MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

CHARLTON/OXFORD
INTERSTATE 90

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	1	19
PROJECT FILE NO.	609482		

TITLE SHEET & INDEX

STORMWATER IMPROVEMENTS

INTERSTATE 90

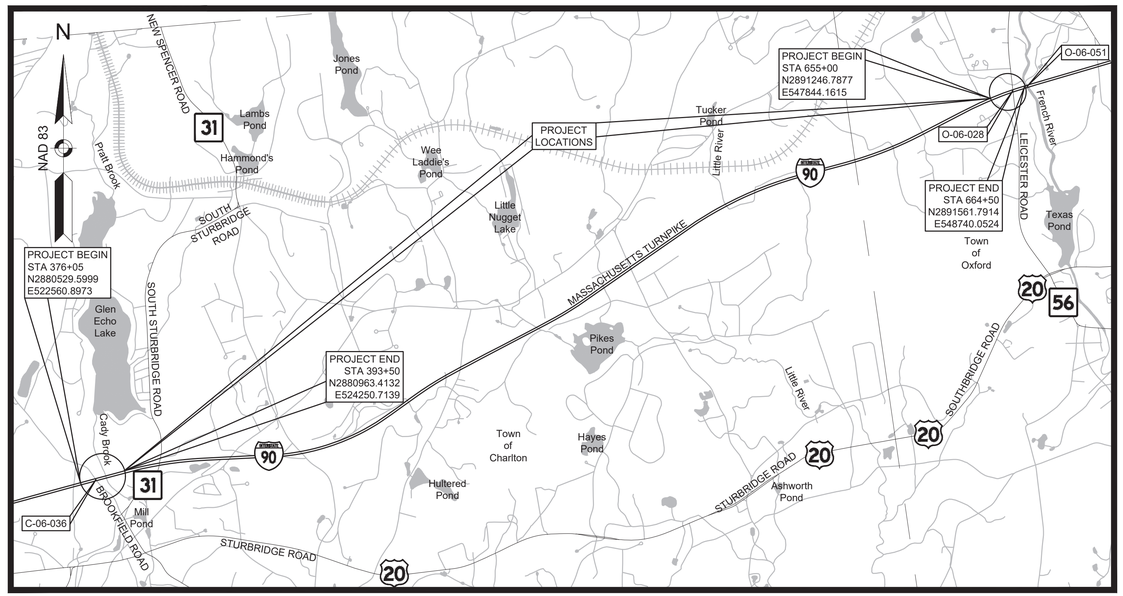
IN THE TOWNS OF

CHARLTON/OXFORD

WORCESTER COUNTY

THESE PLANS ARE SUPPLEMENTED BY THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK.

INDEX



0 2000 4000 6000 8000

SCALE: 1" = 2000'

LENGTH OF PROJECT (CHARLTON) = 1,745.00 FEET = 0.330 MILES

LENGTH OF PROJECT (OXFORD) = 950.00 FEET = 0.180 MILES

TOTAL LENGTH OF PROJECT = 2,695.00 FEET = 0.510 MILES

DESIGN DESIGNATION (INTERSTATE 90)	
POSTED SPEED	65 MPH
ADT (2019-LOCATION ID AET06)	106,021
K	9%
D	51%
FUNCTIONAL CLASSIFICATION	INTERSTATE

COMMONWEALTH OF MASSACHUSETTS
KATHRYN L. EAGAN
No. 54123
REGISTERED PROFESSIONAL ENGINEER

Kathryn Eagan Digitally signed by Kathryn Eagan Date: 2023.01.10 13:01:35 -05'00'

BSC GROUP
803 Summer Street
Boston, Massachusetts 02127
www.bscgroup.com 617 896 4300

DATE	DESCRIPTION	REV #

massDOT
Massachusetts Department of Transportation
Highway Division

APPROVED

Carrie Lavallee, P.E. Digitally signed by Carrie Lavallee, P.E. Date: 2023.01.20 10:24:17 -05'00'

01/20/2023

CHIEF ENGINEER **DATE**

609482_HD1(TL).DWG Plotted on 4-Jan-2023 1:56 PM

CHARLTON/OXFORD
INTERSTATE 90

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	2	19
PROJECT FILE NO.	609482		

GENERAL NOTES

GENERAL NOTES

1. ALL EXISTING UTILITY CASTINGS THAT ARE TO REMAIN WITHIN AREAS TO BE REPAVED SHALL BE ADJUSTED TO LINE AND GRADE BY THE CONTRACTOR UNLESS OTHERWISE NOTED. ALL PRIVATE TELEPHONE, GAS, AND ELECTRICAL CASTINGS SHALL BE ADJUSTED BY OTHERS.
2. NO EXISTING PUBLIC UTILITY STRUCTURES SHALL BE ABANDONED AND/OR DISMANTLED WITHOUT THE AUTHORIZATION FROM THE ENGINEER.
3. THE LOCATIONS OF EXISTING SUBSURFACE UTILITIES SHOWN ON THE PLANS WERE COMPILED FROM AVAILABLE RECORD DRAWINGS AND ARE NOT WARRANTIED TO BE CORRECT. THE LOCATIONS ARE APPROXIMATE ONLY AND IN SOME CASES MAY BE INCOMPLETE. THE CONTRACTOR SHALL NOTIFY ALL AGENCIES REQUIRED AND VERIFY THE LOCATIONS OF ALL EXISTING SUBSURFACE UTILITIES PRIOR TO PERFORMING ANY WORK.
4. PRIOR TO THE INSTALLATION OF PROPOSED UTILITIES, THE CONTRACTOR SHALL EXCAVATE TEST PITS AT LOCATIONS OF UTILITY CROSSINGS TO VERIFY DEPTHS OF EXISTING PIPES, CONDUITS OR OTHER FACILITIES AS DIRECTED BY THE ENGINEER.
5. IF THE CONTRACTOR DAMAGES UTILITY SERVICES, THEY SHALL IMMEDIATELY NOTIFY THE RESPECTIVE UTILITY COMPANY AND SHALL IMMEDIATELY REPLACE OR REPAIR, UNLESS INDICATED OTHERWISE BY THE RESPECTIVE UTILITY OWNER.
6. THE CONTRACTOR SHALL ENSURE THAT ALL ROADWAY RUNOFF SHALL BE DIRECTED TO CATCH BASINS.
7. THE CONTRACTOR SHALL VERIFY ALL OUTLET GRADES OF DRAINAGE STRUCTURES PRIOR TO CONSTRUCTING THE DRAINAGE IMPROVEMENTS.
8. THE CONTRACTOR SHALL SAWCUT TO THE FULL PAVEMENT DEPTH AT BOUNDARIES BETWEEN FULL DEPTH CONSTRUCTION AND EXISTING PAVEMENT.
9. BASE MAPPING FOR I-90 IN CHARLTON COMPILED FROM ON-THE-GROUND SURVEY PERFORMED BY BSC GROUP IN MARCH AND APRIL 2014.
10. BASE MAPPING FOR I-90 IN OXFORD COMPILED FROM ON-THE-GROUND SURVEY PERFORMED BY BSC GROUP IN AUGUST 2021.
11. ALL AREAS OUTSIDE THE LIMIT OF WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S OWN EXPENSE, SUBJECT TO THE APPROVAL OF THE ENGINEER AND ACCEPTANCE OF THE PROPERTY OWNER.
12. ALL EXISTING TREES TO REMAIN SHALL BE PROTECTED FROM DAMAGE CAUSED BY CONTRACTOR OPERATIONS.
13. HORIZONTAL DATUM IS BASED ON NORTH AMERICAN DATUM (NAD) 1983.
14. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
15. ALL PROPOSED WORK SHALL BE AS APPROVED AND COORDINATED WITH MASSDOT DISTRICT 3 RESIDENT ENGINEER.
16. ALL PROPOSED DRAINAGE CONNECTIONS TO EXISTING STRUCTURES WILL BE INCLUDED IN THE COST OF INSTALLATION OF THE NEW PIPE OR STRUCTURE.
17. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL CONTACT DIGSAFE TO MARK OUT UTILITIES WITHIN THE PROJECT AREA. 1-888-344-7233: 1-888-DIG-SAFE.
18. THE CONTRACTOR SHALL PROVIDE METHODS DURING DEWATERING OPERATIONS AND FOR STORM WATER RUNOFF NOT TO ALLOW SILT OR DEBRIS TO ENTER EXISTING DRAINAGE FACILITIES OR CREATE NUISANCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING EXISTING OR NEW FACILITIES IF SILTATION OCCURS DUE TO THE CONTRACTOR'S OPERATIONS.
19. ALL NON-PRECAST CEMENT CONCRETE USED ON THIS PROJECT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI OR AS OTHERWISE SPECIFIED ON THE PLANS OR IN THE SPECIAL PROVISIONS.
20. ALL EXISTING DRAINAGE STRUCTURES AND PIPES TO REMAIN THAT CONVEY STORMWATER TO THE PROPOSED SCMS AND IMPROVED OUTFALLS, CARRY FLOWS FROM THE PROPOSED SCMS, OR AS DIRECTED BY THE RESIDENT ENGINEER SHALL BE CLEANED AND SEDIMENT DISPOSED OF.
21. THE CONTRACTOR SHALL DISPOSE OF ALL WASTE MATERIAL IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS AT THEIR OWN EXPENSE IF NOT OTHERWISE SPECIFIED, OUTSIDE OF THE PROJECT LIMITS.
22. SAFETY CONTROLS FOR CONSTRUCTION OPERATIONS SHALL BE IN ACCORDANCE WITH MASSDOT REQUIREMENTS, THE 2009 MUTCD AS AMENDED AND THE SPECIAL PROVISIONS.
23. ALL UNPAVED AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE LOAMED AND SEEDED PRIOR TO THE END OF THE PROJECT.
24. ALL EXISTING DRAINAGE STRUCTURES AND PIPES TO BE RETAINED UNLESS OTHERWISE NOTED.
25. PROVIDE GEOTEXTILE FABRIC BELOW SEED MIX WITHIN BOTTOM OF SWALE TO 2-FT UP SWALE SIDE SLOPES.
26. MINIMIZE REMOVAL OF HEALTHY AND ESTABLISHED TREES AND SHRUBS WITHIN THE PROJECT LIMITS TO THE MAXIMUM EXTENT PRACTICABLE.
27. ALL EXISTING AND PROPOSED CATCH BASINS WITHIN THE PROJECT LIMITS TO BE FURNISHED WITH A SILT SACK DURING CONSTRUCTION.
28. DISTURBED AREAS ON SLOPES THAT ARE STEEPER THAN 3:1 SHOULD BE RE-ESTABLISHED WITH 4 INCHES OF LOAM AND SEED OVER GEOTEXTILE FABRIC FOR PERMANENT EROSION CONTROL.

GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
JB	JB	JERSEY BARRIER
CB	CB	CATCH BASIN
		CATCH BASIN CURB INLET
	A#	CURB CUT TYPE
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
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
		TELEPHONE MANHOLE
		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
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
x	x	CHAIN LINK OR METAL FENCE
		WOOD FENCE
		HAY BALES/SILT FENCE
		SEDIMENT CONTROL BARRIER
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF PAVEMENT OR COLD PLANE AND OVERLAY
		LIMIT OF WORK
		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

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

PAVEMENT MARKINGS SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		PAVEMENT ARROW - WHITE
ONLY	ONLY	LEGEND "ONLY" - WHITE
	SL	STOP LINE
	CW	CROSSWALK
	SWL	SOLID WHITE LINE (ALL SWL ARE TO BE 4" WIDE UNLESS DENOTED ON PLANS)
	SYL	SOLID YELLOW LINE
	BWL	BROKEN WHITE LINE
	BYL	BROKEN YELLOW LINE
	DWL	DOTTED WHITE LINE
	DYL	DOTTED YELLOW LINE
	DWLEx	DOTTED WHITE LINE EXTENSION
	DYLEx	DOTTED YELLOW LINE EXTENSION
	DBWL	DOUBLE WHITE LINE
	DBYL	DOUBLE YELLOW LINE
		12" YELLOW TRANSVERSE LINES @ 10' O.C. @ 45°

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
CATV	CABLE TELEVISION
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
CIT	CHANGE IN TYPE
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CSP	CORRUGATED STEEL PIPE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
CPP	CORRUGATED PLASTIC PIPE
CR GR	CROWN GRADE
CT	COURT
DHV	DESIGN HOURLY VOLUME
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DMH	DRAINAGE MANHOLE
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
FES	FLARED END SECTION
FLDSTN	FIELDSTONE
FT	FOOT/FEET
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
HDPE	HIGH DENSITY POLYETHYLENE
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
O.C.	ON CENTER
OCS	OUTLET CONTROL STRUCTURE
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

CHARLTON/OXFORD
INTERSTATE 90

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	3	19
PROJECT FILE NO.	609482		

LEGEND & ABBREVIATIONS

ABBREVIATIONS (cont.)

