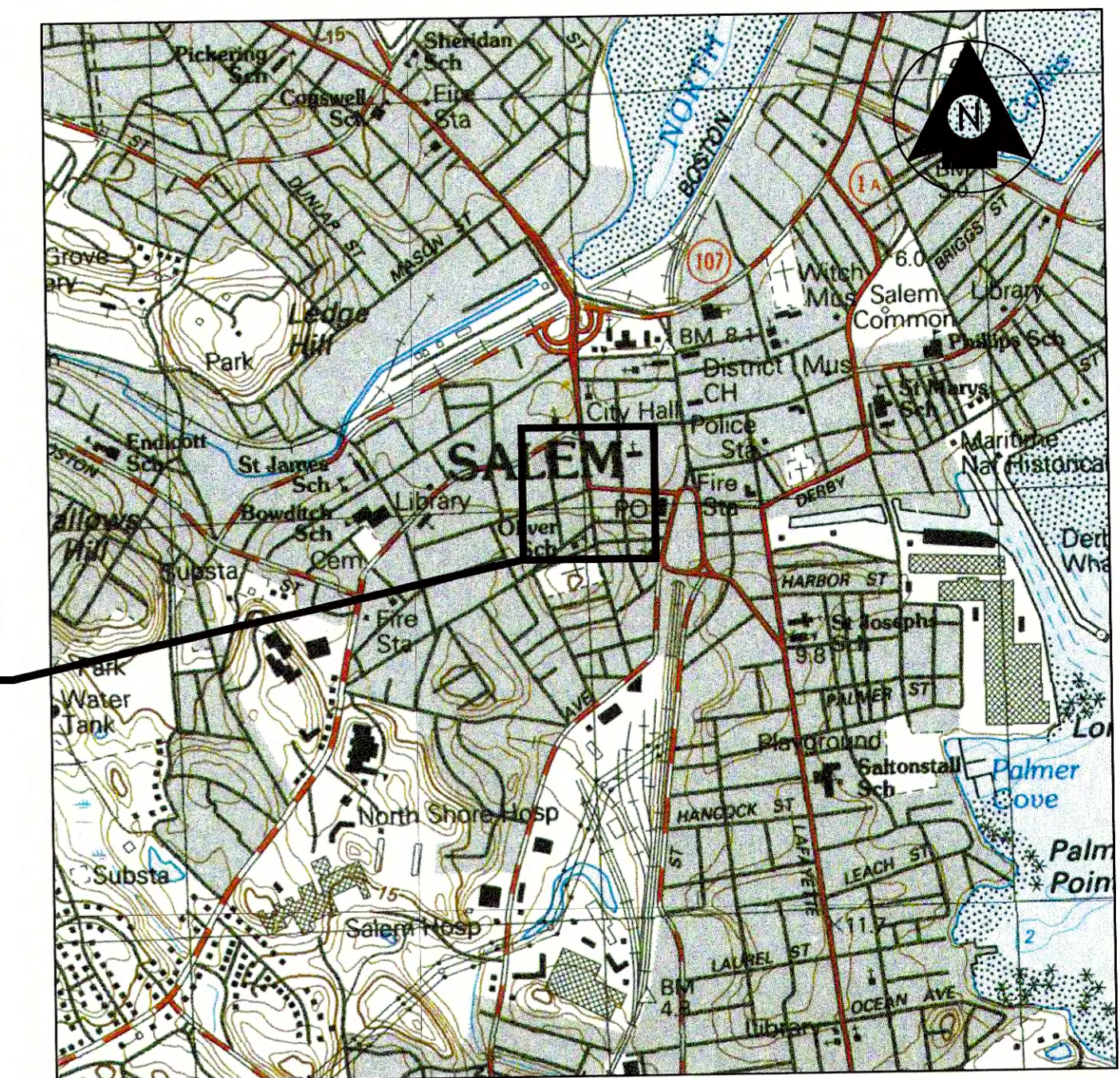


LOCATION MAP

SALEM, MA

SUMMER, NORMAN & CHESTNUT ST. ROUNDAABOUT CONSTRUCTION



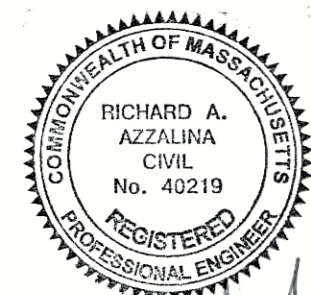
PROJECT LOCATION

VICINITY MAP
1" = 1000'

INDEX

SHEET NO.	TITLE
1	TITLE SHEET AND INDEX
2	LEGEND, ABBREVIATIONS AND GENERAL NOTES
3	EXISTING CONDITIONS PLAN
4-5	TYPICAL SECTIONS
6	CONSTRUCTION PLAN
7	CURB TIE PLAN
8	GRADING PLAN
9	PAVEMENT MARKING AND SIGNING PLAN
10	TRAFFIC SIGN SUMMARY
11	TEMPORARY TRAFFIC CONTROL STAGING PLAN
12	TEMPORARY TRAFFIC CONTROL DETAILS 1 OF 2
13	TEMPORARY TRAFFIC CONTROL DETAILS 2 OF 2
14	CONSTRUCTION DETAILS 1 OF 2
15	CONSTRUCTION DETAILS 2 OF 2
16	WHEELCHAIR RAMP DETAILS

THE COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 2021 EDITION; THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS; THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) WITH THE MASSACHUSETTS AMENDMENTS AND THE STANDARD MUNICIPAL TRAFFIC CODE; THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING; THE LATEST EDITION OF AMERICAN STANDARD FOR NURSERY STOCK, WILL GOVERN.



Richard A. Azzalina
2/17/2021

FEBRUARY 2021

CITY MAYOR
KIMBERLEY DRISCOLL

CITY ENGINEER
DAVID KNOWLTON, P.E.

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Legend

Notes

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File Name: leg_abbr_notes.dwg PZA RAA ISM 04/09/20
Dwn. Chkd. Dsgn. YF.MM.DD

Permit-Seal



Client/Project
City of Salem, MA

Summer, Norman & Chestnut St.
Roundabout Construction
Salem, MA






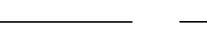





















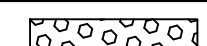

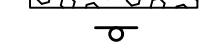









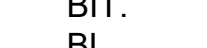





























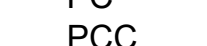

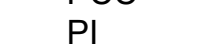







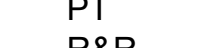



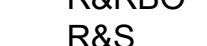











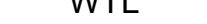








Title
LEGEND ABBREVIATIONS AND
GENERAL NOTES

Project No. 179410906 Scale NOT TO SCALE









Drawing No. Sheet Revision

X 2 of 16 0

LEGEND AND ABBREVIATIONS

EXISTING	PROPOSED	DESCRIPTION
		BASELINE
		CURB
		CITY APPROX. LAYOUT LINE
		SAWCUT
		CATCH BASIN
		DRAIN MANHOLE
		CHANGE IN TYPE (CB TO DMH)
		HYDRANT
		STREET LIGHT
		BRICK SIDEWALK OR CURB EXT.
		STAMPED CONCRETE ISLAND
		ENDURABLEND
		LANDSCAPED CURB EXTENSION
		FLUSH GRANITE CURB
		ASPHALT PAVEMENT BREAKLINE
		DETECTABLE WARNING PANEL
		SIGN POST
		ABANDON
		ADJBO
		ADJUST BY OTHERS
		ANGLE POINT
		APPROX.
		BIT.
		BASELINE
		CEM.
		CENTERLINE
		CONCRETE
		CONSTRUCTION
		CROSSWALK
		DIAMETER
		EXISTING
		GALVANIZED
		HOT MIX ASPHALT
		HYDRANT
		LIGHT POLE
		LEFT
		MAXIMUM
		MINIMUM
		NOT TO SCALE
		POINT OF CURVATURE
		POINT OF COMPOUND CURVATURE
		POINT OF INTERSECTION
		POINT OF REVERSE CURVATURE
		PROPOSED
		POUNDS PER SQUARE INCH
		POINT OF TANGENCY
		REMOVE AND RESET
		REMOVE AND RESET BY OTHERS
		REMOVE AND STACK
		RIGHT
		STOP LINE - 12" WIDTH
		STATION
		TYPICAL
		WHEELCHAIR RAMP
		WHITE TRANSVERSE LINE

PAVEMENT MARKINGS SYMBOLS

PROPOSED	DESCRIPTION
	LEGEND "YIELD" - WHITE
	CROSSWALK - 8" WIDTH, 2' SPACE
	SOLID WHITE LINE - 6" WIDTH (OR AS INDICATED ON PLAN)
	SOLID YELLOW LINE - 6" WIDTH
	DOTTED WHITE LINE EXTENSION - 12" WIDTH (OR AS INDICATED ON PLAN) - 2' LINE 6' GAP
	DOUBLE YELLOW LINE - 6" WIDTH
	YELLOW TRANSVERSE LINE - 12" WIDTH - 45° @ 10' O.C.
	YIELD LINE

GENERAL NOTES:

- PLANS PREPARED ARE BASED ON SURVEY PROVIDED BY MERIDIAN ASSOCIATES. THE LOCATION AND SIZE OF EXISTING PIPES, DUCTS, CONDUITS AND OTHER UNDERGROUND STRUCTURES SHOWN ON THE DRAWINGS ARE NOT WARRANTED TO BE EXACT NOR IS IT WARRANTED THAT ALL UNDERGROUND STRUCTURES, UTILITIES AND SERVICE CONNECTIONS ARE SHOWN. CONTRACTOR SHALL NOTIFY UTILITY COMPANIES IN WRITING AND BY CALLING DIG SAFE (1-888-344-7233) BEFORE EXCAVATION. CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR LOCATING ALL EXISTING UTILITIES PRIOR TO EXCAVATION THROUGHOUT THE ENTIRE CONSTRUCTION DURATION.
- PROPERTY LINE INFORMATION IS COMPILED FROM FIELD OBSERVATIONS, CITY LAYOUT PLANS, CITY ASSESSORS PLANS, AND PLANS RECORDED AT THE ESSEX COUNTY REGISTRY OF DEEDS.
- THE BEARING SYSTEM FOR THE PLANS IS BASED UPON MASSACHUSETTS STATE PLANE GRID.
- VERTICAL DATUM:
SALEM CITY
BASE DATUM
- HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
- ALL BASELINE TIES FOR CORNERS AND RADII OF CURB OR EDGING ARE TO THE P.C.'S OR P.T.'S, UNLESS OTHERWISE NOTED.
- ALL EXISTING SIGNS SHALL BE REMOVED AND REPLACED IN KIND WITH NEW SIGNS AND CHANNEL POSTS UNLESS OTHERWISE NOTED. MAILBOXES SHALL BE REMOVED AND RESET UNLESS OTHERWISE NOTED.
- ALL TRAFFIC SIGNAL HARDWARE (INCLUDING MAST ARMS, PULL BOXES, PEDESTALS & CONTROLLER BOXES), PARKING METERS, LIGHT/UTILITY POLES, FENCES, STONE BOUNDS, GRANITE BOUNDS, AND OTHER PROPERTY MARKERS ARE TO BE RETAINED AND PROTECTED UNLESS OTHERWISE NOTED ON PLANS. PULLBOXES ARE TO BE RETAINED AND ADJUSTED TO GRADE.
- THE CONTRACTOR SHALL SAWCUT TO THE FULL PAVEMENT DEPTH AT LOCATIONS WHERE NEW FULL DEPTH PAVEMENT OR NEW SIDEWALK MEETS EXISTING PAVEMENT OR SIDEWALK, AT THE LOCATIONS SHOWN ON THE PLANS AND AS REQUIRED BY THE ENGINEER. PROPOSED WORK SHALL MATCH EXISTING LINE AND GRADE AT LIMITS OF WORK.
- ALL AREAS OUTSIDE OF THE LIMIT OF WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- EXISTING TREES WITHIN THE LIMIT OF WORK SHALL BE RETAINED AND PROTECTED UNLESS OTHERWISE NOTED OR REQUIRED BY ENGINEER. IN THE EVENT THAT A PROPOSED CATCH BASIN IS WITHIN 6' OF AN EXISTING TREE, THE INFORMATION SHALL BE FURNISHED TO THE ENGINEER FOR RESOLUTION PRIOR TO INSTALLATION OF THE CATCH BASIN.
- MATCH GRADE AT WALKS, BACK OF WALKS AND DRIVES UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR AS INDICATED ON THE PLANS. IF GRADE AT BACK OF WALK CANNOT BE MET, CONTRACTOR SHALL UTILIZE APPROPRIATE TREATMENT SUCH AS CURB AT BACK OF WALK, FEATHERING OF LOAM, ETC. TO BEST MATCH GRADE AT BACK OF WALK TO THE SATISFACTION OF THE ENGINEER.
- ALL GRANITE CURB, EDGING, AND CURB CORNERS THAT ARE NOT SUITABLE FOR REUSE AS DETERMINED BY THE ENGINEER SHALL BE REMOVED AND DISCARDED BY THE CONTRACTOR AT NO ADDITIONAL COST. GRANITE CURB OR EDGING TO BE RESET SHALL NOT BE RANDOMLY MIXED WITH NEW CURB, BUT SHALL BE RESET SO AS TO GIVE A UNIFORM APPEARANCE.
- ALL PROPOSED GRANITE CURB SHALL BE TYPE VA 4, UNLESS OTHERWISE NOTED.
- ALL FLUSH CURB ENCOUNTERED AT DRIVEWAYS SHALL BE REMOVED AND RE-USED ELSEWHERE OR DISPOSED AS DIRECTED BY ENGINEER, UNLESS OTHERWISE NOTED.
- ALL PROPOSED WHEELCHAIR RAMP STANDARDS. IF THERE IS A CONFLICT, THE INFORMATION SHALL BE FURNISHED TO THE ENGINEER FOR RESOLUTION PRIOR TO SIDEWALK RECONSTRUCTION. TACTILE WARNING PADS FOR PROPOSED WHEELCHAIR RAMP SHALL BE BRICK RED COLOR.
- ALL EXISTING CURB STOPS, VALVE BOXES, CASTINGS AND HYDRANTS, IN AREAS TO BE REPAVED SHALL BE PROTECTED AND ADJUSTED TO LINE AND GRADE BY THE CONTRACTOR, UNLESS OTHERWISE DIRECTED BY ENGINEER.
- THE CONTRACTOR SHALL VERIFY ALL OUTLET GRADES OF DRAINAGE STRUCTURES PRIOR TO CONSTRUCTING ANY DRAINAGE MODIFICATIONS. CONTRACTOR TO CONFIRM LOCATION OF EXISTING UTILITIES WITH TEST PITS.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
- THE CONTRACTOR SHALL ADJUST ALL UTILITY FRAMES AND COVERS AS REQUIRED. CONTRACTOR TO ARRANGE FOR INSPECTION OF ALL WORK ON UTILITIES WITH THE APPROPRIATE UTILITY COMPANY. IN THE EVENT ANY UTILITY COMPANY DOES NOT ALLOW THE CONTRACTOR TO MAKE THE ADJUSTMENTS, THE CONTRACTOR SHALL COORDINATE HIS WORK TO ALLOW FOR THE ADJUSTMENTS TO BE MADE BY THE UTILITY OR ITS DESIGNEE. THE EXPECTED UTILITIES INCLUDE BUT ARE NOT LIMITED TO: WATER, GAS & ELECTRIC, TELEPHONE & CATV AND FIRE.

