

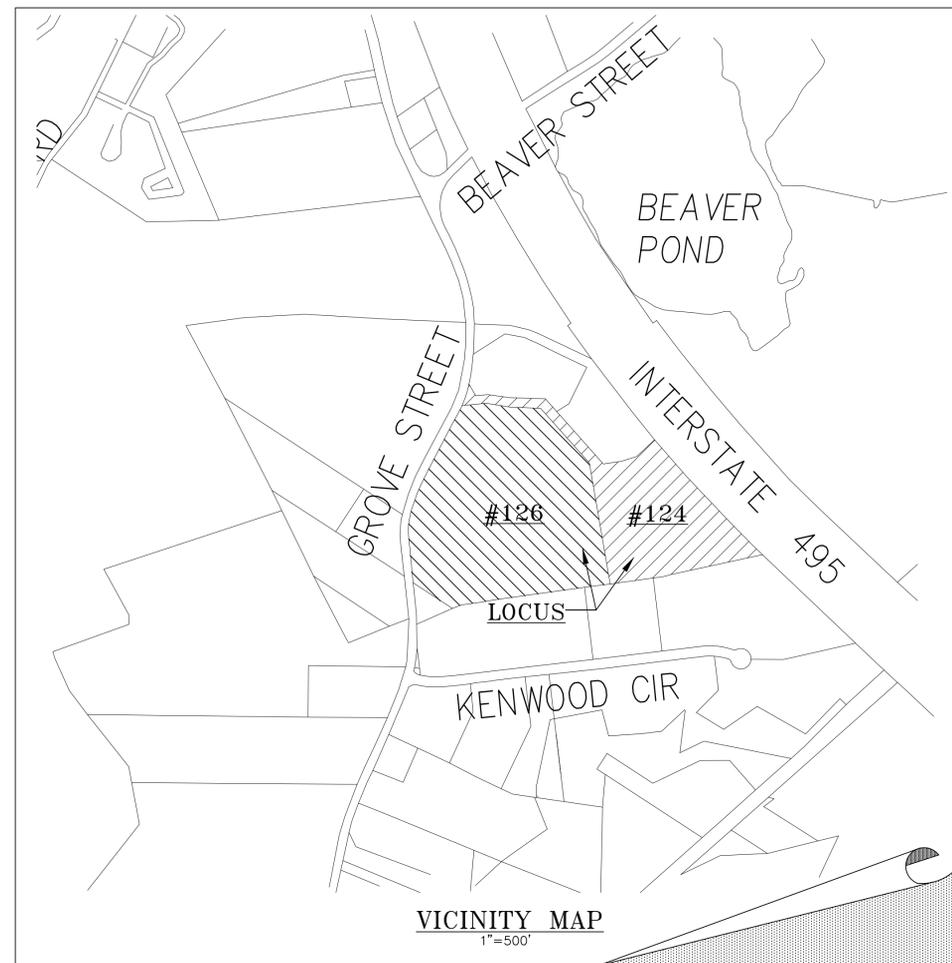
"124/ 126 GROVE STREET"

Building Expansion
 Site Plan Modification
 Franklin, Massachusetts
 Date: NOVEMBER 5, 2024
 Revised : APRIL 15, 2025

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2. EXISTING CONDITIONS OVERVIEW
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- 6-7. PROPOSED SITE LAYOUT
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12. LANDSCAPING PLAN
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ARCHITECTURAL PLANS (BY OTHERS)
 DRAFT RETAINING WALL DESIGN PLAN (BY OTHERS)
 (TO BE FINALIZED PRIOR TO PLAN ENDORSEMENT)



F4593

APPROVED DATE: _____

FRANKLIN PLANNING BOARD

BEING A MAJORITY

LEGAL NOTES

UTILITIES ARE PLOTTED AS A COMPILATION OF RECORD DOCUMENT MARKINGS AND OTHER OBSERVED EVIDENCE. FOR A VIEW OF THE UNDERGROUND UTILITIES, ONE SHOULD BE CONSIDERED APPROXIMATE. DURING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE COMPLETELY AND RELIABLY DEPICTED. ADDITIONAL UTILITIES, NOT EVIDENCED BY RECORD DOCUMENTS OR OBSERVED PHYSICAL EVIDENCE, MAY BE DISCOVERED BY CONTRACTORS (IN ACCORDANCE WITH MASSACHUSETTS CHAPTER 82 SECTION 40 AS AMENDED) MUST CONTACT ALL UTILITY COMPANIES BEFORE EXCAVATING AND DRILLING AND CALL DIGSAFE AT 1(888)DIG-SAFE(7233).

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OWNER

A.M. 295 LOT 003
 NEAG REAL ESTATE LLC
 126 GROVE ST
 FRANKLIN, MA
 DEED BOOK 41715 PAGE 121
 PLAN No. 253 OF 1989 PLAN Bk. 379

APPLICANT

A.M. 295 LOT 4
 KEY BOSTON, INC.
 126 GROVE STREET
 FRANKLIN, MA 02038
 DEED BOOK 6353 PAGE 200
 DEED BOOK 6876 PAGE 112
 PLAN No. 238 OF 1984 PLAN Bk. 309
 PLAN No. 1655 OF 1985 PLAN Bk. 330

124/ 126 GROVE STREET
 BUILDING EXPANSION
 SITE PLAN MODIFICATION
 FRANKLIN MASSACHUSETTS

COVER

NOVEMBER 5, 2024

DATE	REVISION DESCRIPTION
03/27/2025	PER TOWN & CONSULTANT COMMENTS
04/01/2025	PER CONSERVATION COMMENTS
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SHEET
 1 OF 21

JOB NO.
 F4593

LEGEND

⊠	CATCH BASIN	—OW—	OVERHEAD WIRE
⊙	DRAIN MANHOLE	—UGE—	UNDER GROUND ELEC.
⊕	ELECTRIC MANHOLE	—G—	GAS LINE
⊖	TELEPHONE MANHOLE	—T—	UNDER GROUND TELE.
⊗	SEWER MANHOLE	—W—	WATER LINE
⊘	MANHOLE	—	TRELLINE
⊙	FIRE HYDRANT	—	STONEWALL
⊙	WATERGATE	—D—	DRAIN LINE
⊙	HANDHOLE/ELECTRIC PLUGS	—S—	SEWER LINE
⊙	GAS VALVE	—FM—	FORCED MAIN SEWER
⊙	GUY WIRE	—WPD—	WELLHEAD PROTECTION DISTRICT
⊙	UTILITY POLE		
⊙	LIGHT POLE		
⊙	SIGN		
⊙	BASKETBALL NET		
⊙	TREE		
⊙	HANDI-CAP PARKING		

INDUSTRIAL
FRANKLIN ZONING BYLAW SECTION 185
ATTACHMENT 9; LAST AMENDED
09-06-2023 BY AMENDMENT 23-898

MINIMUM LOT AREA	40,000 SF
MINIMUM LOT FRONTAGE	175'
MINIMUM LOT DEPTH	200'
MINIMUM LOT WIDTH	157.5'

MINIMUM YARDS

FRONT	40'
SIDE	30'
REAR	30'

BUILDING HEIGHT 3 STORIES⁶

% OF LOT UPLAND COVERED BY:

STRUCTURES	70
STRUCTURES+PAVING	80

⁵INCREASE BY THE COMMON BUILDING HEIGHT OF THE STRUCTURE, WHEN ABUTTING A RESIDENTIAL DISTRICT OR USE.

⁶BUILDINGS UP TO 60 FEET IN HEIGHT MAY BE PERMITTED BY A SPECIAL PERMIT BY THE PLANNING BOARD



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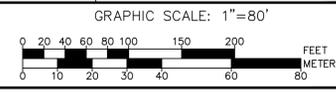
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**124/ 126 GROVE STREET
BUILDING EXPANSION
SITE PLAN MODIFICATION
FRANKLIN MASSACHUSETTS**

**EXISTING CONDITIONS
OVERVIEW**

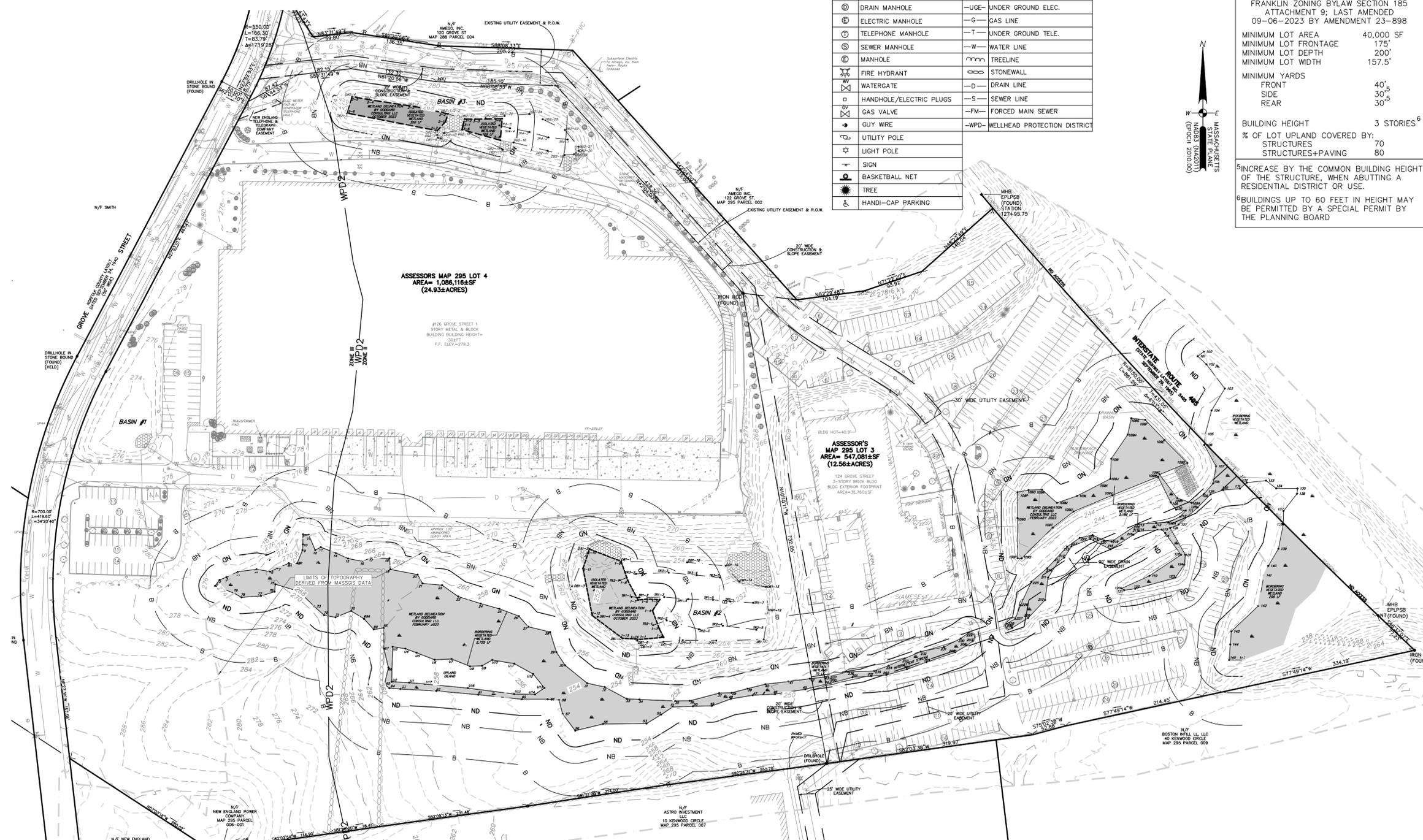
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Guerriere & Halnon, Inc.
ENGINEERING & LAND SURVEYING

55 WEST CENTRAL ST. PH. (508) 528-3221
FRANKLIN, MA 02038 FX. (508) 528-7921
www.gandhengineering.com



NOTES

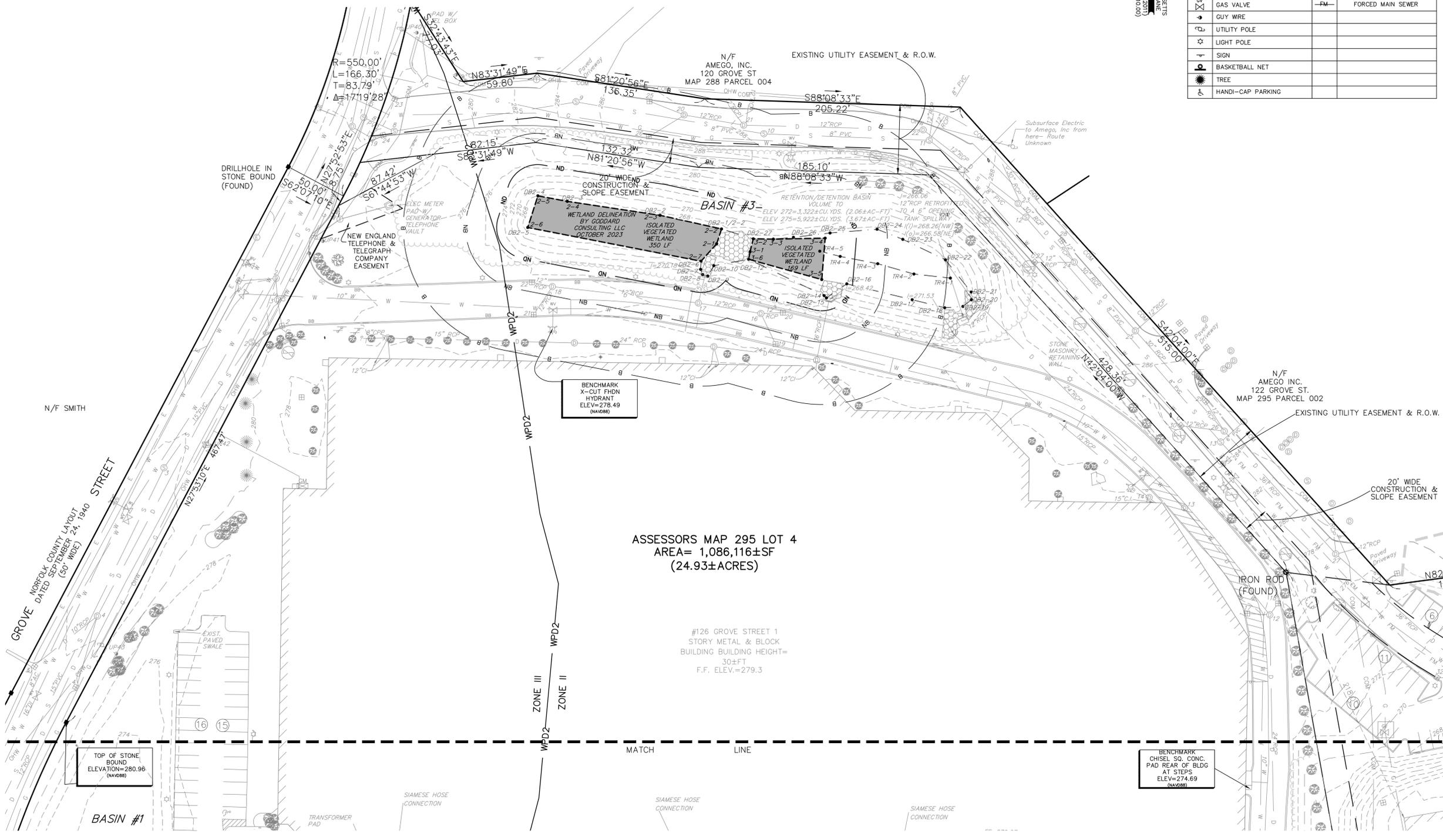
1. THIS LAND IS ZONED INDUSTRIAL.
2. THIS SITE IS NOT LOCATED FLOOD HAZARD ZONE PER FEMA FLOOD MAP 25021C0308E, EFFECTIVE DATE 7/17/2012.
3. THE WETLANDS WERE FLAGGED BY GODDARD CONSULTING IN FEBRUARY 2023, LOCATED BY GUERRIERE AND HALNON, INC.
4. REFER TO FRANKLIN ASSESSORS MAP 295 LOTS 3 AND 4.
5. A PORTION OF THIS SITE IS LOCATED IN A WELLHEAD PROTECTION AREA ZONE II DISTRICT.
6. ALL REFERENCED DEEDS ARE ON RECORD AT THE NORFOLK REGISTRY OF DEEDS.
7. THIS SITE IS NOT LOCATED WITHIN A NATURAL HERITAGE AND ENDANGERED SPECIES PROGRAM AREA.
8. ELEVATIONS ARE BASED ON HORIZONTAL DATUM:NAD83; VERTICAL DATUM: NAVD88.
9. THE EXISTING FEATURES DEPICTED HEREON ARE THE RESULT OF AN ON GROUND DATA COLLECTION SURVEY CONDUCTED BY GUERRIERE & HALNON, INC BETWEEN FEBRUARY 8, 2023 AND FEBRUARY 12, 2024 ALONG WITH RECORD DATA OBTAINED DURING PRIOR LAND TITLE SURVEYS CONDUCTED BY THIS FIRM.
10. AN ANR PLAN DEPICTING THE REMOVAL OF THE BOUNDARY LINE BETWEEN 124 AND 126 GROVE STREET AND THE ADJUSTMENT OF THE "UTILITY EASEMENT AND RIGHT-OF-WAY" AND "20 FT. WIDE SLOPE AND CONSTRUCTION EASEMENT" FOR THE BENEFIT OF THE AMEGO, INC PROPERTIES SHALL BE FILED AND ENDORSED BY THE PLANNING BOARD PRIOR TO THE ISSUANCE OF A BUILDING PERMIT. AGREEMENTS TO ADJUST EASEMENTS TO BE OBTAINED BY OTHERS.
11. TOTAL LAND AREA AFTER COMBINING 37.49±AC.

TESTING NOTE

SEE REPORT ENTITLED "GEOTECHNICAL ENGINEERING REPORT PROPOSED WAREHOUSE ADDITION 126 GROVE STREET FRANKLIN, MA." BY NORTHEAST GEOTECHNICAL, INC. DATED AUGUST 22, 2024 FOR TESTING DATA AND LOCATIONS.

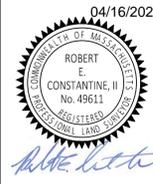
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LEGEND

⊠	CATCH BASIN	—OW—	OVERHEAD WIRE
⊙	DRAIN MANHOLE	—UGE—	UNDER GROUND ELEC.
⊕	ELECTRIC MANHOLE	—G—	GAS LINE
⊖	TELEPHONE MANHOLE	—T—	UNDER GROUND TELE.
⊗	SEWER MANHOLE	—W—	WATER LINE
⊘	MANHOLE	—	TREELINE
⊙	FIRE HYDRANT	—	STONEWALL
⊙	WATERGATE	—D—	DRAIN LINE
⊙	HANDHOLE/ELECTRIC PLUGS	—S—	SEWER LINE
⊙	GAS VALVE	—FM—	FORCED MAIN SEWER
⊙	GUY WIRE		
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⊙	LIGHT POLE		
⊙	SIGN		
⊙	BASKETBALL NET		
⊙	TREE		
⊙	HANDI-CAP PARKING		



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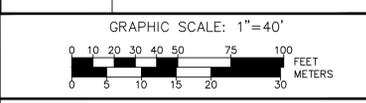
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124/ 126 GROVE STREET
BUILDING EXPANSION
SITE PLAN MODIFICATION
FRANKLIN MASSACHUSETTS

EXISTING CONDITIONS

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F.F. ELEV.=279.3



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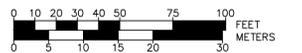
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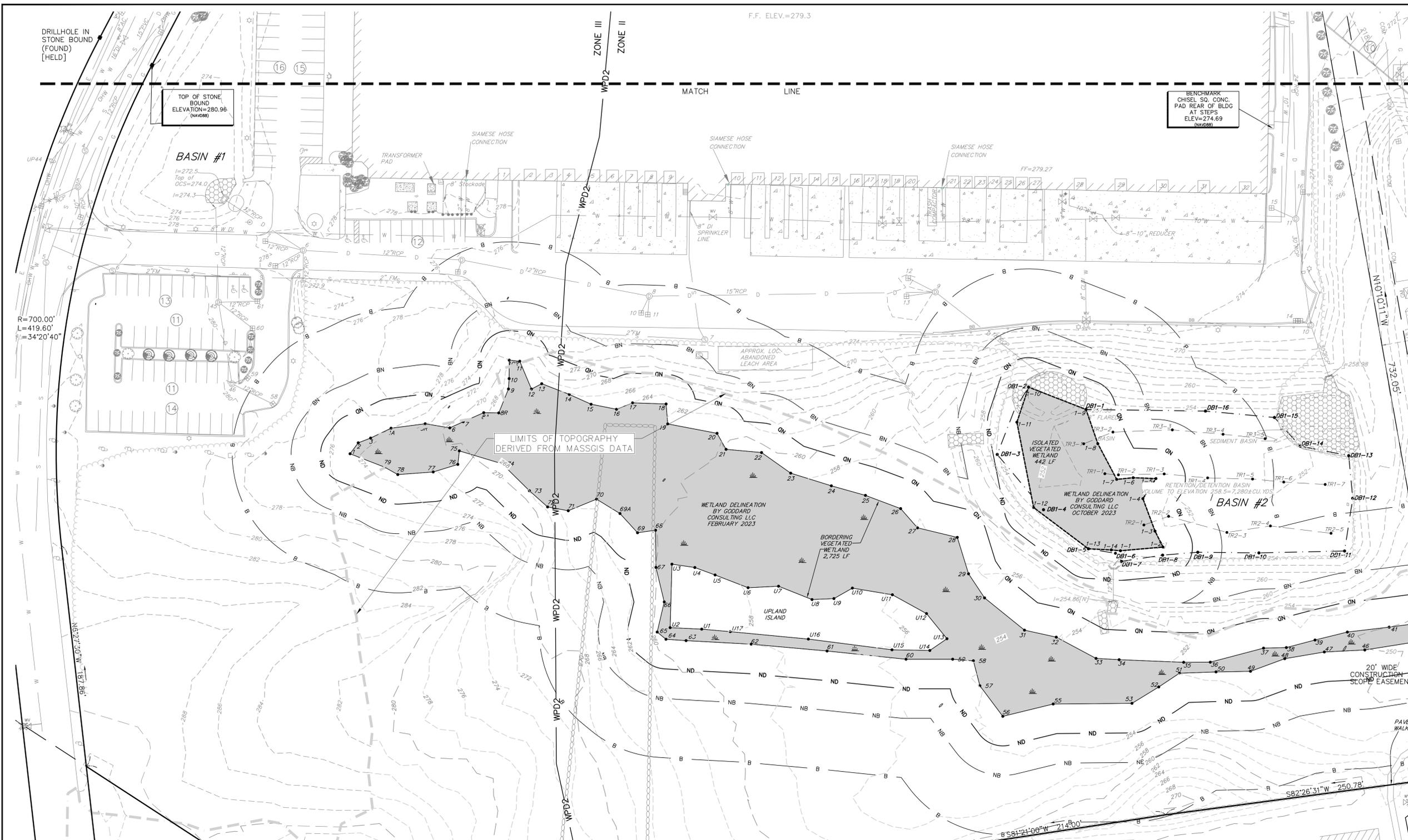
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GRAPHIC SCALE: 1"=40'



SHEET 2B OF 21

JOB NO. F4593



CB 2 R=279.52 I=275.42 S=273.2	CB 7 R=277.66 I=273.9 S=273.3	CB 8 R=277.59 I=274.0 S=273.5	CB 9 R=275.32 I=270.6 S=270.5	CB 15 R=274.50 I=270.4 S=266.7	CB 16 R=274.44 I=269.8 S=266.5	CB 59 R=279.54 I=276.5 S=272.6	CB 59 R=279.69 I=276.5 S=272.6	CB 60 R=279.19 I=275.9 S=272.2	CB 61 R=278.92 I=275.8 S=272.0
DMH 6 R=277.6 I(8)=271.9 I(7)=271.9 I(1)=271.9 I(o)=271.8	DMH 7 R=277.66 I(9)=269.2 I(10)=268.9 I(1)=268.6 I(o)=268.6	DMH 8 R=274.3 I(11)=268.1 I(12)=268.1 I(1)=264.8 I(o)=264.5	DMH 9 R=274.0 I(13)=266.4 I(12)=266.5 I(1)=260.0 I(o)=260.0	DMH 11 R=274.3 I(15)=270.1 I(16)=269.3 I(1)=261.0 I(o)=260.8	SMH 7 R=274.94 I(1)=269.4 FORCED MAIN				

LEGEND

▣	CATCH BASIN	—OW—	OVERHEAD WIRE
⊕	DRAIN MANHOLE	—UGE—	UNDER GROUND ELEC.
⊙	ELECTRIC MANHOLE	—G—	GAS LINE
⊖	TELEPHONE MANHOLE	—T—	UNDER GROUND TELE.
⊗	SEWER MANHOLE	—W—	WATER LINE
⊕	MANHOLE	—	TREELINE
⊕	FIRE HYDRANT	—	STONEWALL
⊕	WATERGATE	—D—	DRAIN LINE
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⊕	GAS VALVE	—FM—	FORCED MAIN SEWER
⊕	GUY WIRE		
⊕	UTILITY POLE		
⊕	LIGHT POLE		
⊕	SIGN		
⊕	BASKETBALL NET		
⊕	TREE		
⊕	HAND-CAP PARKING		



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LEGEND

⊠	CATCH BASIN	-OW-	
⊖	DRAIN MANHOLE	-UGE-	UNDER GROUND ELEC.
⊕	ELECTRIC MANHOLE	-G	GAS LINE
⊗	TELEPHONE MANHOLE	-T	UNDER GROUND TELE.
⊙	SEWER MANHOLE	-W	WATER LINE
⊚	MANHOLE	m	TREELINE
⊛	FIRE HYDRANT	∞	STONEWALL
⊜	WATERGATE	-D	DRAIN LINE
⊝	HANDHOLE/ELECTRIC PLUGS	-S	SEWER LINE
⊞	GAS VALVE	-FM-	FORCED MAIN SEWER
⊟	GUY WIRE		
⊠	UTILITY POLE		
⊡	LIGHT POLE		
⊢	SIGN		
⊣	BASKETBALL NET		
⊤	TREE		
⊥	HANDI-CAP PARKING		

PARKING NOTE FOR 126 GROVE STREET:

USE:	CRITERIA	BUILDING AREA	EXISTING PARKING	REQUIRED PARKING
WAREHOUSE	1 SP/1000SF.	351,450±SF.		351
OFFICE	1 SP/250SF.	3550±SF.		15
TOTAL PARKING		355,000±SF.	92 PARKING SPACES	366 PARKING SPACES
PROPOSED WAREHOUSE	1 SP/1000SF.	APPROXIMATE 86,752±SF.		87

PARKING NOTE FOR 126 GROVE STREET:

TYPICAL PARKING SPACE TO BE 9'X19'
TYPICAL TRACTOR TRAILER PARKING 12'X50'

EXISTING PARKING SPACES ON SITE= 92 SPACES.
INCLUDING 5 EXISTING HANDICAP PARKING

PROPOSED PARKING SPACES = 217 TOTAL PROPOSED
INCLUDING 6 HANDICAP PARKING
AND 31 TRACTOR TRAILER PARKING

REQUEST A DETERMINATION FROM THE PARKING REQUIREMENTS SECTION 185-21(B) PARKING, LOADING AND DRIVEWAY REQUIREMENTS

PARKING NOTE FOR 124 GROVE STREET:

PARKING FOR 124 GROVE STREET SHOULD BE CONSIDERED A STAND ALONE SITE FOR PARKING REQUIREMENTS AS IT WOULD NOT MEET THE 300' DISTANCE FROM THE ENTRANCE FOR 126 GROVE ST.

THERE EXISTS 503 REGULAR PARKING SPACES AND 13 HANDICAP PARKING SPACES FOR A TOTAL OF 516 SPACES. NO STATEMENT IS MADE, NOR SHALL ONE BE INFERRED, FROM THIS SURVEY THAT THESE SPACES MEET CURRENT ZONING REQUIREMENTS.

SEE PLAN ENTITLED ALTA/NSPS LAND TITLE PLAN 124 GROVE STREET FRANKLIN, MASSACHUSETTS PREPARED FOR OAKS EQUITY PARTNERS LLC, DATED MAY 30, 2023 BY GUERRIERE & HALNON, INC.



