REQUEST TO AMEND THE ORDER OF CONDITIONS

Residential Redevelopment

27 Cross Street

Newton, Massachusetts

SUBMITTED TO:
City of Newton
Conservation Commission
1000 Commonwealth Avenue
Newton, MA 02459

PREPARED FOR:
Gabriel Askarinam
142 Bellingham Road
Brookline, MA 02467

PREPARED BY:
Lucas Environmental, LLC
500A Washington Street
Quincy, Massachusetts 02169

IN ASSOCIATION WITH:
Spruhan Engineering, P.C.
Peter Nolan & Associates, LLC

REPORT DATE: July 31, 2023

LUCAS ENVIRONMENTAL, LLC

July 31, 2023

Newton Conservation Commission
1000 Commonwealth Avenue
Newton, MA 02459

Re: Request to Amend the Order of Conditions
27 Cross Street
Newton, MA, 02465
MassDEP File #239-0939

Members of the Newton Conservation Commission:

On behalf of the Applicant and Owner, Gabriel Askarinam, and in association with Spruhan Engineering, P.C., and Peter Nolan & Associates, LLC, Lucas Environmental, LLC (LE) is pleased to submit this request for an Amendment to the Order of Conditions to the Newton Conservation Commission for a proposed residential redevelopment project to include the demolition of the existing residence, and construction of a two-family residential dwelling at 27 Cross Street in Newton, Massachusetts. An Order of Conditions approving the project was issued by the City of Newton Conservation Commission on October 14, 2022 (MassDEP File #239-0939). **This Request for an Amendment is being filed for minor project revisions to address the City of Newton's requirement for two additional parking spaces on the property.**

The entire property is located within disturbed and developed portions of the Riverfront Area and Bordering Land Subject to Flooding. Proposed work will occur within Riverfront Area, Bordering Land Subject to Flooding, the 100-Foot Buffer Zone to Inland Bank, and the 25-Foot Buffer Zone under the Newton Conservation Commission's (NCC) NVB Policy. This Request for an Amendment is submitted in accordance with the Massachusetts Wetlands Protection Act (WPA; M.G.L. Ch. 131, Section 40) and implementing regulations (310 CMR 10.00 et seq.), and the Newton Floodplain Ordinance (Sec. 22-22) and Stormwater Ordinance (Z-45 30-5(c)).

This application includes the revised Civil Plans dated August 30, 2022, revised through July 24, 2023, a summary memorandum from Spruhan Engineering, P.C. detailing the project revisions, revised Stormwater Report, and updated regulatory compliance and mitigation sections. The original application details the existing conditions and wetland resource areas on the site.

1.0 PROPOSED WORK

Proposed work includes the demolition of an existing wood frame residential dwelling, shed/garage, and driveway, and construction of a new two-family residential dwelling, utilities, stormwater infiltration BMP's, and resource mitigation area. The proposed structure is designed to meet the requirements of the Newton Stormwater Management Ordinance and the Newton Floodplain Ordinance. Design details are provided on the revised Site Plans. As noted in the original Notice of Intent application, the site is currently developed, and lies within the 100-Foot Riverfront Area (RFA) and Bordering Land Subject to Flooding (BLSF). Therefore, all work proposed is unavoidably within these resource areas.

The City has requested that two additional parking units needs to be added. To achieve this, the following modifications have been made: the front unit has been moved to the right, freeing up a 12-foot wide space, which will accommodate two parking units. This shifts the building marginally into the disturbed 25-Foot Buffer Zone along Cheese Cake Brook; however, the structure is still proposed further from brook than the existing house.

The proposed structure will be constructed on piers to elevate the structure above the 100-year flood elevation, and additional flood compensatory area is proposed. The proposed project will result in an increase in the flood storage capacity on the site of approximately 2,711.7 cubic feet, as detailed on the project Site Plans and Spruhan memorandum. This has been reduced by approximately 329 cubic feet from the approved design.

The proposed project will result in an overall increase in impervious area on the lot of approximately 1,740.65 square feet (reduced from 1,762 square feet with the approved design). Runoff from impervious areas on the lot will be infiltrated on-site. Runoff from paved areas will be directed to a subsurface infiltration system proposed at the front of the site consisting of six Storm Tech units. Roof runoff will be directed to the crushed stone infiltration system proposed at the rear of the proposed dwelling. Details of the design of the infiltration system are provided on the project Site Plans. Proposed mitigation measures are described under Section 2.0 below. Further detail is provided in the Stormwater Report, dated August 30, 2022, and revised through June 15, 2023, prepared by Spruhan Engineering.

Erosion control/sediment barriers are proposed consisting variously of a 12-inch diameter silt sock and silt fence with straw bales. In addition, a crushed stone construction entrance is proposed to minimize transport of sediment onto public roads. Locations and details of the erosion controls are provided on the Site Plans.

1.1 Regulatory Compliance

The proposed project is the redevelopment of previously developed Riverfront Area. As stated under 310 CMR 10.58(5): *Notwithstanding the provisions of 310 CMR 10.58(4)(c) and (d), the issuing authority may allow work to redevelop a previously developed riverfront area, provided the proposed work improves existing conditions. Redevelopment means replacement, rehabilitation or expansion of existing structures, improvement of existing roads, or reuse of degraded or previously developed areas. A previously developed riverfront area contains areas degraded prior to August 7, 1996 by impervious surfaces from existing structures or pavement, absence of topsoil, junkyards, or abandoned dumping grounds. Work to redevelop previously developed riverfront areas shall conform to the following criteria:*

(a) At a minimum, proposed work shall result in an improvement over existing conditions of the capacity of the riverfront area to protect the interests identified in M.G.L. c. 131 § 40. When a lot is previously developed but no portion of the riverfront area is degraded, the requirements of 310 CMR 10.58(4) shall be met.

This criterion is met. The lot is previously developed and contains degraded areas. Proposed work will result in an improvement over existing conditions relative to increased flood storage capacity, improved stormwater management with runoff being infiltrated, and habitat mitigation through establishment of a naturalized wildflower area.

(b) Stormwater management is provided according to standards established by the Department.

This criterion is met. The project is not subject to the MassDEP stormwater management regulations and fully complies with City of Newton stormwater standards.

(c) Within 200 foot riverfront areas, proposed work shall not be located closer to the river than existing conditions or 100 feet, whichever is less, or not closer than existing conditions within 25 foot riverfront areas, except in accordance with 310 CMR 10.58(5)(f) or (g).

Existing development (landscaping) is present to the Bank of Cheese Cake Brook. The limit of proposed work (at the erosion control barrier) is approximately seven feet from the Bank at its closest point. This does not include the proposed Mitigation Area, which abuts the Bank.

(d) Proposed work, including expansion of existing structures, shall be located outside the riverfront area or toward the riverfront area boundary and away from the river, except in accordance with 310 CMR 10.58(5)(f) or (g).

This criterion is met. The entire site is located within the inner Riparian Zone and the structure is proposed as far from the brook as practicable. The new structure is located further (22.0 feet) from the brook than the existing residence (18.1 feet).

(e) The area of proposed work shall not exceed the amount of degraded area, provided that the proposed work may alter up to 10% if the degraded area is less than 10% of the riverfront area, except in accordance with 310 CMR 10.58(5)(f) or (g).

Per 310 CMR 10.58(4)(d) of the WPA, the Conservation Commission *may allow the alteration of up to 5,000 square feet or 10% of the riverfront area within the lot, whichever is greater, on a lot recorded on or before October 6, 1997.* As such, the Commission may allow the additional 1,740.65 square feet of new impervious surface as it is well below the 5,000 square feet for new development. The Commission may review the alterations on a site with these conditions under both the new and redevelopment standards of the RFA, assuming all impacts are reviewed cumulatively.

(f) When an applicant proposes restoration on-site of degraded riverfront area, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), and (e) at a ratio in square feet of at least 1:1 of restored area to area of alteration not conforming to the criteria. Areas immediately along the river shall be selected for restoration. Alteration not conforming to the criteria shall begin at the riverfront area boundary. Restoration shall include:

Not applicable – there are no on-site areas to restore degraded areas. Impacts to Riverfront Area will be mitigated in in accordance 310 CMR 10.58(5)(g) as described below.

(g) When an applicant proposes mitigation either on-site or in the riverfront area within the same general area of the river basin, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), or (e) at a ratio in square feet of at least 2:1 of mitigation area to area of alteration not conforming to the criteria or an equivalent level of environmental protection where square footage is not a relevant measure. Alteration not conforming to the criteria shall begin at the riverfront area boundary. Mitigation may include off-site restoration of riverfront areas, conservation restrictions under M.G.L. c. 184, §§ 31 through 33 to preserve undisturbed riverfront areas that could be otherwise altered under 310 CMR 10.00, the purchase of development rights within the riverfront area, the restoration of bordering vegetated wetland, projects to remedy an existing adverse impact on the interests identified in M.G.L. c. 131, § 40 for which the applicant is not legally responsible, or similar activities undertaken voluntarily by the applicant which will support a determination by the issuing authority of no significant adverse impact. Preference shall be given to potential mitigation projects, if any, identified in a River Basin Plan approved by the Secretary of the Executive Office of Energy and Environmental Affairs.

The proposed project will result in an overall increase in impervious area on the lot of approximately 1,740.65 square feet, reduced from 1,762 square feet. There are several aspects of mitigation proposed at the site. These include establishment of a 3,760 square foot Riverfront Mitigation Area providing greater than 2:1 mitigation as required, increased from 3,600 square feet as previously approved. The mitigation area was increased to provide additional on-site mitigation, in addition to providing the required 2:1 ratio for the alternative design concepts that increased impervious areas for additional parking closer to the brook.

Additional mitigation includes providing an increase in flood storage volume of approximately 2,711.7 cubic feet, and providing infiltration of runoff from impervious surfaces on the site which currently has no infiltration BMP's. Details regarding stormwater management and compensatory flood storage volume are provided on the Site Plans.

1.2 Alternatives Analysis

Because the site lies entirely within the inner Riverfront Area and BLSF, there are no alternatives other than a no-build alternative that would avoid impacts to these resource areas. The proposed alternative places the structure as far as practicable from the brook and toward the front of the lot to preserve a consolidated area of Riverfront Area to the rear of the lot. Other configurations were considered; however, it required location of the new structure closer to the brook.

The Applicant also examined an alternative option for the two parking spaces. This alternative proposed the parking spaces and driveway to the right of the proposed building. This would result in additional impact in the 25-Foot Buffer Zone, but also add an element of parking closer to the brook. The design with the structure located closer to the brook than parking is a better option to prevent potential spills and oil/sand from entering the brook.

2.0 PROPOSED MITIGATION

The proposed project is the redevelopment of previously developed Riverfront Area and will result in an overall increase in impervious area on the lot of approximately 1,740.65 square feet. There are several aspects of mitigation proposed at the site. These include establishment of a 3,760 square foot Riverfront Mitigation Area (the "Mitigation Area"), providing an increase in flood storage volume of approximately 2,711.7 cubic feet, and providing infiltration of runoff from impervious surfaces on the site which currently has no infiltration BMP's. Details regarding stormwater management and compensatory flood storage volume are provided on the Site Plans.

2.1 Mitigation Area

The intent of the proposed Mitigation Area is to improve the inner riparian zone over existing conditions by increasing the functions and values provided by this area. Currently, the area proposed for mitigation consists of lawn and several Norway maples. The Mitigation Area will be established adjacent to Cheese Cake Brook at the rear (west end) of the property and will include the entire width of the property, which is entirely within the inner riparian zone.

The Mitigation Area has been designed with respect to the Newton Conservation Commission (NCC) Naturally Vegetated Buffer (NVB) Policy and the Newton Mitigation Planting Guidelines. The NVB Policy seeks to maintain or establish a 25-foot naturally vegetated buffer of native trees, shrubs, and low-growing vegetation to the maximum extent feasible immediately upgradient of the edge of a resource area. Due to the narrow nature of the lot, it is proposed to establish the Mitigation Area at the rear of the property abutting the brook.

In accordance with the Newton Mitigation Planting Guidelines, the area is designed to be a consolidated rather than a narrow strip; to not include walls or fences within the Mitigation Area; to be sited away from the buildings and road; and to utilize native plants with high habitat value. The proposed structure has been shifted almost entirely outside the 25-Foot Buffer Zone and existing trees will be maintained along the brook.

The approximately 3,760 square foot Mitigation Area will be planted with tree, shrub, and herbaceous species suitable for the site and seeded with a wildflower seed mix. The proposed tree and shrub species are listed in Table 2-1 based upon MassDEP guidelines as well as the Newton Guidelines. Based upon the increase of the mitigation area by 160 square feet, one additional tree has been included in the planting plan, beyond the approved specifications. The revised Planting Plan is included.

The New England Wildflower seed mix, available from New England Wetland Plants, Inc., (or other appropriate seed mix approved by the Newton Conservation Commission) is proposed for seeding this area. The composition of this seed mix is indicated in Table 2-2.

2.2 Mitigation Area Construction Sequence

Soil Preparation

The proposed Mitigation Area currently consists of lawn and several Norway maple trees. In order to prepare the area for seeding and planting, the lawn will be shallow tilled/scarified, being careful not to significantly damage any existing shallow tree roots. Existing soil will remain in place, and no regrading is proposed for the Mitigation Area (other than the proposed flood compensation cut that is located within this area).

Shrub and Tree Planting

The shrubs and trees used for re-vegetation of the Mitigation Area will be obtained from a reputable plant nursery. Shrubs will generally measure approximately one to three feet tall in height (one-gallon containers), and trees will have a minimum caliper size of one inch, with root balls secured with burlap. Rootstock will be grouped within the Mitigation Area to approximate natural communities. Plantings should be performed by hand under the supervision of qualified wetland scientist. The proposed plantings shall be placed at suitable locations based on existing soil conditions and tree locations. Table 2-1 on the following page represents the composition and abundance of plant species to be planted within the Mitigation Area.

Seeding

A New England wildflower seed mixture (or equivalent) will be used for the Mitigation Area. The New England Wildflower Mix, available from New England Wetland Plants, Inc., contains a selection of native wildflowers and grasses to ensure that a variety of species will survive in conditions from dry to moist. It is an appropriate seed mix for roadsides, commercial landscaping, parks, golf courses, industrial sites and areas undergoing ecological restoration. The mix can be applied by hydro-seeding (no tackifiers), by mechanical spreader, or by hand. Lightly rake or roll after sowing to increase seed to soil contact. Best results are obtained with a Spring or late fall dormant seeding. Table 2-2 contains the list of species in the seed mix to be used in the Mitigation Area. Approximately two (2) pounds of the New England Wildflower Mix (or equivalent) will be required within the Mitigation Area.

2.3 Monitoring

Monitoring of the Mitigation Area to ensure successful plant establishment will be performed by a qualified wetland scientist for a minimum two years and in accordance with all applicable permit conditions. The Mitigation Area will be monitored once annually during the growing season for two growing seasons. An annual report will be prepared and submitted to the Newton Conservation Commission describing the status of the Mitigation Area, including percent vegetative cover, survival of seeded vegetation, evidence of invasive species, evidence of erosion or sedimentation and any recommended remediation, if necessary. Any invasive species management recommended will follow the NCC Invasive Plant Control guidelines.

TABLE 2-1 MITIGATION AREA PLANTING SCHEDULE				
Common Name	**Scientific Name**	**Status**	**Size**	**Quantity**
Trees				33
Red Maple	*Acer rubrum*	FAC	1-3” caliper	7
Red Oak	*Quercus rubra*	FACU	1-3” caliper	6
Yellow Birch	*Betula alleghaniensis*	FAC	1-3” caliper	6
Black Cherry	*Prunus serotina*	FACU	1-3” caliper	6
Shrubs				108
American Hazelnut	*Corylus americana*	FACU	1-3’	14
Maple-leaved Viburnum	*Viburnum acerifolium*	UPL	1-3’	14
Mountain Laurel	*Kalmia latifolia*	FACU	1-3’	14
Black Chokeberry	*Aronia melanocarpa*	FAC	1-3’	14
Lowbush Blueberry	*Vaccinium angustifolium*	FACU	6-12”	14
Herbaceous				200

TABLE 2-2 NEW ENGLAND WILDFLOWER SEED MIX		
Species	**Latin Name**	**Indicator Status**
Little Bluestem	*Schizachyrium scoparium*	FACU
Indian Grass	*Sorghastrum nutans*	UPL
Partridge Pea	*Chamaecrista fasciculata*	FACU
Virginia Wild Rye	*Elymus virginicus*	FACW-
Canada Wild Rye	*Elymus canadensis*	FACU+
Red Fescue	*Festuca rubra*	FACU
Butterfly Milkweed	*Asclepias tuberosa*	NI
New York Ironweed	*Vernonia noveboracensis*	FACW+
Evening Primrose	*Oenothera biennis*	FACU-
New England Aster	*Aster novae-angliae (Symphyotrichum novae-anglia*)	FACW-
Black Eyed Susan	*Rudbeckia hirta*	FACU-
Early Goldenrod	*Solidago juncea*	NI
Hollow-Stem Joe Pye Weed	*Eupatorium fistulosum (Eutrochium fistulosum)*	FACW
Starved/Calico Aster	*Aster lateriflorus (Symphyotrichum lateriflorum)*	FACW

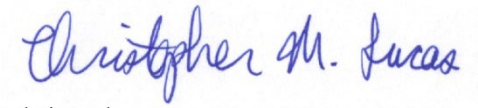
3.0 SUMMARY

It is LE's opinion, based on our professional education, training, and familiarity with the project site, that the proposed work will not have any adverse effect on any interests identified in the Wetlands Protection Act. The proposed design achieves the goals of the Applicant, while being sensitive to adjacent regulated resource areas. Accordingly, the Applicant respectfully requests that the Conservation Commission consider a finding that the proposed design is adequately protective of the interests identified in the Wetlands Protection Act and amend the Order of Conditions approving the project as described in this Notice of Intent and as shown on the attached Site Plans.

This Request to Amend the Order of Conditions application package includes the information listed on the following page. We respectfully request that you place this matter on your agenda for the August 17, 2023, Public Hearing.

If you have any questions, please do not hesitate to contact me at 617.405.4141 or cml@lucasenviro.com or Joseph Orzel at 617.405.4118 or jho@lucasenviro.com. Thank you for your consideration in this matter.

