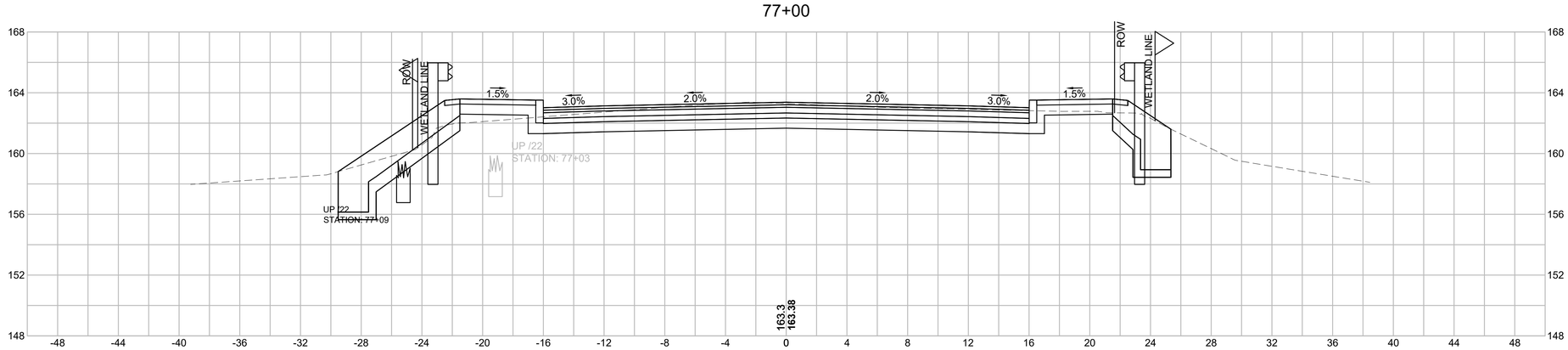
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	298	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 80

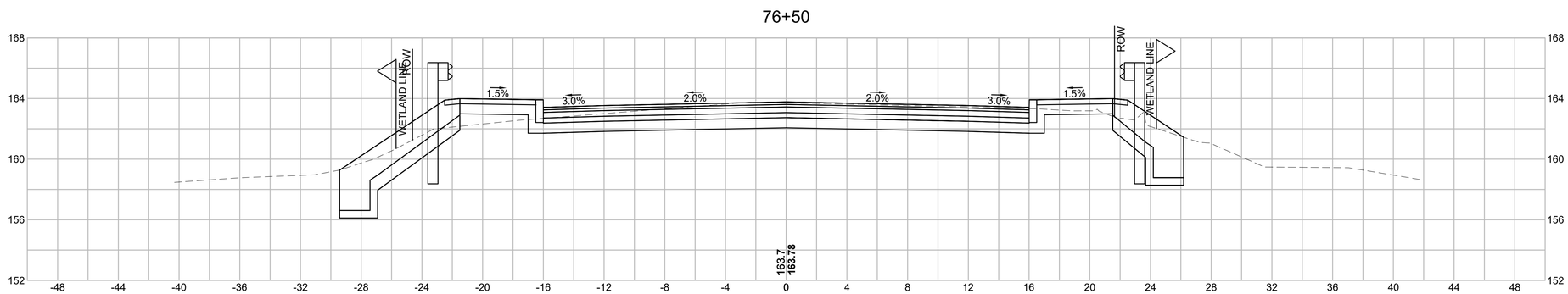
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:09 PM

77+00



EARTHWORK 77+00	
CUT AREA	78.74 SF
FILL AREA	1.79 SF

76+50



EARTHWORK 76+50	
CUT AREA	81.39 SF
FILL AREA	2.57 SF

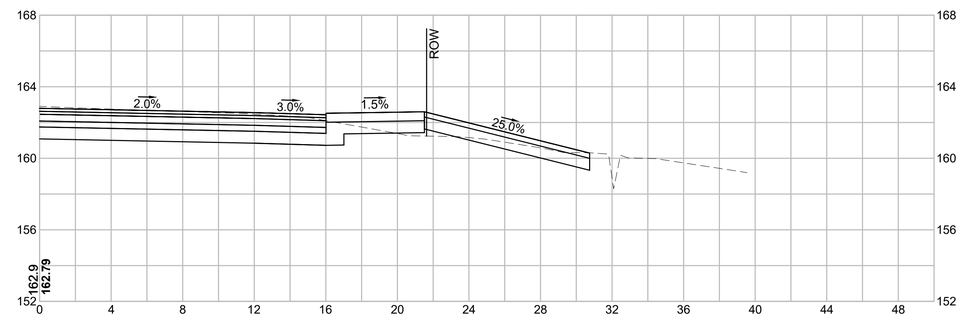
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

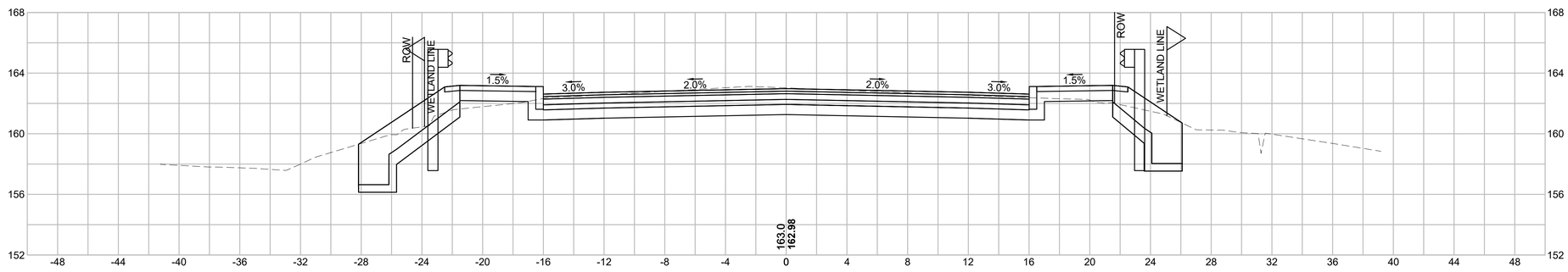
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	299	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 81

77+74



77+50



EARTHWORK 77+50	
CUT AREA	82.40 SF
FILL AREA	1.48 SF

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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:10 PM

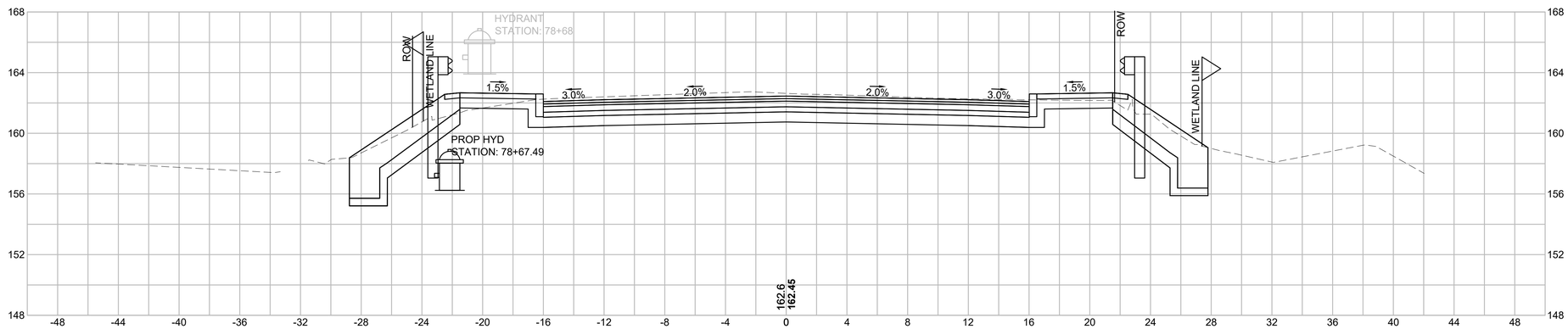
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	300	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 82

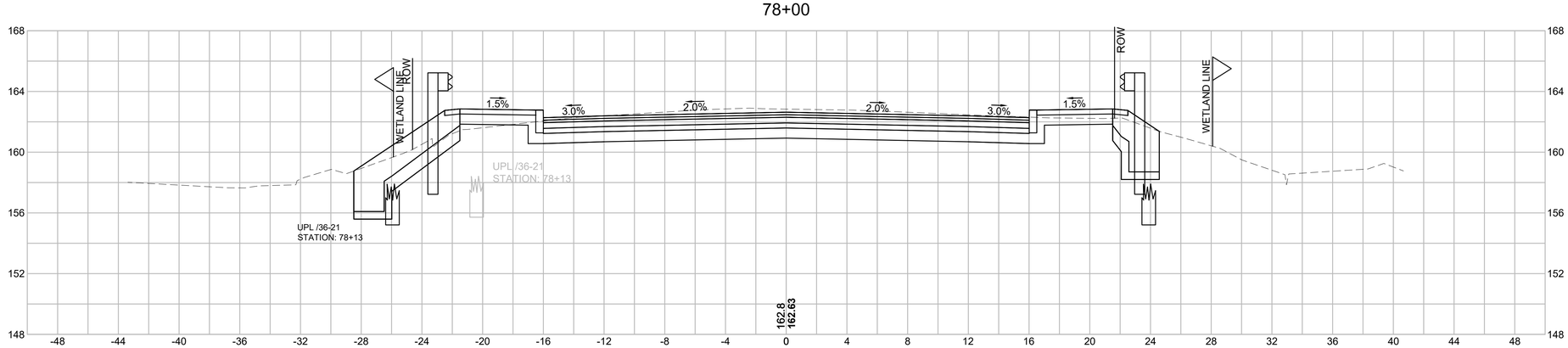
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:12 PM

78+50



EARTHWORK 78+50	
CUT AREA	102.39 SF
FILL AREA	0.18 SF

78+00



EARTHWORK 78+00	
CUT AREA	89.72 SF
FILL AREA	0.65 SF

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

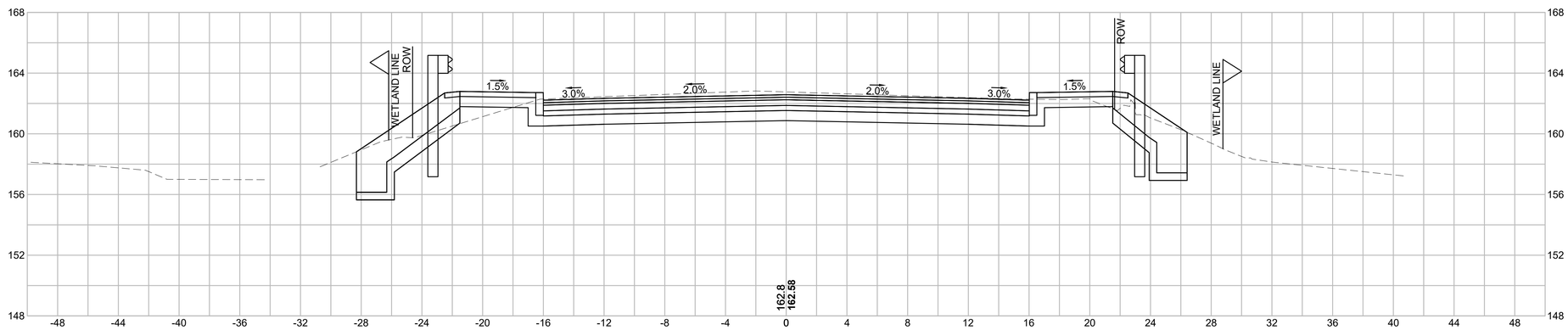
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	301	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 83

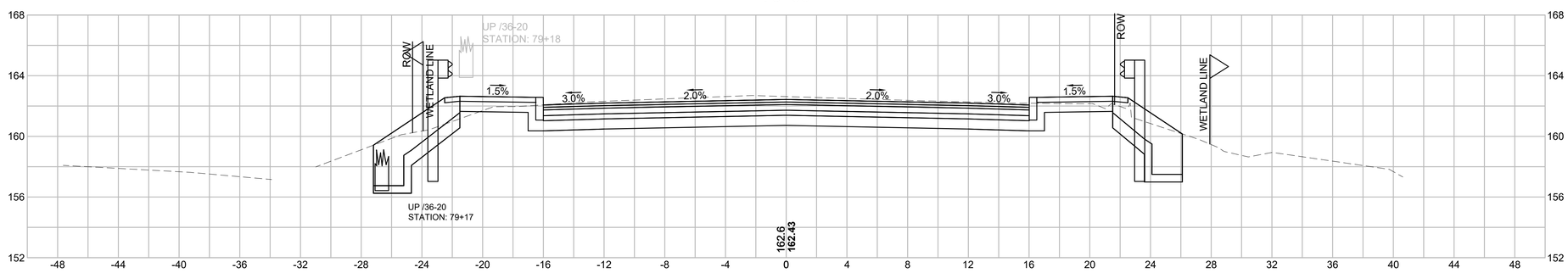
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:13 PM

79+50



EARTHWORK 79+50	
CUT AREA	91.52 SF
FILL AREA	1.99 SF

79+00



EARTHWORK 79+00	
CUT AREA	92.44 SF
FILL AREA	0.32 SF

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

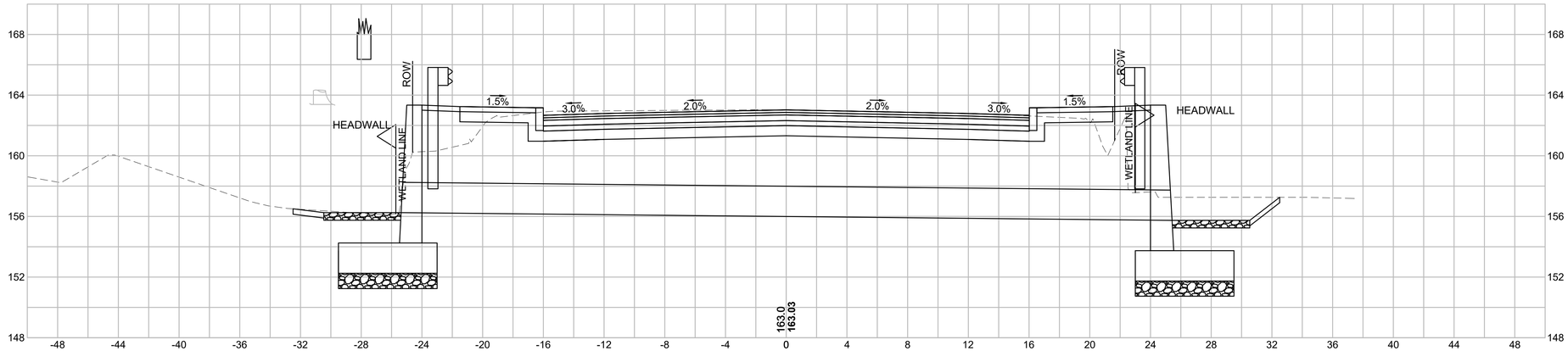
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	302	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 84

