SITE PLAN

ENCLAVE AT BOXBOROUGH

700-800 MASSACHUSETTS AVENUE

BOXBOROUGH, MASSACHUSETTS

TITLE SHEET

LOCUS MAP

SCALE: 1"=1,200'±

SHEET INDEX

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■ * THESE SHEETS ISSUED FOR CONSERVATION COMMISSION FILING

ZONING INFORMATION

ZONING DISTRICT: TOWN CENTER
WETLAND & WATERSHED OVERLAY DISTRICT

DESCRIPTION	REQUIRED	PROVIDED
MIN. LOT AREA (SF x 1000)	40	1,070,347 SF*
MIN. UPLAND LOT AREA (SF x 1000)	20	778,137± SF
MIN. UPLAND LOT AREA % OF TOT.	–	–
MIN. LOT FRONTAGE (FT)	100'	102 FT (MASS AVE)
MIN. LOT WIDTH (FT)	100'	101+ FT
MIN. FRONT SETBACK (FT)	25'	>25 FT
MIN. SIDE SETBACK (FT)	20'	>20 FT
MIN. REAR SETBACK (FT)	20'	>20 FT
MAX. STORIES	3	2
MAX. BUILDING HEIGHT (FT)	45'	<45 FT
MAS. LOT COVERAGE (% BY BLD, STRUC, AND IMPR. AREA)	35%	23.7%
FLOOR AREA RATIO	NA	–
MIN. OPEN SPACE (%)	65	76.3%

* –SITE AREA EXCLUDES PARCEL A, PARCEL B, AND PARCEL C

RECORD INFORMATION

RECORD OWNER:
BOXBOROUGH TOWN CENTER, LLC
P.O. BOX 985
WEST ACTON, MA 01720

DEED REFERENCE:
BOOK 27102, PAGE 550 (700 MASS. AVE. 750 MASS AVE. 800 MASS AVE.)

PLAN REFERENCE:
--

ASSESSORS REFERENCE:
MAP: 14 PARCEL: 208 (700 MASS. AVE.)
MAP: 14 PARCEL: 209 (800 MASS. AVE.)
MAP: 14 PARCEL: 210 (750 MASS. AVE.)

ISSUED FOR PERMIT

PREPARED BY:
DUCHARME & DILLIS
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APPLICANT:
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SCALE:

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DIGSAFE 1-888-344-7233

COMMONWEALTH OF MASSACHUSETTS GREGORY S. ROY CIVIL No. 46013 REGISTERED PROFESSIONAL ENGINEER 6/19/19

DATE: 4/16/19
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

TITLE SHEET
700–800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY
1.	5/01/19	ISSUED FOR NOTICE OF INTENT FILING	RPV
2.	5/17/19	REV. PER TOWN COMMENTS	RPV
3.	6/19/19	REV. PER PEER REVIEW COMMENTS	RPV

JOB NO. 6092
DRAWING NO. 6092–TITLE
SHEET NO. C1.0

LEGEND

PROP. FEATURE	DESCRIPTION	PROP. SYM.	DESCRIPTION
	REPLICATED WETLANDS		PROPOSED LIGHT POLE
	PROPERTY LINE		PROPOSED TELEPHONE POLE
	EASEMENT LINE		PROPOSED HYDRANT
	HAYBALES	SMH-1	PROPOSED SANITARY MANHOLE
	WIRE FENCE	DMH-1	PROPOSED STORM WATER MANHOLE
	WOOD FENCE		PROPOSED TELEPHONE MANHOLE
	GUARD RAIL		PROPOSED ELECTRICAL MANHOLE
	CHAIN LINK FENCE	WSO	PROPOSED WATER SHUTOFF
RET. WALL (CONC.)	POURED CONCRETE RETAINING WALL		
RET. WALL (BLOCK)	CONC. BLOCK RETAINING WALL		
RET. WALL (STONE)	STONE RETAINING WALL	B	PROPOSED POST
W	PROPOSED WATER LINE	CB-1	PROPOSED CATCH BASIN
G	PROPOSED GAS LINE	DCB-1	PROPOSED DOUBLE CATCH BASIN
E	PROPOSED ELECTRICAL LINE	GV	PROPOSED WATER GATE VALVE
S	PROPOSED SANITARY SEWER	GV	PROPOSED GAS GATE VALVE
D	PROPOSED STORM DRAIN	T	PROPOSED ELECTRICAL TRANSFORMER
RD	PROPOSED ROOF DRAIN	E	PROPOSED ELECTRICAL JUNCTION BOX
UD	PROPOSED UNDER DRAIN	G	PROPOSED GAS METER
T	PROPOSED TELEPHONE LINE	TS	PROPOSED TRAFFIC SIGNAL SWITCH
CATV	PROPOSED CABLE LINE	S	PROPOSED SIGN
BCCB	PROPOSED BACK CAPE COD BERM	B-1	BORING
EOP	PROPOSED EDGE OF PAVEMENT		HANDICAPPED SPACE
	PROPOSED UNPAVED ROAD	FES	PROPOSED FLARED END SECTION
180	PROPOSED CONTOUR (INDEX)		PROPOSED RIPRAP
179	PROPOSED CONTOUR (INTERMEDIATE)		
	PROPOSED SPOT ELEVATION		PROPOSED STONE BOUND
	PROPOSED BUILDING/HOUSE		STANDARD TREE
TREE LINE	TREE LINE		PINE TREE
			SHRUB

LEGEND

EXIST. FEATURE	DESCRIPTION	EXIST. SYM.	DESCRIPTION
	STREAMS/RIVERS		LIGHT POLE
	WETLANDS		TELEPHONE POLE
	LIMIT OF BUFFER ZONE		GUY WIRE
LEDGE	LEDGE		HYDRANT
100' WELL OFFSET	WELL RADIUS		SEWER MANHOLE
	PROPERTY LINE		STORM WATER MANHOLE
	EASEMENT LINE		WELL
	WIRE FENCE		MISCELLANEOUS MANHOLE
	WOOD FENCE		WETLAND FLAG
	GUARD RAIL		CATCH BASIN
	CHAIN LINK FENCE	WV	WATER GATE VALVE
CONC. WALL	CONCRETE RETAINING WALL	GV	GAS GATE VALVE
STONE WALL	STONE RETAINING WALL	E	ELECTRICAL METER
	STONE WALL	G	GAS METER
W	WATER LINE	TS	TRAFFIC SIGNAL SWITCH
G	GAS LINE	S	SIGN
E	ELECTRICAL LINE		PERC TEST
S	SANITARY SEWER		TEST PIT
D	STORM DRAIN	T TRANS	ELECTRICAL TRANSFORMER
T	ELEPHONE LINE	T TEL	TELEPHONE BOX
CATV	CABLE LINE	C	CABLE BOX
OW	EXISTING OVER-HEAD WIRES		FLAG POLE
180	EXISTING CONTOUR (INDEX)		WATER SHUT OFF
179	EXISTING CONTOUR (INTERMEDIATE)		SHRUB
	EXISTING SPOT ELEVATION		CLEANOUT
	EXISTING BUILDING/HOUSE	FA	FIRE ALARM
TREE LINE	TREE LINE		VENT PIPE

ABBREVIATIONS

ABB.	DESCRIPTION
ATM	ATMOSPHERIC TANK
UD	UNDERDRAIN
FD	FOUNDATION DRAIN
F.S.	FIRE SERVICE
DOM.	DOMESTIC WATER SERVICE
B.O	WATER BLOW OFF
DMH	DRAIN MANHOLE
SMH	SEWER MANHOLE
ST	SEPTIC TANK
PC	PUMP CHAMBER
DP1	DRAIN PIPE ID
SP1	SEWER PIPE ID
DB	DISTRIBUTION BOX
SC	STORMCEPTOR CATCH BASIN
GAL	GALLON
TOF	TOP OF FOUNDATION
EL.	ELEVATION
INV.	INVERT
WSO	WATER SHUTOFF
BCCB	BITUMINOUS CAPE COD BERN
RET.	RETAINING WALL
C.O.	CLEAN OUT
INSP.T.	INSPECTION PORT
VCC	VERTICAL CONCRETE CURB
BCCB	BITUMINOUS CAPE COD BERM
VGC	VERTICAL GRANITE CURB

GENERAL NOTES/REFERENCES:

1. BASE MAPPING SHOWN ON THIS PLAN REFERES TO PLANS PREPARED BY STAMSKI AND MCNARY, INC. ENTITLED "SITE PLAN FOR ENCLAVE AT BOXBOROUGH" DATED DECEMBER 22, 2016 WITH REVISIONS THROUGH AUGUST 30, 2017.
2. ELEVATIONS REFER TO NGVD 88.
3. PROPERTY LINE INFORMATION SHOWN ON THIS PLAN REFERES TO THE PLAN ABOVE, ALONG WITH RECORD PLANS AND DEEDS.
4. WETLAND DELINEATION REFERS TO AN ORDER OF RESOURCE AREA DELINEATION (ORAD) DEP FILE NUMBER 113-501.
5. W-DISTRICT AREAS DEPICTED ON THIS PLAN REFER TO TOWN ZONING MAPS.
6. EXISTING UTILITIES SHOWN ON THIS PLAN WERE COMPLIED FROM FIELD MEASUREMENT AND RECORD PLANS. THE UTILITIES SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY AND SHOULD NOT BE ASSUMED TO BE CORRECT NOR SHOULD IT BE ASSUMED THAT THE UTILITIES SHOWN ARE THE ONLY UTILITIES LOCATED ON OR NEAR THE SITE. THE CONTRACTOR SHALL CALL DIG SAFE 1-888-DIG-SAFE PRIOR TO CONSTRUCTION IN ACCORDANCE WITH STATE LAWS.

LAYOUT / MATERIAL NOTES:

1. REFER TO SHEETS C3.1 FOR EROSION CONTROL LAYOUT AND PROCEDURE.
2. ALL PAVEMENT DIMENSION AND RADII REFER TO FRONT FACE OF BERMS AND CURBS.
3. THE WEARING SURFACES OF ROADWAYS SHALL BE CLASS I, BITUMINUS CONCRETE, BASE COURSE, TYPE I-1.
4. DRIVEWAYS SHALL BE 1 $\frac{1}{2}$" BITUMINOUS WEARING COURSE OVER, 1 $\frac{1}{2}$" BITUMINOUS BASE COURSE OVER, 8" OF GRAVEL MEETING M1.03.0, TYPE B.
5. PAVEMENT SHALL BE PLANT MIXED AND LAID HOT TO A FINISHED DEPTH OF THREE INCHES IN TOW COURSES OF ONE AND ONE HALF INCHES EACH. EACH COURSE SHALL BE COMPACTED WITH NO LESS THAN A TEN TON ROLLER.
6. SIDEWALKS SHALL BE BITUMINOUS CONCRETE.
7. CURBING SHALL BE BE VERTICAL BELGIAN BLOCK CURB. SEE DETAIL.
8. PARKING LOT STRIPING - PAVEMENT SHALL BE PAINTED AS DEPICTED ON THE PLAN. HANDICAPPED SPACES SHALL BE PAINTED WITH HANDICAPPED SYMBOL. PARKING STRIPING AND CROSSWALKS SHALL BE PAINTED AS SHOWN.

GRADING/DRAINAGE NOTES:

1. GRADES SHOWN ON PLANS (C6.1 & C6.2) REFER TO FINAL FINISHED GRADES.
2. REFER TO SHEETS C8.1 THROUGH C8.2 FOR ADDITIONAL DETAILS PERTAINING TO TYPICAL CROSS SECTIONS AND OTHER PERTINENT DETAILS.
3. REFER TO SHEET C3.1 FOR DETAILS RELATIVE TO SITE STABILIZATION AND OTHER EROSION CONTROL DETAILS.
4. STORM DRAIN PIPE TO BE SMOOTH LINED HDPE PIPE AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS, INC. OR APPROVED EQUAL.
5. MANHOLES SHALL BE 4-FOOT DIAMETER PRECAST CONCRETE STRUCTURES FOR H-20 LOADING UNLESS OTHERWISE NOTED. SEE DETAIL ON SHEET C8.1 THROUGH C8.2.
6. ALL CATCH BASINS SHALL BE 4-FOOT DIAMETER PRECAST CONCRETE CATCH BASINS FOR H-20 LOADING UNLESS OTHERWISE NOTED. SEE DETAIL ON SHEET C8.1.
7. ALL CATCH BASIN GRATES SHALL BE SET AT BINDER ASPHALT GRADES AND RAISED TO FINAL FINISHED GRADES JUST PRIOR TO TOP COAT PAVEMENT PLACEMENT.
8. THE CONTRACTOR SHALL USE ALL MEANS NECESSARY TO MINIMIZE COMPACTION OF SOILS IN RECHARGE AREAS BOTH DURING AND AFTER CONSTRUCTION.
9. BUILDING ENVELOPES DEPICTED ON THIS PLAN ARE GENERIC. ONCE FINAL BUILDING FOOTPRINTS ARE CHOSEN FOR EACH UNIT, THE GRADING AROUND THE UNITS SHALL BE ADJUSTED TO SITE SPECIFIC FOUNDATION DESIGNS.
10. ALL CATCH BASINS ARE TO BE FUNCTIONAL WITH BINDER PAVEMENT. NO STRUCTURES SHALL BE SET TO FINISH ELEVATIONS UNTIL JUST PRIOR TO FINISH PAVING.
11. TRENCH DAMS SHALL BE INSTALLED AS SHOWN ON SHEETS C5.1 & AND C5.2 AND PER THE DETAILS ON SHEET C8.2

UTILITY NOTES:

1. SEPTIC SYSTEMS:
   - 1.1. THE SEPTIC SYSTEM DEPICTED ON THIS PLAN HAS BEEN SIZED FOR 50 - 2 BEDROOM OVER-55 HOUSING UNITS AT 150 GPD/UNIT FOR A TOTAL DESIGN FLOW OF 7,500 GPD.
   - 1.2. THE SEPTIC SYSTEM WILL REQUIRE A SEWAGE DISPOSAL CONSTRUCTION WORKS PERMIT FORM THE BOARD OF HEALTH PRIOR TO CONSTRUCTION.
   - 1.3. CONTRACTOR SHALL REFER TO THE CONSTRUCTION PERMIT AND APPROVED SEPITC PLANS.
2. WATER:
   - 2.1. ALL WATER MAINS, VALVES, BLOWOFFS, FITTINGS AND OTHER APPURTENANCES SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE GROTON WATER DEPARTMENT.
   - 2.2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVAL LETTER FOR THE SYSTEM CONSTRUCTION.
   - 2.3. PROPOSED WATER MAIN SHALL BE 4"ø, C900 PIPE.
   - 2.4. WATER SERVICES SHALL BE 1"ø POLYETHYLENE RATED FOR 200 PSI. EACH SERVICE TO BE EQUIPPED WITH A CORP STOP AT THE MAIN, A CURB STOP AND BOX, WATER METER AND PRESSURE REDUCING VALVE. TRACER WIRE SHALL BE RUN WITH THE SERVICE LINE.
   - 2.5. WATER MAIN SHALL BE TESTED IN ACCORDANCE WITH THE DEP GUIDELINES.
3. ELECTRICAL, TELEPHONE & CABLE:
   - 3.1. CONTRACTOR SHALL COORDINATE WITH THE ELECTRIC DEPARTMENT FOR THE PROPOSED SERVICE EXTENSION.
   - 3.2. CONTRACTOR TO PROVIDE ALL REQUIRED CONDUITS FOR ELECTRIC, TELEPHONE AND CABLE SERVICE TO THE DEVELOPMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY.
   - 3.3. QUANTITY, LOCATION AND SIZE OF PROPOSED TRANSFORMERS, PULL BOXES, SERVICE BOXES, TELEPHONE DISCONNECTS, ETC. SHALL BE SPECIFIED BY THE APPLICABLE UTILITY COMPANY.
   - 3.4. OWNER SHALL PROVIDE THE REQUIRED EASEMENTS TO THE UTILITY COMPANY AS REQUIRED FOR THE INSTALLATION OF THE INFRASTRUCTURE.
4. SEWER:
   - 4.1. SEWER PIPE SHALL BE 6" PVC SDR-35 OR EQUAL
   - 4.2. SEWER MANHOLES SHALL BE 4' DIAMETER PRECAST CONCRETE FOR H-20 LOADING AS DETAILED ON SHEET C8.2.
   - 4.3. LATERALS SHALL BE 4"ø PVC, SDR-35.
   - 4.4. CLEANOUTS SHALL BE 4"ø PVC, AS DETAILED ON SHEET C8.2.

ISSUED FOR PERMIT

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WEST ACTON, MA 01720

APPLICANT:
BOXBOROUGH TOWN CENTER, LLC
P.O. BOX 985
WEST ACTON, MA 01720

SCALE:

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DIG SAFE 1-888-344-7233

COMMONWEALTH OF MASSACHUSETTS GREGORY S. ROY CIVIL NO 46935 REGISTERED PROFESSIONAL ENGINEER 6/19/19

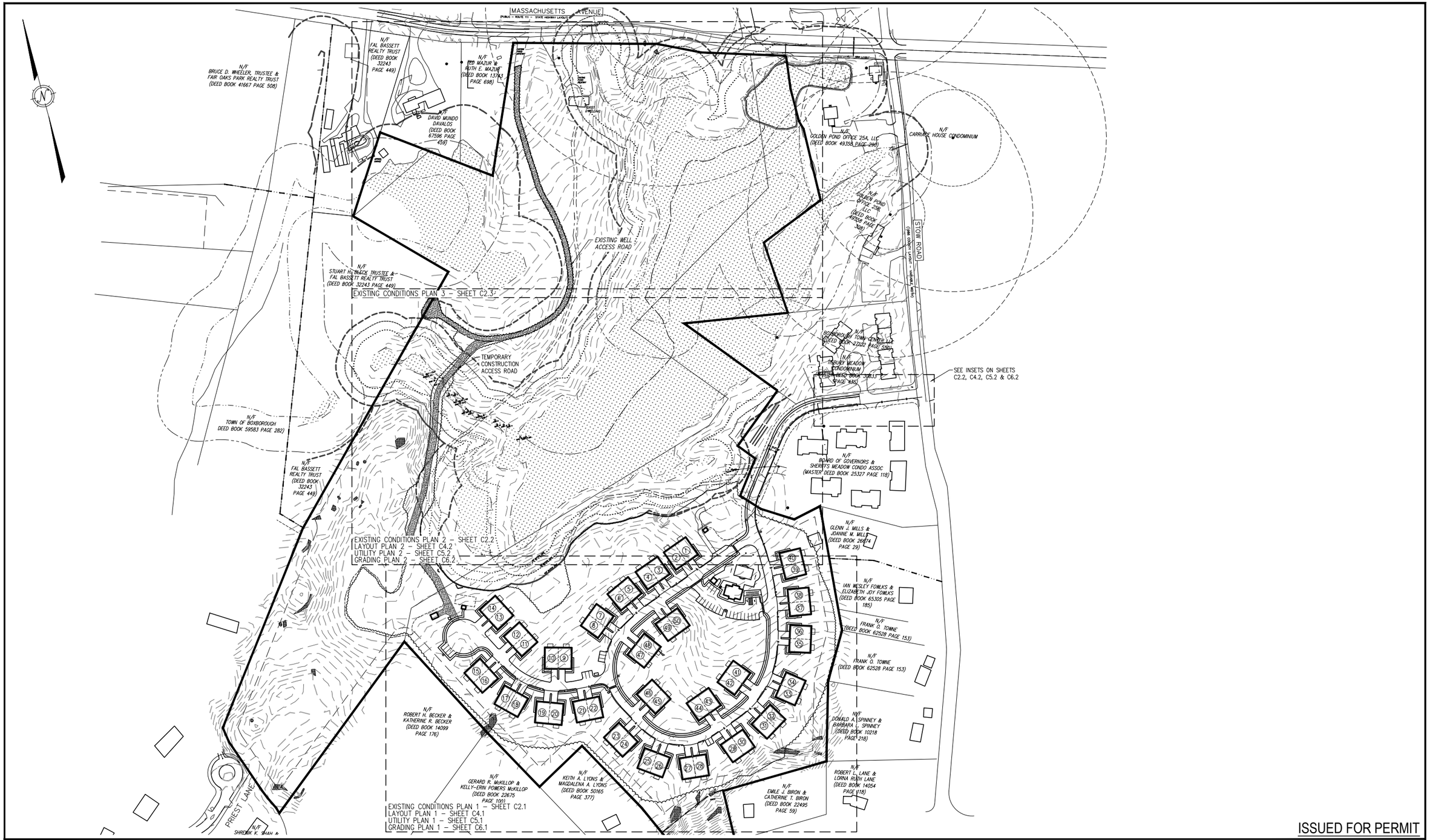
DATE:	4/16/19
DESIGN BY:	GSR
DRAWN BY:	RPV
CHECKED BY:	GSR

NOTES, ABBREVIATIONS & LEGEND

700-800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY
1.	-	NOT ISSUED	RPV
2.	5/17/19	REV. PER TOWN COMMENTS	RPV
3.	6/19/19	REV. PER PEER REVIEW COMMENTS	RPV

JOB NO. 6092
DRAWING NO. 6092-NOTES
SHEET NO. C1.1



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SCALE:
120 0 60 120 240 480
1 in. = 120 ft.

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COMMONWEALTH OF MASSACHUSETTS
GREGORY S. FOY
CIVIL
No. 46013
REGISTERED PROFESSIONAL ENGINEER
6/19/19

DATE: 4/16/19
DESIGN BY: GSR
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KEY SHEET
700–800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

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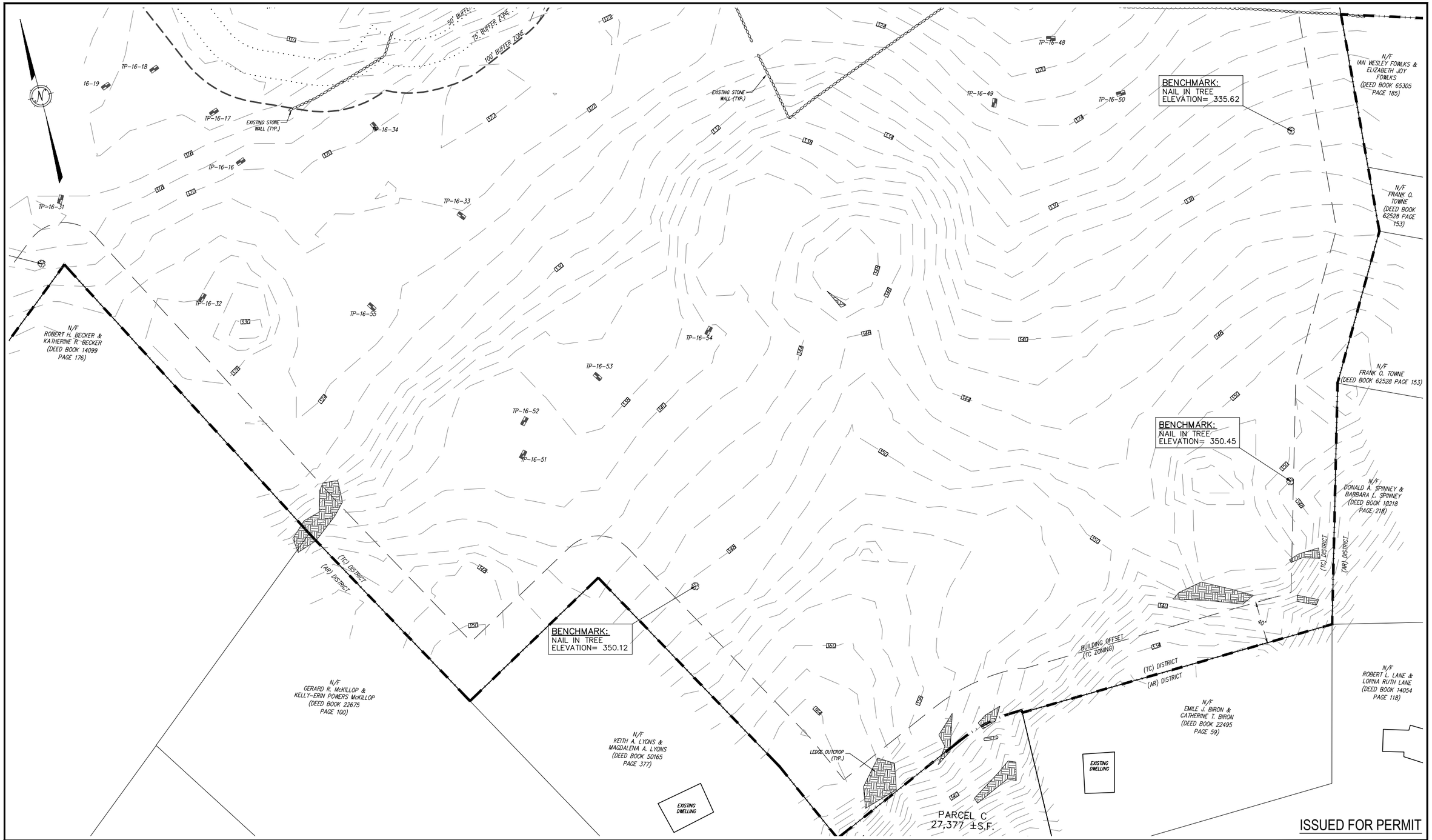
JOB NO. 6092
DRAWING NO. 6092–KEY
SHEET NO. C1.2



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WEST ACTON, MA 01720

SCALE:
40 0 20 40 80 160
1 in. = 40 ft.