Sincerely,
LUCAS ENVIRONMENTAL, LLC



Christopher M. Lucas, PWS, CWS, RPSS
Environmental Consultant/Wetland & Soil Scientist

Enclosures:

1. Conservation Commission Wetland Application Coversheet/Checklist
2. Revised WPA Form 3 – Page 3
3. Abutter Information
4. Copy of Local $50 Filing Fee Check
5. Spruhan Plan Change Memorandum
6. Revised Planting Plan
7. Revised Stormwater Report
8. Revised Site Plans
9. Turn Analysis

cc: Gabriel Askarinam (Applicant/Owner)
MassDEP – NERO

Ruthanne Fuller
Mayor

City of Newton, Massachusetts
Department of Planning and Development
1000 Commonwealth Avenue Newton, Massachusetts 02459

Telephone
(617) 796-1120
Telefax
(617) 796-1086
www.newtonma.gov

Barney S. Heath
Director

Conservation Commission Wetland Application Coversheet/Checklist

Date	July 31, 2023

Fill in all white cells completely

Parcel Address Sec/Block/Lot Book & Page	27 Cross Street 30 / 007 / 0019 Book 12505 / Page 463 Book 19297 / Page 454	**Applicant** name Address Email Phone	Gabriel Askarinam 142 Bellingham Road gabi327@gmail.com 516.508.6335
Owner name Address Email Phone	Gabriel Askarinam 142 Bellingham Road gabi327@gmail.com 516.508.6335	**Representative** Address Email Phone	Lucas Environmental, LLC 500A Washington Street, Quincy, MA 02169 jho@lucasenviro.com 617.405.4118

Wetland type	Riverfront Area	**sf/cf affected**	16,589 sf	**Relevant Perf. Standards**	**10.** 58(4)
Wetland type	BLSF	**sf/cf affected**	2,711 cf (gain)	**Relevant Perf. Standards**	**10.** 57(4)(a)
Wetland type		**sf/cf affected**		**Relevant Perf. Standards**	**10.**

Components of a Complete NOI Application

State Form: NOI Form 3	Included? ☑ Yes ☐ No
Engineered Plan* title(s) Plan date Plan stamped by *if legible, plans should be 11"x17"	27 Cross Street, Newton, Massachusetts (5 sheets) August 30, 2022 EDMOND T. SPRUHAN (Professional Engineer) and PETER J. NOLAN (Professional Land Surveyor).
Narrative	Included? ☑ Yes ☐ No
Proof that all relevant perf. standards are met	Included? ☑ Yes ☐ No
Locus map	Included? ☑ Yes ☐ No Original Application
Delineation lines (backup material)	Included? ☑ Yes ☐ No Original Application
Fees ● Fee Transmittal form ● City portion of state filing fee $ N/A ● City's separate filing fee $50	 Included? ☑ Yes ☐ No Included? ☑ Yes ☐ No Original Application Included? ☑ Yes ☐ No
Abutter Information ● Certified abutters list (within 100') ● Newton's Abutter notification form ● Affidavit & proof -- bring to hearing	 Included? ☑ Yes ☐ No Included? ☑ Yes ☐ No *Present them at the hearing*
Other Attachments, e.g.	
Planting Plan	Included? ☑ Yes ☐ No ☐ Not Applicable
Floodplain analysis	Included? ☑ Yes ☐ No ☐ Not Applicable
Stormwater analysis	Included? ☑ Yes ☐ No ☐ Not Applicable
Riverfront Area Alternatives Analysis	Included? ☑ Yes ☐ No ☐ Not Applicable
Restoration or mitigation summary	Included? ☑ Yes ☐ No ☐ Not Applicable
Phasing/Sequencing plan, O&M plan, etc.	Included? ☐ Yes ☑ No ☐ Not Applicable

Conservation Commission Wetland Permit Process

RDA	NOI	Steps in Permitting Process
	1.	**Get a certified list of all abutters within 100' of property lines from the Newton Assessor's Office.**
1.	2.	**Submit applications by noon of the Tuesday deadline** (16 days before the desired hearing) to**:** a. Newton Conservation Commission: • **Complete NOI or RDA application packet** via electronic submission through NewGov. For NOIs use the application checklist to ensure completeness. • **Application coversheet, state forms, narrative, photocopies of checks, ALL attachments** • **Plans** (11"x17" if legible) stamped by engineer if any aspect of the project requires engineering. • **Application fees** via mail to Newton Conservation Office, 1000 Commonwealth Ave., Newton, MA 02459. For NOIs use the application checklist to ensure completeness. • **Check to City of Newton** for city portion of the state filing fee • **$50 check to City of Newton** for city filing fee b. Mass DEP Northeast Regional Office: 205B Lowell Street, Wilmington, MA 01887 (1 paper copy) • **Complete NOI or RDA application packet** (hard copy) *AND* **Photocopy of the two state filing fee checks** c. DEP Lock Box: Box 4062, Boston MA 02211 • **Check to Commonwealth of Mass.** for state portion of the state fee *AND* **Fee transmittal form**
		*The Conservation Agent will determine application completeness and assign **a public hearing/meeting date and time**.*
	3.	Once you have the date and time of the hearing, using the City's "**Notification to Abutters Form**", **notify all abutters within 100' of the property line** via **certified mail**, **certificate of mailing,** or **hand delivery with signatures**.
		*The Conservation Agent will **place a legal ad in the Boston Herald** and the **Applicant will receive an email with instructions to pay.***
	4.	**Stake the project.** 2 weeks in advance of the public hearing, stake all proposed structures, erosion control barriers, stormwater systems, etc. within Con Com jurisdiction.
		*The Conservation Agent will perform a **site visit** before the public hearing to confirm existing conditions and proposed work. If you wish to be informed of the time of the visit, please contact the Con Com office.*
		*One week prior to the meeting, when the agenda is posted, the Conservation Agent will **send all Applicants detailed Conservation staff notes and recommendations** (from the Conservation Commission's detailed agenda).*
	5.	**Applicants may submit revised materials** (via NewGov) **by the Tuesday prior to the meeting** (to be reviewed and discussed at the meeting) or **may request a continuation** to a future Conservation Commission meeting.
2.	6.	**Attend the public hearing/meeting.** The applicant or representative is expected to **provide proof of abutter notification,** briefly **present the project**, and **answer any questions about possible impacts on wetlands.** At the end of the hearing, the Con Com will either: • **Issue a Determination of Applicability** ("negative" determination means no further permitting is needed), • **Issue an Order of Conditions** (OOC) approving or denying the project, **or** • **Approve a continuation** of the public hearing, to allow time for additional information to be provided.
3.	7.	**Receive and read the decision and understand the conditions.** Contact the Con Com if you have any questions. Some conditions are temporary (such as maintaining erosion controls), and some are perpetual (such maintaining restoration planting areas or limiting the use of fertilizers and outdoor lighting).
	8.	**Wait-out the 10-Day appeal period.** A decision of the Con Com can be appealed to MassDEP by any abutter, applicant, or 10-citizen group within 10 business days of the decision.
	9.	**Record the Order** at the Registry of Deeds. **Provide proof of recording** to the Conservation office.
	10.	**Install MassDEP file number sign and erosion controls**.
	11.	**Schedule and attend a pre-construction site visit.** Contact the Conservation office to schedule the site visit.
4.	12.	**Execute the project.** The project must be completed within 3 years, unless an extension of the permit is issued.
	13.	**Request a Certificate of Compliance (COC)** via NewGov**.** Once the project is complete and all conditions have been satisfied, request a COC from the Conservation office by submitting: (1) DEP **Form 8a**, (2) a stamped **as-built plan**, and (3) a **letter from the engineer** stating that everything is in substantial compliance with the approved plans and OOC.
		*The Con Com will **perform a site visit** to ensure compliance, and will issue a COC if appropriate.*
	14.	**Record the Certificate of Compliance (COC)** at the Registry of Deeds to remove the cloud from the title. **Provide proof of recording to the Conservation office**.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
Newton
City/Town

B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Bank	1. linear feet	2. linear feet
b. ☐ Bordering Vegetated Wetland	1. square feet	2. square feet
c. ☐ Land Under Waterbodies and Waterways	1. square feet 3. cubic yards dredged	2. square feet

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. ☒ Bordering Land Subject to Flooding	16,589 1. square feet 1,228 3. cubic feet of flood storage lost	2. square feet 3,939.7 4. cubic feet replaced
e. ☐ Isolated Land Subject to Flooding	1. square feet 2. cubic feet of flood storage lost	3. cubic feet replaced
f. ☒ Riverfront Area	Chees Cake Brook 1. Name of Waterway (if available) - **specify coastal or inland**	

2. Width of Riverfront Area (check one):

☐ 25 ft. - Designated Densely Developed Areas only

☐ 100 ft. - New agricultural projects only

☒ 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: 16,589 sf (entire lot) square feet

4. Proposed alteration of the Riverfront Area:

a. total square feet	b. square feet within 100 ft.	c. square feet between 100 ft. and 200 ft.
4,339 sf (impervious area)	4,339 sf (impervious area)	0 sf

5. Has an alternatives analysis been done and is it attached to this NOI? ☒ Yes ☐ No

6. Was the lot where the activity is proposed created prior to August 1, 1996? ☒ Yes ☐ No

3. ☐ Coastal Resource Areas: (See 310 CMR 10.25-10.35)

Note: for coastal riverfront areas, please complete **Section B.2.f**. above.

Notification to Abutters under the Massachusetts Wetlands Protection Act and Newton Wetlands Protection Ordinance

(to be provided 7 days prior to the public hearing)

In accordance with the Massachusetts Wetlands Protection Act (MGL Ch. 131, Sec. 40) and the Newton Floodplain Protection Ordinance (Sec. 22-22. Floodplain/Watershed Protection Provisions), you are hereby notified of the following.

The applicant has filed a **Wetlands Protection Act Notice of Intent** with the Newton Conservation Commission.

Applicant: Gabriel Askarinam

Project Location: 27 Cross Street, Newton, MA

Project Site Section-Block-Lot: 31-007-0019

Project Description: The Applicant is proposing an amendment to the approved construction of a new two-family dwelling, stormwater infiltration system, and resource mitigation area.

A Public Hearing will be held remotely via Zoom.

During the COVID-19 outbreak, Gov. Baker issued an Emergency Order on March 12, 2020, allowing public bodies greater flexibility utilizing technology in the conduct of public meetings under the Open Meeting Law. The City of Newton implemented remote participation procedures allowed under Gov. Baker's Emergency Order for all boards, committees, and commissions.

The Public Hearing will be held remotely on (date and time): August 17, 2023 at 7:00PM

The Zoom link for the public hearing can be found at the top of the agenda, which can be found here: https://www.newtonma.gov/government/planning/boards-commissions/conservation-commission/meeting-documents

Printed notice will be published in the Boston Herald at least five (5) days in advance of the hearing.

Copies of the Notice of Intent:

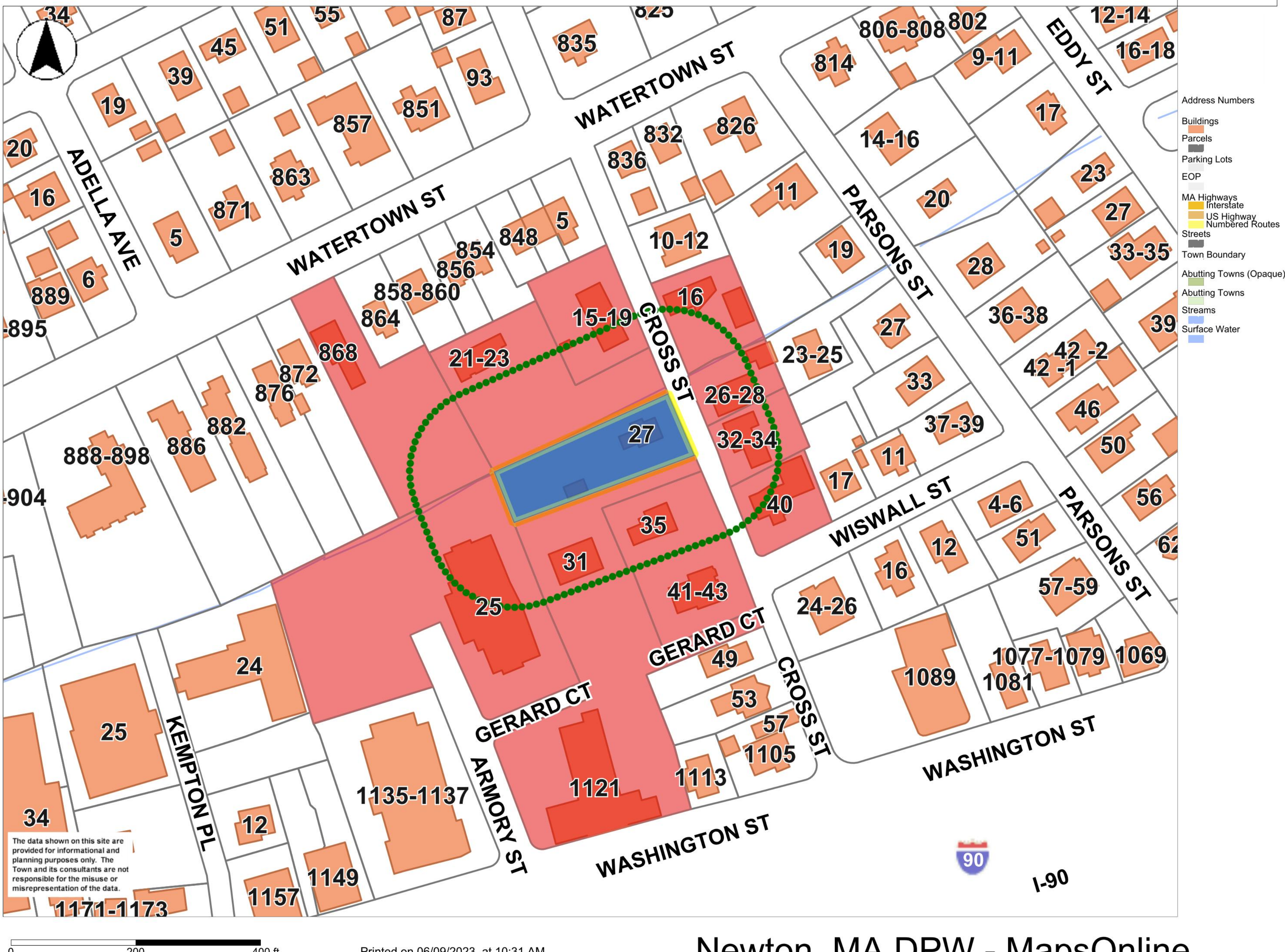
Can be found on the Newton Conservation Commission's website "Meeting Documents" tab: https://www.newtonma.gov/government/planning/boards-commissions/conservation-commission/meeting-documents)

Can be requested from the Northeast Regional Office of the Department of Environmental Protection by calling 978-694-3200.

Questions can be directed to:

The Newton Conservation Commission by calling 617-796-1134 or emailing **jsteel@newtonma.gov** **or** **emenounos@newtonma.gov**.

This is a notification required by law. You are receiving this notification because you have been identified as the owner of land abutting another parcel of land for which certain activities are proposed. Those activities require a permit under the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40).



Printed on 06/09/2023 at 10:31 AM

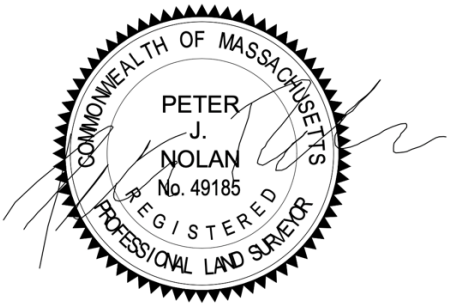
Newton, MA DPW - MapsOnline

SPRUHAN ENGINEERING, P.C.
80 Jewet Street (Suite 2), Newton, MA
Phone: 617-816-0722 / 617-782-1533

Date of this memo: JUNE 15, 2023

I hereby set my stamp as attestation that the only changes to the plans referenced here are those enumerated below.

Professional Engineer



Professional Land Surveyor

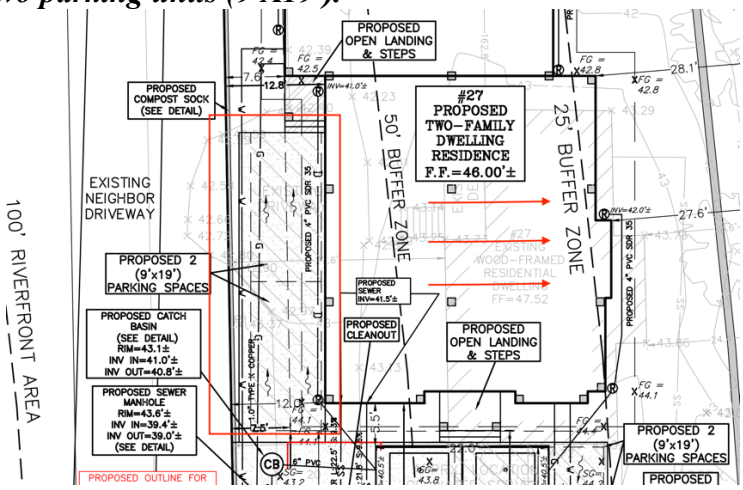
Engineer making revisions	Edmond Spruhan (edmond@spruhaneng.com)
Land Surveyor making revisions	Peter Nolan (pnolan@pnasurveyors.com)

Site	27 Cross Street, Newton, MA
Title of plan	Civil Plan – 27 Cross St., Newton, MA
Date of most recent plan revisions	June 15, 2023

- **Sheet 2 of 5**

  - **Response to City Request:** The city has requested that two additional parking units needs to be added, to achieve this the following modifications have been made.

The front unit has been moved to the right, freeing up a 12 foot wide space, which will accommodate two parking units (9'X19').



The cut and fill has been recalculated, to verify that it is still in compliance.

FLOODPLAIN IMPACT & MITIGATION SUMMARY			
ELEVATION (FT)	FLOODPLAIN IMPACT (CF)	FLOOD MITIGATION (CF)	FLOODPLAIN NET (CF)
40-41	2.0	14.2	12.2
41-42	6.0	402.5	396.5
42-43	270.4	532.0	261.6
43-44	776.2	1335.0	558.8
44-45	115.6	1104.0	988.4
45-45.5	57.8	552.0	494.2
TOTALS	**1228.0**	**3939.7**	**2711.7**

FLOODPLAIN NET = FLOODPLAIN CUT - FLOODPLAIN FILL;

FLOODPLAIN FILL IT'S SUM OF FILL VOLUME FROM TABLE BELOW FOR PROPOSED BUILDING AND PIERS;

FLOODPLAIN CUT IT'S SUM OF CUT VOLUME FROM TABLE BELOW FOR EXISTING BUILDING.

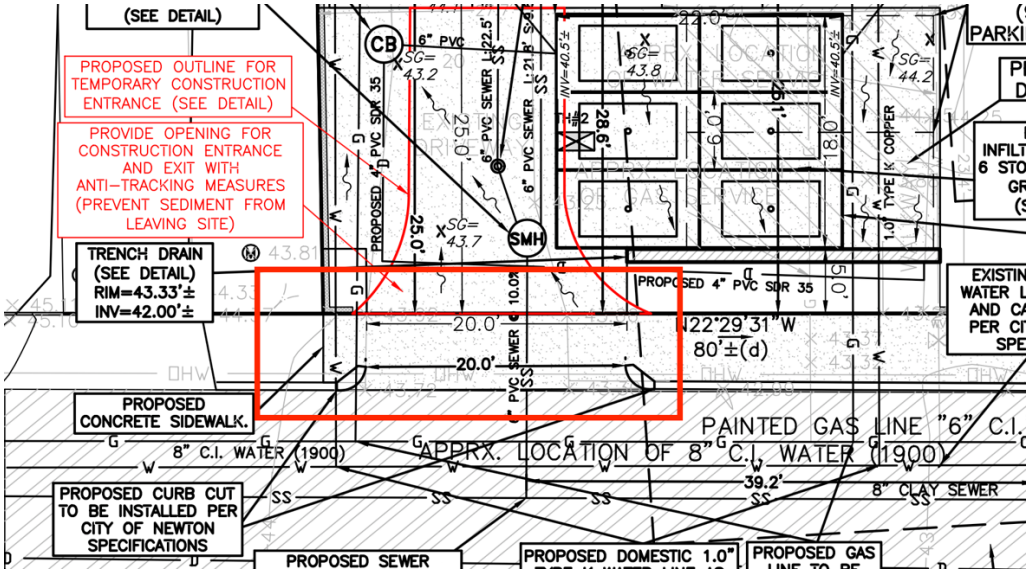
FOR EXIST. BUILDING (FOUNDATION, STEPS, WALKWAY, SHED)				
ELEVATION (FT)	CUT AREA (SF)	HEIGHT (FT)	CUT VOLUME (CF)	
40-41	71.0	0.2	14.2	(COMPENSATION CUT)
41-42	402.5	1.0	402.5	(SHED, DRIVEWAY)
42-43	532.0	1.0	532.0	(SHED, DRIVEWAY)
43-44	1335.0	1.0	1335.0	(SHED, DRIVEWAY, FOUNDATION)
44-45	1104.0	1.0	1104.0	(SHED, FOUNDATION)
45-45.5	1104.0	0.5	552.0	(SHED, FOUNDATION)
TOTAL			**3939.7**	

FOR PROPOSED BUILDING (STEPS, WALKWAY, DRIVEWAY)				
ELEVATION (FT)	FILL AREA (SF)	HEIGHT (FT)	FILL VOLUME (CF)	
40-41	0.0	1.0	0.0	
41-42	0.0	1.0	0.0	
42-43	254.4	1.0	254.4	(STEPS, PARKING)
43-44	748.2	1.0	748.2	(STEPS, PARKING, DRIVEWAY)
44-45	87.6	1.0	87.6	(STEPS)
45-45.5	87.6	0.5	43.8	(STEPS)
TOTAL			**1134.0**	

FOR PROPOSED BUILDING (PIERS)			
ELEVATION (FT)	FILL AREA (SF)	HEIGHT (FT)	FILL VOLUME (CF)
40-41	2.0	1.0	2.0
41-42	6.0	1.0	6.0
42-43	16.0	1.0	16.0
43-44	28.0	1.0	28.0
44-45	28.0	1.0	28.0
45-45.5	28.0	0.5	14.0
TOTAL			**94.0**

Pier = 12" x 12" = 1

The entrance to the driveway has been modified, in order to ensure the maneuverability of the vehicles.



- **Stormwater Report**

The entire infiltration system has been recalculated, verifying that the initial design conditions continue being met, as can be seen in the attached stormwater report.