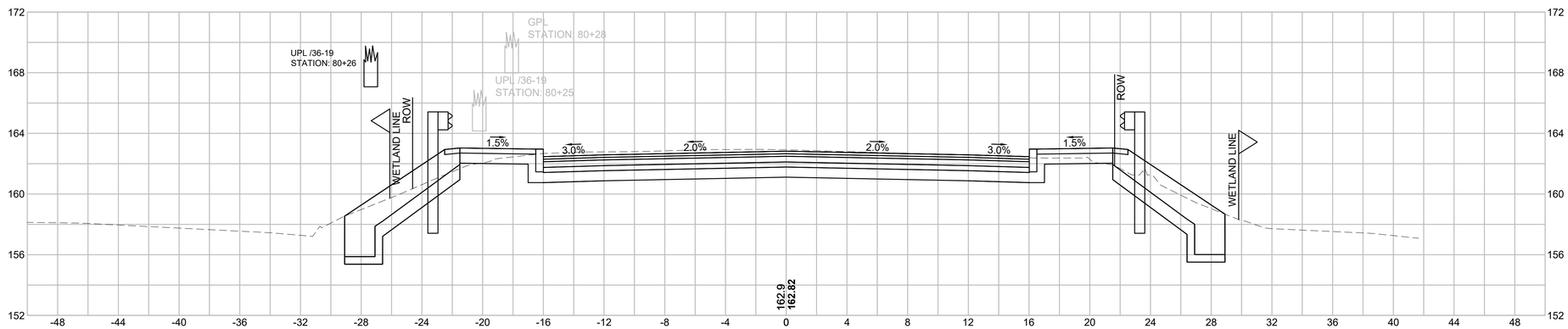
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:14 PM

80+41



EARTHWORK 80+50	
CUT AREA	93.62 SF
FILL AREA	1.00 SF

80+00



EARTHWORK 80+00	
CUT AREA	98.74 SF
FILL AREA	0.22 SF

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

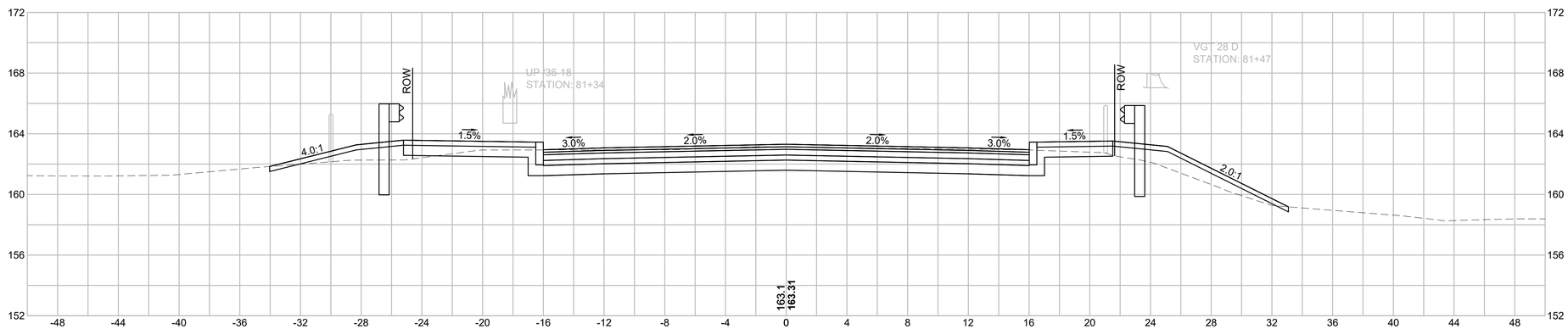
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	303	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 85

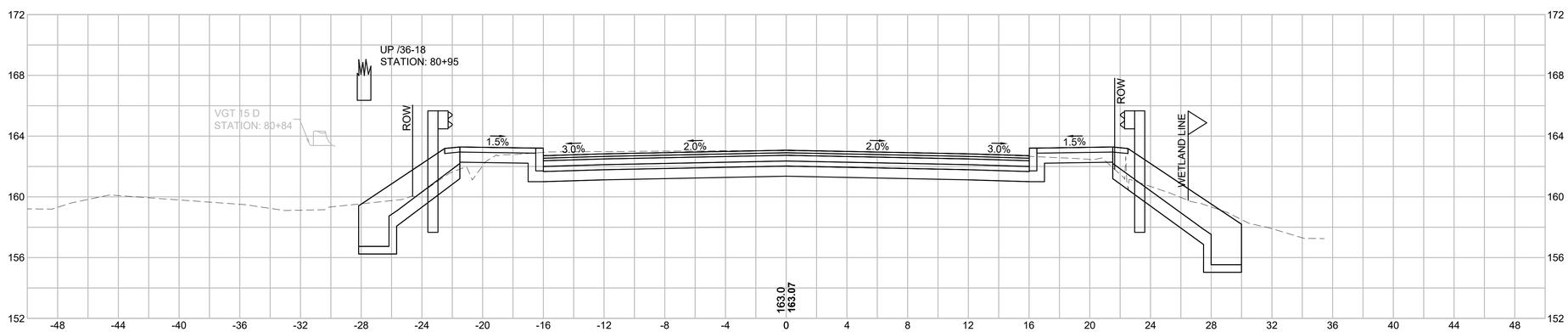
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:15 PM

81+00



EARTHWORK 81+00	
CUT AREA	57.89 SF
FILL AREA	11.45 SF

80+50



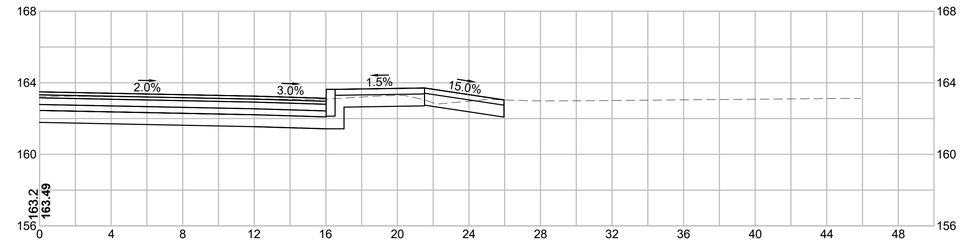
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

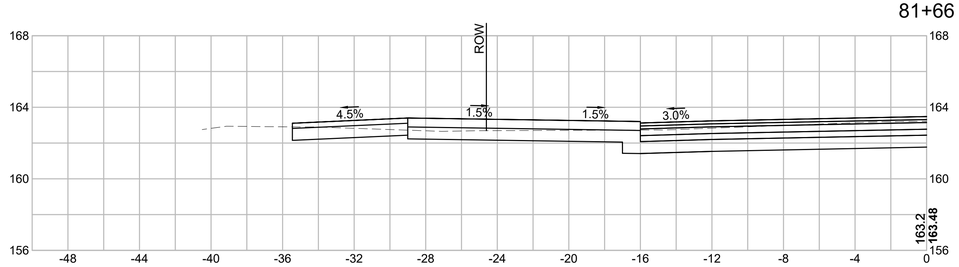
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	304	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 86

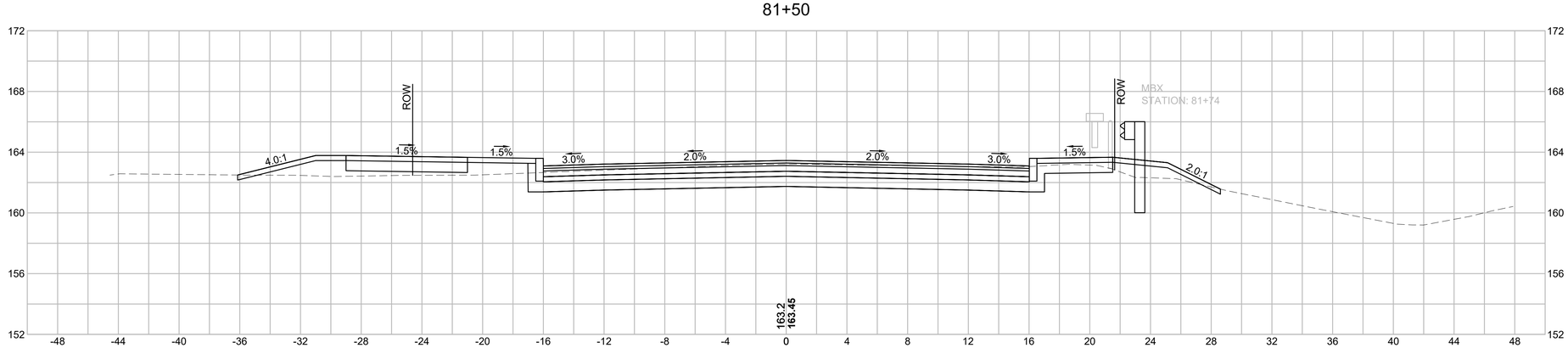
81+78



81+66



81+50



EARTHWORK 81+50	
CUT AREA	52.28 SF
FILL AREA	12.32 SF

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

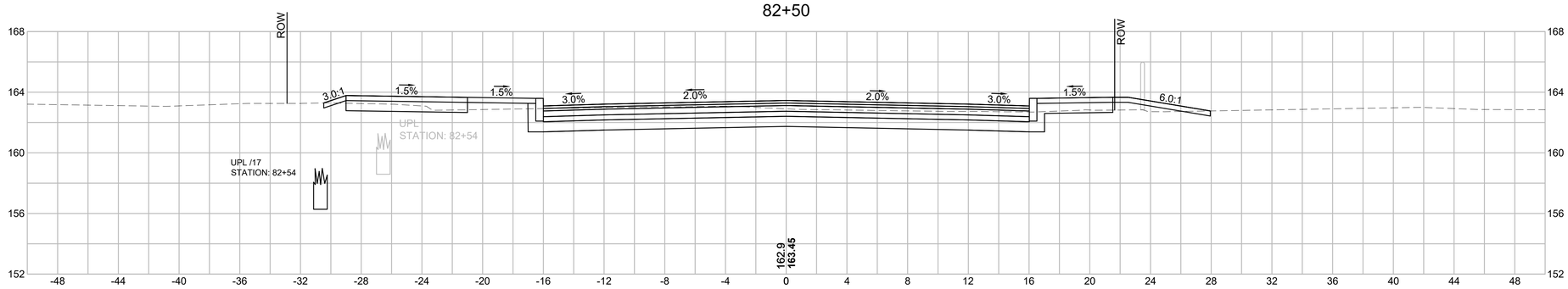
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:16 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	305	331
PROJECT FILE NO.	604123		

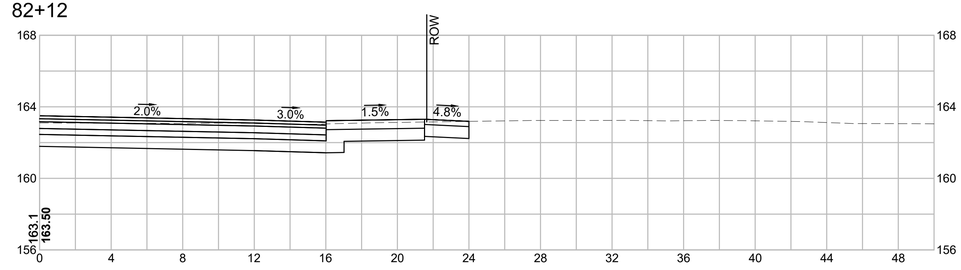
CROSS SECTIONS 87

82+50

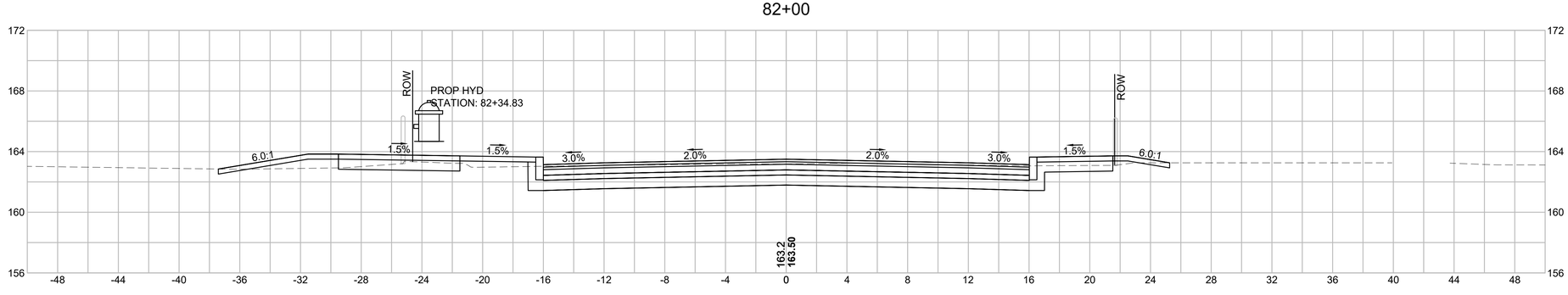


EARTHWORK 82+50	
CUT AREA	48.88 SF
FILL AREA	3.25 SF

82+12



82+00



EARTHWORK 82+00	
CUT AREA	57.36 SF
FILL AREA	4.19 SF

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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:17 PM

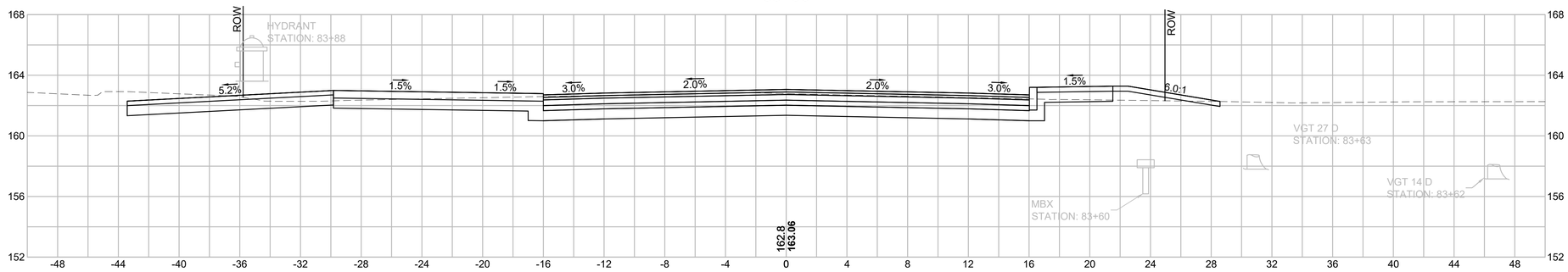
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	306	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 88

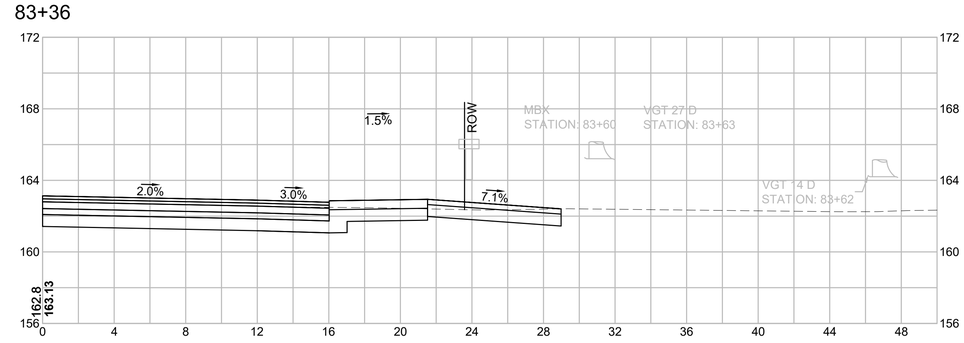
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:19 PM

