

Describe proposed activity/use: To expand the existing manufacturing facility with a 46,800 sf addition. Furthermore,
the parking, loading area and driveway will be constructed..

Describe existing conditions/use (vacant land?): There is an manufacturing existing building and paved area for parking

Utility information

City water? yes ☒ no ☐; How far is City water from the site? less than 50 feet

City sewer? yes ☒ no ☐; How far is City sewer from the site? less than 50 feet

If City water, what are the estimated total daily needs? less than 500 gallons per day

If City water, is it proposed for anything other than domestic purposes? yes ☐ no ☒

If City sewer, do you plan to discharge anything other than domestic waste? yes ☐ no ☒

Where will stormwater be discharged? Gravel Wetland

Building information

Type of building(s): Steel building addition to match existing building

Building height: 35' Finished floor elevation: 234.5'

Other information

parking spaces: existing: 108 total proposed: 166; Are there pertinent covenants? No

Number of cubic yards of earth being removed from the site N/A

Number of existing employees: 125+/-; number of proposed employees total: 140+/-

Check any that are proposed: variance ☐; special exception ☐; conditional use ☐

Wetlands: Is any fill proposed? No; area to be filled: ; buffer impact?

Proposed <u>post-development</u> disposition of site (should total 100%)		
	Square footage	% overall site
Manufacturing Building	215,287	14.14
Pump House	1,906	0.13
Parking and vehicle circulation 32, 186 & 187	218,749	14.37
Planted/landscaped areas (excluding drainage)	126,078	8.29
Natural/undisturbed areas (excluding wetlands)	792,680	52.08
Wetlands	78,282	5.14
Other – drainage structures, outside storage, etc.	89,004	5.85

Comments

Please feel free to add any comments, additional information, or requests for waivers here:

A waiver is required for the overall number of parking spaces.

Submission of application

This application must be signed by the property owner, applicant/developer (if different from property owner), and/or the agent.

I (we) hereby submit this Site Plan application to the City of Rochester Planning Board pursuant to the City of Rochester Site Plan Regulations and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant/developer (if different from property owner)/as agent, I attest that I am duly authorized to act in this capacity.

Signature of property owner: _____

Date: _____

Signature of applicant/developer: _____

Date: _____

Signature of agent: _____

Date: _____

Authorization to enter subject property

I hereby authorize members of the Rochester Planning Board, Zoning Board of Adjustment, Conservation Commission, Planning Department, and other pertinent City departments, boards and agencies to enter my property for the purpose of evaluating this application including performing any appropriate inspections during the application phase, review phase, post-approval phase, construction phase, and occupancy phase. This authorization applies specifically to those particular individuals legitimately involved in evaluating, reviewing, or inspecting this specific application/project. It is understood that these individuals must use all reasonable care, courtesy, and diligence when entering the property.

Signature of property owner: _____

Date: _____

NORWAY PLAINS ASSOCIATES, INC.

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June 8, 2020

Seth Creighton, Chief Planner
Planning Department
City of Rochester
33 Wakefield Street
Rochester, NH 03867

Re: Non- Residential Site Plan Application; Lydall Performance Materials, Inc.; 134 Chestnut Hill Road, Map 216, Lot 32 and Map 221, Lots 186 and 187.

Dear Mr. Creighton:

On behalf of Lydall Performance Materials, Inc and Budel Construction Corp., we hereby submit revised plans and nonresidential site plan application for a proposed phased industrial expansion their facility at 134 Chestnut Hill Road. Lydall Performance Materials, Inc has over 13 national and 8 international facilities which manufactures filtration and insulation products. Lydall Performance Materials, Inc. is proposing a building addition to their existing facility, with construction this summer. The overall addition will be 46,800 square feet.

Lydall Eastern, Inc. and Lydall Eastern, Inc.; Technical Papers Division owns multiple lots located on Chestnut Hill Road and off Lydall Way (Private). These parcels are all located within the Industrial (GI) zoning district. The parcels are located on the south side of Chestnut Hill Road with the Spaulding Turnpike to the east, the Cocheco River to the south with the NH DOT Rails to Trails and a couple residential properties to the north. Overall, the three parcels being developed consist of approximately 36.48 acres. Ultimately, these lots will be merged into a single lot to allow for the proposed expansion and site work. Map 216, Lot 32 is the only developed lot, whereas the other two lots are currently vacant. Jurisdictional wetlands were delineated by B.H. Keith Associates in July 2018 and the site-specific soils were evaluated on the vacant lot by Round Pond Soil Survey in May 2019.

Lydall Performance Materials, Inc. is proposing to construct a 180' x 260' (46,800 square feet) industrial building addition to their existing building. This building addition will be used to expand their facility by adding a new production line. This line will produce much needed filter materials necessary for the product of Personal Protective Equipment (PPE). As such, the US Government and State of New Hampshire has been working with the company to expediate the construction of this facility.

The steel framed and metal sided addition will be same beige color as the existing building and will have a flat roof. The new production line will generally operate the same hours of operation as the main facility; which is 7 days a week on a 24-hour, three shifts depending on the workload.

During the first phase, access to this addition will be through the existing site off Lydall Way. In addition to the paved areas for the large trucks and equipment, paved parking area will accommodate 30 vehicles at which two spaces are designated as accessible. In the full build-out, a new parking lot will be constructed which will add approximately 64 more spaces bring the overall site to a total of 167 spaces (6 of which will be ADA accessible). Based on the existing office and existing and proposed manufacturing spaces, the City of Rochester Site Plan Regulations would indicate the required number of spaces for the total build-out to be 227. The totaled required number is very high due to the overall number of employees and the sizes of the production lines. The facility currently employs about 125 employees, with an increase number proposed at this time at about 15. As such, a waiver is being requested to allow for 166 total spaces. If a need for additional parking arises, there is ample space to the northwest of the proposed addition to construct more.

The business expects one additional delivery of raw materials and shipping of finish goods a day. Thus, there will not be much increased in truck traffic or employee vehicles associated with the first phase. As future phases come on board, there is likely going to be a couple more trucks added to the traffic patterns. But given the limited number of loading docks, it is not anticipated to be substantially more than occurs under the current operations.

The stormwater from the new impervious surfaces and portions of the old roof will be directed towards a gravel wetland basin. The basin has been designed to accommodate the proposed expansion, the new parking lot as well as all of the rear parking lot and rear half of the existing building roofs. Prior to discharging into the gravel wetlands basin, the stormwater will be directed into sediment forebay. Due to the presence of contaminated soil and groundwater in the proximity of the proposed development, infiltration of the stormwater into ground is not allowed. Therefore, the gravel wetlands basin will be lined to ensure there is no infiltration. The basin will have outlet structures to control the rate of discharge during the peak flows to closely mimic the pre-development peak flow rates. Emergency stone lined spillway will be installed on the berm of the basin. The result of the proposed project and stormwater management system will closely balance the pre-development and post-development flow rates. However, without being allowed to infiltrate into the ground, there will be an increase in the overall stormwater volumes. A waiver to the Site Review Regulations with respects to Stormwater Management and Erosion Control, Section 13(A) is respectfully requested.

The new building addition will be serviced by City water via connections within the old facility. There will not be any non-domestic sewage generated by the first phase. The site will continue to be serviced by overhead utility lines that feed the existing facility. The applicant is proposing wall mounted lighting fixtures to limit the lighting to around the building.

Snow storage will be located on the end and southerly side of the main parking / unloading area and at the end of the building addition. The gravel access to the northern egress door is wide enough to accommodate the facility's snow plows.

With the phased project as designed, the development triggered the need for an Alteration of Terrain Permit from the NH Department of Environmental Services. This permit (AoT-1733) was approved on January 17, 2020. This permit will be amended shortly to reflect the changes in the overall design and the method for stormwater treatment. A new copy of the amended permit will be submitted to the City once issued. Furthermore, the proposed development required approval from NHDES for a Shoreland

Permit due to some of the work being proposed within 250 feet from the Cocheco River. This permit (Shoreland Permit 2019-03443) was approved on December 23, 2019. Since the impacted area granted by the Shoreland Bureau has not changed and the overall impervious coverage within the Shoreland zone has reduced, there is no need for a new permit.

We look forward to discussing this project with staff and the Planning Board. Thank you for your consideration Sincerely,

NORWAY PLAINS ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read "Scott A. Lawler", written in a cursive style.

By:

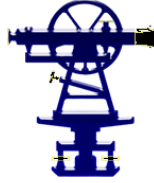
Scott A. Lawler, PE, Project Engineer

cc: Tony Eldridge – Lydall Eastern Inc. Technical
Leon Meader – Budel Construction Corp.

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June 8, 2020

Seth Creighton, Chief Planner
Planning Department
City of Rochester
33 Wakefield Street
Rochester, NH 03867

Re: Waiver Request: Section 10(A); Number of Parking Spaces, Lydall Performance Materials, Inc., 134 Chestnut Hill Road; Rochester, NH, Tax Map 216, Lot 32 and Tax Map 221, Lots 186 & 187.

Dear Seth:

On behalf of Lydall Performance Materials, Inc., Norway Plains Associates respectfully requests waivers to the following Site Plan Regulation:

Waiver Request Section 10 (A):

Section 10(A) of the Rochester Site Plan Review Regulations requires that the minimum number of designated off street parking shall be provided on each site based upon the type of use, as shown in the Table of Parking Requirements. For Industrial use, the requirement is 1 space per 1000 square feet of gross floor area plus 3 spaces per 1,000 gross square feet for area designated for offices or retail sales.

Under the Site Review Regulations, the existing and proposed industrial use, the total number of parking spaces based on the total gross floor area of the industrial use and the office use is 267:

<u>158,808 sf existing Industrial + 46,800 sf proposed Industrial</u>	Plus	<u>7,370 sf existing office</u>
1 space per 1,000 sf Industrial Use		3 spaces per 1,000 sf Office

There are a total of 103 existing and 64 proposed parking spaces delineated on the site plans for a total of 167 spaces.

The facility currently employs about 125 which is disbursed over three shifts working 24-hour a day, 7-days a week. At this point, the facility has not had any parking conflicts due to the number of parking spaces. Even though the first phase of the expansion will add about 15 new employees and 5 new parking spaces, it should not pose a parking problem given how the shifts are broken up over the course of the day.

Under future phases, a new parking lot will be constructed to add additional 62 parking spaces bring the overall total to 167. The large expansion will be primarily used for large production lines which typically have very few employees. Thus, the owners do not forecast a parking problem once the expansion is completed. There is however, a large area westerly of the building that could be constructed to provide more

parking if necessary.

Therefore, we respectfully request a waiver to allow for less than amount of required parking set forth within the Rochester Site Review Regulations.

Thank you for your consideration.

Sincerely,

NORWAY PLAINS ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read "Scott A. Lawler", is written over a horizontal line.

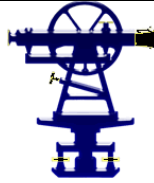
By: _____
Scott A. Lawler, P.E., Project Engineer

Cc: Tony Eldridge, Lydall Performance Materials, Inc.
Budel Construction Corp.

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June 8, 2020

Seth Creighton, Chief Planner
Planning Department
City of Rochester
33 Wakefield Street
Rochester, NH 03867

Re: Waiver Request: Section 13 (A); Stormwater Management, Lydall Performance Materials, Inc., 134 Chestnut Hill Road; Rochester, NH, Tax Map 216, Lot 32 and Tax Map 221, Lots 186 & 187.

Dear Seth:

On behalf of Lydall Performance Materials, Inc., Norway Plains Associates respectfully requests waivers to the following Site Plan Regulation:

Waiver Request Section 13 (A):

Section 13(1) of the Rochester Site Plan Review Regulations requires that a design for a sites stormwater management system shall be in compliance with Chapter 218 Stormwater management and Erosion Control. Pursuant to Section 218.8(c)(2), the proposed methods of handling stormwater runoff so there is no increase in the rate or volume of runoff that leaves the boundary of the site.

Chapter 218 Stormwater Management and Erosion Control of the City of Rochester of Code of Ordinances requires that there be stormwater management system designed to insure there is no increase in the peak rate of stormwater runoff and no increase in the volume of stormwater leaving the parcel. The control of the peak rate of discharge is usually controlled by retaining the peak flows from the different storm events and release it at a controlled rate via an outlet structure. Reducing the overall volume of the stormwater runoff generated by the development relies on infiltrating the additional runoff back into the ground and not allowing it to leave the parcel.

The initial design of the proposed development accomplished both achievements by utilizing an infiltration basin in the southwestern corner of the parcel. This infiltration basin captured majority of the runoff from the proposed expansion as well as some of the existing runoff from the building and parking lot. All of the runoff was treated and discharged back into the ground.

However, with the potential impacts to the contaminated soils and groundwater in the area, infiltration into the groundwater is not an acceptable practice. Therefore, the proposed development required redesign of the stormwater management system. Instead of an infiltration basin, a gravel wetland basin was designed. This gravel wetland basin treats the stormwater runoff through anaerobic action within a stone lined basin. Once treated, the stormwater is released a controlled rate via outlets structures.

This gravel wetland basin system will be lined to prevent any infiltration of the stormwater runoff into ground. Therefore, without the ability to infiltration, there will be an increased total volume of generated by the development. This increased volume will be discharged into the wetlands and then into the Cocheco River and will have any impact to the abutting property owners or the City of Rochester stormwater infrastructure.

Therefore, we respectfully request a waiver to allow for a very slight increase in the peak rate of discharge during the 2-year, 24-hour storm event, the 10-year, 24-hour storm event and 25-year, 24-hour storm event forth within the City Rochester Chapter 218. Furthermore, we also respectfully request to allow for an increase in the total volume of stormwater leaving the property near the wetlands adjacent to the Cocheco River.

Thank you for your consideration.

Sincerely,

NORWAY PLAINS ASSOCIATES, INC.



By: _____
Scott A. Lawler, P.E., Project Engineer

Cc: Tony Eldridge, Lydall Performance Materials, Inc.
Budel Construction Corp.

PFAS Information Requested During June 1st Planning Board Review

June 9, 2020

In the fourth quarter of 2016, as part of a groundwater discharging permitting process, water samples collected from wells and process water basins at the Rochester, New Hampshire manufacturing facility showed concentrations of Perfluorinated Compounds (“PFAS”) in excess of state ambient groundwater quality standards. After the PFAS compounds were detected in on-site monitoring wells, an external consultant was retained to perform a site investigation which included sampling of nearby potable drinking water wells. This has been performed under the oversight of NHDES.

As a result of the sampling of the nearby potable drinking water wells, one “dug” well was identified as to have been impacted by PFAS compounds. The related residence was connected to city water at the expense of Lydall.

Lydall is in the process of conducting a site investigation, the scope of which has also been reviewed by the NHDES. Soil and groundwater water testing across the site has been performed, and a primary area of concern has been identified where there is a tank, pipe, and soils associated with former pigment lagoons (none of which has been in use since the 1980s). This area was historically remediated for other contaminants, and it appears as though some PFAS compounds remain in excess of guidance limits. This area was further investigated, and soil results are shown on the following page. The proposed expansion will not impact this area of concern. Lydall has created a Soil Management Plan to be used during the expansion process and will work with NHDES to monitor soils handled during the process under this plan.

This is the area of the expansion



DRAFT Figure 3

Soil Boring PFOS + PFOA
Analytical Results

June 5, 2020

SUBJECT: Lydall's Expansion Project and its Urgency

TO: NH Department of Environmental Services	NH Department of Business & Economic Affairs	City of Rochester
Michael Wimsatt Robert Scott, Commissioner John Duclos	Cynthia Harrington Taylor Caswell, Commissioner	Seth Creighton, Chief Planner Mike Bezanson, Assistant Director Public Works Dana Webber, Assistant City Engineer Mike Scala, Director ED Jenn Marsh, ED Specialist Ian Rohrbacher, Water Treatment Tim Goldthwaite, Assistant City Engineer

Thank you for the opportunity to present the Lydall Expansion Project Proposal during your June 1, 2020 Planning Board Meeting. Lydall would like to provide the Board and Staff with additional information in support of our proposal prepare for the June 15 Review Meeting. Our goal is to gain planning approval so that we can maintain the overall project timeline to achieve full production by year end.

Lydall produces critical life sustaining products.

The Rochester, NH plant has continued all of its operations throughout the pandemic lockdown, providing essential materials to the fight the spread of COVID-19. Please find included within a summary of Lydall's actions in response to the pandemic. Many new procedures have been implemented to assure the highest level of safety for our employees and limit the risks associated with COVID-19. We are very proud of our team and its resiliency and responsiveness in the face of the pandemic emergency.

Proposed building extension will house production line capable of producing meltblown materials.

The process to be installed is a 'dry' process that transforms plastic pellets into fiber-based filter materials. Lydall currently operates similar production lines using this process onsite, and the new line will expand the capacity for these materials.

Meltblown materials are critical for N95 and surgical face mask production.

Included within is an overview describing the production process and face mask construction. As a result of the COVID-19 pandemic, there is a critical shortage of PPE (Personal Protective Equipment), and face masks specifically. Since the beginning of the pandemic, Lydall has worked at the Federal and State levels alongside our customers on how to address this shortage.

Lydall has repurposed production assets, developed a wider range of products and maximized its production. Since the beginning of the pandemic, Lydall Rochester has operated 24/7 to maximize current production of these materials. As an organization, we have also worked rapidly to develop the current expansion plan for adding production. We are one of four companies within the United States with the demonstrated experience in producing this caliber of meltblown filtration materials needed for N95 and surgical face masks.

Why Rochester?

Rochester has been identified as a Center of Excellence within Lydall for production of these materials. We currently operate similar equipment in Rochester and know locating the equipment here will be the fastest path to installation, start-up and commercialization. The products being produced are targeted to meet the critical need for PPE in the United States, and we will be proud to support that cause with our material produced here in New Hampshire.

Commercial Impact

The new production line will double Lydall's capacity to produce meltblown material which will provide the material for an additional 50 million N95 face masks per month. Additionally, Lydall will hire roughly 15 new production and support personnel in Rochester. A possible second production line is currently under review which would fit within the proposed building as well, which will double capacity again as well as add more new jobs in Rochester.

Lydall's commitment and investment in this program is significant.

The equipment producing the materials is unique and in extreme demand around the world. Lydall has committed to the purchase of this production line six weeks ago. Lydall leveraged our prior relationship with the equipment supplier to secure an early position in their production queue and to lock-in on expedited delivery of the equipment.

Building approval request is reduced to 46,700 FT2 footprint.

The initial planning board application showed a phased approach seeking approval for a larger building the length of the existing structure. Due to the concerns raised and the urgency of the project, Lydall has narrowed the scope to the smaller footprint capable of handling the initial production line and the potential second new line should it be required. If Lydall pursues a larger expansion in the future, we will submit a separate proposal to the board.

Lydall is committed to working with NHDES to address PFAS at Rochester property.

Since 2016, Lydall has worked closely with NHDES identifying, monitoring and remediating PFAS at the Rochester plant. Several modifications have been made to the proposed building plans based on discussions with NHDES. As proposed, this project does not impact the PFAS conditions at the site or Lydall's commitment and ability to continue to work with NHDES on future remediation.

Proposed addition does not require additional city water supply for manufacturing process.

As noted earlier, this is a 'dry' process. The new building will house an employee bathroom and a cleaning area, but there is no water to be used in the production process itself. Several questions have been raised by DPW and responses provided by Norway Plains to these questions. These questions are primarily related to our existing operations and not related to the building proposal approval. Lydall will continue to work with the city in parallel on these topics but request that these topics not delay the planning approval for the new building.

Why is timing critical?

Building completion is the critical path to successfully producing this important material by year end. Process equipment is on order and is scheduled to begin arriving at the Rochester site in late September.

The COVID-19 pandemic continues. Indications are that we will continue to battle the virus into next year with resurgences expected as early as the Fall. With the ongoing shortage and surging demand of PPE, it is critical to continuously replenish PPE supplies, especially as businesses and the economy reopens.

Every day matters.

Lydall appreciates your attention and support concerning this important project.

Sincerely,



Andrew Uhl
Vice President, Operations & Supply Chain

Support Materials

Rochester, NH Fact Sheet	6-7
COVID-19 Products	8-9
Face Mask Materials	10-12
Summary of COVID-19 Response Actions	13
Overview: How Meltblown Filtration Works	14
NHDES Letter	15-17

Lydall Performance Materials, Rochester, New Hampshire

Fact Sheet: Lydall Invests in New Fine Fiber Meltblown Production Line to Meet Rising Global Face Mask Demand

Company Background

Founded in 1869 and headquartered in Manchester, Connecticut with global manufacturing operations, Lydall delivers value-added engineered materials and specialty filtration solutions that promote a cleaner, quieter and safer world. We partner with our customers to develop bespoke, high-performing and efficient solutions that are adaptable and scalable to meet their needs. Lydall is a New York Stock Exchange-listed company (NYSE: LDL).

As one of three business units in Lydall, Lydall Performance Materials is a global leader in delivering innovative, specialty filtration solutions for demanding applications to enable a cleaner, healthier and more energy efficient world. In our manufacturing facility in Rochester, New Hampshire, we manufacture high-quality, engineered materials for use in a variety of finished products, including N95 respirators and surgical and medical face masks that help fight the spread of COVID-19.

Critical Need

- Lydall is one of the only companies in North America and Europe with the technical expertise, supplier relationships and access to the right machines to produce the caliber of meltblown filtration media needed for N95, surgical and medical face masks.
- We currently receiving 10-12 times the orders for meltblown filtration media we have the capacity to fulfill, and we have quickly pivoted to address the worldwide surge in demand for PPE and other products.
- In our Rochester, New Hampshire facility, we have ordered another state-of-the-art meltblown production line to keep pace with demand.
- We will hire up to 15 more employees later this year to support this new operation which will more than double our monthly output of filtration media.
- In March 2020, the Department of Health and Human Services estimated that 3.5 billion face masks are required to protect healthcare workers.
- In 2015, the National Institute of Health projected that the U.S. needs 1.7 billion N95 face masks during a pandemic.

By the Numbers

- At our Rochester, New Hampshire facility, Lydall produces enough filtration media to create 21 million N95 masks and 34.4 million surgical/medical face masks per month.
- To keep pace with demand, Lydall ordered a fourth production line in April that will more than double monthly output, to 50 million N95 masks.
- By January 2021, Lydall's annual output of N95, surgical and medical face masks will exceed 1 billion.
- Lydall supplies filtration media to about 25 domestic face mask manufacturers (roughly a third of U.S. face mask manufacturers).
- Lydall is currently receiving 10-12 times the orders it has the capacity to fulfill.

COVID-19 Response

"When it first became apparent that COVID-19 would have a significant impact on the global economy, we acted rapidly and decisively to safeguard the health and safety of our global workforce and the sustainability of our business," Sara A. Greenstein, President and Chief Executive Officer, said. "We immediately responded to the large unmet need and global shortage of supplies for front line and first responder personnel and reprioritized our manufacturing capabilities in North America and Europe to produce filtration products used in N95 respirators, surgical and medical masks, and medical wipes, pads and gowns."

"In the wake of COVID-19, the need for the filtration media that makes face masks effective has increased dramatically, so much so that it is now being called the 'golden fleece,'" Sara A. Greenstein, President and CEO of Lydall, said. "As one of the only companies in North America and Europe with the technical expertise, supplier relationships and access to the right machines to produce this filtration media, we feel great responsibility to do everything within our power to increase our output, support domestic supply chains and contribute to the global fight against COVID-19. This investment is one example of Lydall's commitment to do just that."

"Being a trustworthy business partner is a top priority at Lydall. It is always our goal to provide our customers with a consistent supply of high-quality, specialty products and superior customer service," Ashish Diwanji, incoming President of Lydall Performance Materials, added. "As the principal supplier of meltblown filtration media to many of the U.S.'s largest face mask producers, we are currently operating at full capacity, with our extraordinarily dedicated team running our existing production lines 24 hours a day, seven days a week. We are pleased that the new installation of this asset will enable us to substantially increase our output of this critically-needed product."

Lydall's Nonwoven materials and conversion technologies are used in many life sustaining products to fight the spread of COVID-19 and support treatment of COVID-19 related symptoms.



Filtration Media for Surgical Masks

- Efficiency and protective layers
- BFE 95 and 98 (EN-14683, ASTM F-2100), N95 (NIOSH)
- Tie strap materials
- Meltblown, needle felt, triboelectric

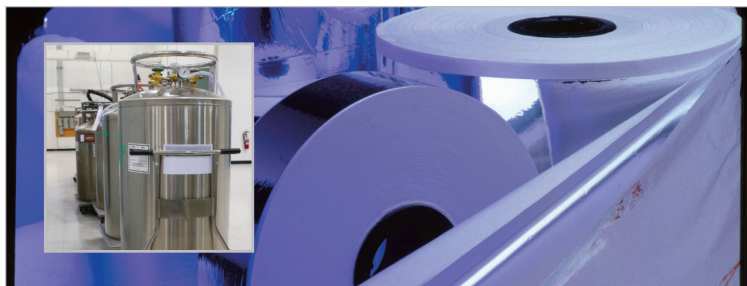
Contact Aaron Frost at afrost@lydall.com



Filtration Media for Respirator Masks

- Polypropylene meltblown efficiency and protective layers
- N95 (NIOSH), FFP 1, 2, 3 (EN149)
- Produced on state-of-the-art equipment
- P100 and HEPA solutions also available

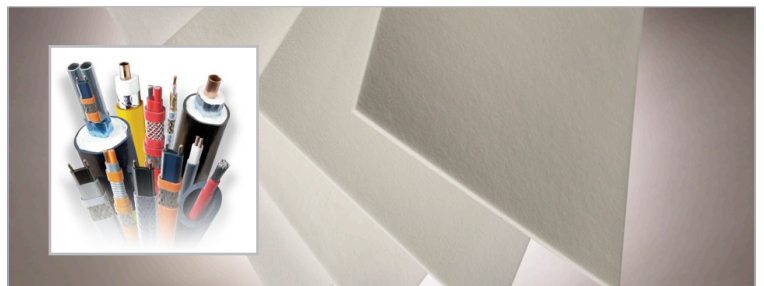
Contact Aaron Frost at afrost@lydall.com



Cryogenic Insulation for Oxygen Tanks

- Oxygen compatible, non-flammable
- High payload retention
- Low pump down times

Contact Anatoli Kogan at akogan@lydall.com



Battery and Electrical Insulation for Ventilators

- Cellulose, glass, ceramic medias for fire protection as well as electrical and thermal insulation.

Contact John Walsh at jwalsh@lydall.com



Cryogenic Insulation for Electron Cryomicroscopy Testing and Biologic Storage

- Non-flammable
- High payload retention
- Low pump down times

Contact Anatoli Kogan at akogan@lydall.com



Diagnostics Testing

- Uniform wicking
- Sample pad, Conjugate pad
- Blood separator

Contact Aaron Frost at afrost@lydall.com



Lydall's Nonwoven materials and conversion technologies are used in many life sustaining products to fight the spread of COVID-19 and support treatment of COVID-19 related symptoms.



Sealing Products for Medical and Consumable Cold Storage

- Hermetic compressors for preservation of consumables and blood/plasma
- Semi-Hermetic compressors for hospitals, supermarkets and distribution centers

Contact Jon Bush at jbush@lydall.com



HEPA Filtration Media for Hospitals

- Bio Bench
- HEPA, ULPA for surgical suites, clean rooms and devices
- Gas Phase and Antimicrobial

Contact Geoff Crosby at gcrosby@lydall.com



Patient Care – Washcloths and Bed Pads

- Medical wipes/Bathfelt medias for cleaning and bathing wipes solutions for patients
- Soaker pad felts for hospital under pads
- Needle felt materials

Contact Louis Bouffard at lbouffard@lydall.com



FDA Materials for Garments

- Medias from Polyester, Polypropylene, and Viscose FDA grade materials
- 70-400 gsm (2-12 osy)
- Needle felt materials

Contact Alex Alexis at aalexis@lydall.com



Sealing Products for Portable and Standby Power Generation

- Hospitals, nursing homes, data centers, cell towers, pharmacies, grocery stores, first responders, government agencies, waste water treatment plants

Contact Jon Bush at jbush@lydall.com



Rapid Prototyping for Advanced Solutions

- Joint development for product and part design
- Nonwovens contract manufacturing
- Extensive applications testing
- Vast network of nonwoven converters

Contact Michael O'Laughlin at molaughlin@lydall.com



Lydall is your turn-key solutions provider for face mask expertise, materials and production support.

Expertise & Connections

Filtration Expertise

- 40+ years of expertise in the Filtration industry

Partnerships for Advanced Solutions

- We find solutions to bring face mask production to life in days, not months!

Industry Connections

- Intimate relationships with partners in equipment manufacturing for face mask production

Critical Filtration Layers

N95 Respirator Masks

- Meltblown media produced on state-of the art equipment

ASTM 1, 2, 3 Medical Masks

- BFE 95-99 Meltblown, Needle punch and Carded Synthetic Materials

General Purpose Masks

- BFE ratings 75+ of needle punch and carded materials with large production capacity to serve general face covering needs

Supporting Materials

Comfort Layers

- Nonwoven materials with soft surface for all-day comfort and excellent moisture management

Protective Layers

- Various nonwoven materials available for full range of mask designs

Tie Straps

- Synthetic and Cellulose materials ideal for comfortable ear straps/tie straps for medical masks



COVID-19 Face Masks Materials

Lydall offers a robust portfolio of nonwoven materials for customers who are producing face masks to fight the spread of COVID-19. Whether you require N95 media for respirator masks, BFE 98 media for medical masks, or media for a general purpose mask, we've got you covered when it comes to the filtration efficiency layer of the mask. We also offer media for other components of the face mask including the comfort and protective layers and the tie straps.

Filtration Efficiency Layer

High-quality materials available for various protection needs:

Best Protection For N95 Respirator Masks



MB 7073

- NIOSH regulated
- Removes 95% of 0.3 micron particles
- Meltblown media

Better Protection For Medical Masks



MB 1049HW, NP 0150PC

- Type I,II,III (EN 14683) & Level 1, 2, 3 (ASTM F2100)
- BFE >98 – removes 98% of 3 micron particles
- Meltblown media, Needlepunch media

Good Protection For General Purpose Masks



IHB 0189IC, NP 0200EF

- BFE >75 – removes 75% of 3 micron particles
- Carded media, Needlepunch media

Typical Properties	MB 7073	MB 1049HW	NP 0150PC	IHB 0189IC	NP 0200EF	Test Method
Basis Weight - osy (gsm)	0.9 osy (30 gsm)	0.9 osy (30 gsm)	4.4 osy (150 gsm)	1.8 osy (60 gsm)	5.9 osy (200 gsm)	T.A.P.P.I. - T - 410 A.S.T.M. - D - 646
Breathability - mmWc/cm2	3.25	1.75	0.5	0.5	1.5	EN 14683, Palas MFP 3000, 8 lpm
NIOSH Efficiency (42CFR, Part 84) (@10 cm/s)	95%	n/a	n/a	n/a	n/a	TSI 8130
Bacterial Filtration Efficiency (BFE)* (@12.0 cm/s)	> 99%	> 98%	> 95%	> 75%	> 75%	Lydall Proprietary*
Material	Polypropylene	Polypropylene	Polypropylene	Polyethylene/ Polypropylene	Polyester	
Color	White					

* Lydall has developed a proprietary, correlated, flat sheet test method for BFE. It is the face mask manufacturer's responsibility to test the final article to the required full test methodologies for certification.

Additional Face Mask Materials

Comfort Layer

NP 0125EV Medical Felt

- Also referred to as the skin contact layer
- Polyester/Viscose blend needlepunch media
- Soft surface for all-day comfort
- Excellent moisture management
- 3.7 osy (125 gsm)

Tie Straps

Manniweb® 5190

- Viable substitute for elastics
- Soft polyester material provides more comfort and adjustable convenience for user
- 1.0 osy (30.5 gsm)

Protective Layers

NP 0095P Felt

- Polypropylene needlepunch media for ultrasonically sealed masks
- Viable substitute for spunbond polypropylene media
- 2.8 osy (95 gsm)

IHB 0949PL

- Polyethylene/Polypropylene carded thermal-bonded media
- 0.9 osy (32 gsm)

For more information on Lydall's BEST or BETTER protection, please contact:

North America:

Aaron Frost at afrost@lydall.com

EMEA:

Bruno Chenu at bchenu@lydall.com

APAC:

Abhi Saxena at asaxena@lydall.com

For more information on Lydall's GOOD protection or Additional Face Mask Materials, please contact:

North America:

Jean Girard at jgirard@lydall.com

EMEA:

Peter Keck at pkeck@lydall.com

APAC:

Sara Lin at slin@lydall.com



Note: All product data is nominal and does not represent a specification. All data and statements concerning these products may be considered as being indicative of representative properties and characteristics obtainable. We make no warranty, expressed or implied, concerning actual use or results because of industry specific influences.

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Summary of COVID-19 Response Actions

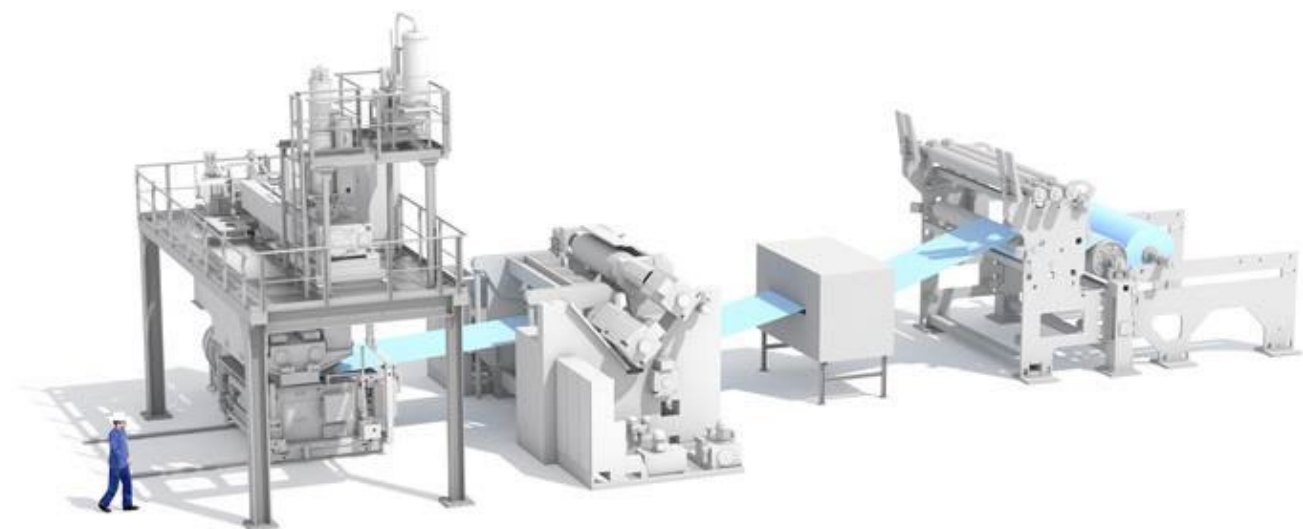
COVID 19 has made continued manufacturing operations very challenging. From the very early days of the pandemic, Lydall initiated many new practices and procedures with the primary goal being the safety of our employees. These have evolved as we have learned more and as the pandemic progressed. These practices include but are not limited to:

- Developed a Lydall Emergency Preparedness Team at senior level to guide our response
- Communicated actively on COVID-19 information and guidance from relevant governing bodies
- Eliminated plant access to all but necessary personnel
- Social distancing in operations: limited contact among employees, eliminated areas to congregate
- Instituted work from home for support functions
- Instituted enhanced regular cleaning of work areas throughout operation
- Developed response procedures for any suspected instance of COVID-19 connected to our operation
- Contracted external cleaning services for deep cleaning of operations when warranted
- Instituted practice of mandatory face coverings
- Implemented touchless sign in for time clocks
- Instituted temperature scanning for employees coming on shift
- Supported benefits for all employees off work due to COVID-19 quarantining or evaluations
- Developed back to work procedures to follow for those returning to work

These are just a number of the actions taken to ensure the safety of our employees as they continue to work to produce essential products.

Overview: How Meltblown Filtration Works

Meltblown technology is used to extrude fine fibers made of polymers into a continuous roll process. This material is electrostatically charged. The combination of fine fibers, electrostatic charge, specialty raw materials and the meltblown process yields a material that filters particles with high efficiency but allows for very low air resistance. This means that the fundamental technology is perfect for face mask applications where viruses and bacteria must be captured, while allowing users to breathe easily.



Fine fibers and electrostatic charging are required to achieve the respirators and face mask filtration efficiencies required during the COVID-19 pandemic.



The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner



VIA EMAIL ONLY

June 1, 2020

John Peacock, Senior Director
Environmental, Health, Safety, Sustainability & Security
Lydall Performance Materials, Inc.
134 Chestnut Hill Road, PO Box 1960
Rochester, New Hampshire 03867-1960

Subject: Lydall Building Expansion Project

Dear Mr. Peacock:

I am writing on behalf of the New Hampshire Department of Environmental Services (NHDES) to summarize our May 29, 2020 discussions with you, your staff, and your consultants relative to the proposed building expansion at your Rochester facility. It is our understanding that your proposed expansion is intended to house machinery and equipment for production of "meltblown" filter media, a key component of N95 respirator masks that have become so important to protecting first responders and medical personnel during the current COVID-19 pandemic. Your hope is to complete construction and be operational as soon as January 2021, in order to significantly increase your capacity to supply this vital material to mask manufacturers. We also understand that Lydall has an application pending before the Rochester Planning Board and must obtain approval before moving forward with the construction project. We fully appreciate the urgency, and hope to assist you in successfully meeting your schedule.

As we discussed on Friday, the site design and plans that were submitted last fall to NHDES' Alteration of Terrain (AOT) program staff for review did not adequately consider soil and groundwater conditions at the site relative to the presence of per- and poly-fluoroalkyl substances (PFAS) contamination. Because the AOT program staff were unaware of the presence of these contaminants at the site, their review of the design was not fully informed and therefore incomplete. It is also our understanding that the Rochester Planning Department has expressed concerns about issuing project approval before these issues have been vetted.

Following our meeting on Friday, and in light of revised plans submitted since the meeting, NHDES is confident that the concerns that we expressed relative to the project design components and their potential impact on future remedial measures needed to address site contaminants can be promptly addressed. I have summarized below each of those concerns, and the path to resolution for each, which were discussed during our meeting:

1) Location/route of force main.

The proposed route and location of the force main traverses an area of soil contamination that is slated for future excavation and soil removal. As discussed, the presumptive solution is to reroute the force main so that it does not intersect this area of contamination. Your consultant has since submitted a revised design which reroutes the force main.

2) Incorporation/consideration of groundwater remedial system design needs into building foundation design.

The footprint of the proposed building is located in part within an area that is slated for future groundwater extraction associated with a groundwater “pump and treat” remediation system. It will be necessary to make provision for necessary infrastructure associated with the extraction and treatment system, including any extraction wells or piping needs. These features will need to be incorporated into the foundation and building design.

3) Stormwater management.

The original proposed design would convey stormwater for onsite disposal via a constructed infiltration basin. Given the presence of soil and groundwater contamination at the site, insufficient information to fully model the potential impacts infiltration may have on contaminant migration, and the time limitations imposed by the desired project schedule, after the conclusion of our meeting NHDES determined that an alternate stormwater management technology will need to be implemented. AOT program staff initiated discussion with your consultants on this topic, and a new design has been submitted, which eliminates the infiltration basin and features instead lined gravel wetlands.

4) Soil management plan for construction.

In order to ensure proper soil characterization and handling, construction projects on sites where soil contamination is present need to have a detailed soil management plan in place prior to start of the project. Our site remediation staff can provide guidance and examples of such plans to your consultants.

Given that new design plans have already been provided to the AOT program and that your consultants are actively working to address NHDES concerns, we believe that these issues can be resolved promptly. Our site remediation program project manager, Matthew Taylor, is prepared to assist and provide guidance, and may be reached at matthew.taylor@des.nh.gov. In addition, in lieu of submitting a new AOT application, you can make a request for an AOT permit amendment to incorporate the necessary design changes. It may be necessary to submit a waiver request in order to do so. Please contact the design review engineer, Gloria Andrews, at Gloria.andrews@des.nh.gov for details on this process.