- **Turn Analysis**

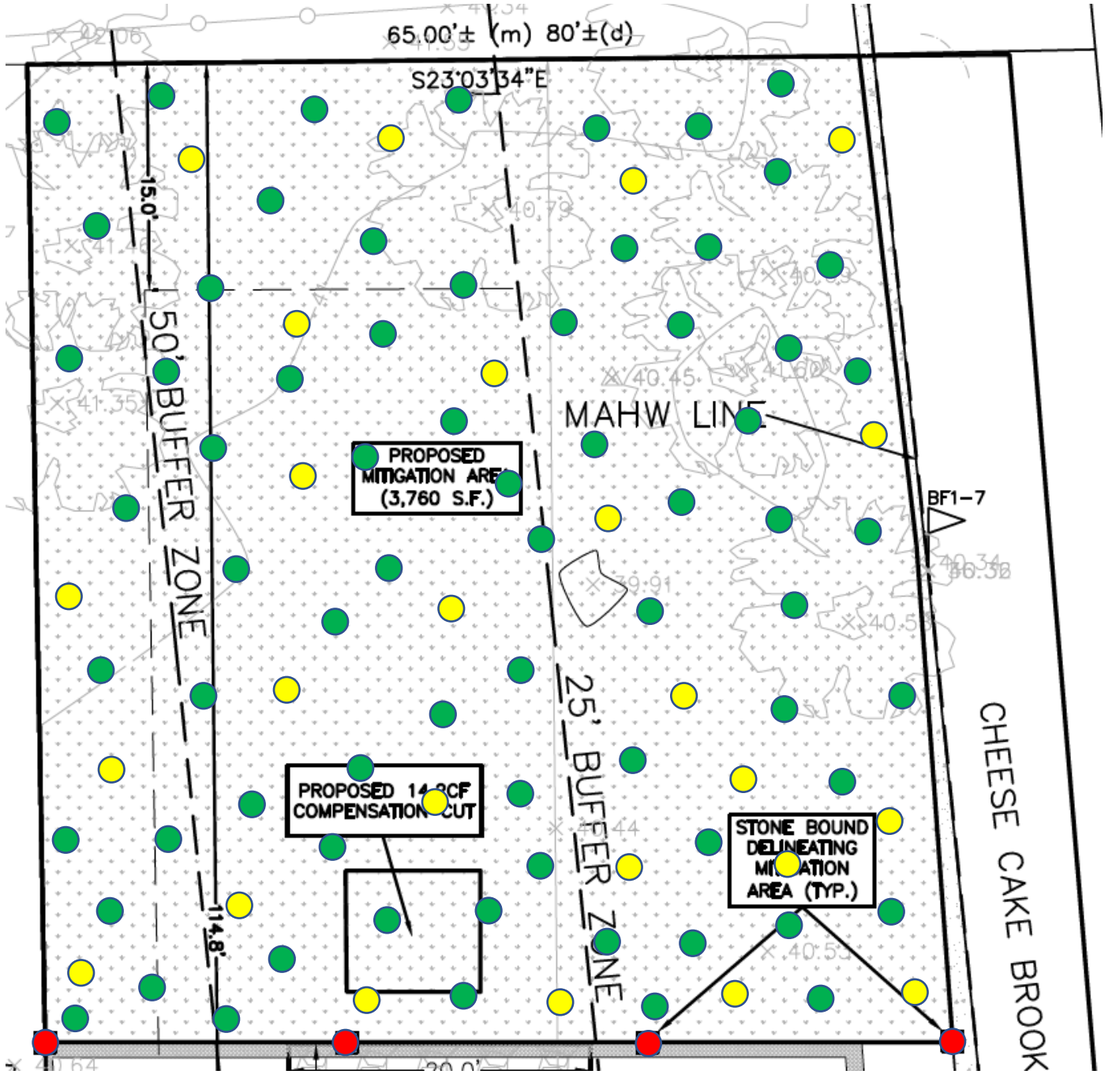
Additionally, a turn analysis has been carried out, where it is verified that the parking spaces are fully functional.

If any additional information is needed, please do not hesitate to contact us.

Respectfully submitted,

Edmond Spruhan

Edmond T Spruhan



NOTES

1. MITIGATION AREA TAKEN FROM CIVIL PLAN, PREPARED BY SPRUHAN ENGINEERING, P.C.
2. PLANTING INSTALLATION TO BE OVERSEEN BY QUALIFIED WETLAND SCIENTIST.
3. LOCATION OF PLANTINGS IS APPROXIMATE TO BE FIELD LOCATED BY WETLAND SCIENTIST.

LEGEND

- MITIGATION AREA BOUNDS
- TREES
- SHRUBS

MITIGATION AREA PLANTING SCHEDULE

Common Name	Scientific Name	Status	Size	Quantity
Trees				25
Red Maple	*Acer rubrum*	FAC	1-3" caliper	7
Red Oak	*Quercus rubra*	FACU	1-3" caliper	6
Yellow Birch	*Betula alleghaniensis*	FAC	1-3" caliper	6
Black Cherry	*Prunus serotina*	FACU	1-3" caliper	6
Shrubs				70
American Hazelnut	*Corylus americana*	FACU	1-3'	14
Maple-leaved Viburnum	*Viburnum acerifolium*	UPL	1-3'	14
Mountain Laurel	*Kalmia latifolia*	FACU	1-3'	14
Black Chokeberry	*Aronia melanocarpa*	FAC	1-3'	14
Witch Hazel	*Hamamelis virginiana*	FAC-	1-3'	14
Herbaceous				Seed Mix
Virginia Creeper	*Parthenocissus quinquefolia*	FACU	Bare root	50 (under canopy/edge)
White Wood Aster	*Eurybia divaricate*	FAC	2" plug	50 (under canopy)
Hayscented Fern	*Dennstaedtia punctilobula*	UPL	1 gal.	100 (open areas)

NEW ENGLAND WILDFLOWER SEED MIX

Species	Latin Name	Indicator Status
Little Bluestem	*Schizachyrium scoparium*	FACU
Indian Grass	*Sorghastrum nutans*	UPL
Partridge Pea	*Chamaecrista fasciculata*	FACU
Virginia Wild Rye	*Elymus virginicus*	FACW-
Canada Wild Rye	*Elymus canadensis*	FACU+
Red Fescue	*Festuca rubra*	FACU
Butterfly Milkweed	*Asclepias tuberosa*	NI
New York Ironweed	*Vernonia noveboracensis*	FACW+
Evening Primrose	*Oenothera biennis*	FACU-
New England Aster	*Aster novae-angliae (Symphyotrichum novae-anglia)*	FACW-
Black Eyed Susan	*Rudbeckia hirta*	FACU-
Early Goldenrod	*Solidago juncea*	NI
Hollow-Stem Joe Pye Weed	*Eupatorium fistulosum (Eutrochium fistulosum)*	FACW
Starved/Calico Aster	*Aster lateriflorus (Symphyotrichum lateriflorum)*	FACW

LUCAS ENVIRONMENTAL, LLC

PLANTING PLAN

July 24, 2023

Custom Soil Resource Report
Soil Map

Map Scale: 1:390 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 5 10 20 30

Feet
0 15 30 60 90

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Middlesex County, Massachusetts
Survey Area Data: Version 21, Sep 2, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 22, 2022—Jun 5, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
626B	Merrimac-Urban land complex, 0 to 8 percent slopes	0.3	100.0%
Totals for Area of Interest		**0.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Middlesex County, Massachusetts

626B—Merrimac-Urban land complex, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2tyr9
Elevation: 0 to 820 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Merrimac and similar soils: 45 percent
Urban land: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Merrimac

Setting

Landform: Outwash plains, outwash terraces, moraines, eskers, kames
Landform position (two-dimensional): Backslope, footslope, summit, shoulder
Landform position (three-dimensional): Side slope, crest, riser, tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits derived from granite, schist, and gneiss over sandy and gravelly glaciofluvial deposits derived from granite, schist, and gneiss

Typical profile

Ap - 0 to 10 inches: fine sandy loam
Bw1 - 10 to 22 inches: fine sandy loam
Bw2 - 22 to 26 inches: stratified gravel to gravelly loamy sand
2C - 26 to 65 inches: stratified gravel to very gravelly sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline (0.0 to 1.4 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A

Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Description of Urban Land

Typical profile

M - 0 to 10 inches: cemented material

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 0 inches to manufactured layer
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Hinckley

Percent of map unit: 5 percent
Landform: Deltas, kames, eskers, outwash plains
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, crest, head slope, side slope, rise
Down-slope shape: Convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Sudbury

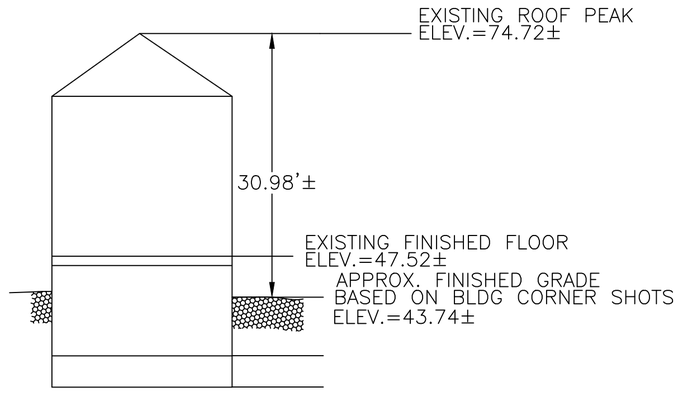
Percent of map unit: 5 percent
Landform: Deltas, terraces, outwash plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Windsor

Percent of map unit: 5 percent
Landform: Outwash terraces, dunes, outwash plains, deltas
Landform position (three-dimensional): Tread, riser
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

LEGEND

⊡	BOUND
O	IRON PIN/PIPE
⊙	STONE POST
	TREE
	TREE STUMP
	SHRUBS/FLOWERS
	SIGN
	BOLLARD
Ⓢ	SEWER MANHOLE
Ⓓ	DRAIN MANHOLE
	CATCH BASIN
Ⓦ	WATER MANHOLE
WV	WATER VALVE
	HYDRANT
GV	GAS VALVE
Ⓔ	ELECTRIC MANHOLE
EL	ELECTRIC HANDHOLE
	UTILITY POLE
	LIGHT POLE
Ⓜ	MANHOLE
X148.00	SPOT GRADE
TW	TOP OF WALL
BW	BOTTOM OF WALL
	EXISTING BUILDING
	RETAINING WALL
	STONE WALL
	FENCE
	TREE LINE
S	SEWER LINE
D	DRAIN LINE
W	WATER LINE
G	GAS LINE
E	UNDERGROUND ELECTRIC LINE
OHW	OVERHEAD WIRES
145	CONTOUR LINE (MJR)
146	CONTOUR LINE (MNR)



EXISTING PROFILE
NOT TO SCALE

N/F
GPH WEST NEWTON LLC
BK. 47345 PG. 499

N/F
VISCARIELLO MARCO
BK. 1540 PG. 71

N/F
SRINIVASAN MANDAYAM A
ANNASWAMY ANURADHA M
BK. 36516 PG. 465

EXIST. FENCE
65.00'± (m) 80'±(d)
S23°03'34"E
MAHW LINE
50' BUFFER ZONE
25' BUFFER ZONE
CHEESE CAKE BROOK
EDGE OF BROOK
229.89'±(m) 235'±(d)
LINE THROUGH MIDDLE OF CHEESE CAKE BROOK
S62°43'56"W
228.49'±(m) 228.74'±(d)
N66°28'14"E
EXISTING NEIGHBOR DRIVEWAY
EXISTING SHED
EXISTING DRIVEWAY
EXISTING DECK
#27
EXISTING
WOOD-FRAMED
RESIDENTIAL
DWELLING
FF=47.52
PARCEL ID:
31007 0019
16,589.4 S.F.± (M)
16,806 S.F. (R)
APPRX. LOCATION OF WATER SERVICE
APPRX. LOCATION OF SEWER SERVICE (TO BE V.I.F)
APPRX. LOCATION OF GAS SERVICE
WALKWAY
80'±(d)
N22°29'31"W
100' RIVERFRONT AREA
EXTENT OF BORDERING LAND SUBJECT TO FLOODING (45.5' NEWTON DATUM)
OVERHEAD ELECTRIC LINE
PAINTED GAS LINE "6" C.I.
8" C.I. WATER (1900)
APPRX. LOCATION OF 8" C.I. WATER (1900)
8" CLAY SEWER
EXIST. SMH
RIM=42.72
INV=33.60
EXIST. CB
RIM=42.52
EXIST. CB
RIM=42.42
EXIST. SMH
RIM=43.16
INV=33.46
EXIST. FENCE
BF1-1
BF1-2
BF1-3
BF1-4
BF1-5
BF1-6
BF1-7
BF1-8
5.6'
5.4'
27.6'
27.7'
162.8'
16.1'
23.6'
18.1'
17.2'
24.4'
19.3'
23.4'

NOTES:

1. INFORMATION SHOWN ON THIS PLAN IS THE RESULT OF A FIELD SURVEY PERFORMED BY PETER NOLAN & ASSOCIATES LLC AS OF 9/18/2021.

2. DEED REFERENCE: BOOK 12505, PAGE 463
DEED REFERENCE: BOOK 19297, PAGE 454
PLAN REFERENCE 1: PLAN 1142 OF 1988
PLAN REFERENCE 1: PLAN 645 OF 2000
LC PLAN 9887-B
MIDDLESEX COUNTY SOUTH DISTRICT REGISTRY OF DEEDS

3. THIS PLAN IS NOT INTENDED TO BE RECORDED.

4. I CERTIFY THAT THE DWELLING SHOWN IS LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE. IT IS LOCATED IN ZONE AE, ON FLOOD HAZARD BOUNDARY MAP NUMBER 25017C0551E, IN COMMUNITY NUMBER: 250208, DATED 6/4/2010. ON AND OFF-SITE SURVEY DEMONSTRATE THAT THE 100-YEAR FLOODPLAIN ELEVATION AT THE SITE IS 39 NAVD 88 (45.5 CITY OF NEWTON DATUM). THE HIGHER FLOODPLAIN ELEVATION WOULD PREVAIL.

5. THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. A REASONABLE AND DILIGENT ATTEMPT HAS BEEN MADE TO OBSERVE ANY APPARENT USES OF THE LAND; HOWEVER THIS NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.

6. FIRST FLOOR ELEVATIONS ARE TAKEN AT THRESHOLD.

7. NO RESPONSIBILITY IS TAKEN FOR ZONING TABLE AS PETER NOLAN & ASSOCIATES LLC ARE NOT ZONING EXPERTS. TABLE IS TAKEN FROM TABLE PROVIDED BY LOCAL ZONING ORDINANCE. CLIENT AND/OR ARCHITECT TO VERIFY THE ACCURACY OF ZONING ANALYSIS.

8. THE ELEVATIONS SHOWN ARE BASED CITY OF NEWTON DATUM.

9. ZONING DISTRICT: MULTI-RESIDENCE 1, (LOT CREATED AFTER 12/07/1953)

10. WETLAND RESOURCE AREAS DELINEATED BY LUCAS ENVIRONMENTAL, LLC ON AUGUST 31, 2021.

CROSS STREET
(PUBLIC WAY)

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

SCALE 1"=10'				
DATE 8/30/2022	REV	DATE	REVISION	BY
SHEET 1				
PLAN NO. 1 OF 5				
CLIENT:				
DRAWN BY DK				
CHKD BY PJN				
APPD BY PJN				

27 CROSS STREET
NEWTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
PETER J. NOLAN
No. 49185
REGISTERED PROFESSIONAL LAND SURVEYOR

EXISTING CONDITIONS

SHEET NO.
1

PETER NOLAN & ASSOCIATES LLC
LAND SURVEYORS/CIVIL ENGINEERING CONSULTANTS
80 JEWETT STREET, SUITE 2 NEWTON, MA 02458
PHONE: 857 891 7478/617 782 1533 FAX: 617 202 5691
EMAIL: pnolan@pnasurveyors.com

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MIDDLESEX COUNTY SOUTH DISTRICT REGISTRY OF DEEDS

3. THIS PLAN IS NOT INTENDED TO BE RECORDED.

4. I CERTIFY THAT THE DWELLING SHOWN IS LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE. IT IS LOCATED IN ZONE AE, ON FLOOD HAZARD BOUNDARY MAP NUMBER 25017C0551E, IN COMMUNITY NUMBER: 250208, DATED 6/4/2010. ON AND OFF-SITE SURVEY DEMONSTRATE THAT THE 100-YEAR FLOODPLAIN ELEVATION AT THE SITE IS 39 NAVD 88 (45.5 CITY OF NEWTON DATUM). THE HIGHER FLOODPLAIN ELEVATION WOULD PREVAIL.

5. THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. A REASONABLE AND DILIGENT ATTEMPT HAS BEEN MADE TO OBSERVE ANY APPARENT USES OF THE LAND; HOWEVER THIS NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.

6. FIRST FLOOR ELEVATIONS ARE TAKEN AT THRESHOLD.

7. NO RESPONSIBILITY IS TAKEN FOR ZONING TABLE AS PETER NOLAN & ASSOCIATES LLC ARE NOT ZONING EXPERTS. TABLE IS TAKEN FROM TABLE PROVIDED BY LOCAL ZONING ORDINANCE. CLIENT AND/OR ARCHITECT TO VERIFY THE ACCURACY OF ZONING ANALYSIS.

8. THE ELEVATIONS SHOWN ARE BASED CITY OF NEWTON DATUM.

9. ZONING DISTRICT: MULTI-RESIDENCE 1, (LOT CREATED AFTER 12/07/1953)

10. WETLAND RESOURCE AREAS DELINEATED BY LUCAS ENVIRONMENTAL, LLC ON AUGUST 31, 2021.

LEGEND

⊡	BOUND
O	IRON PIN/PIPE
⊙	STONE POST
	TREE
	TREE STUMP
	SHRUBS/FLOWERS
	SIGN
●	BOLLARD
Ⓢ	SEWER MANHOLE
Ⓓ	DRAIN MANHOLE
▦	CATCH BASIN
Ⓦ	WATER MANHOLE
WV	WATER VALVE
	HYDRANT
GV	GAS VALVE
Ⓔ	ELECTRIC MANHOLE
EH	ELECTRIC HANDHOLE
	UTILITY POLE
	LIGHT POLE
Ⓜ	MANHOLE
X148.00	SPOT GRADE
TW	TOP OF WALL
BW	BOTTOM OF WALL
	EXISTING BUILDING
	RETAINING WALL
	STONE WALL
	FENCE
	TREE LINE
S	SEWER LINE
D	DRAIN LINE
W	WATER LINE
G	GAS LINE
UE	UNDER. ELECT. LINE
OHW	OVERHEAD WIRES
145	CONTOUR LINE (MJR)
146	CONTOUR LINE (MNR)

NOTE: ANY TREE BEING REMOVED SHALL COMPLY WITH CITY OF NEWTON TREE ORDINANCE

NOTE: ANY PROPOSED RETAINING WALLS SHALL BE DESIGNED BY OTHERS.

NOTE: DRAINAGE SYSTEM IS DESIGNED FOR 100 YEAR STORM EVENT FOR ALL RUNOFF FROM PROPOSED IMPERVIOUS AREAS SHOWN. CONTRACTOR SHALL NOT CONNECT SUMP PUMP TO THE SYSTEM WITHOUT APPROVAL FROM ENGINEERING DEPARTMENT.

NOTE: SEWER AND WATER MAIN LINE LOCATION TO BE CONFIRMED BY CONTRACTOR

NOTE: SURFACE WATER TO BE DIVERTED FROM ALL SIDES OF FOUNDATION WALL

NOTE: SPRUHAN ENGINEERING, P.C., ACCEPTS NO LIABILITY FOR GROUND WATER OR OTHER SURFACE WATER IN BASEMENT

NOTE: CONTRACTOR TO ENSURE ALL RAIN WATER FROM SPLASH BLOCKS (IF ANY) IS DIVERTED AWAY FROM BUILDING FOUNDATION AND DIVERTED AWAY FROM NEIGHBORING PROPERTIES

NOTE: THE CONTRACTOR SHALL REMOVE ALL COMPACTED SOILS UNDER THE FRONT RECHARGE SYSTEM AND BE INSPECTED BY ENGINEER OF RECORD

N/F
SRINIVASAN MANDAYAM A
ANNASWAMY ANURADHA M
BK. 36516 PG. 465

N/F
VISCARIELLO MARCO
BK. 1540 PG. 71

FLOODPLAIN IMPACT & MITIGATION SUMMARY

ELEVATION (FT)	FLOODPLAIN IMPACT (CF)	FLOOD MITIGATION (CF)	FLOODPLAIN NET (CF)
40-41	2.0	14.2	12.2
41-42	6.0	402.5	396.5
42-43	270.4	532.0	261.6
43-44	776.2	1335.0	558.8
44-45	115.6	1104.0	988.4
45-45.5	57.8	552.0	494.2
TOTALS	**1228.0**	**3939.7**	**2711.7**

FLOODPLAIN NET = FLOODPLAIN CUT - FLOODPLAIN FILL;

FLOODPLAIN FILL IT'S SUM OF FILL VOLUME FROM TABLE BELOW FOR PROPOSED BUILDING AND PIERS;

FLOODPLAIN CUT IT'S SUM OF CUT VOLUME FROM TABLE BELOW FOR EXISTING BUILDING.