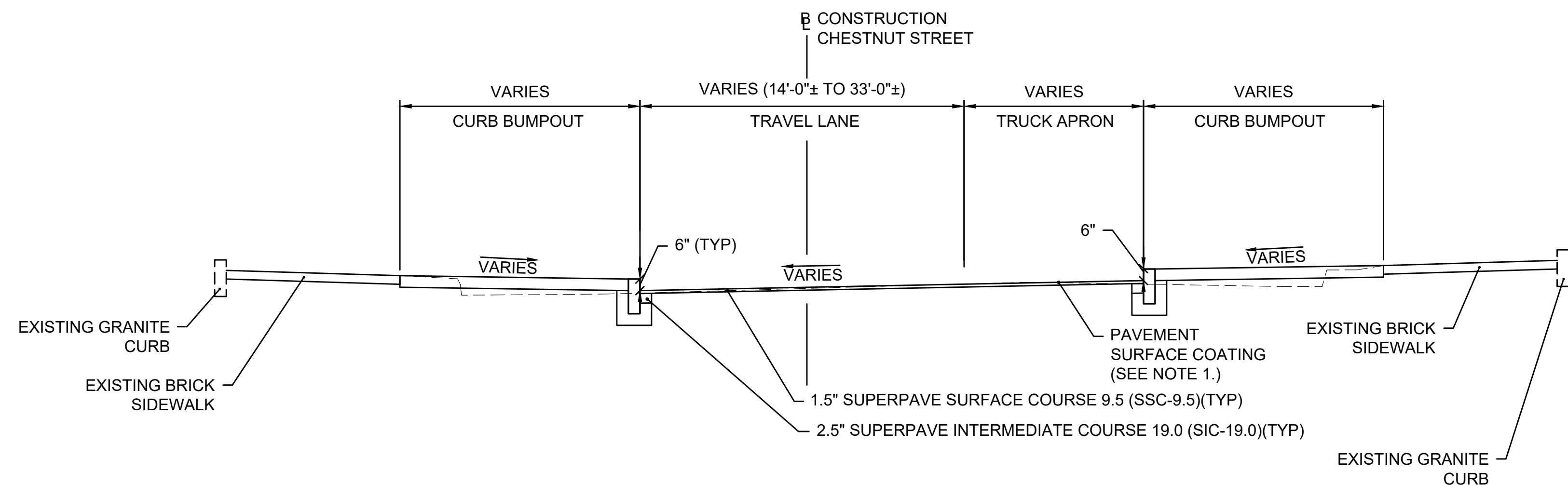
- CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS REQUIRED TO PERFORM THE WORK, INCLUDING ALL PERMITS REQUIRED BY THE CITY OF SALEM DEPARTMENT OF PUBLIC WORKS AND/OR WATER DEPARTMENT.
- PRIOR TO THE START OF CONSTRUCTION, CONTRACTOR SHALL COORDINATE ANY UTILITY RELOCATIONS WITH THE CITY OF SALEM DEPARTMENT OF PUBLIC WORKS AND ALL RESPECTIVE UTILITY AGENCIES. LOCATIONS FOR RELOCATED UTILITIES ARE TO BE DETERMINED BY THE RESPECTIVE UTILITY AGENCY IN CONSULTATION WITH THE SALEM DEPARTMENT OF PUBLIC WORKS.
- CONTRACTOR SHALL FOLLOW CITY OF SALEM DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS WHERE APPLICABLE. ALL WORK DONE UNDER THIS CONTRACT SHALL BE COMPLETED IN CONFORMANCE TO MASSDOT "STANDARD SPECIFICATIONS FOR HIGHWAYS & BRIDGES" AND ANY UPDATES OR SUPPLEMENTAL SPECIFICATIONS PERTAINING THERETO, AND SPECIFICATIONS INCLUDED IN THIS CONTRACT.
- WORK SHALL NOT EXTEND BEYOND EXISTING ROW UNLESS OTHERWISE NOTED ON PLANS OR AS REQUIRED BY ENGINEER.
- INLETS AND OUTLETS FROM DRAINAGE STRUCTURES REMOVED SHALL BE PLUGGED WITH BRICK MASONRY NOT LESS THAN 8" IN THICKNESS, CONSISTENT WITH MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES SECTION 201. PIPES LARGER THAN 24" SHALL BE BACKFILLED WITH FLOWABLE FILL TO THE SATISFACTION
- NO WORK SHALL TAKE PLACE ON PRIVATE PROPERTY WITHOUT A SIGNED RIGHT OF ENTRY AGREEMENT BETWEEN THE PROPERTY OWNER AND THE CITY.
- IN TREE LOCATIONS WHERE TREE ROOTS ARE DAMAGING EXISTING CURB, THE CONTRACTOR MUST COORDINATE THE CURB REMOVAL WITH THE CITY ARBORIST PRIOR TO REMOVING CURB.
- WHEN FITTING GRANITE CURB OVER EXISTING UTILITIES AND OTHER OBSTRUCTIONS, NOTCHING AND CUTTING OF CURB SHALL TAKE PLACE WITH NO ADDITIONAL COST TO CITY OF SALEM.
- CONTRACTOR SHALL PROVIDE A STAKED LAYOUT FOR THE ENGINEER TO REVIEW PRIOR TO COMMENCING SIDEWALK WORK. THE CONTRACTOR SHALL PROVIDE ALL CUT AND FILL AMOUNTS AT ALL BACK OF SIDEWALK, STEPS, WALLS, DRIVEWAYS, WALKWAYS, BUILDING ENTRANCES, UTILITY STRUCTURES, ETC. ALL DISCREPANCIES THAT WILL CAUSE THE SIDEWALK NOT TO BE COMPLIANT WILL BE BROUGHT TO THE ENGINEER'S ATTENTION.
- FOR ALL PAY REQUESTS, CONTRACTOR SHALL PROVIDE BACK UP STATING DATES INSTALLED, QUANTITY INSTALLED, CALCULATION ON QUANTITY, AND A MARKED UP DRAWING SHOWING LOCATION INSTALLED.
- ALL EXISTING "D" GRATES FOR CATCH BASINS SHALL BE REPLACED WITH CITY STANDARD FRAME AND GRATE.
- ALL PAVEMENT MARKINGS SYMBOLS SHALL BE THERMOPLASTIC.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL STAGING AND STOCKPILING AREAS AT NO ADDITIONAL COST TO THE CITY. NO STAGING OR STOCKPILING AREAS SHALL BE ALLOWED WITHIN THE CITY ROW UNLESS APPROVED IN ADVANCE BY THE CITY ENGINEER.
- THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS THROUGH THE PROJECT SITE AT ALL TIMES. ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT REQUIRED TO MAINTAIN PEDESTRIAN ACCESS SHALL BE INCLUDED IN THE COST FOR ITEM 657.1 PEDESTRIAN GUIDANCE SYSTEM AT WORK ZONES.
- THE CONTRACTOR SHALL BE REQUIRED TO NOTIFY ALL PROJECT ABUTTERS VIA DOOR HANGERS ONE (1) WEEK PRIOR TO COMMENCING WORK AT THE PROJECT SITE AND ONE (1) WEEK PRIOR TO CHANGING TRAFFIC PATTERNS AT THE PROJECT SITE.
- THE CONTRACTOR SHALL BE REQUIRED TO COORDINATE ALL PROJECT RELATED CONSTRUCTION ACTIVITIES WITH THE REMOVAL OR RELOCATION OF EXISTING UTILITY POLES/OVERHEAD WIRES AND THE INSTALLATION OF NEW UTILITY POLES/OVERHEAD WIRES, AS NOTED ON THE CONTRACT DRAWINGS, BY NATIONAL GRID ELECTRIC. PLEASE REFER TO THE SPECIAL PROVISIONS FOR MORE DETAILED INFORMATION.

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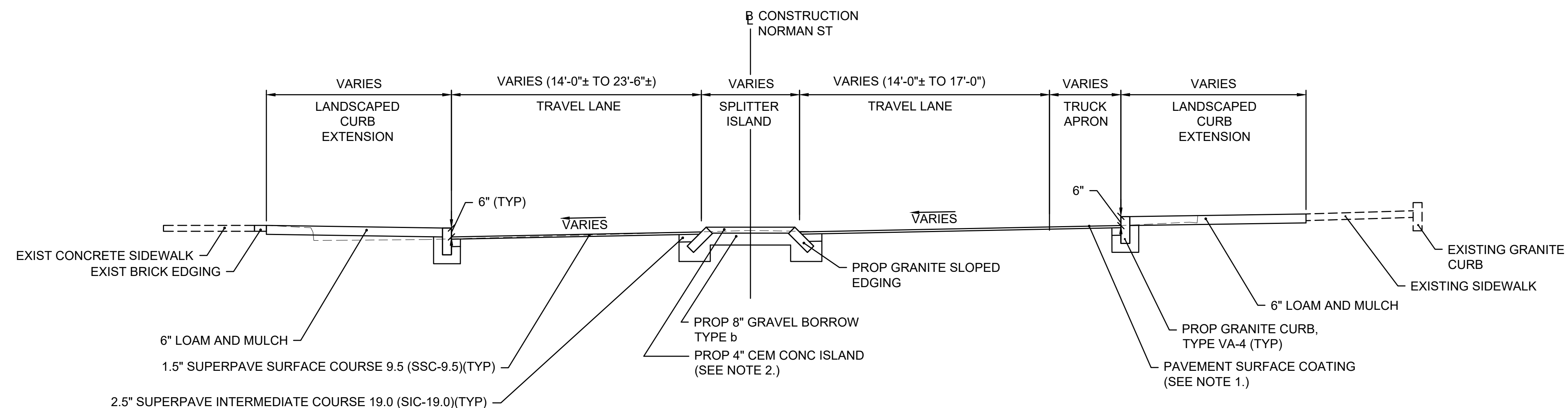
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Legend

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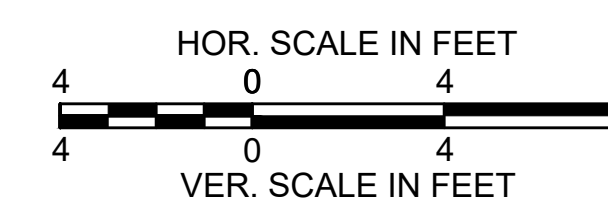


TYPICAL SECTION - CHESTNUT STREET



TYPICAL SECTION - NORMAN STREET

- NOTES:
- FOR ADD ALTERNATE THE CONTRACTOR SHALL INSTALL FULL DEPTH BRICK PAVERS RATHER THAN PROPOSED PAVEMENT SURFACE COATING.
 - FOR ADD ALTERNATE THE CONTRACTOR SHALL INSTALL FULL DEPTH COBBLESTONE PAVERS RATHER THAN PROPOSED CEMENT CONCRETE



Revision	By	Appd.	YY.MM.DD

File Name:	PZA	RAA	ISM	04/09/20
typical section.dwg				
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal



Client/Project
 City of Salem, MA

Summer, Norman & Chestnut St.
 Roundabout Construction
 Salem, MA

Title
 TYPICAL SECTIONS
 SHEET 2 OF 2

Project No.	Scale
179410906	AS NOTED

Drawing No.	Sheet	Revision
X	5 of 16	0



PAVEMENT NOTES:

PROPOSED MILLING AND PAVEMENT OVERLAY:

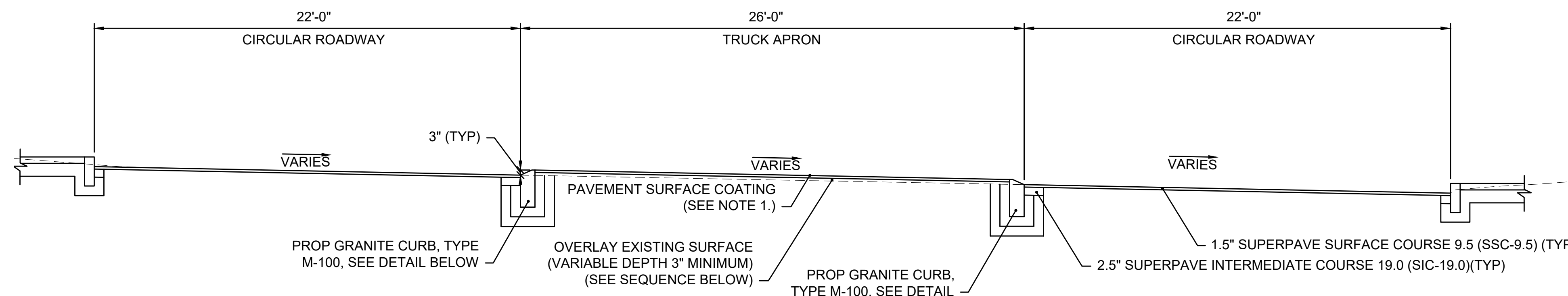
MILL: 1 1/2" DEPTH
SURFACE: 1 1/2" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
TACK COAT: EXISTING PAVEMENT TREATED WITH ASPHALT EMULSION FOR TACK COAT (RS-1H) 0.07 GAL PER SY

PROPOSED CEMENT CONCRETE SIDEWALK PAVEMENT:

SURFACE: 6" CEMENT CONCRETE (4000 PSI, 3/4", 610 LBS- AIR ENTRAINED OVER
SUBBASE: 6" GRAVEL BORROW - TYPE B

PROPOSED CEMENT CONCRETE SPLITTER ISLAND:

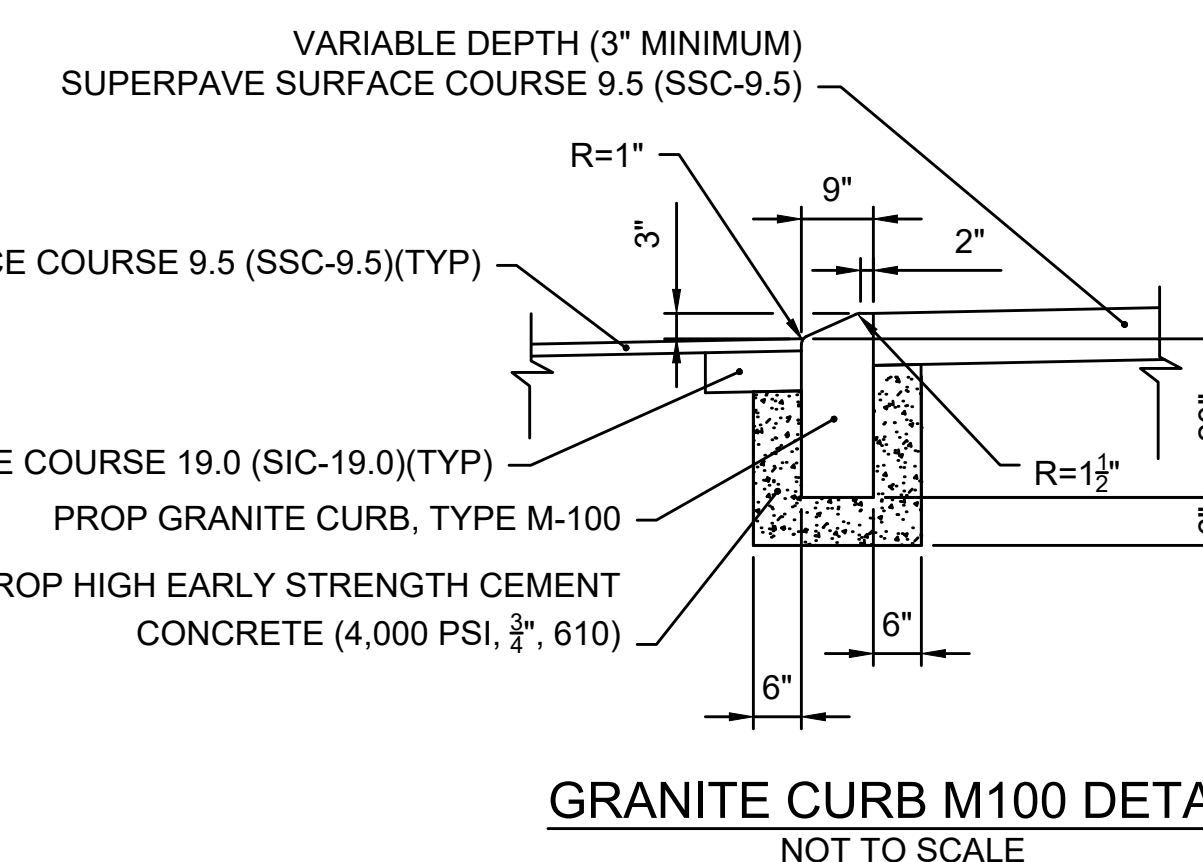
SURFACE: 4" CEMENT CONCRETE (4000 PSI, 3/4", 610 LBS- AIR ENTRAINED OVER
SUBBASE: 8" GRAVEL BORROW - TYPE B



