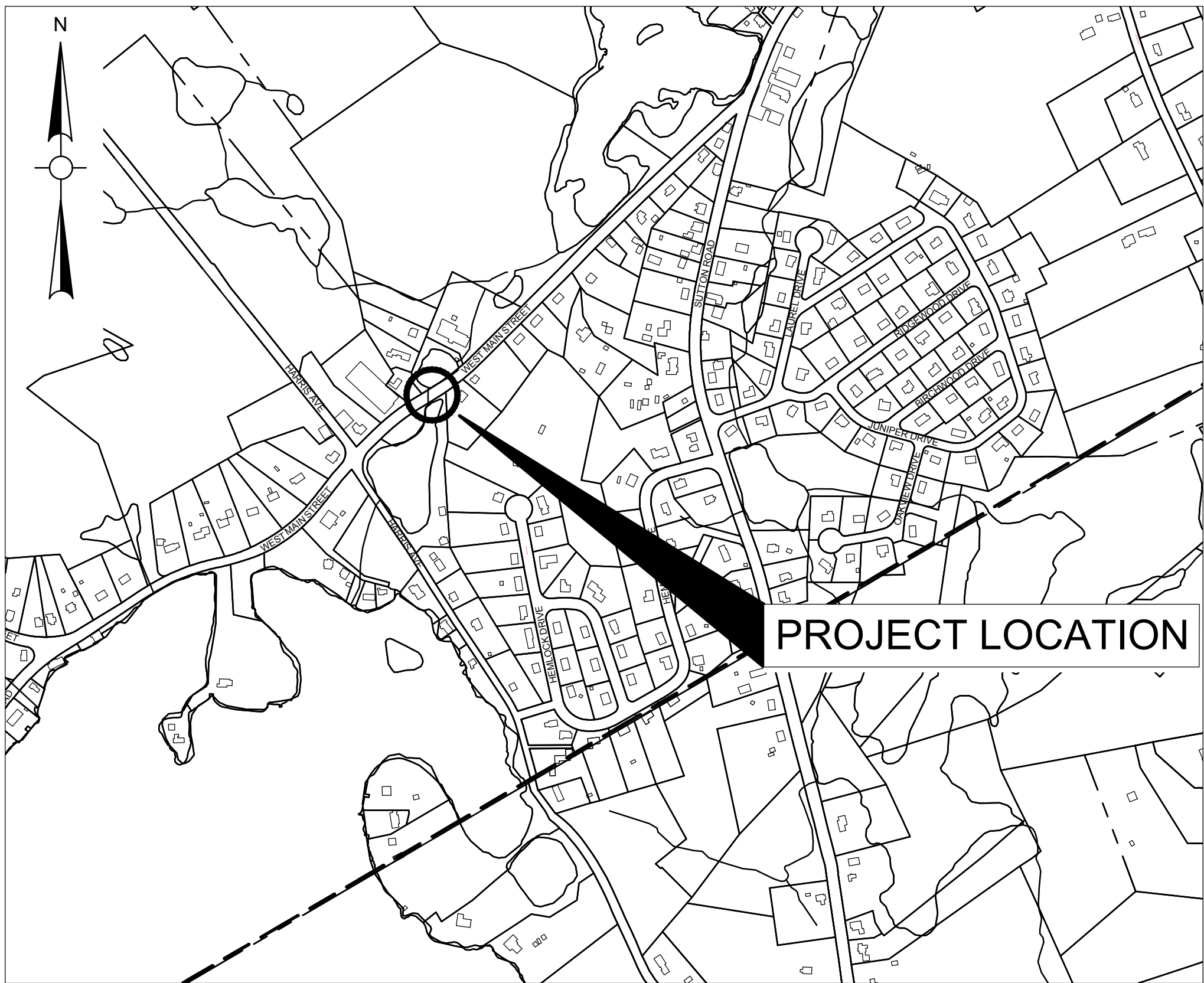


TOWN OF MILLBURY, MASSACHUSETTS

MILLBURY HIGHWAY DEPARTMENT

WEST MAIN STREET ROUND POND WALL



LOCATION PLAN
SCALE: 1"=500'

SHEET INDEX

SHEET NO.

DESCRIPTION

1	TITLE SHEET AND INDEX
2	GENERAL NOTES & LEGEND (C-1)
3	GENERAL ROADWAY PLAN (C-2)
4-5	CONSTRUCTION DETAILS (C-3 & C-4)
6-7	TEMPORARY TRAFFIC CONTROL DETAILS (C-5 & C-6)
8-12	STRUCTURAL SHEETS (S-1 TO S-5)

APRIL 22, 2020

ISSUED FOR BID

Weston & SampsonSM

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard,
Suite 250, Foxborough, MA 02035
508.698.3034 800.SAMPSON
www.westonandsampson.com

ABBREVIATIONS


EXISTING

GENERAL SYMBOLS

UP	LIGHT POLE
C.I.T.	CHANGE IN TYPE
FRG	FRAME AND GRATE
FAÇ	FRAME AND COVER
FE	FLARED END
CIP	CAST IRON PIPE
RCP	REINFORCED CONCRETE PIPE
CMP	CORRUGATED METAL PIPE
DI	DUCTILE IRON PIPE
ACOM	ASPHALT COATED CORRUGATED METAL PIPE
PIPE	
WG	WATER GATE
HYD	HYDRANT
DS	DOWN SPOUT
INV.	INVERT ELEVATION
PVC	POLYVINYL CHLORIDE
UP	UTILITY POLE
CB	CATCH BASIN
MH	MANHOLE
DMH	DRAIN MANHOLE
HDPE	HIGH DENSITY POLYETHYLENE
CBCL	CATCH BASIN CURB INLET
RM	RIM ELEVATION
INV	INVERT
GI	GUTTER INLET
SMH	SEWER MANHOLE
S	SLOPE
STL	STEEL

N.T.S.	NOT TO SCALE
B.M.	BENCHMARK
ABAN.	ABANDON
MB	MAIL BOX
GRAN. CURB	GRANITE CURB
(OR GC)	
EXIST.	EXISTING
(OR EX.)	
FDN.	FOUNDATION
FL (OR E)	FLOW LINE
P	PROPERTY LINE
PI	POINT OF INTERSECTION
PVMT	PAVEMENT
P.W.W.	PAVED WATERWAY
RC.	REINFORCED CONCRETE
REM.	REMOVE
REMOD.	REMODEL
RET.	RETAIN
R.O.W.	RIGHT-OF-WAY
R.R.	RAILROAD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
R&D	REMOVE AND DISCARD
RD	

SCB	SPECIAL CATCH BASIN
W/	WITH
PCC	POINT OF COMPOUND OR
SW	SIDEWALK
HMA	HOT MIX ASPHALT
SGC	SLOPED GRANITE CURB
BC	HOT MIX ASPHALT CURB
RET. WALL	RETAINING WALL
CC	CONCRETE CURB
CONT.	CONTINUED
MPH	MILES PER HOUR
TP, TYP.	TYPICAL
OR (TYP.)	RIGHT OF ENTRY
ROE	NOW OR FORMERLY
N/F	PROPOSED
PROP.	ADJUST
ADJ.	BASELINE
CEN. CONC.	CEMENT CONCRETE
BASELINE	CONSTRUCTION
CONST.	TEMPORARY
TEMP.	SPECIFICATIONS
SPEC.	REHABILITATION
REHAB.	PROPERTY LINE
WRF	WOOD RAIL FENCE
CITE	CONNECT TO EXISTING
STMU	STORM WATER TREATMENT
C.J.	CONSTRUCTION JOINT
REINF.	REINFORCEMENT
PC	POINT OF CURVATURE
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
INT.	POINT OF VERTICAL INTERSECTION




