

CITY OF SALEM, MA
DEPARTMENT OF PUBLIC WORKS
INTERSECTION IMPROVEMENTS AT
JEFFERSON AVENUE, WILLSON STREET & CLOUTMAN STREET



MAYOR
DOMINICK PANGALLO

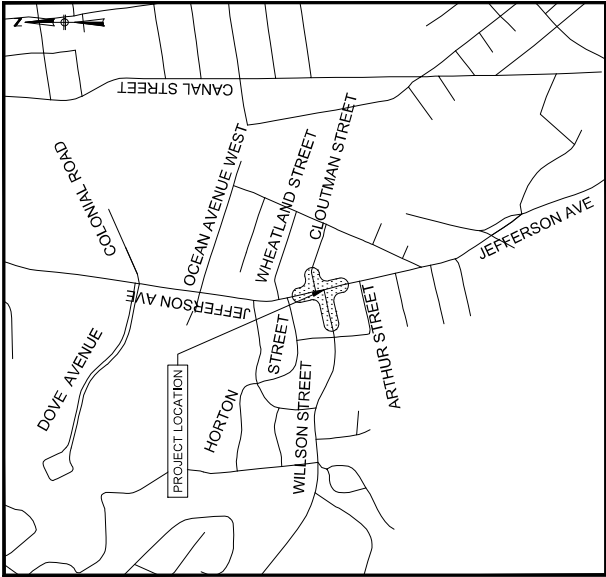
DEPARTMENT OF PUBLIC SERVICES
DEBORAH DUHAMEL, P.E., ACTING CITY ENGINEER
GIOVANNA Z. RECINOS, WATER & SEWER ENGINEER

TRAFFIC AND PARKING DEPARTMENT
DAVID KUCHARSKY, DIRECTOR, TRAFFIC AND PARKING
CHRISTINA HODGE, P.E., ASSISTANT TRANSPORTATION DIRECTOR
ALAN SULLAWAY, ASSISTANT PARKING DIRECTOR
RUSSELL FINDLEY, MOBILITY COORDINATOR
BRENDAN LINARD, TRANSPORTATION PLANNER

DECEMBER, 2023

PLAN INDEX

SHEET NO.	DESCRIPTION
01	COVER SHEET
02	LEGEND & ABBREVIATIONS
03	GENERAL NOTES
04	TYPICAL SECTIONS & PAVEMENT NOTES
05 - 09	CONSTRUCTION DETAILS
10	CONSTRUCTION PLAN
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18 - 26	CROSS SECTIONS
27 - 29	TEMPORARY TRAFFIC CONTROL PLANS



PROJECT LOCATION LOCATION MAP
1"=400'

PREPARED BY:

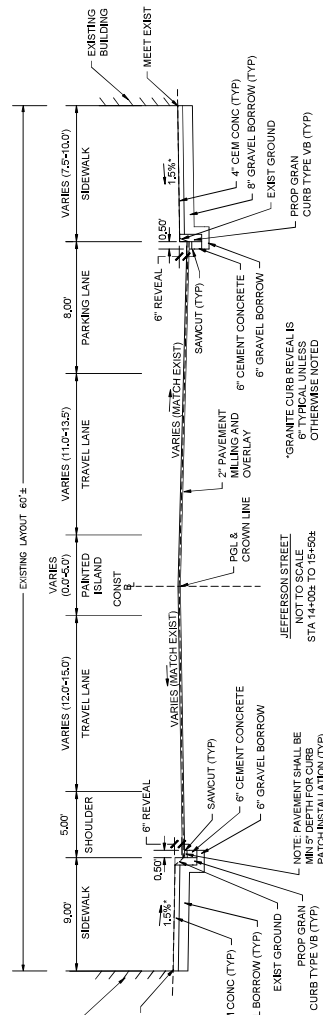


ISSUE DATE: 12/29/2023

REGISTERED PROFESSIONAL DATE

[illegible]

PAVEMENT MILLING AND OVERLAY	
SURFACE COURSE:	2" SUPERPAVE SURFACE COURSE - 12.5" POLYMER (SSD(12.5+P)) OVER ASPHALT EMULSION FOR TACK COAT (RS+H) OVER
LEVELING COURSE:	DEPTH VARIES, SUPERPAVE LEVELING COURSE - 4.5" (SLC - 4.5). SEE GRADING PLAN SHEET 13 OVER
PAVEMENT MILLING:	2" PAVEMENT MILLING
CEMENT CONCRETE SIDEWALKS AND PEDESTRIAN CURB RAMPS	
SURFACE:	4" CEMENT CONCRETE SURFACE 4000 PSI, 3-4", 610 OVER
FOUNDATION:	8" GRAVEL BORROW, TYPE b
CEMENT CONCRETE DRIVEWAY APRONS	
SURFACE:	4" CEMENT CONCRETE SURFACE 4000 PSI, 3-4", 610 OVER
FOUNDATION:	8" GRAVEL BORROW, TYPE b
HMA DRIVEWAYS / WALKWAYS	
SURFACE:	1-1/2" SUPERPAVE SURFACE COURSE 9.5" (SSC+9.5) OVER ASPHALT EMULSION FOR TACK COAT (RS+H) OVER 2-1/2" SUPERPAVE INTERMEDIATE COURSE 12.5" (IS+12.5) OVER
FOUNDATION:	8" GRAVEL BORROW, TYPE b

* TOLERANCE FOR CONSTRUCTION $\pm 0.5\%$ [illegible]

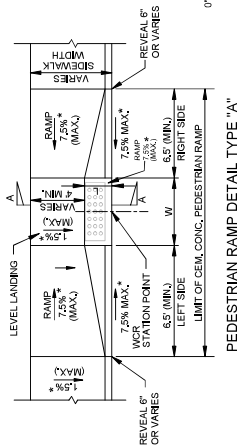
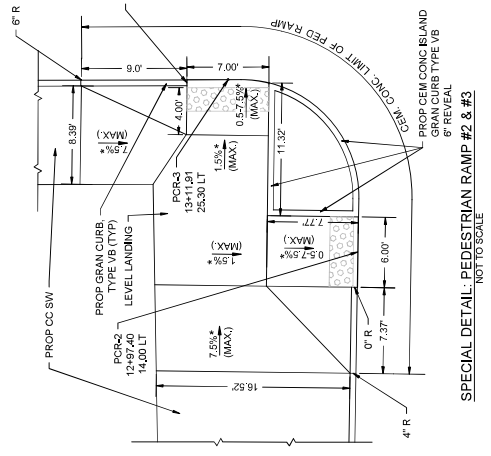


TABLE I

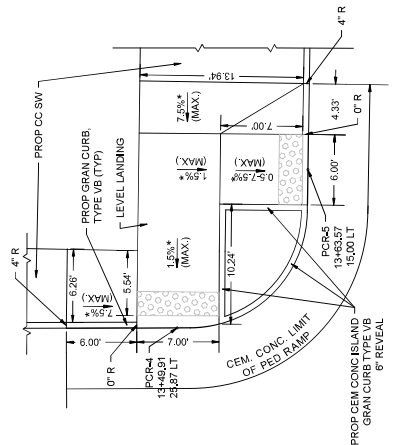
ROADWAY PROFILE GRADE	*HIGH SIDE TRANSITION LENGTH	ENGLISH UNITS
=0%	6'-6"	
>0% TO 1%	7'-8"	
>1% TO 2%	9'-0"	
>2% TO 3%	11'-0"	
>3% TO 4%	14'-0"	
>4% TO 5%	15'-0" MAX.	

CURB TRANSITION LENGTH FOR PEDESTRIAN CURB RAMPS
 MASSDOT CONST. STD. DWG. NO. E107.4.0
 *BASED ON A DESIGN SLOPE OF 7.5% AND A REVEAL OF 6".

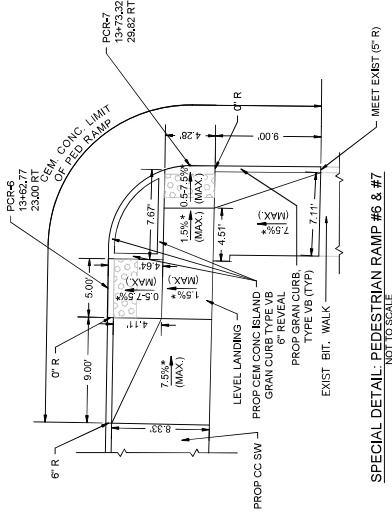
PEDESTRIAN RAMP DETAIL TYPE 'B'
 NOT TO SCALE



SPECIAL DETAIL: PEDESTRIAN RAMP #4 & #5
 NOT TO SCALE



SPECIAL DETAIL: PEDESTRIAN RAMP #6 & #7
 NOT TO SCALE

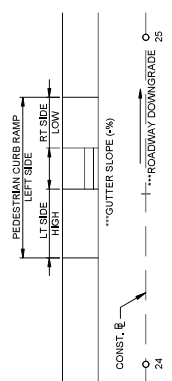


PEDESTRIAN CURB RAMP DATA SIDEWALK DETOUR - TYPE A

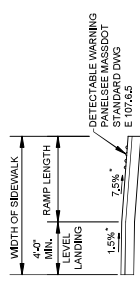
PCR NO.	LOCATION	RAMP REFERENCE POINT	GUTTER SLOPE	LENGTH OF PRIMARY RAMP L	WIDTH OF RAMP OPENING W	TRANSITION LENGTH LEFT	TRANSITION LENGTH RIGHT	SIDEWALK WIDTH
1	JEFFERSON AVENUE	12+97.40	2.20%	3.22'	6.00'	6.5' (4' R)	7.33' (4' R)	8.72'

PEDESTRIAN CURB RAMP DATA SIDEWALK DETOUR - TYPE B

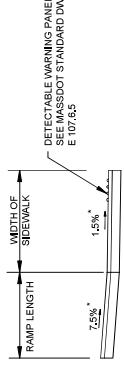
PCR NO.	LOCATION	RAMP REFERENCE POINT	GUTTER SLOPE	DEPTH OF LANDING	LENGTH OF RAMP L	WIDTH OF RAMP OPENING W	TRANSITION LENGTH LEFT	TRANSITION LENGTH RIGHT	SIDEWALK WIDTH
8	JEFFERSON AVENUE	14+03+05	1.51% L 3.05% R	4.0'	6.5' (LT) 14.0' (RT)	6.00'	10.50' (5' R)	14.0' (6.0' R)	(10.0' L) (6.0' R)



