

**SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	1	44
PROJECT FILE NO.		612080	

TITLE SHEET

PLAN AND PROFILE OF

IN THE CITY OF

FEDERAL AID PROJECT NO. TAP-SRS2(003)X

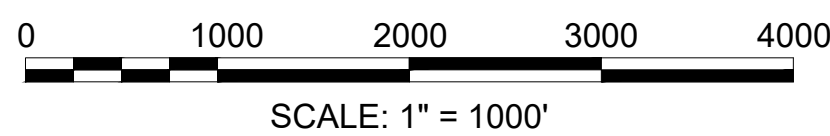
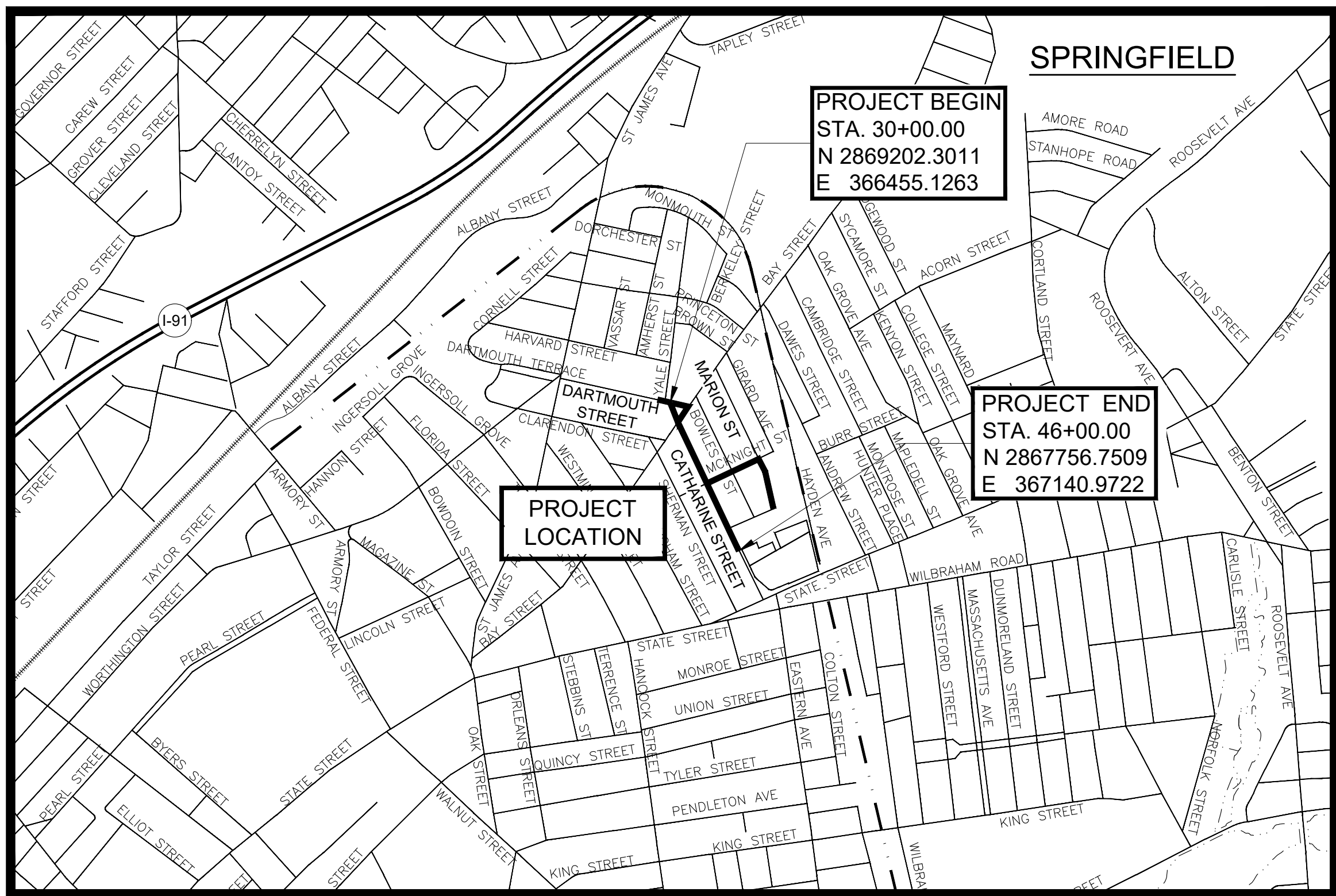
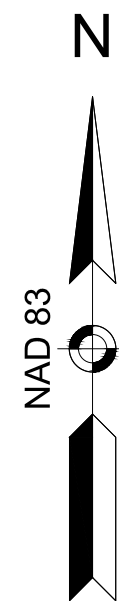
THESE PLANS ARE SUPPLEMENTED BY THE LATEST EDITIONS OF THE FOLLOWING PUBLICATIONS, AS IDENTIFIED IN THE CONTRACT SPECIAL PROVISIONS: THE MASSDOT CONSTRUCTION STANDARD DETAILS, THE MASSDOT STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE MASSDOT STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, THE MASSDOT OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, THE MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, AND THE ANSI AMERICAN STANDARD FOR NURSERY STOCK.

DESIGN DESIGNATION (CATHARINE STREET)	
DESIGN SPEED	25 MPH
ADT (2023)	5347
K	8.9%
D	50%
T (PEAK HOUR)	3.5%
T (AVERAGE DAY)	3.0%
DHV	478
DDHV	278
FUNCTIONAL CLASSIFICATION	LOCAL

DESIGN DESIGNATION (BAY STREET)	
DESIGN SPEED	30 MPH
ADT (2023)	10150
K	9.0%
D	58% EB
T (PEAK HOUR)	5.1%
T (AVERAGE DAY)	3.8%
DHV	914
DDHV	530
FUNCTIONAL CLASSIFICATION	URBAN MINOR ARTERIAL

INDEX

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
01	TITLE SHEET & INDEX
02	LEGEND & ABBREVIATIONS
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09-13	CONSTRUCTION BASELINE TIES
14-18	CONSTRUCTION PLANS
19-23	CURB TIE AND GRADING PLANS
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34	TEMPORARY TRAFFIC CONTROL PLANS
35-39	UTILITY PLANS
40-41	CONSTRUCTION DETAILS
42-44	PCR DETAILS



LENGTH OF PROJECT = 1600.00 FEET = 0.303 MILES



Keith Lincoln Digitally signed by Keith Lincoln
Date: 2025.06.08 11:12:42
+0100



**R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST
SUITE 205
MARLBOROUGH, MA 01752**

DATE	DESCRIPTION	REV #



massDOT
 Massachusetts Department of Transportation
 Highway Division

APPROVED

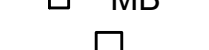
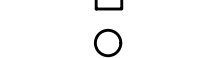
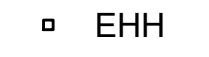
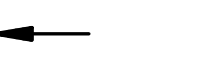
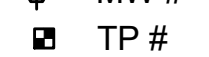
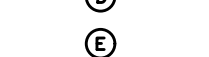
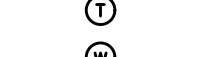
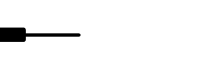
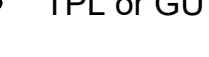
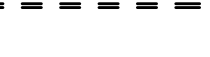
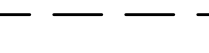
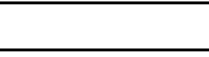
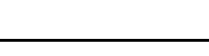
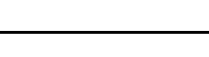
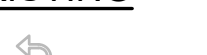
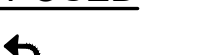
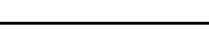
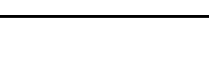
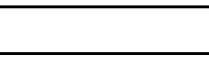
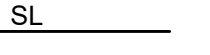
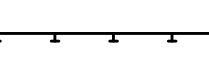
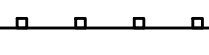
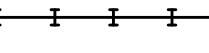
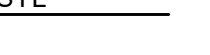
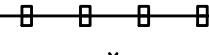
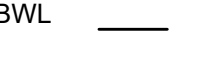
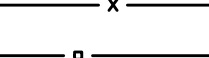
Carrie Lavallee,
P.E.

Carrie Lavallee, P.E.
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06/16/2025

CHIEF ENGINEER

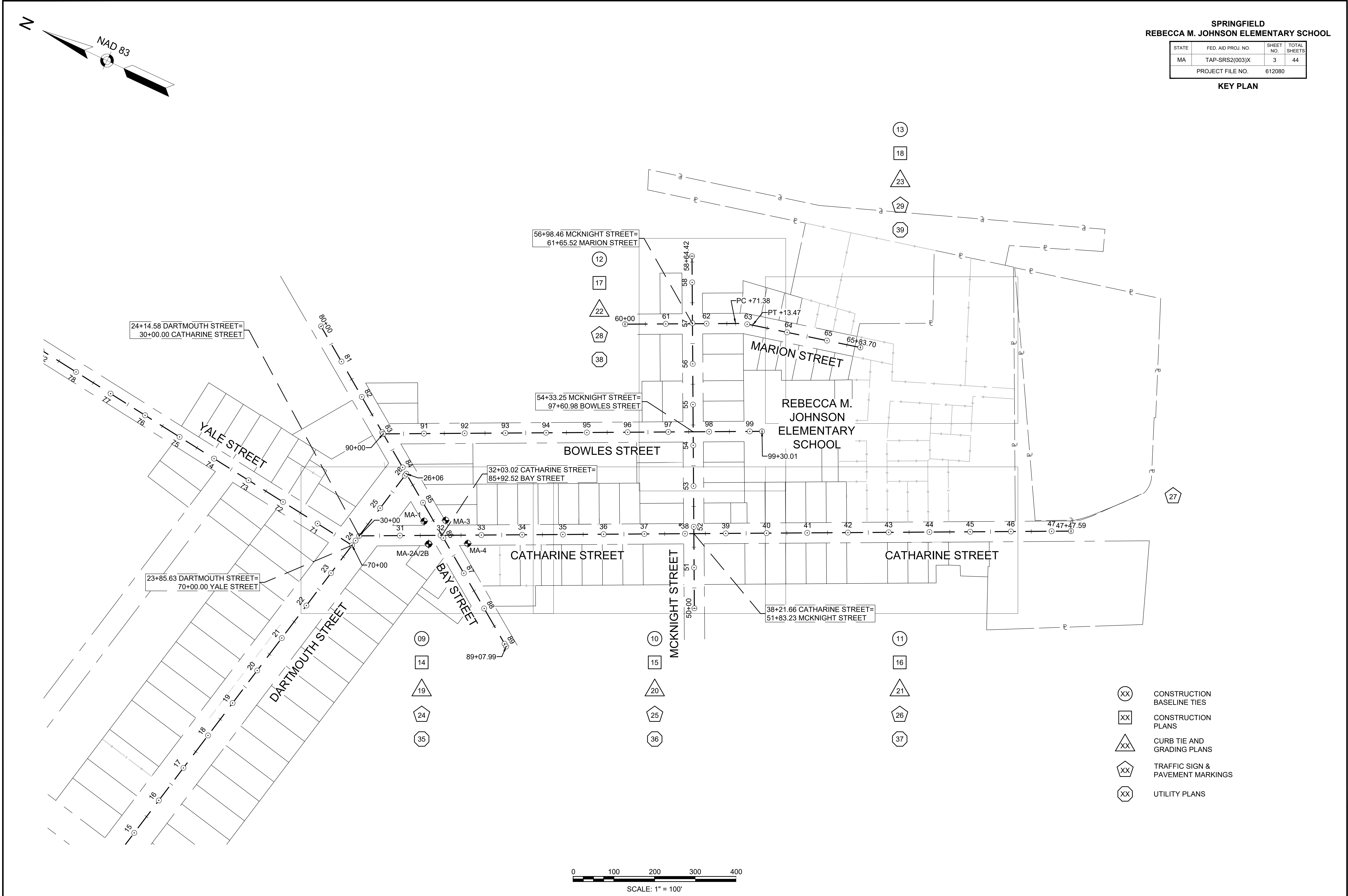
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GENERAL SYMBOLS			TRAFFIC SYMBOLS			ABBREVIATIONS			
EXISTING	PROPOSED	DESCRIPTION	EXISTING	PROPOSED	DESCRIPTION	GENERAL	SPRINGFIELD REBECCA M. JOHNSON ELEMENTARY SCHOOL		
		JERSEY BARRIER			CATCH BASIN	AADT	ANNUAL AVERAGE DAILY TRAFFIC		
		CATCH BASIN			FLAG POLE	ABAN	ABANDON		
		CATCH BASIN CURB INLET			GAS PUMP	ADJ	ADJUST		
		FLAG POLE			GAS PUMP	APPROX.	APPROXIMATE		
		GAS PUMP			GAS PUMP	A.C.	ASPHALT CONCRETE		
		MAIL BOX			MAIL BOX	ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE		
		POST SQUARE			POST SQUARE	BIT.	BITUMINOUS		
		POST CIRCULAR			POST CIRCULAR	BC	BOTTOM OF CURB		
		WELL			WELL	BD.	BOUND		
		ELECTRIC HANDHOLE			ELECTRIC HANDHOLE	BL	BASELINE		
		FENCE GATE POST			FENCE GATE POST	BLDG	BUILDING		
		GAS GATE			GAS GATE	BM	BENCHMARK		
		BORING HOLE			BORING HOLE	BO	BY OTHERS		
		MONITORING WELL			MONITORING WELL	BOS	BOTTOM OF SLOPE		
		TEST PIT			TEST PIT	BR.	BRIDGE		
		HYDRANT			HYDRANT	CB	CATCH BASIN		
		LIGHT POLE			LIGHT POLE	CBCI	CATCH BASIN WITH CURB INLET		
		COUNTY BOUND			COUNTY BOUND	CC	CEMENT CONCRETE		
		GPS POINT			GPS POINT	CCM	CEMENT CONCRETE MASONRY		
		CABLE MANHOLE			CABLE MANHOLE	CEM	CEMENT		
		DRAINAGE MANHOLE			DRAINAGE MANHOLE	CI	CURB INLET		
		ELECTRIC MANHOLE			ELECTRIC MANHOLE	CIP	CAST IRON PIPE		
		GAS MANHOLE			GAS MANHOLE	CLF	CHAIN LINK FENCE		
		MISC MANHOLE			MISC MANHOLE	CL	CENTERLINE		
		SEWER MANHOLE			SEWER MANHOLE	CMP	CORRUGATED METAL PIPE		
		TELEPHONE MANHOLE			TELEPHONE MANHOLE	CSP	CORRUGATED STEEL PIPE		
		WATER MANHOLE			WATER MANHOLE	CO.	COUNTY		
		OTHER MANHOLE			OTHER MANHOLE	CONC	CONCRETE		
		MASSACHUSETTS HIGHWAY BOUND			MASSACHUSETTS HIGHWAY BOUND	CONT	CONTINUOUS		
		MONUMENT			MONUMENT	CONST	CONSTRUCTION		
		STONE BOUND			STONE BOUND	CR GR	CROWN GRADE		
		TOWN OR CITY BOUND			TOWN OR CITY BOUND	DHV	DESIGN HOURLY VOLUME		
		TRAVERSE OR TRIANGULATION STATION			TRAVERSE OR TRIANGULATION STATION	DI	DROP INLET		
		TROLLEY POLE OR GUY POLE			TROLLEY POLE OR GUY POLE	DIA	DIAMETER		
		TRANSMISSION POLE			TRANSMISSION POLE	DIP	DUCTILE IRON PIPE		
		UTILITY POLE W/ FIREBOX			UTILITY POLE W/ FIREBOX	DW	STEADY DON'T WALK - PORTLAND ORANGE		
		UTILITY POLE WITH DOUBLE LIGHT			UTILITY POLE WITH DOUBLE LIGHT	DWP	DETECTABLE WARNING PANEL		
		UTILITY POLE W / 1 LIGHT			UTILITY POLE W / 1 LIGHT	DWY	DRIVEWAY		
		UTILITY POLE			UTILITY POLE	ELEV (or EL.)	ELEVATION		
		BUSH			BUSH	EMB	EMBANKMENT		
		TREE			TREE	EOP	EDGE OF PAVEMENT		
		STUMP			STUMP	EXIST (or EX)	EXISTING		
		SWAMP / MARSH			SWAMP / MARSH	EXC	EXCAVATION		
		WATER GATE			WATER GATE	F&C	FRAME AND COVER		
		PARKING METER			PARKING METER	F&G	FRAME AND GRATE		
		OVERHEAD CABLE/WIRE			OVERHEAD CABLE/WIRE	FDN.	FOUNDATION		
		CURBING			CURBING	FLDSTN	FIELDSTONE		
		CONTOURS (ON-THE-GROUND SURVEY DATA)			CONTOURS (ON-THE-GROUND SURVEY DATA)	FO	FIBER OPTIC		
		CONTOURS (PHOTOGRAMMETRIC DATA)			CONTOURS (PHOTOGRAMMETRIC DATA)	GAR	GARAGE		
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)			UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)	GD	GROUND		
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)			UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)	GG	GAS GATE		
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)			UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)	GI	GUTTER INLET		
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)							

SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	3	44
PROJECT FILE NO.		612080	

KEY PLAN



SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	4	44
PROJECT FILE NO.		612080	

BORING LOGS
SHEET 1 OF 4

- BORING NOTES:**
1. LOCATIONS OF BORINGS SHOWN ON THE PLAN THUS: **MA-#** = MAST ARM BORING LOCATION AND NUMBER.
 2. BORINGS ARE TAKEN FOR PURPOSE OF DESIGN AND SHOWN CONDITIONS AT BORING 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 SHOWN THE TRUE GROUND WATER LEVEL.
 4. FIGURES IN COLUMNS INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE A 1 I.D. SPLIT SPOON SAMPLER 6" USING A 140 POUND WEIGHT FALLING 30".
 5. ALL BORINGS WERE MADE IN 04/2025.
 6. BORINGS WERE DRILLED BY SEABOARD DRILLING LLC, OF CHICOPEE, MASSACHUSETTS AND OBSERVED BY NOBIS
 7. THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.
 8. THE SOIL 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.

BORING LOG										
			Boring No. : MA-1		Boring Location : <u>See Exploration Location Plan</u>					
			Project : <u>MassDOT Catharine & Bay Street Intersection</u>		Checked by : <u>J. Vanoti</u>					
			Contract No. <u>115755; Project No. 612080</u>		Date Start : <u>April 3, 2025</u>					
			Location : <u>Springfield, Massachusetts</u>		Date Finish : <u>April 3, 2025</u>					
Nobs Project No. : <u>100911.000</u>		Rig Type / Model : <u>Track / B-53 Mobile</u>		Ground Surface Elev. : <u>(+/-) 207</u>		Datum : <u>NAVD 88</u>				
Contractor : <u>Seaboard Drilling, LLC</u>			Driller : <u>J. Nitsch</u>		Nobs Rep. : <u>K. Kocia</u>					
			Hammer Type : <u>Automatic Hammer</u>		Hammer Moist : <u>Automatic</u>					
Drilling Method		Sampler		Groundwater Observations						
Type	Hollow Stem Auger	Split-Spoon		Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time	
Size ID (in.)	2-1/4	1-3/8		04/03/25	10:15	15.5	(HSA) 25	27	10 minutes	
Advancement	Augered	140-lb Hammer								
SAMPLE INFORMATION				LITHOLOGY						NOTES
Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows / 6 in.	Groundwater	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Birmister)			
1	S-1	8	0-2	2		TOPSOIL 205.0 / 2.0	S-1: Loose, dark brown, fine to medium SAND, some Silt. few roots / grass fibers. Moist.			
2	S-2	6	2-4	4			S-2: Loose, brown - tan, fine to medium SAND, trace Silt. Dry - Moist.			
3	S-3	15	4-6	5			S-3: Medium dense, tan, fine to coarse SAND, trace Silt. Moist.			
4				5						
5	S-4	16	6-8	5			S-4: Medium dense, tan - orangish-brown, fine to coarse SAND, trace Silt. Moist. Faint redomorphitic staining present.			
6				5						
7	S-5	16	8-10	3			S-5: Loose, tan, fine to coarse SAND, trace fine Gravel, trace Silt. Moist. [Laboratory Tests Performed (Grain Size Analysis): GRAVEL = 6.3%, SAND = 92.2%, FINES = 1.5%].			
8				4						
9	S-6	20	10-12	3			S-6: Loose, tan - orangish-brown, fine to medium SAND, trace Silt. Moist. Intermittent redomorphitic staining present. Trace coarse Sand present in last 6-inches of sample.			
10				3						
11				3						
12				5						
13				6						
14										
15	S-7	19	15-17	5			S-7: Loose, brownish-gray, fine to medium SAND, trace Silt. Wet.			
16				4						
17				3						
18				2						
19										
20										
Soil <u>trace</u> Percentage <u>5 - 10</u> Non-Soil <u>very few</u> trace <u>10 - 20</u> <u>some</u> <u>20 - 35</u> <u>several</u> and <u>35 - 50</u> <u>numerous</u>				NOTES:						
Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between strata; transitions may be gradual.										

		BORING LOG				Boring No.: MA-1 Boring Location: <u>See Exploration Location Plan</u>																																																																																																																																					
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		Contractor: <u>Seaboard Drilling, LLC</u> Driller: <u>J. Nitsch</u> Nobis Rep.: <u>K. Kocia</u>				Rig Type / Model: <u>Track / B-53 Mobile</u> Hammer Type: <u>Automatic Hammer</u> Hammer Hoist: <u>Automatic</u>																																																																																																																																					
Type: <u>Hollow Stem Auger</u> Size ID (in.): <u>2-1/4</u> Advancement: <u>Augered</u>		Sampler: <u>Split-Spoon</u> <u>140-lb Hammer</u>		Groundwater Observations Date: <u>04/03/25</u> Time: <u>10:15</u> Depth Below Ground (ft.): <u>15.5</u> (HSA) <u>25</u> Depth to Bottom of Hole (ft.): <u>27</u> Stabilization Time: <u>10 minutes</u>																																																																																																																																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4">SAMPLE INFORMATION</th> <th rowspan="2">Ground Condition (graph)</th> <th rowspan="2">LITHOLOGY Stratum Elev. / Depth (ft.)</th> <th rowspan="2">SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmeister)</th> <th rowspan="2">NOTES</th> </tr> <tr> <th>Depth (ft.)</th> <th>Type & No.</th> <th>Rec (in.)</th> <th>Depth (ft.)</th> </tr> </thead> <tbody> <tr><td>21</td><td>S-8</td><td>24</td><td>20-22</td><td>6</td><td rowspan="5" style="text-align: center; vertical-align: middle;">OUTWASH PLAIN DEPOSITS</td><td rowspan="5" style="vertical-align: top;">S-S: Medium dense, tan - gray, fine to medium SAND, trace Silt. Wet.</td><td rowspan="5"></td></tr> <tr><td>22</td><td></td><td></td><td></td><td>5</td></tr> <tr><td>23</td><td></td><td></td><td></td><td>5</td></tr> <tr><td>24</td><td></td><td></td><td></td><td>6</td></tr> <tr><td>25</td><td></td><td></td><td></td><td></td></tr> <tr><td>26</td><td>S-9</td><td>22</td><td>25-27</td><td>7</td><td rowspan="10" style="text-align: center; vertical-align: middle;">180.0 / 27.0</td><td rowspan="10" style="vertical-align: top;">S-S: Medium dense, tan - gray, fine to medium SAND, little Silt. Wet.</td><td rowspan="10"></td></tr> <tr><td>27</td><td></td><td></td><td></td><td>8</td></tr> <tr><td>28</td><td></td><td></td><td></td><td>5</td></tr> <tr><td>29</td><td></td><td></td><td></td><td></td></tr> <tr><td>30</td><td></td><td></td><td></td><td></td></tr> <tr><td>31</td><td></td><td></td><td></td><td></td></tr> <tr><td>32</td><td></td><td></td><td></td><td></td></tr> <tr><td>33</td><td></td><td></td><td></td><td></td></tr> <tr><td>34</td><td></td><td></td><td></td><td></td></tr> <tr><td>35</td><td></td><td></td><td></td><td></td></tr> <tr><td>36</td><td></td><td></td><td></td><td></td><td rowspan="8" style="text-align: center; vertical-align: middle;">Boring terminated at 27 feet.</td><td rowspan="8" style="vertical-align: top;"></td><td rowspan="8"></td></tr> <tr><td>37</td><td></td><td></td><td></td><td></td></tr> <tr><td>38</td><td></td><td></td><td></td><td></td></tr> <tr><td>39</td><td></td><td></td><td></td><td></td></tr> <tr><td>40</td><td></td><td></td><td></td><td></td></tr> <tr><td>41</td><td></td><td></td><td></td><td></td></tr> <tr><td>42</td><td></td><td></td><td></td><td></td></tr> <tr><td>43</td><td></td><td></td><td></td><td></td></tr> </tbody> </table>		SAMPLE INFORMATION				Ground Condition (graph)	LITHOLOGY Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmeister)	NOTES	Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	21	S-8	24	20-22	6	OUTWASH PLAIN DEPOSITS	S-S: Medium dense, tan - gray, fine to medium SAND, trace Silt. Wet.		22				5	23				5	24				6	25					26	S-9	22	25-27	7	180.0 / 27.0	S-S: Medium dense, tan - gray, fine to medium SAND, little Silt. Wet.		27				8	28				5	29					30					31					32					33					34					35					36					Boring terminated at 27 feet.			37					38					39					40					41					42					43					Soil: <u>Percentage</u> <u>Non-Soil</u> trace 5 - 10 very few little 10 - 20 few some 20 - 35 several and 35 - 50 numerous	
SAMPLE INFORMATION				Ground Condition (graph)	LITHOLOGY Stratum Elev. / Depth (ft.)					SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmeister)	NOTES																																																																																																																																
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SEE BORING NOTES ON SHEET 4.

SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	5	44
PROJECT FILE NO.		612080	

BORING LOGS
SHEET 2 OF 4

BORING LOG										Boring No.: MA-2A		
Project: <u>MassDOT Catharine & Bay Street Intersection</u> <u>Contract No. 115755; Project No. 612080</u>										Boring Location: <u>See Exploration Location Plan</u>		
Location: <u>Springfield, Massachusetts</u> Nobis Project No.: <u>100911.000</u>										Checked by: <u>J. Vanoli</u> Date Start: <u>April 3, 2025</u> Date Finish: <u>April 3, 2025</u>		
Contractor: <u>Seaboard Drilling, LLC</u> Driller: <u>J. Nitsch</u> Nobis Rep.: <u>K. Kocia</u>										Rig Type / Model: <u>Track / B-53 Mobile</u> Hammer Type: <u>Automatic Hammer</u> Hammer Holst: <u>Automatic</u>		
										Ground Surface Elev.: <u>(+/-) 206</u>		
										Datum: <u>NAVD 88</u>		
Type		Drilling Method		Sampler		Groundwater Observations						
		Hollow Stem Auger		Split-Spoon		Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time	
Size ID (in.)		2.1/4		1.3/8		04/03/25	12:11	Not Encountered	OUT	1.5	1 minute	
Advancement		Augered		140-lb Hammer								
SAMPLE INFORMATION					LITHOLOGY	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmeister)					NOTES	
Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water Temperature	Stratum Elev. / Depth (ft.)						
						ASPHALT 205.7 / 0.3						
1	S-1	0	0.5-1.5	5		FILL 204.5 / 1.5						
2				8		Approximately 2.5 inches of Asphalt encountered. S-1: No recovery. Strong resistance encountered at 1.5 feet bgs. Stopped advancing borehole due to suspicion of possible utility present. Offset boring 1-foot to boring MA-2B location. Boring terminated at 1.5 feet on refusal.						
3												
4												
5												
6												
7												
8												
9												
10												
Soil	Percentage	Non-Soil		NOTES:								
trace little some and	5 - 10 10 - 20 20 - 35 35 - 50	very few few several numerous		1) Boring backfilled with gravel and spoils to 6-inches bgs and then topped with asphalt cold patch to approximate ground level.								

BOREHOLE LOG - NOBIS UNIT DATA TEMPLATE OCT17 2011 (DOT - 4/1/05 4.04 - 1/100911.00 MASSDOT CATHARINE & BAY ST BRIS. SPRINGFIELD FIELD SURFACE ELEVATIONS: 100911.00 CATHARINE & BAY STREET BORNINGS.GPJ)

Bore descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between strata; transitions may be gradual.

Page No. 1 of 1

BORING LOG										Boring No.: MA-2B	
Project: <u>MassDOT Catharine & Bay Street Intersection</u> Contract No: <u>115755; Project No. 612080</u> Location: <u>Springfield, Massachusetts</u> Nobis Project No.: <u>100911.000</u>										Boring Location: <u>See Exploration Location Plan</u>	
										Checked by: <u>J. Vanoli</u> Date Start: <u>April 3, 2025</u> Date Finish: <u>April 3, 2025</u>	
Contractor: <u>Seaboard Drilling, LLC</u> Driller: <u>J. Nitsch</u> Nobis Rep.: <u>K. Kocia</u>					Rig Type / Model: <u>Track / B-53 Mobile</u> Hammer Type: <u>Automatic Hammer</u> Hammer Host: <u>Automatic</u>					Ground Surface Elev.: <u>(+/-) 206</u> Datum: <u>NAVD 88</u>	
Type		Drilling Method		Sampler		Groundwater Observations					
		Hollow Stem Auger		Split-Spoon		Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time (minutes)
Size ID (in.)		2-1/4		1-3/8		▼ 04/03/25	14:00	13.7	(HSA) 25	27	15 minutes
Advancement		Augered		140-lb Hammer							
Depth (ft.)		Type & No.		Rec (in.)		Depth (ft.)		Blows / ft. in		Groundwater	
		SAMPLE INFORMATION				LITHOLOGY				SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burlinger)	
						205.7 / 0.3 LASH/ALT				Asphalt encountered, approximately 2.5-inches in thickness. S-1: Medium dense, black - brown, fine to coarse SAND, little fine Gravel, trace Silt, several asphalt fragments / particles. Moist. S-2A (4"): Loose, black - gray - brown, fine to coarse SAND, little fine Gravel, trace Silt, few asphalt fragments / particles. Dry. S-2B (14"): Loose, tan, fine to coarse SAND, trace Silt. Moist. S-3: Medium dense, tan - white, fine to medium SAND, trace Silt. Moist. S-4: Medium dense, tan, fine to coarse SAND, trace Silt. Moist. S-5: Medium dense, tan - orangish-brown, fine to coarse SAND, little fine Gravel, trace Silt. Moist. Strong redoximorphic staining present. S-6: Medium dense, tan, fine to medium SAND, trace Silt. Moist. S-7: Loose, brownish-gray, fine to medium SAND, trace Silt. Wet. Faint redoximorphic staining seems. 1/2 to 2-inches in thickness present. [Laboratory Tests Performed (Grain Size Analysis): GRAVEL = 0.0%, SAND = 93.6%, FINES = 6.4%]. OUTWASH SAND DEPOSITS	
						203.5 / 2.5					
1	S-1	15	0.5-2	6							
2				8							
3	S-2	18	2-4	6							
4				3							
5	S-3	15	4-6	5							
6				6							
7	S-4	21	6-8	5							
8				7							
9	S-5	15	8-10	5							
10				6							
11	S-6	16	10-12	5							
12				5							
13				5							
14				5							
15	S-7	22	15-17	4							
16				3							
17				4							
18											
19											
20											
Soil		Percentage		Non-Soil		NOTES:					
trace		5 - 10		very few		1) Upon completion of boring, when pulling auger head, unknown electrical wire present. Noted possible electrical connection at 1.5 feet bgs. See photo in report for additional details.					
little		10 - 20		few							
several		20 - 35		numerous							
35 - 50											

BOREHOLE LOG: NOBIS GINT DATA TEMP/CAT/THINNE & BAY ST BRIS. SPRINGFIELD/TAU/BRACE EXPLORATIONS/00911.000 CAT/THINNE & BAY ST BORINGS 00911.000

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between strata; transitions may be gradual.