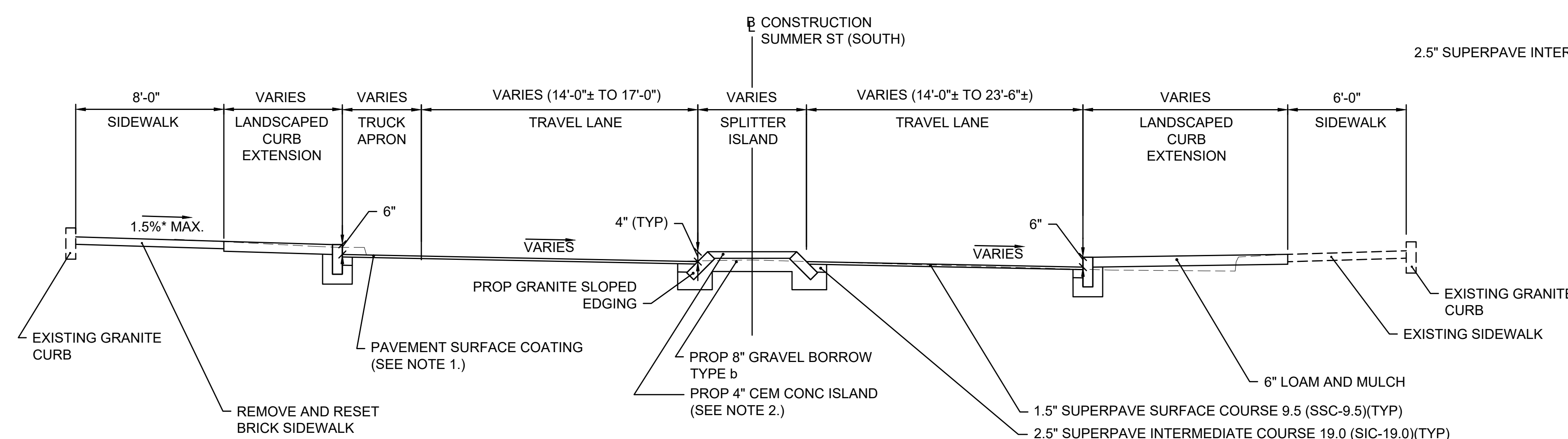
CONSTRUCTION SEQUENCE:

1. MILL INTERSECTION,
2. INSTALL CURBING/EDGING
3. BUILD CENTER ISLAND WITH ASPHALT
4. OVERLAY ROADWAY AND TRUCK APRONS
5. PAVEMENT SURFACE COATING APPLIED 3 WEEKS AFTER PAVING

**TYPICAL SECTION - SUMMER STREET,
CHESTNUT STREET, AND NORMAN STREET
(THROUGH ROUNDABOUT)**



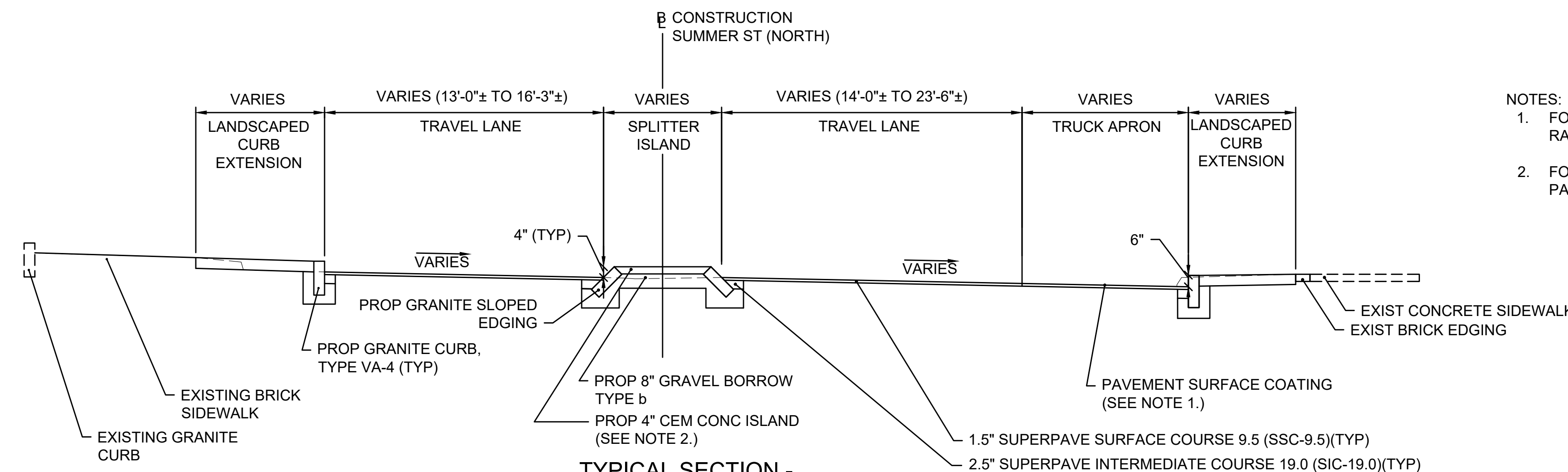
GRANITE CURB M100 DETAIL
NOT TO SCALE



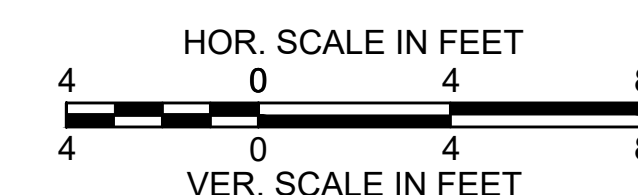
**TYPICAL SECTION -
SUMMER STREET (SOUTH)**

NOTES:

1. FOR ADD ALTERNATE THE CONTRACTOR SHALL INSTALL FULL DEPTH BRICK PAVERS RATHER THAN PROPOSED PAVEMENT SURFACE COATING.
2. FOR ADD ALTERNATE THE CONTRACTOR SHALL INSTALL FULL DEPTH COBBLESTONE PAVERS RATHER THAN PROPOSED CEMENT CONCRETE



**TYPICAL SECTION -
SUMMER STREET (NORTH)**



Revision	By	Appd.	YFMM.DD

Issued By Appd. YFMM.DD

File Name: const plan.dwg P/A RAA ISM 04/09/20
 Dwn. Chkd. Dsgn. YFMM.DD

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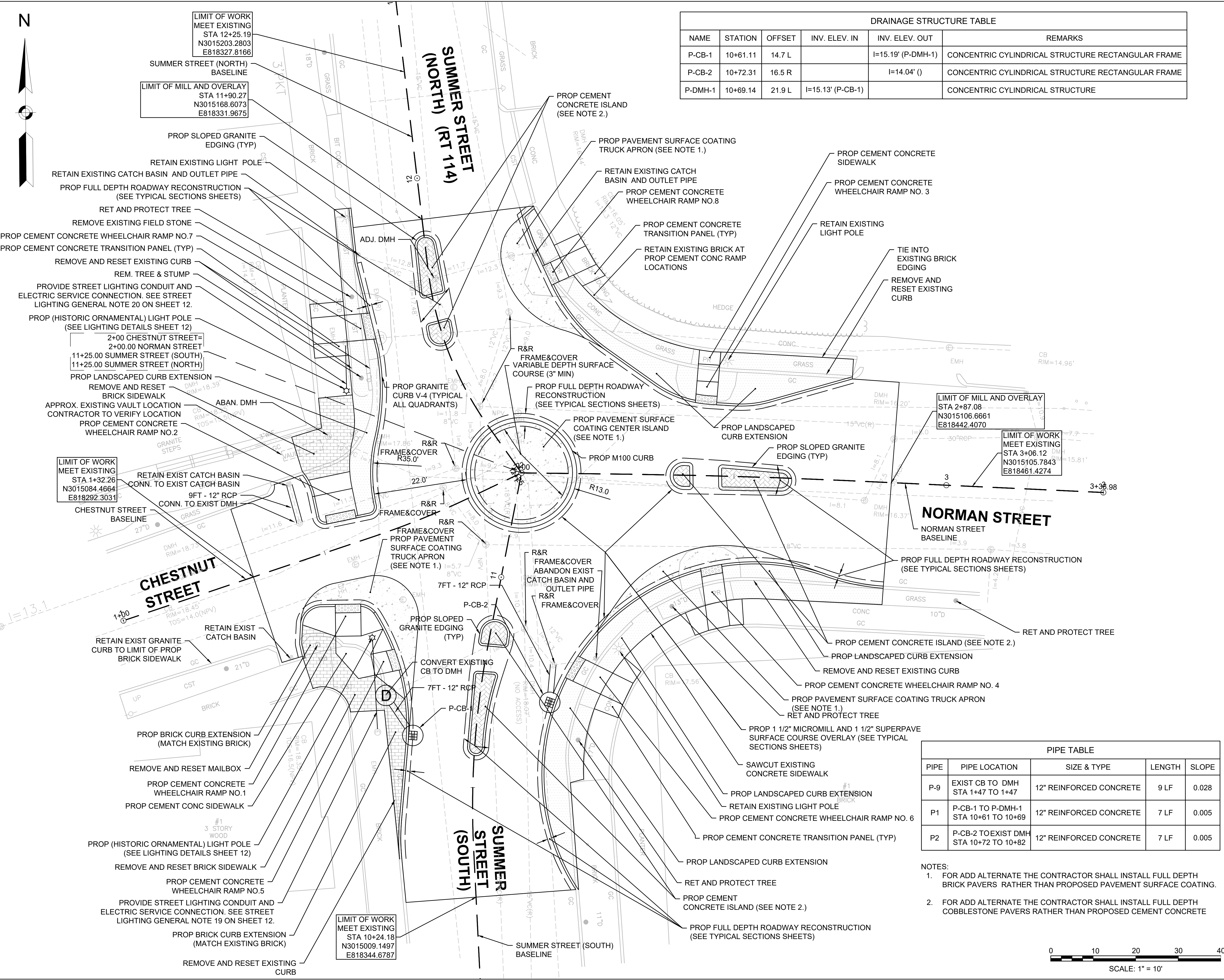


Client/Project
 City of Salem, MA
 Summer, Norman & Chestnut St.
 Roundabout Construction
 Salem, MA

Title
CONSTRUCTION PLAN

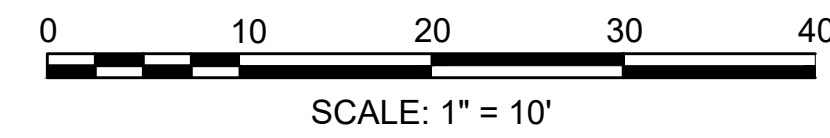
Project No. 179410906 Scale 1" = 10'
 Drawing No. Sheet X of 16 Revision 0

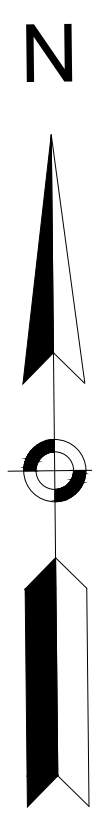
NAME	STATION	OFFSET	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
P-CB-1	10+61.11	14.7 L		I=15.19' (P-DMH-1)	CONCENTRIC CYLINDRICAL STRUCTURE RECTANGULAR FRAME
P-CB-2	10+72.31	16.5 R		I=14.04' ()	CONCENTRIC CYLINDRICAL STRUCTURE RECTANGULAR FRAME
P-DMH-1	10+69.14	21.9 L		I=15.13' (P-CB-1)	CONCENTRIC CYLINDRICAL STRUCTURE



PIPE	PIPE LOCATION	SIZE & TYPE	LENGTH	SLOPE
P-9	EXIST CB TO DMH STA 1+47 TO 1+47	12" REINFORCED CONCRETE	9 LF	0.028
P1	P-CB-1 TO P-DMH-1 STA 10+61 TO 10+69	12" REINFORCED CONCRETE	7 LF	0.005
P2	P-CB-2 TO EXIST DMH STA 10+72 TO 10+82	12" REINFORCED CONCRETE	7 LF	0.005

- NOTES:
- FOR ADD ALTERNATE THE CONTRACTOR SHALL INSTALL FULL DEPTH BRICK PAVERS RATHER THAN PROPOSED PAVEMENT SURFACE COATING.
 - FOR ADD ALTERNATE THE CONTRACTOR SHALL INSTALL FULL DEPTH COBBLESTONE PAVERS RATHER THAN PROPOSED CEMENT CONCRETE





Revision	By	Appd.	Y/M/D

File Name	PZA	RAA	ISM	04/09/20
curb tie plan.dwg				
	Dwn.	Chkd.	Dsgn.	Y/M/M/D

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Client/Project
City of Salem, MA

Summer, Norman & Chestnut St.
Roundabout Construction
Salem, MA

Title
CURB TIE PLAN

Project No. 179410906 Scale 1"=10'

Drawing No. Sheet 7 of 16 Revision 0

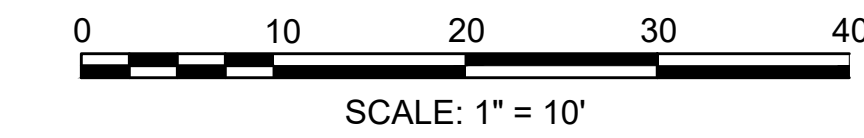
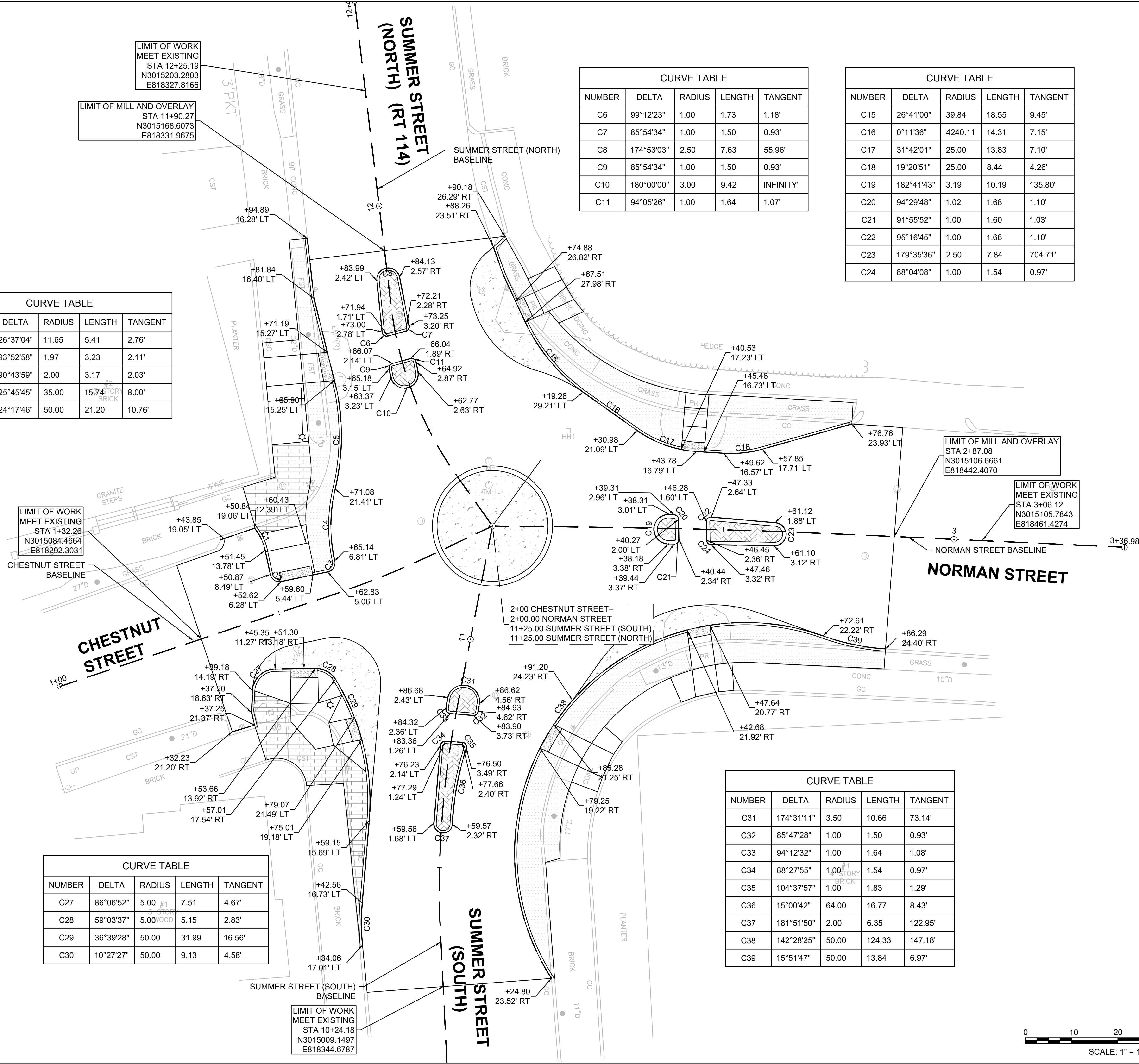
CURVE TABLE				
NUMBER	DELTA	RADIUS	LENGTH	TANGENT
C6	99°12'23"	1.00	1.73	1.18'
C7	85°54'34"	1.00	1.50	0.93'
C8	174°53'03"	2.50	7.63	55.96'
C9	85°54'34"	1.00	1.50	0.93'
C10	180°00'00"	3.00	9.42	INFINITY'
C11	94°05'26"	1.00	1.64	1.07'

