Arlington Conservation Commission

Date: Thursday, November 20, 2025
Time: 7:00 PM
Location:

Agenda

1. Administrative
    a. Review Meeting Minutes.
    b. Correspondence Received.
2. Discussion
    a. Legislative Update and Vote on Letters of Support.
    b. Enforcement Order: 66-66R Dudley Street/993 Massachusetts Avenue.
    c. Water Bodies Working Group.
    d. CPA Committee Liaison.
    e. Tree Committee Update.
3. Hearings

DEP #091-0372: Notice of Intent: 40 Park Avenue (Continued from 11/06/25).

DEP #091-0372: Notice of Intent: 40 Park Avenue (Continued from 11/06/25).
The Conservation Commission will hold a public hearing to consider a Notice of Intent to repair a loading dock at 40 Park Ave in Arlington. Areas proposed to be altered include the Riverfront Area and the Buffer Zone/Adjacent Upland Resource Area associated with Bank to Mill Brook

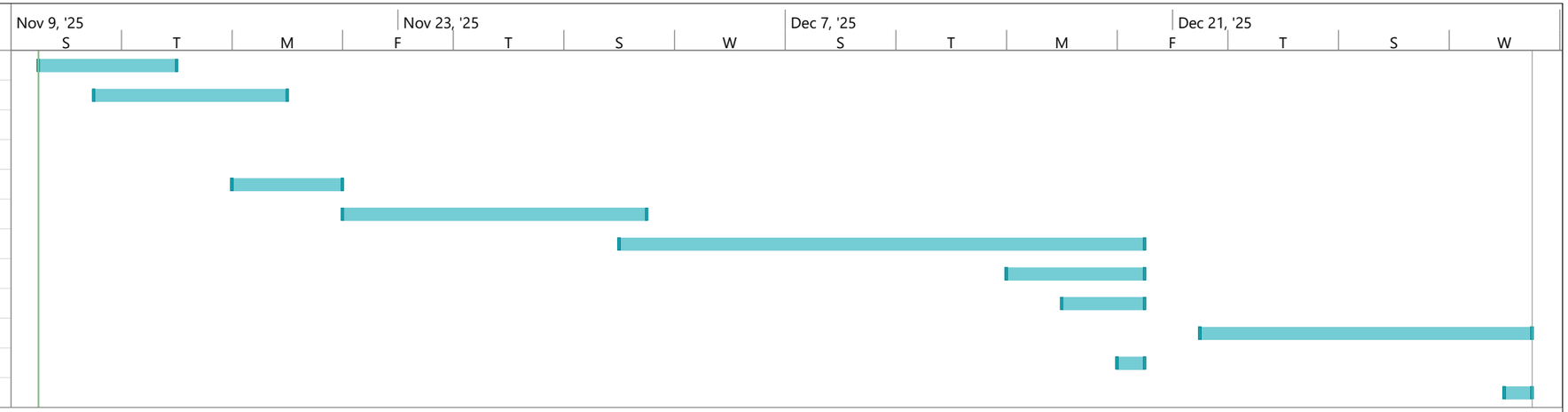
Correspondence Received.

Summary:
Correspondence Received.

ATTACHMENTS:

	Type	File Name	Description
🗋	Reference Material	Correspondence_Received_-_Arlington_Catholic_Artificial_Turf_Field_-_Tentative_Schedule.pdf	Correspondence Received - Arlington Catholic Artificial Turf Field - Tentative Schedule
🗋	Reference Material	Correspondence_Received_-_Arlington_Catholic_Artificial_Turf_Field_-_Susan_Chapnick.pdf	Correspondence Received - Arlington Catholic Artificial Turf Field - Susan Chapnick
🗋	Reference Material	Correspondence_Received_-_Arlington_Catholic_Artificial_Turf_Field_-_Brian_McBride.pdf	Correspondence Received - Arlington Catholic Artificial Turf Field - Brian McBride

ID	Task Name	Start	Finish
1	Turf Demo	Mon 11/10/25	Fri 11/14/25
2	Existing Pad Removal	Wed 11/12/25	Tue 11/18/25
3	Turf Removal Trucking TBD		
4	New Turf Delivery (TBD)		
5	Fine Grading	Mon 11/17/25	Thu 11/20/25
6	Shock Pad	Fri 11/21/25	Mon 12/1/25
7	Synthetic Turf/Infill	Mon 12/1/25	Fri 12/19/25
8	Clean up/Restoration	Mon 12/15/25	Fri 12/19/25
9	De-Mobilization	Wed 12/17/25	Fri 12/19/25
10	Closeout/Punchlist	Mon 12/22/25	Fri 1/2/26
11	Substantial Completion	Fri 12/19/25	Fri 12/19/25
12	Final Completion	Fri 1/2/26	Fri 1/2/26



Project: Holy Cross Track & Tur
Date: Mon 11/10/25

Split	Inactive Task	Duration-only	Finish-only	Progress
Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Manual Progress
Summary	Inactive Summary	Manual Summary	External Milestone	
Project Summary	Manual Task	Start-only	Deadline	

November 10, 2025

Mr. Daniel J. Shine
Director of Athletics
Arlington Catholic High School
via email: dshine@achs.net

Subject: Considerations in Artificial Turf Field replacement

Dear Mr. Shine,

I am writing as an Arlington resident, scientist, and Conservation Commissioner, but I do not represent the commission in this communication, to express both my appreciation for your prompt response to the Enforcement Order concerning the Artificial Turf Field replacement and my concern that an opportunity to set a strong example of being a leader in this arena is being missed.

I appreciate that you are taking swift actions, as enumerated in the Enforcement Order of November 7, 2025, to ensure that tire crumb rubber and broken plastic blades from the worn artificial turf field that is being removed do not migrate to the wetland resource area surrounding Mill Brook.

