

| | |
|----------|--|
| DATE | |
| REVISION | |
| NO. | |

Record Owner:
 AMIR H. NASHAT &
 CARMEN M. BARNES
 100 BOULDER ROAD
 NEWTON CENTRE, MA 02459
 BK 43058 / PG 29

Location:
 PROPERTY SBL: 81019 0001
 100 BOULDER ROAD
 NEWTON CENTRE, MA

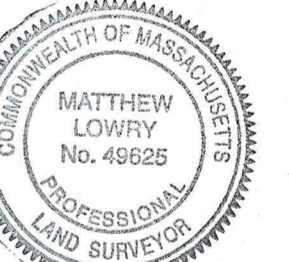
PREPARED BY:
RJO'CONNELL & ASSOCIATES, INC.
 CIVIL ENGINEERS, SURVEYORS & LAND PLANNERS
 89 MONTVALE AVENUE, SUITE 201 STONEHAM, MA 02180
 PHONE: 781.278.0180 RJOC@CONNELL.COM

PREPARED FOR:

**AMIR H. NASHAT
 CARMEN M. BARNES**
 100 BOULDER ROAD
 NEWTON CENTRE, MA 02459

PROJECT NAME:
**100 BOULDER ROAD
 NEWTON, MA**

THIS PLAN IS THE RESULT OF AN ON THE GROUND SURVEY PERFORMED BETWEEN 01/04/2021 AND 02/03/2021.

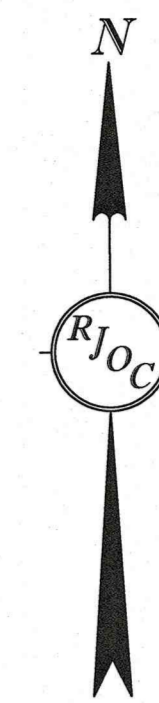


Matthew Lowry 12/21/2021
 PROFESSIONAL LAND SURVEYOR FOR
 RJO'CONNELL & ASSOCIATES, INC.

DRAWN BY: RJK
 REVIEWED BY: ML
 SCALE: 1" = 10'
 FIELD CREW: RJK / CMM
 FIELD BOOK: FIELD BOOK 37 / PG 74
 DATE: 12/21/2021
 DRAWING NAME:

**EXISTING
 CONDITIONS PLAN**

DRAWING NUMBER:
EX-1
 PROJECT NUMBER:
 20150



LEGEND

(NOT ALL FEATURES CONTAINED IN THIS LEGEND APPEAR ON THE PLAN)

| | | | |
|--|------------------------|--|--------------------------------|
| | PROPERTY LINE | | CONCRETE CURB |
| | ABUTTING PROPERTY LINE | | VERTICAL GRANITE CURB |
| | EASEMENT LINE | | BITUMINOUS CONCRETE CURB |
| | SEWER SERVICE | | HPDE HIGH DENSITY POLYETHYLENE |
| | DRAIN SERVICE | | CONC. CONCRETE |
| | WATER SERVICE | | LSA LANDSCAPE AREA |
| | GAS LINE | | DOOR |
| | ELECTRIC LINE | | SIGN |
| | TELEPHONE LINE | | IRRIGATION CONTROL VALVE |
| | OVERHEAD WIRES | | SPOT GRADE |
| | GUARDRAIL | | DECIDUOUS TREE |
| | CHAIN LINK FENCE | | CONIFEROUS TREE |
| | STOCKADE FENCE | | FROM RECORD PLANS |
| | INDEX CONTOUR | | RETAINING WALL |
| | 98 | | |
| | UTILITY POLE | | CONCRETE CURB |
| | LIGHT POLE | | VERTICAL GRANITE CURB |
| | ELECTRIC HAND HOLE | | BITUMINOUS CONCRETE CURB |
| | CABLE MANHOLE | | HPDE HIGH DENSITY POLYETHYLENE |
| | SEWER MANHOLE | | CONCRETE |
| | DRAIN MANHOLE | | LANDSCAPE AREA |
| | CATCH BASIN | | DOOR |
| | WATER VALVE | | SIGN |
| | FIRE HYDRANT | | IRRIGATION CONTROL VALVE |
| | SPRINKLER CONNECTION | | SPOT GRADE |
| | POST INDICATOR VALVE | | DECIDUOUS TREE |
| | BOLLARD | | CONIFEROUS TREE |
| | GAS METER | | FROM RECORD PLANS |
| | GAS VALVE | | RETAINING WALL |
| | ROOF DRAIN | | |
| | AREA DRAIN | | |
| | WETLAND FLAG | | |
| | MEAN HIGH WATER FLAG | | |

