

CITY OF WORCESTER DEPARTMENT OF TRANSPORTATION AND MOBILITY

PLAN OF COMPLETE STREETS IMPROVEMENTS

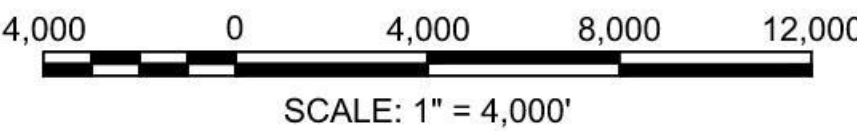
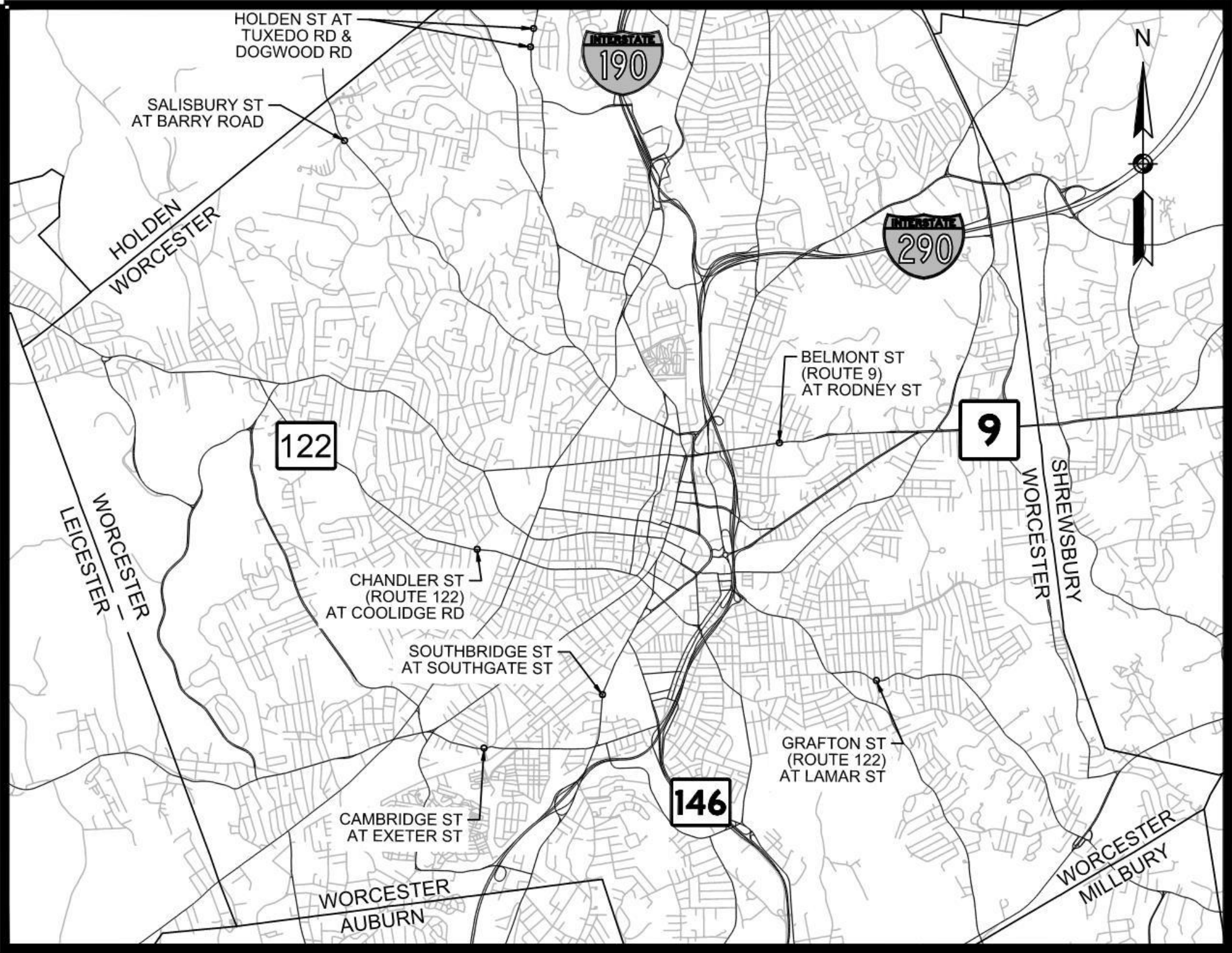
IN THE CITY OF
WORCESTER, MA
WORCESTER COUNTY

WORCESTER
COMPLETE STREETS IMPROVEMENTS
TITLE SHEET & INDEX
SHEET 1 OF 29

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.

CONSTRUCTION PLANS

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DATE	DESCRIPTION	REV #

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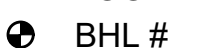





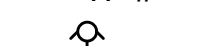

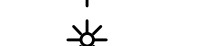







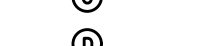

























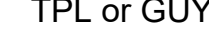























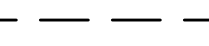



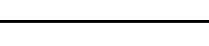

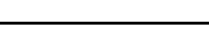

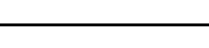

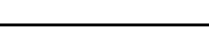

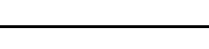

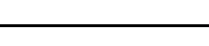

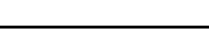

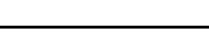



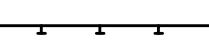

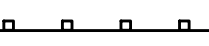

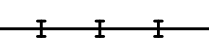

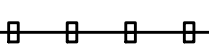
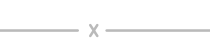
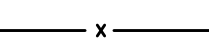

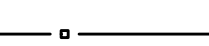

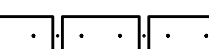

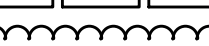

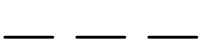












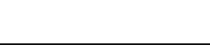











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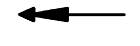

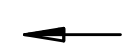











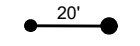










APPROVED BY:	JMD	DESIGNED BY:	ZJC/JD/TS/FAS	DATE:	April 1, 2024
CHECKED BY:	PE	DRAWN BY:	ZJC/JD/TS/FAS	TEC PROJECT NO.:	T1414

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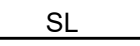



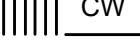

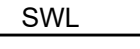



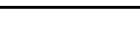







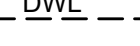

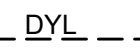
GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		JERSEY BARRIER
		CATCH BASIN
		CATCH BASIN CURB INLET
		FLAG POLE
		GAS PUMP
		MAIL BOX
		POST SQUARE
		POST CIRCULAR
		WELL
		ELECTRIC HANDHOLE
		FENCE GATE POST
		GAS GATE
		BORING HOLE
		MONITORING WELL
		TEST PIT
		HYDRANT
		LIGHT POLE
		COUNTY BOUND
		GPS POINT
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
		TELEPHONE MANHOLE
		WATER MANHOLE
		MASSACHUSETTS HIGHWAY BOUND
		MONUMENT
		STONE BOUND
		TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
		TROLLEY POLE OR GUY POLE
		TRANSMISSION POLE
		UTILITY POLE W/ FIREBOX
		UTILITY POLE WITH DOUBLE LIGHT
		UTILITY POLE W / 1 LIGHT
		UTILITY POLE
		BUSH
		TREE
		STUMP
		SWAMP / MARSH
		WATER GATE
		PARKING METER
		OVERHEAD CABLE/WIRE
		CURBING
		CONTOURS (ON-THE-GROUND SURVEY DATA)
		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
		GUARD RAIL - DOUBLE FACE - STEEL POSTS
		GUARD RAIL - DOUBLE FACE - WOOD POSTS
		CHAIN LINK OR METAL FENCE
		WOOD FENCE
		HAY BALES/SILT FENCE
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF PAVEMENT OR COLD PLANE 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

TRAFFIC SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		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)
		RAILROAD SIGNAL
		SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)
		MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)
		HIGH MAST POLE OR TOWER
		SIGN AND POST
		SIGN AND POST (2 POSTS)
		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
		LEGEND "ONLY" - WHITE
		STOP LINE
		CROSSWALK
		SOLID WHITE LINE
		SOLID YELLOW LINE
		BROKEN WHITE LINE
		BROKEN YELLOW LINE
		DOTTED WHITE LINE
		DOTTED YELLOW LINE
		DOTTED WHITE LINE EXTENSION
		DOTTED YELLOW LINE EXTENSION
		DOUBLE WHITE LINE
		DOUBLE YELLOW LINE

GENERAL NOTES

- THE LOCATIONS EXISTING UNDERGROUND UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR ITS REPRESENTATIVE(S) HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATION, SIZE, AND ELEVATION OF EXISTING UTILITIES.
- THE CONTRACTOR MUST FIELD VERIFY THE PROPOSED INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES BY USING TEST PITS TO CONFIRM EXACT DEPTH, PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT. FAILURE TO PROVIDE OR PERFORM THE ABOVE PRIOR TO PERFORMING ANY WORK SHALL NOT BE GROUNDS FOR EXTRA PAYMENTS TO THE CONTRACTOR.
- AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT, CURBS, AND EARTHWORK SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES, AND JOINTS.
- THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES, AS REQUIRED.
- UTILITY COVERS, GRATES, ETC. SHALL BE ADJUSTED TO BE FLUSH WITH THE PAVEMENT FINISH GRADE UNLESS OTHERWISE NOTED.
- INSTALL ALL UTILITIES (INCLUDING CONCRETE PADS) PER UTILITY COMPANY, DPW, AND STATE STANDARDS.
- ALL FILL, COMPACTION, AND BACKFILL MATERIALS MUST COMPLY WITH APPLICABLE REQUIREMENTS AND SPECIFICATIONS. THE PROFESSIONAL OF RECORD AND TEC ARE NOT RESPONSIBLE FOR DESIGN OF TRENCH BACKFILL OR FOR COMPACTION REQUIREMENTS.
- DURING THE INSTALLATION OF SANITARY, STORM, AND ALL UTILITIES, THE CONTRACTOR MUST MAINTAIN A CONTEMPORANEOUS AND THOROUGH RECORD OF CONSTRUCTION TO IDENTIFY THE AS-INSTALLED LOCATIONS OF ALL UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR MUST CAREFULLY NOTE ANY INSTALLATIONS THAT DEVIATE, IN ANY RESPECT, FROM THE INFORMATION CONTAINED IN THESE PLANS. THIS RECORD MUST BE KEPT ON A CLEAN COPY OF THE APPROPRIATE PLAN(S), WHICH THE CONTRACTOR MUST PROMPTLY PROVIDE TO THE OWNER IMMEDIATELY UPON THE COMPLETION OF WORK.
- THE CONTRACTOR MUST ENSURE THAT ALL UTILITY TRENCHES LOCATED IN EXISTING PAVED ROADWAYS INCLUDING SANITARY, WATER AND STORM SYSTEMS, ARE REPAIRED IN ACCORDANCE WITH REFERENCED MUNICIPAL, COUNTY AND OR STATE DOT DETAILS AS APPLICABLE. THE CONTRACTOR MUST COORDINATE INSPECTION AND APPROVAL OF COMPLETED WORK WITH THE AUTHORIZED REPRESENTATIVE.
- ALL WORK ASSOCIATED WITH LIGHT POLES OR APPURTENANCES SHALL BE COORDINATED BY THE GENERAL CONTRACTOR WITH THE LOCAL UTILITY COMPANIES PRIOR TO THE ORDERING OF ANY MATERIALS. THIS MAY INCLUDE BUT IS NOT LIMITED TO THE REMOVAL, INSTALLATION, RELOCATION OR PROTECTION AS IT MAY BE REQUIRED TO ACCOMMODATE THE PROJECT.
- CONTRACTOR SHALL PROTECT ALL UNDERGROUND DRAINAGE, SEWER AND UTILITY FACILITIES FROM EXCESSIVE VEHICULAR LOADS DURING CONSTRUCTION. ANY DAMAGE TO THESE FACILITIES RESULTING FROM CONSTRUCTION LOADS WILL BE RESTORED TO ORIGINAL CONDITION (AT NO ADDITIONAL COST TO THE OWNER) BY THE CONTRACTOR.
- STORM AND SANITARY PIPE LENGTHS INDICATED ARE NOMINAL AND ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE UNLESS INDICATED ON THE PLANS OTHERWISE.
- EXCAVATION REQUIRED IN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
- THE CONTRACTOR SHALL SCHEDULE THEIR WORK TO ALLOW THE FINISHED SUBGRADE ELEVATIONS TO DRAIN PROPERLY WITHOUT PUDDLING. SPECIFICALLY, ALLOW WATER TO ESCAPE WHERE PROPOSED CURB MAY RETAIN RUNOFF PRIOR TO APPLICATION OF THE FINISH SUBGRADE AND/OR SURFACE PAVING.

ABBREVIATIONS

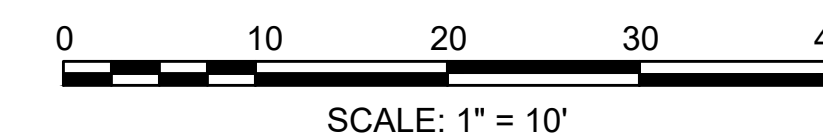
GENERAL		WORCESTER COMPLETE STREETS IMPROVEMENTS LEGEND & GENERAL NOTES SHEET 2 OF 29	
AADT	ANNUAL AVERAGE DAILY TRAFFIC		
ABAN	ABANDON		
ADJ	ADJUST		
APPROX.	APPROXIMATE		
A.C.	ASPHALT CONCRETE		
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE		
BIT.	BITUMINOUS		
BC	BOTTOM OF CURB		
BD.	BOUND		
BL	BASELINE		
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		
CLF	CHAIN LINK FENCE		
CL	CENTERLINE		
CMP	CORRUGATED METAL PIPE		
CSP	CORRUGATED STEEL PIPE		
CO.	COUNTY		
CONC	CONCRETE		
CONT	CONTINUOUS		
CONST	CONSTRUCTION		
CR GR	CROWN GRADE		
DHV	DESIGN HOURLY VOLUME		
DI	DROP INLET		
DIA	DIAMETER		
DIP	DUCTILE IRON PIPE		
DW	STEADY DON'T WALK - PORTLAND ORANGE		
DWY	DRIVEWAY		
ELEV (or EL.)	ELEVATION		
EMB	EMBANKMENT		
EOP (or EP)	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		
NIC	NOT IN CONTRACT		
NO.	NUMBER		
PC	POINT OF CURVATURE		
PCC	POINT OF COMPOUND CURVATURE		
P.G.L.	PROFILE GRADE LINE		
PI	POINT OF INTERSECTION		
POC	POINT ON CURVE		
POT	POINT ON TANGENT		
PRC	POINT OF REVERSE CURVATURE		
PROJ	PROJECT		
PROP	PROPOSED		
PSB	PLANTABLE SOIL BORROW		
PT	POINT OF TANGENCY		
PVC	POINT OF VERTICAL CURVATURE		
PVI	POINT OF VERTICAL INTERSECTION		
PVT	POINT OF VERTICAL TANGENCY		
PVMT	PAVEMENT		
PWW	PAVED WATER WAY		
		ABBREVIATIONS (cont.)	
		GENERAL	
		R	RADIUS OF CURVATURE
		R&D	REMOVE AND DISPOSE
		RCP	REINFORCED CONCRETE PIPE
		RD	ROAD
		RDWY	ROADWAY
		REM	REMOVE
		RET	RETAIN
		RET WALL	RETAINING WALL
		ROW	RIGHT OF WAY
		RR	RAILROAD
		R&R	REMOVE AND RESET
		R&S	REMOVE AND STACK
		RT	RIGHT
		SB	STONE BOUND
		SHLD	SHOULDER
		SMH	SEWER MANHOLE
		ST	STREET
		STA	STATION
		SSD	STOPPING SIGHT DISTANCE
		SHLO	STATE HIGHWAY LAYOUT LINE
		SW	SIDEWALK
		T	TANGENT DISTANCE OF CURVE/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

T1414	HD(PR-HQI DEN)	DWG	Plotted on 17-Apr-2024 1:27 PM
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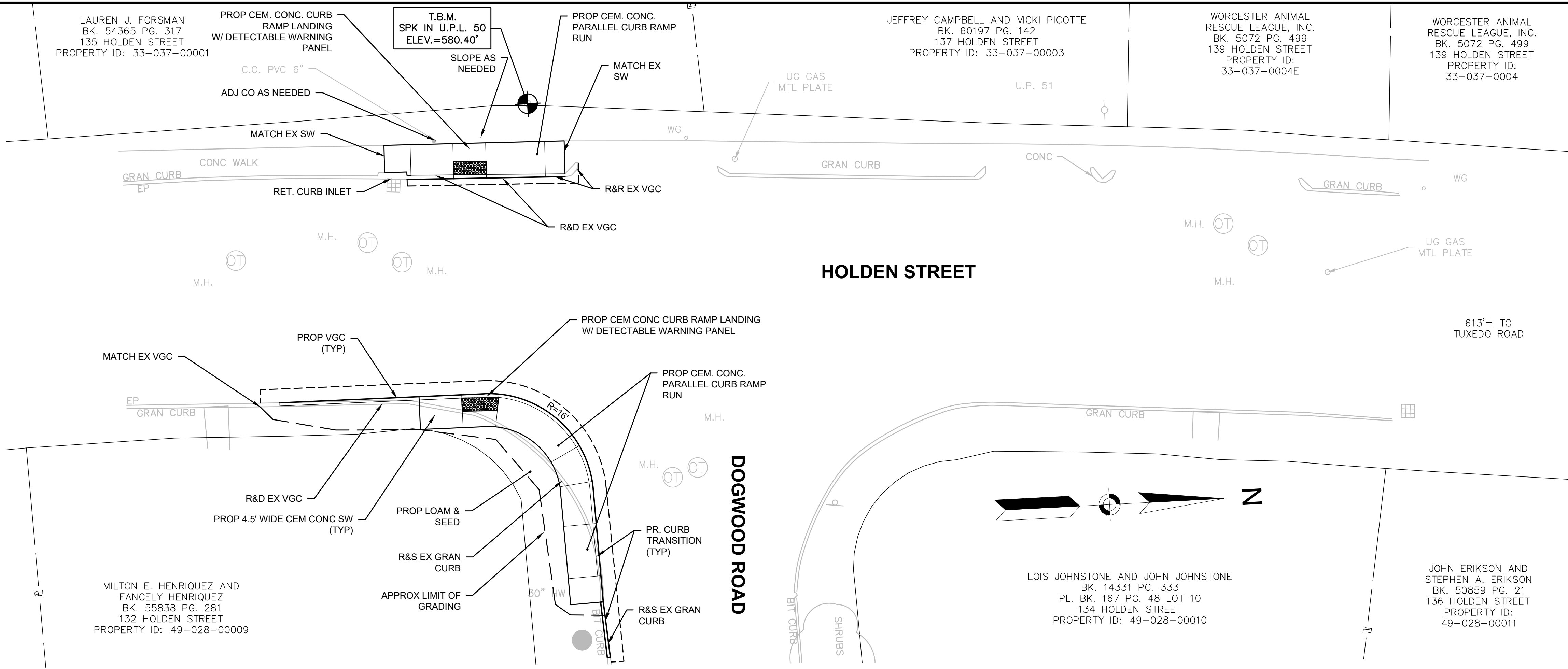


GENERAL NOTES

1. REFER TO STANDARD DETAILS AND WORCESTER DPW STANDARD SPECIFICATIONS.
2. REFER TO PROWAG R304.3.1 FOR MAXIMUM RUNNING SLOPE OF THE PARALLEL CURB RAMP, WHICH MAY EXCEED 8.3% WHEN THE RUN MUST EXCEED 15'.

