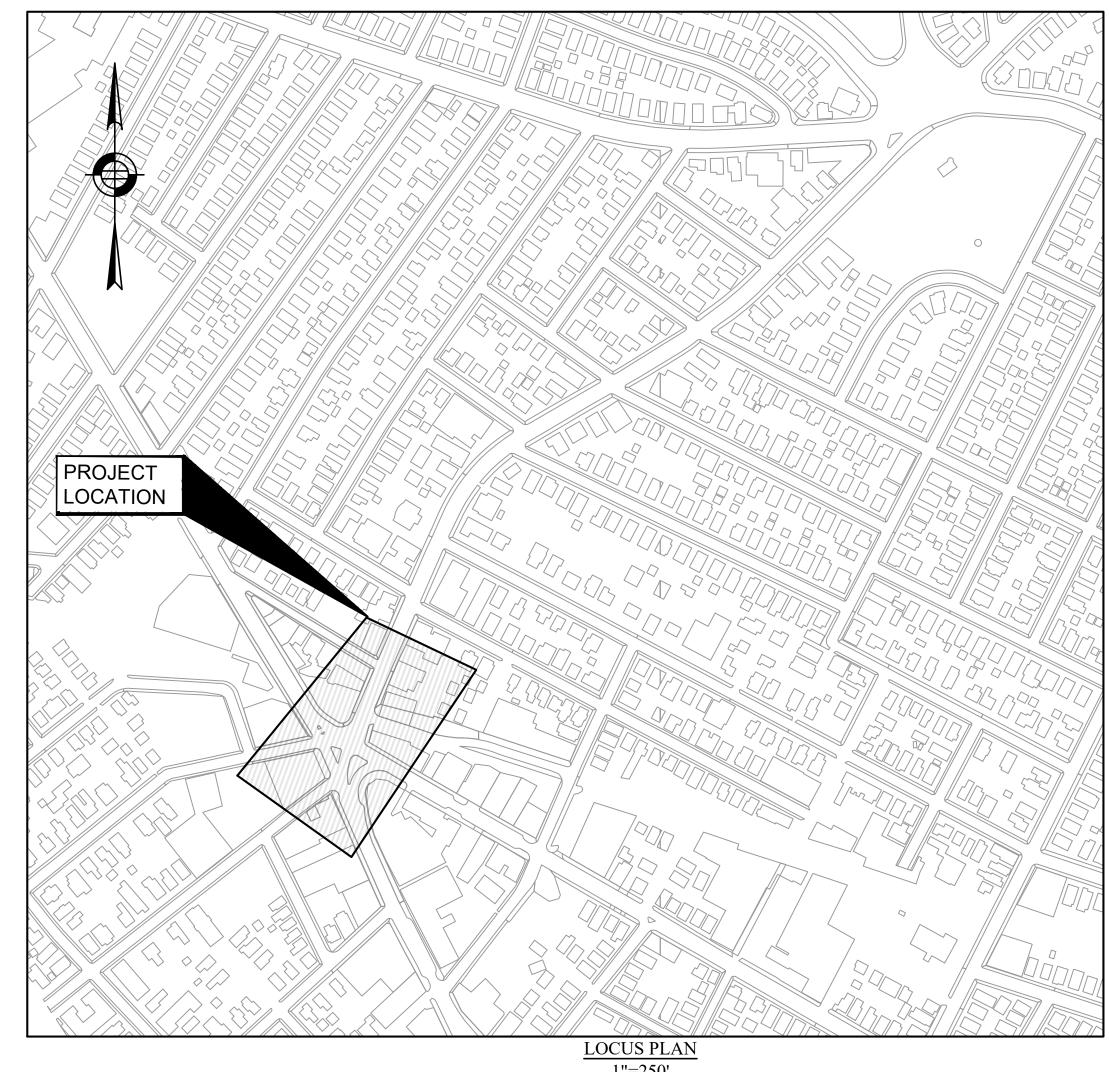
CITY OF SOMERVILLE SIGNAL AND INTERSECTION IMPROVEMENTS

DAVIS SQUARE

DWG NO.	SHEET NO.	PLAN TITLE
G-01	1	TITLE SHEET & INDEX
G-02	2	GENERAL NOTES
SP-01	3	TRAFFIC SIGNAL PLAN
TS-01	4	TRAFFIC SIGN PLAN
SS-01	5	SIGN SUMMARY & ITEMS LIST
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1"=250'