FOR EXIST. BUILDING (FOUNDATION, STEPS, WALKWAY, SHED)

ELEVATION (FT)	CUT AREA (SF)	HEIGHT (FT)	CUT VOLUME (CF)	
40-41	71.0	0.2	14.2	(COMPENSATION CUT)
41-42	402.5	1.0	402.5	(SHED, DRIVEWAY)
42-43	532.0	1.0	532.0	(SHED, DRIVEWAY)
43-44	1335.0	1.0	1335.0	(SHED, DRIVEWAY, FOUNDATION)
44-45	1104.0	1.0	1104.0	(SHED, FOUNDATION)
45-45.5	1104.0	0.5	552.0	(SHED, FOUNDATION)
TOTAL			**3939.7**	

FOR PROPOSED BUILDING (STEPS, WALKWAY, DRIVEWAY)

ELEVATION (FT)	FILL AREA (SF)	HEIGHT (FT)	FILL VOLUME (CF)	
40-41	0.0	1.0	0.0	
41-42	0.0	1.0	0.0	
42-43	254.4	1.0	254.4	(STEPS, PARKING)
43-44	748.2	1.0	748.2	(STEPS, PARKING, DRIVEWAY)
44-45	87.6	1.0	87.6	(STEPS)
45-45.5	87.6	0.5	43.8	(STEPS)
TOTAL			**1134.0**	

FOR PROPOSED BUILDING (PIERS)

ELEVATION (FT)	FILL AREA (SF)	HEIGHT (FT)	FILL VOLUME (CF)
40-41	2.0	1.0	2.0
41-42	6.0	1.0	6.0
42-43	16.0	1.0	16.0
43-44	28.0	1.0	28.0
44-45	28.0	1.0	28.0
45-45.5	28.0	0.5	14.0
TOTAL			**94.0**

Pier = 12"x12" = 1

NOTE: CONTRACTOR TO CONFIRM LOCATION OF DOWN SPOUTS PRIOR TO CARRYING OUT ANY DRAINAGE WORKS

NOTE: CONTRACTOR TO ENSURE THAT THE BUILDING FOOTPRINT REPRESENTED ON THIS PLAN IS THE SAME AS THE PROPOSED ARCHITECTURAL /STRUCTURAL PLANS AND INCORPORATES ALL OVERHANGS, CANTILEVERS AND ANY COMPONENT THAT IS SUBJECT TO ZONING RESTRICTIONS. IF THIS IS FOUND NOT TO BE THE CASE THE CONTRACTOR MUST CONTACT THE ENGINEER /SURVEYOR AND REQUEST A REVISED PLAN WHICH MUST BE RESUBMITTED TO I.S.D. CITY OF NEWTON

DRAINAGE AREA SUMMARY

EXISTING ROOF = 887.70 S.F.
EXISTING PAVED DRIVEWAY = 1,397.64 S.F.
EXISTING WALKWAY = 51.64 S.F.
EXISTING DECK = 82.54 S.F.
EXISTING SHED = 217.81 S.F.
EXISTING LANDING/STEPS = 21.18 S.F.
EXISTING LANDSCAPE AREA = 13,930.89 S.F.

PROPOSED ROOF = 2,889.50 S.F.
PROPOSED PAVED DRIVEWAY = 1,422.08 S.F.
PROPOSED LANDING/STEPS = 87.58 S.F
PROPOSED LANDSCAPE AREA = 12,190.24 S.F.

TOTAL EXISTING IMPERVIOUS AREA = 2,658.51 S.F.
TOTAL PROPOSED IMPERVIOUS AREA = 4,399.16 S.F.

TOTAL INCREASE IN IMPERVIOUS AREA = 1,740.65 S.F.

EXTENT OF BORDERING LAND SUBJECT TO FLOODING (45.5' NEWTON DATUM)

EXIST. SMH
RIM=52.51
INV=43.14

EXIST. DMH
RIM=52.30

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.

NOTES

1. ELEVATIONS REFER TO CITY OF NEWTON DATUM.

2. THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ANY CROSSINGS OF PROPOSED AND EXISTING UTILITIES.

3. MASSACHUSETTS STATE LAW REQUIRES UTILITY NOTIFICATION AT LEAST THREE BUSINESS DAYS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CALL DIG-SAFE AT 1-888-344-7233 IN ORDER TO COMPLY WITH STATE LAW.

4. ALL UTILITY CONSTRUCTION SHALL CONFORM TO THE CITY OF NEWTON GENERAL CONSTRUCTION DETAILS, LATEST EDITION, PREPARED AND ISSUED BY THE NEWTON ENGINEERING DEPARTMENT. COPIES MAY BE OBTAINED AT THE OFFICE OF THE CITY ENGINEER. REFER TO NOTE 29 FOR DETAILS. NOTE: A TRENCH PERMIT MUST BE OBTAINED PRIOR TO ANY EXCAVATION BEING CARRIED OUT.

5. PROPOSED SEWER PIPE SHALL BE 6" PVC SDR 35.

6. PROPOSED WATER SERVICE SHALL BE 1" TYPE K COPPER.

7. THIS PLAN IS THE RESULT OF AN INSTRUMENT SURVEY DONE ON THE GROUND ON **SEPTEMBER 18TH, 2021.**

8. ALL WORK SHALL BE SUBJECT TO THE INSPECTION BY AND APPROVAL OF THE CITY ENGINEER.

9. NO EXCAVATION SHALL BE MADE BY THE CONTRACTOR IN ANY PUBLIC WAY OR UTILITY EASEMENT UNLESS AT LEAST FORTY-EIGHT (48) HOURS, EXCLUSIVE OF SATURDAYS, SUNDAYS, AND HOLIDAYS, BEFORE THE PROPOSED EXCAVATION IS TO BE MADE, HE HAS SUBMITTED, NOTICE OF THE PROPOSED EXCAVATION TO THE FOLLOWING:
   a. SUCH PUBLIC UTILITY COMPANIES AS SUPPLY GAS, ELECTRICITY, AND TELEPHONE SERVICE IN THE CITY.
   b. SUCH PRIVATE COMPANIES AS PROVIDE CABLE TELEVISION SERVICE IN THE CITY.
   c. CITY OF NEWTON WATER & SEWER DEPARTMENT. SUCH NOTICE SHALL SET FORTH THE STREET NAME AND A REASONABLY ACCURATE DESCRIPTION OF THE LOCATION OF THE EXCAVATION.

10. THE CONTRACTOR SHALL PROVIDE CITY OF NEWTON POLICE OFFICERS FOR THE DIRECTION AND CONTROL OF TRAFFIC, AS REQUIRED BY THE CITY ENGINEER.

11. NO WORK SHALL BE PERFORMED UNTIL THE NECESSARY PERMITS ARE OBTAINED FROM THE CITY OF NEWTON PUBLIC WORKS DEPARTMENT.

12. ALL TRENCHES IN PAVED STREETS SHALL BE TEMPORARILY PATCHED WITH PAVEMENT OF EXISTING PAVEMENT THICKNESS OR AS DIRECTED BY THE CITY ENGINEERING INSPECTOR, LAID HOT AND MAINTAINED UNTIL THE PERMANENT PATCH IS INSTALLED.

13. WARNING SIGNS SHALL CONFORM TO 2020 MUTCD STANDARD HIGHWAY SIGN.

14. ALL TOPSOIL, SUBSOIL OR IMPERVIOUS SOIL MUST BE EXCAVATED AND REMOVED BELOW THE LEACHING SYSTEM AND TO A DISTANCE 5' LATERALLY IN ALL DIRECTIONS BEYOND THE SIDES OF THE GALLEYS. BACKFILL AS REQUIRED WITH A CLEAN GRANULAR SAND, FREE FROM ORGANIC MATTER AND DELETERIOUS SUBSTANCES. THE SAND SHALL HAVE A PERCOLATION RATE OF 2 MINUTES PER INCH OR FASTER.

15. IN CASES WHERE LEDGE OR BOULDERS ARE ENCOUNTERED, SPRUHAN ENGINEERING, P.C. WILL NOT BE RESPONSIBLE FOR THE AMOUNT OF ROCK ENCOUNTERED.

16. IF ANY PART OF THIS DESIGN IS TO BE ALTERED IN ANY WAY, THE DESIGN ENGINEER, AS WELL AS THE APPROVING AUTHORITIES, SHALL BE NOTIFIED IN WRITING BEFORE CONSTRUCTION.

17. THE ROOF RUNOFF FROM THE ROOF SURFACES SHALL BE COLLECTED BY GUTTERS AND DIRECTED TO THE STORM WATER DRAINAGE SYSTEM,

18. PRIOR TO AN OCCUPANCY PERMIT BEING ISSUED, AN AS-BUILT PLAN SHOULD BE SUBMITTED TO THE ENGINEERING DIVISION IN BOTH DIGITAL FORMAT AND HARD COPY. THE PLAN SHOULD SHOW ALL UTILITIES AND FINAL GRADES, TIES TO ALL GATES, VALVES, CLEAN-OUTS, CONNECTION POINTS AT MAINS, STRUCTURE ACCESS/MAINTENANCE COVERS, ANY EASEMENTS AND FINAL GRADING.

19. THE APPLICANT WILL HAVE TO APPLY FOR A STREET OPENING & UTILITIES CONNECTION PERMITS AS WELL AS A SIDEWALK CROSSING PERMIT AND A TRENCH PERMIT WITH THE DPW.

20. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE DESIGN ENGINEER FOR INSPECTIONS OR AS-BUILT LOCATIONS. PETER NOLAN & ASSOCIATES, LLC. WILL NOT PROVIDE AS-BUILT CERTIFICATION TO UNINSPECTED BACKFILLED UTILITIES. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED PRIOR TO INSPECTIONS.

21. ANY PROPOSED PVC PIPES UNDER PAVING OR CONCRETE WITH LESS THAN 30" OF COVER MUST MUST BE ENCASED IN CONCRETE. (SEE PAGE 21, CITY OF NEWTON GENERAL CONSTRUCTION DETAILS.)

22. THE EXISTING WATER & SEWER SERVICES SHALL BE CUT AND CAPPED AT THE MAIN AND BE COMPLETELY REMOVED FROM THE SITE, REPLACED AS SPECIFIED AND PROPERLY BACKFILLED. THE ENGINEERING DIVISION MUST INSPECT THIS WORK; FAILURE TO HAVE THIS WORK INSPECTED MAY RESULT IN THE DELAY OF ISSUANCE OF THE UTILITY CONNECTION PERMIT.

23. THE CONTRACTOR SHALL NOTIFY THE ENGINEERING DIVISION 48 HOURS IN ADVANCE AND SCHEDULE AN APPOINTMENT TO HAVE THE DRAINAGE SYSTEM, WATER & SEWER SERVICES INSPECTED. THE SYSTEM & UTILITIES MUST BE FULLY EXPOSED FOR THE INSPECTOR. ONCE THE INSPECTOR IS SATISFIED, THE SYSTEM & UTILITIES MAY THEN BE BACKFILLED.

24. THE EXISTING CONTOURS OF THE LAND ARE NOT TO BE ALTERED BY MORE THAN THREE (3) FEET AS A RESULT OF THE PLACEMENT OR REMOVAL OF SOD, LOAM, CLAY, GRAVEL OR STONE, OR OTHER SOLID MATERIAL UNLESS A PROPOSED RETAINING WALL OR SWALE IS INSTALLED AFTER IT IS APPROVED BY BOTH CITY OF NEWTON ENGINEERING DEPARTMENT & CITY OF NEWTON I.S.D

25. NO WORK IS ALLOWED WITHIN A CITY OF NEWTON RIGHT-OF-WAY BETWEEN NOVEMBER 15TH AND APRIL 15TH. IF AN EMERGENCY EXISTS OR THERE ARE EXTENUATING CIRCUMSTANCES, APPLICANT MAY REQUEST PERMISSION FROM THE CITY ENGINEER. IF ALLOWED, SPECIAL CONSTRUCTION REQUIREMENTS WILL BE REQUIRED, AND AS SUCH IT IS RECOMMENDED THAT THE APPLICANT OR APPLICANT'S REPRESENTATIVE CONTACT THE CITY OF NEWTON ENGINEERING DEPARTMENT PRIOR TO START OF WORK FOR CLARIFICATION.

26. AT THE END OF CONSTRUCTION, ALL DRAINAGE STRUCTURES ARE TO BE CLEANED OF SILT, STONES AND OTHER DEBRIS.

27. DURING CONSTRUCTION, THE EROSION CONTROL MEASURES SHALL BE INSPECTED ONCE PER WEEK AND WITHIN 24 HOURS OF ANY STORM EVENT GENERATING MORE THAN 1/2" OF RAINFALL. THE EROSION CONTROL MEASURES SHALL BE CLEANED REGULARLY AND ADJUSTED IF NECESSARY TO ENSURE THAT NO SILT OR DEBRIS LEAVES THE SITE.

28. WITH EXCEPTION OF GAS UTILITY SERVICES, ALL UTILITY TRENCHES WITHIN ANY CITY OF NEWTON RIGHT-OF-WAY WILL BE BACKFILLED WITH TYPE IE (EXCAVATABLE) CONTROLLED DENSITY FILL, AS SPECIFIED BY THE CITY OF NEWTON ENGINEERING SPECIFICATIONS.

29. ALL CONSTRUCTION ACTIVITIES WITHIN THE CITY OF NEWTON RIGHT-OF-WAY MUST FULLY COMPLY WITH ALL OF CITY OF NEWTON CONSTRUCTION SPECIFICATIONS AS WELL AS 521 CMR 21.00 AND 22.00.

30. ALL NEW SEWER SERVICE AND/OR STRUCTURES SHALL BE PRESSURE TESTED OR VIDEOTAPED AFTER FINAL INSTALLATION IS COMPLETE. METHOD OF FINAL INSPECTION SHALL BE DETERMINED SOLELY BY THE CONSTRUCTION INSPECTOR FROM THE CITY ENGINEERING DIVISION. ALL SEWER MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE TO THE CITY'S CONSTRUCTION STANDARDS & SPECIFICATIONS. THE SEWER SERVICE WILL NOT BE ACCEPTED UNTIL ONE OF THE TWO METHODS STATED ABOVE IS COMPLETED. ALL TESTING MUST BE WITHNESSED BY A REPRESENTATIVE OF THE ENGINEERING DIVISION, A CERTIFICATE OF OCCUPANCY WILL NOT BE RECOMMENDED UNTIL THIS TEST IS COMPLETED AND A WRITTEN REPORT IS RECEIVED BY THE CITY ENGINEER.

31. ALL SILTATION CONTROL NEEDS TO BE INSTALLED PRIOR TO ANY CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE CITY ENGINEER'S OFFICE FOR APPROVAL PRIOR TO COMMENCEMENT.

32. ALL TRENCH EXCAVATION CONTRACTORS SHALL COMPLY WITH MGL CHAPTER 82A, TRENCH EXCAVATION SAFETY REQUIREMENTS, TO PROTECT THE GENERAL PUBLIC FROM UNAUTHORIZED ACCESS TO UNATTENDED TRENCHES. A TRENCH EXCAVATION PERMIT IS REQUIRED.

33. APPROVAL OF THIS PLAN BY CITY OF NEWTON ENGINEERING DIVISION IMPLIES THAT THE PLAN MEETS THE MINIMAL DESIGN STANDARDS OF THE CITY OF NEWTON. HOWEVER, THE ENGINEERING DIVISION MAKES NO REPRESENTATION AND ASSUMES NO RESPONSIBILITY FOR THE DESIGN(S) IN TERMS OF SUITABILITY FOR THE PARTICULAR SITE CONDITIONS OR OF THE FUNCTIONABILITY OR PERFORMANCE OF ANY ITEMS CONSTRUCTED IN ACCORDANCE WITH THE DESIGN(S). THE CITY OF NEWTON ASSUMES NO LIABILITIES FOR DESIGN ASSUMPTION, ERRORS OR OMISSIONS BY THE ENGINEER OF RECORD.

34. PER CITY OF NEWTON ORDINANCE NO.B-42, COUNCIL ITEM #251-19, BUILDING SEWER, WATER SERVICE PIPE & SIDEWALK/CURB REPLACEMENT ORDINANCE. THE APPLICANT IS REQUIRED TO INSTALL/REPLACE SIDEWALK & CURB ALONG THE ENTIRE FRONTAGE. THIS SHALL INCLUDE APPROPRIATE TRANSITION TO ADJOINING CURBING & WALKWAYS, INCLUDING ACCESSIBLE CURB CUTS & OTHER ACCESS AS REQUIRED. THE ENGINEERING CONSTRUCTION INSPECTOR MAKES A DETERMINATION, BASED ON THE MATERIAL & MANNER OF CONSTRUCTION OF THE EXISTING SIDEWALK & CURB, THAT THE EXISTING SIDEWALK & CURB HAS THE ABILITY TO BE RE-SET OR REUSED WITHOUT REPLACEMENT.

35. THE ENGINEER OF RECORD IS RESPONSIBLE FOR THE ON-SITE INSPECTION(S) OF ALL SUBSURFACE STRUCTURES. THIS INCLUDES BUT IS NOT LIMITED TO DRAINAGE, UTILITIES (INCLUDING SEWER PIPE SLOPE), ROOF LEADER COLLECTION SYSTEM, TRENCH DRAINS, MANHOLES ETC. ENGINEER OF RECORD MUST ALSO CONDUCT "BOTTOM OF HOLE" INSPECTION(S) PRIOR TO SUBSURFACE DRAINAGE SYSTEM(S) BEING INSTALLED. **CONTRACTOR TO NOTIFY ENGINEER BEFORE BACKFILL OR SIGN OFF CANNOT OCCUR WITHOUT RE-EXCAVATION.**

36. PRIOR TO THE ENGINEERING DIVISION RECOMMENDING THAT A CERTIFICATE OF OCCUPANCY BE ISSUED, AN AS-BUILT PLAN MUST BE SUBMITTED. THE AS-BUILT PLAN MUST SHOW DIMENSIONAL TIES FROM FIXED POINTS (FOUNDATION CORNERS) TO ALL SUBSURFACE COMPONENTS AS WELL AS FINAL GRADING. THE AS-BUILT PLAN MUST BE STAMPED, SIGNED & DATED BY THE ENGINEER OF RECORD.
THE FOLLOWING STATEMENT MUST BE ON ALL AS-BUILT PLANS SUBMITTED TO THE ENGINEERING DIVISION:
I CERTIFY THAT THE CONSTRUCTION SO SHOWN WAS INSPECTED PRIOR TO BACKFILL & THAT ALL WORK CONFORMS WITH THE APPROVED PLAN & MEETS OR EXCEEDS THE CITY OF NEWTON CONSTRUCTION STANDARDS.

SIGNATURE: _____ DATE _____

37. 5 YEAR MORATORIUM – IF AT TIME OF CONSTRUCTION THE ROADWAY IS UNDER A 5 YEAR MORATORIUM, THE ROADWAY MUST BE MILLED & PAVED GUTTER-TO-GUTTER FOR A DISTANCE OF 25 FEET IN EACH DIRECTION FROM THE OUTERMOST TRENCHES OR AS DIRECTED BY THE ENGINEERING INSPECTOR.

ZONING LEGEND

ZONING DISTRICT: MR1 MULTI RESIDENTIAL-1
(LOT CREATED BEFORE 12/07/1953)

	REQUIRED	PROPOSED
MIN. AREA	7,000 S.F	16,589.4 S.F.± (MEASURED)
MIN. FRONTAGE	70'	80.0'
MIN. YARD FRONT	25'	28.6'
SIDE	7.5'	7.6' (Left)
REAR	15'	114.8'
MAX. LOT COV.	30%	17.42%
MIN. OPEN SPACE	50%	73.48%
MAX. BLDG. HEIGHT	36'	35.76'±

PROPOSED ROOF PEAK ELEV.=78.33'±
* NOTE: ROOF PEAK HEIGHT TO BE VERIFIED WITH DESIGNERS PRIOR TO ROOF FRAMING COMENCEMENT
35.76'
PROPOSED FINISHED FLOOR ELEV.=46.00'±
AVG. GRADE PLANE ELEV.= 42.57'±

PROPOSED PROFILE
NOT TO SCALE

NOTE: IF WATER AND SEWER LINES MUST CROSS OR ARE WITHIN 10-FEET HORIZONTALLY, THE SEWER PIPE MUST BE ENCASED. THIS REQUIREMENT STANDS UNLESS THE WATER PIPE IS A MINIMUM OF 18-INCHES ABOVE THE SEWER PIPE OR THERE IS A MINIMUM OF A 10-FOOT HORIZONTAL SEPARATION.