GENERAL

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
R	RADIUS OF CURVATURE
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REC	RECORD
REFL.	RETROREFLECTIVE
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
SCM	STORMWATER CONTROL MEASURE
SHLD	SHOULDER
SMH	SEWER MANHOLE
ST	STREET
STA	STATION
SSD	STOPPING SIGHT DISTANCE
SHGW	SEASONAL HIGH GROUNDWATER
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
TP	TEST PIT
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

TRAFFIC SIGNAL

CAB.	CABINET
CCVE	CLOSED CIRCUIT VIDEO EQUIPMENT
DW	STEADY DON'T WALK
FDW	FLASHING DON'T WALK
FR	FLASHING CIRCULAR RED
FRL	FLASHING RED LEFT ARROW
FRR	FLASHING RED RIGHT ARROW
FY	FLASHING CIRCULAR AMBER
FYL	FLASHING AMBER LEFT ARROW
FYR	FLASHING AMBER 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, TILE, 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 WALK
Y	STEADY CIRCULAR AMBER
YL	STEADY AMBER LEFT ARROW

609482_HD3(LN).DWG Plotted on 6-Jan-2023 10:36 AM

CHARLTON/OXFORD
INTERSTATE 90

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	4	19
PROJECT FILE NO.	609482		

KEY PLAN & TEST PIT LOCATIONS
CHARLTON

N

NAD 83

FEMA FLOOD ZONE A

FEMA FLOOD ZONE A

100 FT WETLAND BUFFER

200 FT RIVERFRONT AREA

PROJECT BEGIN
STA 376+05
N2880529.5999
E522560.8973

100 FT WETLAND BUFFER

200 FT RIVERFRONT AREA

PROJECT END
STA 393+50
N2880963.4132
E524250.7139

100 FT WETLAND BUFFER

UNNAMED TRIBUTARY FLOW

BROOKFIELD RD

C-06-036

CADY BROOK FLOW

8

9

10

ROUTE 31

J DAVIS RD

INTERSTATE 90 WB

INTERSTATE 90 EB

373 374 375 376 377 378 379 380 381 382 383 384 385 386 +47.89 387 388 389 390 391 392 393 394

TURNPIKE BASELINE

PC

INTERSTATE 90 WB

INTERSTATE 90 EB

TP #3

TP #4

TP #2

TP #1

MTB

MTB

1955 MASSACHUSETTS TURNPIKE LOCATION LINE

1955 MASSACHUSETTS TURNPIKE LOCATION LINE

CITY DEPOT RD

UNNAMED TRIBUTARY FLOW

100 FT WETLAND BUFFER

200 FT RIVERFRONT AREA

100 FT WETLAND BUFFER

CADY BROOK FLOW

FEMA FLOOD ZONE A

200 FT RIVERFRONT AREA

100 FT WETLAND BUFFER

FEMA FLOOD ZONE A

100 FT WETLAND BUFFER

LEGEND

TEST PIT LOCATION (SEE SHEET 6 FOR TEST PIT LOGS)

XX CONSTRUCTION PLAN

NOTE:
TEST PITS WERE PERFORMED BY BSC GROUP IN JUNE 2014.

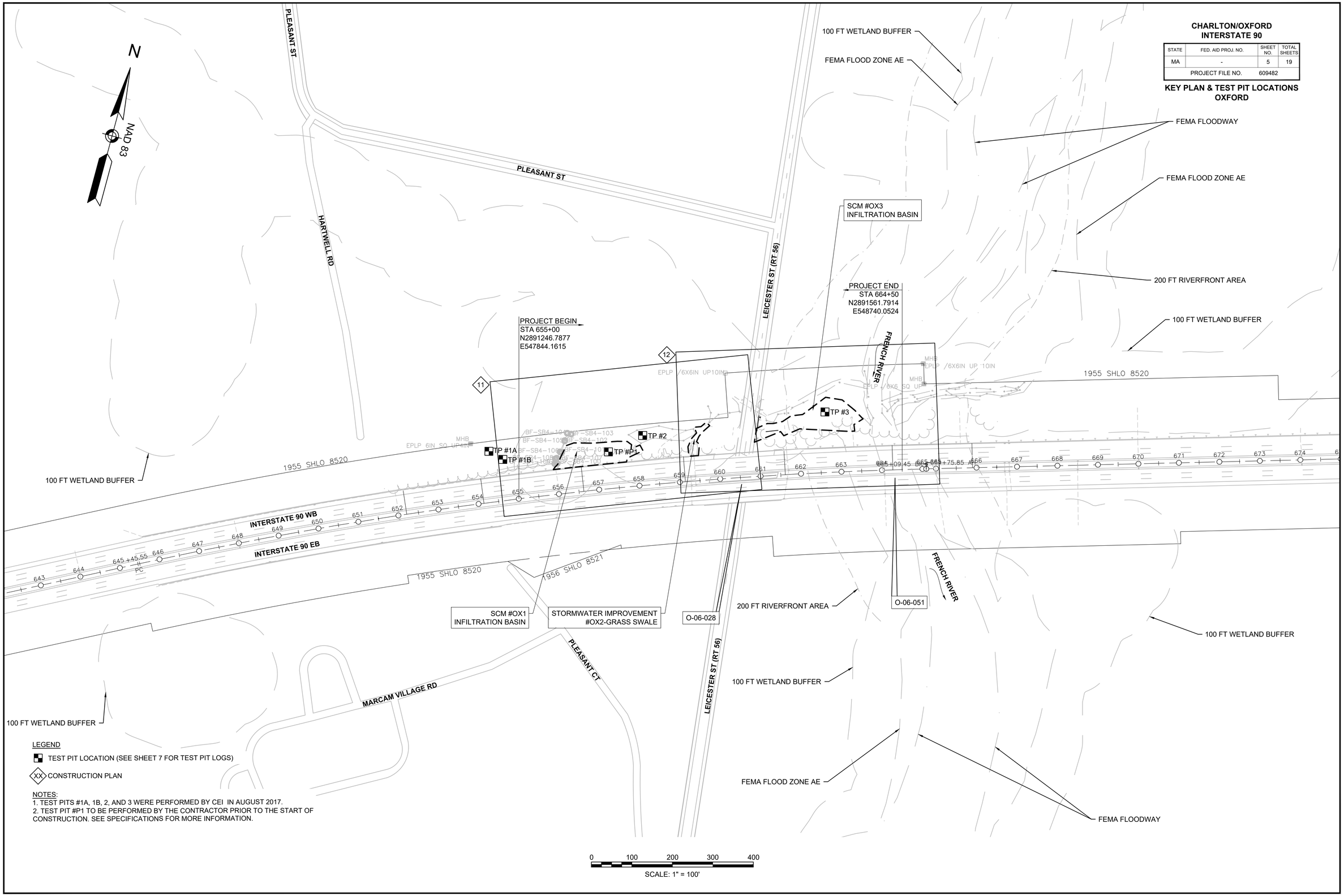
0 100 200 300 400

SCALE: 1" = 100'

CHARLTON/OXFORD
INTERSTATE 90

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	5	19
PROJECT FILE NO.	609482		

KEY PLAN & TEST PIT LOCATIONS
OXFORD



LEGEND

TEST PIT LOCATION (SEE SHEET 7 FOR TEST PIT LOGS)

XX CONSTRUCTION PLAN

NOTES:
1. TEST PITS #1A, 1B, 2, AND 3 WERE PERFORMED BY CEI IN AUGUST 2017.
2. TEST PIT #P1 TO BE PERFORMED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. SEE SPECIFICATIONS FOR MORE INFORMATION.

609482_HD5(OXFORD-KEY).DWG Plotted on 6-Jan-2023 10:37 AM

CHARLTON/OXFORD
INTERSTATE 90

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	6	19
PROJECT FILE NO.	609482		

TEST PIT LOGS - CHARLTON

TEST PIT NUMBER: TP-1 EL. 749.0± DATE: JUNE 19, 2014

DEPTH (IN.)	SOIL HORIZON/ LAYER	SOIL MATRIX: COLOR-MOIST (MUNSELL)	REDOXIMORPHIC FEATURES (MOTTLES)			SOIL TEXTURE (USDA)	COARSE FRAGMENTS % BY VOLUME		SOIL STRUCTURE	SOIL CONSISTENCE (MOIST)
			DEPTH	COLOR	PERCENT		GRAVEL	COBBLES & STONES		
0"-10"	A	10YR 4/4	--	--	--	SILT LOAMS	5-10%	0%	BLOCKY	FRIABLE
10"-65"	B	10YR 4/6	29"	7.5YR 5/8 10YR 5/1	10-15	SILT LOAMS	10-20%	5-10%	BLOCKY	FIRM
65"-144"	C	10YR 4/2	--	--	--	SILTY CLAY LOAMS	0%	10-15%	BLOCKY	FIRM

GROUNDWATER OBSERVED: NO
DEPTH WEEPING FROM PIT: --
DEPTH STANDING WATER IN HOLE: --
ESTIMATED DEPTH TO HIGH GROUNDWATER: 144" (EL. 739.0FT)

NOTE: NO GROUNDWATER WAS OBSERVED. BASED ON SOIL TYPE AND FIELD OBSERVATIONS, MOTTLES ARE LIKELY DUE TO SLOW MOVEMENT THROUGH SOIL AND NOT SEASONAL HIGH GROUNDWATER.

TEST PIT NUMBER: TP-2 EL. 751.0± DATE: JUNE 19, 2014

DEPTH (IN.)	SOIL HORIZON/ LAYER	SOIL MATRIX: COLOR-MOIST (MUNSELL)	REDOXIMORPHIC FEATURES (MOTTLES)			SOIL TEXTURE (USDA)	COARSE FRAGMENTS % BY VOLUME		SOIL STRUCTURE	SOIL CONSISTENCE (MOIST)
			DEPTH	COLOR	PERCENT		GRAVEL	COBBLES & STONES		
0"-10"	A	10YR 4/4	--	--	--	SILT LOAMS	0%	0%	BLOCKY	FRIABLE
10-144"	C	10YR 4/4	12"	7.5YR 4/6 10YR 6/1	10-20%	SILT LOAMS	5-10%	5-10%	PLATY	VERY FIRM

GROUNDWATER OBSERVED: NO
DEPTH WEEPING FROM PIT: --
DEPTH STANDING WATER IN HOLE: --
ESTIMATED DEPTH TO HIGH GROUNDWATER: 144" (EL. 741.0FT)

NOTE: NO GROUNDWATER WAS OBSERVED. BASED ON SOIL TYPE AND FIELD OBSERVATIONS, MOTTLES ARE LIKELY DUE TO SLOW MOVEMENT THROUGH SOIL AND NOT SEASONAL HIGH GROUNDWATER.

TEST PIT NUMBER: TP-3 EL. 758.0± DATE: JUNE 19, 2014

DEPTH (IN.)	SOIL HORIZON/ LAYER	SOIL MATRIX: COLOR-MOIST (MUNSELL)	REDOXIMORPHIC FEATURES (MOTTLES)			SOIL TEXTURE (USDA)	COARSE FRAGMENTS % BY VOLUME		SOIL STRUCTURE	SOIL CONSISTENCE (MOIST)
			DEPTH	COLOR	PERCENT		GRAVEL	COBBLES & STONES		
0"-6"	A	10YR 3/4	--	--	--	SANDY LOAMS	5-10%	0%	BLOCKY	FRIABLE
6"-105"	C	10YR 5/2	12"	10YR 5/6	10-15%	SILT LOAMS	5-10%	5-10%	BLOCKY	VERY FIRM

GROUNDWATER OBSERVED: NO
DEPTH WEEPING FROM PIT: --
DEPTH STANDING WATER IN HOLE: --
ESTIMATED DEPTH TO HIGH GROUNDWATER: 105" (EL.749.25FT)

NOTE: NO GROUNDWATER WAS OBSERVED. BASED ON SOIL TYPE AND FIELD OBSERVATIONS, MOTTLES ARE LIKELY DUE TO SLOW MOVEMENT THROUGH SOIL AND NOT SEASONAL HIGH GROUNDWATER.