John Peacock, Senior Director
Lydall Performance Materials Inc.
June 1, 2020
Page 3 of 3

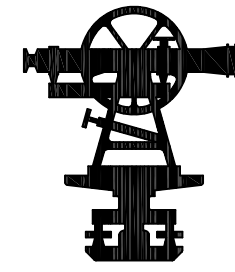
We look forward to working with you in order to advance this project, while ensuring that the necessary site remediation concerns are addressed concurrently. If you have any questions about this letter, or any concerns as we move forward, please do not hesitate to contact me via email or phone.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "Michael J. Wimsatt", with a stylized flourish at the end.

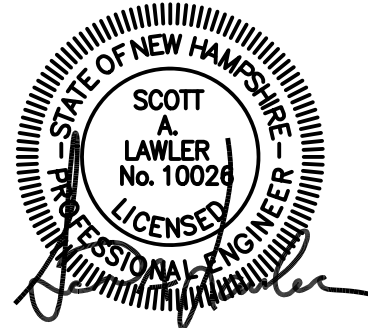
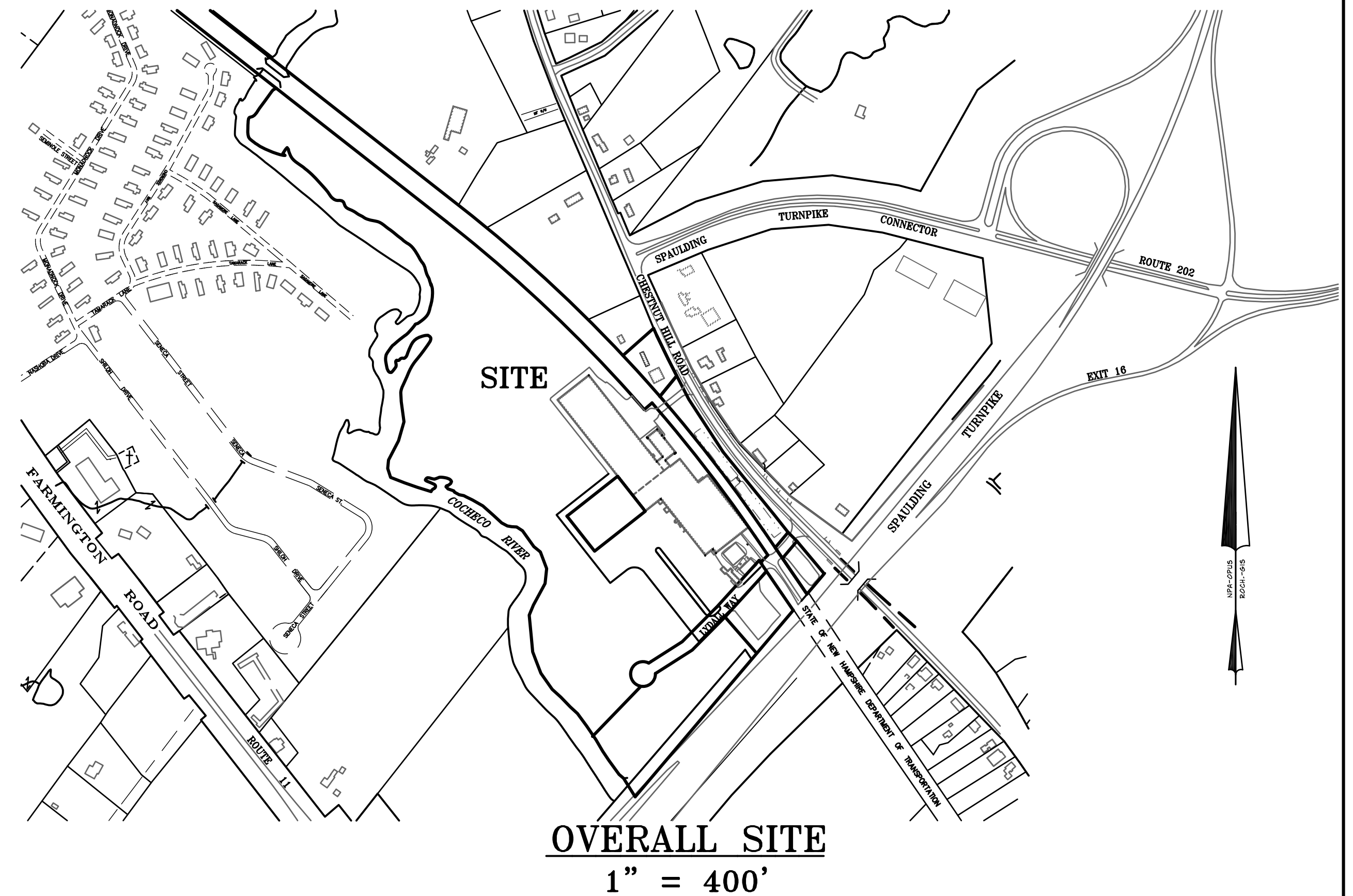
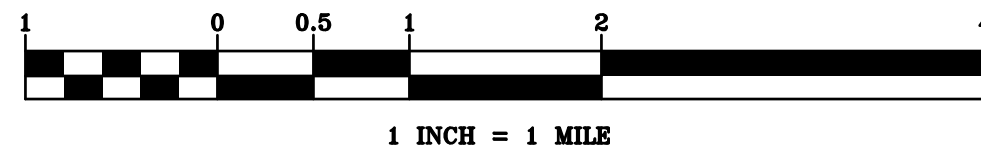
Michael J. Wimsatt, P.G., Director
Waste Management Division
michael.wimsatt@des.nh.gov
Tel. No. 603-271-1997

cc: Jeff Milem – Lydall
Cynthia Harrington – NH Business & Economic Affairs
Seth Creighton – City of Rochester
Mike Bezanson – City of Rochester
Robert Scott, Commissioner – NHDES
Thomas O'Donovan – NHDES Water Division
Ridge Mauck – NHDES AOT Program
Gloria Andrews – NHDES AOT Program
Matthew Taylor – NHDES Hazardous Waste Remediation Bureau



LYDALL BUILDING EXPANSION
134 CHESTNUT HILL ROAD, ROCHESTER, NH 03867
PREPARED FOR
LYDALL PERFORMANCE MATERIALS, INC.
MAY 2020

Received 6/9/2020



CIVIL ENGINEERS

NORWAY PLAINS ASSOCIATES, INC.
2 CONTINENTAL BOULEVARD
ROCHESTER, NEW HAMPSHIRE 03867
(603) 335-3948

OWNER OF RECORD

TAX MAP 216, LOT 32
OWNER OF RECORD:
LYDALL EASTERN, INC.
134 CHESTNUT HILL ROAD
ROCHESTER, NH 03867
SCRD BOOK 1769, PAGE 359

TAX MAP 221, LOT 186 & 187
OWNER OF RECORD:
LYDALL EASTERN, INC.
TECHNICAL PAPERS DIVISION
134 CHESTNUT HILL ROAD
ROCHESTER, NH 03867
SCRD BOOK 2141, PAGE 753

APPLICANT

LYDALL EASTERN INC.
134 CHESTNUT HILL ROAD
ROCHESTER, NH 03867
(603) 332-4600

STATE AND FEDERAL PERMITS:
STATE OF NEW HAMPSHIRE PERMIT NUMBERS:

NHDES ALTERATION OF TERRAIN:	AoT-1733
NHDES WETLANDS PERMIT:	NOT REQUIRED
NHDES DAM PERMIT:	NOT REQUIRED
NHDES SHORELAND PERMIT:	2019-03443
NHDES SUBSURFACE SYSTEMS PERMIT:	NOT REQUIRED
NHDES WASTEWATER PERMIT:	NOT REQUIRED
NHDOT DRIVEWAY/ENTRANCE PERMIT:	NOT REQUIRED

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES):
NPDES PERMITS ARE ONLY REQUIRED FOR PROJECTS MEETING
THE DISTURBED AREA CRITERIA BELOW AND HAVING A POINT
SOURCE STORMWATER DISCHARGE FROM THE SITE TO AN
ADJACENT WETLAND OR WATER BODY (I.E. CULVERT, SWALE, ETC.
OUTLETING TO A WETLAND, CREEK, STREAM OR RIVER).

NPDES PERMIT: REQUIRED

NPDES PERMITS CONSIST OF A NOTICE OF INTENT (NOI) FILED WITH
THE ENVIRONMENTAL PROTECTION AGENCY AT LEAST 14 DAYS PRIOR
TO CONSTRUCTION COMMENCING AND A STORMWATER POLLUTION
PREVENTION PLAN (SWPPP) BEING PREPARED, KEPT ON SITE AND
FOLLOWED BY THE CONTRACTOR.

FOR STATUS OF THIS PERMIT, CONTACT THE PROJECT GENERAL CONTRACTOR.

FINAL APPROVAL BY
ROCHESTER PLANNING BOARD

CERTIFIED BY: _____ DATE: _____

SHEET INDEX

COVER		
SHEET	E-1	EXISTING FEATURES 1" = 60'
SHEET	C-1	OVERALL SITE PLAN 1" = 100'
SHEET	C-2	SITE LAYOUT PLAN 1" = 60'
SHEET	C-3	GRADING AND DRAINAGE PLAN 1" = 60'
SHEET	C-4	EROSION AND SEDIMENTATION CONTROL PLAN 1" = 60'
SHEET	C-5	UTILITY PLAN 1" = 60'
SHEET	C-6	CONSTRUCTION DETAILS AS SHOWN
SHEET	C-7	DRAINAGE DETAILS AS SHOWN
SHEET	C-8	GRAVEL WETLANDS BASIN CROSS SECTIONS AS SHOWN
SHEET	C-9	GRAVEL WETLANDS BASIN PLAN AND DETAILS AS SHOWN
SHEET	C-10	TEMPORARY EROSION AND SEDIMENTATION CONTROL DETAILS AS SHOWN
SHEET	C-11	PERMANENT EROSION AND SEDIMENTATION CONTROL DETAILS AS SHOWN
SHEET	L-1	LIGHTING PLAN AND DETAILS 1" = 40'

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION.
SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT
BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE
GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITH
IN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN
THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS
ASSOCIATES, INC. (603)-335-3948.

FILE NO. 154
PLAN NO. C-3059
DWG. NO. 17233/SP-3

- LEGEND**
- PROPERTY LINE
 - JURISDICTIONAL WETLANDS
 - EXISTING TREE LINE
 - EXISTING OVERHEAD WIRES
 - 258
 - EXISTING CONTOUR LINE
 - EXISTING BUILDING
 - FLOOD ZONE BOUNDARY
 - EXISTING TEST PIT LOCATION & NUMBER
 - EXISTING HYDRANT
 - EXISTING WATER GATE OR SHUT-OFF VALVE
 - EXISTING UTILITY POLE
 - EXISTING SEWER MAN HOLE
 - EXISTING CATCH BASIN
 - EXISTING MONITORING WELL
 - EXISTING LIGHTS
 - EXISTING WETLANDS

WETLANDS CLASSIFICATIONS FOUND ON SITE ARE AS FOLLOWS:

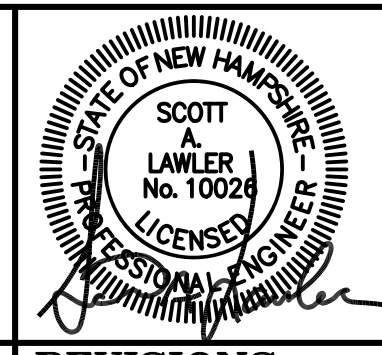
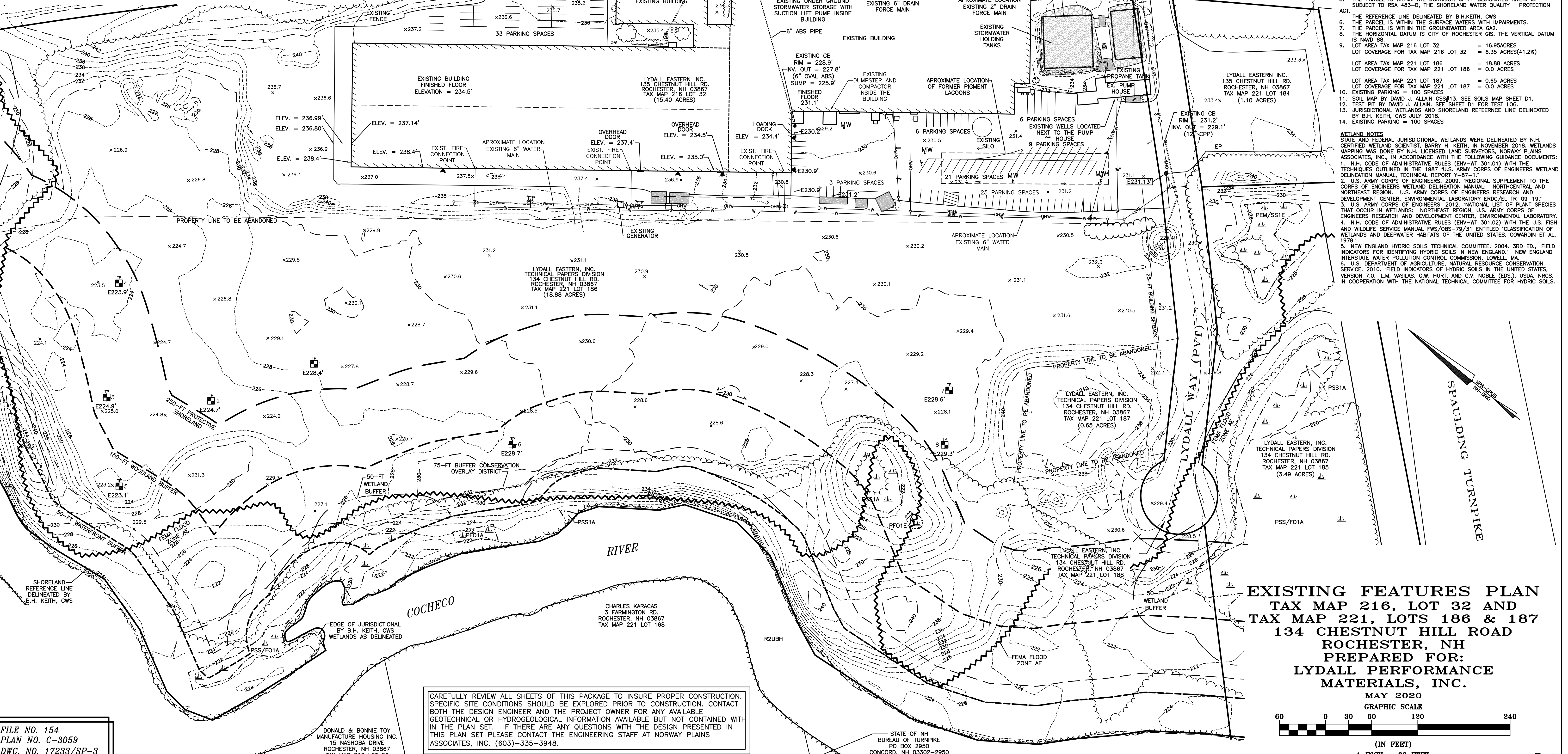
PEM/SS1E - PALUSTRINE PERMANENT EMERGENT/BROAD-LEAVED DECIDUOUS SCRUB-SHRUB, SEASONALLY FLOODED/SATURATED, PALUSTRINE BROAD-LEAVED DECIDUOUS SCRUB-SHRUB, TEMPORARILY FLOODED.

PSS1A - PALUSTRINE BROAD-LEAVED DECIDUOUS SCRUB-SHRUB/BROAD-LEAVED DECIDUOUS, TEMPORARILY FLOODED.

PFO1E - PALUSTRINE BROAD-LEAVED DECIDUOUS FORESTED, SEASONALLY FLOODED/SATURATED.

R2UBH - RIVERINE LOWER PERENNIAL, UNCONSOLIDATED BOTTOM, PERMANENTLY FLOODED.

U - UPLANDS



REVISIONS:

05/20/20 - ADD EXISTING UTILITIES WHERE KNOWN.

05/31/20 - ADD LOCATION OF FORMER PIGMENT LAGOONS

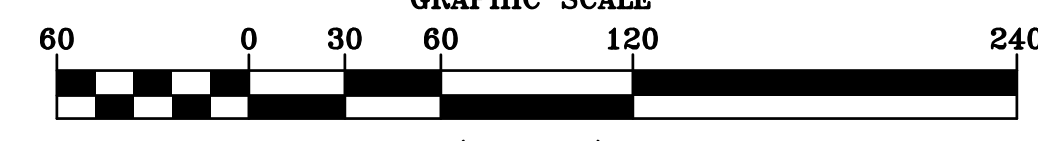
- NOTES**
- THESE PARCELS ARE LOCATED IN THE INDUSTRIAL ZONE (IND), AQUIFER PROTECTION OVERLY DISTRICT (APOD) AND THE CONSERVATION OVERLAY DISTRICT (COO).
 - DIMENSIONAL REGULATIONS PER ZONING ORDINANCE:
MINIMUM LOT AREA = 20,000 SF
MINIMUM LOT FRONTAGE = 100'
MINIMUM YARD SETBACKS:
FRONT = 25'
SIDE = 20'
REAR = 25'
MAXIMUM LOT COVERAGE = 75%
MAXIMUM BUILDING HEIGHT = 55'
BUFFER FROM EDGE OF COCHECO RIVER = 75'
BUFFER FROM JURISDICTIONAL WETLAND = 50'
 - PARCEL HAS A SMALL PORTION LOCATED WITHIN ZONE AE (100YR FLOOD) AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY MAP DATED MAY 17, 2005. NO STRUCTURE FALLS WITHIN FLOOD ZONE.
 - NO WORK IS PROPOSED IN THE AQUIFER PROTECTION OVERLY DISTRICT. THE PARCEL IS WITHIN THE CORRIDOR OF A DESIGNATED RIVER, IS SUBJECT TO RSA 483-B, THE SHORELAND WATER QUALITY PROTECTION ACT.
 - THE REFERENCE LINE DELINEATED BY B.H. KEITH, CWS
 - THE PARCEL IS WITHIN THE SURFACE WATERS WITH IMPAIRMENTS.
 - THE PARCEL IS WITHIN THE GROUNDWATER AREA GA2.
 - THE HORIZONTAL DATUM IS CITY OF ROCHESTER GIS. THE VERTICAL DATUM IS NAVD 88.
 - LOT AREA TAX MAP 216 LOT 32 = 16.95 ACRES
LOT COVERAGE FOR TAX MAP 216 LOT 32 = 6.35 ACRES (41.2%)
 - LOT AREA TAX MAP 221 LOT 186 = 18.88 ACRES
LOT COVERAGE FOR TAX MAP 221 LOT 186 = 0.0 ACRES
 - LOT AREA TAX MAP 221 LOT 187 = 0.65 ACRES
LOT COVERAGE FOR TAX MAP 221 LOT 187 = 0.0 ACRES
 - EXISTING PARKING = 100 SPACES
 - SOIL MAP BY DAVID J. ALLAN, SEE SHEET D1 FOR TEST LOG.
 - TEST PIT BY DAVID J. ALLAN, SEE SHEET D1 FOR TEST LOG.
 - JURISDICTIONAL WETLANDS AND SHORELAND REFERENCE LINE DELINEATED BY B.H. KEITH, CWS JULY 2018.
 - EXISTING PARKING = 100 SPACES

WETLAND NOTES

STATE AND FEDERAL JURISDICTIONAL WETLANDS WERE DELINEATED BY N.H. CERTIFIED WETLAND SCIENTIST, BARRY H. KEITH, IN NOVEMBER 2018. WETLANDS MAPPING WAS DONE BY N.H. LICENSED LAND SURVEYORS, NORWAY PLAINS ASSOCIATES, INC., IN ACCORDANCE WITH THE FOLLOWING GUIDANCE DOCUMENTS:

- N.H. CODE OF ADMINISTRATIVE RULES (ENR-WT 301.01) WITH THE TECHNIQUES OUTLINED IN THE 1987 U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, TECHNICAL REPORT Y-87-1.
- U.S. ARMY CORPS OF ENGINEERS, 2008, REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH CENTRAL AND NORTHEAST REGION. U.S. ARMY CORPS OF ENGINEERS RESEARCH AND DEVELOPMENT CENTER, ENVIRONMENTAL LABORATORY ERDC/EL TR-09-19.
- U.S. ARMY CORPS OF ENGINEERS, 2012, "NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: NORTHEAST REGION, U.S. ARMY CORPS OF ENGINEERS RESEARCH AND DEVELOPMENT CENTER, ENVIRONMENTAL LABORATORY.
- N.H. CODE OF ADMINISTRATIVE RULES (ENR-WT 301.02) WITH THE U.S. FISH AND WILDLIFE SERVICE MANUAL FWS/OBS-79/31 ENTITLED CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES, COWARDIN ET AL, 1979.
- NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE, 2004, 3RD ED., "FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND." NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA.
- U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, 2010, "FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 7.0." L.M. VASILEK, G.W. HURT, AND G.V. NOBLE (EDS.), USDA, NRCS, IN COOPERATION WITH THE NATIONAL TECHNICAL COMMITTEE FOR HYDRIC SOILS.

EXISTING FEATURES PLAN
TAX MAP 216, LOT 32 AND
TAX MAP 221, LOTS 186 & 187
134 CHESTNUT HILL ROAD
ROCHESTER, NH
PREPARED FOR:
LYDALL PERFORMANCE
MATERIALS, INC.
MAY 2020
GRAPHIC SCALE



CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.

FILE NO. 154
 PLAN NO. C-3059
 DWG. NO. 17233/SP-3

31 Mooney Street, Alton, N.H. 603-875-3948

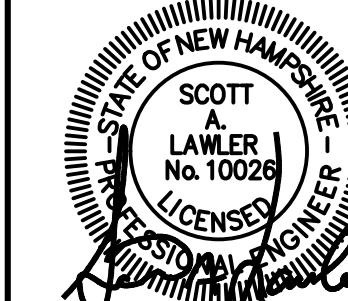
2 Continental Blvd., Rochester, N.H. 603-335-3948

LAND SURVEYORS

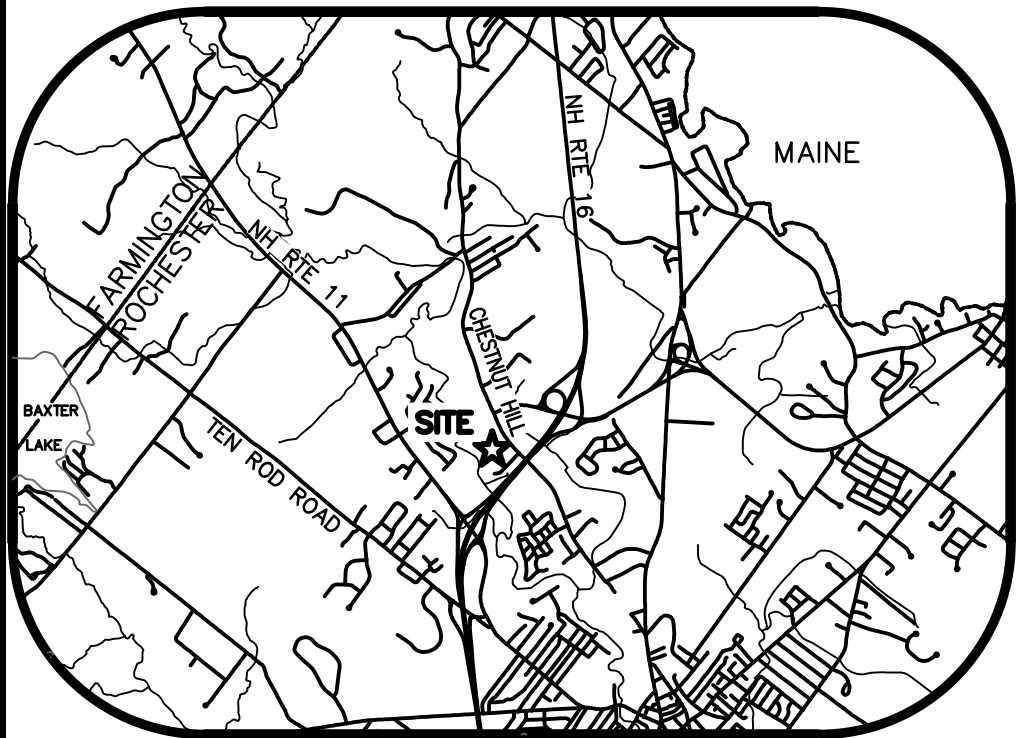
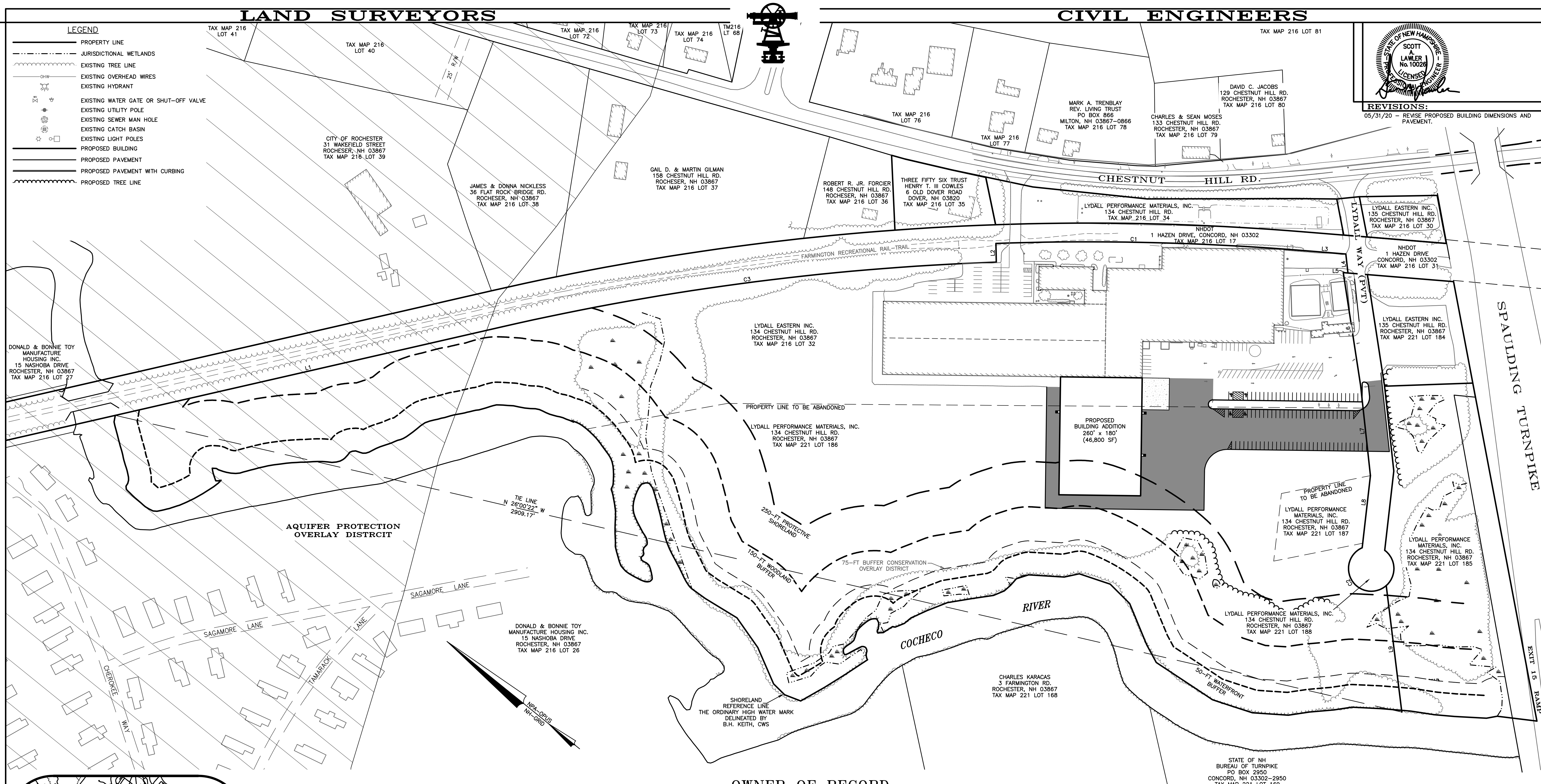
CIVIL ENGINEERS

LEGEND

- PROPERTY LINE
- JURISDICTIONAL WETLANDS
- EXISTING TREE LINE
- EXISTING OVERHEAD WIRES
- EXISTING HYDRANT
- EXISTING WATER GATE OR SHUT-OFF VALVE
- EXISTING UTILITY POLE
- EXISTING SEWER MAN HOLE
- EXISTING CATCH BASIN
- EXISTING LIGHT POLES
- PROPOSED BUILDING
- PROPOSED PAVEMENT
- PROPOSED PAVEMENT WITH CURBING
- PROPOSED TREE LINE



REVISIONS:
05/31/20 - REVISE PROPOSED BUILDING DIMENSIONS AND PAVEMENT.



LINE	BEARING	DISTANCE
L1	N 51°54'13" W	874.03
L2	S 49°59'32" W	41.26
L3	S 34°20'13" E	93.93
L4	N 44°34'24" E	42.03
L5	S 34°20'13" E	10.39
L6	S 42°16'37" W	251.62
L7	S 44°46'37" W	200.00
L8	N 57°31'37" E	160.00
L9	N 43°59'08" E	281.06

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	677.92	5827.17	6°39'56"	N 37°40'11" W	677.54
C2	172.74	50.00	1°57'56"55"	N 18°33'10" E	98.78
C3	1100.11	5785.92	10°53'38"	N 46°27'24" W	1098.45

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE. GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.

FILE NO. 154
PLAN NO. C-3059
DWG. NO. 17233/SP-3

OWNER OF RECORD

TAX MAP 216, LOT 32
OWNER OF RECORD:
LYDALL EASTERN, INC.
134 CHESTNUT HILL ROAD
ROCHESTER, NH 03867
SCRD BOOK 1769, PAGE 359

TAX MAP 221, LOT 186 & 187
OWNER OF RECORD:
LYDALL EASTERN, INC.
TECHNICAL PAPERS DIVISION
134 CHESTNUT HILL ROAD
ROCHESTER, NH 03867
SCRD BOOK 2141, PAGE 753

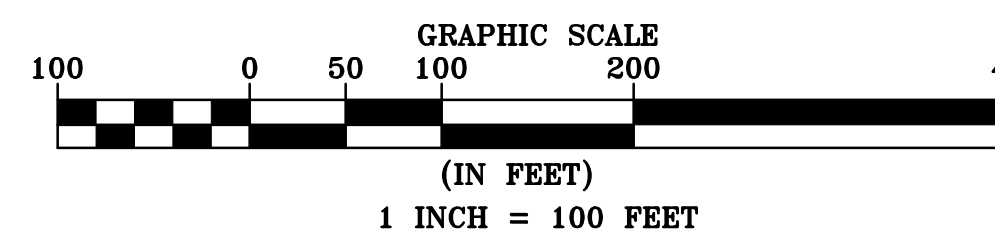
SITE REVIEW APPROVAL
WHETHER OR NOT OTHERWISE EXPRESSLY RECITED ON THIS SITE REVIEW PLAN, THE SITE REVIEW APPROVAL GRANTED IS CONDITIONED ON FAITHFUL AND DILIGENT ADHERENCE BY THE OWNER/DEVELOPER TO ALL WRITTEN AND VERBAL REPRESENTATIONS MADE REGARDING SUCH MATTERS AS USE, NUMBER OF EMPLOYEES, DRAINAGE, CONSTRUCTION, ETC. AS WELL AS ALL OTHER TERMS, CONDITIONS, PROVISIONS, REQUIREMENTS AND SPECIFICATIONS OF THE SITE PLAN REVIEW REGULATIONS OF THE CITY OF ROCHESTER, N.H., AS AMENDED, IN EFFECT ON THE DATE OF APPROVAL. ANY VARIATION FROM THE PROPOSAL AS APPROVED MAY ALSO REQUIRE THE SUBMISSION AND APPROVAL OF A NEW SITE REVIEW APPLICATION.

FINAL APPROVAL BY
ROCHESTER PLANNING BOARD

CERTIFIED BY: _____ DATE: _____

OVERALL SITE PLAN
TAX MAP 216, LOT 32
TAX MAP 221, LOT 186
TAX MAP 221, LOT 187
134 CHESTNUT HILL ROAD
ROCHESTER, NH

PREPARED FOR:
LYDALL PERFORMANCE
MATERIALS, INC.
MAY 2020

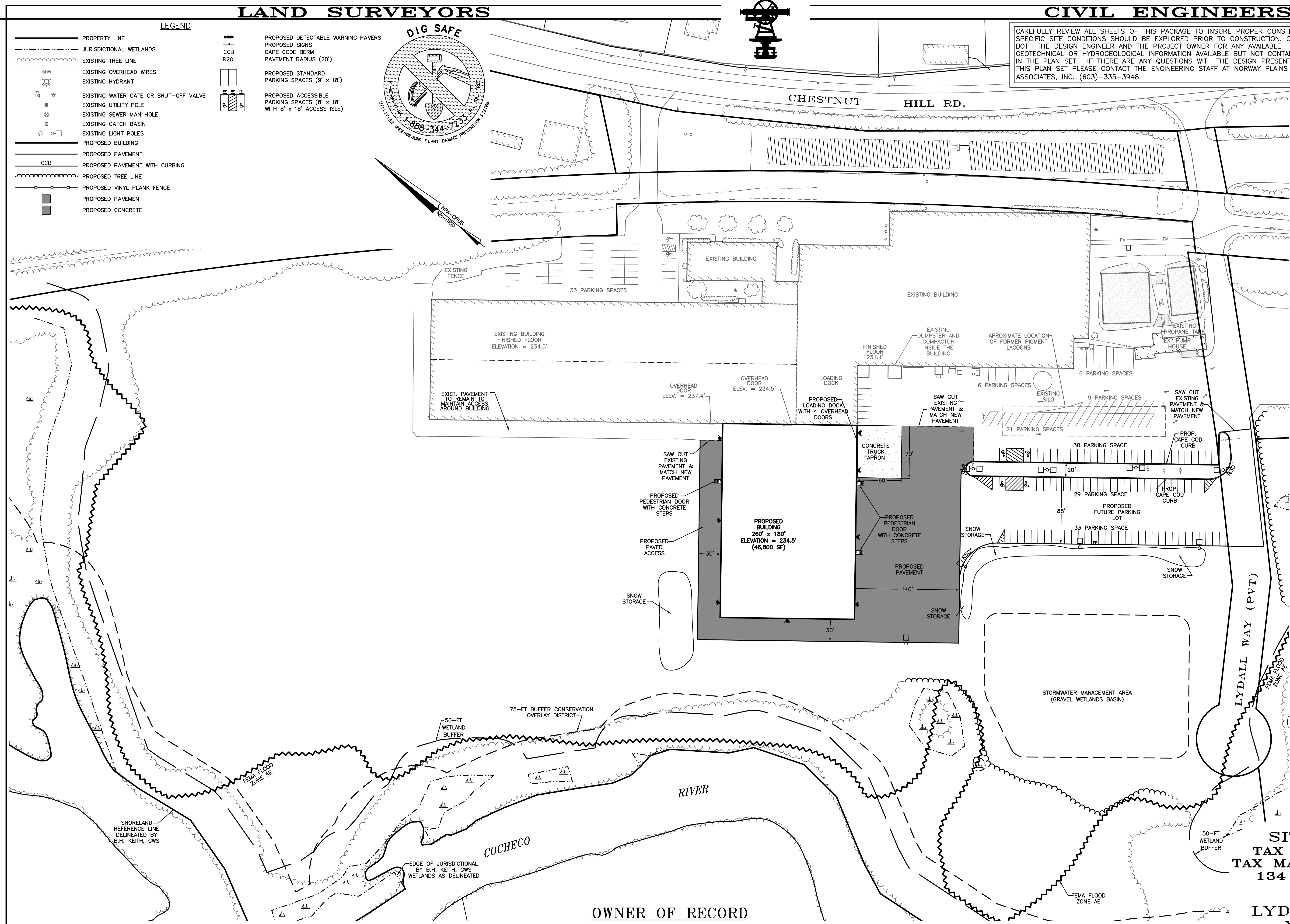


LAND SURVEYORS

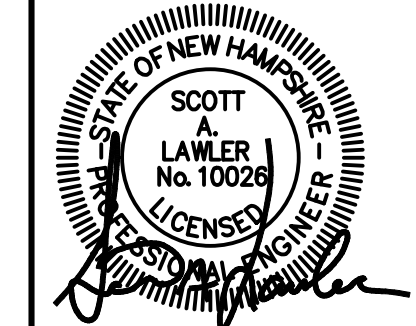
CIVIL ENGINEERS

LEGEND

—	PROPERTY LINE	—	PROPOSED DETECTABLE WARNING PAVERS
- - -	JURISDICTIONAL WETLANDS	—	PROPOSED SIGNS
—	EXISTING TREE LINE	—	CAPE CODE BERM
—	EXISTING OVERHEAD WIRES	—	PAVEMENT RADIUS (20')
—	EXISTING HYDRANT	—	PROPOSED STANDARD
—	EXISTING WATER GATE OR SHUT-OFF VALVE	—	PARKING SPACES (9' x 18')
—	EXISTING UTILITY POLE	—	PROPOSED ACCESSIBLE
—	EXISTING SEWER MAN HOLE	—	PARKING SPACES (8' x 18'
—	EXISTING CATCH BASIN	—	WITH 8' x 18' ACCESS ISLE)
—	EXISTING LIGHT POLES	—	
—	PROPOSED BUILDING	—	
—	PROPOSED PAVEMENT	—	
—	PROPOSED PAVEMENT WITH CURBING	—	
—	PROPOSED TREE LINE	—	
—	PROPOSED VINYL PLANK FENCE	—	
—	PROPOSED PAVEMENT	—	
—	PROPOSED CONCRETE	—	



CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.



REVISIONS:
05/20/20 - ADD ACCESS NOTES
05/31/20 - REVISE PROPOSED BUILDING DIMENSION, PAVEMENT AND STORMWATER MANAGEMENT AREA.