83+50

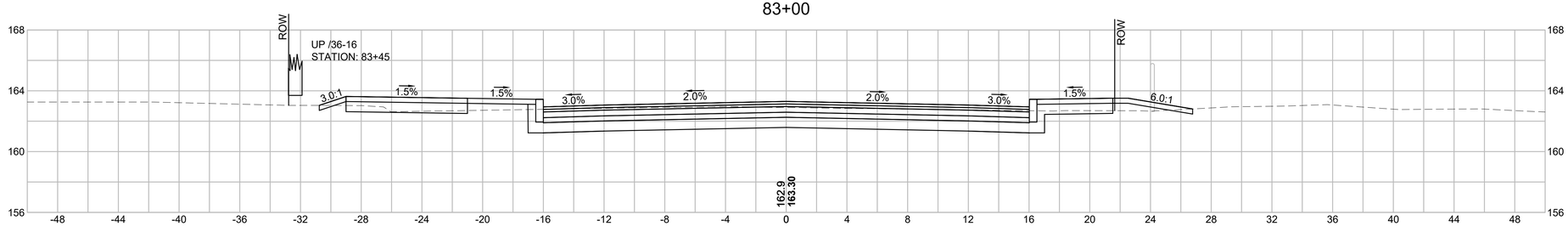


EARTHWORK 83+50	
CUT AREA	72.76 SF
FILL AREA	1.76 SF

83+36



83+00



EARTHWORK 83+00	
CUT AREA	51.28 SF
FILL AREA	2.96 SF

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

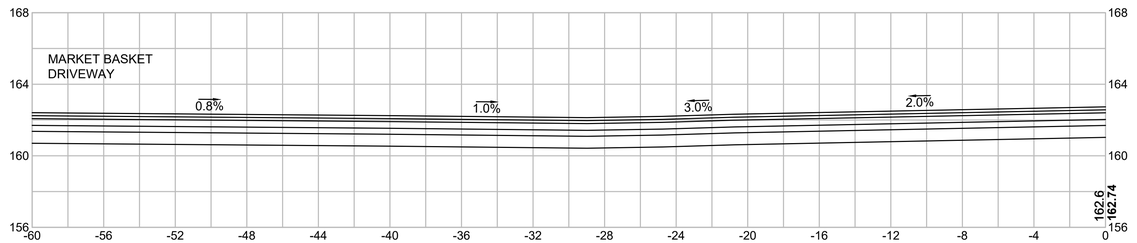
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	307	331
PROJECT FILE NO.	604123		

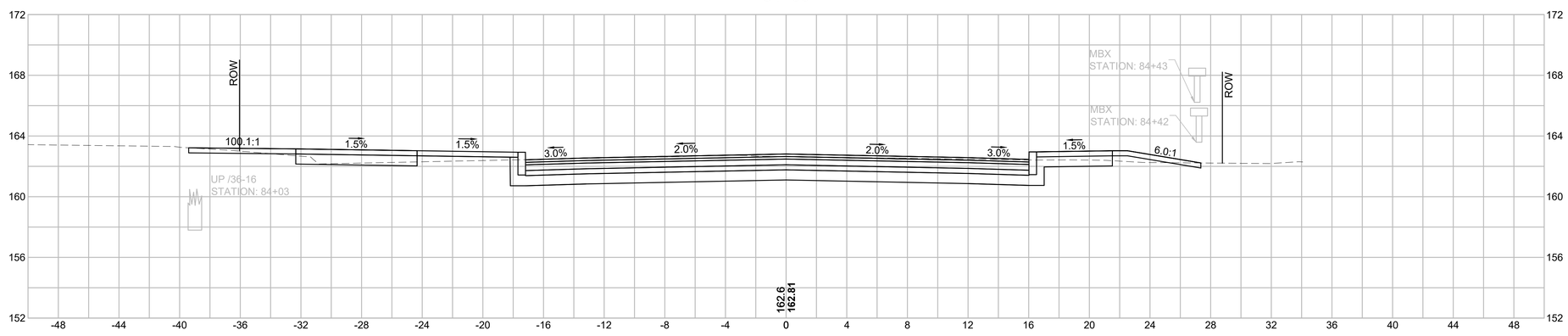
CROSS SECTIONS 89

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:20 PM

84+15

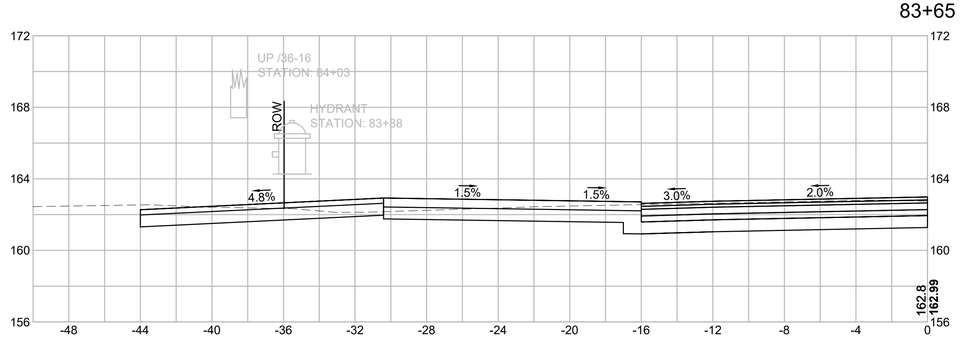


84+00



EARTHWORK 84+00	
CUT AREA	62.50 SF
FILL AREA	2.81 SF

83+65



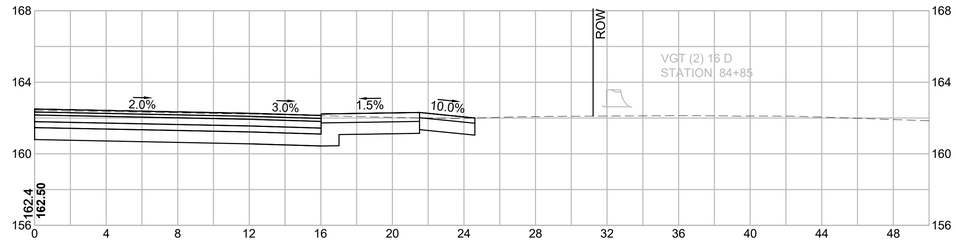
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

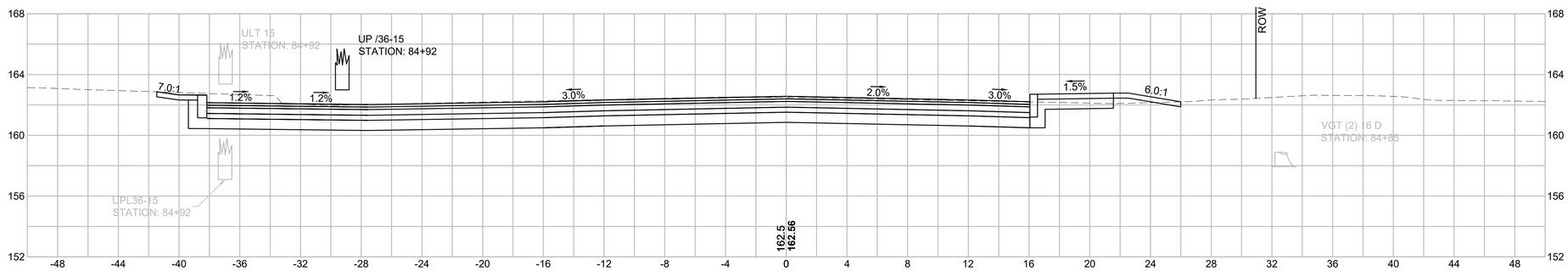
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	308	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 90

84+62

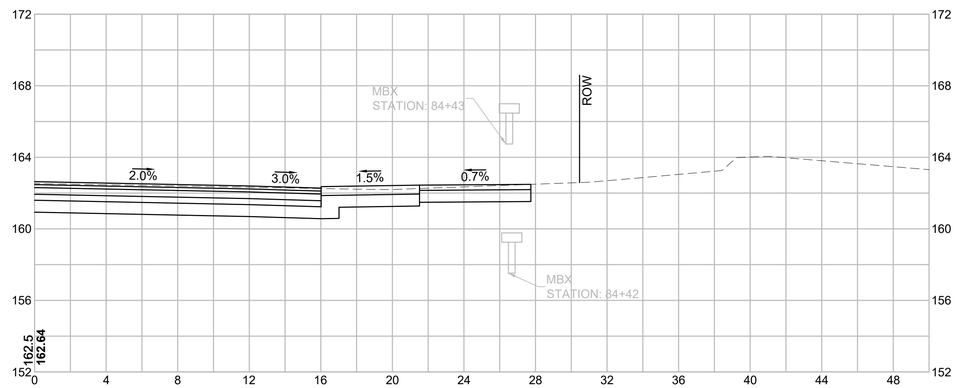


84+50



EARTHWORK 84+50	
CUT AREA	87.28 SF
FILL AREA	0.00 SF

84+35



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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:21 PM

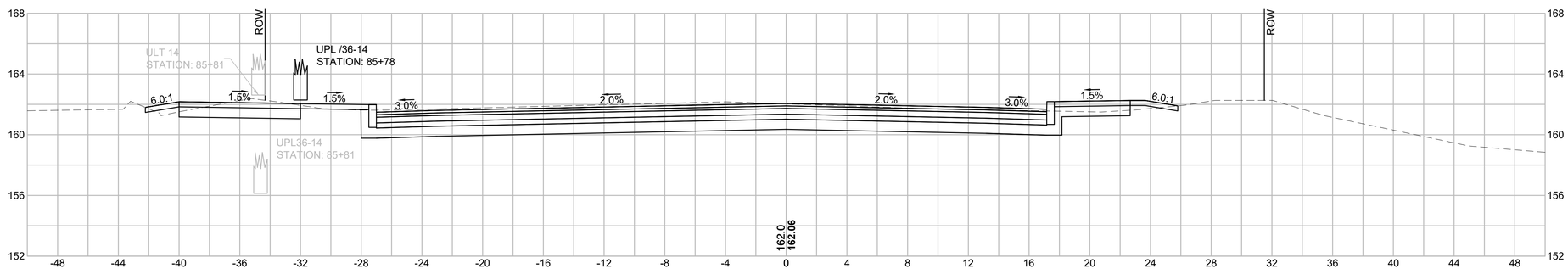
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	309	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 91

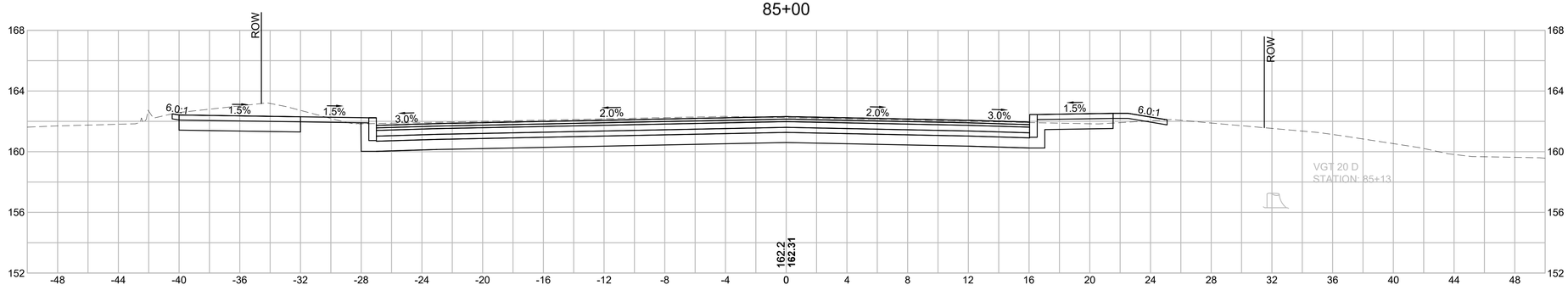
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:22 PM

85+50



EARTHWORK 85+50	
CUT AREA	89.52 SF
FILL AREA	0.89 SF

85+00



EARTHWORK 85+00	
CUT AREA	93.88 SF
FILL AREA	0.46 SF

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

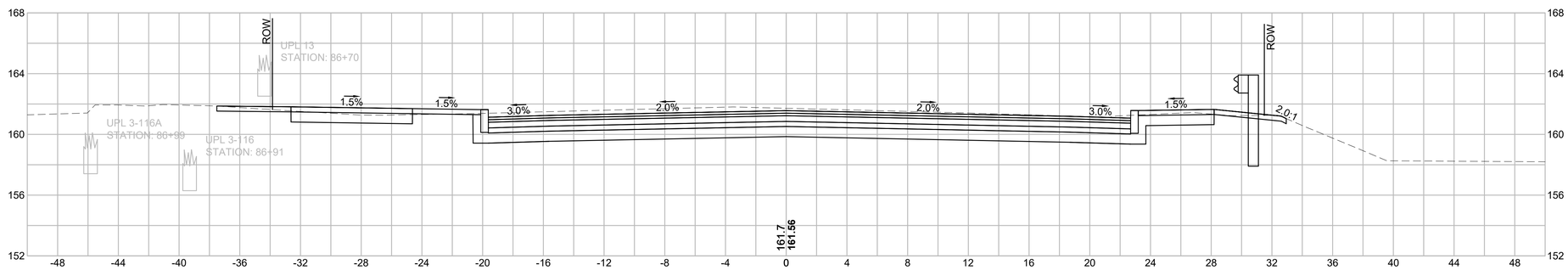
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	310	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 92

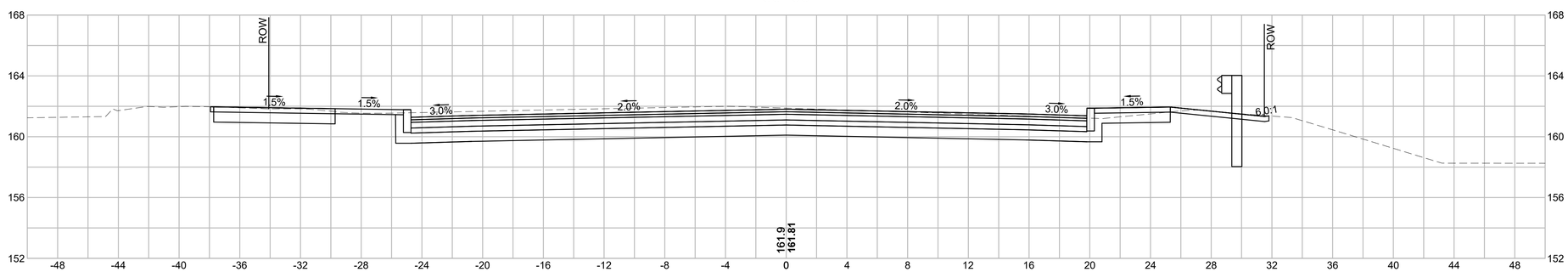
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:23 PM