I also view this replacement as an opportunity for Arlington Catholic High School to be a leader in balancing the needs of athletes with the protection of the environment by changing the tire crumb rubber infill to an organic infill, as has been done in numerous other towns.

I understand that decisions to re-surface an existing Artificial Turf field require a balance of cost, needs of the athletic community, health and safety, and protection of the environment. In these respects, I understand that you have chosen to re-surface the existing artificial turf field rather than to replace it with a natural grass field.[1]

I understand that you gathered opinions of several other towns on the efficacy of alternate infills; however, as I also understand from the towns that I have been following, organic infills are an increasingly popular choice due to health concerns (chemicals) and environmental concerns. Most recently, organic infill (BrockFill Infill) has been defined for artificial turf fields in the neighboring towns of Lexington and Newton. Additionally, as you may be aware, the Arlington Artificial Turf Study Committee concluded (report of April 12, 2024)[2]:
"To the extent that future field planners choose to seriously evaluate artificial turf as an option, the Committee feels strongly that the following points should be considered by those planners for all future projects:

- *Crumb rubber infills should not be used in artificial turf fields in Arlington."*

[1] Please see the Attachment A at the end of this letter for cost comparisons presented to the Arlington Artificial Turf Study Committee, summarized from the committee report of 2024, for organically managed natural grass athletic field as a practicable alternative.
[2] https://www.arlingtonma.gov/home/showpublisheddocument/69732/638494836316530000

I do not claim to be an expert on human health and safety concerns of tire crumb rubber infill. However, I do have over 30 years of experience in environmental science and have provided expert testimony on the harm of artificial turf fields with tire crumb rubber infill. My main concerns with tire crumb rubber are chemical pollution, plastic pollution, and excess heat. Since the field will still be artificial turf, excess heat will not be able to be mitigated.

Chemical Pollution - Tires contain zinc, as do tire crumb rubber made from tires. During rain events, zinc can leach from tire crumb rubber at levels that can cause harm to aquatic organisms due to exceedance of the EPA National Recommended Water Quality Criteria - Aquatic Life Criteria.[3]

Direct toxicity to aquatic organisms has been documented from surface runoff during rainstorms from Artificial Turf Fields with tire crumb rubber infill based on whole effluent toxicity and Zinc toxicity.[4]

A more recently discovered chemical, which is formed during weathering (UV / sunlight oxidation) of used tires, has been reported in peer-reviewed literature as a transformation product in tire crumb rubber.[5] This chemical, 6PPD-quinone, is acutely toxic to fish – meaning it is the cause of fish kills. Toxicity has been documented in several freshwater fish.[6,7] EPA recently published in 2024 an extremely low Acute Freshwater Aquatic Life Screening Value for 6PPD-quinone of 11 ng/L (ppt) under the Clean Water Act, section 304(1)(2)(B), for the protection of aquatic life.[8] This is an extremely low concentration - equivalent to 11 drops of water in 20 Olympic sized swimming pools!

Scientific evidence of leaching of 6PPD-quinone in stormwater runoff from tire crumb rubber infill has been reported at 159 ng/L [9] -- which exceeds the EPA value by an order-of-magnitude. Lab experiments have also proven 6PPD-quinone to be present in leachate from tire crumb rubber infills.[10]

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[3] USEPA, National Recommended Water Quality Criteria – Aquatic Life Criteria Table
https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table

[4] CTDEP, July 2010: *Artificial Turf Study: Leachate and Stormwater Characteristics*
https://portal.ct.gov/-/media/DEEP/artificialturf/DEPArtificialTurfReportpdf.pdf

[5] Zhao, H.N., et al., 2023: Screening P-PhenylendiamineOxidants, Their Transformation Products, and Industrial Chemical Additives in Crumb Rubber and Elastomeric Consumer Products. Environ. Sci. Technol. 2023, 57, 2779-2791;
https://pubmed.ncbi.nlm.nih.gov/36758188/

[6] Brinkman, M., et al. 2022. Acute Toxicity of the Tire Rubber-Derived Chemical 6PPD-quinone to Four Fishes of Commercial, Cultural, and Ecological Importance, March 2022;
https://pubs.acs.org/doi/10.1021/acs.estlett.2c00050

[7] ITRC, Summer 2023. What We Know: 6PPD and 6PPD-quinone.
https://6ppd.itrcweb.org/wp-content/uploads/2023/09/6PPD-Focus-Sheet-Web-Layout-9.pdf

[8] EPA Federal Register, 6/13/2024: Acute Freshwater Aquatic Life Screening Values for 6PPD and 6PPD-quinone.
https://www.federalregister.gov/documents/2024/06/13/2024-13009/acute-aquatic-life-screening-values-for-6ppd-and-6ppd-quinone-in-freshwater

[9] Kryuchkov, F., et al., 2023. Presence of 6PPD-quinone in Runoff Water Samples From Norway Using a New LC-MS-MS Method. Front. Environ. Chem. 4:1194664.
https://doi.org/10.3389/fenvc.2023.1194664

[10] McMinn, M. H. et al. 2024. Emerging investigator series: in-depth chemical profiling of tire and artificial turf crumb rubber: aging, transformation products, and transport pathways. Environ. Sci: Processes & Impacts, August 2024, 26, 1703;
https://doi.org/10.1039/d4em00326h

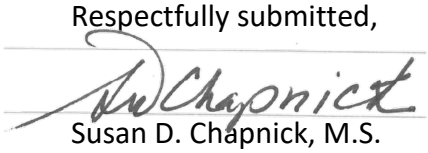
Besides acute toxicity to fish, adverse effects of 6PPD-quinone have been shown on a range of organisms including worms, nematodes and terrestrial mammals. These effects include neurobehavioral, reproductive, and digestive damage.[11]

Plastic Pollution - Broken plastic blades and infill particles from Artificial Turf Fields continually migrate into the environment during routine play, storm events, and snow plowing, resulting in macroplastic and microplastic pollution. In April 2023, the REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) Committee voted to prohibit microplastics intentionally added to products within the European Union (EU). The EU specifically acknowledged the negative impact of tire crumb rubber infills as microplastic pollution and in September 2023 enacted a ban on the sale of products containing intentionally added microplastics – including in this ban "granular artificial turf infill".[12]

A recent case study from Norway (April 2025)[13] revealed that 900 kg/field (1,984 lbs/field) of tire crumb rubber is lost from artificial turf athletic fields annually. This study concluded that there is a crucial need for regulatory and field management measures to reduce tire crumb rubber loss to the environment.