GUTTER SLOPE DIAGRAM
 NOT TO SCALE

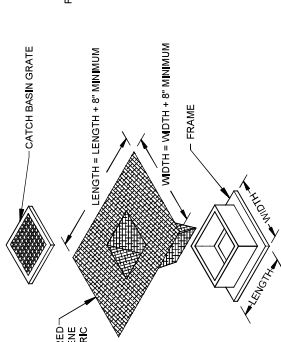


SECTION A-A
 NOT TO SCALE



SECTION B-B
 NOT TO SCALE

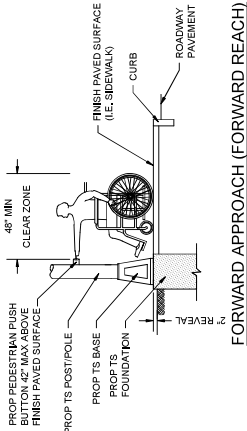
12/29/2023 3:40 PM - C:\LOCALIZATION\BETA\CONSTRUCTION\DETAILS\DWG (MADOT-0-975)	DRAWN BY: DESIGNED BY: CHECKED BY: NUMBER:	REGISTERED PROFESSIONAL PREPARED BY: CT CHOF	BETA www.BETA-inc.com	SUBCONSULTANT NONE	TITLE INTERSECTION IMPROVEMENTS JEFFERSON AVE AT WILSON ST/CLOUTMAN ST CONSTRUCTION DETAILS SALEM, MASSACHUSETTS	BETA JOB NO. 6965 ISSUE DATE 12/29/2023 SHEET NO. 05 of 29
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- NOTES**
1. FRAME DIMENSIONS BY A MINIMUM OF 8".
 2. REMOVE CATCH BASIN GRATE AND INSTALL POLYPROPYLENE FABRIC OVER CATCH BASIN.
 3. FRAME, REPLACE CATCH BASIN GRATE TO SECURE POLYPROPYLENE FABRIC IN PLACE.

CATCH BASIN EROSION CONTROL PROTECTION (TYP)

NOT TO SCALE

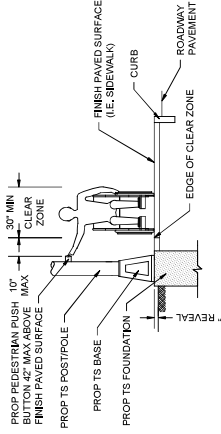


FORWARD APPROACH (FORWARD REACH)

NOTES:

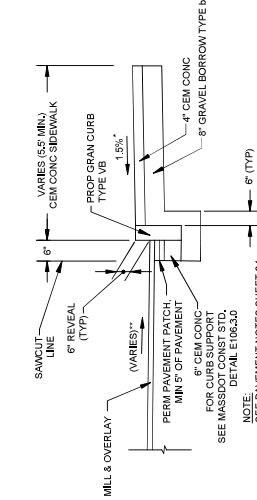
1. A CLEAR GROUND SPACE SHALL CONSIST OF A STABLE AND FIRM AREA COMPLYING WITH 521 CMR 6.5 (FORWARD REACH) OR 521 CMR 6.6 (SIDE REACH) AND SHALL BE PROVIDED AT EACH OF THE PEDESTRIAN PUSH BUTTONS.
- a. WHERE A SIDEWALK APPROACH IS PROVIDED, PEDESTRIAN PUSH BUTTONS SHALL ABUT AND BE CENTERED ON THE CLEAR GROUND SPACE.
- b. WHERE A PARALLEL APPROACH IS PROVIDED, PEDESTRIAN PUSH BUTTONS SHALL BE WITHIN TEN INCHES (10") HORIZONTALLY OF AND CENTERED ON THE CLEAR GROUND SPACE.

PARALLEL APPROACH (SIDE REACH)



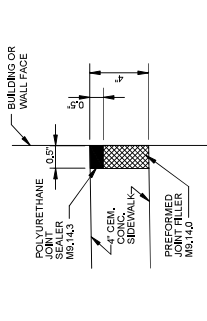
PEDESTRIAN PUSH BUTTON CLEAR ZONE

NOT TO SCALE



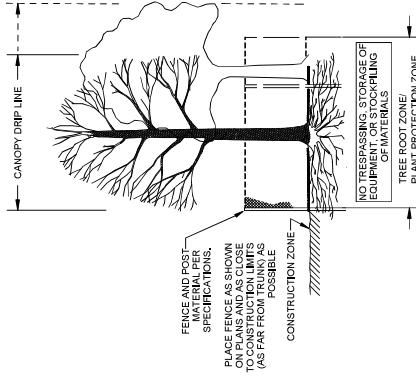
DETAIL FOR SIDEWALK W/ GRANITE CURB

NOT TO SCALE



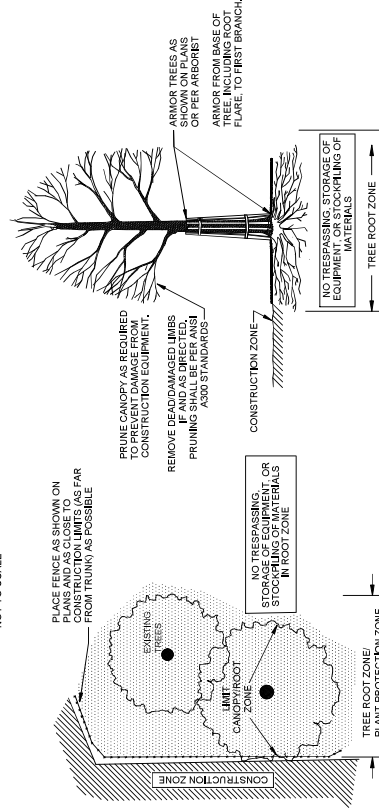
DETAIL FOR PREFORMED JOINT FILLER AND SEALER AT BUILDING AND WALL FACES

NOT TO SCALE



SECTION - FENCE PROTECTION OF ROOT ZONE

PLAN VIEW - FENCE PROTECTION OF ROOT ZONE



SECTION - TRUNK ARMORING & PRUNING

PLAN VIEW - TRUNK ARMORING & PRUNING

TREE PROTECTION DETAILS

NOT TO SCALE

For Review Only

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REGISTERED PROFESSIONAL PREPARED BY

DRAWN BY: OM
DESIGNED BY: CT
CHECKED BY: CRUF

SUBCONSULTANT

SCALE

NONE

TITLE

INTERSECTION IMPROVEMENTS JEFFERSON AVE AT WILSON ST/CLOUTMAN ST

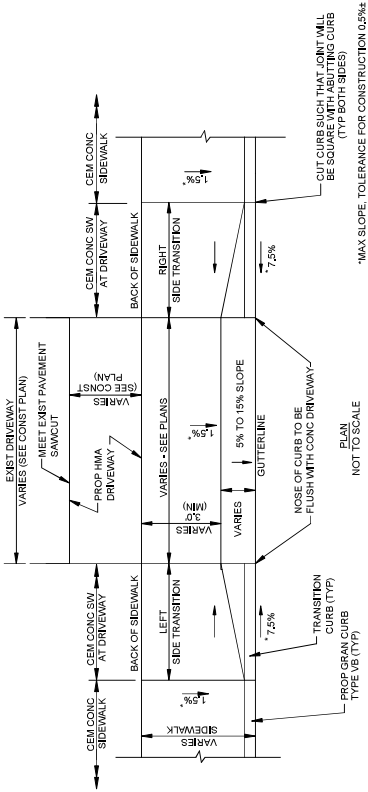
CONSTRUCTION DETAILS SALEM, MASSACHUSETTS

BETA JOB NO. 6965

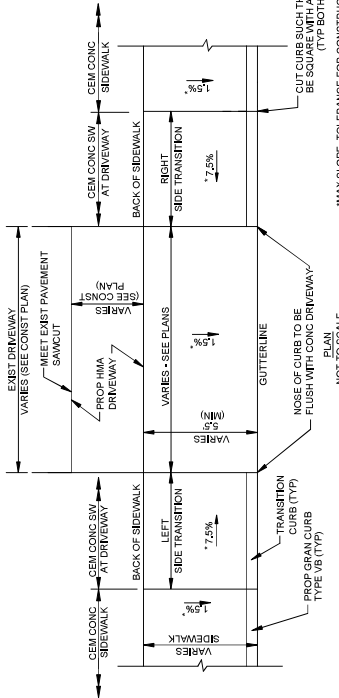
ISSUE DATE 12/29/2023

06 of 29

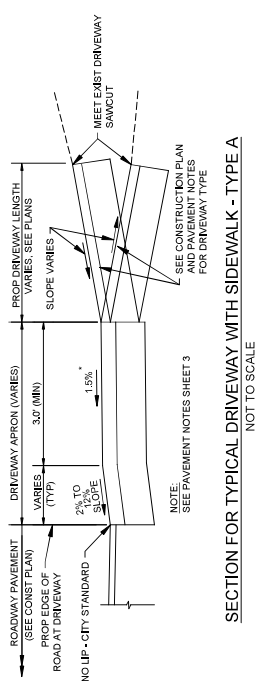
SHEET NO.