THESE PLANS ARE SUPPLEMENTED BY THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 2020, AS AMENDED, AND THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING

100% DESIGN

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MASSACHUSETTS, LICENSE NO. 46632, EXPIRATION DATE: 06/30/2022



	ALL I	DRAW		REUSE OF DOCUMENTS INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. SE OR ALTERATION IS AT THE USER'S SOLE RISK.			
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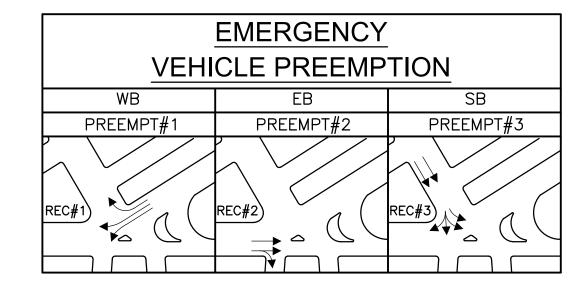
DAVIS SQUARE SIGNAL AND INTERSECTION IMPROVEMENTS

CITY OF SOMERVILLE COMMONWEALTH OF MASSACHUSETTS

TITLE SHEET & INDEX	
	DATE
DAVIS SQUARE	5/3/2022
DAVIS SQUARE	DRAWING NO.
	G-01
DDODOSED CONDITIONS	SHEET NO.
PROPOSED CONDITIONS	1 OF 6