LAURENCE F. KEEGAN, JR.
CIVIL
No. 33708
REGISTERED
PROFESSIONAL ENGINEER

No.	Date	Dr. By	Ck. By	App. By	Description				
		A	P	P	R	O	V	E	D

 REGISTERED PROFESSIONAL ENGINEER

 DATE

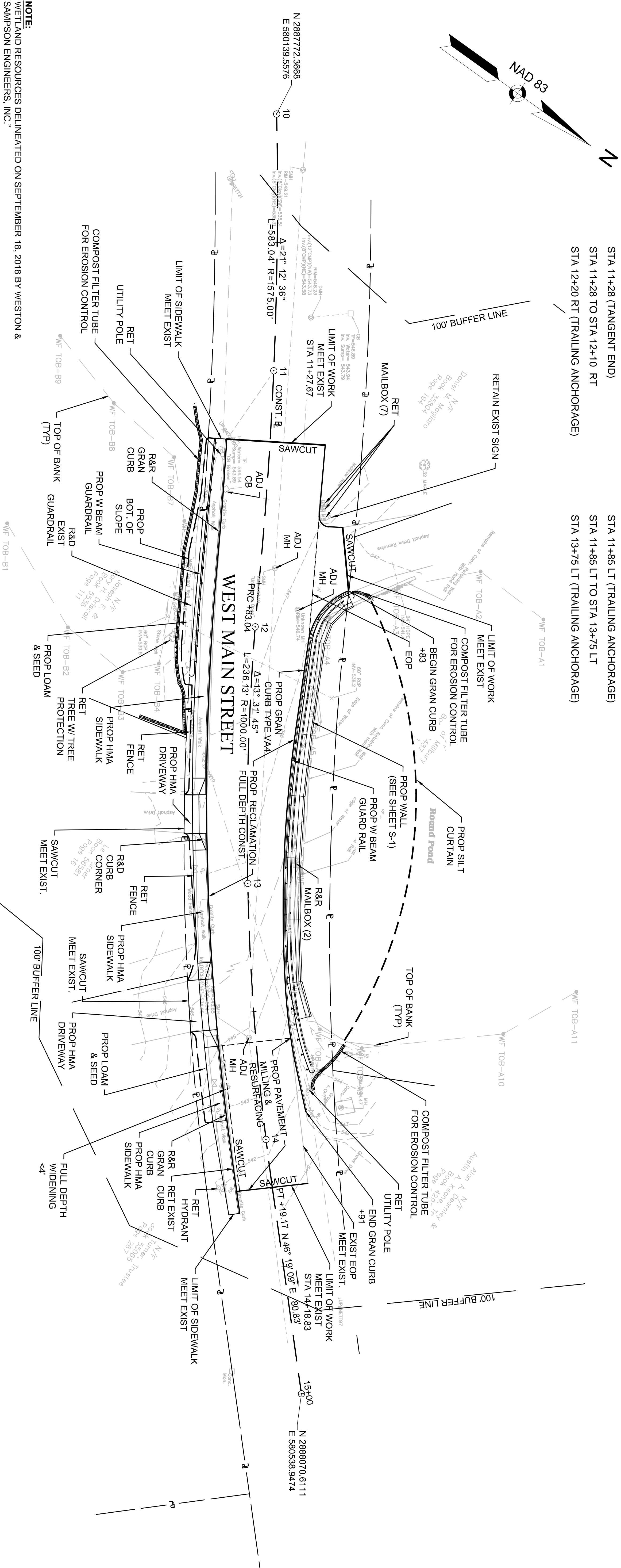


100 Foxboro
Suite 250, Foxboro, MA 01935
508.698.3034
www.weston.com

TOWN OF MILLBURY, MASSACHUSETTS MILLBURY HIGHWAY DEPARTMENT										
WEST MAIN STREET - ROUND POND WALL										
GENERAL NOTES AND LEGEND										
CADD NO.	SCALE:	CONTRACT:	JOB NO.	DR.BY	DSN.BY	CHK.BY	APP.			
-	AS NOTED	-	2180463	MD	RP	LFK				

HIGHWAY GUARD DETAILS

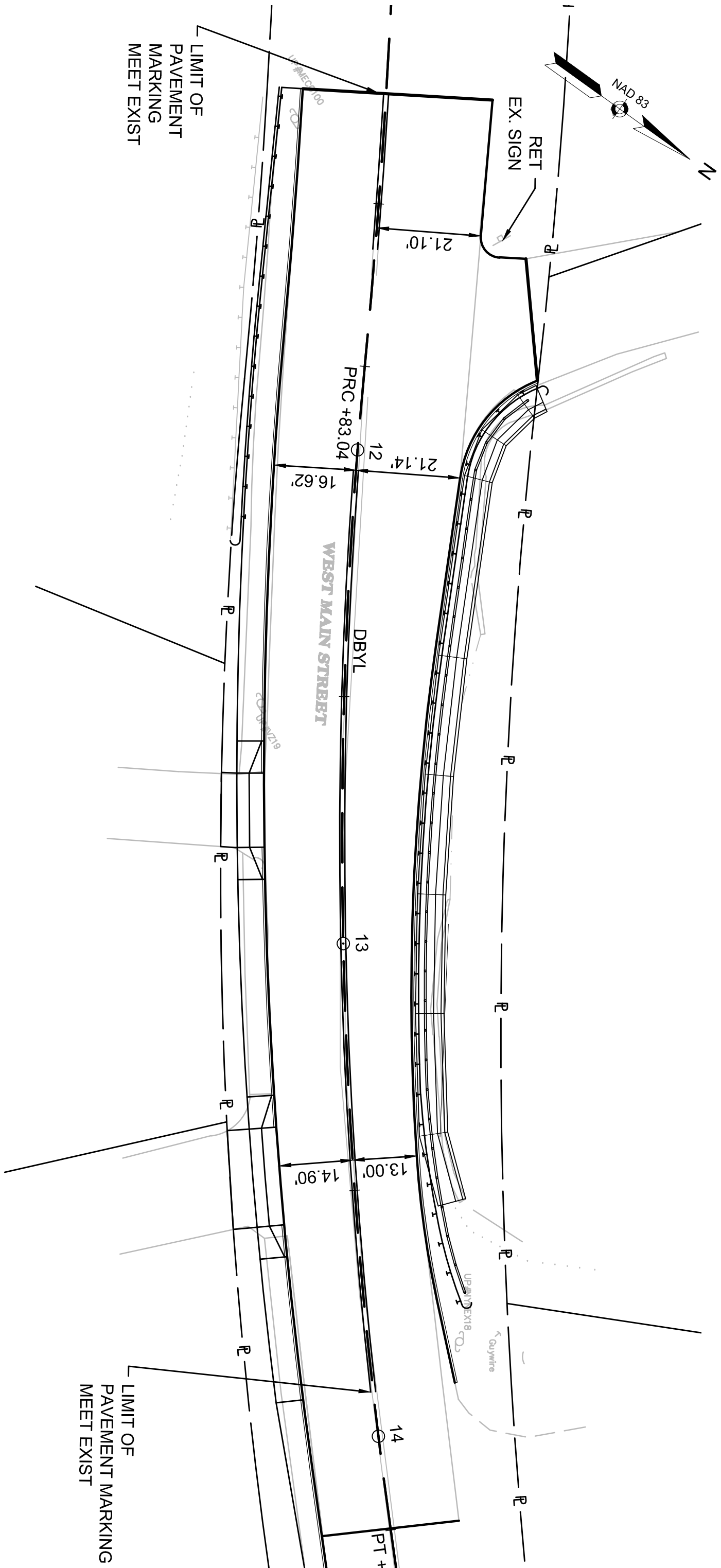
STA 11+28 (TANGENT END)
STA 11+28 TO STA 12+10 RT
STA 12+20 RT (TRAILING ANCHORAGE)
STA 11+85 LT (TRAILING ANCHORAGE)
STA 11+85 LT TO STA 13+75 LT
STA 13+75 LT (TRAILING ANCHORAGE)



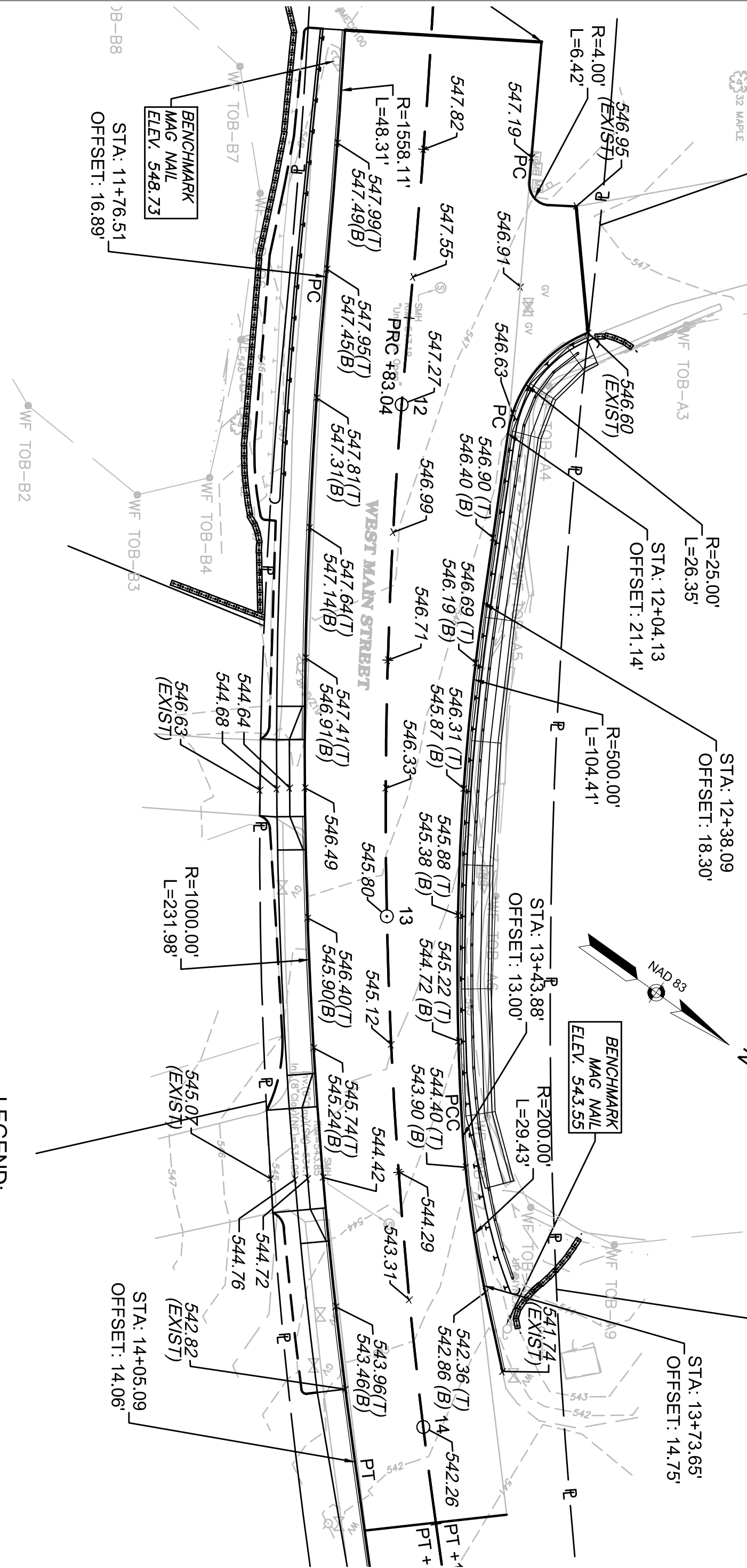
NOTE:
WETLAND RESOURCES DELINEATED ON SEPTEMBER 18, 2018 BY WESTON & SAMPSON ENGINEERS, INC."