TEST PIT NUMBER: TP-4 EL.758.0± DATE: JUNE 19, 2014

DEPTH (IN.)	SOIL HORIZON/ LAYER	SOIL MATRIX: COLOR-MOIST (MUNSELL)	REDOXIMORPHIC FEATURES (MOTTLES)			SOIL TEXTURE (USDA)	COARSE FRAGMENTS % BY VOLUME		SOIL STRUCTURE	SOIL CONSISTENCE (MOIST)
			DEPTH	COLOR	PERCENT		GRAVEL	COBBLES & STONES		
0"-8"	A	10YR 3/4	--	--	--	SANDY LOAMS	0%	0%	BLOCKY	FRIABLE
8"-14"	B	10YR 5/4	--	--	--	SANDY LOAMS	5-10%	5-10%	BLOCKY	FIRM
14"-53"	C1	10YR 5/3	14"	7.5YR 5/8	5-10%	SILTY CLAY LOAMS	5-10%	5-10%	BLOCKY	VERY FIRM
53"-99"	C2	10YR 5/1	--	--	--	SILTY CLAY LOAMS	5-10%	5-10%	BLOCKY	VERY FIRM

GROUNDWATER OBSERVED: NO
DEPTH WEEPING FROM PIT: --
DEPTH STANDING WATER IN HOLE: --
ESTIMATED DEPTH TO HIGH GROUNDWATER: 99" (EL. 749.75FT)

NOTE: NO GROUNDWATER WAS OBSERVED. BASED ON SOIL TYPE AND FIELD OBSERVATIONS, MOTTLES ARE LIKELY DUE TO SLOW MOVEMENT THROUGH SOIL AND NOT SEASONAL HIGH GROUNDWATER.

Report of Field Test Pits

Comprehensive Environmental Incorprated
225 Cedar Hill Street
Marlborough, MA 01757

PROJECT: MassDOT, I-90 in Oxford MA
296-2-6

TP: #1a (West)
LOCATION: GPS Coordinates….
645' West of RT 56
DATE: 8/14/2017

ELEV	Depth (ft)	Symbol	Description of Materials	BPF	WL	Remarks
0	0	GS	Ground Surface			
			Top Soil, yellowish dark brown, silt and sand, some gravel and some roots.			
	2	SM	Sand and silt, light olive brown, some gravel, a little cobble, with a few boulders			
	4					
	6					GW Seepage at 6'4", ledge at 6'4"
	8					
	10					
	12					
	14					

CEI Inspector: Matt Doyon
Contractor/ Foreman: Paul Chouinard (Cali Corp)

Report of Field Test Pits

Comprehensive Environmental Incorprated
225 Cedar Hill Street
Marlborough, MA 01757

PROJECT: MassDOT, I-90 in Oxford MA
296-2-6

TP: #1b (West)
LOCATION: GPS Coordinates….
625' West of RT 56
DATE: 8/14/2017

ELEV	Depth (ft)	Symbol	Description of Materials	BPF	WL	Remarks
0	0	GS	Ground Surface			
			Top Soil, yellowish dark brown, silt and sand, some gravel and some roots.			
	2	SM	Sand and silt, light olive brown, some gravel, a little cobble, with a few boulders			
	4					ledge at 5'2"
	6					
	8					
	10					
	12					
	14					

CEI Inspector: Matt Doyon
Contractor/ Foreman: Paul Chouinard (Cali Corp)

Report of Field Test Pits

Comprehensive Environmental Incorprated
225 Cedar Hill Street
Marlborough, MA 01757

PROJECT: MassDOT, I-90 in Oxford MA
296-2-6

TP: #2 (Middle)
LOCATION: GPS Coordinates….
275' West of RT 56
DATE: 8/14/2017

ELEV	Depth (ft)	Symbol	Description of Materials	BPF	WL	Remarks
0	0	GS	Ground Surface			
			Top Soil, yellowish dark brown, silt and sand, some gravel and some roots.			
	2	SM	Sand and silt, light olive brown, some gravel, a little cobble, with a few boulders			
	4					
	6					GW Seepage at 6'8"
	8	SM	Wet sand and silt, light olive brown, some gravel, a little cobble, with a few boulders			
	10					
	12					
	14					

CEI Inspector: Matt Doyon
Contractor/ Foreman: Paul Chouinard (Cali Corp)

Report of Field Test Pits

Comprehensive Environmental Incorprated
225 Cedar Hill Street
Marlborough, MA 01757

PROJECT: MassDOT, I-90 in Oxford MA
296-2-6

TP: #3 (East)
LOCATION: GPS Coordinates….
120' East of RT 56
DATE: 8/17/2017

ELEV	Depth (ft)	Symbol	Description of Materials	BPF	WL	Remarks
0	0	GS	Ground Surface			
	2	SP	Fill, seemed like poorly graded sand, light brown			The test pit area is beneath an embankment supporting I-90, the first 4 feet appeared to be construction fill used for the embankment
	4	GW	Begin virgin material: Well graded gravel and sand, about 10% silt. Very dark brown with a little yellow or olive tinge, some cobbles and large boulders			
	6					
	8					
	10					
	12					
	14					

CEI Inspector: Matt Doyon
Contractor/ Foreman: Paul Chouinard (Cali Corp)

CHARLTON/OXFORD
INTERSTATE 90

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	7	19
PROJECT FILE NO.	609482		

TEST PIT LOGS - OXFORD

609482_HD7(OXFORD-LOG).DWG Plotted on 6-Jan-2023 10:38 AM

HIGHWAY GUARD DETAILS

SEE BELOW

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

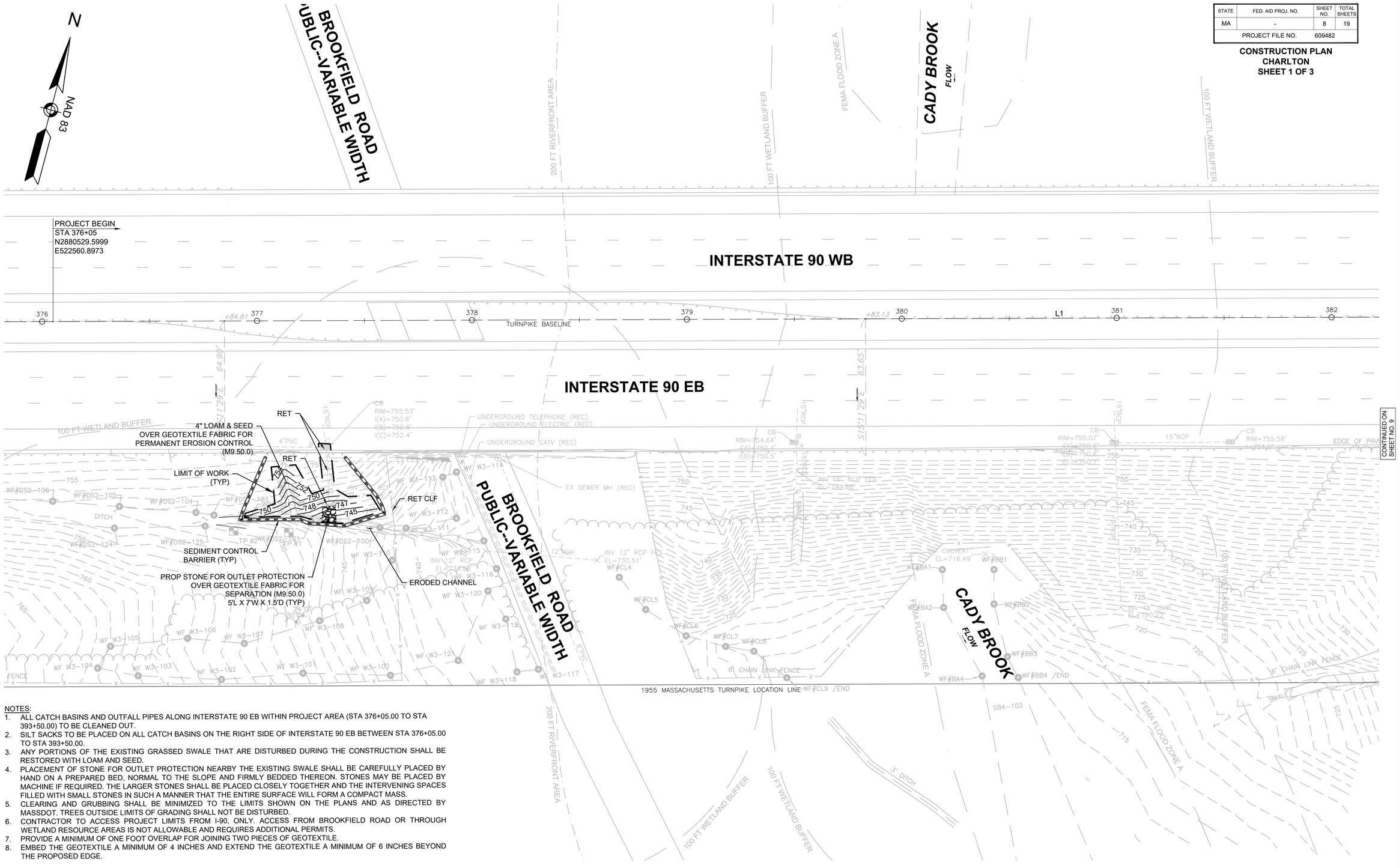
SEE BELOW

CHARLTON/OXFORD
INTERSTATE 90

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	8	19
PROJECT FILE NO.	609482		

CONSTRUCTION PLAN
CHARLTON
SHEET 1 OF 3

609482_HDB(CHARLTON-CP).DWG Plotted on 6-Jan-2023 10:38 AM



NOTES:

1. ALL CATCH BASINS AND OUTFALL PIPES ALONG INTERSTATE 90 EB WITHIN PROJECT AREA (STA 376+05.00 TO STA 393+50.00) TO BE CLEANED OUT.
2. SILT SACKS TO BE PLACED ON ALL CATCH BASINS ON THE RIGHT SIDE OF INTERSTATE 90 EB BETWEEN STA 376+05.00 TO STA 393+50.00.
3. ANY PORTIONS OF THE EXISTING GRASSED SWALE THAT ARE DISTURBED DURING THE CONSTRUCTION SHALL BE RESTORED WITH LOAM AND SEED.
4. PLACEMENT OF STONE FOR OUTLET PROTECTION NEARBY THE EXISTING SWALE SHALL BE CAREFULLY PLACED BY HAND ON A PREPARED BED, NORMAL TO THE SLOPE AND FIRMLY BEDDED THEREON. STONES MAY BE PLACED BY MACHINE IF REQUIRED. THE LARGER STONES SHALL BE PLACED CLOSELY TOGETHER AND THE INTERVENING SPACES FILLED WITH SMALL STONES IN SUCH A MANNER THAT THE ENTIRE SURFACE WILL FORM A COMPACT MASS.
5. CLEARING AND GRUBBING SHALL BE MINIMIZED TO THE LIMITS SHOWN ON THE PLANS AND AS DIRECTED BY MASSDOT. TREES OUTSIDE LIMITS OF GRADING SHALL NOT BE DISTURBED.
6. CONTRACTOR TO ACCESS PROJECT LIMITS FROM I-90, ONLY. ACCESS FROM BROOKFIELD ROAD OR THROUGH WETLAND RESOURCE AREAS IS NOT ALLOWABLE AND REQUIRES ADDITIONAL PERMITS.
7. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR JOINING TWO PIECES OF GEOTEXTILE.
8. EMBED THE GEOTEXTILE A MINIMUM OF 4 INCHES AND EXTEND THE GEOTEXTILE A MINIMUM OF 6 INCHES BEYOND THE PROPOSED EDGE.