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COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
No. 45837
REGISTERED PROFESSIONAL ENGINEER
6/19/19

DATE: 4/16/19
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

EXISTING CONDITIONS PLAN 3
700-800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY
1.	–	NOT ISSUED	RPV
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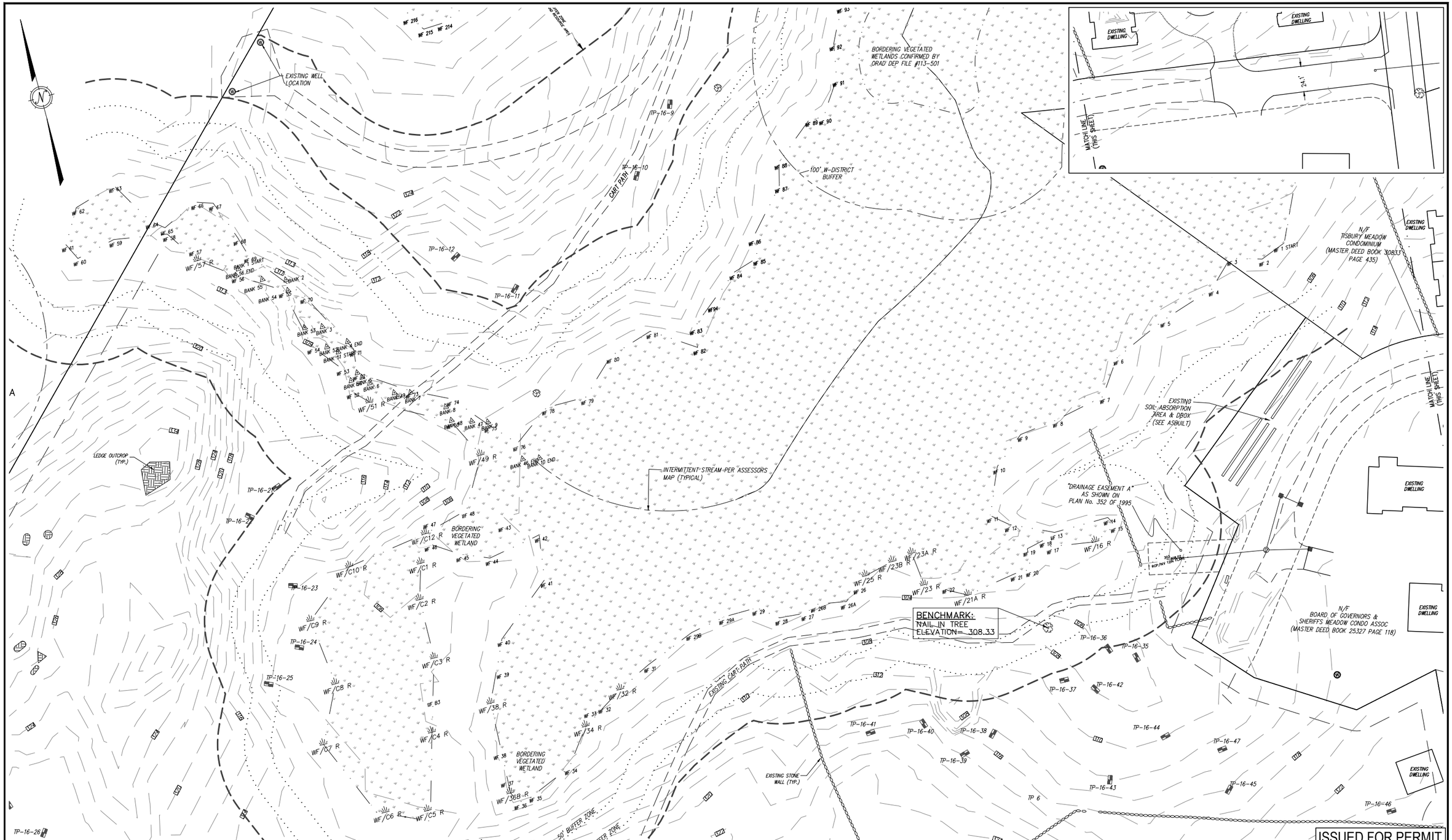
3.	6/19/19	REV. PER PEER REVIEW COMMENTS	RPV

JOB NO. 6092
DRAWING NO. 6092-EXIST
SHEET NO. C2.1



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SCALE:
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1 in. = 40 ft.

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GREGORY S. ROY
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No. 46837
REGISTERED PROFESSIONAL ENGINEER
6/19/19

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EXISTING CONDITIONS PLAN 2
700-800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

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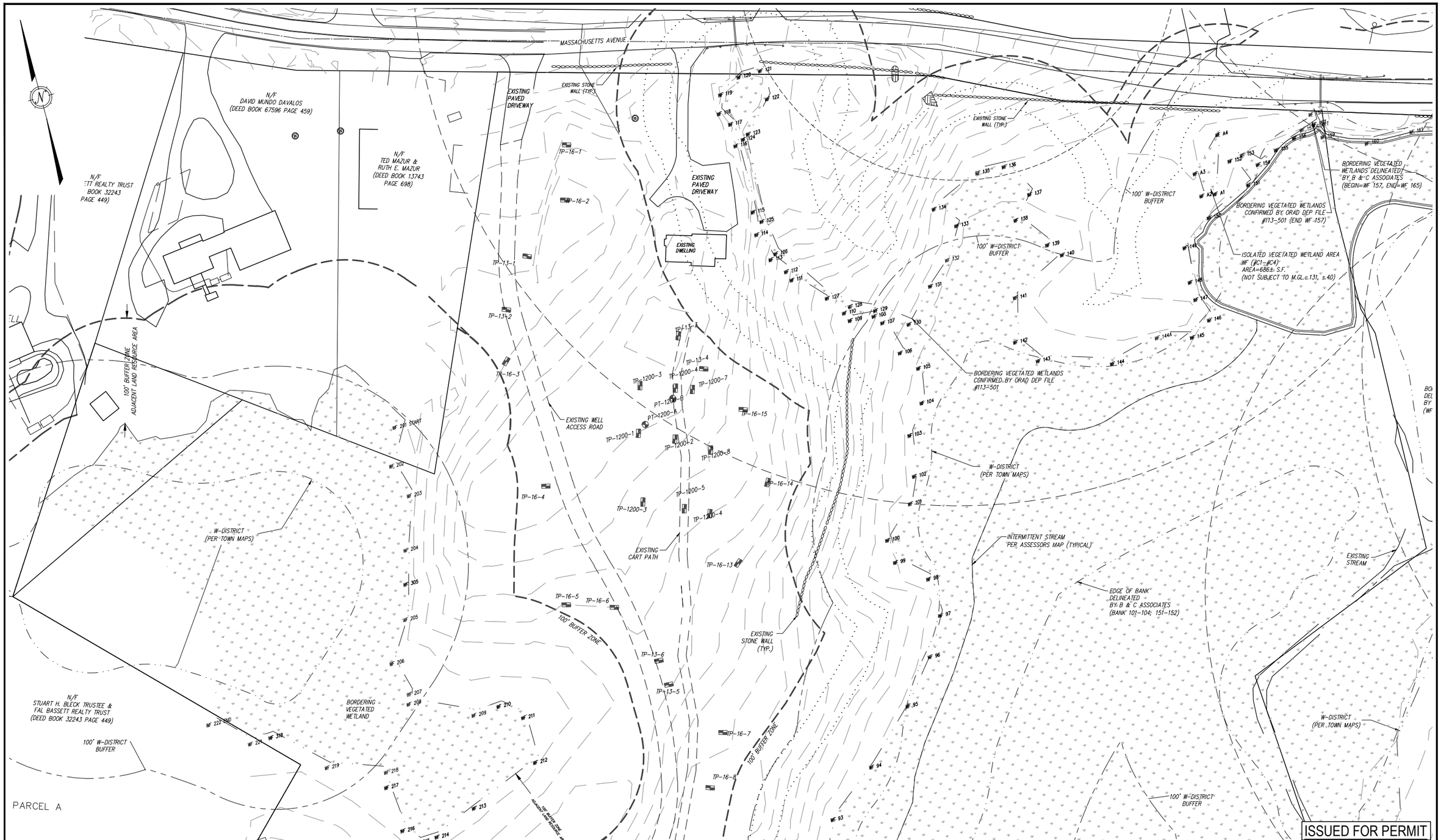
JOB NO. 6092
DRAWING NO. 6092-EXIST
SHEET NO. C2.2



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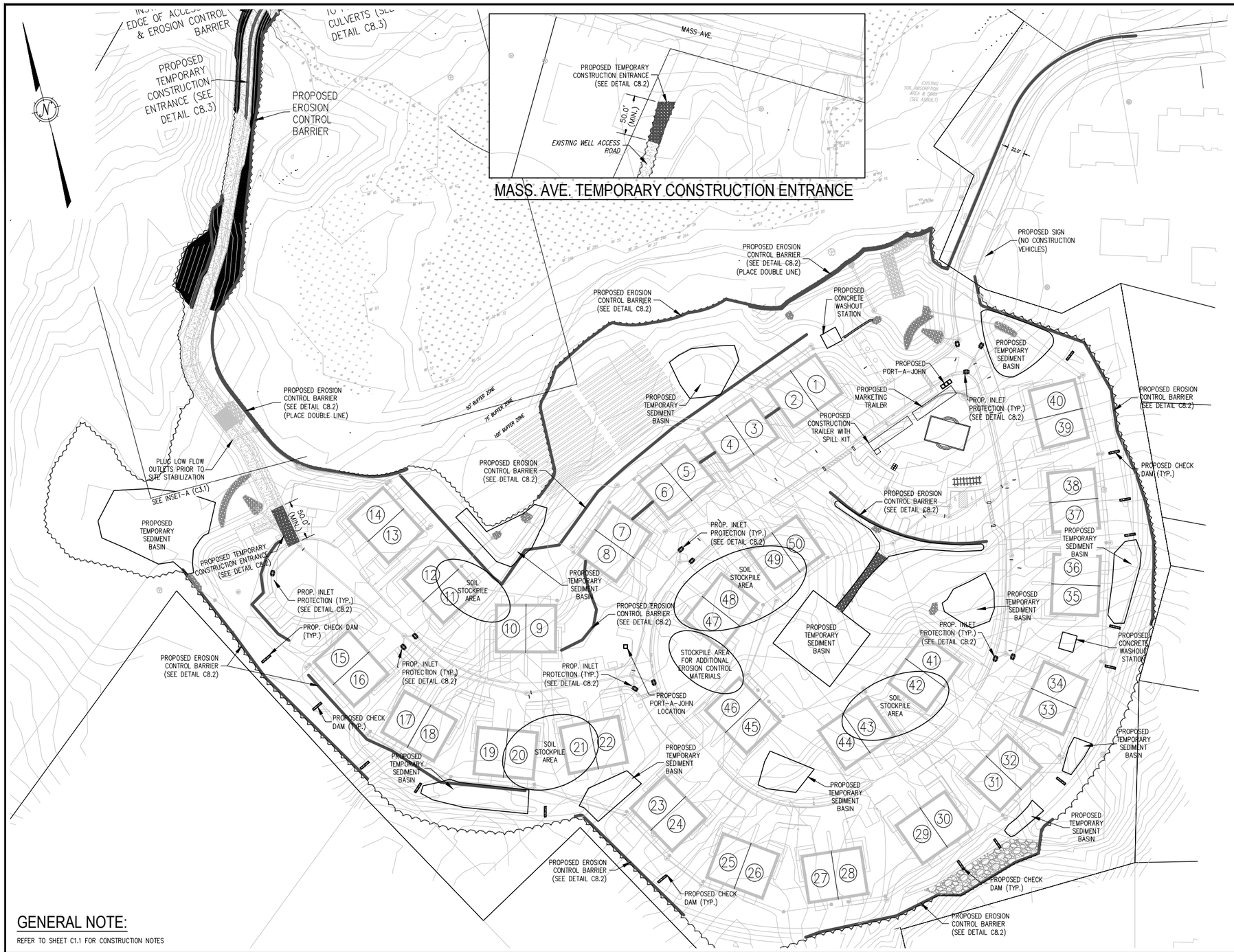
COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
No. 46013
REGISTERED PROFESSIONAL ENGINEER
6/19/19

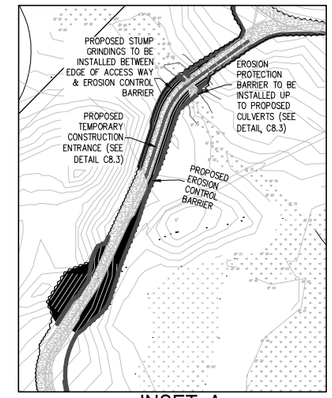
DATE: 4/16/19
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

EXISTING CONDITIONS PLAN 1
700-800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY
1.	–	NOT ISSUED	RPV
2.	5/17/19	REV. PER TOWN COMMENTS	RPV
3.	6/19/19	REV. PER PEER REVIEW COMMENTS	RPV

JOB NO. 6092
DRAWING NO. 6092-EXIST
SHEET NO. C2.3





INSET A

SCALE 1"=100'

EROSION & SEDIMENTATION CONTROL NOTES:

1.1 GENERAL REQUIREMENTS

1.1.1 CONTRACTOR TO COMPLY WITH THE REQUIREMENT OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED BY DUCHARME & DILLIS CIVIL DESIGN GROUP, INC. CONTRACTOR SHALL PREPARE & FILE AN EPA NOI ONCE THE SWPPP IN COMPLETE.

1.1.2 CONSTRUCTION SHALL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.

1.1.3 EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY DISTURBANCE ON SITE.

1.1.4 AREAS WHICH ARE NOT TO BE DISTURBED SHALL BE CLEARLY MARKED BY FLAGS, SIGNS, ETC. RETAIN EXISTING VEGETATION WHERE FEASIBLE.

1.1.5 THERE SHALL BE NO STORAGE OF ANY KIND OF ANY CHEMICALS, PESTICIDES, FUELS AND OTHER POTENTIALLY TOXIC OR HAZARDOUS MATERIALS ON SITE.

1.1.6 NO DEBRIS, JUNK, RUBBISH OR OTHER WASTE MATERIALS SHALL BE BURIED ON THE SITE.

1.1.7 STUMPS AND OTHER WOOD DEBRIS SHALL BE DISPOSED OF IN ACCORDANCE WITH THE "POLICY ON THE DISPOSAL OF WOODWASTES" PUBLISHED BY THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS, DATED AUGUST 14, 1987.

1.1.8 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.

1.2 MAINTENANCE/ PERFORMANCE STANDARDS

1.2.1 ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL WITH AN ACCUMULATION OF 1/2" OR MORE. THE FOLLOWING ITEMS SHALL BE CHECKED IN PARTICULAR:

1.2.1.1 THE SILT FENCE BARRIERS SHALL BE CHECKED REGULARLY FOR TEARS, DETERIORATION AND UNDERMINING AND SHALL BE REPAIRED AS REQUIRED.

1.2.1.2 ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE RESEEDED AS NEEDED.

1.2.2 THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD, DIRT DEBRIS, ETC... ONTO THE PUBLIC ROAD. THIS MAY REQUIRE PERIODIC UP KEEP/RECONSTRUCTION OF THE TOP DRESSING WITH 2 INCH STONE AS CONDITIONS DEMAND AND OR CLEANOUT/REPLACEMENT OF STONE IF CLOGGING OR SEDIMENTATION OCCURS. ALL MATERIALS SPILLED DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO THE TOWN ROAD MUST BE REMOVED DAILY BY SWEEPING OR OTHER SUITABLE MEANS.

1.2.3 ALL AREAS ON SITE SUBJECT TO EROSION/SEDIMENTATION SHALL BE INSPECTED ON A REGULAR BASIS. ALL ITEMS SPECIFIED ON THIS AND OTHER PLANS SHALL BE INSPECTED TO VERIFY THAT THEY ARE OPERATING AS DESIGNED AND INTENDED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN AND REPAIR ALL STRUCTURES.

1.2.4 THE ENTIRE DRAINAGE SYSTEM SHALL BE INSPECTED ON A REGULAR BASIS AND PRIOR TO AND IMMEDIATELY AFTER ANY RAINFALL EVENT WHILE THE SITE IS DISTURBED. CONTRACTOR SHALL PREVENT SEDIMENT FROM ENTERING THE DRAINAGE POND DURING CONSTRUCTION.

1.3 TEMPORARY MEASURES

1.3.1 PLACE SILT FENCE WITH STRAW BALES AS SHOWN ON THE EROSION CONTROL PLAN. PLACE A SECOND SILT FENCE IN LOCATIONS AS DEPICTED ON THE EROSION CONTROL PLAN.

1.3.2 IF LOAM IN PLACED OUTSIDE OF THE NORMAL GROWING SEASON SILT FENCE OR STRAW WADDLES SHALL BE PLACED BETWEEN THE LAWN AREA AND PAVEMENT.

1.3.3 CONSTRUCT TEMPORARY STONE PAD AT EXIT TO THE SITE AS SHOWN ON THE EROSION CONTROL PLAN.

1.3.4 DURING DRY PERIODS, PROVIDE MEANS FOR MITIGATION OF DUST, SUCH AS WATERING OF EXPOSED AREAS.

1.3.5 STOCKPILE LOCATIONS SHALL BE WITHIN THE PROPOSED LIMIT OF WORK AND OUTSIDE ALL RESOURCE AREAS. SOIL STOCKPILES STORED FOR 24 HOURS OR LONGER WILL BE PROVIDED WITH ANY NECESSARY EROSION CONTROL. PILES LEFT FOR 21 DAYS OR MORE SHALL BE SEEDED.

1.3.6 WASTE DISPOSAL RECEPTACLES AND TRAILERS SHALL BE USED FOR THE DISPOSAL OF CONSTRUCTION DEBRIS, WHICH SHALL BE REMOVED FROM SITE ACCORDING TO STATE, LOCAL AND FEDERAL GUIDELINES. CONSTRUCTION DEBRIS INCLUDES PAVEMENT, UTILITY, EARTH AND BUILDING MATERIALS THAT CANNOT BE REUSED. THE RECEPTACLES SHALL BE LOCATED ON-SITE OUTSIDE OF ALL RESOURCE AREAS AND COVERED.

1.3.7 THE TEMPORARY MEASURES SHALL NOT BE REMOVED UNTIL PERMANENT STABILIZATION HAS OCCURRED AND ONLY AFTER APPROVAL BY THE BOLTON CONSERVATION COMMISSION AND THE ENGINEER.

1.3.8 IF LEDGE IS ENCOUNTERED DURING THE CONSTRUCTION OF A TEMPORARY SETTLING BASIN, THE DOWNHILL EXTENTS OF THE BASINS SHALL BE BERMED, AS OPPOSED TO REMOVING SECTIONS OF THE ENCOUNTERED LEDGE.

1.3.9 TEMPORARY CONSTRUCTION ACCESS ROAD SHALL BE "RECLAIMED ASPHALT PAVEMENT" (RAP). SIDE SLOPES ALONG THE ACCESS ROAD SHALL BE STUMP GRINDINGS, TO PREVENT WASHOUT AND EROSION DURING INTENSE RAINFALL EVENTS.

1.4 PERMANENT STABILIZATION

1.4.1 SLOPES IN EXCESS OF 3 TO 1 SHALL BE HYDRO-MULCHED. LOAMED (6" MIN.) AND SEEDED SLOPES SHALL BE PROTECTED FROM WASHOUT BY MULCHING OR OTHER ACCEPTABLE SLOPE PROTECTION UNTIL VEGETATION IS ESTABLISHED.

1.4.2 UNLESS OTHERWISE INDICATED HEREON ALL DISTURBED AREAS SHALL BE LOAMED (6" MIN.) AND SEEDED WITH AN APPROPRIATE MIXTURE OF GRASSES SUITABLE FOR THE AREA. AREAS NOT STABILIZED BEFORE THE END OF THE FALL PLANTING SEASON SHALL BE HYDRO-MULCHED AND SEEDED IN THE SPRING. ALL DISTURBED AREAS DURING THE WINTER MONTHS WILL BE STABILIZED BY LIMITING THE SLOPES TO 3 TO 1 OR HYDRO-MULCHED, AS DESCRIBED ABOVE.

1.5 DEWATERING

1.5.1 THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEWATERING OPERATIONS DURING CONSTRUCTION.

1.5.2 DEWATERING SHALL BE PERFORMED TO ACHIEVE CONSTRUCTION OF FOOTINGS, FOUNDATIONS, PAVEMENTS, AND OTHER SUBSURFACE UTILITIES AND APPURTENANCES IN DRY CONDITIONS.

1.5.3 DEWATERING SHALL BE PERFORMED THROUGH THE USE OF IN TRENCH SUMP PUMPS, WELLS, DRAINS AND OTHER ITEMS NECESSARY FOR CONSTRUCTION. CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, OPERATE AND REMOVE ALL DEWATERING DEVICES AND APPURTENANCES AS REQUIRED FOR CONSTRUCTION. SUCH ACTIVITIES SHALL BE INCLUDED IN THE CONTRACTORS BID.

1.5.4 THE FLOW FROM DEWATERING PUMPS SHALL BE DISCHARGED TO A SEDIMENTATION BASIN PRIOR TO DISCHARGE TO A RESOURCE AREA. CONSTRUCT SEDIMENTATION BASIN WITH HAY BALES STAKED IN PLACE. BASINS TO BE 10-FEET X 10-FEET INTERIOR DIMENSIONS.

1.5.5 DETENTION BASINS TO BE CLEANED AFTER UPGRADIENT AREAS ARE COMPLETELY STABILIZED.

1.5.6 SEDIMENT BASIN LOCATIONS DEPICTED ON PLANS SHALL BE ADJUSTED BY THE CONTRACTOR AS REQUIRED FOR SITE SPECIFIC EROSION CONTROL.

1.5.7 ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES MUST BE MAINTAINED AND REPAIRED AS NEEDED.

1.5.8 TEMPORARY SEDIMENT BASINS ARE TO BE CLEANED ONCE 33% OF THE BASINS CAPACITY HAS BEEN REACHED

GENERAL NOTE:

REFER TO SHEET C1.1 FOR CONSTRUCTION NOTES

PREPARED BY:

DUCHARME & DILLIS Civil Design Group, Inc.

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SCALE:
60 0 30 60 120 240
1 in. = 60 ft.