CONSTRUCTION PLAN

SIGNS AND PAVEMENT MARKINGS PLAN



GRADING PLAN



LEGEND:
(EXIST) EXIST GRADE
00.00 (T) TOP OF CURB GRADE
00.00 (B) BOTTOM OF CURB GRADE
(LP) LOW POINT

TOWN OF MILLBURY, MASSACHUSETTS
MILLBURY HIGHWAY DEPARTMENT

GENERAL ROADWAY PLAN

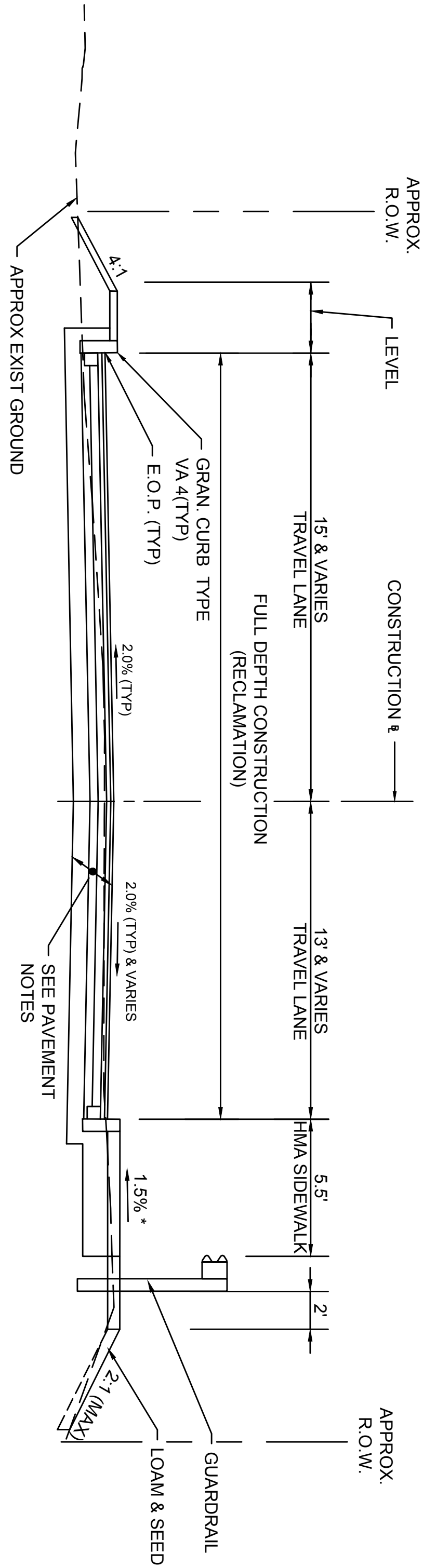
CADD NO. - SCALE: AS NOTED CONTRACT: - JOB NO. 2180463 DR.BY MD DSN.BY RP CHK.BY LFK APP.BY LFK



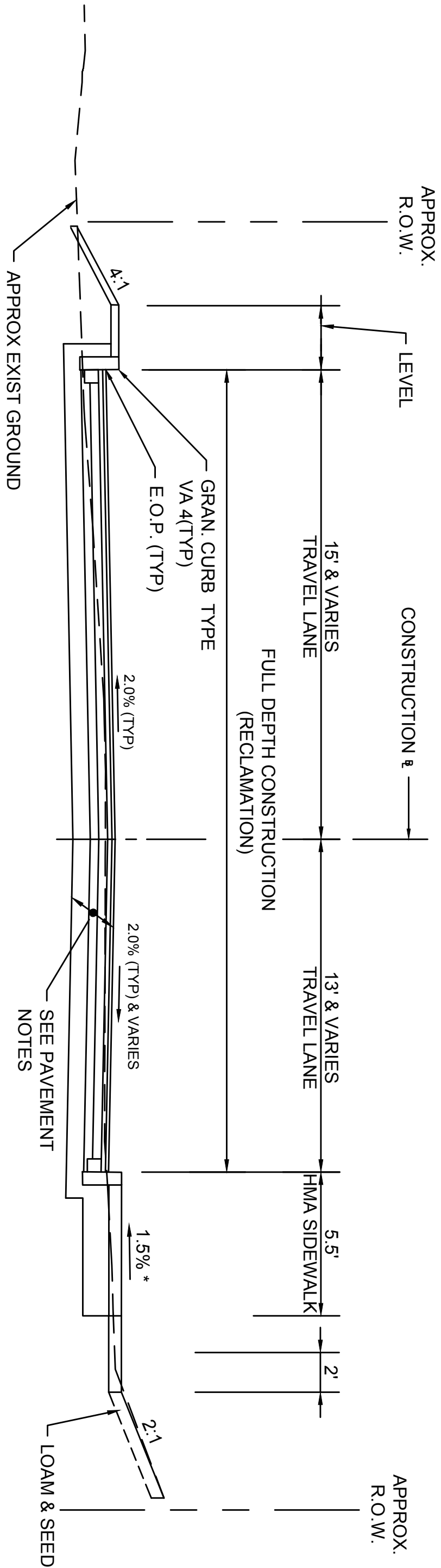
No.	Date	Dr.By	Ck.By	App.By	Description				
		A	P	P	R	O	V	E	D
REGISTERED PROFESSIONAL ENGINEER					DATE				

Weston & Sampson
100 Foxborough Boulevard,
Suite 250, Foxborough, MA 02035
508.698.3034 800.SAMPSON
www.westonandsampson.com

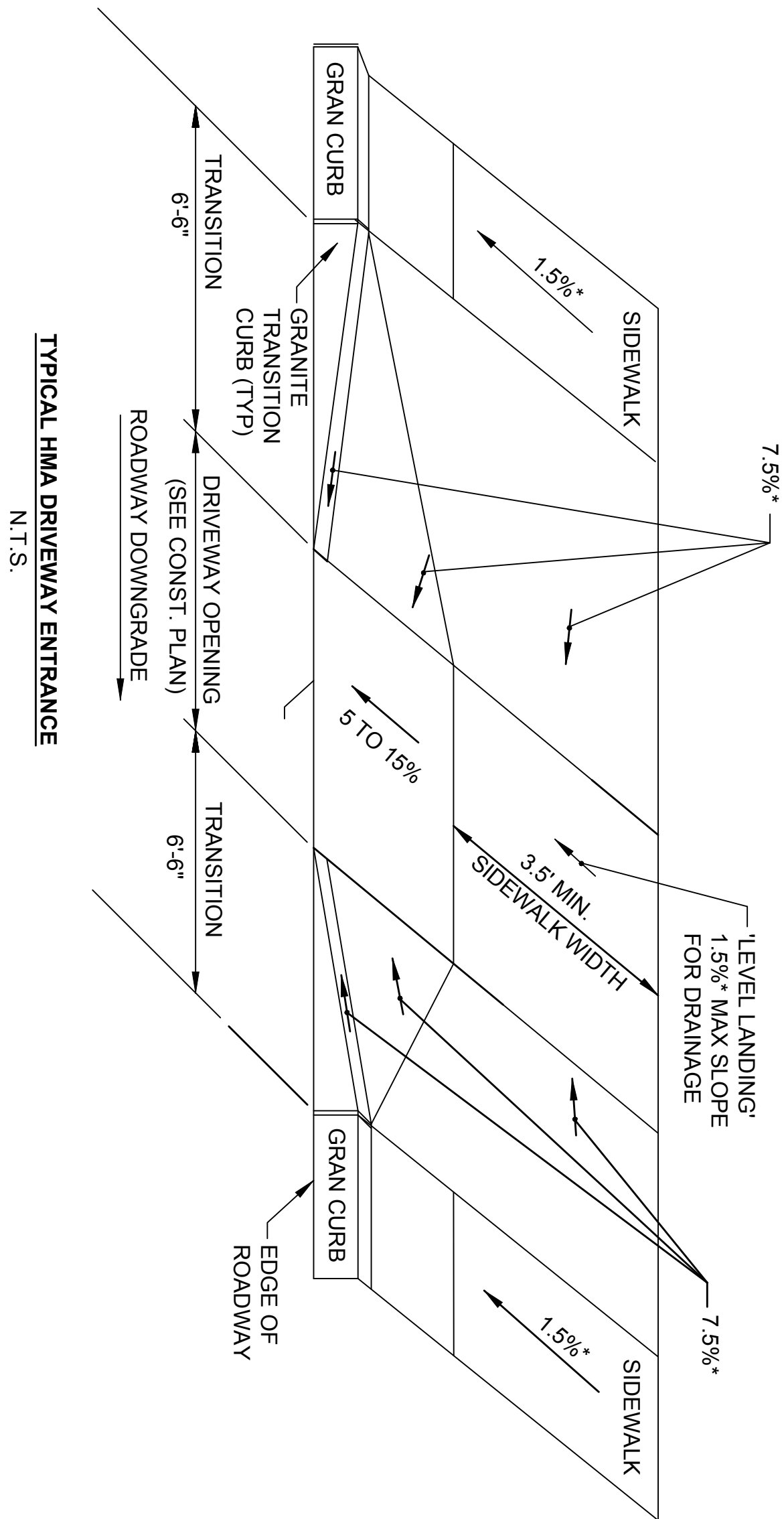
SHEET 3 OF 12



TYPICAL SECTION - WEST MAIN STREET
WITH GUARDRAIL
SCALE: 1"=4'



