

# CITY OF BOSTON PUBLIC WORKS DEPARTMENT

HON. MARTIN J. WALSH - MAYOR

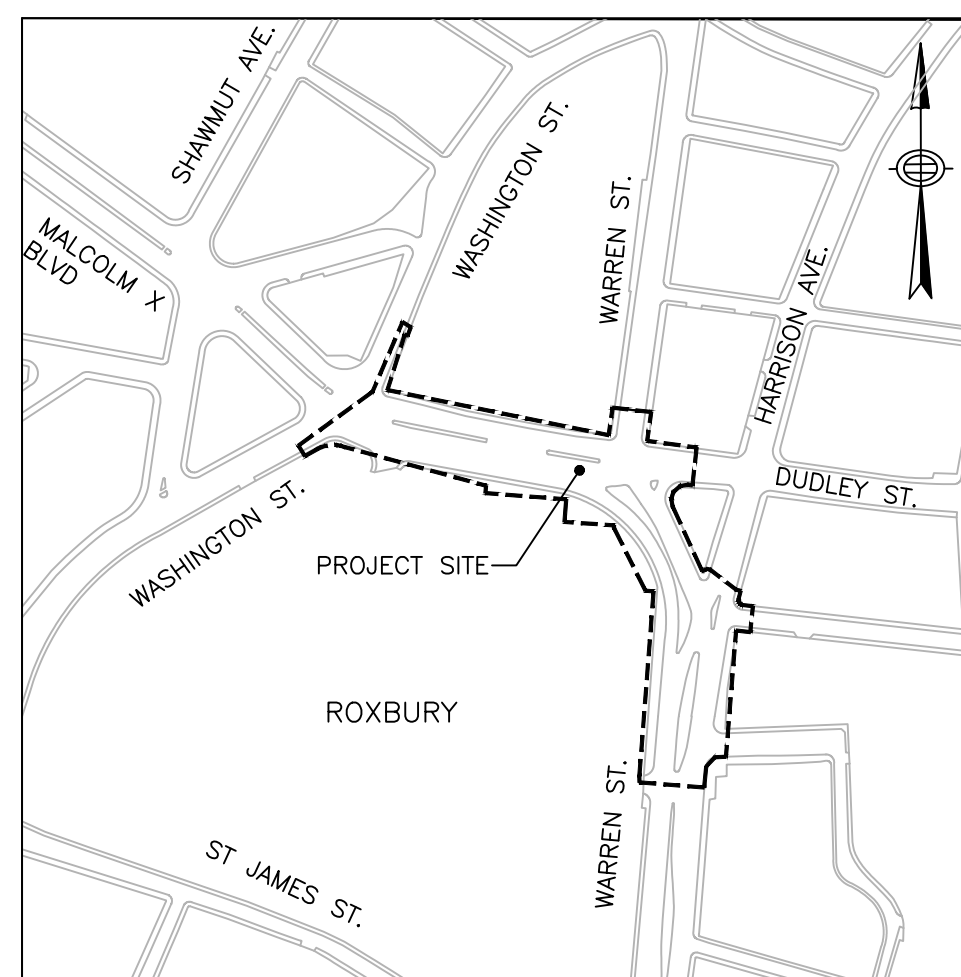
CHRIS OSGOOD - CHIEF OF STREETS, TRANSPORTATION, AND SANITATION

**CAPITAL IMPROVEMENT PROJECT 19-21**

**DUDLEY SQUARE COMPLETE STREETS IMPROVEMENTS - PHASE 1**

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LOCUS MAP  
1" = 300'



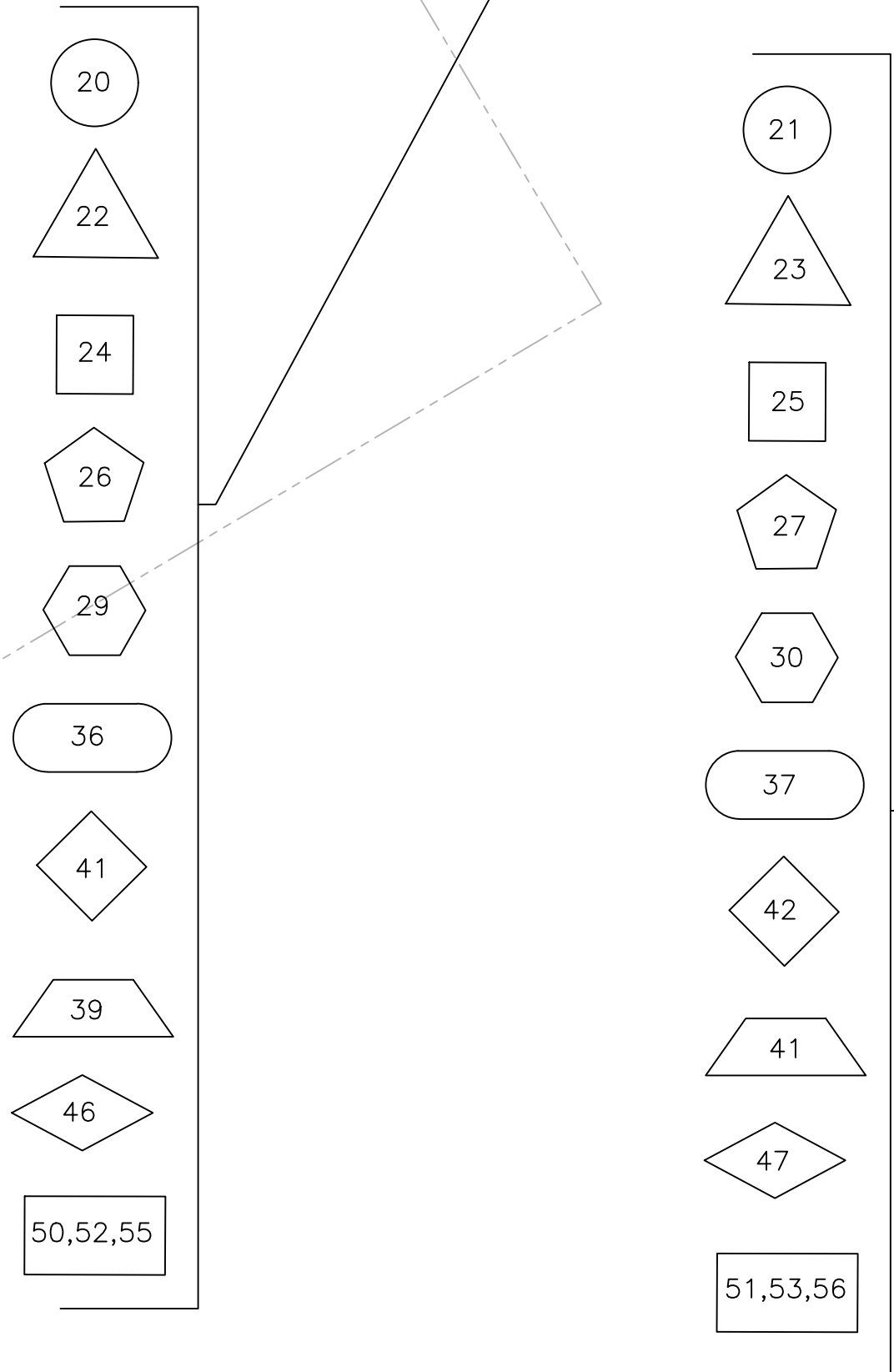
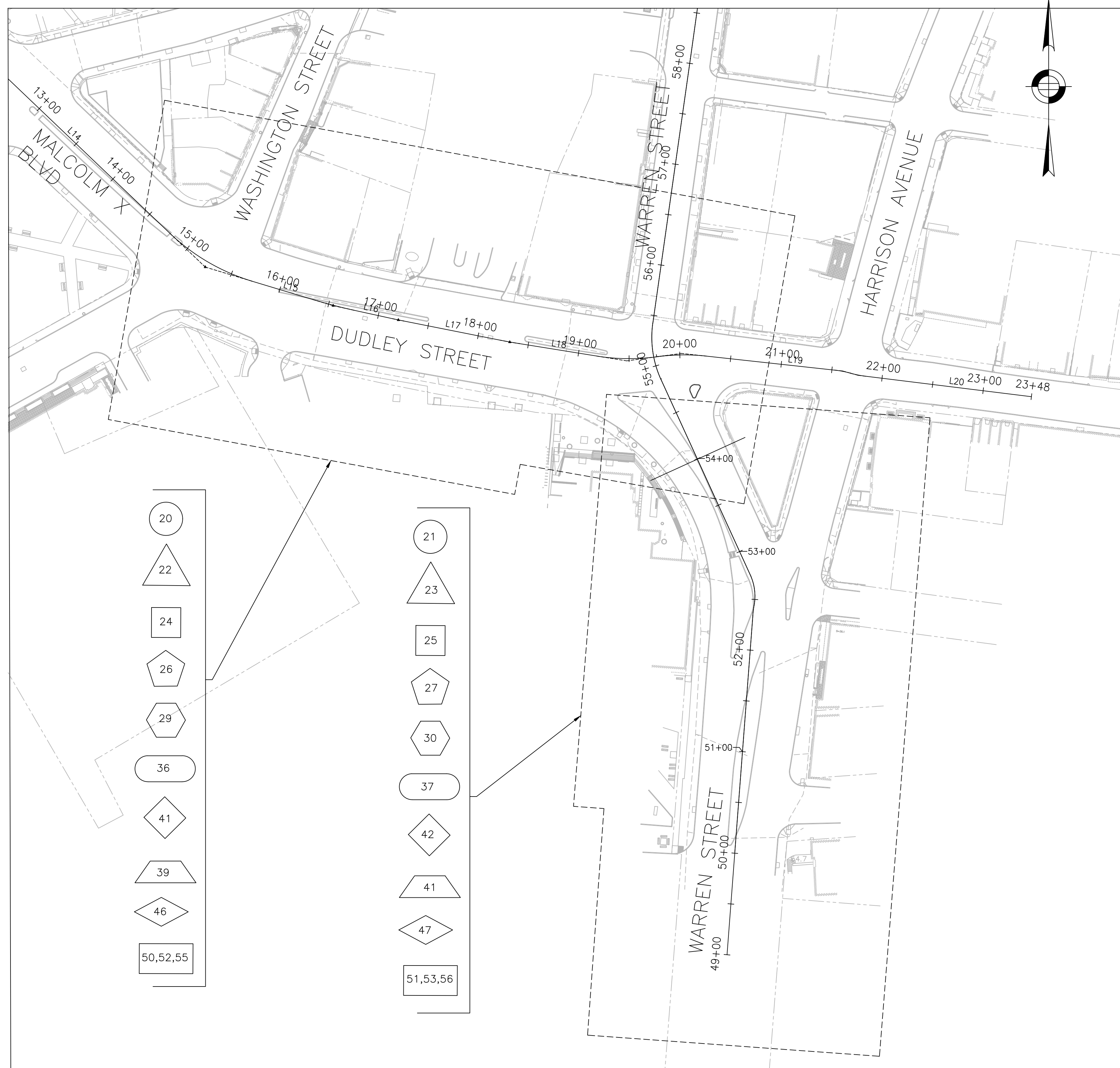
PLANS PREPARED BY:  
WSP USA

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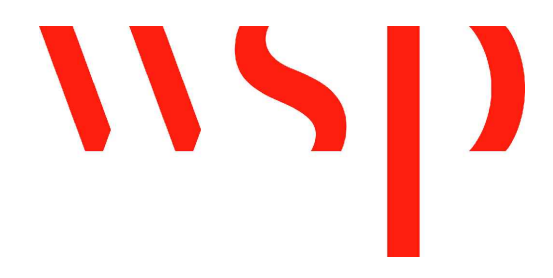
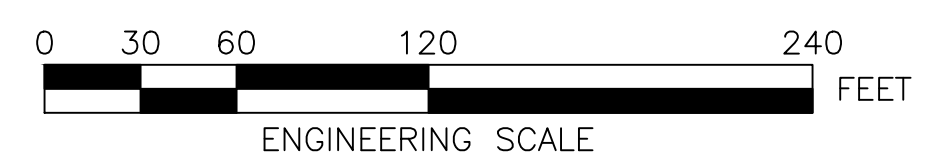
APPROVED:

\_\_\_\_\_  
CHIEF OF STREETS, TRANSPORTATION, & SANITATION

\_\_\_\_\_  
DATE



KEYPLAN



SURVEY BY BRYANT ASSOCIATES  
 DRAWN BY S. BERGMAN  
 CHECKED BY A. CLARKE  
 APPROVED BY A. SANTORO

CIP 19-21 SHEET 2 OF 60

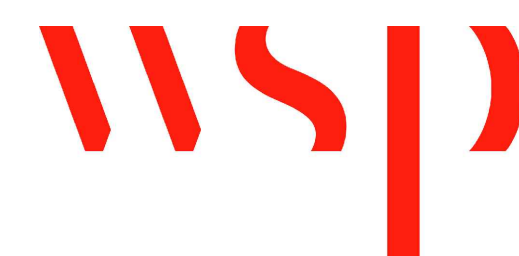
CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION  
 HIGHWAY RECONSTRUCTION  
**DUDLEY SQUARE PHASE 1**  
**KEY PLAN**  
 ROXBURY  
 SCALE: 1" = 60'  
 DISTRICT: 10  
 AREA: 1  
 DATE: DEC. 17, 2018  
 \_\_\_\_\_  
 CITY ENGINEER

R-3533-2

GENERAL NOTES

1. THE CONTRACTOR WILL BE REQUIRED TO SET SURVEY CONTROL USING A PROFESSIONAL LAND SURVEYOR (PLS) AND COORDINATE THE SURVEY WORK WITH BOSTON PUBLIC WORKS DEPARTMENT'S CONSTRUCTION MANAGEMENT TEAM. SURVEY CONTROL SHALL BE APPROVED BY THE BOSTON PUBLIC WORKS DEPARTMENT PRIOR TO THE START OF CONSTRUCTION. THE SURVEY LAYOUT FOR THE PROJECT SHOULD BE INCLUDED IN THE BID PRICE FOR THIS PROJECT.
2. TOPOGRAPHIC INFORMATION IS BASED ON GROUND SURVEY BY BRYANT ASSOCIATES, INC. IN FALL 2012.
3. FOR BENCHMARK INFORMATION, REFER TO THE CONSTRUCTION BASELINE TIES PLANS: SHEETS 12 THRU 19.
4. ALL UNDERGROUND UTILITIES AS SHOWN WERE COMPILED FROM RECORD INFORMATION AND FIELD MARKINGS AS PROVIDED BY THE INDIVIDUAL UTILITY OWNERS. THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES SHALL BE CONSIDERED APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY DRAINAGE OR UTILITY WORK IS PERFORMED. THE CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY COMPANIES RELATIVE TO THE LOCATIONS AND ELEVATIONS OF THEIR LINES. THE CONTRACTOR SHALL KEEP A RECORD OF ANY DISCREPANCIES OR CHANGES IN THE LOCATIONS OF ANY UTILITIES SHOWN OR ENCOUNTERED DURING CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER.
5. TEST PITS SHALL BE EXCAVATED AT THOSE LOCATIONS INDICATED ON SHEETS 24 & 25. ALL TEST PIT EXCAVATIONS SHALL BE MADE TO DETERMINE THE LOCATIONS OF EXISTING UTILITIES OR STRUCTURES AND PERFORMED 30 DAYS IN ADVANCE OF CONSTRUCTION OPERATIONS SO THAT ANY CHANGES IN ALIGNMENT AND/OR GRADE OF THE PROPOSED WORK OR UTILITY LOCATIONS MAY BE DETERMINED. ALL TEST PIT INFORMATION SHALL BE REPORTED TO THE ENGINEER.
6. ALL CITY-OWNED UTILITY STRUCTURES WITHIN THE LIMITS OF WORK SHALL BE ADJUSTED TO NEW LINE AND GRADE AS DIRECTED BY THE ENGINEER.
7. ALTERATIONS TO UTILITIES NOT OWNED BY THE CITY SHALL BE MADE BY THE RESPECTIVE UTILITY OWNERS. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF ELECTRIC, TELEPHONE, AND CABLE MANHOLES AND OTHER FACILITIES. THERE WILL BE NO ADDITIONAL COMPENSATION PROVIDED IF THE CONTRACTOR ADJUSTS UTILITY COVERS OR PERFORMS OTHER WORK ASSOCIATED WITH ADJUSTING AND ALTERING UTILITY STRUCTURES TO MEET FINISH GRADE.
8. THE CONTRACTOR SHALL COMPLY WITH MASSACHUSETTS GENERAL LAWS CHAPTER B2, SECTION 4D AS AMENDED, WHICH STATES THAT NO ONE MAY EXCAVATE IN THE COMMONWEALTH OF MASSACHUSETTS EXCEPT IN AN EMERGENCY WITHOUT 72 HOURS NOTICE, EXCLUSIVE OF SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, TO ALL UTILITY COMPANIES THAT HAVE FACILITIES IN THE CITY OF BOSTON AND ALSO TO ALL MUNICIPAL UTILITY DEPARTMENTS. THE CONTRACTOR SHALL ALSO CALL "DIG SAFE" AT 1-888-DIG-SAFE.
9. THE CONTRACTOR SHALL COMPLY WITH MASSACHUSETTS GENERAL LAWS CHAPTER 82A, ALSO REFERRED TO AS JACKIE'S LAW, AS DETAILED IN SECTION 520 CMR 14.00 OF THE CODE OF MASSACHUSETTS REGULATIONS.
10. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, RULES, REGULATIONS AND SAFETY CODES IN THE CONSTRUCTION OF ALL IMPROVEMENTS.
11. 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. AND SUCH OR OTHER DAMAGE SO CAUSED, AT NO ADDITIONAL COST TO THE CITY.
12. ELEVATIONS REFER TO BOSTON CITY BASE.
13. THE COORDINATE INFORMATION SHOWN ON THE PLANS REFERS TO THE NORTH AMERICAN DATUM OF 1983, NAD 83.
14. ALL DRAIN WORK SHALL BE PERFORMED ACCORDING TO THE REQUIREMENTS AND STANDARD DETAILS OF THE BOSTON WATER AND SEWER COMMISSION.
15. GAS, TELEPHONE, CABLE, AND ELECTRIC SERVICES ARE TO BE INSTALLED BY EACH UTILITY COMPANY. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH GAS, ELECTRIC, CABLE TELEVISION AND TELECOMMUNICATION COMPANIES. THE CONTRACTOR SHALL COOPERATE AND COORDINATE HIS OPERATIONS AND SCHEDULE TO ENABLE THE OWNING UTILITY TO INSTALL THEIR FACILITIES.
16. UTILITY STRUCTURES TO BE ABANDONED SHALL BE REMOVED TO A DEPTH OF NO LESS THAN 3 FEET BELOW FINISHED GRADE, THE BOTTOMS OF THE STRUCTURES SHALL BE BROKEN AND THE STRUCTURES SHALL BE BACKFILLED WITH GRAVEL AND COMPACTED.
17. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES EXCEPT THOSE NOTED TO BE ABANDONED OR REMOVED & DISPOSED.
18. PROTECT CATCH BASINS, INLETS AND MANHOLES FROM INFLOW OF SEDIMENT OR OTHER CONSTRUCTION DEBRIS.
19. GROUND WATER DEWATERING SHALL PASS THROUGH AN APPROVED SEDIMENTATION BASIN PRIOR TO DISCHARGE TO ANY CB, INLET, MANHOLE, OR BASIN.
20. THE CONTRACTOR SHALL SUPPORT-IN-PLACE ALL UTILITIES CROSSING TRENCH EXCAVATIONS. THE CONTRACTOR SHALL SELECT AND DESIGN THE TEMPORARY UTILITY SUPPORTS AND SHALL SUBMIT TO THE RESPECTIVE UTILITY OWNER FOR REVIEW AND APPROVAL. ALL COSTS ASSOCIATED WITH SHALL BE BORNE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY.
21. THE CONTRACTOR SHALL MAINTAIN CONTINUOUS UTILITY SERVICES FOR ALL UTILITIES TO ALL ABUTTERS AND TO ALL CITY-OWNED UTILITY SYSTEM. THE CONTRACTOR SHALL PREVENT DAMAGE TO ALL UTILITIES.
22. THE CONTRACTOR SHALL NOTE THAT BURIED FOUNDATIONS FOR THE BOSTON ELEVATED RAILWAY REMAIN WITHIN THE SIDEWALKS OF WASHINGTON, WARREN AND DUDLEY STREETS.
23. THE CONTRACTOR SHALL NOTE THAT BURIED STREETCAR TRACKS WERE COMPILED FROM HISTORIC RECORD PLANS. THE EXISTENCE AND EXTENTS OF THE BURIED STREETCAR TRACKS SHOWN ON PLAN IS UNKNOWN. ANY TRACK (INCLUDING RAILS, TIES, ETC. AS DESCRIBED IN ITEM 120.1) ENCOUNTERED SHALL BE EXCAVATED AND PAID FOR UNDER ITEM 120.1 AS DIRECTED BY ENGINEER. THERE WILL BE NO ADDITIONAL COMPENSATION (OUTSIDE OF ITEM 120.1) FOR THE EXCAVATION OF THE TRACKS.
24. UNLESS OTHERWISE NOTED, ALL EXISTING TREES SHALL BE PRESERVED AND PROTECTED. REFER TO THE LANDSCAPING PLANS FOR TREE PROTECTION METHODS.
25. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS, INCLUDING STAGING AREAS, SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
26. THE CONTRACTOR IS HEREBY NOTIFIED AND REQUIRED TO COORDINATE WITH ADDITIONAL WORK WITHIN THE PROJECT LIMITS PERFORMED BY OTHERS, SPECIFICALLY THE FOLLOWING PROJECTS:
  - a. RECONSTRUCTION WORK AT THE DUDLEY BRANCH LIBRARY.
  - b. BLUE HILL AVENUE (ROUTE 28) & WARREN STREET TRAFFIC SIGNAL IMPROVEMENTS, MASSDOT PROJECT FILE NO. 606134
27. THE CONTRACTOR SHALL FIELD VERIFY CONDITIONS AND DIMENSIONS PRIOR TO THE START OF CONSTRUCTION.
28. EXISTING PROPERTY LINES HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION AND THEIR EXACT LOCATIONS ARE NOT GUARANTEED. THE CONTRACTOR SHALL VERIFY PROPERTY LIMITS PRIOR TO CONSTRUCTION AND PLACE ALL NEW EQUIPMENT ONLY WITHIN THE CITY OF BOSTON'S RIGHT OF WAY.
29. JOINTS BETWEEN NEW HOT MIX ASPHALT, ROADWAY PAVEMENT, AND THE LOCATIONS OF SAW CUT FOR EXISTING PAVEMENT SHALL BE SEALED WITH HOT POURED RUBBER ASPHALT AND BACK SANDED.
30. ALL GRADING SHALL COMPLY WITH THE RULES AND REGULATIONS OF THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB) AND THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES (ADAAG), LATEST EDITION. IN CASE OF CONFLICT BETWEEN REGULATIONS, THE GUIDELINE PROVIDING GREATER ACCESS SHALL APPLY. PEDESTRIAN RAMP INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE BOSTON PUBLIC WORKS DEPARTMENT PEDESTRIAN RAMP STANDARDS.
31. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR TRAFFIC MANAGEMENT AND SHALL COMPLY WITH CONDITIONS OUTLINED WITHIN THE SPECIFICATIONS AND CITY OF BOSTON STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TRAFFIC MANAGEMENT PLANS.
32. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT FOR REVIEW A SCHEDULE OF OPERATIONS IN ADDITION TO OTHER CONTRACT REQUIREMENTS TO THE CITY OF BOSTON.
33. WHERE THE NEW CONSTRUCTION IS WITHIN THE EXISTING TRAVELED WAY. CONTRACTOR SHALL COORDINATE WITH PROPERTY/BUSINESS OWNERS FOR PROPER ACCESS/EGRESS AND DELIVERIES.
34. 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 TO THE CITY.
35. NO EXISTING PUBLIC UTILITY STRUCTURES SHALL BE ABANDONED AND/OR DISMANTLED WITHOUT AUTHORIZATION FROM THE ENGINEER.
36. THE CONTRACTOR SHALL DISPOSE OF ALL WASTE MATERIAL OUTSIDE OF THE PROJECT LIMITS IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS AND AT THE CONTRACTOR'S EXPENSE.
37. THE CONTRACTOR SHALL INVESTIGATE AND CONFIRM THAT ALL ITEMS TO BE REUSED ARE IN SERVICEABLE CONDITION. IF IT IS DEEMED THAT ANY ITEM IS NOT ABLE TO BE REUSED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING AND INCLUDE ESTIMATED COSTS TO INSTALL NEW.
38. THE CONTRACTOR SHALL ADJUST EXISTING STREET LIGHTING PULLBOXES AS REQUIRED TO ACCOMMODATE NEW SIDEWALK MATERIALS. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION AND BACKFILLING. THE CONTRACTOR SHALL PROVIDE NEW CONDUIT OPENINGS, RELOCATE GROUNDING RODS, EXTEND EXISTING CONDUITS, AND PROVIDE WIRING REQUIRED. THE CONTRACTOR SHALL ENSURE THAT STREET LIGHTING SERVICE WILL NOT BE INTERRUPTED AND THAT STREET LIGHTING WILL BE OPERATIONAL AT END OF EACH WORKDAY.
39. CENTERLINE OF ALL MAST ARM FOUNDATIONS SHALL BE 36" FROM FACE OF CURB, UNLESS OTHERWISE NOTED. MAINTAIN ADA ACCESSIBLE PATH OF TRAVEL (5' PREFERRED, 4' MINIMUM).
40. VACUUM EXCAVATION SHALL BE UTILIZED DURING ALL MAST ARM & STRAIN POLE FOUNDATION INSTALLATIONS. VACUUM EXCAVATION SHALL BE COMPLETED TO THE FULL DEPTH OF THE PROPOSED FOUNDATION TO ENSURE EXISTING UTILITIES ARE NOT DAMAGED.
41. CENTERLINE OF ALL TRAFFIC SIGNAL POST FOUNDATIONS SHALL BE 33" FROM FACE OF CURB, UNLESS OTHERWISE NOTED. MAINTAIN ADA ACCESSIBLE PATH OF TRAVEL (5' PREFERRED, 4' MINIMUM).
42. CENTERLINE OF CONCRETE CONTROL BOX FOUNDATIONS SHALL BE 36" FROM FACE OF CURB FOR TYPE CA AND CB CABINETS AND 48" FROM FACE OF CURB FOR CC AND CD CABINETS, UNLESS OTHERWISE NOTED. MAINTAIN ADA ACCESSIBLE PATH OF TRAVEL (5' PREFERRED, 4' MINIMUM).
43. ALL TRAFFIC SIGNAL EQUIPMENT REMOVED BY THE CONTRACTOR SHALL BE RETURNED TO BTD SIGNAL MAINTENANCE FACILITY AT 12 CHANNEL STREET, SOUTH BOSTON. THE CONTRACTOR SHALL PRESENT A RECEIPT FOR ALL RETURNED EQUIPMENT TO BTD ENGINEERING DIVISION.
44. ALL WORK REQUIRED TO COMPLETE TRAFFIC SIGNAL MODIFICATIONS SHALL BE IN CONFORMANCE WITH BTD STANDARDS AND SPECIFICATIONS. ALL WORK ON EXISTING TRAFFIC CONTROL AND CAMERA SYSTEMS SHALL BE PERFORMED BY A CONTRACTOR OR CONTRACTORS PRE-APPROVED BY THE BOSTON TRANSPORTATION DEPARTMENT FOR THE SPECIFIC WORK.
45. ALL EXISTING STREET LIGHTING PULL BOXES WITHIN THE LIMIT OF CONSTRUCTION THAT ARE TO REMAIN SHALL BE FITTED WITH FIBERGLASS REINFORCED CONCRETE FRAMES AND COVERS AND WILL BE PAID FOR UNDER ITEM 811.363, PULL BOX FRAME AND COVER - SIDEWALK REMOVE AND REPLACE.

CIP 19-21 SHEET 3 OF 60



SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	S. BERGMAN
CHECKED BY	A. CLARKE
APPROVED BY	A. SANTORO

CITY OF BOSTON PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION HIGHWAY RECONSTRUCTION <b>DUDLEY SQUARE PHASE 1</b> <b>GENERAL NOTES</b> ROXBURY	
SCALE: N.T.S.	AREA: 1
DISTRICT: 10	DATE: DEC. 17, 2018
_____ CITY ENGINEER	

R-3533-3

**LEGEND**

	35.5	EXISTING CONTOUR
	STM	STEAM LINE
	OHW	OVERHEAD WIRES
	D	SURFACE DRAIN
	S	SANITARY SEWER
	C	CABLE TELEVISION
	T&F	TELEPHONE AND FIRE ALARM
	G	GAS
	E	ELECTRIC
	M	MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
	CS	COMBINED SEWER
	T	TELEPHONE
	W	WATER MAIN
	SL/FA/TC	STREET LIGHTING, FIRE AND TRAFFIC CONTROL
	MF	METAL FENCE
	IFE	IRON FENCE
	CLF	CHAIN LINK FENCE
		BUILDING
		ABANDONED MBTA RAIL LINES
	BOL	BOLLARD
	BWW	BOSTON WATER WORKS
	CATV	CABLE TV
	CB	CATCH BASIN
	DMH	DRAIN MANHOLE
	EHH	ELECTRIC HAND HOLE
	EHH	ELECTRIC HANDHOLE FOR OTHERS
	EMH	ELECTRIC MANHOLE
	FA	FIRE ALARM
	PHONE	TELEPHONE
	FLP	FLAG POLE
	FLGT	FLOOD LIGHT
	FL	FOOT LIGHT
	GM	GAS METER
	GG	GAS GATE
	GP	GATE POST
	HC	HANDICAP PARKING
	GW	GUY WIRE
	HH	HANDHOLE
	HYD	HYDRANT
	ICV	IRRIGATION WATER VALVE
	LP	LIGHT POLE
	LPG	LIGHT POLE GAS
	MH	MANHOLE
	MBTAMH	MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
	OBWL	OBSERVATION WELL
	PB	PULL BOX
	SMH	SANITARY SEWER MANHOLE
	SIGN	SIGN
	SPKLR	SPRINKLER
	SLCB	STREET LIGHT CONTROL BOX
	STMH	STEAM MANHOLE
	SP	STEEL POST
	SLP	STREET LIGHT POLE
	TMH	TELEPHONE MANHOLE
	TRFC	TRAFFIC POLE (COMBINED)
	TRFP	TRAFFIC POLE (PEDESTRIAN)
	TRFV	TRAFFIC POLE (VEHICULAR)
	TRCB	TRAFFIC CONTROL BOX
	UP	UTILITY POLE
	WG	WATER GATE
	B	TREE (BIRCH)
	DCID	TREE (GENERIC)
	M	TREE (MAPLE)
	MA	TREE (MOUNTAIN ASH)
	SUMAC	TREE (SUMAC)
	SYC	TREE (SYCAMORE)
		GRANITE BOUND

**ABBREVIATIONS**

ABND	ABANDONED
B	BOTTOM
BSW	BACK OF SIDEWALK
BC	BOTTOM CURB
BW	BOTTOM WALL
(BO)	BASE ONLY
B-RACK	BIKE RACK
BIT	BITUMINOUS CONCRETE
BP	BITUMINOUS PATCH
BW	BOTTOM WALL
BRK	BRICK
BWL	BROKEN WHITE LINE
(C)	CLOGGED
CI	CAST IRON PIPE
CONC	CONCRETE
CCS	CONCRETE CURB STOP
CP	CONCRETE PAD
CU	CONNECTION UNKNOWN
CWS	COVERED WOOD STOOP
DC	DOOR CENTERLINE
DBL	DOUBLE
DICL	DUCTILE IRON CEMENT LINED PIPE
DYL	DOUBLE YELLOW LINE
EP	EDGE OF PAVEMENT
(F)	FILLED
FF	FINISHED FLOOR
FD	FLOOR DRAIN
GP	GATE POST
GRAN	GRANITE
H.R.	HANDRAIL
I	INVERT
(M)	FIELD MEASUREMENT
MP	METAL PLATE
MET	METAL
NPV	NO PIPES VISIBLE
O.H.	OVERHANG
PGL	PAINTED GAS LINE
PEL	PAINTED ELECTRIC LINE
PTL	PAINTED TELEPHONE LINE
PWL	PAINTED WATER LINE
PCI	PIT CAST IRON PIPE
PLNTR	PLANTER
PL	PLASTIC PIPE
PROP	PROPOSED
PVC	POLYVINYL CHLORIDE
(R)	RECORD
R	RIM
R.R	RAILROAD TIE WALL
RCD	RECESSED
RCP	REINFORCED CONCRETE PIPE
RET	RETAINING
RD	ROOF DRAIN
S	SUMP
SH	SHELF
STY	STORY
SWL	SOLID WHITE LINE
SYL	SOLID YELLOW LINE
TS	TACTILE STRIP
TC	TOP CURB
TD	TOP DEBRIS
TT	TOP TRAP
TW	TOP WALL
TOW	TOP OF WATER
T-BIN	TRASH BIN
TYP	TYPICAL
UPSR	UTILITY POLE SERVICE RISER
VERT	VERTICAL
VCG	VERTICAL CONCRETE CURB
VGC	VERTICAL GRANITE CURB
WCR	WHEELCHAIR RAMP
WD	WOOD
X-WALK	CROSSWALK
ADJ	ADJUST
ABAN.	ABANDON
RET.	RETAIN
REM.	REMOVE
R&D	REMOVE & DISCARD
R&S	REMOVE & STACK
R&R	REMOVE & RESET
R&T	REMOVE & TRANSPORT
N.I.C.	NOT IN CONTRACT
B.O.	BY OTHERS
F & C	FRAME AND COVER
F & G	FRAME AND GRATE
R.C.P.	REINFORCED CONCRETE PIPE
D.I.P.	DUCTILE IRON PIPE
PBS	PLANTABLE SOIL BORROW
TS	TRAFFIC SIGNAL
C.I.T.	CHANGE IN TYPE

**STREET FURNITURE LEGEND**

PROPOSED	EXISTING	DESCRIPTION
		SIGN POST
		BOLLARD
		HYDRANT
		MAILBOX
		FIRE ALARM BOX
		WHEELCHAIR RAMP

**STREET LIGHTING LEGEND**

	A●	PROPOSED STREET LIGHTING TWIN ACORN FIXTURE WITH SUBBASE
	B1●	PROPOSED STREET LIGHTING STANDARD TWIN PENDANT FIXTURE WITH SUBBASE
	B2●	PROPOSED STREET LIGHTING HIGH LOW TWIN PENDANT FIXTURE WITH SUBBASE
	C●	PROPOSED STREET LIGHTING STANDARD SINGLE PENDANT FIXTURE WITH SUBBASE
	□	PROPOSED STREET LIGHTING PULL BOX
	⊕	EXISTING POLE/STREET LIGHT
	■	EXISTING STREET LIGHTING PULL BOX
	- 2" or 3" -	PROPOSED 2" OR 3" STREET LIGHTING CONDUIT
	▨ 3" ▨	PROPOSED 3" CONCRETE ENCASED CONDUIT
	▣	PROPOSED LIGHTING CONTROL CABINET
	— SL —	EXISTING STREET LIGHT CONDUIT
	▣	EXISTING LIGHTING CONTROL CABINET

**TRAFFIC SIGNAL LEGEND**

PROPOSED	EXISTING (TO REMAIN)	REMOVE/ABANDON	DESCRIPTION
			CONTROLLER CABINET
			SIGNAL POST
			MAST ARM
			VEHICULAR SIGNAL
			PEDESTRIAN SIGNAL
			PAN TILT ZOOM CAMERA
			PEDESTRIAN PUSH BUTTON
			AUDIBLE PEDESTRIAN PUSH BUTTON
			PULL BOX
			CONDUIT
			LOOP DETECTOR

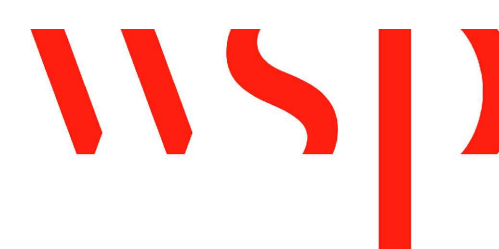
**PAVEMENT MARKING LEGEND**

	SWEL	4" SOLID WHITE EDGE LINE
	SYEL	4" SOLID YELLOW EDGE LINE
	SWLL	4" SOLID WHITE LANE LINE
	BWLL	4" BROKEN WHITE LANE LINE 10' MARK - 20' SKIP
	DWLL	4" DOTTED WHITE LANE LINE 2' MARK - 4' SKIP
	SWCHL	8" SOLID WHITE CHANNELIZATION LINE
	SYCHL	8" SOLID YELLOW CHANNELIZATION LINE
	DYCL	2-4" YELLOW CENTER LINES, 4" GAP
	SL	WHITE STOP LINE (24" UNLESS OTHERWISE SPECIFIED)
	CW	WHITE - CROSS WALK (12" LINES, 10' O.C.; 12" LONGITUDINAL LINES, 4' O.C.) (UNLESS OTHERWISE SHOWN)
	SWCHL	8" SOLID WHITE CHANNELIZATION (5' O.C. @45').
	DDYCL	4" DOTTED YELLOW CENTER LINES, 4" GAP 2' MARK - 4' SKIP

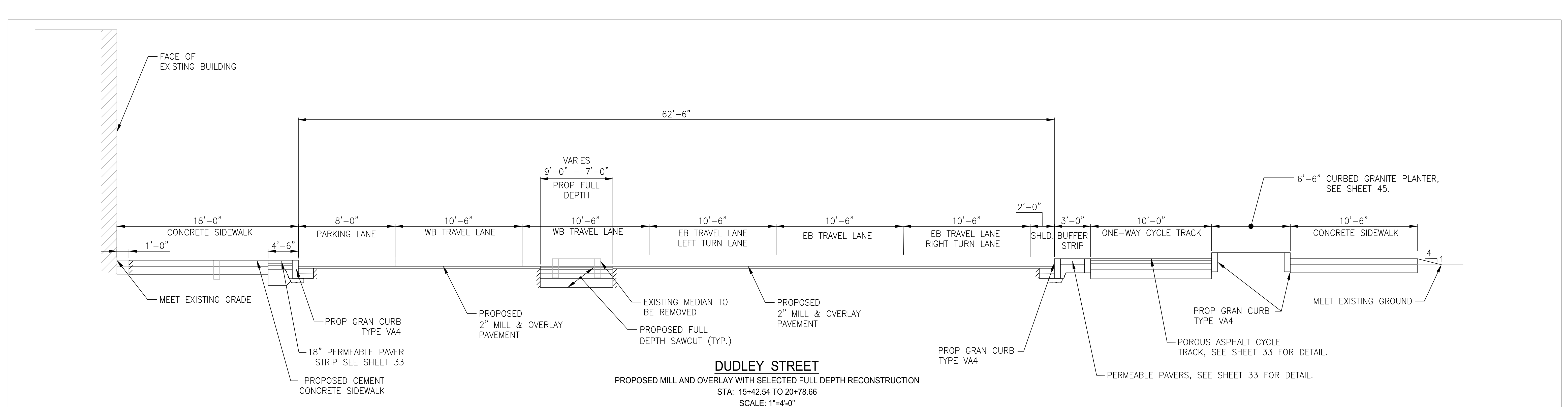
CIP 19-21 SHEET 4 OF 60

SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	S. BERGMAN
CHECKED BY	A. CLARKE
APPROVED BY	A. SANTORO

CITY OF BOSTON PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION HIGHWAY RECONSTRUCTION	
<b>DUDLEY SQUARE PHASE 1</b> <b>ABBREVIATIONS AND LEGEND</b> ROXBURY	
SCALE: N.T.S. DISTRICT: 10	AREA: 1 DATE: DEC. 17, 2018
_____ CITY ENGINEER	



R-3533-4



**DUDLEY STREET**  
 PROPOSED MILL AND OVERLAY WITH SELECTED FULL DEPTH RECONSTRUCTION  
 STA: 15+42.54 TO 20+78.66  
 SCALE: 1"=4'-0"

PROPOSED CEMENT CONCRETE SIDEWALK

- SIDEWALK: 6" CEMENT CONCRETE
- BASE: 6" GRAVEL

MILL AND OVERLAY

- ROADWAY: 2" SUPERPAVE SURFACE COURSE 12.5

ROADWAY FULL DEPTH PAVEMENT NOTES:

- 2" SUPERPAVE SURFACE COURSE 12.5
- 5.5" SUPERPAVE INTERMEDIATE COURSE 19.0\*
- 3" DENSE GRADED CRUSHED STONE
- 9" GRAVEL

\*DEPTH OF INTERMEDIATE COURSE MAY VARY TO MATCH ADJACENT PAVEMENT THICKNESS, AS DIRECTED BY THE ENGINEER.

POROUS ASPHALT NOTES:

- 2" POROUS ASPHALT SURFACE COURSE
- 2" POROUS ASPHALT BASE COURSE
- 6" CHOKER COURSE, #57 STONE
- 9" RESERVOIR COURSE, #2 STONE

PERMEABLE PAVER NOTES:

- PERMEABLE PAVERS
- 2" BEDDING COURSE, #8 STONE
- 21.5" CRUSED STONE BASE, #57 STONE
- 6" #2 STONE

NOTE:

1. FOR LIMITS OF STRUCTURAL SOIL SEE SHEETS 43 THRU 44

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	S. BERGMAN
CHECKED BY	A. CLARKE
APPROVED BY	A. SANTORO

CIP 19-21 SHEET 5 OF 60

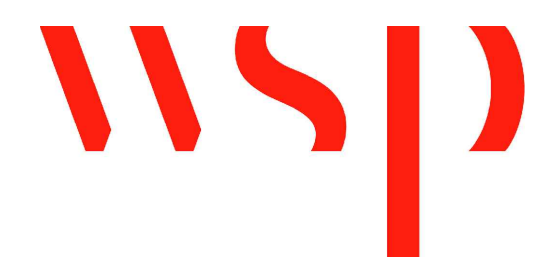
CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION  
 HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1**  
**TYPICAL SECTIONS**  
 ROXBURY

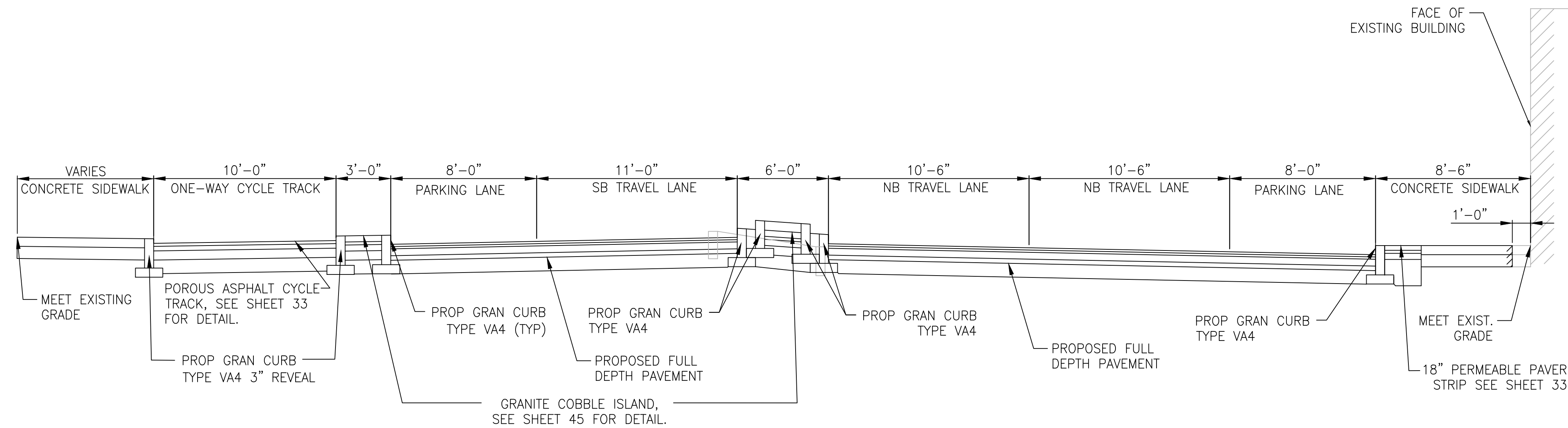
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 DISTRICT: 10

AREA: 1  
 DATE: DEC. 17, 2018

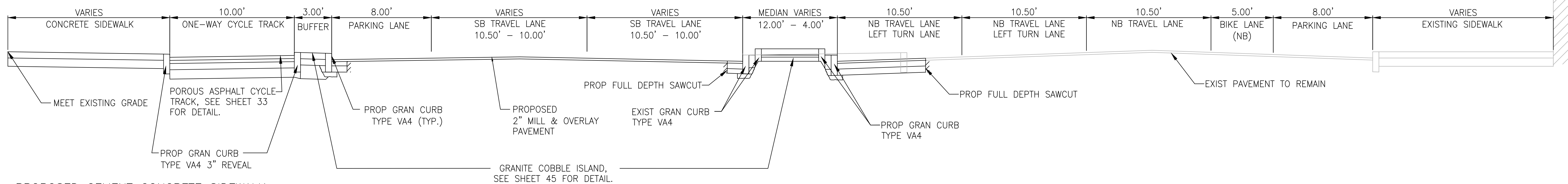
CITY ENGINEER



R-3533-5



**WARREN STREET**  
 PROPOSED FULL DEPTH RECONSTRUCTION  
 STA: 52+65.07 TO 54+77.10  
 SCALE: 1"=4'-0"



**WARREN STREET**  
 PROPOSED MILL AND OVERLAY  
 STA: 50+00.00 TO 52+65.07  
 SCALE: 1"=4'-0"

**PROPOSED CEMENT CONCRETE SIDEWALK**

SIDEWALK: 6" CEMENT CONCRETE

BASE: 6" GRAVEL

**MILL AND OVERLAY PAVEMENT NOTES:**

ROADWAY: 2" SUPERPAVE SURFACE COURSE 12.5

**ROADWAY FULL DEPTH PAVEMENT NOTES:**

- 2" SUPERPAVE SURFACE COURSE 12.5
- 5.5" SUPERPAVE INTERMEDIATE COURSE 19.0\*
- 3" DENSE GRADED CRUSHED STONE
- 9" GRAVEL

\*DEPTH OF INTERMEDIATE COURSE MAY VARY TO MATCH ADJACENT PAVEMENT THICKNESS, AS DIRECTED BY THE ENGINEER

**POROUS ASPHALT NOTES:**

- 2" POROUS ASPHALT SURFACE COURSE
- 2" POROUS ASPHALT BASE COURSE
- 6" CHOKER COURSE, #57 STONE
- 9" RESERVOIR COURSE, #2 STONE

**PERMEABLE PAVER NOTES:**

- PERMEABLE PAVERS
- 2" BEDDING COURSE, #8 STONE
- 21.5" CRUSED STONE BASE, #57 STONE
- 6" #2 STONE

**NOTE:**

1. FOR LIMITS OF STRUCTURAL SOIL SEE SHEETS 43 THRU 44

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

SURVEY BY BRYANT ASSOCIATES

DRAWN BY S. BERGMAN

CHECKED BY A. CLARKE

APPROVED BY A. SANTORO

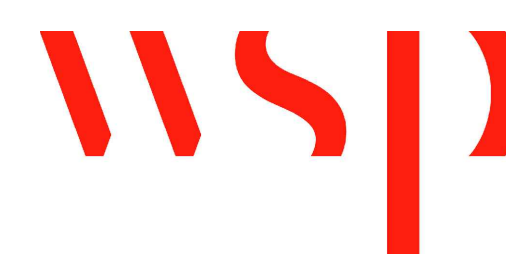
CIP 19-21 SHEET 6 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION  
 HIGHWAY RECONSTRUCTION  
**DUDLEY SQUARE PHASE 1**  
**TYPICAL SECTIONS**  
 ROXBURY

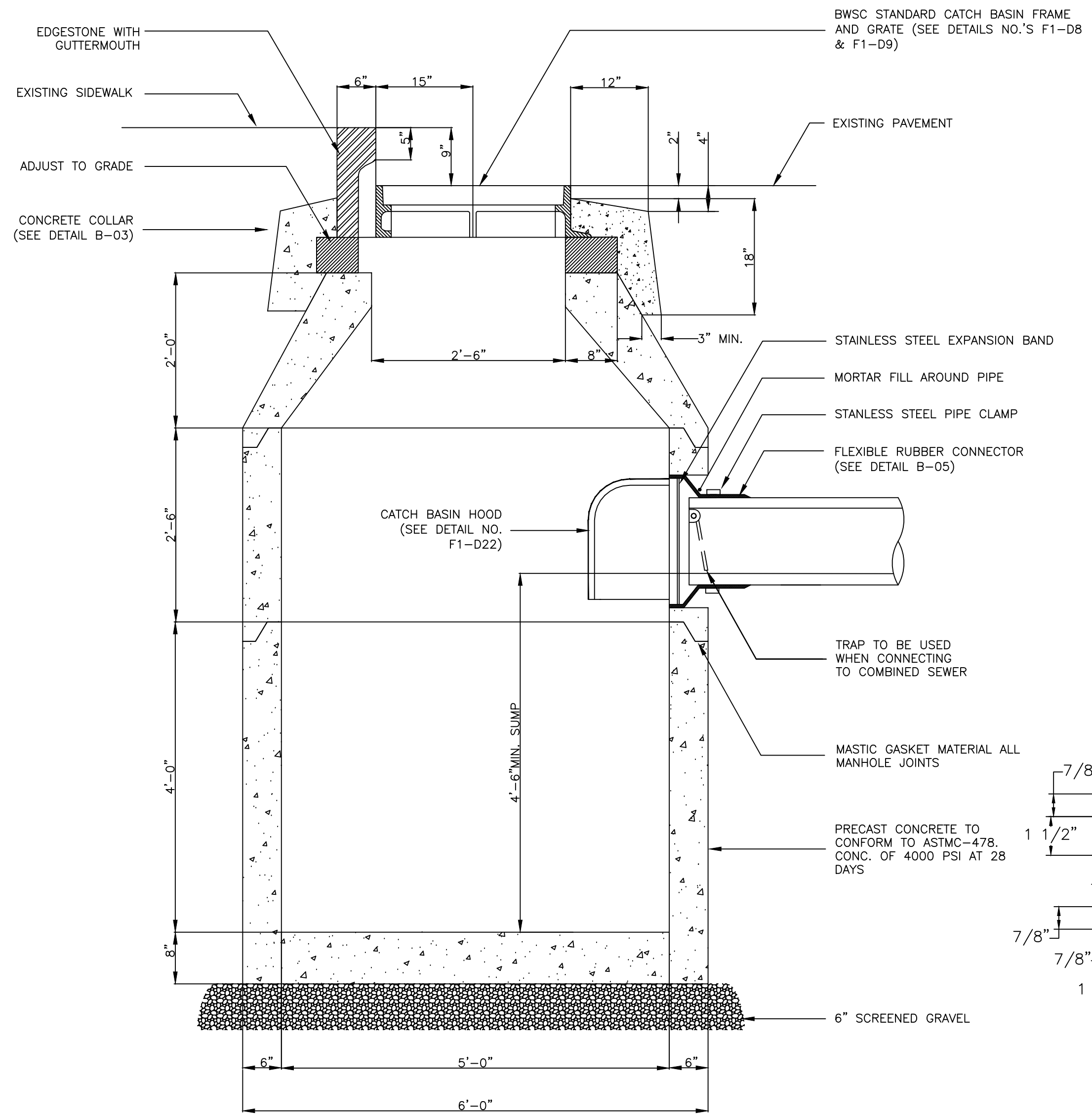
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 DISTRICT: 10

AREA: 1  
 DATE: DEC. 17, 2018

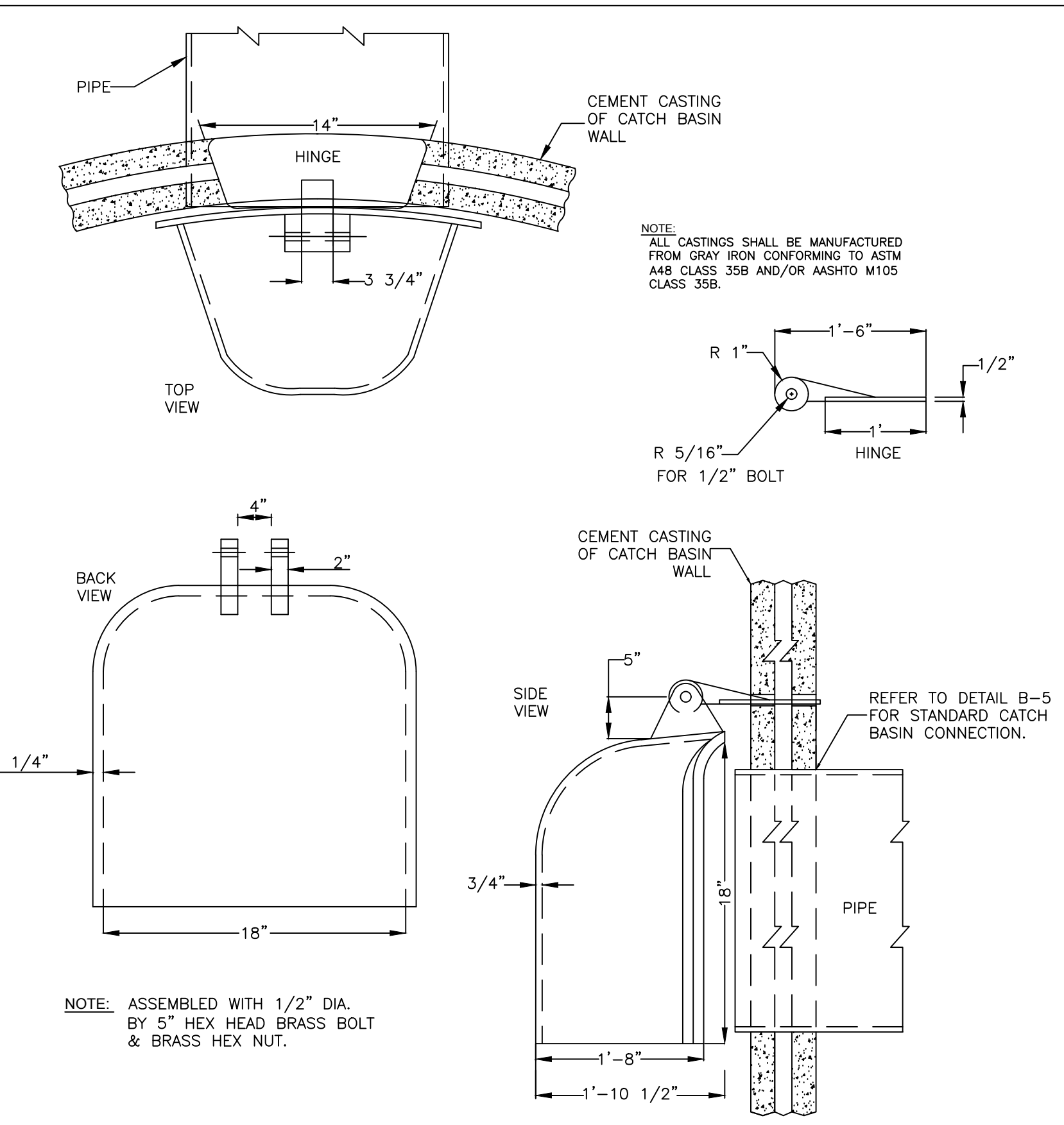
CITY ENGINEER



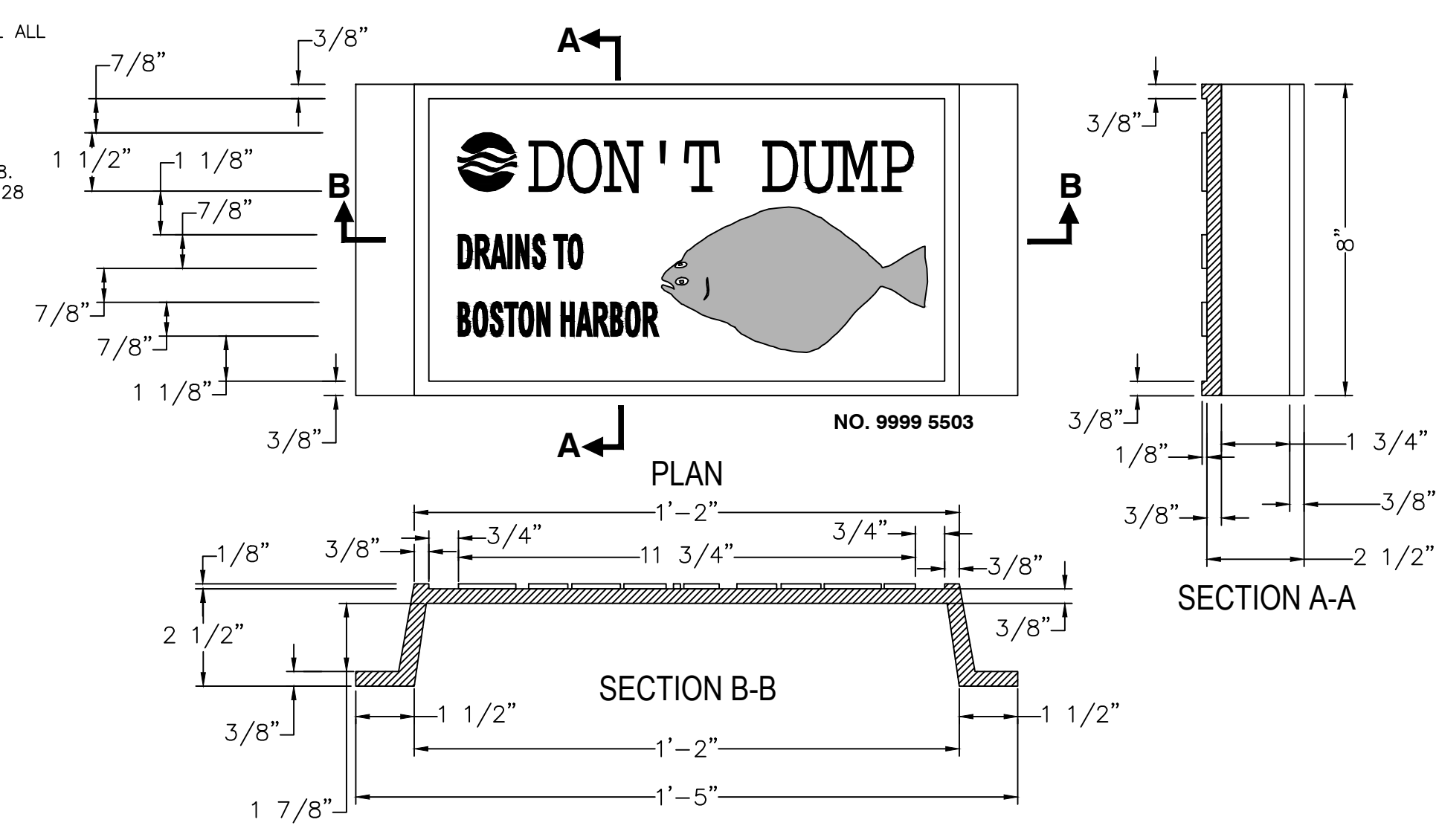
R-3533-6



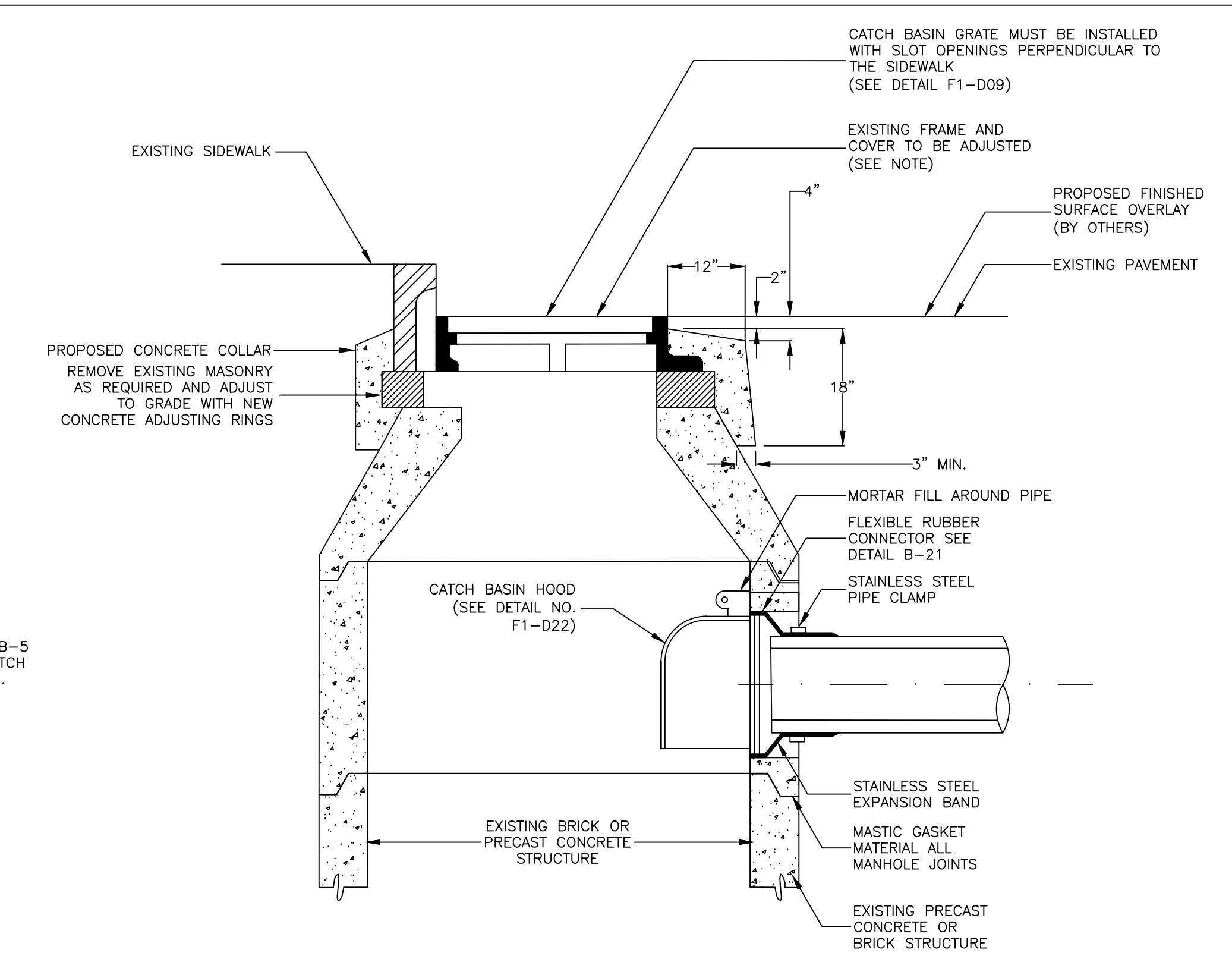
**1 STANDARD CATCH BASIN NO. 5 (B-01B)**  
SCALE: NTS



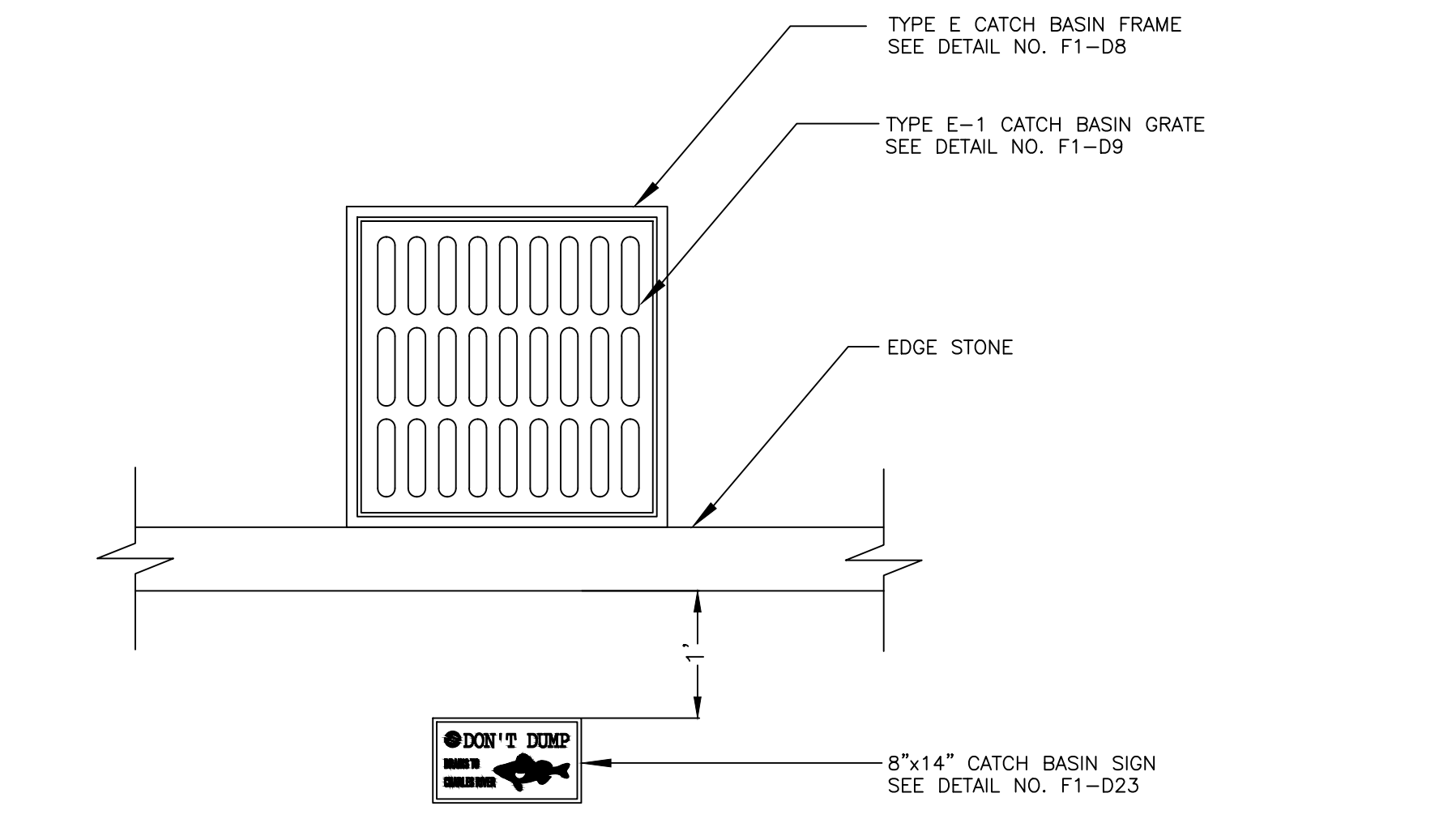
**2 CATCH BASIN HOOD (F1-D22E)**  
SCALE: NTS



**4 8"X4" CATCH BASIN SIGN (F1-D23)**  
SCALE: NTS



**3 CATCH BASIN ADJUSTMENT TO GRADE (B-01A)**  
SCALE: NTS



**5 STANDARD CATCH BASIN SIGN INSTALLATION**  
SCALE: NTS

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO COMMISSION STANDARDS

BOSTON WATER AND SEWER COMMISSION

SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	S. BERGMAN
CHECKED BY	P. FUSCO
APPROVED BY	A. SANTORO

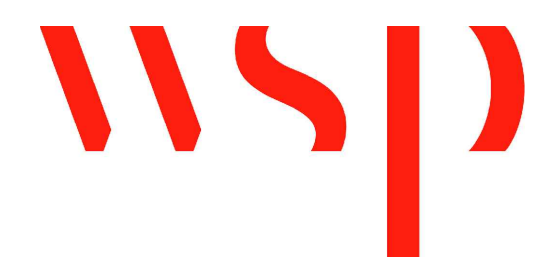
CIP 19-21 SHEET 7 OF 60

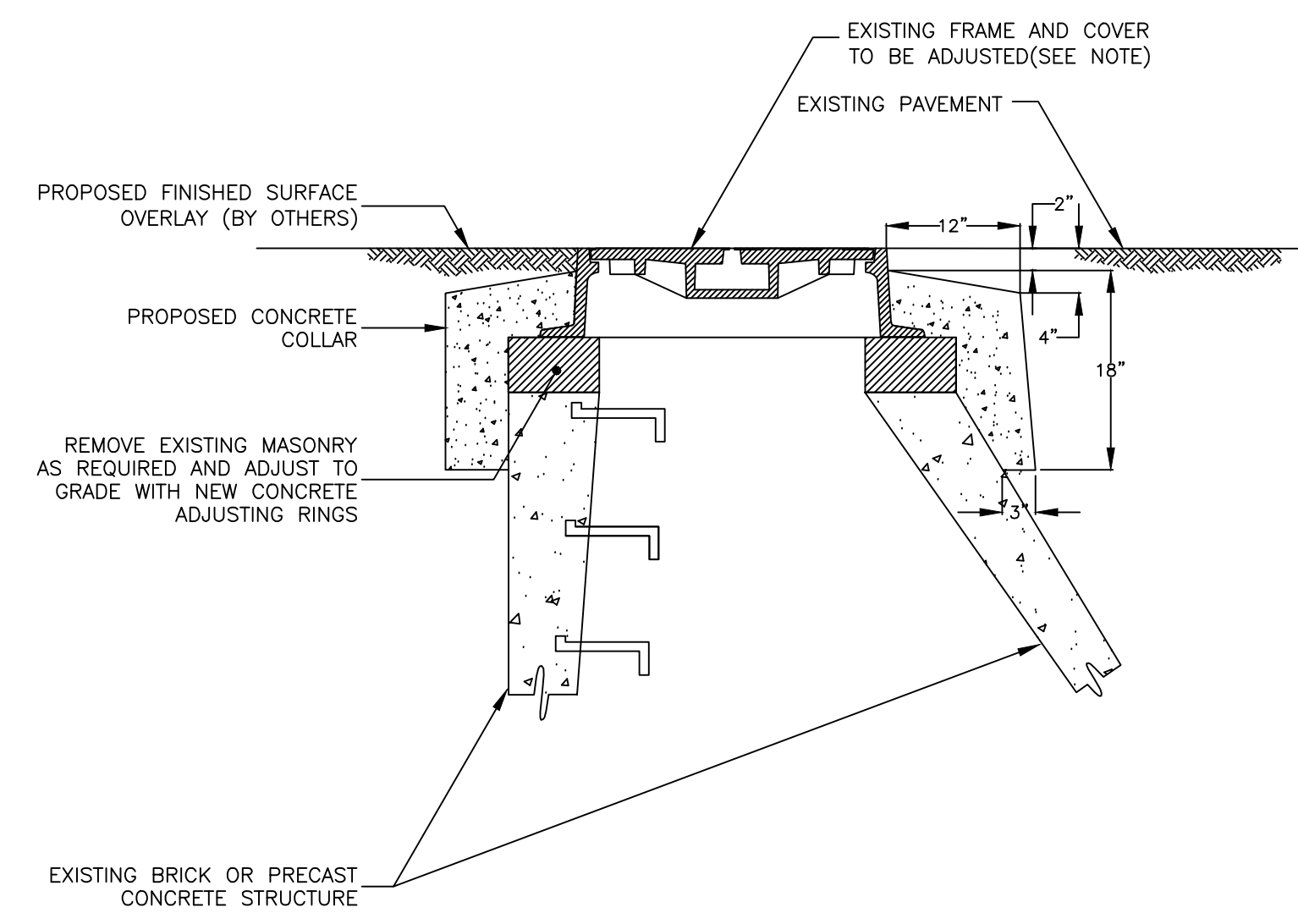
CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1  
CONSTRUCTION DETAILS**  
ROXBURY