- 1. THE CONTRACTOR SHALL COORDINATE WITH CITY OF SOMERVILLE TO REMOVE EXISTING PEDESTRIAN SIGNAL HEAD AND INSTALL NEW P11 PEDESTRIAN SIGNAL HEAD AT THE SAME TIME AS PAVEMENT MARKINGS, CURB WORK AND NEW CROSSWALK ARE BEING INSTALLED.
- 2. DETECTION ZONES FOR MIOVISION CAMERAS TO BE CONFIGURED BY 3RD PARTY AFTER INSTALLATION.
- 3. THE CONTRACTOR SHALL INSTALL PROPOSED SIGNAL HEADS ON EXISTING POLES AND MAST ARMS, UNLESS OTHERWISE SPECIFIED.
- 4. THE CONTRACTOR SHALL RETURN ALL REMOVED SIGNAL EQUIPMENT TO 1 FRANEY ROAD.
- 5. THE CONTRACTOR SHALL ONLY REMOVE EXISTING SIGNAL HEADS THAT ARE SPECIFICALLY CALLED OUT FOR REMOVAL.
- 6. THE CONTRACTOR SHALL VERIFY BASE MAPPING IN THE FIELD PRIOR TO PLACING STRIPING OR SYMBOLS AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO START OF WORK. WHEN THESE PLANS ARE IN CONFLICT WITH ACTUAL SITE CONDITIONS, PROPOSED WORK MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
- 7. THE CONTRACTOR SHALL TAKE ADEQUATE PRECAUTIONS TO PROTECT ALL WALKS, GRADING, SIDEWALKS, AND FEATURES OUTSIDE OF THE LIMITS OF WORK AND SHALL REPAIR AND REPLACE OR OTHERWISE MAKE GOOD AS DIRECTED BY THE ENGINEER OR OWNER'S DESIGNATED REPRESENTATIVE ANY SUCH OR OTHER DAMAGE SO CAUSED AT NO ADDITIONAL COST.
- 8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK SUCH THAT THERE WILL BE NO CONFLICTS AT ANY TIME BETWEEN TRAFFIC PATTERNS AND TRAFFIC CONTROL DEVICES (NEW OR TEMPORARY) WITHIN THE LIMITS OF CONSTRUCTION.
- 9. ALL EXISTING PEDESTRIAN RAMP LOCATIONS SHOWN ARE APPROXIMATE. EXISTING PEDESTRIAN RAMPS HAVE NOT BEEN REVIEWED FOR ADA COMPLIANCE.
- 10. THE MINIMUM HEIGHT, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK, SHALL BE 7'. THE MINIMUM LATERAL OFFSET, MEASURED FROM THE EDGE OF THE SIGN TO THE FACE OF THE CURB, SHALL BE 1'.
- 11. ALL SIGNS LABELED REMOVE AND RESET SHALL BE RESET TO THEIR ORIGINAL LOCATION UNLESS OTHERWISE NOTED OR DEPICTED ON THE SIGNAL PLAN.
- 12. NEW OR RELOCATED SIGNPOSTS SHALL NEITHER IMPEDE NOR OBSTRUCT ACCESSIBLE PATH OF TRAVEL FOR PEDESTRIANS.
- 13. IF ACCESSIBLE PARKING IS AFFECTED DURING CONSTRUCTION, RELOCATE ALL ACCESSIBLE PARKING SPOTS TO THE NEAREST PARKING AREAS THAT WILL BE MAINTAINED DURING CONSTRUCTION. RELOCATED ACCESSIBLE PARKING AREAS SHALL BE APPROPRIATELY SIGNED AND SHALL BE ADJACENT TO AN ACCESSIBLE PEDESTRIAN PATHWAY. ALL ACCESSIBLE PARKING SPACES SHALL BE RETURNED TO THEIR ORIGINAL LOCATION POST CONSTRUCTION, UNLESS OTHERWISE NOTED ON THE PLANS.
- 14. MAINTAIN EXISTING PEDESTRIAN AND BICYCLE FACILITIES AS SEPARATED AND CONTINUOUS DURING CONSTRUCTION. PEDESTRIAN AND BICYCLE FACILITIES ARE TO BE SEPARATED FROM VEHICULAR TRAFFIC AND WILL NOT BE REMOVED OR UNNECESSARILY DETOURED DUE TO THE RETENTION OF MULTIPLE TRAVEL LANES OR PARKING.
- 15. THE PREPARER OF THESE PLANS HAS NO ROLE IN THE OVERSIGHT OR OTHERWISE IN THE IMPLEMENTATION OF THESE PLANS.
- 16. THE UTILITY COMPANIES, PUBLIC AND PRIVATE, MUST BE NOTIFIED, INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN, (SEE CHAPTER 370, ACTS OF 1663, MASSACHUSETTS) PRIOR TO EXCAVATING, BLASTING, INSTALLING, BACKFILLING GRADING, PAVEMENT RESTORATION, OR REPAVING.