TYPICAL SECTION - WEST MAIN STREET
SCALE: 1"=4'



* TOLERANCE FOR CONSTRUCTION ±0.5%

PAVEMENT NOTES

PROPOSED PAVEMENT MILLING AND OVERLAY:
1 1/2" HOT MIX ASPHALT (TOP COURSE MATERIAL)

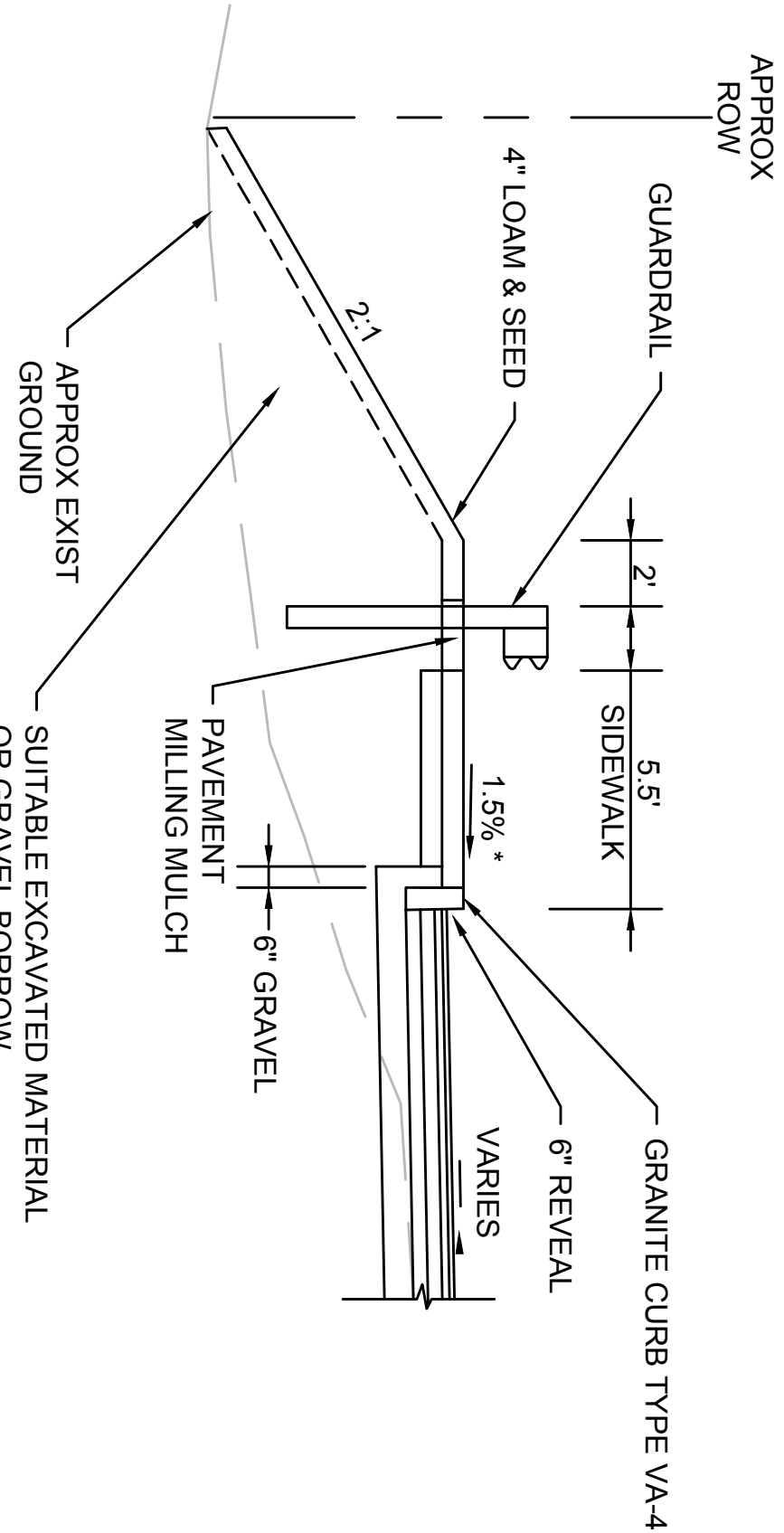
PROPOSED FULL DEPTH RECONSTRUCTION:

1 1/2" HOT MIX ASPHALT TOP COURSE PAVEMENT OVER ASPHALT EMULSION FOR TACK COAT OVERLAY
2 1/2" HOT MIX ASPHALT BINDER COURSE OVER 4" DENSE GRADED CRUSHED STONE OVER 8" RECLAIMED MATERIAL, BLEND WITH CRUSHED STONE AS NEEDED

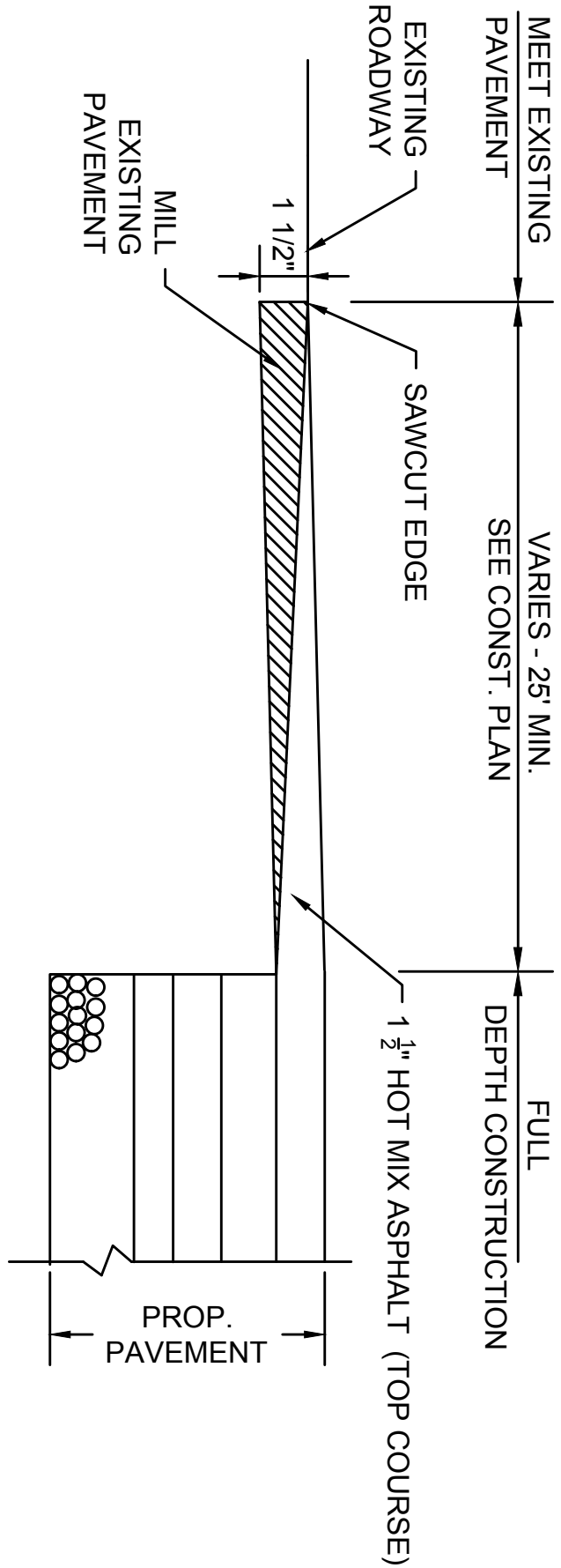
HOT MIX ASPHALT DRIVEWAY & WALK:

1 1/2" HOT MIX ASPHALT TOP COURSE OVER 2" HOT MIX ASPHALT BINDER COURSE OVER 8" GRAVEL BORROW, TYPE B

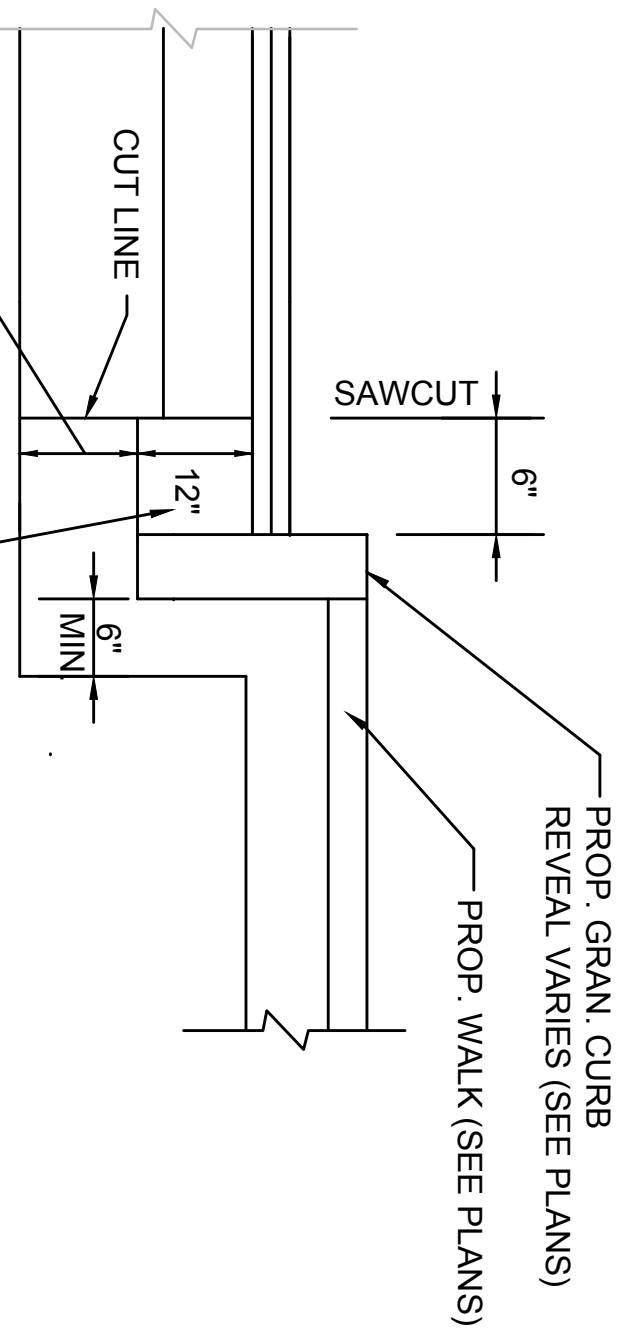
TACK COAT SHALL BE APPLIED AT RATE OF 0.07 GALLON PER YARD OVER MILLED SURFACES AND 0.05 GALLON PER SQUARE YARD OVER SMOOTH PAVED SURFACES.



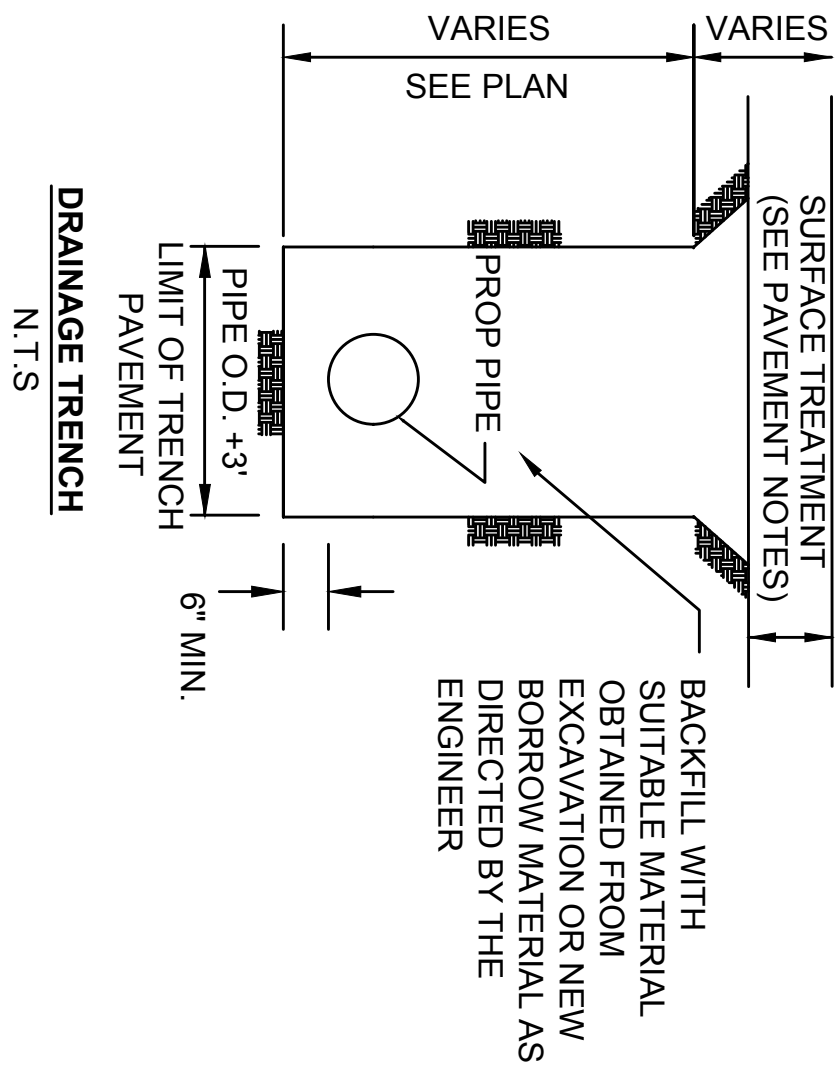
TYPICAL HIGHWAY GUARD INSTALLATION AT SIDEWALK
N.T.S.



PROPOSED PAVEMENT TRANSITION
(LONGITUDINAL SECTION)
N.T.S.



CURB INSTALLATION IN FULL DEPTH PAVEMENT
N.T.S.



No.	Date	Dr.By	Ck.By	App.By	Description				
		A	P	P	R	O	V	E	D
REGISTERED PROFESSIONAL ENGINEER					DATE				



TOWN OF MILLBURY, MASSACHUSETTS
MILLBURY HIGHWAY DEPARTMENT
WEST MAIN STREET - ROUND POND WALL

CONSTRUCTION DETAILS

FILE NO.	CADD NO.	SCALE:	CONTRACT:	JOB NO.	DR.BY	DSN.BY	CHK.BY	APP.BY
		AS NOTED		2180463	MD	RP	LFK	LFK

-
- DIRECTION OF FLOW
- COMPOST FILTER TUBE
MINIMUM 12 INCHES IN DIAMETER WITH AN EFFECTIVE
HEIGHT OF 9.5 INCHES.
- TUBES FOR COMPOST FILTERS SHALL BE JULTE MESH OR
APPROVED BIODEGRADABLE MATERIAL, HOWEVER
PHOTO-BIODEGRADABLE FABRIC SHALL BE REMOVED AT END
OF CONTRACT.
- TAMP TUBES IN PLACE TO ENSURE GOOD CONTACT WITH
SOIL SURFACE. IT IS NOT NECESSARY TO TRENCH TUBES
INTO EXISTING GRADE.
- COMPOST TUBES SHALL BE STAKED OR LINED AGAINST
SUPPORTS (TREES, GINDER BLOCKS) ON SLOPES 2:1 OR
GREATER.
- WHERE NECESSARY, STAKING SHALL BE MIN. 1 INCH X 1 INCH
X 3 FEET UNTREATED HARDWOOD STAKES, UP TO 6 FT. APART
OR AS REQUIRED TO SECURE TUBES IN PLACE. TUBES SHALL
BE STAKED ACCORDING TO MANUFACTURERS
SPECIFICATIONS.
- UNDISTURBED SOIL & VEGETATION
- LIMIT OF WORK