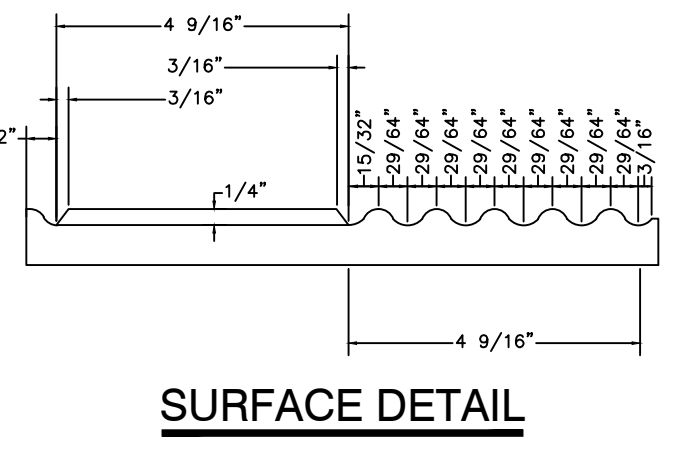
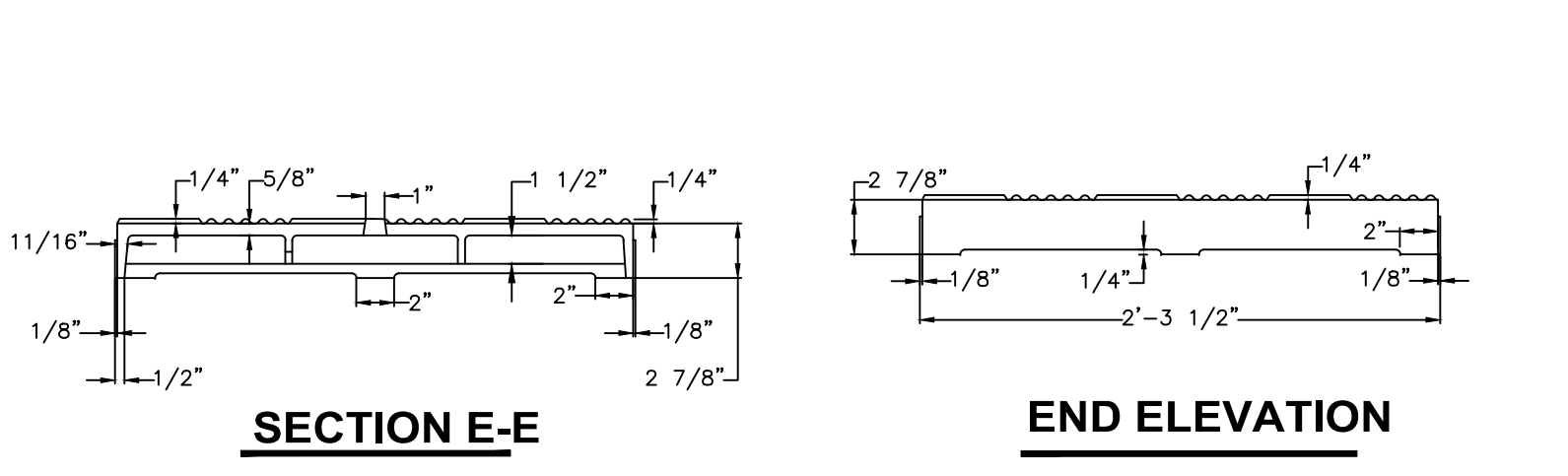
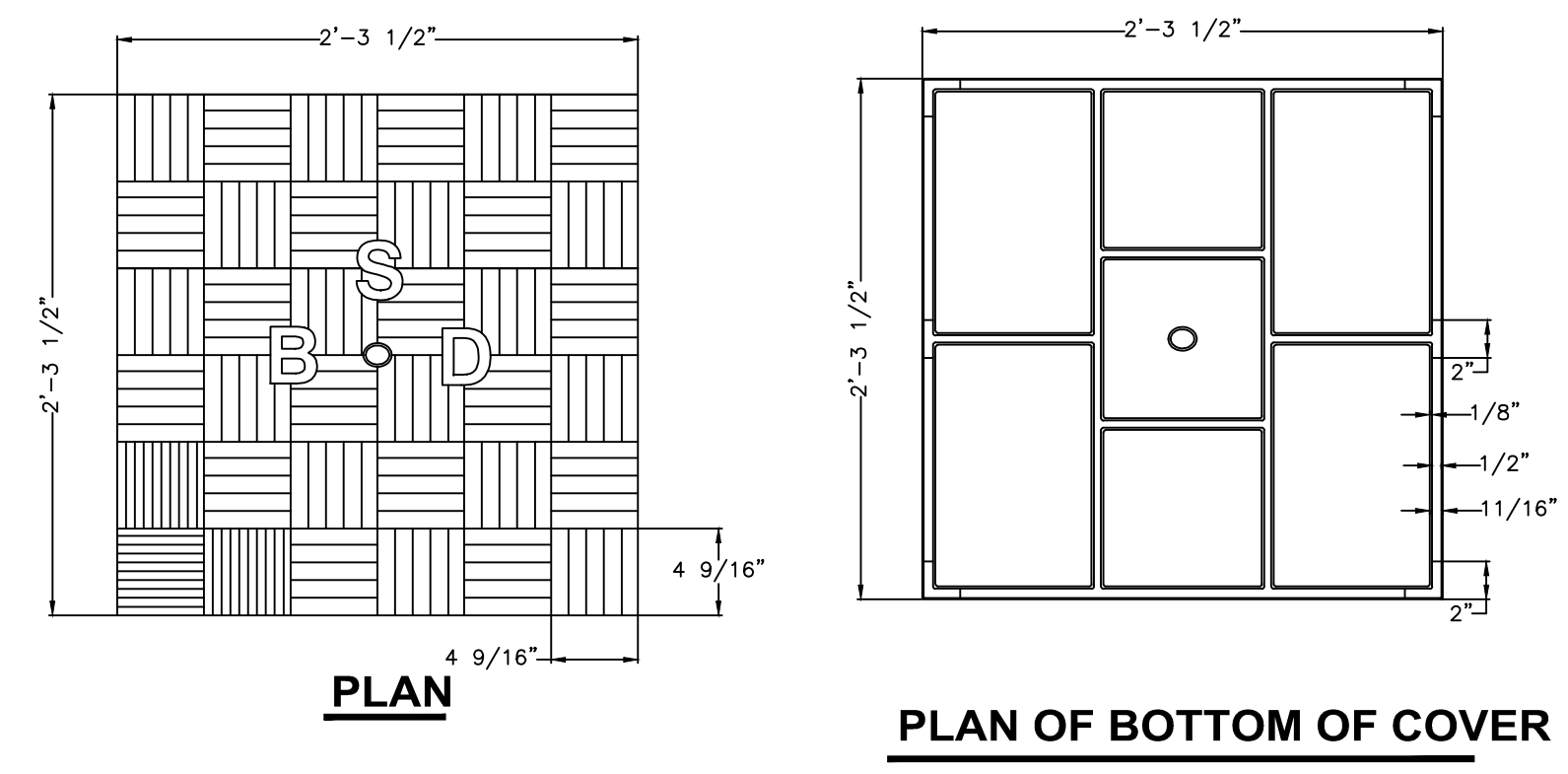
SCALE: N.T.S. AREA: 1  
DISTRICT: 10 DATE: DEC. 17, 2018

CITY ENGINEER

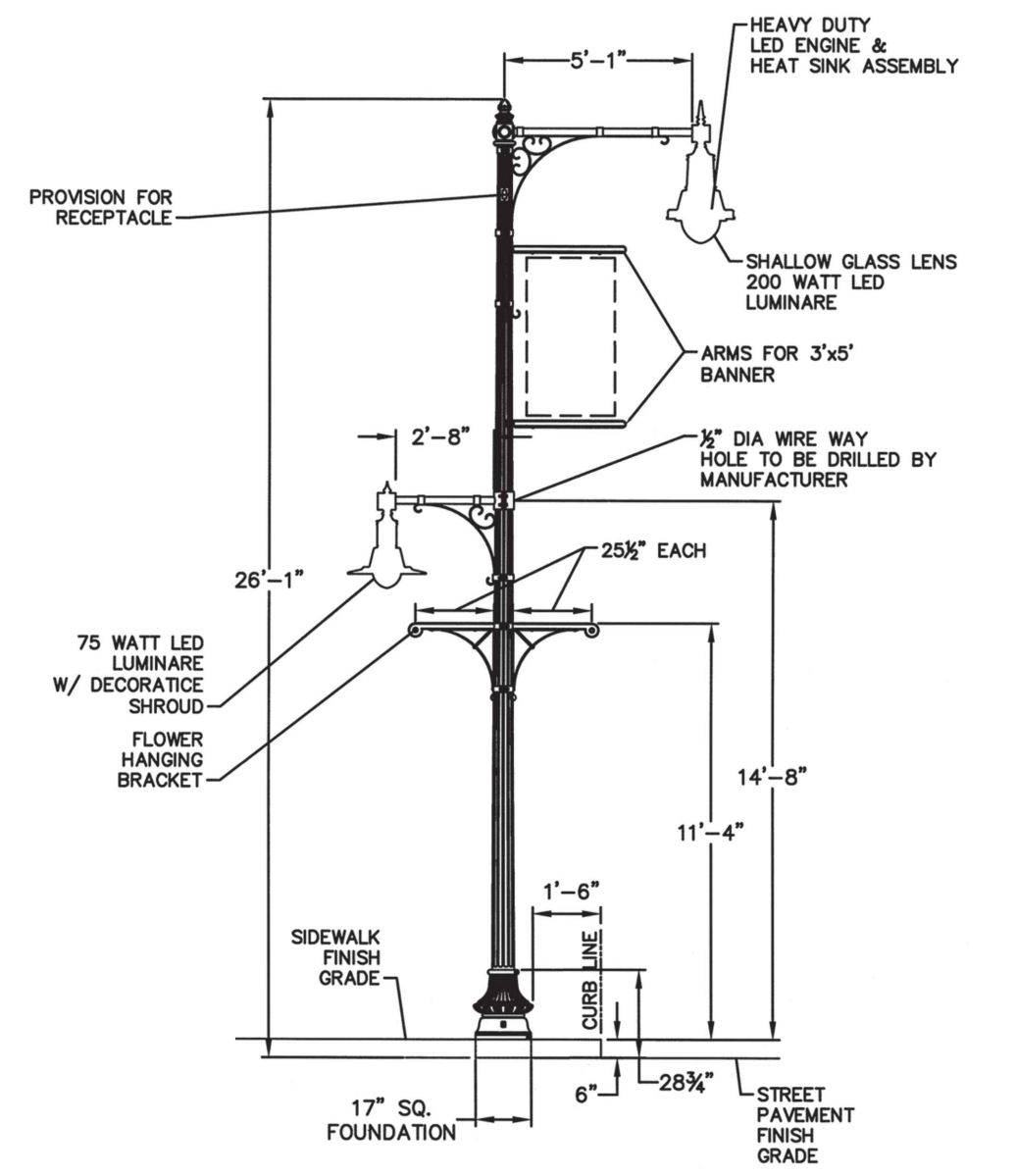




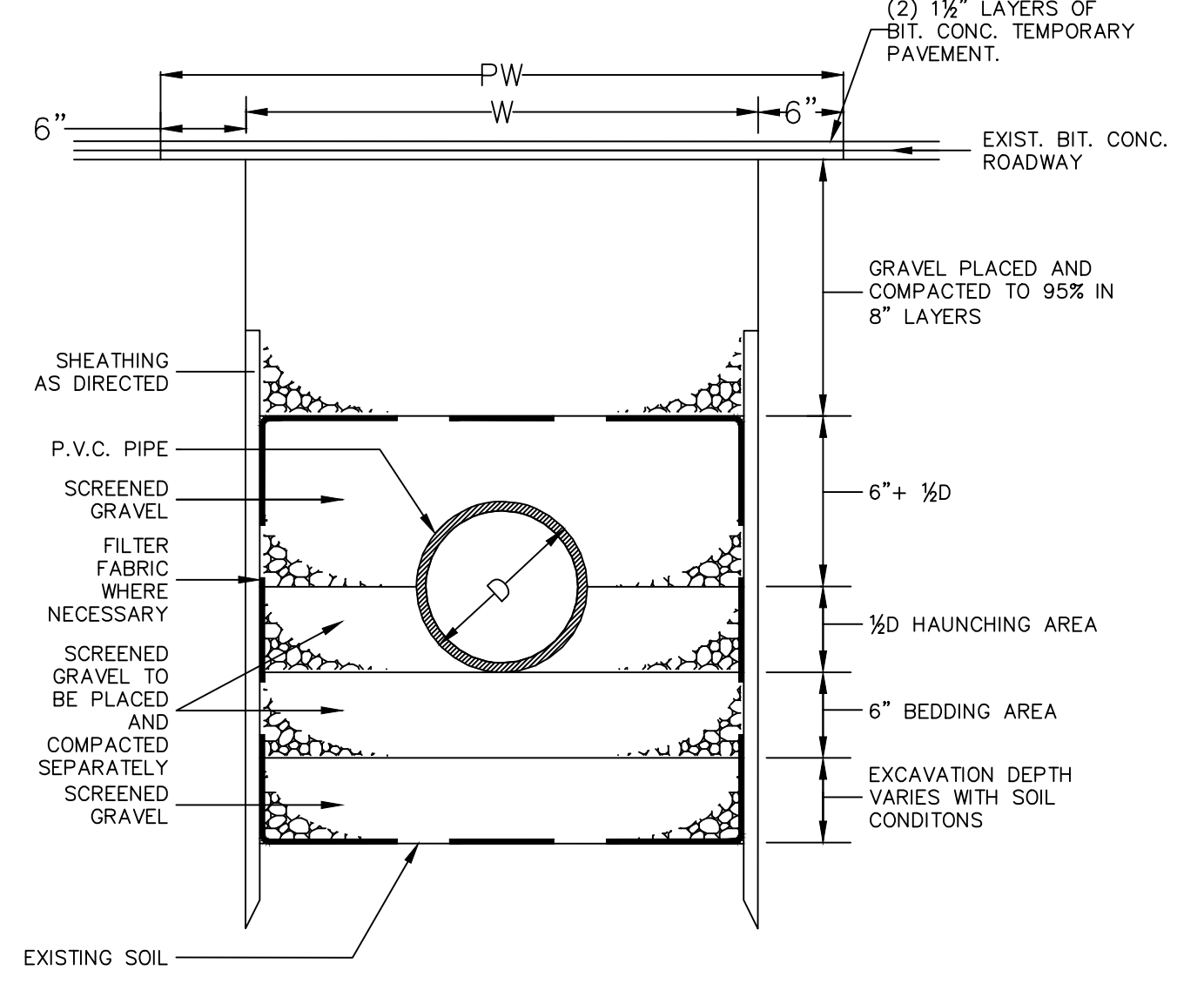
**1 CONCRETE MANHOLE ADJUSTMENT TO GRADE (B-03)**  
SCALE: NTS



**2 TYPE E-6 SIDEWALK MANHOLE COVER (F1-D10)**  
SCALE: NTS

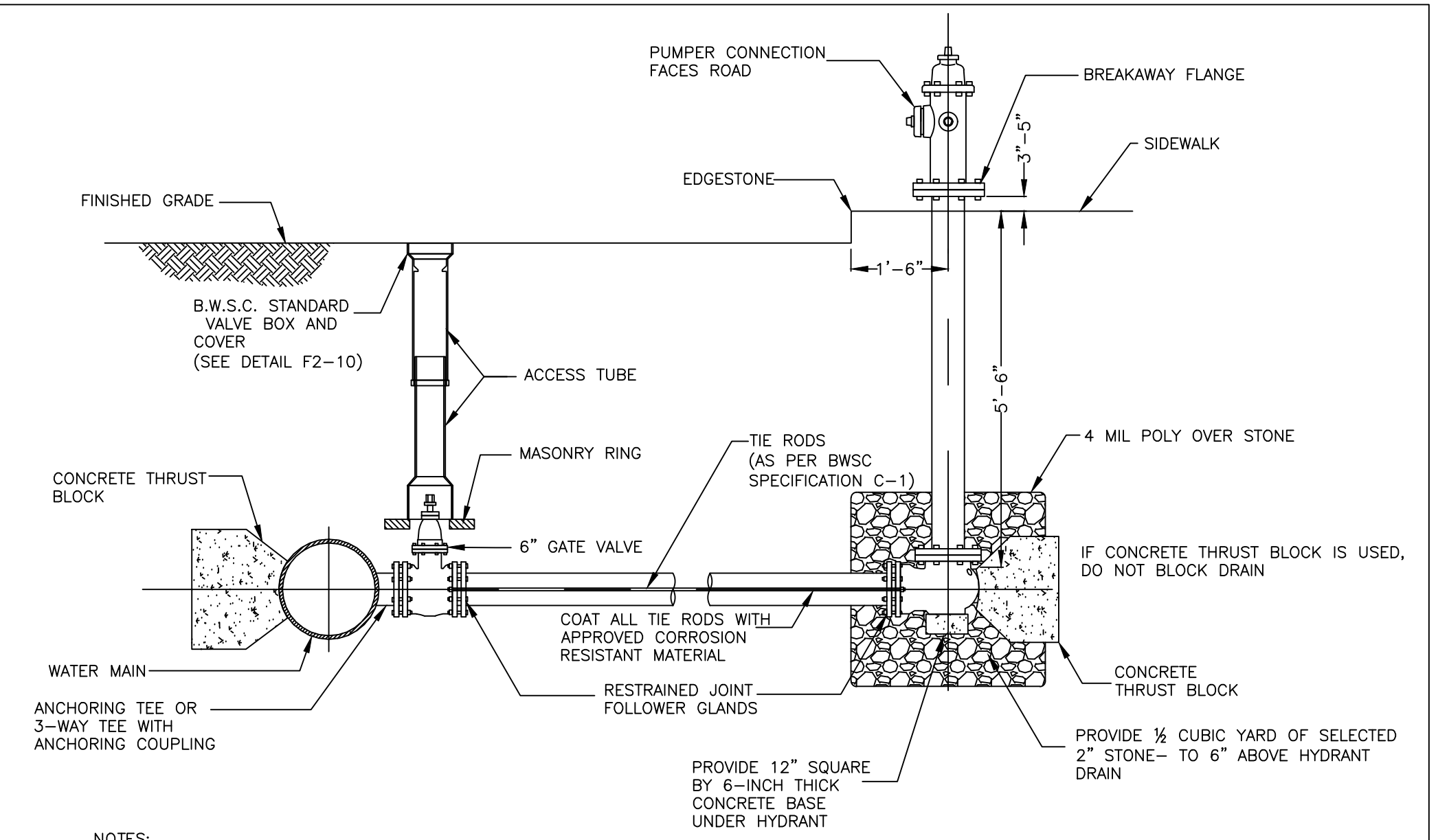


**5 HIGH LOW TWIN PENDANT DETAIL**  
SCALE: NTS



W = MAXIMUM TRENCH WIDTH  
PW = MAXIMUM PAVING WIDTH = W+1'-0"  
D = OUTSIDE DIAMETER  
UNSHEATHED TRENCH: W = D+2' (3'-0" MIN.)  
SHEATHED TRENCH: W = D+2'+ SHEATHING WIDTH:  
4'-0" MIN. W/O WALERS  
5'-0" MIN. W/WALERS  
TRENCH BOX OR HYDRAULIC SHORING:  
W = D+2'+ [WALL SHIELD WIDTH ± 8"] + 1' FOR TRENCH BOX

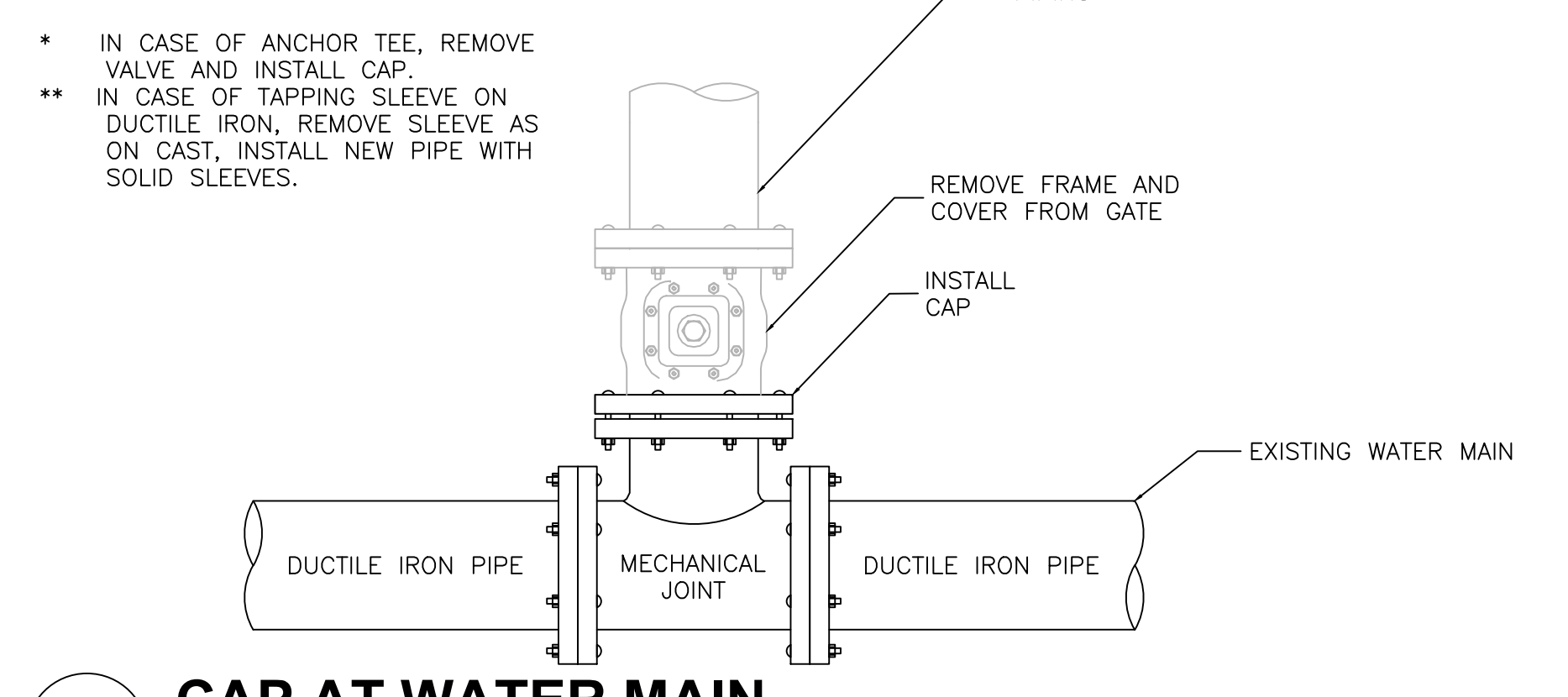
**4 TRENCH DETAIL FOR PVC PIPE**  
SCALE: NTS



- NOTES:
1. ANY DEVIATIONS OF THIS TYPICAL CONNECTION TO MEET FIELD CONDITIONS SHALL BE APPROVED BY THE ENGINEER.
  2. USE RESTRAINED JOINT FOLLOWER GLANDS, OR TIE RODS IN ACCORDANCE WITH SECTION C-1 OF BWS C SPECIFICATIONS, WHERE CONCRETE THRUST BLOCK IS UNACCEPTABLE TO THE ENGINEER.
  3. CONCRETE THRUST BLOCK TO BE USED ONLY WHERE IT WILL BEAR ON UNDISTURBED EARTH AND WHERE APPROVED BY THE ENGINEER.
  4. SIZE OF BLOCK OR FITTING TO BE DESIGNED FOR SPECIFIC CONDITIONS, OR ANY NECESSARY BENDS.

**3 TYPICAL FIRE HYDRANT CONNECTION**  
SCALE: NTS

- NOTES:
1. ALL WORK MUST BE PERFORMED BY A BWS C LICENSED AND BONDED CONTRACTOR.
  2. THIS PROCEDURE WILL INVOLVE A MAIN LINE SHUT DOWN THAT THE CONTRACTOR WILL COORDINATE WITH THE BWS C'S OPERATIONS DIVISION.
  3. WRITTEN NOTIFICATION OF ALL AFFECTED CUSTOMERS MUST BE PERFORMED BY THE CONTRACTOR.
  4. ALL WORK MUST BE PERMITTED BY BWS C AND ALL OTHER APPROPRIATE AGENCIES.
  5. ALL WORK MUST BE INSPECTED BY BWS C INSPECTOR OR DESIGNEE.



**6 CAP AT WATER MAIN**  
SCALE: NTS

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO COMMISSION STANDARDS

BOSTON WATER AND SEWER COMMISSION

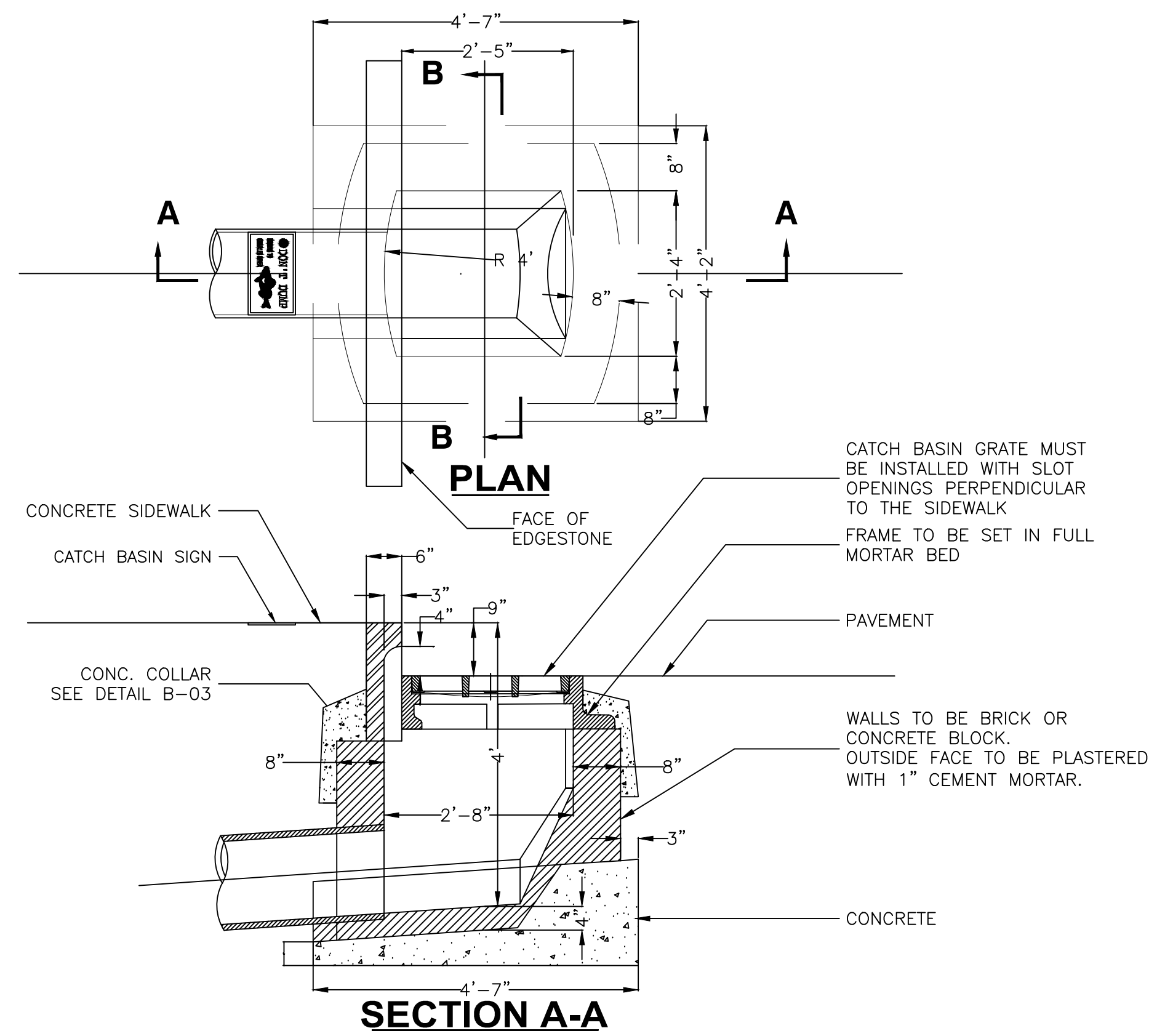
SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	S. BERGMAN
CHECKED BY	A. CLARKE
APPROVED BY	A. SANTORO

CIP 19-21 SHEET 8 OF 60

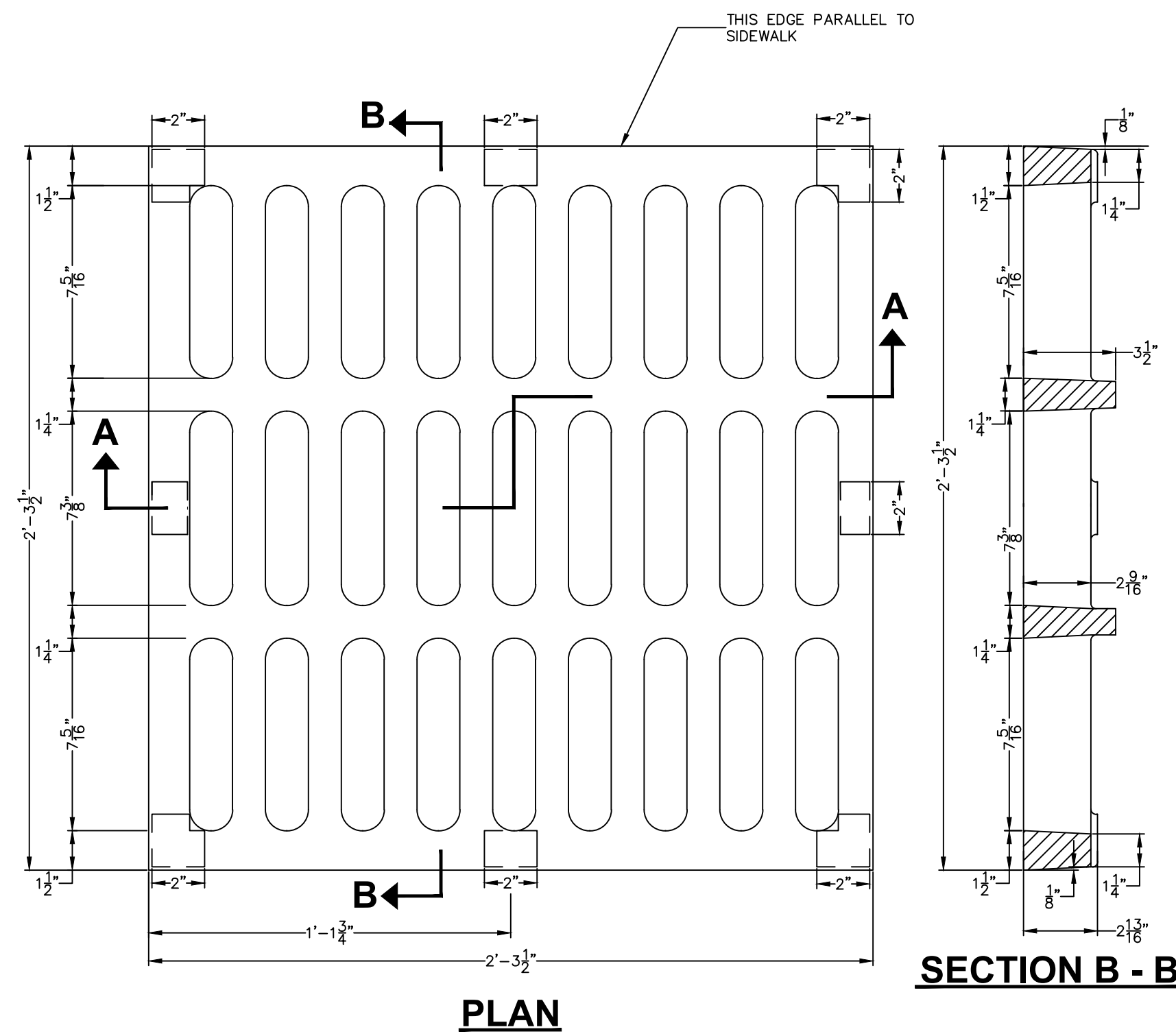
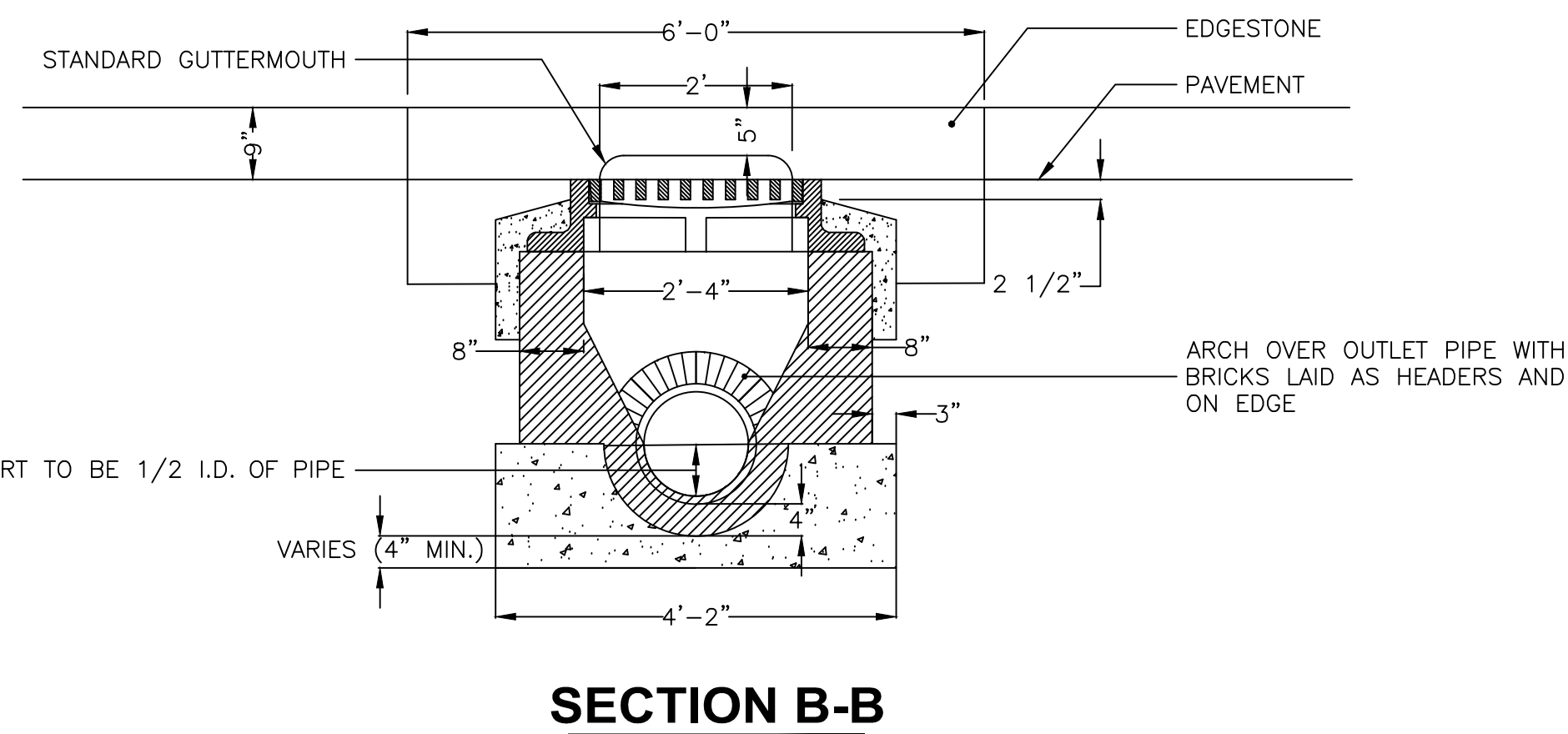
CITY OF BOSTON PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION HIGHWAY RECONSTRUCTION	
<b>DUDLEY SQUARE PHASE 1 CONSTRUCTION DETAILS</b> ROXBURY	
SCALE: N.T.S. DISTRICT: 10	AREA: 1 DATE: DEC. 17, 2018
CITY ENGINEER	



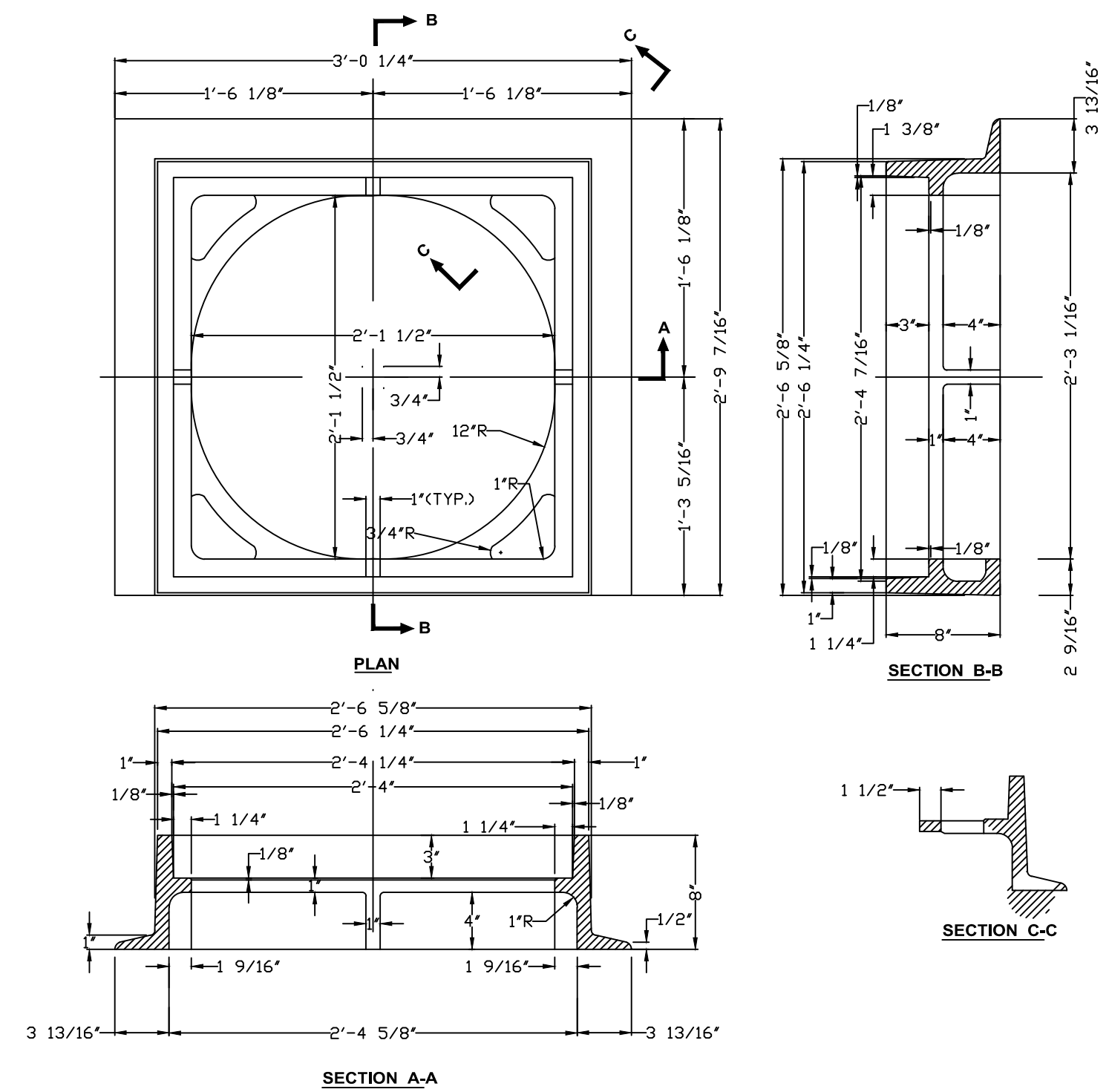




**1 DROP INLET WITH GUTTERMOUTH**  
SCALE: NTS

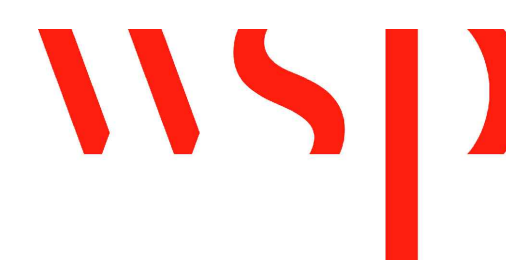


**2 TYPE E-1 CATCH BASIN GRATE (F1-D09)**  
SCALE: NTS



**3 TYPE E CATCH BASIN FRAME (F1-D08)**  
SCALE: NTS

R-3533-9



REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO COMMISSION STANDARDS

BOSTON WATER AND SEWER COMMISSION

SURVEY BY BRYANT ASSOCIATES

DRAWN BY S. BERGMAN

CHECKED BY A. CLARKE

APPROVED BY A. SANTORO

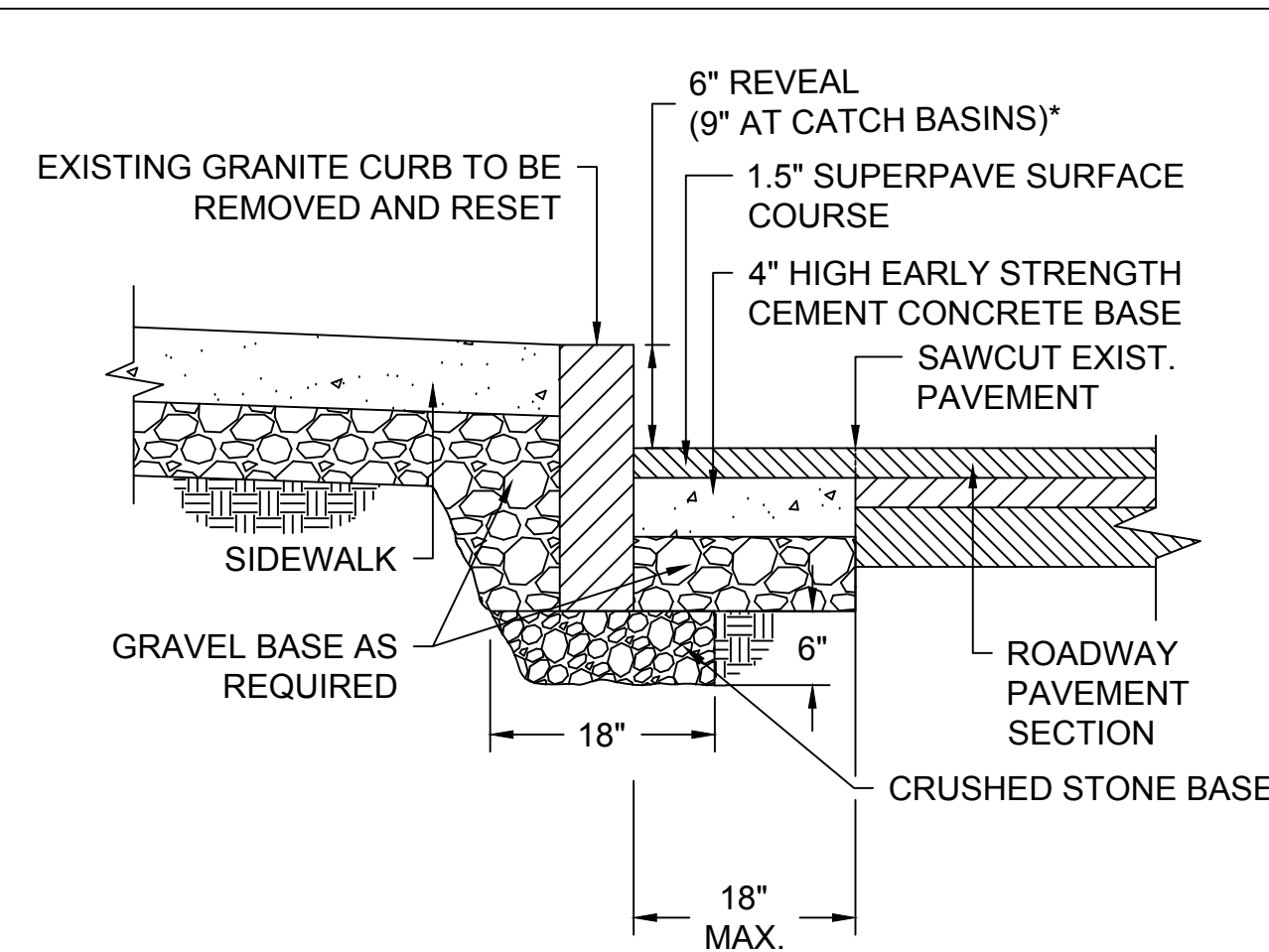
CIP 19-21 SHEET 9 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION  
**DUDLEY SQUARE PHASE 1**  
**CONSTRUCTION DETAILS**  
ROXBURY

SCALE: N.T.S.  
DISTRICT: 10

AREA: 1  
DATE: DEC. 17, 2018

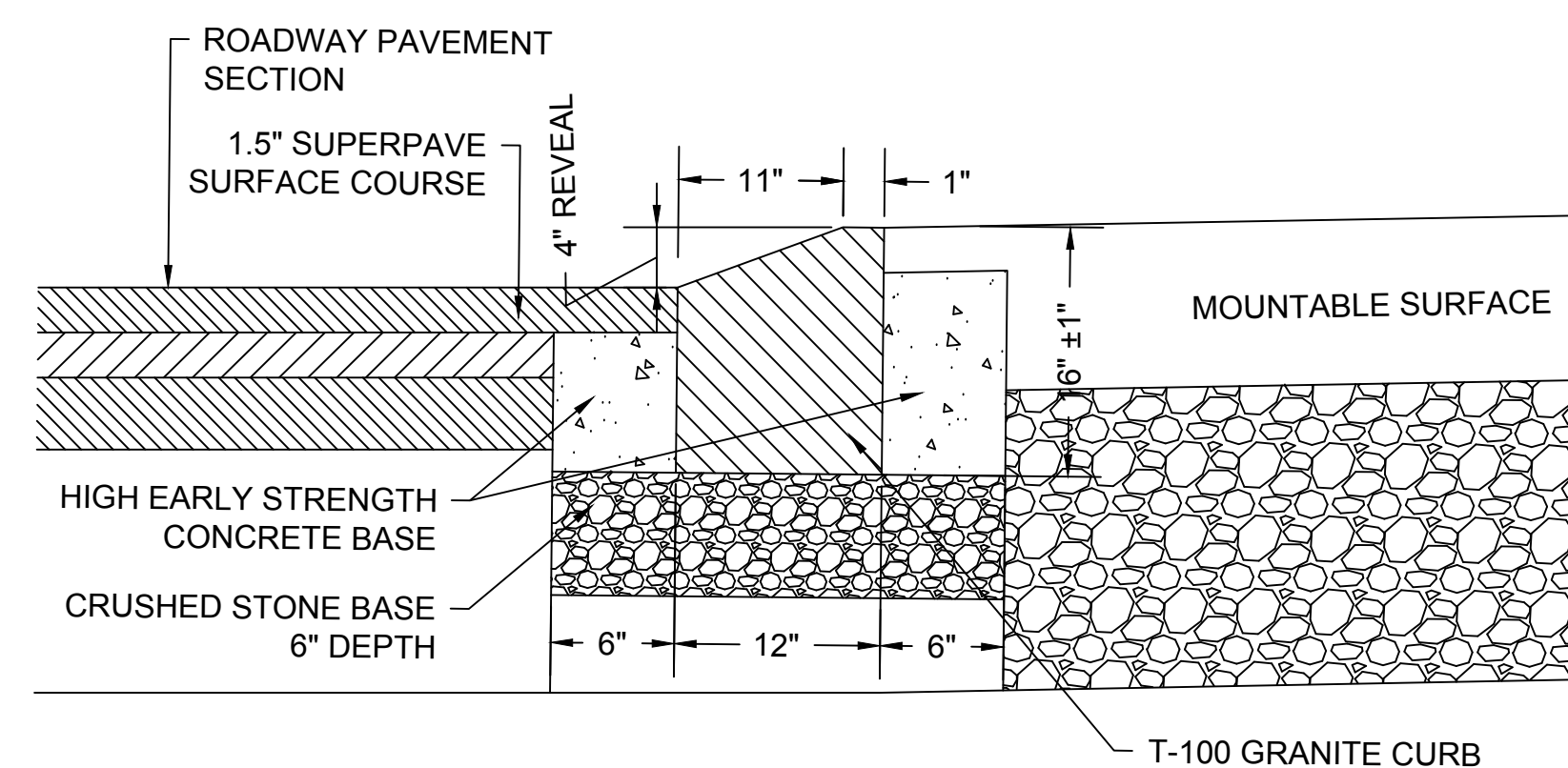
CITY ENGINEER



\*6" REVEAL TYPICAL. REVEAL MAY VARY FROM 3" TO 9" WITH PWD APPROVAL.

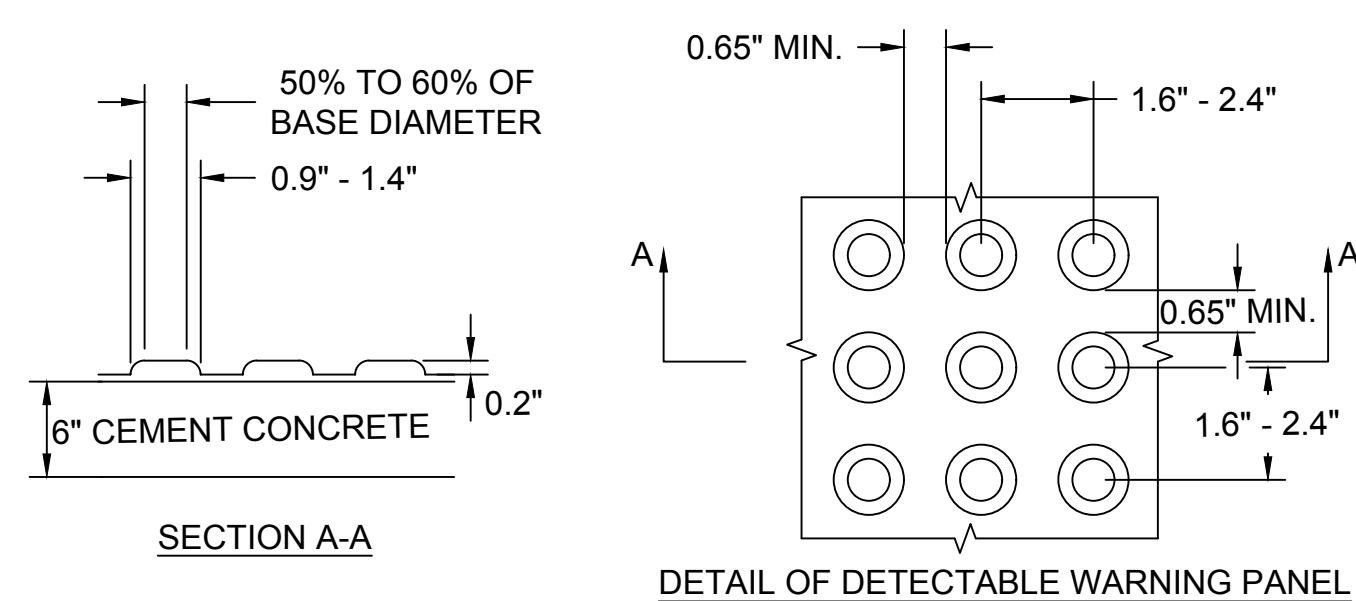
### 1 CURB - GRANITE RESET

SCALE: NTS



### 4 CURB - MOUNTABLE

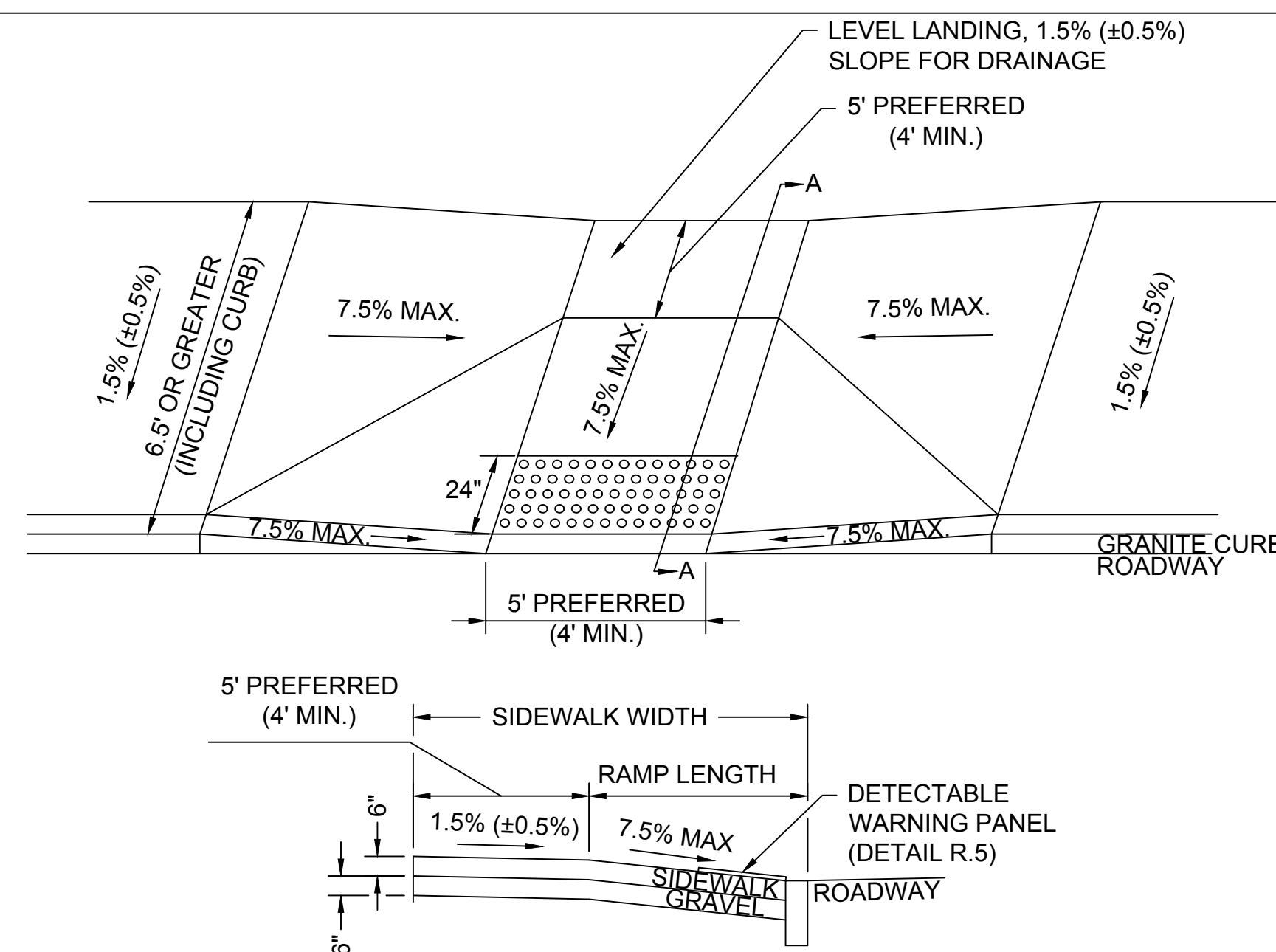
SCALE: NTS



### 7 DETECTABLE WARNING PANEL

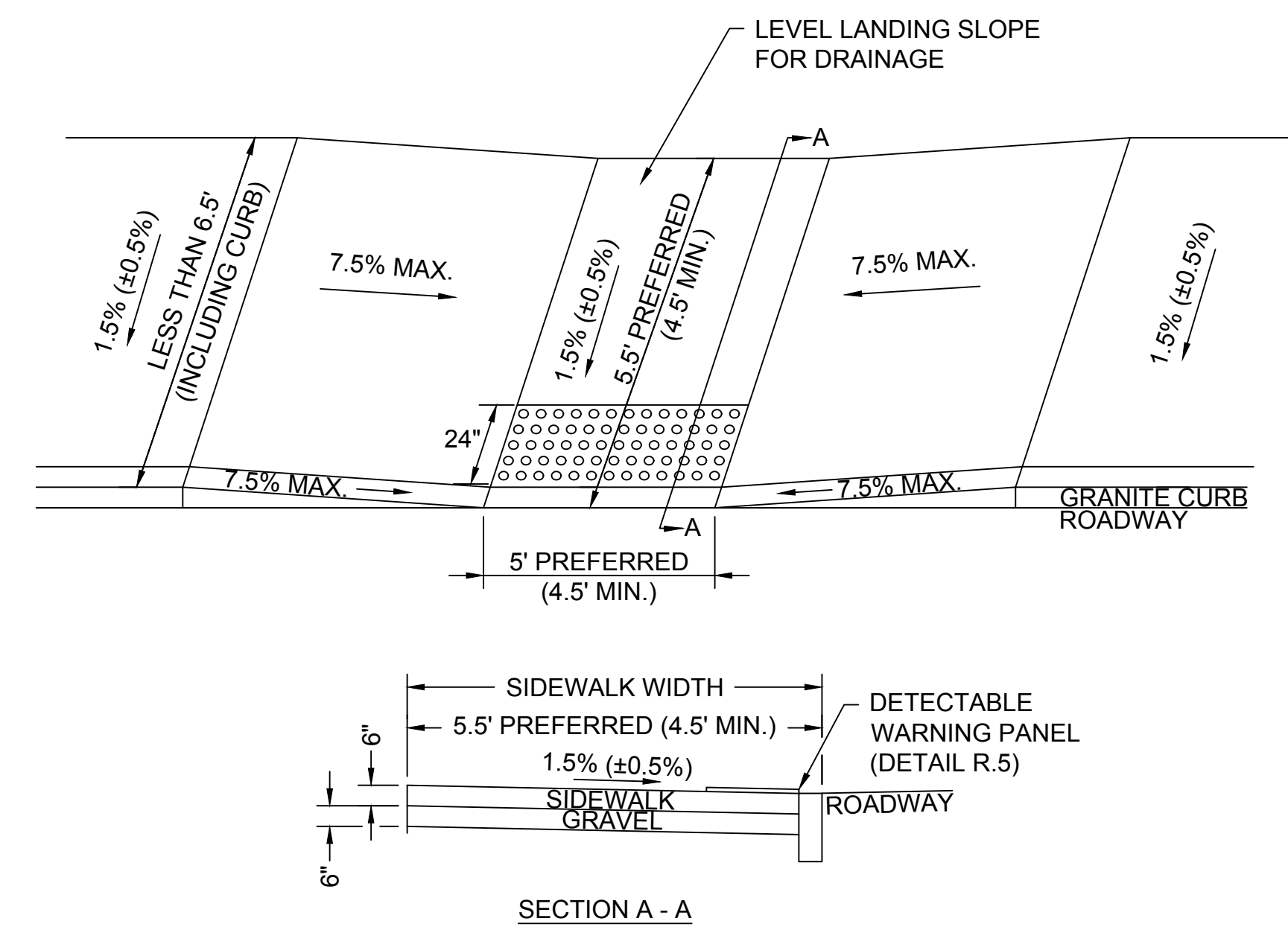
SCALE: NTS

1. DETECTABLE WARNING PANELS SHALL BE PERMANENTLY APPLIED TO THE CURB RAMP.
2. DETECTABLE WARNING PANELS SHALL BE PALE YELLOW IN COLOR, CONFORMING TO FEDERAL NO. 23594, UNLESS OTHERWISE SPECIFIED BY PWD.
3. DETECTABLE WARNING PANELS SHALL BE COMPOSITE.
4. DETECTABLE WARNING PANELS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.



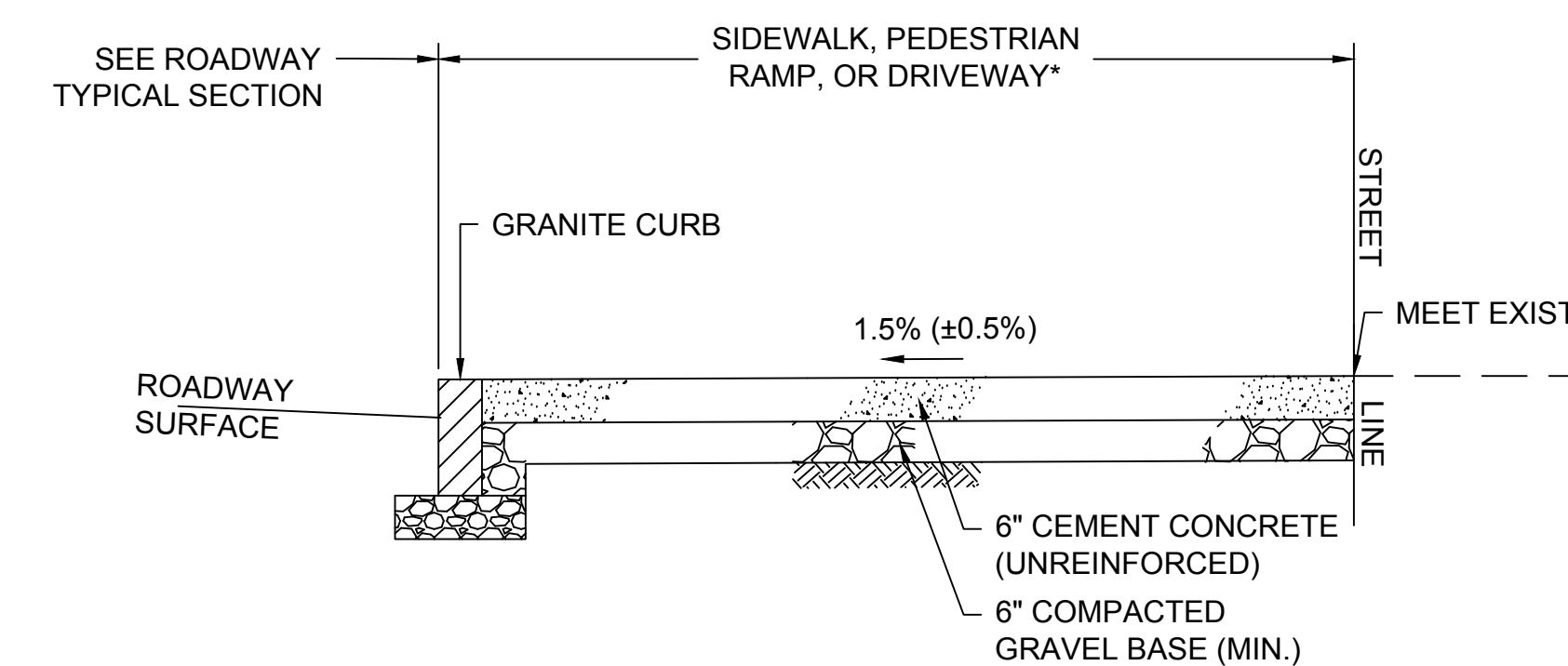
### 2 PEDESTRIAN RAMP - SIDEWALK WIDTH 6.5' & GREATER

SCALE: NTS



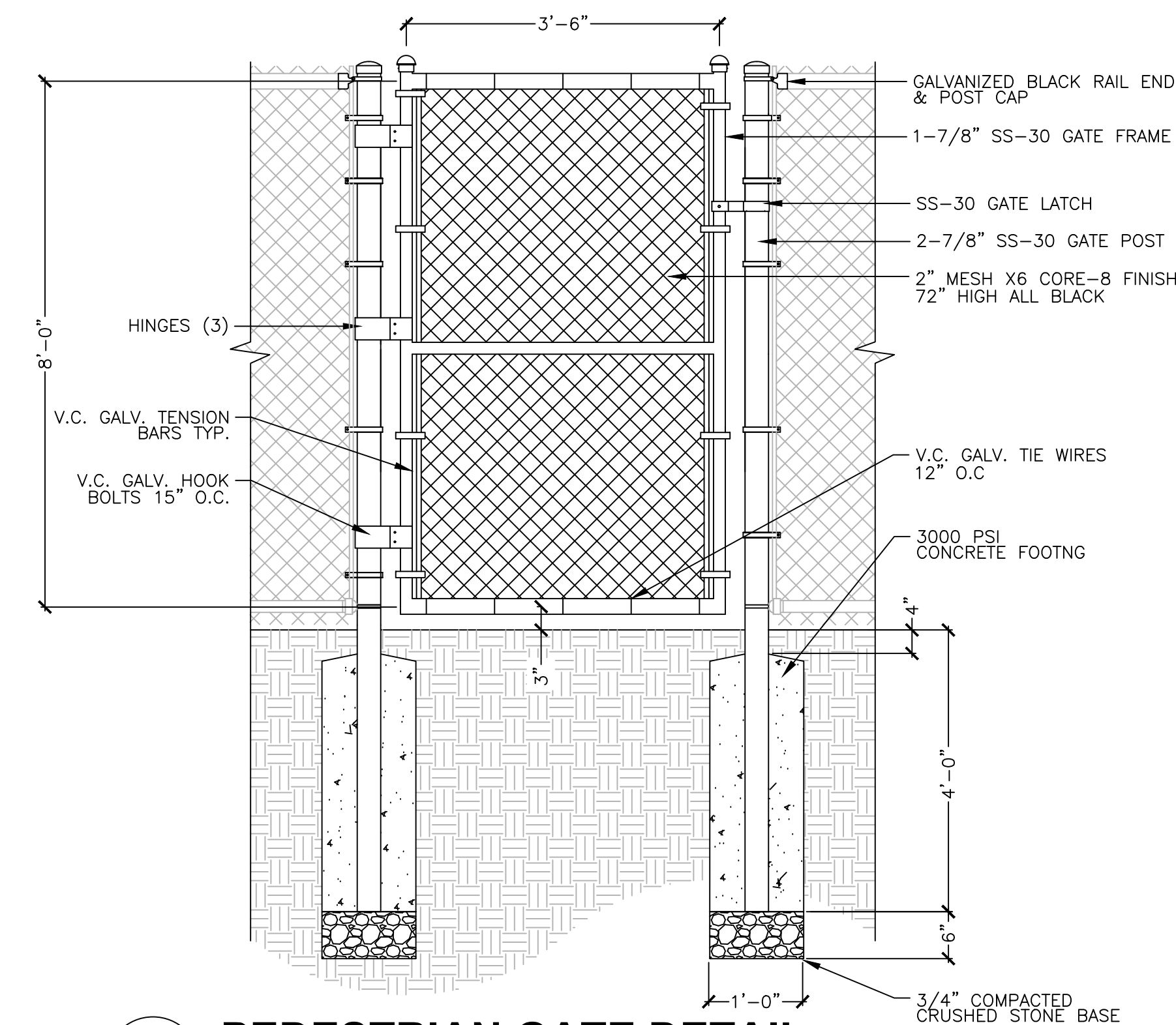
### 5 PEDESTRIAN RAMP - SIDEWALK WIDTH LESS THAN 6.5'

SCALE: NTS



### 3 6" CONCRETE SIDEWALK

SCALE: NTS



### 6 PEDESTRIAN GATE DETAIL

SCALE: NTS

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON TRANSPORTATION DEPARTMENT

SURVEY BY BRYANT ASSOCIATES

DRAWN BY S. BERGMAN

CHECKED BY A. CLARKE

APPROVED BY A. SANTORO

CIP 19-21 SHEET 10 OF 60

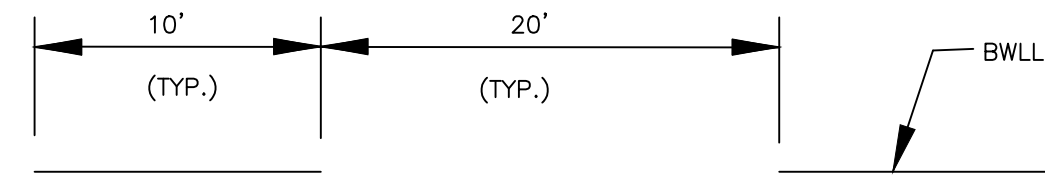
CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION  
**DUDLEY SQUARE PHASE 1**  
**CONSTRUCTION DETAILS**  
ROXBURY

SCALE: N.T.S. AREA: 1  
DISTRICT: 10 DATE: DEC. 17, 2018

CITY ENGINEER



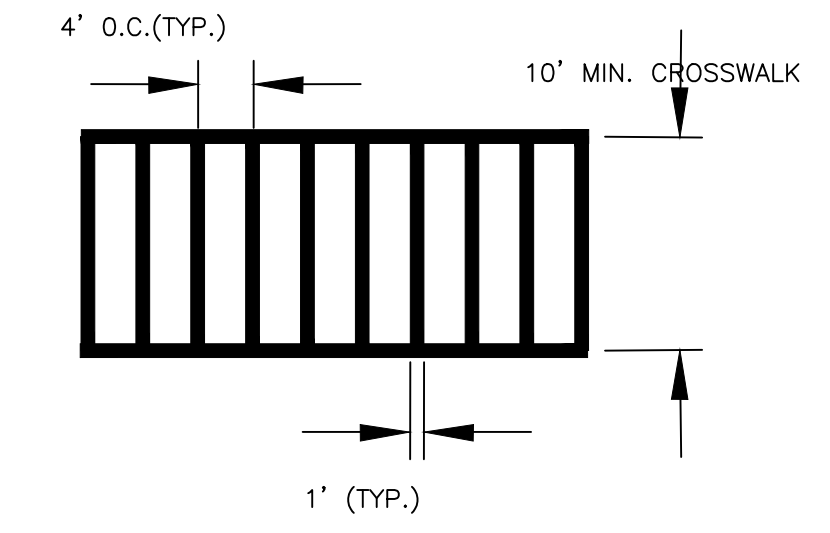
R-3533-10



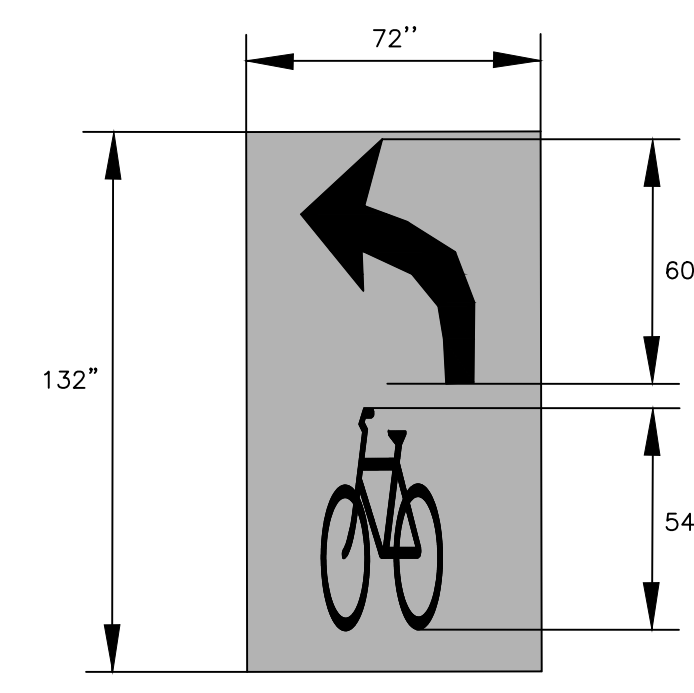
**1 LANE STRIPES**  
SCALE: NTS



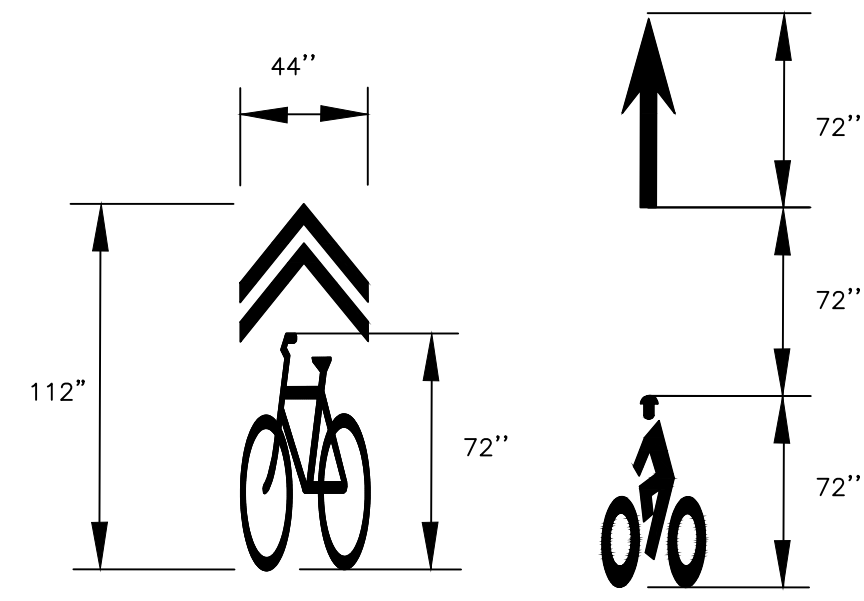
**2 GUIDE LINES**  
SCALE: NTS



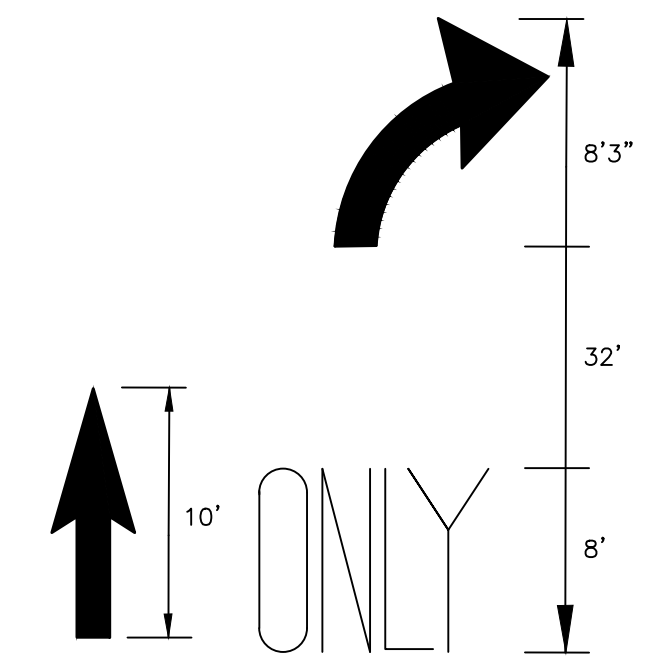
**3 CROSSWALK**  
SCALE: NTS



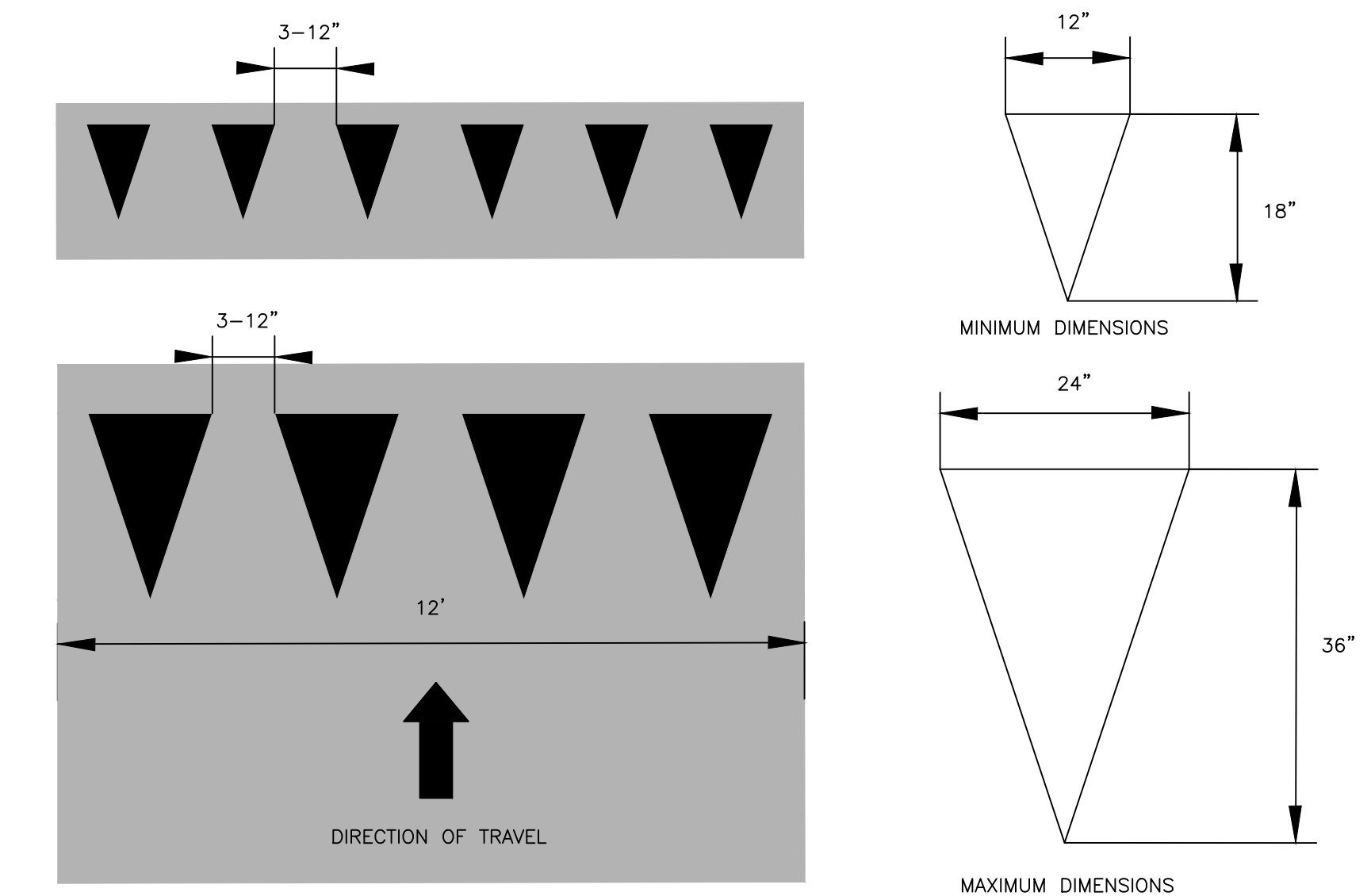
**4 LEFT TURN BIKE BOX**  
SCALE: NTS



**5 BICYCLE MARKINGS**  
SCALE: NTS



**6 TURNING MARKINGS**  
SCALE: NTS



NOTE: TRIANGLE HEIGHT IS EQUAL TO 1.5 TIMES THE BASE DIMENSION.  
YIELD LINES MAY BE SMALLER THAN SUGGESTED WHEN INSTALLED ON MUCH NARROWER, SLOW-SPEED FACILITIES SUCH AS SHARED-USE PATHS.