In conclusion, there may still be time for Arlington Catholic to lead the way towards replacing tire crumb rubber infill with an organic alternative – and maybe, in 8 or 10 years when this re-surfaced artificial turf field needs replacement, you might consider converting to an organically managed natural grass field.

Thank you for your consideration of these concerns.
Respectfully submitted,



Susan D. Chapnick, M.S.
2 Farmer Cir, Arlington, MA 02474
s.chapnick@comcast.net

[11] Jiang, Y. et al., 2024. Environmental profiles, hazard identification, and toxicological hallmarks of emerging tire rubber-related contaminants 6PPD and 6PPD-quinone. Environ. Inter. Vol. 187, 108677, May 2024; https://doi.org/10.1016/j.envint.2024.108677

[12] Zuccaro, P., et al. 2024. The European Union ban on microplastics includes artificial turf crumb rubber infill: other nations should follow suit. *Environmental Science & Technology, v.58*, 6, 2591–2594. https://doi.org/10.1021/acs.est.4c00047

[13] Sundan, Siri Marie Bo, et al. 2025. Dynamic material flow analysis of microplastics lost from artificial turfs: A case study from Norway. Science of the Total Environment, Vol 973, 10 April 2025, 179159. https://www.sciencedirect.com/science/article/pii/S0048969725007946

Susan D. Chapnick, M.S., Bio

Susan Chapnick is the former President and Principal Scientist of New Environmental Horizons, Inc. (NEH), an environmental chemistry consulting firm specializing in the planning and evaluation of environmental data. She is recognized as a technical expert with over 30 years of experience in analytical chemistry and quality assurance of environmental measurements for complex investigations in support of Natural Resource Damage Assessments, USEPA Superfund, US Army Corps of Engineers, and state-led programs. Ms. Chapnick received the Conservation Commissioner of the Year Award in March 2025 "for extraordinary contributions to natural resource protection in the Commonwealth of Massachusetts" by the Massachusetts Association of Conservation Commissions (MACC). Ms. Chapnick also leads local policy changes towards Climate Change Resilience and adaptation planning in wetland resource areas as the current Vice-Chair (and former Chair) of the Conservation Commission in the Town of Arlington, MA. Additionally, Ms. Chapnick serves on the Science Advisory Committee for the MassDEP Bureau of Waste Site Cleanup where she assists in development of environmental regulations and technical guidance. Ms. Chapnick holds a Master of Science in Marine Science from the University of South Carolina and a Bachelor's degree in Biological Sciences from Barnard College, Columbia University, New York.

Attachment A

An alternative to Artificial Turf Fields are organically, sustainably managed natural turf fields that are well-constructed for improved draining and employ aeration, mowing techniques, and soil amendments based on current soil science data to allow for:

1) improved drainage;
2) reduced need for chemical application of fertilizers;
3) elimination of non-organic harmful chemical/pesticide treatments;
4) wildlife corridor connectivity, bird and small mammal foraging, invertebrate habitat functions and improved biodiversity;
5) a more climate resilient option because it is sustainable (does not cause recurring environmental impacts every 8-10 years due to required replacement), does not increase urban heat, has less pollution runoff due to infiltration, and allows for carbon sequestration;
6) improved playing time of up to 800 hours per year vs. poorly managed natural fields.[14,15]

Chemicals: Organically or sustainably managed natural grass fields do not use pesticides for insect control and maintain beneficial insect and fungi populations and grass surface through soil testing, choice of grass species, aeration, mowing practices, soil amendments and as-needed additions of low nitrogen/no phosphorous fertilizers.[16]

Water: It is true that natural grass requires irrigation; however, consideration should be weighed as concluded by Sánchez-Sotomayor *et al*. (2023) "Although artificial grass might save water, the effects on urban biodiversity should be carefully evaluated." [17]

Examples: In the Commonwealth, there are multiple examples of successful organically managed natural turf fields including: Springfield with 67 acres of organically managed athletic fields,[18] Marblehead with 20 acres of organically managed athletic fields,[19] and Martha's Vineyard.[20] Experts in

[14] Ian Lacey, Tom Irwin Advisors, 2024 presentation to the Town of Arlington Artificial Tuft Study Committee. https://www.arlingtonma.gov/home/showpublisheddocument/68878/63844281099273000

[15] Maryland Community Meeting, 2024. Natural Grass Playing Fields – Are They Viable? May 20, 2024. https://www.youtube.com/watch?app=desktop&v=E3FEO7vmuCE

[16] TURI, UMass-Lowell, 2021a. Building an Organic Maintenance Program for Athletic Fields: Guidance from Experts and Experienced Communities. April 2021. https://www.turi.org/publications/building-an-organic-maintenance-program-for-athletic-fields-guidance-from-experts-and-experienced-communities-2/

TURI, UMass-Lowell, 2021b. Natural Grass Playing Fields: Selected Case Studies from Southwest Pennsylvania. April 2021. https://www.turi.org/publications/natural-grass-playing-fields-selected-case-studies-from-southwest-pennsylvania/

[17] Sánchez-Sotomayor, D. et al. 2023. Artificial grass in parks as a potential new threat for urban bird communities. *Bird Conservation International*. 2023;33:e16. https://doi.org/10.1017/S0959270922000119