86+50



EARTHWORK 86+50	
CUT AREA	93.47 SF
FILL AREA	0.07 SF

86+00



EARTHWORK 86+00	
CUT AREA	96.78 SF
FILL AREA	0.00 SF

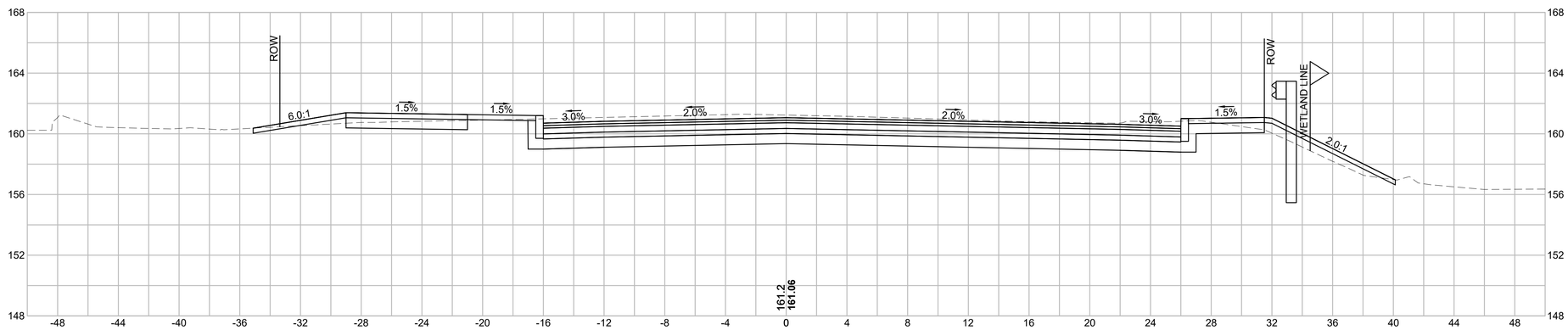
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	311	331
PROJECT FILE NO.	604123		

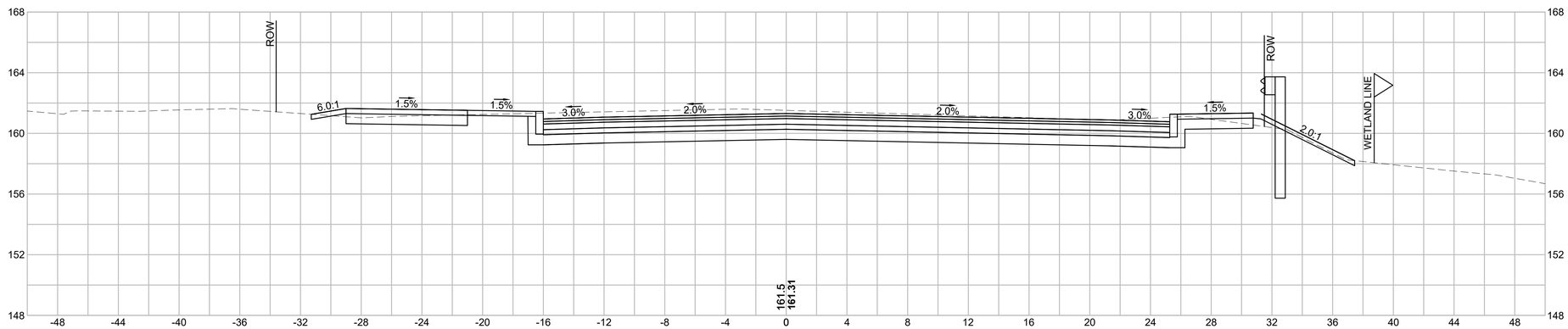
CROSS SECTIONS 93

87+50



EARTHWORK 87+50	
CUT AREA	90.37 SF
FILL AREA	4.34 SF

87+00



EARTHWORK 87+00	
CUT AREA	90.99 SF
FILL AREA	0.64 SF

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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:24 PM

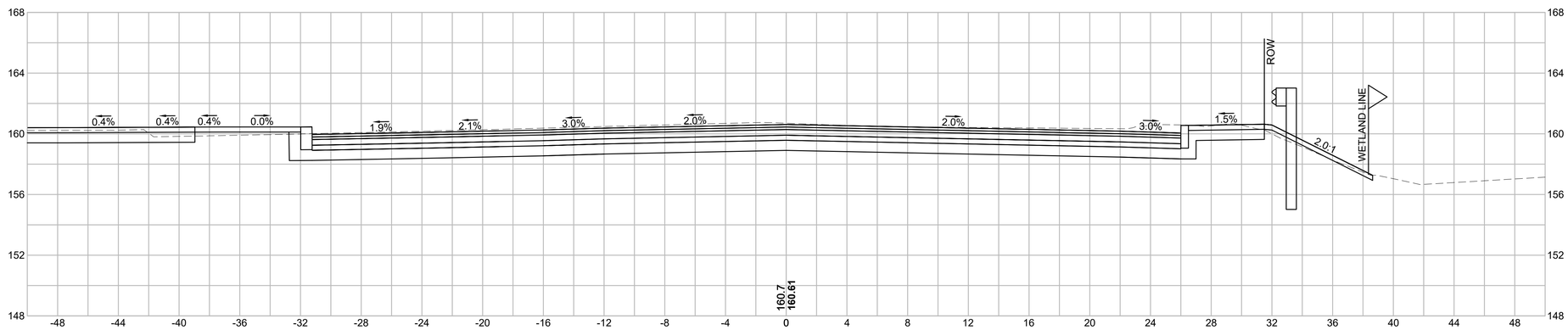
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	312	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 94

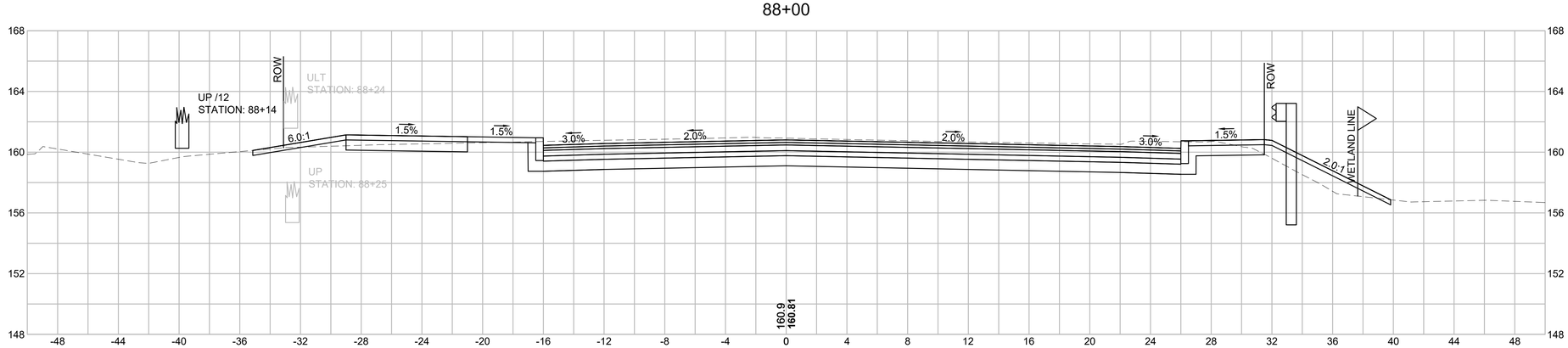
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:26 PM

88+50



EARTHWORK 88+50	
CUT AREA	121.35 SF
FILL AREA	1.83 SF

88+00



EARTHWORK 88+00	
CUT AREA	90.52 SF
FILL AREA	6.36 SF

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

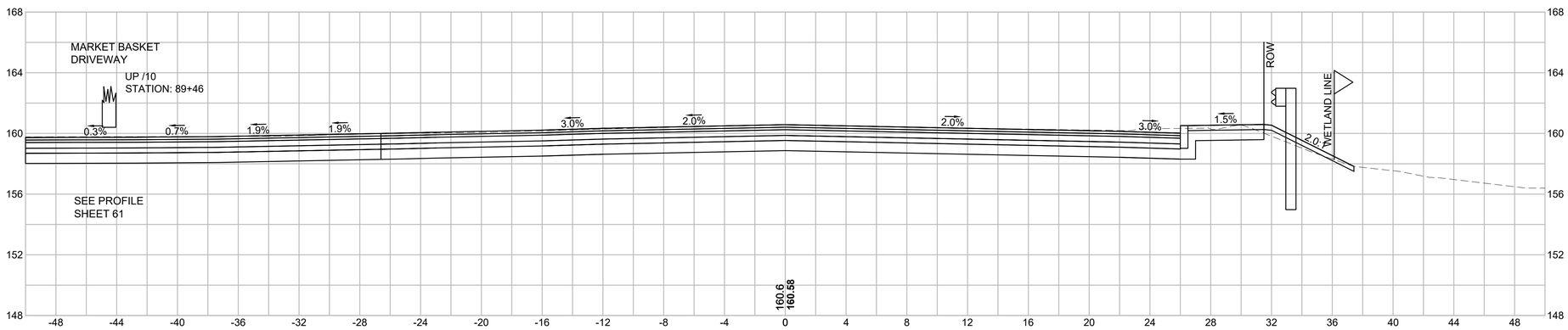
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	313	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 95

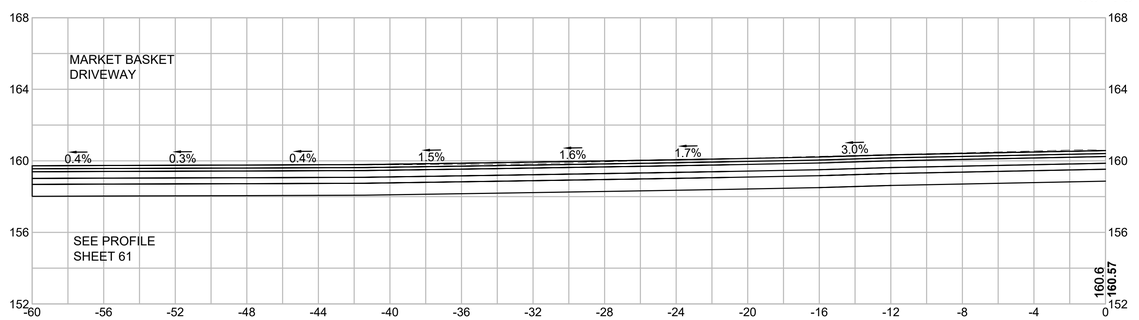
604123_H028(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:27 PM

89+00



EARTHWORK 89+00	
CUT AREA	135.31 SF
FILL AREA	0.85 SF

88+76



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

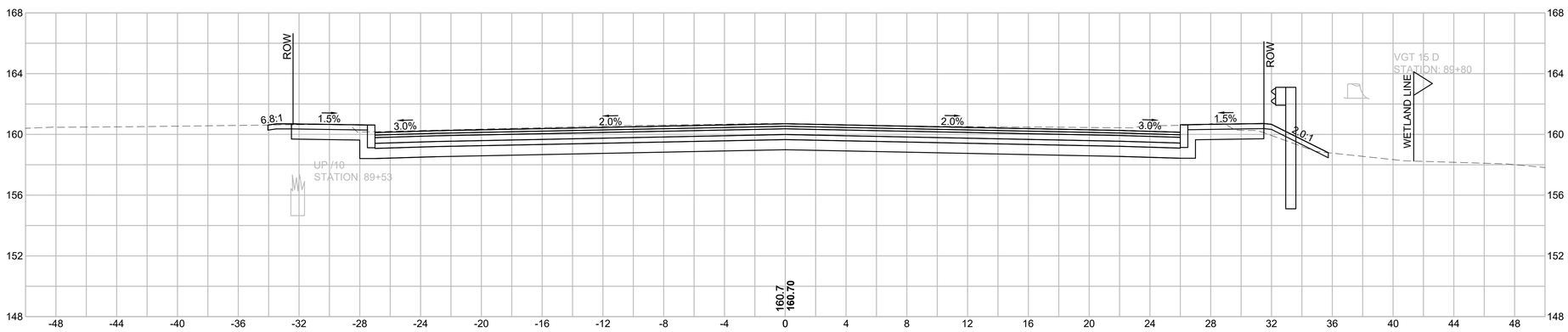
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	314	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 96

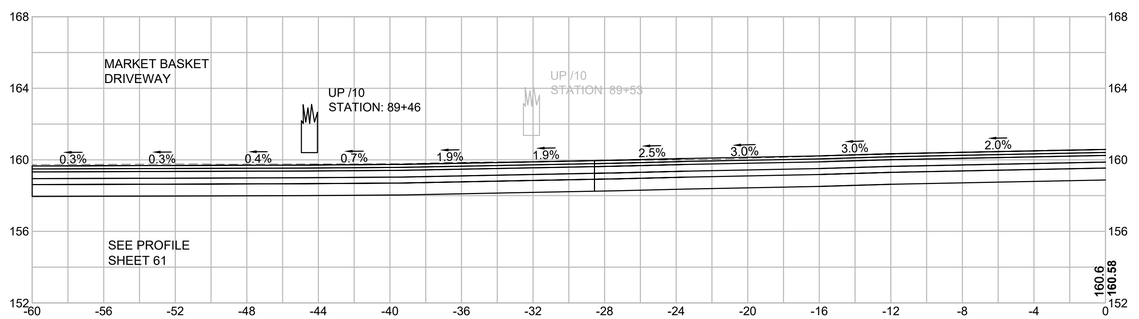
604123_H028(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:28 PM

89+50



EARTHWORK 89+50	
CUT AREA	107.33 SF
FILL AREA	0.75 SF

89+05



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

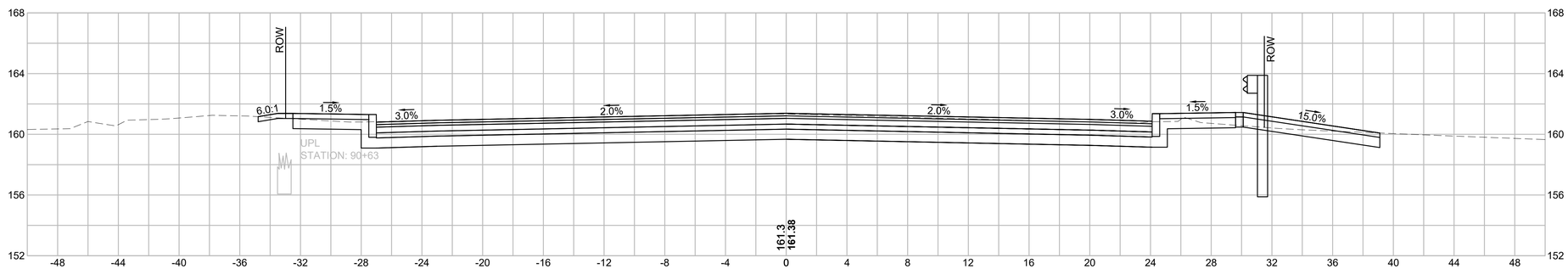
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	315	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 97