F4593

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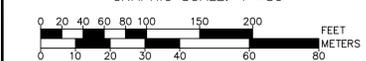
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**SITE PLAN
OVERVIEW**

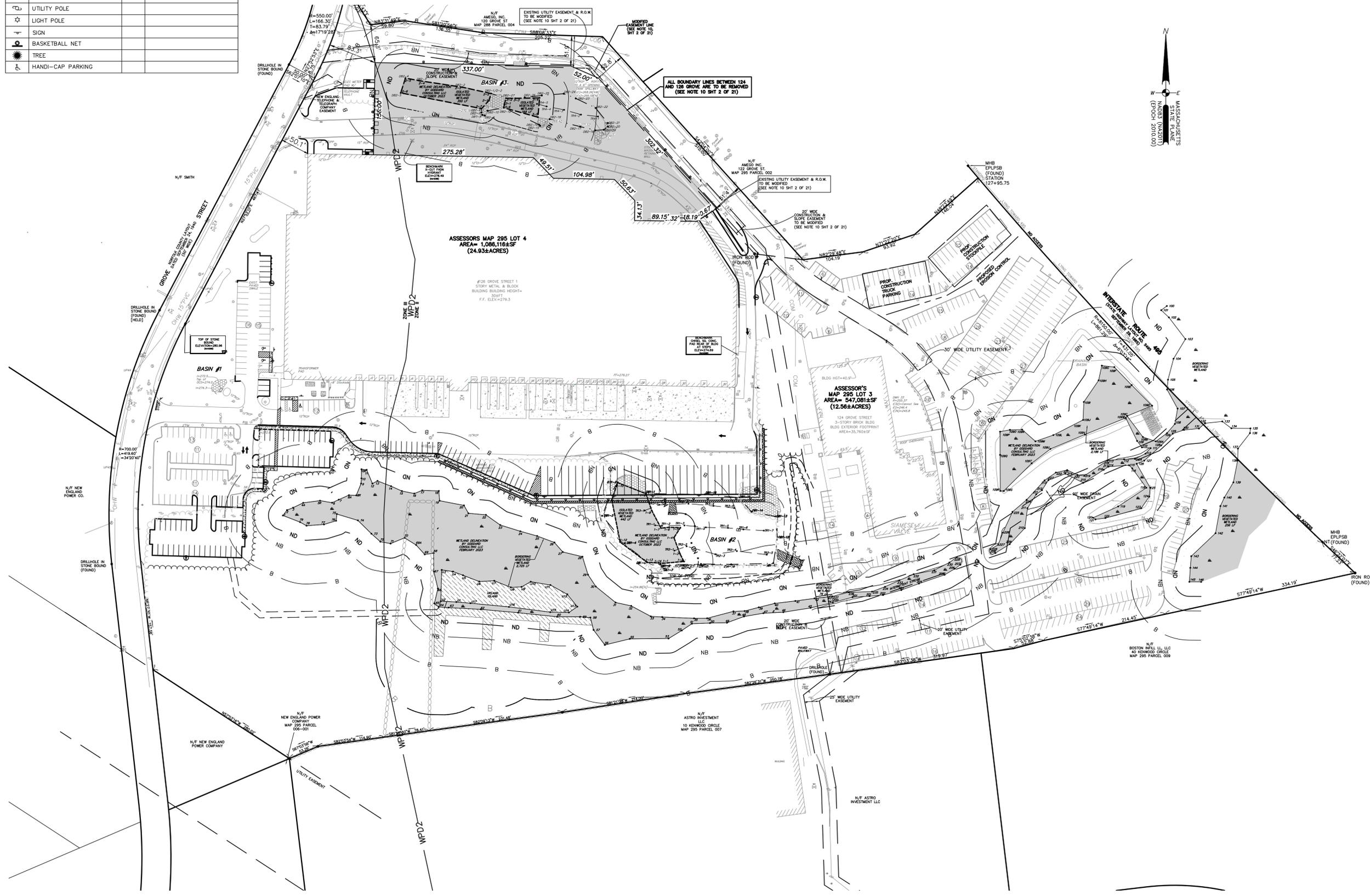
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GRAPHIC SCALE: 1"=80'



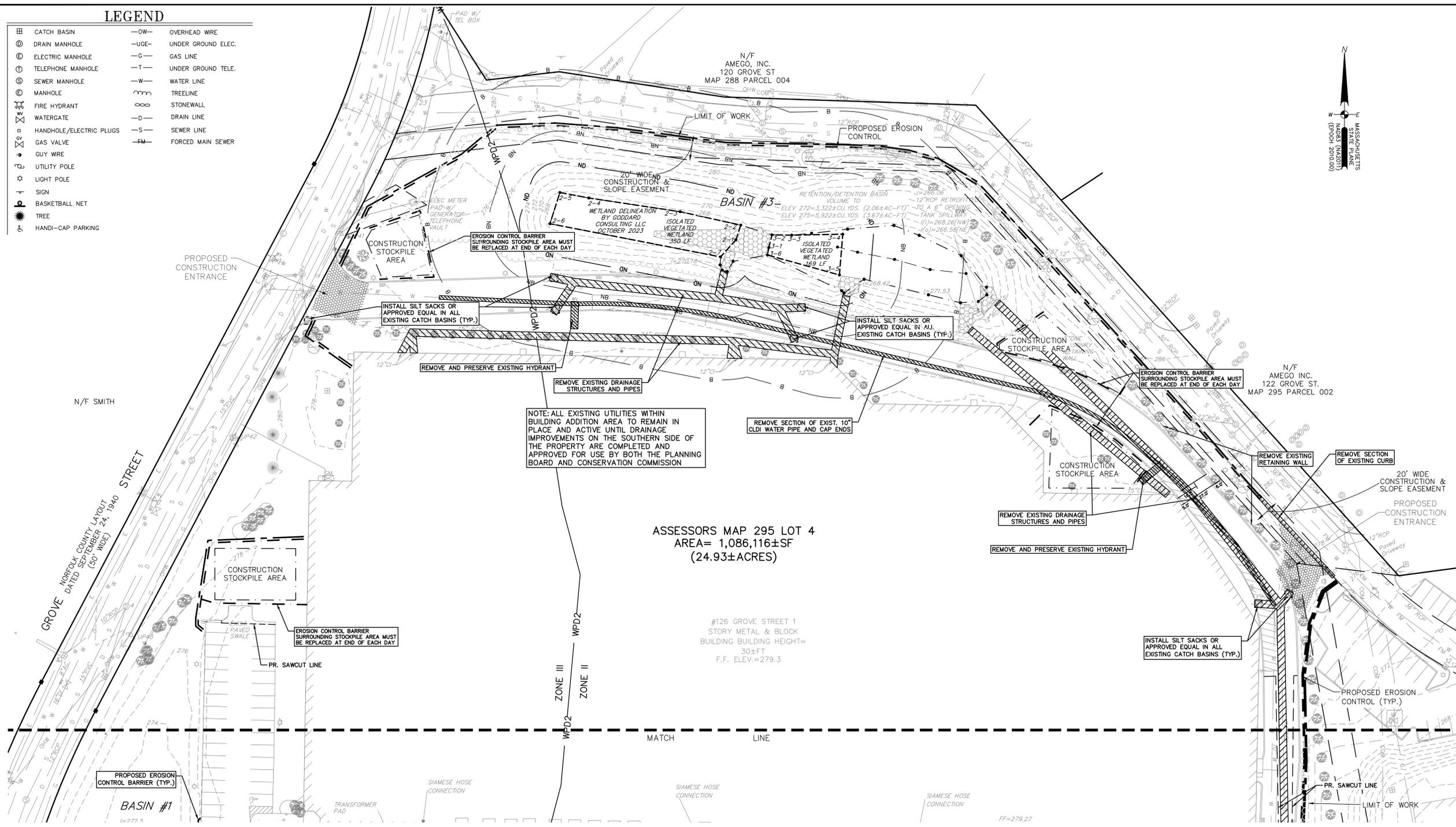
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LEGEND

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- ⊙ ELECTRIC MANHOLE
- ⊙ TELEPHONE MANHOLE
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- G— GAS LINE
- T— UNDER GROUND TELE.
- W— WATER LINE
- T— TREE LINE
- S— STONEWALL
- D— DRAIN LINE
- S— SEWER LINE
- FM— FORCED MAIN SEWER



ASSESSORS MAP 295 LOT 4
 AREA= 1,086,116±SF
 (24.93±ACRES)

#126 GROVE STREET 1
 STORY METAL & BLOCK
 BUILDING BUILDING HEIGHT=
 30±FT
 F.F. ELEV.=279.3

04/16/2025

APPROVED DATE: _____
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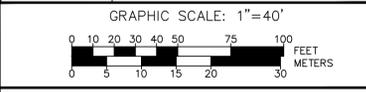
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**124/ 126 GROVE STREET
 BUILDING EXPANSION
 SITE PLAN MODIFICATION
 FRANKLIN MASSACHUSETTS**

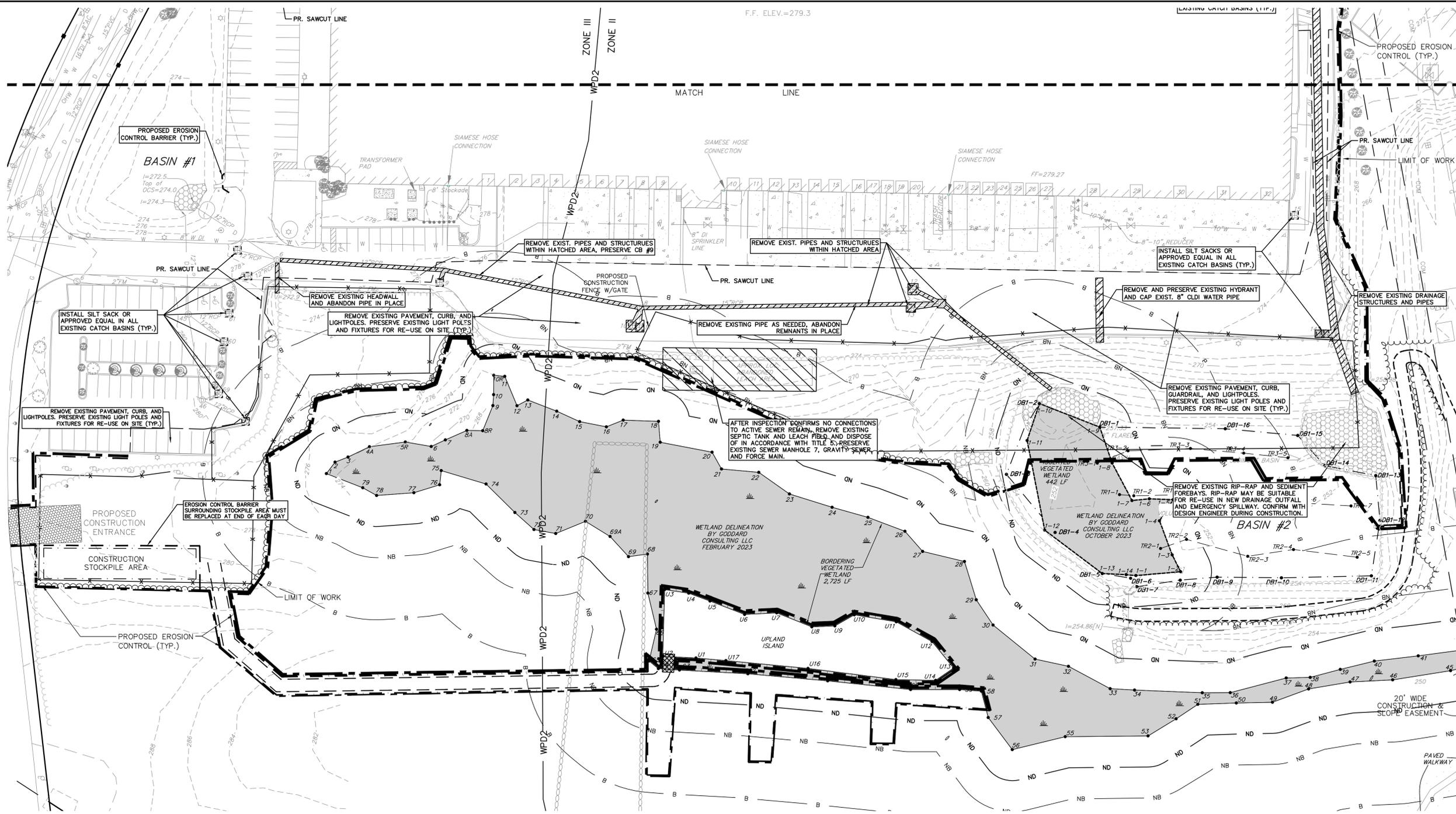
**EROSION CONTROL
 & DEMOLITION PLAN
 NOVEMBER 5, 2024**

DATE	REVISION DESCRIPTION
03/27/2025	PER TOWN & CONSULTANT COMMENTS
04/01/2025	PER CONSERVATION COMMENTS
04/15/2025	PER PLANNING/CONCOM COMMENTS



**Guerriere &
 Halon, Inc.**
 ENGINEERING & LAND SURVEYING
 55 WEST CENTRAL ST. PH. (508) 528-3221
 FRANKLIN, MA 02038 FX. (508) 528-7921
 www.gondengineering.com

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04/16/2025

ROBERT E. CONSTANTINE, II
No. 49611
REGISTERED PROFESSIONAL ENGINEER

DALE MACGONNON
No. 36675
REGISTERED PROFESSIONAL ENGINEER

F4593

APPROVED DATE: _____

FRANKLIN PLANNING BOARD

BEING A MAJORITY

LEGAL NOTES

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OWNER

A.M. 295 LOT 003
NEAG REAL ESTATE LLC
126 GROVE ST
FRANKLIN, MA
DEED BOOK 41715 PAGE 121
PLAN No. 253 OF 1989 PLAN Bk. 379

APPLICANT

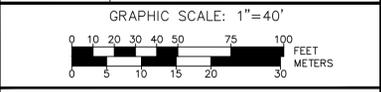
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124/ 126 GROVE STREET
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CONSTRUCTION SEQUENCING PLAN

DEBRIS NOTE:

1. PRIOR TO ANY WORK COMMENCING THE PROPERTY, THE OWNER WILL LIMIT CONSTRUCTION DEBRIS AND MATERIALS ON THE SITE. IN THE EVENT THAT DEBRIS IS CARRIED ONTO ANY PUBLIC WAY, THE OWNER/APPLICANT AND HIS ASSIGNS SHALL BE RESPONSIBLE FOR ALL CLEANUP OF THE ROADWAY. ALL CLEANUPS SHALL OCCUR WITHIN 24 HOURS AFTER FIRST WRITTEN NOTIFICATION TO THE OWNER/APPLICANT BY THE BOARD OR ITS DESIGNEE.

- A NPDES NOI SHALL BE FILED WITH THE EPA.
- RECORD ORDER OF CONDITIONS - THE SITE SUPERINTENDENT SHALL BE AWARE OF ALL THE CONDITIONS CONTAINED WITHIN THE ORDER INCLUDING INSPECTION SCHEDULES.
- INSTALL DEP FILE # SIGN PRIOR TO COMMENCEMENT OF WORK.
- PRIOR TO ANY WORK ON THE SITE INCLUDING TREE/BRUSH CLEARING, THE APPROVED LIMIT OF CLEARING AS WELL AS THE LOCATION OF THE PROPOSED EROSION CONTROL DEVICES (SUCH AS MULCH SOCKS) MUST BE STAKED ON THE GROUND UNDER THE DIRECTION OF A MASSACHUSETTS REGISTERED PROFESSIONAL LAND SURVEYOR.
- INSTALL EROSION CONTROL BARRIERS AND TEMPORARY CONSTRUCTION ENTRANCES AT LOCATIONS DEPICTED ON THE PLANS.
- EROSION CONTROL TO BE INSPECTED BY EITHER THE DESIGN ENGINEER (OR AGENT) OR AN EROSION CONTROL MONITOR APPOINTED BY THE TOWN OF FRANKLIN.
- PERFORM TREE/BRUSH REMOVAL.
- CONSTRUCT TEMPORARY WETLAND REPLICATION ACCESS PATH. ADJUST PATH IN FIELD TO AVOID DAMAGE TO TREES GREATER THAN 2" CALIPER.
- BEGIN CONSTRUCTION OF WETLAND REPLICATION WHEN APPROPRIATE. FOLLOW CONSTRUCTION AND INSTALLATION INSTRUCTIONS OUTLINE IN "ISOLATED VEGETATED WETLAND REPLICATION PLAN" PREPARED BY GODDARD CONSULTING, DATED OCTOBER 31, 2024. WETLAND REPLICATION PLANTINGS SHOULD TAKE PLACE IN THE SPRING OR FALL GROWING SEASONS.
- STRIP OFF TOP AND SUBSOIL. STOCKPILE MATERIAL TO BE REUSED AWAY FROM THE WETLAND, REMOVE EXCESS MATERIAL FROM THE SITE. INSTALL AND MAINTAIN EROSION CONTROL BARRIER AROUND STOCKPILE.
- ROUGH GRADE SITE, MAINTAINING TEMPORARY LOW AREAS/SEDIMENT TRAPS FOR SEDIMENT ACCUMULATION AND AWAY FROM THE WETLANDS AND PREVENT SEDIMENTATION FROM MIGRATING FROM THE SITE.
- CONSTRUCT RETAINING WALL, DRAINAGE OUTFALLS, UNDERDRAINS, MODIFICATIONS TO STORMWATER BASINS #1 & #2, AND SUBSURFACE CHAMBER SYSTEM. PROTECT ALL STORMWATER INLETS, BASINS, AND CHAMBERS WITH ADDITIONAL EROSION CONTROL AS NECESSARY TO PREVENT SILTATION DURING CONSTRUCTION. STABILIZE SIDE SLOPES WITH LOAM, SEED AND MULCH.
- INSTALL UNDERGROUND UTILITIES, INCLUDING MANHOLES AND CATCH BASINS; PROTECT ALL OPEN DRAINAGE STRUCTURES WITH EROSION/SILTATION CONTROL DEVICES.
- BEGIN CONSTRUCTION OF BUILDING FOUNDATION.
- INSTALL BINDER COURSE OF BITUMINOUS ASPHALT.
- BEGIN LANDSCAPING WORK FOR COMPLETED AREAS AND INSTALLATION OF PROPOSED PLANTINGS.
- COMPLETE CONSTRUCTION OF BUILDING.
- INSTALL WEARING COURSE OF ASPHALT, AND STRIPING (WHERE REQUIRED).
- COMPLETE LANDSCAPING WORK AND REQUIRED PLANTINGS.
- INSPECT SURFACE AND SUBSURFACE STORMWATER BASINS, AND REMOVE ANY SEDIMENT THAT HAS ACCUMULATED DURING CONSTRUCTION, IF PRESENT.
- MAINTAIN ALL EROSION CONTROL DEVICES UNTIL SITE IS STABILIZED AND A CERTIFICATE OF COMPLIANCE IS ISSUED BY THE CONSERVATION COMMISSION.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO SCHEDULE ANY REQUIRED INSPECTIONS OF HIS/HER WORK.

LEGEND

	CATCH BASIN	-OW-	OVERHEAD WIRE
	DRAIN MANHOLE	-UGE-	UNDER GROUND ELEC.
	ELECTRIC MANHOLE	-G-	GAS LINE
	TELEPHONE MANHOLE	-T-	UNDER GROUND TELE.
	SEWER MANHOLE	-W-	WATER LINE
	MANHOLE	-M-	TREELINE
	FIRE HYDRANT	-FH-	STONEWALL
	WATERGATE	-D-	DRAIN LINE
	HANDHOLE/ELECTRIC PLUGS	-S-	SEWER LINE
	GAS VALVE	-FM-	FORCED MAIN SEWER
	GUY WIRE		
	UTILITY POLE		
	LIGHT POLE		
	SIGN		
	BASKETBALL NET		
	TREE		
	HANDI-CAP PARKING		

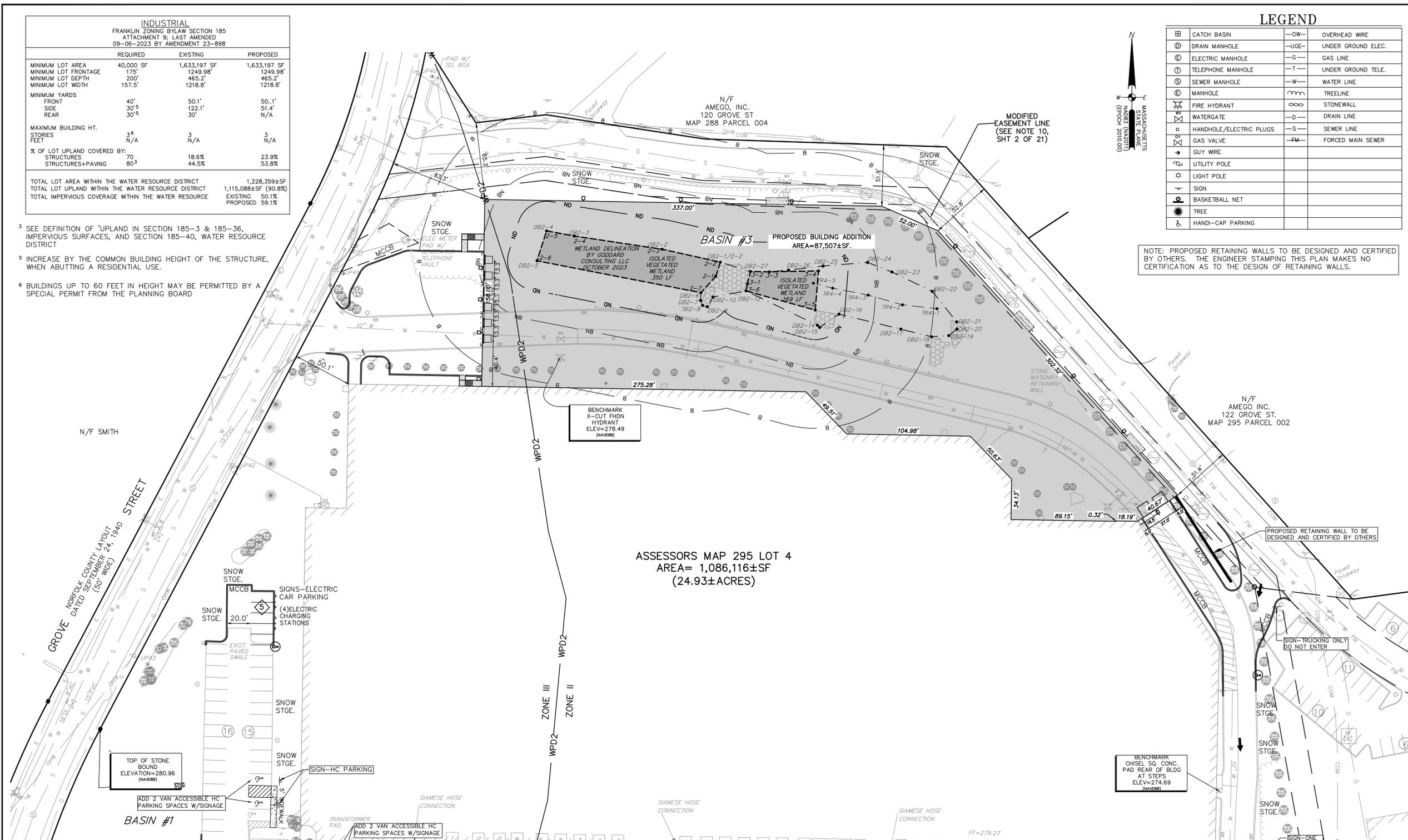
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INDUSTRIAL			
FRANKLIN ZONING BYLAW SECTION 185			
ATTACHMENT 9: LAST AMENDED 09-06-2023 BY AMENDMENT 23-898			
	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA	40,000 SF	1,633,197 SF	1,633,197 SF
MINIMUM LOT FRONTAGE	175'	1249.98'	1249.98'
MINIMUM LOT DEPTH	200'	465.2'	465.2'
MINIMUM LOT WIDTH	157.5'	1218.8'	1218.8'
MINIMUM YARDS			
FRONT	40'	50.1'	50.1'
SIDE	30'5"	122.1'	51.4'
REAR	30'5"	30'	N/A
MAXIMUM BUILDING HT. STORIES	3 ⁶	3	3
FEET	N/A	N/A	N/A
% OF LOT UPLAND COVERED BY: STRUCTURES	70	18.6%	23.9%
STRUCTURES+PAVING	80 ³	44.5%	53.8%
TOTAL LOT AREA WITHIN THE WATER RESOURCE DISTRICT		1,228,359±SF	
TOTAL LOT UPLAND WITHIN THE WATER RESOURCE DISTRICT		1,115,088±SF (90.8%)	
TOTAL IMPERVIOUS COVERAGE WITHIN THE WATER RESOURCE		EXISTING 50.1%	PROPOSED 59.1%

- ³ SEE DEFINITION OF 'UPLAND IN SECTION 185-3 & 185-36, IMPERVIOUS SURFACES, AND SECTION 185-40, WATER RESOURCE DISTRICT
- ⁵ INCREASE BY THE COMMON BUILDING HEIGHT OF THE STRUCTURE, WHEN ABUTTING A RESIDENTIAL USE.
- ⁶ BUILDINGS UP TO 60 FEET IN HEIGHT MAY BE PERMITTED BY A SPECIAL PERMIT FROM THE PLANNING BOARD

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NOTE: PROPOSED RETAINING WALLS TO BE DESIGNED AND CERTIFIED BY OTHERS. THE ENGINEER STAMPING THIS PLAN MAKES NO CERTIFICATION AS TO THE DESIGN OF RETAINING WALLS.



NOTE:
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04/16/2025

F4593

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BEING A MAJORITY

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PLAN No. 253 OF 1989 PLAN Bk. 379

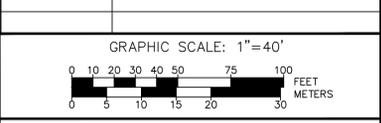
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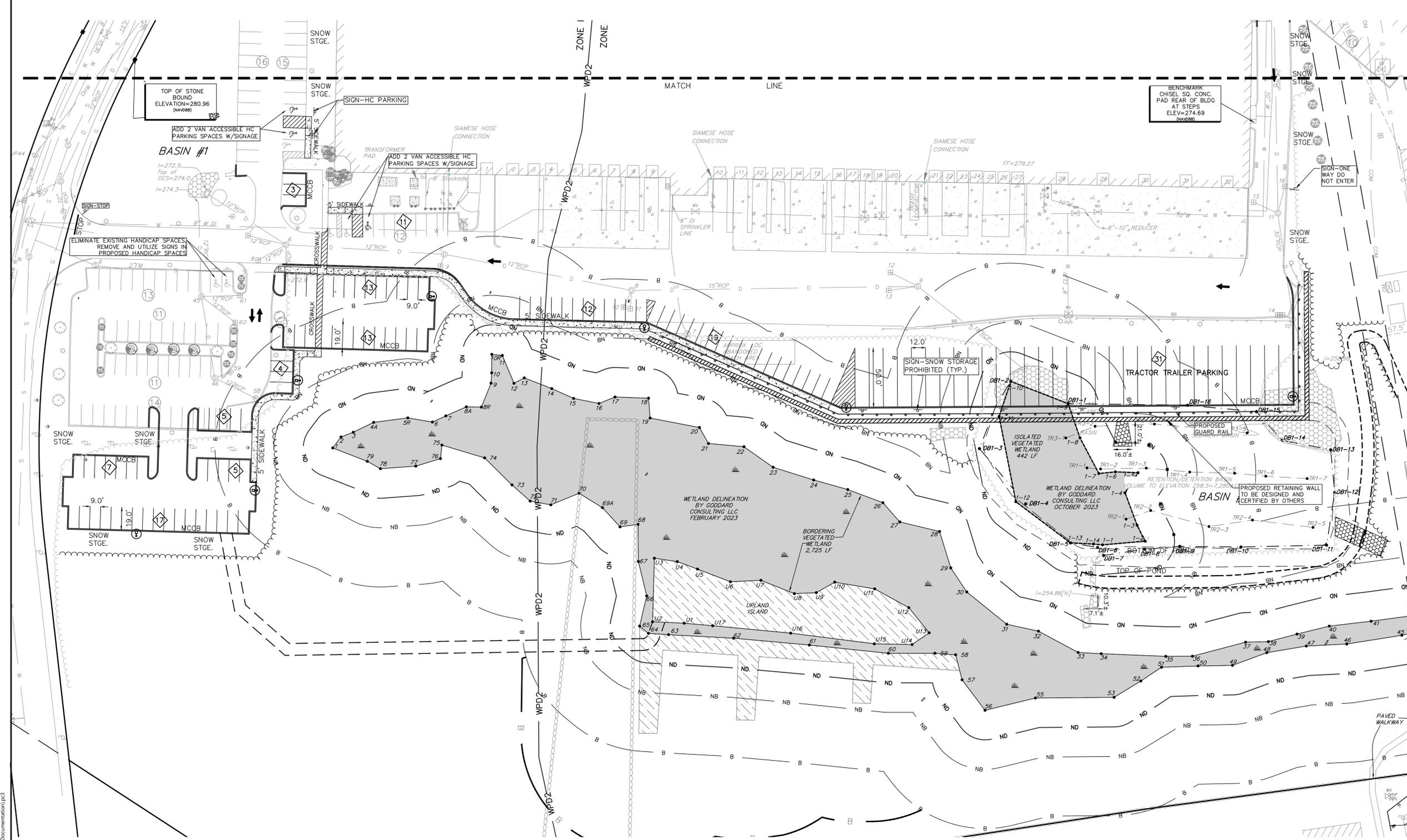
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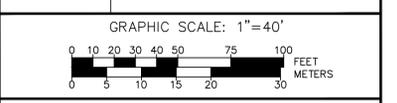
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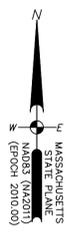
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⊙	FIRE HYDRANT	∞	STONEWALL
⊙	WATERGATE	—D—	DRAIN LINE
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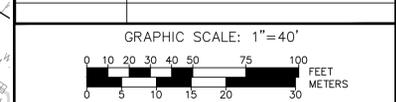
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BUILDING EXPANSION
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FRANKLIN MASSACHUSETTS