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COMMONWEALTH OF MASSACHUSETTS GREGORY S. FOY CIVIL No. 46074 REGISTERED PROFESSIONAL ENGINEER 6/16/19

DATE: 4/16/19
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

EROSION & SEDIMENTATION CONTROL PLAN

700-800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY
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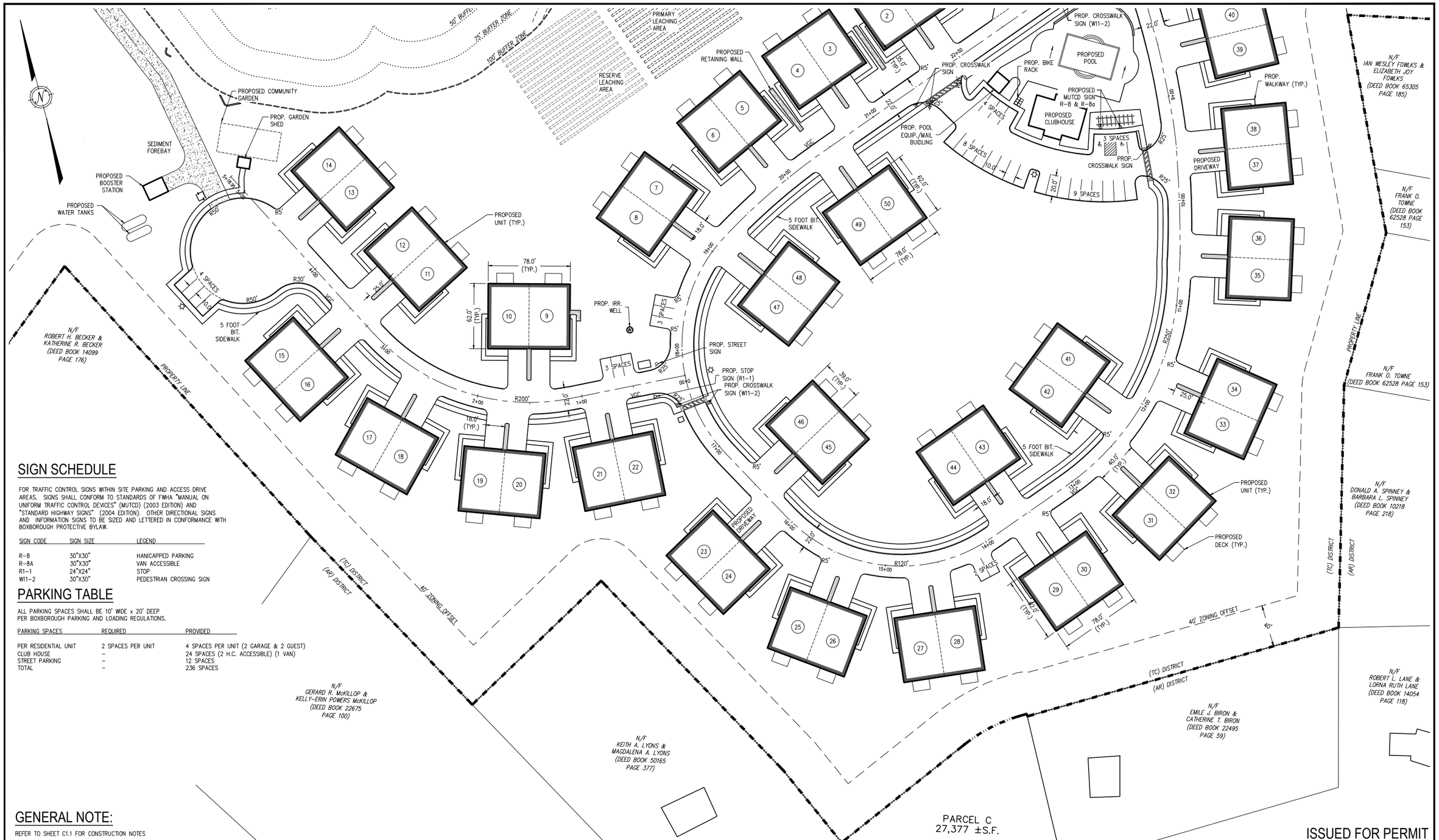
3.	6/19/19	REV. PER PEER REVIEW COMMENTS	RPV

JOB NO. 6092
DRAWING NO. 6092-SESC
SHEET NO. C3.1



SIGN SCHEDULE

FOR TRAFFIC CONTROL SIGNS WITHIN SITE PARKING AND ACCESS DRIVE AREAS. SIGNS SHALL CONFORM TO STANDARDS OF FWHA "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) (2003 EDITION) AND "STANDARD HIGHWAY SIGNS" (2004 EDITION). OTHER DIRECTIONAL SIGNS AND INFORMATION SIGNS TO BE SIZED AND LETTERED IN CONFORMANCE WITH BOXBOROUGH PROTECTIVE BYLAW.

SIGN CODE	SIGN SIZE	LEGEND
R-8	30"X30"	HANICAPPED PARKING
R-8A	30"X30"	VAN ACCESSIBLE
R1-1	24"X24"	STOP
W11-2	30"X30"	PEDESTRIAN CROSSING SIGN

PARKING TABLE

ALL PARKING SPACES SHALL BE 10' WIDE x 20' DEEP PER BOXBOROUGH PARKING AND LOADING REGULATIONS.

PARKING SPACES	REQUIRED	PROVIDED
PER RESIDENTIAL UNIT	2 SPACES PER UNIT	4 SPACES PER UNIT (2 GARAGE & 2 GUEST)
CLUB HOUSE	–	24 SPACES (2 H.C. ACCESSIBLE) (1 VAN)
STREET PARKING	–	12 SPACES
TOTAL	–	236 SPACES

GENERAL NOTE:

REFER TO SHEET C1.1 FOR CONSTRUCTION NOTES

ISSUED FOR PERMIT

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SCALE:
40 0 20 40 80 160
1 in. = 40 ft.

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COMMONWEALTH OF MASSACHUSETTS GREGORY S. FOY CIVIL No. 46037 REGISTERED PROFESSIONAL ENGINEER 6/19/19

DATE: 4/16/19
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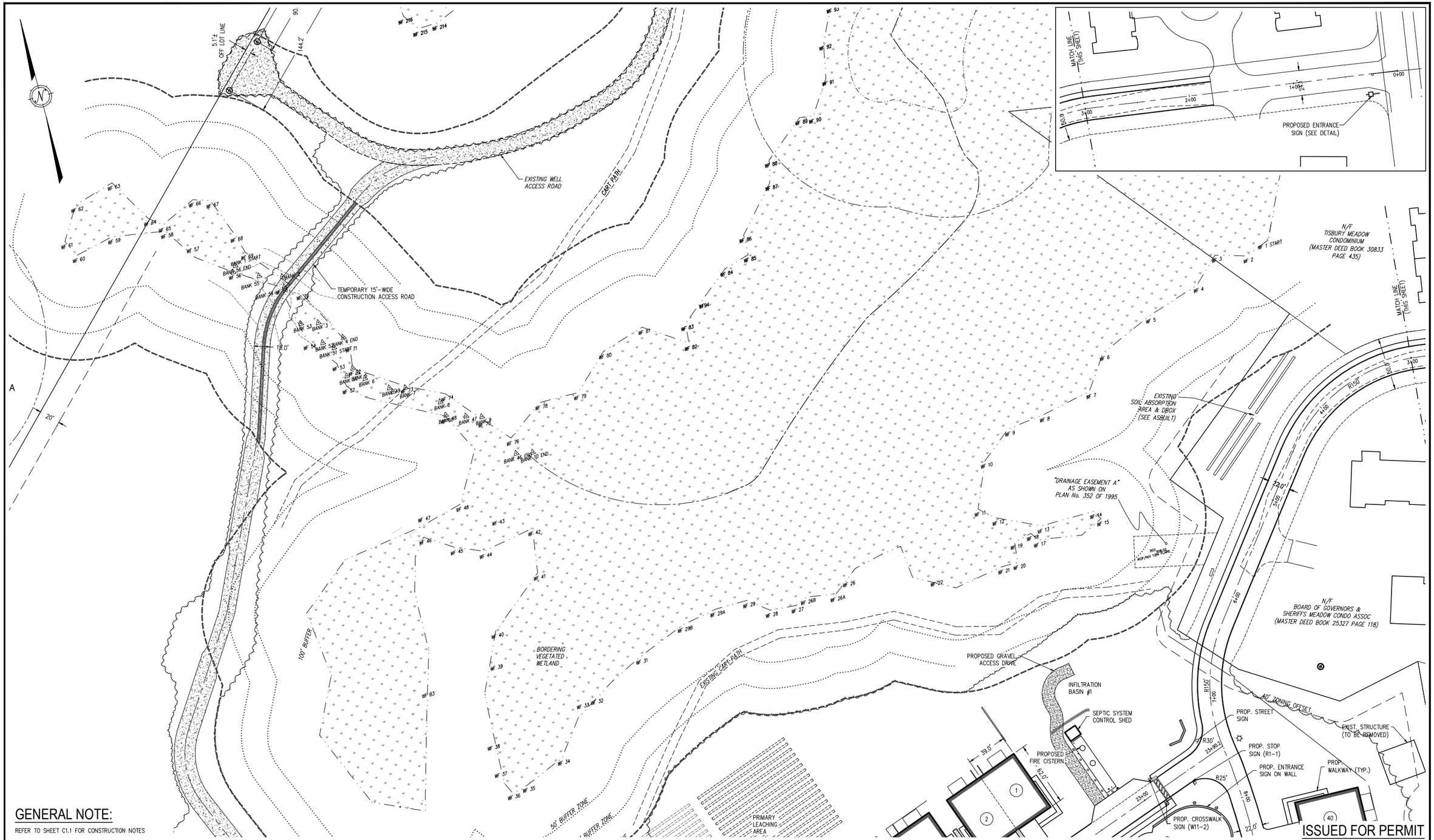
LAYOUT & MATERIALS PLAN 3
700-800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY
1.	–	NOT ISSUED	RPV
2.	5/17/19	REV. PER TOWN COMMENTS	RPV
3.	6/19/19	REV. PER PEER REVIEW COMMENTS	RPV

JOB NO. 6092
DRAWING NO. 6092-LAYOUT
SHEET NO. C4.1



GENERAL NOTE:

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SCALE:
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1 in. = 40 ft.

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COMMONWEALTH OF MASSACHUSETTS GREGORY S. ROY CIVIL NO. 46070 REGISTERED PROFESSIONAL ENGINEER 6/19/19

DATE: 4/16/19
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

LAYOUT & MATERIALS PLAN 2
700-800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY
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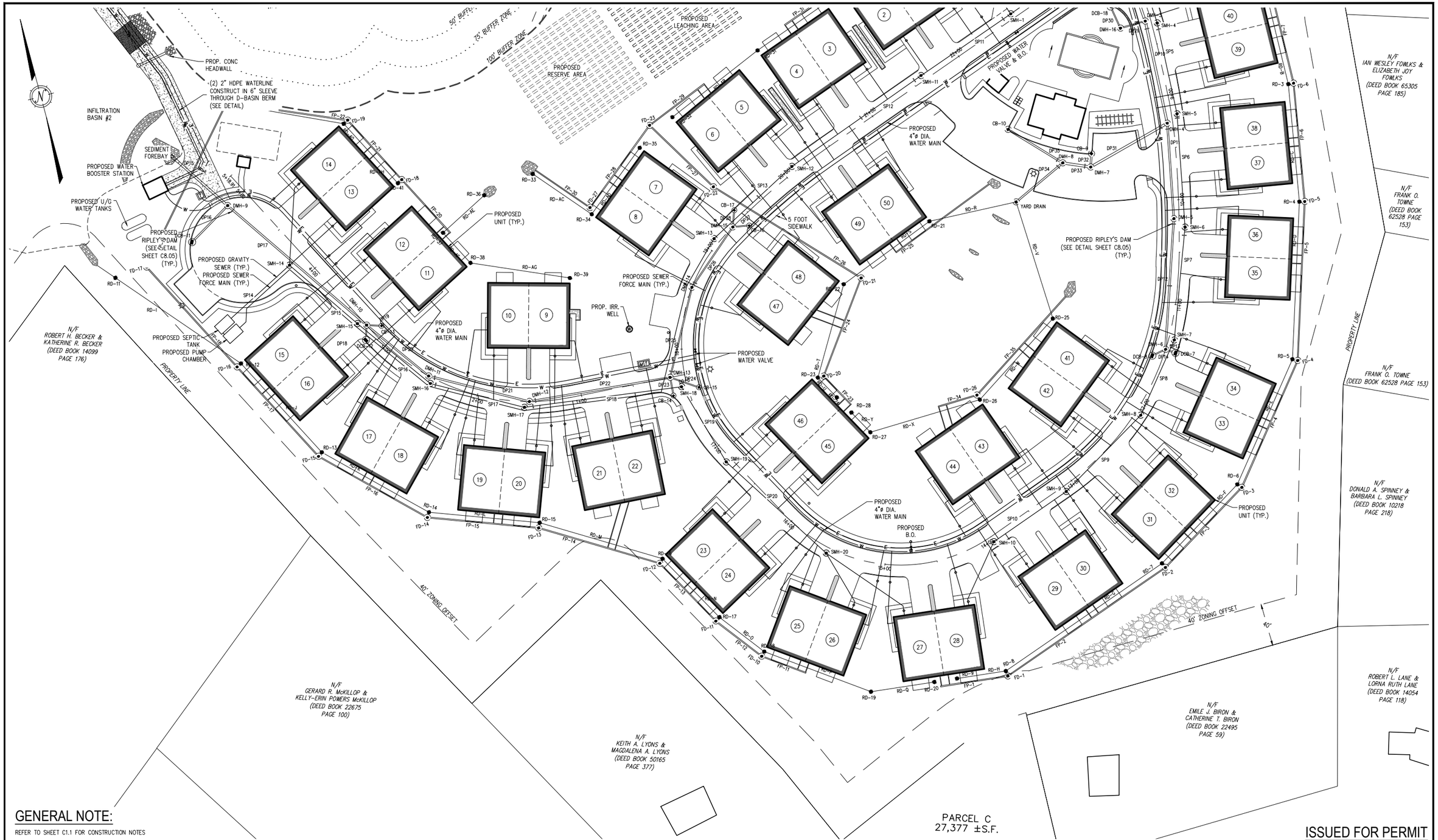
3.	6/19/19	REV. PER PEER REVIEW COMMENTS	RPV

JOB NO. 6092
DRAWING NO. 6092-LAYOUT
SHEET NO. C4.2



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COMMONWEALTH OF MASSACHUSETTS GREGORY S. FOY CIVIL No. 46837 REGISTERED PROFESSIONAL ENGINEER 6/19/19

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UTILITY PLAN 3

700-800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

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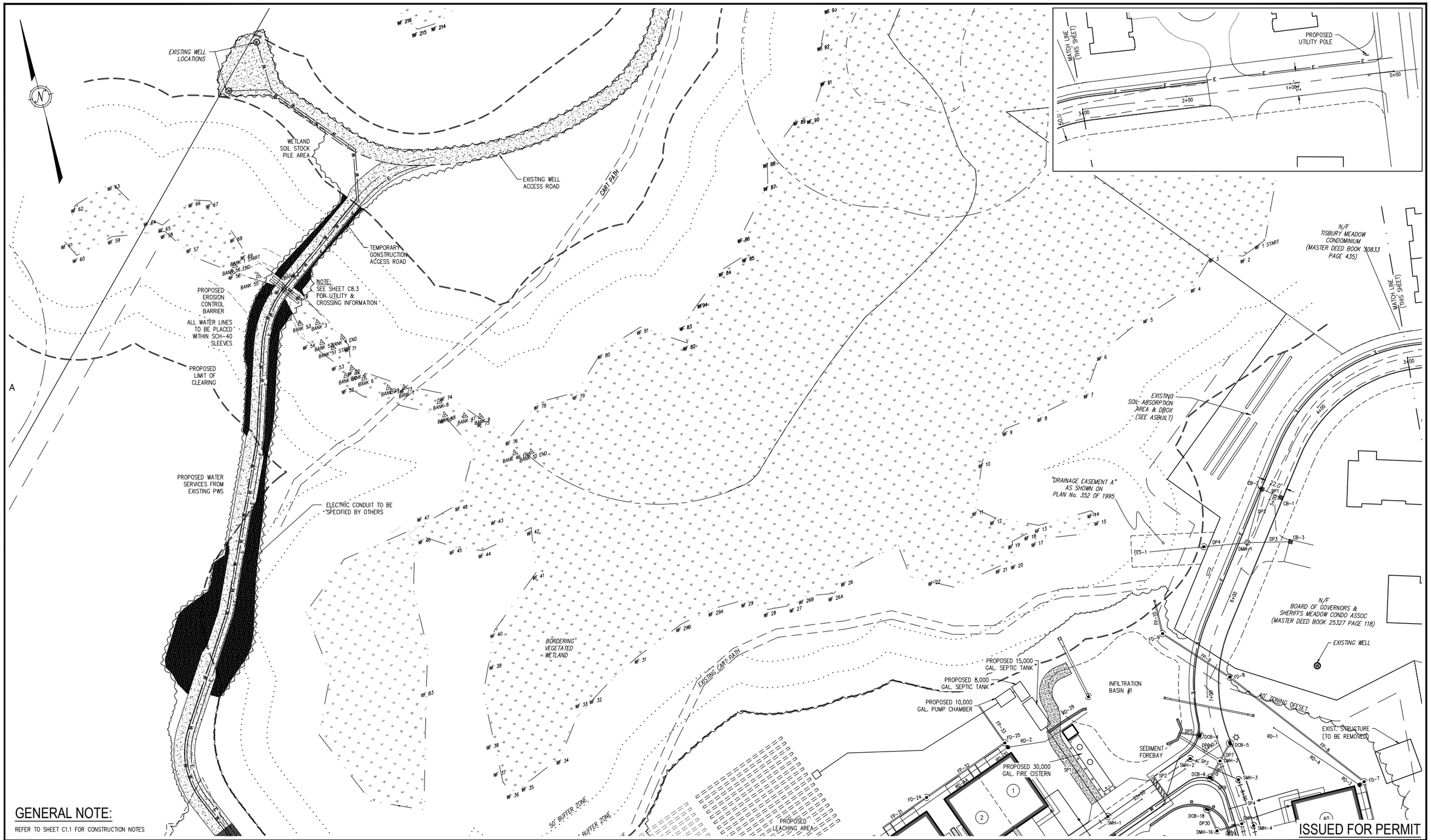
JOB NO. 6092
DRAWING NO. 6092-UTILITY
SHEET NO. C5.1



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COMMONWEALTH OF MASSACHUSETTS GREGORY S. FOY CIVIL No. 46074 REGISTERED PROFESSIONAL ENGINEER 6/19/19

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DESIGN BY: GSR
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UTILITY PLAN 2

700-800 MASSACHUSETTS AVENUE

BOXBOROUGH, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY
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JOB NO. 6092
DRAWING NO. 6092-UTILITY
SHEET NO. C5.2

GENERAL NOTE:

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GRADING & DRAINAGE PLAN
700-800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

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JOB NO. 6092
DRAWING NO. 6092-EXIST
SHEET NO. C6.1

GENERAL NOTE:

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BOXBOROUGH, MASSACHUSETTS

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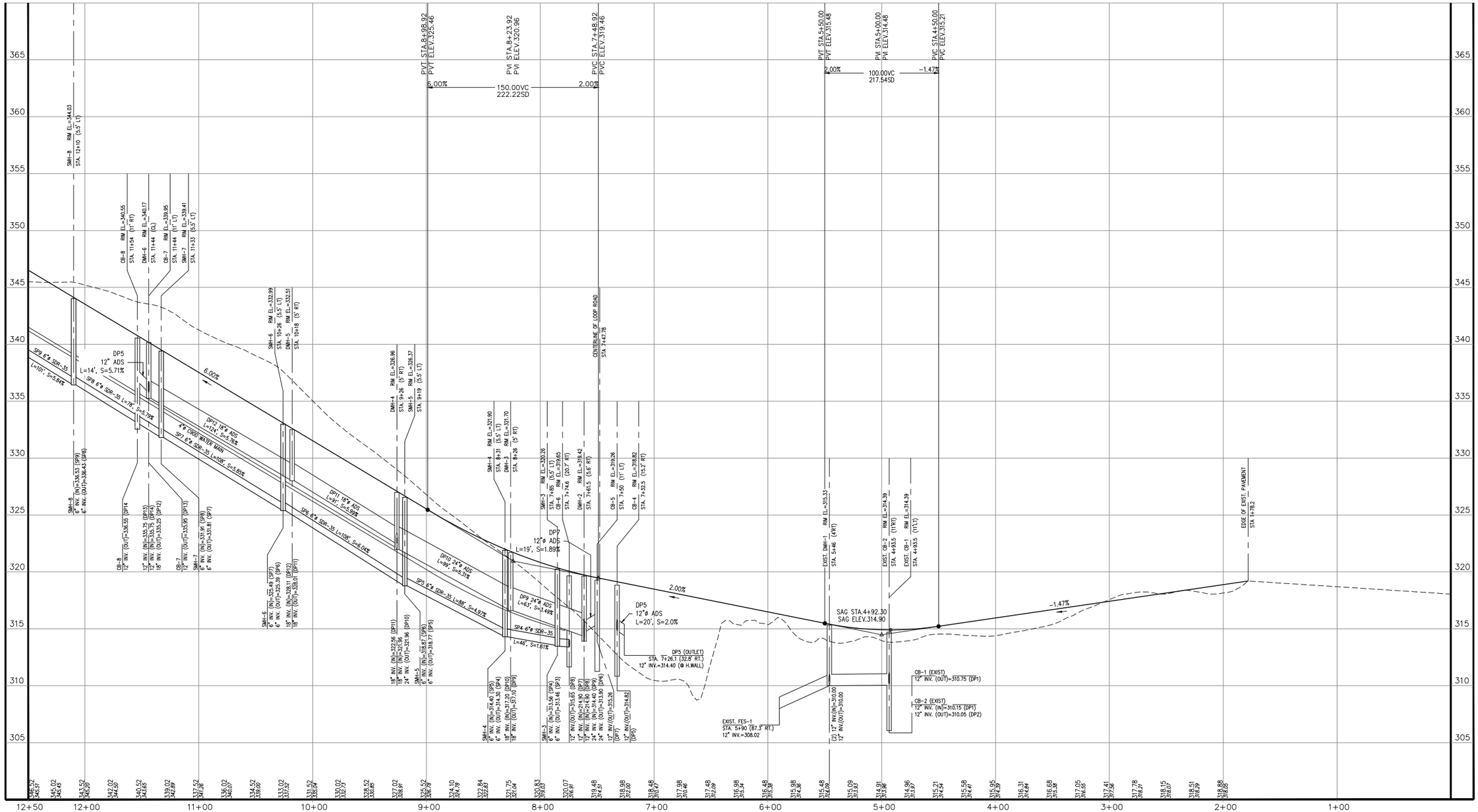
JOB NO. 6092
DRAWING NO. 6092-GRD & DRN
SHEET NO. C6.2



ROAD 1 PROFILE

SCALE: 1" = 40' (HOR.)
1" = 4' (VERT.)