**YIELD LINE LAYOUTS**  
N.T.S.

**7 YIELD LINE LAYOUTS**  
SCALE: NTS

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

CIP 19-21 SHEET 11 OF 60

BOSTON TRANSPORTATION DEPARTMENT

SURVEY BY BRYANT ASSOCIATES

DRAWN BY S. BERGMAN

CHECKED BY A. CLARKE

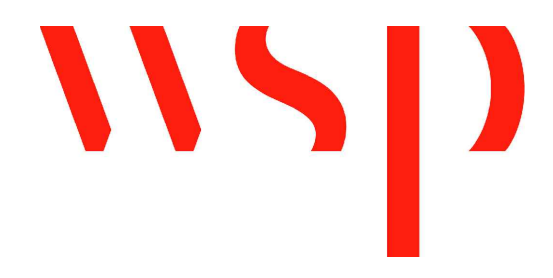
APPROVED BY A. SANTORO

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1  
CONSTRUCTION DETAILS**  
ROXBURY

SCALE: N.T.S. AREA: 1  
DISTRICT: 10 DATE: DEC. 17, 2018

CITY ENGINEER



FOR CONTINUATION SEE DWG. NO. 13

CIP 19-21 SHEET 12 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION  
 HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1  
 CONSTRUCTION BASELINE TIES**

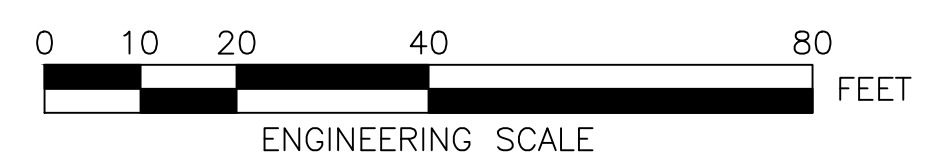
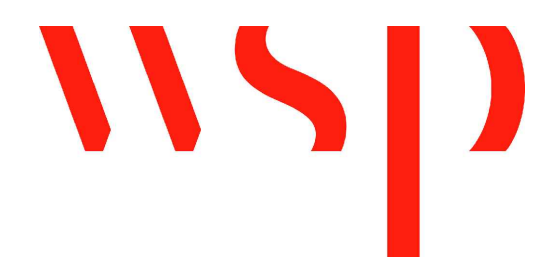
ROXBURY

SCALE: 1" = 20'  
 DISTRICT: 10

AREA: 1  
 DATE: DEC. 17, 2018

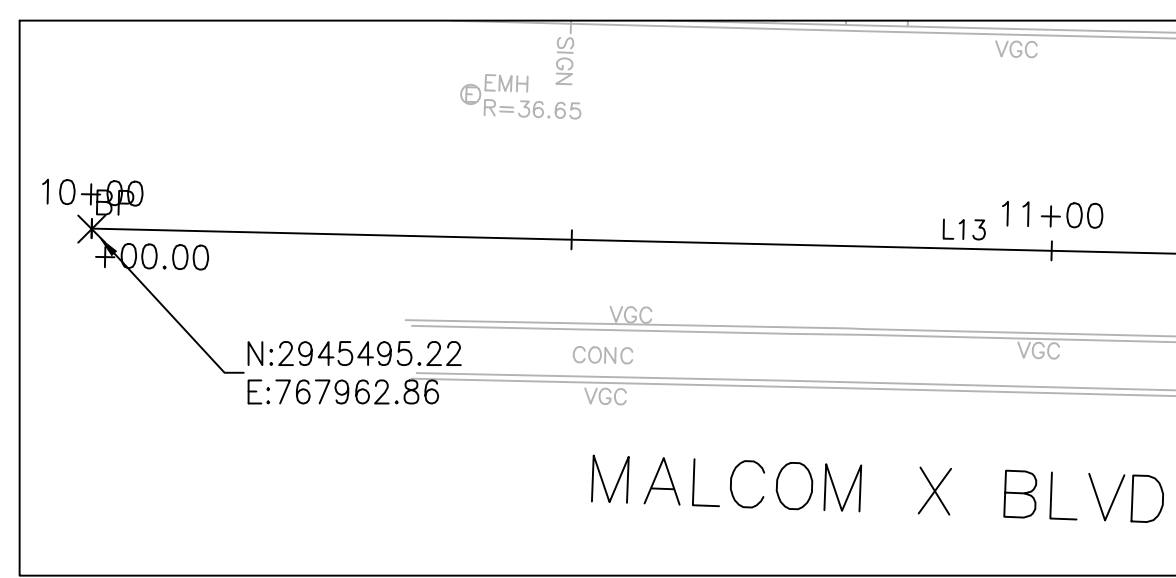
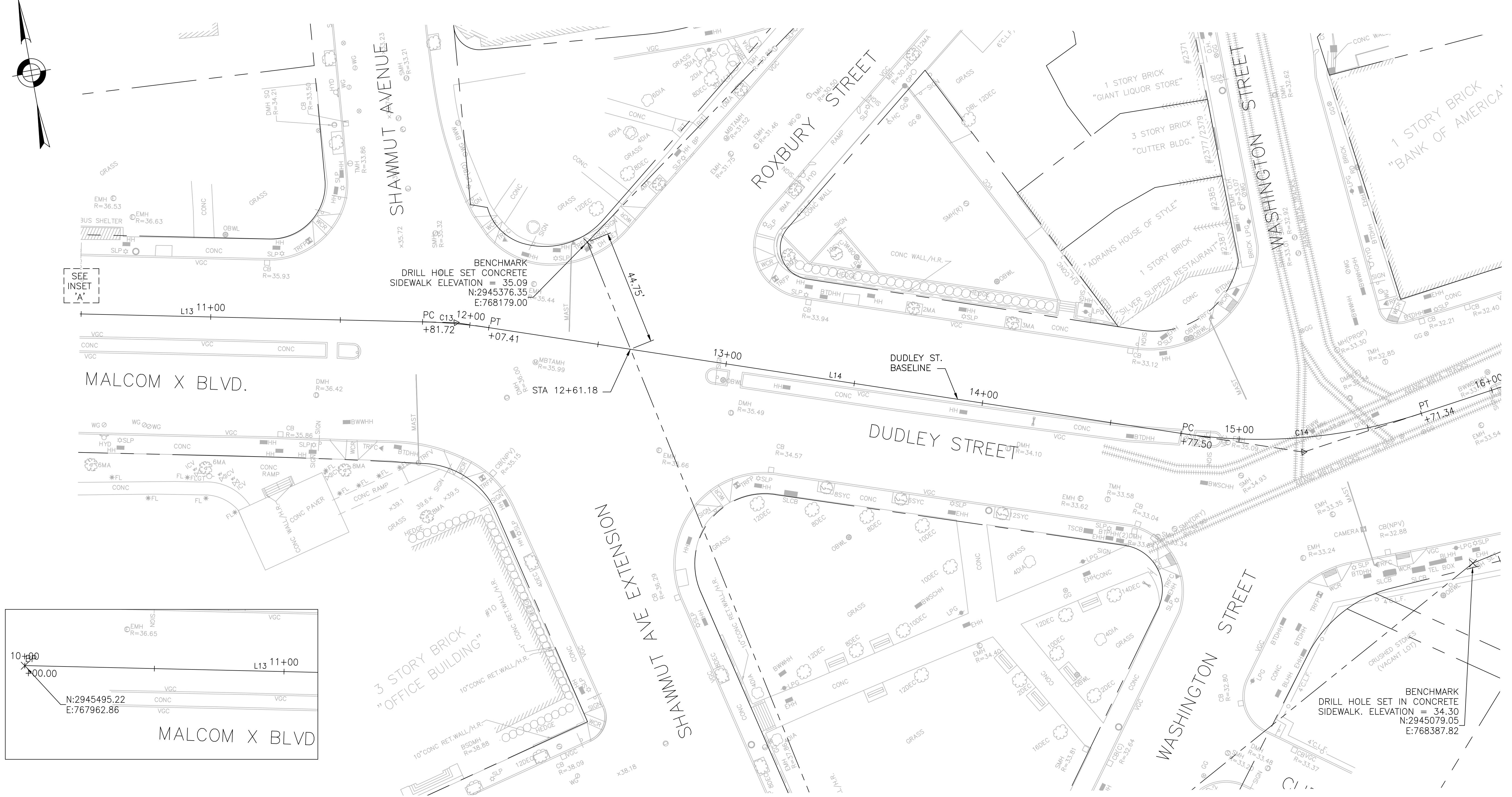
CITY ENGINEER

SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	S. BERGMAN
CHECKED BY	J. WEISS
APPROVED BY	A. SANTORO



- NOTES:
- FOR KEYPLAN, LEGEND AND ABBREVIATIONS, SEE SHEET 2 & 4.
  - FOR GENERAL NOTES, SEE SHEET 3.

R-3533-12



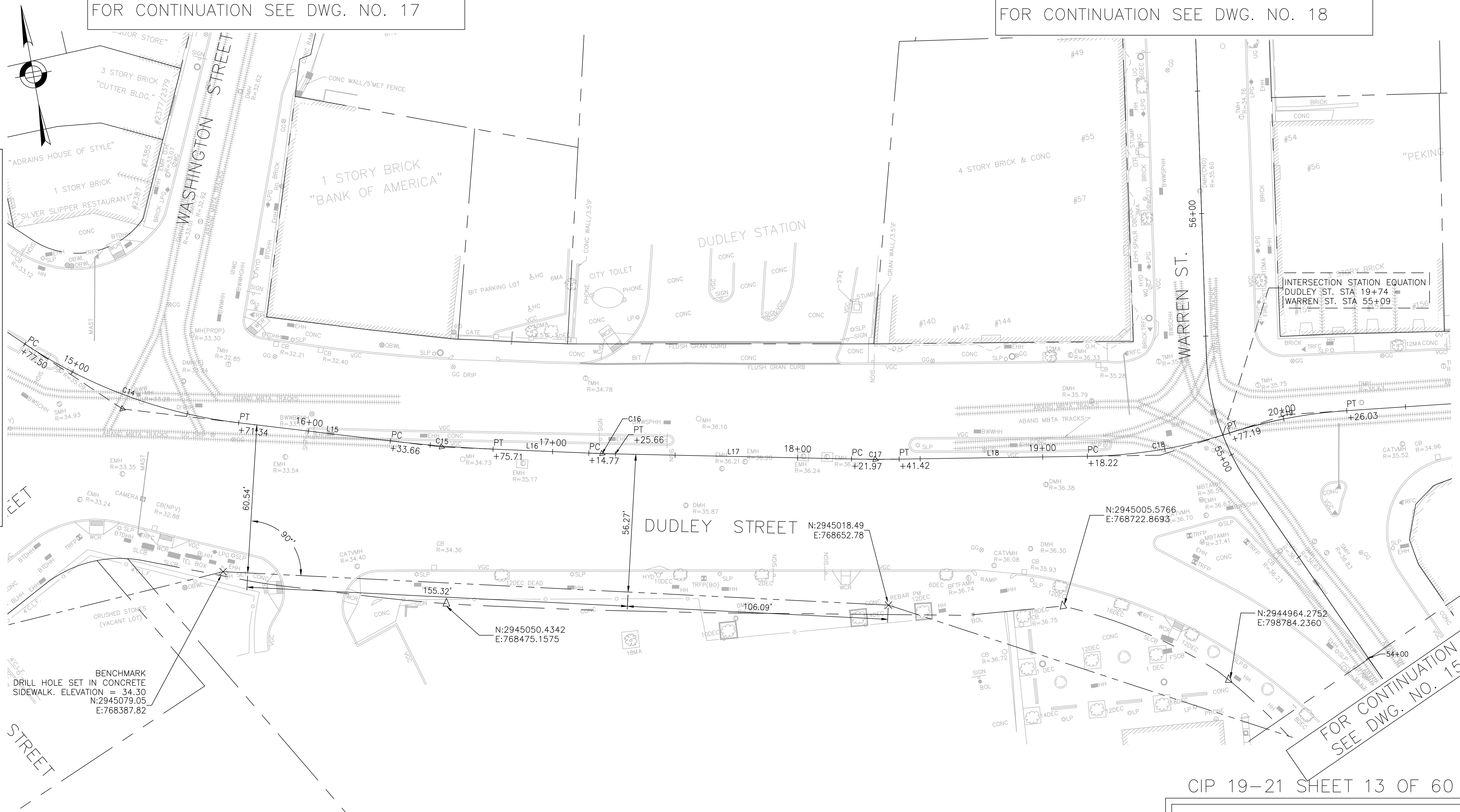
FOR CONTINUATION SEE DWG. NO. 17

FOR CONTINUATION SEE DWG. NO. 18

FOR CONTINUATION SEE DWG. NO. 12

FOR CONTINUATION SEE DWG. NO. 14

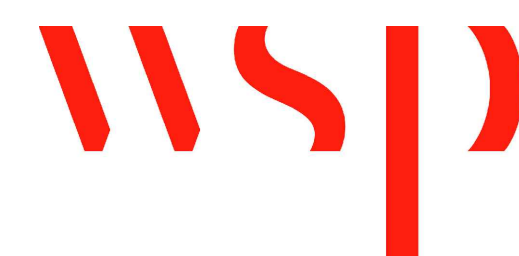
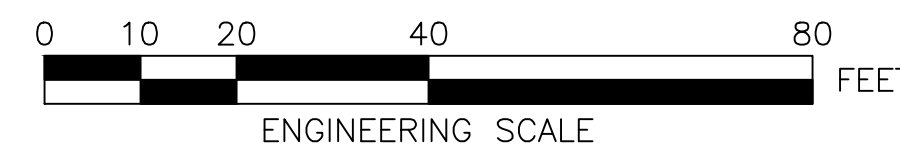
FOR CONTINUATION SEE DWG. NO. 15



NOTES:

1. FOR KEYPLAN, LEGEND AND ABBREVIATIONS, SEE SHEET 2 & 4.
2. FOR GENERAL NOTES, SEE SHEET 3.

R-3533-13



SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	S. BERGMAN
CHECKED BY	J. WEISS
APPROVED BY	A. SANTORO

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1  
CONSTRUCTION BASELINE TIES**  
ROXBURY

SCALE: 1" = 20'  
DISTRICT: 10

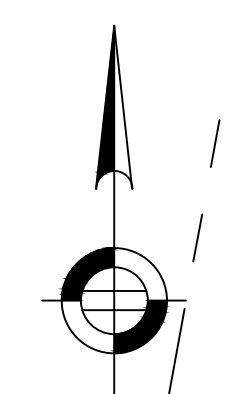
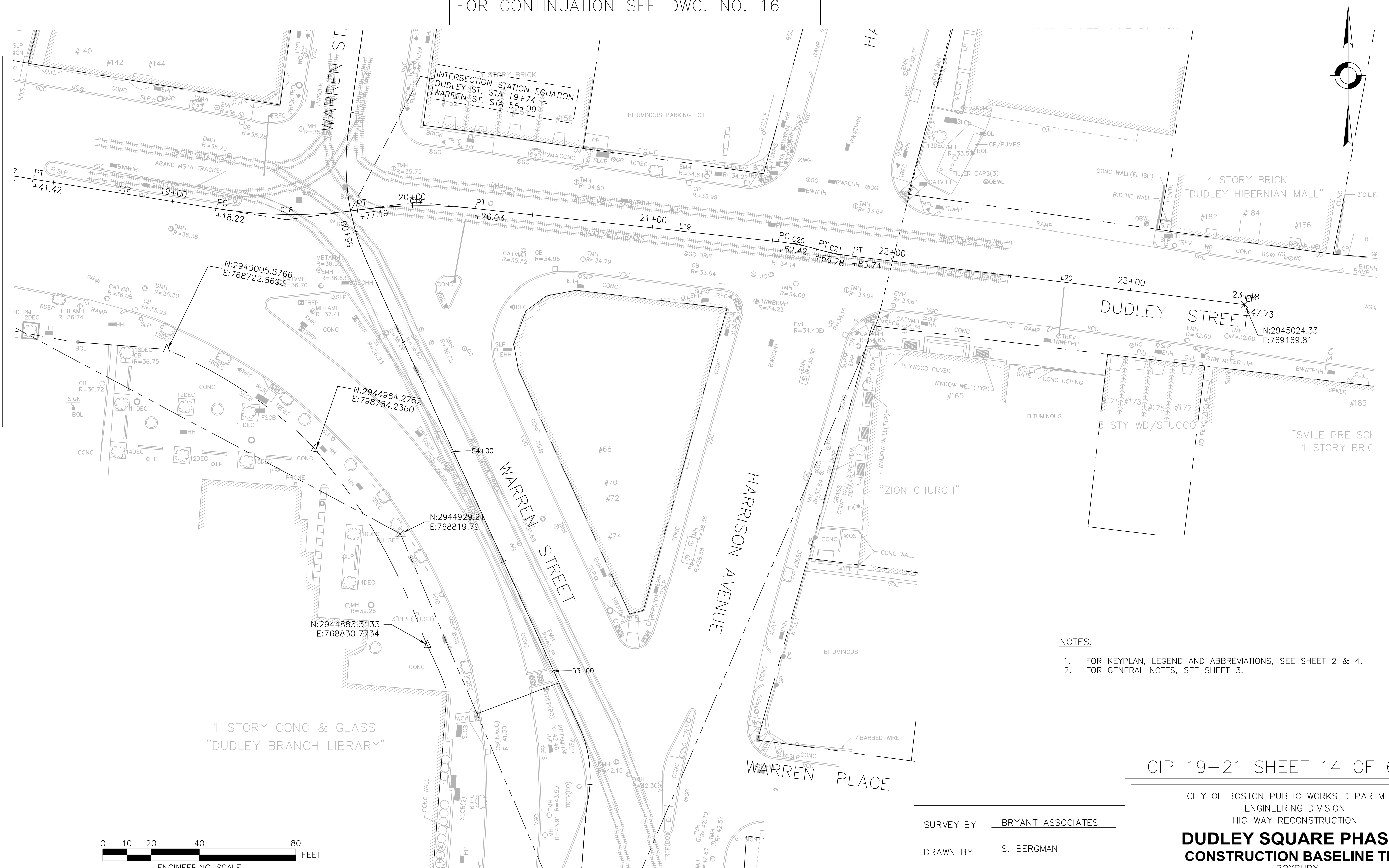
AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER

CIP 19-21 SHEET 13 OF 60

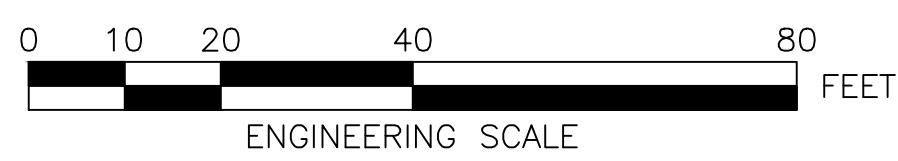
FOR CONTINUATION SEE DWG. NO. 16

FOR CONTINUATION SEE DWG. NO. 13



NOTES:

1. FOR KEYPLAN, LEGEND AND ABBREVIATIONS, SEE SHEET 2 & 4.
2. FOR GENERAL NOTES, SEE SHEET 3.



FOR CONTINUATION SEE DWG. NO. 15

CIP 19-21 SHEET 14 OF 60

SURVEY BY	BRYANT ASSOCIATES
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CHECKED BY	J. WEISS
APPROVED BY	A. SANTORO

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION  
 HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1  
 CONSTRUCTION BASELINE TIES**  
 ROXBURY

SCALE: 1" = 20'  
 DISTRICT: 10

AREA: 1  
 DATE: DEC. 17, 2018

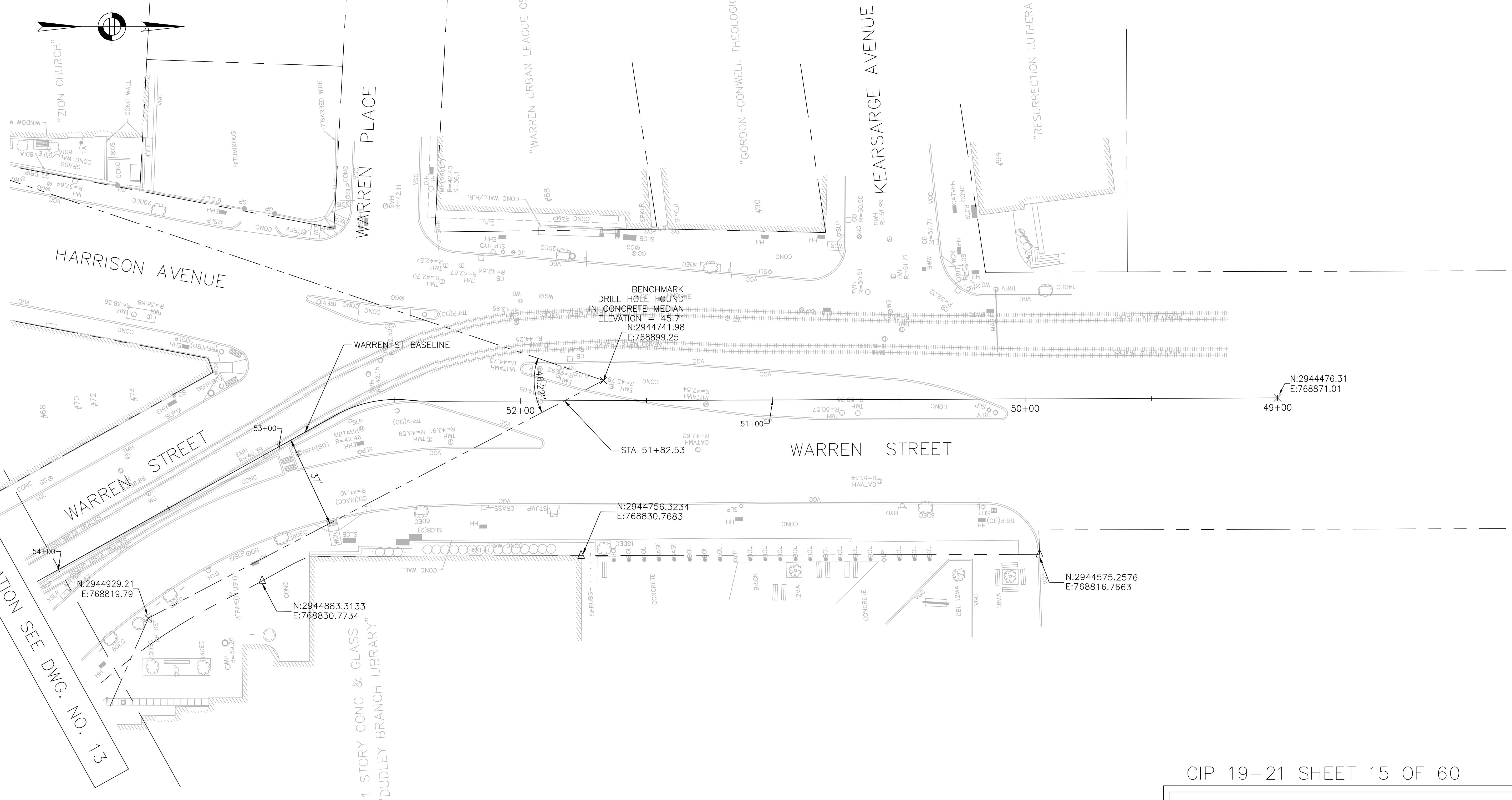
CITY ENGINEER



R-3533-14

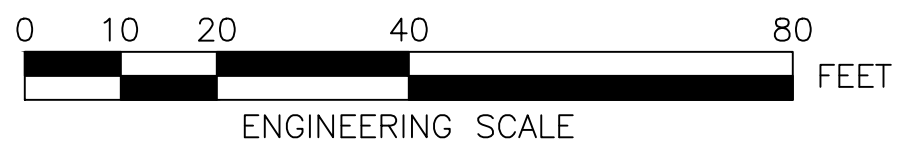
FOR CONTINUATION SEE DWG. NO. 14

FOR CONTINUATION SEE DWG. NO. 13



NOTES:

1. FOR KEYPLAN, LEGEND AND ABBREVIATIONS, SEE SHEET 2 & 4.
2. FOR GENERAL NOTES, SEE SHEET 3.



SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	S. BERGMAN
CHECKED BY	J. WEISS
APPROVED BY	A. SANTORO

CIP 19-21 SHEET 15 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1  
CONSTRUCTION BASELINE TIES**  
ROXBURY

SCALE: 1" = 20'  
DISTRICT: 10

AREA: 1  
DATE: DEC. 17, 2018

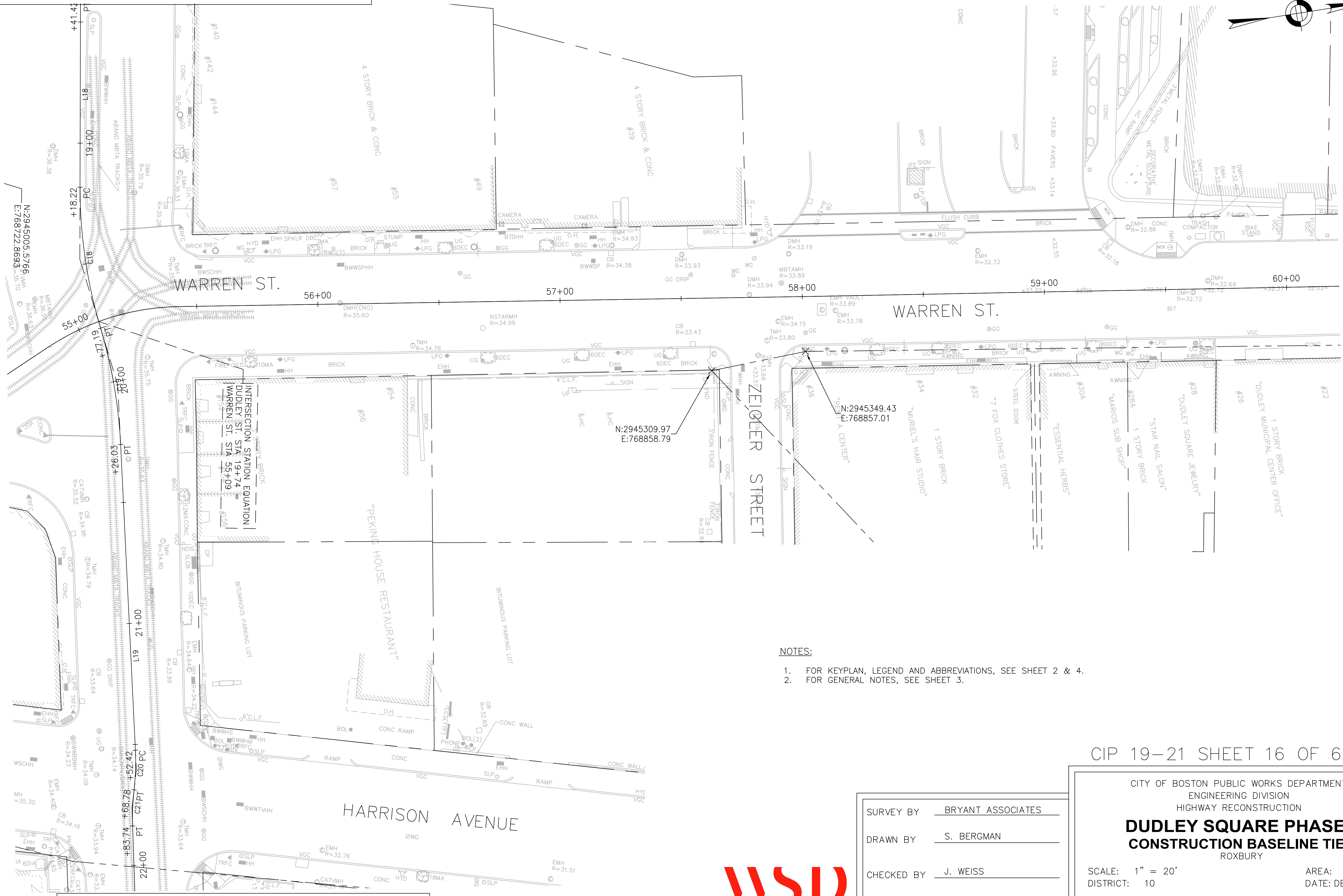
CITY ENGINEER

R-3533-15

FOR CONTINUATION SEE DWG. NO. 13

FOR CONTINUATION SEE DWG. NO. 15

FOR CONTINUATION SEE DWG. NO. 18



- NOTES:
- FOR KEYPLAN, LEGEND AND ABBREVIATIONS, SEE SHEET 2 & 4.
  - FOR GENERAL NOTES, SEE SHEET 3.

CIP 19-21 SHEET 16 OF 60

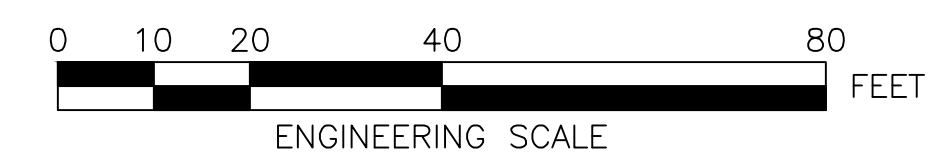
CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION  
 HIGHWAY RECONSTRUCTION  
**DUDLEY SQUARE PHASE 1**  
**CONSTRUCTION BASELINE TIES**  
 ROXBURY

SCALE: 1" = 20'  
 DISTRICT: 10

AREA: 1  
 DATE: DEC. 17, 2018

SURVEY BY BRYANT ASSOCIATES  
 DRAWN BY S. BERGMAN  
 CHECKED BY J. WEISS  
 APPROVED BY A. SANTORO

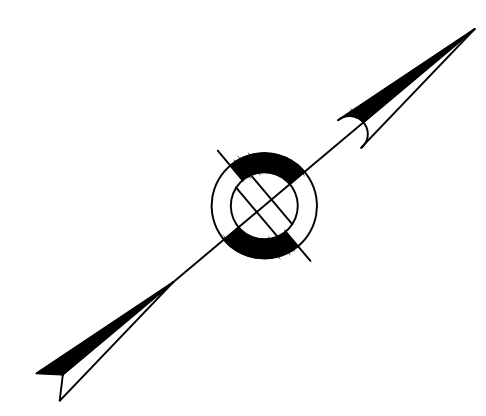
CITY ENGINEER



R-3533-16

FOR CONTINUATION SEE DWG. NO. 14





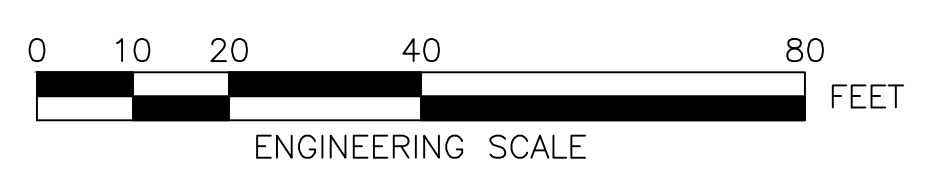
FOR CONTINUATION SEE DWG. NO. 18

FOR CONTINUATION SEE DWG. NO. 12



**NOTES:**

1. FOR KEYPLAN, LEGEND AND ABBREVIATIONS, SEE SHEET 2 & 4.
2. FOR GENERAL NOTES, SEE SHEET 3.



SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	S. BERGMAN
CHECKED BY	J. WEISS
APPROVED BY	A. SANTORO

CIP 19-21 SHEET 17 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

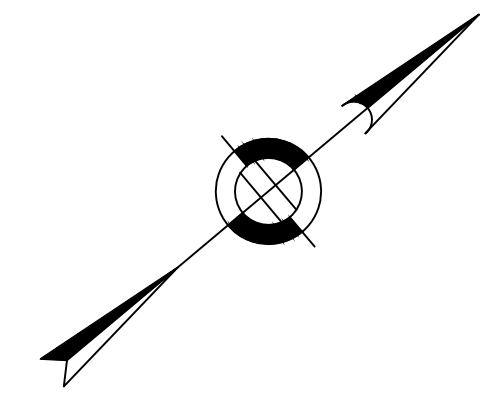
**DUDLEY SQUARE PHASE 1  
CONSTRUCTION BASELINE TIES**  
ROXBURY

SCALE: 1" = 20'  
DISTRICT: 10

AREA: 1  
DATE: DEC. 17, 2018

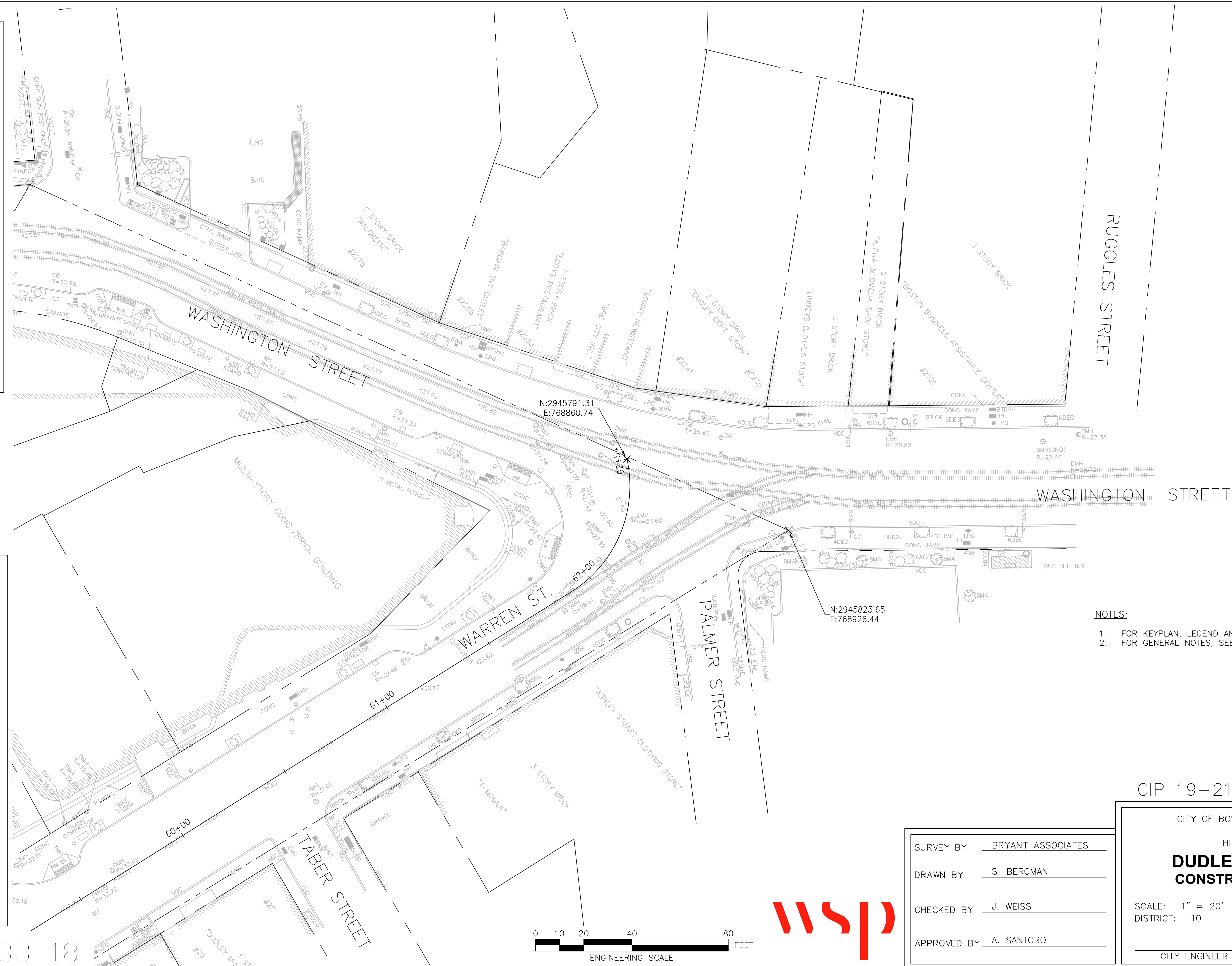
\_\_\_\_\_  
CITY ENGINEER

R-3533-17



FOR CONTINUATION SEE DWG. NO. 13

FOR CONTINUATION SEE DWG. NO. 16



- NOTES:**
1. FOR KEYPLAN, LEGEND AND ABBREVIATIONS, SEE SHEET 2 & 4.
  2. FOR GENERAL NOTES, SEE SHEET 3.

CIP 19-21 SHEET 18 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

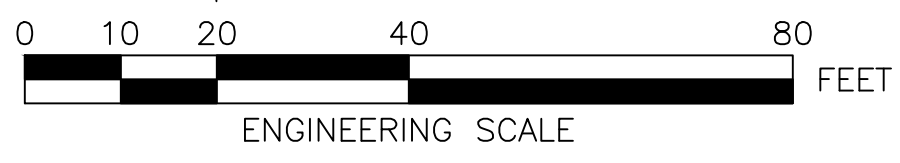
**DUDLEY SQUARE PHASE 1  
CONSTRUCTION BASELINE TIES**  
ROXBURY

SCALE: 1" = 20'  
DISTRICT: 10

AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER

SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	S. BERGMAN
CHECKED BY	J. WEISS
APPROVED BY	A. SANTORO



R-3533-18

DUDLEY STREET BASELINE TANGENT TABLE

Line #	Begin Point (N,E)	End Point (N,E)	Begin Station	End Station	Length	Direction
L13	N 2945494.327, E 767964.161	N 2945387.631, E 768109.302	10+00.000	11+81.720	181.719	S53° 40' 46.67"E
L14	N 2945371.130, E 768128.967	N 2945178.513, E 768330.673	12+07.410	14+77.500	270.096	S46° 19' 13.37"E
L15	N 2945131.691, E 768410.996	N 2945110.876, E 768479.944	15+71.340	16+33.660	62.322	S73° 12' 05.27"E
L16	N 2945108.971, E 768487.267	N 2945098.189, E 768536.412	16+75.710	17+14.770	39.064	S77° 37' 34.14"E
L17	N 2945093.253, E 768561.747	N 2945078.042, E 768650.972	17+25.660	18+21.970	96.319	S78° 46' 24.72"E
L18	N 2945077.200, E 768656.055	N 2945063.734, E 768739.784	18+41.420	19+18.220	76.796	S80° 51' 49.58"E
L19	N 2945064.138, E 768850.690	N 2945050.421, E 768976.330	20+26.031	21+52.418	126.387	S83° 46' 09.31"E
L20	N 2945044.391, E 769007.039	N 2945024.318, E 769169.791	21+83.746	23+47.731	163.985	S82° 58' 07.60"E

DUDLEY STREET BASELINE CURVE TABLE

Curve #	PC Station	PC (N,E)	PT Station	PT (N,E)	Radius	Curve Length	Delta	Tangent
C13	11+81.720	N 2945387.631, E 768109.302	12+07.410	N 2945371.130, E 768128.967	200.000	25.689	7.359	12.862
C14	14+77.500	N 2945178.513, E 768330.673	15+71.340	N 2945131.691, E 768410.996	200.000	93.833	26.881	47.796
C15	16+33.660	N 2945110.876, E 768479.944	16+75.710	N 2945108.971, E 768487.267	544.500	42.049	4.425	21.035
C16	17+14.770	N 2945098.189, E 768536.412	17+25.660	N 2945093.253, E 768561.747	543.500	10.884	1.148	5.442
C17	18+21.970	N 2945078.042, E 768650.972	18+41.420	N 2945077.200, E 768656.055	533.000	76.796	0.539	9.723
C18	19+18.220	N 2945063.734, E 768739.784	19+77.190	N 2945063.258, E 768800.337	200.500	58.978	16.896	29.704
C19	19+77.190	N 2945063.258, E 768800.337	20+26.031	N 2945064.138, E 768850.690	200.000	48.836	13.990	24.400
C20	21+52.418	N 2945050.421, E 768976.330	21+68.780	N 2945047.326, E 768992.378	100.000	16.362	9.375	8.200
C21	21+68.780	N 2945047.326, E 768992.378	21+83.746	N 2945044.391, E 769007.039	100.000	14.965	8.574	7.497

WARREN STREET BASELINE TANGENT TABLE

Line #	Begin Point (N,E)	End Point (N,E)	Begin Station	End Station	Length	Direction
L7	N 2944577.450, E 768861.460	N 2944663.450, E 768868.586	50+00.000	50+86.294	86.294	N4° 44' 13.66"E
L8	N 2944706.308, E 768873.970	N 2944744.847, E 768880.476	51+29.502	51+68.587	39.084	N9° 34' 54.59"E
L9	N 2944757.632, E 768883.509	N 2944782.553, E 768891.184	51+81.736	52+07.812	26.076	N17° 06' 56.75"E
L10	N 2944866.755, E 768886.406	N 2945041.990, E 768806.401	52+94.038	54+86.673	192.634	N24° 32' 21.76"W
L11	N 2945097.574, E 768798.361	N 2945356.369, E 768835.092	55+43.601	58+04.990	261.389	N8° 04' 40.95"E
L12	N 2945359.440, E 768835.522	N 2945738.119, E 768888.071	58+08.090	61+90.398	382.308	N7° 54' 01.46"E

WARREN STREET BASELINE CURVE TABLE

Curve #	PC Station	PC (N,E)	PT Station	PT (N,E)	Radius	Curve Length	Delta	Tangent
C7	50+86.294	N 2944663.450, E 768868.586	51+29.502	N 2944706.308, E 768873.970	511.000	43.208	4.845	21.617
C8	51+68.587	N 2944744.847, E 768880.476	51+81.736	N 2944757.632, E 768883.509	100.000	13.149	7.534	6.584
C9	52+07.812	N 2944782.553, E 768891.184	52+94.038	N 2944866.755, E 768886.406	118.527	86.226	41.682	45.121
C10	54+86.673	N 2945041.990, E 768806.401	55+43.601	N 2945097.574, E 768798.361	100.000	56.928	32.617	29.259
C11	58+04.990	N 2945356.369, E 768835.092	58+08.090	N 2945359.440, E 768835.522	1000.000	3.100	0.178	1.550
C12	61+90.398	N 2945738.119, E 768888.071	62+54.107	N 2945791.305, E 768860.739	52.000	63.709	70.197	36.544

CIP 19-21 SHEET 19 OF 60

R-3533-19



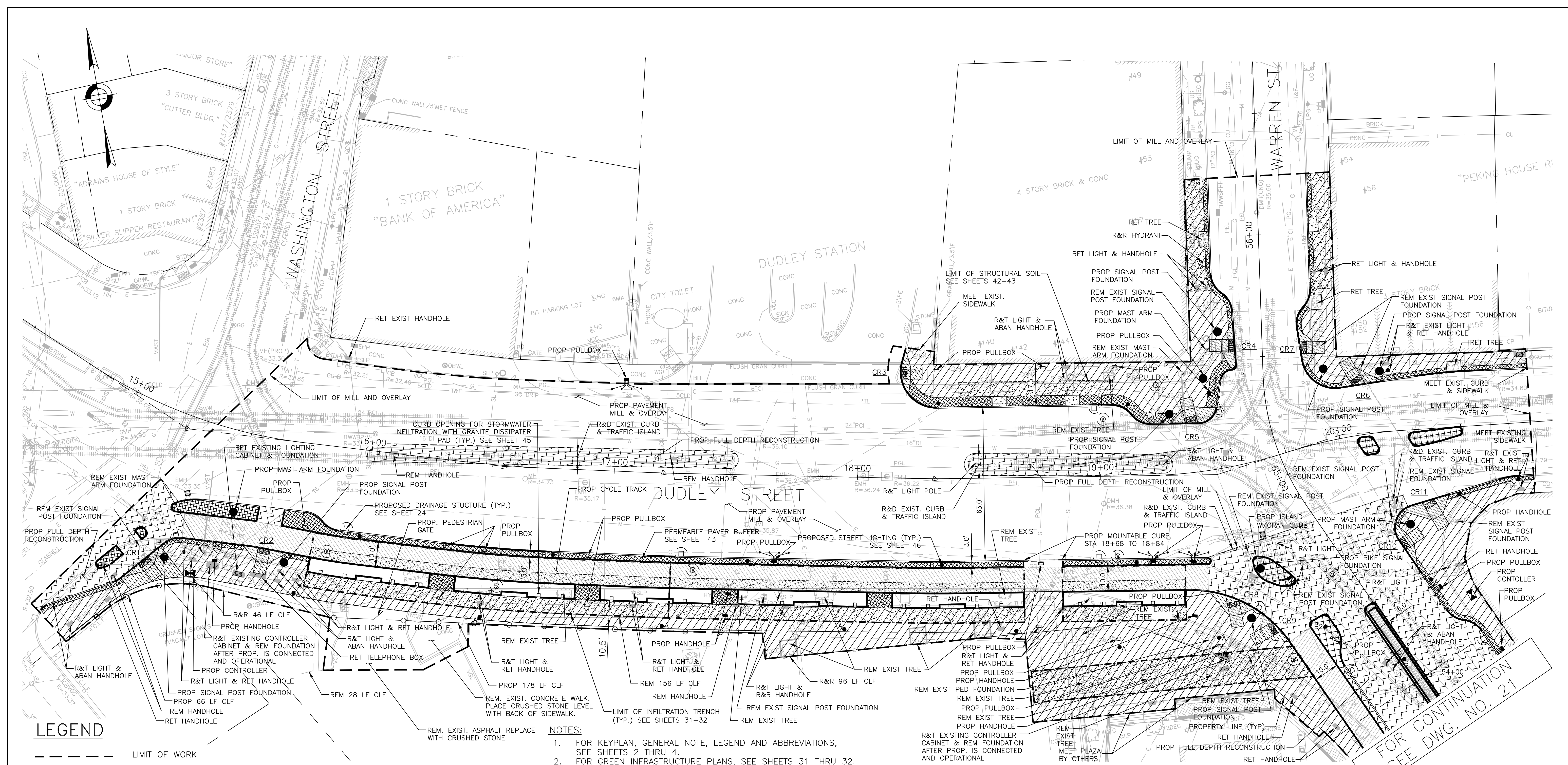
SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	S. BERGMAN
CHECKED BY	J. WEISS
APPROVED BY	A. SANTORO

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1  
CONSTRUCTION BASELINE TIES**  
ROXBURY

SCALE: N.T.S. AREA: 1  
DISTRICT: 10 DATE: DEC. 17, 2018

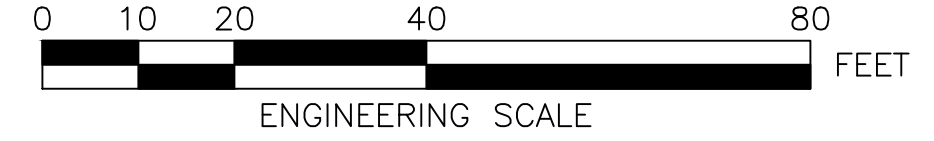
\_\_\_\_\_  
CITY ENGINEER



**LEGEND**

	LIMIT OF WORK		4"x8"x4" GRANITE COBBLES WITH MORTARED JOINTS
	LIMIT OF STORMWATER TREE TRENCH		CONCRETE PAVERS (NON-PERMEABLE SETTING BED)
	PROPOSED CURB		FULL DEPTH ROADWAY CONSTRUCTION
	R&R CURB		PERMEABLE CONCRETE PAVERS
	MOUNTABLE CURB		POROUS ASPHALT
	LIMIT OF STRUCTURAL SOIL		
	CEMENT CONCRETE SIDEWALK		
	PROPOSED CEMENT CONCRETE PEDESTRIAN RAMP WITH DETECTABLE WARNING PANEL		

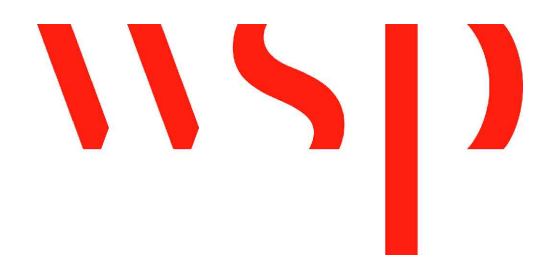
- NOTES:**
- FOR KEYPLAN, GENERAL NOTE, LEGEND AND ABBREVIATIONS, SEE SHEETS 2 THRU 4.
  - FOR GREEN INFRASTRUCTURE PLANS, SEE SHEETS 31 THRU 32.
  - FOR GRADING PLANS, SEE SHEETS 26 THRU 27.
  - FOR PEDESTRIAN RAMP DETAILS, SEE SHEET 59 THRU 60.
  - ADJUST ALL UTILITY COVERS WITHIN THE PAVING LIMIT, CONTRACTOR TO ADJUST ALL CITY OWNED UTILITIES. CONTRACTOR TO COORDINATE WITH ALL OTHER PRIVATE UTILITIES FOR COVER ADJUSTMENTS.
  - ALL EXISTING GRANITE CURB IN SUITABLE CONDITION SHALL BE RE-USED IN THE PROPOSED WORK, EXCEPT CURVED STONES OF A DIFFERENT RADIUS THAN PROPOSED CURB. SUCH STONES SHALL BE TYPE VA4 VERTICAL GRANITE CUBE. EXISTING CURB NOT SUITABLE FOR RE-USE AS DETERMINED BY THE ENGINEER SHALL BE REMOVED AND DISCARDED AND REPLACED WITH VA4. CONTRACTOR SHALL COORDINATE WITH RECONSTRUCTION AT THE DUDLEY BRANCH LIBRARY AND MASSDOT SIGNAL PROJECT AT KEARSARGE AVE. AND ALL OTHER PUBLIC OR PRIVATE PROJECTS THAT ARE ONGOING WITHIN THE PROJECT LIMITS.
  - CONTRACTOR SHALL COORDINATE WITH RECONSTRUCTION AT THE DUDLEY BRANCH LIBRARY AND MASSDOT SIGNAL PROJECT AT KEARSARGE AVE. AND ALL OTHER PUBLIC OR PRIVATE PROJECTS THAT ARE ONGOING WITHIN THE PROJECT LIMITS.
  - ALL TRAFFIC SIGNAL EQUIPMENT REMOVED BY THE CONTRACTOR SHALL BE RETURNED TO BTD SIGNAL MAINTENANCE FACILITY AT 12 CHANNEL STREET, SOUTH BOSTON.



REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	S. BERGMAN
CHECKED BY	A. CLARKE
APPROVED BY	A. SANTORO



CIP 19-21 SHEET 20 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1  
CONSTRUCTION PLANS**  
ROXBURY

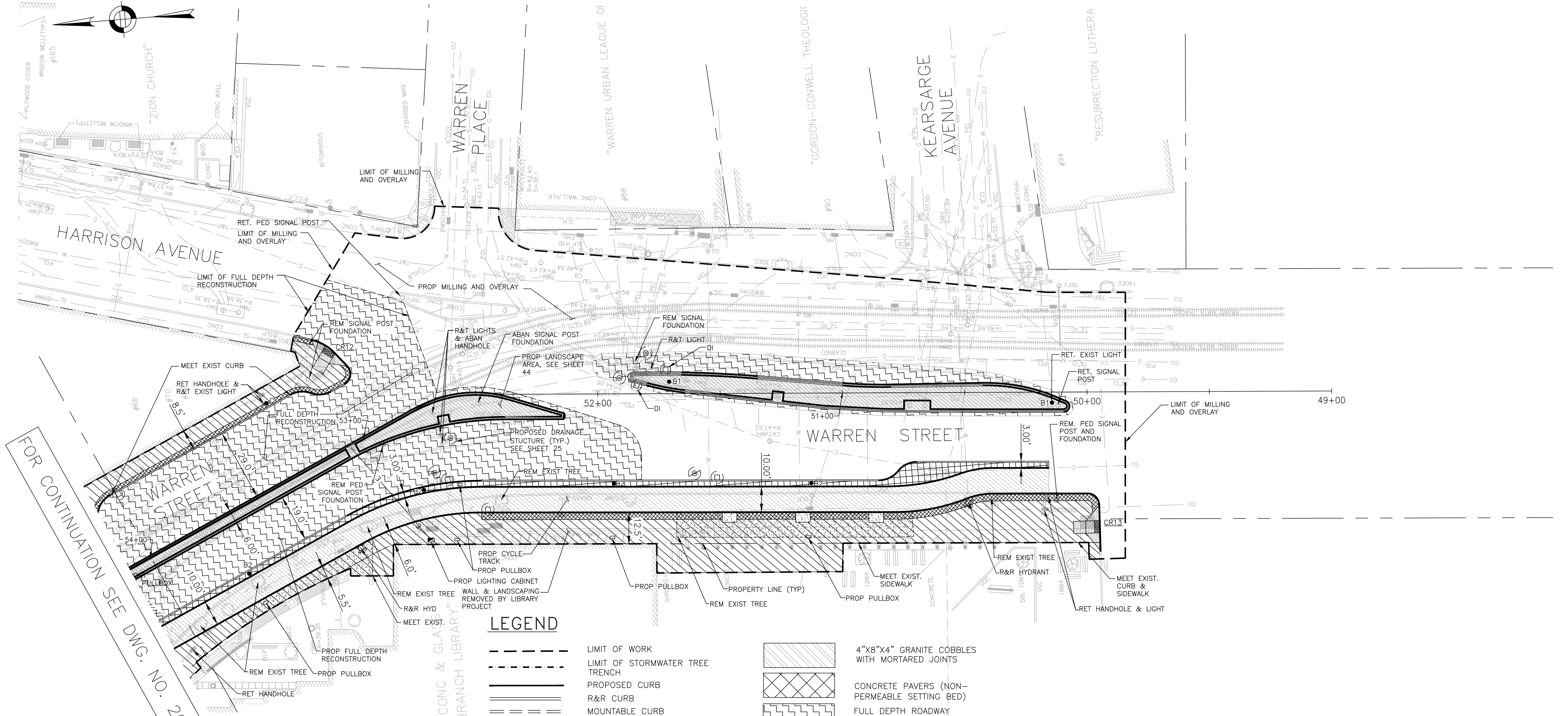
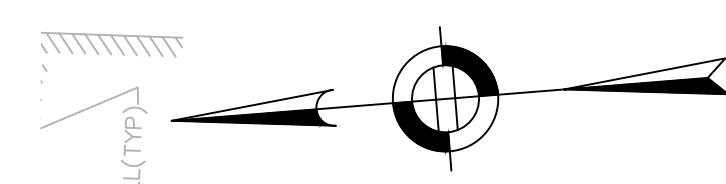
SCALE: 1" = 20'  
DISTRICT: 10

AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER

R-3533-20

FOR CONTINUATION  
SEE DWG. NO. 21



- NOTES:**
- FOR KEYPLAN, GENERAL NOTE, LEGEND AND ABBREVIATIONS, SEE SHEETS 2 THRU 4.
  - FOR GREEN INFRASTRUCTURE PLANS, SEE SHEETS 31 THRU 35.
  - FOR GRADING PLANS, SEE SHEETS 26 THRU 27.
  - FOR PEDESTRIAN RAMP DETAILS, SEE SHEET 59 THRU 60.
  - ADJUST ALL UTILITY COVERS WITHIN THE PAVING LIMIT. CONTRACTOR TO ADJUST ALL CITY OWNED UTILITIES. CONTRACTOR TO COORDINATE WITH ALL OTHER PRIVATE UTILITIES FOR COVER ADJUSTMENTS.
  - ALL EXISTING GRANITE CURB IN SUITABLE CONDITION SHALL BE RE-USED IN THE PROPOSED WORK, EXCEPT CURVED STONES OF A DIFFERENT RADIUS THAN PROPOSED CURB, SUCH STONES SHALL BE TYPE VA4 VERTICAL GRANITE CUBE. EXISTING CURB NOT SUITABLE FOR RE-USE AS DETERMINED BY THE ENGINEER SHALL BE REMOVED AND DISCARDED AND REPLACED WITH VA4.
  - CONTRACTOR SHALL COORDINATE WITH RECONSTRUCTION AT THE DUDLEY BRANCH LIBRARY AND MASSDOT SIGNAL PROJECT AT KEARSARGE AVE. AND ALL OTHER PUBLIC OR PRIVATE PROJECTS THAT ARE ONGOING WITHIN THE PROJECT LIMITS.
  - ALL TRAFFIC SIGNAL EQUIPMENT REMOVED BY THE CONTRACTOR SHALL BE RETURNED TO BTD SIGNAL MAINTENANCE FACILITY AT 12 CHANNEL STREET, SOUTH BOSTON.

**LEGEND**

	LIMIT OF WORK		4"X8"X4" GRANITE COBBLES WITH MORTARED JOINTS
	LIMIT OF STORMWATER TREE TRENCH		CONCRETE PAVERS (NON-PERMEABLE SETTING BED)
	PROPOSED CURB		FULL DEPTH ROADWAY CONSTRUCTION
	R&R CURB		LIMIT OF STRUCTURAL SOIL
	MOUNTABLE CURB		
	SUBSURFACE INFILTRATION		
	CEMENT CONCRETE SIDEWALK		
	PROPOSED CEMENT CONCRETE PEDESTRIAN RAMP WITH DETECTABLE WARNING PANEL		
	POROUS ASPHALT		
	PERMEABLE CONCRETE PAVERS		

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

SURVEY BY BRYANT ASSOCIATES

DRAWN BY S. BERGMAN

CHECKED BY A. CLARKE

APPROVED BY A. SANTORO

CIP 19-21 SHEET 21 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

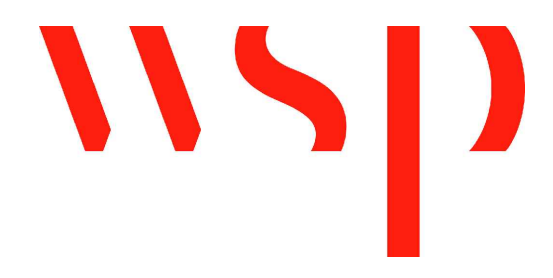
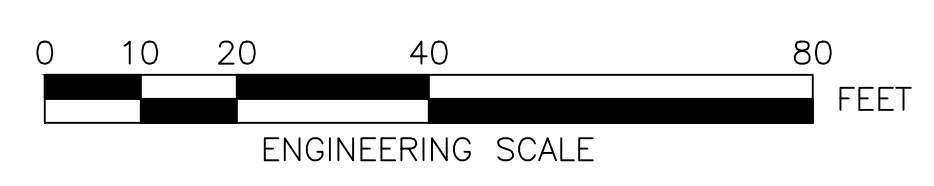
**DUDLEY SQUARE PHASE 1  
CONSTRUCTION PLANS**  
ROXBURY

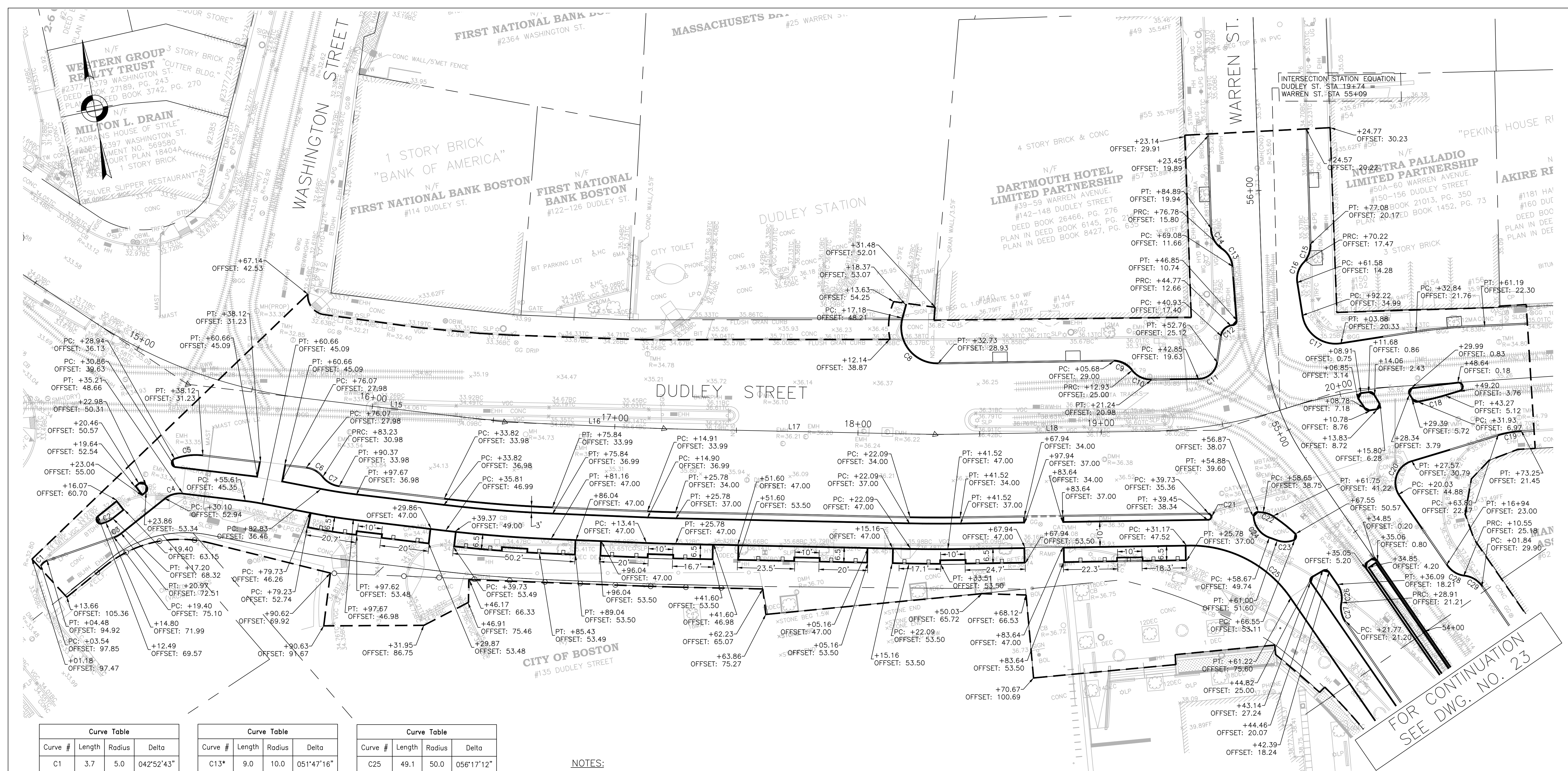
SCALE: 1" = 20'  
DISTRICT: 10

AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER

R-3533-21





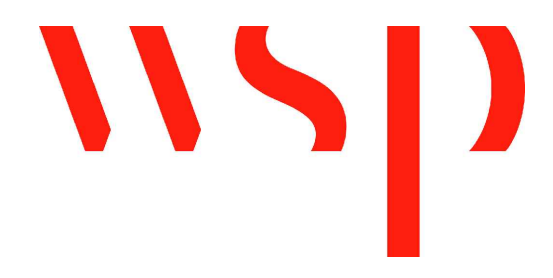
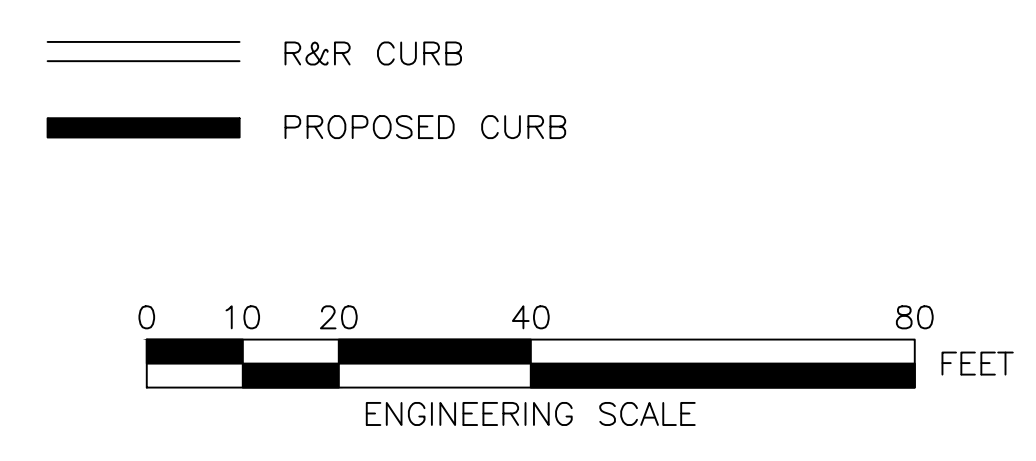
Curve #	Length	Radius	Delta
C1	3.7	5.0	042°52'43"
C2	3.4	10.0	019°22'26"
C3	3.4	10.0	019°22'26"
C4	7.9	10.0	045°17'36"
C5	11.9	25.0	027°16'44"
C6*	8.0	10.0	045°38'55"
C7*	8.0	10.0	045°33'50"
C8	27.7	15.0	105°53'56"
C9*	9.3	10.0	053°07'48"
C10*	9.3	10.0	053°07'48"
C11	11.3	8.0	080°50'07"
C12	6.8	5.0	077°31'07"

Curve #	Length	Radius	Delta
C13*	9.0	10.0	051°47'16"
C14*	9.5	10.0	054°12'10"
C15*	7.9	10.0	045°31'23"
C16*	9.2	10.0	052°30'33"
C17	22.0	14.0	089°51'43"
C18	10.6	83.5	007°17'34"
C19	9.5	40.0	013°39'29"
C20	17.9	9.5	107°49'50"
C21	4.7	1.5	180°00'00"
C22	4.5	10.0	025°48'47"
C23	6.9	10.0	039°22'18"
C24	11.7	10.0	066°59'43"

Curve #	Length	Radius	Delta
C25	49.1	50.0	056°17'12"
C26*	8.0	10.0	045°45'32"
C27*	7.9	10.0	045°29'30"
C28*	8.6	10.0	049°04'18"
C29*	8.6	10.0	049°20'40"

\* CURB TO BE CUT AT REVERSE

- NOTES:
- FOR KEYPLAN, LEGEND AND ABBREVIATIONS, SEE SHEETS 2 & 4.
  - FOR GENERAL NOTES, SEE SHEET 3.
  - FOR TYPICAL SECTIONS, SEE SHEETS 5 & 6.
  - FOR CONSTRUCTION PLANS, SEE SHEETS 20 & 21.
  - FOR DRAINAGE PLANS, SEE SHEETS 24 & 25.



REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

SURVEY BY BRYANT ASSOCIATES

DRAWN BY N. BELLONE

CHECKED BY S. BERGMAN

APPROVED BY A. SANTORO

CIP 19-21 SHEET 22 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

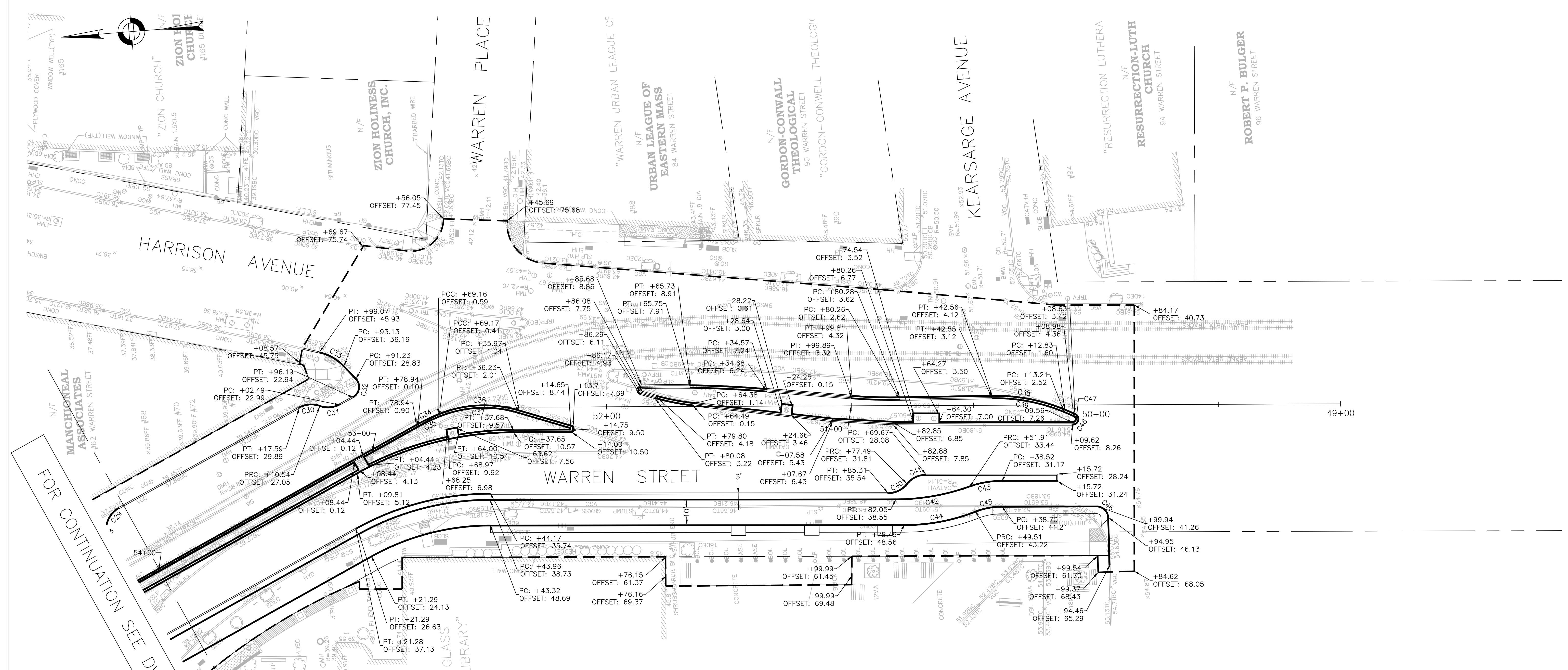
**DUDLEY SQUARE PHASE 1**  
**CURB TIE PLANS**  
ROXBURY

SCALE: 1" = 20'  
DISTRICT: 10

AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER

R-3533-22



FOR CONTINUATION SEE DWG. NO. 22

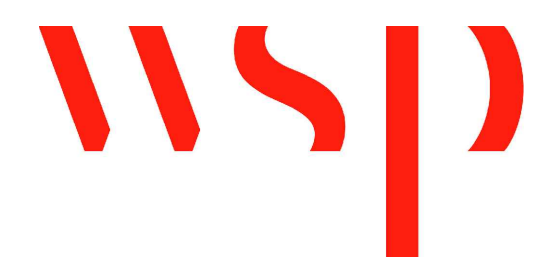
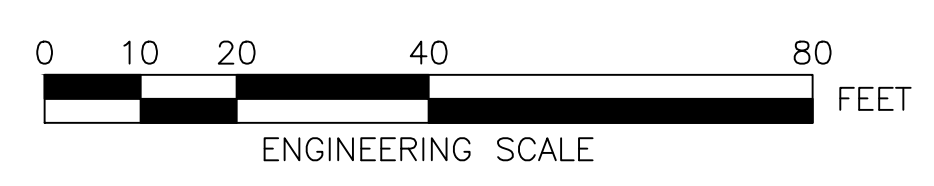
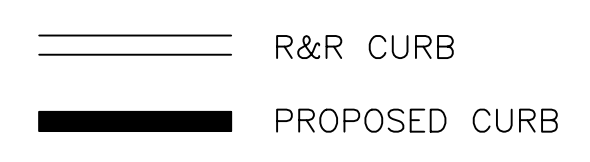
Curve #	Length	Radius	Delta
C30*	8.6	10.0	049°25'15"
C31*	8.5	10.0	048°40'38"
C32	9.2	5.0	105°06'47"
C33	11.6	20.0	033°12'45"
C34	9.9	80.0	007°03'42"
C35	9.7	79.0	007°03'42"
C36	33.5	50.0	038°24'08"

\* CURB TO BE CUT AT REVERSE

Curve #	Length	Radius	Delta
C37	32.8	49.0	038°24'08"
C38	30.5	75.0	023°17'29"
C39	31.1	74.0	024°04'02"
C40*	9.0	10.0	051°19'04"
C41*	9.0	10.0	051°19'04"
C42*	30.7	90.0	019°33'26"
C43*	13.7	40.0	019°33'26"
C44*	29.6	80.0	021°13'26"
C45*	11.1	30.0	021°07'35"
C46	7.7	5.0	088°26'47"
C47	4.1	1.5	156°17'15"
C48	6.8	2.5	156°11'13"

**NOTES:**

1. FOR KEYPLAN, LEGEND AND ABBREVIATIONS, SEE SHEETS 2 & 4.
2. FOR GENERAL NOTES, SEE SHEET 3.
3. FOR TYPICAL SECTIONS, SEE SHEETS 5 & 6.
4. FOR CONSTRUCTION PLANS, SEE SHEETS 20 & 21.
5. FOR DRAINAGE PLANS, SEE SHEETS 24 & 25.



REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

SURVEY BY BRYANT ASSOCIATES

DRAWN BY N. BELLONE

CHECKED BY S. BERGMAN

APPROVED BY A. SANTORO

CIP 19-21 SHEET 23 OF 60

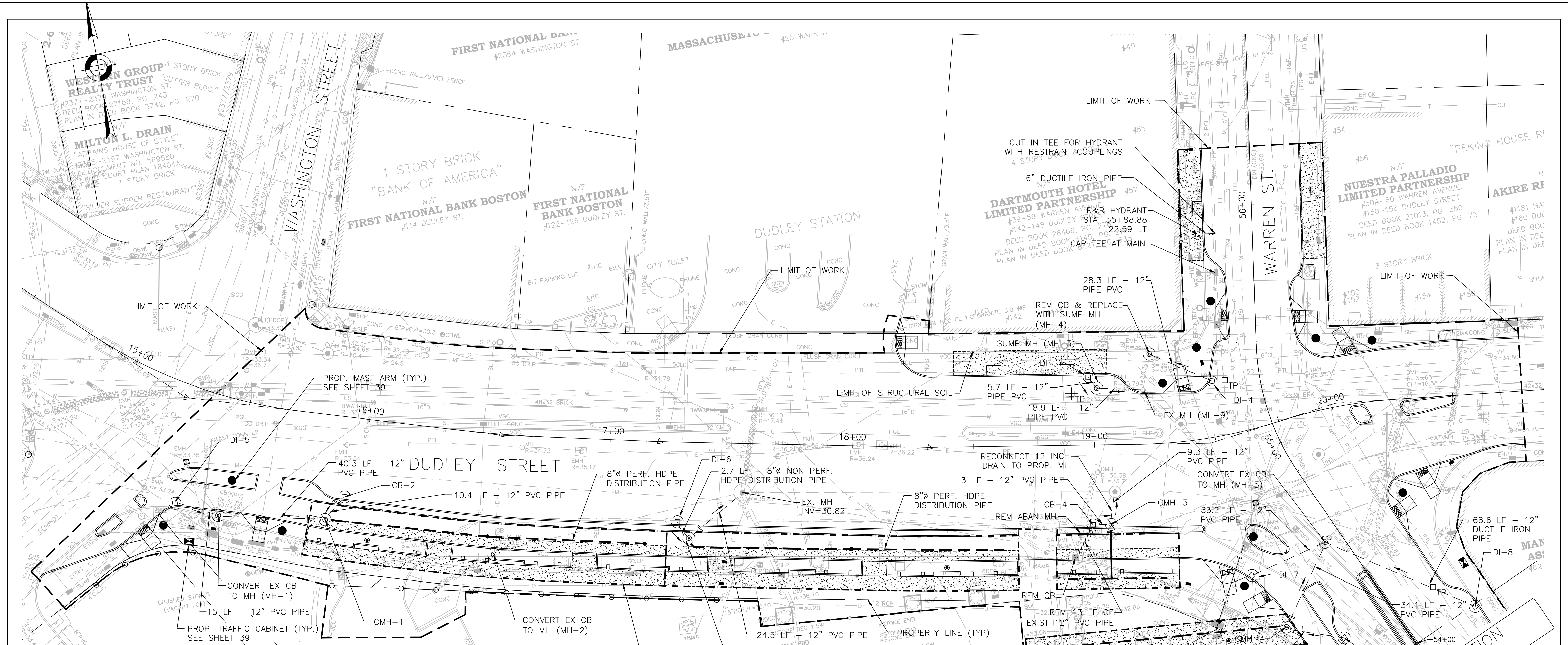
CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION  
 HIGHWAY RECONSTRUCTION  
**DUDLEY SQUARE PHASE 1**  
**CURB TIE PLANS**  
 ROXBURY

SCALE: 1" = 20'  
 DISTRICT: 10

AREA: 1  
 DATE: DEC. 17, 2018

CITY ENGINEER

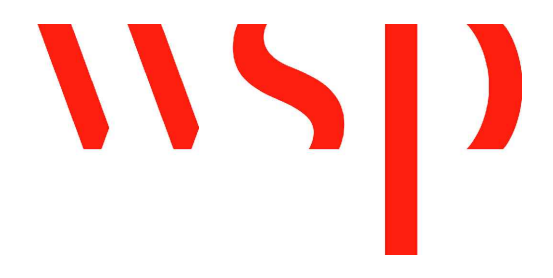
R-3533-23



DRAINAGE STRUCTURE TABLE						
NAME	STATION	OFFSET	RIM ELEVATION	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
DI-5	15+33.10	48.43' RT	32.87	-	26.05	DROP INLET
MH-1	15+47.98	48.44' RT	33.28	25.97	-	EX CB TO MH
CB-2	15+93.37	32.99' RT	33.50	-	26.02	WEIR = 31.00
CMH-1	15+86.49	43.27' RT	33.76	-	29.25	WEIR = 31.00
MH-2	1+55.46	49.74	34.36	-	31.01	EX CB TO MH
CMH-2	17+33.09	39.59' RT	36.05	31.00	31.00	WEIR = 33.00
DI-6	17+28.23	35.00' RT	35.19	-	31.01	DROP INLET
DI-1	18+95.53	29.91' LT	35.58	-	32.33	DROP INLET
MH-3	18+97.76	37.38 LT	36.39	32.28	32.18	SUMP MH
MH-4	19+24.43	37.19 LT	36.19	30.26	30.26	SUMP MH
CB-4	18+98.93	33.28 RT	36.11	-	34.21	EX CB TO MH
CMH-3	19+06.42	32.89' RT	36.25	31.75	31.75 (8") 31.42 (12")	WEIR = 33.5
MH-9	19+20.87	22.65' LT	36.06	30.30	30.30	EX MH
DI-4	19+53.12	22.98 LT	35.24	-	30.50	DROP INLET
DI-7	19+53.92	59.03	37.26	-	32.17	DROP INLET
CB-6	54+18.71	23.15' LT	37.67	-	32.42	WEIR = 34.00
CMH-4	54+36.01	40.22 LT	37.95	32.25	32.25	WEIR = 34.00
MH-5	54+55.79	7.22 LT	36.85	32.00	-	EX CB TO MH
DI-8	53+98.78	28.90 RT	37.10	-	32.34	DROP INLET

- LEGEND**
- LIMIT OF STRUCTURAL SOIL
  - STORMWATER PIPE
  - 8" PERFORATED HDPE DISTRIBUTION STORMWATER PIPE
  - 8" SOLID HDPE STORMWATER PIPE
  - LIMIT OF STORMWATER TREE TRENCH
  - PROPERTY LINE
  - ANTI-SEEP COLLAR
  - CLEANOUT
  - OBSERVATION WELL
  - CATCHBASIN
  - CONTROL DRAINAGE MANHOLE (CMH)
  - DRAINAGE MANHOLE (MH)
  - TEST PIT

- NOTES:**
- DRAINAGE PLANS SHOW WATER, SEWER & DRAIN IMPROVEMENTS CONSTRUCTED UNDER BWSO CONTRACT NO. 11-309-009.
  - FOR KEYPLAN, GENERAL NOTE, LEGEND AND ABBREVIATIONS, SEE SHEETS 2 THRU 4.
  - FOR CONSTRUCTION PLANS, SEE SHEETS 20 THRU 21.
  - FOR GREEN INFRASTRUCTURE PLANS, SEE SHEETS 31 THRU 35.
  - FOR GRADING PLANS, SEE SHEETS 26 THRU 27.
  - ADJUST ALL UTILITY COVERS WITHIN THE PAVING LIMIT, CONTRACTOR TO ADJUST ALL CITY OWNED UTILITIES. CONTRACTOR TO COORDINATE WITH ALL OTHER PRIVATE UTILITIES FOR COVER ADJUSTMENTS.



REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO COMMISSION STANDARDS

BOSTON WATER AND SEWER COMMISSION

SURVEY BY BRYANT ASSOCIATES

DRAWN BY S. BERGMAN

CHECKED BY A. CLARKE

APPROVED BY A. SANTORO

CIP 19-21 SHEET 24 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1  
DRAINAGE AND UTILITIES PLAN**  
ROXBURY

SCALE: 1" = 20'  
DISTRICT: 10

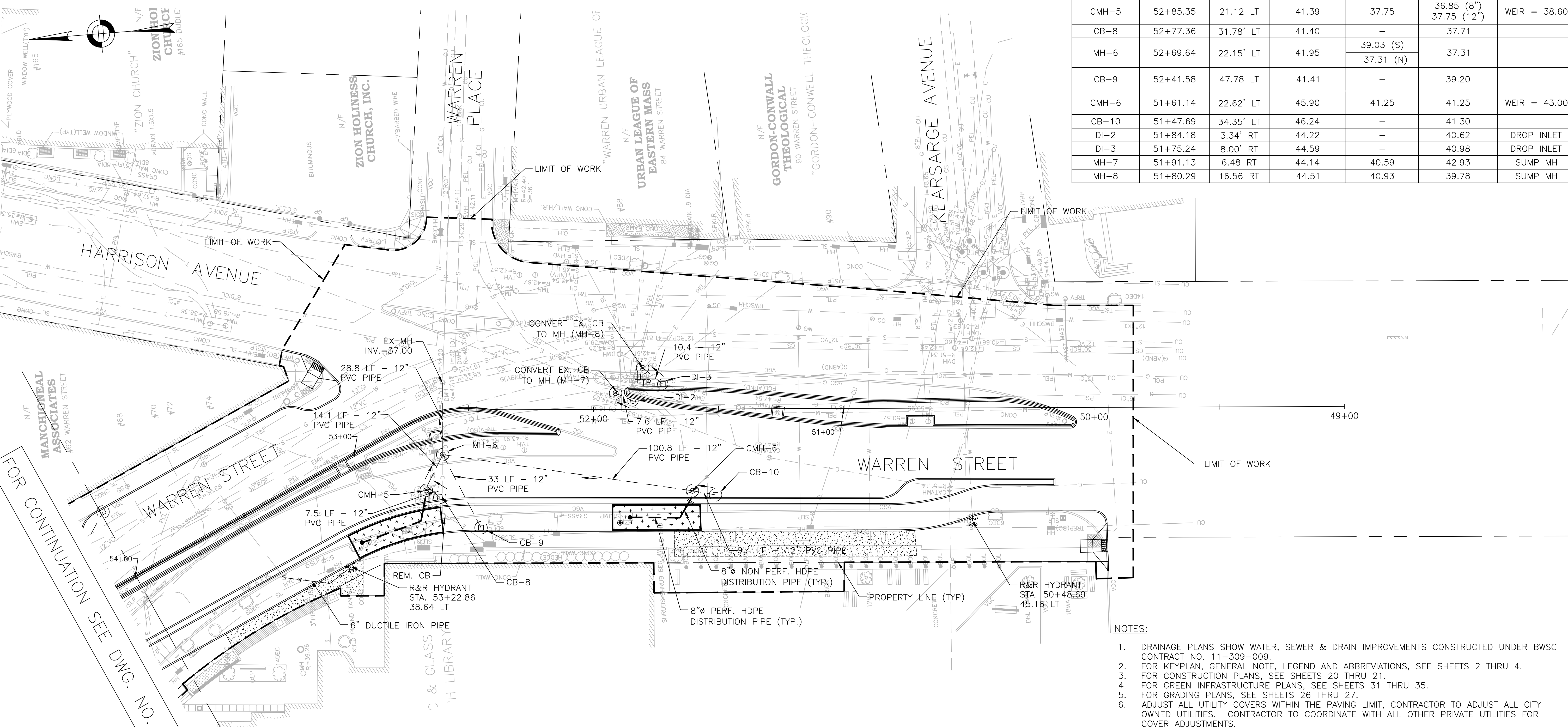
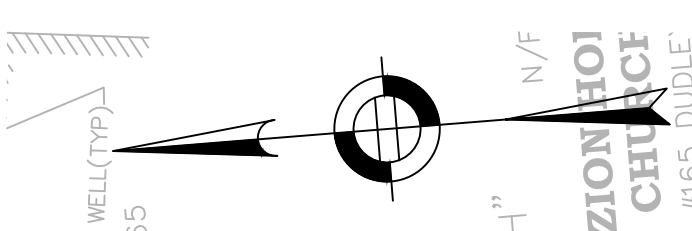
AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER

R-3533-24

FOR CONTINUATION  
SEE DWG. NO. 25



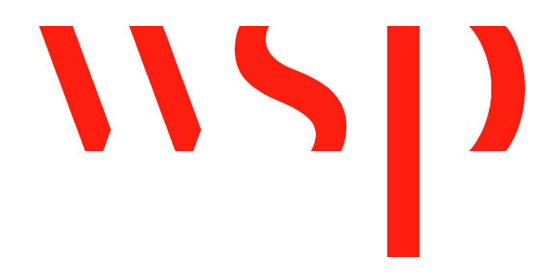
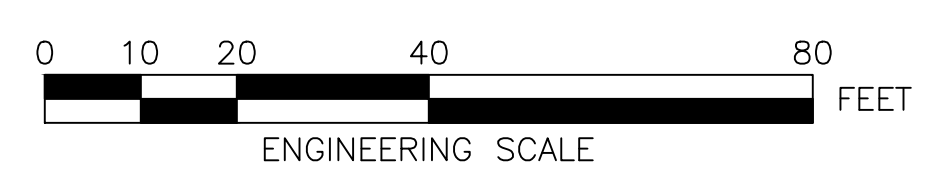


FOR CONTINUATION SEE DWG. NO. 24

DRAINAGE STRUCTURE TABLE						
NAME	STATION	OFFSET	RIM ELEVATION	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
CMH-5	52+85.35	21.12 LT	41.39	37.75	36.85 (8") 37.75 (12")	WEIR = 38.60
CB-8	52+77.36	31.78' LT	41.40	-	37.71	
MH-6	52+69.64	22.15' LT	41.95	39.03 (S)	37.31	
				37.31 (N)		
CB-9	52+41.58	47.78 LT	41.41	-	39.20	
CMH-6	51+61.14	22.62' LT	45.90	41.25	41.25	WEIR = 43.00
CB-10	51+47.69	34.35' LT	46.24	-	41.30	
DI-2	51+84.18	3.34' RT	44.22	-	40.62	DROP INLET
DI-3	51+75.24	8.00' RT	44.59	-	40.98	DROP INLET
MH-7	51+91.13	6.48 RT	44.14	40.59	42.93	SUMP MH
MH-8	51+80.29	16.56 RT	44.51	40.93	39.78	SUMP MH

- NOTES:
- DRAINAGE PLANS SHOW WATER, SEWER & DRAIN IMPROVEMENTS CONSTRUCTED UNDER BWSO CONTRACT NO. 11-309-009.
  - FOR KEYPLAN, GENERAL NOTE, LEGEND AND ABBREVIATIONS, SEE SHEETS 2 THRU 4.
  - FOR CONSTRUCTION PLANS, SEE SHEETS 20 THRU 21.
  - FOR GREEN INFRASTRUCTURE PLANS, SEE SHEETS 31 THRU 35.
  - FOR GRADING PLANS, SEE SHEETS 26 THRU 27.
  - ADJUST ALL UTILITY COVERS WITHIN THE PAVING LIMIT. CONTRACTOR TO ADJUST ALL CITY OWNED UTILITIES. CONTRACTOR TO COORDINATE WITH ALL OTHER PRIVATE UTILITIES FOR COVER ADJUSTMENTS.

- LEGEND
- LIMIT OF STRUCTURAL SOIL
  - SUBSURFACE INFILTRATION TRENCH
  - STORMWATER PIPE
  - 8" PERFORATED HDPE DISTRIBUTION STORMWATER PIPE
  - 8" SOLID HDPE STORMWATER PIPE
  - LIMIT OF STORMWATER TREE TRENCH
  - PROPERTY LINE
  - ANTI-SEEP COLLAR
  - CLEANOUT
  - OBSERVATION WELL
  - CATCHBASIN
  - CONTROL DRAINAGE MANHOLE (CMH)
  - DRAINAGE MANHOLE (MH)
  - TEST PIT



REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO COMMISSION STANDARDS

BOSTON WATER AND SEWER COMMISSION

SURVEY BY BRYANT ASSOCIATES

DRAWN BY S. BERGMAN

CHECKED BY A. CLARKE

APPROVED BY A. SANTORO

CIP 19-21 SHEET 25 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

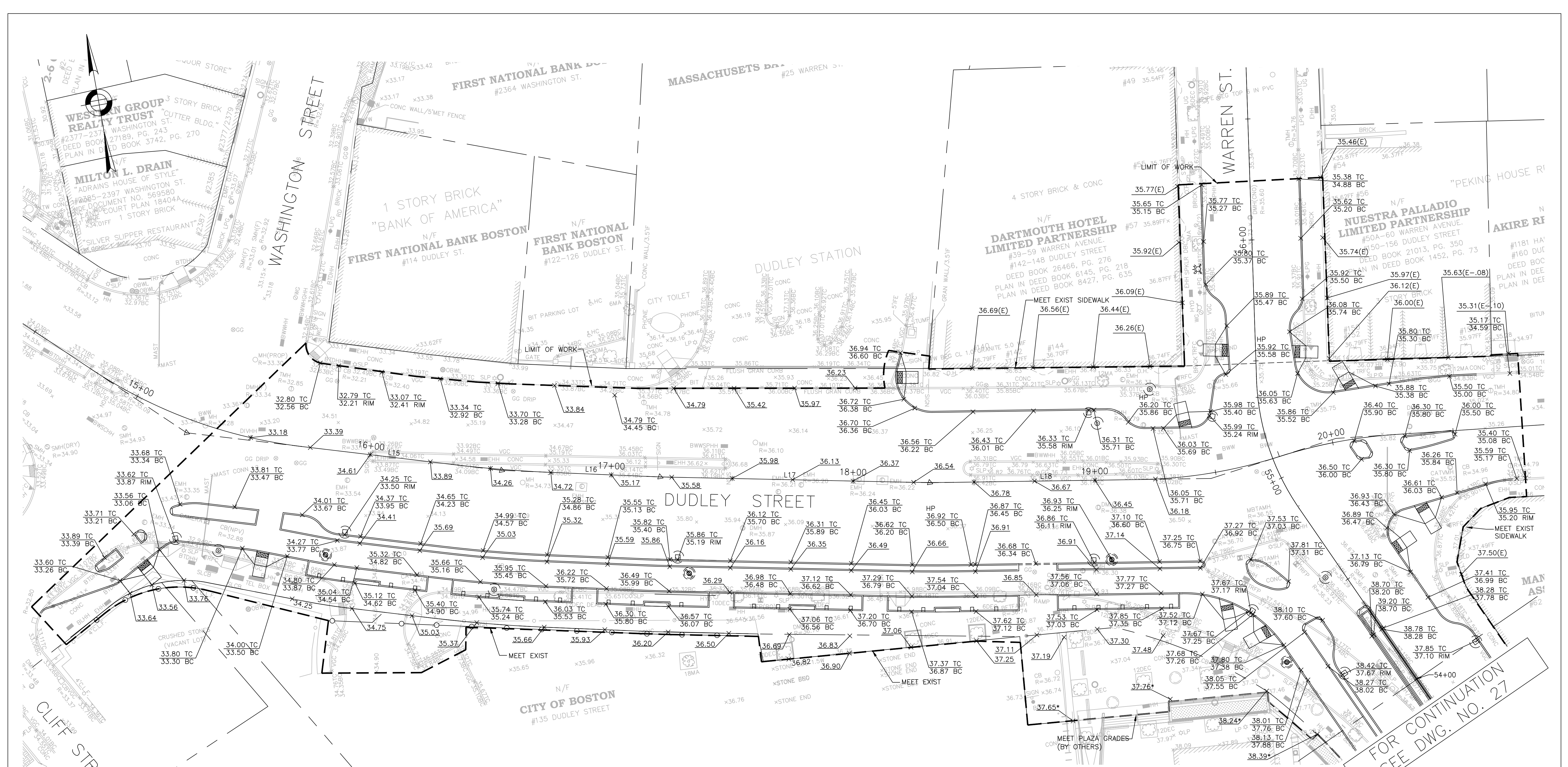
**DUDLEY SQUARE PHASE 1  
DRAINAGE AND UTILITES PLAN**  
ROXBURY

SCALE: 1" = 20'  
DISTRICT: 10

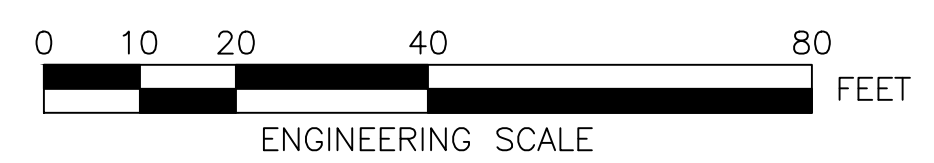
AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER

R-3533-25



- NOTES:**
1. FOR KEY PLAN, LEGEND AND ABBREVIATIONS, SEE SHEETS 2 & 4.
  2. FOR GENERAL NOTES, SEE SHEET 3.
  3. FOR TYPICAL SECTIONS, SEE SHEETS 5 & 6.
  4. FOR CONSTRUCTION PLANS, SEE SHEETS 20 & 21.
  5. FOR DRAINAGE PLANS, SEE SHEETS 24 & 25.
- \* ELEVATIONS DESIGNED BY OTHERS, SEE DUDLEY BRANCH LIBRARY RENOVATIONS PLANS, PFD PROJECT NUMBER 7084 FOR DETAILS.



REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	J. WEISS
CHECKED BY	S. BERGMAN
APPROVED BY	A. SANTORO

CIP 19-21 SHEET 26 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION  
 HIGHWAY RECONSTRUCTION

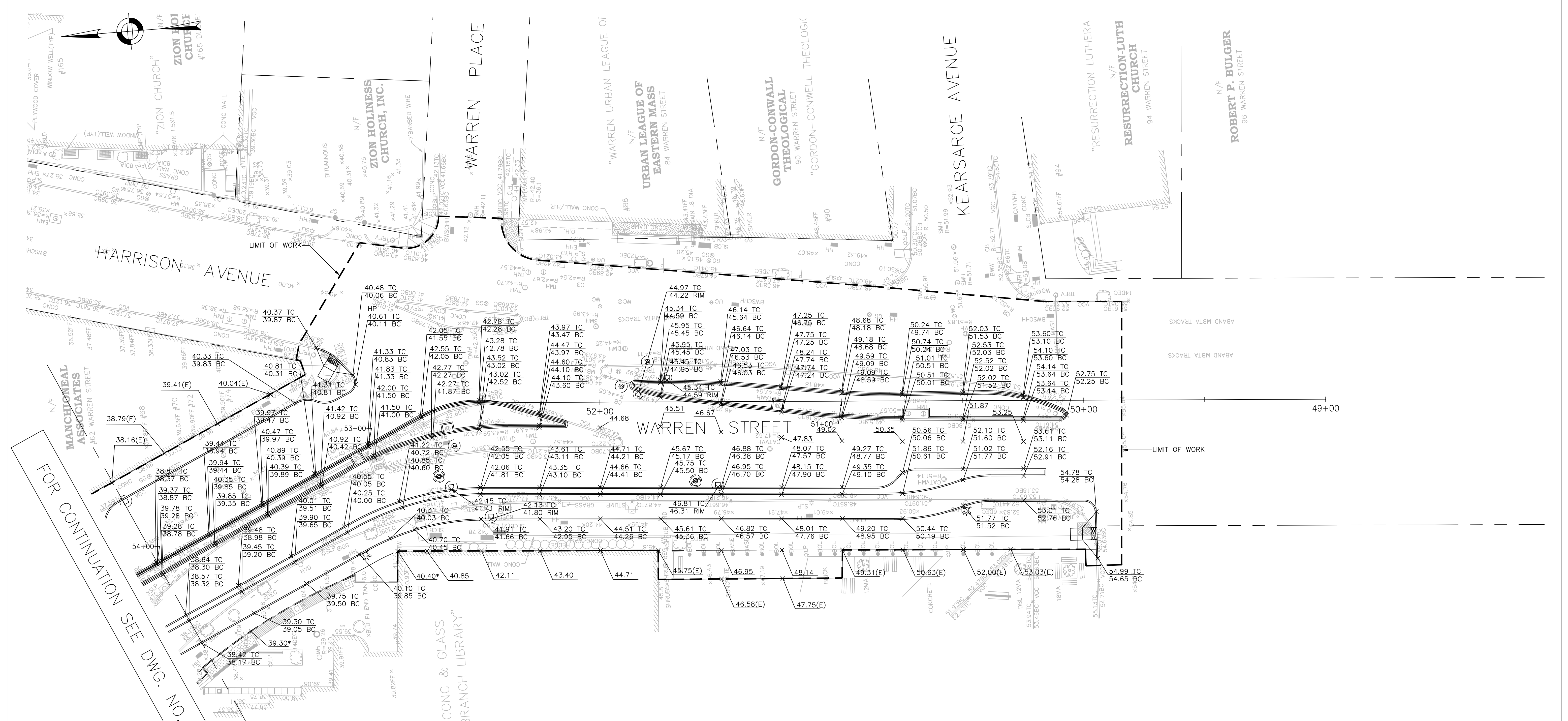
**DUDLEY SQUARE PHASE 1  
 GRADING PLANS**  
 ROXBURY

SCALE: 1" = 20'  
 DISTRICT: 10

AREA: 1  
 DATE: DEC. 17, 2018

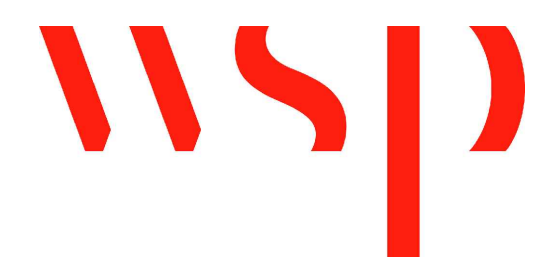
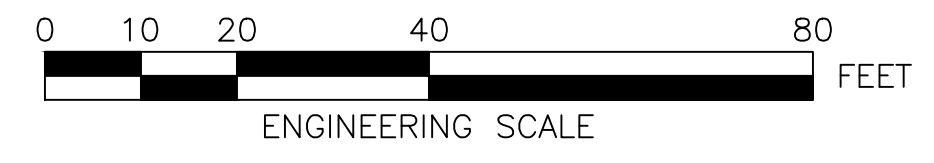
CITY ENGINEER

R-3533-26



FOR CONTINUATION SEE DWG. NO. 24

- NOTES:
1. FOR KEY PLAN, LEGEND AND ABBREVIATIONS, SEE SHEETS 2 & 4.
  2. FOR GENERAL NOTES, SEE SHEET 3.
  3. FOR TYPICAL SECTIONS, SEE SHEETS 5 & 6.
  4. FOR CONSTRUCTION PLANS, SEE SHEETS 20 & 21.
  5. FOR DRAINAGE PLANS, SEE SHEETS 24 & 25.
- \* ELEVATIONS DESIGNED BY OTHERS, SEE DUDLEY BRANCH LIBRARY RENOVATIONS PLANS, PFD PROJECT NUMBER 7084 FOR DETAILS.



REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	J. WEISS
CHECKED BY	S. BERGMAN
APPROVED BY	A. SANTORO

CIP 19-21 SHEET 27 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

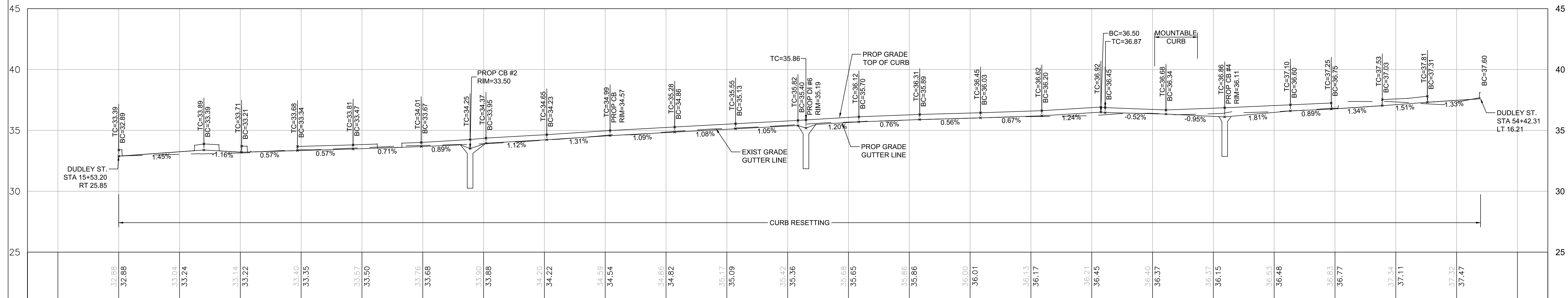
**DUDLEY SQUARE PHASE 1  
GRADING PLANS**  
ROXBURY

SCALE: 1" = 20'  
DISTRICT: 10

AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER

R-3533-27



DUDLEY STREET RIGHT CURB PROFILE

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

SURVEY BY BRYANT ASSOCIATES  
 DRAWN BY J. WEISS  
 CHECKED BY S. BERGMAN  
 APPROVED BY A. SANTORO

CIP 19-21 SHEET 28 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION  
 HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1**  
**DUDLEY STREET RIGHT CURB PROFILES**  
 ROXBURY

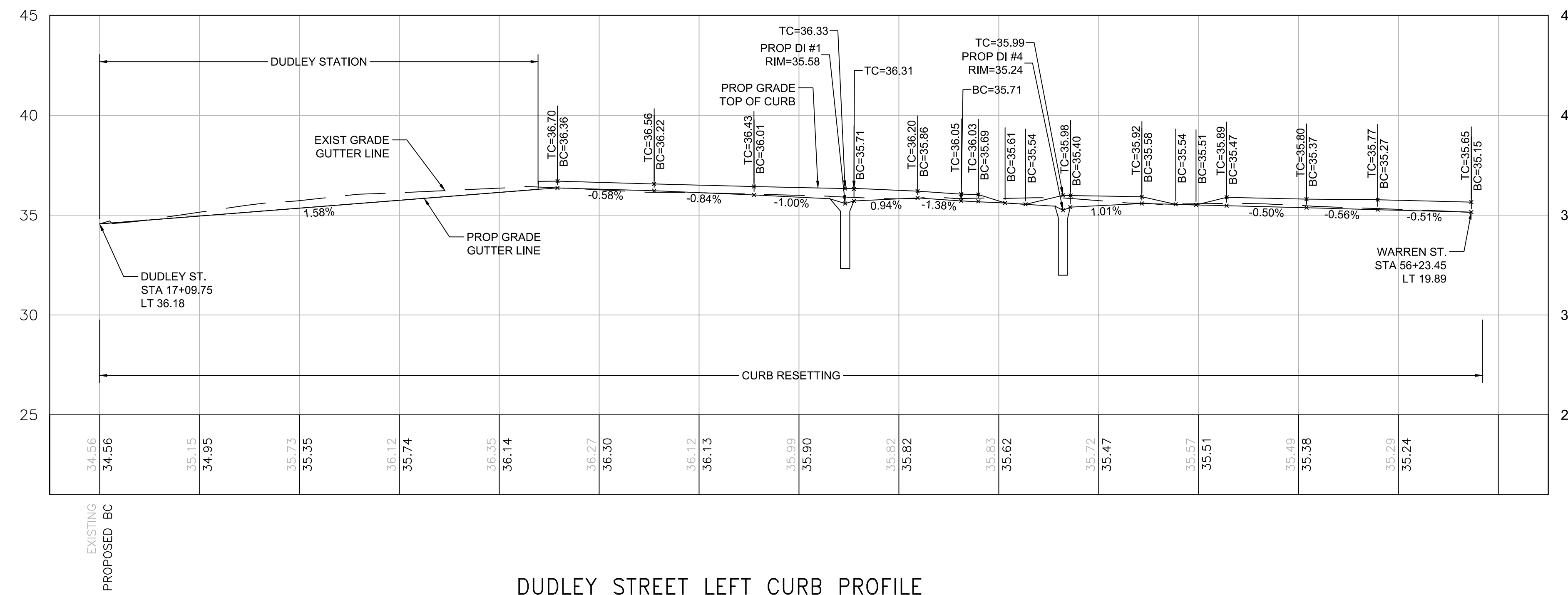
SCALE: 1" = 20'  
 DISTRICT: 10

AREA: 1  
 DATE: DEC. 17, 2018

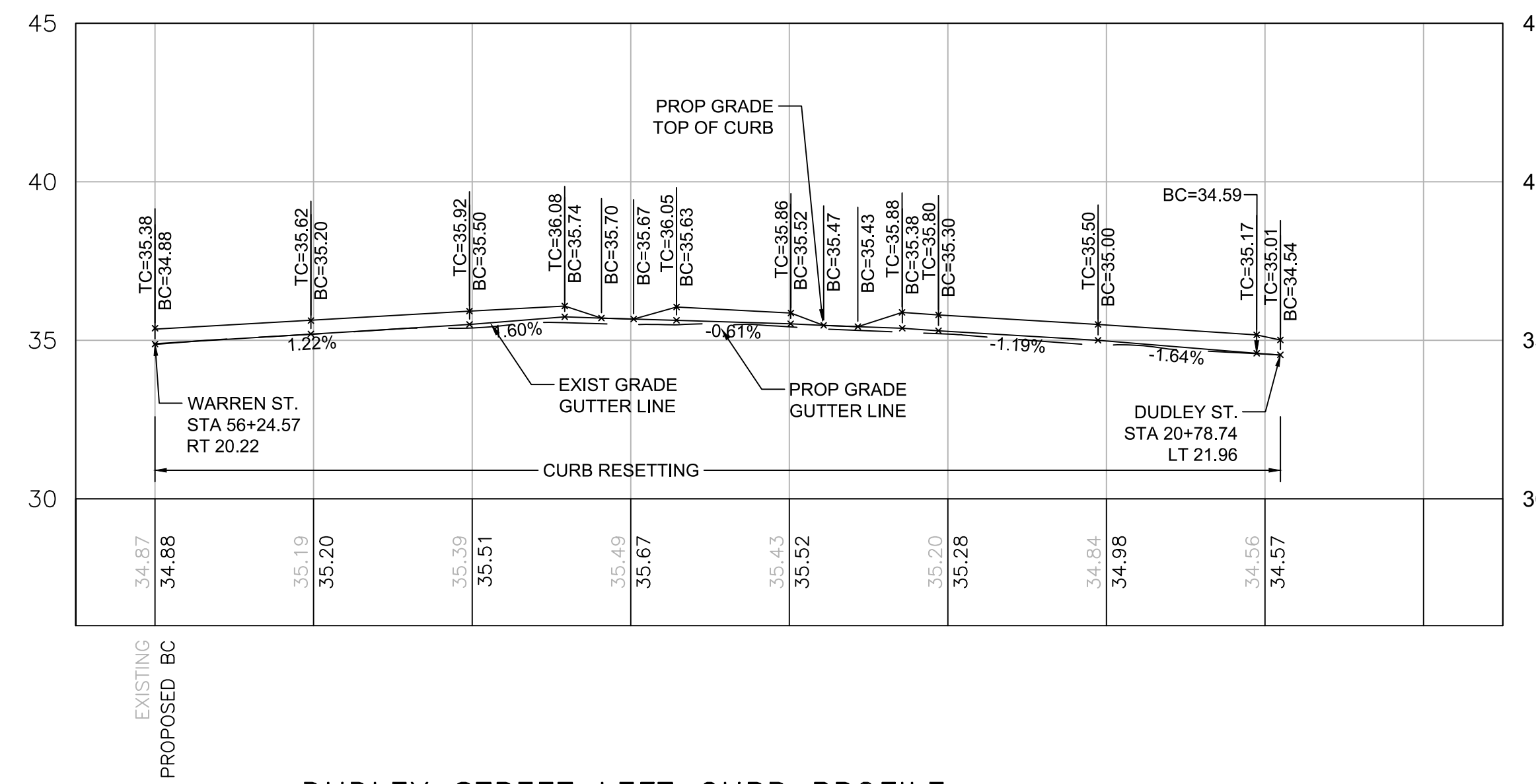
CITY ENGINEER



R-3533-28



DUDLEY STREET LEFT CURB PROFILE



DUDLEY STREET LEFT CURB PROFILE

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

CIP 19-21 SHEET 29 OF 60

BOSTON PUBLIC WORKS DEPARTMENT

SURVEY BY BRYANT ASSOCIATES

DRAWN BY J. WEISS

CHECKED BY A. CLARKE

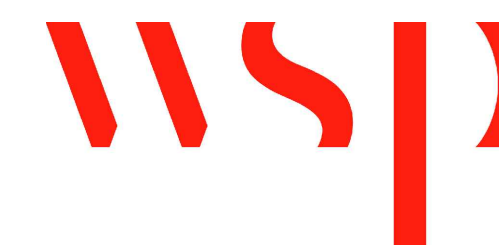
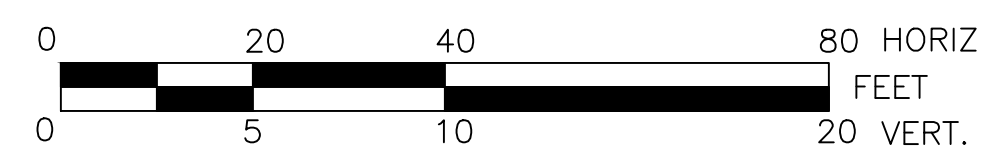
APPROVED BY A. SANTORO

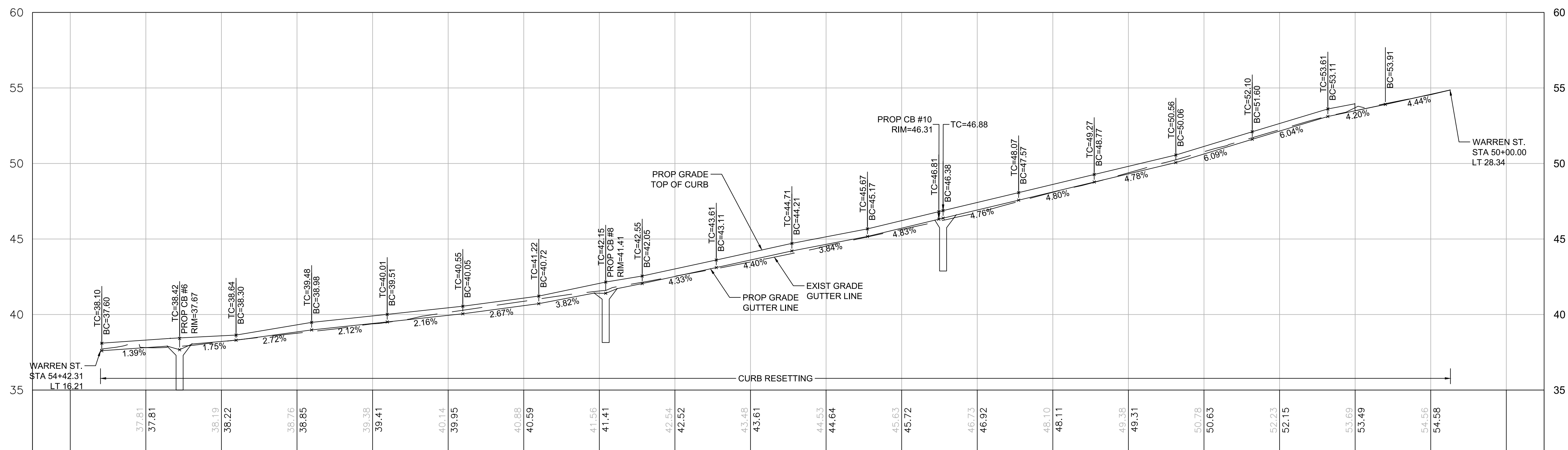
CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION  
**DUDLEY SQUARE PHASE 1**  
**DUDLEY STREET LEFT CURB PROFILE**  
ROXBURY

SCALE: 1" = 20'  
DISTRICT: 10

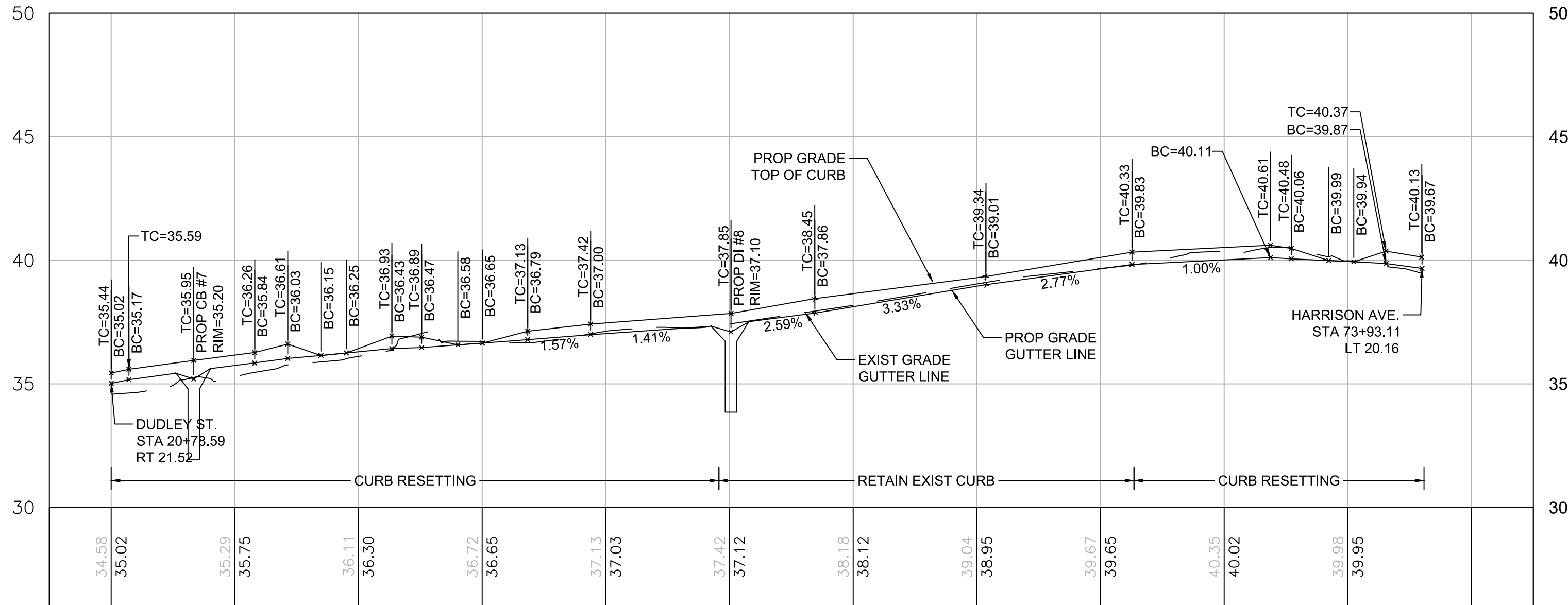
AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER



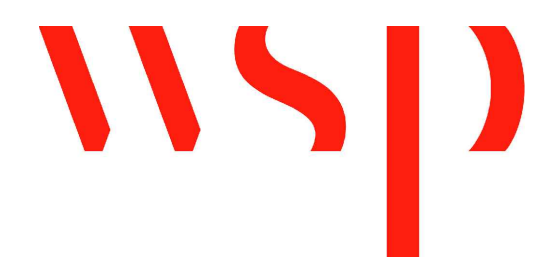
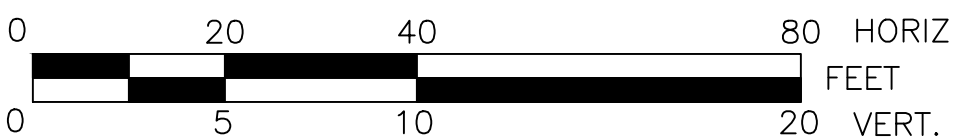


WARREN STREET LEFT CURB PROFILE



WARREN STREET RIGHT CURB PROFILE

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS



BOSTON PUBLIC WORKS DEPARTMENT

SURVEY BY BRYANT ASSOCIATES

DRAWN BY J. WEISS

CHECKED BY S. BERGMAN

APPROVED BY A. SANTORO

CIP 19-21 SHEET 30 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1  
WARREN STREET CURB PROFILES**  
ROXBURY

SCALE: 1" = 20'  
DISTRICT: 10

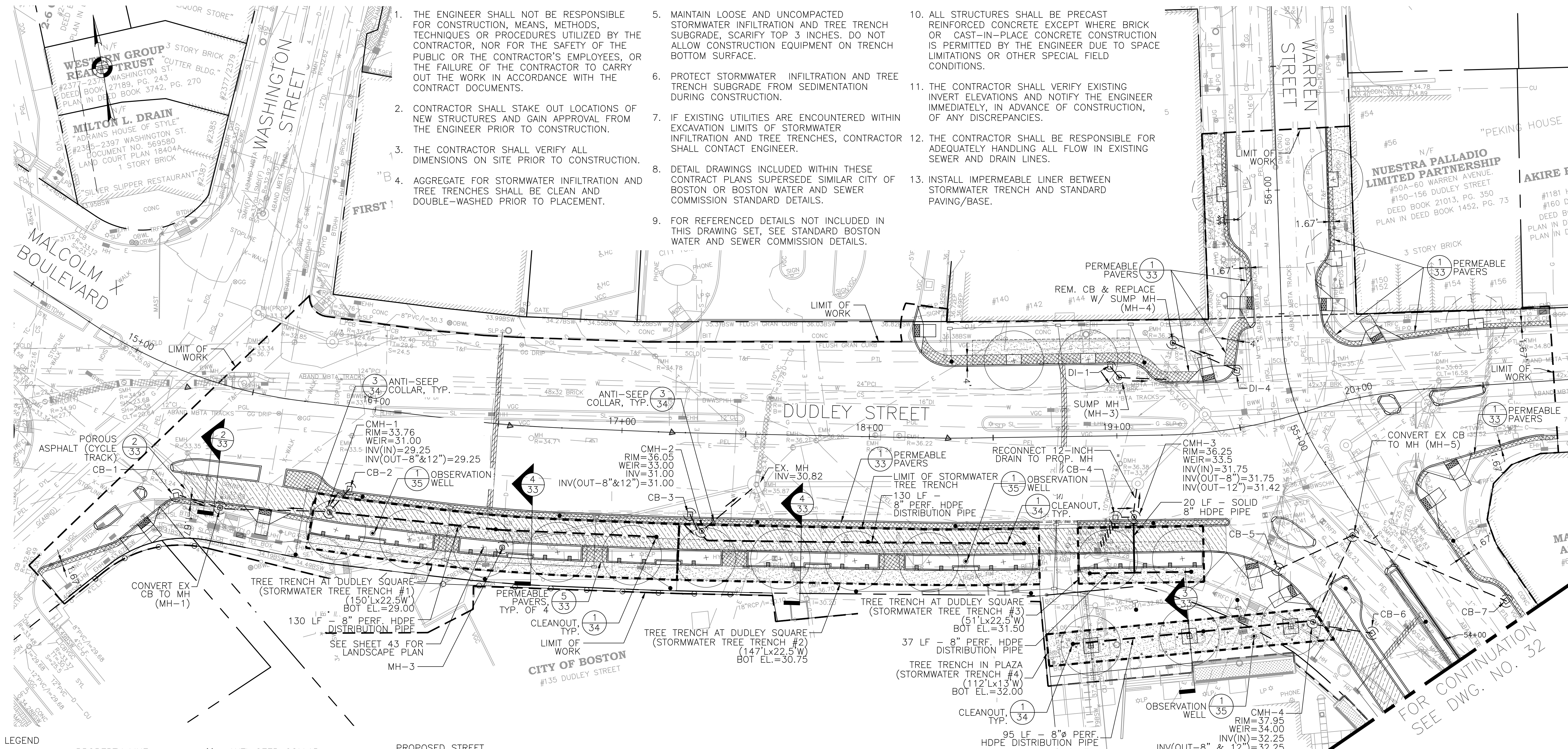
AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER

R-3533-30

**GENERAL NOTES:**

1. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION, MEANS, METHODS, TECHNIQUES OR PROCEDURES UTILIZED BY THE CONTRACTOR, NOR FOR THE SAFETY OF THE PUBLIC OR THE CONTRACTOR'S EMPLOYEES, OR THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
2. CONTRACTOR SHALL STAKE OUT LOCATIONS OF NEW STRUCTURES AND GAIN APPROVAL FROM THE ENGINEER PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON SITE PRIOR TO CONSTRUCTION.
4. AGGREGATE FOR STORMWATER INFILTRATION AND TREE TRENCHES SHALL BE CLEAN AND DOUBLE-WASHED PRIOR TO PLACEMENT.
5. MAINTAIN LOOSE AND UNCOMPACTED STORMWATER INFILTRATION AND TREE TRENCH SUBGRADE, SCARIFY TOP 3 INCHES. DO NOT ALLOW CONSTRUCTION EQUIPMENT ON TRENCH BOTTOM SURFACE.
6. PROTECT STORMWATER INFILTRATION AND TREE TRENCH SUBGRADE FROM SEDIMENTATION DURING CONSTRUCTION.
7. IF EXISTING UTILITIES ARE ENCOUNTERED WITHIN EXCAVATION LIMITS OF STORMWATER INFILTRATION AND TREE TRENCHES, CONTRACTOR SHALL CONTACT ENGINEER.
8. DETAIL DRAWINGS INCLUDED WITHIN THESE CONTRACT PLANS SUPERSEDE SIMILAR CITY OF BOSTON OR BOSTON WATER AND SEWER COMMISSION STANDARD DETAILS.
9. FOR REFERENCED DETAILS NOT INCLUDED IN THIS DRAWING SET, SEE STANDARD BOSTON WATER AND SEWER COMMISSION DETAILS.
10. ALL STRUCTURES SHALL BE PRECAST REINFORCED CONCRETE EXCEPT WHERE BRICK OR CAST-IN-PLACE CONCRETE CONSTRUCTION IS PERMITTED BY THE ENGINEER DUE TO SPACE LIMITATIONS OR OTHER SPECIAL FIELD CONDITIONS.
11. THE CONTRACTOR SHALL VERIFY EXISTING INVERT ELEVATIONS AND NOTIFY THE ENGINEER IMMEDIATELY, IN ADVANCE OF CONSTRUCTION, OF ANY DISCREPANCIES.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY HANDLING ALL FLOW IN EXISTING SEWER AND DRAIN LINES.
13. INSTALL IMPERMEABLE LINER BETWEEN STORMWATER TRENCH AND STANDARD PAVING/BASE.



**LEGEND**

- |                                                     |                                          |                                             |
|-----------------------------------------------------|------------------------------------------|---------------------------------------------|
| --- PROPERTY LINE                                   | ✕ ANTI-SEEP COLLAR                       | ● PROPOSED STREET LIGHTING FIXTURE          |
| ▨ POROUS ASPHALT CYCLE TRACK                        | ● CLEANOUT                               | □ PROPOSED STREET LIGHTING PULL BOX         |
| ▩ PERMEABLE PAVERS                                  | ○ OBSERVATION WELL                       | ⊕ EXISTING POLE/STREET LIGHT                |
| ▧ STRUCTURAL SOIL                                   | ⊕ CATCHBASIN                             | ■ EXISTING STREET LIGHTING PULL BOX         |
| --- STORMWATER PIPE                                 | ⊕ CONTROL DRAINAGE MANHOLE (CMH)         | ■ PROPOSED LIGHTING CONTROL CABINET         |
| --- 8" PERFORATED HDPE DISTRIBUTION STORMWATER PIPE | ⊕ DRAINAGE MANHOLE (MH)                  | ■ EXISTING LIGHTING CONTROL CABINET         |
| --- 8" SOLID HDPE STORMWATER PIPE                   | --- SL --- EXISTING STREET LIGHT CONDUIT | ■ PROPOSED 2" OR 3" STREET LIGHTING CONDUIT |
| --- LIMIT OF STRUCTURAL SOIL                        |                                          | ▨ PROPOSED 3" CONCRETE ENCASED CONDUIT      |
| --- LIMIT OF STORMWATER TREE TRENCH                 |                                          |                                             |

- NOTES:**
1. FOR KEY PLAN, GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEETS 2 THRU 4.
  2. FOR TYPICAL SECTIONS, SEE SHEETS 5 THRU 6.
  3. FOR CONSTRUCTION PLANS, SEE SHEETS 20 THRU 21.
  4. FOR DRAINAGE AND UTILITIES PLANS, SEE SHEETS 24 THRU 25.
  5. FOR GRADING PLANS, SEE SHEETS 26 THRU 27.
  6. FOR LANDSCAPE PLANS, SEE SHEETS 43 THRU 45.
  7. FOR STREET LIGHTING PLANS, SEE SHEETS 46 THRU 47.

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO COMMISSION STANDARDS

BOSTON WATER AND SEWER COMMISSION

SURVEY BY BRYANT ASSOCIATES

DRAWN BY A.KEEL

CHECKED BY H.HOLMES

APPROVED BY E.ADAMOWICZ

CIP 19-21 SHEET 31 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

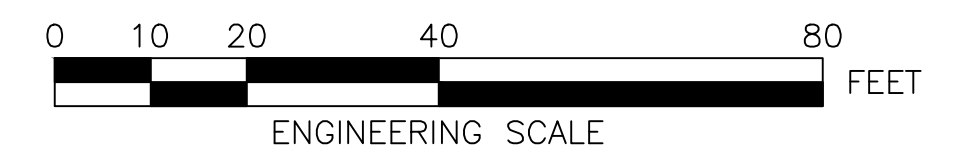
**DUDLEY SQUARE PHASE 1  
GREEN INFRASTRUCTURE PLAN**  
ROXBURY

SCALE: 1" = 20'-0"  
DISTRICT: 10

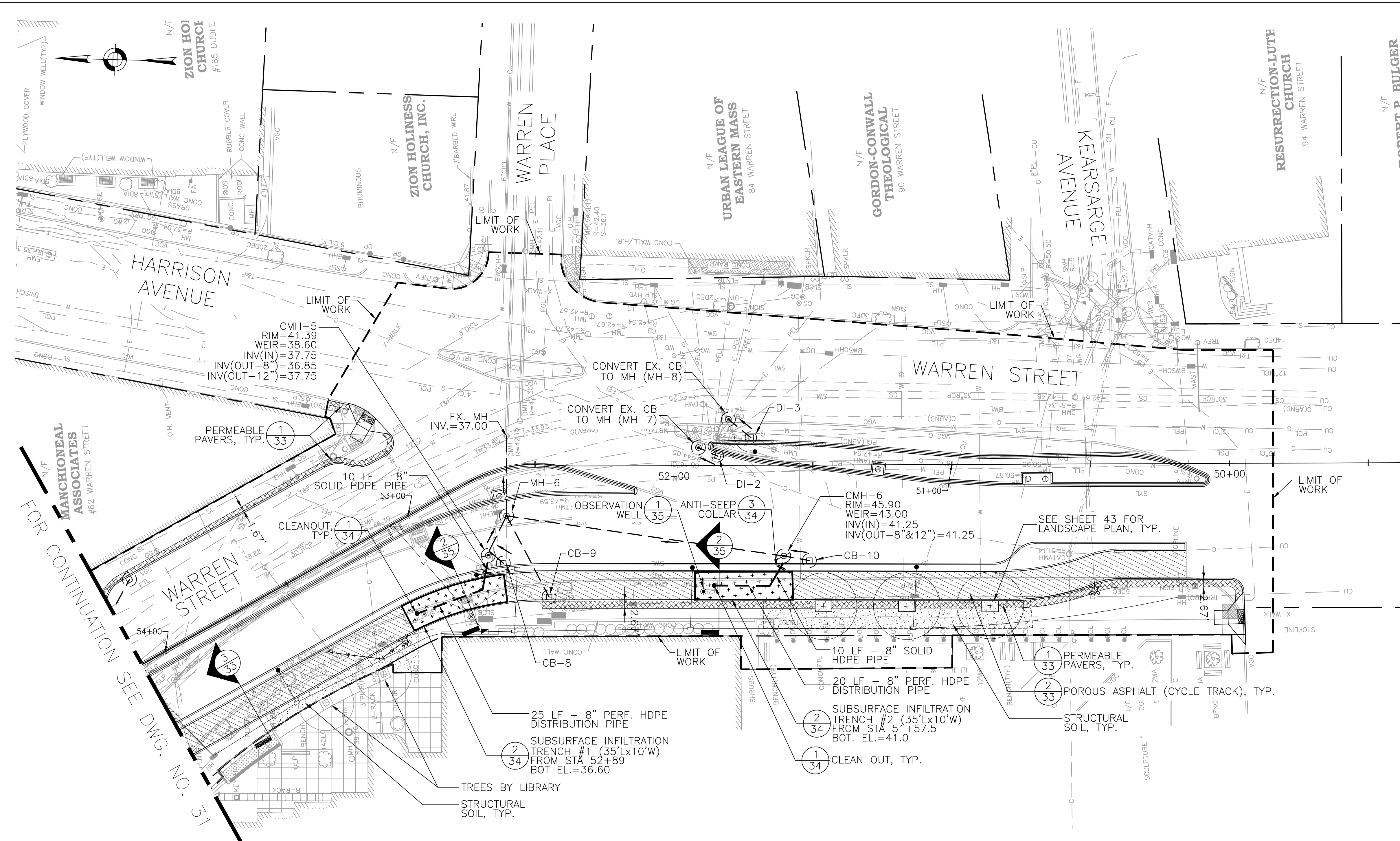
AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER

R-3533-31



DRAWING PREPARED BY HATCH



- LEGEND**
- PROPERTY LINE
  - ▨ POROUS ASPHALT
  - ▨ CYCLE TRACK
  - ▨ PERMEABLE PAVERS
  - ▨ STRUCTURAL SOIL
  - ▨ SUBSURFACE INFILTRATION TRENCH
  - STORMWATER PIPE
  - 8" PERFORATED HDPE DISTRIBUTION STORMWATER PIPE
  - 8" SOLID HDPE STORMWATER PIPE
  - - - - - LIMIT OF STRUCTURAL SOIL
  - ✕ ANTI-SEEP COLLAR
  - CLEANOUT
  - OBSERVATION WELL
  - ⊕ CATCHBASIN
  - ⊕ CONTROL DRAINAGE MANHOLE (CMH)
  - ⊕ DRAINAGE MANHOLE (MH)
  - PROPOSED STREET LIGHTING FIXTURE
  - PROPOSED STREET LIGHTING PULL BOX
  - ⊕ EXISTING POLE/STREET LIGHT
  - EXISTING STREET LIGHTING PULL BOX
  - PROPOSED LIGHTING CONTROL CABINET
  - EXISTING LIGHTING CONTROL CABINET
  - SL — EXISTING STREET LIGHT CONDUIT
  - PROPOSED 2" OR 3" STREET LIGHTING CONDUIT
  - ▨ PROPOSED 3" CONCRETE ENCASED CONDUIT

- NOTES:**
- FOR KEY PLAN, GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEETS 2 THRU 4.
  - FOR TYPICAL SECTIONS, SEE SHEETS 5 THRU 6.
  - FOR CONSTRUCTION PLANS, SEE SHEETS 20 THRU 21.
  - FOR DRAINAGE AND UTILITIES PLANS, SEE SHEETS 24 THRU 25.
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  - FOR LANDSCAPE PLANS, SEE SHEETS 43 THRU 45.
  - FOR STREET LIGHTING PLANS, SEE SHEETS 46 THRU 47.

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO COMMISSION STANDARDS

BOSTON WATER AND SEWER COMMISSION

SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	A.KEEL
CHECKED BY	H.HOLMES
APPROVED BY	E.ADAMOWICZ

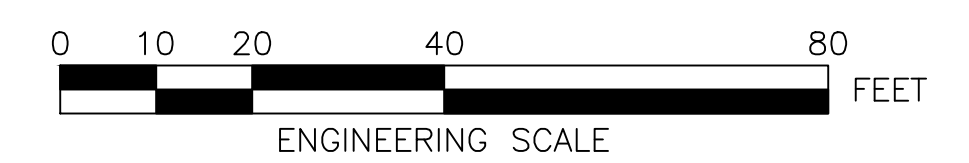
CIP 19-21 SHEET 32 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION  
 HIGHWAY RECONSTRUCTION  
**DUDLEY SQUARE PHASE 1  
 GREEN INFRASTRUCTURE PLAN**  
 ROXBURY

SCALE: 1" = 20'-0"  
 DISTRICT: 10  
 AREA: 1  
 DATE: DEC. 17, 2018

CITY ENGINEER

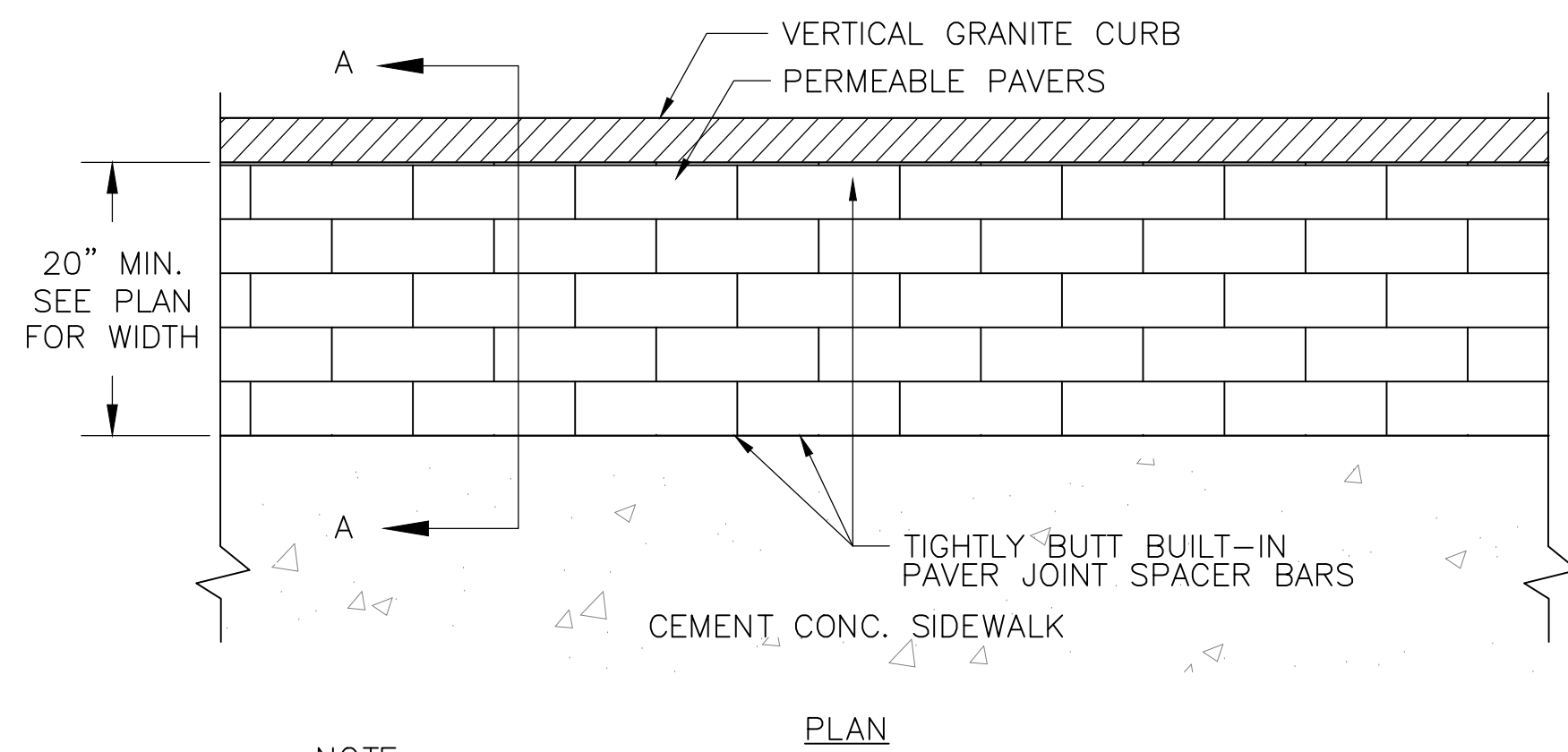
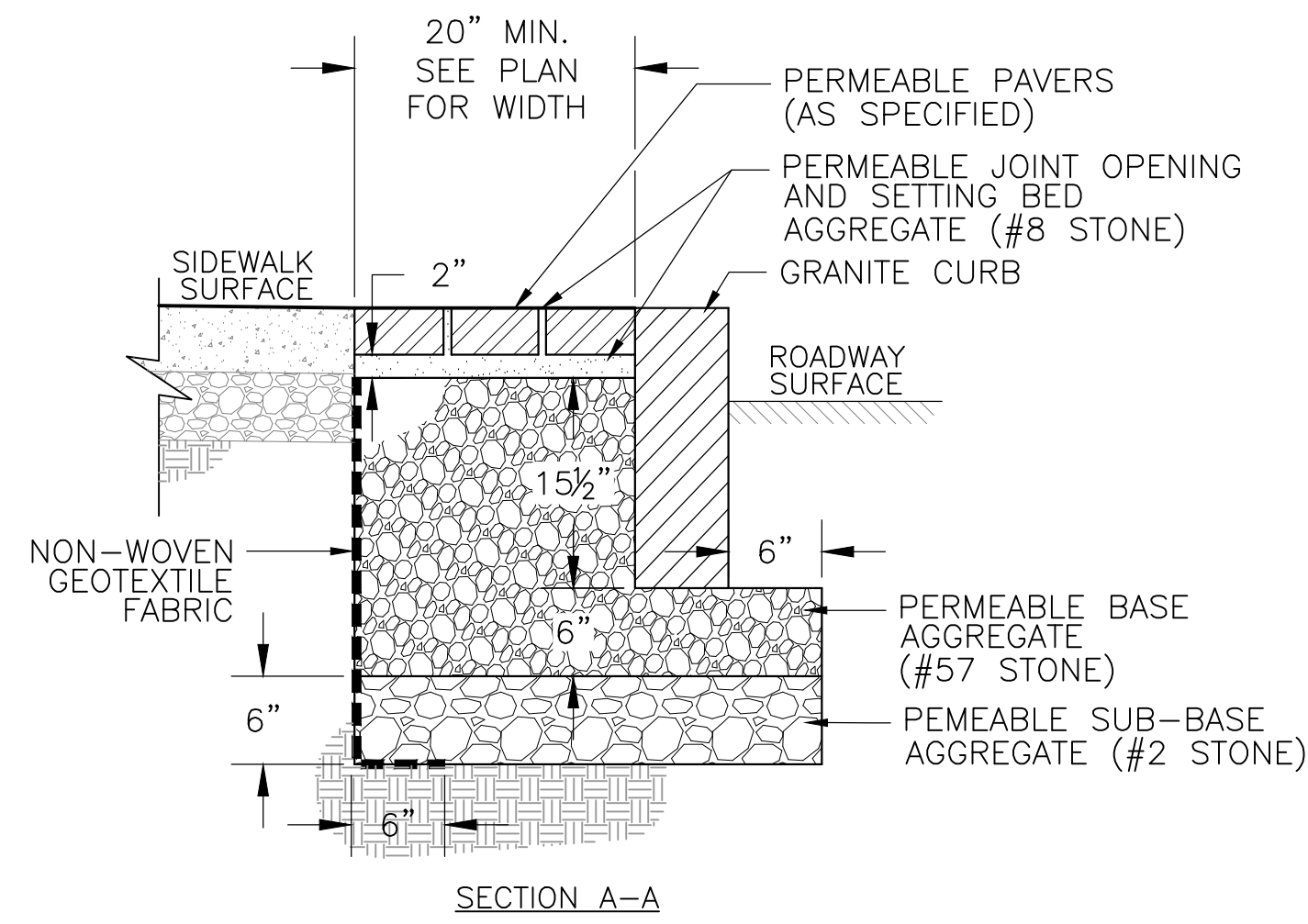
R-3533-32



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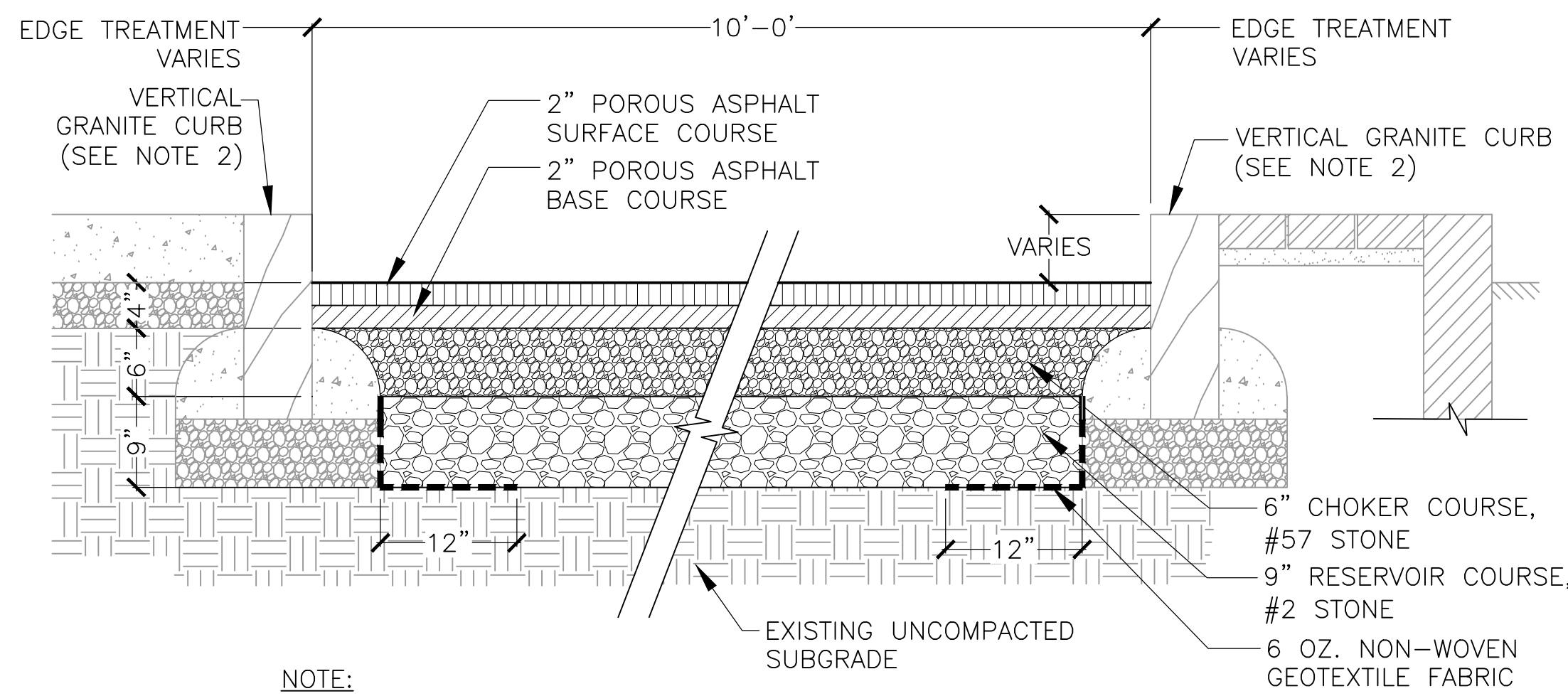
DRAWING PREPARED BY HATCH





NOTE:  
1. ALL CRUSHED STONE SHALL BE CLEAN AND DOUBLE-WASHED.

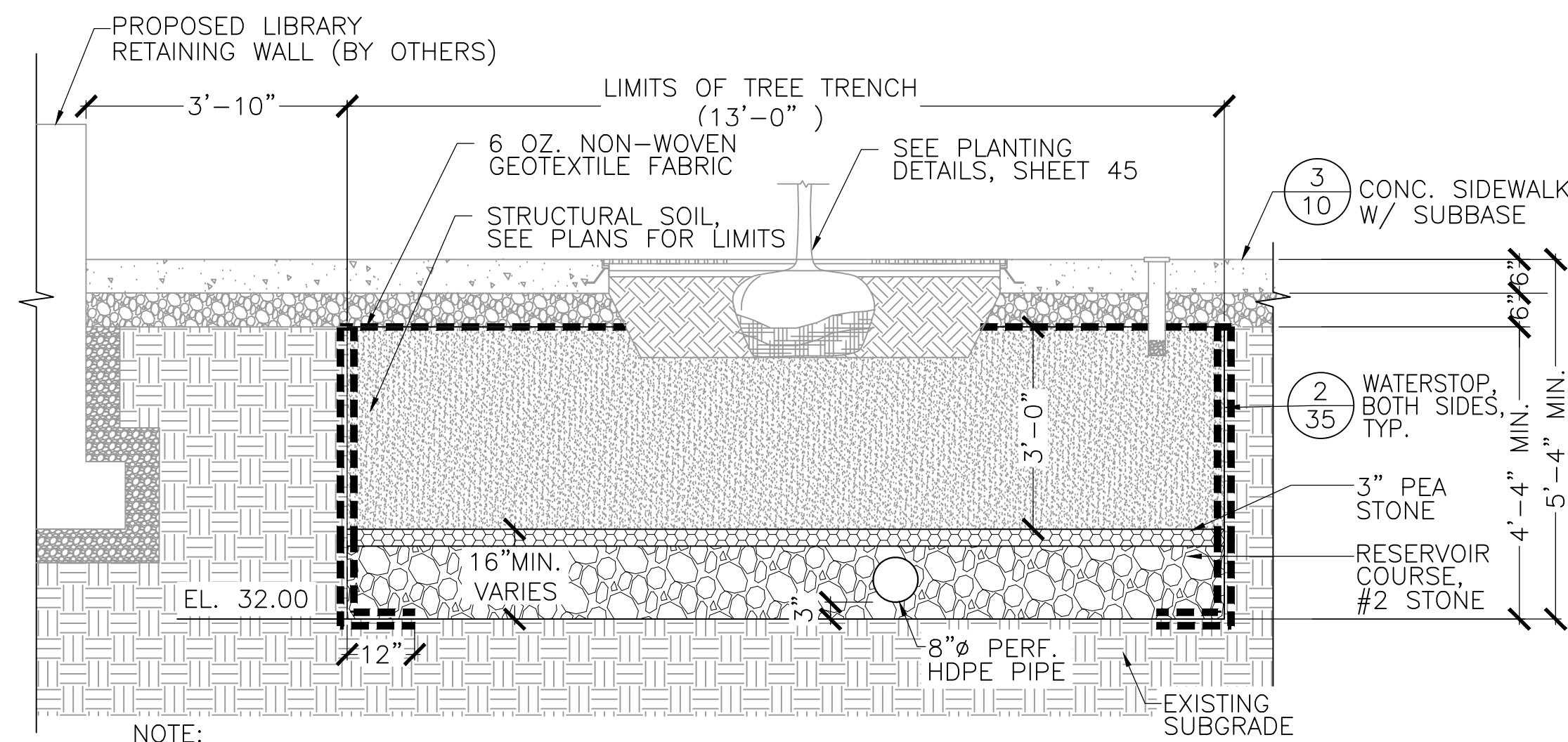
1 PERMEABLE PAVERS  
SCALE: NTS



NOTE:  
1. ALL CRUSHED STONE SHALL BE CLEAN AND DOUBLE-WASHED  
2. EDGE TREATMENT AND ELEVATION VARIES, SEE CONSTRUCTION PLANS, SHEET 20-21 AND GRADING PLANS, SHEETS 26-27.