- GENERAL SITE PLAN NOTES**
- THESE PARCELS ARE LOCATED IN THE INDUSTRIAL ZONE (IND), AQUIFER PROTECTION DISTRICT, AND THE CONSERVATION OVERLAY DISTRICT (COD).
 - DIMENSIONAL REGULATIONS PER ZONING ORDINANCE:
MINIMUM LOT AREA = 20,000 SF
MINIMUM LOT FRONTAGE = 100'
MINIMUM YARD SETBACKS:
FRONT = 25'
SIDE = 20'
REAR = 25'
MAXIMUM LOT COVERAGE = 75%
MAXIMUM BUILDING HEIGHT = 55'
BUFFER FROM EDGE OF COCHECO RIVER = 75'
BUFFER FROM JURISDICTIONAL WETLAND = 50'
 - PARCEL HAS A SMALL PORTION LOCATED WITHIN ZONE AE (1000' FLOOD) AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY MAP, COMMUNITY #53017C02030 DATED MAY 17, 2005. NO STRUCTURE FALLS WITHIN FLOOD ZONE.
 - THE PARCEL IS WITHIN THE CORRIDOR OF A DESIGNATED RIVER, IS SUBJECT TO RSA 483-B, THE SHORELAND WATER QUALITY PROTECTION ACT, THE SHORELAND FRONTAGE IS 4,800 FEET. THE SHORELAND REFERENCE LINE WAS DELINEATED BY B.H. KEITH, CWS, JULY 2018. THE PARCEL IS WITHIN THE SURFACE WATERS WITH IMPAIRMENTS.
 - THE PARCEL IS WITHIN THE GROUNDWATER AREA GA2.
 - THE HORIZONTAL DATUM IS CITY OF ROCHESTER GIS. THE VERTICAL DATUM IS NAVD 88.
 - THE TOTAL LOT AREAS:
MAP 216, LOT 32 = 18.95 ACRES
MAP 221, LOT 186 = 18.87 ACRES
MAP 221, LOT 187 = 0.66 ACRES
TOTAL LOT COVERAGE = 12.0 ACRES OR 33%
PROPOSED BUILDING = 150,000 SF
PROPOSED PAVEMENT = 118,118 SF
JURISDICTIONAL WETLAND WERE DELINEATED BY BARRY H. KEITH, C.W.S. JULY 2018.
 - SOIL TYPES ARE PER SITE SPECIFIC SOIL SURVEY REPORT BY DAVID J. ALLAN, NH CERTIFIED SOIL SCIENTIST #13 IN MAY 2019.
 - PARKING REQUIREMENTS (SITE PLAN REGULATIONS; SECTION 10 (A):
INDUSTRIAL USE 1 SPACE PER 1,000 GROSS SF PLUS 3 SPACES PER 1,000 SF FOR OFFICES.
OFFICE (EXISTING) 3*(7,370sf/1,000) = 22 SPACES
INDUSTRIAL (EXISTING) 158,808sf/1,000 = 158 SPACES
INDUSTRIAL (PROPOSED) 46,800sf/1,000 = 47 SPACES
TOTAL REQUIRED SPACES = 227 SPACES
TOTAL PROVIDED SPACE = 167 SPACES
 - A WAIVER REQUEST FOR SITE PLAN REGULATION; SECTION 10 (A) FOR MORE INFORMATION ABOUT THIS SITE PLAN, CONTACT THE CITY OF ROCHESTER PLANNING DEPARTMENT, 31 WAKEFIELD ST., ROCHESTER, NH 03867. (603) 335-1338.
 - THIS DEVELOPMENT MUST BE IN COMPLIANCE WITH ALL APPLICABLE LAW - INCLUDING ALL PERTINENT PROVISIONS OF THE CITY OF ROCHESTER SITE PLAN REGULATIONS - UNLESS OTHERWISE WAIVED.
 - THE APPLICANT SHALL OBTAIN A STORMWATER MANAGEMENT PERMIT FROM THE PUBLIC WORKS DEPARTMENT (UNLESS DETERMINED TO BE UNNECESSARY BY THE CITY ENGINEER) AND FOLLOW THE REQUIREMENTS OF THE CITY ORDINANCE CHAPTER 218. THE PERMITTEE SHALL PREPARE A WRITTEN PLAN FOR MANAGING STORMWATER THAT ENTERS THE CONSTRUCTION SITE AND SHALL PRESENT IT TO THE INSPECTION ENGINEER AT THE PRE-CONSTRUCTION MEETING. THE PERMITTEE SHALL FOLLOW BEST MANAGEMENT PRACTICES TO PREVENT EROSION IN AREAS WHERE SOIL HAS BEEN DISTURBED.
 - ACCESS INTO THE SITE FOR FIRE APPARATUS MUST BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PROCESS. THIS IS THE SOLE RESPONSIBILITY OF THE APPLICANT/DEVELOPER TO MAINTAIN ACCESS. PLEASE CONTACT THE FIRE DEPARTMENT AT 350-7182 WITH ANY QUESTIONS ABOUT ACCESS REQUIREMENTS. FURTHERMORE, ACCESS AROUND THE EXISTING BUILDING AND PROPOSED ADDITION SHALL BE MAINTAINED DURING ALL PHASES AFTER CONSTRUCTION IS COMPLETED.
 - SNOW SHALL NOT BE PILED IN SUCH A MANNER AS TO BLOCK THE VISIBILITY OF THE VEHICLES ON CHESTNUT HILL ROAD.
 - ALL OUTSIDE CONSTRUCTION ACTIVITY RELATED TO THE DEVELOPMENT OF THIS SITE IS RESTRICTED TO THE HOURS OF 7:00 A.M. TO 6:00 P.M. MONDAY THROUGH FRIDAY AND 8:00 A.M. TO 6:00 P.M. SATURDAY.
 - THE CODE ENFORCEMENT OFFICER ADMINISTERS THE CITY OF ROCHESTER SIGN ORDINANCE. SIGNAGE SUBMITTED AS PART OF THIS SITE PLAN PACKAGE IS STILL SUBJECT TO HIS REVIEW TO ENSURE COMPLIANCE WITH THAT ORDINANCE AND OTHER APPLICABLE CODES, INDEPENDENT FROM THIS SITE PLAN REVIEW. IN ADDITION, IF ANY SIGNIFICANT CHANGE OR EXPANSION IS PROPOSED TO THE DESIGN OF THE APPROVED PRESTANDING SIGN OR TO THE OVERALL ADVERTISING SIGNAGE FOR THE SITE (NOT INCLUDING ACCESSORY SIGNAGE, SUCH AS HANDICAP PARKING SIGNS), THE PROPOSED SIGN DESIGNS MUST BE PRESENTED TO THE PLANNING BOARD FOR REVIEW PRIOR TO ISSUANCE OF THOSE SIGN PERMITS. A SIGN PERMIT MUST BE OBTAINED PRIOR TO INSTALLATION OF ANY SIGNS ON SITE.
 - ALL ELEMENTS SHOWN ON THE APPROVED SITE PLAN MUST BE PROPERLY COMPLETED PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY, UNLESS APPROPRIATE SURETY IS PLACED WITH THE PLANNING DEPARTMENT.
 - NOTE THAT THIS APPROVAL IS FOR THE SITE PLAN ONLY. LIFE SAFETY CODE AND BUILDING CODE REVIEW WILL BE REQUIRED AS PART OF THE BUILDING PERMIT PROCESS WHEN THE CONSTRUCTION PLANS ARE SUBMITTED. VARIOUS REQUIREMENTS REGARDING THE BUILDING DESIGN POSSIBLY INCLUDING A SPRINKLER SYSTEM - MAY BE SPECIFIED AT THAT TIME.
 - THE SEWER IMPACT CONTRIBUTION MUST BE PAID IN FULL, TO THE CODE ENFORCEMENT DEPARTMENT, PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY. THE SEWER IMPACT IS A ONE TIME PAYMENT OF \$2.00 PER GALLON FOR AVERAGE DAILY FLOW.
 - THIS PROJECT DISTURBS OVER ONE ACRE OF GROUND COVER AND MEETS OTHER SPECIFIC REQUIREMENTS RELATED TO PERMIT CRITERIA FOR EPA NPDES COMPLIANCE. THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPMENT AND IMPLEMENTATION OF A STORMWATER POLLUTION PREVENTION PLAN (SWPPP), SUBMISSION OF A NOTICE OF INTENT (NOI) TO EPA, INSPECTIONS AND MAINTENANCE OF SEDIMENT CONTROL MEASURES, DOCUMENTATION OF MAINTENANCE ACTIVITIES, AND SUBMISSION OF A NOTICE OF TERMINATION (NOT) TO EPA. THE CONTRACTOR IS ALSO RESPONSIBLE TO COMPLY WITH ANY OR ALL OTHER ASPECTS OF THE CURRENT FEDERAL, STATE AND LOCAL STORM WATER OR NPDES REGULATIONS OR REQUIREMENTS.
 - THE NPDES MUST BE NOTIFIED IN WRITING PRIOR TO THE START OF CONSTRUCTION AND UPON COMPLETION OF CONSTRUCTION. THE FORM CAN BE SUBMITTED ELECTRONICALLY AT www.des.nh.gov/organization/divisions/water/aot/categories/forms.htm
 - THIS PROJECT IS SUBJECT TO IMPACT FEES AS DETERMINED AT THE ISSUANCE OF THE BUILDING PERMIT TO BE PAID PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
 - THIS PROJECT HAS BEEN APPROVED IN PHASES AND THAT THE DEVELOPER SHALL CONSTRUCT THE SITE IMPROVEMENTS IN ACCORDANCE WITH THE APPROVED PLANS. THE DEVELOPER SHALL START CONSTRUCTION OF THE FUTURE PARKING LOT WITHIN THE 5-YEARS OF THE DATE OF THIS APPROVAL.

SITE LAYOUT PLAN
TAX MAP 216, LOT 32 AND
TAX MAP 221, LOTS 187 & 186
134 CHESTNUT HILL ROAD
ROCHESTER, NH
PREPARED FOR:
LYDALL PERFORMANCE
MATERIALS, INC.
MAY 2020
GRAPHIC SCALE
60 0 30 60 120 240
(IN FEET)
1 INCH = 60 FEET

FILE NO. 154
PLAN NO. C-3059
DWG. NO. 17233/SP-3

TAX MAP 216, LOT 32
OWNER OF RECORD:
LYDALL EASTERN, INC.
134 CHESTNUT HILL ROAD
ROCHESTER, NH 03867
SCRD BOOK 1769, PAGE 359

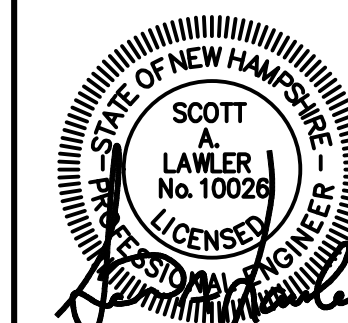
TAX MAP 221, LOT 186 & 187
OWNER OF RECORD:
LYDALL EASTERN, INC.
TECHNICAL PAPERS DIVISION
134 CHESTNUT HILL ROAD
ROCHESTER, NH 03867
SCRD BOOK 2141, PAGE 753

FINAL APPROVAL BY
ROCHESTER PLANNING BOARD

CERTIFIED BY: _____ DATE: _____

LEGEND

- PROPERTY LINE
- - - JURISDICTIONAL WETLANDS
- EXISTING TREE LINE
- EXISTING DRAIN LINE
- EXISTING CONTOUR LINE
- EXISTING TEST PIT
- E234.1' or • E234.1' EXISTING SPOT GRADE
- P234.25' PROPOSED SPOT GRADE
- PROPOSED TREE LINE
- PROPOSED DRAIN LINE
- PROPOSED CONTOUR LINE EVEN
- PROPOSED CONTOUR LINE ODD
- PROPOSED CATCH BASIN
- PROPOSED DRAIN MANHOLE
- PROPOSED FLARED END SECTION (FES)
- CORRUGATED POLYETHYLENE PIPE
- CATCH BASIN
- PROPOSED OUTLET PROTECTION



REVISIONS:

- 05/20/20 - EXISTING DRAINAGE SYSTEM. ADD PROPOSED DRAINAGE OVERFLOW PIPE. REVISE PROPOSED DRAINAGE STRUCTURE TABLE.
- 05/31/20 - REVISE PROPOSED BUILDING DIMENSIONS, PAVEMENT SITE GRADING, DRAINAGE TABLES, AND RAIN HARVEST SYSTEM AND FORCE MAIN LOCATION. ELIMINATE INFILTRATION BASIN AND REPLACE WITH GRAVEL WETLANDS BASIN.
- 06/01/20 - REMOVE PROPOSED RAIN HARVEST SYSTEM. ADD REMEDIATION CONDUIT UNDER PROPOSED ADDITION.
- 06/04/20 - ADD NEW DROP INLET BY LOADING DOCKS AND PAIR OF DRAIN PIPES, REVISE GRAVEL WETLAND BASIN GRADING AND OUTLET PIPES.

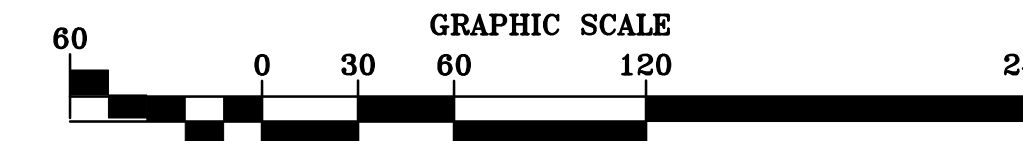
PROPOSED DRAINAGE STRUCTURES

1. PROP. CB#1 48" Ø
RIM = 230.5'
INV. IN = 227.2' (FROM EXISTING CPP)
INV. OUT = 227.1' (15" CPP) (ELIMINATOR)
SUMP = 223.1'
2. PROP. DB#2 (76" x 76" BASIN)
RIM = 229.5'
INV. OUT = 227.5' (12" DI)
SUMP = 225.3'
3. PROP. DMH#1 48" Ø
RIM = 234.1'
INV. IN = 230.50' (ROOF DRAINS)
INV. OUT = 230.40' (12" CPP)
4. PROP. 12" Ø SEDIMENT FOREBAY DRAIN PIPE
GRATE = 228.0'
INV. OUT = 226.5' (12" CPP)
5. PROP. 8" Ø GRAVEL BASIN CELL INLET CLEANOUT
GRATE = 227.5'
INV. OUT = 223.0' (8" CPP)
6. PROP. 8" Ø GRAVEL BASIN CELL OUTLET CLEANOUT
CAP = 227.5'
INV. IN / OUT = 223.0' (8" CPP)
7. PROP. 8" Ø GRAVEL BASIN CELL OUTLET CLEANOUT
CAP = 227.5'
INV. IN = 223.0' (8" CPP)
INV. OUT = 225.2' (4" PVC)
8. PROP. 24" Ø OUTLET STRUCTURE
GRATE = 228.5'
ORIFICE = 226.7' (2" VERTICAL)
INV. OUT = 223.5' (12" CPP)
9. PROP. 12" Ø CAP WITH LOCATOR RISER
10. PROP. DMH#2 60" Ø
RIM = 230.45'
INV. IN = 225.50' (REMEDIATION CONDUIT)

PROPOSED DRAINAGE PIPES

- | | |
|--|--|
| A. PROP. PIPE A
15" CPP
L = 150'
FES = 226.75' | G. PROP. PIPE G
8" PVC SOLID
L = 40'
LAID LEVEL |
| B. PROP. PIPES B
TWIN 12" DI PIPES
L = 310'
HEADWALL = 226.5' | H. PROP. PIPE H
8" PVC PERFORATED
L = 70'
LAID LEVEL |
| C. PROP. PIPE C
8" CPP
L = 5'
ROOF DRAIN PIPE | I. PROP. PIPE I
4" PVC SOLID
L = 110'
INV. OUT = 225.2' |
| D. PROP. PIPE D
12" CPP
L = 50' | J. PROP. PIPE J
12" CPP
L = 100'
FES = 222.5' |
| E. PROP. PIPE E
12" CPP
L = 28'
FES = 226.0' | K. PROP. PIPE K
12" CPP
L = 30'
FES = 226.7' |
| F. PROP. PIPE F
8" PVC PERFORATED
L = 50'
LAID LEVEL | L. PROP. PIPE L
12" HDPE
L = 225'
LAID LEVEL |

GRADING & DRAINAGE PLAN
TAX MAP 216, LOT 32 AND
TAX MAP 221, LOTS 186 & 187
134 CHESTNUT HILL ROAD
ROCHESTER, NH
 PREPARED FOR:
LYDALL PERFORMANCE
MATERIALS, INC.
 MAY 2020
 GRAPHIC SCALE



(IN FEET)

1 INCH = 60 FEET

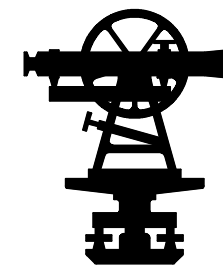
C-3

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.

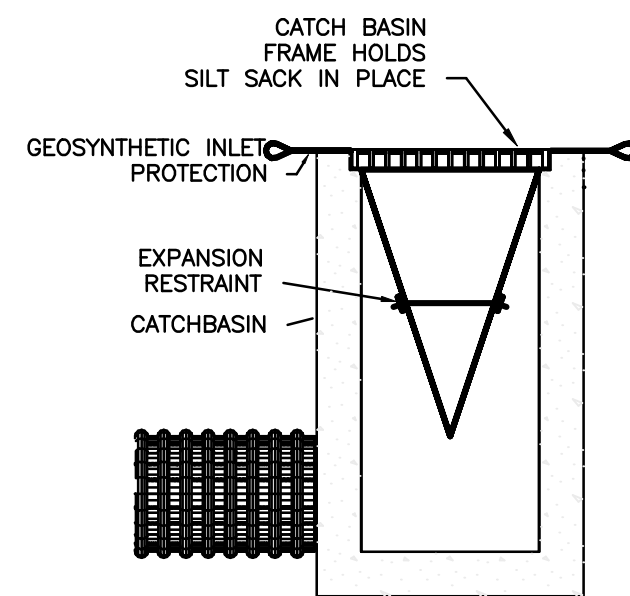
NOTE:
 1. NHDES AGT SHALL BE NOTIFIED SEVEN DAYS PRIOR TO CONSTRUCTION.



FILE NO. 154
 PLAN NO. C-3059
 DWG. NO. 17233/SP-3



- LEGEND**
- PROPERTY LINE
 - JURISDICTIONAL WETLANDS
 - - - EXISTING TREE LINE
 - - - EXISTING DRAIN LINE
 - - - EXISTING CONTOUR LINE
 - ⊙ EXISTING CATCH BASIN
 - - - PROPOSED TREE LINE
 - - - PROPOSED DRAIN LINE
 - - - PROPOSED CONTOUR LINE EVEN
 - - - PROPOSED CONTOUR LINE ODD
 - - - PROPOSED SILTATION FENCE
 - - - PROPOSED SILT SOCK
 - - - PROPOSED ORANGE CONSTRUCTION FENCE
 - ⊙ PROPOSED CATCH BASIN
 - ⊙ PROPOSED DRAIN MANHOLE
 - ⊙ PROPOSED FLARED END SECTION (FES)
 - ⊙ PROPOSED TEMPORARY CATCH BASIN SILTSACK
 - ⊙ PROPOSED TEMPORARY STABILIZED CONSTRUCTION EXIT
 - ⊙ PROPOSED TEMPORARY STONE CHECK DAMS



SILTSACK® SPECIFICATIONS

REGULAR FLOW SILTSACK®

(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

NOTES:

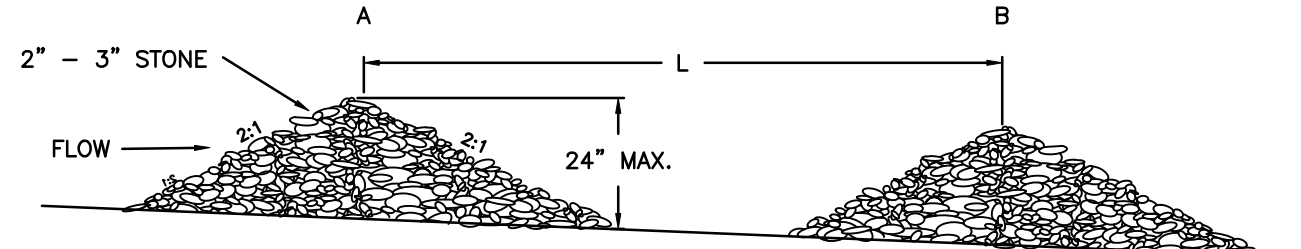
- GEOSYNTHETIC SEDIMENT FILTER TRAP SHALL BE "REGULAR FLOW SILTSACK®" OR APPROVED EQUAL. SPECIFICATIONS FOR SILTSACK® ARE DETAILED.
- FILTER TRAPS SHALL BE INSPECTED AFTER EVERY RAIN EVENT OF 0.25" OR GREATER AND SEDIMENTS SHALL BE REMOVED FROM TRAP WHEN SEDIMENT HAS REACHED TWO THIRDS OF THE DEPTH OF THE TRAP, OR IF PONDING OF WATER AT SURFACE BEGINS TO OCCUR. DO NOT PUNCTURE FILTER TRAP TO MITIGATE PONDING.
- INSTALL SILT SACKS IN CATCH BASIN UPON INSTALLATION OF STRUCTURE.

CATCH BASIN GEOSYNTHETIC SEDIMENT TRAP

NOT TO SCALE

SPACING BETWEEN CHECK DAMS	LENGTH (FT)
SLOPE (FT/FT)	
0.020	75
0.030	50
0.040	37
0.050	30
0.060	19
0.100	15
0.120	13
0.150	10

DRAINAGEWAY CROSS-SECTION



L = THE DISTANCE SUCH THAT POINTS A & B ARE OF EQUAL ELEVATION.

SPACING BETWEEN STONE CHECK DAMS

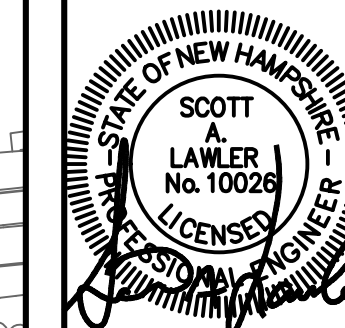
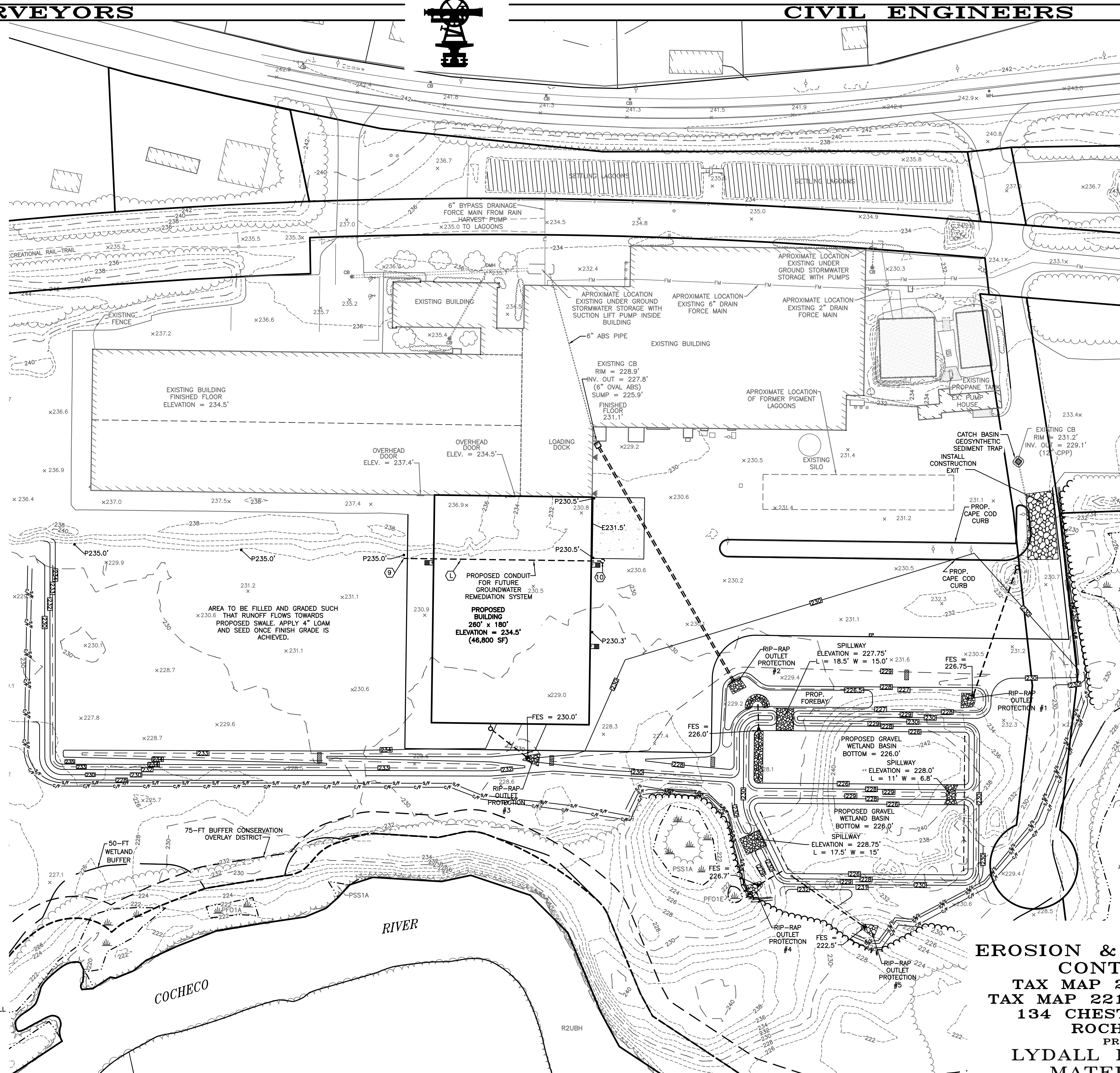
- CONSTRUCTION SPECIFICATIONS:**
- STRUCTURES SHALL BE INSTALLED ACCORDING TO THE DIMENSIONS SHOWN ON THE PLANS AT THE APPROPRIATE SPACING.
 - CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER SO THAT EROSION, AIR AND WATER POLLUTION WILL BE MINIMIZED.
 - STRUCTURES SHALL BE REMOVED FROM THE CHANNEL WHEN THEIR USEFUL LIFE HAS BEEN COMPLETED.

- MAINTENANCE NOTES:**
- TEMPORARY GRADE STABILIZATION STRUCTURES SHOULD BE INSPECTED AFTER EACH STORM AND DAILY DURING PROLONGED STORM EVENTS. ANY DAMAGE TO THE STRUCTURES SHALL BE REPAIRED IMMEDIATELY.
 - PARTICULAR ATTENTION SHOULD BE GIVEN TO END RUN AND EROSION AT THE DOWNSTREAM TOE OF THE STRUCTURE.
 - WHEN REMOVING THE STRUCTURES, THE DISTURBED AREAS SHALL BE BROUGHT UP TO EXISTING CHANNEL GRADE AND THE AREAS PREPARED, SEEDED AND MULCHED.
 - SEDIMENT SHALL BE REMOVED FROM BEHIND THE STRUCTURES WHEN IT REACHES 1/2 THE ORIGINAL HEIGHT OF THE STRUCTURE.

STONE CHECK DAM INSTALLATION DETAIL

FILE NO. 154
PLAN NO. C-3059
DWG. NO. 17233/SP-3

31 Mooney Street, Alton, N.H. 603-875-3948



REVISIONS:

- 05/20/20 - ADD EXISTING DRAINAGE SYSTEM PIPES.
05/31/20 - REVISE PROPOSED BUILDING DIMENSIONS, PAVEMENT SITE GRADING AND DRAINAGE SYSTEM. ADD ADDITIONAL EROSION CONTROLS AT OUTLET PIPE FES FROM GRAVEL WETLAND BASIN.
06/01/20 - REMOVE PROPOSED RAIN HARVEST SYSTEM. ADD REMEDIATION CONDUIT UNDER PROPOSED ADDITION.



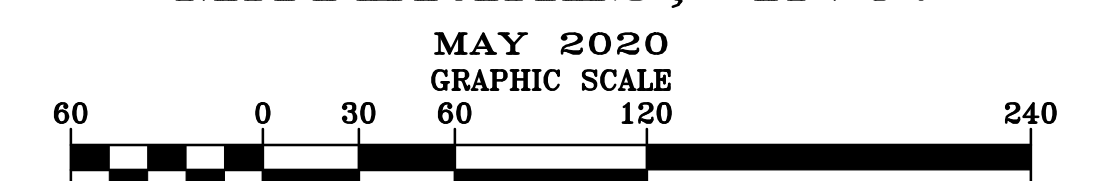
NOTES:

1. SEE SHEET C-9 AND C-10 FOR EROSION & SEDIMENT CONTROL DETAILS.

EROSION & SEDIMENTATION CONTROL PLAN

TAX MAP 216, LOT 32 AND
TAX MAP 221, LOTS 186 & 187
134 CHESTNUT HILL ROAD
ROCHESTER, NH

PREPARED FOR:
LYDALL PERFORMANCE MATERIALS, INC.



(IN FEET)
1 INCH = 60 FEET

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.

LAND SURVEYORS

CIVIL ENGINEERS

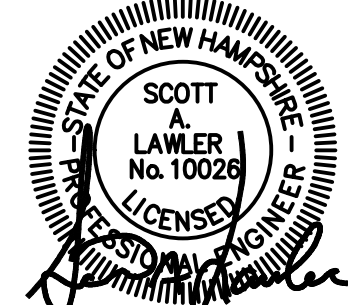
LEGEND

---	PROPERTY LINE	-----	PROPOSED DRAIN LINE
----	JURISDICTIONAL WETLANDS	---	PROPOSED WATER SERVICE
----	EXISTING OVERHEAD WIRES	---	PROPOSED SEWER LINE
---	EXISTING WATER MAIN	---	PROPOSED SEWER FORCE MAIN PIPE HDPE SDR 11
---	EXISTING GRAVITY SEWER MAIN	---	PROPOSED PROPANE GAS LINE
---	EXISTING SEWER FORCE MAIN	---	PROPOSED UNDERGROUND UTILITY WIRES
---	EXISTING UNDERGROUND ELECTRIC WIRES	---	PROPOSED UNDERGROUND ELECTRIC WIRES
---	EXISTING UNDERGROUND UTILITY WIRES	---	PROPOSED HYDRANT
---	EXISTING GAS PIPE	---	PROPOSED WATER VALVE
---	EXISTING DRAIN LINE	---	PROPOSED WATER SHUT-OFF VALVE
---	EXISTING HYDRANT	---	PROPOSED SEWER SHUT-OFF VALVE
---	EXISTING WATER GATE OR SHUT-OFF VALVE	---	PROPOSED UTILITY POLE
---	EXISTING UTILITY POLE	---	PROPOSED SEWER MANHOLE
---	EXISTING SEWER MANHOLE	---	PROPOSED DRAIN MANHOLE
---	EXISTING CATCH BASIN	---	PROPOSED CATCH BASIN
---	EXISTING LIGHTS	---	PROPOSED LIGHT POLES
		---	PROPOSED BUILDING LIGHT FIXTURES

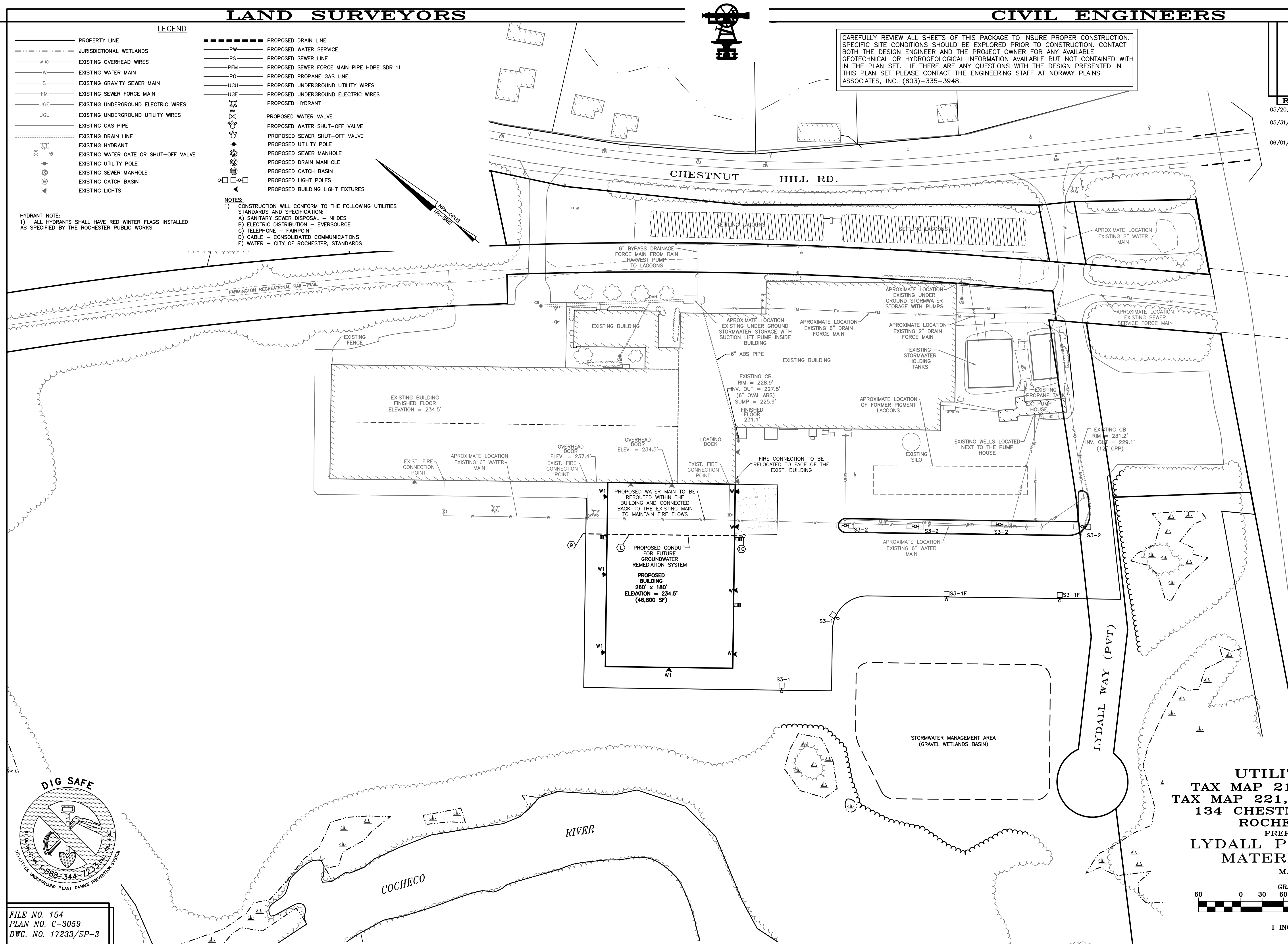
HYDRANT NOTE:
1) ALL HYDRANTS SHALL HAVE RED WINTER FLAGS INSTALLED AS SPECIFIED BY THE ROCHESTER PUBLIC WORKS.

NOTES:
1) CONSTRUCTION WILL CONFORM TO THE FOLLOWING UTILITIES STANDARDS AND SPECIFICATION:
A) SANITARY SEWER DISPOSAL - NHDES
B) ELECTRIC DISTRIBUTION - EVERSOURCE
C) TELEPHONE - FAIRPOINT
D) CABLE - CONSOLIDATED COMMUNICATIONS
E) WATER - CITY OF ROCHESTER, STANDARDS

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REVISIONS:
05/20/20 - ADD EXISTING UTILITIES AND PROPOSED FIRE WATER MAIN CONSTRUCTION NOTES.
05/31/20 - REVISE PROPOSED BUILDING DIMENSIONS, PAVEMENT LIGHTING AND RAIN HARVEST SYSTEM AND FORCE MAIN LOCATIONS.
06/01/20 - REMOVE PROPOSED RAIN HARVEST SYSTEM. ADD REMEDIATION CONDUIT UNDER PROPOSED ADDITION.



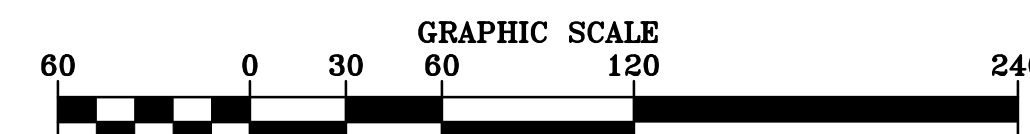
FILE NO. 154
PLAN NO. C-3059
DWG. NO. 17233/SP-3

31 Mooney Street, Alton, N.H. 603-875-3948

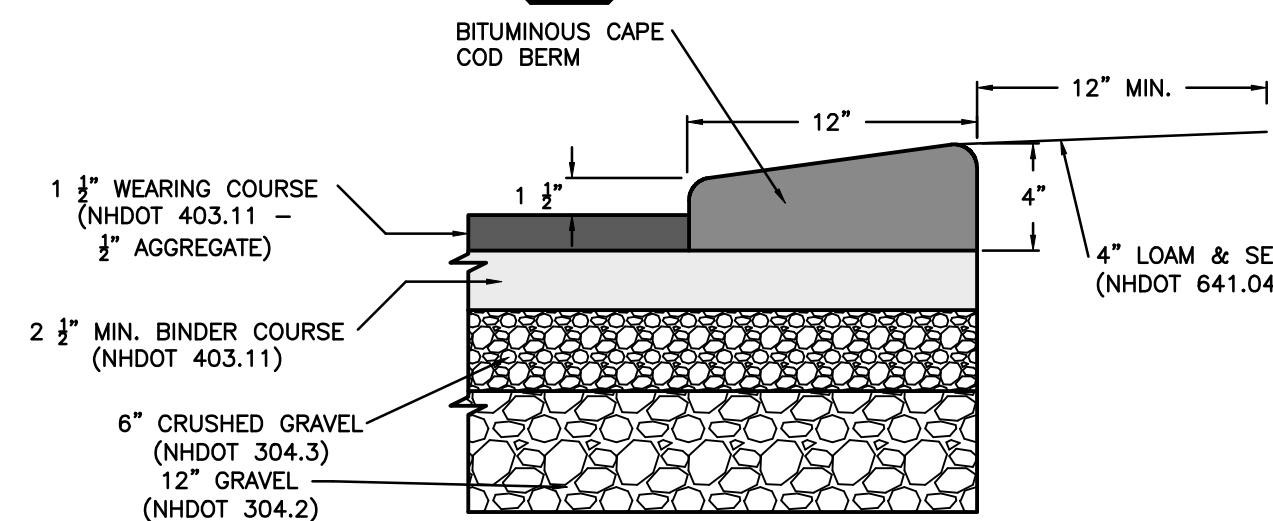
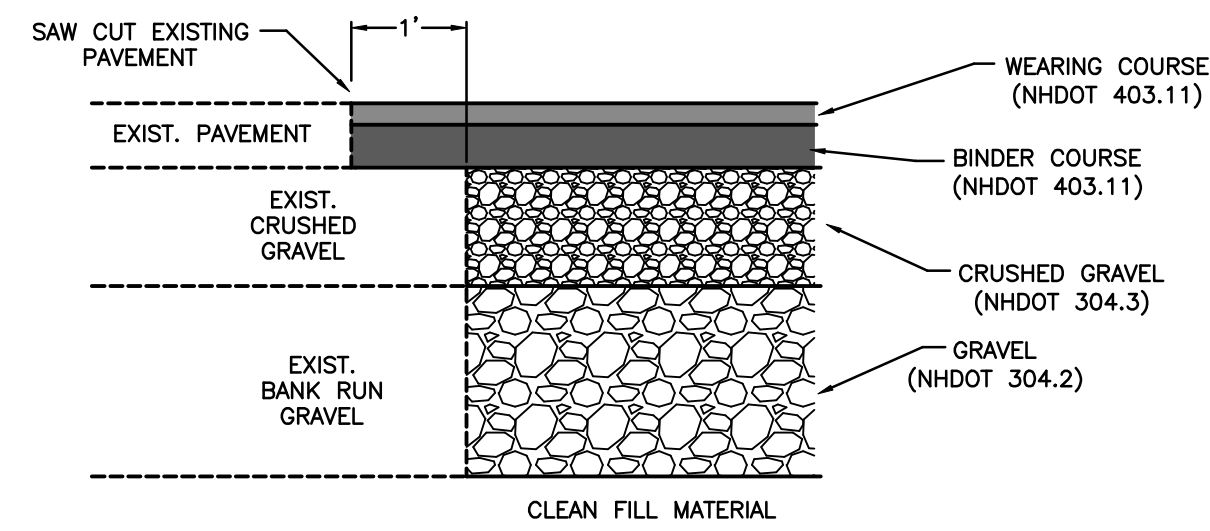
NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

UTILITY PLAN
TAX MAP 216, LOT 32 AND
TAX MAP 221, LOTS 186 & 187
134 CHESTNUT HILL ROAD
ROCHESTER, NH
PREPARED FOR:
LYDALL PERFORMANCE
MATERIALS, INC.
MAY 2020



1 INCH = 60 FEET






A cross-sectional diagram of a utility trench. The diagram shows a central trench with a circular utility opening at the bottom, labeled "UTILITY". The trench is filled with "COMPACTED GRANULAR FILL". The trench walls are composed of "UNDISTURBED NATIVE MATERIAL". The trench is lined with "6" CRUSHED GRAVEL (NHDOT 304.3) UNDISTURBED BASE AND SUBBASE". The trench is covered with a "12" GRAVEL (NHDOT 304.2) UNDISTURBED BASE AND SUBBASE". The top of the trench is covered with a "MIN. 1.5" WEARING COURSE" and a "MIN. 2.5" BINDER COURSE". The top surface is labeled "EXISTING PAVEMENT". Dimensions are indicated: 18" for the width of the wearing course, 12" for the width of the binder course, and 12" for the width of the gravel base and subbase.