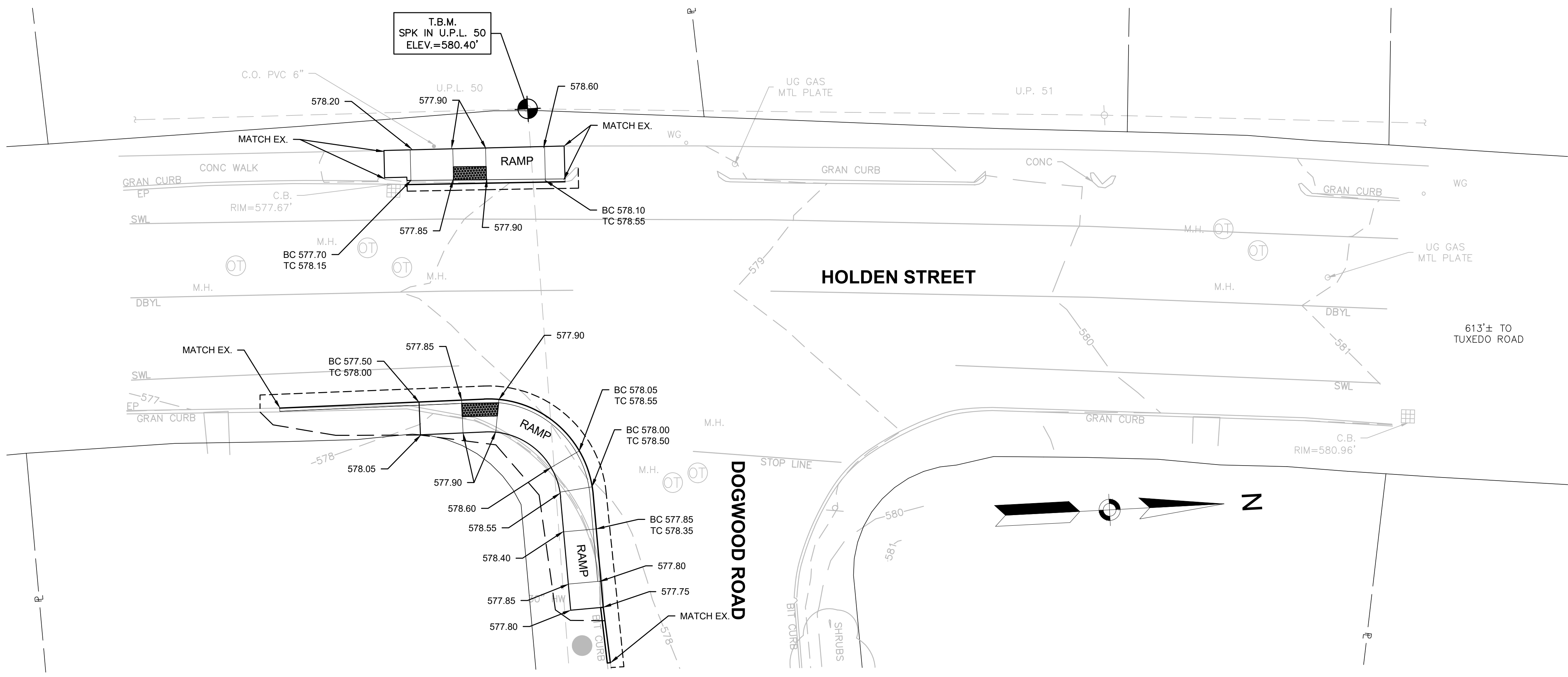
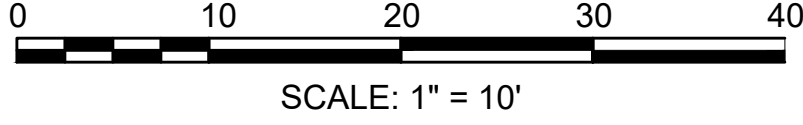


**WORCESTER
COMPLETE STREETS IMPROVEMENTS
HOLDEN ST AT DOGWOOD RD
CONSTRUCTION & GRADING PLANS
SHEET 4 OF 29**

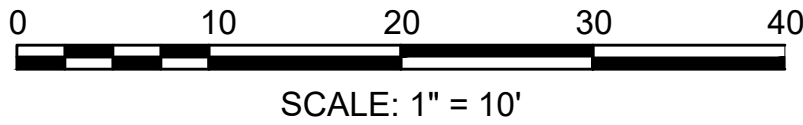


CONSTRUCTION PLAN
SCALE: 1"=10'

GENERAL NOTES
1. REFER TO STANDARD DETAILS AND WORCESTER DPW STANDARD SPECIFICATIONS.

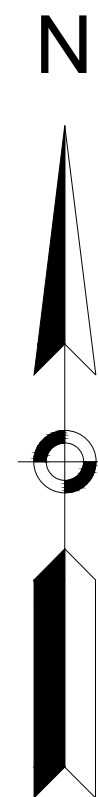


GRADING PLAN
SCALE: 1"=10'



WORCESTER
COMPLETE STREETS IMPROVEMENTS
GRAFTON STREET AT LAMAR AVENUE
CONSTRUCTION & GRADING PLANS
SHEET 5 OF 29

T:\1414_HD\CONST PLANS\DWG Plotted on 17-Apr-2024 1:32 PM



CLARA IRENE AND OTTO RAUL MARCHENA
BK. 64182 PG. 65
576 GRAFTON STREET
PARCEL ID: 34-004-00007

LAMAR AVENUE

CONSTRUCTION PLAN
SCALE: 1"=10'

GENERAL NOTES

1. REFER TO STANDARD DETAILS AND WORCESTER DPW STANDARD SPECIFICATIONS.
2. NEW RRFB BASES SHALL BE INSTALLED BY THE CONTRACTOR. RRFB STRUCTURE INSTALLATION SHALL BE BY OTHERS.



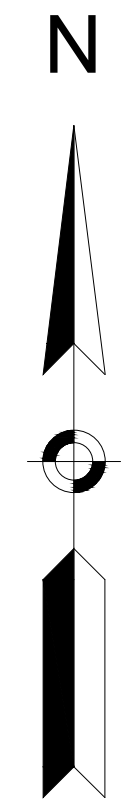
T.B.M.
WORCESTER COUNTY
HIGHWAY BOUND DH
ELEV.=548.52'

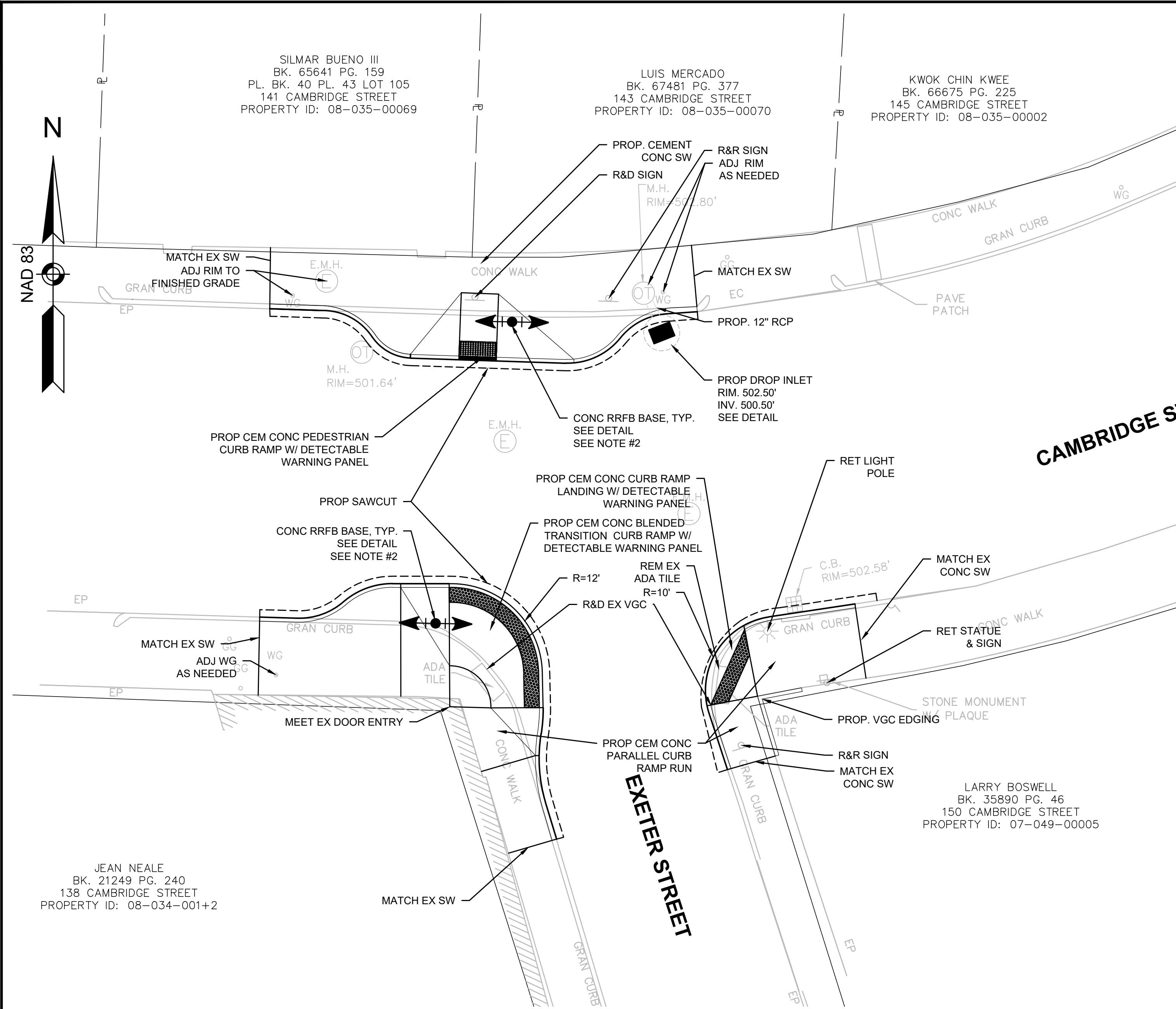
LAMAR AVENUE

GRADING PLAN
SCALE: 1"=10'



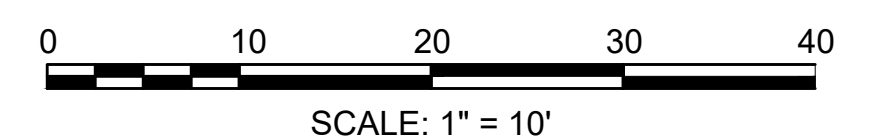
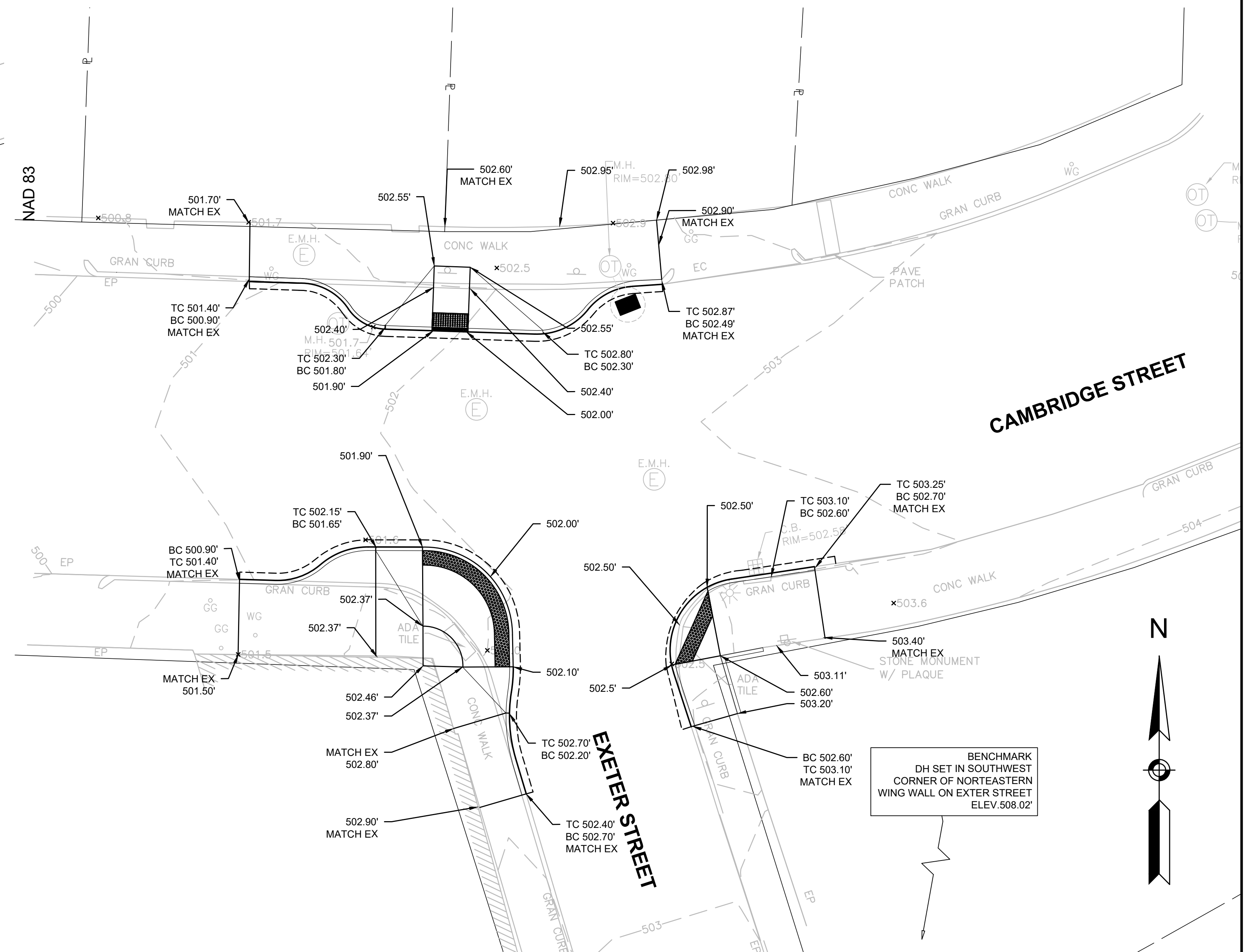
T1414_HD4(CONST PLANS).DWG Plotted on 17-Apr-2024 1:32 PM



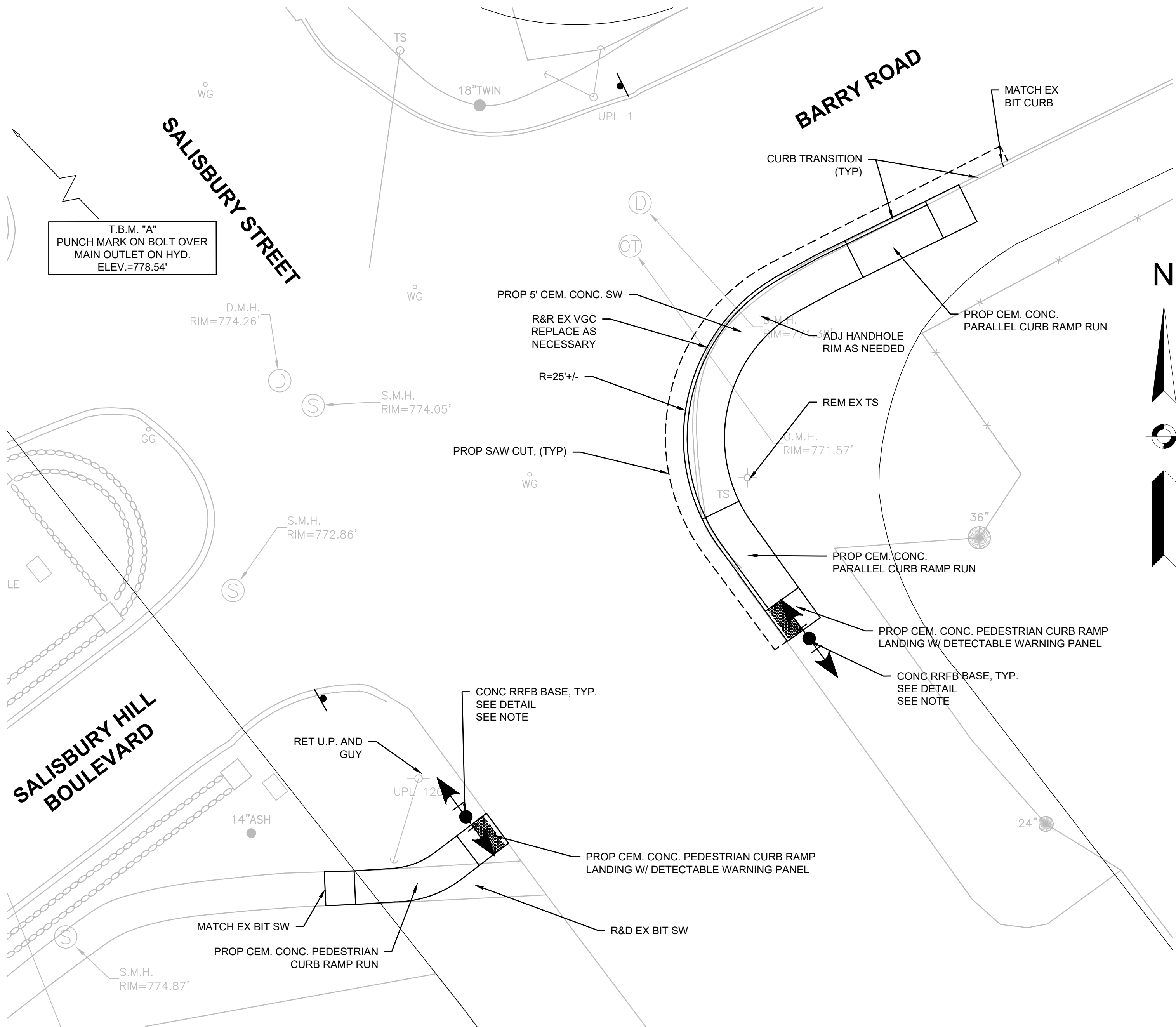


GENERAL NOTES

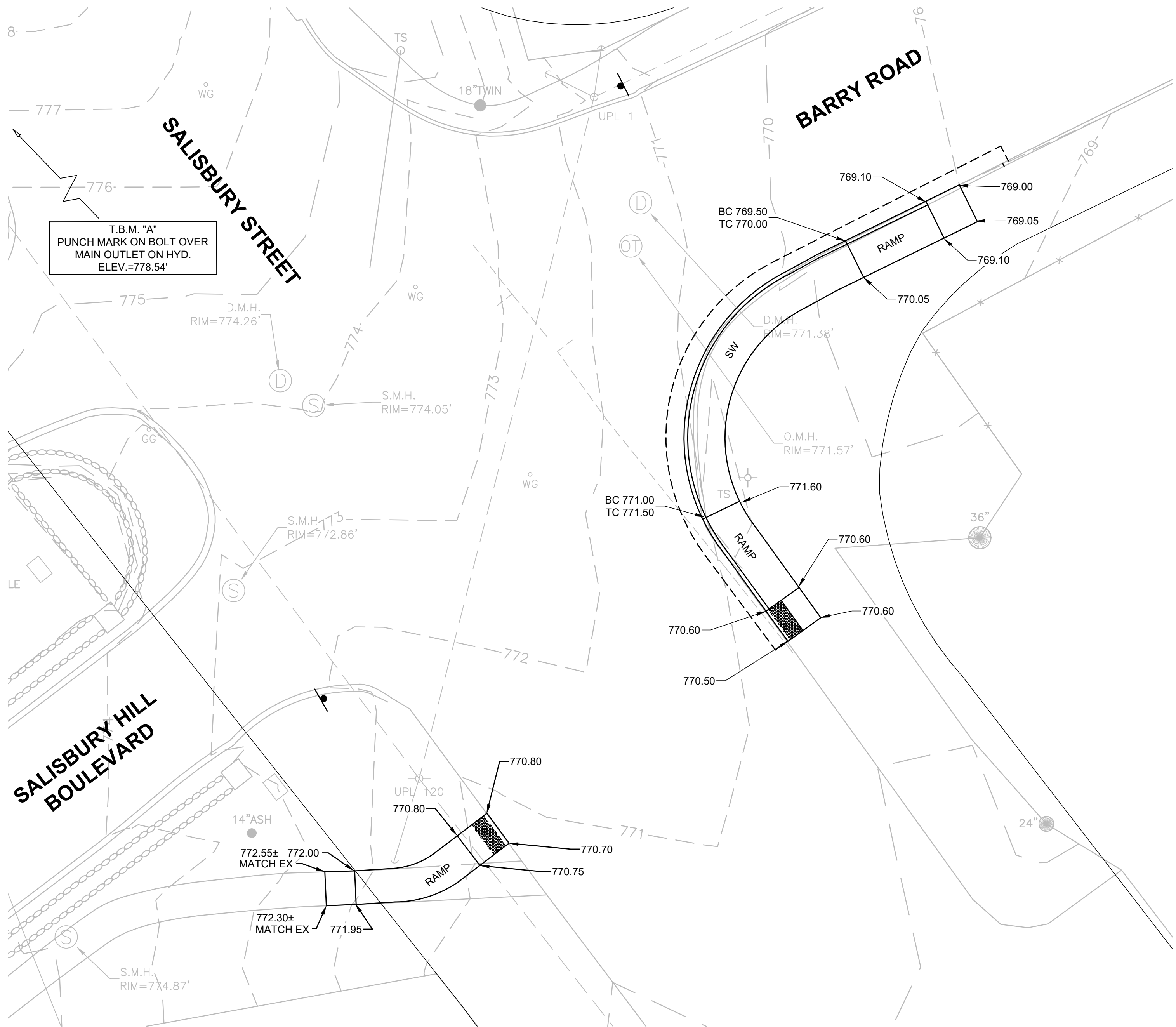
1. REFER TO STANDARD DETAILS AND WORCESTER DPW STANDARD SPECIFICATIONS.
2. NEW RRFB BASES SHALL BE INSTALLED BY THE CONTRACTOR. RRFB STRUCTURE INSTALLATION SHALL BE BY OTHERS.