- 17. THE ACCURACY AND COMPLETENESS OF UNDERGROUND UTILITIES ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION, SIZE, TYPE, ETC. OF ALL UNDERGROUND UTILITIES THAT MAY BE AFFECTED BY THE WORK. AT LEAST 72 HOURS BEFORE DIGGING BEGINS THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT (888)344-7233. ALL CITY OWNED UTILITY STRUCTURES WITHIN AREAS AFFECTED BY THE WORK SHALL BE ADJUSTED TO NEW LINE AND GRADE AS DIRECTED BY THE ENGINEER. ANY UTILITY POLES AND/OR GUY POLES WITHIN AREAS AFFECTED BY THE WORK SHALL BE REMOVED AND RESET BY THE RESPECTIVE UTILITY COMPANY. ALTERATIONS TO UTILITIES NOT OWNED BY THE CITY SHALL BE MADE BY THE PERSPECTIVE UTILITY OWNERS.
- 18. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR TRAFFIC MANAGEMENT AND TO COMPLY WITH CONDITIONS OBTAINED WITHIN THE PLANS AND SPECIFICATIONS USING APPROVED METHODS.
- 19. THE CONTRACTOR SHALL FIELD VERIFY CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION.
- 20. THE CONTRACTOR SHALL VERIFY PROPERTY LIMITS PRIOR TO CONSTRUCTION AND PLACE ALL NEW EQUIPMENT WITHIN THE CITY'S RIGHT OF WAY.
- 21. WHERE THE NEW CONSTRUCTION IS WITHIN THE EXISTING TRAVELED WAY, THE CONTRACTOR SHALL PERFORM WORK IN A MANNER ACCEPTABLE TO THE CITY SO THAT INTERFERENCE TO BUSINESS CONCERNS AND ABUTTERS, ON ACCOUNT OF THE CONSTRUCTION WORK, IS KEPT TO A MINIMUM. THE CONTRACTOR WILL NOT BE ALLOWED TO PARK EQUIPMENT OR STOCKPILE MATERIAL ON THE TRAVELED WAYS OVERNIGHT OR WHEN NOT IN USE. THE CONTRACTOR SHALL MAINTAIN SAFE AND REASONABLE ACCESS TO AND FROM ABUTTING PROPERTIES AT ALL TIMES AT NO ADDITIONAL COST.
- 22. ALL WORK REQUIRED TO COMPLETE TRAFFIC SIGNAL MODIFICATIONS SHALL BE IN CONFORMANCE WITH CITY AND STATE STANDARDS AND SPECIFICATIONS.
- 23. ALL NEW TRAFFIC CONTROL DEVICE, SIGNAGE, OR CURB-USE SIGNAGE SHALL BE INSTALLED, MODIFIED, OR RELOCATED IN SUCH A WAY AS TO NOT IMPEDE THE CONTINUOUS, ACCESSIBLE, AND UNOBSTRUCTED PATH FOR PEDESTRIANS.
- 24. ALL EXISTING FACILITIES SHALL BE MAINTAINED IN-PLACE BY THE CONTRACTOR UNLESS OTHERWISE SHOWN OR DIRECTED. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO SUPPORT, MAINTAIN, OR OTHERWISE PROTECT EXISTING FACILITIES AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR TO LEAVE EXISTING FACILITIES IN AN EQUAL OR BETTER-THAN-ORIGINAL TO THE SATISFACTION TO THE ENGINEER.
- 25. CONTRACTOR SHALL DETERMINE THE CONDITION OF THE EXISTING SIGNAL CONDUIT, AND SHALL IMMEDIATELY ADVISE THE ENGINEER IF THE CONDUIT IS FOUND TO BE DAMAGED OR DOES NOT HAVE ADEQUATE CAPACITY TO HANDLE THE ADDITION OF THE PROPOSED SIGNAL CABLES. ANY TEST PITTING SHOULD BE PERFORMED OUTSIDE OF THE PAVED AREAS.
- 26. 340 ATC CABINET SHALL BE EQUIPPED WITH (2) 19" RACKS, (4) DOORS, (2) 16-CHANNEL OUTPUT ASSEMBLIES, AUXILIARY DISPLAY UNIT FOR CMU, POWDERCOATING OR ANODIZING EXTERIOR, AND MANUAL CONTROL CABLE LOCATED IN POLICE PANEL.
- 27. REAL—TIME OR NEAR REAL—TIME COMMUNICATION FEED OF HIGH RESOLUTION SIGNAL DATA (SPOT AND TSP REQUESTS/CANCELS) SHALL BE PROVIDED FROM CONTROLLER TO MBTA. FORMAT COMMUNICATION FEED WITH JSON OR WEBHOOKS PREFERRED.
- 28. DETECTION ZONES SHALL BE SET UP SO THAT THEY ARE SET BACK NO FURTHER THAN 150' FROM EACH CAMERA.
- 29. DISTANCES FROM STOP BARS AT DAVIS SQUARE TO THE NEAREST UPSTREAM BUS STOPS OF SELECT APPROACHES ARE INCLUDED IN THE TABLE TO THE RIGHT AND ARE SUPPLEMENTED BY THE MAP. DISTANCES INCLUDE THE FOLLOWING: 1630 FT FOR HIGHLAND AVE #2675, 90 FT FOR COLLEGE AVE #5015, 1080 FT FOR COLLEGE AVE #5014, 175 FT FOR HOLLAND STREET #2581, AND 1170 FT FOR HOLLAND STREET #2580. REFER TO BUS NETWORK MAP TO THE RIGHT.