Labels and dimensions in the diagram include:

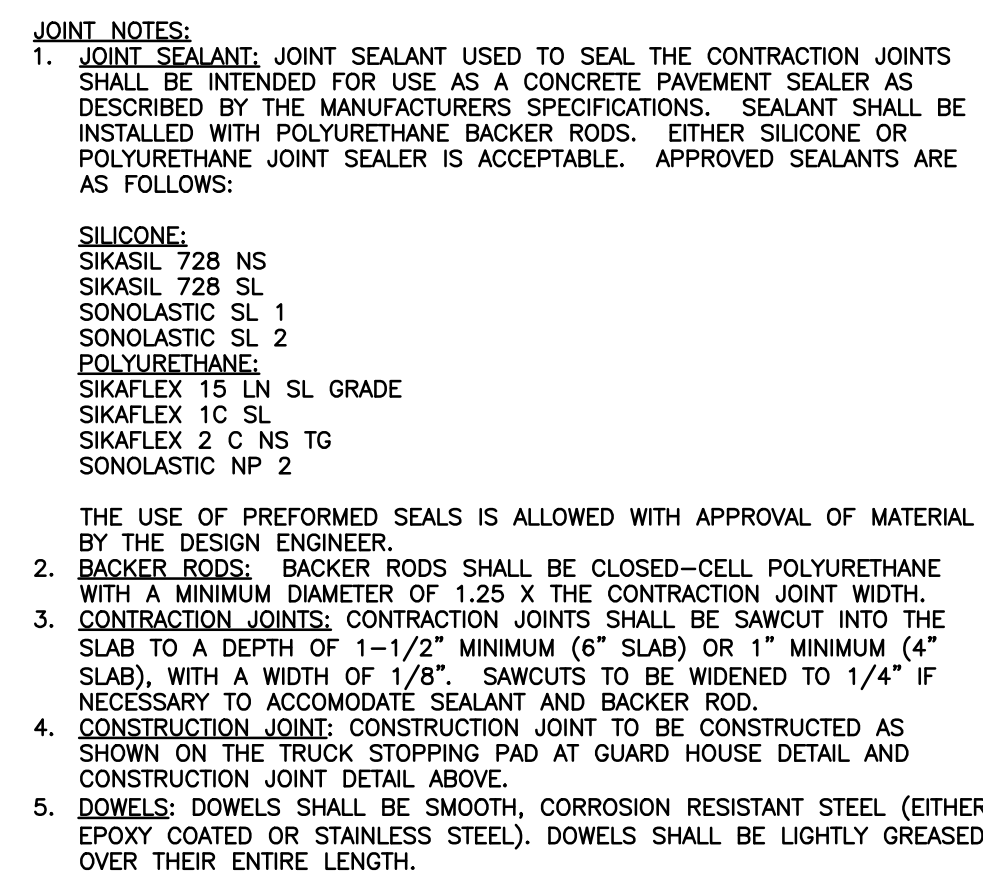
- MIN. 1.5" WEARING COURSE
- MIN. 2.5" BINDER COURSE
- EXISTING PAVEMENT
- 18"
- 12"
- 12"
- 18"
- 6" CRUSHED GRAVEL (NHDOT 304.3) UNDISTURBED BASE AND SUBBASE
- 12" GRAVEL (NHDOT 304.2) UNDISTURBED BASE AND SUBBASE
- UNDISTURBED NATIVE MATERIAL
- COMPACTED GRANULAR FILL
- UTILITY

NOTES:

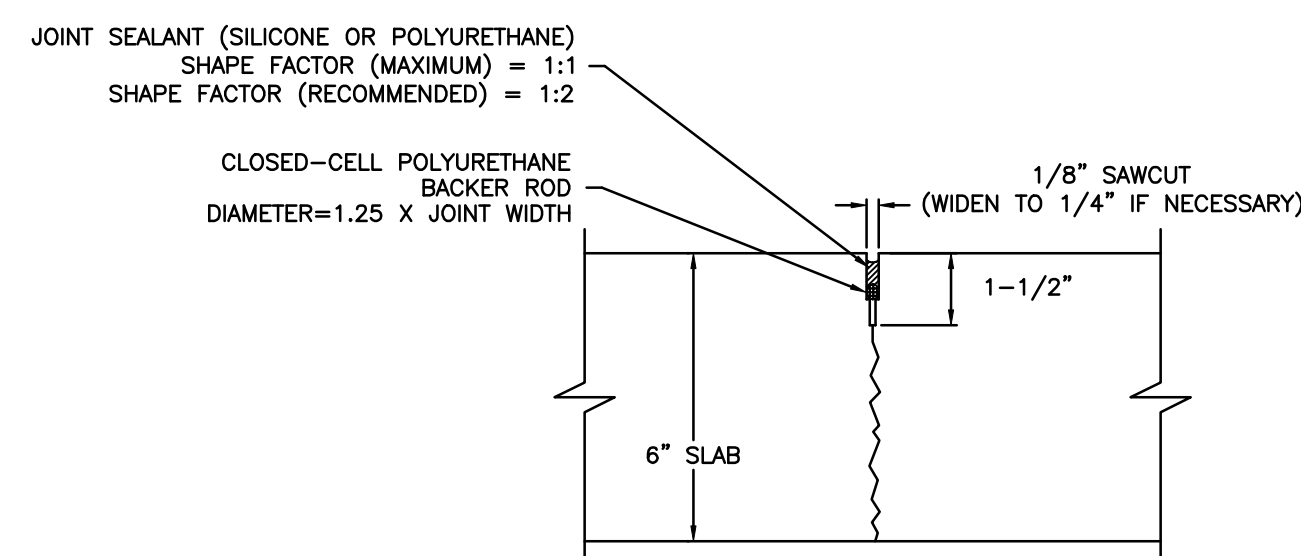
1. PAVEMENT EDGES SHALL BE DEFINED BY A STRAIGHT EDGE FORMED BY A MACHINED SAW CUT.
2. THE SUBGRADE MATERIAL SHALL BE BACKFILLED WITH GRANULAR FILL AND COMPACTED TO 95% OF ITS DRY DENSITY.
3. TOP 18" OF BACKFILL SHALL BE 6" OF COMPACTED 3/4" CRUSHED GRAVEL (NDHOT 304.3) SUPPORTED BY 12" OF COMPACTED GRAVEL (NDHOT 304.2).
4. ALL VERTICAL AND HORIZONTAL JOINTS BETWEEN PAVEMENTS SHALL BE TACK COATED.
5. PAVEMENT THICKNESS SHALL MATCH EXISTING BUT IN NOT CASE SHALL BE LESS THAN 3" THICK TOTAL.
6. PAVEMENT SHALL BE PLACED IN TWO PLACES:
 - 6.1 THE FIRST PHASE SHALL CONSIST OF CUTTING BACK THE FULL DEPTH OF PAVEMENT 12" BEYOND THE EDGES OF THE DISTURBED TRENCH AND PAVING A BINDER COURSE THE FULL DEPTH OF THE PAVEMENT AS TO BRING THE PATCH FLUSH WITH THE EXISTING ROAD SURFACE.
 - 6.2 THE SECOND PHASE SHALL BE CONDUCTED THE FOLLOWING YEAR AND SHALL CONSIST OF MILLING OVER THE EDGES OF THE PREVIOUS PATCH BY A MINIMUM OF 18" IN ALL DIRECTIONS TO A DEPTH OF 1.5". WEARING COURSE PAVEMENT SHALL BE USED TO CREATE A SMOOTH SURFACE WITH THE ROADWAY OVER THE MILL AREA.
7. THE PATCH PATCH REQUIRES PRE-APPROVAL BY DPW AND IS SUBJECT TO INSPECTION TO ENSURE COMPLIANCE WITH CITY STANDARDS.

ITEM NO.	SIGN SIZE		TEXT	NO. SIGNS REQ'D
	HEIGHT	WIDTH		
R7-8a	18"	12"		4
R7-8b	6"	12"		
R7-1	18"	12"		1

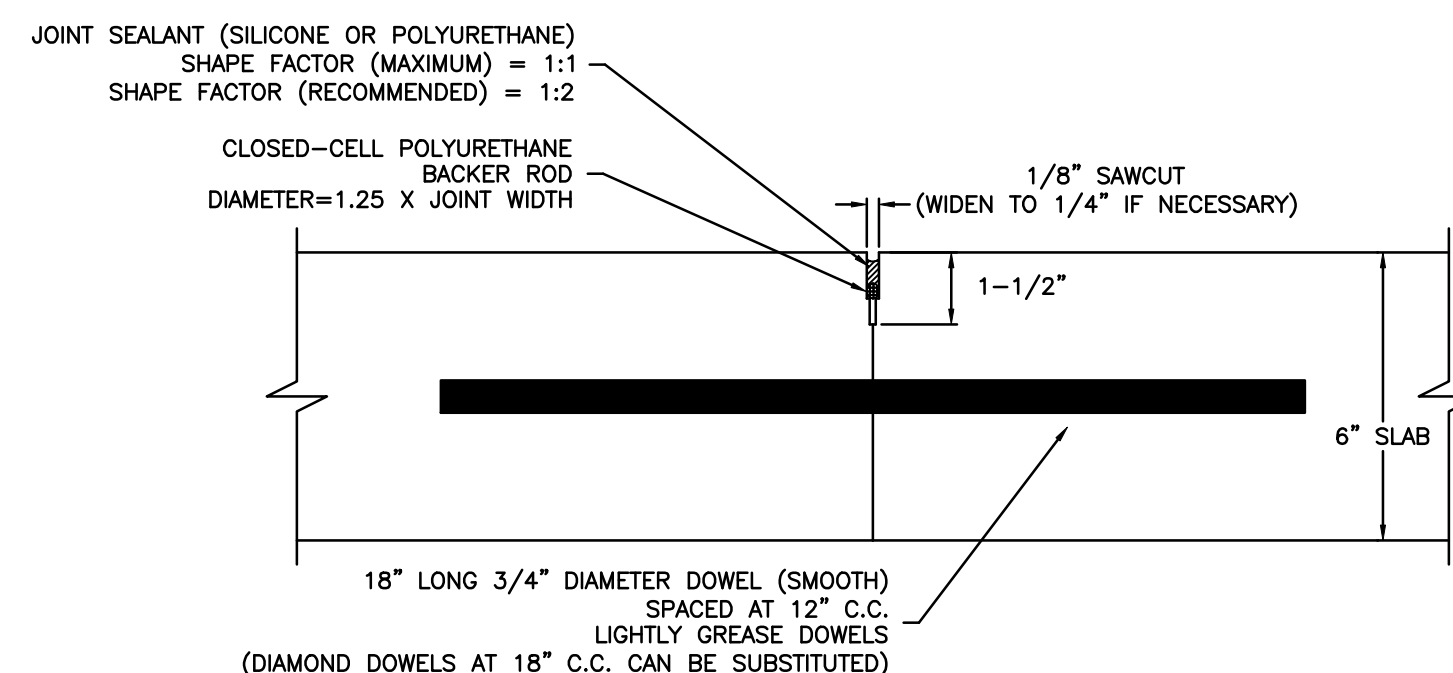
SIGN SCHEDULE
NOT TO SCALE



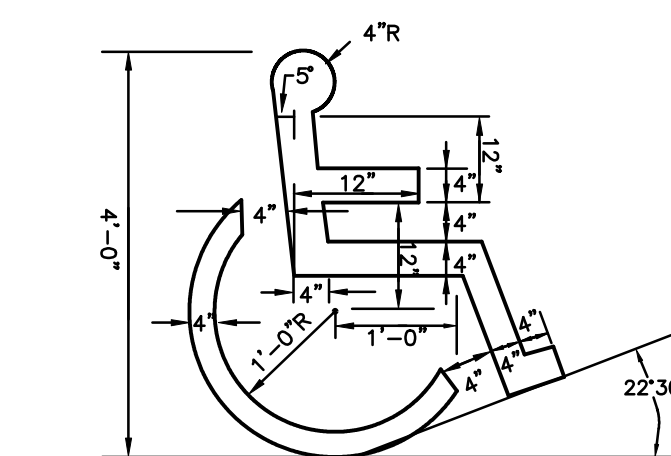
CONCRETE PAD
SHIPPING AND RECIEVING
NOT TO SCALE



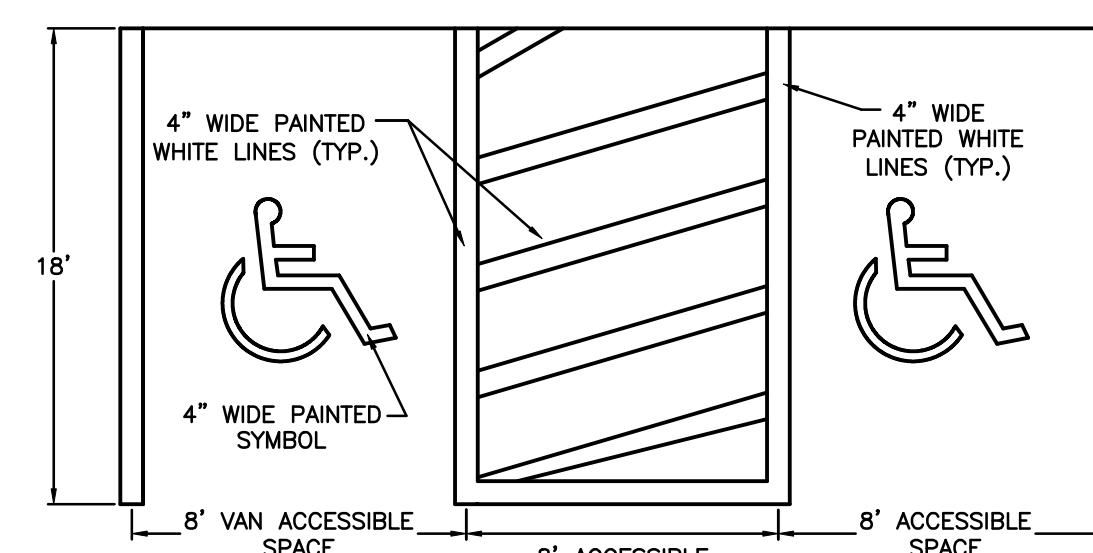
**SAW CUT
CONTRACTION JOINT DETIAL**
NOT TO SCALE



CONSTRUCTION JOINT DETIAL
NOT TO SCALE

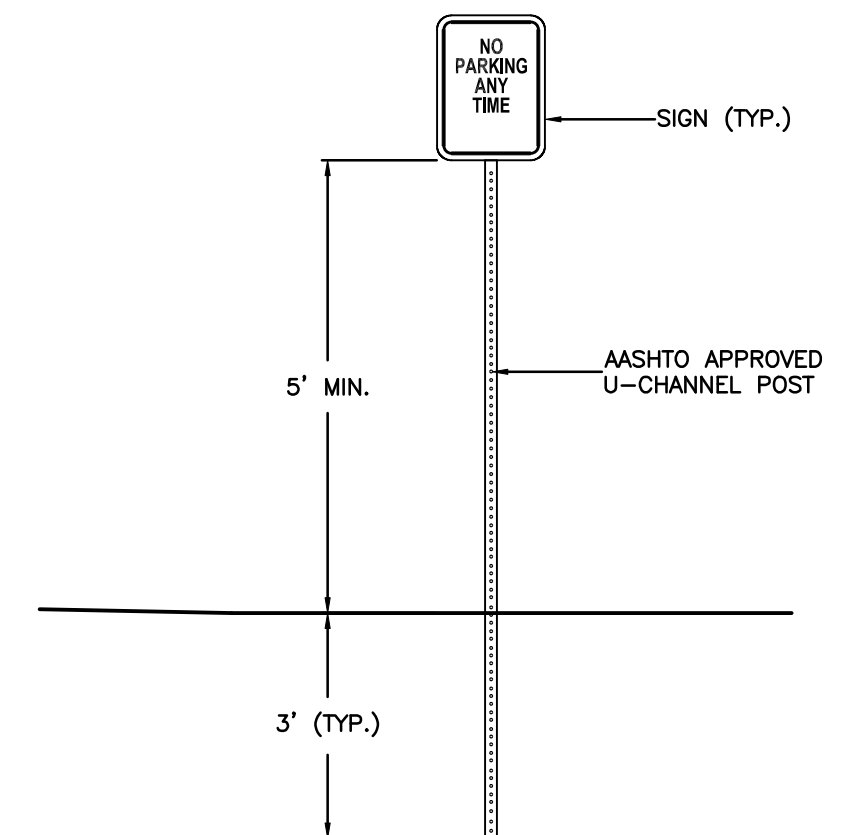


ACCESSIBLE SYMBOL



NOTE:
1. HANDICAP GRAPHIC SYMBOL (PAINTED WHITE) TO BE CENTERED IN SPACE.
SYMBOL TO BE PAINTED ON ASPHALT AS PER DETAIL

STALL STRIPING DETAIL
NOT TO SCALE



NOTES:

1. SIGN POST SHALL BE AASHTO APPROVED U-CHANNEL OR OTHER PER AASHTO "SPECIFICATIONS FOR STRUCTURAL SUPPORT OF HIGHWAY SIGNS, LUMINAIRES AND SIGNALS", LATEST EDITION.
2. SIGNS SHALL BE MOUNTED 5 FT FROM GROUND TO BOTTOM EDGE WHERE PARKING AND PARKING LOT MOVEMENTS TAKE PLACE.
3. SIGNS SHALL BE PLACED SO THAT NEAREST EDGE IS 2 FT. FROM EDGE OF PAVEMENT UNLESS CURBED.

TYPICAL TRAFFIC SIGN
NOT TO SCALE

CONSTRUCTION DETAILS
TAX MAP 216, LOT 32 AND
TAX MAP 221, LOTS 186 & 187
134 CHESTNUT HILL ROAD
ROCHESTER, NH

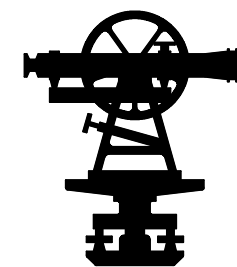
ROCHESTER, NY
PREPARED FOR:
LYDALL PERFORMANCE
MATERIALS, INC.
MAY 2020

31 Mooney Street, Alton, N.H. 603-875-3948

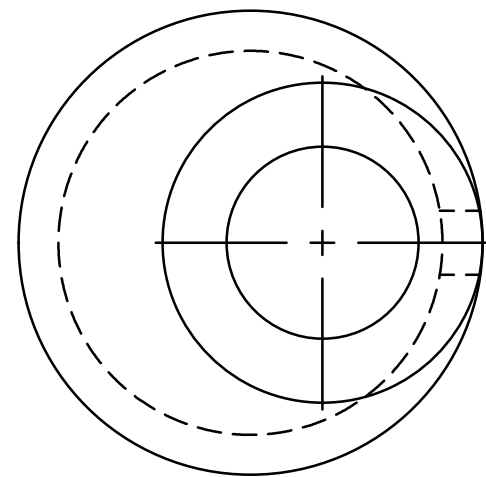
NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

–6



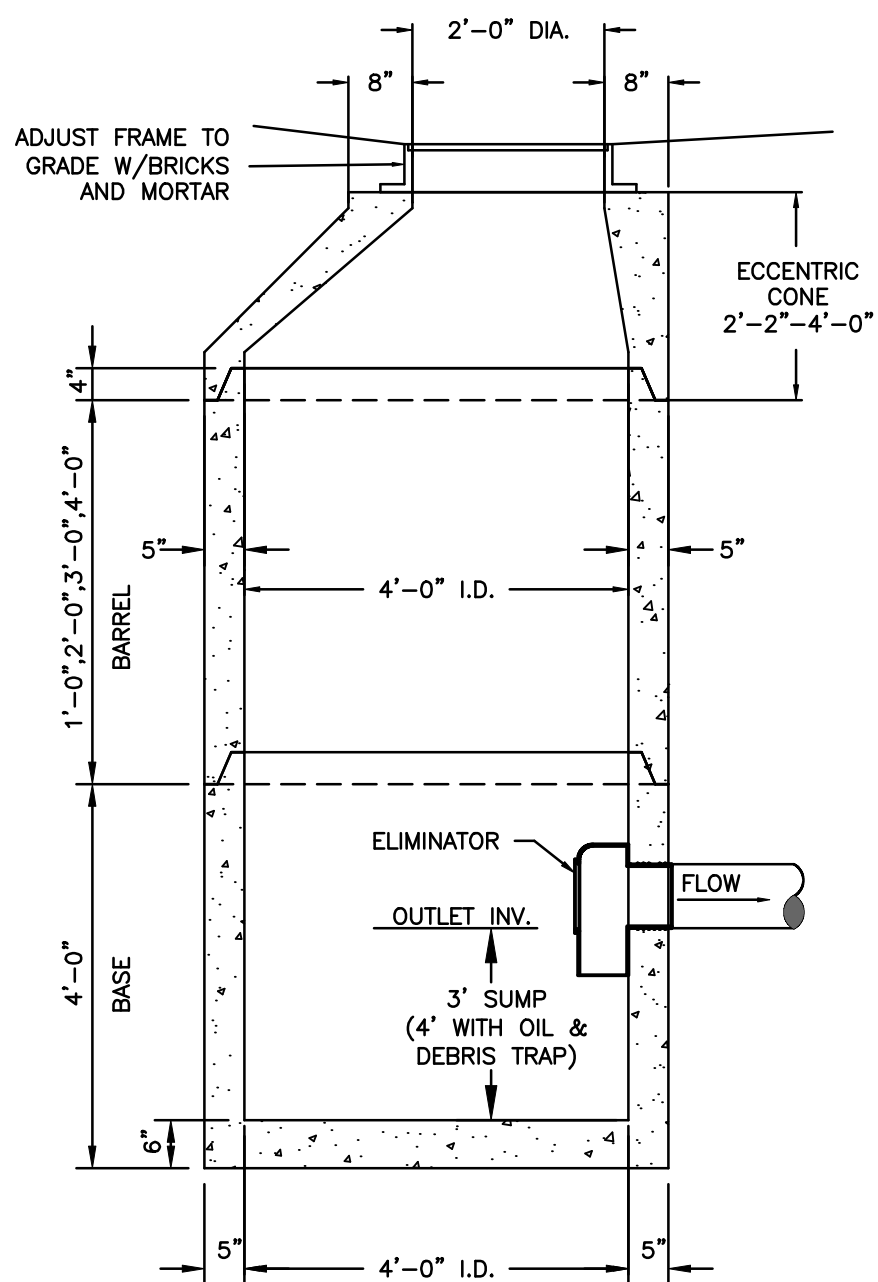
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PLAN VIEW

DRAIN LINE DIAMETER	SUM OF DRAIN LINE DIAMETER	CATCH BASIN DIAMETER
15" TO 18"	LESS THAN 54"	4'
21" TO 27"	LESS THAN 72"	5'
30" TO 33"	LESS THAN 90"	6'
36" & LARGER	GREATER THAN 90"	REFER TO THE STANDARD

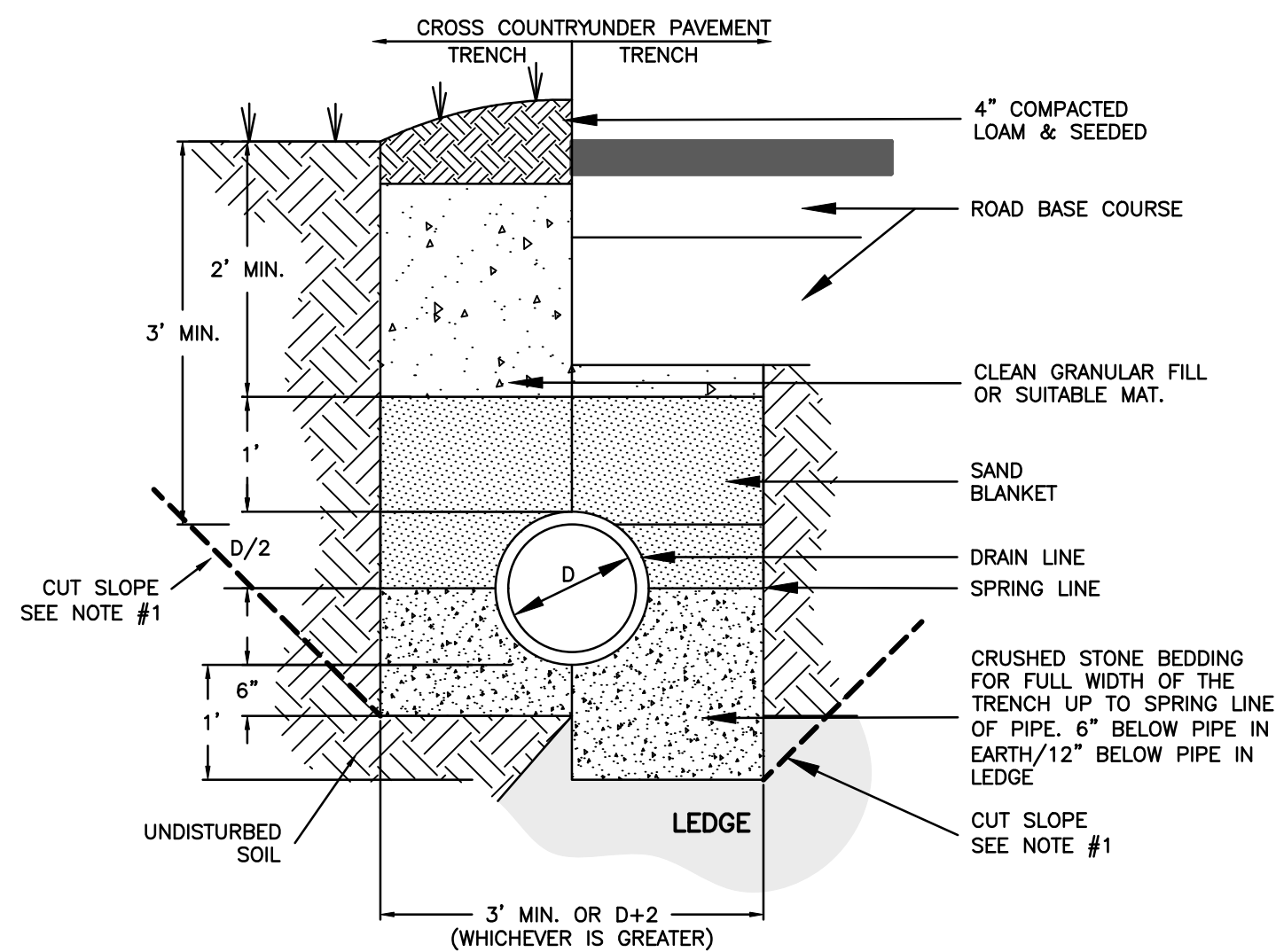
- NOTES:
1. CONCRETE: 4,000 PSI AFTER 28 DAYS.
 2. REINFORCING: SHALL BE PROVIDED FOR H-20 LOADING.
 3. SHIPLAP JOINTS SEALED WITH 1 STRIP OF BUTYL RUBBER SEALANT.
 4. PIPE OPENINGS CAST IN AS REQUIRED.
 5. RISER HEIGHT VARIES 1', 2', 3' OR 4' TO REACH DESIRED DEPTH.
 6. PIPE CONNECTIONS SHALL BE MORTARED.
 7. PRECAST SECTIONS SHALL CONFORM TO ASTM C-478.
 8. SEE SLAB TOP DETAIL FOR STRUCTURES REQUIRING SLAB TOPS, I.E. DOUBLE GRATE AND FRAME STRUCTURES.



SECTION VIEW

PRE-CAST REINFORCED CATCH BASIN

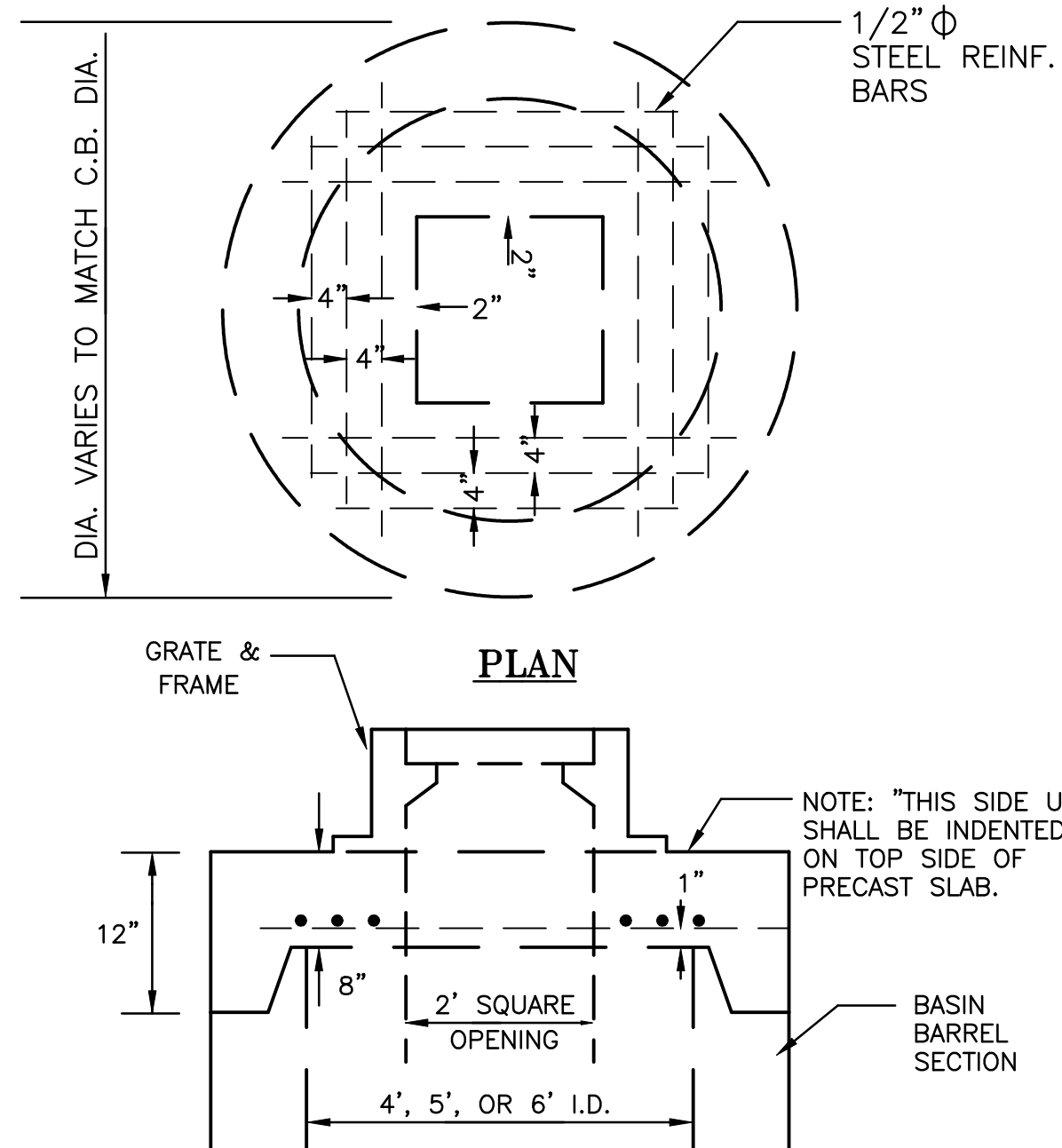
NOT TO SCALE



- NOTES:
1. PIPES MAY BE INSTALLED BY EXCAVATING AN OPEN TRENCH WITH SIDE SLOPES OF 1:1 MAXIMUM TO A DEPTH OF 4-FT. INSTALLATIONS DEEPER THAN 4-FT REQUIRE THE USE OF A TRENCH BOX.
 2. PIPE MATERIALS SHALL BE AS SPECIFIED ON THE DESIGN PLAN.
 3. SAND BLANKET MAY BE OMITTED FOR REINFORCED CONCRETE PIPE.

DRAINAGE PIPE TRENCH INSTALLATION DETAIL

NOT TO SCALE

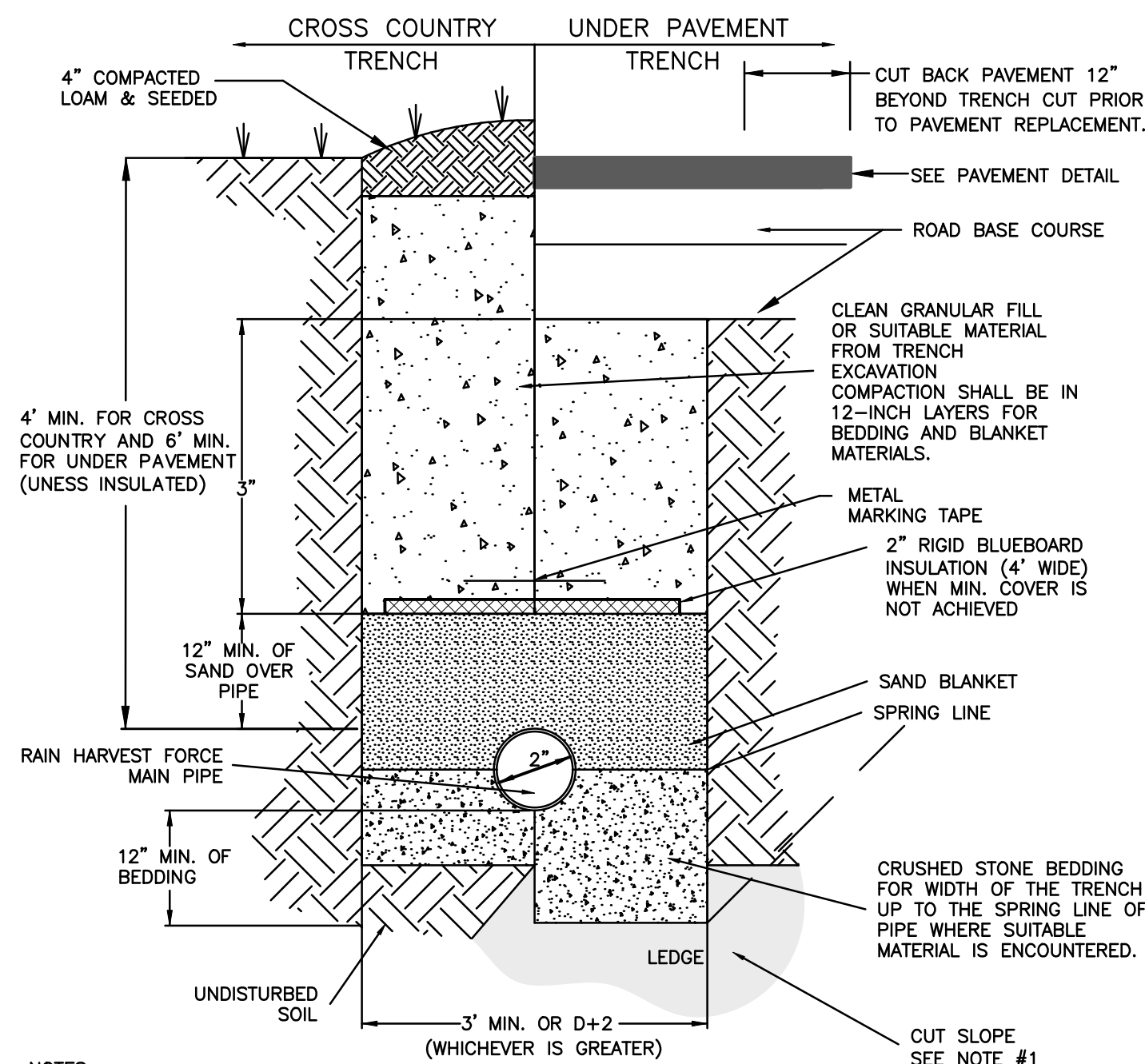


ELEVATION

- NOTE:
1. SLAB TO BE PLACED IN LIEU OF TAPERED SECTION WHERE PIPE WOULD OTHERWISE ENTER INTO TAPERED SECTION OF THE STRUCTURE AND WHERE PERMITTED.
 2. SLAB TOP MAY BE CASTED WITH MINIMUM OR NO INTERLOCKING CHANNEL. HOWEVER, THE CONTRACTOR MUST ENSURE THE SLAB TOP IS FIRMLY ATTACHED TO THE STRUCTURE.

REINFORCED CONCRETE SLAB COVER

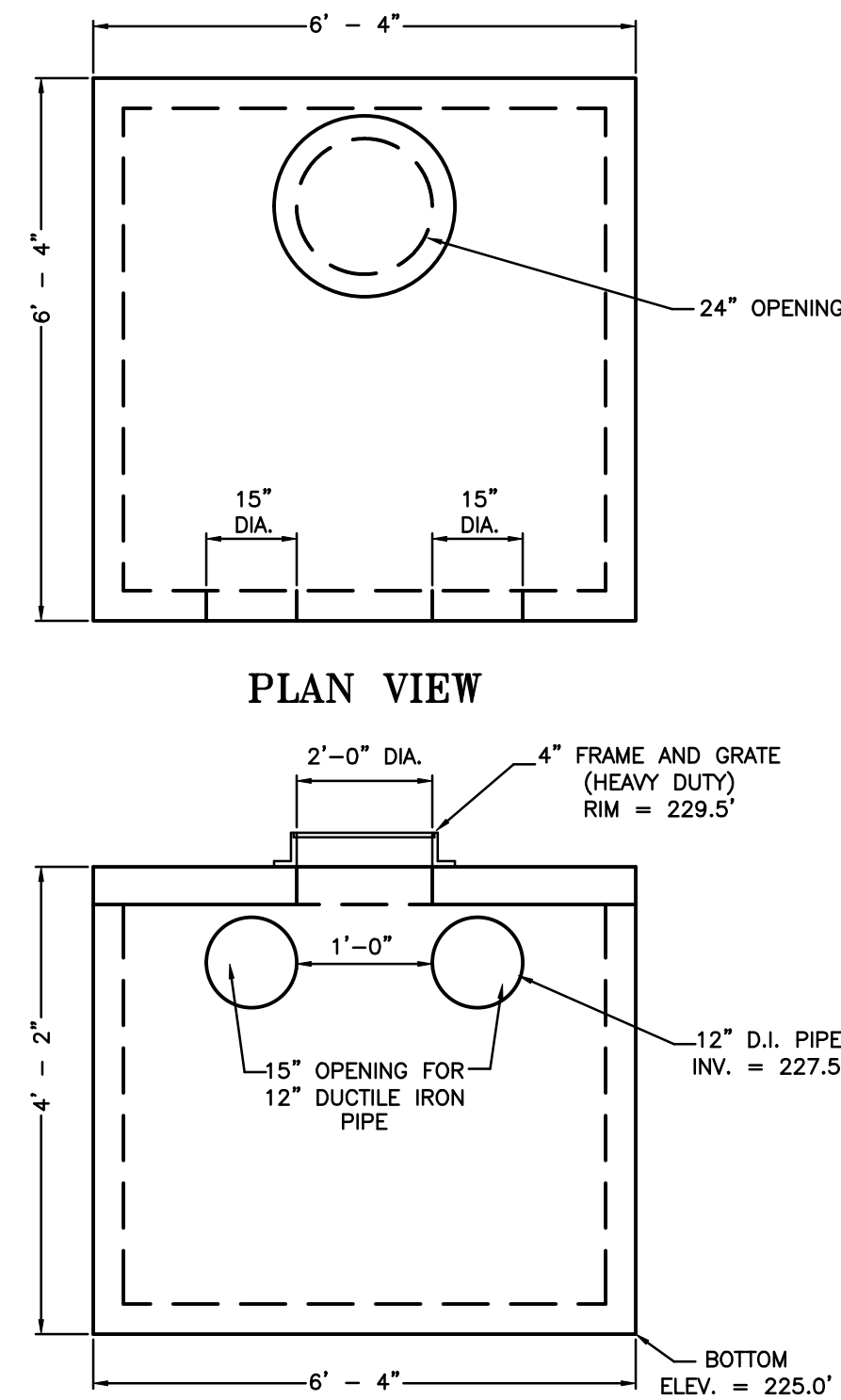
NOT TO SCALE



- NOTES:
1. PIPES MAY BE INSTALLED BY EXCAVATING AN OPEN TRENCH WITH SIDE SLOPES OF 1:1 MAXIMUM TO A DEPTH OF 4-FT. INSTALLATIONS DEEPER THAN 4-FT REQUIRE THE USE OF A TRENCH BOX.
 2. PIPE MATERIALS SHALL BE AS SPECIFIED ON THE DESIGN PLAN.
 3. HDPE PRESSURE MAIN PIPE SECTIONS SHALL BE JOINED BY THERMAL HEAT FUSION. CONNECTIONS OR TRANSITIONS TO NON-HDPE COMPONENTS SHALL BE MADE WITH FITTINGS APPROVED FOR HDPE CONNECTIONS. THE WELDING TECHNICIAN SHALL BE EXPERIENCED IN HDPE HEAT FUSION WELDING WITH MINIMUM OF 500 HOURS OF WELDING EXPERIENCE.
 4. SAND BLANKET MAY BE OMITTED FOR REINFORCED CONCRETE PIPE.
 5. THE PIPE SAND BLANKET MATERIAL SHALL BE GRADED SAND FREE FROM ORGANIC MATERIALS, GRADED SUCH THAT 100 PERCENT PASSES A 1/2-INCH SIEVE AND A MAXIMUM OF 15 PERCENT PASSES A #200 SIEVE.