DETAIL FOR TYPICAL DRIVEWAY WITH SIDEWALK - TYPE A

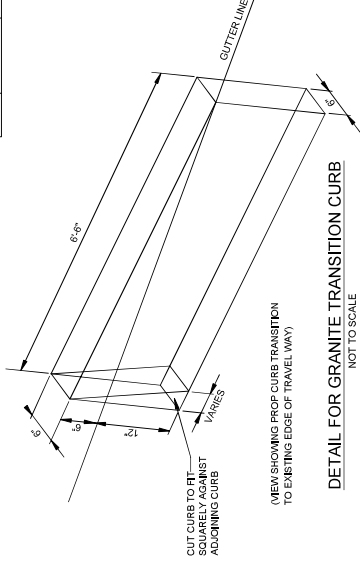


DETAIL FOR DEPRESSED DRIVEWAY WITH SIDEWALK - TYPE B



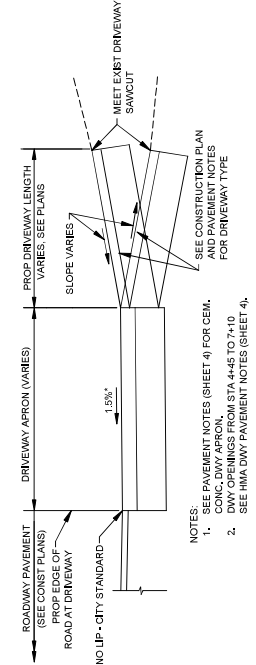
SECTION FOR TYPICAL DRIVEWAY WITH SIDEWALK - TYPE A

NOT TO SCALE



DETAIL FOR GRANITE TRANSITION CURB

NOT TO SCALE



- NOTES:
- SEE PAVEMENT NOTES (SHEET 4) FOR CEM. AND PAVEMENT NOTES FOR DRIVEWAY TYPE
 - SEE HMA DWY PAVEMENT NOTES (SHEET 4).

SECTION FOR DEPRESSED DRIVEWAY WITH SIDEWALK - TYPE B

NOT TO SCALE

DAY NO.	LOCATION	DRIVEWAY OPENING AT GUTTER		GUTTER PROFILE SLOPE	OPENING WIDTH AT GUTTER	DEPTH OF GUTTER BACK OF SIDEWALK	PATH OF TRAVEL ACROSS DRIVEWAY	TRANSITION LENGTH	
		STATION	OFFSET					LEFT	RIGHT
1	JEFFERSON AVE.	11+41.30	23.0' RT	1.51%	14.43'	VARIES (8.0'-9.0')	5.5'	7.58' (7' R)	10.5' (7' R)
2	JEFFERSON AVE.	11+70.02	18.0' LT	-1.04%	11.31'	VARIES (7.8'-7.9')	5.25'	7.50' (5' R)	7.58' (7' R)
3	JEFFERSON AVE.	11+86.35	23.0' RT	2.00%	17.06'	6.6'	5.5'	7.58' (5' R)	12.83' (7' R)
4	JEFFERSON AVE.	12+47.88	18.0' LT	-2.06%	14.50'	VARIES (7.0'-6.3')	5.25'	12.83' (7' R)	5.42' (5' R)
5	JEFFERSON AVE.	12+71.76	23.0' RT	2.00%	13.41'	VARIES (8.7'-9.5')	5.5'	4.33' (4' R)	12.83' (7' R)
6	JEFFERSON AVE.	14+16.55	18.0' LT	-2.42%	28.88'	VARIES (8.0'-10.5')	6.0'	7.33' (4' R)	4.33' (4' R)
8	JEFFERSON AVE.	15+25.71	22.5' RT	2.46%	18.31'	8.0'	5.0'	11.0'	6.5' (4' R)
10	WILSON ST.	0+92.80	20.0' LT	3.71%	24.15'	VARIES (6.5'-10.0')	5.0'	6.5' (4' R)	9.33' (4' R)

DAY NO.	LOCATION	DRIVEWAY OPENING AT GUTTER		GUTTER PROFILE SLOPE	OPENING WIDTH AT GUTTER	DEPTH OF GUTTER BACK OF SIDEWALK	PATH OF TRAVEL ACROSS DRIVEWAY	TRANSITION LENGTH	
		STATION	OFFSET					LEFT	RIGHT
7	JEFFERSON AVE.	14+70.13	18.0' LT	-2.2800'	35.00'	9.0'	9.0'	7.33' (4' R)	4.33' (4' R)
9	WILSON ST.	0+85.16	18.0' RT	-3.44%	13.50'	VARIES (6.2'-7.8')	6.2'	7.0' (3' R)	3.25' (3' R)

DETAIL FOR TRANSITION CURB

PROP CURB TO EXISTING EDGE OF TRAVEL WAY

NOT TO SCALE

DETAIL FOR TRANSITION CURB

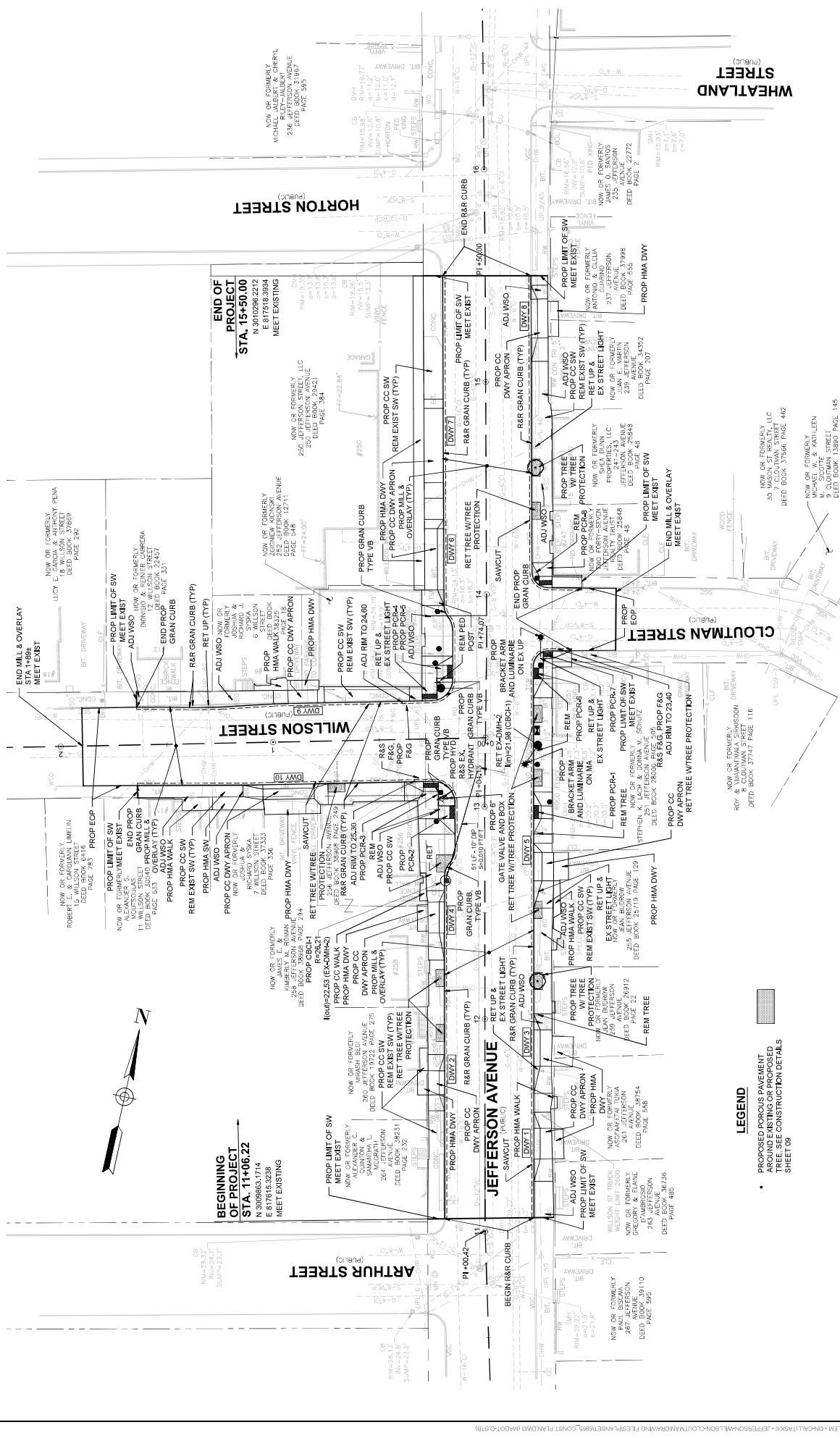
TRANSITION CURB - PROP CURB TO EXISTING CURB

NOT TO SCALE

QU.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	NOTES
2	MALLUS X SCHEDECKERI	'RED JADE'	CRABAPPLE • 'RED JADE' • WEEPIING	1.5-2" CAL	B&B



2/28/2023 3:40 PM O:\69008\69005 - SALEM - ON-CALL\TASK 6 - JEFFERSON-WILSON-CLOUD\MANDRAWING FILES\PLANSET\69005 CONSTRUCTION DETAILS.DWG (MADOT-D-818)