0 20 50 100

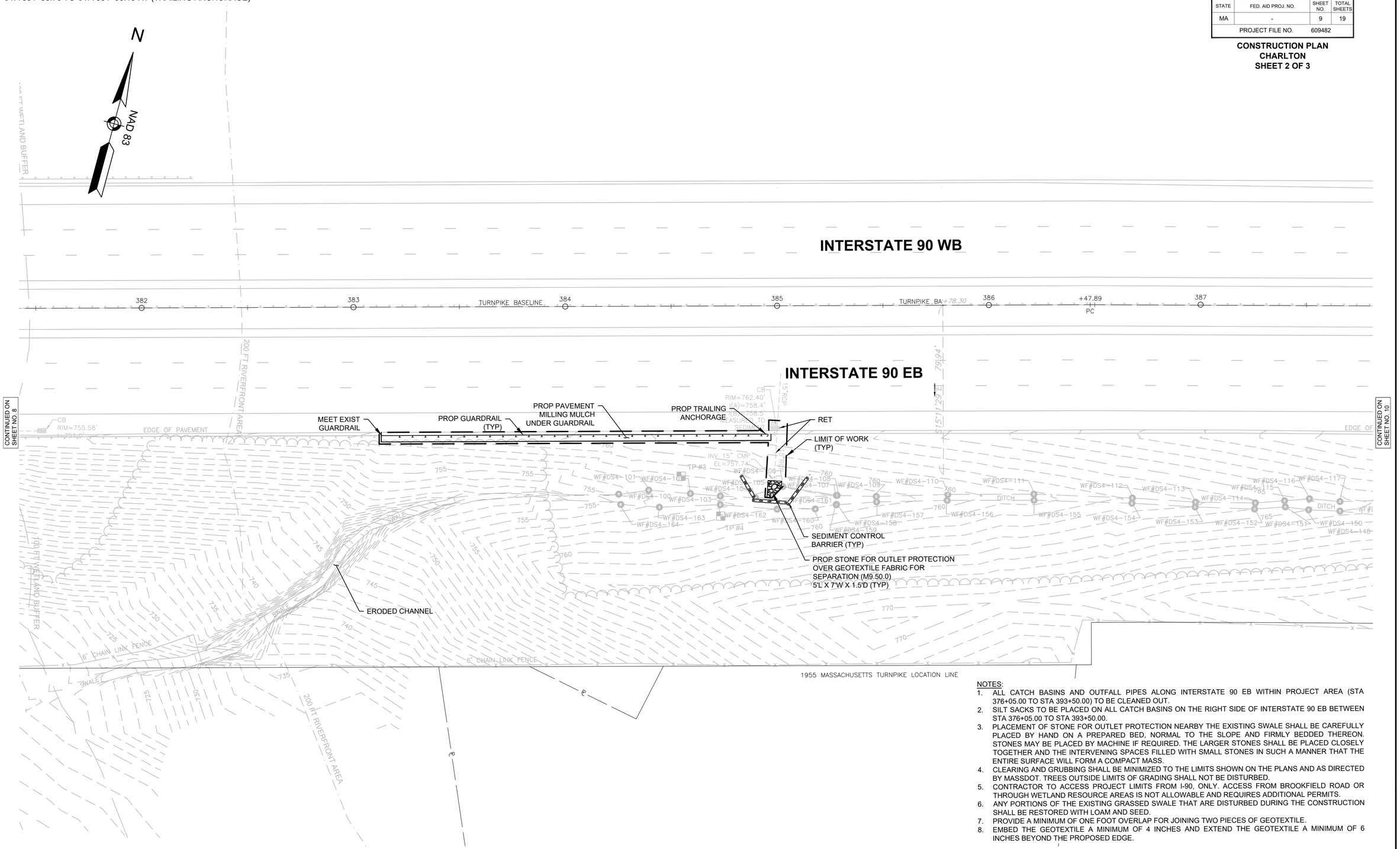
SCALE: 1" = 20'

HIGHWAY GUARD DETAILS	TRAFFIC SIGNAL CONDUIT	WATER SUPPLY ALTERATIONS	DRAINAGE DETAILS
STA 383+12.95 TO STA 384+85.73 RT (TL-3 SINGLE FACED) STA 384+85.73 TO STA 384+95.10 RT (TRAILING ANCHORAGE)	NONE	NONE	SEE BELOW

CHARLTON/OXFORD
INTERSTATE 90

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	9	19
PROJECT FILE NO.	609482		

CONSTRUCTION PLAN
CHARLTON
SHEET 2 OF 3



NOTES:
1. ALL CATCH BASINS AND OUTFALL PIPES ALONG INTERSTATE 90 EB WITHIN PROJECT AREA (STA 376+05.00 TO STA 393+50.00) TO BE CLEANED OUT.
2. SILT SACKS TO BE PLACED ON ALL CATCH BASINS ON THE RIGHT SIDE OF INTERSTATE 90 EB BETWEEN STA 376+05.00 TO STA 393+50.00.
3. PLACEMENT OF STONE FOR OUTLET PROTECTION NEARBY THE EXISTING SWALE SHALL BE CAREFULLY PLACED BY HAND ON A PREPARED BED, NORMAL TO THE SLOPE AND FIRMLY BEDDED THEREON. STONES MAY BE PLACED BY MACHINE IF REQUIRED. THE LARGER STONES SHALL BE PLACED CLOSELY TOGETHER AND THE INTERVENING SPACES FILLED WITH SMALL STONES IN SUCH A MANNER THAT THE ENTIRE SURFACE WILL FORM A COMPACT MASS.
4. CLEARING AND GRUBBING SHALL BE MINIMIZED TO THE LIMITS SHOWN ON THE PLANS AND AS DIRECTED BY MASSDOT. TREES OUTSIDE LIMITS OF GRADING SHALL NOT BE DISTURBED.
5. CONTRACTOR TO ACCESS PROJECT LIMITS FROM I-90, ONLY. ACCESS FROM BROOKFIELD ROAD OR THROUGH WETLAND RESOURCE AREAS IS NOT ALLOWABLE AND REQUIRES ADDITIONAL PERMITS.
6. ANY PORTIONS OF THE EXISTING GRASSED SWALE THAT ARE DISTURBED DURING THE CONSTRUCTION SHALL BE RESTORED WITH LOAM AND SEED.
7. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR JOINING TWO PIECES OF GEOTEXTILE.
8. EMBED THE GEOTEXTILE A MINIMUM OF 4 INCHES AND EXTEND THE GEOTEXTILE A MINIMUM OF 6 INCHES BEYOND THE PROPOSED EDGE.

0 20 50 100
SCALE: 1" = 20'

HIGHWAY GUARD DETAILS

SEE BELOW

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

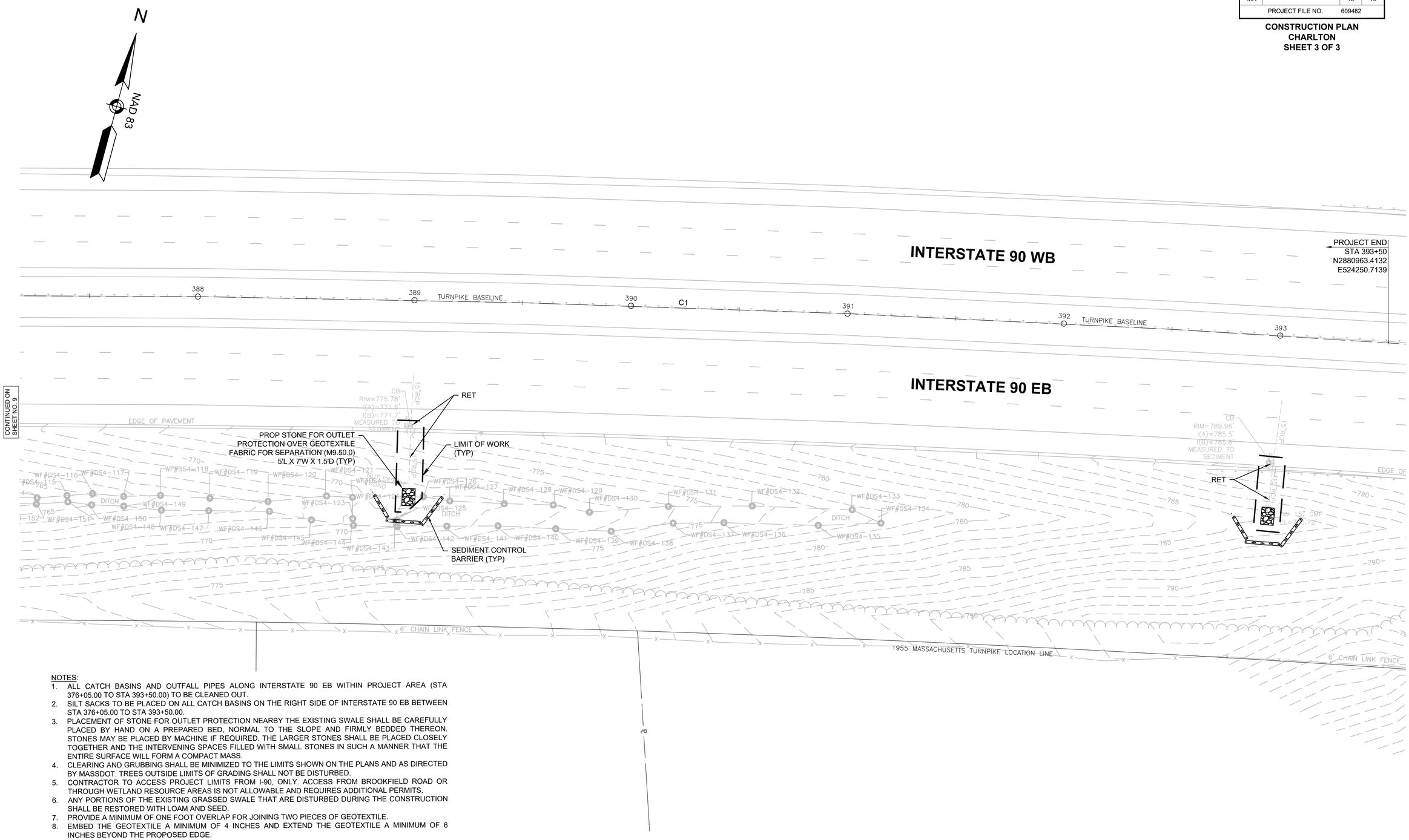
DRAINAGE DETAILS

SEE BELOW

CHARLTON/OXFORD
INTERSTATE 90

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	10	19
PROJECT FILE NO.	609482		

CONSTRUCTION PLAN
CHARLTON
SHEET 3 OF 3



NOTES:

1. ALL CATCH BASINS AND OUTFALL PIPES ALONG INTERSTATE 90 EB WITHIN PROJECT AREA (STA 376+05.00 TO STA 393+50.00) TO BE CLEANED OUT.
2. SILT SACKS TO BE PLACED ON ALL CATCH BASINS ON THE RIGHT SIDE OF INTERSTATE 90 EB BETWEEN STA 376+05.00 TO STA 393+50.00.
3. PLACEMENT OF STONE FOR OUTLET PROTECTION NEARBY THE EXISTING SWALE SHALL BE CAREFULLY PLACED BY HAND ON A PREPARED BED, NORMAL TO THE SLOPE AND FIRMLY BEDDED THEREON. STONES MAY BE PLACED BY MACHINE IF REQUIRED. THE LARGER STONES SHALL BE PLACED CLOSELY TOGETHER AND THE INTERVENING SPACES FILLED WITH SMALL STONES IN SUCH A MANNER THAT THE ENTIRE SURFACE WILL FORM A COMPACT MASS.
4. CLEARING AND GRUBBING SHALL BE MINIMIZED TO THE LIMITS SHOWN ON THE PLANS AND AS DIRECTED BY MASSDOT. TREES OUTSIDE LIMITS OF GRADING SHALL NOT BE DISTURBED.
5. CONTRACTOR TO ACCESS PROJECT LIMITS FROM I-90, ONLY. ACCESS FROM BROOKFIELD ROAD OR THROUGH WETLAND RESOURCE AREAS IS NOT ALLOWABLE AND REQUIRES ADDITIONAL PERMITS.
6. ANY PORTIONS OF THE EXISTING GRASSED SWALE THAT ARE DISTURBED DURING THE CONSTRUCTION SHALL BE RESTORED WITH LOAM AND SEED.
7. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR JOINING TWO PIECES OF GEOTEXTILE.
8. EMBED THE GEOTEXTILE A MINIMUM OF 4 INCHES AND EXTEND THE GEOTEXTILE A MINIMUM OF 6 INCHES BEYOND THE PROPOSED EDGE.