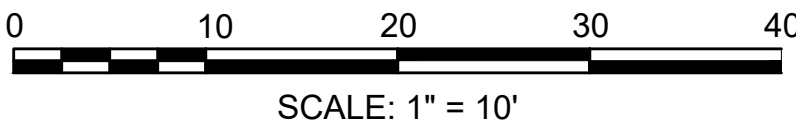
- GENERAL NOTES
1. NEW RRFB BASES SHALL BE INSTALLED BY THE CONTRACTOR. RRFB STRUCTURE INSTALLATION SHALL BE BY OTHERS.
 2. REFER TO STANDARD DETAILS AND WORCESTER DPW STANDARD SPECIFICATIONS.

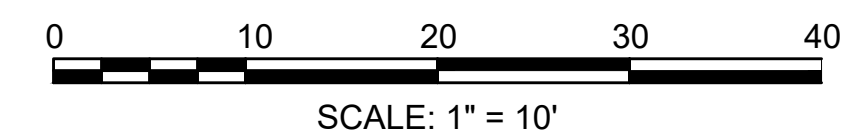


CONSTRUCTION PLAN
SCALE: 1"=10'



GRADING PLAN
SCALE: 1"=10'





- T.B.M. "A"
PUNCH MARK ON
BOLT OVER MAIN
OUTLET ON HYD.
ELEV.=488.60'



LUIS A. PEREIRA AND NANCY I. VAZQUEZ
BK. 68486 PG. 249
171 R BELMONT STREET
PARCEL ID: 16-007-00100

177 WORCESTER PROJECT LLC,
BK. 64677 PG. 24
177 BELMONT STREET
PARCEL ID: 16-007-00035

LUIS A. FERNANDES AND MARIANNA FERNANDES
BK. 67978 PG. 123
181 BELMONT STREET
PARCEL ID: 16-007-00045

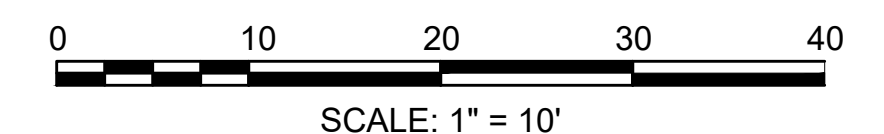
**WORCESTER
COMPLETE STREETS IMPROVEMENTS
BELMONT STREET AT RODNEY STREET
CONSTRUCTION & GRADING PLANS
SHEET 10 OF 29**

GENERAL NOTES

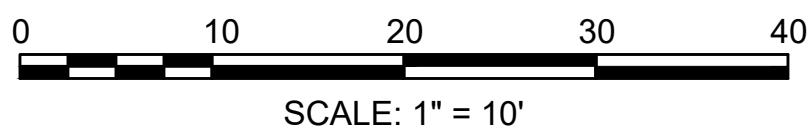
1. REFER TO PROWAG R304.3.4 AND R302.5.2.2 FOR MAXIMUM CROSS SLOPE OF THE PARALLEL CURB RAMP LANDING, ALLOWABLE UP TO 5% MAXIMUM.
2. REFER TO PROWAG R304.3.1 FOR MAXIMUM RUNNING SLOPE OF THE PARALLEL CURB RAMP, WHICH MAY EXCEED 8.3% WHEN THE RUN MUST EXCEED 15'.
3. REFER TO PROWAG R302.5.2.2 FOR MAXIMUM SLOPE OF THE PEDESTRIAN ACCESS ROUTE WITHIN A CROSSWALK AT AN UNCONTROLLED APPROACH, ALLOWABLE UP TO 5% MAXIMUM.
4. THE CONTRACTOR SHALL REMOVE AND STACK THE EXISTING RRFB STRUCTURES AND DELIVER THEM TO THE WORCESTER DPW/DTM. NEW RRFB BASES SHALL BE INSTALLED BY THE CONTRACTOR. RRFB STRUCTURE INSTALLATION SHALL BE BY OTHERS.
5. REFER TO STANDARD DETAILS AND WORCESTER DPW STANDARD SPECIFICATIONS.
6. REFER TO PROWAG R407, 521 CMR 24 FOR RAMP REQUIREMENTS.
7. REFER TO PROWAG R408, 521 CMR 27 FOR STAIR REQUIREMENTS.

**CONSTRUCTION PLAN
SCALE: 1"=10'**

**GRADING PLAN
SCALE: 1"=10'**

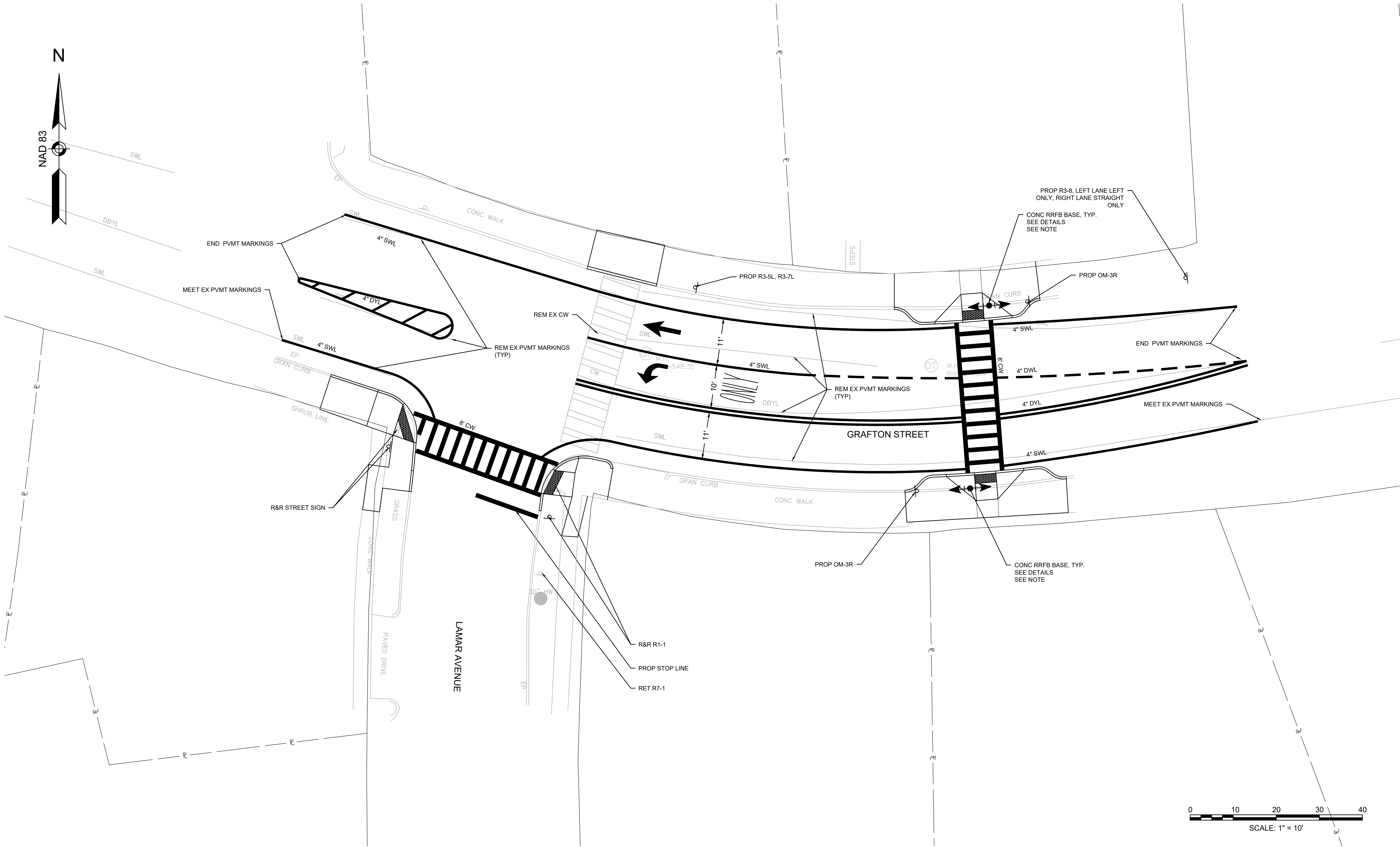


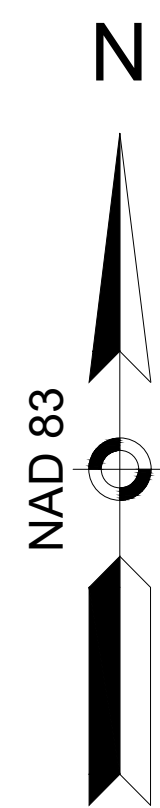
T1414_HD5(TSPM).DWG Plotted on 17-Apr-2024 1:28 PM



NOTES:
1. NEW RRFB BASES SHALL BE INSTALLED BY THE CONTRACTOR. RRFB STRUCTURE INSTALLATION SHALL BE BY OTHERS. INTERIM PEDESTRIAN SIGNAGE (W11-2 W/ W16-7pL) SHALL BE INSTALLED WITH THE RRFB BASE UNTIL RRFB STRUCTURE IS INSTALLED.
2. CONTRACTOR TO ENSURE MIN 36" CLEARANCE AROUND ALL SIGNS.

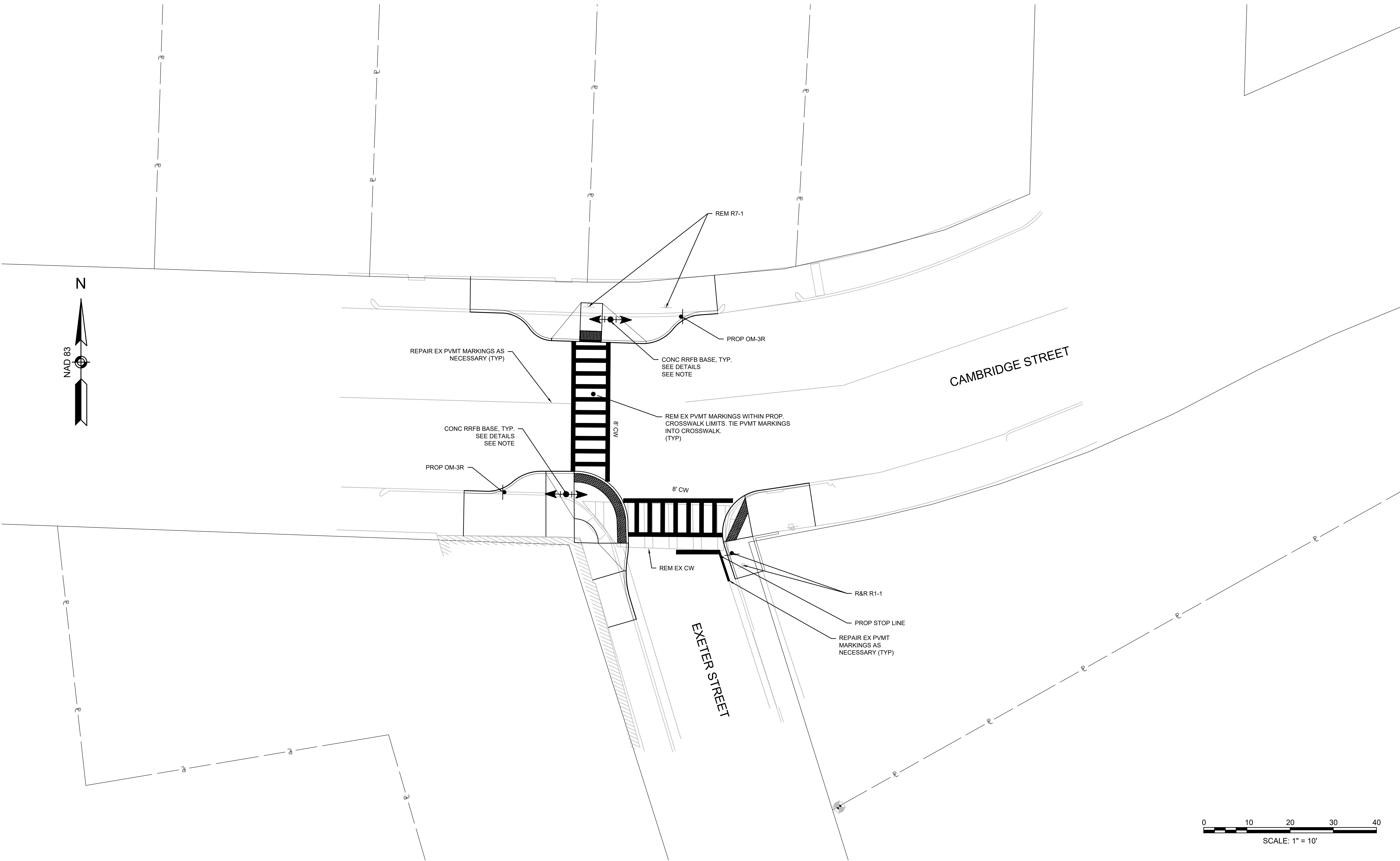
WORCESTER
COMPLETE STREETS IMPROVEMENTS
GRAFTON STREET AT LAMAR AVENUE
SIGNAGE & PAVEMENT MARKING PLANS
SHEET 12 OF 29

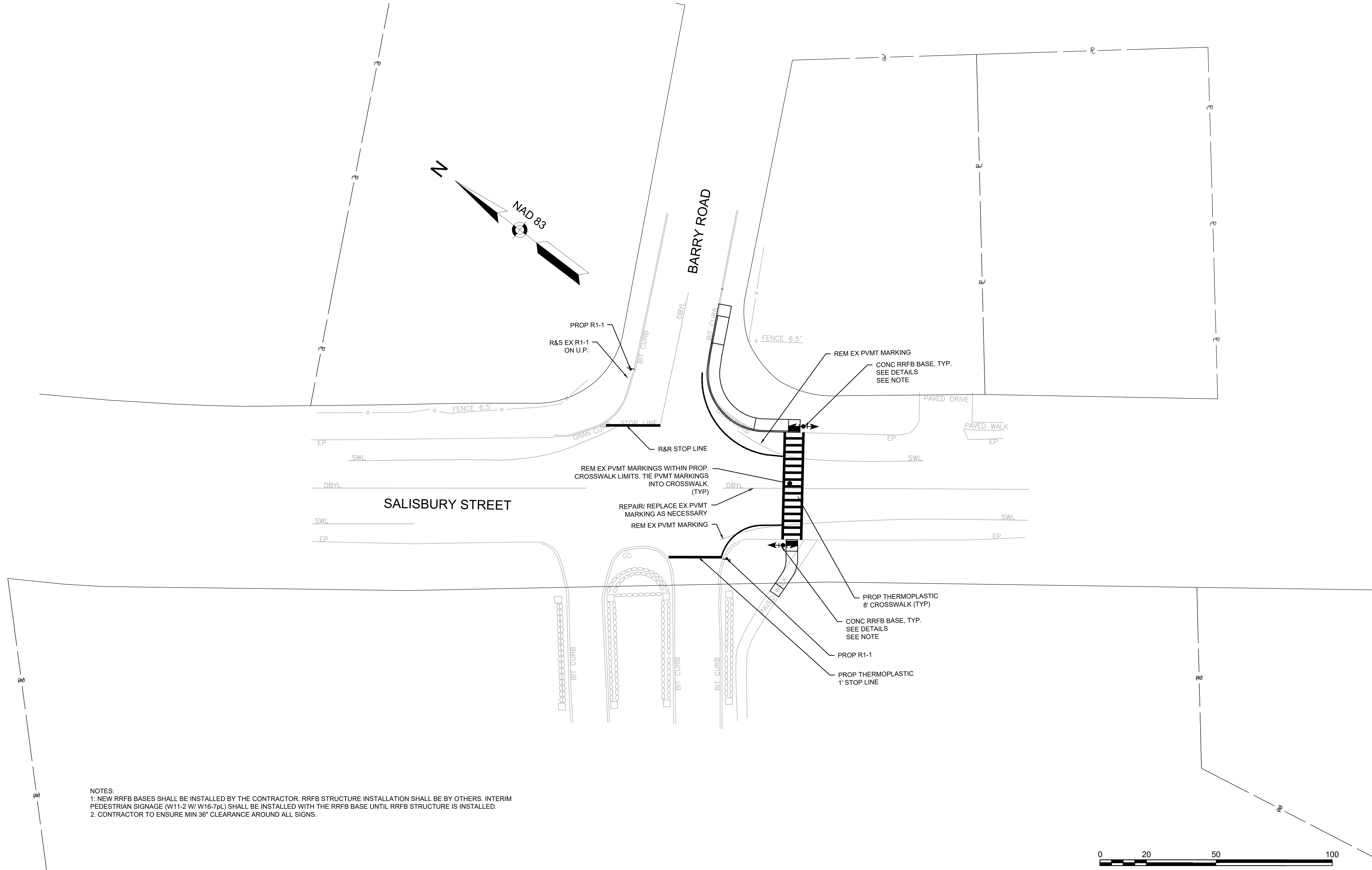




NOTES:
1. NEW RRFB BASES SHALL BE INSTALLED BY THE CONTRACTOR. RRFB STRUCTURE INSTALLATION SHALL BE BY OTHERS. INTERIM PEDESTRIAN SIGNAGE (W11-2 W/ W16-7pL) SHALL BE INSTALLED WITH THE RRFB BASE UNTIL RRFB STRUCTURE IS INSTALLED.
2. CONTRACTOR TO ENSURE MIN 36" CLEARANCE AROUND ALL SIGNS.