Page No. 1 of 2

		BORING LOG				Boring No.: MA-2B Boring Location: <u>See Exploration Location Plan</u>			
		Project: <u>MassDOT Catharine & Bay Street Intersection</u> <u>Contract No. 115755; Project No. 612080</u>				Checked by: <u>J. Vanoti</u>			
		Location: <u>Springfield, Massachusetts</u> Nobis Project No.: <u>100911.000</u>				Date Start: <u>April 3, 2025</u> Date Finish: <u>April 3, 2025</u>			
		Contractor: <u>Seaboard Drilling, LLC</u> Driller: <u>J. Nitsch</u> Nobis Rep.: <u>K. Kocia</u>				Rig Type / Model: <u>Track / B-53 Mobile</u> Hammer Type: <u>Automatic Hammer</u> Hammer Hoist: <u>Automatic</u>			
				Ground Surface Elev.: <u>(+/-) 206</u> Datum: <u>NAVD 88</u>					
				Groundwater Observations					
Drilling Method		Sampler		Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
Type		Split-Spoon		▼ 04/03/25	14:00	13.7	(HSA) 25	27	15 minutes
Size ID (in.)		1.3-8							
Advancement		Augered							
140-lb Hammer									
SAMPLE INFORMATION				LITHOLOGY					NOTES
Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows / 6 in.	Groundwater	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Bustamer)		
21	S-8	24	20-22	5	OUTWASH PLAIN DEPOSITS	179.0 / 27.0	S-8: Medium dense, brownish-gray, fine to medium SAND, little Silt. Wet.		
22				6					
23				6					
24				8					
25									
26	S-9	24	25-27	8			S-9: Loose, brownish-gray, fine to coarse SAND, trace Silt. Wet. Strong redoximorphic staining present in last 4-inches of sample.		
27				5					
28				4	Boring terminated at 27 feet.				
29				5					
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40	Soil	Percentage	Non-Soil	NOTES: 2) Boring backfilled with spoils to 6-inches bgs and then topped with asphalt cold patch to approximate ground level.					
	trace	5 - 10	very few						
	little	10 - 20	few						
	some	20 - 35	several						
	and	35 - 50	numerous						
BOREHOLE LOG - NOBIS CINT DATA TEMPLATE OCT 7 2011 LOG - J110911.000 MASSDOT CATHARINE & BAY ST BRIS. SPRINGFIELD DATA/BUREAUFACE EXPLORATIONS 00041.000 CATHARINE & BAY ST BORINGS 001									
Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratum; transitions may be gradual.									Page No. 2 of 2

SEE BORING NOTES ON SHEET 4.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	6	44
PROJECT FILE NO.		612080	

612080 HD(BORING).DWG Plotted on 4-Jun-2025 4:32 PM

BORING LOG										Boring No.: MA-3			
										Boring Location: <u>See Exploration Location Plan</u>			
										Project: <u>MassDOT Catharine & Bay Street Intersection</u>		Checked by: <u>J. Vanoti</u>	
										Contract No. <u>115755; Project No. 612080</u>		Date Start: <u>April 4, 2025</u>	
										Location: <u>Springfield, Massachusetts</u>		Date Finish: <u>April 4, 2025</u>	
Nobis Project No.: <u>100911.000</u>										Ground Surface Elev.: <u>(+/-) 207</u>			
Contractor: <u>Seaboard Drilling, LLC</u> Driller: <u>J. Nitsch</u> Nobis Rep.: <u>K. Kocia</u>										Rig Type / Model: <u>Track / B-53 Mobile</u> Hammer Type: <u>Automatic Hammer</u> Hammer Host: <u>Automatic</u>		Datum: <u>NAVD 88</u>	
		Drilling Method		Sampler		Groundwater Observations							
Type		Hollow Stem Auger		Split-Spoon		Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time		
Size ID (in.)		2-1/4		1-3/8		▼ 04/04/25	13:30	15.5	(HSA) 25	27	5 minutes		
Advancement		Augered		140-lb Hammer									
SAMPLE INFORMATION					Groundwater Sample	LITHOLOGY		SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmeister)				NOTES	
Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blow/ft. (in.)		Stratum	Elev. / Depth (ft.)						
21	S-8	24	20-22	2	OUTWASH PLAIN DEPOSITS	S-8: Loose, brownish-gray, fine to medium SAND, little Silt. Wet.							
22				3									
23				2									
24				2									
25				2									
26	S-9	24	25-27	5									
27				7									
28				6									
29				6									
30													
31					180.0 / 27.0	S-9: Medium dense, brownish-gray, fine to medium SAND, little Silt. Wet. One (1) organic fiber present.	Boring terminated at 27 feet.				1		
32													
33													
34													
35													
36													
37													
38													
39													
40													
Soil	Percentage	Non-Soil	NOTES:										
trace little some and	5 - 10 10 - 20 20 - 35 35 - 50	very few few several numerous	1) Boring backfilled with spoils to 6-inches bgs and then topped with concrete mix to approximate ground level.										
Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between strata; transitions may be gradual.													

SEE BORING NOTES ON SHEET 4.

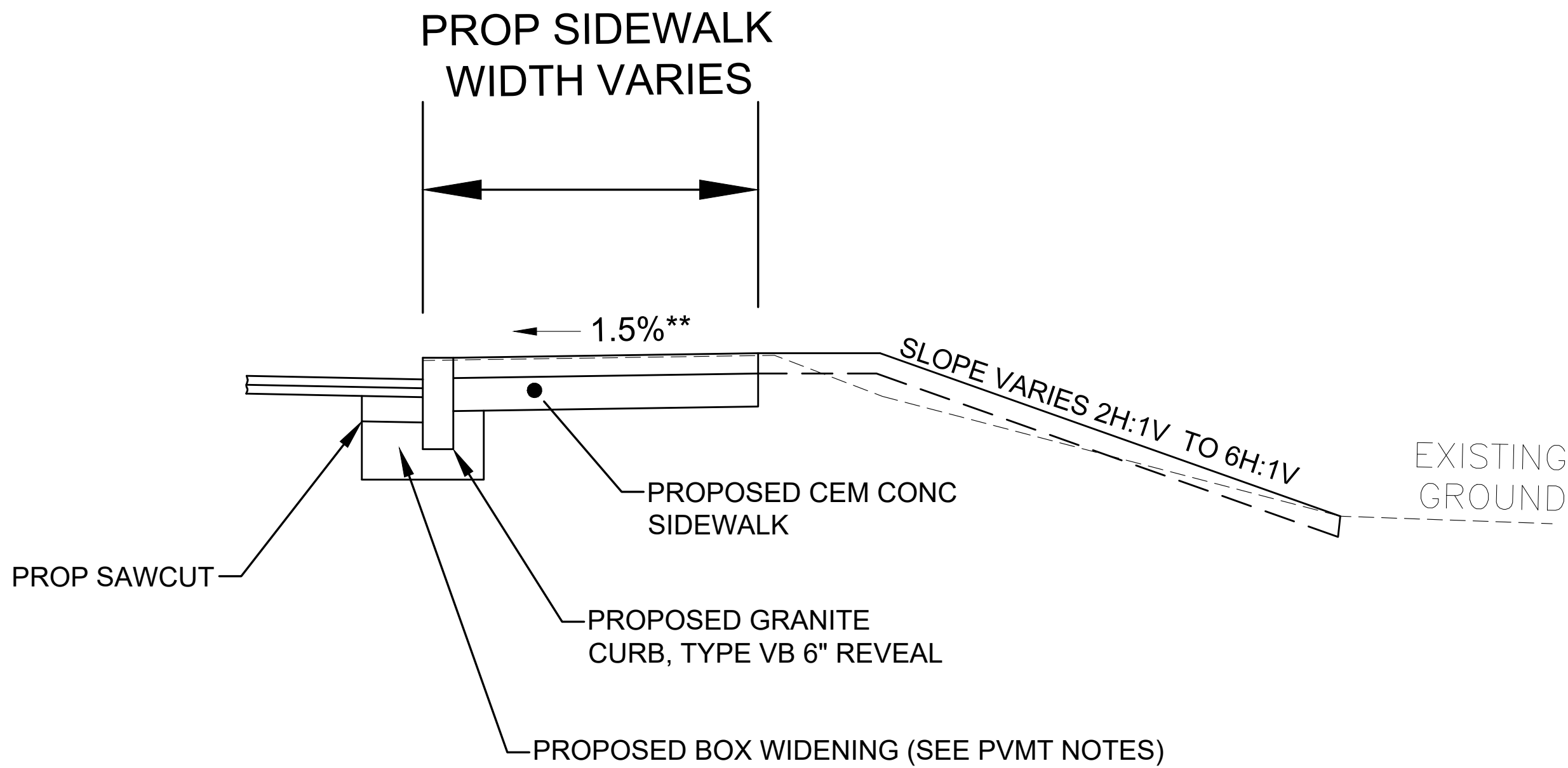
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	7	44
PROJECT FILE NO.		612080	

612080 HD(BORING).DWG Plotted on 4-Jun-2025 4:32 PM

BORING LOG										Boring No.: MA-4	
										Boring Location: <u>See Exploration Location Plan</u>	
										Project: <u>MassDOT Catharine & Bay Street Intersection</u>	
										Contract No. <u>115755; Project No. 612080</u>	
										Location: <u>Springfield, Massachusetts</u>	
Boring Project No.: <u>100911.000</u>										Checked by: <u>J. Vanoti</u>	
Contractor: <u>Seaboard Drilling, LLC</u>										Date Start: <u>April 4, 2025</u>	
Driller: <u>J. Nitsch</u>										Date Finish: <u>April 4, 2025</u>	
Boring Rep.: <u>K. Kocia</u>										Ground Surface Elev.: <u>(+/-) 206</u>	
Rig Type / Model: <u>Track / B-53 Mobile</u>										Datum: <u>NAVD 88</u>	
Hammer Type: <u>Automatic Hammer</u>											
Hammer Hoist: <u>Automatic</u>											
		Drilling Method		Sampler		Groundwater Observations					
Type		Hollow Stem Auger		Split-Spoon		Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
Size ID (in.)		2-1/4		1-3/8		▼ 04/04/25	10:50	12.3	(HSA) 25	27	5 minutes
Advancement		Augered		140-lb Hammer							
SAMPLE INFORMATION						LITHOLOGY					
Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blow/ 6 in.	Ground Water Depth (ft.)	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burnisier)				NOTES
21	S-8	24	20-22	3			S-S: Loose, brownish-gray, fine to medium SAND, trace Silt. Wet.				
22				4							
23				7							
24											
25											
26	S-9	24	25-27	6			S-S: Medium dense, brownish-gray, fine to medium SAND, little Silt. Wet. In tp of split-spoon, predominantly silt present.				
27				8							
28				17							
29											
30											
31						179.0 / 27.0	Boring terminated at 27 feet.				
32											
33											
34											
35											
36											
37											
38											
39											
40											
Soil						NOTES:					
Percentage		Non-Soil				1) Boring backfilled with spoils to 6-inches bgs and then topped with asphalt cold patch to approximate ground level.					
5 - 10		very few									
10 - 20		few									
20 - 35		several									
35 - 50		numerous									

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	8	44
PROJECT FILE NO.		612080	

TYPICAL SECTIONS



NOTE:
- ** TOLERANCE FOR CONSTRUCTION ±0.5%.

NARROW BOX WIDENING (LESS THAN 4 FT) DETAIL
SCALE: NONE

PAVEMENT NOTES

PROPOSED FULL DEPTH PAVEMENT

- SURFACE: 1.75" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5) OVER ASPHALT EMULSION FOR TACK COAT (RS-1h) OVER
- INTERMEDIATE: 2.25" SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC - 19.0) OVER ASPHALT EMULSION FOR TACK COAT (RS-1h) OVER
- BASE: 3.5" SUPERPAVE BASE COURSE - 37.5 (SBC - 37.5) OVER
- SUBBASE: 4" DENSE GRADED CRUSHED STONE OVER 8" GRAVEL BORROW, TYPE b

PROPOSED NARROW BOX WIDENING (LESS THAN 4 FT)

- SURFACE: 1.75" SUPERPAVE SURFACE COURSE - 12.5 (SSC - 12.5) OVER ASPHALT EMULSION FOR TACK COAT (RS-1h) OVER
- INTERMEDIATE*: 2.25" SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC - 19.0) OVER ASPHALT EMULSION FOR TACK COAT (RS-1h) OVER
- BASE: 6" HIGH EARLY STRENGTH CEMENT CONCRETE BASE COURSE OVER
- SUBBASE: 8" GRAVEL BORROW TYPE b

PROPOSED CEMENT CONCRETE SIDEWALK / SIDEWALK AT DRIVEWAY / PEDESTRIAN CURB RAMP

- SURFACE: 4" CEMENT CONCRETE WALK SURFACE 4000 PSI, 3/4", 610 LB OVER
- FOUNDATION: 8" GRAVEL BORROW, TYPE b

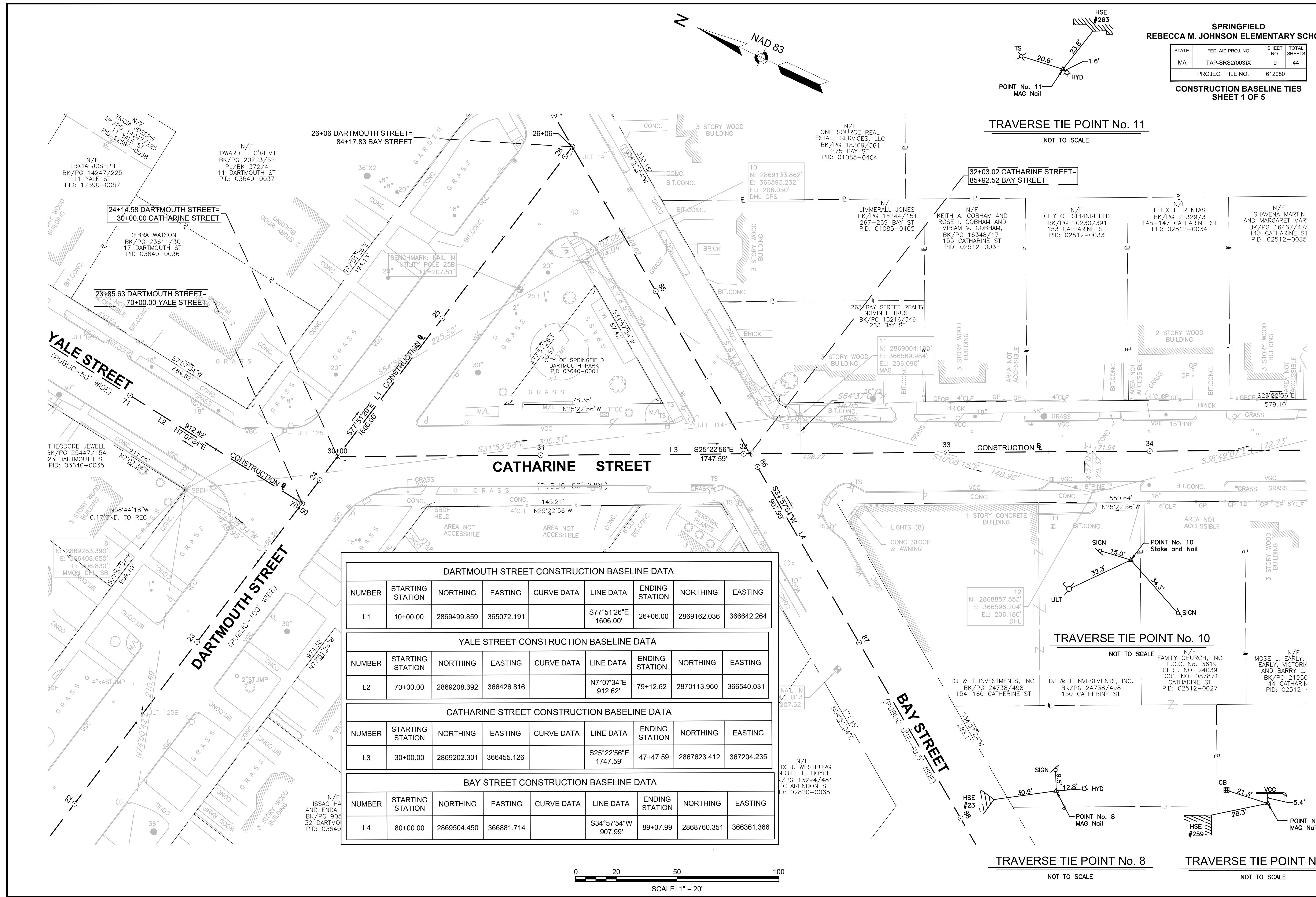
PROPOSED HOT MIX ASPHALT AT DRIVEWAY

- SURFACE: 1.5" SUPERPAVE SURFACE COURSE - 9.5 (SSC - 9.5) OVER 2.5" SUPERPAVE SURFACE COURSE - 12.5 (SSC - 12.5) OVER
- FOUNDATION: 8" GRAVEL BORROW, TYPE b

SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	9	44
PROJECT FILE NO.		612080	

CONSTRUCTION BASELINE TIES
SHEET 1 OF 5

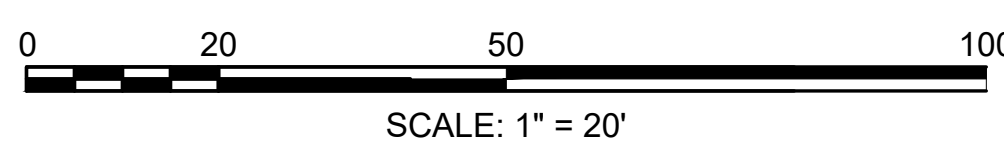


DARTMOUTH STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	10+00.00	2869499.859	365072.191		S77°51'26"E 1606.00'	26+06.00	2869162.036	366642.264

YALE STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L2	70+00.00	2869208.392	366426.816		N7°07'34"E 912.62'	79+12.62	2870113.960	366540.031

CATHARINE STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L3	30+00.00	2869202.301	366455.126		S25°22'56"E 1747.59'	47+47.59	2867623.412	367204.235

BAY STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L4	80+00.00	2869504.450	366881.714		S34°57'54"W 907.99'	89+07.99	2868760.351	366361.366



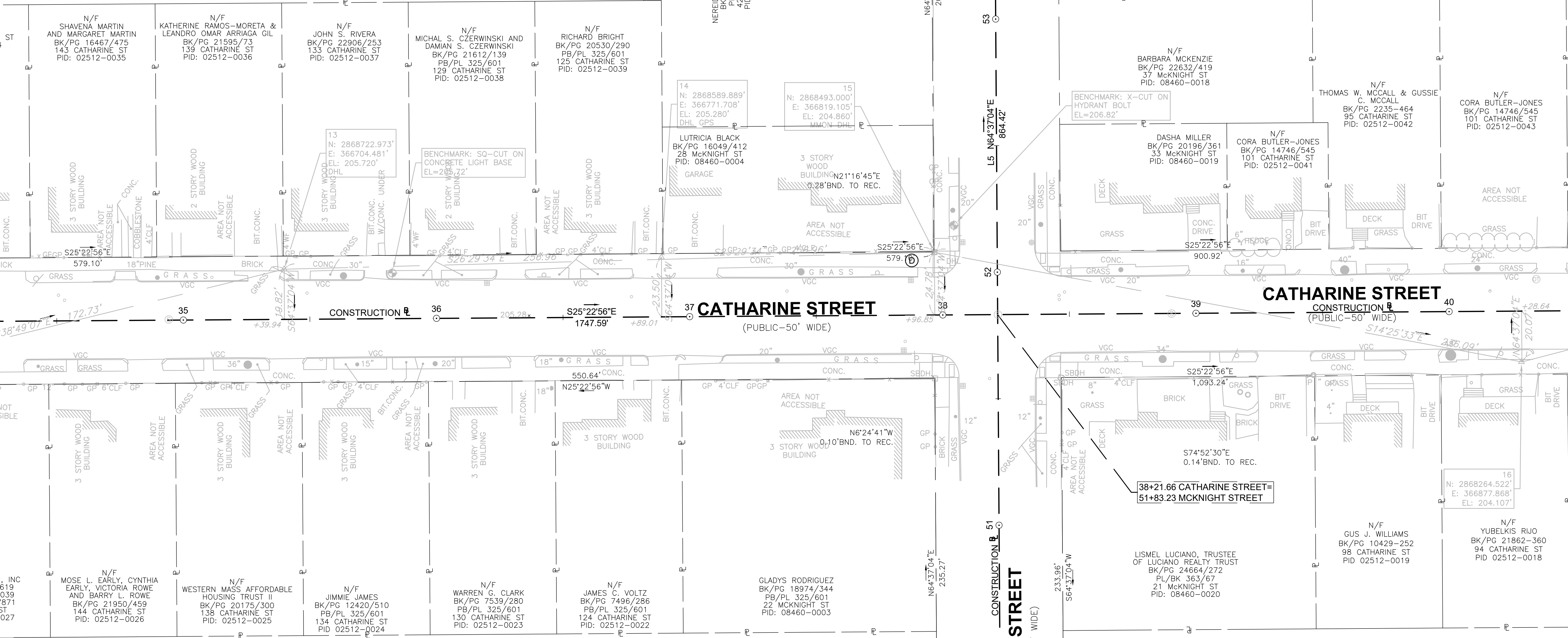
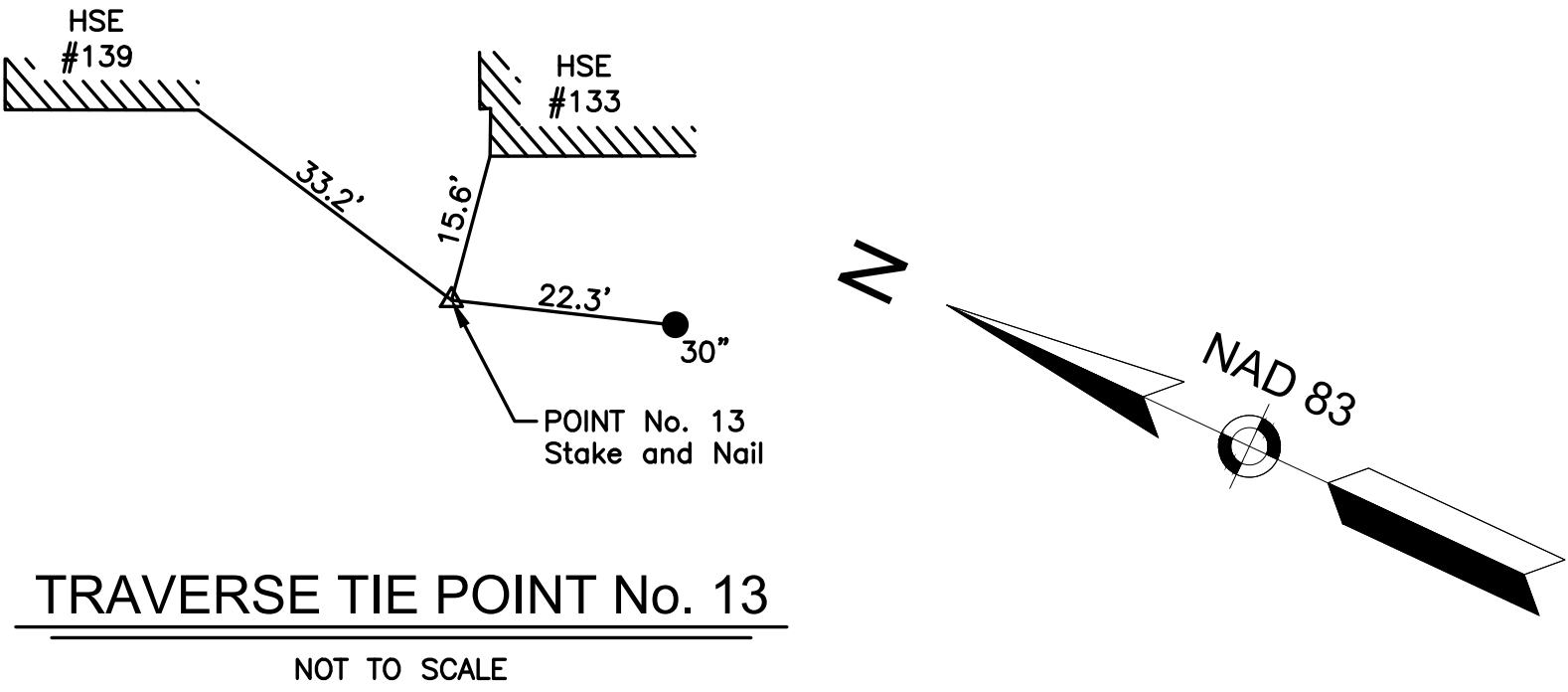
TRAVERSE TIE POINT No. 11
NOT TO SCALE

TRAVERSE TIE POINT No. 10
NOT TO SCALE

TRAVERSE TIE POINT No. 8
NOT TO SCALE

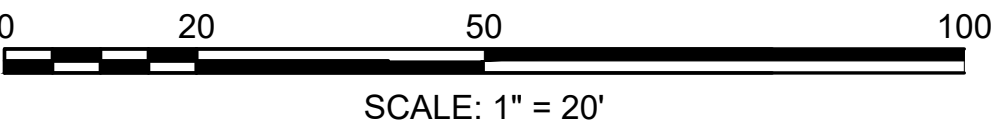
TRAVERSE TIE POINT No. 12
NOT TO SCALE

CONTINUED ON
SHEET NO. 10



MCKNIGHT STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L5	50+00.00	2868381.413	366641.792		N64°37'04"E 864.42'	58+64.42	2868751.951	367422.772

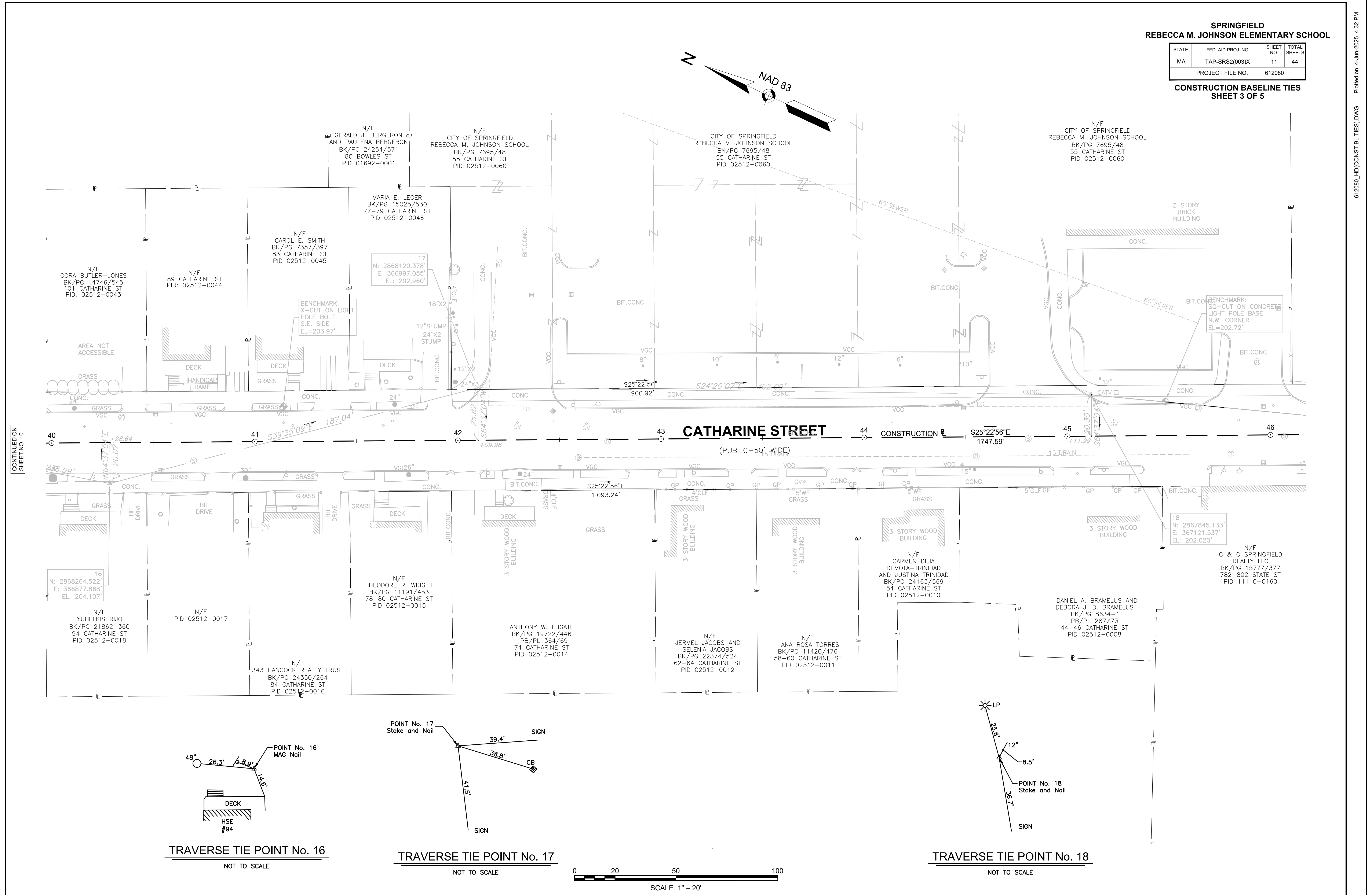
TRAVERSE TIE POINT No. 14
NOT TO SCALE



TRAVERSE TIE POINT No. 15
NOT TO SCALE

TRAVERSE TIE POINT No. 16
NOT TO SCALE

CONTINUED ON
SHEET NO. 10



271.38' —————
L7 S25°20'49"E —————

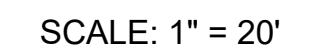
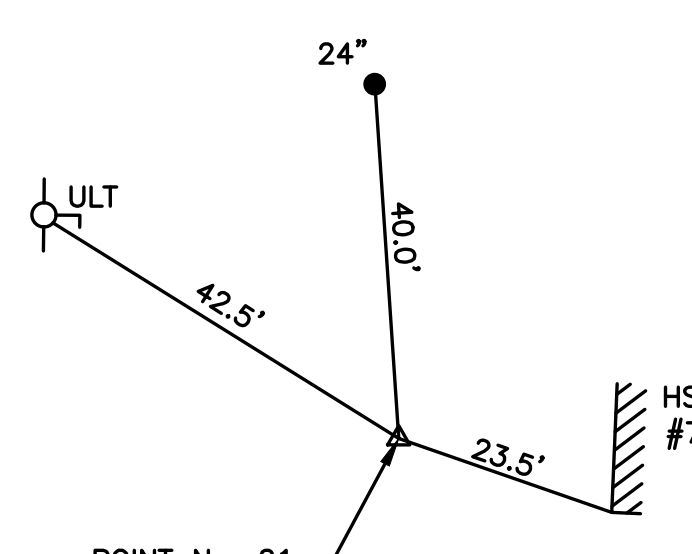
(PUBLIC-50' WIDE)

BOWLES STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L6	90+00.00	2869254.645	366707.025		S25°22'56"E 930.01'	99+30.01	2868414.409	367105.678