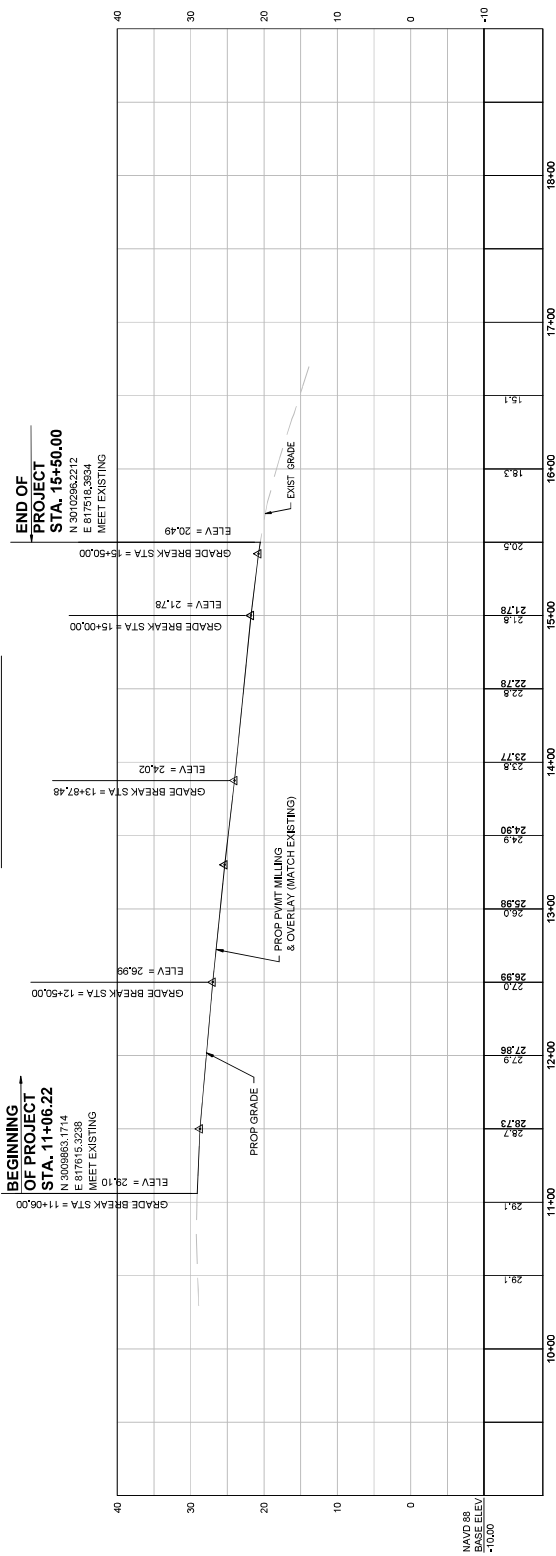


LEGEND

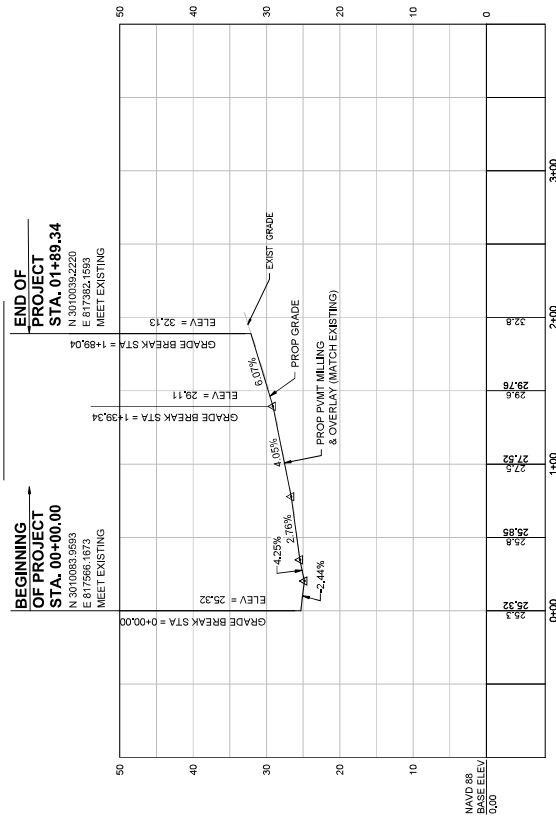
- PROPOSED POROUS PAVEMENT AROUND EXISTING OR PROPOSED TREE. SEE CONSTRUCTION DETAILS SHEET 109

DRAWN BY		REGISTERED PROFESSIONAL	PREPARED BY	SUBCONSULTANT		TITLE		BETA JOB NO. 6965	
DESIGNED BY		FOR REVIEW ONLY	BETA		JEFFERSON AVE AT WILSON ST/CLOUTMAN ST		ISSUE DATE 12/29/2023		
CHECKED BY		ONLY	www.BETA-inc.com		CONSTRUCTION PLAN		SHEET NO. 10 of 29		
DATE		MADE BY	CHECKED BY	REVISIONS		SALEM, MASSACHUSETTS			

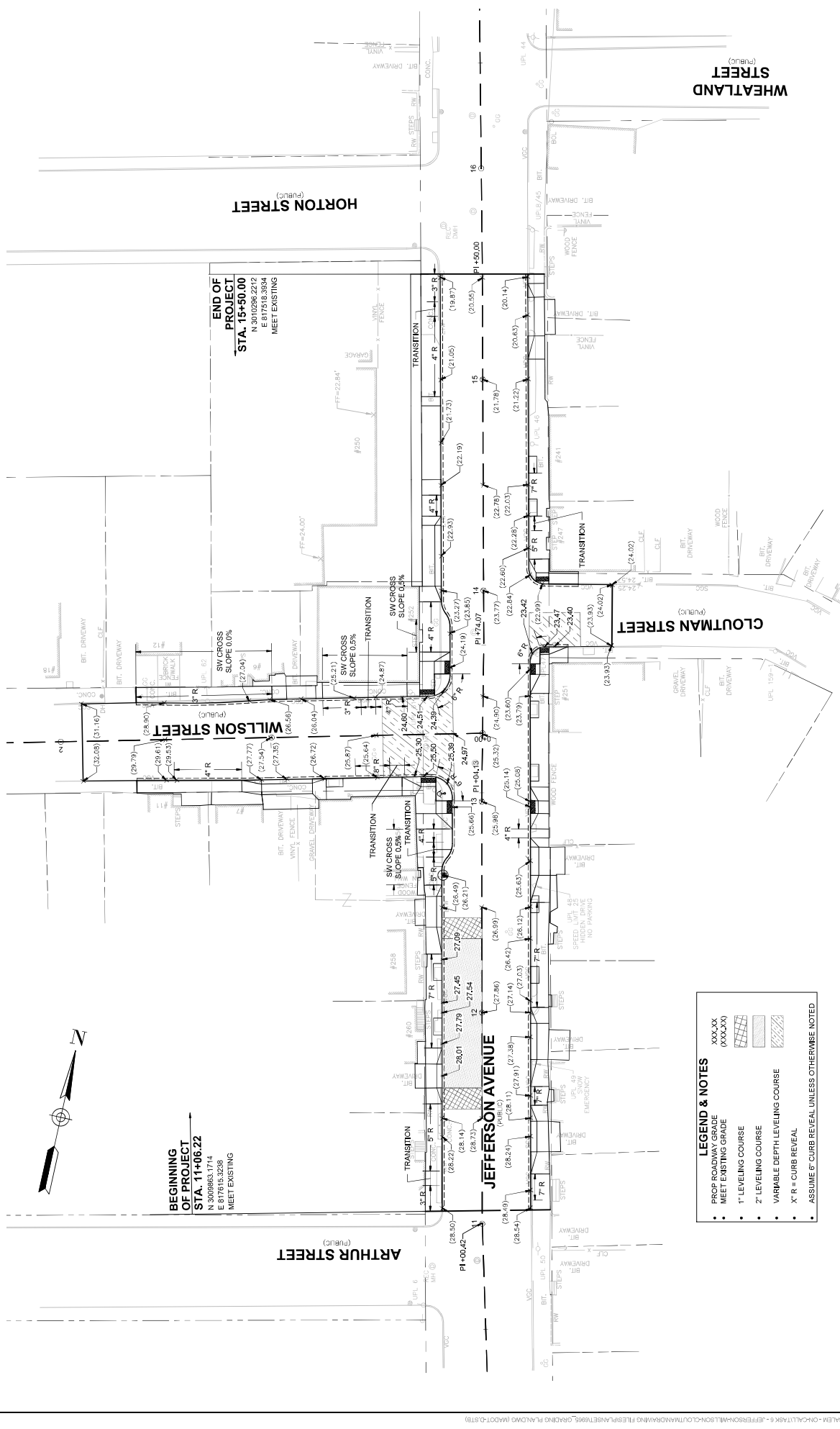
JEFFERSON AVENUE



WILSON STREET



DRAWN BY		REGISTERED PROFESSIONAL	REPAIRED BY	SUBCONSULTANT		SCALE	TITLE	BETA JOB NO.
OM							INTERSECTION IMPROVEMENTS	6665
DESIGNED BY							JEFFERSON AVE AT WILSON ST	ISSUE DATE
CT							PROFILE	12/26/2023
CHECKED BY							SALEM, MASSACHUSETTS	SHEET NO.
CRUF								11 of 29
NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS				



- LEGEND & NOTES**
- PROPOSED ROADWAY GRADE (XXXXXX)
 - MEET EXISTING GRADE (XXXXXX)
 - 1" LEVELING COURSE (XXXXXX)
 - 2" LEVELING COURSE (XXXXXX)
 - VARIABLE DEPTH LEVELING COURSE (XXXXXX)
 - X" R = CURB REVEAL (XXXXXX)
 - ASSUME 6" CURB REVEAL UNLESS OTHERWISE NOTED

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS	DRAWN BY CM	DESIGNED BY CT	CHECKED BY CM/CF	REGISTERED PROFESSIONAL REPREPARED BY	SUBCONSULTANT	SCALE	TITLE	BETA JOB NO. 6665	ISSUE DATE 12/28/2023	SHEET NO. 13 of 29



For
Review
Only

INTERSECTION IMPROVEMENTS
JEFFERSON AVE AT WILSON ST/CLOUTMAN ST
GRADING PLAN
SALEM, MASSACHUSETTS



IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	DIMENSIONS (in)		NUMBER OF SIGNS REQUIRED	COLOR		POST SIZE NUMBER REQUIRED	UNIT AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING		BACK-GROUND	LEGEND BORDER		
R2<125	24 in	30 in				1	WHITE	BLACK	P-5 1	5.00
R3<4LR	30 in	30 in				1	WHITE	BLACK	P-5 1	6.25
R3<7L	30 in	30 in				1	WHITE	BLACK	P-5 1	6.25
R5<2	24 in	24 in				1	WHITE	BLACK / RED	P-5 1	4.0
R7<5<15 MIN	12 in	18 in				1	WHITE	GREEN	P-5 1	1.5
R7<11	12 in	18 in				3	WHITE	RED	P-5 3	4.5
R8<3	12 in	18 in				1	WHITE	RED	P-5 1	1.5
R10<1A	30 in	36 in				3	WHITE	BLACK	1 ON SIGNAL POST 2 ON MAST ARM	7.5
MA-R10<12A	30 in	36 in				1	WHITE	BLACK	MOUNT ON MAST ARM	7.5
W0<3	30 in	30 in				2	YELLOW	BLACK	P-5 2	12.50