GRADING PLAN

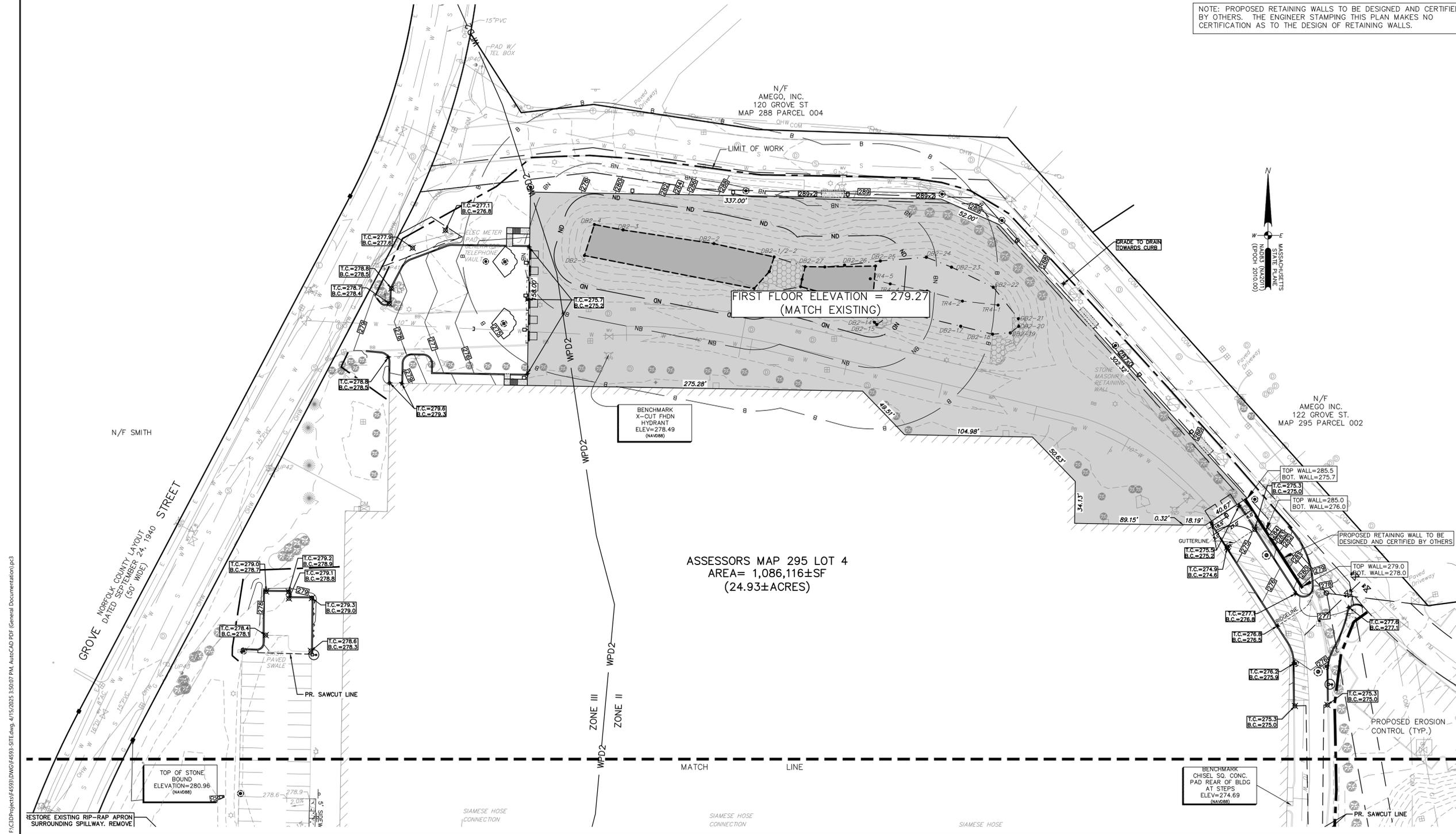
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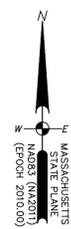
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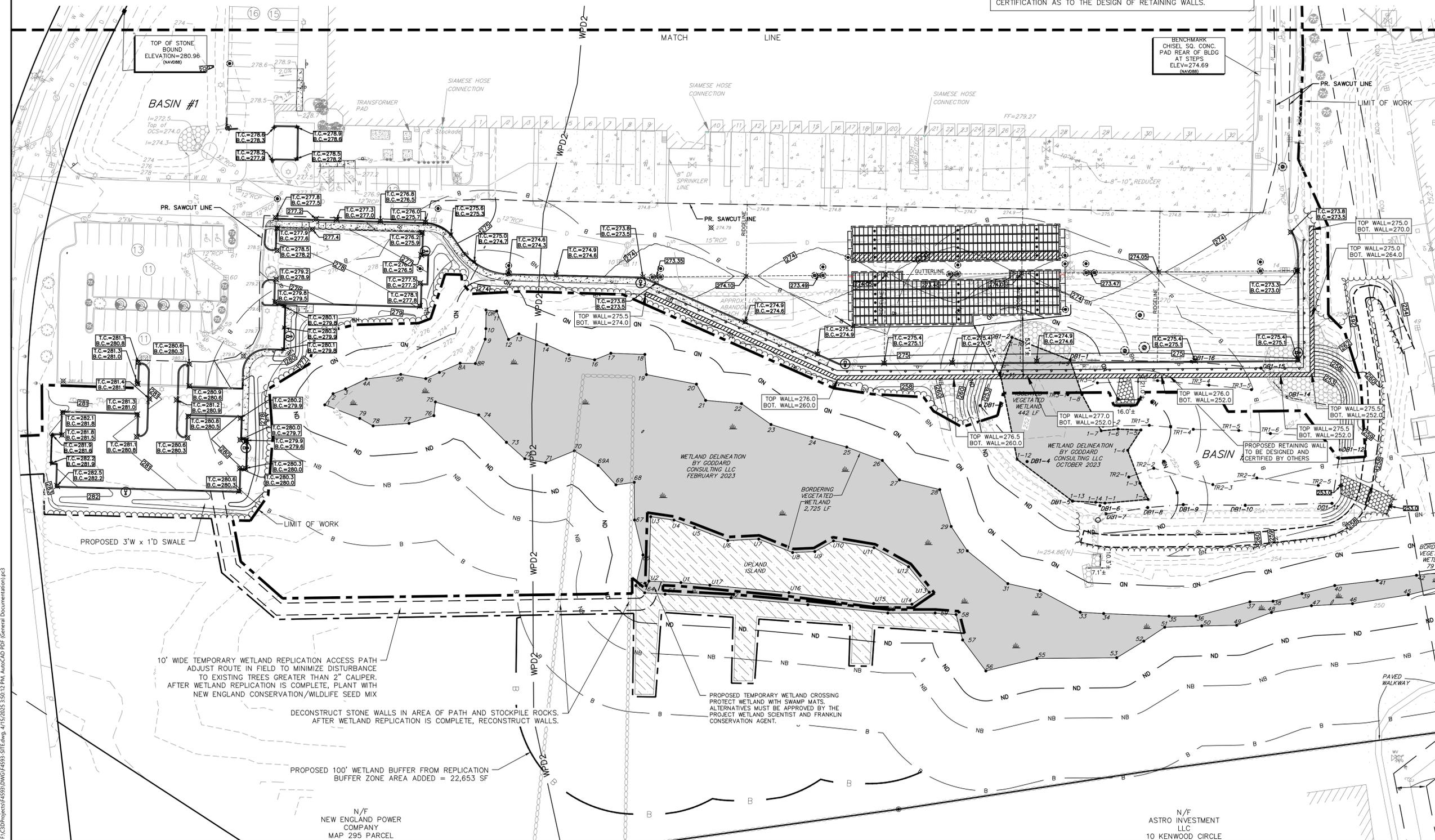
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Totals			251799 Sq. Ft.	3183 Cu. Yd.	30598 Cu. Yd.	27415 Cu. Yd.<Fill>

NOTE: THIS CUT/FILL ANALYSIS SUMMARY IS A COMPARISON BETWEEN EXISTING AND PROPOSED FINISHED GRADES ACROSS THE ENTIRE SITE, AND DOES NOT ACCOUNT FOR THE REMOVAL OF ANY UNSUITABLE MATERIALS FOUND ON SITE.

LEGEND			
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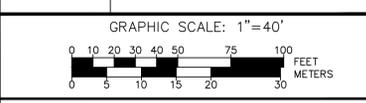
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GRADING PLAN

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DATE	REVISION DESCRIPTION
03/27/2025	PER TOWN & CONSULTANT COMMENTS
04/01/2025	PER CONSERVATION COMMENTS
04/15/2025	PER PLANNING/CONCOM COMMENTS



ENGINEERING & LAND SURVEYING

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FRANKLIN, MA 02038 FX. (508) 528-7921
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STORM DRAINAGE NOTES

- ALL DRAINAGE PIPES TO BE 12" RCP UNLESS OTHERWISE NOTED. WHERE LESS THAN 3.5' OF COVER IS PROVIDED, CLASS V RCP SHALL BE USED.
 - EXISTING DRAINAGE INFRASTRUCTURE WHICH DRAINS TO EXISTING BASIN #3, AS WELL AS THE STRUCTURES AND PIPES CONVEYING EXCESS STORMWATER FROM BASIN 3 TO BASIN 2, SHALL REMAIN IN PLACE AND ACTIVE UNTIL THE PROPOSED SUBSURFACE DETENTION SYSTEM IS CONSTRUCTED AND READY TO RECEIVE FLOWS FROM #DMH 24-14.
- SPECIAL CONSIDERATION FOR INLET CONTROLS FOR EROSION COLLECTION BEFORE ENTERING DRAINAGE SYSTEM:
- INSTALL SILT SACKS.
 - INSTALL EROSION CONTROL BARRIER AROUND CATCH BASIN, COMPOST SOCK OR EQUAL
 - INSTALL FILTER FABRIC ON ALL DRAIN MANHOLE OUTLETS DISCHARGING TO INFILTRATION BASINS AND SUBSURFACE DETENTION SYSTEM.
 - INSPECTIONS BEFORE AND AFTER STORM EVENTS ARE REQUIRED TO INSURE ADEQUACY OF EROSION CONTROL MEASURES.
 - CONTRACTOR & ARCHITECT ARE TO VERIFY SITE UTILITIES PRIOR TO DESIGN & CONSTRUCTION.
 - ALL PIPE GASKETS SHALL BE PRE-MOLDED NEOPRENE O-RING TYPE (300-11 B.(2)(A)).

SITE DRAINAGE INSTALLATIONS NOTES

- EACH SUBSURFACE DETENTION PIPE WILL BE INSTALLED SEPARATELY TO DESIGN ELEVATION.
- INSTALL CONNECTIONS TO CATCH BASINS, WATER QUALITY MANHOLE (WQMH) AND DRAIN MANHOLES.
- EXCAVATE AND INSTALL SUBSURFACE UNIT, BACKFILL W/ STONE MAINTAINING 18"-24" COVER AND AS-BUILT EACH SECTION.

UTILITY NOTES

ALL UTILITIES SHALL BE CONSTRUCTED AND TESTED ACCORDING TO STATE AND LOCAL REGULATIONS.

ALL WATER AND UTILITIES TO COMPLY WITH THE TOWN OF FRANKLIN DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS. WHERE CONFLICTS EXIST, THE TOWNS SPECIFICATIONS SHALL CONTROL.

ALL WATER WORK WITHIN THE STREET OR SIDEWALK MUST UTILIZE FLOWABLE FILL TO THE SATISFACTION OF THE FRANKLIN DEPARTMENT OF PUBLIC WORKS.

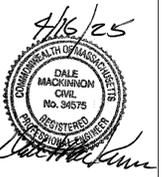
RELOCATION OF EXISTING TRANSFORMER AND TELECOM EQUIPMENT TO BE COORDINATED WITH UTILITY PROVIDERS.

ALL UTILITIES SHALL BE INSTALLED UNDERGROUND UNLESS OTHERWISE SHOWN ON THIS PLAN.

LEGEND

☐	CATCH BASIN	-OW-	OVERHEAD WIRE
⊖	DRAIN MANHOLE	-UGE-	UNDER GROUND ELEC.
⊖	ELECTRIC MANHOLE	-G-	GAS LINE
⊖	TELEPHONE MANHOLE	-T-	UNDER GROUND TELE.
⊖	SEWER MANHOLE	-W-	WATER LINE
⊖	MANHOLE	---	TREELINE
⊖	FIRE HYDRANT	---	STONEWALL
⊖	WATERGATE	-D-	DRAIN LINE
⊖	HANDHOLE/ELECTRIC PLUGS	-S-	SEWER LINE
⊖	GAS VALVE	-FM-	FORCED MAIN SEWER
⊖	GUY WIRE		
⊖	UTILITY POLE		
⊖	LIGHT POLE		
⊖	SIGN		
⊖	BASKETBALL NET		
⊖	TREE		
⊖	HANDI-CAP PARKING		

NOTE: PROPOSED RETAINING WALLS TO BE DESIGNED AND CERTIFIED BY OTHERS. THE ENGINEER STAMPING THIS PLAN MAKES NO CERTIFICATION AS TO THE DESIGN OF RETAINING WALLS.



F4503

APPROVED DATE: _____

FRANKLIN PLANNING BOARD

BEING A MAJORITY

LEGAL NOTES

UTILITIES ARE PLOTTED AS A COMPILATION OF RECORD DOCUMENT MARKINGS AND OTHER OBSERVED UTILITIES. FOR A VIEW OF THE UNDERGROUND UTILITIES, A SHOULD BE CONSIDERED APPROXIMATE. MAKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE RELIABLY DETERMINED COMPLETELY AND RELIABLY DEPICTED. ADDITIONAL UTILITIES, NOT EVIDENCED BY RECORD DOCUMENTS OR OBSERVED PHYSICAL EVIDENCE, MAY BE OBSERVED BY CONTRACTORS (IN ACCORDANCE WITH MASS. REGS. CHAPTER 82 SECTION 40 AS AMENDED) MUST CONTACT ALL UTILITY COMPANIES BEFORE EXCAVATING AND DRILLING AND CALL DIGSAFE AT 1(888)DIG-SAFE(7233).

CONSTRUCTION ON THIS LAND IS SUBJECT TO ANY EASEMENTS, RIGHTS-OF-WAY, RESTRICTIONS, RESERVATIONS, OR OTHER LIMITATIONS WHICH MAY BE REVEALED BY AN EXAMINATION OF THE TITLE.

OWNER

A.M. 295 LOT 003
NEAG REAL ESTATE LLC
126 GROVE ST
FRANKLIN, MA
DEED BOOK 41715 PAGE 121
PLAN No. 253 OF 1989 PLAN Bk. 379

APPLICANT

A.M. 295 LOT 4
KEY BOSTON, INC.
126 GROVE STREET
FRANKLIN, MA 02038
DEED BOOK 6353 PAGE 200
DEED BOOK 6876 PAGE 112
PLAN No. 238 OF 1984 PLAN Bk. 309
PLAN No. 1655 OF 1985 PLAN Bk. 330

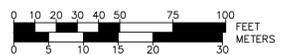
**124/ 126 GROVE STREET
BUILDING EXPANSION
SITE PLAN MODIFICATION
FRANKLIN MASSACHUSETTS**

UTILITY & DRAINAGE PLAN

NOVEMBER 5, 2024

DATE	REVISION DESCRIPTION
03/27/2025	PER TOWN & CONSULTANT COMMENTS
04/01/2025	PER CONSERVATION COMMENTS
04/15/2025	PER PLANNING/CONCOM COMMENTS

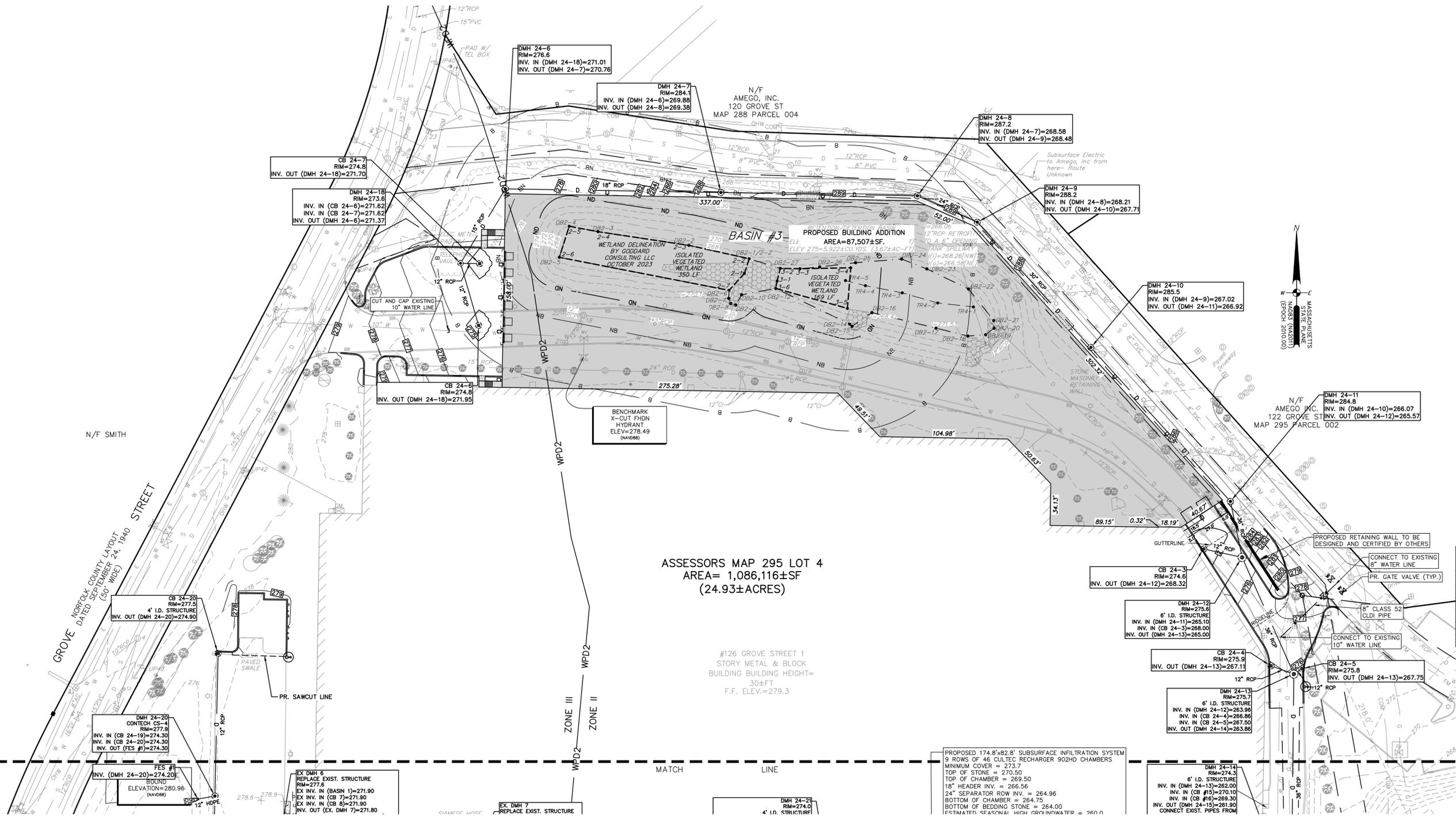
GRAPHIC SCALE: 1"=40'



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SHEET 10 OF 21

JOB NO. F4593



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STORM DRAINAGE NOTES

- ALL DRAINAGE PIPES TO BE 12" RCP UNLESS OTHERWISE NOTED. WHERE LESS THAN 3.5' OF COVER IS PROVIDED, CLASS V RCP SHALL BE USED.
- SPECIAL CONSIDERATION FOR INLET CONTROLS FOR EROSION COLLECTION BEFORE CONSTRUCTING DRAINAGE SYSTEM:
 - INSTALL SILT SACKS.
 - INSTALL EROSION CONTROL BARRIER AROUND CATCH BASIN, COMPOST SOCK OR EQUAL.
 - INSTALL FILTER FABRIC ON ALL DRAIN MANHOLE OUTLETS DISCHARGING TO INFILTRATION BASINS AND SUBSURFACE DETENTION SYSTEM.
 - INSPECTIONS BEFORE AND AFTER STORM EVENTS ARE REQUIRED TO INSURE ADEQUACY OF EROSION CONTROL MEASURES.
 - CONTRACTOR & ARCHITECT ARE TO VERIFY SITE UTILITIES PRIOR TO DESIGN & CONSTRUCTION.
 - ALL PIPE GASKETS SHALL BE PRE-MOLDED NEOPRENE O-RING TYPE (300-11 B.(2)(A)).

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- INSTALL CONNECTIONS TO CATCH BASINS, WATER QUALITY MANHOLE (WQM) AND DRAIN MANHOLES.

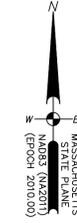
UTILITY NOTES

- ALL UTILITIES SHALL BE CONSTRUCTED AND TESTED ACCORDING TO STATE AND LOCAL REGULATIONS.
- ALL WATER AND UTILITIES TO COMPLY WITH THE TOWN OF FRANKLIN DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS. WHERE CONFLICTS EXIST, THE TOWNS SPECIFICATIONS SHALL CONTROL.
- ALL WATER WORK WITHIN THE STREET OR SIDEWALK MUST UTILIZE FLOWABLE FILL TO THE SATISFACTION OF THE FRANKLIN DEPARTMENT OF PUBLIC WORKS.
- ALL UTILITIES SHALL BE INSTALLED UNDERGROUND UNLESS OTHERWISE SHOWN ON THIS PLAN.
- PRIOR TO CONSTRUCTION, CONDUCT TEST PIT AT PROPOSED SEWER CROSSING TO DETERMINE INVERT OF EXISTING SEWER AND EVALUATE IF A CONFLICT EXISTS WITH PROPOSED DRAINAGE. IF CONFLICT EXISTS, NOTIFY DESIGN ENGINEER IMMEDIATELY FOR REDESIGN OF SEWER TO DROP BUILDING SEWER AND/OR PUMP CHAMBER TO RESOLVE CONFLICT.

LEGEND

	CATCH BASIN	-OW-	OVERHEAD WIRE
	DRAIN MANHOLE	-UGE-	UNDER GROUND ELEC.
	ELECTRIC MANHOLE	-G-	GAS LINE
	TELEPHONE MANHOLE	-T-	UNDER GROUND TELE.
	SEWER MANHOLE	-W-	WATER LINE
	MANHOLE	-M-	TREELINE
	FIRE HYDRANT	-FM-	FORCED MAIN SEWER
	WATERGATE	-D-	DRAIN LINE
	HANDHOLE/ELECTRIC PLUGS	-S-	SEWER LINE
	GAS VALVE	-FM-	FORCED MAIN SEWER
	GUY WIRE		
	UTILITY POLE		
	LIGHT POLE		
	SIGN		
	BASKETBALL NET		
	TREE		
	HANDI-CAP PARKING		

NOTE: PROPOSED RETAINING WALLS TO BE DESIGNED AND CERTIFIED BY OTHERS. THE ENGINEER STAMPING THIS PLAN MAKES NO CERTIFICATION AS TO THE DESIGN OF RETAINING WALLS.



04/16/2025



Handwritten signatures and initials.

F4593

APPROVED DATE:

FRANKLIN PLANNING BOARD

BEING A MAJORITY

LEGAL NOTES

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OWNER

A.M. 295 LOT 003
NEAG REAL ESTATE LLC
126 GROVE ST
FRANKLIN, MA
DEED BOOK 41715 PAGE 121
PLAN No. 253 OF 1989 PLAN Bk. 379

APPLICANT

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KEY BOSTON, INC.
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FRANKLIN, MA 02038
DEED BOOK 6353 PAGE 200
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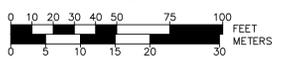
**124/ 126 GROVE STREET
BUILDING EXPANSION
SITE PLAN MODIFICATION
FRANKLIN MASSACHUSETTS**

DRAINAGE PLAN

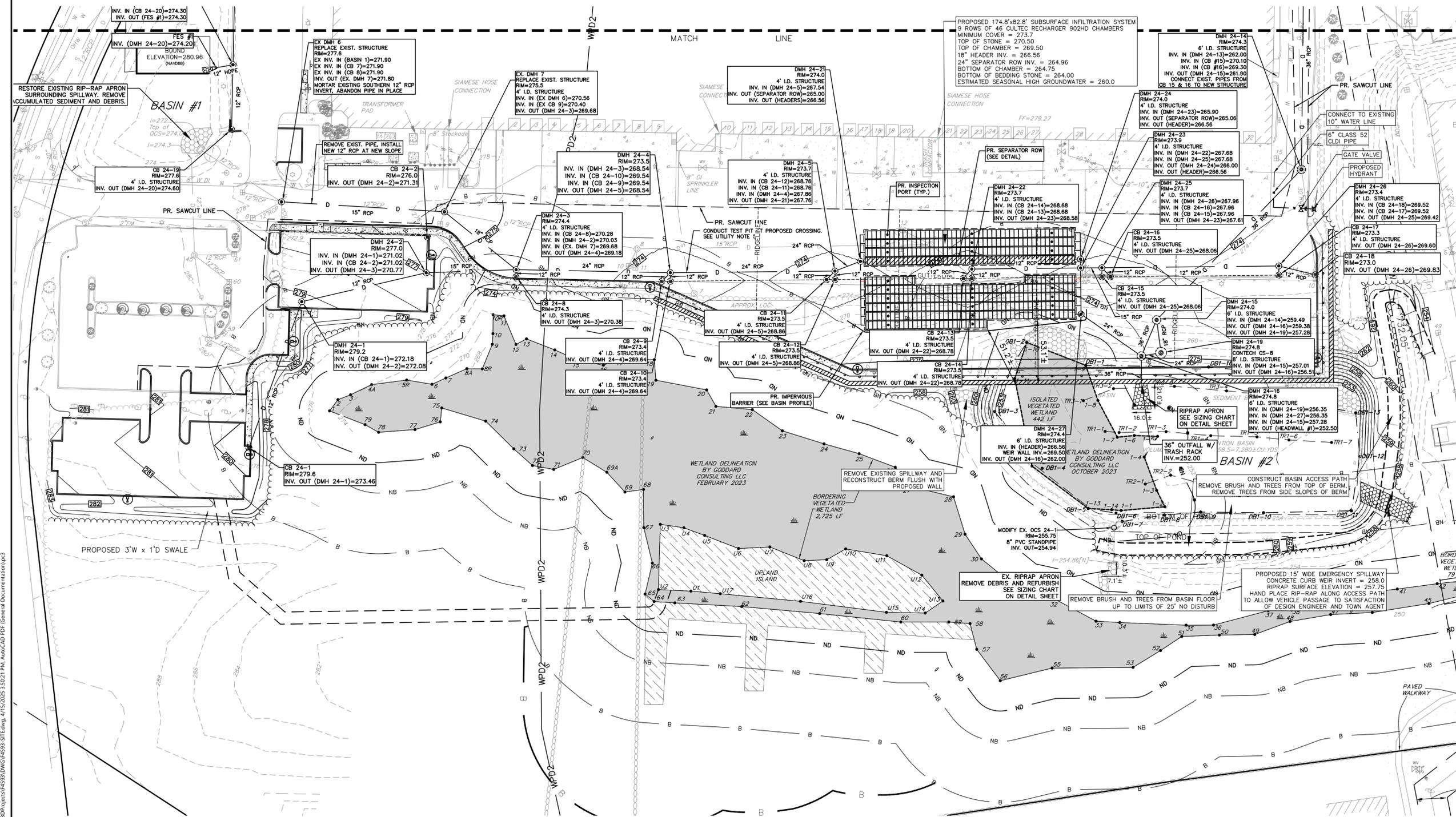
NOVEMBER 5, 2024

DATE	REVISION DESCRIPTION
03/27/2025	PER TOWN & CONSULTANT COMMENTS
04/01/2025	PER CONSERVATION COMMENTS
04/15/2025	PER PLANNING/CONCOM COMMENTS

GRAPHIC SCALE: 1"=40'



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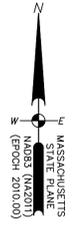
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PLANTING LEGEND

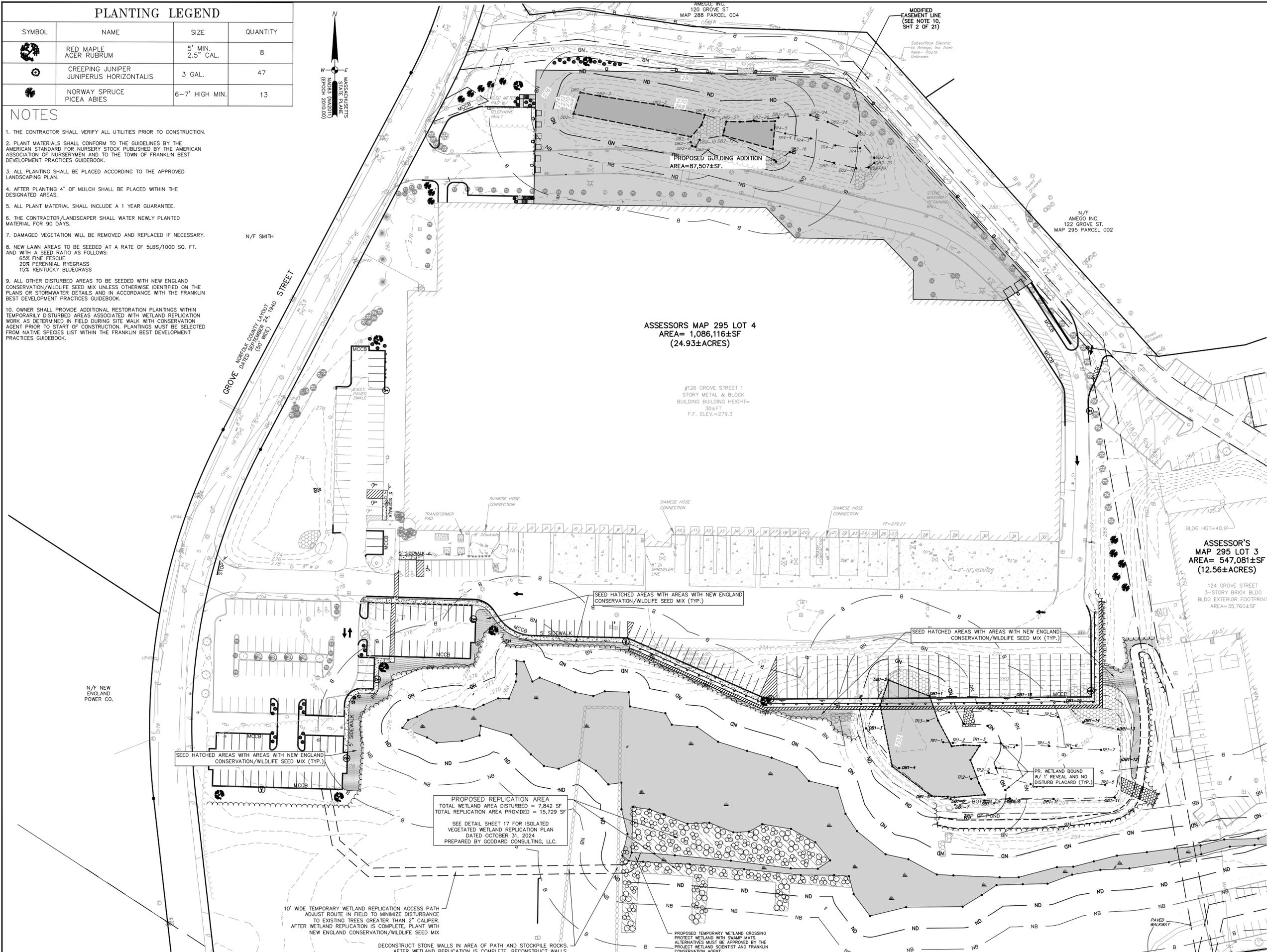
SYMBOL	NAME	SIZE	QUANTITY
	RED MAPLE ACER RUBRUM	5" MIN. 2.5" CAL.	8
	CREEPING JUNIPER JUNIPERUS HORIZONTALIS	3 GAL.	47
	NORWAY SPRUCE PICEA ABIES	6-7' HIGH MIN.	13

NOTES

1. THE CONTRACTOR SHALL VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
2. PLANT MATERIALS SHALL CONFORM TO THE GUIDELINES BY THE AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN AND TO THE TOWN OF FRANKLIN BEST DEVELOPMENT PRACTICES GUIDEBOOK.
3. ALL PLANTING SHALL BE PLACED ACCORDING TO THE APPROVED LANDSCAPING PLAN.
4. AFTER PLANTING 4" OF MULCH SHALL BE PLACED WITHIN THE DESIGNATED AREAS.
5. ALL PLANT MATERIAL SHALL INCLUDE A 1 YEAR GUARANTEE.
6. THE CONTRACTOR/LANDSCAPER SHALL WATER NEWLY PLANTED MATERIAL FOR 90 DAYS.
7. DAMAGED VEGETATION WILL BE REMOVED AND REPLACED IF NECESSARY.
8. NEW LAWN AREAS TO BE SEEDED AT A RATE OF 5LBS/1000 SQ. FT. AND WITH A SEED RATIO AS FOLLOWS:
65% FINE FESCUE
20% PERENNIAL RYEGRASS
15% KENTUCKY BLUEGRASS
9. ALL OTHER DISTURBED AREAS TO BE SEEDED WITH NEW ENGLAND CONSERVATION/WILDLIFE SEED MIX UNLESS OTHERWISE IDENTIFIED ON THE PLANS OR STORMWATER DETAILS AND IN ACCORDANCE WITH THE FRANKLIN BEST DEVELOPMENT PRACTICES GUIDEBOOK.
10. OWNER SHALL PROVIDE ADDITIONAL RESTORATION PLANTINGS WITHIN TEMPORARILY DISTURBED AREAS ASSOCIATED WITH WETLAND REPLICATION WORK AS DETERMINED IN FIELD DURING SITE WALK WITH CONSERVATION AGENT PRIOR TO START OF CONSTRUCTION. PLANTINGS MUST BE SELECTED FROM NATIVE SPECIES LIST WITHIN THE FRANKLIN BEST DEVELOPMENT PRACTICES GUIDEBOOK.