WORCESTER
COMPLETE STREETS IMPROVEMENTS
CAMBRIDGE STREET AT EXETER STREET
SIGNAGE & PAVEMENT MARKING PLANS
SHEET 14 OF 29



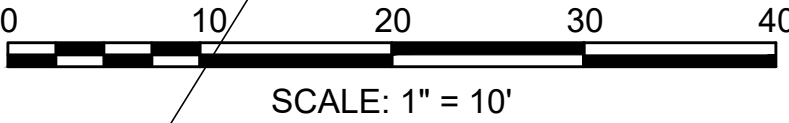
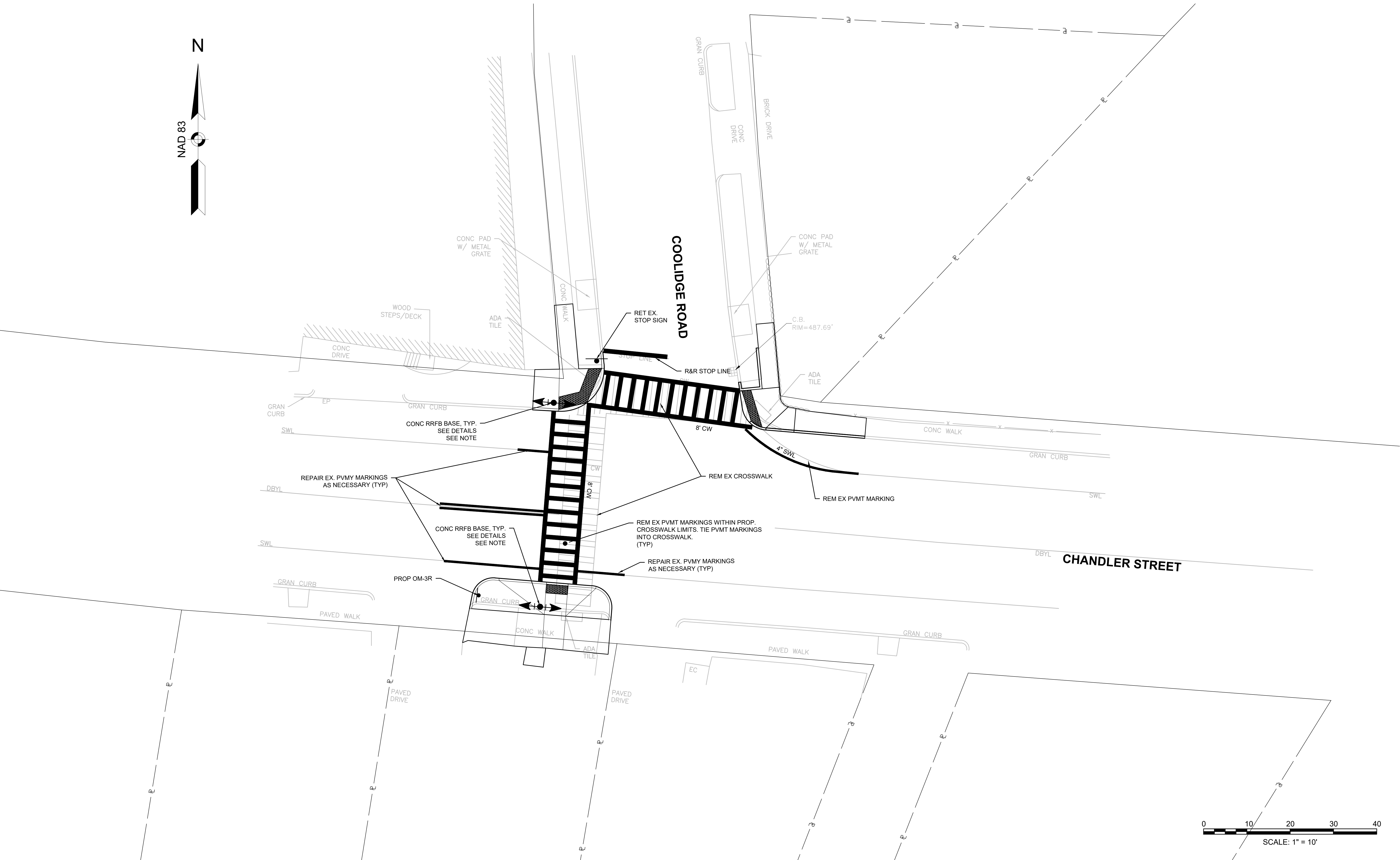
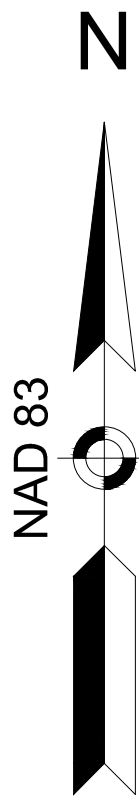


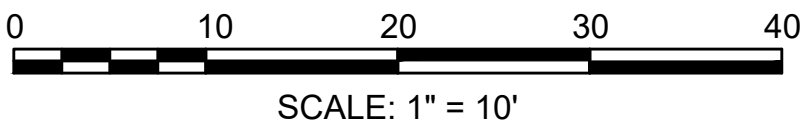
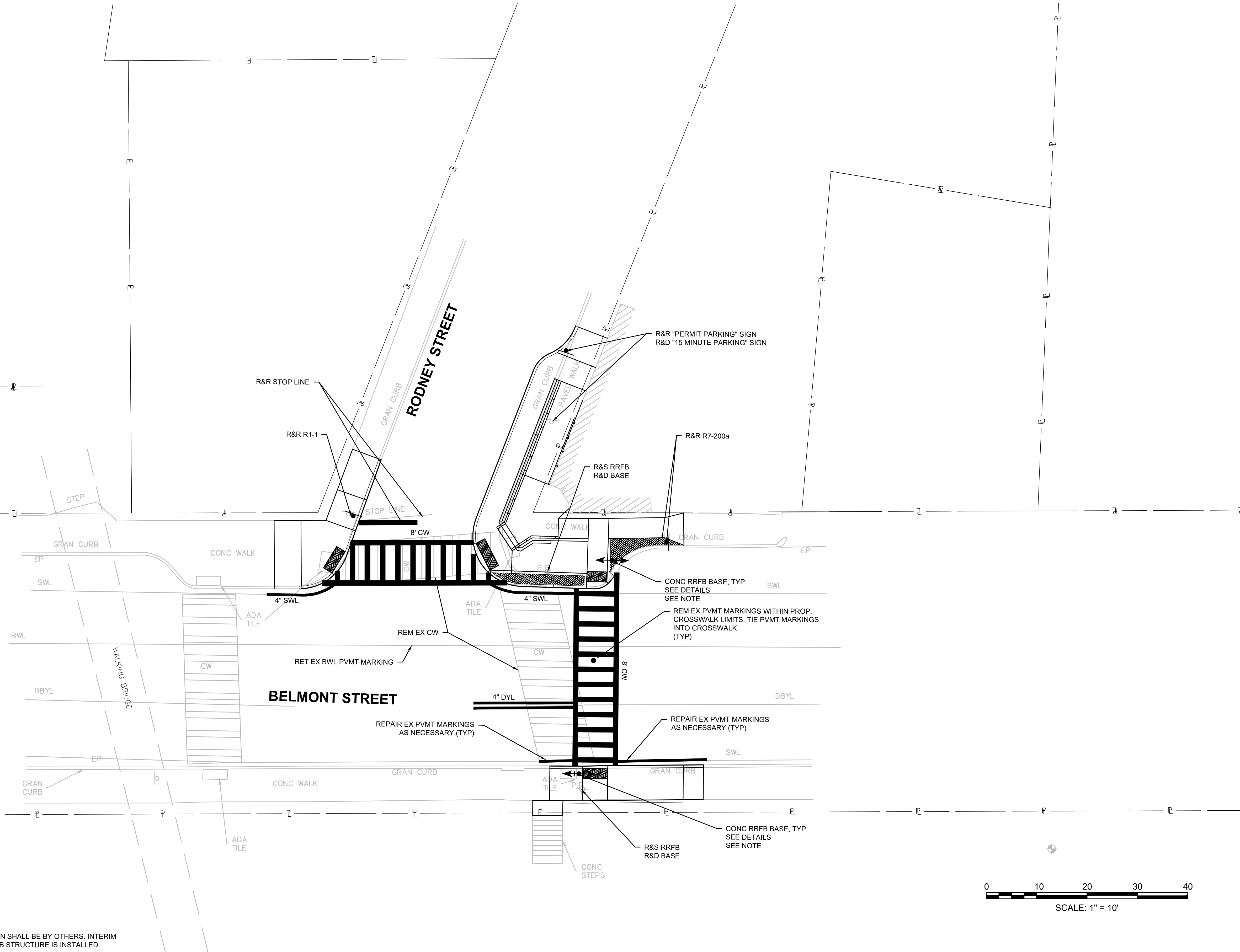
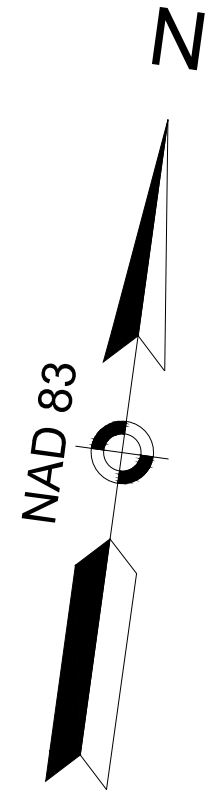
NOTES:
1. NEW RRFB BASES SHALL BE INSTALLED BY THE CONTRACTOR. RRFB STRUCTURE INSTALLATION SHALL BE BY OTHERS. INTERIM PEDESTRIAN SIGNAGE (W11-2 W/ W16-7pL) SHALL BE INSTALLED WITH THE RRFB BASE UNTIL RRFB STRUCTURE IS INSTALLED.
2. CONTRACTOR TO ENSURE MIN 36" CLEARANCE AROUND ALL SIGNS.

0 20 50 100
SCALE: 1" = 20'

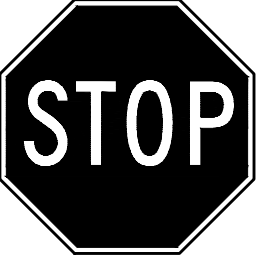










NOTES:
1. NEW RRFB BASES SHALL BE INSTALLED BY THE CONTRACTOR. RRFB STRUCTURE INSTALLATION SHALL BE BY OTHERS. INTERIM PEDESTRIAN SIGNAGE (W11-2 W/ W16-7pL) SHALL BE INSTALLED WITH THE RRFB BASE UNTIL RRFB STRUCTURE IS INSTALLED.
2. CONTRACTOR TO ENSURE MIN 36" CLEARANCE AROUND ALL SIGNS.

WORCESTER
COMPLETE STREETS IMPROVEMENTS
CHANDLER STREET AT COOLIDGE ROAD
SIGNAGE & PAVEMENT MARKING PLANS
SHEET 16 OF 29





NOTES:
1. NEW RRFB BASES SHALL BE INSTALLED BY THE CONTRACTOR. RRFB STRUCTURE INSTALLATION SHALL BE BY OTHERS. INTERIM PEDESTRIAN SIGNAGE (W11-2 W/ W16-7pL) SHALL BE INSTALLED WITH THE RRFB BASE UNTIL RRFB STRUCTURE IS INSTALLED.
2. CONTRACTOR TO ENSURE MIN 36" CLEARANCE AROUND ALL SIGNS.

TRAFFIC SIGN SUMMARY													
IDENTIFICATION NUMBER	SIZE OF SIGN (in)		LEGEND	TEXT DIMENSIONS (in)			NUMBER OF SIGNS REQUIRED	COLOR			NUMBER OF P5 POSTS REQUIRED	UNIT AREA (SF)	TOTAL AREA (SF)
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR		BACK- GROUND	LEGEND	BORDER			
R1-1	36	36		SEE NOTE 1			2	RED	WHITE	WHITE	2	9.00	18.00
R3-5L	30	36					2	WHITE	BLACK	BLACK	1	7.50	15.00
R3-7L	30	30					2	WHITE	BLACK	BLACK	MOUNT W/ R3-5L	6.25	12.50
R3-8	30	30					2	WHITE	BLACK	BLACK	1	6.25	12.50
R4-7	24	30					2	WHITE	BLACK	BLACK	2	5.00	10.00
OM-3R	12	36					5	FLUORESCENT YELLOW/ GREEN	BLACK	N/A	4	3.00	15.00
OM-3L	12	36					2	FLUORESCENT YELLOW/ GREEN	BLACK	N/A	MOUNT W/ R4-7	3.00	6.00
W11-2	36	36					16	YELLOW	BLACK	BLACK	16	9.00	144.00
W13-1P	18	18					48	FLUORESCENT YELLOW/ GREEN	BLACK	BLACK	MOUNT W/ W17-1	2.25	108.00
W16-7pL	24	12					16	FLUORESCENT YELLOW/ GREEN	BLACK	BLACK	MOUNT W/ W11-2	2.00	32.00
W17-1	30	30					13	YELLOW	BLACK	BLACK	13	6.25	81.25

- NOTES:
- SEE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS FOR TEXT AND LEGEND DIMENSIONS.
 - THE MINIMUM MOUNTING HEIGHT OF POST-MOUNTED SIGNS, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE TOP OF CURB OR SIDEWALK, OR THE ELEVATION OF THE NEAR EDGE OF TRAVEL WAY, SHALL BE 7 FEET UNLESS OTHERWISE SPECIFIED.
 - A MINIMUM OF 3'-0" PATH OF TRAVEL CLEARANCE, EXCLUDING CURB, IS REQUIRED WHEN PLACING SIGNS.
 - ALL EXISTING SIGNS WITHIN THE LIMITS OF WORK SHOULD BE RETAINED UNLESS OTHERWISE SPECIFIED.

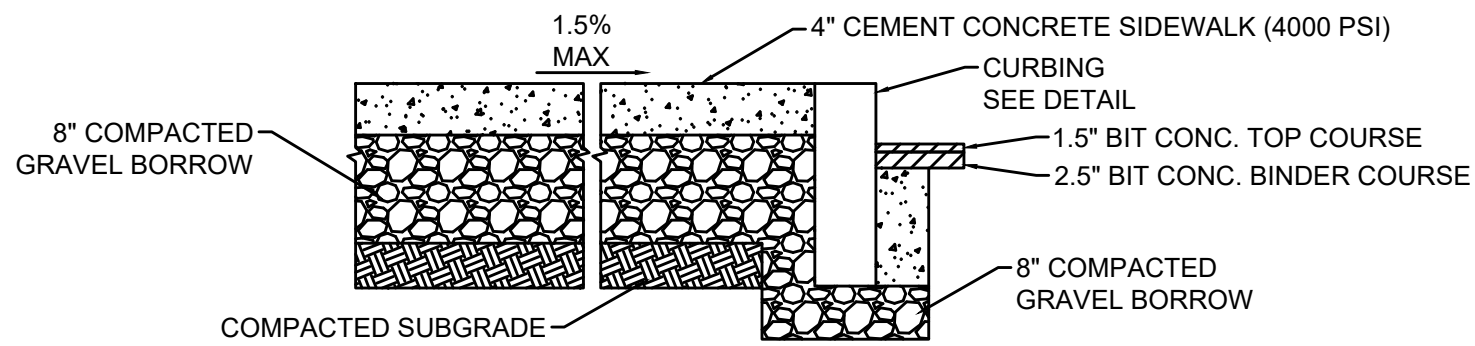
WORCESTER
COMPLETE STREETS IMPROVEMENTS
CONSTRUCTION DETAILS
SHEET 26 OF 29

ACCESSIBLE CURB RAMP NOTES:

1. MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMP SHALL BE DESIGNED TO 4.5% \pm 0.5% (7.5% \pm 0.5% FOR CURB RAMP).
2. A MINIMUM OF 3'-0" CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (HYDRANTS, UTILITY POLES, TREES, SIGNS, ETC.).
3. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
4. RAMP, CURB AND ADJACENT PAVEMENTS SHALL BE GRADED TO PREVENT PONDING.
5. DETECTABLE WARNING PANELS ARE REQUIRED ON ALL OF THE PROPOSED WHEELCHAIR RAMPS AND ARE TO BE INSTALLED IN ACCORDANCE WITH CONSTRUCTION STANDARD E 107.6.5 (JUNE 2014). CONTRACTOR SHALL PROVIDE 6" BETWEEN DETECTABLE WARNING PANEL AND EDGE OF CONCRETE WHERE IT ABUTS LOAM & SEED.
6. RAMP SLOPES AND CROSS SLOPES SHALL HAVE A CONSTRUCTION TOLERANCE OF \pm 0.5%.
7. DETECTABLE WARNING PANELS SHALL BE BRICK RED OR YELLOW IN COLOR AS APPROVED BY THE LOCAL DPW.
8. REFER TO PROWAG ADA AND ABA ACCESSIBILITY GUIDELINES.

ADA CURB RAMP NOTES

N.T.S.

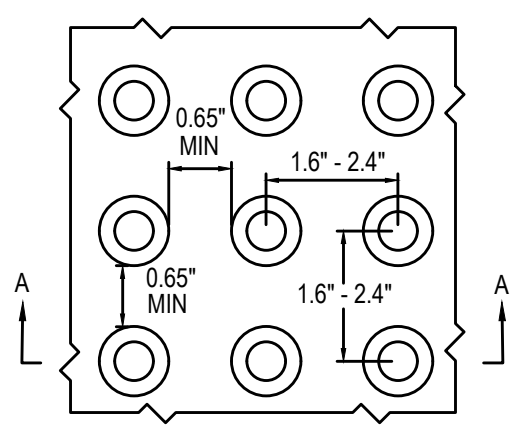


CEMENT CONCRETE SIDEWALK

N.T.S.

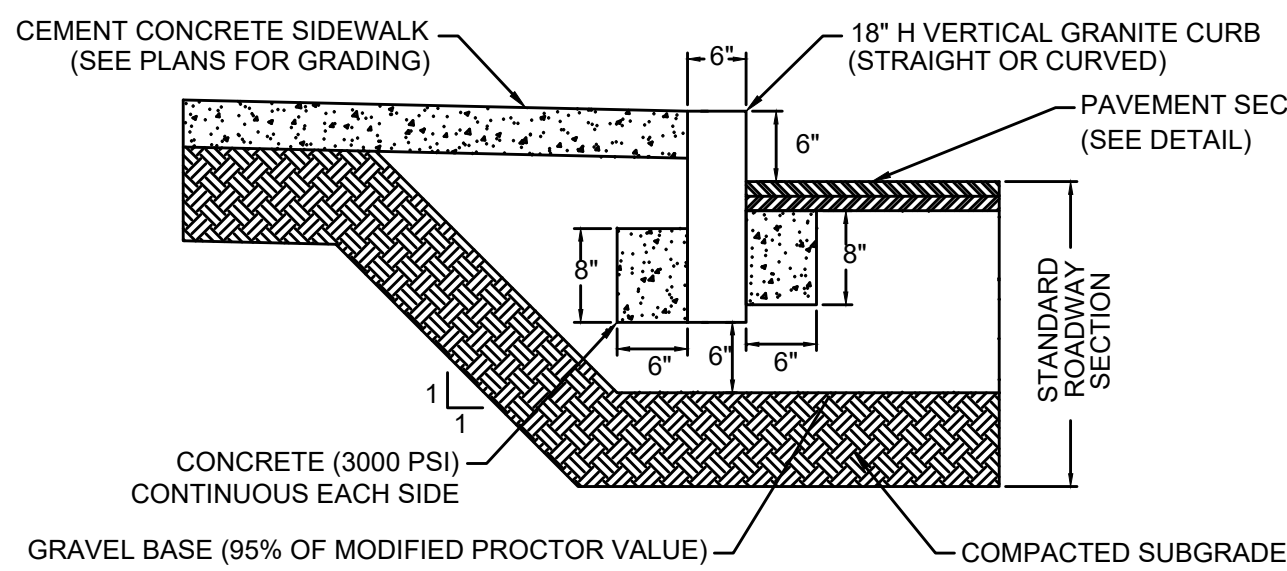
NOTES:

1. PANELS MAY BE CONCRETE PRECAST OR CAST IN PLACE OR OTHER SUITABLE MATERIAL PERMANENTLY APPLIED TO THE RAMP.
2. DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT WALKING SURFACES EITHER LIGHT ON DARK, OR DARK ON LIGHT.
3. REFER TO PROWAG FOR WARNING PANEL PLACEMENT REQUIREMENTS.
4. PANELS SHALL EXTEND 24" MINIMUM IN THE DIRECTION OF TRAVEL.



