COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION AND RECREATION
DIVISION OF URBAN PARKS AND RECREATION

dcr Massachusetts

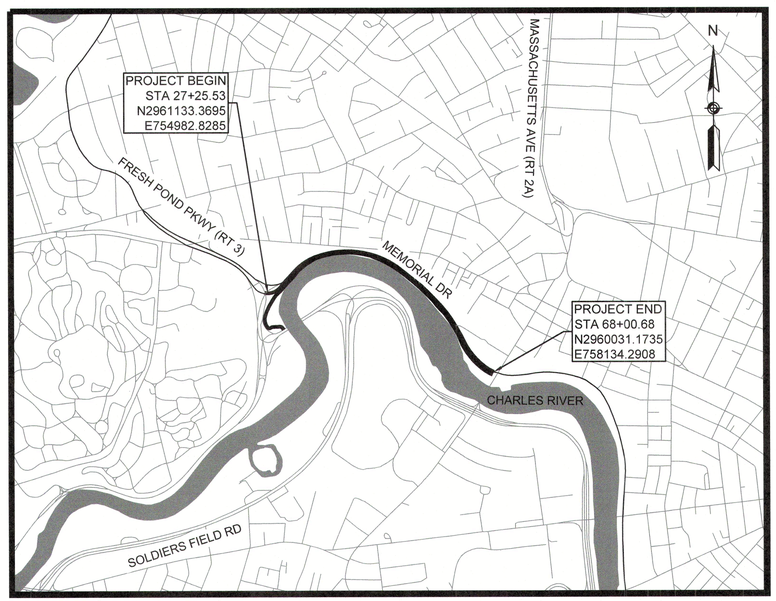
MEMORIAL DRIVE GREENWAY IMPROVEMENTS – PHASE III

IN THE CITY OF

CAMBRIDGE, MASSACHUSETTS MIDDLESEX COUNTY

INDEX

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0 1,000 2,000 3,000 4,000

SCALE: 1" = 1,000'

LENGTH OF PROJECT = 4278.16 FEET = 0.81 MILES

MARUA HEALEY, GOVERNOR

KIM DRISCOLL, LIEUTENANT GOVERNOR

REBECCA TEPPER, SECRETARY, EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS

BRIAN ARRIGO, COMMISSIONER DEPARTMENT OF CONSERVATION AND RECREATION

MASSACHUSETTS REGISTERED LANDSCAPE ARCHITECT NO. 686 ALYSON G. RICHARDSON 4/9/2025

COMMONWEALTH OF MASSACHUSETTS RICHARD A. AZZALINA CIVIL No. 40219 REGISTERED PROFESSIONAL ENGINEER 4/9/2025

BROWN, RICHARDSON & ROWE
LANDSCAPE ARCHITECTS AND PLANNERS
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COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
PLANNING AND ENGINEERING DIVISION
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TITLE SHEET & INDEX

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. G-1
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CHECKED:	ACC.	DATE: 4/8/2025	1 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/8/2025 U:\179411010\DRAWINGS\CAD\01 GENERAL\MEMORIAL_DRIVE_III_TITLE_SHEET.DWG

GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
JB	JB	JERSEY BARRIER
CB	CB	CATCH BASIN
		CATCH BASIN CURB INLET
FP	FP	FLAG POLE
GP	GP	GAS PUMP
MB	MB	MAIL BOX
		POST SQUARE
		POST CIRCULAR
WELL	WELL	WELL
EHH	EHH	ELECTRIC HANDHOLE
		FENCE GATE POST
GG	GG	GAS GATE
BHL #	BHL #	BORING HOLE
MW #	MW #	MONITORING WELL
TP #	TP #	TEST PIT
		HYDRANT
		LIGHT POLE
CO.BD.		COUNTY BOUND
		GPS POINT
C	C	CABLE MANHOLE
D	D	DRAINAGE MANHOLE
E	E	ELECTRIC MANHOLE
G	G	GAS MANHOLE
M	M	MISC MANHOLE
S	S	SEWER MANHOLE
T	T	TELEPHONE MANHOLE
W	W	WATER MANHOLE
MHB	MHB	MASSACHUSETTS HIGHWAY BOUND
MON		MONUMENT
SB		STONE BOUND
TB		TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
TPL or GUY	TPL or GUY	TROLLEY POLE OR GUY POLE
HTP		TRANSMISSION POLE
UFB	UFB	UTILITY POLE W/ FIREBOX
UPDL	UPDL	UTILITY POLE WITH DOUBLE LIGHT
ULT	ULT	UTILITY POLE W / 1 LIGHT
UPL	UPL	UTILITY POLE
		BUSH
SIZE & TYPE		TREE
		STUMP
		SWAMP / MARSH
WG	WG	WATER GATE
PM	PM	PARKING METER
		OVERHEAD CABLE/WIRE
		CURBING
100 99		CONTOURS (ON-THE-GROUND SURVEY DATA)
100 99		CONTOURS (PHOTOGRAMMETRIC DATA)
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
		GUARD RAIL - DOUBLE FACE - STEEL POSTS
		GUARD RAIL - DOUBLE FACE - WOOD POSTS
x	x	CHAIN LINK OR METAL FENCE
		WOOD FENCE
		HAY BALES/SILT FENCE
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF PAVEMENT OR COLD PLANE AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT

ABBREVIATIONS

GENERAL

AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADJ	ADJUST
APPROX.	APPROXIMATE
A.C.	ASPHALT CONCRETE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE
BIT.	BITUMINOUS
BC	BOTTOM OF CURB
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR.	BRIDGE
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CEM	CEMENT
CI	CURB INLET
CIP	CAST IRON PIPE
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CSP	CORRUGATED STEEL PIPE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
CR GR	CROWN GRADE
DHV	DESIGN HOURLY VOLUME
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DW	STEADY DON'T WALK - PORTLAND ORANGE
DWY	DRIVEWAY
ELEV (or EL.)	ELEVATION
EMB	EMBANKMENT
EOP	EDGE OF PAVEMENT
EXIST (or EX)	EXISTING
EXC	EXCAVATION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FDN.	FOUNDATION
FLDSTN	FIELDSTONE
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
HDW	HEADWALL
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HYD	HYDRANT
INV	INVERT
JCT	JUNCTION
L	LENGTH OF CURVE
LB	LEACH BASIN
LP	LIGHT POLE
LT	LEFT
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
NIC	NOT IN CONTRACT
NO.	NUMBER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
P.G.L.	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PROJ	PROJECT
PROP	PROPOSED
PSB	PLANTABLE SOIL BORROW
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
PWW	PAVED WATER WAY

ABBREVIATIONS (cont.)

GENERAL

R	RADIUS OF CURVATURE
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
SB	STONE BOUND
SHLD	SHOULDER
SMH	SEWER MANHOLE
ST	STREET
STA	STATION
SSD	STOPPING SIGHT DISTANCE
SHLO	STATE HIGHWAY LAYOUT LINE
SW	SIDEWALK
T	TANGENT DISTANCE OF CURVE/TRUCK %
TAN	TANGENT
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TYP	TYPICAL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VC	VERTICAL CURVE
WCR	WHEEL CHAIR RAMP
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN
X-SECT	CROSS SECTION

PAVEMENT MARKINGS SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		PAVEMENT ARROW - WHITE
ONLY	ONLY	LEGEND "ONLY" - WHITE
	SL	STOP LINE - 12" WIDTH - WHITE
	CW	CROSSWALK - 12" WIDTH - WHITE
	SWL	SOLID WHITE LINE - 6" WIDTH
	SYL	SOLID YELLOW LINE - 6" WIDTH
	BWL	BROKEN WHITE LINE - 10' LINE, 30' GAP - 6" WIDTH
	BYL	BROKEN YELLOW LINE - 10' LINE, 30' GAP - 6" WIDTH
	DWL	DOTTED WHITE LINE - 3' LINE, 9' GAP - 6" WIDTH
	DYL	DOTTED YELLOW LINE - 3' LINE, 9' GAP - 4" WIDTH
	DWLEx	DOTTED WHITE LINE EXTENSION - 2' LINE, 6' GAP - 6" WIDTH
	DYLEx	DOTTED YELLOW LINE EXTENSION - 2' LINE, 6' GAP - 6" WIDTH
	DBYL	DOUBLE YELLOW LINE - 2 - 6" WIDTH LINES
	WTL	WHITE TRANSVERSE LINE - 10' SPACE O.C., 45° SLOPE - 12" WIDTH
	YTL	YELLOW TRANSVERSE LINE - 10' SPACE O.C., 45° SLOPE - 12" WIDTH
	SWCHL	SOLID WHITE CHANNELIZATION LINE - 12" WIDTH
	SYCHL	SOLID YELLOW CHANNELIZATION LINE - 12" WIDTH
	WCL	WHITE CHEVRON LINE - 10' SPACE O.C., 45° SLOPE - 12" WIDTH

TRAFFIC SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
1	1	CONTROLLER PHASE ACTUATED
		TRAFFIC SIGNAL HEAD (SIZE AS NOTED)
		WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED)
		VIDEO DETECTION CAMERA
		MICROWAVE DETECTOR
		PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE
	*	EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT
		VEHICULAR SIGNAL HEAD
		VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED
		FLASHING BEACON
		PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)
RRSG	RRSG	RAILROAD SIGNAL
OR		SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)
	20'	MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)
		HIGH MAST POLE OR TOWER
		SIGN AND POST
		SIGN AND POST (2 POSTS)
	20'	MAST ARM WITH LUMINAIRE
		OPTICAL PRE-EMPTION DETECTOR
		CONTROL CABINET, GROUND MOUNTED
		CONTROL CABINET, POLE MOUNTED
		FLASHING BEACON CONTROL AND METER PEDESTAL
		LOAD CENTER ASSEMBLY
		PULL BOX 12"x12" (OR AS NOTED)
		ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)
		TRAFFIC SIGNAL CONDUIT

TRAFFIC SIGNAL ABBREVIATIONS

CAB	CABINET
CCVE	CLOSED CIRCUIT VIDEO EQUIPMENT
DW	STEADY UPRAISED HAND
FDW	FLASHING UPRAISED HAND
FR	FLASHING CIRCULAR RED
FRL	FLASHING RED LEFT ARROW
FRR	FLASHING RED RIGHT ARROW
FY	FLASHING CIRCULAR YELLOW
FYL	FLASHING YELLOW LEFT ARROW
FYR	FLASHING YELLOW RIGHT ARROW
G	STEADY CIRCULAR GREEN
GL	STEADY GREEN LEFT ARROW
GR	STEADY GREEN RIGHT ARROW
GSL	STEADY GREEN SLASH LEFT ARROW
GSR	STEADY GREEN SLASH RIGHT ARROW
GV	STEADY GREEN VERTICAL ARROW
OL	OVERLAP
PED	PEDESTRIAN
PTZ	PAN, TILT, ZOOM
R	STEADY CIRCULAR RED
RL	STEADY RED LEFT ARROW
RR	STEADY RED RIGHT ARROW
TR SIG	TRAFFIC SIGNAL
TSC	TRAFFIC SIGNAL CONDUIT
W	STEADY WALKING PERSON
Y	STEADY CIRCULAR YELLOW
YL	STEADY YELLOW LEFT ARROW

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

LEGEND & ABBREVIATIONS

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. G-2
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DRAWN:	REF.	SCALE:	
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941101\0\DRAWINGS\CAD\01 GENERAL\MEMORIAL_DRIVE_III_TITLE_SHEET.DWG

MEMORIAL_DRIVE_III_TITLE_SHEET.DWG Plotted on 14-Apr-2025 7:52 AM

GENERAL NOTES:

1. EXISTING GROUND SURFACES SHOWN ON PLANS, PROFILES AND CROSS SECTIONS ARE BASED UPON DATA OBTAINED BY FIELD SURVEYS.
2. THE LOCATIONS OF EXISTING SUBSURFACE STRUCTURES, SUCH AS SEWERS, WATER MAINS, DRAINS AND OTHER UTILITIES ARE APPROXIMATE ONLY AND THE ENGINEER DOES NOT GUARANTEE THEIR NUMBER OR LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES BEFORE EXCAVATING.
3. ALL GAS GATES, ELECTRIC MANHOLES AND TELEPHONE MANHOLES WITHIN THE LIMITS OF WORK SHALL BE ADJUSTED BY THE OWNING AGENCY. ALL GAS, ELECTRIC, TELEPHONE AND CATV WORK SHALL BE DONE BY THE OWNING AGENCY. THE CONTRACTOR SHALL NOTIFY THE OWNING AGENCIES TO ADJUST AND/OR RELOCATE THESE STRUCTURES TO AVOID IMPACTING THE CONTRACTOR'S SCHEDULE OF OPERATIONS.
4. ANY CLEANING OF CATCH BASINS OR DRAIN PIPES NECESSARY FOR THE PROPOSED WORK SHALL BE COMPLETED BY THE RESPECTIVE MUNICIPALITY INVOLVED.
5. ANY DRAINAGE / SEWER / WATER CASTINGS BROKEN THROUGH NO FAULT OF THE CONTRACTOR SHALL BE SUPPLIED BY THE RESPECTIVE MUNICIPALITY FOR ADJUSTMENT UNDER THE CONTRACT ITEMS.
6. THE CONTRACTOR SHALL COORDINATE WORK WITH THE UTILITY COMPANIES DOING WORK IN THE SAME AREA. THE CONTRACTOR SHALL ALLOW THE UTILITY COMPANIES AND THEIR REPRESENTATIVES TO ADJUST AND/OR INSTALL THEIR SYSTEMS WITHIN CITY / STATE OWNED STREETS AND EASEMENTS.
7. CURB SHALL BE FURNISHED AND SET AT LOCATIONS SHOWN ON THE PLANS AND/OR AS REQUIRED BY THE ENGINEER.
8. CONSTRUCT DRIVEWAYS AND WALKS AS SHOWN ON THE PLANS AND/OR AS REQUIRED BY THE ENGINEER AND IN ACCORDANCE WITH AAB/ADA REGULATIONS.
9. EXISTING GRANITE CURB AND EDGING SUITABLE FOR REUSE WITHIN THE PROJECT SITE SHALL BE REMOVED AND RESET IN ACCORDANCE WITH THE PLANS AND/OR AS REQUIRED BY THE ENGINEER.
10. SAW CUT EXISTING BITUMINOUS CONCRETE ROADWAYS, CEMENT CONCRETE SIDEWALKS AND BITUMINOUS CONCRETE DRIVEWAYS AS SHOWN ON THE PLANS AND AT THE PROPOSED MATCH LINE.
11. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
12. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
13. THE CONTRACTOR SHALL RESTORE ANY EXISTING SURFACE PAVEMENTS AND TURF WHICH IS TO REMAIN THAT IS DISTURBED BY THE PROPOSED WORK AND SHALL PATCH ALL HOLES RESULTING FROM THE REMOVAL OF FOUNDATIONS WITH MATERIALS SIMILAR TO THE EXISTING.
14. ALL ACCESSIBLE ROUTES, WALKWAYS, CURB CUTS, RAMPS, SIDEWALKS, DRIVEWAY OPENINGS, CLEARANCES AND SLOPE TOLERANCES SHALL CONFORM WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB), 521 CMR AND MASSHIGHWAY CONSTRUCTION AND TRAFFIC STANDARD DRAWINGS.
15. ITEMS LABELED "REM" SHALL BE REMOVED AND DISCARDED BY CONTRACTOR.
16. THE CONTRACTOR SHALL PROTECT EXISTING SURVEY MONUMENTS AND SHALL RESET ANY MONUMENTATION DISTURBED BY HIS/HER OPERATIONS.
17. THE CONTRACTOR SHALL INSTALL OTHER NECESSARY TEMPORARY REGULATORY AND WARNING SIGNS DURING CONSTRUCTION AS REQUIRED BY THE ENGINEER FOR OTHER INCIDENTAL CONSTRUCTION ACTIVITIES. ALL SIGNAGE AND TRAFFIC CONTROL DEVICES USED MUST CONFORM TO THE 2009 "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD).
18. THE CONTRACTOR SHALL PERFORM WORK IN A MANNER ACCEPTABLE TO THE ENGINEER SO THAT INTERFERENCE WITH AND INCONVENIENCE TO BUSINESS CONCERNS AND ABUTTERS, ON ACCOUNT OF THE CONSTRUCTION WORK, IS KEPT TO A MINIMUM.
19. THE CONTRACTOR SHALL NOT BE ALLOWED TO PARK EQUIPMENT OR STOCKPILE EQUIPMENT OR MATERIAL ON THE TRAVELED WAYS OVERNIGHT OR WHEN NOT IN USE.
20. THE CONTRACTOR SHALL MAINTAIN SAFE AND RESPONSIBLE ACCESS TO AND FROM ABUTTING PROPERTY, PRIVATE WAYS, DRIVEWAYS AND ALL ALLEYS AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
21. ALL DETECTABLE WARNING PANELS SHALL BE MOUNTED IN CEMENT CONCRETE AND INSTALLED IN ACCORDANCE WITH MASSDOT CONSTRUCTION STANDARD DETAIL E107.6.5.

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

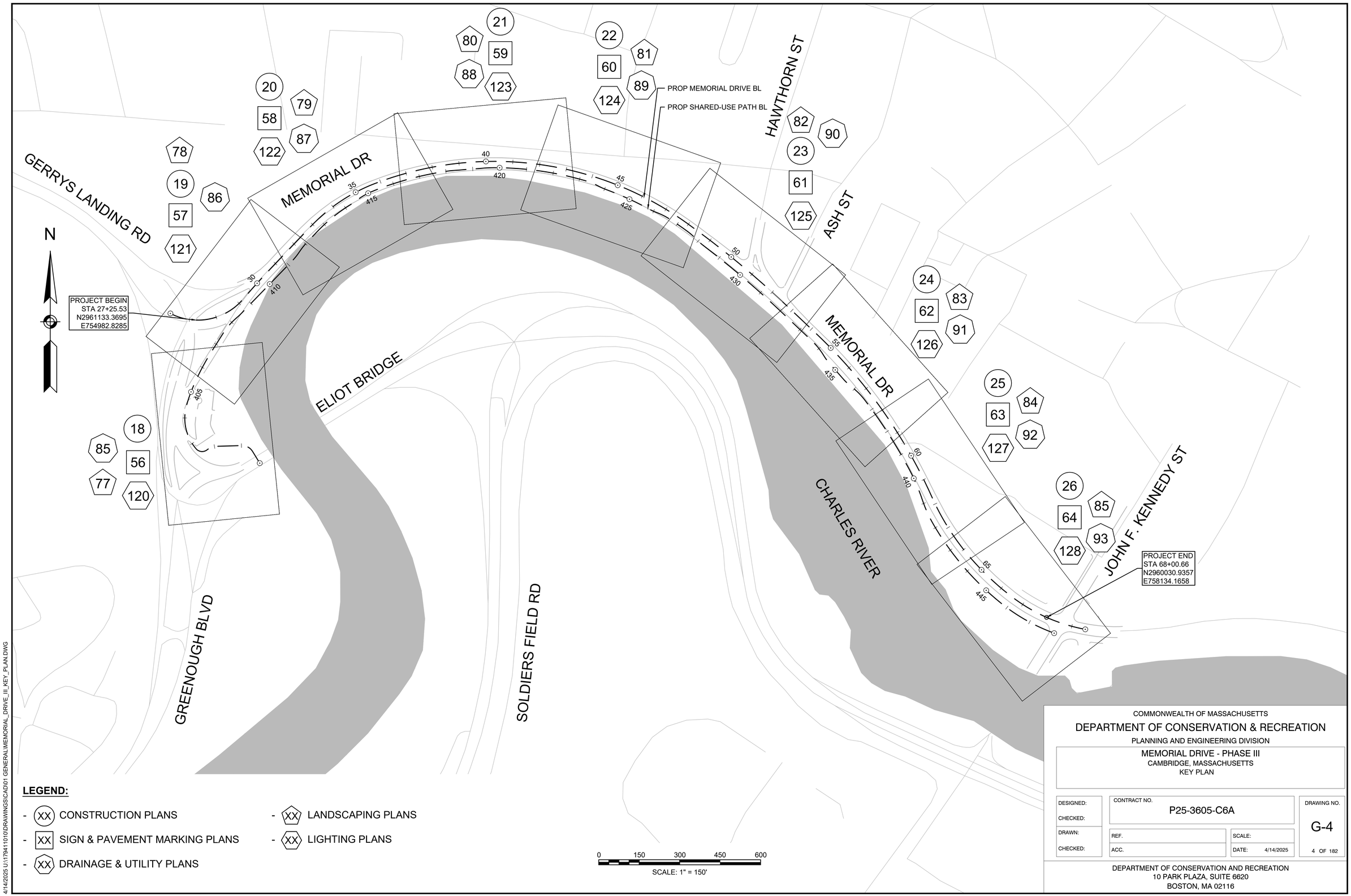
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
GENERAL NOTES

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. G-3
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DRAWN:	REF.	SCALE:
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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MEMORIAL_DRIVE_III_TITLE_SHEET.DWG Plotted on 14-Apr-2025 7:52 AM



LEGEND:

- (XX) CONSTRUCTION PLANS
- [XX] SIGN & PAVEMENT MARKING PLANS
- ⬡XX⬡ DRAINAGE & UTILITY PLANS
- ⬡XX⬡ LANDSCAPING PLANS
- ⬡XX⬡ LIGHTING PLANS

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

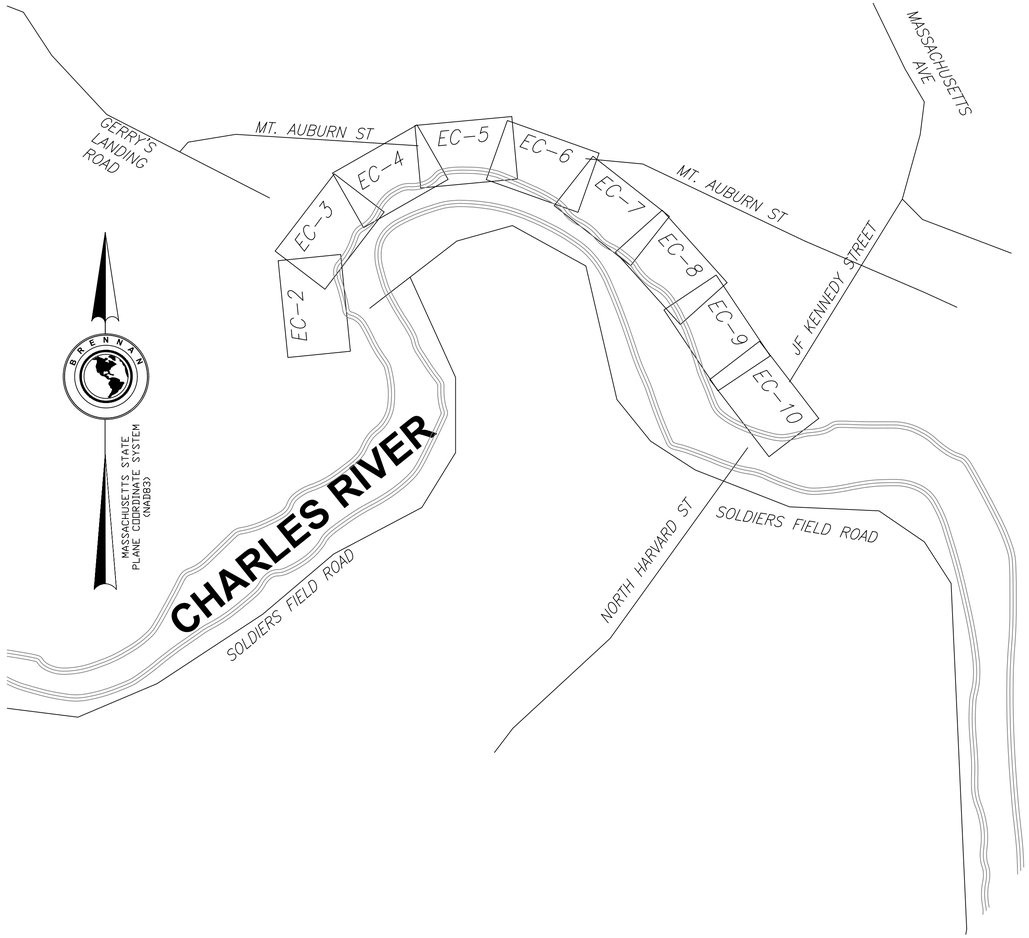
KEY PLAN

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. G-4
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DRAWN:	REF.	SCALE:
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941101\DRAWINGS\CAD\01 GENERAL\MEMORIAL_DRIVE_III_KEY_PLAN.DWG



NOTES:

1. *THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING CONDITION AS THE RESULT OF AN ON-THE-GROUND INSTRUMENT SURVEY WHICH OCCURRED BETWEEN APRIL 2021 AND MAY 2021 AND AERIAL PHOTOGRAMETRY WHICH OCCURRED IN JANUARY 2019.*
2. *HORIZONTAL BEARINGS REFER TO MASSACHUSETTS STATE PLAN COORDINATE SYSTEM (NAD83) AND THE VERTICAL DATUM REFERS TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). HORIZONTAL BEARING AND VERTICAL DATUM WERE ESTABLISHED FROM RTK GPS OBSERVATIONS.*
3. *TEMPORARY BENCH MARKS SET ARE LOCATED ON SHEETS 1 THRU 9.*
4. *ASSESSORS LINES SHOWN ARE FROM CITY OF CAMBRIDGE ASSESSORS MAP AND DO NOT REPRESENT THE ACTUAL PROPERTY LINE.*
5. *LOCATION OF ALL UNDERGROUND UTILITIES ARE APPROXIMATE, SOURCE NFORMATION FROM PLANS AND MARKINGS HAS BEEN COMBINED WITH OBSERVED EVIDENCE OF UTILITIES TO DEVELOP A VIEW OF THOSE UNDERGROUND UTILITIES. HOWEVER, LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY AND RELIABLY DEPICTED. WHERE ADDITIONAL OR MORE DETAILED INFORMATION IS REQUIRED, THE CLIENT IS ADVISED THAT EXCAVATION MAY BE NECESSARY.*

LEGEND

- (S) SEWER MANHOLE
- (D) DRAIN MANHOLE
- (E) ELECTRIC MANHOLE
- (M) MANHOLE
- HYDRANT
- WV WATER VALVE
- (CB) CATCH BASIN
- LIGHT POLE
- ELECTRIC HANDHOLE
- SIGN
- TRAFFIC CONTROL BOX
- TR TRAFFIC SIGNAL
- WETLAND FLAG
- UTILITY POLE
- BOULDER
- DRILL HOLE
- ID:6907 DBH:17" TREE (GIS INFO)
- DECIDUOUS TREE
- HANDICAP RAMP
- (C) CALCULATED
- CC CONCRETE CURB
- CONC CONCRETE
- Δ= DELTA ANGLE
- DH DRILL HOLE
- FES FLARED END SECTION
- FD FOUND
- FGC FLUSH GRANITE CURB
- HR HANDRAIL
- L= ARC LENGTH
- R= RADIUS OR RIM ELEVATION
- (R) RECORD
- (REC) RECORD
- SB STONE BOUND
- TBM TEMPORARY BENCH MARK
- TYP TYPICAL
- VGC VERTICAL GRANITE CURB
- DSE DIGSAFE ELECTRIC
- CS COMBINED SEWER
- S SEWER
- D DRAIN
- E ELECTRIC
- OHW OVERHEAD WIRES
- X X METAL FENCE
- GUARD RAIL
- VEGETATION
- HANDRAIL

REFERENCES:

SOUTH MIDDLESEX COUNTY REGISTRY OF DEEDS

PLAN 502 OF 1986
PLAN 507 OF 1976
PLAN 321 OF 1976 NORTH CHARLES RELIEF SEWER
PLAN 571 OF 1974
PLAN 1399 OF 1971
PLAN OF ACCEPTANCE "A PART OF ASH STREET," DATED 10-13-1886

DEPARTMENT OF CONSERVATION AND RECREATION
BASELINE DATA: METROPOLITAN DISTRICT COMMISSION (MDC)
CONSTRUCTION PLANS FROM ELIOT
BRIDGE TO ARSENAL STREET, REVISED 4-1-1964, SHEET 2 OF 21

MDC
PROPOSED EXTENSION OF MEMORIAL DRIVE
SHEET 1-2 OF 4, 1946_1_27375, DATED 1946

MDC
1921_02_13317 DATED 1921

980 MEMORIAL DRIVE_EXISTING CONDITIONS 2000104, DATED JANUARY 4, 2010

CITY OF CAMBRIDGE ENGINEERING DEPARTMENT
FIELD BOOK 163 PAGE 86 ASH STREET

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
EXISTING CONDITIONS PLANS
KEY SHEET

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. EC-1
CHECKED:		
DRAWN: TMT	REF.	SCALE: 1"=20'
CHECKED: EAC	ACC.	DATE: 4/16/2025

5 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/16/2025 U:\17941101\0\DRAWINGS\CAD\01 GENERAL\MEMORIAL_DRIVE_III_EXISTING_CONDITIONS.DWG

GERRYS LANDING ROAD

GERRYS LANDING ROAD

GERRYS LANDING ROAD

N

47
N:2960672.9302
E:754974.6344
Z:7.14
MAGF

41
N:2960672.7205
E:754974.9043
Z:7.20
PK NAIL SET ON BIKE PATH

3
N:2960672.9251
E:754974.7039
Z:7.16
MAG_3

38
N:2960790.2243
E:755022.6383
Z:-96.30
MNS

39
N:2960655.0167
E:755069.0143
Z:-96.30
MAGS

4
N:2960960.5738
E:755024.9007
Z:11.52
MAG

2
N:2960670.6139
E:755169.5976
Z:3.72
MAG

TBM-1
TOP OF WEST GRAN SIGNPOST
ELEV.=(13.42)

CONTINUED ON SHEET NO. 7

CHARLES RIVER

ELIOT BRIDGE

BUILDING

BUILDING

PIER

PIER

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

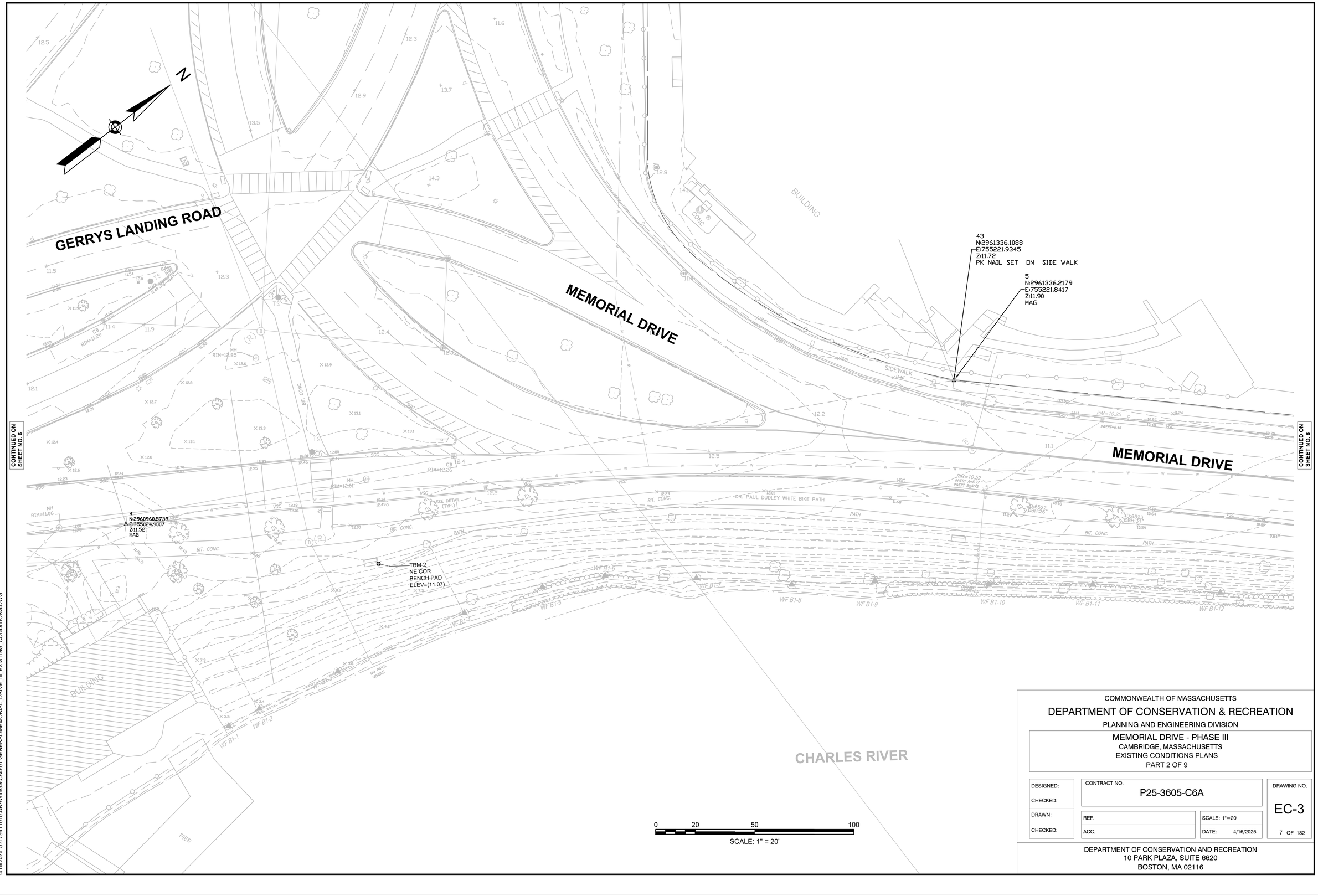
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
EXISTING CONDITIONS PLANS
PART 1 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. EC-2
CHECKED:		
DRAWN:	REF.	SCALE: 1"=20'
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/16/2025 U:\179411010\DRAWINGS\CAD\01 GENERAL\MEMORIAL_DRIVE_III_EXISTING_CONDITIONS.DWG



COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

EXISTING CONDITIONS PLANS

PART 2 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. EC-3
CHECKED:		
DRAWN:	REF.	SCALE: 1"=20'
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/16/2025 U:\17941101\0\DRAWINGS\CAD\01 GENERAL\MEMORIAL_DRIVE_III_EXISTING_CONDITIONS.DWG



0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
EXISTING CONDITIONS PLANS
PART 3 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. EC-4
CHECKED:			
DRAWN:	REF.	SCALE: 1"=20'	
CHECKED:	ACC.	DATE: 4/16/2025	8 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/16/2025 U:\17941101\DRAWINGS\CAD\01 GENERAL\MEMORIAL_DRIVE_III_EXISTING_CONDITIONS.DWG

N

SPARKS STREET

TBM-4
X-CUT IN HYD
ELEV=(11.52)

TBM-5
#205 MT. AUBURN
R.O.C.B.S.
ELEV=(9.66)

7
N:2961732.0698
E:755904.2594
Z:9.62
MAG

PLAY AREA

MEMORIAL DRIVE

MT. AUBURN STREET

MEMORIAL DRIVE

SIDEWALK

BIT. CONC. PATH

SEE DETAIL (TYP.)

RIM=8.16
INVERT=4.06

RIM=7.28
INVERT=4.58

RIM=7.34
INVERT=3.84

RIM=6.64
INVERT=2.34

ID:6530
DBH:11"

ID:6531
DBH:11"

ID:6532
DBH:12"

ID:6533
DBH:13"

ID:6534
DBH:9"

ID:6535
DBH:7"

ID:6536
DBH:25"

ID:6528
DBH:10"

ID:6529
DBH:10"

ID:6527
DBH:11"

42" RCP

NORTH CHARLES RELIEF SEWER

NORTH CHARLES RELIEF SEWER LAND TAKING
PLAN 321 OF 1976

HE CONC. HEADWALL

OUTFALL INVERT=2.46

OUTFALL INVERT=2.87

OUTFALL INVERT=2.19

OUTFALL INVERT=1.76'

OUTFALL INVERT=1.15'

OUTFALL INVERT=2.24

WF B1-21

WF B1-22

WF B1-23

WF B1-24

WF B1-25

WF B1-26

WF B1-27

WF B1-28

WF B1-29

WF B1-30

WF B1-31

WF B1-32

CONTINUED ON SHEET NO. 8

CONTINUED ON SHEET NO. 10

CHARLES RIVER

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

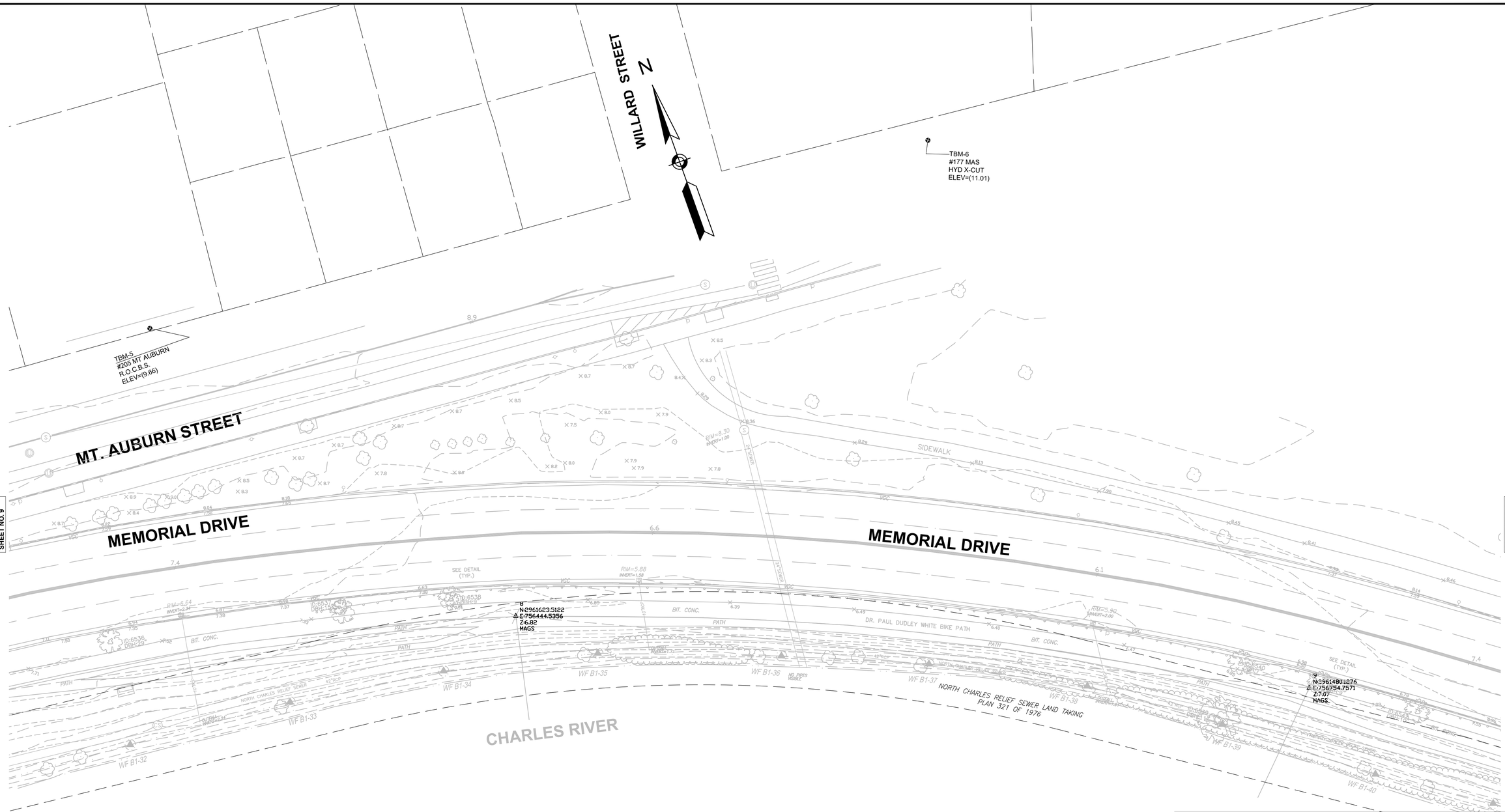
PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
EXISTING CONDITIONS PLANS
PART 4 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. EC-5
CHECKED:			
DRAWN:	REF.	SCALE: 1"=20'	
CHECKED:	ACC.	DATE: 4/16/2025	9 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/16/2025 U:\17941\10\DRAWINGS\CAD\01 GENERAL\MEMORIAL_DRIVE_III_EXISTING_CONDITIONS.DWG



0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

EXISTING CONDITIONS PLANS

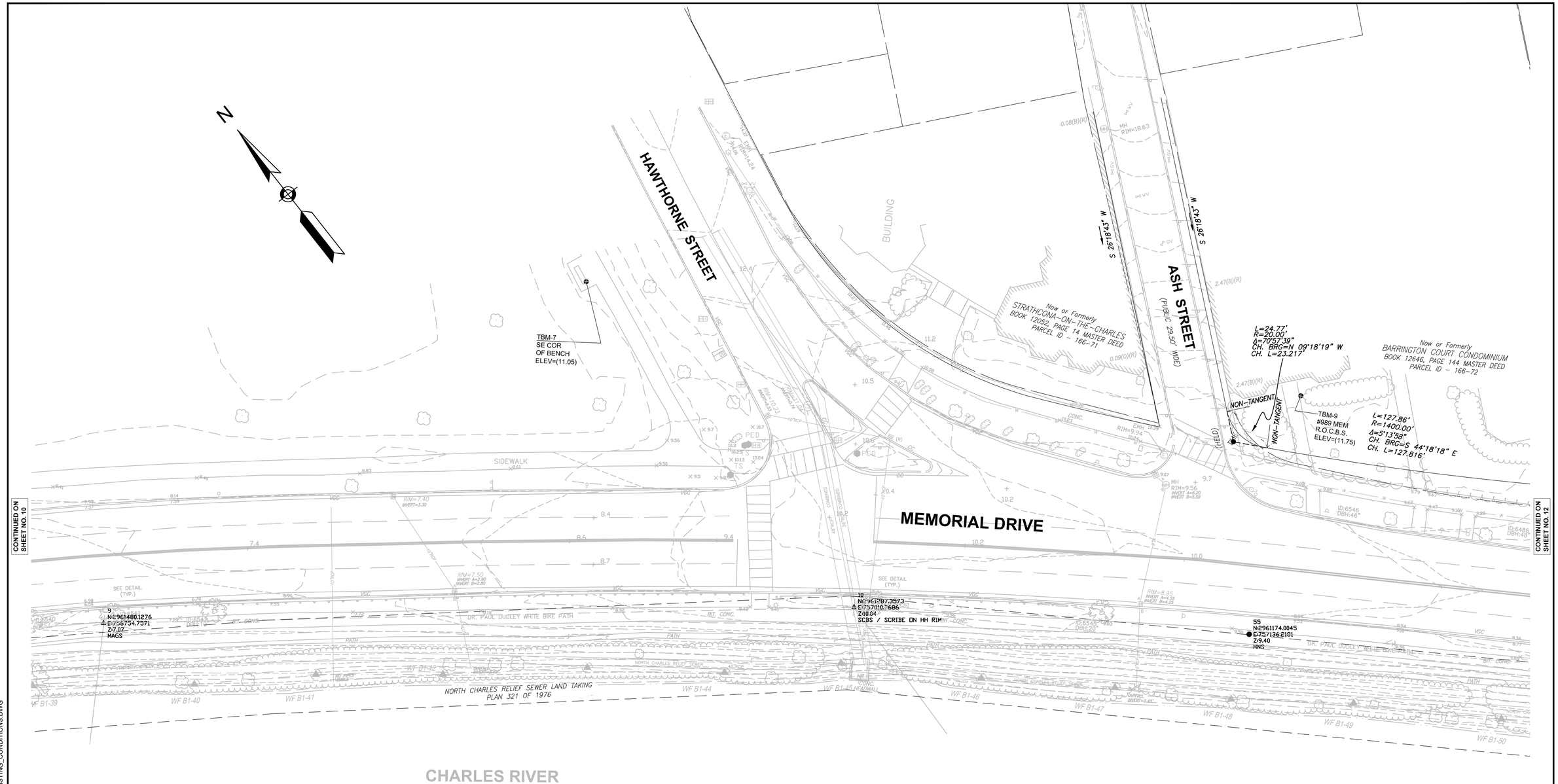
PART 5 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. EC-6
CHECKED:		
DRAWN:	REF.	SCALE: 1"=20'
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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CONTINUED ON SHEET NO. 10

CONTINUED ON SHEET NO. 12

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

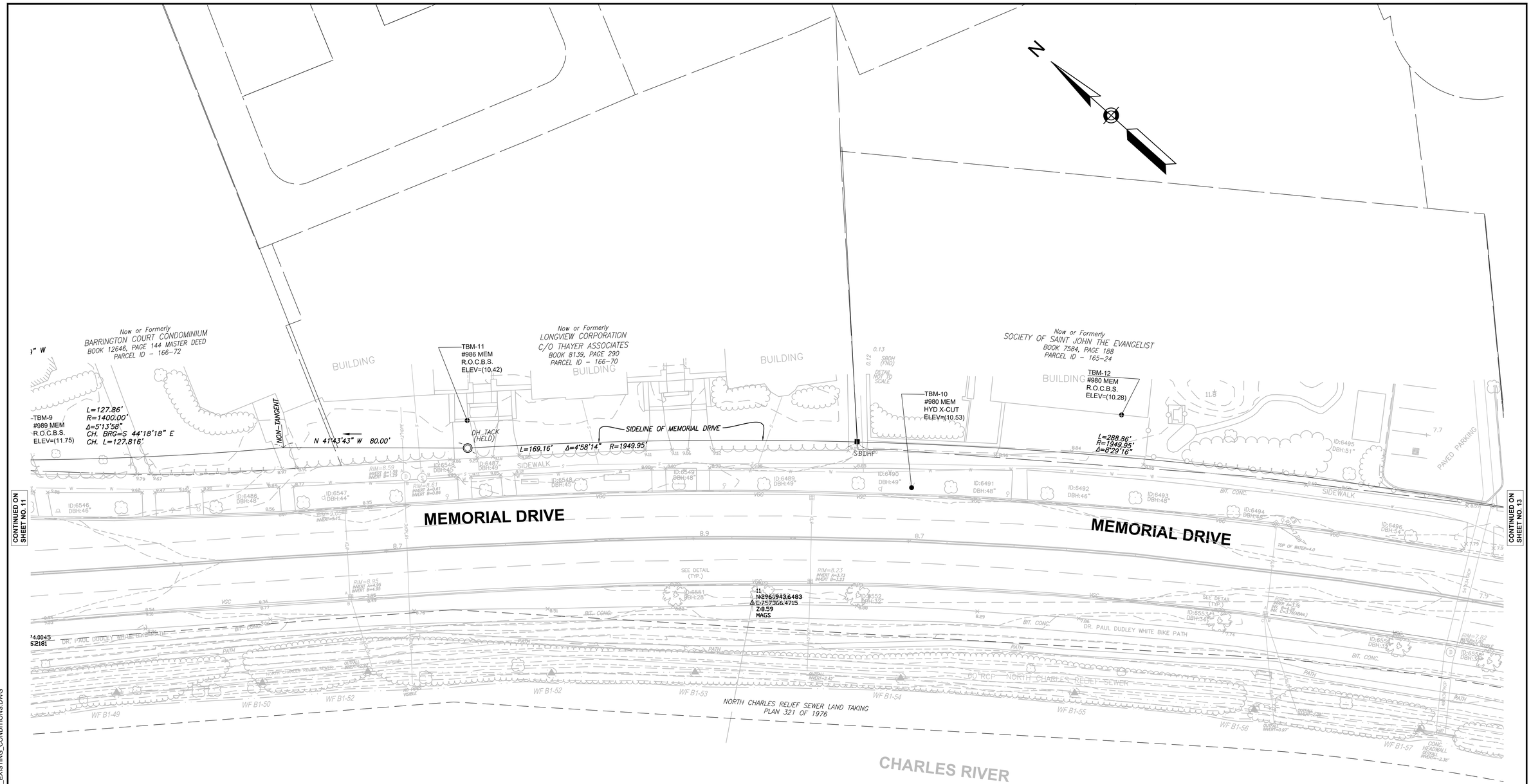
EXISTING CONDITIONS PLANS

PART 6 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. EC-7
CHECKED:			
DRAWN:	REF.	SCALE: 1"=20'	
CHECKED:	ACC.	DATE: 4/16/2025	11 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/16/2025 U:\17941101\0\DRAWINGS\CAD\01 GENERAL\MEMORIAL_DRIVE_III_EXISTING_CONDITIONS.DWG



0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
EXISTING CONDITIONS PLANS
PART 7 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. EC-8
CHECKED:			
DRAWN:	REF.	SCALE: 1"=20'	
CHECKED:	ACC.	DATE: 4/16/2025	12 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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CONTINUED ON SHEET NO. 12

CONTINUED ON SHEET NO. 14

N

MEMORIAL DRIVE

CHARLES RIVER

PAVED PARKING

SIDEWALK

PATH

BIT. CONC.

DR. PAUL DUDLEY WHITE BIKE PATH

NORTH CHARLES RELIEF SEWER LAND TAKING
PLAN 321 OF 1976

NORTH CHARLES RELIEF SEWER

TBM-13
#975 MEM
HYD X-CUT
ELEV=(10.09)

L=162.56'
R=1949.95'
Δ=4°46'36"

12
N=2960590.3234
E=757604.6967
Z=8.20
MAGS

N 27°02'08" W 118.14'

NON-TANGENT

TBM-14
MEM DR
HYD X-CUT
ELEV=(10.04)

L=195.89'
R=982.60'
Δ=11°25'21"

N 29°09'34"

L=38.45'
R=20.00'
Δ=110°09'04"

ID:6495 DBH:51"
ID:6494 DBH:48"
ID:6496 DBH:54"
ID:6497 DBH:46"
ID:6498 DBH:40"
ID:6499 DBH:43"
ID:6500 DBH:34"
ID:6501 DBH:32"
ID:6502 DBH:33"
ID:6503 DBH:34"
ID:6504 DBH:37"
ID:6505 DBH:36"
ID:6506 DBH:36"
ID:6555 DBH:32"
ID:6556 DBH:32"
ID:6557 DBH:34"
ID:6558 DBH:30"
ID:6559 DBH:38"
ID:6560 DBH:36"
ID:6561 DBH:39"
ID:6562 DBH:48"

WF B1-56
WF B1-57
WF B1-58
WF B1-59
WF B1-60
WF B1-61
WF B1-62

60"RCP
48"RCP
36"RCP
CONC. HEADWALL
OUTFALL INVERT=0.97'
OUTFALL INVERT=2.36'
OUTFALL INVERT=1.74'
OUTFALL INVERT=0.78'
TOP OF WATER=4.0
RIM=6.98 INVERT=4.08
RIM=7.82 INVERT=4.06 INV. 8=4.10
RIM=6.80 INV. 8=4.30 INV. 8=4.10
RIM=6.77 INV. 8=4.33 INV. 8=4.23
RIM=7.17 INV. 8=4.43 INV. 8=4.33
RIM=7.23 INV. 8=4.43 INV. 8=4.33
RIM=6.95
RIM=7.11 INV. 8=3.76 INV. 8=4.56 INV. C=3.76(ABAN.)

SEE DETAIL (TYP.)

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
EXISTING CONDITIONS PLANS
PART 8 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. EC-9
CHECKED:			
DRAWN:	REF.	SCALE: 1"=20'	
CHECKED:	ACC.	DATE: 4/16/2025	13 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/16/2025 U:\17941101\0\DRAWINGS\CAD\01 GENERAL\MEMORIAL_DRIVE_III_EXISTING_CONDITIONS.DWG

N

TBM -15

TBM-15
SE CORN OF WEST
PILLAR UP 1'
ELEV=(10.18)

L=28.15'
R=20.00'
Δ=80°39'21"

S 51°18'43" E 21.33'

N 59°57'57" E 53.87'

S 43°39'19" E 56.00'

L=31.42'
R=20.00'
Δ=90°00'00"

JOHN F. KENNEDY STREET

14
N:2960006.6702
E:759352.8846
Z:8.98
SCB /SCRIBE.SET

L=158.74'
R=595.43'
Δ=15°16'29"

L=147.79'
R=982.60'
Δ=8°37'04"

L=38.45'
R=20.00'
Δ=110°09'04"

N 29°09'34" W 57.36'

L=26.74'
R=20.00'
Δ=76°37'31"

13
N:2960206.2634
E:757941.5241
Z:8.64
MAGS

MEMORIAL DRIVE

CONTINUED ON SHEET NO. 13

DR. PAUL DUDLEY WHITE BIKE PATH

NORTH CHARLES RELIEF SEWER

NORTH CHARLES RELIEF SEWER LAND TAKING
PLAN 321 OF 1976

60"RCP

51
N:2960086.9887
E:757810.2945
Z:6.55
MAGS

CHARLES RIVER

JOHN F. KENNEDY STREET

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

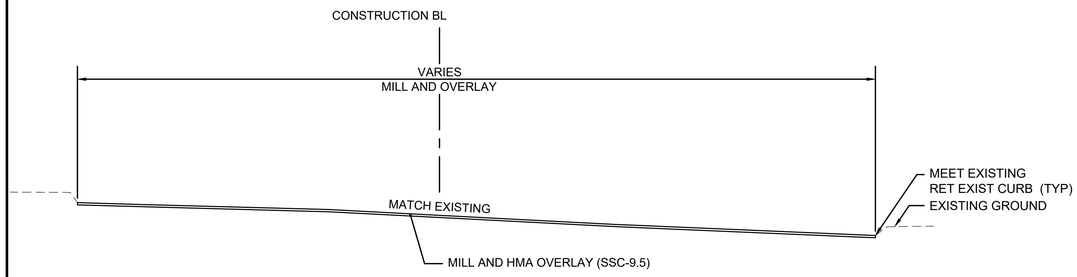
PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
EXISTING CONDITIONS PLANS
PART 9 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. EC-10
CHECKED:			
DRAWN:	REF.	SCALE: 1"=20'	
CHECKED:	ACC.	DATE: 4/16/2025	14 OF 182

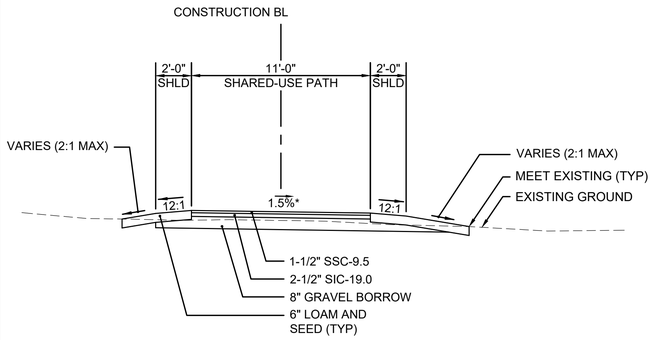
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/16/2025 U:\17941\010\DRAWINGS\CAD\01 GENERAL\MEMORIAL_DRIVE_III_EXISTING_CONDITIONS.DWG



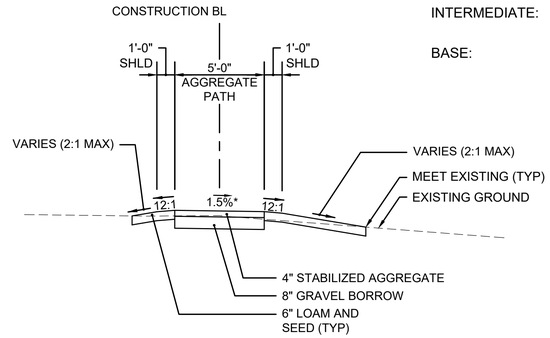
TYPICAL MILL AND OVERLAY ROADWAY SECTION

NOT TO SCALE
STA 101+43± TO STA 105+37±



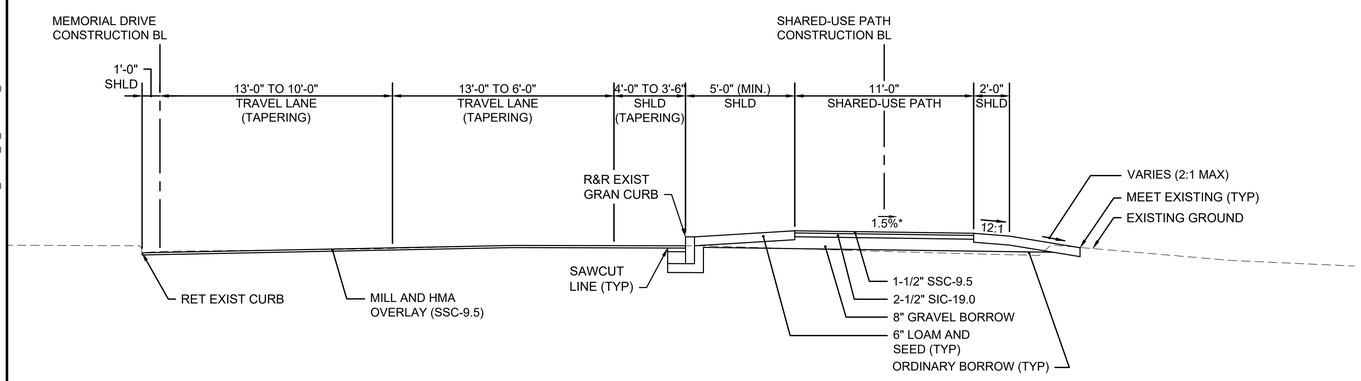
TYPICAL FULL DEPTH SHARED-USE PATH SECTION

NOT TO SCALE
STA 500+26± TO STA 508+70±



TYPICAL FULL DEPTH AGGREGATE PATH SECTION

NOT TO SCALE
STA 600+06± TO STA 603+60±
STA 700+00± TO STA 709+65±
STA 800+00± TO STA 806+57±
STA 900+00 TO STA 901+89±
STA 1000+00 TO STA 1000+75±



TYPICAL MILL AND OVERLAY ROADWAY SECTION

NOT TO SCALE
STA 27+26± TO STA 29+65±

PAVEMENT NOTES

PROPOSED MILL AND OVERLAY ROADWAY SECTIONS

MILL:	2-3/4" (MAX) PAVEMENT MILLING
OVERLAY:	2" SUPERPAVE SURFACE COURSE 12.5 POLYMER (SSC-12.5-P)

PROPOSED FULL DEPTH PAVEMENT ROADWAY SECTIONS

SURFACE:	2" SUPERPAVE SURFACE COURSE 12.5 POLYMER (SSC-12.5-P)
INTERMEDIATE: (SIC-19.0-P)	2-1/2" SUPERPAVE INTERMEDIATE COURSE 19.0 POLYMER
BASE:	4" SUPERPAVE BASE COURSE 37.5 (SBC-37.5)
SUBBASE:	4" DENSE GRADED CRUSHED STONE OVER 8" (MIN) GRAVEL BORROW, TYPE b

PROPOSED FULL DEPTH PAVEMENT SHARED-USE PATH SECTIONS

SURFACE:	1-1/2" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5)
INTERMEDIATE:	2-1/2" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0)
BASE:	8" (MIN) GRAVEL BORROW, TYPE b

PROPOSED FULL DEPTH AGGREGATE PATH SECTIONS

SURFACE:	4" STABILIZED AGGREGATE (SEE SPECIFICATIONS)
BASE:	8" (MIN) GRAVEL BORROW, TYPE b

PROPOSED FULL DEPTH POROUS PAVEMENT WALK SECTIONS

SURFACE:	4" OPEN-GRADED FRICTION COURSE (SEE SPECIFICATIONS)
BASE:	12" DENSE GRADED CRUSHED STONE

CEMENT CONCRETE SIDEWALK AND WHEELCHAIR RAMP SECTIONS

SURFACE:	6" CEMENT CONCRETE (4000psi, ¾", 610 lbs. AIR ENTRAINED)
BASE:	8" (MIN) GRAVEL BORROW, TYPE b

PROPOSED FULL DEPTH ROADWAY PAVEMENT SECTIONS (LESS THAN 4 FEET WIDE)

SURFACE:	2" SUPERPAVE SURFACE COURSE 12.5 POLYMER (SSC-12.5-P)
INTERMEDIATE:	2-1/2" SUPERPAVE INTERMEDIATE COURSE 19.0 POLYMER (SIC-19.0-P)
BASE:	6" HES CEMENT CONCRETE OVER
SUBBASE:	8" GRAVEL BORROW, TYPE b

* - TOLERANCE FOR CONSTRUCTION ±0.5% (TYP)

TACK COAT SHALL BE APPLIED BETWEEN ALL PAVEMENT COURSES IN ACCORDANCE WITH SUBSECTION 450.43G2 AND NOTES BELOW.

TACK COAT NOTE:
ASPHALT EMULSION FOR TACK COAT SHALL BE GRADE RS-1H, PER THE SPECIFICATIONS. TACK COAT SHALL BE SPRAY APPLIED AT THE RATE OF:

- 0.06 TO 0.08 GAL/SY OVER NEW HMA SURFACES, NOT OPENED TO TRAFFIC
- 0.06 TO 0.08 GAL/SY OVER EXISTING TIGHT SMOOTH PAVEMENT
- 0.07 TO 0.09 GAL/SY OVER MILLED SURFACES
- 0.06 TO 0.09 GAL/SY OVER NEW HMA PATCHES

ANCILLARY WORK NOTE:
PREPARATION OF UNDERLYING SURFACE, ASPHALT EMULSION FOR TACK COAT, HMA FOR PATCHING, AND HMA JOINT SEALANT SHALL BE IN ACCORDANCE WITH SECTION 450.

THE EMBANKMENT SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES SECTION 100 EARTHWORK.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
PLANNING AND ENGINEERING DIVISION

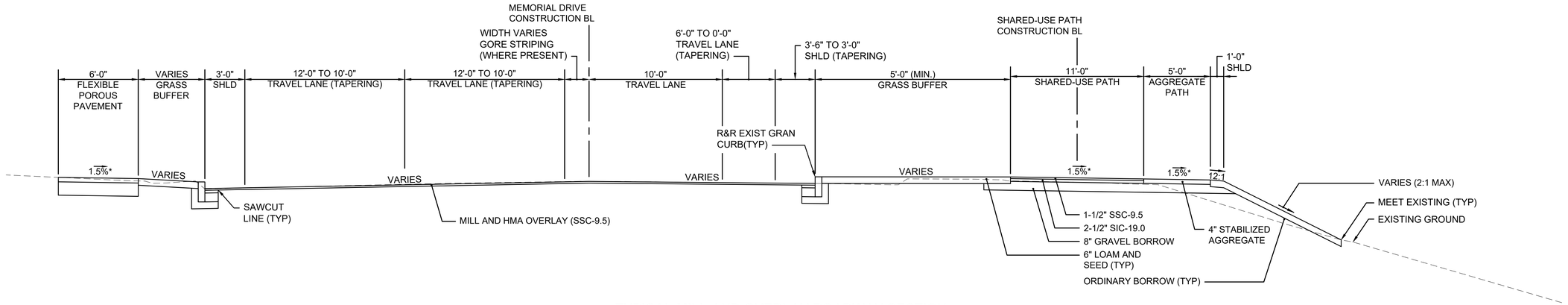
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TYPICAL SECTIONS
PART 1 OF 3

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. TS-1
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/17/2025

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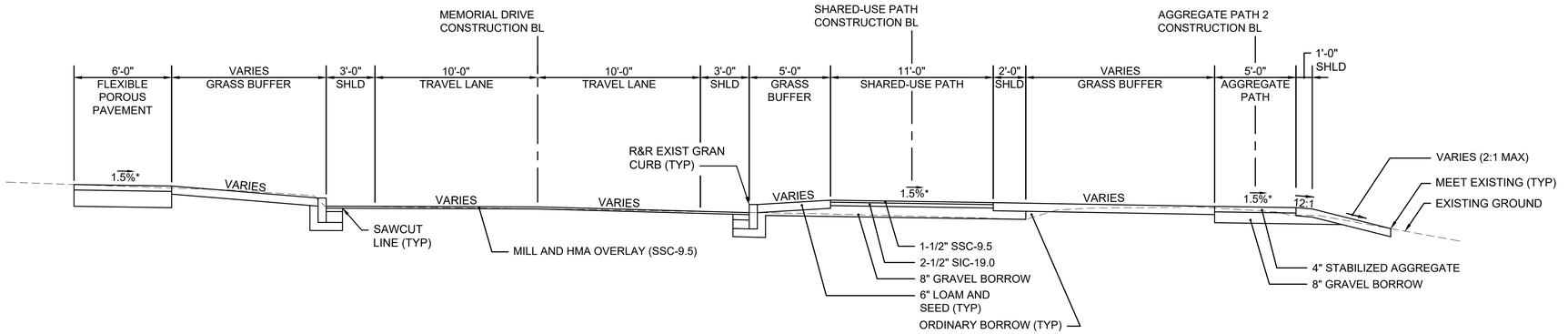
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941\10\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_TYPICAL_SECTIONS.DWG



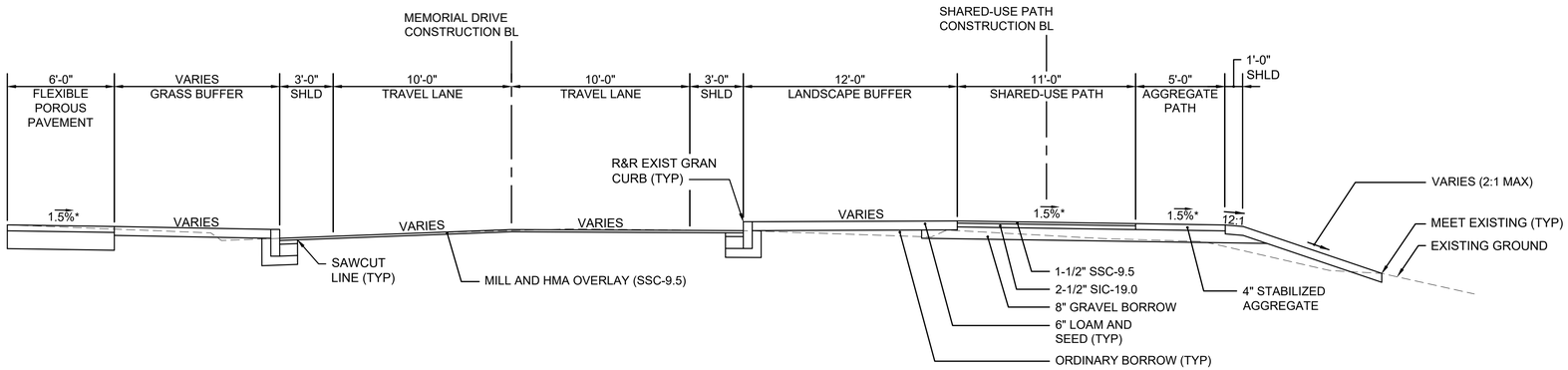
TYPICAL MILL AND OVERLAY ROADWAY SECTION

NOT TO SCALE
STA 29+65± TO STA 34+70±



TYPICAL MILL AND OVERLAY ROADWAY SECTION

NOT TO SCALE
STA 34+70± TO STA 44+01±



TYPICAL MILL AND OVERLAY ROADWAY SECTION

NOT TO SCALE
STA 46+63± TO STA 49+15±
STA 50+00± TO STA 55+38±
STA 58+18± TO STA 63+00±

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

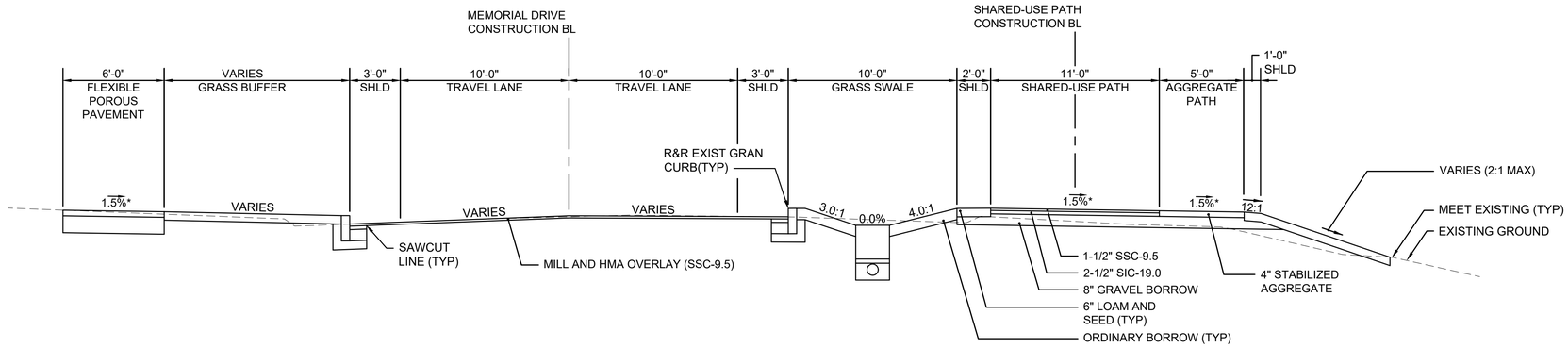
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TYPICAL SECTIONS
PART 2 OF 3

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. TS-2
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/14/2025

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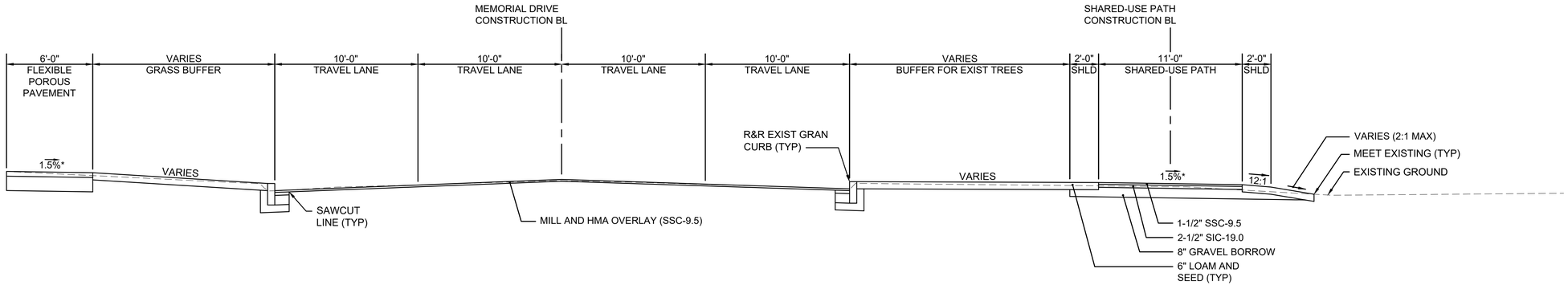
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941\10\DRAWINGS\CAD\05 H(GHWAY\MEMORIAL_DRIVE_III_TYPICAL_SECTIONS.DWG



TYPICAL MILL AND OVERLAY ROADWAY SECTION

NOT TO SCALE
STA 44+01± TO STA 46+63±
STA 49+15± TO STA 50+00±
STA 55+38± TO STA 58+18±



TYPICAL MILL AND OVERLAY ROADWAY SECTION

NOT TO SCALE
STA 63+00± TO STA 68+00±

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TYPICAL SECTIONS
PART 3 OF 3

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. TS-3
CHECKED:		
DRAWN:	REF. / SCALE:	
CHECKED:	ACC. / DATE: 4/14/2025	17 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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GERRYS LANDING ROAD

GERRYS LANDING ROAD

GERRYS LANDING ROAD

N

PROP LIMIT OF WORK

PROP MILL AND HMA OVERLAY

PCC +79.43

104

103

PCC +62.72

R&R EXIST GRAN CURB

R&R EXIST GRAN CURB

PCC +75.72

PROP GERRY'S LANDING RD CONST BL

PROP SAWCUT LINE

102

PCC +51.95

403

404

PROP SHARED-USE PATH CONST BL

PROP CEM CONC PCR

RET EXIST GRAN CURB

PROP MILL AND HMA OVERLAY

PROP REINFORCED SEEDED LAWN (SEE DETAIL SHEET L-21)

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

PRC +30.40

PROP MOUNTABLE CURB (SEE DETAIL SHEET CD-3)

402

PC +91.45

PROP HMA SIDEWALK

PCC +11.60

101

PCC +68.82

PROP SLOPE LIMITS

PROP LIMIT OF WORK

401

+98.76

PC +20.60

PROP SAWCUT LINE

PC +50.99

LIMIT OF WORK
STA 100+20.60
N2960604.7073
E755176.7325

100+00

400+00

BLSF (EL. 4.0')

PROP LIMIT OF WORK

LIMIT OF WORK
STA 400+50
N2960645.2869
E755191.0645

PROP 6' STABILIZED AGGREGATE PATH

LIMIT OF EXISTING AUL (RTN 3-27723)

PROP SLOPE LIMIT

PROP SEDIMENT CONTROL BARRIER (TYP)

OHW (APPROX)

25' RFA

PROP ORNAMENTAL FENCE WITH 10' DOUBLE GATE (SEE DETAIL SHEET CD-2)

PCC +44.91

PROP MOUNTABLE CURB (SEE DETAIL SHEET CD-3)

REM EXIST HMA AND CEM CONC

PROP CEM CONC PCR

R&R EXIST GRAN CURB

PCC +04.91

REM EXIST HMA AND BRICK

PROP CEM CONC WALK

RET EXIST GRAN CURB

PROP CEM CONC PCR

MEET EXIST

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

LIMIT OF WORK
STA 105+39.56
N2960894.8443
E754930.9330

PROP SAWCUT LINE

PROP REINFORCED SEEDED LAWN (SEE DETAIL SHEET L-21)

PRC +39.56

REM EXIST DRINKING FOUNTAIN

PROP SLOPE LIMIT

REM EXIST PAVEMENT AND CURB

PROP MOUNTABLE CURB (SEE DETAIL SHEET CD-3)

PCC +44.58

106

405

406

Δ=10° 29' 15"
L=163.91'
R=895.50'

PT +68.82

MATCH LINE STA 406+20

MATCH LINE STA 406+20

CONTINUED ON SHEET NO. 19

BUILDING

BUILDING

PIER

PIER

ELIOT BRIDGE

ONLY

ONLY

ONLY

OBSCURED

LEGEND:

- [X] - WHEELCHAIR RAMP NUMBER
- (X) - DRIVEWAY NUMBER

0 20 50 100

SCALE: 1" = 20'

NOTE
WHERE EXISTING TREE ROOTS ARE ENCOUNTERED WITHIN THE LIMIT OF WORK, THE CONTRACTOR SHALL COORDINATE PROPOSED CONSTRUCTION ACTIVITIES (INCLUDING EXCAVATION) WITH PROJECT ARBORIST.

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

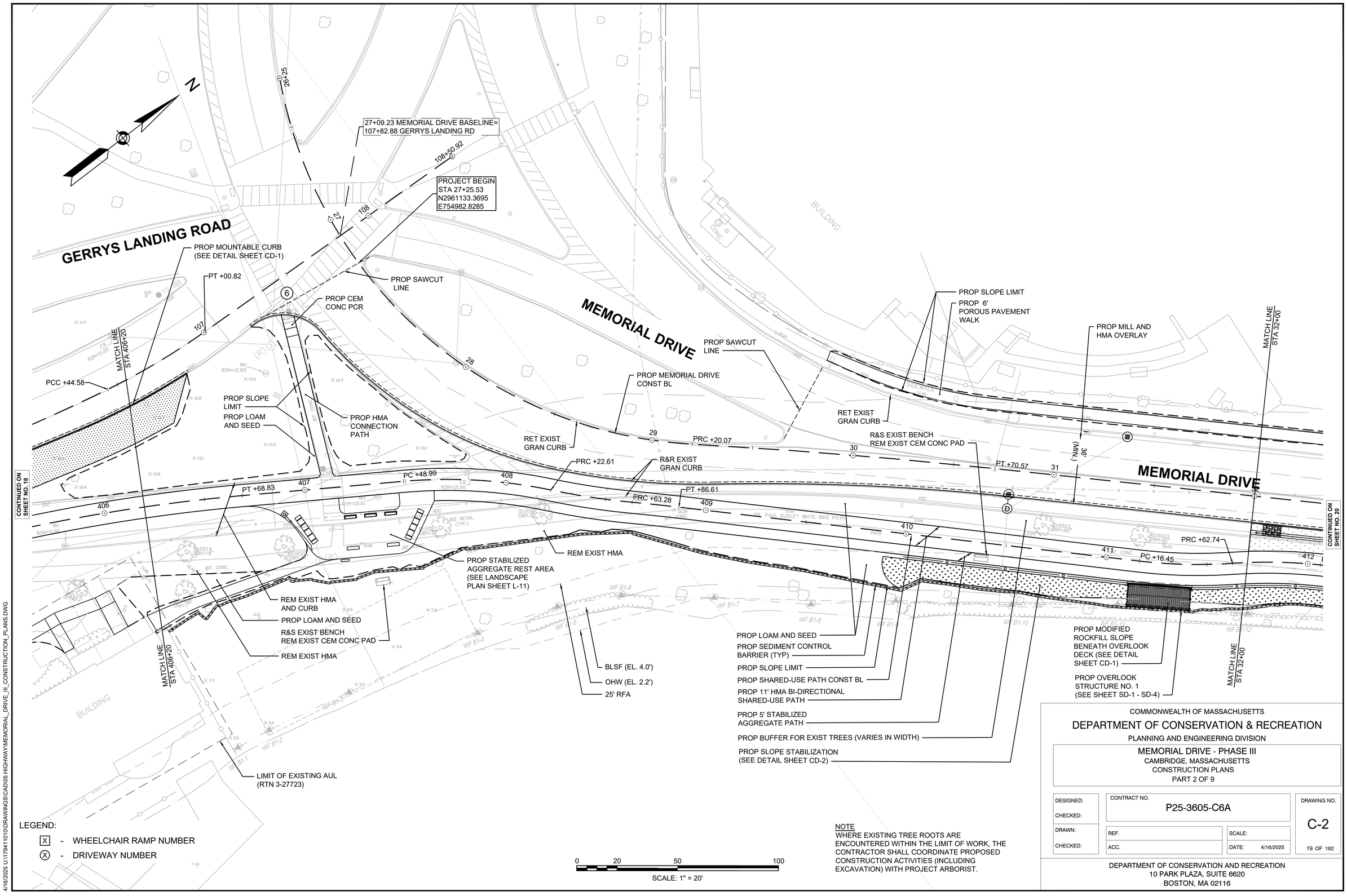
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CONSTRUCTION PLANS
PART 1 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-1
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DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
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BOSTON, MA 02116

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LEGEND:

- [X] - WHEELCHAIR RAMP NUMBER
- (X) - DRIVEWAY NUMBER

NOTE
WHERE EXISTING TREE ROOTS ARE ENCOUNTERED WITHIN THE LIMIT OF WORK, THE CONTRACTOR SHALL COORDINATE PROPOSED CONSTRUCTION ACTIVITIES (INCLUDING EXCAVATION) WITH PROJECT ARBORIST.

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CONSTRUCTION PLANS
PART 2 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-2
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
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N

R&S EXIST BENCH
REM EXIST CEM CONC PAD
PROP REFURBISHED BENCH
PROP CEMENT CONCRETE LANDSCAPE
PAVING PAD (SEE DETAIL SHEET L-19

PROP 8' DIA DMH
(CAM 005, WORK BO)

PROP SLOPE LIMIT
PROP MEMORIAL DRIVE CONST BL
PROP 6'
POROUS PAVEMENT
WALK
MEET EXIST
CEM CONC WALK

PROP MILL AND HMA OVERLAY
SAWCUT EXIST HMA
AT LIMIT OF WORK

NORTH CHARLES RELIEF SEWER LAND TAKING
PLAN 521 OF 1976

BUILDING

100' RFA

MATCH LINE
STA 32+00

MATCH LINE
STA 37+25

PLAY AREA

SIDEWALK

RET EXIST
GRAN CURB

R&R EXIST
GRAN CURB (TYP)

PROP LOAM
AND SEED

5' MIN.
(TYP)

26' (MIN.)

PC +92.30

PRC +21.00

PRC +48.22

PRC +69.39

PRC +89.64

PCC +74.91

PCC +32.87

PCC +12.54

PC +62.53

PT +06.30

PRC +62.74

PC +16.45

MEMORIAL DRIVE

MEMORIAL DRIVE

WHITE BIKE PATH

PATH

CONTINUED ON
SHEET NO. 19

CONTINUED ON
SHEET NO. 21

414+24.84, 8.00 RT SHARED-USE PATH=
500+00.00 AGGREGATE PATH 1

PROP AGGREGATE
PATH 2 CONST BL

BLSF (EL. 4.0')

OHW (EL. 2.2')

25' RFA

PROP SLOPE LIMIT

PROP SEDIMENT CONTROL
BARRIER (TYP)

PROP SLOPE STABILIZATION
(SEE DETAIL SHEET CD-2)

PROP SHARED-USE PATH CONST BL

PROP DRY SWALE
(SEE SHEET U-3)

PROP 11' HMA BI-DIRECTIONAL
SHARED-USE PATH

PROP 5' STABILIZED
AGGREGATE PATH

PROP SLOPE LIMIT

PROP LOAM
AND SEED

LEGEND:

X - WHEELCHAIR RAMP NUMBER

X - DRIVEWAY NUMBER

0 20 50 100

SCALE: 1" = 20'

NOTE
WHERE EXISTING TREE ROOTS ARE ENCOUNTERED WITHIN THE LIMIT OF WORK, THE CONTRACTOR SHALL COORDINATE PROPOSED CONSTRUCTION ACTIVITIES (INCLUDING EXCAVATION) WITH PROJECT ARBORIST.

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CONSTRUCTION PLANS
PART 3 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-3
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
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N

SPARKS STREET

N

MEMORIAL DRIVE

MT. AUBURN STREET

MEMORIAL DRIVE

R&S EXIST BENCH
REM EXIST CEM CONC PAD
PROP REFURBISHED BENCH
PROP CEMENT CONCRETE LANDSCAPE
PAVING PAD (SEE DETAIL SHEET L-19)

MEET EXIST AT
BACK OF SIDEWALK

MATCH LINE
STA 37+25

PROP SLOPE LIMIT

100' RFA

PROP 6'
POROUS PAVEMENT
WALK

PLAY AREA

PROP HMA
CONNECTION
PATH

MEET EXIST AT
BACK OF SIDEWALK

PROP CEM
CONC PCR

PROP LOAM
AND SEED

PROP MILL AND HMA OVERLAY

PROP MEMORIAL DRIVE
CONST BL

MATCH LINE
STA 42+00

PROP 6' STABILIZED
AGGREGATE PATH

RET EXIST GRAN
CURB (TYP)

PCC +91.27

PRC +60.73

PRC +40.35

PRC +30.84

PRC +10.46

PCC +79.92

5' MIN.
(TYP)

26' (MIN.)

PCC +31.96

R&S EXIST BENCH
REM EXIST CEM
CONC PAD (TYP)

BLSF (EL. 4.0')

OHW (EL. 2.2')

25' RFA

PROP SEDIMENT CONTROL
BARRIER (TYP)

PROP LOAM AND SEED

PROP BENCHES (2)
PROP CEMENT CONCRETE
LANDSCAPE PAVING PAD
(SEE DETAIL SHEET L-19)

PROP REFURBISHED BENCHES (2)
PROP CEMENT CONCRETE
LANDSCAPE PAVING PAD
(SEE DETAIL SHEET L-19)

PROP SHARED-USE
PATH CONST BL

PROP 11' HMA BI-DIRECTIONAL
SHARED-USE PATH

PROP BENCHES (2)
PROP CEMENT CONCRETE
LANDSCAPE PAVING PAD
(SEE DETAIL SHEET L-19)

PROP 5' STABILIZED
AGGREGATE PATH

PROP SLOPE LIMIT

PROP AGGREGATE
PATH 2 CONST BL

PROP LOAM AND SEED

NORTH CHARLES RELIEF SEWER LAND TAKING
PLAN 321 OF 1976

MATCH LINE
STA 37+25

MATCH LINE
STA 42+00

CONTINUED ON
SHEET NO. 20

CONTINUED ON
SHEET NO. 22

LEGEND:

[X] - WHEELCHAIR RAMP NUMBER

(X) - DRIVEWAY NUMBER

0 20 50 100

SCALE: 1" = 20'

NOTE
WHERE EXISTING TREE ROOTS ARE ENCOUNTERED WITHIN THE LIMIT OF WORK, THE CONTRACTOR SHALL COORDINATE PROPOSED CONSTRUCTION ACTIVITIES (INCLUDING EXCAVATION) WITH PROJECT ARBORIST.

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CONSTRUCTION PLANS
PART 4 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-4
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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N

WILLARD STREET

MT. AUBURN STREET

MEMORIAL DRIVE

MEMORIAL DRIVE

MATCH LINE STA 42+00

MATCH LINE STA 42+00

MATCH LINE STA 47+50

MATCH LINE STA 47+50

CONTINUED ON SHEET NO. 21

CONTINUED ON SHEET NO. 23

MEET EXIST AT BACK OF SIDEWALK

MEET EXIST AT BACK OF SIDEWALK

REM EXIST HMA PATH PROP LOAM AND SEED

PROP SLOPE LIMIT

PROP 6' POROUS PAVEMENT WALK

PROP MILL AND HMA OVERLAY

PROP MEMORIAL DRIVE CONST BL

100' RFA

PROP GRAN CURB, TYPE VA4 (TYP)

5' MIN. (TYP)

26' (MIN)

SIDEWALK

PCC +18.32

PRC +79.64

PCC +92.35

PCC +26.16

PRC +13.54

PCC +65.25

PRC +46.84

PCC +44.53

PRC +88.02

PRC +72.33

PRC +92.66

PCC +07.56

PCC +21.91

PRC +52.31

PRC +73.56

PRC +07.51

PRC +91.61

PCC +58.01

500+64.91

PCC +46.35

600+00

REM EXIST GUARDRAIL

424+07.51 SHARED-USE PATH= 509+64.91 AGGREGATE PATH 1

BLSF (EL. 4.0')

OHW (EL. 2.2')

25' RFA

PROP AGGREGATE PATH 2 CONST BL

PROP REFURBISHED BENCHES (2)
PROP CEMENT CONCRETE LANDSCAPE PAVING PAD
(SEE DETAIL SHEET L-19)

PROP LOAM AND SEED

R&S EXIST BENCH
REM EXIST CEM CONC PAD
PROP REFURBISHED BENCHES (2)
PROP CEMENT CONCRETE LANDSCAPE PAVING PAD
(SEE DETAIL SHEET L-19)

PROP LOAM AND SEED

PROP SEDIMENT CONTROL BARRIER (TYP)

PROP DRY SWALE (SEE PLAN SHEET U-5)

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

PROP SHARED-USE PATH CONST BL

PROP 5' STABILIZED AGGREGATE PATH

PROP SLOPE LIMIT

NORTH CHARLES RELIEF SEWER LAND TAKING PLAN 321 OF 1976

LEGEND:

[X] - WHEELCHAIR RAMP NUMBER

(X) - DRIVEWAY NUMBER

0 20 50 100

SCALE: 1" = 20'

NOTE
WHERE EXISTING TREE ROOTS ARE ENCOUNTERED WITHIN THE LIMIT OF WORK, THE CONTRACTOR SHALL COORDINATE PROPOSED CONSTRUCTION ACTIVITIES (INCLUDING EXCAVATION) WITH PROJECT ARBORIST.

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CONSTRUCTION PLANS
PART 5 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-5
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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NOTE:
CONTRACTOR SHALL COORDINATE WORK RELATED TO AND FINAL LOCATION OF RELOCATED MAIL COLLECTION BOX WITH UNITED STATES POSTAL SERVICE.

N

LIMIT OF WORK
STA 200+25
N2961437.9748
E757061.2998

HAWTHORN STREET

200+00

PROP SAWCUT LINE

PROP MILL AND HMA OVERLAY

PROP ASH STREET CONST BL

PROP HAWTHORN STREET CONST BL

PROP FULL DEPTH ROADWAY CONSTRUCTION

BUILDING

Now or Formerly
STRATHCONA-ON-THE-CHARLES
BOOK 12052, PAGE 14 MASTER DEED
PARCEL ID - 166-71

ASH STREET
(PUBLIC 29.50' WIDE)

300+00

S 26°18'47" W

PROP LIMIT OF WORK

L=24.77'
R=20.00'
Δ=70°57'39"
CH. BRG=N 09°18'19" W
CH. L=23.217'

NON-TANGENT

Now or Formerly
BARRINGTON COURT CONDOMINIUM
BOOK 12646, PAGE 144 MASTER DEED
PARCEL ID - 166-72

PROP 6' POROUS PAVEMENT WALK
L=127.86'
R=1400.00'
Δ=5°13'58"
CH. BRG=S 44°18'18" E
CH. L=127.816'

MATCH LINE STA 53+50

PROP MEMORIAL DRIVE CONST BL

PROP 6' POROUS PAVEMENT WALK

PROP MILL AND HMA OVERLAY

PROP SLOPE LIMIT

MEET EXIST 100' RFA

PROP CEM CONC PCR

MEET EXIST

PROP LOAM AND SEED

PROP CEM CONC PCR

R&R EXIST GRAN CURB

MATCH LINE STA 47+50

SIDEWALK

201+00

301+00

PROP GRAN CURB (TYPE VB, TYP)

PROP CEM CONC PCR

PROP CEM CONC SIDEWALK

PROP CEM CONC PCR

R&R EXIST MAIL BOX (WORK BO, SEE NOTE)

PROP LOADING ZONE

MEMORIAL DRIVE

PROP SLOPE LIMIT

REM EXIST SIDEWALK CONNECTION (TYP)

PCC +92.35

PCC +26.16

PCC +65.25

PCC +44.53

PRC +89.44

PRC +28.50

PRC +88.02

PRC +62.66

PROP CEM CONC PCR

REM EXIST GUARDRAIL

R&R EXIST GRAN CURB)

R&R EXIST GRAN CURB

PT +69.08

PT +99.25

CONTINUED ON SHEET NO. 22

CONTINUED ON SHEET NO. 24

DR. PAUL DUDLEY WHITE BIKE PATH

NORTH CHARLES RELIEF SEWER

NORTH CHARLES RELIEF SEWER LAND TAKING
PLAN 321 OF 1976

BLSF (EL. 4.0')

OHW (EL. 2.2')

25' RFA

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

PROP SHARED-USE PATH CONST BL

PROP 5' STABILIZED AGGREGATE PATH

PROP SLOPE LIMIT

PROP SEDIMENT CONTROL BARRIER (TYP)

PROP LOAM AND SEED

52+42.69 MEMORIAL DRIVE BASELINE=
301+53.36 ASH STREET

50+92.91 MEMORIAL DRIVE BASELINE=
201+57.20 HAWTHORN TO MEMORIAL DRIVE

LEGEND:

[X] - WHEELCHAIR RAMP NUMBER

(X) - DRIVEWAY NUMBER

0 20 50 100

SCALE: 1" = 20'

NOTE
WHERE EXISTING TREE ROOTS ARE ENCOUNTERED WITHIN THE LIMIT OF WORK, THE CONTRACTOR SHALL COORDINATE PROPOSED CONSTRUCTION ACTIVITIES (INCLUDING EXCAVATION) WITH PROJECT ARBORIST.

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CONSTRUCTION PLANS
PART 6 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-6
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DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
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N

Now or Formerly
BARRINGTON COURT CONDOMINIUM
BOOK 12646, PAGE 144 MASTER DEED
PARCEL ID – 166–72

Now or Formerly
LONGVIEW CORPORATION
C/O THAYER ASSOCIATES
BOOK 8139, PAGE 290
PARCEL ID – 166–70

Now or Formerly
SOCIETY OF SAINT JOHN THE EVANGELIST
BOOK 7584, PAGE 188
PARCEL ID – 165–24

BUILDING

MATCH LINE
STA 53+50

L=127.86'
R=1400.00'
Δ=5°13'58"
CH. BRG=S 44°18'18" E
CH. L=127.816'

NON–TANGENT

N 41°43'43" W 80.00'

DH TACK (HELD)

L=169.16' Δ=4°58'14" R=1949.95'

SBDHF

REM EXIST CEM CONC WALK
PROP LOAM AND SEED

PROP 6' POROUS PAVEMENT WALK

REM EXIST CEM CONC WALK
PROP LOAM AND SEED

SIDELINE OF MEMORIAL DRIVE

PROP MEMORIAL DRIVE CONST BL

PROP MILL AND HMA OVERLAY

REM EXIST CEM CONC WALK
PROP LOAM AND SEED

100' RFA

L=288.86'
R=1949.95'
Δ=8°29'16"

MATCH LINE
STA 58+50

PAVED PARKING

SIDEWALK

MEMORIAL DRIVE

MEMORIAL DRIVE

26' (MIN.)

R&R EXIST GRAN CURB

R&R EXIST GRAN CURB

RET EXIST GRAN CURB

PC +22.07

PC +62.95

PRC +29.94

PRC +40.84

PRC +79.96

PRC +90.79

PCC +56.05

53 54 55 56 57 58 59

432 433 434 435 436 437 438

CONTINUED ON SHEET NO. 23

CONTINUED ON SHEET NO. 25

DR. PAUL DUDLEY WHITE BIKE PATH

60"RCP NORTH CHARLES RELIEF SEWER

NORTH CHARLES RELIEF SEWER LAND TAKING
PLAN 321 OF 1976

WF B1-49 WF B1-50 WF B1-51 WF B1-52 WF B1-53 WF B1-54 WF B1-55 WF B1-56 WF B1-57

BLSF (EL. 4.0')

OHW (EL. 2.2')

25' RFA

PROP SEDIMENT CONTROL BARRIER (TYP)

PROP LOAM AND SEED

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

PROP 5' STABILIZED AGGREGATE PATH

PROP WOOD RAIL FENCE
(STA 434+35± TO STA 435+40±)

PROP LOAM AND SEED

PROP DRY SWALE
(SEE PLAN SHEET U-7)

PROP SHARED-USE PATH CONST BL

PROP SLOPE LIMIT

PROP SLOPE STABILIZATION
(SEE DETAIL SHEET CD-2)

PROP OVERLOOK STRUCTURE NO. 2
(SEE SHEET SD-1 - SD-4)

PROP MODIFIED ROCKFILL SLOPE BENEATH OVERLOOK DECK (SEE DETAIL SHEET CD-1)

R&S EXIST BENCH
REM EXIST CEM CONC PAD
PROP REFURBISHED BENCH
PROP CEMENT CONCRETE LANDSCAPE PAVING PAD
(SEE DETAIL SHEET L-19)

LEGEND:

[X] - WHEELCHAIR RAMP NUMBER

(X) - DRIVEWAY NUMBER

0 20 50 100

SCALE: 1" = 20'

NOTE
WHERE EXISTING TREE ROOTS ARE ENCOUNTERED WITHIN THE LIMIT OF WORK, THE CONTRACTOR SHALL COORDINATE PROPOSED CONSTRUCTION ACTIVITIES (INCLUDING EXCAVATION) WITH PROJECT ARBORIST.

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

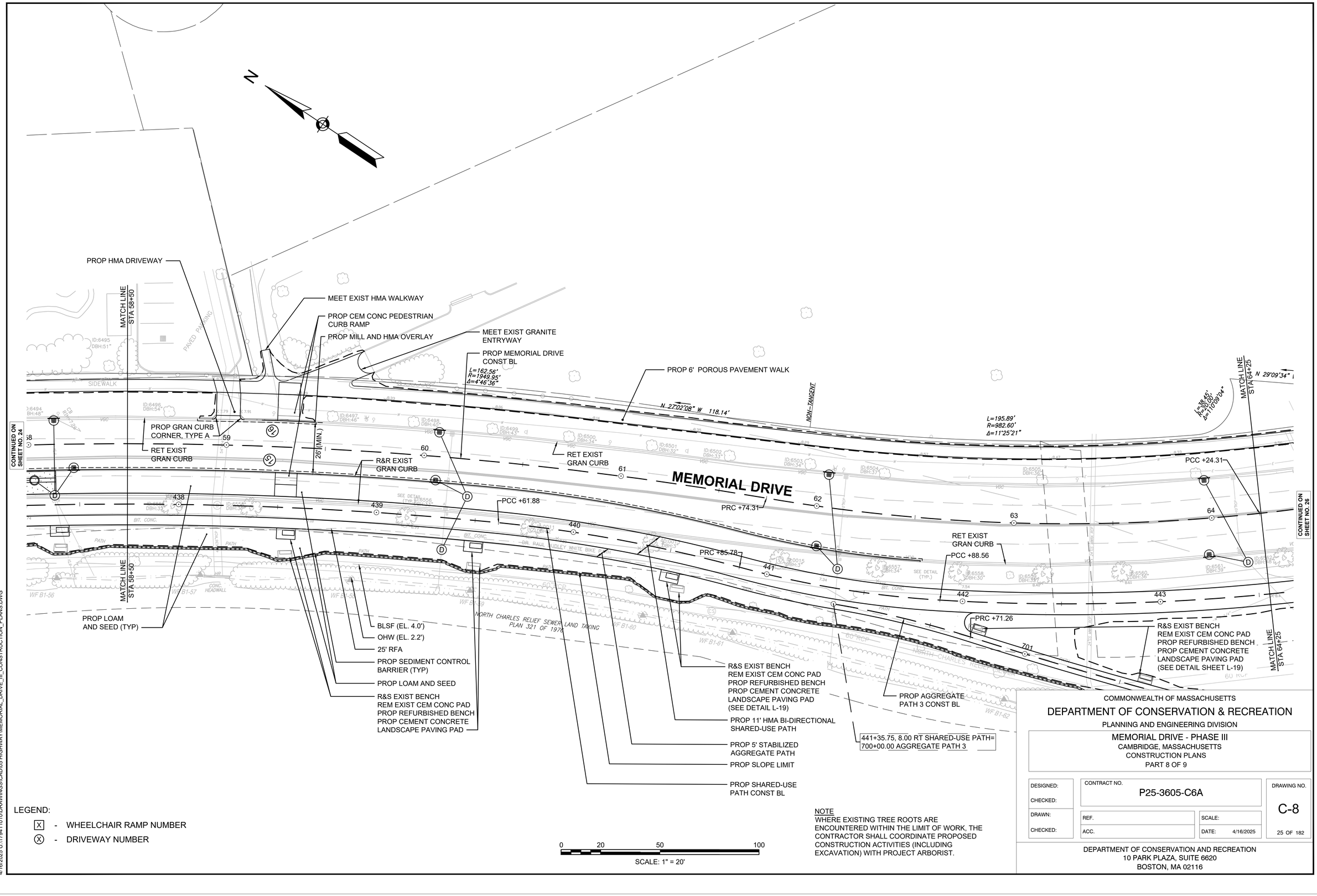
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CONSTRUCTION PLANS
PART 7 OF 9

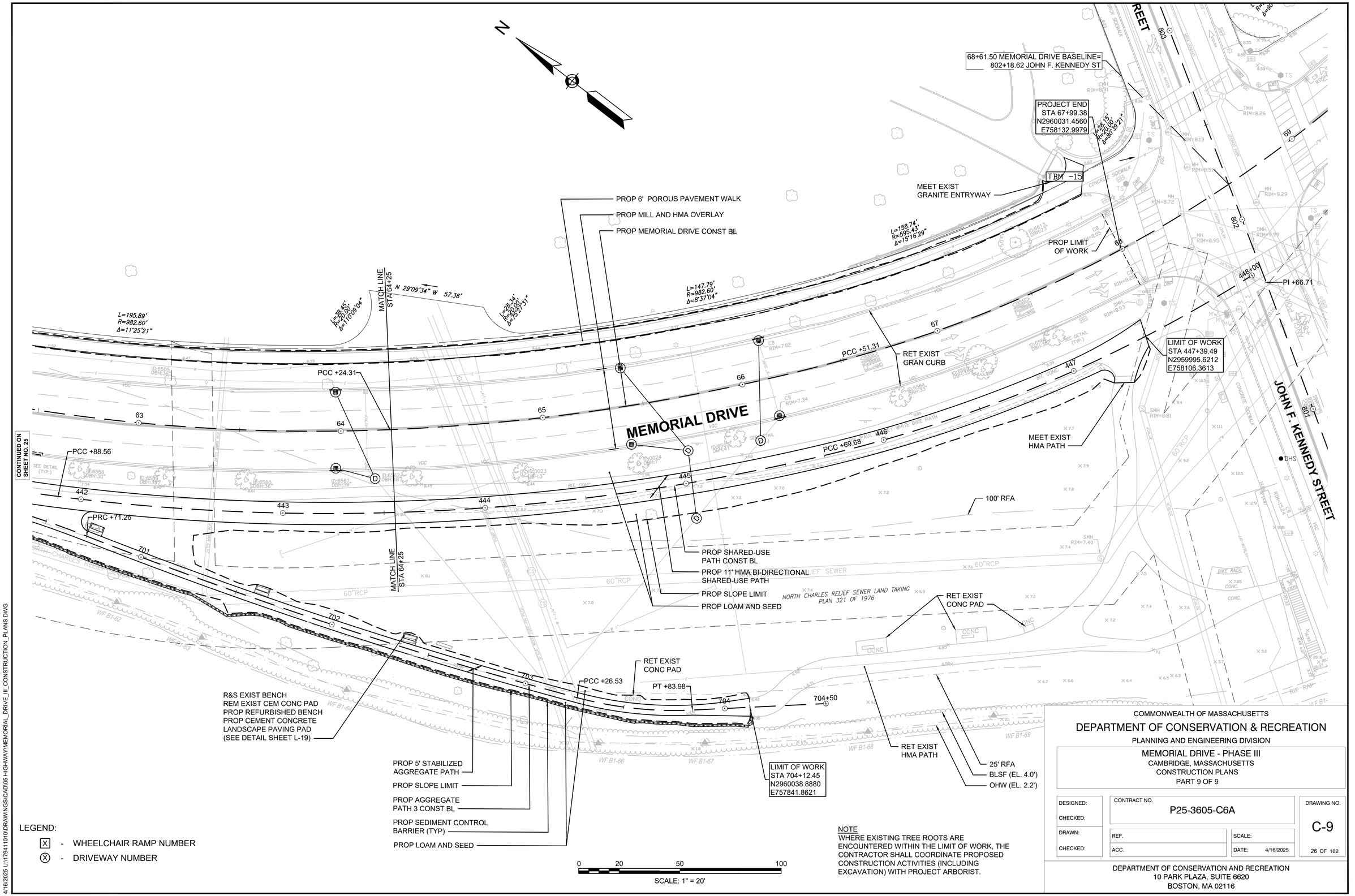
DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-7
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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N
PROP HMA DRIVEWAY
MATCH LINE STA 58+50
MEET EXIST HMA WALKWAY
PROP CEM CONC PEDESTRIAN CURB RAMP
PROP MILL AND HMA OVERLAY
MEET EXIST GRANITE ENTRYWAY
PROP MEMORIAL DRIVE CONST BL
L=162.56'
R=1949.95'
Δ=4°46'36"
PROP 6' POROUS PAVEMENT WALK
N 27°02'08" W 118.14'
NON-TANGENT
L=195.89'
R=982.60'
Δ=11°25'21"
L=38.45'
R=28.00'
Δ=110°09'04"
MATCH LINE STA 64+25
N 29°09'34" E
PAVED PARKING
SIDEWALK
PROP GRAN CURB CORNER, TYPE A
RET EXIST GRAN CURB
26' (MIN.)
R&R EXIST GRAN CURB
RET EXIST GRAN CURB
MEMORIAL DRIVE
PCC +61.88
PRC +74.31
PCC +24.31
RET EXIST GRAN CURB
PCC +88.56
PRC +85.78
PRC +71.26
PROP LOAM AND SEED (TYP)
BLSF (EL. 4.0')
OHW (EL. 2.2')
25' RFA
PROP SEDIMENT CONTROL BARRIER (TYP)
PROP LOAM AND SEED
R&S EXIST BENCH
REM EXIST CEM CONC PAD
PROP REFURBISHED BENCH
PROP CEMENT CONCRETE LANDSCAPE PAVING PAD
NORTH CHARLES RELIEF SEWER LAND TAKING PLAN 321 OF 1976
R&S EXIST BENCH
REM EXIST CEM CONC PAD
PROP REFURBISHED BENCH
PROP CEMENT CONCRETE LANDSCAPE PAVING PAD
(SEE DETAIL L-19)
PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH
PROP 5' STABILIZED AGGREGATE PATH
PROP SLOPE LIMIT
PROP SHARED-USE PATH CONST BL
PROP AGGREGATE PATH 3 CONST BL
441+35.75, 8.00 RT SHARED-USE PATH= 700+00.00 AGGREGATE PATH 3
R&S EXIST BENCH
REM EXIST CEM CONC PAD
PROP REFURBISHED BENCH
PROP CEMENT CONCRETE LANDSCAPE PAVING PAD
(SEE DETAIL SHEET L-19)
MATCH LINE STA 64+25
CONTINUED ON SHEET NO. 24
CONTINUED ON SHEET NO. 26
438
439
440
441
442
443
59
60
61
62
63
64
701
BIT. CONC.
PATH
CONC. HEADWALL
SEE DETAIL (Type ID:6556, DBH:34")
SEE DETAIL (TYP.)
DR. PAUL DUDLEY WHITE BIKE PATH
WF B1-56
WF B1-57
WF B1-58
WF B1-59
WF B1-60
WF B1-61
WF B1-62
60 RCP
ID:6494 DBH:48"
ID:6495 DBH:51"
ID:6496 DBH:54"
ID:6497 DBH:46"
ID:6498 DBH:40"
ID:6499 DBH:43"
ID:6500 DBH:34"
ID:6501 DBH:32"
ID:6502 DBH:33"
ID:6503 DBH:34"
ID:6504 DBH:37"
ID:6505 DBH:36"
ID:6506 DBH:36"
ID:6507 DBH:36"
ID:6508 DBH:36"
ID:6509 DBH:39"
ID:6510 DBH:36"
ID:6511 DBH:36"
ID:6512 DBH:36"
ID:6513 DBH:36"
ID:6514 DBH:36"
ID:6515 DBH:36"
ID:6516 DBH:36"
ID:6517 DBH:36"
ID:6518 DBH:36"
ID:6519 DBH:36"
ID:6520 DBH:36"
ID:6521 DBH:36"
ID:6522 DBH:36"
ID:6523 DBH:36"
ID:6524 DBH:36"
ID:6525 DBH:36"
ID:6526 DBH:36"
ID:6527 DBH:36"
ID:6528 DBH:36"
ID:6529 DBH:36"



LEGEND:

- [X] - WHEELCHAIR RAMP NUMBER
- (X) - DRIVEWAY NUMBER

NOTE
WHERE EXISTING TREE ROOTS ARE ENCOUNTERED WITHIN THE LIMIT OF WORK, THE CONTRACTOR SHALL COORDINATE PROPOSED CONSTRUCTION ACTIVITIES (INCLUDING EXCAVATION) WITH PROJECT ARBORIST.