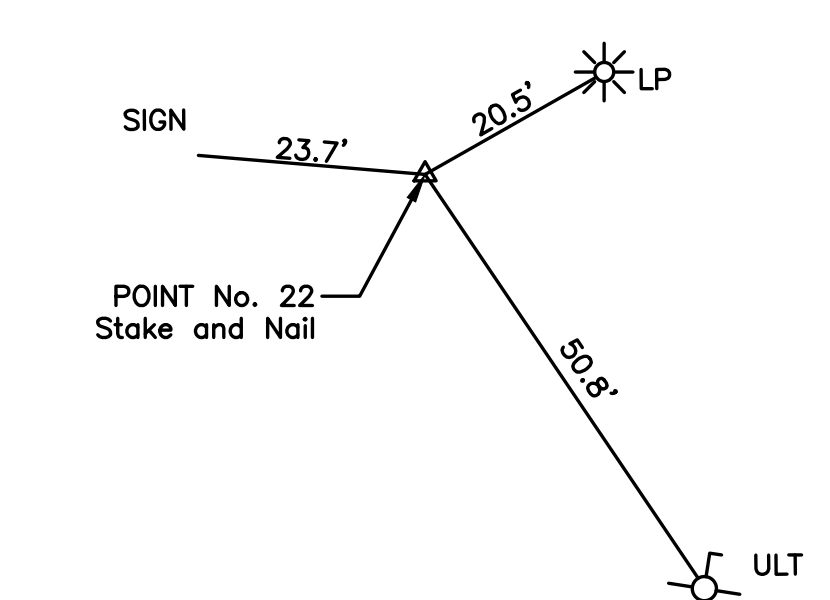
NOT TO SCALE

NOT TO SCALE

NOT TO SCALE

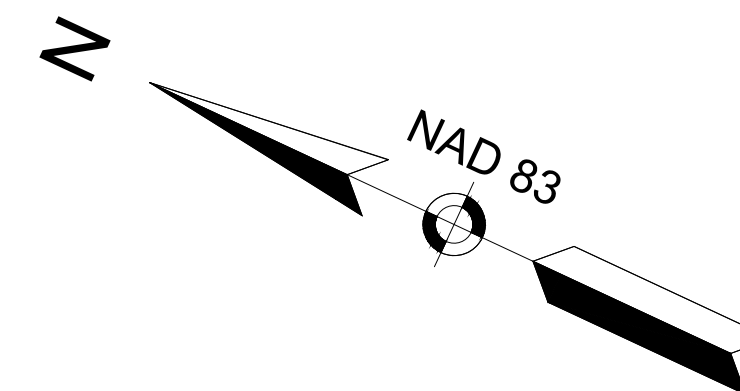


STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	13	44
PROJECT FILE NO.		612080	



0 20 50 100

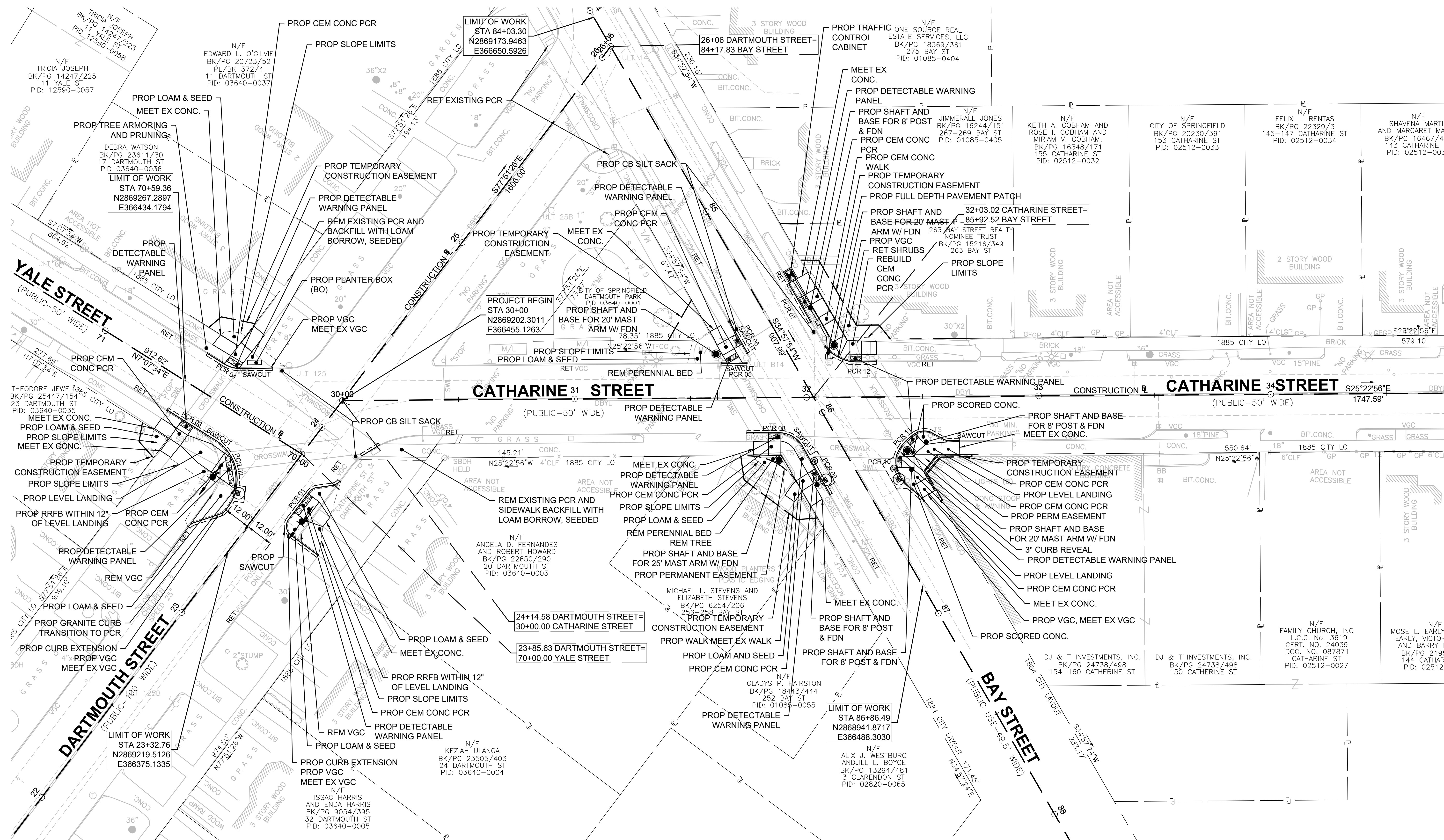
SCALE: 1" = 20'



SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEET
MA	TAP-SRS2(003)X	14	44
PROJECT FILE NO.		612080	

CONSTRUCTION PLANS
SHEET 1 OF 5



CONTINUED ON



HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

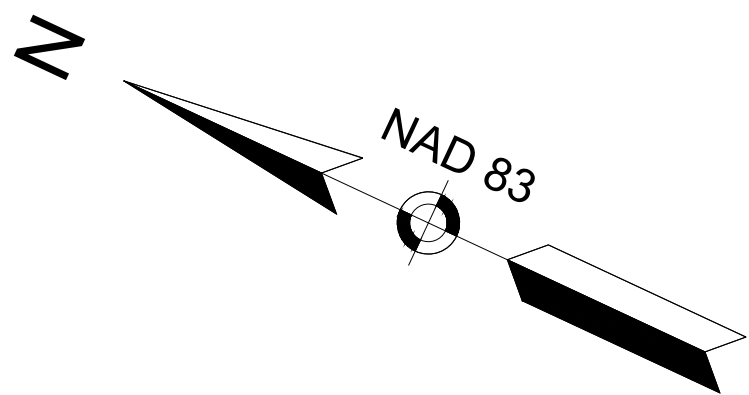
DRAINAGE DETAILS

NONE

SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	15	44
PROJECT FILE NO.		612080	

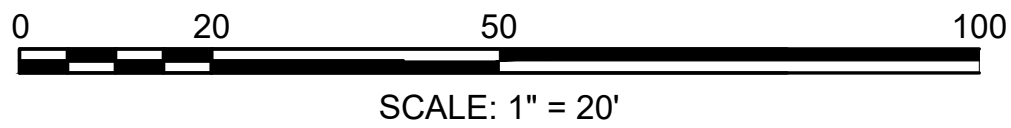
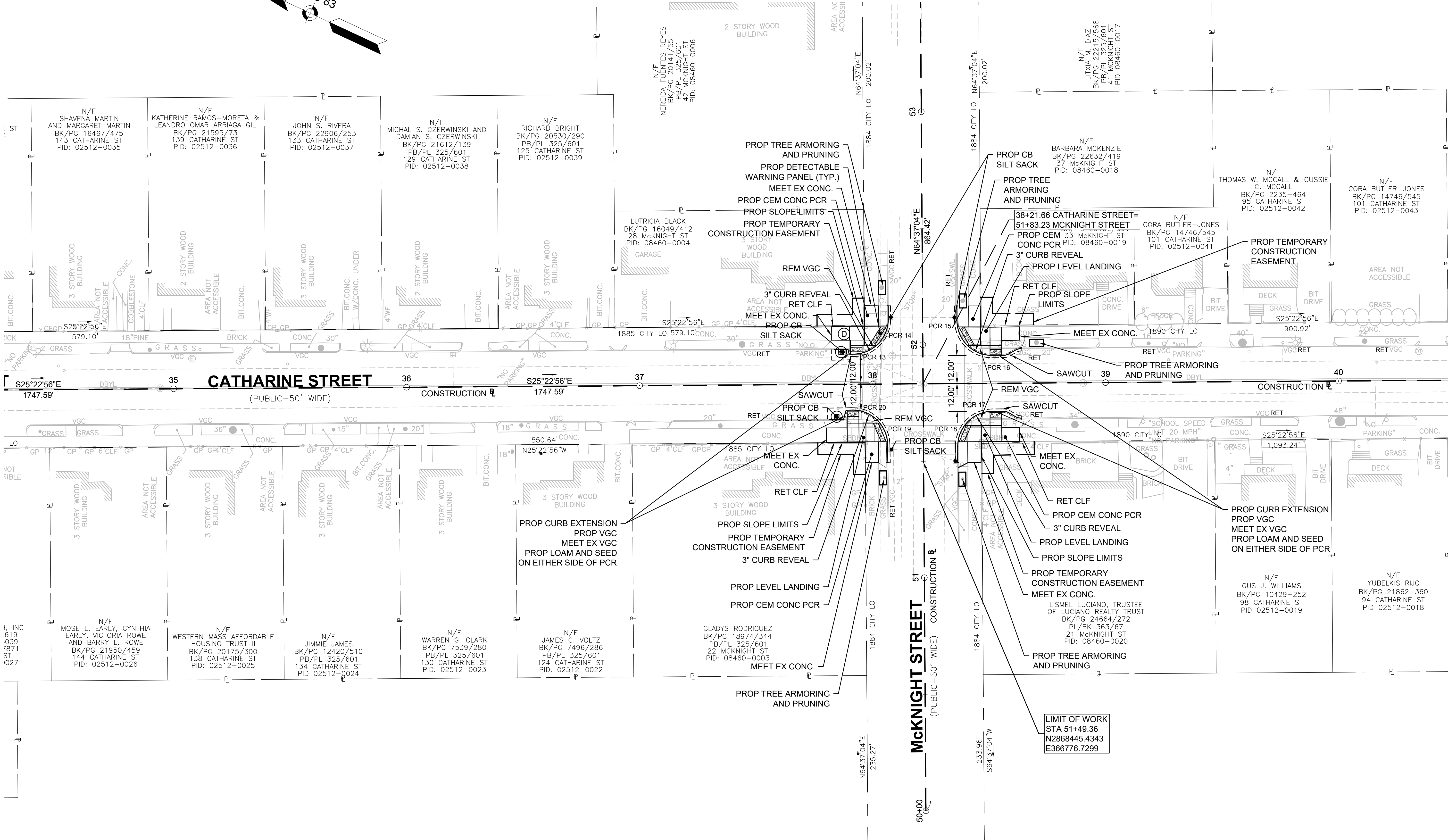
CONSTRUCTION PLANS
SHEET 2 OF 5



CONTINUED ON
SHEET NO. 17

CONTINUED ON
SHEET NO. 14

CONTINUED ON
SHEET NO. 16



HIGHWAY GUARD DETAILS

TRAFFIC SIGNAL CONDUIT

WATER SUPPLY ALTERATIONS

DRAINAGE DETAILS

NONE

NONE

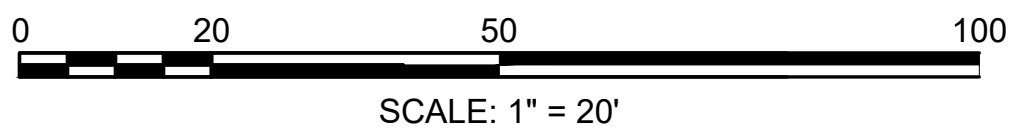
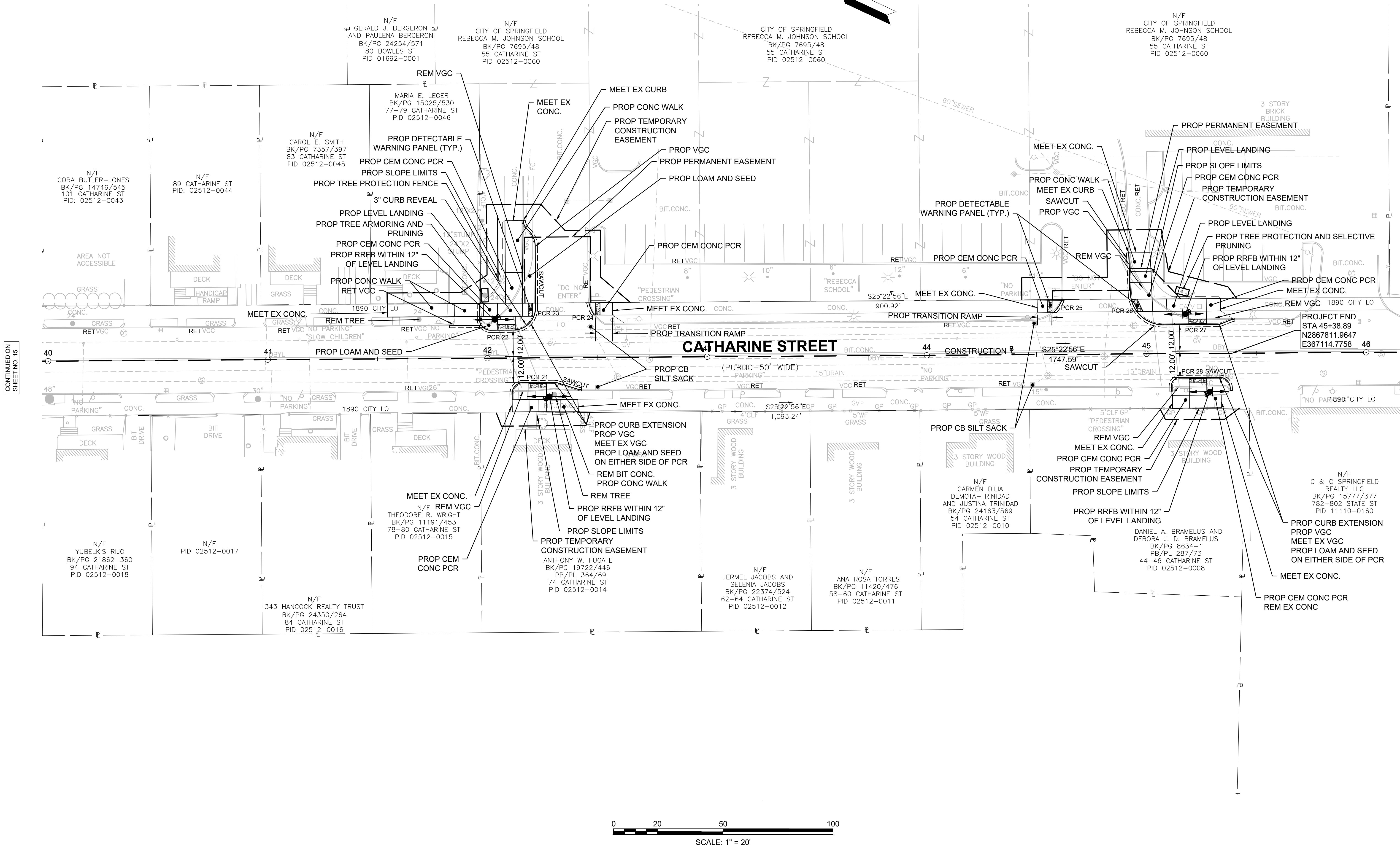
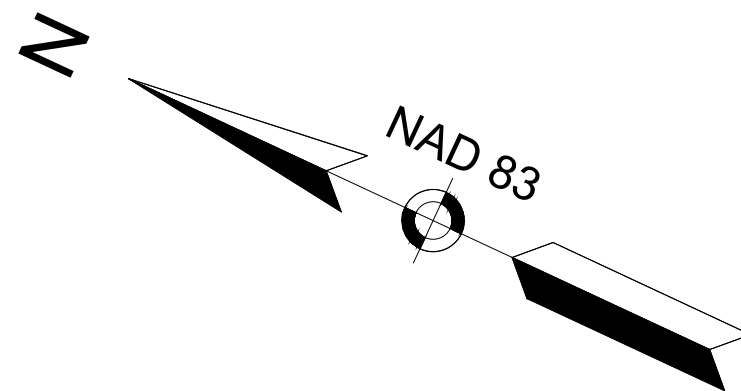
NONE

NONE

SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	16	44
PROJECT FILE NO.		612080	

CONSTRUCTION PLANS
SHEET 3 OF 5



CONTINUED ON
SHEET NO. 15

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

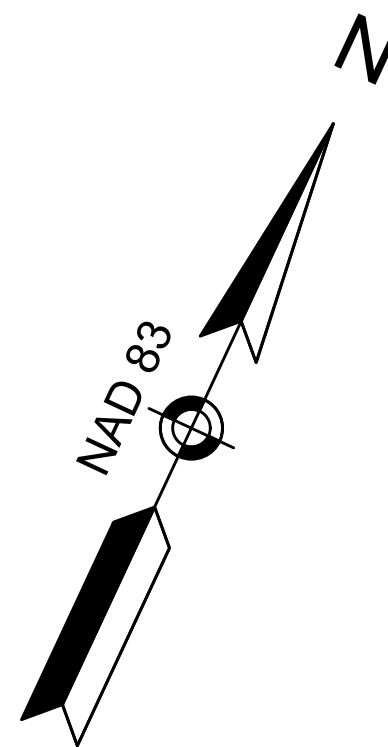
DRAINAGE DETAILS

NONE

SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL

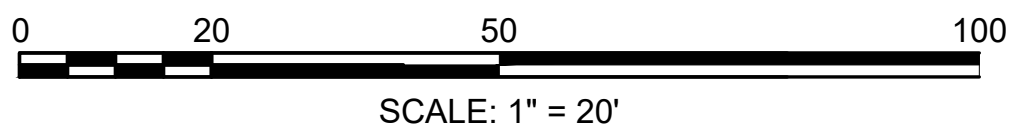
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	17	44
PROJECT FILE NO.		612080	

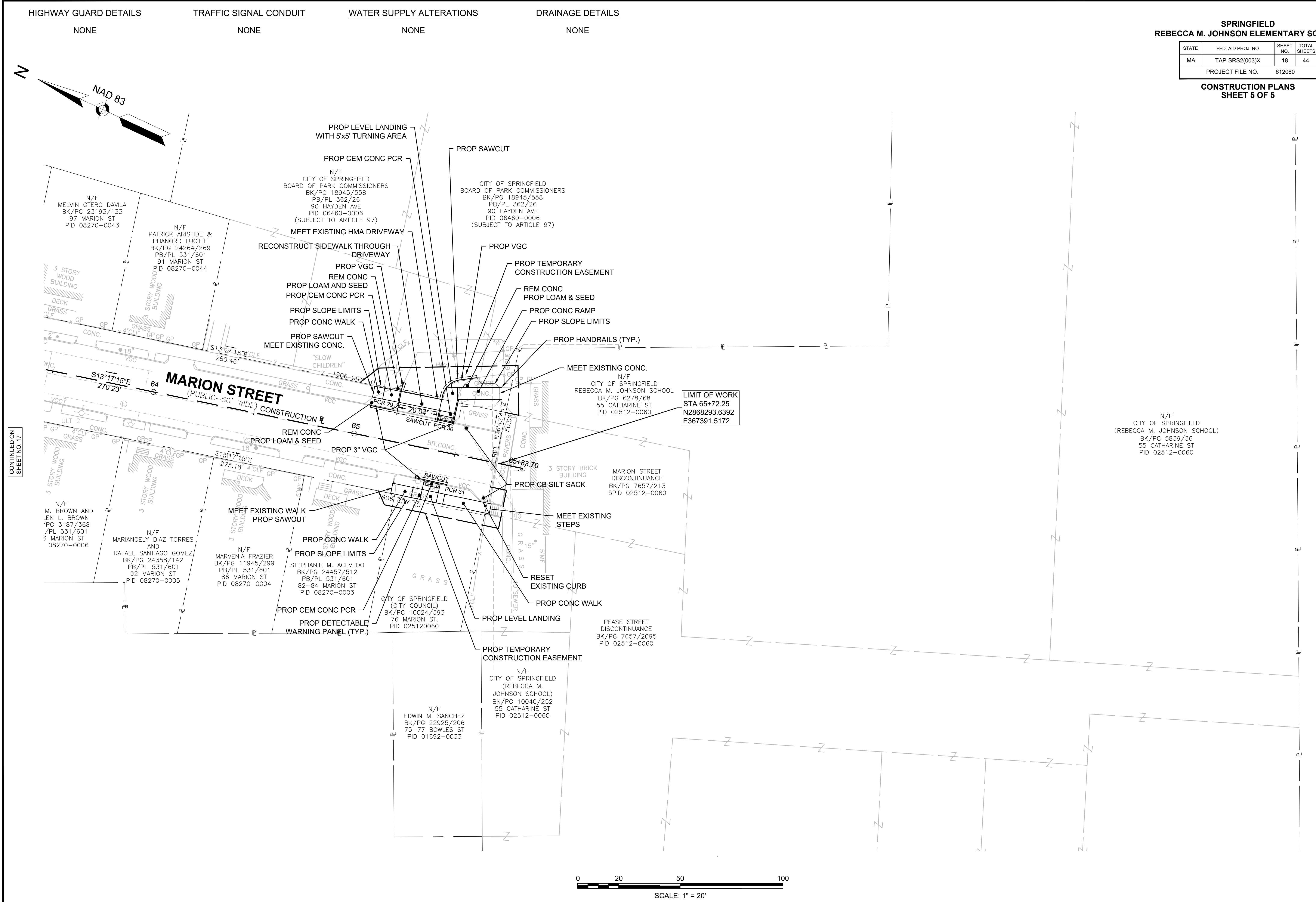
CONSTRUCTION PLANS
SHEET 4 OF 5



CONTINUED ON
SHEET NO. 15

CONTINUED ON
SHEET NO. 18

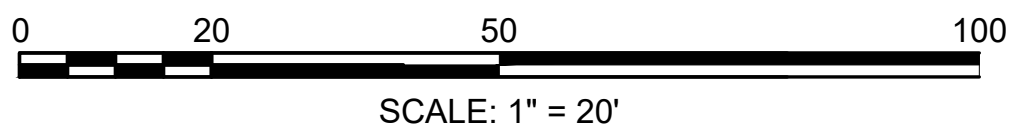
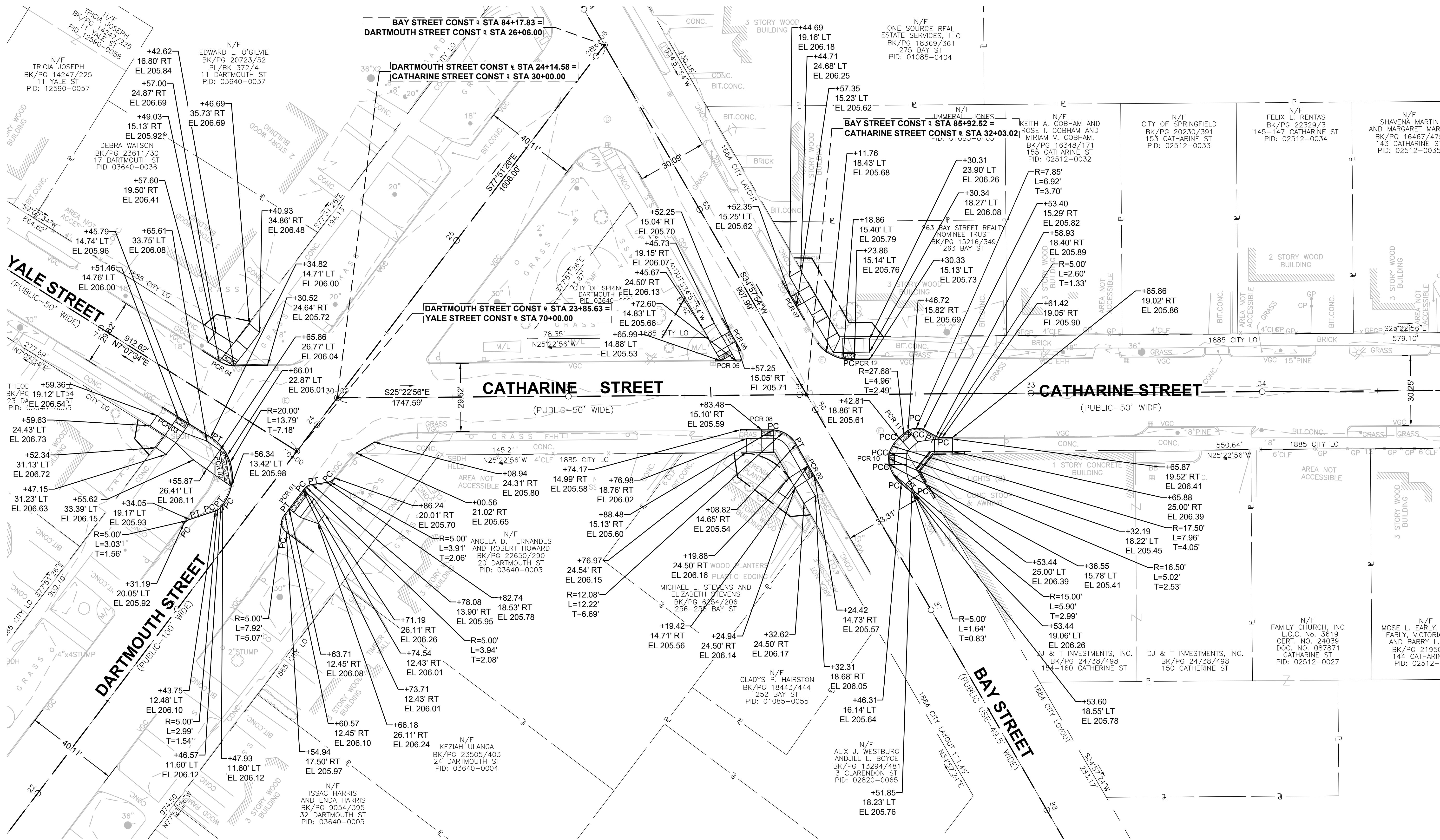




SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	19	44
PROJECT FILE NO.		612080	

CURB TIE AND GRADING PLANS
SHEET 1 OF 5

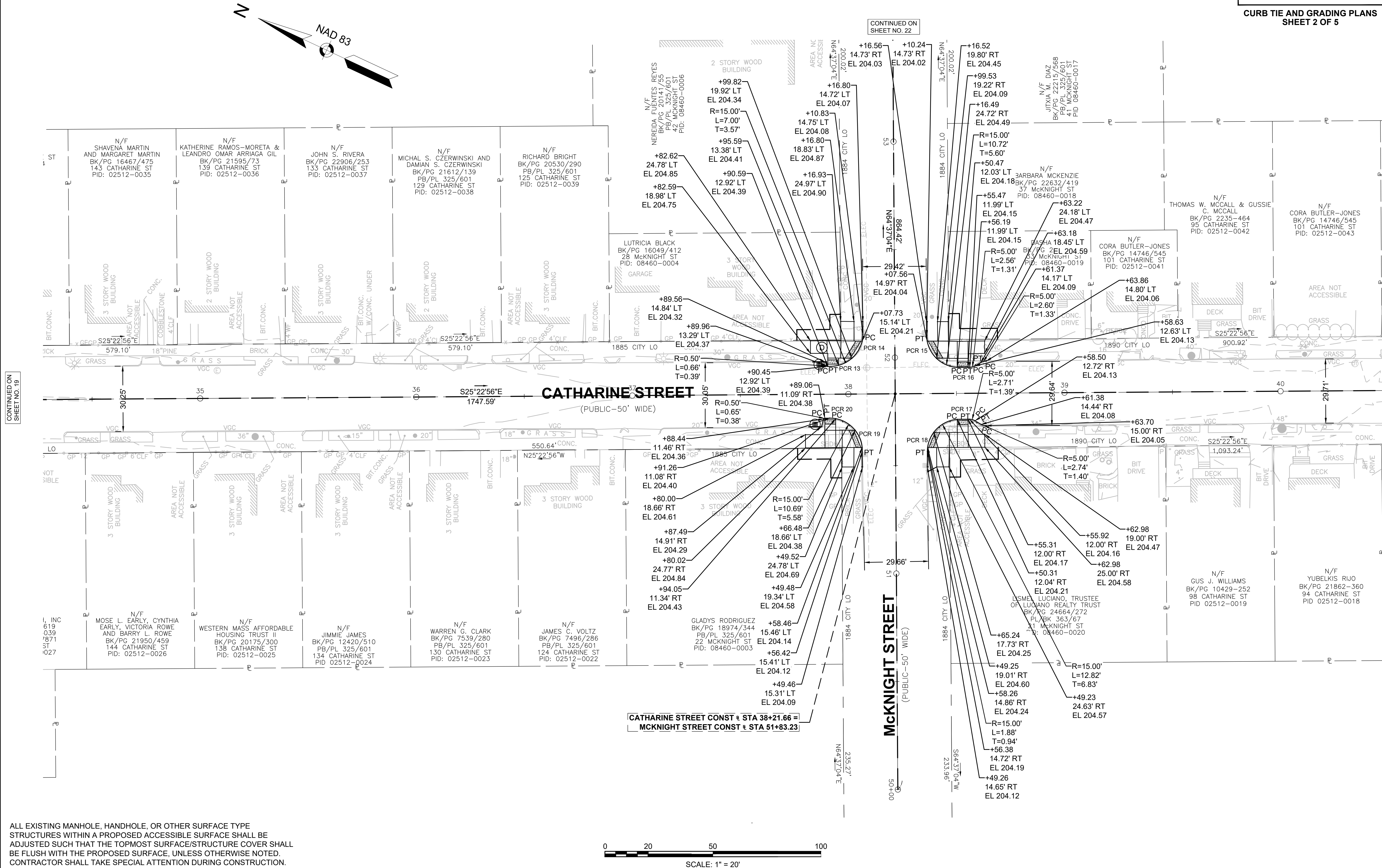


CONTINUED ON
SHEET NO. 20

SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	20	44
PROJECT FILE NO.		612080	

CURB TIE AND GRADING PLANS
SHEET 2 OF 5

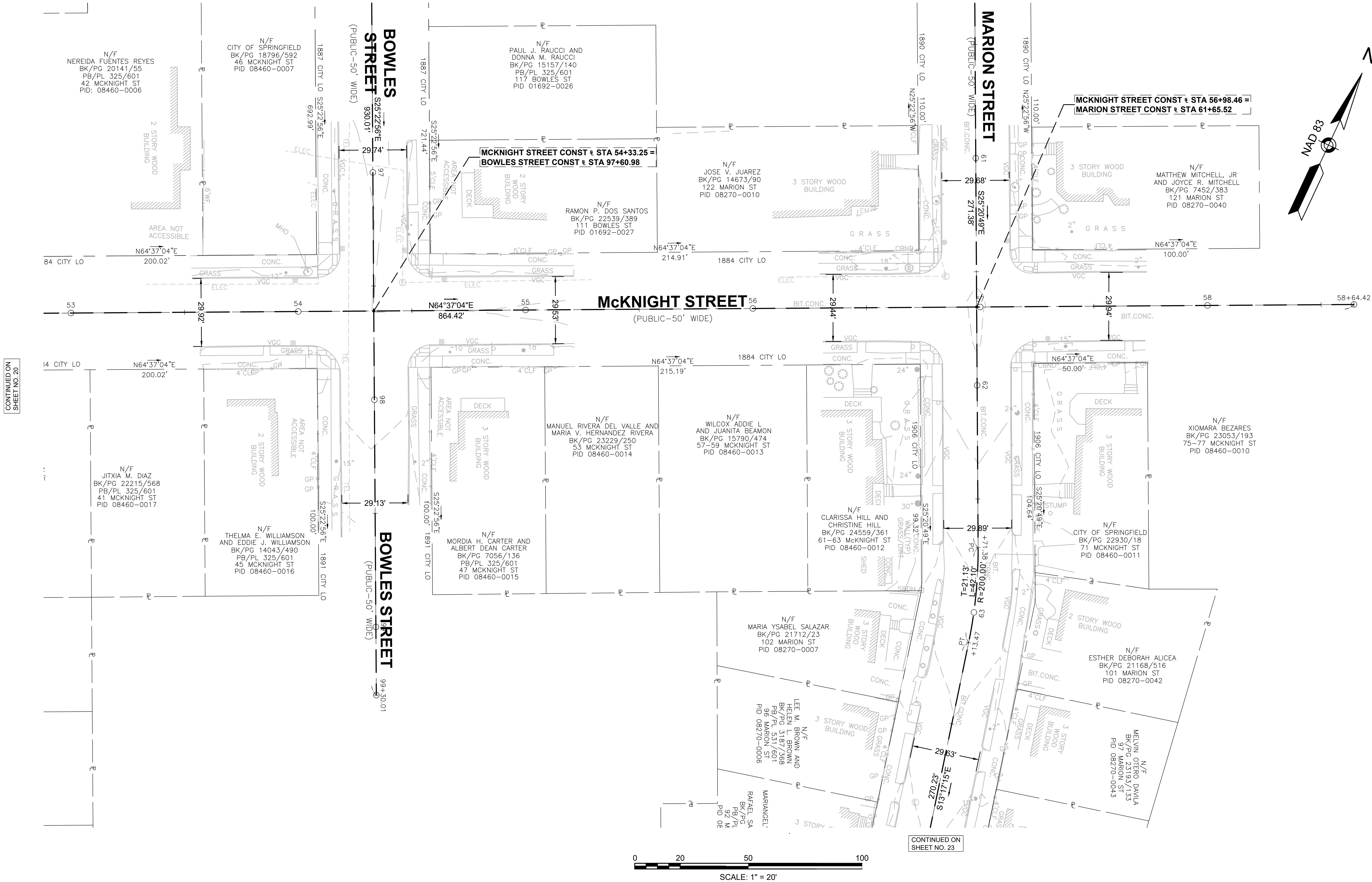
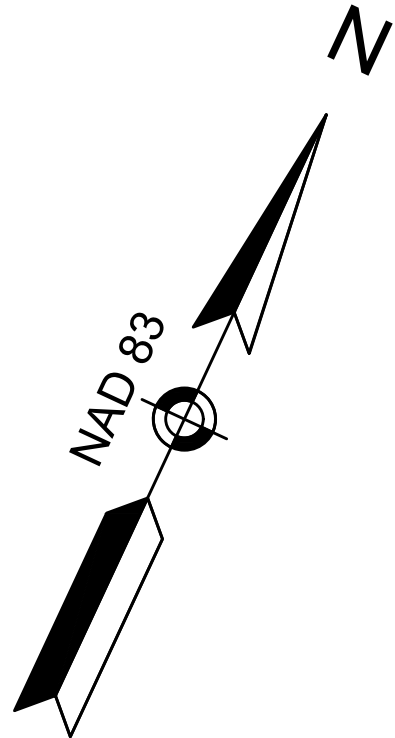


ALL EXISTING MANHOLE, HANDHOLE, OR OTHER SURFACE TYPE STRUCTURES WITHIN A PROPOSED ACCESSIBLE SURFACE SHALL BE ADJUSTED SUCH THAT THE TOPMOST SURFACE/STRUCTURE COVER SHALL BE FLUSH WITH THE PROPOSED SURFACE, UNLESS OTHERWISE NOTED. CONTRACTOR SHALL TAKE SPECIAL ATTENTION DURING CONSTRUCTION.

SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	22	44
PROJECT FILE NO.		612080	

CURB TIE AND GRADING PLANS
SHEET 4 OF 5



CONTINUED ON
SHEET NO. 20

CONTINUED ON
SHEET NO. 23

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	23	44
PROJECT FILE NO.		612080	



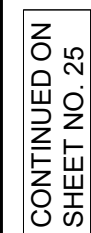
612080_HD(SIGN & PAVEMENT).DWG Plotted on 4-Jun-2025 4:33 PM



CONTINUED ON
SHEET NO. 26

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	26	44
PROJECT FILE NO.		612080	

A diagram showing a line of sight from a point labeled "NAD 83" to a point labeled "N". The line of sight is represented by a double-headed arrow. The point "N" is at the top left, and the point "NAD 83" is at the bottom right. The line of sight is labeled "NAD 83" near the "NAD 83" point.



CONTINUED ON
SHEET NO. 27

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	27	44
PROJECT FILE NO.		612080	



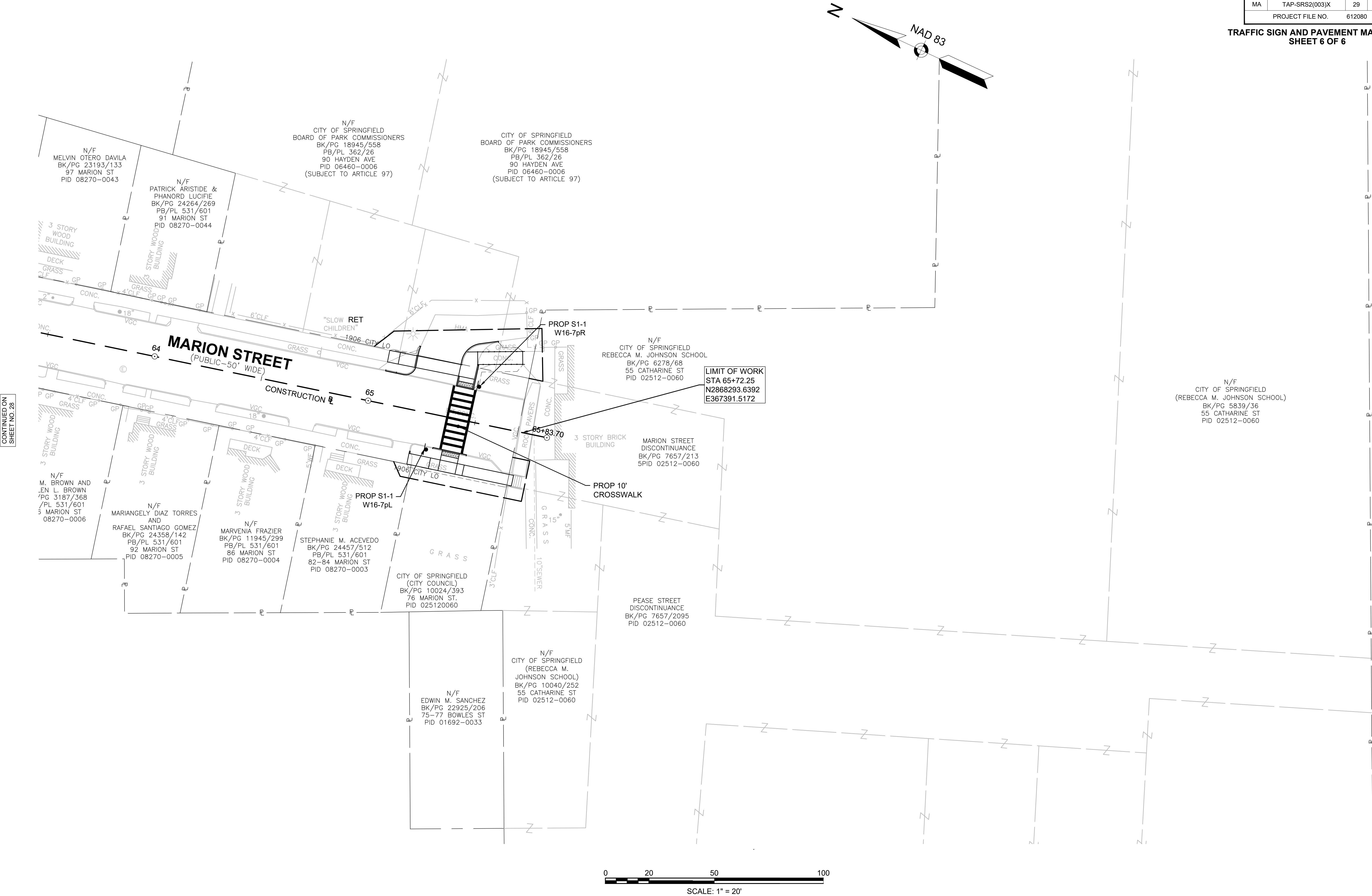
0 20 50 100

SCALE: 1" = 20'

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	28	44
PROJECT FILE NO.		612080	

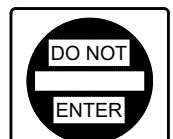


CONTINUED ON
SHEET NO. 29



CONTINUED ON
SHEET NO. 28

TRAFFIC SIGN SUMMARY

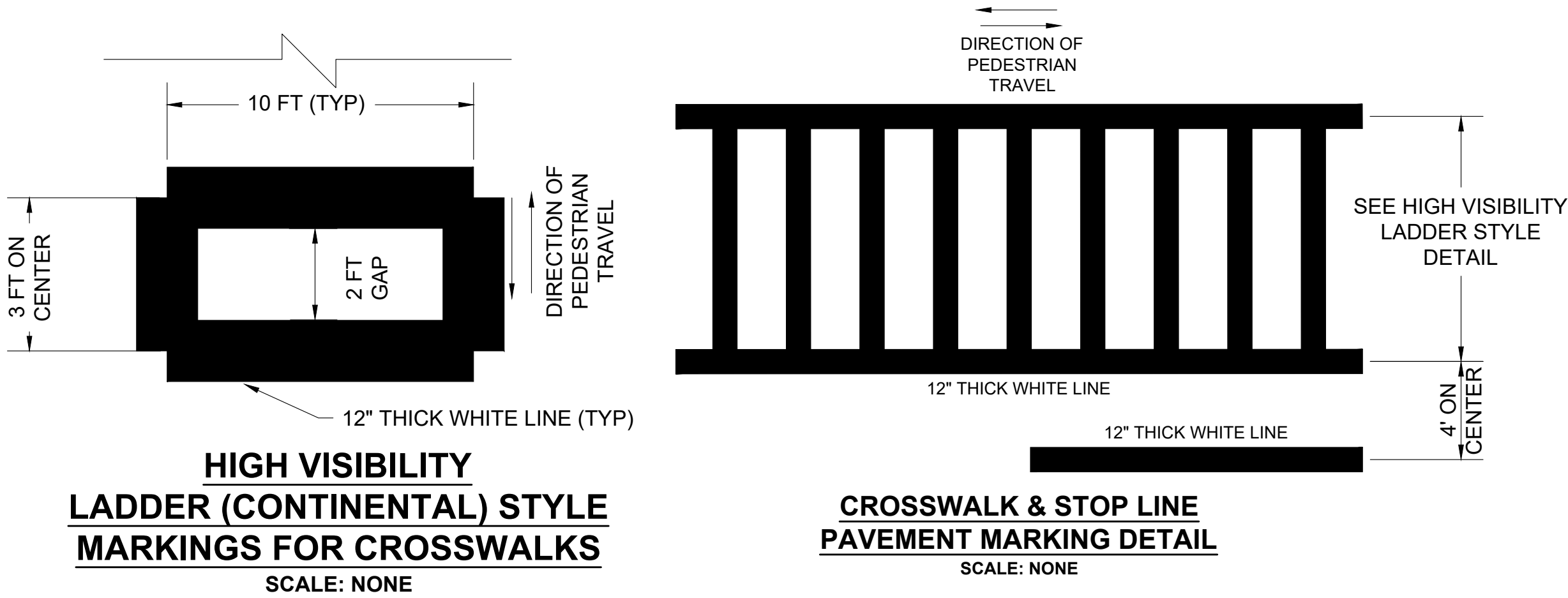
IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK- GROUND	LEGEND	BORDER			
R1-1	48	48		MUTCD STND	MUTCD STND	MUTCD STND	1	RED	WHITE	WHITE	P5 (1)	16.00	16.00
R1-3P	18	6		MUTCD STND	MUTCD STND	MUTCD STND	4	RED	WHITE	WHITE	MOUNT W/ R1-1	0.75	3.00
R5-1	30	30		MUTCD STND	MUTCD STND	MUTCD STND	1	RED	WHITE	WHITE	MOUNT W/ R1-1	6.25	6.25
R7-1	12	18		MUTCD STND	MUTCD STND	MUTCD STND	4	WHITE	RED	RED	P5 (2)	1.50	6.00
R7-201aP	12	6		MUTCD STND	MUTCD STND	MUTCD STND	4	WHITE	RED	RED	MOUNT W/ R7-1	0.50	2.00
R10-6	24	36		MUTCD STND	MUTCD STND	MUTCD STND	4	WHITE	BLACK	BLACK	P5 (4)	6.00	24.00
R10-25	9	12		MUTCD STND	MUTCD STND	MUTCD STND	6	WHITE	BLACK	BLACK	MOUNT ON RRFB ASSEMBLY	0.75	4.50
R10-11	24	30		MUTCD STND	MUTCD STND	MUTCD STND	4	WHITE	BLACK	BLACK	MOUNT W/ R10-6	5.00	20.00
S1-1	36	36		MUTCD STND	MUTCD STND	MUTCD STND	2	FLUORES- CENT YELLOW GREEN	BLACK	BLACK	P5 (2)	9.00	18.00
S1-1 (RRFB)	36	36		MUTCD STND	MUTCD STND	MUTCD STND	12	FLUORES- CENT YELLOW GREEN	BLACK	BLACK	(6) MOUNT ON RRFB ASSEMBLY	9.00	90.00
S5-1	24	48		MUTCD STND	MUTCD STND	MUTCD STND	2	TOP: FLUORES- CENT YELLOW GREEN BOTTOM: WHITE	BLACK	BLACK	(2) MOUNT ON FLASHING BEACON ASSEMBLY	8.00	16.00
S5-2	24	36		MUTCD STND	MUTCD STND	MUTCD STND	2	WHITE	BLACK	BLACK	P5 (2)	6.00	12.00
W16-7pL	24	12		MUTCD STND	MUTCD STND	MUTCD STND	1	FLUORES- CENT YELLOW GREEN	BLACK	BLACK	MOUNT W/ S1-1	2.00	2.00
W16-7pR	24	12		MUTCD STND	MUTCD STND	MUTCD STND	1	FLUORES- CENT YELLOW GREEN	BLACK	BLACK	MOUNT W/ S1-1	2.00	2.00
W16-7pL (RRFB)	24	12		MUTCD STND	MUTCD STND	MUTCD STND	6	FLUORES- CENT YELLOW GREEN	BLACK	BLACK	MOUNT W/ S1-1 ON RRFB	2.00	12.00
W16-7pR (RRFB)	24	12		MUTCD STND	MUTCD STND	MUTCD STND	6	FLUORES- CENT YELLOW GREEN	BLACK	BLACK	MOUNT W/ S1-1 ON RRFB	2.00	12.00
MA-D2-1	60	18		SEE DETAIL	SEE DETAIL	NA	2	GREEN	WHITE SERIES D	WHITE	POSTED ON MAST ARM	7.50	15.00
MA-D2-1A	42	18		SEE DETAIL	SEE DETAIL	NA	2	GREEN	WHITE SERIES D	WHITE	POSTED ON MAST ARM	5.25	10.50

TOTAL THIS TABLE (LESS RRFB SIGNAGE & STREET NAME SIGNS) = 127.25 SF

SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	30	44
PROJECT FILE NO.		612080	

TRAFFIC SIGN SUMMARY
SHEET 1 OF 2

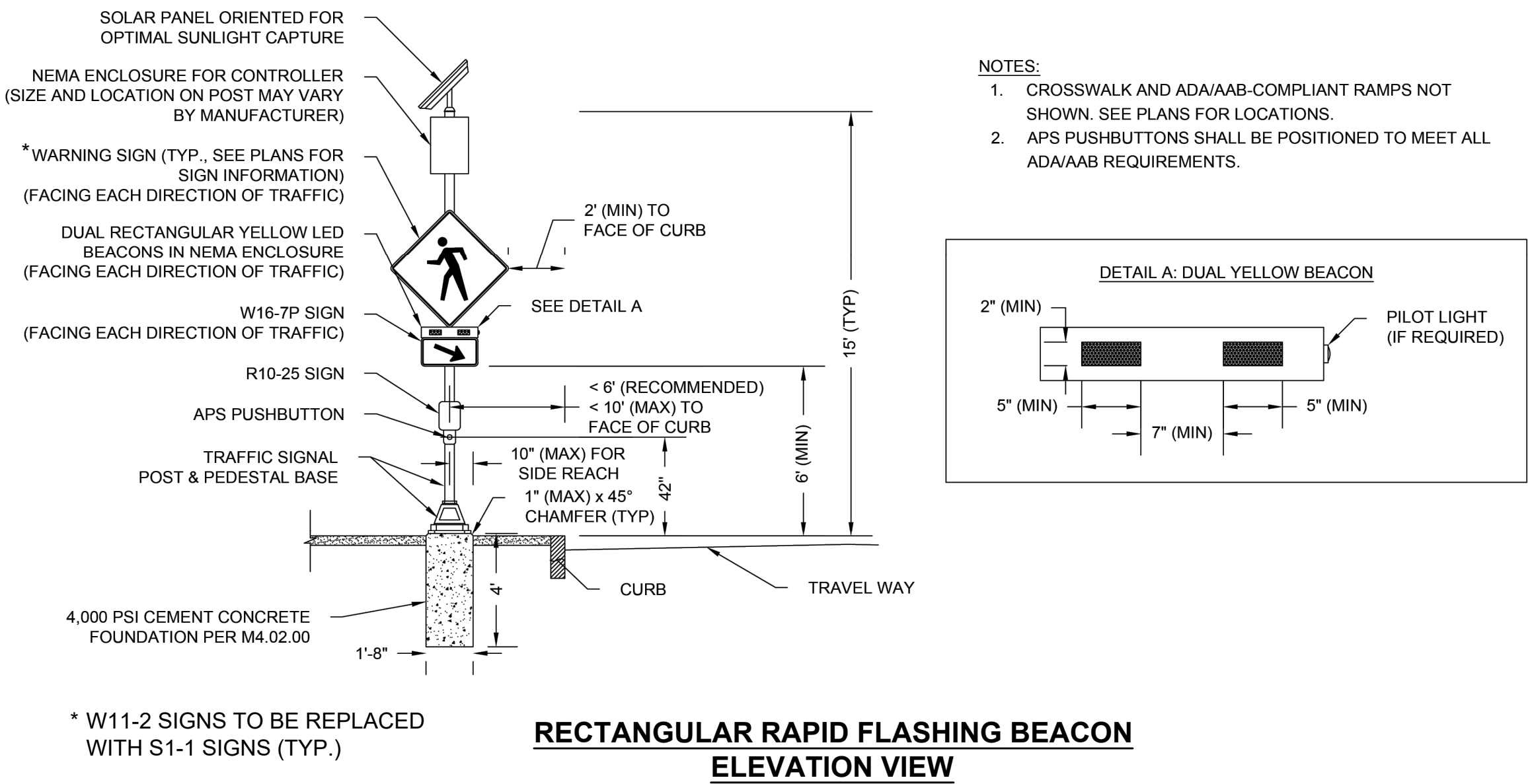


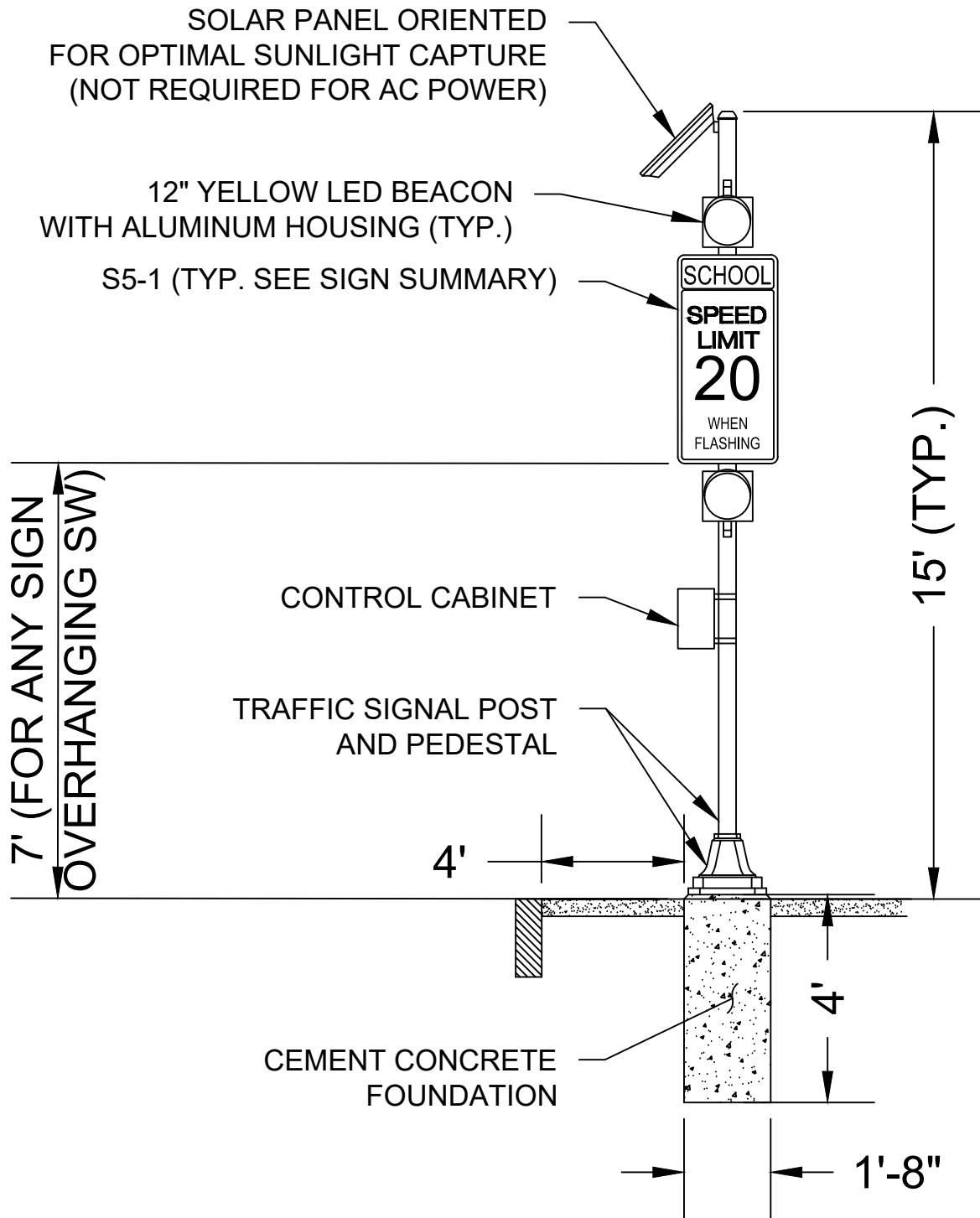
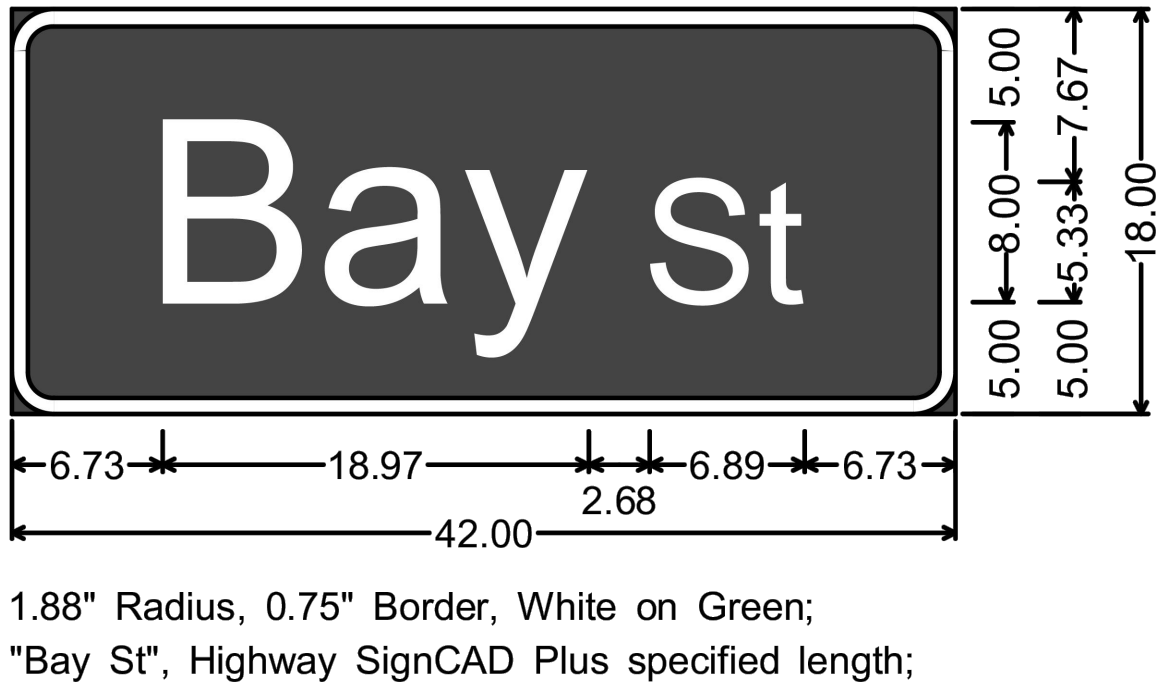
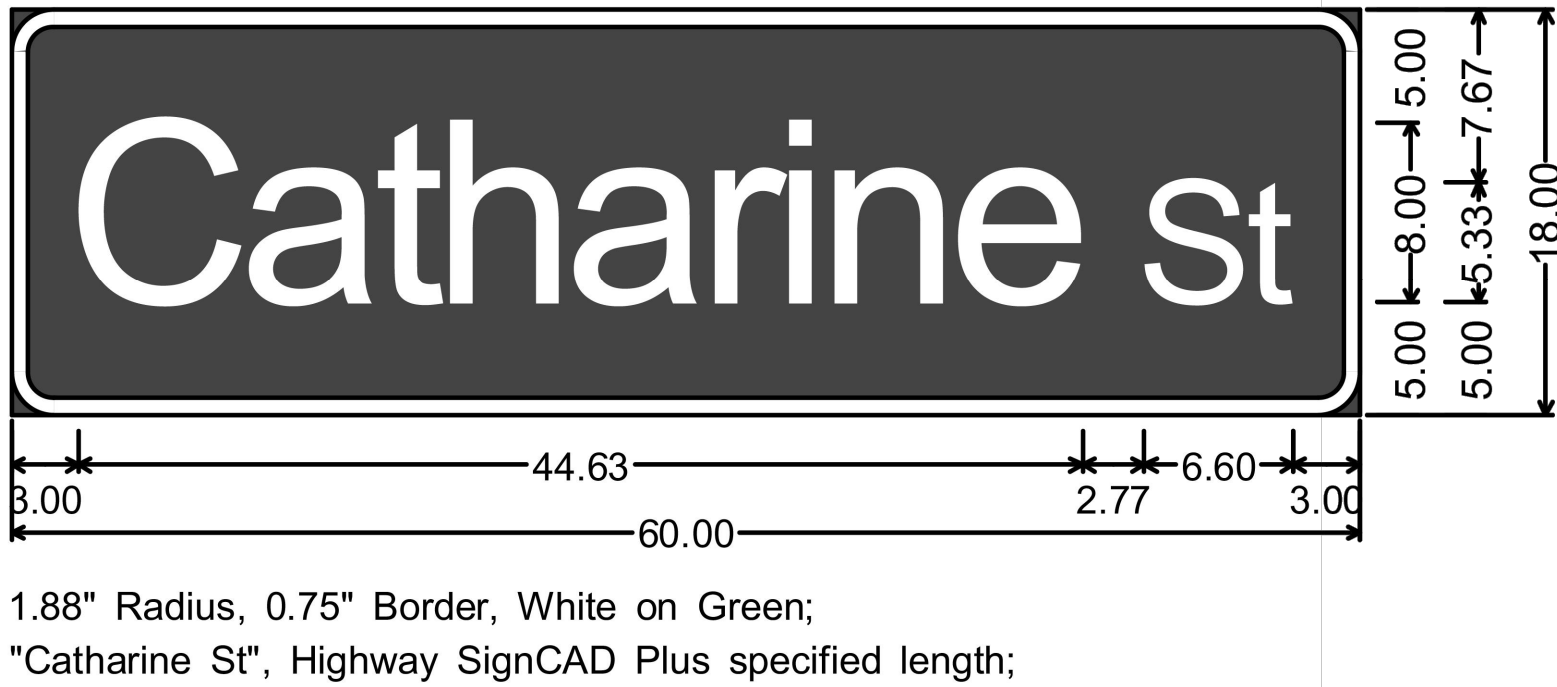
SIGN NOTES:

- ALL WARNING, REGULATORY AND ROUTE MARKERS SHALL BE FABRICATED WITH HIGH INTENSITY ENCAPSULATED LENS REFLECTIVE SHEETING (SEE SECTION M9.30.0) TYPE III OR IV.
- ALL SIGNS NOTED AS "(R&R)" SHALL BE MOUNTED ON NEW P5 POSTS OR AS OTHERWISE INDICATED.
- ALL P5 POSTS SHALL BE TELESCOPIC BREAKAWAY RECTANGULAR TYPE POSTS.
- QUANTITIES OF SIGNS SHOWN ON THIS SHEET MAY DIFFER FROM THE PAVEMENT MARKING AND SIGNING PLANS. WHERE DIFFERENCES OCCUR, THE PAVEMENT MARKINGS AND SIGNING PLANS SHALL PREVAIL.
- SEE THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE 2022 MASSACHUSETTS AMENDMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE 2012 SUPPLEMENT TO THE 2004 EDITION OF THE STANDARD HIGHWAY SIGNS AND MASSDOT STANDARD SPECIFICATIONS SECTION M 9.30.0 TYPE III FOR LATEST SPECIFICATIONS ON TEXT, DIMENSIONS, AND COLOR.