FORCE MAIN RAIN HARVEST PIPE TRENCH INSTALLATION DETAIL

NOT TO SCALE

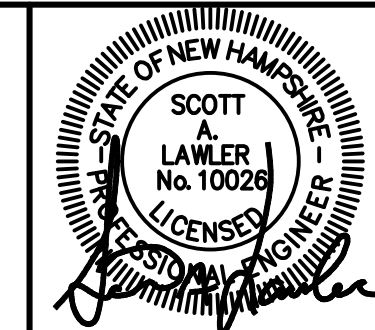


ELEVATION VIEW

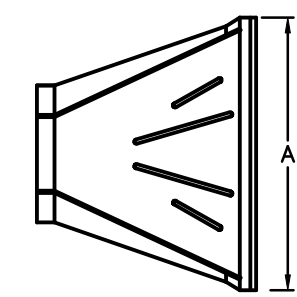
- NOTES:
1. CONCRETE: 5,000 PSI MIN AFTER 28 DAYS.
 2. TYPE III CEMENT
 3. JOINT SEALED WITH BUTYLE RESIN.
 4. END BOOTS SHALL BE USED AT THE PIPE CONNECTIONS
 5. 800 GALLON PUMP BOX, H-20 LOADING, BY A.J. FOSS CO. OR APPROVED EQUAL.

DROP INLET BASIN DETAIL

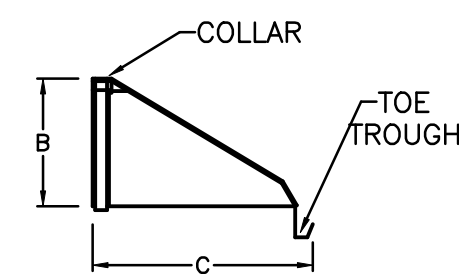
NOT TO SCALE



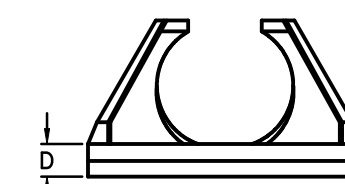
- REVISIONS:
- 05/20/20 - REVISE DMH DETAILS, ADD RAIN HARVEST DETAILS
 - 05/31/20 - REMOVE 30"Ø DIAMETER MANHOLE DETAIL
 - 06/05/20 - ADD DROP INLET BASIN DETAIL



TOP VIEW



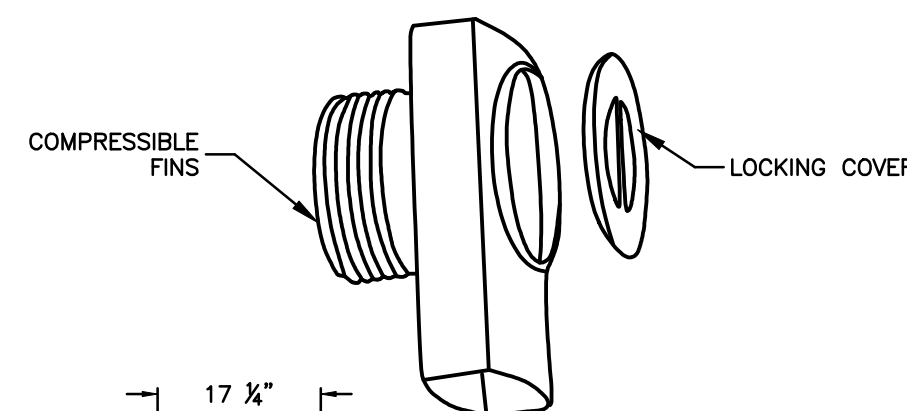
SIDE VIEW



FRONT VIEW

FLAIED END SECTION DETAIL

NOT TO SCALE



SIDE VIEW

FRONT VIEW

ELIMINATOR CATCH BASIN OIL AND DEBRIS TRAP DETAIL

NOT TO SCALE

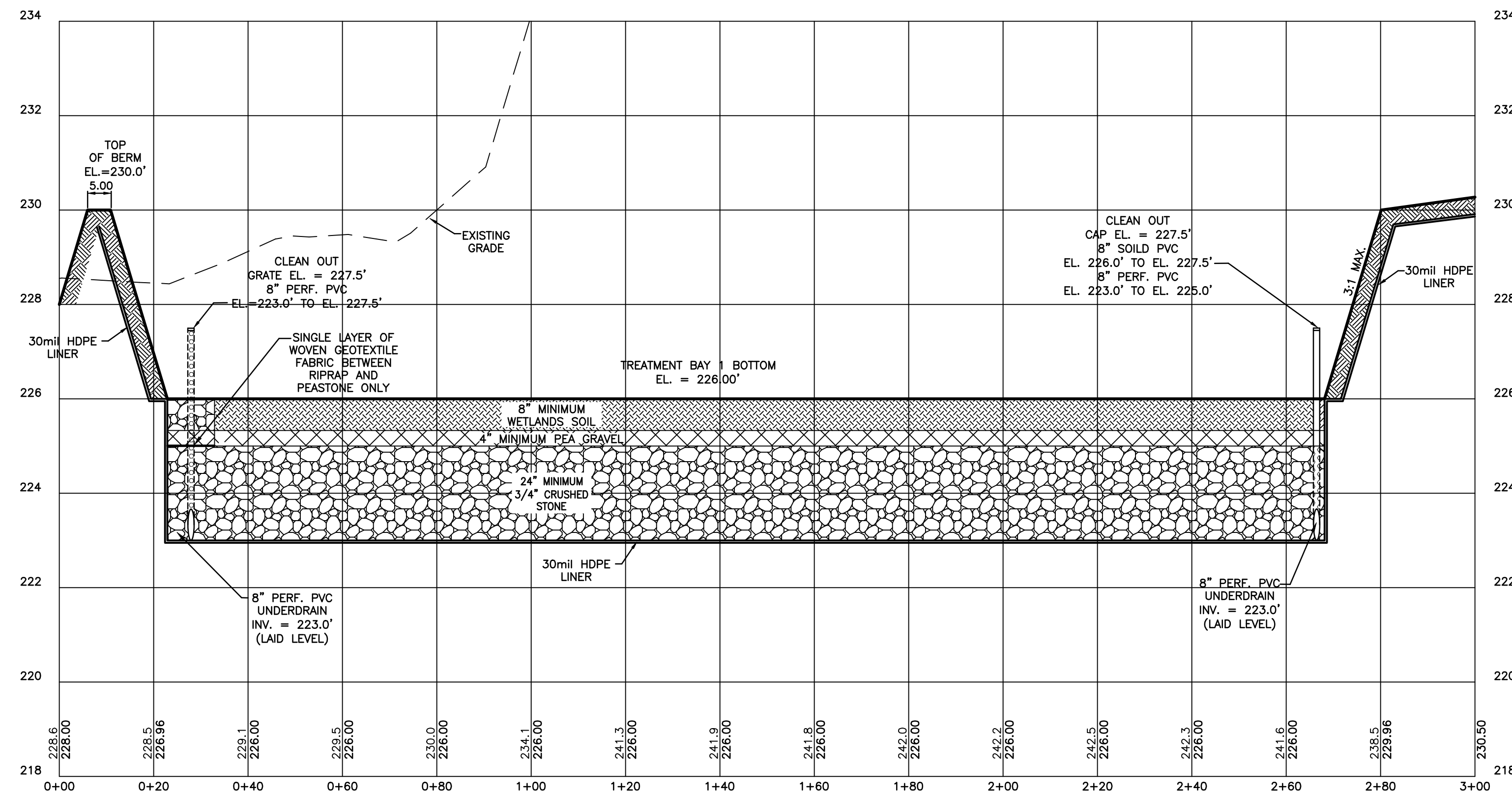
- NOTES:
1. HOOD SHALL BE "THE ELIMINATOR" OIL & FLOATING DEBRIS TRAP AS MANUFACTURED BY GROUND WATER RESCUE, INC., QUINCY, MA., TEL. 617-773-1128 ON THE WEB @ WWW.KLEANSTREAM.COM
 2. THE DIMENSIONS ARE FOR A 12" SYSTEM, BUT ALSO AVAILABLE IN 8", 10", 15" AND 18" DIAMETERS.

DRAINAGE DETAILS
TAX MAP 216, LOT 32 AND
TAX MAP 221, LOTS 186 & 187
134 CHESTNUT HILL ROAD
ROCHESTER, NH
PREPARED FOR:
LYDALL PERFORMANCE
MATERIALS, INC.
MAY 2020

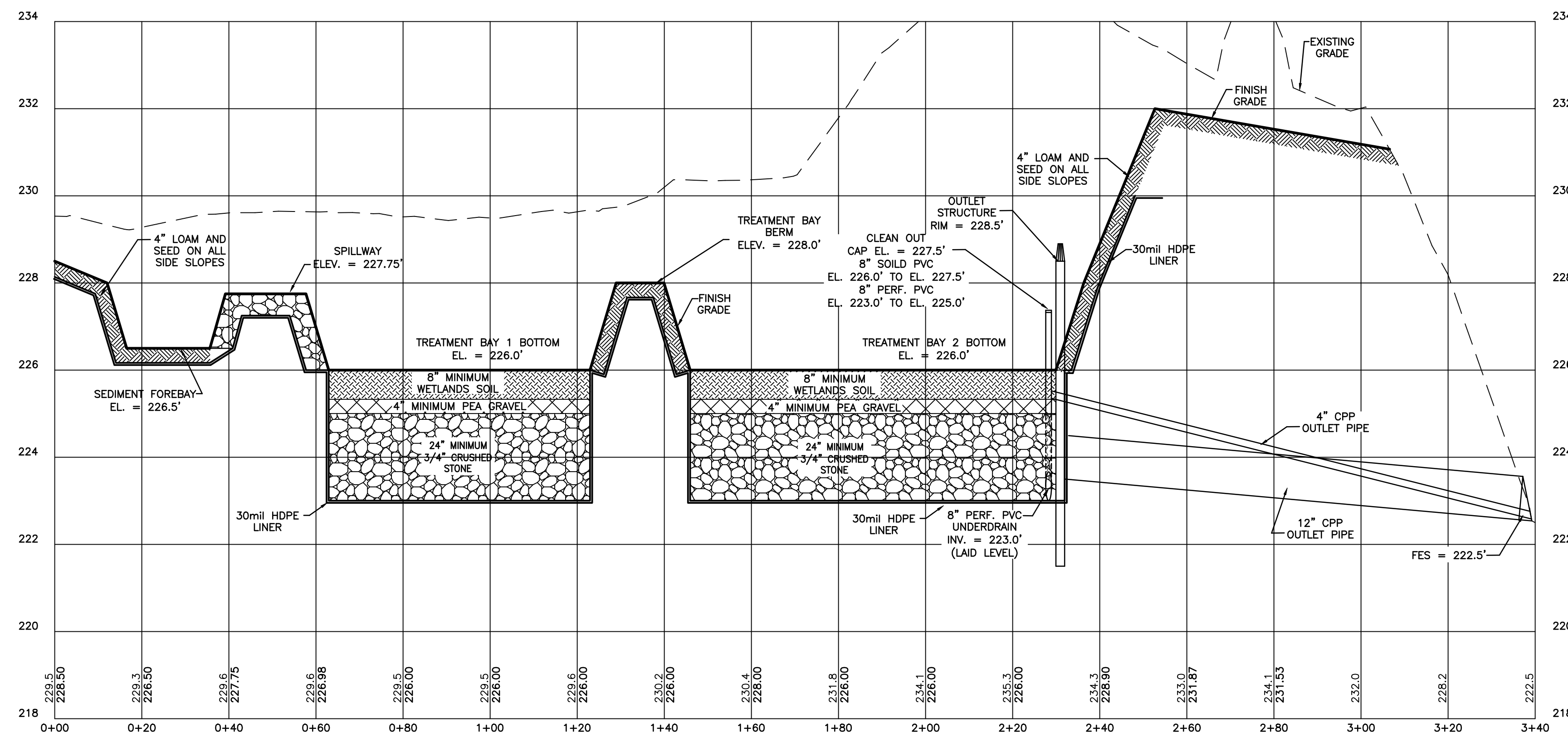
FILE NO. 154
PLAN NO. C-3059
DWC. NO. 17233/SP-3

LAND SURVEYORS

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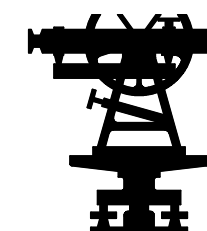


GRAVEL WETLANDS BASIN TREATMENT BAY 1 CROSS SECTION B - B
1" = 20' (HORZ.) & 1" = 2' (VERT.)



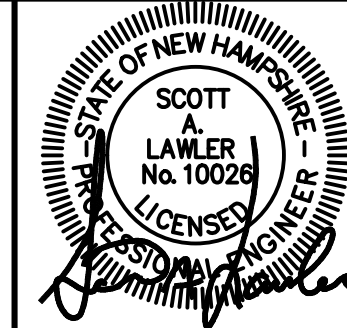
GRAVEL WETLANDS BASIN TREATMENT CROSS SECTION D - D
1" = 20' (HORZ.) & 1" = 2' (VERT.)

FILE NO. 154
PLAN NO. C-3059
DWG. NO. 17233/SP-3

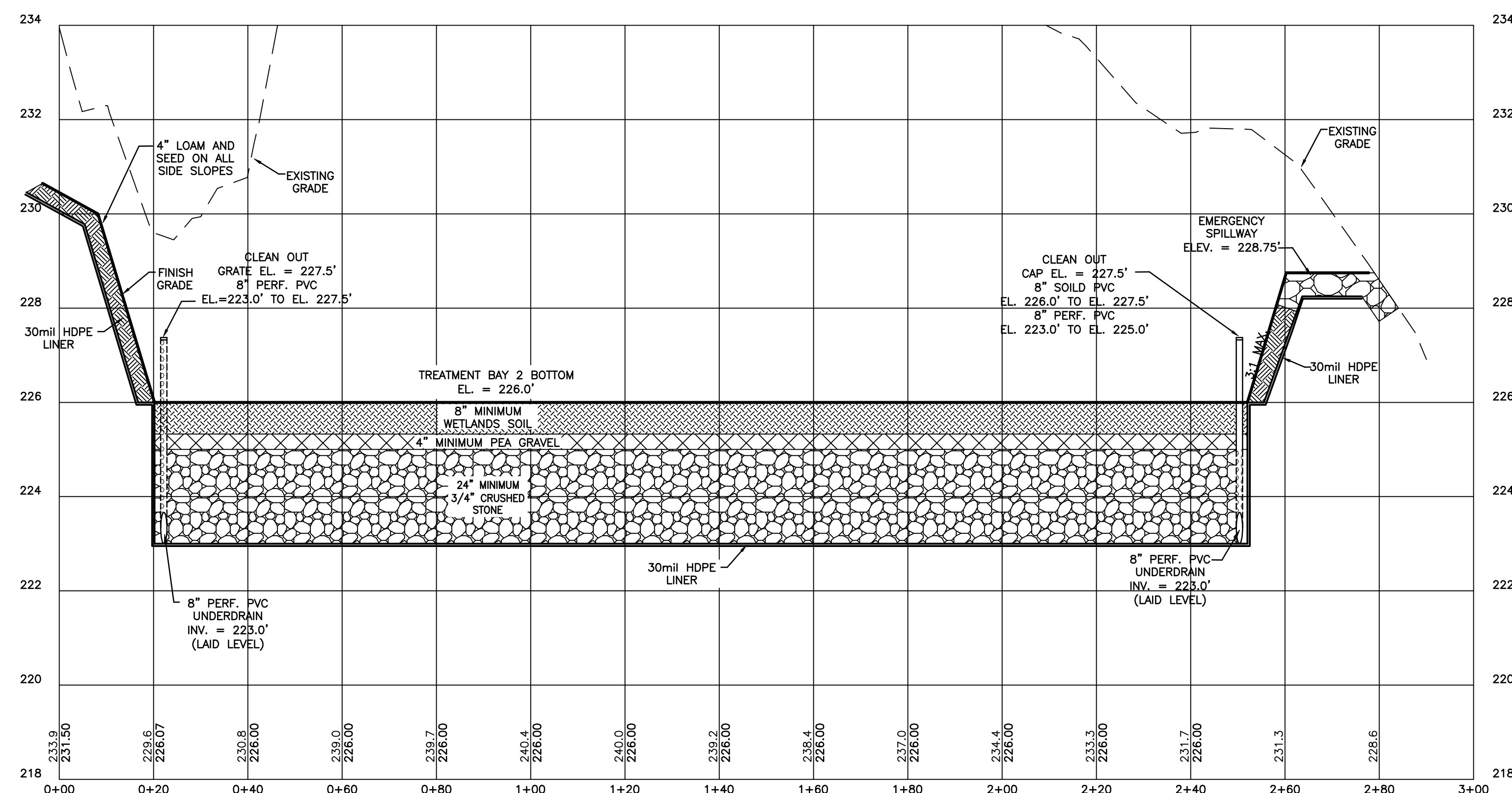


CIVIL ENGINEERS

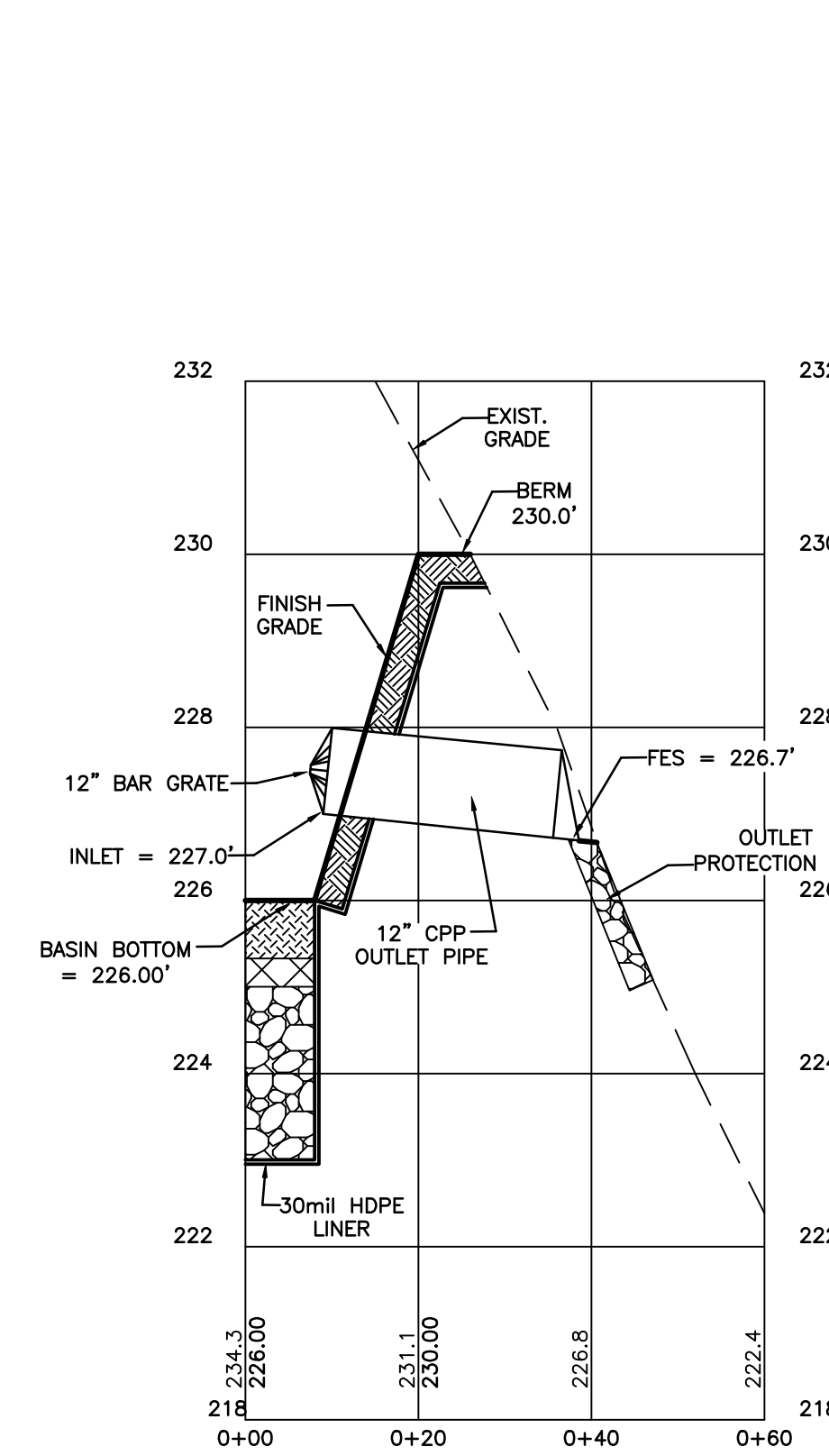
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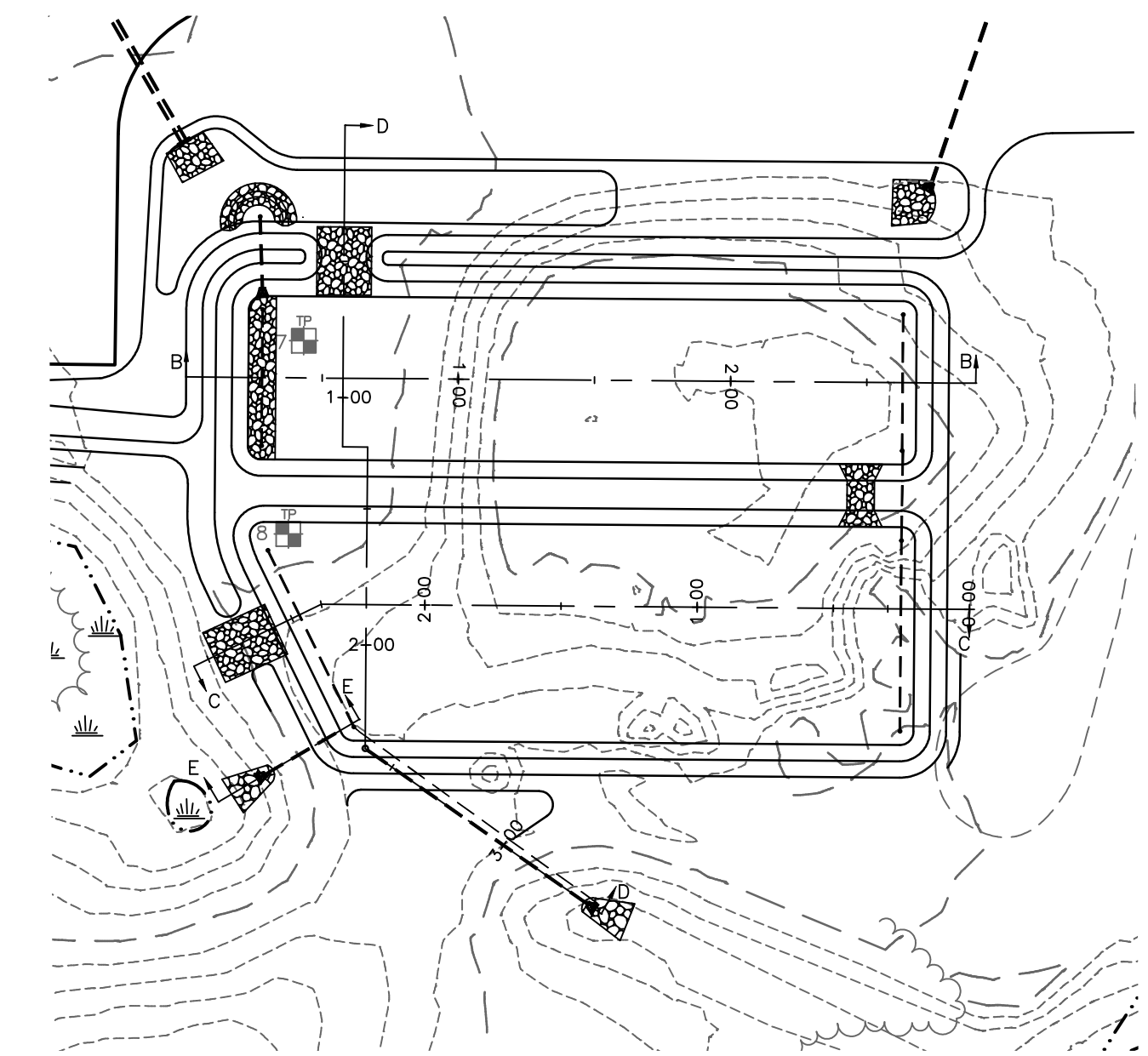
REVISIONS:
09/07/20 - ADD CROSS SECTION E-E



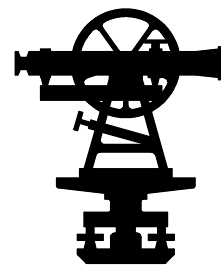
GRAVEL WETLANDS BASIN TREATMENT BAY 2 CROSS SECTION C - C
1" = 20' (HORZ.) & 1" = 2' (VERT.)



**GRAVEL WETLANDS BASIN
SECONDARY OUTLET SECTION E - E**
1" = 20' (HORZ.) & 1" = 2' (VERT.)



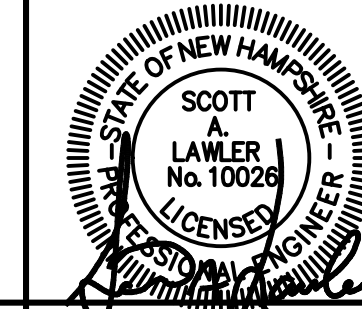
GRAVEL WETLANDS BASIN CROSS SECTION PLAN
1" = 60'
**GRAVEL WETLAND CROSS SECTIONS
TAX MAP 216, LOT 32 AND
TAX MAP 221, LOTS 186 & 187
134 CHESTNUT HILL ROAD
ROCHESTER, NH
PREPARED FOR:
LYDALL PERFORMANCE
MATERIALS, INC.
MAY 2020**



PROPOSED GRAVEL WETLAND BASIN DRAINAGE STRUCTURES

- 4 PROP. 12" Ø SEDIMENT FOREBAY DRAIN PIPE
GRATE = 228.0'
INV. OUT = 226.5' (12" CPP)
- 5 PROP. 8" Ø GRAVEL BASIN CELL INLET CLEANOUT
GRATE = 227.5'
INV. OUT = 223.0' (8" CPP)
- 6 PROP. 8" Ø GRAVEL BASIN CELL OUTLET CLEANOUT
CAP = 227.5'
INV. IN / OUT = 223.0' (8" CPP)
- 7 PROP. 8" Ø GRAVEL BASIN CELL OUTLET CLEANOUT
CAP = 227.5'
INV. IN = 223.0' (8" CPP)
INV. OUT = 225.2' (4" PVC)
- 8 PROP. 24" Ø OUTLET STRUCTURE
GRATE = 228.5'
ORIFICE = 226.63' (2" VERTICAL)
INV. OUT = 223.5' (12" CPP)

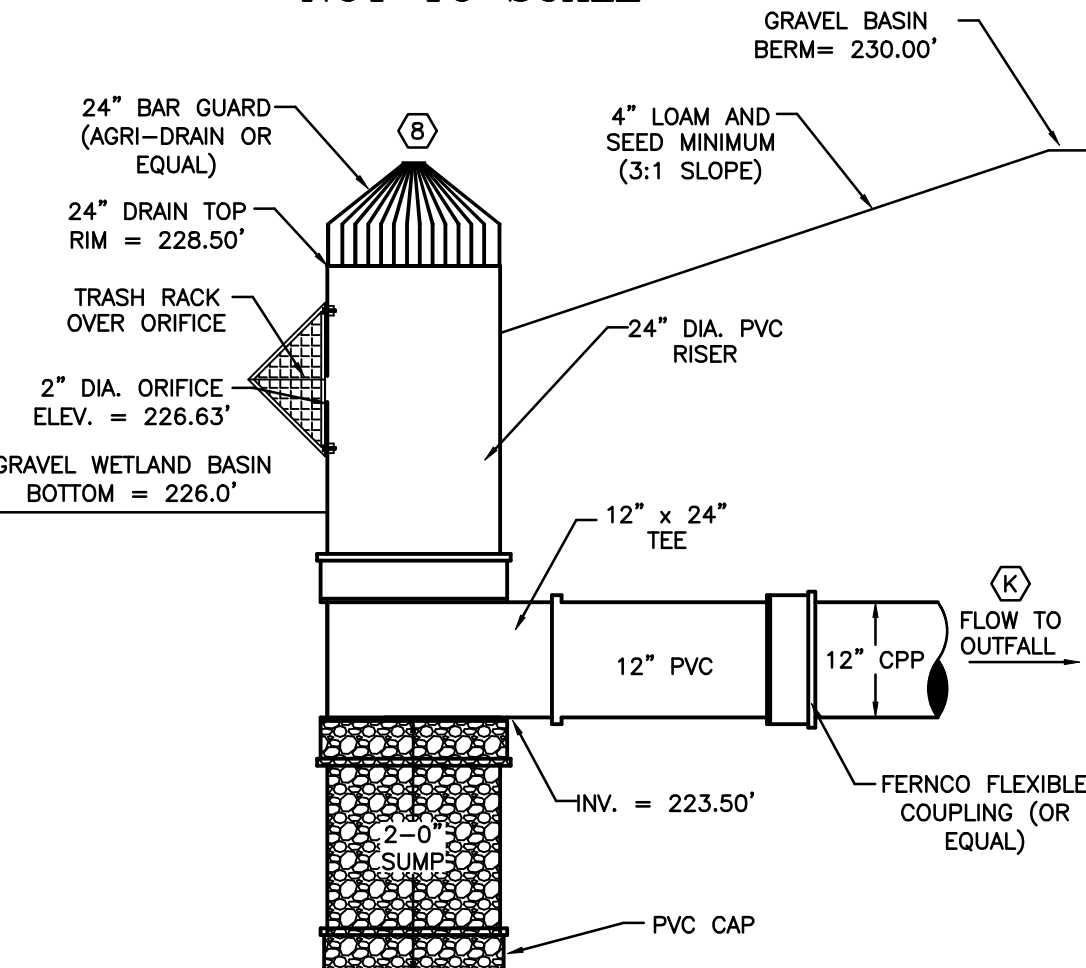
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REVISIONS:
06/07/20 - REVISE PER DPW COMMENTS. ADD SECONDARY OUTLET PIPE DETAIL

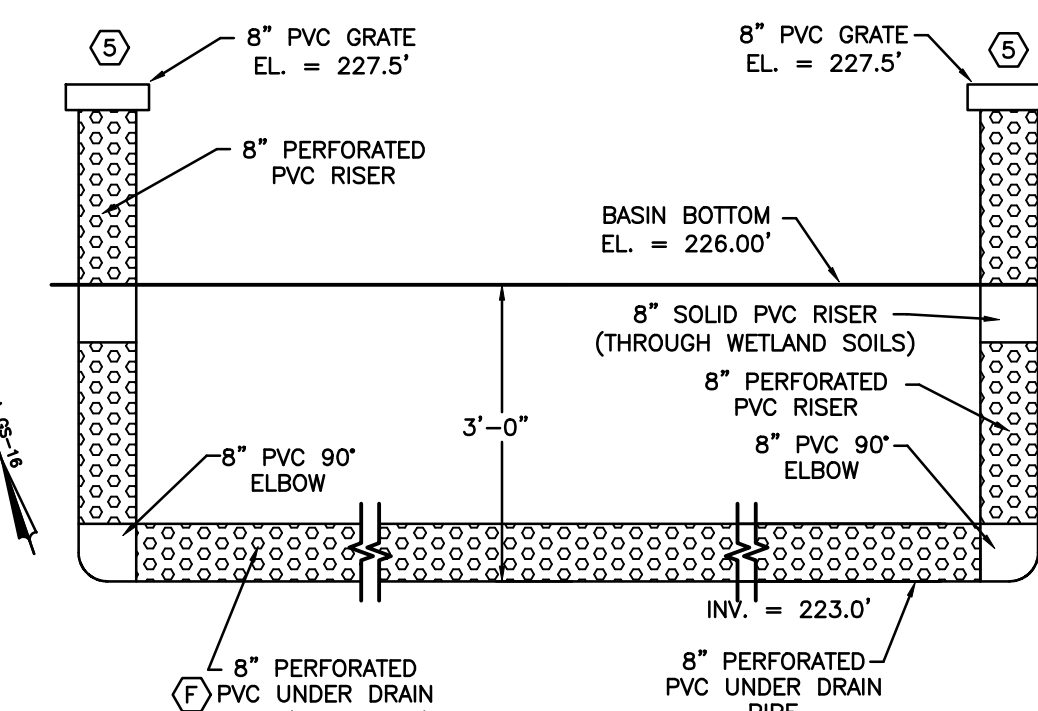
FOREBAY OUTLET STRUCTURE

NOT TO SCALE



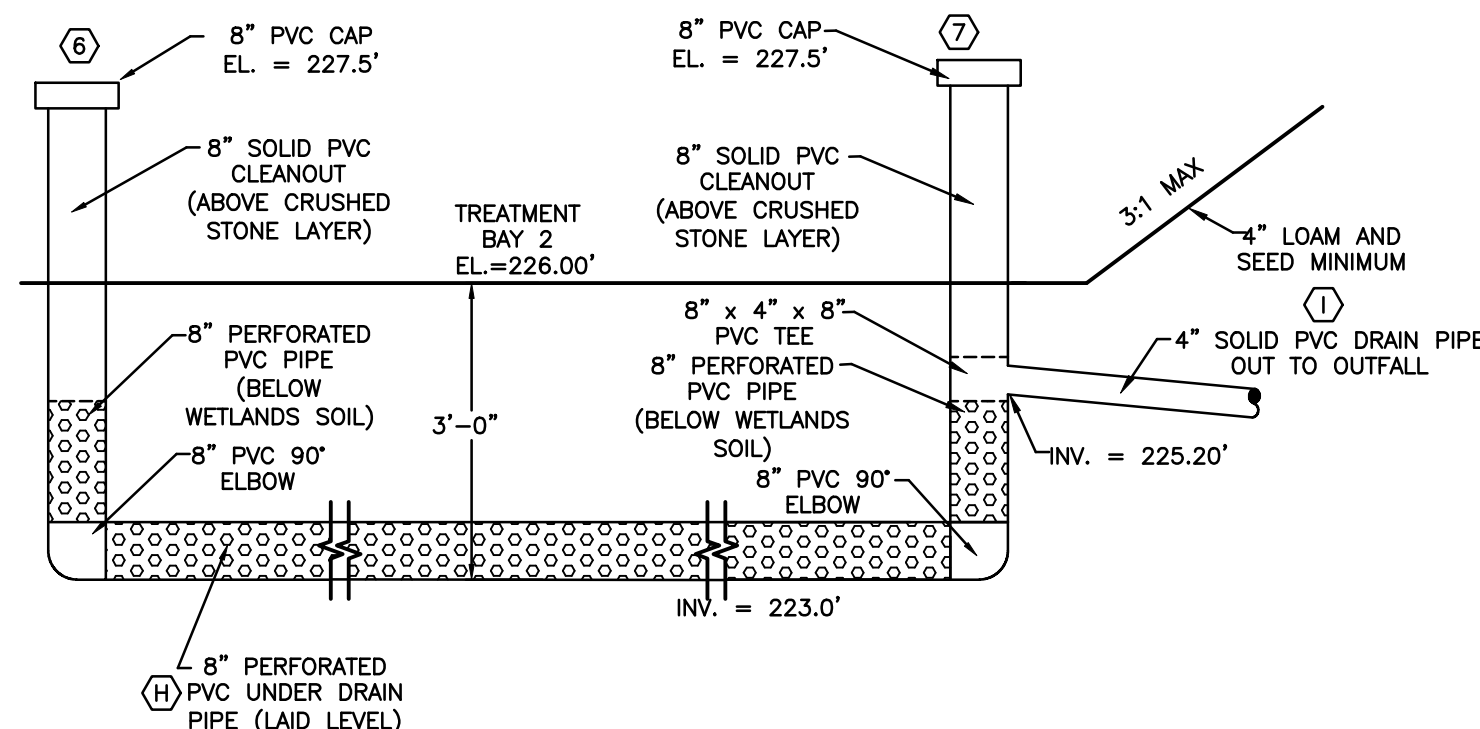
GRAVEL WETLANDS OUTLET STRUCTURE DETAIL

NOT TO SCALE



GRAVEL WETLANDS INLET STRUCTURE DETAIL

- NOTES:
1. 8" PERFORATED PIPE SHALL BE SUPPLIED WITH 4 ROWS OF 1/2" TO 3/8" DIAMETER HOLES EVERY 3 INCHES.
 2. PERFORATED PIPES SHALL BE PERFORATED IN ACCORDANCE TO ASTM F-758.