SEE 2009 MUTCD STANDARDS

SEE MASSDOT STANDARDS

SEE 2009 MUTCD STANDARDS

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	DIMENSIONS (in)		NUMBER OF SIGNS REQUIRED	COLOR		POST SIZE NUMBER REQUIRED	UNIT AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING		BACK-GROUND	LEGEND BORDER		
MA-D3<1A	48 in	12 in		60.4D	3.0	2	GREEN	WHITE	P-5 1	-
MA-D3<1B	42 in	12 in		60.4D	3.0	2	GREEN	WHITE	P-5 1	-
MA-D3<1C	48 in	12 in		60.4D	3.0	4	GREEN	WHITE	2 MOUNT W/ MAST ARM 2 MOUNT W/ MAST ARM	-

- NOTES:
1. HIGH INTENSITY ENCAPSULATED LENS REFLECTIVE SHEETING CONFORMING TO SECTION M8-30.0, TYPE III OR N, OF THE MASSDOT STANDARD SPECIFICATIONS SHALL BE USED FOR ALL SIGNS.
 2. ALL P5 POSTS SHALL BE TELESCOPIC, RECTANGULAR TYPE POSTS, CONFORMING TO THE DIMENSIONS AND REQUIREMENTS OF THE MASSDOT STANDARD SPECIFICATIONS FOR SIGNS AND SIGNALS.
 3. SEE THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND "STANDARD HIGHWAY SIGN" FOR THE LATEST SPECIFICATIONS ON TEXT, DIMENSIONS AND COLOR. (ALSO SEE SECTION M8-30.0 TYPE III MASSDOT STANDARD SPECIFICATION, THE "MASSACHUSETTS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", AND "GUIDE SIGN" FOR SECONDARY STATE HIGHWAYS (LATEST EDITIONS) BY THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION.)
 4. ALL STREET NAME SIGNS SHALL BE PAINTED ONE SIDE AND SHALL USE TWO SIGNS MOUNTED BACK TO BACK WITH BOLT-THROUGH METHOD.

DRAWN BY AP		REGISTERED PROFESSIONAL REPAIRED BY		SUBCONSULTANT		SCALE 	TITLE INTERSECTION IMPROVEMENTS JEFFERSON AVE AT WILSON ST/CLOUTMAN ST TRAFFIC SIGN SUMMARY SALEM, MASSACHUSETTS	BETA JOB NO. 6965
DESIGNED BY AP		For Review Only		BETA www.BETA-inc.com				ISSUE DATE 12/29/2023
CHECKED BY DF								SHEET NO. 15 of 29
NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS				

SIGNAL PHASING AND TIMING CHART

SEQUENCE AND TIMING CHART FOR FULLY ACTUATED SIGNAL CONTROL (ISOLATED)																
PHASE/EMERGENCY PRE-EMPTION																
STREET	DIRECTION	HOUSINGS	01	02	03	04	05	06	07	08	09	10	11	12	13	14
JEFFERSON AVENUE	SB	A,B	R	R	G	Y	R	R	R	R	R	R	R	R	R	R
JEFFERSON AVENUE	NB	D,E	R	R	R	R	R	R	R	R	R	R	R	R	R	R
JEFFERSON AVENUE	WB	C	+G	-Y	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R
CLOUTMAN STREET	WB	F,G	R	R	R	G	Y	R	R	R	R	R	R	R	R	R
WILSON STREET	EB	H	R	R	R	R	R	G	Y	R	R	R	R	R	R	R
WILSON STREET	EB	J	+RG	-RY	+R	R	R	R	G	Y	R	R	R	R	R	R
PEDESTRIAN	ALL	P1-28	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
TIMING IN SECONDS																
MINIMUM GREEN																
VEHICLE EXTENSION																
MAXIMUM GREEN I (7:00 AM - 9:00 AM MON - FRI)																
MAXIMUM GREEN II (ALL OTHER TIMES)																
CLEARANCE INTERVAL																
WALK/CLEARANCE/BUFFER INTERVAL																
DETECTOR MEMORY																
RECALL SWITCH																
EMERGENCY ONLY																
OFF																
NONLOCK																
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LOCATION:
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LOCATION:
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LOCATION:
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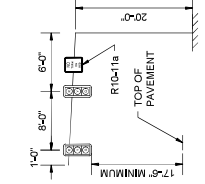


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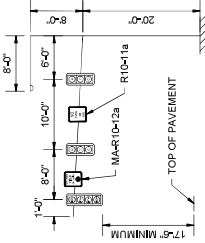


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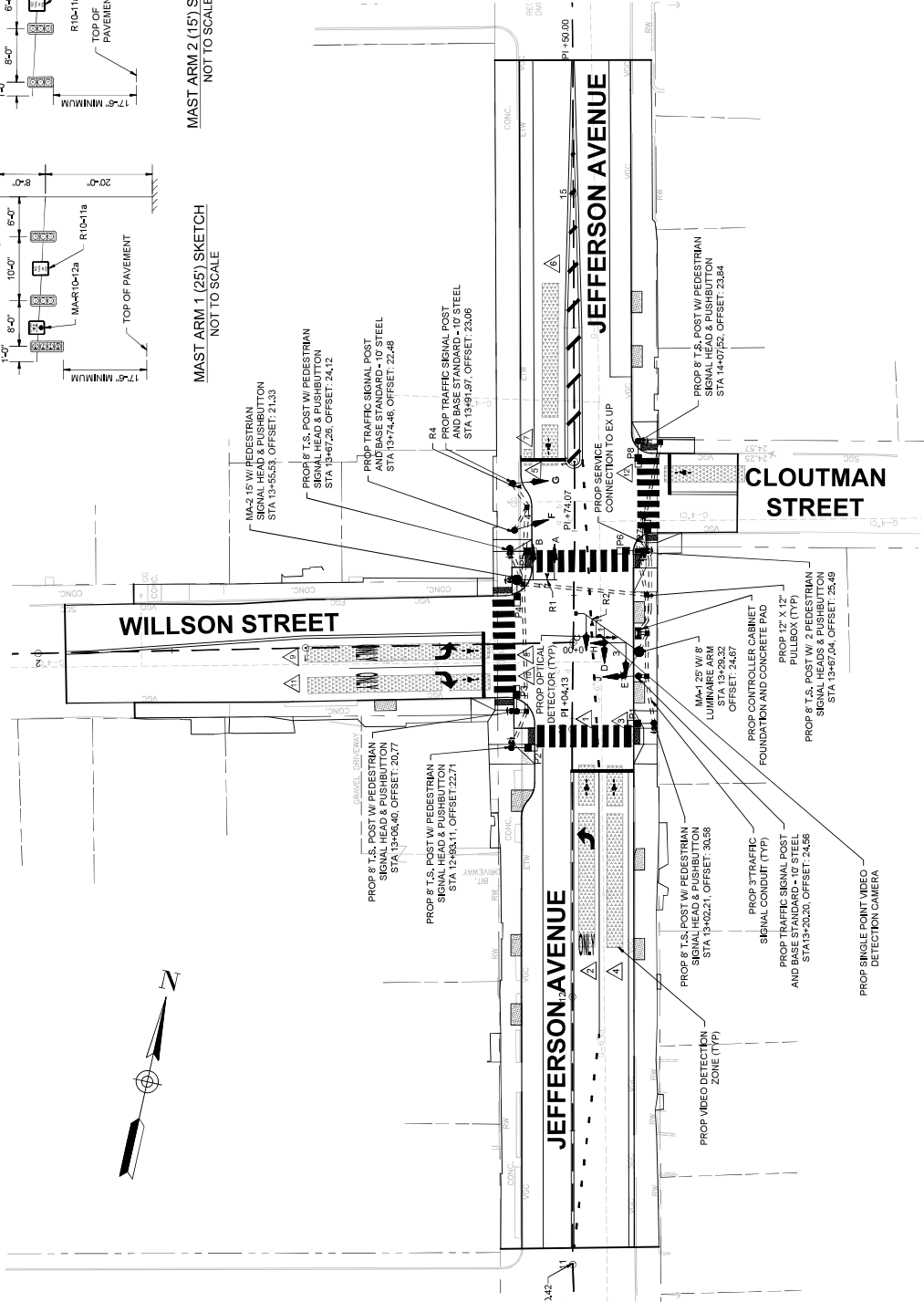
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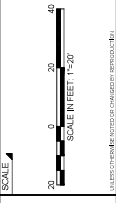
MAST ARM 2 (15') SKETCH
NOT TO SCALE