LOCATION: CATHARINE STREET				
STATION	MOVEMENT	DISTANCE BETWEEN PUSHBUTTON AND FURTHEST CURB	RRFB WALK TIME (SECS)	PROPOSED RRFB WALK TIME (SECS)
42+14	RRFB	28	8.0	10.0
45+25	RRFB	30	8.6	10.0

LOCATION: DARTMOUTH STREET				
STATION	MOVEMENT	DISTANCE BETWEEN PUSHBUTTON AND FURTHEST CURB	RRFB WALK TIME (SECS)	PROPOSED RRFB WALK TIME (SECS)
23+55	RRFB	37	10.6	15.0





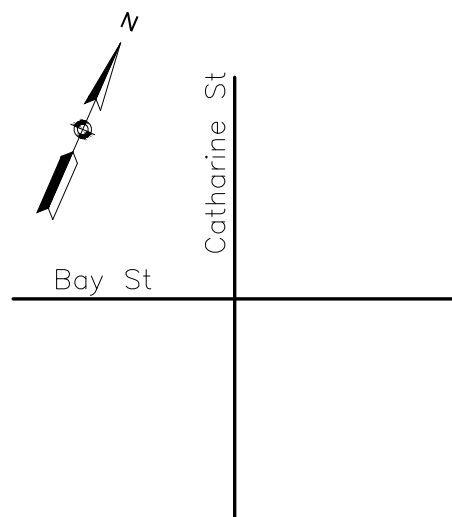
- NOTES
- REFER TO THE SIGN SUMMARY TABLE FOR SIGN DIMENSIONS
 - ALL CONDUIT, PULL BOXES, SERVICE CONNECTIONS, AND EQUIPMENT GROUNDING REQUIRED FOR AC POWER IS NOT SHOWN IN THIS DETAIL AND SHALL BE PAID FOR SEPARATELY UNDER THEIR RESPECTIVE PAY ITEMS.
- MAJOR ITEMS LIST
- CEMENT CONCRETE FOUNDATION PER 812.30.1
 - 15' TRAFFIC SIGNAL POSTS & PEDESTAL
 - SOLAR PANEL SYSTEM (NOT REQUIRED FOR AC POWER)
 - BATTERY SYSTEM
 - LOCKABLE CONTROL CABINET
 - STANDARD OR DELUXE TIMER
 - 12" YELLOW LED BEACONS
- PLUS ALL MOUNTING AND SUPPORTING HARDWARE AND WIRING NECESSARY TO COMPLETE A WORKING SYSTEM

DOUBLE FLASHING BEACON
SCHOOL ZONE SYSTEM
SCALE: NONE

SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	33	44
PROJECT FILE NO.		612080	

TRAFFIC SIGNAL DATA
INTERSECTION OF CATHARINE ST. AND BAY ST



Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 7	Ø 8	Ø 9 (PED)

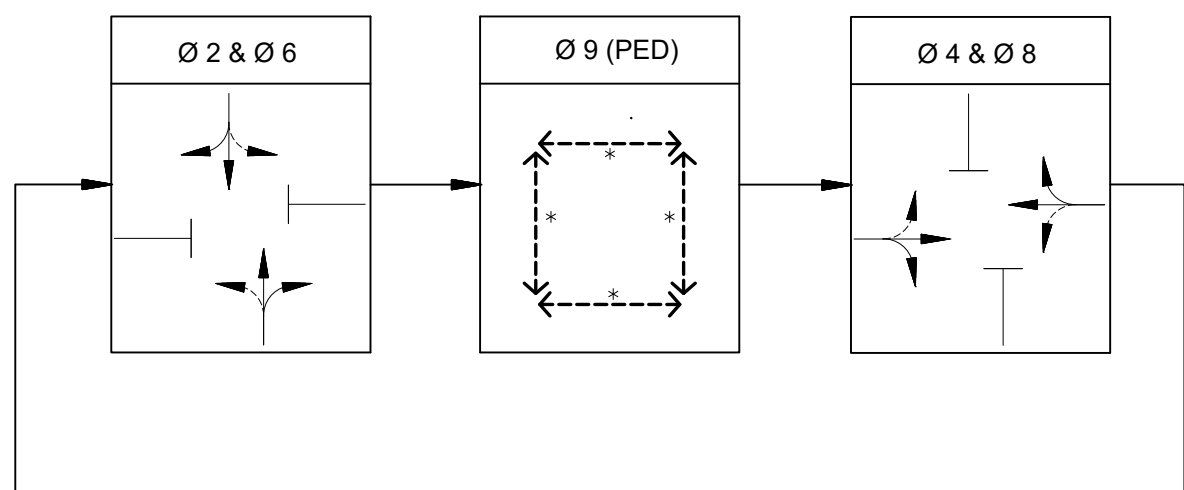
SEQUENCE AND TIMING FOR FULL ACTUATED CONTROL (ISOLATED)																														
STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	FLASH OPER.
CATHARINE STREET	NB	A,B,I				G	Y	R				R	R	R				R	R	R				R	R	R	R	R	R	FR
CATHARINE STREET	SB	C,D				R	R	R				R	R	R				G	Y	R				R	R	R	R	R	R	FR
BAY STREET	EB	E,F				R	R	R				R	R	R				R	R	R				G	Y	R	R	R	R	FY
BAY STREET	WB	G,H				R	R	R				G	Y	R				R	R	R				R	R	R	R	R	R	FY
PEDESTRIAN	ALL	P1—P8				DW	DW	DW				DW	DW	DW				DW	DW	DW				DW	DW	DW	W	FDW	DW	
TIMING IN SECONDS																														
MINIMUM GREEN (INITIAL)						5						5						5						5						EMERGENCY ONLY
PASSAGE TIME (VEHICLE)						2						2						2						2						
MAXIMUM 1 (FREE OPERATION)						26						23						26						23						
YELLOW CLEARANCE							4						4						4						4					
RED CLEARANCE								2						2						2						2			4	
WALK (W)																											7			
PEDESTRIAN CLEARANCE																													8	
RECALL						OFF					SOFT					OFF					SOFT					NONE				
MEMORY						NON—LOCK					NON—LOCK					NON—LOCK					NON—LOCK					NON—LOCK				

* UPON PEDESTRIAN PUSHBUTTON ACTUATION ONLY

PRE-EMPTION PHASING & PRIORITY

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

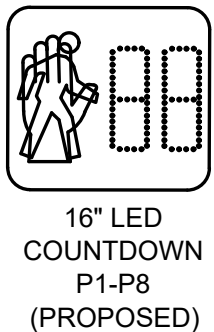
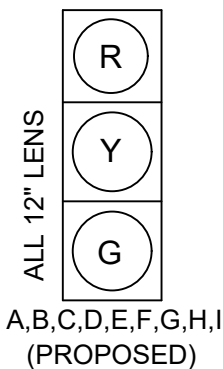
PREFERENTIAL PHASING SEQUENCE



NOTE:

1. ANY PHASE OR PHASE COMBINATION NOT CALLED SHALL BE SKIPPED.
* UPON PEDESTRIAN PUSHBUTTON ACTUATION ONLY.

SIGNAL IDENTIFICATION



- NOTE:**
1. ALL SIGNALS SHALL HAVE 12" LED WITH 5" FLAT BACK PLATES AND 3" YELLOW RETROREFLECTIVE BORDERS.
 2. ALL PROPOSED SIGNALS SHALL HAVE CUT AWAY TUNNEL VISORS.

PROPOSED MAST ARM FOUNDATION TABLE

PROPOSED MAST ARM FOUNDATION TABLE							
LOCATIONS	MAST ARM	MAST ARM	SOIL TYPE	FOUNDATION DEPTH	DIAMETER	VERTICAL BARS	TIE BARS
31+61.28, 18.91 LT	20'	1	DRY SAND (LOOSE)	8'-6"	3'-6"	18 - #8	#5 @ 12
32+87.91 , 26.75 RT	25'	2	DRY SAND (LOOSE)	9'-0"	3'-6"	18 - #8	#5 @ 12
32+11.88, 22.40 LT	20'	3	DRY SAND (LOOSE)	8'-6"	3'-6"	18 - #8	#5 @ 12
32+43.29, 23.21 RT	20'	4	DRY SAND (LOOSE)	8'-6"	3'-6"	18 - #8	#5 @ 12

		MAJOR ITEMS REQUIRED
PAY ITEM	QUANTITY	ITEM
816.01	1	ATC SIGNAL CONTROLLER (PER MASSDOT SPECIFICATION M10.02.0) W/VIDEO DETECTION SYSTEM AND FULL INPUT AND OUTPUT SUPPRESSION PACKAGE IN ATC P4 CABINET (PER MASSDOT SPECIFICATIONS M10.01.1) WITH FOUNDATION
	1	SERVICE UNDERGROUND CONNECTION
	9	SIGNAL HEAD, 3—SECTION 12" LED LENS WITH 5" LOUVERED BACK PLATE
	8	PEDESTRIAN SIGNAL HEAD L.E.D. WITH COUNTDOWN TIMER AND CAP VISOR
	8	APS PUSHBUTTON & SIGN W/AUDIBLE & VISIBLE INDICATOR, VIBRO—TACTILE ARROW AND SPEED—WALK MESSAGE
	2	8' TRAFFIC SIGNAL POST, BASE, & FDN.
	4	VIDEO DETECTION CAMERA WITH MOUNTING HARDWARE
	4	2—CHANNEL VIDEO DETECTION PROCESSOR
	3	20FT TYPE II GALV. STEEL MAST ARM ASSEMBLY, BASE AND FDN
	1	25FT TYPE II GALV. STEEL MAST ARM ASSEMBLY, BASE AND FDN
	1	EMERGENCY PREEMPTION OPTICAL DETECTOR
	4	EMERGENCY PREEMPTION PHASE SELECTOR (4—CHANNEL) & RACK
	1	EMERGENCY PREEMPTION STROBE (WHITE LENS)
804.3	238'	3 IN. SCHEDULE 80 PVC CONDUIT
811.22	3	HANDHOLE 12" X 24"
811.31	3	PULLBOX 12" X 12"

Plus all necessary duct, cable, labor, miscellaneous material and equipment to complete the installation and have a complete operational traffic control signal

VIDEO DETECTOR TABLE

ZONE	ZONE SIZE	CAMERA	DELAY/ EXTEND	Ø CALL	Ø EXTEND
	6'x50'	V1	0/0	Ø 2	Ø 2
	6'x50'	V2	0/0	Ø 4	Ø 4
	6'x50'	V3	0/0	Ø 6	Ø 6
	6'x50'	V4	0/0	Ø 8	Ø 8

Traffic Signal Pedestrian Clearance Intervals

Flashing Don't Walk		$FDW = d / 3.5fps - (Y + R)$
Where	d =	Length of crossing from curb to curb
	fps =	feet per second
	Y =	Yellow Clearance Interval
	R =	Red Clearance Interval
Note:	Yellow + Red shall be at least 3 seconds to be used as required buffer	
WALK		$W = w / 3fps - (FDW + Y \text{ and/or } R)$
Where	w =	Greatest distance between push button and farside curb
	fps =	feet per second
	Y =	Yellow Clearance Interval
	R =	Red Clearance Interval
Notes:	W shall be a minimum of 5 seconds, preferably 7 seconds. FDW shall not flash thru Y or R, 7 seconds minimum	

Location: Route 138/79 at Central St

[illegible]

LOCATION: CATHARINE STREET

STATION	MOVEMENT	DISTANCE BETWEEN PUSHBUTTON AND FURTHEST CURB	RRFB WALK TIME (SECS)	PROPOSED RRFB WALK TIME (SECS)
42+14	RRFB	28	8.0	10.0
45+25	RRFB	30	8.6	10.0

LOCATION: DARTMOUTH STREET

STATION	MOVEMENT	DISTANCE BETWEEN PUSHBUTTON AND FURTHEST CURB	RRFB WALK TIME (SECS)	PROPOSED RRFB WALK TIME (SECS)
23+55	RRFB	37	10.6	15.0

TEMPORARY TRAFFIC CONTROL SIGN SUMMARY

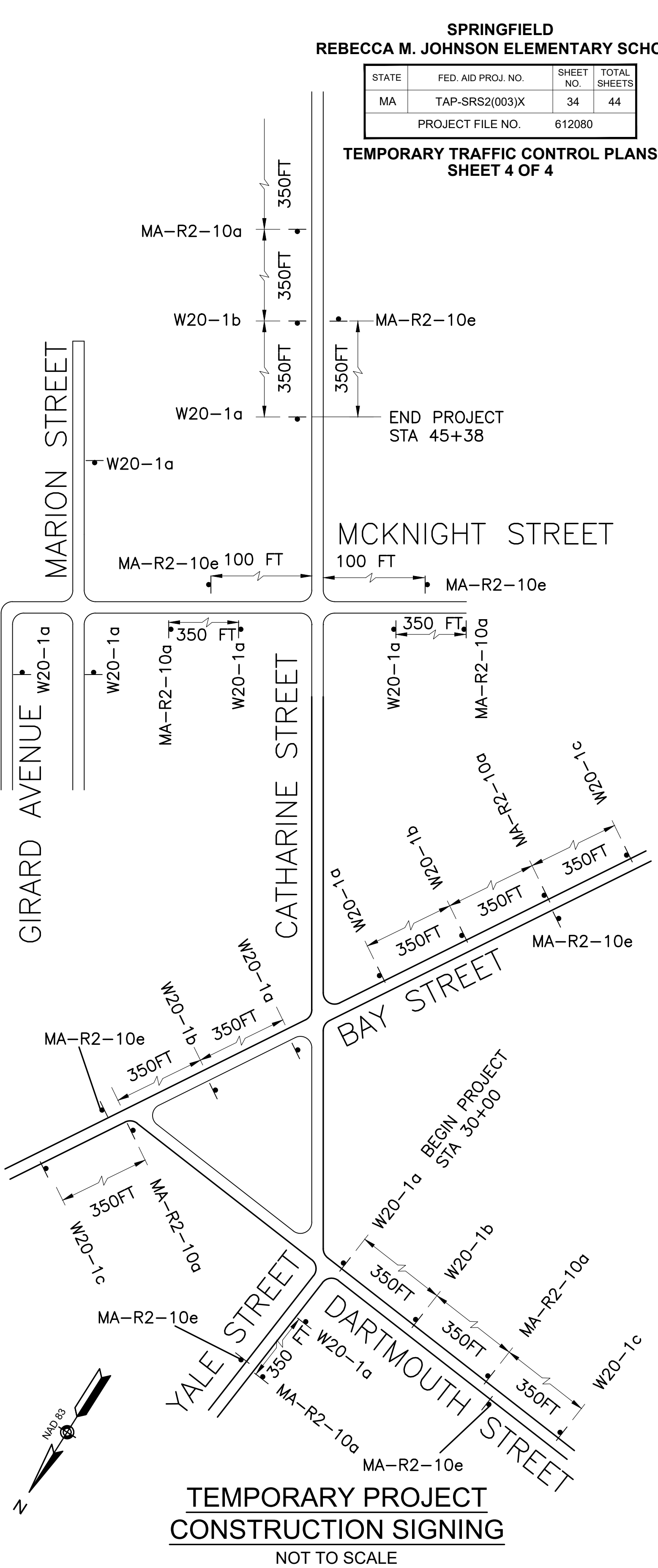
IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSION (in)			NUMBER OF SIGNS REQ'D	COLOR		BORDER	UNIT AREA (sq. ft)	TOTAL AREA (sq. ft)
	WIDTH (IN)	HEIGHT (IN)		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE MKR		BACK- GROUND	LEGEND			
R9-8 (OPTIONAL)	36	18	PEDESTRIAN CROSSWALK	MUTCD STD	MUTCD STD	MUTCD STD	5	WHITE	BLACK	BLACK	4.50	22.50
R9-9	24	12	SIDEWALK CLOSED				5	WHITE	BLACK	BLACK	2.00	10.00
R9-10	24	12	SIDEWALK CLOSED ←→ USE OTHER SIDE				5	WHITE	BLACK	BLACK	2.00	10.00
R9-11aL	24	12	SIDEWALK CLOSED ← CROSS HERE				5	WHITE	BLACK	BLACK	2.00	10.00
R9-11aR	24	12	SIDEWALK CLOSED → CROSS HERE				5	WHITE	BLACK	BLACK	2.00	10.00
W1-4R	36	36					2	FLUO- RESCENT ORANGE	BLACK	BLACK	9.00	18.00
W1-4L	36	36					2	FLUO- RESCENT ORANGE	BLACK	BLACK	9.00	18.00
W5-1	36	36	ROAD NARROWS				2	FLUO- RESCENT ORANGE	BLACK	BLACK	9.00	18.00
W11-2	36	36					5	FLUO- RESCENT YELLOW- GREEN	BLACK	BLACK	9.00	45.00
W16-9p	24	12	AHEAD				5	FLUO- RESCENT YELLOW- GREEN	BLACK	BLACK	2.00	10.00
W16-7pL	24	12					5	FLUO- RESCENT YELLOW- GREEN	BLACK	BLACK	2.00	10.00

NOTES:

- ALL WARNING, REGULATORY AND ROUTE MARKERS SHALL BE FABRICATED WITH HIGH INTENSITY ENCAPSULATED LENS REFLECTIVE SHEETING (SEE SECTION M9.30.0) TYPE III OR IV.
- ALL SIGNS NOTED AS "(R&R)" SHALL BE MOUNTED ON NEW POSTS OR AS OTHERWISE INDICATED.
- QUANTITIES OF SIGNS SHOWN ON THIS SHEET MAY DIFFER FROM THE PAVEMENT MARKING AND SIGNING PLANS. WHERE DIFFERENCES OCCUR, THE PAVEMENT MARKINGS AND SIGNING PLANS SHALL PREVAIL.
- TEMPORARY TRAFFIC CONTROL PLANS SHALL CONFORM TO SUBSECTION 850 OF THE 2025 CONSTRUCTION STANDARD DETAILS.

IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSION (in)			NUMBER OF SIGNS REQ'D	COLOR		BORDER	UNIT AREA (sq. ft)	TOTAL AREA (sq. ft)
	WIDTH (IN)	HEIGHT (IN)		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE MKR		BACK- GROUND	LEGEND			
W20-4	36	36	ONE LANE ROAD 1000 FT	MUTCD STD	MUTCD STD	MUTCD STD	5	FLUO- RESCENT ORANGE	BLACK	BLACK	9.00	45.00
W20-7	36	36					5	FLUO- RESCENT ORANGE	BLACK	BLACK	9.00	45.00
MA-W20-7b	36	36	POLICE OFFICER AHEAD	MASS DOT STD	MASS DOT STD	MASS DOT STD	5	FLUO- RESCENT ORANGE	BLACK	BLACK	9.00	45.00
W21-5	36	36	SHOULDER WORK	MUTCD STD	MUTCD STD	MUTCD STD	2	FLUO- RESCENT ORANGE	BLACK	BLACK	9.00	18.00
MA-R2-10a	48	36	WORK ZONE SPEEDING FINES DOUBLED	MASS DOT STD	MASS DOT STD	MASS DOT STD	7	FLUO- RESCENT ORANGE /WHITE	BLACK	BLACK	12.00	84.00
MA-R2-10e	36	48	END ROAD WORK DOUBLE FINES END	MASS DOT STD	MASS DOT STD	MASS DOT STD	7	FLUO- RESCENT ORANGE /WHITE	BLACK	BLACK	12.00	84.00
W20-1a	36	36	ROAD WORK AHEAD	MUTCD STD	MUTCD STD	MUTCD STD	10	FLUO- RESCENT ORANGE	BLACK	BLACK	9.00	90.00
W20-1b	36	36	ROAD WORK BBB FT				4 WITH "500"	FLUO- RESCENT ORANGE	BLACK	BLACK	9.00	36.00
W20-1c	36	36	ROAD WORK CCC FT				4 WITH "1000"	FLUO- RESCENT ORANGE	BLACK	BLACK	9.00	36.00
W21-5bR	36	36	RIGHT SHOULDER CLOSED AHEAD				2	FLUO- RESCENT ORANGE	BLACK	BLACK	9.00	18.00
W13-1p	24	24	XX M.P.H.				2	FLUO- RESCENT ORANGE	BLACK	BLACK	4.00	8.00

TOTAL AREA = 690.50 SQ. FT.

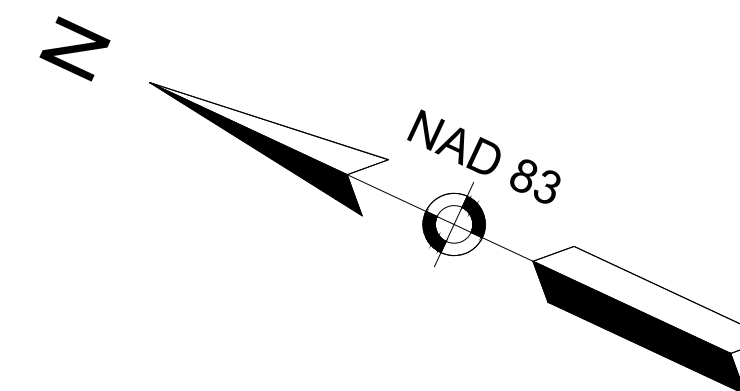


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SEE BELOW

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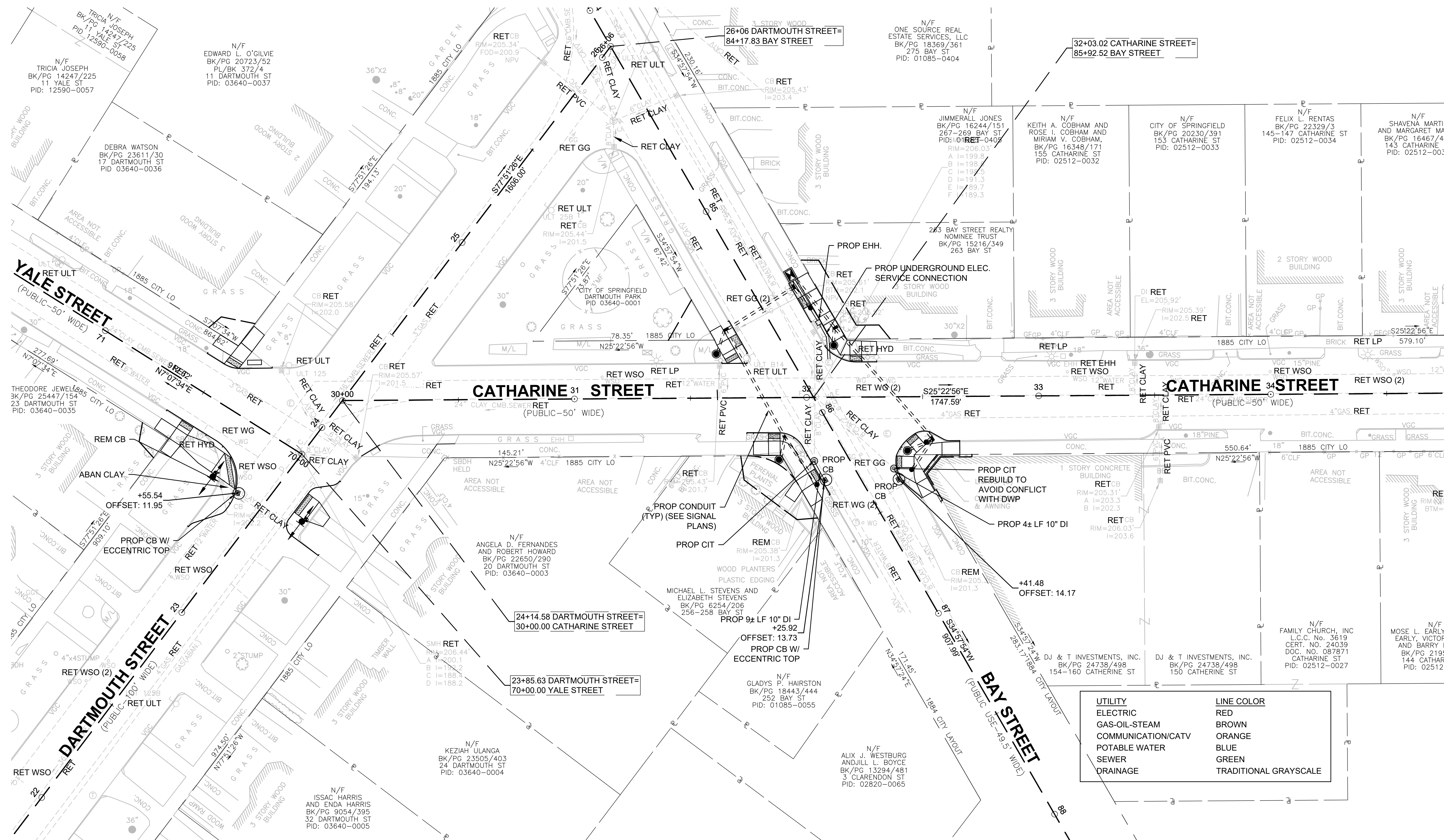
SEE BELOW



SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	35	44
PROJECT FILE NO.		612080	

UTILITY PLANS
SHEET 1 OF 5



*ALL EXISTING MANHOLE, HANDHOLE, OR OTHER SURFACE TYPE STRUCTURES WITHIN A PROPOSED ACCESSIBLE SURFACE SHALL BE ADJUSTED SUCH THAT THE TOPMOST SURFACE/STRUCTURE COVER SHALL BE FLUSH WITH THE PROPOSED SURFACE. UNLESS OTHERWISE NOTED.



CONTINUED ON

HIGHWAY GUARD DETAILS

TRAFFIC SIGNAL CONDUIT

WATER SUPPLY ALTERATIONS

DRAINAGE DETAILS

NONE

NONE

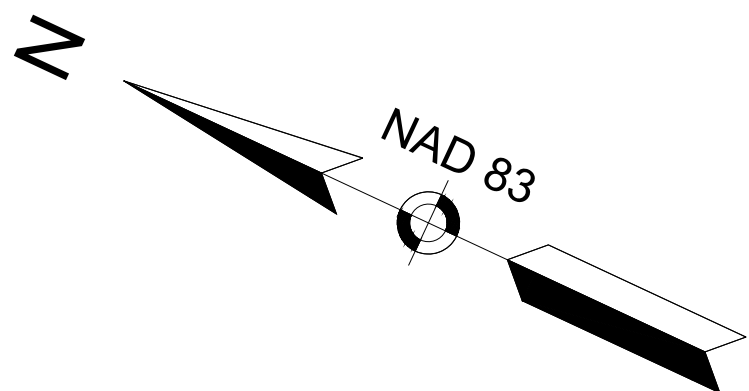
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SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	36	44
PROJECT FILE NO.		612080	

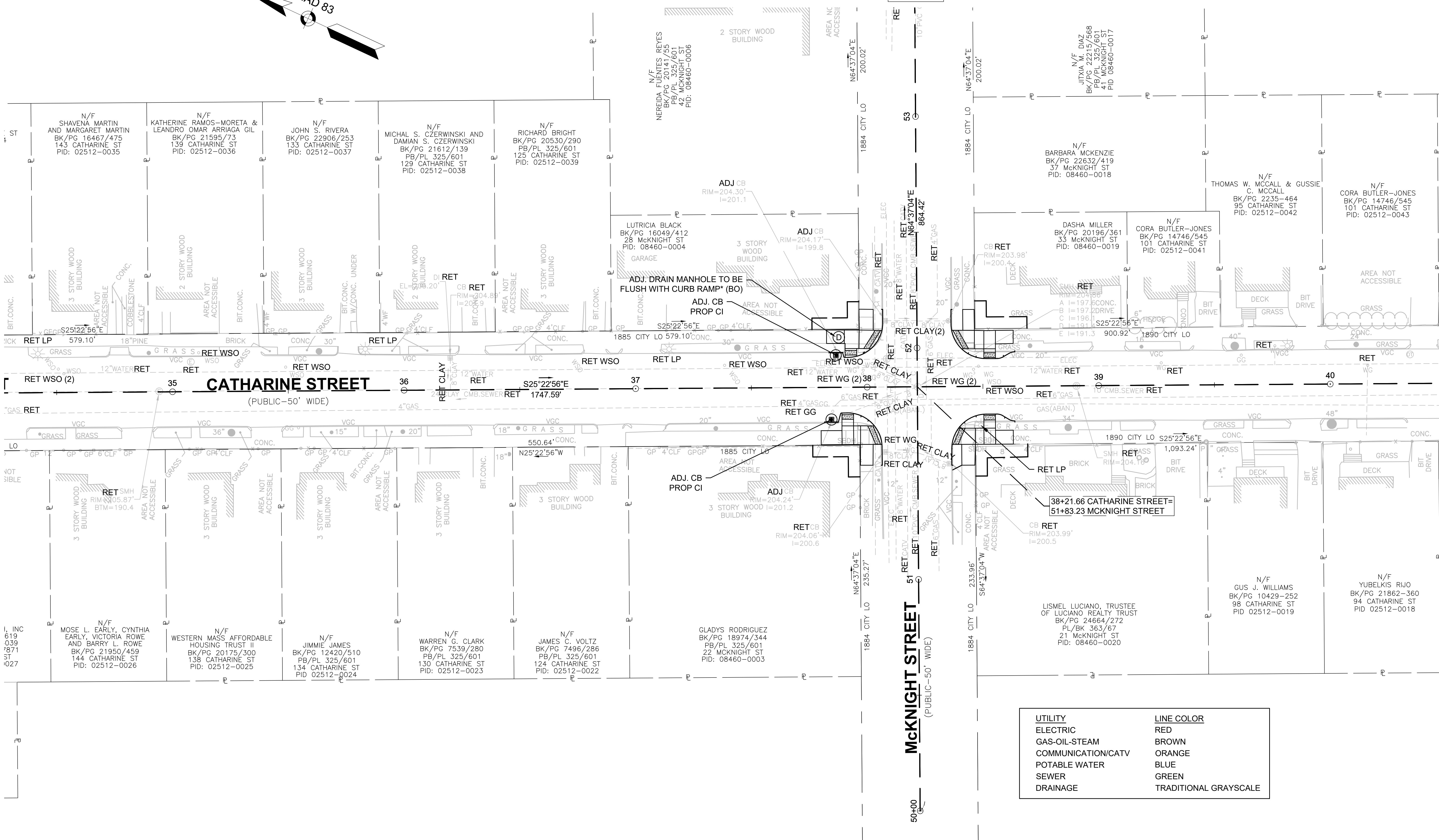
UTILITY PLANS
SHEET 2 OF 5



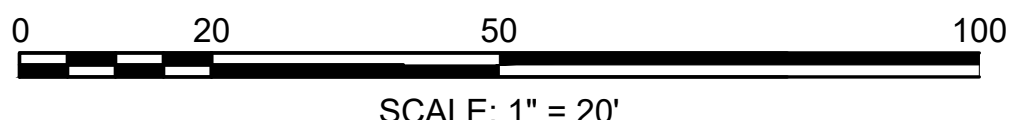
CONTINUED ON
SHEET NO. 38

CONTINUED ON
SHEET NO. 35

CONTINUED ON
SHEET NO. 37



*ALL EXISTING MANHOLE, HANDHOLE, OR OTHER SURFACE TYPE STRUCTURES WITHIN A PROPOSED ACCESSIBLE SURFACE SHALL BE ADJUSTED SUCH THAT THE TOPMOST SURFACE/STRUCTURE COVER SHALL BE FLUSH WITH THE PROPOSED SURFACE, UNLESS OTHERWISE NOTED. CONTRACTOR SHALL TAKE SPECIAL ATTENTION DURING CONSTRUCTION.