0 20 50 100
SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CONSTRUCTION PLANS
PART 9 OF 9

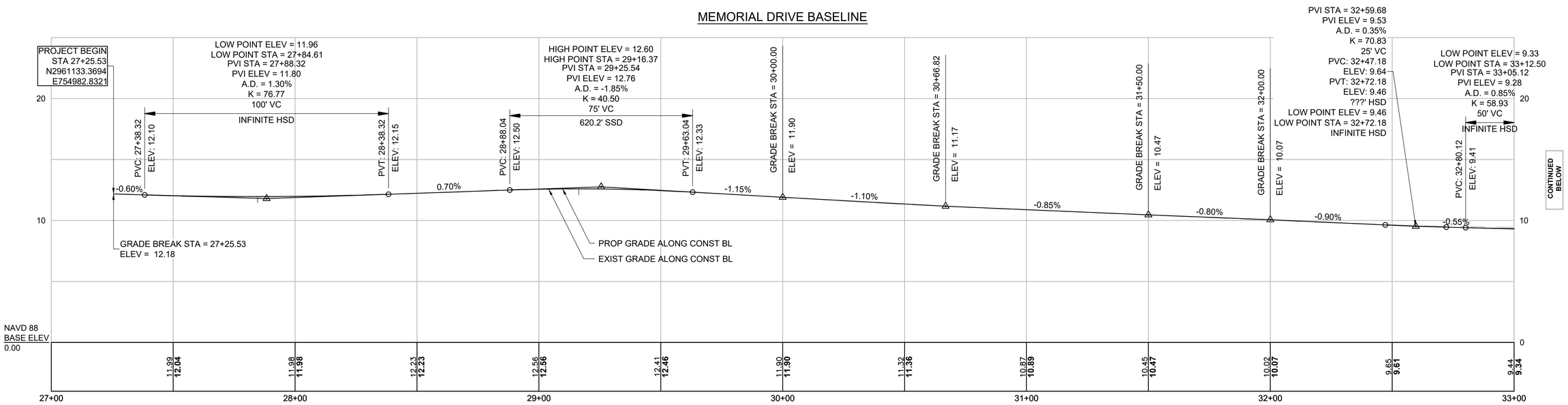
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DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

26 OF 182

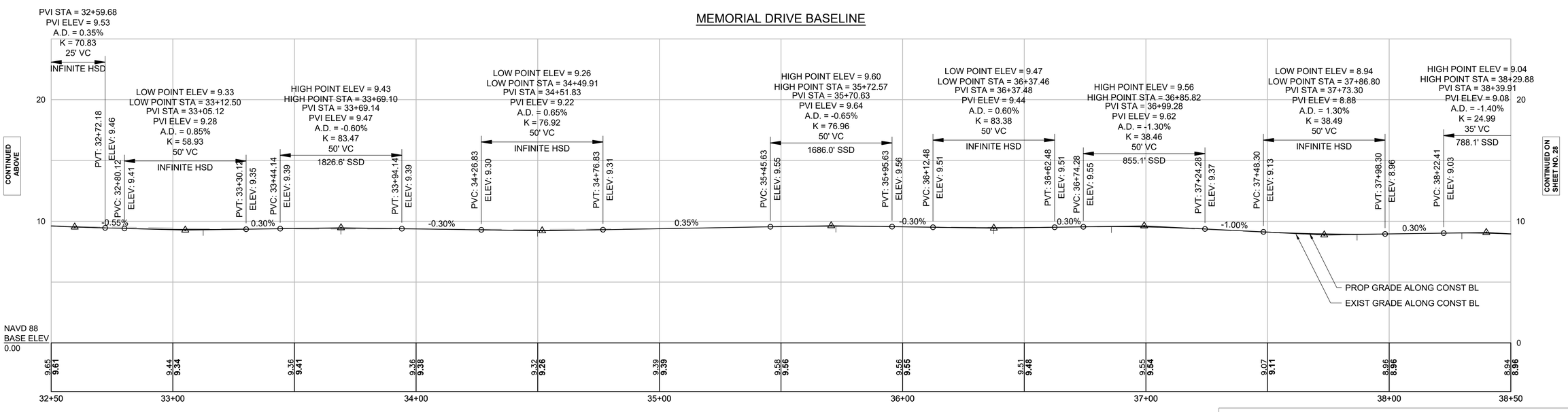
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/16/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CONSTRUCTION_PLANS.DWG

MEMORIAL DRIVE BASELINE



MEMORIAL DRIVE BASELINE



HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
PROFILES
PART 1 OF 11

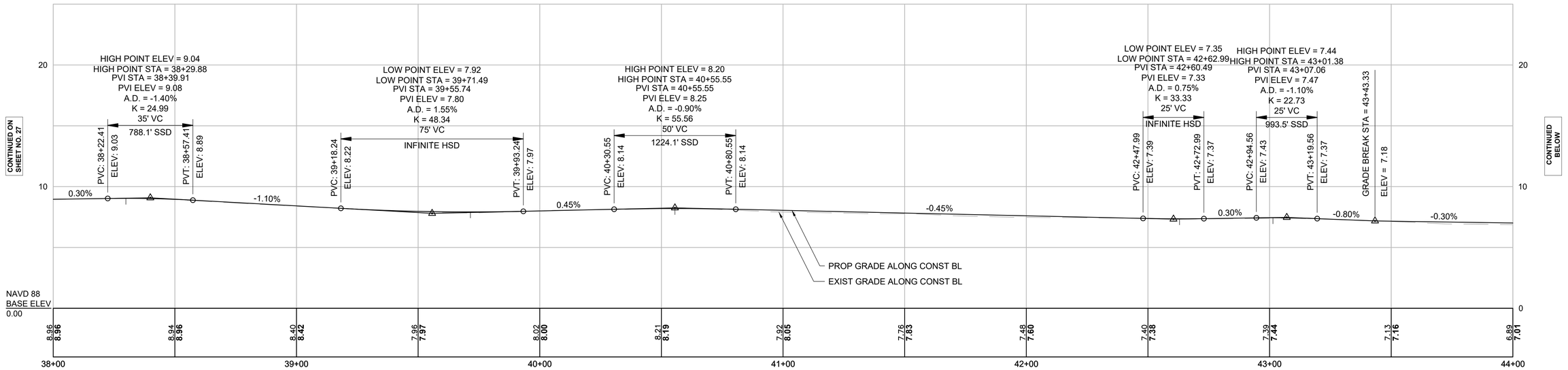
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CHECKED:	ACC.	DATE: 4/14/2025

27 OF 182

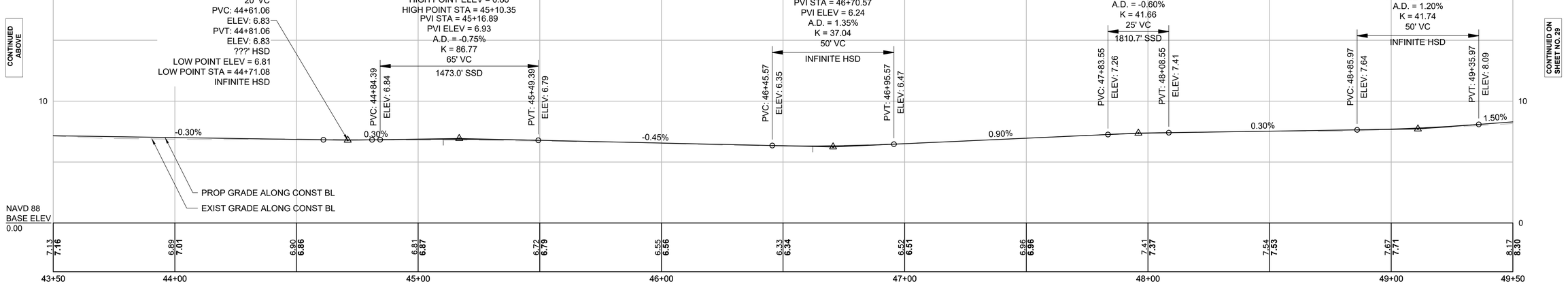
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_PROFILES.DWG

MEMORIAL DRIVE BASELINE



MEMORIAL DRIVE BASELINE



HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
PROFILES
PART 2 OF 11

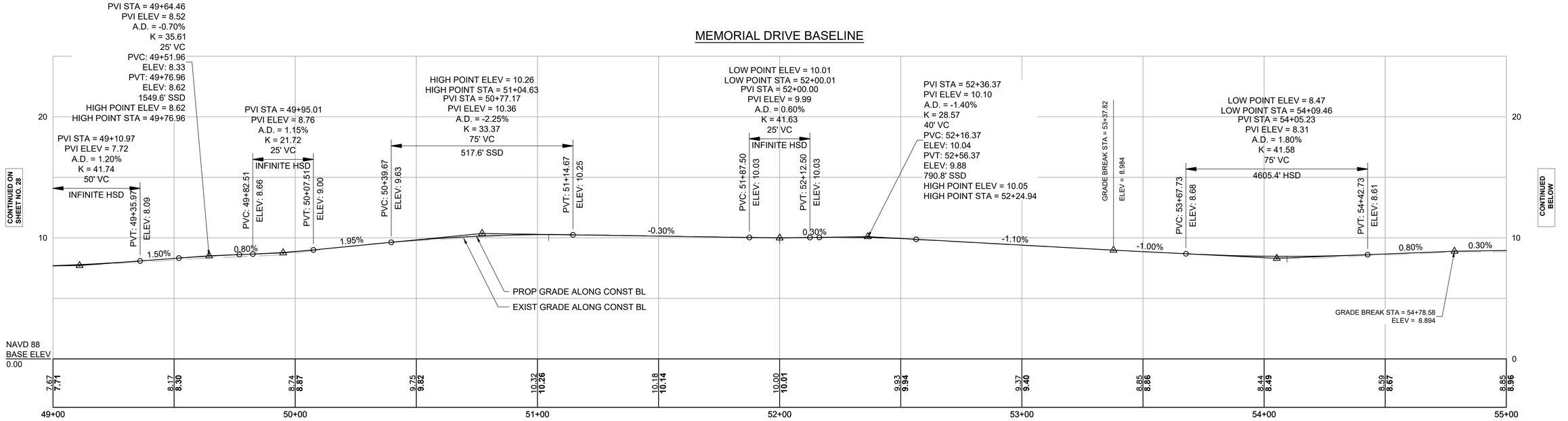
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CHECKED:		
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CHECKED:	ACC.	DATE: 4/14/2025

28 OF 182

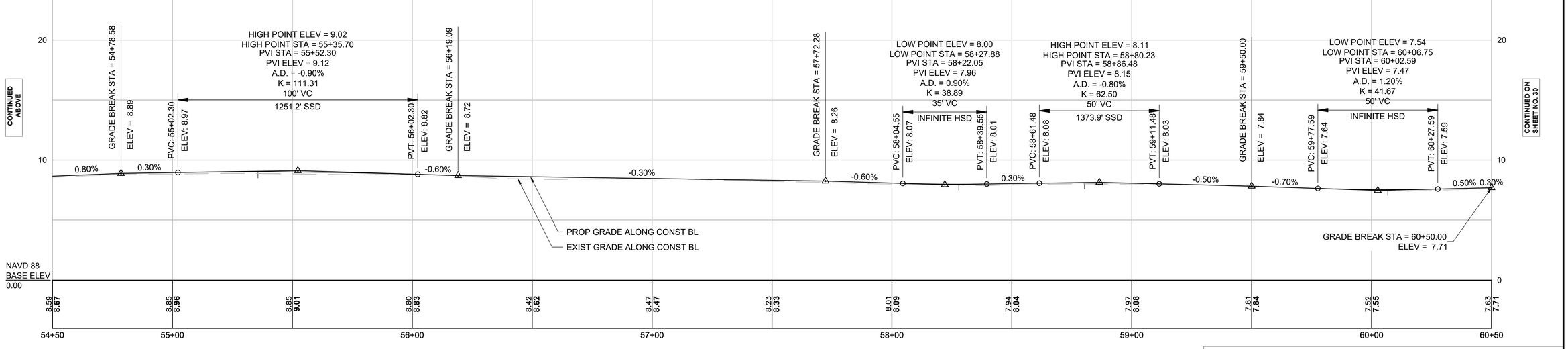
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_PROFILES.DWG

MEMORIAL DRIVE BASELINE



MEMORIAL DRIVE BASELINE



HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
PROFILES
PART 3 OF 11

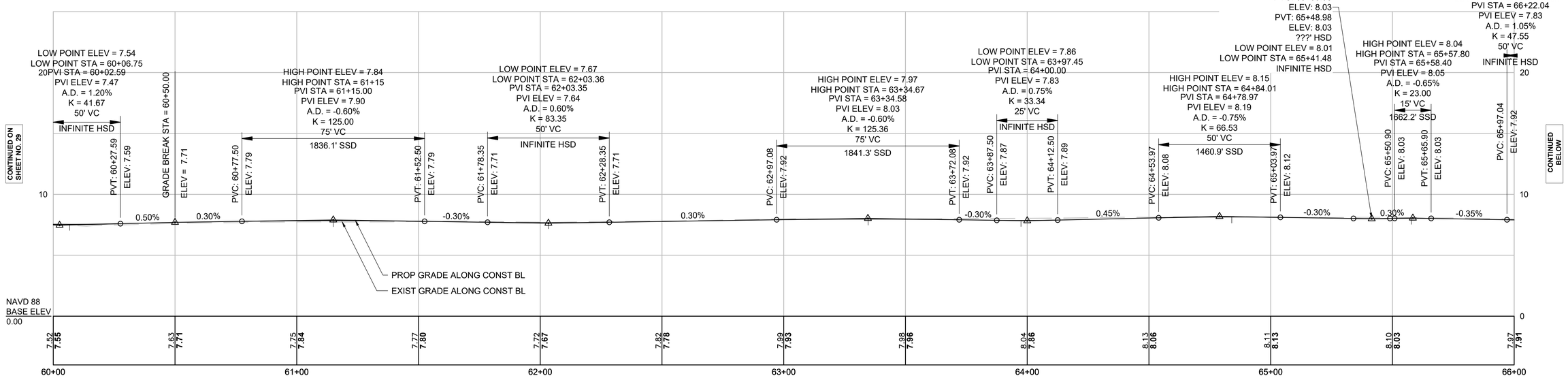
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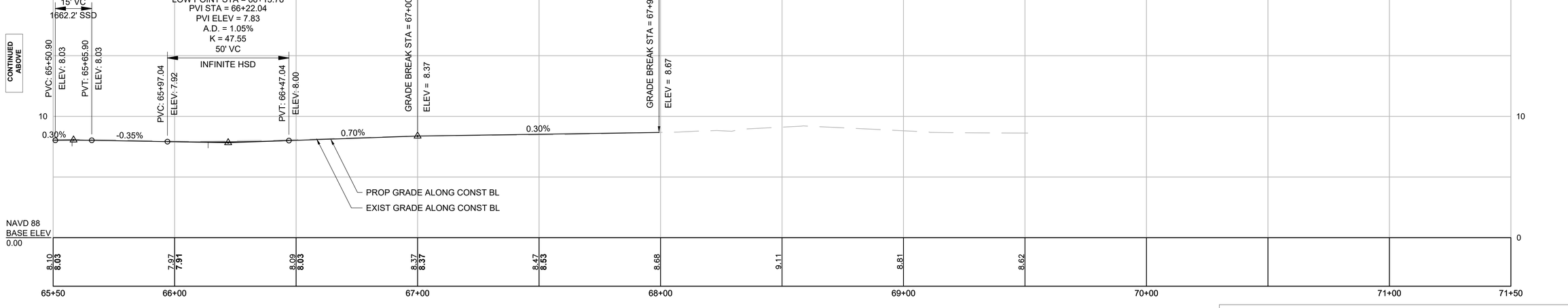
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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MEMORIAL DRIVE BASELINE



MEMORIAL DRIVE BASELINE



HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
PROFILES
PART 4 OF 11

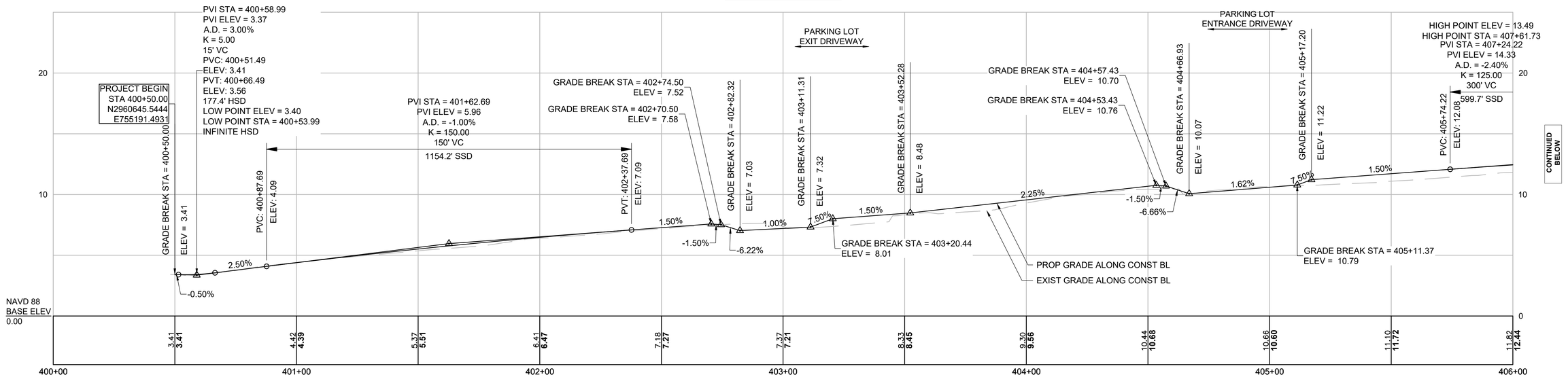
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CHECKED:	ACC.	DATE: 4/14/2025

30 OF 182

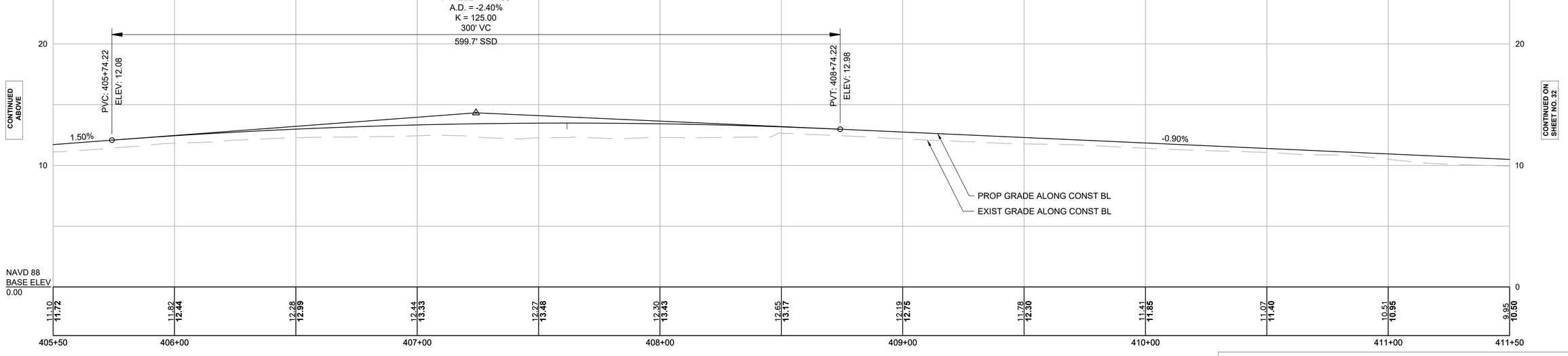
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941\10\10\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_PROFILES.DWG

SHARED-USE PATH



SHARED-USE PATH



HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
PROFILES
PART 5 OF 11

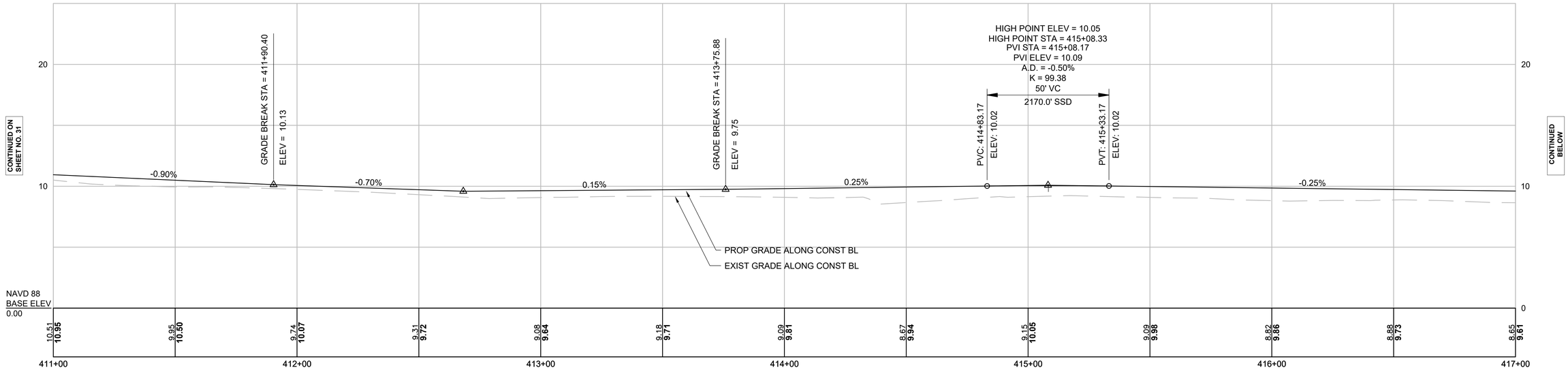
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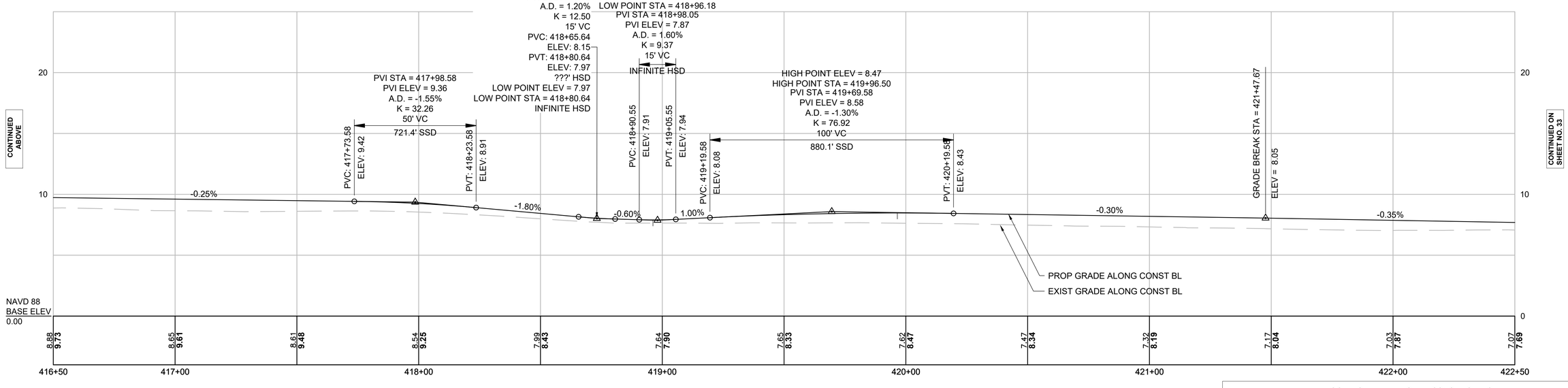
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_PROFILES.DWG

SHARED-USE PATH



SHARED-USE PATH



HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
PROFILES
PART 6 OF 11

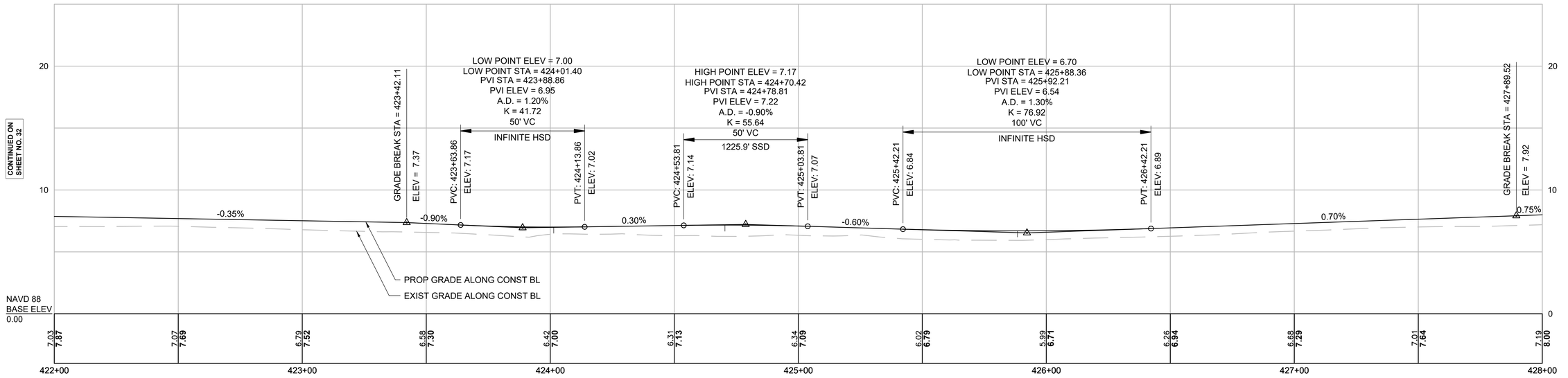
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CHECKED:	ACC.	DATE: 4/14/2025

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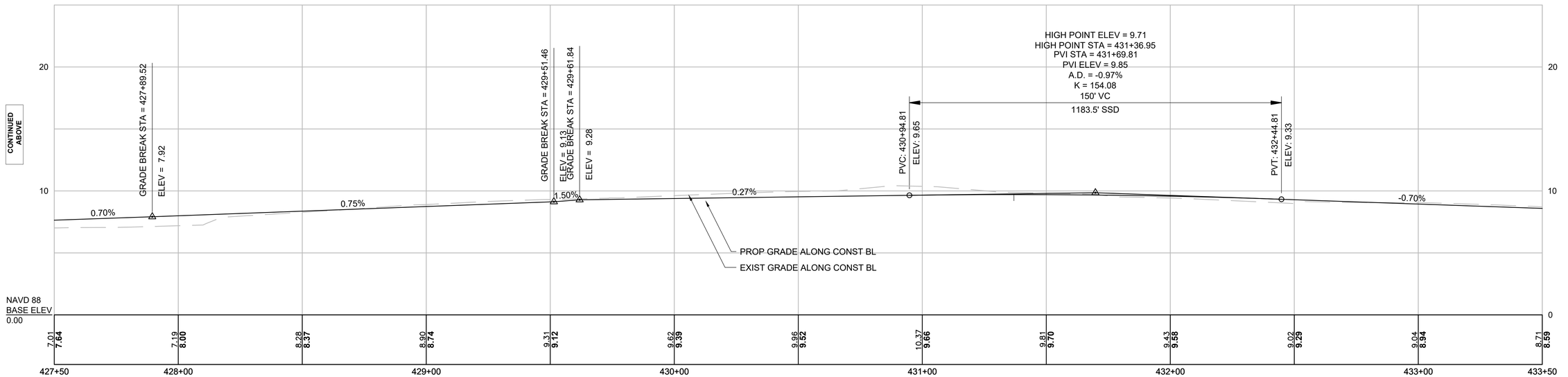
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941\10\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_PROFILES.DWG

SHARED-USE PATH



SHARED-USE PATH



HOR. SCALE IN FEET
20 0 20 40

VER. SCALE IN FEET
4 0 4 8

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
PROFILES
PART 7 OF 11

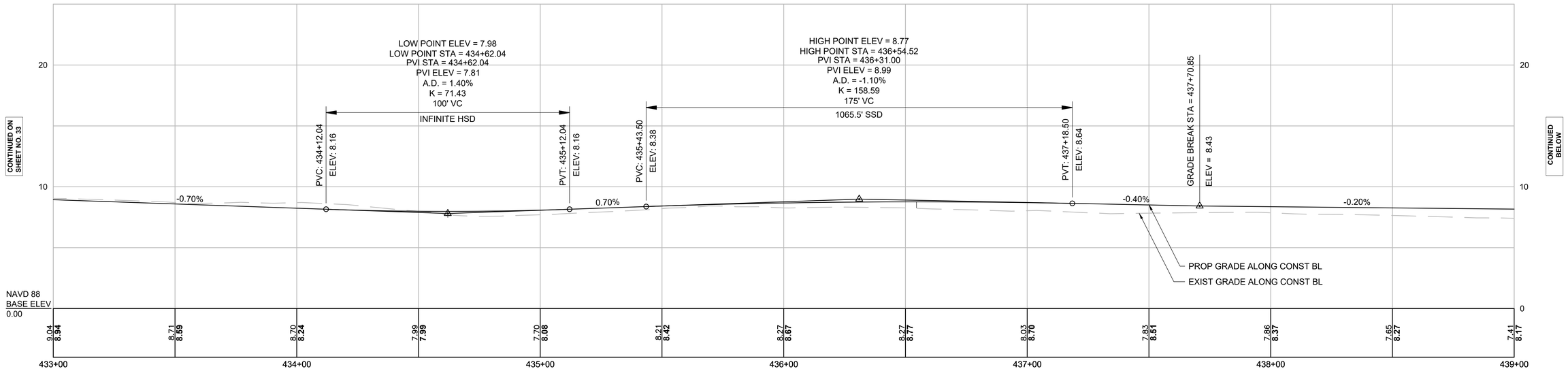
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CHECKED:	ACC.	DATE: 4/14/2025

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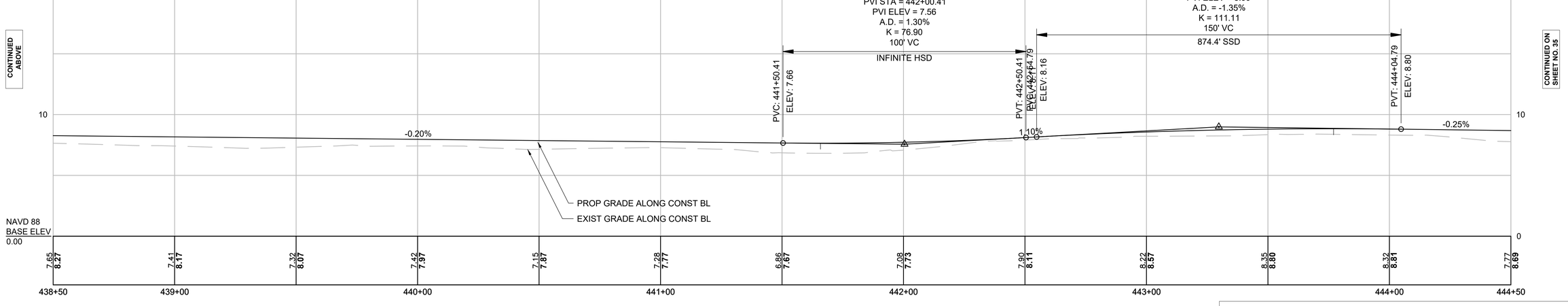
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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SHARED-USE PATH



SHARED-USE PATH



HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
PROFILES
PART 8 OF 11

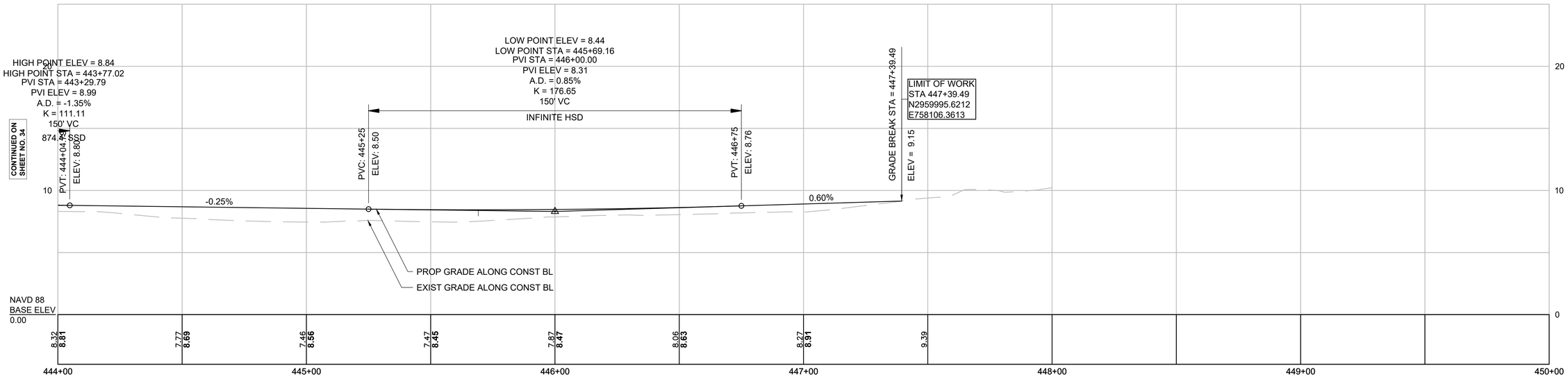
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CHECKED:	ACC.	DATE: 4/14/2025

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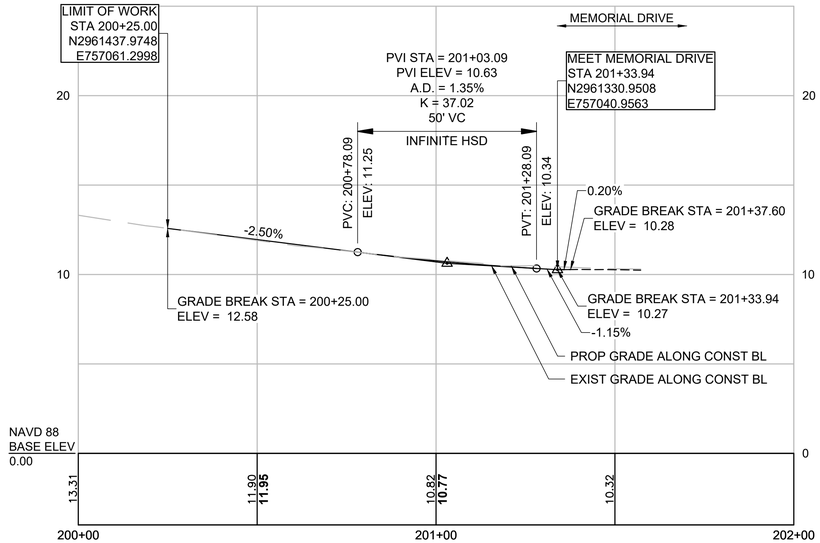
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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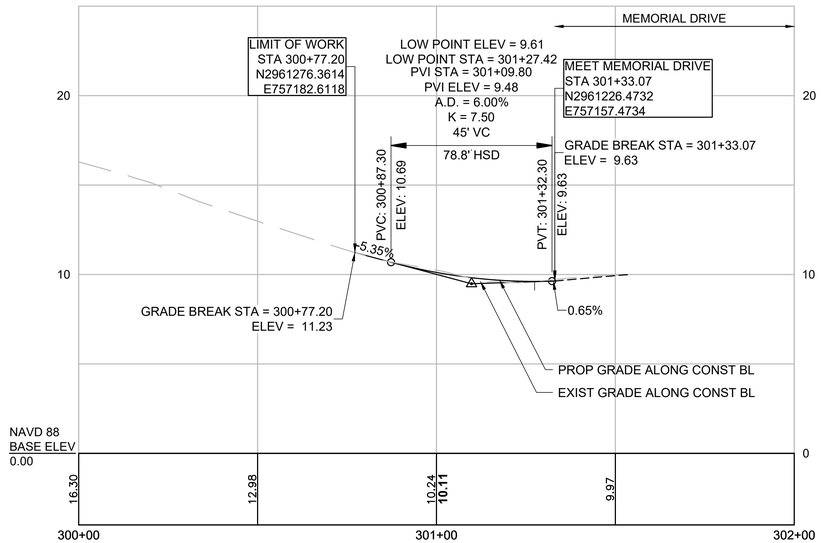
SHARED-USE PATH



HAWTHORN TO MEMORIAL DRIVE



ASH STREET



HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
PROFILES
PART 9 OF 11

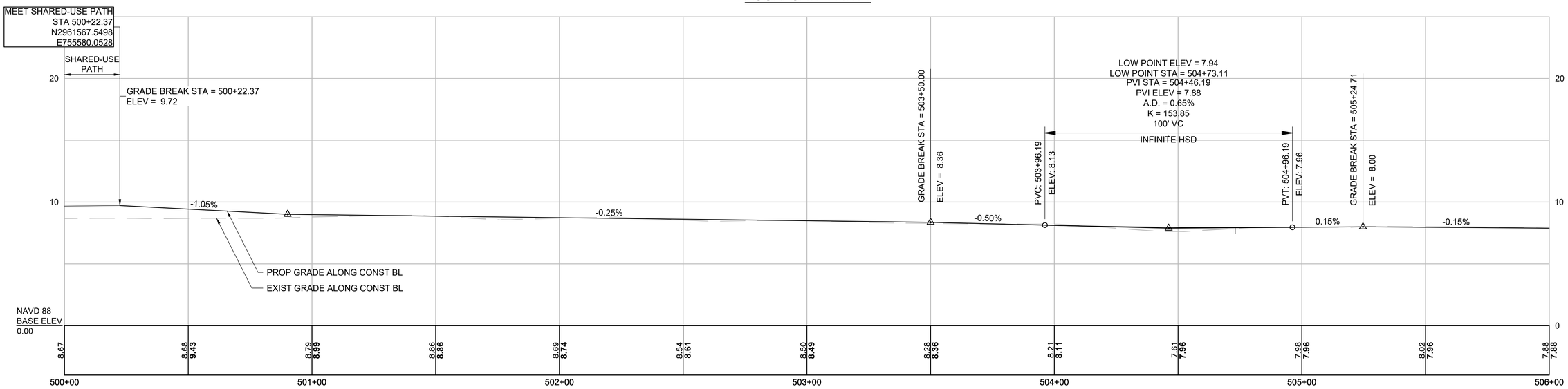
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35 OF 182

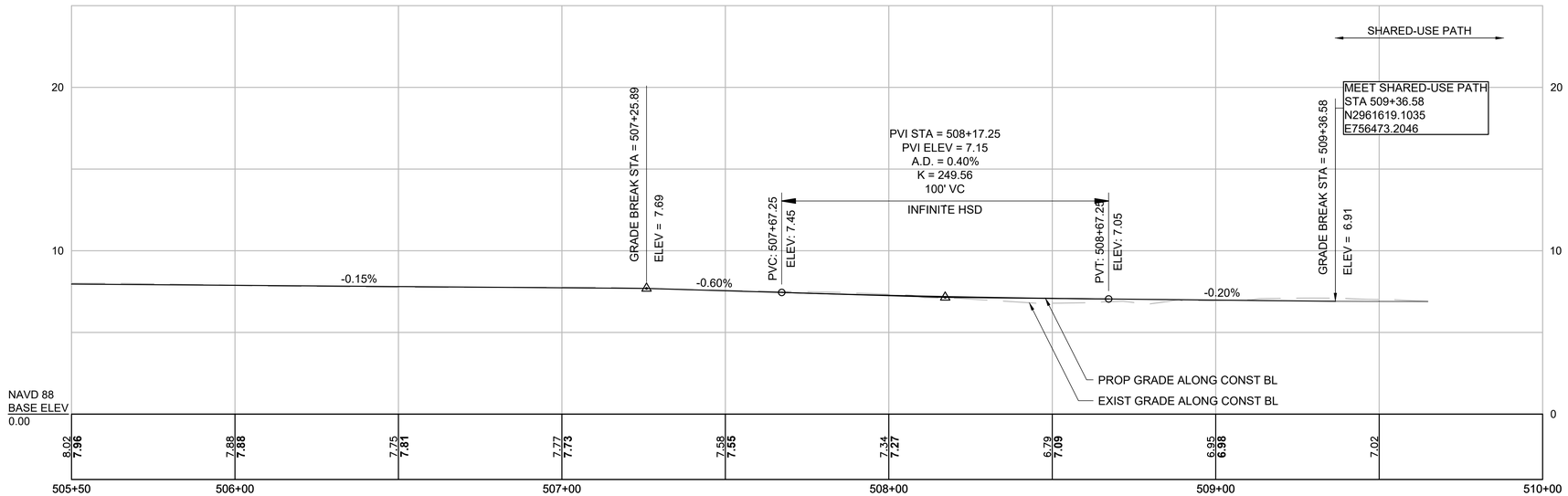
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941\010\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_PROFILES.DWG

AGGREGATE PATH 1



AGGREGATE PATH 1



CONTINUED ON SHEET NO. 37

HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
PROFILES
PART 10 OF 11

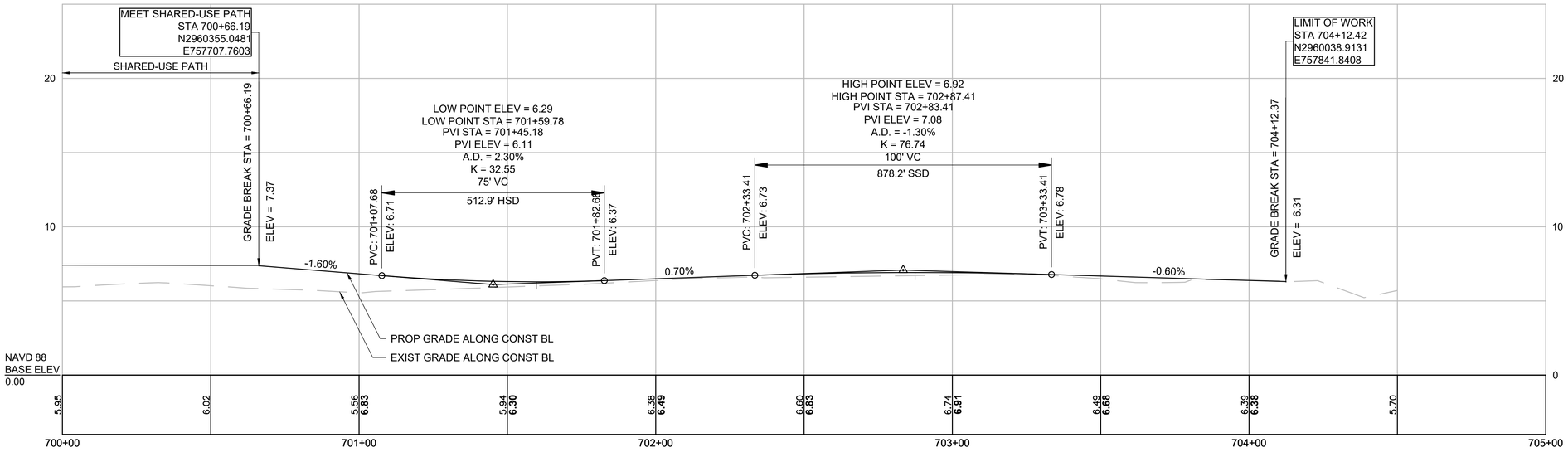
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CHECKED:	ACC.	DATE: 4/14/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_PROFILES.DWG

AGGREGATE PATH 3



HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
PROFILES
PART 11 OF 11

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-20
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/14/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_PROFILES.DWG

Curve Table			
Curve #	Delta	Radius	Length
C1	6°41'39"	168.40	19.68
C2	95°36'42"	5.00	8.34
C3	63°40'38"	5.00	5.56
C4	97°24'31"	25.00	42.50
C5	13°11'46"	250.00	57.58
C6	48°26'08"	100.00	84.54
C7	50°08'57"	51.00	44.64
C8	44°45'52"	30.00	23.44
C9	78°55'26"	5.01	6.90
C10	16°03'53"	10.00	2.80
C11	90°00'00"	5.00	7.85
C12	9°01'40"	349.50	55.07
C87	157°11'36"	1.00	2.74
C88	89°38'55"	19.00	29.73
C89	89°38'55"	11.00	17.21
C90	22°48'24"	10.00	3.98

GERRYS LANDING ROAD

GERRYS LANDING ROAD

GERRYS LANDING ROAD

LIMIT OF WORK
STA 105+39.56
N2960894.8443
E754930.9330

PROP GERRY'S LANDING RD CONST BL

Δ=30° 04' 48"
L=110.77' R=211.00'

PCC +62.72

PCC +63.81
23.47' RT

103

PCC +26.56
26.13' RT

PT +69.14
29.45' RT

Δ=45° 47' 55"
L=116.70' R=146.00'

PCC +79.43

PCC +91.80
15.43' RT

Δ=18° 21' 00"
L=160.13' R=500.00'

PCC +44.91

PCC +76.85
23.92' RT

PC +28.35
17.26' RT

PT +28.61
30.86' RT

PT +33.38
12.15' RT

PRC +39.56

L=105.02' R=1000.00'
Δ=6° 01' 02"

PC +23.63
11.89' RT

PCC +44.58

MATCH LINE
STA 406+20

Δ=55° 33' 17"
L=169.20' R=174.50'

404

403

C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12

PC +90.68
53.42' RT

MEET EXIST
+99.74
62.30' RT

PC +94.96
60.96' RT

PT +90.49
56.41' RT

AP +62.45
52.18' RT

MEET EXIST
+30.30
114.67' RT

PROP SHARED-USE
PATH CONST BL

L=60.00' R=501.50'
Δ=6° 51' 19"

PCC +04.91
PCC +07.96
56.34' RT

MEET EXIST
+05.96
79.42' RT

PC +47.61
106.17' RT

MEET EXIST
+47.66
106.91' RT

AP +49.25
95.19' RT

AP +78.34
90.42' RT

AP +97.71
91.35' RT

AP +05.03
90.85' RT

AP +50.94
100.96' RT

6'

5.5'

8'

PC +29.08
33.62' RT

PT +37.99
12.00' RT

106

405

Δ=10° 29' 15"
L=163.91' R=895.50'

406

PT +68.83

407

MATCH LINE
STA 406+20

CONTINUED ON SHEET NO. 39

BUILDING

BUILDING

PIER

PIER

WF B1-1

WF B1-2

PC +75.72

PRC +30.40

PC +91.45

L=38.95' R=60.50'
Δ=36° 52' 58"

402

L=40.35' R=150.00'
Δ=15° 24' 48"

PCC +51.95

Δ=88° 00' 46"
L=45.32' R=29.50'

L=42.78' R=165.00'
Δ=14° 51' 18"

PCC +11.60

101

ONLY

ONLY

PCC +68.82

L=48.22' R=191.00'
Δ=14° 27' 53"

LIMIT OF WORK
STA 100+20.60
N2960604.7073
E755176.7325

S 58° 23' 20" W 20.60'

100+00

400+00

N 31° 29' 20" W 50.99'

PAVE

S 88° 22' 01" W 92.70'

PT +38.63
5.50' RT

C90

PC +34.76
6.28' RT

C87

PC +11.02
5.50' RT

PT +11.41
7.42' RT

PT +91.61
27.09' RT

C89

MEET EXIST
+89.75
42.25' RT

PT +98.76

401

PC +88.69
20.43' RT

C88

MEET EXIST
+86.47
46.94' RT

L=47.76' R=45.50'
Δ=60°08'39"

PC +50.99

CONC. HEADWALL

OBSCURED

ELIOT BRIDGE

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CURB TIE PLANS
PART 1 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-21
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

38 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/16/2025 U:\17941\10\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CURB_TIE_PLANS.DWG

Curve Table			
Curve #	Delta	Radius	Length
C12	9°01'40"	349.50	55.07
C13	88°58'37"	25.00	38.82
C14	37°03'59"	208.00	134.56
C15	13°24'33"	350.00	81.91
C16	7°17'10"	1147.00	145.86
C91	60°18'23"	30.00	31.58
C92	60°00'00"	10.00	10.47
C93	60°00'00"	10.00	10.47

N

GERRYS LANDING ROAD

MEMORIAL DRIVE

27+09.23 MEMORIAL DRIVE BASELINE=
107+82.88 GERRYS LANDING RD

LIMIT OF WORK
STA 107+82.51
N2961133.3695
E754982.8285

108+50.92

N 2° 07' 34" E 150.10'

MEET EXIST
+20.89
11.13' RT

PCC +44.58

PC +23.63
11.89' RT

MATCH LINE
STA 406+20

Δ=9° 12' 27"
L=56.24' R=350.00'

PT +00.82

PRC +40.08
35.62' RT

Δ=76° 50' 46"
L=295.07' R=220.00'

PROP MEMORIAL DRIVE
CONST BL

MEET EXIST
+82.07
11.93' RT

PT +77.31
11.94' RT

PRC +06.33
5.50' LT

PRC +16.45
5.50' LT

PCC +57.19
25.83' RT

PRC +22.61

PRC +20.07

PRC +32.50
19.11' RT

Δ=2° 52' 28"
L=150.50' R=3000.00'

PT +70.57

PT +78.89
13.00' RT

MATCH LINE
STA 32+00

CONTINUED ON
SHEET NO. 38

PC +48.99

Δ=16° 52' 19"
L=73.62' R=250.00'

PT +68.83

N 32° 23' 39" E 80.16'

Δ=6° 27' 53"
L=40.67' R=360.50'

PRC +63.28

PT +86.61

N 43° 30' 43" E 221.73'

Δ=10° 29' 15"
L=163.91' R=895.50'

AP +64.12
10.50' RT

PC +68.83
5.53' RT

PT +94.96
20.54' RT

PC +43.48
35.53' RT

PT +52.59
30.51' RT

L=23.33' R=1000.00'
Δ=1° 20' 12"

N 44° 08' 17" E 229.84'

PC +16.45

PRC +62.74

Δ=10° 36' 31"
L=46.29' R=250.00'

CONTINUED ON
SHEET NO. 40

PC +00.70
30.50' RT

PT +09.36
35.51' RT

END +12.72
10.50' RT

END +41.68
10.50' RT

PROP SHARED-USE PATH CONST BL

MATCH LINE
STA 406+20

MATCH LINE
STA 32+00

BUILDING

PIER

WF B1-1 WF B1-2 WF B1-3 WF B1-4 WF B1-5 WF B1-6 WF B1-7 WF B1-8 WF B1-9 WF B1-10 WF B1-11 WF B1-12

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CURB TIE PLANS
PART 2 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-22
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/16/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CURB_TIE_PLANS.DWG

Curve Table			
Curve #	Delta	Radius	Length
C17	25°15'39"	628.00	276.88
C18	43°55'41"	1217.50	933.44

N

PROP MEMORIAL DRIVE CONST BL

NORTH CHARLES RELIEF SEWER LAND TAKING PLAN 521 OF 1976

MATCH LINE STA 32+00

MATCH LINE STA 37+25

BUILDING

PLAY AREA

SIDEWALK

ROCK ENERGY DISSIPATER +24.22 13.00' RT

ROCK ENERGY DISSIPATER +93.26 13.00' RT

ROCK ENERGY DISSIPATER +10.40 13.00' RT

PC +92.30 13.00' RT

PC +92.30

N 43° 30' 43" E 221.73'

L=43.56' R=250.00' Δ=9° 58' 57"

PC +62.53

PT +06.30

N 43° 30' 43" E 56.23'

PRC +62.74

PC +16.45

Δ=25° 15' 39" L=282.61' R=641.00'

L=27.22' R=250.00' Δ=6° 14' 19"

PCC +74.91

PCC +74.91 13.00' RT

PRC +21.00

PRC +48.22 Δ=14° 44' 28" L=64.32' R=250.00'

PCC +12.54

PCC +32.87

Δ=14° 52' 22" L=158.47' R=610.50'

Δ=12° 15' 59" L=258.40' R=1207.00'

PRC +69.39

L=69.39' R=250.00' Δ=15° 54' 15"

L=20.25' R=255.00' Δ=4° 32' 57"

PRC +89.64

L=20.32' R=617.50' Δ=1° 53' 09"

Δ=15° 05' 35" L=342.32' R=1299.60'

26'

33 34 35 36 37 411 412 413 414 415 416 417 500+00 501 502 503

C17 C18

MEMORIAL DRIVE

MEMORIAL DRIVE

PROP SHARED-USE PATH CONST BL

PROP AGGREGATE PATH 2 CONST BL

PATH

HR CONC. HEADWALL

WF B1-11 WF B1-12 WF B1-13 WF B1-14 WF B1-15 WF B1-16 WF B1-17 WF B1-18 WF B1-19 WF B1-20 WF B1-21 WF B1-22 WF B1-23

ID:6524 DBH:40" ID:6524 DBH:11" ID:6525 DBH:17" ID:6526 DBH:13" ID:6527 DBH:13" ID:6528 DBH:10" ID:6529 DBH:10"

NORTH CHARLES RELIEF SEWER

CONTINUED ON SHEET NO. 39

CONTINUED ON SHEET NO. 41

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CURB TIE PLANS

PART 3 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-23
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/16/2025 U:\17941\10\10\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CURB_TIE_PLANS.DWG

N

SPARKS STREET

Curve Table			
Curve #	Delta	Radius	Length
C18	43°55'41"	1217.50	933.44
C33	26°45'04"	60.00	28.01
C79	82°05'28"	2.00	2.87
C80	80°19'04"	2.00	2.80
C81	82°09'34"	2.00	2.87
C82	135°29'03"	24.70	58.42
C83	39°52'56"	30.70	21.37
C84	46°44'35"	30.70	25.05
C85	26°45'04"	54.00	25.21
C86	73°02'31"	2.00	2.55

MEET EXIST +03.18 49.09' LT
PRC +05.24 41.33' LT
MEET EXIST +09.25 47.89' LT
PRC +27.97 23.28' LT
MEET EXIST +52.92 41.29' LT
MEET EXIST +58.89 40.15' LT
PCC +04.46 38.83' LT
PRC +07.58 33.77' LT
PRC +40.86 24.24' LT
PC +79.21 24.18' LT
PRC +10.06 33.36' LT
PT +29.64 21.29' LT
PC +39.47 22.31' LT
MEET EXIST +23.18 13.10' LT
MEET EXIST +45.94 13.00' LT
PCC +91.27
PRC +40.35
PRC +60.73
PRC +10.46
PRC +30.84
PCC +79.92
PCC +31.96
L=49.08' R=499.50' Δ=5° 37' 48"
L=20.37' R=500.50' Δ=2° 19' 57"
L=49.73' R=1205.00' Δ=2° 21' 53"
L=20.37' R=500.50' Δ=2° 19' 57"
L=49.08' R=499.50' Δ=5° 37' 48"
Δ=43° 55' 41" L=943.41' R=1230.50'
Δ=16° 14' 03" L=341.99' R=1207.00'
L=420.35' R=1099.50' Δ=21° 54' 17"
NORTH CHARLES RELIEF SEWER LAND TAKING PLAN 321 OF 1976

MATCH LINE STA 37+25
MATCH LINE STA 42+00
PROP MEMORIAL DRIVE CONST BL
PROP SHARED-USE PATH CONST BL
PROP AGGREGATE PATH 2 CONST BL

MEMORIAL DRIVE
MT. AUBURN STREET
PLAY AREA
SIDEWALK
PATH
NORTH CHARLES RELIEF SEWER 42"RCP
HR CONC HEADWALL
WF B1-21
WF B1-22
WF B1-23
WF B1-24
WF B1-25
WF B1-26
WF B1-27
WF B1-28
WF B1-29
WF B1-30
WF B1-31

CONTINUED ON SHEET NO. 40
CONTINUED ON SHEET NO. 42

0 20 50 100
SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CURB TIE PLANS
PART 4 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. C-24
CHECKED:			
DRAWN:	REF.	SCALE:	
CHECKED:	ACC.	DATE: 4/16/2025	41 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/16/2025 U:\17941101\01DRAWINGS\CADD\05 HIGHWAY\MEMORIAL_DRIVE_III_CURB_TIE_PLANS.DWG

Curve Table			
Curve #	Delta	Radius	Length
C18	43°55'41"	1217.50	933.44
C19	12°57'18"	1199.00	271.10
C42	52°52'06"	56.00	51.67
C43	33°36'10"	50.07	29.37
C44	46°11'25"	56.00	45.15
C45	119°06'42"	2.00	4.16
C46	25°28'21"	100.00	44.46
C47	60°30'49"	2.00	2.11
C48	55°28'09"	94.00	91.00
C49	23°54'11"	100.00	41.72

N

WILLARD STREET

MT. AUBURN STREET

MEMORIAL DRIVE

MEET EXIST
+13.97
86.84' LT

MEET EXIST
+19.26
88.87' LT

MEET EXIST
+17.04
57.66' LT

PRC +39.80
52.22' LT

PCC +39.34
48.80' LT

PRC +63.80
47.22' LT

PT +91.68
46.86' LT

PC +04.44
42.15' LT

PRC +46.70
45.83' LT

PRC +48.64
45.78' LT

PROP MEMORIAL DRIVE
CONST BL

PRC +86.65
32.52' LT

SIDEWALK

ROCK ENERGY
DISSIPATER
+50.49
13.00' RT

ROCK ENERGY
DISSIPATER
+45.87
13.00' RT

ROCK ENERGY
DISSIPATER
+36.35
13.00' RT

PCC +18.32
13.00' RT

PCC +18.32

L=33.91' R=250.50'
Δ=7° 45' 18"

L=33.95' R=250.00'
Δ=7° 46' 50"

L=50.50' R=1200.00'
Δ=2° 24' 41"

PRC +73.56

PCC +21.91
Δ=11° 50' 12"
L=51.65' R=250.00'

PRC +07.51

PCC +58.01

PRC +79.64

Δ=12° 57' 18"
L=274.04' R=1212.00'

PRC +91.61

PRC +52.31

Δ=5° 53' 53"
L=121.63' R=1181.50'

PRC +13.54

Δ=11° 52' 31"
L=51.71' R=249.50'

PCC +92.35

PCC +07.56

PRC +72.33

PCC +65.25

L=39.30' R=250.00'
Δ=9° 00' 22"

PCC +46.35

L=18.56' R=1192.00'
Δ=0° 53' 32"

L=54.74' R=250.00'
Δ=12° 32' 47"

L=7.56' R=1173.50'
Δ=0° 22' 09"

PRC +46.84

PCC +44.53

PCC +26.16

PRC +62.66

L=39.27' R=250.00'
Δ=9° 00' 03"

L=25.49' R=250.00'
Δ=5° 50' 31"

PROP AGGREGATE
PATH 2 CONST BL

PROP SHARED-USE
PATH CONST BL

NORTH CHARLES RELIEF SEWER LAND TAKING
PLAN 321 OF 1976

NORTH CHARLES RELIEF SEWER

MATCH LINE
STA 42+00

MATCH LINE
STA 47+50

CONTINUED ON
SHEET NO. 41

CONTINUED ON
SHEET NO. 43

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CURB TIE PLANS
PART 5 OF 9

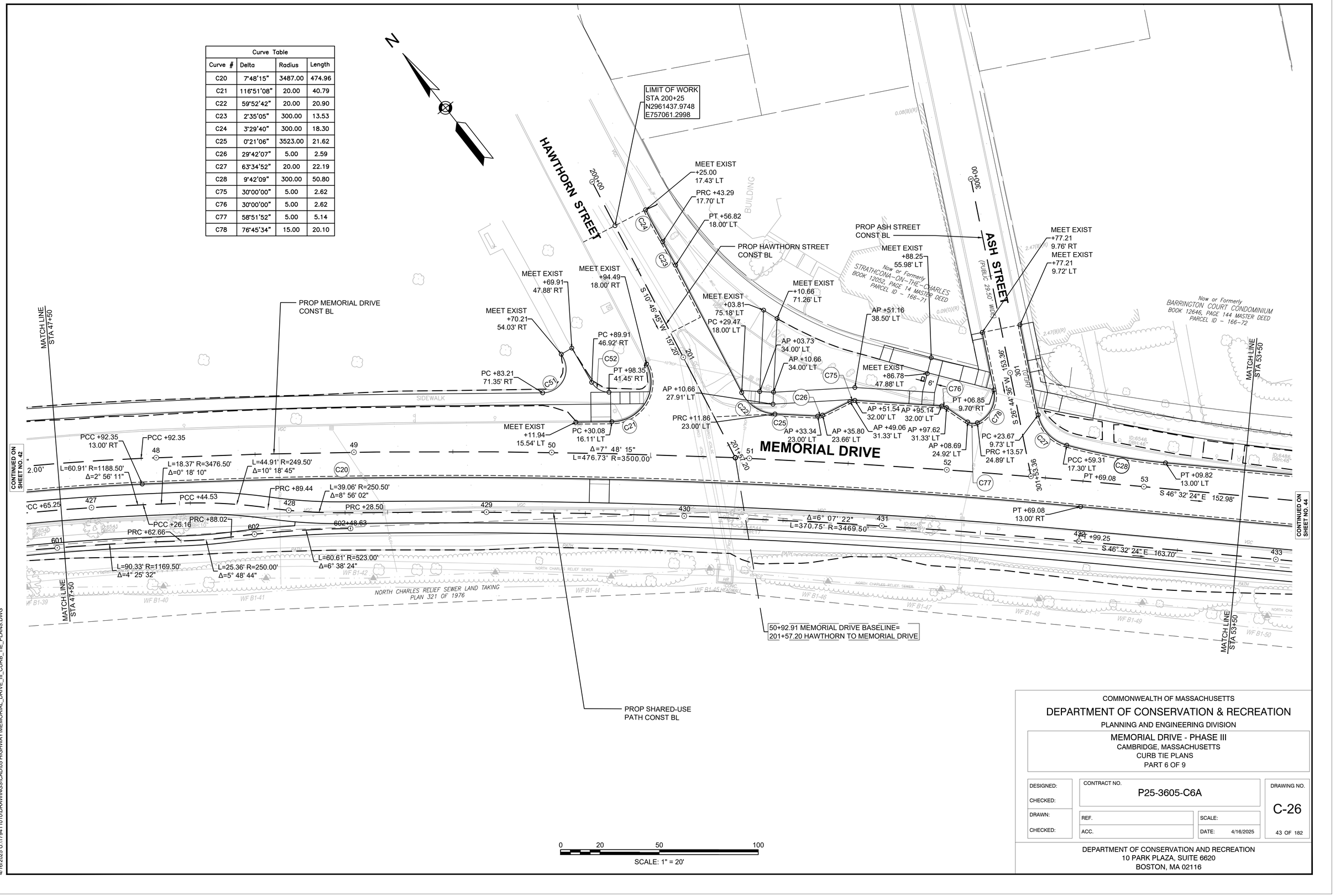
DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-25
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/16/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CURB_TIE_PLANS.DWG

Curve Table			
Curve #	Delta	Radius	Length
C20	7°48'15"	3487.00	474.96
C21	116°51'08"	20.00	40.79
C22	59°52'42"	20.00	20.90
C23	2°35'05"	300.00	13.53
C24	3°29'40"	300.00	18.30
C25	0°21'06"	3523.00	21.62
C26	29°42'07"	5.00	2.59
C27	63°34'52"	20.00	22.19
C28	9°42'09"	300.00	50.80
C75	30°00'00"	5.00	2.62
C76	30°00'00"	5.00	2.62
C77	58°51'52"	5.00	5.14
C78	76°45'34"	15.00	20.10



COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CURB TIE PLANS

PART 6 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. C-26
CHECKED:			
DRAWN:	REF.	SCALE:	
CHECKED:	ACC.	DATE: 4/16/2025	43 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/16/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CURB_TIE_PLANS.DWG

Curve Table			
Curve #	Delta	Radius	Length
C29	0°12'10"	1927.45	6.83
C30	18°31'00"	1901.45	614.51

N

Now or Formerly
BARRINGTON COURT CONDOMINIUM
BOOK 12646, PAGE 144 MASTER DEED
PARCEL ID – 166–72

Now or Formerly
LONGVIEW CORPORATION
C/O THAYER ASSOCIATES
BOOK 8139, PAGE 290
PARCEL ID – 166–70

Now or Formerly
SOCIETY OF SAINT JOHN THE EVANGELIST
BOOK 7584, PAGE 188
PARCEL ID – 165–24

BUILDING

PROP MEMORIAL DRIVE CONST BL

MATCH LINE STA 53+50

MEET EXIST +28.84 13.00' LT

DH TACK (HELD)

SIDEWALK

PC +22.07 13.00' LT

C29

PC +22.07

C30

MEMORIAL DRIVE

26'

ROCK ENERGY DISSIPATER +01.21 13.00' RT

ROCK ENERGY DISSIPATER +96.10 13.00' RT

ROCK ENERGY DISSIPATER +91.00 13.00' RT

MATCH LINE STA 58+50

PAVED PARKING

CONTINUED ON SHEET NO. 43

CONTINUED ON SHEET NO. 45

+69.08

53

S 46° 32' 24" E 152.98'

54

PC +22.07 13.00' RT

Δ=15° 21' 09" L=66.99' R=250.00'

433

S 46° 32' 24" E 163.70'

434

Δ=11° 29' 12" L=50.02' R=249.50'

435

Δ=1° 51' 52" L=60.88' R=1870.95'

Δ=11° 28' 16" L=49.95' R=249.50'

436

Δ=14° 57' 24" L=65.26' R=250.00'

437

56

57

58

Δ=22° 30' 47" L=752.24' R=1914.45'

59

438

Δ=9° 18' 03" L=305.82' R=1883.95'

PATH

NORTH CHARLES RELIEF SEWER

60"RCP

WF B1-49

WF B1-50

WF B1-52

WF B1-53

WF B1-54

WF B1-55

WF B1-56

WF B1-57

NORTH CHARLES RELIEF SEWER LAND TAKING
PLAN 321 OF 1976

END +55.95 22.50' RT

END +86.32 22.50' RT

CONC. HEADWALL

PROP SHARED-USE PATH CONST BL

0 20 50 100

SCALE: 1" = 20'

4/16/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CURB_TIE_PLANS.DWG

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CURB TIE PLANS
PART 7 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-27
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

Curve Table			
Curve #	Delta	Radius	Length
C30	18°31'00"	1901.45	614.51
C31	8°59'26"	767.00	120.35
C50	164°48'46"	5.00	14.38
C53	103°25'55"	5.00	9.03
C54	99°29'34"	5.00	8.68
C55	154°53'14"	1.50	4.05
C56	180°00'00"	5.83	18.32

N

MATCH LINE STA 58+50

MEET EXIST +16.00 48.13' LT

MEET EXIST +19.89 49.04' LT

PT +18.23 38.67' LT

PC +22.64 36.98' LT

PRC +13.46 32.50' LT

PT +29.31 33.52' LT

C53

C54

C55

C56

MEET EXIST +66.69 50.35' LT

MEET EXIST +72.21 40.14' LT

PRC +62.25 35.36' LT

PROP MEMORIAL DRIVE CONST BL

MEET EXIST +86.13 12.85' LT

PRC +62.88 32.50' LT

MEET EXIST +43.86 13.14' LT

SIDEWALK

MATCH LINE STA 63+85

CONTINUED ON SHEET NO. 44

C30

C31

C32

C50

Δ=22° 30' 47" L=752.24' R=1914.45'

MEMORIAL DRIVE

PRC +40.77 13.00' RT

PCC +61.88

PRC +74.31

PRC +61.89 18.63' RT

PRC +85.78

MEET EXIST +54.35 21.64' RT

Δ=9° 18' 03" L=305.82' R=1883.95'

Δ=9° 28' 20" L=123.91' R=749.50'

Δ=15° 54' 57" L=250.01' R=900.00'

PCC +24.3

CONTINUED ON SHEET NO. 46

PCC +88.56

PRC +06.47 5.50' RT

Δ=11° 45' 56" L=102.78' R=500.50'

Δ=20° 35' 26" L=381.12' R=1060.50'

L=71.26' R=500.00' Δ=8° 09' 58"

PRC +70.96 2.50' LT

PRC +71.26

L=255.27' R=2275.00' Δ=6° 25' 44"

MATCH LINE STA 58+50

MATCH LINE STA 63+85

NORTH CHARLES RELIEF SEWER LAND TAKING PLAN 321 OF 1978

PROP SHARED-USE PATH CONST BL

60"RCP

WF B1-56 WF B1-57 WF B1-58 WF B1-59 WF B1-60 WF B1-61 WF B1-62

CONC. HEADWALL

0 20 50 100

SCALE: 1" = 20'

4/16/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CURB_TIE_PLANS.DWG

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CURB TIE PLANS

PART 8 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. C-28
CHECKED:			
DRAWN:	REF.	SCALE:	
CHECKED:	ACC.	DATE: 4/16/2025	45 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

Curve Table			
Curve #	Delta	Radius	Length
C57	130°44'41"	5.00	11.41
C58	18°36'09"	60.00	19.48
C59	12°02'10"	195.00	40.96
C60	47°19'07"	12.79	10.57
C61	141°56'18"	8.17	20.24

N

MEMORIAL DRIVE

PROP MEMORIAL DRIVE CONST BL

MATCH LINE STA 63+85

PCC +24.31

Δ=12° 41' 15" L=226.99' R=1025.10'

PCC +51.31

Δ=26° 55' 51" L=299.85' R=637.93'

Δ=20° 35' 26" L=381.12' R=1060.50'

Δ=18° 58' 27" L=230.32' R=695.50'

PRC +71.26

L=255.27' R=2275.00' Δ=6° 25' 44"

PROP AGGREGATE PATH 3 CONST BL

PROP SHARED-USE PATH CONST BL

PCC +26.53

L=57.45' R=185.00' Δ=17° 47' 33"

BEGIN TRANSITION +83.98 2.50' LT

END TRANSITION +12.37 4.44' LT

PT +83.98

S 40° 19' 36" E 66.02'

BEGIN TRANSITION +83.98 2.50' RT

END TRANSITION +12.53 4.44' RT

LIMIT OF WORK STA 704+12.45 N2960038.8880 E757841.8621

PCC +99.71 5.50' LT

PRC +11.89 5.50' RT

MEET EXIST +95.82 53.42' LT

MEET EXIST +02.99 45.41' LT

MEET EXIST +80.16 48.00' LT

AP +73.18 39.50' LT

MEET EXIST +94.89 33.54' LT

MEET EXIST +40.90 8.58' LT

MEET EXIST +38.68 5.02' RT

MEET EXIST +24.36 17.84' RT

MEET EXIST +15.60 13.77' RT

PROJECT END STA 67+99.38 N2960031.4560 E758132.9979

LIMIT OF WORK STA 447+39.49 N2959995.6212 E758106.3613

JOHN F. KENNEDY STREET

NORTH CHARLES RELIEF SEWER

NORTH CHARLES RELIEF SEWER LAND TAKING PLAN 321 OF 1976

60"RCP

CONTINUED ON SHEET NO. 45

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CURB TIE PLANS

PART 9 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. C-29
CHECKED:			
DRAWN:	REF.	SCALE:	
CHECKED:	ACC.	DATE: 4/16/2025	46 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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GERRYS LANDING ROAD

GERRYS LANDING ROAD

GERRYS LANDING ROAD

GERRYS LANDING ROAD

PROP LIMIT OF WORK

PROP LIMIT OF WORK

PROP GERRY'S LANDING RD CONST BL

PROP SHARED-USE PATH CONST BL

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

PROP LIMIT OF WORK

PROP LIMIT OF WORK

LIMIT OF WORK
STA 105+37.78
N2960893.1426
E754930.3997

LIMIT OF WORK
STA 100+75.58
N2960585.0721
E755125.8821

MATCH LINE STA 406+20

MATCH LINE STA 406+20

CONTINUED ON SHEET NO. 48

ELIOT BRIDGE

BUILDING

PIER

OBSCURED

GRADING INSET
SCALE: 1" = 10'

0 20 50 100
SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
GRADING PLANS
PART 1 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. C-30
CHECKED:			
DRAWN:	REF.	SCALE:	
CHECKED:	ACC.	DATE: 4/16/2025	47 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
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BOSTON, MA 02116

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GERRYS LANDING ROAD

MEMORIAL DRIVE

LIMIT OF WORK
STA 107+82.51
N2961133.3695
E754982.8285

PROP MEMORIAL DRIVE
CONST BL

PROP HMA
CONNECTION
PATH

MATCH LINE
STA 406+20

MATCH LINE
STA 32+00

CONTINUED ON
SHEET NO. 47

CONTINUED ON
SHEET NO. 49

PROP SHARED-USE PATH CONST BL

PROP 11' HMA BI-DIRECTIONAL
SHARED-USE PATH

PROP 5' STABILIZED
AGGREGATE PATH

BUILDING

PIER

SCALE: 1" = 20'

0 20 50 100

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
GRADING PLANS
PART 2 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-31
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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N

MEMORIAL DRIVE

MEMORIAL DRIVE

BUILDING

PLAY AREA

NORTH CHARLES RELIEF SEWER LAND TAKING
PLAN 521 OF 1976

PROP MEMORIAL DRIVE CONST BL

MATCH LINE
STA 32+00

MATCH LINE
STA 37+25

MATCH LINE
STA 32+00

MATCH LINE
STA 37+25

PROP SHARED-USE PATH CONST BL

PROP 11' HMA BI-DIRECTIONAL
SHARED-USE PATH

PROP 5' STABILIZED
AGGREGATE PATH

PROP AGGREGATE
PATH 2 CONST BL

CONTINUED ON
SHEET NO. 48

CONTINUED ON
SHEET NO. 50

0 20 50 100

SCALE: 1" = 20'

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COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

GRADING PLANS

PART 3 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-32
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

N

SPARKS STREET

MEMORIAL DRIVE

MT. AUBURN STREET

MEMORIAL DRIVE

MATCH LINE STA 37+25

MATCH LINE STA 37+25

MATCH LINE STA 42+00

MATCH LINE STA 42+00

PLAY AREA

SIDEWALK

CONTINUED ON SHEET NO. 49

CONTINUED ON SHEET NO. 51

PROP MEMORIAL DRIVE CONST BL

PROP SHARED-USE PATH CONST BL

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

PROP 5' STABILIZED AGGREGATE PATH

PROP AGGREGATE PATH 2 CONST BL

NORTH CHARLES RELIEF SEWER

NORTH CHARLES RELIEF SEWER LAND TAKING PLAN 321 OF 1976

WF B1-21 WF B1-22 WF B1-23 WF B1-24 WF B1-25 WF B1-26 WF B1-27 WF B1-28 WF B1-29 WF B1-30 WF B1-31

0 20 50 100

SCALE: 1" = 20'

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COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

GRADING PLANS

PART 4 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-33
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

N

MT. AUBURN STREET

WILLARD STREET

MEMORIAL DRIVE

MEMORIAL DRIVE

MATCH LINE
STA 42+00

MATCH LINE
STA 42+00

MATCH LINE
STA 47+50

MATCH LINE
STA 47+50

CONTINUED ON
SHEET NO. 50

CONTINUED ON
SHEET NO. 52

SIDEWALK

NORTH CHARLES RELIEF SEWER LAND TAKING
PLAN 321 OF 1976

PROP AGGREGATE
PATH 2 CONST BL

PROP 11' HMA BI-DIRECTIONAL
SHARED-USE PATH

PROP SHARED-USE
PATH CONST BL

PROP 5' STABILIZED
AGGREGATE PATH

0 20 50 100

SCALE: 1" = 20'

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COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

GRADING PLANS

PART 5 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-34
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

N

HAWTHORN STREET

LIMIT OF WORK
STA 200+25
N2961437.9748
E757061.2998

ASH STREET
(PUBLIC 29.50' WIDE)

LIMIT OF WORK
STA 300+77.21
N2961276.3610
E757182.6116

MEMORIAL DRIVE

BUILDING

Now or Formerly
STRATHCONA-ON-THE-CHARLES
BOOK 12052, PAGE 14 MASTER DEED
PARCEL ID - 166-71

Now or Formerly
BARRINGTON COURT CONDOMINIUM
BOOK 12646, PAGE 144 MASTER DEED
PARCEL ID - 166-72

MATCH LINE
STA 47+50

MATCH LINE
STA 53+50

CONTINUED ON
SHEET NO. 51

CONTINUED ON
SHEET NO. 53

SIDEWALK

NORTH CHARLES RELIEF SEWER LAND TAKING
PLAN 321 OF 1976

PROP 11' HMA BI-DIRECTIONAL
SHARED-USE PATH

PROP SHARED-USE
PATH CONST BL

PROP 5' STABILIZED
AGGREGATE PATH

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

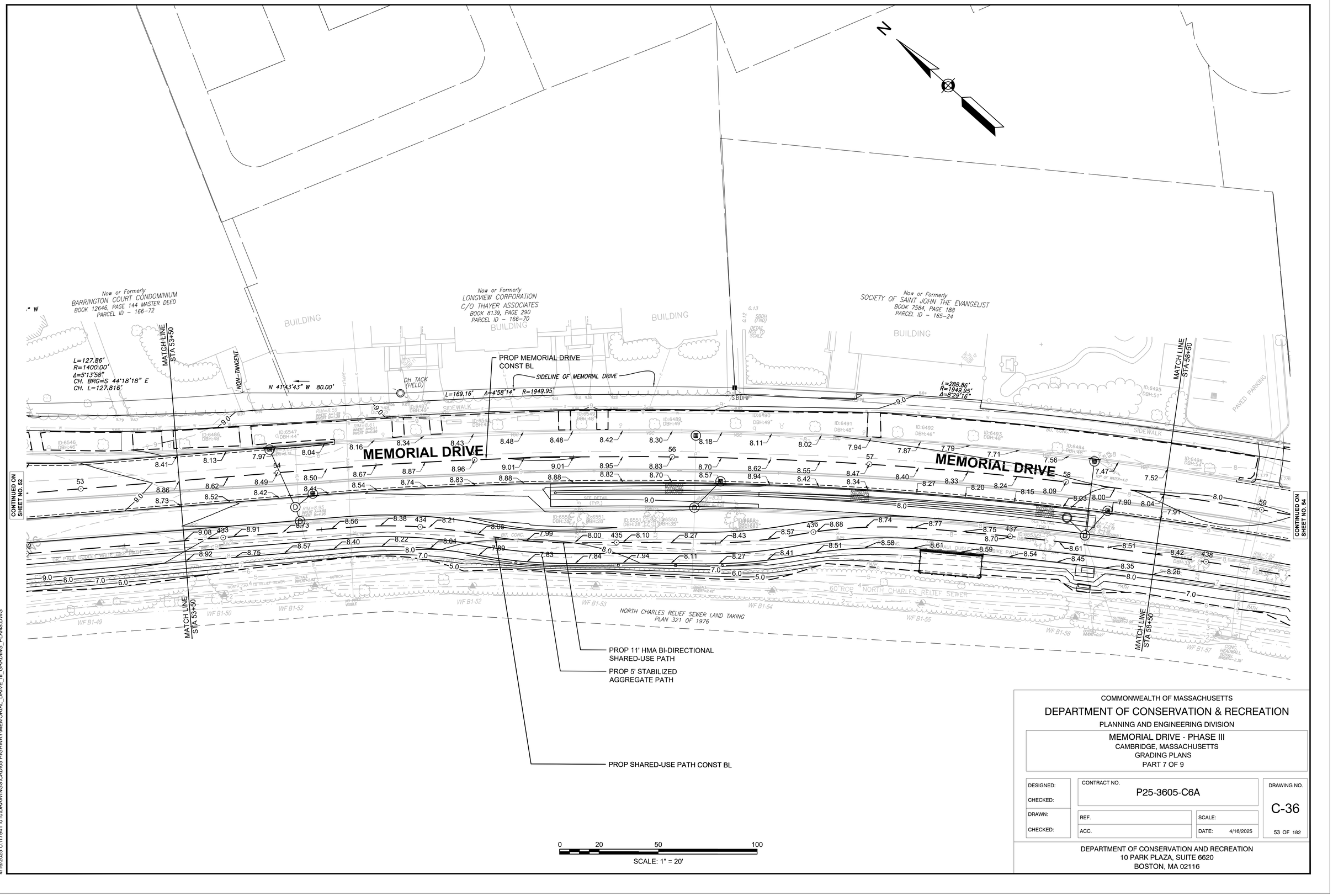
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
GRADING PLANS
PART 6 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-35
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

GRADING PLANS

PART 7 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-36
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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N

MATCH LINE STA 58+50

MATCH LINE STA 58+50

CONTINUED ON SHEET NO. 53

PROP MEMORIAL DRIVE
L=165.56'
R=1943.95'
Δ=4°46'36"

N 27°02'08" W 118.14'

NON-TANGENT

L=195.89'
R=982.60'
Δ=11°25'21"

MEMORIAL DRIVE

MATCH LINE STA 63+85

R=38.45'
R=20.00'
Δ=110°09'04"

N 29°09'34" E

CONTINUED ON SHEET NO. 55

SIDEWALK

PAVED PARKING

PATH

NORTH CHARLES RELIEF SEWER LAND TAKING PLAN 321 OF 1978

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

PROP 5' STABILIZED AGGREGATE PATH

PROP SHARED-USE PATH CONST BL

PROP AGGREGATE PATH 3 CONST BL

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

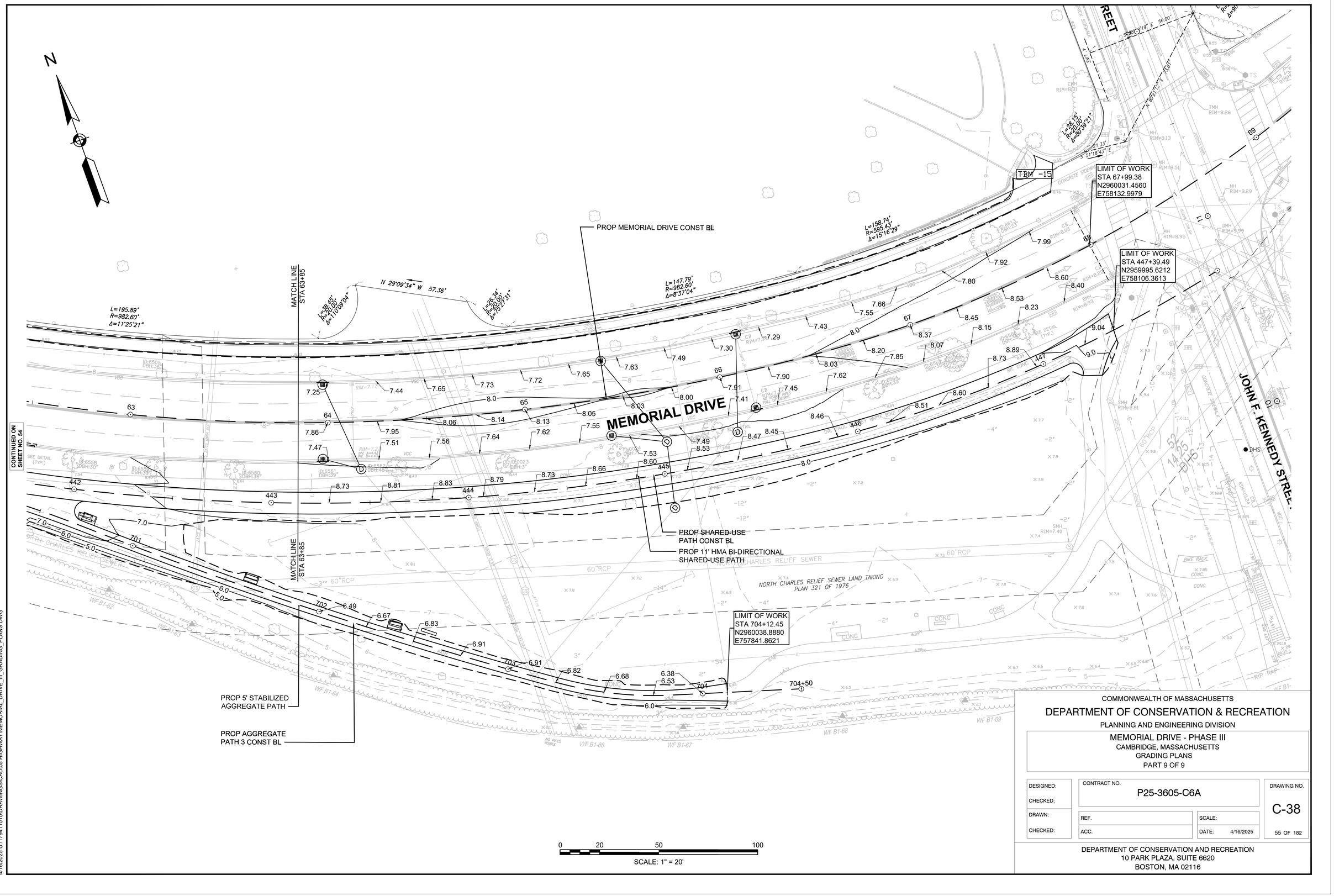
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
GRADING PLANS
PART 8 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-37
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

GRADING PLANS

PART 9 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. C-38
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

GERRYS LANDING ROAD

Arlington 2 W 3 N
Fresh Pond Pkwy.
Cambridge Memorial Dr. East

RETAIN EXISTING GUIDE SIGNS

W4-1
STOP LINE
DO NOT ENTER (RET)
RET HOSPITAL GUIDE SIGN
W4-1
WTL
SWCHL
SYL
BWL
DWLEx
SWL
DYL
R1-1
R6-1 (PBS)
R5-1
TRAFFIC ENTERING ON RIGHT (R&D)
WCL
CW
SL
NO PARKING ANYTIME (REM)
24" HEIGHT "FIRE LANE" LEGEND
R7-4
SP-1
R6-1 (PBS)
R5-1
R&D NO TRUCKS (ON LP)
4" SWL (TYP)
24" HEIGHT "NO PARKING FIRE LANE" LEGEND
PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH
PROP ACCESSIBLE PARKING SPACE MARKING (SEE DETAIL THIS SHEET)
CONTINUED ON SHEET NO. 57
ONLY
BUILDING
PIER
OBSCURED
CONC. HEADWALL
BYL
G-1
Memorial Dr. East
KEEP RIGHT
OBJECT MARKER (ON BIKE PATH) (RET)
ELIOT BRIDGE
100'-00
1.5'
11'
13'
14'
12'
3'
1'
4'
2'
101
102
103
104
105
106

ACCESSIBILITY PARKING SPACE MARKING -
24"x28" WHITE SYMBOL (3" STROKE WIDTH) ON
36"x36" BLUE MARKING (BACKGROUND) WITH 3" WHITE BORDER
(SEE FHWA STANDARD HIGHWAY SIGNS TEMPLATE)

ACCESSIBILITY PARKING SPACE MARKING
NOT TO SCALE

0 20 50 100
SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
PLANNING AND ENGINEERING DIVISION

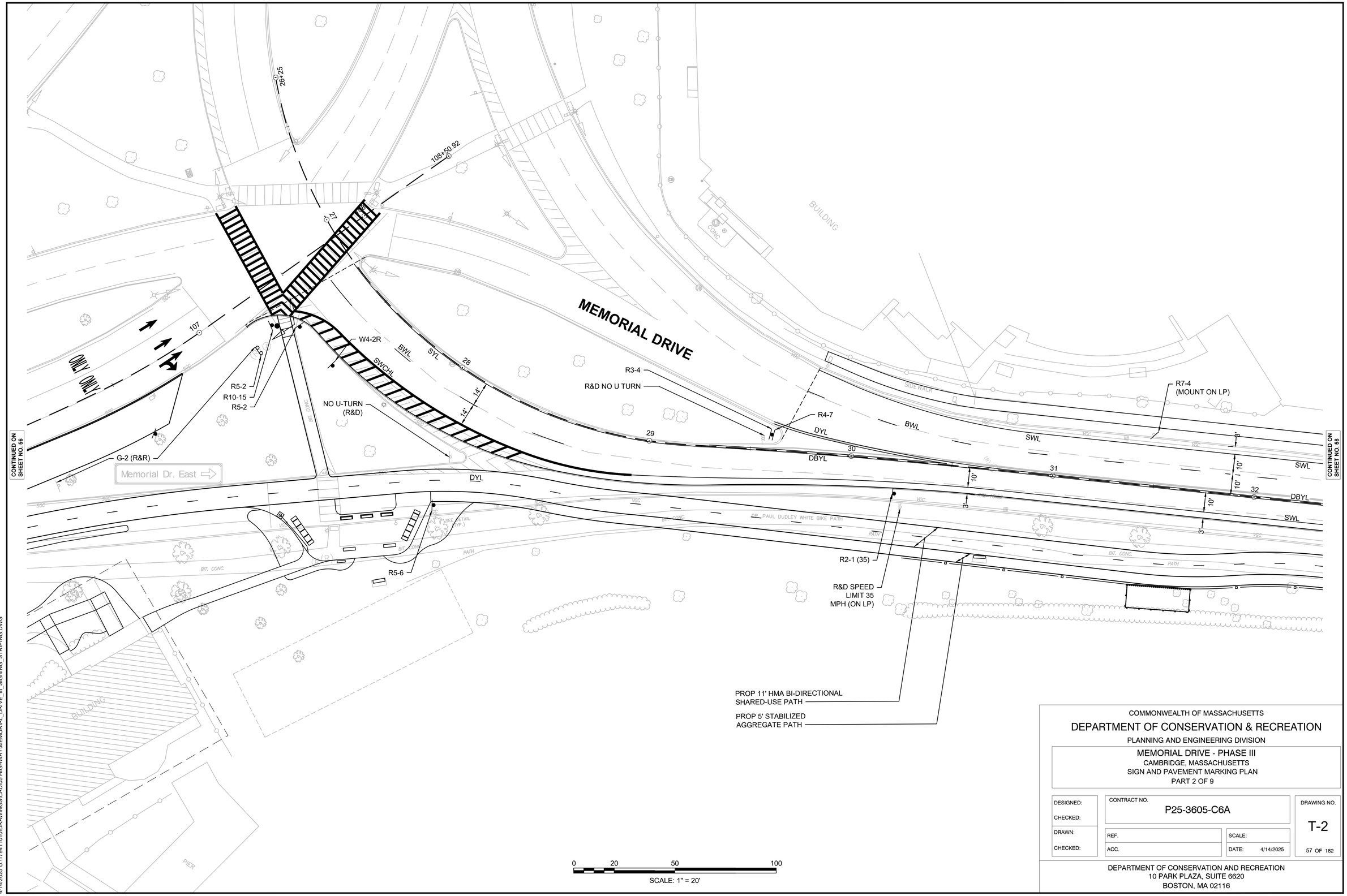
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
SIGN AND PAVEMENT MARKING PLAN
PART 1 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. T-1
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

SIGN AND PAVEMENT MARKING PLAN

PART 2 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. T-2
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/14/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

N

DCR GUIDE SIGN (RET)

BUILDING

NORTH CHARLES RELIEF SEWER LAND TAKING PLAN 321 OF 1976

PLAY AREA

SIDEWALK

MEMORIAL DRIVE

DWLEx

SWL

BWL

DBYL

DYL

SEE DETAIL (TYP.)

PAUL DUDLEY WHITE BIKE PATH

BIT. CONC. PATH

HR CONC. HEADWALL

R5-6

VGC

FSW

32 33 34 35 36 37

3' 5' 10' 10' 10' 10' 10' 3'

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

PROP 5' STABILIZED AGGREGATE PATH

CONTINUED ON SHEET NO. 57

CONTINUED ON SHEET NO. 59

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

SIGN AND PAVEMENT MARKING PLAN

PART 3 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. T-3
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/14/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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N

SPARKS STREET

PROPOSED HIGH INTENSITY
ACTIVATED CROSSWALK PEDESTRIAN
SIGNAL (SEE SIGNAL PLAN SHEET 49)

MA-R10-23a
(MOUNTED ON MA)

R10-6a

R7-4

MEMORIAL DRIVE

MT. AUBURN STREET

CONTINUED ON SHEET NO. 58

CONTINUED ON SHEET NO. 60

PLAY AREA

SIDEWALK

SWL

DBYL

SL

CW

DYL

37

38

39

40

41

42

43

10'

3'

SEE DETAIL (TYP.)

R10-6a

R5-6

MA-R10-23a
(MOUNTED
ON MA)

HR
POWC
HEADWALL

NORTH CHARLES RELIEF SEWER LAND TAKING
PLAN 321 OF 1976

PROP 11' HMA BI-DIRECTIONAL
SHARED-USE PATH

PROP 5' STABILIZED
AGGREGATE PATH

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
SIGN AND PAVEMENT MARKING PLAN
PART 4 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. T-4
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/14/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_SIGNING_STRIPING.DWG

N

MT. AUBURN STREET

MEMORIAL DRIVE

SIDEWALK

SWL

DBYL

DYL

SWL

42

43

44

45

46

47

48

4"D.

4"D.

10'

10'

3'

3'

SEE DETAIL (TYP.)

VGC

BIT. CONC.

PATH

DO PATH BICYCLE WHITE BIKE PATH

R5-6

R5-6

R&D NO LEFT TURN

NORTH CHARLES RELIEF SEWER LAND TAKING
PLAN 321 OF 1976

PROP 11' HMA BI-DIRECTIONAL
SHARED-USE PATH

PROP 5' STABILIZED
AGGREGATE PATH

CONTINUED ON
SHEET NO. 59

CONTINUED ON
SHEET NO. 61

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
SIGN AND PAVEMENT MARKING PLAN
PART 5 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. T-5
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/14/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_SIGNING_STRIPING.DWG

N

HAWTHORN STREET

20+00

MEMORIAL DRIVE

ASH STREET
(PUBLIC 29.50' WIDE)

30+00

RET PARKING REGULATIONS

R&R PARKING REGULATIONS

R&D WARNING SIGN
R&R PARKING REGULATIONS

R&D CROSSWALK SIGN

R&D HOSPITAL GUIDE SIGN

R&D CROSSWALK SIGN

D9-2
M6-1R

R&D PARKING REGULATIONS

R&D STOP
R&D DO NOT ENTER
R&D NO LEFT TURN

R1-1
R3-2

R6-1 (PBS)
R5-1

R&D PARKING REGULATIONS

RET PARKING REGULATIONS

RET HANDICAP PARKING ONLY

RET HANDICAP PARKING ONLY

RET PERMIT PARKING ONLY

R&R PARKING REGULATIONS

R&D STOP
R&D DO NOT ENTER

R&D PARKING REGULATIONS (ON UP)

R6-1 (PBS)
R5-1

R&D ASH STREET (ON UP)

MA-D3-1-A (2)
MA-D3-1-C (2)

R7-4

R&D PARKING REGULATIONS

R&D TURNING VEHICLES YIELD TO PEDS

R10-15

MA-D3-1-A(2)
MA-D3-1-B(2)

R2-1(35)

R&D SPEED LIMIT 35 MPH (ON LP)

R&D NORTH 3 WEST 2

M3-1
M1-4(3)
M3-4
MA-M1-5(2)

R7-4

SWL
DBYL
19'-8"
1'
15'-4"
7'-0"
20'-0"

SL
CW
SWL

SIDEWALK

R10-15
(MOUNTED ON MA)

R&D CROSSWALK SIGN
DO NOT ENTER

SWL
SL
SWL
R7-6R
ONLY
ONLY
R7-6L

20'-5"
20'-7"
51

R3-2

DBYL
52
DWLEx
SWL
53
SWL

30'-3"
30'-3"

3'
10'
10'
3'

48
49
50

SWL
DBYL
SWL
ONLY
10'
10'
3'
CW
SL

R10-6a

R5-2

R3-2

SEE DETAIL (TYP.)