CROSS STREET

REVISION BLOCK

BY	DESCRIPTION	DATE
OG	FOOTPRINT AND CALC. REVISED	9/27/22
OG	MITIGATION AREA REVISED	9/27/22
OG	BOUNDS AND COMPOST SOCK ADDED	10/4/22
OG	REVISED AS PER CITY COMMENTS	12/12/22
OG	ESHGWT REVISED	12/14/22
HMS	REVISED AS PER CITY COMMENTS	01/19/23
OG	REVISED AS PER CITY COMMENTS	01/27/23
OG	REVISED AS PER CITY COMMENTS	06/15/23
OG	REVISED AS PER CLIENT COMMENTS	07/24/23

SCALE	1"=10'
DATE	8/30/2022
DRAWN BY	O.G.
CHECKED BY	P.N.
APPROVED BY	E.S.
SHEET	2
PLAN NO.	2 OF 5
CLIENT:	

SHEET: 2

27 CROSS STREET, NEWTON, MASSACHUSETTS

CIVIL PLAN

COMMONWEALTH OF MASSACHUSETTS — PETER J. NOLAN — NO. 49185 — REGISTERED PROFESSIONAL LAND SURVEYOR

COMMONWEALTH OF MASSACHUSETTS — EDMOND T. SPRUHAN — CIVIL — NO. 53316 — REGISTERED PROFESSIONAL ENGINEER

PETER NOLAN & ASSOCIATES, LLC
LAND SURVEYORS/CIVIL ENGINEERING CONSULTANTS
697 CAMBRIDGE STREET, (SUIT103),
BRIGHTON, MA 02135
Tel: 857-891-7478
617-782-1533
Fax: 617-2025691

SPRUHAN ENGINEERING, P.C.
80 JEWETT ST, (SUITE 2)
NEWTON, MA 02458
Tel: 617-816-0722
Email: edmond@spruhaneng.com

DEEP OBSERVATION HOLE LOG:

GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED AT 27 CROSS ST, NEWTON, MA. BY MATTHEW MUI, SOIL EVALUATOR #14259 REPRESENTING SPRUHAN ENGINEERING, P.C.

DATED: 7/16/2022
HOLE NUMBER: TP-1

GENERAL SITE CONDITIONS: BUILDINGS, PAVED/GRASS AREAS.

GRADE AT TEST PIT = 41.0'±
ESTIMATED SEASONAL HIGH GROUNDWATER TABLE AT 35.67' ±.

DEEP OBSERVATION HOLE LOG

DEEP OBSERVATION HOLE NUMBER: TP-1 | GROUND ELEVATION: 41.0±

Depth (in)	Horizon/ Layer	Matrix: Color-Moist	Redoximorphic Features			Texture (USDA)	Coarse Fragments (Percent by Volume)		Structure	Consistence (Moist)	Other
			Depth (in)	Color	Percent		Gravel	Cobbles & Stones			
0-36	FILL	--	--	--	--	--	--	--	--	--	--
36-54	Ap	10 YR 4/3	--	--	--	SILT LOAM	5	--	ABK	VFR	--
54-64	Bw	10 YR 5/3	--	--	--	SILT LOAM	5	10	ABK	VFR	--
64-78+	C	10 YR 5/3	64	5 YR 5/8	35	SAND	--	5	GRAN	LOOSE	1,2

NOTES:
1. WEEPING OBSERVED AT APPROX 68"
2. WATER OBSERVED @ BOTTOM OF HOLE
3. LOGGED BY MATTHEW MUI, SE14259 ON 7/16/2022.

DEEP OBSERVATION HOLE LOG:

GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED AT 27 CROSS ST, NEWTON, MA. BY MATTHEW MUI, SOIL EVALUATOR #14259 REPRESENTING SPRUHAN ENGINEERING, P.C.

DATED: 7/16/2022
HOLE NUMBER: TP-2

GENERAL SITE CONDITIONS: BUILDINGS, PAVED/GRASS AREAS.

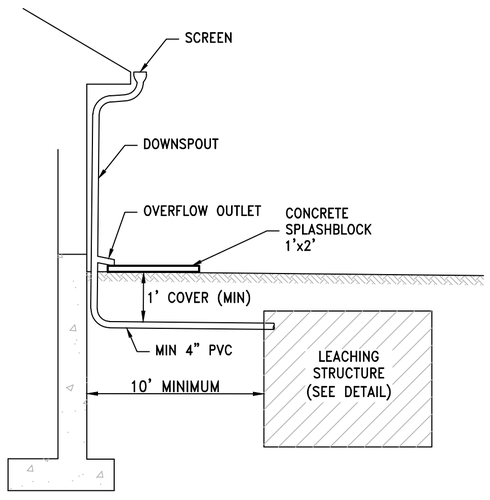
GRADE AT TEST PIT = 43.5'±
ESTIMATED SEASONAL HIGH GROUNDWATER TABLE AT 35.00' ±.

DEEP OBSERVATION HOLE LOG

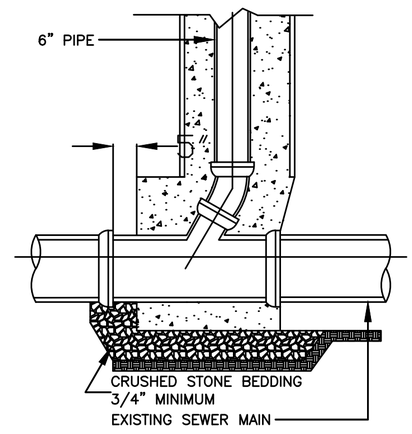
DEEP OBSERVATION HOLE NUMBER: TP-2 | GROUND ELEVATION: 43.5±

Depth (in)	Horizon/ Layer	Matrix: Color-Moist	Redoximorphic Features			Texture (USDA)	Coarse Fragments (Percent by Volume)		Structure	Consistence (Moist)	Other
			Depth (in)	Color	Percent		Gravel	Cobbles & Stones			
0-50	FILL	--	--	--	--	--	--	--	--	--	--
50-60	Ap	10 YR 4/3	--	--	--	SILT LOAM	5	--	ABK	VFR	--
60-72	Bw	10 YR 5/3	--	--	--	SILT LOAM	5	10	ABK	VFR	--
72-108+	C	10 YR 5/3	102	5 YR 5/8	20	SAND	--	5	GRAN	LOOSE	--

NOTES:
1. LOGGED BY MATTHEW MUI, SE14259 ON 7/16/2022.



TYPICAL DOWNSPOUT DETAIL
N.T.S.



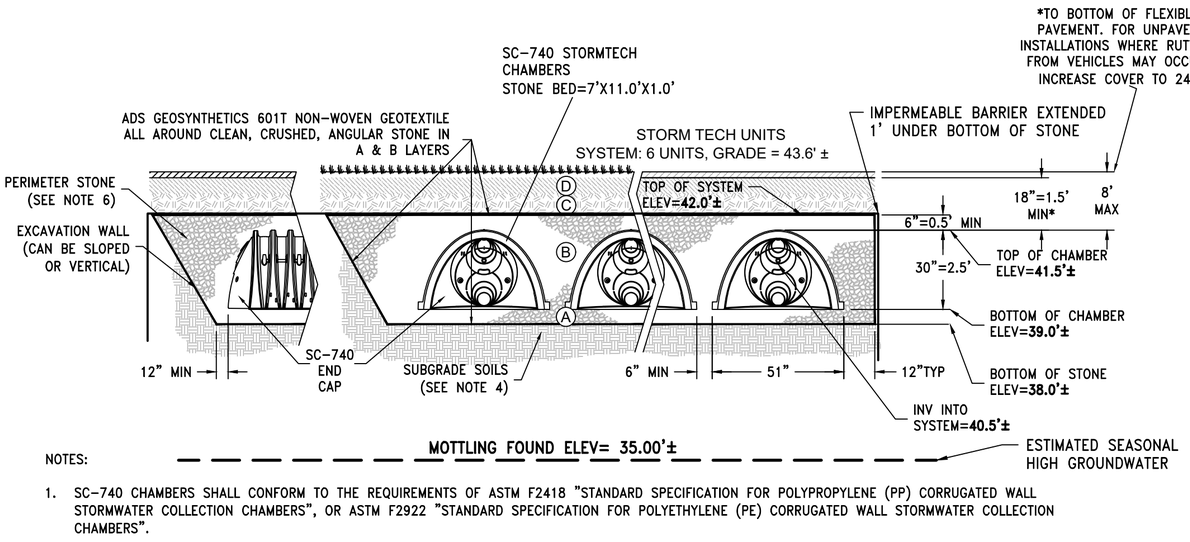
TYPICAL SEWER CONFIGURATION

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2] [3]

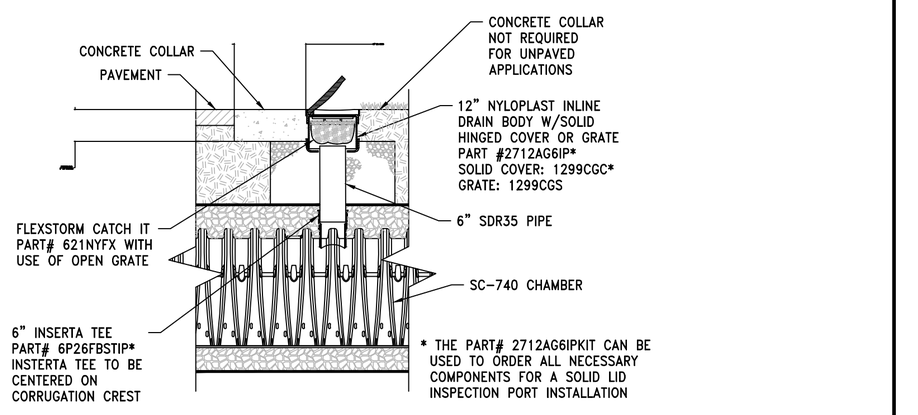
PLEASE NOTE:

1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.

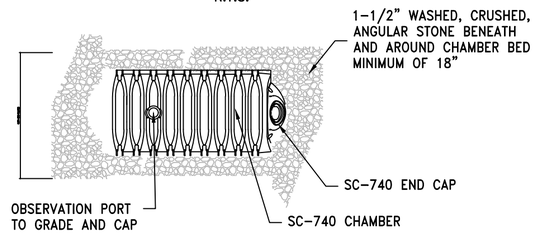


NOTES:

1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
5. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
6. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



SC-740 6" INSPECTION PORT DETAIL
N.T.S.



STORMTECH SC-740 CHAMBER SYSTEM PLAN VIEW DETAIL
N.T.S.

5.0 Draw down time (Time to empty) Calculations.

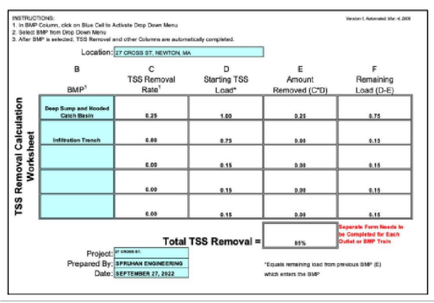
$$Time = \frac{rv}{(k)(Bottom\ Area)}$$

Stormtech system:

$$Time = \frac{813\ cf}{(0.27\ \ in/hr)(\frac{1ft}{12in})^2(396sf)} = \mathbf{91.2\ Hr. > 72.00\ Hr.}$$

Crushed stone system:

$$Time = \frac{575.0\ cf}{(0.27\ \ in/hr)(\frac{1ft}{12in})^2(800\ Sf)} = \mathbf{31.9\ Hr. < 72.00\ Hr.}$$



STORM TECH SYSTEM

Design Criteria:
Impervious Roof = 1,454.0 SF
Impervious Pavement = 988.0 SF
Total = 2,442.0 SF
TOTAL IMPERVIOUS = 4,400.0 SF

Design For **2"** Rainstorm

Storage Volume Required:

V_R = (2"/12) (4,400 SF) = 733 CF

CAPACITY OF PROPOSED STORM TECH SYSTEM

Storage Capacity of single Storm Tech UNIT = 49 CF

Void Ratio =0.4

Total Volume= (6'x 11' x 4'$_{depth\ (2.5ft\ for\ Storm\ Tech\ unit)}$ x 6 UNIT) = 1,584 CF

Capacity for 6 UNIT = 294 CF

Storage Capacity in Crushed Stone = (Total Volume – Capacity of Units) x Void Ratio = (1,584 – 294) x 0.4 = 516 CF

Total Storage Provided = Capacity in Crushed Stone + Total Capacity in Units = 516 CF + 294 CF = 810 CF

Since Total Storage Provided (810 CF) > Total Storage Required (733 CF/D) **Therefore, utilize 6-Storm-Tech Chamber with 1 ft. of Crushed Stone Beneath to Contain a 2" Storm Event**

CRUSHED STONE SYSTEM

Design Criteria:
Impervious Roof = 1,435 SF
Impervious Pavement = 0 SF
Total = 1,435 SF

Design For **2"** Rainstorm

Storage Volume Required:

V_R = (2"/12) (1,435 SF) = 240 CF

CAPACITY OF PROPOSED CRUSHED STONE SYSTEM

Volume of trench = 20' x 40' x 2.0' = 1,600CF

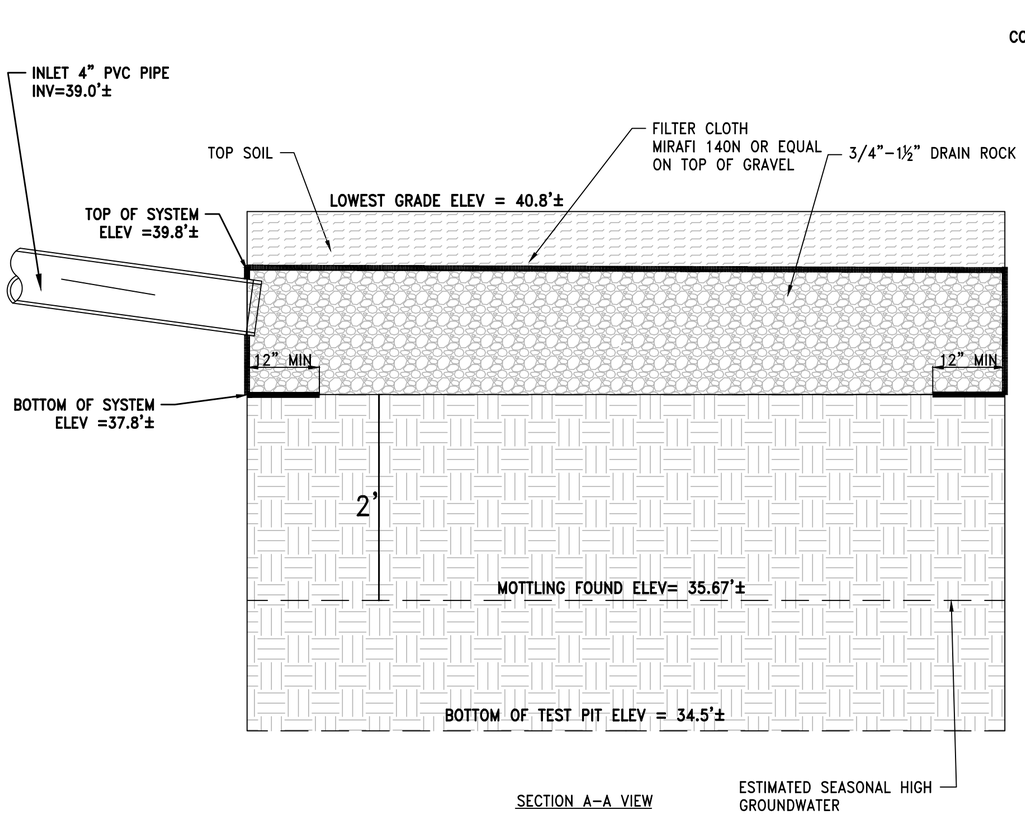
Void Ratio =0.4

Storage volume in stone = (1,600 CF x 0.4) = 640 CF

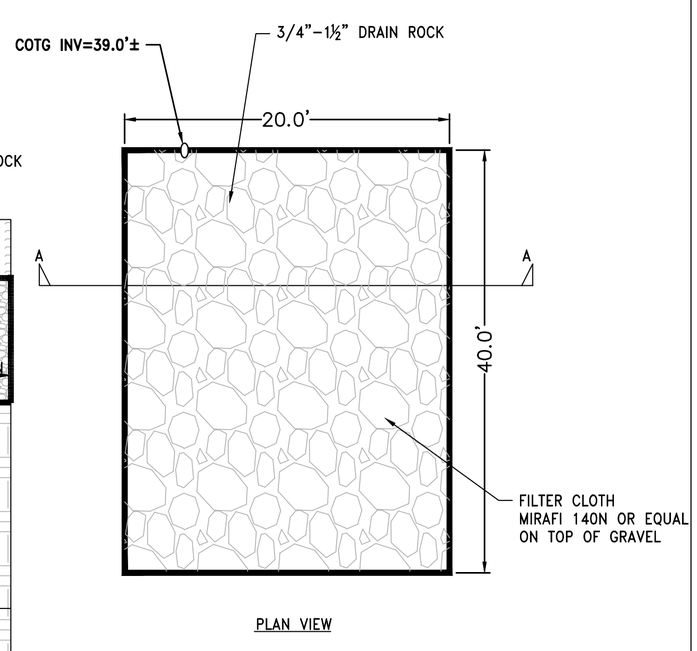
Total storage volume = 640 CF

Since Total Storage Provided (640 CF) > Total Storage Required (240 CF/D) **Therefore, utilize a 20'x40'x2.0' crushed stone system to Contain a 2" Storm Event**

TOTAL PROPOSED IMPERVIOUS AREA = 4,399.16 SF
STORAGE VOLUMEN REQUIRED (2" STORM) = 733 CF
TOTAL STORAGE PROVIDED = 1,450 CF



SECTION A-A VIEW



PLAN VIEW

SECTION DETAIL FOR DRAINAGE SYSTEMS
N.T.S.

DRAINAGE SYSTEM DETAIL
N.T.S.

DRAINAGE SYSTEM NOTES:

1. ENTIRE SYSTEM SHALL BE ENCASED IN FILTER FABRIC.
2. LOCATION OF SYSTEM PER PLANS.
3. DESIGN ENGINEER WILL INSPECT AND CERTIFY IN WRITING THAT ALL DRAINAGE WORK WAS INSTALLED IN ACCORDANCE WITH APPROVED PLANS. CONTRACTOR TO NOTIFY ENGINEER AT LEAST 72 HOURS IN ADVANCE FOR DRAINAGE SYSTEM INSPECTION PRIOR TO BACKFILLING.