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04/16/2025

F4593

APPROVED DATE: _____

FRANKLIN PLANNING BOARD

BEING A MAJORITY

LEGAL NOTES

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OWNER

A.M. 295 LOT 003
NEAG REAL ESTATE LLC
126 GROVE ST
FRANKLIN, MA
DEED BOOK 41715 PAGE 121
PLAN No. 253 OF 1989 PLAN Bk. 379

APPLICANT

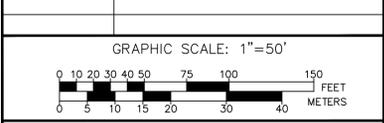
A.M. 295 LOT 4
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**124/ 126 GROVE STREET
BUILDING EXPANSION
SITE PLAN MODIFICATION
FRANKLIN MASSACHUSETTS**

LANDSCAPING PLAN

NOVEMBER 5, 2024

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Guerriere & Halon, Inc.
ENGINEERING & LAND SURVEYING

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LIGHTING LEGEND

VALRIYA SERIES ALA- SEE ATTACHMENT FOR INFORMATION

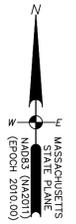
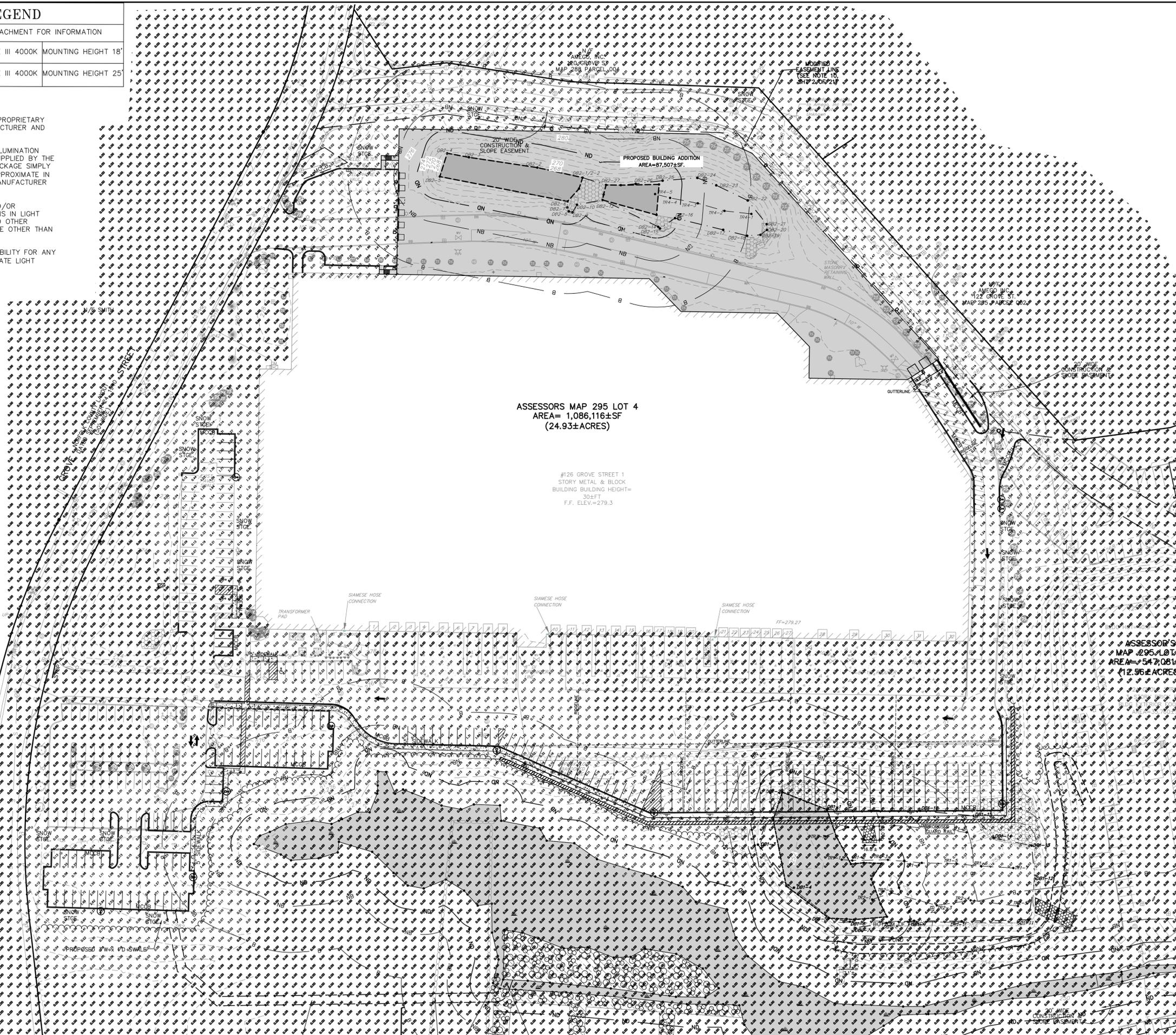
	WALL PAC	40W 120V DARK BRONZE TYPE III 4000K	MOUNTING HEIGHT 18'
	PARKING PAC	70W 120V DARK BRONZE TYPE III 4000K	MOUNTING HEIGHT 25'

THIS PHOTOMETRIC PLAN IS BASED SOLELY UPON PROPRIETARY INFORMATION SUPPLIED BY THE LUMINAIRE MANUFACTURER AND CLIENT RECOMMENDATION.

LUMINAIRE LOCATIONS, LIGHTING PATTERNS, AND ILLUMINATION LEVELS WERE PREPARED UTILIZING INFORMATION SUPPLIED BY THE LUMINAIRE MANUFACTURER AND THE SOFTWARE PACKAGE SIMPLY OUTDOOR. IT'S VALUES SHOULD BE CONSIDERED APPROXIMATE IN NATURE AND SHALL BE VERIFIED BY THE LUMIN MANUFACTURER PRIOR TO INSTALLATION.

ACTUAL PERFORMANCE OF LIGHTING PATTERNS AND/OR ILLUMINANCE VALUES MAY VARY DUE TO VARIATIONS IN LIGHT HEIGHT, ELECTRICAL VOLTAGE, LAMP WATTAGE, AND OTHER VARIABLE FIELD CONDITIONS, OR USING A LUMINAIRE OTHER THAN SPECIFICALLY NOTED HEREON.

GUERRIERE & HALNON, INC ASSUMES NO RESPONSIBILITY FOR ANY SAFETY AND/OR SECURITY RISKS DUE TO INADEQUATE LIGHT LEVELS WHICH MAY OCCUR AFTER INSTALLATION.



04/16/2025



ROBERT E. CONSTANTINE, II
No. 49611

7/16/25



DALE MACKINNON
CIVIL No. 36575

F4593

APPROVED DATE: _____

FRANKLIN PLANNING BOARD

BEING A MAJORITY

LEGAL NOTES

UTILITIES ARE PLOTTED AS A COMPILATION OF RECORD DOCUMENT MARKINGS AND OTHER OBSERVED UTILITY INFORMATION. A VIEW OF THE UNDERGROUND UTILITY SHOULD BE CONSIDERED APPROXIMATE. PRIOR TO EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE RELIABLY DETERMINED COMPLETELY AND RELIABLY DEPICTED. ADDITIONAL UTILITIES, NOT EVIDENCED BY RECORD DOCUMENTS OR OBSERVED PHYSICAL EVIDENCE, MAY BE OBSERVED BY CONTRACTORS (IN ACCORDANCE WITH MASSACHUSETTS CHAPTER 82 SECTION 40 AS AMENDED) MUST CONTACT ALL UTILITY COMPANIES BEFORE EXCAVATING AND DRILLING AND CALL DIGSAFE AT 1(888)DIG-SAFE(7233).

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OWNER

A.M. 295 LOT 003
NEAG REAL ESTATE LLC
126 GROVE ST
FRANKLIN, MA
DEED BOOK 41715 PAGE 121
PLAN No. 253 OF 1989 PLAN Bk. 379

APPLICANT

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**124/ 126 GROVE STREET
BUILDING EXPANSION
SITE PLAN MODIFICATION
FRANKLIN MASSACHUSETTS**

PHOTOMETRIC PLAN

NOVEMBER 5, 2024

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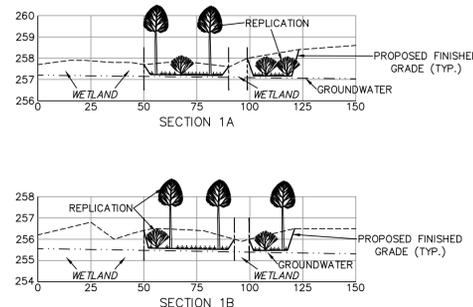
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BUFFER NOTE

AREA OF WETLAND TO BE FILLED = 7,842±SF.

SEE DETAIL SHEET 17 FOR ISOLATED VEGETATED WETLAND REPLICATION PLAN DATED OCTOBER 31, 2024 AND PREPARED BY GODDARD CONSULTING, LLC.

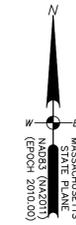
- NOTES:
1. ALL WETLAND REPLICATION WORK SHALL BE CONDUCTED IN ACCORDANCE WITH THE "ISOLATED VEGETATED WETLAND REPLICATION PLAN" PREPARED BY GODDARD CONSULTING, AND AS DIRECTED BY THE ON-SITE SUPERVISING WETLAND SCIENTIST. WHERE DISCREPANCIES EXIST BETWEEN THIS SITE PLAN AND THE GODDARD PLAN, THE GODDARD PLAN SHALL CONTROL.
 2. REPLICATION PLANTINGS ARE NOT TO SCALE.
 3. GROUNDWATER DEPTH IS ASSUMED TO BE 6" BELOW EXISTING WETLAND GRADE. LOCAL GROUNDWATER DEPTH TO BE DETERMINED IN FIELD DURING CONSTRUCTION BY THE SUPERVISING WETLAND SCIENTIST.
 4. FINISHED GRADES SHOWN ON THIS PROFILE ARE APPROXIMATE, AND FINAL GRADING IS TO BE DETERMINED ON-SITE BY THE SUPERVISING WETLAND SCIENTIST.



WETLAND REPLICATION CROSS SECTIONS
SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL

LEGEND

⊞	CATCH BASIN	—OW—	OVERHEAD WIRE
⊕	DRAIN MANHOLE	—UGE—	UNDER GROUND ELEC.
⊙	ELECTRIC MANHOLE	—G—	GAS LINE
⊗	TELEPHONE MANHOLE	—T—	UNDER GROUND TELE.
⊚	SEWER MANHOLE	—W—	WATER LINE
⊘	MANHOLE	—	TREELINE
⊙	FIRE HYDRANT	—	STONEWALL
⊗	WATERGATE	—D—	DRAIN LINE
⊚	HANDHOLE/ELECTRIC PLUGS	—S—	SEWER LINE
⊙	GAS VALVE	—FM—	FORCED MAIN SEWER
⊙	GUY WIRE		
⊙	UTILITY POLE		
⊙	LIGHT POLE		
⊙	SIGN		
⊙	BASKETBALL NET		
⊙	TREE		
⊙	HANDI-CAP PARKING		



04/16/2025

ROBERT E. CONSTANTINE, II
No. 49611
REGISTERED LAND SURVEYOR

DALE MACKINNON
No. 36678
REGISTERED LAND SURVEYOR

APPROVED DATE: _____

FRANKLIN PLANNING BOARD

BEING A MAJORITY

LEGAL NOTES

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OWNER

A.M. 295 LOT 003
NEAG REAL ESTATE LLC
126 GROVE ST
FRANKLIN, MA
DEED BOOK 41715 PAGE 121
PLAN No. 253 OF 1989 PLAN Bk. 379

APPLICANT

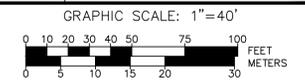
A.M. 295 LOT 4
KEY BOSTON, INC.
126 GROVE STREET
FRANKLIN, MA 02038
DEED BOOK 6353 PAGE 200
DEED BOOK 6876 PAGE 112
PLAN No. 238 OF 1984 PLAN Bk. 309
PLAN No. 1655 OF 1985 PLAN Bk. 330

**124/ 126 GROVE STREET
BUILDING EXPANSION
SITE PLAN MODIFICATION
FRANKLIN MASSACHUSETTS**

REPLICATION PLAN

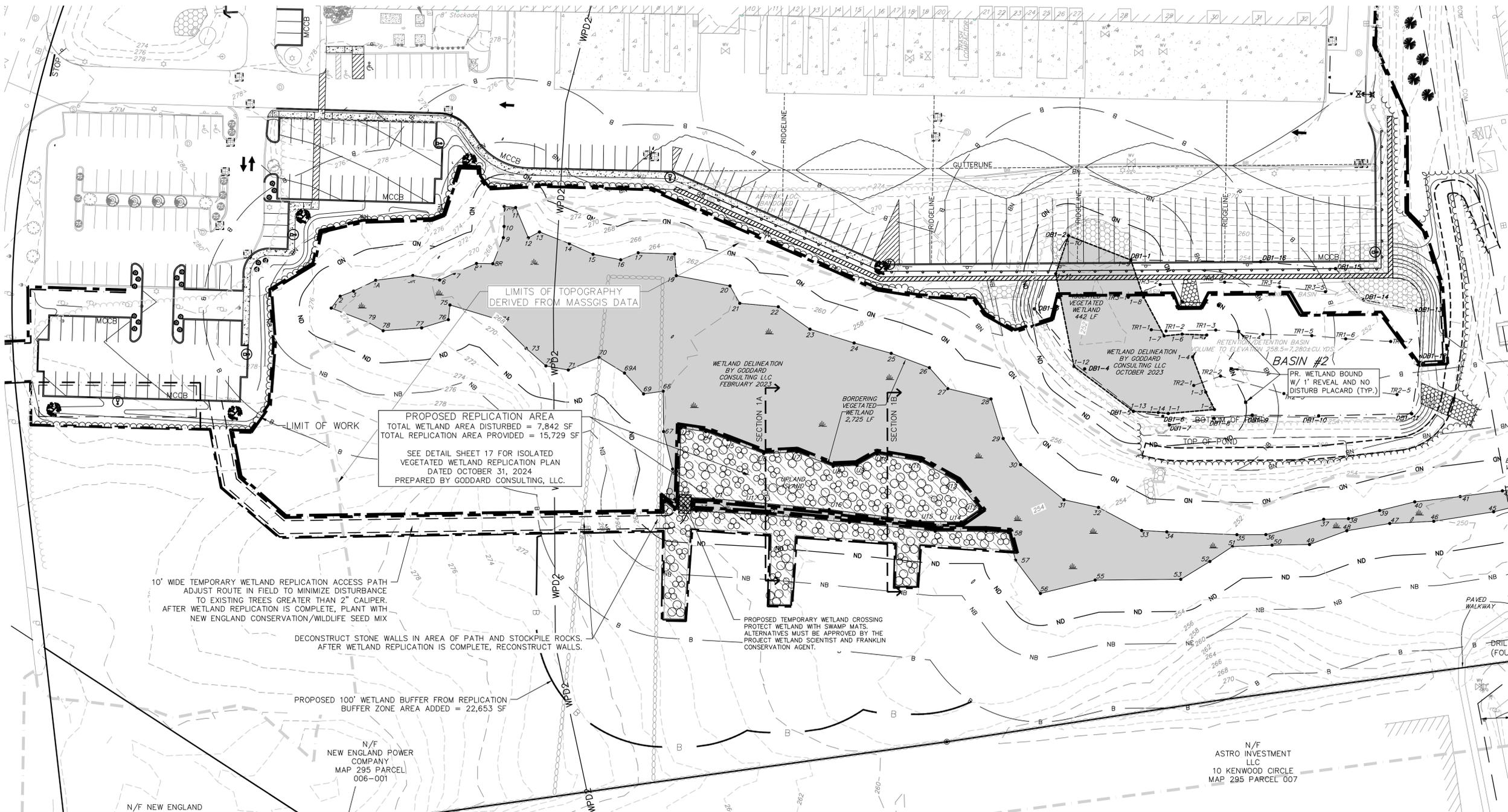
NOVEMBER 5, 2024

DATE	REVISION DESCRIPTION
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04/01/2025	PER CONSERVATION COMMENTS
04/15/2025	PER PLANNING/CONCOM COMMENTS

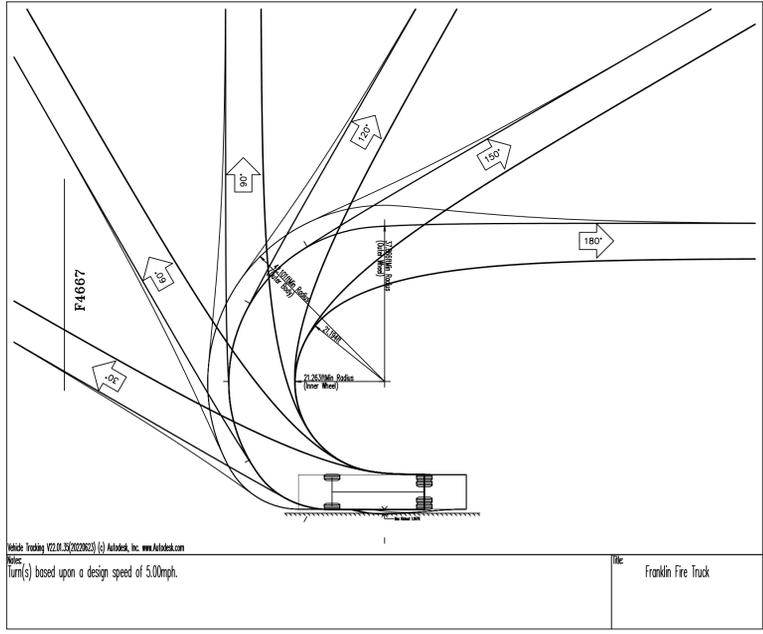
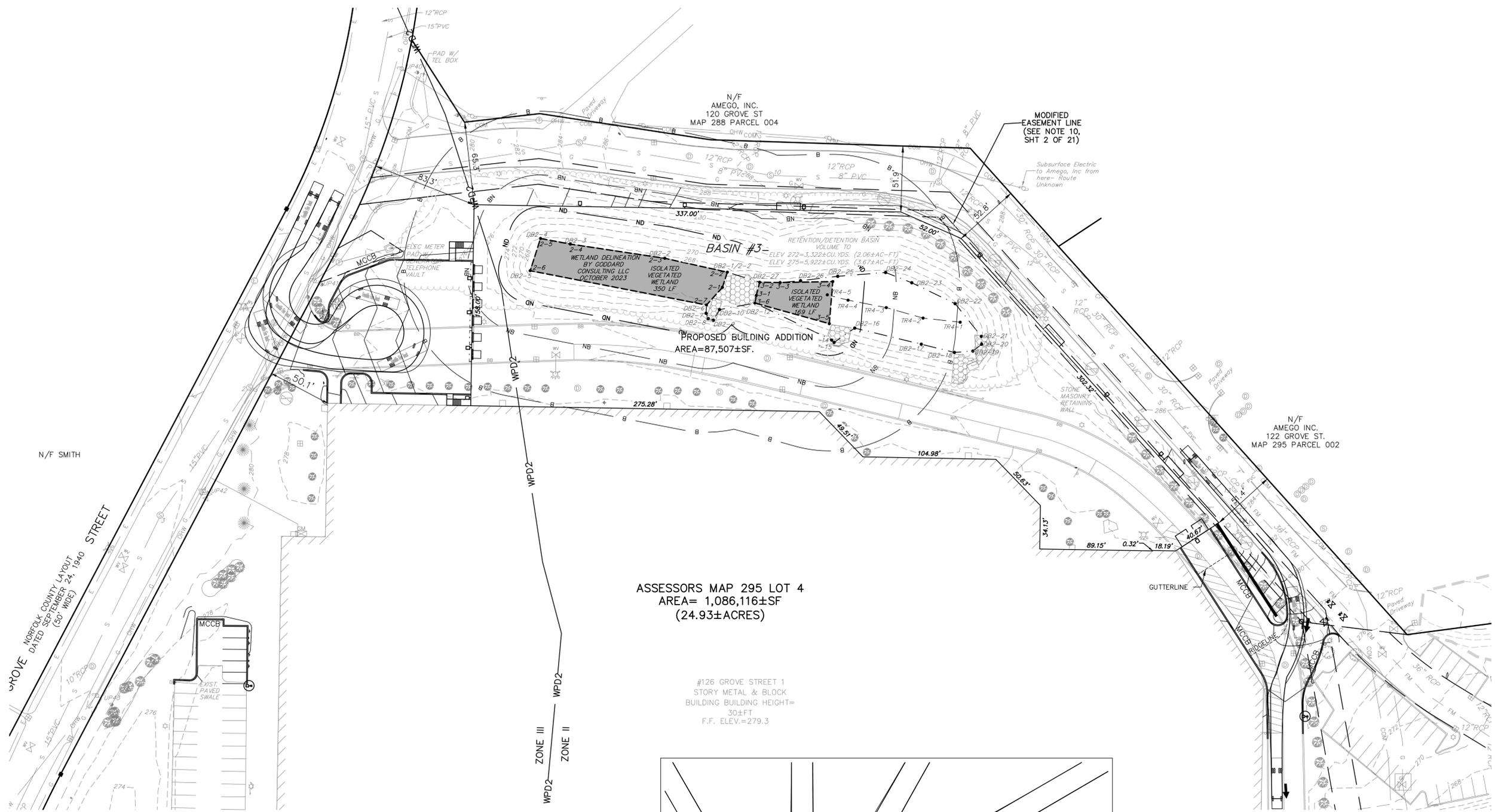


Guerriere & Halnon, Inc.
ENGINEERING & LAND SURVEYING

55 WEST CENTRAL ST. PH. (508) 528-3221
FRANKLIN, MA 02038 FX. (508) 528-7921
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04/16/2025

ROBERT E. CONSTANTINE, II
No. 49611
REGISTERED PROFESSIONAL ENGINEER

DALE MACKINNON
No. 34575
REGISTERED PROFESSIONAL ENGINEER

F4593

APPROVED DATE: _____

FRANKLIN PLANNING BOARD

BEING A MAJORITY

LEGAL NOTES

UTILITIES ARE PLOTTED AS A COMPILATION OF RECORD DOCUMENT MARKINGS AND OTHER OBSERVED EVIDENCE. FOR A VIEW OF THE UNDERGROUND UTILITIES, A SHOULD BE CONSIDERED APPROXIMATE. PRIOR TO EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE KNOWN. COMPLETELY AND RELIABLY DEPICTED. UNIDENTIFIED UTILITIES, NOT EVIDENCED BY RECORD DOCUMENTS OR OBSERVED PHYSICAL EVIDENCE. CONTRACTORS (IN ACCORDANCE WITH MASS. REGS. CHAPTER 82 SECTION 40 AS AMENDED) MUST CONTACT ALL UTILITY COMPANIES BEFORE EXCAVATING AND DRILLING AND CALL DIGSAFE AT 1(888)DIG-SAFE(7233).

CONSTRUCTION ON THIS LAND IS SUBJECT TO ANY EASEMENTS, RIGHTS-OF-WAY, RESTRICTIONS, RESERVATIONS, OR OTHER LIMITATIONS WHICH MAY BE REVEALED BY AN EXAMINATION OF THE TITLE.