CURVE TABLE				
NUMBER	DELTA	RADIUS	LENGTH	TANGENT
C15	26°41'00"	39.84	18.55	9.45'
C16	0°11'36"	4240.11	14.31	7.15'
C17	31°42'01"	25.00	13.83	7.10'
C18	19°20'51"	25.00	8.44	4.26'
C19	182°41'43"	3.19	10.19	135.80'
C20	94°29'48"	1.02	1.68	1.10'
C21	91°55'52"	1.00	1.60	1.03'
C22	95°16'45"	1.00	1.66	1.10'
C23	179°35'36"	2.50	7.84	704.71'
C24	88°04'08"	1.00	1.54	0.97'

CURVE TABLE				
NUMBER	DELTA	RADIUS	LENGTH	TANGENT
C1	26°37'04"	11.65	5.41	2.76'
C2	93°52'58"	1.97	3.23	2.11'
C3	90°43'59"	2.00	3.17	2.03'
C4	25°45'45"	35.00	15.74	8.00'
C5	24°17'46"	50.00	21.20	10.76'

CURVE TABLE				
NUMBER	DELTA	RADIUS	LENGTH	TANGENT
C31	174°31'11"	3.50	10.66	73.14'
C32	85°47'28"	1.00	1.50	0.93'
C33	94°12'32"	1.00	1.64	1.08'
C34	88°27'55"	1.00	1.54	0.97'
C35	104°37'57"	1.00	1.83	1.29'
C36	15°00'42"	64.00	16.77	8.43'
C37	181°51'50"	2.00	6.35	122.95'
C38	142°28'25"	50.00	124.33	147.18'
C39	15°51'47"	50.00	13.84	6.97'

CURVE TABLE				
NUMBER	DELTA	RADIUS	LENGTH	TANGENT
C27	86°06'52"	5.00	7.51	4.67'
C28	59°03'37"	5.00	5.15	2.83'
C29	36°39'28"	50.00	31.99	16.56'
C30	10°27'27"	50.00	9.13	4.58'



Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name	PZA	RAA	ISM	04/09/20
grading.dwg				

Permit-Seal	Dwn.	Chkd.	Dsgn.	YY.MM.DD



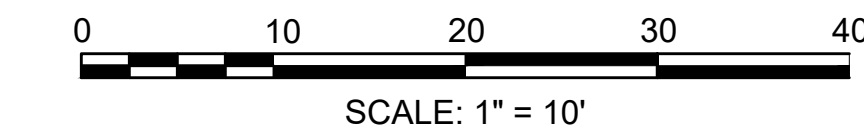
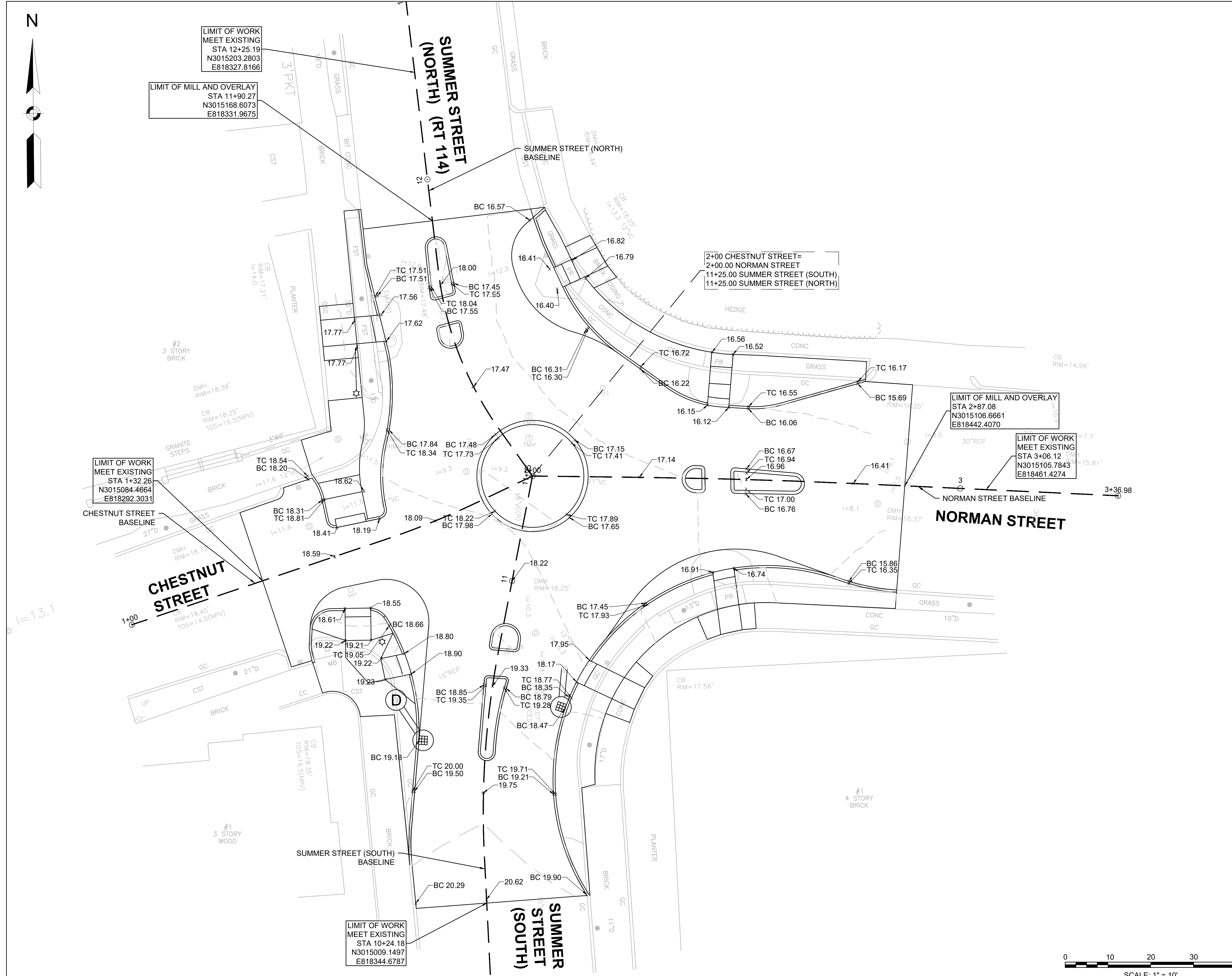
Client/Project
 City of Salem, MA

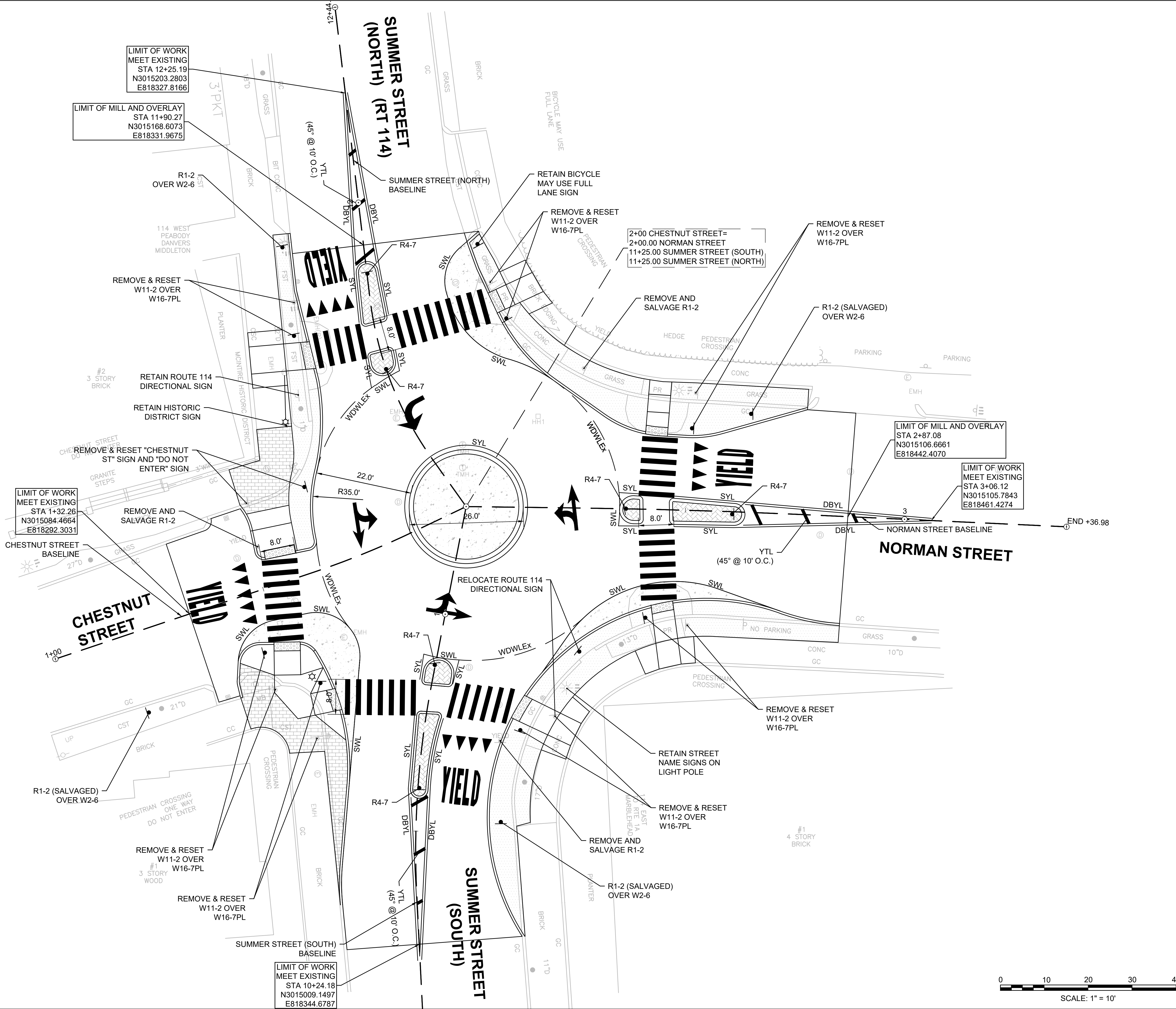
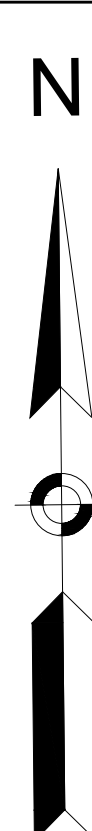
Summer, Norman & Chestnut St.
 Roundabout Construction
 Salem, MA

Title
 GRADING PLAN

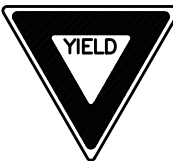



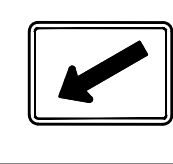
Project No. 179410906 Scale 1" = 10'

Drawing No. X Sheet 8 of 16 Revision 0





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			
R1-2	36" X 36" X 36"			SEE MUTCD STANDARDS			7	WHITE	RED	RED	1-P5 7	3.90	27.30
R4-7	24"	30"					6	WHITE	BLACK	BLACK	1-P5 3	5.00	30.00
W2-6	30"	30"					3	YELLOW	BLACK	BLACK	4 MOUNT WITH OTHER	9.00	27.00
W11-2	30"	30"					8	YELLOW	BLACK	BLACK	1-P5 8	6.25	50.00
W16-7PL	24"	12"					4	YELLOW	BLACK	BLACK	4 MOUNT WITH OTHER	2.00	8.00

- NOTES:**
- COLOR F.Y.G. = FLUORESCENT YELLOW-GREEN
 - P.B.S. = PRINTED BOTH SIDES

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Consultants

Legend

Notes

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name:	pavemark-signing.dwg	PZA	RAA	ISM	04/09/20
		Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