0 20 50 100

SCALE: 1" = 20'

HIGHWAY GUARD DETAILS

SEE BELOW

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

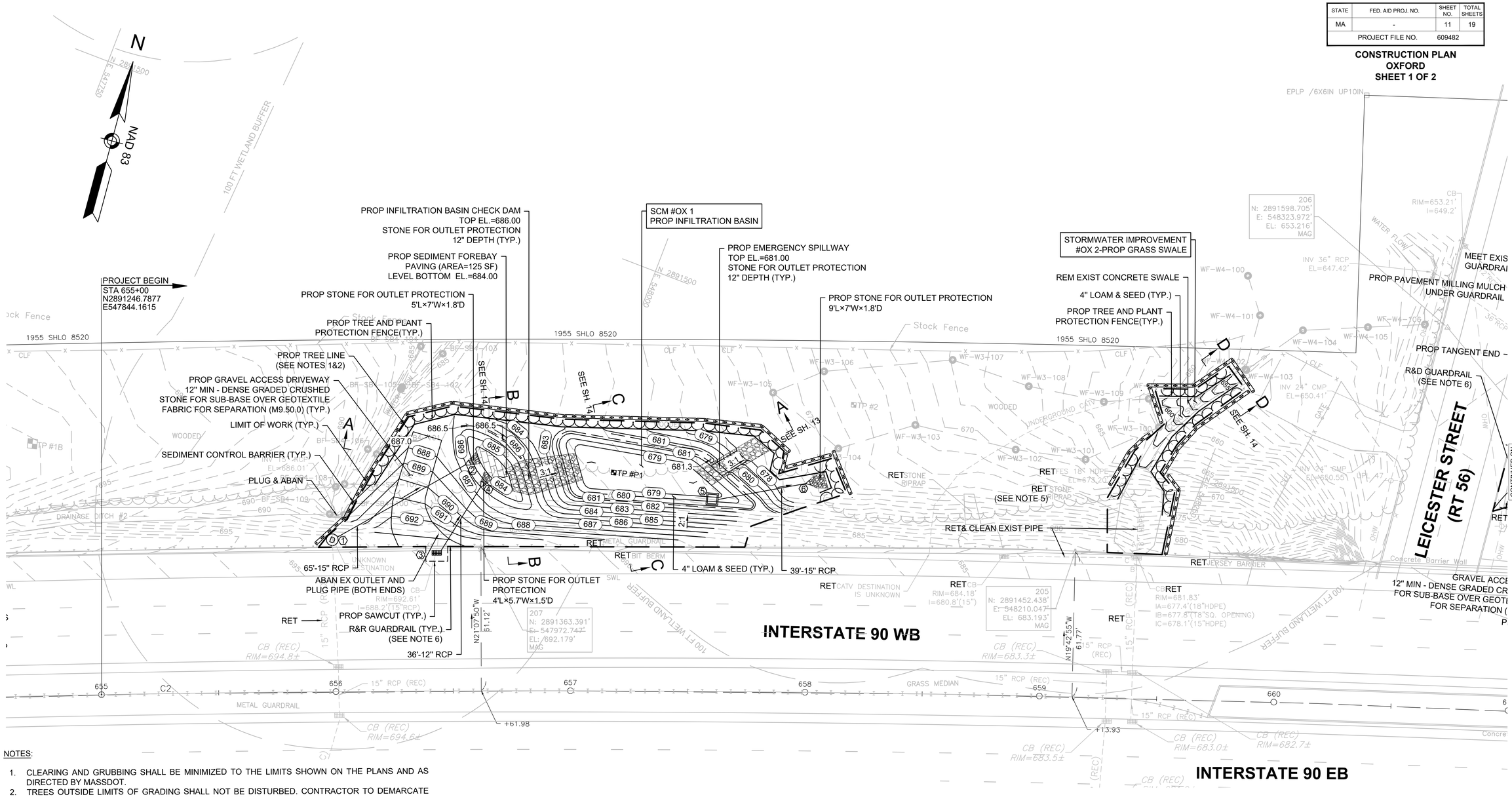
DRAINAGE DETAILS

SEE BELOW

CHARLTON/OXFORD
INTERSTATE 90

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	11	19
PROJECT FILE NO.	609482		

CONSTRUCTION PLAN
OXFORD
SHEET 1 OF 2



NOTES:

1. CLEARING AND GRUBBING SHALL BE MINIMIZED TO THE LIMITS SHOWN ON THE PLANS AND AS DIRECTED BY MASSDOT.
2. TREES OUTSIDE LIMITS OF GRADING SHALL NOT BE DISTURBED. CONTRACTOR TO DEMARCATE TREES FOR REMOVAL AT THE START OF CONSTRUCTION.
3. PROVIDE SILT SACKS IN ALL CATCH BASINS WITHIN LIMIT OF WORK (NOT SHOWN FOR CLARITY).
4. CONTRACTOR TO PERFORM A TEST PIT PRIOR TO INSTALLATION OF THE PROPOSED DRAINAGE STRUCTURE TO CONFIRM THE INVERT OF THE EXISTING PIPE. CONTRACTOR TO CONTACT THE ENGINEER TO CONFIRM CONNECTION WILL WORK.
5. R&R THE EXISTING STONE RIPRAP AT PROPOSED STORMWATER IMPROVEMENT #OX 2 AS NECESSARY TO CONSTRUCT THE GRASS SWALE. ADDITIONAL RIPRAP SHALL BE PLACED AS NEEDED TO PROVIDE UNIFORM AND COMPLETE COVERAGE OF THE OUTFALL AREA.
6. GUARDRAIL PROPOSED TO BE REMOVED AND RESET MUST BE PUT BACK IN PLACE AT THE END OF EACH WORK DAY. IF GUARDRAIL CAN NOT BE RESET, TEMPORARY BARRIER MUST BE IN PLACE AT THE END OF THE DAY AND SHALL REMAIN IN PLACE UNTIL THE GUARDRAIL CAN BE RESET.
7. CONTRACTOR SHALL CLEAN ALL EXISTING DRAINAGE STRUCTURES AND PIPES WITHIN THE LIMIT OF WORK.
8. CONTRACTOR ACCESS TO PROJECT LIMITS THROUGH WETLAND RESOURCE AREAS IS NOT ALLOWABLE AND WOULD REQUIRE ADDITIONAL PERMITS.
9. CONTRACTOR TO REMOVE ALL ACCUMULATED SEDIMENT WITHIN THE PROJECT LIMITS. CONTRACTOR SHALL NOT REMOVE ANY SEDIMENT FROM WITHIN THE WETLANDS.
10. CONTRACTOR TO PERFORM PROPOSED TEST PIT #P1 BEFORE CONSTRUCTION BEGINS.

DRAINAGE STRUCTURE DATA

NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
1	DMH	655+98.97, 64.7' LT	694.50	UNKNOWN (EXIST) SEE NOTE 4	686.50	PROP DMH OVER EXIST PIPE
2	FES	656+56.40, 97.2' LT	-	-	685.85	FLARED END
3	SPECIAL DI	656+43.49, 59.0' LT	692.61	-	686.25	REM EXIST CB PROP SPECIAL DI
4	FES	656+62.98, 88.5' LT	-	-	685.53	FLARED END
5	OCS	657+61.29, 80.9' LT	680.67	679.47	676.20	OUTLET CONTROL STRUCTURE
6	FES	658+18.23, 92.5' LT	-	-	676.00	FLARED END

0 20 50 100

SCALE: 1" = 20'

SHLO-8520-BK CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C1	612+18.17	2889482.950	543950.028	R=10200.00' Δ=10°49'43" L=1927.73' T=966.74'		631+45.90	2890203.626	545734.887
L1	631+45.90	2890203.626	545734.887		N62°35'54"E 1399.65'	645+45.55	2890847.782	546977.499
C2	645+45.55	2890847.782	546977.499	R=10200.00' Δ=11°01'54" L=1963.90' T=984.99'		665+09.45	2891578.712	548797.040

HIGHWAY GUARD DETAILS

STA 660+98 TO 661+06, LT
(GUARDRAIL TANGENT END, TL-3)

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE BELOW

CHARLTON/OXFORD
INTERSTATE 90

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	12	19
PROJECT FILE NO.	609482		

CONSTRUCTION PLAN
OXFORD
SHEET 2 OF 2

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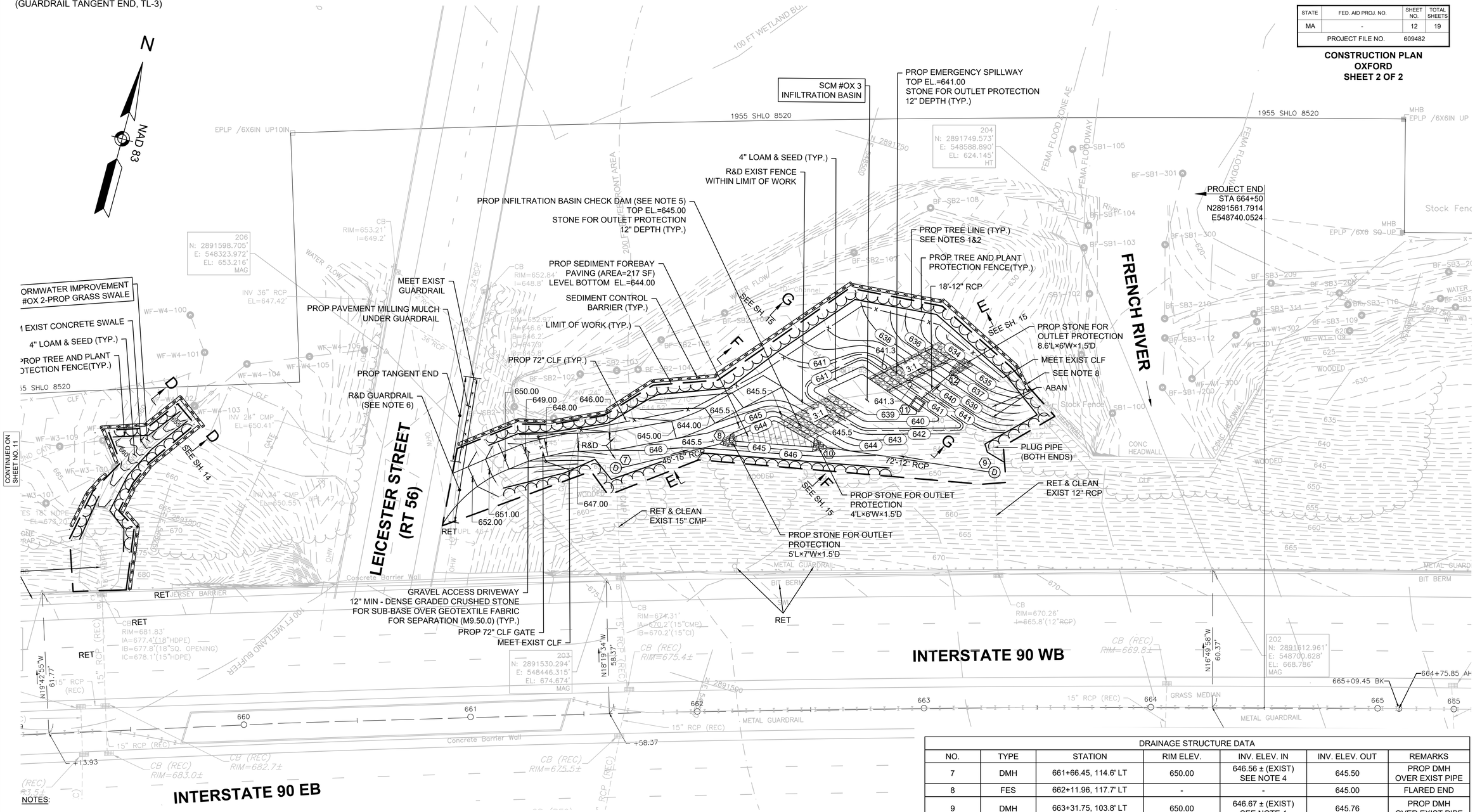


DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
7	DMH	661+66.45, 114.6' LT	650.00	646.56 ± (EXIST) SEE NOTE 4	645.50	PROP DMH OVER EXIST PIPE
8	FES	662+11.96, 117.7' LT	-	-	645.00	FLARED END
9	DMH	663+31.75, 103.8' LT	650.00	646.67 ± (EXIST) SEE NOTE 4	645.76	PROP DMH OVER EXIST PIPE
10	FES	662+58.95, 115.3' LT	-	-	645.00	FLARED END
11	OCS	662+98.27, 133.9' LT	640.67	639.47	637.10	OUTLET CONTROL STRUCTURE
12	FES	663+10.86, 146.1' LT	-	-	637.00	FLARED END

NOTES:

1. CLEARING AND GRUBBING SHALL BE MINIMIZED TO THE LIMITS SHOWN ON THE PLANS AND AS DIRECTED BY MASSDOT.
2. TREES OUTSIDE LIMITS OF GRADING SHALL NOT BE DISTURBED. CONTRACTOR TO DEMARCATE TREES FOR REMOVAL AT THE START OF CONSTRUCTION.
3. PROVIDE SILT SACKS IN ALL CATCH BASINS WITHIN LIMIT OF WORK (NOT SHOWN FOR CLARITY).
4. CONTRACTOR TO PERFORM A TEST PIT PRIOR TO INSTALLATION OF THE PROPOSED DRAINAGE STRUCTURE TO CONFIRM THE INVERT OF THE EXISTING PIPE. CONTRACTOR TO CONTACT THE ENGINEER TO CONFIRM CONNECTION WILL WORK.
5. SLOPE WITHIN THE SCM #OX3 SEDIMENT FOREBAY IS 2:1.
6. ONCE GUARDRAIL ON ROUTE 56 HAS BEEN REMOVED, TEMPORARY BARRIER MUST BE IN PLACE UNTIL THE NEW GUARDRAIL HAS BEEN INSTALLED. EITHER GUARDRAIL OR TEMPORARY BARRIER MUST BE IN PLACE AT ALL TIMES.
7. CONTRACTOR SHALL CLEAN ALL EXISTING DRAINAGE STRUCTURES AND PIPES WITHIN THE LIMIT OF WORK.
8. EXTEND SEDIMENT CONTROL BARRIER TO THE CONCRETE HEADWALL.
9. CONTRACTOR ACCESS TO PROJECT LIMITS THROUGH WETLAND RESOURCE AREAS IS NOT ALLOWABLE AND WOULD REQUIRE ADDITIONAL PERMITS.
10. CONTRACTOR TO REMOVE ALL ACCUMULATED SEDIMENT WITHIN THE PROJECT LIMITS. CONTRACTOR SHALL NOT REMOVE ANY SEDIMENT FROM WITHIN THE WETLANDS.
11. SEE SHEET 16 FOR LANDSCAPE PLAN.