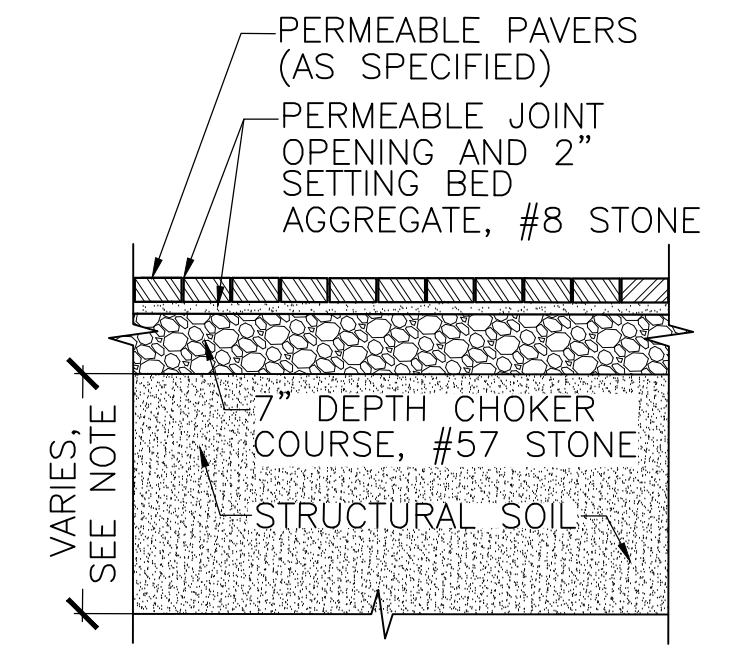
2 POROUS ASPHALT (CYCLE TRACK)  
SCALE: NTS  
(STA. 50+15 TO 51+57.5, 51+92.5 TO 52+80, 53+17 TO 54+43, 15+40 TO 15+80, 18+73 TO 18+88, 19+29 TO 19+39)

R-3533-33



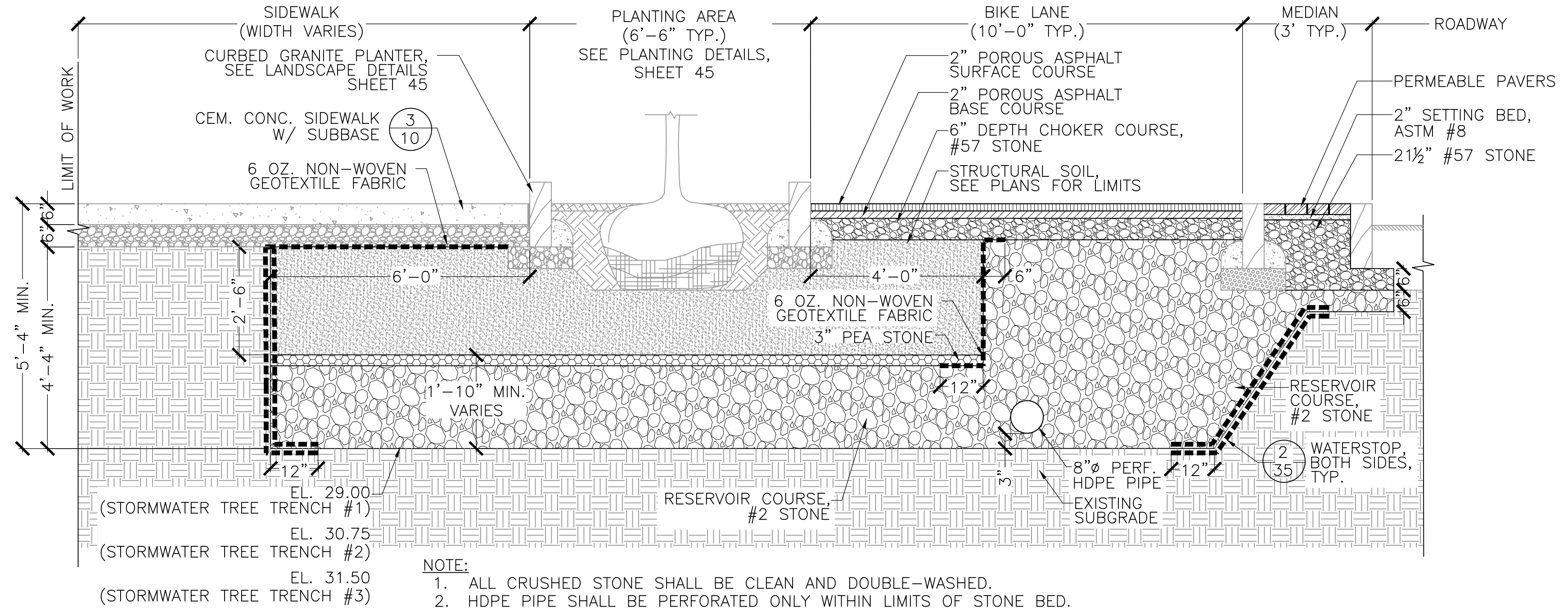
NOTE:  
1. ALL CRUSHED STONE SHALL BE CLEAN AND DOUBLE-WASHED.  
2. HDPE PIPE SHALL BE PERFORATED ONLY WITHIN THE LIMITS OF STONE BED.

3 TREE TRENCH IN PLAZA - SECTION  
SCALE: NTS



NOTE:  
1. DEPTH OF STRUCTURAL SOIL UNDER PERMEABLE PAVERS IS 2'-6" WITHIN STORMWATER TREE TRENCH #1 AND #2, REFER TO DETAIL 4 ON SHEET 33 FOR PEA AND RESERVOIR COURSE STONE DEPTH BELOW STRUCTURAL SOIL. DEPTH OF STRUCTURAL SOIL UNDER PERMEABLE PAVERS IS 3'-0" AT ALL OTHER LOCATIONS, REFER TO DETAIL 5 ON SHEET 45.

5 PERMEABLE PAVERS ON STRUCTURAL SOIL  
SCALE: NTS



NOTE:  
1. ALL CRUSHED STONE SHALL BE CLEAN AND DOUBLE-WASHED.  
2. HDPE PIPE SHALL BE PERFORATED ONLY WITHIN LIMITS OF STONE BED.

4 TREE TRENCH AT DUDLEY SQUARE - SECTION  
SCALE: NTS

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO COMMISSION STANDARDS

BOSTON WATER AND SEWER COMMISSION

SURVEY BY BRYANT ASSOCIATES

DRAWN BY C.PORANSKI

CHECKED BY H.HOLMES

APPROVED BY E.ADAMOWICZ

CIP 19-21 SHEET 33 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1  
GREEN INFRASTRUCTURE DETAILS**  
ROXBURY

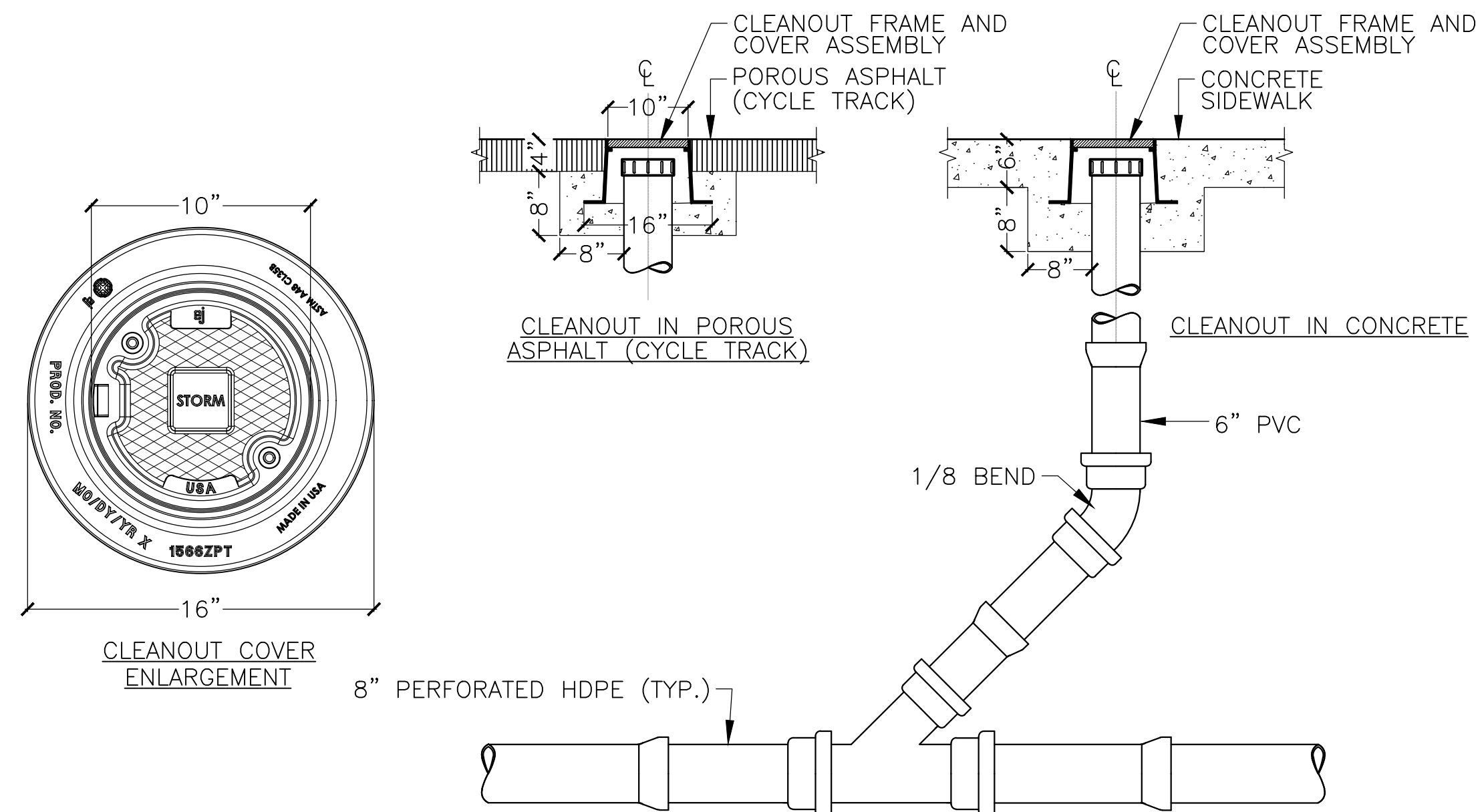
SCALE: N/A  
DISTRICT: 10  
AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER



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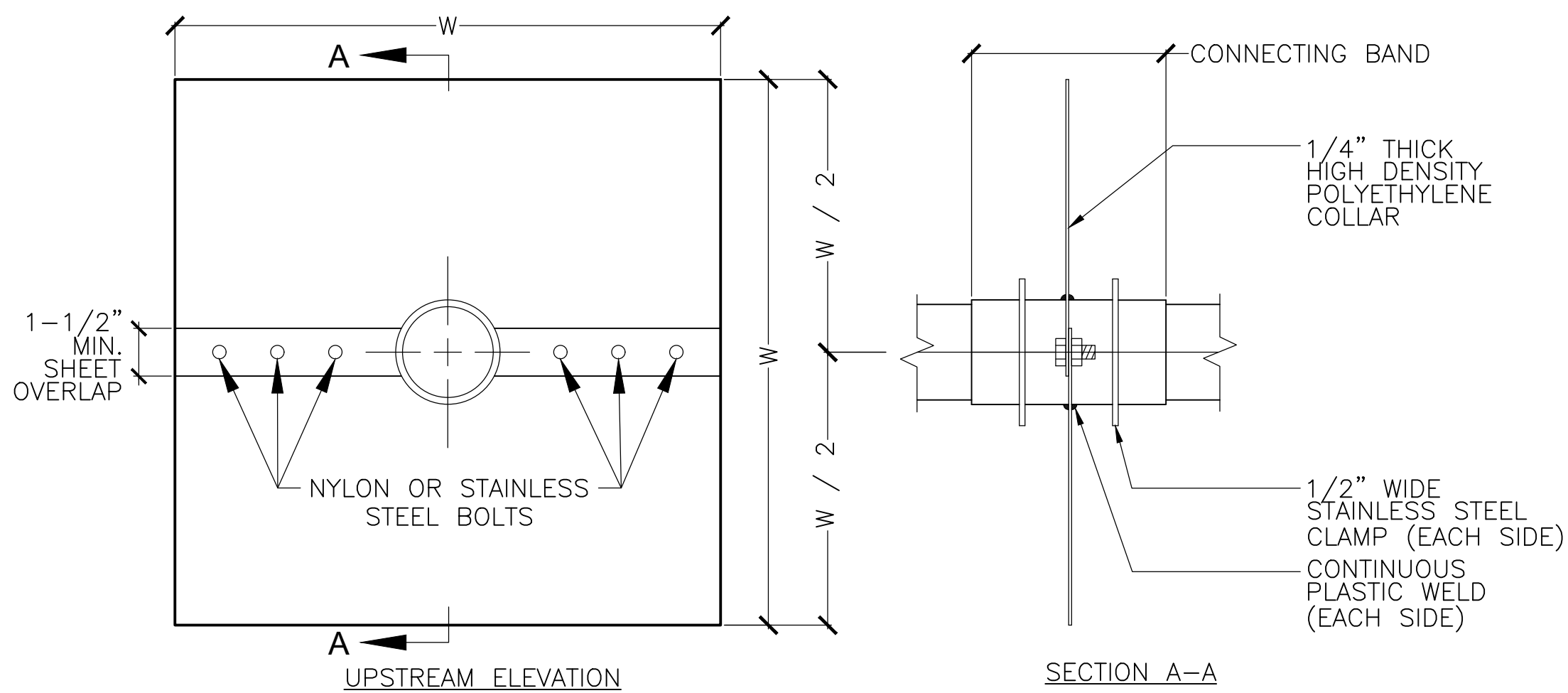
DRAWING PREPARED BY HATCH



- NOTES:
1. 8" HDPE X 8" PVC WYE JOINT FOR INLINE SECTION OR 8-1/8" BEND AND 8" HDPE TO 6" PVC FOR END SECTION.
  2. THE CONCRETE COLLAR MUST HAVE GRAVEL BED OF 6" MIN.
  3. CLEANOUT COVER AND FRAME SHALL BE EJ 00156646B01 CAST IRON OR APPROVED EQUAL.

**1 CLEANOUT**

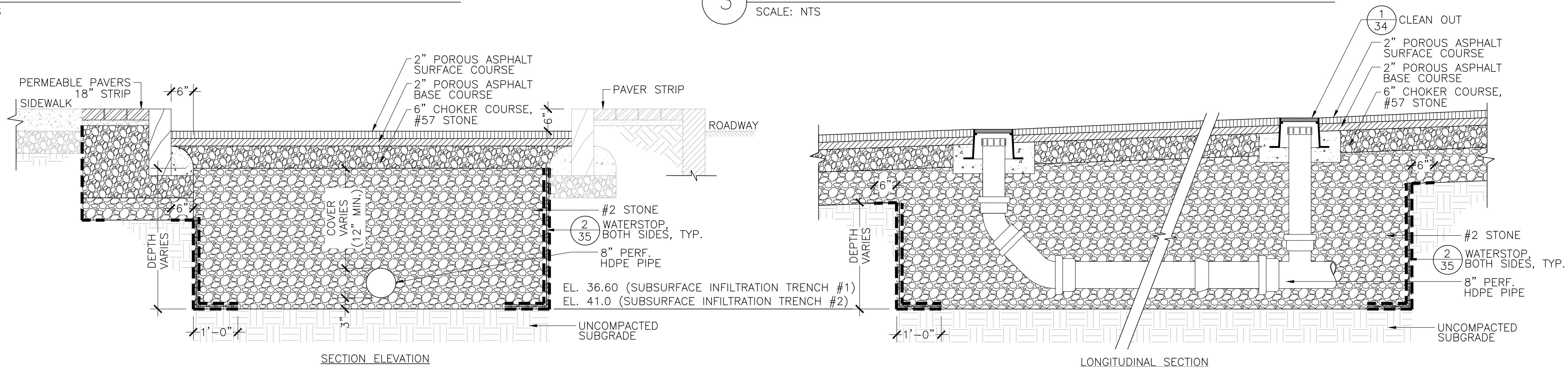
SCALE: NTS



- NOTES:
1. CONNECTING BAND SHALL BE SEALED AT BOTH ENDS WITH EPOXY.
  2. COLLAR MATERIAL SHALL BE RIGID POLYETHYLENE SHEET.
  3. STAINLESS STEEL SHALL BE GRADE 304 OR BETTER.
  4. DIMENSION "W" SHALL BE 3 TIMES THE DIAMETER OF THE INTERSECTING PIPE.

**3 ANTI-SEEP COLLAR**

SCALE: NTS



- NOTE:
1. ALL CRUSHED STONE SHALL BE CLEAN AND DOUBLE-WASHED.
  2. HDPE PIPE SHALL BE PERFORATED ONLY WITHIN LIMITS OF STONE BED.

**2 SUBSURFACE INFILTRATION TRENCH (CYCLE TRACK)**

(STA. 51+57.5 TO 51+92.5, STA. 52+80 TO 53+17)

SCALE: NTS

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO COMMISSION STANDARDS

BOSTON WATER AND SEWER COMMISSION

SURVEY BY BRYANT ASSOCIATES

DRAWN BY C.PORANSKI

CHECKED BY H.HOLMES

APPROVED BY E.ADAMOWICZ

CIP 19-21 SHEET 34 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1  
GREEN INFRASTRUCTURE DETAILS**  
ROXBURY

SCALE: N/A  
DISTRICT: 10

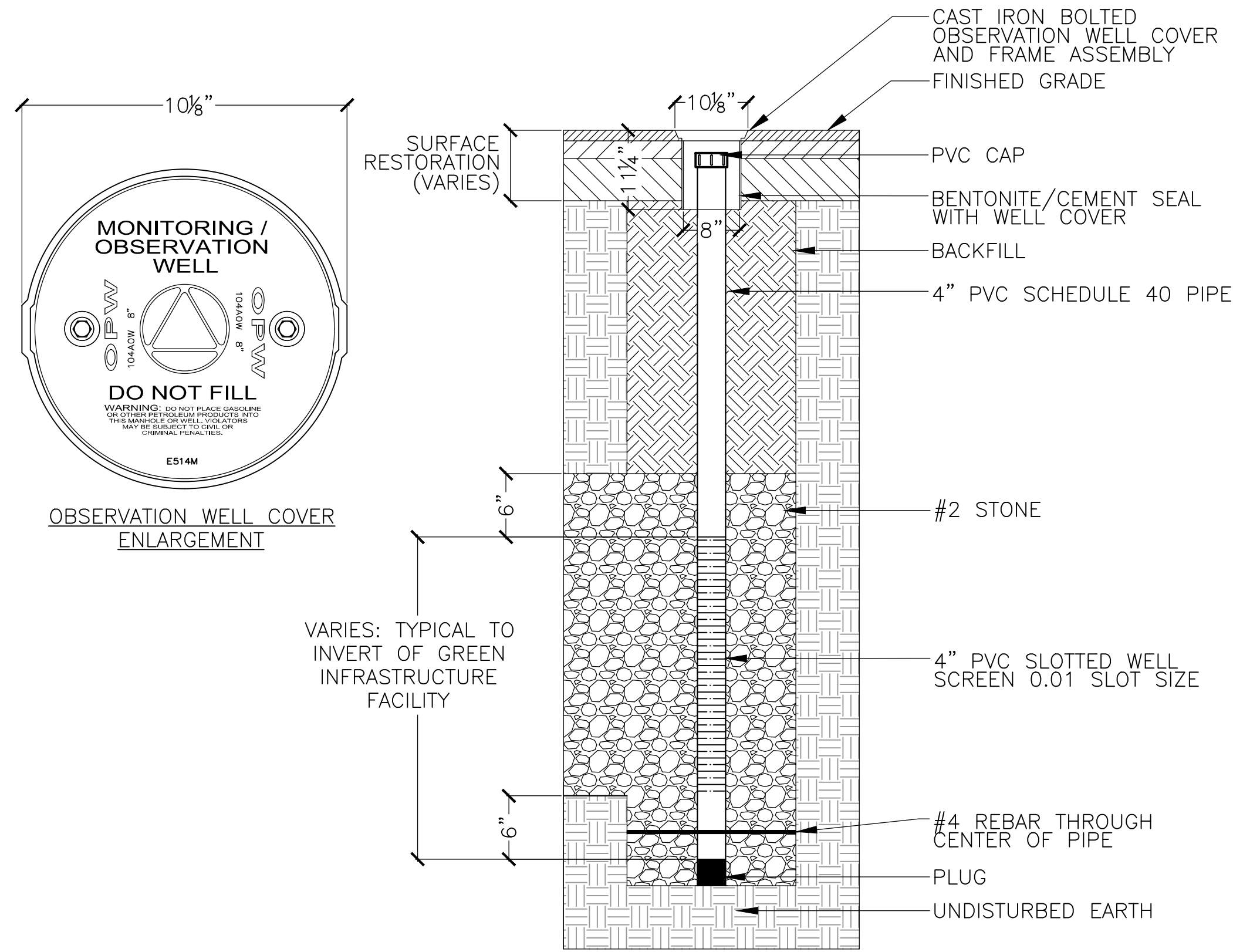
AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER

R-3533-34



DRAWING PREPARED BY HATCH



OBSERVATION WELL IN PAVED SURFACE

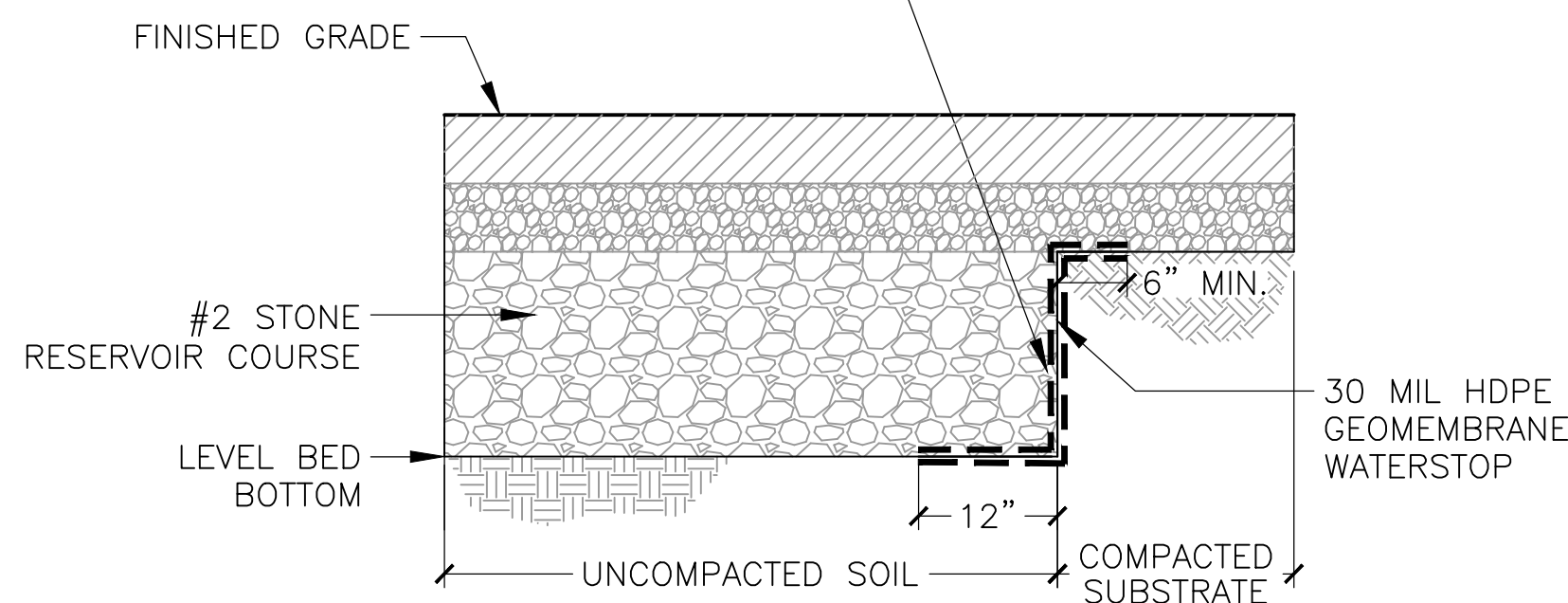
NOTES:

1. WELL COVER SHALL BE SECURED IN CONCRETE SURROUND (1'-4" TOTAL DIAMETER) IF WELL IS NOT OTHERWISE SECURED BY SURFACE RESTORATION.
2. THE UNSLOTTED DEPTH IS LOCATED ENTIRELY IN THE SUMP.
3. THE #4 REBAR SHOULD BE 16" IN LENGTH.
4. CRUSHED STONE SHALL BE CLEAN AND DOUBLE-WASHED.
5. OBSERVATION WELL COVER AND FRAME ASSEMBLY SHALL BE OPW 104AOW-0800 CAST IRON COVER AND RING WITH STEEL SKIRT AND NEOPRENE GASKET OR APPROVED EQUAL.

1 OBSERVATION WELL

SCALE: NTS

6 OZ. NON-WOVEN GEOTEXTILE ON EACH SIDE OF GEOMEMBRANE (ON SIDES, FOLD OVER EDGE DURING CONSTRUCTION TO PREVENT SEDIMENT FROM ENTERING BED)

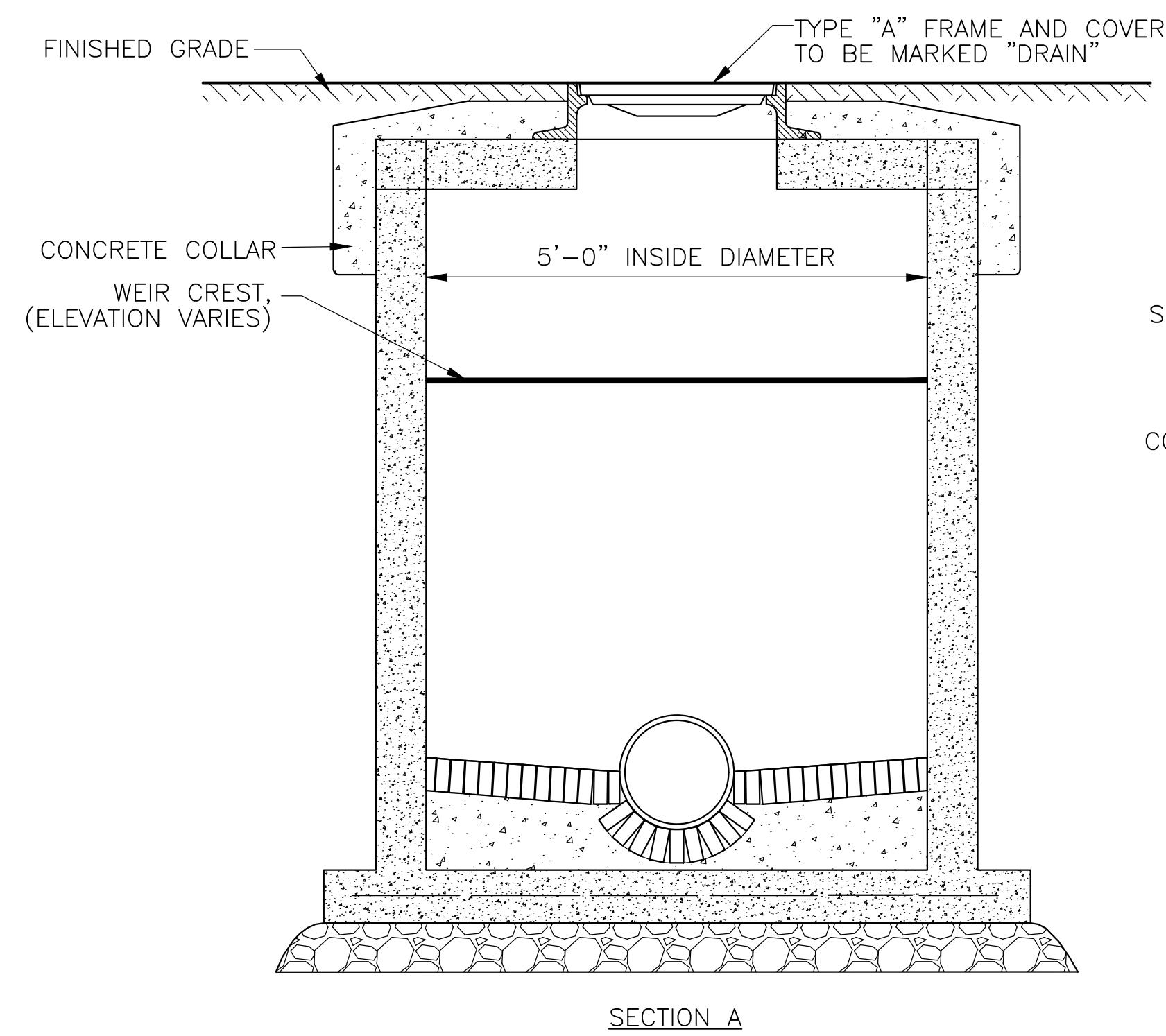


- NOTE:
1. INSTALL 30 MIL HDPE GEOMEMBRANE BETWEEN STORMWATER INFILTRATION SYSTEM SUBBASE AND ADJACENT SUBSTRATE. EXTEND MIN. 12" ALONG BOTTOM OF TRENCH AND MIN. 6" AT THE TOP.

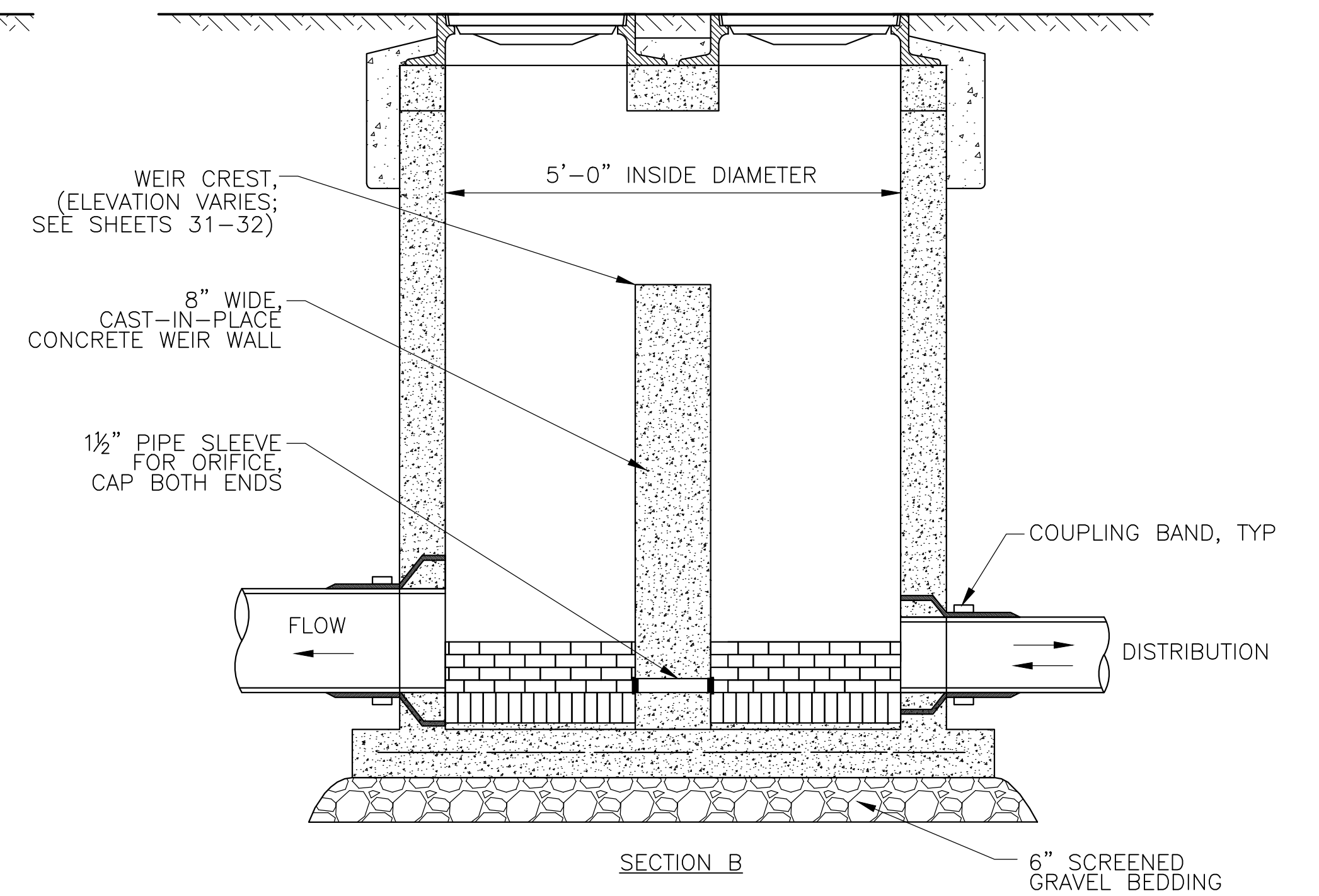
2 WATERSTOP

SCALE: NTS

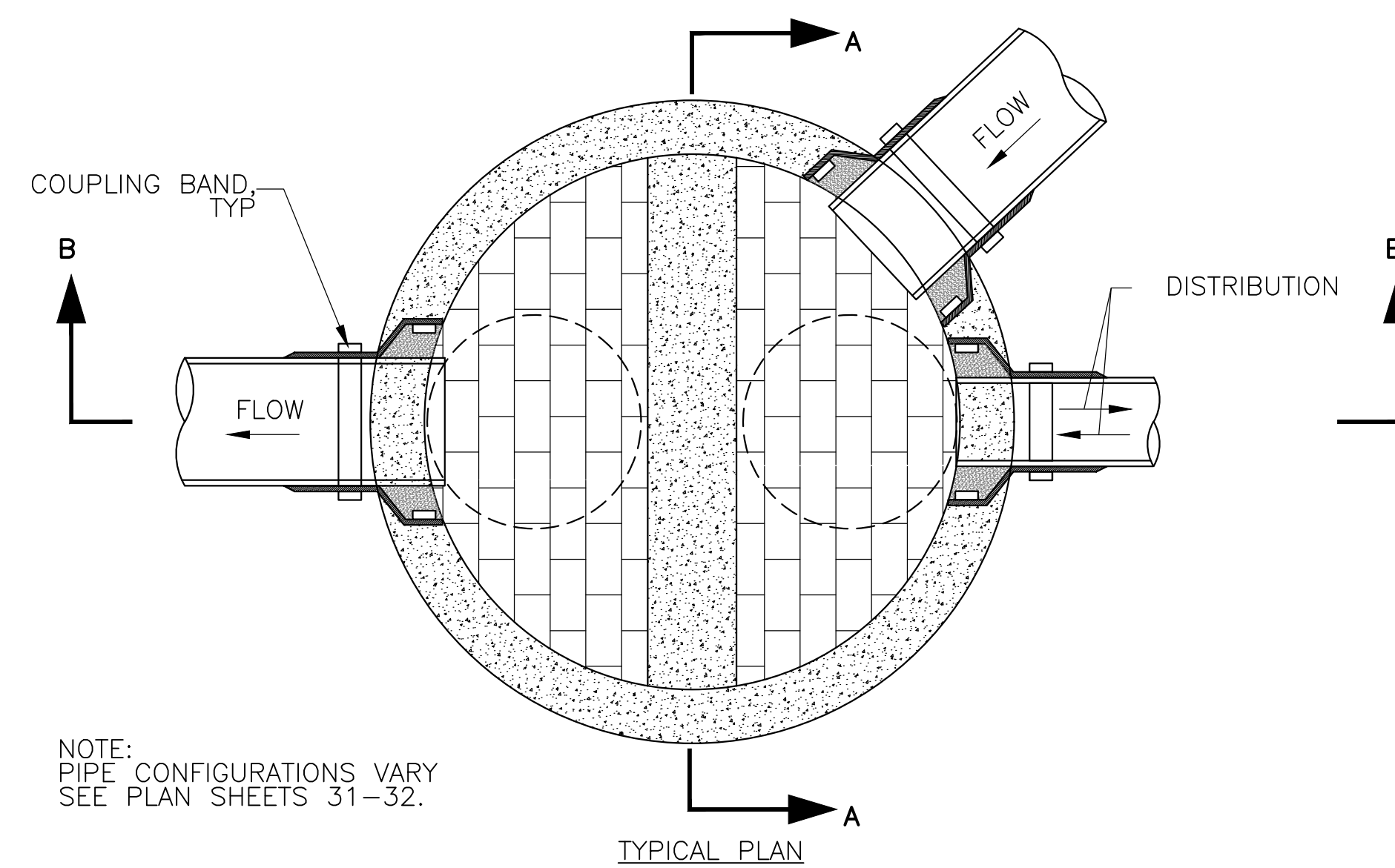
R-3533-35



SECTION A



SECTION B



TYPICAL PLAN

NOTE: PIPE CONFIGURATIONS VARY SEE PLAN SHEETS 31-32.

3 CONTROL DRAINAGE MANHOLE

SCALE: NTS

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO COMMISSION STANDARDS

BOSTON WATER AND SEWER COMMISSION

SURVEY BY BRYANT ASSOCIATES

DRAWN BY C.PORANSKI

CHECKED BY H.HOLMES

APPROVED BY E.ADAMOWICZ

CIP 19-21 SHEET 35 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1  
GREEN INFRASTRUCTURE DETAILS**  
ROXBURY

SCALE: N/A  
DISTRICT: 10

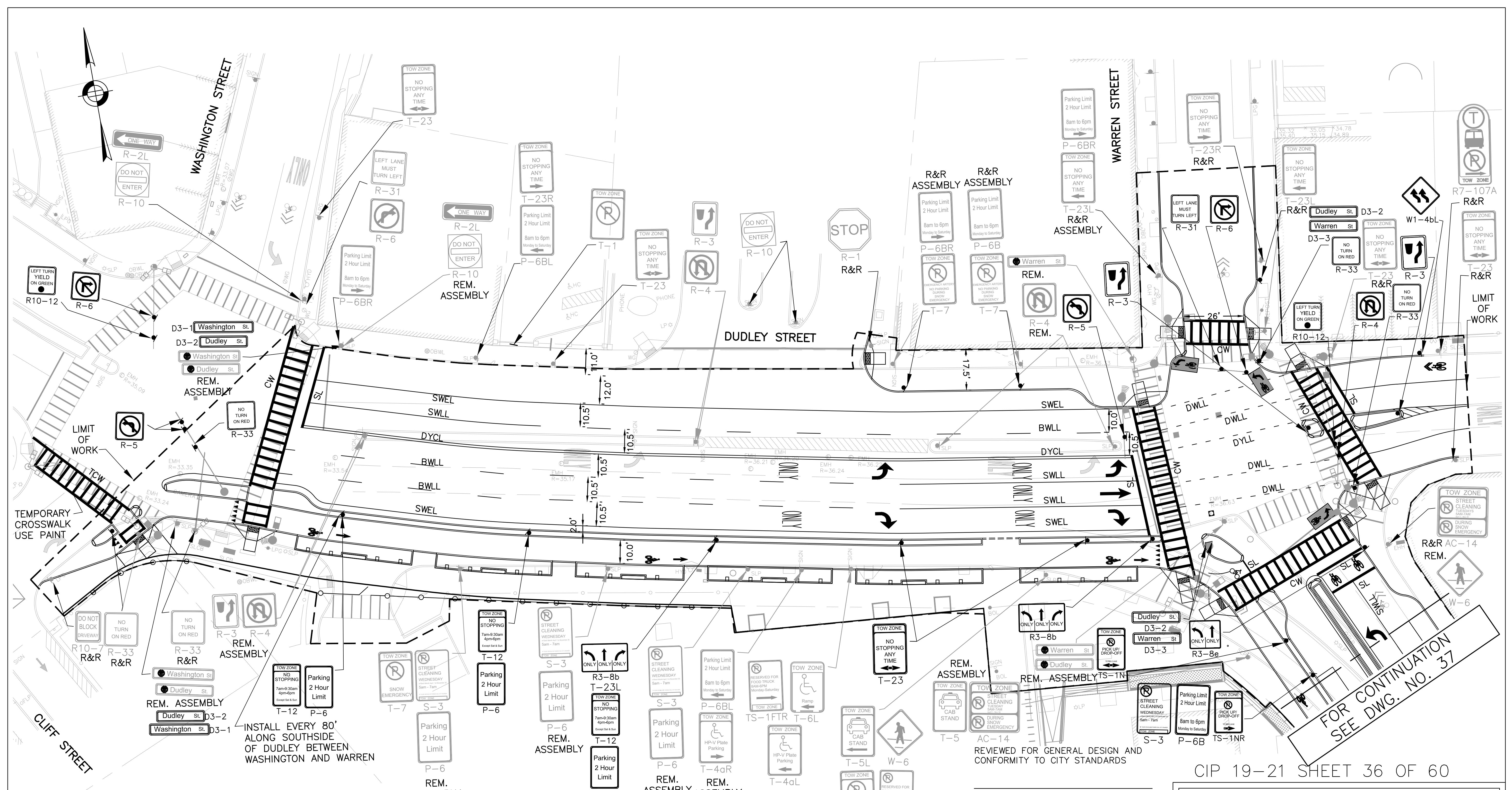
AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER



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DRAWING PREPARED BY HATCH



- NOTES:**
1. THIS PLAN REPRESENTS EXISTING SIGNAGE IN JULY 2017. SOME EXISTING SIGNAGE HAS BEEN IMPACTED BY CONSTRUCTION ACTIVITY THROUGHOUT DUDLEY SQUARE.
  2. ALL PAVEMENT MARKINGS WILL BE THERMOPLASTIC UNLESS OTHERWISE INDICATED.
  3. REFURBISH EXISTING LANE MARKINGS AS DIRECTED BY PROJECT ENGINEER.
  4. REFURBISH EXISTING CROSSWALKS AT THE INTERSECTION OF WASHINGTON STREET AND DUDLEY AS DIRECTED BY PROJECT ENGINEER.
  5. ALL PROPOSED R3-8b SIGNS MUST BE MOUNTED AT A MINIMUM HEIGHT OF 8 FEET.

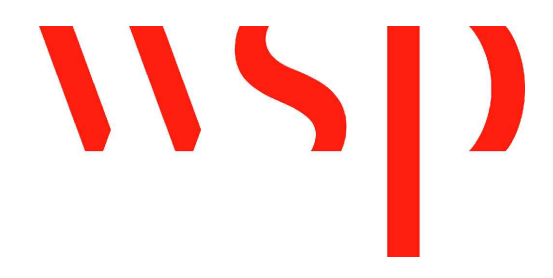
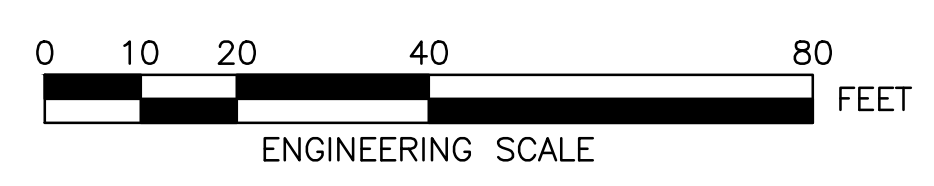
INSTALL EVERY 80' ALONG SOUTHSIDE OF DUDLEY BETWEEN WASHINGTON AND WARREN

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

FOR CONTINUATION SEE DWG. NO. 37

CIP 19-21 SHEET 36 OF 60

R-3533-36



BOSTON TRANSPORTATION DEPARTMENT

SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	A. DALLY
CHECKED BY	P. FUSCO
APPROVED BY	J. CONLEY

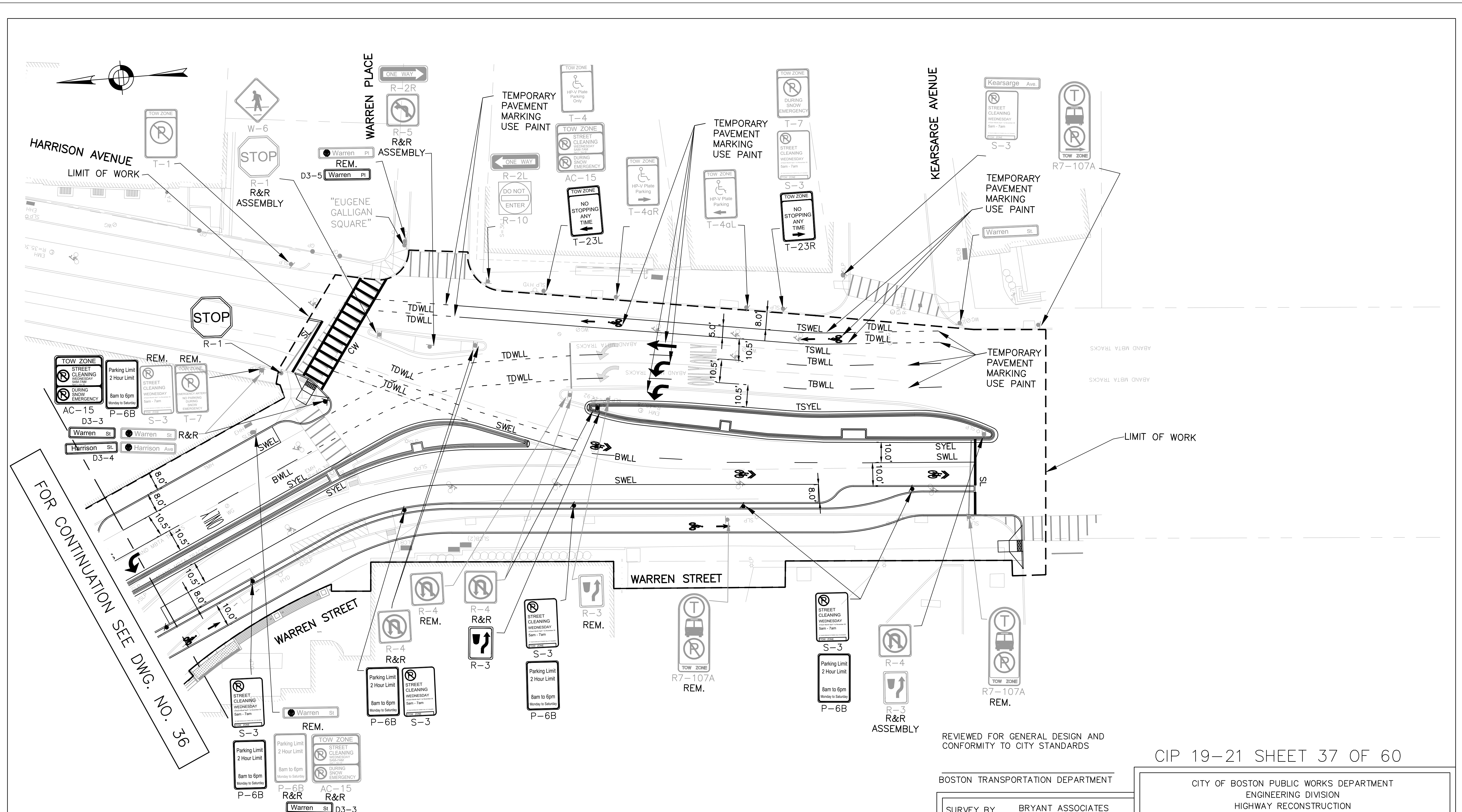
CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION  
 HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1  
 PAVEMENT MARKINGS AND SIGNAGE PLANS**  
 ROXBURY

SCALE: 1" = 20'  
 DISTRICT: 10

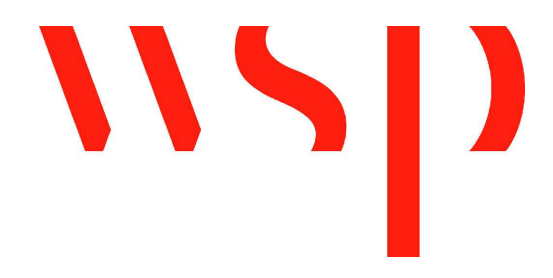
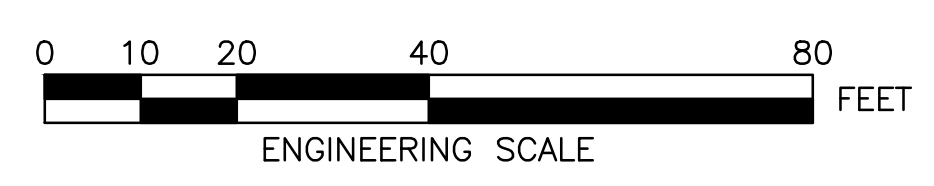
AREA: 1  
 DATE: DEC. 17, 2018

CITY ENGINEER



FOR CONTINUATION SEE DWG. NO. 36

- NOTES:**
1. THIS PLAN REPRESENTS EXISTING SIGNAGE IN JULY 2017. SOME EXISTING SIGNAGE HAS BEEN IMPACTED BY CONSTRUCTION ACTIVITY THROUGHOUT DUDLEY SQUARE.
  2. ALL PAVEMENT MARKINGS WILL BE THERMOPLASTIC UNLESS OTHERWISE INDICTED.
  3. REFURBISH EXISTING LANE MARKINGS AS DIRECTED BY PROJECT ENGINEER.
  4. REFURBISH EXISTING CROSSWALKS AT THE INTERSECTION OF WARREN STREET AND HARRISON AVENUE AS DIRECTED BY PROJECT ENGINEER.



REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON TRANSPORTATION DEPARTMENT

SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	A. DALLY
CHECKED BY	P. FUSCO
APPROVED BY	J. CONLEY

CIP 19-21 SHEET 37 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1  
PAVEMENT MARKINGS AND SIGNAGE PLANS**  
ROXBURY

SCALE: 1" = 20'  
DISTRICT: 10

AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER

R-3533-37

IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES)		UNIT AREA SF	TEXT	TEXT DIMENSIONS	NUMBER OF SIGNS REQUIRED	COLOR	POST SIZE AND NUMBER REQUIRED PER SIGN	AREA IN SQUARE FEET
	WIDTH	HEIGHT							
R-3	18"	24"	3		SEE BOSTON TRANSPORTATION DEPARTMENT STANDARD DETAIL	3	SEE BOSTON TRANSPORTATION DEPARTMENT STANDARD DETAIL	BTD SPEC. MOUNT ON MAST ARM/POST	9
R-4	24"	24"	4			1			4
R-5	24"	24"	4			3			12
R-6	24"	24"	4			2			8
R-31	30"	30"	6.25			1			6.25
R-33	24"	24"	4			3			12
R3-8b	36"	30"	7.5			2			15
R3-8E	30"	30"	6.25			1			6.25
R10-12	24"	30"	5			2			10
AC-15	18"	18"	2.25			1			2.25
P-6B	12"	18"	1.5			6			9
S-3	12"	18"	1.5			5			7.5
T-23	12"	18"	1.5			2			3
T-23L	12"	18"	1.5			2			3
T-23R	12"	18"	1.5			1			1.5
TS-1N	12"	18"	1.5			1			1.5
TS-1NR	12"	18"	1.5			1			1.5
D3-1	9"	VARIES	VARIES			2			VARIES

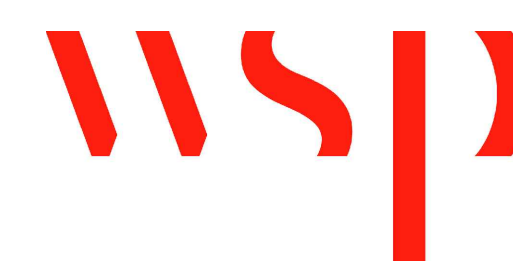
IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES)		UNIT AREA SF	TEXT	TEXT DIMENSIONS	NUMBER OF SIGNS REQUIRED	COLOR	POST SIZE AND NUMBER REQUIRED PER SIGN	AREA IN SQUARE FEET
	WIDTH	HEIGHT							
D3-2	9"	VARIES	VARIES		SEE BOSTON TRANSPORTATION DEPARTMENT STANDARD DETAIL	4	SEE BOSTON TRANSPORTATION DEPARTMENT STANDARD DETAIL	BTD SPEC. MOUNT ON MAST ARM/POST	VARIES
D3-3	9"	VARIES	VARIES			4			VARIES
D3-4	9"	VARIES	VARIES			1			VARIES
D3-5	9"	VARIES	VARIES			1			VARIES
R-1	30"	30"	5.2			1			5.2
W1-4bL	30"	30"	5.2			1			5.2

R-3533-38

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

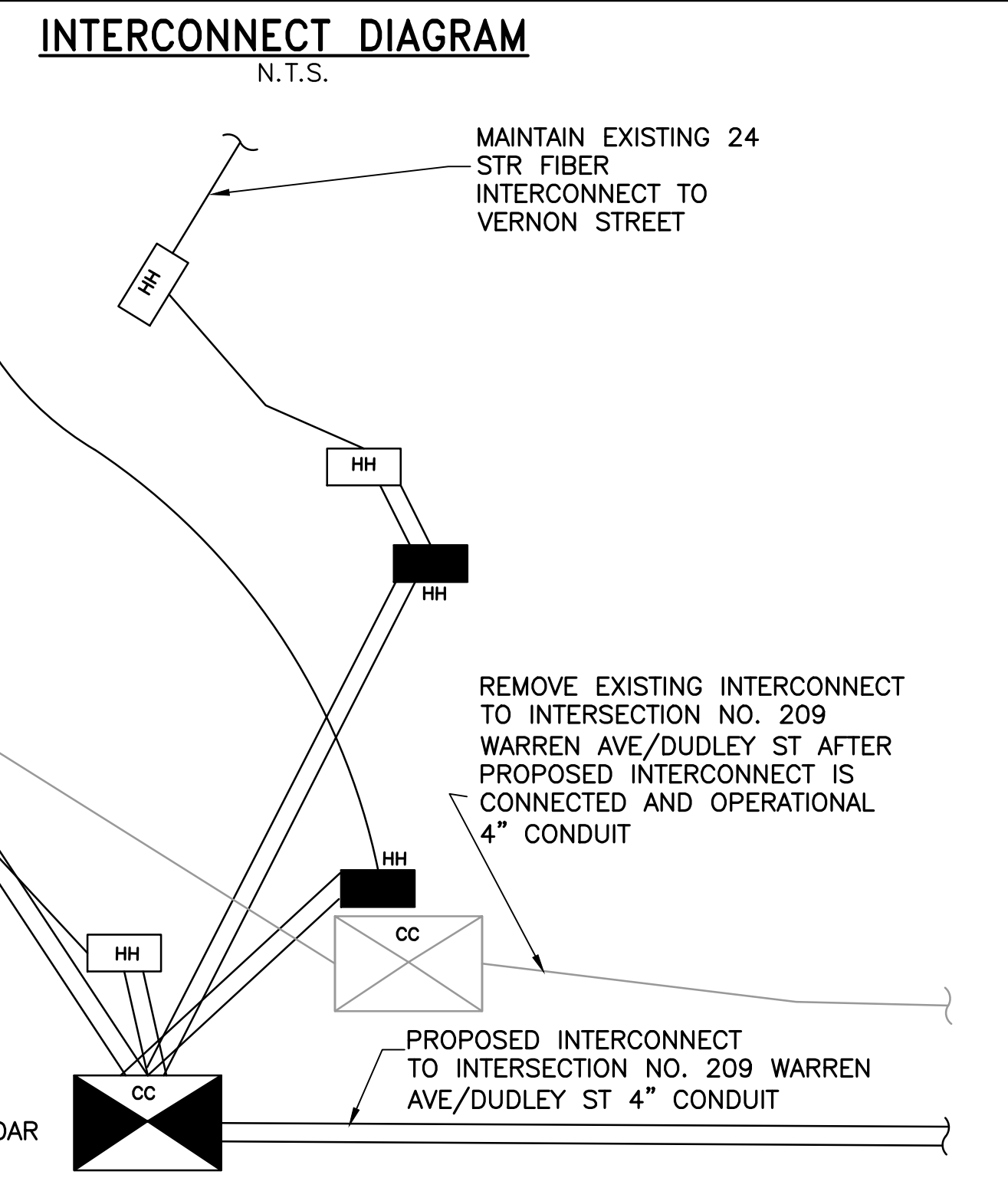
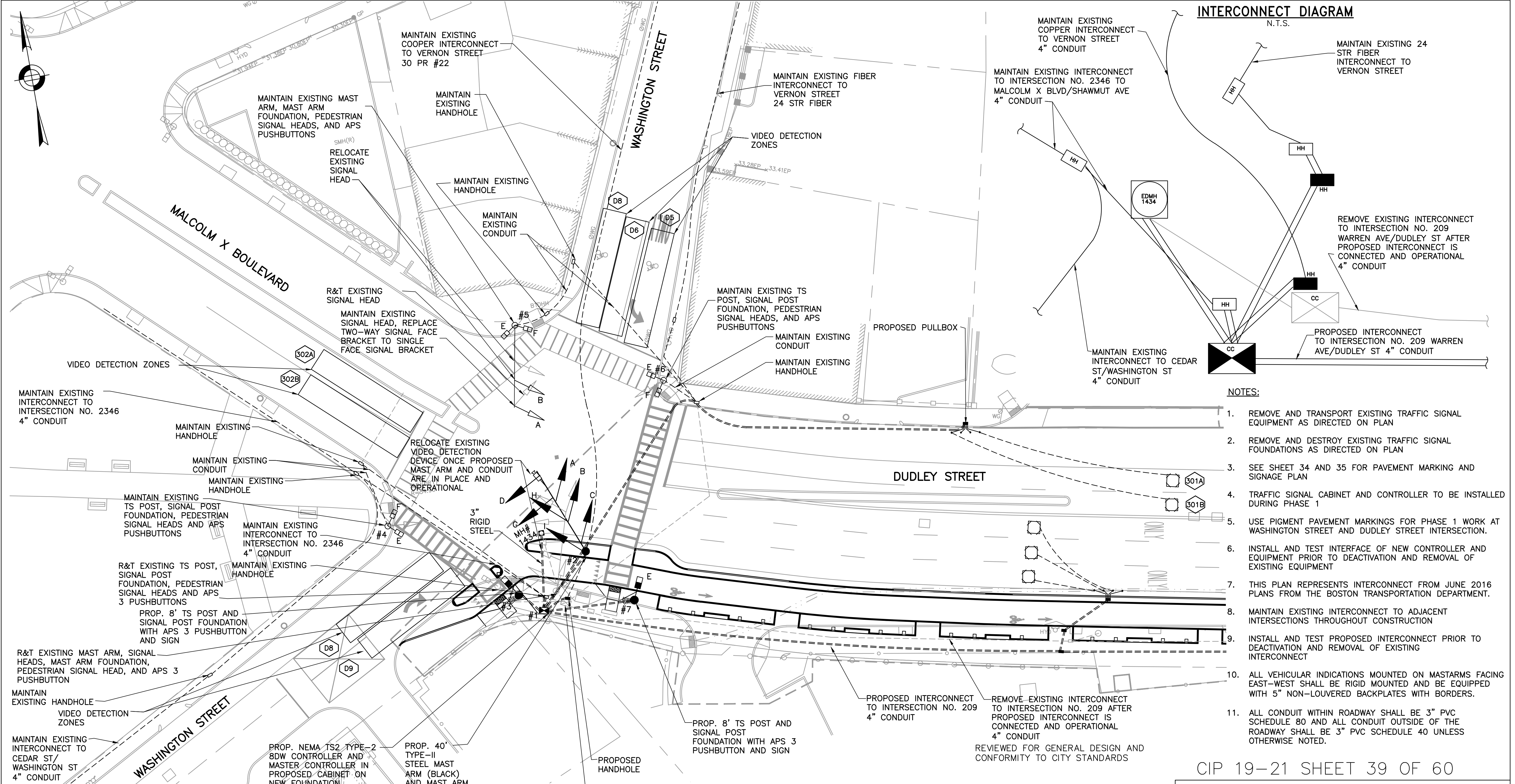
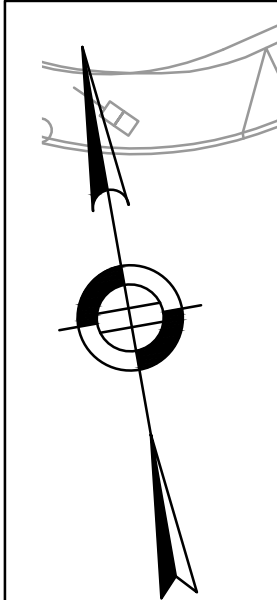
BOSTON TRANSPORTATION DEPARTMENT

SURVEY BY BRYANT ASSOCIATES  
 DRAWN BY A. DALLY  
 CHECKED BY P. FUSCO  
 APPROVED BY J. CONLEY



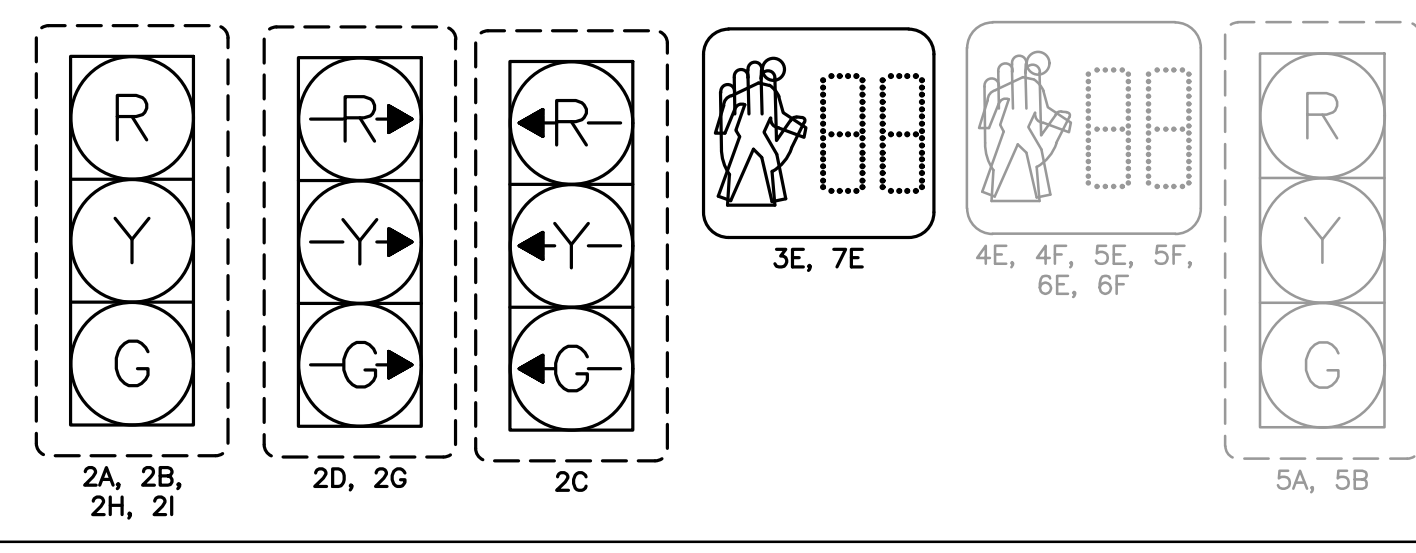
CIP 19-21 SHEET 38 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION  
 HIGHWAY RECONSTRUCTION  
**DUDLEY SQUARE PHASE 1**  
**TRAFFIC SIGN SUMMARY**  
 ROXBURY  
 SCALE: N.T.S. AREA: 1  
 DISTRICT: 10 DATE: DEC. 17, 2018  
 CITY ENGINEER



- NOTES:**
1. REMOVE AND TRANSPORT EXISTING TRAFFIC SIGNAL EQUIPMENT AS DIRECTED ON PLAN
  2. REMOVE AND DESTROY EXISTING TRAFFIC SIGNAL FOUNDATIONS AS DIRECTED ON PLAN
  3. SEE SHEET 34 AND 35 FOR PAVEMENT MARKING AND SIGNAGE PLAN
  4. TRAFFIC SIGNAL CABINET AND CONTROLLER TO BE INSTALLED DURING PHASE 1
  5. USE PIGMENT PAVEMENT MARKINGS FOR PHASE 1 WORK AT WASHINGTON STREET AND DUDLEY STREET INTERSECTION.
  6. INSTALL AND TEST INTERFACE OF NEW CONTROLLER AND EQUIPMENT PRIOR TO DEACTIVATION AND REMOVAL OF EXISTING EQUIPMENT
  7. THIS PLAN REPRESENTS INTERCONNECT FROM JUNE 2016 PLANS FROM THE BOSTON TRANSPORTATION DEPARTMENT.
  8. MAINTAIN EXISTING INTERCONNECT TO ADJACENT INTERSECTIONS THROUGHOUT CONSTRUCTION
  9. INSTALL AND TEST PROPOSED INTERCONNECT PRIOR TO DEACTIVATION AND REMOVAL OF EXISTING INTERCONNECT
  10. ALL VEHICULAR INDICATIONS MOUNTED ON MASTARMS FACING EAST-WEST SHALL BE RIGID MOUNTED AND BE EQUIPPED WITH 5" NON-LOUVERED BACKPLATES WITH BORDERS.
  11. ALL CONDUIT WITHIN ROADWAY SHALL BE 3" PVC SCHEDULE 80 AND ALL CONDUIT OUTSIDE OF THE ROADWAY SHALL BE 3" PVC SCHEDULE 40 UNLESS OTHERWISE NOTED.

**SIGNAL FACES**



R-3533-39

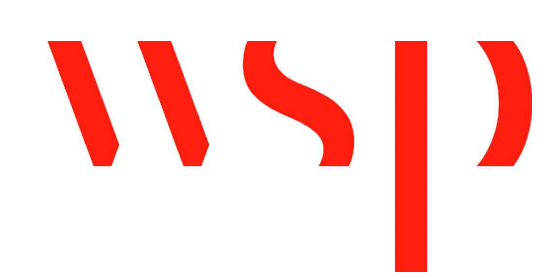
BOSTON TRANSPORTATION DEPARTMENT

SURVEY BY BRYANT ASSOCIATES

DRAWN BY A. DALLY

CHECKED BY P. FUSCO

APPROVED BY J. CONLEY



CIP 19-21 SHEET 39 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1  
TRAFFIC SIGNAL PLAN**  
DUDLEY STREET & WASHINGTON STREET  
ROXBURY  
INTERSECTION #210

SCALE: 1" = 20'  
DISTRICT: 10

AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER

### TIMING AND SEQUENCE CHART

(APPROX.)  
MALCOLM X BLVD  
DUDLEY STREET  
WASHINGTON STREET

FLASHER-CONTROL

STREET/DIRECTION/FACE	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL						
MALCOLM X/EB/2H,2I	G	Y	R	R	R	R	R	R	R	R	R	R						FY
DUDLEY ST/WB/5A,5B	G	Y	R	R	R	R	R	R	R	R	R	R						FY
WASH ST/NB/2D,2G	RR	RR	RR	RR	RR	RR	RR	RR	RR	GR	YR	RR						FRR
WASH ST/SB/2A,2B	R	R	R	R	R	R	G	G	G	G	Y	R						FR
WASH ST/LT/SB/2C	RL	RL	RL	RL	RL	RL	GL	YL	RL	RL	RL	RL						FRL
C.W./N-S/4F-5E	DW	DW	DW	W	FDW	DW	W/FDW	DW	DW	W/FDW	DW	DW						OFF
C.W./N-S/6F-7E	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW						OFF
C.W./E-W/5F-6E	W/FDW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW						OFF
C.W./E-W/3E-4E	W/FDW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW						OFF

I N T E R V A L S	MINIMUM GREEN	8				6		8										
	VEHICLE EXTENSION	2					2		2									
MAXIMUM 1 GREEN	24					9		20										
MAXIMUM 2 GREEN	26					12		25										
YELLOW CLEARANCE		4					3.5		4									
RED CLEARANCE			3.5			1				3								
WALK INTERVAL	7			7				7				7						
PED. CLEARANCE	12				28			23				23						
MEMORY					NON-LOCKING													
RECALL (VEH./PED.)					MAX/PED			MAX/PED				MAX/PED						

PROGRAM/COORDINATION				PHASE SPLITS IN SECONDS				HOURS OF OPERATION	
CYCLE NO.	PATTERN	CYCLE LENGTH	OFFSET (SEC.)	phi 1	phi 2	phi 5	phi 6		
-	10	110	0	30	36	18	26	ALL OTHER TIMES	
-	3	110	105	29	36	13	32	6:00 A.M. TO 10:00 A.M.	
-	12	110	36	33	36	18	23	3:00 P.M. TO 7:00 P.M.	
COORDINATED OPERATION								EVERYDAY	
PROGRAMMED FLASH								3:00 A.M. TO 6:00 A.M.	

LOOP DETECTOR DATA								
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	phi CALL	phi EXT.	CHNL.
001A	1	5'x5'	E	4	PRES	1	E	9
001B	1	5'x5'	E	4	PRES	1	E	10

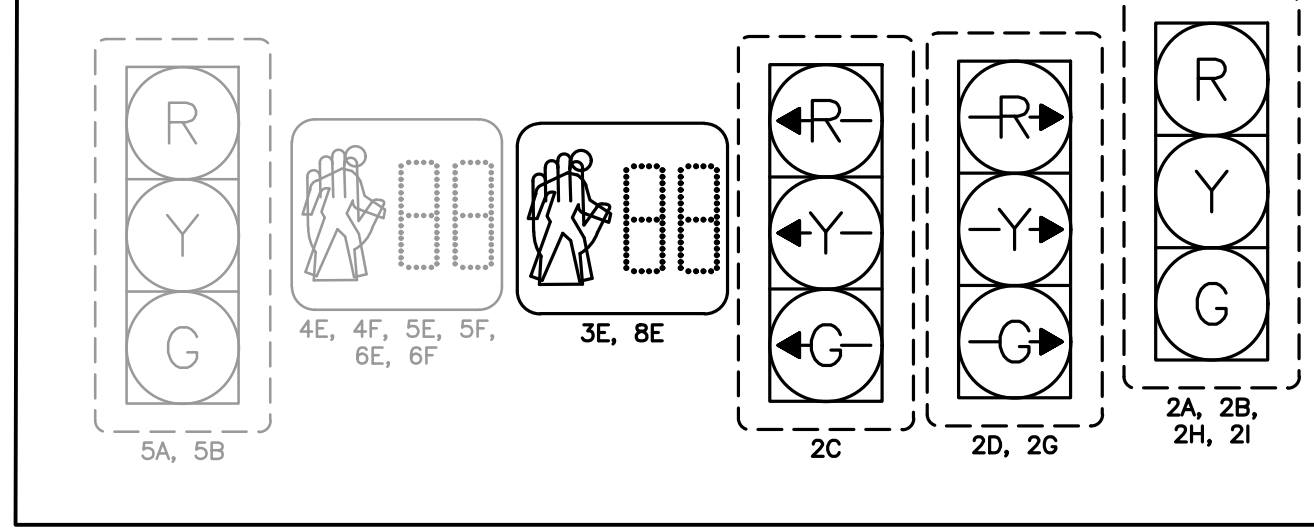
VIDEO DETECTOR DATA								
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	phi CALL	phi EXT.	CHNL.
002A	1	10'x50'	-	-	PRES	1	E	11
002B	1	10'x50'	-	-	PRES	1	E	12
05	1	10'x50'	-	-	PRES	5	E	3
06	1	10'x50'	-	-	PRES	5,6	E	4
07	1	10'x50'	-	-	PRES	5,6	E	5
08	1	10'x50'	-	-	PRES	6	E	6
09	1	10'x50'	-	-	PRES	6	E	7

CLEARANCES								TECHNICAL NOTES	
FROM	G	G-GL	R	-	-	W	DW		
G	G	-	Y	-	-	-	-	1. ALL PED PUSHBUTTONS SHALL BE WIRED TO CALL phi 2 PED CROSSINGS	
GL	-	-	YL	-	-	-	-	2. MAXIMUM 1 GREEN SHALL BE USED FOR "ALL OTHER TIMES"	
GR	-	-	YR	-	-	-	-		
-	-	-	-	-	-	-	-		
R	-	-	-	-	-	-	-		
W	-	-	-	-	-	W	FDW		
DW	-	-	-	-	-	-	DW		

**SIGNAL FACES**  
PER BTD SPECIFICATIONS

NOTE:

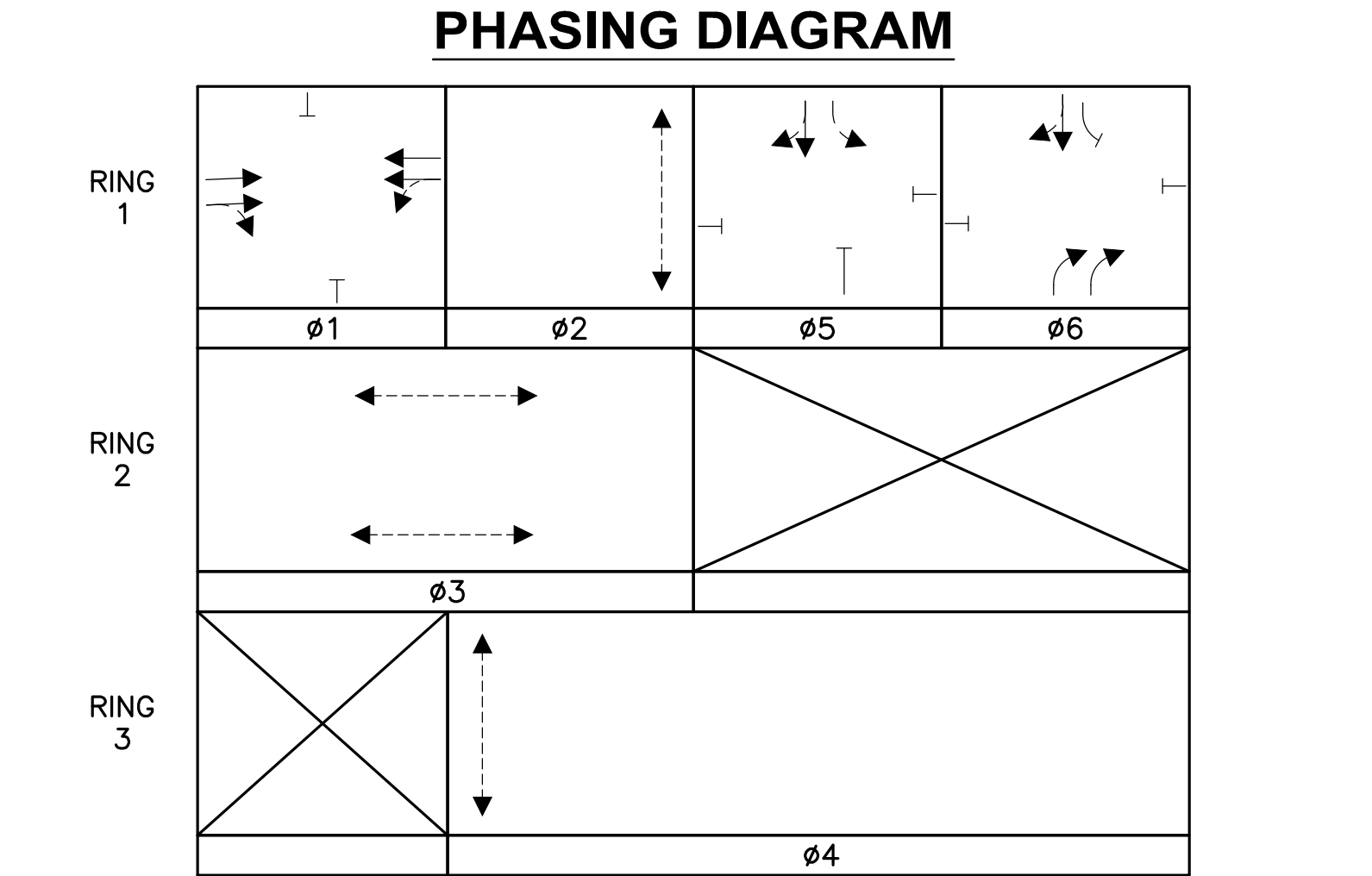
- ALL VEHICLE INDICATIONS SHALL BE 12" LED AND SHALL BE EQUIPPED WITH TUNNEL VISORS.
- ALL PEDESTRIAN INDICATIONS SHALL BE 16" LED AND SHALL COUNTDOWN AND BE EQUIPPED WITH SUN CAP VISORS.
- ALL VEHICLE INDICATIONS MOUNTED ON MASTARMS SHALL BE RIGID MOUNTED AND BE EQUIPPED WITH 5" NON-LOUVERED BACKPLATES.
- PEDESTRIAN WALK AND DON'T WALK SYMBOLS SHALL BE SOLID-TYPE LED OUTLINED SYMBOLS SHALL NOT BE USED PER BTD SPECS.