30. EXISTING EMERGENCY VEHICLE PRE-EMPTION DETECTION SHALL NOT BE DISTURBED AND SHALL BE RECONNECTED IN NEW CABINET. REFER TO THE CHART BELOW FOR EXISTING EMERGENCY VEHICLE PRE-EMPTION PHASING.



TRAFFIC SIGNAL SYMBOLS

EXISTING SIGNAL POST

EXISTING SIGNAL

EXISTING PEDESTRIAN SIGNAL HEAD

EXISTING OPTICOM DETECTOR

• EXISTING OPTICOM STROBE

EXISTING CONTROLLER CABINET

EXISTING MAST ARM

(LENGTH VARIES)

(5'xVARIES)

FT EXISTING LOOP

≇► EXISTING SIGN

PROPOSED SIGNAL

PROPOSED PEDESTRIAN SIGNAL HEAD

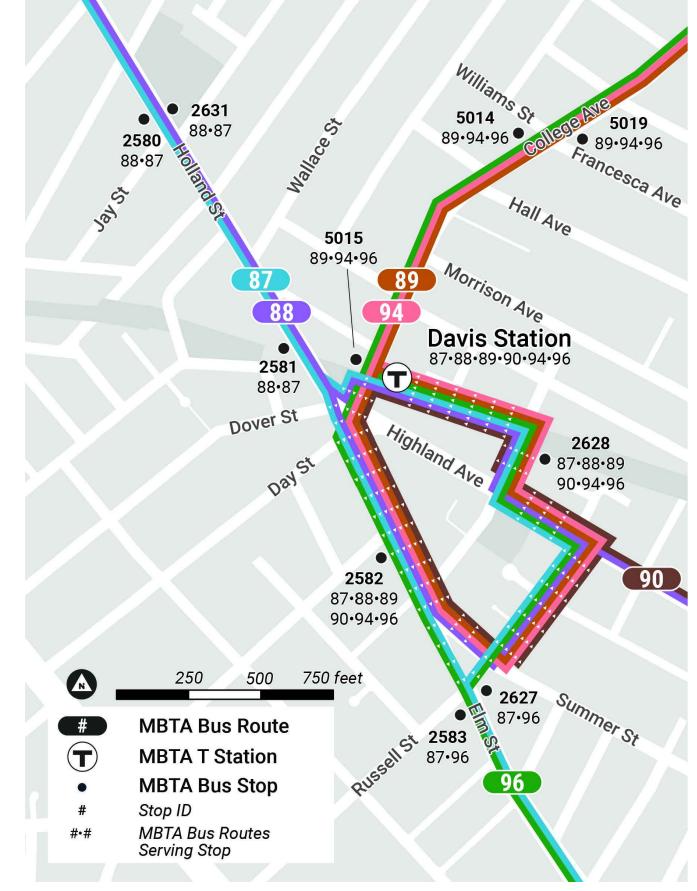
#PROPOSED SIGN

PROPOSED VIDEO DETECTION

UPSTREAM BUS STOPS STOP LOCATION/ID DISTANCE (FT) HIGHLAND AVE #2675 1630 COLLEGE AVE #5015 90 COLLEGE AVE #5014 1080 HOLLAND ST #2581 175 HOLLAND STREET #2580 1170

THESE VALUES PORTRAY THE APPROXIMATE DISTANCE BETWEEN UPSTREAM BUS STOPS AND THE DAVIS SQUARE INTERSECTION STOP BAR FOR THE APPROPRIATE APPROACH. NOTE THAT HIGHLAND AVE #2675 IS LOCATED OFF THE MAP AT THE INTERSECTION OF HIGHLAND AVENUE AND WILLOW AVENUE.

BUS NETWORK MAP

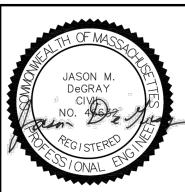


100% DESIGN

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	CHK	so						
	APVD	JD	NO.	DATE	REVISION	BY	APVD	