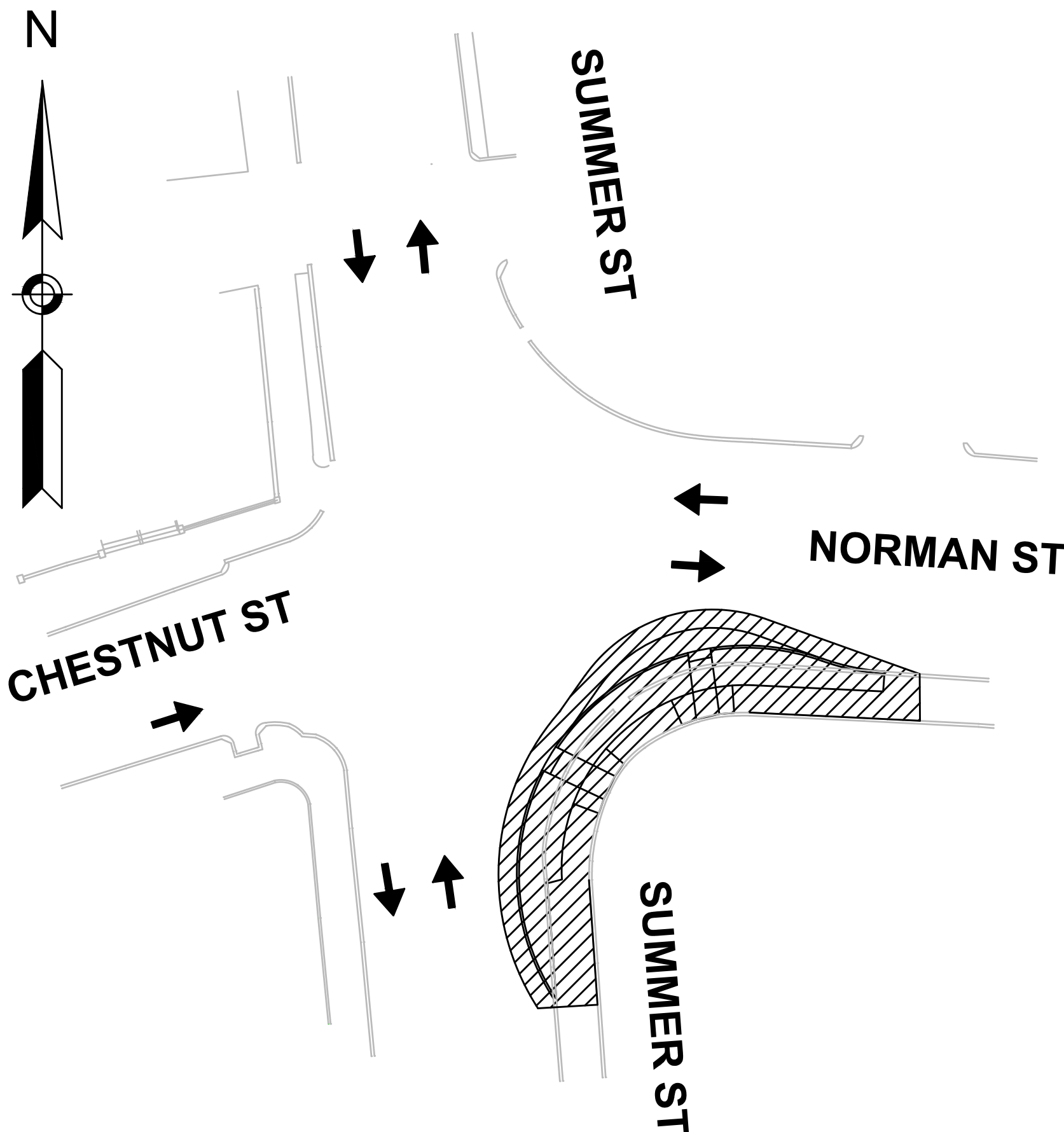


Client/Project
 City of Salem, MA

Summer, Norman & Chestnut St.
 Roundabout Construction
 Salem, MA

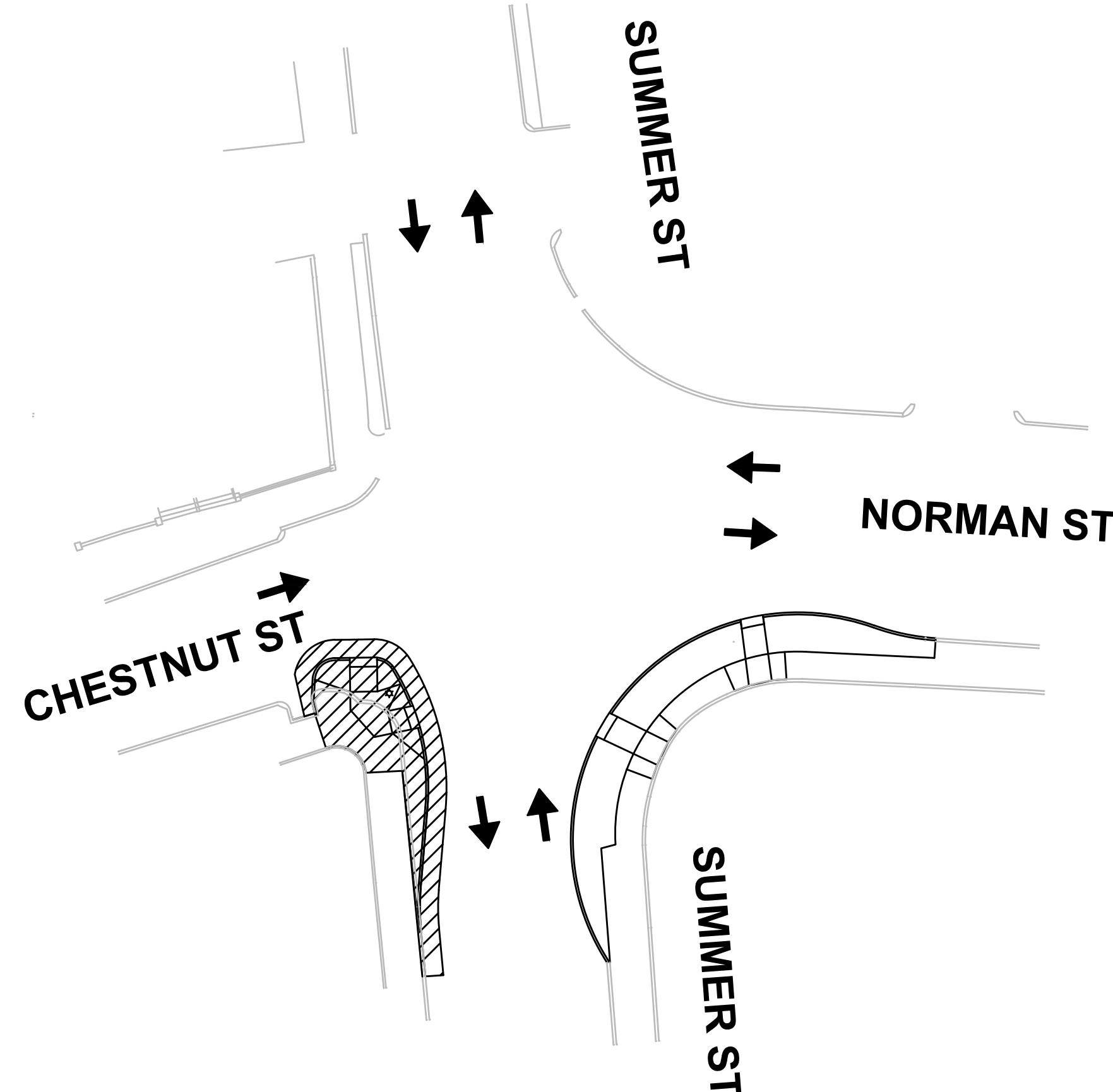
Title
 TRAFFIC SIGN SUMMARY

Project No.	179410906	Scale	NOT TO SCALE
Drawing No.	X	Sheet	10 of 16
Revision	0		



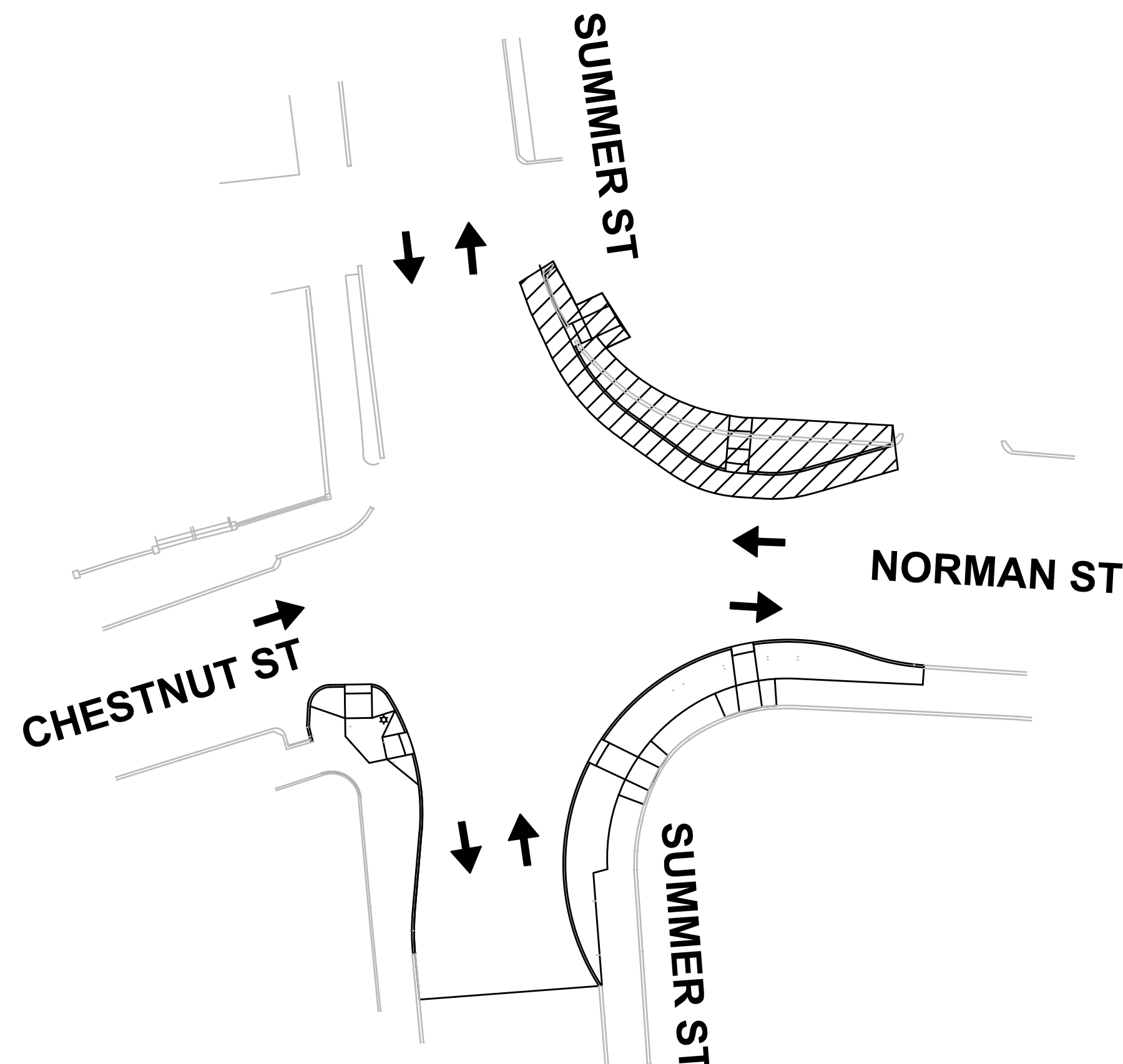
STAGE 1

CONSTRUCT SOUTHEAST QUADRANT CURBS, SIDEWALKS, WHEELCHAIR RAMPS, AND DRAINAGE



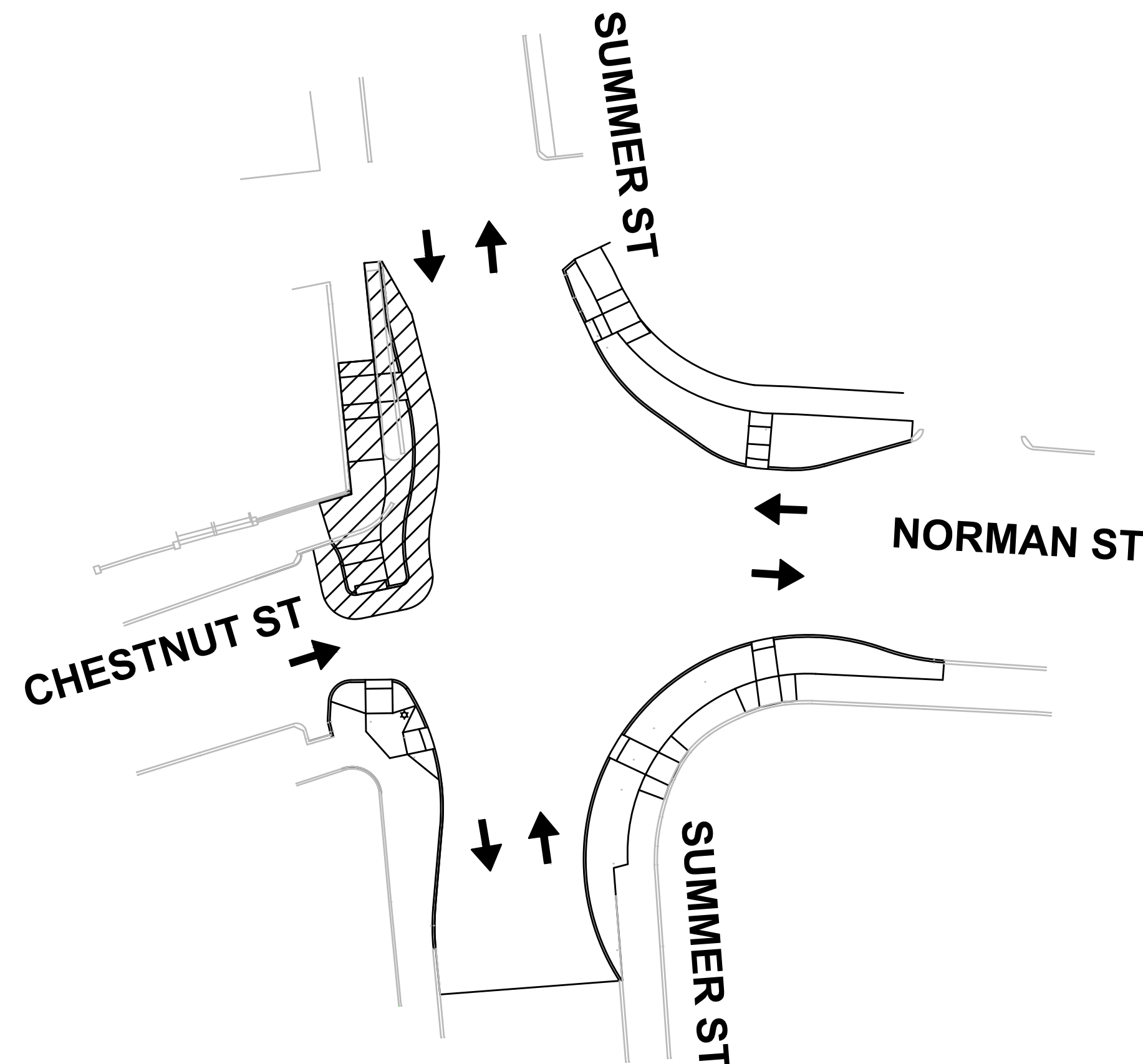
STAGE 2

CONSTRUCT SOUTHWEST QUADRANT CURBS, SIDEWALKS, WHEELCHAIR RAMPS, AND LIGHTING



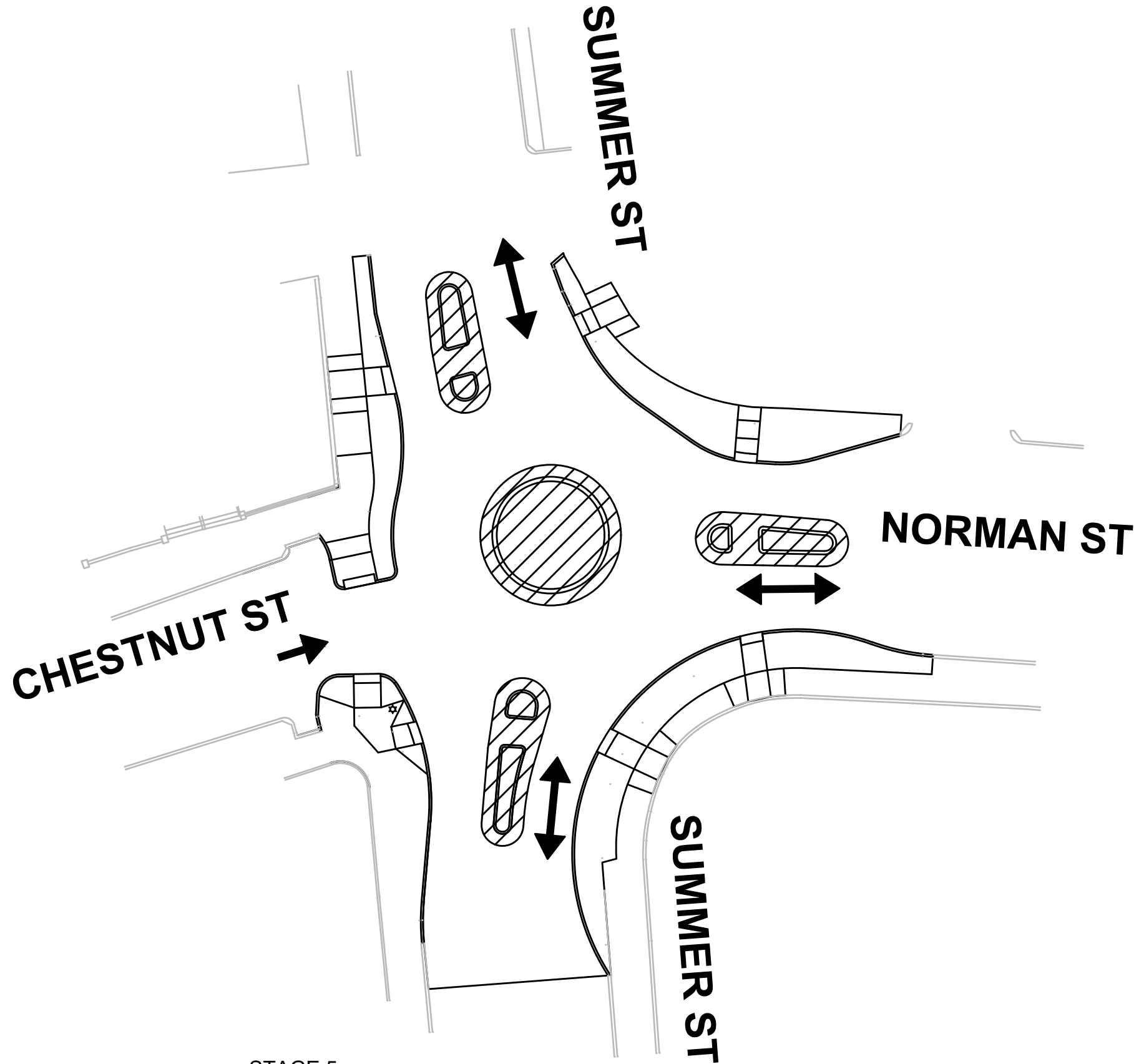
STAGE 3

CONSTRUCT NORTHEAST QUADRANT CURBS, SIDEWALKS, WHEELCHAIR RAMPS, AND DRAINAGE



STAGE 4

CONSTRUCT NORTHWEST QUADRANT CURBS, SIDEWALKS, WHEELCHAIR RAMPS, AND DRAINAGE



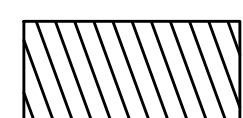
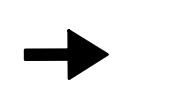