PHOSPHORUS LOAD TABLE			
TP=A*L	TP = TOTAL PHOSPHORUS		
Where:			
L	=	Load of a pollutant in pounds per acre per year.	
A	=	Total existing impervious area (acres).	
A1	=	Total proposed impervious area (acres).	
A2	=	Total captured impervious area (acres).	
TOTAL EXISTING LOAD			
TP EXISTING	=	A*L	
TP EXISTING	=	0.0610 ACRES X	2.32 lbs/acre/year
TP EXISTING	=	0.142 lbs/year	
TOTAL PROPOSED LOAD			
TP PROPOSED	=	A1*L	
TP PROPOSED	=	0.1010 ACRES X	2.32 lbs/acre/year
TP PROPOSED	=	0.234 lbs/year	
TOTAL REDUCED LOAD (AFTER CAPTURE)			
TP REDUCED	=	A2*L	
TP REDUCED	=	0.0890 ACRES X	2.32 lbs/acre/year
TP REDUCED	=	0.206 lbs/year	
TOTAL PHOSPHORUS REDUCTION FROM POST CONSTRUCTION IMPERVIOUS			
TP RED.	=	0.028 lbs/year	
TP RED.	=	88.13 %	

Overall summary Table (HydroCAD results)

Storm Event	Runoff flow rate		Runoff Volume	
	Existing	Proposed	Existing	Proposed
2-Year	0.72 cfs	0.50 cfs	2,264 cf	1,527 cf
10-Year	1.27 cfs	0.91 cfs	3,994 cf	2,780 cf
25-Year	1.59 cfs	1.16 cfs	4,923 cf	3,627 cf
100-Year	2.91 cfs	2.24 cfs	9,134 cf	7,651 cf

REVISION BLOCK

BY	DESCRIPTION	DATE
OG	FOOTPRINT AND CALC. REVISED	9/27/22
OG	MITIGATION AREA REVISED	9/27/22
OG	BOUNDS AND COMPOST SOCK ADDED	10/4/22
OG	REVISED AS PER CITY COMMENTS	12/12/22
OG	ESHGWT REVISED	12/14/22
HMS	REVISED AS PER CITY COMMENTS	01/19/23
OG	REVISED AS PER CITY COMMENTS	01/27/23
OG	REVISED AS PER CITY COMMENTS	06/15/23
OG	REVISED AS PER CLIENT COMMENTS	07/24/23

SCALE	1"=10'
DATE	8/30/2022
DRAWN BY	O.G.
CHECKED BY	P.N.
APPROVED BY	E.S.
SHEET	3
PLAN NO.	3 OF 5
CLIENT:	

SHEET: 3

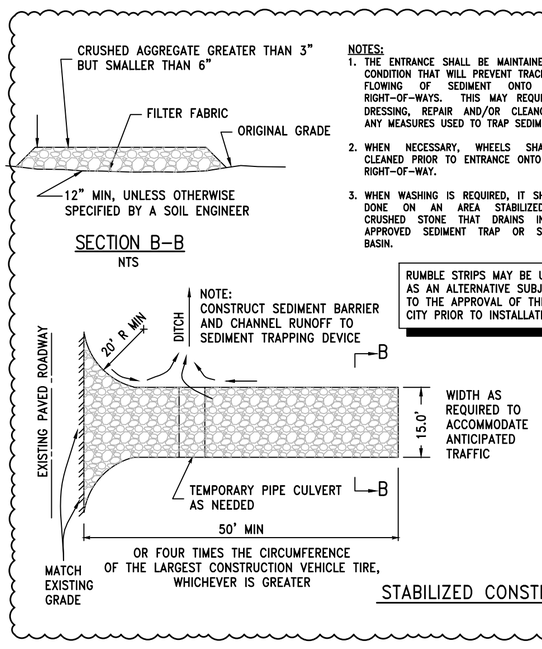
27 CROSS STREET, NEWTON, MASSACHUSETTS

DETAILS

COMMONWEALTH OF MASSACHUSETTS
EDMOND J. SPRUHAN
CIVIL
NO. 53316
REGISTERED PROFESSIONAL ENGINEER

PETER NOLAN & ASSOCIATES, LLC
LAND SURVEYORS/CIVIL ENGINEERING CONSULTANTS
697 CAMBRIDGE STREET, (SUIT103),
BRIGHTON, MA 02135
Tel:857-891-7478
617-782-1533
Fax:617-2025691

SPRUHAN ENGINEERING, P.C.
80 JEWETT ST, (SUITE 2)
NEWTON, MA 02458
Tel: 617-816-0722
Email:edmond@spruhaneng.com



NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT–OF–WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

RUMBLE STRIPS MAY BE USED AS AN ALTERNATIVE SUBJECT TO THE APPROVAL OF THE CITY PRIOR TO INSTALLATION

CONSTRUCTION SPECIFICATIONS:

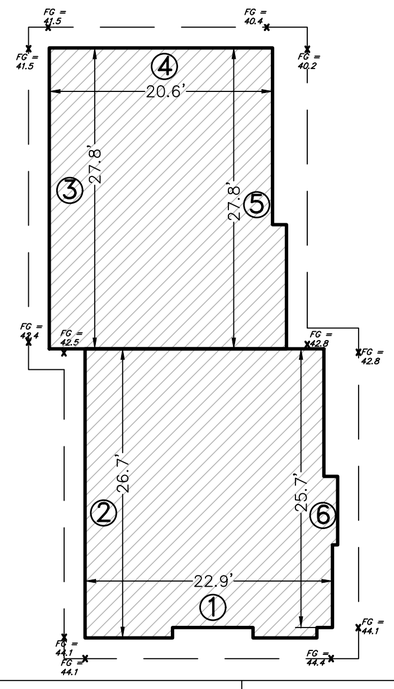
1. THE AGGREGATE SIZE FOR CONSTRUCTION OF THE PAD SHALL BE 2–3 INCH (50–75 MM) STONE. PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS, AND SMOOTH IT.
2. THE THICKNESS OF THE PAD SHALL NOT BE LESS THAN 6 INCHES (152 MM). USE GEOTEXTILE FABRICS, IF NECESSARY, TO IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.
3. THE WIDTH OF THE PAD SHALL NOT BE LESS THAN THE FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS AND IN ANY CASE SHALL NOT BE LESS THAN 12 FEET (3.6 M) WIDE.
4. THE LENGTH OF THE PAD SHALL BE AS REQUIRED, BUT NOT LESS THAN 50 FEET (15.2 M).
5. LOCATE CONSTRUCTION ENTRANCES AND EXITS TO LIMIT SEDIMENT LEAVING THE SITE AND TO PROVIDE FOR MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES. AVOID ENTRANCES WHICH HAVE STEEP GRADES AND ENTRANCES AT CURVES IN PUBLIC ROADS.
6. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR MAINTENANCE OF ANY MEASURES USED TO TRAP SEDIMENT.
7. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY SHALL BE REMOVED IMMEDIATELY.
8. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET.
9. WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. SEE SEDIMENT BASIN BMP.
10. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE THROUGH USE OF SAND BAGS, GRAVEL, STRAW BALES, OR OTHER APPROVED METHODS.

INSPECTION AND MAINTENANCE:

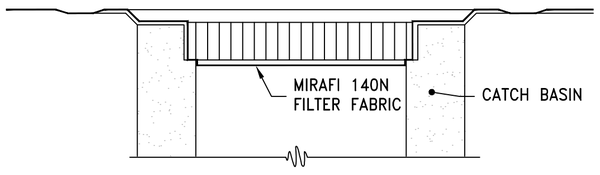
11. MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE.
12. REPLACE GRAVEL MATERIAL WHEN SURFACE VOIDS ARE NOT VISIBLE.
13. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY.
14. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS. REMOVE ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS WITHIN 24 HOURS.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

N.T.S.



AVERAGE GRADE PLANE (ALL UNITS IN FEET)					
SEGMENT	LENGTH	POINT 1	POINT 2	MEAN 1 & 2	MEAN x LENGTH
1	35.70	44.4	44.1	44.25	1,579.73
2	41.70	44.1	42.5	43.30	1,805.61
3	43.40	42.4	41.5	41.95	1,820.63
4	32.20	41.5	40.4	40.95	1,318.59
5	43.40	40.2	42.8	41.50	1,801.10
6	40.20	42.8	44.1	43.45	1,746.69
SUM =	236.60				10,072.35
SUM OF MEAN x LENGTH/SUM OF LENGTHS = AVERAGE GRADE PLANE =					**42.57**

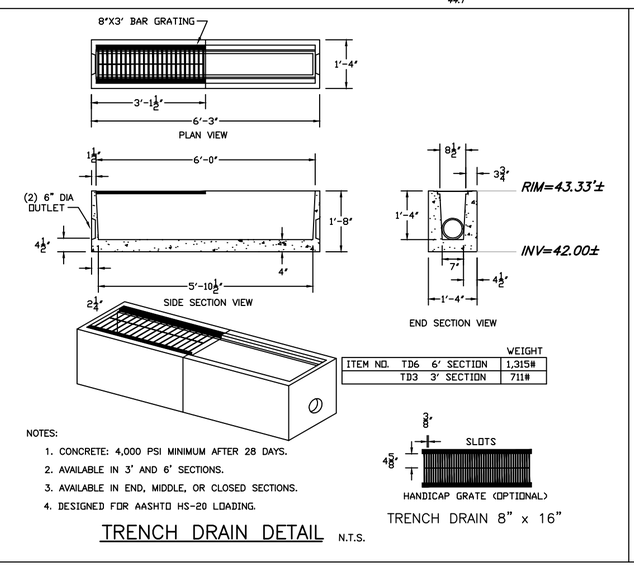


INSPECTION AND MAINTENANCE:

1. FILTER FABRIC BARRIERS SHALL BE INSPECTED WEEKLY AFTER EACH SIGNIFICANT STORM – 1 INCH RAINFALL (25.4 MM) IN 24 HOUR PERIOD. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
2. SEDIMENT SHOULD BE REMOVED WHEN IT REACHES 0.5" MAXIMUM HEIGHT. AT THAT TIME INSPECT THE FILTER MATERIAL FOR TEARS AND CLEAN OR REPLACE AS REQUIRED.
3. THE REMOVED SEDIMENT SHALL BE DISTRIBUTED EVENLY ACROSS AREAS ON–SITE, CONFORM WITH THE EXISTING GRADE AND BE REVEGETATED OR OTHERWISE STABILIZED PER EROSION CONTROL NOTES.

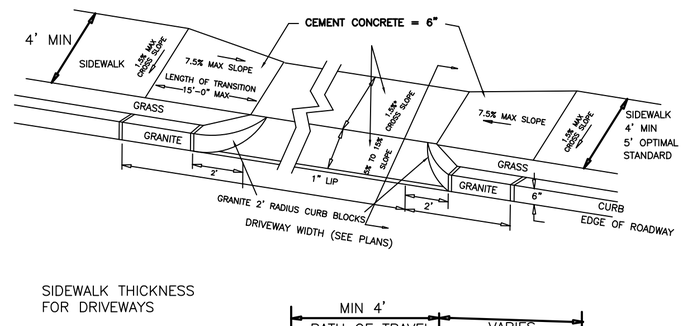
CATCH BASIN PROTECTION

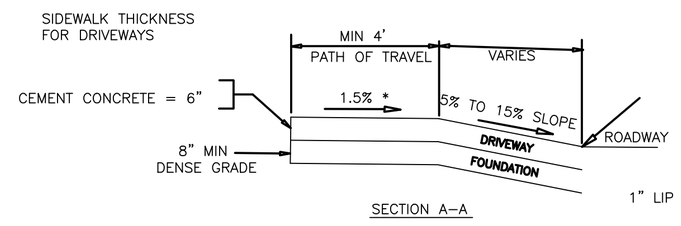
NTS



TRENCH DRAIN 8" x 16"

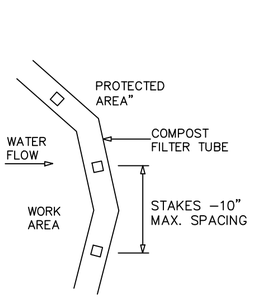
TRENCH DRAIN DETAIL N.T.S.

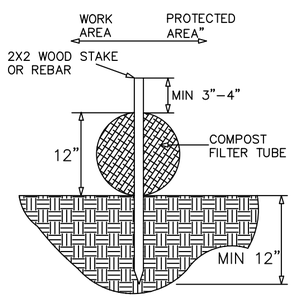




* TOLERANCE FOR CONSTRUCTION +/– 0.5%

DRIVEWAY APRON WITH CORNER BLOCKS

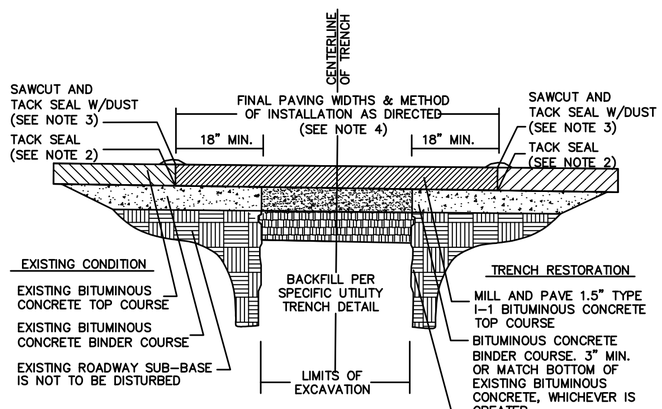




COMPOST FILTER TUBE SHOULD BE INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS AND WHERE SHOWN ON THE PLAN.

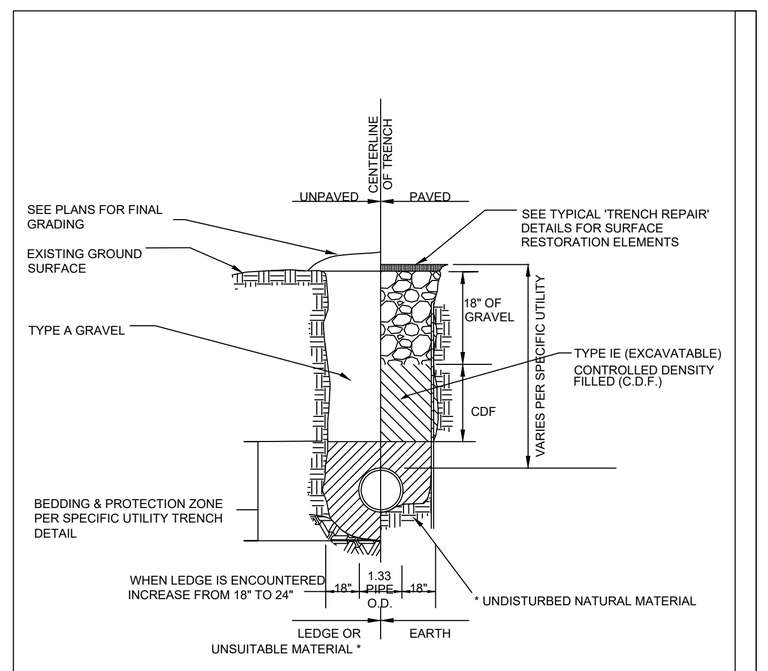
NOTES:
1. ALL MATERIALS TO MEET SPECIFICATION.
2. SILT SOCK COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.
3. SILT SOCK DEPICTED IS FOR MINIMUM SLOPES. GREATER SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER.
4. COMPOST MATERIAL TO BE DISPERSED ON SITE AS DETERMINED BY ENGINEER.

COMPOST SOCK DETAIL



TYPICAL TRENCH REPAIR & PAVEMENT SECTION DETAIL

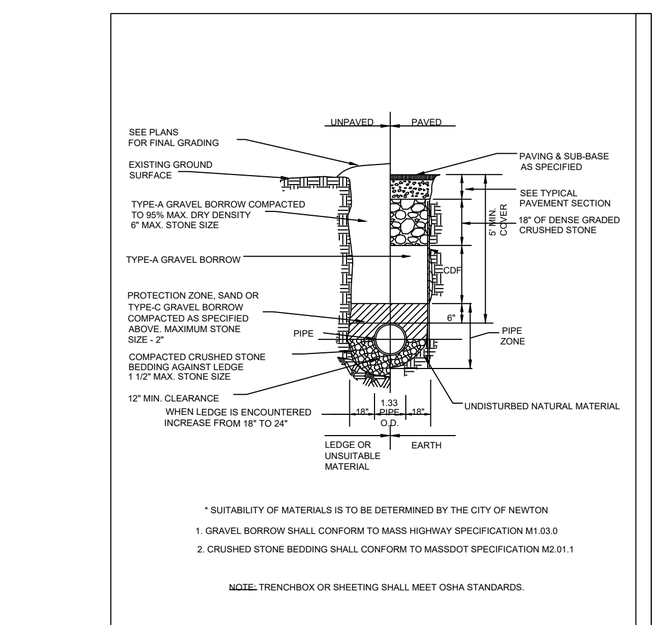
1. ALL INSTALLATION AND MATERIAL SPECIFICATIONS PER MASSDOT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, 2020 AS AMENDED.
2. ALL EXPOSED BITUMINOUS CONCRETE IS TO BE TACKED PER MASSDOT PRIOR TO NEW BITUMINOUS CONCRETE INSTALLATIONS.
3. ALL EXPOSED JOINTS ARE TO BE SEALED WITH TACK AND STONE DUST.
4. ANY TOP COURSE APPLIED AT A WIDTH OF 6' WIDE OR GREATER IS TO BE PLACED BY MACHINE/BOX SPREADER WHEN & AS DIRECTED BY THE CITY OF NEWTON.
5. SUPER PAVE FOR PAVEMENT



* SUITABILITY OF MATERIAL IS TO BE DETERMINED BY THE CITY OF NEWTON.

NOTE: TRENCHBOX OR SHEETING SHALL MEET OSHA STANDARDS.

TYPICAL C.D.F. (CONTROL DENSITY FILL) TRENCH SECTION

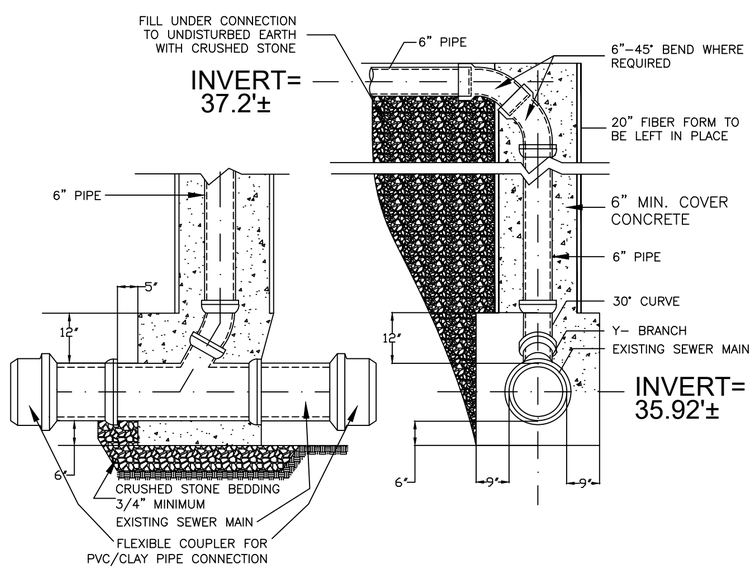


* SUITABILITY OF MATERIALS IS TO BE DETERMINED BY THE CITY OF NEWTON

1. GRAVEL BORROW SHALL CONFORM TO MASS HIGHWAY SPECIFICATION M1.03.0
2. CRUSHED STONE BEDDING SHALL CONFORM TO MASSDOT SPECIFICATION M2.01.1

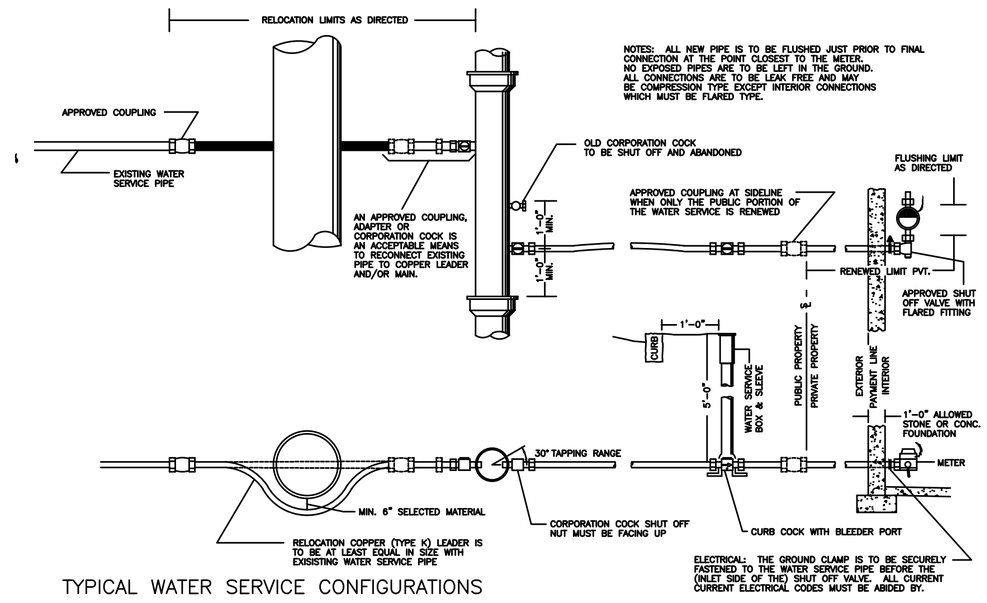
NOTE: TRENCHBOX OR SHEETING SHALL MEET OSHA STANDARDS.

TYPICAL WATER TRENCH DETAIL



TYPICAL SEWER CHIMNEY

Scale: Not To Scale



NOTES: ALL NEW PIPE IS TO BE FLUSHED JUST PRIOR TO FINAL CONNECTION AT THE POINT CLOSEST TO THE METER. NO EXPOSED PIPES ARE TO BE LEFT IN THE GROUND. ALL CONNECTIONS ARE TO BE LEAK FREE AND MAY BE COMPRESSION TYPE EXCEPT INTERIOR CONNECTIONS WHICH MUST BE FLARED TYPE.

TYPICAL WATER SERVICE CONFIGURATIONS

END VIEW

ELEVATION VIEW

TYPICAL PVC SEWER HOUSE CONNECTION

N.T.S.