DYL

BIT. CONC.

DR. PAUL DUDLEY WHITE BIKE PATH

PATH

VGC

R5-6

NORTH CHARLES RELIEF SEWER LAND TAKING
PLAN 321 OF 1976

HP CONC. HEADWALL

R&D YIELD HERE TO PEDS

R&D NO TRUCKS AND BUSES (ON MAST ARM)

R&D NO LEFT TURN

R5-6

PROP 5' STABILIZED AGGREGATE PATH

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

CONTINUED ON SHEET NO. 60

CONTINUED ON SHEET NO. 62

0 20 50 100

SCALE: 1" = 20'

4/14/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_SIGNING_STRIPING.DWG

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

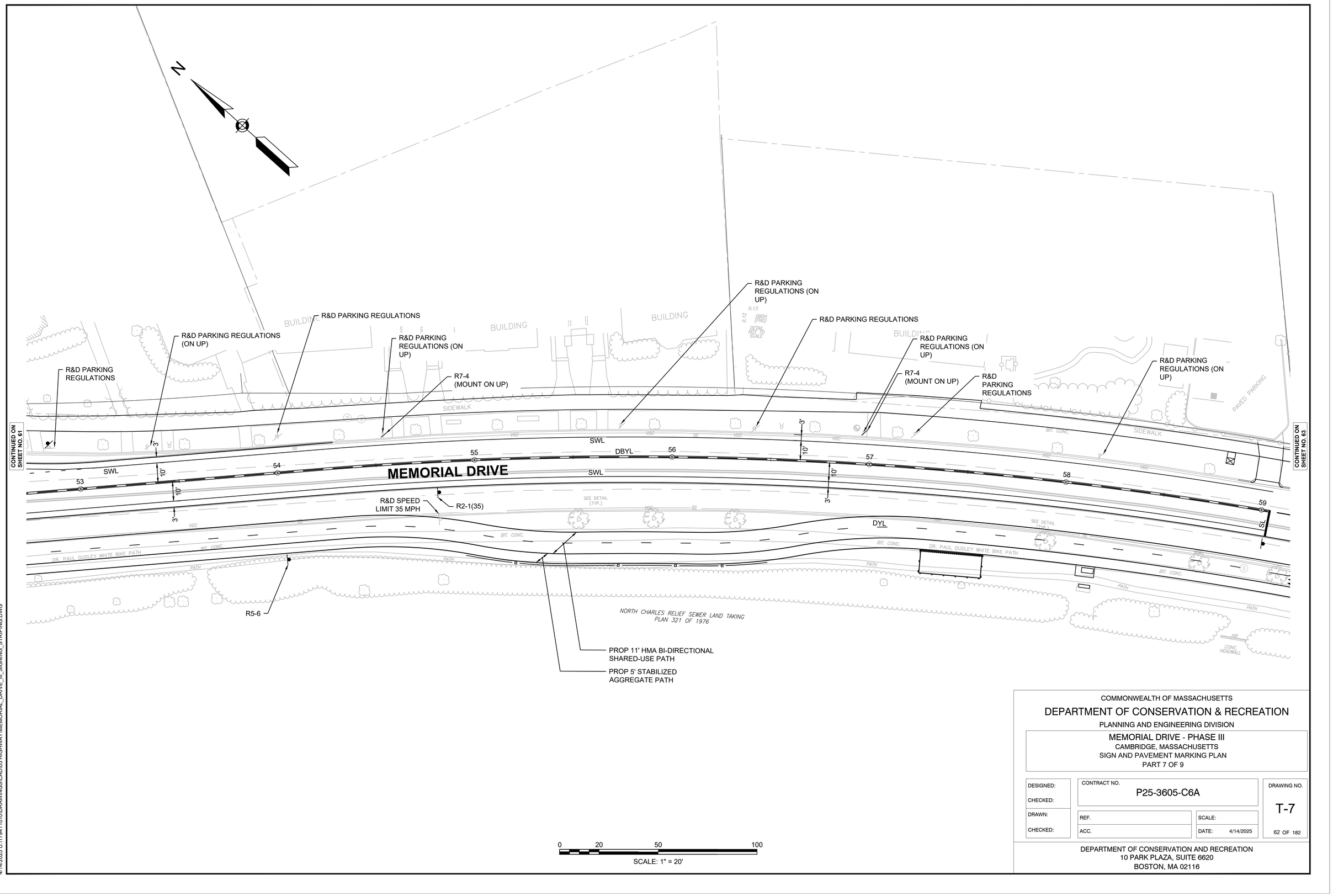
PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
SIGN AND PAVEMENT MARKING PLAN
PART 6 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. T-6
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/14/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116



4/14/2025 U:\17941010\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_SIGNING_STRIPING.DWG

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
SIGN AND PAVEMENT MARKING PLAN
PART 7 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. T-7
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/14/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

N

R&D PARKING REGULATIONS (ON UP)

R7-4 (MOUNTED ON LP)

R&D PARKING REGULATIONS (ON LP)

MA-R10-23a (MOUNTED ON MA)

R10-6a

R&D NO PARKING ANYTIME

R&D NO PARKING ANYTIME

R7-4

R7-4

R7-4

RET JFK PARK

SIDEWALK

CONTINUED ON SHEET NO. 62

58

59

60

61

62

63

64

SL

SWL

DBYL

DWLEx

DYL

BWL

CW

3'

10'

1'

BIT. CONC.

PATH

SEE DETAIL (TYP.)

DR. PAUL DUDLEY WHITE BIKE PATH

MEMORIAL DRIVE

CONTINUED ON SHEET NO. 64

R10-6a

R5-6

MA-R10-23a (MOUNTED ON MA)

PROPOSED HIGH INTENSITY ACTIVATED CROSSWALK PEDESTRIAN SIGNAL (SEE SIGNAL PLAN SHEET 72)

HR

CONC. HEADWALL

NORTH CHARLES RELIEF SEWER LAND TAKING PLAN 321 OF 1976

R5-6

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

PROP 5' STABILIZED AGGREGATE PATH

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

SIGN AND PAVEMENT MARKING PLAN

PART 8 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. T-8
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/14/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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N

RET JFK PARK

R7-4
(MOUNT ON LP)

JFK PARK
(RET)

RET
SPEED
LIMIT 35

R7-4
MOUNT ON LP

RET "NO
TRUCKS"

RET
HOSPITAL
BIKE
GUIDE
SIGN

W4-2R

MEMORIAL DRIVE

MEMORIAL DRIVE

BWL

DBYL

SWL

DYL

63

64

65

66

67

68

69

803

802

801

PI 486+71

JOHN F. KENNEDY STREET

ONLY

ONLY

10'

10'

10'

10'

CONTINUED ON
SHEET NO. 63

SEE DETAIL
(TYP.)

VGC

BIT. CONC.

CONCRETE SIDEWALK

BRICK SIDEWALK

DR. INLET W/ DUDLEY WHITE BIKE PLATE

Harvard Square

N. Harvard Street

(RET)

R&D STATE LAW YIELD TO PEDS AT CROSSWALK

PROP 11' HMA BI-DIRECTIONAL
SHARED-USE PATH

NORTH CHARLES RELIEF SEWER LAND TAKING
PLAN 321 OF 1976

R5-6

PROP 5' STABILIZED
AGGREGATE PATH

BIKE RACK

CONC.

GRANITE STEPS

RIP RAP

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
SIGN AND PAVEMENT MARKING PLAN
PART 9 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. T-9
CHECKED:			
DRAWN:	REF.	SCALE:	
CHECKED:	ACC.	DATE: 4/14/2025	64 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

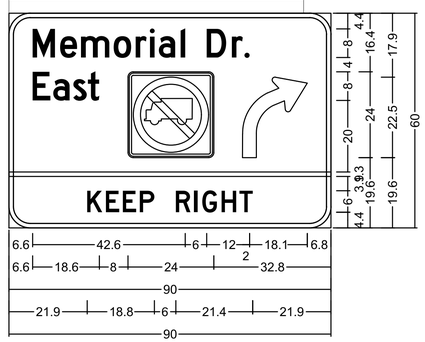
4/14/2025 U:\17941\1010\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_SIGNING_STRIPING.DWG

TRAFFIC SIGN SUMMARY

IDENTIFI-CATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND	BORDER			
R1-1	30"	30"	STOP	SEE MUTCD	SEE MUTCD	SEE MUTCD	3	RED	WHITE	WHITE	1-P5 3	6.25	18.75
R2-1(35)	24"	30"	SPEED LIMIT 35				3	WHITE	BLACK	BLACK	1-P5 3	5.00	15.00
R3-2	24"	24"					3	WHITE	RED/ BLACK	BLACK	MNT 1 ON MA MNT 1 W/R1-1 1-P5 1	4.00	12.00
R3-4	24"	24"					1	WHITE	RED/ BLACK	BLACK	MNT 1 W/ R4-7	4.00	4.00
R4-7	24"	30"					1	WHITE	BLACK	BLACK	1-P5 1	5.00	5.00
R5-1	30"	30"	DO NOT ENTER				6	RED	WHITE	WHITE	MNT 1 W/ R1-1 1-P5 5	6.25	37.50
R5-2	24"	24"					3	WHITE	RED/ BLACK	BLACK	MNT 1 ON MA MNT 1 ON DCR SIGN 1-P5 1	4.00	12.00
R5-6	18"	18"		SEE NOTE 3			12	WHITE	RED/ BLACK	BLACK	SEE NOTE 4	2.25	27.00
R6-1 (PBS)	36"	12"	ONE WAY	SEE MUTCD	SEE MUTCD	SEE MUTCD	6	WHITE /BLACK	BLACK	WHITE	MNT 1 W/ R1-1 MNT 5 W/ R5-1	3.00	18.00
R7-4	12"	18"	NO STANDING ANY TIME				14	WHITE	RED	RED	MNT 6 ON UP/LP 1-P5 8	1.50	21.00
R7-6R	12"	18"	NO PARKING LOADING ZONE				1	WHITE	RED	RED	1-P5 1	1.50	1.50
R7-6L	12"	18"	NO PARKING LOADING ZONE				1	WHITE	RED	RED	1-P5 1	1.50	1.50
R10-6a	24"	30"	STOP HERE ON RED				4	WHITE	BLACK	BLACK	1-P5 4	5.00	20.00
R10-15	30"	30"	TURNING VEHICLES TO				3	YELLOW/WHITE	BLACK /RED	BLACK	MNT 1 ON MA 1-P5 2	6.25	18.75
M1-4 (3)	24"	24"	3				1	WHITE	BLACK	BLACK	1-P5 1	4.00	4.00
M3-1	24"	12"	NORTH				1	WHITE	BLACK	BLACK	MNT 1 W/M1-4(3)	2.00	2.00
M3-4	24"	12"	WEST				1	WHITE	BLACK	BLACK	MNT 1 W/ MA-M1-5 (2)	2.00	2.00
M6-1R	21"	15"					1	BLUE	WHITE	WHITE	MNT 1 W/ D9-2	2.19	2.19
D9-2	24"	24"	H				1	BLUE	WHITE	WHITE	1-P5 1	4.00	4.00

IDENTIFI-CATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND	BORDER			
W4-1R	36"	36"		SEE MUTCD	SEE MUTCD	SEE MUTCD	2	YELLOW	BLACK	BLACK	1-P5 2	9.00	18.00
W4-2R	36"	36"					2	YELLOW	BLACK	BLACK	1-P5 2	9.00	18.00
MA-D3-1-A	51"	12"	Memorial Dr	SEE MASSDOT STANDARD			4	GREEN	WHITE	WHITE	1-P5 2	4.25	8.50
MA-D3-1-B	54"	12"	Hawthorn St				2	GREEN	WHITE	WHITE	MNT 2 W/ MA-D3-1-A	4.50	9.00
MA-D3-1-C	33"	12"	Ash St				2	GREEN	WHITE	WHITE	MNT 2 W/ MA-D3-1-A	2.75	5.50
MA-M1-5 (2)	24"	24"	2				1	WHITE	BLACK	BLACK	1-P5 1	4.00	4.00
MA-R10-23a	30"	36"	CROSSWALK STOP ON RED PROCEED ON FLASHING RED WHEN CLEAR				4	YELLLOW/WHITE (FLOUR)	RED/ BLACK	BLACK	MNT 4 ON MA	7.50	30.00
SP-1	12"	9"	EXCEPT AUTHORIZED VEHICLES	1.5" 1.5" 1.5"	1.37" 0.87" 0.87" 1.37"		2	WHITE	RED	RED	MNT 2 W/ R7-4	0.75	1.50

G-1		
7.50'	5.00'	37.50 SF
BACKGROUND	LEGEND	BORDER
GREEN REFL.	SILVER WHITE	SILVER WHITE



6.0" Radius, 1.3" Border, White on Green; "Memorial Dr.", D 2K; "East", D 2K; R5-2; right arrow; "KEEP RIGHT", D 2K;

NOTES:

1. ALL STOP AND YIELD SIGNS PROPOSED IN THIS CONTRACT ARE SUBJECT TO FIELD INVESTIGATION BY THE DISTRICT OFFICE OF THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION TO JUSTIFY WARRANTS BEFORE INSTALLATION.
2. HIGH INTENSITY ENCAPSULATED LENS REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. THE 2009 "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", THE 1990 MDPW "STANDARD DRAWINGS FOR SIGNS AND SUPPORTS", AND ALL AMENDMENTS WILL GOVERN.
3. FINAL DIMENSIONS, COLOR, LEGEND, ETC. OF R5-6 SIGN SHALL BE COORDINATED WITH DCR, THE ENGINEER, AND THE DCR SIGN SHOP. NO R5-6 SIGN SHALL BE INSTALLED PRIOR TO APPROVAL FROM DCR AND THE ENGINEER.
4. R5-6 SIGN SHALL BE INSTALLED USING POSTS MEETING THE SPECIFICATIONS OF ITEM 847.2.

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

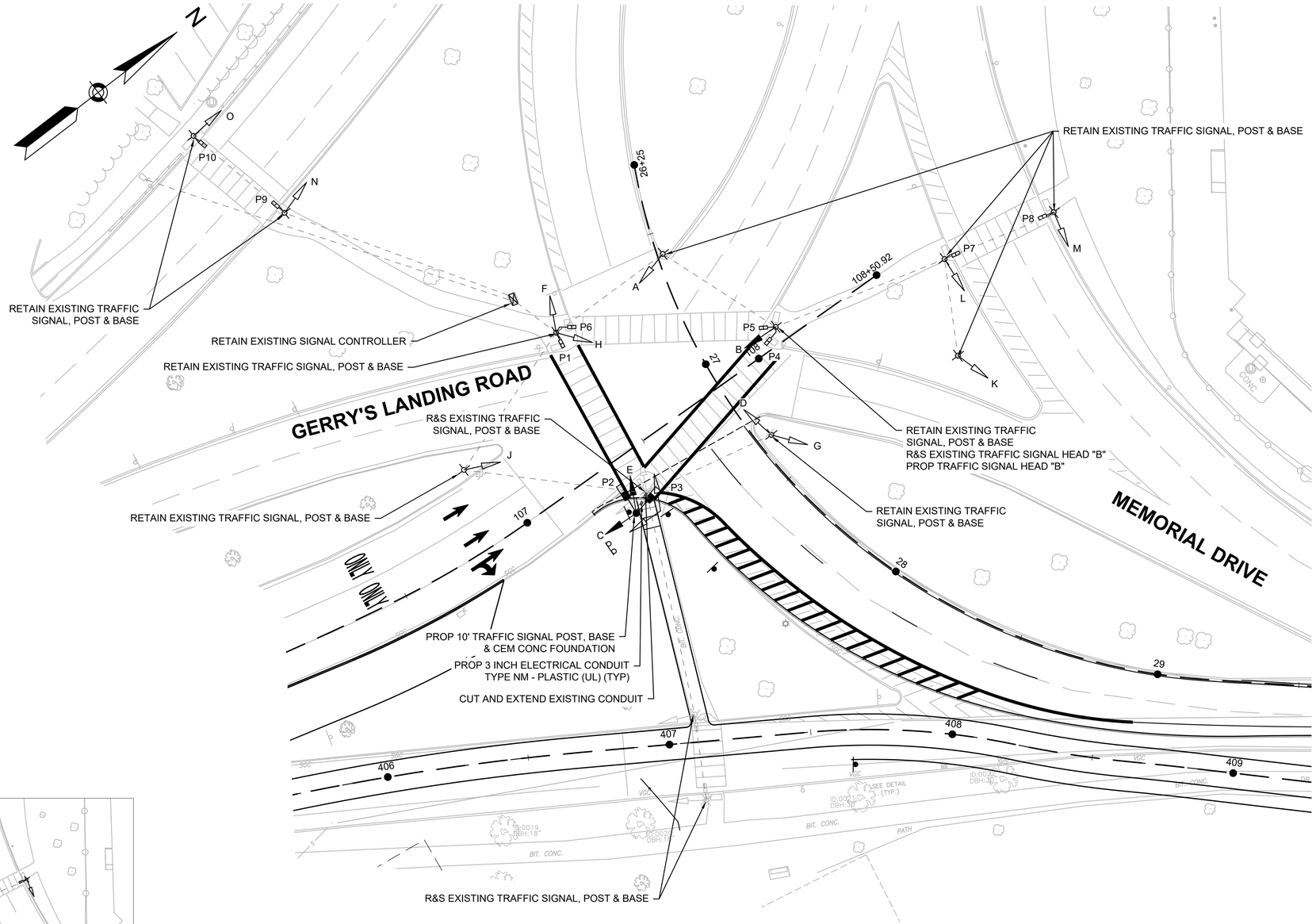
TRAFFIC SIGN SUMMARY

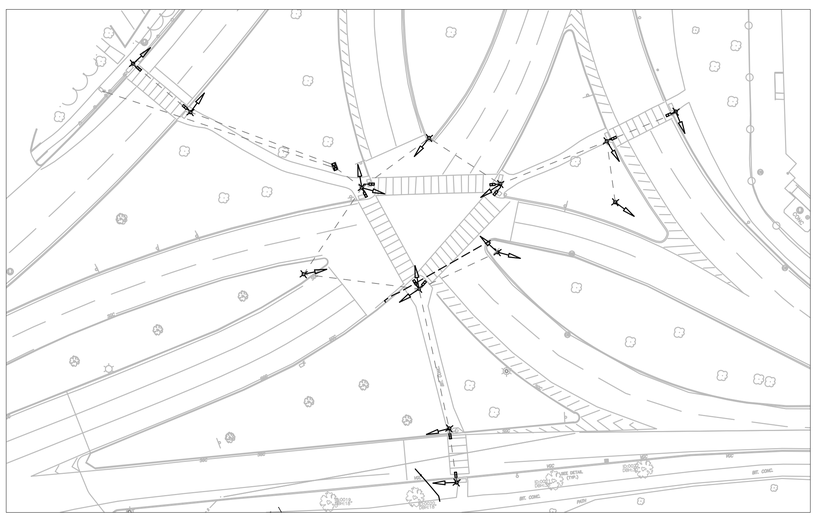
DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. T-10
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/14/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941\1010\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_SIGN_SUMMARY.DWG





EXISTING SIGNAL PLAN

SCALE: 1" = 40'

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

TRAFFIC SIGNAL PLAN

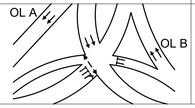
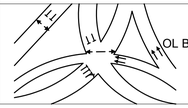
LOCATION 1 - MEMORIAL DRIVE AT GERRY'S LANDING RD

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. T-11
CHECKED:			
DRAWN:	REF.	SCALE: 1" = 20'	
CHECKED:	ACC.	DATE: 4/14/2025	66 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6
			NOT USED	NOT USED	NOT USED

SEQUENCE AND TIMING FOR PRE-TIMED CONTROL

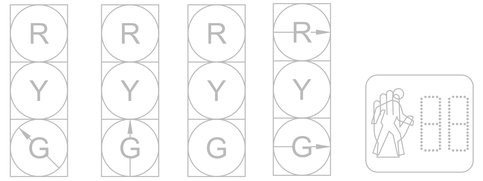
STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	19	20	21	22	23	24	25	26	27	FLASH OPER.
GERRY'S LANDING RD	EB	D,E	GSL	Y	R	R	R	R	R	R	R										FY
GERRY'S LANDING RD	EB	F	GV	Y	R	R	R	R	R	R	R										FY
GERRY'S LANDING RD	NB	A	R	R	R	GV	Y	R	R	R	R										FR
GERRY'S LANDING RD	NB	B,C	R	R	R	G	Y	R	R	R	R										FR
MEMORIAL DRIVE	SB	G	R	R	R	R	R	R	GSL	Y	R										FR
MEMORIAL DRIVE	SB	H	R	R	R	R	R	R	GV	Y	R										FR
MEMORIAL DRIVE	SB	J	R	R	R	R	R	R	G	Y	R										FR
GERRY'S LANDING RD	SB	N,O	GV	GV	GV	GV	Y	R	R	R	R										FY
MEMORIAL DRIVE	WB	K	GR	Y	RR	RR	RR	RR	GR	GR	GR										FY
MEMORIAL DRIVE	WB	L,M	GV	Y	R	R	R	R	GV	GV	GV										FY
PEDESTRIAN	ALL	P1-P2	W	FDW	DW	DW	DW	DW	DW	DW	DW										OUT
PEDESTRIAN	ALL	P3-P4	DW	DW	DW	W	FDW	DW	DW	DW	DW										OUT
PEDESTRIAN	ALL	P5-P6	DW	DW	DW	DW	DW	DW	W	FDW	DW										OUT
PEDESTRIAN	ALL	P7-P8	DW	DW	DW	W	FDW	DW	DW	DW	DW										OUT
PEDESTRIAN	ALL	P9-P10	DW	DW	DW	W	FDW	DW	W	FDW	DW										OUT
TIMING IN SECONDS																					
MINIMUM GREEN (INITIAL)			10			10			10												EMERGENCY ONLY
PASSAGE TIME (VEHICLE)			2			2			2												
MAXIMUM 1			50			50			25												
MAXIMUM 2			30			60			25												
YELLOW CLEARANCE				3.5			3.5			3.5											
RED CLEARANCE					3			3			3										
WALK (W)																					
PEDESTRIAN CLEARANCE																					
RECALL				MAX			MAX			MAX											
MEMORY				-			-			-											

TECHNICAL NOTES

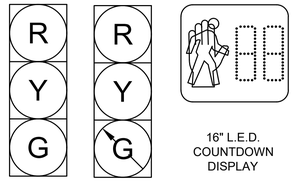
1. FLASHING OPERATION PER M.U.T.C.D. SECTION 4D.28 THROUGH SECTION 4D.31

2. MAX I = ALL OTHER TIMES
   MAX II = MON-FRI, 3PM - 6PM

SIGNAL IDENTIFICATION



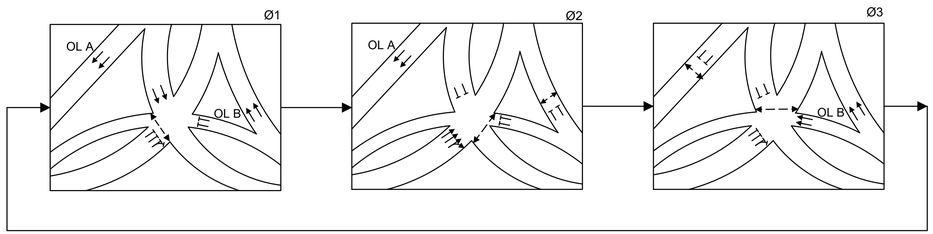
D,G | A,F,H,L M,N,O | J | K | P1, P4-P10



B,C | E | 16" L.E.D. COUNTDOWN DISPLAY | P2,P3

NOTE:
1. ALL VEHICLE INDICATIONS SHALL BE 12" LED AND BE EQUIPPED WITH TUNNEL VISORS.

PREFERENTIAL PHASING DIAGRAM



MAJOR ITEM LIST		
ITEM	QTY.	DESCRIPTION
816.01	1	10 FT TRAFFIC SIGNAL POST, BASE & CEM CONC FOUNDATION
	1	1-WAY, 3 SECTION SIGNAL HEAD, 12" L.E.D. LENS (W/ VISORS)
	1	2-WAY, 3 SECTION SIGNAL HEAD, 12" L.E.D. LENS (W/ VISORS)
	2	PEDESTRIAN SIGNAL HEAD (L.E.D.), WITH COUNTDOWN DISPLAY

PLUS ALL NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIALS AND EQUIPMENT TO COMPLETE THE INSTALLATION.

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

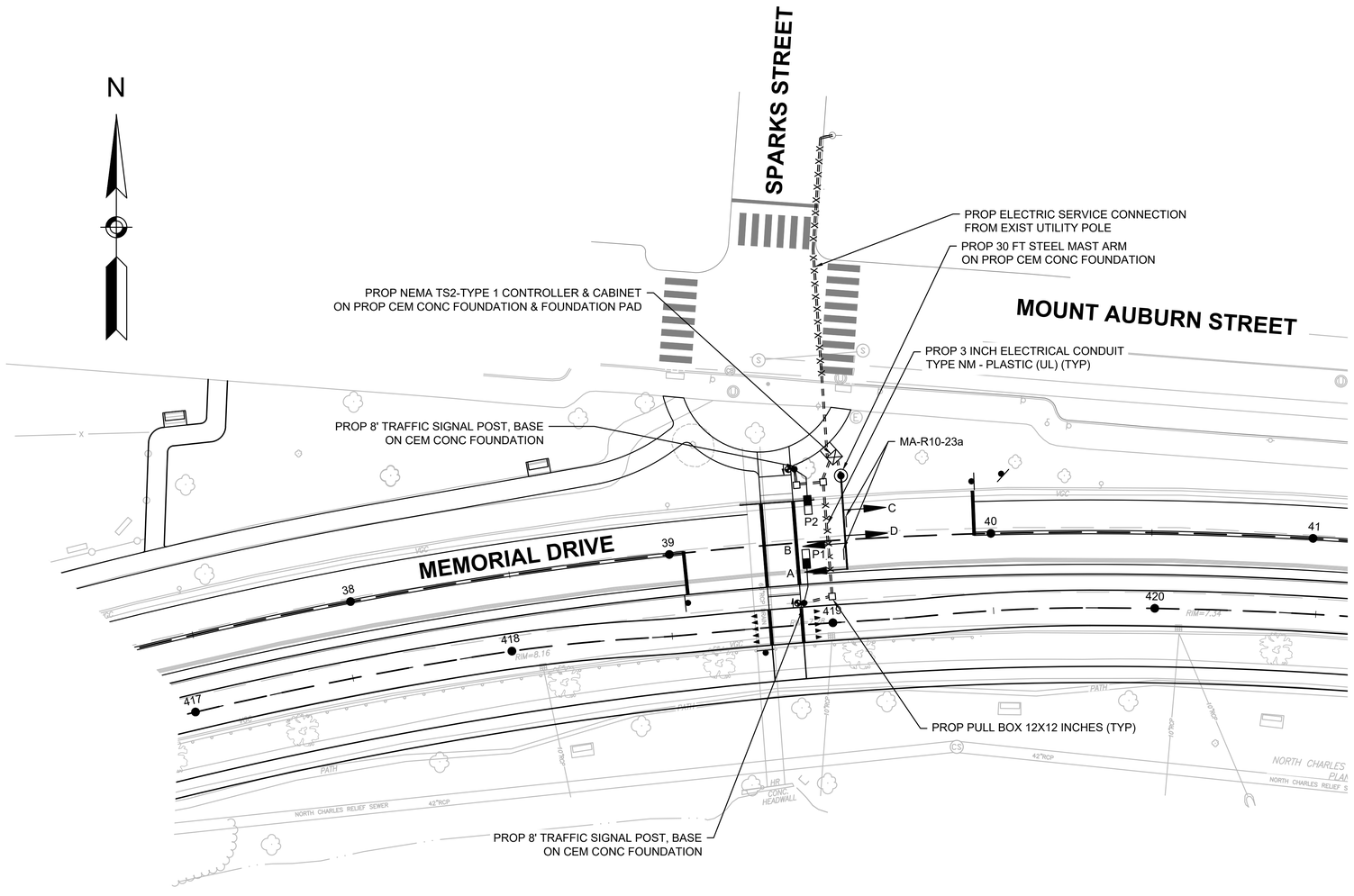
PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TRAFFIC SIGNAL DATA
LOCATION 1 - MEMORIAL DRIVE AT GERRY'S LANDING RD

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. T-12
CHECKED:		
DRAWN:	REF.	SCALE: N/A
CHECKED:	ACC.	DATE: 4/14/2025
		67 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

TRAFFIC SIGNAL PLAN

LOCATION 2 - MEMORIAL DR MID-BLOCK CROSSING

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. T-13
CHECKED:			
DRAWN:	REF.	SCALE: 1" = 20'	
CHECKED:	ACC.	DATE: 4/14/2025	68 OF 182

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BOSTON, MA 02116

4/14/2025 U:\17941\10\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_SIGNAL.DWG

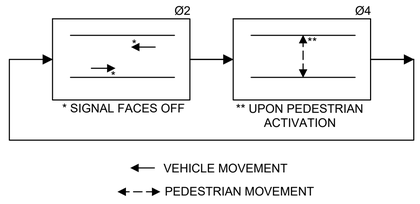
PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8	PHASE 9
NOT USED		NOT USED		NOT USED	NOT USED	NOT USED	NOT USED	NOT USED

SEQUENCE AND TIMING FOR PEDESTRIAN-ACTUATED TRAFFIC SIGNAL CONTROL

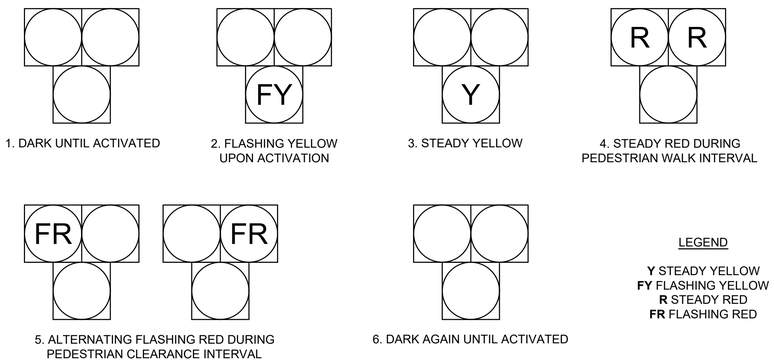
STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27		FLASH OPER.
MEMORIAL DRIVE	EB / WB	A,B,C,D				OUT	FY	Y	R				R	FR	FR															OUT
PEDESTRIAN	ALL	P1-P2				DW	DW	DW	DW				W	FDW	DW																OUT
TIMING IN SECONDS																															
MINIMUM GREEN (INITIAL)						40																								EMERGENCY ONLY	
PASSAGE TIME (VEHICLE)																															
MAXIMUM 1																															
MAXIMUM 2																															
YELLOW CLEARANCE							3	4																							
RED CLEARANCE									1																						
WALK (W)													7																		
PEDESTRIAN CLEARANCE														8	4																
RECALL						SOFT							OFF																		
MEMORY						NON-LOCK							LOCK (PED)																		

AR = ALTERNATING RED

PREFERENTIAL PHASING DIAGRAM



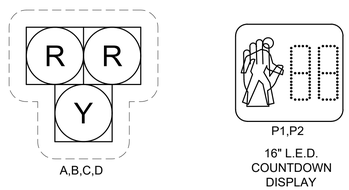
SEQUENCE FOR PEDESTRIAN HYBRID BEACON



LEGEND

Y STEADY YELLOW
FY FLASHING YELLOW
R STEADY RED
FR FLASHING RED

SIGNAL FACES



NOTE:
1. ALL VEHICLE INDICATIONS SHALL BE 12" LED AND BE EQUIPPED WITH TUNNEL VISORS.
2. ALL VEHICLE INDICATIONS SHALL BE BE EQUIPPED WITH 5" NON-LOUVERED BACKPLATES WITH 3" REFLECTORIZED YELLOW BORDER.

MAJOR ITEM LIST		
ITEM	QTY.	DESCRIPTION
815.2	1	TRAFFIC SIGNAL CONTROLLER (TS-2, TYPE 1) TYPE 4DW W/ 4DW CABINET & CEM CONC FOUNDATION AND PAD
	1	30 FT MAST ARM (STEEL), W/ BASE AND CEM CONCRETE FOUNDATION (W/ 2 - MA-R10-23a)
	2	8 FT TRAFFIC SIGNAL POST, BASE & CEM CONC FOUNDATION
	4	1-WAY, 3 SECTION SIGNAL HEAD, 12" L.E.D. LENS (W/ VISORS)
	4	5" NON-LOUVERED BACKPLATES WITH 3" RETROREFLECTIVE (YELLOW) BORDER
	2	PEDESTRIAN SIGNAL HEAD (L.E.D.), WITH COUNTDOWN DISPLAY
	2	ACCESSIBLE PEDESTRIAN SIGNAL PUSH BUTTON ASSEMBLY (INCL. SIGN & SADDLE)
	1	SERVICE CONNECTION (UNDERGROUND - ELECTRIC)
804.3	200	LF 3 INCH ELECTRICAL CONDUIT TYPE NM - PLASTIC (UL)
811.31	2	12"x12" PULL BOX -SD2.031

PLUS ALL NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIALS AND EQUIPMENT TO COMPLETE THE INSTALLATION.

SEQUENCE & TIMING NOTES

1. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY.
2. VEHICULAR SIGNAL HEADS SHALL BE ON DARK MODE IF THERE IS NO PEDESTRIAN ACTIVATION.
3. THE HYBRID BEACON SHALL OPERATE THROUGH NORMAL SEQUENCE WHEN ACTIVATED BY PUSH BUTTON. DURATION OF HYBRID BEACON OPERATION UPON RECEIPT OF A VALID CALL SHALL BE AS SHOWN ON THE SEQUENCE AND TIMING CHART.
4. SUCCESSIVE PEDESTRIAN ACTIVATION WILL HAVE A MINIMUM DELAY OF 40 SECONDS OF GREEN TIME ON MEMORIAL DRIVE.
5. PEDESTRIAN COUNTDOWN DISPLAY SHALL ONLY BE DISPLAYED DURING THE ALTERNATING FLASHING RED INTERVAL.

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

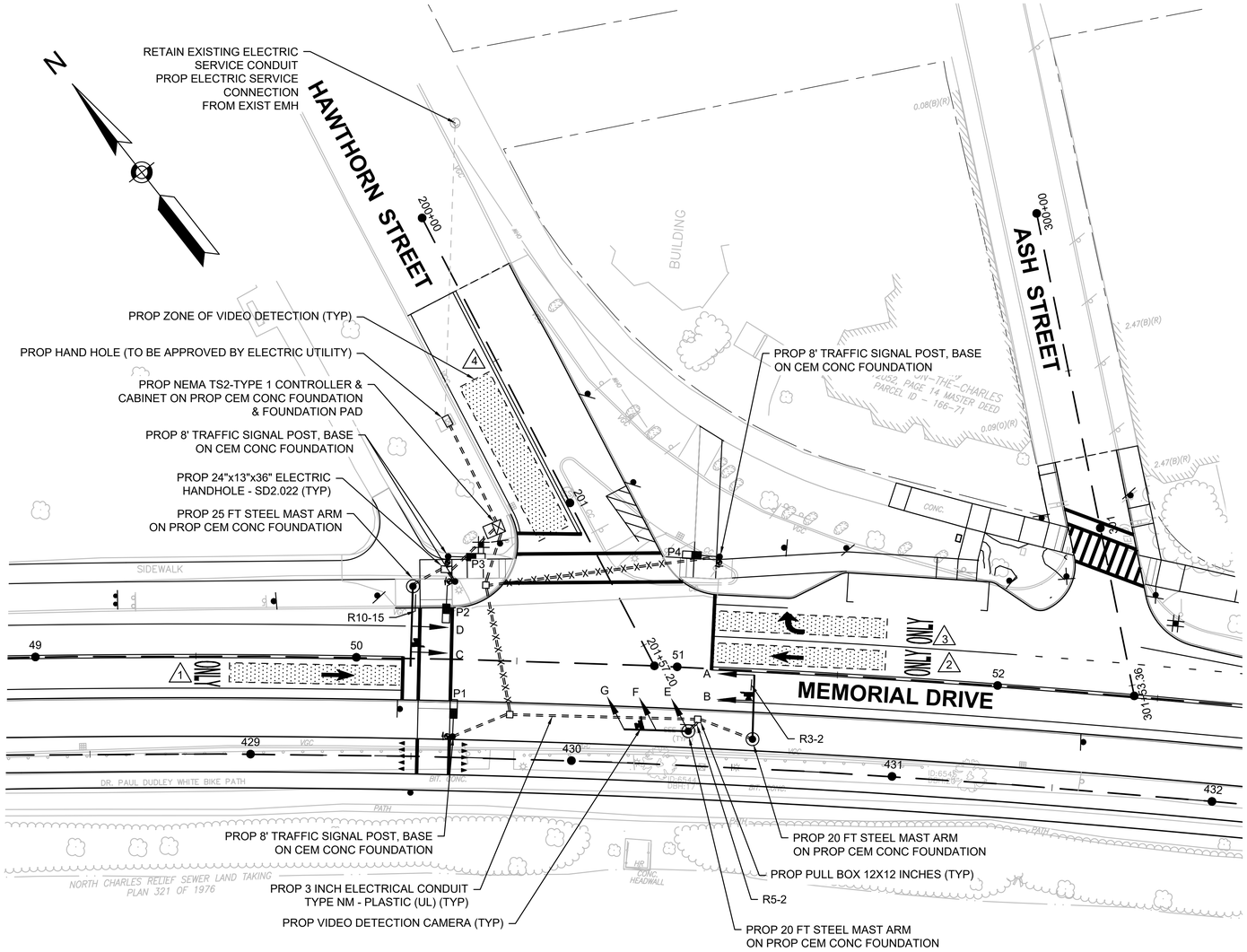
PLANNING AND ENGINEERING DIVISION

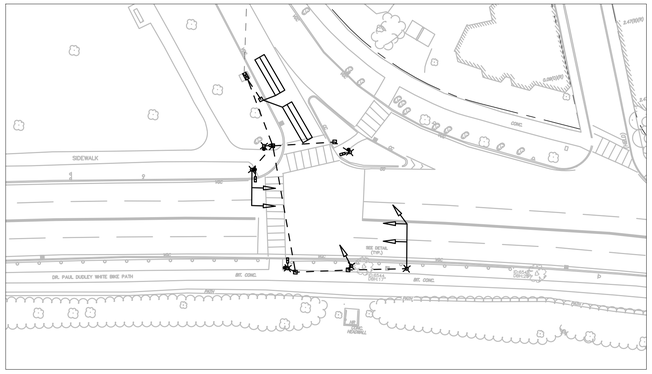
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TRAFFIC SIGNAL DATA
LOCATION 2 - MEMORIAL DR MID-BLOCK CROSSING

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. T-14
CHECKED:			
DRAWN:	REF.	SCALE: N/A	
CHECKED:	ACC.	DATE: 4/14/2025	69 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_SIGNAL.DWG





EXISTING SIGNAL PLAN

SCALE: 1" = 40'

0 20 50 100

SCALE: 1" = 20'

4/14/2025 U:\17941\1010\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_SIGNAL.DWG

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

TRAFFIC SIGNAL PLAN

LOCATION 3 - MEMORIAL DRIVE AT HAWTHORN STREET

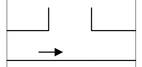
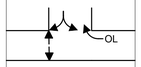
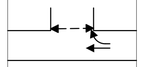
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CHECKED:			
DRAWN:	REF.	SCALE: 1" = 20'	70 OF 182
CHECKED:	ACC.	DATE: 4/14/2025	

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116



HAWTHORN STREET

MEMORIAL DRIVE

PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8	PHASE 9
NOT USED		NOT USED		NOT USED		NOT USED	NOT USED	NOT USED

SEQUENCE AND TIMING FOR FULL ACTUATED CONTROL

STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	FLASH OPER.
MEMORIAL DRIVE	EB	A				R	GV	Y	R				R	R	R	R				R	R	R	R										FY
MEMORIAL DRIVE	EB	B				R	G	Y	R				R	R	R	R				R	R	R	R										FY
MEMORIAL DRIVE	WB	C				R	R	R	R				R	R	R	R				R	G	Y	R										FY
MEMORIAL DRIVE	WB	D				R	R	R	R				R	R/GR	R/YR	R				R	G	Y	R										FY
HAWTHORN STREET	SB	E,F,G				R	R	R	R				R	G	Y	R				R	R	R	R										FR
PEDESTRIAN	ALL	P1-P2				DW	DW	DW	DW				W	W/FDW	DW	DW				DW	DW	DW	DW										OUT
PEDESTRIAN	ALL	P3-P4				DW	DW	DW	DW				DW	DW	DW	DW				W	W/FDW	DW	DW										OUT
TIMING IN SECONDS																																	
MINIMUM GREEN (INITIAL)							10							6							10												EMERGENCY ONLY
PASSAGE TIME (VEHICLE)							2							2							2												
MAXIMUM 1							45							45							45												
MAXIMUM 2							35							35							35												
YELLOW CLEARANCE								4							3							4											
RED CLEARANCE									1							2							1										
WALK (W)						3	4						3	4						3	4												
PEDESTRIAN CLEARANCE														9							14												
RECALL							SOFT							OFF							SOFT												
MEMORY							NON-LOCK							LOCK (PED)							LOCK (PED)												

TECHNICAL NOTES

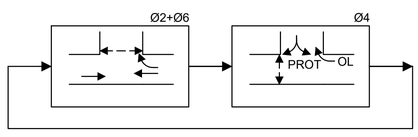
1. ANY PHASE NOT CALLED WILL BE SKIPPED. SIGNAL INDICATION WILL NOT CHANGE IF THE ASSIGNED RIGHT OF WAY DOES NOT CHANGE DURING THE NEXT PHASE CALLED.

2. THE RIGHT-OF-WAY MAY BE ASSIGNED TO ANY PHASE OR ANY COMBINATION OF NON-CONFLICTING PHASES. IF CALLS EXIST ON ALL PHASES, THE RIGHT-OF-WAY SHALL BE ASSIGNED IN ACCORDANCE WITH THE PREFERENTIAL PHASING SEQUENCE.

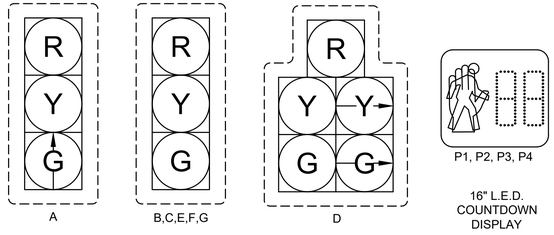
3. FLASHING OPERATION PER M.U.T.C.D. SECTION 4D.28 THROUGH SECTION 4D.31

3. MAX I = ALL OTHER TIMES
MAX II = MON-FRI, 3PM - 6PM

PREFERENTIAL PHASING DIAGRAM



SIGNAL IDENTIFICATION



NOTES:
1. ALL VEHICLE INDICATIONS SHALL BE 12" LED AND BE EQUIPPED WITH TUNNEL VISORS.
2. ALL VEHICLE INDICATIONS SHALL BE EQUIPPED WITH 5" NON-LOUVERED BACKPLATES WITH 3" REFLECTORIZED YELLOW BORDER.

MAJOR ITEM LIST		
ITEM	QTY.	DESCRIPTION
816.03	1	TRAFFIC SIGNAL CONTROLLER (TS-2, TYPE 1) TYPE 8DW W/ 8DW CABINET, & CEM CONC FOUNDATION & PAD
	1	25 FT MAST ARM (STEEL), W/ BASE AND CEM CONCRETE FOUNDATION (W/ R10-15)
	1	20 FT MAST ARM (STEEL), W/ BASE AND CEM CONCRETE FOUNDATION (W/ R3-2)
	1	20 FT MAST ARM (STEEL), W/ BASE AND CEM CONCRETE FOUNDATION
	4	8 FT TRAFFIC SIGNAL POST, BASE & CEM CONC FOUNDATION
	6	1-WAY, 3 SECTION SIGNAL HEAD, 12" L.E.D. LENS (W/ VISORS)
	1	1-WAY, 5 SECTION SIGNAL HEAD, 12" L.E.D. LENS (W/ VISORS)
	7	5" NON-LOUVERED BACKPLATES WITH 3" RETROREFLECTIVE (YELLOW) BORDER
	4	PEDESTRIAN SIGNAL HEAD (L.E.D.), WITH COUNTDOWN DISPLAY
	4	ACCESSIBLE PEDESTRIAN SIGNAL PUSH BUTTON ASSEMBLY (INCL. SIGN & SADDLE)
	1	VIDEO DETECTION SYSTEM
	1	SERVICE CONNECTION (UNDERGROUND - ELECTRIC)
804.3	300	FT - 3 INCH ELECTRICAL CONDUIT TYPE NM - PLASTIC (UL)
811.31	3	12"x12" PULL BOX -SD2.031
811.22	2	24"x13"x36" ELECTRIC HANDHOLE -SD2.022

PLUS ALL NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIALS AND EQUIPMENT TO COMPLETE THE INSTALLATION.

DETECTOR OPERATION								
DETECTION ZONE	ZONE SIZE (FT)	PROCESSOR NO.	CHANNEL NO.	Ø CALLED	Ø EXT.	MODE: A=PULSE B=PRES. C=CALLING	DELAY (SEC)	EXT. (SEC)
1	6X54	1	1	2	2	B	-	-
2	6X54	1	2	6	6	B	-	-
3	6X54	2	1	6	6	B	-	-
4	10X54	2	2	4	4	B	5	-

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

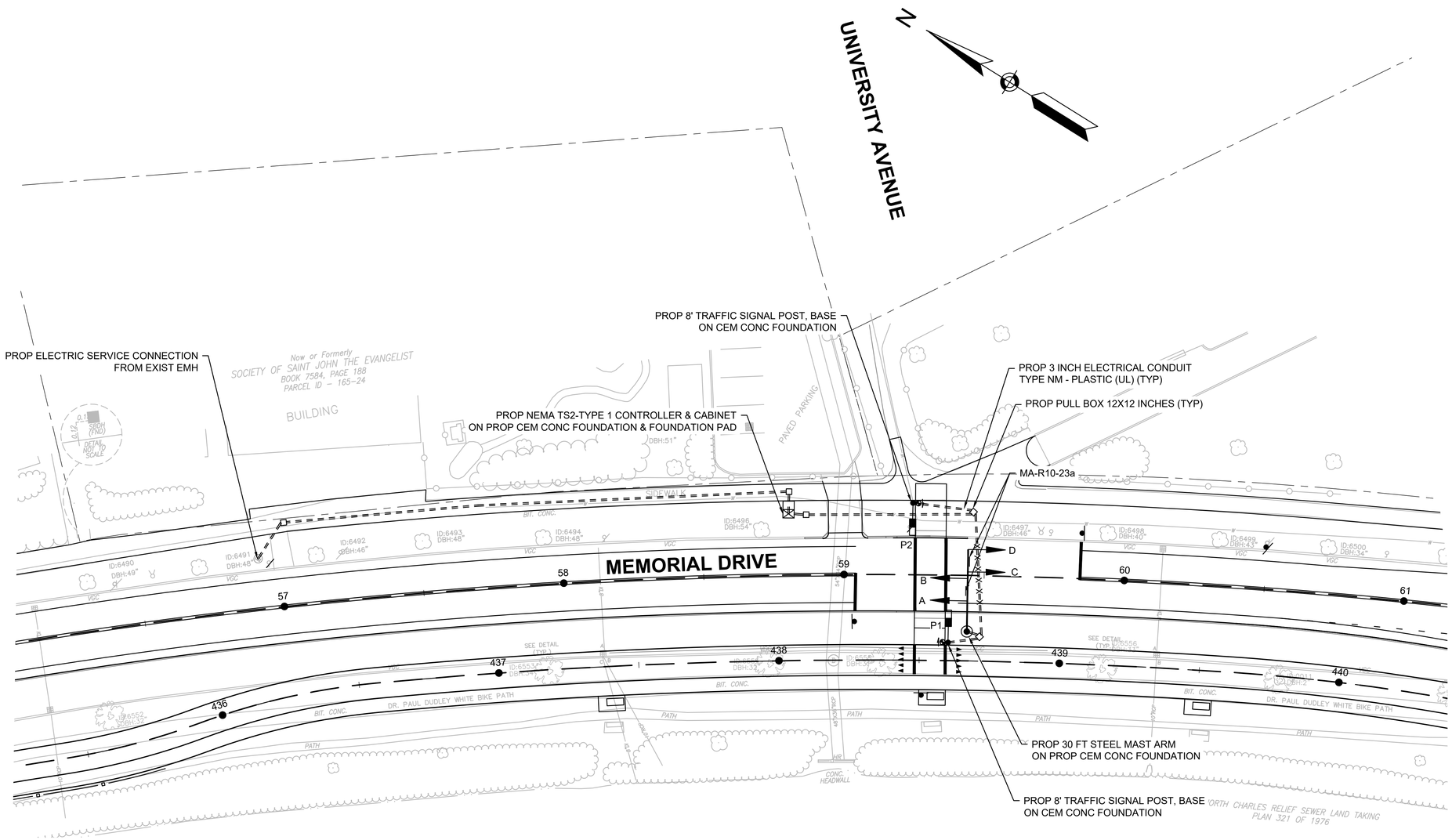
PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TRAFFIC SIGNAL DATA
LOCATION 3 - MEMORIAL DRIVE AT HAWTHORN STREET

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. T-16
CHECKED:			
DRAWN:	REF.	SCALE: N/A	
CHECKED:	ACC.	DATE: 4/14/2025	71 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941\1010\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_SIGNAL.DWG



0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TRAFFIC SIGNAL PLAN
LOCATION 4 - MEMORIAL DRIVE MID-BLOCK CROSSING

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. T-17
CHECKED:		
DRAWN:	REF.	SCALE: 1" = 20'
CHECKED:	ACC.	DATE: 4/14/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_SIGNAL.DWG

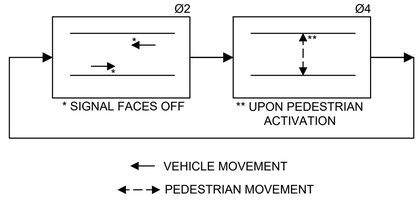
PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8	PHASE 9
NOT USED		NOT USED		NOT USED	NOT USED	NOT USED	NOT USED	NOT USED

SEQUENCE AND TIMING FOR PEDESTRIAN-ACTUATED TRAFFIC SIGNAL CONTROL

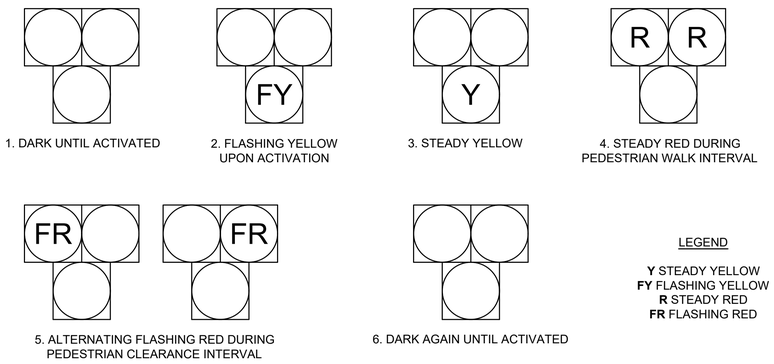
STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27		FLASH OPER.
MEMORIAL DRIVE	EB / WB	A,B,C,D				OUT	FY	Y	R				R	FR	FR																OUT
PEDESTRIAN	ALL	P1-P2				DW	DW	DW	DW				W	FDW	DW																OUT
TIMING IN SECONDS																															
MINIMUM GREEN (INITIAL)						40																								EMERGENCY ONLY	
PASSAGE TIME (VEHICLE)																															
MAXIMUM 1																															
MAXIMUM 2																															
YELLOW CLEARANCE							3	4																							
RED CLEARANCE									1																						
WALK (W)													7																		
PEDESTRIAN CLEARANCE														8	4																
RECALL						SOFT							OFF																		
MEMORY						NON-LOCK							LOCK (PED)																		

AR = ALTERNATING RED

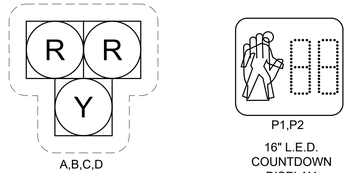
PREFERENTIAL PHASING DIAGRAM



SEQUENCE FOR PEDESTRIAN HYBRID BEACON



SIGNAL FACES



NOTE:
1. ALL VEHICLE INDICATIONS SHALL BE 12" LED AND BE EQUIPPED WITH TUNNEL VISORS.
2. ALL VEHICLE INDICATIONS SHALL BE BE EQUIPPED WITH 5" NON-LOUVERED BACKPLATES WITH 3" REFLECTORIZED YELLOW BORDER.

MAJOR ITEM LIST		
ITEM	QTY.	DESCRIPTION
815.4	1	TRAFFIC SIGNAL CONTROLLER (TS-2, TYPE 1) TYPE 4DW W/ 4DW CABINET & CEM CONC FOUNDATION AND PAD
	1	30 FT MAST ARM (STEEL) BASE AND CEM CONCRETE FOUNDATION (W/ 2 - MA-R10-23a)
	2	8 FT TRAFFIC SIGNAL POST, BASE & CEM CONC FOUNDATION
	4	1-WAY, 3 SECTION SIGNAL HEAD, 12" L.E.D. LENS (W/ VISORS)
	4	5" NON-LOUVERED BACKPLATES WITH 3" RETROREFLECTIVE (YELLOW) BORDER
	2	PEDESTRIAN SIGNAL HEAD (L.E.D.), WITH COUNTDOWN DISPLAY
	2	ACCESSIBLE PEDESTRIAN SIGNAL PUSH BUTTON ASSEMBLY (INCL. SIGN & SADDLE)
	1	SERVICE CONNECTION (UNDERGROUND - ELECTRIC)
804.3	340	LF 3 INCH ELECTRICAL CONDUIT TYPE NM - PLASTIC (UL)
811.31	5	12"x12" PULL BOX -SD2.031

PLUS ALL NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIALS AND EQUIPMENT TO COMPLETE THE INSTALLATION.

SEQUENCE & TIMING NOTES

1. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY.
2. VEHICULAR SIGNAL HEADS SHALL BE ON DARK MODE IF THERE IS NO PEDESTRIAN ACTIVATION.
3. THE HYBRID BEACON SHALL OPERATE THROUGH NORMAL SEQUENCE WHEN ACTIVATED BY PUSH BUTTON. DURATION OF HYBRID BEACON OPERATION UPON RECEIPT OF A VALID CALL SHALL BE AS SHOWN ON THE SEQUENCE AND TIMING CHART.
4. SUCCESSIVE PEDESTRIAN ACTIVATION WILL HAVE A MINIMUM DELAY OF 40 SECONDS OF GREEN TIME ON MEMORIAL DRIVE.
5. PEDESTRIAN COUNTDOWN DISPLAY SHALL ONLY BE DISPLAYED DURING THE ALTERNATING FLASHING RED INTERVAL.

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

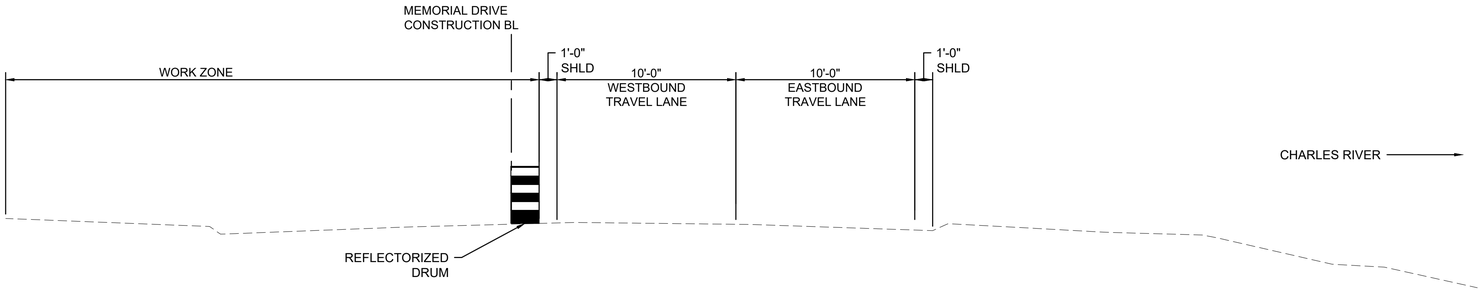
TRAFFIC SIGNAL DATA

LOCATION 4 - MEMORIAL DR MID-BLOCK CROSSING

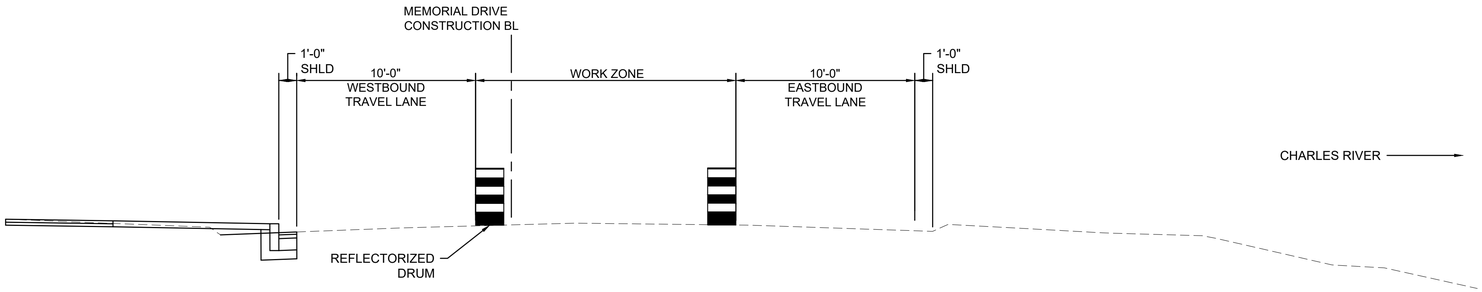
DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. T-18
CHECKED:			
DRAWN:	REF.	SCALE: N/A	
CHECKED:	ACC.	DATE: 4/14/2025	73 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

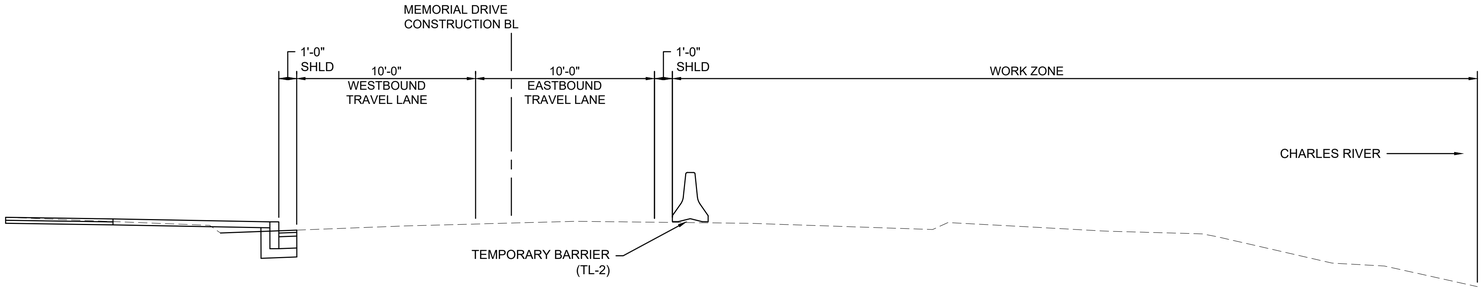
4/14/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_SIGNAL.DWG



STAGE 1
(LOOKING UP STATION)
SCALE: 1" = 4'



STAGE 2
(LOOKING UP STATION)
SCALE: 1" = 4'



STAGE 3
(LOOKING UP STATION)
SCALE: 1" = 4'

HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

GENERAL NOTES:

1. GENERALLY, WORK ON THIS PROJECT IS TO BE DONE USING ONE (1) 8-HOUR SHIFT PER DAY, 5 DAYS A WEEK (MON-FRI), BETWEEN THE HOURS OF 7:00 AM AND 3:30 PM, WITH THE PRIME CONTRACTOR AND ALL SUBCONTRACTORS WORKING ON THE SAME SHIFT. SET-UP AND REMOVAL OF ALL EQUIPMENT AND MATERIALS FOR CONSTRUCTION AND/OR TRAFFIC MAINTENANCE SHALL BE DONE ONLY DURING WORKING HOURS FOR THE PARTICULAR WORK BEING DONE. THE ROADWAY SHALL BE FREE OF THE CONTRACTOR'S PERSONNEL ANDOPERATIONS DURING NON-WORK HOURS. WORK HOURS TO BE CONFIRMED BY DCR.

STAGE 1 NOTES:

1. THE OVERALL WORK ZONE IN THIS STAGE SHALL EXTEND THE LIMITS OF THE ROAD DIET ON THE NORTH SIDE OF MEMORIAL DRIVE.
2. PRIOR TO THE IMPLEMENTATION OF THE OVERALL WORKZONE IN THIS PHASE, THE CONTRACTOR SHALL SEPARATELY STAGE THE WORK AT THE NORTH SIDE OF INTERSECTION OF MEMORIAL DRIVE AT HAWTHORN STREET USING STANDARD MUTCD TEMPORARY TRAFFIC CONTROL SETUPS. THE MEDIAN ISLAND ON HAWTHORN STREET SHALL BE REMOVED TO FACILITATE FUTURE CONTINUED ACCESS TO HAWTHORN STREET DURING THIS PHASE. PEDESTRIAN CROSSWALKS AND ACCESSIBLE WALKWAYS SHALL BE PROVIDED AND PEDESTRIAN SIGNAL CONTROL SHALL BE MAINTAINED.
3. THE CONTRACTOR SHALL CONSTRUCT THE NORTHERN SIDE OF ROADWAY AND SIDEWALKS. ACCESS TO ALL INTERSECTING STREETS, DRIVEWAYS, RESIDENCES, AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES.
4. THE CONTRACTOR SHALL PERFORM OR COORDINATE FOR UTILITY RELOCATIONS AND DRAINAGE WORK ON THE NORTHERN SIDE OF MEMORIAL DRIVE.
5. THE CONTRACTOR SHALL CONSTRUCT UNDERGROUND PORTIONS OF TRAFFIC CONTROL SIGNALS ON THE NORTHERN SIDE OF MEMORIAL DRIVE.
6. THE WORK SHOULD BE STAGED SUCH THAT A CONTINUOUS ACESSIBLE PEDESTRIAN ROUTE IS MAINTAINED ALONG THE NORTH SIDE OF MEMORIAL DRIVE, MAINTAINING ACCESS TO ABUTTING PROPERTIES.

STAGE 2 NOTES:

1. THE OVERALL WORK ZONE IN THIS STAGE SHALL EXTEND THE LIMITS OF THE ROAD DIET IN THE MIDDLE OF MEMORIAL DRIVE.
2. THE CONTRACTOR SHALL CONSTRUCT THE MIDDLE OF THE ROADWAY. ACCESS TO ALL INTERSECTING STREETS, DRIVEWAYS, RESIDENCES, AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES.
4. THE CONTRACTOR SHALL PERFORM OR COORDINATE FOR UTILITY RELOCATIONS AND DRAINAGE WORK IN THE MIDDLE OF MEMORIAL DRIVE.

STAGE 3 NOTES:

1. THE OVERALL WORK ZONE IN THIS STAGE SHALL EXTEND THE LIMITS OF THE ROAD DIET ON THE SOUTH SIDE OF MEMORIAL DRIVE.
2. THE CONTRACTOR SHALL CONSTRUCT THE SOUTHERN SIDE OF ROADWAY AND SIDEWALKS. ACCESS TO ALL INTERSECTING STREETS, DRIVEWAYS, RESIDENCES, AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES.
3. THE CONTRACTOR SHALL PERFORM OR COORDINATE FOR UTILITY RELOCATIONS AND DRAINAGE WORK ON THE SOUTHERN SIDE OF MEMORIAL DRIVE.
4. THE CONTRACTOR SHALL CONSTRUCT UNDERGROUND PORTIONS OF TRAFFIC CONTROL SIGNALS ON THE SOUTHERN SIDE OF MEMORIAL DRIVE.
5. WORK HOURS TO BE CONFIRMED BY DCR.
6. PEDESTRIANS WILL BE DETOURED TO THE NORTHERN SIDEWALK DURING CONSTRUCTION. BICYCLISTS WILL BE DETOURED TO THE PAUL DUDLEY WHITE TRAIL DURING CONSTRUCTION.

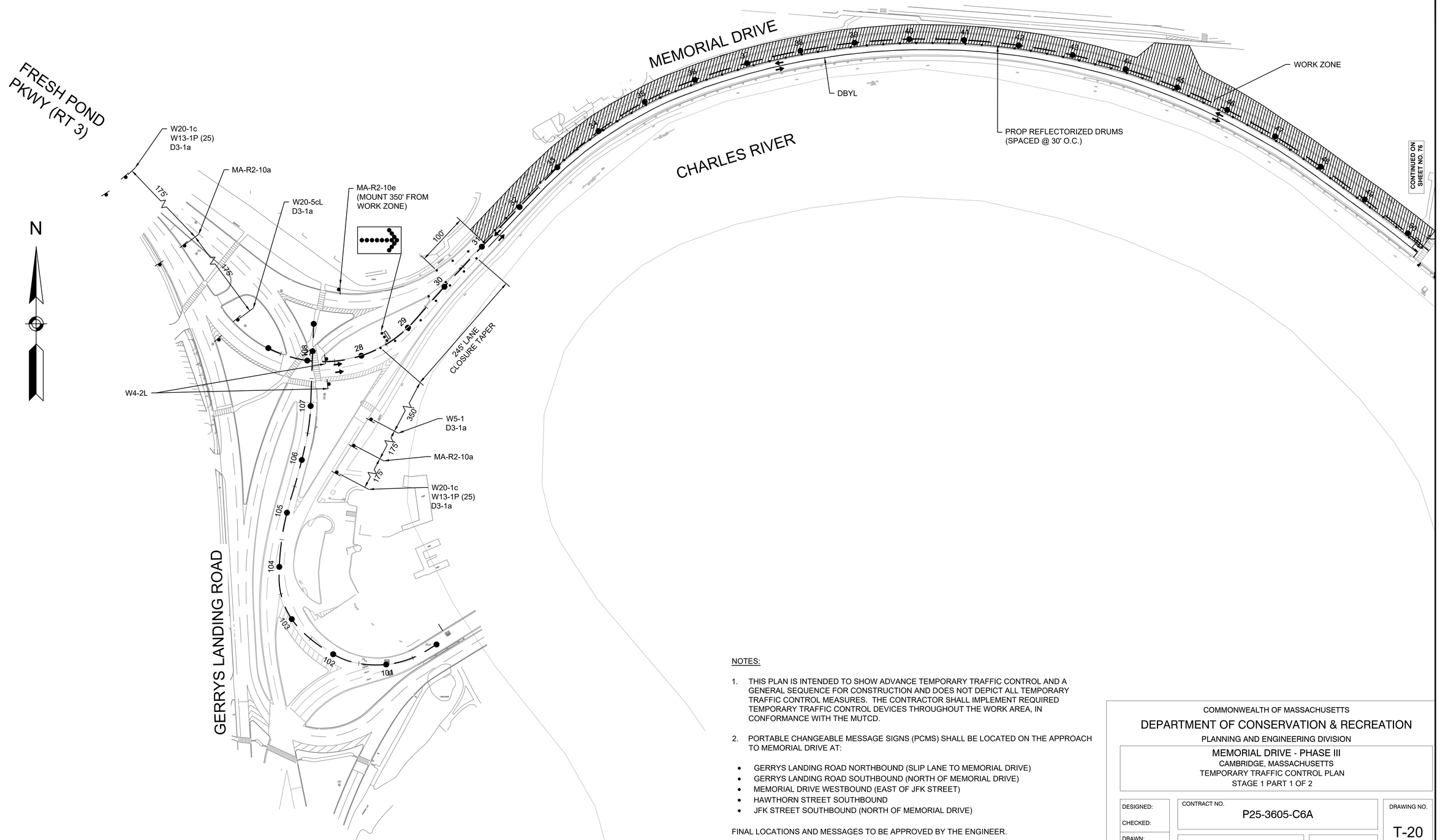
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TEMPORARY TRAFFIC CONTROL PLAN
STAGING CROSS SECTIONS

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. T-19
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DRAWN:	REF.	SCALE:	
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_TTCP.DWG



NOTES:

1. THIS PLAN IS INTENDED TO SHOW ADVANCE TEMPORARY TRAFFIC CONTROL AND A GENERAL SEQUENCE FOR CONSTRUCTION AND DOES NOT DEPICT ALL TEMPORARY TRAFFIC CONTROL MEASURES. THE CONTRACTOR SHALL IMPLEMENT REQUIRED TEMPORARY TRAFFIC CONTROL DEVICES THROUGHOUT THE WORK AREA, IN CONFORMANCE WITH THE MUTCD.

2. PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE LOCATED ON THE APPROACH TO MEMORIAL DRIVE AT:

- GERRYS LANDING ROAD NORTHBOUND (SLIP LANE TO MEMORIAL DRIVE)
- GERRYS LANDING ROAD SOUTHBOUND (NORTH OF MEMORIAL DRIVE)
- MEMORIAL DRIVE WESTBOUND (EAST OF JFK STREET)
- HAWTHORN STREET SOUTHBOUND
- JFK STREET SOUTHBOUND (NORTH OF MEMORIAL DRIVE)

FINAL LOCATIONS AND MESSAGES TO BE APPROVED BY THE ENGINEER.

0 80 200 300

SCALE: 1" = 80'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

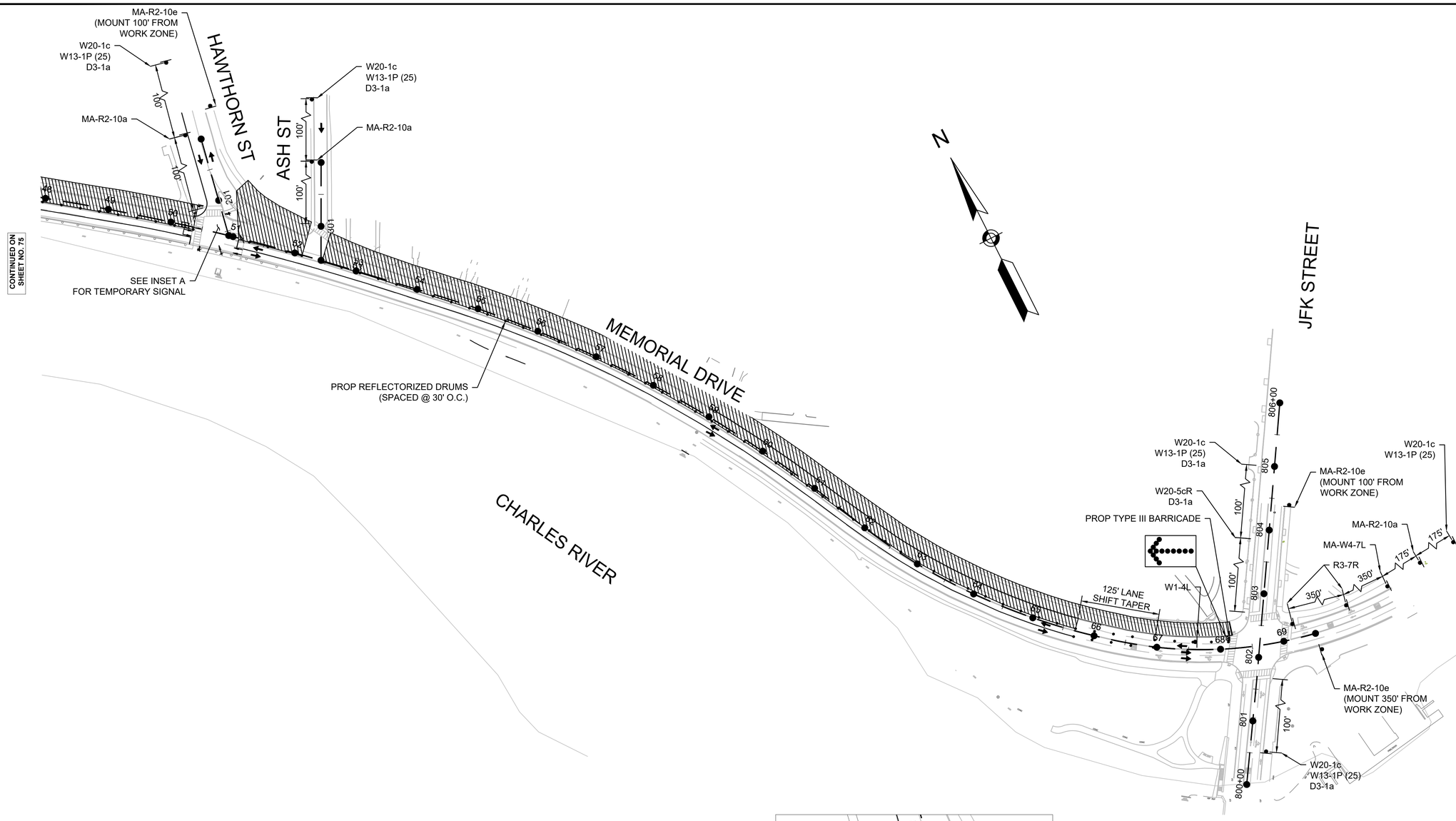
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TEMPORARY TRAFFIC CONTROL PLAN
STAGE 1 PART 1 OF 2

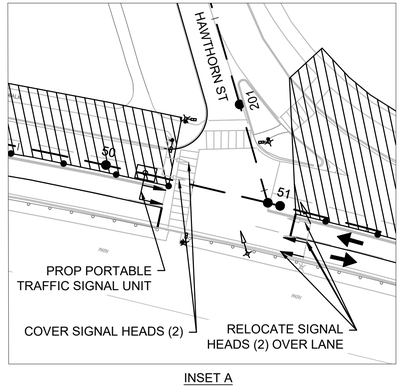
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CHECKED:	ACC.	DATE: 4/14/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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INSET A
SCALE: 1" = 40'

NOTES:

1. THIS PLAN IS INTENDED TO SHOW ADVANCE TEMPORARY TRAFFIC CONTROL AND A GENERAL SEQUENCE FOR CONSTRUCTION AND DOES NOT DEPICT ALL TEMPORARY TRAFFIC CONTROL MEASURES. THE CONTRACTOR SHALL IMPLEMENT REQUIRED TEMPORARY TRAFFIC CONTROL DEVICES THROUGHOUT THE WORK AREA, IN CONFORMANCE WITH THE MUTCD.

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- JFK STREET SOUTHBOUND (NORTH OF MEMORIAL DRIVE)

FINAL LOCATIONS AND MESSAGES TO BE APPROVED BY THE ENGINEER.

0 80 200 300
SCALE: 1" = 80'

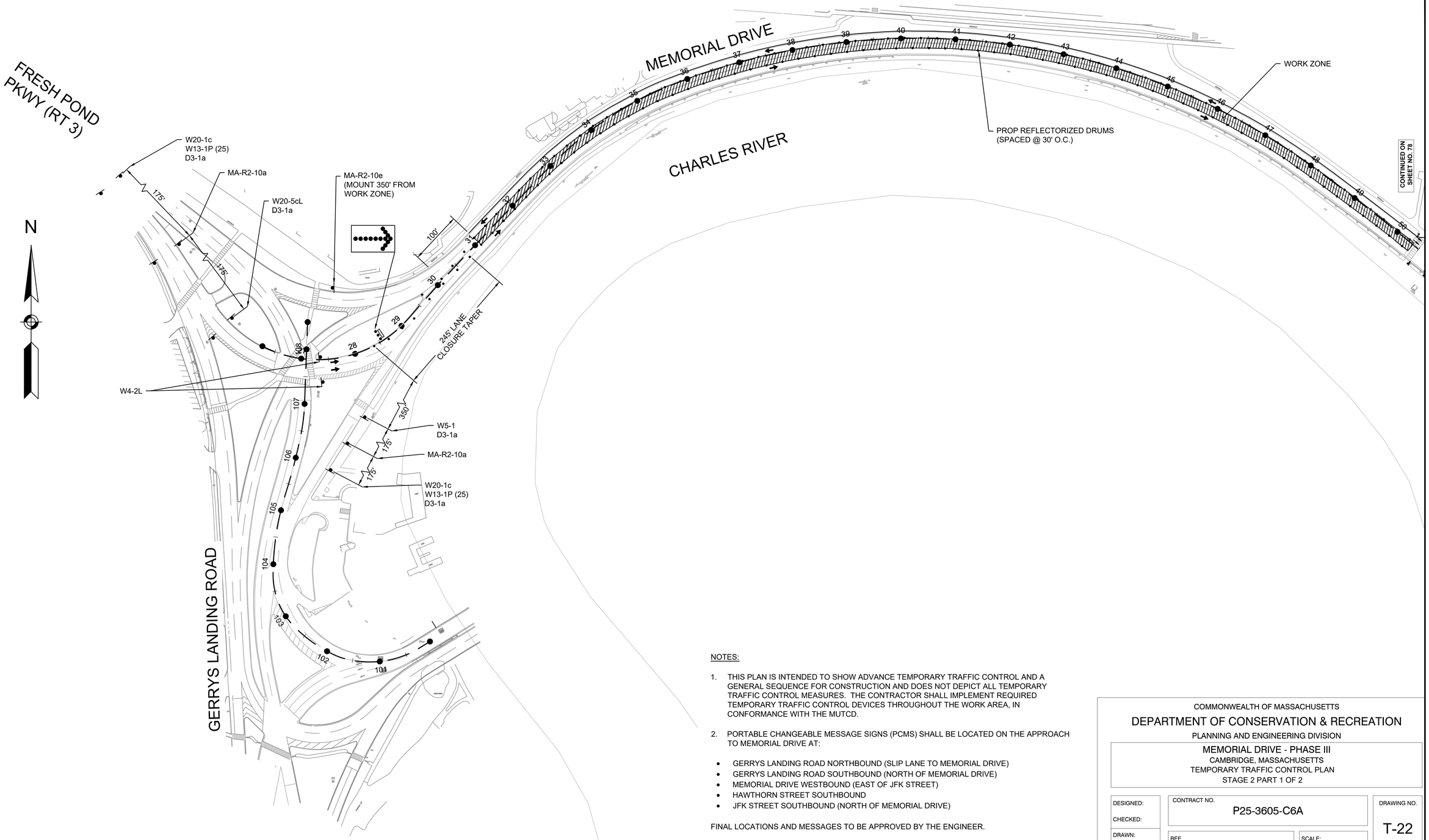
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TEMPORARY TRAFFIC CONTROL PLAN
STAGE 1 PART 2 OF 2

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. T-21
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10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_TTCP.DWG



NOTES:

1. THIS PLAN IS INTENDED TO SHOW ADVANCE TEMPORARY TRAFFIC CONTROL AND A GENERAL SEQUENCE FOR CONSTRUCTION AND DOES NOT DEPICT ALL TEMPORARY TRAFFIC CONTROL MEASURES. THE CONTRACTOR SHALL IMPLEMENT REQUIRED TEMPORARY TRAFFIC CONTROL DEVICES THROUGHOUT THE WORK AREA, IN CONFORMANCE WITH THE MUTCD.

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- JFK STREET SOUTHBOUND (NORTH OF MEMORIAL DRIVE)

FINAL LOCATIONS AND MESSAGES TO BE APPROVED BY THE ENGINEER.

0 80 200 300

SCALE: 1" = 80'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

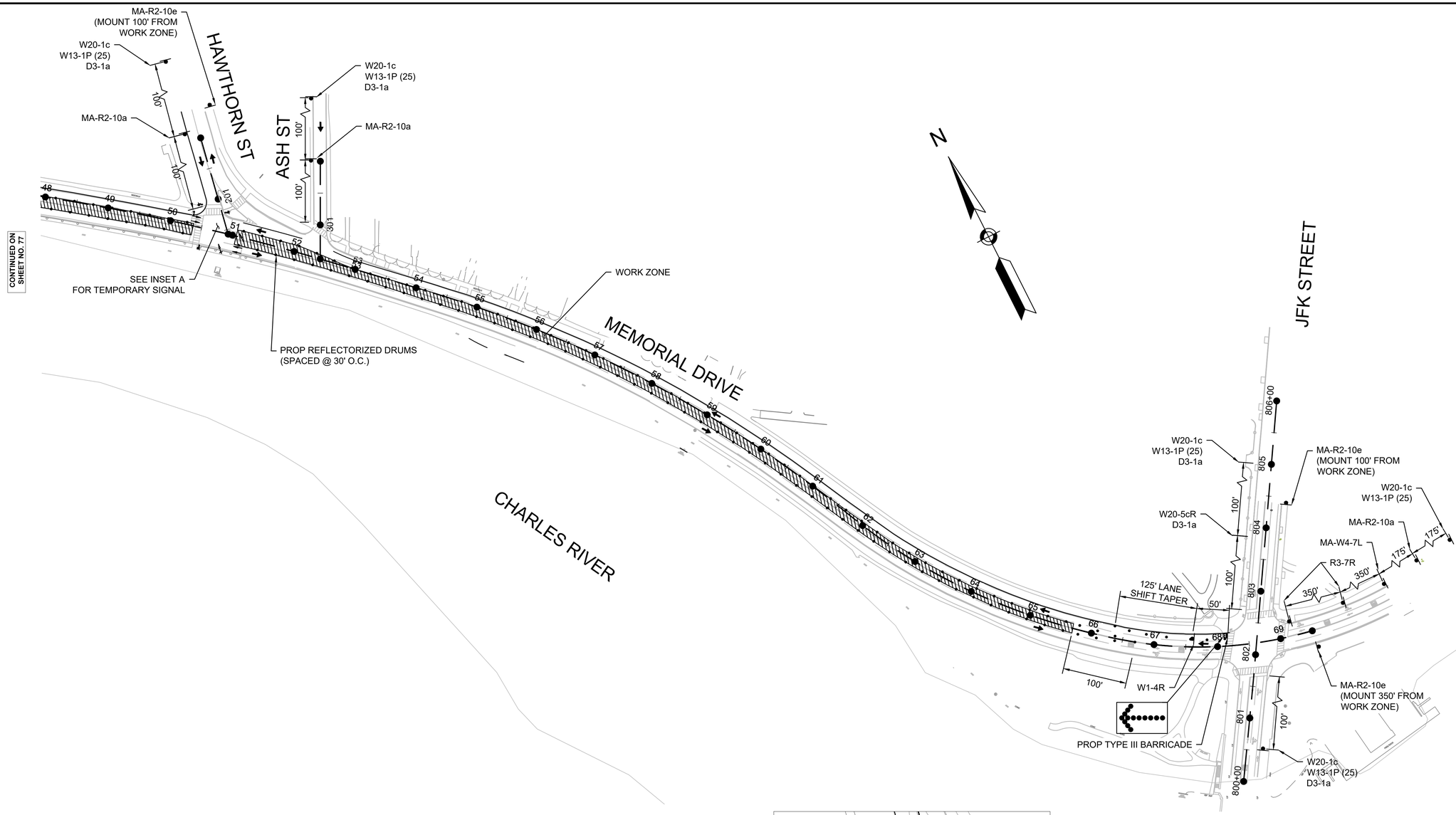
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TEMPORARY TRAFFIC CONTROL PLAN
STAGE 2 PART 1 OF 2

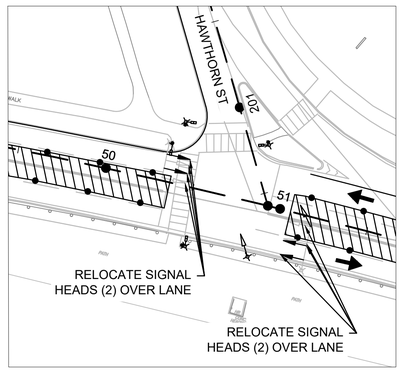
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INSET A
SCALE: 1" = 40'

NOTES:

1. THIS PLAN IS INTENDED TO SHOW ADVANCE TEMPORARY TRAFFIC CONTROL AND A GENERAL SEQUENCE FOR CONSTRUCTION AND DOES NOT DEPICT ALL TEMPORARY TRAFFIC CONTROL MEASURES. THE CONTRACTOR SHALL IMPLEMENT REQUIRED TEMPORARY TRAFFIC CONTROL DEVICES THROUGHOUT THE WORK AREA, IN CONFORMANCE WITH THE MUTCD.

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- JFK STREET SOUTHBOUND (NORTH OF MEMORIAL DRIVE)

FINAL LOCATIONS AND MESSAGES TO BE APPROVED BY THE ENGINEER.

0 80 200 300
SCALE: 1" = 80'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

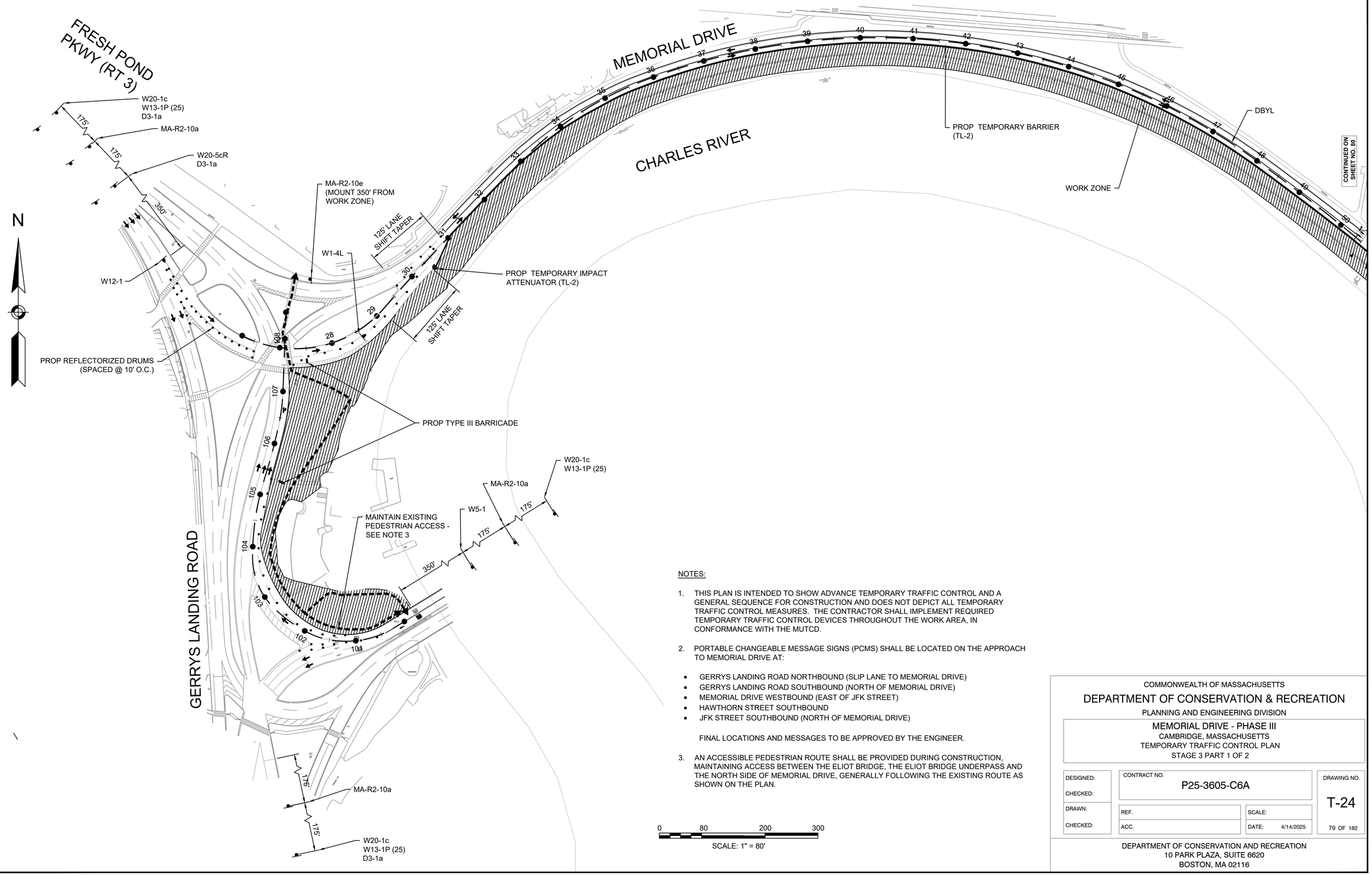
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TEMPORARY TRAFFIC CONTROL PLAN
STAGE 2 PART 2 OF 2

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10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_TTCP.DWG



NOTES:

1. THIS PLAN IS INTENDED TO SHOW ADVANCE TEMPORARY TRAFFIC CONTROL AND A GENERAL SEQUENCE FOR CONSTRUCTION AND DOES NOT DEPICT ALL TEMPORARY TRAFFIC CONTROL MEASURES. THE CONTRACTOR SHALL IMPLEMENT REQUIRED TEMPORARY TRAFFIC CONTROL DEVICES THROUGHOUT THE WORK AREA, IN CONFORMANCE WITH THE MUTCD.

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   - MEMORIAL DRIVE WESTBOUND (EAST OF JFK STREET)
   - HAWTHORN STREET SOUTHBOUND
   - JFK STREET SOUTHBOUND (NORTH OF MEMORIAL DRIVE)

   FINAL LOCATIONS AND MESSAGES TO BE APPROVED BY THE ENGINEER.

3. AN ACCESSIBLE PEDESTRIAN ROUTE SHALL BE PROVIDED DURING CONSTRUCTION, MAINTAINING ACCESS BETWEEN THE ELIOT BRIDGE, THE ELIOT BRIDGE UNDERPASS AND THE NORTH SIDE OF MEMORIAL DRIVE, GENERALLY FOLLOWING THE EXISTING ROUTE AS SHOWN ON THE PLAN.

0 80 200 300

SCALE: 1" = 80'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

TEMPORARY TRAFFIC CONTROL PLAN

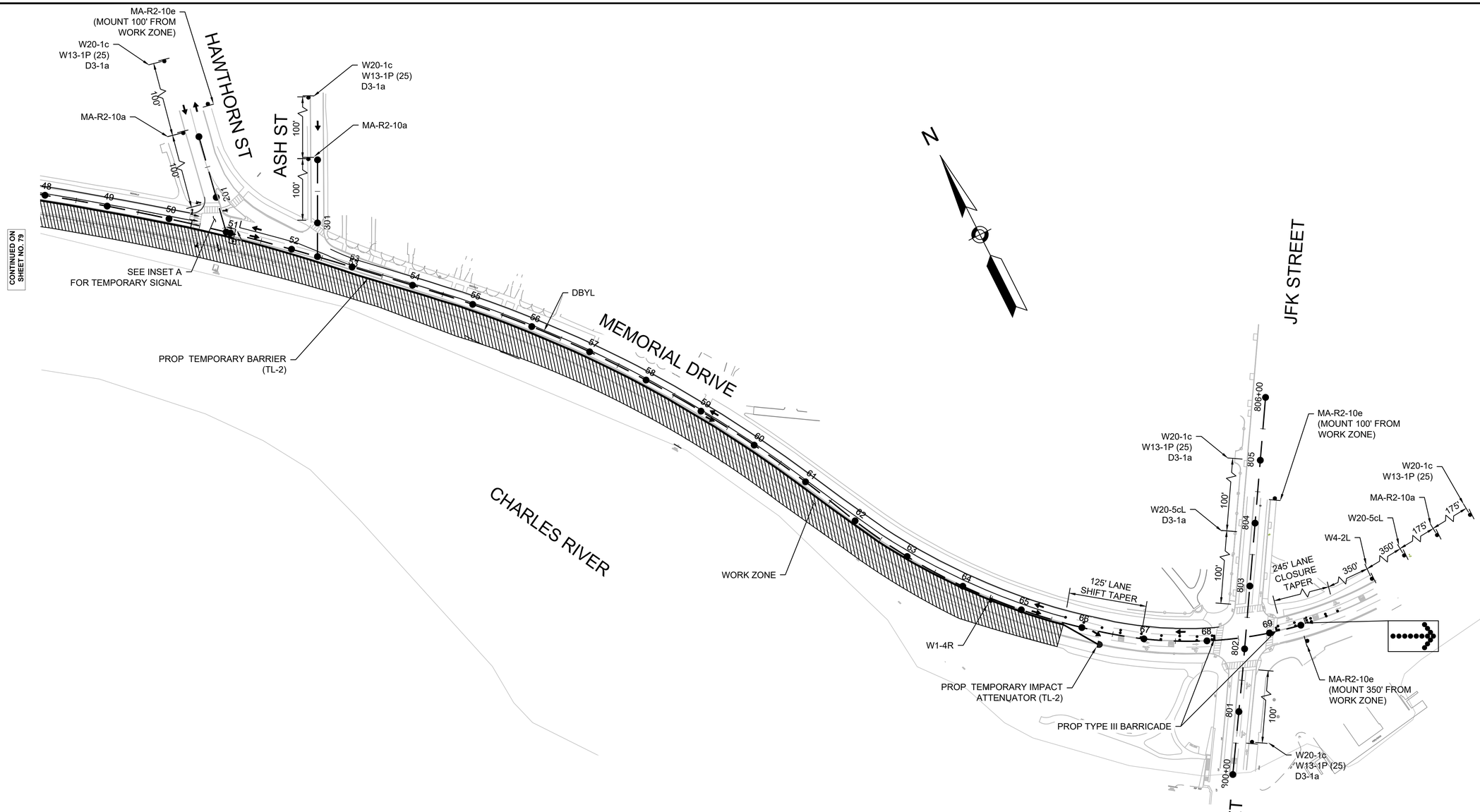
STAGE 3 PART 1 OF 2

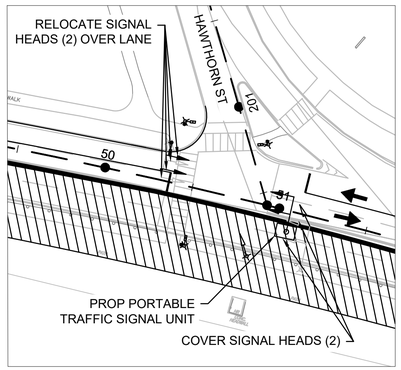
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10 PARK PLAZA, SUITE 6620
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INSET A
SCALE: 1" = 40'

0 80 200 300
SCALE: 1" = 80'

NOTES:

1. THIS PLAN IS INTENDED TO SHOW ADVANCE TEMPORARY TRAFFIC CONTROL AND A GENERAL SEQUENCE FOR CONSTRUCTION AND DOES NOT DEPICT ALL TEMPORARY TRAFFIC CONTROL MEASURES. THE CONTRACTOR SHALL IMPLEMENT REQUIRED TEMPORARY TRAFFIC CONTROL DEVICES THROUGHOUT THE WORK AREA, IN CONFORMANCE WITH THE MUTCD.

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- HAWTHORN STREET SOUTHBOUND
- JFK STREET SOUTHBOUND (NORTH OF MEMORIAL DRIVE)

FINAL LOCATIONS AND MESSAGES TO BE APPROVED BY THE ENGINEER.

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

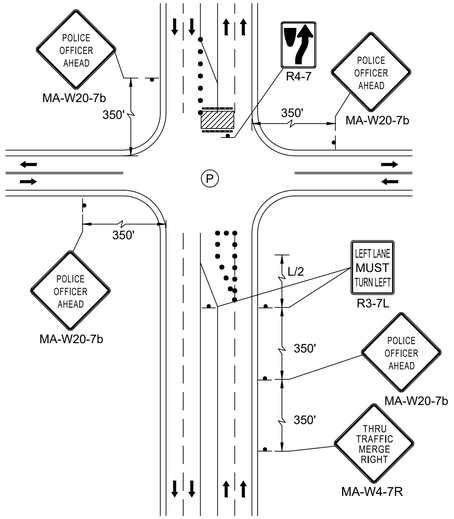
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TEMPORARY TRAFFIC CONTROL PLAN
STAGE 3 PART 2 OF 2

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. T-25
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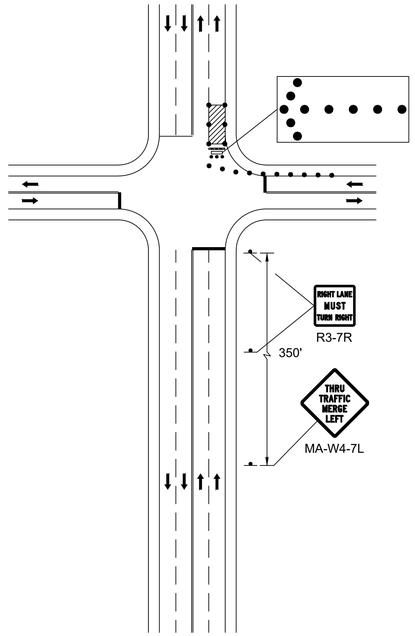
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10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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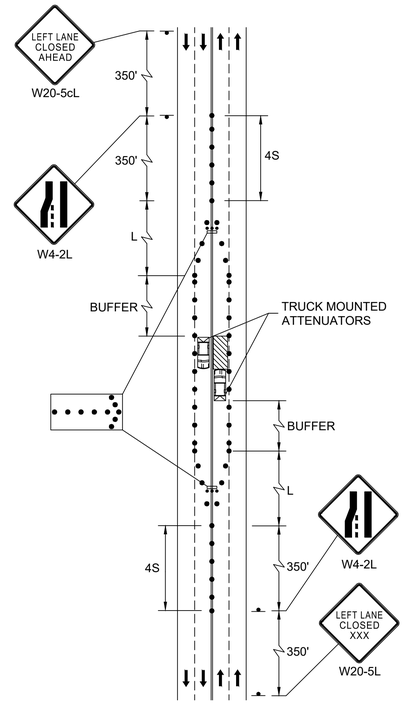
MULTI-LANE APPROACH
MULTIPLE LANE CLOSURE



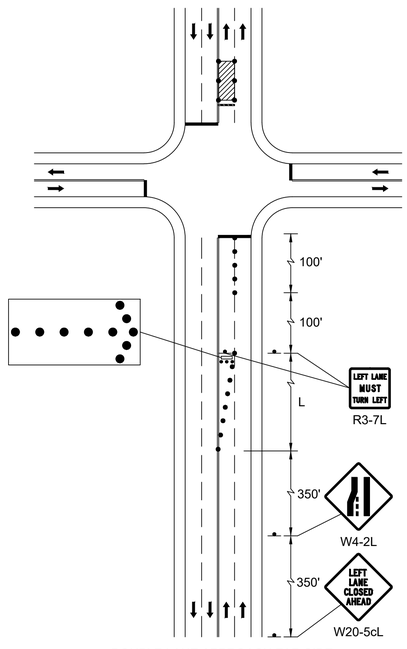
DOUBLE LANE APPROACH FAR SIDE
CLOSURE RIGHT LANE

NOTES:

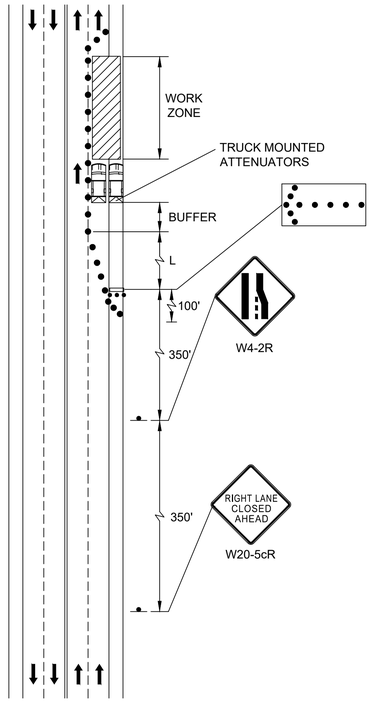
1. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS AND MASSACHUSETTS AMENDMENTS.
2. ALL SIGN LEGENDS, BORDERS AND MOUNTING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD.
3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
4. TEMPORARY CONSTRUCTION SIGNING, BARRICADES AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE ROADWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
5. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, AND REFLECTORIZED PLASTIC DRUMS WITH LIGHTING DEVICES MOUNTED ON THEM, MUST PASS THE CRITERIA SET FORTH IN NCHRP REPORT 350, "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES."
6. CONTRACTORS SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT AND SIMILAR OPERATIONS.
7. THE FIRST TEN PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH SEQUENTIAL FLASHING LIGHTS.
8. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
9. MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
10. MINIMUM LANE WIDTH IS TO BE 10 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
11. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.
12. ALL TEMPORARY WALKWAYS SHALL MEET ADA/AAB GUIDELINES.
13. DETAILS SHOWN ON THIS PLAN ARE NOT TO SCALE.
14. ADA COMPLIANT PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES, INCLUDING PEDESTRIAN GUIDANCE SYSTEMS AT WORK ZONES.
15. ALL PUBLIC OR PRIVATE PROPERTY DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO ITS ORIGINAL CONDITION OR BETTER.
16. PRIOR TO COMMENCEMENT OF THE CONTRACTOR'S OPERATIONS, THE CONTRACTOR SHALL CONTACT DIGSAFE (1-888-344-7233 OR 1-888-DIG-SAFE) TO MARK OUT UTILITIES WITHIN THE PROJECT AREA.
17. THESE TRAFFIC CONTROL PLANS ARE PROVIDED AS A GUIDE FOR TYPICAL WORK ZONE TRAFFIC CONTROL APPLICATIONS. THEY ARE NOT INTENDED TO COVER ALL POSSIBLE CONSTRUCTION OPERATIONS WHICH THE CONTRACTOR MAY EMPLOY. TRAFFIC CONTROL FOR CONSTRUCTION OPERATIONS, IF APPLICABLE, SHALL BE IN ACCORDANCE WITH THE 2009 MUTCD, WITH THE LATEST REVISIONS AND MASSACHUSETTS AMENDMENTS.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL PROPOSED PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) IN THE FIELD SUCH THAT VEHICULAR AND PEDESTRIAN TRAFFIC IS NOT IMPEDED.
19. POLICE DETAILS SHOWN ON THE PLANS INDICATE A NEED FOR POLICE INCIDENTAL TO A SPECIFIC TRAFFIC CONFIGURATION AND DO NOT REPRESENT ACTUAL LOCATIONS OR NUMBERS REQUIRED. THE ENGINEER SHALL DETERMINE THE SPECIFIC LOCATIONS OF POLICE DETAILS AND THE NUMBER OF DETAILS REQUIRED.
20. THE SUGGESTED WORK ZONES AND TRAFFIC PATTERNS DEPICTED ARE INTENDED TO DEMONSTRATE HOW MAJOR CONSTRUCTION ACTIVITIES CAN PROCEED WHILE MAINTAINING VEHICULAR AND PEDESTRIAN TRAFFIC. THE CONTRACTOR MAY ELECT TO PROVIDE ALTERNATE METHODS AND/OR STAGING SEQUENCE OF WORK PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED TO DCR FOR REVIEW AND CONSIDERATION FOR APPROVAL.