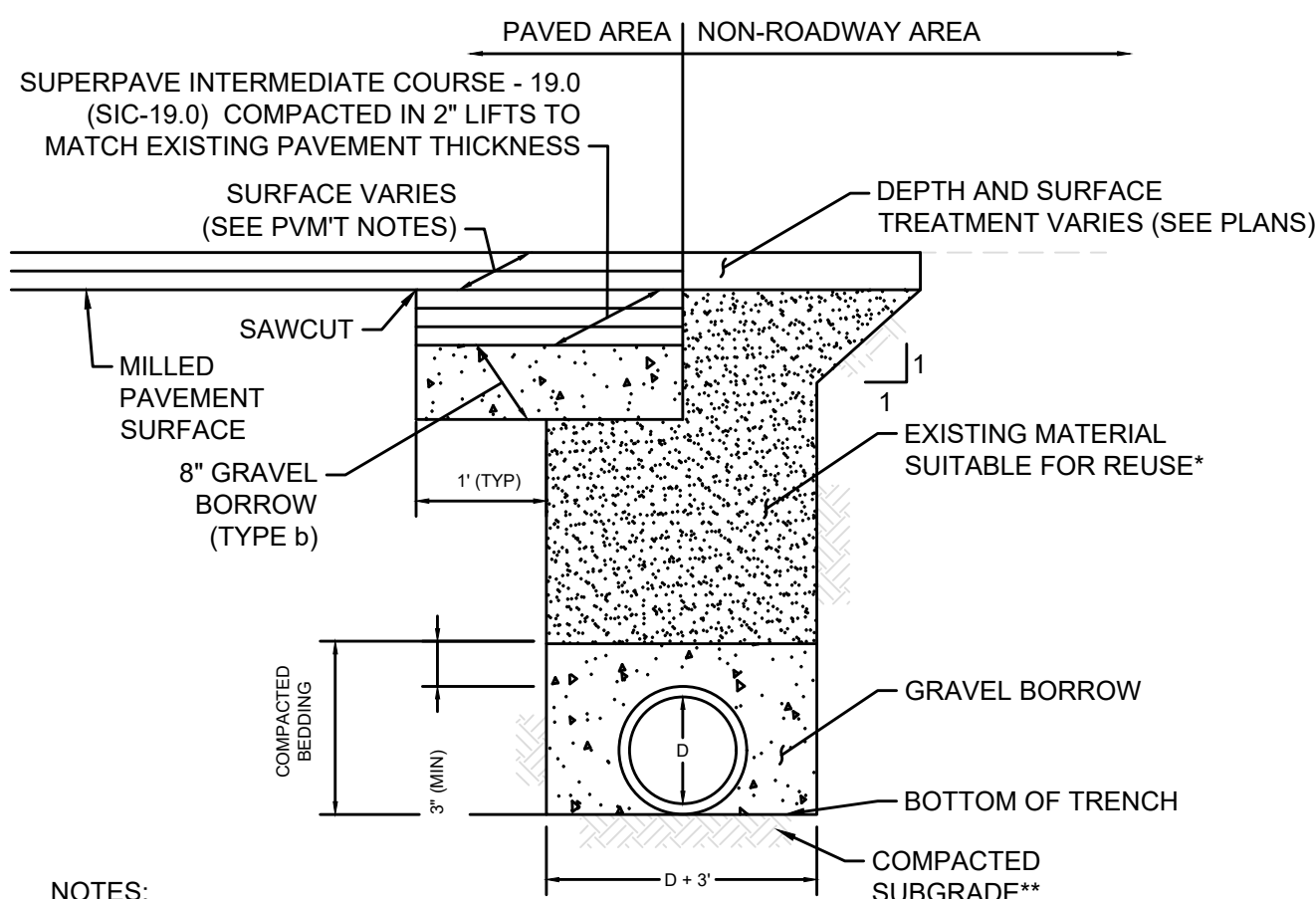
DETECTABLE WARNING PANEL

N.T.S.



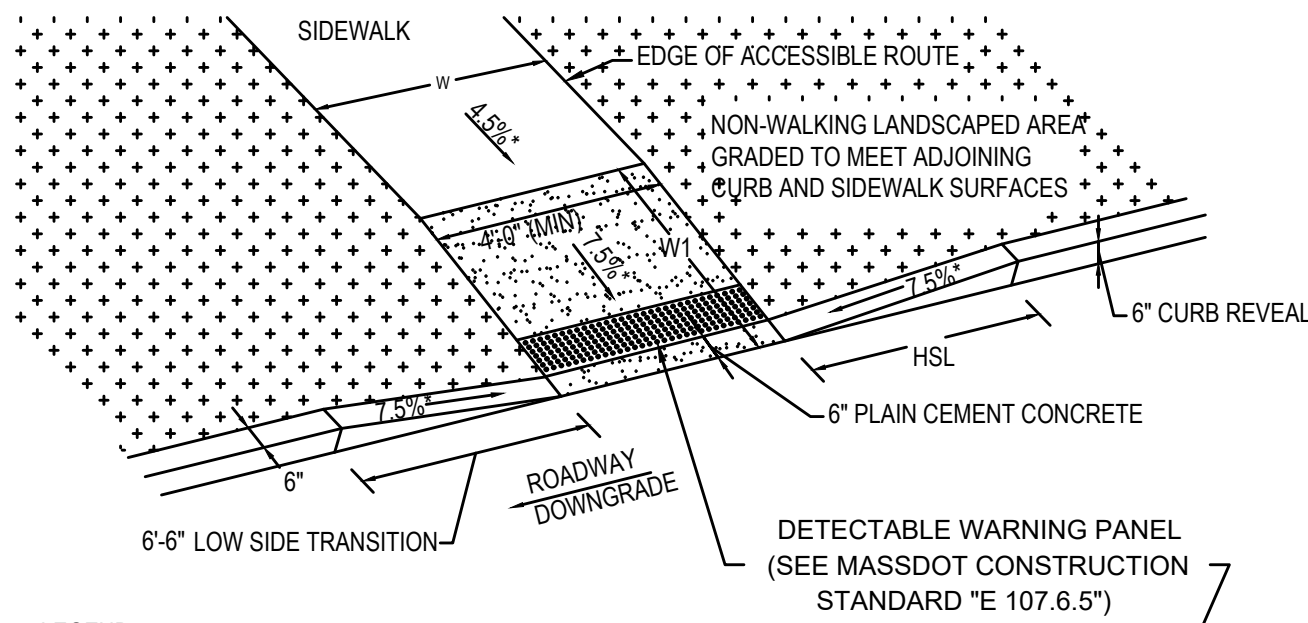
VERTICAL GRANITE CURBING (VGC)

N.T.S.



UTILITY TRENCH

N.T.S.



LEGEND:

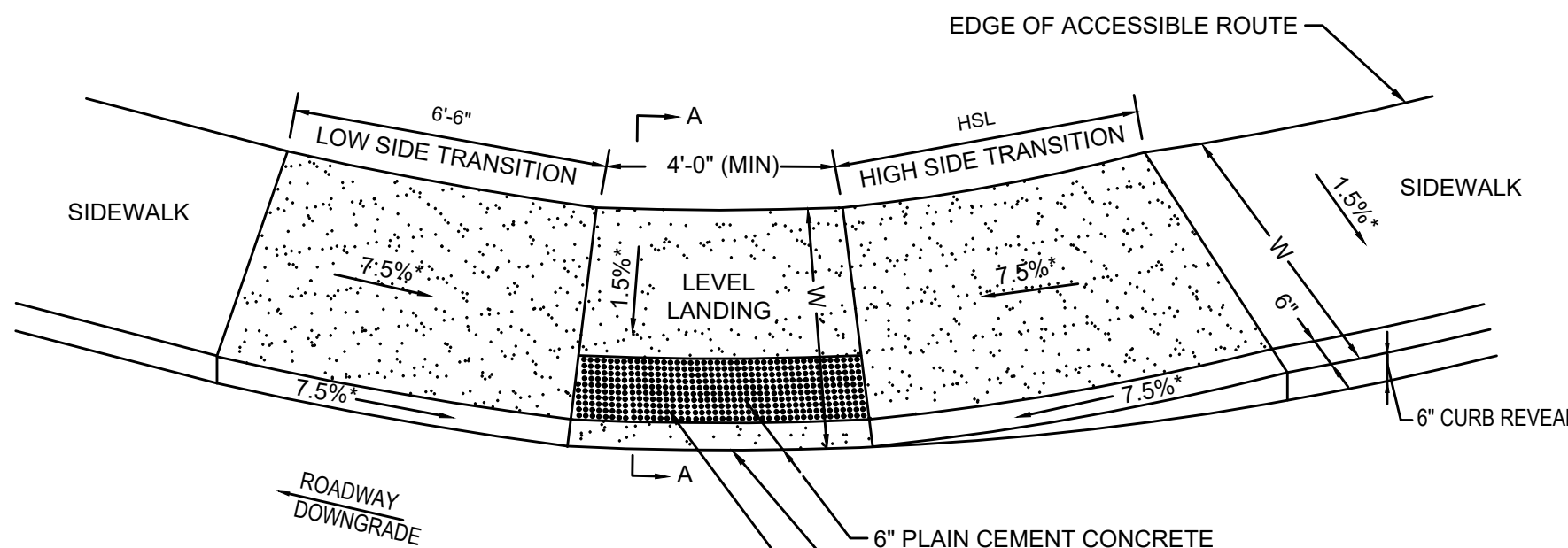
HSL = HIGH SIDE TRANSITION LENGTH (SEE MASSDOT CONSTRUCTION STANDARD "E 107.9.0")
W = SIDEWALK WIDTH
W1 = PERPENDICULAR RAMP LENGTH
CC = CEMENT CONCRETE
* = TOLERANCE FOR CONSTRUCTION \pm 0.5%

NOTES:

1. USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0".
2. ROADWAY GUTTER SLOPE MEASURED IN UPSTATION DIRECTION.
3. SEE MASSDOT CONSTRUCTION STANDARD "E 107.6.5" FOR DETECTABLE WARNING PANEL DETAILS.

CURB RAMP TYPE A

N.T.S.



LEGEND:

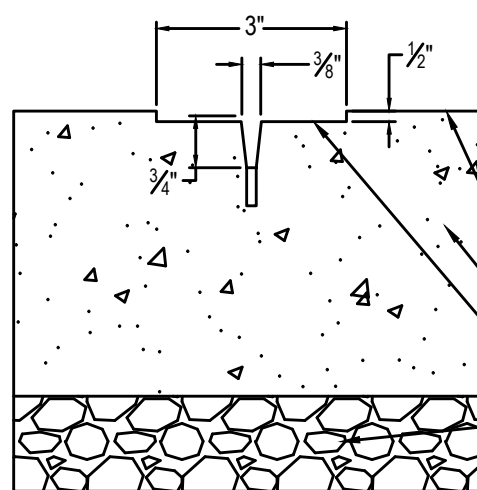
HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9.0)
W = SIDEWALK WIDTH
CC = CEMENT CONCRETE
* = TOLERANCE FOR CONSTRUCTION \pm 0.5%

NOTES:

1. USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0".
2. ROADWAY GUTTER SLOPE MEASURED IN UPSTATION DIRECTION.
3. SEE E 107.6.5 FOR DETECTABLE WARNING PANEL DETAILS.
4. SEE E 107.2.1 FOR ALL OTHER DETAILS.

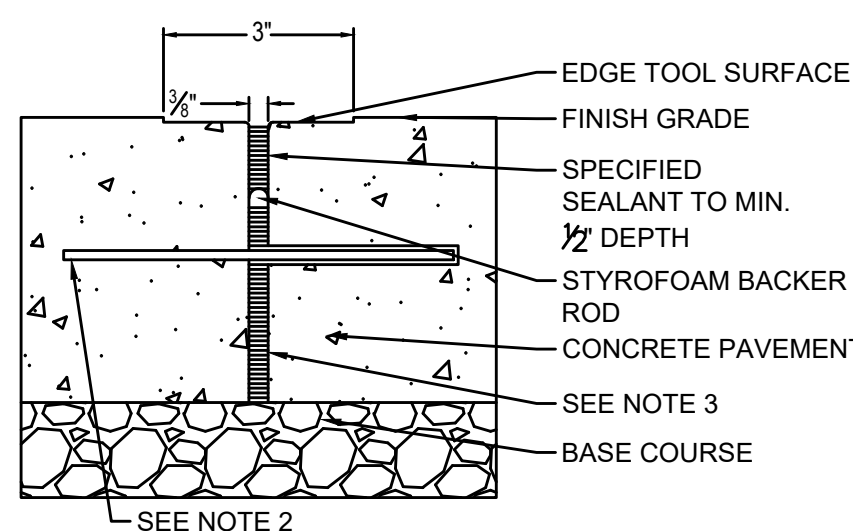
CURB RAMP TYPE D

N.T.S.



CONTROL JOINT

N.T.S.



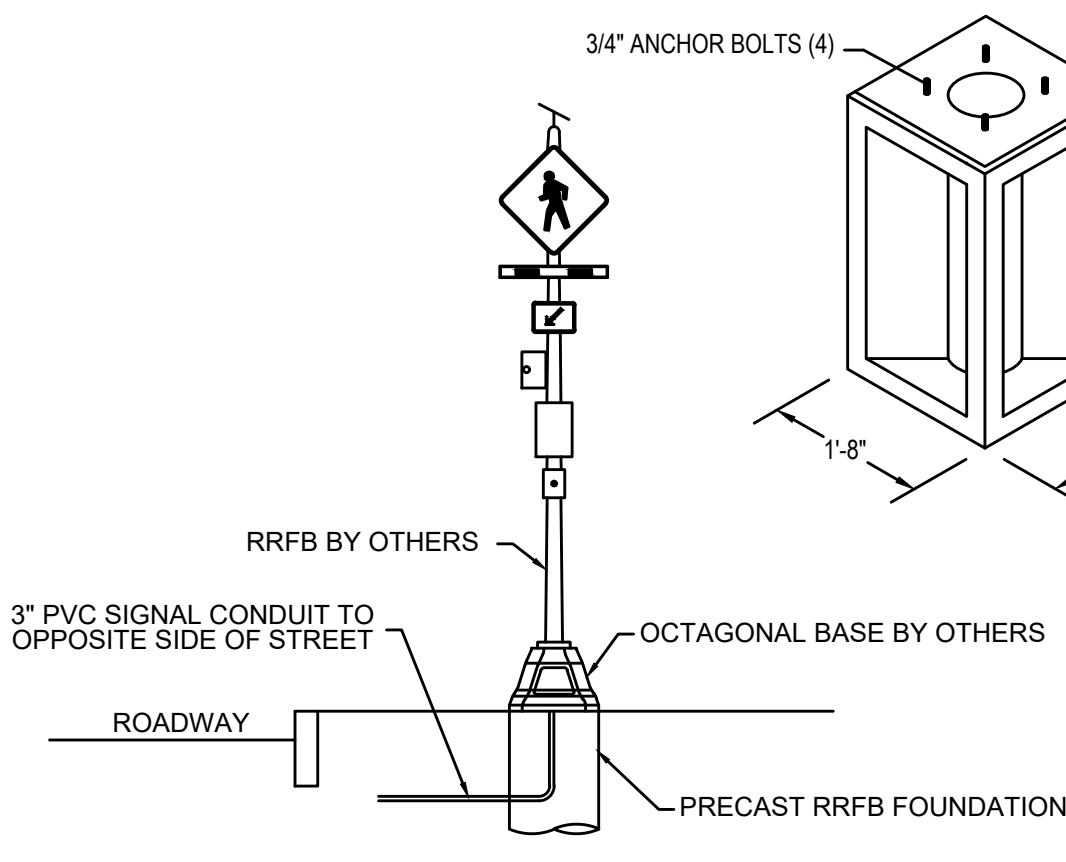
EXPANSION JOINT

N.T.S.

NOTES:

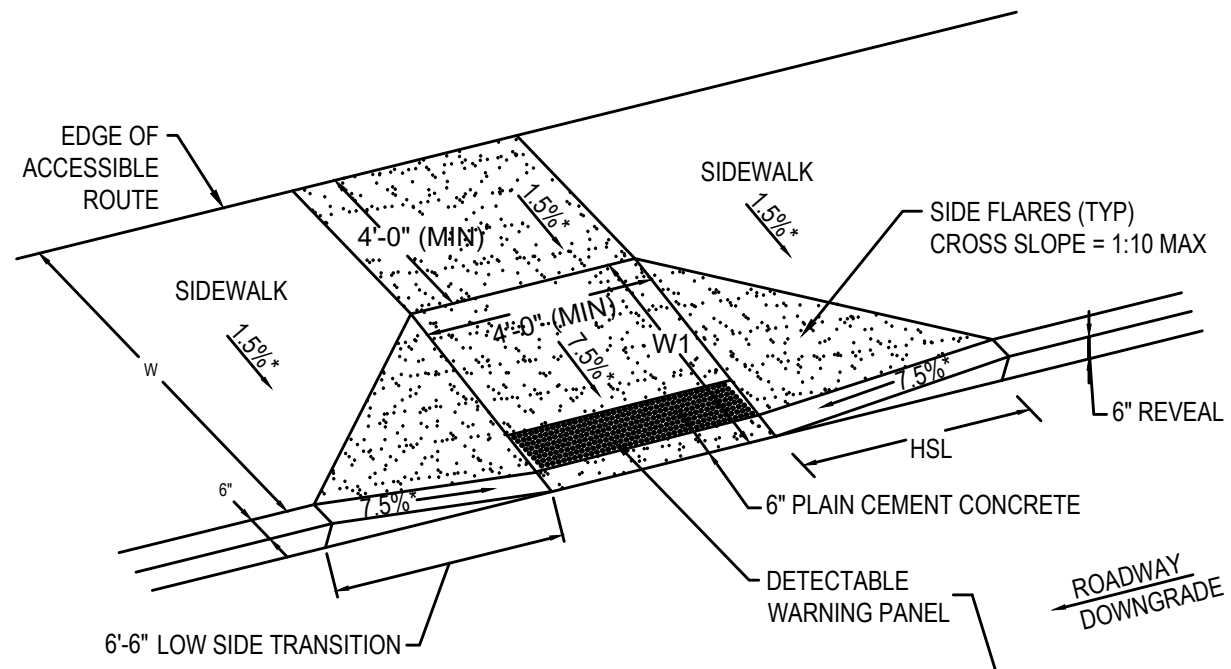
1. DOWEL IS TYPICAL AT ALL EXPANSION JOINTS EXCEPT AGAINST VERTICAL JOINTS WITH WALLS, CURBS, OR SITE IMPROVEMENTS.
2. 1/2" X 12" DIAMOND DOWEL PLATE, 12" O.C. TYPICAL AT ALL EXPANSION JOINTS.
3. 3/4" WIDE FULL DEPTH EXPANSION JOINT, BACKER ROD AND WATERPROOF SEALANT.