[18] City of Springfield, June 2019: Natural Grass Playing Field Case Study https://www.turi.org/content/download/12156/190509/file/Natural+Grass+Playing+Field+Case+Study+Springfield+MA.+June+2019.pdf

[19] Marblehead, November 2020 (revised): Natural Grass Playing Field Case Study: Marblehead, MA https://www.turi.org/content/download/12705/198916/file/Natural+Grass+Playing+Field+Case+Study+Marblehead+MA+revised.Nov2020.pdf

[20] Martha's Vineyard, December 2020: Natural Grass Playing Field Case Study: Martha's Vineyard, MA https://www.turi.org/content/download/13432/205432/file/Natural+Grass+Playing+Field+Case+Study+MV+MA.Dec2020.pdf

soil health and high-performance natural grass athletic fields have shown reliable comparisons of playing time, maintenance, life-cycle cost, and overall practicability of organically managed natural grass fields *vs*. artificial turf fields.[21]

Cost: The 2024 "Arlington Artificial Turf Study Report"[22] includes updated comparisons of installation, annual maintenance, and end-of-life cycle costs that show artificial turf fields are approximately two-times the cost of organically managed natural grass fields over a 20+ year lifespan, as summarized in the Cost Comparison table below.

Cost Comparison: 20-year Lifecycle

	Natural Grass Athletic Field Sustainably managed	**Artificial Turf Athletic Field with Tire Crumb infill**
Initial Cost	$400,000	$1,000,000
Usage Capacity	800 h/year	1000-1,500 h/year
Annual Maintenance	$30,000	$15,000
Year 10	$150,000 re-sod [may not be needed – worst-case]	$665,000 re-carpet [removal & disposal]
Year 20	$200,000 re-sod [may not be needed – worst-case]	$800,000 re-carpet [removal & disposal]
Total Cost Year 20	***$1,350,000***	***$2,765,000***

Source: *Tom Irwin Advisors, 2024 presentation, Arlington Artificial Tuft Study Committee* [23]

[21] Maryland Community Meeting, 2024. Natural Grass Playing Fields – Are They Viable? May 20, 2024. https://www.youtube.com/watch?app=desktop&v=E3FEO7vmuCE

[22] Town of Arlington, Artificial Turf Study Committee Final Committee Report, April 12, 2024. https://www.arlingtonma.gov/home/showpublisheddocument/69732/638494836316530000

[23] Ian Lacey, Tom Irwin Advisors, 2024 presentation to the Town of Arlington Artificial Tuft Study Committee. https://www.arlingtonma.gov/home/showpublisheddocument/68878/63844281099273000

From: Brian McBride
To: David Morgan; Chuck Tirone; Jackie Anderson; Susan Chapnick
Subject: AC field - drains being covered today.
Date: Tuesday, November 11, 2025 1:40:05 PM

Brian McBride
m 617-645-8729

Enforcement Order: 66-66R Dudley Street/993 Massachusetts Avenue.

Summary:
Enforcement Order: 66-66R Dudley Street/993 Massachusetts Avenue.

DEP #091-0372: Notice of Intent: 40 Park Avenue (Continued from 11/06/25).

Summary:
DEP #091-0372: Notice of Intent: 40 Park Avenue (Continued from 11/06/25).
The Conservation Commission will hold a public hearing to consider a Notice of Intent to repair a loading dock at 40 Park Ave in Arlington. Areas proposed to be altered include the Riverfront Area and the Buffer Zone/Adjacent Upland Resource Area associated with Bank to Mill Brook

ATTACHMENTS:

	Type	File Name	Description
🗋	Reference Material	40_Park_Avenue_-_Engineering_Signoff.pdf	40 Park Avenue - Engineering Signoff
🗋	Reference Material	40_Park_Avenue_-_Updated_Planset.pdf	40 Park Avenue - Updated Planset

David Morgan

From: Wolfgang Kirstein <wkirstein@town.arlington.ma.us>
Sent: Friday, November 14, 2025 12:16 PM
To: Nicholas Skoly
Cc: Richard J. Vallarelli; William Copithorne; Taylor Donovan
Subject: Re: [External] Re: Arlington Stormwater Management Permit Application

Nick,

The Engineering Division find's these plans acceptable. I do have a question on the expected timing for the work, specifically if it will take place during winter or spring when the seeds can grow and keep the added loam stable.

I apologize for the lack of responses.

Regards,
Wolfgang

Wolfgang G. Kirstein, E.I.T.
Civil Engineer
Town of Arlington Department of Public Works
Engineering Division
51 Grove Street, Arlington, MA 02476

From: Nicholas Skoly <NSkoly@VHB.com>
Sent: Tuesday, October 28, 2025 7:03 PM
To: Wolfgang Kirstein <wkirstein@town.arlington.ma.us>
Cc: Richard J. Vallarelli <rvallarelli@jandcomp.com>; William Copithorne <wcopithorne@town.arlington.ma.us>; Taylor Donovan <tdonovan@vhb.com>
Subject: RE: [External] Re: Arlington Stormwater Management Permit Application

Wolfgang – We met with the Conservation Commission recently and they only had one minor comment that affected the stormwater numbers:

The site was apparently required to perform mitigation adjacent to the brook and didn't want us to include that in the stormwater analysis to avoid counting any of that mitigation area as an improvement to the existing condition in this analysis. Attached is the info with the updated numbers (minimal changes) and an overlay showing which area was removed in the existing and proposed condition as it is now outside of the limit of work. All other items remain consistent with what was submitted last week.