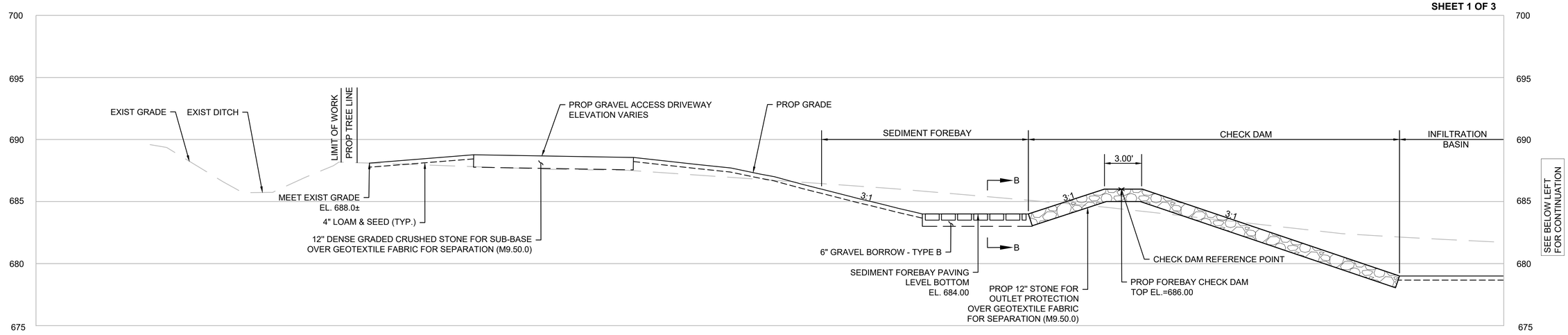
0 20 50 100

SCALE: 1" = 20'

CHARLTON/OXFORD
INTERSTATE 90

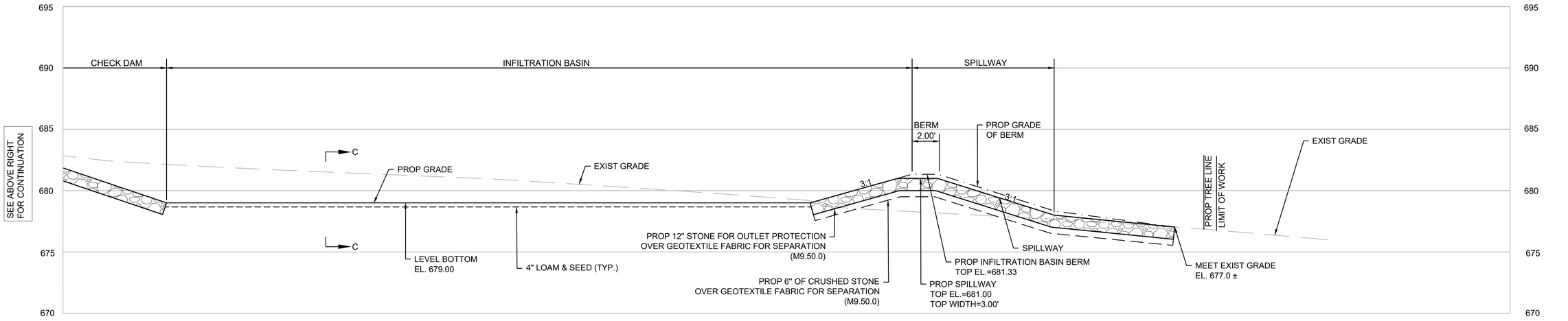
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	13	19
PROJECT FILE NO.	609482		

CROSS SECTIONS
OXFORD
SHEET 1 OF 3



SECTION A-A: SCM #OX 1 - INFILTRATION BASIN

SEE SHEET 11 FOR PLAN VIEW
SCALE:1"=4'



SECTION A-A: SCM #OX 1 - INFILTRATION BASIN

SEE SHEET 11 FOR PLAN VIEW
SCALE:1"=4'

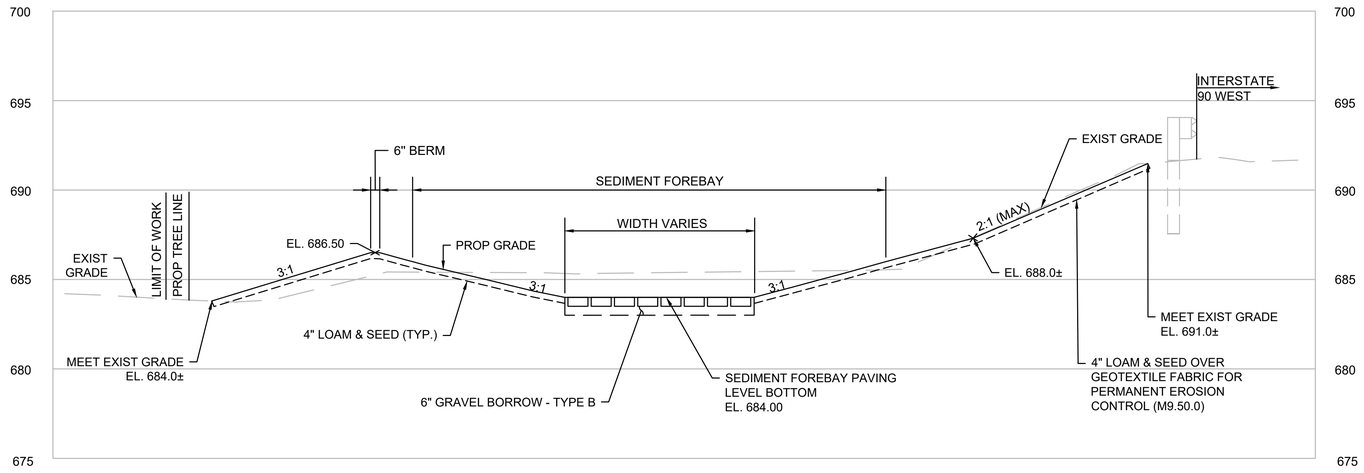
NOTES:
1. EST. SHGW IS EL. 667.13
2. PROPOSED DRAINAGE PIPES AND OUTLET PROTECTION NOT SHOWN FOR CLARITY.
3. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR JOINING TWO PIECES OF GEOTEXTILE.
4. EMBED THE GEOTEXTILE A MINIMUM OF 4 INCHES AND EXTEND THE GEOTEXTILE A MINIMUM OF 6 INCHES BEYOND THE PROPOSED EDGE.

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

CHARLTON/OXFORD
INTERSTATE 90

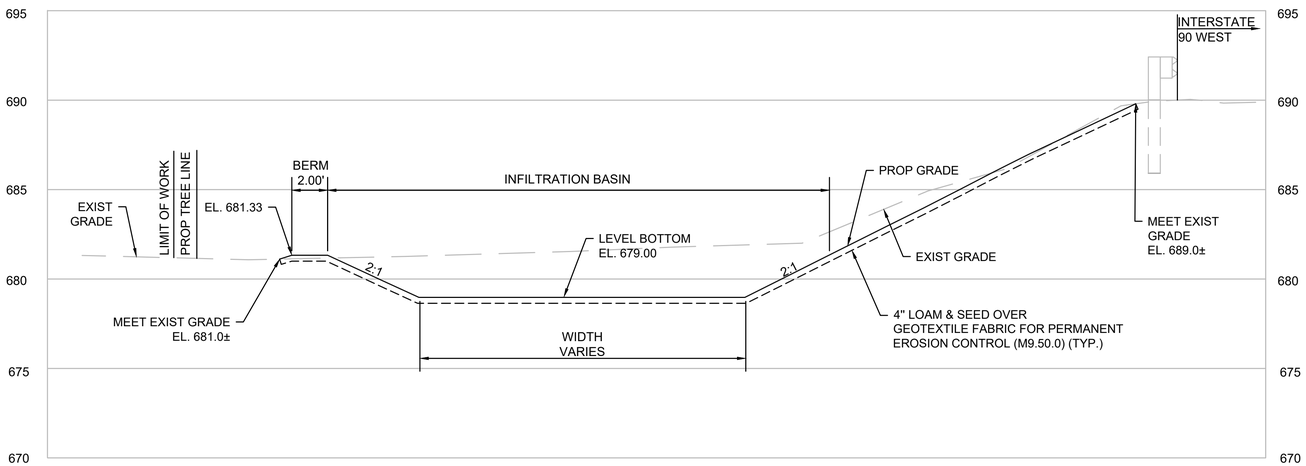
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	14	19
PROJECT FILE NO.	609482		

CROSS SECTIONS
OXFORD
SHEET 2 OF 3



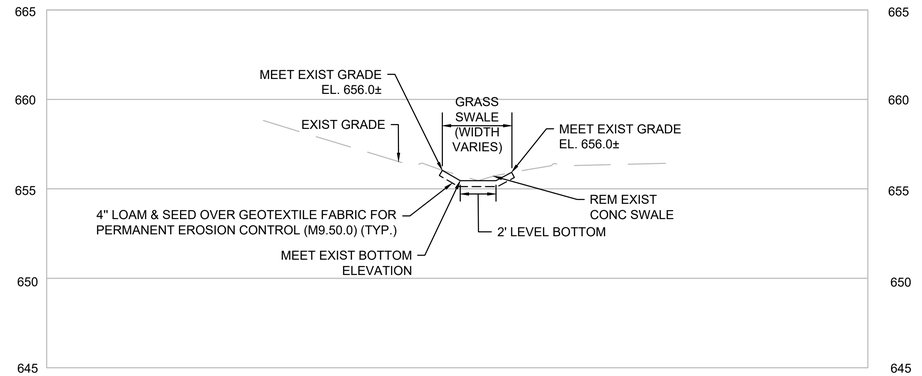
SECTION B-B: SCM #OX 1 - SEDIMENT FOREBAY

SEE SHEET 11 FOR PLAN VIEW
SCALE:1"=4'



SECTION C-C: SCM #OX 1 - INFILTRATION BASIN

SEE SHEET 11 FOR PLAN VIEW
SCALE:1"=4'



SECTION D-D: #OX 2 - PROPOSED GRASS SWALE

SEE SHEET 11 FOR PLAN VIEW
SCALE:1"=4'

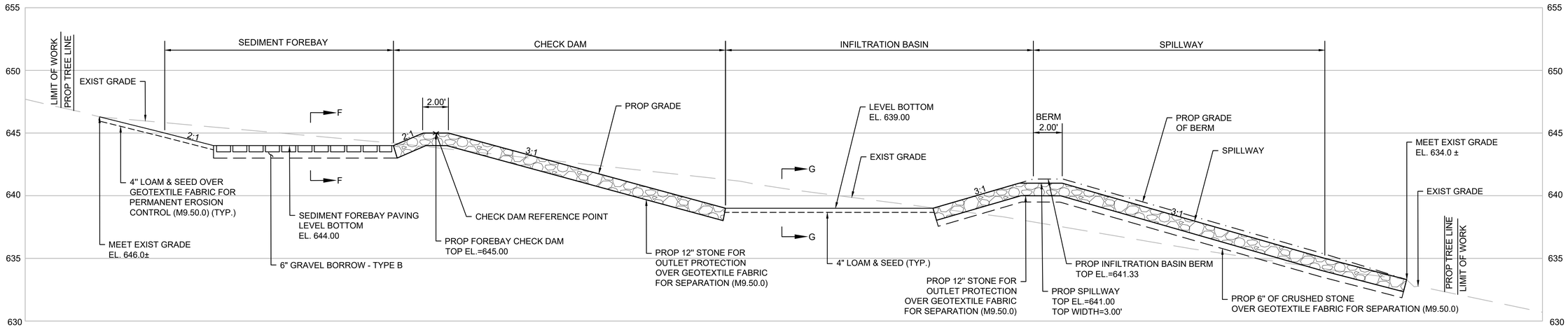
NOTES:
1. EST. SHGW IS EL. 667.13
2. PROPOSED DRAINAGE PIPES AND OUTLET PROTECTION NOT SHOWN FOR CLARITY.
3. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR JOINING TWO PIECES OF GEOTEXTILE.
4. EMBED THE GEOTEXTILE A MINIMUM OF 4 INCHES AND EXTEND THE GEOTEXTILE A MINIMUM OF 6 INCHES BEYOND THE PROPOSED EDGE.