REVISION BLOCK

BY	DESCRIPTION	DATE
OG	FOOTPRINT AND CALC. REVISED	9/27/22
OG	MITIGATION AREA REVISED	9/27/22
OG	BOUNDS AND COMPOST SOCK ADDED	10/4/22
OG	REVISED AS PER CITY COMMENTS	12/12/22
OG	ESHGWT REVISED	12/14/22
HMS	REVISED AS PER CITY COMMENTS	01/19/23
OG	REVISED AS PER CITY COMMENTS	01/27/23
OG	REVISED AS PER CITY COMMENTS	06/15/23
OG	REVISED AS PER CLIENT COMMENTS	07/24/23

SCALE	1"=10'
DATE	8/30/2022
DRAWN BY	O.G.
CHECKED BY	P.N.
APPROVED BY	E.S.
SHEET	4
PLAN NO.	4 OF 5
CLIENT:	

SHEET: 4

27 CROSS STREET, NEWTON, MASSACHUSETTS

DETAILS

COMMONWEALTH OF MASSACHUSETTS EDMOND J. SPRUHAN 53316 CIVIL REGISTERED PROFESSIONAL ENGINEER

PETER NOLAN & ASSOCIATES, LLC

LAND SURVEYORS/CIVIL ENGINEERING CONSULTANTS
697 CAMBRIDGE STREET, (SUIT103), BRIGHTON, MA 02135
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Fax:617-2025691

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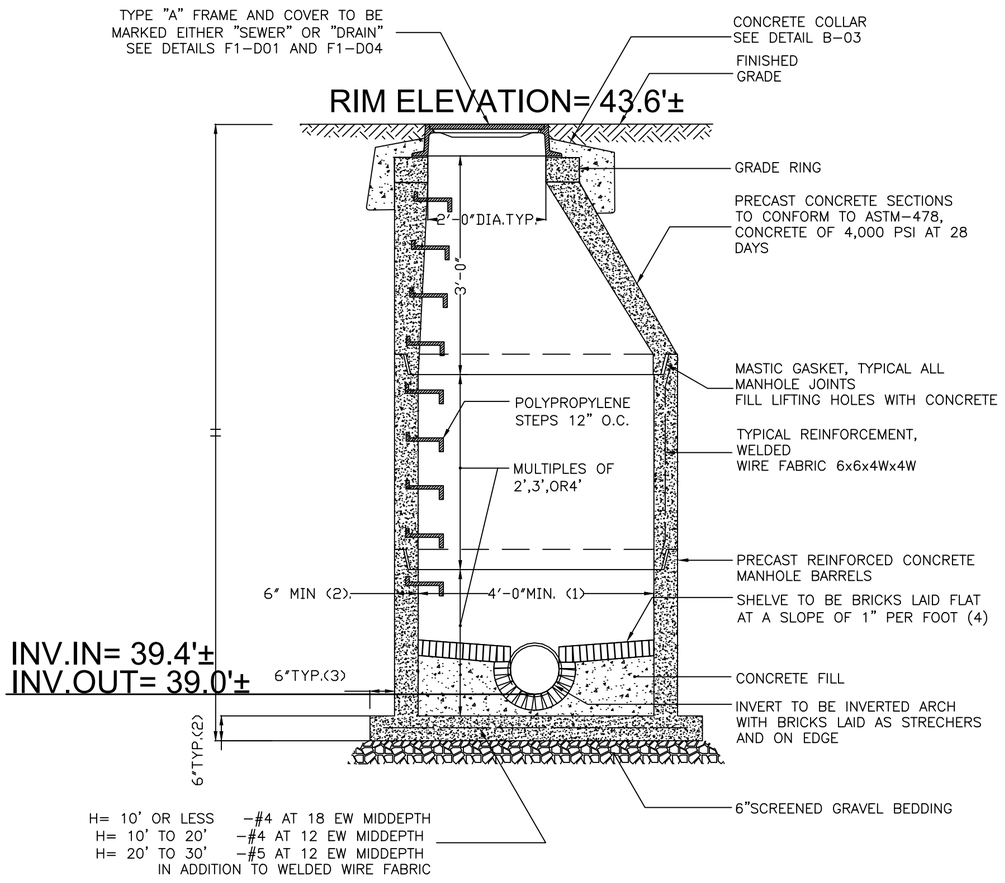
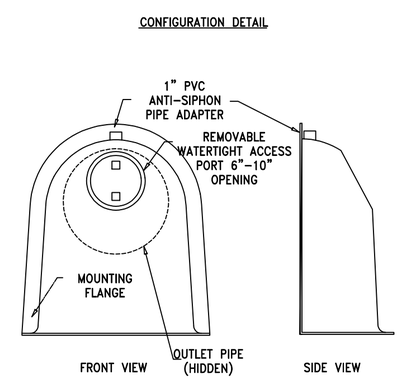
Tel: 617-816-0722
Email:edmond@spruhaneng.com

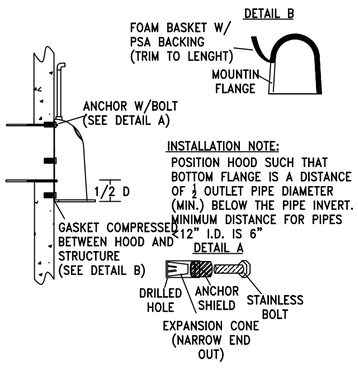


TYPICAL PRECAST CONCRETE MANHOLE

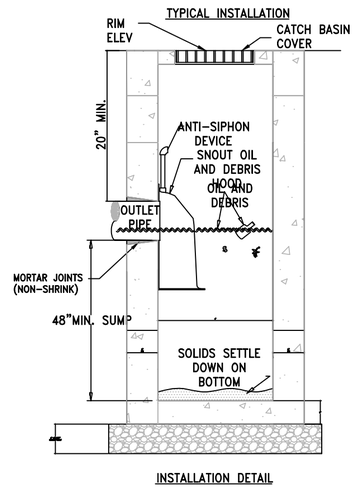
Scale: Not To Scale



SNOUT OIL-WATER-DEBRIS SEPARATOR



OIL-DEBRIS HOOD SPECIFICATION AND INSTALLATION (TYPICAL)



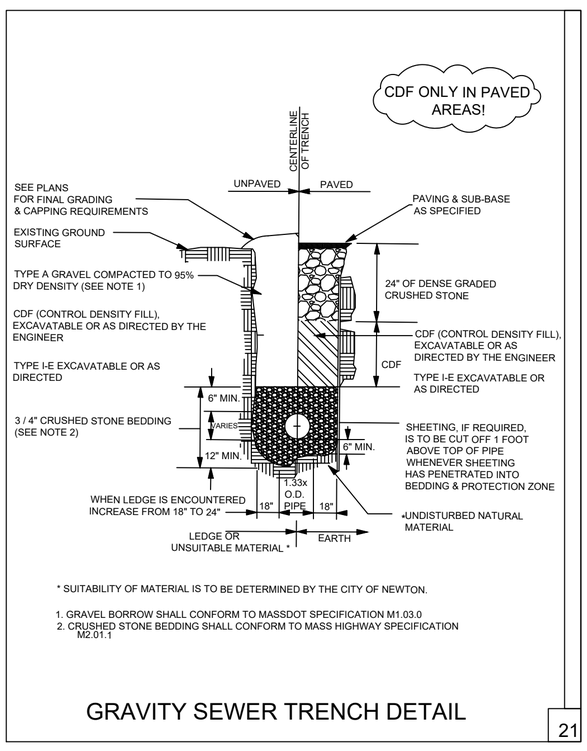
INSTALLATION DETAIL

NOTES:

1. ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.
2. ALL HOODS SHALL BE EQUIPED WITH A WATERTIGHT ACCESS PORT. A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT AS DRAWN. (SEE CONFIGURATION DETAIL)
3. THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANFACTURER'S RECOMMENDATION.
4. THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A DISTANCE EQUAL TO ½ THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 6" FOR PIPES <12" I.D.
5. THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 24" ACCORDING TO STRUCTURE CONFIGURATION.
6. THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL.
7. THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH 3/8' STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER (SEE INSTALLATION DETAIL)
8. INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT.
   INSTALLATION SHALL INCLUDE:
   A. INSTALLATION INSTRUCTIONS
   B. PVC ANTI-SIPHON VENT PIPE AND ADAPTER
   C. OIL-RESISTANT CRUSHED CELL FOAM GASKET WITH PSA BACKING
   D. 3/8" STAINLESS STEEL BOLTS
   E. ANCHOR SHIELDS

US PATENT # 6126817

DEEP SUMP CATCH BASIN WITH DEBRIS COLLECTOR DETAIL

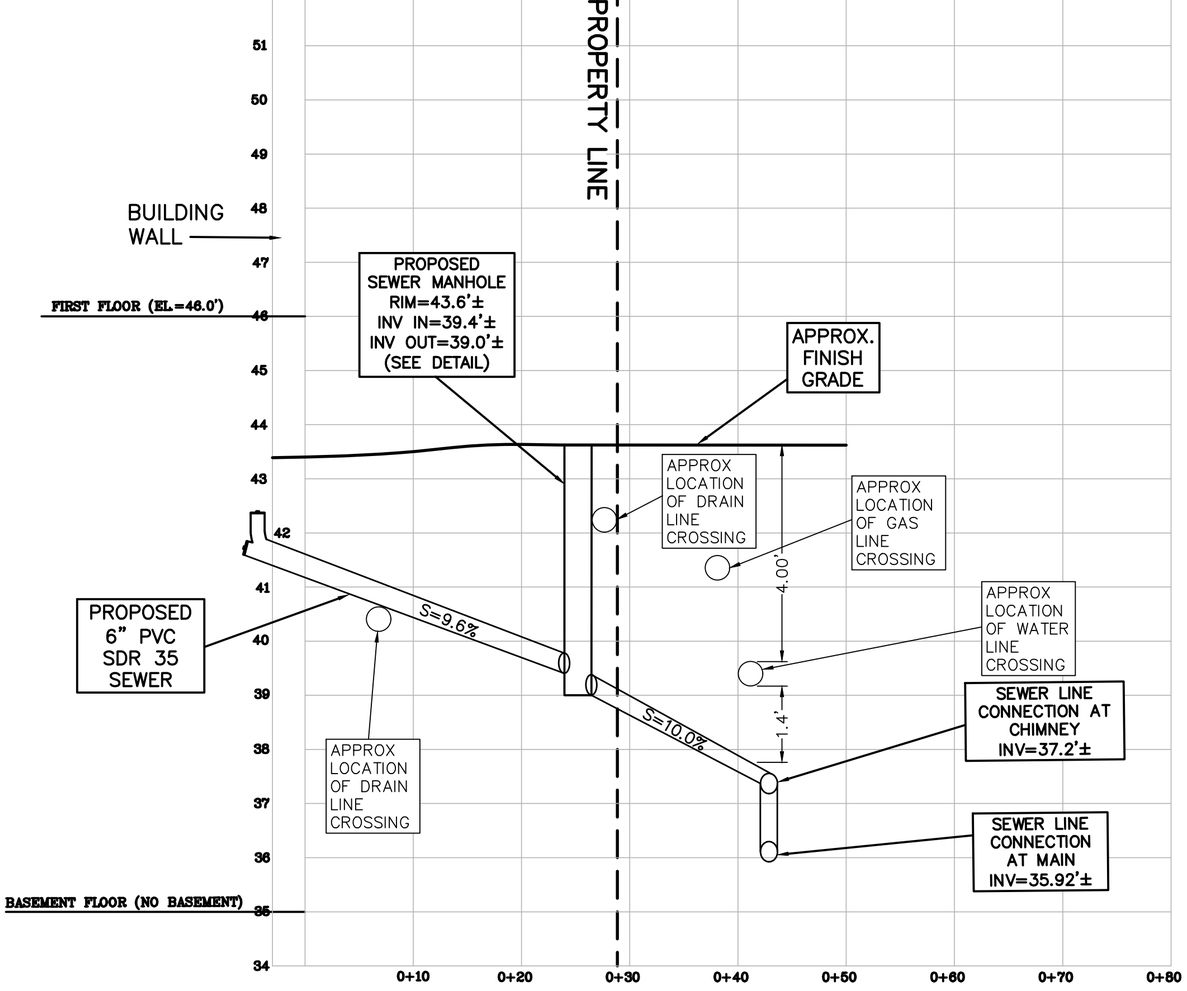


* SUITABILITY OF MATERIAL IS TO BE DETERMINED BY THE CITY OF NEWTON.

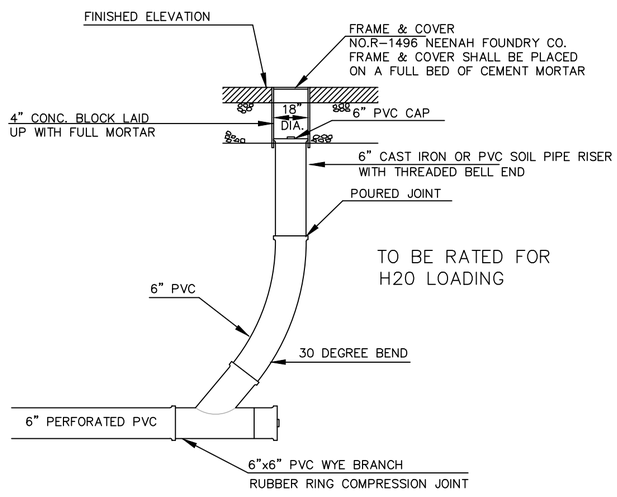
1. GRAVEL BORROW SHALL CONFORM TO MASSDOT SPECIFICATION M1.03.0
2. CRUSHED STONE BEDDING SHALL CONFORM TO MASS HIGHWAY SPECIFICATION M2.01.1

GRAVITY SEWER TRENCH DETAIL

21



PROPOSED SEWER PROFILE
V SCALE = 1"=2'
H SCALE = 1"=10'



CLEANOUT/INSPECTION PORT DETAIL		
NOT TO SCALE	(CLEANOUT-DETAIL)	

REVISION BLOCK

BY	DESCRIPTION	DATE
OG	FOOTPRINT AND CALC. REVISED	9/27/22
OG	MITIGATION AREA REVISED	9/27/22
OG	BOUNDS AND COMPOST SOCK ADDED	10/4/22
OG	REVISED AS PER CITY COMMENTS	12/12/22
OG	ESHGWT REVISED	12/14/22
HMS	REVISED AS PER CITY COMMENTS	01/19/23
OG	REVISED AS PER CITY COMMENTS	01/27/23
OG	REVISED AS PER CITY COMMENTS	06/15/23
OG	REVISED AS PER CLIENT COMMENTS	07/24/23

SCALE	1"=10'
DATE	8/30/2022
DRAWN BY	O.G.
CHECKED BY	P.N.
APPROVED BY	E.S.
SHEET	5
PLAN NO.	5 OF 5
CLIENT:	

SHEET: 5

27 CROSS STREET, NEWTON, MASSACHUSETTS

DETAILS

COMMONWEALTH OF MASSACHUSETTS
EDMOND T. SPRUHAN
CIVIL
No. 53316
REGISTERED PROFESSIONAL ENGINEER

PETER NOLAN & ASSOCIATES, LLC
LAND SURVEYORS/CIVIL ENGINEERING CONSULTANTS
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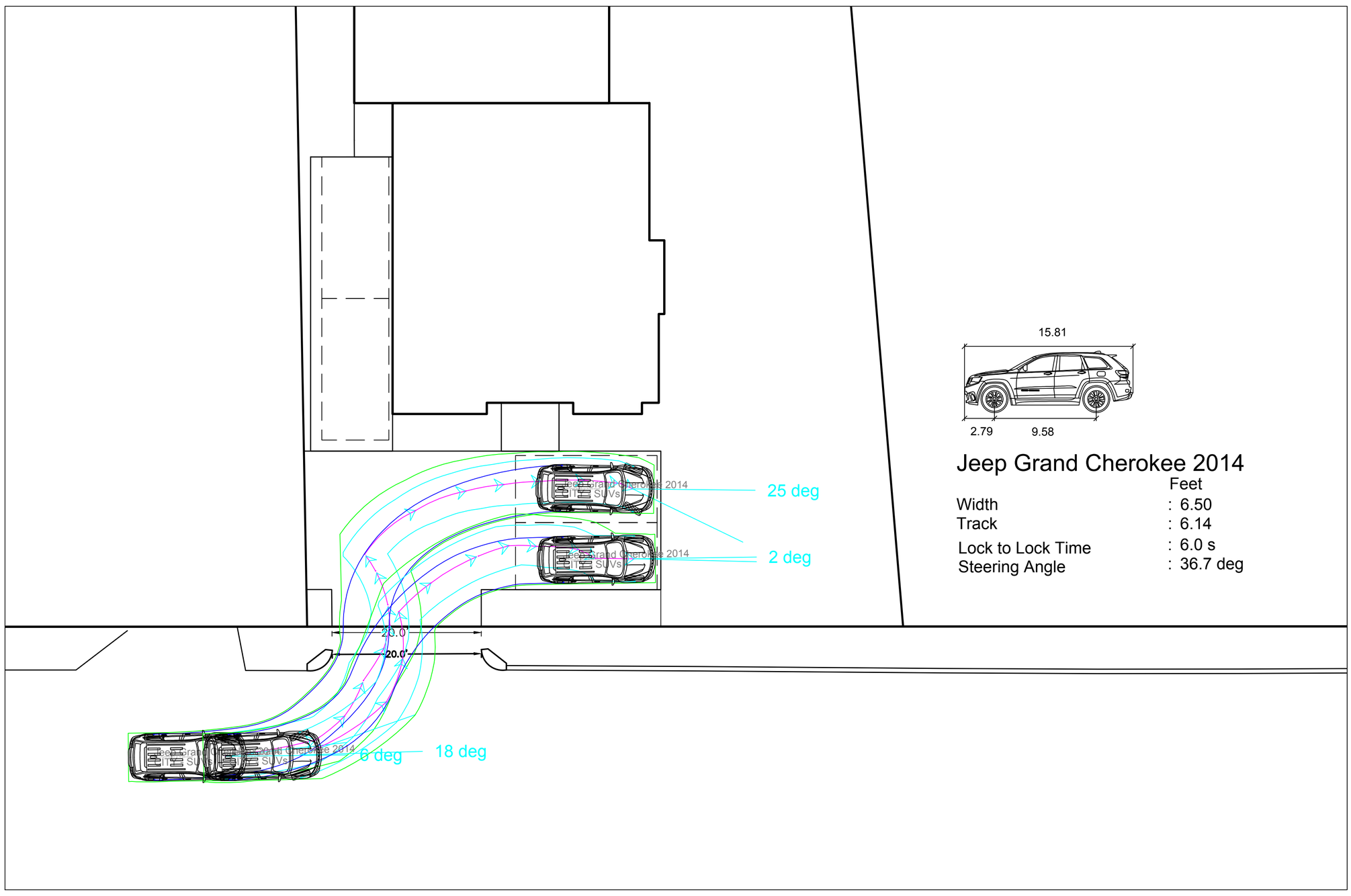
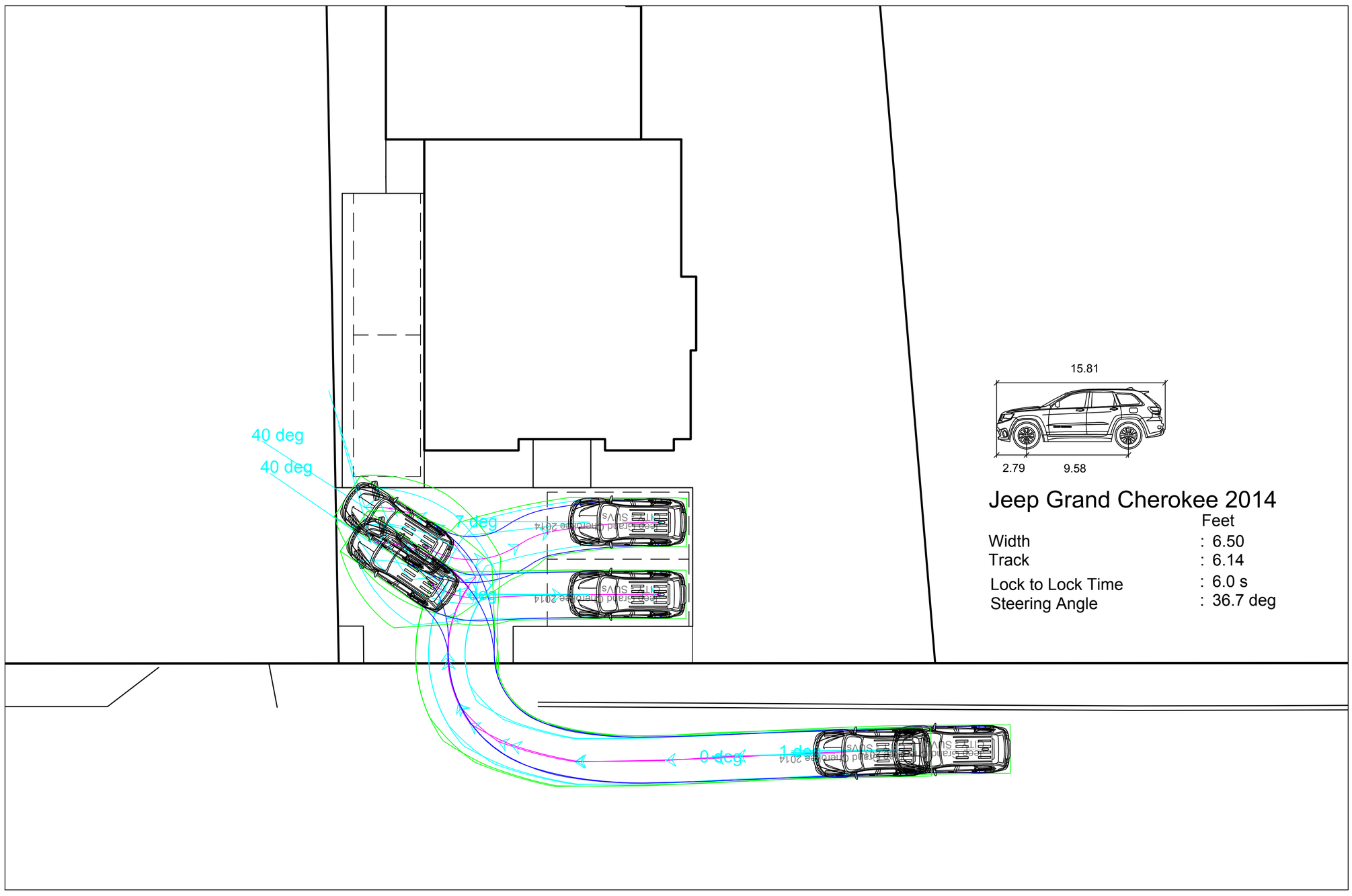