Thanks,
Nick

Nicholas Skoly, P.E.
Sr. Project Manager
Land Development
P 617.607.2769

www.vhb.com

From: Nicholas Skoly
Sent: Wednesday, October 22, 2025 9:27 PM
To: Wolfgang Kirstein <wkirstein@town.arlington.ma.us>
Cc: Richard J. Vallarelli <rvallarelli@jandcomp.com>; William Copithorne <wcopithorne@town.arlington.ma.us>; Taylor Donovan <tdonovan@vhb.com>
Subject: RE: [External] Re: Arlington Stormwater Management Permit Application

Wolfgang- We recently completed the test pit and discovered the soil type was different than anticipated and infiltration is not feasible. Attached are the revised plans and response to stormwater comments. With our proposed landscape areas replacing the existing disturbed areas, we are actually reducing the peak rates and volumes compared to the existing conditions. Please review and let us know if you have any questions.

-Nick

Nicholas Skoly, P.E.
Sr. Project Manager
Land Development
P 617.607.2769
www.vhb.com

From: Nicholas Skoly
Sent: Wednesday, October 8, 2025 10:45 AM
To: 'Wolfgang Kirstein' <wkirstein@town.arlington.ma.us>
Cc: Richard J. Vallarelli <rvallarelli@jandcomp.com>; William Copithorne <wcopithorne@town.arlington.ma.us>
Subject: RE: [External] Re: Arlington Stormwater Management Permit Application

Thank you. We are in the process of scheduling the test pit and will revise and resubmit once completed.

Nicholas Skoly, P.E.
Sr. Project Manager
Land Development
P 617.607.2769
www.vhb.com

From: Wolfgang Kirstein <wkirstein@town.arlington.ma.us>
Sent: Friday, October 3, 2025 9:35 AM
To: Nicholas Skoly <NSkoly@VHB.com>
Cc: Richard J. Vallarelli <rvallarelli@jandcomp.com>; William Copithorne <wcopithorne@town.arlington.ma.us>
Subject: [External] Re: Arlington Stormwater Management Permit Application

Nick,

Please see the attached comments and revise and resubmit.

Regards,
Wolfgang

Wolfgang G. Kirstein, E.I.T.
Civil Engineer
Town of Arlington Department of Public Works
Engineering Division
51 Grove Street, Arlington, MA 02476

From: William Copithorne <wcopithorne@town.arlington.ma.us>
Sent: Thursday, September 11, 2025 10:58 AM
To: Nicholas Skoly <NSkoly@VHB.com>; Wolfgang Kirstein <wkirstein@town.arlington.ma.us>
Cc: Richard J. Vallarelli <rvallarelli@jandcomp.com>
Subject: Re: Arlington Stormwater Management Permit Application

Nick,

I am adding Wolfgang Kirstein from the Engineering Division. Wolfgang will be completing this review. Wolfgang will respond with any comments or the approval. I understand that a check has already been received.

Thanks,
-Bill

William C. Copithorne, P.E.
Town Engineer

Town of Arlington Department of Public Works
Engineering Division
51 Grove Street Arlington, MA 02476
781.316.3322

From: Nicholas Skoly <NSkoly@VHB.com>
Sent: Tuesday, September 2, 2025 8:07 PM
To: William Copithorne <wcopithorne@town.arlington.ma.us>
Cc: Richard J. Vallarelli <rvallarelli@jandcomp.com>
Subject: Arlington Stormwater Management Permit Application

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

William - I am working on a project at 40 Park Avenue that triggers the requirements for a Stormwater Management Permit per the Arlington Stormwater Management Rules & Regulations. The Project involves paving an area adjacent to the overhead doors for loading and adding a subsurface leaching basin as mitigation. We are submitting to the Conservation Commission since it's in Riverfront Area an in talking with a colleague (Dan Keches) he mentioned to send you the stormwater material via email. I also believe that there is a $300 check associated with the permit. We can have that delivered to your attention. See attached site plans and stormwater management memo for the site.

-Nick

Nicholas Skoly, P.E.
Sr. Project Manager
Land Development

P 617.607.2769
www.vhb.com

260 Arsenal Place #2
Watertown MA 02472-4026

Legend

Exist.	Prop.	
		PROPERTY LINE
		EASEMENT
		FLOODPLAIN
		100' BUFFER ZONE
		50' BUFFER ZONE
		25' NO DISTURB ZONE
		200' RIVERFRONT AREA
EOP	EOP	EDGE OF PAVEMENT
		BUILDING
		EROSION CONTROL
4	4	MINOR CONTOUR
20	20	MAJOR CONTOUR
		LOAM & SEED
		TEST PIT LOCATION
12"D	12"D	DRAIN
12"S	12"S	SEWER
S		SEWER MANHOLE CONCENTRIC

Forms 11 and 12

Location Address or Lot No. 46 PARK AVE LEXINGTON, MA

On-site Review

Deep Hole Number TP1 Date 10/7/25 Time 8:30 AM Weather CLEAR 55°

Location (identify on site plan) AT EASTERN CORNER TOWARDS TOWARD ROAD

Land Use PARKING LOT Slope (%) 1-2% Surface Stones NONE

Vegetation NONE Landform STREAM TERRACE

Position on landscape (sketch on the back) TOP OF BANK

Distances from:

Open Water Body	47	feet	Drainage way	47	feet
Possible Wet Area	40	feet	Property Line	10	feet
Drinking Water Well	>250	feet	Other		feet

DEEP OBSERVATION HOLE LOG*

Depth from Surface	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % gravel)
0-72"	FILL				STONE & GRAVEL
72"-90"	C1	SILT LOAM			STONE & GRAVEL W/ SOME SILT LOAM AND SAND
90"-120"	C2	LOAMY SILT LOAM	10YR 3/3		GRAVELLY SANDY
					OLD ABANDONED PARKING LOT FILL

* MINIMUM OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Parent Material (geologic) FINE TO COARSE SAND Depth to Bedrock: N/A

Depth to Groundwater: Standing Water in the Hole: 116" Weeping from Pit Face: 108"

Estimated Seasonal High Ground Water: 108"