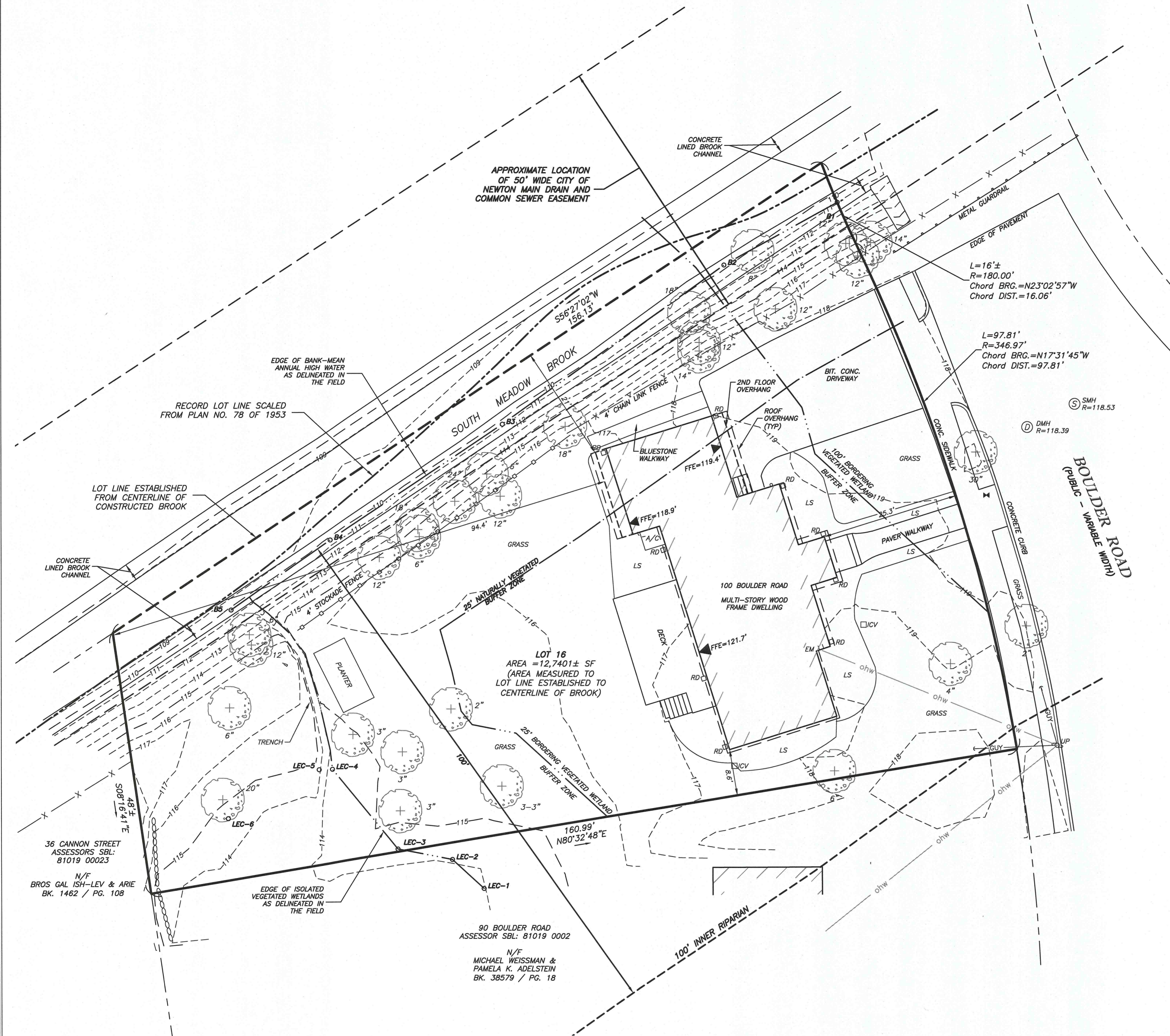
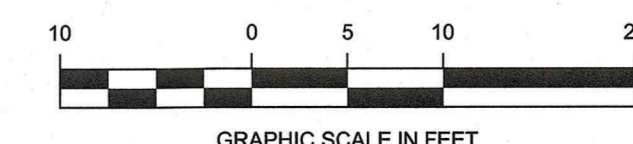
NOTES

- THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING SITE CONDITIONS, AS THEY EXISTED AT THE TIME OF THE FIELD SURVEY, OF THE LOCUS PARCEL FOR DESIGN PURPOSES. THIS PLAN WAS PREPARED FROM AN ACTUAL SURVEY MADE ON THE GROUND USING TOTAL STATION METHODS BY R. J. O'CONNELL & ASSOCIATES (RJOC).
- UNDERGROUND UTILITIES SHOWN ARE FROM OBSERVED SURFACE INDICATIONS, SUBSURFACE INDICATIONS, AND COMPILED FROM AVAILABLE RECORD PLANS OF UTILITY COMPANIES AND PUBLIC AGENCIES AND ARE APPROXIMATE ONLY, AS OF THE DATE OF THIS SURVEY. NO INFORMATION REGARDING RECORD UTILITIES HAS BEEN PROVIDED BY ELECTRIC AND GAS PROVIDERS. BEFORE CONSTRUCTION CALL "DIG SAFE" 811.
- THE HORIZONTAL DATUM IS NAD83, THE VERTICAL DATUM IS CITY OF NEWTON. DATUMS WERE ESTABLISHED USING RTK GPS METHODS.
- THE POSITIONAL ACCURACY OF THE DATA AND PHYSICAL IMPROVEMENTS ON THIS PLAN MAY BE APPROXIMATE. ANY USE OF ELECTRONIC DATA CONTAINED IN AUTOCAD VERSIONS OF THIS PLAN TO GENERATE COORDINATES OR DIMENSIONS NOT SHOWN ON THE PLAN IS NOT AUTHORIZED.
- THE ENTIRE PARCEL IS LOCATED IN ZONE AE, BASE ELEVATION 114 (NAD83) (ELEVATION 120.5 AS CONVERTED TO CITY OF NEWTON DATUM), AS SHOWN ON "FLOOD INSURANCE RATE MAP, MIDDLESEX COUNTY, MASSACHUSETTS," PANEL 562 OF 656, MAP NUMBER 25017C0582E, EFFECTIVE DATE JUNE 4, 2010.
- WETLANDS WERE DELINEATED BY LEC ENVIRONMENTAL CONSULTANTS, INC. ON JANUARY 22, 2021. WETLAND FLAGS WERE LOCATED DURING THE FIELD SURVEY BY TOTAL STATION METHODS BY RJO'CONNELL & ASSOCIATES.
- CONTOUR INTERVAL IS ONE FOOT (1').