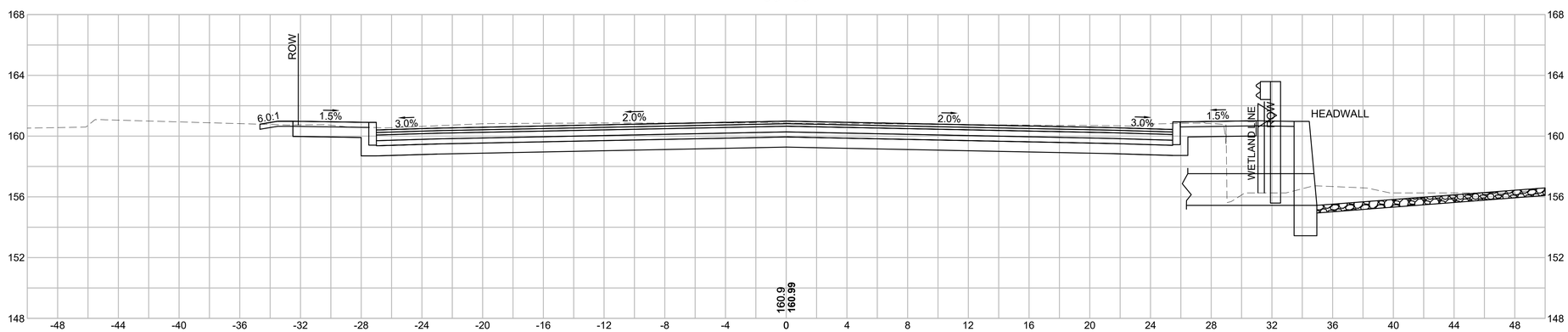
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:29 PM

90+50



EARTHWORK 90+50	
CUT AREA	97.10 SF
FILL AREA	0.00 SF

90+00



EARTHWORK 90+00	
CUT AREA	102.94 SF
FILL AREA	7.73 SF

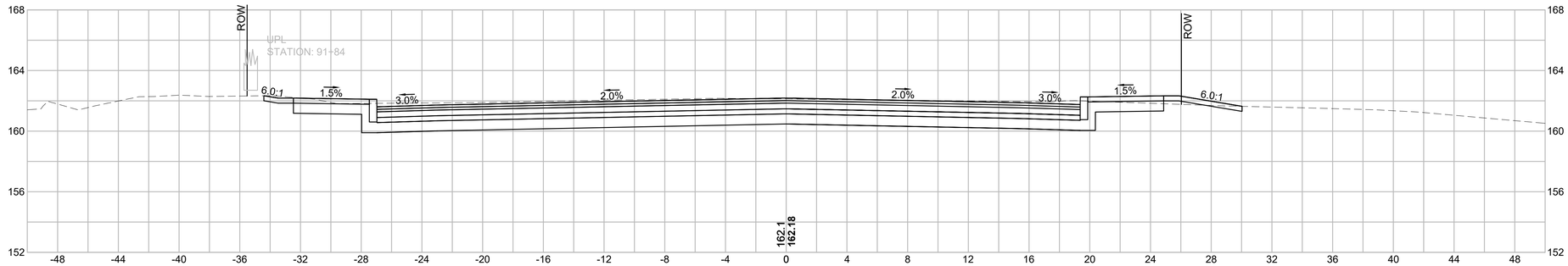
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	316	331
PROJECT FILE NO.	604123		

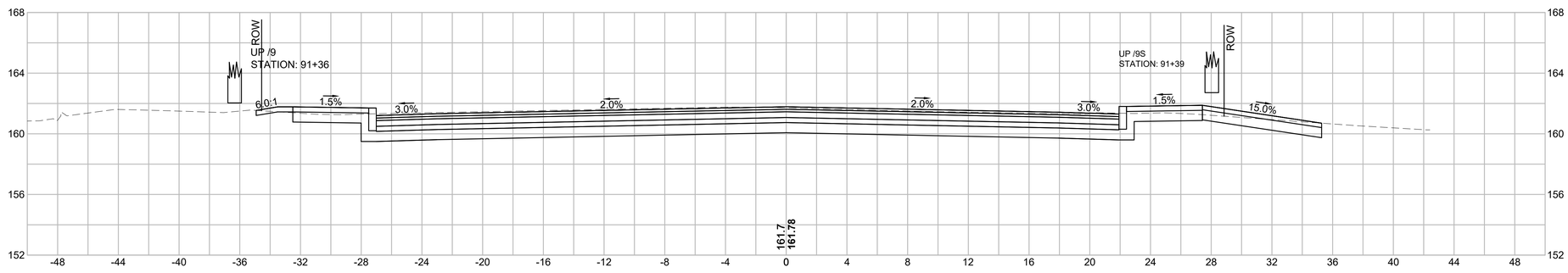
CROSS SECTIONS 98

91+50



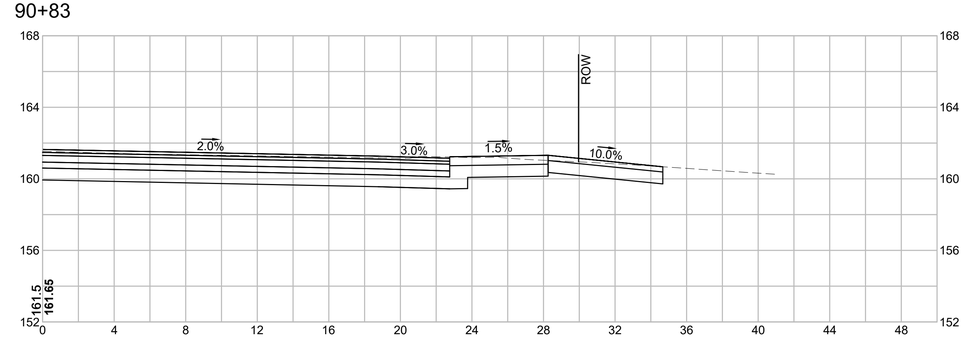
EARTHWORK 91+50	
CUT AREA	93.90 SF
FILL AREA	0.41 SF

91+00



EARTHWORK 91+00	
CUT AREA	97.00 SF
FILL AREA	0.02 SF

90+83



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

604123_H028(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:30 PM

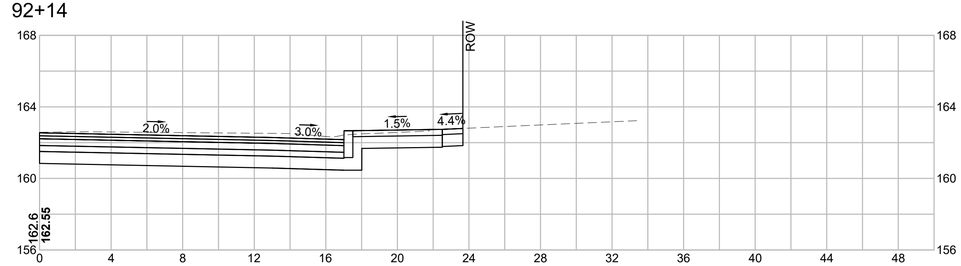
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	317	331
PROJECT FILE NO.	604123		

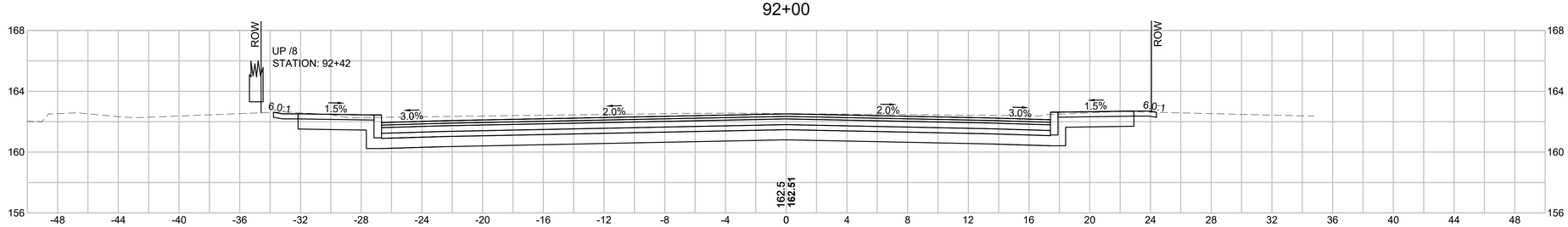
CROSS SECTIONS 99

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:31 PM

92+14

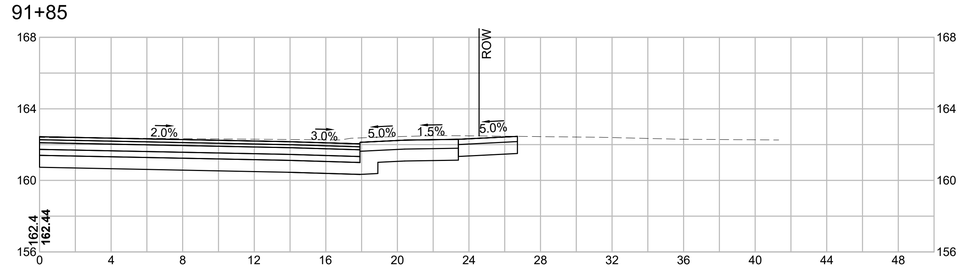


92+00



EARTHWORK 92+00	
CUT AREA	96.51 SF
FILL AREA	0.00 SF

91+85



HOR. SCALE IN FEET

VER. SCALE IN FEET

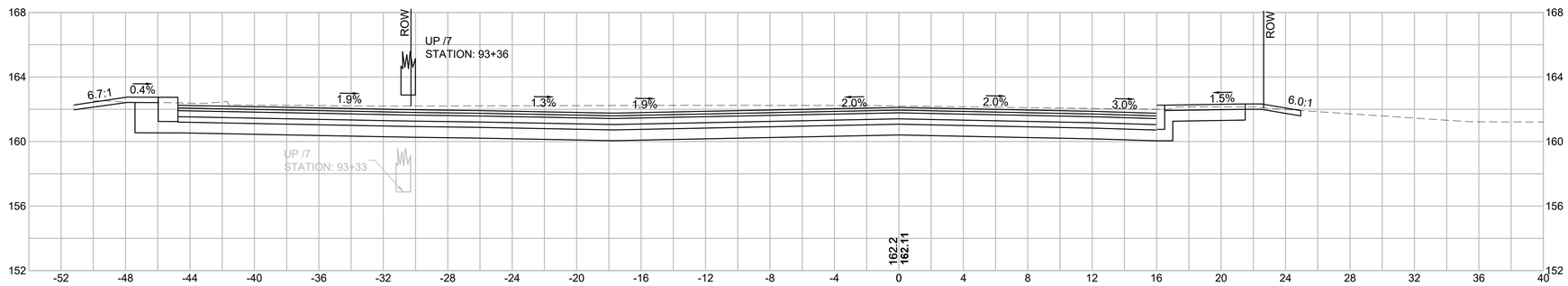
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	318	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 100

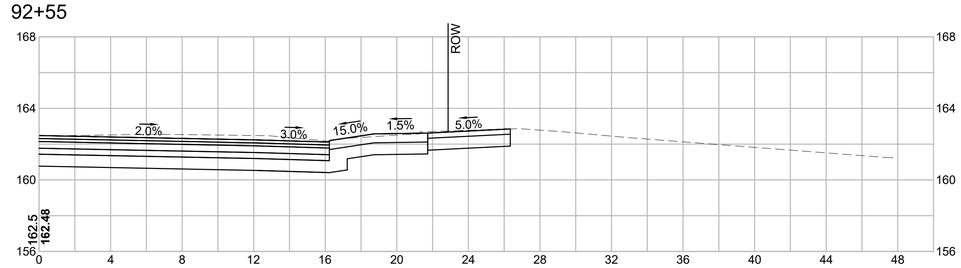
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:32 PM

93+00

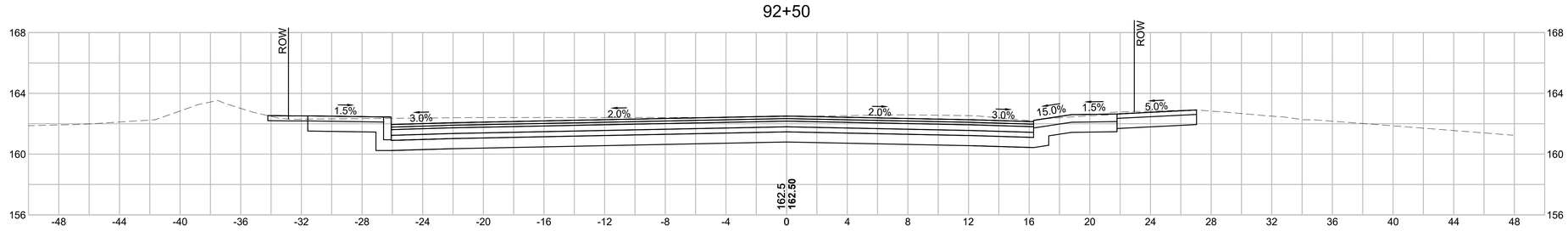


EARTHWORK 93+00	
CUT AREA	132.09 SF
FILL AREA	0.00 SF

92+55



92+50



EARTHWORK 92+50	
CUT AREA	97.75 SF
FILL AREA	0.00 SF

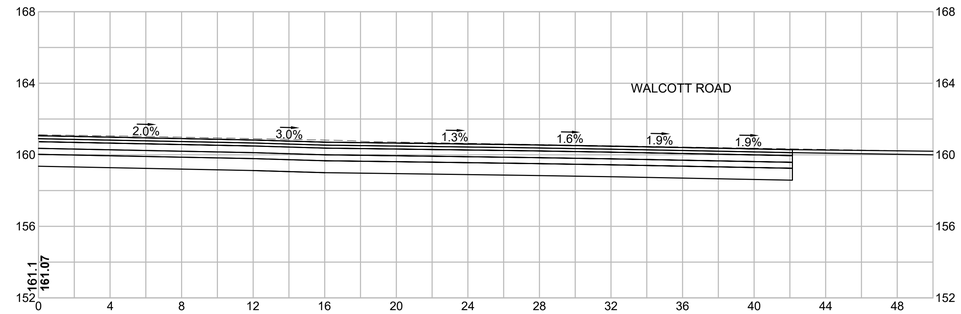
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

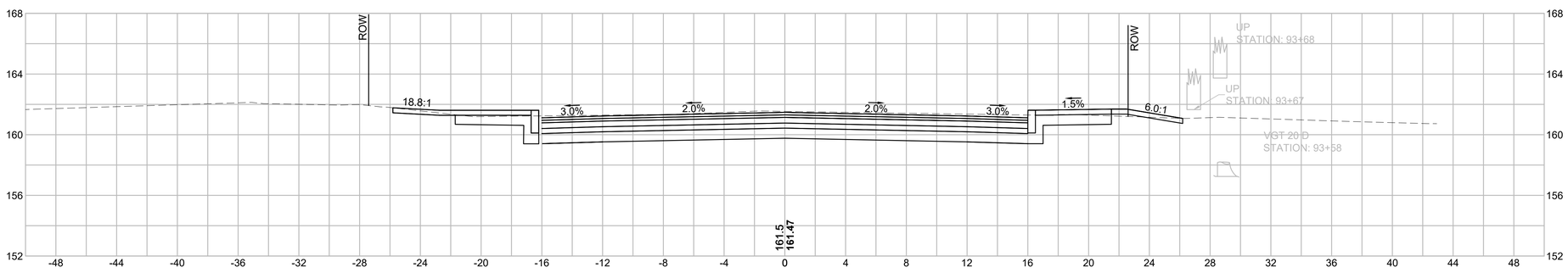
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	319	331
PROJECT FILE NO.		604123	