MAST ARM 1 (25') SKETCH
NOT TO SCALE



INTERSECTION IMPROVEMENTS
JEFFERSON AVE AT WILSON ST/CLOUTMAN ST
SIGNAL PLAN
SALEM, MASSACHUSETTS



SUBCONSULTANT

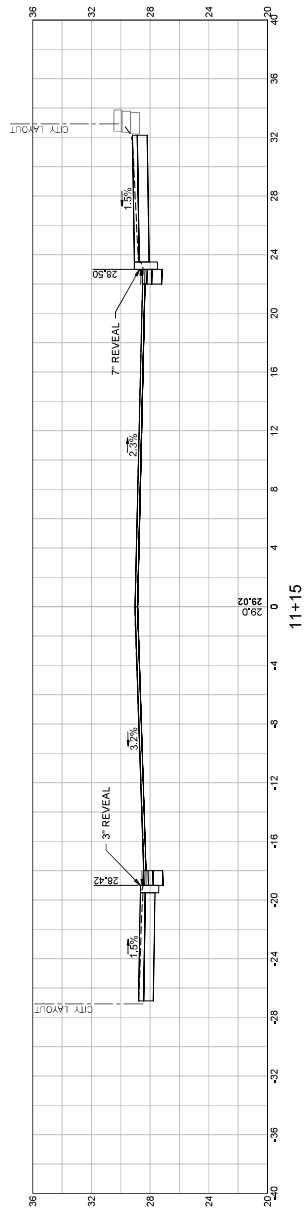
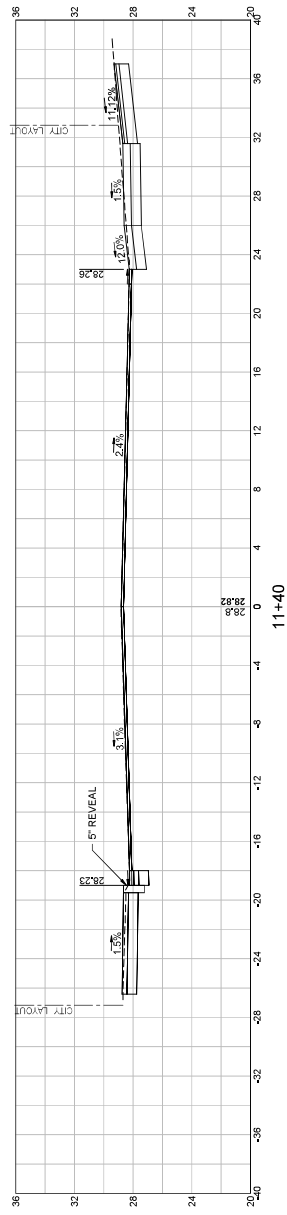
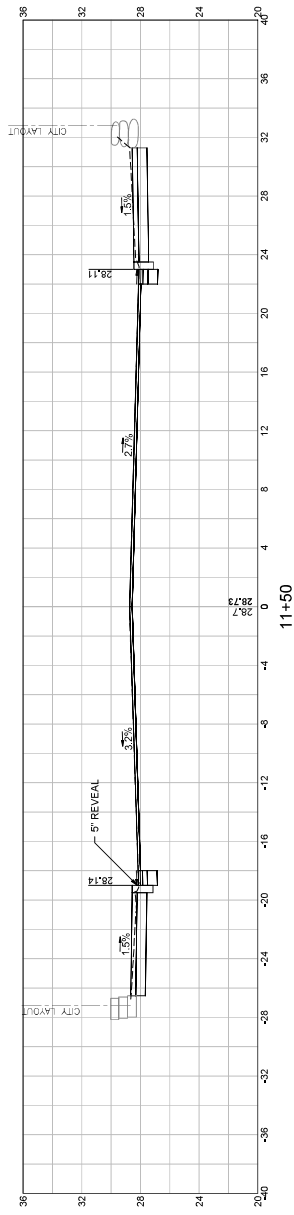


For
Review
Only

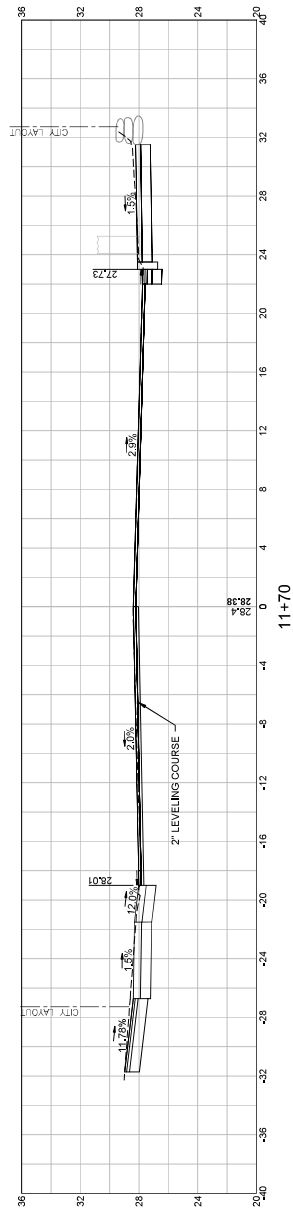
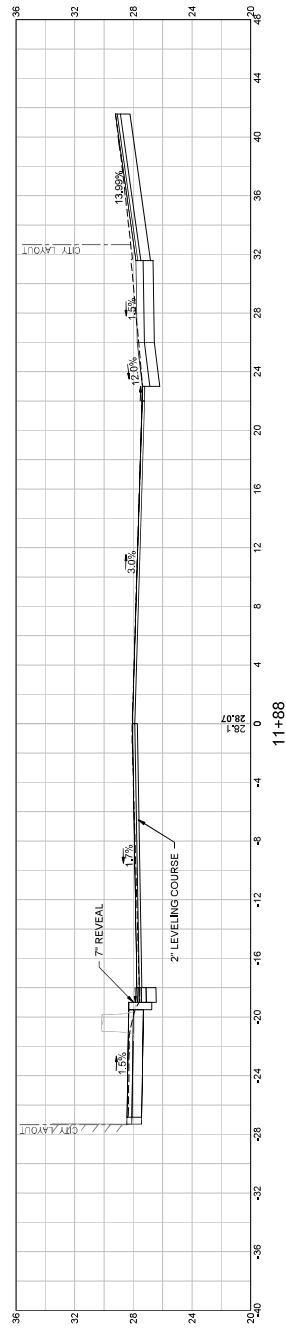
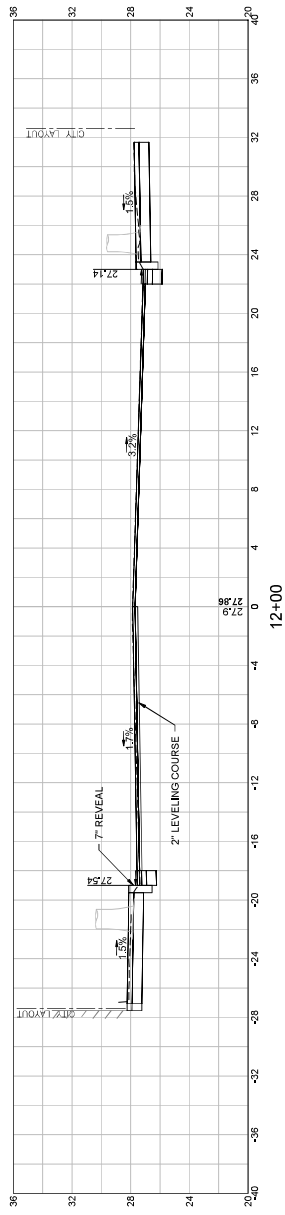
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DESIGNED BY: AP
CHECKED BY: DF

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

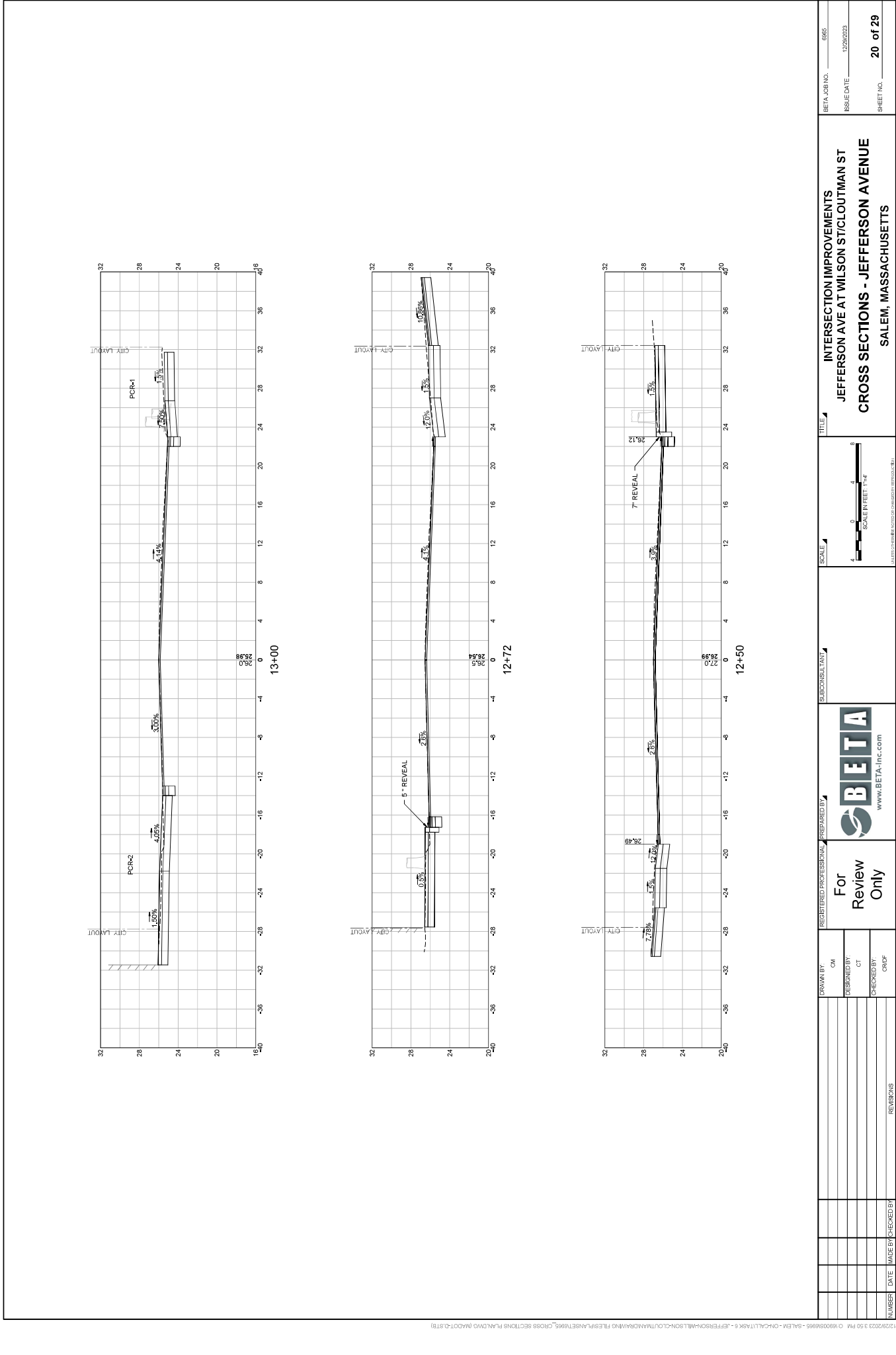
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ISSUE DATE 12/29/2023
SHEET NO. 17 of 29