STAGE 5

CONSTRUCT SPLITTER ISLANDS AND CENTER ISLAND UNDER ONE WAY ALTERNATING TRAFFIC

NOTES:

1. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A TRAFFIC MANAGEMENT PLAN FOR REVIEW AND OBTAIN APPROVAL BY THE CITY OF SALEM PRIOR TO INITIATING ANY RECLAMATION, MILLING OR PAVING OPERATIONS OR ANY OTHER WORK WITHIN THE PUBLIC WAY THAT COULD AFFECT TRAVEL PATTERNS. UNLESS PERMITTED OTHERWISE AND APPROVED BY THE CITY OF SALEM, THE CONTRACTOR MAY USE A ONE-WAY ALTERNATING TRAFFIC PATTERN DURING THE ABOVE ACTIVITIES AS LONG AS THE ROADS WITHIN THE PROJECT SITE ARE MADE SAFE FOR TWO-WAY TRAVEL AT THE END OF EACH WORK DAY IN ACCORDANCE WITH THE APPROVED TRAFFIC MANAGEMENT PLAN. AN EXCEPTION TO THE ABOVE COULD BE THE USE OF A NIGHT TIME DETOUR BUT ONLY IF THE CONTRACTOR PROVIDES A SUITABLE DETOUR ROUTE AS PART OF A COMPREHENSIVE TRAFFIC MANAGEMENT PLAN AND APPROVAL IS GIVEN BY THE CITY OF SALEM.
2. THE CONTRACTOR WILL BE PERMITTED TO PERFORM WORK ONLY MONDAY THROUGH FRIDAY.
3. THESE TRAFFIC MANAGEMENT PLANS ARE PROVIDED AS A GUIDE FOR TYPICAL WORK ZONE TRAFFIC CONTROL APPLICATIONS. THEY ARE NOT INTENDED TO COVER ALL POSSIBLE CONSTRUCTION OPERATIONS WHICH THE CONTRACTOR MAY EMPLOY. TRAFFIC CONTROL FOR OTHER CONSTRUCTION OPERATIONS, IF APPLICABLE, SHALL BE IN ACCORDANCE WITH THE 2009 M.U.T.C.D.
4. REMOVE EXISTING PAVEMENT MARKINGS AND PROVIDE TEMPORARY PAINTED PAVEMENT MARKINGS AS APPLICABLE TO EACH PHASE AS REQUIRED BY THE ENGINEER. A MINIMUM WIDTH OF 11 FEET SHALL BE PROVIDED FOR EACH TRAVEL LANE.
5. SEE SHEET 16 FOR ADVANCE CONSTRUCTION SIGNAGE. ALL SIGNS THAT ARE NOT REPRESENTATIVE OF ACTUAL WORK CONDITIONS SHALL BE EITHER COVERED OR REMOVED WHEN NOT APPLICABLE.
6. FOR TYPICAL LANE CLOSURES, FOR WORK AT INTERSECTION CORNERS, AND FOR CROSSWALK CLOSURES SEE SHEET 15.
7. ACCESS THROUGH THE WORK ZONE AREA TO THE EXISTING DRIVE SHALL BE MAINTAINED UNTIL THE NEW ACCESS DRIVE IS OPERATIONAL.

LEGEND

-  = WORK ZONE
-  = TRAFFIC FLOW
-  = ALTERNATING ONE WAY TRAFFIC

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name:	Itcp_pkins.dwg	SEA	RAA	SEA	17.09.06
		Dwn.	Chkd.	Dsgn.	YY.MM.DD



Client/Project
City of Salem, MA

Summer, Norman & Chestnut St.
Roundabout Construction
Salem, MA

Title
TEMPORARY TRAFFIC CONTROL STAGING PLAN

Project No.	Scale	
179410906	NOT TO SCALE	
Drawing No.	Sheet	Revision

SUGGESTED WORK ZONE WARNING SIGN SPACING

Road Type	Distance Between Signs**		
	A	B	C
LOCAL OR LOW VOLUME ROADWAYS*	350	350	350
MOST OTHER ROADWAYS*	500	500	500
FREEWAYS AND EXPRESSWAYS*	1,000	1,500	2,640

* SPEED CATEGORY TO BE DETERMINED BY HIGHWAY AGENCY

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

THE "THIRD" SIGN ABOVE IS TYPICALLY REFERRED TO AS AN "ADVANCE WARNING" SIGN ON THE TMP SETUPS. IT IS THE ONE WHICH MAY OFTEN HAVE THE "STANDARD RED OR RED-ORANGE FLAGS (16 in. X 16 in.)" MOUNTED ON IT. THESE ADVANCE WARNING SIGNS ARE LOCATED AT THE PROJECT LIMITS ON ALL APPROACHES (i.e. THE W20-1 SERIES (ROAD WORK XX FT) SIGNS), AND USUALLY REMAIN FOR THE DURATION OF THE PROJECT.

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

R2-10a SIGNS SHALL BE PLACED BETWEEN THE FIRST AND SECOND SIGNS.

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

TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

Type of Taper	Taper Length (L)*
MERGING TAPER	AT LEAST L
SHIFTING TAPER	AT LEAST 0.5L
SHOULDER TAPER	AT LEAST 0.33L
ONE-LANE, TWO-WAY TRAFFIC TAPER	100 FT (30 m) MAXIMUM
DOWNSTREAM TAPER	100 FT (30 m) PER LANE

FORMULAS FOR DETERMINING TAPER LENGTHS

Speed Limit (S)	Taper Length (L) Feet	Speed Limit (S)	Taper Length (L) Meters
40 MPH OR LESS	$L = \frac{WS^2}{60}$	60 KM/H OR LESS	$L = \frac{WS^2}{155}$
45 MPH OR MORE	$L = WS$	70 KM/H OR MORE	$L = \frac{WS}{1.6}$

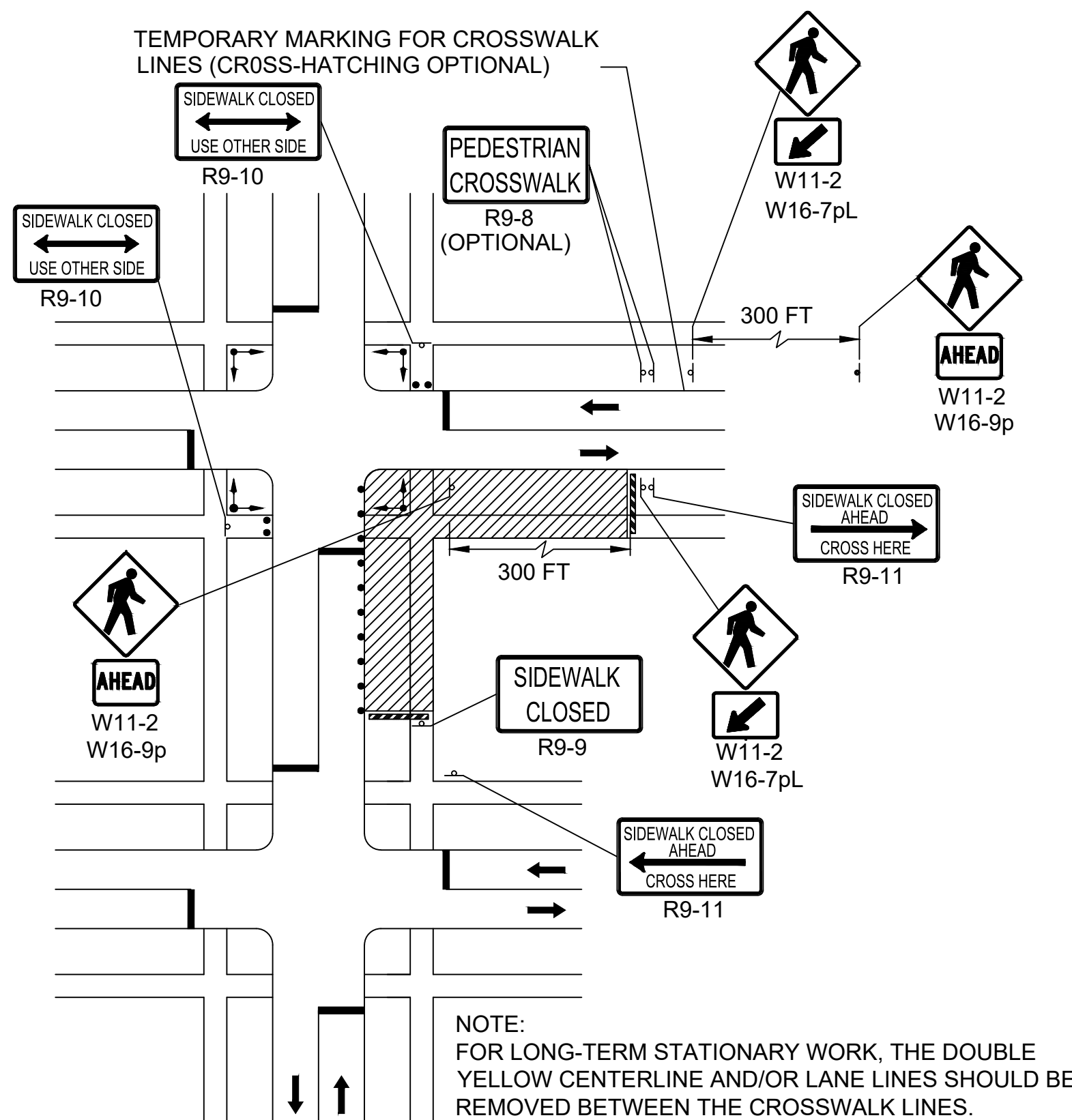
WHERE: L = TAPER LENGTH IN FEET (METERS)

W = WIDTH OF OFFSET IN FEET (METERS)

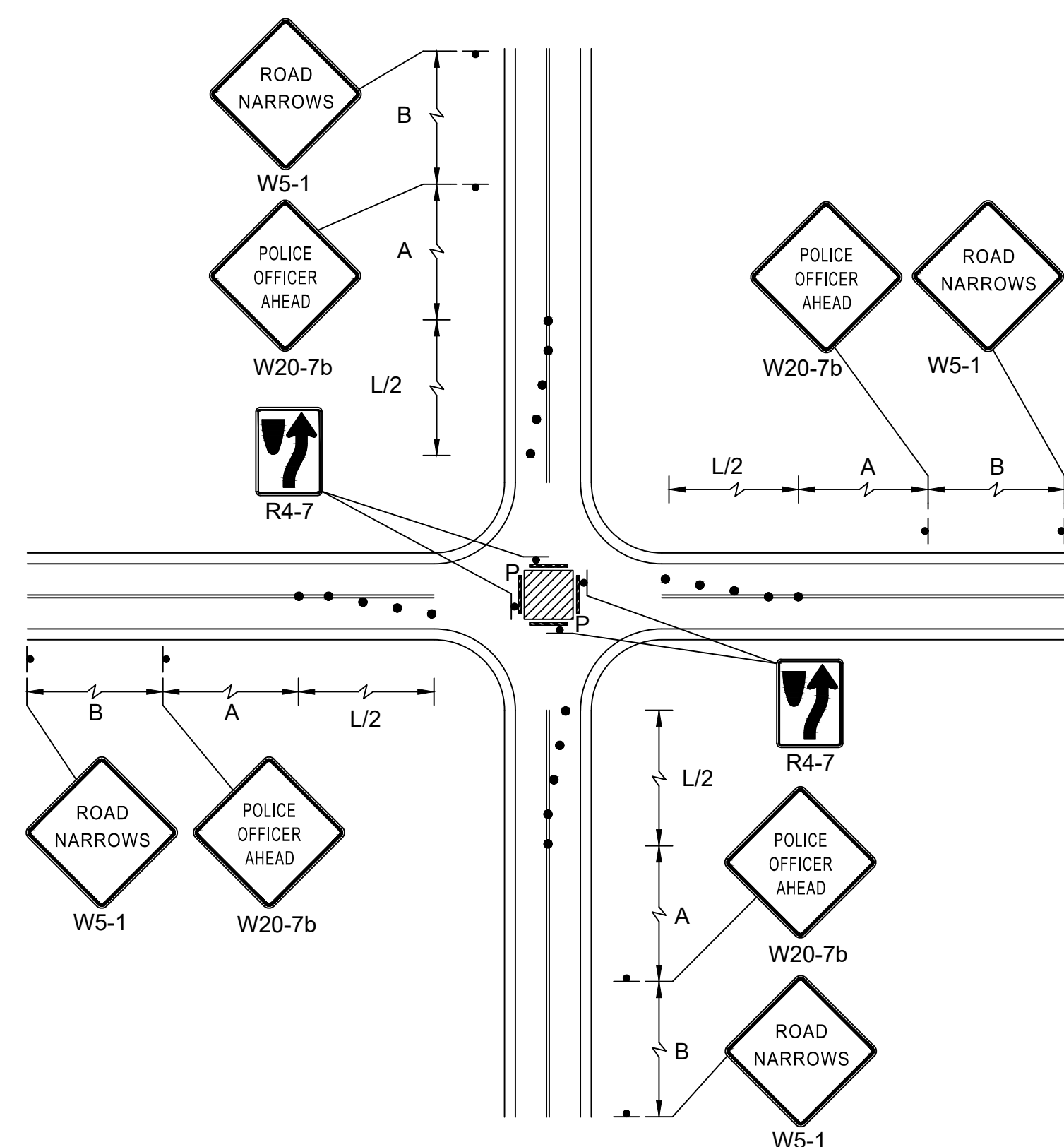
S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH (KM/H)