CROSS SECTIONS 101

93+81

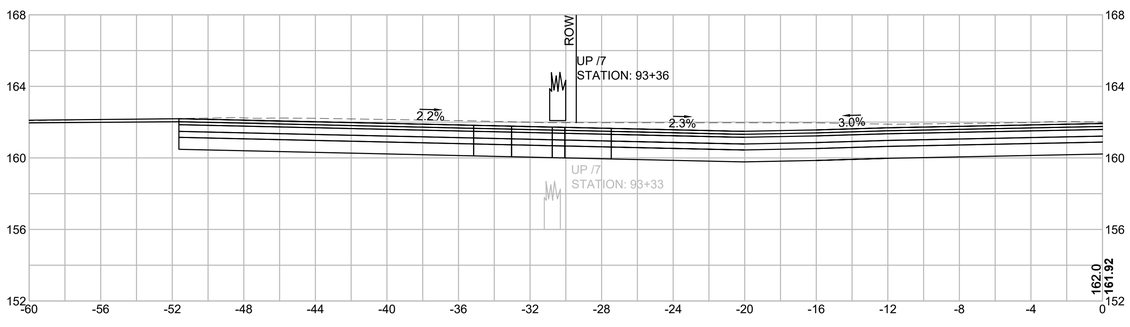


93+50



EARTHWORK 93+50	
CUT AREA	62.63 SF
FILL AREA	0.22 SF

93+15



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

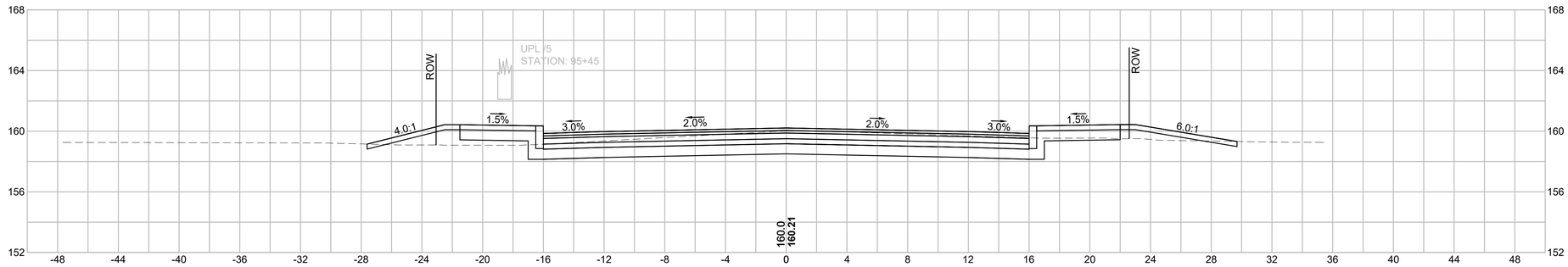
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:34 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	320	331
PROJECT FILE NO.	604123		

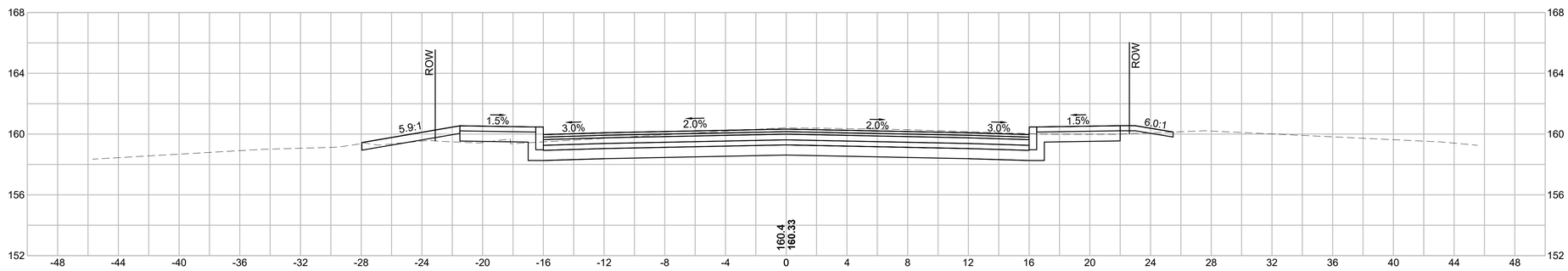
CROSS SECTIONS 102

95+00



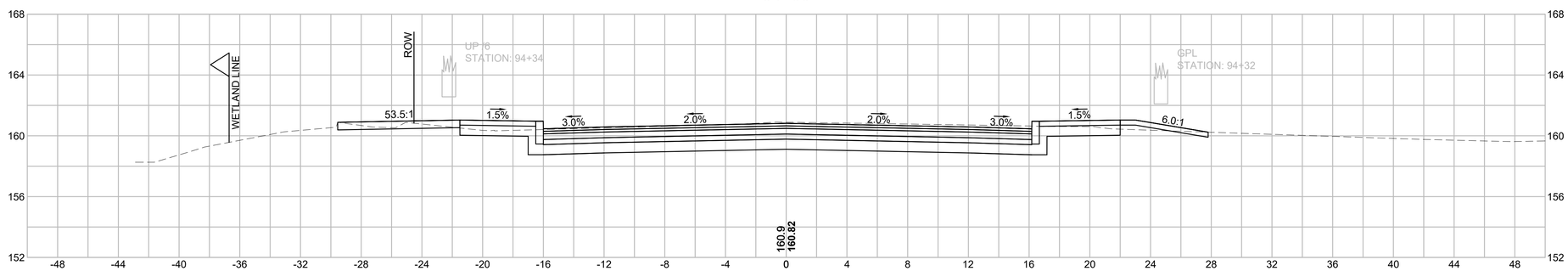
EARTHWORK 95+00	
CUT AREA	47.06 SF
FILL AREA	6.48 SF

94+50



EARTHWORK 94+50	
CUT AREA	59.10 SF
FILL AREA	1.33 SF

94+00



EARTHWORK 94+00	
CUT AREA	66.67 SF
FILL AREA	0.63 SF

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

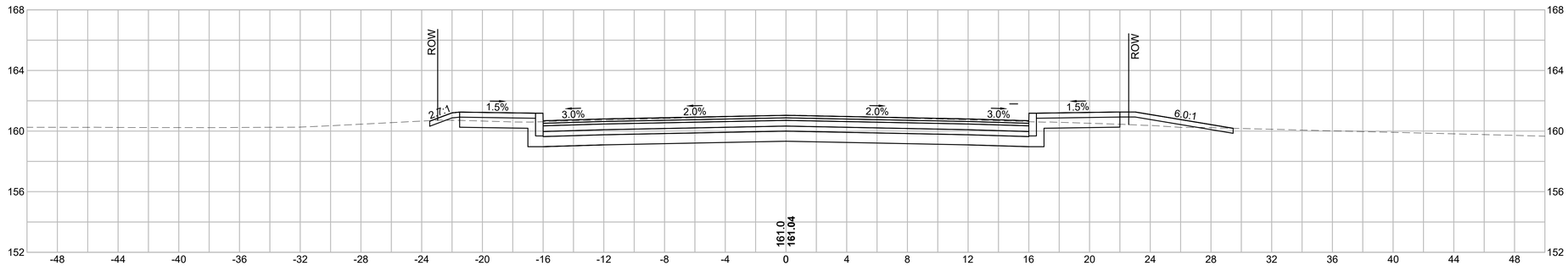
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:35 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	321	331
PROJECT FILE NO.	604123		

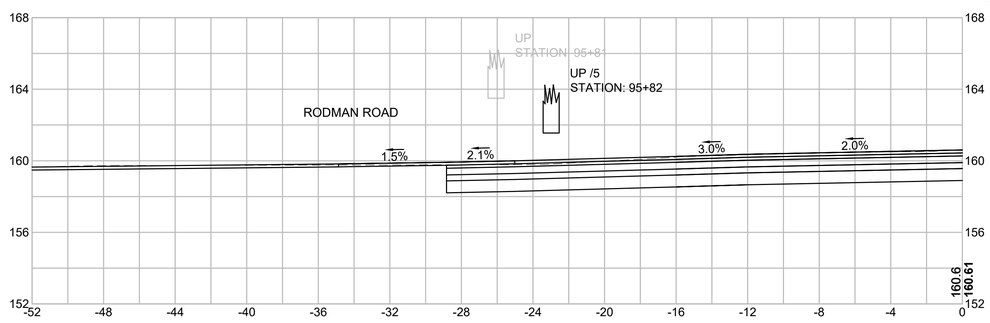
CROSS SECTIONS 103

96+00

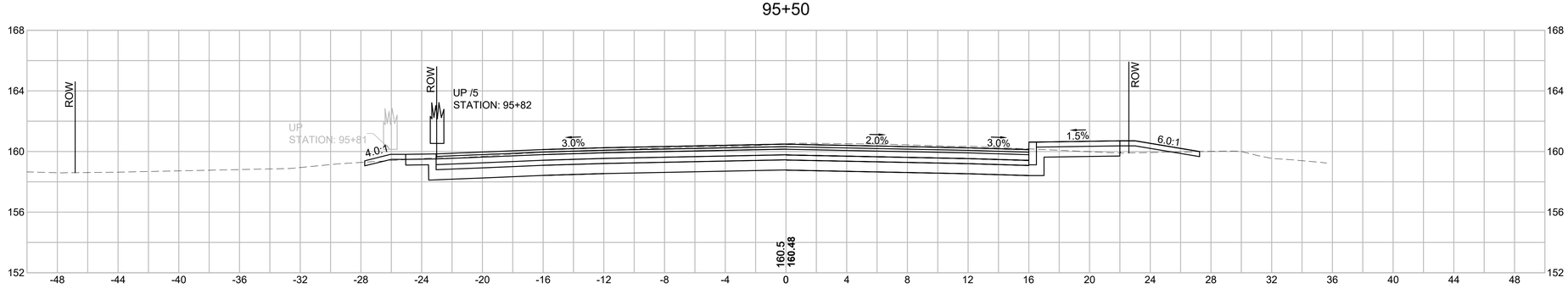


EARTHWORK 96+00	
CUT AREA	61.03 SF
FILL AREA	1.77 SF

95+62



95+50



EARTHWORK 95+50	
CUT AREA	70.45 SF
FILL AREA	1.03 SF

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

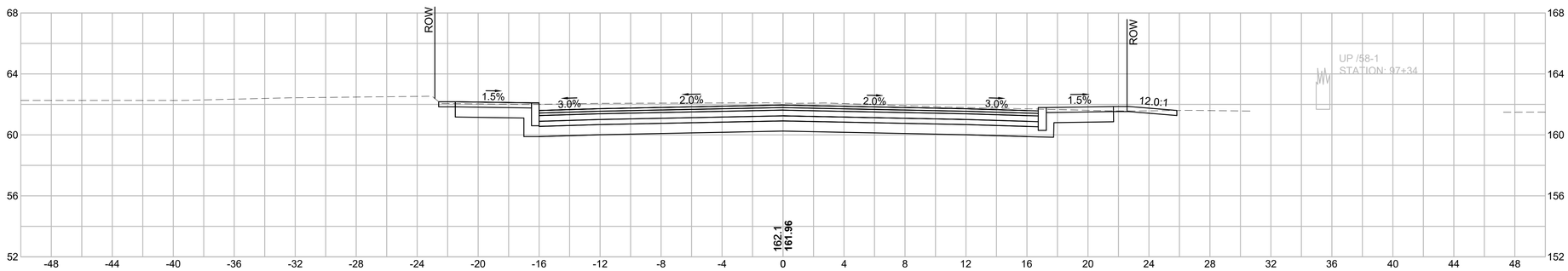
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:36 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	322	331
PROJECT FILE NO.	604123		

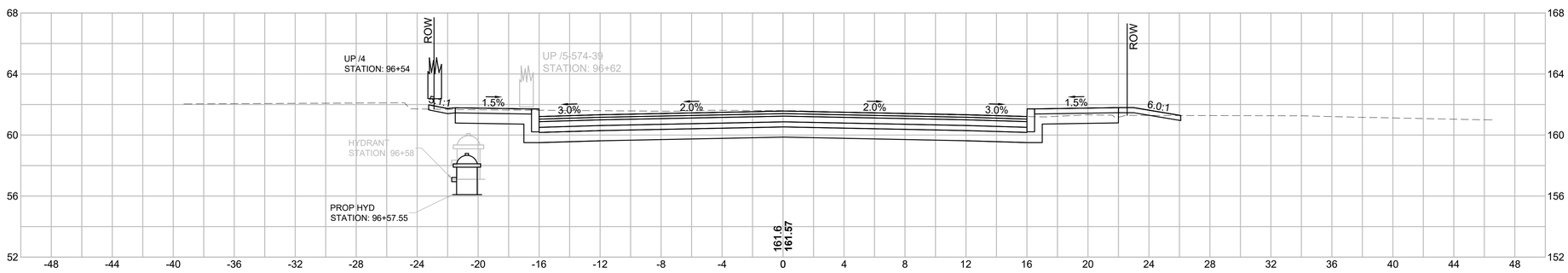
CROSS SECTIONS 104

97+00



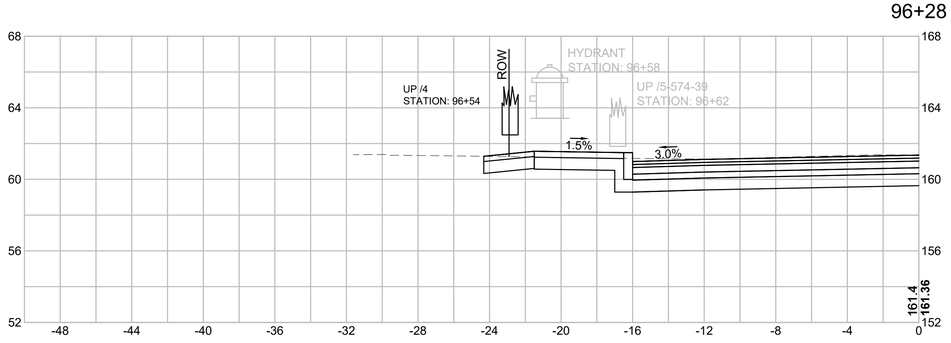
EARTHWORK 97+00	
CUT AREA	74.63 SF
FILL AREA	0.00 SF