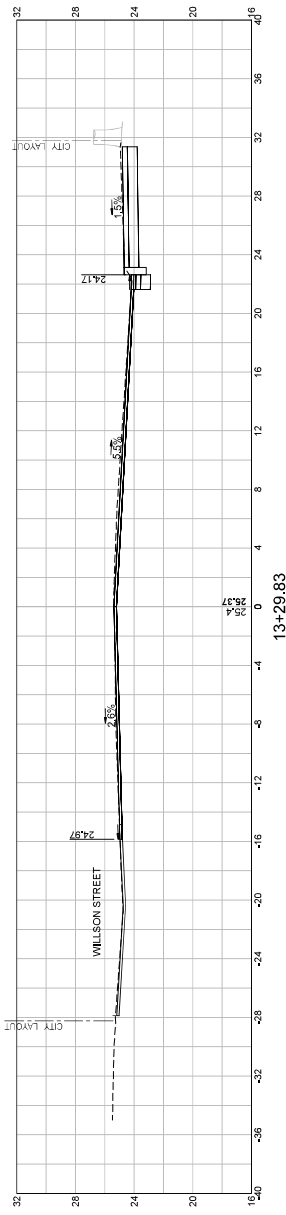
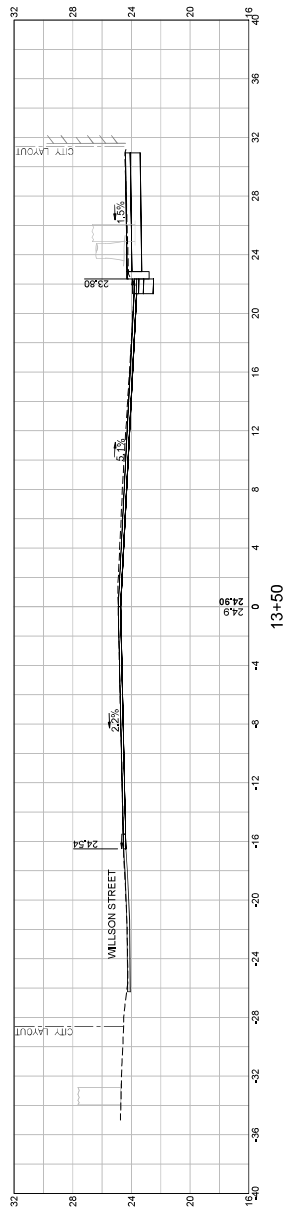
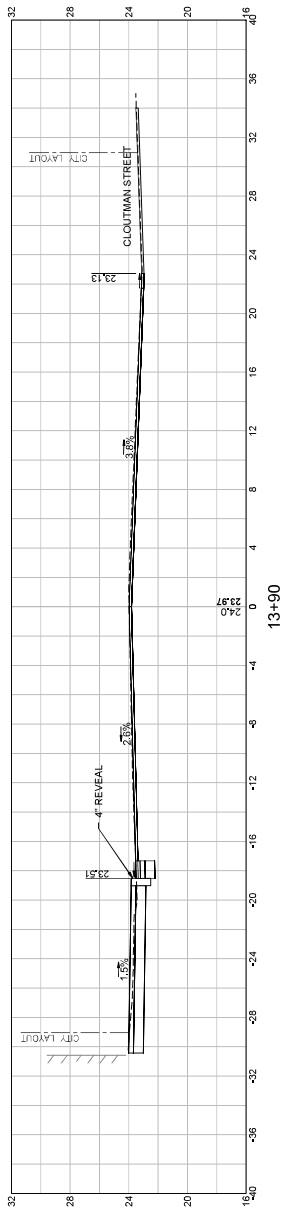
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DESIGNED BY CT		For Review Only		 BETA www.BETA-Inc.com				ISSUE DATE 12/29/2023		SHEET NO. 18 of 29
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NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS						



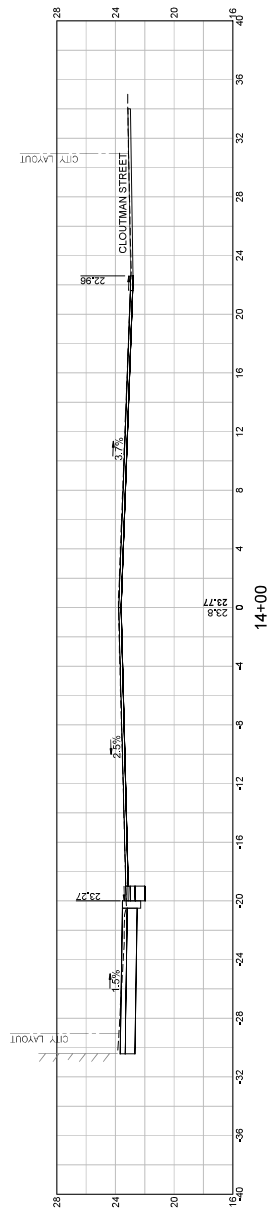
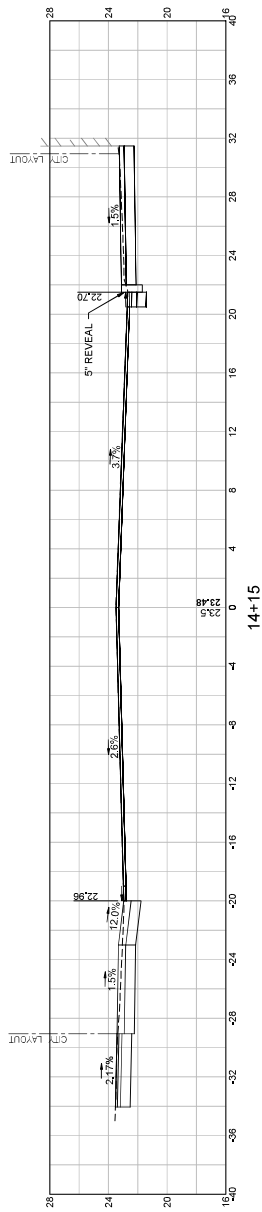
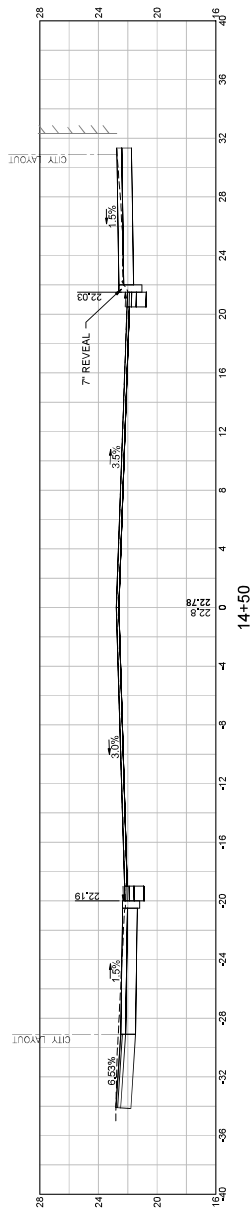
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DESIGNED BY CT		For Review Only		 BETA www.BETA-Inc.com				ISSUE DATE 12/29/2023		SHEET NO. 19 of 29
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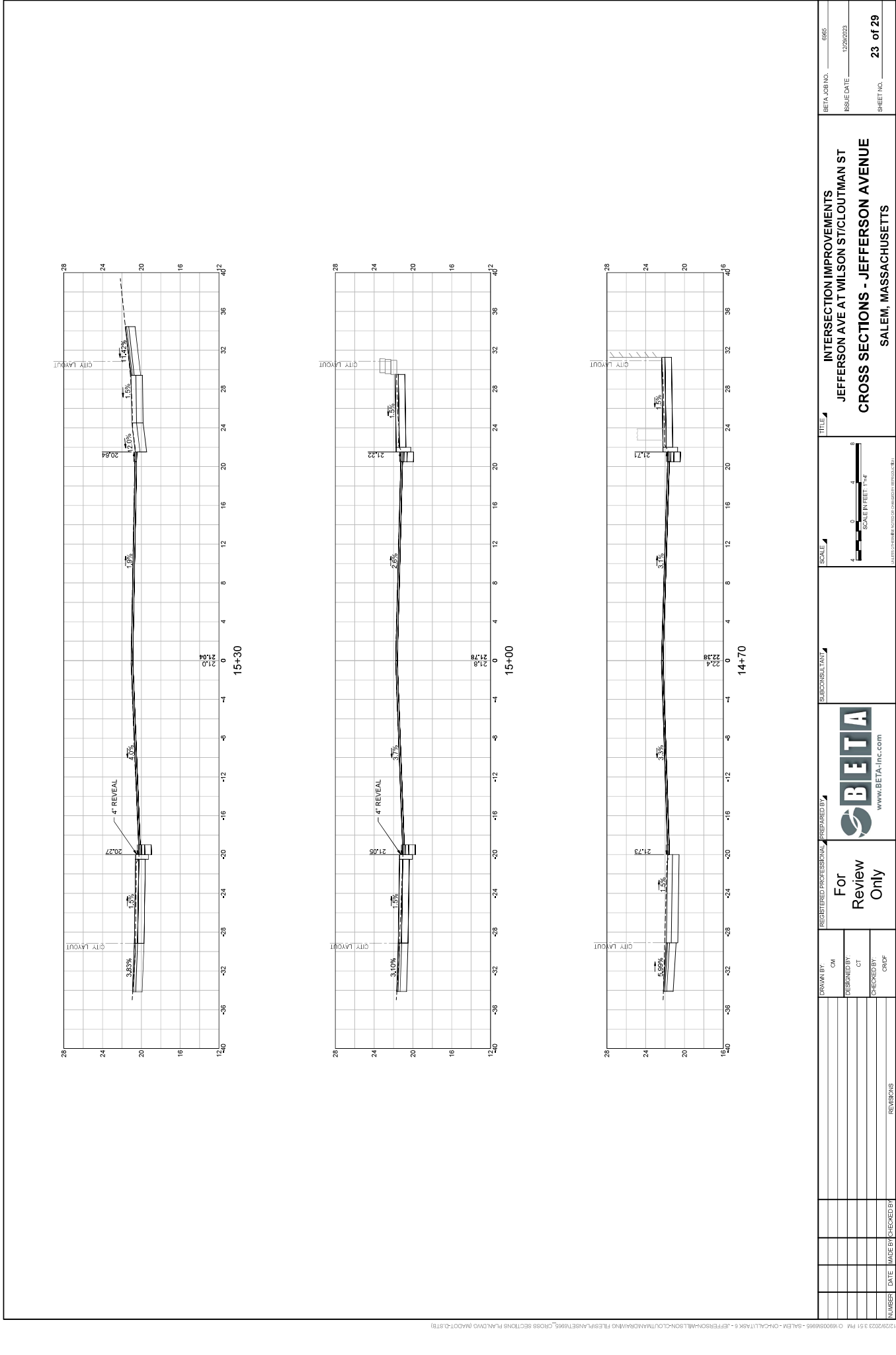