LEGEND

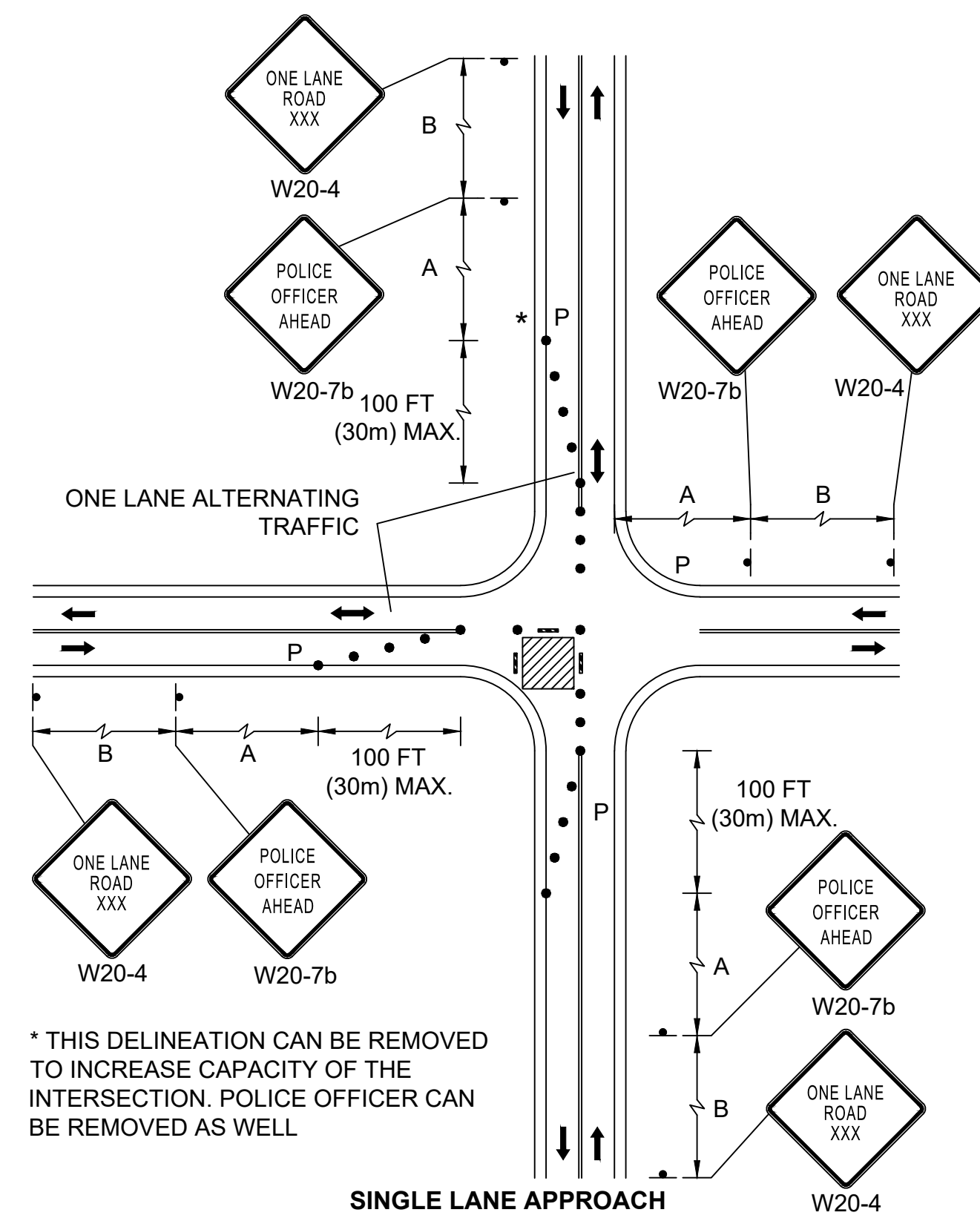
- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- P POLICE DETAIL
- ▨ TYPE III BARRICADE
- CHANGEABLE MESSAGE SIGN
- ARROW BOARD
- ▨ WORK ZONE
- DIRECTION OF CONSTRUCTION TRAFFIC
- DIRECTION OF EXISTING TRAFFIC
- IMPACT ATTENUATOR
- MEDIAN BARRIER
- ◻ WORK VEHICLE
- ▨ TRUCK MOUNTED ATTENUATOR
- TRAFFIC OR PEDESTRIAN SIGNAL
- CONSTRUCTION SIGN



PEDESTRIAN DETOUR
NOT TO SCALE



SINGLE LANE APPROACH
CENTER CLOSURE



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

SINGLE LANE APPROACH
ONE QUADRANT CLOSURE

Revision	By	Appd.	YY.MM.DD

Issued By Appd. YY.MM.DD

File Name: Itcp.plans.dwg SEA RAA SEA 17.09.06
Dwn. Chkd. Dsgn. YY.MM.DD



Permit-Seal
City of Salem, MA

Client/Project
Summer, Norman & Chestnut St.
Roundabout Construction
Salem, MA

Title
TEMPORARY TRAFFIC CONTROL DETAILS
SHEET 1 OF 2

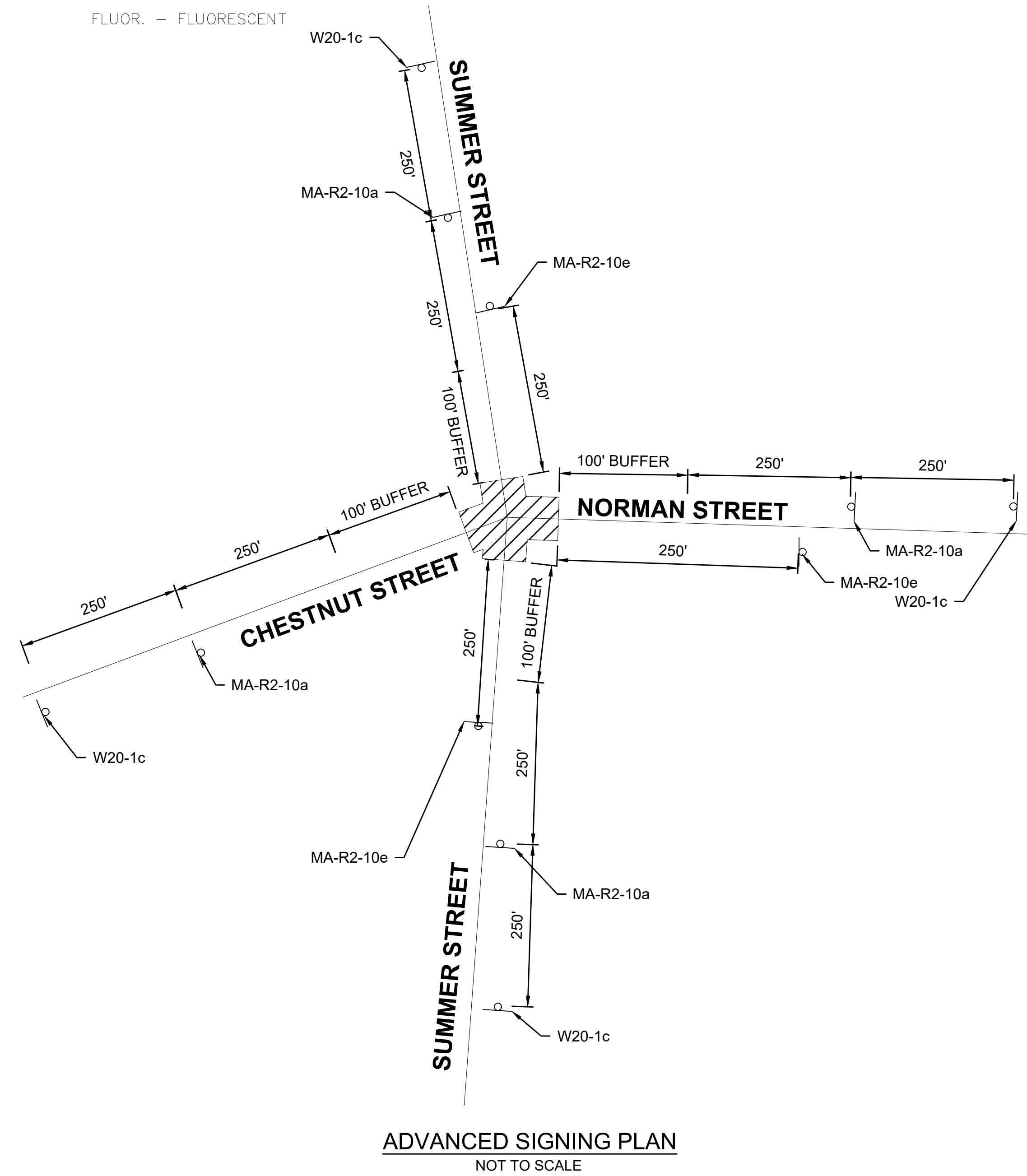
Project No.	Scale	
179410906	NOT TO SCALE	
Drawing No.	Sheet	Revision

CONSTRUCTION SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW		BACK-GROUND	LEGEND	BORDER		
MA-R2-10a	48"	36"		SEE MASSDOT STANDARDS			3	FLUOR. ORANGE WHITE	BLACK BLACK			36.00
MA-R2-10e	36"	48"					3	FLUOR. ORANGE WHITE	BLACK BLACK			36.00
R4-7	24"	30"		SEE MUTCD STANDARDS			3	WHITE	BLACK BLACK			15.00
R9-9	24"	12"					2	WHITE	BLACK BLACK			4.00
R9-10	24"	12"					2	WHITE	BLACK BLACK			4.00
R9-11	24"	18"					2	WHITE	BLACK BLACK			6.00
W1-4L	36"	36"					2	ORANGE	BLACK BLACK			18.00
W1-4R	36"	36"					2	ORANGE	BLACK BLACK			18.00
W5-1	36"	36"					3	ORANGE	BLACK BLACK			27.00
W11-2	30"	30"					4	ORANGE	BLACK BLACK			25.00
W13-1P	24"	24"					2	ORANGE	BLACK BLACK			8.00
W16-7pL	24"	12"					2	ORANGE	BLACK BLACK			4.00
W16-9p	24"	12"					2	ORANGE	BLACK BLACK			4.00
W20-1c	36"	36"					3	ORANGE	BLACK BLACK			27.00
W20-4	36"	36"					3	ORANGE	BLACK BLACK			27.00
W20-7	36"	36"					3	ORANGE	BLACK BLACK			27.00
W20-7b	36"	36"		SEE MASSDOT STANDARDS			3	ORANGE	BLACK BLACK			27.00

NOTE:
SUPER HIGH INTENSITY UNMETALIZED MICROPRISMATIC ELEMENT REFLECTIVE SHEETING M9.30.0 TYPE VII, VIII, IX, OR X SHALL BE USED FOR ALL SIGNS.

FLUOR. - FLUORESCENT



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Notes

Revision By Appd. YY.MM.DD

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File Name: Itcp.plans.dwg SEA RAA SEA 17.09.06
Dwn. Chkd. Dsgn. YY.MM.DD

Permit-Seal



Client/Project
City of Salem, MA

Summer, Norman & Chestnut St.
Roundabout Construction
Salem, MA

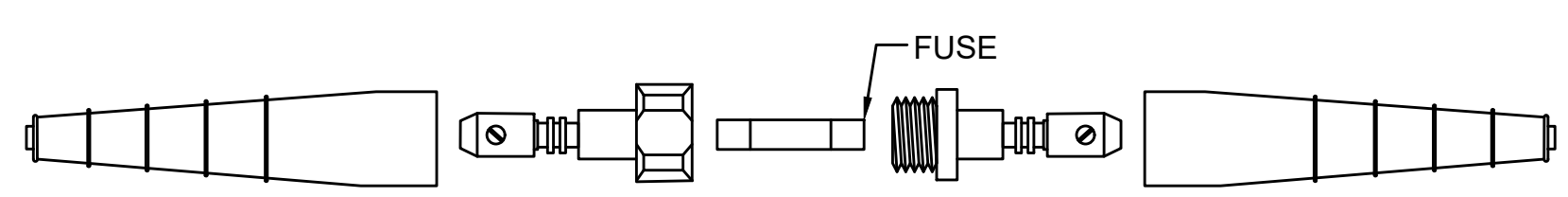
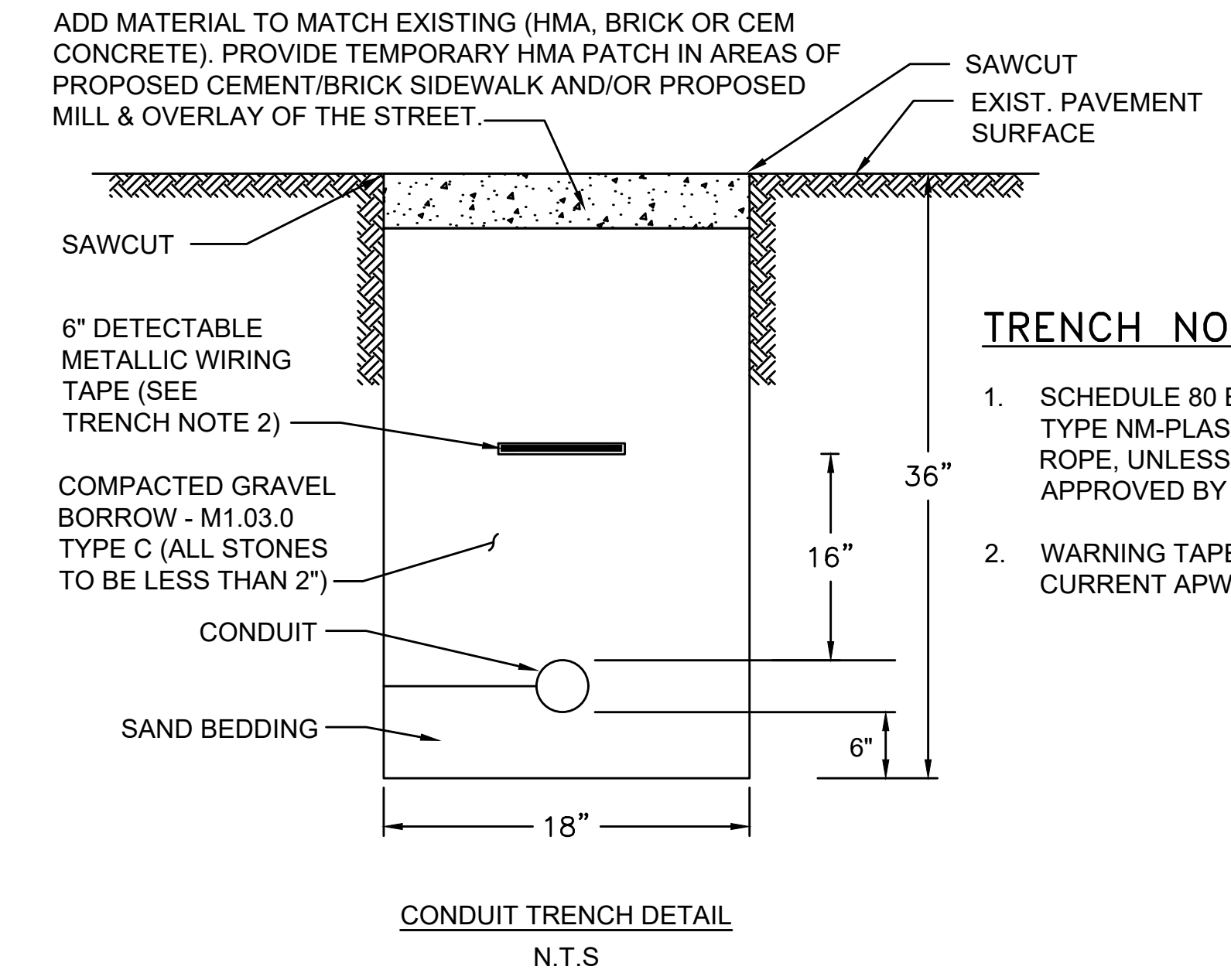
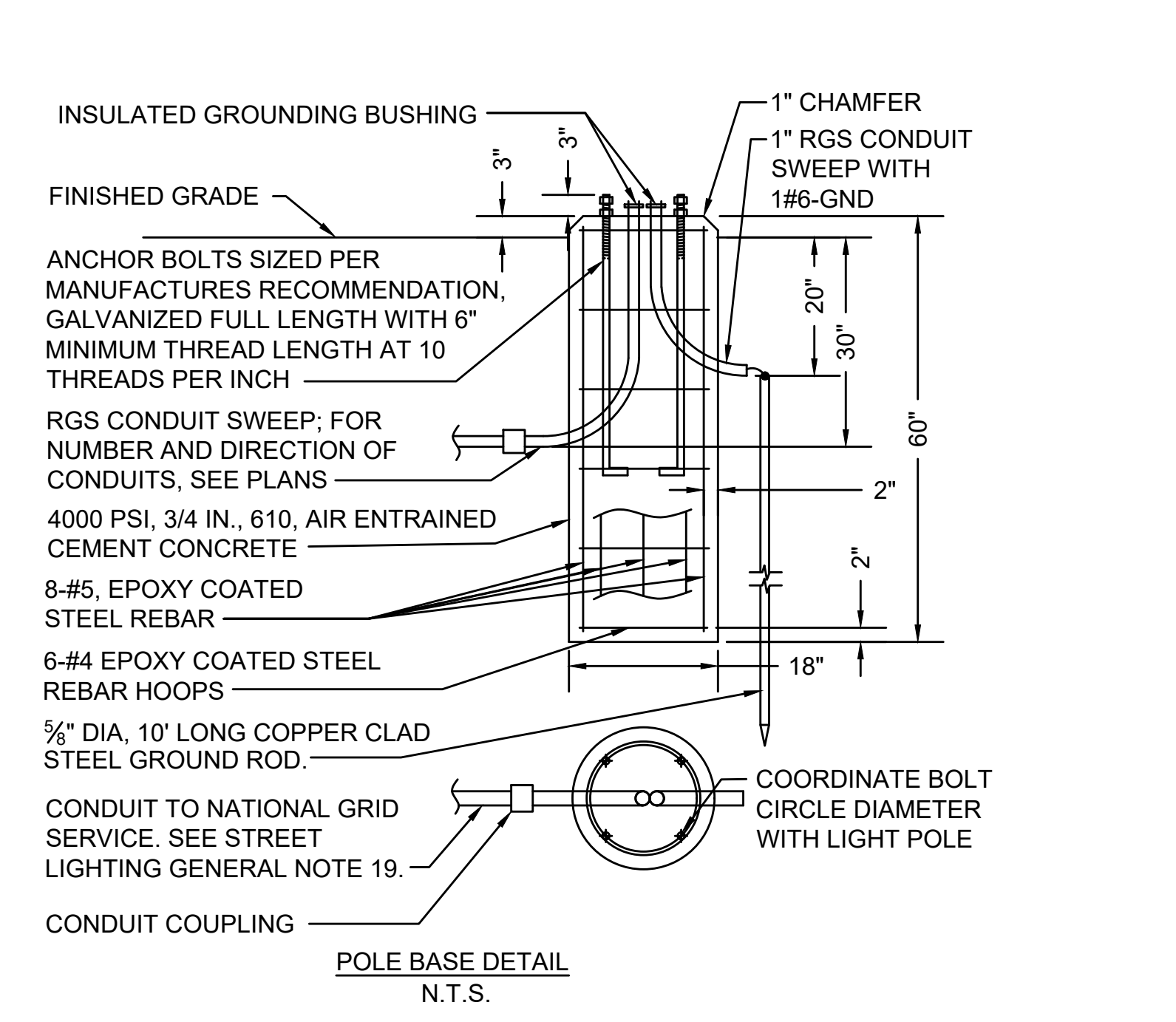
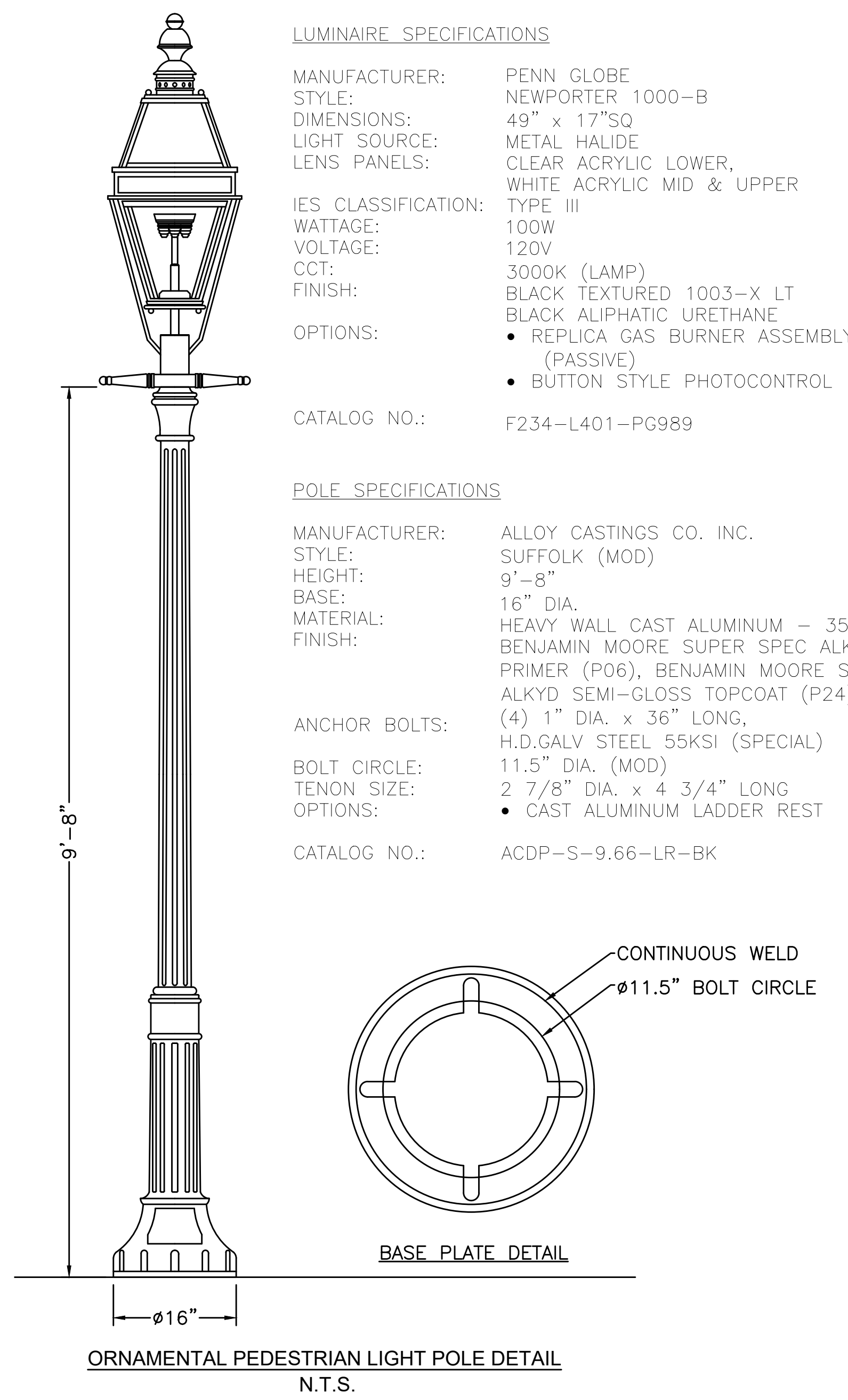
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TEMPORARY TRAFFIC CONTROL DETAILS
SHEET 2 OF 2