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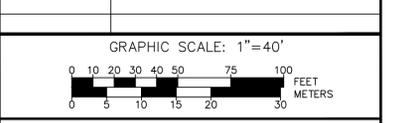
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**124/ 126 GROVE STREET
BUILDING EXPANSION
SITE PLAN MODIFICATION
FRANKLIN MASSACHUSETTS**

**FIRE TRUCK
TURNING PLAN**

NOVEMBER 5, 2024

DATE	REVISION DESCRIPTION
03/27/2025	PER TOWN & CONSULTANT COMMENTS
04/01/2025	PER CONSERVATION COMMENTS
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LEGEND

⊠	CATCH BASIN	—OW—	OVERHEAD WIRE
⊙	DRAIN MANHOLE	—UGE—	UNDER GROUND ELEC.
⊕	ELECTRIC MANHOLE	—G—	GAS LINE
⊖	TELEPHONE MANHOLE	—T—	UNDER GROUND TELE.
⊙	SEWER MANHOLE	—W—	WATER LINE
⊕	MANHOLE	—	TREELINE
⊕	FIRE HYDRANT	—	STONEWALL
⊕	WATERGATE	—D—	DRAIN LINE
⊕	HANDHOLE/ELECTRIC PLUGS	—S—	SEWER LINE
⊕	GAS VALVE	—FM—	FORCED MAIN SEWER
⊕	GUY WIRE		
⊕	UTILITY POLE		
⊕	LIGHT POLE		
⊕	SIGN		
⊕	BASKETBALL NET		
⊕	TREE		
⊕	HANDI-CAP PARKING		



04/16/2025

ROBERT E. CONSTANTINE, II
REGISTERED PROFESSIONAL LAND SURVEYOR
No. 45611

DALE MCGIBBON
REGISTERED PROFESSIONAL LAND SURVEYOR
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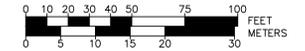
**124/ 126 GROVE STREET
BUILDING EXPANSION
SITE PLAN MODIFICATION
FRANKLIN MASSACHUSETTS**

**TURNING MOVEMENT
EXHIBIT PLAN**

NOVEMBER 5, 2024

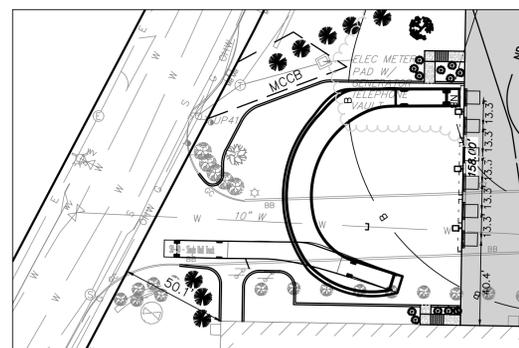
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GRAPHIC SCALE: 1"=40'

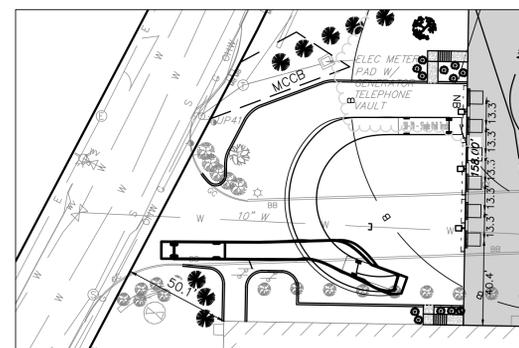


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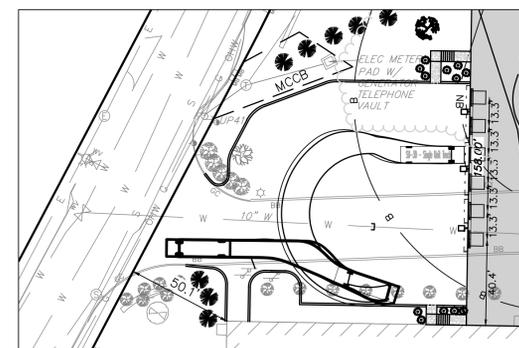
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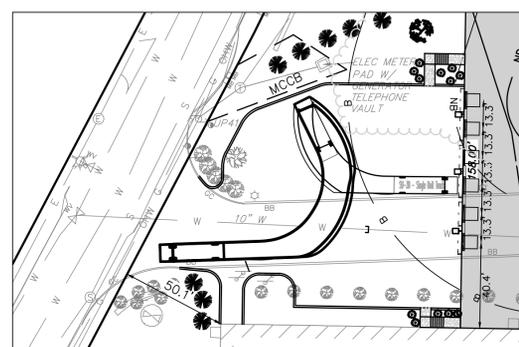
NORTHWEST LOADING DOCK #1
SCALE: 1" = 40'



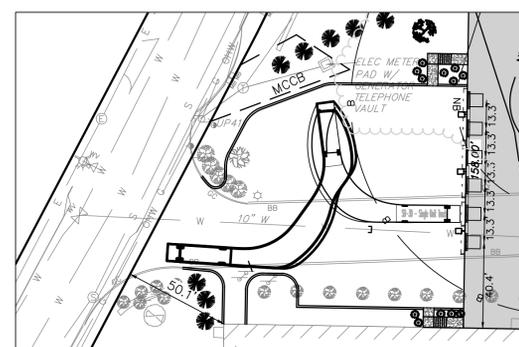
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SCALE: 1" = 40'



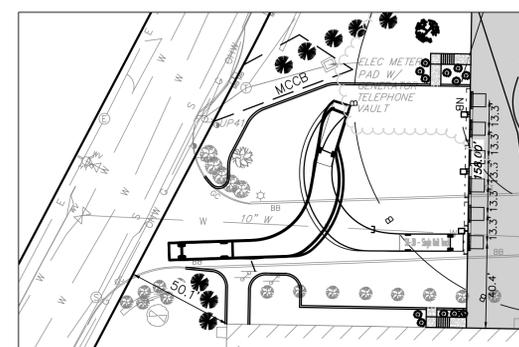
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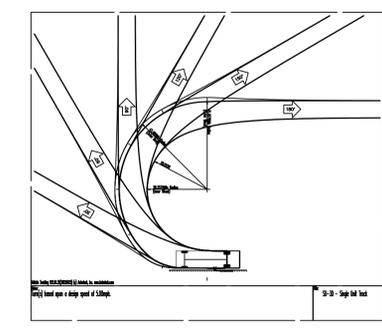
NORTHWEST LOADING DOCK #4
SCALE: 1" = 40'



NORTHWEST LOADING DOCK #5
SCALE: 1" = 40'

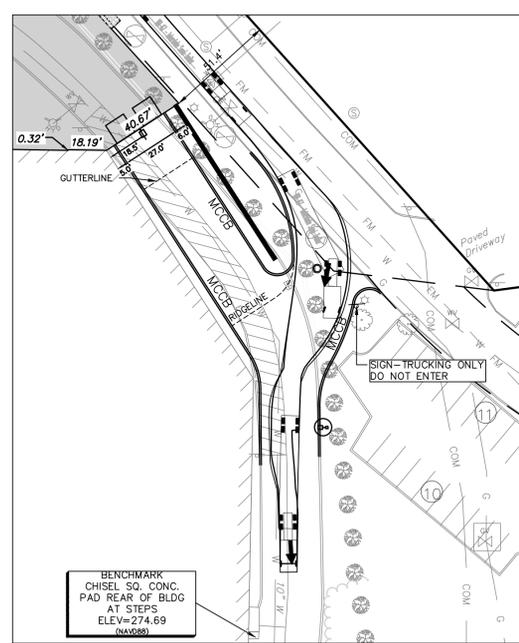


NORTHWEST LOADING DOCK #6
SCALE: 1" = 40'

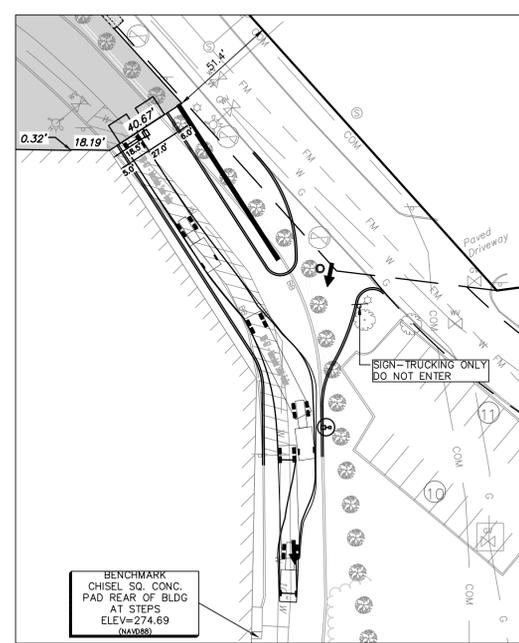


SU-30 - Single Unit Truck

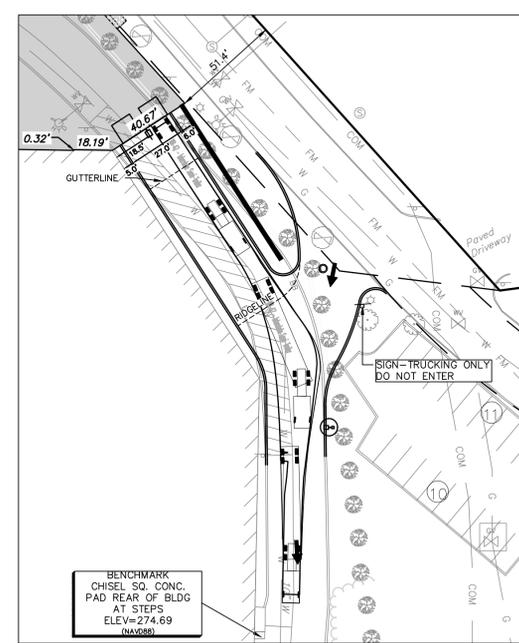
Overall Length: 30.000ft
Overall Width: 8.000ft
Overall Body Height: 13.500ft
Min Body Ground Clearance: 1.387ft
Track Width: 8.000ft
Lock-to-lock time: 8.00s
Max Steering Angle (Virtual): 31.80°



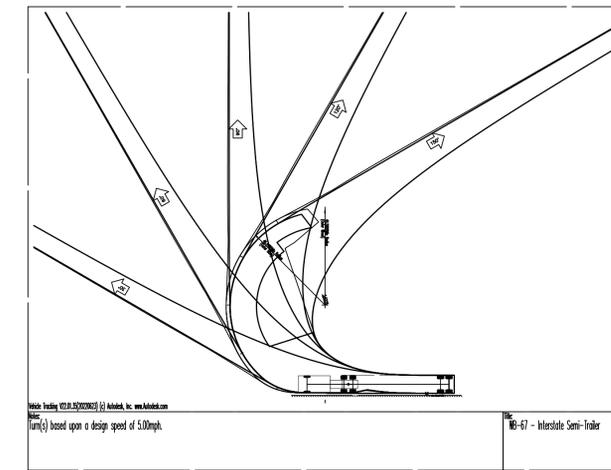
NORTHEAST TRUCK ENTRANCE
SCALE: 1" = 40'



NORTHEAST LOADING DOCK #1
SCALE: 1" = 40'

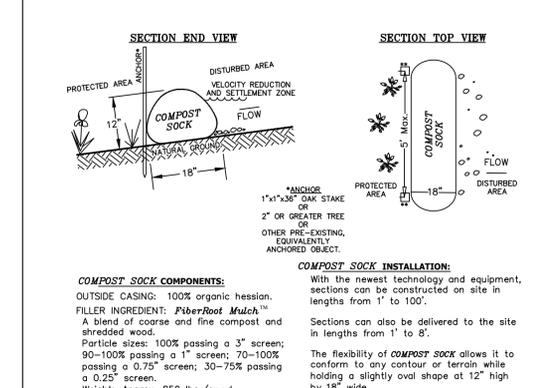
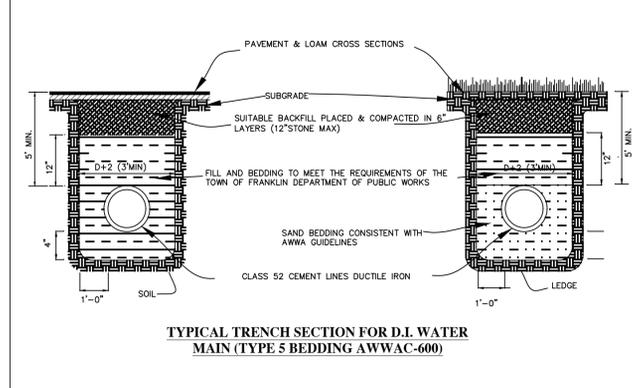
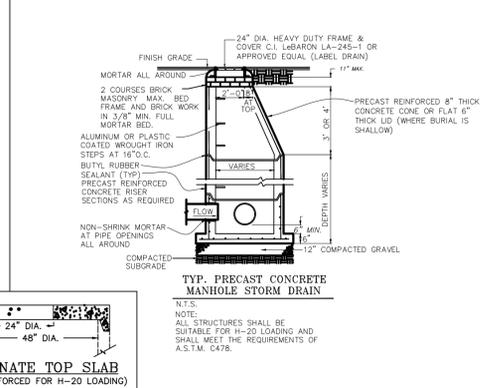
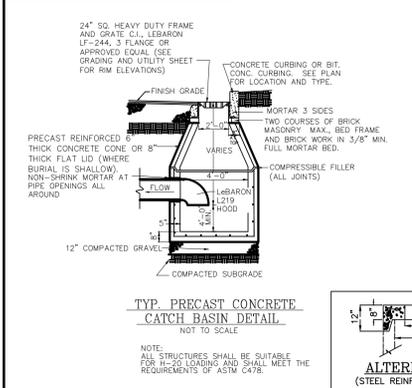


NORTHEAST LOADING DOCK #2
SCALE: 1" = 40'



WB-67 - Interstate Semi-Trailer

Overall Length: 73.501ft
Overall Width: 8.500ft
Overall Body Height: 13.500ft
Min Body Ground Clearance: 1.344ft
Max Track Width: 8.500ft
Lock-to-lock time: 6.00s
Max Steering Angle (Virtual): 28.40°



GENERAL EROSION CONTROL AND CONSTRUCTION NOTES

- THE LIMITS OF ALL CLEARING, GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE THE LIMITS OF DISTURBANCE SHALL REMAIN TOTALLY UNDISTURBED.
- INSPECT ALL SEDIMENT AND EROSION CONTROL MEASURES AT LEAST ONCE PER WEEK AND WITHIN 24 HOURS AFTER EVERY RAINFALL EVENT.
- MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES OR REPLACE AS REQUIRED TO ASSURE PROPER FUNCTION.
- CONTRACTOR SHALL IMMEDIATELY REPAIR ANY AND ALL EROSION AND SEDIMENT CONTROLS FOUND TO BE FAULTY.
- ANY AND ALL DEBRIS AND LITTER WHICH ACCUMULATES IN THE BASINS SHALL BE REMOVED WEEKLY.
- THE CONTRACTOR SHALL IMPLEMENT ALL REASONABLE EROSION AND SEDIMENT CONTROLS PRIOR TO THE ACTUAL COMMENCEMENT OF CONSTRUCTION ACTIVITIES INCLUDING THE CLEARING AND/OR GRUBBING OF ANY PORTION OF THE PROPERTY. THESE MEASURES SHALL BE MAINTAINED IN EFFECT THROUGHOUT THE ENTIRE CONSTRUCTION PHASE, OR UNTIL THE SITE HAS BECOME STABILIZED WITH AN ADEQUATE VEGETATIVE COVER.
- SEDIMENT BUILD UP BEHIND FILTERMATS SHALL BE MONITORED AND BE REMOVED WHENEVER IT HAS ACCUMULATED TO FOUR INCHES IN DEPTH.
- CATCH BASINS SHALL BE PROTECTED WITH SILT FILTERS (SILT SACKS). INSPECT SEDIMENT FILTERS AT LEAST ONCE PER WEEK AND WITHIN 24 HOURS AFTER RAINFALL THAT PRODUCES RUNOFF.
- CLEAN OR REPLACE FILTERS WITHIN 24 HOURS OF INSPECTION WHEN SEDIMENT REACHES ONE HALF OF THE FILTER SACK DEPTH. CATCH BASINS SHALL BE PROTECTED BY SEDIMENT FILTERS THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL ALL DISTURBED AREAS ARE THOROUGHLY STABILIZED. SUMPES SHALL BE CLEANED WHENEVER SEDIMENT HAS ACCUMULATED TO A DEPTH OF 24 INCHES AND IMMEDIATELY FOLLOWING INSTALLATION OF PERMANENT PAVEMENT.
- THE CONTRACTOR SHALL MAINTAIN AN ADEQUATE STOCKPILE OF EROSION CONTROL MATERIALS ON-SITE AT ALL TIMES FOR EMERGENCY OR ROUTINE REPLACEMENT AND SHALL INCLUDE MATERIALS TO REPAIR OR REPLACE SILT FENCE, MULCH SOCK, STONE FILTER DIKES OR ANY OTHER DEVICES PLANNED FOR USE DURING CONSTRUCTION.
- THE CONTRACTOR IS TO INSPECT ALL CONTROLS NO LESS THAN WEEKLY, AND IN ANTICIPATION OF RAINFALL EVENTS EXPECTED TO EXCEED 1/2 INCH IN DEPTH. ALL DEFICIENCIES NOTED DURING SAID INSPECTION SHALL BE REPAIRED IMMEDIATELY AND IN NO CASE SHALL A DEFICIENCY BE ALLOWED TO GO UNCORRECTED DURING A RAINFALL EVENT. THE EROSION CONTROL DEVICES SHALL BE MAINTAINED, REINFORCED, OR REPLACED IF NECESSARY. ALL ACCUMULATED SEDIMENTS AND OTHER MATERIALS COLLECTED BY THE SEDIMENTATION CONTROL SYSTEMS SHALL BE REMOVED AS NECESSARY TO INSURE PROPER FUNCTION OF SYSTEMS AND DISPOSED OF IN A MANNER THAT IS CONSISTENT WITH THE INTENT OF THIS PLAN, IN AN UPLAND AREA.
- TEMPORARY EARTH OR STONE DIKES, DRAINAGE SWALES AND/OR TEMPORARY SLOPE GRANS SHALL BE INSTALLED WHERE OFF-SITE OR ON-SITE RUNOFF IS SUFFICIENT ENOUGH SUCH THAT IT WILL BE NECESSARY TO DIVERT THE FLOW AROUND THE SITE OR PREVENT EROSION WITHIN THE LIMITS OF WORK.
- STORM DRAIN INLET PROTECTION SHALL BE USED FOR ALL EXISTING AND PROPOSED CATCH BASINS IN THE PROJECT AREA. PRIOR TO COMPLETION OF THE PROJECT, ALL CATCH BASINS WITHIN THE PROJECT AREA SHALL BE CLEANED.
- ALL DISTURBED EARTH SLOPES AREA TO BE STABILIZED WITH PERMANENT VEGETATIVE COVER. TO BE ESTABLISHED AS SOON AS POSSIBLE. DISTURBED AREAS THAT ARE NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL RECEIVE A PERMANENT OR TEMPORARY VEGETATIVE COVER AS SOON AS FINAL CONTOURS ARE ESTABLISHED. TEMPORARY VEGETATIVE COVER IS TO BE ESTABLISHED ON ALL DISTURBED AREAS WHERE CONSTRUCTION ACTIVITIES WILL NOT REQUIRE ADDITIONAL DISTURBANCE FOR PERIOD OF 30 DAYS OR MORE. IF THE SEASON PREVENTS THE ESTABLISHMENT OF VEGETATIVE COVER, DISTURBED AREAS SHALL BE MULCHED AND THEN SEEDED AS SOON AS WEATHER CONDITIONS ALLOW.
- THERE SHALL BE NO DIRECT DISCHARGE OF DETERIORATING OPERATIONS INTO ANY DRAINAGE SYSTEM UNLESS THIS DISCHARGE IS CLEAN AND FREE OF SETTLEABLE SOLIDS. ANY DETERIORATING DISCHARGE CONTAINING SETTLEABLE SOLIDS (SEDIMENTS) SHALL BE PASSED THROUGH A SEDIMENTATION CONTROL DEVICE (FILTER BAG) TO REMOVE THESE SOLIDS. THE CONTRACTOR IS TO MAINTAIN SAID SEDIMENT CONTROL DEVICE THROUGHOUT THE ENTIRE DETERIORATING OPERATION AND REPAIR DEFICIENCIES IMMEDIATELY.
- SOIL STOCKPILE AREAS FOR CONSTRUCTION MATERIALS SHALL BE LOCATED OUTSIDE WETLAND AREAS AND ASSOCIATED BUFFERS.
- ALL PLANTINGS SHALL BE ACCOMPLISHED BY THE CONTRACTOR AS EARLY AS THE POSSIBLE UPON COMPLETION OF GRADING AND CONSTRUCTION.
- ALL PLANTINGS SHALL BE WATERED AND MAINTAINED BY THE CONTRACTOR TO ENSURE SURVIVAL.
- EROSION CONTROL SHALL REMAIN IN PLACE UNTIL THE CERTIFICATE OF COMPLETION IS ISSUED.

APPROVED DATE: _____

FRANKLIN PLANNING BOARD

BEING A MAJORITY

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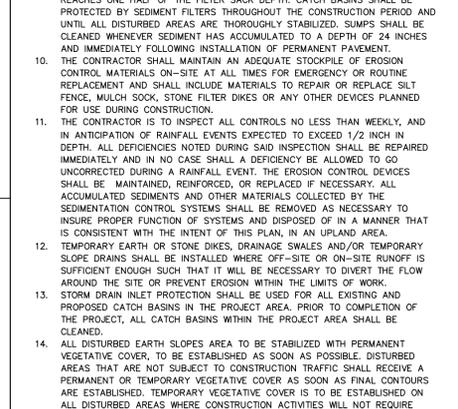
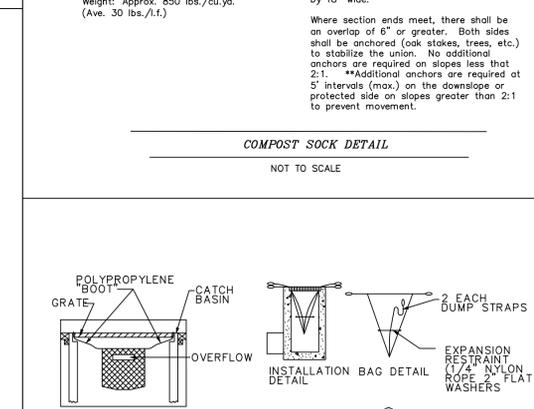
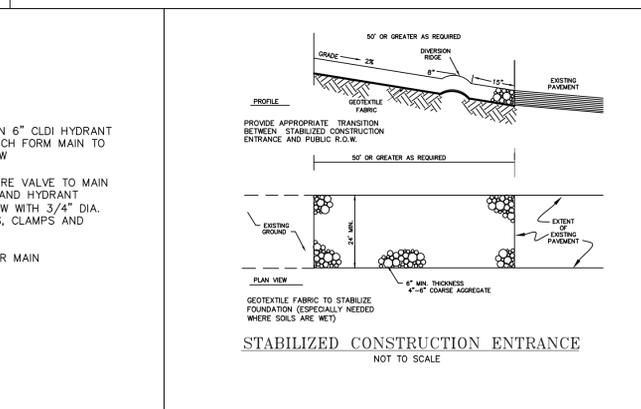
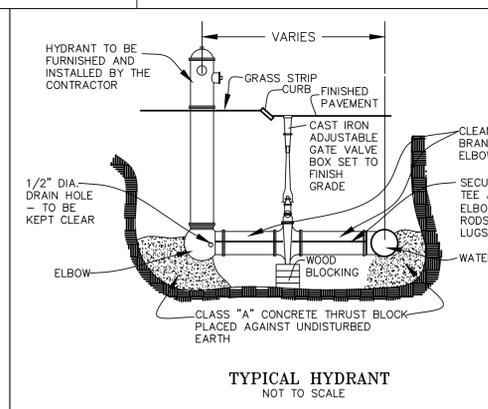
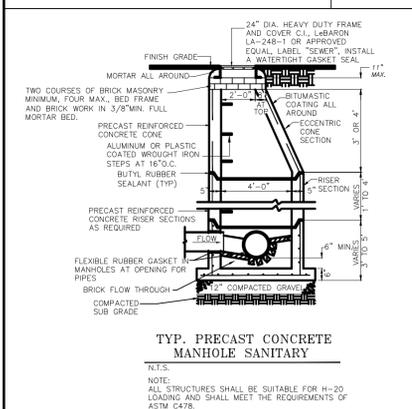
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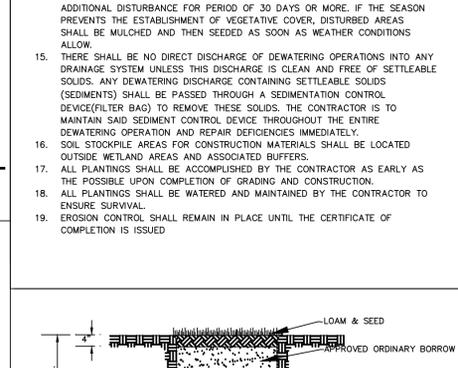
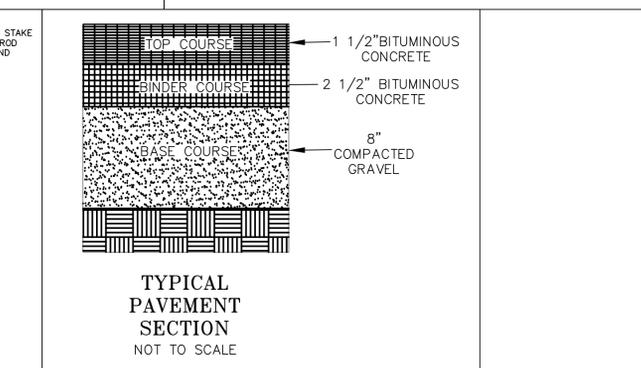
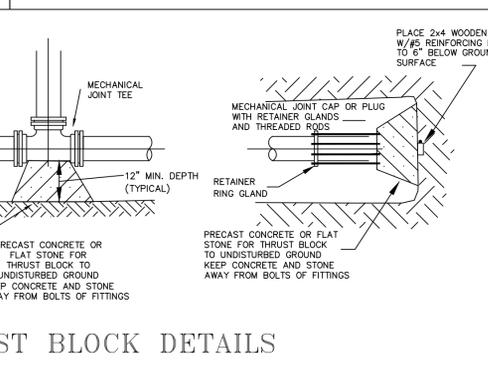
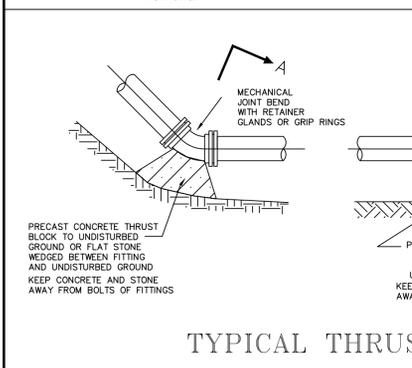


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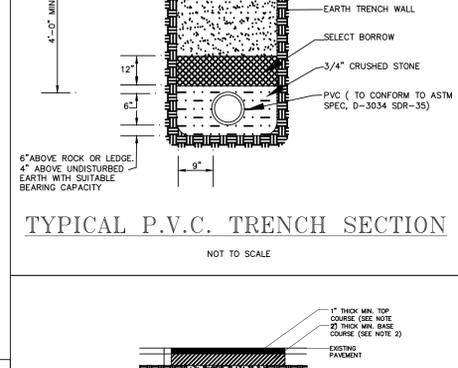
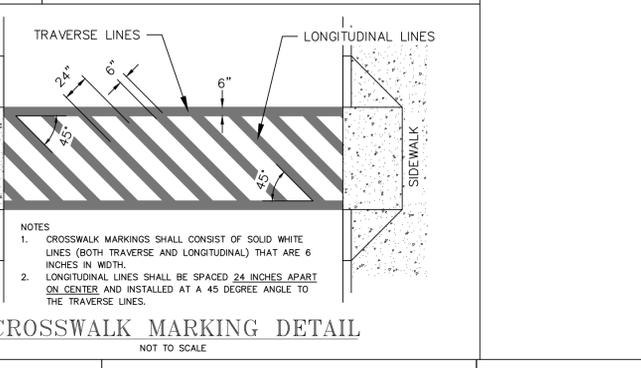
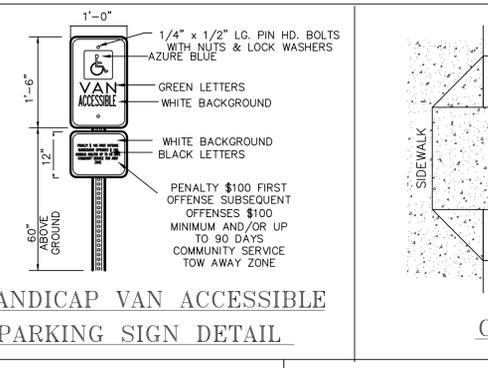
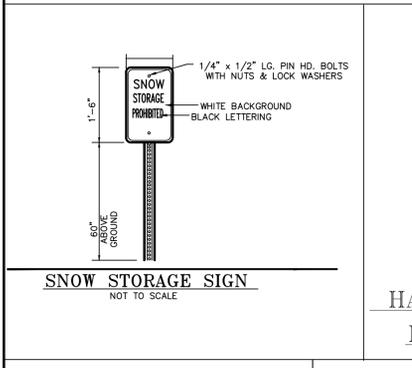


124/ 126 GROVE STREET
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SITE PLAN MODIFICATION
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CONSTRUCTION DETAILS

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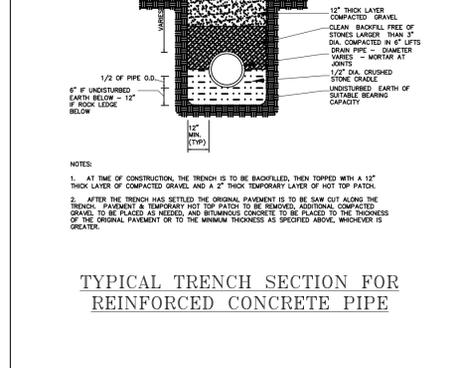
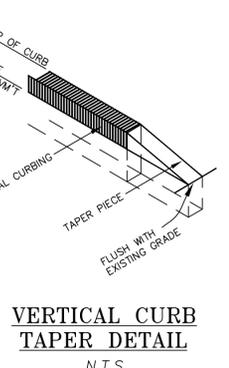
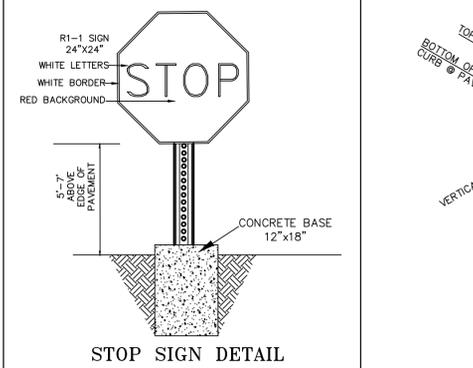
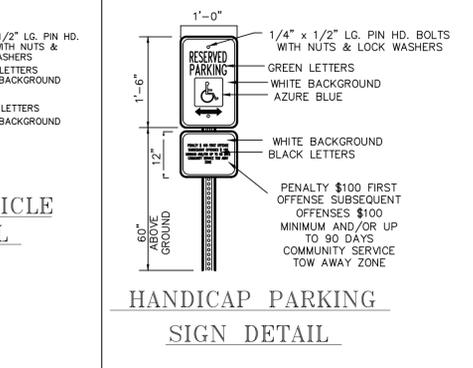
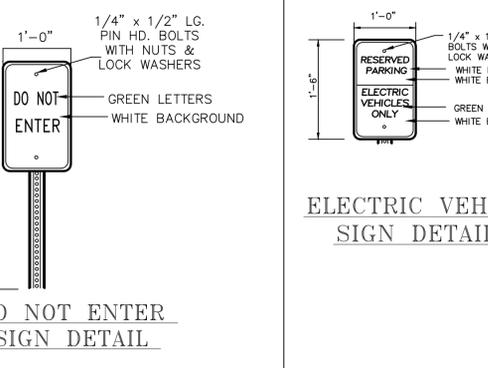
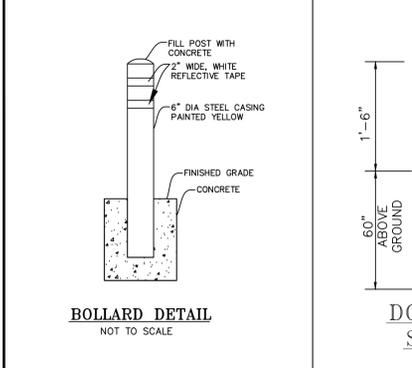


OWNER

A.M. 295 LOT 003
NEAC REAL ESTATE LLC
126 GROVE ST
FRANKLIN, MA
DEED BOOK 41715 PAGE 121
PLAN No. 253 OF 1989 PLAN Bk. 379

APPLICANT

A.M. 295 LOT 4
KEY BOSTON, INC.
126 GROVE STREET
FRANKLIN, MA 02038
DEED BOOK 6353 PAGE 200
DEED BOOK 6876 PAGE 112
PLAN No. 238 OF 1984 PLAN Bk. 309
PLAN No. 1655 OF 1985 PLAN Bk. 330

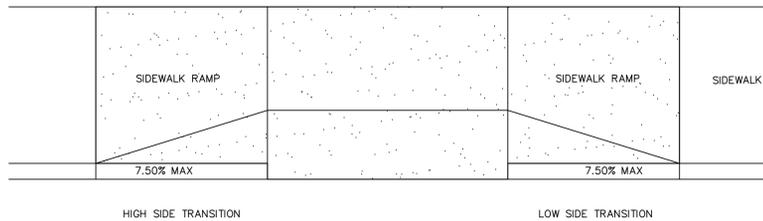


Guerriere & Halon, Inc.
ENGINEERING & LAND SURVEYING

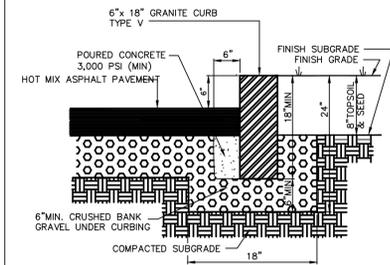
55 WEST CENTRAL ST. PH. (508) 528-3221
FRANKLIN, MA 02038 FX. (508) 528-7921
www.gandhengineering.com

SHEET 16 OF 21 JOB NO. F4593

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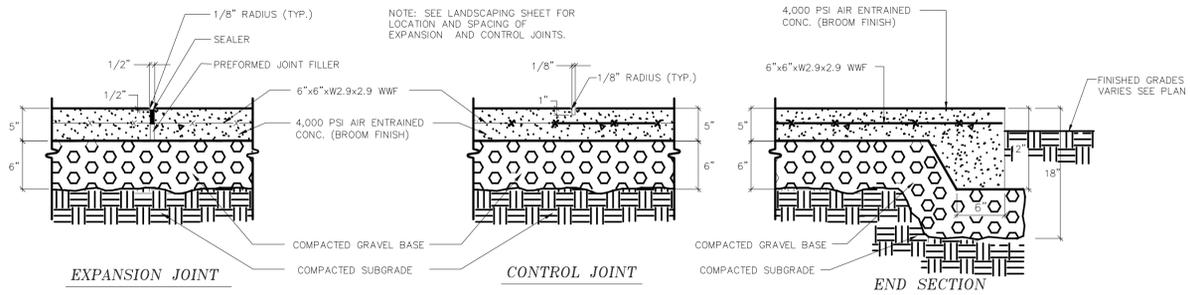


NOTE:
1. DRIVEWAYS ENTRANCES SHALL BE IN ACCORDANCE WITH MASSDOT STANDARD DRAWINGS AND SPECIFICATIONS.