PLAN VIEW

N.T.S



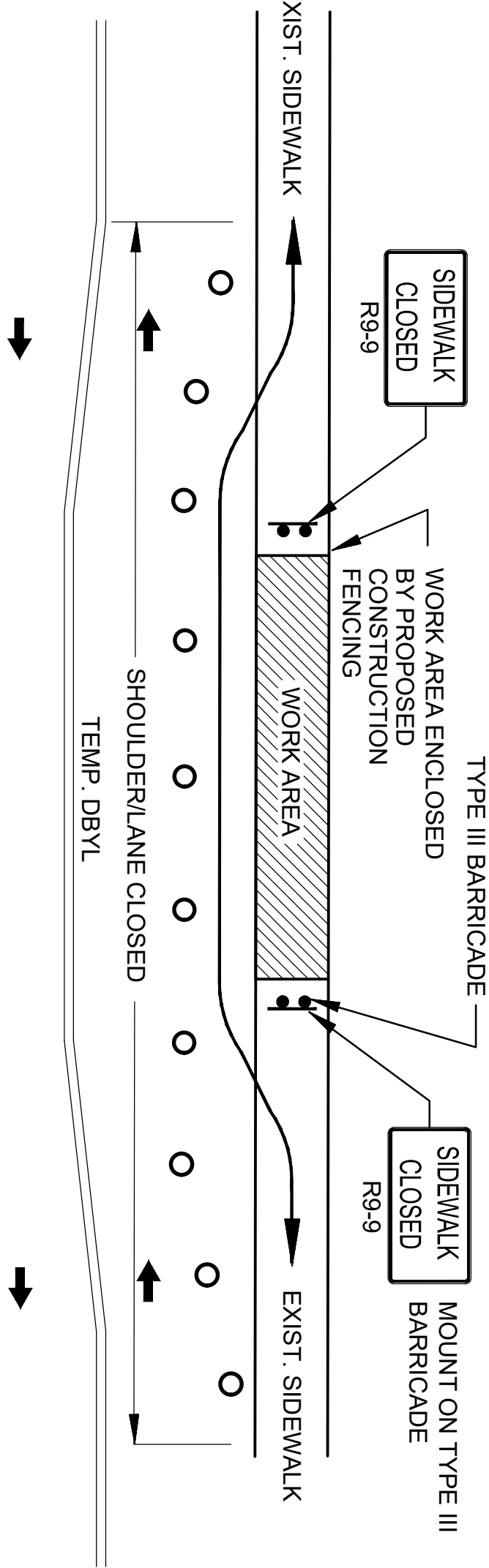
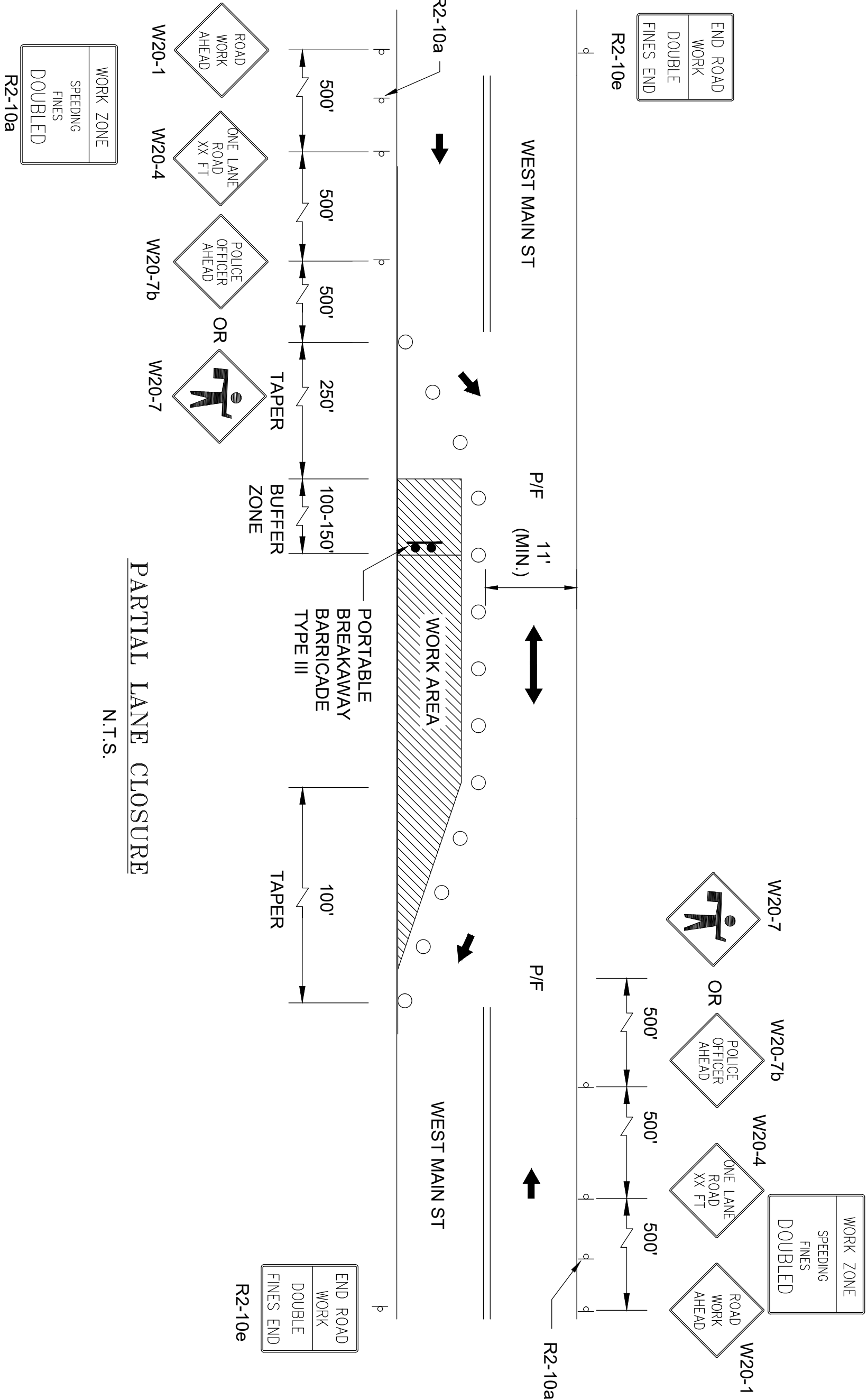
NOT TO SCALE



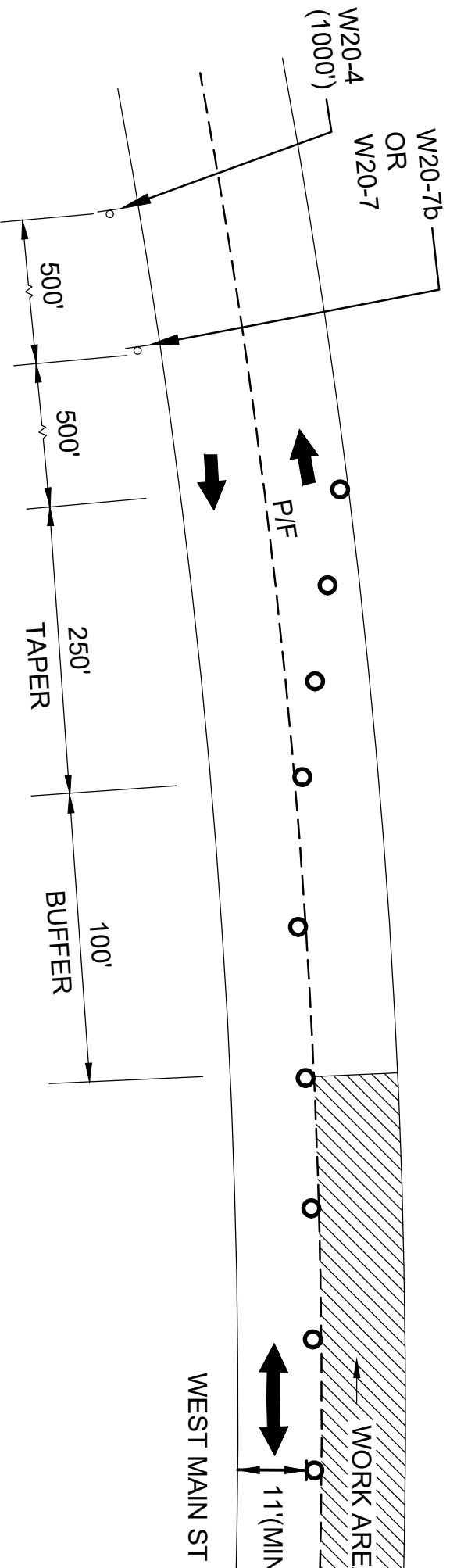
Weston & SampsonSM
100 Foxborough Boulevard,
Suite 250, Foxborough, MA 02035
508.698.3034 800.SAMPSON
www.westonandsampson.com



SHEET 5 OF 12

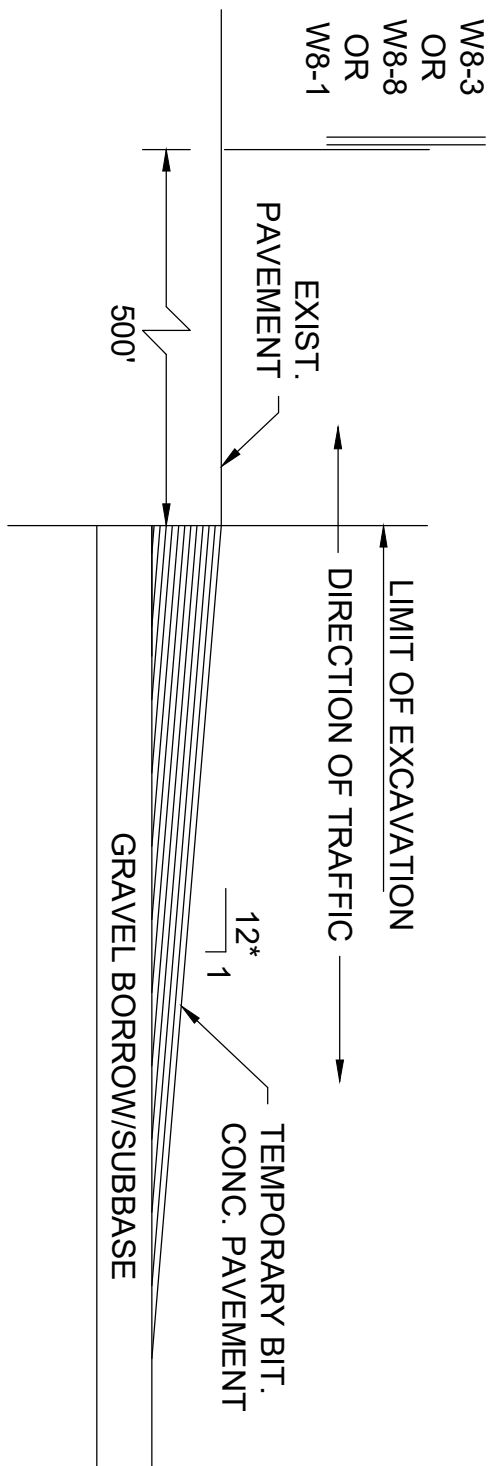
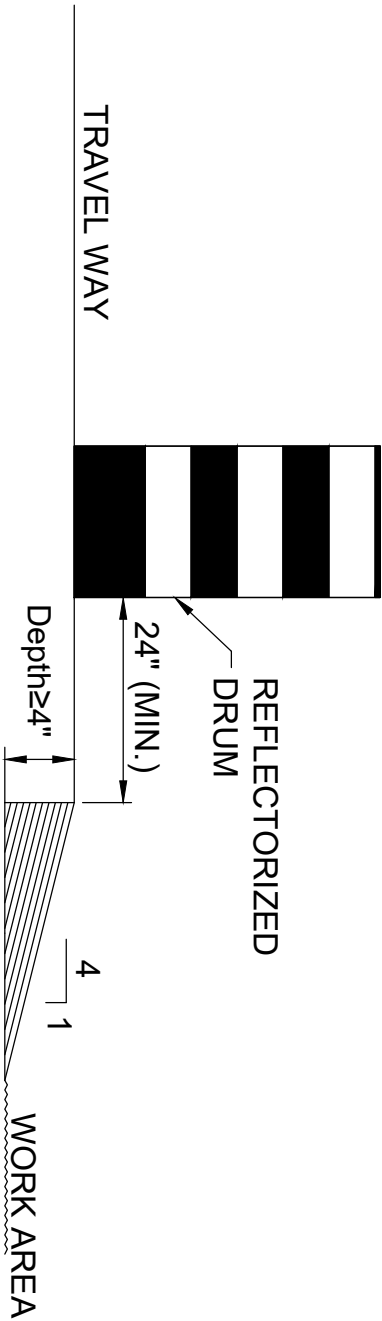