ISSUED FOR PERMIT

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SCALE:

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COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
No. 46013
REGISTERED PROFESSIONAL ENGINEER
6/19/19

DATE: 4/16/19
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PLAN/PROFILE SHEET
700-800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

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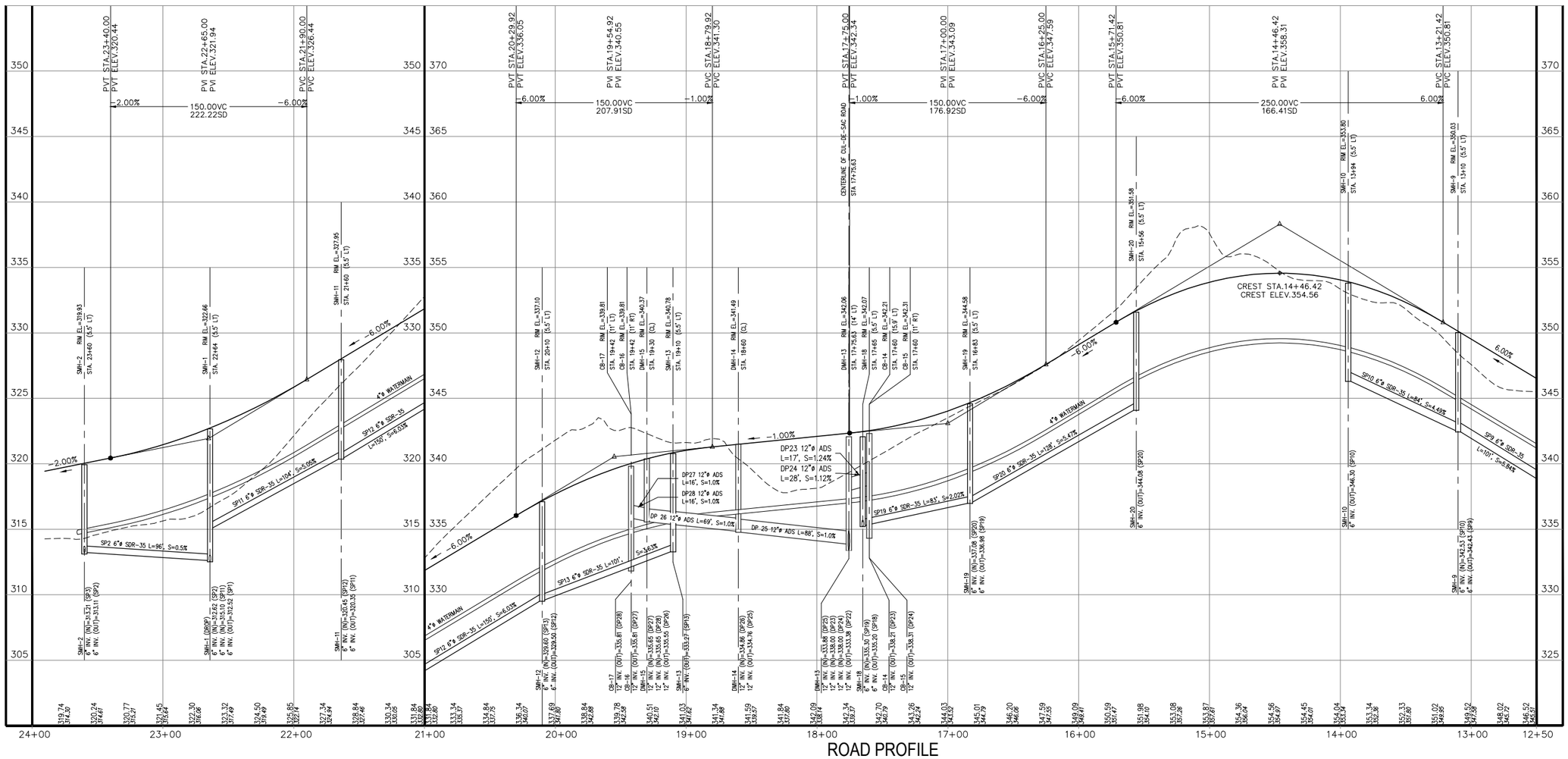
SHEET NO. C7.1



ROAD PROFILE

SCALE: 1" = 40' (HOR.)
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WEST ACTON, MA 01720

SCALE:

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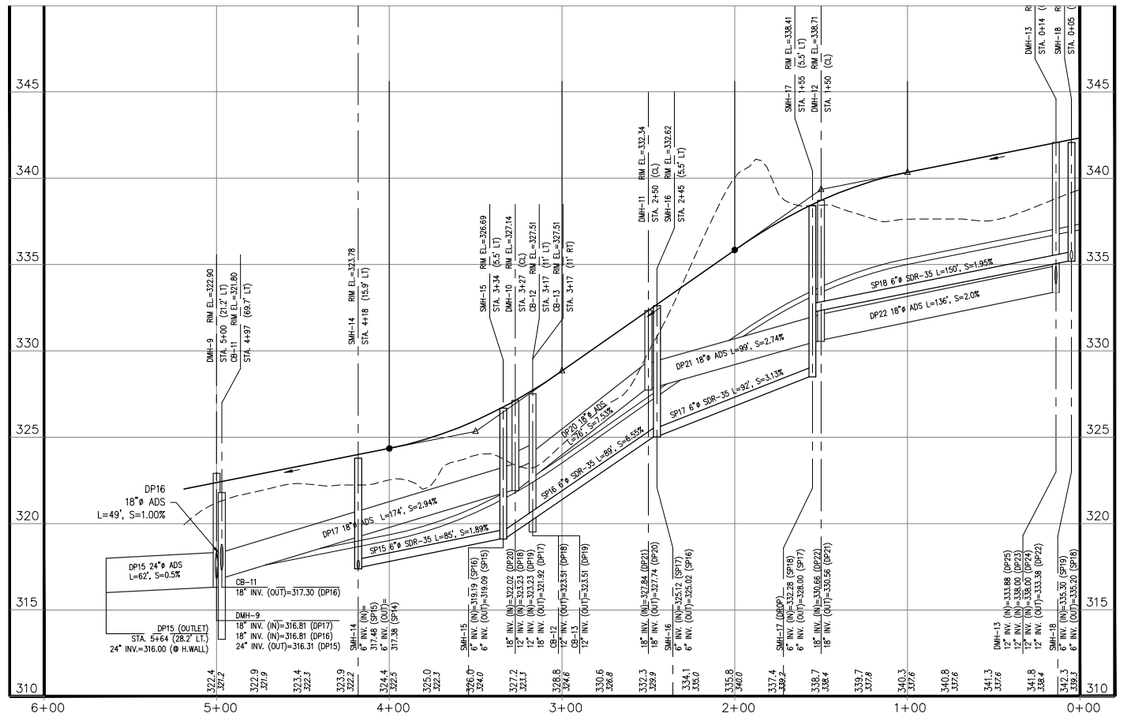
COMMONWEALTH OF MASSACHUSETTS GREGORY S. FOY CIVIL No. 46930 REGISTERED PROFESSIONAL ENGINEER 6/19/19

DATE: 4/16/19
DESIGN BY: GSR
DRAWN BY: GSR
CHECKED BY: GSR

PLAN/PROFILE SHEET
700-800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY
1.	–	NOT ISSUED	RPV
2.	5/17/19	REV. PER TOWN COMMENTS	RPV
3.	6/19/19	REV. PER PEER REVIEW COMMENTS	RPV

JOB NO. 6092
DRAWING NO. 6092-EXIST
SHEET NO. C7.2



CUL-DE-SAC PROFILE

SCALE: 1" = 40' (HOR.)
1" = 4' (VERT.)

ISSUED FOR PERMIT

PREPARED BY:

DUCHARME & DILLIS
Civil Design Group, Inc.
CIVIL ENGINEERS• LAND SURVEYORS• WETLAND CONSULTANTS

1092 MAIN STREET, P.O. BOX 428
BOLTON, MASSACHUSETTS 01740
PHONE: (978) 779-6091 FAX: (978) 779-0260
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OWNER:
BOXBOROUGH TOWN CENTER, LLC
P.O. BOX 985
WEST ACTON, MA 01720

APPLICANT:
BOXBOROUGH TOWN CENTER, LLC
P.O. BOX 985
WEST ACTON, MA 01720

SCALE:

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DIG SAFE 1-888-344-7233

COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
No. 46077
REGISTERED PROFESSIONAL ENGINEER
6/19/19

DATE: 4/16/19
DESIGN BY: GSR
DRAWN BY: GSR
CHECKED BY: GSR

PLAN/PROFILE SHEET
700–800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY
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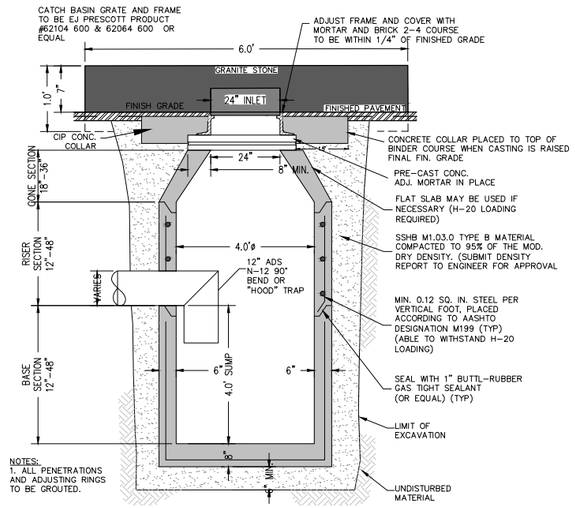
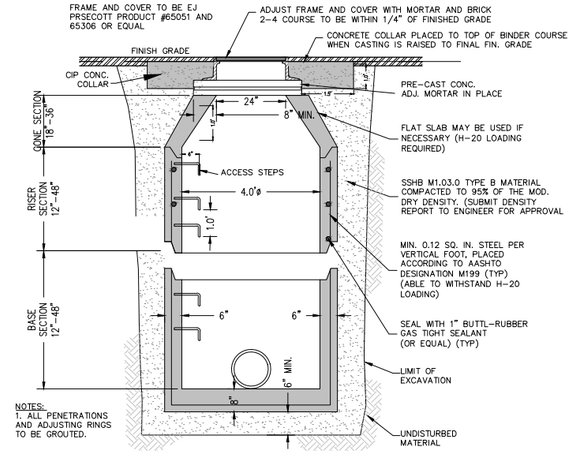
3.	6/19/19	REV. PER PEER REVIEW COMMENTS	RPV

JOB NO. 6092
DRAWING NO. 6092–EXIST
SHEET NO. C7.3



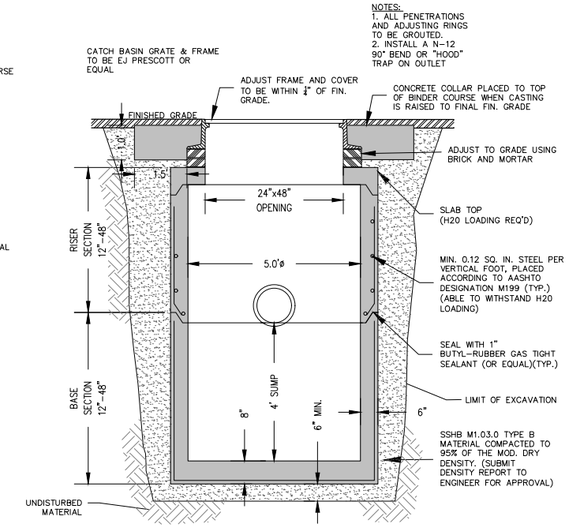
DEEP SUMP CONCRETE CATCH BASIN

NOT TO SCALE

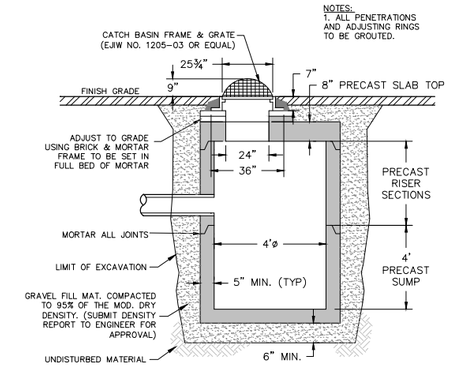


DRAIN MANHOLE DETAIL

NOT TO SCALE

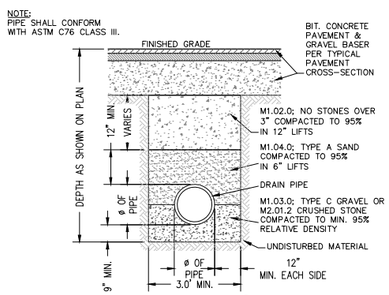


DEEP SUMP CONC. DOUBLE CATCH BASIN



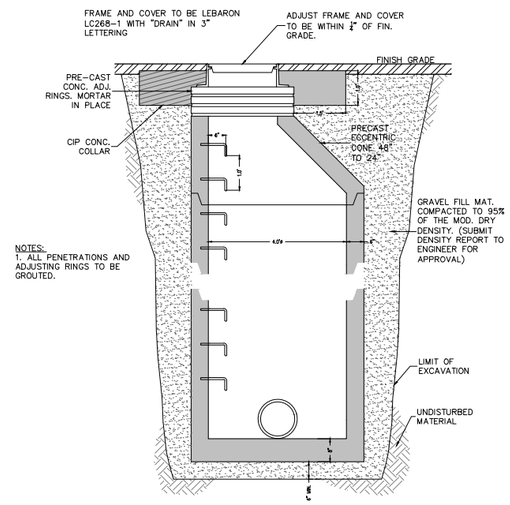
FIELD BASIN W/ BEEHIVE GRATE

NOT TO SCALE



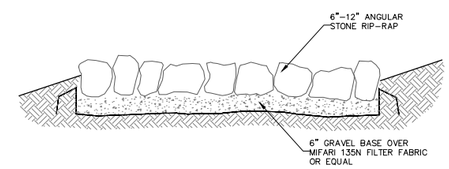
DRAIN PIPE TRENCH DETAIL

NOT TO SCALE



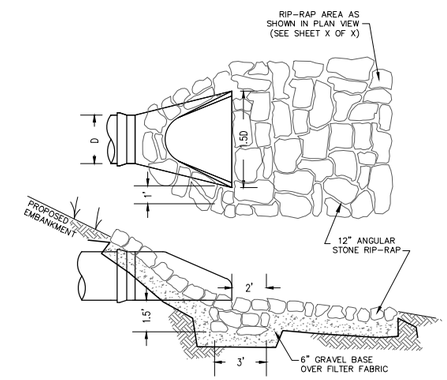
DRAIN MANHOLE DETAIL

NOT TO SCALE



STONE RIP-RAP DETAIL

NOT TO SCALE



FLARED END SECTION

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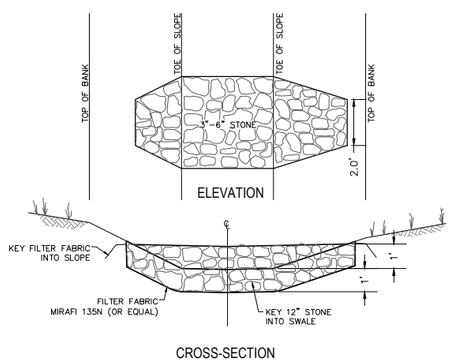
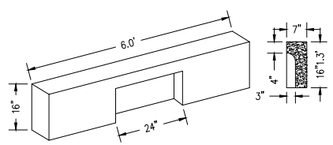


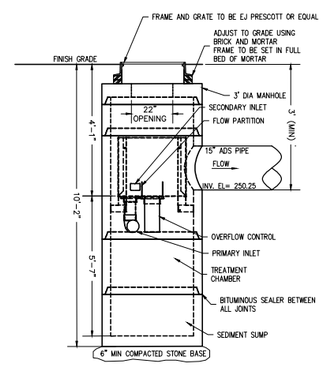
CHECK DAM DETAIL

SCALE: 1"=3'



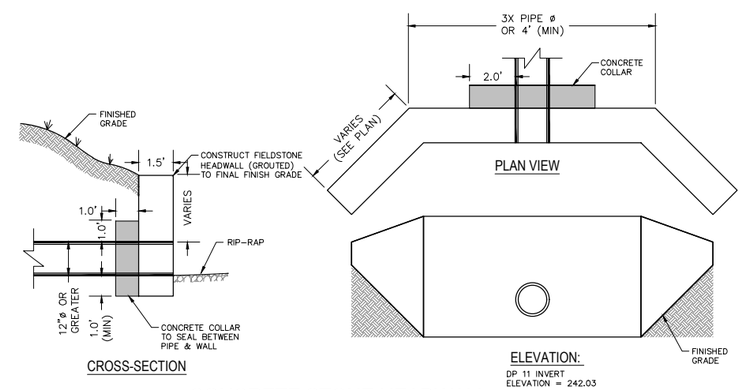
GRANITE CURB INLET

NOT TO SCALE



VORTSENTRY DETAIL

NOT TO SCALE



CONCRETE STONE HEADWALL

NOT TO SCALE

ISSUED FOR PERMIT

PREPARED BY:

DUCHARME & DILLIS
Civil Design Group, Inc.
CIVIL ENGINEERS• LAND SURVEYORS• WETLAND CONSULTANTS

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SCALE:

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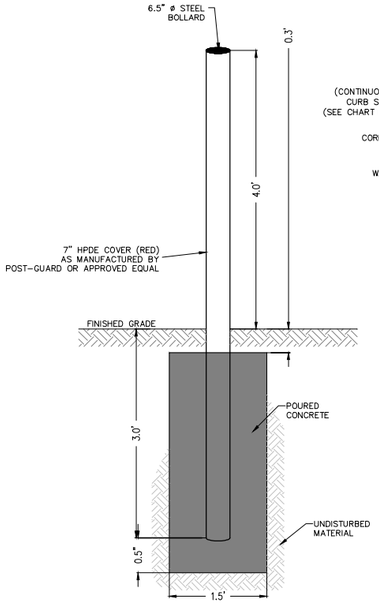
COMMONWEALTH OF MASSACHUSETTS GREGORY S. ROY CIVIL No. 46630 REGISTERED PROFESSIONAL ENGINEER 6/19/19

DATE: 4/16/19
DESIGN BY: GSR
DRAWN BY: GSR
CHECKED BY: GSR

DETAIL SHEET #1
700-800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

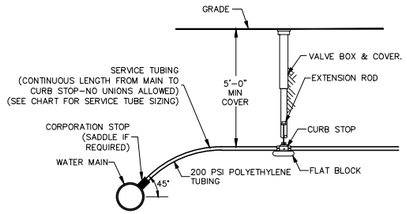
NO.	DATE	DESCRIPTION	BY
1.	–	NOT ISSUED	RPV
2.	5/17/19	REV. PER TOWN COMMENTS	RPV
3.	6/19/19	REV. PER PEER REVIEW COMMENTS	RPV

JOB NO. 6092
DRAWING NO. 6092-GRADING
SHEET NO. C8.1



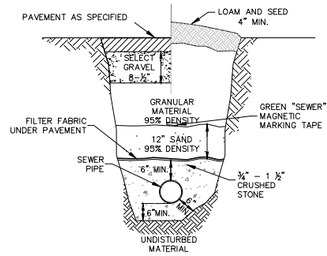
BOLLARD DETAIL

NOT TO SCALE



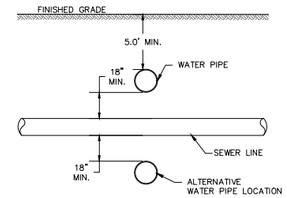
WATER SERVICE DETAIL

NOT TO SCALE



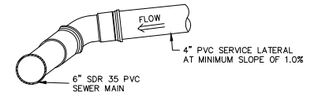
SEWER LINE TRENCH DETAIL

NO SCALE

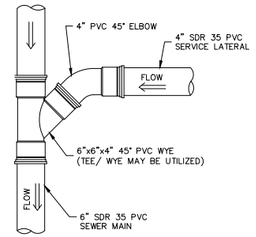


WATER AND SEWER LINE CROSSING

NOT TO SCALE



CROSS-SECTION



SEWER SERVICE CONNECTION

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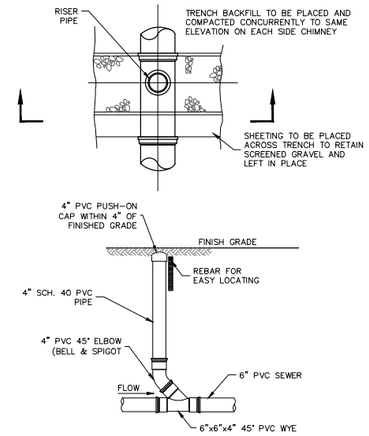
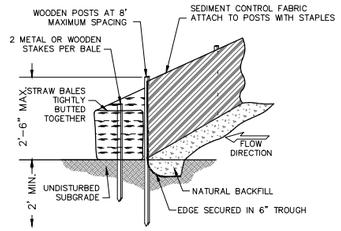
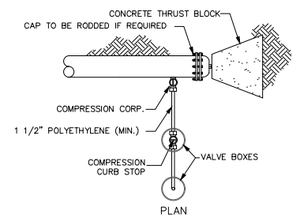


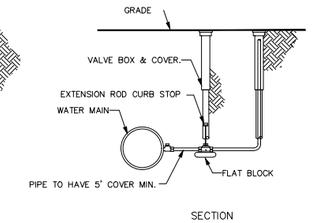
SEWER CLEANOUT DETAIL (GRASS/GARDEN AREAS)

NOT TO SCALE



SILTATION BARRIER

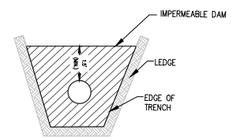




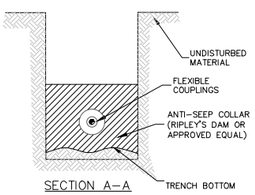
BLOW-OFF DETAIL

NO SCALE

NOT TO SCALE



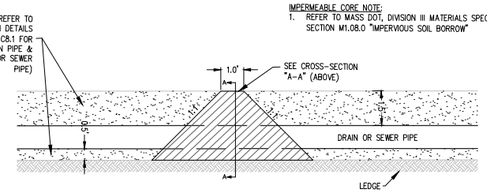
A—A



SECTION A—A

FLEXIBLE COUPLING SCHEDULE:

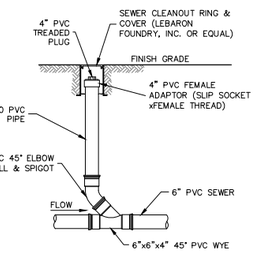
DESCRIPTION	PRODUCT NUMBER
4-8" RIPLY'S DAMN LESS/CPLG.	62388
10-12" RIPLEY'S DAMN LESS/CPLG.	62388 1
15-18" RIPLEY'S DAMN LESS/CPLG.	62388 2
21-24" RIPLEY'S DAMN LESS/CPLG.	62388 3



IMPERMEABLE CORE NOTE:
1. REFER TO MASS DOT, DIVISION III MATERIALS SPECIFICATIONS SECTION M1.08.0 "IMPERVIOUS SOIL BORROW"

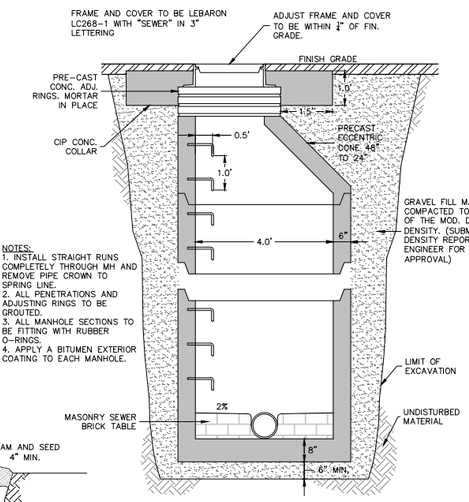
TRENCH DAM (LEDGE TRENCH)

NO SCALE



SEWER CLEANOUT DETAIL (PAVED AREAS)

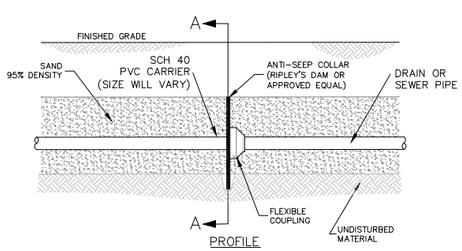
NOT TO SCALE



NOTES:
1. INSTALL STRAIGHT RUNS COMPLETELY THROUGH MH AND REMOVE PIPE CROWN TO SPRING LINE.
2. ALL PENETRATIONS AND ADJUSTING RINGS TO BE GROUTED.
3. ALL MANHOLE SECTIONS TO BE FITTING WITH RUBBER O-RINGS.
4. APPLY A BITUMEN EXTERIOR COATING TO EACH MANHOLE.