MULTIPLE LANE ROAD
INTERIOR LANE CLOSURE



DOUBLE LANE APPROACH FAR SIDE
CLOSURE INSIDE LANE



HIGHWAY LANE CLOSURE
(SHORT TERM)

LEGEND

- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- P/F POLICE/FLAGGER DETAIL
- TYPE III BARRICADE
- CHANGEABLE MESSAGE SIGN
- ARROW BOARD
- WORK ZONE
- DIRECTION OF TRAFFIC
- IMPACT ATTENUATOR
- WORK VEHICLE
- TRUCK MOUNTED ATTENUATOR
- SIGN

BUFFER LENGTHS

SPEED* (mph)	DISTANCE (ft)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820

TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

TYPE OF TAPER	TAPER LENGTH (L)
MERGING TAPER	AT LEAST L
SHIFTING TAPER	AT LEAST 0.5L
SHOULDER TAPER	AT LEAST 0.33L
ONE-LANE, TWO-WAY TRAFFIC TAPER	100 FT MAXIMUM
DOWNSTREAM TAPER	100 FT PER LANE

FORMULAS FOR DETERMINING TAPER LENGTHS

SPEED LIMIT (S)	TAPER LENGTH (L)
40 MPH OR LESS	$L = \frac{WS^2}{60}$
45 MPH OR MORE	L = WS

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TEMPORARY TRAFFIC CONTROL PLAN
TYPICAL LANE CLOSURES

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. T-26
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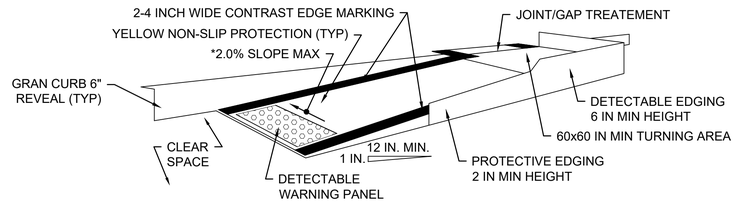
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10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

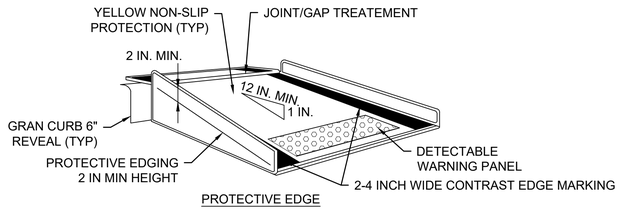
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NOTES:

1. CURB RAMPS SHALL BE 60 IN. MINIMUM WIDTH WITH A FIRM, STABLE AND NON-SLIP SURFACE.
2. PROTECTIVE EDGING WITH A 2 IN. MINIMUM HEIGHT SHALL BE INSTALLED WHEN THE CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6 IN. OR GREATER OR HAS A SIDE APRON SLOP STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN THE CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3 IN. OR MORE.
3. DETECTABLE EDGING WITH 6 IN. MINIMUM HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. THE CURB RAMP WALKWAY AND LANDING AREA SURFACE SHALL BE OF A SOLID CONTINUOUS CONTRASTING COLOR ABUTTING UP TO THE EXISTING SIDEWALK.
5. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
6. CLEAR SPACE OF 48x48 IN. MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
7. WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5 IN. WIDTH.
9. CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5 IN. LATERAL EDGES SHOULD BE VERTICAL UP TO 0.25 IN. HIGH, AND BEVELED AT 1:2 BETWEEN 0.25 IN. AND 0.5 IN. HEIGHT.
10. IF A TEMPORARY PEDESTRIAN RAMP LEADS TO A CROSSWALK, THEN A DETECTABLE WARNING PAD MUST BE ADHERED TO THE BASE OF THE RAMP. IF IT LEADS TO A PROTECTED PEDESTRIAN BYPASS THAT DOES NOT CONFLICT WITH VEHICULAR TRAFFIC, THEN A PAD SHALL NOT BE INSTALLED ON THE RAMP.

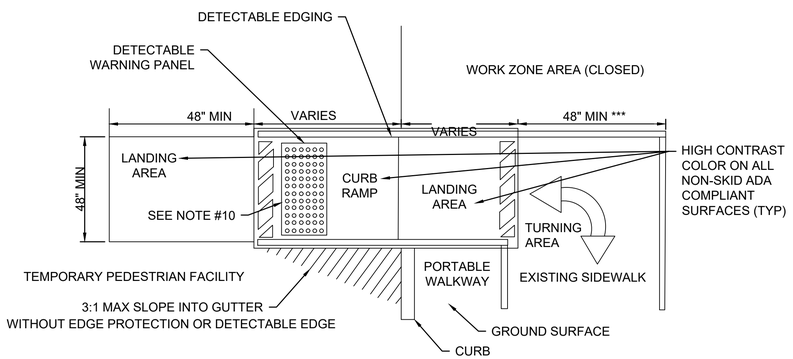


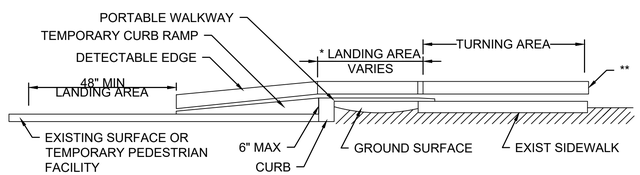
TEMPORARY CURB RAMP - PARALLEL TO CURB



TEMPORARY CURB RAMP - PERPENDICULAR TO CURB

NOT TO SCALE





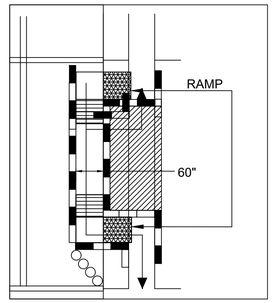
* LANDING AREA USED TO OVERLAP NON-ADA COMPLIANT SURFACES

** DETECTABLE EDGE REMOVED IF A CONTINUOUS SIDEWALK

*** 60" IF AN OBSTRUCTION IS AT BACK OF SIDEWALK

TEMPORARY CURB RAMP

NOT TO SCALE



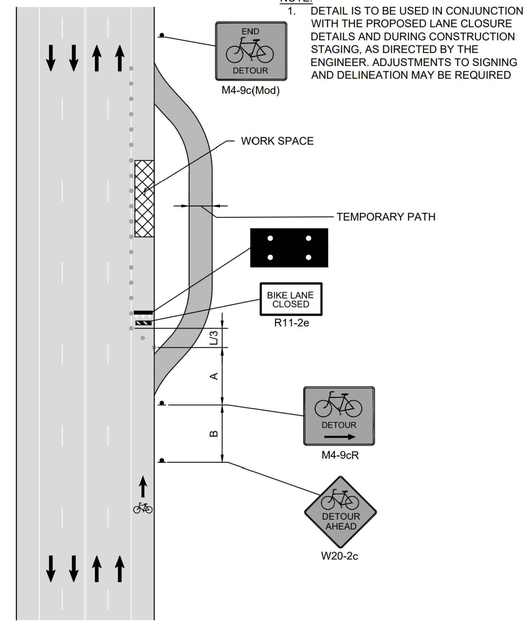
PLAN

- When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, temporary facilities shall be provided and they shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility.
- A pedestrian channelizing device that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.
- When used, temporary ramps shall comply with Americans with Disabilities Act (see Temporary Curb Ramp Detail, this sheet).
- The alternate pathway should have a smooth continuous hard surface for the entire length of the temporary pedestrian facility.
- The protective requirements of a TTC situation have priority in determining the need for temporary traffic barriers and their use in this situation should be based on engineering judgment.
- Audible information devices should be considered where midblock closings and changed crosswalk areas cause inadequate communication to be provided to pedestrians who have visual disabilities.

AUDIBLE DEVICES

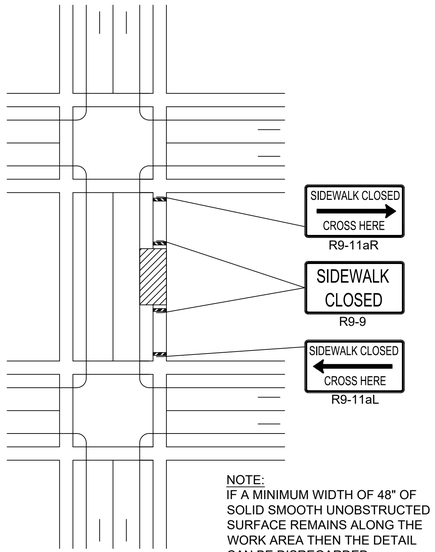
For long term sidewalk closures (at a minimum overnight) a form of speech messaging for pedestrians with visual disabilities shall be provided. Audible information devices such as detectable barriers or barricades and other passive pedestrian activation (motion activated) devices should be considered for these cases. These audible devices can be mountable or stand alone.

NOTE:
1. DETAIL IS TO BE USED IN CONJUNCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING, AS DIRECTED BY THE ENGINEER. ADJUSTMENTS TO SIGNING AND DELINEATION MAY BE REQUIRED



PAVED SHOULDER CLOSURE WITH BICYCLE DETOUR ONTO PATH

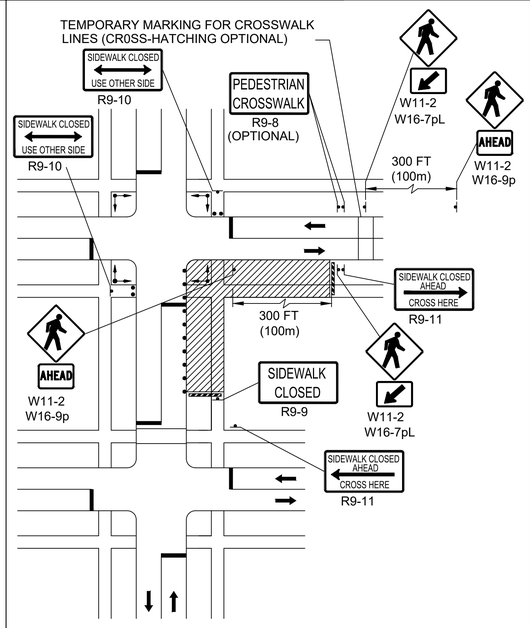
NOT TO SCALE



NOTE:
IF A MINIMUM WIDTH OF 48" OF SOLID SMOOTH UNOBSTRUCTED SURFACE REMAINS ALONG THE WORK AREA THEN THE DETAIL CAN BE DISREGARDED. DELINEATION OF THE WORK AREA WILL STILL BE REQUIRED. ALL PEDESTRIAN DETOUR ROUTES SHALL BE ADA/MAAB COMPLIANT IN THEIR ENTIRETY.

SIDEWALK CLOSURE

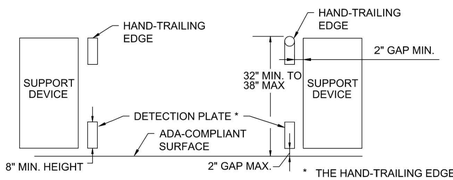
NOT TO SCALE



NOTE:
FOR LONG-TERM STATIONARY WORK, THE DOUBLE YELLOW CENTERLINE AND/OR LANE LINES SHOULD BE REMOVED BETWEEN THE CROSSWALK LINES.

PEDESTRIAN DETOUR PLAN

NOT TO SCALE



CROSS SECTION VIEW

* THE HAND-TRAILING EDGE AND DETECTION PLATE SHALL BE CONTINUOUS THROUGHOUT THE LENGTH OF THE PATH.

NOTES:

1. THERE SHOULD BE AT LEAST A 2-INCH GAP BETWEEN THE HAND-TRAILING EDGE AND ITS SUPPORT.
2. A MAXIMUM 2-INCH GAP BETWEEN THE BOTTOM OF THE CONTINUOUS DETECTION PLATE AND THE WALKWAY MAY BE USED TO PROVIDE DRAINAGE.
3. SHEETING PANELS MAY BE EITHER VERTICAL OR AT A 45-DEGREE ANGLE.
4. HAND-TRAILING EDGE AND/OR DETECTION PLATES ARE OPTIONAL FOR CONTINUOUS WALLS.

PEDESTRIAN CHANNELIZING DEVICE

NOT TO SCALE

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TEMPORARY TRAFFIC CONTROL PLAN
PEDESTRIAN DETAILS

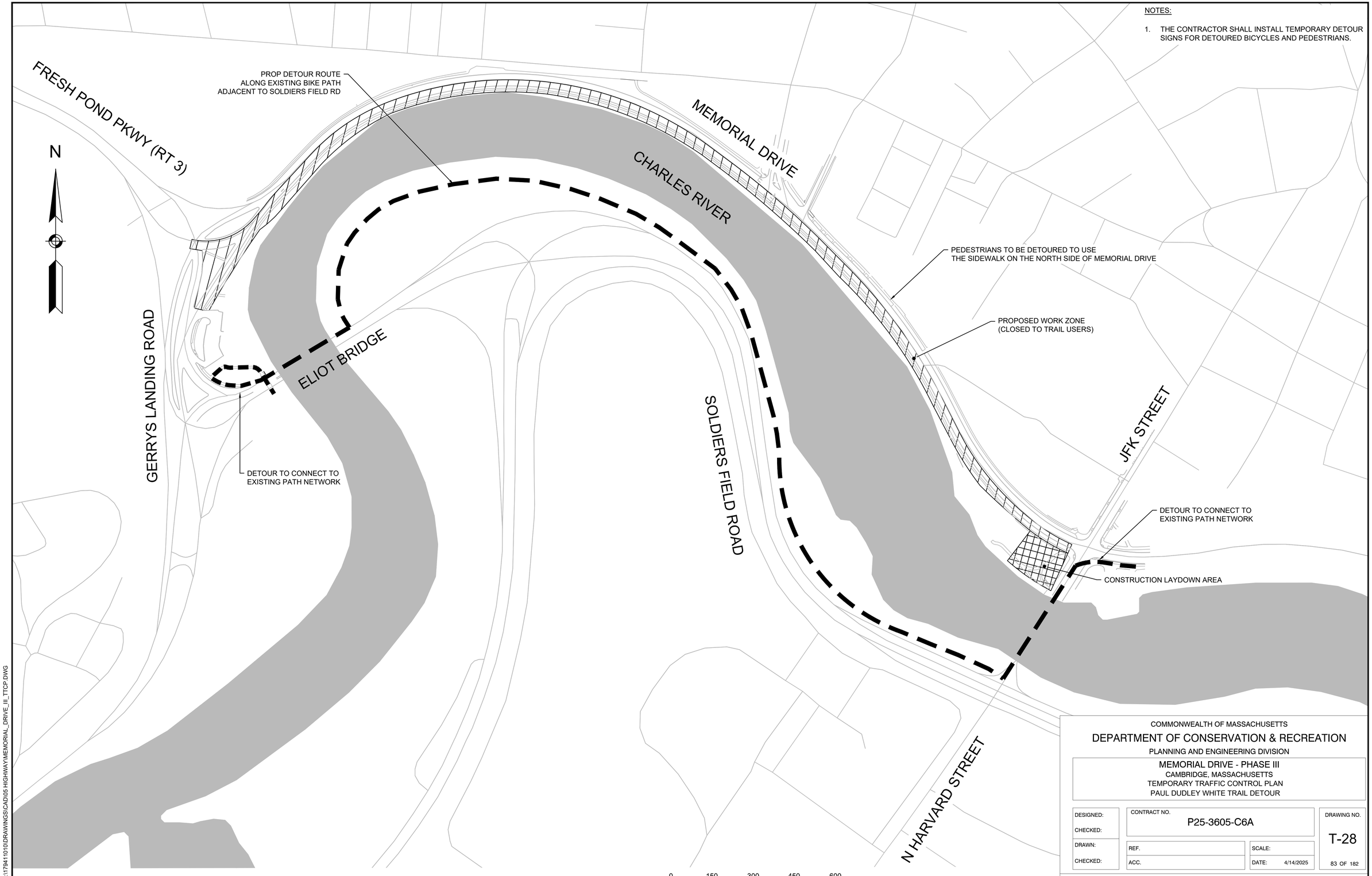
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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NOTES:

1. THE CONTRACTOR SHALL INSTALL TEMPORARY DETOUR SIGNS FOR DETOURED BICYCLES AND PEDESTRIANS.



COMMONWEALTH OF MASSACHUSETTS

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PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TEMPORARY TRAFFIC CONTROL PLAN
PAUL DUDLEY WHITE TRAIL DETOUR

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. T-28
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10 PARK PLAZA, SUITE 6620
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CONSTRUCTION SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS			NUMBER OF SIGNS REQUIRED	COLOR			UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW		BACK-GROUND	LEGEND	BORDER		
MA-R2-10a	48"	36"	WORK ZONE SPEEDING FINES DOUBLED	SEE MASSDOT STANDARDS			5	FLUOR. ORANGE WHITE	BLACK	BLACK	12.00	60.00
MA-R2-10e	36"	48"	END ROAD WORK DOUBLE FINES END				5	FLUOR. ORANGE WHITE	BLACK	BLACK	12.00	60.00
R3-7L	30"	30"	LEFT LANE MUST TURN LEFT	SEE MUTCD STANDARDS			2	WHITE	BLACK	BLACK	6.25	12.50
R3-7R	30"	30"	RIGHT LANE MUST TURN RIGHT				2	WHITE	BLACK	BLACK	6.25	12.50
R4-7	24"	30"					4	WHITE	BLACK	BLACK	5.00	20.00
R9-9	24"	12"	SIDEWALK CLOSED				4	WHITE	BLACK	BLACK	2.00	8.00
R9-10	24"	12"	SIDEWALK CLOSED USE OTHER SIDE				4	WHITE	BLACK	BLACK	2.00	8.00
R9-11R	24"	18"	SIDEWALK CLOSED AHEAD CROSS HERE				4	WHITE	BLACK	BLACK	3.00	12.00
R11-2e	48"	30"	BIKE LANE CLOSED	8"C 8"D	5" 4" 5"		2	FLUOR. ORANGE	BLACK	BLACK	10.00	20.00
M4-9c(MOD)	30"	24"	END DETOUR	5"D 5"D		5"	2	FLUOR. ORANGE	BLACK	BLACK	5.00	10.00
M4-9cR	30"	24"	DETOUR	SEE MUTCD STANDARDS			2	FLUOR. ORANGE	BLACK	BLACK	9.00	10.00
W1-4L	36"	36"					4	FLUOR. ORANGE	BLACK	BLACK	9.00	36.00
W1-4R	36"	36"					4	FLUOR. ORANGE	BLACK	BLACK	9.00	36.00
W4-2L	36"	36"					4	FLUOR. ORANGE	BLACK	BLACK	9.00	36.00
W4-2R	36"	36"					4	FLUOR. ORANGE	BLACK	BLACK	9.00	36.00
MA-W4-7L	36"	36"	THRU TRAFFIC MERGE LEFT	SEE MASSDOT STANDARDS			2	FLUOR. ORANGE	BLACK	BLACK	9.00	18.00
W11-2	30"	30"		SEE MUTCD STANDARDS			4	FLUOR. YELLOW-GREEN	BLACK	BLACK	6.25	25.00
W12-1	30"	30"					1	FLUOR. ORANGE	BLACK	BLACK	6.25	6.25
W13-1P (25)	24"	24"	XX M.P.H.				8	FLUOR. ORANGE	BLACK	BLACK	4.00	32.00
W16-7pL	24"	12"					2	FLUOR. YELLOW-GREEN	BLACK	BLACK	2.00	4.00
W16-9p	24"	12"	AHEAD				2	FLUOR. YELLOW-GREEN	BLACK	BLACK	2.00	4.00
W20-1c	36"	36"	ROAD WORK AHEAD				5	FLUOR. ORANGE	BLACK	BLACK	9.00	45.00
W20-2c	36"	36"	DETOUR AHEAD				2	FLUOR. ORANGE	BLACK	BLACK	9.00	36.00
W20-5cL	36"	36"	LEFT LANE CLOSED AHEAD				4	FLUOR. ORANGE	BLACK	BLACK	9.00	36.00
W20-5cR	36"	36"	RIGHT LANE CLOSED AHEAD				4	FLUOR. ORANGE	BLACK	BLACK	9.00	36.00
W20-7	36"	36"					4	FLUOR. ORANGE	BLACK	BLACK	9.00	36.00
MA-W20-7b	36"	36"	POLICE OFFICER AHEAD	SEE MASSDOT STANDARDS			4	FLUOR. ORANGE	BLACK	BLACK	9.00	36.00
D3-1a	36"	12"	MEMORIAL DR	6"B	3" 3"		10	FLUOR. ORANGE	BLACK	BLACK	3.00	30.00

NOTES:

1. SUPER HIGH INTENSITY UNMETALIZED MICROPRISMATIC ELEMENT REFLECTIVE SHEETING M9.30.0 TYPE VII, VIII, IX, OR X SHALL BE USED FOR ALL SIGNS.
2. SIGN SUPPORTS ARE INCIDENTAL TO ITEM 852. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MOUNTING SIGNS ON STANDARD SUPPORTS THAT PASS THE CRITERIA OF NCHRP REPORT 350, AND ALSO IN COMPLIANCE WITH THE REQUIREMENTS OF THE MUTCD.

FLUOR. - FLUORESCENT

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PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

TEMPORARY TRAFFIC CONTROL PLAN

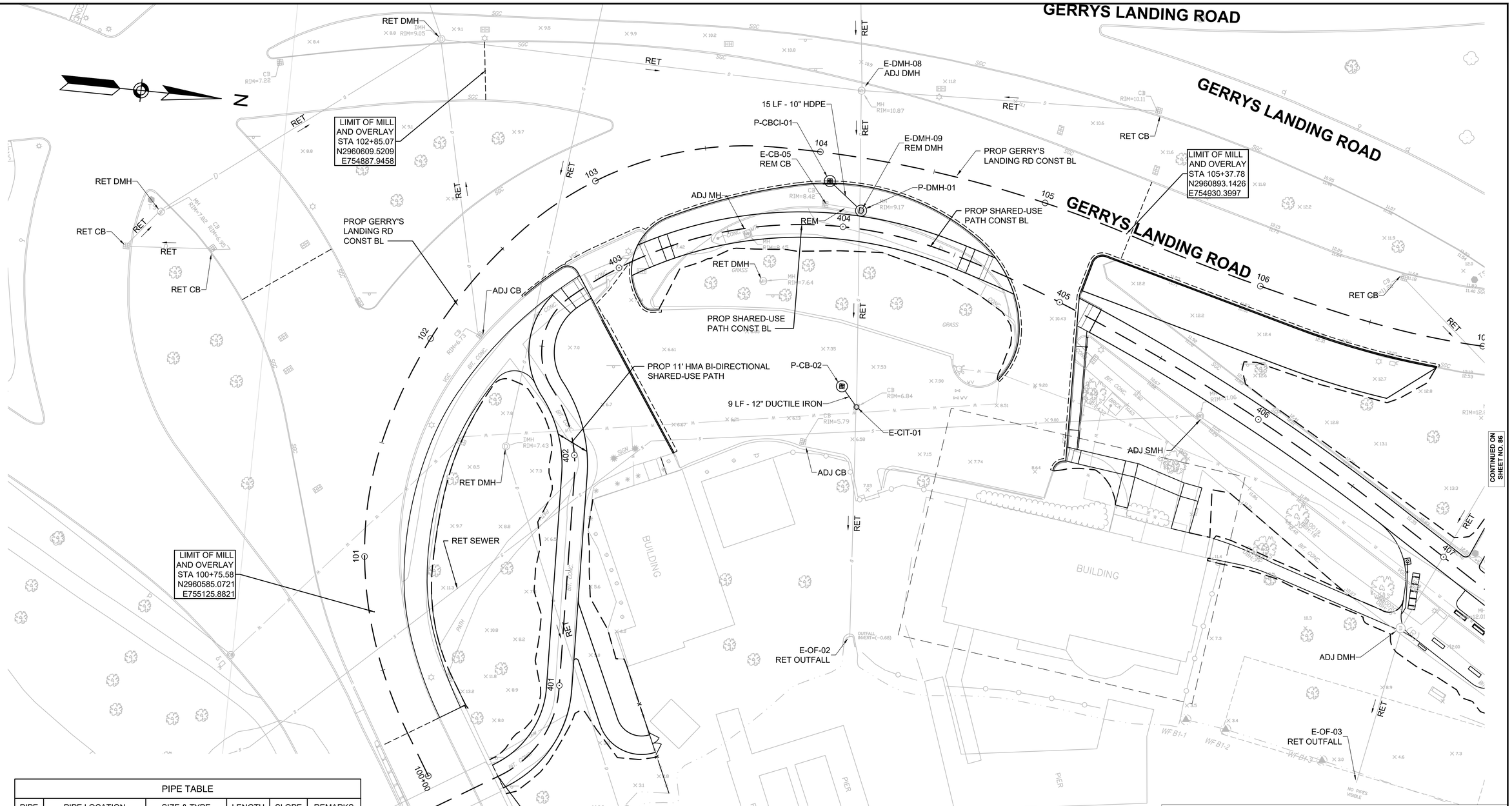
SIGN SUMMARY

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. T-29
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DRAWN:	REF.	SCALE:
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
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PIPE TABLE					
PIPE	PIPE LOCATION	SIZE & TYPE	LENGTH	SLOPE	REMARKS
P-01	P-CBCI-01 TO P-DMH-01 STA 104+06 TO 104+22	10" HDPE	15 LF	1.67%	HDPE PIPE
P-02	P-CB-02 TO E-CIT-01 STA 104+27 TO 104+37	12" DUCTILE IRON	9 LF	3.16%	DI

DRAINAGE STRUCTURE TABLE						
NAME/TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
E-CIT-01	104+37.07	106.7 RT	7.70	I=3.45' (P-CB-02) *		CIT (TO MH) AND ADJ
P-CB-02	104+27.16	99.1 RT	7.00		I=3.80' (E-CIT-01)	PROP CB
P-CBCI-01	104+05.79	12.0 RT	8.99		I=5.50' (P-DMH-01)	PROP CBCI
P-DMH-01	27+09.23	358.4 RT	9.64	I=5.19' (P-CBCI-01)*		PROP DMH

* FIELD VERIFY EXISTING INVERTS NOT LISTED

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

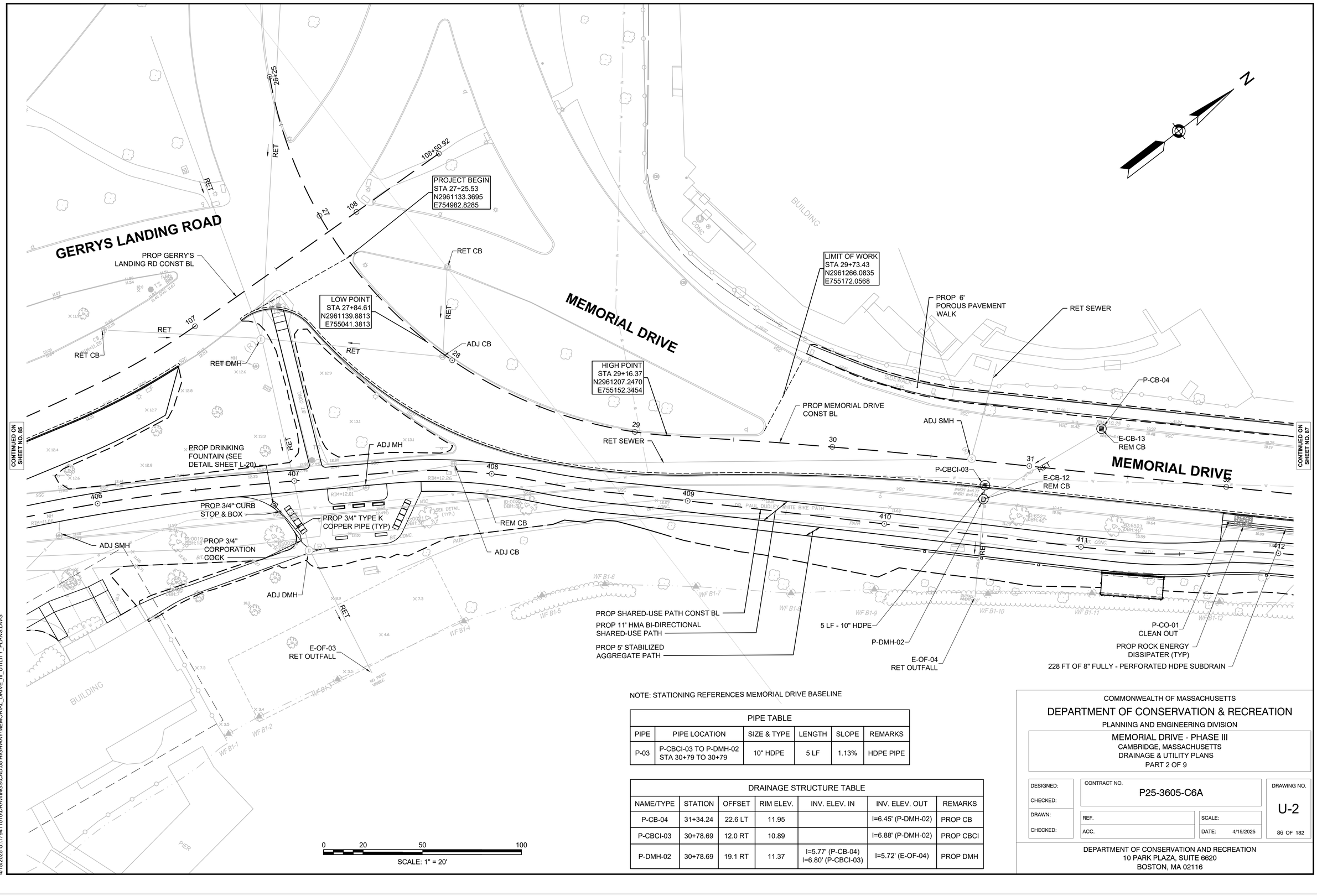
DRAINAGE & UTILITY PLANS

PART 1 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. U-1
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DRAWN:	REF.	SCALE:	
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10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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NOTE: STATIONING REFERENCES MEMORIAL DRIVE BASELINE

PIPE TABLE					
PIPE	PIPE LOCATION	SIZE & TYPE	LENGTH	SLOPE	REMARKS
P-03	P-CBCI-03 TO P-DMH-02 STA 30+79 TO 30+79	10" HDPE	5 LF	1.13%	HDPE PIPE

DRAINAGE STRUCTURE TABLE						
NAME/TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
P-CB-04	31+34.24	22.6 LT	11.95		I=6.45' (P-DMH-02)	PROP CB
P-CBCI-03	30+78.69	12.0 RT	10.89		I=6.88' (P-DMH-02)	PROP CBCI
P-DMH-02	30+78.69	19.1 RT	11.37	I=5.77' (P-CB-04) I=6.80' (P-CBCI-03)	I=5.72' (E-OF-04)	PROP DMH

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

DRAINAGE & UTILITY PLANS

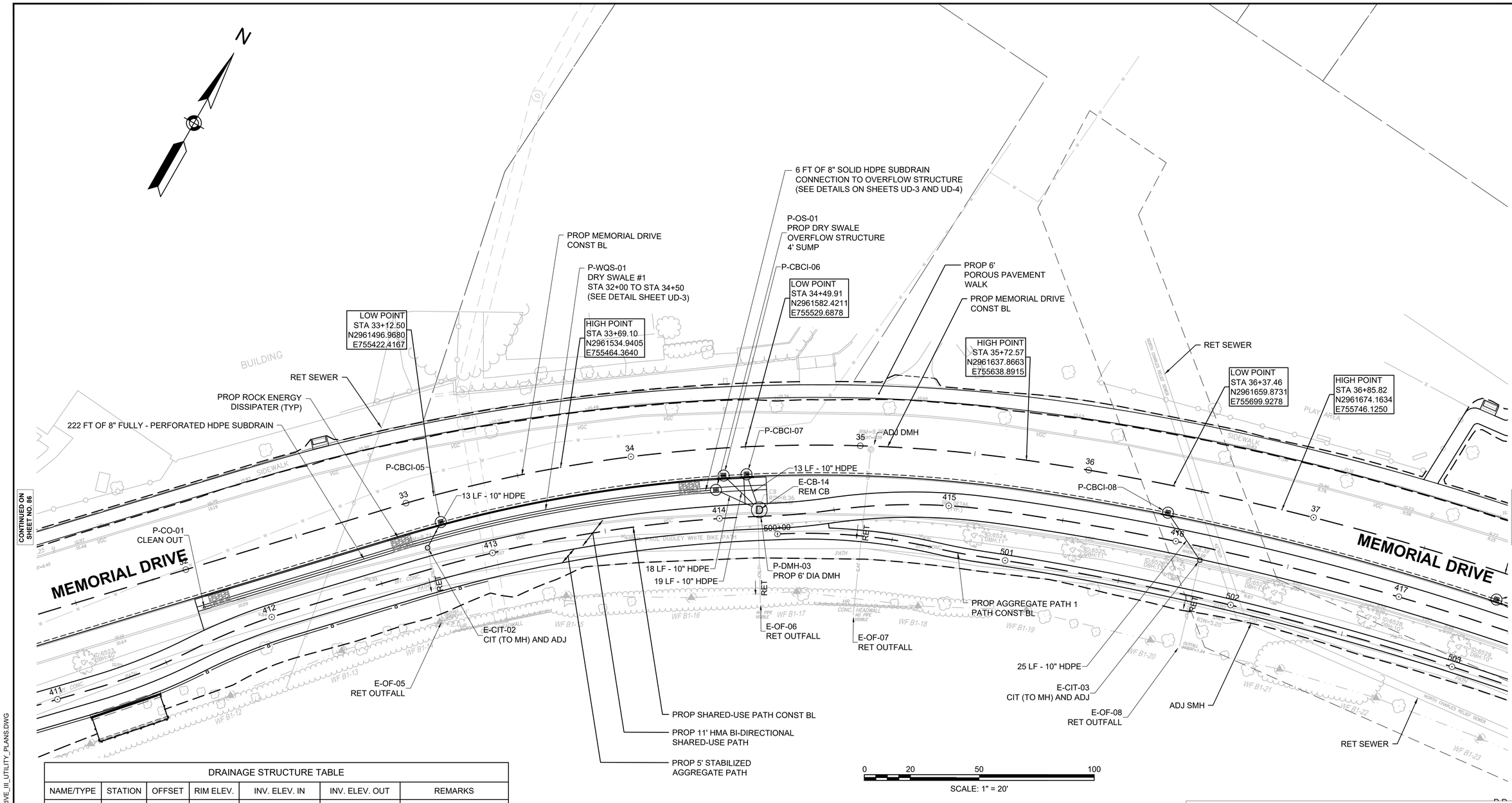
PART 2 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. U-2
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DRAWN:	REF.	SCALE:
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DEPARTMENT OF CONSERVATION AND RECREATION
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BOSTON, MA 02116

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DRAINAGE STRUCTURE TABLE						
NAME/TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
E-CIT-02	33+03.77	21.3 RT	9.19	I=5.20' (P-CBCI-05)	I=4.91' (E-OF-05)	CIT (TO MH) AND ADJ
E-CIT-03	36+55.54	29.4 RT	8.56	I=4.80' (P-CBCI-08)	I=4.09' (E-OF-08)	CIT (TO MH) AND ADJ
P-CBCI-05	33+12.50	12.0 RT	9.15		I=5.40' (E-CIT-02)	PROP CBCI
P-CBCI-06	34+39.76	12.0 RT	9.09		I=5.60' (P-DMH-03)	PROP CBCI
P-CBCI-07	34+49.91	12.0 RT	9.08		I=5.70' (P-DMH-03)	PROP CBCI
P-CBCI-08	36+37.46	12.0 RT	9.25		I=5.50' (E-CIT-03)	PROP CBCI
P-CO-01	32+02.90	18.0 RT	9.39			CLEAN OUT
P-DMH-03	34+54.94	27.7 RT	9.90	I=5.30' (P-CBCI-07) I=5.20' (P-CBCI-06) I=5.10' (P-OS-01)	I=4.99' (E-OF-06)	PROP 6' DIA DMH
P-OS-01	34+35.92	18.0 RT	8.57	I=5.30' (P-WQS-01)	I=5.20' (P-DMH-03)	PROP DRY SWALE OVERFLOW STRUCTURE 4' SUMP

PIPE TABLE					
PIPE	PIPE LOCATION	SIZE & TYPE	LENGTH	SLOPE	REMARKS
P-04	P-CBCI-05 TO E-CIT-02 STA 33+12 TO 33+04	10" HDPE	13 LF	1.59%	HDPE PIPE
P-05	P-WQS-01 TO P-OS-01 STA 32+03 TO 34+36	8" HDPE	230 LF	0.50%	228 FT OF 8" FULLY - PERFORATED HDPE SUBDRAIN 2 FT OF 8" SOLID HDPE SUBDRAIN CONNECTION TO OVERFLOW STRUCTURE
P-06	P-OS-01 TO P-DMH-03 STA 34+36 TO 34+55	10" HDPE	18 LF	0.49%	HDPE PIPE
P-07	P-CBCI-06 TO P-DMH-03 STA 34+40 TO 34+55	10" HDPE	19 LF	1.86%	HDPE PIPE
P-08	P-CBCI-07 TO P-DMH-03 STA 34+50 TO 34+55	10" HDPE	13 LF	2.44%	HDPE PIPE
P-09	P-CBCI-08 TO E-CIT-03 STA 36+37 TO 36+56	10" HDPE	25 LF	2.82%	HDPE PIPE

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

DRAINAGE & UTILITY PLANS

PART 3 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. U-3
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DRAWN:	REF.	SCALE:	
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/15/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_UTILITY_PLANS.DWG

DRAINAGE STRUCTURE TABLE						
NAME/TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
P-CBCI-09	37+86.80	12.0 RT	8.74		I=4.85' (P-DMH-04)	PROP CBCI
P-CBCI-10	39+53.89	12.0 RT	7.84		I=4.67' (P-DMH-05)	PROP CBCI
P-CBCI-11	39+72.07	12.0 RT	7.80		I=4.67' (P-DMH-05)	PROP CBCI
P-CBCI-12	40+69.02	12.0 RT	7.94		I=4.12' (P-DMH-06)	PROP CBCI
P-DMH-04	38+56.35	29.8 RT	9.02	I=4.25' (P-CBCI-09)	I=4.06' (E-OF-09)	PROP DMH
P-DMH-05	39+48.17	33.6 RT	7.86	I=4.51' (P-CBCI-11) I=4.56' (P-CBCI-10)	I=4.43' (E-OF-10)	PROP DMH
P-DMH-06	40+58.92	29.5 RT	8.35	I=3.95' (P-CBCI-12)	I=3.48' (E-OF-11) I=3.84' (E-OF-12)	PROP DMH

PIPE TABLE					
PIPE	PIPE LOCATION	SIZE & TYPE	LENGTH	SLOPE	REMARKS
P-10	P-CBCI-09 TO P-DMH-04 STA 37+87 TO 38+56	10" HDPE	69 LF	0.85%	HDPE PIPE
P-11	P-CBCI-10 TO P-DMH-05 STA 39+54 TO 39+48	10" HDPE	20 LF	0.50%	HDPE PIPE
P-12	P-CBCI-11 TO P-DMH-05 STA 39+72 TO 39+48	10" HDPE	30 LF	0.50%	HDPE PIPE
P-13	P-CBCI-12 TO P-DMH-06 STA 40+69 TO 40+59	10" HDPE	18 LF	0.87%	HDPE PIPE

NOTE: STATIONING REFERENCES MEMORIAL DRIVE BASELINE

N

SPARKS STREET

HIGH POINT
STA 38+29.88
N2961705.8376
E755886.5754

LOW POINT
STA 37+86.80
N2961698.0925
E755844.1996

RET DMH

LOW POINT
STA 39+71.49
N2961720.7739
E756027.3169

HIGH POINT
STA 36+85.82
N2961674.1634
E755746.1250

PROP 6' POROUS
PAVEMENT WALK

PROP MEMORIAL DRIVE
CONST BL

HIGH POINT
STA 40+55.55
N2961721.9531
E756111.3523

RET SMH

MT. AUBURN STREET

MEMORIAL DRIVE

MEMORIAL DRIVE

20 LF - 10" HDPE

P-CBCI-10

E-CB-16
REM CB

P-CBCI-11

18 LF - 10" HDPE

E-CB-17
REM CB

P-CBCI-12

P-CBCI-09

69 LF - 10" HDPE

P-DMH-05

30 LF - 10" HDPE

P-DMH-06
PROP DMH

E-CB-15
REM CB

P-DMH-04
PROP DMH

E-OF-09
RET OUTFALL

E-OF-10
RET OUTFALL

E-OF-11
RET OUTFALL

E-OF-12
RET OUTFALL

RET SEWER

RET SEWER

RET SMH

RET SMH

ADJ SMH

PROP SHARED-USE
PATH CONST BL

PROP 11' HMA BI-DIRECTIONAL
SHARED-USE PATH

PROP 5' STABILIZED
AGGREGATE PATH

PROP AGGREGATE
PATH 2 CONST BL

CONTINUED ON SHEET NO. 87

CONTINUED ON SHEET NO. 89

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
DRAINAGE & UTILITY PLANS
PART 4 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. U-4
CHECKED:			
DRAWN:	REF.	SCALE:	
CHECKED:	ACC.	DATE: 4/15/2025	88 OF 182

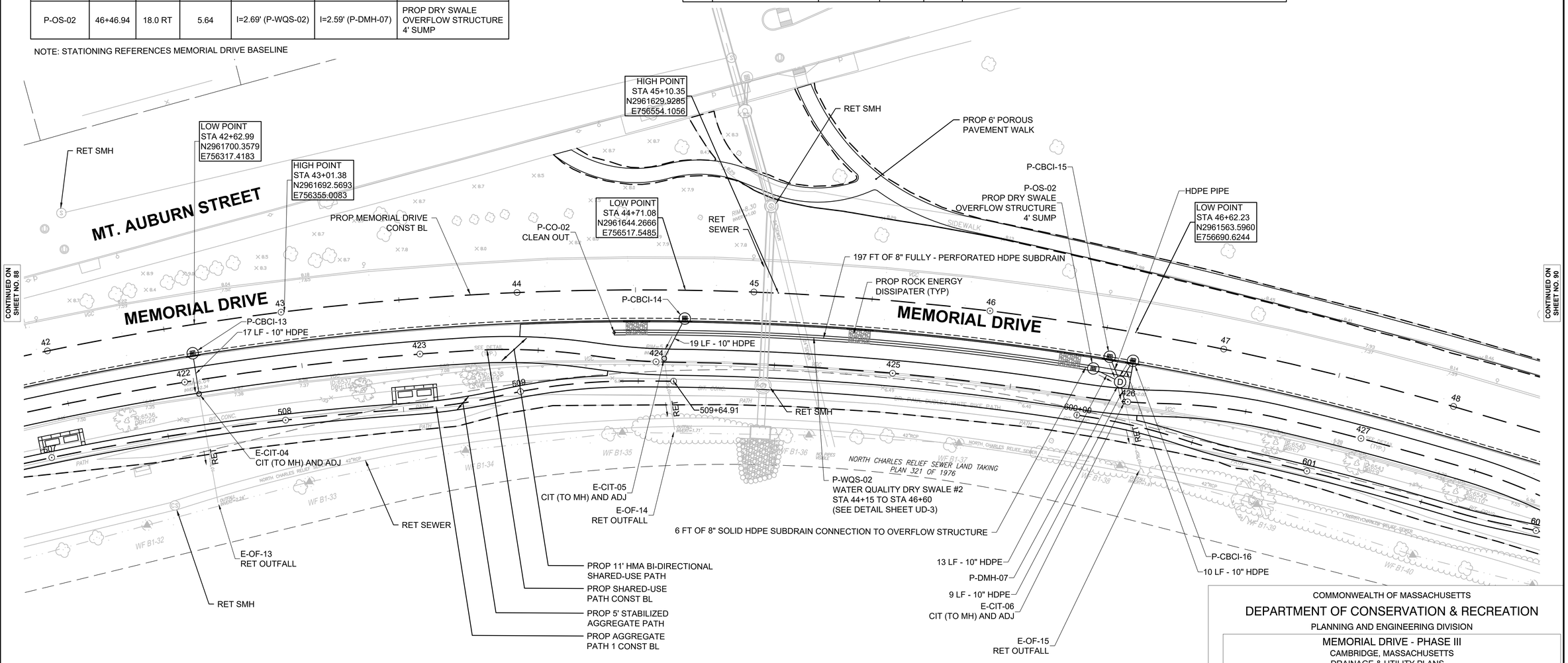
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/15/2025 U:\179411010\DRAWINGS\CADD\05 HIGHWAY\MEMORIAL_DRIVE_III_UTILITY_PLANS.DWG

DRAINAGE STRUCTURE TABLE						
NAME/TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
E-CIT-04	42+60.45	29.4 RT	6.91	I=2.60' (P-CBCI-13)	I=2.34' (E-OF-13)	CIT (TO MH) AND ADJ
E-CIT-05	44+62.37	29.0 RT	6.16	I=1.85' (P-CBCI-14)	I=1.58' (E-OF-14)	CIT (TO MH) AND ADJ
E-CIT-06	46+62.65	29.6 RT	5.98	I=2.00' (P-DMH-07)	I=2.00' (E-OF-15)	CIT (TO MH) AND ADJ
P-CBCI-13	42+60.45	12.0 RT	7.11		I=2.85' (E-CIT-04)	PROP CBCI
P-CBCI-14	44+71	12.0 RT	6.63		I=2.15' (E-CIT-05)	PROP CBCI
P-CBCI-15	46+53.03	12.0 RT	6.15		I=3.00' (P-DMH-07)	PROP CBCI
P-CBCI-16	46+63.14	12.0 RT	6.14		I=2.88' (P-DMH-07)	PROP CBCI
P-CO-02	44+40.84	18.0 RT	6.90			CLEAN OUT
P-DMH-07	46+59.21	21.7 RT	6.30	I=2.53' (P-OS-02) I=2.92' (P-CBCI-15) I=2.40' (P-CBCI-16)	I=2.04' (E-CIT-06)	PROP DMH
P-OS-02	46+46.94	18.0 RT	5.64	I=2.69' (P-WQS-02)	I=2.59' (P-DMH-07)	PROP DRY SWALE OVERFLOW STRUCTURE 4' SUMP

PIPE TABLE					
PIPE	PIPE LOCATION	SIZE & TYPE	LENGTH	SLOPE	REMARKS
P-14	P-CBCI-13 TO E-CIT-04 STA 42+60 TO 42+60	10" HDPE	17 LF	1.44%	HDPE PIPE
P-15	P-CBCI-14 TO E-CIT-05 STA 44+71 TO 44+62	10" HDPE	19 LF	1.58%	HDPE PIPE
P-16	P-WQS-02 TO P-OS-02 STA 46+41 TO 46+47	8" HDPE	230 LF	0.50%	228 FT OF 8" FULLY - PERFORATED HDPE SUBDRAIN 2 FT OF 8" SOLID HDPE SUBDRAIN CONNECTION TO OVERFLOW STRUCTURE
P-17	P-OS-02 TO P-DMH-07 STA 46+47 TO 46+59	10" HDPE	13 LF	0.50%	HDPE PIPE
P-18	P-CBCI-15 TO P-DMH-07 STA 46+53 TO 46+59	10" HDPE	12 LF	0.70%	HDPE PIPE
P-19	P-DMH-07 TO E-CIT-06 STA 46+59 TO 46+63	10" HDPE	9 LF	0.50%	HDPE PIPE
P-20	P-CBCI-16 TO P-DMH-07 STA 46+63 TO 46+59	10" HDPE	10 LF	4.58%	HDPE PIPE

NOTE: STATIONING REFERENCES MEMORIAL DRIVE BASELINE



0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

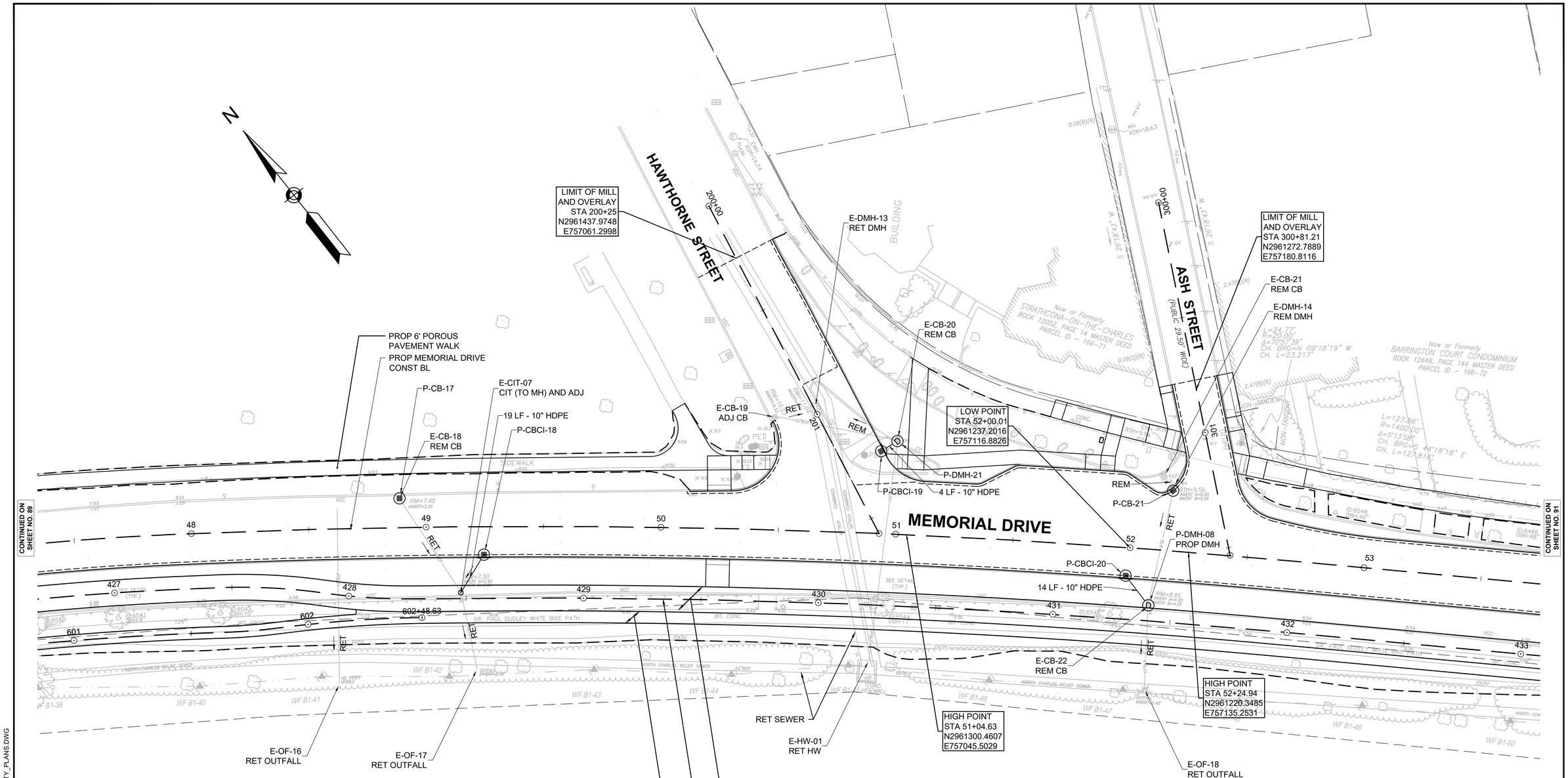
DRAINAGE & UTILITY PLANS

PART 5 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. U-5
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DRAWN:	REF.	SCALE:	
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/15/2025 U:\17941\10\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_UTILITY_PLANS.DWG



DRAINAGE STRUCTURE TABLE						
NAME/TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
E-CIT-07	49+14.52	28.1 RT	7.67	I=3.80' (P-CBCI-18) I=2.90' (P-CB-17)	I=2.80' (E-OF-17)	CIT (TO MH) AND ADJ
E-DMH-14	52+16.67	27.4 LT	10.35		I=6.30' (E-CB-21)	REM DMH
P-CB-17	48+88.90	12.4 LT	7.53		I=3.30' (E-CIT-07)	PROP CB
P-CB-21	52+16.43	25.6 LT	9.49		I=5.59' (P-DMH-08)	PROP CB
P-CBCI-18	49+24.53	12.0 RT	7.85		I=4.00' (E-CIT-07)	PROP CBCI
P-CBCI-19	50+92.39	35.1 LT	10.49		I=5.80' (P-DMH-21)	PROP CBCI
P-CBCI-20	51+98.97	12.0 RT	9.71		I=6.20' (P-DMH-08)	PROP CBCI
P-DMH-08	52+09.57	23.9 RT	9.69	I=4.55' (P-CB-21) I=6.00' (P-CBCI-20)	I=4.25' (E-OF-18)	PROP DMH
P-DMH-21	50+99.04	39.7 LT	10.85	I=5.70' (P-CBCI-19)		PROP DMH

PIPE TABLE					
PIPE	PIPE LOCATION	SIZE & TYPE	LENGTH	SLOPE	REMARKS
P-21	P-CBCI-18 TO E-CIT-07 STA 49+25 TO 49+15	10" HDPE	19 LF	1.06%	HDPE PIPE
P-23	P-CBCI-20 TO P-DMH-08 STA 51+99 TO 52+10	10" HDPE	14 LF	1.26%	HDPE PIPE
P-135	P-CBCI-19 TO P-DMH-21 STA 50+92 TO 50+99	10" HDPE	4 LF	1.23%	HDPE PIPE

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

DRAINAGE & UTILITY PLANS

PART 6 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. U-6
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DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/15/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

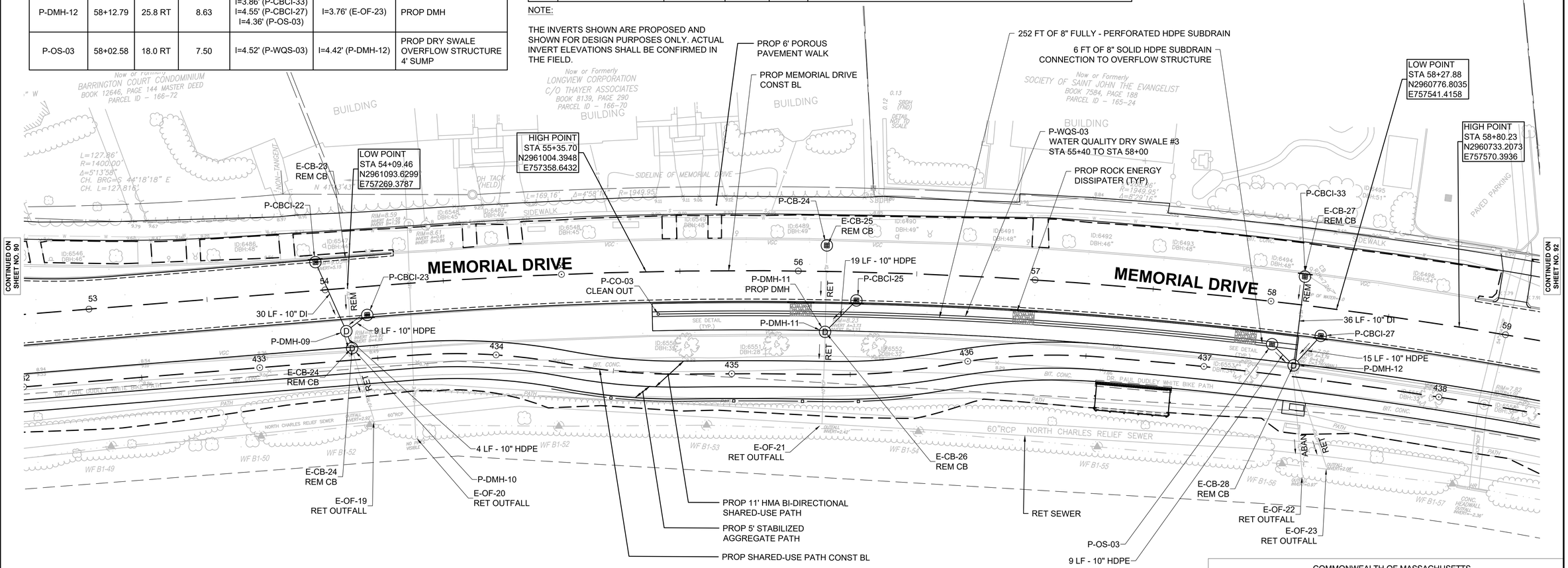
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DRAINAGE STRUCTURE TABLE						
NAME/TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
P-CB-24	56+11.84	10.9 LT	8.32		I=4.00' (P-DMH-11)	PROP CB
P-CBCI-22	53+96.86	12.0 LT	8.02		I=5.36' (P-DMH-09)	PROP CBCI
P-CBCI-23	54+16.86	12.0 RT	8.40		I=5.22' (P-DMH-09)	PROP CBCI
P-CBCI-25	56+24.80	12.0 RT	8.58		I=4.25' (P-DMH-11)	PROP CBCI
P-CBCI-27	58+22.70	12.0 RT	7.91		I=4.65' (P-DMH-12)	PROP CBCI
P-CBCI-33	58+12.97	12.0 LT	7.54		I=4.13' (P-DMH-12)	PROP CB
P-CO-03	55+40.49	18.0 RT	8.38			CLEAN OUT
P-DMH-09	54+07.52	18.1 RT	8.76	I=5.16' (P-CBCI-23) I=5.20' (P-CBCI-22)	I=5.06' (P-DMH-10)	PROP DMH
P-DMH-10	54+09.36	25.4 RT	8.74	I=4.95' (P-DMH-09)	I=4.95' (E-OF-19)	PROP DMH
P-DMH-11	56+11.72	25.5 RT	9.08	I=3.73' (P-CB-24) I=4.15' (P-CBCI-25)	I=3.23' (E-OF-21)	PROP DMH
P-DMH-12	58+12.79	25.8 RT	8.63	I=3.86' (P-CBCI-33) I=4.55' (P-CBCI-27) I=4.36' (P-OS-03)	I=3.76' (E-OF-23)	PROP DMH
P-OS-03	58+02.58	18.0 RT	7.50	I=4.52' (P-WQS-03)	I=4.42' (P-DMH-12)	PROP DRY SWALE OVERFLOW STRUCTURE 4' SUMP

PIPE TABLE					
PIPE	PIPE LOCATION	SIZE & TYPE	LENGTH	SLOPE	REMARKS
P-24	P-CBCI-22 TO P-DMH-09 STA 53+97 TO 54+08	10" DI	30 LF	0.50%	DI
P-25	P-DMH-09 TO P-DMH-10 STA 54+08 TO 54+09	10" HDPE	4 LF	1.46%	HDPE PIPE
P-26	P-CBCI-23 TO P-DMH-09 STA 54+17 TO 54+08	10" HDPE	9 LF	0.50%	HDPE PIPE
P-27	P-CBCI-25 TO P-DMH-11 STA 56+25 TO 56+12	10" HDPE	19 LF	0.53%	HDPE PIPE
P-28	P-WQS-03 TO P-OS-03 STA 57+96 TO 58+03	8" HDPE	258 LF	0.50%	258 FT OF 8" FULLY - PERFORATED HDPE SUBDRAIN 2 FT OF 8" SOLID HDPE SUBDRAIN CONNECTION TO OVERFLOW STRUCTURE
P-29	P-OS-03 TO P-DMH-12 STA 58+03 TO 58+13	10" HDPE	9 LF	0.50%	HDPE PIPE
P-30	P-CBCI-33 TO P-DMH-12 STA 58+13 TO 58+13	10" DI	36 LF	0.71%	DI
P-31	P-CBCI-27 TO P-DMH-12 STA 58+23 TO 58+13	10" HDPE	15 LF	0.59%	HDPE PIPE

NOTE:

THE INVERTS SHOWN ARE PROPOSED AND SHOWN FOR DESIGN PURPOSES ONLY. ACTUAL INVERT ELEVATIONS SHALL BE CONFIRMED IN THE FIELD.



0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
DRAINAGE & UTILITY PLANS
PART 7 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. U-7
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DRAWN:	REF.	SCALE:
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

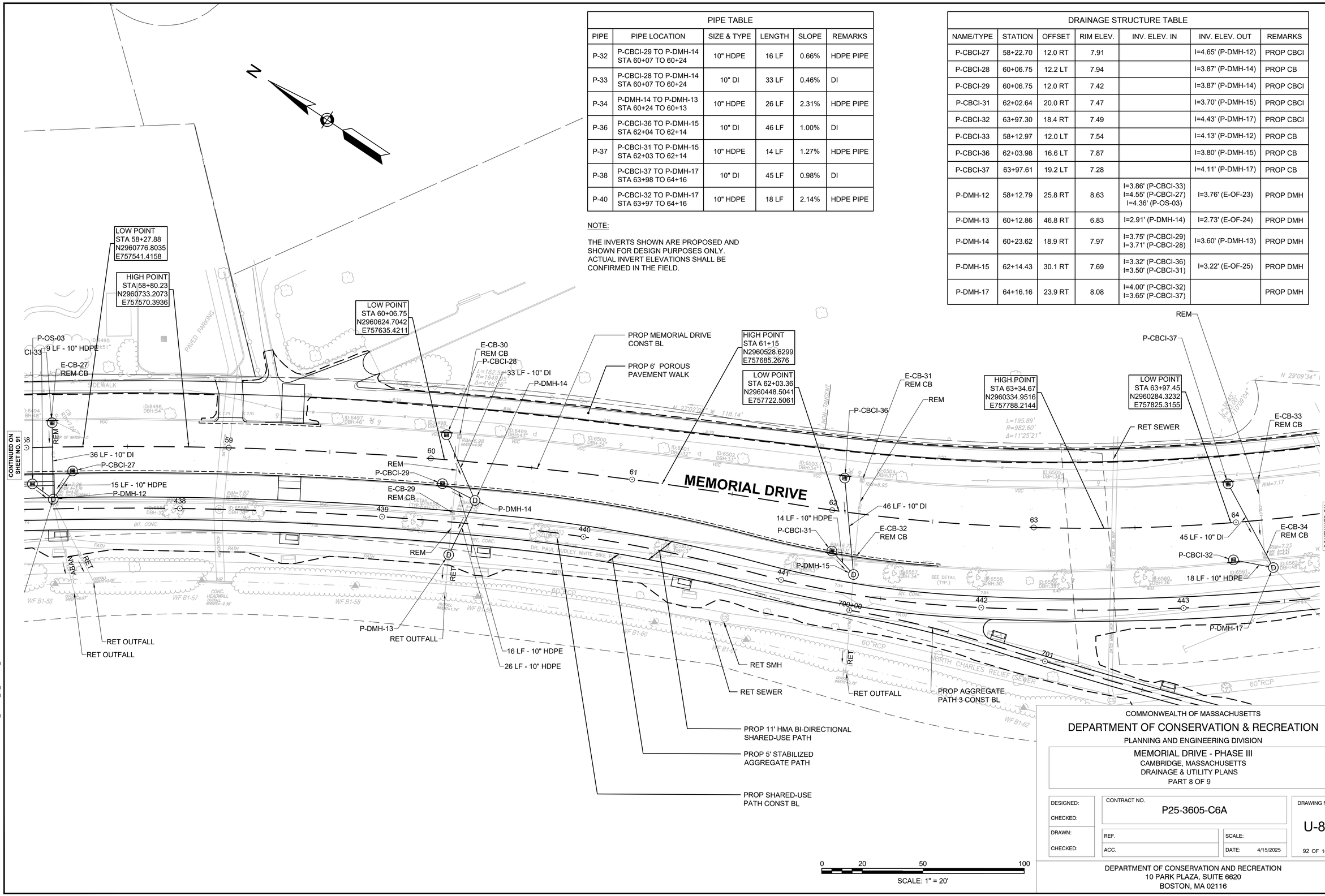
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PIPE TABLE					
PIPE	PIPE LOCATION	SIZE & TYPE	LENGTH	SLOPE	REMARKS
P-32	P-CBCI-29 TO P-DMH-14 STA 60+07 TO 60+24	10" HDPE	16 LF	0.66%	HDPE PIPE
P-33	P-CBCI-28 TO P-DMH-14 STA 60+07 TO 60+24	10" DI	33 LF	0.46%	DI
P-34	P-DMH-14 TO P-DMH-13 STA 60+24 TO 60+13	10" HDPE	26 LF	2.31%	HDPE PIPE
P-36	P-CBCI-36 TO P-DMH-15 STA 62+04 TO 62+14	10" DI	46 LF	1.00%	DI
P-37	P-CBCI-31 TO P-DMH-15 STA 62+03 TO 62+14	10" HDPE	14 LF	1.27%	HDPE PIPE
P-38	P-CBCI-37 TO P-DMH-17 STA 63+98 TO 64+16	10" DI	45 LF	0.98%	DI
P-40	P-CBCI-32 TO P-DMH-17 STA 63+97 TO 64+16	10" HDPE	18 LF	2.14%	HDPE PIPE

NOTE:

THE INVERTS SHOWN ARE PROPOSED AND SHOWN FOR DESIGN PURPOSES ONLY. ACTUAL INVERT ELEVATIONS SHALL BE CONFIRMED IN THE FIELD.

DRAINAGE STRUCTURE TABLE						
NAME/TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
P-CBCI-27	58+22.70	12.0 RT	7.91		I=4.65' (P-DMH-12)	PROP CBCI
P-CBCI-28	60+06.75	12.2 LT	7.94		I=3.87' (P-DMH-14)	PROP CB
P-CBCI-29	60+06.75	12.0 RT	7.42		I=3.87' (P-DMH-14)	PROP CBCI
P-CBCI-31	62+02.64	20.0 RT	7.47		I=3.70' (P-DMH-15)	PROP CBCI
P-CBCI-32	63+97.30	18.4 RT	7.49		I=4.43' (P-DMH-17)	PROP CBCI
P-CBCI-33	58+12.97	12.0 LT	7.54		I=4.13' (P-DMH-12)	PROP CB
P-CBCI-36	62+03.98	16.6 LT	7.87		I=3.80' (P-DMH-15)	PROP CB
P-CBCI-37	63+97.61	19.2 LT	7.28		I=4.11' (P-DMH-17)	PROP CB
P-DMH-12	58+12.79	25.8 RT	8.63	I=3.86' (P-CBCI-33) I=4.55' (P-CBCI-27) I=4.36' (P-OS-03)	I=3.76' (E-OF-23)	PROP DMH
P-DMH-13	60+12.86	46.8 RT	6.83	I=2.91' (P-DMH-14)	I=2.73' (E-OF-24)	PROP DMH
P-DMH-14	60+23.62	18.9 RT	7.97	I=3.75' (P-CBCI-29) I=3.71' (P-CBCI-28)	I=3.60' (P-DMH-13)	PROP DMH
P-DMH-15	62+14.43	30.1 RT	7.69	I=3.32' (P-CBCI-36) I=3.50' (P-CBCI-31)	I=3.22' (E-OF-25)	PROP DMH
P-DMH-17	64+16.16	23.9 RT	8.08	I=4.00' (P-CBCI-32) I=3.65' (P-CBCI-37)		PROP DMH



0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
DRAINAGE & UTILITY PLANS
PART 8 OF 9

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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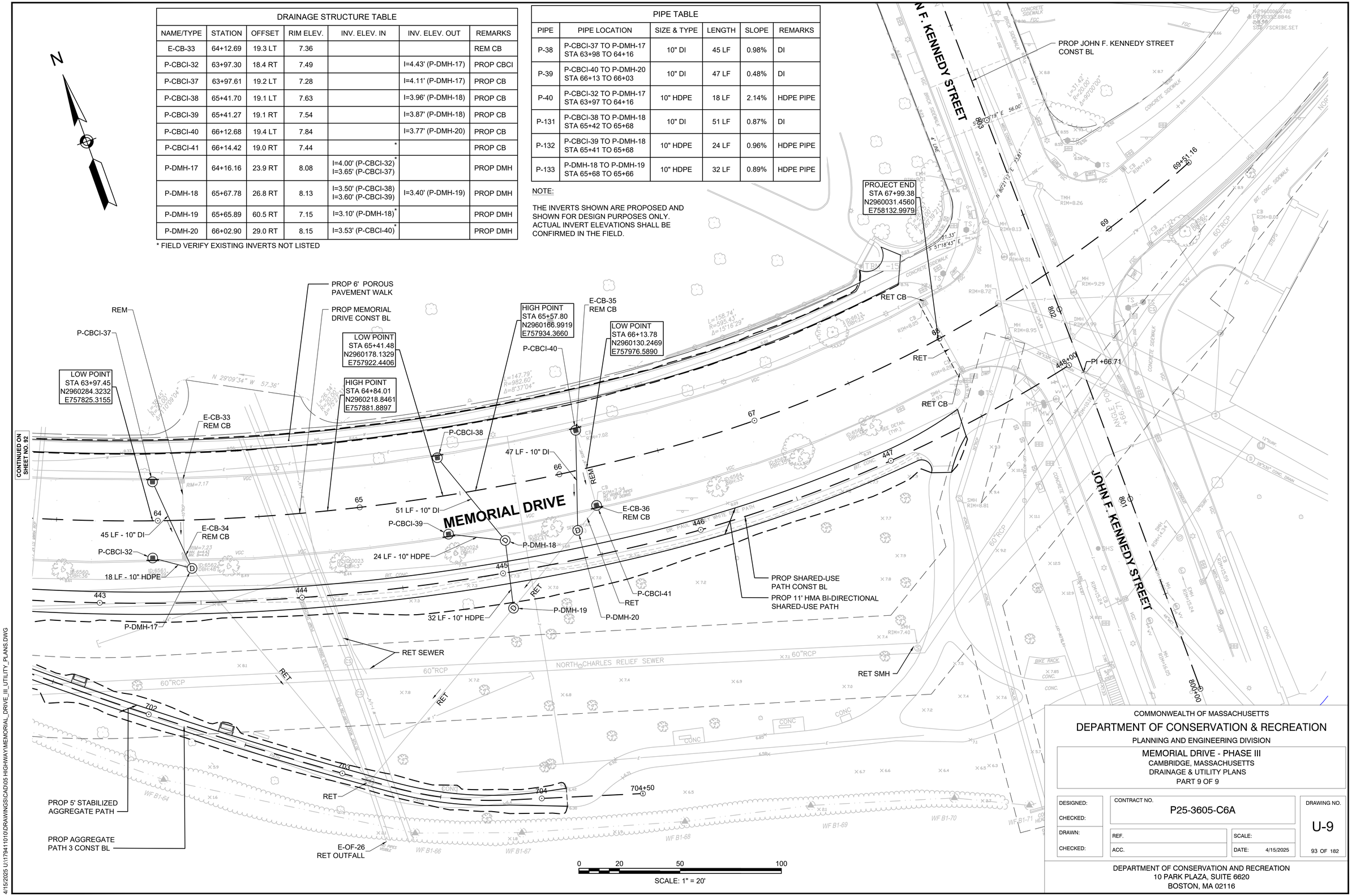
DRAINAGE STRUCTURE TABLE						
NAME/TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
E-CB-33	64+12.69	19.3 LT	7.36			REM CB
P-CBCI-32	63+97.30	18.4 RT	7.49		I=4.43' (P-DMH-17)	PROP CBCI
P-CBCI-37	63+97.61	19.2 LT	7.28		I=4.11' (P-DMH-17)	PROP CB
P-CBCI-38	65+41.70	19.1 LT	7.63		I=3.96' (P-DMH-18)	PROP CB
P-CBCI-39	65+41.27	19.1 RT	7.54		I=3.87' (P-DMH-18)	PROP CB
P-CBCI-40	66+12.68	19.4 LT	7.84		I=3.77' (P-DMH-20)	PROP CB
P-CBCI-41	66+14.42	19.0 RT	7.44	*		PROP CB
P-DMH-17	64+16.16	23.9 RT	8.08	I=4.00' (P-CBCI-32)* I=3.65' (P-CBCI-37)		PROP DMH
P-DMH-18	65+67.78	26.8 RT	8.13	I=3.50' (P-CBCI-38) I=3.60' (P-CBCI-39)	I=3.40' (P-DMH-19)	PROP DMH
P-DMH-19	65+65.89	60.5 RT	7.15	I=3.10' (P-DMH-18)*		PROP DMH
P-DMH-20	66+02.90	29.0 RT	8.15	I=3.53' (P-CBCI-40)*		PROP DMH

* FIELD VERIFY EXISTING INVERTS NOT LISTED

PIPE TABLE					
PIPE	PIPE LOCATION	SIZE & TYPE	LENGTH	SLOPE	REMARKS
P-38	P-CBCI-37 TO P-DMH-17 STA 63+98 TO 64+16	10" DI	45 LF	0.98%	DI
P-39	P-CBCI-40 TO P-DMH-20 STA 66+13 TO 66+03	10" DI	47 LF	0.48%	DI
P-40	P-CBCI-32 TO P-DMH-17 STA 63+97 TO 64+16	10" HDPE	18 LF	2.14%	HDPE PIPE
P-131	P-CBCI-38 TO P-DMH-18 STA 65+42 TO 65+68	10" DI	51 LF	0.87%	DI
P-132	P-CBCI-39 TO P-DMH-18 STA 65+41 TO 65+68	10" HDPE	24 LF	0.96%	HDPE PIPE
P-133	P-DMH-18 TO P-DMH-19 STA 65+68 TO 65+66	10" HDPE	32 LF	0.89%	HDPE PIPE

NOTE:

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COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

DRAINAGE & UTILITY PLANS

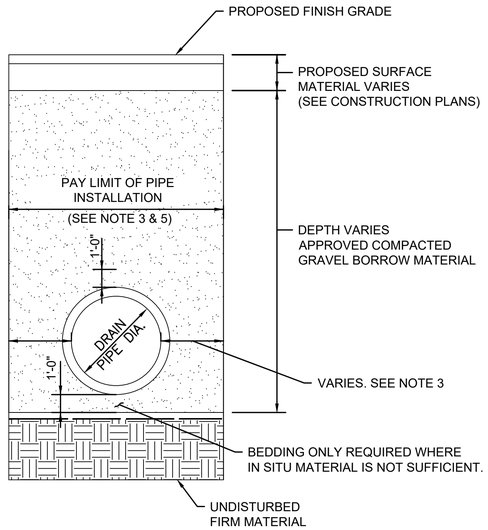
PART 9 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. U-9
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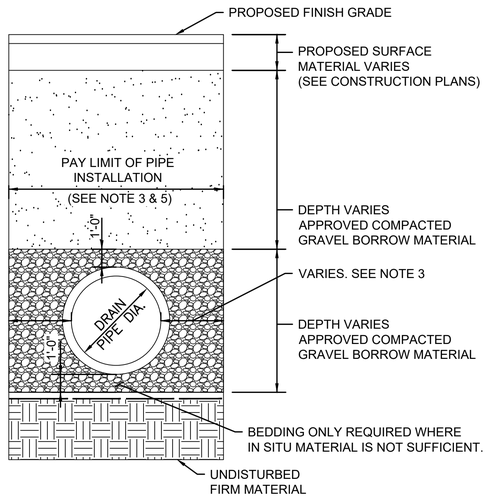
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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DUCTILE IRON PIPE TRENCH



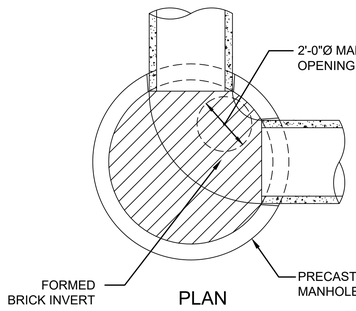
HIGH DENSITY POLYETHYLENE PIPE TRENCH

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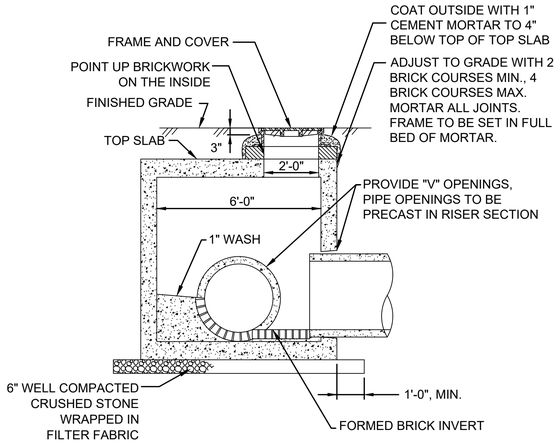
1. CONTRACTOR TO DESIGN TEMPORARY SUPPORT OF UTILITY CROSSINGS FOR DRAINAGE TRENCHES.
2. DEPTH IS DEFINED AS DISTANCE FROM EXISTING GRADE TO 1'-0" BELOW INVERT OF PIPE.
3. FOR DEPTHS GREATER THAN 5'-0", THE PAY LIMIT OF EXCAVATION IS 1'-6" ON EACH SIDE OF PIPE (AS MEASURED FROM INSIDE OF PIPE DIAMETER TO SHEETING LIMITS). SEE CLASS B TRENCH EXCAVATION SPECIFICATION. THE TRENCH WIDTH IS D+2' IN ROCK AND AN ALLOWANCE FOR 1:1 SIDE SLOPES FOR A DEPTH OVER 5 FT.
4. BACKFILL MATERIAL MAY BE OBTAINED FROM EXCAVATION AND SHALL CONTAIN NO STONE GREATER THAN 3-INCHES. GRAVEL BORROW WILL BE USED WHEN IN-SITU MATERIAL IS NOT APPROVED BY THE ENGINEER.
5. IN AREAS OF REINFORCED CONCRETE EXCAVATION, THE PAY LIMIT OF EXCAVATION WILL EXTEND AN ADDITIONAL 1'-0" ABOVE THE SLAB.

DRAINAGE PIPE TRENCH DETAIL

NOT TO SCALE



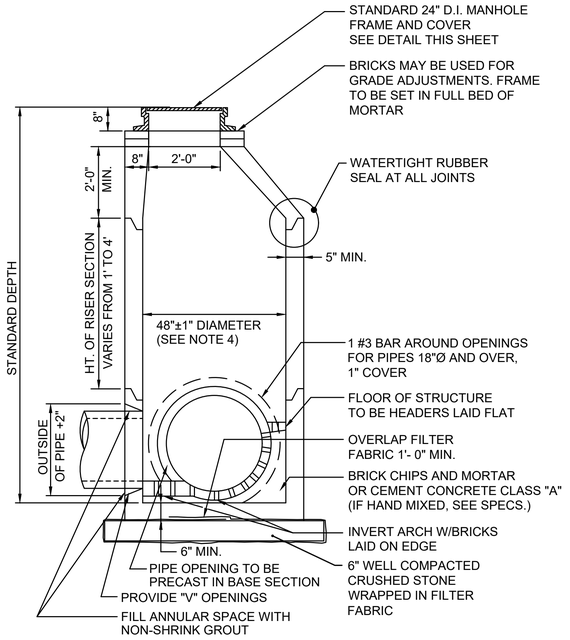
PLAN



SECTION

6' PRECAST CONCRETE DRAIN MANHOLE

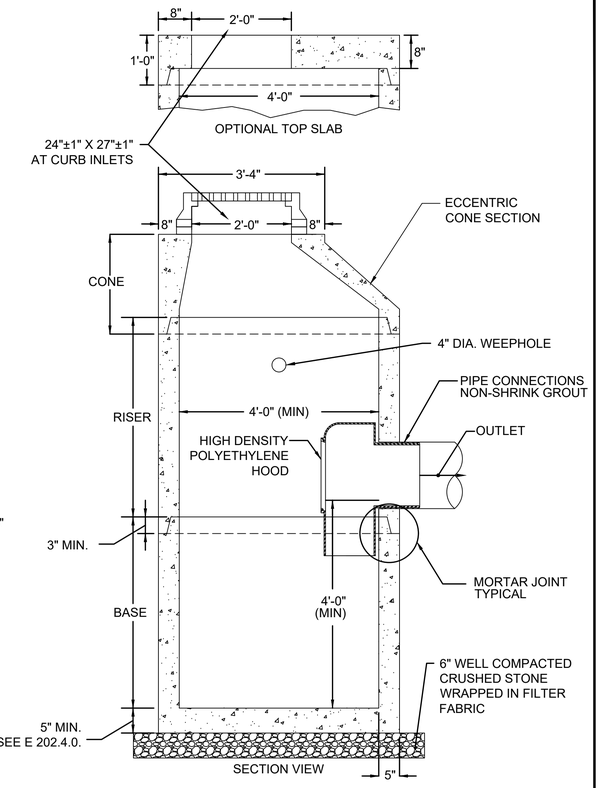
NOT TO SCALE



NOTE:
1. MIN 0.12 SQ. IN STEEL PER VERTICAL FOOT, PLACED ACCORDING TO AASHTO DESIGNATION M199, TYPICAL ALL SIDES
2. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING
3. OPTION TO USE TOP SLAB INSTEAD OF CONICAL SECTION
4. MANHOLES INSTALLED UNDER UNDER ITEM 203.6 TO HAVE 72" INNNER DIAMETER.

PRECAST CONCRETE DRAIN MANHOLE

NOT TO SCALE



NOTE :
1. CONCRETE: 4,000PSI MINIMUM AFTER 28 DAYS.
2. REINFORCED STEEL CONFORMS TO LATEST ASTM A185 SPEC. 0.12 SQ. IN/LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM.
3. H-20 DESIGN LOADING PER AASHTO HS-20-44; ASTM C478 SPEC FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS."
4. BASED ON ACTUAL FIELD CONDITIONS; THE CONTRACTOR SHALL DETERMINE WHICH TYPE OF TOP SECTION SHOULD BE USED.
5. CBCI'S WILL HAVE A 27" X 24" ± 1" OPENING AT THE TOP; A 24" X 24" ± 1" OPENING WILL BE PROVIDED AT OTHER LOCATIONS.

CATCH BASIN WITH OFFSET FRAME AND GRATE NOT TO SCALE

NOT TO SCALE

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

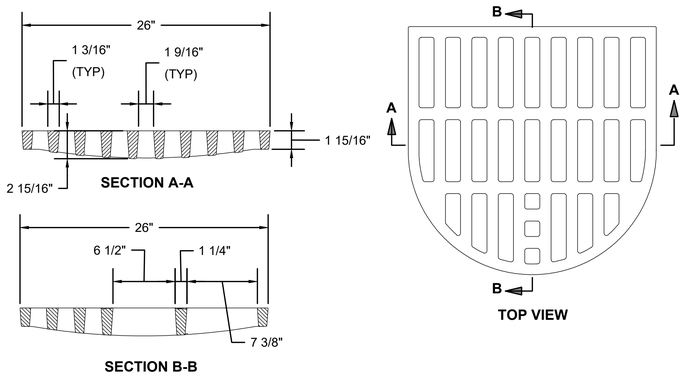
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
DRAINAGE & UTILITY DETAILS
PART 1 OF 4

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. UD-1
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DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/15/2025

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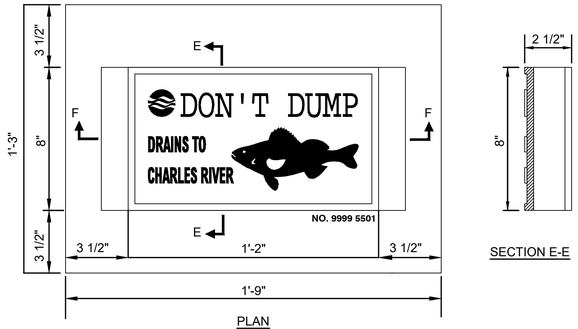
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/15/2025 U:\17941\1010\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_UTILITY_DETAILS.DWG



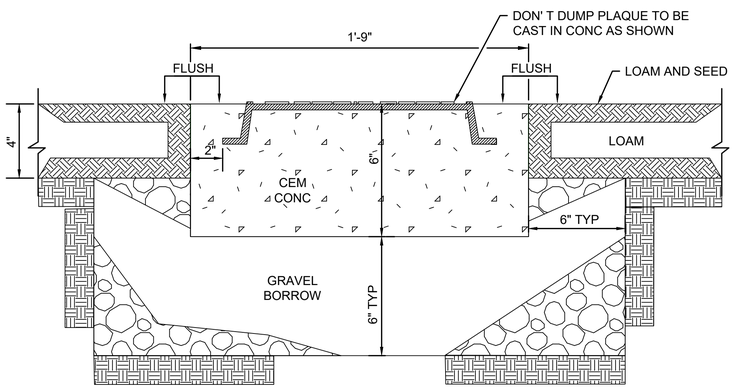
D STYLE GRATE

NOT TO SCALE



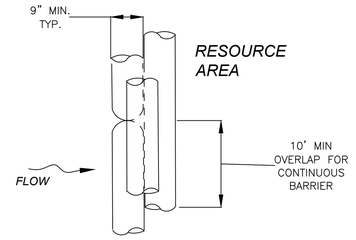
DON'T DUMP PLAQUE

NOT TO SCALE

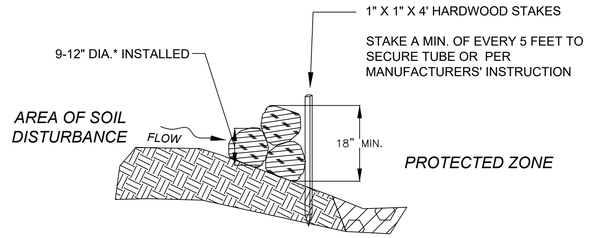


DON'T DUMP PLAQUE SET IN GRASS

NOT TO SCALE



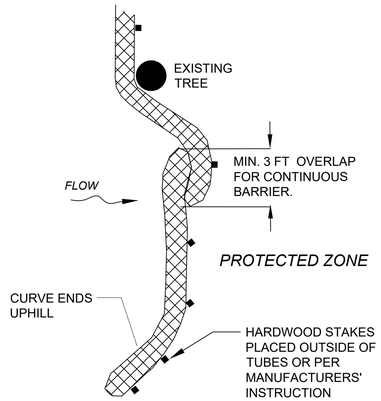
PLAN VIEW



SECTION

COMPOST FILTER TUBE BERM (SLOPES 2:1 OR STEEPER)

NOT TO SCALE



PLACE TUBE ALONG CONTOURS AND PERPENDICULAR TO FLOW.

PLACE AS CLOSE TO LIMIT OF SOIL DISTURBANCE AS POSSIBLE

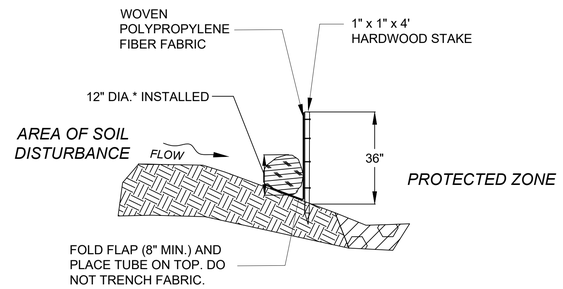
ADJUST LOCATION AS REQUIRED FOR OPTIMUM EFFECTIVENESS. DO NOT INSTALL IN WATERWAYS.

PLACE STAKES AS NEEDED TO SECURE TUBES IN PLACE.

PLAN VIEW

SEDIMENT BARRIERS

NOT TO SCALE



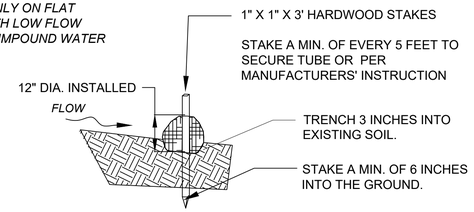
SECTION

COMPOST FILTER TUBE & SILT FENCE

NOT TO SCALE

12 INCH STRAW WATTLE

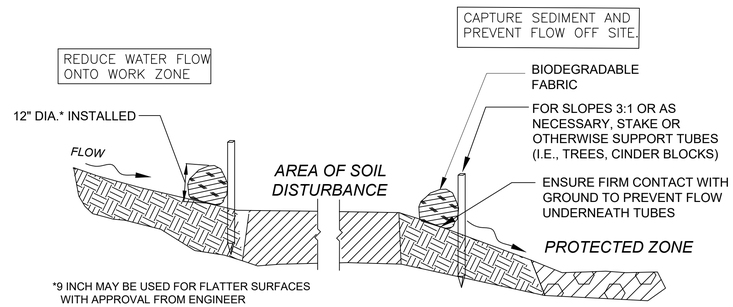
TO BE USED ONLY ON FLAT SURFACES WITH LOW FLOW TO DIVERT OR IMPOUND WATER FLOW



SECTION

SEDIMENT BARRIERS - STRAW WATTLE

NOT TO SCALE



SECTION

SEDIMENT BARRIERS - COMPOST FILTER TUBES

NOT TO SCALE

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

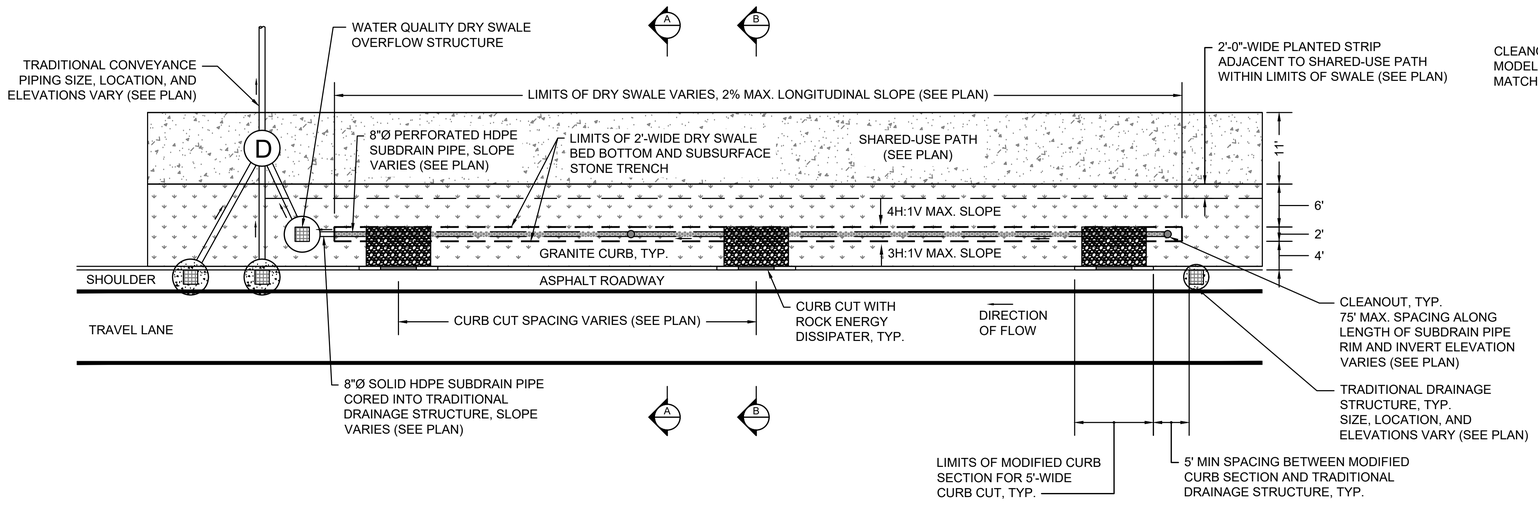
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
DRAINAGE & UTILITY DETAILS
PART 2 OF 4

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. UD-2
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DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/15/2025

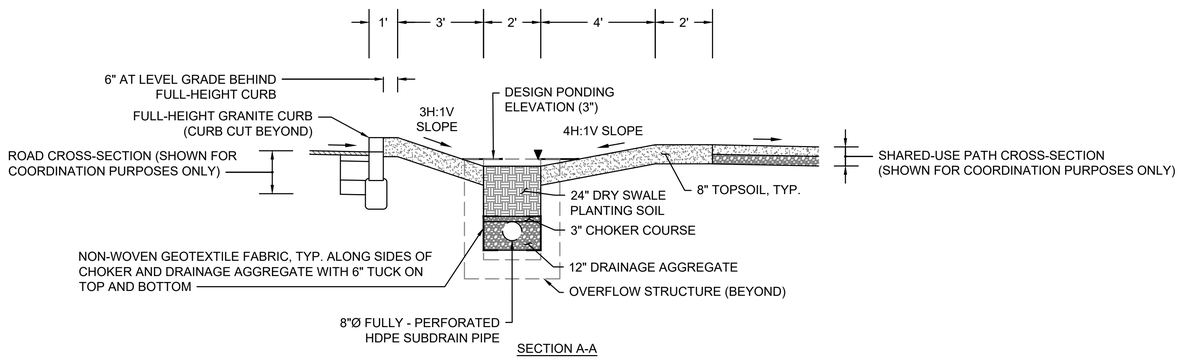
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

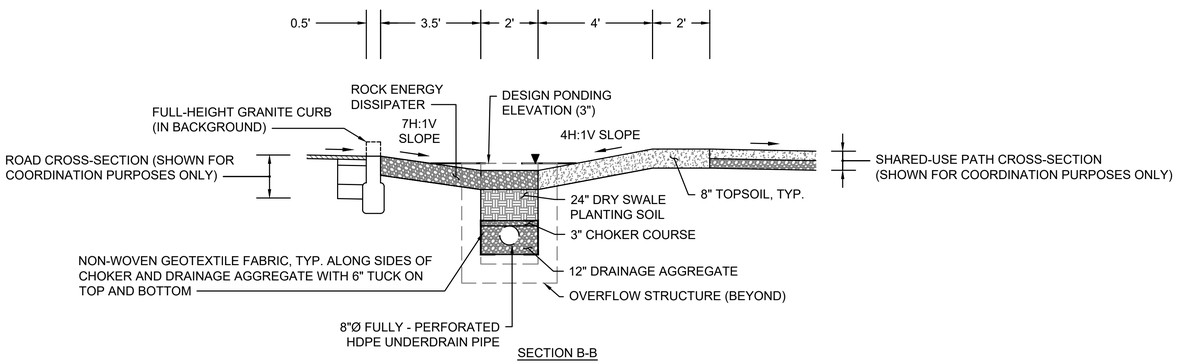
4/15/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_UTILITY_DETAILS.DWG



PLAN VIEW



SECTION A-A



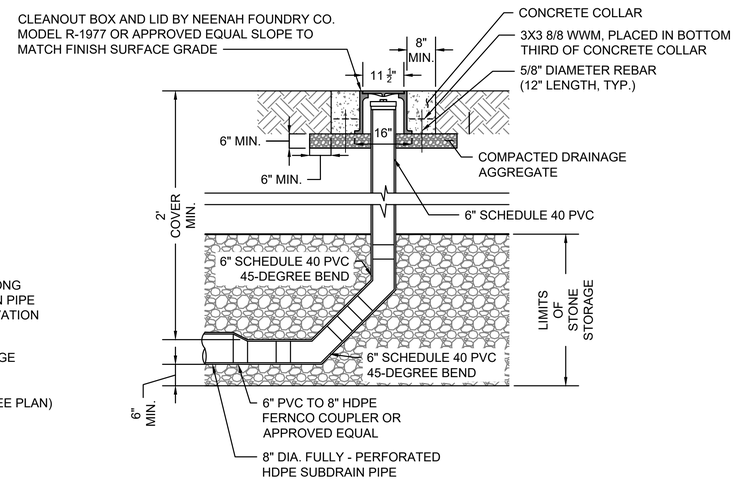
SECTION B-B

NOTES:

1. REFER TO LANDSCAPE PLANS FOR PLANTING SCHEDULE.
2. REFER TO DRAINAGE PLANS FOR CONVEYANCE PIPING AND STRUCTURE INFORMATION.

WATER QUALITY DRY SWALE DETAIL

N.T.S.

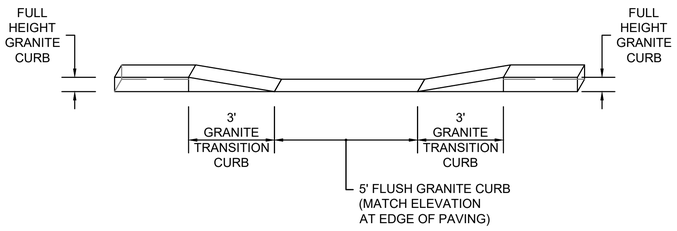


NOTES:

1. CLEANOUTS SHALL BE AT LEAST SIX (6) INCHES IN DIAMETER AND CONSTRUCTED OF RIGID SCHEDULE 40 PVC PIPE.
2. ALL JOINTS, GRADE ADJUSTMENTS, AND CONNECTIONS SHALL BE WATERTIGHT.
3. SOIL SHALL BE COMPACTED AROUND RISER PIPE AS NEEDED TO PREVENT LATERAL MOVEMENT.
4. CONCRETE COLLAR TO BE PLACED SINGULARLY IN SOIL/GRASS. THE CONCRETE COLLAR MUST HAVE STONE FOOTING. EXPANSION JOINT OR CAULK MAY BE USED.
5. PLACE THREE (3) LENGTHS OF REBAR EVENLY SPACED AROUND COLLAR, AND 3" FROM OUTER EDGE.

CLEANOUT DETAIL

N.T.S.



CURB CUT DETAIL

N.T.S.

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

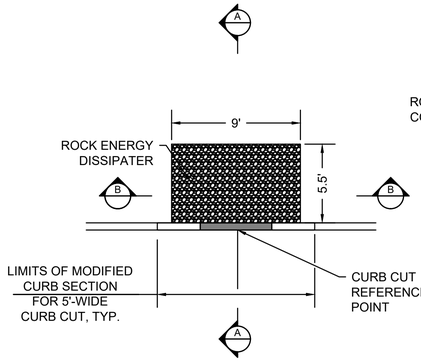
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
DRAINAGE & UTILITY DETAILS
PART 3 OF 4

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. UD-3
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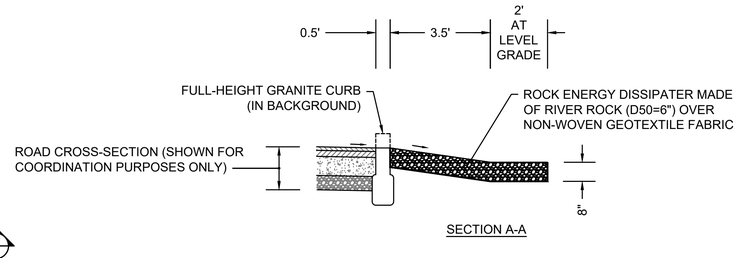
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

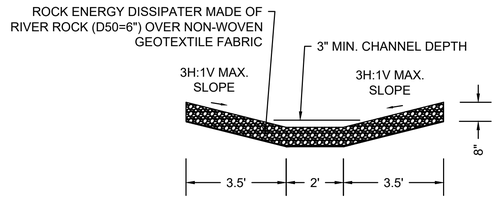
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PLAN VIEW



SECTION A-A



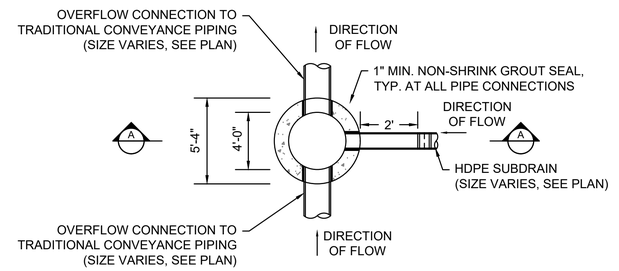
SECTION B-B

NOTES:

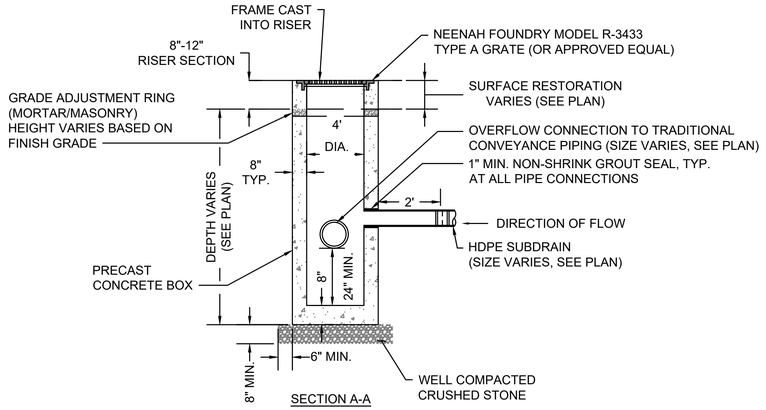
1. SAMPLE OF RIVER ROCK TO BE SUBMITTED TO DCR FOR APPROVAL PRIOR TO INSTALLATION.
2. RIVER ROCK MUST BE WELL-GRADED CLEAN-WASHED STONE.