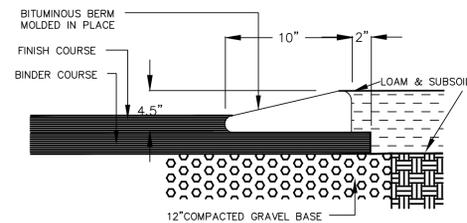
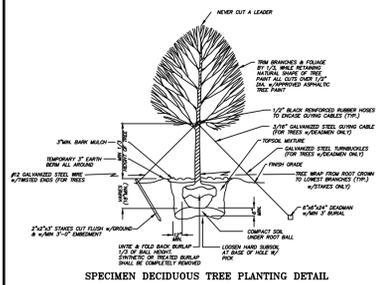
NOTE:
1. INSTALL AS SHOWN ON PLANS

VERTICAL GRANITE CURB DETAIL
N.T.S.

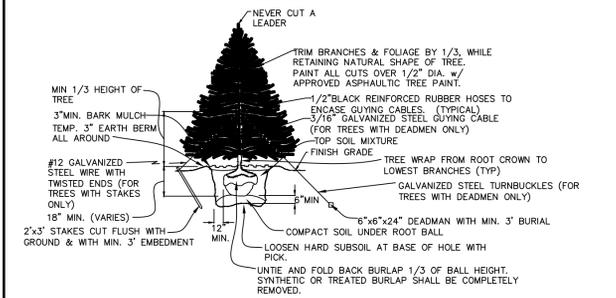


NOTE: SEE LANDSCAPING SHEET FOR LOCATION AND SPACING OF EXPANSION AND CONTROL JOINTS.

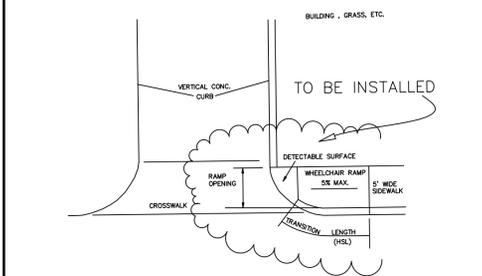
TYP. CONC. SIDEWALK DETAILS
N.T.S.



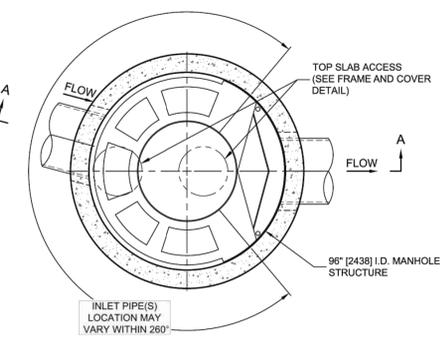
MODIFIED BITUMINOUS CAPE COD BERM DETAIL
N.T.S.



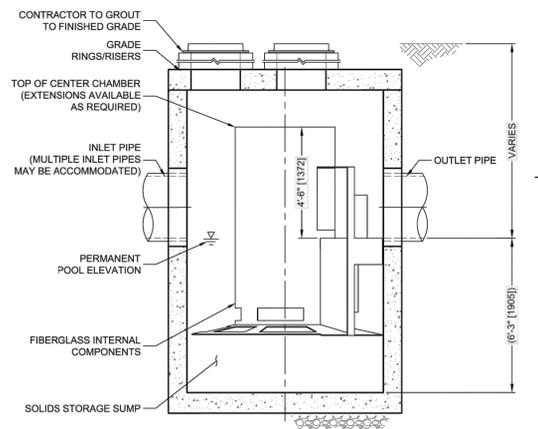
CONIFEROUS TREE PLANTING DETAIL
N.T.S.



MASS HIGHWAY DRAWING NO 107.6.0
WHEELCHAIR RAMP FOR RIGHT OF WAY AREAS
NOT TO SCALE



PLAN VIEW B-B
NOT TO SCALE



ELEVATION A-A
NOT TO SCALE

CASCADE separator™

CASCADE SEPARATOR DESIGN NOTES

CS-8 RATED TREATMENT CAPACITY IS 12.00 CFS, OR PER LOCAL REGULATIONS. THE STANDARD CS-8 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION

- GRATED INLET ONLY (NO INLET PIPE)
- GRATED INLET WITH INLET PIPE OR PIPES
- CURB INLET ONLY (NO INLET PIPE)
- CURB INLET WITH INLET PIPE OR PIPES

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	
WATER QUALITY FLOW RATE (cfs [L/s])	
PEAK FLOW RATE (cfs [L/s])	
RETURN PERIOD OF PEAK FLOW (yrs)	
RIM ELEVATION	
PIPE DATA:	
INLET PIPE 1	
INLET PIPE 2	
OUTLET PIPE	
NOTES / SPECIAL REQUIREMENTS:	



FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

GENERAL NOTES

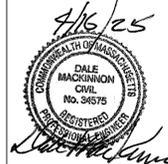
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. CASCADE SEPARATOR STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2' (610), AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].

INSTALLATION NOTES

- A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
- C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
- D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
- E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.



CS-8
CASCADE SEPARATOR
STANDARD DETAIL



F4593

APPROVED DATE: _____

FRANKLIN PLANNING BOARD

BEING A MAJORITY

LEGAL NOTES

UTILITIES ARE PLOTTED AS A COMPILATION OF RECORD DOCUMENT MARKINGS AND OTHER OBSERVED UTILITY INFORMATION. A VIEW OF THE UNDERGROUND UTILITIES SHOULD BE CONSIDERED APPROXIMATE. PRIOR TO EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE KNOWN. CONTRACTORS (IN ACCORDANCE WITH MASS. CHAPTER 82 SECTION 40 AS AMENDED) MUST CONTACT ALL UTILITY COMPANIES BEFORE EXCAVATING AND DRILLING AND CALL DIGSAFE AT 1(888)DIG-SAFE(7233).

CONSTRUCTION ON THIS LAND IS SUBJECT TO ANY EASEMENTS, RIGHTS-OF-WAY, RESTRICTIONS, RESERVATIONS, OR OTHER LIMITATIONS WHICH MAY BE REVEALED BY AN EXAMINATION OF THE TITLE.

OWNER

A.M. 295 LOT 003
NEAC REAL ESTATE LLC
126 GROVE ST
FRANKLIN, MA
DEED BOOK 41715 PAGE 121
PLAN No. 253 OF 1989 PLAN Bk. 379

APPLICANT

A.M. 295 LOT 4
KEY BOSTON, INC.
126 GROVE STREET
FRANKLIN, MA 02038
DEED BOOK 6353 PAGE 200
DEED BOOK 6876 PAGE 112
PLAN No. 238 OF 1984 PLAN Bk. 309
PLAN No. 1655 OF 1985 PLAN Bk. 330

**124/ 126 GROVE STREET
BUILDING EXPANSION
SITE PLAN MODIFICATION
FRANKLIN MASSACHUSETTS**

**CONSTRUCTION
DETAILS**

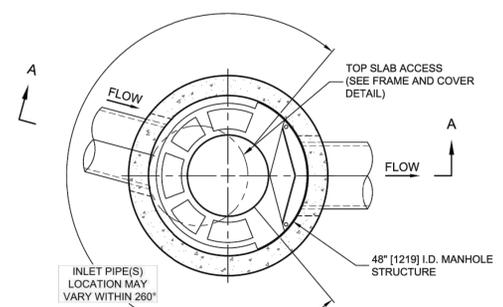
NOVEMBER 5, 2024

DATE	REVISION DESCRIPTION
03/27/2025	PER TOWN & CONSULTANT COMMENTS
04/01/2025	PER CONSERVATION COMMENTS
04/15/2025	PER PLANNING/CONCOM COMMENTS



SHEET 17 OF 21

JOB NO. F4593

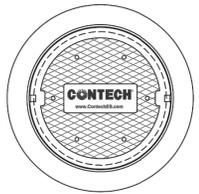


PLAN VIEW B-B
NOT TO SCALE

CASCADE SEPARATOR DESIGN NOTES

THE STANDARD CS-4 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

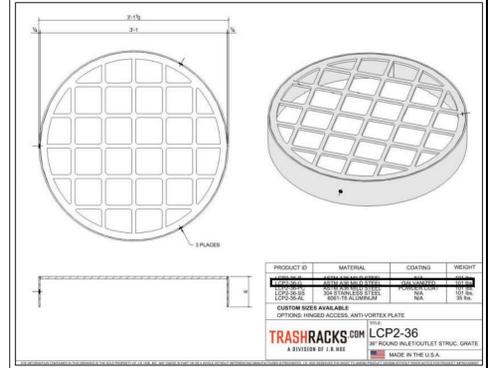
CONFIGURATION DESCRIPTION
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GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES



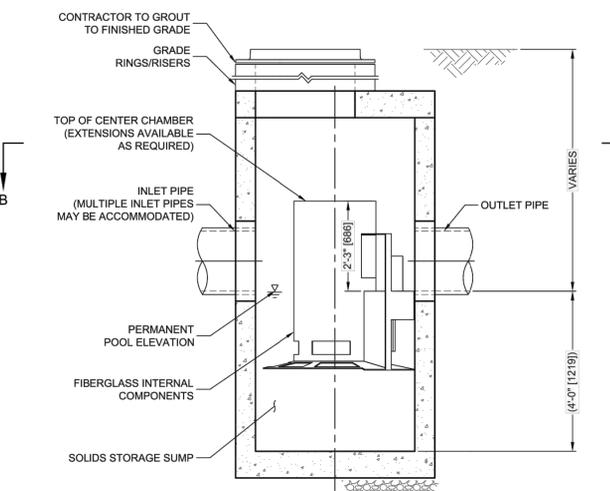
FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	
WATER QUALITY FLOW RATE (cfs [L/s])	
PEAK FLOW RATE (cfs [L/s])	
RETURN PERIOD OF PEAK FLOW (yrs)	
RIM ELEVATION	
PIPE DATA:	
INLET PIPE 1	
INLET PIPE 2	
OUTLET PIPE	
NOTES / SPECIAL REQUIREMENTS:	



36" OUTFALL TRASH RACK
BASIN #2
NOT TO SCALE



ELEVATION A-A
NOT TO SCALE

CASCADE separator™

- #### GENERAL NOTES
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
 - FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE: www.contechES.com
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CONTECH
ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CS-4
CASCADE SEPARATOR
STANDARD DETAIL

7/16/25

DALE
MACKINNON
CIVIL
No. 34675
REGISTERED PROFESSIONAL ENGINEER

F4593

APPROVED DATE: _____
FRANKLIN PLANNING BOARD

BEING A MAJORITY

LEGAL NOTES

UTILITIES ARE PLOTTED AS A COMPILATION OF RECORD DOCUMENT MARKINGS AND OTHER OBSERVED EVIDENCE. FOR A VIEW OF THE UNDERGROUND UTILITIES, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE RELIABLY DETERMINED COMPLETELY AND RELIABLY DEPICTED. CONTRACTORS (IN ACCORDANCE WITH MASS. REGS. CHAPTER 82 SECTION 40 AS AMENDED) MUST CONTACT ALL UTILITY COMPANIES BEFORE EXCAVATING AND DRILLING AND CALL DIGSAFE AT 1(888)DIG-SAFE(7233).

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OWNER

A.M. 295 LOT 003
NEAC REAL ESTATE LLC
126 GROVE ST
FRANKLIN, MA
DEED BOOK 41715 PAGE 121
PLAN No. 253 OF 1989 PLAN Bk. 379

APPLICANT

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124/ 126 GROVE STREET
BUILDING EXPANSION
SITE PLAN MODIFICATION
FRANKLIN MASSACHUSETTS

CONSTRUCTION
DETAILS

NOVEMBER 5, 2024

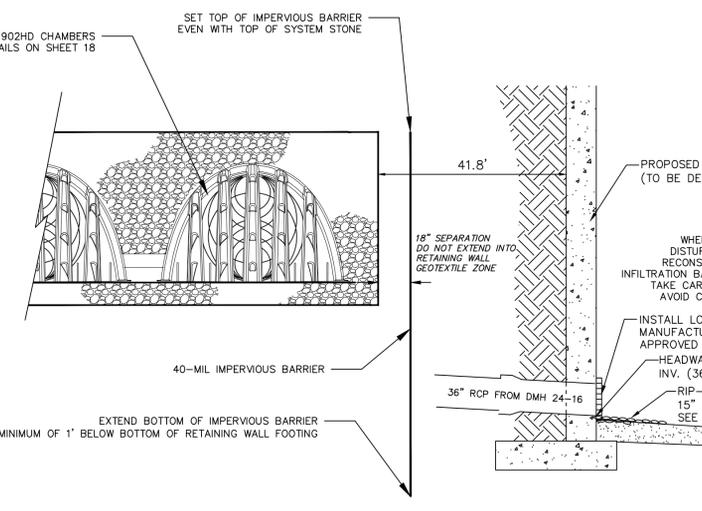
DATE	REVISION DESCRIPTION
03/27/2025	PER TOWN & CONSULTANT COMMENTS
04/01/2025	PER CONSERVATION COMMENTS
04/15/2025	PER PLANNING/CONCOM COMMENTS

Guerriere & Halnon, Inc.
ENGINEERING & LAND SURVEYING

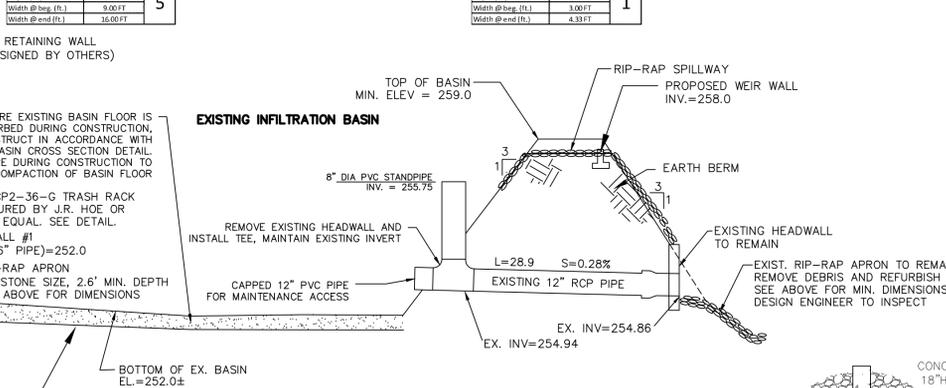
55 WEST CENTRAL ST. PH. (508) 528-3221
FRANKLIN, MA 02038 FX. (508) 528-7921
www.gandhengineering.com

I:\COMM\CAD\TREATMENT\21 CASCADE\40 STANDARD DRAWINGS\DWCS-4-DTL.DWG 1/22/2019 9:34 AM

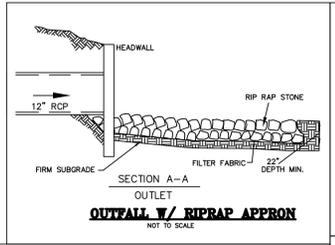
NINE CULTEC RECHARGER 902HD CHAMBERS
SEE CULTEC DETAILS ON SHEET 18



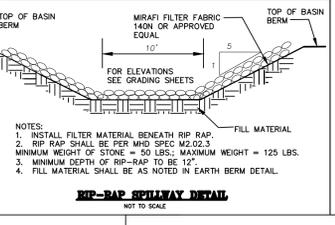
RIP RAP APRON SIZING				RIP RAP APRON SIZING			
Class	Out (mm)	Out (IN)	Apron Length	Apron Depth	Class	Out (mm)	Out (IN)
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2	150	6	40	3.30 ₀	2	150	6
3	200	10	50	2.40 ₀	3	200	10
4	300	14	60	2.20 ₀	4	300	14
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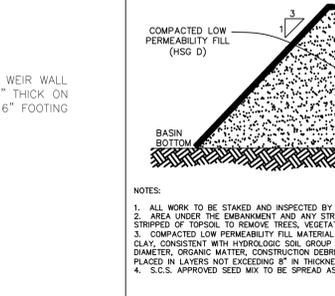
INFILTRATION BASIN #2 PROFILE
NOT TO SCALE



CROSS SECTION
SEDIMENT BASIN
(DURING CONSTRUCTION)
NOT TO SCALE



CROSS SECTION
INFILTRATION BASIN
NOT TO SCALE



WEIR WALL
NOT TO SCALE

- THE BASIN IS TO BE UTILIZED AS A TEMPORARY EMERGENCY SEDIMENTATION BASIN DURING CONSTRUCTION AND SHOULD BE LINED WITH MIRAFI FILTER FABRIC OR APPROVED EQUAL DURING THIS PHASE (SEE DETAIL ABOVE). ONCE THE SITE IS STABILIZED, REMOVE ALL ACCUMULATED SEDIMENT IN THE BOTTOM OF THE BASIN. 6" OF TOPSOIL BELOW THE DESIGN BASE ELEVATION AND FILTER FABRIC REPLACE WITH NEW 6" OF LOAM AND SAND MIX (SEE CROSS SECTION DETAIL ABOVE).
- AREA BENEATH THE BASIN IS TO BE STRIPPED OF TOPSOIL AND SUBSOIL AND FILL MATERIAL. REFER TO TEST PIT NOTED FOR ADDITIONAL INFORMATION.
 - WHERE ADDITIONAL MATERIAL IS REQUIRED TO BRING THE EXCAVATED GRADE TO THE BOTTOM OF BASIN ELEVATION, FILL MATERIAL SHALL BE CLEAN COARSE SAND MEETING THE REQUIREMENTS OF 310CMR1.255(3) (TILE 5 SAND) OR OTHER MATERIAL APPROVED BY THE DESIGN ENGINEER.
 - BASIN TO BE REVIEWED BY ENGINEER TO ENSURE CONSTRUCTION IN COMPLIANCE WITH THE DESIGN PLANS.
 - PLANT NEW ENGLAND CONSERVATION / WILDLIFE MIX ON SIDE SLOPES OF INFILTRATION BASIN.
 - PLANT PALM SEED, GRANT SILVER BANNER GRASS, FOUNTAIN GRASS, AND BLUE-EYED GRASS IN THE BASIN BOTTOM

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Isolated Vegetated Wetland Replication Plan

for
124 & 126 Grove Street
(Map: 29, Lots: 3 & 4)
Franklin, MA 02038

DATE:
October 31, 2024
Revised 3-31-25

ADDRESSED TO:
Franklin Conservation Commission
Franklin Municipal Building
Franklin, MA 02038

PREPARED BY:
Goddard Consulting LLC
291 Main Street, Suite 8
Northborough, MA 01532

PREPARED FOR:
Ryan Lichwell
New England Appliance Group
126 Grove Street
Franklin, MA 02038

A. EXISTING CONDITIONS

The Project Site, 124 & 126 Grove Street, Franklin, MA 02038 (Map: 295, Lots: 3 & 4) The site is comprised of two parcels and is approximately 37.49-acres. The site is primarily developed. The interior of the site is comprised of an existing 269,105sf industrial/commercial building, truck parking and turnarounds, and car parking lots. The southern portion of the site is primarily forested. The property is bordered by commercial/industrial developments to the south and east, and single-family house lots to the north and west on with frontages on Grove Street.

As approved in the ORAD (DEP File #159-1290), several wetland resource areas are located on the locus site. A BVW exists in the southern portion of 126 Grove Street. An intermittent stream, originating in the southern BVW, flows east through 126 and 124 Grove Street, and eventually off the property. Additional BVW is located 124 Grove Street and directly connects to the intermittent stream. An Isolated Vegetated Wetland (IVW) exists within the northern portion of 126 Grove Street. A second IVW is located south of the existing building on 126 Grove Street. These IVWs are only jurisdictional under the Franklin Wetland Bylaw and Regulations.

According to the MassGIS data layers for NHESP, the property is not located within any Estimated Habitat of Rare Wildlife / Priority Habitat of Rare Species. No potential or certified vernal pools or Outstanding Resource Waters (ORW) are mapped within the site. The property does not fall within a jurisdictional FEMA Flood Zone. The site is not located in an Area of Critical Environmental Concern (ACEC).

B. PROPOSED CONDITIONS

The applicant proposes an 85,150sf addition to the north side of the existing commercial building on-site. South of the proposed building, additional truck parking, and turnaround space is proposed for additional access to the existing loading bays and building. A retaining wall is proposed bordering the proposed parking expansion south of the existing building. In order to construct the proposed project, portions of the 25, 50 and 100-foot Buffer Zones will inevitably be impacted. The addition to the building and the truck parking expansion will result in the filling of +/- 7,066 sf of Isolated Vegetated Wetland. The project has been designed minimize impacts to BVW. Alternative designs would result in a far greater impact on BVW.

As mitigation, a greater than 2:1 (15,729sf) replication area is proposed to the south of the parking lots within a BVW system. This replication area will result in the net gain of 8,663 sf of wetland. A temporary access path is proposed in the southern portion of the site to access the wetland replication areas. Due to the presence of an upland island, the access path will need to temporarily impact BVW (±81sf) to excavate the wetland replication area. This path has been designed for the least amount of tree removal and temporary BVW impacts. The wetland replication area and the temporarily impacted BVW will be seeded and planted with appropriate native species as described in Section D. Shrub and tree quantities have been selected based on DEP spacing guidelines. 90 trees and 201 shrubs will be planted within the proposed isolated vegetated wetland replication areas. The proposed tree species include Red Maple / *Acer rubrum*, Black Tupelo / *Nyssa sylvatica*, Swamp White Oak / *Quercus bicolor*, and Yellow Birch / *Betula alleghaniensis*. The proposed shrub species include Common Winterberry / *Ilex verticillata*, Highbush Blueberry / *Vaccinium corymbosum*, Northern Spicebush / *Lindera benzoin*, Silky Dogwood / *Cornus amomum*, Speckled Alder / *Alnus incana*, and Sweet Pepperbush / *Clethra alnifolia*.

C. GENERAL INSTALLATION PROCEDURES

Supervision: All work within the restoration areas shall be supervised by a qualified wetland scientist. The supervisor shall submit monitoring reports to the Franklin Conservation Commission as described below. Reports shall contain details of all work performed and photographs of completed conditions.

Timing: The installation of the plantings should be accomplished during the spring or fall growing seasons (between April 16 and May 31 or between September 16 and October 30).

Stake Limits of Work: Prior to planting, the limits of work will be staked, and wetland flags confirmed. Erosion control barriers shall be installed along the limits of work for the replication area. These will remain in place until the replication areas have stabilized, and approval is received from the Franklin Conservation Commission. The wetland scientist shall have the authority to require additional erosion control measures if deemed necessary.

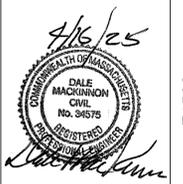
Identify Plants in Replication & BVW Impact Area: The wetland scientist shall identify, and flag native species found within the replication and the BVW impact areas that may be dug up and stockpiled for use as additional plantings.

Excavation: A storage area for soil and leaf litter from the BVW impact area will be prepared prior to excavation, outside of any resource areas or buffer zone. Wetland soil from the impact zone will be excavated and transported to the replication area. The upland soils immediately surrounding the BVW impact area will be transported to the edges of the replication area to create a natural transition. Large trees should be avoided when excavating.

An excavator or backhoe will remove existing soils in the entirety of the soils in the replication zone, to a depth at which redoximorphic features become visible in the C-horizon at the soil's surface and at least one foot below the proposed final grade. This removal will be supervised and directed by the wetland scientist. Topsoil and subsoil shall be removed from the area to either be reused or removed from the site. Subsoil of the C-horizon will be loosened prior to final grading to ensure the soils aren't compacted before topsoil placement.

Once existing soils have been removed to the proper depth determined by the wetland scientist, the organic soils from the BVW impact areas will be placed into the replication zone. If the soil from the impact area is not sufficient, supplemental soil shall be imported and sourced from composted organic materials and shall consist of a 50:50 mix of loam and organic material with an organic content between 12% and 20%. Topsoil shall be placed within the replication area to a depth of 6-12", to be determined by the wetland scientist. Placement of the soil shall be such that no equipment drives over or compacts the placed soil. Final grading will mimic topography with areas of pooling and flooding during heavy rain events, and surface water during wetter seasons.

Planting: Plantings will be installed according to the plan. The precise siting of plants may be determined by the wetland scientist or landscaper in the field prior to installation. All plantings (reference the planting list in section D) shall be distributed randomly throughout the area with trees spaced at 12-15' on center, shrubs spaced at 8-10' on center, and herbaceous species 3' or less on center. Shrubs shall be placed in clumps of 3-



F4593

APPROVED DATE: _____

FRANKLIN PLANNING BOARD

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LEGAL NOTES

UTILITIES ARE PLOTTED AS A COMPILATION OF RECORD DOCUMENT MARKINGS AND OTHER OBSERVED EVIDENCE. FOR A VIEW OF THE UNDERGROUND UTILITIES, YOU SHOULD BE CONSIDERED APPROXIMATE. DURING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE KNOWN. COMPLETELY AND RELIABLY DEPICTED. ADDITIONAL UTILITIES, NOT EVIDENCED BY RECORD DOCUMENTS OR OBSERVED PHYSICAL EVIDENCE, MAY BE DISCOVERED BY CONTRACTORS (IN ACCORDANCE WITH MASS.G.S. CHAPTER 82 SECTION 40 AS AMENDED) MUST CONTACT ALL UTILITY COMPANIES BEFORE EXCAVATING AND DRILLING AND CALL DIGSAFE AT 1(888)DIG-SAFE[7233].

CONSTRUCTION ON THIS LAND IS SUBJECT TO ANY EASEMENTS, RIGHTS-OF-WAY, RESTRICTIONS, RESERVATIONS, OR OTHER LIMITATIONS WHICH MAY BE REVEALED BY AN EXAMINATION OF THE TITLE.

OWNER

A.M. 295 LOT 003
NEAG REAL ESTATE LLC
126 GROVE ST
FRANKLIN, MA
DEED BOOK 41715 PAGE 121
PLAN No. 253 OF 1989 PLAN Bk. 379

APPLICANT

A.M. 295 LOT 4
KEY BOSTON, INC.
126 GROVE STREET
FRANKLIN, MA 02038
DEED BOOK 6353 PAGE 200
DEED BOOK 6876 PAGE 112
PLAN No. 238 OF 1984 PLAN Bk. 309
PLAN No. 1655 OF 1985 PLAN Bk. 330

124/ 126 GROVE STREET
BUILDING EXPANSION
SITE PLAN MODIFICATION
FRANKLIN MASSACHUSETTS

CONSTRUCTION DETAILS

NOVEMBER 5, 2024

DATE	REVISION DESCRIPTION
03/27/2025	PER TOWN & CONSULTANT COMMENTS
04/01/2025	PER CONSERVATION COMMENTS
04/15/2025	PER PLANNING/CONCOM COMMENTS



55 WEST CENTRAL ST. PH. (508) 528-3221
FRANKLIN, MA 02038 FX. (508) 528-7921
www.gandhengineering.com

SHEET 19 OF 21 JOB NO. F4593

New England Wetland Plants WETMIX or equivalent* 7 lbs.

*Species selection dependent on nursery availability.

E. CONCLUSION

This mitigation will enhance the Bordering Vegetated Wetlands over current conditions and will improve the functions and values of the BVW. All local, state, and federal statutory interests and performance standards have been protected and will be met by the project, as described above.