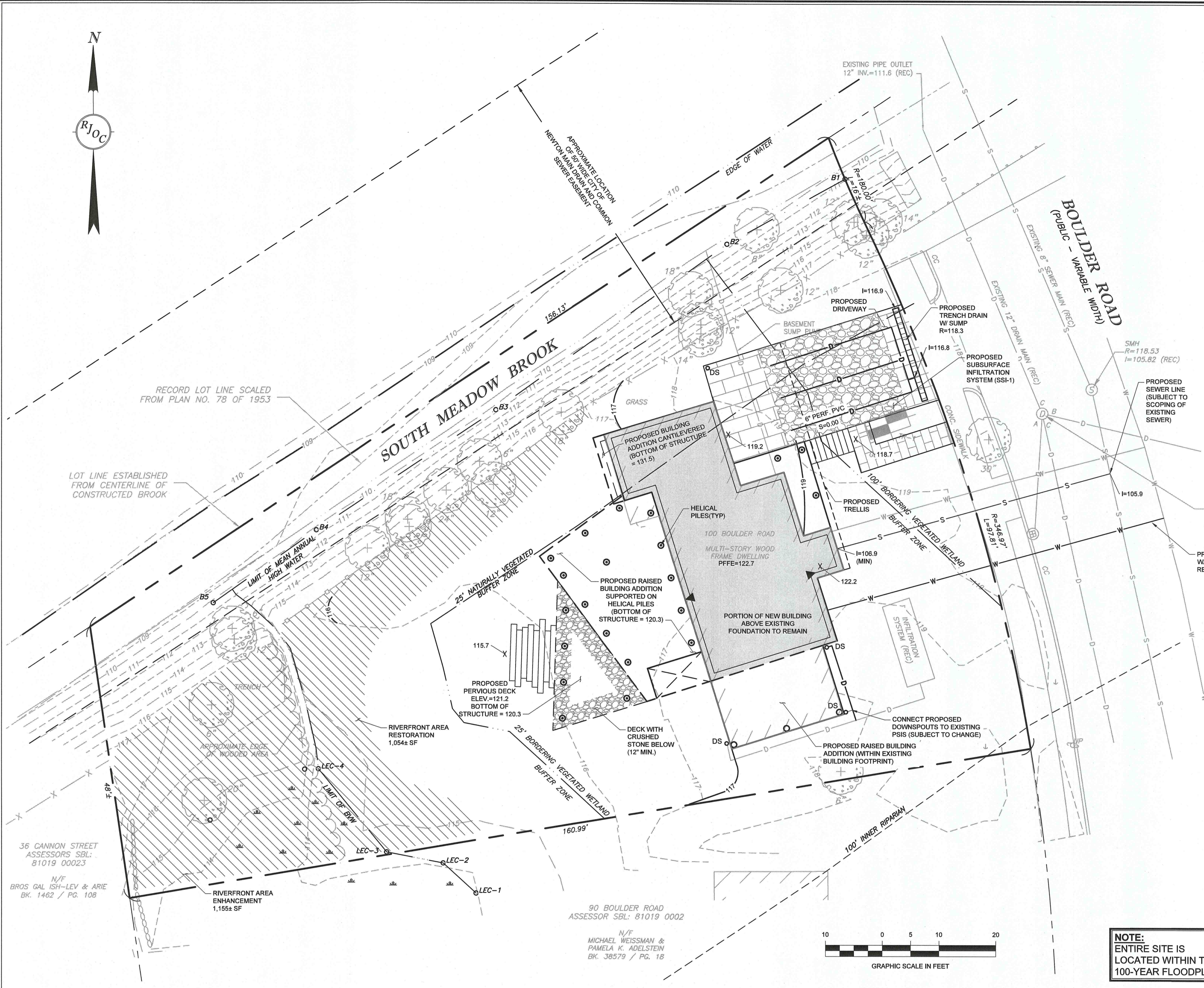
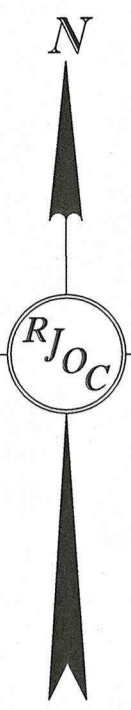
PLAN REFERENCES