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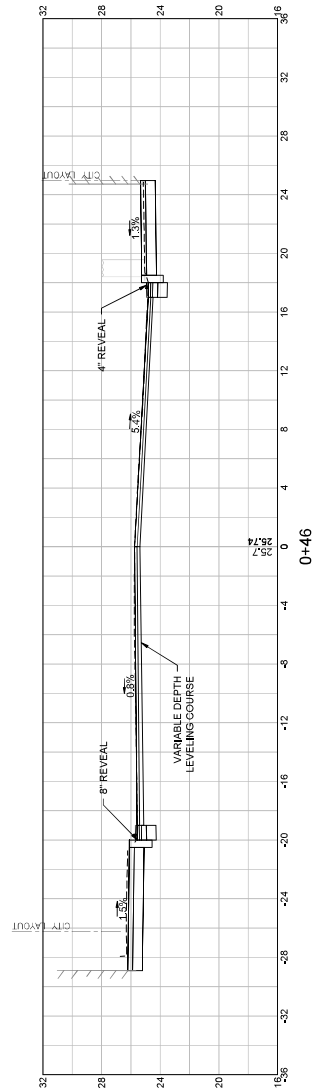
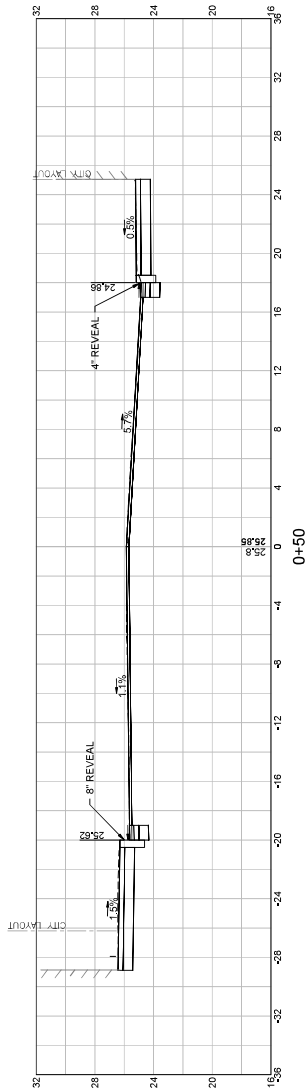
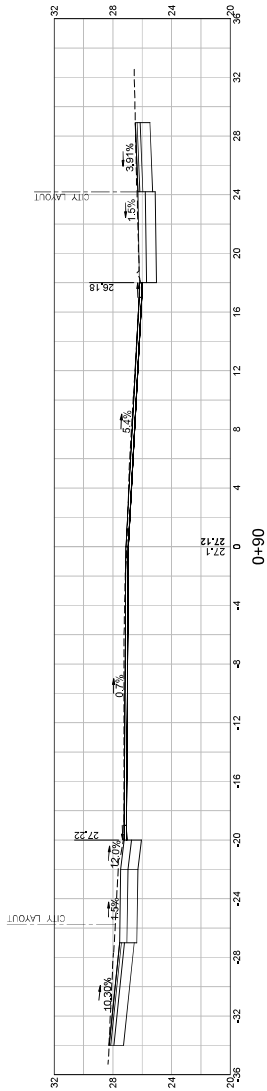


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CHECKED BY		CRUF					CROSS SECTIONS - JEFFERSON AVENUE	SHEET NO.	21 of 29
MADE BY		CHECKED BY	REVISIONS						

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DRAWN BY OM		REGISTERED PROFESSIONAL PREPARED BY		SUBCONSULTANT		SCALE		TITLE		BETA JOB NO. 6965	
DESIGNED BY CT		For Review Only		BETA www.BETA-inc.com		SCALE IN FEET 1"=4'		INTERSECTION IMPROVEMENTS JEFFERSON AVE AT WILSON ST/CLOUTMAN ST CROSS SECTIONS - WILSON STREET SALEM, MASSACHUSETTS		ISSUE DATE 12/29/2023	
CHECKED BY CRUF		REVISIONS								SHEET NO. 25 of 29	

1. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE 2009 EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS.

1. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE 2008 EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS.
2. ALL SIGN LEGENDS, BORDERS AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD, EXCEPT THAT BACKGROUND COLOR SHALL BE FLUORESCENT ORANGE IN ACCORDANCE WITH MASSDOT SPECIFICATIONS.
3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
4. TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
5. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, AND RESELECTORIED PLASTIC SIGNS WITH LIGHTING DEVICES MOUNTED ON THEM, MUST PASS THE CRITERIA SET FORTH IN NCHRP REPORT 350, RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES AND/OR "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
6. CONTRACTORS SHALL NOTIFY EACH ABLISTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT AND SIMILAR OPERATIONS.
7. THE FIRST TEN PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH SEQUENTIAL FLASHING LIGHTS.
8. THE ADVISORY SPEED LIMIT, IF REQUIRED, SHALL BE DETERMINED BY THE ENGINEER.
9. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
10. MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
11. MINIMUM LANE WIDTH IS TO BE 11 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRAIN OR MEDIAN BARRIER.
12. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.

13. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL NOT COVERED IN THE PLAN SHALL REFER TO MASSDOT "STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TRAFFIC MANAGEMENT PLANS".

PCMS-1
PCMS-2

JEFF AVE
ROAD
WORK

FRAME 1

STARTS
XXXX

FRAME 2

PCMS-1
PCMS-2

JEFF AVE
ROAD
WORK

FRAME 1

SEEK
ALT
ROUTE

FRAME 2

NOTE: MESSAGE TO BE DISPLAYED TWO TIMES
PRIOR TO WASHINGTON ST ROAD WORK

NOTE: MESSAGE TO BE DISPLAYED TWO WEEKS PRIOR TO WASHINGTON ST ROAD WORK

CMS-1	JEFF AVE ROAD WORK	SEEK ALT ROUTE	FRAME 1
CMS-2			FRAME 2

NOTE: MESSAGE TO BE DISPLAYED FOR THE FIRST TWO WEEKS OF WASHINGTON ST ROAD WORK.

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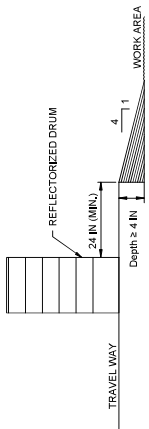
SCALE IN FEET: 1"=20'

ELEMENTS

27 of 29



NOT TO SCALE



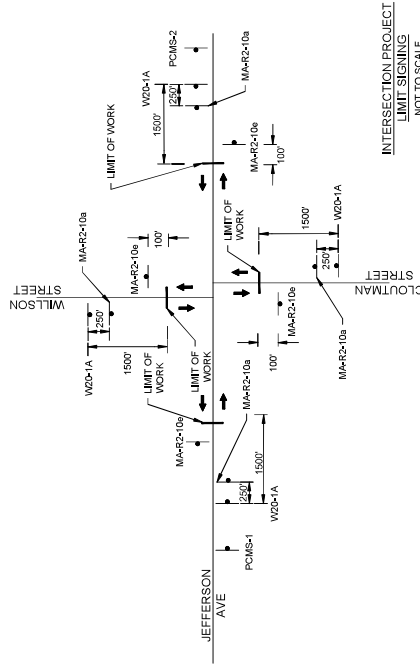
LATERAL DROP-OFF DETAIL

NOT TO SCALE

TAPER LENGTH	
SPEED LIMIT	FORMULA
25 MPH OR GREATER	$L = W \cdot S$ 25 MPH (85TH PERCENTILE) WASHINGTON STREET
WHERE:	L = TAPER LENGTH IN FEET W = WIDTH OF OFFSET IN FEET S = POSTED SPEED LIMIT OR OFF-PEAK 85TH PERCENTILE SPEED LIMIT TO WORK STARTING IN MPH

ROAD TYPE	WORK ZONE SIGN SPACING			PROJECT ROADWAY CLASSIFICATION
	DISTANCE BETWEEN SIGNS (IN FEET) *			
	A	B	C	
LOCAL/LOW VOLUME ROADWAYS	100	100	100	WILSON STREET CLOUTMAN STREET
MOST OTHER ROADWAYS	500	500	500	JEFFERSON AVE
FREWAYS AND EXPRESSWAYS	1,000	1,000	1,000	

1. **UTILITY WORK**
 - a. CONSTRUCT ALL PROPOSED UTILITIES AND ADJUST, ABANDON, REMOVE, OR REPAIR EXISTING UTILITIES, AS SHOWN ON THE PLANS.
 - b. CONSTRUCT UNDERGROUNDING OF SERVICES CONDUITS AND DUCT BOXES.
2. **EXCAVATION**
 - a. EXCAVATE EXISTING CURBING AND SIDEWALK.
3. **TRAFFIC CONTROL**
 - a. INSTALL ALL TRAFFIC SIGNAL EQUIPMENT.
4. **SIDEWALKS/CURBING**
 - a. CONSTRUCT SIDEWALKS AND INSTALL CURB.
5. **MILL AND OVERLAY**
 - a. MILL AND OVERLAY ROADWAY.
6. **PAVEMENT MARKINGS**
 - a. INSTALL PAVEMENT MARKINGS.



INTERSECTION PROJECT
LIMIT SIGNING
NOT TO SCALE