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DAVIS SQUARE SIGNAL AND INTERSECTION IMPROVEMENTS

CITY OF SOMERVILLE
COMMONWEALTH OF MASSACHUSETTS

DAVIS SQUARE

DATE

5/3/2022

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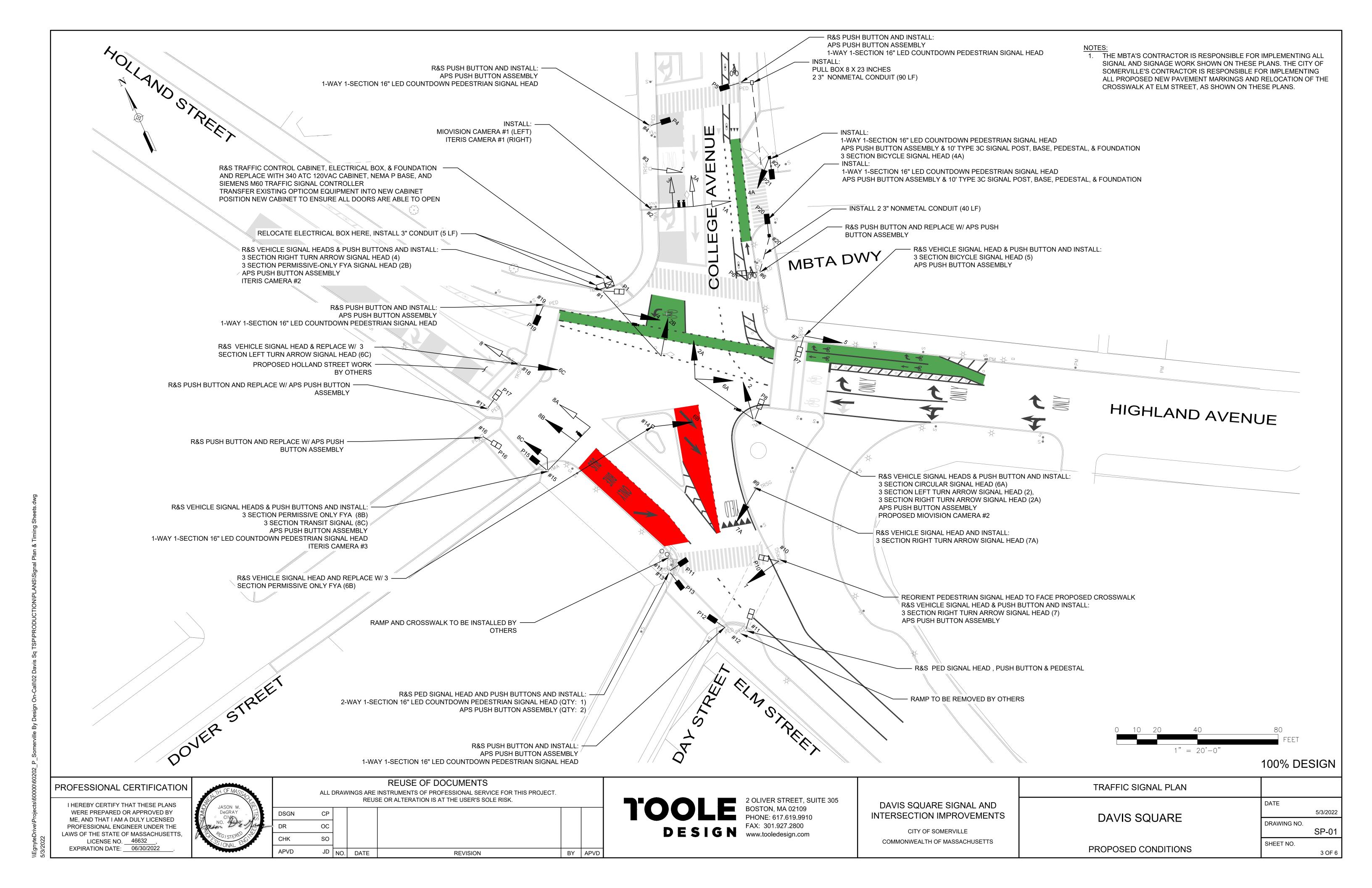
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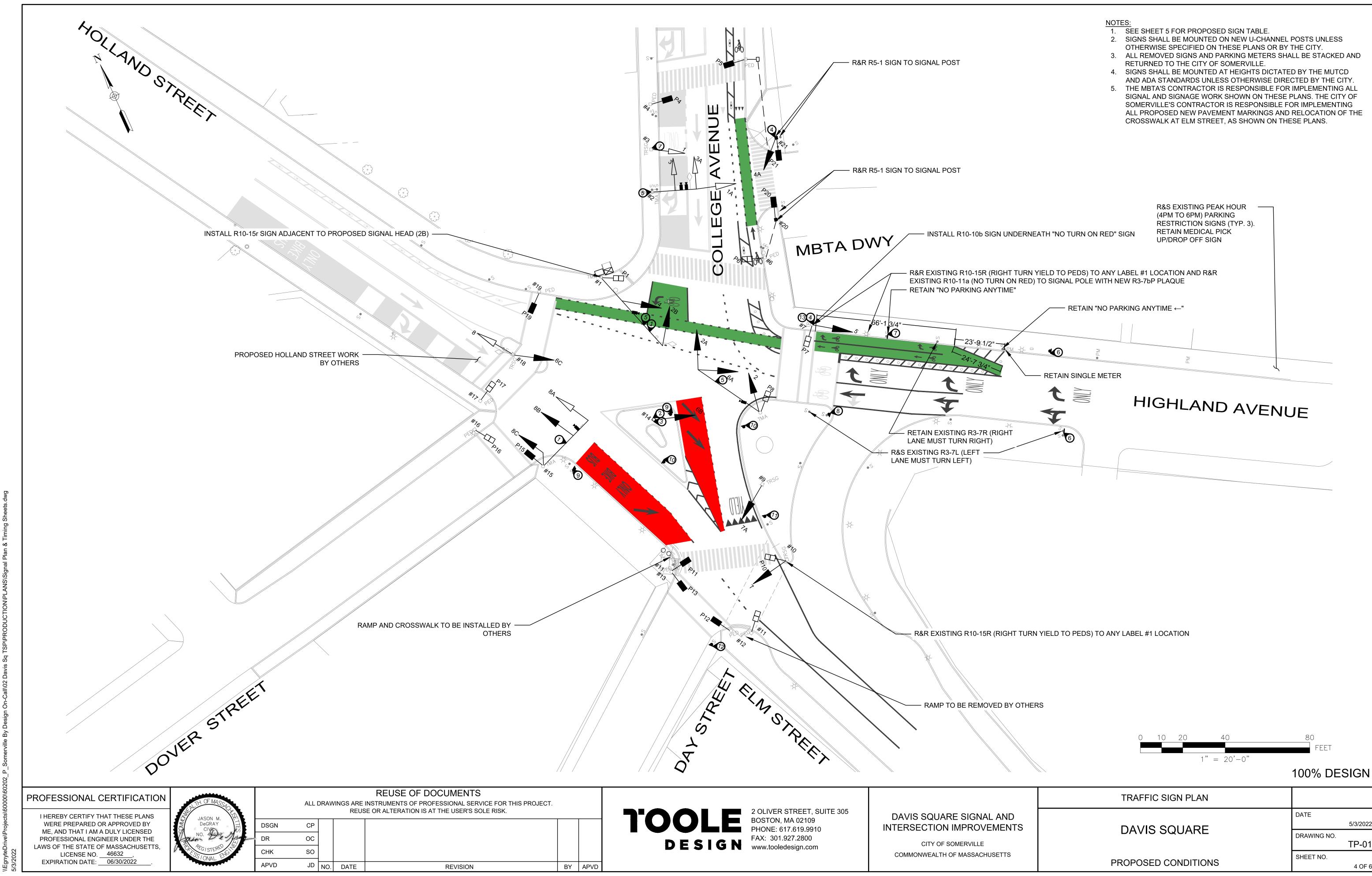
PROPOSED CONDITIONS