ROCK ENERGY DISSIPATER (AT CURB CUT) DETAIL

N.T.S.



PLAN VIEW



SECTION A-A

NOTES:

1. THIS DETAIL IS INTENDED FOR USE IN THE DRY SWALES ONLY.
2. SEE PLANS FOR ALL PERTINENT ELEVATIONS, PIPE SIZE, AND PIPE ORIENTATION.
3. ALL JOINTS, GRADE ADJUSTMENTS, AND CONNECTIONS SHALL BE WATERTIGHT.
4. SUBGRADE BELOW DRAINAGE STRUCTURE SHALL BE COMPACTED EARTH.

WATER QUALITY DRY SWALE OVERFLOW STRUCTURE DETAIL

N.T.S.

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
DRAINAGE & UTILITY DETAILS
PART 4 OF 4

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. UD-4
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/15/2025 U:\17941010\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_UTILITY_DETAILS.DWG



TREE PROTECTION AND REMOVAL NOTES:

1. NUMERALS ON TREE LOCATIONS ON PLANS REFER TO MEMORIAL DRIVE PHASE III–EXISTING TREE INVENTORY AND TREE ID NUMBERS. REFER TO APPENDIX A.
2. A CERTIFIED ARBORIST SHALL BE PRESENT AND NOTIFIED AS SPECIFIED FOR ALL WORK INCLUDING AND IMPACTING EXISTING TREES AND VEGETATION. REFER TO SPEC ITEM 102.55.
3. THE CONTRACTOR SHALL CONDUCT A SITE WALK THROUGH WITH THE LANDSCAPE ARCHITECT, DCR, AND ARBORIST TO REVIEW SELECTIVE CLEARING AND THINNING WORK PRIOR TO PERFORMING WORK, REFER TO SPEC ITEM 102.
4. THE CONTRACTOR SHALL CONDUCT A SITE WALK THROUGH WITH THE DCR AND ARBORIST TO REVIEW INVASIVE PLANTS WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL PREPARE AN INVASIVE PLANT MANAGEMENT STRATEGY (IPMS) FOR APPROVAL BY THE ENGINEER AND COMPLETE INVASIVE PLANT CONTROL PER THE IPMS, REFER TO SPEC ITEMS 102.3 AND 102.33.
5. PRIOR TO ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL WALK THE SITE WITH THE ENGINEER, DCR, LANDSCAPE ARCHITECT, AND ARBORIST TO IDENTIFY WHICH TREES SHALL REQUIRE PROTECTION AND TO DETERMINE APPROVED MEASURES, REFER TO SPEC ITEM 102.51.
6. EVERY TREE TO REMAIN AND INCLUDED IN THE EXISTING TREE INVENTORY SHALL BE PROTECTED WITH TREE PROTECTION FENCING AS SHOWN ON PLANS, REFER TO DETAIL 1 SHEET L–19 AND SPEC ITEM 102.52.
7. EXISTING TREES TO REMAIN THAT ARE WITHIN 10 FEET OF PROPOSED ROADWAY, PATH, SITE IMPROVEMENT, AND/OR UTILITY EXCAVATION AREAS SHALL BE AIR EXCAVATED AND ROOT PRUNED AS DETERMINED NECESSARY BY THE ARBORIST AND APPROVED BY THE ENGINEER, LANDSCAPE ARCHITECT, AND DCR. REFER TO SPEC ITEM 102.513.
8. EXISTING TREES TO BE PRUNED SHALL BE ALL EXISTING TREES TO REMAIN AND IDENTIFIED IN THE EXISTING TREE INVENTORY AND SHOWN ON THE DRAWINGS USING TREE ID NUMBERS. PRIOR TO CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL REVIEW ALL TREES TO BE PRUNED WITH THE ENGINEER, LANDSCAPE ARCHITECT, DCR, AND ARBORIST. REFER TO APPENDIX A AND SPEC ITEM 102.531
9. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL CLEARLY TAG ALL TREES FOR REMOVAL AND REVIEW ALL TAGGED TREES WITH THE ENGINEER, LANDSCAPE ARCHITECT, DCR, ARBORIST, AND CITY CONSERVATION COMMITTEE AGENT. REFER TO SPEC ITEM 103, 104, AND 105 FOR ALL TREE REMOVAL WORK.
10. ARBORIST SHALL INSPECT TREES PRIOR TO PRUNING FOR EVIDENCE OF FUNGAL DISEASE SUCH AS CANKER STAIN AND CONTRACTOR SHALL DISINFECT TOOLS BETWEEN EACH CUT TO PREVENT CROSS CONTAMINATION BETWEEN BRANCHES AND TREES IF DISEASE IS PRESENT.

0 20 50 100
SCALE: 1" = 20'

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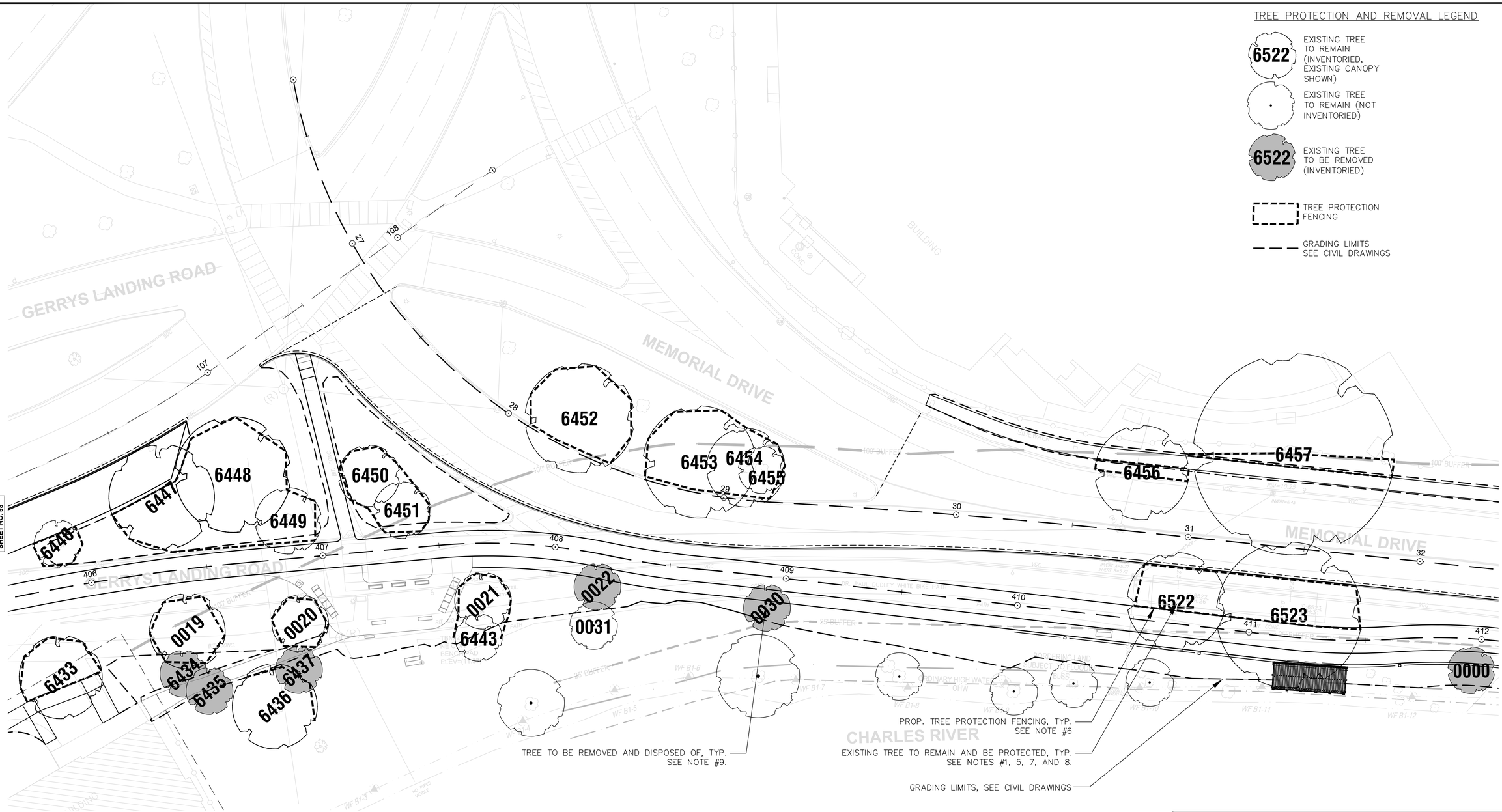
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TREE PROTECTION AND REMOVAL PLANS
1 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. L-1
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DRAWN:	REF.	SCALE: 1"=20'-0"	
CHECKED:	ACC.	DATE: 3/24/2025	98 OF 182

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10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/9/2025 J:\MEMORIAL DRIVE PHASE 3\DWGS\BRR\SHEETS\L-1-L-9 TREE PROTECTION AND REMOVAL PLANS.DWG



TREE PROTECTION AND REMOVAL NOTES:

1. NUMERALS ON TREE LOCATIONS ON PLANS REFER TO MEMORIAL DRIVE PHASE III–EXISTING TREE INVENTORY AND TREE ID NUMBERS. REFER TO APPENDIX A.
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0 20 50 100
SCALE: 1" = 20'

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COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TREE PROTECTION AND REMOVAL PLANS
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DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. L-2
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DRAWN:	REF.	SCALE: 1"=20'-0"	
CHECKED:	ACC.	DATE: 3/24/2025	99 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/9/2025 J:\MEMORIAL DRIVE PHASE 3\DWGS\BRR\SHEETS\L-1-L-9 TREE PROTECTION AND REMOVAL PLANS.DWG

TREE PROTECTION AND REMOVAL LEGEND

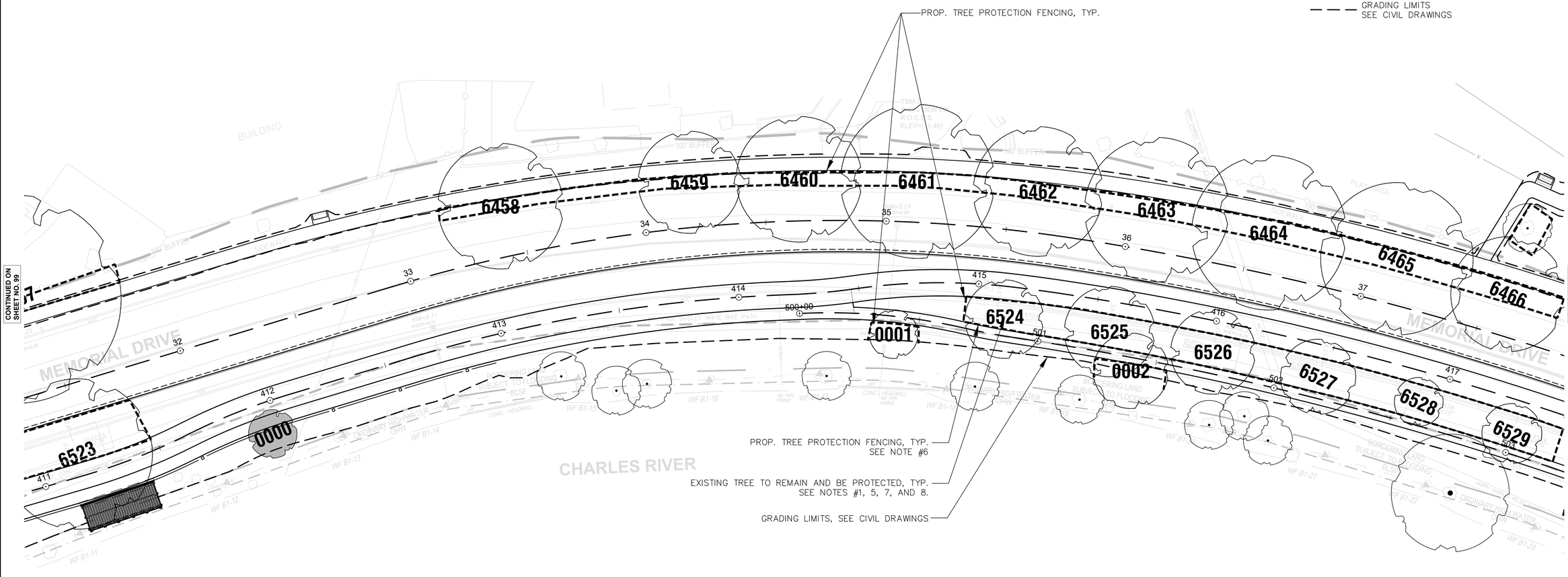
6522 EXISTING TREE TO REMAIN (INVENTORIED, EXISTING CANOPY SHOWN)

EXISTING TREE TO REMAIN (NOT INVENTORIED)

6522 EXISTING TREE TO BE REMOVED (INVENTORIED)

TREE PROTECTION FENCING

GRADING LIMITS SEE CIVIL DRAWINGS



TREE PROTECTION AND REMOVAL NOTES:

1. NUMERALS ON TREE LOCATIONS ON PLANS REFER TO MEMORIAL DRIVE PHASE III–EXISTING TREE INVENTORY AND TREE ID NUMBERS. REFER TO APPENDIX A.
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4. THE CONTRACTOR SHALL CONDUCT A SITE WALK THROUGH WITH THE DCR AND ARBORIST TO REVIEW INVASIVE PLANTS WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL PREPARE AN INVASIVE PLANT MANAGEMENT STRATEGY (IPMS) FOR APPROVAL BY THE ENGINEER AND COMPLETE INVASIVE PLANT CONTROL PER THE IPMS, REFER TO SPEC ITEMS 102.3 AND 102.33.
5. PRIOR TO ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL WALK THE SITE WITH THE ENGINEER, DCR, LANDSCAPE ARCHITECT, AND ARBORIST TO IDENTIFY WHICH TREES SHALL REQUIRE PROTECTION AND TO DETERMINE APPROVED MEASURES, REFER TO SPEC ITEM 102.51.
6. EVERY TREE TO REMAIN AND INCLUDED IN THE EXISTING TREE INVENTORY SHALL BE PROTECTED WITH TREE PROTECTION FENCING AS SHOWN ON PLANS, REFER TO DETAIL 1 SHEET L–19 AND SPEC ITEM 102.52.
7. EXISTING TREES TO REMAIN THAT ARE WITHIN 10 FEET OF PROPOSED ROADWAY, PATH, SITE IMPROVEMENT, AND/OR UTILITY EXCAVATION AREAS SHALL BE AIR EXCAVATED AND ROOT PRUNED AS DETERMINED NECESSARY BY THE ARBORIST AND APPROVED BY THE ENGINEER, LANDSCAPE ARCHITECT, AND DCR. REFER TO SPEC ITEM 102.513.
8. EXISTING TREES TO BE PRUNED SHALL BE ALL EXISTING TREES TO REMAIN AND IDENTIFIED IN THE EXISTING TREE INVENTORY AND SHOWN ON THE DRAWINGS USING TREE ID NUMBERS. PRIOR TO CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL REVIEW ALL TREES TO BE PRUNED WITH THE ENGINEER, LANDSCAPE ARCHITECT, DCR, AND ARBORIST. REFER TO APPENDIX A AND SPEC ITEM 102.531
9. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL CLEARLY TAG ALL TREES FOR REMOVAL AND REVIEW ALL TAGGED TREES WITH THE ENGINEER, LANDSCAPE ARCHITECT, DCR, ARBORIST, AND CITY CONSERVATION COMMITTEE AGENT. REFER TO SPEC ITEM 103, 104, AND 105 FOR ALL TREE REMOVAL WORK.
10. ARBORIST SHALL INSPECT TREES PRIOR TO PRUNING FOR EVIDENCE OF FUNGAL DISEASE SUCH AS CANKER STAIN AND CONTRACTOR SHALL DISINFECT TOOLS BETWEEN EACH CUT TO PREVENT CROSS CONTAMINATION BETWEEN BRANCHES AND TREES IF DISEASE IS PRESENT.

0 20 50 100
SCALE: 1" = 20'

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COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TREE PROTECTION AND REMOVAL PLANS
3 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. L-3
CHECKED:			
DRAWN:	REF.	SCALE: 1"=20'-0"	
CHECKED:	ACC.	DATE: 3/24/2025	100 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/9/2025 J:\MEMORIAL DRIVE PHASE 3\DWGS\BRR\SHEET\L-1-L-9 TREE PROTECTION AND REMOVAL PLANS.DWG

TREE PROTECTION AND REMOVAL LEGEND

6522 EXISTING TREE TO REMAIN (INVENTORIED, EXISTING CANOPY SHOWN)

EXISTING TREE TO REMAIN (NOT INVENTORIED)

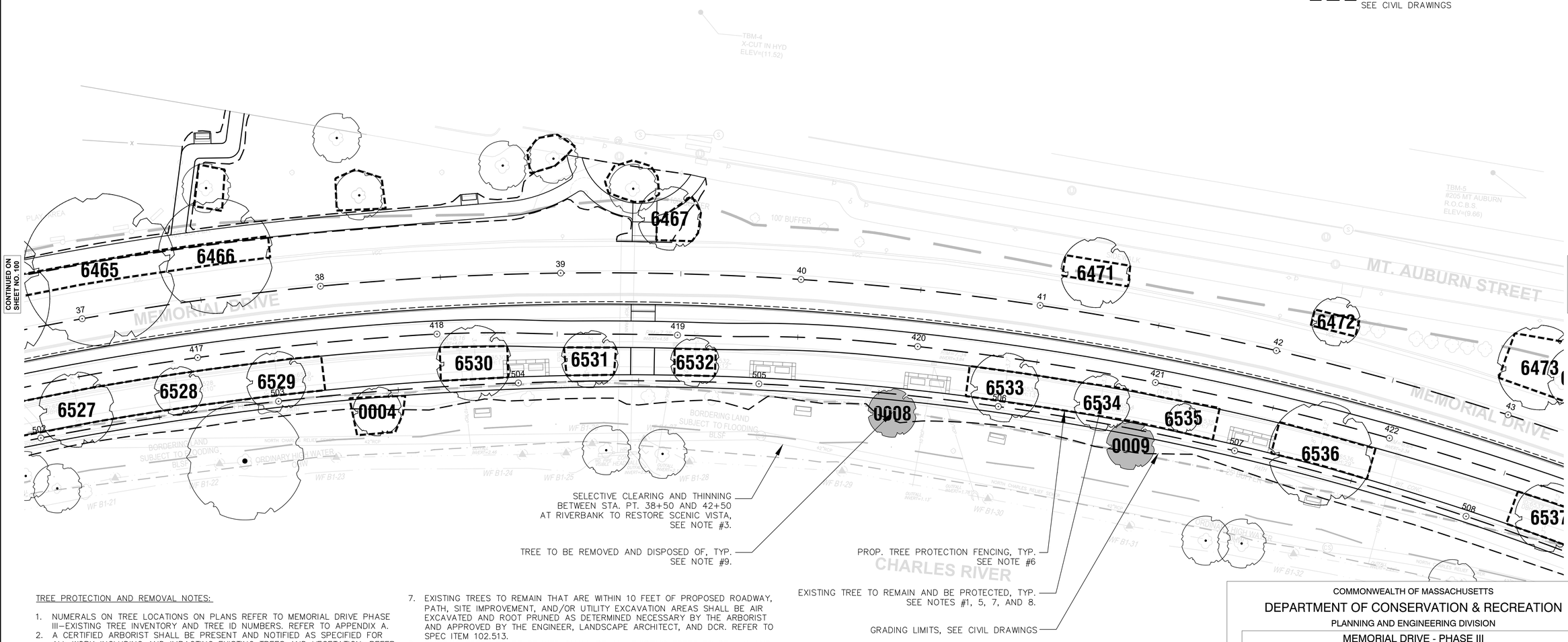
6522 EXISTING TREE TO BE REMOVED (INVENTORIED)

TREE PROTECTION FENCING

GRADING LIMITS SEE CIVIL DRAWINGS

CONTINUED ON SHEET NO. 100

CONTINUED ON SHEET NO. 102



SELECTIVE CLEARING AND THINNING BETWEEN STA. PT. 38+50 AND 42+50 AT RIVERBANK TO RESTORE SCENIC VISTA, SEE NOTE #3.

TREE TO BE REMOVED AND DISPOSED OF, TYP. SEE NOTE #9.

PROP. TREE PROTECTION FENCING, TYP. SEE NOTE #6

EXISTING TREE TO REMAIN AND BE PROTECTED, TYP. SEE NOTES #1, 5, 7, AND 8.

GRADING LIMITS, SEE CIVIL DRAWINGS

TREE PROTECTION AND REMOVAL NOTES:

1. NUMERALS ON TREE LOCATIONS ON PLANS REFER TO MEMORIAL DRIVE PHASE III–EXISTING TREE INVENTORY AND TREE ID NUMBERS. REFER TO APPENDIX A.
2. A CERTIFIED ARBORIST SHALL BE PRESENT AND NOTIFIED AS SPECIFIED FOR ALL WORK INCLUDING AND IMPACTING EXISTING TREES AND VEGETATION. REFER TO SPEC ITEM 102.55.
3. THE CONTRACTOR SHALL CONDUCT A SITE WALK THROUGH WITH THE LANDSCAPE ARCHITECT, DCR, AND ARBORIST TO REVIEW SELECTIVE CLEARING AND THINNING WORK PRIOR TO PERFORMING WORK, REFER TO SPEC ITEM 102.
4. THE CONTRACTOR SHALL CONDUCT A SITE WALK THROUGH WITH THE DCR AND ARBORIST TO REVIEW INVASIVE PLANTS WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL PREPARE AN INVASIVE PLANT MANAGEMENT STRATEGY (IPMS) FOR APPROVAL BY THE ENGINEER AND COMPLETE INVASIVE PLANT CONTROL PER THE IPMS, REFER TO SPEC ITEMS 102.3 AND 102.33.
5. PRIOR TO ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL WALK THE SITE WITH THE ENGINEER, DCR, LANDSCAPE ARCHITECT, AND ARBORIST TO IDENTIFY WHICH TREES SHALL REQUIRE PROTECTION AND TO DETERMINE APPROVED MEASURES, REFER TO SPEC ITEM 102.51.
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10. ARBORIST SHALL INSPECT TREES PRIOR TO PRUNING FOR EVIDENCE OF FUNGAL DISEASE SUCH AS CANKER STAIN AND CONTRACTOR SHALL DISINFECT TOOLS BETWEEN EACH CUT TO PREVENT CROSS CONTAMINATION BETWEEN BRANCHES AND TREES IF DISEASE IS PRESENT.

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SCALE: 1" = 20'

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COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

TREE PROTECTION AND REMOVAL PLANS

4 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. L-4
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DRAWN:	REF.	SCALE: 1"=20'-0"	
CHECKED:	ACC.	DATE: 3/24/2025	101 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/9/2025 J:\MEMORIAL DRIVE PHASE 3\DWGS\BRR\SHEETS\L-1-L-9 TREE PROTECTION AND REMOVAL PLANS.DWG

TREE PROTECTION AND REMOVAL LEGEND

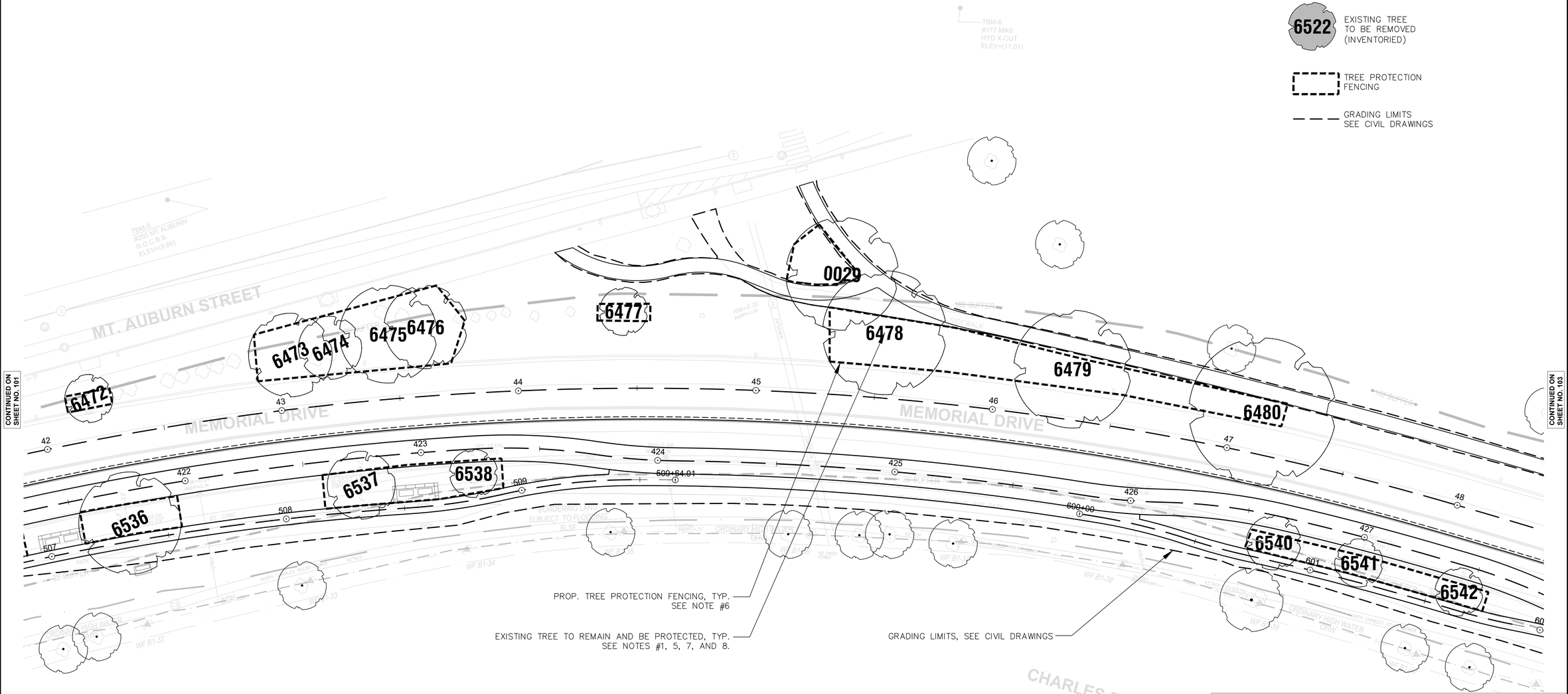
6522 EXISTING TREE TO REMAIN (INVENTORIED, EXISTING CANOPY SHOWN)

EXISTING TREE TO REMAIN (NOT INVENTORIED)

6522 EXISTING TREE TO BE REMOVED (INVENTORIED)

TREE PROTECTION FENCING

GRADING LIMITS SEE CIVIL DRAWINGS



TREE PROTECTION AND REMOVAL NOTES:

1. NUMERALS ON TREE LOCATIONS ON PLANS REFER TO MEMORIAL DRIVE PHASE III–EXISTING TREE INVENTORY AND TREE ID NUMBERS. REFER TO APPENDIX A.
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3. THE CONTRACTOR SHALL CONDUCT A SITE WALK THROUGH WITH THE LANDSCAPE ARCHITECT, DCR, AND ARBORIST TO REVIEW SELECTIVE CLEARING AND THINNING WORK PRIOR TO PERFORMING WORK, REFER TO SPEC ITEM 102.
4. THE CONTRACTOR SHALL CONDUCT A SITE WALK THROUGH WITH THE DCR AND ARBORIST TO REVIEW INVASIVE PLANTS WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL PREPARE AN INVASIVE PLANT MANAGEMENT STRATEGY (IPMS) FOR APPROVAL BY THE ENGINEER AND COMPLETE INVASIVE PLANT CONTROL PER THE IPMS, REFER TO SPEC ITEMS 102.3 AND 102.33.
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10. ARBORIST SHALL INSPECT TREES PRIOR TO PRUNING FOR EVIDENCE OF FUNGAL DISEASE SUCH AS CANKER STAIN AND CONTRACTOR SHALL DISINFECT TOOLS BETWEEN EACH CUT TO PREVENT CROSS CONTAMINATION BETWEEN BRANCHES AND TREES IF DISEASE IS PRESENT.

0 20 50 100

SCALE: 1" = 20'

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COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TREE PROTECTION AND REMOVAL PLANS
5 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. L-5
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DRAWN:	REF.	SCALE: 1"=20'-0"
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/9/2025 J:\MEMORIAL DRIVE PHASE 3\DWGS\BRR\SHEET\L-1-L-9 TREE PROTECTION AND REMOVAL PLANS.DWG

TREE PROTECTION AND REMOVAL LEGEND

6522 EXISTING TREE TO REMAIN (INVENTORIED, EXISTING CANOPY SHOWN)

EXISTING TREE TO REMAIN (NOT INVENTORIED)

6522 EXISTING TREE TO BE REMOVED (INVENTORIED)

TREE PROTECTION FENCING

GRADING LIMITS SEE CIVIL DRAWINGS

PROP. TREE PROTECTION FENCING, TYP.

PROP. TREE PROTECTION FENCING, TYP. SEE NOTE #6

EXISTING TREE TO REMAIN AND BE PROTECTED, TYP. SEE NOTES #1, 5, 7, AND 8.

TREE TO BE REMOVED AND DISPOSED OF, TYP. SEE NOTE #9.

GRADING LIMITS, SEE CIVIL DRAWINGS

CONTINUED ON SHEET NO. 102

CONTINUED ON SHEET NO. 104

TREE PROTECTION AND REMOVAL NOTES:

1. NUMERALS ON TREE LOCATIONS ON PLANS REFER TO MEMORIAL DRIVE PHASE III–EXISTING TREE INVENTORY AND TREE ID NUMBERS. REFER TO APPENDIX A.
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10. ARBORIST SHALL INSPECT TREES PRIOR TO PRUNING FOR EVIDENCE OF FUNGAL DISEASE SUCH AS CANKER STAIN AND CONTRACTOR SHALL DISINFECT TOOLS BETWEEN EACH CUT TO PREVENT CROSS CONTAMINATION BETWEEN BRANCHES AND TREES IF DISEASE IS PRESENT.

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SCALE: 1" = 20'

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COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

TREE PROTECTION AND REMOVAL PLANS

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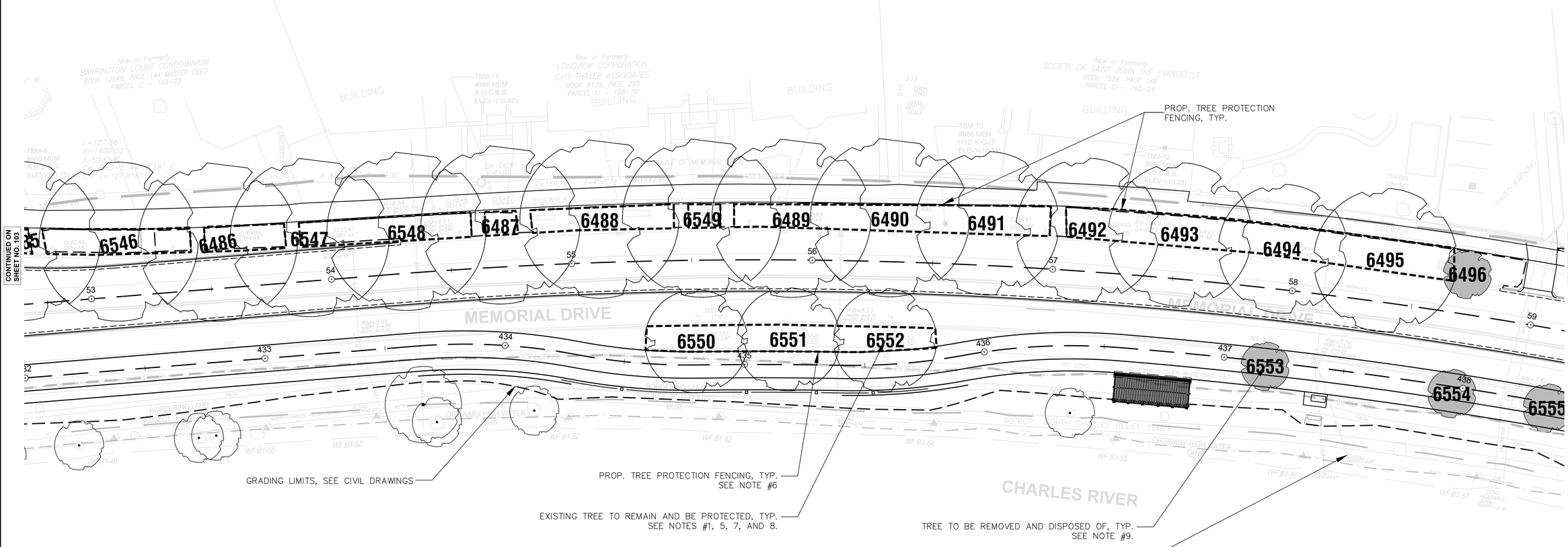
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/9/2025 J:\MEMORIAL DRIVE PHASE 3\DWGS\BRR\SHEET\L-1-L-9 TREE PROTECTION AND REMOVAL PLANS.DWG

TREE PROTECTION AND REMOVAL LEGEND

- 6522 — EXISTING TREE TO REMAIN (INVENTORIED, EXISTING CANOPY SHOWN)
- • — EXISTING TREE TO REMAIN (NOT INVENTORIED)
- 6522 — EXISTING TREE TO BE REMOVED (INVENTORIED)
- TREE PROTECTION FENCING
- GRADING LIMITS SEE CIVIL DRAWINGS



TREE PROTECTION AND REMOVAL NOTES:

1. NUMERALS ON TREE LOCATIONS ON PLANS REFER TO MEMORIAL DRIVE PHASE III–EXISTING TREE INVENTORY AND TREE ID NUMBERS. REFER TO APPENDIX A.
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10. ARBORIST SHALL INSPECT TREES PRIOR TO PRUNING FOR EVIDENCE OF FUNGAL DISEASE SUCH AS CANKER STAIN AND CONTRACTOR SHALL DISINFECT TOOLS BETWEEN EACH CUT TO PREVENT CROSS CONTAMINATION BETWEEN BRANCHES AND TREES IF DISEASE IS PRESENT.

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SCALE: 1" = 20'

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COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TREE PROTECTION AND REMOVAL PLANS
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DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. L-7
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DRAWN:	REF.	SCALE: 1"=20'-0"	
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/9/2025 J:\MEMORIAL DRIVE PHASE 3\DWGS\BRR\SHEET\L-1-L-9 TREE PROTECTION AND REMOVAL PLANS.DWG

TREE PROTECTION AND REMOVAL LEGEND

6522 EXISTING TREE TO REMAIN (INVENTORIED, EXISTING CANOPY SHOWN)

EXISTING TREE TO REMAIN (NOT INVENTORIED)

6522 EXISTING TREE TO BE REMOVED (INVENTORIED)

TREE PROTECTION FENCING

GRADING LIMITS SEE CIVIL DRAWINGS

CONTINUED ON SHEET NO. 104

CONTINUED ON SHEET NO. 106

PROP. TREE PROTECTION FENCING, TYP.

SELECTIVE CLEARING AND THINNING BETWEEN STA. PT. 58+50 AND 61+50 AT RIVERBANK TO RESTORE SCENIC VISTA, SEE SPECIFICATIONS

EXISTING TREE TO BE PROTECTED AND TRANSPLANTED, SEE PLANTING PLANS

TREE TO BE REMOVED AND DISPOSED OF, TYP. SEE NOTE #9.

PROP. TREE PROTECTION FENCING, TYP. SEE NOTE #6

EXISTING TREE TO REMAIN AND BE PROTECTED, TYP. SEE NOTES #1, 5, 7, AND 8.

GRADING LIMITS, SEE CIVIL DRAWINGS

TREE PROTECTION AND REMOVAL NOTES:

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SCALE: 1" = 20'

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COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

TREE PROTECTION AND REMOVAL PLANS

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DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. L-8
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DRAWN:	REF.	SCALE: 1"=20'-0"	
CHECKED:	ACC.	DATE: 3/24/2025	105 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/9/2025 J:\MEMORIAL DRIVE PHASE 3\DWGS\BRR\SHEET\L-1-L-9 TREE PROTECTION AND REMOVAL PLANS.DWG

TREE PROTECTION AND REMOVAL NOTES:

1. NUMERALS ON TREE LOCATIONS ON PLANS REFER TO MEMORIAL DRIVE PHASE III–EXISTING TREE INVENTORY AND TREE ID NUMBERS. REFER TO APPENDIX A.
2. A CERTIFIED ARBORIST SHALL BE PRESENT AND NOTIFIED AS SPECIFIED FOR ALL WORK INCLUDING AND IMPACTING EXISTING TREES AND VEGETATION. REFER TO SPEC ITEM 102.55.
3. THE CONTRACTOR SHALL CONDUCT A SITE WALK THROUGH WITH THE LANDSCAPE ARCHITECT, DCR, AND ARBORIST TO REVIEW SELECTIVE CLEARING AND THINNING WORK PRIOR TO PERFORMING WORK, REFER TO SPEC ITEM 102.
4. THE CONTRACTOR SHALL CONDUCT A SITE WALK THROUGH WITH THE DCR AND ARBORIST TO REVIEW INVASIVE PLANTS WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL PREPARE AN INVASIVE PLANT MANAGEMENT STRATEGY (IPMS) FOR APPROVAL BY THE ENGINEER AND COMPLETE INVASIVE PLANT CONTROL PER THE IPMS, REFER TO SPEC ITEMS 102.3 AND 102.33.
5. PRIOR TO ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL WALK THE SITE WITH THE ENGINEER, DCR, LANDSCAPE ARCHITECT, AND ARBORIST TO IDENTIFY WHICH TREES SHALL REQUIRE PROTECTION AND TO DETERMINE APPROVED MEASURES, REFER TO SPEC ITEM 102.51.
6. EVERY TREE TO REMAIN AND INCLUDED IN THE EXISTING TREE INVENTORY SHALL BE PROTECTED WITH TREE PROTECTION FENCING AS SHOWN ON PLANS, REFER TO DETAIL 1 SHEET L–19 AND SPEC ITEM 102.52.
7. EXISTING TREES TO REMAIN THAT ARE WITHIN 10 FEET OF PROPOSED ROADWAY, PATH, SITE IMPROVEMENT, AND/OR UTILITY EXCAVATION AREAS SHALL BE AIR EXCAVATED AND ROOT PRUNED AS DETERMINED NECESSARY BY THE ARBORIST AND APPROVED BY THE ENGINEER, LANDSCAPE ARCHITECT, AND DCR. REFER TO SPEC ITEM 102.513.
8. EXISTING TREES TO BE PRUNED SHALL BE ALL EXISTING TREES TO REMAIN AND IDENTIFIED IN THE EXISTING TREE INVENTORY AND SHOWN ON THE DRAWINGS USING TREE ID NUMBERS. PRIOR TO CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL REVIEW ALL TREES TO BE PRUNED WITH THE ENGINEER, LANDSCAPE ARCHITECT, DCR, AND ARBORIST. REFER TO APPENDIX A AND SPEC ITEM 102.531
9. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL CLEARLY TAG ALL TREES FOR REMOVAL AND REVIEW ALL TAGGED TREES WITH THE ENGINEER, LANDSCAPE ARCHITECT, DCR, ARBORIST, AND CITY CONSERVATION COMMITTEE AGENT. REFER TO SPEC ITEM 103, 104, AND 105 FOR ALL TREE REMOVAL WORK.
10. ARBORIST SHALL INSPECT TREES PRIOR TO PRUNING FOR EVIDENCE OF FUNGAL DISEASE SUCH AS CANKER STAIN AND CONTRACTOR SHALL DISINFECT TOOLS BETWEEN EACH CUT TO PREVENT CROSS CONTAMINATION BETWEEN BRANCHES AND TREES IF DISEASE IS PRESENT.

TREE PROTECTION AND REMOVAL LEGEND

- 6522 — EXISTING TREE TO REMAIN (INVENTORIED, EXISTING CANOPY SHOWN)
- EXISTING TREE TO REMAIN (NOT INVENTORIED)
- 6522 — EXISTING TREE TO BE REMOVED (INVENTORIED)
- TREE PROTECTION FENCING
- GRADING LIMITS SEE CIVIL DRAWINGS

PROP. TREE PROTECTION FENCING, TYP. SEE NOTE #6

EXISTING TREE TO REMAIN AND BE PROTECTED, TYP. SEE NOTES #1, 5, 7, AND 8.

GRADING LIMITS, SEE CIVIL DRAWINGS

PROP. TREE PROTECTION FENCING, TYP.

CONTINUED ON SHEET NO. 10S

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SCALE: 1" = 20'

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COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
TREE PROTECTION AND REMOVAL PLANS
9 OF 9

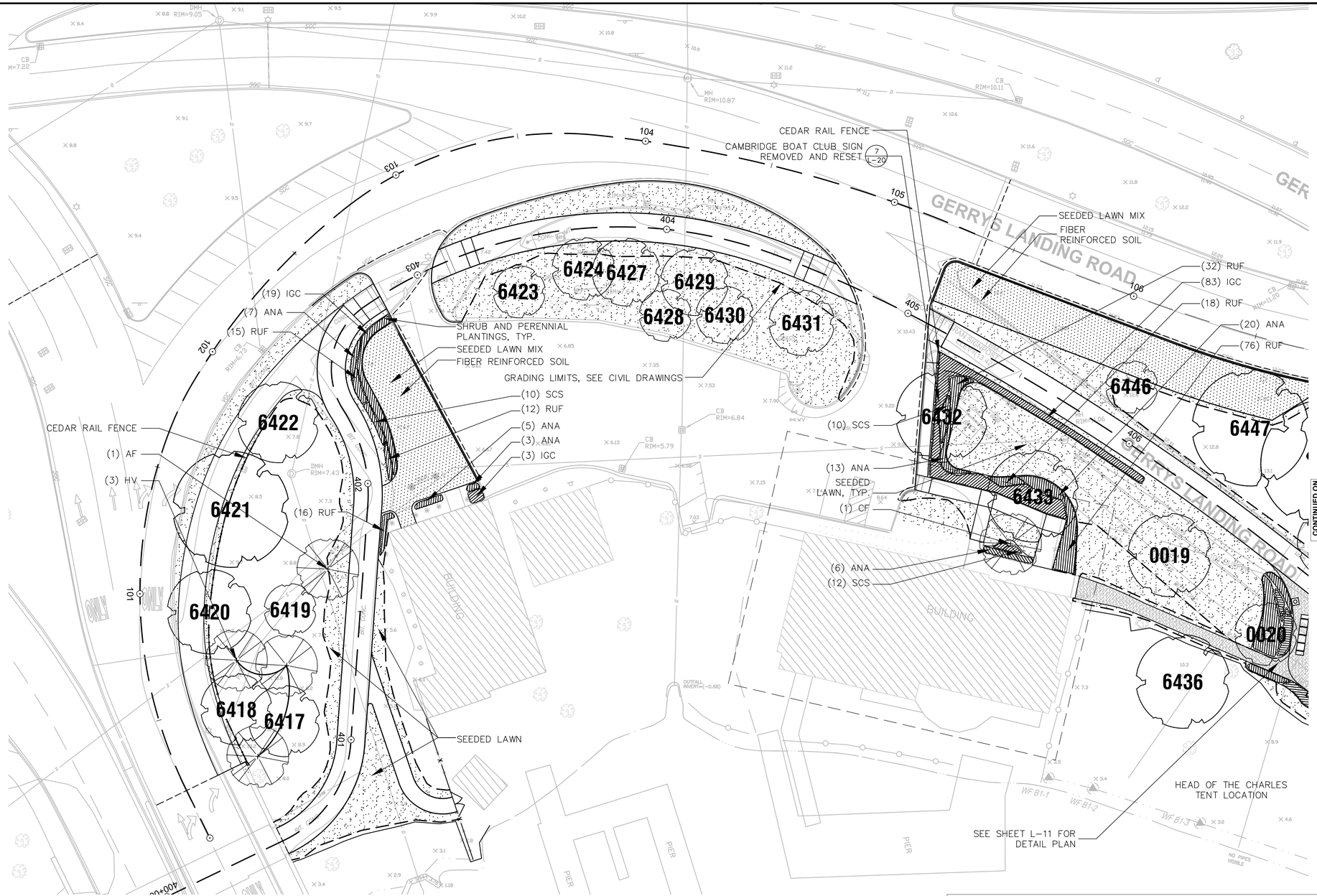
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/9/2025 J:\MEMORIAL DRIVE PHASE 3\DWGS\BRR\SHEET\L-1-L-9 TREE PROTECTION AND REMOVAL PLANS.DWG

LEGEND

- 6522 — EXISTING TREE TO REMAIN (INVENTORIED)
- EXISTING TREE TO REMAIN (NOT INVENTORIED)
- GRADING LIMITS SEE CIVIL DWGS
- 1 / L-21 — DECIDUOUS TREE PLANTING
- 2,3 / L-21 — SHRUB AND PERENNIAL PLANTINGS
- 4 / L-21 — SEEDED LAWN
- 6 / L-21 — SEEDED MEADOW
- 5 / L-21 — FIBER REINFORCED SOIL
- DRY SWALE PLANTINGS, SEE CIVIL DRAWINGS
- 6 / L-20 — CEDAR RAIL FENCE



PLANT LIST FOR THIS SHEET

QTY.	SYMBOL	SCIENTIFIC NAME	COMMON NAME	ROOT	SIZE	REMARKS
DECIDUOUS TREES						
1	AF	ACER X FREEMANII 'AUTUMN BLAZE'	AUTUMN BLAZE FREEMAN MAPLE	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT. MATCHING.
1	CF	CORNUS FLORIDA 'APPALACHIAN SNOW'	APPALACHIAN SNOW DOGWOOD	B&B	8 '– 10' HT.	3 STEM CLUMP
3	HV	HAMAMELIS VIRGINIANA	WITCH HAZEL	B&B	8 '– 10' HT.	5 STEMMED CLUMP
EVERGREEN SHRUBS						
105	IGC	ILEX GLABRA 'COMPACTA'	COMPACTA INKBERRY	CONT.	24" – 30"	36" O.C.
PERENNIALS						
44	ANA	ASTER NOVAE–ANGLIAE	NEW ENGLAND ASTER	CONT.	1 GAL.	24" O.C.
169	RUF	RUDBECKIA FULGIDA VAR. FULGIDA	BLACK–EYED SUSAN	CONT.	1 GAL.	18" O.C.
32	SCS	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	CONT.	1 GAL.	24" O.C.

NOTES

1. REFER TO CIVIL DRAWINGS FOR REMOVALS OF EXISTING LANDSCAPE FEATURES.
2. REFER TO DRAWINGS L–1 THROUGH L–9 FOR TREE REMOVALS AND TREE PROTECTION.
3. LOCATIONS OF ALL PROPOSED LANDSCAPE FEATURES SHALL BE STAKED IN THE FIELD FOR REVIEW BY LANDSCAPE ARCHITECT BEFORE CONSTRUCTION.
4. REFER TO CIVIL DRAWINGS FOR DRAINAGE, ORNAMENTAL FENCING, PATHWAYS, WHEELCHAIR RAMPS, LAYOUT AND GRADING.
5. NUMERALS ON TREE LOCATIONS ON PLANS REFER TO MEMORIAL DRIVE PHASE III–EXISTING TREE INVENTORY, REFER TO APPENDIX A.

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SCALE: 1" = 20'
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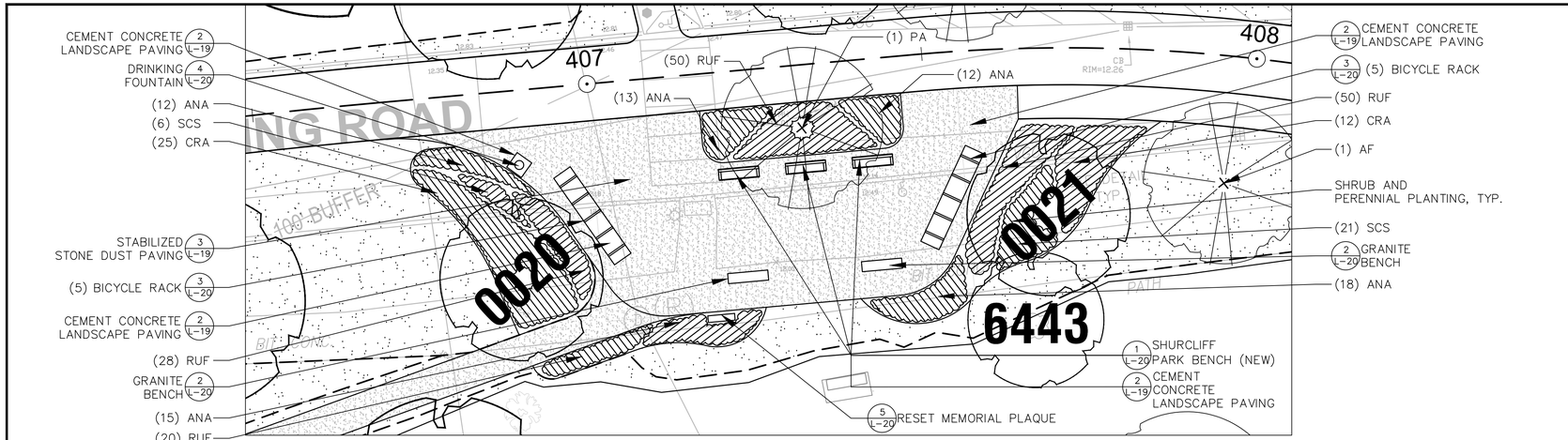
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
PLANTING PLANS
1 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. L-10
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

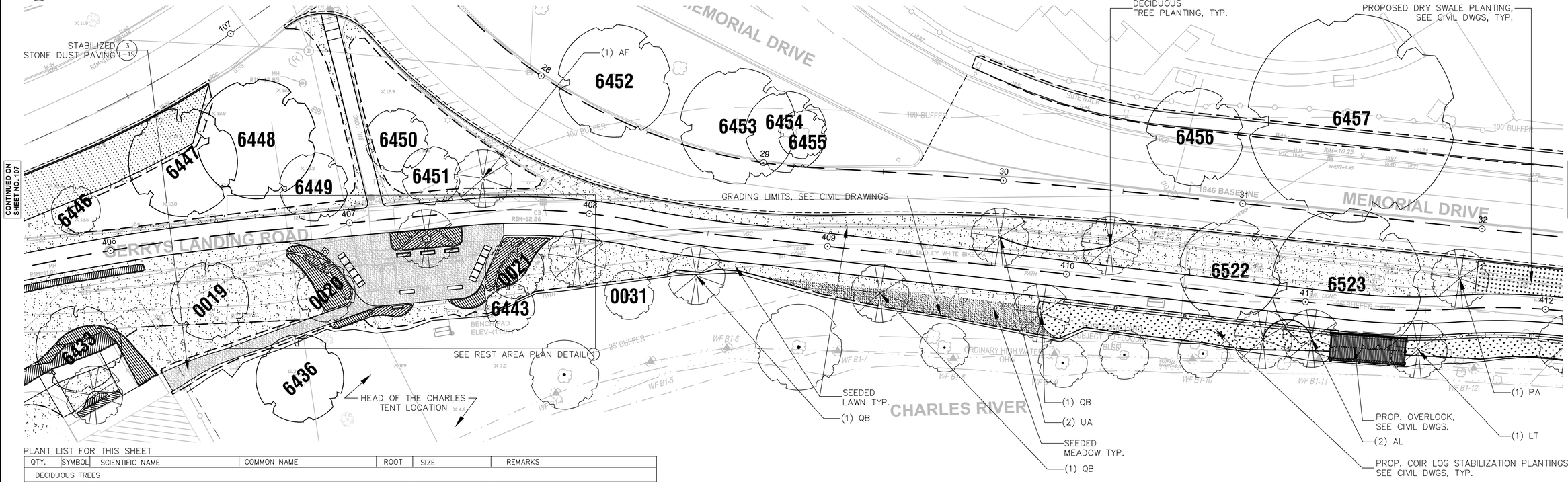
4/9/2025 J:\MEMORIAL DRIVE PHASE 3\DWGS\BRR\SHEET\L-19-L-27 PLANTING PLANS_.DWG



1 REST AREA PLAN DETAIL
SCALE: 1"=10'

LEGEND

- 6522 — EXISTING TREE TO REMAIN (INVENTORIED)
- EXISTING TREE TO REMAIN (NOT INVENTORIED)
- GRADING LIMITS SEE CIVIL DWGS
- (1 L-21) DECIDUOUS TREE PLANTING
- (2,3 L-21) SHRUB AND PERENNIAL PLANTINGS
- (4 L-21) SEEDED LAWN
- (6 L-21) SEEDED MEADOW
- (5 L-21) FIBER REINFORCED SOIL
- DRY SWALE PLANTINGS, SEE CIVIL DRAWINGS
- (6 L-20) CEDAR RAIL FENCE



PLANT LIST FOR THIS SHEET

QTY.	SYMBOL	SCIENTIFIC NAME	COMMON NAME	ROOT	SIZE	REMARKS
DECIDUOUS TREES						
2	AF	ACER X FREEMANII 'AUTUMN BLAZE'	AUTUMN BLAZE FREEMAN MAPLE	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT. MATCHING.
2	AL	AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY	B&B	8 '– 10' HT.	3 OR 5 STEMMED CLUMP
1	LT	LIRIODENDRON TULIPIFERA	TULIP TREE	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT.
2	PA	PLATANUS X ACERIFOLIA 'BLOODGOOD'	BLOODGOOD LONDON PLANE TREE	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT. MATCHING.
3	QB	QUERCUS BICOLOR	SWAMP WHITE OAK	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT.
2	UA	ULMUS AMERICANA 'VALLEY FORGE'	VALLEY FORGE AMERICAN ELM	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT. MATCHING.
DECIDUOUS SHRUBS						
37	CRA	CORNUS AMOMUM	SILKY DOGWOOD	CONT.	3 GAL.	36" O.C.
PERENNIALS						
70	ANA	ASTER NOVAE–ANGLIAE	NEW ENGLAND ASTER	CONT.	1 GAL.	24" O.C.
148	RUF	RUDBECKIA FULGIDA VAR. FULGIDA	BLACK–EYED SUSAN	CONT.	1 GAL.	18" O.C.
27	SCS	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	CONT.	1 GAL.	24" O.C.

NOTES

1. REFER TO CIVIL DRAWINGS FOR REMOVALS OF EXISTING LANDSCAPE FEATURES.
2. REFER TO DRAWINGS L–1 THROUGH L–9 FOR TREE REMOVALS AND TREE PROTECTION.
3. LOCATIONS OF ALL PROPOSED LANDSCAPE FEATURES SHALL BE STAKED IN THE FIELD FOR REVIEW BY LANDSCAPE ARCHITECT BEFORE CONSTRUCTION.
4. REFER TO CIVIL DRAWINGS FOR DRAINAGE, ORNAMENTAL FENCING, PATHWAYS, WHEELCHAIR RAMPS, LAYOUT AND GRADING.
5. NUMERALS ON TREE LOCATIONS ON PLANS REFER TO MEMORIAL DRIVE PHASE III–EXISTING TREE INVENTORY, REFER TO APPENDIX A.

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SCALE: 1" = 20'
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COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
PLANTING PLANS
2 OF 9

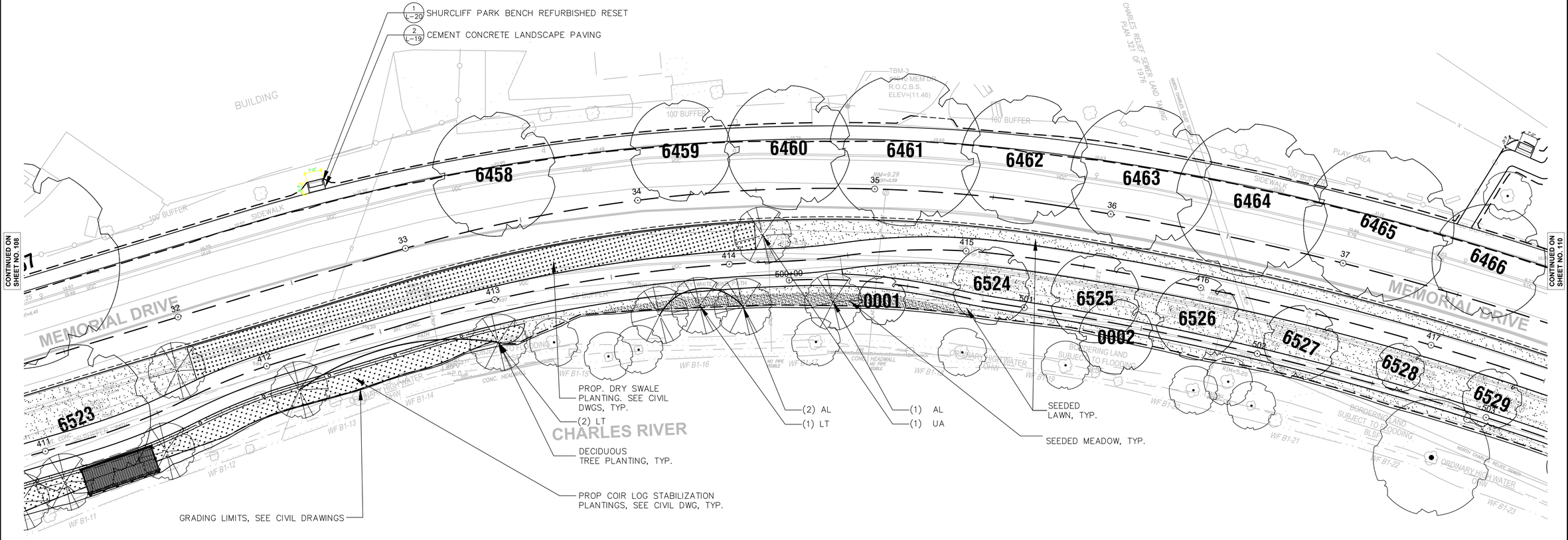
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/9/2025 J:\MEMORIAL DRIVE PHASE 3\DWGS\BRR\SHEET\L-19-L-27 PLANTING PLANS_.DWG

LEGEND

- 6522 — EXISTING TREE TO REMAIN (INVENTORIED)
- EXISTING TREE TO REMAIN (NOT INVENTORIED)
- GRADING LIMITS SEE CIVIL DWGS
- 1 / L-21 — DECIDUOUS TREE PLANTING
- 2,3 / L-21 — SHRUB AND PERENNIAL PLANTINGS
- 4 / L-21 — SEEDED LAWN
- 6 / L-21 — SEEDED MEADOW
- 5 / L-21 — FIBER REINFORCED SOIL
- DRY SWALE PLANTINGS, SEE CIVIL DRAWINGS
- 6 / L-20 — CEDAR RAIL FENCE



PLANT LIST FOR THIS SHEET

QTY.	SYMBOL	SCIENTIFIC NAME	COMMON NAME	ROOT	SIZE	REMARKS
DECIDUOUS TREES						
3	AL	AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY	B&B	8 '– 10' HT.	3 OR 5 STEMMED CLUMP
3	LT	LIRIODENDRON TULIPIFERA	TULIP TREE	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT.
1	UA	ULMUS AMERICANA 'VALLEY FORGE'	VALLEY FORGE AMERICAN ELM	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT. MATCHING.

NOTES

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0 20 50 100

SCALE: 1" = 20'

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COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

PLANTING PLANS

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DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. L-12
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10 PARK PLAZA, SUITE 6620
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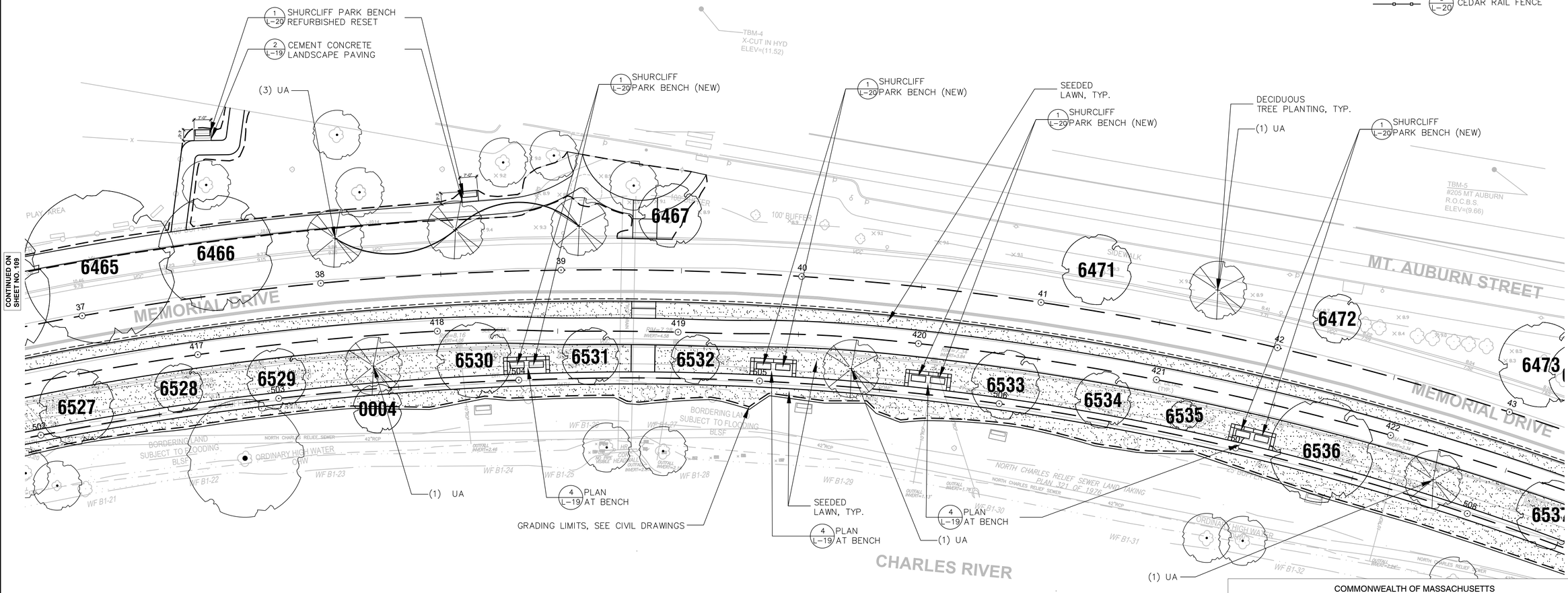
QTY.	SYMBOL	SCIENTIFIC NAME	COMMON NAME	ROOT	SIZE	REMARKS
DECIDUOUS TREES						
7	UA	ULMUS AMERICANA 'VALLEY FORGE'	VALLEY FORGE AMERICAN ELM	B&B	3" -3.5" CALIPER	7' MIN. LATERAL BRANCHING HT. MATCHING.

NOTES

1. REFER TO CIVIL DRAWINGS FOR REMOVALS OF EXISTING LANDSCAPE FEATURES.
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LEGEND

- 6522 EXISTING TREE TO REMAIN (INVENTORIED)
- EXISTING TREE TO REMAIN (NOT INVENTORIED)
- GRADING LIMITS SEE CIVIL DWGS
- 1/L-21 DECIDUOUS TREE PLANTING
- 2,3/L-21 SHRUB AND PERENNIAL PLANTINGS
- 4/L-21 SEEDED LAWN
- 6/L-21 SEEDED MEADOW
- 5/L-21 FIBER REINFORCED SOIL
- DRY SWALE PLANTINGS, SEE CIVIL DRAWINGS
- 6/L-20 CEDAR RAIL FENCE



CONTINUED ON SHEET NO. 109

CONTINUED ON SHEET NO. 111

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SCALE: 1" = 20'

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COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

PLANTING PLANS

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DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. L-13
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10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/9/2025 J:\MEMORIAL DRIVE PHASE 3\DWGS\BRR\SHEET\L-19-L-27 PLANTING PLANS_.DWG

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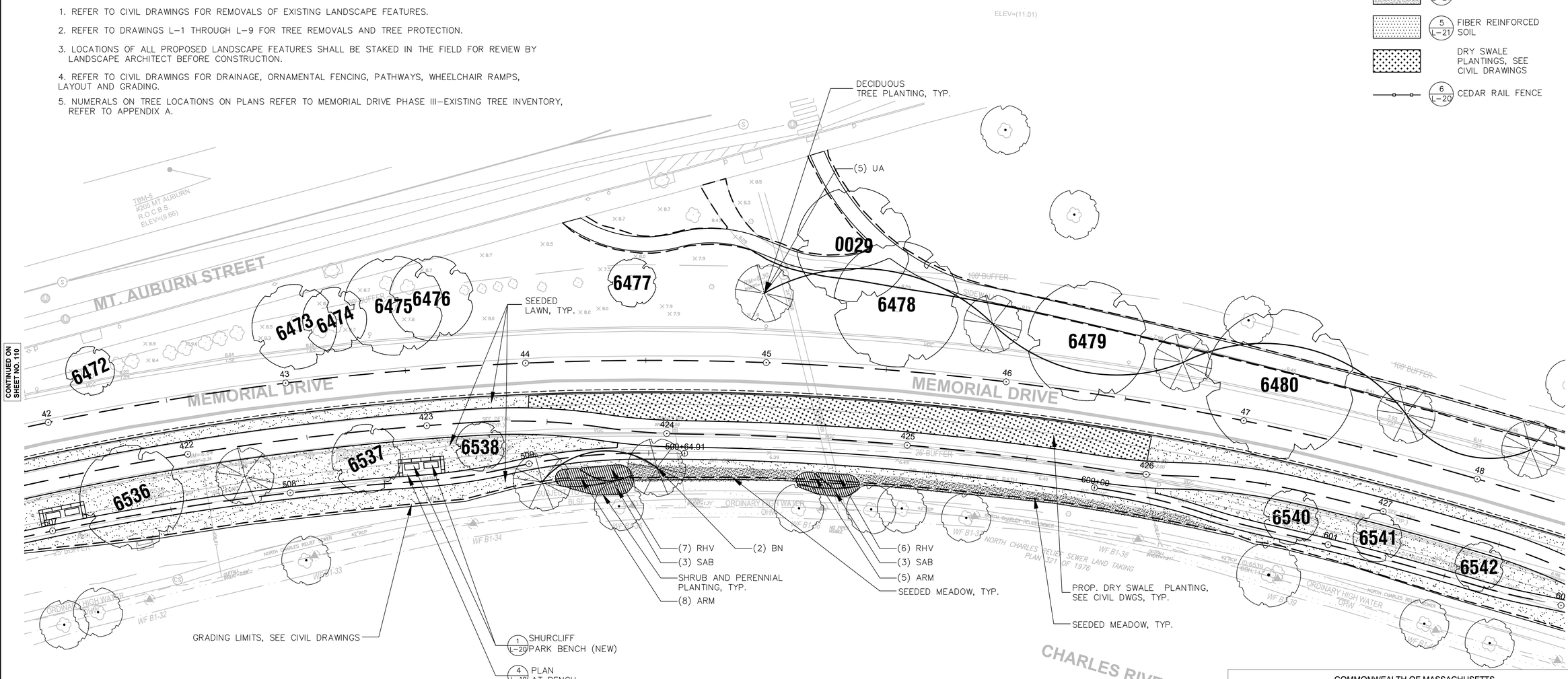
QTY.	SYMBOL	SCIENTIFIC NAME	COMMON NAME	ROOT	SIZE	REMARKS
DECIDUOUS TREES						
2	BN	BETULA NIGRA	RIVER BIRCH	B&B	8 '– 10' HT.	3 OR 5 STEMMED CLUMP
5	UA	ULMUS AMERICANA 'VALLEY FORGE'	VALLEY FORGE AMERICAN ELM	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT. MATCHING.
DECIDUOUS SHRUBS						
13	ARM	ARONIA MELANOCARPA	BLACK CHOKEBERRY	CONT.	3 GAL.	3'–4' O.C.
13	RHV	RHODODENDRON VISCOSUM	SWAMP AZALEA	CONT.	3 GAL.	3'–4' O.C.
6	SAB	SAMBUCUS CANADENSIS	ELDERBERRY	CONT.	3 GAL.	6'–8' O.C.

NOTES

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2. REFER TO DRAWINGS L–1 THROUGH L–9 FOR TREE REMOVALS AND TREE PROTECTION.
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LEGEND

- 6522 — EXISTING TREE TO REMAIN (INVENTORIED)
- EXISTING TREE TO REMAIN (NOT INVENTORIED)
- GRADING LIMITS SEE CIVIL DWGS
- 1 / L–21 — DECIDUOUS TREE PLANTING
- 2,3 / L–21 — SHRUB AND PERENNIAL PLANTINGS
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- 6 / L–21 — SEEDED MEADOW
- 5 / L–21 — FIBER REINFORCED SOIL
- DRY SWALE PLANTINGS, SEE CIVIL DRAWINGS
- 6 / L–20 — CEDAR RAIL FENCE



SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
PLANTING PLANS
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PLANT LIST FOR THIS SHEET

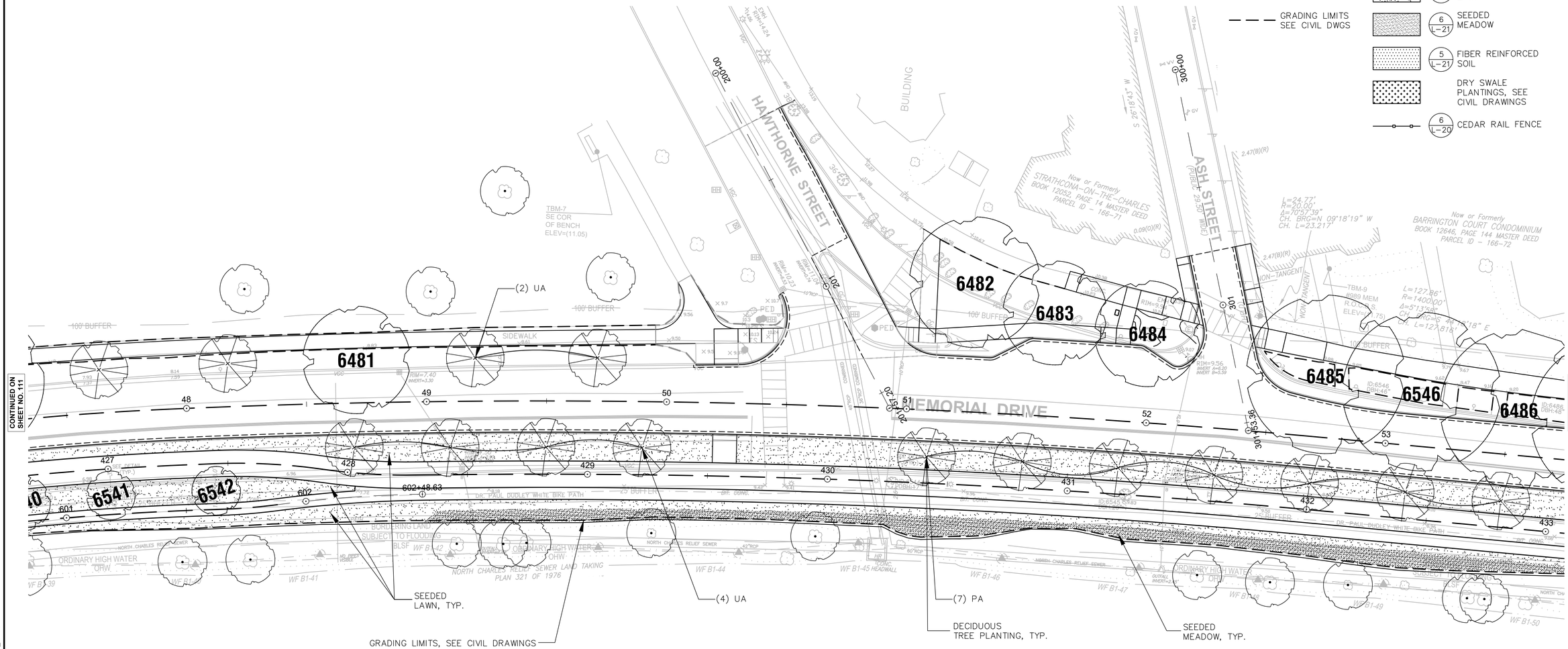
QTY.	SYMBOL	SCIENTIFIC NAME	COMMON NAME	ROOT	SIZE	REMARKS
DECIDUOUS TREES						
7	PA	PLATANUS X ACERIFOLIA 'BLOODGOOD'	BLOODGOOD LONDON PLANE TREE	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT. MATCHING.
6	UA	ULMUS AMERICANA 'VALLEY FORGE'	VALLEY FORGE AMERICAN ELM	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT. MATCHING.

NOTES

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LEGEND

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- GRADING LIMITS SEE CIVIL DWGS
- 1 / L–21 — DECIDUOUS TREE PLANTING
- 2,3 / L–21 — SHRUB AND PERENNIAL PLANTINGS
- 4 / L–21 — SEEDED LAWN
- 6 / L–21 — SEEDED MEADOW
- 5 / L–21 — FIBER REINFORCED SOIL
- DRY SWALE PLANTINGS, SEE CIVIL DRAWINGS
- 6 / L–20 — CEDAR RAIL FENCE



0 20 50 100

SCALE: 1" = 20'

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COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

PLANTING PLANS

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DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. L-15
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DRAWN:	REF.	SCALE: 1"=20'-0"
CHECKED:	ACC.	DATE: 3/24/2025

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10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/9/2025 J:\MEMORIAL DRIVE PHASE 3\DWGS\BRR\SHEET\L-19-L-27 PLANTING PLANS_.DWG

PLANT LIST FOR THIS SHEET

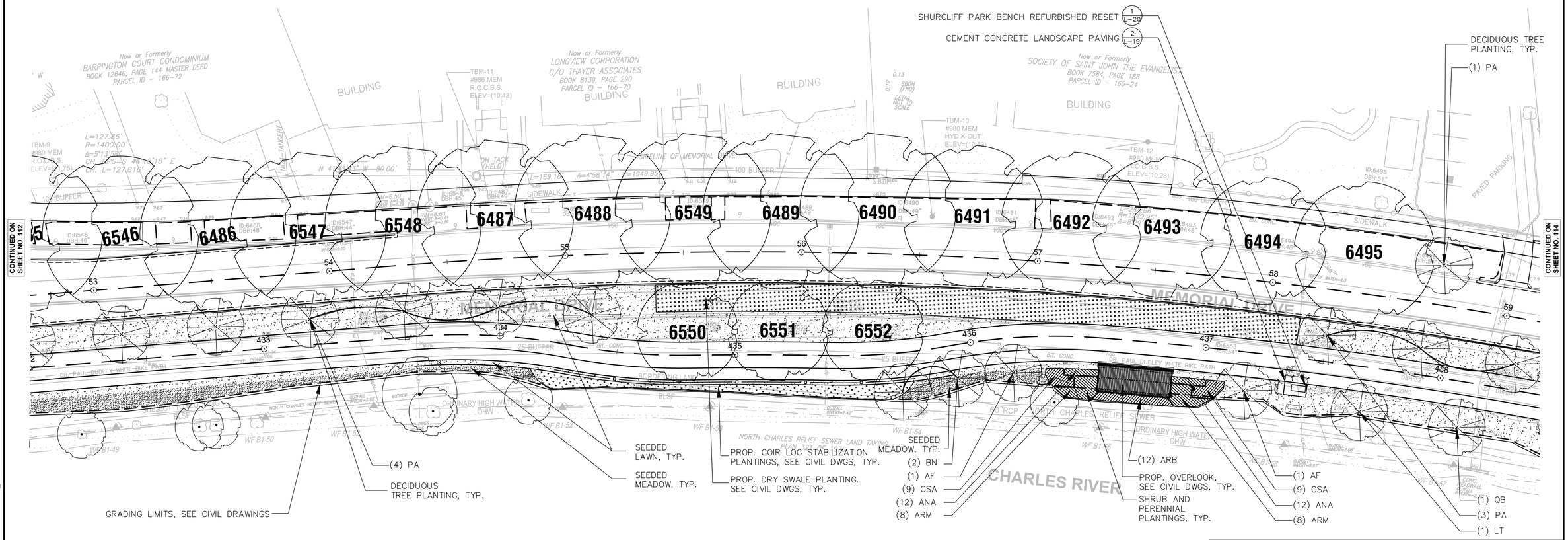
QTY.	SYMBOL	SCIENTIFIC NAME	COMMON NAME	ROOT	SIZE	REMARKS
DECIDUOUS TREES						
2	AF	ACER X FREEMANII 'AUTUMN BLAZE'	AUTUMN BLAZE FREEMAN MAPLE	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT. MATCHING.
2	BN	BETULA NIGRA	RIVER BIRCH	B&B	8 '– 10' HT.	3 OR 5 STEMMED CLUMP
1	LT	LIRIODENDRON TULIPIFERA	TULIP TREE	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT.
8	PA	PLATANUS X ACERIFOLIA 'BLOODGOOD'	BLOODGOOD LONDON PLANE TREE	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT. MATCHING.
1	QB	QUERCUS BICOLOR	SWAMP WHITE OAK	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT.
DECIDUOUS SHRUBS						
12	ARB	ARONIA ARBUTIFOLIA	RED CHOKEBERRY	CONT.	3 GAL.	3'–4' O.C.
16	ARM	ARONIA MELANOCARPA	BLACK CHOKEBERRY	CONT.	3 GAL.	3'–4' O.C.
18	CSA	CORNUS SERICEA	REDTWIG DOGWOOD	CONT.	3 GAL.	36" O.C.
PERENNIALS						
24	ANA	ASTER NOVAE–ANGLIAE	NEW ENGLAND ASTER	CONT.	1 GAL.	24" O.C.

NOTES

1. REFER TO CIVIL DRAWINGS FOR REMOVALS OF EXISTING LANDSCAPE FEATURES.
2. REFER TO DRAWINGS L–1 THROUGH L–9 FOR TREE REMOVALS AND TREE PROTECTION.
3. LOCATIONS OF ALL PROPOSED LANDSCAPE FEATURES SHALL BE STAKED IN THE FIELD FOR REVIEW BY LANDSCAPE ARCHITECT BEFORE CONSTRUCTION.
4. REFER TO CIVIL DRAWINGS FOR DRAINAGE, ORNAMENTAL FENCING, PATHWAYS, WHEELCHAIR RAMPS, LAYOUT AND GRADING.
5. NUMERALS ON TREE LOCATIONS ON PLANS REFER TO MEMORIAL DRIVE PHASE III–EXISTING TREE INVENTORY, REFER TO APPENDIX A.

LEGEND

- 6522 — EXISTING TREE TO REMAIN (INVENTORIED)
- EXISTING TREE TO REMAIN (NOT INVENTORIED)
- GRADING LIMITS SEE CIVIL DWGS
- 1 / L–21 — DECIDUOUS TREE PLANTING
- 2,3 / L–21 — SHRUB AND PERENNIAL PLANTINGS
- 4 / L–21 — SEEDED LAWN
- 6 / L–21 — SEEDED MEADOW
- 5 / L–21 — FIBER REINFORCED SOIL
- DRY SWALE PLANTINGS, SEE CIVIL DRAWINGS
- 6 / L–20 — CEDAR RAIL FENCE



0 20 50 100

SCALE: 1" = 20'

N

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

PLANTING PLANS

7 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. L-16
CHECKED:			
DRAWN:	REF.	SCALE: 1"=20'-0"	
CHECKED:	ACC.	DATE: 3/24/2025	113 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/9/2025 J:\MEMORIAL DRIVE PHASE 3\DWGS\BRR\SHEET\L-19-L-27 PLANTING PLANS_.DWG

PLANT LIST FOR THIS SHEET

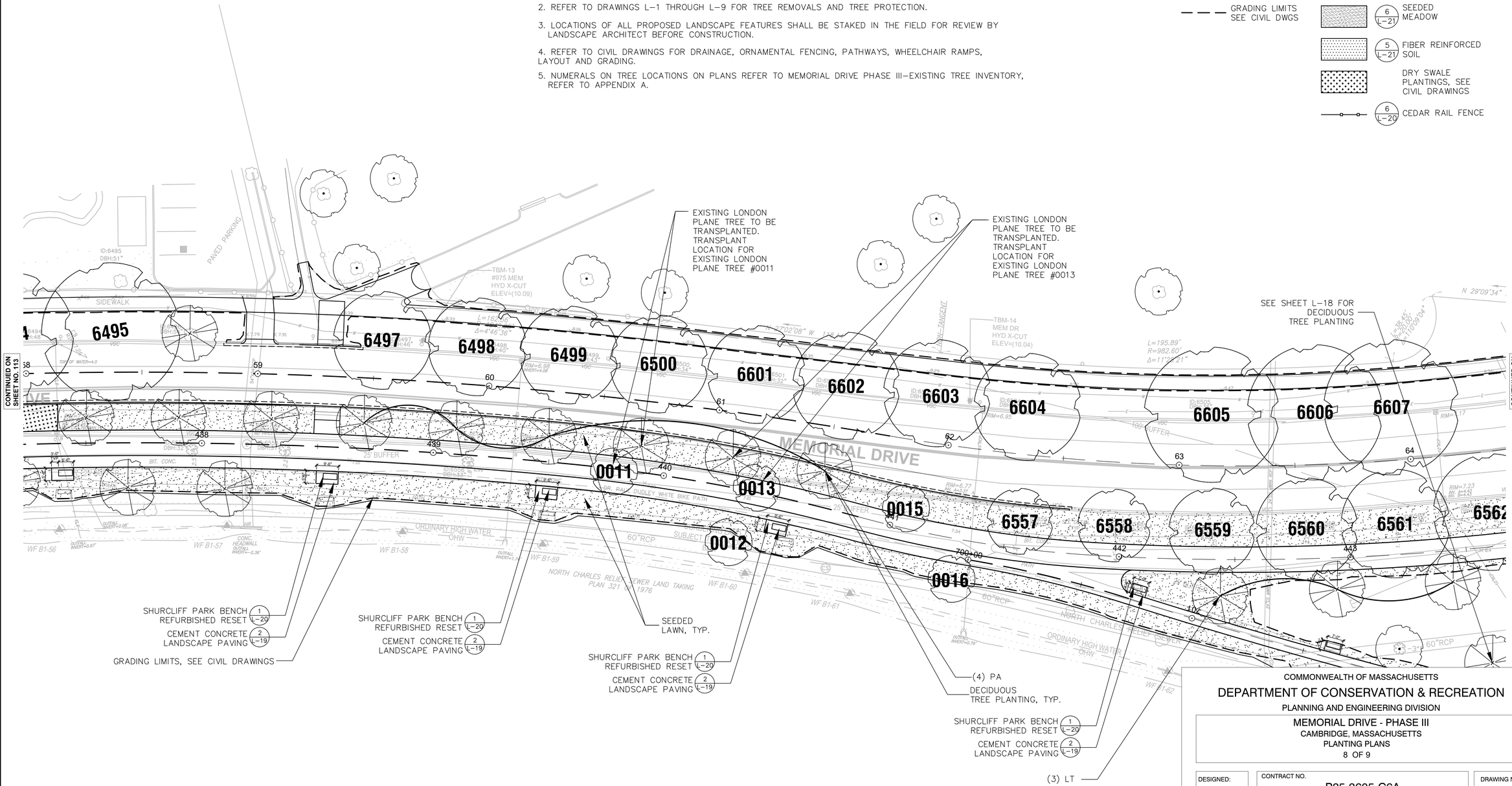
QTY.	SYMBOL	SCIENTIFIC NAME	COMMON NAME	ROOT	SIZE	REMARKS
DECIDUOUS TREES						
3	LT	LIRIODENDRON TULIPIFERA	TULIP TREE	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT.
4	PA	PLATANUS X ACERIFOLIA 'BLOODGOOD'	BLOODGOOD LONDON PLANE TREE	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT. MATCHING.

NOTES

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- 6 / L–21 — SEEDED MEADOW
- 5 / L–21 — FIBER REINFORCED SOIL
- DRY SWALE PLANTINGS, SEE CIVIL DRAWINGS
- 6 / L–20 — CEDAR RAIL FENCE



0 20 50 100

SCALE: 1" = 20'

N

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

PLANTING PLANS

8 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. L-17
CHECKED:		
DRAWN:	REF.	SCALE: 1"=20'-0"
CHECKED:	ACC.	DATE: 3/24/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/9/2025 J:\MEMORIAL DRIVE PHASE 3\DWGS\BRR\SHEET\L-19-L-27 PLANTING PLANS_.DWG

PLANT LIST FOR THIS SHEET

QTY.	SYMBOL	SCIENTIFIC NAME	COMMON NAME	ROOT	SIZE	REMARKS
DECIDUOUS TREES						
3	LS	LIQUIDAMBAR STYRACIFLUA 'GRAZAM'	GRANDMASTER SWEETGUM	B&B	3" –3.5" CALIPER	SPECIMEN, 7' MIN. LATERAL BRANCHING HT.
2	LT	LIRIODENDRON TULIPIFERA	TULIP TREE	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT.
3	PA	PLATANUS X ACERIFOLIA 'BLOODGOOD'	BLOODGOOD LONDON PLANE TREE	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT. MATCHING.

NOTES

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5. NUMERALS ON TREE LOCATIONS ON PLANS REFER TO MEMORIAL DRIVE PHASE III–EXISTING TREE INVENTORY, REFER TO APPENDIX A.

LEGEND

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- GRADING LIMITS SEE CIVIL DWGS
- 1 / L–21 — DECIDUOUS TREE PLANTING
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- 4 / L–21 — SEEDED LAWN
- 6 / L–21 — SEEDED MEADOW
- 5 / L–21 — FIBER REINFORCED SOIL
- DRY SWALE PLANTINGS, SEE CIVIL DRAWINGS
- 6 / L–20 — CEDAR RAIL FENCE

CONTINUED ON SHEET NO. 14

MEMORIAL DRIVE

JOHN F. KENNEDY STREET

6560 6561 6562 6563 6564 6566 6606 6607 6608 6609 6610 6611 6612 6613 0017 0023 0024 0025 0026 0027 0028

(3) PA

GRADING LIMITS, SEE CIVIL DRAWINGS

(2) LT

(3) LS

SEEDED LAWN, TYP.

SHURCLIFF PARK BENCH REFURBISHED RESET (1 / L–20)

CEMENT CONCRETE LANDSCAPE PAVING (2 / L–19)

TBM–15 SE CORN OF WEST PILLAR UP 1' ELEV(108)

704+51.90

448+00

800+00

NORTH CHARLES RELIEF SEWER

NORTH CHARLES RELIEF SEWER LAND TAKING PLAN 321 OF 1976

60"RCP

25' BUFFER

BORDERING LAND SUBJECT TO FLOODING BLSF

ORDINARY HIGH WATER OHW

SCALE: 1" = 20'

0 20 50 100

N

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

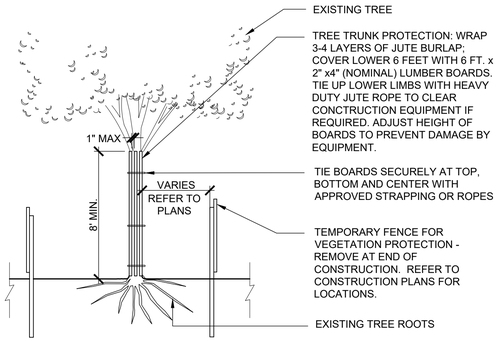
PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
PLANTING PLANS
9 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. L-18
CHECKED:			
DRAWN:	REF.	SCALE: 1"=20'-0"	
CHECKED:	ACC.	DATE: 3/24/2025	115 OF 182

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10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/9/2025 J:\MEMORIAL DRIVE PHASE 3\DWGS\BRR\SHEET\L-19-L-27 PLANTING PLANS_.DWG

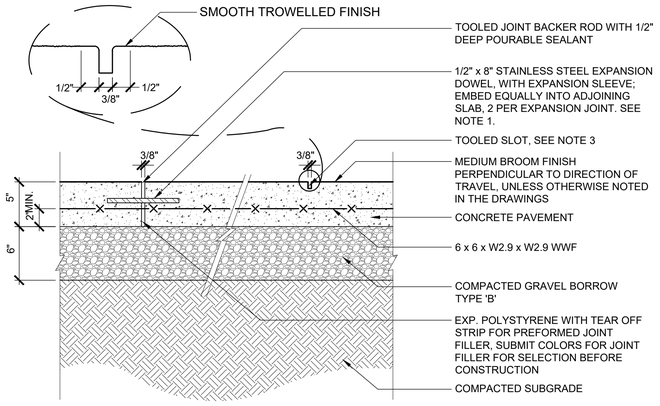


NOTES:

1. REMOVE ALL BURLAP, BOARDS, TIES AND FENCING AT COMPLETION OF CONSTRUCTION UPON APPROVAL OF ENGINEER.
2. TREE ROOTS SHOULD BE PROTECTED UP TO THE DRIPLINE WHENEVER POSSIBLE.

1 TREE AND PLANT PROTECTION FENCE

SCALE: 1/4"=1'-0"

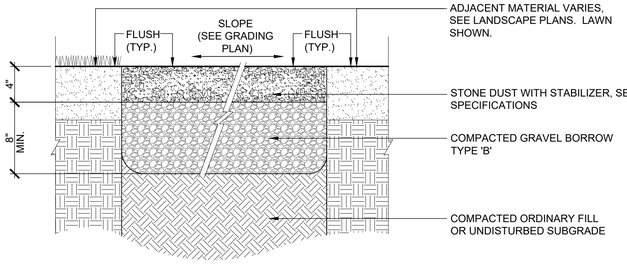


NOTES:

1. UTILIZE EXPANSION JOINT DETAIL FOR ALL AREAS OVER 30' IN LENGTH.
2. UTILIZE 3/4" EXPANSION JOINT AT ALL VERTICAL STRUCTURE INTERFACES. USE 3/8" EXPANSION JOINTS AT ALL PAVING JOINT.
3. PROVIDE CLEARLY TOOLED BORDER ALL AROUND JOINTS.
4. PROVIDE CONTROL JOINTS IN LAYOUT APPROVED IN SHOP DRAWING.
5. REFER TO PLANS AND SPECIFICATION FOR ADDITIONAL REQUIREMENTS.

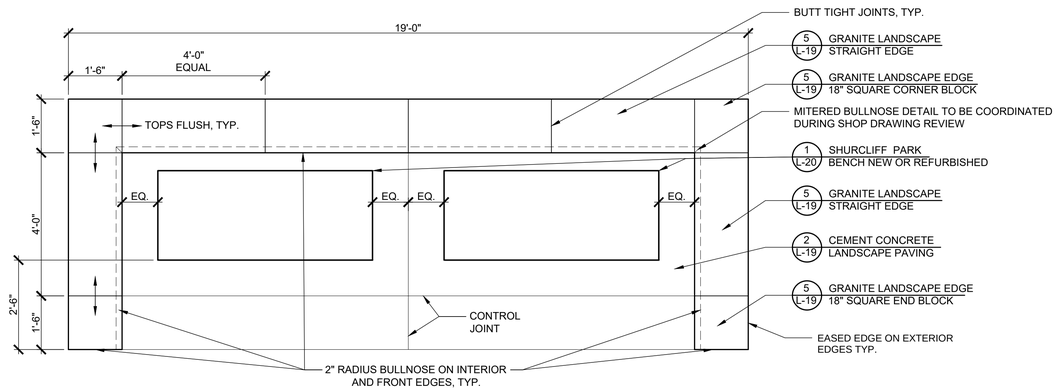
2 CEMENT CONCRETE LANDSCAPE PAVING

SCALE: 1-1/2"=1'-0"



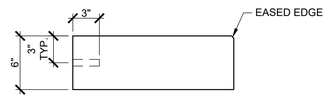
3 STABILIZED STONE DUST PAVING

SCALE: 1-1/2"=1'-0"

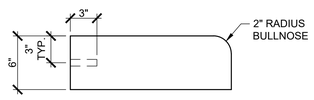


4 PLAN AT BENCH

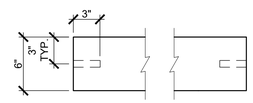
SCALE: 1-1/2"=1'-0"



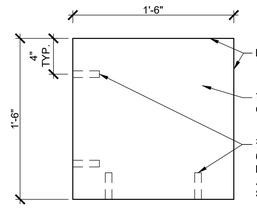
ELEVATION - 18" SQUARE CORNER BLOCK



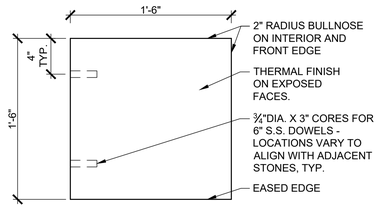
ELEVATION - 18" SQUARE END BLOCK



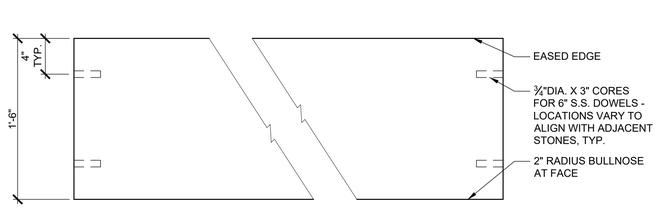
FRONT ELEVATION



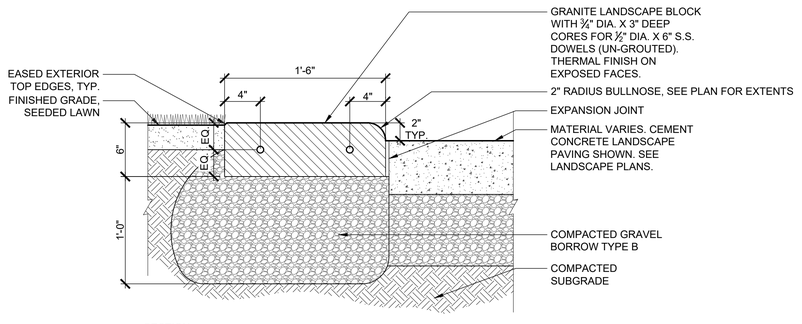
PLAN - 18" SQUARE CORNER BLOCK



PLAN - 18" SQUARE END BLOCK



PLAN - STRAIGHT EDGE



SECTION

5 GRANITE LANDSCAPE EDGE

SCALE: 1-1/2"=1'-0"

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

PAVING DETAILS

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. L-19
CHECKED:			
DRAWN:	REF.	SCALE:	
CHECKED:	ACC.	DATE: 3/24/2025	116 OF 182

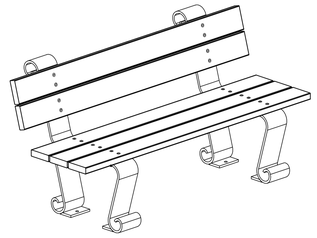
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

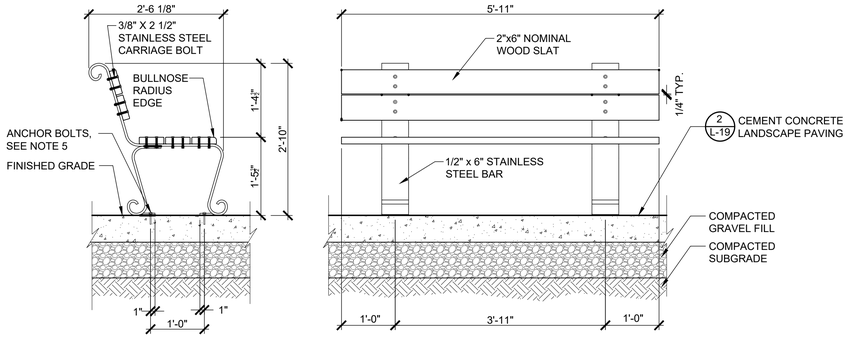
4/9/2025 J:\MEMORIAL DRIVE PHASE 3\DWGS\BRR\SHEET\L-28 - L-31 LANDSCAPE DETAILS.DWG

NOTES:

1. LUMBER TO BE CLEAR KILN-DRIED DOUGLAS FIR, ALL EDGES EASED.
2. ALL WOOD SLATS PRIMED WITH TWO COATS, FINISHED WITH TNEMC GLOSS ENAMEL (HUNTER GREEN) TO MATCH EXISTING.
3. ALL WELDS CONTINUOUS THEN GROUND SMOOTH.
4. ALL STEEL MEMBERS POWDER COATED (HUNTER GREEN) TO MATCH EXISTING.
5. 1/2"x3 3/4" EXPANSION BOLT ANCHORS, 4 PER BENCH.

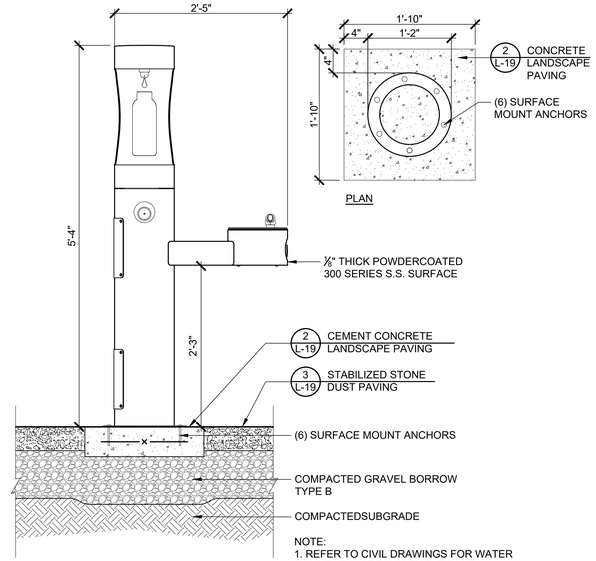
AXON VIEW





1 SHURCLIFF PARK BENCH (REFURBISHED RESET AND NEW)

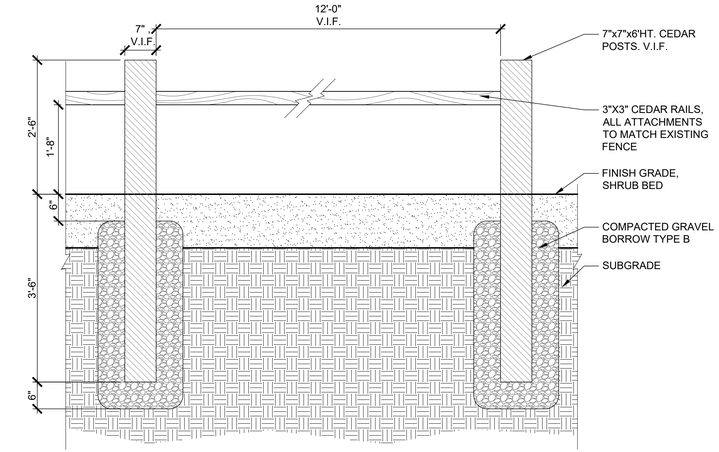
SCALE: 3/4"=1'-0"



NOTE:
1. REFER TO CIVIL DRAWINGS FOR WATER CONNECTION REQUIREMENTS AND FURTHER INFORMATION

4 DRINKING FOUNTAIN

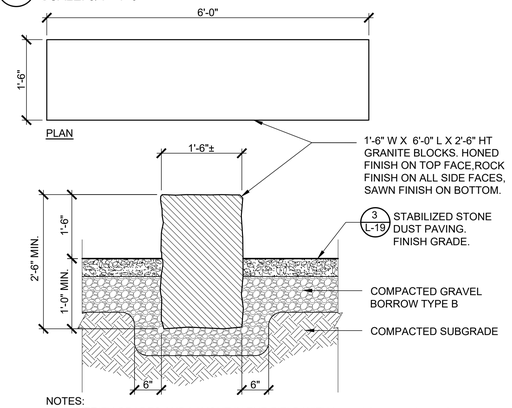
SCALE: 1"=1'-0"



NOTES:
1. CEDAR RAIL FENCE TO MATCH EXISTING FENCE. REUSE (3) EXISTING GRANITE POSTS AND (2) CEDAR RAILS. NEW GRANITE POSTS AND CEDAR RAILS TO MATCH EXISTING.