PLAN BOOK AND PAGES REFERENCE THE MIDDLESEX SOUTH REGISTRY OF DEEDS

- PLAN 78 OF 1953
- PLAN 421 OF 1953
- 1955 LAND COURT PLAN 25671-B
- PLAN 247 OF 1967



Drawing Name: G:\MA\Newton\Amir Nashat\100 Boulder Road\Survey\DWG\20150_20150_Survey.dwg



PLAN LEGEND

(NOT ALL FEATURES CONTAINED IN THIS LEGEND APPEAR ON THE PLAN)

| EXISTING | PROPOSED |
|-------------------------------------|--|
| GAS VALVE | PROPOSED NEW BUILDING ON EXISTING FOUNDATION |
| HYDRANT | PROPOSED CANTILEVERED BUILDING ADDITION |
| CATCH BASIN | PROPOSED RIVERFRONT RESTORATION AND ENHANCEMENT AREA |
| DRAIN MANHOLE | PROPOSED COMPOST SOCK |
| SEWER MANHOLE | PROPOSED WATER LINE |
| UTILITY POLE | PROPOSED HELICAL PILES |
| CONCRETE CURB | PROPOSED DOWNSPOUT |
| RECORD PLAN (REC) | PROPOSED FINISHED FLOOR ELEVATION |
| SEWER LINE | TEST PIT LOCATION |
| WATER LINE | |
| DRAIN LINE | |
| ELECTRICAL CONDUIT | |
| GAS LINE | |
| PROPERTY LINE | |
| ABUTTING PROPERTY LINE | |
| CHAIN LINK FENCE | |
| STOCKADE FENCE | |
| CONTOUR | |
| 25' NATURALLY VEGETATED BUFFER ZONE | |
| MEAN ANNUAL HIGH WATER | |
| BANK MEAN ANNUAL HIGH WATER FLAG | |
| WETLAND FLAG BY LEC ENVIRONMENTAL | |

- ### NOTES
- THE PURPOSE OF THIS PLAN IS TO SHOW THE RELATIVE LOCATION AND DIMENSION OF THE PROPOSED BUILDING AS WELL AS SITE FEATURES TO BE CONSTRUCTED ON SITE. THE DIMENSIONS OF THE PROPOSED BUILDING ARE BASED UPON PLANS PREPARED BY MARYANN THOMPSON ARCHITECTS ENTITLED "NEWTON ZERO ENERGY HOUSE BASEMENT PLAN" AND "FIRST FLOOR PLAN" DATED 11/19/2021.
 - EXISTING UTILITIES SHOWN HEREON HAVE BEEN COMPILED FROM RECORD PLANS PROVIDED BY THE CITY OF NEWTON.
 - EXISTING CONDITIONS DEPICTED ON THIS PLAN ARE BASED UPON A PLAN PREPARED BY RJ O'CONNELL & ASSOCIATES, INC. ENTITLED "EXISTING CONDITIONS SURVEY, 100 BOULDER ROAD, NEWTON, MASSACHUSETTS" DATED 12/21/2021.
 - THE VERTICAL DATUM IS CITY OF NEWTON BASE.
 - THE LOCATION AND ELEVATIONS OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND PUBLIC AGENCIES AND ARE APPROXIMATE ONLY. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE LOCATION OF UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, GOVERNING PERMITTING AUTHORITY AND "DIG SAFE" AT 1-888-344-7233 AT LEAST SEVENTY-TWO (72) HOURS (EXCLUDING WEEKENDS AND HOLIDAYS) PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES. IF ANY DISCREPANCIES OR CONFLICTS ARE DISCOVERED, THE ENGINEER SHALL BE CONTACTED AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

ONSITE IMPERVIOUS AREA

| DESCRIPTION | EXISTING (SF) | PROPOSED (SF) |
|--|---------------|---------------|
| BUILDING | 1,349 ± | 1,920 ± |
| DECK(S) AND ASSOC. STAIRS | 285 ± | 80 ± (a) |
| FRONT PORCH, FRONT STOOP, AND FRONT STAIRS | 31 ± | 145 ± |
| DRIVEWAY | 809 ± | 675 ± |
| WALKWAYS | 188 ± | 85 ± |
| TOTAL | 2,662 ± | 2,905 ± |

a) PROPOSED DECK IS TO BE CONSTRUCTED OVER A BED OF CRUSHED STONE AND SHALL BE CONSIDERED PERVIOUS

100-YEAR FLOODPLAIN

| DESCRIPTION | ELEVATION |
|-------------------------|-----------|
| PER FEMA (NAVD88) | 113.7± |
| PER CITY OF NEWTON BASE | 120.2± |

NOTE:
ENTIRE SITE IS LOCATED WITHIN THE 100-YEAR FLOODPLAIN

SOILS INFORMATION

TEST PITS CONDUCTED BY APRIL FERRARO, SE #2878 OF RJ O'CONNELL & ASSOCIATES, INC. ON 12/20/2021.