Percolation Test*

Date:	Time:	
Observation Hole #		
Depth of Perc		
Start Pre-soak		
End Pre-soak		
Time at 12"		
Time at 9"		
Time at 6"	NOT PERFORMED	
Time (B-A)		
Rate Min./inch		

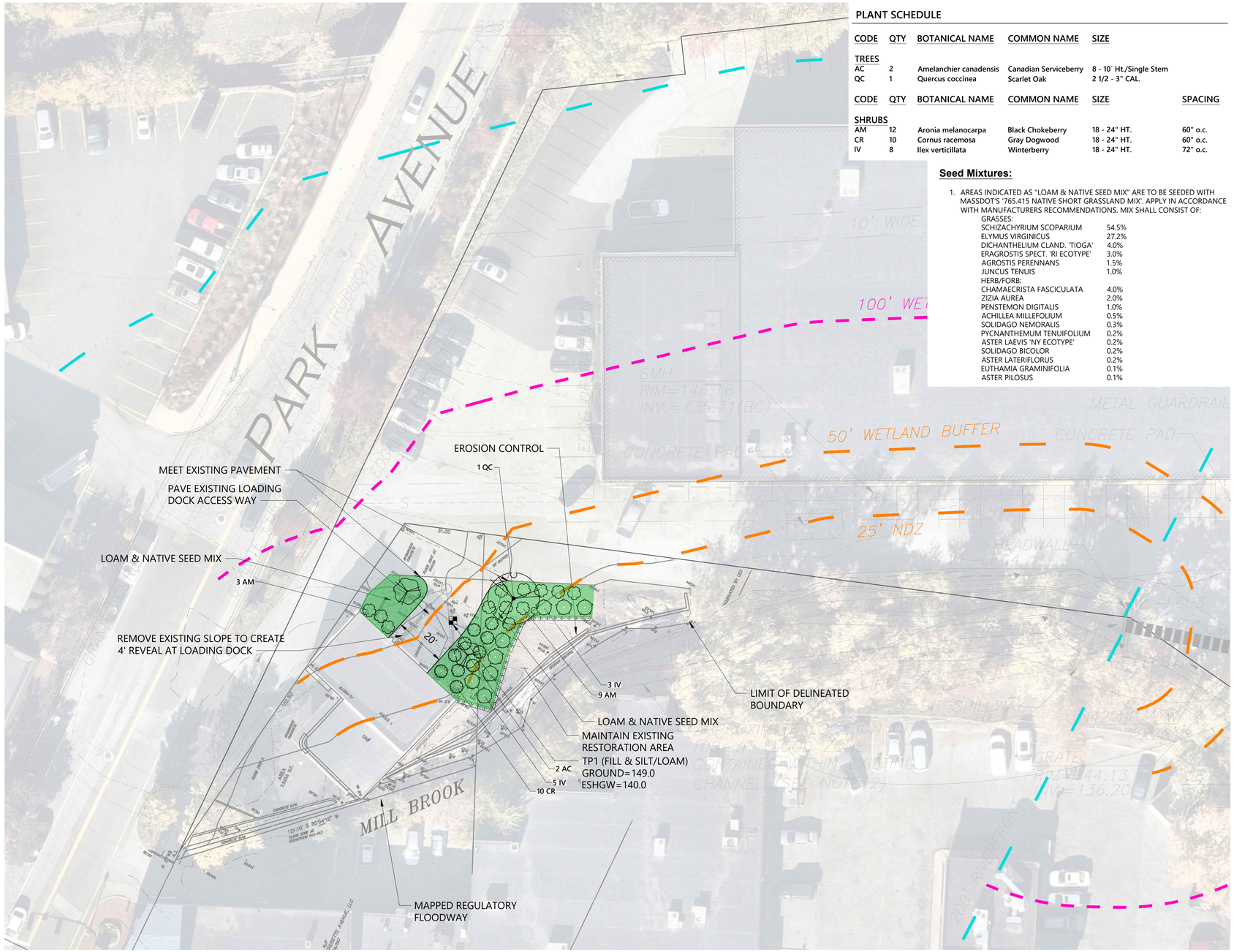
*Minimum of 1 percolation test must be performed in both the primary area AND reserve area.

Site Passed: ☐ Site Failed ☒ NOT SUITABLE FOR INFILTRATION

Performed By: RICHARD P. MATHEWS JR. PE (SE 2831)

Witnessed By:

Vanasse Hangen Brustlin 101 Walnut Street Watertown, MA 02471 617-924-1770



PLANT SCHEDULE

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
TREES					
AC	2	Amelanchier canadensis	Canadian Serviceberry	8 - 10' Ht./Single Stem	
QC	1	Quercus coccinea	Scarlet Oak	2 1/2 - 3" CAL.	
SHRUBS					
AM	12	Aronia melanocarpa	Black Chokeberry	18 - 24" HT.	60" o.c.
CR	10	Cornus racemosa	Gray Dogwood	18 - 24" HT.	60" o.c.
IV	8	Ilex verticillata	Winterberry	18 - 24" HT.	72" o.c.