Project No. 179410906 Scale NOT TO SCALE

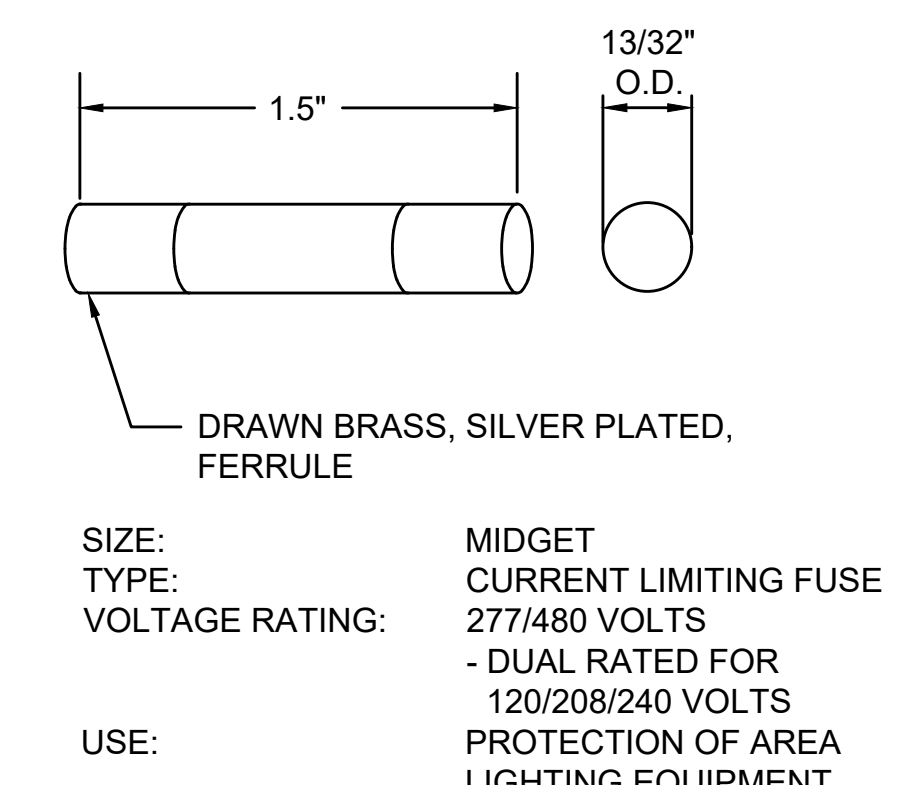
Drawing No. Sheet Revision

STREET LIGHTING GENERAL NOTES:

- CONDUIT AND WIRE RUNS ARE SHOWN APPROXIMATE. LOCATIONS MAY BE ADJUSTED TO MATCH EXISTING AND PROPOSED CONDITIONS AS REQUIRED BY THE RESIDENT ENGINEER.
- THE CONTRACTOR SHALL VISIT THE JOB SITE WITH THE CONTRACT DOCUMENTS AND INVESTIGATE ALL CONDITIONS AFFECTING THIS WORK. THE CONTRACTOR SHALL BE FAMILIAR WITH THE LOCATION AND SITE OF THE WORK, AND SHALL VERIFY DIMENSIONS, QUANTITIES, ACTUAL INSTALLATION CONDITIONS, CONFLICTS, AND STORAGE FACILITIES.
- ALL CONDUIT AND EQUIPMENT TO BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE, MASSACHUSETTS ELECTRICAL CODE AND APPLICABLE LOCAL CODES.
- ALL EQUIPMENT AND MATERIALS SHALL BE UL LISTED FOR ITS INTENDED PURPOSE.
- WIRE SIZES SHALL BE BASED ON AMERICAN WIRE GAGE (AWG), AS APPLIED TO COPPER CONDUCTORS. THE CONDUCTOR INSULATION SHALL BE TYPE USE-2 OR RHH-RHW-2.
- WIRE AND CABLE FURNISHED AND USED SHALL BE NEW. WIRE AND CABLE SHALL BE PROTECTED FROM WEATHER AND DAMAGE DURING STORAGE AND HANDLING.
- NO WIRE SHALL BE DRAWN IN TO ANY CONDUIT UNTIL ALL WORK WHICH MAY CAUSE CABLE DAMAGE IS COMPLETE.
- FOR NEW LIGHTING POLE FOUNDATIONS THE CONTRACTOR SHALL CAREFULLY MARK THE PROPOSED LOCATION OF THE CONCRETE FOUNDATION AND THEN SHALL DETERMINE IF ANY UTILITIES, OR UNDERGROUND OR OVERHEAD OBSTRUCTION WILL PREVENT THE INSTALLATION AT THIS LOCATION. SIMILAR MARKING SHALL BE DONE FOR THE CONDUIT RUNS TO THE FOUNDATION. IF SUCH AN OBSTRUCTION IS EVIDENT, THE CONTRACTOR SHALL REQUEST PERMISSION FROM THE ENGINEER TO MOVE OR ADJUST THE LOCATION OF THE FOUNDATION.
- THE CONTRACTOR SHALL PERFORM THE WORK IN A MANNER ACCEPTABLE TO THE ENGINEER SO THAT INTERFERENCE WITH OR INCONVENIENCE TO BUSINESS CONCERNS OR ABUTTERS ON ACCOUNT OF THE CONSTRUCTION WORK IS KEPT TO A MINIMUM. THE CONTRACTOR SHALL MAINTAIN SAFE AND REASONABLE ACCESS TO AND EGRESS FROM ABUTTING PROPERTIES AT ALL TIMES.
- THE CONTRACTOR SHALL BE REQUIRED TO ADHERE TO ALL REGULATIONS IMPOSED BY THE CITY OF SALEM.
- CONDUIT SHALL BE SCH. 80 WITH METALLIC DETECTABLE CAUTION TAPE ABOVE.
- SPLICES SHALL BE IN ACCORDANCE WITH SECTION 813 OF THE MASSHIGHWAY STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
- THE HOT LINE AND NEUTRAL CONNECTION IN THE POLE HANDHOLE SHALL BE WITH AN APPROVED STREET LIGHT FUSE CONNECTOR.
- THE LOCATIONS OF EXISTING SUBSURFACE UTILITIES SHOWN ON THE PLANS WERE COMPILED FROM AVAILABLE RECORD DRAWINGS AND ARE NOT WARRANTED TO BE CORRECT. THE LOCATIONS ARE APPROXIMATE ONLY AND IN SOME CASES MAY BE INCOMPLETE. THE CONTRACTOR SHALL NOTIFY ALL AGENCIES REQUIRED AND VERIFY THE LOCATION OF ALL EXISTING SUBSURFACE UTILITIES PRIOR TO PERFORMING ANY WORK.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING FEATURES PRIOR TO PERFORMING ANY WORK.
- THE CONTRACTOR SHALL MAINTAIN AREAS IN AND AROUND THE WORK ZONE FREE AND CLEAR OF DEBRIS AT ALL TIMES. NO STOCKPILING OF EQUIPMENT OR MATERIAL SHALL BE PERMITTED OUTSIDE OF FIXED WORK ZONES.
- THE CONTRACTOR SHALL INSTALL OTHER NECESSARY TEMPORARY REGULATORY AND WARNING SIGNS DURING CONSTRUCTION AS REQUIRED BY THE ENGINEER FOR OTHER INCIDENTAL CONSTRUCTION ACTIVITIES. ALL SIGNAGE AND TRAFFIC CONTROL DEVICES USED MUST CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", 2009 EDITION AND THE LATEST ADDENDUMS.
- ELECTRICAL SERVICE TO THE LIGHT POLE WILL BE PROVIDED BY NATIONAL GRID. CONTRACTOR SHALL COORDINATE WITH THE CITY OF SALEM AND NATIONAL GRID FOR SERVICE CONNECTION AND MANHOLE BREAK. CONTRACTOR IS RESPONSIBLE FOR ALL ELECTRIC SERVICE CONNECTIONS AND RELATED FEES FROM NATIONAL GRID.
- PROVIDE 2" CONDUIT FROM POLE BASE AT STA: 10+81 TO NATIONAL GRID (NG) MANHOLE AT STA: 10+62 OFFSET: 23' LT. COORDINATE WITH NG FOR NG TO BREAK MANHOLE. PROVIDE 2#6, 1#6-GND IN CONDUIT WITH 30' OF SLACK FOR SERVICE CONNECTION. PROVIDE BREAK AWAY FUSE HOLDER ON EACH LINE IN BASE OF POLE. WIRE POLE TO LUMINAIRE PHOTOCELL WITH 2#10, 1#10-GND.
- PROVIDE 2" CONDUIT FROM POLE BASE AT STA: 11+58 TO NATIONAL GRID (NG) MANHOLE AT STA: 12+34 OFFSET: 22' LT. COORDINATE WITH NG FOR NG TO BREAK MANHOLE. PROVIDE 2#6, 1#6-GND IN CONDUIT WITH 30' OF SLACK FOR SERVICE CONNECTION. PROVIDE BREAK AWAY FUSE HOLDER ON EACH LINE IN BASE OF POLE. WIRE POLE TO LUMINAIRE PHOTOCELL WITH 2#10, 1#10-GND.



FUSE HOLDER RATING: 600 VOLTS - 10 AMPS.	
FUSE HOLDER SIZE: 1/2" x 1/2" O.D. - FERRULE 3/8"	
CONNECTOR SIZE: 8.5" x 1/8" O.D.	
CONNECTOR TYPE:	FUSE - QUICK DISCONNECT SET COPPER SCREW TYPE CONNECTION - BREAKAWAY RATED
CONNECTOR MATERIAL:	MOLDED PLASTIC BODY WITH RUBBER INSULATING BOOTS.
CONDUCTOR SIZE:	LINE AND LOAD MIN #8 AWG THROUGH #12 AWG
REQUIRED FEATURES:	WATERTIGHT NO TAPING OR SEALANT REQUIRED
FUSE HOLDER CATALOG #:	FERRAZ SHAWMUT FEB-81-81-BA, BUSSMAN HEB-JW-RLC-J, LITTEL FUSE LEC-JJ-S (LEB IF STRANDED CABLE) OR EQUIVALENT
-FUSE SHALL BE HELD IN LOAD SIDE WHEN CONNECTOR IS DISCONNECTED. -PROVIDE APPROVED FUSE HOLDER WITH "DUMMY" ROD BLANK FUSE FOR NEUTRALS	



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Permit-Seal



Client/Project
City of Salem, MA

Summer, Norman & Chestnut St.
Roundabout Construction
Salem, MA

Title
CONSTRUCTION DETAILS
SHEET 2 OF 2

Project No.	Scale	
179410906	NOT TO SCALE	
Drawing No.	Sheet	Revision
X	15 of 16	0