6 CEDAR RAIL FENCE

SCALE: 3/4"=1'-0"



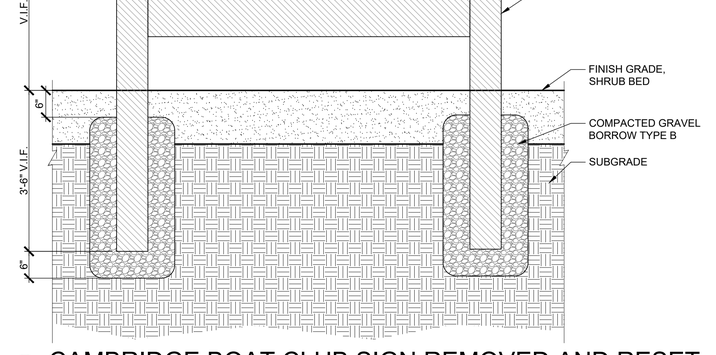
NOTES:
1. VERIFY GRADES AND LAYOUT IN THE FIELD WITH LANDSCAPE ARCHITECT

2 GRANITE BENCH

SCALE: 3/4"=1'-0"

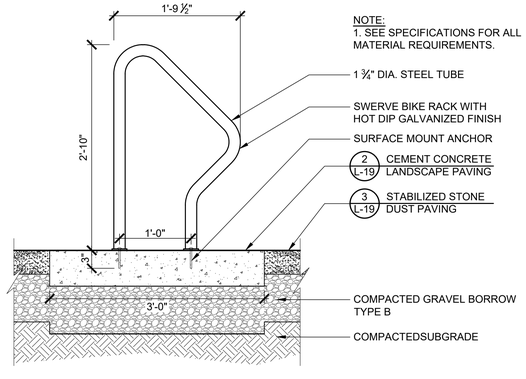
5 RESET MEMORIAL PLAQUE

SCALE: 3/4"=1'-0"



7 CAMBRIDGE BOAT CLUB SIGN REMOVED AND RESET

SCALE: 3/4"=1'-0"



3 BICYCLE RACK

SCALE: 1"=1'-0"

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

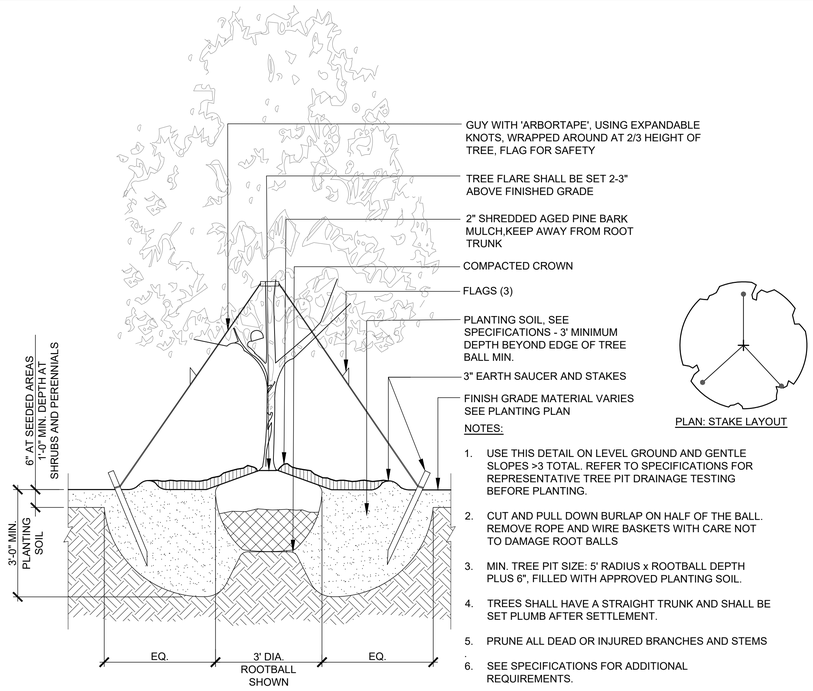
SITE FURNISHING DETAILS

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. L-20
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 3/24/2025

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10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/9/2025 J:\MEMORIAL DRIVE PHASE 3\DWGS\BRR\SHEET\L-28 - L-31 LANDSCAPE DETAILS.DWG



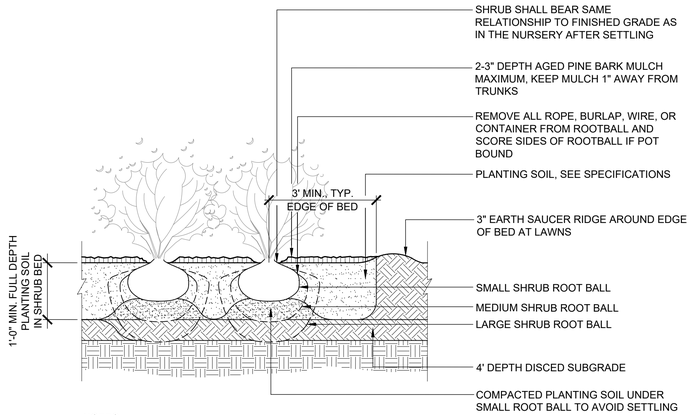
PLAN: STAKE LAYOUT

NOTES:

1. USE THIS DETAIL ON LEVEL GROUND AND GENTLE SLOPES >3 TOTAL. REFER TO SPECIFICATIONS FOR REPRESENTATIVE TREE PIT DRAINAGE TESTING BEFORE PLANTING.
2. CUT AND PULL DOWN BURLAP ON HALF OF THE BALL. REMOVE ROPE AND WIRE BASKETS WITH CARE NOT TO DAMAGE ROOT BALLS
3. MIN. TREE PIT SIZE: 5' RADIUS x ROOTBALL DEPTH PLUS 6", FILLED WITH APPROVED PLANTING SOIL.
4. TREES SHALL HAVE A STRAIGHT TRUNK AND SHALL BE SET PLUMB AFTER SETTLEMENT.
5. PRUNE ALL DEAD OR INJURED BRANCHES AND STEMS .
6. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

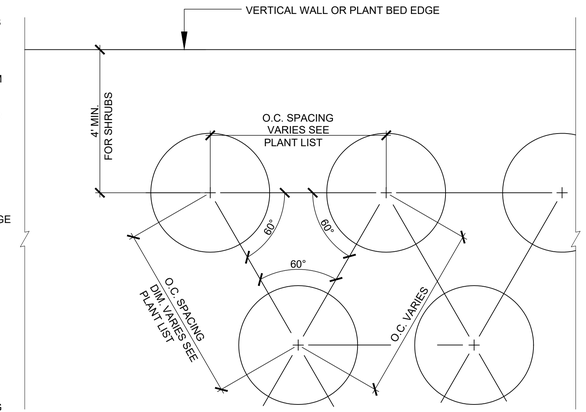
1 DECIDUOUS TREE PLANTING

SCALE: 1/2"=1'-0"



NOTES:

1. SEE PLANT LIST AND PLANS FOR TYPICAL SPACING.
2. REMOVE ALL TAGS AFTER REVIEW AND APPROVAL IN THE FIELD BY THE LANDSCAPE ARCHITECT.
3. KEEP MULCH BEDS WEED AND GRASS-FREE.
4. REVIEW SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.



NOTES:

1. SHRUBS SPACED AT 3' O.C. REQUIRE 0.128 PLANTS/SQ.FT
2. SHRUBS SPACED AT 4' O.C. REQUIRE 0.0725 PLANTS/SQ. FT.

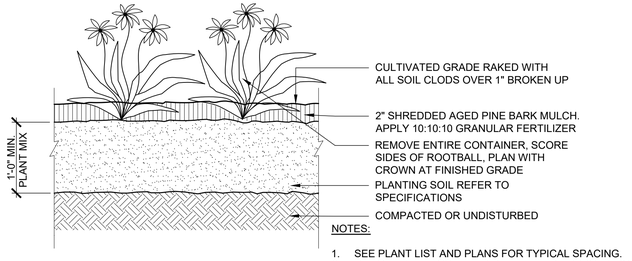
2 SHRUB PLANTING

SCALE: 1/2"=1'-0"

QTY.	SYMBOL	SCIENTIFIC NAME	COMMON NAME	ROOT	SIZE	REMARKS
DECIDUOUS TREES						
5	AL	AMELANCHIER LAEVIS	ALLEGHANY SERVICEBERRY	B&B	8 '– 10' HT.	3 OR 5–STEMMED CLUMP
5	AF	ACER X FREEMANII 'AUTUMN BLAZE'	AUTUMN BLAZE FREEMAN MAPLE	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT.
4	BN	BETULA NIGRA	RIVER BIRCH	B&B	8 '– 10' HT.	3 OR 5 STEMMED CLUMP
1	CF	CORNUS FLORIDA 'APPALACHIAN SNOW'	APPALACHIAN SNOW DOGWOOD	B&B	8 '– 10' HT.	3–STEMMED CLUMP
3	HV	HAMAMELIS VIRGINIANA	WITCH HAZEL	B&B	8 '– 10' HT.	5–STEMMED CLUMP
3	LS	LIQUIDAMBAR STYRACIFLUA 'GRAZAM'	GRANDMASTER SWEETGUM	B&B	3" –3.5" CALIPER	SPECIMEN, 7' MIN. LATERAL BRANCHING HT.
10	LT	LIRIODENDRON TULIPIFERA	TULIP TREE	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT.
24	PA	PLATANUS X ACERIFOLIA 'BLOODGOOD'	BLOODGOOD LONDON PLANE TREE	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT. MATCHING.
4	QB	QUERCUS BICOLOR	SWAMP WHITE OAK	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT.
21	UA	ULMUS AMERICANA 'VALLEY FORGE'	VALLEY FORGE AMERICAN ELM	B&B	3" –3.5" CALIPER	7' MIN. LATERAL BRANCHING HT MATCHING..
DECIDUOUS SHRUBS						
12	ARB	ARONIA ARBUTIFOLIA	RED CHOKEBERRY	CONT.	3 GAL.	3'–4' O.C.
29	ARM	ARONIA MELANOCARPA	BLACK CHOKEBERRY	CONT.	3 GAL.	3'–4' O.C.
37	CRA	CORNUS AMOMUM	SILKY DOGWOOD	CONT.	3 GAL.	36" O.C.
18	CSA	CORNUS SERICEA	REDTWIG DOGWOOD	CONT.	3 GAL.	36" O.C.
13	RHV	RHODODENDRON VISCOSUM	SWAMP AZALEA	CONT.	3 GAL.	3'–4' O.C.
6	SAB	SAMBUCUS CANADENSIS	ELDERBERRY	CONT.	3 GAL.	6'–8' O.C.
EVERGREEN SHRUBS						
105	IGC	ILEX GLABRA COMPACTA	INKBERRY	CONT.	24" – 30"	36" O.C.
PERENNIALS						
138	ANA	ASTER NOVAE–ANGLIAE	NEW ENGLAND ASTER	CONT.	1 GAL.	24" O.C.
317	RUF	RUDBECKIA FULGIDA VAR. FULGIDA	BLACK–EYED SUSAN	CONT.	1 GAL.	18" O.C.
59	SCS	SCHIZACHYRIUM SCOPARIUS	LITTLE BLUESTEM	CONT.	1 GAL.	24" O.C.

NOTE: SEE SHEET L-17 FOR TWO (2) LONDON PLANE TREES, ONE AT 2" DBH AND ONE AT 3" DBH, TO BE TRANSPLANTED

7 PLANT LIST

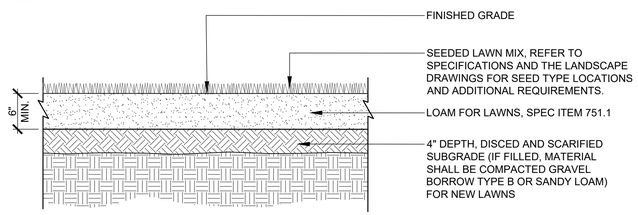


NOTES:

1. SEE PLANT LIST AND PLANS FOR TYPICAL SPACING.
2. REMOVE ALL TAGS AFTER REVIEW AND APPROVAL IN THE FIELD BY THE LANDSCAPE ARCHITECT.
3. KEEP MULCH BEDS WEED AND GRASS-FREE.
4. REVIEW SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

3 PERENNIAL PLANTING

SCALE: 1"=1'-0"

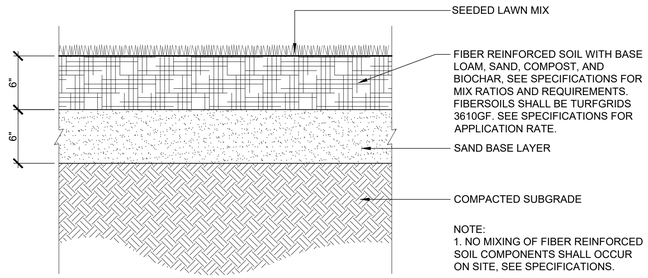


NOTES:

1. LOAM FOR LAWNS DEPTH FOR SEEDED LAWN, SHALL BE 6" MINIMUM, VARIATIONS TO DEPTH MAY OCCUR ONLY AFTER REVIEW AND APPROVAL BY LANDSCAPE ARCHITECT.
2. SEE SPECIFICATIONS FOR SEED MIXES AND APPLICATION RATES.
3. PROTECTIVE FENCING SHALL BE ERECTED AND MAINTAINED AT PERIMETER OF ALL SODDED AND SEEDED AREAS UNTIL FINAL ACCEPTANCE AND THROUGH MAINTENANCE PERIOD, SEE SPECIFICATIONS..
4. FOR REFURBISHED LAWN AREAS, WEED EXISTING LAWN, RAKE EXISTING TOPSOIL, TOP DRESS WITH 1" NEW LOAM AND SEED BARE SPOTS WITH APPROVED SEED MIXES. PROTECT UNTIL ACCEPTANCE.

4 SEEDED LAWN

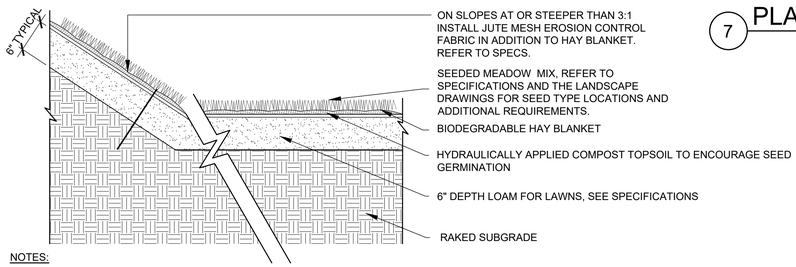
SCALE: 1"=1'-0"



NOTE:
1. NO MIXING OF FIBER REINFORCED SOIL COMPONENTS SHALL OCCUR ON SITE, SEE SPECIFICATIONS.

5 FIBER REINFORCED SOIL

SCALE: 1"=1'-0"



NOTES:

1. SEE LANDSCAPE DRAWINGS AND SPECIFICATIONS FOR SEED MIX TYPE, LOCATION AND APPLICATION RATES.
2. PROTECTIVE FENCING SHALL BE ERECTED AND MAINTAINED AT PERIMETER OF ALL SEEDED AREAS UNTIL FINAL ACCEPTANCE.
3. ALL SEEDED AREAS SHALL BE WATERED, WEEDED, RESEEDED, PROTECTED, AND MAINTAINED UNTIL ACCEPTANCE. MEADOW AREAS SHALL BE MAINTAINED UNTIL FULL ESTABLISHMENT AND THROUGH MAINTENANCE PERIOD,. REFER TO SPECIFICATIONS.
4. EROSION CONTROL LAYER REQUIRED FOR ANY SLOPES AT OR STEEPER THAN 3:1 -SEE SPECIFICATIONS FOR REQUIREMENTS.
5. HAY BLANKET SHALL BE INSTALLED AT ALL SEEDED MEADOW AREAS

6 SEEDED MEADOW

SCALE: 1"=1'-0"

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

PLANTING DETAILS

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. L-21
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 3/24/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/9/2025 J:\MEMORIAL DRIVE PHASE 3\DWGS\BRRSHEET\L-28 - L-31 LANDSCAPE DETAILS.DWG

ELECTRICAL LEGEND:

LIGHTING CONDUIT DIRECT BURIED IN THE EARTH

SINGLE LUMINAIRE WITH LIGHT POLE AND CONCRETE POLE FOUNDATION

EXISTING LIGHT POLE; REFINISH POLES WITH PAINT COLOR OF MATCHING NEW POLES.

LIGHTING LOAD CENTER

PRE-CAST HANDHOLE

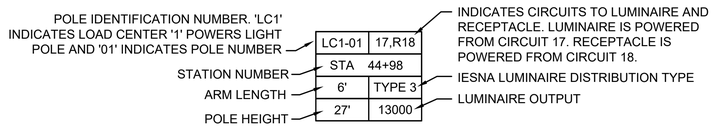
ABBREVIATIONS:

A	AMPERES
AFG	ABOVE FINISHED GRADE
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CM	CIRCULAR MIL
FBO	FURNISHED BY OTHERS
Fc	FOOT CANDLES
GAL	GALVANIZED
GND	GROUND
GFI	GROUND FAULT INTERRUPTER
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA
KVA	KILO VOLT AMPERES
LL	"L" LEFT
LT	LIQUID TIGHT FLEXIBLE METAL CONDUIT
LTG	LIGHTING
NIC	NOT IN CONTRACT
PVC	POLYVINYL CHLORIDE
RCPT	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RNC	RIGID NON-METALLIC CONDUIT
RT	RAIN TIGHT
SCH	SCHEDULE
SW	SIDEWALK
UF	UNFUSED
V	VOLTS
W	WATTS
WP	WEATHERPROOF

GENERAL NOTES:

1. CONDUIT RUNS ARE DIAGRAMMATIC. COORDINATE CONDUIT RUNS WITH ALL OTHER EXISTING OR PROPOSED UNDERGROUND UTILITIES AND STRUCTURES.
2. PRIOR TO THE INSTALLATION OF PROPOSED LIGHTING, THE CONTRACTOR SHALL EXCAVATE TEST PITS AT LOCATIONS OF UTILITY CROSSINGS TO VERIFY DEPTHS AND LOCATIONS OF EXISTING PIPES, CONDUITS OR OTHER FACILITIES AND AS REQUIRED BY THE ENGINEER. WORK SHALL BE PAID FOR UNDER ITEM 141.1 TEST PIT FOR EXPLORATION.
3. COORDINATE ELECTRIC SERVICE WITH ELECTRIC UTILITLY COMPANY (EVERSOURCE). ALL WORK ASSOCIATED WITH THE ELECTRIC SERVICE MUST BE COMPLETED IN ACCORDANCE WITH ELECTRIC COMPANY STANDARDS.
4. ALL UTILITY BACK CHARGES ARE THE RESPONSIBILITY OF THE CONTRACTOR FOR ALL WORK PERTAINING TO THIS PROJECT. COORDINATE ALL PERMANENT AND TEMPORARY POWER WITH THE UTILITY.
5. ALL ELECTRICAL EQUIPMENT SHALL BE UL LISTED FOR ITS INTENDED USE.
6. PROVIDE GROUND CONDUCTOR IN EACH ELECTRICAL RACEWAY IN ACCORDANCE WITH THE CODE.
7. THE HOT LINE AND NEUTRAL CONDUCTORS IN THE POLE HANDHOLE SHALL HAVE AN APPROVED STREET LIGHT FUSE CONNECTOR.

LUMINAIRE INFORMATION BOX



COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
LIGHTING PLANS
NOTES & ABBREVIATIONS OF 4

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. E-1
CHECKED:		
DRAWN:	REF. / SCALE:	
CHECKED:	ACC. / DATE: 4/14/2025	119 OF 182

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10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941101\01DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_LIGHTING_DETAILS.DWG

GERRYS LANDING ROAD

GERRYS LANDING ROAD

GERRYS LANDING ROAD

N

LIMIT OF PAVING

PROP GERRYS LANDING RD CONST BL

PROP GERRY'S LANDING RD CONST BL

LIMIT OF PAVING

PROP MILL AND HMA OVERLAY

EX LP TO REMAIN

EX LP TO BE R&D

LC1-35	17/19
STA	103+02
6'	TYPE 3
27'-0"	13260

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

PROVIDE 2-3"C, 1-3"C, 2#4, 1#4-GND, CIR. 17-19 1-3"C - SPARE

PROP MILL AND HMA OVERLAY

LC1-36	21/23
STA	105+44
6'	TYPE 3
27'-0"	13260

LIMIT OF PAVING

EX LP TO BE R&D

LC1-01	17/19
STA	106+90
6'	TYPE 3
27'-0"	13260

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

EX LP TO REMAIN

PROVIDE 2-3"C, 1-3"C, 4#4, 1#4-GND, CIR. 17-19 & 21-23 1-3"C - SPARE

PROP SHARED-USE PATH CONST BL

LIMIT OF PROP SHARED-USE PATH

ONLY

ONLY

ONLY

ONLY

BUILDING

BUILDING

PIER

PIER

PIER

ELIOT BRIDGE

CONG. HEADWALL

WF B1-1

WF B1-2

WF B1-3

BIT. CONC.

GRASS

CONC.

SIGN

PATH

HMA

DESCRIBED

101

102

103

104

106

107

400+00

401

402

403

404

405

406

407

CONTINUED ON SHEET NO. 121

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

LIGHTING PLANS

PART 1 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. E-2
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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N

GERRYS LANDING ROAD

MEMORIAL DRIVE

MEMORIAL DRIVE

DS. PAUL DUDLEY WHITE BIKE PATH

BUILDING

BUILDING

PIER

26+25

27

108

108+50.92

EX LP TO REMAIN

LIMIT OF PAVING

PROVIDE 2-3"C,
1-3"C, 2#4, 1#4-GND,
CIR. 17-19
1-3"C - SPARE

LC1-02	21/23
STA	27+42
6'	TYPE 3
27'-0"	13260

107

EXIST LIGHT POLE HAS BEEN REMOVED

LC1-01	17/19
STA	106+90
6'	TYPE 3
27'-0"	13260

PROVIDE 2-3"C,
1-3"C, 4#4, 1#4-GND,
CIR. 17-19 & 21-23
1-3"C - SPARE

28

LC1-3	17/19
STA	28+38
6'	TYPE 3
27'-0"	13260

PROP MEMORIAL DRIVE CONST BL

LIMIT OF PAVING

EX LP TO REMAIN

PROP 6' POROUS PAVEMENT WALK

R&D LP & FOUNDATION

LC1-06	21/23
STA	31+59
6'	TYPE 3
27'-0"	13260

R&D LP & FOUNDATION

29

30

31

32

406

407

408

409

410

411

412

EX LP TO REMAIN

PROVIDE 2-3"C,
1-3"C, 4#4, 1#4-GND,
CIR. 17-19 & 21-23
1-3"C - SPARE

LC1-P1	17/19
STA	406+89
-	TYPE 3
14'-0"	3876

EX LP TO BE R&D

PROVIDE 2-3"C,
1-3"C, 4#4, 1#4-GND,
CIR. 17-19 & 21-23
1-3"C - SPARE

LC1-P2	21/23
STA	407+64
-	TYPE 3
14'-0"	3876

LC1-04	21/23
STA	29+39
6'	TYPE 3
27'-0"	13260

PROP SHARED-USE PATH CONST BL

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

PROP 5' STABILIZED AGGREGATE PATH

R&D LP & FOUNDATION

LC1-05	17/19
STA	30+48
6'	TYPE 3
27'-0"	13260

CONTINUED ON SHEET NO. 120

CONTINUED ON SHEET NO. 122

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
LIGHTING PLANS
PART 2 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. E-3
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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LC1-06	21/23
STA	31+59
6'	TYPE 3
27'-0"	13260

LC1-07	17/19
STA	32+68
6'	TYPE 3
27'-0"	13260

LC1-08	21/23
STA	33+77
6'	TYPE 3
27'-0"	13260

LC1-09	17/19
STA	34+89
6'	TYPE 3
27'-0"	13260

LC1-10	21/23
STA	35+86
6'	TYPE 3
27'-0"	13260

LC1-11	17/19
STA	36+84
6'	TYPE 3
27'-0"	13260

R&D LP & FOUNDATION

PROVIDE 2-3"C, 1-3"C, 4#4, 1#4-GND, CIR. 17-19 & 21-23 1-3"C - SPARE

CEN

PROP 6' POROUS PAVEMENT WALK

PROP MEMORIAL DRIVE CONST BL

PROP MILL AND HMA OVERLAY

R&D LP & FOUNDATION

NORTH CHARLES RELIEF SEWER LAND TAKING PLAN 521 OF 1976

PROP SHARED-USE PATH CONST BL

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

PROP 5' STABILIZED AGGREGATE PATH

PROP AGGREGATE PATH 2 CONST BL

MEMORIAL DRIVE

MEMORIAL DRIVE

CONTINUED ON SHEET NO. 121

CONTINUED ON SHEET NO. 123

0 20 50 100

SCALE: 1" = 20'

4/16/2025 U:\17941\10\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_LIGHTING_PLANS.DWG

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

LIGHTING PLANS

PART 3 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. E-4
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

N

SPARKS STREET

MEMORIAL DRIVE

MEMORIAL DRIVE

MT. AUBURN STREET

PLAY AREA

SIDEWALK

PROP MILL AND HMA OVERLAY

PROP MEMORIAL DRIVE CONST BL

R&D LP & FOUNDATION

R&D LP & FOUNDATION

R&D LP & FOUNDATION

PROVIDE 2-3"C, 1-3"C, 4#4, 1#4-GND, CIR. 17-19 &21-23 1-3"C - SPARE

PROVIDE 2-3"C, 1-3"C, 2#4, 1#4-GND, CIR. 17-19 1-3"C - SPARE

PROP SHARED-USE PATH CONST BL

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

PROP 5' STABILIZED AGGREGATE PATH

PROP AGGREGATE PATH 2 CONST BL

NORTH CHARLES RELIEF SEWER LAND TAKING PLAN 321 OF 1976

NORTH CHARLES RELIEF SEWER 42"RCP

LC1-11	17/19
STA	36+84
6'	TYPE 3
27'-0"	13260

LC1-12	21/23
STA	37+99
6'	TYPE 3
27'-0"	13260

LC1-13	17/19
STA	39+12
6'	TYPE 3
27'-0"	13260

LC1-14	21/23
STA	39+59
6'	TYPE 3
27'-0"	13260

LC1-15	17/19
STA	40+68
6'	TYPE 3
27'-0"	13260

LC1-16	21/23
STA	41+87
6'	TYPE 3
27'-0"	13260

LC1-17	17/19
STA	43+06
6'	TYPE 3
27'-0"	13260

CONTINUED ON SHEET NO. 122

CONTINUED ON SHEET NO. 124

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

LIGHTING PLANS

PART 4 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. E-5
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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N

WILLARD STREET

MT. AUBURN STREET

MEMORIAL DRIVE

MEMORIAL DRIVE

LC1-17	17/19
STA	43+06
6'	TYPE 3
27'-0"	13260

LC1-18	21/23
STA	44+23
6'	TYPE 3
27'-0"	13260

LC1-19	17/19
STA	45+41
6'	TYPE 3
27'-0"	13260

LC1-20	21/23
STA	46+57
6'	TYPE 3
27'-0"	13260

LC1-21	17/19
STA	47+77
6'	TYPE 3
27'-0"	13260

R&D LP & FOUNDATION

R&D LP & FOUNDATION

PROP 6' POROUS PAVEMENT WALK

PROP MILL AND HMA OVERLAY
PROVIDE 2-3"C,
1-3"C, 4#4, 1#4-GND,
CIR. 17-19 & 21-23
1-3"C - SPARE

PROP AGGREGATE PATH 2 CONST BL

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

PROP SHARED-USE PATH CONST BL

PROP 5' STABILIZED AGGREGATE PATH

NORTH CHARLES RELIEF SEWER LAND TAKING PLAN 321 OF 1976

CONTINUED ON SHEET NO. 123

CONTINUED ON SHEET NO. 125

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
LIGHTING PLANS
PART 5 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. E-6
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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NOTE:
WORK ASSOCIATED WITH INSTALLATION OF PROPOSED ELECTRICAL DUCT BANK AND ASSOCIATED HANDHOLES IS TO BE PERFORMED AND PAID FOR IN ACCORDANCE WITH CONTRACT ITEM 810.1

N

COORDINATE WITH ELECTRIC UTILITY (EVERSOURCE) FOR ELECTRIC SERVICE CONNECTION

1-3"C, 3#2, SERVICE CONDUIT. PROVIDE MANHOLE BREAK PER UTILITY SPECIFICATIONS.

LIGHTING LOAD CENTER

PROVIDE 2-3"C, 1-3"C. 4#4, 4#6 1#4-GND CIR. 17-19, 21-23, 18-20 & 22-24 1-3"C, SPARE

PROVIDE 2-3"C, 1-3"C, 4#6, 1#6-GND, CIR. 18-20 & 22-24 1-3"C - SPARE

R&D UTILITY POLE AND LUMINAIRE

HAWTHORN STREET

200+00

300+00

ASH STREET (PUBLIC 29.50' WIDE)

LIMIT OF PAVING

PROP MILL AND HMA OVERLAY

LC1-24	18/20
STA	200+91
6'	TYPE 3
27'-0"	13260

PROVIDE 2-3"C, 1-3"C, 4#4, 2#6 1#4-GND, CIR. 17-19, 21-23, 22-24 1-3"C - SPARE

PROVIDE 2-3"C, 1-3"C, 4#4, 1#4-GND, CIR. 17-19 &21-23 1-3"C - SPARE

PROVIDE 2-3"C, 1-3"C, 2#6, 1#4-GND, CIR. 22-24 1-3"C - SPARE

R&D LP & FOUNDATION

LC1-22	21/23
STA	48+96
6'	TYPE 3
27'-0"	13260

LC1-21	17/19
STA	47+77
6'	TYPE 3
27'-0"	13260

LC1-25	22/24
STA	51+07
6'	TYPE 3
27'-0"	13260

LC1-26	18/20
STA	51+88
6'	TYPE 3
27'-0"	13260

LC1-27	22/24
STA	52+48
6'	TYPE 3
27'-0"	13260

R&D UTILITY POLE AND LUM

LC1-28	18/20
STA	52+94
6'	TYPE 3
27'-0"	13260

PROP CEM CONC SIDEWALK (TYP)

LIMIT OF PAVING

PROP FULL DEPTH CONSTRUCTION

PROP DUCT BANK AND DUCT BANK HANDHOLES (SEE NOTE THIS SHEET AND DETAIL SHEET CD-3)

MEMORIAL DRIVE

PROP MILL AND HMA OVERLAY

26'

PROP 6' POROUS PAVEMENT WALK

Now or Formerly STRATHKONA-ON-THE-CHARLES BOOK 12063, PAGE 14 MASTER DEED PARCEL ID – 166–71

Now or Formerly BARRINGTON COURT CONDOMINIUM BOOK 12646, PAGE 144 MASTER DEED PARCEL ID – 166–72

48 49 50 51 52 53

427 428 429 430 431 432 433

SIDEWALK

DR. PAUL DUDLEY WHITE BIKE PATH

BIT. CONC.

PATH

NORTH CHARLES RELIEF SEWER

42"RCP

NORTH CHARLES RELIEF SEWER LAND TAKING PLAN 321 OF 1976

WF B1-39 WF B1-40 WF B1-41 WF B1-42 WF B1-44 WF B1-45 HEADWALL WF B1-46 WF B1-47 WF B1-48 WF B1-49 WF B1-50

LC1-25	22/24
STA	51+07
6'	TYPE 3
27'-0"	13260

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

PROP SHARED-USE PATH CONST BL

PROP 5' STABILIZED AGGREGATE PATH

CONTINUED ON SHEET NO. 124

CONTINUED ON SHEET NO. 126

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

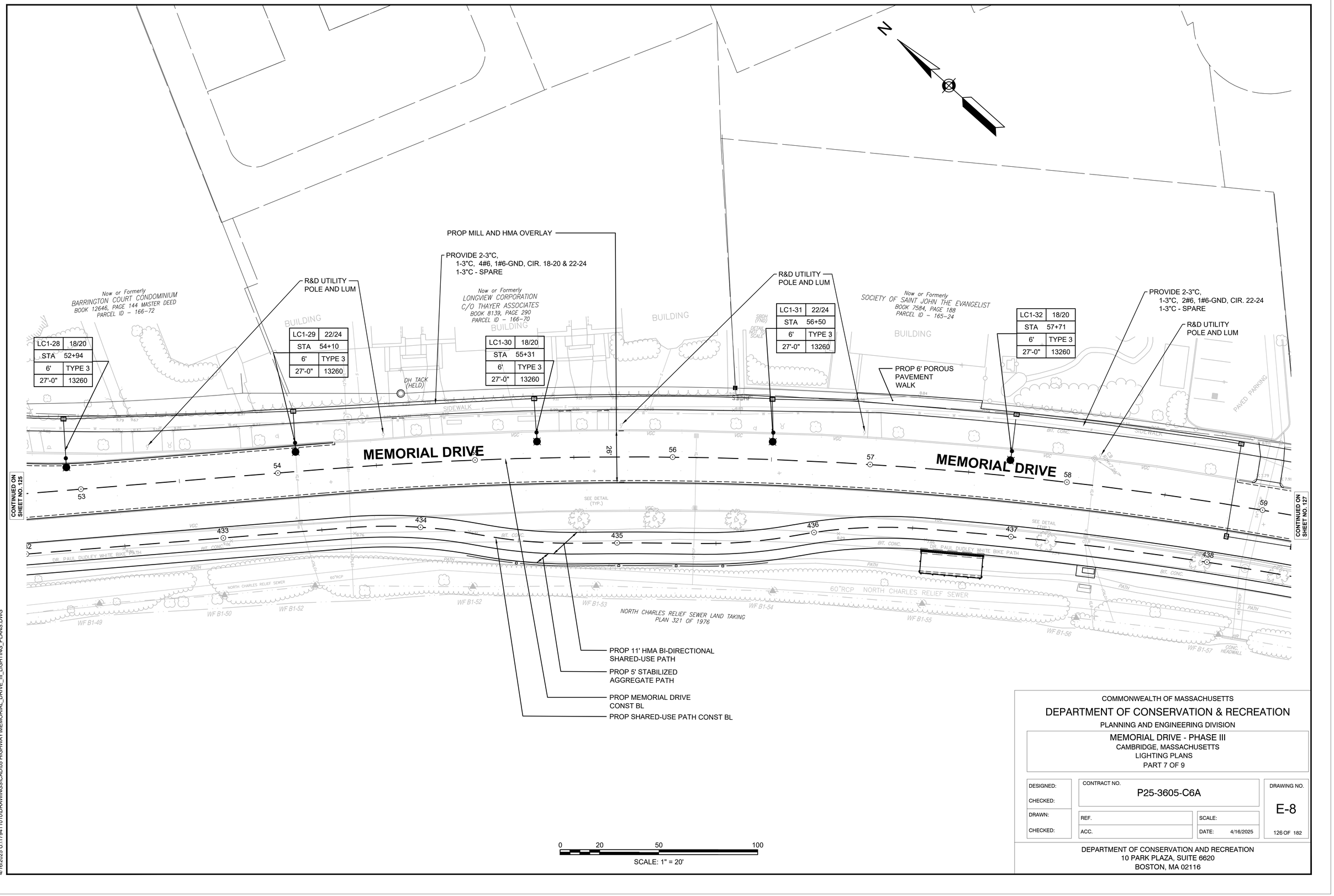
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
LIGHTING PLANS
PART 6 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. E-7
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

125 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/16/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_LIGHTING_PLANS.DWG



CONTINUED ON SHEET NO. 125

CONTINUED ON SHEET NO. 127

4/16/2025 U:\17941\10\10\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_LIGHTING_PLANS.DWG

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

LIGHTING PLANS

PART 7 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. E-8
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

N

PAINT/REFINISH EXISTING LIGHT POLE

PROP 6' POROUS PAVEMENT WALK

PROP MEMORIAL DRIVE CONST BL

PAINT/REFINISH EXISTING LIGHT POLE

PAINT/REFINISH EXISTING LIGHT POLE

PAVED PARKING

SIDEWALK

MEMORIAL DRIVE

CONTINUED ON SHEET NO. 125

CONTINUED ON SHEET NO. 128

PROP MILL AND HMA OVERLAY

LC1-33	22/24
STA	59+22
6'	TYPE 3
27'-0"	13260

PROVIDE 2-3"C,
1-3"C, 2#6, 1#6-GND, CIR. 22-24
1-3"C - SPARE

NORTH CHARLES RELIEF SEWER LAND TAKING PLAN 321 OF 1978

PROP 11' HMA BI-DIRECTIONAL SHARED-USE PATH

PROP 5' STABILIZED AGGREGATE PATH

PROP SHARED-USE PATH CONST BL

0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

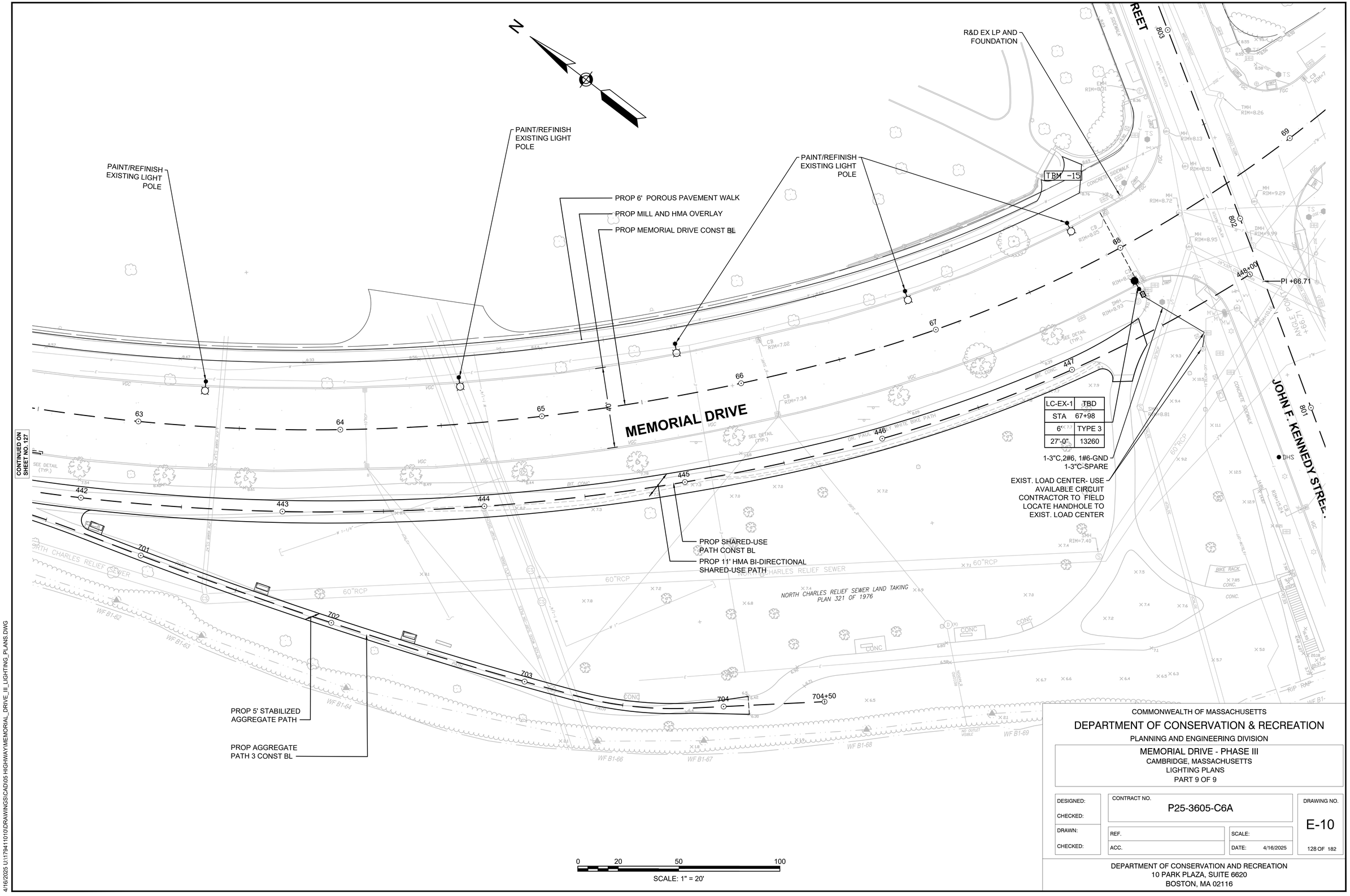
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
LIGHTING PLANS
PART 8 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. E-9
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/16/2025 U:\17941010\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_LIGHTING_PLANS.DWG



COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

LIGHTING PLANS

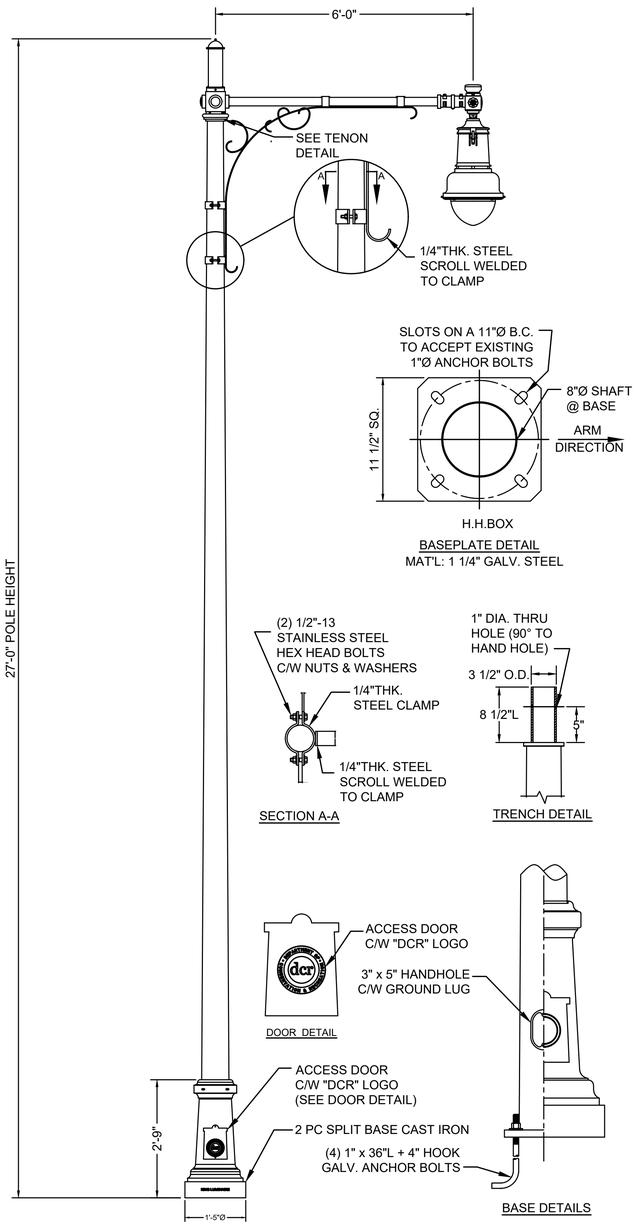
PART 9 OF 9

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. E-10
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/16/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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PENDANT LIGHT POLE AND LUMINAIRE DETAIL

NOT TO SCALE

LUMINAIRE SPECIFICATIONS

MANUFACTURER:	KING LUMINAIRE
STYLE:	K811
LIGHT SOURCE:	FLAT ARRAY - SHALLOW LENS
IES CLASSIFICATION:	TYPE III
LUMEN OUTPUT:	13,260 lm
WATTAGE:	120W
SERIES:	8084
VOLTAGE:	120:277V (WIRE AT 240V)
CCT:	3000K
FINISH:	TGIC POLYESTER POWDERCOAT - FED STD COLOR #14036
OPTIONS:	• PLUMIZER: KPL31 • PHOTO RECEPTACLE WITH CAP: PR7
CATALOG NO.:	(1) K811-P4SH-III-120(SSL)-8084-120:277V-KPL31-PR7-3K

POLE SPECIFICATIONS

MANUFACTURER:	KING LUMINAIRE / WJM POLES
STYLE:	ROUND, TAPERED
HEIGHT:	27'-0"
POLE TOP SIZE:	Ø 4 1/2"
POLE BUTT SIZE:	Ø 8"
MATERIAL	
SHAFT:	ROUND TAPERED CARBON STEEL - 7 GAUGE
BASE:	2 PC DOMESTIC CAST DUCTILE IRON
FINISH:	POLE SHAFT ONLY: H.D. GALV TO ASTM A123 REQ., TGIC POLYESTER POWDER COAT - FED STD COLOR #14036 (10 YEAR FINISH WARRANTY) BASE ONLY: MARINE PRIMED W/ TGIC POLYESTER POWDER TOP COAT - FED STD COLOR #14036
ACCESS DOOR:	4" x 6"
ANCHOR BOLTS:	Ø1" x 36"L + 4" HOOK
BOLT CIRCLE:	Ø11"
BOLT PROJECTION:	5"
OPTIONS:	• HELIX STYLE VIBRATION DAMPER
CATALOG NO.:	KSB88 / ART-A-080-F-253-PT6-R-FP

CROSS ARM SPECIFICATIONS

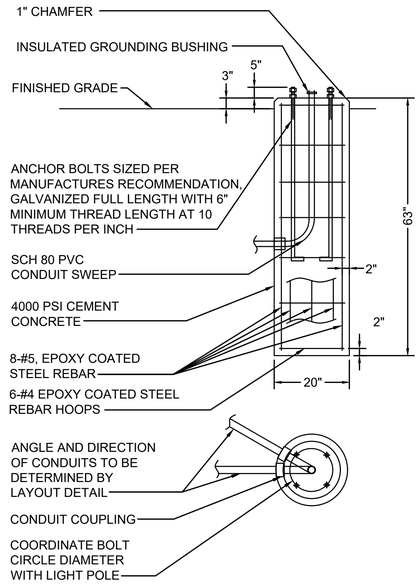
MANUFACTURER:	KING LUMINAIRE
STYLE:	KA24
MATERIAL:	SCH 40 STEEL PIPE ARM, STEEL FLAT-STOCK ORNAMENTAL TRUSS SUPPORT, CAST STEEL TENON ADAPTOR
FINISH:	TGIC POLYESTER POWDERCOAT - FED STD COLOR #14036
CATALOG NO.:	KA24-T-1-6'

BANNER ARMS SPECIFICATIONS

MANUFACTURER:	KING LUMINAIRE
MATERIAL:	ALUMINUM
FINISH:	TGIS POLYESTER POWDERCOAT - FED STD COLOR #14036
CATALOG NO.:	BANNER SAVER - SMALL w/ H.D. STRAPS

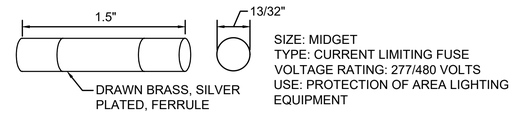
ADAPTIVE CONTROLS

MANUFACTURER:	CIMCON LIGHTING
CONTROLLER CAT. NO.:	ISLC-3100-7P
GATEWAY CAT. NO.:	CL-WG-II-1214-A



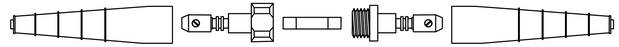
PENDANT LIGHT STANDARD FOUNDATION

NOT TO SCALE



FUSES

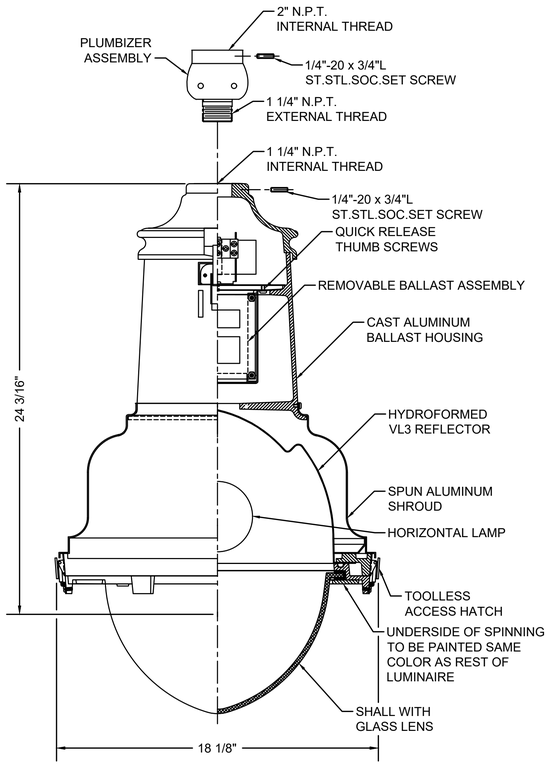
NOT TO SCALE

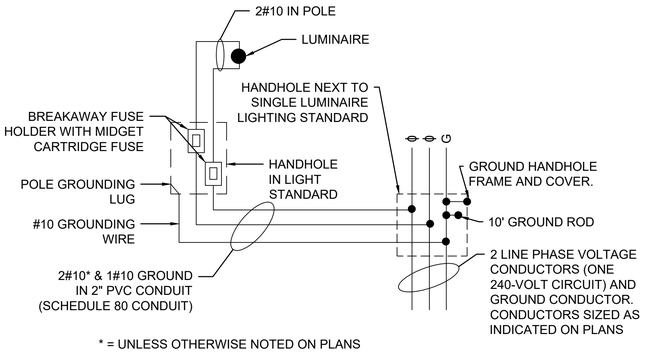


FUSE HOLDER RATING: 600 VOLTS - 20 AMPS.	
FUSE HOLDER SIZE: 1½" x 13/32" O.D. - FERRULE ⅜"	
CONNECTOR SIZE: 8.5" x ⅞" O.D.	
CONNECTOR TYPE:	FUSE - QUICK DISCONNECT SET COPPER SCREW TYPE CONNECTION - BREAKAWAY RATED
CONNECTOR MATERIAL:	MOLDED PLASTIC BODY WITH RUBBER INSULATING BOOTS.
CONDUCTOR SIZE:	LINE AND LOAD MIN #8 AWG THROUGH #12 AWG
REQUIRED FEATURES:	WATERTIGHT NO TAPING OR SEALANT REQUIRED
FUSE HOLDER CATALOG #:	FERRAZ SHAWMUT FEB-81-81-BA, BUSSMAN HEB-JW-RLC-J, LITTELFUSE LEC-JJ-S (LEB IF STRANDED CABLE) OR EQUIVALENT
-FUSE SHALL BE HELD IN LOAD SIDE WHEN CONNECTOR IS DISCONNECTED. -PROVIDE APPROVED FUSE HOLDER WITH "DUMMY" ROD BLANK FUSE FOR NEUTRALS	

STRAIGHT THRU (IN-LINE) CONNECTOR BREAK-AWAY FUSE HOLDER

NOT TO SCALE





* = UNLESS OTHERWISE NOTED ON PLANS

WIRING DIAGRAM FOR SINGLE ARM HIGHWAY LUMINAIRE

N.T.S.

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

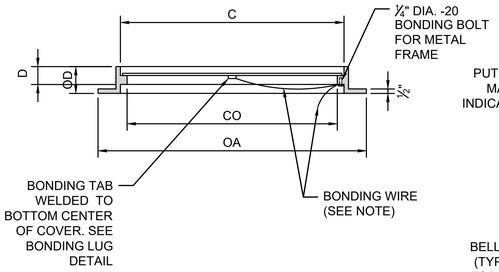
PLANNING AND ENGINEERING DIVISION

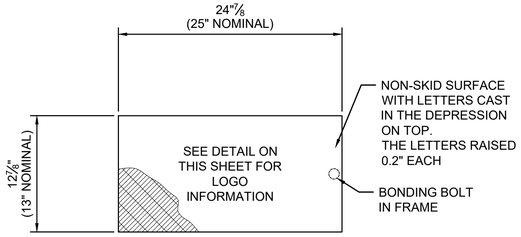
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
LIGHTING DETAILS
PART 1 OF 4

DESIGNED:	CONTRACT NO. P25-3605-C6A		DRAWING NO. ED-1
CHECKED:			
DRAWN:	REF.	SCALE:	
CHECKED:	ACC.	DATE: 4/14/2025	129 OF 182

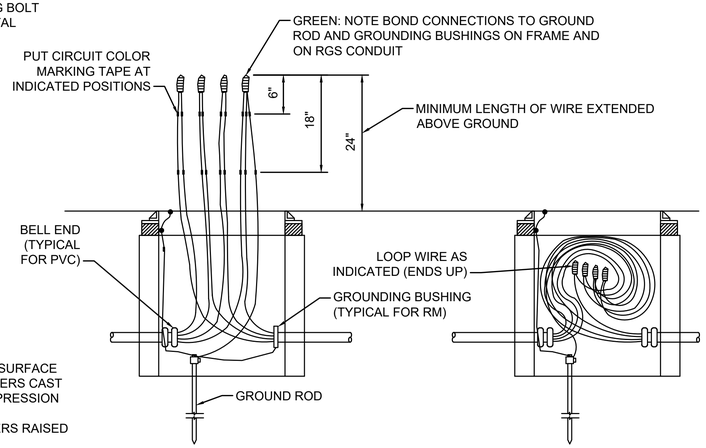
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941\10\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_LIGHTING_DETAILS.DWG

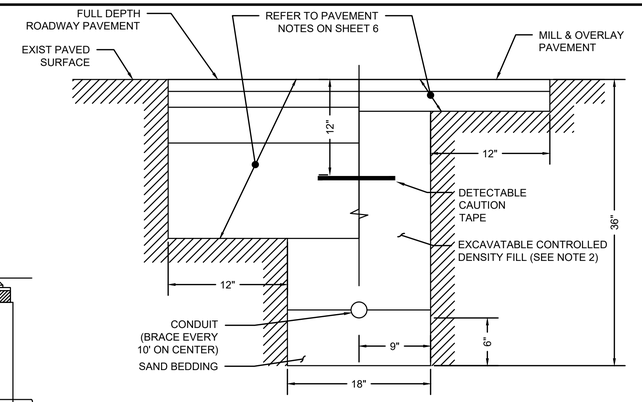


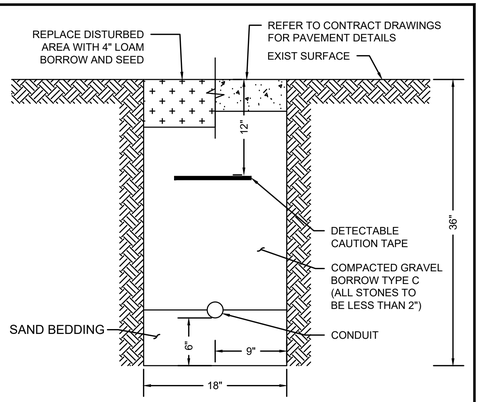


ELECTRIC HANDHOLE FRAME AND COVER DETAIL
N.T.S.



HANDHOLE WIRING DETAIL
NOT TO SCALE





NOTES:

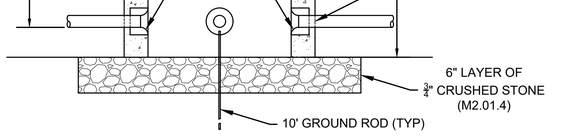
1. ALL BURIED CONDUIT SHALL BE SCHEDULE 80 ELECTRICAL CONDUIT NM-PLASTIC (UL) WITH PULL ROPE UNLESS OTHERWISE APPROVED BY MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION.
2. CONTROL DENSITY FILL SHALL MEET THE REQUIREMENTS OF TYPE 2E-FLOWABLE (EXCAVATABLE) AS DESCRIBED IN MASSDOT SUBSECTION M4.08.0.
3. WARNING TAPE SHALL BE PER CURRENT APWA STANDARD.

TYPICAL TRENCH DETAIL FOR CONDUIT UNDER ROADWAY
NOT TO SCALE

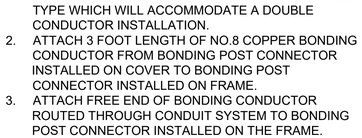
TYPICAL TRENCH DETAIL FOR CONDUIT UNDER ROADSIDE
NOT TO SCALE

SIZE OF COVER	COVER DEPTH	OVERALL DEPTH	CLEAR OPENING	OVERALL	APPROX. WEIGHT	STANDARD DRAWING
C	D	OD	CO	OA	W	W
13" x 25"	1½"	3"	12" x 24"	20" x 29¾"	159 LB.	SD2-022

NOTE:
ATTACH 3 FEET OF NO. 8 BONDING WIRE FROM COVER TAB TO BONDING BOLT ON FRAME. ATTACH SUFFICIENT LENGTH OF NO. 8 BONDING WIRE FROM BONDING BOLT ON FRAME TO THE BONDING WIRE ROUTED THROUGH THE PULL BOX.



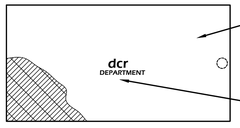
SECTIONS THROUGH 24 IN X 24 IN X 36 IN ELECTRIC HANDHOLE - (SD2-023) - SIZE "HH-22"
N.T.S.



BONDING LUG NOTES:
1. BONDING POST CONNECTOR SHALL BE LONG STUD TYPE WHICH WILL ACCOMMODATE A DOUBLE CONDUCTOR INSTALLATION.
2. ATTACH 3 FOOT LENGTH OF NO.8 COPPER BONDING CONDUCTOR FROM BONDING POST CONNECTOR INSTALLED ON COVER TO BONDING POST CONNECTOR INSTALLED ON FRAME.
3. ATTACH FREE END OF BONDING CONDUCTOR ROUTED THROUGH CONDUIT SYSTEM TO BONDING POST CONNECTOR INSTALLED ON THE FRAME.
4. LUG SHALL BE EITHER COPPER OR BRASS.

BONDING LUG
N.T.S.

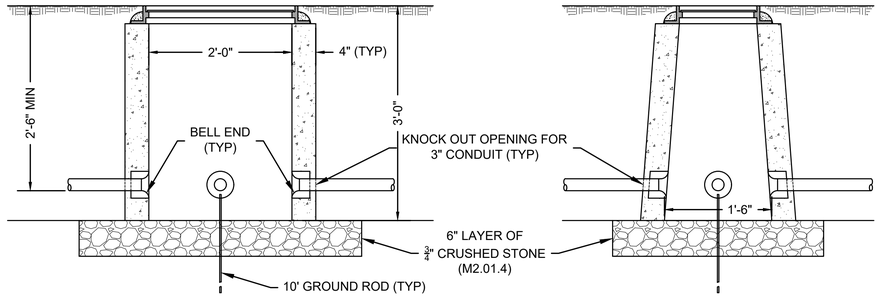
HANDHOLE NOTES:
1. ALL CONDUIT ENTERING HANDHOLES SHALL EXTEND INTO THE HANDHOLE CAVITY BY AT LEAST 1.5".
2. ALL HANDHOLES SHALL BE PRECAST CONCRETE REINFORCED WITH STEEL, AND SHALL BE FREE OF CRACKS OR OTHER DEFECTS. CONCRETE FOR PRECAST CONCRETE HANDHOLES SHALL BE 5000 PSI, 3/8 IN., 660 CEMENT CONCRETE MASONRY. REINFORCING BARS SHALL CONFORM TO AASHTO DESIGNATION M31 (ASTM DESIGNATION A 615) GRADE 60. AND SHALL BE EPOXY COATED.
3. CAST IRON FRAME SHALL BE MORTARED TO THE SURFACE OF THE PRECAST HANDHOLE.
4. ALL CONDUIT INSTALLED IN HANDHOLES SHALL BE INSTALLED IN KNOCKOUTS PROVIDED IN THE BOX AND NO EXCESS KNOCKOUTS SHALL BE MADE. THE KNOCKOUTS ARE DESIGNED TO BE MADE PRIOR TO BACKFILLING AROUND THE HANDHOLES. AFTER THE CONDUIT HAS BEEN INSTALLED IN THE HANDHOLE, THE OPEN SPACE BETWEEN THE BOX AND THE CONDUIT WILL BE SEALED WITH CLASS B CEMENT CONCRETE MASONRY. ANY CONDUIT INSTALLED IN SUCH A MANNER AS TO BLOCK COMPLETE ACCESS TO ANY OTHER CONDUIT SHALL BE REMOVED AND RESET.
5. FOR THE EXACT NUMBER, SIZE, AND ORIENTATION OF THE CONDUITS ENTERING THE HANDHOLE, SEE PLAN SHEETS.
6. CAST IRON HANDHOLE COVERS AND FRAMES SHALL BE PRODUCED BY THE SAME MANUFACTURER AND IN ACCORDANCE WITH MASSDOT SPECIFICATIONS.
7. METAL HANDHOLE COVER AND FRAME ARE TO BE BONDED (GROUNDED). PROVIDE FRAME AND COVER THAT IS DRILLED AND TAPPED FOR MECHANICAL GROUND LUG CONNECTION. INSTALL A SERVIT POST (SPLIT BOLT) BONDING LUG GROUNDING CONNECTOR SUITABLE TO ACCOMMODATE ONE BARE #6 CONDUCTOR. EXTEND #6 GROUND CONDUCTOR THROUGH FRAME LUG TO BOND COVER. PROVIDE 42" OF SLACK FROM FRAME LUG TO BOND COVER.
8. FUNCTION DESIGNATION ON THE HANDHOLE SHALL BE LABELED AS FOLLOWS PER NEC ARTICLE 314.30D:



LOGO FOR ELECTRIC HANDHOLE
N.T.S.

NOTE:
1. LOGO AND TEXT SHALL BE CENTERED WITHIN THE COVER.
2. LOGO AND TEXT SHALL BE RAISED 0.2 INCHES FROM THE COVER SURFACE.
3. LOGO AND TEXT SHALL BE ITALICIZED AND SHALL UTILIZE THE "ERAS DEMI" STYLE FONT.

SIZE OF COVER	DCR LOGO	DEPARTMENT TEXT SIZE	STANDARD DRAWING
13" x 25"	13.25" WIDE x 2" HIGH	TRAFFIC: 3" WIDE x 0.5" HIGH LIGHTING: 3.5" WIDE x 0.5" HIGH	SD2-022



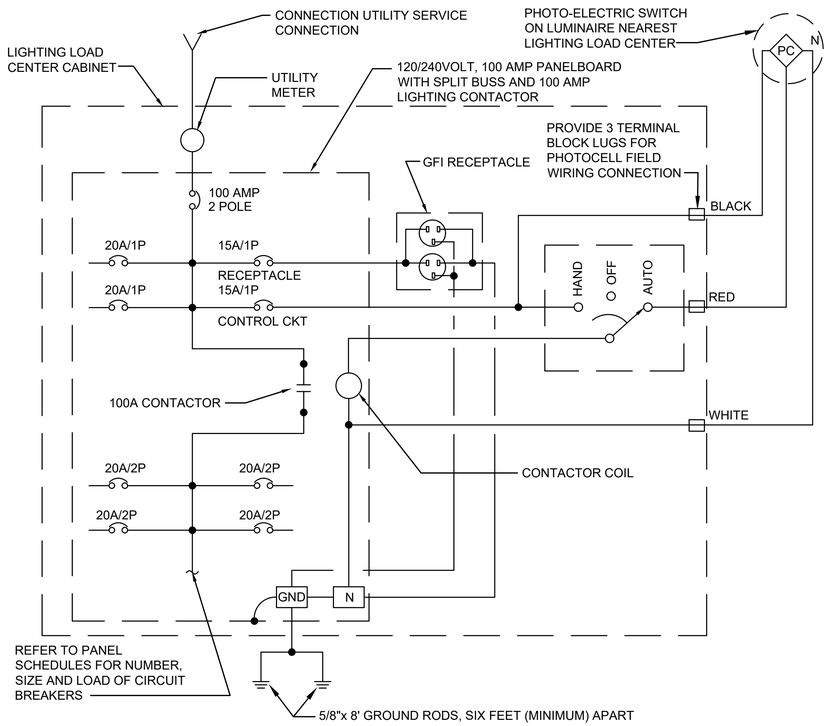
SECTIONS THROUGH 24 IN 13 IN X 36 IN ELECTRIC HANDHOLE (SD2-022)
N.T.S.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
PLANNING AND ENGINEERING DIVISION
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
LIGHTING DETAILS
PART 2 OF 4

DESIGNED:
CHECKED:
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CONTRACT NO. P25-3605-C6A
REF.
ACC.
SCALE:
DATE: 4/14/2025
DRAWING NO. ED-2
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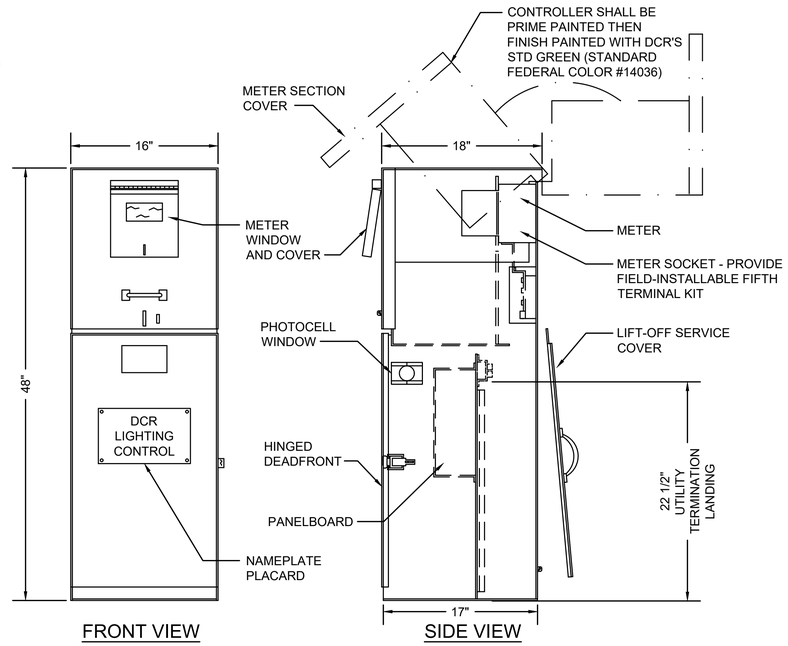
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_LIGHTING_DETAILS.DWG



ONE LINE DIAGRAM

NOT TO SCALE

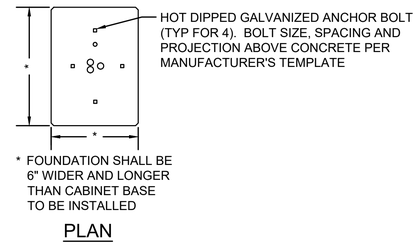


NOTES:

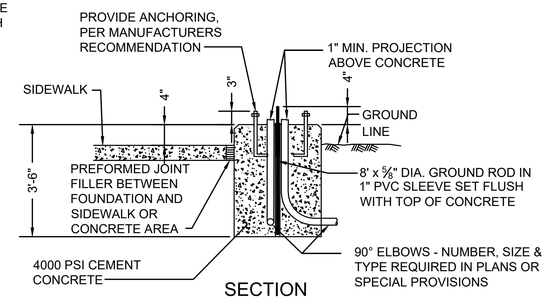
1. PROVIDE MILBANK CP3B51110A22SL1 MODIFIED WITH 100 AMP CONTACTOR, PHOTOCELL TERMINALS, FIFTH TERMINAL KIT FOR USE WITH RINGLESS METER SOCKETS (COORDINATE WITH ELECTRIC UTILITY FOR METER SOCKET REQUIREMENTS), MOUNTING BASE, ANCHOR BOLT KIT, GFCI RECEPTACLE, AND INTERNAL LIGHT FIXTURE OR EQUIVALENT BY MYERS POWER PRODUCTS, OR VIT STRONG BOX.

LIGHTING LOAD CENTER DETAIL

NOT TO SCALE



PLAN



SECTION

NOTES:

1. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".
2. CONTRACTOR SHALL MAINTAIN ACCESS TO BOTH SIDES OF LOAD CENTER. FRONT FOR CUSTOMER ACCESS, BACK FOR UTILITY ACCESS. CONTRACTOR MAY ROTATE LOAD CENTER 90 DEGREES IF NECESSARY TO MAINTAIN ACCESS.
3. CONTRACTOR MUST MAINTAIN SIDEWALK CLEARANCE OF 3' MINIMUM AROUND CONCRETE FOUNDATION

CONCRETE FOUNDATION FOR LIGHTING LOAD CENTER

NOT TO SCALE

PANELBOARD LC1-UNSWITCHED

UNSWITCHED LOADS ONLY

BUS: 120/240V, 1PH, 3W, 60HZ
MAIN LUGS ONLY : 100A
FEEDER SIZE: 3#2, 1#2-GND

SHORT CIRCUIT BRACING: 10-KAIC
CABINET: SURFACE
PANEL LOCATION: HAWTHORNE STA 199+80

GROUND BAR

LOAD SERVED	HP	VA A	VA B	CKT. NO.	NEUTRAL	CKT. NO.	VA A	VA B	HP	LOAD SERVED
MAIN		-		1	A B 100A	2	50			CONTROL CKT
MAIN			-	3	100A	4		180		GFI RECEPTACLE
SPARE		-		5	100A	6	-			SWITCHED LOAD CENTER (BELOW)
SPARE			-	7	100A	8		-		SWITCHED LOAD CENTER (BELOW)
SPARE		-		9		10	-			SPARE
SPACE			-	11		12		-		SPACE
SPACE		-		13		14	-			SPACE
SPACE			-	15		16		-		SPACE

PANELBOARD LC1-SWITCHED

SWITCHED LOADS ONLY

GROUND BAR

LOAD SERVED	HP	VA A	VA B	CKT. NO.	NEUTRAL	CKT. NO.	VA A	VA B	HP	LOAD SERVED
LUMINIARES - LIGHT POLES 01,03,05,07,09,11,		1600		17	A B	18	600			LUMINAIRES - LIGHT POLES 24,26,28,30
13,15,17,19,21,23, P1, 35			1600	19		20		600		32
LUMINIARES - LIGHT POLES 02,04,06,08,10,12,		1480		21		22	600			LUMINAIRES - LIGHT POLE 25,27,29,31,33
14,16,18,20,22, P2, 36			1480	23		24		600		
SPARE		-		25		26	-			SPARE
			-	27		28		-		SPACE
SPACE		-		29		30	-			SPACE
SPACE			-	31		32		-		SPACE

VA A: 4330 VA B: 4460
TOTAL CONNECTED LOAD: 8790 VA

ALL BRANCH C/B: 20 AMP TRIP
UNLESS OTHERWISE NOTED

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
LIGHTING DETAILS
PART 3 OF 4

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. ED-3
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/14/2025

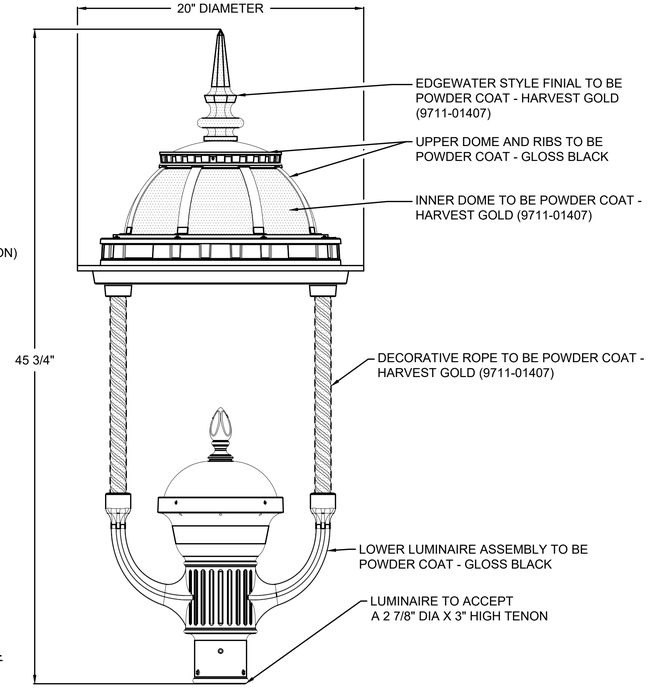
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941\1010\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_LIGHTING_DETAILS.DWG

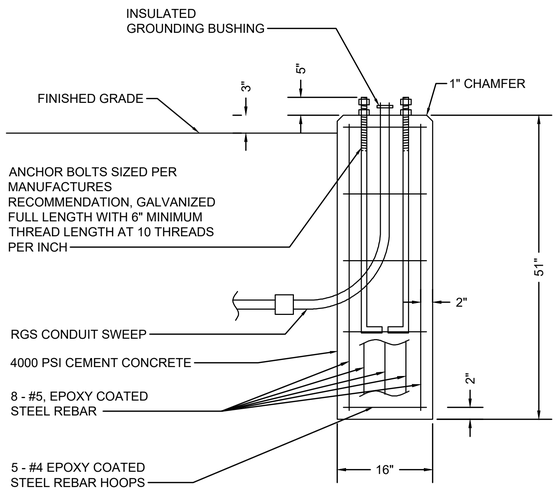
LUMINAIRE SPECIFICATIONS:

STYLE:	THE MODIFIED QUALITY HILL LED LUMINAIRE
HEIGHT:	45 3/4"
WIDTH:	20" DIAMETER
MATERIAL:	CAST ALUMINUM ALLOY ANSI 356 PER A.S.T.M. B26-95
FINISH:	
• BODY:	POWDER COAT - GLOSS BLACK
• DOME & ACCENTS:	POWDER COAT - HARVEST GOLD (9711-01407)
LAMPING:	50 WATT LED SYSTEM
VOLTAGE:	ELECTRONIC WIRED AT 120-277 VOLTS
COLOR TEMPERATURE:	3000K (WARM WHITE)
OPTICAL SYSTEM:	TYPE III MEDIUM FROSTED OPTICS (ASYMMETRIC DISTRIBUTION)
GLOBE:	CLEAR ACRYLIC
SURGE:	10kV
CATALOG NO.	ALMQLT-M5-LE050-EVX-2F2-30-FM3-YPLO-FED-CU



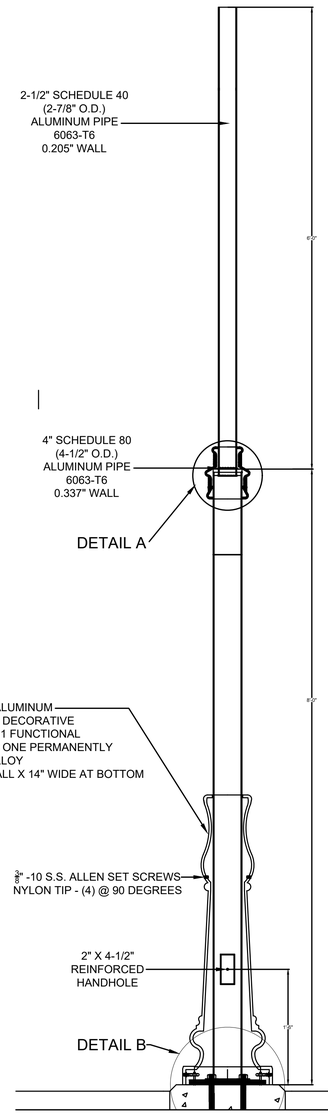
POST TOP LUMINAIRE DETAIL

NOT TO SCALE



POST TOP STANDARD FOUNDATION

NOT TO SCALE

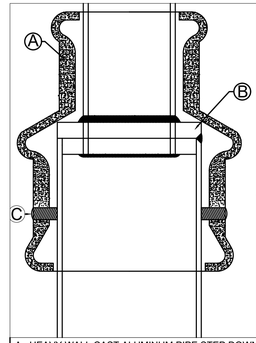


STRUCTURAL ALUMINUM POLE SHAFT AND BASE PLATE
ASSEMBLY FABRICATED BY P+K TUBULAR PRODUCTS INC.
POLE SHAFT ASSEMBLY SHOP DRAWING AND 2009 AASHTO DESIGN CALCULATIONS ATTACHED.

POST TOP LIGHT POLE DETAIL

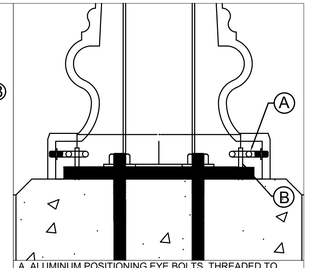
NOT TO SCALE

DETAIL A



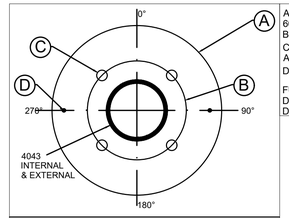
A. HEAVY WALL CAST ALUMINUM PIPE STEP DOWN COVER.
B. MACHINED PIPE TRANSITION PLUG, AL 6061-T6. WELDED AROUND TOP & BOTTOM SURFACES TO 2-1/2" PIPE POLE SHAFT AND CIRCUMFERENTIALLY WELDED TO 4" PIPE POLE SHAFT.
C. 3/8" X 10 STAINLESS STEEL ALLEN SET SCREWS, NYLON TIP. (3) @ 120 DEGREE ORIENTATION.

DETAIL B



A. ALUMINUM POSITIONING EYE BOLTS, THREADED TO INSIDE OF CAST BASE WITH CLEARANCE FOR LOCATING PINS.
B. 1/4" DIAMETER BASE LOCATING PINS.

ANCHOR BOLTS: ASTM F1554-07 GR55 (4) 3/4" X 24" L + 3" HOOK. FULLY GALVANIZED FOR ASTM-A153



A. 12" DIAMETER X 3/4" THICK ALUMINUM BASE PLATE, 6061-T6.
B. 7" DIAMETER BOLT CIRCLE.
C. 1" DIAMETER CLEARANCE HOLES FOR 3/4" DIAMETER ANCHOR BOLTS.
D. 1/4" DIAMETER DECORATIVE BASE LOCATING PINS (2).

FUNCTIONAL ACCESS DOORS LOCATED @ 270 DEGREES. FIXED ACCESS DOOR LOCATED @ 90 DEGREES.

CURB

BASE PLATE PLAN VIEW

FINISH: TGIC POLYESTER POWERCOAT
NIC INDUSTRIES - PRISMATIC POWDER DIV.

COLOR: SEMIGLOSS DEEP BLACK
CODE #: PSS-1523

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
LIGHTING DETAILS
PART 4 OF 4

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. ED-4
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CHECKED:	ACC.	DATE: 4/14/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
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GENERAL NOTES:

DESIGN:

IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 2017 AND AASHTO LRFD GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES, 2009 WITH 2015 INTERIMS FOR 90 PSF PEDESTRIAN LOADING OR H10 VEHICULAR LOADING.

SURVEY:

THE CONTRACTOR SHALL CONDUCT HIS/HER OWN SURVEY TO REESTABLISH THE CENTERLINE OF CONSTRUCTION PRIOR TO ANY CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS REQUIRED FOR THE PROPER PERFORMANCE OF HIS/HER WORK. FIELD CONDITIONS MAY EXIST THAT DEVIATE FROM THE TYPICAL AND THEORETICAL DIMENSIONS SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE FABRICATION AND FIT OF HIS/HER WORK.

SCALES:

SCALES NOTED ON THE PLANS ARE NOT APPLICABLE TO REDUCED SIZE PRINTS. DIVIDE SCALES BY 2 FOR HALF–SIZE PRINTS (A3).

FOUNDATIONS:

1. FOUNDATIONS MAY BE ALTERED, IF NECESSARY, TO SUIT CONDITIONS ENCOUNTERED DURING CONSTRUCTION, WITH THE APPROVAL OF THE ENGINEER.

2. REFER TO GEOTECHNICAL ENGINEERING REPORT DATED APRIL 26, 2024, PREPARED BY STANTEC CONSULTING SERVICES INC.

UNSUITABLE MATERIAL:

ALL UNSUITABLE MATERIAL SHALL BE REMOVED WITHIN THE LIMITS OF THE FOUNDATIONS OF THE STRUCTURE, AS DIRECTED BY THE ENGINEER.

ANCHOR BOLTS:

ALL ANCHOR BOLTS SHALL BE SET BY TEMPLATE BEFORE THE CONCRETE IS PLACED. ALL ANCHOR BOLTS SHALL BE F1554, GRADE 36 AND GALVANIZED.

REINFORCEMENT:

REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 31 GRADE 60. UNLESS OTHERWISE NOTED ON THE PLANS, ALL BARS SHALL BE EPOXY COATED AND LAPPED AS FOLLOWS:

MODIFICATION CONDITION	#4 BARS	#5 BARS
1. NONE	16"	19"
2. 12" OF CONCRETE BELOW BAR	20"	25"
3. COATED BARS, COVER < 3db, OR CLEAR SPACING < 6db	23"	29"
4. COATED BARS, ALL OTHER CASES	18"	23"
5. CONDITION 2. AND 3.	26"	32"
6. CONDITION 2. AND 4.	24"	30"

IF THE ABOVE BARS ARE SPACED 6" OR MORE ON CENTER, THE LAP LENGTH SHALL BE 80% OF THE LAP LENGTH GIVEN ABOVE. ALL OTHER BARS SHALL BE LAPPED AS SHOWN ON THE PLANS.

STEEL REINFORCEMENT MATS SHALL BE FIRMLY SECURED AGAINST DISPLACEMENT BY TYING INTERSECTION POINTS WITH A MAXIMUM OF TWELVE (12) INCHES BETWEEN TIED JOINTS.

REINFORCEMENT IS TO BE PLACED A CLEAR DISTANCE OF 2 INCHES FROM THE FACE OF CONCRETE, UNLESS OTHERWISE SHOWN ON THE PLANS.

CONCRETE:

1. ALL EXPOSED EDGE CORNERS SHALL BE FINISHED WITH A 3/4" CHAMFER UNLESS OTHERWISE NOTED OR DIRECTED.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING CONCRETE STAINS AND DISCOLORATION DURING CONSTRUCTION UNTIL SUCH TIME AS THE SURFACES ARE APPROVED AND ACCEPTED. ANY CONCRETE STAINS AND DISCOLORATION OCCURRING PRIOR TO ACCEPTANCE OF THE SURFACES SHALL BE REMOVED BY THE CONTRACTOR AT ITS OWN EXPENSE USING AN APPROVED PROCEDURE.

3. CONCRETE SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:

   4000 PSI, 3/4 IN, 610 CEMENT CONCRETE

STRUCTURAL STEEL:

ALL STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M270, GRADE 36 (ASTM A36) AND SHALL BE HOT–DIPPED GALVANIZED PER AASTO M111 (ASTM A123).

WELDING:

WELDING SHALL BE IN ACCORDANCE WITH THE BRIDGE WELDING CODE, ANSI/AASHTO/AWS D1.5 AND ALL INTERIM REVISIONS PUBLISHED BY AASHTO AS OF THE BID OPENING DATE. WELDING OF TUBULAR STRUCTURES SHALL BE IN ACCORDANCE WITH THE STRUCTURAL WELDING CODE, AWS D1.1 AND ALL INTERIM REVISIONS PUBLISHED BY AWS AS OF THE BID OPENING DATE.

UTILITIES:

ALL EXISTING UTILITIES SHALL BE LOCATED AND PROTECTED BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH UTILITY OWNERS.

CONSTRUCTION WORK AREA:

THERE IS LIMITED CONSTRUCTION STAGING AREA AT THE JOB SITE DESIGNATED FOR SUCH USE. AS REQUIRED, THE CONTRACTOR SHALL OBTAIN HIS OWN OFF–SITE STAGING AREA, AT NO ADDITIONAL COST TO THE OWNER.

WOOD:

LUMBER FOR THE DECKING, HAND RAILS, RAIL CAPS, AND RAIL POSTS SHALL BE IPE.

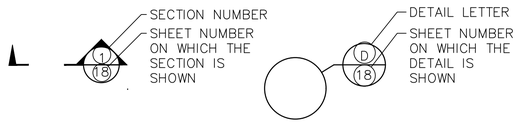
LUMBER FOR FRAMING THE BRIDGING AND SPACER MEMBERS SHALL BE PRESSURE TREATED VISUALLY GRADED SOUTHERN YELLOW PINE, NUMBER 1. LUMBER FOR THE STRINGER MEMBERS SHALL BE PRESSURE TREATED SOUTHERN PINE, SELECT STRUCTURAL. LUMBER SHALL BE KILN DRIED TO A MOISTURE CONTENT OF NO MORE THAN 19% AFTER TREATMENT.

ALL TIMBER DIMENSIONS ARE NOMINAL.

MINIMUM DESIGN VALUES FOR IPE			
SIZE	MODULUS OF RUPTURE (PSI)	CRUSHING STRENGTH (PSI)	MODULUS OF ELASTICITY E (PSI)
ALL	22,500	10,000	2,900,000

MINIMUM DESIGN VALUES FOR SELECT STRUCTURAL SOUTHERN PINE						
SIZE	BENDING Fb (PSI)	TENSION PARALLEL TO GRAIN Ft (PSI)	SHEAR PARALLEL TO GRAIN Fv (PSI)	COMPRESSION PERPENDICULAR TO GRAIN Fc (PSI)	COMPRESSION PARALLEL TO GRAIN Fc (PSI)	MODULUS OF ELASTICITY E (PSI)
5" X 5" AND LARGER	1500	1000	165	375	950	1,500,000

SECTION & DETAIL MARK:



ESTIMATED QUANTITIES FOR VIEWING PLATFORMS
(NOT GUARANTEED)

ITEM DESCRIPTION	QUANTITY	UNITS
BRIDGE EXCAVATION	60	CY
GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES	57	CY
HELICAL PILE AND BRACKET ASSEMBLY, INSTALLED – TYPE A	28	EA
HELICAL PILE AND BRACKET ASSEMBLY, INSTALLED – TYPE B	14	EA
STATIC LOAD TEST	2	EA
VIEWING PLATFORM STRUCTURE NO. 1	1	LS
VIEWING PLATFORM STRUCTURE NO. 2	1	LS

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

STRUCTURAL DETAILS

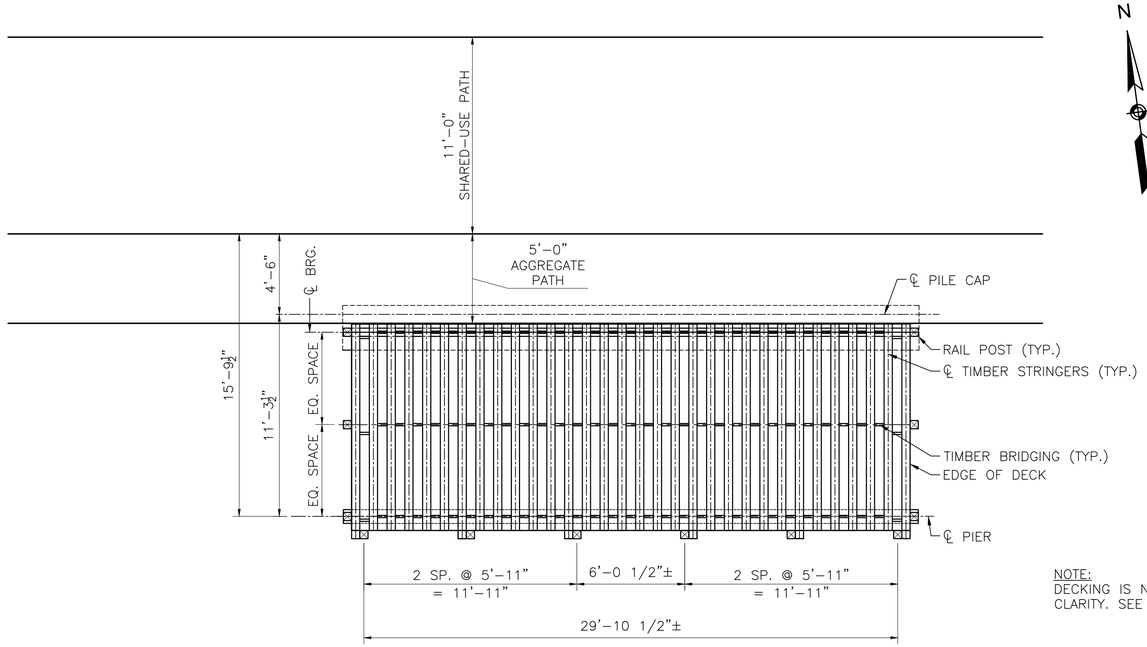
PART 1 OF 4

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. SD-1
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DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/14/2025

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10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

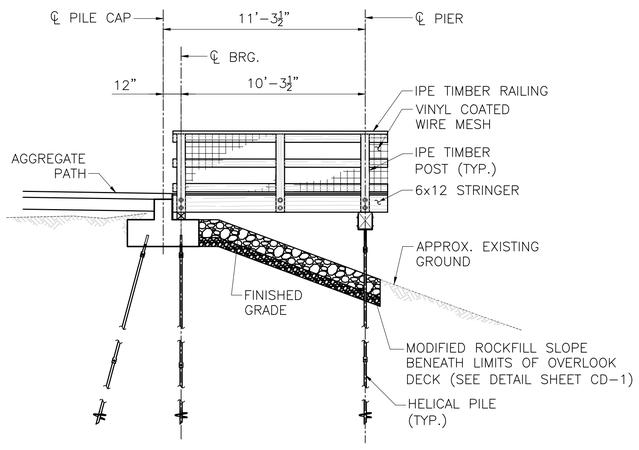
4/14/2025 U:\17941101\DRAWINGS\CAD\07 STRUCTURAL\100 PER\MEMORIAL_DRIVE_III_OVERLOOK_DETAILS.DWG



NOTE:
DECKING IS NOT SHOWN FOR CLARITY. SEE DECK FRAMING PLAN.

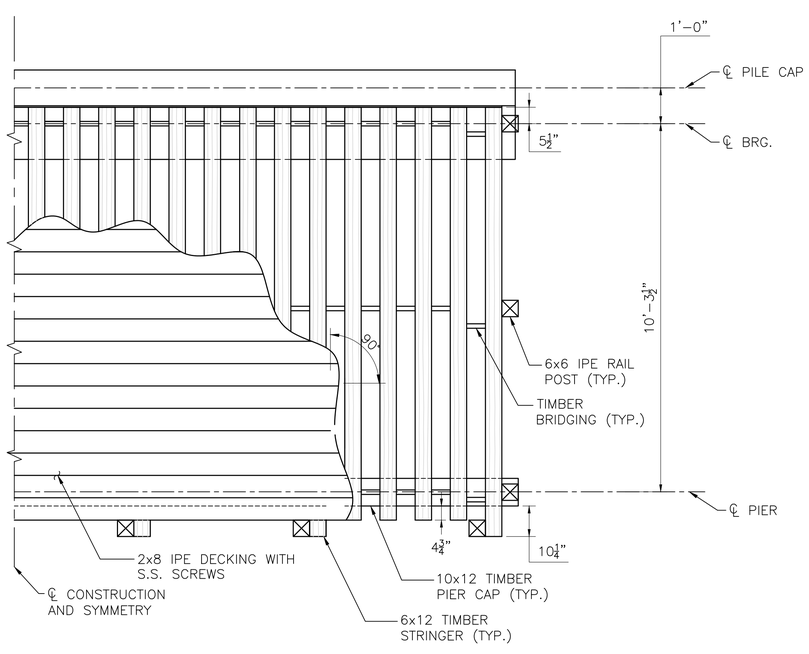
VIEWING PLATFORM PLAN

SCALE: 1/4" = 1'-0"



VIEWING PLATFORM ELEVATION

SCALE: 1/4" = 1'-0"



VIEWING PLATFORM DECK FRAMING PLAN

SCALE: 1/2" = 1'-0"

NOTES – TIMBER:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION.
2. ALL BOLTS SHALL BE 3/4" DIA. A307 GALV., UNLESS OTHERWISE NOTED.
3. ALL DECKING, RAIL POSTS, RAIL CAPS, HORIZONTAL RAILS TO BE IPE TIMBER AS SPECIFIED.
4. ALL HORIZONTAL IPE TIMBER RAILS ARE TO BE FASTENED TO IPE TIMBER POSTS WITH (2) #10x3 1/2" LG. STAINLESS STEEL SCREWS IN PRE-DRILLED HOLES.
5. ALL SCREWS, WHERE INDICATED OR AS REQUIRED, SHALL BE STAINLESS STEEL COUNTERSUNK FLAT HEAD, TWO (2) PER CONNECTED MEMBER, MINIMUM, UNLESS OTHERWISE NOTED. MIN. SIZE OF WOOD SCREW SHALL BE #10 WITH LENGTH TO SUIT.
6. ALL TIMBER DIMENSIONS ARE NOMINAL.

NOTES – HELICAL PILES:

1. HELICAL PILES SHALL BE DESIGNED ACCORDING TO REQUIREMENTS OF THE SPECIAL PROVISIONS AND THE DESIGN LOADS IN THE TABLE BELOW.
2. THE FACTORED GEOTECHNICAL PILE RESISTANCE IS 20 KIPS. THE FACTORED GEOTECHNICAL PILE RESISTANCE IS THE PRODUCT OF THE NOMINAL RESISTANCE OF 28.6 KIPS AND RESISTANCE FACTOR OF 0.70.
3. BATTERED PILES SHALL BE INSTALLED AT 3H:12V.

MINIMUM FACTORED DESIGN LOAD PER HELICAL PILE

PILE LOCATION	PILE TYPE	DESCRIPTION	COMPRESSION (KIPS)	TENSION (KIPS)
ABUT/PIER	A	VERTICAL	11	–
ABUT/PIER	B	BATTERED	20	20

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

STRUCTURAL DETAILS

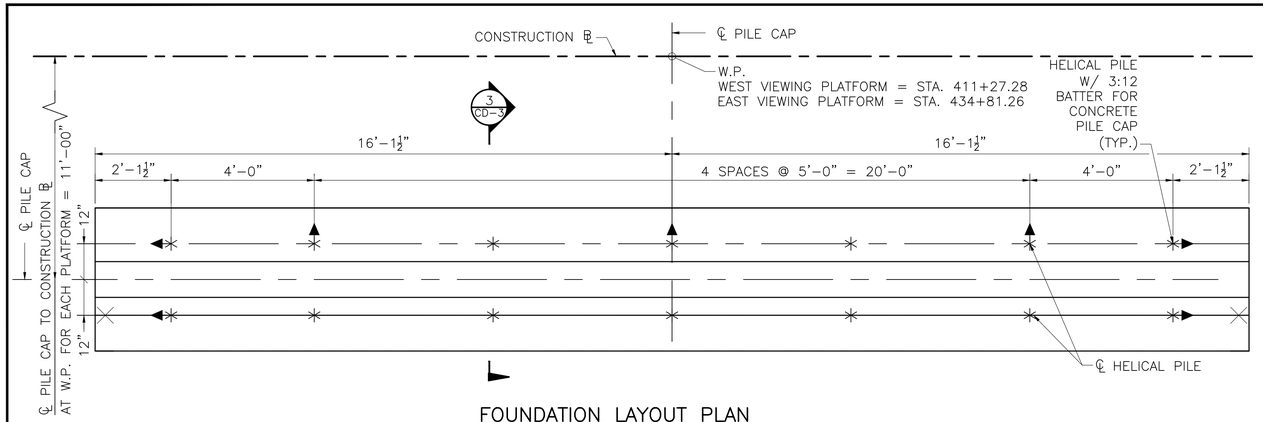
PART 2 OF 4

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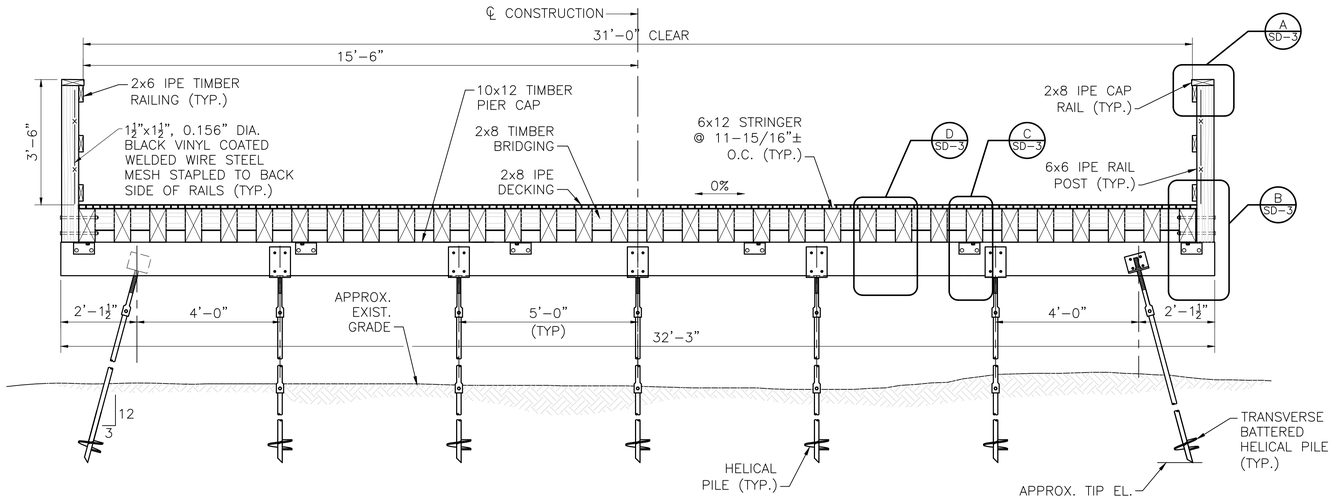
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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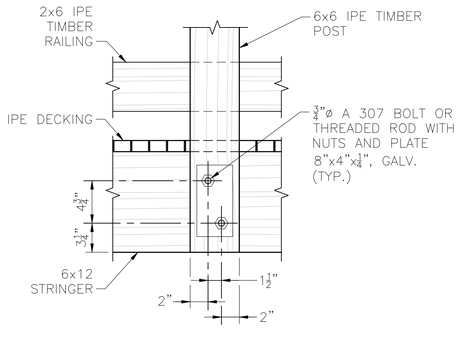
FOUNDATION LAYOUT PLAN
SCALE: 1/2" = 1'-0"



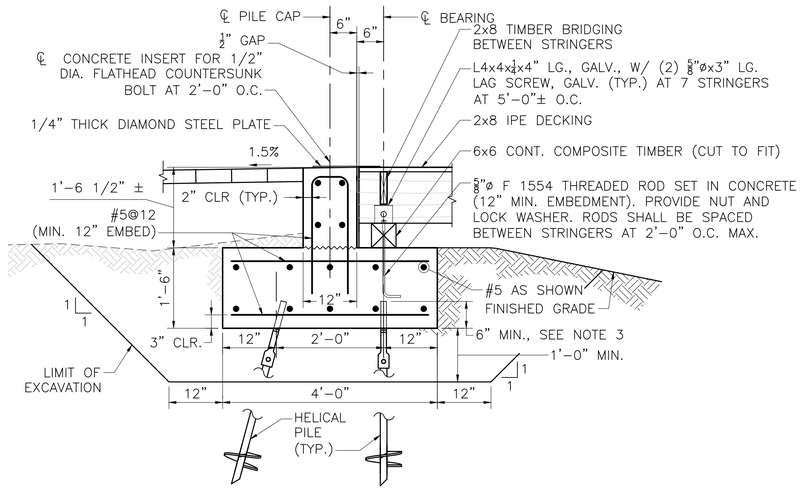
VIEWING PLATFORM SECTION AT PIER
SCALE: 1/2" = 1'-0"

NOTES:

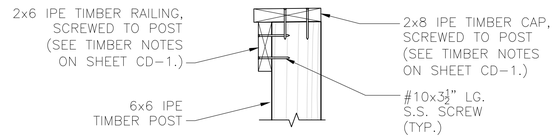
1. SEE SHEET CD-1 FOR HELICAL PILE AND TIMBER NOTES.
2. THE TOP HELIX PLATE SHALL HAVE A MINIMUM EMBEDMENT OF 2 FEET INTO THE SAND BEARING STRATUM.
3. HELICAL PILE MANUFACTURER TO PROVIDE EMBEDMENT DETAILS, SUBJECT TO THE ENGINEER'S APPROVAL.
4. WEST VIEWING PLATFORM IS STRUCTURE NO. 1. EAST VIEWING PLATFORM IS STRUCTURE NO. 2



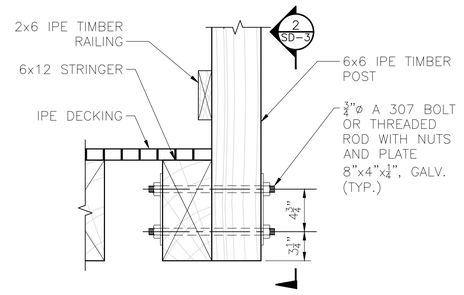
SECTION AT LOWER HANDRAIL
SCALE: 1 1/2" = 1'-0"
2 SD-3



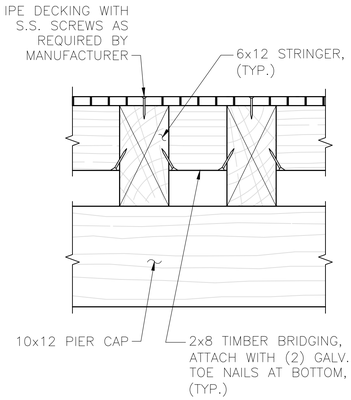
SECTION AT PILE CAP
SCALE: 3/4" = 1'-0"
3 SD-3



DETAIL AT TOP OF HAND RAIL
SCALE: 1 1/2" = 1'-0"
A SD-3



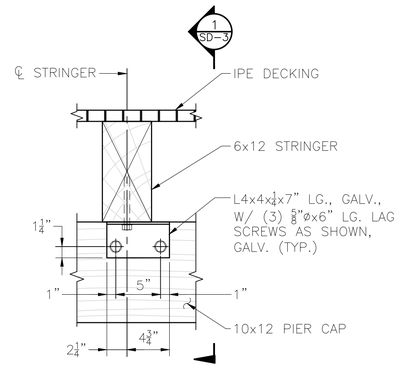
DETAIL AT LOWER HAND RAIL
SCALE: 1 1/2" = 1'-0"
B —



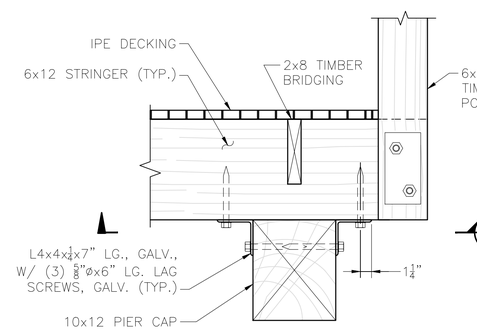
NOTE:

BRIDGING TO BE SHIFTED TO ALLOW FOR POST CONNECTION DETAIL.