SEWER MANHOLE DETAIL

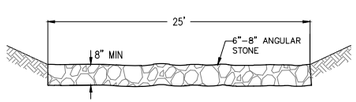
NOT TO SCALE



ANTI-SEEP COLLAR DETAIL (SOIL TRENCH)

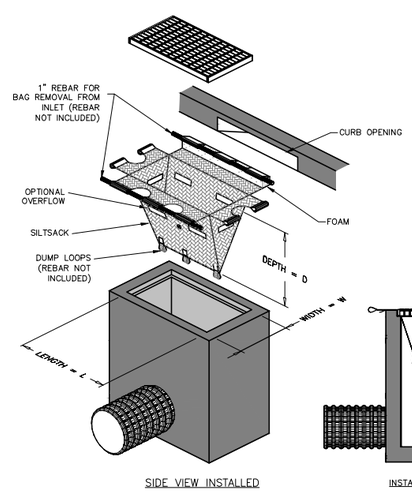
NOT TO SCALE

NOTE:
LENGTH = 50' MINIMUM
SEE PLAN FOR LOCATION(S)



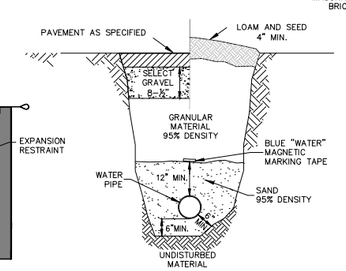
TEMP. CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE



SILT SACK

NOT TO SCALE



WATER MAIN IN TRENCH DETAIL

NOT TO SCALE

ISSUED FOR PERMIT

PREPARED BY:
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SCALE:

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COMMONWEALTH OF MASSACHUSETTS GREGORY S. FIDY CIVIL No. 46078 REGISTERED PROFESSIONAL ENGINEER 6/19/19

DATE: 4/16/19
DESIGN BY: GSR
DRAWN BY: GSR
CHECKED BY: GSR

DETAIL SHEET #2

700-800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

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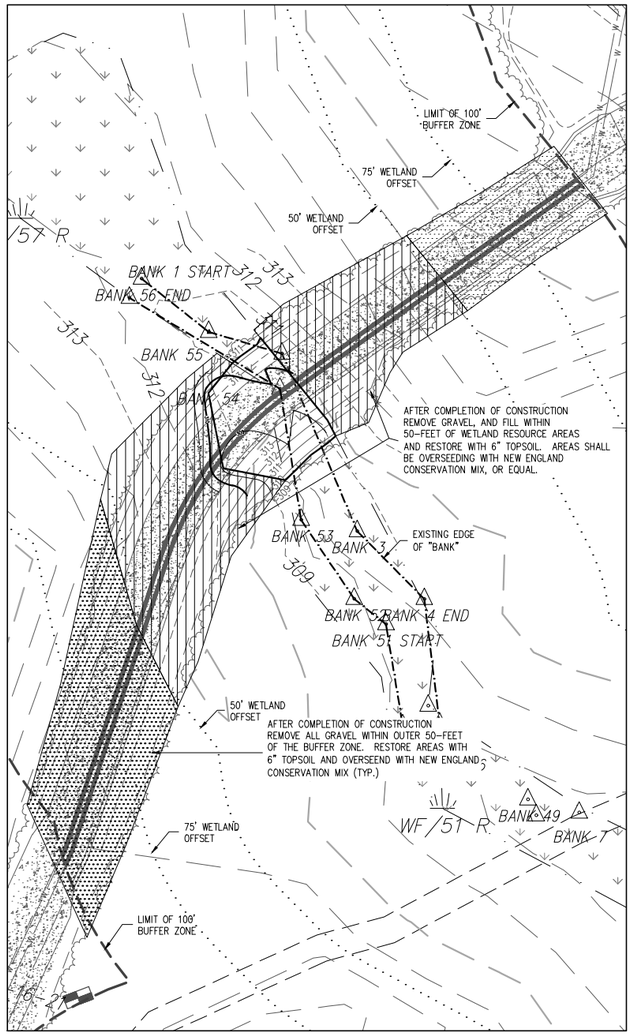
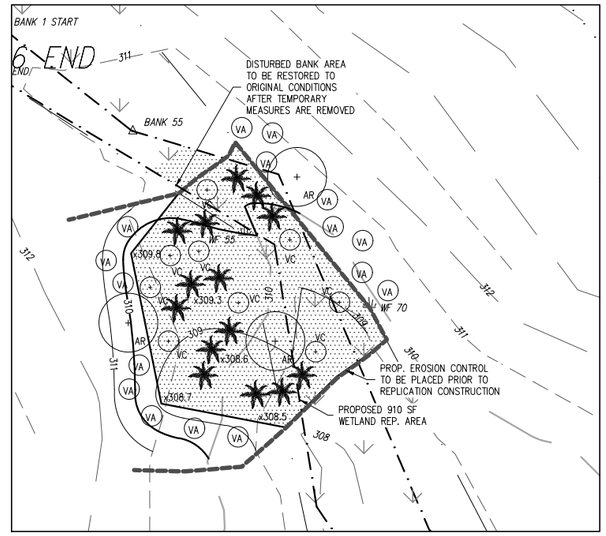
3.	6/19/19	REV. PER PEER REVIEW COMMENTS	RPV

JOB NO. 6092
DRAWING NO. 6092-EXIST
SHEET NO. C8.2



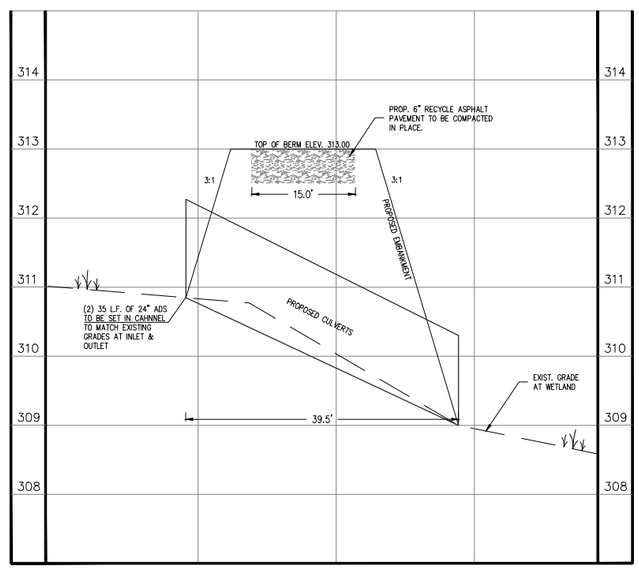
BUFFER ZONE RESTORATION PLAN

SCALE 1"=20'



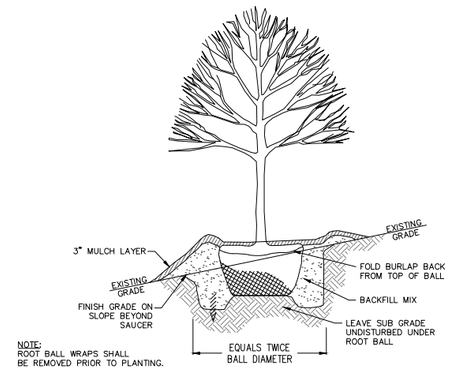
WETLAND REPLICATION

SCALE 1"=10'



WETLAND CROSSING X-SECTION

SCALE: 1" = 1' (HOR.)
1" = 10' (VERT.)



NOTE:
ROOT BALL WRAPS SHALL BE REMOVED PRIOR TO PLANTING.

TREE PLANTING DETAIL

NOT TO SCALE

WETLAND REPLICATION NOTES:

A. GENERAL NOTES

1. WETLAND AREAS SHALL BE STAKED, FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD PRIOR TO CONSTRUCTION.
2. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY DISTURBANCE ON SITE.
3. AREAS WHICH ARE NOT TO BE DISTURBED SHALL BE CLEARLY MARKED BY FLAGS, SIGNS, ETC. RETAIN EXISTING VEGETATION WHERE FEASIBLE.
4. CONTRACTOR TO EXCAVATE TOP 12-INCHES OF SOIL FROM THE WETLAND AREAS TO BE DISTURBED AND STOCKPILE FOR TRANSLOCATION.
5. OVER-EXCAVATE FINAL WETLAND RESTORATION AREA BY 12-INCHES AND PLACE STOCKPILED SOIL FOR RESTORATION.
6. CONTRACTOR TO PROVIDE ADDITIONAL ORGANIC WETLAND SOIL AS NEEDED TO ACHIEVE 12-INCH SOIL THICKNESS WITHIN THE PROPOSED WETLAND RESTORATION AREAS.
7. SEED THE ENTIRE AREA WITH NEW ENGLAND WETLAND MIX, AS MANUFACTURED BY NEW ENGLAND WETLAND PLANTS, INC. AMHERST, MA.

B. SPECIFICATIONS

1. REPLICATION AREAS SHALL BE STAKED PRIOR TO CONSTRUCTION. NOTIFY THE BOXBOROUGH CONSERVATION COMMISSION FOR INSPECTION AFTER STAKING AND PRIOR TO CONSTRUCTION.
2. ALL CONSTRUCTION AND EXCAVATED MATERIAL SHALL BE STORED OUTSIDE OF THE RESOURCE AREA AND 100' BUFFER ZONE THERE TO IF POSSIBLE.
3. PRIOR TO CONSTRUCTION CONTRACTOR SHALL PLACE SIGN CONTAINING DEP FILE NUMBER VISIBLE FROM THE STREET.
4. CONTRACTOR SHALL PLACE EROSION AND SEDIMENTATION CONTROL BARRIER AS SHOWN HEREON PRIOR TO CONSTRUCTION. NOTIFY BOXBOROUGH CONSERVATION COMMISSION FOR INSPECTION AFTER INSTALLATION AND PRIOR TO CONSTRUCTION.
5. CONTRACTOR SHALL NOTIFY WETLAND SPECIALIST PRIOR TO COMMENCEMENT OF THE WETLAND REPLICATION CONSTRUCTION. WETLAND SPECIALIST TO ESTABLISH PHOTOMETRIC REFERENCE POINTS AT THIS TIME, AND CONDUCT A SURVEY OF EXISTING PLANT SPECIES AND DENSITIES TO BE REPORTED ON THE MASS DEP DELINEATION FORMS TO IDENTIFY THE WETLANDS TYPE AND ASSOCIATED PLANT COMMUNITY.
6. CONTRACTOR TO EXCAVATE ALL REPLICATION AREAS PRIOR TO EXCAVATING WITHIN THE EXISTING WETLAND FILL AREAS. EXCAVATE ALL REPLICATION AREA TO 12" BELOW FINAL FINISHED GRADES AS SHOWN HEREON. DE-WATER EXCAVATIONS AS REQUIRED.
7. SOILS TO BE USED AT THE REPLICATION SITE SHOULD BE STOCKPILED IN THE LOCATION DEPICTED ON THE PLAN.
8. PLACE STOCKPILED WETLAND SOIL TO 12" DEPTH IN NEW REPLICATIONS AREAS TO FINAL FINISHED GRADES AS SHOWN HEREON.
9. CONTRACTOR TO PROVIDE ADDITIONAL WETLAND SOIL AS REQUIRED TO ACHIEVE THE 12" MINIMUM DEPTH IN THE REPLICATION AREAS AND TO ADJUST PH TO MATCH EXISTING SOILS. SUPPLEMENTAL SOIL SHALL CONSIST OF EQUAL VOLUMES OF A GOOD QUALITY LOAM AND WELL COMPOSTED ORGANIC MATERIAL. THE LOAM AND COMPOST SHOULD BE FREE OF LARGE STONES AND DEBRIS. CONTRACTOR TO FURNISH CONSERVATION COMMISSION WITH THE SOURCE OF OFF SITE SOIL ADDITIVES.
10. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE WETLAND SPECIALIST TO INSPECT THE WETLAND AREAS FOR THE PRESENCE OF INVASIVE SPECIES. INVASIVE SPECIES SHALL BE REMOVED PRIOR TO CONSTRUCTION.
11. CONTRACTOR TO PLACE WETLAND SOIL WITH SIMILAR DENSITY AS OBSERVED WITHIN THE EXISTING WETLAND AREA.
12. ALL PLANTING SHOULD OCCUR AT THE BEGINNING OR END OF THE GROWING SEASON UNLESS A WATERING PLAN IS SUBMITTED AND APPROVED BY THE COMMISSION. FALL PLANTINGS SHOULD BE DONE BEFORE THE FIRST FROST. SHRUBS SHALL BE PLANTED IN ACCORDANCE WITH PLANTINGS SHOWN ON PLAN. REFER TO PLANTING DETAIL FOR TREES AND SHRUBS. SEED MIXTURES SHALL BE SOWN IN ACCORDANCE WITH NURSERY SPECIFICATIONS. EXISTING TREES SHALL BE EXCAVATED AROUND IN A MANNER TO MINIMIZE ROOT DAMAGE WHERE APPLICABLE. STABILIZED CANOPY FROM EXISTING TREES WILL FURTHER ENHANCE THE SUCCESS OF NEW PLANTINGS. NEW ENGLAND WET MIX SHALL BE SPREAD THROUGHOUT THE REPLICATION AREAS IN ACCORDANCE WITH NURSERY SPECIFICATIONS. UPON COMPLETION OF PLANTINGS REPLICATION AREAS SHALL BE COVERED WITH CLEAN STRAW HAY AND WATERED.

C. OVERSIGHT/MONITORING

THE PROJECT SUPERVISOR OR MONITOR SHOULD BE PRESENT DURING THE MOST IMPORTANT TASKS IN REPLICATION CONSTRUCTION AS DESCRIBED BELOW.

1. INSPECT SITE FLAGGING BEFORE COMMENCEMENT OF THE WETLAND REPOLICATION AREA CONSTRUCTION..
2. BEFORE SOIL TRANSLOCATION OR ADDITION INTO THE REPLICATION AREA TO INSPECT EXCAVATED ELEVATIONS AND LIKELY POST-CONSTRUCTION GROUND WATER ELEVATIONS FOR THE REPLICATION AREA.
3. AFTER EACH STAGE OF GRADING WORK IS COMPLETED TO INSPECT FINISHED ELEVATIONS.
4. DURING PLANTING AND SEEDING AND AFTER THE FIRST MONTH OF THE GROWING SEASON TO INSPECT PROPAGATION TECHNIQUES.
5. AFTER ONE GROWING SEASON TO OBSERVE VEGETATION DEVELOPMENT AND REGULATORY COMPLIANCE. MONITORING SHALL INCLUDE THE DOCUMENTATION AND REMOVAL OF INVASIVE SPECIES.
6. AFTER TWO GROWING SEASONS TO DETERMINE VEGETATION DEVELOPMENT AND REGULATORY COMPLIANCE.
7. AFTER SUBSEQUENT GROWING SEASONS, IF A GREATER THAN 2-YEAR MONITORING PROGRAM IS REQUIRED.
8. MONITORING SHALL BE PERFORMED IN ACCORDANCE WITH THE BOXBOROUGH WETLAND REGULATIONS.
9. PLANTS SHALL BE REPLACED AS NECESSARY TO ENSURE A 75% SURVIVAL RATE.
10. EROSION CONTROLS SHALL BE REMOVED PRIOR TO ISSUANCE OF A CERTIFICATE OF COMPLIANCE AND NO INVASIVE SPECIES.

D. EROSION CONTROL SPECIFICATIONS

1. WORK SHALL BE PERFORMED DURING A DRY PERIOD, OR WHEN LESS THEN A ¼" OF RAIN IS EXPECTED IN A 24 HOUR PERIOD.
2. PLACE EROSION CONTROL BARRIER (SILT FENCE ONLY AROUND REPLICATION AREAS) PER THE DETAIL ON THIS PLAN PRIOR TO CONSTRUCTION. NOTIFY THE BOXBOROUGH CONSERVATION COMMISSION AFTER INSTALLATION FOR INSPECTION.
3. RESTORE ALL SLOPES IMMEDIATELY UPGRADIENT TO REPLICATION AREAS.

WETLAND PLANTING SCHEDULE

SYMBOL:	COMMON NAME:	BOTANICAL NAME:	SIZE:	SPACING:	QUANTITY:
AR	RED MAPLE	ACER RUBRUM	B&B 6-8' HEIGHT	AS SHOWN	3
VC	HIGHBUSH BLUEBERRY	VACCINIUM CORYMBOSUM	#3 CONTAINER 18-24" HEIGHT	AS SHOWN	9
OC	CINNAMON FERN	OSMUNDA CINNAMOMEA	#1 CONTAINER	AS SHOWN	14
VA	LOWBUSH BLUEBERRY	VACCINIUM ANGUSTIFOLIUM	#3 CONTAINER 12-18"" HEIGHT	AS SHOWN	16

NOTE: THE ENTIRE REPLICATION AREA WILL BE SEEDED WITH "NEW ENGLAND WET MIX" (WETLAND SEED MIX) AT AN APPLICATION RATE OF 1 LB/2500 S.F.
SEEDING:
THE MIX MAY BE APPLIED BY MECHANICAL SPREADER, OR BY HAND. WHEN APPLYING ON BARE SOIL, RAKE THE SOIL TO CREATE GROOVES, APPLY SEED, THEN LIGHTLY RAKE OVER. IN NEW ENGLAND, THE BEST RESULTS ARE OBTAINED WITH AN EARLY SPRING SEEDING. SUMMER SEEDING CAN BE SUCCESSFUL WITH A LIGHT MULCHING OF WEED FREE STRAW TO CONSERVE MOISTURE. LATE FALL AND WINTER DORMANT SEEDING REQUIRE A SLIGHT INCREASE IN THE SEEING RATE. FERTILIZATION IS NOT REQUIRED UNLESS THE SOIL IS PARTICULARLY INFERTILE.

ISSUED FOR PERMIT

PREPARED BY:
DUCHARME & DILLIS
Civil Design Group, Inc.
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APPLICANT:
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WEST ACTON, MA 01720

SCALE:

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DIG SAFE 1-888-344-7233

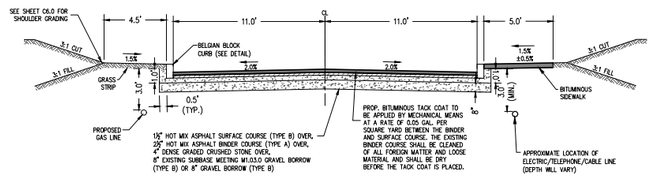
COMMONWEALTH OF MASSACHUSETTS GREGORY S. FOY CIVIL No. 46030 REGISTERED PROFESSIONAL ENGINEER 6/6/19

DATE: 5/1/19
DESIGN BY: GSR
DRAWN BY: GSR
CHECKED BY: GSR

REPLICATION DETAIL SHEET
700-800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

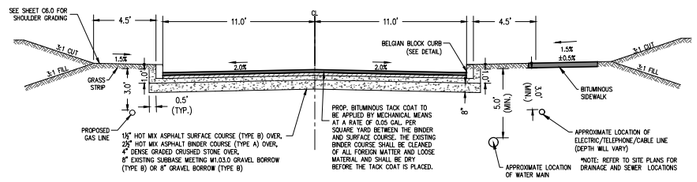
NO.	DATE	DESCRIPTION	BY
1.	–	NOT ISSUED	RPV
2.	5/17/19	REV. PER TOWN COMMENTS	RPV
3.	6/19/19	REV. PER PEER REVIEW COMMENTS	RPV

JOB NO. 6092
DRAWING NO. 6092-DET
SHEET NO. C8.3



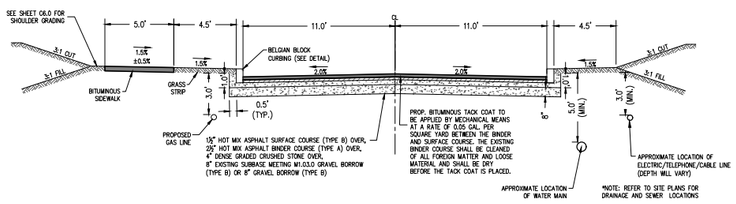
TYPICAL ROAD CROSS-SECTION: STA 0+00-7+50

SCALE 1"=5'



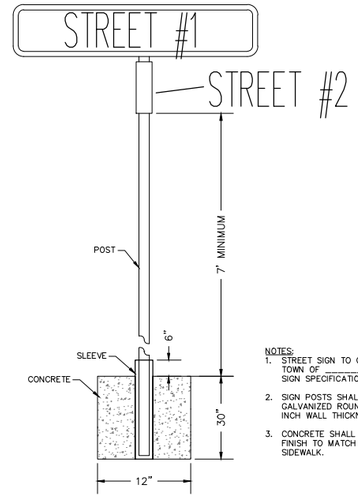
TYPICAL ROAD CROSS-SECTION: STA 7+50 - 23+00

SCALE 1"=5'



TYPICAL ROAD CROSS-SECTION: CUL-DE-SAC

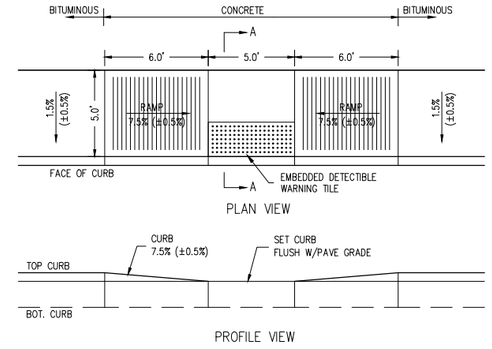
SCALE 1"=5'



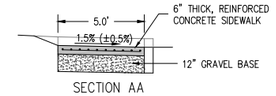
NOTES:
1. STREET SIGN TO CONFORM TO THE TOWN OF ____ DPW STREET SIGN SPECIFICATIONS
2. SIGN POSTS SHALL BE 2 INCH GALVANIZED ROUND PIPE 0.095 INCH WALL THICKNESS.
3. CONCRETE SHALL BE CLASS 3000, FINISH TO MATCH EXISTING SIDEWALK.

TYPICAL STREET SIGN

NOT TO SCALE

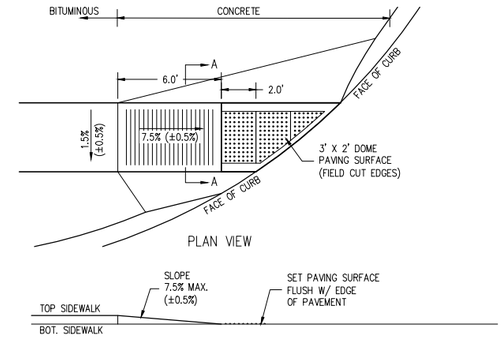


NOTES:
1. REFER TO CURB DETAIL FOR SPECIFICATIONS PERTAINING TO INSTALLATION OF CURBING.
2. RAMPS TO BE CONSTRUCTED IN ACCORDANCE WITH ADA AND MAAB STANDARDS.
3. DETECTIBLE WARNING TILES TO BE AS MANUFACTURED BY ADA SOLUTIONS, INC.



ACCESSIBLE RAMP DETAIL #1

SCALE: 1"=4'



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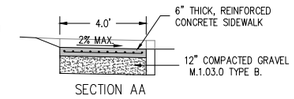
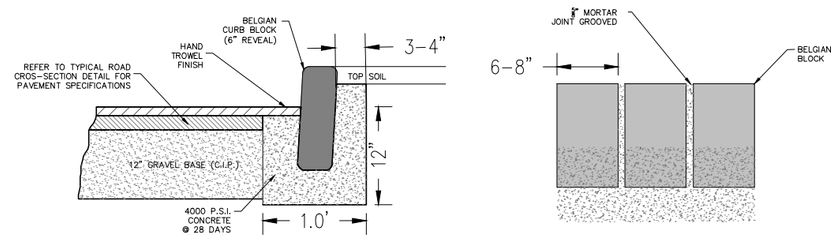
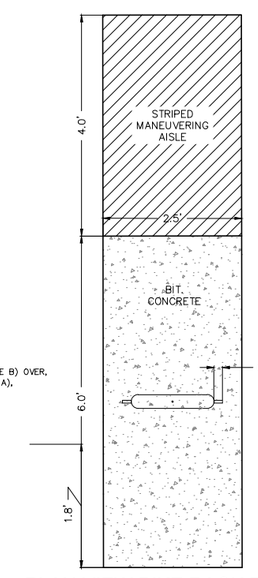


ACCESSIBLE RAMP DETAIL #2

SCALE: 1"=4'

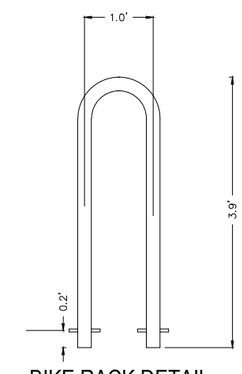


BELGIAN BLOCK CURB DETAIL



PLAN VIEW BIKE RACK DETAIL

NOT TO SCALE



BIKE RACK DETAIL

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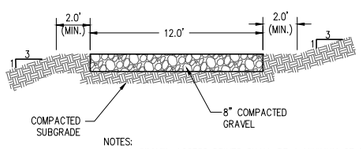


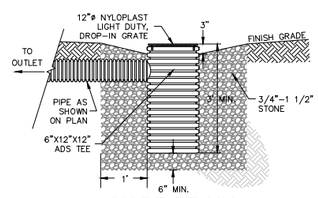
NOTES:
1.) ALL GRAVEL ACCESS DRIVES SHALL BE A MINIMUM OF 50' IN LENGTH.

2.) THE ACCESS DRIVES SHALL HAVE A MAXIMUM GRADE OF 12% TO ALLOW VEHICULAR ACCESS TO EACH BASIN.