Seed Mixtures:

1. AREAS INDICATED AS "LOAM & NATIVE SEED MIX" ARE TO BE SEEDED WITH MASSDOT'S '765.415 NATIVE SHORT GRASSLAND MIX'. APPLY IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. MIX SHALL CONSIST OF:

GRASSES:	
SCHIZACHYRIUM SCOPARIUM	54.5%
ELYMUS VIRGINICUS	27.2%
DICHANTHELIUM CLAND. 'TIOGA'	4.0%
ERAGROSTIS SPECT. 'RI ECOTYPE'	3.0%
AGROSTIS PERENNANS	1.5%
JUNCUS TENUIS	1.0%
HERB/FORB:	
CHAMAECRISTA FASCICULATA	4.0%
ZIZIA AUREA	2.0%
PENSTEMON DIGITALIS	1.0%
ACHILLEA MILLEFOLIUM	0.5%
SOLIDAGO NEMORALIS	0.3%
PYCNANTHEMUM TENUIFOLIUM	0.2%
ASTER LAEVIS 'NY ECOTYPE'	0.2%
SOLIDAGO BICOLOR	0.2%
ASTER LATERIFLORUS	0.2%
EUTHAMIA GRAMINIFOLIA	0.1%
ASTER PILOSUS	0.1%

Tree Protection Notes

1. EXISTING TREES TO REMAIN SHALL BE PROTECTED WITH TEMPORARY CONSTRUCTION FENCE. ERECT FENCE AT EDGE OF THE TREE DRIPLINE PRIOR TO START OF CONSTRUCTION.
2. CONTRACTOR SHALL NOT OPERATE VEHICLES WITHIN THE TREE PROTECTION AREA. CONTRACTOR SHALL NOT STORE VEHICLES OR MATERIALS, OR DISPOSE OF ANY WASTE MATERIALS, WITHIN THE TREE PROTECTION AREA.
3. DAMAGE TO EXISTING TREES CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY A CERTIFIED ARBORIST AT THE CONTRACTOR'S EXPENSE.

Planting Notes

1. ALL PROPOSED PLANTING LOCATIONS SHALL BE STAKED AS SHOWN ON THE PLANS FOR FIELD REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
2. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL BELOW GRADE AND ABOVE GROUND UTILITIES AND NOTIFY OWNERS REPRESENTATIVE OF CONFLICTS.
3. NO PLANTS SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA. CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE OF ANY CONFLICT.
4. A 3-INCH DEEP MULCH PER SPECIFICATION SHALL BE INSTALLED UNDER ALL TREES AND SHRUBS, AND IN ALL PLANTING BEDS, UNLESS OTHERWISE INDICATED ON THE PLANS, OR AS DIRECTED BY OWNER'S REPRESENTATIVE.
5. ALL TREES SHALL BE BALLED AND BURLAPPED, UNLESS OTHERWISE NOTED IN THE DRAWINGS OR SPECIFICATION, OR APPROVED BY THE OWNER'S REPRESENTATIVE.
6. FINAL QUANTITY FOR EACH PLANT TYPE SHALL BE AS GRAPHICALLY SHOWN ON THE PLAN. THIS NUMBER SHALL TAKE PRECEDENCE IN CASE OF ANY DISCREPANCY BETWEEN QUANTITIES SHOWN ON THE PLANT LIST AND ON THE PLAN. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES BETWEEN THE NUMBER OF PLANTS SHOWN ON THE PLANT LIST AND PLANT LABELS PRIOR TO BIDDING.
7. ANY PROPOSED PLANT SUBSTITUTIONS MUST BE REVIEWED BY LANDSCAPE ARCHITECT AND APPROVED IN WRITING BY THE OWNER'S REPRESENTATIVE.
8. ALL PLANT MATERIALS INSTALLED SHALL MEET THE SPECIFICATIONS OF THE "AMERICAN STANDARDS FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN AND CONTRACT DOCUMENTS.
9. ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF FINAL ACCEPTANCE.
10. AREAS DESIGNATED "LOAM & SEED" SHALL RECEIVE MINIMUM 6" OF LOAM AND SPECIFIED SEED MIX.
11. ALL DISTURBED AREAS NOT OTHERWISE NOTED ON CONTRACT DOCUMENTS SHALL BE LOAM AND SEEDED OR MULCHED AS DIRECTED BY OWNER'S REPRESENTATIVE.

Plant Maintenance Notes

1. CONTRACTOR SHALL PROVIDE COMPLETE MAINTENANCE OF THE LAWNS AND PLANTINGS. NO IRRIGATION IS PROPOSED FOR THIS SITE. THE CONTRACTOR SHALL SUPPLY SUPPLEMENTAL WATERING FOR NEW LAWNS AND PLANTINGS DURING THE ONE YEAR PLANT GUARANTEE PERIOD.
2. CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, AND EQUIPMENT FOR THE COMPLETE LANDSCAPE MAINTENANCE WORK. WATER SHALL BE PROVIDED BY THE CONTRACTOR.
3. WATERING SHALL BE REQUIRED DURING THE GROWING SEASON, WHEN NATURAL RAINFALL IS BELOW ONE INCH PER WEEK.
4. WATER SHALL BE APPLIED IN SUFFICIENT QUANTITY TO THOROUGHLY SATURATE THE SOIL IN THE ROOT ZONE OF EACH PLANT.
5. CONTRACTOR SHALL REPLACE DEAD OR DYING PLANTS AT THE END OF THE ONE YEAR GUARANTEE PERIOD. CONTRACTOR SHALL TURN OVER MAINTENANCE TO THE FACILITY MAINTENANCE STAFF AT THAT TIME.