SECTION AT STRINGER
SCALE: 1 1/2" = 1'-0"
D SD-3



DETAIL AT STRINGER & PIER CAP
SCALE: 1 1/2" = 1'-0"
C SD-3



SECTION AT PIER CAP
SCALE: 1 1/2" = 1'-0"
1 —

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

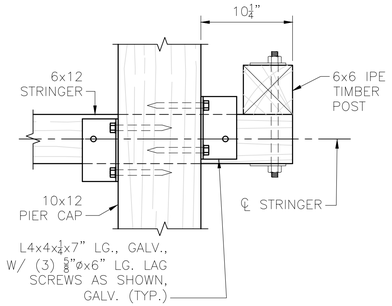
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
STRUCTURAL DETAILS
PART 3 OF 4

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. SD-3
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/14/2025

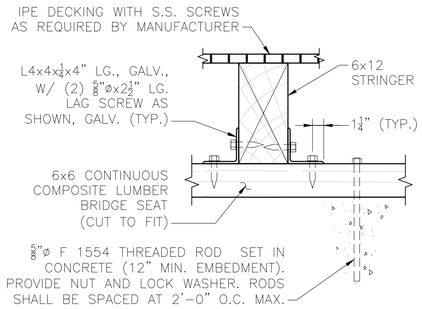
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10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

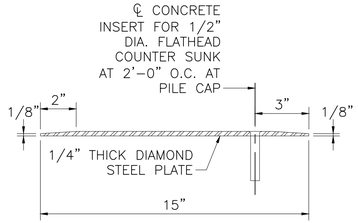
4/14/2025 U:\17941\10\DRAWINGS\CAD\07 STRUCTURAL\100 PER\MEMORIAL_DRIVE_III_OVERLOOK_DETAILS.DWG



SECTION AT STRINGER AND PIER CAP (4 / CD-3)
SCALE: 1 1/2" = 1'-0"



CONNECTION DETAIL AT STRINGER & PILE CAP SEAT
SCALE: 1 1/2" = 1'-0"



DIAMOND STEEL PLATE DETAIL
SCALE: 3" = 1'-0"

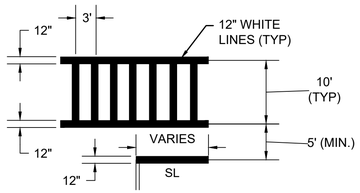
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
PLANNING AND ENGINEERING DIVISION
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
STRUCTURAL DETAILS
PART 4 OF 4

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. SD-4
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/14/2025

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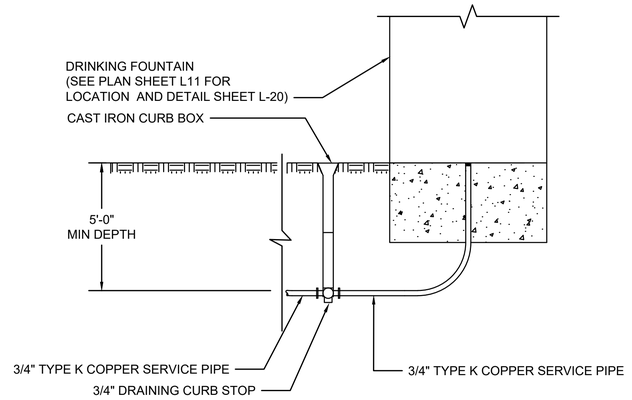
DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941101\DRAWINGS\CAD\07 STRUCTURAL\100 PER\MEMORIAL_DRIVE_III_OVERLOOK_DETAILS.DWG



PEDESTRIAN CROSSWALK AND STOP LINE DETAIL

NOT TO SCALE

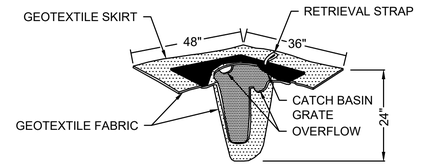


NOTE:

1. ALL FITTINGS SHALL BE LEAD FREE.

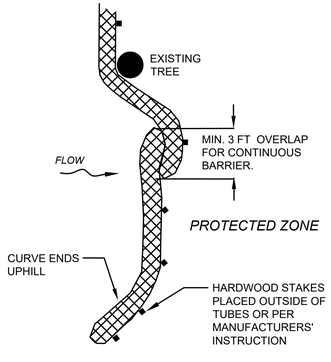
3/4" TYPE K COPPER SERVICE, VALVES, AND SERVICE CONNECTION

NOT TO SCALE



SILT SACK FOR SEDIMENT CONTROL

NOT TO SCALE



PLACE TUBE ALONG CONTOURS AND PERPENDICULAR TO FLOW.

PLACE AS CLOSE TO LIMIT OF SOIL DISTURBANCE AS POSSIBLE

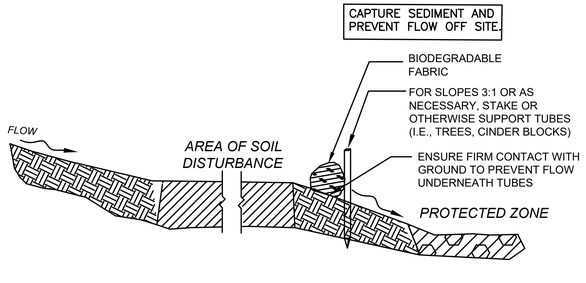
ADJUST LOCATION AS REQUIRED FOR OPTIMUM EFFECTIVENESS. DO NOT INSTALL IN WATERWAYS.

PLACE STAKES AS NEEDED TO SECURE TUBES IN PLACE.

PLAN VIEW

SEDIMENT BARRIERS

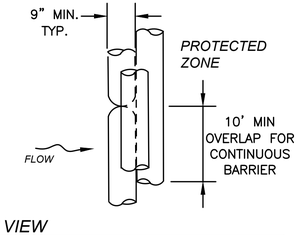
NOT TO SCALE



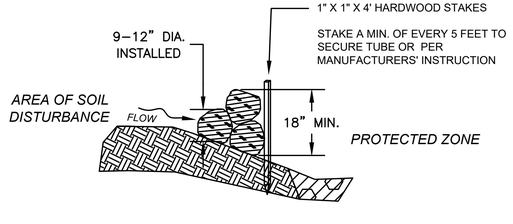
SECTION

SEDIMENT BARRIERS - COMPOST FILTER TUBES

NOT TO SCALE



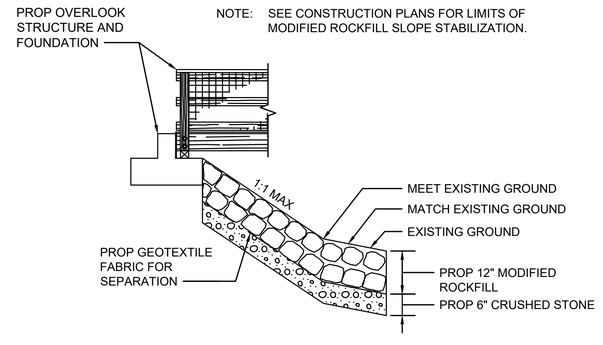
PLAN VIEW



SECTION

COMPOST FILTER TUBE BERM (SLOPES 2:1 OR STEEPER)

NOT TO SCALE



NOTE: SEE CONSTRUCTION PLANS FOR LIMITS OF MODIFIED ROCKFILL SLOPE STABILIZATION.

MODIFIED ROCK FILL DETAIL

NOT TO SCALE

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

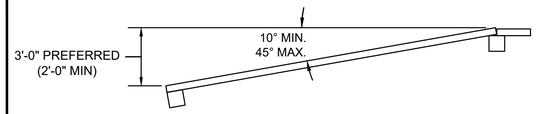
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CONSTRUCTION DETAILS
PART 1 OF 3

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. CD-1
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/14/2025

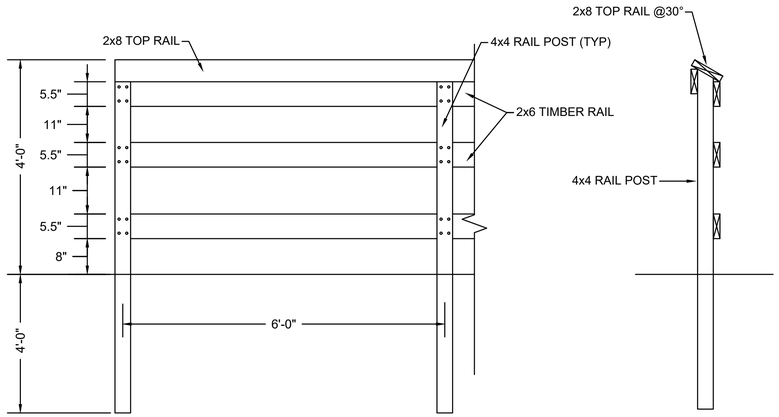
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\17941\1010\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CONSTRUCTION_DETAILS.DWG

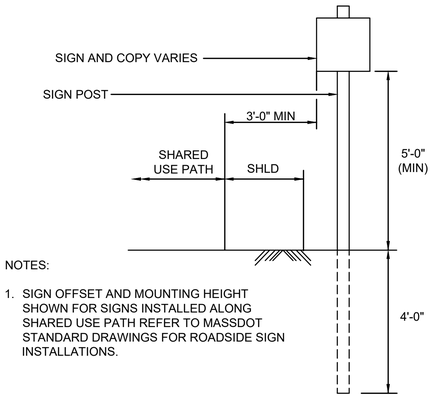


SAFETY RAIL END TAPER



BICYCLE SAFETY RAIL (WOOD)

NOT TO SCALE

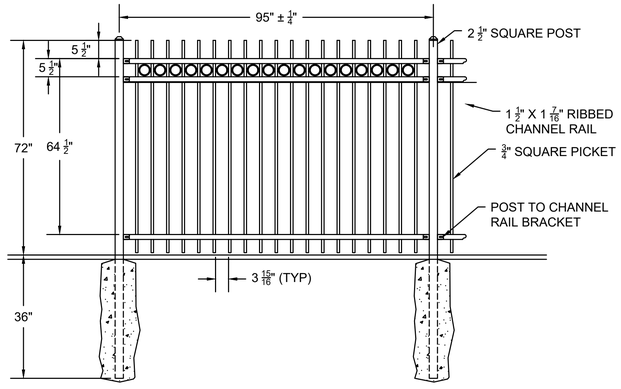


NOTES:

1. SIGN OFFSET AND MOUNTING HEIGHT SHOWN FOR SIGNS INSTALLED ALONG SHARED USE PATH REFER TO MASSDOT STANDARD DRAWINGS FOR ROADSIDE SIGN INSTALLATIONS.

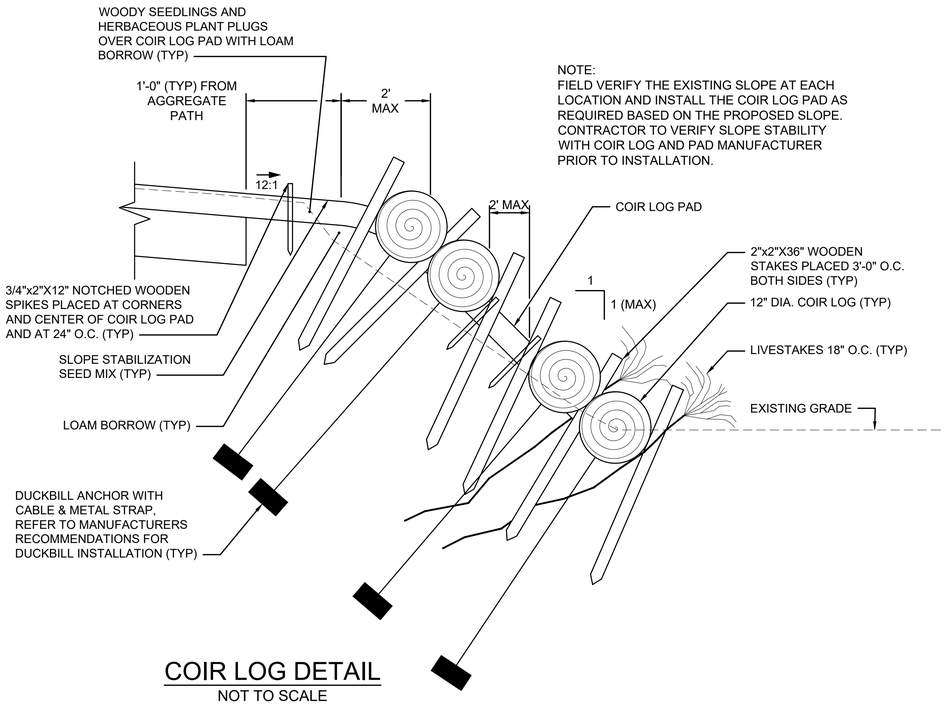
TYPICAL SIGN LOCATION

NOT TO SCALE



ORNAMENTAL FENCE

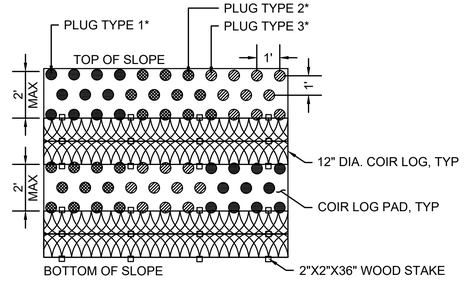
NOT TO SCALE



NOTE:
FIELD VERIFY THE EXISTING SLOPE AT EACH LOCATION AND INSTALL THE COIR LOG PAD AS REQUIRED BASED ON THE PROPOSED SLOPE. CONTRACTOR TO VERIFY SLOPE STABILITY WITH COIR LOG AND PAD MANUFACTURER PRIOR TO INSTALLATION.

COIR LOG DETAIL

NOT TO SCALE



* PLUG TYPE 1 = WHITE WOOD ASTER
PLUG TYPE 2 = LITTLE BLUE STEM
PLUG TYPE 3 = PENNSYLVANIA SEDGE

COIR LOG / PAD PLANTING DETAIL

NOT TO SCALE

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

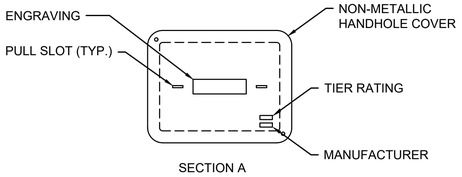
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CONSTRUCTION DETAILS
PART 2 OF 3

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. CD-2
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CHECKED:	ACC.	DATE: 4/14/2025

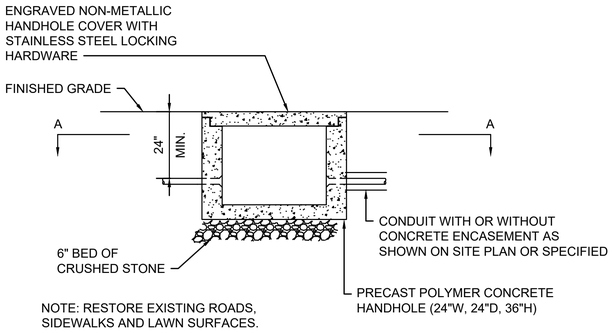
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/14/2025 U:\179411010\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CONSTRUCTION_DETAILS.DWG



SECTION A

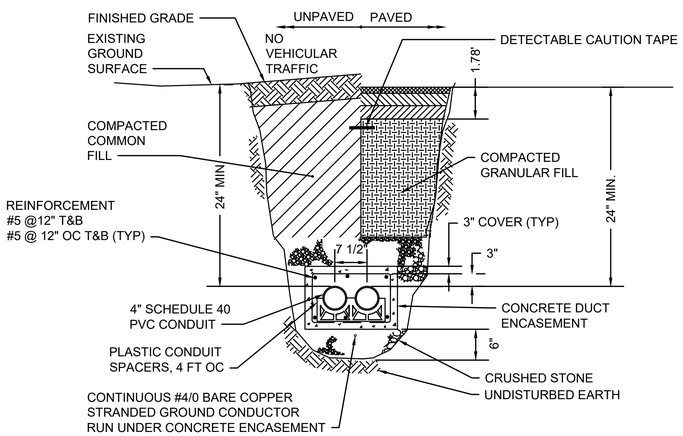


NOTE: RESTORE EXISTING ROADS, SIDEWALKS AND LAWN SURFACES.

(2 OR LESS CONDUITS PER SIDE)

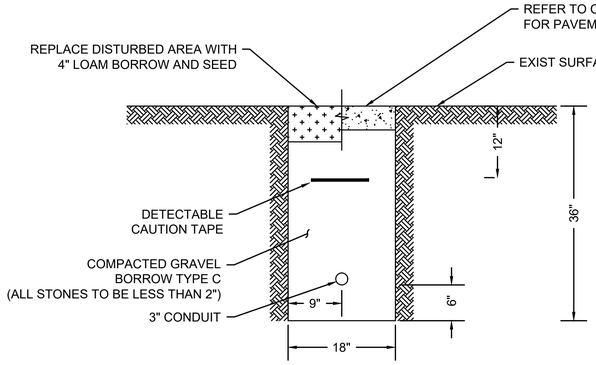
ELECTRICAL DUCTBANK HANDHOLE

NOT TO SCALE



UNDERGROUND ELECTRICAL DUCT BANK

NOT TO SCALE

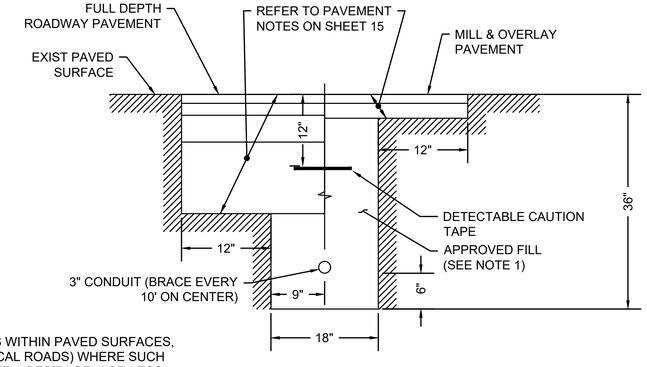


TRAFFIC CONDUIT TRENCH UNDER GRASS OR SIDEWALK

NOT TO SCALE

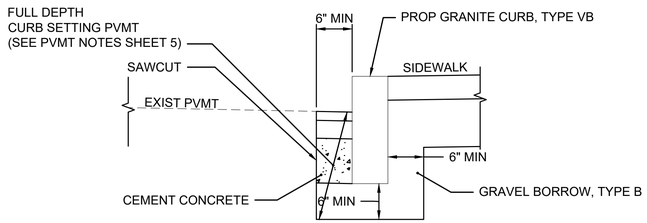
NOTE:

1. FOR TRENCH CUTS WITHIN PAVED SURFACES, (MAINLINE AND LOCAL ROADS) WHERE SUCH TRENCH CUTS HAVE A DEPTH OF 4' OR LESS, CONTROLLED DENSITY FILL (CDF) FOR BACKFILL IS MANDATORY. CONTROLLED DENSITY FILL TYPE 1E OR 2E, (FLOWABLE-EXCAVATABLE)SHALL MEET THE REQUIREMENTS OF SECTION M4.08.0.



TRAFFIC CONDUIT TRENCH UNDER ROADWAY

NOT TO SCALE

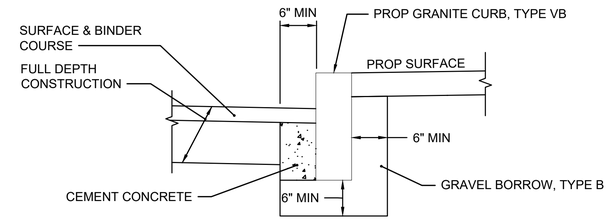


NOTES:

1. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED; ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE FOR CEMENT CONCRETE.
2. SAWCUTTING EXISTING PAVEMENT SHALL BE INCLUDED IN THE PRICE BID FOR PROPOSED OR RESET GRANITE CURB.
3. CURB SETTING SHALL CONFORM TO MASSDOT STANDARD DETAIL E106.3.0.

METHOD OF SETTING GRANITE CURB (AGAINST EXISTING PAVEMENT)

NOT TO SCALE

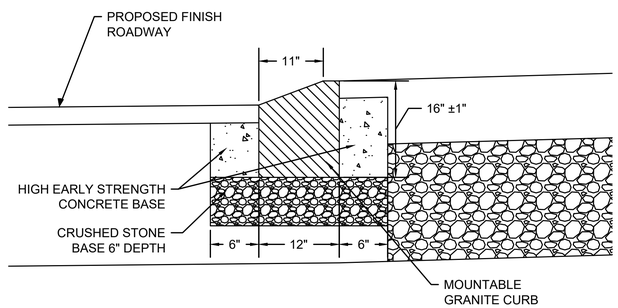


NOTES:

1. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED; ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE FOR CEMENT CONCRETE.
2. CURB SETTING SHALL CONFORM TO MASSDOT STANDARD DETAIL E106.3.0.

METHOD OF SETTING GRANITE CURB (AGAINST FULL DEPTH PAVEMENT)

NOT TO SCALE



MOUNTABLE GRANITE CURB

NOT TO SCALE

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

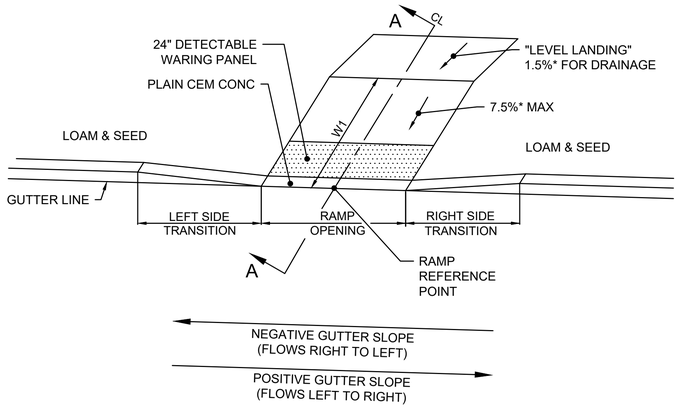
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CONSTRUCTION DETAILS
PART 3 OF 3

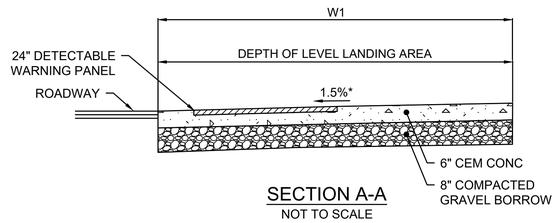
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CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/14/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

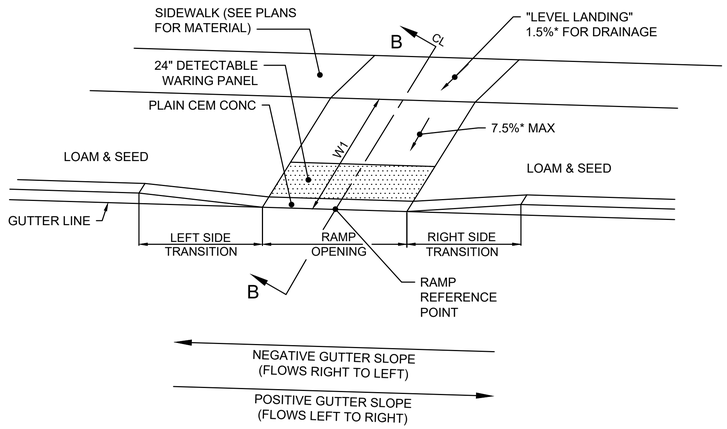
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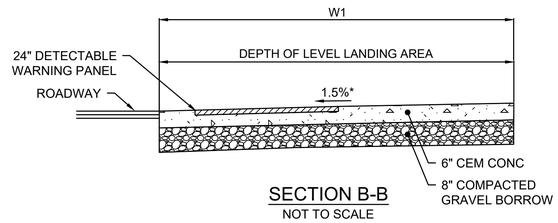




SECTION A-A
NOT TO SCALE

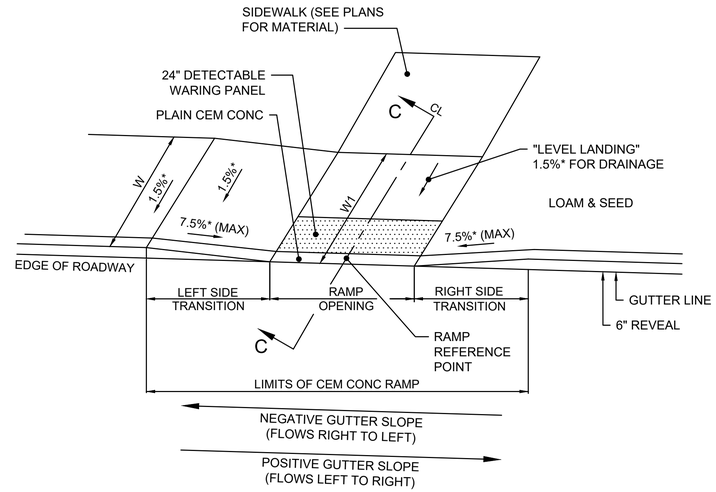
WHEELCHAIR RAMP DETAIL - TYPE A
NOT TO SCALE

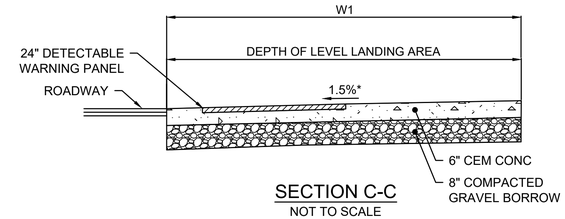




SECTION B-B
NOT TO SCALE

WHEELCHAIR RAMP DETAIL - TYPE B
NOT TO SCALE





SECTION C-C
NOT TO SCALE

WHEELCHAIR RAMP DETAIL - TYPE C
NOT TO SCALE

PEDESTRIAN CURB RAMPS

WCR #	TYPE	RAMP REFERENCE POINT			LENGTH OF PRIMARY RAMP (W1)	WIDTH OF SIDEWALK (W)	WIDTH OF RAMP OPENING	DEPTH OF LEVEL LANDING	ROADWAY GUTTER SLOPE	RAMP MATERIAL	LANDING MATERIAL	TRANSITION LENGTH	
		BASELINE	STATION	OFFSET								LEFT SIDE	RIGHT SIDE
1	A	SHARED-USE PATH	402+82.32	0.00'	7'-10"	N/A	11'-0"	4'-0"	-0.34%	CEM CONC	CEM CONC	6'-6"	6'-6"
2	A	SHARED-USE PATH	403+06.44	0.00'	9'-2"	N/A	11'-0"	4'-0"	1.46%	CEM CONC	CEM CONC	6'-6"	6'-6"
3	A	SHARED-USE PATH	404+74.81	0.00'	9'-6"	N/A	11'-0"	4'-0"	-0.12%	CEM CONC	CEM CONC	6'-6"	6'-6"
4	A	SHARED-USE PATH	405+09.00	0.00'	5'-10"	N/A	11'-0"	4'-0"	2.31%	CEM CONC	CEM CONC	6'-6"	6'-6"
5	C	SHARED-USE PATH	405+35.93	56.17', RT	5'-6"	4'-0"	6'-0"	5'-6"	0.85%	CEM CONC	CEM CONC	7'-8"	6'-6"
6	A	MEMORIAL DR	27+25.85	43.43', RT	5'-6"	N/A	6'-0"	4'-0"	-1.41%	CEM CONC	CEM CONC	6'-6"	6'-6"
7	A	MEMORIAL DR	39+34.56	13.00', RT	3'-0"	N/A	10'-0"	4'-0"	-0.65%	CEM CONC	CEM CONC	6'-6"	6'-6"
8	A	MEMORIAL DR	39+34.56	13.00', LT	8'-3"	N/A	10'-0"	4'-0"	0.76%	CEM CONC	CEM CONC	6'-6"	6'-6"
9	A	MEMORIAL DR	50+25.00	13.00', RT	6'-0"	N/A	10'-0"	6'-0"	1.59%	CEM CONC	CEM CONC	6'-6"	6'-6"
10	B	MEMORIAL DR	50+25.00	15.94', LT	9'-0"	6'-0"	10'-0"	6'-0"	-2.61%	CEM CONC	CEM CONC	6'-6"	6'-6"
11	A	HAWTHORN ST	201+10.16	25.57', RT	7'-6"	6'-0"	6'-0"	5'-0"	-2.27%	CEM CONC	CEM CONC	6'-6"	6'-6"
12	A	HAWTHORN ST	201+31.98	18.16', LT	5'-0"	6'-0"	6'-0"	7'-0"	0.47%	CEM CONC	CEM CONC	6'-6"	6'-6"
13	D	ASH ST	301+02.21	9.71', RT	7'-11"	8'-0"	8'-0"	6'-1"	-2.79%	CEM CONC	CEM CONC	6'-6"	11'-0"
14	D	ASH ST	301+15.21	9.73', LT	7'-6"	8'-0"	8'-6"	4'-0"	1.29%	CEM CONC	CEM CONC	9'-0"	6'-6"
15	A	MEMORIAL DR	59+30.89	13.00', RT	6'-0"	N/A	10'-0"	6'-0"	-0.50%	CEM CONC	CEM CONC	6'-6"	6'-6"
16	B	MEMORIAL DR	59+30.89	13.00', LT	13'-3"	6'-0"	10'-0"	6'-0"	0.16%	CEM CONC	CEM CONC	6'-6"	6'-6"

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

PEDESTRIAN CURB RAMP AND DRIVEWAY DETAILS

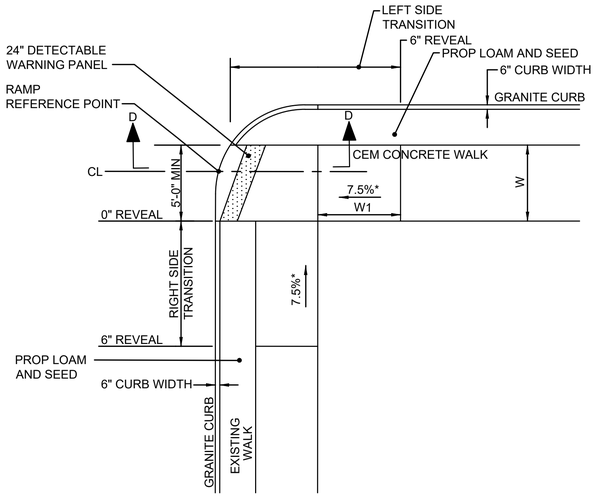
PART 1 OF 2

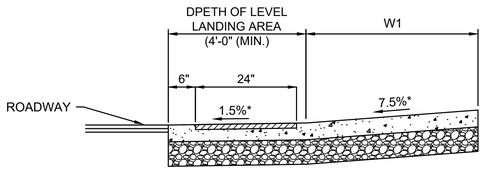
DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. CD-4
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/14/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

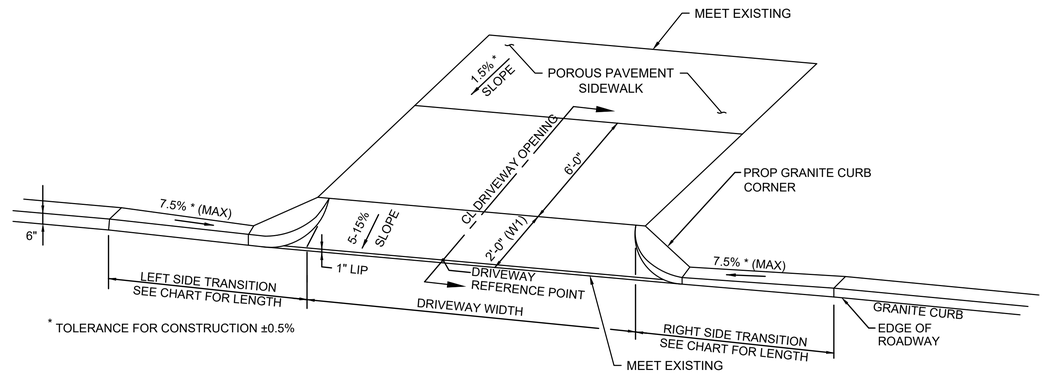
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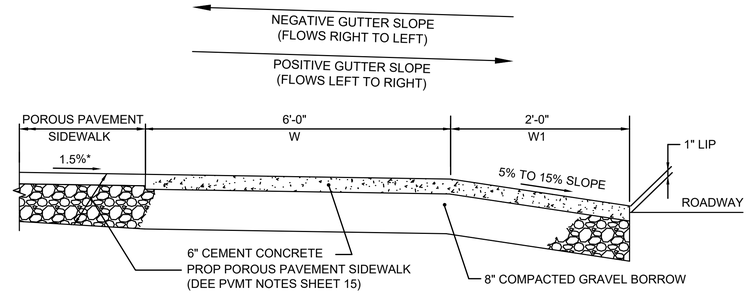
SECTION D-D
NOT TO SCALE

WHEELCHAIR RAMP DETAIL - TYPE D
NOT TO SCALE



* TOLERANCE FOR CONSTRUCTION ±0.5%

DRIVEWAY DETAIL A - CEMENT CONCRETE SIDEWALK THROUGH OPENING
NOT TO SCALE



DRIVEWAY DETAIL A SECTION
NOT TO SCALE

NOTES:

1. WHEELCHAIR RAMPS AND DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MASSDOT CONSTRUCTION STANDARD DRAWINGS NUMBERED 107.2.0, 107.2.1, 107.6.0, 107.6.4, 107.6.5, 107.7.0 AND 107.9.0 AND ADA/ MA AAB REQUIREMENTS.
2. DETECTABLE WARNING PANELS ARE REQUIRED ON ALL PROPOSED WHEELCHAIR RAMPS AND ARE TO BE INSTALLED IN ACCORDANCE WITH CONSTRUCTION STANDARD 107.6.5. DETECTIBLE WARNING PANELS SHALL BE PLACED PERPENDICULAR TO THE PATH OF TRAVEL AND NOT THE CURB LINE.

* TOLERANCE FOR CONSTRUCTION ±0.5% (TYP.)

DRIVEWAYS

DW #	TYPE	RAMP REFERENCE POINT			WIDTH OF DRIVEWAY AT GUTTER	ROADWAY GUTTER SLOPE	DEPTH OF DRIVEWAY (W)	WIDTH OF RAMP (W1)	DEPTH OF SIDEWALK	TRANSITION LENGTH		DRIVEWAY MATERIAL	
		BASELINE	STATION	OFFSET						LEFT SIDE	RIGHT SIDE	APRON	DRIVEWAY
1	A	MEMORIAL DR	59+00.53	13'-0"	16'-0"	0.25%	11'-8"	2'-0"	6'-0"	6'-6"	6'-6"	CEM CONC	CEM CONC

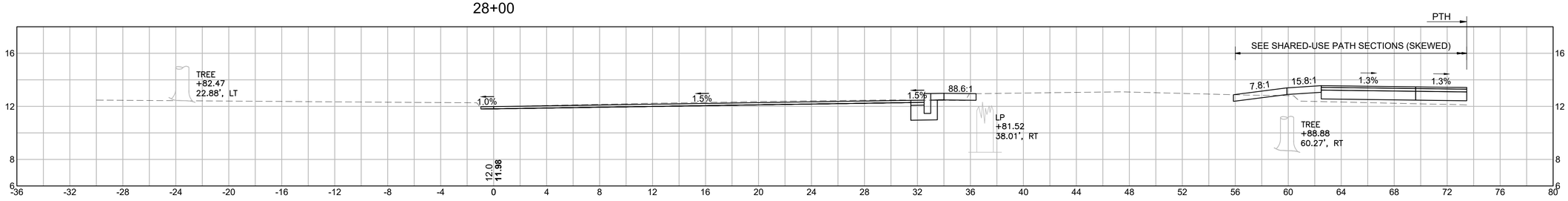
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION & RECREATION
PLANNING AND ENGINEERING DIVISION
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
PEDESTRIAN CURB RAMP AND DRIVEWAY DETAILS
PART 2 OF 2

DESIGNED:
CHECKED:
DRAWN:
CHECKED:
CONTRACT NO. P25-3605-C6A
REF.
ACC.
SCALE:
DATE: 4/14/2025
DRAWING NO. CD-5
141 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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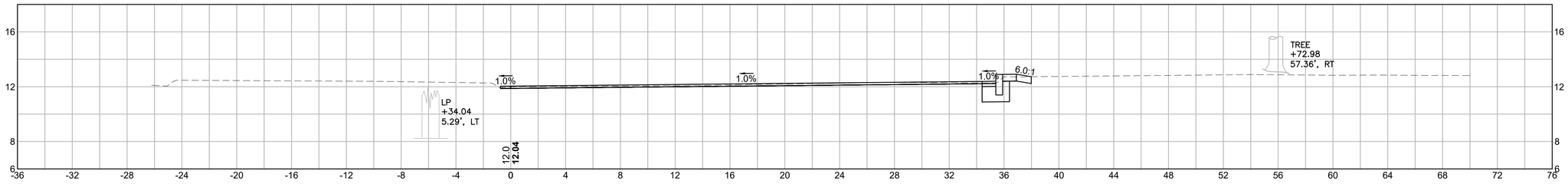
28+00



CUT: 1.16 SF

FILL: 4.09 SF

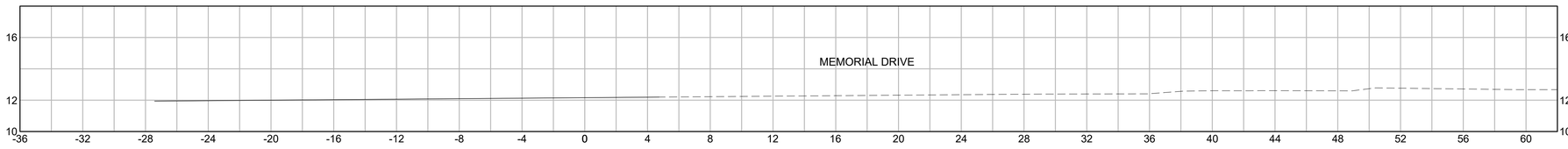
27+50



CUT: 0.66 SF

FILL: 0.00 SF

27+25.53



CUT: 0.00 SF

FILL: 0.00 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CROSS SECTIONS
MEMORIAL DRIVE

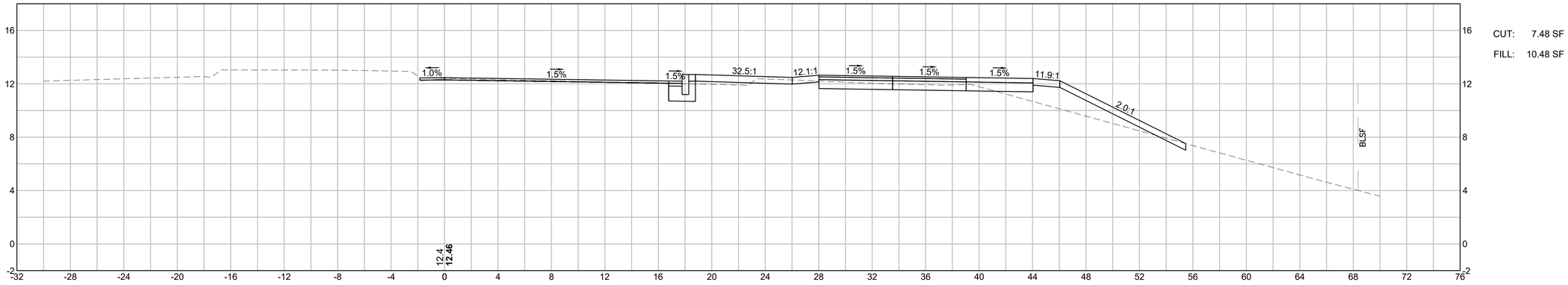
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CHECKED:	ACC.	DATE: 4/17/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

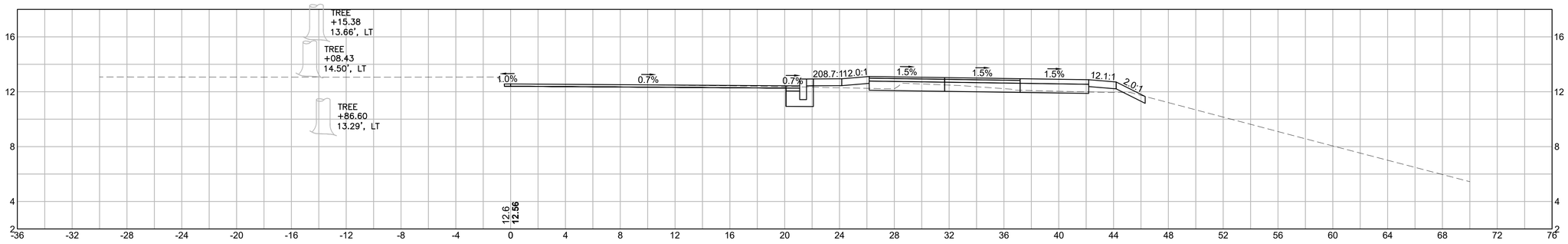
29+50



CUT: 7.48 SF

FILL: 10.48 SF

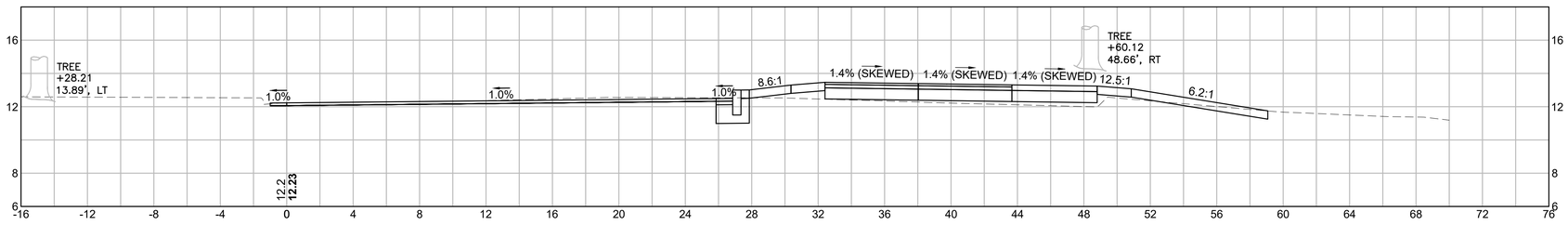
29+00



CUT: 4.97 SF

FILL: 1.52 SF

28+50



CUT: 1.63 SF

FILL: 4.04 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

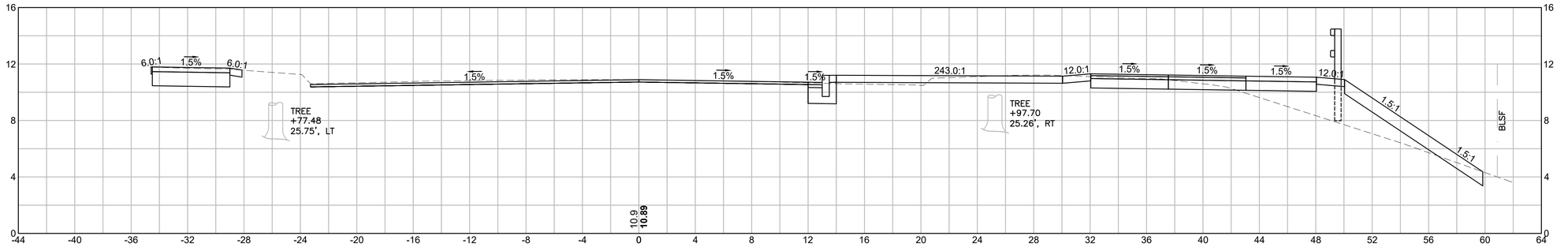
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

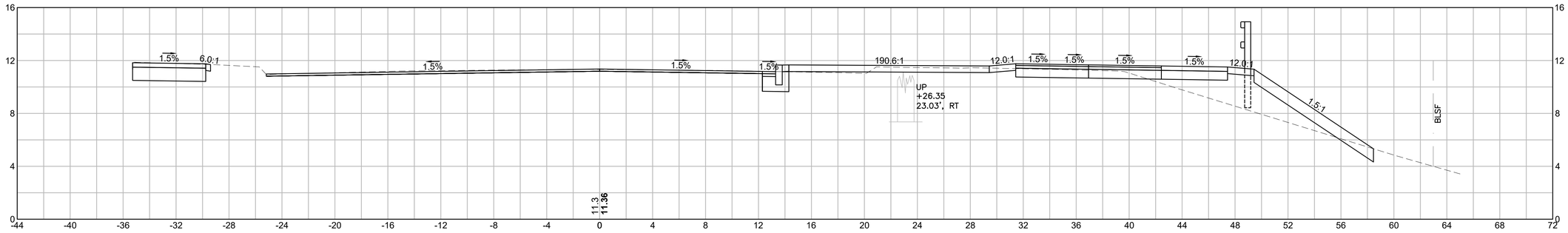
31+00



CUT: 20.44 SF

FILL: 17.87 SF

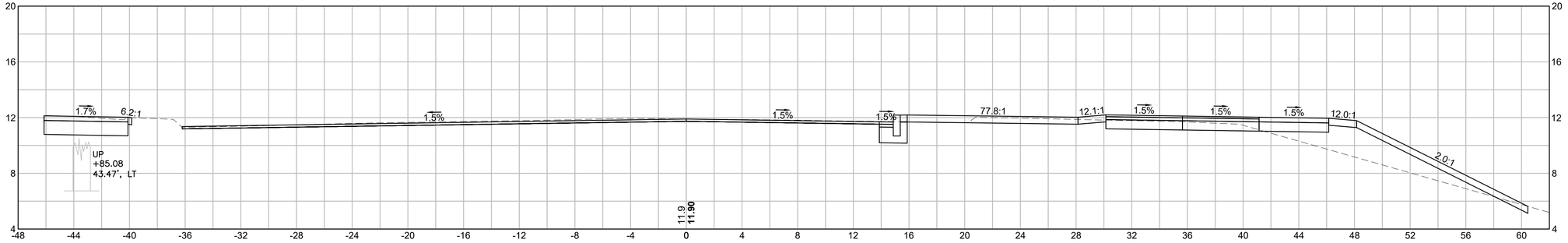
30+50



CUT: 17.79 SF

FILL: 17.78 SF

30+00



CUT: 17.59 SF

FILL: 17.57 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

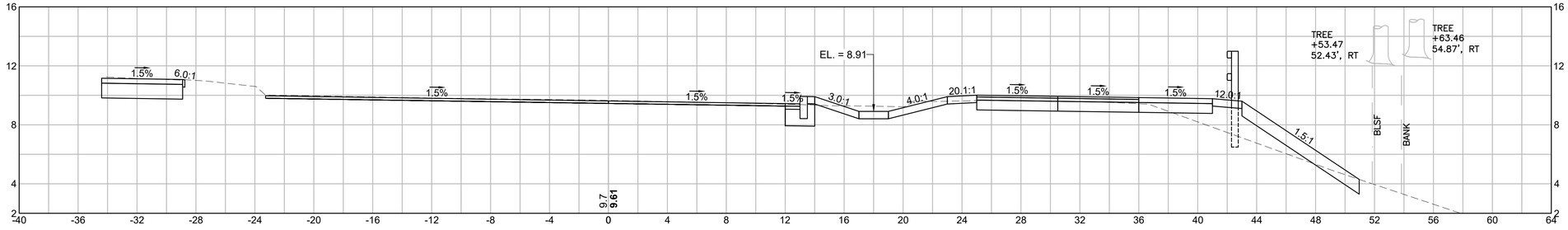
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CHECKED:	ACC.	DATE: 4/17/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

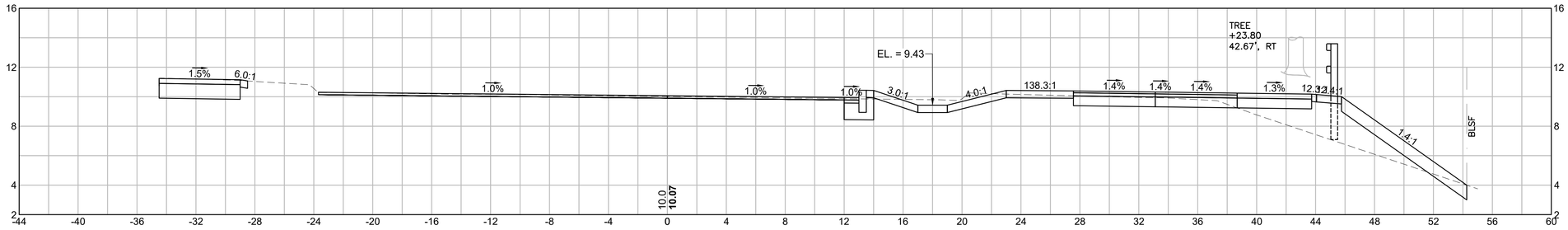
32+50



CUT: 22.06 SF

FILL: 8.29 SF

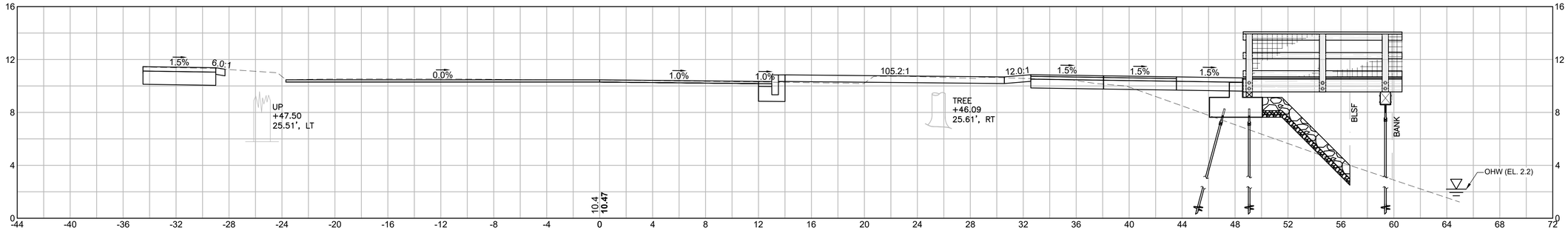
32+00



CUT: 20.47 SF

FILL: 15.42 SF

31+50



CUT: 16.41 SF

FILL: 11.54 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

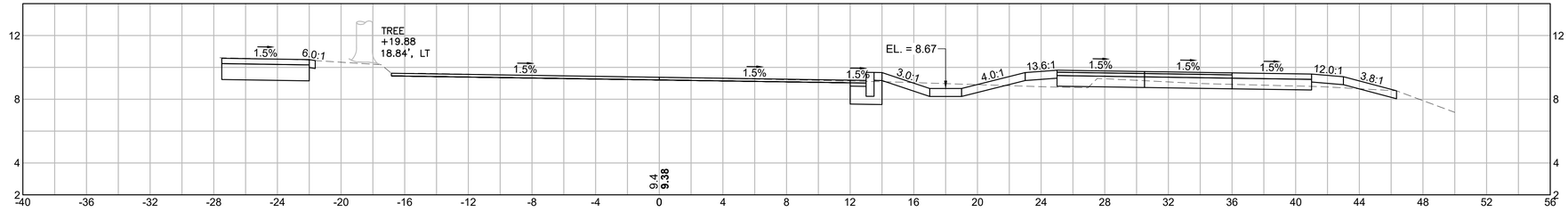
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CHECKED:	ACC.	DATE: 4/17/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

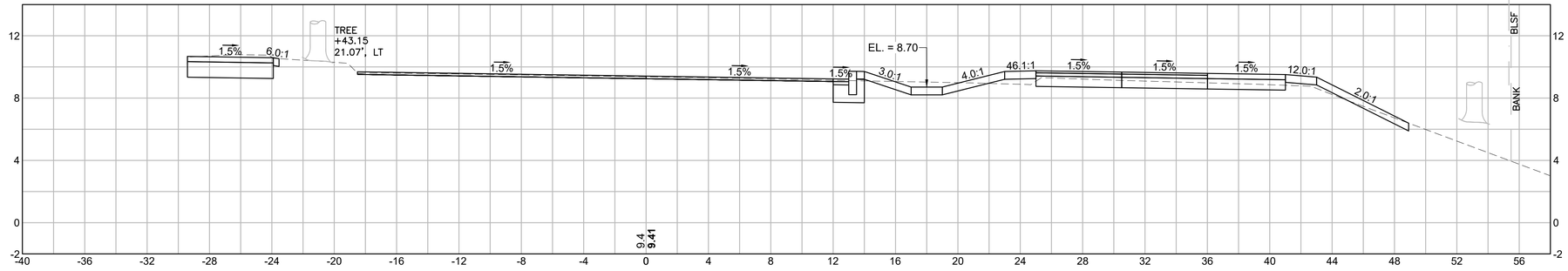
34+00



CUT: 16.65 SF

FILL: 1.98 SF

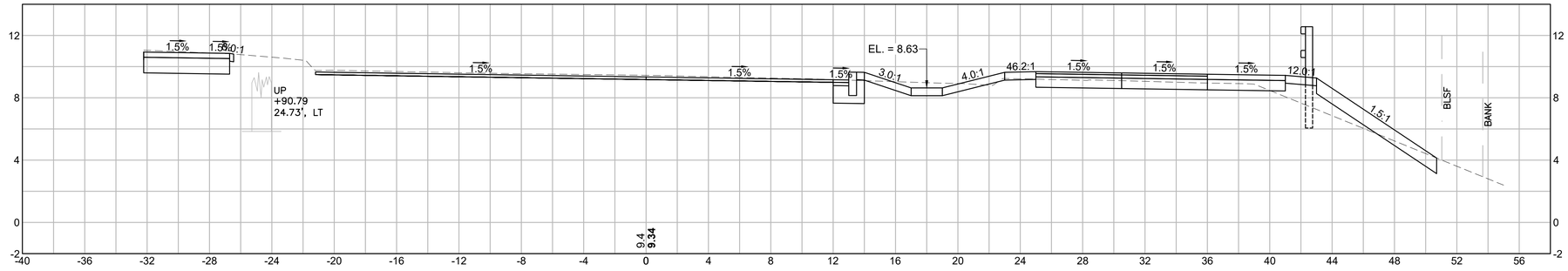
33+50



CUT: 19.74 SF

FILL: 1.35 SF

33+00



CUT: 20.76 SF

FILL: 4.59 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

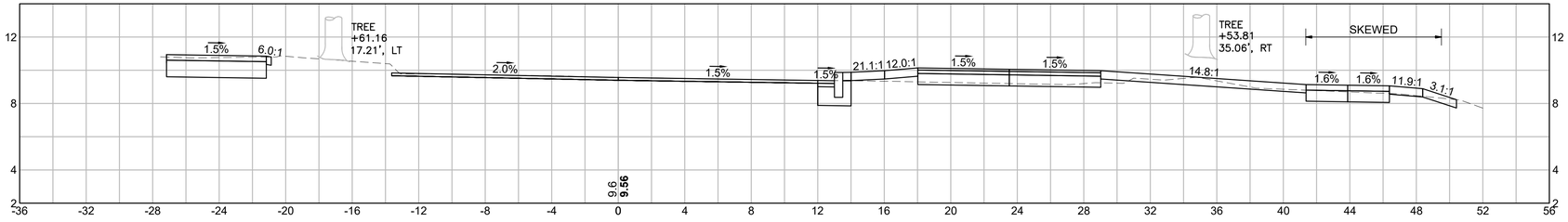
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CHECKED:	ACC.	DATE: 4/17/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

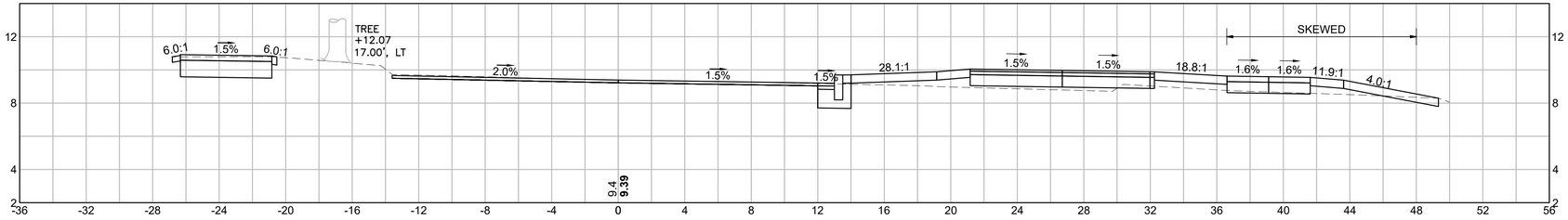
35+50



CUT: 15.24 SF

FILL: 0.91 SF

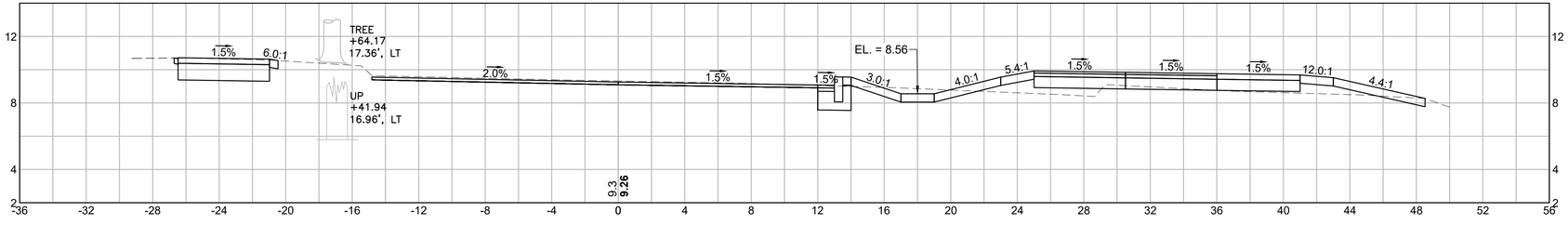
35+00



CUT: 8.61 SF

FILL: 6.36 SF

34+50



CUT: 12.53 SF

FILL: 5.16 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

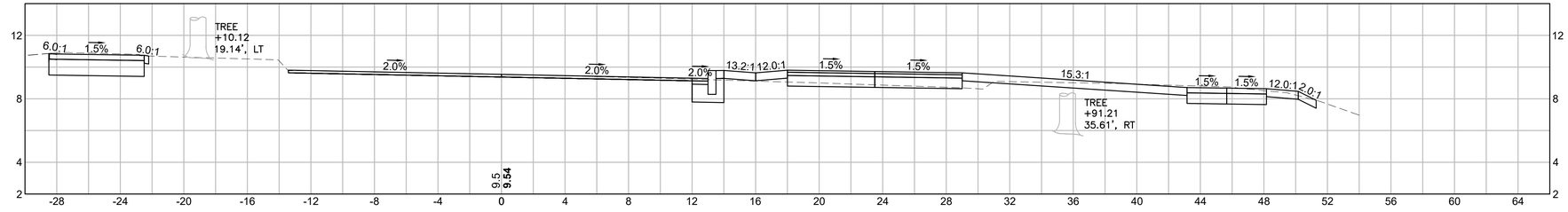
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

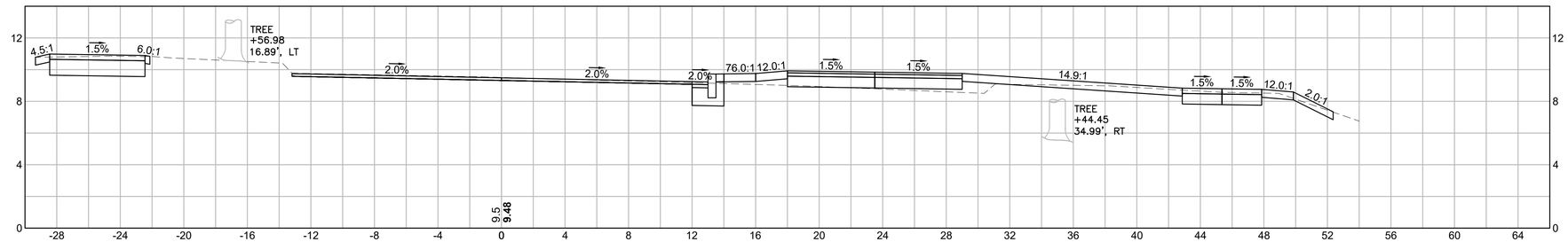
37+00



CUT: 20.90 SF

FILL: 1.10 SF

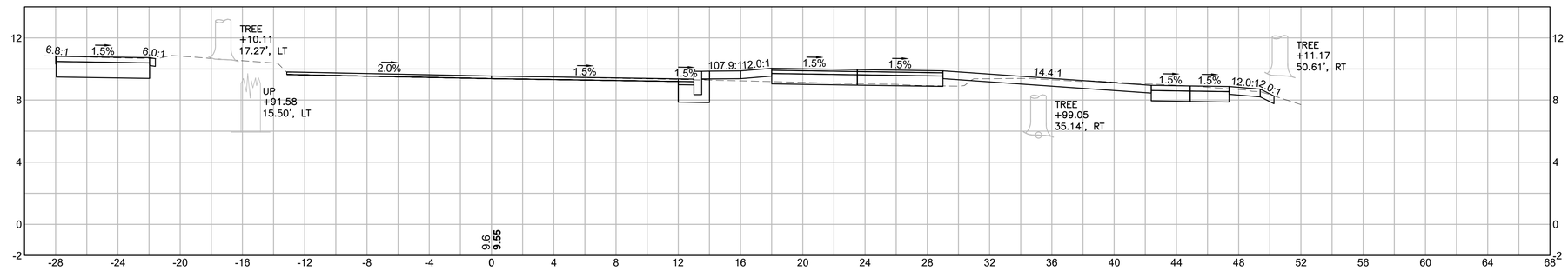
36+50



CUT: 16.01 SF

FILL: 2.85 SF

36+00



CUT: 19.82 SF

FILL: 1.36 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

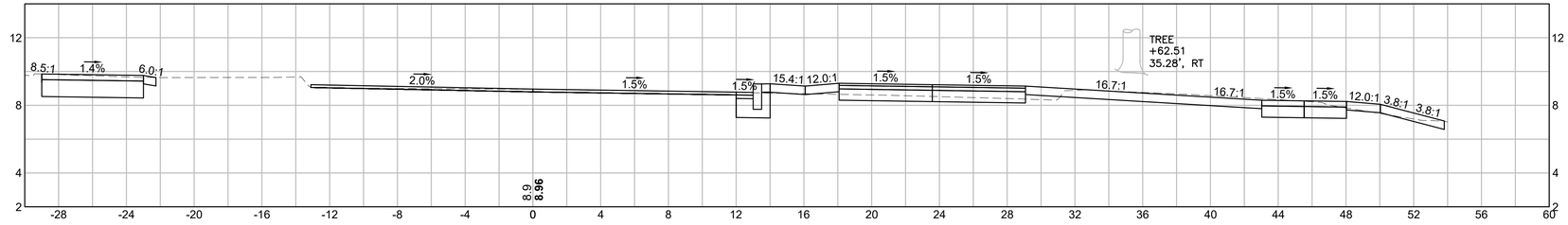
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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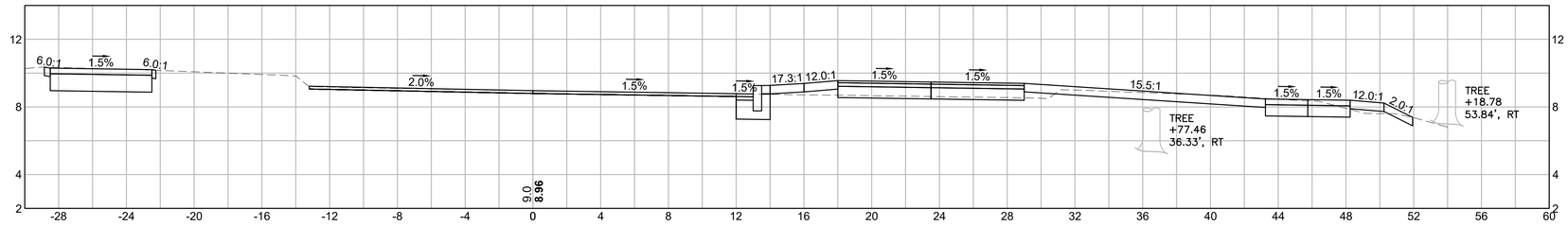
38+50



CUT: 23.08 SF

FILL: 0.65 SF

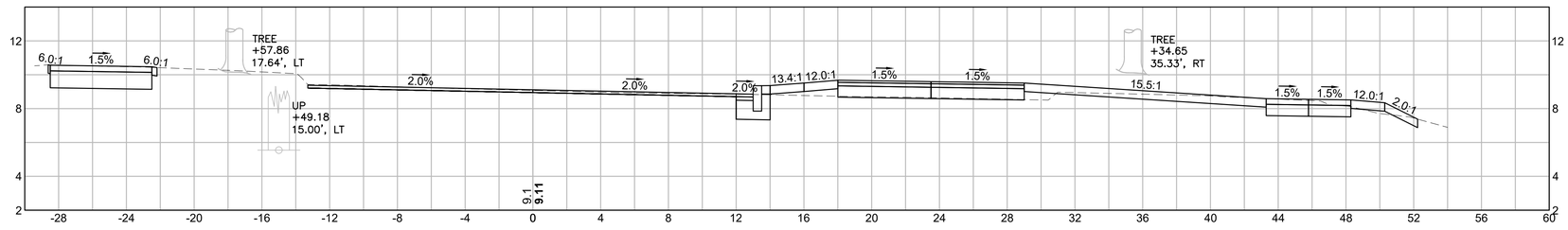
38+00



CUT: 19.93 SF

FILL: 1.57 SF

37+50



CUT: 17.43 SF

FILL: 1.87 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

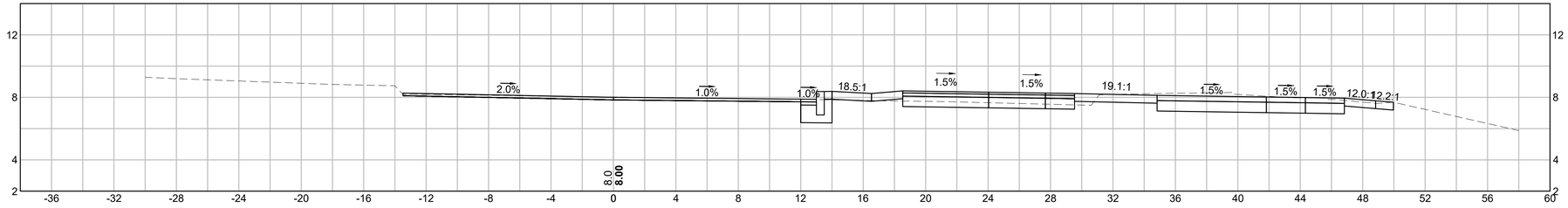
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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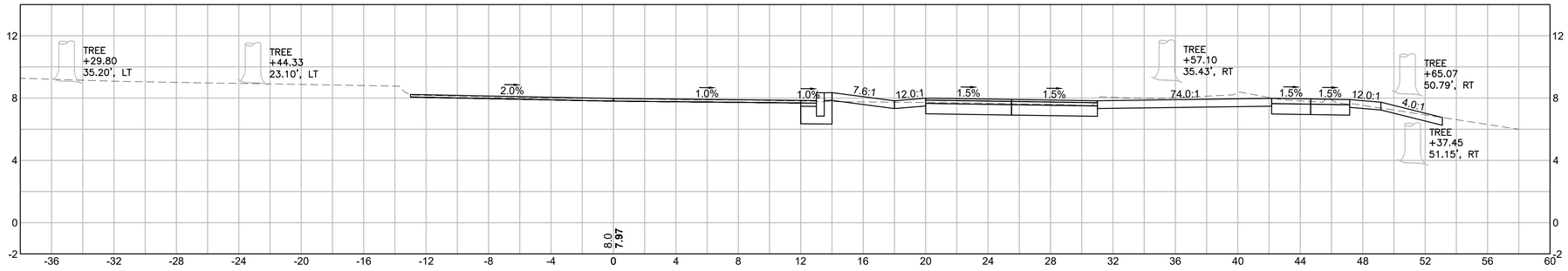
40+00



CUT: 19.83 SF

FILL: 0.40 SF

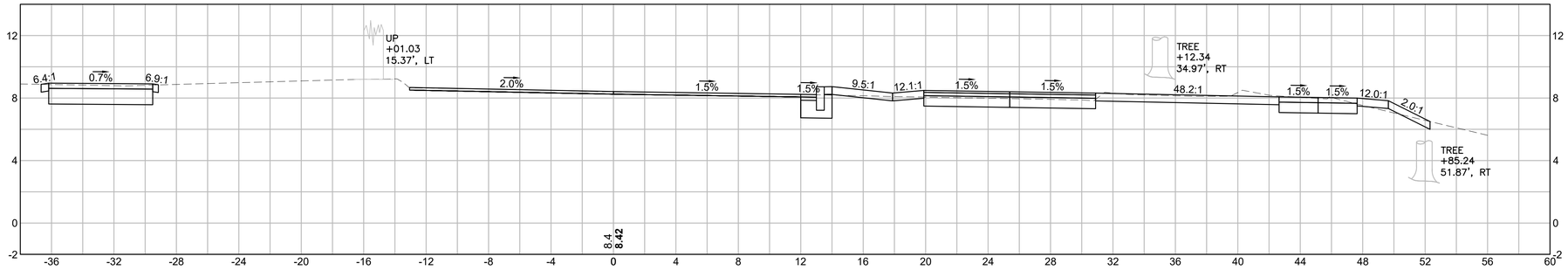
39+50



CUT: 23.01 SF

FILL: 0.03 SF

39+00



CUT: 26.98 SF

FILL: 0.21 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

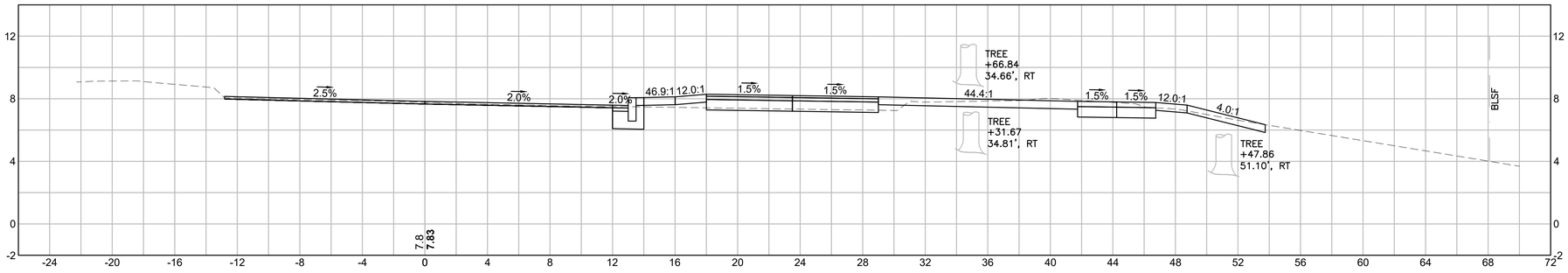
MEMORIAL DRIVE

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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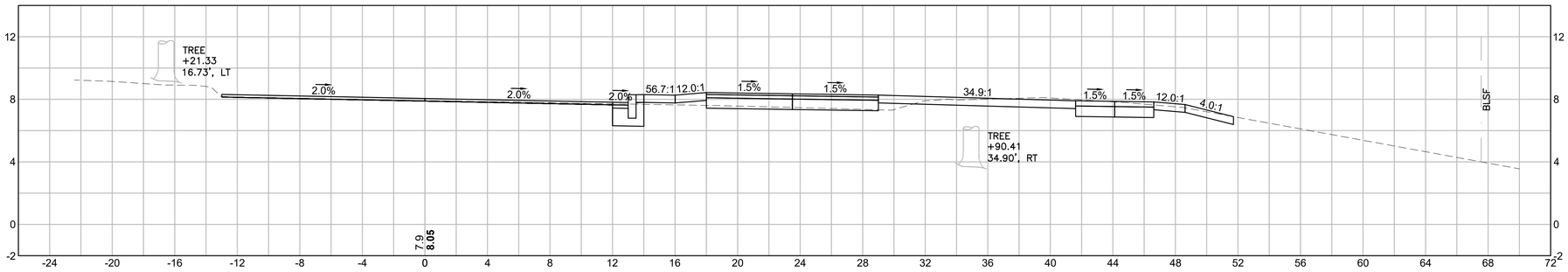
41+50



CUT: 12.51 SF

FILL: 1.30 SF

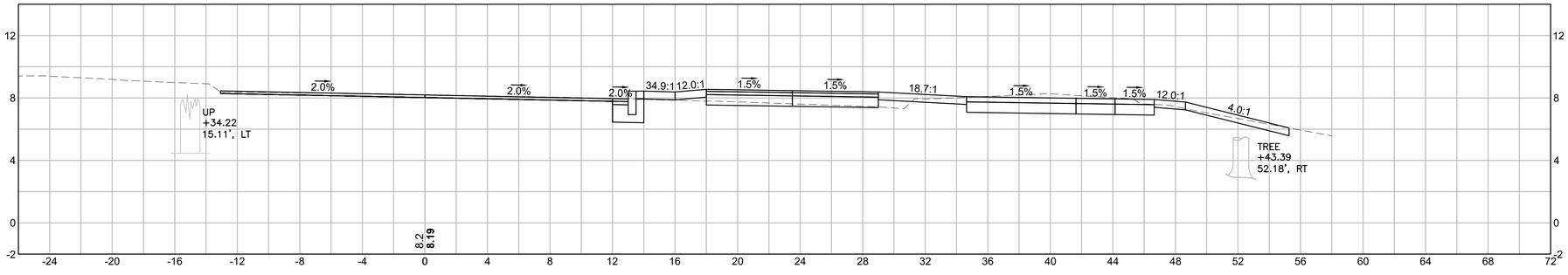
41+00



CUT: 12.70 SF

FILL: 1.37 SF

40+50



CUT: 18.00 SF

FILL: 1.23 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

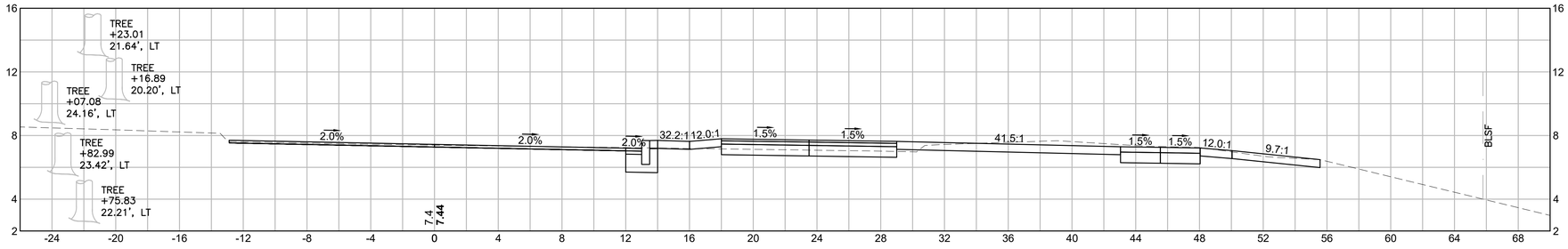
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

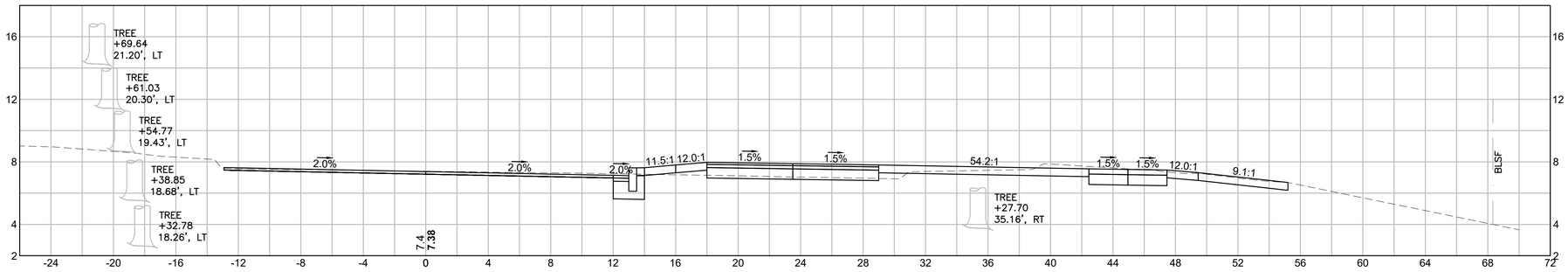
43+00



CUT: 20.05 SF

FILL: 0.27 SF

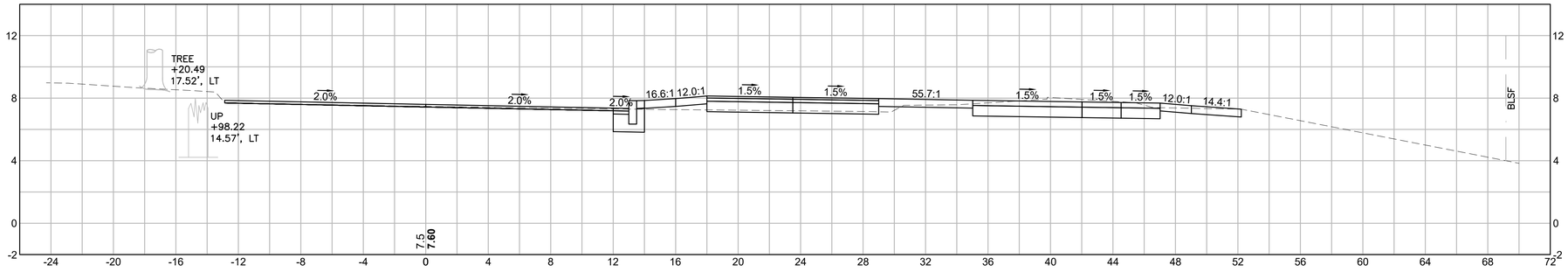
42+50



CUT: 14.73 SF

FILL: 1.10 SF

42+00



CUT: 16.41 SF

FILL: 1.24 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

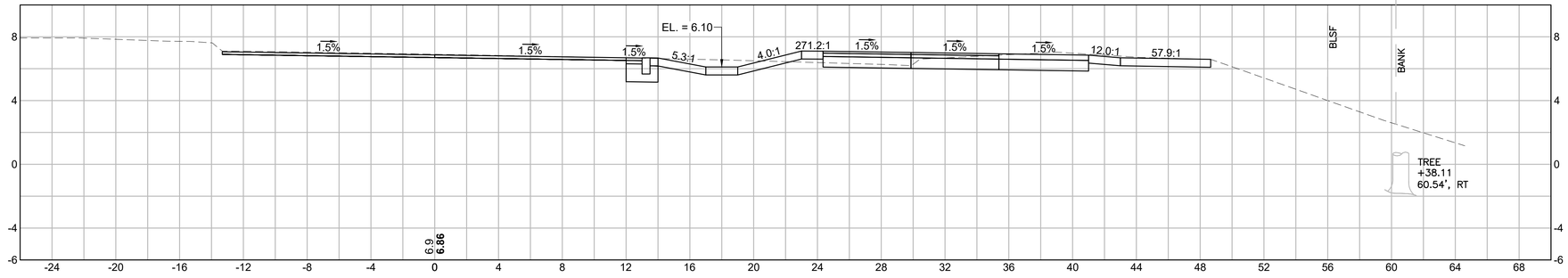
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CHECKED:	ACC.	DATE: 4/17/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

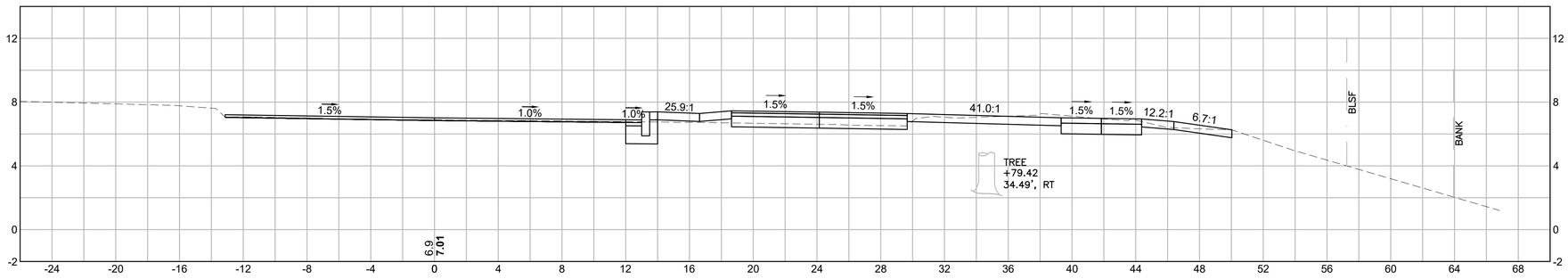
44+50



CUT: 20.91 SF

FILL: 0.35 SF

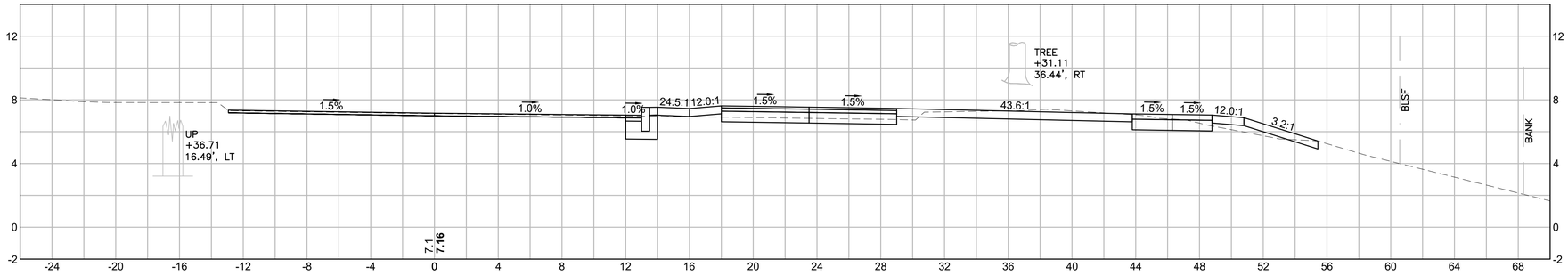
44+00



CUT: 13.26 SF

FILL: 0.63 SF

43+50



CUT: 13.84 SF

FILL: 1.80 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

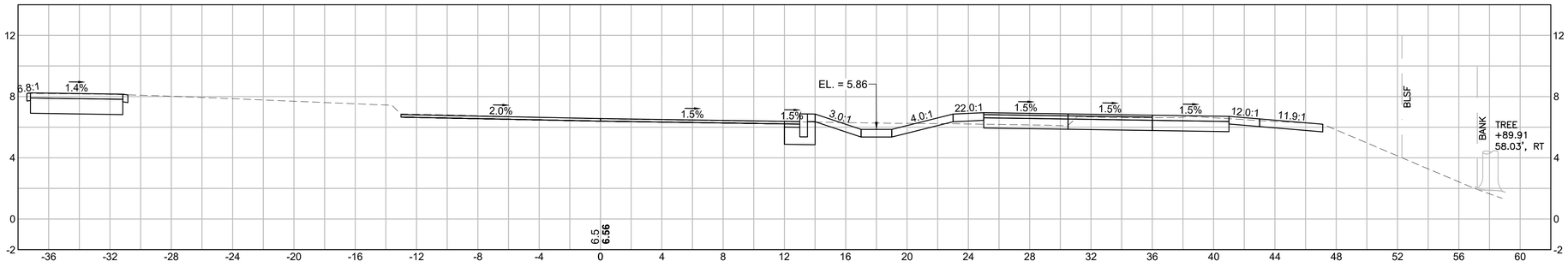
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

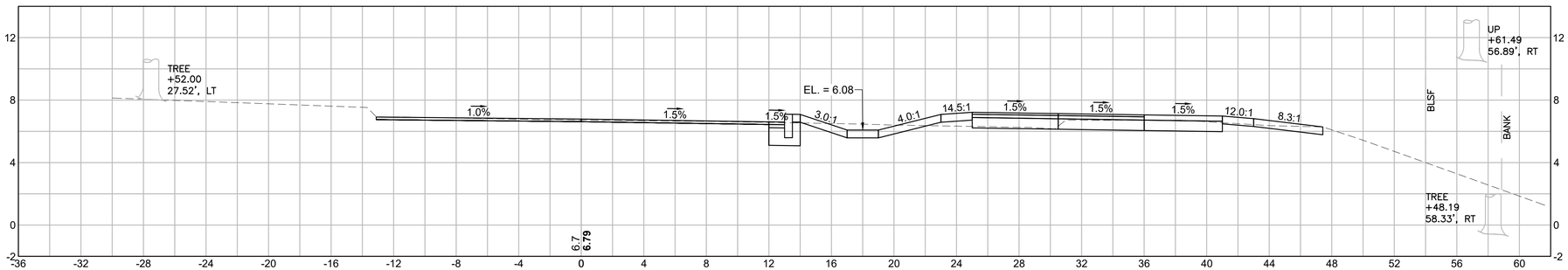
46+00



CUT: 25.61 SF

FILL: 0.42 SF

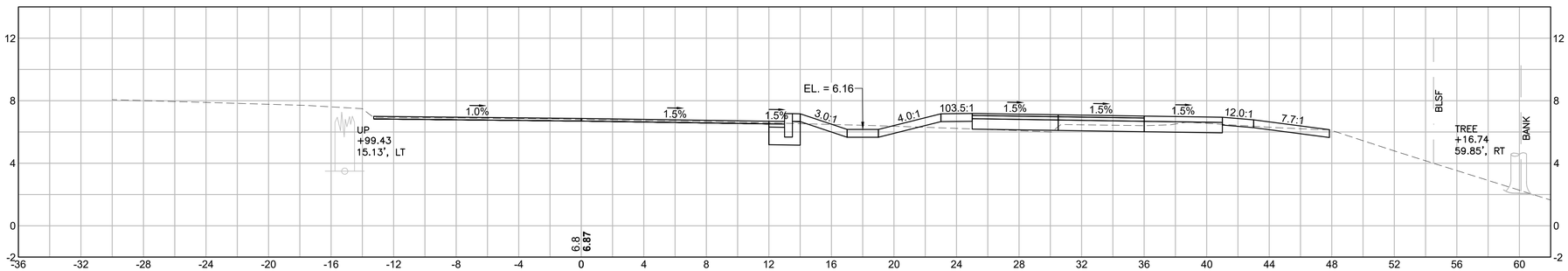
45+50



CUT: 12.86 SF

FILL: 0.74 SF

45+00



CUT: 9.82 SF

FILL: 1.42 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

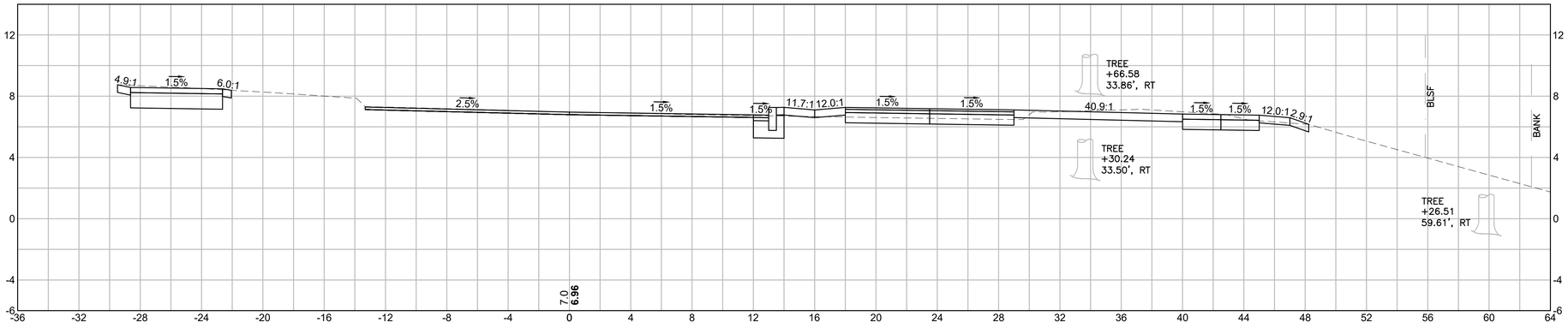
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CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/17/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

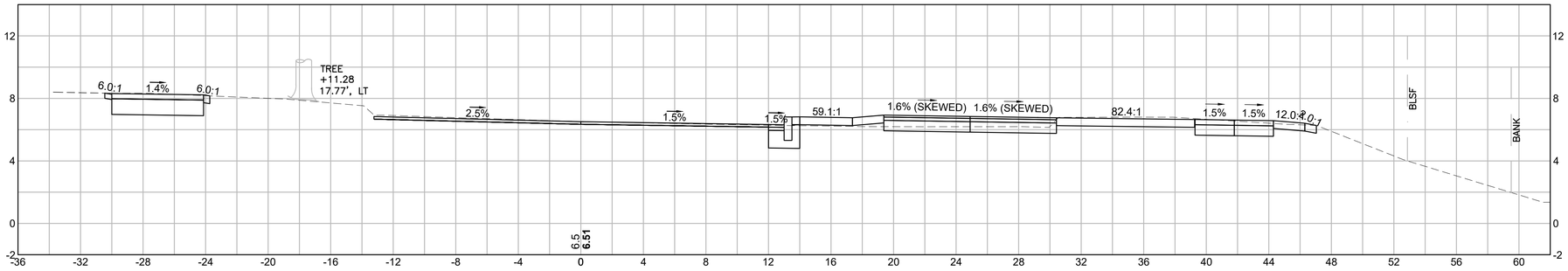
47+50



CUT: 24.51 SF

FILL: 0.20 SF

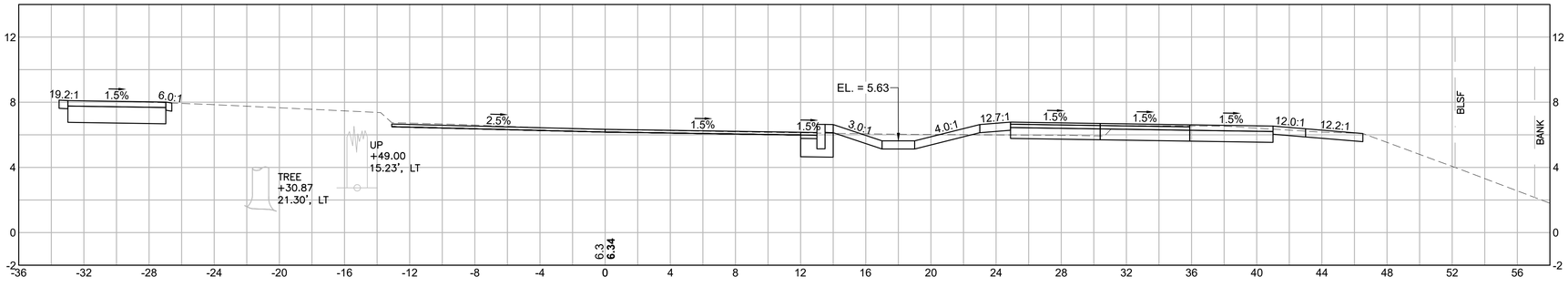
47+00



CUT: 22.89 SF

FILL: 0.52 SF

46+50



CUT: 25.74 SF

FILL: 0.43 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

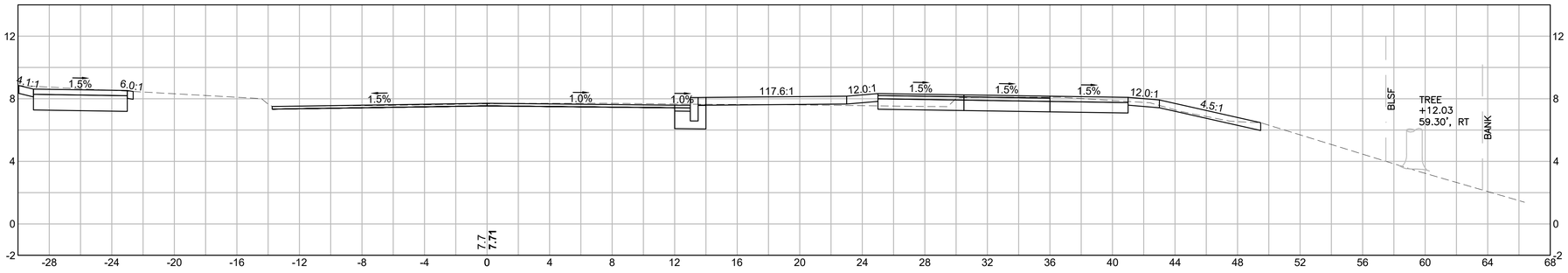
MEMORIAL DRIVE

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DRAWN:	REF. / SCALE:	
CHECKED:	ACC. / DATE: 4/17/2025	155 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

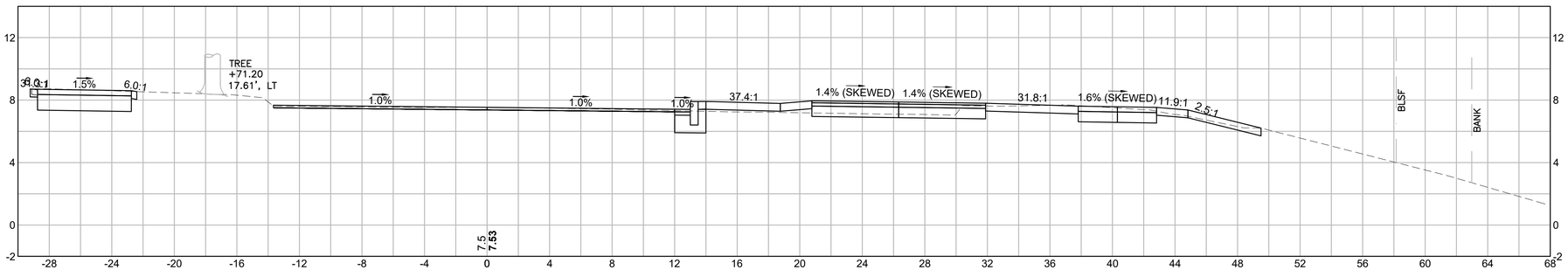
49+00



CUT: 21.72 SF

FILL: 0.59 SF

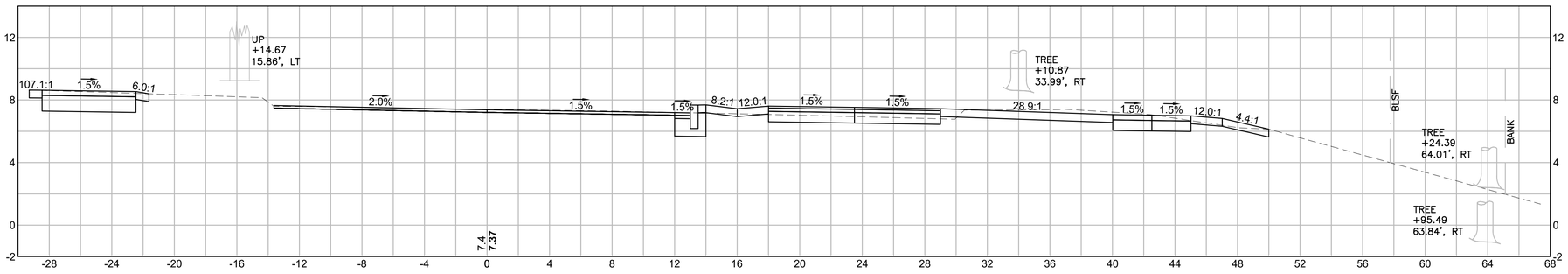
48+50



CUT: 20.46 SF

FILL: 0.85 SF

48+00



CUT: 25.17 SF

FILL: 0.15 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

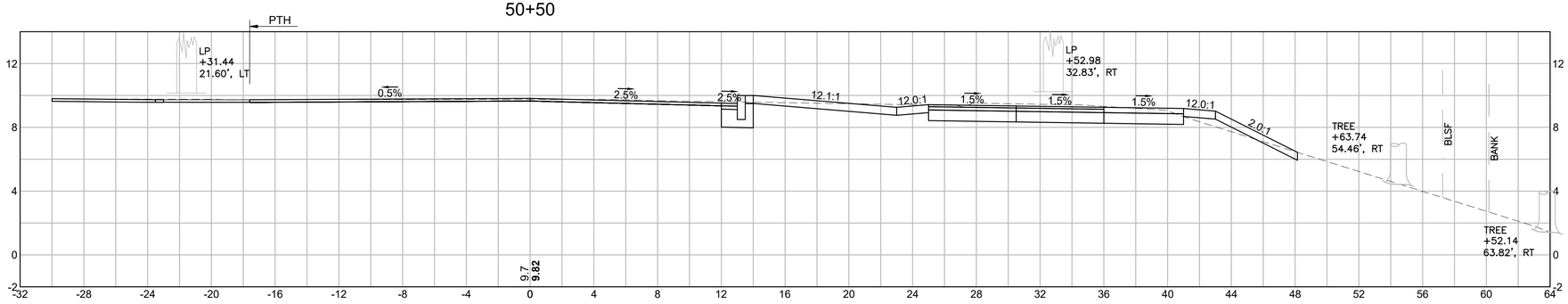
MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CROSS SECTIONS
MEMORIAL DRIVE

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CHECKED:		
DRAWN:	REF. / SCALE:	
CHECKED:	ACC. / DATE: 4/17/2025	156 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