3.) THE ACCESS DRIVE GRADING SHOWN ON THE TOPOGRAPHY AND GRADING PLANS IS BASED ON THE ANTICIPATED FINISHED GRADES ASSOCIATED WITH THE POST DEVELOPMENT DRAINAGE PLANS PROVIDED IN THE DRAINAGE REPORT. THESE GRADES MAY BE MODIFIED AS REQUIRED BASED ON THE FINAL LOT LAYOUT AND GRADING.

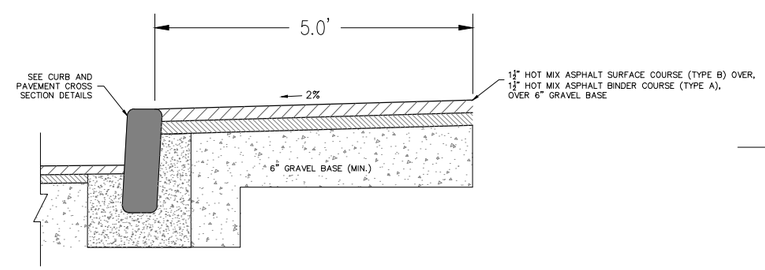
GRAVEL ACCESS DRIVE DETAIL

SCALE 1"=4'



YARD DRAIN

NOT TO SCALE



BITUMINOUS SIDEWALK DETAIL

NOT TO SCALE

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APPLICANT:
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P.O. BOX 985
WEST ACTON, MA 01720

SCALE:

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DIGSAFE 1-888-344-7233

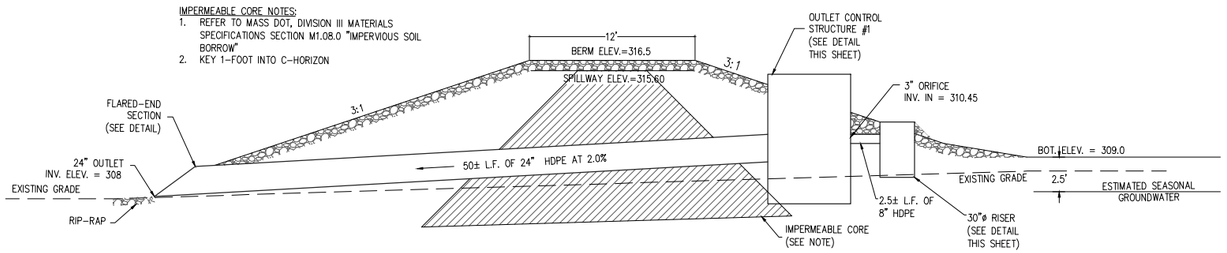
COMMONWEALTH OF MASSACHUSETTS GREGORY S. FOY CIVIL No. 46837 REGISTERED PROFESSIONAL ENGINEER 6/6/19

DATE: 4/16/19
DESIGN BY: GSR
DRAWN BY: GSR
CHECKED BY: GSR

DETAIL SHEET #3
700-800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

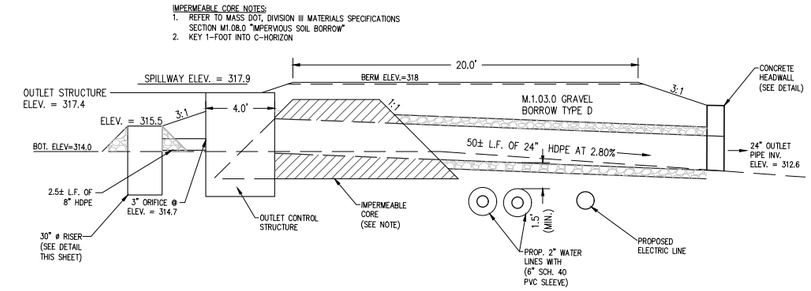
NO.	DATE	DESCRIPTION	BY
1.	–	NOT ISSUED	RPV
2.	5/17/19	REV. PER TOWN COMMENTS	RPV
3.	6/19/19	REV. PER PEER REVIEW COMMENTS	RPV

JOB NO. 6092
DRAWING NO. 6092-EXIST
SHEET NO. C8.4



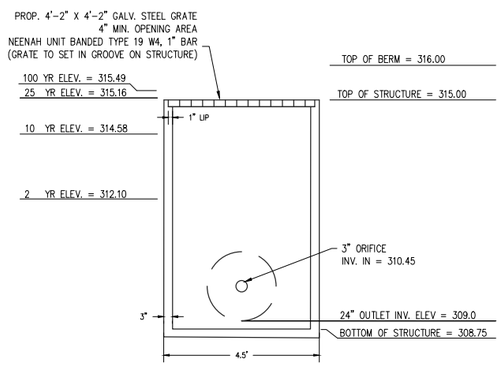
INFILTRATION BASIN #1 BERM CROSS-SECTION

SCALE 1"=5'



INFILTRATION BASIN #2 BERM CROSS-SECTION

SCALE 1"=4'



OUTLET STRUCTURE #1 DETAIL

NOT TO SCALE

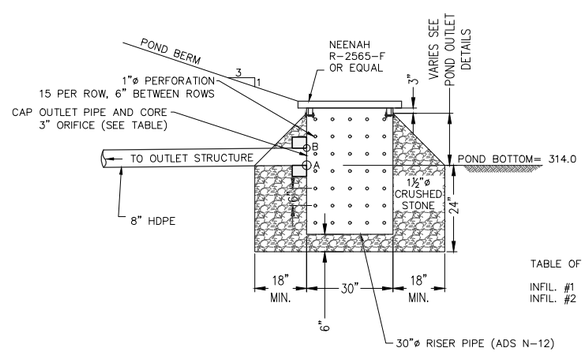
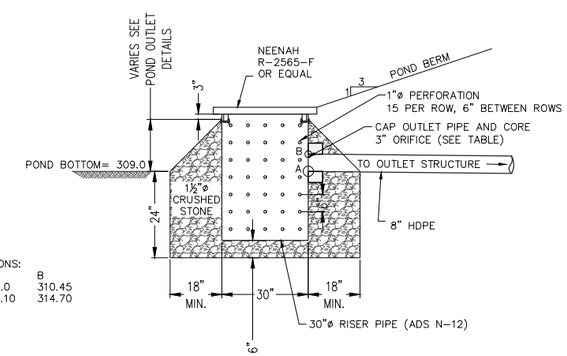


TABLE OF ELEVATIONS:

	A	B
INFIL. #1	310.0	310.45
INFIL. #2	314.10	314.70

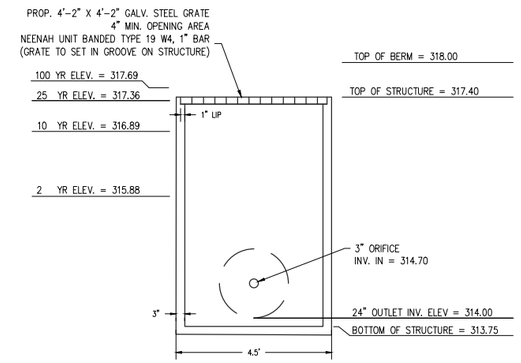
INFIL. BASIN #1 RISER DETAIL

SCALE: 1" = 2'



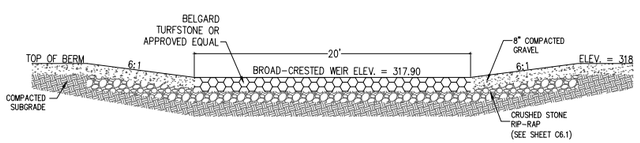
INFIL. BASIN #2 RISER DETAIL

SCALE: 1" = 2'



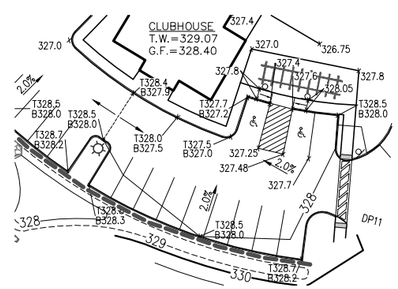
OUTLET STRUCTURE #2 DETAIL

NOT TO SCALE



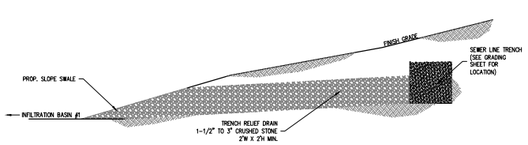
INFILTRATION BASIN #2 - BROAD CRESTED OVERFLOW WEIR DETAIL

SCALE 1"=5'



HANDICAP PARKING SPACE DETAIL

SCALE 1"=5'



TRENCH RELIEF DRAIN

NOT TO SCALE

PREPARED BY:

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Civil Design Group, Inc.
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P.O. BOX 985
WEST ACTON, MA 01720

APPLICANT:
BOXBOROUGH TOWN CENTER, LLC
P.O. BOX 985
WEST ACTON, MA 01720

SCALE:

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COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
No. 46012
REGISTERED PROFESSIONAL ENGINEER
6/19/19

DATE: 4/16/19
DESIGN BY: GSR
DRAWN BY: GSR
CHECKED BY: GSR

DETAIL SHEET #4

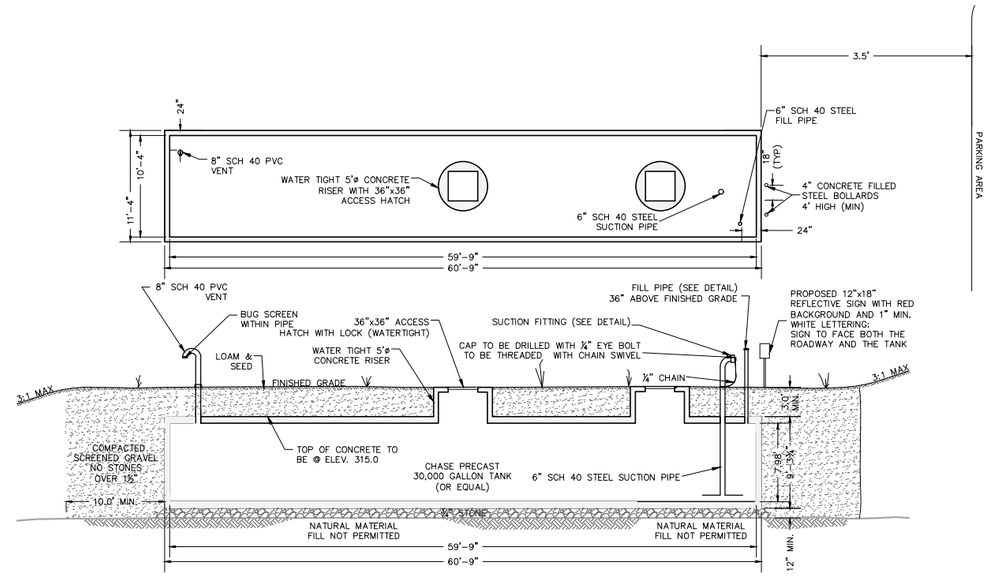
700-800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY
1.	–	NOT ISSUED	RPV
2.	5/17/19	REV. PER TOWN COMMENTS	RPV
3.	6/19/19	REV. PER PEER REVIEW COMMENTS	RWP

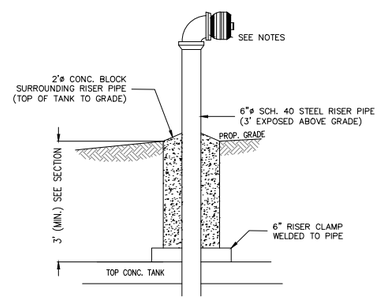
JOB NO. 6092
DRAWING NO. 6092-EXIST
SHEET NO. C8.5

FIRE CISTERN SPECIFICATIONS:

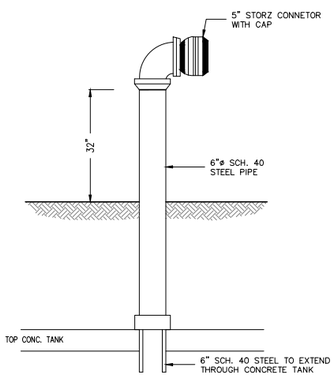
1. FURNISH AND INSTALL A FIRE CISTERN SYSTEM WITH ONE 30,000 GAL. PRECAST CONCRETE TANK, MANHOLE RISERS AND COVERS, SUCTION PIPING, FILL PIPING, VENT PIPING, NOZZLES AND FITTINGS ARE REQUIRED BY THE BOXBOROUGH FIRE DEPARTMENT, AND OTHER APPURTENANCES AS REQUIRED.
2. THE TANK SHALL BE 30,000 GAL. PRECAST CONCRETE TANKS RATED FOR H20 LOADING AS MANUFACTURED BY WACHUSETT PRECAST, OR APPROVED EQUAL. THE TANK SHALL BE FURNISHED WITH A MINIMUM OF (1) 32"ø ACCESS COVER WITH A 4' DIAMETER VERTICAL RISER TO GRADE. PROVIDE ALL TANK PENETRATIONS FOR THE PROPOSED SUCTION, FILL AND VENT PIPING IN THE LOCATIONS DEPICTED ON THE PLANS.
3. MANHOLE COVERS SHALL BE E.J. PRESCOTT MODEL L-5, OR APPROVED EQUAL. MANHOLE COVERS SHALL BE UNLETTERED.
4. SUCTION PIPING SHALL BE 6" SCH. 40 PIPING. FURNISH AND INSTALL A 5" STORZ FILL CONNECTOR OR OTHER FITTING AS REQUIRED BY THE BOXBOROUGH FIRE DEPARTMENT. CONTRACTOR SHALL PROVIDE ALL REQUIRED PIPE FITTINGS TO TRANSISTION FROM 6" SCH. 40 TO THE 5" CONNECTOR.
5. SUCTION PIPING SHALL BE FITTED WITH A 6" NST FEMALE SWIVEL WITH LONG HANDLE AND STRAINER, 6" NST MALE X 4 ½" NST MALE ADAPTER WITH 4 ½" NST END CAP WITH A CHAIN OR CABLE. SUCTION FITTING SHALL BE LOCATED IN THE LOCATION DEPICTED ON THE PLANS PROTECTED BY BOLLARDS (SEE DETAIL).
6. FURNISH AND INSTALL AN ANIT-VORTEX PLATE WITHIN THE TANK AT THE BASE OF THE 6" SUCTION PIPE. THE PLATE SHALL BE 48"x48"x1/4" STEEL PLATE. PROVIDE 1" THREADED ANCHOR BOLTS FIXED TO THE BOTTOM OF THE TANK SUCH THAT THE CLEAR BETWEEN THE BOTTOM OF THE PLATE AND THE BOTTOM OF THE TANK IS 6". PROVIDE ADDITIONAL SPACERS AS REQUIRED TO SECURE THE PLATE TO THE TANK. PLATE SHALL BE WELDED TO THE RISER PIPE. A 6" STRAINER SHALL BE INSTALLED IN THE VERTICAL POSITION ON THE SUCTION PIPING AND CONNECTED TO THE ANTI-VORTEX PLATE.
7. FILL PIPE SHALL BE 6" SCH. 40 PIPING. REFER TO THE DETAIL ON THIS SHEET FOR ADDITIONAL DETAILS RELATIVE TO THE CONNECTION OF THE PIPE TO THE TOP OF THE TANK AND REQUIREMENTS FOR PIPE PENETRATIONS.
8. VENT PIPING SHALL BE 8" SCH. 80 PVC PIPING. REFER TO THE DETAIL ON THIS SHEET FOR ADDITIONAL DETAILS RELATIVE TO THE CONNECTION OF THE PIPE TO THE TOP OF THE TANK AND REQUIREMENTS FOR PIPE PENETRATIONS.
9. 2" POLYSTYRENE INSULATION SHALL BE INSTALLED AROUND THE ENTIRETY OF THE CISTERN.
10. PAVED ACCESS AREA SHALL BE AT LEAST 50-FEET IN LENGTH AND 12' WIDE EXTENDING FROM THE GUTTER LINE OF THE ROADWAY.
11. THE TANK SHALL HAVE A MINIMUM BURY DEPTH OF 36" OVER EACH TANK OR BE INSULATED.
12. PROVIDE 1" OF RIGID INSULATION WITH GALVANIZED NETTING FOR FOR EVERY 1-FOOT OF COVER REDUCTION. TANK SHALL HAVE A MINIMUM OF 18 INCHES OF COVER. PLACE INSULATION 4-FEET BEYOND TANK (HORIZONTALLY) IN ALL DIRECTIONS.
13. OVER-EXCAVATED AREA SUCH THAT A MINIMUM OF 12-INCHS OF CRUSHED STONE CAN BE PLACED IN THE BOTTOM OF THE HOLE.
14. THE TANK SHALL BE BACKFILLED WITH GRAVEL CONFORMING TO GRAVEL BORROW (M1.03.0).
15. THE SUCTION, FILL AND VENT SHALL BE SET A MINIMUM OF 36" ABOVE FINAL FINISHED GRADE.
16. RESTORE ALL AREAS WITH A MINIMUM OF 4" TOPSOIL, SEED, FERTILIZER AND MULCH OR AS SPECIFIED ON THE SITE PLANS.
17. A SIGN WHICH HAS A MINIMUM ONE-INCH WHITE REFLECTIVE LETTER ON A RED REFLECTIVE BACKGROUND SHALL BE PROVIDED. SIGNAGE SHALL STATE: (1) FIRE DEPARTMENT DRY HYDRANT OR CISTERN, (2) THE STORAGE CAPACITY, (3) THE FIRE DEPARTMENT ID NUMBER.
18. ALL SUCTION AND FILL PIPING SHALL BE SCHEDULE 40 STEEL PIPE. VENT PIPING SHALL BE SCHEDULE 80 PVC PIPE WITH GLUED JONTS. PIPES SHALL BE COATED WITH AN EPOXY PAINT TO PREVENT ULTRA-VIOLET DEGRADATION. SUCTION PIPING SHALL BE PAINTED RED. ALL OTHER EXPOSED PIPING SHALL BE PAINTED BLACK.
24. A WATER PROOFING COATING SIMILAR TO DRYLOK LATEX BASE OR SIMILAR SHALL BE APPLIED TO THE INTERIOR OF THE TANKS.



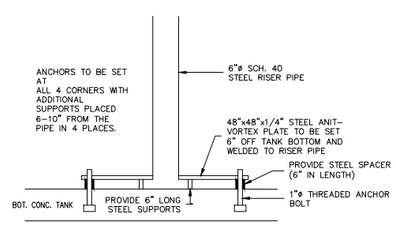
FIRE CISTERN
NOT TO SCALE



DRY HYDRANT SUCTION FITTING
NOT TO SCALE



FILL PIPE
NOT TO SCALE



ANIT-VORTEX PLATE
NOT TO SCALE

PREPARED BY:
DUCHARME & DILLIS
Civil Design Group, Inc.
CIVIL ENGINEERS• LAND SURVEYORS• WETLAND CONSULTANTS
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WEST ACTON, MA 01720

APPLICANT:
BOXBOROUGH TOWN CENTER, LLC
P.O. BOX 985
WEST ACTON, MA 01720

SCALE:

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COMMONWEALTH OF MASSACHUSETTS
GREGORY S. FOY
CIVIL
No. 46034
REGISTERED PROFESSIONAL ENGINEER
6/4/19

DATE: 4/16/19
DESIGN BY: GSR
DRAWN BY: GSR
CHECKED BY: GSR

FIRE CISTERN
700-800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY
1.	–	NOT ISSUED	RPV
2.	5/17/19	REV. PER TOWN COMMENTS	RPV
3.	6/19/19	REV. PER PEER REVIEW COMMENTS	RPV

JOB NO. 6092
DRAWING NO. 6092-EXIST
SHEET NO. C8.6

ROOF DRAIN STRUCTURE DETAIL

RD-1	FES	
INV. OUT =	316.00 (12" DIA HDPE SD)	RD-A
RD-2	24" DIA	
NYOPLAST		
RIM =	324.00	
INV. IN =	319.71 (12" DIA HDPE SD)	RD-B
INV. OUT =	319.71 (12" DIA HDPE SD)	RD-A
RD-3	24" DIA	
NYOPLAST		
RIM =	327.00	
INV. IN =	323.25 (12" DIA HDPE SD)	RD-C
INV. OUT =	323.25 (12" DIA HDPE SD)	RD-B
RD-4	24" DIA	
NYOPLAST		
RIM =	333.00	
INV. IN =	327.24 (12" DIA HDPE SD)	RD-D
INV. OUT =	327.24 (12" DIA HDPE SD)	RD-C
RD-5	24" DIA	
NYOPLAST		
RIM =	341.00	
INV. IN =	332.56 (12" DIA HDPE SD)	RD-E
INV. OUT =	332.56 (12" DIA HDPE SD)	RD-D
RD-6	24" DIA	
NYOPLAST		
RIM =	345.50	
INV. IN =	337.25 (12" DIA HDPE SD)	RD-F
INV. OUT =	337.25 (12" DIA HDPE SD)	RD-E
RD-7	24" DIA	
NYOPLAST		
RIM =	347.50	
INV. IN =	340.99 (12" DIA HDPE SD)	RD-G
INV. OUT =	340.99 (12" DIA HDPE SD)	RD-F
RD-8	24" DIA	
NYOPLAST		
RIM =	353.80	
INV. IN =	347.43 (12" DIA HDPE SD)	RD-H
INV. OUT =	347.43 (12" DIA HDPE SD)	RD-G
RD-9	24" DIA	
NYOPLAST		
RIM =	354.40	
INV. OUT =	349.18 (12" DIA HDPE SD)	RD-H
RD-11	FES	
INV. OUT =	320.00 (12" DIA HDPE SD)	RD-i
RD-12	24" DIA	
NYOPLAST		
RIM =	325.50	
INV. IN =	321.66 (12" DIA HDPE SD)	RD-J
INV. OUT =	321.66 (12" DIA HDPE SD)	RD-I
RD-13	24" DIA	
NYOPLAST		
RIM =	334.00	
INV. IN =	325.69 (12" DIA HDPE SD)	RD-K
INV. OUT =	325.69 (12" DIA HDPE SD)	RD-J
RD-14	24" DIA	
NYOPLAST		
RIM =	336.20	
INV. IN =	329.78 (12" DIA HDPE SD)	RD-L
INV. OUT =	329.78 (12" DIA HDPE SD)	RD-K
RD-15	24" DIA	
NYOPLAST		
RIM =	338.30	
INV. IN =	333.49 (12" DIA HDPE SD)	RD-M
INV. OUT =	333.49 (12" DIA HDPE SD)	RD-L
RD-16	24" DIA	
NYOPLAST		
RIM =	347.00	
INV. IN =	337.76 (12" DIA HDPE SD)	RD-N
INV. OUT =	337.76 (12" DIA HDPE SD)	RD-M
RD-17	24" DIA	
NYOPLAST		
RIM =	349.00	
INV. IN =	340.49 (12" DIA HDPE SD)	RD-O
INV. OUT =	340.49 (12" DIA HDPE SD)	RD-N
RD-18	24" DIA	
NYOPLAST		
RIM =	352.00	
INV. IN =	342.38 (12" DIA HDPE SD)	RD-P
INV. OUT =	342.38 (12" DIA HDPE SD)	RD-O
RD-19	24" DIA	
NYOPLAST		
RIM =	355.00	
INV. IN =	346.20 (12" DIA HDPE SD)	RD-Q
INV. OUT =	346.20 (12" DIA HDPE SD)	RD-P
RD-20	24" DIA	
NYOPLAST		
RIM =	354.40	
INV. OUT =	348.61 (12" DIA HDPE SD)	RD-R
YARD INLET	4' DIA	
PRECAST RC		
INV. IN =	324.00	RD-R/RD-V
RD-20	24" DIA	
NYOPLAST		
RIM =	354.40	
INV. IN =	327.40 (12" DIA HDPE SD)	RD-R
INV. OUT =	327.40 (12" DIA HDPE SD)	YARD INLET
RD-21	24" DIA	
NYOPLAST		
RIM =	336.00	
INV. IN =	331.48 (12" DIA HDPE SD)	RD-S
INV. OUT =	331.48 (12" DIA HDPE SD)	RD-R
RD-22	24" DIA	
NYOPLAST		
RIM =	341.00	
INV. IN =	335.20 (12" DIA HDPE SD)	RD-T
INV. OUT =	335.20 (12" DIA HDPE SD)	RD-S
RD-23	24" DIA	
NYOPLAST		
RIM =	346.00	
INV. IN =	336.28 (12" DIA HDPE SD)	RD-U
INV. OUT =	336.28 (12" DIA HDPE SD)	RD-T
RD-24	24" DIA	
NYOPLAST		
RIM =	345.00	
INV. OUT =	339.04 (12" DIA HDPE SD)	RD-V
RD-25	24" DIA	
NYOPLAST		
RIM =	345.00	
INV. IN =	338.86 (12" DIA HDPE SD)	RD-W
INV. OUT =	325.38 (12" DIA HDPE SD)	RD-V
RD-26	24" DIA	
NYOPLAST		
RIM =	343.70	
INV. IN =	340.24 (12" DIA HDPE SD)	RD-X
INV. OUT =	340.24 (12" DIA HDPE SD)	RD-W
RD-27	24" DIA	
NYOPLAST		
RIM =	347.00	
INV. IN =	341.62 (12" DIA HDPE SD)	RD-Y
INV. OUT =	341.62 (12" DIA HDPE SD)	RD-X
RD-28	24" DIA	
NYOPLAST		
RIM =	347.00	
INV. OUT =	343.00 (12" DIA HDPE SD)	RD-Y
RD-29	24" DIA	
NYOPLAST		
INV. OUT =	312.00 (12" DIA HDPE SD)	RD-Z
RD-30	24" DIA	
NYOPLAST		
RIM =	318.30	
INV. IN =	313.70 (12" DIA HDPE SD)	RD-Y
INV. OUT =	313.70 (12" DIA HDPE SD)	RD-X
RD-31	24" DIA	
NYOPLAST		
RIM =	324.00	
INV. IN =	317.24 (12" DIA HDPE SD)	RD-Y
INV. OUT =	317.24 (12" DIA HDPE SD)	RD-X
RD-32	24" DIA	
NYOPLAST		
RIM =	332.00	
INV. IN =	319.32 (12" DIA HDPE SD)	RD-Y
INV. OUT =	319.32 (12" DIA HDPE SD)	RD-X
RD-33	24" DIA	
NYOPLAST		
INV. OUT =	324.00 (12" DIA HDPE SD)	RD-AC
RD-34	24" DIA	
NYOPLAST		
RIM =	333.30	
INV. IN =	326.72 (12" DIA HDPE SD)	RD-AD
INV. OUT =	326.72 (12" DIA HDPE SD)	RD-AC
RD-35	24" DIA	
NYOPLAST		
RIM =	333.00	
INV. OUT =	326.72 (12" DIA HDPE SD)	RD-AD
RD-36	24" DIA	
NYOPLAST		
INV. OUT =	322.00 (12" DIA HDPE SD)	RD-AE
RD-37	24" DIA	
NYOPLAST		
RIM =	327.00	
INV. IN =	323.06 (12" DIA HDPE SD)	RD-AF
INV. OUT =	323.06 (12" DIA HDPE SD)	RD-AE
RD-38	24" DIA	
NYOPLAST		
RIM =	327.50	
INV. IN =	323.84 (12" DIA HDPE SD)	RD-AG
INV. OUT =	323.84 (12" DIA HDPE SD)	RD-AF
RD-39	24" DIA	
NYOPLAST		
RIM =	332.00	
INV. OUT =	323.84 (12" DIA HDPE SD)	RD-AG
RD-40	24" DIA	
NYOPLAST		
RIM =	320.00	
INV. OUT =	318.00 (12" DIA HDPE SD)	RD-AH
RD-41	24" DIA	
NYOPLAST		
RIM =	323.00	
INV. OUT =	319.78 (12" DIA HDPE SD)	RD-AF