Jeep Grand Cherokee 2014

	Feet
Width	: 6.50
Track	: 6.14
Lock to Lock Time	: 6.0 s
Steering Angle	: 36.7 deg



Jeep Grand Cherokee 2014

	Feet
Width	: 6.50
Track	: 6.14
Lock to Lock Time	: 6.0 s
Steering Angle	: 36.7 deg

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

REVISION BLOCK

BY	DESCRIPTION	DATE

SCALE	1"=10'
DATE	06/15/2023
DRAWN BY	O.G.
CHECKED BY	P.N.
APPROVED BY	E.S.
SHEET	1
PLAN NO.	1 OF 4
CLIENT:	

SHEET: 1

27 CROSS STREET, NEWTON, MASSACHUSETTS

TURN ANALYSIS

COMMONWEALTH OF MASSACHUSETTS
EDMOND T. SPRUHAN
CIVIL
053316
REGISTERED PROFESSIONAL ENGINEER

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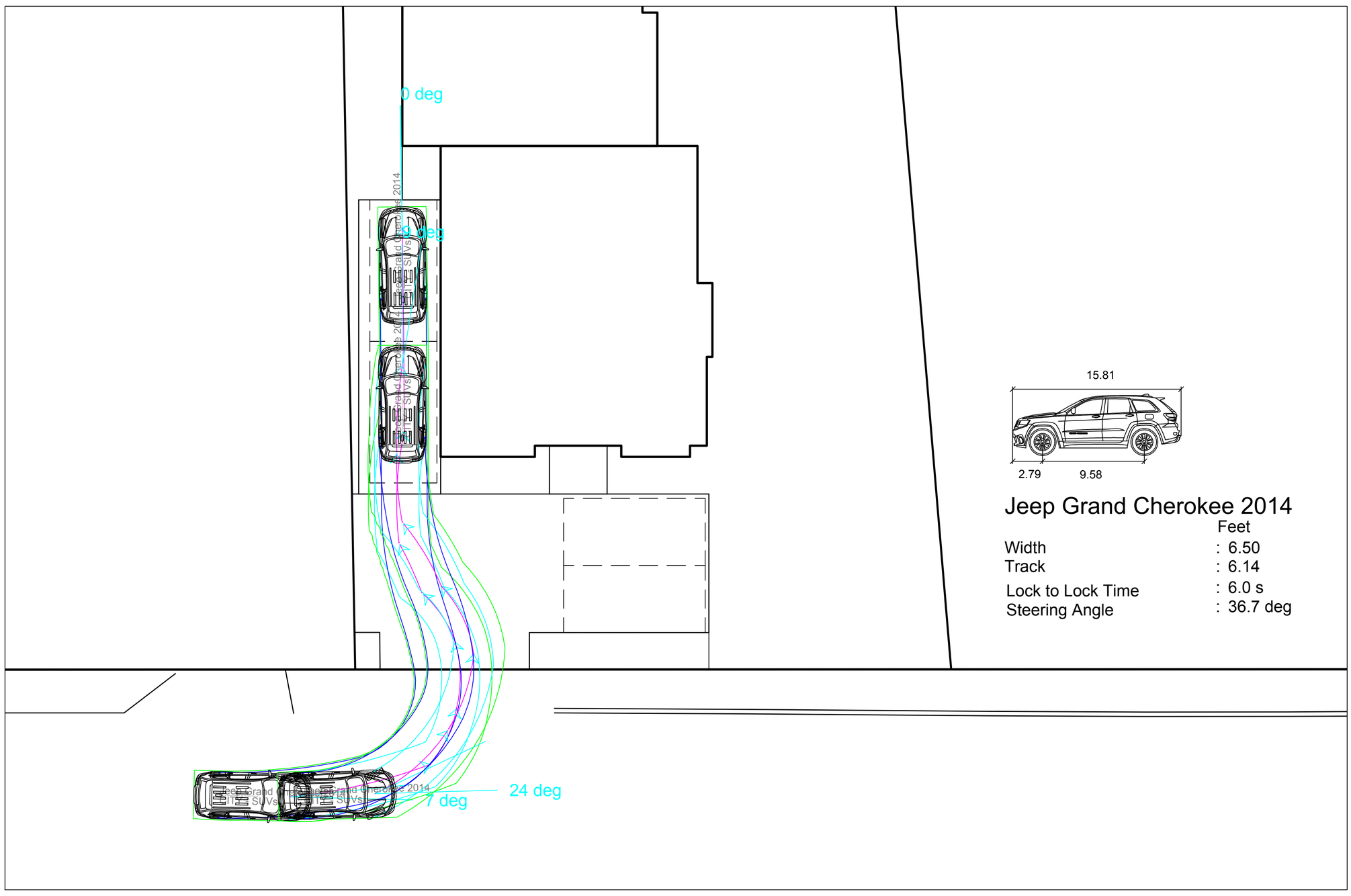

15.81

2.79 9.58

Jeep Grand Cherokee 2014

	Feet
Width	: 6.50
Track	: 6.14
Lock to Lock Time	: 6.0 s
Steering Angle	: 36.7 deg

15.81

2.79 9.58

Jeep Grand Cherokee 2014

	Feet
Width	: 6.50
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GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
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REVISION BLOCK

BY	DESCRIPTION	DATE

SCALE	1"=10'
DATE	06/15/2023
DRAWN BY	O.G.
CHECKED BY	P.N.
APPROVED BY	E.S.
SHEET	2
PLAN NO.	2 OF 4
CLIENT:	

SHEET: 2

27 CROSS STREET, NEWTON, MASSACHUSETTS

TURN ANALYSIS

COMMONWEALTH OF MASSACHUSETTS
EDMOND J. SPRUHAN
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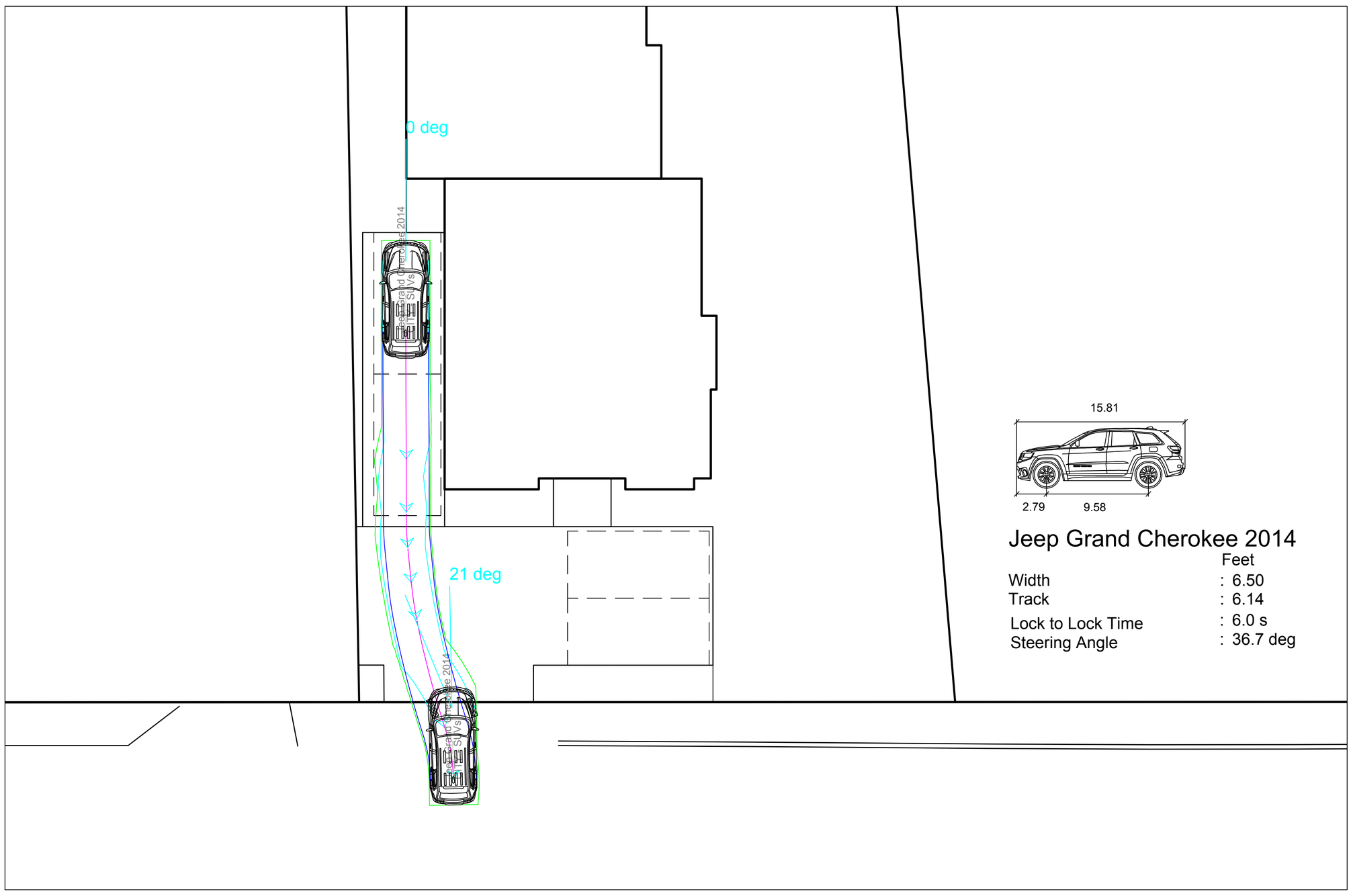
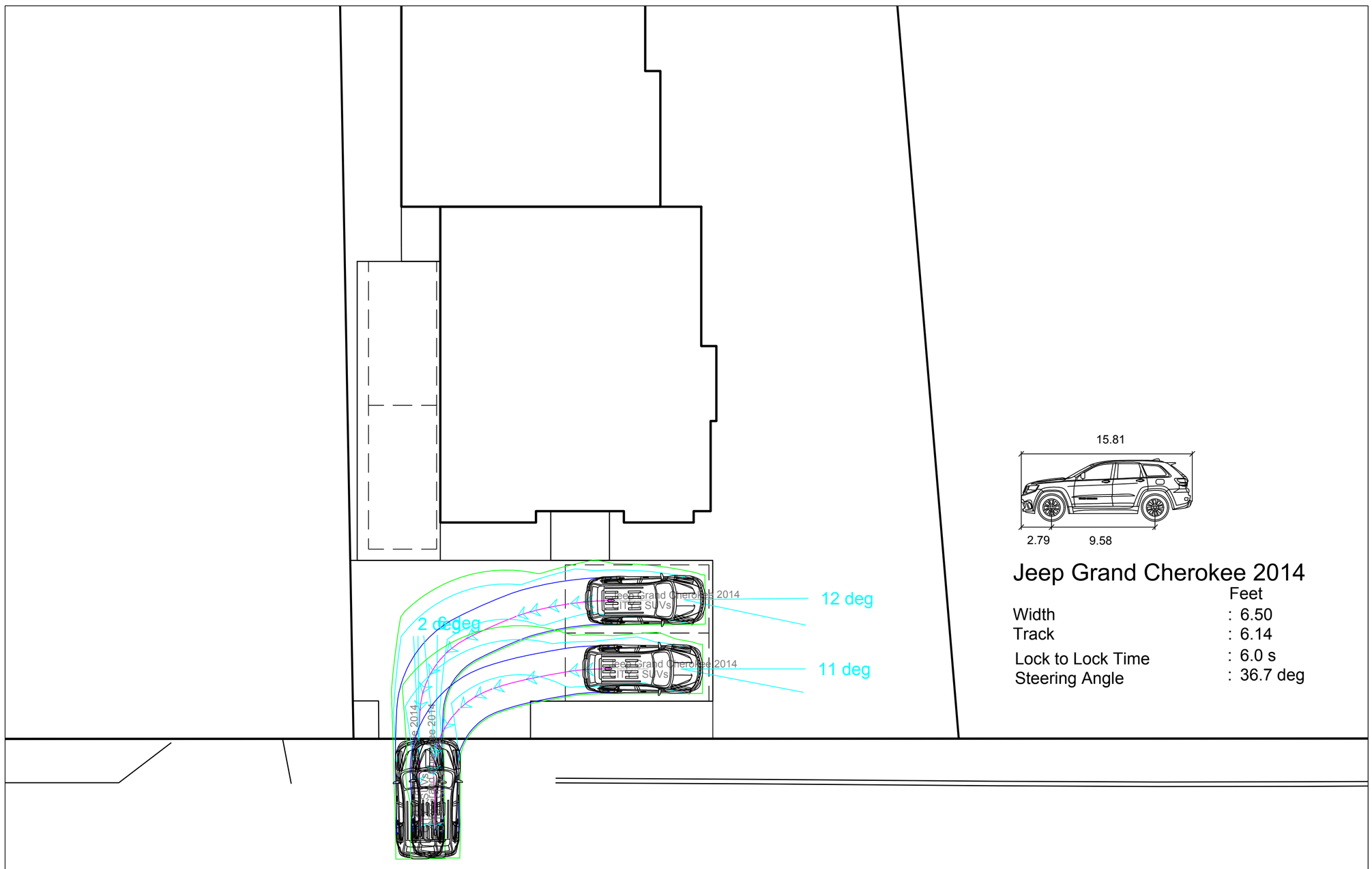


Jeep Grand Cherokee 2014

	Feet
Width	: 6.50
Track	: 6.14
Lock to Lock Time	: 6.0 s
Steering Angle	: 36.7 deg



Jeep Grand Cherokee 2014

	Feet
Width	: 6.50
Track	: 6.14
Lock to Lock Time	: 6.0 s
Steering Angle	: 36.7 deg

GRAPHIC SCALE

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(IN FEET)
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REVISION BLOCK

BY	DESCRIPTION	DATE

SCALE	1"=10'
DATE	06/15/2023
DRAWN BY	O.G.
CHECKED BY	P.N.
APPROVED BY	E.S.
SHEET	3
PLAN NO.	3 OF 4
CLIENT:	

SHEET: 3

27 CROSS STREET, NEWTON, MASSACHUSETTS

TURN ANALYSIS

COMMONWEALTH OF MASSACHUSETTS
EDMOND J. SPRUHAN
CIVIL
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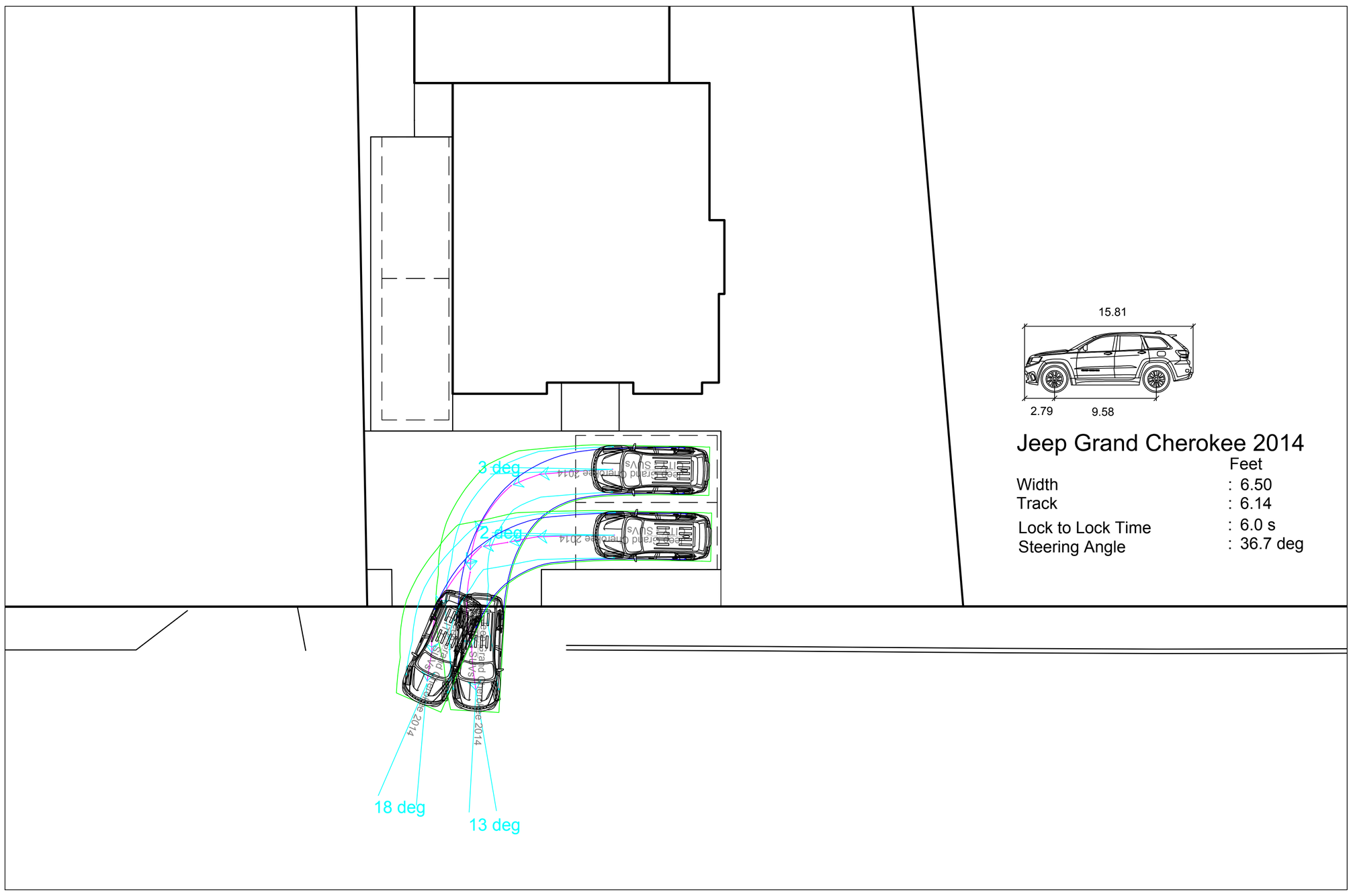

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	Feet
Width	: 6.50
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GRAPHIC SCALE

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REVISION BLOCK

BY	DESCRIPTION	DATE

SCALE	1"=10'
DATE	06/15/2023
DRAWN BY	O.G.
CHECKED BY	P.N.
APPROVED BY	E.S.
SHEET	4
PLAN NO.	4 OF 4
CLIENT:	

SHEET: 4

27 CROSS STREET, NEWTON, MASSACHUSETTS

TURN ANALYSIS

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