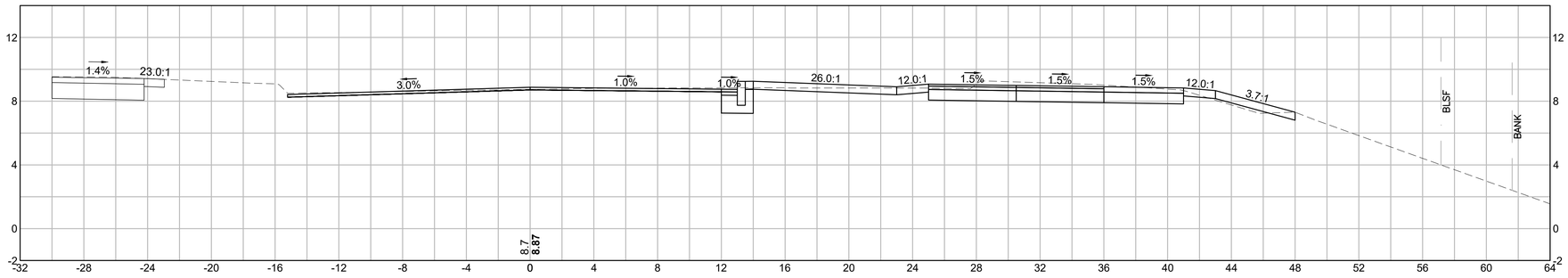
50+50



CUT: 21.70 SF

FILL: 1.10 SF

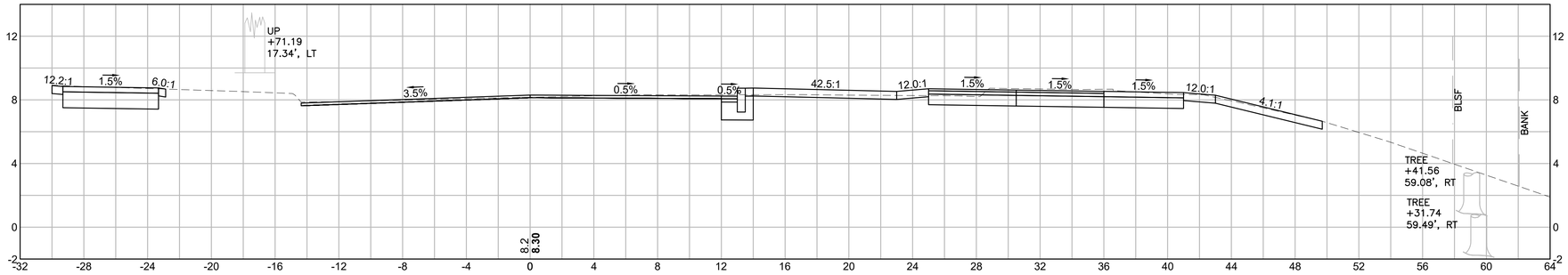
50+00



CUT: 36.28 SF

FILL: 0.45 SF

49+50



CUT: 29.32 SF

FILL: 0.00 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

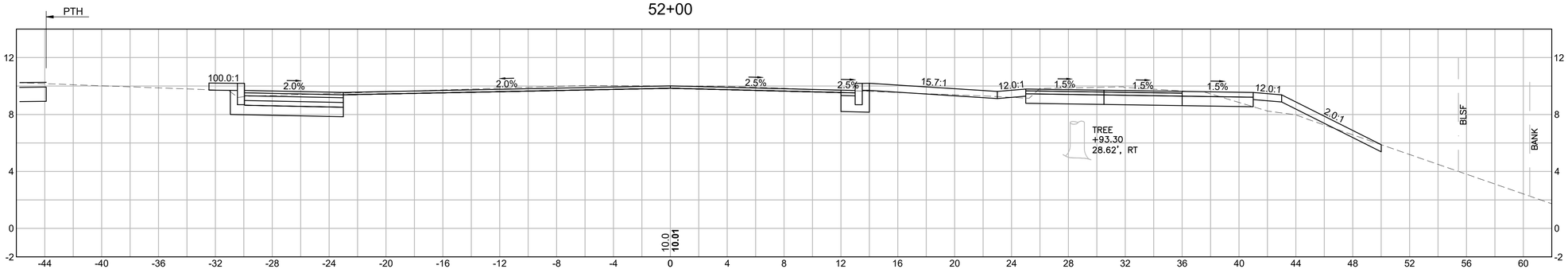
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

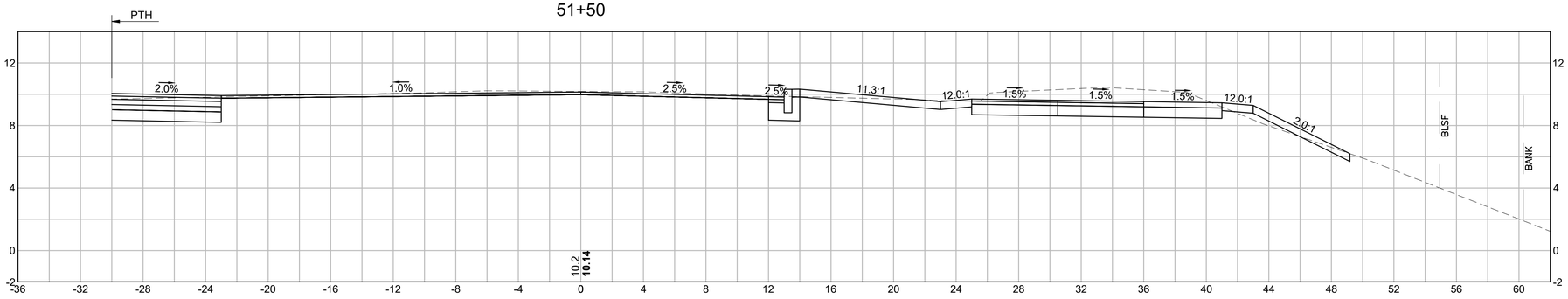
52+00



CUT: 28.21 SF

FILL: 2.70 SF

51+50



CUT: 41.15 SF

FILL: 0.50 SF

51+00



CUT: 24.98 SF

FILL: 3.09 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CROSS SECTIONS
MEMORIAL DRIVE

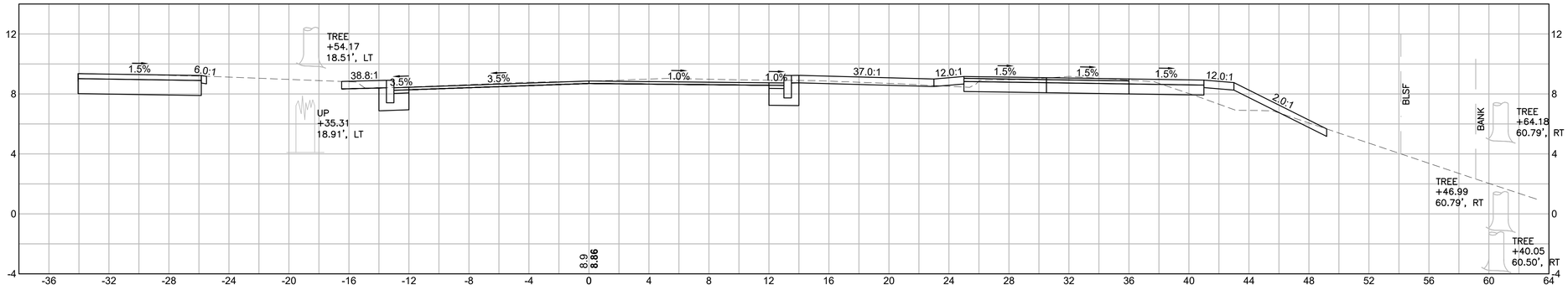
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

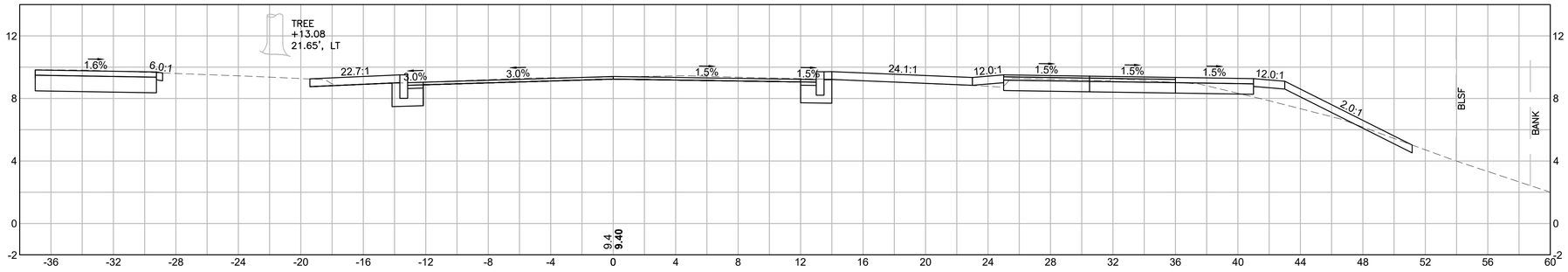
53+50



CUT: 26.05 SF

FILL: 4.17 SF

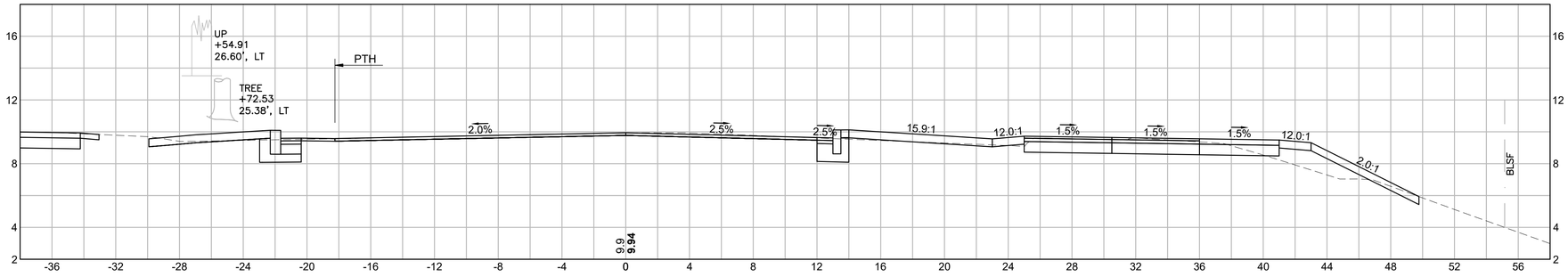
53+00



CUT: 22.27 SF

FILL: 4.22 SF

52+50



CUT: 13.08 SF

FILL: 4.99 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

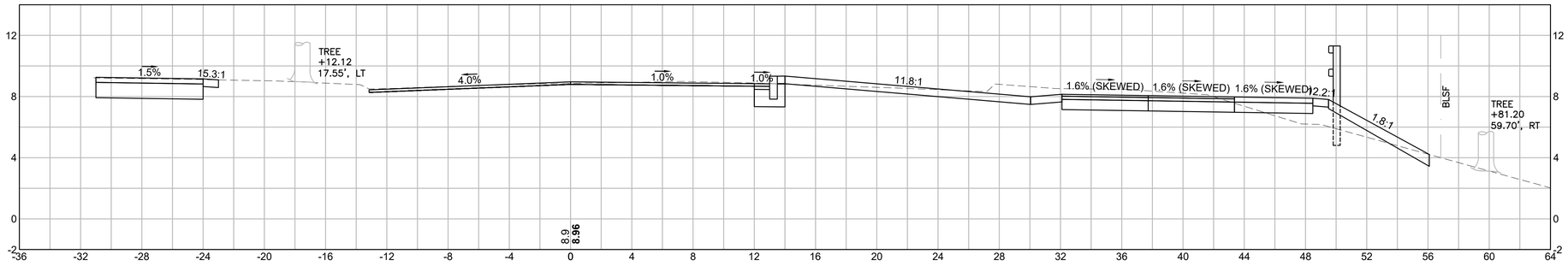
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

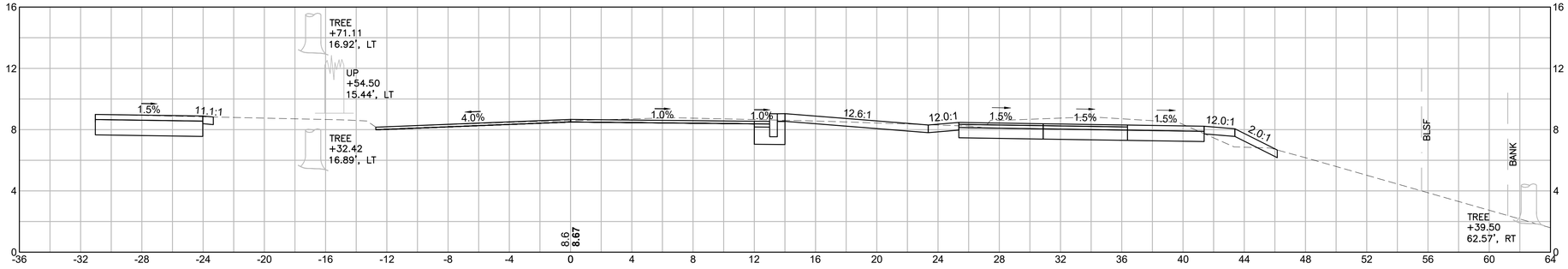
55+00



CUT: 34.22 SF

FILL: 4.70 SF

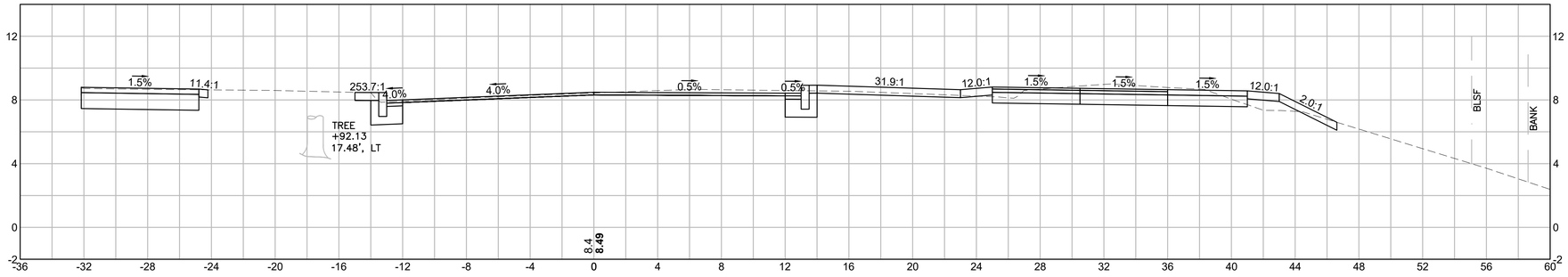
54+50



CUT: 33.04 SF

FILL: 1.19 SF

54+00



CUT: 27.51 SF

FILL: 1.51 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

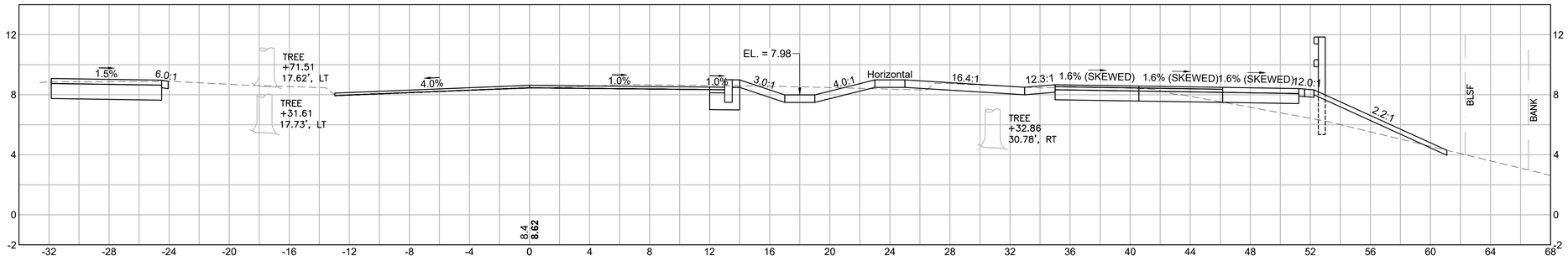
MEMORIAL DRIVE

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CHECKED:	ACC. / DATE: 4/17/2025	160 OF 182

DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

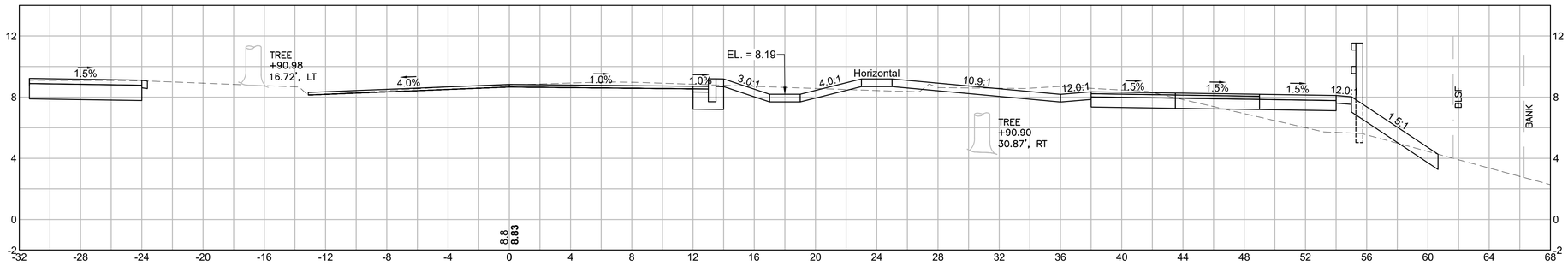
56+50



CUT: 26.18 SF

FILL: 10.17 SF

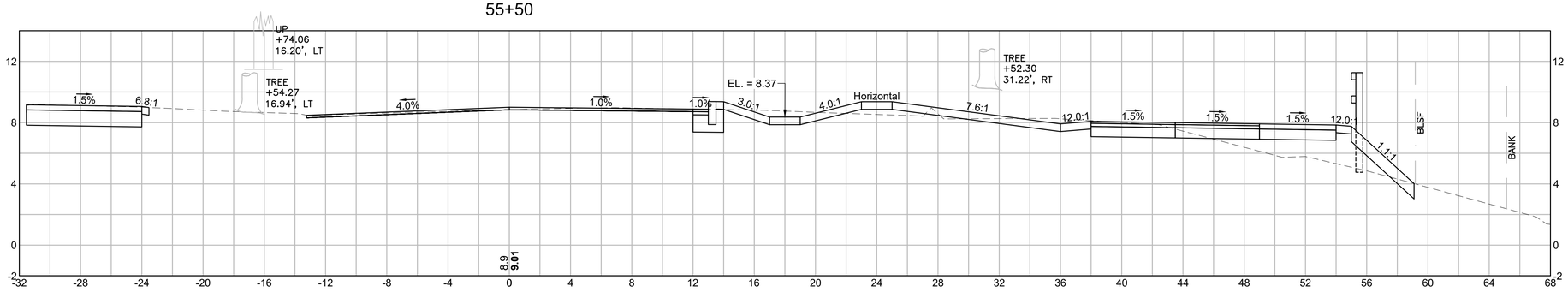
56+00



CUT: 29.01 SF

FILL: 10.52 SF

55+50



CUT: 25.32 SF

FILL: 12.71 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

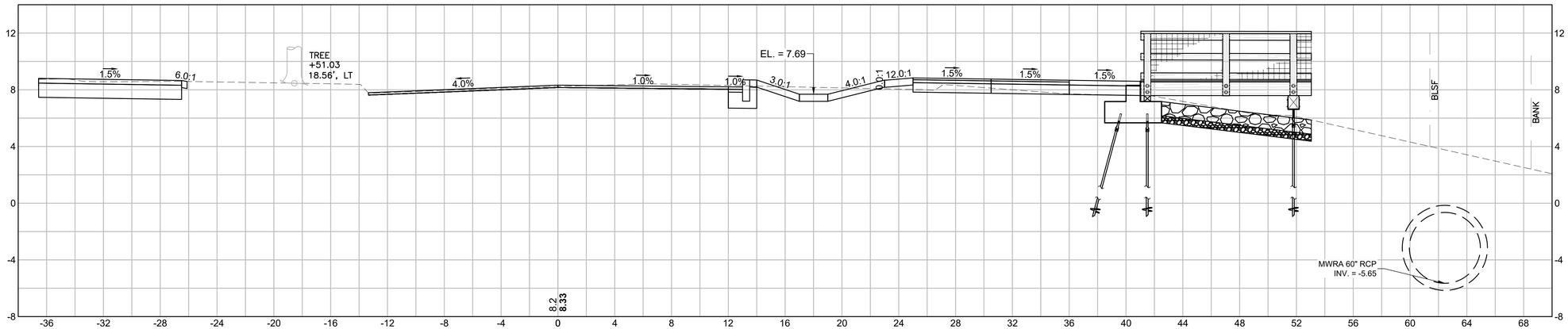
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

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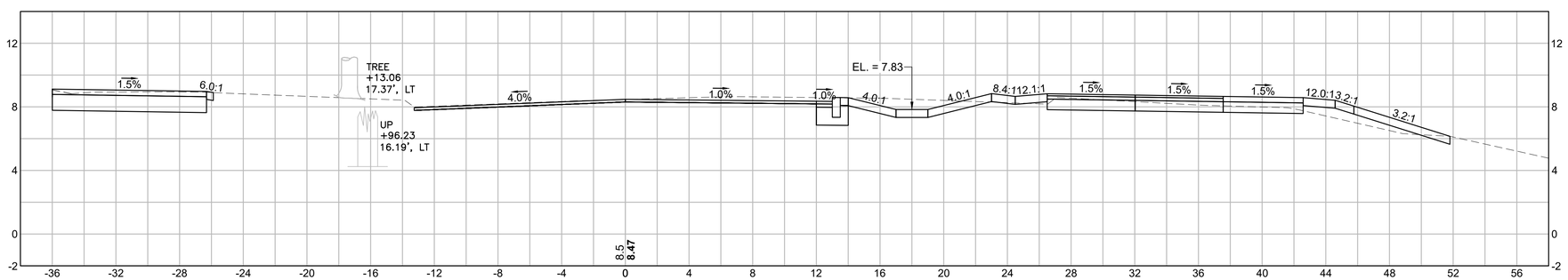
57+50



CUT: 18.47 SF

FILL: 0.44 SF

57+00



CUT: 26.30 SF

FILL: 3.07 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

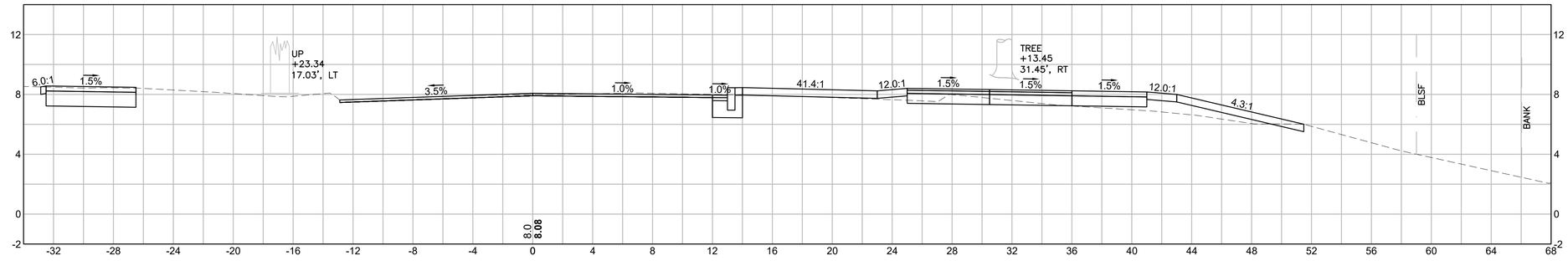
MEMORIAL DRIVE

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

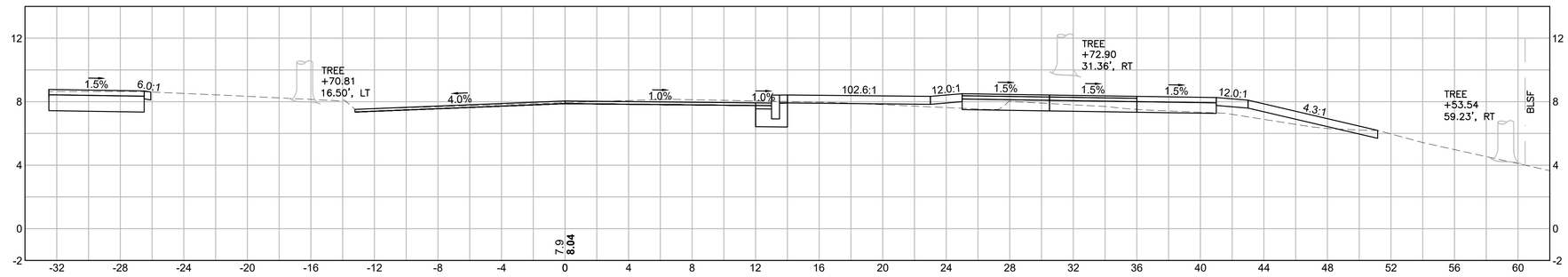
59+00



CUT: 11.45 SF

FILL: 5.29 SF

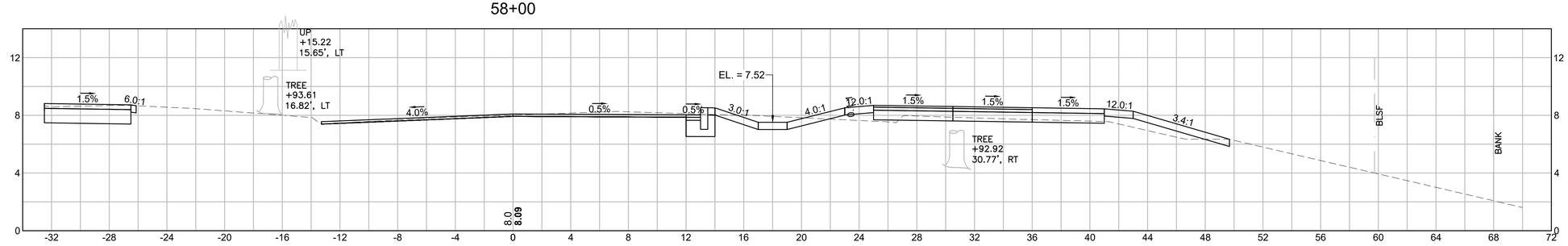
58+50



CUT: 12.55 SF

FILL: 3.71 SF

58+00



CUT: 15.36 SF

FILL: 4.34 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

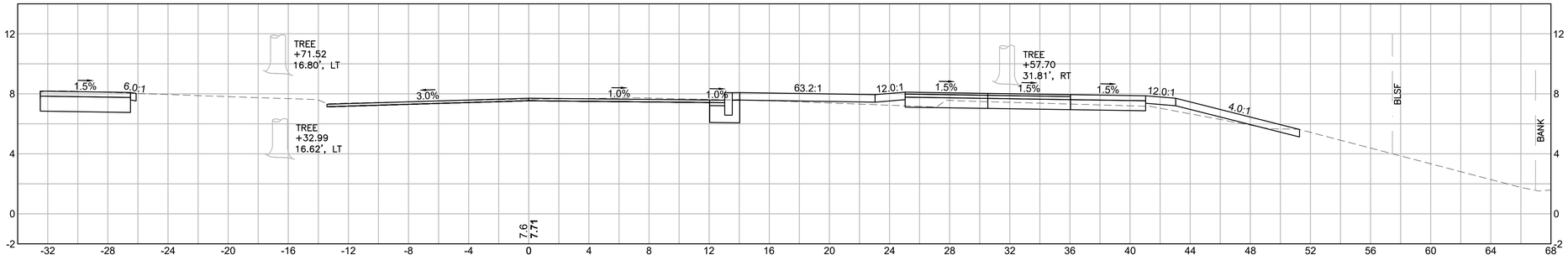
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

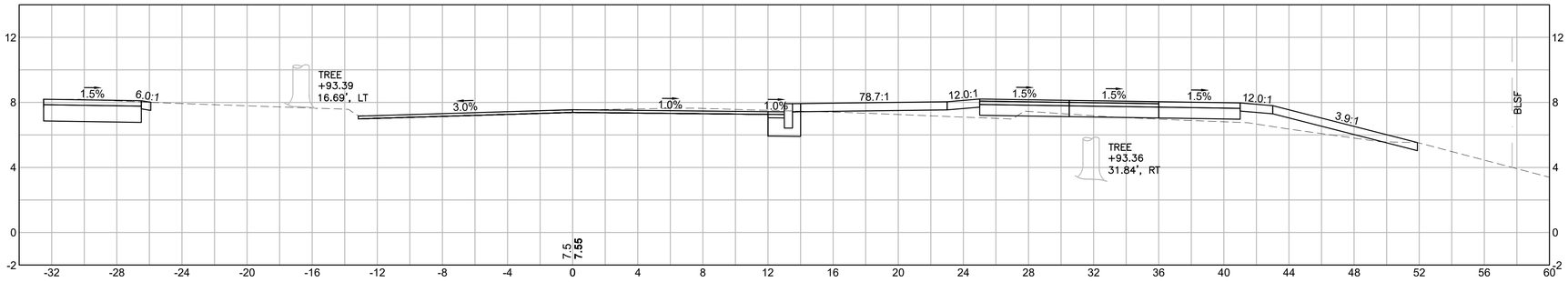
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CUT: 13.51 SF

FILL: 2.72 SF

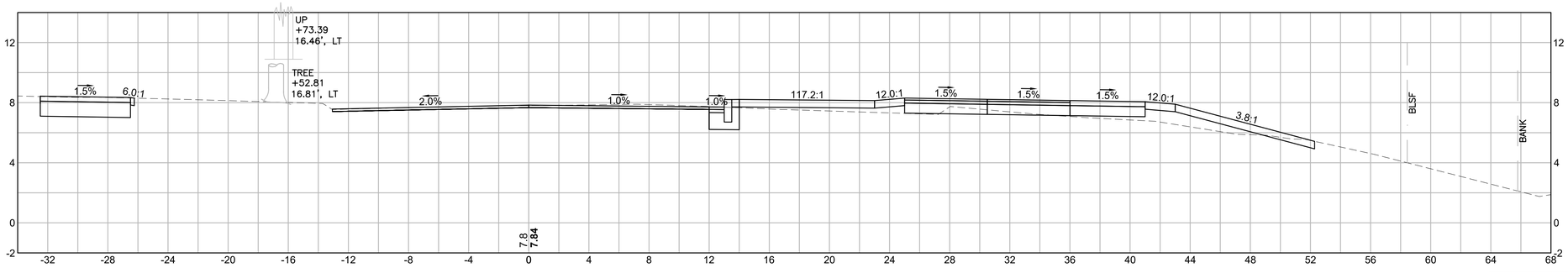
60+00



CUT: 9.65 SF

FILL: 8.00 SF

59+50



CUT: 10.62 SF

FILL: 7.78 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

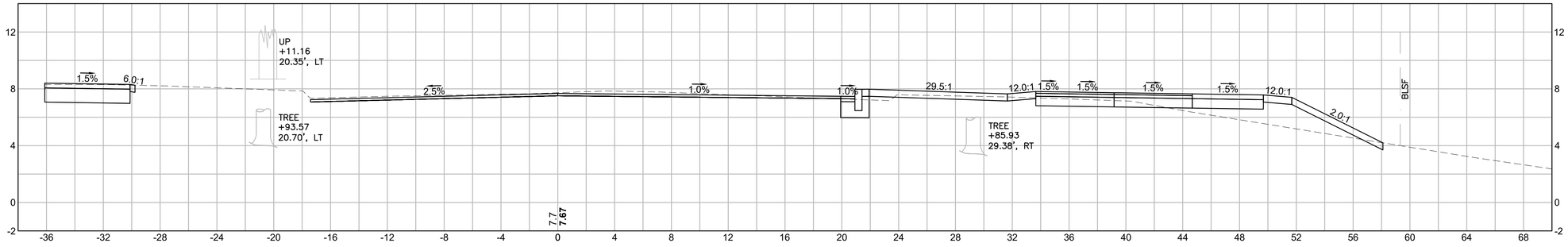
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CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/17/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

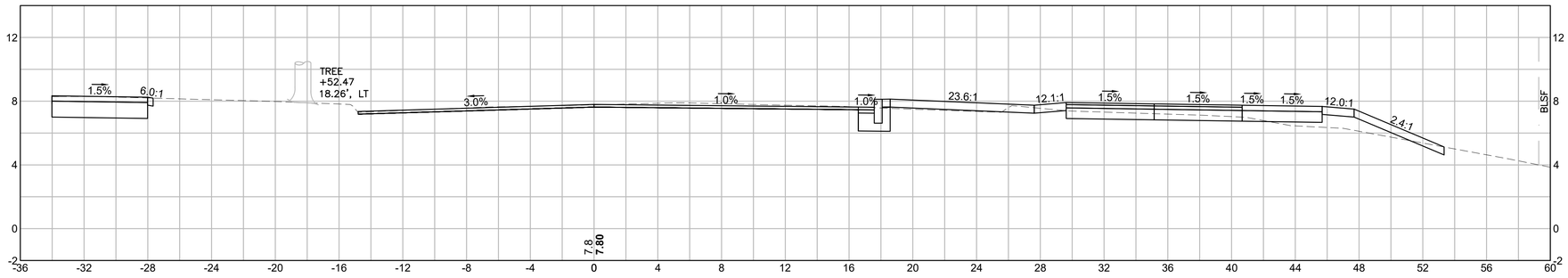
62+00



CUT: 14.15 SF

FILL: 11.24 SF

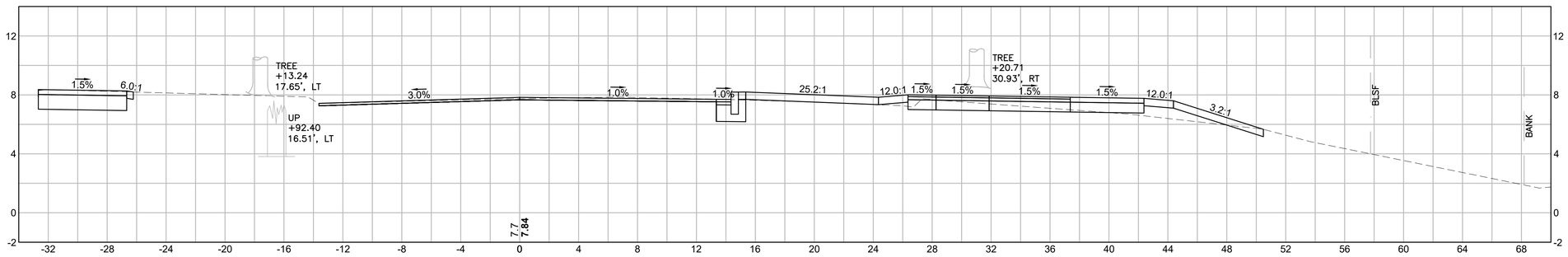
61+50



CUT: 13.61 SF

FILL: 3.90 SF

61+00



CUT: 12.98 SF

FILL: 3.37 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

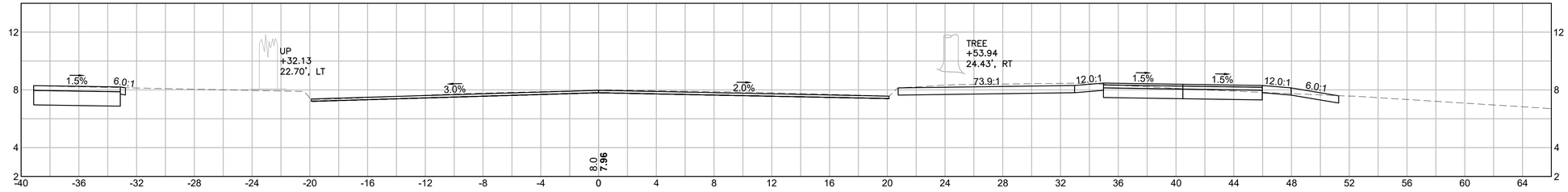
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CHECKED:		
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CHECKED:	ACC.	DATE: 4/17/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

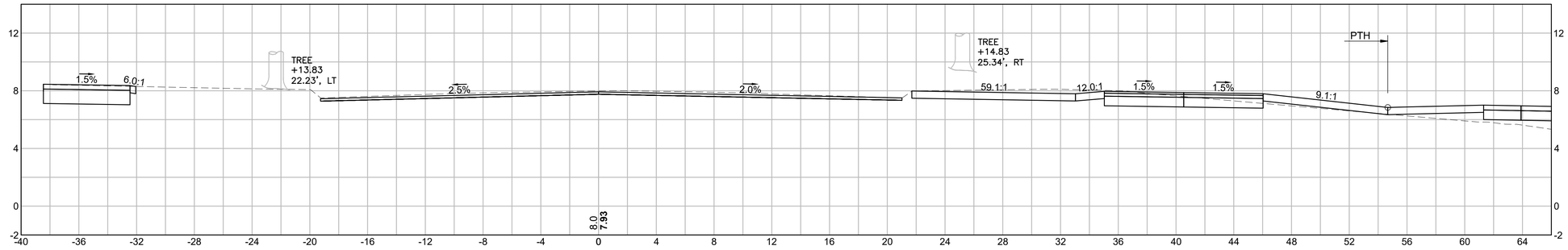
63+50



CUT: 24.66 SF

FILL: 0.00 SF

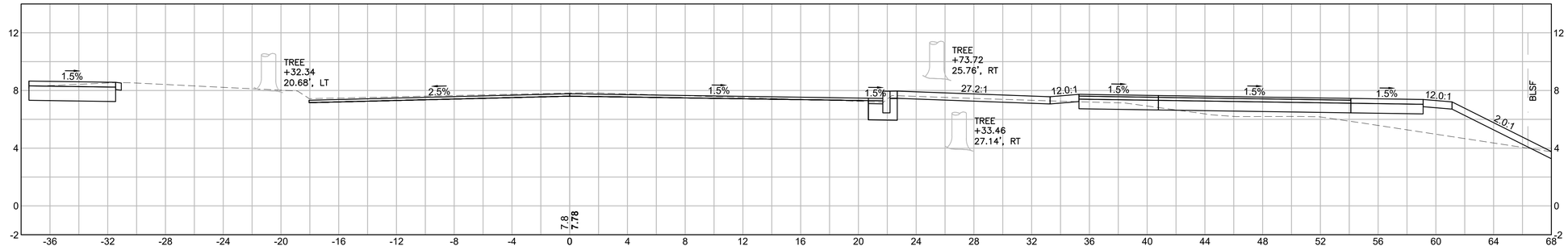
63+00



CUT: 24.00 SF

FILL: 0.63 SF

62+50



CUT: 11.44 SF

FILL: 17.39 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

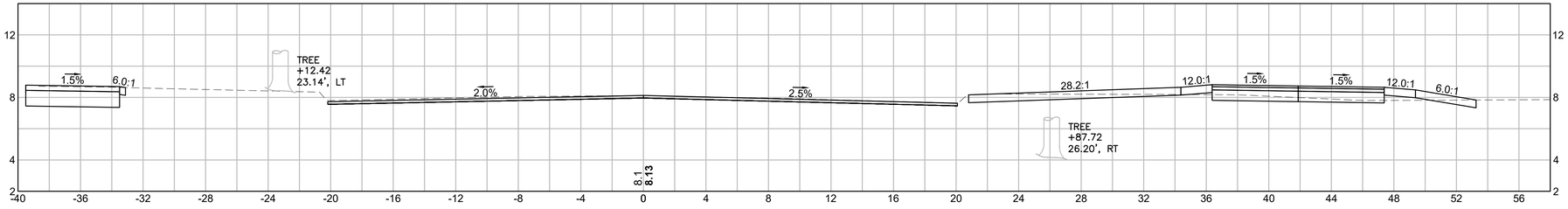
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DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/17/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

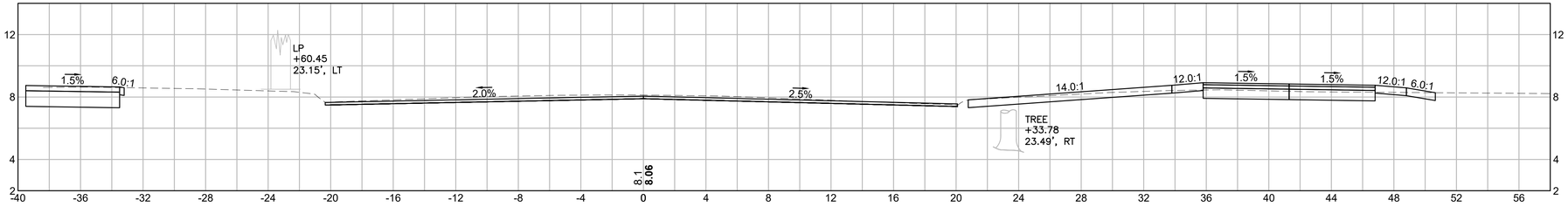
65+00



CUT: 14.41 SF

FILL: 0.69 SF

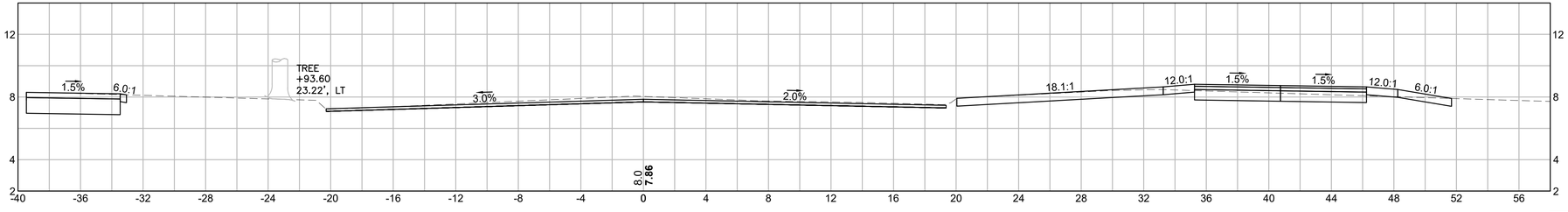
64+50



CUT: 18.35 SF

FILL: 0.00 SF

64+00



CUT: 19.75 SF

FILL: 0.05 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

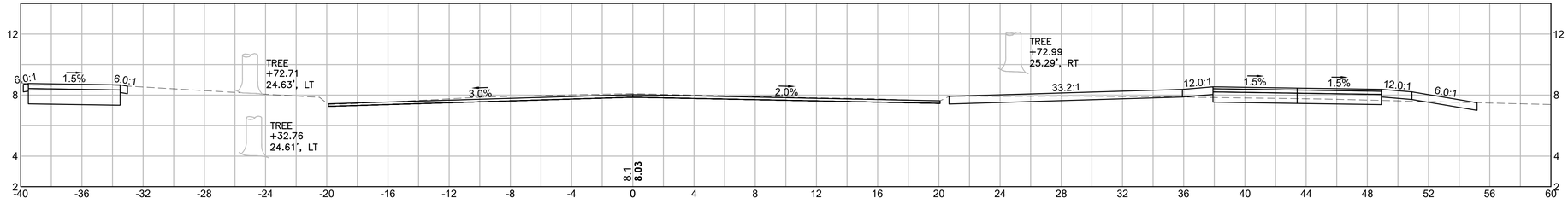
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CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/17/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

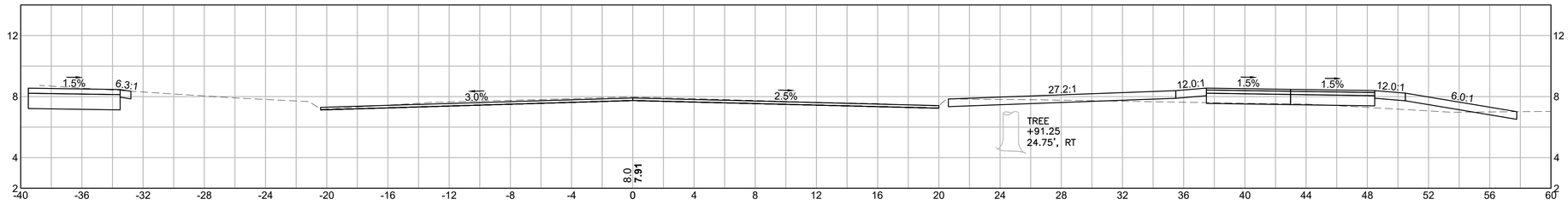
66+50



CUT: 16.38 SF

FILL: 0.58 SF

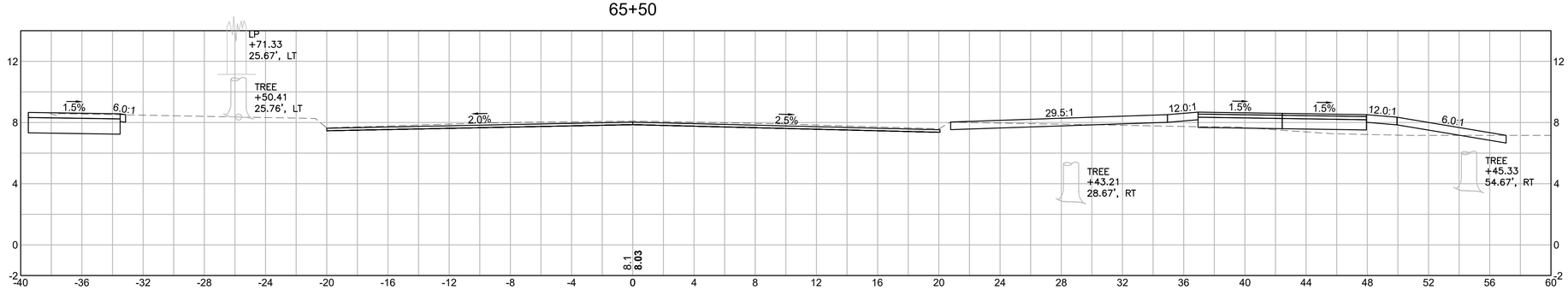
66+00



CUT: 11.48 SF

FILL: 4.08 SF

65+50



CUT: 9.22 SF

FILL: 5.55 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

MEMORIAL DRIVE

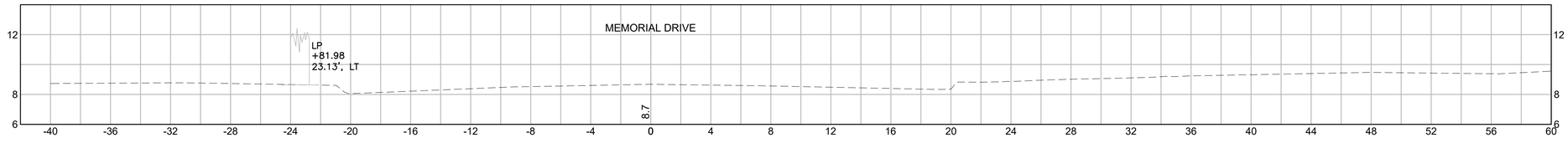
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

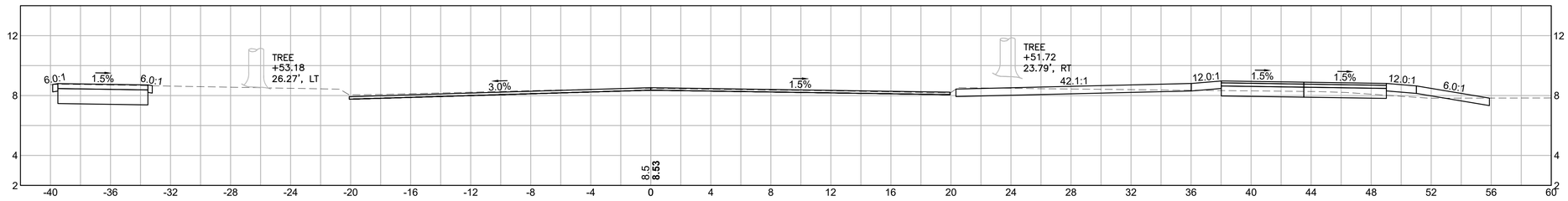
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68+00



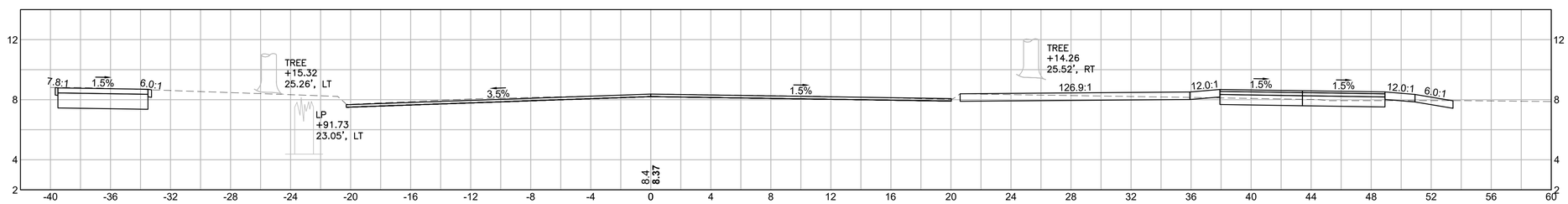
CUT: 0.00 SF
FILL: 0.00 SF

67+50



CUT: 17.69 SF
FILL: 0.93 SF

67+00



CUT: 18.72 SF
FILL: 0.05 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III
CAMBRIDGE, MASSACHUSETTS
CROSS SECTIONS
MEMORIAL DRIVE

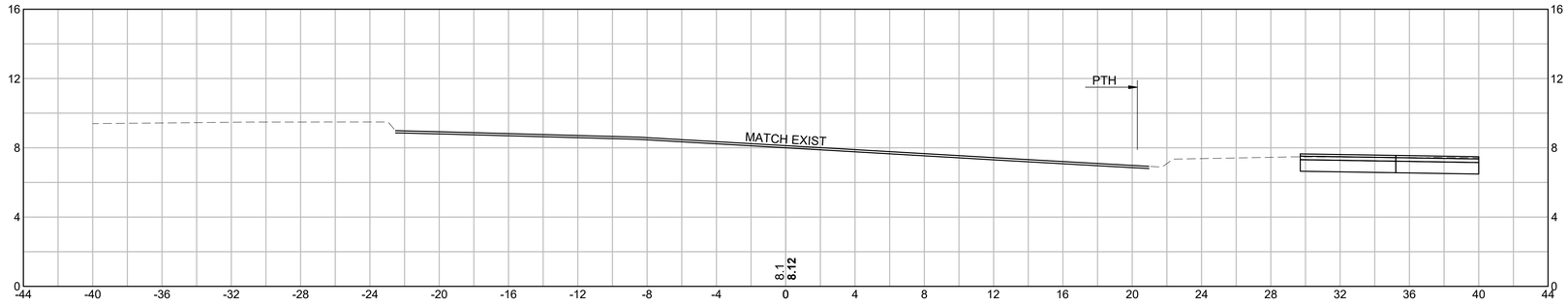
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CHECKED:	ACC.	DATE: 4/17/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

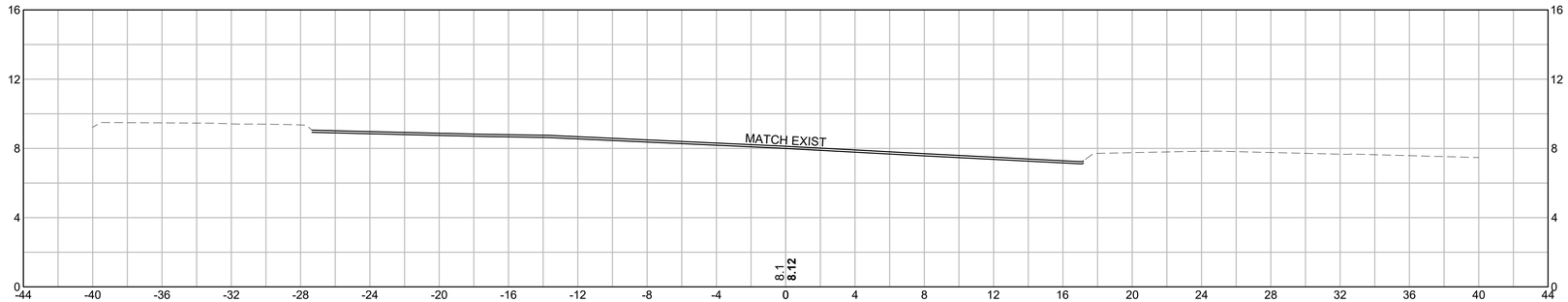
102+50



CUT: 0.00 SF

FILL: 0.00 SF

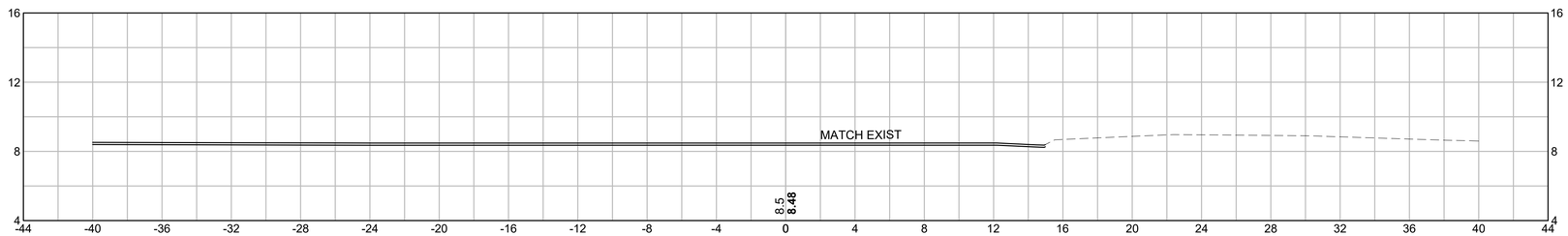
102+00



CUT: 0.00 SF

FILL: 0.00 SF

101+50



CUT: 0.00 SF

FILL: 0.00 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

GERRYS LANDING ROAD

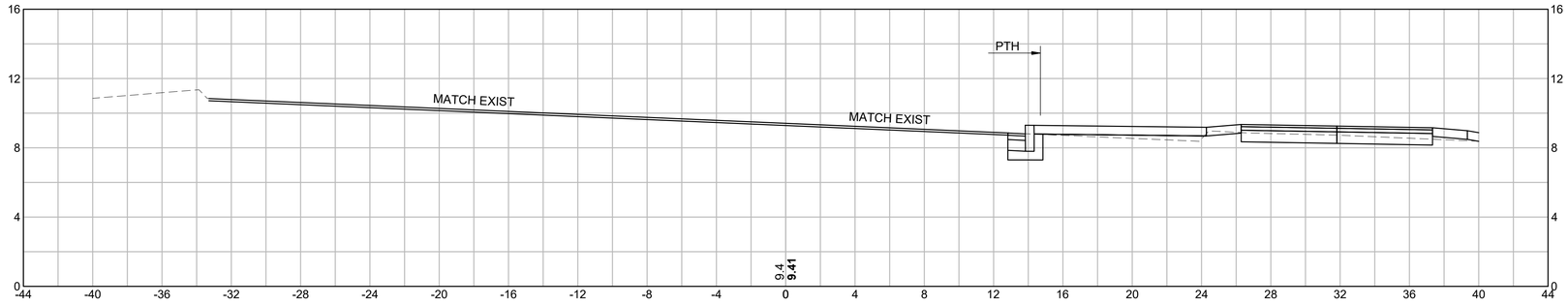
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CHECKED:	ACC.	DATE: 4/17/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941010\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

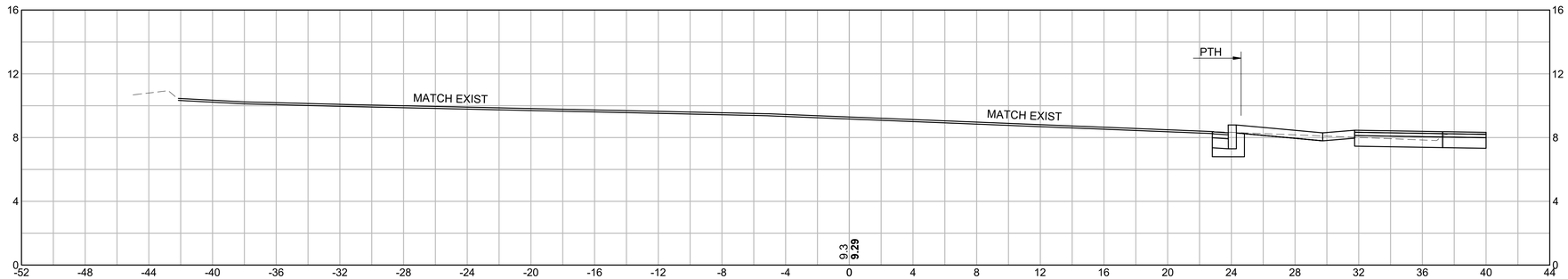
104+00



CUT: 0.00 SF

FILL: 0.00 SF

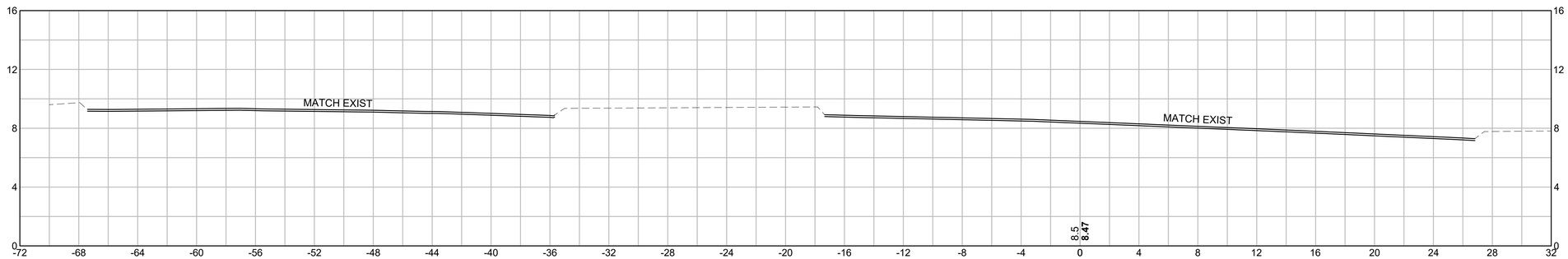
103+50



CUT: 0.00 SF

FILL: 0.00 SF

103+00



CUT: 0.00 SF

FILL: 0.00 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

GERRYS LANDING ROAD

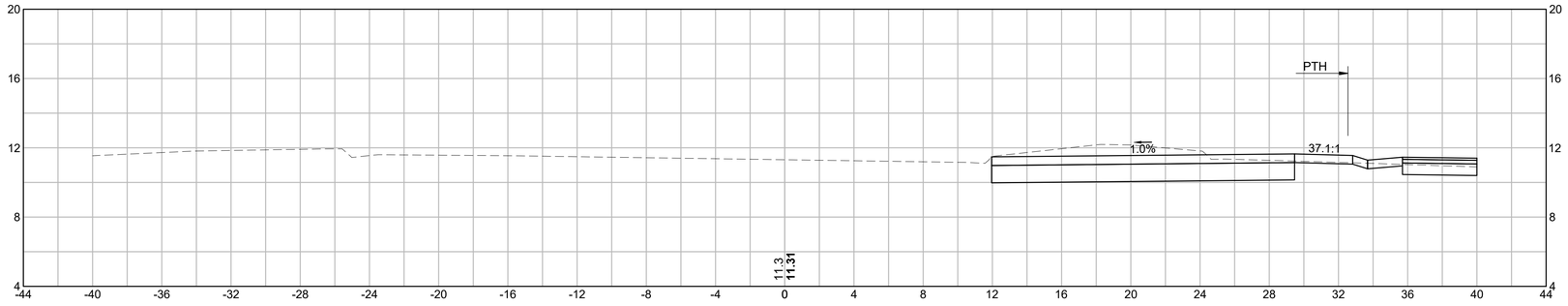
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CHECKED:	ACC.	DATE: 4/17/2025

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941010\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

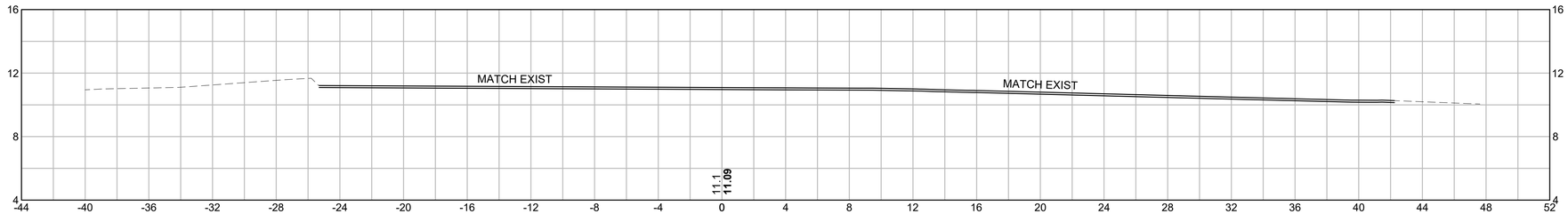
105+50



CUT: 29.90 SF

FILL: 0.00 SF

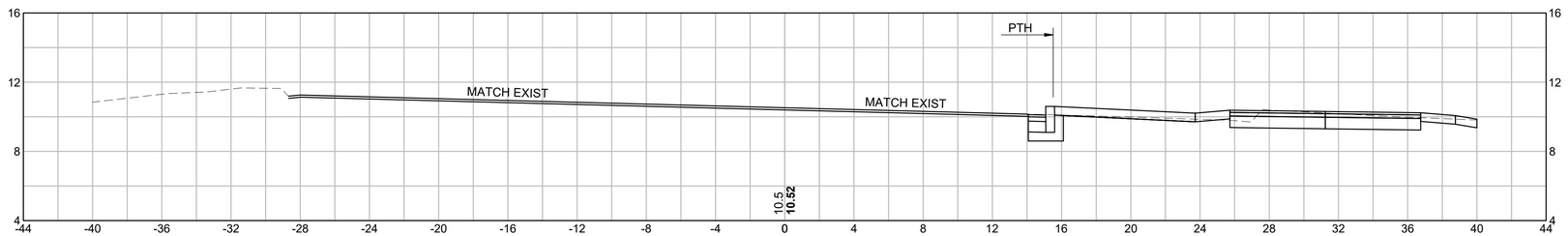
105+00



CUT: 0.00 SF

FILL: 0.00 SF

104+50



CUT: 0.00 SF

FILL: 0.00 SF

4/17/2025 U:\17941010\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

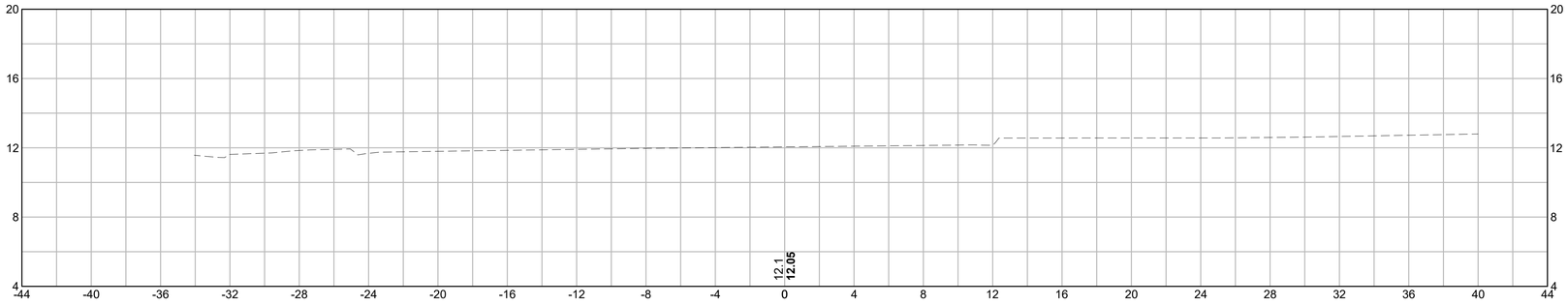
CROSS SECTIONS

GERRYS LANDING ROAD

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

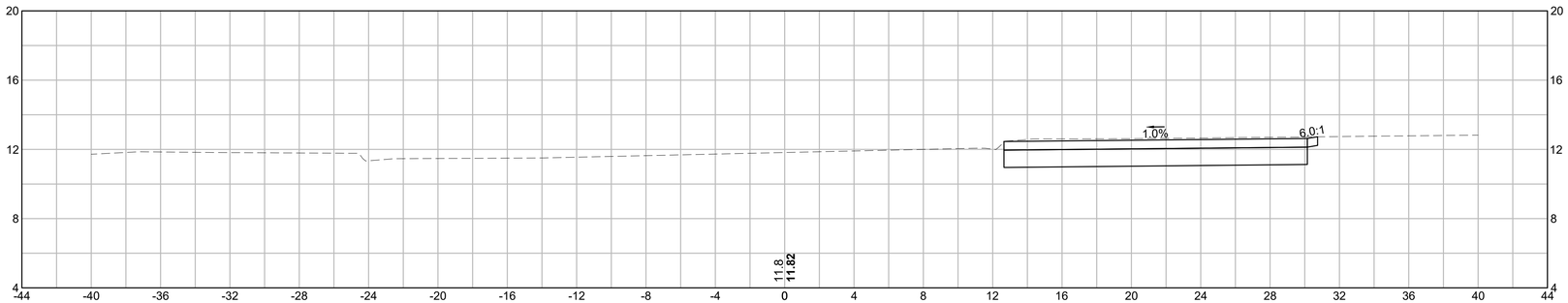
107+00



CUT: 0.00 SF

FILL: 0.00 SF

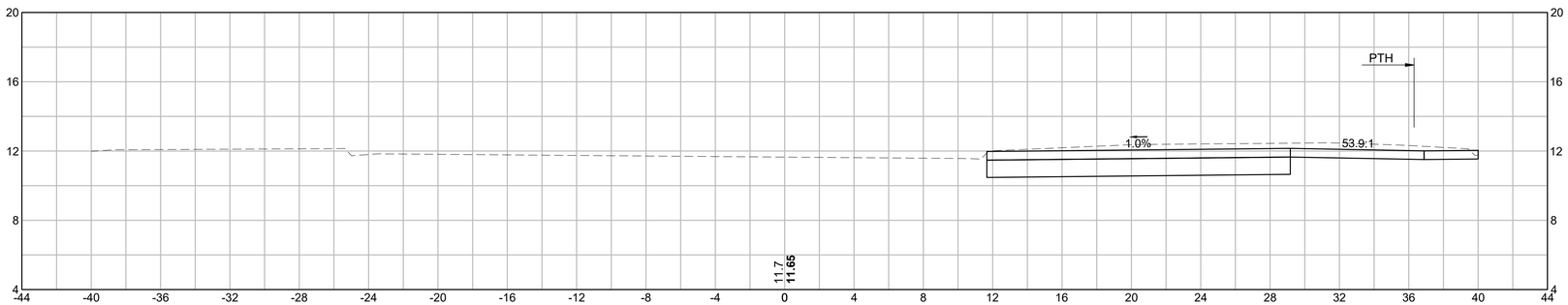
106+50



CUT: 28.23 SF

FILL: 0.00 SF

106+00



CUT: 36.83 SF

FILL: 0.00 SF

4/17/2025 U:\17941101\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

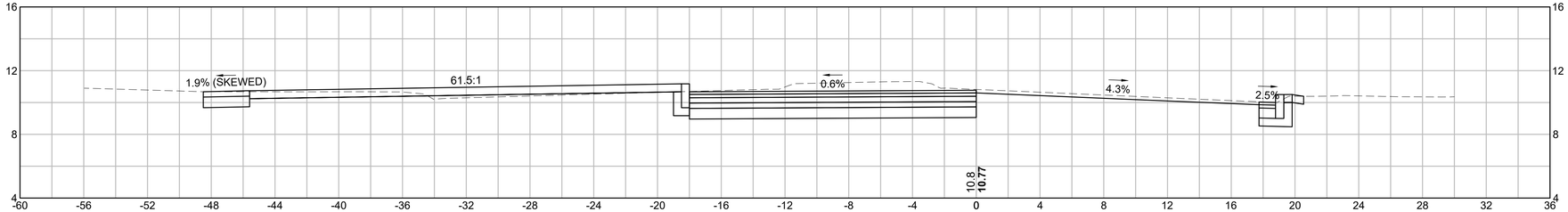
GERRYS LANDING ROAD

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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

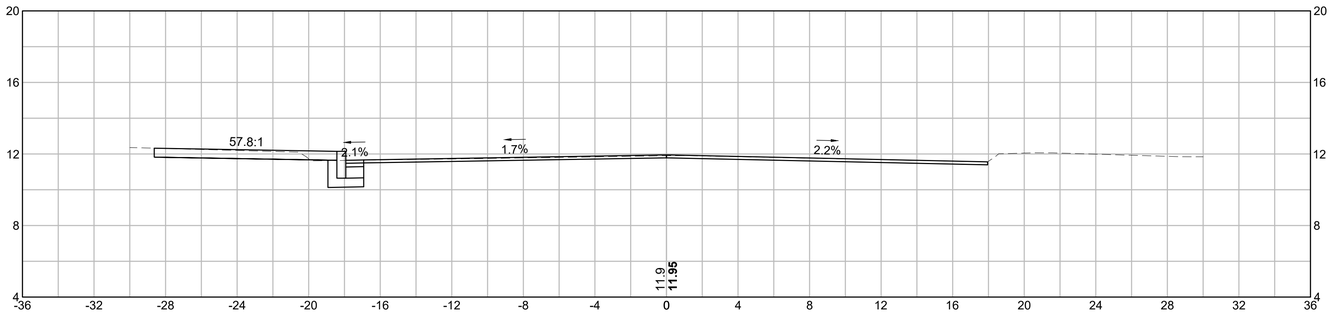
201+00



CUT: 46.28 SF

FILL: 1.53 SF

200+50



CUT: 6.83 SF

FILL: 0.04 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

HAWTHORN STREET

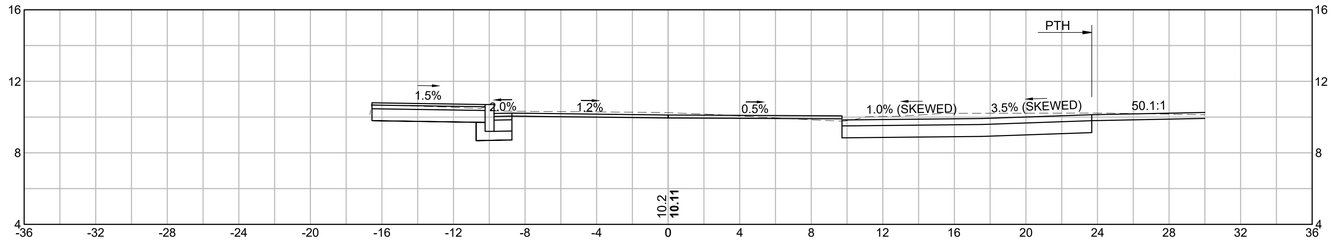
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941\1010\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

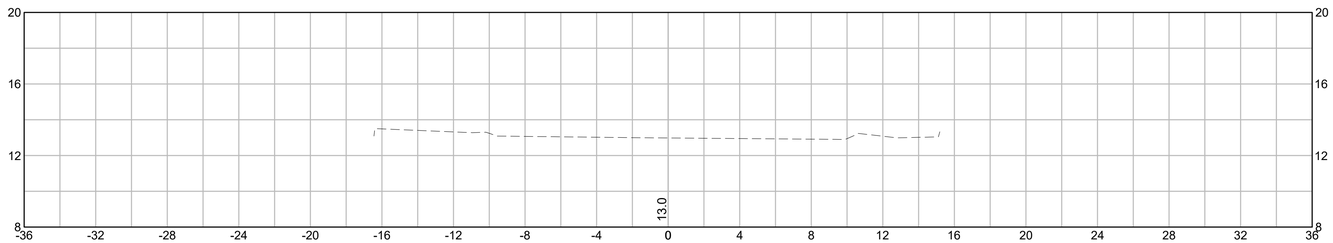
301+00



CUT: 23.78 SF

FILL: 0.00 SF

300+50



CUT: 0.00 SF

FILL: 0.00 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

ASH STREET

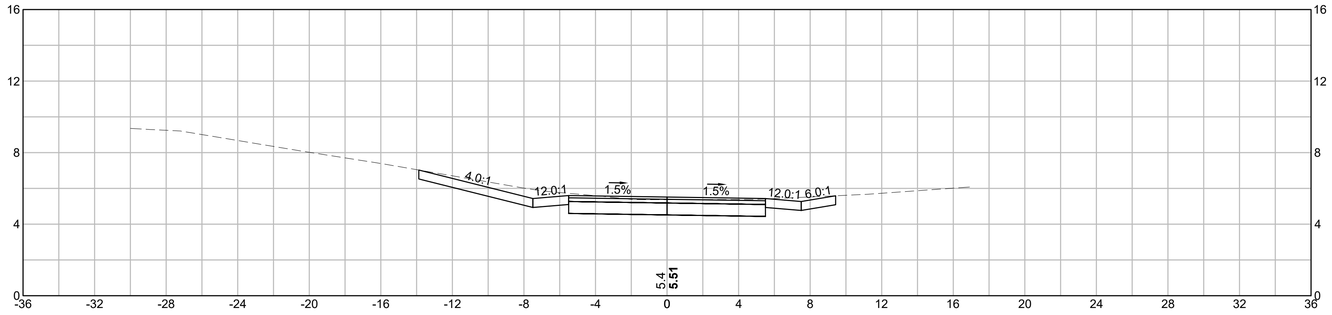
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DEPARTMENT OF CONSERVATION AND RECREATION
10 PARK PLAZA, SUITE 6620
BOSTON, MA 02116

4/17/2025 U:\17941101\0\DRAWINGS\CAD\05 HIGHWAY\MEMORIAL_DRIVE_III_CROSS_SECTIONS.DWG

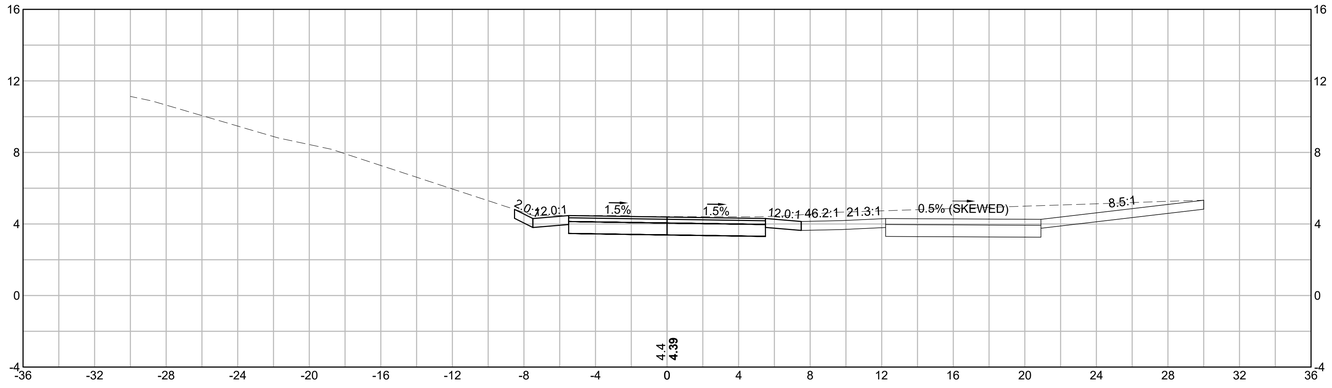
401+50



CUT: 18.86 SF

FILL: 0.00 SF

401+00



CUT: 41.13 SF

FILL: 0.00 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

SHARED-USE PATH

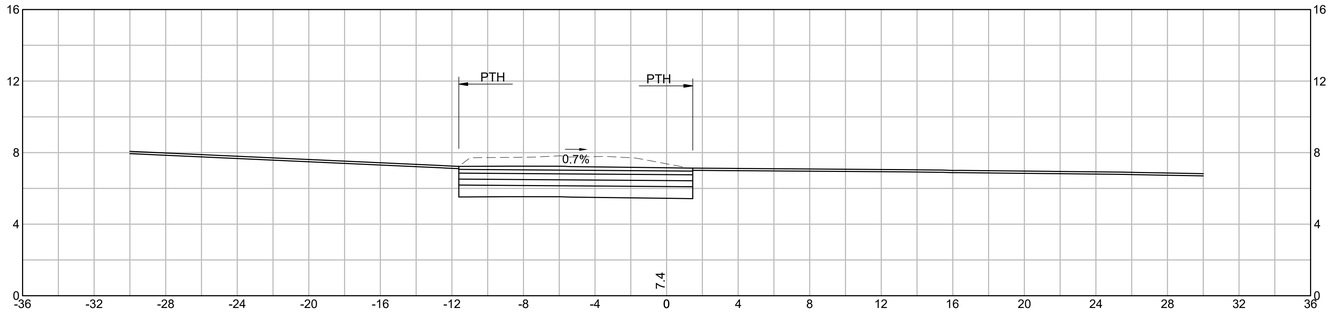
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DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/17/2025

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BOSTON, MA 02116

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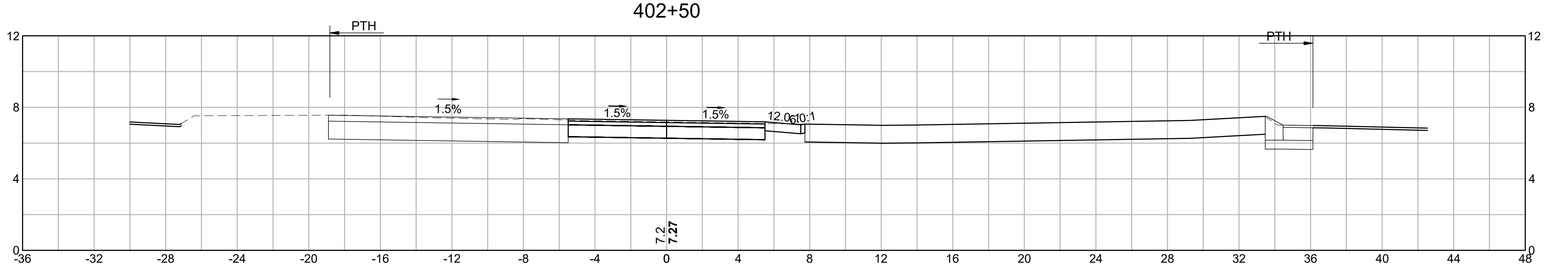
403+00



CUT: 22.35 SF

FILL: 0.00 SF

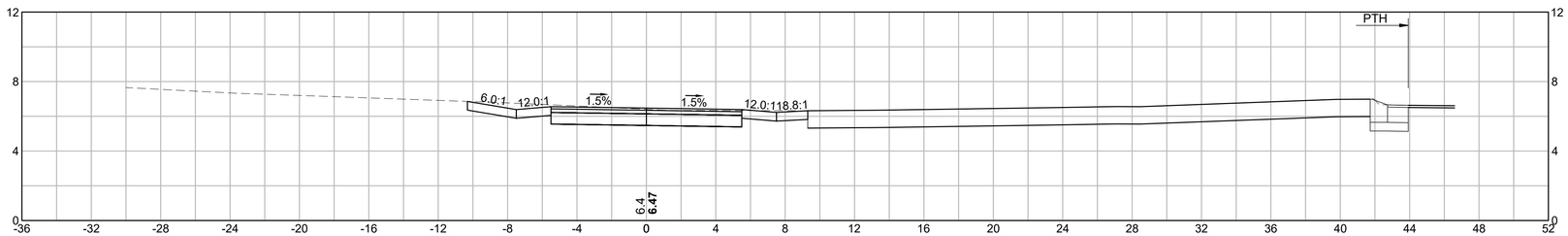
402+50



CUT: 58.02 SF

FILL: 0.00 SF

402+00



CUT: 51.93 SF

FILL: 0.00 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

SHARED-USE PATH

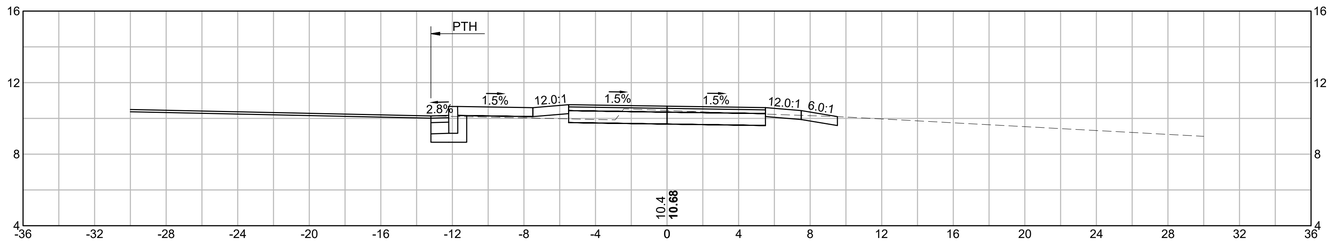
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CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/17/2025

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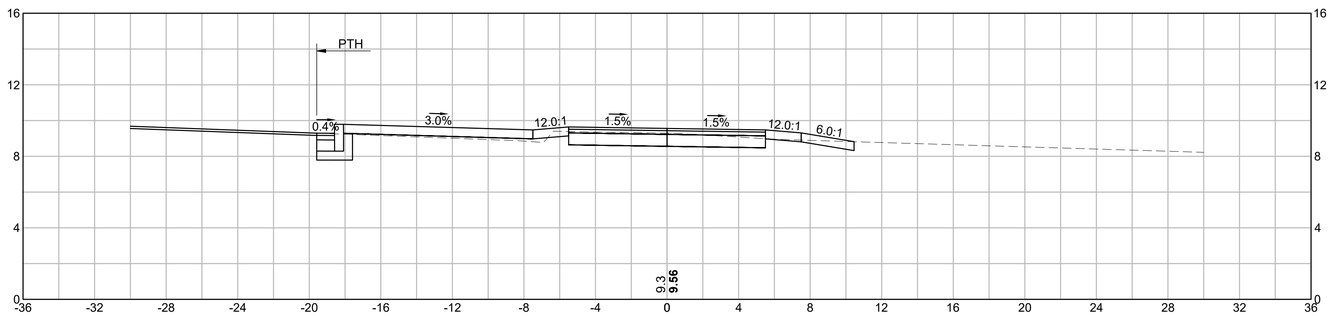
404+50



CUT: 10.49 SF

FILL: 0.65 SF

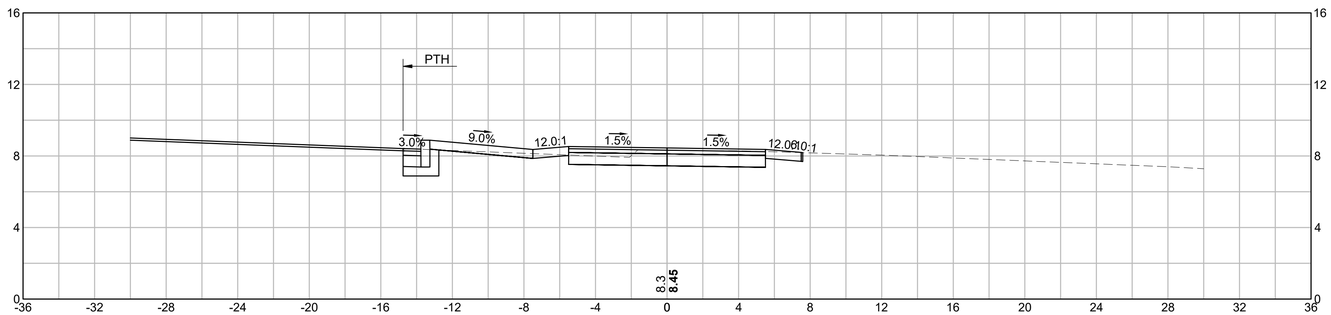
404+00



CUT: 11.75 SF

FILL: 1.12 SF

403+50



CUT: 13.15 SF

FILL: 0.00 SF

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COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

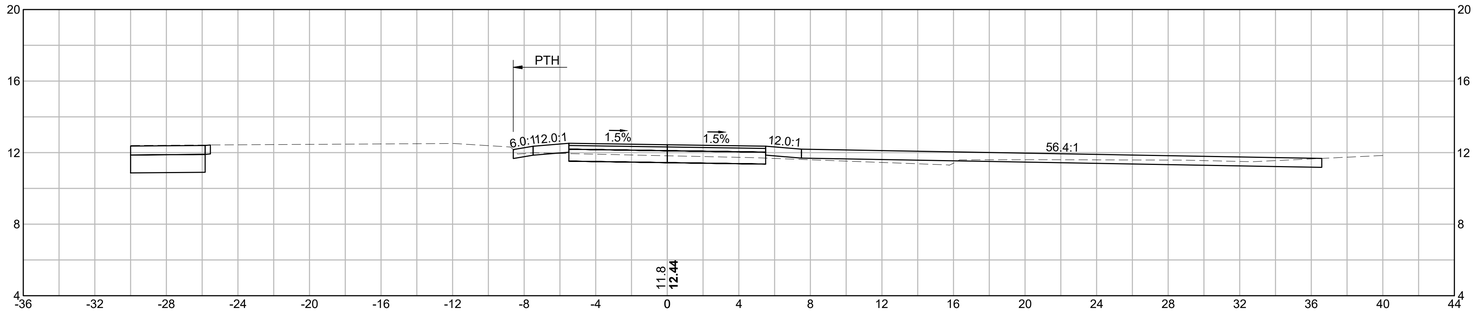
CROSS SECTIONS

SHARED-USE PATH

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CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/17/2025

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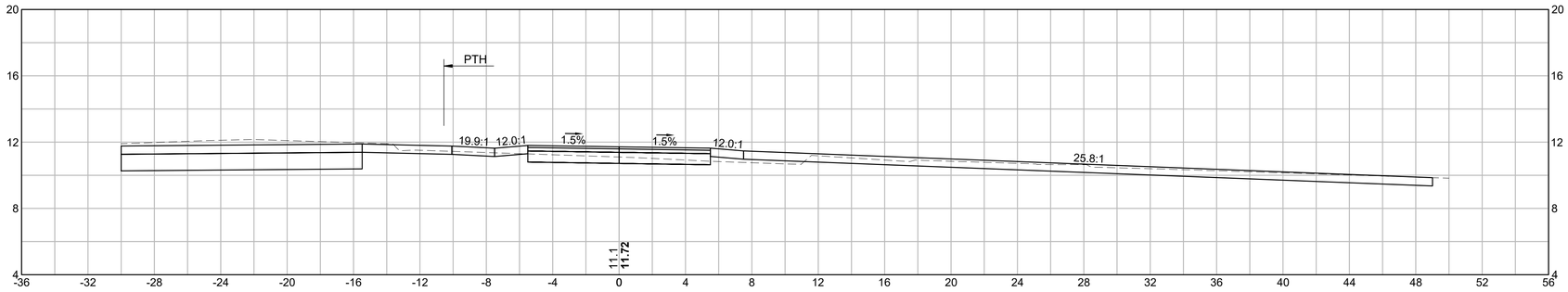
406+00



CUT: 9.11 SF

FILL: 1.60 SF

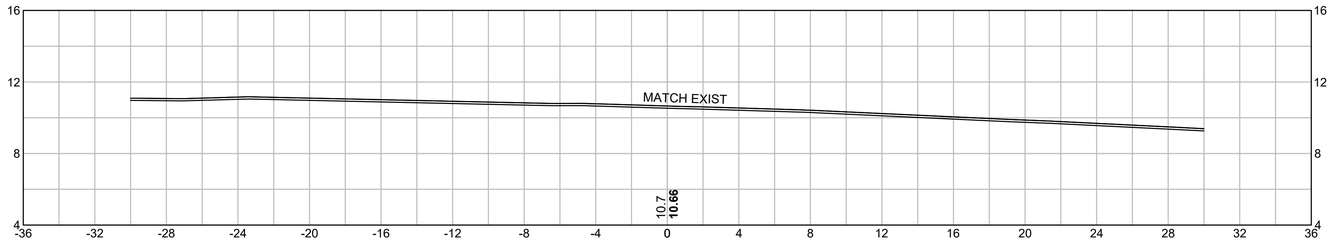
405+50



CUT: 19.83 SF

FILL: 1.15 SF

405+00



CUT: 0.00 SF

FILL: 0.00 SF

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COMMONWEALTH OF MASSACHUSETTS

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PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

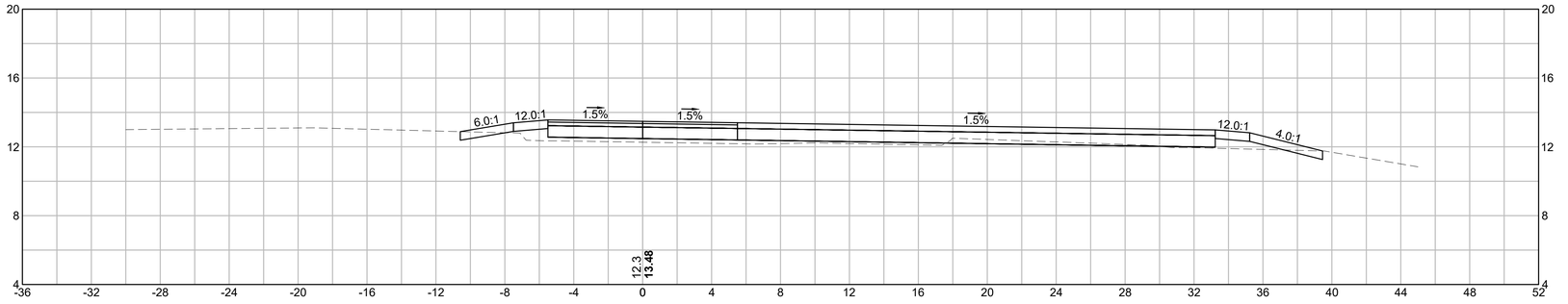
CROSS SECTIONS

SHARED-USE PATH

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. XS-38
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DRAWN:	REF. / SCALE:	
CHECKED:	ACC. / DATE: 4/17/2025	179 OF 182

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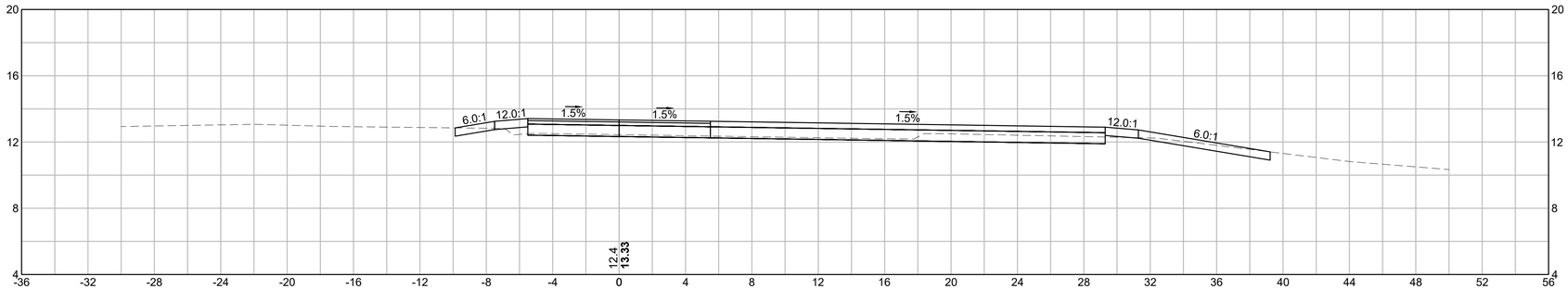
407+50



CUT: 3.26 SF

FILL: 6.57 SF

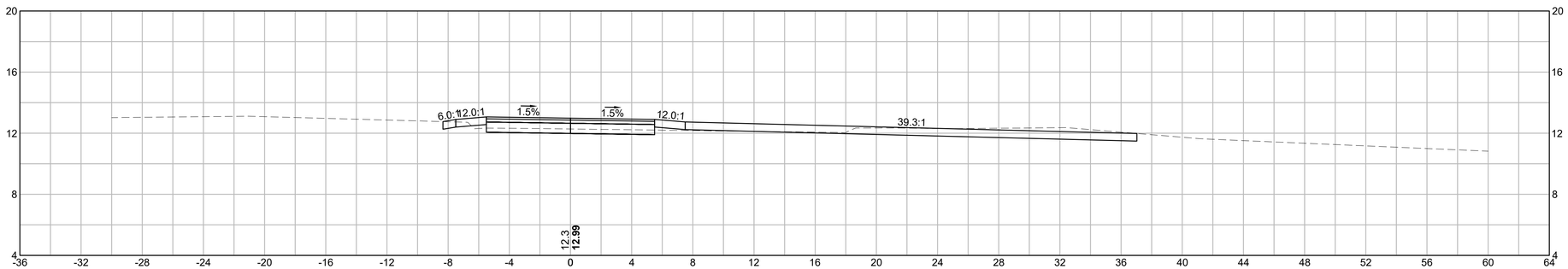
407+00



CUT: 11.24 SF

FILL: 0.54 SF

406+50



CUT: 14.73 SF

FILL: 0.57 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

SHARED-USE PATH

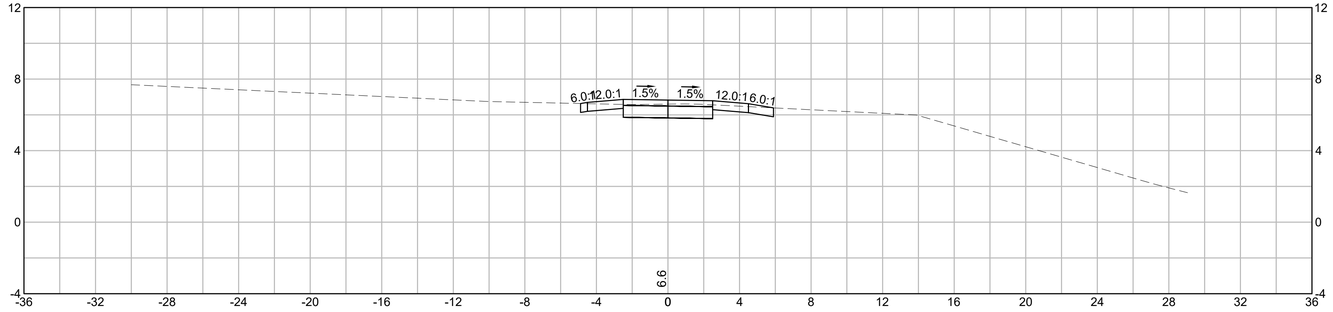
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DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/17/2025

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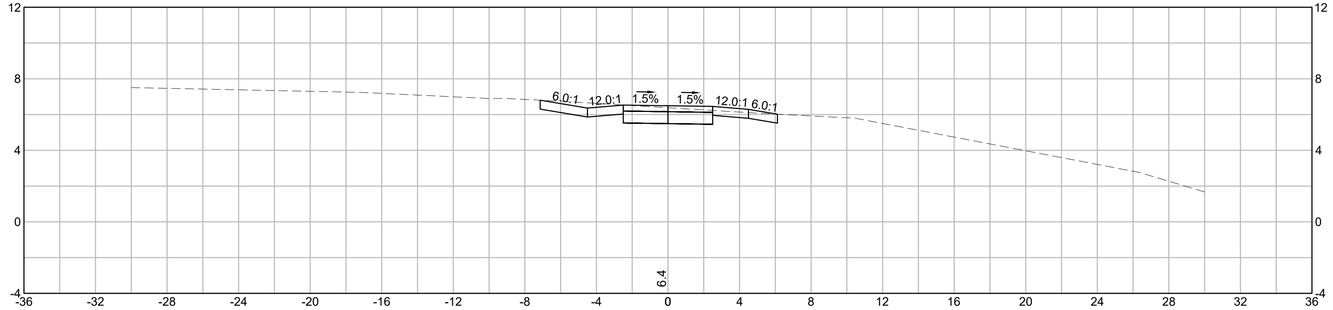
702+50



CUT: 5.83 SF

FILL: 0.00 SF

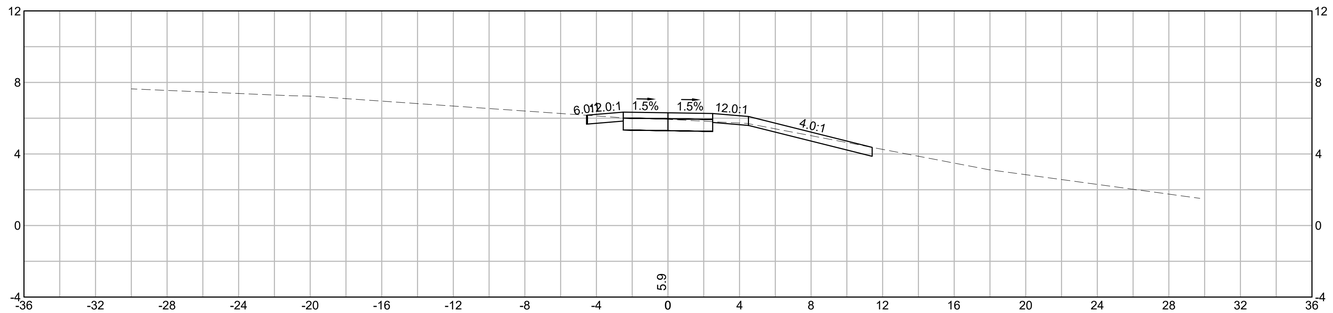
702+00



CUT: 8.70 SF

FILL: 0.00 SF

701+50



CUT: 6.00 SF

FILL: 0.00 SF

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF CONSERVATION & RECREATION

PLANNING AND ENGINEERING DIVISION

MEMORIAL DRIVE - PHASE III

CAMBRIDGE, MASSACHUSETTS

CROSS SECTIONS

AGGREGATE PATH

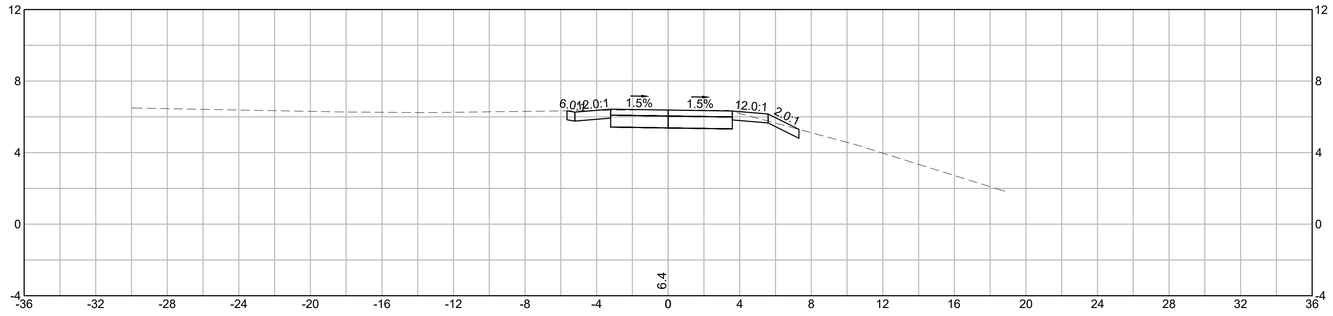
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CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/17/2025

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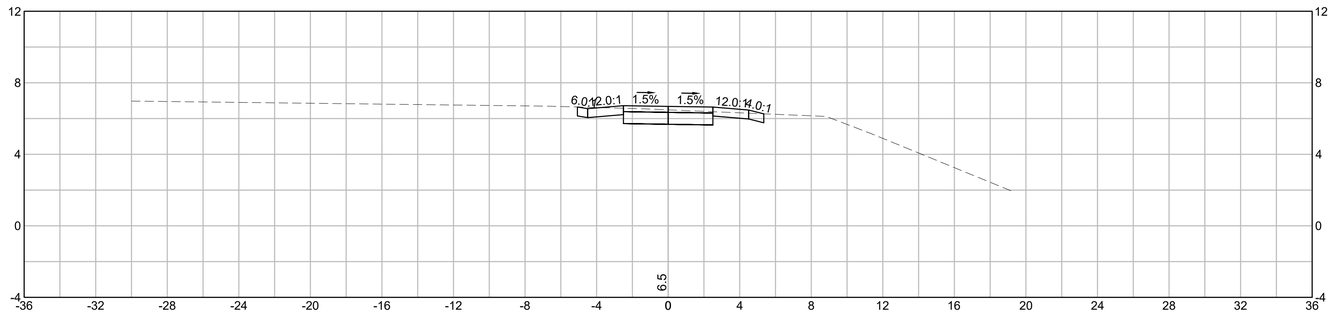
704+00



CUT: 9.16 SF

FILL: 0.00 SF

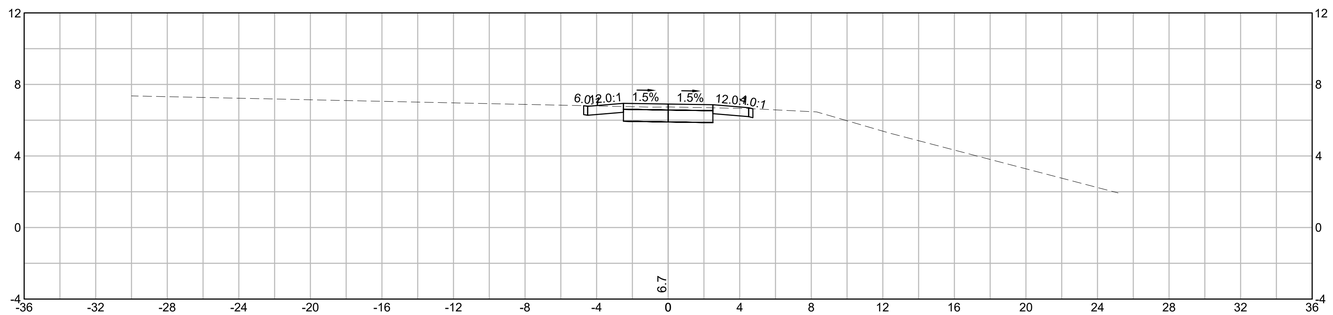
703+50



CUT: 6.18 SF

FILL: 0.00 SF

703+00



CUT: 5.98 SF

FILL: 0.00 SF

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COMMONWEALTH OF MASSACHUSETTS

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CROSS SECTIONS

AGGREGATE PATH

DESIGNED:	CONTRACT NO. P25-3605-C6A	DRAWING NO. XS-41
CHECKED:		
DRAWN:	REF.	SCALE:
CHECKED:	ACC.	DATE: 4/17/2025

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