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

CHARLTON/OXFORD
INTERSTATE 90

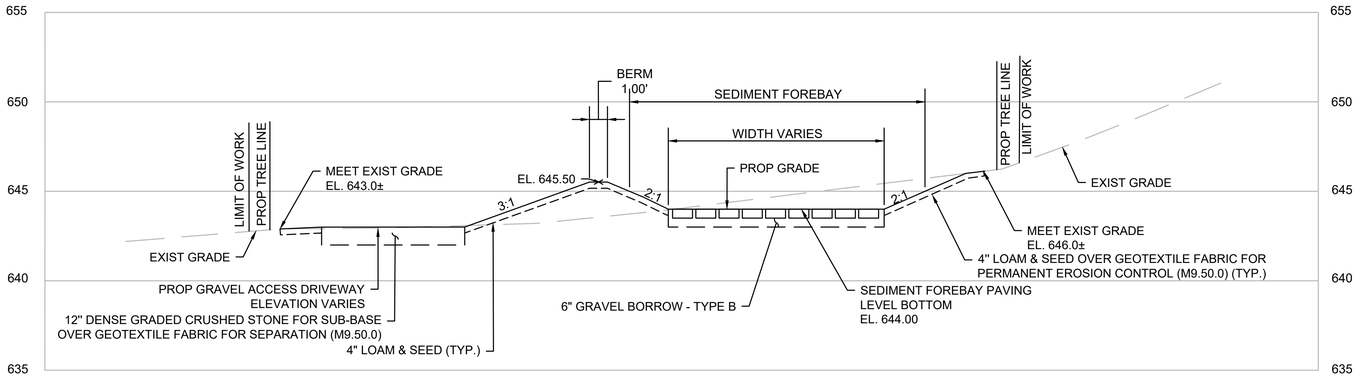
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	15	19
PROJECT FILE NO.	609482		

CROSS SECTIONS
OXFORD
SHEET 3 OF 3



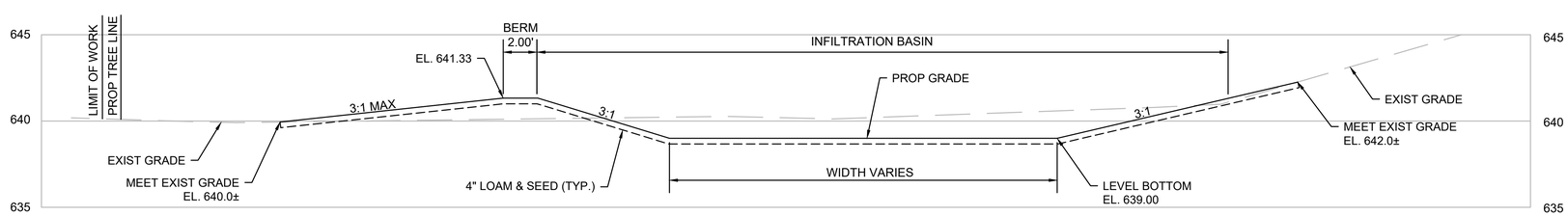
SECTION E-E: SCM #OX 3 - INFILTRATION BASIN

SEE SHEET 12 FOR PLAN VIEW
SCALE:1"=4'



SECTION F-F: SCM #OX 3 - SEDIMENT FOREBAY

SEE SHEET 12 FOR PLAN VIEW
SCALE:1"=4'



SECTION G-G: SCM #OX 3 - INFILTRATION BASIN

SEE SHEET 12 FOR PLAN VIEW
SCALE:1"=4'

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

NOTES:
1. EST. SHGW IS EL. 667.13
2. PROPOSED DRAINAGE PIPES AND OUTLET PROTECTION NOT SHOWN FOR CLARITY.
3. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR JOINING TWO PIECES OF GEOTEXTILE.
4. EMBED THE GEOTEXTILE A MINIMUM OF 4 INCHES AND EXTEND THE GEOTEXTILE A MINIMUM OF 6 INCHES BEYOND THE PROPOSED EDGE.

CHARLTON/OXFORD
INTERSTATE 90

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	16	19
PROJECT FILE NO.	609482		

LANDSCAPE PLAN
OXFORD

609482_HD12(OXFORD-LD).DWG Plotted on 6-Jan-2023 10:40 AM

N

NAD 83

SEED STEEP SLOPE MID-HEIGHT MIX
(1) - QV
(3) - Va
(1) - PO
(5) - SB
(8) - Ca
(6) - Sn
(2) - AC
(5) - Cp
(3) - Vh
(3) - AR
(3) - Sn

SEED SHORT GRASSLAND MIX-SANDY SOIL
(6) - AR
(7) - Rv
(1) - AC
(7) - Cp
(1) - QV

COMPOST AND SEED STEEP SLOPE MID-HEIGHT MIX OVER RIPRAP SPILLWAY
(3) - SB
(1) - QV
(5) - Va
(7) - Rv
(5) - AR
(2) - PO
(4) - Vh
(3) - AC
(3) - Vh

SEED DETENTION BASIN MIX

206
N: 2891598.705'
E: 548323.972'
EL: 653.216'
MAG

204
N: 2891749.573'
E: 548588.890'
EL: 624.145'
HT

203
N: 2891530.294'
E: 548446.315'
EL: 674.674'
MAG

202
N: 2891612.961'
E: 548700.628'
EL: 668.786'
MAG

LEICESTER STREET (RT 56)

FRENCH RIVER

INTERSTATE 90 WB

INTERSTATE 90 EB

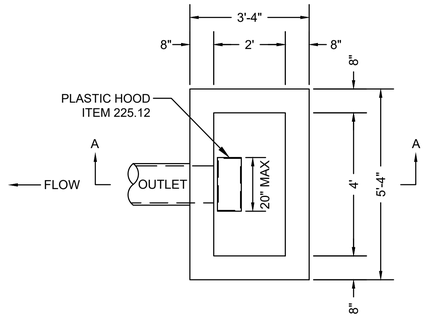
PLANT_SCHEDULE						
TREES	QTY	BOTANICAL / COMMON NAME	CONT	CAL	HT	REMARKS
AC	6	AMELANCHIER CANADENSIS / CANADIAN SERVICEBERRY	#3		4'-6'	CLUMP
PO	3	PLATANUS OCCIDENTALIS / AMERICAN SYCAMORE	B & B	1.5"		
QV	3	QUERCUS VELUTINA / BLACK OAK	CG#3	1.5"		
SB	8	SALIX NIGRA / BLACK WILLOW	#1	18"-24"		
SHRUBS	QTY	BOTANICAL / COMMON NAME	CONT	HT.		
AR	14	ALNUS RUGOSA / SPECKLED ALDER	#2	24"-36"		
Cp	12	COMPTONIA PEREGRINA / SWEET FERN	#1	12"-18"		
Ca	8	CORNUS AMOMUM / SILKY DOGWOOD	#2	24"-36"		
Rv	14	ROSA VIRGINIANA / VIRGINIA ROSE	#2	18"-24"		
Sn	9	SAMBUCUS NIGRA / BLACK ELDERBERRY	#2	24"-36"		
Vh	10	VACCINIUM CORYMBOSUM / HIGHBUSH BLUEBERRY	#2	18"-24"		
Va	8	VIBURNUM DENTATUM / VIBURNUM	#2	18"-24"		

0 20 50 100
SCALE: 1" = 20'

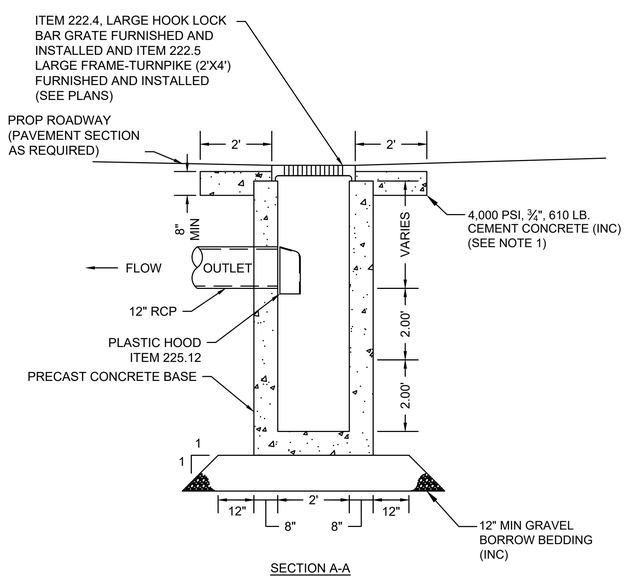
CHARLTON/OXFORD
INTERSTATE 90

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	17	19
PROJECT FILE NO.	609482		

CONSTRUCTION DETAILS



PLAN
(NOTE: FRAME AND GRATE
NOT SHOWN FOR CLARITY)



SECTION A-A

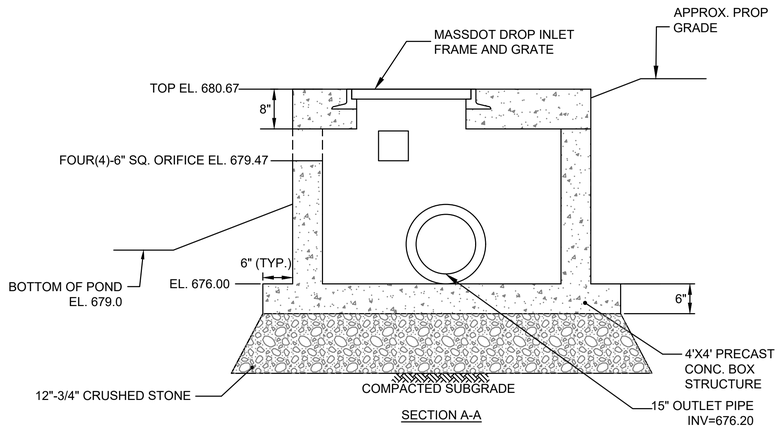
NOTE:
4,000 PSI, ¾", 610 LB. CEMENT CONCRETE REQUIRED FOR 2'-0" AROUND BASIN, CEMENT CONCRETE REQUIRED AS NECESSARY BETWEEN INLET AND BARRIER. GRADE ALL CEMENT CONCRETE TOWARD DRAIN TO INLET. PAYMENT INCLUDED IN COST OF ITEM 209.2.

SPECIAL DROP INLET

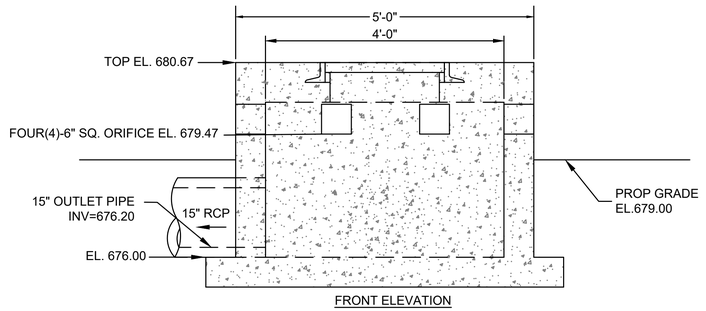
SCALE: NONE

OUTLET CONTROL STRUCTURE GENERAL NOTES

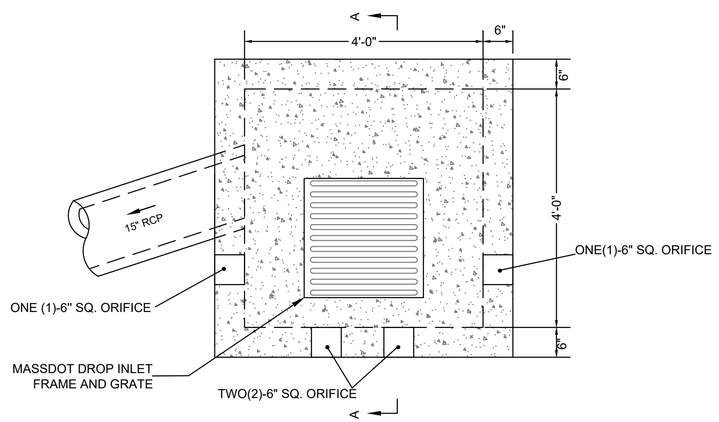
1. CONCRETE: 4,000 P.S.I MINMUM STRENGTH @ 28 DAYS. STEEL REINFORCEMENT: ASTM A-615, GRADE 60. COVER TO STEEL-1" MINIMUM.
2. DESIGN TO MEET ASTM C858 AND ACI 318 WITH AASHTO HS-20.
3. CONSTRUCTION JOINT-SEALED WITH 1" DIA. BUTYL RUBBER OR EQUIVALENT.
4. ALL PIPE CONNECTIONS AND CONCRETE CONSTRUCTION SHALL BE WATERTIGHT.