- NOTES:
1. ADDITIONAL ADVANCE WARNING MAY BE NECESSARY.
 2. CONTROLS ONLY FOR PEDESTRIAN TRAFFIC ARE SHOWN. VEHICULAR TRAFFIC SHOULD BE HANDLED AS SHOWN ELSEWHERE.
 3. STREET LIGHTING SHOULD BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
 4. IF THE WORK ZONE DOES NOT PERMIT PEDESTRIANS TO TRAVEL ADJACENT TO IT AS SHOWN IN PEDESTRIAN BYPASS TYPE I, TEMPORARY CROSSWALKS WITH APPROPRIATE SIGNS SHOULD BE INSTALLED TO CROSS PEDESTRIANS TO THE OPPOSITE SIDE OF THE STREET AS SHOWN IN PEDESTRIAN BYPASS TYPE II AND AS DIRECTED BY THE ENGINEER. TEMPORARY CURB RAMPS WILL BE REQUIRED AT ALL TEMPORARY CROSSWALK LOCATIONS.
 5. BYPASS IS TO BE USED IN CONJUNCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING, AS DIRECTED BY THE ENGINEER.



TYPICAL TEMPORARY DAYTIME LANE CLOSURE - THROUGH ROADWAY
(ONE LANE - BI-DIRECTIONAL)
N.T.S.

- NOTES:
1. PLACEMENT OF ALL CONSTRUCTION SIGNS, DRUMS, BARRICADES, TRAFFIC DEVICES AND THE SHAPE, SIZE & COLOR OF ALL TEMPORARY TRAFFIC SIGNS SHALL CONFORM WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND AMENDMENTS.
 2. ADVANCE WARNING SIGN PLACEMENT AND TAPER LENGTH SHALL BE ADJUSTED ACCORDING TO STREET CONDITIONS AND DRIVEWAY OPENINGS.
 3. ALL DRUMS SHALL BE APPROXIMATELY PLACED AND RELOCATED AS NECESSARY TO MAINTAIN ADEQUATE ABUTTER ACCESS AT ALL TIMES.
 4. THE CONTRACTOR SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT AND SIMILAR OPERATIONS.
 5. NONESSENTIAL TRAFFIC CONTROL DEVICES SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS.
 6. PEDESTRIANS SHALL BE PROVIDED WITH ACCESS AND SAFE PASSAGE THROUGH THE TEMPORARY TRAFFIC CONTROL ZONE AT ALL TIMES.
 7. ADVISORY SPEED PLATES (W13-1) SHALL BE USED IF APPLICABLE AND AS DIRECTED BY THE ENGINEER.
 8. R2-10a SIGN TO BE ERCTED BETWEEN W20-1 AND W20-4 SIGN.
 9. MAINTAIN ONE LANE (MIN. 11' WIDTH) AT ALL TIMES DURING CONSTRUCTION.

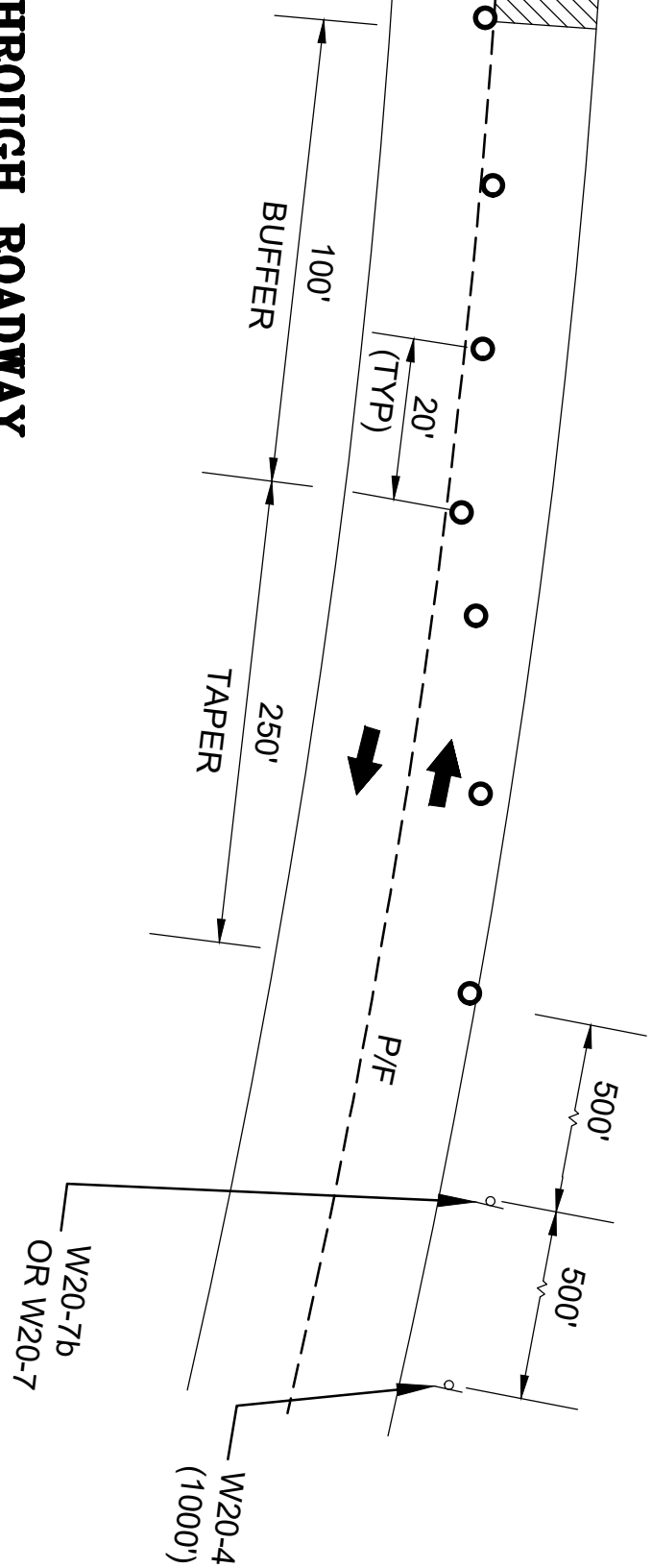


SPEED LIMIT (S)	TAPER LENGTH (L)
40 MPH OR LESS	L = WS ²
45 MPH OR MORE	L = WS

WHERE: L = TAPER LENGTH IN FEET (METERS)

W = WIDTH OF OFFSET IN FEET (METERS)

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



TYPICAL TEMPORARY DAYTIME LANE CLOSURE - THROUGH ROADWAY
(ONE LANE - BI-DIRECTIONAL)
N.T.S.