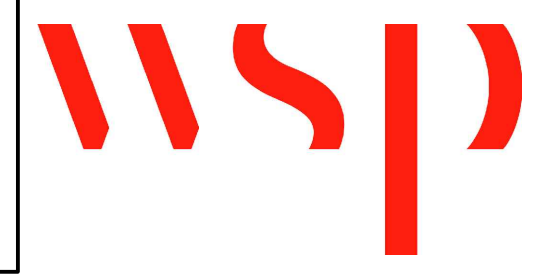
### MAJOR ITEMS REQUIRED

QUANTITY	MAJOR ITEMS REQUIRED
1	8DW CONTROLLER TS2 TYPE 2 IN TYPE CC CABINET ON NEW FOUNDATION
3	8' TYPE 3C SIGNAL POST, BASE, PEDESTAL & FOUNDATION
1	45' TYPE 2 STEEL MAST ARM & FOUNDATION (BLACK)
4	12"- 3 SECTION (R,Y,G) LED VEHICLE SIGNAL INDICATION
2	12"- 3 SECTION (RR,YR,GR RIGHT) LED VEHICLE SIGNAL INDICATION
1	12"- 3 SECTION (RL,YL,GL LEFT) LED VEHICLE SIGNAL INDICATION
2	16"- PEDESTRIAN L.E.D. SIGNAL COUNTDOWN INDICATION
2	PEDESTRIAN PUSHBUTTON, SIGN & SADDLE, APS 3 WIRE TYPE
2	UNDERGROUND 115V SERVICE CONNECTION
7	NON-LOUVERED BACKPLATE WITH BORDERS
35 LF	3" RIGID STEEL
380 LF	3" PVC SCHEDULE 40
290 LF	3" PVC SCHEDULE 80
219 LF	10 PR #14

PLUS ALL MISCELLANEOUS EQUIPMENT, WIRING, CABLE AND MATERIAL NECESSARY TO PROVIDE A COMPLETE OPERATING TRAFFIC CONTROL SIGNAL PER BOSTON TRANSPORTATION DEPARTMENT STANDARDS AND LATEST SPECIFICATIONS.



R-3533-40



REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON TRANSPORTATION DEPARTMENT

SURVEY BY BRYANT ASSOCIATES

DRAWN BY A.DALLY

CHECKED BY P.FUSCO

APPROVED BY J.CONLEY

CIP 19-21 SHEET 40 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

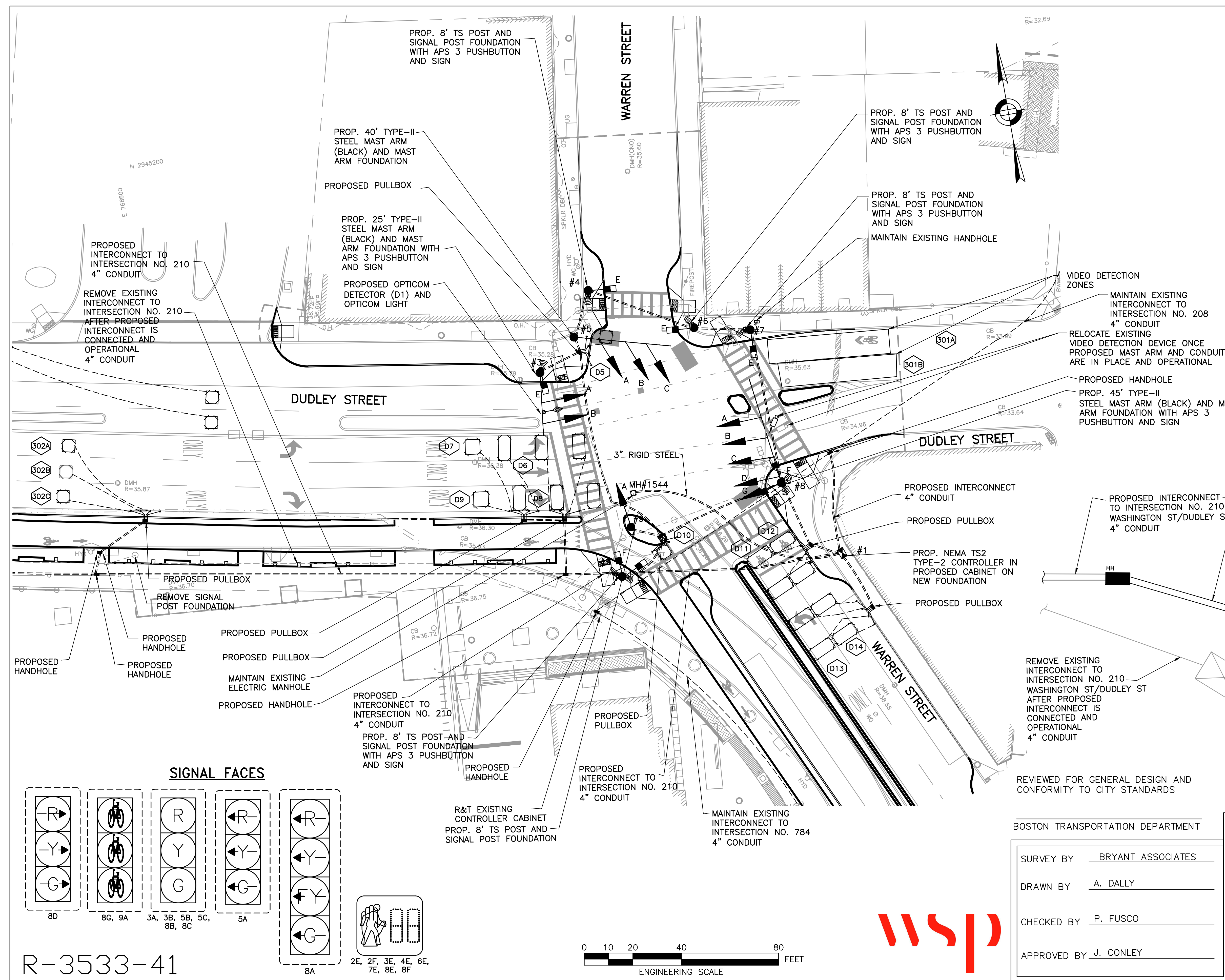
### DUDLEY SQUARE PHASE 1 TRAFFIC SIGNAL OPERATIONS SCHEDULE

DUDLEY STREET & WASHINGTON STREET  
ROXBURY  
INTERSECTION #210

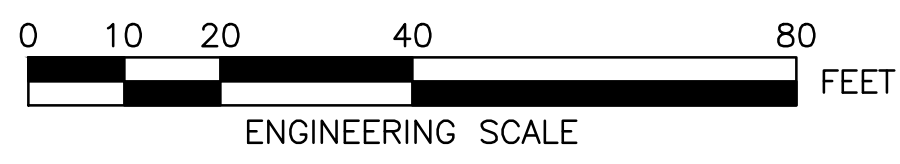
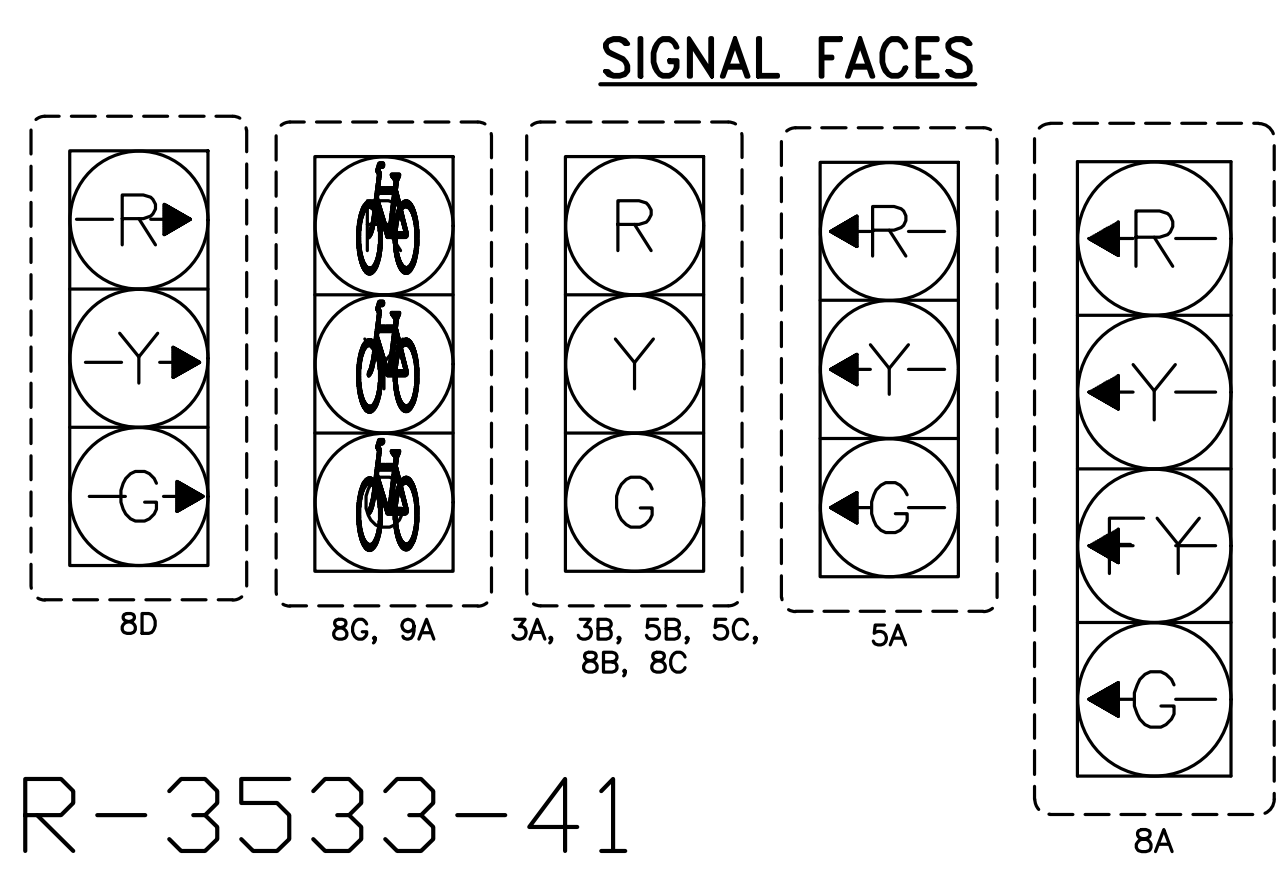
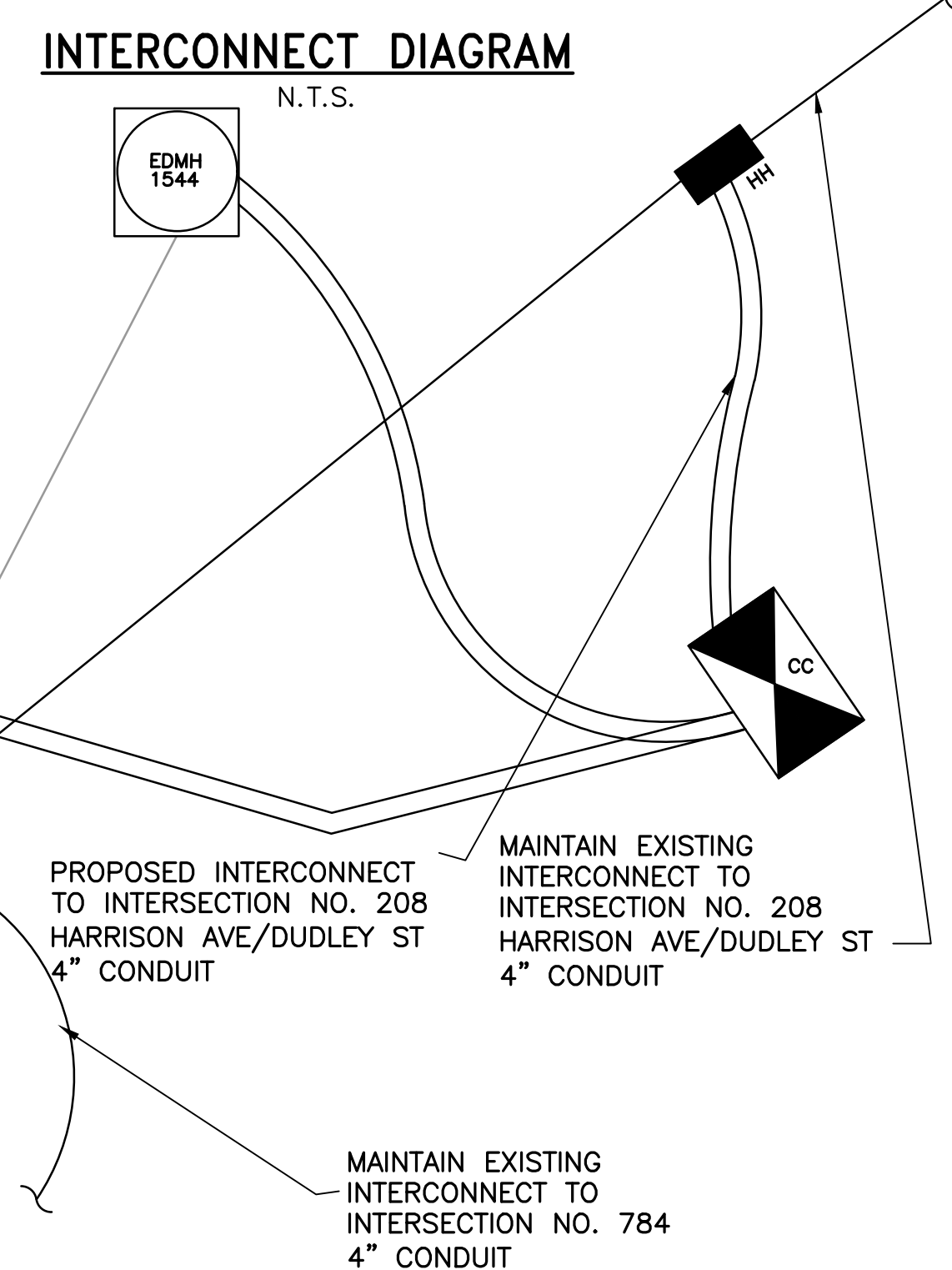
SCALE: N.T.S. AREA: 1  
DISTRICT: 10 DATE: DEC. 17, 2018

CITY ENGINEER





- NOTES:**
1. REMOVE AND TRANSPORT AT ALL EXISTING TRAFFIC SIGNAL EQUIPMENT
  2. REMOVE AND DESTROY ALL EXISTING TRAFFIC SIGNAL FOUNDATIONS
  3. SEE SHEET 34 AND 35 FOR PAVEMENT MARKING AND SIGNAGE PLAN
  4. TRAFFIC SIGNAL CABINET AND CONTROLLER TO BE INSTALLED DURING PHASE 1
  5. REMOVE AND TRANSPORT ALL EXISTING MAST ARMS, SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS, APS PUSHBUTTONS, TS POSTS, AND FOUNDATIONS AT THE INTERSECTION OF WARREN STREET AT DUDLEY STREET
  6. THIS PLAN REPRESENTS INTERCONNECT FROM JUNE 2016 PLANS FROM THE BOSTON TRANSPORTATION DEPARTMENT.
  7. MAINTAIN EXISTING INTERCONNECT TO ADJACENT INTERSECTIONS THROUGHOUT CONSTRUCTION
  8. INSTALL AND TEST PROPOSED INTERCONNECT PRIOR TO DEACTIVATION AND REMOVAL OF EXISTING INTERCONNECT
  9. ALL VEHICULAR INDICATIONS MOUNTED ON MASTARMS FACING EAST-WEST SHALL BE RIGID MOUNTED AND BE EQUIPPED WITH 5" NON-LOUVERED BACKPLATES WITH BORDERS.
  10. ALL CONDUIT WITHIN ROADWAY SHALL BE 3" PVC SCHEDULE 80 AND ALL CONDUIT OUTSIDE OF THE ROADWAY SHALL BE 3" PVC SCHEDULE 40 UNLESS OTHERWISE NOTED.



REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON TRANSPORTATION DEPARTMENT

SURVEY BY BRYANT ASSOCIATES

DRAWN BY A. DALLY

CHECKED BY P. FUSCO

APPROVED BY J. CONLEY

CIP 19-21 SHEET 41 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

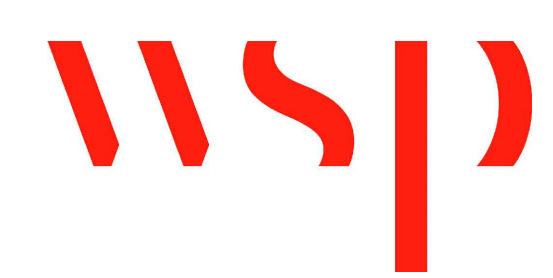
**DUDLEY SQUARE PHASE 1  
TRAFFIC SIGNAL PLAN**  
DUDLEY STREET & WARREN STREET  
ROXBURY  
INTERSECTION #209

SCALE: 1" = 20'  
DISTRICT: 10

AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER

R-3533-41



### TIMING AND SEQUENCE CHART

(APPROX.)

FLASHING  
 YELLOW

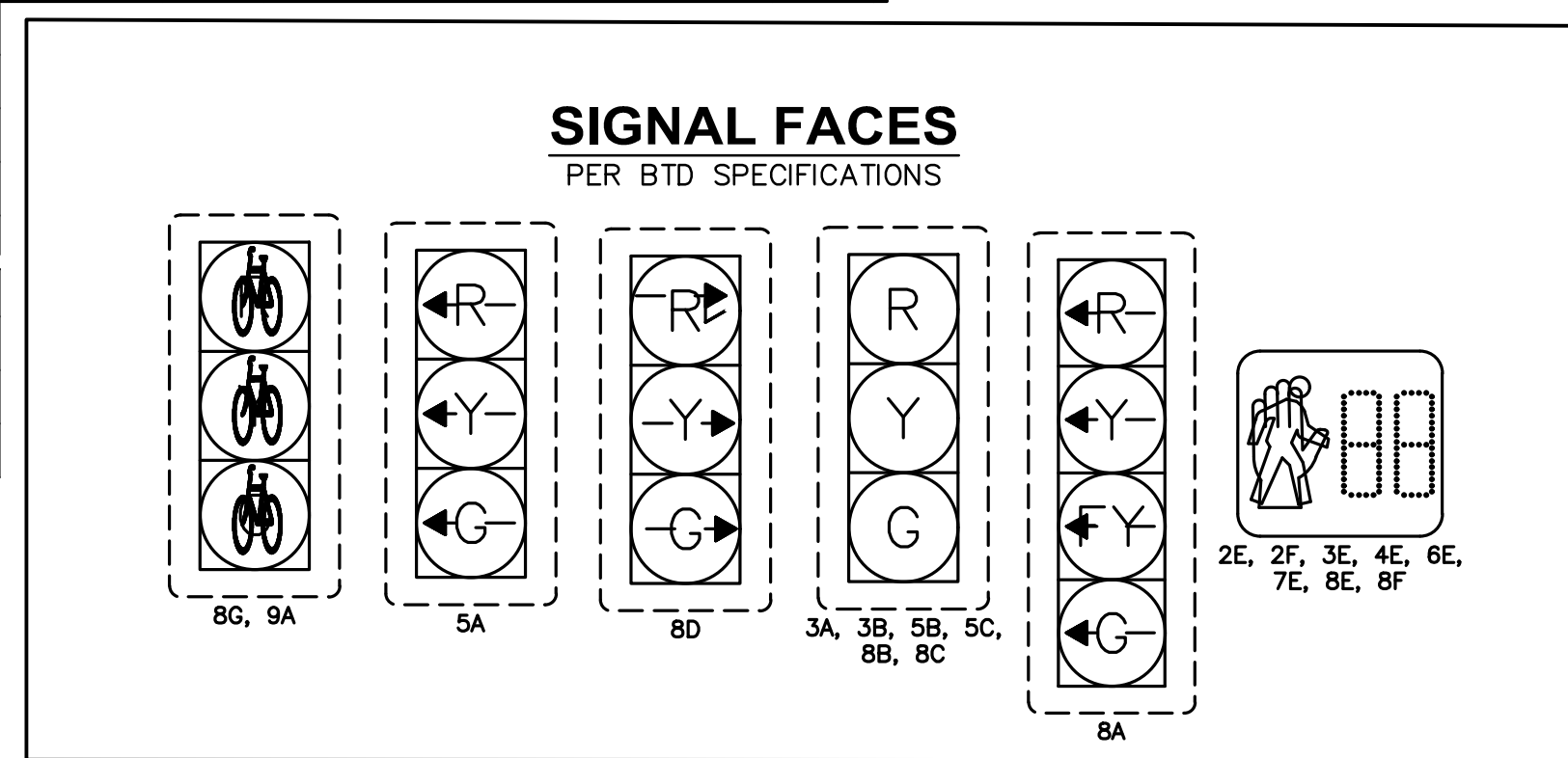
STREET/DIRECTION/FACE	φ1			φ2			φ3			φ4			PRE-EMPTION				
DUDLEY ST/EB/LT/8A	GL	YL	RL	GRN	YL	RL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL		FYL
DUDLEY ST/EB/8B,8C	G	Y	R	G	Y	R	R	R	R	R	R	R	R	R	R		FY
DUDLEY ST/EB/RT/8D	GR	YR	RR	RR	RR	RR	RR	RR	RR	GR	YR	RR	RR	RR	RR		FYR
DUDLEY ST/WB/3A,3B	R	R	R	G	Y	R	R	R	R	R	R	R	G	Y	R		FY
WARREN ST/NB/LT/5A	RL	RL	RL	RL	RL	RL	RL	RL	RL	GL	YL	RL	RL	RL	RL		FRL
WARREN ST/NB/5B,5C	R	R	R	R	R	R	G	Y	R	G	Y	R	R	R	R		FR
BIKE SIGNAL EB/8G	RB	RB	RB	GB	YB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB		FYB
BIKE SIGNAL SB/9A	RB	RB	RB	RB	RB	RB	GB	YB	RB	RB	RB	RB	RB	RB	RB		FRB
C.W./N-S/2F-3E	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW		OFF
C.W./N-S/7E-8F	DW	DW	DW	DW	DW	DW	W/FDW	DW	DW	W/FDW	DW	DW	DW	DW	DW		OFF
C.W./E-W/4E-6E	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW		OFF
C.W./E-W/2E-8E	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW		OFF

I N T E R V A L	SECONDS	PROGRAM/COORDINATION															
		MINIMUM GREEN	VEHICLE EXTENSION	MAXIMUM 1 GREEN	MAXIMUM 2 GREEN	YELLOW CLEARANCE	RED CLEARANCE	WALK INTERVAL	PED. CLEARANCE	MEMORY	RECALL (VEH./PED.)	LOCKING	MAX/PED	MAX/PED	MAX/PED	OFF	
		8	2	27	28	3	3	7	14								
		8	2	22	24	3	3	7	17								
		8	2	21	21	3	3	7	13								
		8	2	16	17	3	3	7	13								
		30	30	30	30	3	3	1									

CYCLE NO.	PATTERN	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS				HOURS OF OPERATION
				φ1	φ2	φ3	φ4	
-	10	110	0	32	38	27	13	ALL OTHER TIMES
-	3	110	89	34	26	27	23	6:00 A.M. TO 10:00 A.M.
-	12	110	35	32	30	27	21	3:00 P.M. TO 7:00 P.M.
COORDINATED OPERATION								EVERYDAY
PROGRAMMED FLASH								3:00 A.M. TO 6:00 A.M.

LOOP DETECTOR DATA									CLEARANCES									TECHNICAL NOTES
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	ØCALL	ØEXT.	CHNL.	FROM	TO								1. MAXIMUM 1 GREEN SHALL BE USED FOR 'ALL OTHER TIMES' 2. ALL PEDESTRIAN TIMES SET TO "MAX/PED" 3. DETECTORS D5, D10, D11, D12, & D13 SHOULD BE SET TO QUADPOLE CONFIGURATION.
D5	1	5'x5'	E	4	PRES	5	E	3	G	G	G-GL	R	-	-	W	DW		
D6	3	10'x5'	E	4	PRES	3	E	4	GL	GL	-	YL	-	-	-	-		
D7	1	6'x6'	E	4	PRES	3	E	4	FYL	-	-	YL	-	-	-	-		
D8	3	10'x5'	E	4	PRES	1,6	E	5	GR	-	-	YR	-	-	-	-		
D9	1	6'x6'	E	4	PRES	1,6	E	5	R	-	-	-	-	-	-	-		
D10	1	5'x5'	E	4	PRES	3	E	6	W	-	-	-	-	-	W	FDW		
D11	1	10'x5'	E	4	PRES	6	E	7	DW	-	-	-	-	-	-	DW		
D12	1	10'x5'	E	4	PRES	5,6	E	8										
D13	3	10'x5'	E	4	PRES	6	E	7										
D14	3	10'x5'	E	4	PRES	5,6	E	8										
Ø02A	1	5'x5'	E	4	PRES	3	E	11										
Ø02B	1	5'x5'	E	4	PRES	1,3	E	12										
Ø02C	1	5'x5'	E	4	PRES	1,6	E	13										

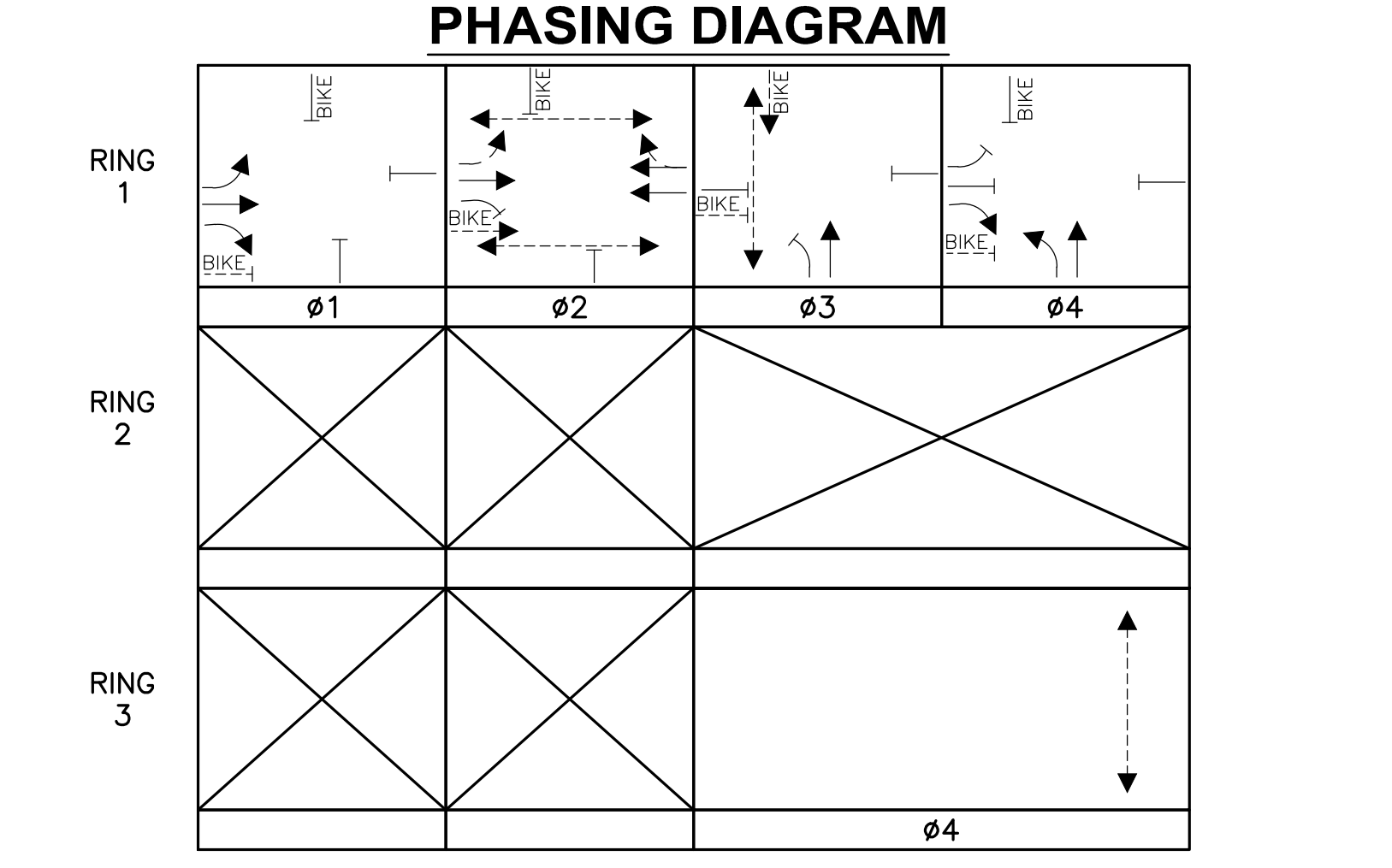
VIDEO DETECTOR DATA								
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	ØCALL	ØEXT.	CHNL.
Ø01A	1	10'x50'	-	-	PRES	1	E	9
Ø01B	1	10'x50'	-	-	PRES	1	E	10



### MAJOR ITEMS REQUIRED

QUANTITY	MAJOR ITEMS REQUIRED
1	CONTROLLER TS-2 TYPE 2 WITH INTERNAL RCU IN TYPE 'CB' CABINET AND FOUNDATION AS PER BTD SPECIFICATION
5	8' TYPE 3C SIGNAL POST, BASE, PEDESTAL & FOUNDATION
1	25' TYPE 2 STEEL MAST ARM & FOUNDATION (BLACK)
1	40' TYPE 2 STEEL MAST ARM & FOUNDATION (BLACK)
1	45' TYPE 2 STEEL MAST ARM & FOUNDATION (BLACK)
6	12"- 3 SECTION (R,Y,G) LED VEHICLE SIGNAL INDICATION
1	12"- 4 SECTION (R,Y,FY,G LEFT) LED VEHICLE SIGNAL INDICATION
1	12"- 3 SECTION (RL,YL,GL LEFT) LED VEHICLE SIGNAL INDICATION
2	12"- 3 SECTION (RB,YB,GB BIKE) LED VEHICLE SIGNAL INDICATION
1	12"- 3 SECTION (RR,YR,GR RIGHT) LED VEHICLE SIGNAL INDICATION
8	16"- PEDESTRIAN L.E.D. SIGNAL COUNTDOWN INDICATION
8	PEDESTRIAN PUSHBUTTON, SIGN & SADDLE, APS 3 WIRE TYPE
1	UNDERGROUND 115V SERVICE CONNECTION
3	NON-LOUVERED BACKPLATE WITH BORDERS
95 LF	3" RIGID STEEL
420 LF	3" PVC SCHEDULE 40
680 LF	3" PVC SCHEDULE 80
195 LF	10 PR #14
220 LF	30 PR #22

PLUS ALL MISCELLANEOUS EQUIPMENT, WIRING, CABLE AND MATERIAL NECESSARY TO PROVIDE A COMPLETE OPERATING TRAFFIC CONTROL SIGNAL PER BOSTON TRANSPORTATION DEPARTMENT STANDARDS AND LATEST SPECIFICATIONS.



- NOTE:**
- ALL VEHICLE INDICATIONS SHALL BE 12" LED AND SHALL BE EQUIPPED WITH TUNNEL VISORS.
  - ALL PEDESTRIAN INDICATIONS SHALL BE 16" LED AND SHALL COUNTDOWN AND BE EQUIPPED WITH SUN CAP VISORS.
  - ALL VEHICLE INDICATIONS MOUNTED ON MASTARMS SHALL BE RIGID MOUNTED AND BE EQUIPPED WITH 5" NON-LOUVERED BACKPLATES.
  - PEDESTRIAN WALK AND DON'T WALK SYMBOLS SHALL BE SOLID-TYPE LED OUTLINED SYMBOLS SHALL NOT BE USED PER BTD SPECS.

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON TRANSPORTATION DEPARTMENT

SURVEY BY BRYANT ASSOCIATES

DRAWN BY A.DALLY

CHECKED BY P.FUSCO

APPROVED BY J.CONLEY

CIP 19-21 SHEET 42 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

## DUDLEY SQUARE PHASE 1 TRAFFIC SIGNAL OPERATIONS SCHEDULE

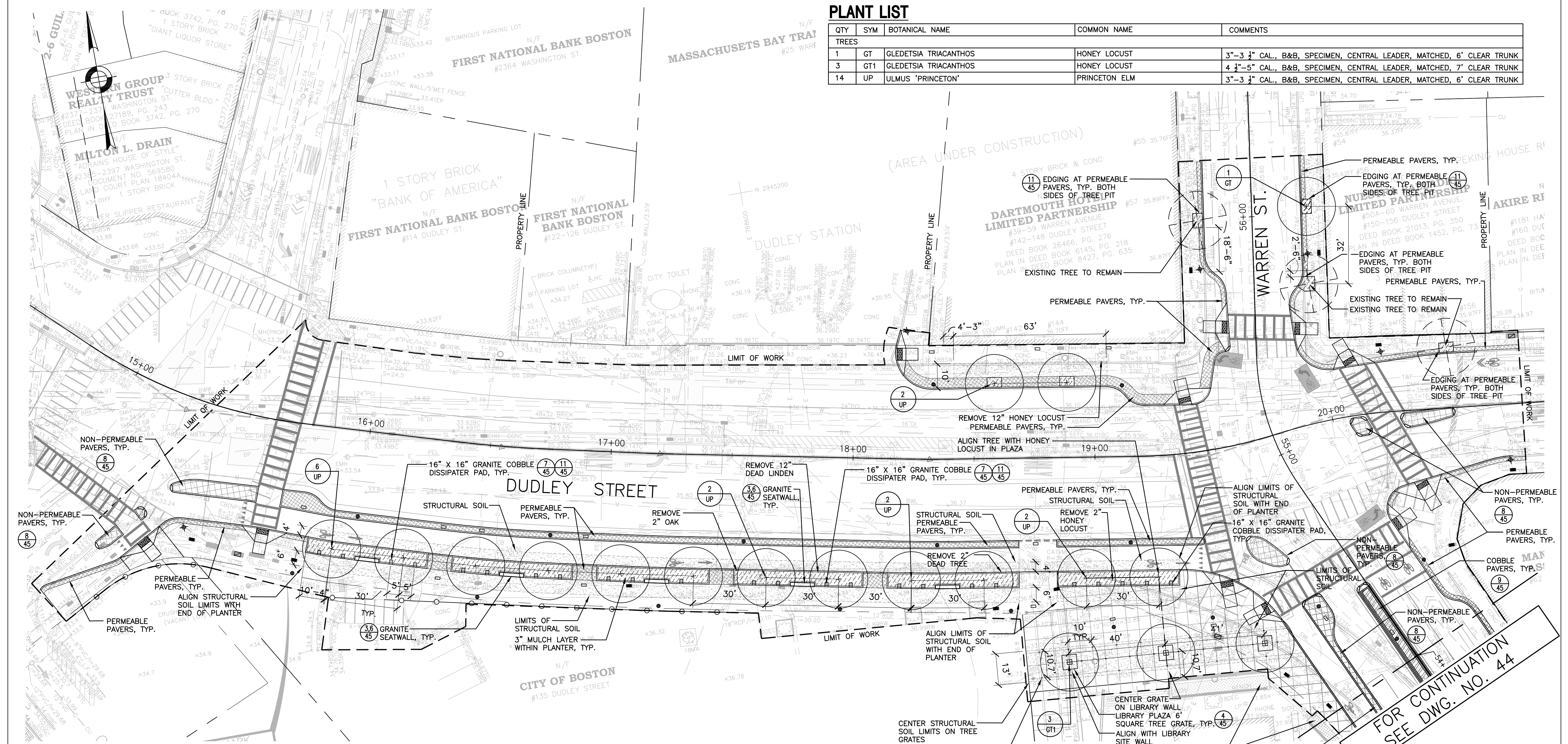
DUDLEY STREET & WARREN STREET  
ROXBURY  
INTERSECTION #209

SCALE: N.T.S.      AREA: 1  
DISTRICT: 10      DATE: DEC. 17, 2018

CITY ENGINEER

**PLANT LIST**

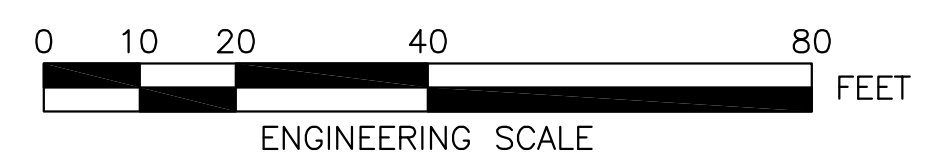
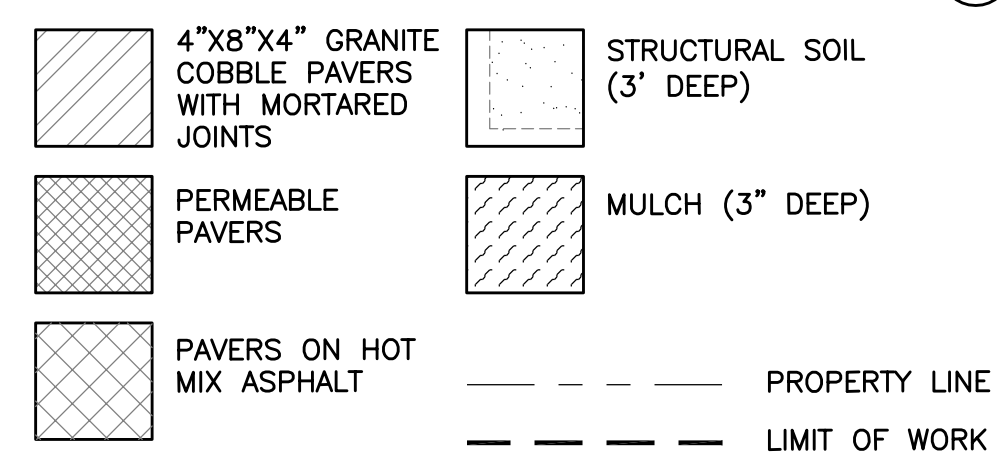
QTY	SYM	BOTANICAL NAME	COMMON NAME	COMMENTS
<b>TREES</b>				
1	GT	GLEDITSIA TRIACANTHOS	HONEY LOCUST	3"-3 1/2" CAL., B&B, SPECIMEN, CENTRAL LEADER, MATCHED, 6' CLEAR TRUNK
3	GT1	GLEDITSIA TRIACANTHOS	HONEY LOCUST	4 1/2"-5" CAL., B&B, SPECIMEN, CENTRAL LEADER, MATCHED, 7' CLEAR TRUNK
14	UP	ULMUS 'PRINCETON'	PRINCETON ELM	3"-3 1/2" CAL., B&B, SPECIMEN, CENTRAL LEADER, MATCHED, 6' CLEAR TRUNK



**PLANTING NOTES**

- ALL PLANT MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY "THE AMERICAN STANDARD FOR NURSERY STOCK," PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
- ALL DECIDUOUS SHRUBS SHALL HAVE AT LEAST THE MINIMUM NUMBER OF CANES SPECIFIED IN ANSI Z60.1 (CURRENT RELEASE) FOR THE PARTICULAR NURSERY STOCK.
- FOR SHRUB AND TREE PLANTINGS, THE DEPTH OF PLANT MIX SHALL BE EQUAL TO THE DEPTH OF THE PLANT MATERIAL'S ROOTBALL. ROOTBALL DEPTHS SHALL MEET THE ANSI Z60.1 GUIDELINES (CURRENT RELEASE) FOR NURSERY STOCK.
- ALL PLANTS TO BE APPROVED BY THE PROJECT LANDSCAPE ARCHITECT PRIOR TO ARRIVAL AT THE SITE.
- STAKE LOCATION OF ALL PROPOSED PLANT MATERIAL FOR THE APPROVAL OF THE PROJECT LANDSCAPE ARCHITECT PRIOR TO THE BEGINNING OF PLANTING.
- PROPOSED STREET TREE BRANCHES ADJACENT TO THE CYCLE TRACK SHALL BE TRIMMED TO PROVIDE A MINIMUM OF 8' OF VERTICAL CLEARANCE ABOVE THE CYCLE TRACK.

**MATERIALS LEGEND**



DRAWING PREPARED BY COPLEY WOLFF DESIGN GROUP

**BOSTON PARKS DEPARTMENT**

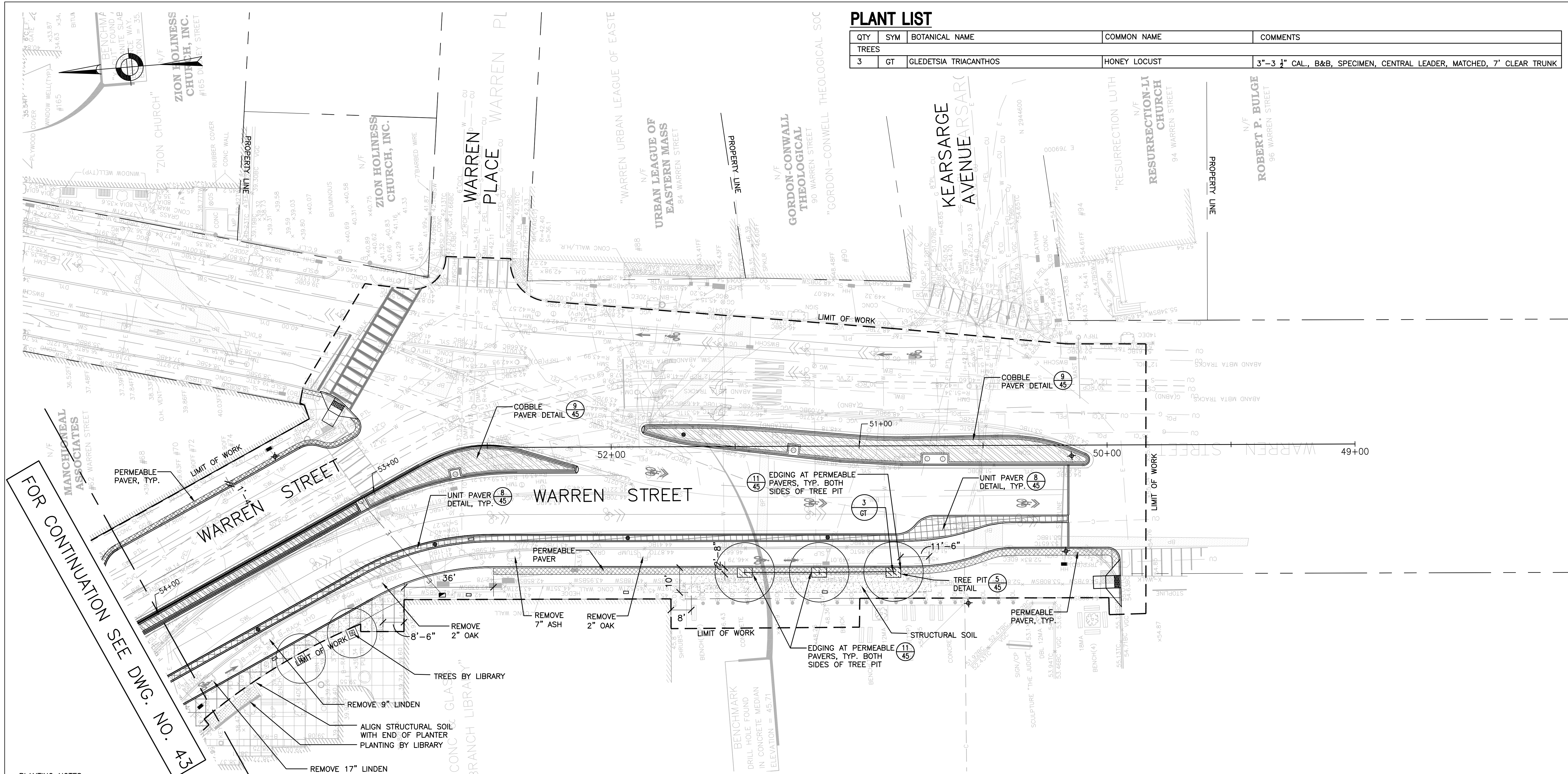
SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	M. CANTU
CHECKED BY	S. SANGER
APPROVED BY	J. COPLEY

CIP 19-21 SHEET 43 OF 60

**CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION  
DUDLEY SQUARE PHASE 1  
LANDSCAPE PLAN  
ROXBURY**

SCALE: AS NOTED	AREA: 1
DISTRICT: 10	DATE: DEC. 17, 2018
CITY ENGINEER	

R-3533-43



**PLANT LIST**

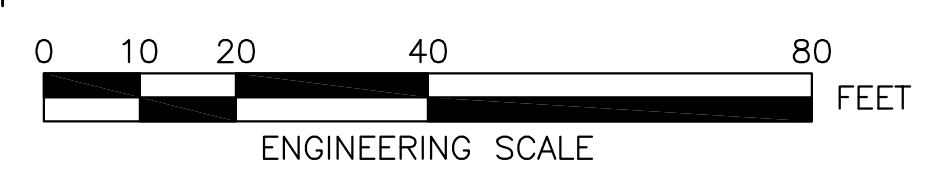
QTY	SYM	BOTANICAL NAME	COMMON NAME	COMMENTS
<b>TREES</b>				
3	GT	GLEDETSIA TRIACANTHOS	HONEY LOCUST	3"-3 1/2" CAL., B&B, SPECIMEN, CENTRAL LEADER, MATCHED, 7' CLEAR TRUNK

**PLANTING NOTES**

1. ALL PLANT MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY "THE AMERICAN STANDARD FOR NURSERY STOCK," PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
2. ALL DECIDUOUS SHRUBS SHALL HAVE AT LEAST THE MINIMUM NUMBER OF CANES SPECIFIED IN ANSI Z60.1 (CURRENT RELEASE) FOR THE PARTICULAR NURSERY STOCK.
3. FOR SHRUB AND TREE PLANTINGS, THE DEPTH OF PLANT MIX SHALL BE EQUAL TO THE DEPTH OF THE PLANT MATERIAL'S ROOTBALL. ROOTBALL DEPTHS SHALL MEET THE ANSI Z60.1 GUIDELINES (CURRENT RELEASE) FOR NURSERY STOCK.
4. ALL PLANTS TO BE APPROVED BY THE PROJECT LANDSCAPE ARCHITECT PRIOR TO ARRIVAL AT THE SITE.
5. STAKE LOCATION OF ALL PROPOSED PLANT MATERIAL FOR THE APPROVAL OF THE PROJECT LANDSCAPE ARCHITECT PRIOR TO THE BEGINNING OF PLANTING.
6. PROPOSED STREET TREE BRANCHES ADJACENT TO THE CYCLE TRACK SHALL BE TRIMMED TO PROVIDE A MINIMUM OF 8' OF VERTICAL CLEARANCE ABOVE THE CYCLE TRACK.

**MATERIALS LEGEND**

	4"x8"x4" GRANITE COBBLE PAVERS WITH MORTARED JOINTS		STRUCTURAL SOIL (3' DEEP)
	PERMEABLE PAVERS		MULCH (3" DEEP)
	PAVERS ON HOT MIX ASPHALT		PROPERTY LINE
			LIMIT OF WORK



REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PARKS DEPARTMENT

SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	M. CANTU
CHECKED BY	S. SANGER
APPROVED BY	J. COPLEY

CIP 19-21 SHEET 44 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION  
 HIGHWAY RECONSTRUCTION

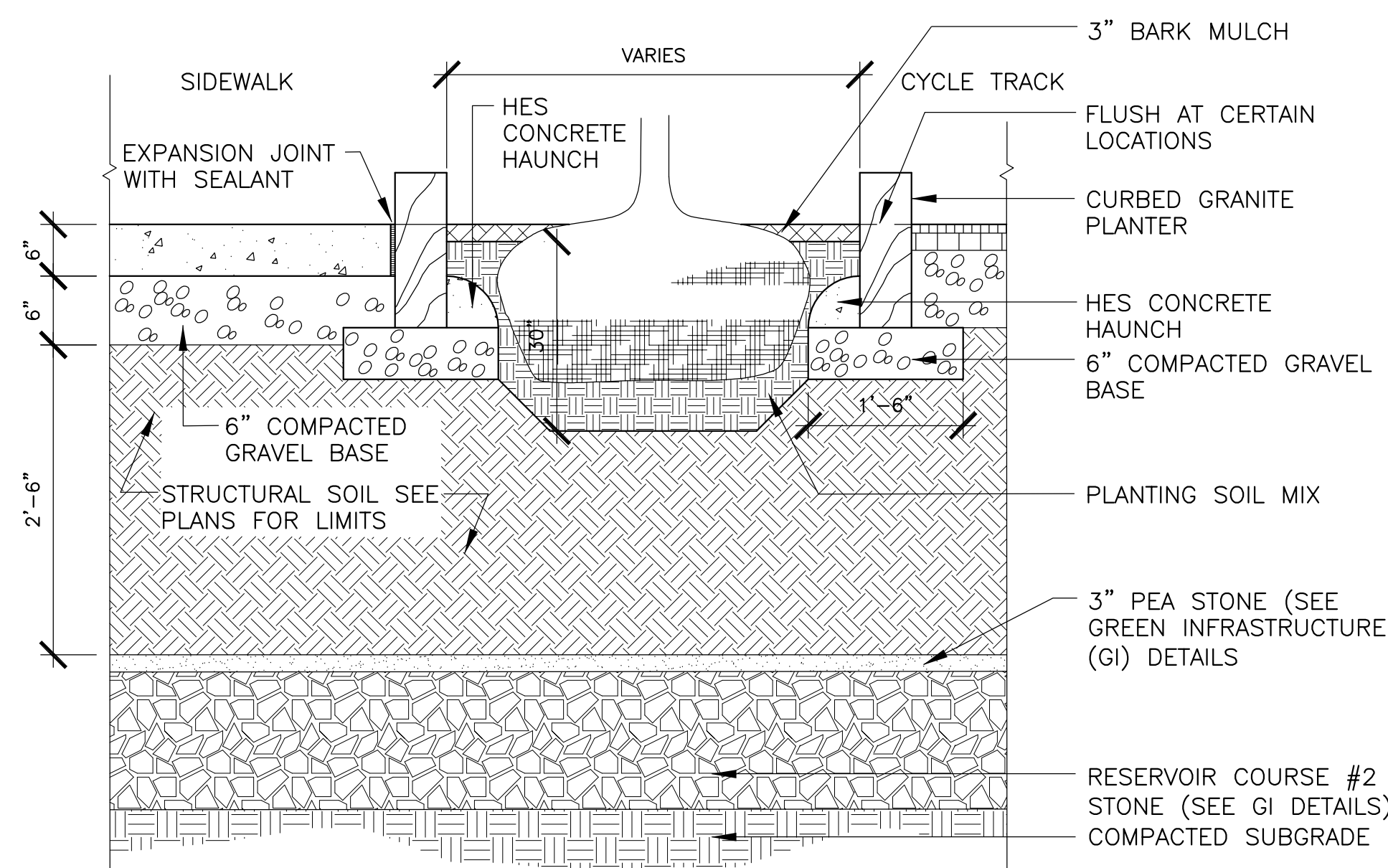
**DUDLEY SQUARE PHASE 1  
 LANDSCAPE PLAN**  
 ROXBURY

SCALE: AS NOTED  
 DISTRICT: 10

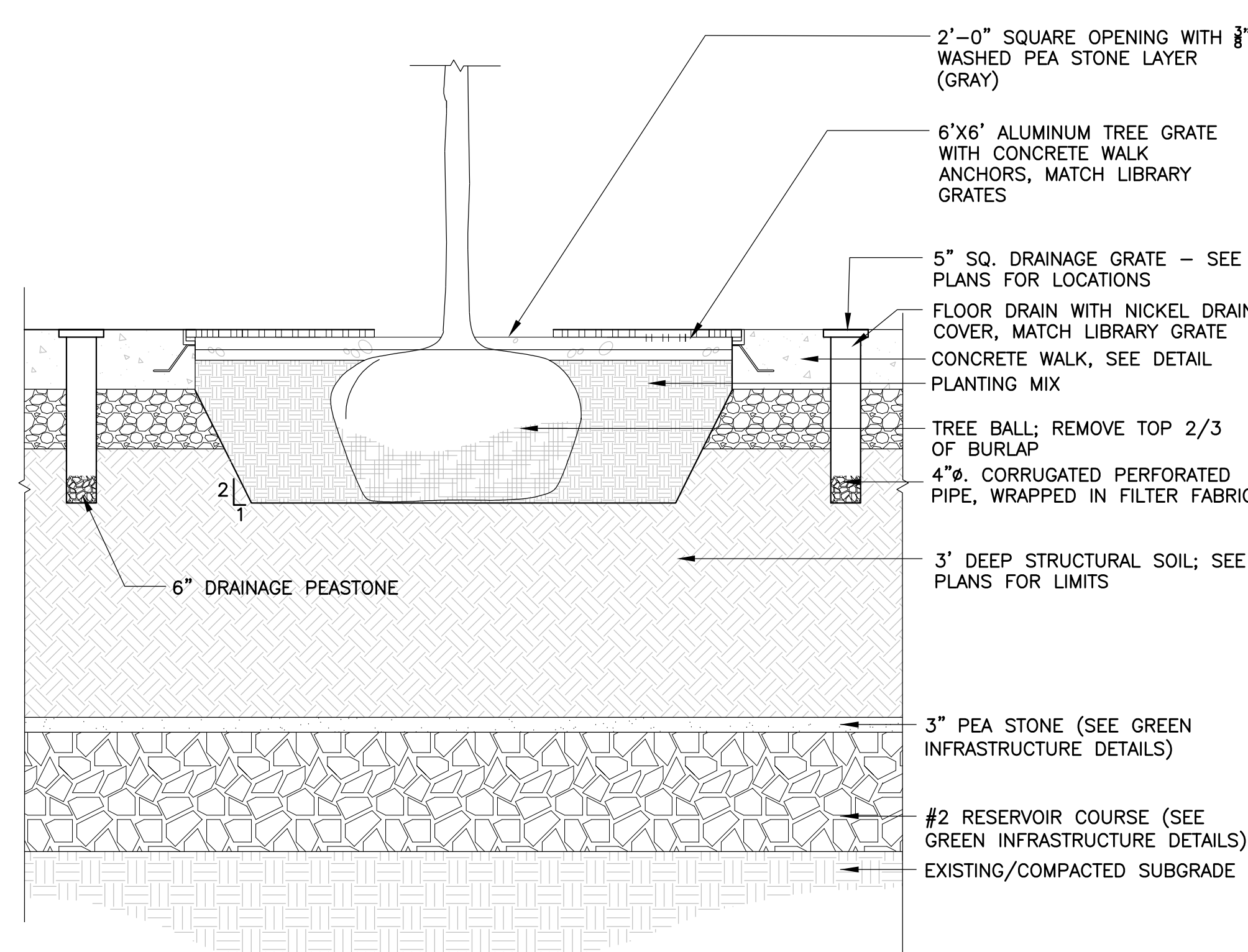
AREA: 1  
 DATE: DEC. 17, 2018

CITY ENGINEER

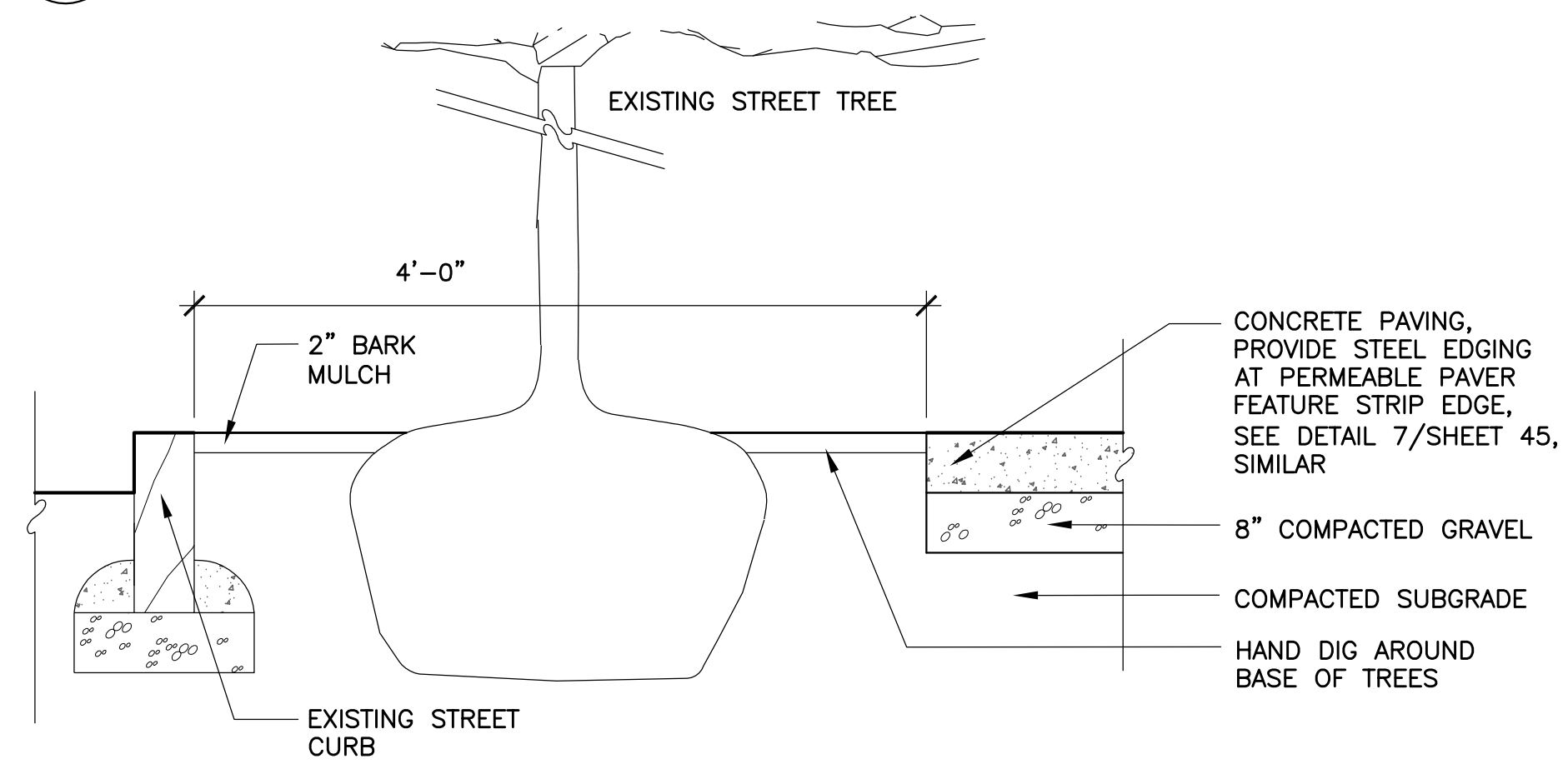
R-3533-44



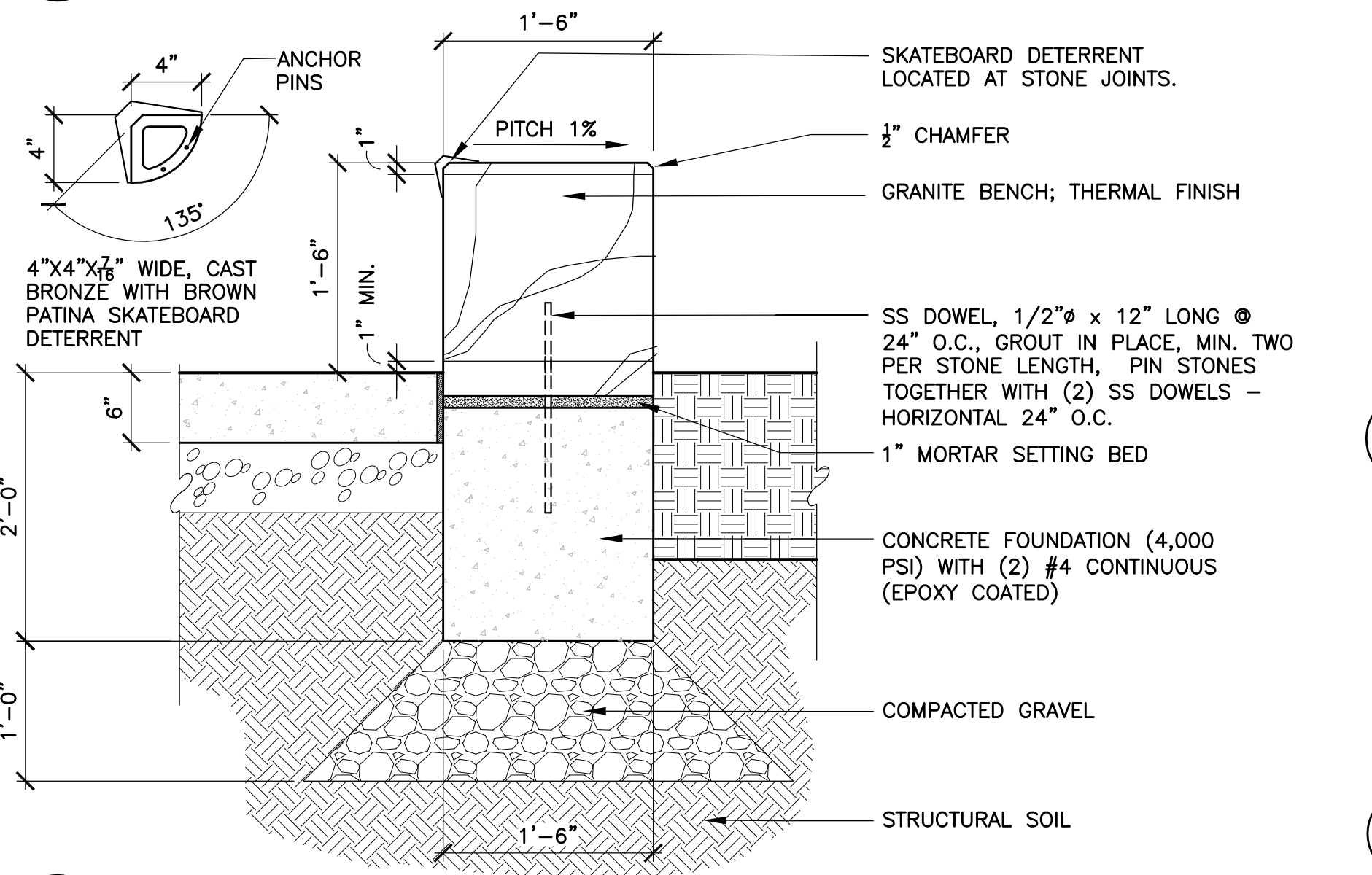
**1 CURBED GRANITE PLANTER**  
SCALE: 3/4" = 1'-0"



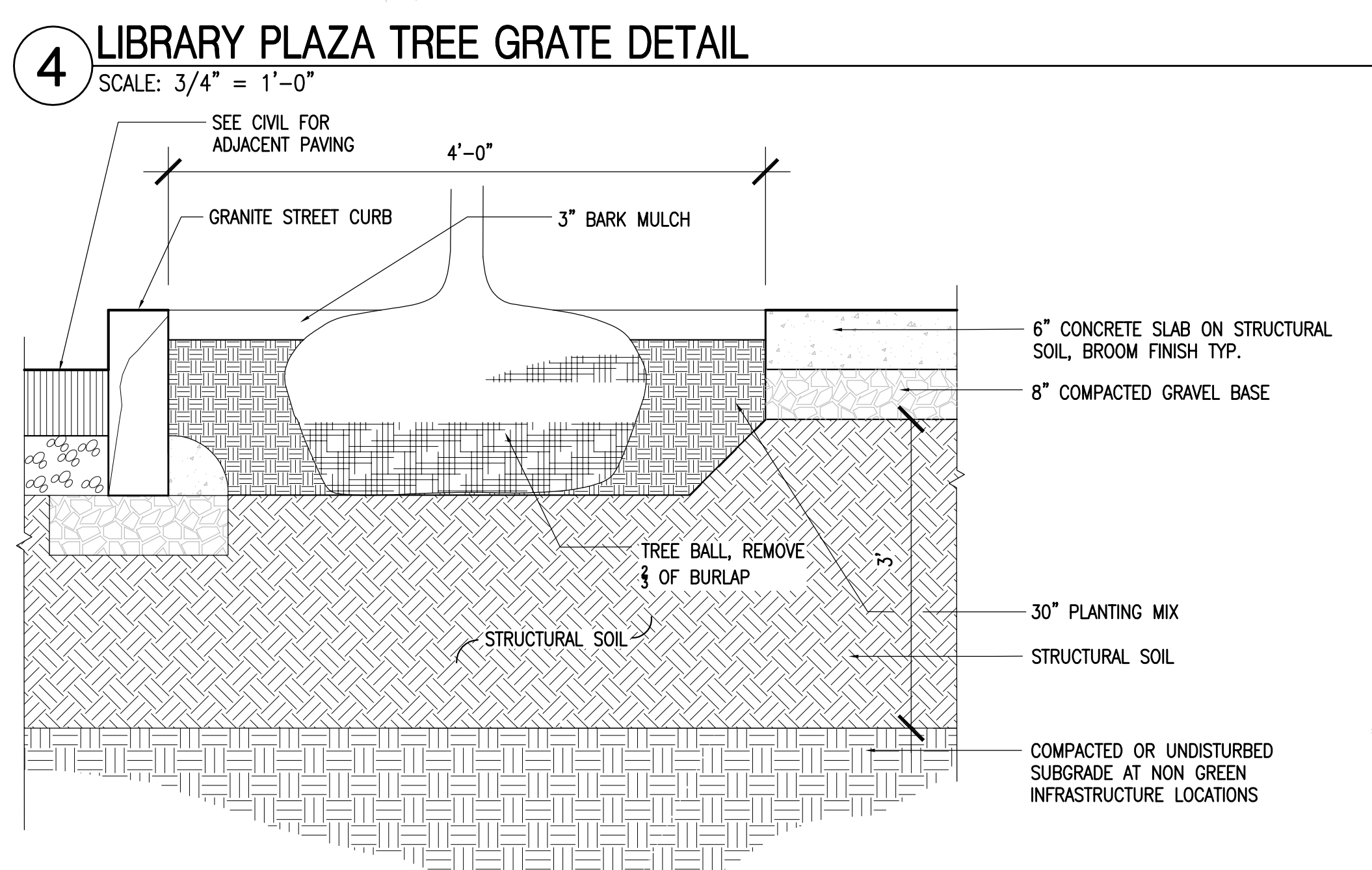
**4 LIBRARY PLAZA TREE GRATE DETAIL**  
SCALE: 3/4" = 1'-0"



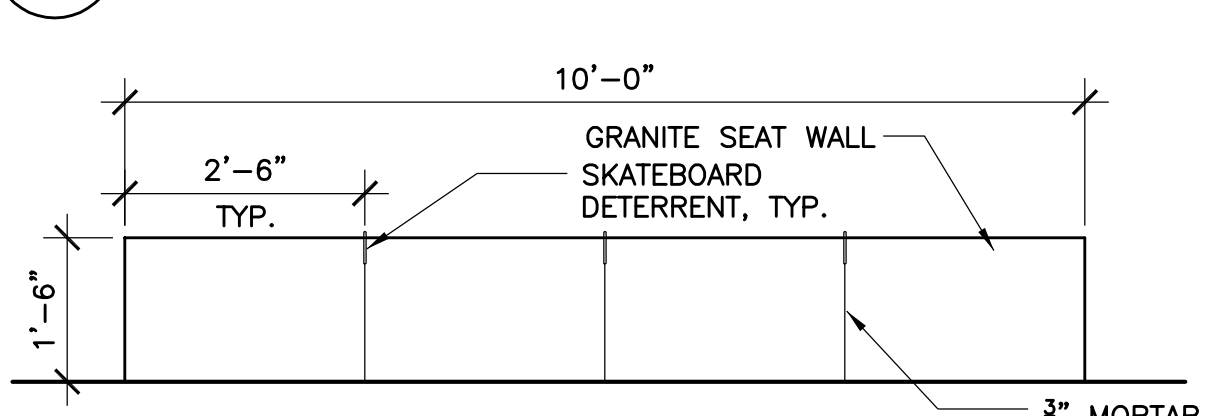
**2 EXISTING STREET TREE PAVING EDGE DETAIL**  
SCALE: 3/4" = 1'-0"



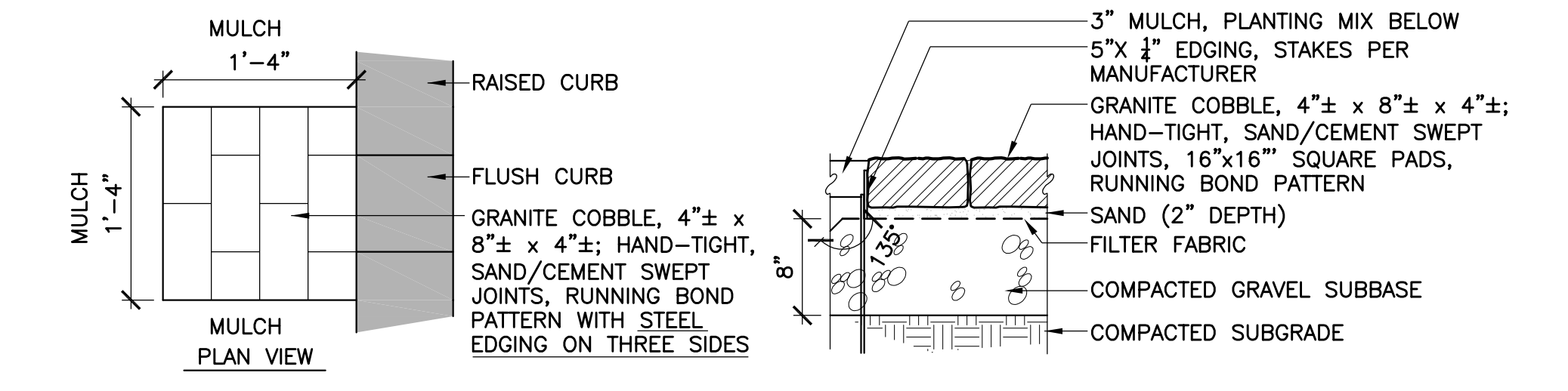
**3 GRANITE SEATWALL**  
SCALE: 1" = 1'-0"



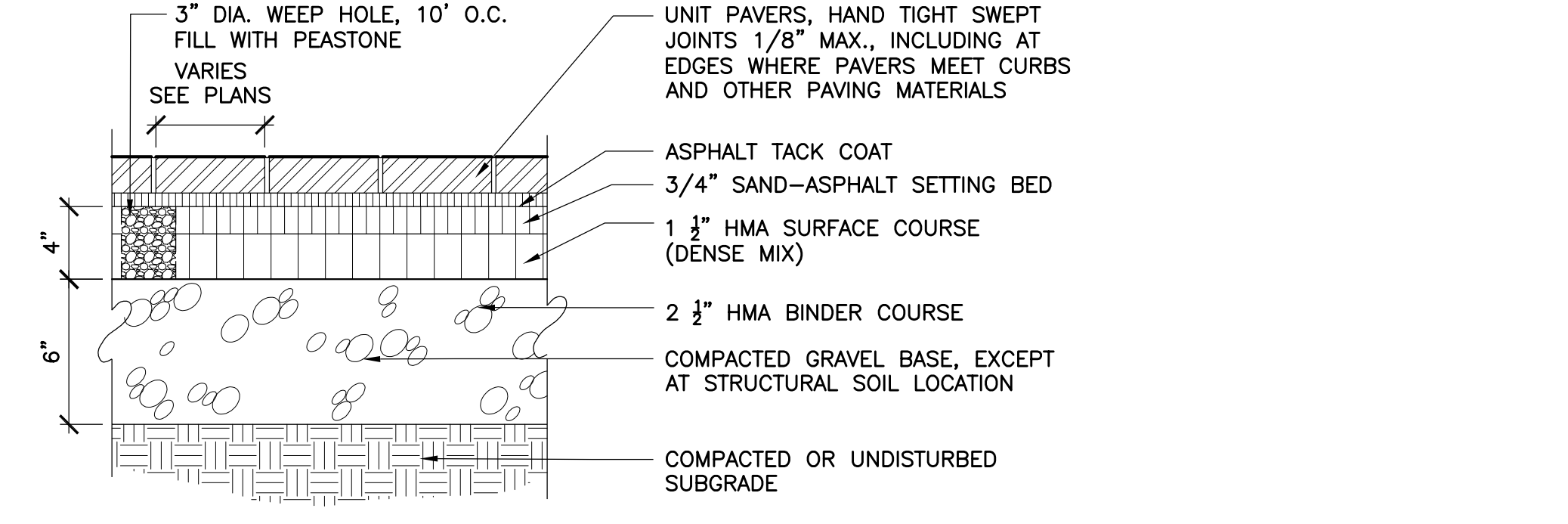
**5 TREE PIT DETAIL**  
SCALE: 3/32" = 1'-0"



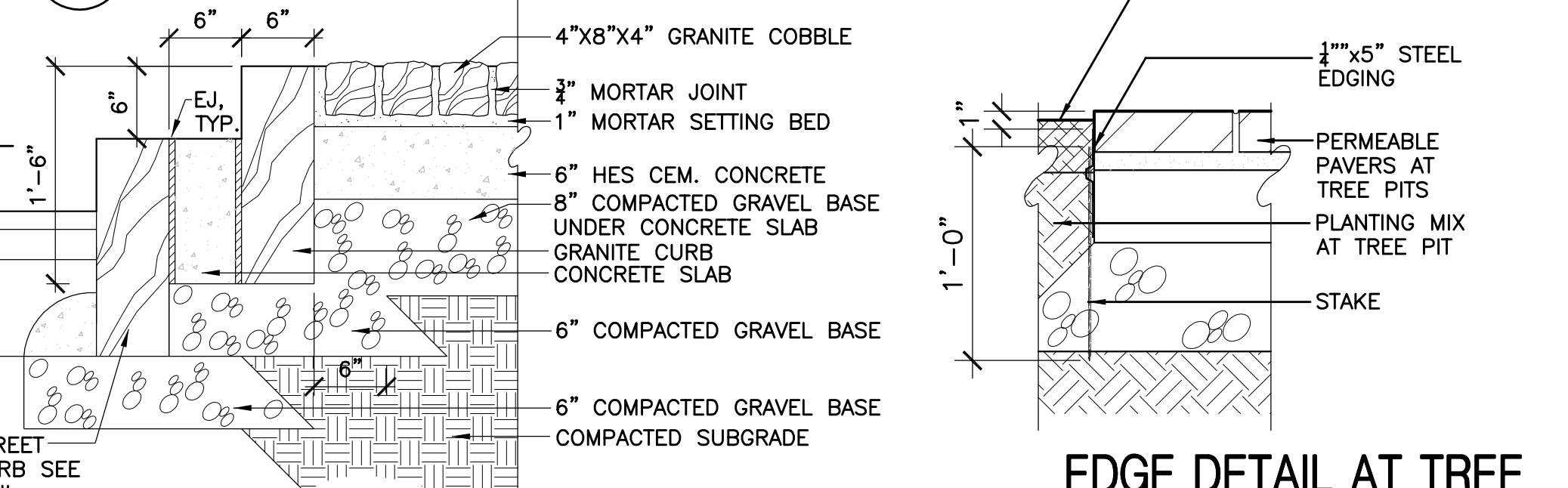
**6 GRANITE SEATWALL ELEVATION**  
SCALE: 1/2" = 1'-0"



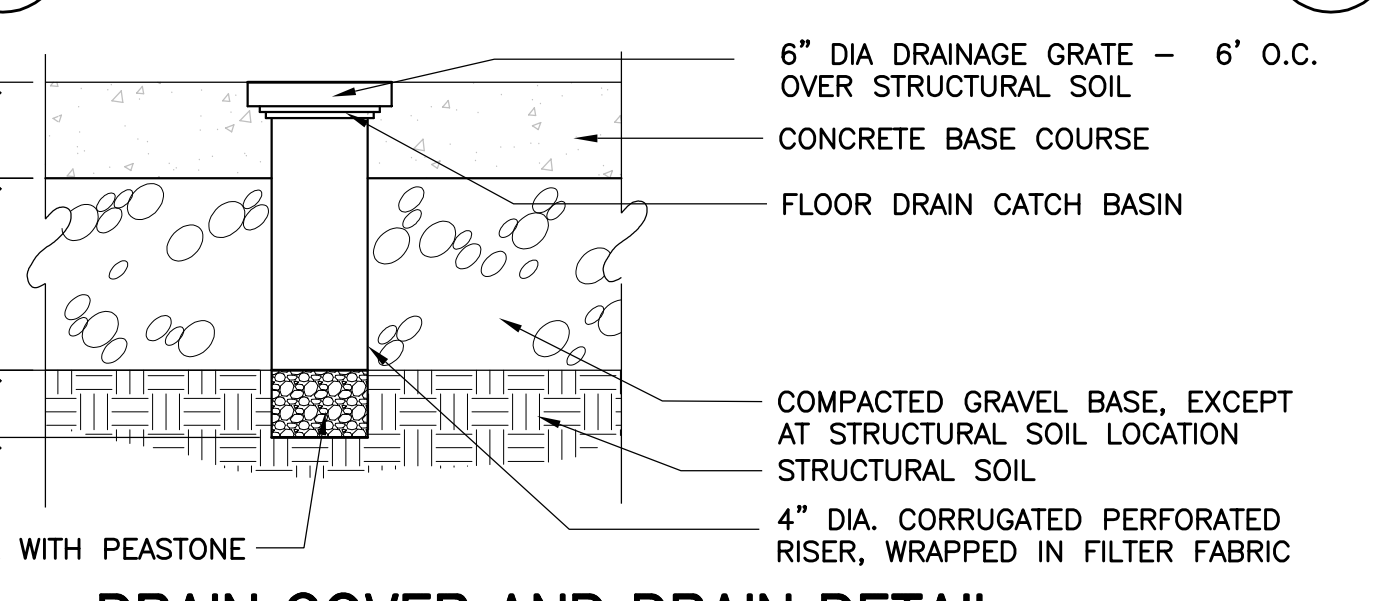
**7 GRANITE COBBLE DISSIPATER PAD ON AGGREGATE DETAIL**  
SCALE: 1" = 1'-0"



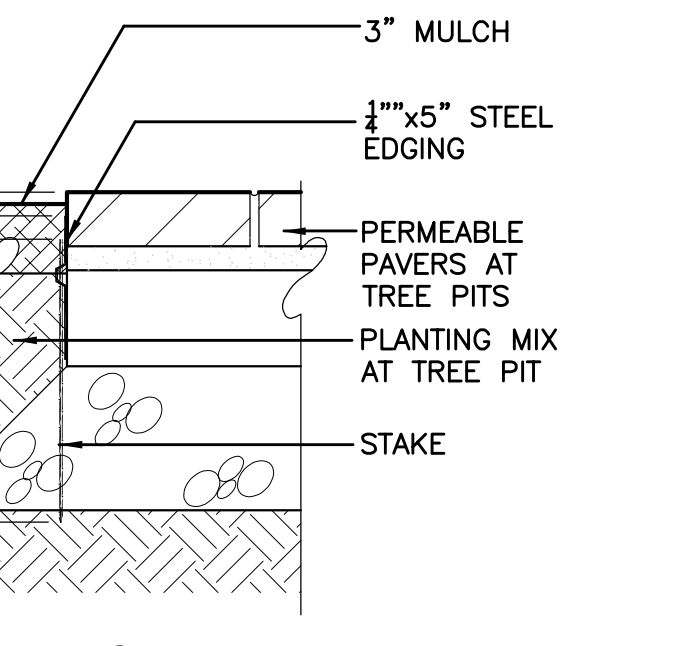
**8 UNIT PAVER ON BITUMINOUS SETTING BED**  
SCALE: 1-1/2" = 1'-0"



**9 GRANITE COBBLE ISLAND**  
SCALE: 1" = 1'-0"



**10 DRAIN COVER AND DRAIN DETAIL**  
SCALE: 1-1/2" = 1'-0"



**11 EDGE DETAIL AT TREE PIT/PERMEABLE PAVING**  
SCALE: 1-1/2" = 1'-0"

R-3533-45

PROVIDE SHOP DRAWINGS PRIOR TO FABRICATION

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PARKS DEPARTMENT

SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	M. CANTU
CHECKED BY	S. SANGER
APPROVED BY	J. COPLEY

CIP 19-21 SHEET 45 OF 60

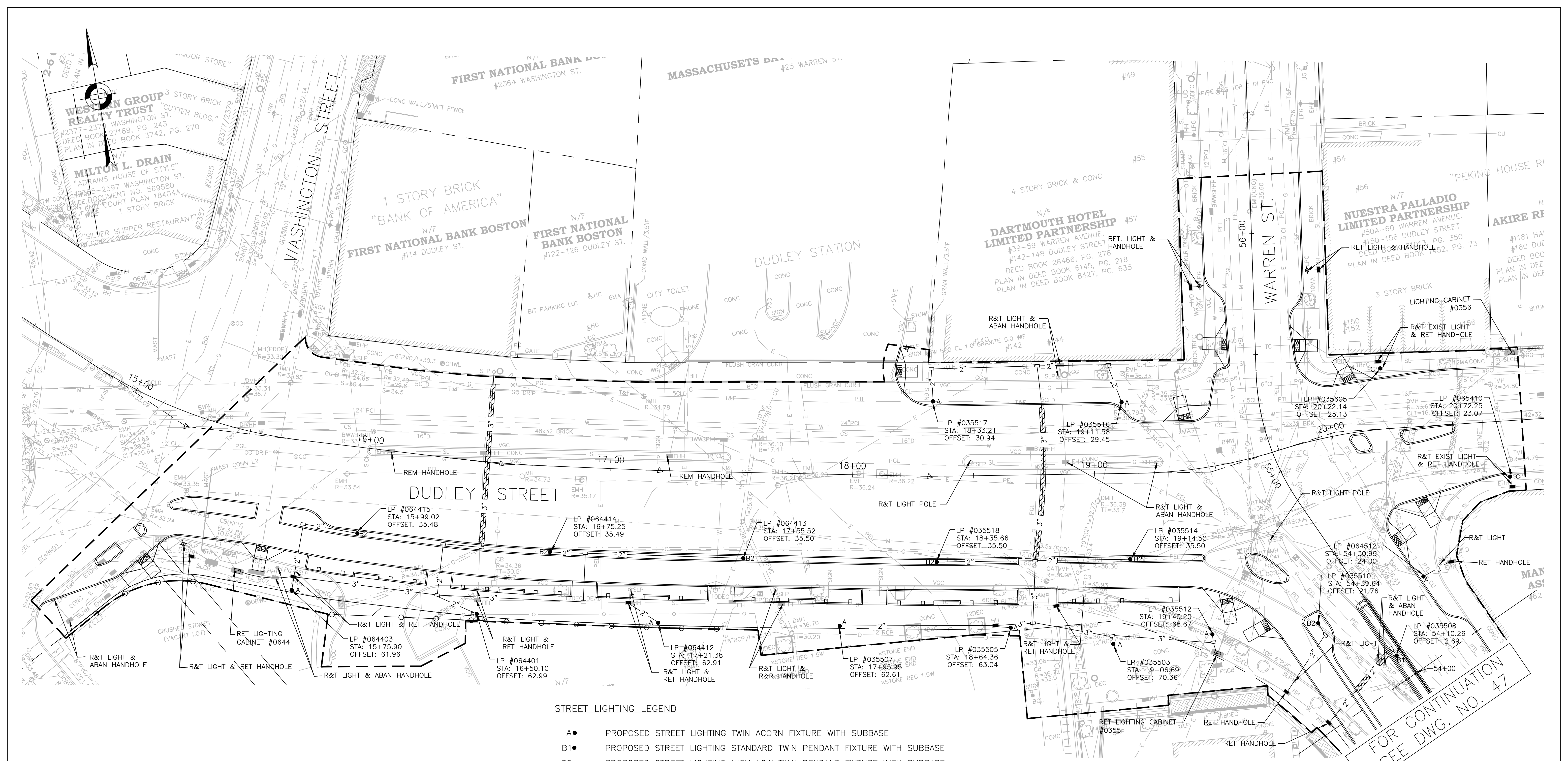
CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1**  
LANDSCAPE DETAILS  
ROXBURY

SCALE: AS NOTED  
DISTRICT: 10

AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER

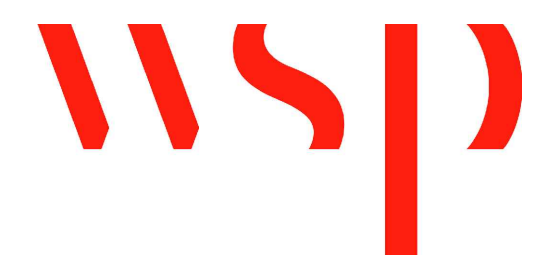


**STREET LIGHTING LEGEND**

- A ● PROPOSED STREET LIGHTING TWIN ACORN FIXTURE WITH SUBBASE
- B1 ● PROPOSED STREET LIGHTING STANDARD TWIN PENDANT FIXTURE WITH SUBBASE
- B2 ● PROPOSED STREET LIGHTING HIGH LOW TWIN PENDANT FIXTURE WITH SUBBASE
- C ● PROPOSED STREET LIGHTING STANDARD SINGLE PENDANT FIXTURE WITH SUBBASE
- PROPOSED STREET LIGHTING PULL BOX
- ⊕ EXISTING POLE/STREET LIGHT
- EXISTING STREET LIGHTING PULL BOX
- PROPOSED 2" OR 3" STREET LIGHTING CONDUIT
- ▨ PROPOSED 3" CONCRETE ENCASED CONDUIT
- PROPOSED LIGHTING CONTROL CABINET
- SL — EXISTING STREET LIGHT CONDUIT
- ▣ EXISTING LIGHTING CONTROL CABINET

**NOTES:**

1. FOR KEYPLAN, GENERAL NOTE, LEGEND AND ABBREVIATIONS, SEE SHEETS 2 THRU 4.
2. FOR CONSTRUCTION PLANS, SEE SHEETS 20 THRU 21.
3. FOR GREEN INFRASTRUCTURE PLANS, SEE SHEETS 31 THRU 35.
4. FOR GRADING PLANS, SEE SHEETS 26 THRU 27.
5. ALL PULL BOXES SHALL BE ABANDONED IN PLACE & FILLED WITH CONTROLLED DENSITY FILL.
6. FOR HIGH LOW TWIN PENDANT FIXTURE DETAIL, SEE SHEET 8.