ROOF DRAIN PIPE SCHEDULE

RD-A	12" DIA	
ADS N-12		
SLOPE	3.50%	
LENGTH	106	FT
RD-1 TO RD-2		
RD-B	12" DIA	
ADS N-12		
SLOPE	3.50%	
LENGTH	101	FT
RD-2 TO RD-3		
RD-C	12" DIA	
ADS N-12		
SLOPE	3.50%	
LENGTH	114	FT
RD-3 TO RD-4		
RD-D	12" DIA	
ADS N-12		
SLOPE	3.50%	
LENGTH	152	FT
RD-4 TO RD-5		
RD-E	12" DIA	
ADS N-12		
SLOPE	3.50%	
LENGTH	134	FT
RD-5 TO RD-6		
RD-F	12" DIA	
ADS N-12		
SLOPE	3.50%	
LENGTH	107	FT
RD-6 TO RD-7		
RD-G	12" DIA	
ADS N-12		
SLOPE	3.50%	
LENGTH	184	FT
RD-7 TO RD-8		
RD-H	12" DIA	
ADS N-12		
SLOPE	3.50%	
LENGTH	50	FT
RD-8 TO RD-9		
RD-I	12" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	166	FT
RD-11 TO RD-12		
RD-J	12" DIA	
ADS N-12		
SLOPE	3.50%	
LENGTH	115	FT
RD-12 TO RD-13		
RD-K	12" DIA	
ADS N-12		
SLOPE	3.50%	
LENGTH	117	FT
RD-13 TO RD-14		
RD-L	12" DIA	
ADS N-12		
SLOPE	3.50%	
LENGTH	106	FT
RD-15 TO RD-16		
RD-M	12" DIA	
ADS N-12		
SLOPE	3.50%	
LENGTH	122	FT
RD-16 TO RD-17		
RD-N	12" DIA	
ADS N-12		
SLOPE	3.50%	
LENGTH	78	FT
RD-17 TO RD-18		
RD-O	12" DIA	
ADS N-12		
SLOPE	3.50%	
LENGTH	54	FT
RD-18 TO RD-19		
RD-P	12" DIA	
ADS N-12		
SLOPE	3.50%	
LENGTH	109	FT
RD-19 TO RD-20		
RD-Q	12" DIA	
ADS N-12		
SLOPE	3.50%	
LENGTH	69	FT
RD-20 TO RD-21		
RD-R	12" DIA	
ADS N-12		
SLOPE	4.00%	
LENGTH	85	FT
YARD DRAIN TO RD-21		
RD-S	12" DIA	
ADS N-12		
SLOPE	4.00%	
LENGTH	102	FT
RD-21 TO RD-22		
RD-T	12" DIA	
ADS N-12		
SLOPE	4.00%	
LENGTH	93	FT
RD-22 TO RD-23		
RD-U	12" DIA	
ADS N-12		
SLOPE	4.00%	
LENGTH	27	FT
RD-23 TO RD-24		
RD-V	12" DIA	
ADS N-12		
SLOPE	4.00%	
LENGTH	69	FT
YARD INLET TO RD-25		
RD-W	12" DIA	
ADS N-12		
SLOPE	2.00%	
LENGTH	69	FT
RD-25 TO RD-26		
RD-X	12" DIA	
ADS N-12		
SLOPE	2.00%	
LENGTH	69	FT
RD-26 TO RD-27		
RD-Y	12" DIA	
ADS N-12		
SLOPE	2.00%	
LENGTH	69	FT
RD-27 TO RD-28		
RD-Z	12" DIA	
ADS N-12		
SLOPE	2.00%	
LENGTH	85	FT
RD-27 TO RD-28		
RD-AA	12" DIA	
ADS N-12		
SLOPE	2.00%	
LENGTH	177	FT
RD-27 TO RD-28		
RD-AB	12" DIA	
ADS N-12		
SLOPE	2.00%	
LENGTH	104	FT
RD-27 TO RD-28		
RD-AC	12" DIA	
ADS N-12		
SLOPE	4.00%	
LENGTH	68	FT
RD-27 TO RD-28		
RD-AD	12" DIA	
ADS N-12		
SLOPE	2.00%	
LENGTH	78	FT
RD-27 TO RD-28		
RD-AE	12" DIA	
ADS N-12		
SLOPE	2.00%	
LENGTH	53	FT
RD-27 TO RD-28		
RD-AF	12" DIA	
ADS N-12		
SLOPE	2.00%	
LENGTH	39	FT
RD-27 TO RD-28		
RD-AG	12" DIA	
ADS N-12		
SLOPE	2.00%	
LENGTH	96	FT
RD-27 TO RD-28		
RD-AH	12" DIA	
ADS N-12		
SLOPE	2.00%	
LENGTH	89	FT
RD-41 TO RD-40		

FOOTING DRAIN STRUCTURE SCHEDULE

FD-1	4' DIA	
PRECAST RC		
RIM =	351.90	
INV. IN =	345.30 (6" DIA HDPE SD)	FP-1
INV. OUT =	345.00 (6" DIA HDPE SD)	FP-2
FD-2	4' DIA	
PRECAST RC		
RIM =	348.30	
INV. IN =	343.20 (6" DIA HDPE SD)	FP-2
INV. OUT =	339.40 (6" DIA HDPE SD)	FP-3
FD-3	4' DIA	
PRECAST RC		
RIM =	345.70	
INV. IN =	338.40 (6" DIA HDPE SD)	FP-3
INV. OUT =	334.80 (6" DIA HDPE SD)	FP-4
FD-4	4' DIA	
PRECAST RC		
RIM =	342.00	
INV. IN =	333.50 (6" DIA HDPE SD)	FP-4
INV. OUT =	327.80 (6" DIA HDPE SD)	FP-5
FD-5	4' DIA	
PRECAST RC		
RIM =	333.00	
INV. IN =	326.30 (6" DIA HDPE SD)	FP-5
INV. OUT =	321.60 (6" DIA HDPE SD)	FP-6
FD-6	4' DIA	
PRECAST RC		
RIM =	327.00	
INV. IN =	320.60 (6" DIA HDPE SD)	FP-6
INV. OUT =	315.80 (6" DIA HDPE SD)	FP-7
FD-7	4' DIA	
PRECAST RC		
RIM =	323.60	
INV. IN =	314.80 (6" DIA HDPE SD)	FP-7
INV. OUT =	313.00 (6" DIA HDPE SD)	FP-8
FD-8	4' DIA	
PRECAST RC		
RIM =	317.80	
INV. IN =	311.40 (6" DIA HDPE SD)	FP-8
INV. OUT =	311.30 (6" DIA HDPE SD)	FP-9
FD-9	4' DIA	
PRECAST RC		
RIM =	316.00	
INV. IN =	310.60 (6" DIA HDPE SD)	FP-9
INV. OUT =	308.60 (6" DIA HDPE SD)	FP-10
FD-10	4' DIA	
PRECAST RC		
RIM =	352.68	
INV. IN =	344.70 (6" DIA HDPE SD)	FP-11
INV. OUT =	344.60 (6" DIA HDPE SD)	FP-12
FD-11	4' DIA	
PRECAST RC		
RIM =	349.50	
INV. IN =	344.00 (6" DIA HDPE SD)	FP-12
INV. OUT =	340.40 (6" DIA HDPE SD)	FP-13
FD-12	4' DIA	
PRECAST RC		
RIM =	347.75	
INV. IN =	339.70 (6" DIA HDPE SD)	FP-13
INV. OUT =	332.00 (6" DIA HDPE SD)	FP-14
FD-13	4' DIA	
PRECAST RC		
RIM =	338.76	
INV. IN =	330.90 (6" DIA HDPE SD)	FP-14
INV. OUT =	329.40 (6" DIA HDPE SD)	FP-15
FD-14	4' DIA	
PRECAST RC		
RIM =	336.60	
INV. IN =	328.40 (6" DIA HDPE SD)	FP-15
INV. OUT =	325.20 (6" DIA HDPE SD)	FP-16
FD-15	4' DIA	
PRECAST RC		
RIM =	332.20	
INV. IN =	324.00 (6" DIA HDPE SD)	FP-16
INV. OUT =	317.90 (6" DIA HDPE SD)	FP-17
FD-16	4' DIA	
PRECAST RC		
RIM =	326.10	
INV. IN =	317.30 (6" DIA HDPE SD)	FP-17
INV. OUT =	317.20 (6" DIA HDPE SD)	FP-18
FD-17	4' DIA	
PRECAST RC		
RIM =	324.00	
INV. IN =	316.00 (6" DIA HDPE SD)	FP-18
INV. OUT =	315.90 (6" DIA HDPE SD)	FP-19
FD-18	4' DIA	
PRECAST RC		
RIM =	324.80	
INV. IN =	317.90 (6" DIA HDPE SD)	FP-20
INV. OUT =	315.80 (6" DIA HDPE SD)	FP-21
FD-19	4' DIA	
PRECAST RC		
RIM =	320.10	
INV. IN =	315.10 (6" DIA HDPE SD)	FP-21
INV. OUT =	315.00 (6" DIA HDPE SD)	FP-22
FD-20	4' DIA	
PRECAST RC		
RIM =	346.50	
INV. IN =	338.90 (6" DIA HDPE SD)	FP-23
INV. OUT =	333.10 (6" DIA HDPE SD)	FP-24
FD-21	4' DIA	
PRECAST RC		
RIM =	338.80	
INV. IN =	332.20 (6" DIA HDPE SD)	FP-24
INV. OUT =	332.10 (6" DIA HDPE SD)	FP-26
FD-22	4' DIA	
PRECAST RC		
RIM =	340.10	
INV. IN =	331.40 (6" DIA HDPE SD)	FP-26
INV. OUT =	331.30 (6" DIA HDPE SD)	FP-27
FD-23	4' DIA	
PRECAST RC		
RIM =	331.90	
INV. IN =	330.90 (6" DIA HDPE SD)	FP-27
INV. IN =	328.40 (6" DIA HDPE SD)	FP-29
INV. OUT =	328.30 (6" DIA HDPE SD)	FP-28
FD-24	4' DIA	
PRECAST RC		
RIM =	324.00	
INV. IN =	320.00 (6" DIA HDPE SD)	FP-31
INV. OUT =	319.90 (6" DIA HDPE SD)	FP-32
FD-25	4' DIA	
PRECAST RC		
RIM =	319.00	
INV. IN =	316.00 (6" DIA HDPE SD)	FP-32
INV. OUT =	315.90 (6" DIA HDPE SD)	FP-33
FD-26	4' DIA	
PRECAST RC		
RIM =	345.00	
INV. IN =	341.00 (6" DIA HDPE SD)	FP-34
INV. OUT =	339.60 (6" DIA HDPE SD)	FP-35
FD-27	4' DIA	
PRECAST RC		
RIM =	333.40	
INV. IN =	327.80 (6" DIA HDPE SD)	FP-28
INV. OUT =	327.70 (6" DIA HDPE SD)	FP-30

FOOTING DRAIN PIPE SCHEDULE

FP-1	6" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	62	FT
FNDN. TO FD-1		
FP-2	6" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	176	FT
FD-1 TO FD-2		
FP-3	6" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	99	FT
FD-2 TO FD-3		
FP-4	6" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	126	FT
FD-3 TO FD-4		
FP-5	6" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	145	FT
FD-4 TO FD-5		
FP-6	6" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	107	FT
FD-5 TO FD-6		
FP-7	6" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	96	FT
FD-6 TO FD-7		
FP-8	6" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	157	FT
FD-7 TO FD-8		
FP-9	6" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	70	FT
FD-8 TO FD-9		
FP-10	6" DIA	
ADS N-12		
SLOPE	2.40%	
LENGTH	25	FT
FD-9 TO FES		
FP-11	6" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	43	FT
FNDN. TO FD-10		
FP-12	6" DIA	
ADS N-12		
SLOPE	1.10%	
LENGTH	49	FT
FD-10 TO FD-11		
FP-13	6" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	70	FT
FD-11 TO FD-12		
FP-14	6" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	114	FT
FD-12 TO FD-13		
FP-15	6" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	100	FT
FD-13 TO FD-14		
FP-16	6" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	113	FT
FD-14 TO FD-15		
FP-17	6" DIA	
ADS N-12		
SLOPE	0.50%	
LENGTH	109	FT
FD-15 TO FD-16		
FP-18	6" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	122	FT
FD-16 TO FD-17		
FP-19	6" DIA	
ADS N-12		
SLOPE	1.10%	
LENGTH	170	FT
FD-17 TO HEADWALL		
FP-20	6" DIA	
ADS N-12		
SLOPE	0.90%	
LENGTH	66	FT
FNDN. TO FD-18		
FP-21	6" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	66	FT
FD-18 TO FD-19		
FP-22	6" DIA	
ADS N-12		
SLOPE	1.80%	
LENGTH	106	FT
FD-19 TO HEADWALL		
FP-23	6" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	35	FT
FNDN. TO FD-20		
FP-24	6" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	94	FT
FD-20 TO FD-21		
FP-25	6" DIA	
ADS N-12		
SLOPE	0.60%	
LENGTH	111	FT
FNDN. TO FES		
FP-26	6" DIA	
ADS N-12		
SLOPE	0.40%	
LENGTH	160	FT
FD-21 TO FD-22		
FP-27	6" DIA	
ADS N-12		
SLOPE	0.50%	
LENGTH	78	FT
FD-22 TO FD-23		
FP-28	6" DIA	
ADS N-12		
SLOPE	0.50%	
LENGTH	90	FT
FD-23 TO FD-27		
FP-29	6" DIA	
ADS N-12		
SLOPE	1.00%	
LENGTH	63	FT
FNDN. TO FD-23		
FP-30	6" DIA	
ADS N-12		
SLOPE	6.20%	
LENGTH	60	FT
FD-27 TO FES		
FP-31	6" DIA	
ADS N-12		
SLOPE	6.60%	
LENGTH	48	FT
FNDN. TO FD-24		
FP-32	6" DIA	
ADS N-12		
SLOPE	4.60%	
LENGTH	85	FT
FD-24 TO FD-25		
FP-33	6" DIA	
ADS N-12		
SLOPE	2.60%	
LENGTH	35	FT
FD-25 TO FD-FES		
FP-34	6" DIA	
ADS N-12		
SLOPE	5.10%	
LENGTH	60	FT
FNDN. TO FD-26		
FP-35	6" DIA	
ADS N-12		
SLOPE	1.30%	
LENGTH	123	FT
FD-26 TO FES		

PREPARED BY:
DUCHARME & DILLIS
Civil Design Group, Inc.
CIVIL ENGINEERS• LAND SURVEYORS• WETLAND CONSULTANTS
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PHONE: (978) 779-6091 FAX: (978) 779-0260
www.DucharmeandDillis.com

OWNER:
BOXBOROUGH TOWN CENTER, LLC
P.O. BOX 985
WEST ACTON, MA 01720

APPLICANT:
BOXBOROUGH TOWN CENTER, LLC
P.O. BOX 985
WEST ACTON, MA 01720

SCALE:

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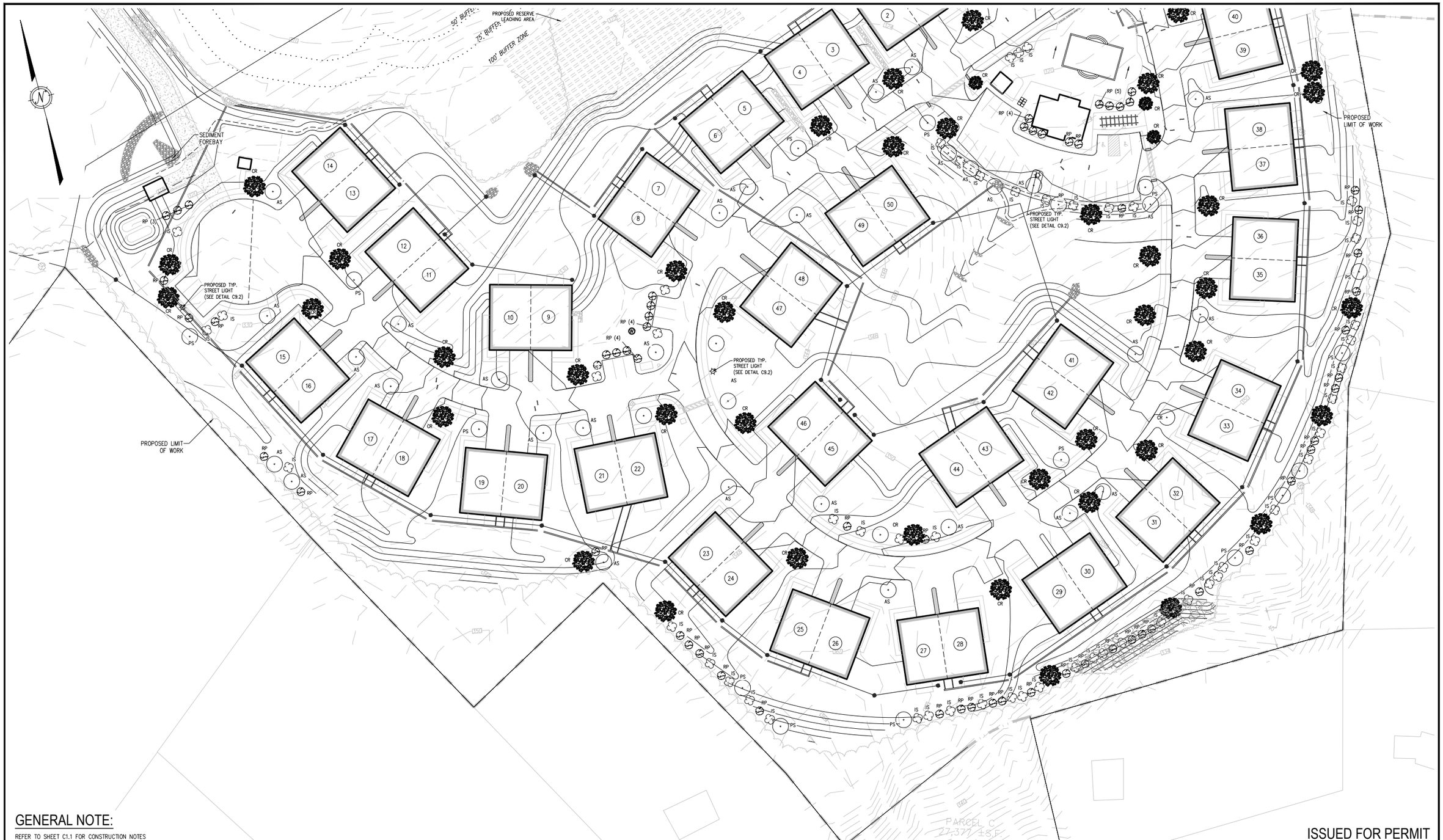
COMMONWEALTH OF MASSACHUSETTS
GREGORY S. FOY
CIVIL
No. 46825
REGISTERED PROFESSIONAL ENGINEER
6/19/19

DATE: 4/16/19
DESIGN BY: GSR
DRAWN BY: GSR
CHECKED BY: GSR

DETAIL SHEET #6-ROOF & FOOTING DRAINS
700-800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY
1.	–	NOT ISSUED	RPV
2.	5/17/19	REV. PER TOWN COMMENTS	RPV
3.	6/19/19	REV. PER PEER REVIEW COMMENTS	RPV

JOB NO. 6092
DRAWING NO. 6092-EXIST
SHEET NO. C8.7



GENERAL NOTE:

REFER TO SHEET C1.1 FOR CONSTRUCTION NOTES

ISSUED FOR PERMIT

PREPARED BY:

DUCHARME & DILLIS
Civil Design Group, Inc.
CIVIL ENGINEERS• LAND SURVEYORS• WETLAND CONSULTANTS

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BOXBOROUGH TOWN CENTER, LLC
P.O. BOX 985
WEST ACTON, MA 01720

APPLICANT:
BOXBOROUGH TOWN CENTER, LLC
P.O. BOX 985
WEST ACTON, MA 01720

SCALE:
40 0 20 40 80 160
1 in. = 40 ft.