TEST PIT TP-1
ELEV. = 118.5 ±

| DEPTH | SOIL HORIZON/LAYER | SOIL TEXTURE |
|----------|--------------------|--------------|
| 0 - 23" | | FIL/LOAM |
| 23 - 41" | B | SANDY LOAM |
| 41 - 70" | C1 | SANDY LOAM |
| 70 - 86" | C2 | SILTY LOAM |

- ESHGW @ 69" (ELEV. = 112.8±)

| Elevation | Existing Volumes | | | |
|-----------|------------------|--------------|----------------|------------|
| | Area Sq. Ft. | Avg. Sq. Ft. | Volume Cu. Ft. | Cumulative |
| 115 | 3,104 | | 0 | - |
| 116 | 5,298 | 4,201 | 4,201 | 4,201 |
| 117 | 7,712 | 6,505 | 6,505 | 10,706 |
| 118 | 9,020 | 8,366 | 8,366 | 19,072 |
| 119 | 10,829 | 9,924 | 9,924 | 28,996 |
| 120 | 11,627 | 11,228 | 11,228 | 40,224 |
| 120.2 | 11,642 | 11,635 | 2,327 | 42,551 |
| SUM | | | 42,551 | |

| Elevation | Proposed Volumes | | | |
|-----------|------------------|--------------|----------------|------------|
| | Area Sq. Ft. | Avg. Sq. Ft. | Volume Cu. Ft. | Cumulative |
| 115 | 3,104 | | 0 | - |
| 116 | 5,303 | 4,204 | 4,204 | 4,204 |
| 117 | 7,978 | 6,641 | 6,641 | 10,845 |
| 118 | 9,026 | 8,502 | 8,502 | 19,347 |
| 119 | 11,490 | 10,258 | 10,258 | 29,605 |
| 120 | 11,648 | 11,569 | 11,569 | 41,174 |
| 120.2 | 11,648 | 11,648 | 2,330 | 43,504 |
| SUM | | | 43,504 | |

| Elevation | Cumulative Volumes | |
|-----------|------------------------------------|--|
| | Fill Volume of New Structures (CF) | Increase in Flood Storage On-Site (CF) |
| <115 | 0.0 | 0.0 |
| 115-116 | -0.2 | 2.8 |
| 116-117 | -2.2 | 133.8 |
| 117-118 | -50.1 | 85.9 |
| 118-119 | -51.7 | 282.3 |
| 119-120 | -52.7 | 288.3 |
| 120-120.2 | -1.5 | 1.5 |
| SUM | -158 | 795 |

| NO. | DATE | REVISION |
|-----|------------|--|
| 1. | 12/21/2021 | ADDRESSED COMMENTS FROM NEWTON ENGINEERING AND CONSERVATION COMMISSION |

PREPARED BY:
RJO'CONNELL & ASSOCIATES, INC.
CIVIL ENGINEERS, SURVEYORS & LAND PLANNERS
80 MONTVALE AVENUE, SUITE 201 STONHAM, MA 02180
PHONE: 781.279.0180 RJOCNNEL.COM

PREPARED FOR:
AMIR H. NASHAT
CARMEN M. BARNES
100 BOULDER ROAD
NEWTON CENTRE, MA 02459

PROJECT NAME:
100 BOULDER ROAD
NEWTON, MA

SEAL:

DESIGNED BY: CMM
DRAWN BY: CMM
REVIEWED BY: BWT
SCALE: 1" = 10'
DATE: 11/01/2021
DRAWING NAME:

GRADING, DRAINAGE AND UTILITY PLAN

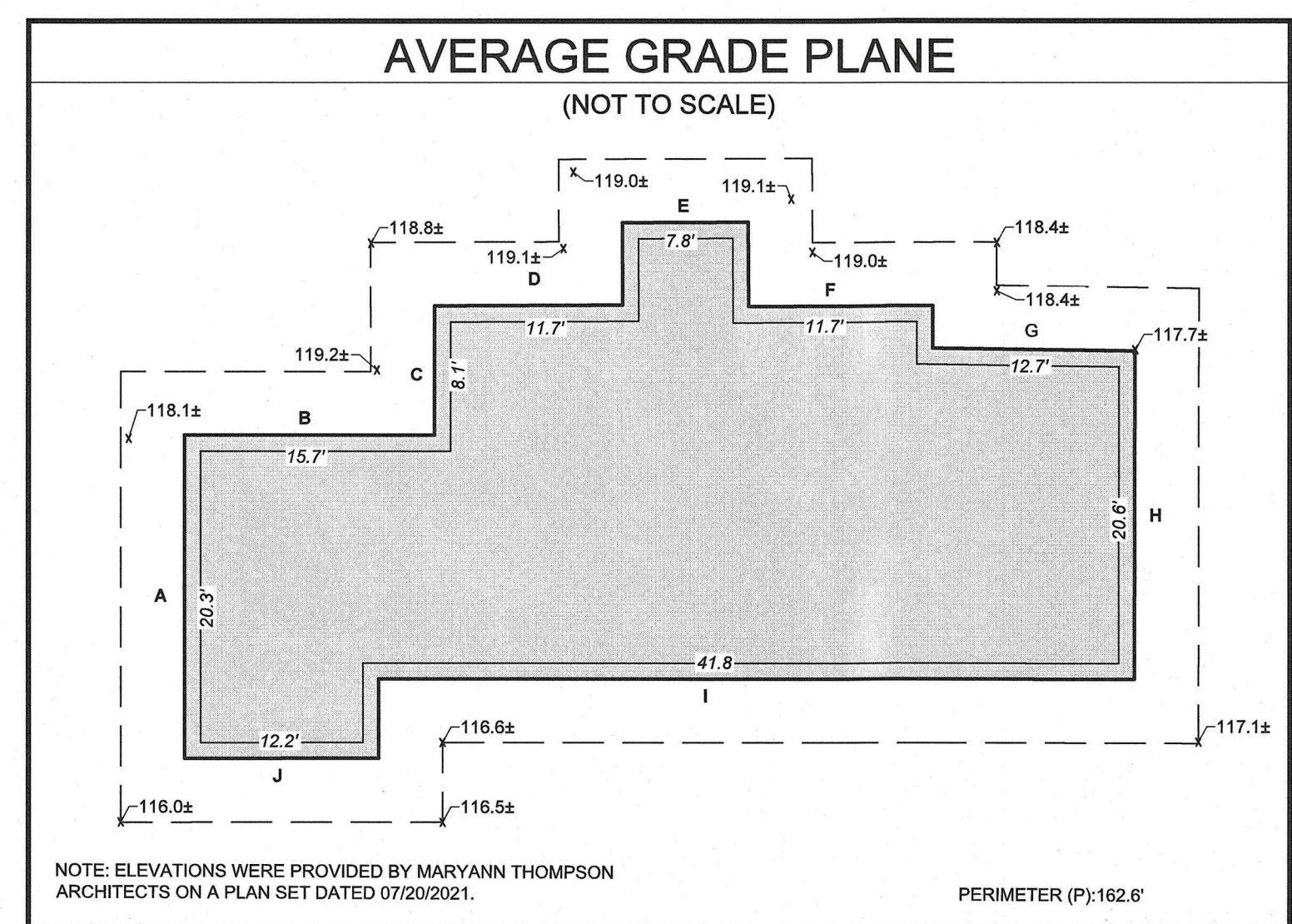