REVIEWED FOR STREET LIGHTING

BOSTON PUBLIC WORKS DEPARTMENT

SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	S. BERGMAN
CHECKED BY	A. CLARKE
APPROVED BY	A. SANTORO

CIP 19-21 SHEET 46 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1  
STREET LIGHTING PLAN**  
ROXBURY

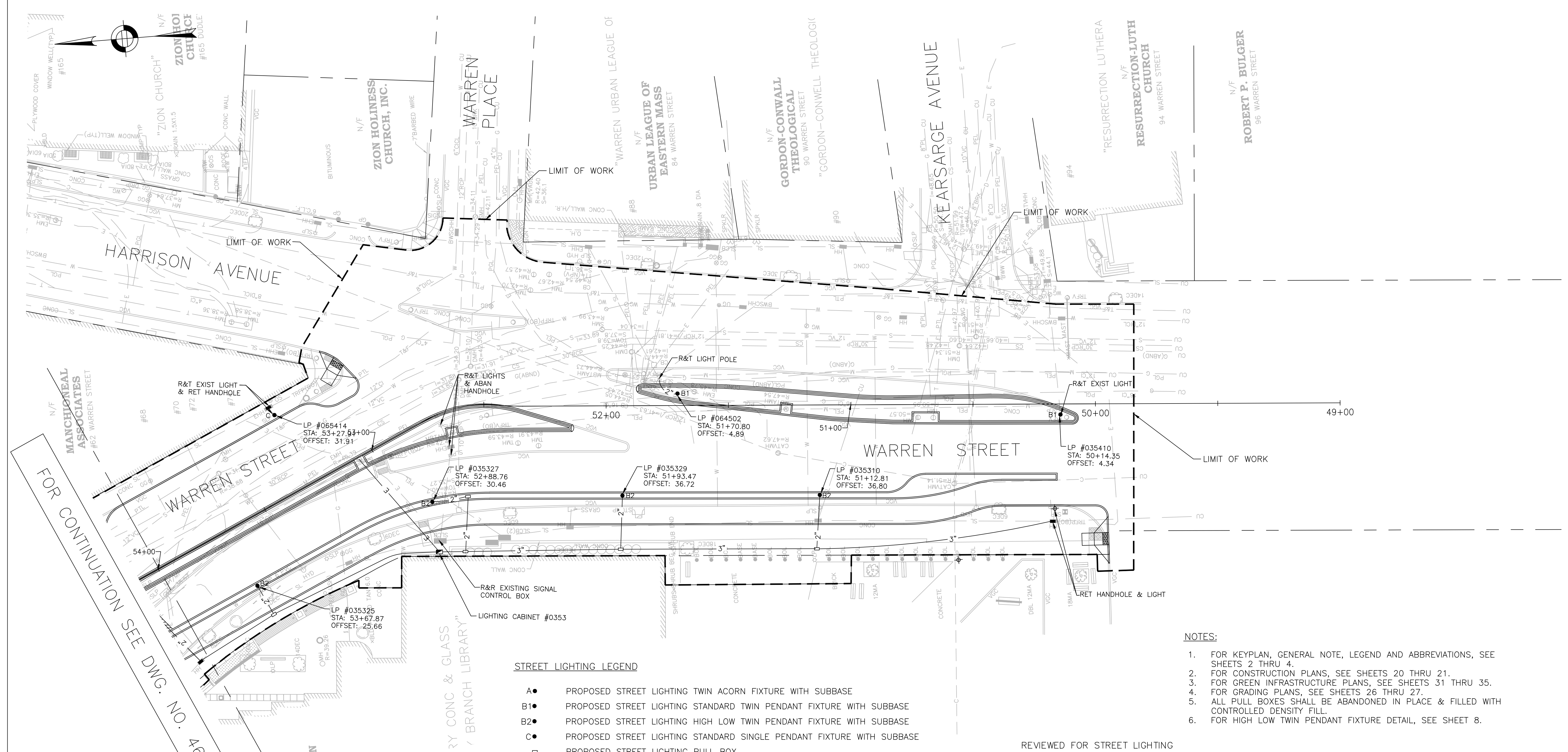
SCALE: 1" = 20'  
DISTRICT: 10

AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER

R-3533-46

FOR CONTINUATION  
SEE DWG. NO. 47



FOR CONTINUATION SEE DWG. NO. 46

**STREET LIGHTING LEGEND**

- A● PROPOSED STREET LIGHTING TWIN ACORN FIXTURE WITH SUBBASE
- B1● PROPOSED STREET LIGHTING STANDARD TWIN PENDANT FIXTURE WITH SUBBASE
- B2● PROPOSED STREET LIGHTING HIGH LOW TWIN PENDANT FIXTURE WITH SUBBASE
- C● PROPOSED STREET LIGHTING STANDARD SINGLE PENDANT FIXTURE WITH SUBBASE
- PROPOSED STREET LIGHTING PULL BOX
- ⊕ EXISTING POLE/STREET LIGHT
- EXISTING STREET LIGHTING PULL BOX
- 2" or 3" - PROPOSED 2" OR 3" STREET LIGHTING CONDUIT
- ▨ PROPOSED 3" CONCRETE ENCASED CONDUIT
- PROPOSED LIGHTING CONTROL CABINET
- SL — EXISTING STREET LIGHT CONDUIT
- EXISTING LIGHTING CONTROL CABINET

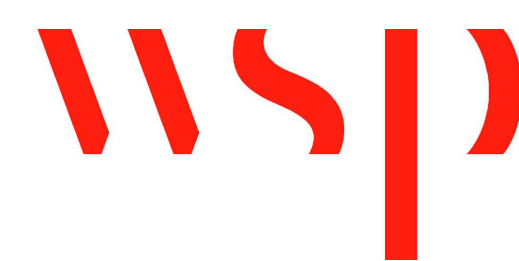
**NOTES:**

1. FOR KEYPLAN, GENERAL NOTE, LEGEND AND ABBREVIATIONS, SEE SHEETS 2 THRU 4.
2. FOR CONSTRUCTION PLANS, SEE SHEETS 20 THRU 21.
3. FOR GREEN INFRASTRUCTURE PLANS, SEE SHEETS 31 THRU 35.
4. FOR GRADING PLANS, SEE SHEETS 26 THRU 27.
5. ALL PULL BOXES SHALL BE ABANDONED IN PLACE & FILLED WITH CONTROLLED DENSITY FILL.
6. FOR HIGH LOW TWIN PENDANT FIXTURE DETAIL, SEE SHEET 8.

REVIEWED FOR STREET LIGHTING

BOSTON PUBLIC WORKS DEPARTMENT

SURVEY BY BRYANT ASSOCIATES  
 DRAWN BY S. BERGMAN  
 CHECKED BY A. CLARKE  
 APPROVED BY A. SANTORO



CIP 19-21 SHEET 47 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION  
 HIGHWAY RECONSTRUCTION  
**DUDLEY SQUARE PHASE 1**  
**STREET LIGHTING PLAN**  
 ROXBURY

SCALE: 1" = 20'  
 DISTRICT: 10

AREA: 1  
 DATE: DEC. 17, 2018

CITY ENGINEER





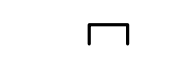

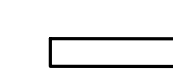
R-3533-47

**CMP NOTES**

1. THESE PLANS ARE NOT INTENDED TO LIMIT THE CONTRACTOR'S RIGHT TO SCHEDULE THE WORK, BUT TO OUTLINE ONE WAY OF PROGRESSING. THE CONTRACTOR IS EXPECTED TO USE KNOWLEDGE AND EXPERIENCE TO PERFORM THE WORK IN THE MOST SAFE AND EFFICIENT MANNER IN COMPLIANCE WITH THE DRAWINGS AND SPECIFICATIONS AND MEETING THE REQUIREMENTS OF THE CITY OF BOSTON.
2. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT PLANS FOR APPROVAL BY AND OBTAIN PROPER PERMITS FROM THE BOSTON TRANSPORTATION DEPARTMENT.
3. CONTRACTOR SHALL SUBMIT FOR APPROVAL BY THE CITY, CONSTRUCTION MANAGEMENT PLANS FOR ANY WORK OUTSIDE OF THE WORK ZONES INDICATED IN THESE DRAWINGS.
4. ALTERNATIVE PHASING OR MODIFICATIONS TO ANY ASPECT OF THE CONSTRUCTION MANAGEMENT PLANS AND THE CONSTRUCTION STAGING PLANS WILL BE SUBJECT TO REVIEW FOR ACCEPTANCE BY THE CITY PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH THE SUBMISSION AND REVIEW OF ALTERNATIVE CONSTRUCTION MANAGEMENT PLANS AND CONSTRUCTION STAGING PLANS, INCLUDING PRESENTATION TO THE CITY AND THE NEIGHBORHOOD IF NEEDED, VEHICULAR AND PEDESTRIAN TRAFFIC MODELING, LEVEL OF SERVICE (LOS) ANALYSES, AND OTHER ASSOCIATED EFFORTS. ALTERNATIVE CONSTRUCTION MANAGEMENT AND CONSTRUCTION STAGING PLANS SHALL NOT CAUSE AN INTERFERENCE WITH ADJACENT CONTRACTS OR DELAY THE SCHEDULE OR INCREASE THE COST OF THIS OR ANY ADJACENT CONTRACTS. LEVEL OF SERVICE ANALYSIS SHALL BE DEFINED BY THE "HIGHWAY CAPACITY MANUAL."
5. THE CONSTRUCTION MANAGEMENT PLANS REQUIRE THAT SPECIFIC SIDEWALK WIDTHS BE MAINTAINED DURING THE VARIOUS STAGES OF CONSTRUCTION TO FACILITATE ACCEPTABLE PEDESTRIAN LEVEL OF SERVICE (LOS) MOVEMENTS ALONG TRAVEL WAYS TO AND FROM ABUTTING BUILDINGS AND BUSINESSES WITHIN THE PROJECT LIMITS. THE MINIMUM SIDEWALK WIDTHS SHOWN ON THE TRAFFIC MANAGEMENT PLANS ARE BASED ON ENGINEERING ANALYSIS AND ARE LOCATED ON THE PLANS AROUND TEMPORARY FIXED BARRICADED WORK ZONES AT SITE SPECIFIC POINTS OF CONSTRUCTION. THE SIDEWALK WIDTHS SHOWN ON THE CONSTRUCTION MANAGEMENT PLANS SHALL NOT BE DEVIATED FROM WITHOUT THE PERMISSION OF THE CITY. WHEN SPECIFIC DIMENSIONS ARE NOT SHOWN, THE CONTRACTOR SHALL MAINTAIN A MINIMUM 5-FOOT PASSAGE.
  - A. CONTRACTOR SHALL PROVIDE AND MAINTAIN A TEMPORARY PEDESTRIAN ROUTE ACCESSIBLE TO DISABLED PERSONS AROUND BLOCKAGES TO AN EXISTING PEDESTRIAN ROUTE (E.G., SIDEWALKS, CROSSWALKS, PEDESTRIAN CURB RAMPS, ETC.). BLOCKAGES INCLUDE, BUT ARE NOT LIMITED TO, CONSTRUCTION WORK, EXCAVATIONS, EQUIPMENT AND VEHICLES, TEMPORARY WATER AND UTILITY LINES. TEMPORARY PEDESTRIAN ROUTES SHALL BE IN COMPLIANCE WITH THE REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT AND THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD.
  - B. SIDEWALK AREAS SHALL REMAIN OPEN AND FREE FROM SAFETY CONTROL DEVICES AND CONSTRUCTION DEBRIS THROUGHOUT THE DURATION OF THE CONSTRUCTION. PEDESTRIAN DETOURING SHALL NOT OCCUR UNLESS APPROVED BY THE CITY.
6. CONTRACTOR SHALL SECURE WORK AREAS TO ENSURE PUBLIC SAFETY AND CONVENIENCE. THIS SHALL INCLUDE ENSURING THAT ALL EXCAVATIONS ARE PROTECTED AT ALL TIMES.
7. ALL CONSTRUCTION SIGNAGE, DRUMS, BARRICADES AND OTHER DEVICES SHALL CONFORM WITH THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS AMENDED AND BTD SIGN STANDARDS.
8. CHANNELIZATION WILL BE ACCOMPLISHED THROUGH THE USE OF REFLECTORIZED PLASTIC DRUMS OR APPROVED EQUAL IN ACCORDANCE WITH THE MUTCD.
9. CONTRACTOR SHALL COORDINATE WITH THE CITY TO ACCOMMODATE ACCESS NEEDS OF ABUTTING PROPERTIES NOT SPECIFIED IN THE PLANS.
10. CONTRACTOR SHALL MAINTAIN EMERGENCY PASSAGE AT ALL TIMES TO BUILDINGS WITHIN THE PROJECT LIMITS. CONTRACTOR SHALL MAINTAIN 24-HOUR EMERGENCY VEHICLE ACCESS TO AND THROUGH CONSTRUCTION AREAS.
11. CONTRACTOR SHALL PROVIDE POLICE DETAILS DURING WORK HOURS FOR TRAFFIC CONTROL AS STIPULATED IN THE CITY OF BOSTON MUNICIPAL CODE (CHAPTER 11, SECTION 6.9).
12. POLICE DETAIL WILL BE PROVIDED TO DIRECT TRAFFIC DURING CONSTRUCTION ACTIVITIES AT THE INTERSECTION OF WARREN AND DUDLEY STREETS DURING ALL PHASES AND INTERSECTION OF WASHINGTON AND DUDLEY STREETS DURING PHASES 1 AND 2. BOSTON POLICE DETAIL REQUIREMENTS SHALL BE PER THE BTD PERMIT.

13. SAFETY SIGNS PROPOSED FOR LOCATIONS OTHER THAN ERECTED ON TEMPORARY BARRICADES MAY BE ERECTED ON EXISTING LIGHT POLES, SIGN POSTS AND OTHER EXISTING FEATURES AS APPROVED BY THE CITY.
14. LOCATIONS OF SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD. THE CONTRACTOR SHALL ENSURE THAT SIGNS ARE PLACED SO MAXIMUM VISIBILITY IS OBTAINED.
15. EXISTING SIGNAGE WHICH CONFLICTS WITH PROPOSED SIGNAGE SHALL BE REMOVED AND STACKED OR COVERED AS DETERMINED BY THE CITY. AT THE END OF CONSTRUCTION, THE CONTRACTOR SHALL RESTORE THE SIGNAGE TO ITS EXISTING LAYOUT WHERE NECESSARY.
16. WHEN CONSTRUCTION IS COMPLETE, THE CONTRACTOR SHALL REMOVE ALL CONSTRUCTION SIGNAGE AND TEMPORARY PAVEMENT MARKINGS.
17. THE BOSTON POLICE, FIRE AND TRANSPORTATION DEPARTMENTS SHALL BE ADVISED OF THE SCHEDULE OF CONSTRUCTION, AS WELL AS OF ANY DETOURS, LANE CLOSURES, OR ALTERNATE ROUTES.
18. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR CONSTRUCTION MANAGEMENT EFFORTS OUTSIDE OF THE SITE PLANS AND SHALL COMPLY WITH CONDITIONS OUTLINED WITHIN THE PLANS AND SPECIFICATIONS USING APPROVED METHODS.
19. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS, INCLUDING STAGING AREA, SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
20. THE CONTRACTOR IS HEREBY NOTIFIED THAT ADDITIONAL WORK WITHIN THE PROJECT LIMITS MAY BE PERFORMED BY OTHERS. SEE GENERAL NOTE 25 ON SHEET 3.
21. THE CONTRACTOR SHALL FIELD VERIFY CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION.
22. THE CONTRACTOR SHALL VERIFY PROPERTY LIMITS PRIOR TO CONSTRUCTION AND PLACE ANY TEMPORARY OR NEW EQUIPMENT WITHIN THE CITY OF BOSTON'S RIGHT OF WAY.
23. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT FOR REVIEW A DETAILED SCHEDULE OF OPERATIONS IN ADDITION TO OTHER CONTRACT REQUIREMENTS TO THE BOSTON TRANSPORTATION DEPARTMENT AND PUBLIC WORKS DEPARTMENT.
24. ANY WORK ASSOCIATED WITH THIS CONSTRUCTION MANAGEMENT PLAN SHALL BE PERFORMED IN ACCORDANCE WITH THE BOSTON PUBLIC WORKS DEPARTMENT STANDARD SPECIFICATIONS AND DRAWINGS, AS WELL AS BOSTON TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS AND DRAWINGS. WHERE CONFLICTS EXIST, THE BOSTON TRANSPORTATION DEPARTMENT AND BOSTON PUBLIC WORKS DEPARTMENT SPECIFICATIONS SHALL GOVERN.
25. NO EXISTING PUBLIC UTILITY STRUCTURES SHALL BE ABANDONED AND/OR DISMANTLED WITHOUT AUTHORIZATION FROM THE CITY.
26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE STREET LIGHTING ADJACENT TO THE PROJECT, FOR THE DURATION OF THE PROJECT, AS APPROVED BY THE CITY. CONTRACTOR SHALL ENSURE THAT STREET LIGHTING SERVICE WILL NOT BE INTERRUPTED AN THAT STREET LIGHTING WILL BE OPERATIONAL AT THE END OF EACH WORKDAY.
27. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL BFD FIRE HYDRANTS DURING CONSTRUCTION OR PROVIDE AN ALTERNATIVE ACCEPTABLE TO BFD.
28. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC, OR APPROVED EQUAL, AND MEET BOSTON TRANSPORTATION DEPARTMENT SPECIFICATIONS.
29. THE CONTRACTOR SHALL ERADICATE EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH PROPOSED PAVEMENT MARKINGS.
30. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY TRAFFIC SIGNAL EQUIPMENT, LOOP DETECTORS, PAVEMENT MARKINGS, AND SIGNAGE DAMAGED OR TEMPORARILY REMOVED DURING CONSTRUCTION.
31. ALL WORK SHALL OCCUR DURING 7:00AM – 4:00PM. NO LANE CLOSURES SHALL OCCUR BETWEEN 7:00AM – 9:30AM AND 3:30PM – 6:00PM. WEEKEND WORK SHALL BE ALLOWED AND IS ENCOURAGED. ALL WORK SHALL BE FULLY COORDINATED WITH MBTA BUS OPERATIONS AT DUDLEY TERMINAL.
32. THE CONTRACTOR SHALL MAINTAIN ACCESS TO THE LIBRARY CONSTRUCTION GATES DURING ALL PHASES OF STREET WORK.

**CMP LEGEND**

-  TRAFFIC FLOW ARROW
-  SIGN POST
-  HANDICAP RAMP
-  DRUM
-  TYPE III BARRICADE
-  POLICE DETAIL SYMBOL
-  TEMPORARY CONCRETE BARRIER

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON TRANSPORTATION DEPARTMENT

SURVEY BY BRYANT ASSOCIATES

DRAWN BY D. YOUNG

CHECKED BY P. FUSCO

APPROVED BY J. CONLEY

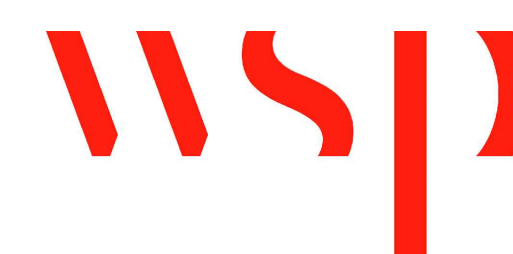
CIP 19-21 SHEET 48 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION  
**DUDLEY SQUARE PHASE 1**  
**CMP NOTES AND LEGEND**  
ROXBURY

SCALE: N.T.S.  
DISTRICT: 10

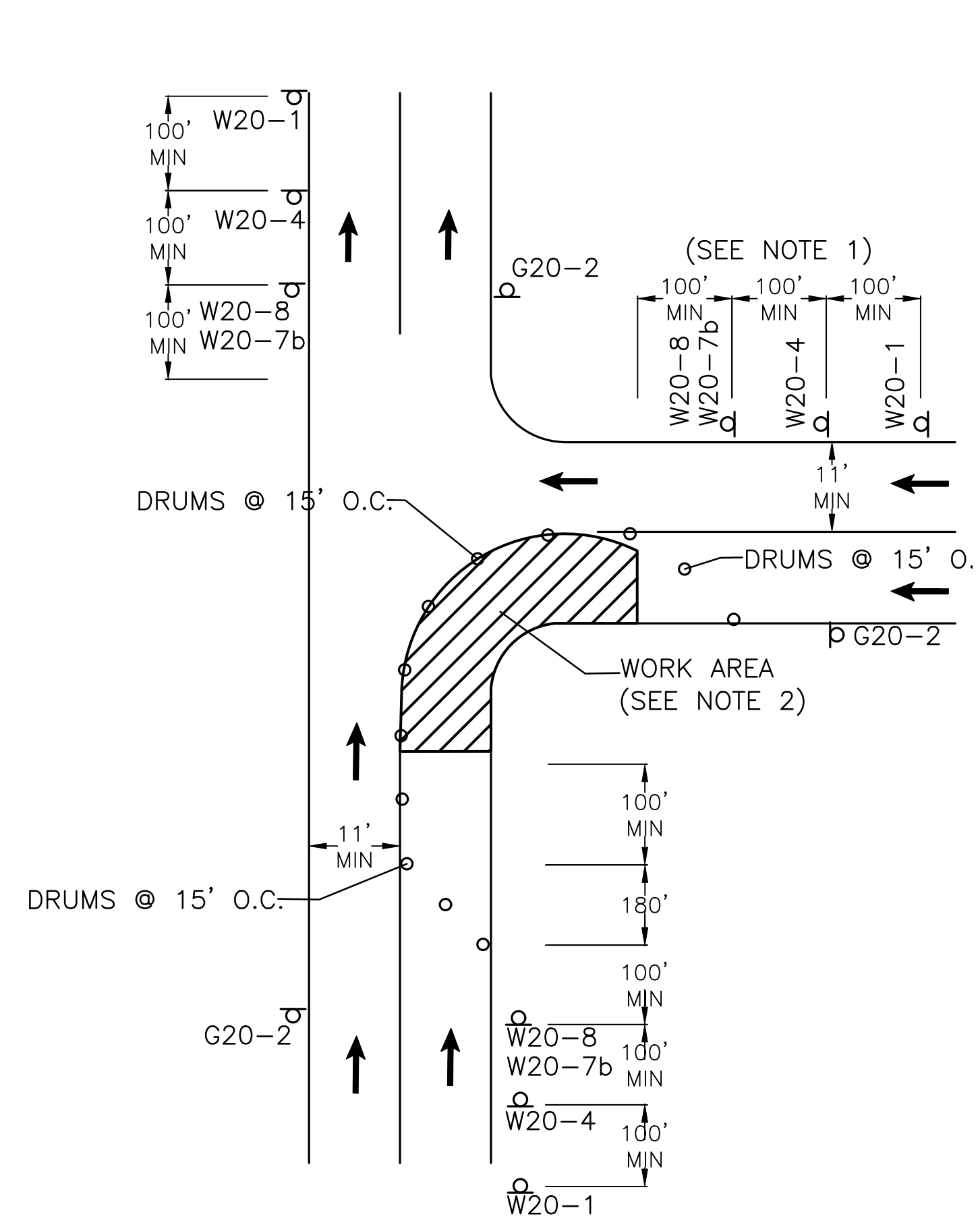
AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER



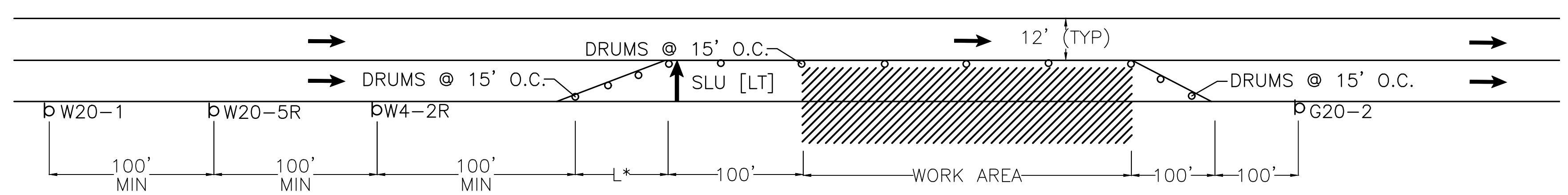
R-3533-48



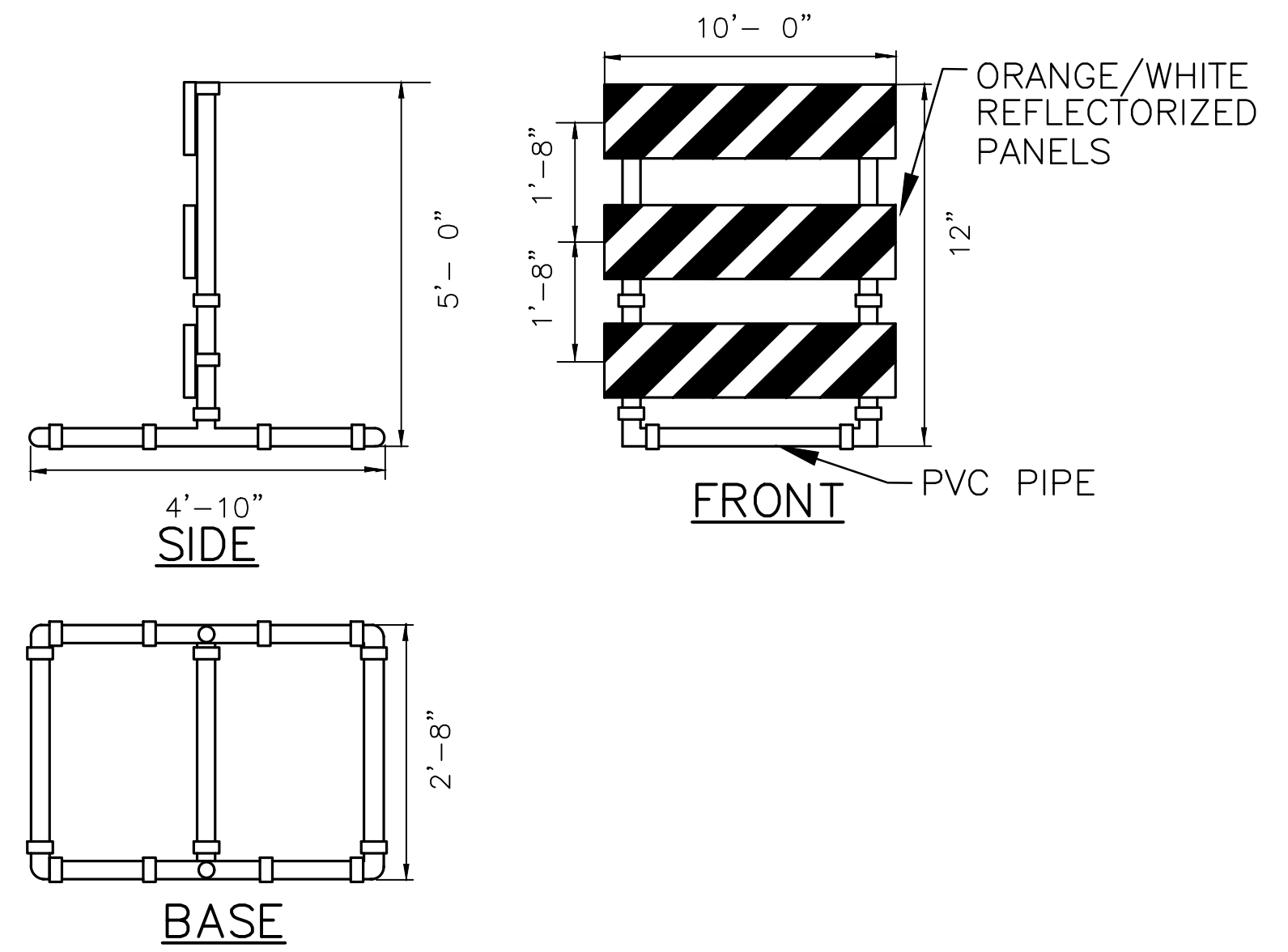


**ONE LANE ONE-DIRECTIONAL TRAFFIC AT INTERSECTIONS**  
NOT TO SCALE

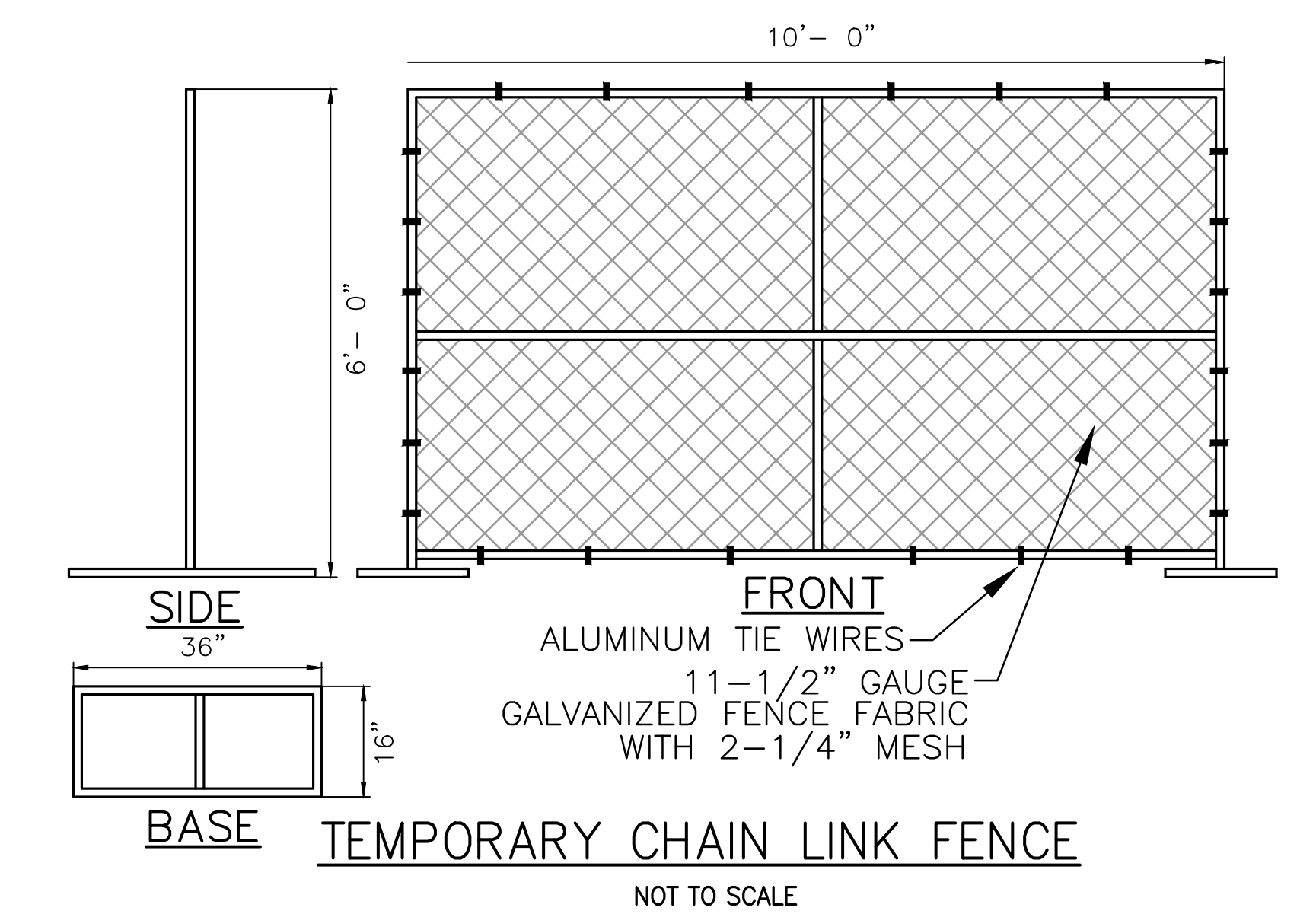
- NOTE:**
1. ADVANCE WARNING SIGN PLACEMENT TO BE ADJUSTED AS NECESSARY AS DETERMINED BY THE ENGINEER.
  2. ANY EXCAVATION GREATER THAN 3' DEEP ADJACENT TO TRAFFIC SHALL BE PROTECTED BY TEMPORARY CONCRETE BARRIER.



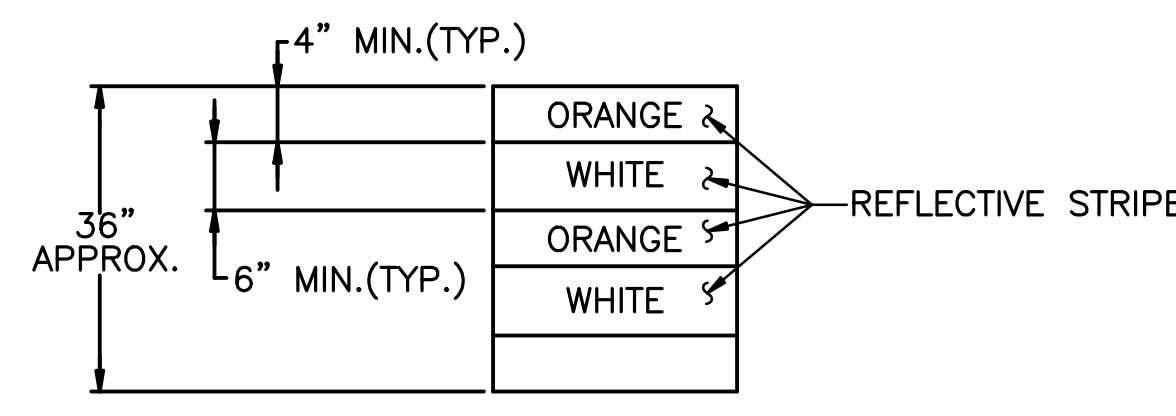
**ONE LANE CLOSURE**  
NOT TO SCALE



**TYPE III BARRICADE**  
NOT TO SCALE

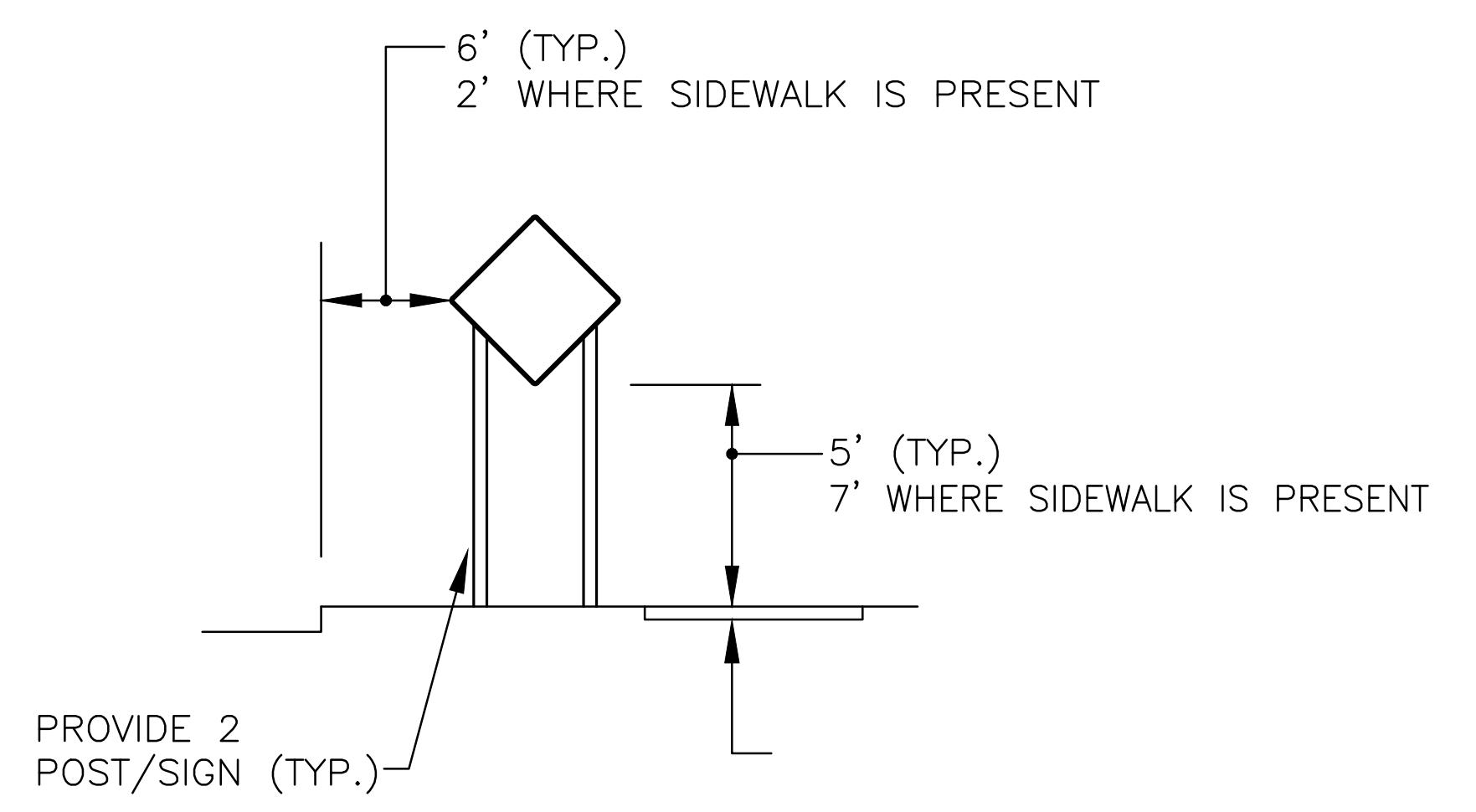


**TEMPORARY CHAIN LINK FENCE**  
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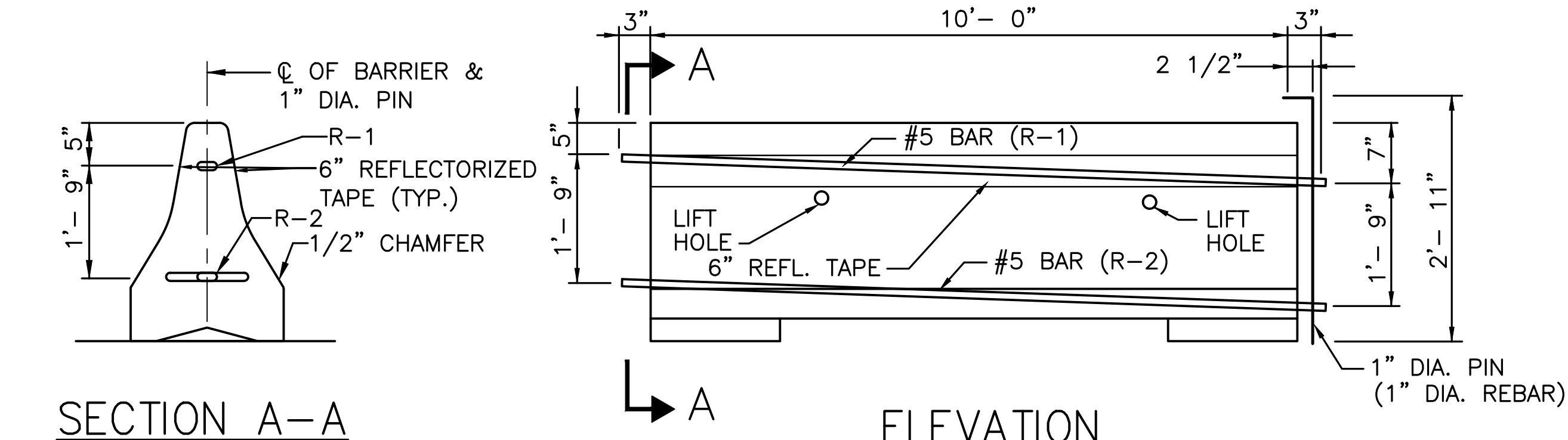


**TRAFFIC DRUM FRONT VIEW**  
NOT TO SCALE

- NOTES:**
1. TRAFFIC DRUM SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST EDITION M.U.T.C.D.
  2. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY DRUM DEEMED NOT SUITABLE FOR THE PURPOSE INTENDED.
  3. THE ENTIRE AREA OF ORANGE AND WHITE STRIPES SHALL BE FLEXIBLE ENCAPSULATED LENS REFLECTIVE SHEETING.
  4. REFLECTORIZED STRIPES SHOULD NOT BE PLACED OVER THE PROTRUDING CIRCUMFERENCIAL RIBS OF THE DRUM.
  5. THE SECTIONS OF DRUMS NOT COVERED WITH REFLECTORIZED STRIPES SHALL BE ORANGE.



**TEMPORARY TRAFFIC SIGN INSTALLATION**  
NOT TO SCALE



**SECTION A-A**

**ELEVATION**

**TEMPORARY CONCRETE BARRIER**  
NOT TO SCALE

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON TRANSPORTATION DEPARTMENT

SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	D. YOUNG
CHECKED BY	P. FUSCO
APPROVED BY	J. CONLEY

CIP 19-21 SHEET 49 OF 60

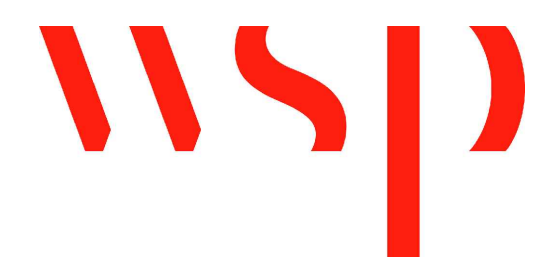
CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1**  
CMP DETAILS  
ROXBURY

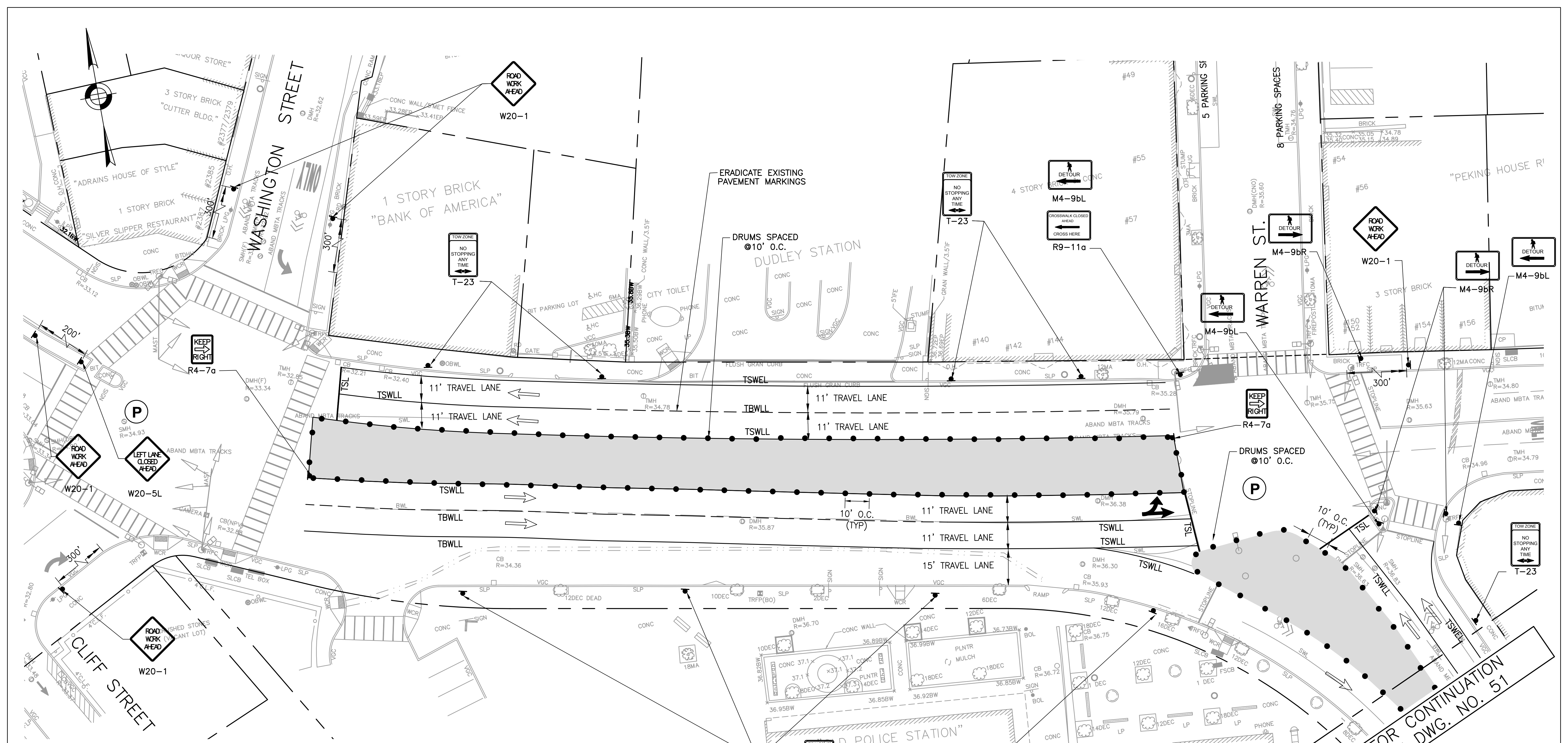
SCALE: N.T.S.  
DISTRICT: 10

AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER



R-3533-49

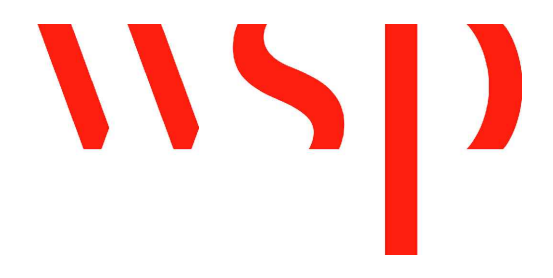
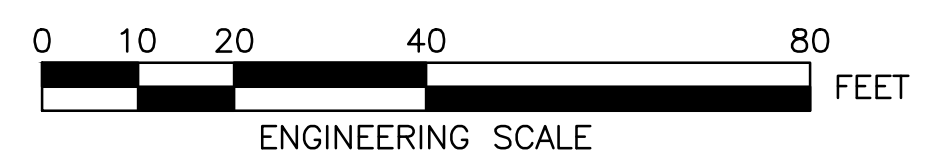


**NOTES:**

1. CLOSURE FOR DUDLEY STREET CENTER MEDIAN REMOVAL.
2. CLOSURE FOR DUDLEY STREET CENTER ISLAND RECONSTRUCTION.
3. ACCESS TO ADJACENT BUSINESSES AND DUDLEY LIBRARY MUST BE MAINTAINED AT ALL TIMES.
4. PEDESTRIAN PASSAGE SHALL BE A 5' MINIMUM.
5. TRAVEL LANES SHALL BE A 10' MINIMUM.
6. CONSTRUCTION SCHEDULE WILL BE COORDINATED WITH DUDLEY LIBRARY CONSTRUCTION.
7. CONTRACTOR SHALL MAINTAIN ACCESS TO LIBRARY CONSTRUCTION GATES DURING ALL PHASES OF STREET WORK.

CMP LEGEND	
	TRAFFIC FLOW ARROW
	SIGN POST
	HANDICAP RAMP
	DRUM
	TYPE III BARRICADE
	POLICE DETAIL SYMBOL
	TEMPORARY CONCRETE BARRIER

**PHASE 1 TRAFFIC MANAGEMENT PLAN (SHEET 1 OF 2)**



REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

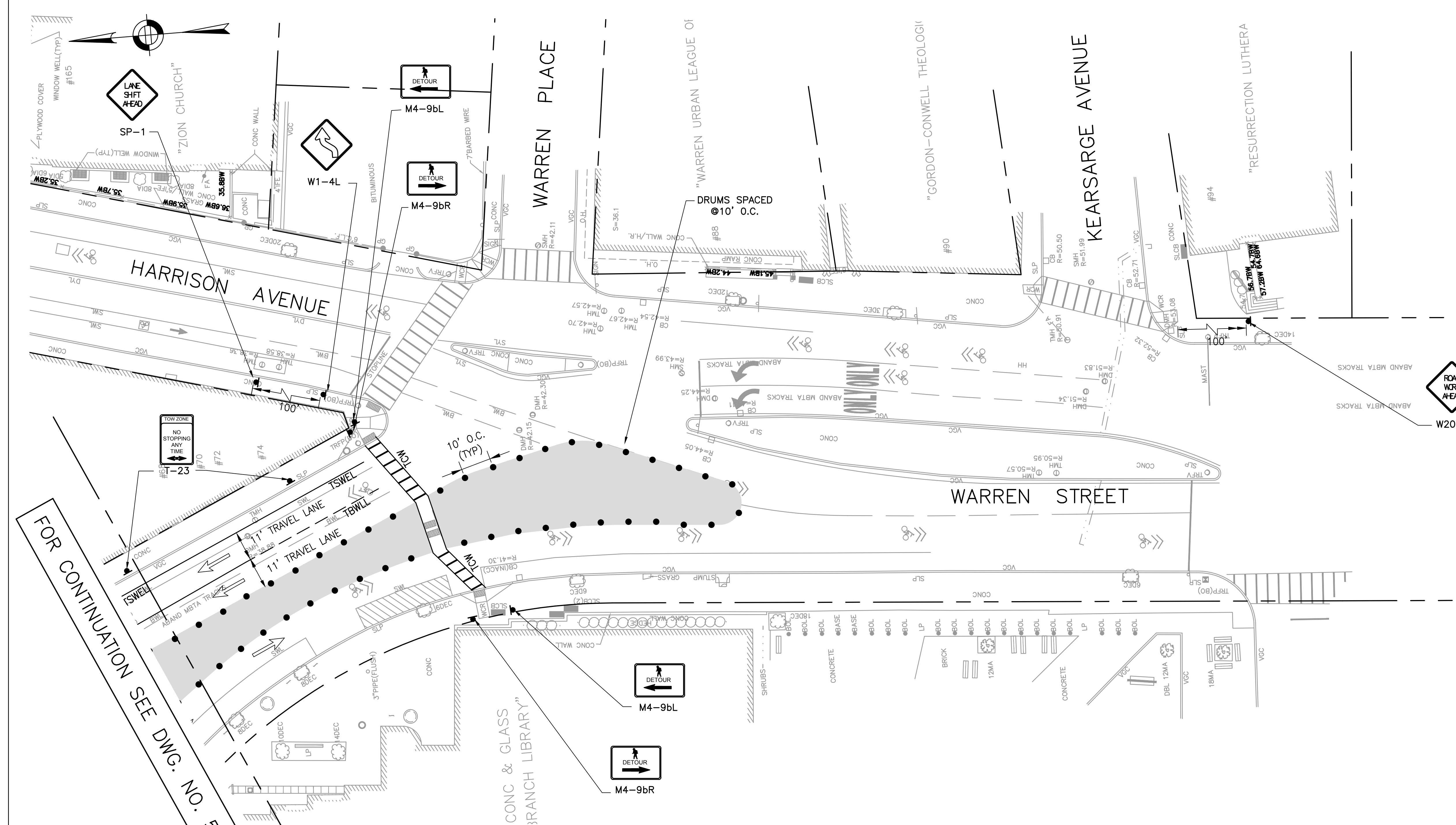
BOSTON TRANSPORTATION DEPARTMENT	
SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	A.DALLY
CHECKED BY	P.FUSCO
APPROVED BY	J.CONLEY

CIP 19-21 SHEET 50 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION HIGHWAY RECONSTRUCTION	
<b>DUDLEY SQUARE PHASE 1</b> <b>DUDLEY STREET CMP PHASE 1</b> ROXBURY	
SCALE: 1" = 20'	AREA: 1
DISTRICT: 10	DATE: DEC. 17, 2018
CITY ENGINEER	

R-3533-50

FOR CONTINUATION  
SEE DWG. NO. 51



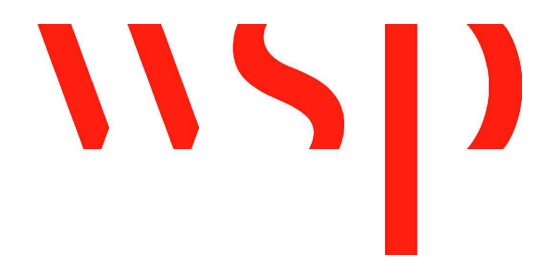
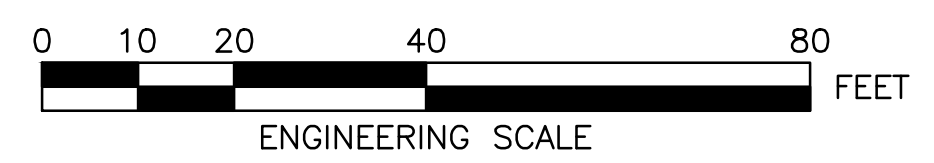
FOR CONTINUATION SEE DWG. NO. 50

- NOTES:**
1. CLOSURE FOR DUDLEY STREET CENTER MEDIAN REMOVAL.
  2. CLOSURE FOR DUDLEY STREET CENTER ISLAND RECONSTRUCTION.
  3. ACCESS TO ADJACENT BUSINESSES AND DUDLEY LIBRARY MUST BE MAINTAINED AT ALL TIMES.
  4. PEDESTRIAN PASSAGE SHALL BE A 5' MINIMUM.
  5. TRAVEL LANES SHALL BE A 10' MINIMUM.
  6. CONSTRUCTION SCHEDULE WILL BE COORDINATED WITH DUDLEY LIBRARY CONSTRUCTION.
  7. CONTRACTOR SHALL MAINTAIN ACCESS TO LIBRARY CONSTRUCTION GATES DURING ALL PHASES OF STREET WORK.

**CMP LEGEND**

	TRAFFIC FLOW ARROW
	SIGN POST
	HANDICAP RAMP
	DRUM
	TYPE III BARRICADE
	POLICE DETAIL SYMBOL
	TEMPORARY CONCRETE BARRIER

**PHASE 1 TRAFFIC MANAGEMENT PLAN (SHEET 2 OF 2)**



REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON TRANSPORTATION DEPARTMENT

SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	A.DALLY
CHECKED BY	P.FUSCO
APPROVED BY	J.CONLEY

CIP 19-21 SHEET 51 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

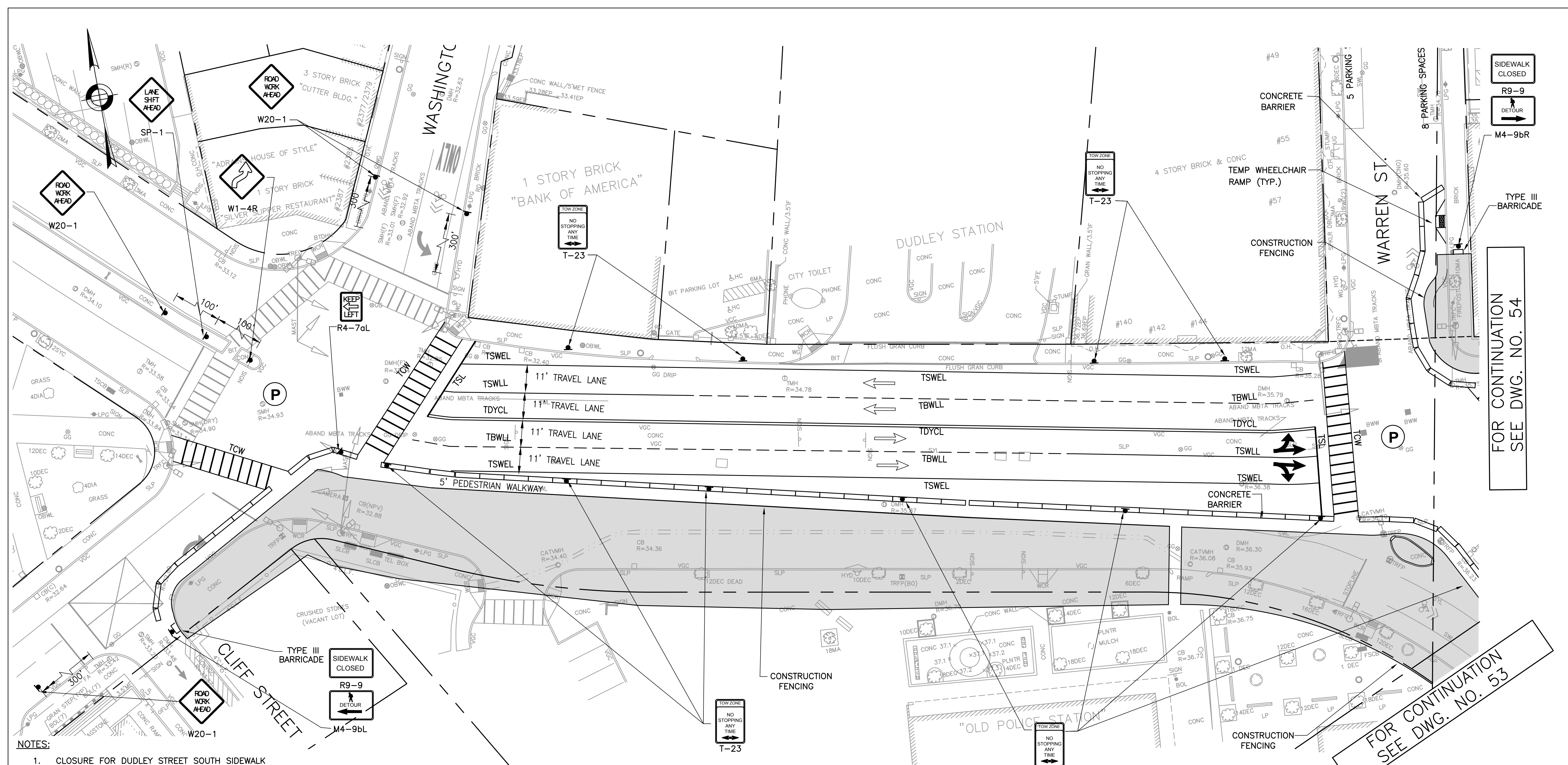
**DUDLEY SQUARE PHASE 1**  
**DUDLEY STREET CMP PHASE 1**  
ROXBURY

SCALE: 1" = 20'  
DISTRICT: 10

AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER

R-3533-51

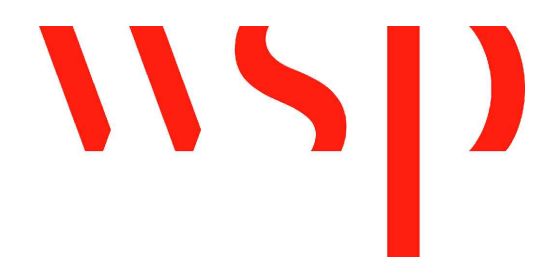
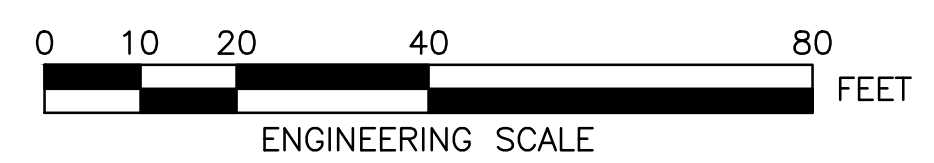


NOTES:

1. CLOSURE FOR DUDLEY STREET SOUTH SIDEWALK AND WARREN STREET WEST SIDEWALK RECONSTRUCTION. PROVIDE PEDESTRIAN DETOUR.
2. CLOSURE FOR DUDLEY STREET AT WARREN STREET NORTHEAST SIDEWALK RECONSTRUCTION, PROVIDE PEDESTRIAN DETOUR.
3. ACCESS TO ADJACENT BUSINESSES AND DUDLEY LIBRARY MUST BE MAINTAINED AT ALL TIMES.
4. PEDESTRIAN PASSAGE SHALL BE A 5' MINIMUM.
5. TRAVEL LANES SHALL BE A 10' MINIMUM.
6. CONSTRUCTION SCHEDULE WILL BE COORDINATED WITH DUDLEY LIBRARY CONSTRUCTION.
7. CONTRACTOR SHALL MAINTAIN ACCESS TO LIBRARY CONSTRUCTION GATES DURING ALL PHASES OF STREET WORK.

CMP LEGEND	
	TRAFFIC FLOW ARROW
	SIGN POST
	HANDICAP RAMP
	DRUM
	TYPE III BARRICADE
	POLICE DETAIL SYMBOL
	TEMPORARY CONCRETE BARRIER

**PHASE 2 TRAFFIC MANAGEMENT PLAN (SHEET 1 OF 3)**



REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON TRANSPORTATION DEPARTMENT	
SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	A.DALLY
CHECKED BY	P.FUSCO
APPROVED BY	J.CONLEY

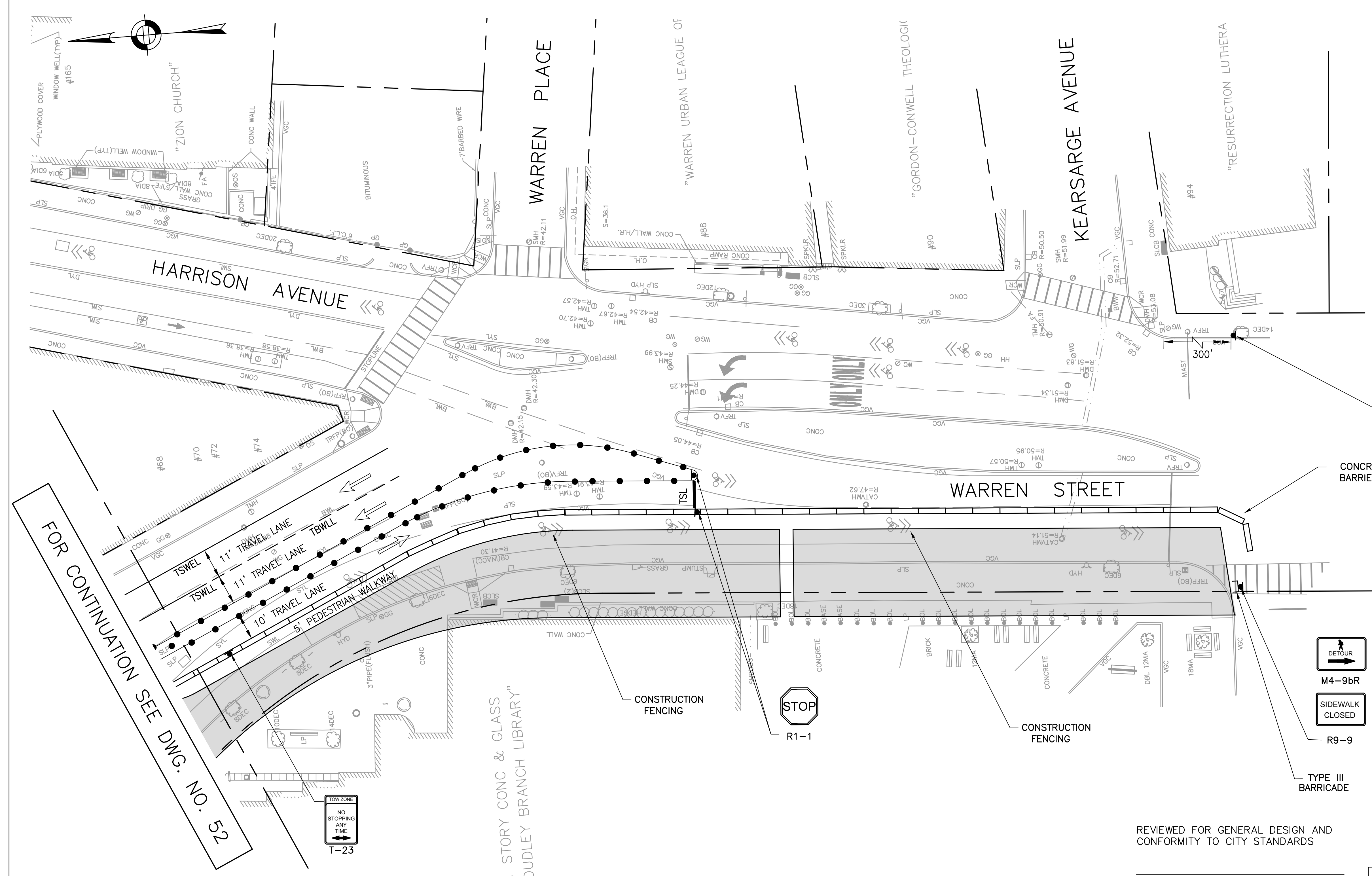
CIP 19-21 SHEET 52 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION HIGHWAY RECONSTRUCTION	
<b>DUDLEY SQUARE PHASE 1</b> <b>DUDLEY STREET CMP PHASE 2</b>	
ROXBURY	
SCALE: 1" = 20'	AREA: 1
DISTRICT: 10	DATE: DEC. 17, 2018
CITY ENGINEER	

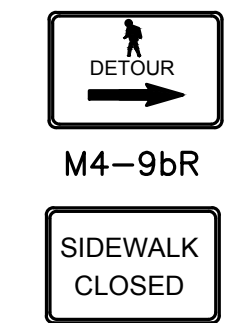
R-3533-52

FOR CONTINUATION SEE DWG. NO. 54

FOR CONTINUATION SEE DWG. NO. 53



FOR CONTINUATION SEE DWG. NO. 52



- NOTES:**
- CLOSURE FOR DUDLEY STREET SOUTH SIDEWALK AND WARREN STREET WEST SIDEWALK RECONSTRUCTION. PROVIDE PEDESTRIAN DETOUR.
  - CLOSURE FOR DUDLEY STREET AT WARREN STREET NORTHEAST SIDEWALK RECONSTRUCTION, PROVIDE PEDESTRIAN DETOUR.
  - ACCESS TO ADJACENT BUSINESSES AND DUDLEY LIBRARY MUST BE MAINTAINED AT ALL TIMES.
  - PEDESTRIAN PASSAGE SHALL BE A 5' MINIMUM.
  - TRAVEL LANES SHALL BE A 10' MINIMUM.
  - CONSTRUCTION SCHEDULE WILL BE COORDINATED WITH DUDLEY LIBRARY CONSTRUCTION.
  - CONTRACTOR SHALL MAINTAIN ACCESS TO LIBRARY CONSTRUCTION GATES DURING ALL PHASES OF STREET WORK.