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DIG SAFE 1-888-344-7233

COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
No. 46013
REGISTERED PROFESSIONAL ENGINEER
6/19/19

DATE: 5/1/19
DESIGN BY: GSR
DRAWN BY: GSR
CHECKED BY: GSR

LANDSCAPE PLAN 1
700–800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY
1.	–	NOT ISSUED	RPV
2.	5/17/19	REV. PER TOWN COMMENTS	RPV
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JOB NO. 6092
DRAWING NO. 6092–LANDSCAPE
SHEET NO. L1.1

EXISTING WELL ACCESS ROAD

TEMPORARY CONSTRUCTION ENTRANCE

BANK 1 START
BANK 56 END
BANK 55
BANK 54
BANK 53
BANK 3
BANK 52
BANK 4 END
BANK 51 START
BANK 50
BANK 5
BANK 6
BANK 49
BANK 7
BANK 8
BANK 48
BANK 47
BANK 9
BANK 46
BANK 10 END

PROPOSED PRIMARY LEACHING AREA

PROPOSED RESERVE LEACHING AREA

50' BUFFER ZONE

EXISTING SOIL ABSORPTION AREA & (2)OIL (SEE ASBUILT)

INFILTRATION BASIN 1

RP (11)
RP (5)
RP (3)
RP (3)

PROPOSED TYP. STREET LIGHT (SEE DETAIL C9.2)

PROPOSED ENTRY ACCENT LIGHT (SEE DETAIL C9.2)

PROPOSED ENTRY FEATURE (SEE DETAIL C9.2)

MATCH LINE STA. 3+00

22.0'

24.1'

GENERAL NOTE:

REFER TO SHEET C1.1 FOR CONSTRUCTION NOTES

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WEST ACTON, MA 01720

SCALE:
40 0 20 40 80 160
1 in. = 40 ft.

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COMMONWEALTH OF MASSACHUSETTS
GREGORY S. FOY
CIVIL
No. 46935
REGISTERED PROFESSIONAL ENGINEER
6/19/19

DATE: 5/1/19
DESIGN BY: GSR
DRAWN BY: GSR
CHECKED BY: GSR

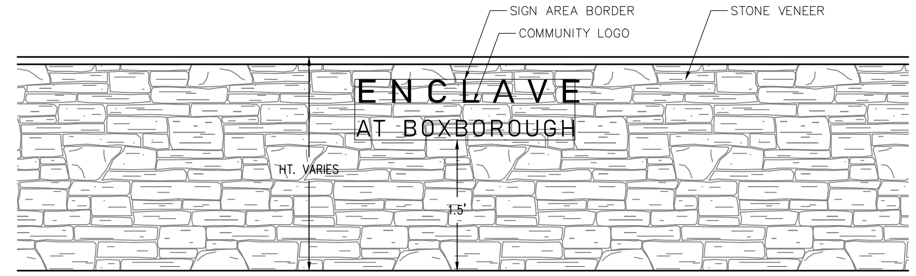
LANDSCAPE PLAN 2
700–800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY
1.	–	NOT ISSUED	RPV
2.	5/17/19	REV. PER TOWN COMMENTS	RPV
3.	6/19/19	REV. PER PEER REVIEW COMMENTS	RPV

JOB NO. 6092
DRAWING NO. 6092–LANDSCAPE
SHEET NO. L1.2

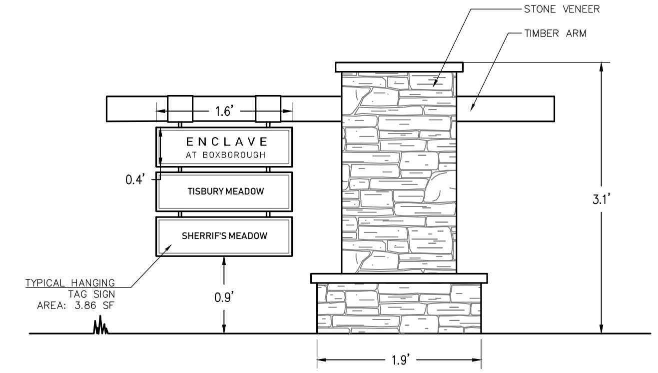
PLANTING SCHEDULE

SYMBOL:	COMMON NAME:	BOTANICAL NAME:	SIZE:	SPACING:	QUANTITY:
AS	SUGAR MAPLE	ACER SACCHARUM	#1 CONTAINER 10' HEIGHT	AS SHOWN	43
PS	WHITE PINE	PINUS STROBUS	#1 CONTAINER 6' HEIGHT	AS SHOWN	24
CR	STELLAR PINK DOGWOOD	CORNUS X 'RUTGAN'	#1 CONTAINER 6'-8' HEIGHT	AS SHOWN	62
IS	INKBERRY	ILEX GLABRA SHAMROCK	#1 CONTAINER 24-36"" HEIGHT	AS SHOWN	68
RP	PJM RHODODENDRON	RHODODENDRON X PJM	#1 CONTAINER 24-36"" HEIGHT	AS SHOWN	97



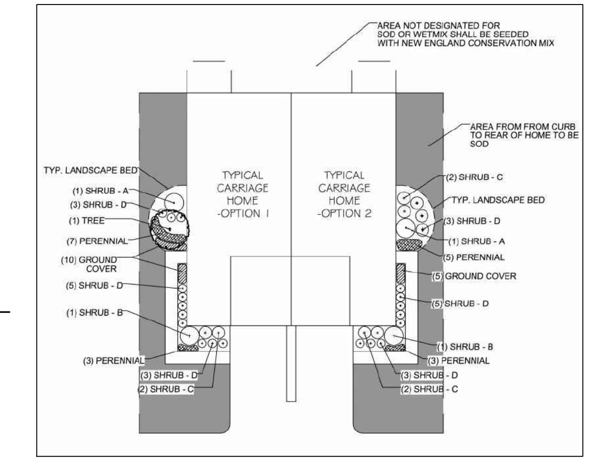
RETAINING WALL - INTERNAL IDENTIFICATION SIGN

SIGN AREA - 8.43 SF



STOW ROAD - DOUBLE SIDED - IDENTIFICAITON SIGN

SIGN AREA: 11.58 SF

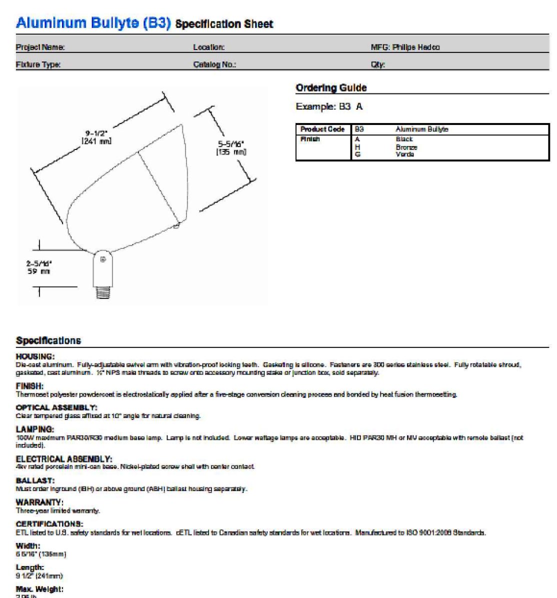


TYPICAL UNIT PLANTING PLAN

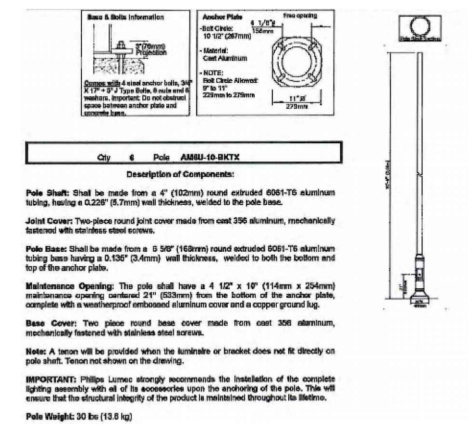
NO SCALE

LANDSCAPE NOTES:

1. IN THE EVEN THAT ANY DISCREPANCIES BETWEEN THE QUANTITIES OF PLANTS INDICATED ON THE PLANT SCHEDULE AND THOSE INDICATED ON THE PLAN, THE QUANTITIES INDICATED ON THE PLAN SHALL GOVERN.
2. NO SUBSTITUTIONS SHALL BE ACCEPTED, EXCEPT WITH THE WRITTEN PERMISSION OF THE LANDSCAPE ARCHITECT OR HIS AGENT AND THE TOWNSHIP CONSULTANTS.
3. THE LANDSCAPE ARCHITECT OR HIS AGENT SHALL BE THE SOLE JUDGE OF THE QUALITY AND ACCEPTABILITY OF THE MATERIALS. ALL REJECTED MATERIALS SHALL BE IMMEDIATELY REPLACED WITH ACCEPTABLE MATERIAL AT NO ADDITIONAL COST.
4. ALL PLANT BEDS SHALL PROVIDE FOR 6" OF LOAM AND BE MULCHED WITH A MINIMUM OF 3" SHREDDED BARK MULCH OR OTHER MATERIAL APPROVED BY THE LANDSCAPE ARCHITECT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTING AT CORRECT GRADES AND ALIGNMENT.
6. PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY; HAVE NORMAL GROWTH HABITS; WELL DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT SYSTEMS AND BE FREE FROM DEFECTS AND INJURIES.
7. THE CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITION CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL.
8. QUALITY AND SIZE OF PLANTS, SPREAD OF ROOTS AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH "AMERICAN STANDARDS FOR NURSERY STOCK" ANSI 260 (MOST RECENT EDITION) AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
9. B & B PLANTS SHALL BE HANDLED FROM THE BOTTOM OF THE ROOT BALL ONLY. PLANTS WITH BROKEN, SPLIT OR DAMAGED ROOT BALLS SHALL BE REJECTED.
10. TREES SHALL BE LOCATED IN A MANNER WHICH WILL NOT OBSTRUCT ACCESS TO FIRE HYDRANT OR VISIBILITY OF STREET OR TRAFFIC SIGNS. NO TREES OR SHRUBS SHALL BE PLANTED IN A SIGHT TRIANGLE. NO TREES SHALL BE PLANTED IN ANY UTILITY OR MUNICIPAL EASEMENTS.
11. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITION ARE SUITABLE. SPRING PLANTING SEASON SHALL BE; MARCH 1ST TO JUNE 1ST. FALL PLANTING SEASON SHALL BE; AUGUST 15TH TO DECEMBER 15TH FOR EVERGREEN PLANTS AND SEPTEMBER 15TH TO DECEMBER 15TH, FOR DECIDUOUS PLANTS.
12. SET ALL PLANTS PLUMB AND STRAIGHT. SET AT SUCH LEVEL THAT, AFTER SETTLEMENT, A NORMAL OR NATURAL RELATIONSHIP TO THE CROWN OF THE PLANT WITH THE GROUND SURFACE WILL BE ESTABLISHED. LOCATE PLANTS IN THE CENTER OF THE PLANTING PIT.
13. ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FROM THE DATE OF ACCEPTANCE. ANY PLANT MATERIAL THAT DIES WITHIN THAT PERIOD SHALL BE REPLACED WITH THE SAME SIZE AND SPECIES OF PLANT MATERIAL.
14. THE LOCATION OF ALL PLANT MATERIAL IS DIAGRAMMATIC AND SUBJECT TO FIELD CONDITIONS AND LOT SPECIFIC DESIGN CONSIDERATIONS. FINAL LOCATION OF ALL PLANT MATERIAL SHALL BE DETERMINED IN THE FIELD UNDER THE DIRECTION OF THE LANDSCAPE ARCHITECT OR HIS AGENT.
15. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY BEARING UPON THE PERFORMANCE OF THE WORK.
16. THE CONTRACTOR SHALL BE RESPONSIBLE TO CALL FOR UTILITY LOCATIONS, IF NECESSARY.
17. IRRIGATION SYSTEM DESIGN TO BE PREPARED UPON RECEIPT OF FINAL PLAN APPROVAL.
18. FERTILIZER USE AND APPLICATION SHALL COMPLY WITH 330 CMR 31.00 FOR NON-AGRICULTURAL APPLICATION OF NITROGEN FERTILIZERS.

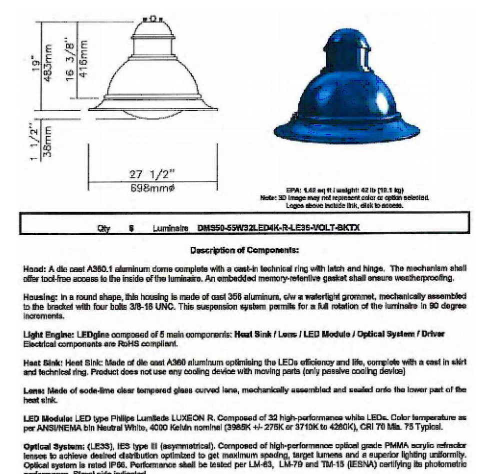


ENTRY ACCENT LIGHT DETAIL



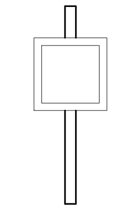
LIGHT POLE DETAIL

*PROPOSED POLE TO BE 10'



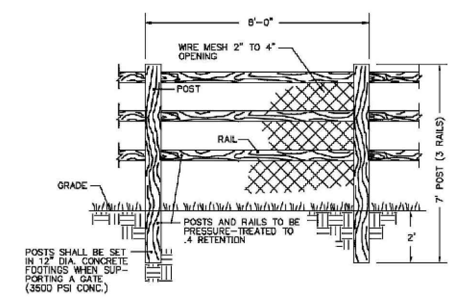
LIGHT POLE HOOD DETAIL

*PROPOSED COLOR TO BE BLACK



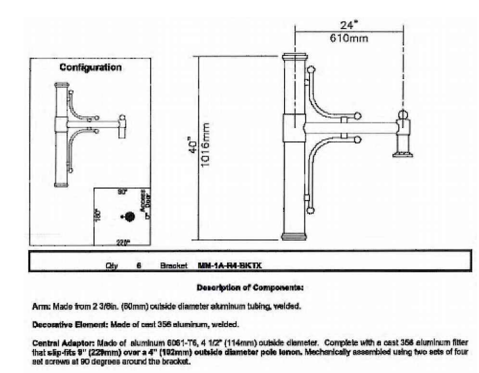
STOW ROAD - IDENTIFICAITON SIGN

PLAN VIEW



SPLIT - RAIL BASIN FENCE DETAIL

NO SCALE



LIGHT POLE ARM DETAIL

TYPICAL UNIT PLANTING SCHEDULE

SHADE/FLOWERING TREES

SYMBOL	QUANTITY	SPECIES/COMMON NAME	SIZE	NOTES
		Acer rubrum / Red Maple	2" CAL.	Shade Tree
		Acer saccharum / Sugar Maple	2" CAL.	Shade Tree
		Amelanchier laevis / Allegheny Serviceberry	7'-8' HT	Flowering Tree/Multi-Stem
		Betula Nigra 'Heritage' / Heritage River Birch	7'-8' HT	Flowering Tree/Multi-Stem
		Cercis canadensis / Eastern Redbud	7'-8' HT	Flowering Tree
		Gleditsia triacanthos 'inermis' / Thornless Honey Locust	2" CAL.	Shade Tree
		Cornus kousa / Kousa Dogwood	7'-8' HT	Flowering Tree
		Prunus cerasifera 'Thundercloud' / Purple Leaf Plum	7'-8' HT	Flowering Tree
		Prunus subhirtella 'Autumnalis' / Higan Cherry	7'-8' HT	Flowering Tree

LARGE-MEDIUM SHRUB A (DECIDIOUS) SELECT ONE SPECIES ONLY PER PLANT GROUPING

SYMBOL	QUANTITY	SPECIES/COMMON NAME	SIZE	NOTES
		Azalea varieties / Deciduous Azalea	36" MIN. HT	Full Sun/Part Shade
		Clethra alnifolia 'Ruby Spice' / Summersweet Clethra	36" MIN. HT	Full Sun/Part Shade
		Hydrangea macrophylla 'Endless Summer' TM / Hydrangea	36" MIN. HT.	Full Sun/Part Shade
		Hydrangea quercifolia / Oakleaf Hydrangea	36" MIN. HT.	Full Sun/Part Shade
		Physocarpus opulifolius 'Summer Wine' or 'Coppertina' / Ninebark	36" MIN. HT.	Full Sun/Part Shade
		Rosa rugosa 'Radko' / Double Knock Out Rose	36" MIN. HT.	Full Sun
		Weigela florida / Compact Variety	36" MIN. HT.	Full Sun/Part Shade

LARGE-MEDIUM SHRUB B (EVERGREEN) SELECT ONE SPECIES ONLY PER PLANT GROUPING

SYMBOL	QUANTITY	SPECIES/COMMON NAME	SIZE	NOTES
		Azalea varieties / Evergreen Azalea		Full Sun/Part Shade
		Ilex crenata 'Compacta' / Japanese Holly	24" MIN. HT	Full Sun/Part Shade
		Daphne x burkwoodii 'Carol Mackie' / Daphne	24" MIN. HT.	Full Sun/Part Shade
		Ilex glabra 'Densa' or 'Shamrock' / Inkberry	24" MIN. HT.	Full Sun/Full Shade
		Ilex x 'Mesog' / China Boy & China Girl Holly	24" MIN. HT.	Full Sun/Full Shade
		Pieris japonica 'Compacta' / Japanese Andromeda	24" MIN. HT.	Full Sun/Full Shade
		Prunus laurocerasus 'Otto Luyken' / Cherry Laurel	24" MIN. HT.	Full Sun/Part Shade

SMALL SHRUB C (DECIDIOUS) SELECT ONE SPECIES ONLY PER PLANT GROUPING

SYMBOL	QUANTITY	SPECIES/COMMON NAME	SIZE	NOTES
		Caryopteris 'Blue Mist' or 'Dark Knight' / Dwarf Bluebeard	18" MIN. HT	Full Sun
		Itea virginia 'Little Henry' / Dwarf Virginia Sweetspire	18" MIN. HT.	Full Sun/Full Shade
		Hypericum x 'Hydcote' / St. John's Wort	18" MIN. HT.	Full Sun/Part Shade
		Nandina domestica 'Firepower' / Nandina	18" MIN. HT.	Full Sun/Full Shade

SMALL SHRUB D (EVERGREEN) SELECT ONE SPECIES ONLY PER PLANT GROUPING

SYMBOL	QUANTITY	SPECIES/COMMON NAME	SIZE	NOTES
		Ilex glabra 'Compacta' / Compact Inkberry	18" MIN. HT.	Full Sun/Full Shade
		Thuja occidentalis 'Hetz Midget' / Arborvitae	18" MIN. HT.	Full Sun/Part Shade
		Thuja occidentalis 'Bobozam' / Arborvitae	18" MIN. HT.	Full Sun/Part Shade

PERENNIAL MIX A: FULL SUN SELECT 2-4 SPECIES

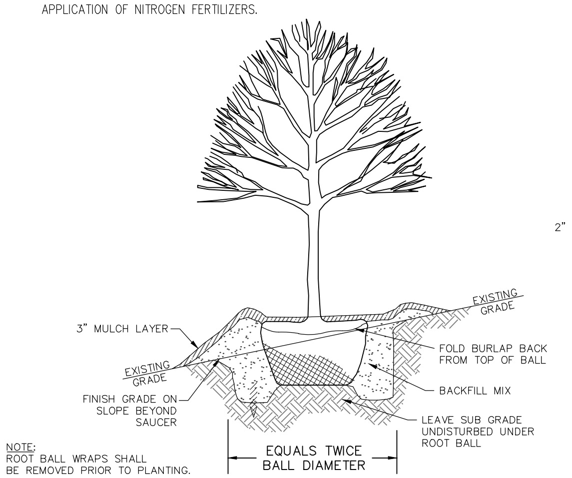
SYMBOL	QUANTITY	SPECIES/COMMON NAME	SIZE	NOTES
		Coreopsis / Tickseed	1 GAL.	Full Sun
		Chrysanthemum nipponicum / Montauk Daisy	1 GAL.	Full Sun
		Hemerocalis / Daylily	1 GAL.	Full Sun
		Phlox paniculata / Garden Phlox	1 GAL.	Full Sun
		Rudbeckia fulgida var. fulgida / Black Eyed Susan	1 GAL.	Full Sun
		Sedum 'Autumn Joy' / Stonecrop	1 GAL.	Full Sun

PERENNIAL MIX B: SHADE SELECT 2-4 SPECIES

SYMBOL	QUANTITY	SPECIES/COMMON NAME	SIZE	NOTES
		Astilbe / Falsespirea	1 GAL.	Part Shade/Full Shade
		Fern	1 GAL.	Part Shade/Full Shade
		Hosta	1 GAL.	Part Shade/Full Shade
		Tiarella cordifolia / Foamflower	1 GAL.	Part Shade/Full Shade

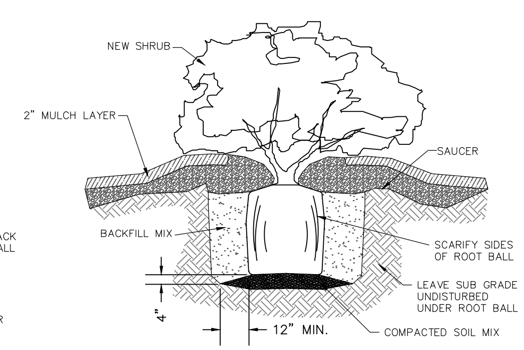
GROUNDCOVER SELECT ONE SPECIES ONLY

SYMBOL	QUANTITY	SPECIES/COMMON NAME	SIZE	NOTES
		Galium odoratum / Sweet Woodruff	1 QT.	Part Shade/Full Shade
		Liriope muscari 'Big Blue' / Liriope	1 QT.	Part Shade/Full Shade
		Pachysandra terminalis / Japanese Spurge	1 QT.	Part Shade/Full Shade
		Phlox subulata / Creeping Phlox	1 QT.	Full Sun
		Vinca minor / Periwinkle	1 QT.	Full Sun/Full Shade



TREE PLANTING DETAIL

NOT TO SCALE



SHRUB PLANTING DETAIL

NOT TO SCALE

New England Erosion Control/Restoration Mix for Detention Basins and Moist

BOTANICAL NAME	COMMON NAME	IND.
Elymus virginicus	Virginia Wild Rye	FACW-
Festuca rubra	Creeping Red Fescue	FACU
Schizachyrium scoparium	Little Bluestem	FACU
Andropogon gerardii	Big Bluestem	FAC
Panicum virgatum	Switch Grass	FAC
Verbena hastata	Blue Vervain	FACW
Agrostis scabra	Rough Bentgrass/Ticklegrass	FAC
Aster novae-angliae	New England Aster	FACW-
Eupatorium maculatum	Spotted Joe Pye Weed	FACW
Eupatorium perfoliatum	Boneset	FACW
Juncus effusus	Soft Rush	FACW+
Scirpus cyperinus	Wool Grass	FACW

LANDSCAPE TURF NOTES:

1. STORM WATER BASIN SLOPES TO BE SEEDED WITH "NEW ENGLAND EROSION CONTROL/RESTORATION" MIX PREPARED BY NEW ENGLAND WETLAND PLANTS, INC. APPLICATION RATE SHALL BE AS NOTED BY MANUFACTURER. SOIL PREPARATION SHALL BE PER MANUFACTURER'S SPECIFICATION/DIRECTION.
2. BASIN BOTTOMS SHALL BE LEFT UNSEEDED WHERE A SAND BOTTOM IS SPECIFIED AS NOTED ON SITE PLANS PREPARED BY DUCHARME & DILLIS, INC.
3. COMMON/OPEN SPACE AREAS NOT DESIGNATED FOR SOD SHALL BE SEEDED WITH A PERENNIAL RYE/FESCUE MIX.
4. AREAS AROUND PROPOSED UNITS, AS INDICATED ON THE TYPICAL UNIT PLANTING PLAN, SHALL BE SODDED.
5. THERE SHALL BE 4" OF LOAM IN ALL NON-LANDSCAPED AREAS AND 6" OF LOAM IN ALL LANDSCAPED AREAS.

ISSUED FOR PERMIT

PREPARED BY:
DUCHARME & DILLIS
Civil Design Group, Inc.
CIVIL ENGINEERS• LAND SURVEYORS• WETLAND CONSULTANTS
1092 MAIN STREET, P.O. BOX 428
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WEST ACTON, MA 01720

SCALE:

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DIG SAFE 1-888-344-7233

COMMONWEALTH OF MASSACHUSETTS GREGORY S. ROY CIVIL No. 46319 REGISTERED PROFESSIONAL ENGINEER 6/19/19

DATE: 5/1/19
DESIGN BY: GSR
DRAWN BY: GSR
CHECKED BY: GSR

LANDSCAPE DETAILS
700-800 MASSACHUSETTS AVENUE
BOXBOROUGH, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY
1.	-	NOT ISSUED	RPV
2.	5/17/19	REV. PER TOWN COMMENTS	RPV
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JOB NO. 6092
DRAWING NO. 6092-LANDSCAPE
SHEET NO. L1.3