UTILITY	LINE COLOR
ELECTRIC	RED
GAS-OIL-STEAM	BROWN
COMMUNICATION/CATV	ORANGE
POTABLE WATER	BLUE
SEWER	GREEN
DRAINAGE	TRADITIONAL GRAYSCALE

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

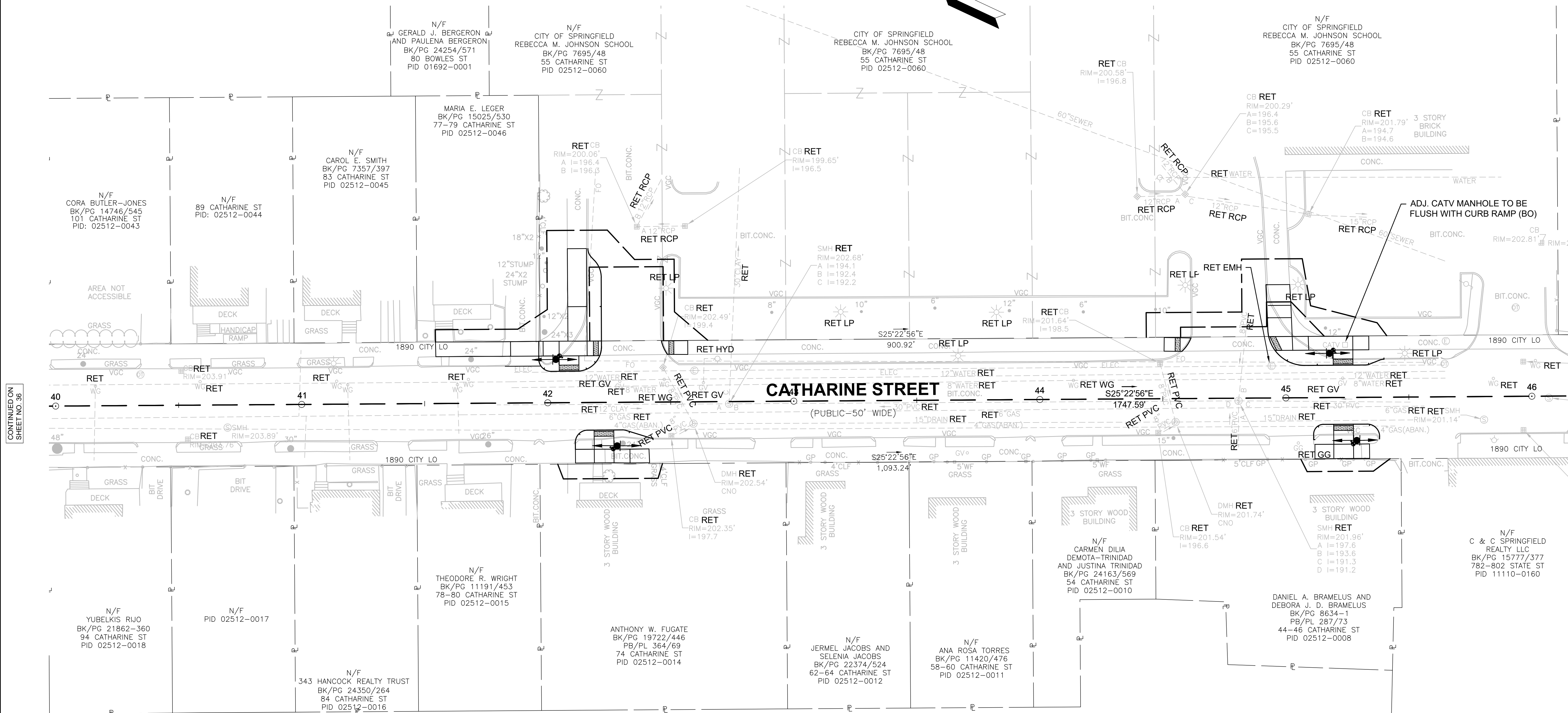
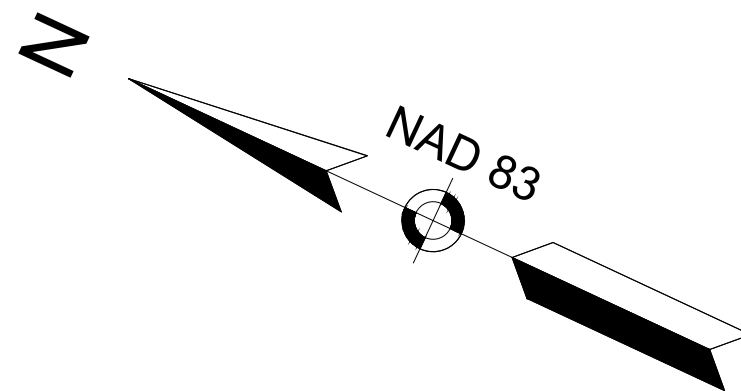
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DRAINAGE DETAILS

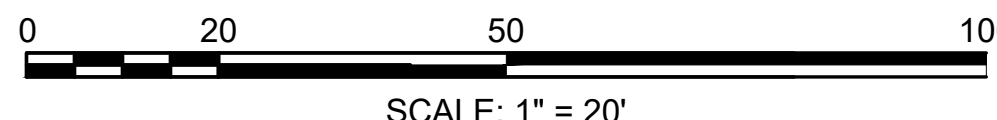
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SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	37	44
PROJECT FILE NO.		612080	

UTILITY PLANS
SHEET 3 OF 5

*ALL EXISTING MANHOLE, HANDHOLE, OR OTHER SURFACE TYPE STRUCTURES WITHIN A PROPOSED ACCESSIBLE SURFACE SHALL BE ADJUSTED SUCH THAT THE TOPMOST SURFACE/STRUCTURE COVER SHALL BE FLUSH WITH THE PROPOSED SURFACE, UNLESS OTHERWISE NOTED. CONTRACTOR SHALL TAKE SPECIAL ATTENTION DURING CONSTRUCTION.



HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

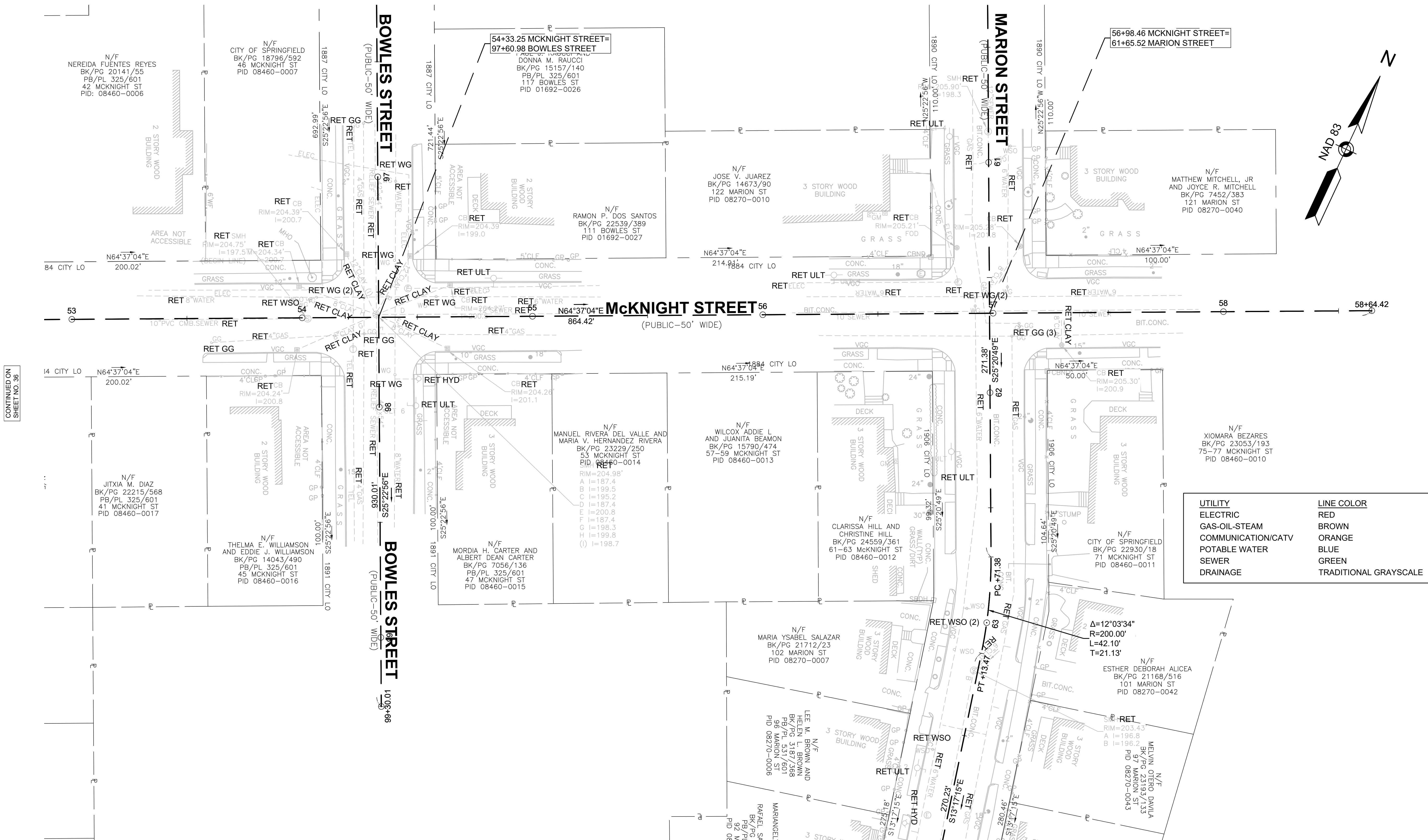
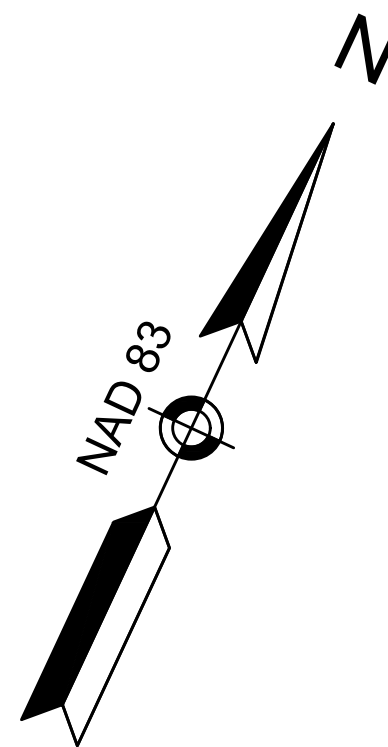
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DRAINAGE DETAILS

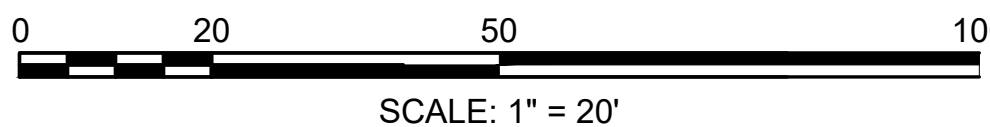
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SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	38	44
PROJECT FILE NO.		612080	

UTILITY PLANS
SHEET 4 OF 5

*ALL EXISTING MANHOLE, HANDHOLE, OR OTHER SURFACE TYPE STRUCTURES WITHIN A PROPOSED ACCESSIBLE SURFACE SHALL BE ADJUSTED SUCH THAT THE TOPMOST SURFACE/STRUCTURE COVER SHALL BE FLUSH WITH THE PROPOSED SURFACE, UNLESS OTHERWISE NOTED.

CONTINUED ON
SHEET NO. 39

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

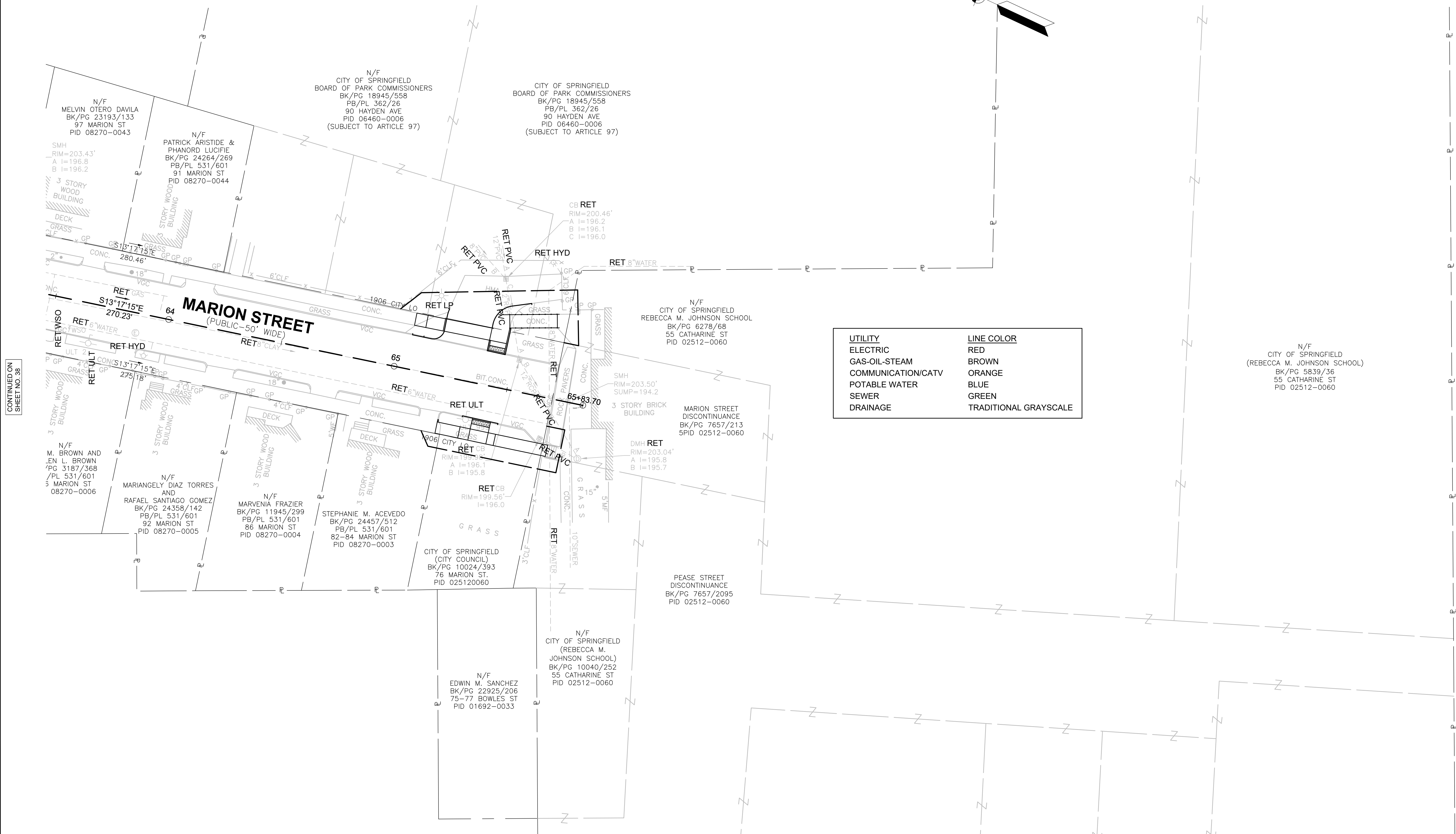
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DRAINAGE DETAILS

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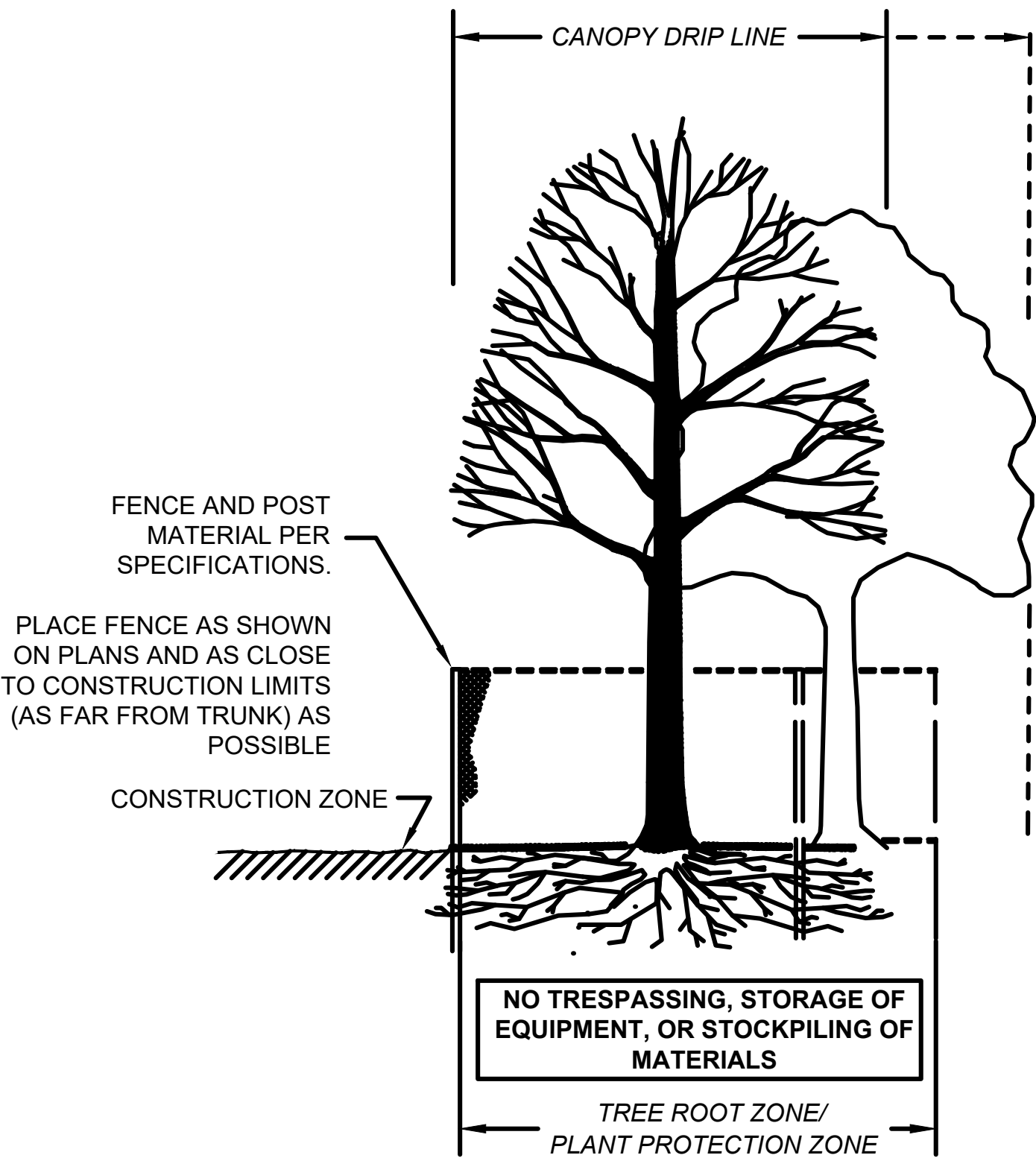
SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	39	44
PROJECT FILE NO.		612080	

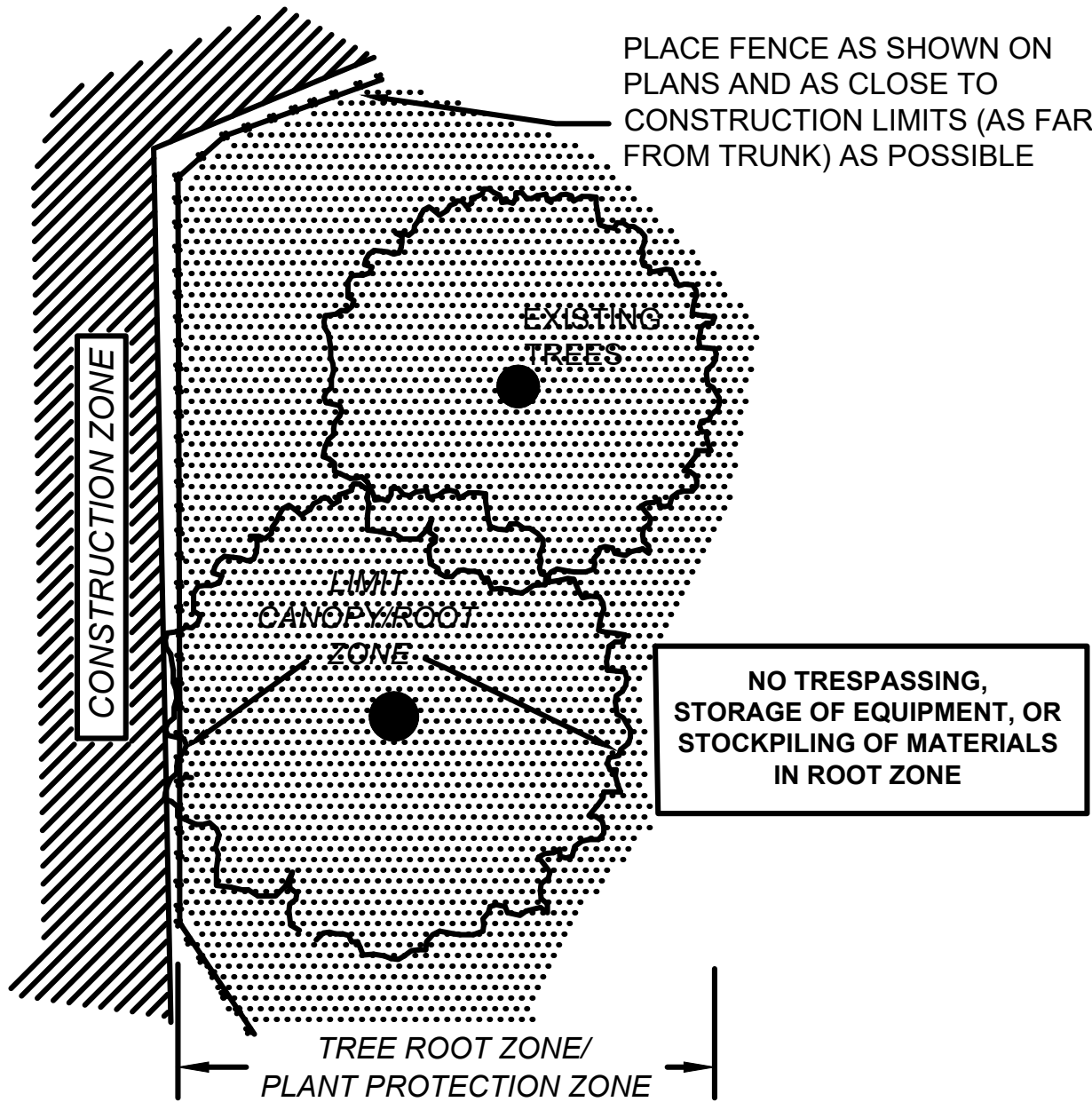
UTILITY PLANS
SHEET 5 OF 5

*ALL EXISTING MANHOLE, HANDHOLE, OR OTHER SURFACE TYPE STRUCTURES WITHIN A PROPOSED ACCESSIBLE SURFACE SHALL BE ADJUSTED SUCH THAT THE TOPMOST SURFACE/STRUCTURE COVER SHALL BE FLUSH WITH THE PROPOSED SURFACE, UNLESS OTHERWISE NOTED.

0 20 50 100
SCALE: 1" = 20'



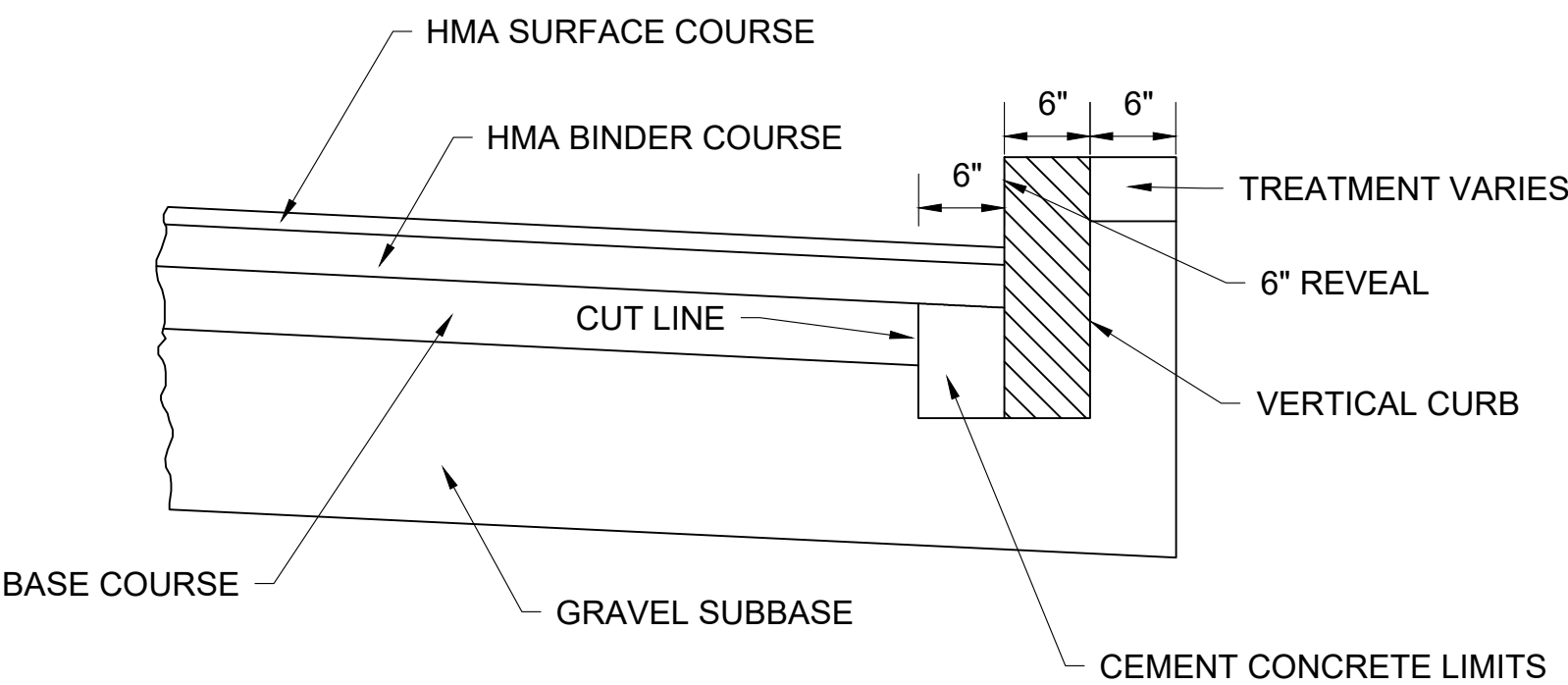
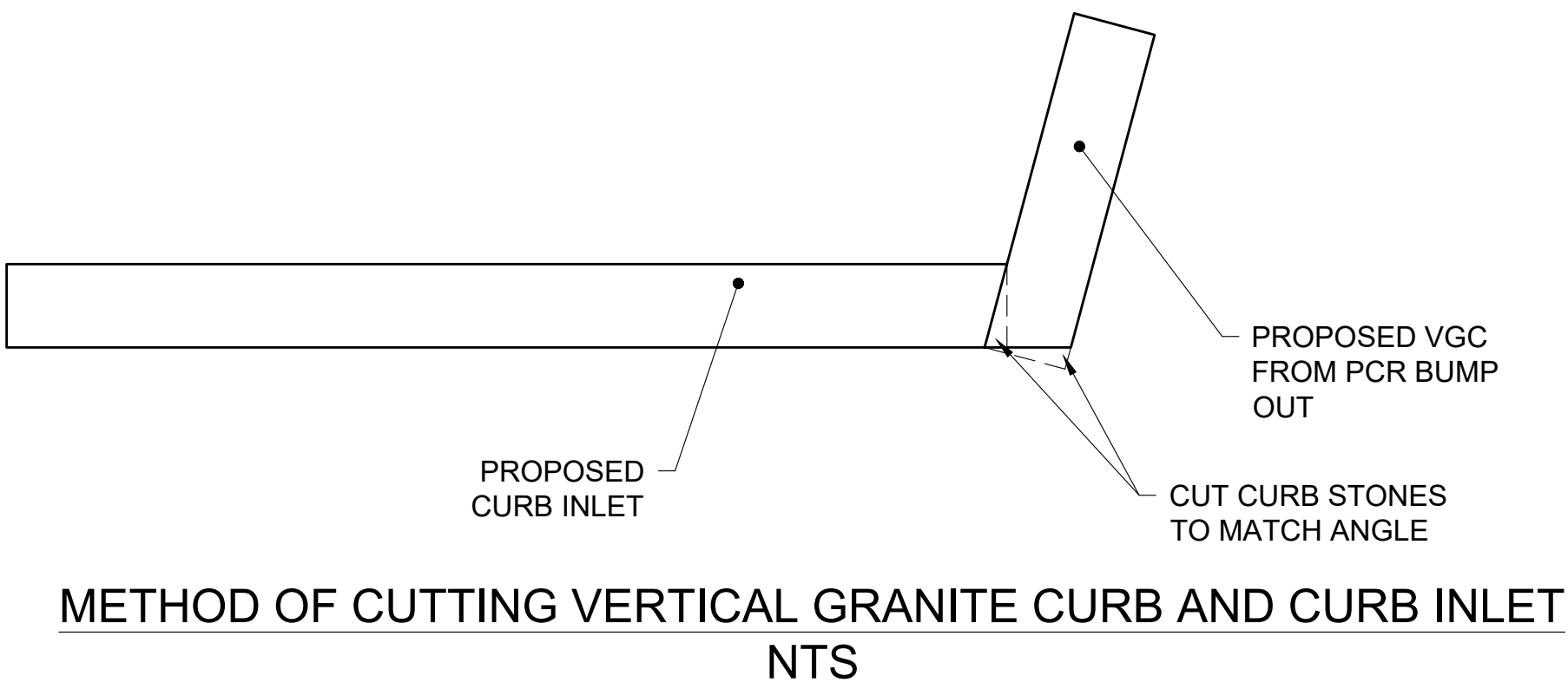
SECTION - FENCE PROTECTION OF ROOT ZONE