Notes

1. IN ACCORDANCE WITH STORMWATER MANAGEMENT PERMIT APPROVAL (UPON ISSUANCE), ARLINGTON ENGINEERING DIVISION AND DESIGN ENGINEER SHALL BE NOTIFIED TO PERFORM INSPECTIONS OF:
   - BOTTOM OF THE BASIN
   - THE SYSTEM AFTER INSTALLATION BUT BEFORE BACKFILL
2. ADEQUATE MEASURES SHALL BE TAKEN AS NEEDED TO PREVENT RUNOFF SEDIMENT FROM THE SITE COLLECTING ON THE SIDEWALK, ROADWAY, OR ABUTTING PROPERTIES DURING CONSTRUCTION ACTIVITIES. SUCH MEASURES MAY INCLUDE, BUT ARE NOT LIMITED TO, ADDITIONAL SILT FENCING/HAYBALES AND SWEEPING. PLEASE INCLUDE A NOTE TO INDICATE THE REQUIREMENT TO REMOVE ALL SEDIMENT OR PRODUCTS OF EROSION FROM THE RIGHT OF WAY AND TO REQUIRE SWEEPING OF THE STREET WHEN NECESSARY.
3. PROPOSED GRADING AND DOWNSPOUT OVERFLOWS SHALL NOT DIRECT RUNOFF TOWARDS ABUTTING PROPERTIES. RUNOFF SHOULD NOT BE DIRECTED ACROSS THE ADJACENT PROPERTY LINES.
4. AS-BUILT PLAN/SKETCH OF ANY IMPERVIOUS AREAS ON SITE SHALL BE PROVIDED TO THE TOWN OF ARLINGTON ENGINEERING DIVISION FOLLOWING INSTALLATION. THIS PLAN SHALL INCLUDE SWING TIES, ELEVATIONS, AND OFFSETS.
5. CONNECTION OF SUMP PUMP SYSTEMS TO ANY SUBSURFACE LEACHING SYSTEM ARE PROHIBITED
6. IN ADDITION TO DIG-SAFE, THE CONTRACTOR SHALL ALSO CONTACT THE TOWN OF ARLINGTON WATER AND SEWER DIVISION AT 781-316-3310 TO REQUEST A MARKOUT OF TOWN UTILITIES.

0 10 20 Feet

Impervious Surface Summary

	Existing (SF)	Proposed (SF)	Alteration (SF)
Building Footprint	2210	2210	0
Bituminous Pavement	3,870	4,650	780

Peak Flow Summary (CFS)

Design Point 1	2-Year	10-Year	25-Year	100-Year
Existing	0.7	1.1	1.4	1.8
Proposed	0.7	1.1	1.4	1.8

Peak Volume Summary (CF)

Design Point 1	2-Year	10-Year	25-Year	100-Year
Existing	1,927	3,250	4,082	5,361
Proposed	1,854	3,171	4,000	5,276

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No.	Revision	Date	Appvd.
1	Response to Engineering	10/22/2025	
2	Response to Conservation	10/28/2025	
3	Response to Comments	11/12/2025	

Designed by

Checked by NJS

Issued for **Notice of Intent**

Date **August 22, 2025**

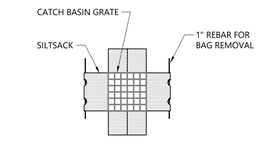
Drawing Title: **Site Plan**

Drawing Number: **C-1**

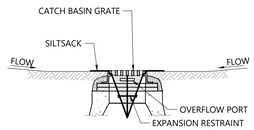
Sheet 1 of 2

Project Number **13346.07**

COMMONWEALTH OF MASSACHUSETTS
NICHOLAS J. SKOLY
CIVIL
No. 52677
REGISTERED PROFESSIONAL ENGINEER



PLAN VIEW



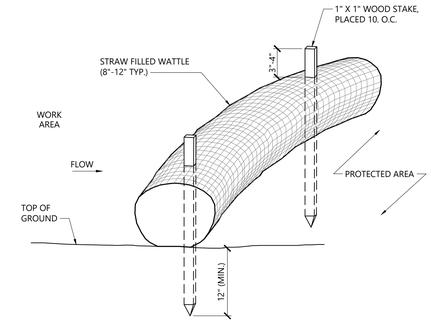
SECTION VIEW

NOTES

1. INSTALL SILTSACK IN ALL CATCH BASINS WHERE INDICATED ON THE PLAN BEFORE COMMENCING WORK OR IN PAVED AREAS. AFTER BINDER COURSE IS PLACED AND STRAW BALES HAVE BEEN REMOVED.
2. GRATE TO BE PLACED OVER SILTSACK.
3. SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED. MAINTAIN UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED

Siltsack Sediment Trap 1/20

N.T.S. Source: VHB LD_674



NOTES

1. STRAW WATTLE SHALL BE AS MANUFACTURED BY EARTHSAVER OR APPROVED EQUAL.
2. STRAW WATTLES SHALL OVERLAP A MINIMUM OF 12 INCHES.
3. STRAW WATTLE SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.
4. TEMPORARY STRAW WATTLES TO BE REMOVED BY CONTRACTOR. ALL OTHERS TO REMAIN IN PLACE UNLESS DIRECTED OTHERWISE BY ENGINEER.
5. IF NON BIODEGRADABLE NETTING IS USED THE NETTING SHALL BE COLLECTED AND DISPOSED OF OFFSITE.

Straw Wattle - Erosion Control Barrier 1/20

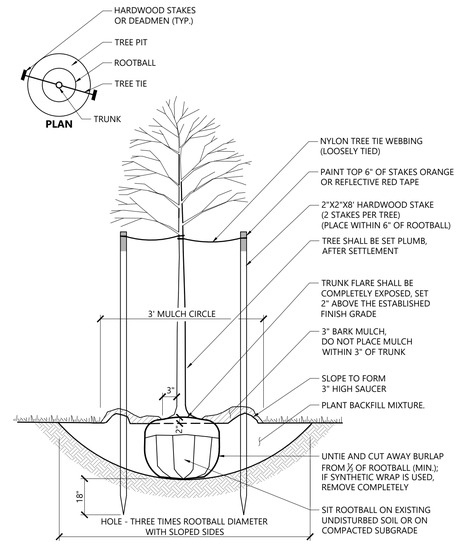
N.T.S. Source: VHB LD_659

NOTES

1. LOOSEN ROOTS AT THE OUTER EDGE OF ROOTBALL OF CONTAINER GROWN SHRUBS.

Shrub Bed Planting 1/16

N.T.S. Source: VHB LD_601



Tree Planting (For Trees Under 4" Caliper) 9/21

N.T.S. Source: VHB LD_602

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Drawing Title: Details

Drawing Number: C-2

Sheet 2 of 2

Project Number: 13346.07