NOTE: INTERIM PEDESTRIAN SIGNAGE (W11-2 W/ W16-7pL) SHALL BE INSTALLED WITH THE RRFB BASE UNTIL RRFB STRUCTURE IS INSTALLED.



RRFB FOUNDATION

N.T.S.



LEGEND:

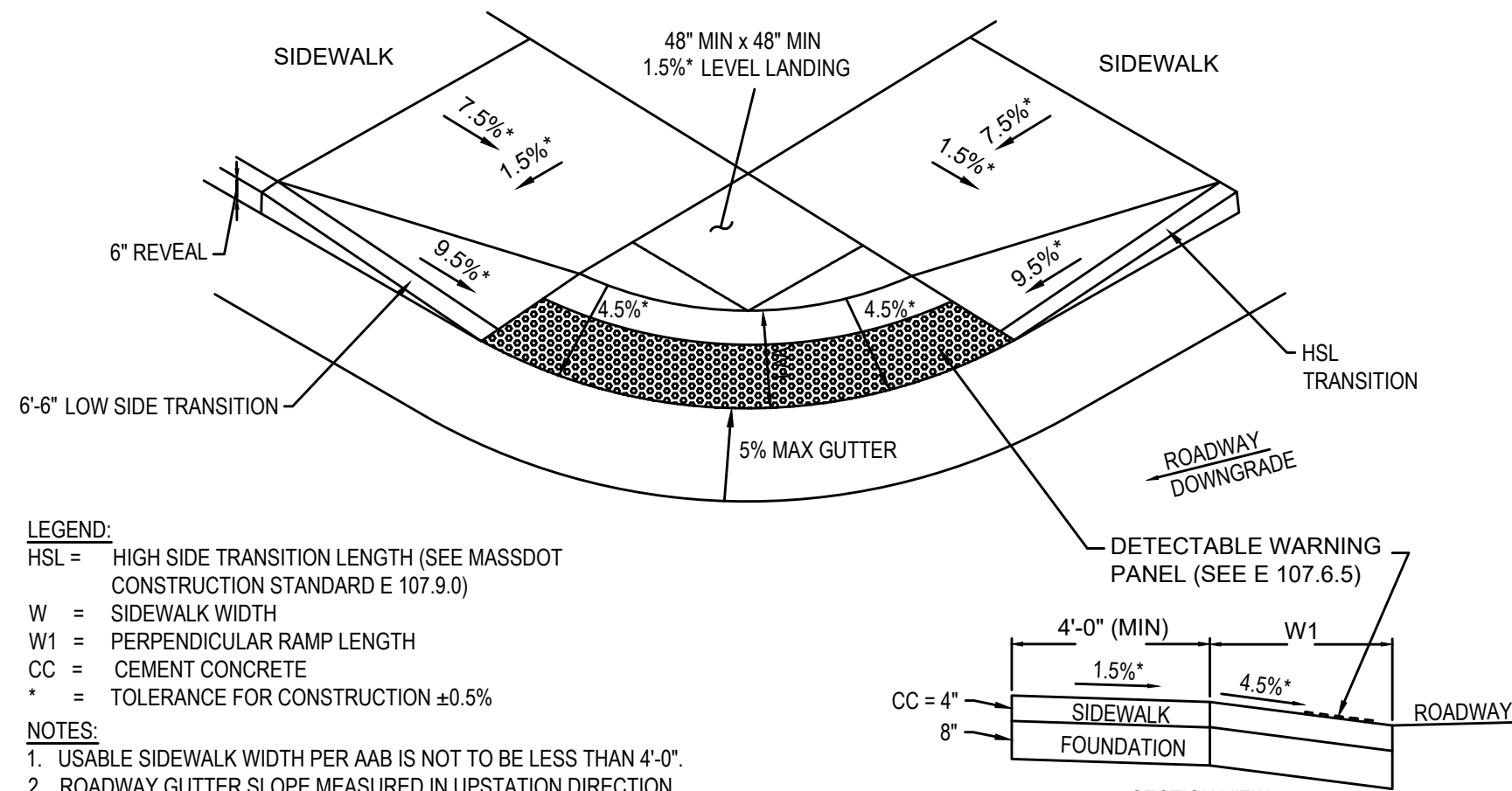
HSL = HIGH SIDE TRANSITION LENGTH (SEE MASSDOT CONSTRUCTION STANDARD E 107.9.0)
W = SIDEWALK WIDTH
W1 = PERPENDICULAR RAMP LENGTH
CC = CEMENT CONCRETE
* = TOLERANCE FOR CONSTRUCTION \pm 0.5%

NOTES:

1. USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0".
2. ROADWAY GUTTER SLOPE MEASURED IN UPSTATION DIRECTION.
3. SEE MASSDOT CONSTRUCTION STANDARD E 107.6.5 FOR DETECTABLE WARNING PANEL DETAILS.

CURB RAMP TYPE B

N.T.S.



LEGEND:

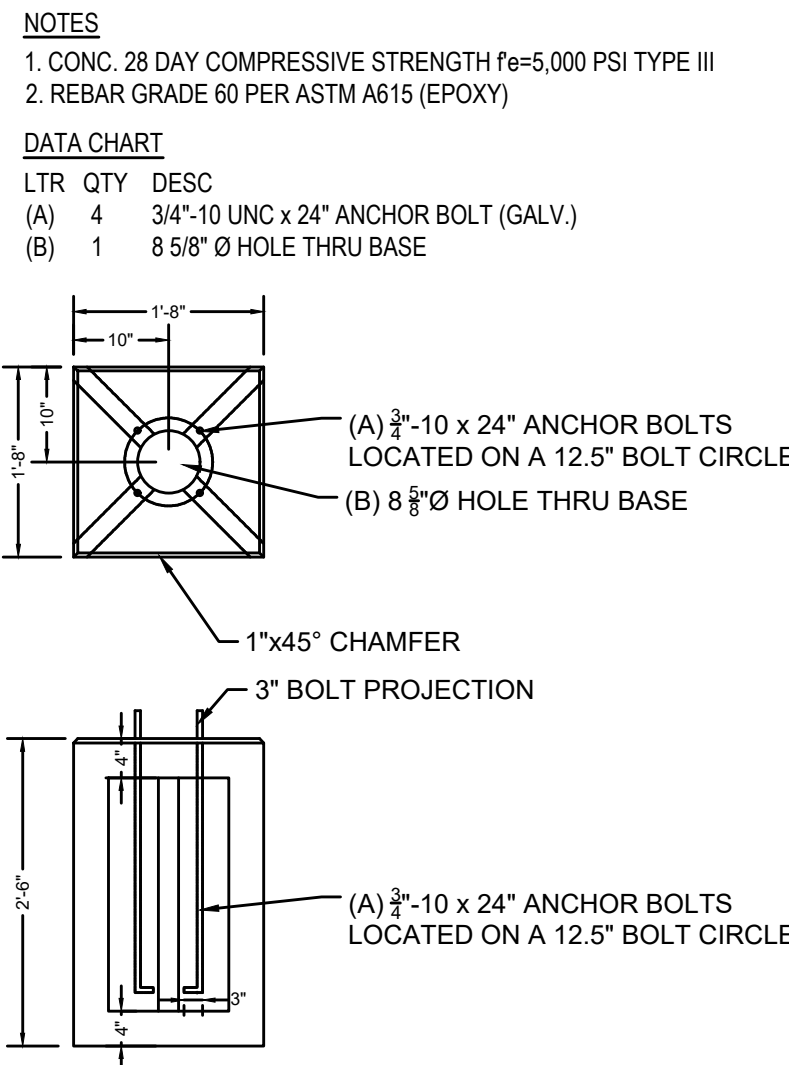
HSL = HIGH SIDE TRANSITION LENGTH (SEE MASSDOT CONSTRUCTION STANDARD E 107.9.0)
W = SIDEWALK WIDTH
W1 = PERPENDICULAR RAMP LENGTH
CC = CEMENT CONCRETE
* = TOLERANCE FOR CONSTRUCTION \pm 0.5%

NOTES:

1. USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0".
2. ROADWAY GUTTER SLOPE MEASURED IN UPSTATION DIRECTION.
3. SEE MASSDOT CONSTRUCTION STANDARD E 107.6.5 FOR DETECTABLE WARNING PANEL DETAILS.

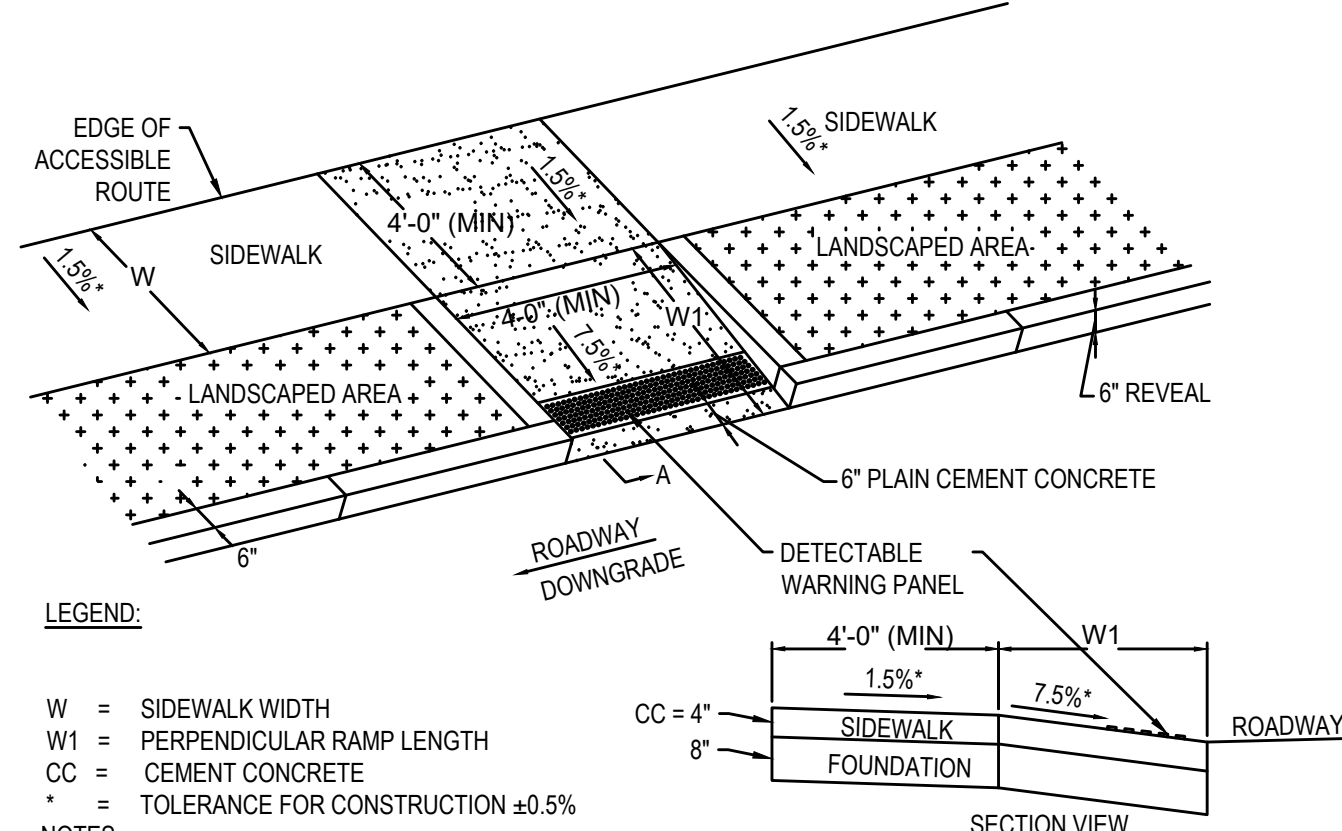
CURB RAMP TYPE E

N.T.S.



RRFB FOUNDATION

N.T.S.



LEGEND:

HSL = HIGH SIDE TRANSITION LENGTH (SEE MASSDOT CONSTRUCTION STANDARD E 107.9.0)
W = SIDEWALK WIDTH
W1 = PERPENDICULAR RAMP LENGTH
CC = CEMENT CONCRETE
* = TOLERANCE FOR CONSTRUCTION \pm 0.5%

NOTES:

1. USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0".
2. ROADWAY GUTTER SLOPE MEASURED IN UPSTATION DIRECTION.
3. SEE MASSDOT CONSTRUCTION STANDARD E 107.6.5 FOR DETECTABLE WARNING PANEL DETAILS.

CURB RAMP TYPE C

N.T.S.

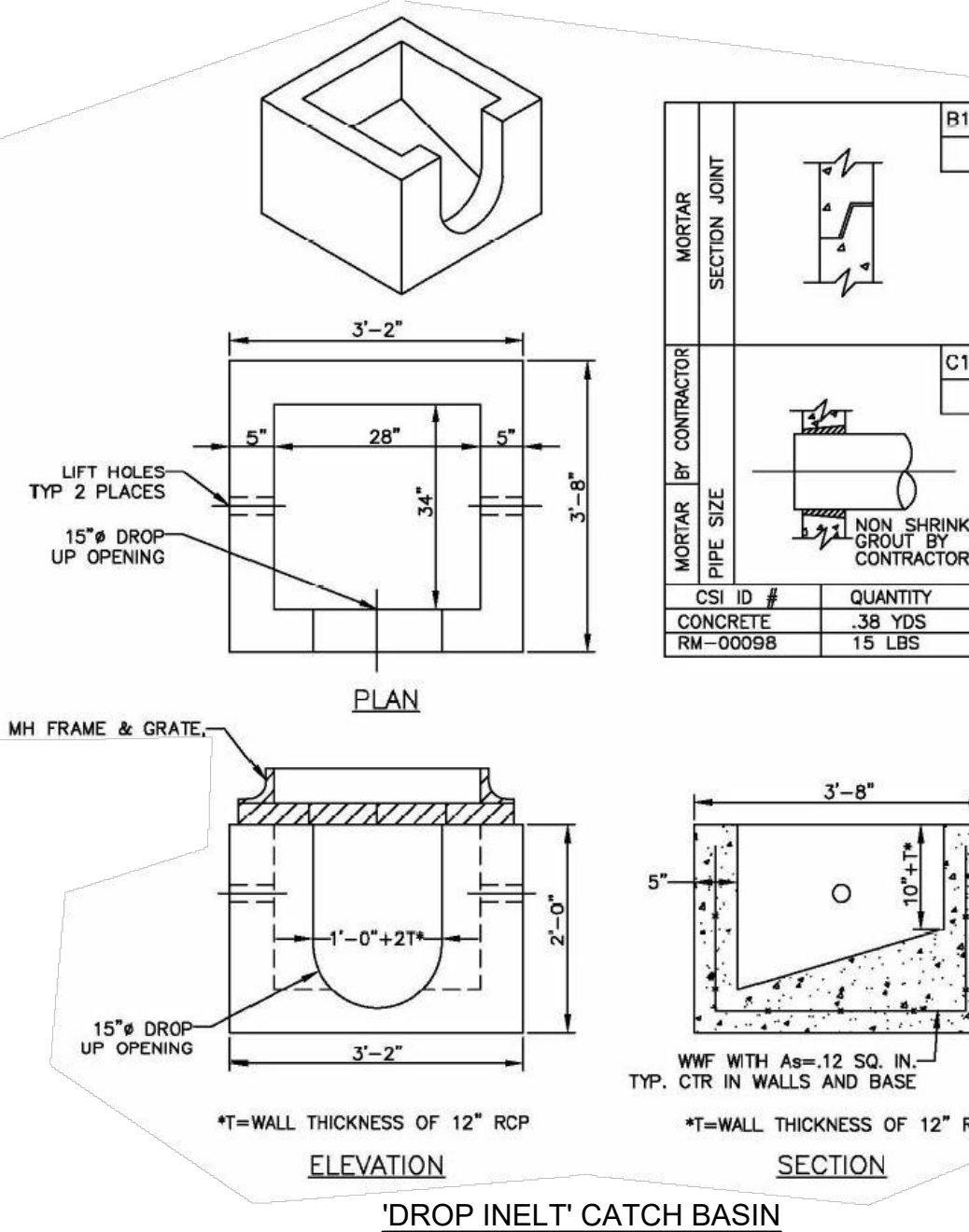
ROADWAY PROFILE GRADE	* HIGH SIDE TRANSITION LENGTH
	ENGLISH UNITS
%	
\pm 0%	6'-6"
>0% TO 1%	7'-8"
>1% TO 2%	9'-0"
>2% TO 3%	11'-0"
>3% TO 4%	14'-0"
>4% TO 5%	15'-0" Max

NOTE:

* BASED ON A DESIGN SLOPE OF 7.5% AND A REVEAL OF 6".