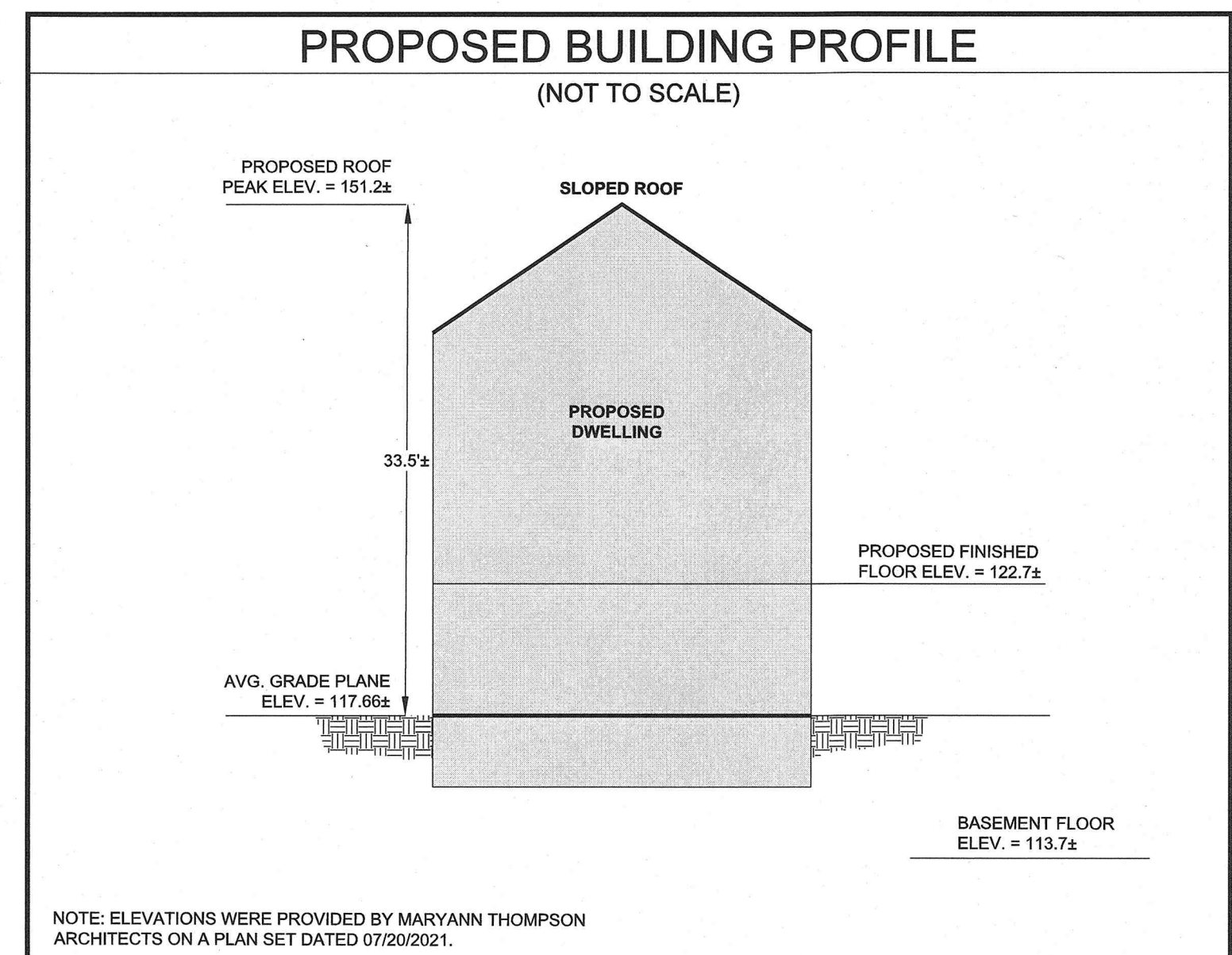
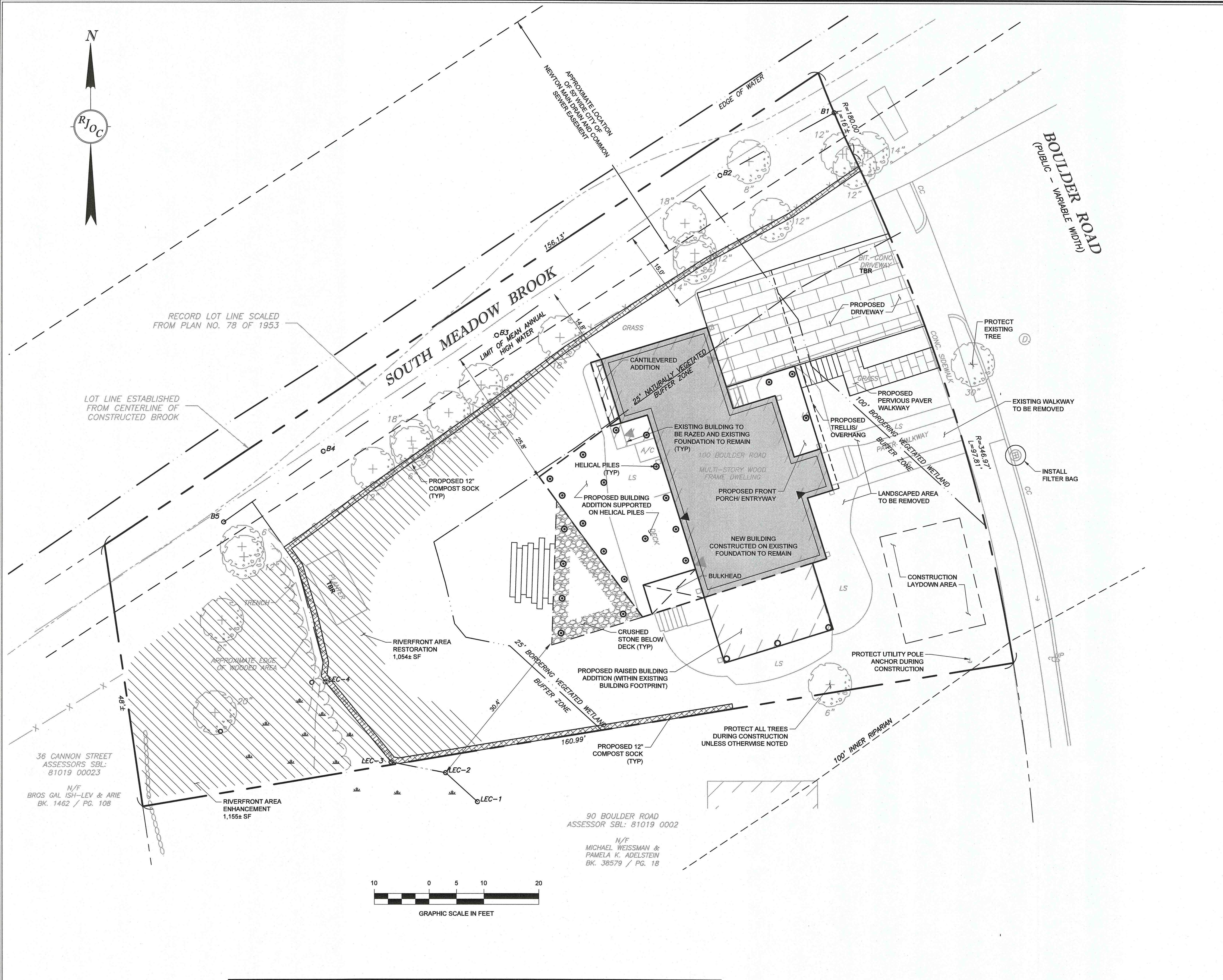
DRAWING NUMBER:
C-1