Sincerely,
Goddard Consulting, LLC

Tom Schutz, WPIT
Wetland Scientist

Kristina McEvoy
Wetland Scientist

4 of the same species. Same species will be placed in groupings that more closely mimic natural conditions. All plantings will be removed from burlap sacks, wire cages, and plastic containers prior to planting. Trees will be planted on mounds, while shrubs and herbaceous species will be planted in depressions. Each plant will have its roots loosened prior to planting to encourage root growth away from the planting bulb. Plants will be adequately watered immediately following planting. Leaf litter will be spread throughout the area if it is available. Any significant disturbances shall be seeded with a wetland seed mix as specified in the Planting List tables in Section D.

Restoration Monitoring

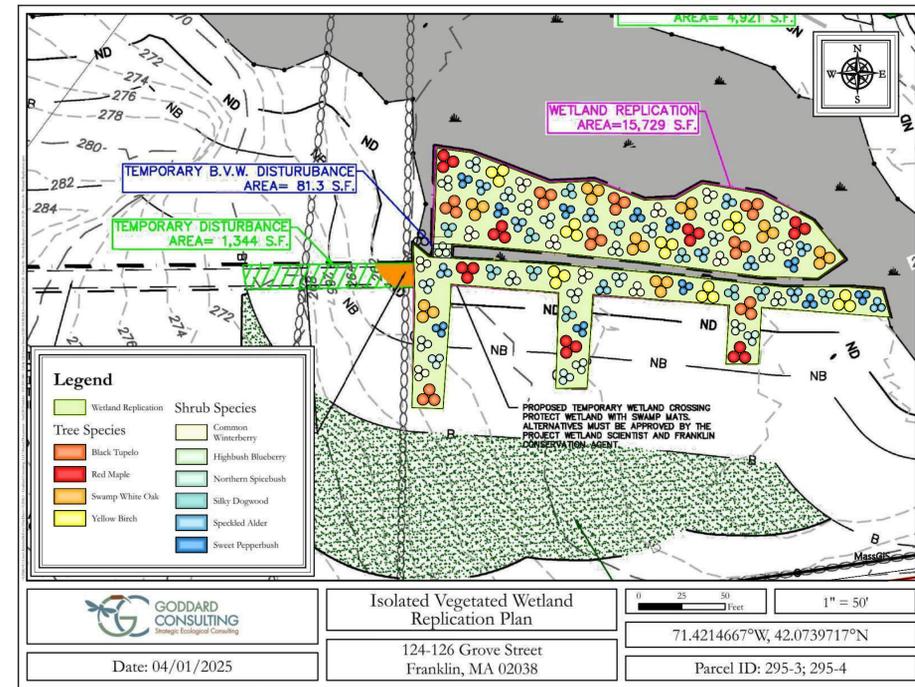
a. **Seasonal monitoring reports** shall be prepared for the enhancement areas by a qualified wetland scientist for a period of 2 additional years after installation or every year until a COC is issued by the Franklin Conservation Commission. This monitoring program will consist of early summer and early fall inspections and will include photographs and details about the vitality of the enhancement area. Monitoring reports shall be submitted to the Commission by the end of each year. Monitoring reports shall describe, using narratives, plans, and color photographs, the physical characteristics of the enhancement area with respect to stability, survival of vegetation and plant mortality, aerial extent and distribution, species diversity and vertical stratification (i.e., herb, shrub, and tree layers).

b. **At least 75% of the surface area** of the restoration areas shall be re-established with indigenous plant species within two growing seasons. If the enhancement area does not meet the 75% re-vegetation requirement by the end of the second growing season after installation, the applicant shall submit a remediation plan to the Commission for approval that will achieve enhancement goals, under the supervision of a Wetland Scientist. This plan must include an analysis of why the areas have not successfully re-vegetated and how the applicant intends to resolve the problem.

D. PLANTING LIST

Wetland Replication Area (15,729 SF)			
Common Name	Scientific Name	Number	Size
Trees (90)*			
Red Maple (FAC)	<i>Acer rubrum</i>	21	4-5'
Yellow Birch (FAC)	<i>Betula alleghaniensis</i>	21	4-5'
Black Tupelo (FAC)	<i>Nyssa sylvatica</i>	24	4-5'
Swamp White Oak (FACW)	<i>Quercus bicolor</i>	24	4-5'

Common Name	Scientific Name	Number	Size
Shrubs (201)*			
Highbush Blueberry (FACW)	<i>Vaccinium corymbosum</i>	36	1 or 2 gal. pots
Silky Dogwood (FACW)	<i>Cornus amomum</i>	33	1 or 2 gal. pots
Northern Spicebush (FACW)	<i>Lindera benzoin</i>	33	1 or 2 gal. pots
Common Winterberry (FACW)	<i>Ilex verticillata</i>	33	1 or 2 gal. pots
Sweet Pepperbush (FAC)	<i>Clethra alnifolia</i>	33	1 or 2 gal. pots
Speckled Alder (FACW)	<i>Alnus incana</i>	33	1 or 2 gal. pots
Seed Mix			



CULTEC RECHARGER 902HD SPECIFICATIONS

GENERAL
 CULTEC RECHARGER 902HD CHAMBERS ARE DESIGNED FOR UNDERGROUND STORMWATER MANAGEMENT. THE CHAMBERS MAY BE USED FOR RETENTION, RECHARGING, DETENTION OR CONTROLLING THE FLOW OF ON-SITE STORMWATER RUNOFF.

CHAMBER PARAMETERS

- THE CHAMBERS SHALL BE MANUFACTURED IN THE U.S.A. BY CULTEC, OF BROOKFIELD, CT (CULTEC.COM, 203-775-4416).
- THE CHAMBERS SHALL BE DESIGNED AND TESTED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". THE LOAD CONFIGURATION SHALL INCLUDE:
 - A. INSTANTANEOUS AASHTO DESIGN TRUCK LIVE LOAD AT MINIMUM COVER
 - B. MAXIMUM PERMANENT (50-YEAR) COVER LOAD
 - C. 1-WEEK PARKED ASHTO DESIGN TRUCK LOAD
- THE CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F3430-20 "STANDARD SPECIFICATION FOR CELLULAR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- THE INSTALLED CHAMBER SYSTEM SHALL PROVIDE RESISTANCE TO THE LOADS AND LOAD FACTORS AS DEFINED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12, WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS. THE STRUCTURAL DESIGN OF THE CHAMBERS SHALL INCLUDE THE FOLLOWING:
 - A. THE CREEP MODULUS SHALL BE 50-YEAR AS SPECIFIED IN ASTM F3430
 - B. THE MINIMUM SAFETY FACTOR FOR LIVE LOADS SHALL BE 1.75
 - C. THE MINIMUM SAFETY FACTOR FOR DEAD LOADS SHALL BE 1.95
- THE INSTALLED CHAMBER SYSTEMS SHALL BE STRUCTURALLY DESIGNED TO PROVIDE RESISTANCE TO THE LIVE LOADS AS DEFINED BY THE AASHTO H-20M18-95 SPECIFICATION WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.
- THE CHAMBER SHALL BE STRUCTURAL FOAM INJECTION MOLDED OF BLUE VIRGIN HIGH MOLECULAR WEIGHT IMPACT-MODIFIED POLYPROPYLENE.
- THE CHAMBER SHALL BE ARCHED IN SHAPE.
- THE CHAMBER SHALL BE OPEN-BOTTOMED.
- THE CHAMBER SHALL BE JOINED USING AN INTERLOCKING OVERLAPPING RIB METHOD. CONNECTIONS MUST BE FULLY SHOULDERED OVERLAPPING RIBS, HAVING NO SEPARATE COUPLINGS.
- THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC RECHARGER 902HD SHALL BE 48 INCHES (1219 MM) TALL, 78 INCHES (1981 MM) WIDE AND 4.25 FEET (1.30 M) LONG. THE INSTALLED LENGTH OF A JOINED RECHARGER 902HD SHALL BE 3.67 FEET (1.12 M).
- MULTIPLE CHAMBERS MAY BE CONNECTED TO FORM DIFFERENT LENGTH ROWS. EACH ROW SHALL BEGIN AND END WITH A SEPARATELY FORMED CULTEC RECHARGER 902HD END CAP. MAXIMUM INLET OPENING ON THE END CAP IS 30 INCHES (750 MM) HDPE OR 36 INCHES (900 MM) PVC.
- THE CHAMBER SHALL HAVE TWO SIDE PORTALS TO ACCEPT CULTEC HVLV™ FC-48 FEED CONNECTORS TO CREATE AN INTERNAL MANIFOLD. MAXIMUM ALLOWABLE PIPE SIZE IN THE SIDE PORTAL IS 10 INCHES (250 MM) AND 12 INCHES (300 MM) PVC.
- THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC HVLV™ FC-48 FEED CONNECTOR SHALL BE 12 INCHES (305 MM) TALL, 16 INCHES (406 MM) WIDE AND 49 INCHES (1245 MM) LONG.
- THE NOMINAL STORAGE VOLUME OF THE RECHARGER 902HD CHAMBER SHALL BE 17.31 FT³/FT (1.61 M³/M) - WITHOUT STONE. THE NOMINAL STORAGE VOLUME OF A JOINED RECHARGER 902HD SHALL BE 63.47 FT³/UNIT (1.80 M³/UNIT) - WITHOUT STONE.
- THE NOMINAL STORAGE VOLUME OF THE HVLV™ FC-48 FEED CONNECTOR SHALL BE 0.913 FT³/FT (0.085 M³/M) - WITHOUT STONE.
- THE RECHARGER 902HD CHAMBER SHALL HAVE 5 CORRUGATIONS.
- THE CHAMBER SHALL BE CAPABLE OF ACCEPTING A 6 INCH (150 MM) INSPECTION PORT OPENING AT THE TOP CENTER OF EACH CHAMBER, CENTERED ON THE CORRUGATION CREST.
- THE CHAMBER SHALL BE MANUFACTURED IN A FACILITY EMPLOYING CULTEC'S QUALITY CONTROL AND ASSURANCE PROCEDURES.
- MAXIMUM ALLOWABLE COVER OVER THE TOP OF THE CHAMBER SHALL BE 8.3 FEET (2.53 M).

END CAP PARAMETERS

- THE CULTEC RECHARGER 902HD END CAP (REFERRED TO AS 'END CAP') SHALL BE MANUFACTURED IN THE U.S.A. BY CULTEC, INC. OF BROOKFIELD, CT (CULTEC.COM, 203-775-4416).
- THE END CAP SHALL BE STRUCTURAL FOAM INJECTION MOLDED OF BLUE VIRGIN HIGH MOLECULAR WEIGHT IMPACT-MODIFIED POLYPROPYLENE.
- THE END CAP SHALL BE ARCHED IN SHAPE.
- THE END CAP SHALL BE JOINED AT THE BEGINNING AND END OF EACH ROW OF CHAMBERS USING AN INTERLOCKING OVERLAPPING RIB METHOD. CONNECTIONS MUST BE FULLY SHOULDERED OVERLAPPING RIBS, HAVING NO SEPARATE COUPLINGS.
- THE END CAP SHALL HAVE 5 CORRUGATIONS.
- THE NOMINAL DIMENSIONS OF THE END CAP SHALL BE 48.5 INCHES (1231 MM) TALL, 78 INCHES (1982 MM) WIDE AND 28.0 INCHES (711 MM) LONG. WHEN JOINED WITH A RECHARGER 902HD CHAMBER, THE INSTALLED LENGTH OF THE END CAP SHALL BE 24.0 INCHES (610 MM).
- THE NOMINAL STORAGE VOLUME OF THE END CAP SHALL BE 0.173 FT³/FT (0.83 M³/M) - WITHOUT STONE. THE NOMINAL STORAGE VOLUME OF AN INTERLOCKED END CAP SHALL BE 18.02 FT³/UNIT (1.67 M³/UNIT) - WITHOUT STONE.
- MAXIMUM INLET OPENING ON THE END CAP IS 30 INCHES (750 MM) HDPE OR 36 INCHES (900 MM) PVC.
- THE END CAP SHALL PROVIDE RESISTANCE TO THE LOADS AND LOAD FACTORS AS DEFINED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12.

CULTEC HVLV FC-48 FEED CONNECTOR PRODUCT SPECIFICATIONS

GENERAL
 CULTEC HVLV FC-48 FEED CONNECTORS ARE DESIGNED TO CREATE AN INTERNAL MANIFOLD FOR CULTEC RECHARGER MODEL 902HD STORMWATER CHAMBERS.

FEED CONNECTOR PARAMETERS

- THE FEED CONNECTOR SHALL BE MANUFACTURED BY CULTEC, INC. OF BROOKFIELD, CT (203-775-4416 OR 1-800-428-5832).
- THE FEED CONNECTOR SHALL BE VACUUM THERMOFORMED OF HIGH MOLECULAR WEIGHT HIGH DENSITY POLYETHYLENE (HMWHDPE) WITH A BLACK INTERIOR AND BLUE EXTERIOR.
- THE FEED CONNECTOR SHALL BE ARCHED IN SHAPE.
- THE FEED CONNECTOR SHALL BE OPEN-BOTTOMED.
- THE NOMINAL DIMENSIONS OF THE CULTEC HVLV FC-48 FEED CONNECTOR SHALL BE 12 INCHES (305 MM) TALL, 19 INCHES (490 MM) WIDE AND 49 INCHES (1245 MM) LONG.
- THE NOMINAL STORAGE VOLUME OF THE HVLV FC-48 FEED CONNECTOR SHALL BE 0.913 FT³/FT (0.085 M³/M) - WITHOUT STONE.
- THE HVLV FC-48 FEED CONNECTOR SHALL HAVE 4 CORRUGATIONS.
- THE HVLV FC-48 FEED CONNECTOR MUST BE FORMED AS A WHOLE UNIT WITHOUT TWO OPEN END WALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS. THE UNIT SHALL FIT INTO THE SIDE PORTALS OF THE CULTEC RECHARGER 902HD STORMWATER CHAMBER AND ACT AS CROSS FEED CONNECTIONS CREATING AN INTERNAL MANIFOLD.
- THE FEED CONNECTOR SHALL BE DESIGNED TO WITHSTAND AASHTO HS-25 DEFERED LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.
- THE FEED CONNECTOR SHALL BE MANUFACTURED IN AN ISO 9001:2008 CERTIFIED FACILITY.

CULTEC NO. 410™ NON-WOVEN GEOTEXTILE

CULTEC NO. 410™ NON-WOVEN GEOTEXTILE MAY BE USED WITH CULTEC CONTACTOR® AND RECHARGER® STORMWATER INSTALLATIONS TO PROVIDE A BARRIER THAT PREVENTS SOIL INTRUSION INTO THE STONE.

GEOTEXTILE PARAMETERS

- THE GEOTEXTILE SHALL BE PROVIDED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
- THE GEOTEXTILE SHALL BE BLACK IN APPEARANCE.
- THE GEOTEXTILE SHALL HAVE A TYPICAL WEIGHT OF 4.5 OZ/SY (142 G/M²).
- THE GEOTEXTILE SHALL HAVE A TENSILE STRENGTH VALUE OF 120 LBS (533 N) PER ASTM D4632 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE AN ELONGATION @ BREAK VALUE OF 50% PER ASTM D4632 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A MULLER BURST VALUE OF 225 PSI (1551 KPA) PER ASTM D3786 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A PUNCTURE STRENGTH VALUE OF 65 LBS (289 N) PER ASTM D4633 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A CBR PUNCTURE VALUE OF 340 LBS (1513 N) PER ASTM D6241 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A TRAPEZOID TEAR VALUE OF 50 LBS (222 N) PER ASTM D4633 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A AOS VALUE OF 70 U.S. SIEVE (0.212 MM) PER ASTM D4751 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A PERMITTIVITY VALUE OF 1.7 SEC-1 PER ASTM D4491 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A WATER FLOW RATE VALUE OF 135 GAL/MIN/SF (5500 L/MIN/SQ) PER ASTM D4959 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A UV STABILITY @ 500 HOURS VALUE OF 70% PER ASTM D4355 TESTING METHOD.

CULTEC AFAB-HPF™ WOVEN GEOTEXTILE

CULTEC AFAB-HPF™ WOVEN GEOTEXTILE IS DESIGNED AS AN UNDERLAYMENT TO PREVENT SCOURING CAUSED BY WATER MOVEMENT WITHIN THE CULTEC CHAMBERS AND FEED CONNECTORS UTILIZING THE CULTEC MANIFOLD FEATURE. IT MAY ALSO BE USED AS A COMPONENT OF THE CULTEC SEPARATOR ROW TO ACT AS A BARRIER TO PREVENT SOIL/CONTAMINANT INTRUSION INTO THE STONE WHILE ALLOWING FOR MAINTENANCE.

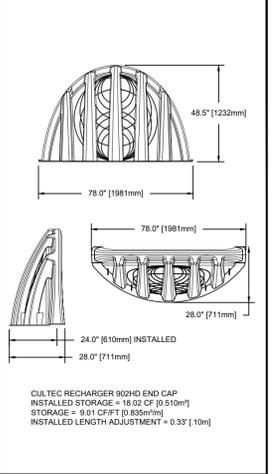
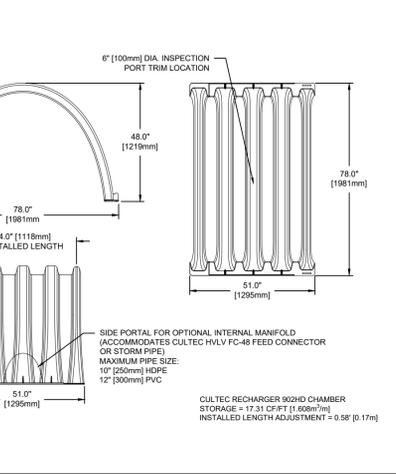
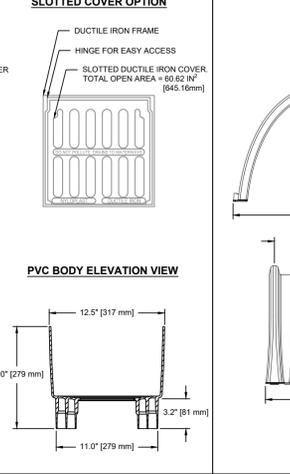
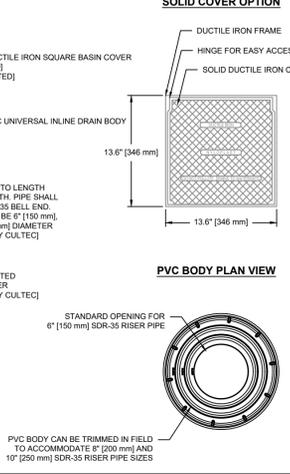
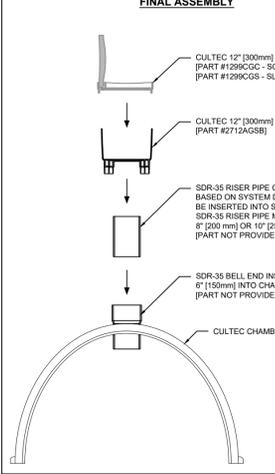
GEOTEXTILE PARAMETERS

- THE GEOTEXTILE SHALL BE PROVIDED BY CULTEC OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
- THE GEOTEXTILE SHALL BE BLACK IN APPEARANCE.
- THE GEOTEXTILE SHALL HAVE A TENSILE STRENGTH OF 320 X 320 LBS (1,420 X 1,420 N) PER ASTM D4632 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A ELONGATION @ BREAK RESISTANCE OF 15 X 15% PER ASTM D4632 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A WIDE WIDTH TENSILE RESISTANCE OF 3,563 X 3,563 LBS/FT (52 X 52 KN/M) PER ASTM D4959 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A CBR PUNCTURE RESISTANCE OF 1,500 LBS (6,670 N) PER ASTM D6241 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A TRAPEZOIDAL TEAR RESISTANCE OF 120 X 120 LBS (540 X 540 N) PER ASTM D4633 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE AN APPARENT OPENING SIZE OF 30 US SIEVE (0.60 MM) PER ASTM D4751 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A PERMITTIVITY RATING OF 0.2 SEC-1 PER ASTM D4491 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A WATER FLOW RATING OF 22 GPM/FT2 (900 LPM/M2) PER ASTM D4491 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A UV RESISTANCE OF 70% @ 500 HRS. PER ASTM D4355 TESTING METHOD.

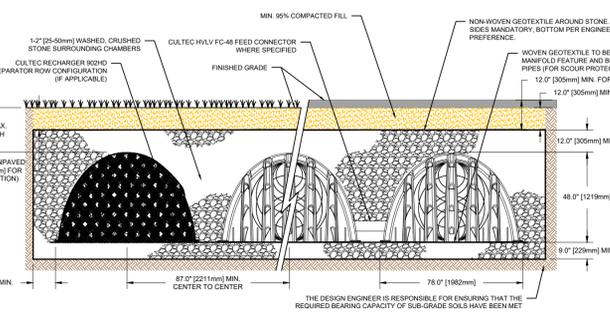
GENERAL NOTES

PIPE	A	B
6" [150 mm]	38.00" [965 mm]	1.00" [25 mm]
8" [200 mm]	38.00" [965 mm]	1.00" [25 mm]
10" [250 mm]	33.80" [858 mm]	1.25" [32 mm]
12" [300 mm]	29.25" [743 mm]	1.75" [44 mm]
15" [375 mm]	25.75" [654 mm]	2.00" [50 mm]
18" [450 mm]	21.75" [552 mm]	2.50" [64 mm]
21" [525 mm]	18.75" [476 mm]	2.50" [64 mm]
24" [600 mm]	15.75" [400 mm]	2.50" [64 mm]
30" [750 mm]	7.75" [197 mm]	3.50" [89 mm]
36" [900 mm]	N/A	3.50" [89 mm]

*THE TYPICAL INVERT TABLE ABOVE IS BASED ON THE INSIDE DIAMETER OF STANDARD CORRUGATED PLASTIC PIPE. THE HEAVY DUTY END CAP HAS PRE-MARKED TRIM LINES FOR PIPE DIAMETERS 12" (300mm), 18" (450mm) AND 24" (600mm). PIPES OF ANY SIZE AND MATERIAL UP TO 24" MAY BE PLACED AT CUSTOM LOCATIONS AND CUSTOM INVERTS. THE CROWN OF THE PIPE MUST REMAIN A MINIMUM OF 4" (100mm) FROM THE EDGE OF THE HEAVY DUTY END CAP.



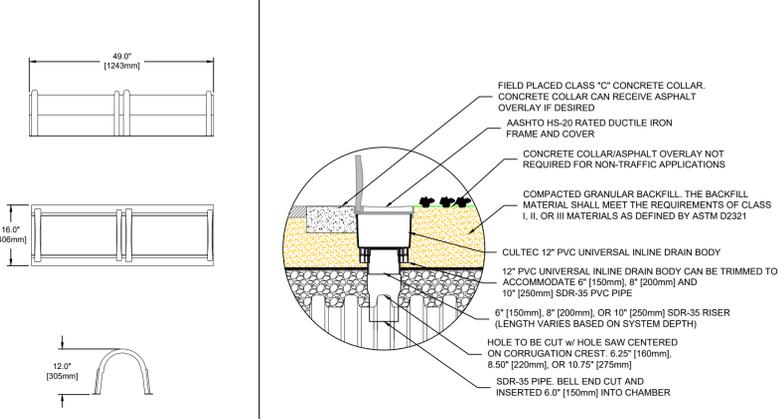
CULTEC UNIVERSAL INSPECTION PORT KIT DETAIL



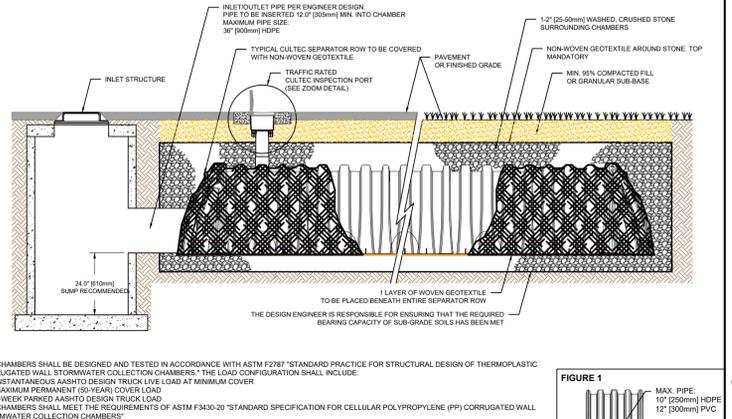
NOTES:

- THE CHAMBERS SHALL BE DESIGNED AND TESTED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". THE LOAD CONFIGURATION SHALL INCLUDE:
 - 1.a. INSTANTANEOUS AASHTO DESIGN TRUCK LIVE LOAD AT MINIMUM COVER
 - 1.b. MAXIMUM PERMANENT (50-YEAR) COVER LOAD
 - 1.c. 1-WEEK PARKED ASHTO DESIGN TRUCK LOAD
- THE CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F3430-20 "STANDARD SPECIFICATION FOR CELLULAR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- THE INSTALLED CHAMBER SYSTEM SHALL PROVIDE RESISTANCE TO THE LOADS AND LOAD FACTORS AS DEFINED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12, WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS. THE STRUCTURAL DESIGN OF THE CHAMBERS SHALL INCLUDE THE FOLLOWING:
 - 3.a. THE CREEP MODULUS SHALL BE 50-YEAR AS SPECIFIED IN ASTM F3430
 - 3.b. THE MINIMUM SAFETY FACTOR FOR LIVE LOADS SHALL BE 1.75
 - 3.c. THE MINIMUM SAFETY FACTOR FOR DEAD LOADS SHALL BE 1.95

CULTEC RECHARGER 902HD CROSS SECTION



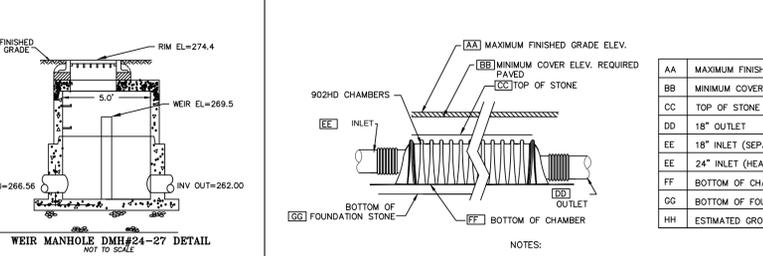
CULTEC RECHARGER 902HD HEAVY DUTY TYPICAL INTERLOCK



NOTES:

- THE CHAMBERS SHALL BE DESIGNED AND TESTED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". THE LOAD CONFIGURATION SHALL INCLUDE:
 - 1.a. INSTANTANEOUS AASHTO DESIGN TRUCK LIVE LOAD AT MINIMUM COVER
 - 1.b. MAXIMUM PERMANENT (50-YEAR) COVER LOAD
 - 1.c. 1-WEEK PARKED ASHTO DESIGN TRUCK LOAD
- THE CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F3430-20 "STANDARD SPECIFICATION FOR CELLULAR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- THE INSTALLED CHAMBER SYSTEM SHALL PROVIDE RESISTANCE TO THE LOADS AND LOAD FACTORS AS DEFINED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12, WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS. THE STRUCTURAL DESIGN OF THE CHAMBERS SHALL INCLUDE THE FOLLOWING:
 - 3.a. THE CREEP MODULUS SHALL BE 50-YEAR AS SPECIFIED IN ASTM F3430
 - 3.b. THE MINIMUM SAFETY FACTOR FOR LIVE LOADS SHALL BE 1.75
 - 3.c. THE MINIMUM SAFETY FACTOR FOR DEAD LOADS SHALL BE 1.95

CULTEC RECHARGER 902HD TYPICAL PIPE INVERTS



CULTEC HVLV FC-48 FEED CONNECTOR THREE VIEW

OPTIONAL CULTEC INSPECTION PORT - ZOOM DETAIL

CULTEC SEPARATOR ROW - CULTEC INSPECTION PORT DETAIL (IF APPLICABLE)

	SYSTEM #1	
AA	MAXIMUM FINISHED GRADE ELEV.	277.80
BB	MINIMUM COVER ELEV.	273.70
CC	TOP OF STONE	270.50
DD	18" OUTLET	266.56
EE	18" INLET (SEPARATOR ROW)	266.56
EE	24" INLET (HEADER)	264.96
FF	BOTTOM OF CHAMBER	264.75
GG	BOTTOM OF FOUNDATION STONE	264.00
HH	ESTIMATED GROUNDWATER	260.00



CULTEC STORMWATER CHAMBER

DATE: #####
 CHECKED BY: ###
 SHEET NO: 1 OF #

PROJECT NO: #
 DESIGNED BY: ###
 SCALE: N.T.S.

APPROVED DATE: _____

FRANKLIN PLANNING BOARD

BEING A MAJORITY

LEGAL NOTES

UTILITIES ARE PLOTTED AS A COMPILATION OF RECORD DOCUMENT MARKINGS AND OTHER OBSERVED UTILITIES. FOR A VIEW OF THE UNDERGROUND UTILITIES, A SINKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE GUARANTEED COMPLETELY AND RELIABLY DEPICTED. CONTRACTORS (IN ACCORDANCE WITH MASSACHUSETTS CHAPTER 82 SECTION 40 AS AMENDED) MUST CONTACT ALL UTILITY COMPANIES BEFORE EXCAVATING AND DRILLING AND CALL DIGSAFE AT 1(888)DIG-SAFE[7233].

CONSTRUCTION ON THIS LAND IS SUBJECT TO ANY EASEMENTS, RIGHTS-OF-WAY, RESTRICTIONS, RESERVATIONS, OR OTHER LIMITATIONS WHICH MAY BE REVEALED BY AN EXAMINATION OF THE TITLE.