SHEET NO.

2 OF 6

TOO /0 DESIG





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SIGN SUMMARY

SIGN ID	NAME	DESCRIPTION	DIMENSIONS	QUANTITY
1)	R10-15R		30" x 30"	1 (2 R&R)
2	R10-15L MOD	9. ₹	30" x 30"	1
3	R10-16	U-TURN YIELD TO RIGHT TURN	30" x 36"	1
4	R10-10B (CUSTOM)	SIGNAL	12" x 18"	2
(5)	R10-11	NO TURN ON RED	24" x 30"	3
6	R3-8M (CUSTOM)	ONLY	30" x 30"	2
7	R3-8N (CUSTOM)	1 7	12" x 18"	1
8	R10-6aR	STOP HERE ON RED	24" x 30"	1
9	R3-12M (MBTA)	RIGHT LANE BUSES AND BIKES ONLY	24" x 36"	2
100	R3-12g	BUS LANE ENDS	30" x 42"	2
1)	R1-5aR	HERE TO PEDESTRIANS	18" x 24"	1
12	R10-6aL	STOP HERE ON RED	24" x 30"	1
13	R3-7bP	EXCEPT BICYCLES	24" X 12"	1

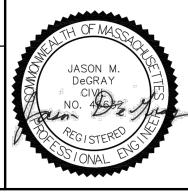
MAJOR ITEMS LIST

QUANTITY	DESCRIPTION
1	340 ATC 120VAC CABINET WITH NEMA P BASE
1	M60 SERIES ATC NEMA TS2 TYPE 2 CONTROLLER
11	SIGNAL HEAD, 3 SECTION
1	TRANSIT SIGNAL HEAD, 3 SECTION
7	1-WAY 1-SECTION 16" LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
1	2-WAY 1-SECTION 16" LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
2	10' TYPE 3C SIGNAL POST, BASE, PEDESTAL, & FOUNDATION.
16	APS PEDESTRIAN PUSHBUTTON ASSEMBLY, 2-WIRE SYSTEM
2	MIOVISION CAMERAS
129	3" NONMETAL CONDUIT (IN LF)
1	PULL BOX 8 X 23 INCHES
1	SURTRAC IN-CABINET PROCESSOR UNIT
1	APPLIED INFORMATION COMMUNICATIONS DEVICE MODEL AI-500-085-02 FMU
3	ITERIS VECTOR CAMERAS

NOTE: INCLUDE ALL MISCELLANEOUS EQUIPMENT AND MATERIALS NECESSARY TO PROVIDE A COMPLETE OPERATING TRAFFIC CONTROL SIGNAL.