**PHASE 2 TRAFFIC MANAGEMENT PLAN (SHEET 2 OF 3)**

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON TRANSPORTATION DEPARTMENT

SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	A.DALLY
CHECKED BY	P.FUSCO
APPROVED BY	J.CONLEY

CIP 19-21 SHEET 53 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

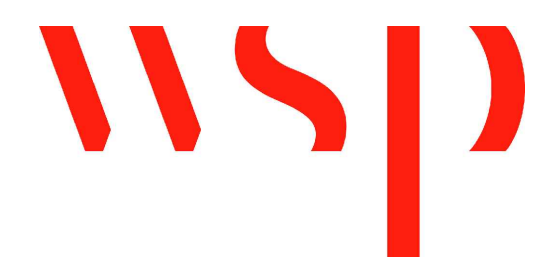
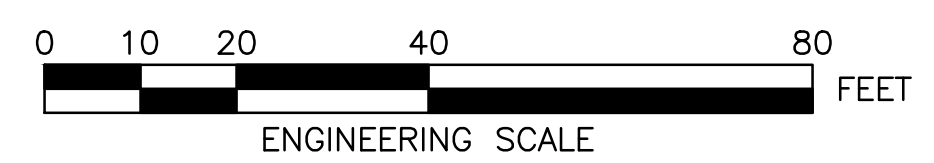
**DUDLEY SQUARE PHASE 1**  
**DUDLEY STREET CMP PHASE 2**  
ROXBURY

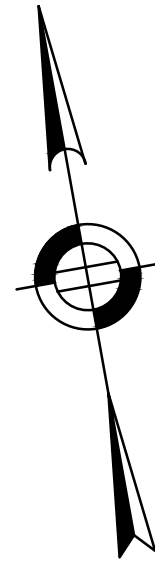
SCALE: 1" = 20'  
DISTRICT: 10

AREA: 1  
DATE: DEC. 17, 2018

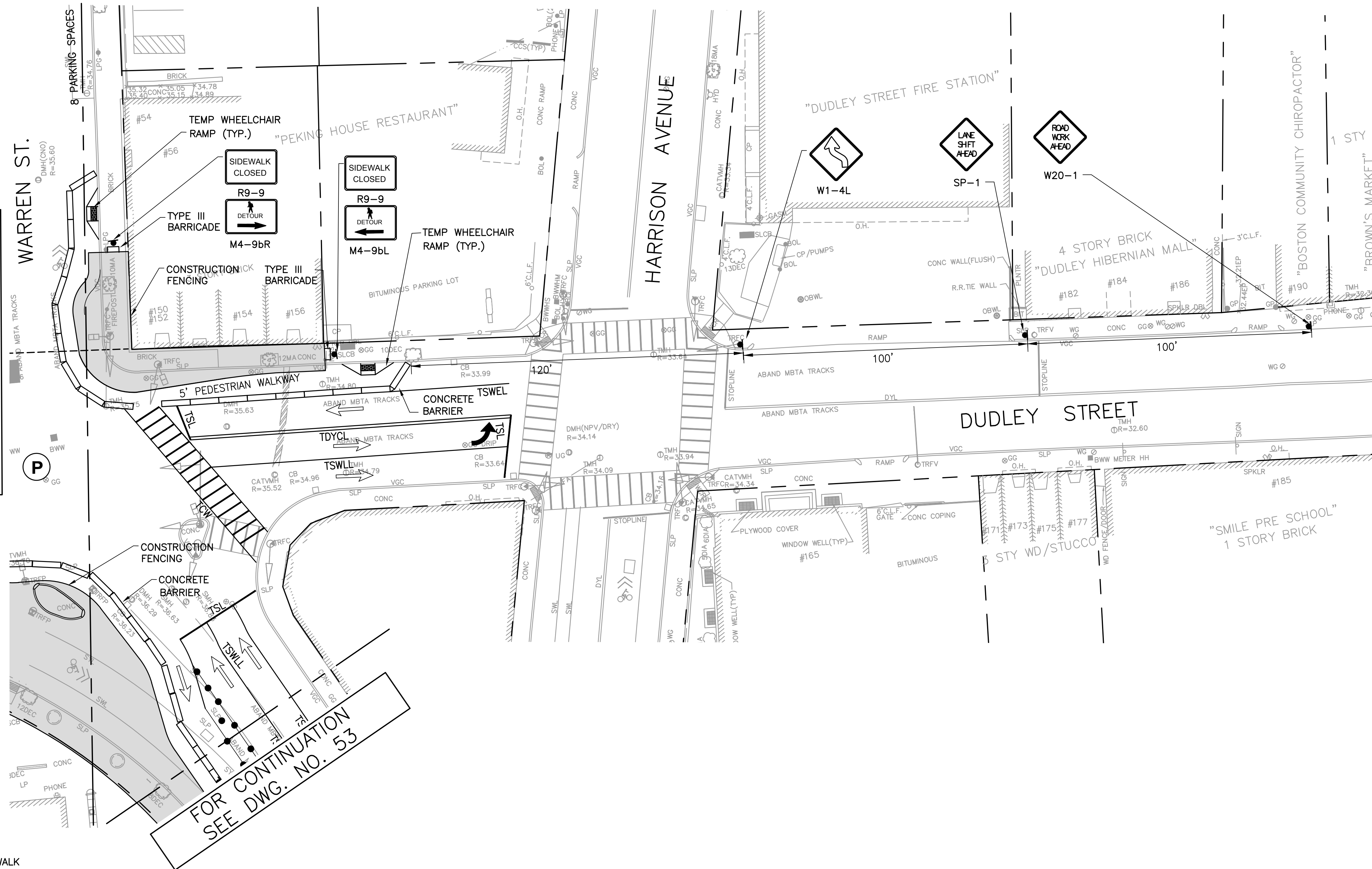
CITY ENGINEER

R-3533-53





FOR CONTINUATION  
SEE DWG. NO. 52



FOR CONTINUATION  
SEE DWG. NO. 53

**NOTES:**

1. CLOSURE FOR DUDLEY STREET SOUTH SIDEWALK AND WARREN STREET WEST SIDEWALK RECONSTRUCTION. PROVIDE PEDESTRIAN DETOUR.
2. CLOSURE FOR DUDLEY STREET AT WARREN STREET NORTHEAST SIDEWALK RECONSTRUCTION, PROVIDE PEDESTRIAN DETOUR.
3. ACCESS TO ADJACENT BUSINESSES AND DUDLEY LIBRARY MUST BE MAINTAINED AT ALL TIMES.
4. PEDESTRIAN PASSAGE SHALL BE A 5' MINIMUM.
5. TRAVEL LANES SHALL BE A 10' MINIMUM.
6. CONSTRUCTION SCHEDULE WILL BE COORDINATED WITH DUDLEY LIBRARY CONSTRUCTION.
7. CONTRACTOR SHALL MAINTAIN ACCESS TO LIBRARY CONSTRUCTION GATES DURING ALL PHASES OF STREET WORK.

CMP LEGEND	
	TRAFFIC FLOW ARROW
	SIGN POST
	HANDICAP RAMP
	DRUM
	TYPE III BARRICADE
	POLICE DETAIL SYMBOL
	TEMPORARY CONCRETE BARRIER

**PHASE 2 TRAFFIC MANAGEMENT PLAN (SHEET 3 OF 3)**

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON TRANSPORTATION DEPARTMENT

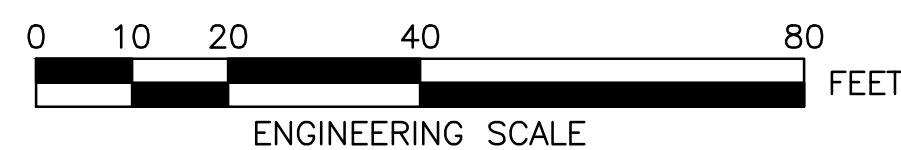
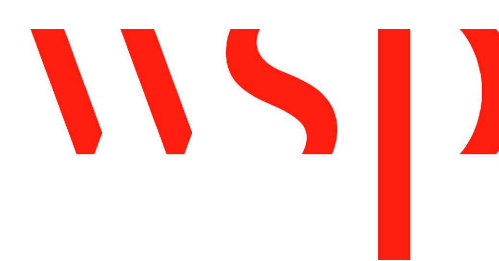
SURVEY BY BRYANT ASSOCIATES  
 DRAWN BY A.DALLY  
 CHECKED BY P.FUSCO  
 APPROVED BY J.CONLEY

CIP 19-21 SHEET 54 OF 60

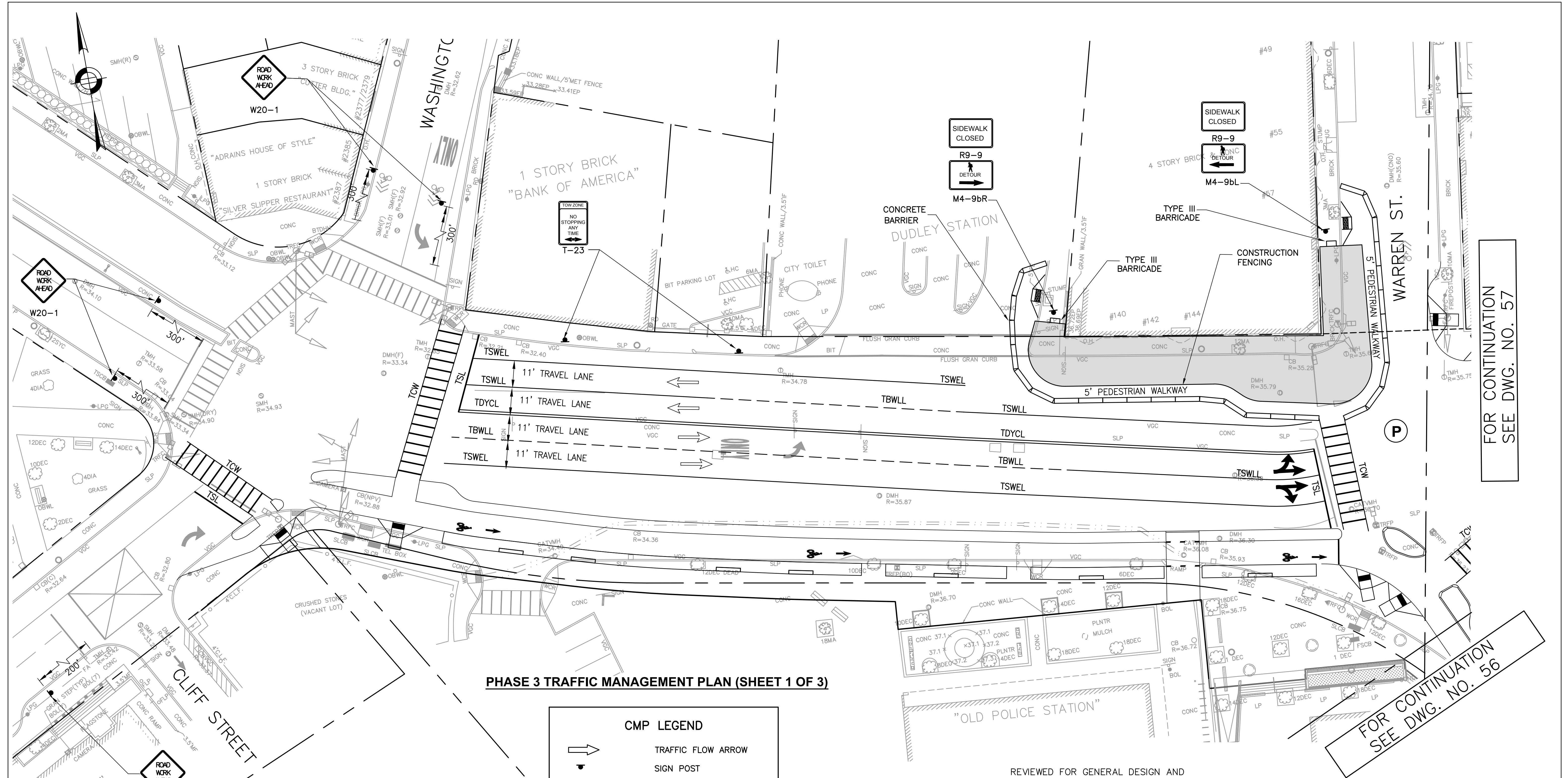
CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION  
 HIGHWAY RECONSTRUCTION  
**DUDLEY SQUARE PHASE 1**  
**DUDLEY STREET CMP PHASE 2**  
 ROXBURY

SCALE: 1" = 20'  
 DISTRICT: 10  
 AREA: 1  
 DATE: DEC. 17, 2018

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 CITY ENGINEER



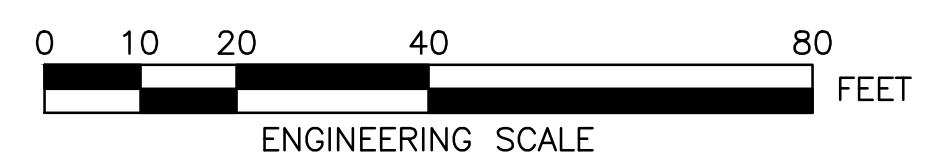
R-3533-54



**PHASE 3 TRAFFIC MANAGEMENT PLAN (SHEET 1 OF 3)**

- NOTES:**
1. CLOSURE FOR DUDLEY STREET AT WARREN STREET NORTHWEST SIDEWALK RECONSTRUCTION, PROVIDE PEDESTRIAN DETOUR.
  2. CLOSURE FOR DUDLEY STREET AT WARREN STREET SOUTHEAST SIDEWALK RECONSTRUCTION, PROVIDE PEDESTRIAN DETOUR.
  3. CLOSURE FOR WARREN STREET CENTER ISLAND RECONSTRUCTION.
  4. CLOSURE FOR WARREN STREET AT HARRISON AVENUE NORTH SIDEWALK RECONSTRUCTION, PROVIDE PEDESTRIAN DETOUR.
  5. ACCESS TO ADJACENT BUSINESSES AND DUDLEY LIBRARY MUST BE MAINTAINED AT ALL TIMES.
  6. PEDESTRIAN PASSAGE SHALL BE A 5' MINIMUM.
  7. TRAVEL LANES SHALL BE A 10' MINIMUM.
  8. CONSTRUCTION SCHEDULE WILL BE COORDINATED WITH DUDLEY LIBRARY CONSTRUCTION.
  9. CONTRACTOR SHALL MAINTAIN ACCESS TO LIBRARY CONSTRUCTION GATES DURING ALL PHASES OF STREET WORK.

CMP LEGEND	
	TRAFFIC FLOW ARROW
	SIGN POST
	HANDICAP RAMP
	DRUM
	TYPE III BARRICADE
	POLICE DETAIL SYMBOL
	TEMPORARY CONCRETE BARRIER



REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON TRANSPORTATION DEPARTMENT

SURVEY BY BRYANT ASSOCIATES

DRAWN BY A.DALLY

CHECKED BY P.FUSCO

APPROVED BY J.CONLEY

CIP 19-21 SHEET 55 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1**  
**DUDLEY STREET CMP PHASE 3**  
ROXBURY

SCALE: 1" = 20'  
DISTRICT: 10

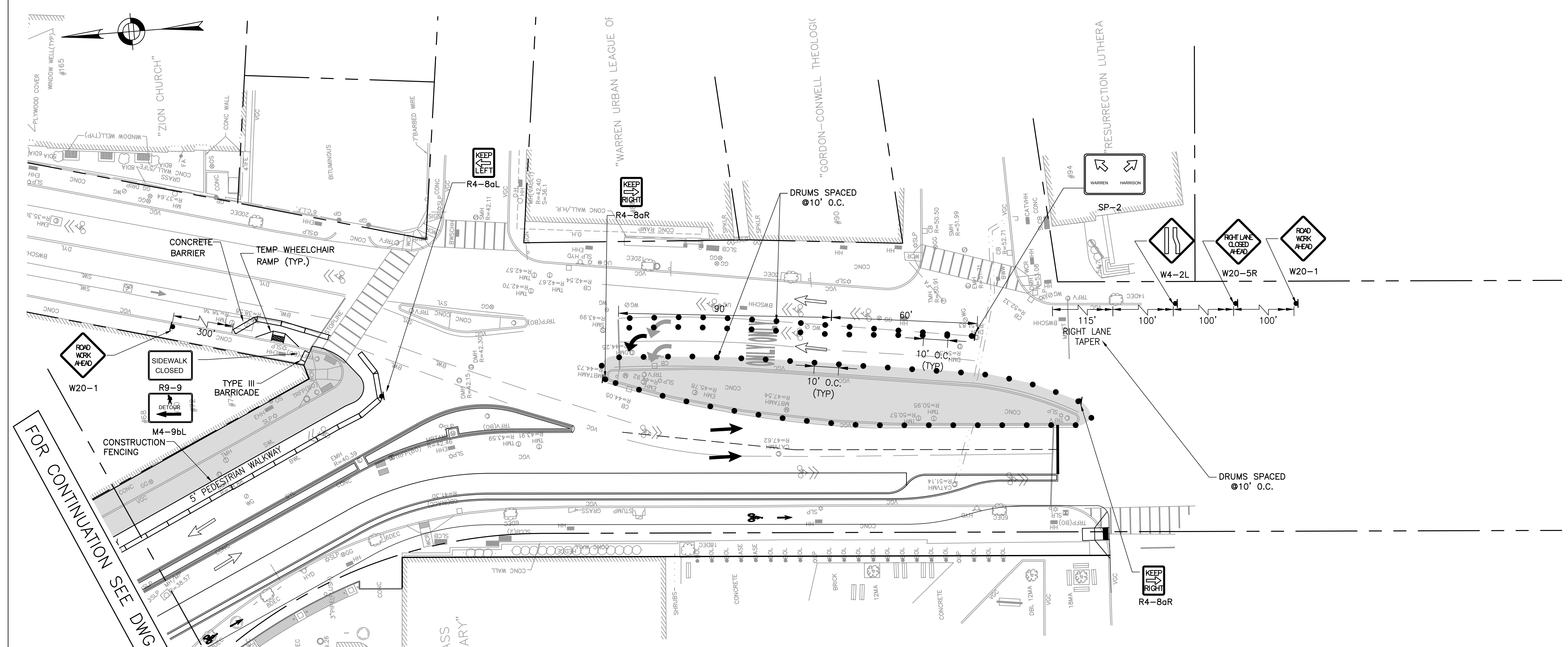
AREA: 1  
DATE: DEC. 17, 2018

CITY ENGINEER

R-3533-55

FOR CONTINUATION  
SEE DWG. NO. 57

FOR CONTINUATION  
SEE DWG. NO. 56



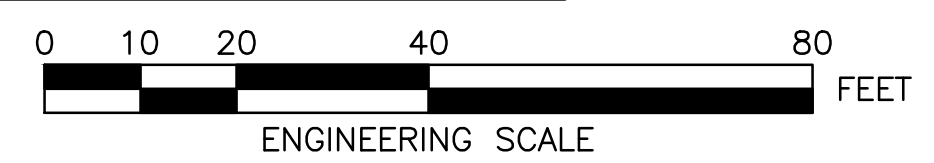
FOR CONTINUATION SEE DWG. NO. 55

**PHASE 3 TRAFFIC MANAGEMENT PLAN (SHEET 2 OF 3)**

**NOTES:**

- CLOSURE FOR DUDLEY STREET AT WARREN STREET NORTHWEST SIDEWALK RECONSTRUCTION, PROVIDE PEDESTRIAN DETOUR.
- CLOSURE FOR DUDLEY STREET AT WARREN STREET SOUTHEAST SIDEWALK RECONSTRUCTION, PROVIDE PEDESTRIAN DETOUR.
- CLOSURE FOR WARREN STREET CENTER ISLAND RECONSTRUCTION.
- CLOSURE FOR WARREN STREET AT HARRISON AVENUE NORTH SIDEWALK RECONSTRUCTION, PROVIDE PEDESTRIAN DETOUR.
- ACCESS TO ADJACENT BUSINESSES AND DUDLEY LIBRARY MUST BE MAINTAINED AT ALL TIMES.
- PEDESTRIAN PASSAGE SHALL BE A 5' MINIMUM.
- TRAVEL LANES SHALL BE A 10' MINIMUM.
- CONSTRUCTION SCHEDULE WILL BE COORDINATED WITH DUDLEY LIBRARY CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO LIBRARY CONSTRUCTION GATES DURING ALL PHASES OF STREET WORK.

CMP LEGEND	
	TRAFFIC FLOW ARROW
	SIGN POST
	HANDICAP RAMP
	DRUM
	TYPE III BARRICADE
	POLICE DETAIL SYMBOL
	TEMPORARY CONCRETE BARRIER



REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON TRANSPORTATION DEPARTMENT

SURVEY BY BRYANT ASSOCIATES  
 DRAWN BY A.DALLY  
 CHECKED BY P.FUSCO  
 APPROVED BY J.CONLEY

R-3533-56

CIP 19-21 SHEET 56 OF 60

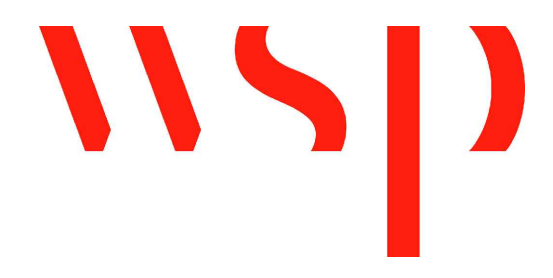
CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION  
 HIGHWAY RECONSTRUCTION

**DUDLEY SQUARE PHASE 1**  
**DUDLEY STREET CMP PHASE 3**  
 ROXBURY

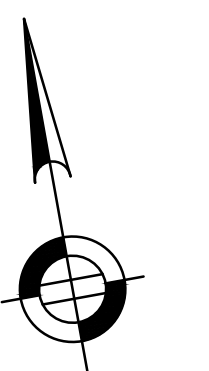
SCALE: 1" = 20'  
 DISTRICT: 10

AREA: 1  
 DATE: DEC. 17, 2018

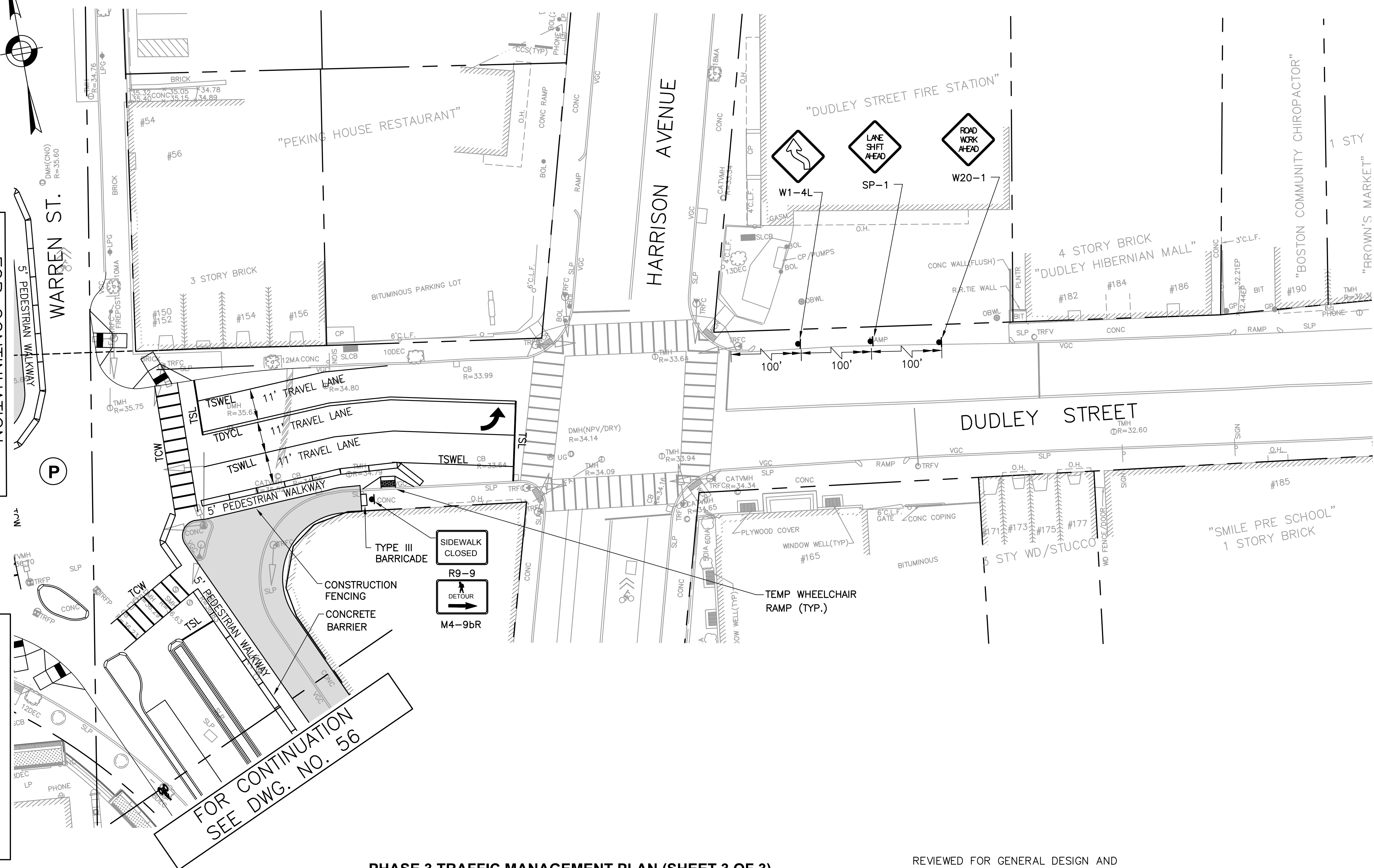
\_\_\_\_\_  
 CITY ENGINEER







FOR CONTINUATION  
SEE DWG. NO. 55



CMP LEGEND	
	TRAFFIC FLOW ARROW
	SIGN POST
	HANDICAP RAMP
	DRUM
	TYPE III BARRICADE
	POLICE DETAIL SYMBOL
	TEMPORARY CONCRETE BARRIER

FOR CONTINUATION  
SEE DWG. NO. 56

**PHASE 3 TRAFFIC MANAGEMENT PLAN (SHEET 3 OF 3)**

**NOTES:**

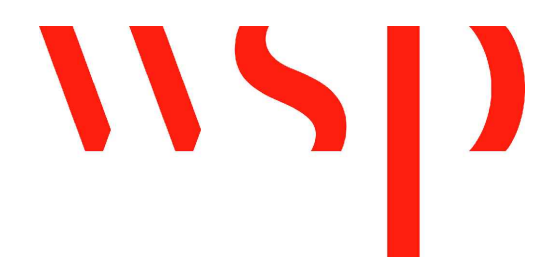
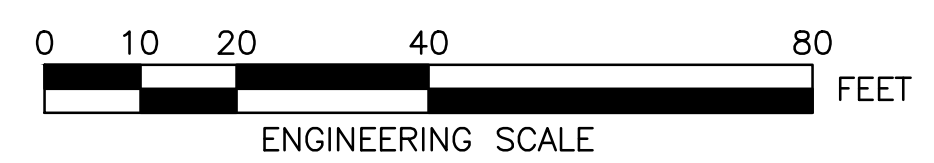
- CLOSURE FOR DUDLEY STREET AT WARREN STREET NORTHWEST SIDEWALK RECONSTRUCTION, PROVIDE PEDESTRIAN DETOUR.
- CLOSURE FOR DUDLEY STREET AT WARREN STREET SOUTHEAST SIDEWALK RECONSTRUCTION, PROVIDE PEDESTRIAN DETOUR.
- CLOSURE FOR WARREN STREET CENTER ISLAND RECONSTRUCTION.
- CLOSURE FOR WARREN STREET AT HARRISON AVENUE NORTH SIDEWALK RECONSTRUCTION, PROVIDE PEDESTRIAN DETOUR.
- ACCESS TO ADJACENT BUSINESSES AND DUDLEY LIBRARY MUST BE MAINTAINED AT ALL TIMES.
- PEDESTRIAN PASSAGE SHALL BE A 5' MINIMUM.
- TRAVEL LANES SHALL BE A 10' MINIMUM.
- CONSTRUCTION SCHEDULE WILL BE COORDINATED WITH DUDLEY LIBRARY CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO LIBRARY CONSTRUCTION GATES DURING ALL PHASES OF STREET WORK.

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON TRANSPORTATION DEPARTMENT

SURVEY BY	BRYANT ASSOCIATES
DRAWN BY	A.DALLY
CHECKED BY	P.FUSCO
APPROVED BY	J.CONLEY

R-3533-57



CIP 19-21 SHEET 57 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION HIGHWAY RECONSTRUCTION	
<b>DUDLEY SQUARE PHASE 1</b> <b>DUDLEY STREET CMP PHASE 3</b> ROXBURY	
SCALE: 1" = 20'	AREA: 1
DISTRICT: 10	DATE: DEC. 17, 2018
CITY ENGINEER	

IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES)		UNIT AREA SF	TEXT	TEXT DIMENSIONS	NUMBER OF SIGNS REQUIRED	COLOR	POST SIZE AND NUMBER REQUIRED PER SIGN	AREA IN SQUARE FEET
	WIDTH	HEIGHT							
M4-9bL	30"	24"	5		SEE BOSTON TRANSPORTATION DEPARTMENT STANDARD DETAIL	5	SEE BOSTON TRANSPORTATION DEPARTMENT STANDARD DETAIL	BTD SPEC. MOUNT ON MAST ARM/POST	25
M4-9	30"	24"	5			1			5
M4-9bR	30"	24"	5			5			25
R-1	30"	30"	5.2			1			5.2
R4-2L	36"	36"	9			1			9
R4-7a	24"	30"	5			3			15
R4-7aL	24"	30"	5			1			5
R1-19	30"	30"	6.25			2			12.5
R9-9	12"	24"	2			5			10
R9-11a	12"	30"	2.5			1			2.5
T-23	12"	18"	1.5			12			18
W1-4L	36"	36"	9			1			9
W1-4R	36"	36"	9			1			9
W20-1	36"	36"	9			8			72
W20-5L	36"	36"	9			2			18
W20-5R	36"	36"	9			2			18

NOTES- SIGN SUMMARY

- SIGN SUMMARY APPLIES TO TYPICAL APPLICATIONS DESCRIBED IN CMP PHASE 1 THROUGH CMP PHASE 3.
- SIGN SUMMARY IS CUMULATIVE OF REQUIRED SIGNAGE FOR CMP PHASE 1 THROUGH CMP PHASE 3; CONTRACTOR TO DETERMINE IF SIGNS CAN BE REUSED.

IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES)		UNIT AREA SF	TEXT	TEXT DIMENSIONS	NUMBER OF SIGNS REQUIRED	COLOR	POST SIZE AND NUMBER REQUIRED PER SIGN	AREA IN SQUARE FEET
	WIDTH	HEIGHT							
SP-1	36"	36"	9			2			18
SP-1	36"	36"	9			2			18
SP-2	48"	36"	12			1			12

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON TRANSPORTATION DEPARTMENT

SURVEY BY BRYANT ASSOCIATES

DRAWN BY A.DALLY

CHECKED BY P.FUSCO

APPROVED BY J.CONLEY

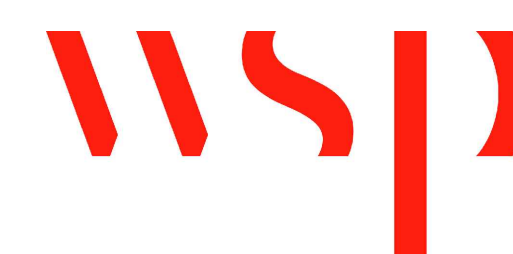
CIP 19-21 SHEET 58 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
HIGHWAY RECONSTRUCTION  
**DUDLEY SQUARE PHASE 1  
CMP TRAFFIC SIGN SUMMARY**  
ROXBURY

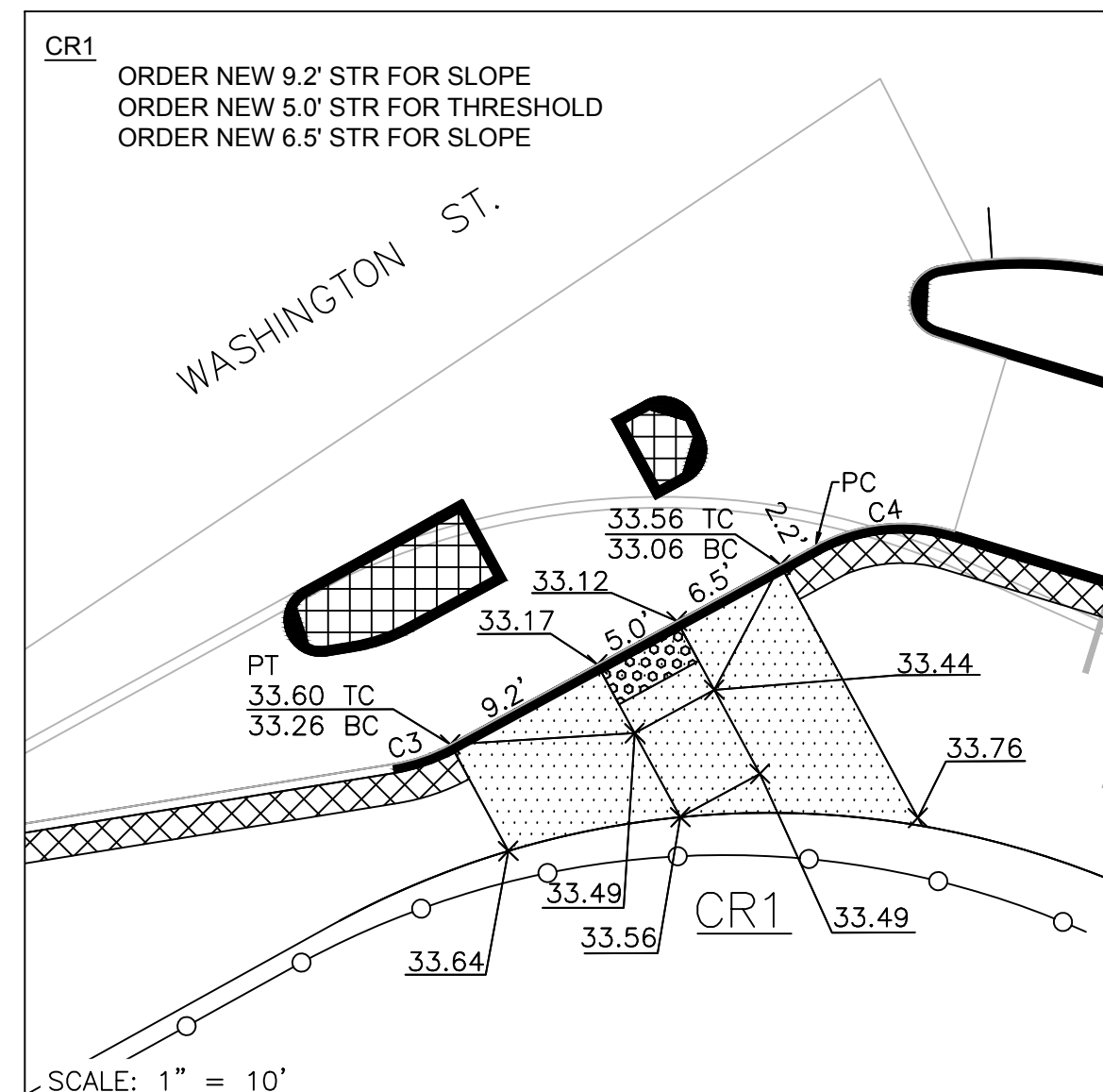
SCALE: N.T.S.  
DISTRICT: 10

AREA: 1  
DATE: DEC. 17, 2018

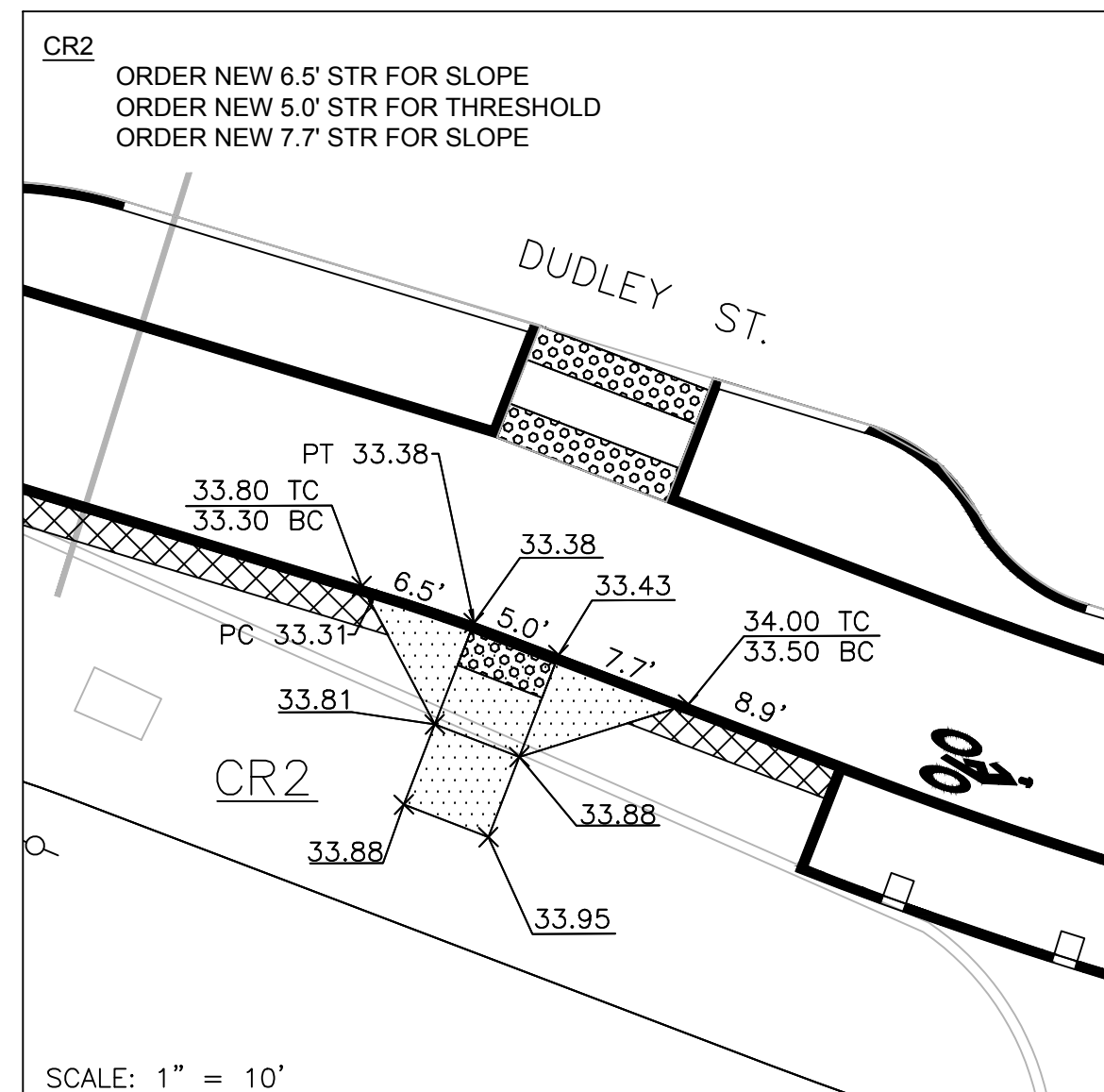
CITY ENGINEER



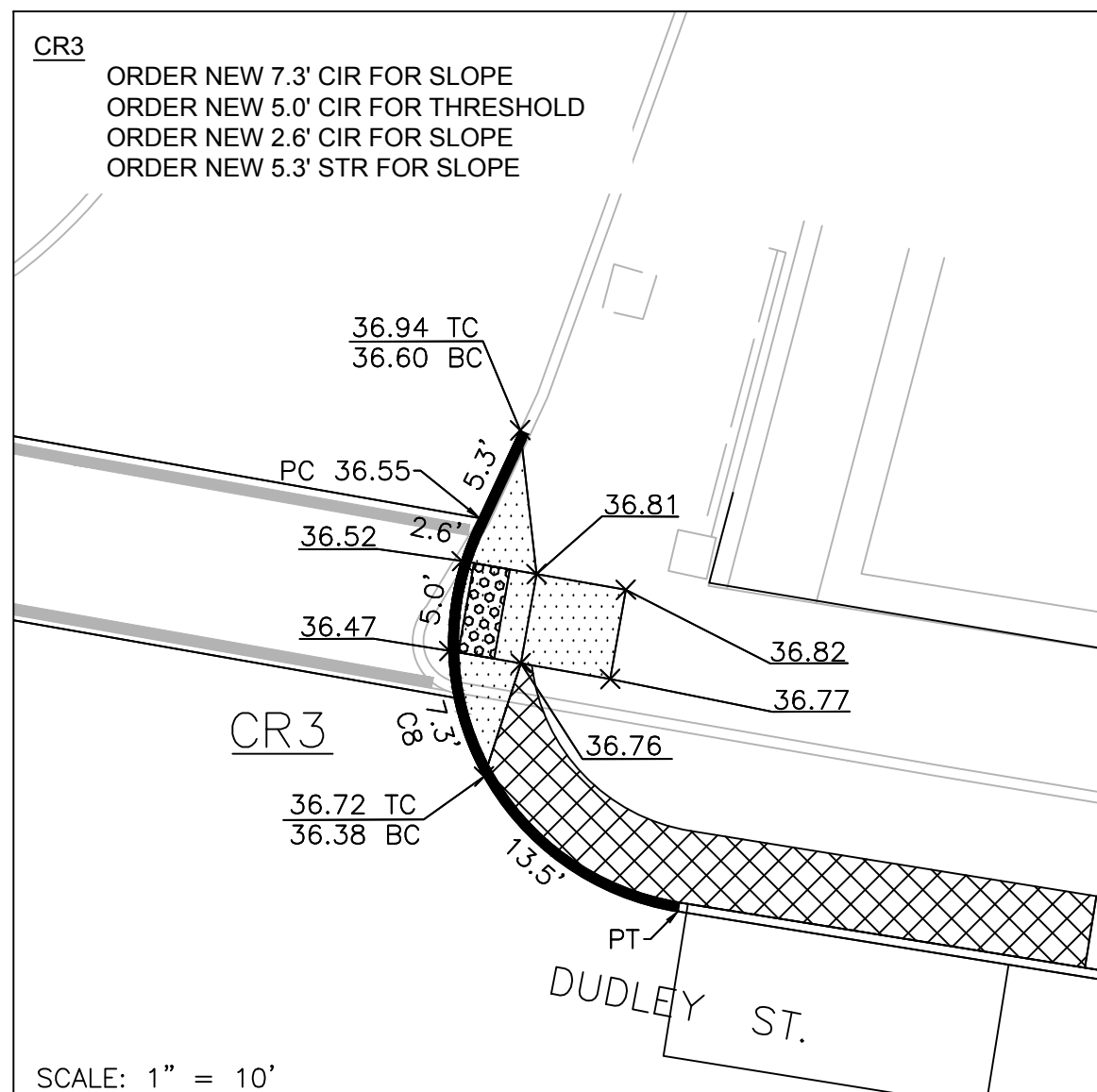
R-3533-58



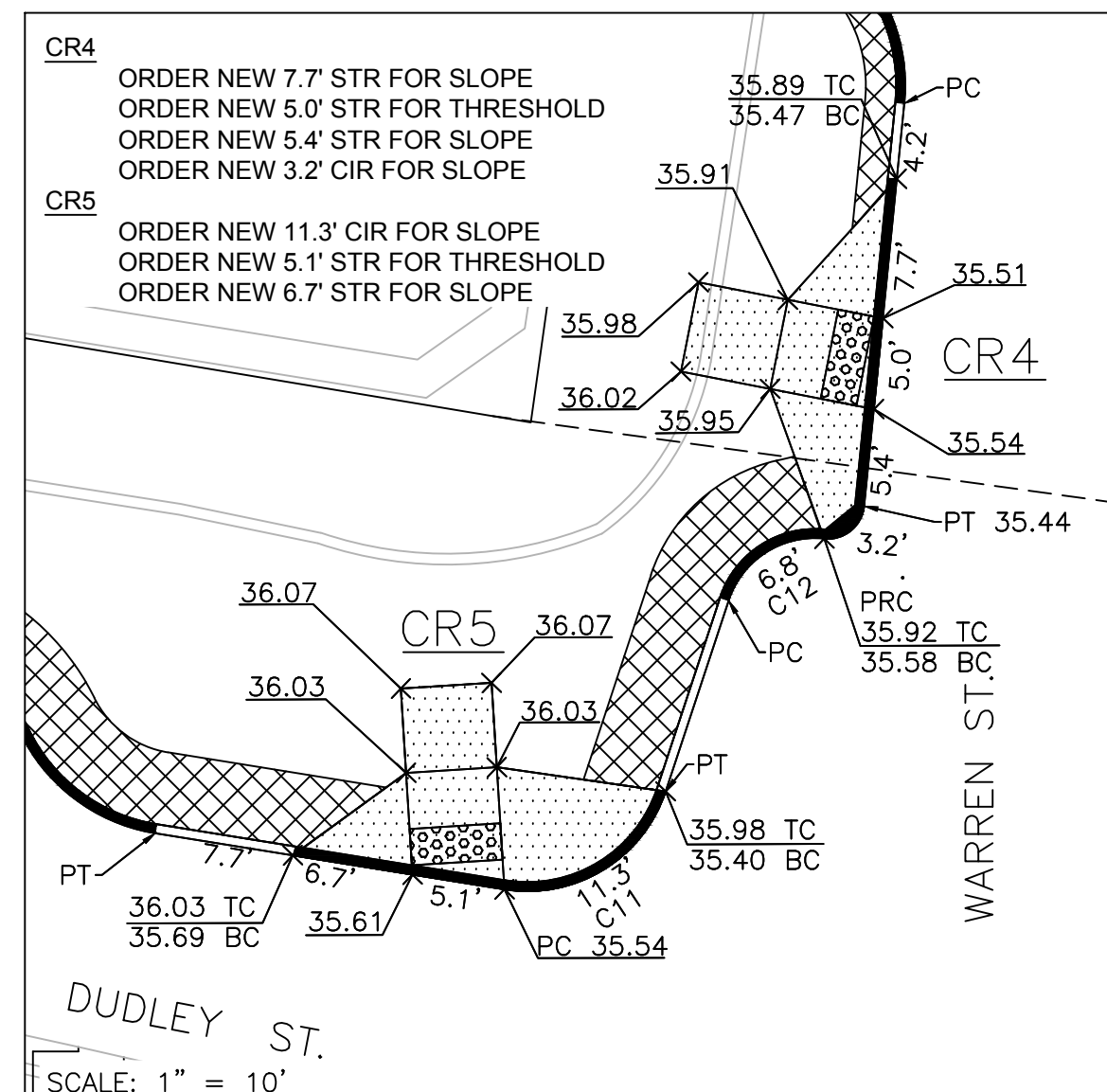
PROP. CONC RAMP #1 (CR1).



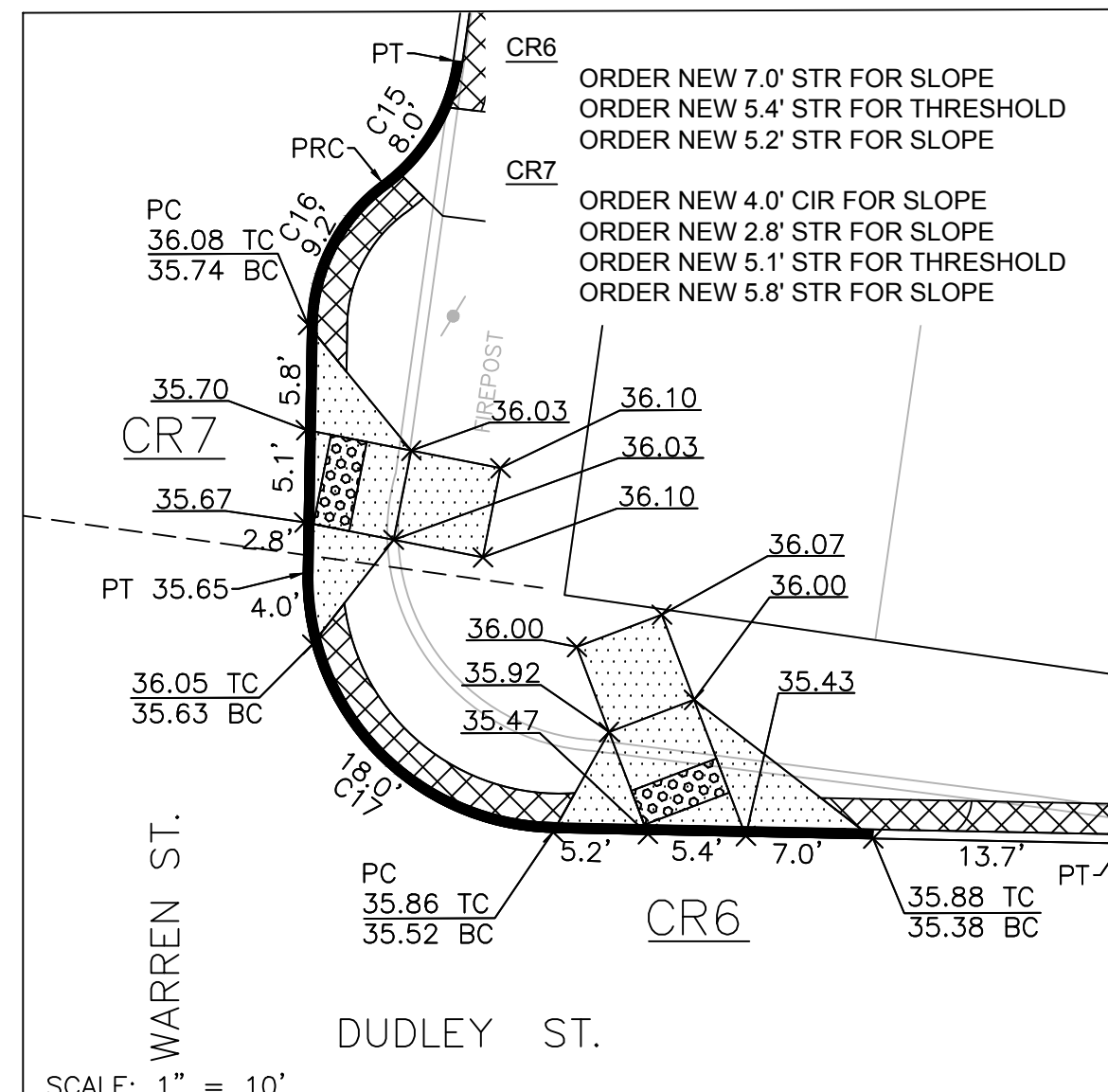
PROP. CONC RAMP #2 (CR2).



PROP. CONC RAMP #3 (CR3).



PROP. CONC RAMP #4 (CR4) AND RAMP #5 (CR5).



PROP. CONC RAMP #6 (CR6) AND RAMP #7 (CR7).

**LEGEND**

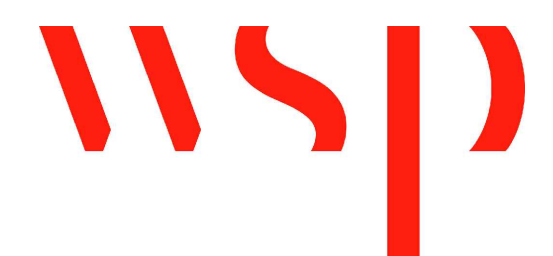
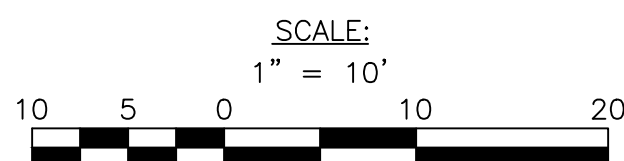
- PROPOSED CURB
- R&R CURB
- PROPOSED CEMENT CONCRETE PEDESTRIAN RAMP WITH DETECTABLE WARNING PANEL
- PERMEABLE CONCRETE PAVERS

**GENERAL NOTES**

1. ALL SIDEWALKS AND PEDESTRIAN RAMPS SHALL CONFORM TO THE REQUIREMENTS OF THE ARCHITECTURAL ACCESS BOARD (AAB) AND THE AMERICAN WITH DISABILITIES ACT (ADA). SIDEWALK CROSS SLOPES, AS INDICATED INT EH STANDARD SPECIFICATIONS, WILL BE 1.5% (±0.5% CONSTRUCTION TOLERANCE), CEMENT CONCRETE. LEVEL LANDINGS SHALL NOT EXCEED A SLOPE OF 1.5% (±0.5% CONSTRUCTION TOLERANCE) IN ANY DIRECTION.
2. THE LENGTHS OF NEW AND EXISTING STRAIGHT AND CIRCULAR EDGESTONE USED TO CONSTRUCT PROPOSED PEDESTRIAN RAMPS ARE LISTED IN A CLOCKWISE MANNER.
3. A DETECTABLE WARNING PANEL SHALL BE INSTALLED IN ALL PROPOSED PEDESTRIAN RAMPS. THE COLOR SHALL BE PALE YELLOW, CONFORMING TO FEDERAL NO. 23594. FURNISHING AND INSTALLING THE DETECTABLE WARNING PANELS SHALL BE CONSIDERED INCIDENTAL TO ITEM 701.2, CEMENT CONCRETE PEDESTRIAN RAMP. REFER TO ITEM 701.2, CEMENT CONCRETE PEDESTRIAN RAMP, IN THE ADDITIONAL SPECIAL PROVISIONS SECTION FOR SPECIFICATIONS AND DETAILS.

CURVE TABLE			
CURVE #	LENGTH	RADIUS	DELTA
C3	3.4	10.0	19°22'26"
C4	7.9	10.0	45°17'36"
C8	27.7	15.0	105°53'56"
C11	11.3	8.0	80°50'07"
C12	6.8	5.0	77°31'07"
C15	7.9	10.0	45°31'23"
C16	9.2	10.0	52°30'33"
C17	22.0	14.0	89°51'43"

R-3533-59



REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

SURVEY BY BRYANT ASSOCIATES  
 DRAWN BY J. WEISS  
 CHECKED BY S. BERGMAN  
 APPROVED BY A. SANTORO

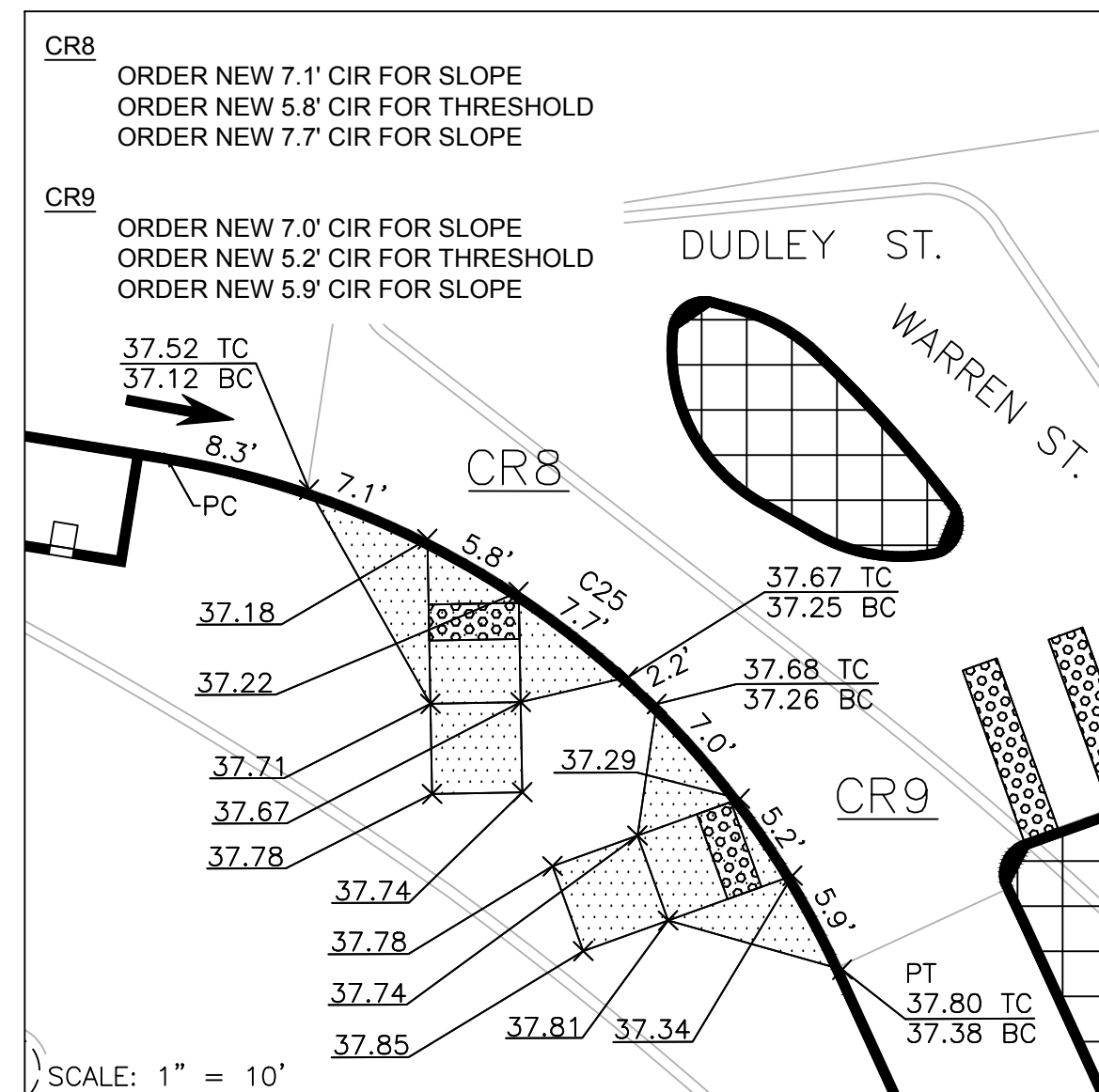
CIP 19-21 SHEET 59 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION  
 HIGHWAY RECONSTRUCTION  
**DUDLEY SQUARE PHASE 1**  
**PEDESTRIAN RAMP DETAILS**  
 ROXBURY

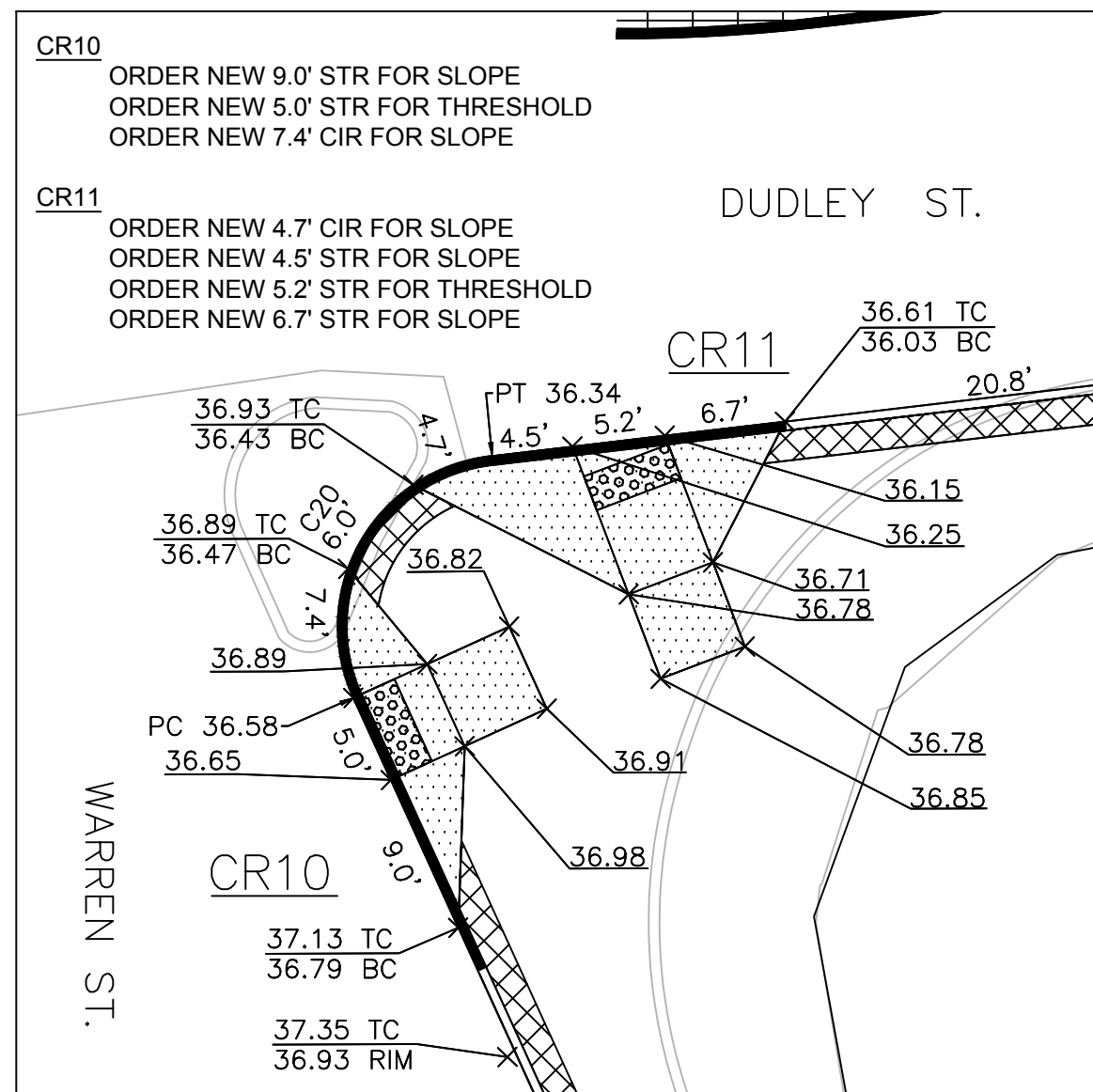
SCALE: 1" = 10'  
 DISTRICT: 10

AREA: 1  
 DATE: DEC. 17, 2018

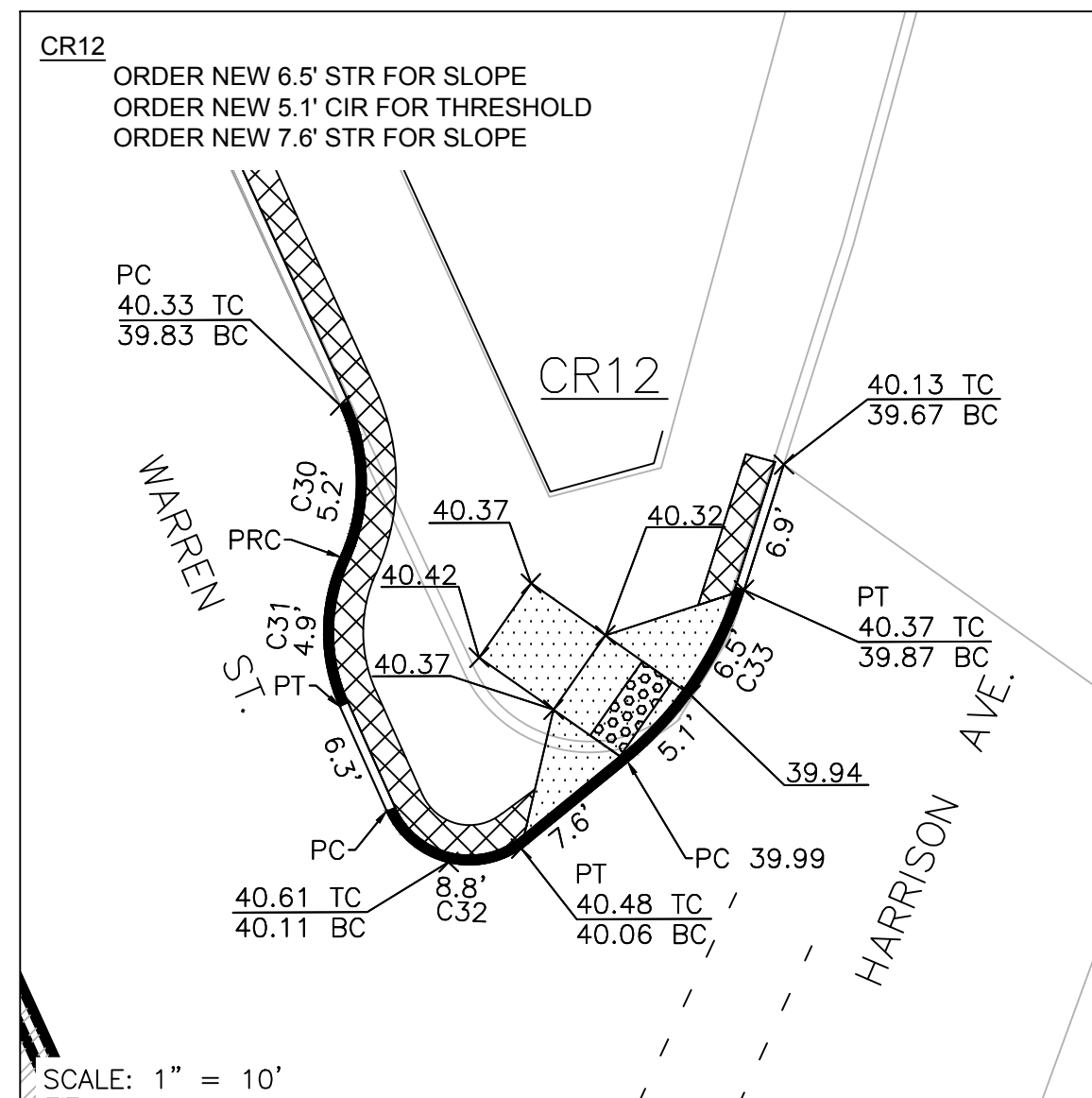
CITY ENGINEER



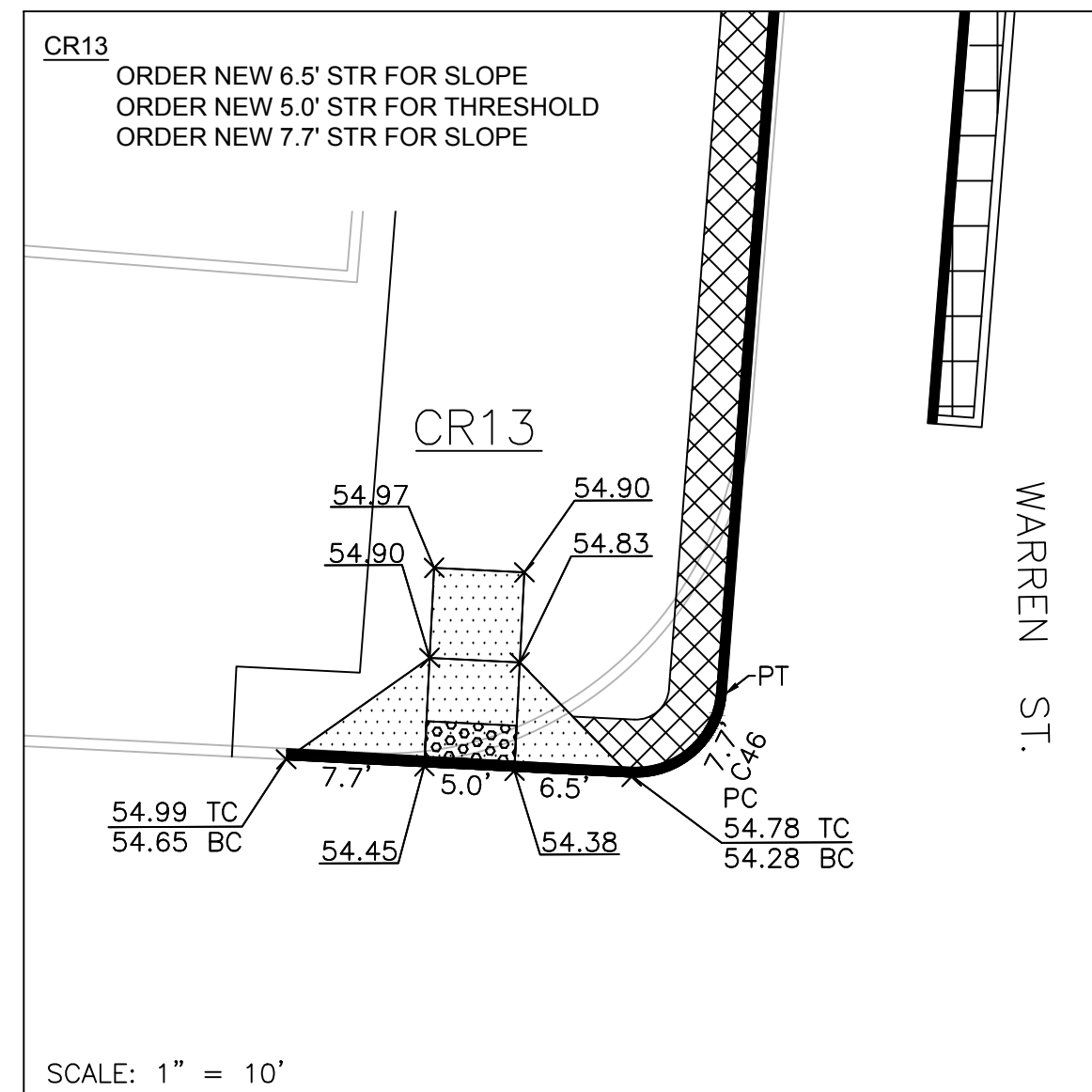
PROP. CONC RAMP #8 (CR8)  
AND RAMP #9 (CR9).



PROP. CONC RAMP #10 (CR10)  
AND RAMP #11 (CR11).



PROP. CONC RAMP #12  
(CR12).



PROP. CONC RAMP #13 (CR13).


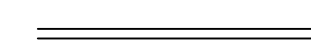


CURVE TABLE

CURVE #	LENGTH	RADIUS	DELTA
C20	17.9	9.5	107°49'50"
C25	49.1	50.0	56°17'12"
C30	8.6	10.0	49°25'15"
C31	8.5	10.0	48°40'38"
C32	9.2	5.0	105°06'45"
C33	11.6	20.0	33°12'45"
C46	7.7	5.0	88°26'47"

GENERAL NOTES

- ALL SIDEWALKS AND PEDESTRIAN RAMPS SHALL CONFORM TO THE REQUIREMENTS OF THE ARCHITECTURAL ACCESS BOARD (AAB) AND THE AMERICAN WITH DISABILITIES ACT (ADA). SIDEWALK CROSS SLOPES, AS INDICATED IN THE STANDARD SPECIFICATIONS, WILL BE 1.5% ( $\pm 0.5\%$  CONSTRUCTION TOLERANCE), CEMENT CONCRETE. LEVEL LANDINGS SHALL NOT EXCEED A SLOPE OF 1.5% ( $\pm 0.5\%$  CONSTRUCTION TOLERANCE) IN ANY DIRECTION.
- THE LENGTHS OF NEW AND EXISTING STRAIGHT AND CIRCULAR EDGESTONE USED TO CONSTRUCT PROPOSED PEDESTRIAN RAMPS ARE LISTED IN A CLOCKWISE MANNER.
- A DETECTABLE WARNING PANEL SHALL BE INSTALLED IN ALL PROPOSED PEDESTRIAN RAMPS. THE COLOR SHALL BE PALE YELLOW, CONFORMING TO FEDERAL NO. 23594. FURNISHING AND INSTALLING THE DETECTABLE WARNING PANELS SHALL BE CONSIDERED INCIDENTAL TO ITEM 701.2, CEMENT CONCRETE PEDESTRIAN RAMP. REFER TO ITEM 701.2, CEMENT CONCRETE PEDESTRIAN RAMP, IN THE ADDITIONAL SPECIAL PROVISIONS SECTION FOR SPECIFICATIONS AND DETAILS.

LEGEND

-  PROPOSED CURB
-  R&R CURB
-  PROPOSED CEMENT CONCRETE PEDESTRIAN RAMP WITH DETECTABLE WARNING PANEL
-  PERMEABLE CONCRETE PAVERS

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

SURVEY BY BRYANT ASSOCIATES  
 DRAWN BY J. WEISS  
 CHECKED BY S. BERGMAN  
 APPROVED BY A. SANTORO

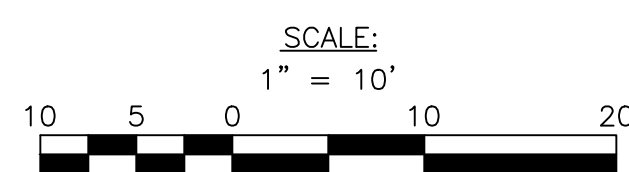
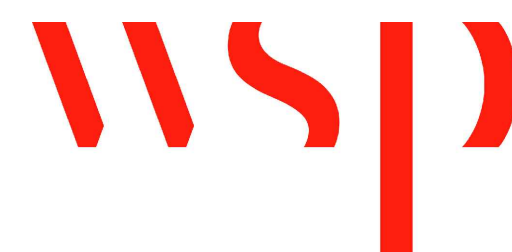
CIP 19-21 SHEET 60 OF 60

CITY OF BOSTON PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION  
 HIGHWAY RECONSTRUCTION  
**DUDLEY SQUARE PHASE 1  
 PEDESTRIAN RAMP DETAILS**  
 ROXBURY

SCALE: 1" = 10'  
 DISTRICT: 10

AREA: 1  
 DATE: DEC. 17, 2018

CITY ENGINEER



R-3533-60