CURB TRANSITION LENGTH TABLE

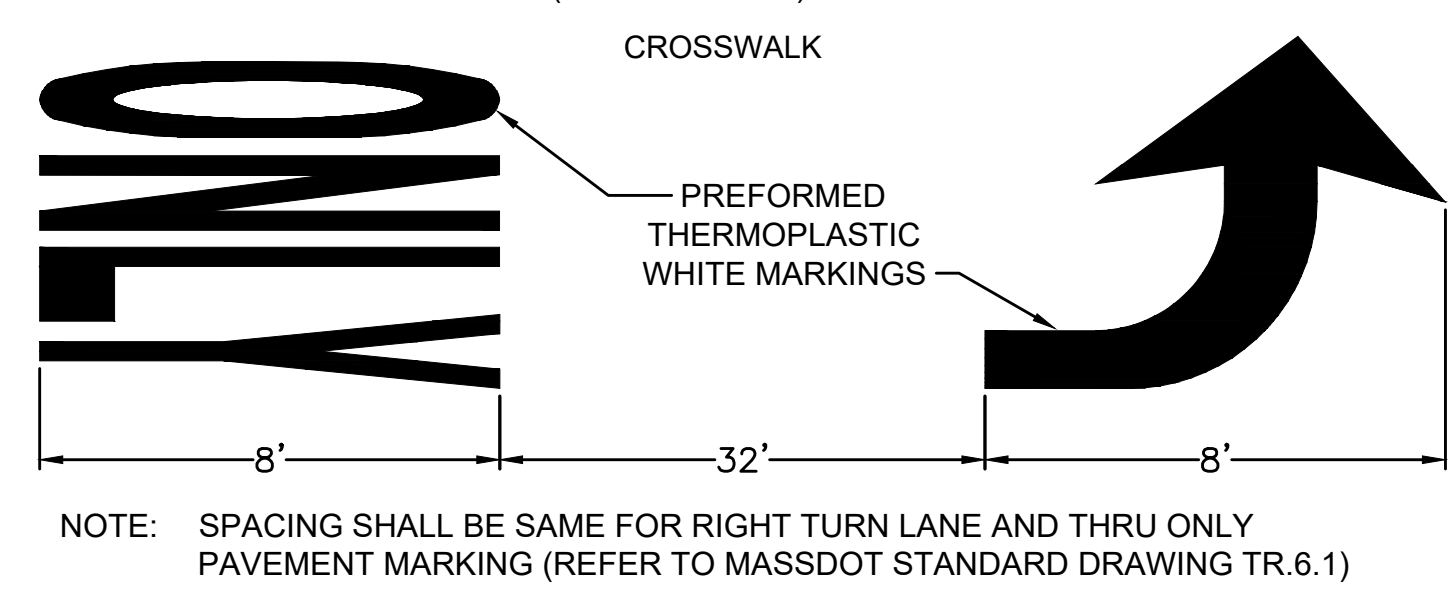
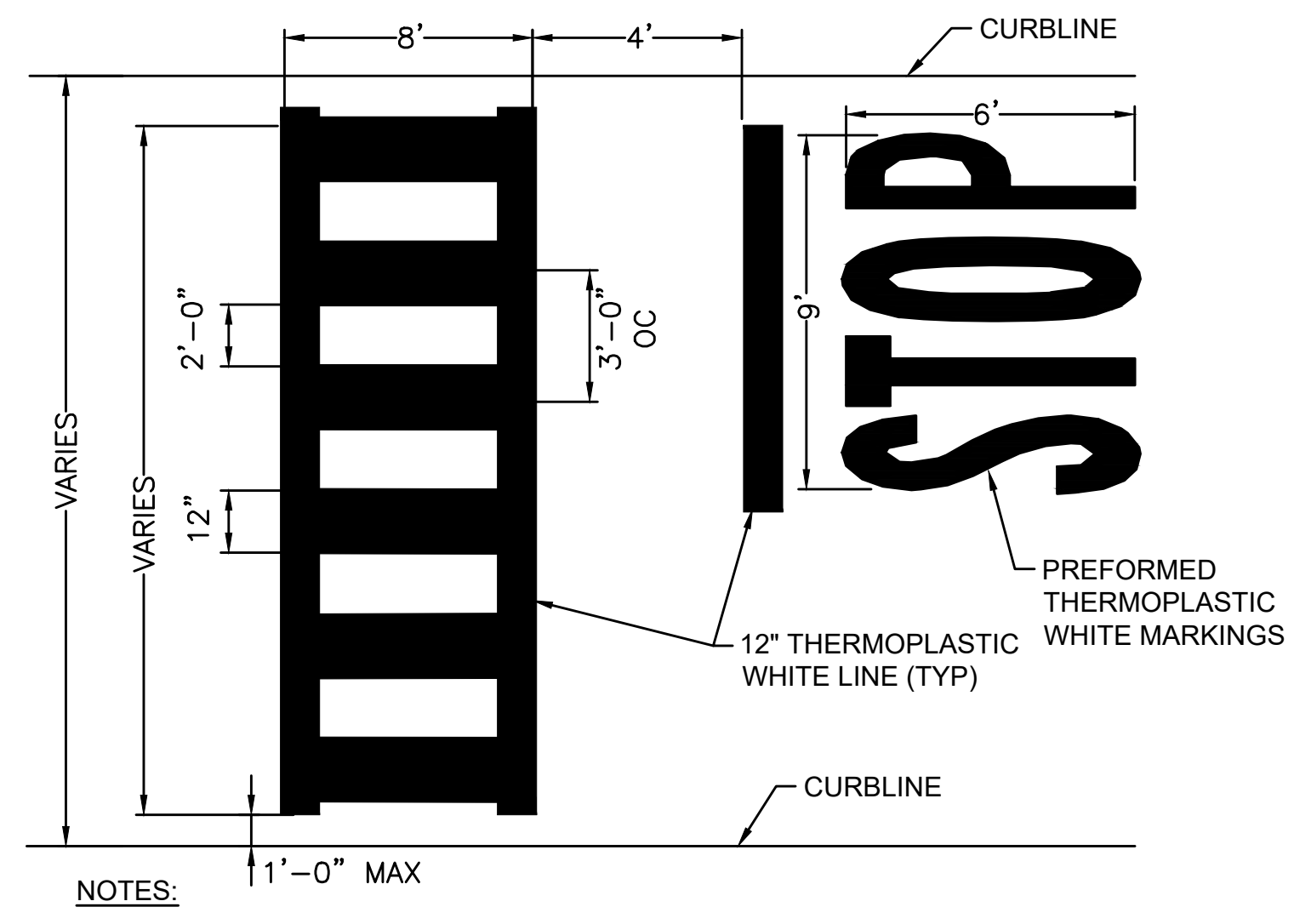
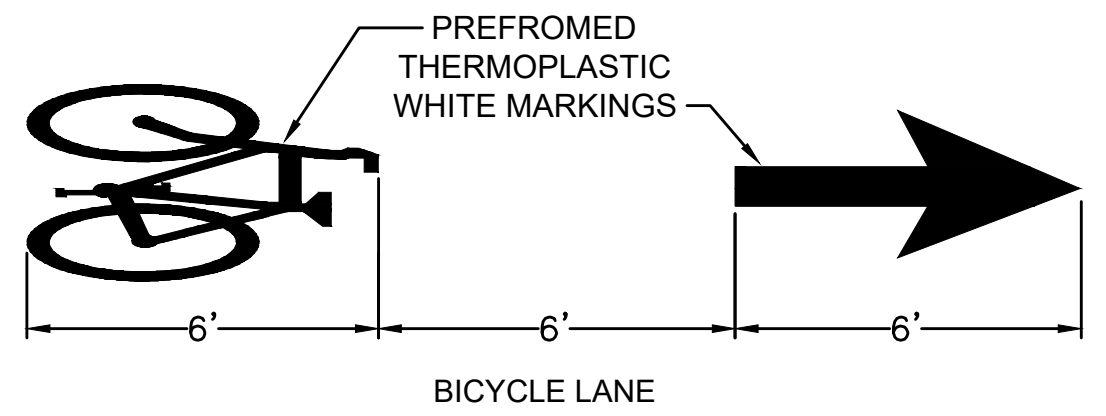
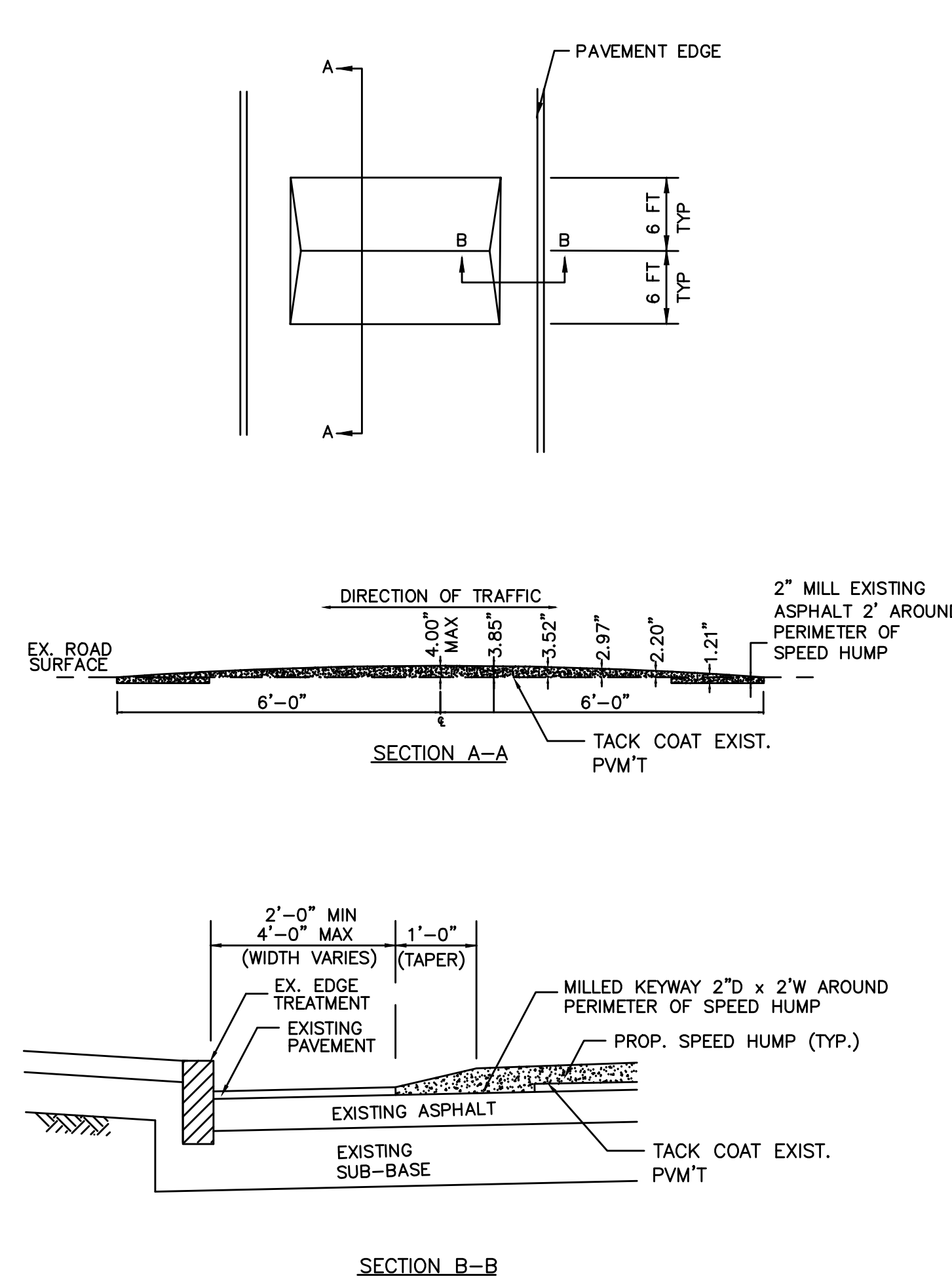
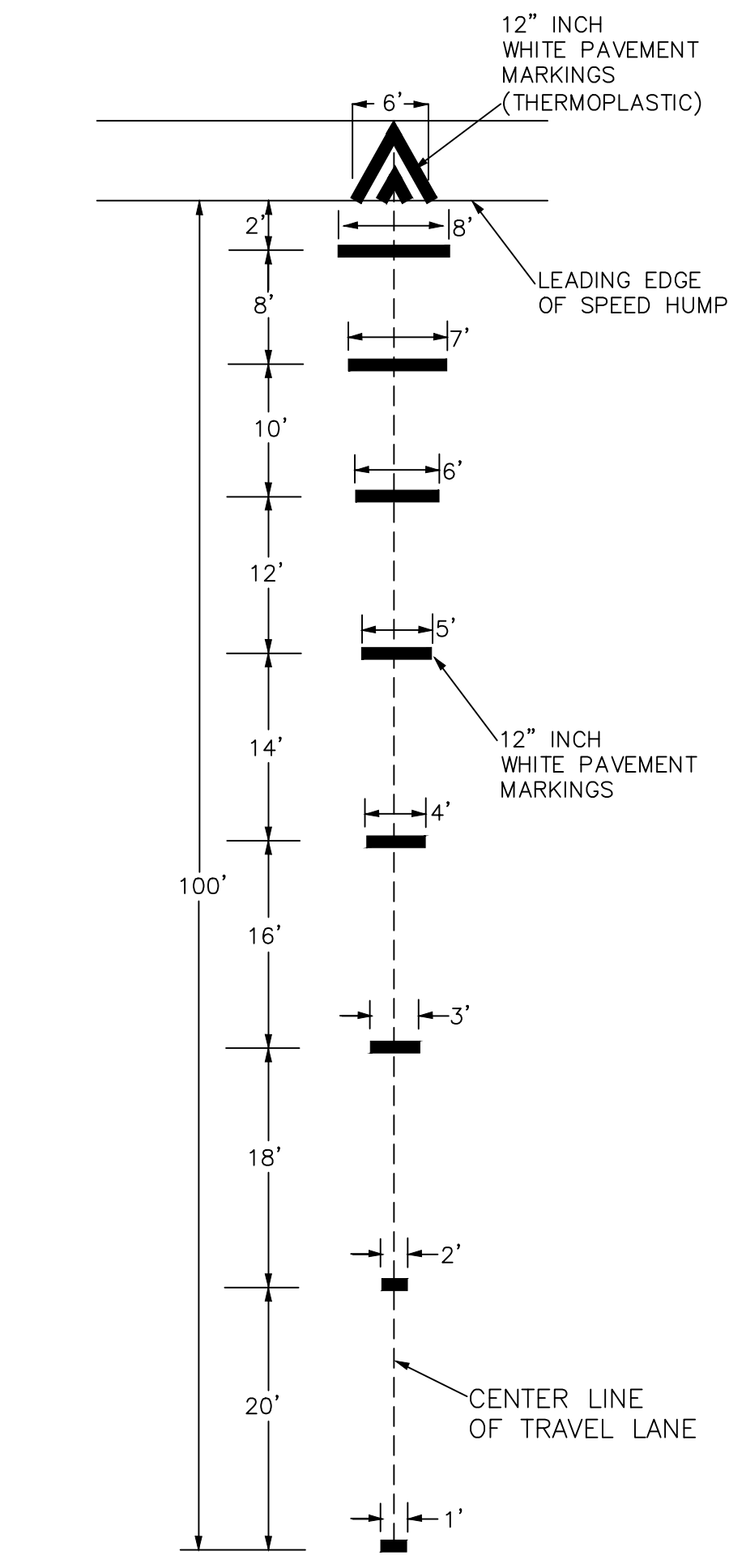
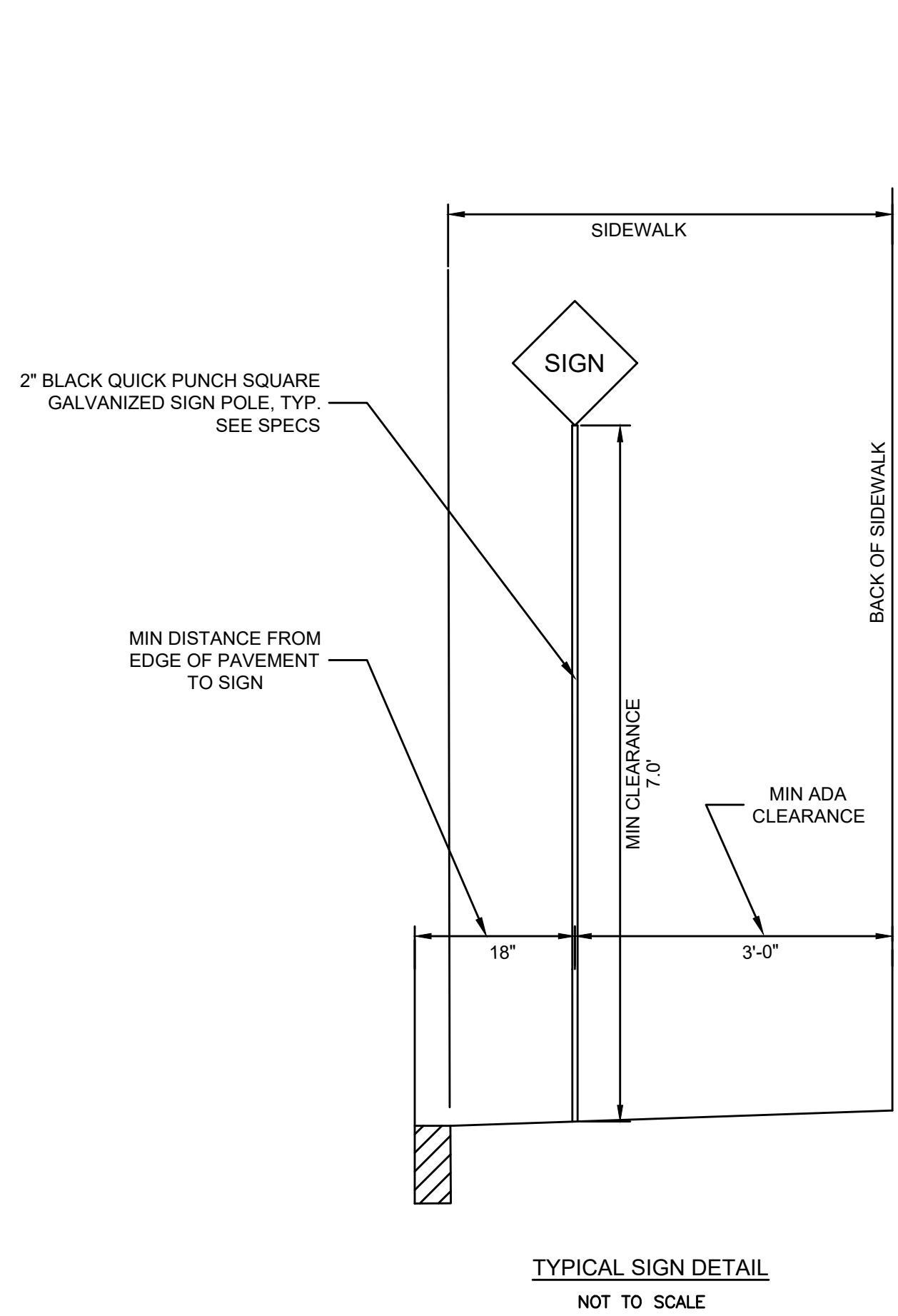
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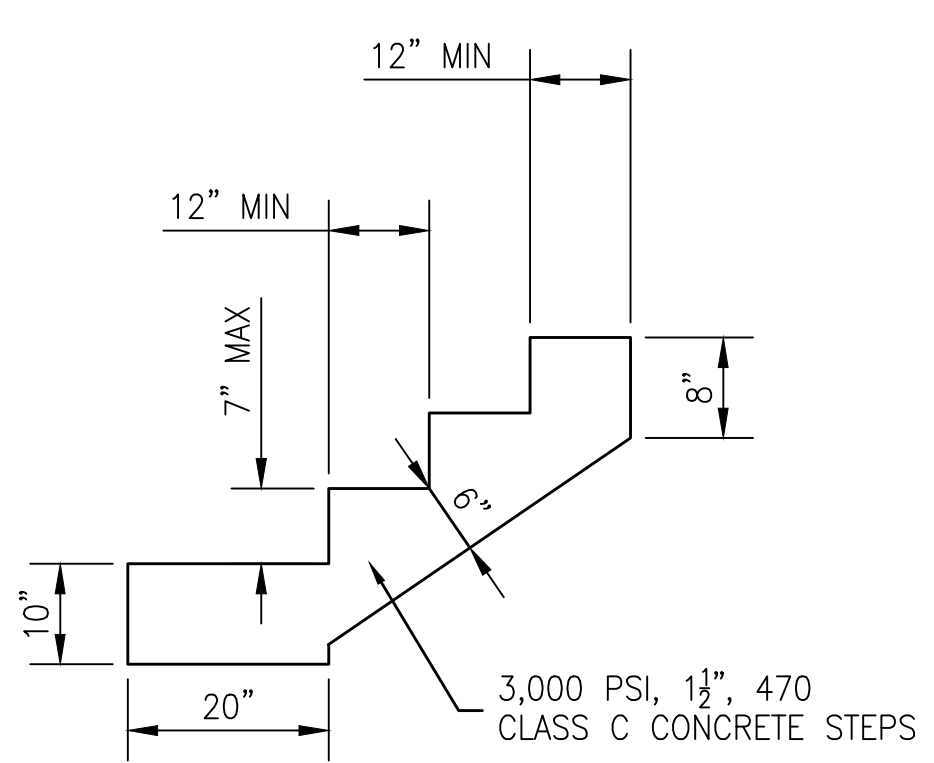
'DROP INLET' CATCH BASIN

N.T.S.