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DAVIS SQUARE SIGNAL AND INTERSECTION IMPROVEMENTS

CITY OF SOMERVILLE

COMMONWEALTH OF MASSACHUSETTS

SIGN SUMMARY & ITEMS LIST

DATE

5/3/2022

DRAWING NO.

SS-01

PROPOSED CONDITIONS

SIGN SUMMARY & ITEMS LIST

DATE

5/3/2022

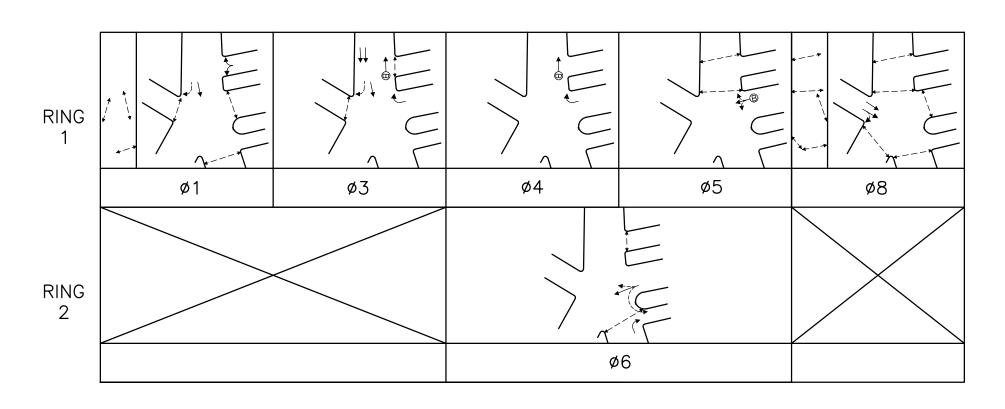
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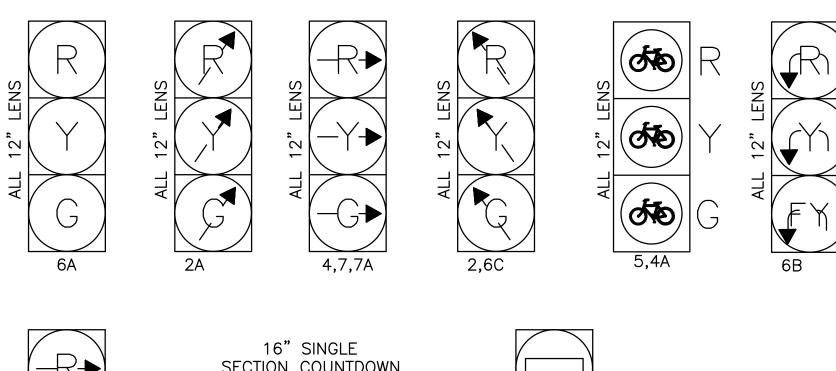
5 OF 6

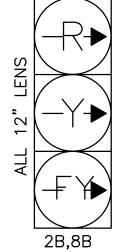
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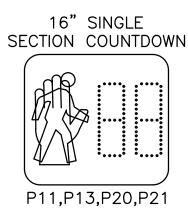
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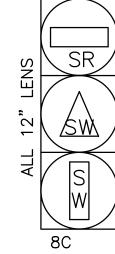


SIGNAL FACES









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DAVIS SQUARE SIGNAL AND INTERSECTION IMPROVEMENTS

TERSECTION IMPROVEMENTS

CITY OF SOMERVILLE

COMMONWEALTH OF MASSACHUSETTS

SEQUENCE TIMING SHEET		
	DATE	
		5/3/2022
DAVIS SQUARE	DRAWING NO.	
		ST-01
	SHEET NO.	
PROPOSED CONDITIONS		6 OF 6