PLAN VIEW - FENCE PROTECTION OF ROOT ZONE

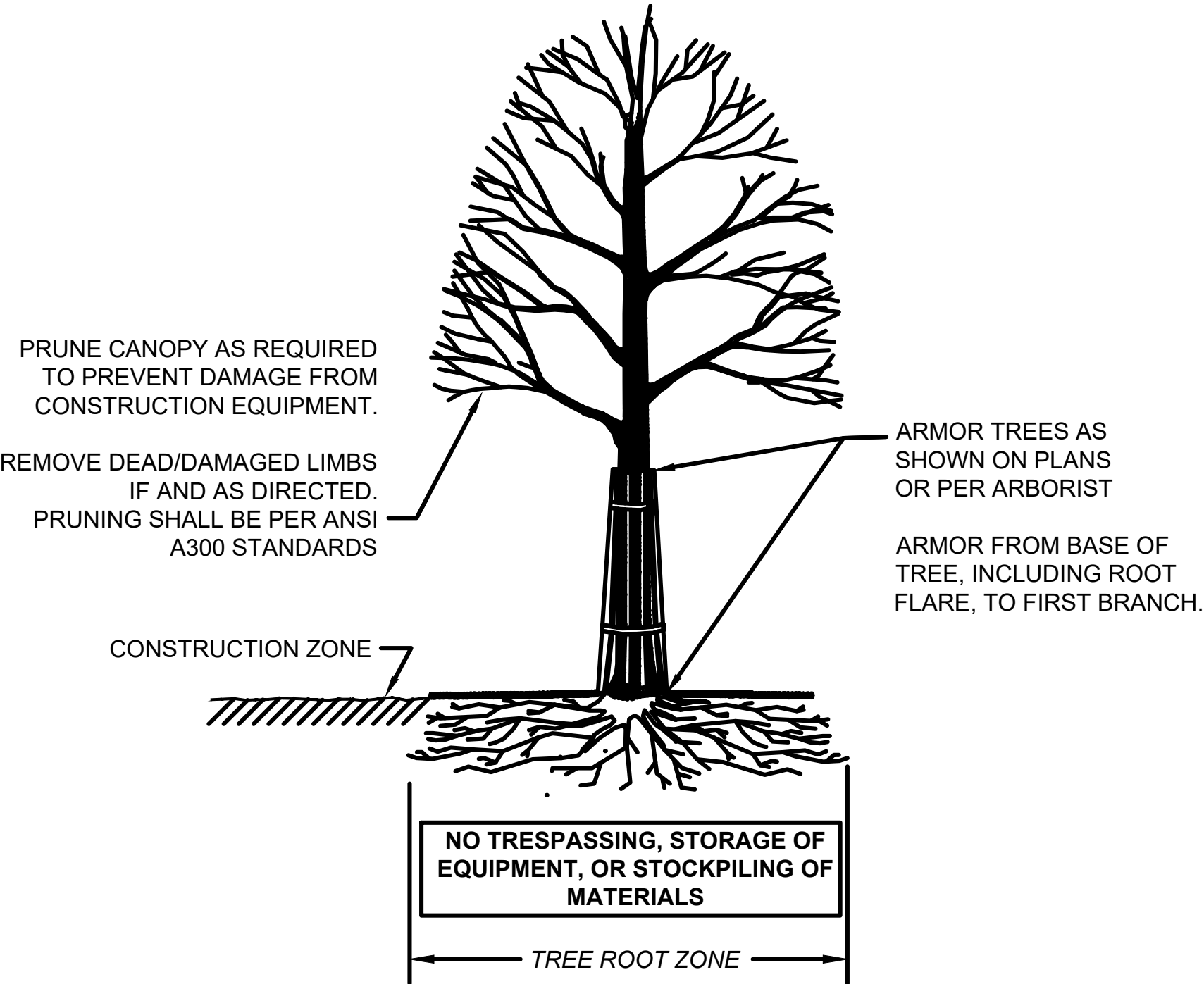
TREE PROTECTION - ROOT ZONE

NOT TO SCALE



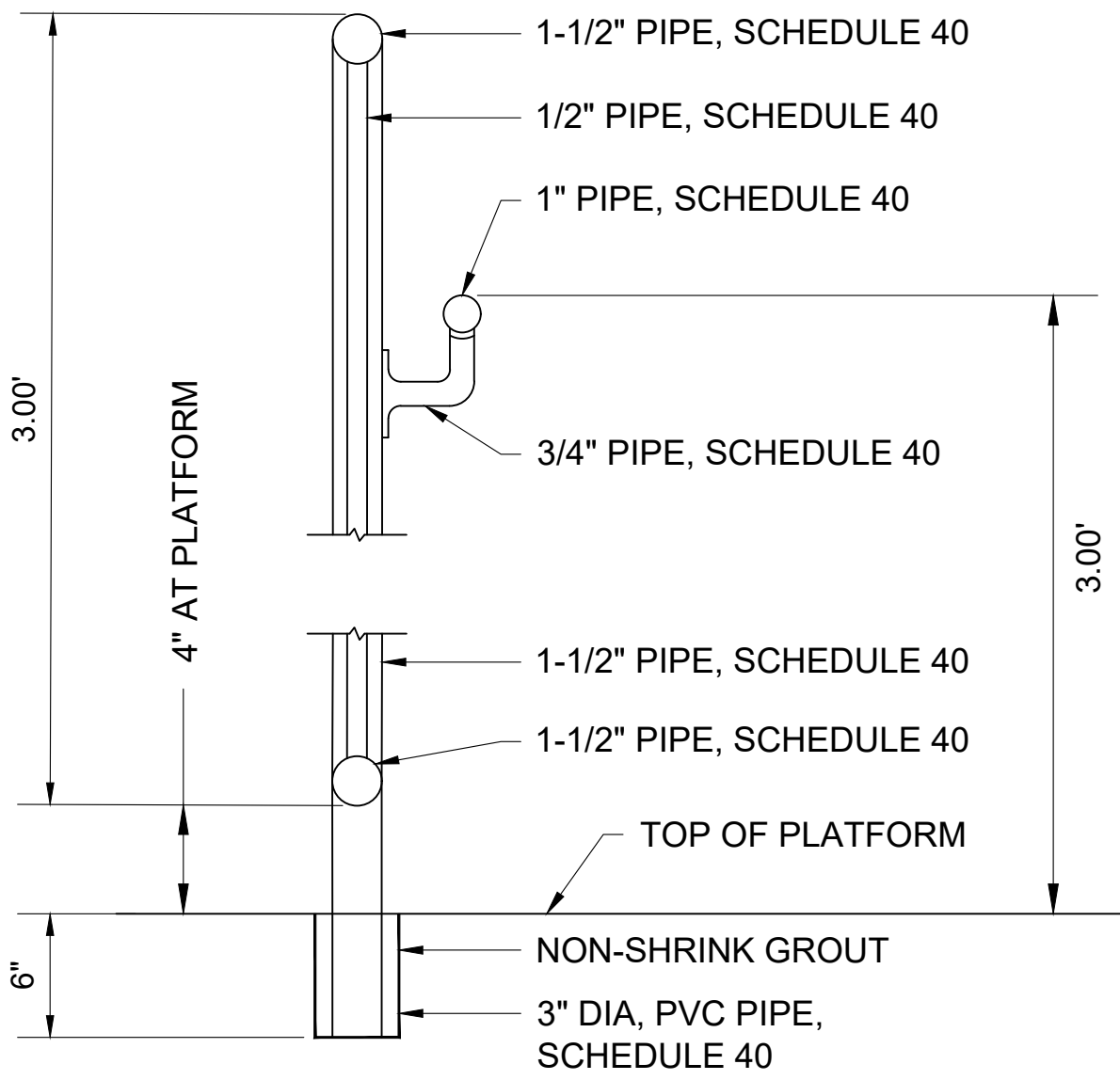
- NOTE:
1. THIS PROCEDURE IS APPLICABLE ONLY IF CURB IS TO BE SET AFTER BASE COURSE IS IN PLACE PRIOR TO BINDER AND TOP PLACEMENT.
 2. CUT NEAT LINE 6" FROM CURB LINE AND REMOVE BASE AND GRAVEL. REPLACE WITH CEMENT CONCRETE.
 3. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED: ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.

METHOD OF SETTING VERTICAL GRANITE CURB
NTS



SECTION - TRUNK ARMORING & PRUNING

TREE PROTECTION - TRUNK



METAL PIPE RAIL DETAIL

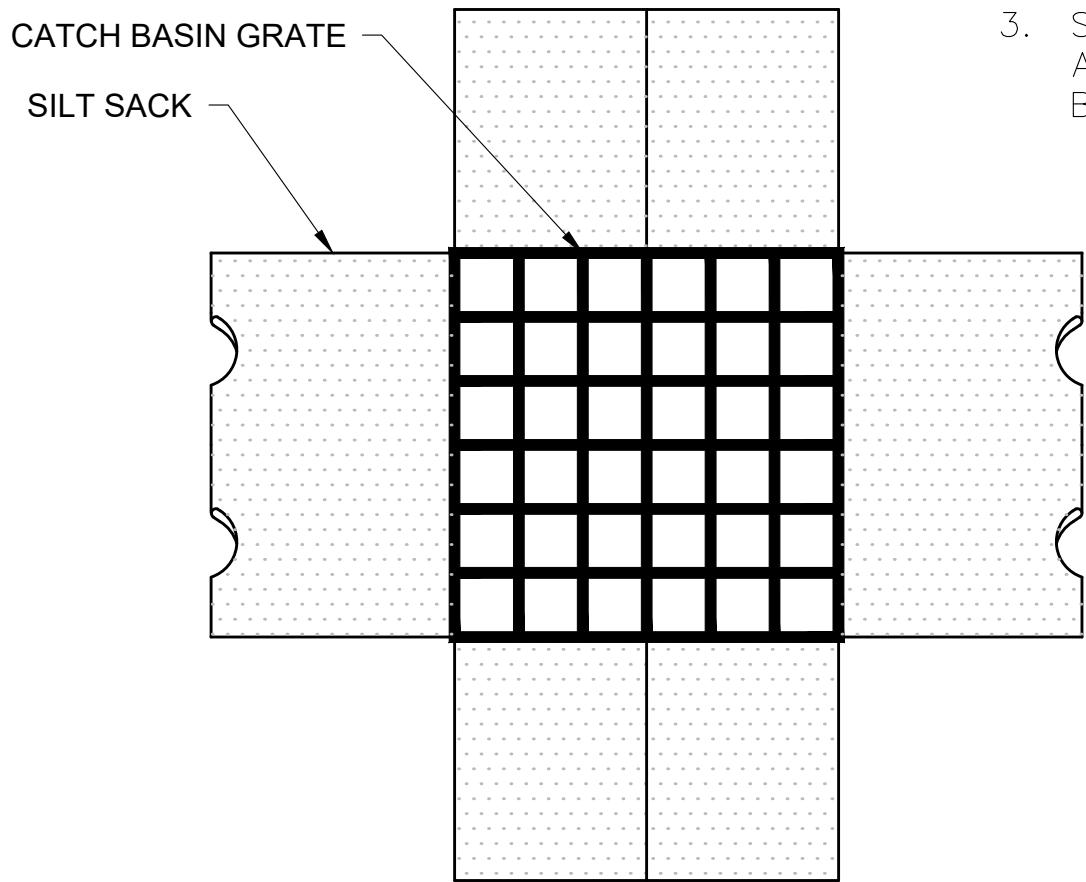
SCALE: NONE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	41	44
PROJECT FILE NO.		612080	

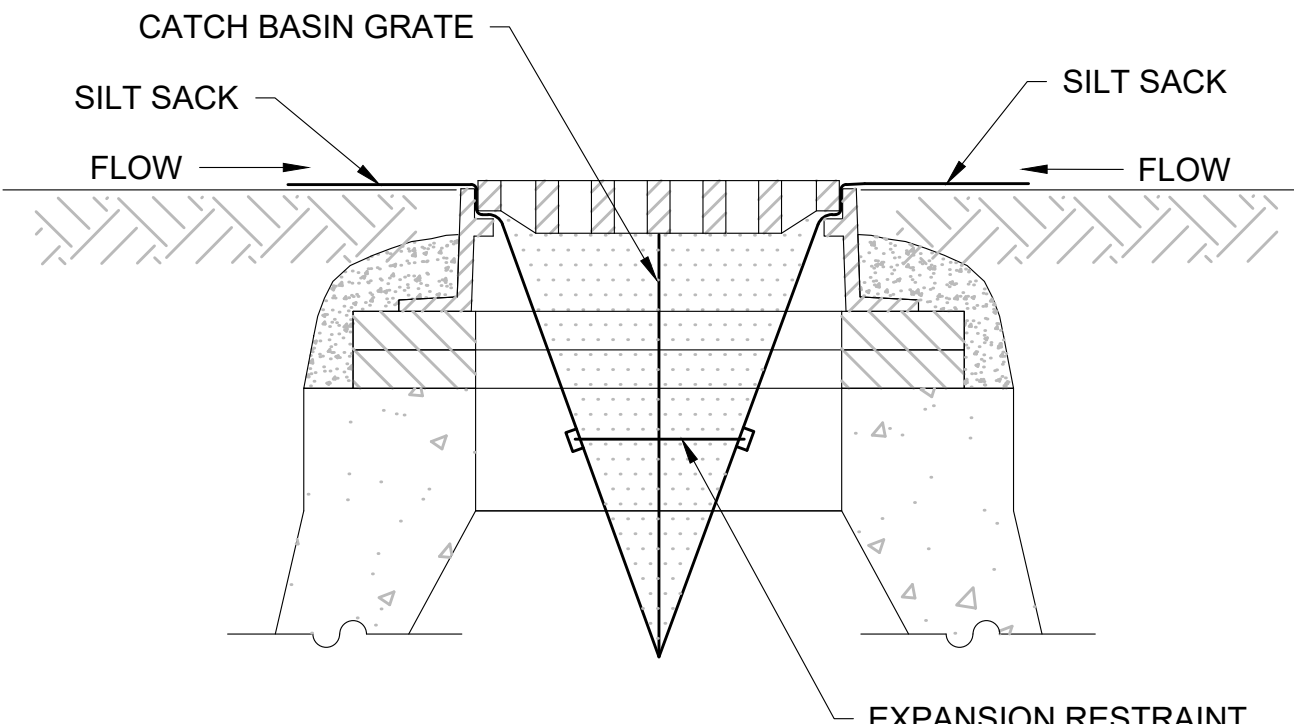
CONSTRUCTION DETAILS
SHEET 2 OF 2

SILT SACK SEDIMENT TRAP NOTES:

1. INSTALL SILT SACK IN ALL CATCH BASINS DOWNGRADE OF PROPOSED EXCAVATION AND DO NOT REMOVE UNTIL WORK IS COMPLETE AND GRASS IS ESTABLISHED.
2. GRATE TO BE PLACED OVER SILT SACK.
3. SILT SACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.



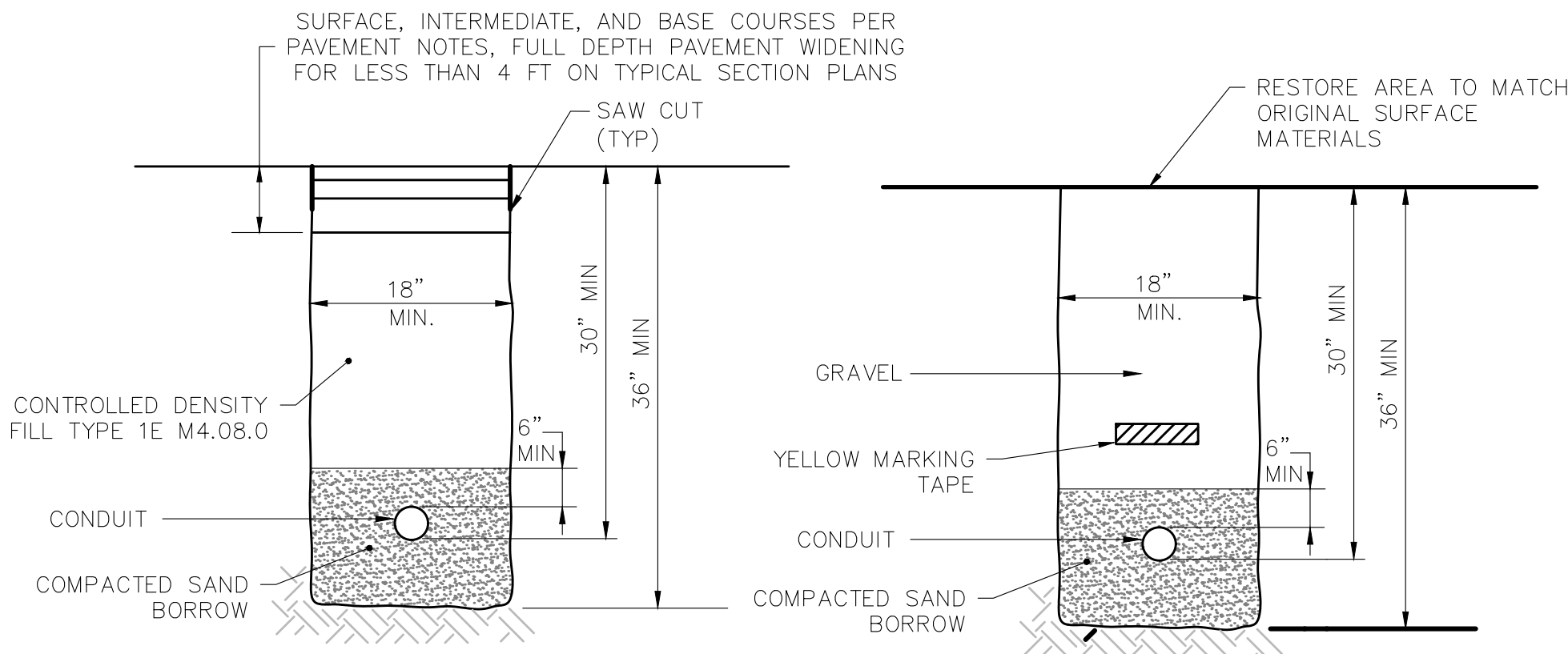
PLAN VIEW



SECTION VIEW

SILT SACK SEDIMENT TRAP

SCALE: NONE



CONDUIT NOTES:

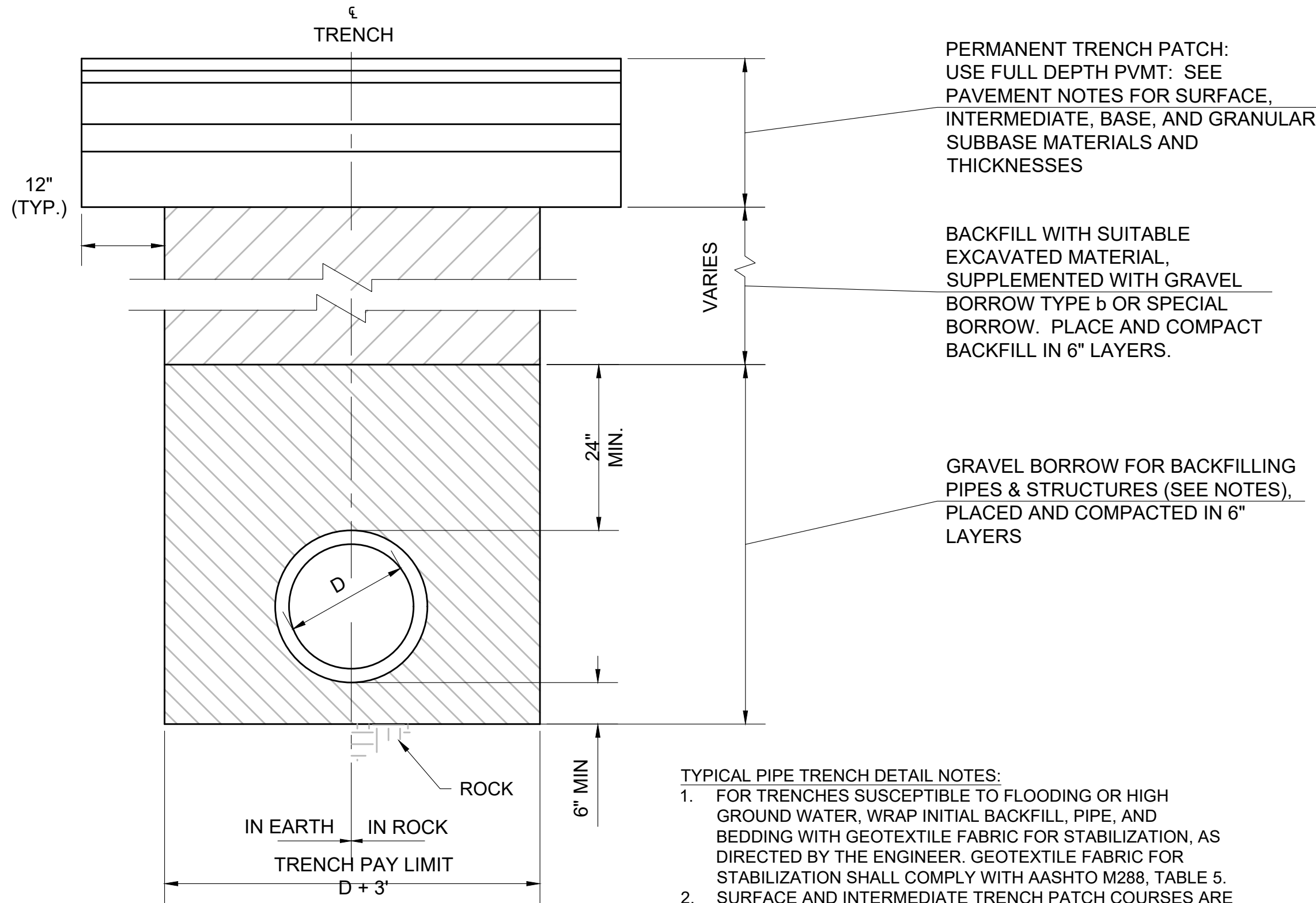
1. EXISTING MATERIAL OBTAINED FROM EXCAVATION THAT IS DETERMINED TO BE SUITABLE AND APPROVED BY THE ENGINEER SHALL BE USED.
2. BACKFILL SHALL BE PLACED IN LAYERS, NO MORE THAN 6" IN DEPTH AND THOROUGHLY COMPACTED.
3. BACKFILLING TO A POINT 24" OVER THE PIPE SHALL CONTAIN NO STONES GREATER THAN 3 INCHES.
4. USE MASSDOT MATERIAL M.1.04.0 TYPE b (3/8 INCH) FOR SAND BORROW.

CONDUIT UNDER ROADWAY

CONDUIT UNDER UNDER
GRASS

TRAFFIC SIGNAL CONDUIT TRENCH DETAIL

SCALE: NONE

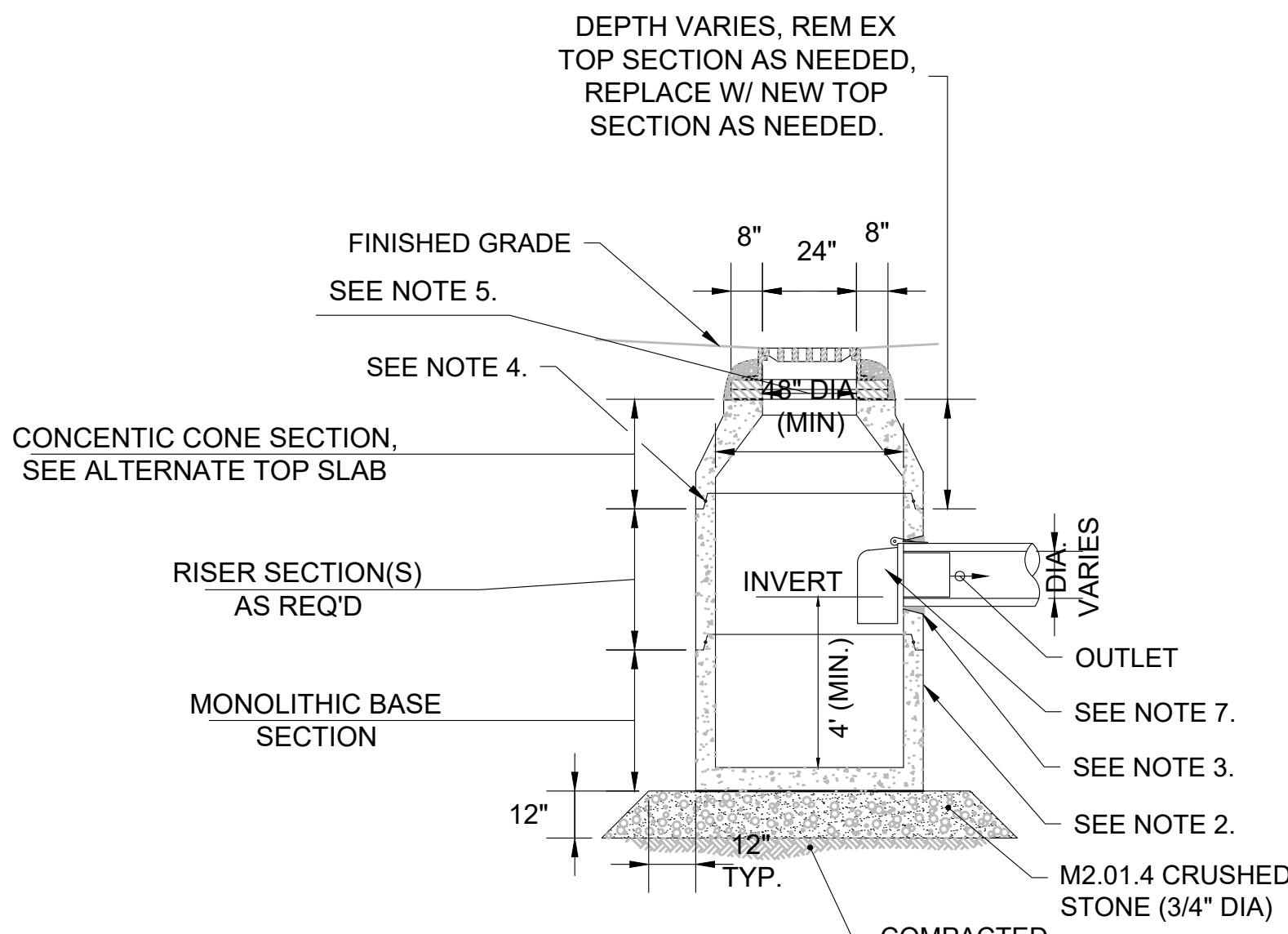


TYPICAL PIPE TRENCH DETAIL

SCALE: NONE

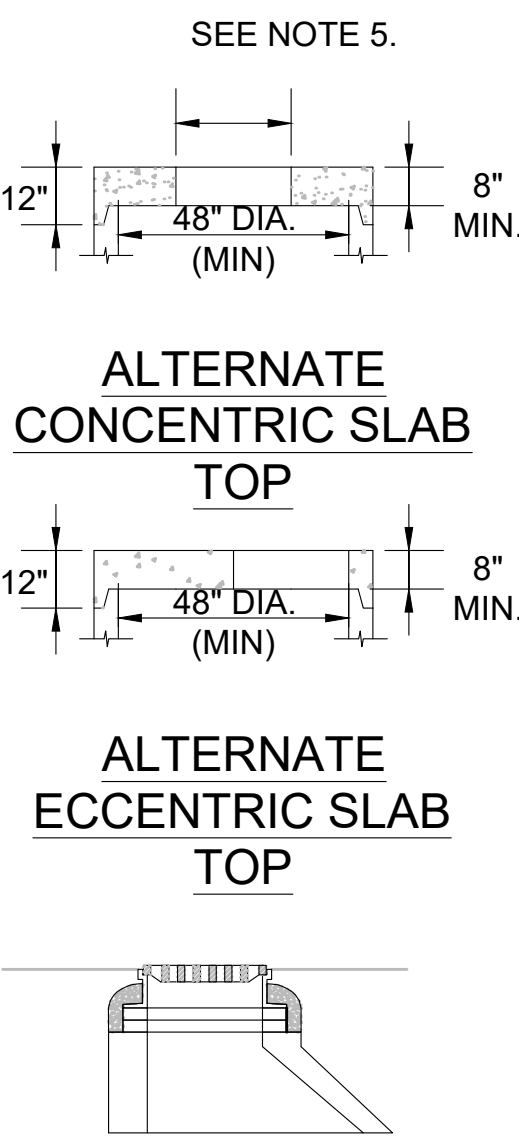
TYPICAL PIPE TRENCH DETAIL NOTES:

1. FOR TRENCHES SUSCEPTIBLE TO FLOODING OR HIGH GROUND WATER, WRAP INITIAL BACKFILL, PIPE, AND BEDDING WITH GEOTEXTILE FABRIC FOR STABILIZATION, AS DIRECTED BY THE ENGINEER. GEOTEXTILE FABRIC FOR STABILIZATION SHALL COMPLY WITH AASHTO M288, TABLE 5.
2. SURFACE AND INTERMEDIATE TRENCH PATCH COURSES ARE SACRIFICIAL. THE TRENCH PATCH WILL BE MILLED & OVERLAID AT THE SAME TIME AS THE ABUTTING ROADWAY.



CATCH BASIN

SCALE: NONE



ALTERNATE
ECCENTRIC CONE
SECTION

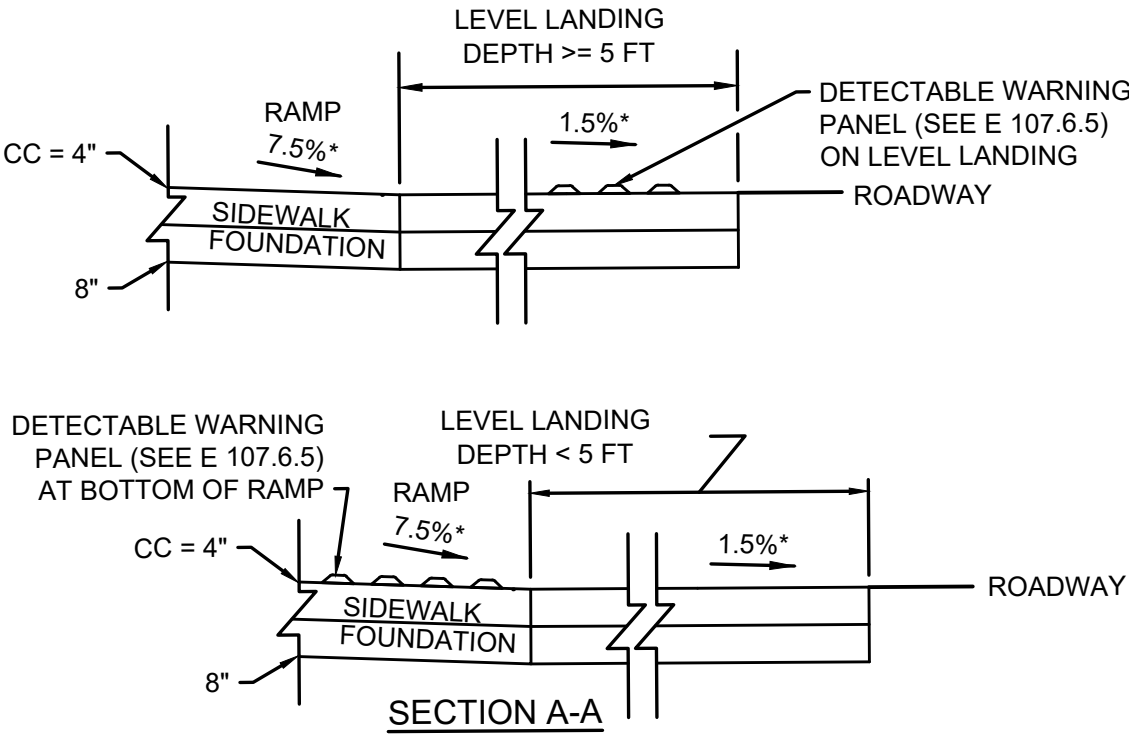
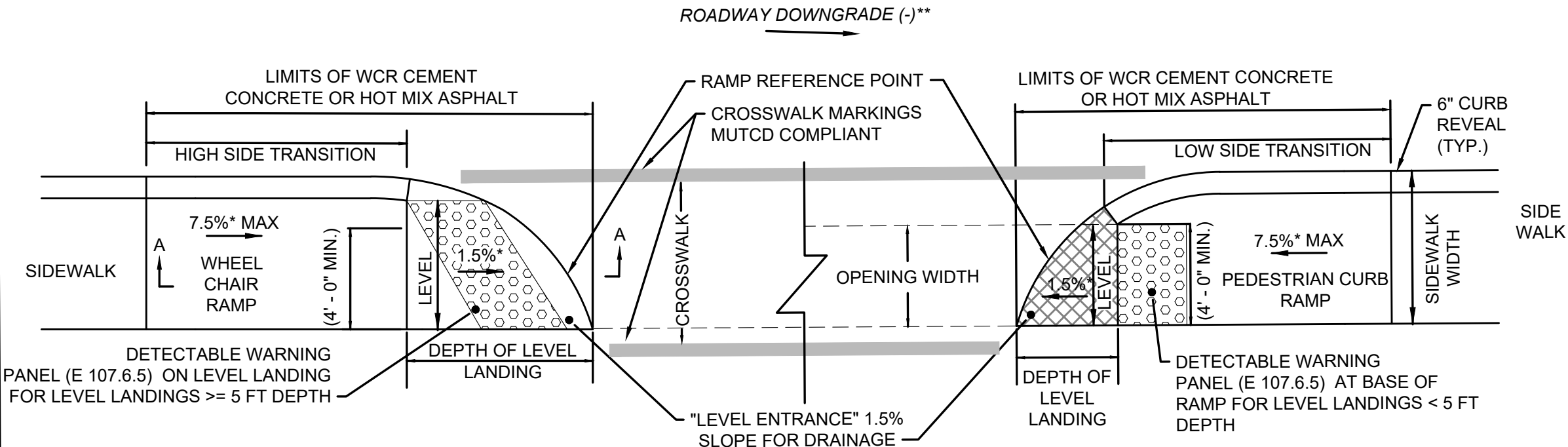
CATCH BASIN NOTES:

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM).
5. OPENING IN TOP SLAB SHALL BE 24"x27" FOR CATCH BASINS WITH CURB INLETS. OPENING SHALL BE 24"x24" AT ALL OTHER LOCATIONS.
6. EXCLUSIVE OF THE RIM, UTILIZE THIS DETAIL FOR A REMODEL WITH CHANGE IN TYPE.
7. HOOD PER MASSDOT CONSTRUCTION STANDARD DWG E201.12.0.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	42	44
PROJECT FILE NO.		612080	