OWNER
 A.M. 295 LOT 003
 NEAG REAL ESTATE LLC
 126 GROVE ST
 FRANKLIN, MA
 DEED BOOK 41715 PAGE 121
 PLAN No. 253 OF 1989 PLAN Bk. 379

APPLICANT
 A.M. 295 LOT 4
 KEY BOSTON, INC.
 126 GROVE STREET
 FRANKLIN, MA 02038
 DEED BOOK 6353 PAGE 200
 DEED BOOK 6876 PAGE 112
 PLAN No. 238 OF 1984 PLAN Bk. 309
 PLAN No. 1655 OF 1985 PLAN Bk. 330

124/ 126 GROVE STREET
 BUILDING EXPANSION
 SITE PLAN MODIFICATION
 FRANKLIN MASSACHUSETTS

CONSTRUCTION
 DETAILS

NOVEMBER 5, 2024

DATE	REVISION DESCRIPTION
03/27/2025	PER TOWN & CONSULTANT COMMENTS
04/01/2025	PER CONSERVATION COMMENTS
04/15/2025	PER PLANNING/CONCOM COMMENTS

4/6/25

DALE MACKINNON
 CIVIL
 No. 88575
 REGISTERED
 PROFESSIONAL ENGINEER

APPROVED DATE: _____

FRANKLIN PLANNING BOARD

BEING A MAJORITY

LEGAL NOTES

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The northern and northeastern exterior wall lines are shown on the project plans to be constructed in close proximity to the Prime Park roadway. The proposed finish floor elevation of the warehouse addition is at Elevation 279.27 feet. The elevation contours shown on the "Grading/Drainage Sketch Plan" indicate the existing road surface is at elevations 280s to 288s along the alignment of the proposed building. We anticipate that the exterior walls of the building addition along Prime Park roadway will need to be designed and constructed as retaining walls. Furthermore, lateral earth support is anticipated to be needed to support the excavation to construct the foundations and the building addition's retaining walls.

The existing fill soils, free of organics and debris as well as the natural sands and silts are anticipated to be suitable for reuse as structural fill on the project provided the soils can be adequately placed and compacted.

Fill and buried topsoil is present at the toe of the slope along the proposed parking area retaining wall alignment and likely extends below the lowest level of this proposed retaining wall. This fill and buried topsoil is not considered suitable for wall support and should be removed and replaced with controlled properly compact lifts of structural fill.

6.0 GEOTECHNICAL ENGINEERING RECOMMENDATIONS

We have developed geotechnical engineering recommendations that address the proposed building addition and proposed passenger vehicle and truck parking expansion areas in the following subsections.

6.1 Existing Foundation Underpinning and New Column Footing Construction along Existing Building Wall Lines

We observed existing fill including organic materials along the existing building's foundation wall where the proposed addition will be constructed. We anticipate that the addition will include removal of the building's existing exterior wall and the existing column foundations will remain. We further anticipate that new foundations will be added along this existing wall line to support new columns. These soils are not considered suitable to support foundations in our opinion.

We recommend that the existing column footings to remain along this alignment be underpinned to extend to firm natural ground. In some instances, underpinning could be performed using traditional pit type underpinning. However, where depths to firm natural ground are deeper and pit excavations are not considered feasible, a type of pile foundation such as helical piles may be applicable for both underpinning and support of new column footings.

We recommend that foundation underpinning be performed at existing column footings and for new column footings along the existing building's wall from the western end of the proposed addition (i.e., from the vicinity of test boring B-5) to approximately the location of TP-13. A possible exception may be in the area of TP-3 where foundations appear to be constructed on natural granular soils. Further explorations during construction should assess the conditions in this area as well as other column footing locations along this wall alignment.

The choice of underpinning method should be discussed with your selected contractor. We are of the opinion, where depths to natural ground are located at or above groundwater levels and the depths below bottom of footing are a few feet or less, that underpinning pits backfilled with concrete may be appropriate. Underpinning pits consist of formed concrete that is placed in the pits below the existing footings down to the proposed new footings subgrades on firm natural ground. Concrete is placed up to a few inches below the existing footings and non-shrink, dry pack grout is then rammed into the gap between the top of the concrete pit and the bottom of the existing footing.

The underpinning pits should be sequenced so that a minimum of ten feet of soil and/or cured concrete should remain in place between underpinning pits. Underpinning pits should not exceed three feet in width. Concrete should be allowed to cure until it has met the minimum design strength specified by the structural engineer. Typically, a minimum of 50 percent of design strength is required. The structural engineer should be consulted to review the contractor's proposed bracing of existing columns while underpinning is performed.

The foundation underpinning for the existing building, bearing above minimum width requirements, may be designed using a maximum allowable soil bearing capacity of one and one-half (1.5) tons per square foot.

Alternatively, and for deeper depths to firm natural ground, helical pile foundations may be appropriate for underpinning depending on the loads on the existing foundations and new column footings in this area. Helical piles consist of a relatively small shaft of either high strength pipe or square bar. A lead section (typically 5 to 10 feet long) with a minimum of one ton is designed to screw in and displace the overburden soils. Extensions are added to the lead section to reach the required depth into firm natural ground. As the helices advance into the firm natural granular soils, the resistance and applied torque typically increase due to the relative density of firm natural granular soils (increasing with depth. Once installed to the required torque, lead is transferred through the shaft and into the lead section, resisted by the plan area of each helix. A specialty foundation contractor should be consulted for pile type underpinning options.

We anticipate that new column footings will be added in this area to support the new addition's structural loads. Foundations adjacent to the existing building could be constructed by lowering the bottom of footing elevation to firm natural ground. However, care should be taken to not undermine the existing foundations either before or after those foundations are underpinned. If depths to natural ground are considered too deep, then new column support could be via a pile cap supported by pile foundations such as helical piles. A specialty foundation contractor should be consulted for pile design.

6.2 Building Addition Area Earthwork Activities

Pavement, topsoil fill and subsoil should be stripped from within the proposed building addition area down to the underlying suitable natural granular soils. Lateral earth support may need to be installed prior to excavation activities in the vicinity of Prime Park roadway.

The chosen contractor should be prepared to dewater especially in the area of the existing wetlands which contained standing water at the time of our subsurface exploration program. The size of the open excavations should be limited to that which can successfully be handled by the contractor's chosen dewatering method(s). Dewatering should be continuous until the contractor can place and adequately

compact lifts of structural fill to a minimum of two feet above observed groundwater levels. Dewatering should be performed in a manner that allows the on-site geotechnical engineer to visually verify that firm natural ground has been reached and that compaction of structural fill can be adequately performed.

Existing fill and utilities should also be removed from the proposed building addition area to firm natural ground. We recommend that the removal of fill be carefully performed as the excavation limits approach the existing building. We recommend considering not excavating and replacing fill below proposed floor slab areas within approximately 10s feet of the existing building to mitigate the potential to cause foundation damage. Fill should be removed below proposed foundations however. Excavations should not extend within a one horizontal to one vertical distance from the outside edge of existing foundations unless the existing foundation can be underpinned or otherwise supported. The area in the vicinity of test boring B-5 is of particular concern. Installation of helical pile or other pile type of foundations to support new columns adjacent to the existing building should be installed following excavation and replacement activities.

We recommend a proof rolling activity be performed over the exposed soils once topsoil fill, subsoil and existing fill have been removed and following the foundation underpinning activities. The proof rolling activity should be performed where the exposed soils remain above groundwater levels. The purpose of the proof rolling is to identify areas where existing fill still remains which is not identified during excavation activities.

The proof rolling activity should consist of making a minimum of six passes of a self-propelled vibratory drum compactor having a minimum dynamic drum force of 10,000 pounds. The proof rolling activity should be observed by an on-site geotechnical engineer. Areas observed to be weak or unstable should be assessed by test pit excavations. Unsuitable existing fill soils should be removed and replaced as recommended below.

The chosen contractor for the project should obtain approved off-site sources of structural fill as well as clean sand and gravel should the on-site soils prove difficult to work with during inclement weather. The initial 12-inch lift of structural fill over natural ground where groundwater has been encountered should consist of clean sand and gravel.

Excavated existing fill which is relatively free of organics, debris and oversized cobbles and boulders will be considered suitable for reuse as structural fill provided the soils can be properly placed and compacted. Likewise, the excavated natural sands and silts will also be considered suitable for reuse as structural fill with the same conditions.

To the extent possible, excavated on-site soils intended for re-use that are dry should not be stockpiled. Rather, dry fill should be placed and compacted to its required density the same day it is excavated. Stockpiling increases exposure to saturation by rain as well as provides greater opportunity for frost penetration during freezing weather. On-site soils that are frozen or too wet to be placed and compacted to the required densities to a firm and stable condition will not be reusable as structural fill.

Protection of prepared natural subgrades or subgrades prepared using the on-site soils from wet or freezing weather should be performed during construction. Crushed stone should be considered for use

to protect foundation and floor slab subgrades following excavation and prior to pouring concrete. Insulated blankets and/or heat may be necessary to protect foundation and slab subgrades from freezing should a winter earthwork schedule be considered.

We recommend that structural fill be placed in lifts which are no more than 12 inches thick in open lifts and 6 inches thick in confined areas such as trenches. Boulders larger than two thirds of the loose lift thickness should be removed from the fill prior to placing the lift of structural fill for compaction.

Lifts of structural fill placed in open areas should be compacted by a minimum of six passes of a self-propelled vibratory drum compactor having a minimum dynamic drum force of 10,000 pounds. Trench backfill should be compacted by making a minimum of six passes of a large vibratory plate or double drum walk behind compactor. Each lift of fill should be compacted to at least 95% of the soil's maximum dry density as determined by ASTM 1557 and should be compacted to a firm and stable condition as assessed by the on-site geotechnical engineer.

Lifts of structural fill that exhibit instability or appear soft during compaction should either be allowed to dry and then be recompact to a firm and stable condition at a later time, or the lift of fill should be removed and replaced with drier suitable structural fill. Structural fill should not be placed over unstable or soft fill or over ground which is frozen. Frozen soil should be removed prior to each day's filling operations. Frozen soil should not be reused until it has thawed.

Off-site structural fill as well as off-site sand and gravel should meet the gradation recommendations presented in section 6.5 Materials of this report.

Lifts of structural fill that exhibit instability or appear soft during compaction should either be allowed to dry and then be recompact to a firm and stable condition at a later time, or the lift of fill should be removed and replaced with drier suitable structural fill. Structural fill should not be placed over unstable or soft fill or over ground which is frozen. Frozen soil should be removed prior to each day's filling operations. Frozen soil should not be reused until it has thawed.

6.3 Excavation Support along Prime Park Roadway

We anticipate excavation support will be required along the Prime Park roadway to accommodate the construction of the proposed building addition. Furthermore, we anticipate that the roadway will remain open to vehicular traffic during construction.

A specialty foundation contractor should be consulted for the type of wall to be used for lateral earth support during construction. We are of the opinion that various types of wall may be feasible for these soil conditions and the anticipated height of excavation support. Two types of wall which appear well suited to this project include a soldier pile and lagging system as well as steel sheet piles.

These two wall types might be able to be designed as cantilever walls where the lateral resistance is provided in part by the depth of installation below the exposed excavation face along with the piles' strength in bending. The contractor may recommend internal supports or tiebacks be installed as part of the lateral earth support system. Both the sheet pile wall as well as the soldier pile and lagging wall can be removed following construction of the building addition.

Another option could be a soil nail wall which is a permanent wall. A soil nail wall is constructed from the top of cut downward using soil nails (i.e., anchors) to engage the soil mass behind the wall face to provide lateral support. In this instance, the face of the excavation is covered in reinforced shotcrete and soil nails are installed through the wall face into the soil behind the wall and below the Prime Park roadway.

We anticipate drainage provisions for a soil nail wall will include installation of geotextile strip drains behind the wall facing prior to installing shotcrete and/or weep holes leading through the wall from the geotextile layer. The drainage layers should connect to an underdrain pipe system at the base and in front of the wall which should then be discharged to a site drainage feature lower than the base of the wall.

The chosen contractor should retain the services of a specialty contractor to design and install the lateral earth support system. The walls should be designed to support surcharge loads associated with vehicular and construction traffic during construction in addition to the lateral earth pressures. The design should be reviewed by Northeast Geotechnical, Inc. and the project structural engineer at least one week prior to mobilizing to the site to begin installation of the system.

6.4 Pavement Area Earthwork

Topsoil, subsoil and gravel should be removed from proposed pavement areas exposing either firm natural ground or existing granular fill. Dewatering, similar to that described and recommended for the proposed building addition area may be necessary in the area of the existing wetlands where the truck parking expansion and new retaining wall is to be constructed.

Existing fill below the alignment of the proposed site retaining wall including in the zone typically referred to as the reinforced backfill zone behind the wall, should also be removed to firm natural ground. We anticipate existing fill to be encountered at the toe of the existing slope leading down from the existing truck parking area. Similarly, existing fill was observed in the areas of test borings B-11 and B-11A beyond the toe of slope. We anticipate this fill will extend below the level of the proposed retaining wall's foundation level.

Structural fill should be placed over firm natural ground or over existing granular fill in areas requiring fill to reach pavement elevations. The structural fill should be compacted to at least 95% of the soil's maximum dry density as determined by ASTM 1557 and to a firm and stable condition as assessed by the on-site geotechnical engineer.

6.5 Materials

Off-site structural fill may be required for the project. Off-site structural fill should be free from ice, snow, rubbish, and other deleterious or organic matter, and should conform to the following gradation criteria:

Table with 2 columns: Sieve Size, Percent Finer By Weight

Table with 2 columns: Sieve Size, Percent Finer By Weight

*Free-draining structural fill should contain no more than 10 percent passing the no. 200 sieve.

Off-site sand and gravel will be required for the building addition slab base course and pavement base course areas as well as potentially for an initial lift of structural fill in the building addition area. Off-site sand and gravel material should consist of hard, durable sand and gravel, free from ice, snow, rubbish, and other deleterious or organic matter. Off-site sand and gravel should conform to the following recommended gradation criteria:

Table with 2 columns: Sieve Size, Percent Finer By Weight

Table with 2 columns: Sieve Size, Percent Finer By Weight

Crushed stone may also be used in lieu of off-site sand and gravel. Crushed stone should consist of durable crushed rock or durable crushed gravel, stone, free from ice and snow, sand, clay, loam, and other deleterious material. The crushed stone should be uniformly blended and should conform to Massachusetts Highway Department's Specification for 1/2-inch stone - M2.0/A.

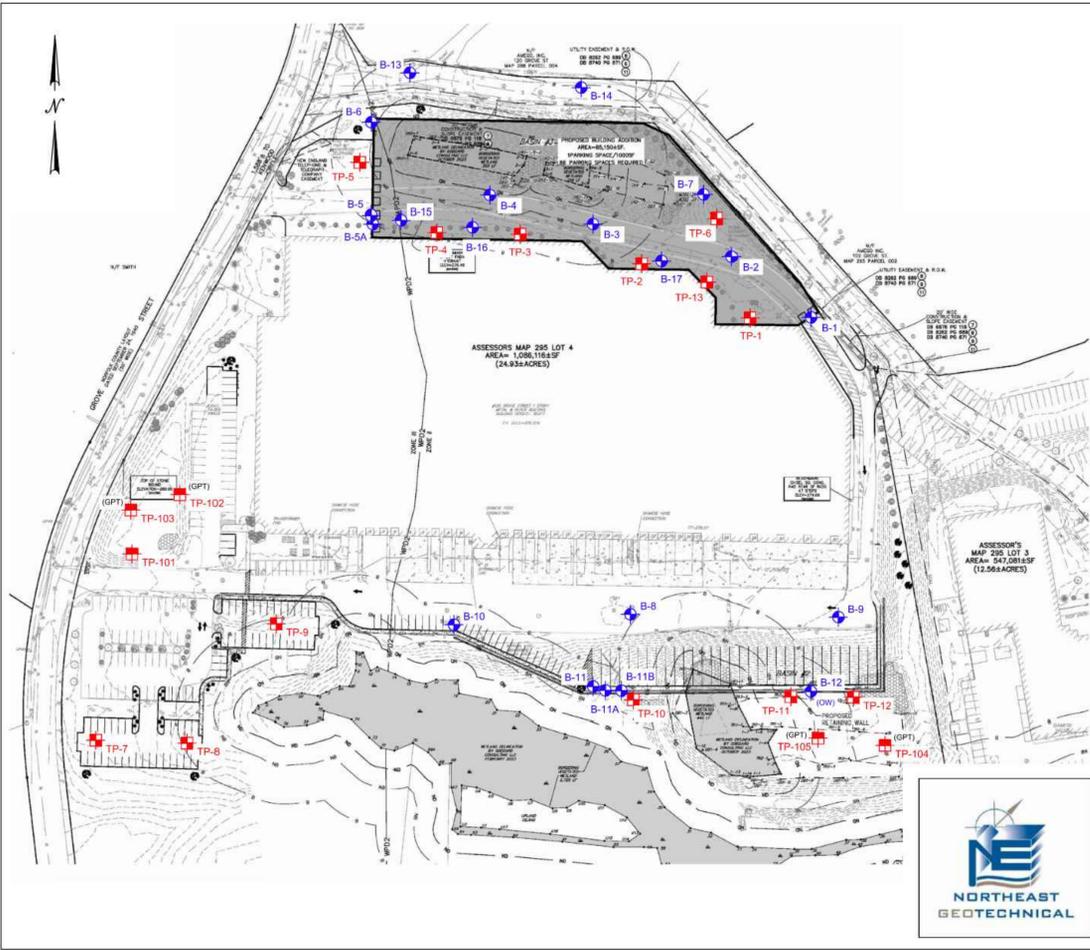
6.6 Building Addition Foundations

We anticipate foundation excavations will be performed after mass building addition area earthwork and foundation underpinning activities have been performed in accordance with Sections 6.1 and 6.2 of this report. We anticipate foundation excavations will extend primarily into the natural sands and silts and/or adequately placed and compacted structural fill.

The soils we anticipate being encountered at bottom of footing elevations are expected to be sensitive to disturbance from foot traffic and possibly moisture sensitive. Foundation excavations should be over excavated at least 6 inches and a 6-inch minimum layer of compacted 1/2-inch crushed stone should be placed and compacted immediately after the footing subgrade has been exposed and cleared of loose soil.

New foundations for the building addition may be designed using shallow spread footing foundations provided building addition earthwork is performed as recommended herein. The foundation footings may be designed utilizing a maximum soil bearing capacity of one and one half tons per square foot (1.5 TSF). Total settlements of up to one inch (1") and differential settlements of up to one-half of an inch (1/2") are anticipated under this bearing pressure.

Table with 2 columns: Sieve Size, Percent Finer By Weight



NORTHEAST GEOTECHNICAL, INC. NEW ENGLAND APPLIANCE GROUP WAREHOUSE ADDITION SUBSURFACE EXPLORATION LOCATION PLAN

- NOTES: 1. BASE MAP DEVELOPED FROM PLAN TITLED 'EXHIBIT PLAN', SHEET No. 1 OF 1, DATED AUGUST 19, 2024, BY GUERRIERE & HALNON, INC. (G&H); 2. TEST PIT TP-13 AND TEST BORING B-5A, B-11A, B-11B, B-15, B-16, AND B-17 LOCATIONS ESTABLISHED AT THE SITE BY NORTHEAST GEOTECHNICAL, INC. PERSONNEL USING TAPE MEASUREMENTS AND LINE OF SIGHT FROM EXISTING SITE AND BUILDING FEATURES. REMAINING TEST PIT AND TEST BORING LOCATIONS SURVEY LOCATED AT THE SITE BY G&H; TEST BORING B-11 DRILLED APPROXIMATELY 4+/- FEET EAST OF SURVEY-LOCATED STAKE DUE TO EXISTING TREE IN VICINITY OF STAKE. THE TEST PIT AND TEST BORING LOCATIONS SHOWN ON THIS PLAN SHOULD BE CONSIDERED ACCURATE TO THE DEGREE IMPLIED BY THE METHODS USED; 3. TEST BORINGS AND TEST PITS OBSERVED AND LOGGED BY NORTHEAST GEOTECHNICAL, INC. PERSONNEL.

Table with 3 columns: Legend, Project No., Drawn By, Reviewed By, Date, Scale, Figure No.

Professional seal for Dale MacDonnon, Civil Engineer, No. 34675, State of Massachusetts.

APPROVED DATE: FRANKLIN PLANNING BOARD BEING A MAJORITY

LEGAL NOTES: UTILITIES ARE PLOTTED AS A COMPILATION OF RECORD DOCUMENT MARKINGS AND OTHER OBSERVED SURFACE OR BELOW A VIEW OF THE UNDERGROUND UTILITIES AND SHOULD BE CONSIDERED APPROXIMATE. ANY AND ALL EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE GUARANTEED COMPLETELY AND RELIABLY DEPICTED. CONTRACTORS (IN ACCORDANCE WITH MASSACHUSETTS CHAPTER 82 SECTION 40 AS AMENDED) MUST CONTACT ALL UTILITY COMPANIES BEFORE EXCAVATING AND DRILLING AND CALL DIGSAFE AT 1(888)DIG-SAFE(7233).

OWNER: A.M. 295 LOT 003 NEAG REAL ESTATE LLC 126 GROVE ST FRANKLIN, MA DEED BOOK 41715 PAGE 121 PLAN No. 253 OF 1989 PLAN Bk. 379

124/ 126 GROVE STREET BUILDING EXPANSION SITE PLAN MODIFICATION FRANKLIN MASSACHUSETTS

CONSTRUCTION DETAILS NOVEMBER 5, 2024

Table with 2 columns: DATE, REVISION DESCRIPTION

03/27/2025 PER TOWN & CONSULTANT COMMENTS 04/01/2025 PER CONSERVATION COMMENTS 04/15/2025 PER PLANNING/CONCOM COMMENTS

Guerriere & Halnon, Inc. ENGINEERING & LAND SURVEYING 55 WEST CENTRAL ST. PH. (508) 528-3221 FRANKLIN, MA 02038 FX. (508) 528-7921 www.gandhengineering.com

- NOTES: 1. THE GEOTECHNICAL RECOMMENDATION DOCUMENTS ON THIS SHEET ARE EXCERPTS FROM THE GEOTECHNICAL ENGINEERING REPORT TITLED 'GEOTECHNICAL ENGINEERING REPORT, PROPOSED WAREHOUSE ADDITION, 126 GROVE STREET, FRANKLIN, MA', DATED AUGUST 23, 2024, AND PREPARED BY NORTHEAST GEOTECHNICAL, INC. THE FULL REPORT HAS BEEN SUBMITTED WITH THIS SITE PLAN MODIFICATION, AND SHOULD BE CONSIDERED THE CONTROLLING DOCUMENT; 2. ADDITIONAL TEST PITS AND IN-SITU PERMEABILITY TESTING WERE PERFORMED ON MARCH 4, 2025. THE RESULTS OF THIS ADDITIONAL TESTING IS SUMMARIZED IN THE LETTER 'IN-SITU SOIL PERMEABILITY TESTING SUMMARY REPORT, STORMWATER MANAGEMENT BASIN FOR NEAG', DATED MARCH 14, 2025 AND PREPARED BY NORTHEAST GEOTECHNICAL, INC. THE ABOVE PLAN IDENTIFIES THE TESTING LOCATIONS FROM BOTH THE ORIGINAL TESTING PERFORMED IN JULY AND AUGUST OF 2024, AS WELL AS THE FOLLOW-UP TESTING PERFORMED ON 3/4/25; 3. GUERRIERE & HALNON, INC. DOES NOT GUARANTEE OR CERTIFY THE EVALUATIONS AND RECOMMENDATIONS CONTAINED WITHIN THE GEOTECHNICAL REPORT SHOWN ON THIS SHEET; 4. THE CONSTRUCTION OF THIS PROJECT MUST ADHERE TO THE GEOTECHNICAL RECOMMENDATIONS IDENTIFIED ON THIS PLAN, UNLESS ALTERNATIVE MEASURES ARE REVIEWED BY NORTHEAST GEOTECHNICAL, INC AND DETERMINED ACCEPTABLE.

Regardless of the recommended allowable bearing capacity, continuous wall footings should be at least 24 inches wide and column footings should be no less than 36 inches wide in the least lateral dimension. Exterior footings should be founded at least four feet (4') below the finish exterior grade for frost protection.

New utilities should not be allowed to pass within the stress zone of the new footings, defined as a one horizontal to one vertical line extending down and out from each bottom edge of the footing. Rather, efforts should be made to move utilities upward to pass through the foundation wall or to a location outside of the aforementioned stress zone. Alternatively, foundations may be dropped to ensure utilities pass above exterior walls above top of footings.

6.7 Building Addition Foundation Retaining Walls

The foundation walls along the sides of the proposed building addition facing the Prime Park roadway will be required to retain up to about 10s feet of soil based on the proposed grading shown on the referenced plans. These walls should be backfilled with compacted lifts of free-draining off-site sand and gravel or 1/2-inch crushed stone. The intent is to promote drainage of water that may accumulate behind the walls. The free-draining off-site sand and gravel or 1/2-inch crushed stone should be placed to a lateral distance of at least 3 feet from the backside of the walls. Only hand operated vibratory equipment should be used when compacting within 5 feet from the backside of these walls.

Assuming these walls will be restrained and not allowed to move during backfilling, at-rest lateral earth pressure conditions apply. Provided the walls are backfilled with free-draining structural fill, underdrains are installed as recommended below and assuming relatively level backfill conditions, a minimum equivalent fluid pressure (triangular pressure distribution) of 70 pounds per square foot per foot depth is recommended for the at-rest condition.

For sliding resistance, a maximum friction factor of 0.35 is recommended between the base of the wall footing and the underlying subgrade soils and crushed stone.

The walls should also be designed for appropriate surcharge loads and seismic surcharge loads in accordance with the Massachusetts Building Code. A backfill unit weight of at least 140 pounds per cubic foot (pcf) should be used when calculating seismic forces.

6.8 Building Addition Slab Support

Slab on grade construction is recommended for the ground floor slab of the building addition provided the building addition area is prepared as recommended in this report. The slab should bear on a minimum 12 inch thick layer of off-site sand and gravel fill that is compacted to at least 95% of the soil's maximum dry density as determined by ASTM 1557. Besides meeting the minimum compaction criteria, the off-site sand and gravel fill should be compacted to a firm and stable condition.

6.9 Seismic Design Criteria

The soils within the area of the proposed building addition are not considered susceptible to liquefaction in accordance with Section 1806.4 of the ninth edition of The Massachusetts State Building Code.

Provided earthwork is performed, foundation underpinning is performed and foundations are designed and constructed as recommended in this report, the site will be considered Site Class D in accordance with Chapter 20 of ASCE 7, which is referenced in Section 613.3.2 of the Massachusetts State Building Code.

6.10 Flexible Pavement Design

We anticipate the pavement area subgrade soils will consist of natural glaciofluvial and glacial till soils consisting of fine to medium sands with varying amounts of silt, natural glacial fill soils (in the case of the automobile parking area in the area of test pit TP-7) and structural fill placed in controlled, compacted lifts. The following minimum pavement sections are recommended:

Table with 3 columns: Pavement Section, Standard Duty (Passenger Car Parking), Heavy Duty (High Traffic and Truck Areas)

Bituminous Pavement: Top Course 1.5", Binder Course 1.5", Base Course Sand & Gravel 12"

Pavement base course sand and gravel should meet the recommended gradation criteria for off-site sand and gravel as presented in Section 6.5 Materials of this report. Pavement base course fill should also be compacted to at least 95% of the soil's maximum dry density as determined by ASTM 1557 of this report. Besides meeting the minimum compaction requirements, the base course fill should be compacted to a firm and stable condition.

6.11 Parking Area Site Retaining Wall

A parking area site retaining wall is proposed on the southern portion of the site to support truck and other vehicle parking. The proposed retaining wall will range in height to approximately 21s feet. We anticipate a modular block type retaining wall with geogrid reinforcement of the fill behind the wall will be utilized for this project.

Topsoil, subsoil and existing fill deposits should be stripped from below the proposed retaining wall foundation/pad areas as well as the reinforced fill zone behind the wall. Provided that the subgrades beneath the walls and the reinforced fill zone consist of firm, natural granular soils or compacted suitable structural fill placed over the natural granular soils, an allowable soil bearing capacity of one and one half tons per square foot (1.5 TSF) may be used for retaining wall design. The following soil parameters are recommended for use in design of these retaining walls:

Retained Soil: Angle of Internal Friction: 34 degrees Total Soil Unit Weight: 140 pcf

Foundation Soil: Angle of Internal Friction: 30 degrees Total Soil Unit Weight: 125 pcf

Maximum Friction Factor between base of wall and subgrade: 0.35

The wall designer typically specifies the type and gradation of fill material to be placed within the reinforced zone behind the walls, and the required minimum compaction percentages. The walls should also be designed for appropriate surcharge loads and seismic surcharge loads in accordance with the Building Code. A backfill unit weight of at least 140 pcf should be used when calculating seismic forces.

A 4-inch minimum diameter perforated PVC underdrain, surrounded by 1/2-inch washed crushed stone at least 6 inches all around, which is then wrapped in a geotextile filter fabric, is recommended along the backside of these site retaining walls. The underdrains should be installed along the side of the foundation with the pipe bottoms located 6 inches above the bottom of wall foundation elevation. Underdrain pipes should be laid flat with the perforations down. The underdrain pipes should daylight through weep holes in the front of the wall.

We recommend an opportunity to review and comment on the site retaining wall design to assure that our geotechnical engineering recommendations have been properly interpreted and included.

7.0 CONSTRUCTION OBSERVATION, TESTING AND REVIEW

Northeast Geotechnical, Inc. should be retained to provide construction observation and soil testing services during the earthwork construction and foundation underpinning/construction phases of the project. The purpose of our participation is twofold: to observe that the contractor performs earthwork and foundation underpinning/construction in general compliance with the requirements of the pertinent sections of the plans and specifications as well as recommendations presented in this report and to verify our design assumptions in the field, particularly those regarding foundation, slab and pavement subgrade preparation and re-use of fill generated during earthwork. In addition, we can provide engineering input in a timely manner if subsurface conditions are found to deviate from those anticipated prior to construction and warrant a design change or a change in contractor procedures.

We also recommend Northeast Geotechnical be afforded the opportunity to review the foundation and site plans, and earthwork specifications prior to bidding for construction to see that our recommendations have been properly interpreted and included. We should also be afforded the opportunity to review the contractor's temporary lateral earth support system design prior to construction as well.

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