TEMPORARY TRAFFIC SIGN SUMMARY

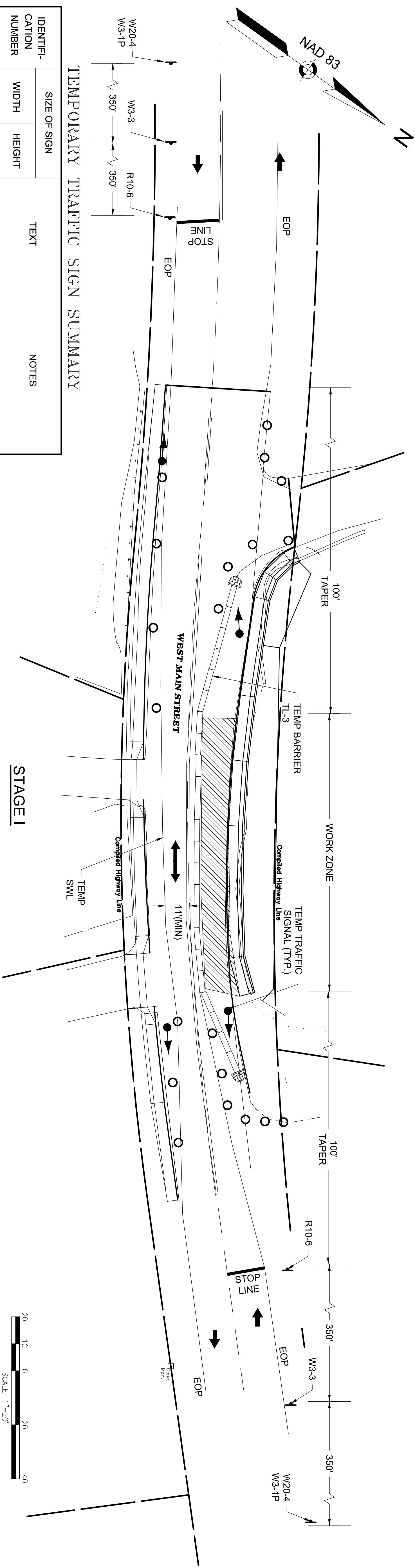
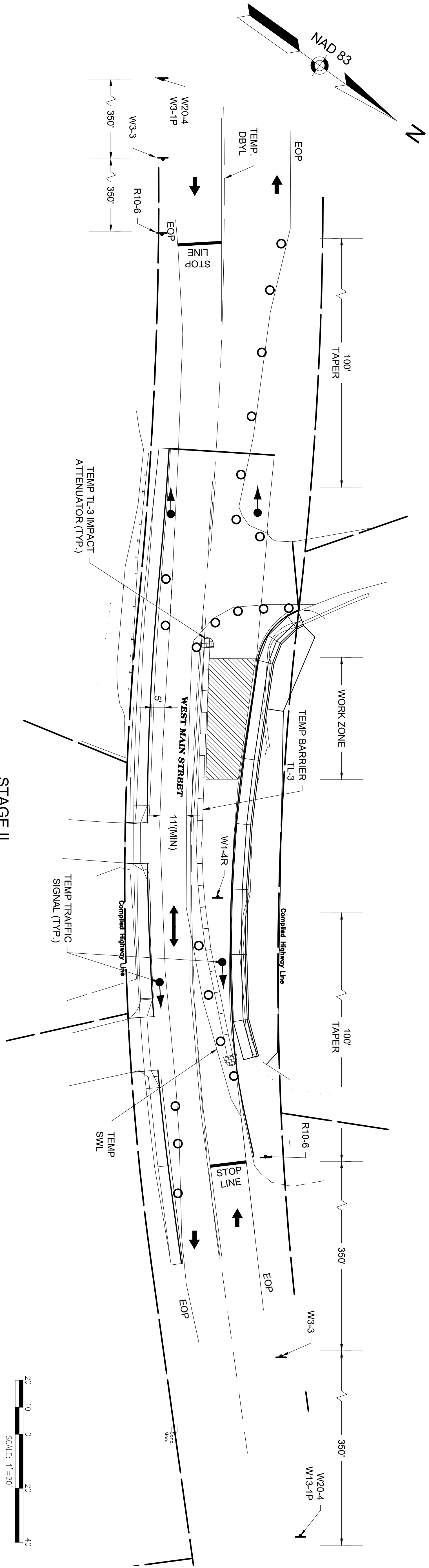
IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	NOTES
	WIDTH	HEIGHT		
R2-10e	36"	48"	END ROAD DOUBLE FINES END	
R2-10a	48"	36"	WORK ZONE SPEEDING FINES DOUBLED	PLACE SIGN BETWEEN FIRST AND SECOND ADVANCED WARNING SIGN OR AS DIRECTED BY THE ENGINEER
W5-1	48"	48"	ROAD NARROWS	
W13-1p	18"	18"	M.P.H.	ADVISORY SPEED LIMIT AS DETERMINED BY THE ENGINEER
W20-1	48"	48"	ROAD WORK AHEAD	
W20-4	48"	48"	ONE LANE ROAD XX FT	
W20-7	48"	48"		
W20-7b	48"	48"	POLICE OFFICER AHEAD	
W11-2	30"	30"		
W16-7pL	24"	12"		
R9-11a	48"	24"	SIDEWALK CLOSED CROSS HERE	
R9-9	30"	18"	SIDEWALK CLOSED	
W1-4R	48"	48"		
W1-4L	48"	48"		
W8-7	48"	48"	PAVEMENT ENDS	

- LEGEND**
- REFLECTORIZED CHANNELIZING DEVICE
 - REFLECTORIZED DRUM
 - TRAFFIC FLOW DURING CONSTRUCTION
 - NORMAL TRAFFIC FLOW
 - POLICE/FLAGGER DETAIL
 - PORTABLE BREAKAWAY BARRICADE TYPE III
 - TEMPORARY IMPACT ATTENUATOR
 - CONSTRUCTION SIGN
 - WORK AREA
 - NOT TO SCALE
 - ARROW BOARD
 - TEMPORARY PRECAST PORTABLE CONCRETE BARRIER WITH WARNING LIGHTS

No.	Date	Dr.By	Ck.By	App.By	Description				
		A	P	P	R	O	V	E	D
REGISTERED PROFESSIONAL ENGINEER					DATE				



TOWN OF MLLBURY, MASSACHUSETTS MILLBURY HIGHWAY DEPARTMENT WEST MAIN STREET ROUND POND WALL					
TEMPORARY TRAFFIC CONTROL DETAILS I					
CADD NO.	SCALE:	CONTRACT:	JOB NO.	DR. BY	DSN. BY
			2180463	MD	RP
APP. BY	CHK. BY	DSN. BY	DR. BY	JOB NO.	CONTRACT:
LFK	LFK	RP	MD	2180463	



TEMPORARY TRAFFIC SIGN SUMMARY

IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT	NOTES
	WIDTH	HEIGHT		
R10-6	36"	48"	STOP HERE ON RED	
W1-4R	48"	48"		
W3-3	48"	48"		
W13-1P	18"	18"		ADVISORY SPEED LIMIT AS DETERMINED BY THE ENGINEER
W20-4	48"	48"		

LEGEND

- REFLECTORIZED CHANNELIZING DEVICE
- REFLECTORIZED DRUM
- TRAFFIC FLOW DURING CONSTRUCTION
- NORMAL TRAFFIC FLOW
- P/F POLICE/LAGGER DETAIL
- PORTABLE BREAKAWAY BARRICADE TYPE III
- TEMPORARY IMPACT ATTENUATOR
- TRAFFIC OR PEDESTRIAN SIGNAL
- CONSTRUCTION SIGN
- WORK AREA
- N.T.S.
- NOT TO SCALE
- ARROW BOARD
- TEMPORARY PRECAST PORTABLE CONCRETE BARRIER W/WARNING LIGHTS

NOTES:

- ADDITIONAL ADVANCE WARNING MAY BE NECESSARY
- CONTROLS ONLY FOR PEDESTRIAN TRAFFIC ARE SHOWN. VEHICULAR TRAFFIC SHOULD BE HANDLED AS SHOWN ELSEWHERE.
- STREET LIGHTING SHOULD BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
- IF THE WORK ZONE DOES NOT PERMIT PEDESTRIANS TO TRAVEL ADJACENT TO IT AS SHOWN IN PEDESTRIAN BYPASS TYPE I, TEMPORARY CROSSWALKS WITH APPROPRIATE SIGNS SHOULD BE INSTALLED TO CROSS PEDESTRIANS TO THE OPPOSITE SIDE OF THE STREET AS SHOWN IN PEDESTRIAN BYPASS TYPE II, AND AS DIRECTED BY THE ENGINEER. TEMPORARY CURB RAMPS WILL BE REQUIRED AT ALL TEMPORARY CROSSWALK LOCATIONS.
- CONSTRUCTION STAGING, AS DIRECTED BY THE ENGINEER.

STAGE I

NOTES:

- PLACEMENT OF ALL CONSTRUCTION SIGNS, DRUMS, BARRICADES, TRAFFIC DEVICES AND THE SHAPE, SIZE & COLOR OF ALL TEMPORARY TRAFFIC SIGNS SHALL CONFORM WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND AMENDMENTS.
- ADVANCE WARNING SIGN PLACEMENT AND TAPER LENGTH SHALL BE ADJUSTED ACCORDING TO STREET CONDITIONS AND DRIVEWAY OPENINGS.
- ALL DRUMS SHALL BE APPROXIMATELY PLACED AND RELOCATED AS NECESSARY TO MAINTAIN ADEQUATE ABUTTER ACCESS AT ALL TIMES.
- THE CONTRACTOR SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAYEMENT PLACEMENT AND SIMILAR OPERATIONS.
- NONESSENTIAL TRAFFIC CONTROL DEVICES SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS.
- PEDESTRIANS SHALL BE PROVIDED WITH ACCESS AND SAFE PASSAGE THROUGH THE TEMPORARY TRAFFIC CONTROL ZONE AT ALL TIMES.
- ADVISORY SPEED PLATES (W13-1) SHALL BE USED IF APPLICABLE AND AS DIRECTED BY THE ENGINEER.
- R2-10a SIGN TO BE ERCTED BETWEEN W20-1 AND W20-4 SIGN.
- MAINTAIN ONE LANE (MIN. 11' WIDTH) AT ALL TIMES DURING CONSTRUCTION.

No.	Date	Dr.By	Ck.By	App.By	Description
		A	P	P	R O V E D
REGISTERED PROFESSIONAL ENGINEER					DATE



TOWN OF MLLBURY, MASSACHUSETTS
MILLBURY HIGHWAY DEPARTMENT
WEST MAIN STREET ROUND POND WALL

TEMPORARY TRAFFIC CONTROL DETAILS II

FILE NO.	CADD NO.	SCALE:	CONTRACT:	JOB NO.	DR.BY	DSN.BY	CHK.BY	APP.BY
-	-	-	-	2180463	MD	RP	LFK	LFK