PEDESTRIAN CURB RAMP DETAILS
SHEET 1 OF 3

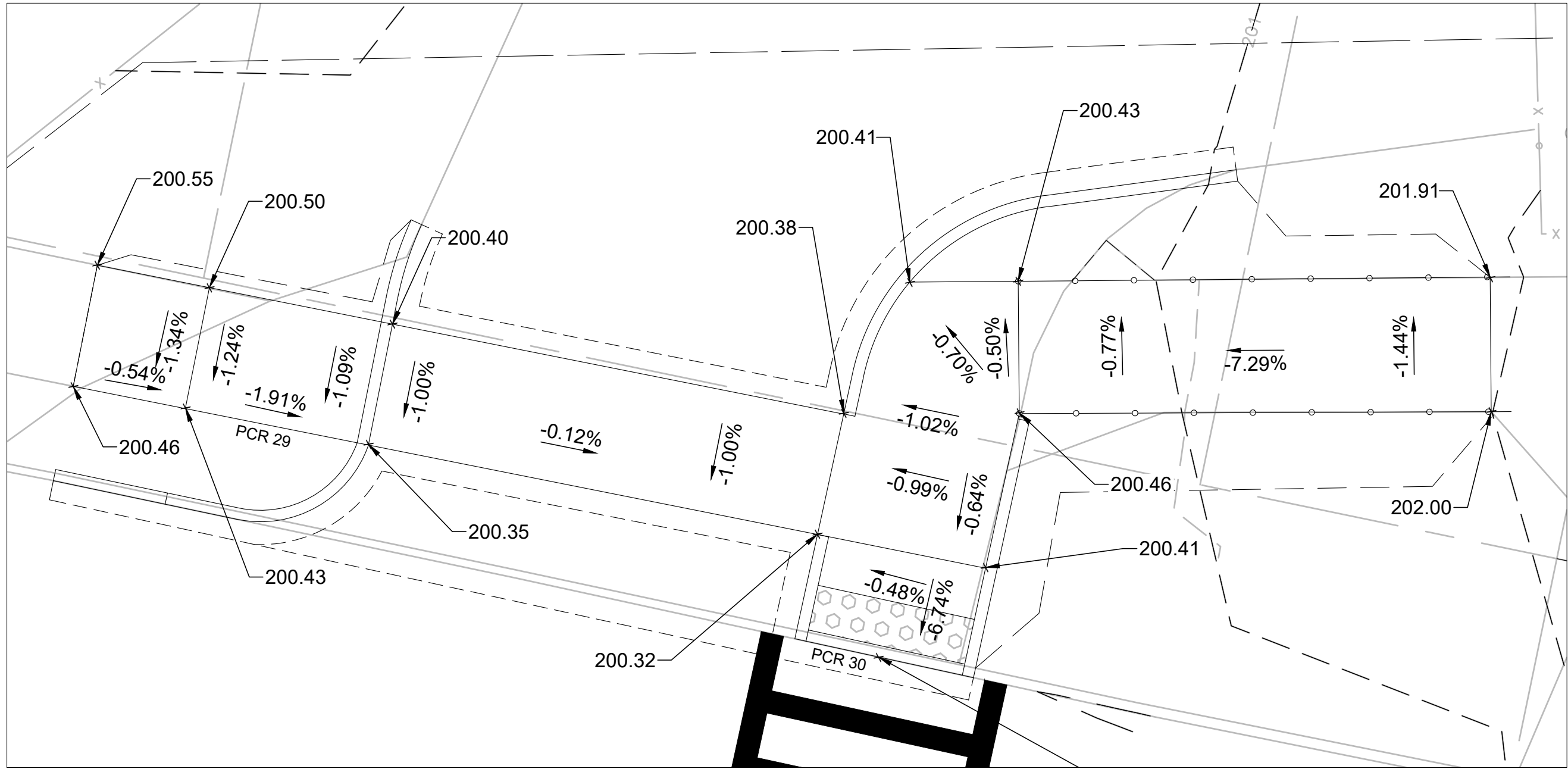
- PCR AND DRIVEWAY NOTES:**
- CONSTRUCTION DETAILS SHALL BE IN ACCORDANCE WITH MASSDOT CONSTRUCTION STANDARDS.
 - ALL TRANSITIONS ARE 6 INCH MAXIMUM REVEAL AT THE TOP OF THE TRANSITION UNLESS OTHERWISE NOTED ON THE SCHEDULES OR THE CONSTRUCTION PLANS.
 - CONCRETE RAMPS ARE TO BE TEXTURED BY BROOMING IN A DIRECTION PARALLEL TO THE LENGTH OF THE RAMP.
 - SEE CONSTRUCTION PLANS FOR LOCATION OF PEDESTRIAN CURB RAMPS, AND DRIVEWAYS.
 - DETECTABLE WARNING PANELS ARE REQUIRED ON ALL PROPOSED PEDESTRIAN CURB RAMPS AND SHALL BE INSTALLED IN ACCORDANCE WITH MASSDOT CONSTRUCTION STANDARDS.
 - DETECTABLE WARNING PANEL SHALL BE LOCATED NOT LESS THAN 6" OR MORE THAN 24" FROM ROADWAY EDGE (GUTTER LINE). TRUNCATED DOMES TO BE ALIGNED WITH DIRECTION OF TRAVEL.
 - FOR DETAILS OF TRUNCATED DOMES SEE DRAWING E 107.6.5.
 - ROADWAY, GUTTER, AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS.



- LEGEND**
HIGH SIDE AND LOW SIDE IS WITH RESPECT TO THE PROFILE GRADE LINE. FOR TRANSITION LENGTHS SEE E 107.9.0
- * TOLERANCE FOR CONSTRUCTION ± 0.5%
 - ** ROADWAY ARROWS FOLLOW BASELINE ALIGNMENT

PEDESTRIAN CURB RAMP WITH CONTINUOUS TRAVEL

PCR NO	BASELINE	STA AT CENTER OF OPENING	OFFSET	OPENING WIDTH (FT)	GUTTER PROFILE SLOPE (%) AT REF. PT, PARALLEL TO TRANSITION	HIGH TRANS LENGTH (FT)	LOW TRANS LENGTH (FT)	SIDEWALK WIDTH (FT)	DEPTH OF LEVEL LANDING (FT)	LIMITS OF PCR (FT)	COMMENT
PCR 1	DARTMOUTH	23+68.71	12.44	10.00	-0.64	--	7.67	5.00	6.00	13.67	
PCR 2	DARTMOUTH	26+62.07	18.08	10.00	0.30	17.50	--	10.00	10.00	27.51	DUE TO SLOPES REQUIRED FOR PCR 3, THE TRANSITION LENGTH IS REPRESENTED BY A LEVEL LANDING PRIOR TO THE PCR.
PCR 24	CATHARINE	42+47.23	22.13	5.42	0.25	7.67	--	5.60	2.17	9.84	
PCR 25	CATHARINE	44+60.04	21.68	5.51	-0.34	--	6.50	5.53	3.02	9.52	



- LEGEND**
HIGH SIDE AND LOW SIDE IS WITH RESPECT TO THE PROFILE GRADE LINE. FOR TRANSITION LENGTHS SEE E 107.9.0
- * TOLERANCE FOR CONSTRUCTION ± 0.5%
 - ** ROADWAY ARROWS FOLLOW BASELINE ALIGNMENT

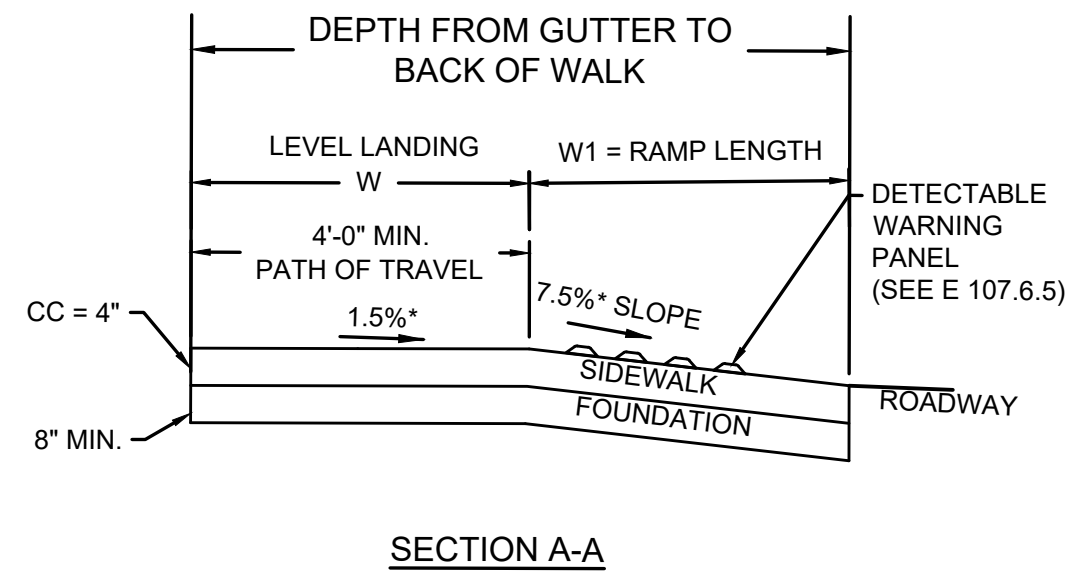
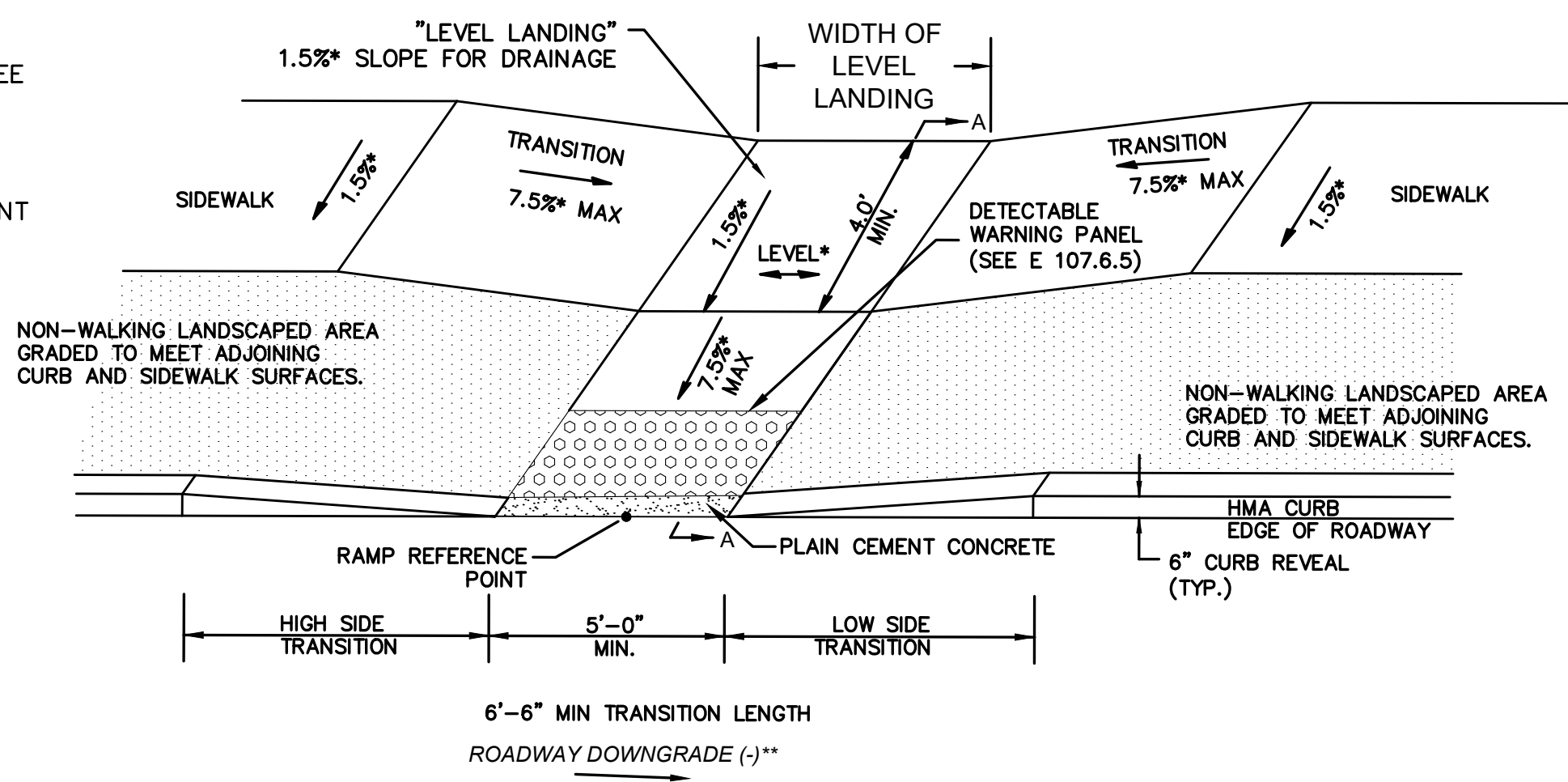
MARION STREET SCHOOL ENTRANCE

PCR NO	BASELINE	STA AT CENTER OF OPENING	OFFSET	OPENING WIDTH (FT)	GUTTER PROFILE SLOPE (%) AT REF. PT*	HIGH TRANS LENGTH (FT)	LOW TRANS LENGTH (FT)	SIDEWALK WIDTH (FT)	RAMP LENGTH (FT)	DEPTH OF LEVEL LANDING (FT)	COMMENT
PCR 29	MARION	65+18.21	22.01	5.40	-1.04	7.67	--	5.39	7.67	5.00	3" CURB REVEAL
PCR 30	MARION	65+41.47	14.77	7.00	-0.57	20.65	--	5.39	4.73	12.10	HIGH TRANSITION LENGTH REPRESENTS THE RAMP LENGTH. 3" CURB REVEAL

LEGEND:
HIGH SIDE AND LOW SIDE IS WITH RESPECT TO THE
PROFILE GRADE LINE. FOR TRANSITION LENGTHS SEE
E 107.9.0

* TOLERANCE FOR CONSTRUCTION ± 0.5%

** ROADWAY ARROWS FOLLOW BASELINE ALIGNMENT



PEDESTRIAN CURB RAMP WITH LANDSCAPING STRIP

PCR NO	BASELINE	STA AT CENTER OF OPENING	OFFSET	OPENING WIDTH (FT)	GUTTER PROFILE SLOPE (%) AT REF. PT	HIGH SIDE TRANS LENGTH (FT)	LOW TRANS LENGTH (FT)	DEPTH FROM GUTTER TO BACK OF WALK (FT)	WIDTH OF LEVEL LANDING (FT)	RAMP LENGTH (FT)	COMMENT
PCR 3	YALE	70+48.63	14.75	5.67	-0.13	7.67	6.50	9.96	5.46	4.49	
PCR 4	YALE	70+45.72	15.56	6.24	0.67	9.00	9.00	10.81	6.66	4.15	
PCR 5	CATHARINE	31+66.87	14.88	5.70	1.98	--	6.50	10.70	5.00	5.70	
PCR 6	BAY	85+54.75	15.04	5.00	0.03	--	6.50	9.77	5.69	4.08	
PCR 7	BAY	85+54.85	15.24	5.00	0.03	7.67	6.50	9.48	5.57	3.91	
PCR 12	CATHARINE	32+21.36	15.66	5.00	-0.42	7.11	6.50	9.12	6.03	3.09	
PCR 21	CATHARINE	42+22.77	11.21	8.00	0.91	7.67	6.50	13.31	5.52	7.79	
PCR 22	CATHARINE	42+08.77	12.78	8.00	-0.88	14.00	6.50	12.23	6.00	6.23	3" CURB REVEAL BETWEEN PCRS
PCR 23	CATHARINE	42+21.96	21.98	6.00	2.01	14.00	6.50	17.18	11.38	5.80	3" CURB REVEAL BETWEEN PCRS
PCR 27	CATHARINE	45+23.36	13.14	8.00	-0.21	7.67	6.50	11.78	5.61	6.17	
PCR 28	CATHARINE	45+23.36	10.87	8.00	-0.29	7.67	6.50	13.94	5.82	8.12	
PCR 31	MARION	65+41.19	15.10	8.00	-1.06	9.00	6.50	9.82	4.98	4.84	3" CURB REVEAL

PCR AND DRIVEWAY NOTES:

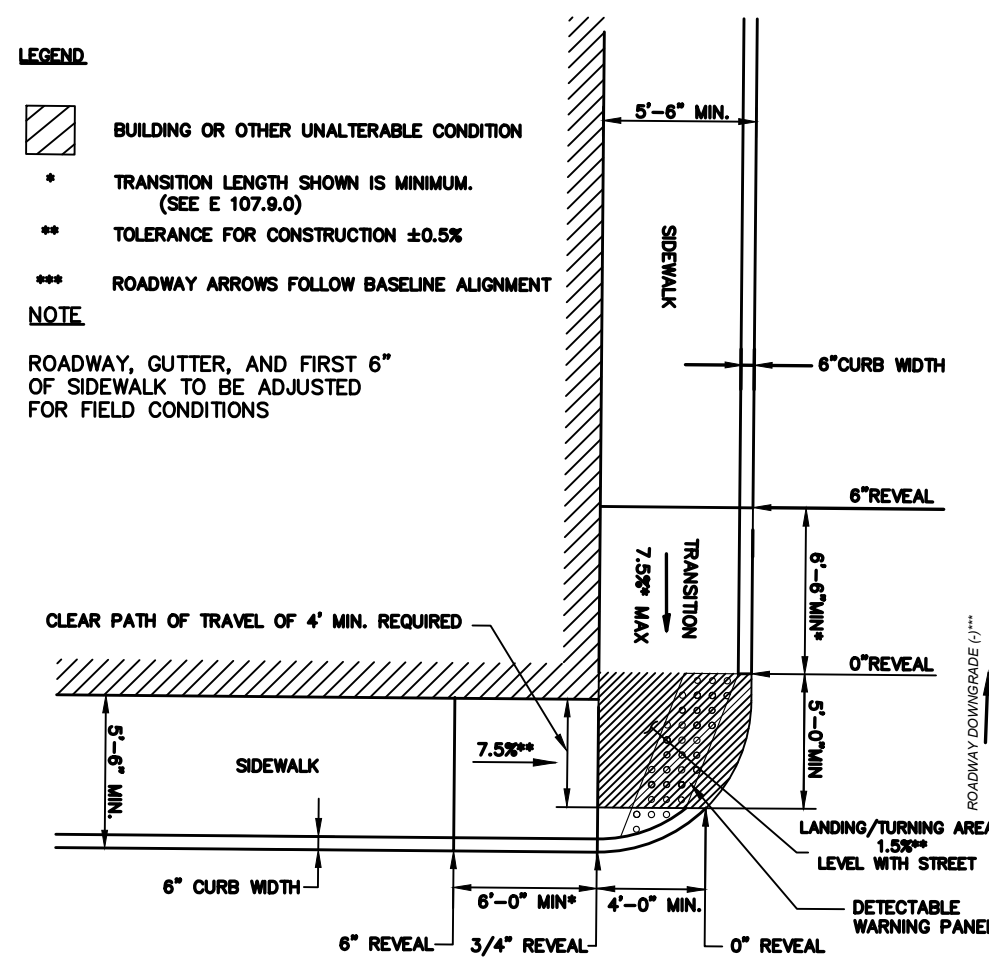
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- SEE CONSTRUCTION PLANS FOR LOCATION OF PEDESTRIAN CURB RAMPS, AND DRIVEWAYS.
- DETECTABLE WARNING PANELS ARE REQUIRED ON ALL PROPOSED PEDESTRIAN CURB RAMPS AND SHALL BE INSTALLED IN ACCORDANCE WITH MASSDOT CONSTRUCTION STANDARDS.
- DETECTABLE WARNING PANEL SHALL BE LOCATED NOT LESS THAN 6" OR MORE THAN 24" FROM ROADWAY EDGE (GUTTER LINE). TRUNCATED DOMES TO BE ALIGNED WITH DIRECTION OF TRAVEL.
- FOR DETAILS OF TRUNCATED DOMES SEE DRAWING E 107.6.5.
- ROADWAY, GUTTER, AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS.

LEGEND:

- BUILDING OR OTHER UNALTERABLE CONDITION
- * TRANSITION LENGTH SHOWN IS MINIMUM. (SEE E 107.9.0)
- ** TOLERANCE FOR CONSTRUCTION ±0.5%
- *** ROADWAY ARROWS FOLLOW BASELINE ALIGNMENT

NOTE:

ROADWAY, GUTTER, AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS



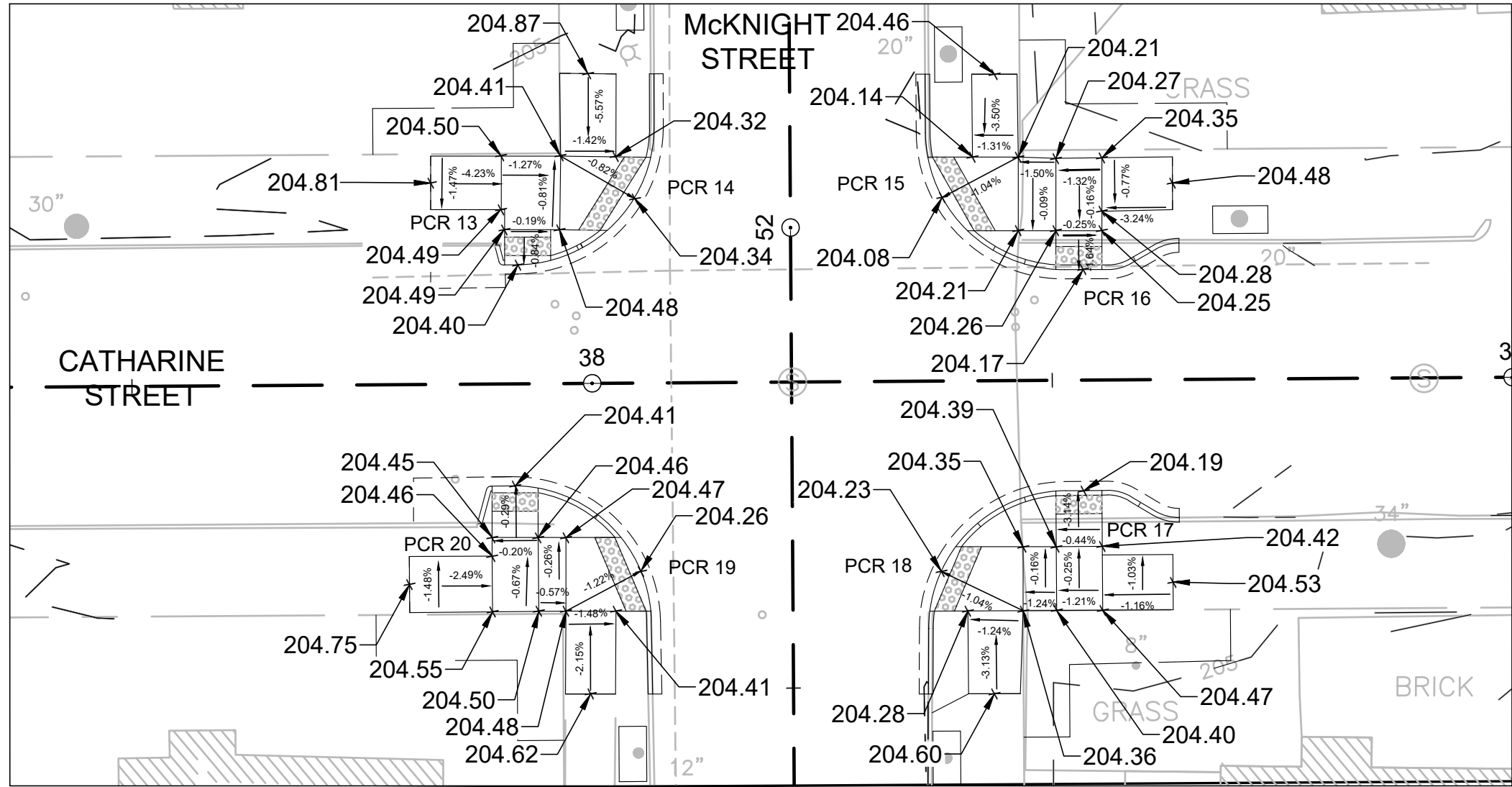
INTERSECTION PEDESTRIAN RAMP

PCR NO	BASELINE	STA AT CENTER OF OPENING	OFFSET	OPENING WIDTH (FT)	GUTTER PROFILE SLOPE (%) AT REF. PT	HIGH SIDE TRANS LENGTH (FT)	LOW TRANS LENGTH (FT)	DEPTH FROM GUTTER TO BACK OF LEVEL LANDING (FT)	WIDTH OF LEVEL LANDING (FT)	RAMP LENGTH (FT)	COMMENT
PCR 26	CATHARINE	44+94.18	21.99	5.61	-0.95	7.67	6.50	8.68	5.46	5.80	

SPRINGFIELD
REBECCA M. JOHNSON ELEMENTARY SCHOOL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TAP-SRS2(003)X	44	44
PROJECT FILE NO.		612080	

PEDESTRIAN CURB RAMP DETAILS
SHEET 3 OF 3

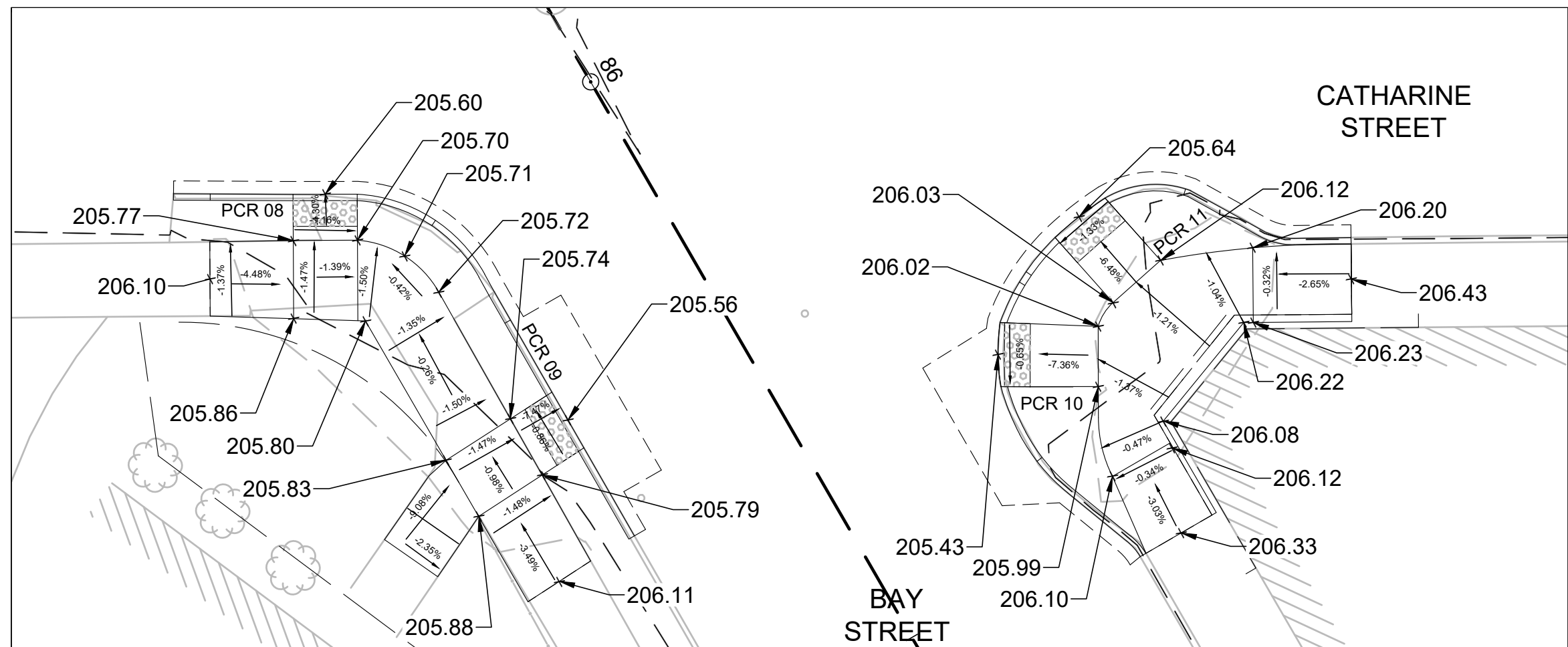


LEGEND
HIGH SIDE AND LOW SIDE IS WITH RESPECT TO THE
PROFILE GRADE LINE. FOR TRANSITION LENGTHS SEE
E 107.9.0

- * TOLERANCE FOR CONSTRUCTION ± 0.5%
- ** ROADWAY ARROWS FOLLOW BASELINE ALIGNMENT

CATHARINE STREET @ McKNIGHT STREET

PCR NO	BASELINE	STA AT CENTER OF OPENING	OFFSET	OPENING WIDTH (FT)	GUTTER PROFILE SLOPE (%) AT REF. PT*	HIGH TRANS LENGTH (FT)	LOW TRANS LENGTH (FT)	DEPTH FROM GUTTER TO BACK OF WALK (FT)	WIDTH OF LEVEL LANDING (FT)	RAMP LENGTH (FT)	COMMENT
PCR 13	CATHARINE	37+92.03	12.93	5.00	0.99	9.00	7.67	11.79	7.99	3.80	3" CURB REVEAL AT TRANSITION BETWEEN PCRS
PCR 14	MCKNIGHT	52+03.40	16.91	8.00	-1.77	9.00	7.67	14.49	6.40	8.09	3" CURB REVEAL AT TRANSITION BETWEEN PCRS
PCR 15	MCKNIGHT	52+03.16	16.50	8.00	1.21	9.00	7.67	12.39	4.08	8.31	3" CURB REVEAL AT TRANSITION BETWEEN PCRS
PCR 16	CATHARINE	38+53.43	12.00	5.00	-0.84	9.00	7.67	12.12	7.90	4.22	3" CURB REVEAL AT TRANSITION BETWEEN PCRS
PCR 17	CATHARINE	38+53.34	12.00	5.00	-0.78	9.00	7.67	13.00	6.93	6.07	3" CURB REVEAL AT TRANSITION BETWEEN PCRS
PCR 18	MCKNIGHT	51+62.54	16.16	7.00	1.37	9.00	7.67	12.80	3.65	9.18	3" CURB REVEAL AT TRANSITION BETWEEN PCRS
PCR 19	MCKNIGHT	51+62.80	16.51	8.00	1.96	9.00	9.00	11.13	2.99	8.14	3" CURB REVEAL AT TRANSITION BETWEEN PCRS
PCR 20	CATHARINE	37+91.56	11.08	5.00	1.29	9.00	9.00	13.65	8.05	5.60	3" CURB REVEAL AT TRANSITION BETWEEN PCRS



LEGEND
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PROFILE GRADE LINE. FOR TRANSITION LENGTHS SEE
E 107.9.0

- * TOLERANCE FOR CONSTRUCTION ± 0.5%
- ** ROADWAY ARROWS FOLLOW BASELINE ALIGNMENT

CATHARINE STREET @ BAY STREET

PCR NO	BASELINE	STA AT CENTER OF OPENING	OFFSET	OPENING WIDTH (FT)	GUTTER PROFILE SLOPE (%) AT REF. PT*	HIGH TRANS LENGTH (FT)	LOW TRANS LENGTH (FT)	DEPTH FROM GUTTER TO BACK OF WALK (FT)	WIDTH OF LEVEL LANDING (FT)	RAMP LENGTH (FT)	COMMENT
PCR 8	CATHARINE	31+85.98	15.10	5.00	0.35	--	6.50	9.76	6.17	3.59	
PCR 9	BAY	86+21.92	14.72	5.00	0.91	7.67	--	9.78	5.93	3.85	
PCR 10	BAY	86+34.28	16.83	5.00	-0.85	--	6.50	16.50	8.68	7.82	3" CURB REVEAL AT TRANSITION BETWEEN PCRS
PCR 11	CATHARINE	32+44.70	17.25	4.96	1.04	7.67	--	15.37	8.61	6.76	3" CURB REVEAL AT TRANSITION BETWEEN PCRS

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