PROJECT NUMBER:
20150



NOTES

- THE PURPOSE OF THIS PLAN IS TO DEPICT THE RELATIVE LOCATIONS AND DIMENSIONS OF THE BUILDING, DECK, DRIVEWAY AND WALKWAY PROPOSED TO BE CONSTRUCTED ON SITE. THE DIMENSIONS OF THE PROPOSED BUILDING ARE BASED UPON PLANS PREPARED BY MARYANN THOMPSON ARCHITECTS ENTITLED "NEWTON ZERO ENERGY HOUSE BASEMENT PLAN" AND "FIRST FLOOR PLAN" DATED 11/18/2021.
- SEE PLANS PREPARED BY LEC ENVIRONMENTAL FOR DETAILS OF THE RIVERFRONT RESTORATION AND RIVERFRONT ENHANCEMENT AREA.
- EXISTING CONDITIONS DEPICTED ON THIS PLAN ARE BASED UPON A PLAN PREPARED BY RJ O'CONNELL & ASSOCIATES, INC. ENTITLED "EXISTING CONDITIONS SURVEY, 100 BOULDER ROAD, NEWTON, MASSACHUSETTS" DATED 12/21/2021.
- THE LOCATION AND ELEVATIONS OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND PUBLIC AGENCIES AND ARE APPROXIMATE ONLY. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE LOCATION OF UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, GOVERNING PERMITTING AUTHORITY AND "DIG SAFE" AT 1-888-344-7233 AT LEAST SEVENTY-TWO (72) HOURS (EXCLUDING WEEKENDS AND HOLIDAYS) PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES. IF ANY DISCREPANCIES OR CONFLICTS ARE DISCOVERED, THE ENGINEER SHALL BE CONTACTED AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.



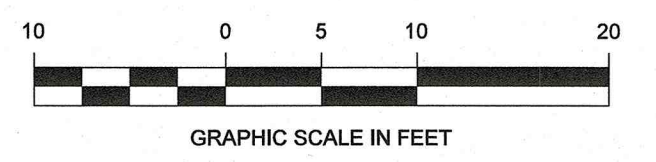
AVERAGE GRADE PLANE CALCULATIONS

| SEGMENT | E1 | E2 | L | $(E1 + E2) / 2 \times L$ |
|---------|--------|--------|-------|--------------------------|
| A | 116.0± | 118.1± | 20.3' | 14.60 |
| B | 118.1± | 119.2± | 15.7' | 11.45 |
| C | 119.2± | 118.8± | 8.1' | 5.92 |
| D | 118.8± | 119.1 | 11.7' | 8.55 |
| E | 119.0± | 119.1± | 7.8' | 5.71 |
| F | 119.0± | 118.4± | 11.7' | 8.54 |
| G | 118.4± | 117.7± | 12.7' | 9.21 |
| H | 117.7± | 117.1± | 20.6' | 14.86 |
| I | 117.1± | 116.6± | 41.8' | 30.10 |
| J | 116.5± | 116.0± | 12.2' | 8.72 |
| SUM | | | 162.6 | 117.66 |

PLAN LEGEND

(NOT ALL FEATURES CONTAINED IN THIS LEGEND APPEAR ON THE PLAN)

| EXISTING | PROPOSED |
|---|--|
| CONCRETE CURB (CC) | EXISTING BUILDING FOUNDATION TO BE MAINTAINED |
| RECORD PLAN (REC) | PROPOSED CANTILEVERED BUILDING ADDITION |
| PROPERTY LINE | PROPOSED RIVERFRONT RESTORATION AND ENHANCEMENT AREA |
| ABUTTING PROPERTY LINE | PROPOSED COMPOST SOCK |
| CHAIN LINK FENCE (X-X) | PROPOSED HELICAL PILE |
| STOCKADE FENCE (□) | |
| 25' NATURALLY VEGETATED BUFFER ZONE | |
| MEAN ANNUAL HIGH WATER | |
| BANK MEAN ANNUAL HIGH WATER FLAG (B3) | |
| WETLAND FLAG BY LEC ENVIRONMENTAL (LEC-1) | |

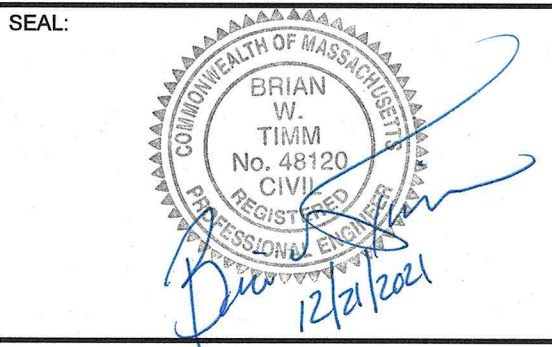


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| 1. | 12/21/2021 | ADDRESSED COMMENTS FROM NEWTON ENGINEERING AND CONSERVATION COMMISSION |

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CARMEN M. BARNES
 100 BOULDER ROAD
 NEWTON CENTRE, MA 02459

PROJECT NAME:
100 BOULDER ROAD
 NEWTON, MA



DESIGNED BY: CMM
 DRAWN BY: CMM
 REVIEWED BY: BWT
 SCALE: 1" = 10'
 DATE: 11/01/2021

DRAWING NAME:
LAYOUT, DEMO AND EROSION CONTROL PLAN

DRAWING NUMBER:
DEMO-1
 PROJECT NUMBER: 20150