SECTION A-A



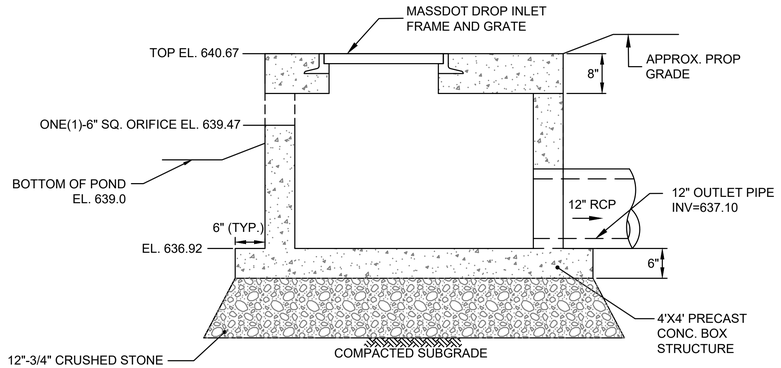
FRONT ELEVATION



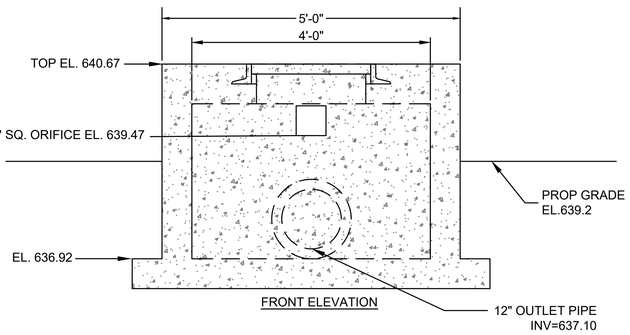
PLAN

OUTLET CONTROL STRUCTURE (5) DETAIL - SCM #OX1

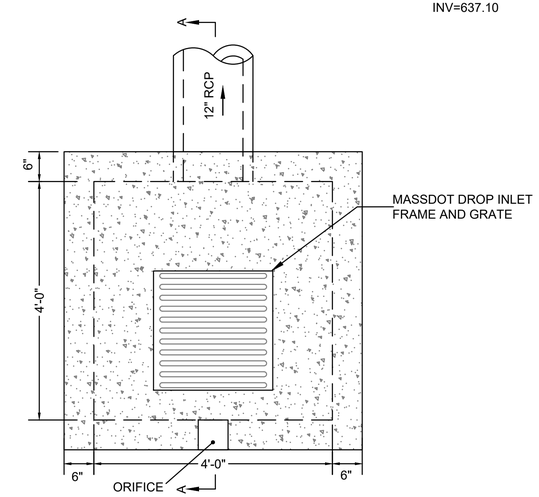
SCALE: NONE



SECTION A-A



FRONT ELEVATION



PLAN

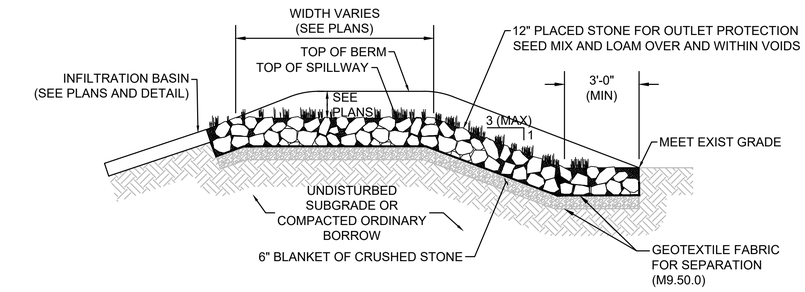
OUTLET CONTROL STRUCTURE (11) DETAIL - SCM #OX3

SCALE: NONE

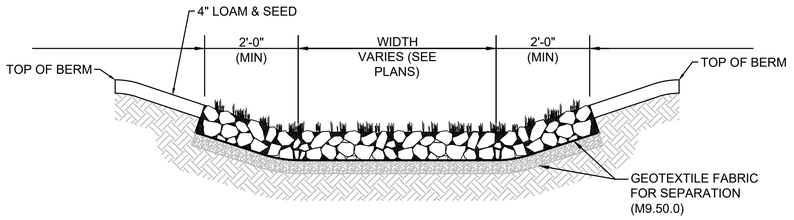
CHARLTON/OXFORD
INTERSTATE 90

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	18	19
PROJECT FILE NO.	609482		

CONSTRUCTION DETAILS



PROFILE SECTION VIEW

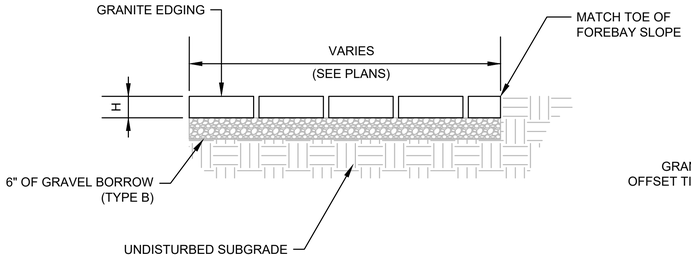


BREADTH SECTION VIEW

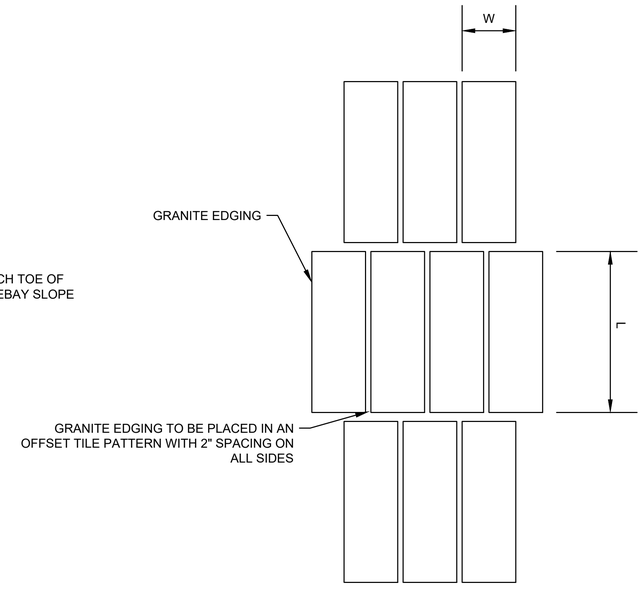
NOTES:
1. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR JOINING TWO PIECES OF GEOTEXTILE.
2. EMBED THE GEOTEXTILE A MINIMUM OF 4 INCHES AND EXTEND THE GEOTEXTILE A MINIMUM OF 6 INCHES BEYOND THE PROPOSED EDGE.

TYPICAL INFILTRATION BASIN EMERGENCY SPILLWAY SECTIONS

SCALE: NONE



SECTION VIEW



PLAN VIEW

NOTE:

1. MINIMUM LENGTH (L) = 18", MINIMUM WIDTH (W) = 4", MINIMUM HEIGHT (H) = 4"

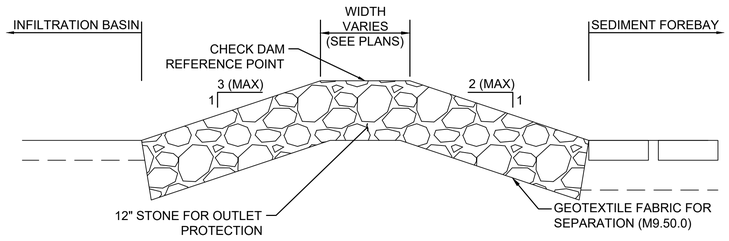
SEDIMENT FOREBAY PAVING DETAIL

SCALE: NONE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	19	19
PROJECT FILE NO.	609482		

CONSTRUCTION DETAILS

NOTES:
1. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR JOINING TWO PIECES OF GEOTEXTILE.
2. EMBED THE GEOTEXTILE A MINIMUM OF 4 INCHES AND EXTEND THE GEOTEXTILE A MINIMUM OF 6 INCHES BEYOND THE PROPOSED EDGE.

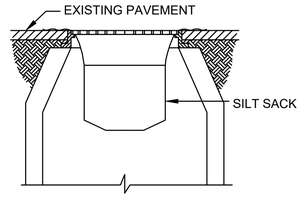


INFILTRATION BASIN CHECK DAM DETAIL

SCALE: NONE

NOTE:

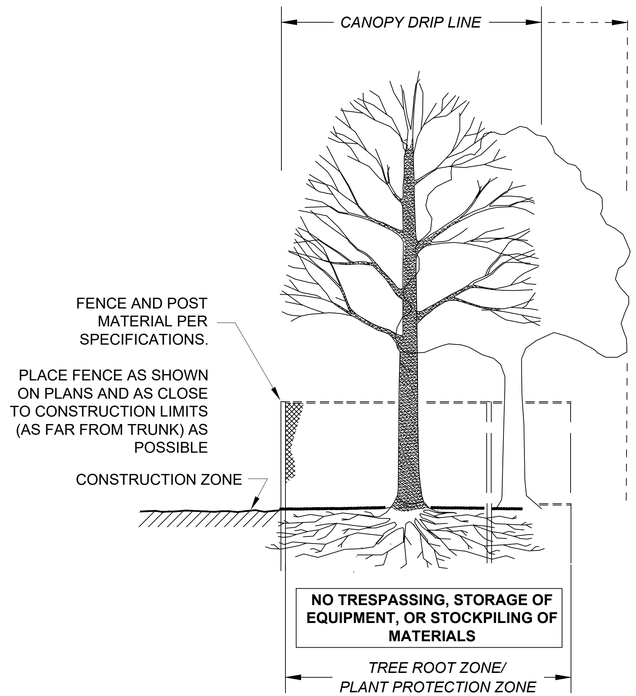
SILT SACKS TO BE PLACED IN ALL CATCH BASINS IN THE VICINITY OF NEW CONSTRUCTION. CATCH BASINS ARE TO BE PROTECTED AS SHOWN. INSPECTION AND MAINTENANCE SHOULD BE PERFORMED AT A MINIMUM WEEKLY, OR AFTER SIGNIFICANT RAIN EVENTS, OR AS REQUIRED AND REPLACED IF NECESSARY.



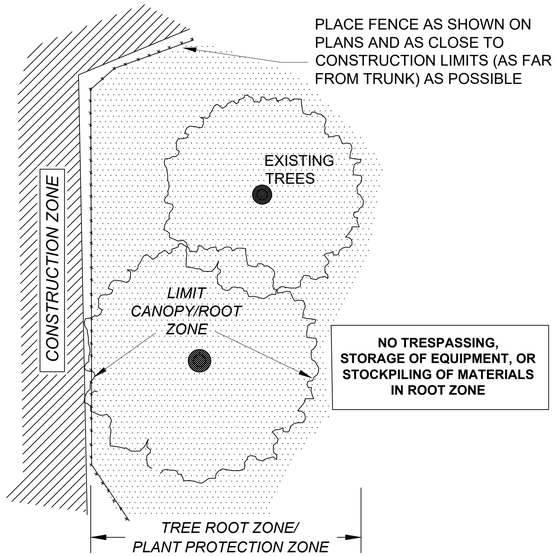
(FOR USE WITH EXISTING CATCH BASINS)

SILT SACK INLET PROTECTION

SCALE: NONE



SECTION - FENCE PROTECTION OF ROOT ZONE



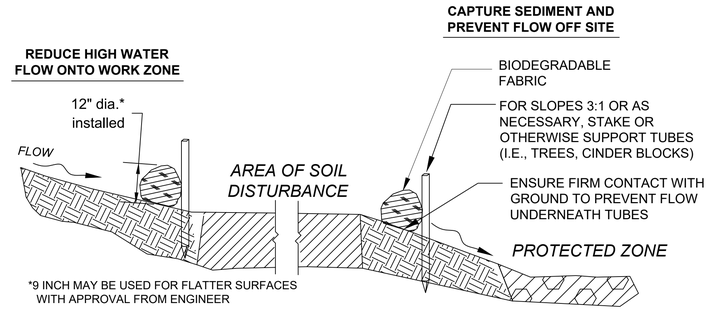
PLAN VIEW - FENCE PROTECTION OF ROOT ZONE

TREE PROTECTION - ROOT ZONE

NOT TO SCALE

REDUCE HIGH WATER FLOW ONTO WORK ZONE

CAPTURE SEDIMENT AND PREVENT FLOW OFF SITE

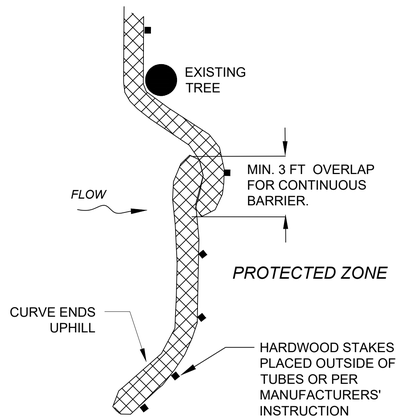


*9 INCH MAY BE USED FOR FLATTER SURFACES WITH APPROVAL FROM ENGINEER

SECTION

SEDIMENT BARRIER - COMPOST FILTER TUBES

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

COMPOST FILTER TUBE

NOT TO SCALE