96+50



EARTHWORK 96+50	
CUT AREA	68.79 SF
FILL AREA	0.29 SF

96+28



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

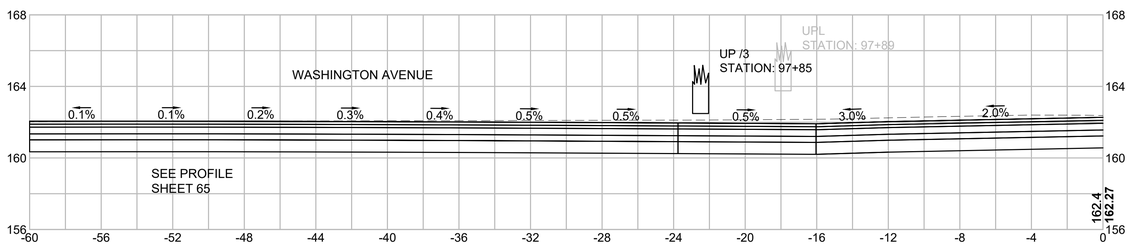
604123_H028(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:37 PM

ASHLAND, MA
ROUTE 126 (POND STREET)

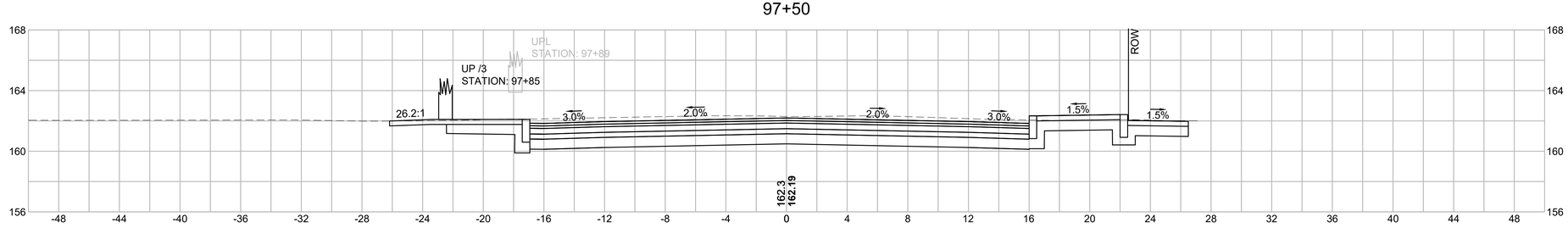
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	323	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 105

97+69

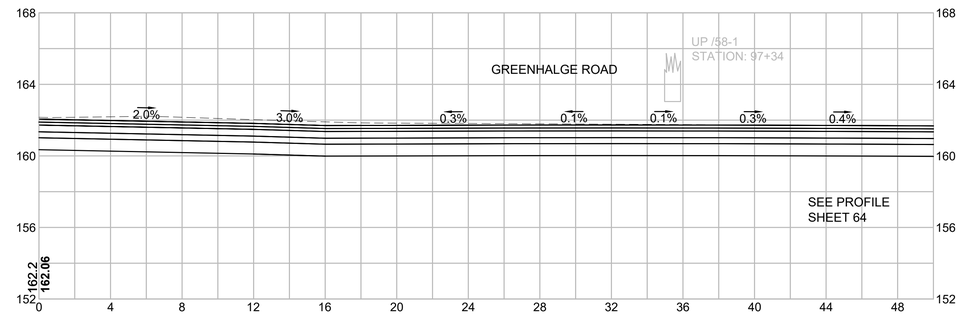


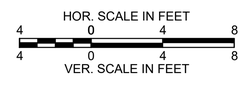
97+50



EARTHWORK 97+50	
CUT AREA	82.97 SF
FILL AREA	0.00 SF

97+18





604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:39 PM

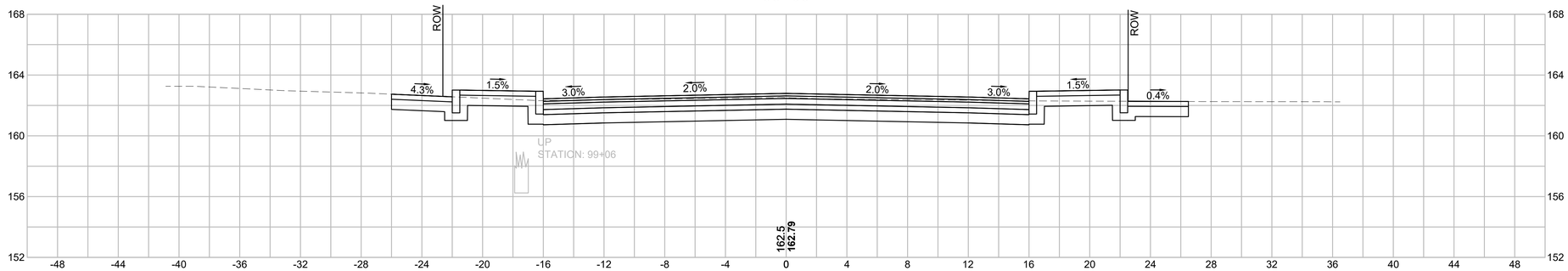
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	324	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 106

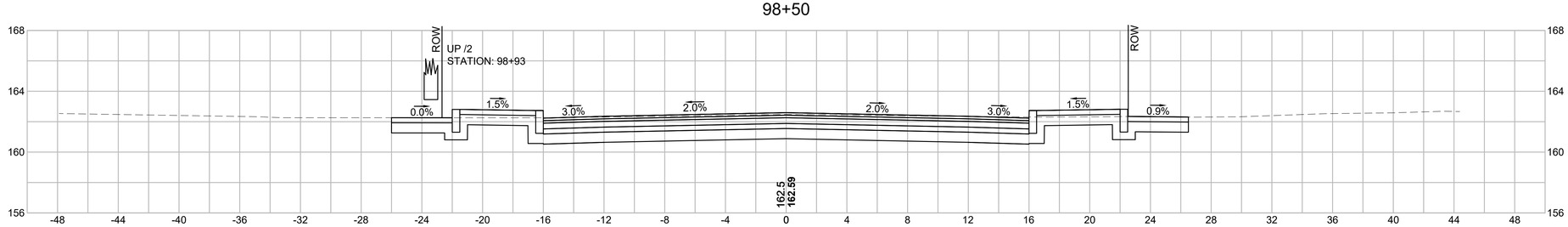
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:40 PM

99+00



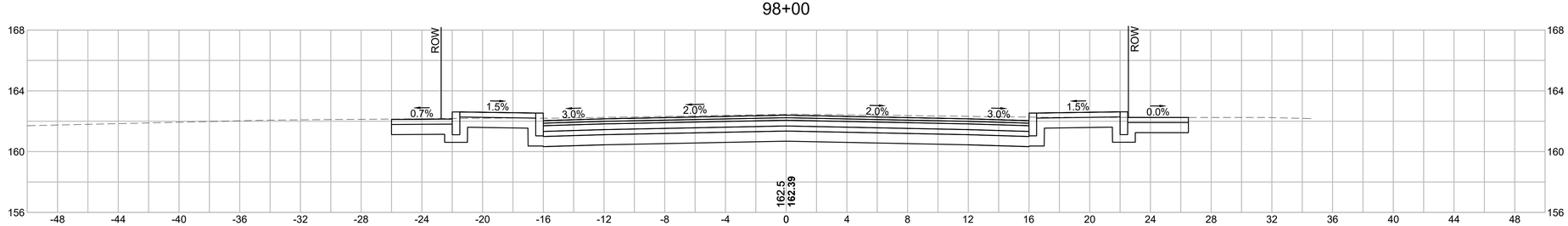
EARTHWORK 99+00	
CUT AREA	68.49 SF
FILL AREA	0.00 SF

98+50



EARTHWORK 98+50	
CUT AREA	76.00 SF
FILL AREA	0.00 SF

98+00



EARTHWORK 98+00	
CUT AREA	84.01 SF
FILL AREA	0.00 SF

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

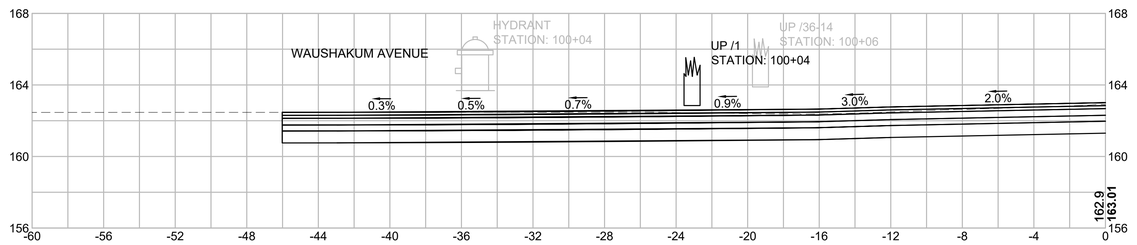
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	325	331
PROJECT FILE NO.		604123	

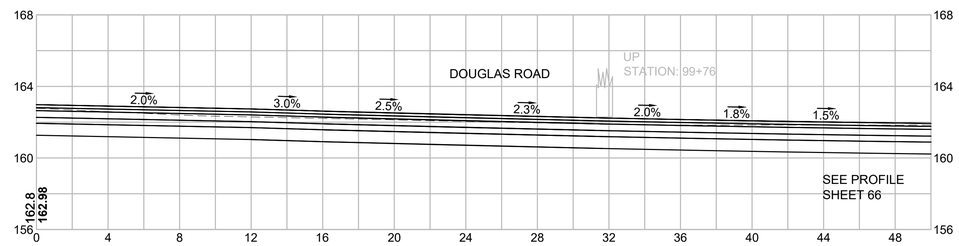
CROSS SECTIONS 107

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:41 PM

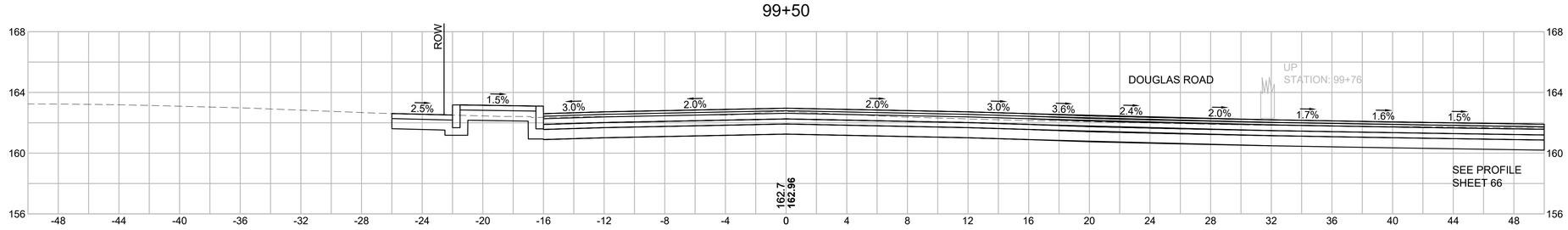
99+86



99+58



99+50



EARTHWORK 99+50	
CUT AREA	99.56 SF
FILL AREA	0.00 SF

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

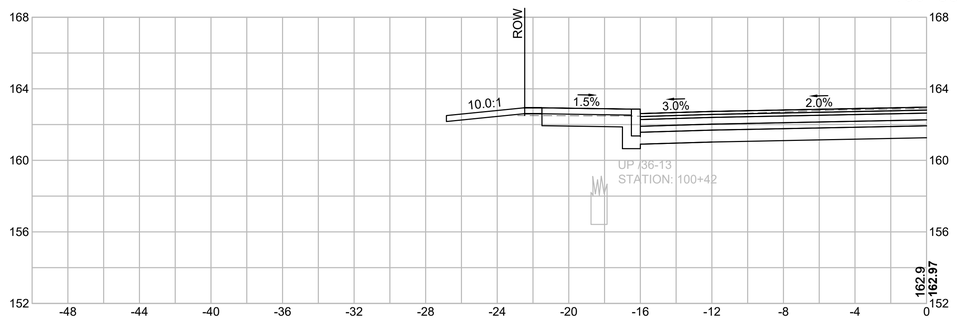
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	326	331
PROJECT FILE NO.		604123	

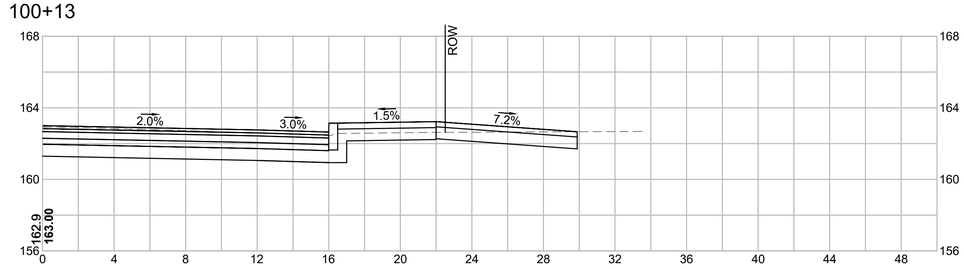
CROSS SECTIONS 108

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:42 PM

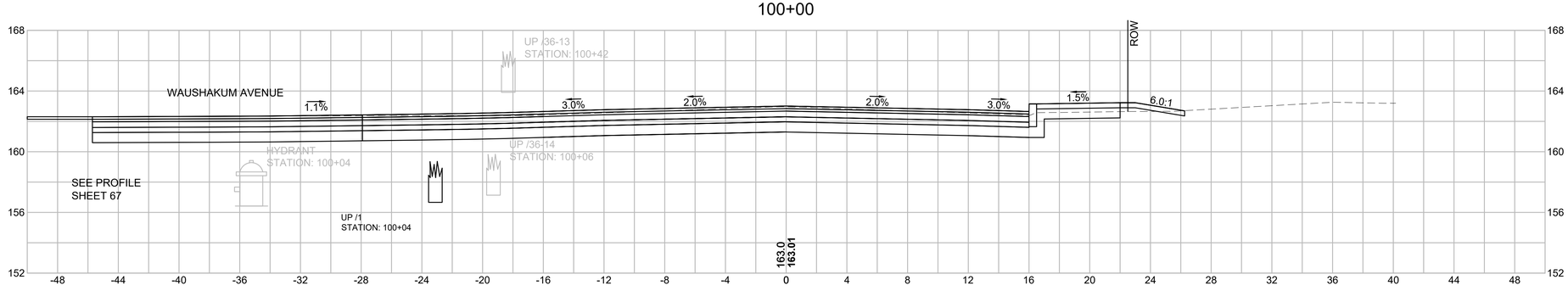
100+35



100+13



100+00



EARTHWORK 100+00	
CUT AREA	102.61 SF
FILL AREA	0.23 SF

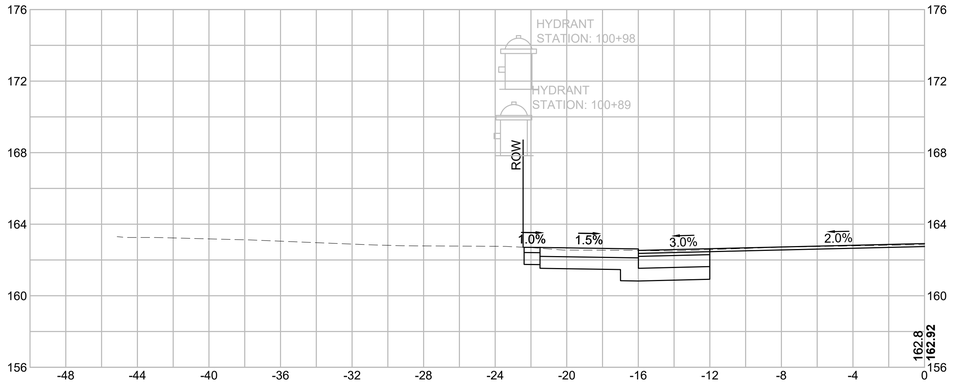
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