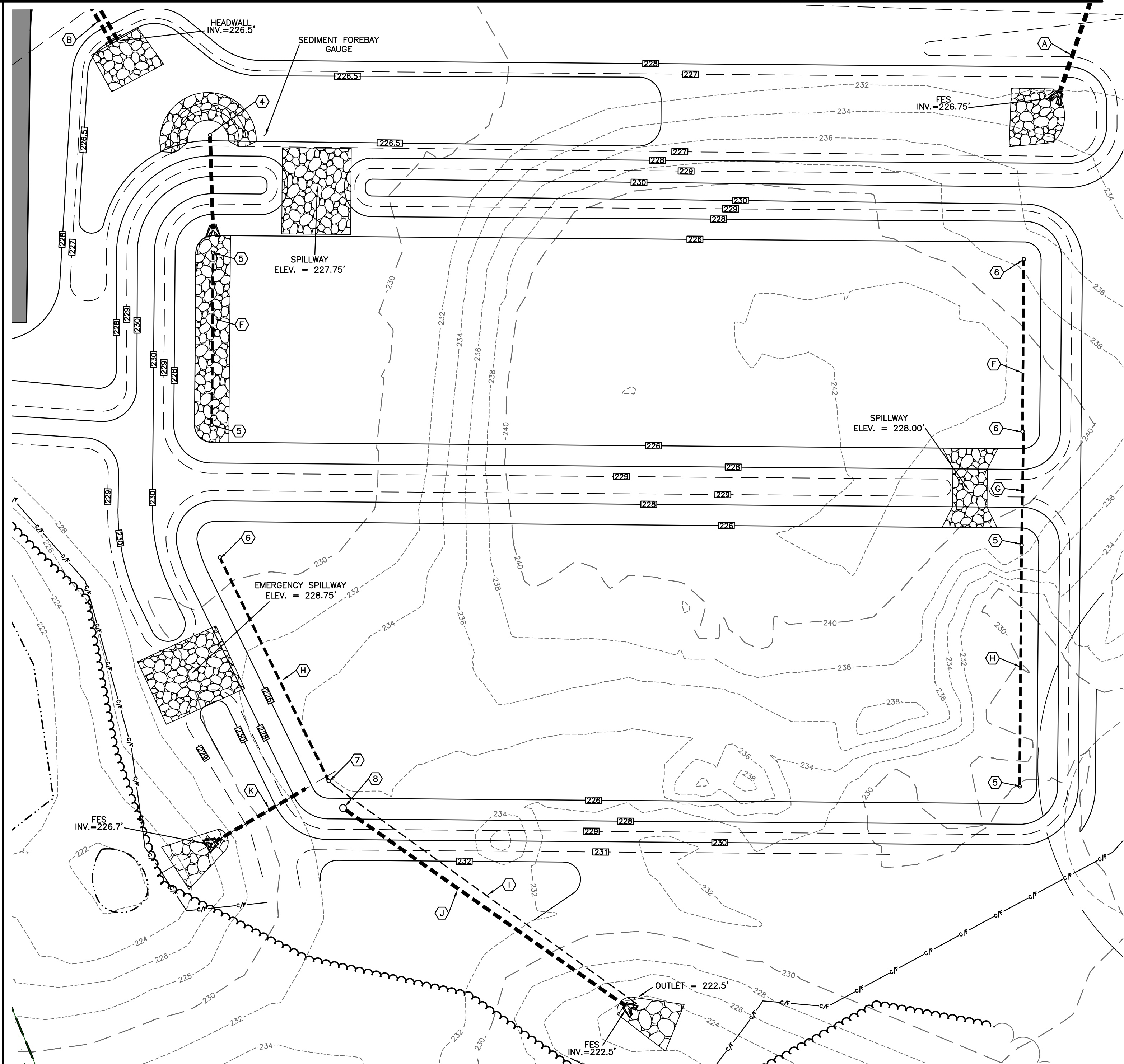


GRAVEL WETLANDS TREATED WATER OUTLET STRUCTURE DETAIL

SCALE: NOT TO SCALE

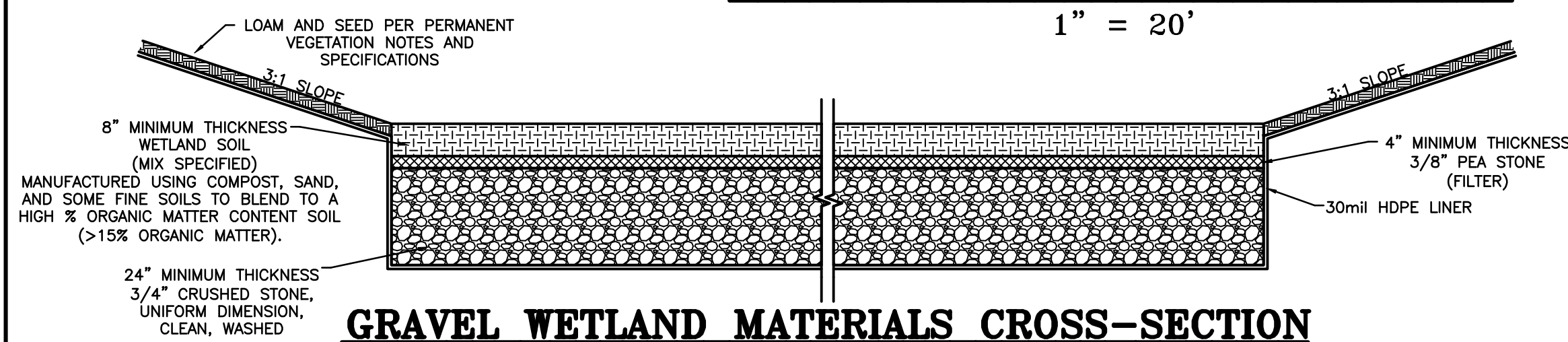
GRAVEL WETLANDS BASIN PLAN VIEW

1" = 20'



GRAVEL WETLAND MATERIALS CROSS-SECTION

NOT TO SCALE



LOW PERMEABILITY MATERIAL GRADATION:	
SIEVE SIZE:	PASSING:
#4	95-100
#40	60-90
#100	40-60
#200	25-45

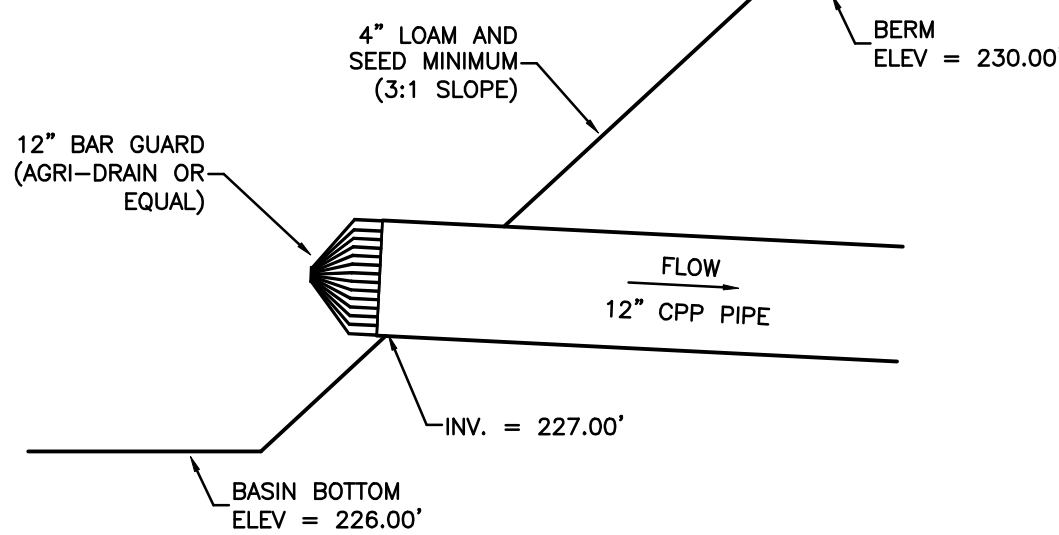
SEDIMENT FOREBAY GAUGE DETAIL

NOT TO SCALE

- NOTES:
1. STAFF GAGE TO BE SCHEDULE 40 WHITE PVC DRIVEN OR PLACED IN GROUND A MINIMUM 3'-FT.
 2. CLEANOUT MARK ON STAFF TO BE GRAY PVC COUPLING SET 6-INCHES FROM BOTTOM OF BASIN.

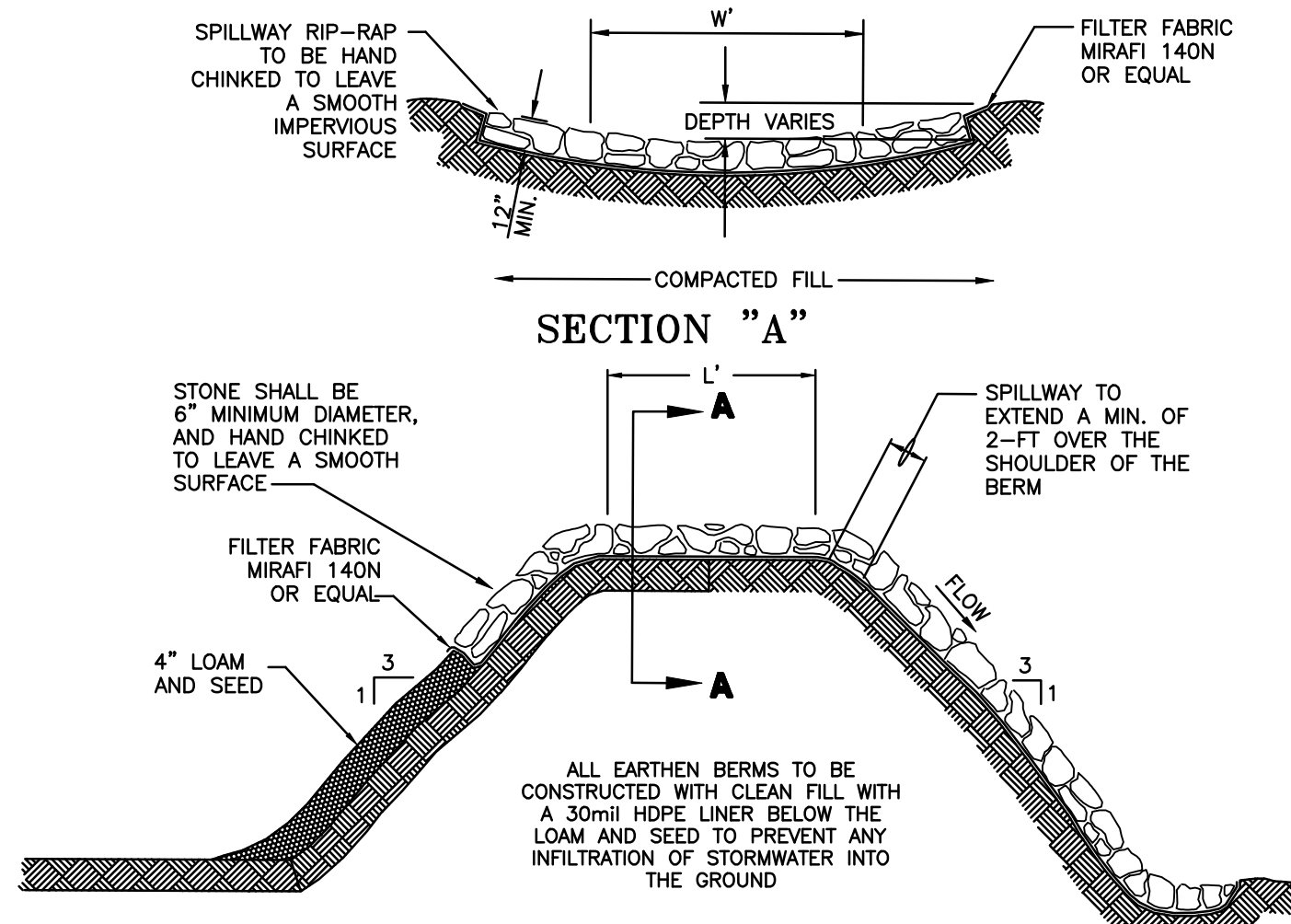
SECONDARY OUTLET PIPE DETAIL

NOT TO SCALE



SPILLWAY DETAIL

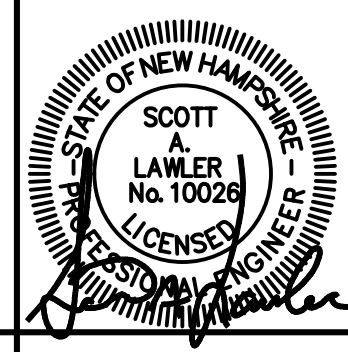
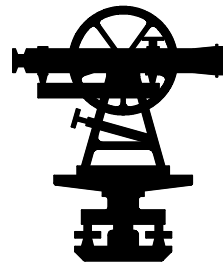
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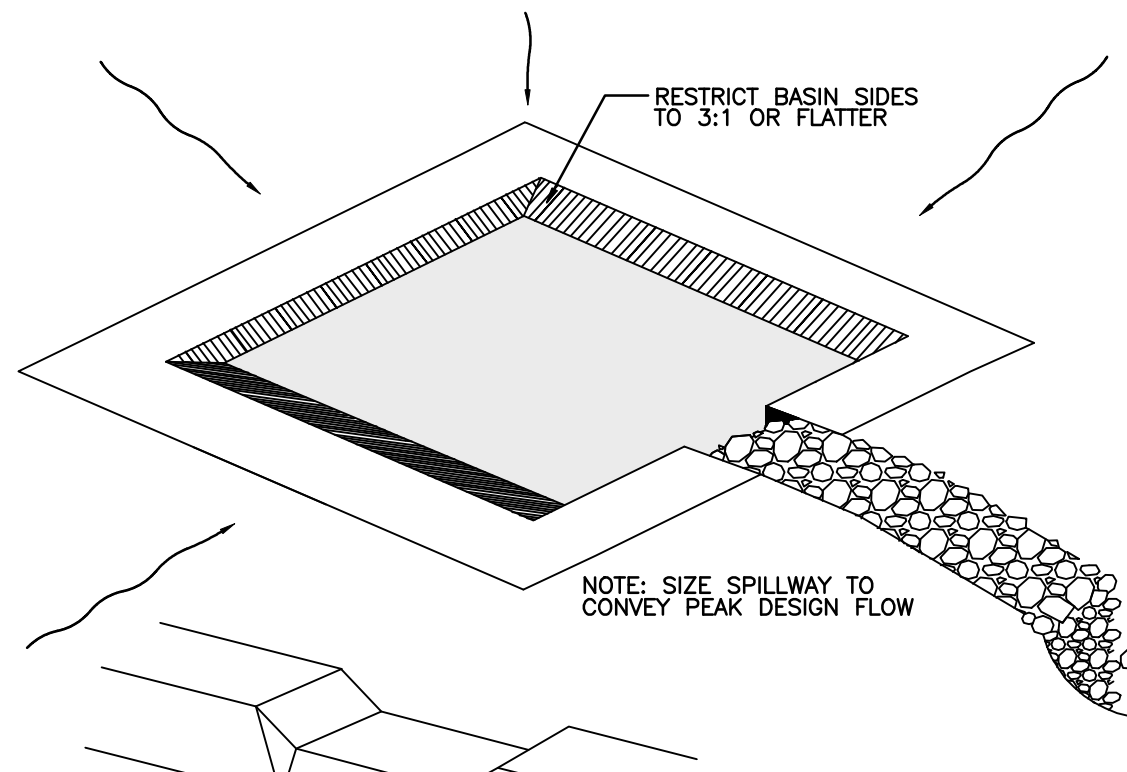
GRAVEL WETLAND PLAN & DETAILS

TAX MAP 216, LOT 32 AND
TAX MAP 221, LOTS 186 & 187
134 CHESTNUT HILL ROAD
ROCHESTER, NH
PREPARED FOR:
LYDALL PERFORMANCE
MATERIALS, INC.
MAY 2020

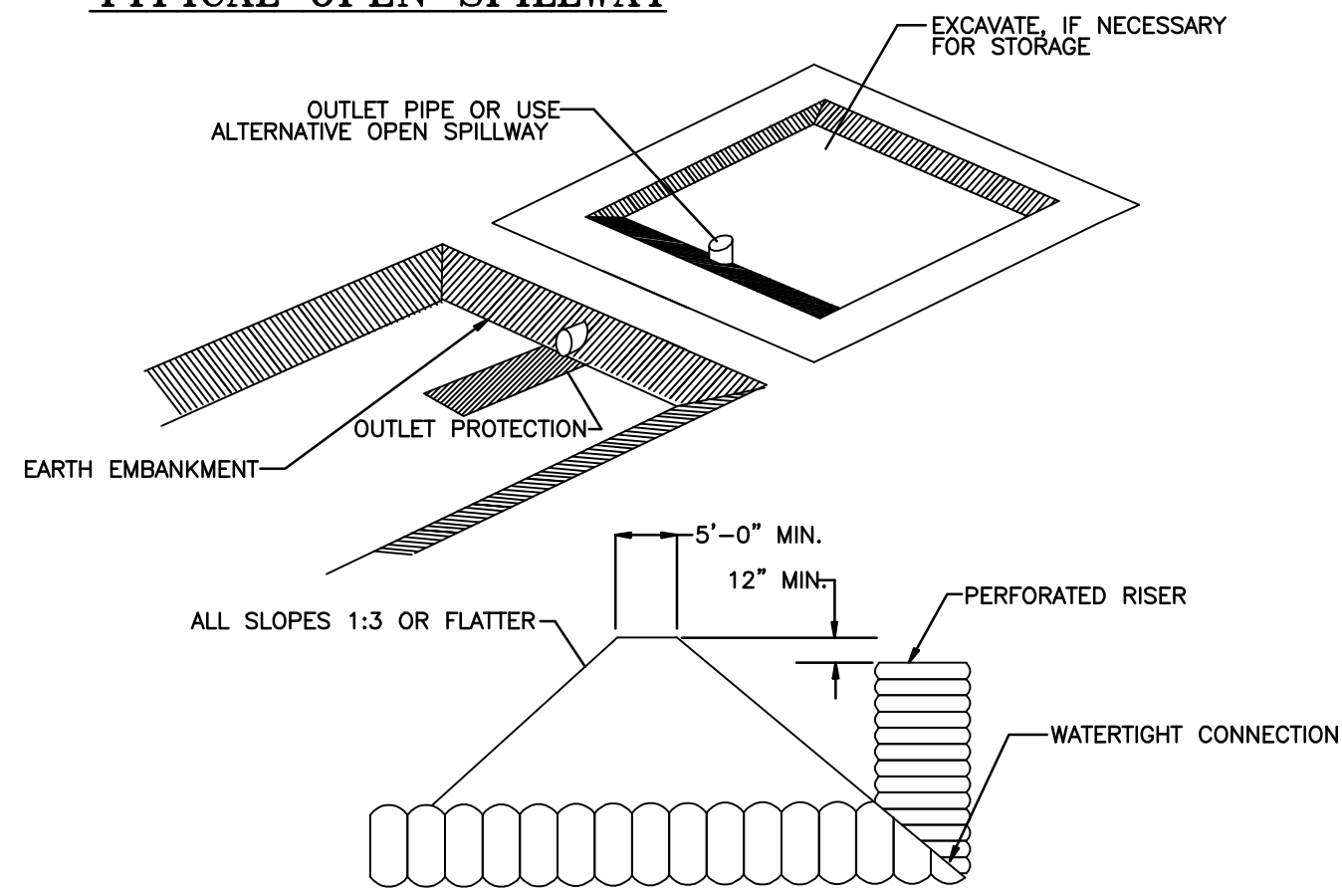
FILE NO. 154
PLAN NO. C-3059
DWG. NO. 17233/SP-3



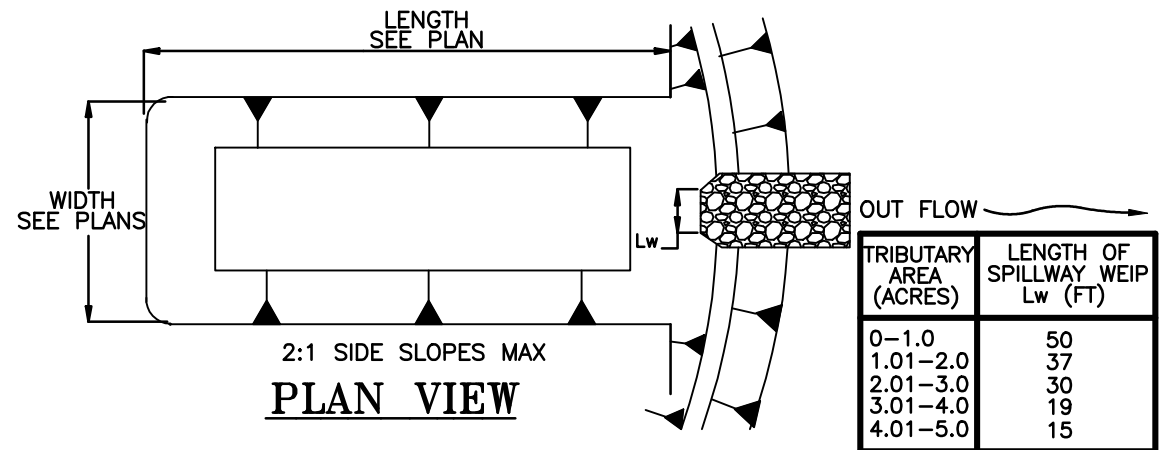
CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.



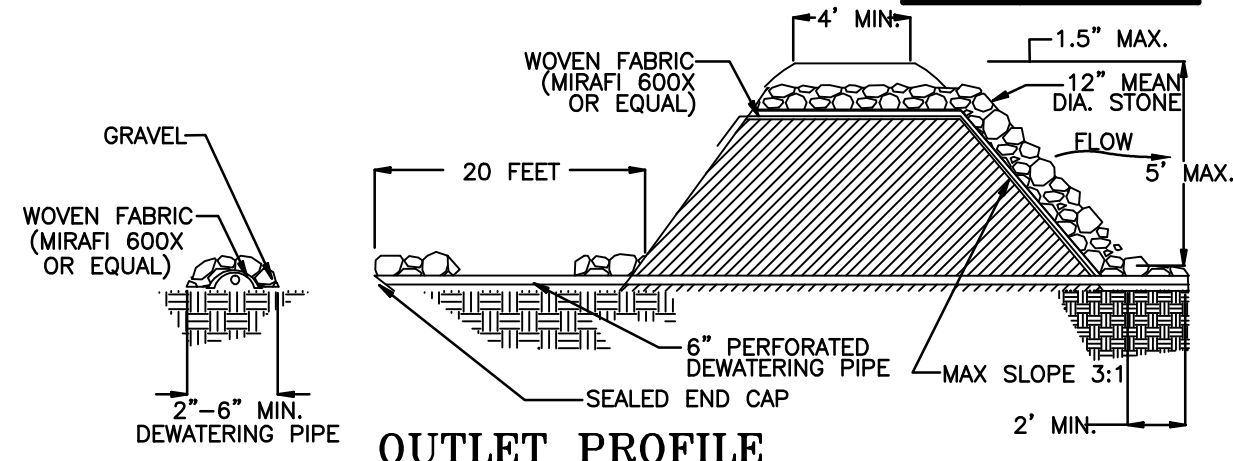
TYPICAL OPEN SPILLWAY



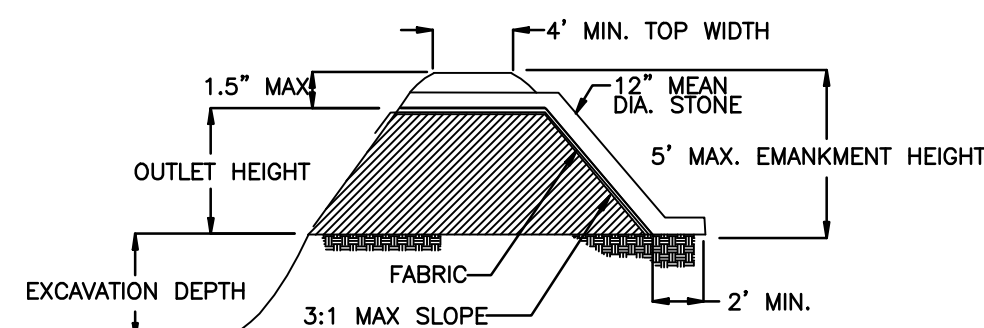
EMBANKMENT SECTION THRU RISER



PLAN VIEW

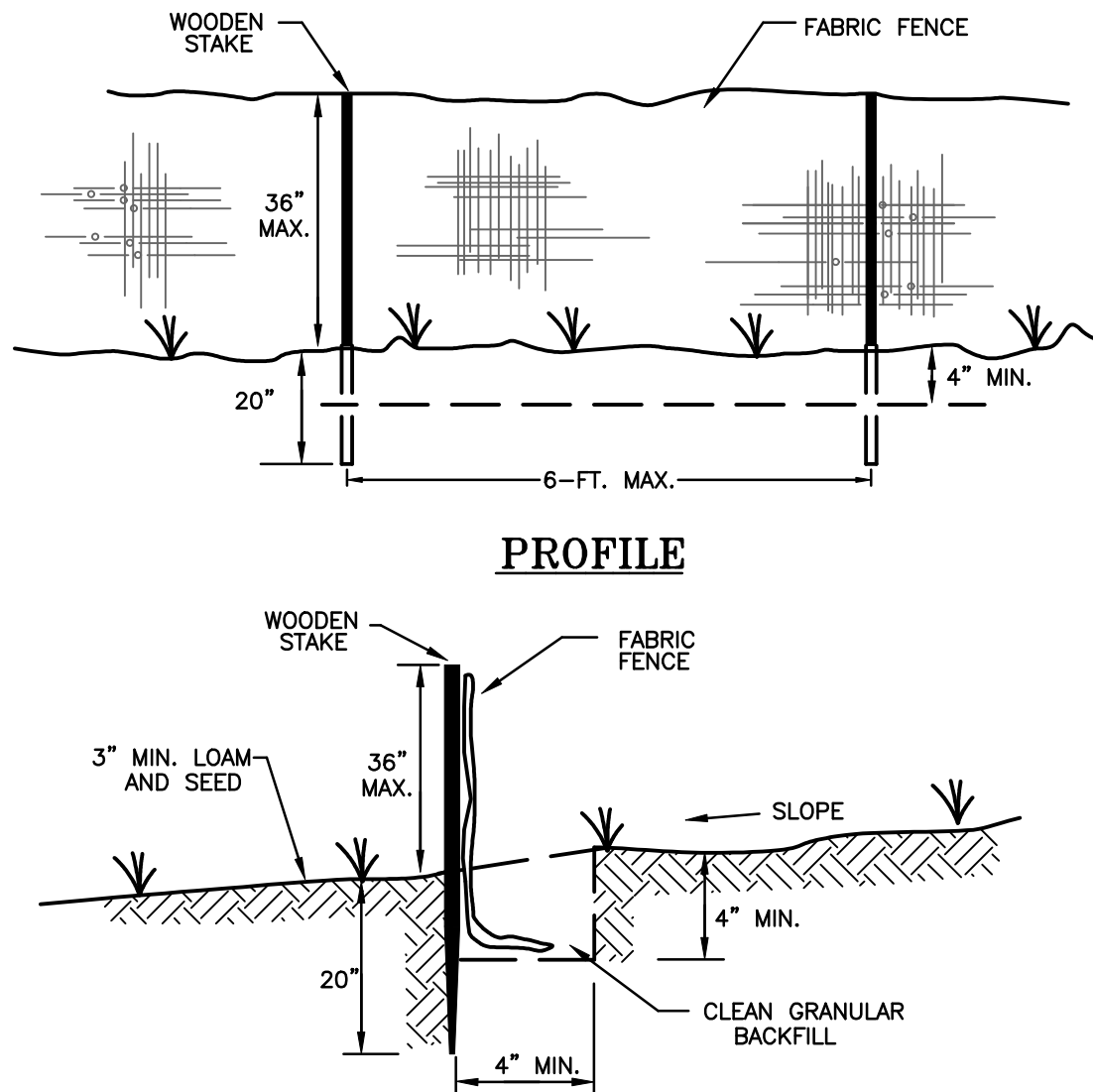


OUTLET PROFILE



ALTERNATE OUTLET PROFILE

SEDIMENT TRAP



PROFILE

CROSS-SECTION

- MAINTENANCE REQUIREMENTS:**
- FENCES SHALL BE INSPECTED AND MAINTAINED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALLS.
 - SEDIMENT DEPOSITION SHALL BE REMOVED, AT A MINIMUM, WHEN DEPOSITION ACCUMULATES TO ONE-HALF THE HEIGHT OF THE FENCE, AND MOVED TO AN APPROPRIATE LOCATION SO THE SEDIMENT IS NOT READILY TRANSPORTED BACK TOWARD THE SILT FENCE.
 - SILT FENCES SHALL BE REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SEDIMENT BARRIERS SHALL BE REPLACED WITH A TEMPORARY CHECK DAM.
 - SHALL THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY; THE FABRIC SHALL BE REPLACED PROMPTLY.
 - ANY SEDIMENT DEPOSITS REMAINING AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.
 - IF THERE IS EVIDENCE OF END FLOW ON PROPERLY INSTALLED BARRIERS, EXTEND BARRIERS UPHILL OR CONSIDER REPLACING THEM WITH OTHER MEASURES, SUCH AS TEMPORARY DIVERSIONS AND SEDIMENT TRAPS.
 - SILT FENCES HAVE A USEFUL LIFE OF ONE SEASON. ON LONGER CONSTRUCTION PROJECTS, SILT FENCE SHALL BE REPAIRED PERIODICALLY AS REQUIRED TO MAINTAIN EFFECTIVENESS.

- CONSTRUCTION SPECIFICATIONS:**
- FENCES SHALL BE USED IN AREAS WHERE EROSION WILL OCCUR ONLY IN THE FORM OF SHEET EROSION AND THERE IS NO CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY ABOVE THE FENCE. SEDIMENT BARRIERS SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM.
 - THE MAXIMUM CONTRIBUTING DRAINAGE AREA ABOVE THE FENCE SHALL BE LESS THAN 1 ACRE PER 100 LINEAR FEET OF FENCE.
 - THE MAXIMUM LENGTH OF SLOPE ABOVE THE FENCE SHALL BE 100 FEET.
 - THE MAXIMUM SLOPE ABOVE THE FENCE SHALL BE 2:1.
 - FENCES SHALL BE INSTALLED FOLLOWING THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE, AND
 - THE ENDS OF THE FENCE SHALL BE FLARED UPSLOPE.
 - THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 4 INCHES IN DEPTH AND INCHES IN WIDTH IN A TRENCH EXCAVATED INTO THE GROUND, OR IF SITE CONDITIONS INCLUDE FROZEN GROUND, LEDGE, OR THE PRESENCE OF HEAVY ROOTS, THE BASE OF THE FABRIC SHALL BE EMBEDDED WITH A MINIMUM THICKNESS OF 6 INCHES OF 3/4-INCH STONE.
 - THE SOIL SHALL BE COMPACTED OVER THE EMBEDDED FABRIC.
 - SUPPORT POSTS SHALL BE SIZED AND ANCHORED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS WITH MAXIMUM POST SPACING OF 6 FEET.
 - ADJOINING SECTIONS OF THE FENCE SHALL BE OVERLAPPED BY A MINIMUM OF 6 INCHES (24 INCHES IS PREFERRED), FOLDED AND STAPLED TO A SUPPORT POST. IF METAL POSTS ARE USED, FABRIC SHALL BE WIRE-TIED DIRECTLY TO THE POSTS WITH THREE DIAGONAL TIES.
 - SILT FENCING SHALL NOT BE STAPLED OR NAILED TO TREES.
 - THE FILTER FABRIC SHALL BE A PERVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER.
 - THE FILTER FABRIC SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 DEGREES FAHRENHEIT TO 120 DEGREES FAHRENHEIT.
 - POSTS FOR SILT FENCES SHALL BE EITHER 4-INCH DIAMETER WOOD OR 1.33 POUNDS PER LINEAR FOOT STEEL WITH A MINIMUM LENGTH OF 5 FEET. STEEL POSTS SHALL HAVE PROJECTIONS FOR FASTENING WIRE TO THEM. POSTS SHALL BE PLACED ON THE DOWN SLOPE SIDE OF THE FABRIC.
 - THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES AS HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.
 - THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND SECURELY SEALED.
 - A MANUFACTURED SILT FENCE SYSTEM WITH INTEGRAL POSTS MAY BE USED.
 - POST SPACING SHALL NOT EXCEED 6 FEET.
 - A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 4 INCHES DEEP ALONG THE LINE OF POSTS AND UP GRADIENT FROM THE BARRIER.
 - THE STANDARD STRENGTH OF FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE POST, AND 8 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
 - THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
 - SILT FENCE MAY BE INSTALLED BY "SLICING" USING MECHANICAL EQUIPMENT SPECIFICALLY DESIGNED FOR THIS PROCEDURE. THE SLICING METHOD USES AN IMPLEMENT TOWED BEHIND A TRACTOR TO "PLOW" OR SLICE THE SILT FENCE MATERIAL INTO THE SOIL. THE SLICING METHOD MINIMALLY DISRUPTS THE SOIL UPWARD AND SLIGHTLY DISPLACES THE SOIL, MAINTAINING THE SOIL'S PROFILE AND CREATING AN OPTIMAL CONDITION FOR SUBSEQUENT MECHANICAL COMPACTION.
 - SILT FENCES SHALL BE INSTALLED WITH "SMILES" OR "J-HOOKS" TO REDUCE THE DRAINAGE AREA THAT ANY SEGMENT WILL IMPOUND.
 - THE ENDS OF THE FENCE SHALL BE TURNED UPHILL.
 - SILT FENCES PLACED AT THE TOE OF A SLOPE SHALL BE SET AT LEAST 6 FEET FROM THE TOE TO ALLOW SPACE FOR SHALLOW PONDING AND TO ALLOW FOR MAINTENANCE ACCESS WITHOUT DISTURBING THE SLOPE.
 - SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.

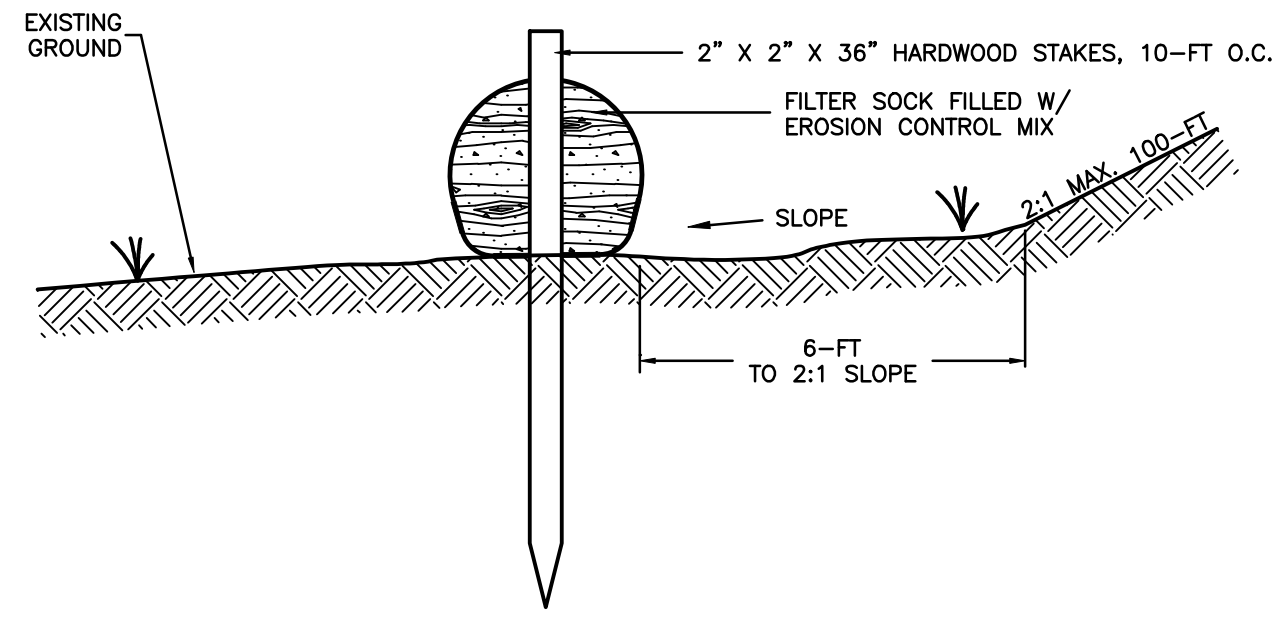
SILTATION CONTROL FENCE DETAIL

NOT TO SCALE

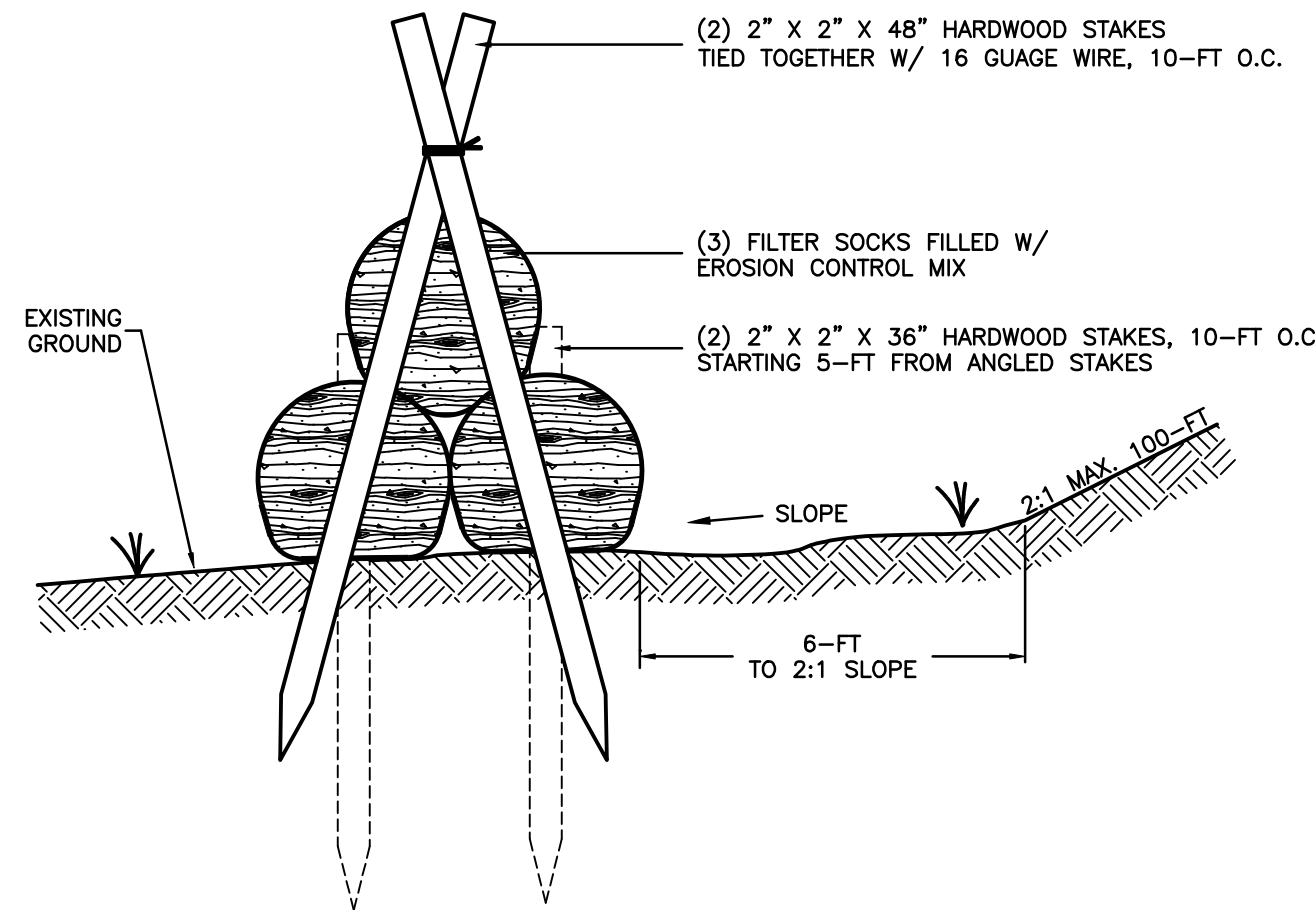
TEMPORARY VEGETATION SEEDING RECOMMENDATIONS

SPECIES	PER ACRE BUSHELS (BU) OR POUNDS (LBS.)	PER 1,000-SF	REMARKS
WINTER RYE	2.5 BU OR 112 LBS.	2.5 LBS.	BEST FOR FALL SEEDING. SEED FROM AUGUST 15 TO SEPTEMBER 15 FOR BEST COVER. SEED TO A DEPTH OF 1 INCH.
OATS	2.5 BU OR 80 LBS.	2.0 LBS.	BEST FOR SPRING SEEDING. SEED NO LATER THAN MAY 15 FOR SUMMER PROTECTION. SEED TO A DEPTH OF 1 INCH.
ANNUAL RYE GRASS	40 LBS.	1.0 LB.	GROWS QUICKLY, BUT IS OF SHORT DURATION. USE WHERE APPEARANCES ARE IMPORTANT. SEED EARLY SPRING AND/OR BETWEEN AUGUST 15 AND SEPTEMBER 15. COVER THE SEED WITH NO MORE THAN 0.25 INCH OF SOIL.
PERENNIAL RYE GRASS	30 LBS.	0.7 LBS.	BEST FOR FALL SEEDING. SEED FROM AUGUST 15 TO SEPTEMBER 15 FOR BEST COVER. SEED TO A DEPTH OF 1 INCH.
SOURCES: 1. NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3, TABLE 4-1 2. MINNICK, E.L. AND H.T. MARSHALL, (AUGUST 1992)			

FILTER SOCK CONNECTION PLAN VIEW



FILTER SOCK CROSS-SECTION



HEAVY DUTY PYRAMID FILTER SOCK CROSS-SECTION

- CONTINUOUS CONTAINED BERM (FILTER SOCK ALTERNATIVE):**
- AN ALTERNATIVE PRODUCT, THE CONTINUOUS CONTAINED BERM (OR "FILTER SOCK") CAN BE AN EFFECTIVE SEDIMENT BARRIER AS IT ADDS CONTAINMENT AND STABILITY TO A BERM OF EROSION CONTROL MIX.
 - IN THE EVENT THAT USE OF CONTINUOUS CONTAINED BERM IS DESIRED, THE PRODUCT SELECTED SHOULD BE REVIEWED AND APPROVED BY THE DESIGN ENGINEER.
 - INSTALLATION OF CONTINUOUS CONTAINED BERMS SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE MANUFACTURER.