WORCESTER
COMPLETE STREETS IMPROVEMENTS
CONSTRUCTION DETAILS
SHEET 27 OF 29

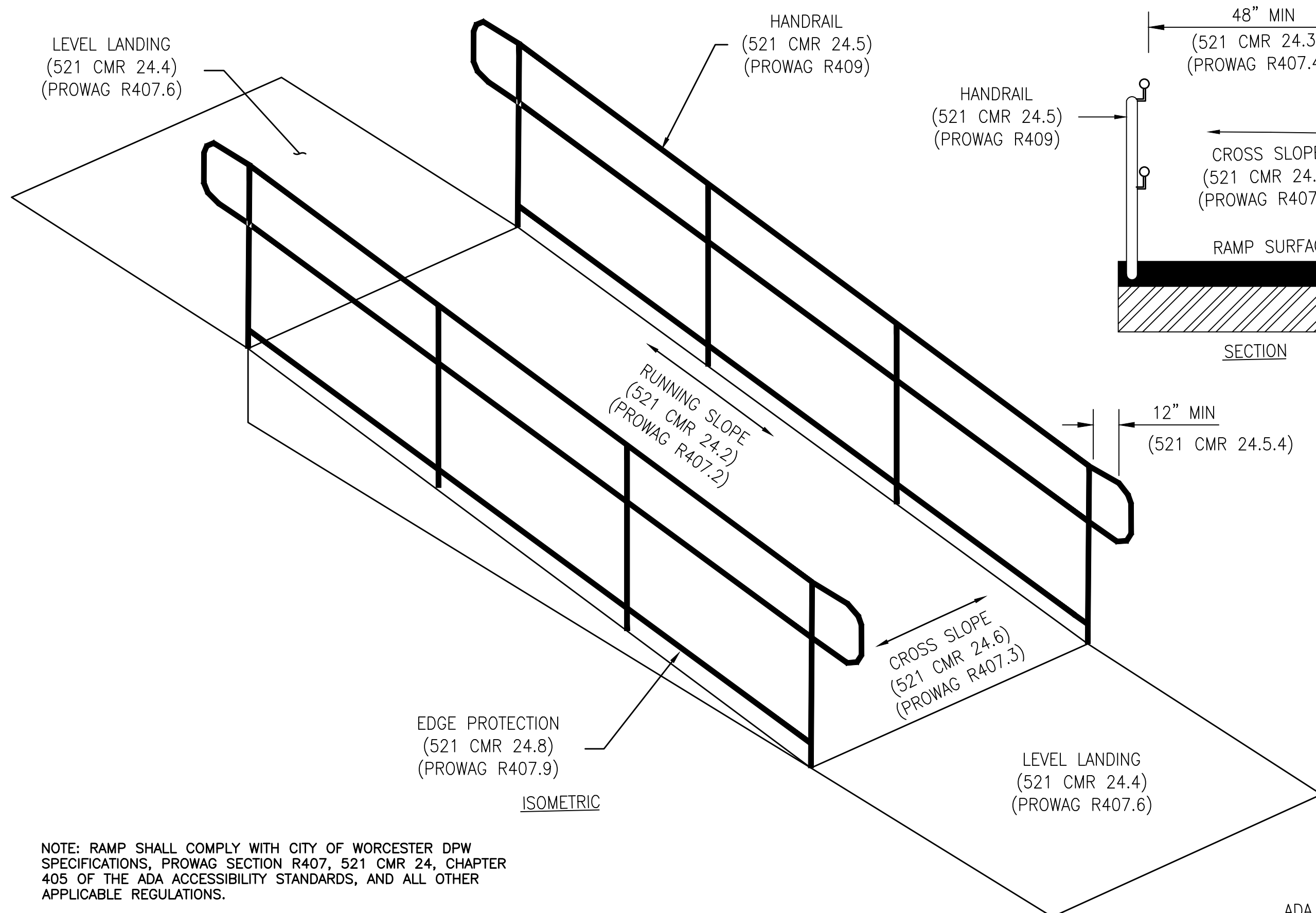


TURNING LANE
PAVEMENT MARKING DETAILS
NOT TO SCALE

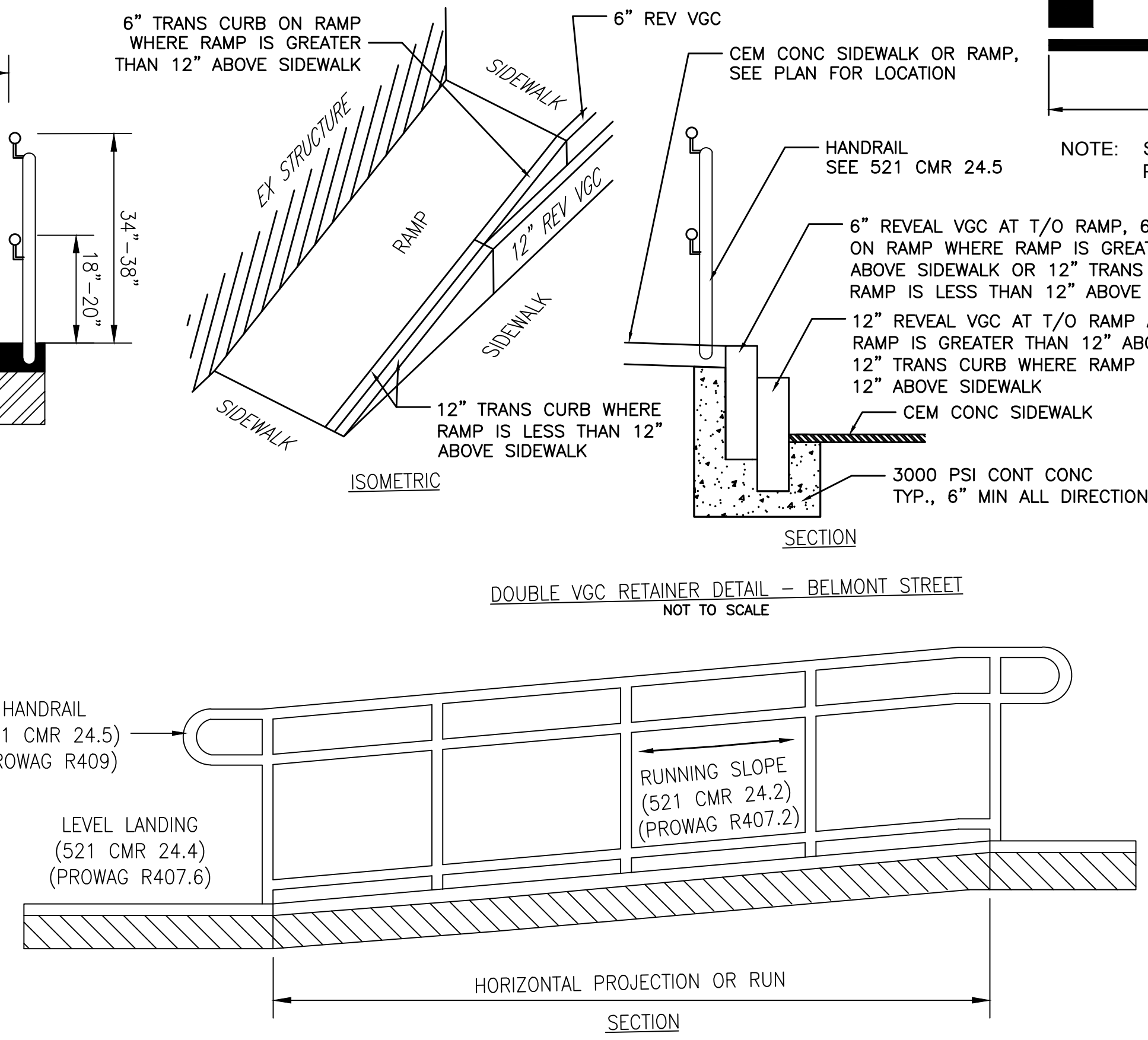


- NOTES:
1. STEPS SHALL COMPLY WITH CITY OF WORCESTER DPW SPECIFICATIONS, PROWAG SECTION R408, 521 CMR 27, CHAPTER 504 OF THE ADA ACCESSIBILITY STANDARDS, AND ALL OTHER APPLICABLE REGULATIONS.
 2. STEPS SHALL BE CONSTRUCTED WITH HANDRAILS PER 521 CMR 27.4.

CONCRETE STEPS DETAIL
NOT TO SCALE



ADA RAMP DETAILS
NOT TO SCALE



TEMPORARY TRAFFIC CONTROL NOTES:

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

LEGEND:

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

SUGGESTED WORK ZONE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS **		
	A	B	C
LOCAL OR LOW VOLUME ROADWAYS*	350	350	350
MOST OTHER ROADWAYS*	500	500	500
FREEWAYS AND EXPRESSWAYS*	1,000	1,500	2,640

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

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

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

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

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

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

TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

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

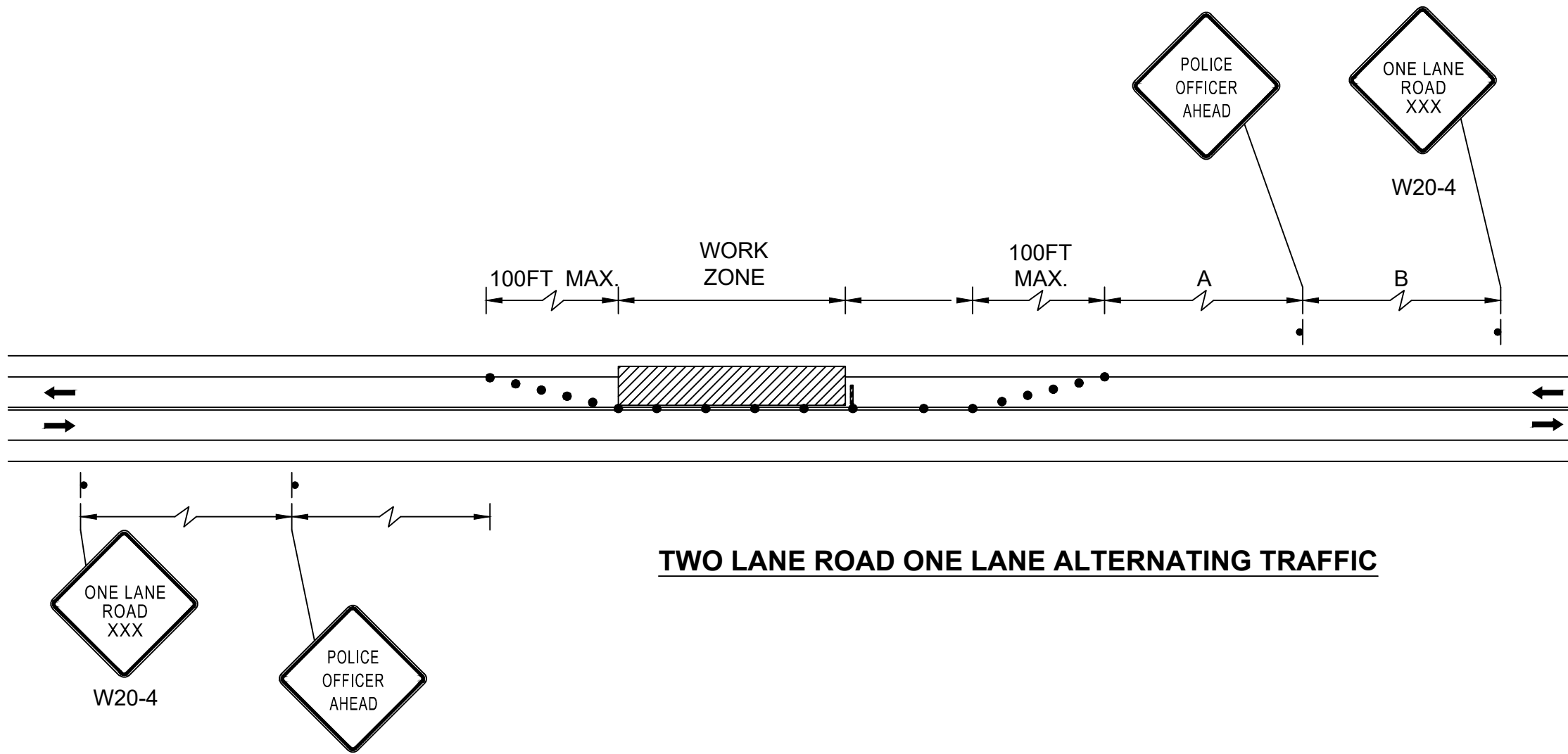
FORMULAS FOR DETERMINING TAPER LENGTHS

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

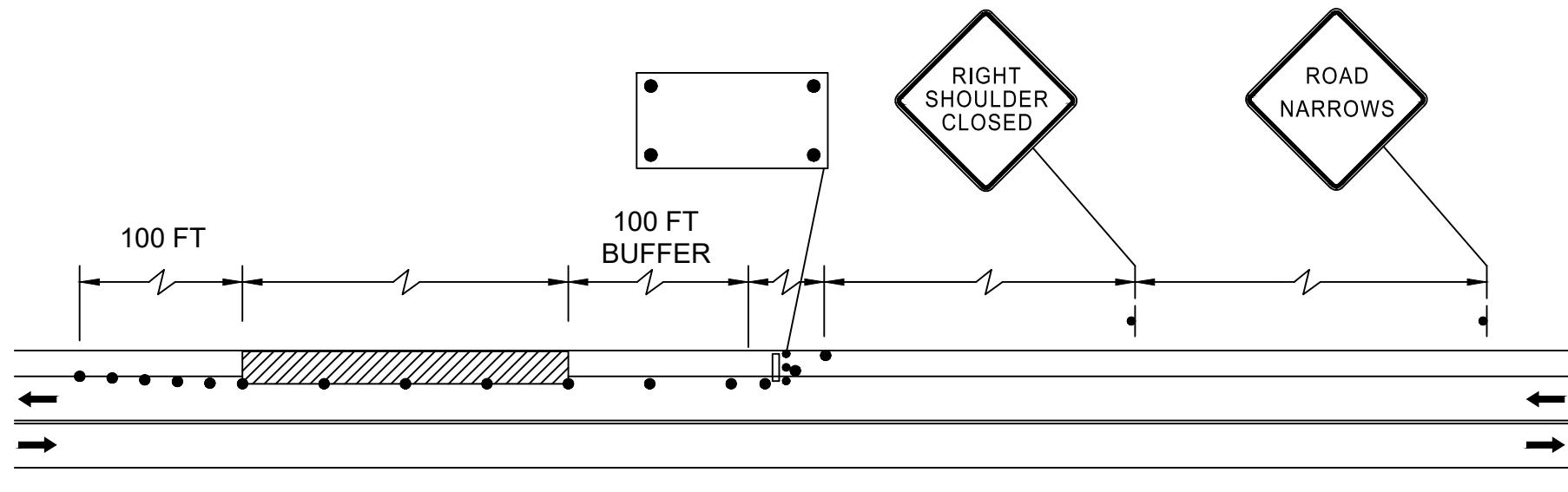
WHERE: L = TAPER LENGTH IN FEET

W = WIDTH OF OFFSET IN FEET

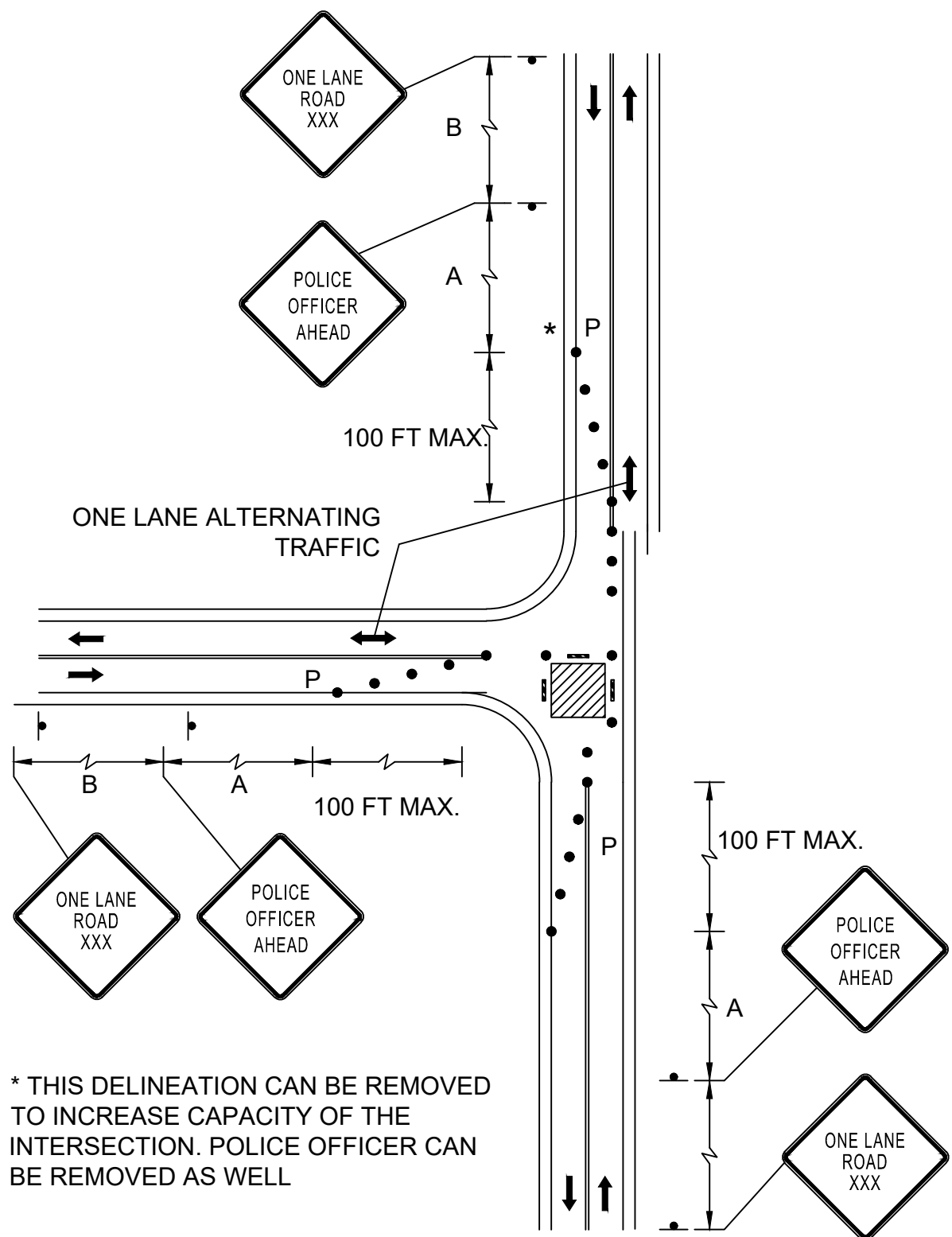
S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH



TWO LANE ROAD ONE LANE ALTERNATING TRAFFIC



TWO LANE ROAD SHOULDER CLOSED



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

SINGLE LANE APPROACH CORNER CLOSURE

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. PROTECTIVE EDGING WITH 6 IN. MINIMUM HEIGHT AND A CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDING PLATFORMS TO INDICATE A CHANGE IN DIRECTION (TURNS).
4. THE CURB RAMP WALKWAY AND LANDING AREA SURFACE SHALL BE OF A SOLID CONTINUOUS CONTRASTING COLOR ABUTTING UP TO THE EXISTING SIDEWALK.
5. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
6. CLEAR SPACE OF 48x48 IN. MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
7. WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5 IN. WIDTH.
9. CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5 IN. LATERAL EDGES SHOULD BE VERTICAL TO 0.25 IN. MAX. SLOPE OF 1:2 BEHIND AT 1.2 BEHIND AND A 1.5 IN. HEIGHT.
10. IF A TEMPORARY PEDESTRIAN RAMP LEADS TO A CROSSWALK, THEN A DETECTABLE WARNING PAD MUST BE ADHERED TO THE BASE OF THE RAMP. IF IT LEADS TO A PROTECTED PEDESTRIAN BYPASS THAT DOES NOT CONFLICT WITH VEHICULAR TRAFFIC, THEN A PAD SHALL NOT BE INSTALLED ON THE RAMP.