ASHLAND, MA
ROUTE 126 (POND STREET)

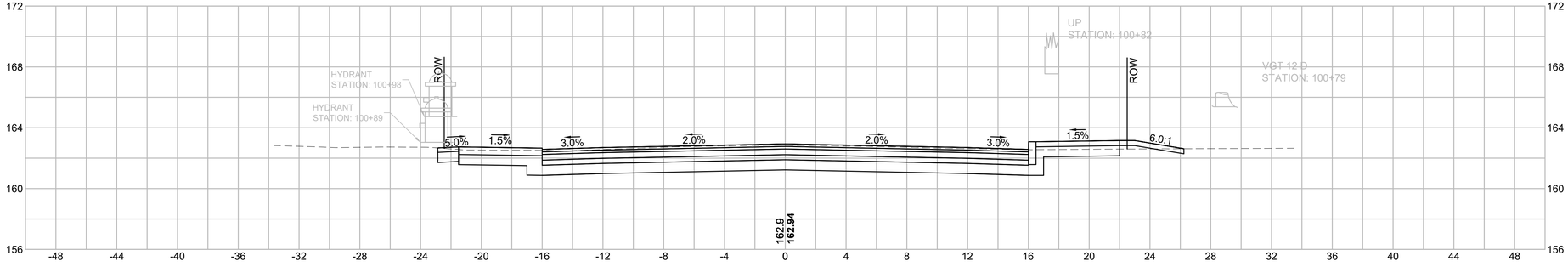
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	327	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 109

100+57

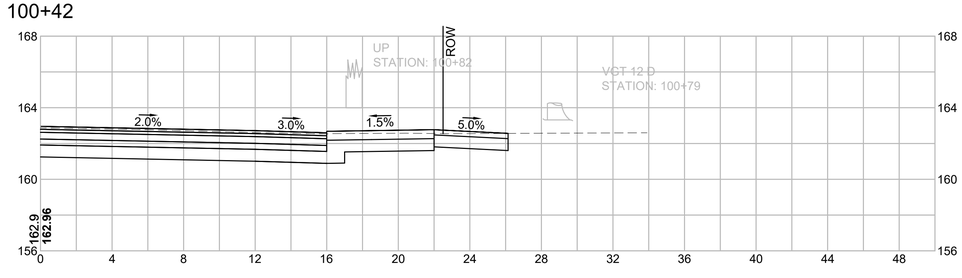


100+50



EARTHWORK 100+50	
CUT AREA	62.18 SF
FILL AREA	0.17 SF

100+42



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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:43 PM

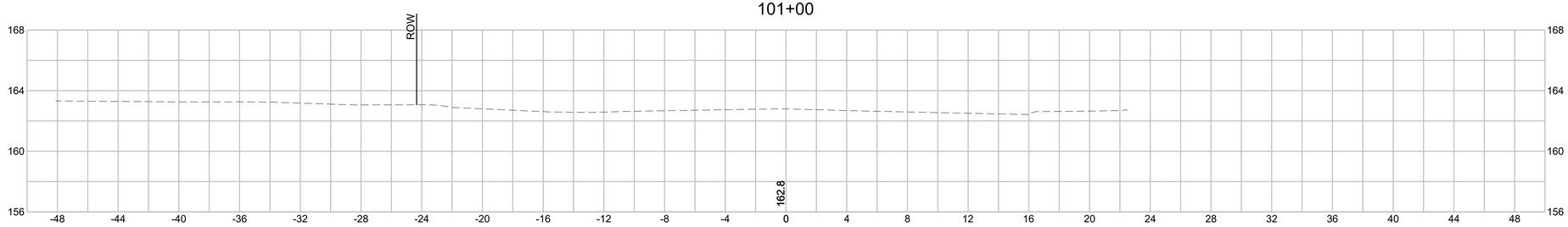
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	328	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 110

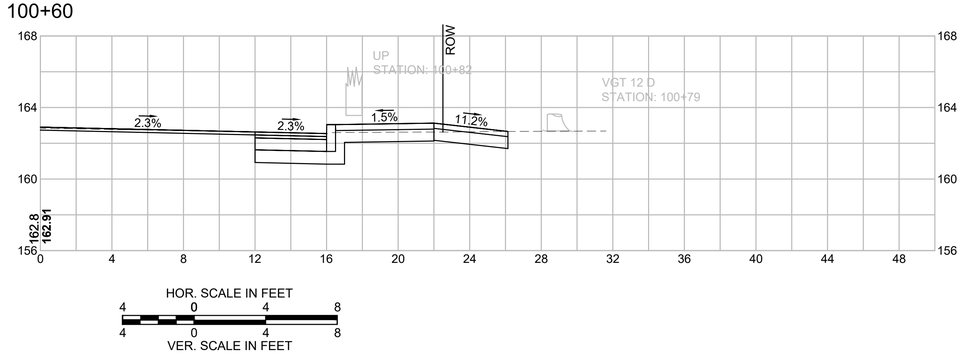
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:44 PM

101+00



EARTHWORK 101+00	
CUT AREA	0.00 SF
FILL AREA	0.00 SF

100+60

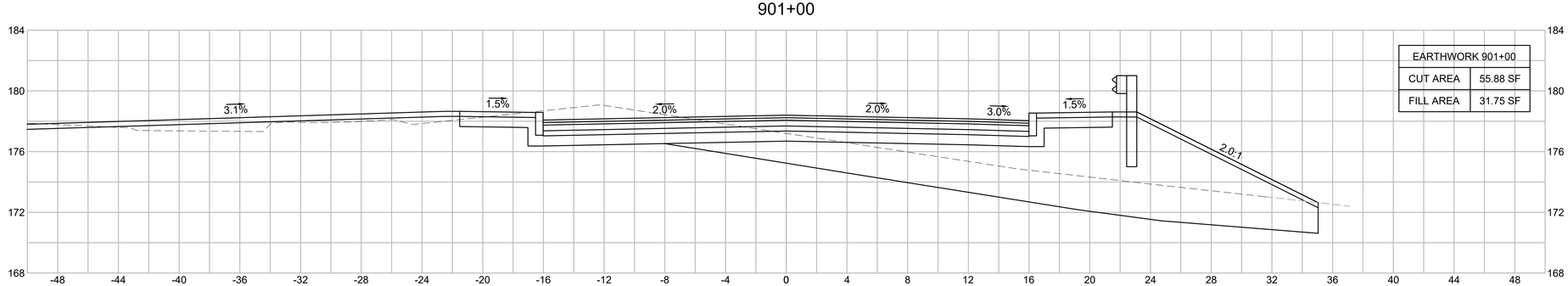


ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	329	331
PROJECT FILE NO.	604123		

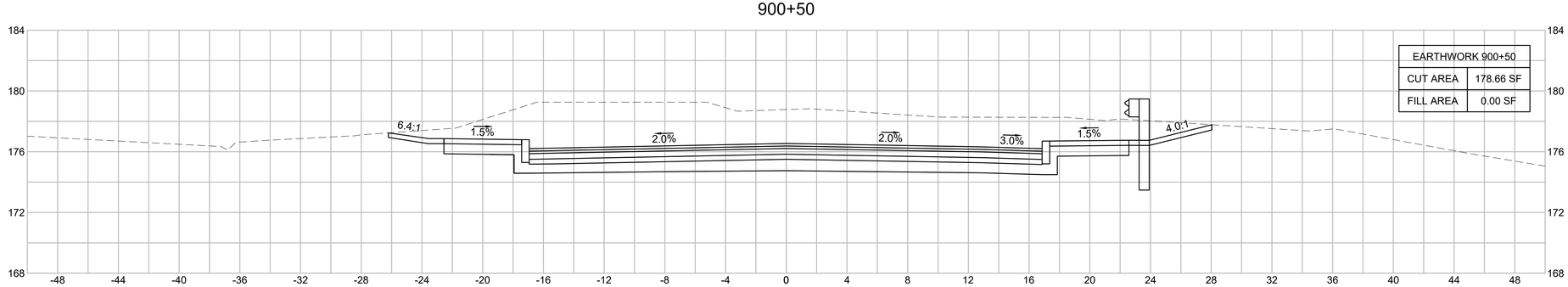
CROSS SECTIONS 111

901+00



EARTHWORK 901+00	
CUT AREA	55.88 SF
FILL AREA	31.75 SF

900+50



EARTHWORK 900+50	
CUT AREA	178.66 SF
FILL AREA	0.00 SF

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

604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:46 PM

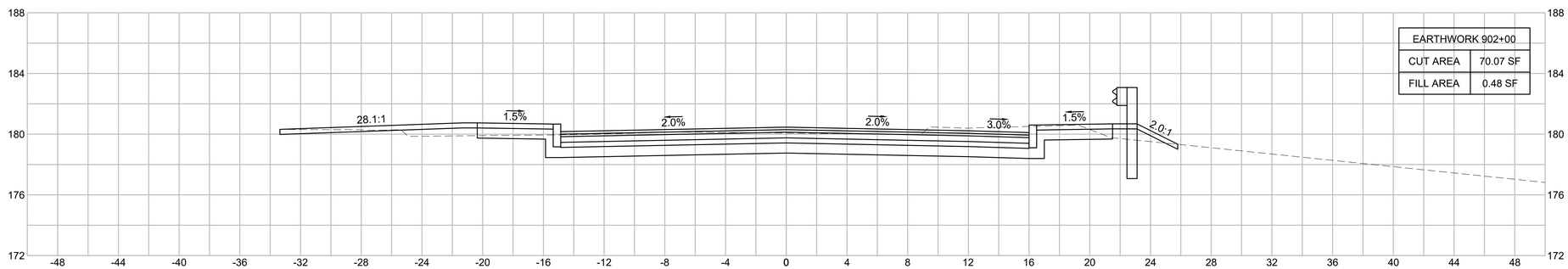
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	330	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 112

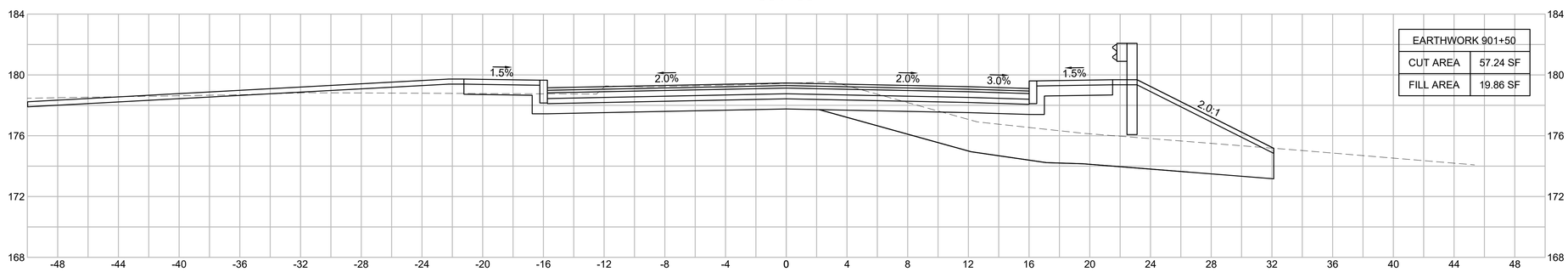
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:47 PM

902+00



EARTHWORK 902+00	
CUT AREA	70.07 SF
FILL AREA	0.48 SF

901+50



EARTHWORK 901+50	
CUT AREA	57.24 SF
FILL AREA	19.86 SF

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

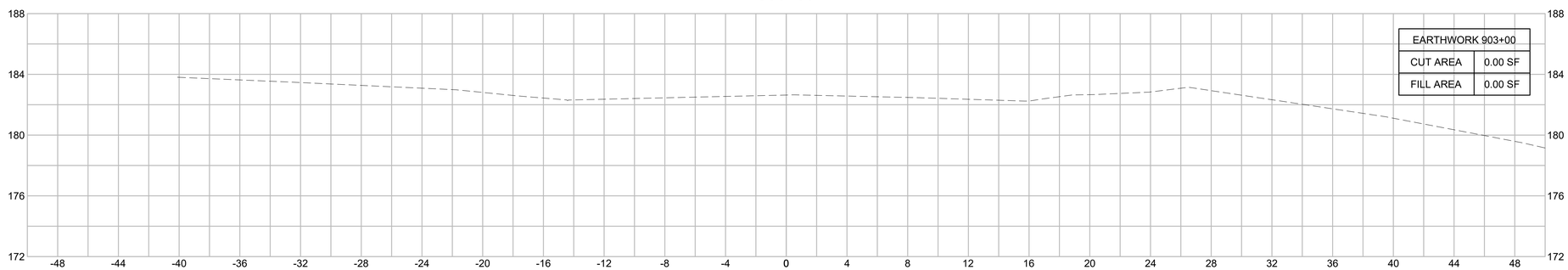
ASHLAND, MA
ROUTE 126 (POND STREET)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	CMQ/TAP/STP-003S(390)	331	331
PROJECT FILE NO.	604123		

CROSS SECTIONS 113

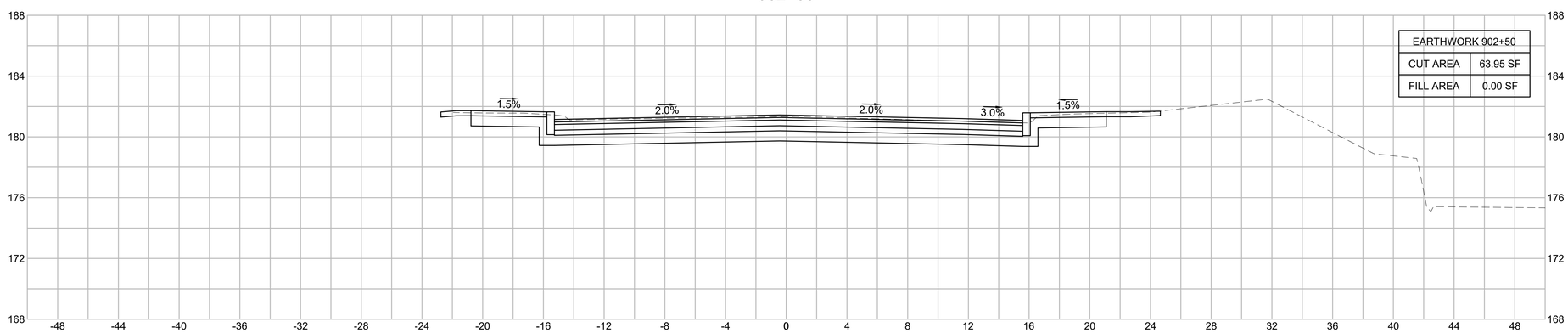
604123_HD28(CROSS SECTIONS).DWG Plotted on 23 June 2020 1:48 PM

903+00



EARTHWORK 903+00	
CUT AREA	0.00 SF
FILL AREA	0.00 SF

902+50



EARTHWORK 902+50	
CUT AREA	63.95 SF
FILL AREA	0.00 SF

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