- MAINTENANCE REQUIREMENTS:**
- FILTER SOCK MAINTENANCE SHALL FOLLOW THE SAME SCHEDULE AS EROSION CONTROL MIX BERMS.

- CONSTRUCTION SPECIFICATIONS:**
- COMPOSITION OF THE EROSION CONTROL MIX SHALL EITHER BE THE SAME AS EROSION CONTROL MIX BERM MATERIAL OR AS SPECIFIED BY THE FILTER SOCK MANUFACTURER.
 - THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL CONTOUR.
 - IT MAY BE NECESSARY TO CUT TALL GRASSES AND WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES IN THE BARRIER THAT WOULD ENABLE FINES TO WASH UNDER THE BARRIER THROUGH THE GRASS BLADES OR PLANT STEMS.
 - FILTER SOCK DIAMETER (HEIGHT) SHALL BE PER THE MANUFACTURER RECOMMENDATION FOR THE AREA OF INSTALLATION.

CONTINUOUS CONTAINED BERM "FILTER SOCK" DETAIL

NOT TO SCALE

TEMPORARY VEGETATION:

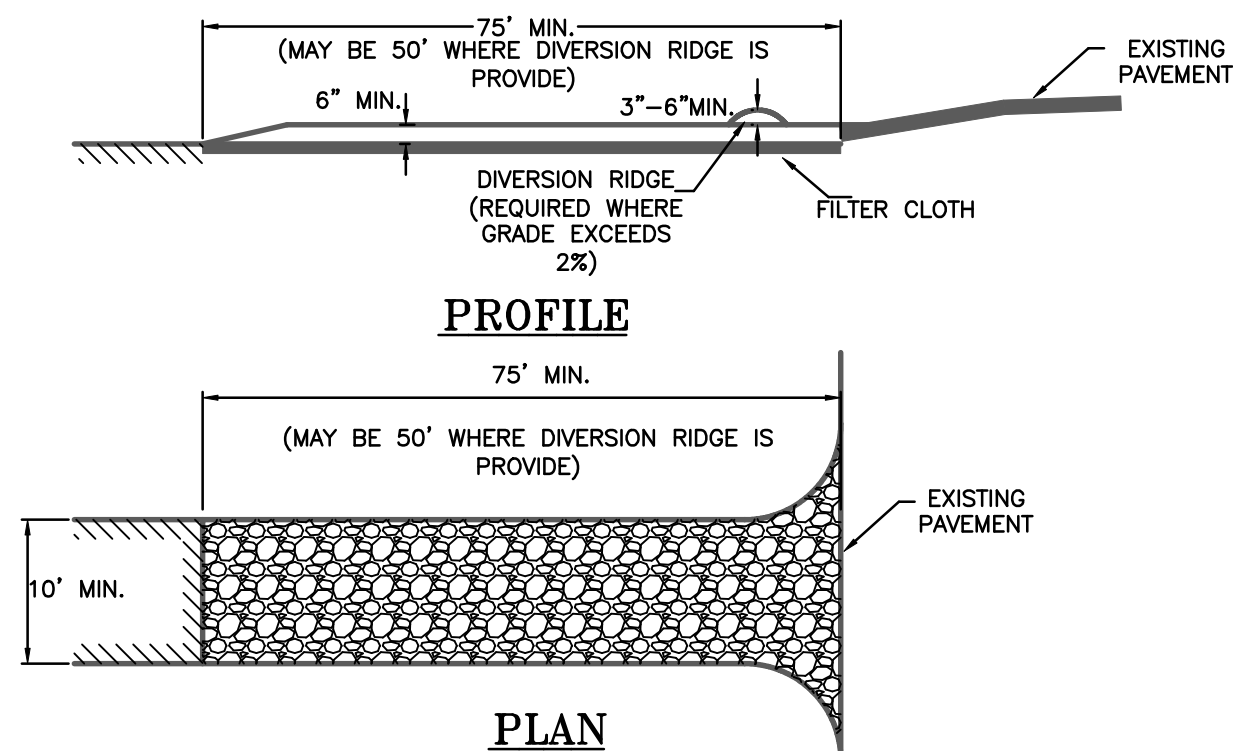
- SPECIFICATIONS:**
- SITE PREPARATION:**
- INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS, AND SEDIMENT TRAPS.
 - GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
 - RUNOFF SHALL BE DIVERTED FROM THE SEEDBED AREA.
 - ON SLOPES 4:1 OR STEEPER, THE FINAL PREPARATION SHALL INCLUDE CREATING HORIZONTAL GROOVES PERPENDICULAR TO THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF.
- SEEDBED PREPARATION:**
- STONES AND TRASH SHALL BE REMOVED SO AS NOT TO INTERFERE WITH THE SEEDING AREA.
 - WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
 - IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHALL BE APPLIED DURING THE GROWING SEASON.
 - APPLY LIME AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. FERTILIZER SHALL BE RESTRICTED TO LIME, WOOD ASH OR LOW PHOSPHATE AND SLOW RELEASE NITROGEN VARIETIES, UNLESS A SOIL TEST WARRANTS OTHERWISE. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL FERTILIZER AND LIME/STONE MAY BE APPLIED AT THE FOLLOWING RATES:

LIMESTONE APPLICATION RATE = 3 TONS/ACRE (138 LB./1,000-SF)*
*EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE

FERTILIZER APPLICATION RATE = 870 LB./ACRE (20 LB./1,000-SF)*
*LOW PHOSPHATE FERTILIZER (6-0-4) OR EQUIVALENT

- SEEDING:**
- APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL CULTIPACKER TYPE SEEDER OR HYDRO SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.
 - TEMPORARY SEED SHALL TYPICALLY OCCUR PRIOR TO SEPTEMBER 15.
 - AREAS SEED BETWEEN MAY 15 AND AUGUST 15 SHALL BE COVERED WITH HAY OR STRAW MULCH.
 - ACCORDING TO THE "NASSM" PRACTICE DESCRIBED IN THE NASSM, VOL. 3.
 - VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHALL BE ACHIEVED PRIOR TO OCTOBER 15. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT OTHER TEMPORARY STABILIZATION MEASURES FOR OVER WINTER PROTECTION.

- MAINTENANCE REQUIREMENTS:**
- TEMPORARY SEEDING SHALL BE INSPECTED WEEKLY AFTER ANY RAINFALL EXCEEDING 1/2 INCH IN 24 HOURS ON ACTIVE CONSTRUCTION SITES. TEMPORARY SEEDING SHALL BE INSPECTED JUST PRIOR TO SEPTEMBER 15, TO ASCERTAIN WHETHER ADDITIONAL SEEDING IS REQUIRED TO PROVIDE STABILIZATION OVER THE WINTER PERIOD.
 - BASED ON INSPECTION, AREAS SHALL BE RESEED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS. IF IT IS TOO LATE IN THE PLANTING SEASON TO APPLY ADDITIONAL SEED, THEN OTHER TEMPORARY STABILIZATION MEASURES SHALL BE IMPLEMENTED.
 - IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND AREAS SHALL BE RESEED, WITH OTHER TEMPORARY MEASURES (I.E. MULCH, ETC.) USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.



PROFILE

PLAN

TEMPORARY CONSTRUCTION EXIT

NOT TO SCALE

- MAINTENANCE REQUIREMENTS:**
- WHEN THE CONTROL PAD BECOMES INEFFECTIVE, THE STONE SHALL BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL, REGRADED ON SITE, AND STABILIZED. THE ENTRANCE SHALL THEN BE RECONSTRUCTED.
 - THE CONTRACTOR SHALL SWEEP THE PAVEMENT AT EXITS WHENEVER SOIL MATERIALS ARE TRACKED ONTO THE ADJACENT PAVEMENT OR TRAVELED WAY.
 - WHEN WHEEL WASHING IS REQUIRED, IT SHALL BE CONDUCTED ON AN AREA STABILIZED WITH AGGREGATE, WHICH DRAINS INTO AN APPROVED SEDIMENT-TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

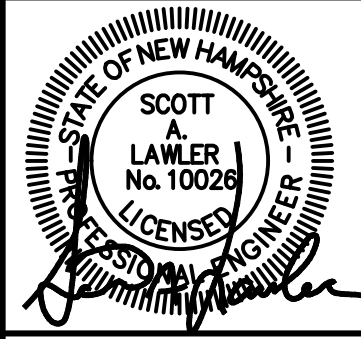
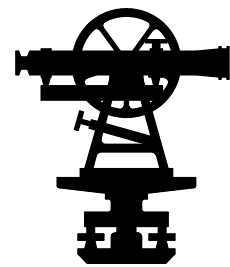
- CONSTRUCTION SPECIFICATIONS:**
- THE MINIMUM STONE USED SHALL BE 3-INCH CRUSHED STONE.
 - THE MINIMUM LENGTH OF THE PAD SHALL BE 75 FEET, EXCEPT THAT THE MINIMUM LENGTH MAY BE REDUCED TO 50 FEET IF A 3-INCH TO 6-INCH BERM IS INSTALLED AT THE ENTRANCE OF THE PROJECT SITE.
 - THE PAD SHALL BE THE FULL WIDTH OF CONSTRUCTION ACCESS ROAD OR 10 FEET, WHICHEVER IS GREATER.
 - THE PAD SHALL SLOPE AWAY FROM THE EXISTING ROADWAY.
 - THE PAD SHALL BE AT LEAST 6 INCHES THICK.
 - THE GEOTEXTILE FILTER FABRIC SHALL BE PLACED BETWEEN THE STONE PAD AND THE EARTH SURFACE BELOW THE PAD.
 - THE PAD SHALL BE MAINTAINED OR REPLACED WHEN MUD AND SOIL PARTICLES CLOG THE VOIDS IN THE STONE. THE MUD AND SOIL PARTICLES ARE TRACKED OFF-SITE.
 - NATURAL DRAINAGE THAT CROSSES THE LOCATION OF THE STONE PAD SHALL BE INTERCEPTED AND PIPED BENEATH THE PAD, AS NECESSARY, WITH SUITABLE OUTLET PROTECTION.

TEMPORARY EROSION & SEDIMENTATION CONTROL DETAILS

TAX MAP 216, LOT 32 AND
TAX MAP 221, LOTS 186 & 187
134 CHESTNUT HILL ROAD
ROCHESTER, NH

PREPARED FOR:
LYDALL PERFORMANCE
MATERIALS, INC.
MAY 2020

FILE NO. 154
PLAN NO. C-3059
DWG. NO. 17233/SP-3



CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.

PERMANENT VEGETATION:

SPECIFICATIONS:

SITE PREPARATION:

1. INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS, AND SEDIMENT TRAPS.
2. GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
3. RUNOFF SHALL BE DIVERTED FROM THE SEEDBED AREA.
4. ON SLOPES 4:1 OR STEEPER, THE FINAL PREPARATION SHALL INCLUDE CREATING HORIZONTAL GROOVES PERPENDICULAR TO THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF.

SEEDBED PREPARATION:

1. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OPERATION SHALL BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED. ALL BUT CLAY AND SILT SOILS SHALL BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.
2. REMOVE FROM THE SURFACE ALL STONES 2 INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, CONCRETE CLOUDS, LUMPS, TRASH OR OTHER UNSUITABLE MATERIAL.
3. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE TILLED AND FIRMED AS ABOVE.
4. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 4 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
5. IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHALL BE APPLIED DURING THE GROWING SEASON.
6. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. FERTILIZER SHALL BE RESTRICTED TO LIME, WOOD ASH OR LOW PHOSPHATE AND LOW RELEASE NITROGEN VARIETIES, UNLESS A SOIL TEST WARRANTS OTHERWISE. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL FERTILIZER AND LIMESTONE MAY BE APPLIED AT THE FOLLOWING RATES:

LIMESTONE APPLICATION RATE = 3 TONS/ACRE (138 LB./1,000-SF)*

*EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE

FERTILIZER APPLICATION RATE = 870 LB./ACRE (20 LB./1,000-SF)*

*LOW PHOSPHATE FERTILIZER (6-0-4) OR EQUIVALENT

SEEDING:

1. INOCULATE ALL LEGUME SEED WITH THE CORRECT TYPE OF INOCULANT.
2. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE.
3. WHERE FEASIBLE EXCEPT WHERE EITHER CULTIPACKER TYPE SEEDER OR HYDROSEEDER IS USED, THE SEEDBED SHALL BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A ROLLER, OR LIGHT DRAG.
4. SPRING SEEDING USUALLY GIVES THE BEST RESULTS FOR ALL SEED MIXES OR WITH LEGUMES. PERMANENT SEEDING SHALL BE COMPLETED 45 DAYS PRIOR TO FIRST KILLING FROST. WHEN CROWN VETCH IS SEEDING IN LATE SUMMER AT LEAST 35% OF THE SEED SHALL BE HARD SEED (UNSCARIFIED). IF SEEDING MUST BE DONE WITHIN THE SPECIFIED SEEDING DATES, MULCH ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE DESCRIBED IN THE NBSMM, VOL. 3, AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD. AREAS SEEDING BETWEEN MAY 15 AND AUGUST 15 SHALL BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE DESCRIBED IN THE NBSMM, VOL. 3.
5. VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHALL BE ACHIEVED PRIOR TO OCTOBER 15. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT OTHER TEMPORARY STABILIZATION MEASURES FOR OVER WINTER PROTECTION.

HYDROSEEDING:

1. WHEN HYDROSEEDING (HYDRAULIC APPLICATION), PREPARE THE SEEDBED AS SPECIFIED ABOVE OR BY HAND MAKING TO LOOSEN AND SMOOTH THE SOIL AND REMOVE SURFACE STONES LARGER THAN 2 INCHES IN DIAMETER.
2. SLOPES MUST BE NO STEEPER THAN 2:1 (2 FEET HORIZONTALLY BY 1 FOOT VERTICALLY).
3. LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. THE USE OF FIBER MULCH ON CRITICAL AREAS IS NOT RECOMMENDED (UNLESS IT IS USED TO HOLD STRAW OR HAY). BETTER PROTECTION IS GAINED BY USING STRAW MULCH AND HOLDING IT WITH ADHESIVE MATERIALS OR 500 POUNDS PER ACRE OF WOOD FIBER MULCH.
4. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.

MAINTENANCE REQUIREMENTS:

1. PERMANENT SEEDING AREAS SHALL BE INSPECTED AT LEAST MONTHLY DURING THE COURSE OF CONSTRUCTION. INSPECTION, MAINTENANCE AND CORRECTIVE ACTIONS SHALL CONTINUE UNTIL THE OWNER ASSUMES PERMANENT OPERATION OF THE SITE.
2. SEEDING AREAS SHALL BE MOWED AS REQUIRED TO MAINTAIN A HEALTHY STAND OF VEGETATION. MOWING HEIGHT AND FREQUENCY DEPEND OF TYPE OF GRASS COVER.
3. BASED ON INSPECTION, AREAS SHALL BE RESEED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS.
4. AT A MINIMUM 85% OF THE SOIL SURFACE SHALL BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND AREAS SHALL BE RESEED, WITH OTHER TEMPORARY MEASURES (I.E. MULCH, ETC.) USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.

PERMANENT VEGETATION SEEDING RECOMMENDATIONS

USE	MIXTURE	SPECIES	LBS./ACRE	LBS./1,000-SF
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	TALL FESCUE	20	0.45
		CREeping RED FESCUE	20	0.45
		REDTOP	2	0.05
		TOTAL	42	0.95
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER	A	TALL FESCUE	20	0.45
		CREeping RED FESCUE	20	0.45
		REDTOP	2	0.05
		TOTAL	42	0.95
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY RECREATION SITES	A	TALL FESCUE	20	0.45
		CREeping RED FESCUE	20	0.45
		REDTOP	2	0.05
		TOTAL	42	0.95
PLAY AREAS AND ATHLETIC FIELDS (TOPSOIL ESSENTIAL FOR GOOD TURF)	F	CREeping RED FESCUE	50	1.15
		KENTUCKY BLUEGRASS	50	1.15
		TOTAL	100	2.30
SOURCES:				
1. NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3, TABLES 4-2 AND 4-3				
2. MINNICK, E.L. AND H.T. MARSHALL, (AUGUST 1992)				

GENERAL CONSTRUCTION PHASING:

1. STABILIZATION:
A SITE IS DEEMED STABILIZED WHEN IT IS IN A CONDITION IN WHICH THE SOIL ON SITE WILL NOT EXPERIENCE ACCELERATED OR UNNATURAL EROSION UNDER THE CONDITIONS OF A 10-YEAR STORM EVENT, SUCH AS BUT NOT LIMITED TO:
A) IN AREAS THAT WILL NOT BE PAVED:
a) A MINIMUM OF 85% VEGETATIVE COVER HAS BEEN ESTABLISHED;
b) A MINIMUM OF 3-INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR A CERTIFIED COMPOST BLANKET HAS BEEN INSTALLED; OR
c) EROSION CONTROL BLANKETS HAVE BEEN INSTALLED.
B) IN AREAS TO BE PAVED:
a) BASE COURSE GRAVELS HAVE BEEN INSTALLED.
2. TEMPORARY STABILIZATION:
AREAS OF EXPOSED OR DISTURBED SOIL SHALL BE TEMPORARILY STABILIZED AS SOON AS PRACTICABLE BUT NO LATER THAN 45 DAYS FROM THE TIME OF INITIAL DISTURBANCE, UNLESS A SHORTER TIME IS SPECIFIED BY LOCAL AUTHORITIES. THE CONSTRUCTION SEQUENCE APPROVED AS PART OF THE ISSUED PERMIT OR AN INDEPENDENT MONITOR.
3. PERMANENT STABILIZATION:
ALL AREAS OF EXPOSED OR DISTURBED SOIL SHALL BE PERMANENTLY STABILIZED AS SOON AS PRACTICABLE BUT NO LATER THAN 3 DAYS FOLLOWING FINAL GRADING.
4. MAXIMUM AREA OF DISTURBANCE:
THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE NO MORE THAN 5 ACRES SHALL BE DISTURBED (NOT STABILIZED) AT ANY TIME.
ONLY DISTURB, CLEAR, OR GRADE AREAS NECESSARY FOR CONSTRUCTION.
A) FLAG OR OTHERWISE DELINEATE AREAS NOT TO BE DISTURBED.
B) EXCLUDE VEHICLES AND CONSTRUCTION EQUIPMENT FROM THESE AREAS TO PRESERVE NATURAL VEGETATION.
5. ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHALL BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED GRADING AND DRAINAGE PLAN DEPICTED ON SHEET C-3.
6. ALL EROSION AND SEDIMENT CONTROL PRACTICES AND MEASURES SHALL BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN DEPICTED ON SHEET C-4.
7. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED IN THE AMOUNT NECESSARY TO COMPLETE FINISHED GRADING AND BE PROTECTED FROM EROSION.
8. STOCKPILES, BORROW AREAS AND SPOILS SHALL BE STABILIZED AS DESCRIBED UNDER "SOIL STOCKPILE PRACTICES".
9. SLOPES SHALL NOT BE CREATED SO CLOSE TO PROPERTY LINES AS TO ENDANGER ADJOINING PROPERTIES WITHOUT ADEQUATE PROTECTION AGAINST SEDIMENTATION, EROSION, SLURPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED DAMAGE.
10. AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND/OR OTHER OBJECTIONABLE MATERIALS.
11. AREAS SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3-INCHES PRIOR TO PLACEMENT OF TOPSOIL. TOPSOIL SHALL BE PLACED WITHOUT SIGNIFICANT COMPACTION TO PROVIDE A LOOSE BEDDING FOR PLACEMENT OF SEED.
12. ALL FILLS SHALL BE COMPACTED IN ACCORDANCE WITH PROJECT SPECIFICATIONS TO REDUCE EROSION, SLURPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, SITE UTILITIES, CONDUITS AND OTHER FACILITIES, SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
13. IN GENERAL, FILLS SHALL BE COMPACTED IN LAYERS RANGING FROM 6 TO 24 INCHES IN THICKNESS. THE CONTRACTOR SHALL REVIEW THE PROJECT GEOTECHNICAL REPORT AND/OR THE "PROJECT SPECIFIC PHASING NOTES" FOR SPECIFIC GUIDANCE.
14. ANY AND ALL FILL MATERIAL SHALL BE FREE OF BRUSH, RUBBISH, ROCKS (LARGER THAN 3/4 THE DEPTH OF THE LIFT BEING INSTALLED), LOGS, STUMPS, BUILDING DEBRIS, FROZEN MATERIAL AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY LIFTS.
15. FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE (I.E. CLAY, SILT) MATERIALS ARE SUSCEPTIBLE TO ACCELERATED SETTLEMENT AND POTENTIAL ACCELERATED EROSION. WORK IN AREAS OF THESE MATERIALS SHALL BE PERFORMED UNDER THE DIRECTION OF A PROFESSIONAL ENGINEER.
16. THE OUTER FACE OF THE FILL SLOPE SHALL BE ALLOWED TO STAY LOOSE, NOT ROLLED OR COMPACTED, OR BLADE SMOOTHED. A BULLDOZER MAY RUN UP AND DOWN THE FILL SLOPE SO THE DOZER TREADS (CLEAT TRACKS) CREATE GROOVES PERPENDICULAR TO THE SLOPE. IF THE SOIL IS NOT TOO MOIST, EXCESSIVE COMPACTION WILL NOT OCCUR. SEE "SURFACE ROUGHENING" IN THE NBSMM, VOL.3.
17. ROUGHEN THE SURFACE OF ALL SLOPES DURING THE CONSTRUCTION OPERATION TO RETAIN WATER, INCREASE INFILTRATION AND FACILITATE VEGETATION ESTABLISHMENT.
18. USE SLOPE BREAKS, SUCH AS DIVERSIONS, BENCHES, OR CONTOUR FURROWS AS APPROPRIATE TO REDUCE THE LENGTH OF CUT-FILL SLOPES TO LIMIT SHEET AND RILL EROSION AND PREVENT GULLY EROSION. ALL BENCHES SHALL BE KEPT FREE OF SEDIMENT DURING ALL PHASES OF CONSTRUCTION.
19. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE EVALUATED BY A PROFESSIONAL ENGINEER (PREFERABLY THE DESIGN ENGINEER) TO DETERMINE IF THE PROPOSED DESIGN SHALL BE REVISED TO PROPERLY MANAGE THE CONDITION.
20. STABILIZE ALL GRADED AREAS (AS ABOVE) WITH VEGETATION, CRUSHED STONE, COMPOST BLANKET, OR OTHER GROUND COVER AS SOON AS GRADING IS COMPLETE OR IF WORK IS INTERRUPTED FOR 21 WORKING DAYS OR MORE. USE MULCH OR OTHER APPROVED METHODS TO STABILIZE AREAS TEMPORARILY WHERE FINAL GRADING MUST BE DELAYED.
21. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.
22. THE PROJECT SHALL BE CONSTRUCTED TO MEET ALL REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER ARG 3800 RELATIVE TO INVASIVE SPECIES.

ABOVE NOTES EXCERPTED, ADAPTED AND REFERENCED FROM "NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3 CONSTRUCTION PHASE EROSION AND SEDIMENT CONTROLS, DECEMBER 2008" (NBSMM, VOL. 3)

PROJECT SPECIFIC CONSTRUCTION PHASING:

1. REFER TO THE "GENERAL CONSTRUCTION PHASING" NOTES PRIOR TO COMMENCING CONSTRUCTION IN ACCORDANCE WITH THE FOLLOWING PHASING. THE "GENERAL CONSTRUCTION PHASING" NOTES APPLY TO THE OVERALL CONSTRUCTION AND SHALL BE ADHERED TO.
 2. INSTALL ALL TEMPORARY SEDIMENT CONTROL BARRIERS (I.E. SILT FENCE, EROSION CONTROL MIX BERM, STONE CHECK DAMS, ETC.) AROUND THE OUTER PERIMETER OF THE CONSTRUCTION SITE AS DEPICTED ON SHEET C-4 PRIOR TO EARTH MOVING OPERATIONS.
 3. INSTALL ORANGE CONSTRUCTION FENCING AT THE LIMITS OF IMPACT AREA AS DEPICTED ON SEE SHEET C-4. INSTALL ORANGE CONSTRUCTION AROUND THE PERIMETER OF THE INFILTRATION BASINS AND THE FENCE SHALL REMAIN IN PLACE UNTIL CONSTRUCTION OF THE BASINS HAS STARTED.
 4. CLEAR, GRUB AND STRIP THE SITE. STUMPS, BRUSH AND OTHER ORGANIC WASTE SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
 5. INSTALL A TEMPORARY CONSTRUCTION EXIT AT THE LOCATION OF THE PROPOSED PARKING AREA. MAINTAIN AS DIRECTED BY THE TEMPORARY CONSTRUCTION EXIT DETAIL.
 6. STOCKPILE STRIPPED TOPSOIL AND CUT MATERIAL TO BE REUSED ON SITE IN AN APPROPRIATE LOCATION IN ACCORDANCE WITH THE "SOIL STOCKPILES PRACTICES". MAINTAIN THE STOCKPILES AS DIRECTED IN THE "SOIL STOCKPILE PRACTICES".
 7. PERFORM THE NECESSARY CUTS AND FILLS TO CONSTRUCT THE INFILTRATION BASIN AS DEPICTED ON SHEET C-3 AND IN ACCORDANCE WITH THE INFILTRATION BASIN DETAILS SHOWN ON SHEET C-9.
 8. CONSTRUCT THE INFILTRATION BASIN, SEDIMENT FOREBAY AND OUTLET PROTECTION. LOAM SEED AND MULCH THE SIDE SLOPES OF THE BASIN AS DIRECTED IN THE INFILTRATION BASIN DETAILS.
 9. ALL DITCHES/SWALES AND BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
 10. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED IN THE AMOUNT NECESSARY TO COMPLETE FINISHED GRADING AND BE PROTECTED FROM EROSION.
A) INSTALL REQUIRED FILLS IN MAXIMUM 8-INCH LIFTS AND COMPACT EACH LIFT TO 95% MAXIMUM PROCTOR DENSITY.
 11. AS SUBGRADE IS ACHIEVED INSTALL REMAINING SEDIMENT CONTROL BARRIERS WITHIN THE SITE (I.E. ADDITIONAL SILT FENCE, CHECK DAMS AND SEDIMENT CONTROLS AND CATCH BASINS, ETC.)
 12. INSTALL ALL UTILITIES AND CLOSED DRAINAGE SYSTEM COMPONENTS (I.E. PIPE CULVERTS, CATCH BASINS AND REMAINING WATER MAIN) PER THE CORRESPONDING DETAILS AND AS SHOWN ON SHEET C-3 AND C-5. AS EACH STRUCTURE IS COMPLETED INSTALL THE CORRESPONDING INFILTRATION BASIN DETAILS AND TEMPORARY SEDIMENT CONTROL BARRIER DEPICTED ON SHEET C-11.
 14. ALL CUT AND FILL SLOPES AND LAWN AREAS NOT TO BE PAVED SHALL BE LOAMED AND SEED FOR PERMANENT VEGETATION AND STABILIZATION AS DESCRIBED UNDER THE "PERMANENT VEGETATION PRACTICES" WITHIN 3 DAYS OF ACHIEVING FINAL GRADE.
 15. INSTALL ALL GRAVEL BASE AND CRUSHED GRAVEL MATERIALS FOR THE PARKING AREA AS SPECIFIED IN THE CORRESPONDING DETAILS.
 16. THE PARKING AREAS SHALL BE STABILIZED (CONSTRUCTED TO GRAVEL BASE COURSE) WITHIN 3 DAYS OF ACHIEVING FINISHED SUBGRADE ELEVATIONS.
 17. INSTALL PAVEMENT SURFACES AS SOON AS POSSIBLE AFTER THE INSTALLATION OF THE GRAVEL BASE AND CRUSHED GRAVEL, IN ORDER TO LIMIT THE SOIL EROSION AND POLLUTION OF THE GRAVEL MATERIALS WITH ORGANIC MATERIALS. IN NO CASE SHALL AREAS TO BE PAVED BE LEFT UNPROTECTED THROUGHOUT THE WINTER MONTHS.
 18. ALL DISTURBED AREAS SHALL BE STABILIZED AS SOON AS POSSIBLE. IN NO CASE SHALL ANY DISTURBED AREA BE LEFT UN-STABILIZED FOR LONGER THAN 21 DAYS. IF NECESSARY TEMPORARY STABILIZATION MEASURES AS DISCUSSED IN THE "GENERAL CONSTRUCTION PHASING NOTES" AND NBSMM, VOL. 3 SHOULD BE EMPLOYED.
- MAINTENANCE AND INSPECTION:**
1. DURING CONSTRUCTION ALL TEMPORARY AND PERMANENT SEDIMENT, EROSION CONTROL AND STORMWATER MANAGEMENT PRACTICES SHOULD BE INSPECTED WEEKLY, AFTER EVERY 1/2 INCH OF RAINFALL, AND ANNUALLY. EXCESS SEDIMENT SHOULD BE REMOVED FROM TEMPORARY SEDIMENT, EROSION CONTROL AND STORMWATER MANAGEMENT PRACTICES WHEN IT REACHES PRESCRIBED THRESHOLDS DISCUSSED IN THE DETAILS FOR EACH PRACTICE.
 2. ALL DAMAGED TEMPORARY AND PERMANENT SEDIMENT, EROSION CONTROL AND STORMWATER MANAGEMENT PRACTICES SHOULD BE REPAIRED OR REPLACED IMMEDIATELY UPON NOTICE.
 3. SEDIMENT SHALL BE DISPOSED OF PROPERLY EITHER ON SITE OR OFF SITE.
- PROJECT COMPLETION AND STABILIZATION:**
1. UPON PROJECT COMPLETION, ONCE THE SITE IS DEEMED STABILIZED (VEGETATION IS GERMINATED), THE TEMPORARY SEDIMENT CONTROL BARRIERS AND EROSION CONTROL PRACTICES SHALL BE REMOVED. ANY DISTURBANCE CREATED DURING REMOVAL SHALL BE REPAIRED IN AN APPROPRIATE MANNER.
 2. ACCUMULATED SEDIMENT SHALL BE REMOVED FROM ALL ON SITE CATCH BASINS AND THE SEDIMENT FOREBAYS TO THE INFILTRATION BASIN.

WINTER STABILIZATION & CONSTRUCTION PRACTICES:

MAINTENANCE REQUIREMENTS:

1. MAINTENANCE MEASURES SHALL BE PERFORMED THROUGHOUT CONSTRUCTION, INCLUDING OVER THE WINTER PERIOD. AFTER EACH RAINFALL, SNOWSTORM, OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHALL CONDUCT INSPECTION OF ALL INSTALLED EROSION CONTROL PRACTICES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUED FUNCTIONING.
2. FOR ANY AREA STABILIZED BY TEMPORARY OR PERMANENT SEEDING PRIOR TO THE ONSET OF THE WINTER SEASON, THE CONTRACTOR SHALL CONDUCT AN INSPECTION IN THE SPRING TO ASCERTAIN THE CONDITION OF THE VEGETATION AND REPAIR ANY DAMAGED AREAS OR BARE SPOTS AND RESEED AS REQUIRED TO ACHIEVE AN ESTABLISHED VEGETATIVE COVER (AT LEAST 85% OF AREA VEGETATED WITH HEALTHY, VIGOROUS GROWTH.)

SPECIFICATIONS:

- THE FOLLOWING STABILIZATION TECHNIQUES SHALL BE EMPLOYED DURING THE PERIOD FROM OCTOBER 15 THROUGH MAY 15.
1. THE AREA OF EXPOSED, UNSTABILIZED SOIL SHALL BE LIMITED TO 1-ACRE AND SHALL BE PROTECTED AGAINST EROSION BY THE METHODS DISCUSSED IN NBSMM, VOL. 3 AND ELSEWHERE IN THIS PLAN SET, PRIOR TO ANY THAW OR SPRING MELT EVENT.
 2. STABILIZATION AS FOLLOWS SHALL BE COMPLETED WITHIN A DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5 DAYS.
A. ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF LESS THAN 15% WHICH DO NOT EXHIBIT A MINIMUM 85% VEGETATIVE GROWTH BY OR ARE DISTURBED AFTER OCTOBER 15, SHALL BE SEEDING AND COVERED WITH 3 TO 4 TONS OF HAY OR STRAW MULCH PER ACRE SECURED WITH ANCHORED NETTING, OR 2 INCHES OF EROSION CONTROL MIX (REFER TO NBSMM, VOL. 3 FOR SPECIFICATION).
 - B. ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OR ARE DISTURBED AFTER OCTOBER 15 SHALL BE SEEDING AND COVERED WITH A PROPERLY INSTALLED EROSION CONTROL BLANKET OR WITH A MINIMUM OF 4 INCHES OF EROSION CONTROL MIX, UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER. NOTE THAT COMPOST BLANKETS SHALL NOT EXCEED 2 INCHES IN THICKNESS OR THEY MAY OVERHEAT.
 3. ALL STONE COVERED SLOPES MUST BE CONSTRUCTED AND STABILIZED BY OCTOBER 15.
 4. INSTALLATION OF ANCHORED HAY MULCH OR EROSION CONTROL MIX SHALL NOT OCCUR OVER SNOW OF GREATER THAN 1 INCH IN DEPTH.
 5. ALL MULCH APPLIED DURING WINTER SHALL BE ANCHORED (I.E. BY NETTING, TRACKING, WOOD CELLULOSE FIBER).
 6. WITHIN 24 HOURS OF STOCKPILING SOIL MATERIALS SHALL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A 4 INCH LAYER OF EROSION CONTROL MIX. MULCH SHALL BE REESTABLISHED PRIOR TO ANY RAIN OR SNOWFALL. NO SOIL STOCKPILE SHALL BE PLACED (EVEN COVERED WITH MULCH) WITHIN 100-FT OF ANY WETLAND OR OTHER WATER RESOURCE AREA.
 7. FROZEN MATERIAL (I.E. FROST LAYER REMOVED DURING WINTER CONSTRUCTION) SHALL BE STOCKPILED SEPARATELY AND IN A LOCATION AWAY FROM ANY AREA NEEDING PROTECTION. FROZEN MATERIAL STOCKPILES CAN MELT IN SPRING AND BECOME UNWORKABLE AND DIFFICULT TO TRANSPORT DUE TO HIGH SOIL MOISTURE CONTENT.
 8. INSTALLATION OF EROSION CONTROL BLANKETS SHALL NOT OCCUR OVER SNOW OF GREATER THAN 1 INCH IN DEPTH OR ON FROZEN GROUND.
 9. ALL GRASS-LINED DITCHES AND CHANNELS SHALL BE CONSTRUCTED BY SEPTEMBER 1. ALL DITCHES AND SWALES WHICH DO NOT EXHIBIT 85% VEGETATIVE GROWTH BY OR ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS AS DETERMINED BY A PROFESSIONAL ENGINEER. IF STONE LINING IS NECESSARY, THE CONTRACTOR MAY NEED TO RE-GRADE THE DITCH AS REQUIRED TO PROVIDE ADEQUATE CROSS-SECTION AFTER ALLOWING FOR PLACEMENT OF THE STONE.
 10. ALL STONE LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY OCTOBER 15.
 11. AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING AREAS WHERE ACTIVE CONSTRUCTION HAS STOPPED FOR THE WINTER SHALL BE PROTECTED WITH A MINIMUM 3 INCH LAYER OF SAND AND GRAVEL WITH A GRADATION THAT IS LESS THAN 12% OF THE SAND PORTION, OR MATERIAL PASSING THE NUMBER 4 SIEVE, BY WEIGHT, PASSES THE NUMBER 200 SIEVE.
 12. SEDIMENT BARRIERS THAT ARE INSTALLED DURING FROZEN CONDITIONS SHALL CONSIST OF EROSION CONTROL MIX BERMS, OR CONTINUOUS CONTAINED BERMS. SILT FENCES AND HAY BALES SHALL NOT BE INSTALLED WHEN FROZEN CONDITIONS PREVENT PROPER EMBEDMENT OF THESE BARRIERS.

PERMANENT EROSION & SEDIMENTATION CONTROL DETAILS

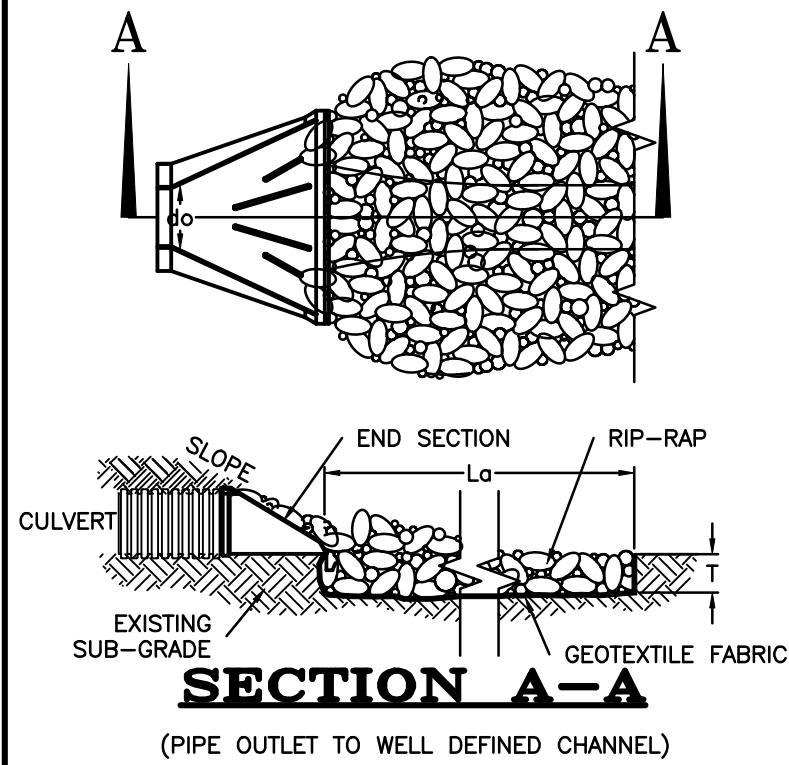
TAX MAP 216, LOT 32 AND
TAX MAP 221, LOTS 186 & 187
134 CHESTNUT HILL ROAD
ROCHESTER, NH

PREPARED FOR:

LYDALL PERFORMANCE
MATERIALS, INC.

MAY 2020

C-11



RIP-RAP GRADATION

d50 = 9"		
% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE (INCHES)	
100	13.5	TO 18
85	11.7	TO 16.2
50	9	TO 13.5
15	2.7	TO 4.5

d50 = 3"		
% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE (INCHES)	
100	5	TO 6
85	4	TO 5
50	3	TO 5
15	1	TO 2

APRON DIMENSION TABLE

OUTLET PROT. #	PIPE OUTLET	W _o	W	L _g	T	d50
#1 - PIPE A	15" CPP	3.8'	16'	13'	9"	3"
#2 - PIPE B	12" CPP	3'	11'	20'	9"	3"
#3 - PIPE D	12" CPP	3'	8'	13'	9"	3"
#4 - PIPE K	12" CPP	3'	12'	9'	9"	3"
#5 - PIPE J	12" CPP	3.8'	13'	9'	9"	3"

NOTES:

1. ALL PIPE CULVERTS SHALL HAVE END SECTIONS OR HEADWALLS. END SECTION MATERIAL AND MANUFACTURER SHALL MATCH THAT OF THE PIPE CULVERT.
2. THE LARGEST RIP-RAP SIZE DETERMINED DURING HYDROLOGIC ANALYSIS HAS BEEN USED FOR ALL OUTLETS FOR ECONOMY AND SIMPLICITY.
3. APRON LENGTHS, WIDTHS AND THICKNESSES HAVE BEEN ROUNDED UP TO WHOLE NUMBERS FOR EASE OF CONSTRUCTION.

CONSTRUCTION SPECIFICATIONS:

1. PREPARE THE SUB-GRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIP-RAP TO THE GRADES SHOWN ON THE PLANS.
2. MINIMUM 6" SAND/GRAVEL BEDDING OR GEOTEXTILE FABRIC REQUIRED UNDER ALL ROCK RIP-RAP.
3. THE ROCK OR GRAVEL USED FOR FILTER OR RIP-RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
4. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM DAMAGE DURING THE PLACEMENT OF ROCK RIP-RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO (2) PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
5. STONE FOR THE RIP-RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.
6. RIP-RAP SIZE CHOSEN FOR THE WORST CASE OF ALL OUTLETS. ALL RIP-RAP USED FOR PIPE OUTLET PROTECTION WILL HAVE THE SAME GRADATION AND THICKNESS.

MAINTENANCE NOTES:

1. OUTLETS SHALL BE INSPECTED AND CLEANED ANNUALLY AND AFTER ANY MAJOR STORM EVENT. ANY EROSION OR DAMAGE TO THE RIP-RAP SHALL BE REPAIRED IMMEDIATELY.
2. THE CHANNEL IMMEDIATELY DOWNSTREAM FROM THE OUTLET SHOULD BE CHECKED TO SEE THAT NO EROSION IS OCCURRING.
3. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TALLER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

PIPE OUTLET PROTECTION DETAIL

DUST CONTROL PRACTICES:

1. APPLY DUST CONTROL MEASURES AS NECESSARY TO MAINTAIN CONTROL OF DUST ON SITE.
2. WATER APPLICATION:
A) MOISTEN EXPOSED SOIL SURFACES PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST.
B) AVOID EXCESSIVE APPLICATION OF WATER THAT WOULD RESULT IN MOBILIZING SEDIMENT AND SUBSEQUENT DEPOSITION IN NATURAL WATERBODIES.
3. STONE APPLICATION:
A) COVER SURFACE WITH CRUSHED OR COARSE GRAVEL.
B) IN AREAS NEAR WATERWAYS USE ONLY CHEMICALLY STABILIZED OR WASHED AGGREGATE.
4. REFER TO "NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3 CONSTRUCTION PHASE EROSION AND SEDIMENT CONTROLS, DECEMBER 2008" FOR OTHER ALLOWABLE DUST CONTROL PRACTICES (I.E. COMMERCIAL TACKIFIERS OR CHEMICAL TREATMENTS SUCH AS CALCIUM CHLORIDE, ETC.)

STOCKPILE PRACTICES:

1. LOCATE STOCKPILES A MINIMUM OF 50-FT. AWAY FROM CONCENTRATED FLOWS OF STORMWATER, DRAINAGE COURSES OR INLETS.
2. PROTECT ALL STOCKPILES FROM STORMWATER RUN-ON USING TEMPORARY PERIMETER MEASURES SUCH AS DIVERSIONS, BERMS, SANDBAGS OR OTHER APPROVED PRACTICES.
3. STOCKPILES SHALL BE SURROUNDED BY SEDIMENT BARRIERS AS DESCRIBED ON THE PLANS AND IN NBSMM VOL. 3. TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILE.
4. IMPLEMENT WIND EROSION CONTROL PRACTICES AS APPROPRIATE ON ALL STOCKPILED MATERIAL.
5. PLACE BAGGED MATERIALS ON PALLETS OR UNDERCOVER.

PROTECTION OF INACTIVE STOCKPILES:

1. INACTIVE SOIL STOCKPILES SHALL BE COVERED WITH ANCHORED TARPS OR PROTECTED WITH SOIL STABILIZATION MEASURES (TEMPORARY SEED AND MULCH OR OTHER TEMPORARY STABILIZATION PRACTICE) AND TEMPORARY PERIMETER SEDIMENT BARRIERS (I.E. SILT FENCE, ETC.) AT ALL TIMES.
2. INACTIVE STOCKPILES OF CONCRETE RUBBLE, ASPHALT CONCRETE RUBBLE, AGGREGATE MATERIALS, AND SIMILAR MATERIALS SHALL BE PROTECTED WITH TEMPORARY SEDIMENT PERIMETER BARRIERS (I.E. SILT FENCE, ETC.) AT ALL TIMES. IF THE MATERIALS ARE A SOURCE OF DUST, THEY SHALL ALSO BE COVERED.

PROTECTION OF ACTIVE STOCKPILES:

1. ALL STOCKPILES SHALL BE SURROUNDED WITH TEMPORARY LINEAR SEDIMENT BARRIERS (I.E. SILT FENCE, ETC.) PRIOR TO THE ONSET OF PRECIPITATION. PERIMETER BARRIERS SHALL BE MAINTAINED (TIMES, FIELDS, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIAL FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHALL BE INSPECTED AT THE END OF EACH WORKING DAY.
2. WHEN A STORM IS PREDICTED, STOCKPILES SHALL BE PROTECTED WITH AN ANCHORED PROTECTIVE COVERING.

FILE NO. 154

PLAN NO. C-3059

DWG. NO. 17233/SP-3

LEGEND

- PROPERTY LINE
- - - - - JURISDICTIONAL WETLANDS
- +—+—+— EXISTING OVERHEAD WIRES
- □ EXISTING LIGHT POLES
- PROPOSED BUILDING
- PROPOSED PAVEMENT
- PROPOSED PAVEMENT WITH CURBING
- □ PROPOSED LIGHT POLES
- ◀ PROPOSED BUILDING LIGHT FIXTURES
- ☼ PROPOSED LIGHT ISOILLUMINATION LINES

Luminaire Schedule					
Symbol	Label	Qty	PHASE	Arrangement	Description
○	S3-1	2	FIRST	SINGLE	PRV-C60-D-UNV-T3-B2/ SSS4A20SFN1 (MTD ON 2.5' PED BY OTHERS) 22.5' AFG
□	S3-2	4	FIRST	BACK-2-BACK	PRV-C60-D-UNV-T3-B2/ SSS4A20SFN2 (MTD ON 2.5' PED BY OTHERS) 22.5' AFG
○	S3-1F	2	FUTURE	SINGLE	PRV-C60-D-UNV-T3-B2/ SSS4A20SFN1 (MTD ON 2.5' PED BY OTHERS) 22.5' AFG
◀	W	4	FIRST	SINGLE	AXCL12A/ WALL MTD 20' AFG
◀	W1	4	FIRST	SINGLE	AXCS5A/ WALL MTD 20' AFG

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.

REVISIONS:

05/20/20 - ADD WALL MOUNTED LIGHTING FIXTURE DETAIL
06/05/20 - REVISE TO ELIMINATE FUTURE PHASE BUILDING MOUNTED LIGHTING FIXTURES.



LUMARK
AXCL XCENT



LUMARK
AXCS XCENT

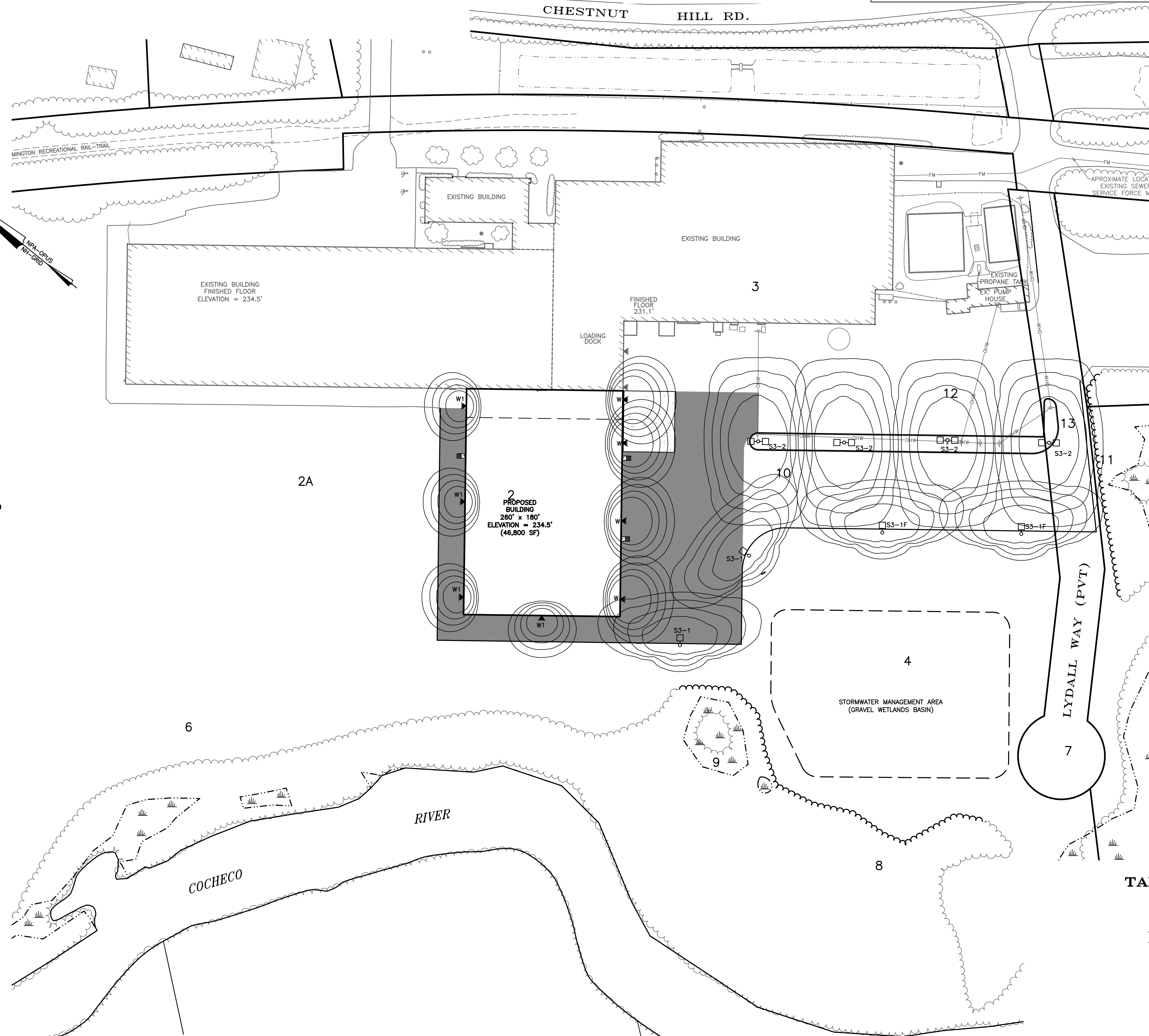
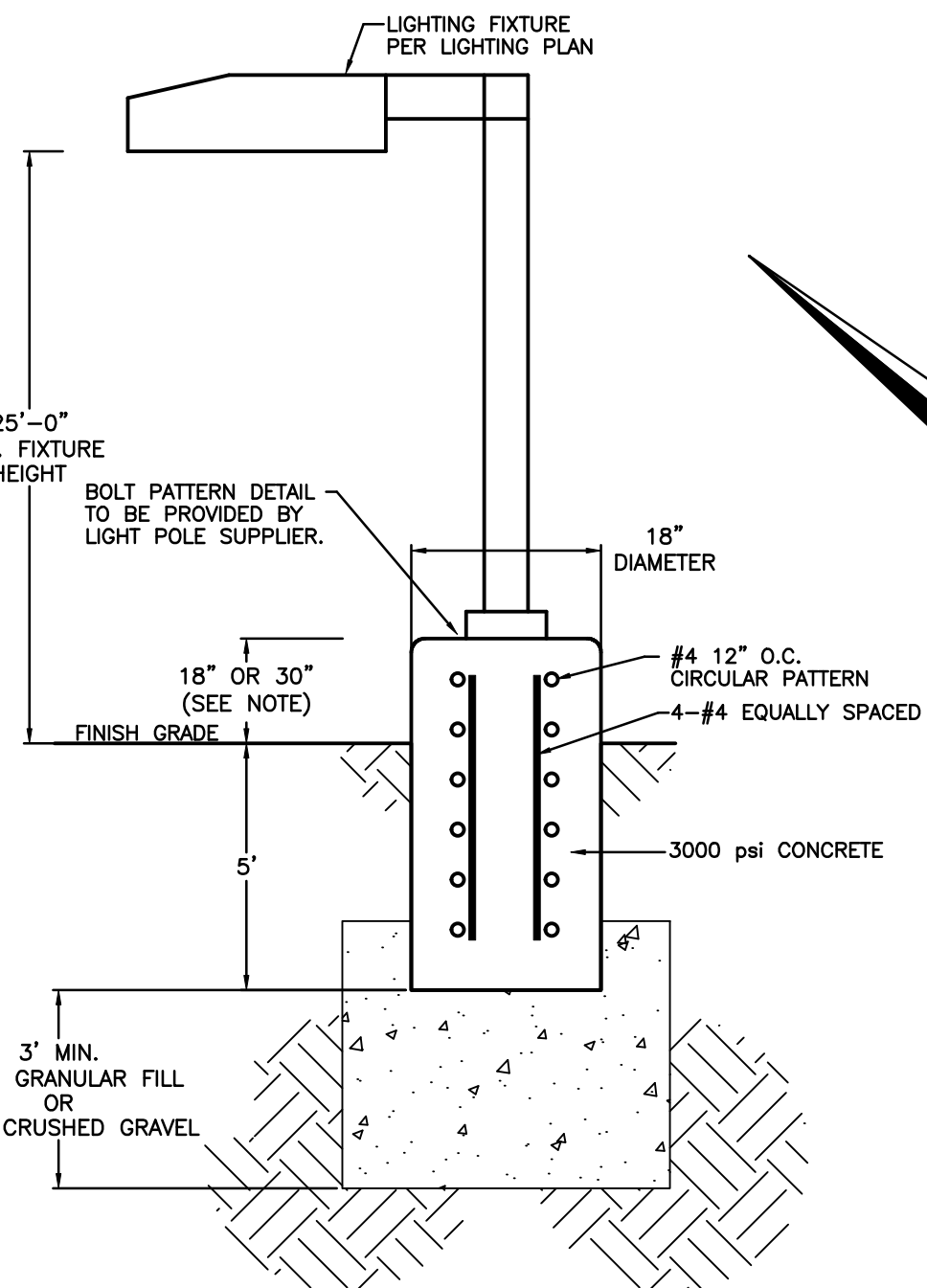


LUMARK
PRV PREVAIL LED

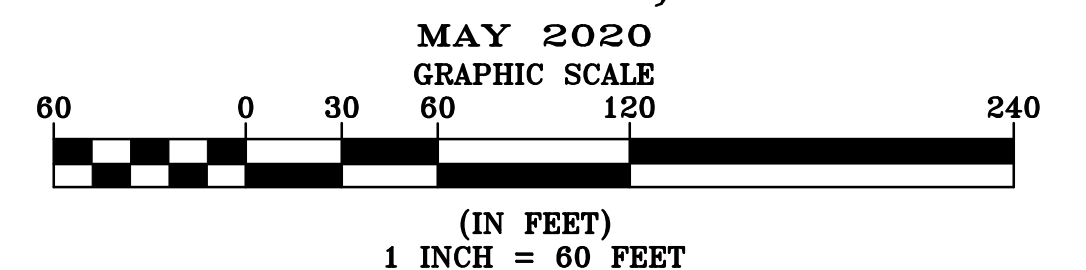
POLE MOUNTED LIGHT DETAIL

NOT TO SCALE

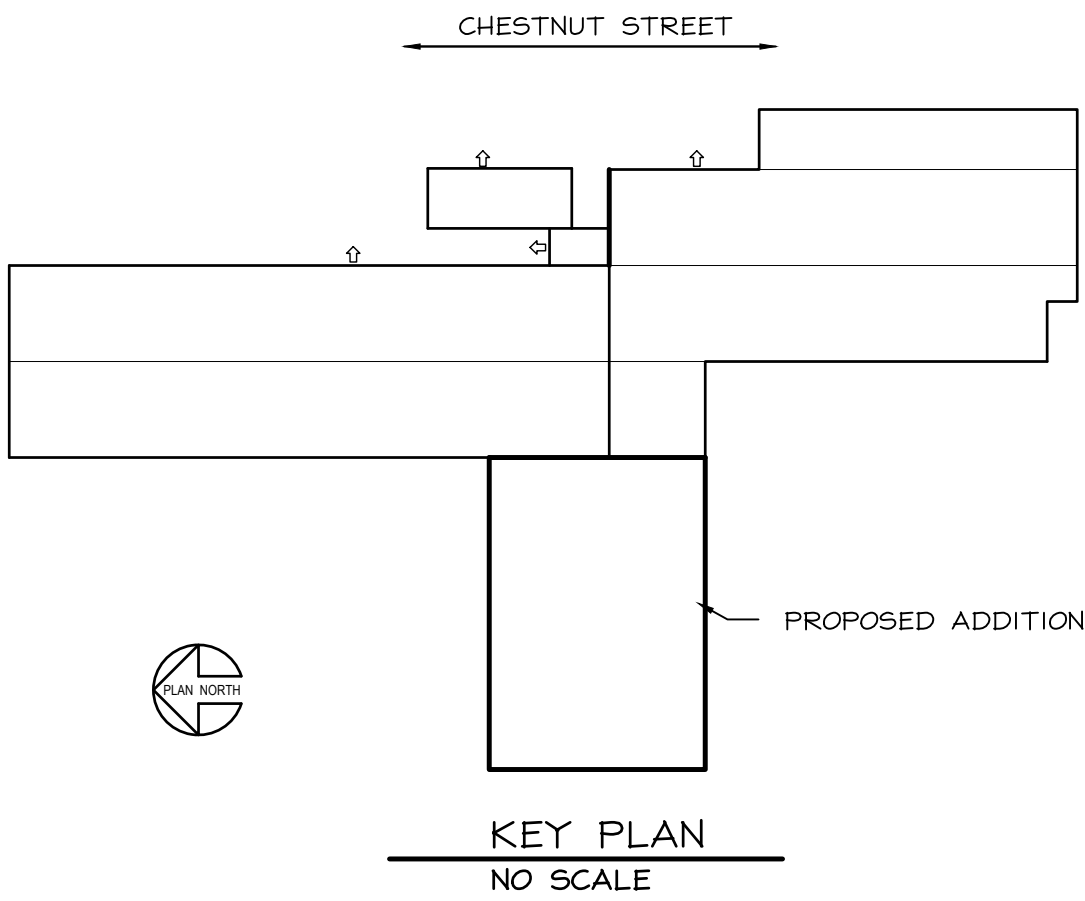
- NOTE:
1. LIGH T POLE BASE SHALL BE 18" ABOVE FINISH GRADE FOR NON VEHICLE IMPACT AREAS AND 30" FOR VEHICLE IMPACT AREAS.
 2. THE LIGH T POLE BASES CAN BE PRECAST, WITH COORDINATION WITH THE LIGHTING FIXTURE MANUFACTURE FOR BOLT PATTERN.



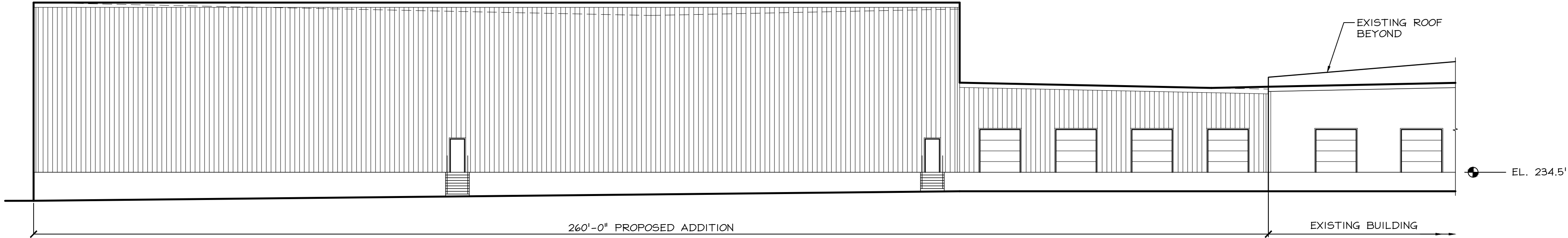
LIGHTING PLAN
TAX MAP 216, LOT 32 AND
TAX MAP 221, LOTS 186 & 187
134 CHESTNUT HILL ROAD
ROCHESTER, NH
PREPARED FOR:
LYDALL PERFORMANCE
MATERIALS, INC.



FILE NO. 154
PLAN NO. C-3059
DWG. NO. 17233/SP-3



Revisions

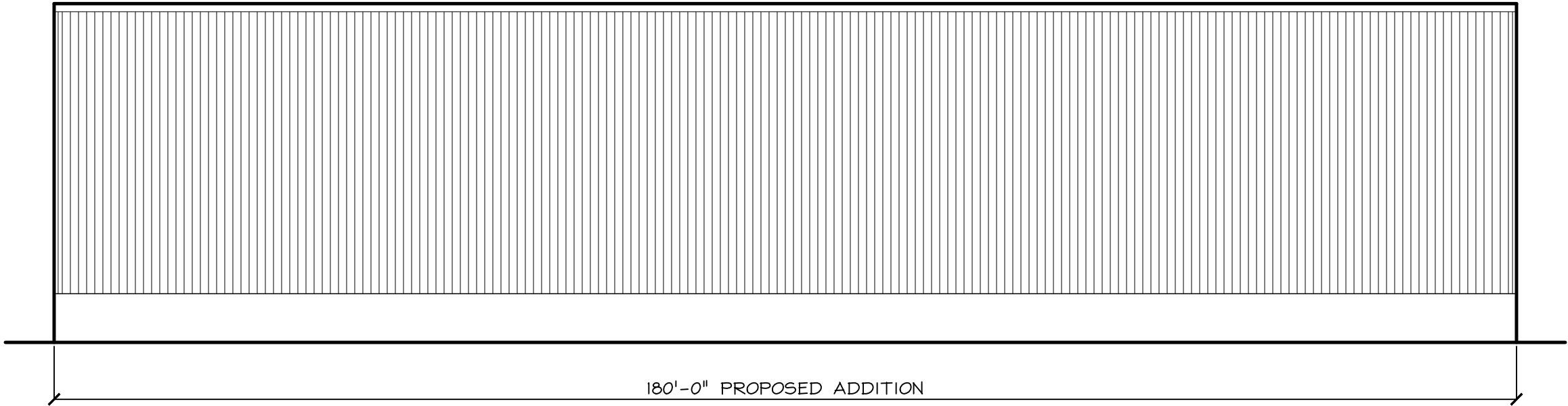


1

A2.0

SOUTH ELEVATION

SCALE: 1/16" = 1'-0"

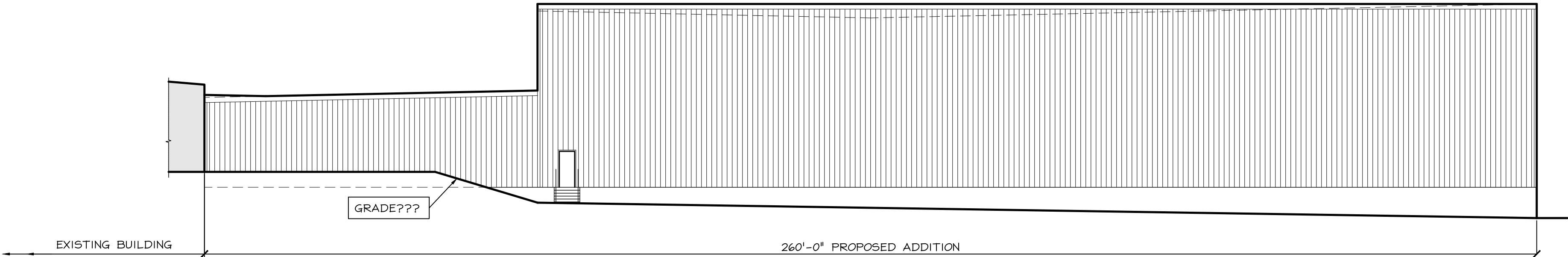


2

A2.0

WEST ELEVATION

SCALE: 1/16" = 1'-0"



3

A2.0

NORTH ELEVATION

SCALE: 1/16" = 1'-0"

- PROPERTY LINE
- JURISDICTIONAL WETLANDS
- EXISTING TREE LINE
- EXISTING DRAIN LINE
- EXISTING CONTOUR LINE
- NRCS SOIL BOUNDARY LINE
- SITE SPECIFIC SOIL BOUNDARY LINE
- EXISTING UTILITY POLE
- EXISTING TEST PIT LOCATION & NUMBER
- SITE SPECIFIC SOIL TYPE

SOIL MAP NOTES:

A. THIS SITE-SPECIFIC SOIL MAP WAS COMPLETED IN MAY 2019 BY DAVID J. ALLAIN, NH CERTIFIED SOIL SCIENTIST #13, ROUND POND SOIL SURVEY, 274 POND HILL ROAD, BARRINGTON NH 03825. SITE-SPECIFIC SOIL MAPPING STANDARDS FOR NEW HAMPSHIRE AND VERMONT, VERSION 5.0, DECEMBER 2017, SSSNNE SPECIAL PUBLICATION NO.3 WAS USED AS A REFERENCE AND GUIDE IN DEVELOPING THIS MAP. THE DISTURBED SOIL MAPPING SUPPLEMENT FOR NEW HAMPSHIRE DES AOT SITE SPECIFIC SOIL MAPS, FEBRUARY 2011 WAS ALSO CONSIDERED TO COMPLY WITH THE SOIL MAPPING REQUIREMENTS OF RSA 485-A:17 AND NHDES ENV-WQ 1500, ALTERATION OF TERRAIN (AOT) PROGRAM. THE SOILS WERE IDENTIFIED USING THE NEW HAMPSHIRE STATE-WIDE NUMERICAL SOILS LEGEND PREPARED BY THE USDA NRCS, DURHAM NH, ISSUE #10, JANUARY 2011.

B. THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, INTENDED FOR USE IN PLANNING AND CONSTRUCTING INFILTRATION STRUCTURES OR PRACTICES CONSISTENT WITH NHDES ALTERATION OF TERRAIN PROGRAM REQUIREMENTS PER ENV-WQ 1500 RULES. THIS MAP WAS PRODUCED BY A NH CERTIFIED SOIL SCIENTIST AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCE CONSERVATION SERVICE.

THERE IS A REPORT THAT ACCOMPANIES THIS MAP.

SOIL SERIES MAPPING LEGEND:

THE NEW HAMPSHIRE STATE-WIDE NUMERICAL LEGEND PROVIDES THE SERIES NUMBERS USED. THE SERIES AND MAP UNITS ARE DESCRIBED AS FOLLOWS:

26* (WINDSOR SERIES). THE SOILS WITHIN THIS UNIT FIT THE OSD FOR THE WINDSOR SERIES SOILS. THEY ARE DEEP, EXCESSIVELY DRAINED GLACIOFLUVIAL OUTWASH SANDS UNDERLYING NEARLY LEVEL OVERGROWN FIELD SURFACES. TAXONOMICALLY THE SOILS OBSERVED WITHIN THIS UNIT ARE MIXED, MESIC TYPIC UDIPSAMMENTS. THE SOIL DATA AND OBSERVATIONS MADE WERE WITHIN THE RANGE IN CHARACTERISTICS FOR THE WINDSOR SERIES OSD. THE SOILS WITHIN THIS AREA ARE PRIMARILY EXCESSIVELY DRAINED GLACIOFLUVIAL OUTWASH SANDS ON 0-3% OR AS NOTED SLOPES.

299A/caadb, (UDORTHERENTS, SMOOTHED). FILL SOIL ON NEARLY LEVEL SURFACE; c = WELL DRAINED; a = NO NATURAL SOIL WITHIN 60" OF SURFACE; a = NOT RESTRICTIVE FEATURES OR IMPERVIOUS LAYER; d = ESTIMATED KSAT NOT DETERMINED; AND b = HYDROLOGIC GROUP B.

300*/abada, (UDIPSAMMENTS NEARLY LEVEL). THE SOILS WITHIN THIS UNIT ARE ADJACENT TO THE WINDSOR SERIES SOILS AND LIKELY FIT WITHIN WINDSOR SERIES OSD PRIOR TO BEING EXCAVATED, FILLED AND REGARDED. THE MAP UNIT SYMBOLS ARE INTERPRETED AS FOLLOWS: 300 = DISTURBED SOIL; * = SLOPE FACTOR (SEE BELOW); a = EXCESSIVELY DRAINED; b = GLACIOFLUVIAL OUTWASH/TERRACE SAND /GRAVEL DEPOSITS; a = NO RESTRICTIVE / IMPERVIOUS LAYERS; d = ESTIMATED KSAT NOT DETERMINED; AND a = HYDROLOGIC GROUP A.

350*/dbadd, (UDIPSAMMENTS WET SUBSTRATUM). THE SOILS WITHIN THIS UNIT LIKELY FIT OSD FOR THE WINDSOR SERIES SOILS PRIOR TO BEING EXCAVATED. THE MAP UNIT SYMBOLS ARE INTERPRETED AS FOLLOWS: 350 = DISTURBED SOIL; * = SLOPE FACTOR (SEE BELOW); c = SOMEWHAT POORLY DRAINED; b = GLACIOFLUVIAL OUTWASH/TERRACE SAND /GRAVEL DEPOSITS; a = NO RESTRICTIVE / IMPERVIOUS LAYERS; d = ESTIMATED KSAT NOT DETERMINED; AND d = HYDROLOGIC GROUP D BECAUSE OF LESS THAN 24" WATER TABLE.

* = SLOPE FACTOR: A=0-3%, B= 3-8%, C=8-15%, D=15-25%, E= 25-50% AND F=50%+

TP #1 12-7-2018
0-8" 10YR 3/3 MIXED SANDY LOAM FILL, GRANULAR, FRIABLE.
(B AND PORTION OF C HORIZONS MISSING/EXCAVATED)
8-24" 10YR7/3 STRATIFIED FINE SANDS, MASSIVE, VERY FRIABLE.
24-26" 5YR5/8 MEDIUM SANDS, LOOSE, SINGLE GRAINED.
26-30" 10YR5/2 MEDIUM SANDS LOOSE SINGLE GRAINED
30-36" 10YR6/2 FINE SAND, MASSIVE, FIRM IN PLACE-FRIABLE IN HAND.
36-84" 10YR6/3 TO 6/8 STRATIFIED COARSE SANDS, LOOSE, SINGLE GRAINED, CAVING.
NOTES: SHWT= 84", NO OBSERVED WATER. 300A/abada, UDIPSAMMENTS NEARLY LEVEL (SEE SOILS SERIES MAPPING LEGEND). THE SOILS WITHIN THIS UNIT HAVE BEEN EXCAVATED, ARE ADJACENT TO THE WINDSOR SERIES SOILS, AND THE REMAINING HORIZONS RESEMBLE THOSE OF THE WINDSOR SERIES OSD AND REMAIN EXCESSIVELY DRAINED. THE HYDROLOGIC SOIL GROUP IS A.

TP #2 12-7-2018
0-2" 10YR3/3 SANDY LOAM FILL.
(B AND PORTION OF C HORIZONS MISSING/EXCAVATED)
2-15" 10YR5/6 LOAMY SANDS, GRANULAR, FRIABLE.
15-30" 10YR6/3 STRATIFIED FINE SANDS, MASSIVE, FRIABLE.
30-60" 10YR6/2 STRATIFIED FINE TO MEDIUM SANDS, MASSIVE, FRIABLE, REDOX FEATURES, CAVING.
NOTES: SHWT= 30", OBSERVED WATER 36". 300A/abada, UDIPSAMMENTS, NEARLY LEVEL (SEE SOILS SERIES MAPPING LEGEND). THE SOILS WITHIN THIS UNIT LIKELY FIT THE OSD FOR WINDSOR SERIES SOILS PRIOR TO BEING EXCAVATED AND NOW THE REMAINING HORIZONS, BECAUSE OF THE EXCAVATION, RESEMBLE THOSE OF THE DEERFIELD SERIES SOILS AND ARE MODERATELY WELL DRAINED. THE HYDROLOGIC SOIL GROUP IS B.

TP #3 12-7-2018
0-7" 10YR3/3 MIXED SANDY LOAM FILL.
(B AND PORTION OF C HORIZONS MISSING/EXCAVATED)
7-14" 10YR5/6 FINE TO MEDIUM SANDS, GRANULAR, FRIABLE.
14-26" 10YR6/2+5/1 STRATIFIED VERY FINE AND FINE SANDS, MASSIVE, FIRM IN PLACE-FRIABLE IN HAND.
26-48" 10YR 6/2+5/1 STRATIFIED VERY FINE AND FINE SANDS, MASSIVE, FIRM IN PLACE-FRIABLE IN HAND, AS ABOVE, BUT WITH REDOX FEATURES(Concentrations) NOTED.
NOTES: SHWT= 26", OBSERVED WATER 40". 300A/abada, UDIPSAMMENTS, NEARLY LEVEL (SEE SOILS SERIES MAPPING LEGEND). THE SOILS WITHIN THIS UNIT LIKELY FIT THE OSD FOR WINDSOR SERIES SOILS PRIOR TO BEING EXCAVATED AND NOW THE REMAINING HORIZONS, BECAUSE OF THE EXCAVATION, RESEMBLE THOSE OF THE DEERFIELD SERIES SOILS AND ARE MODERATELY WELL DRAINED. THE HYDROLOGIC SOIL GROUP IS B.

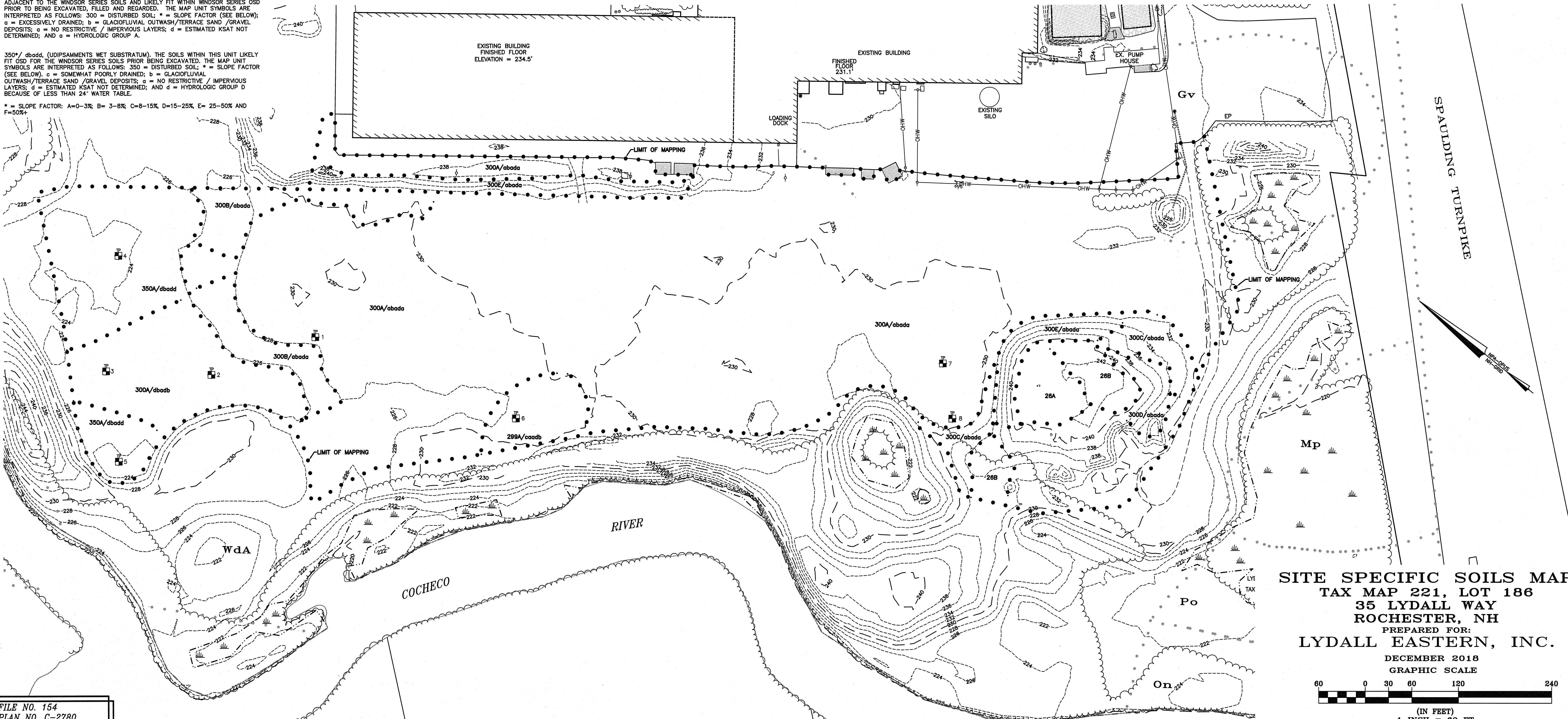
TP #4 12-7-2018
0-10" 10YR4/4 SANDY LOAM FILL.
10-16" 10YR4/4 COARSE SANDS, LOOSE, SINGLE GRAINED.
16-60" 10YR5/2 COARSE TO FINE SANDS, CAVING.
NOTES: SHWT 16", OBSERVED WATER 25". 350A/dbadd, UDIPSAMMENTS, WET SUBSTRATUM (SEE SOILS SERIES MAPPING LEGEND). THE SOILS WITHIN THIS UNIT LIKELY FIT THE OSD FOR WINDSOR SERIES SOILS PRIOR TO BEING EXCAVATED AND NOW THE REMAINING HORIZONS, BECAUSE OF THE EXCAVATION, RESEMBLE THOSE OF THE DEERFIELD SERIES SOILS AND ARE MODERATELY WELL DRAINED BUT BECAUSE SHWT IS LESS THAN 24", THE HYDROLOGIC SOIL GROUP IS D.

TP #5 12-7-2018
0-7" 10YR3/3 SANDY LOAM FILL.
7-20" 10YR 6/3 FINE SAND, LOOSE, SINGLE GRAINED.
20- 48" 2.5YR4/2 COARSE SANDS, SATURATED, SEVERE CAVING.
NOTES: SHWT AND OBSERVED WATER = 20". 350A/dbadd, UDIPSAMMENTS, WET SUBSTRATUM (SEE SOILS SERIES MAPPING LEGEND). THE SOILS WITHIN THIS UNIT LIKELY FIT THE OSD FOR WINDSOR SERIES SOILS PRIOR TO BEING EXCAVATED AND NOW THE REMAINING HORIZONS, BECAUSE OF THE EXCAVATION, RESEMBLE THOSE OF THE DEERFIELD SERIES SOILS AND ARE MODERATELY WELL DRAINED BUT BECAUSE SHWT IS LESS THAN 24", THE HYDROLOGIC SOIL GROUP IS D.

TP #6 12-7-2018
0-84" 10YR5/4 VERY STONY SANDY LOAM FILL.
NOTES: THIS SOIL IS NOT TYPICAL OF THE NATURAL SOILS ON SITE AND WAS LIKELY BROUGHT IN FROM OFF SITE AS FILL. THE SOIL PROFILE OBSERVED WAS DRY WITH NO EVIDENCE OF A SHWT OBSERVED TO DEPTH. 299A/caadb, UDORTHERENTS, SMOOTHED. (SEE SOILS SERIES MAPPING LEGEND).

TP #7 12-7-2018
NO A HORIZON.
0-16" 10YR5/3 MEDIUM SANDS, LOOSE, SINGLE GRAINED.
16-73" 10YR6/2 FINE TO MEDIUM SANDS, LOOSE SINGLE GRAINED. NO REDOX FEATURE OF WATER OBSERVED TO DEPTH.
NOTES: SHWT 73"+. 300A/abada, UDIPSAMMENTS NEARLY LEVEL (SEE SOILS SERIES MAPPING LEGEND). THE SOILS WITHIN THIS UNIT HAVE BEEN EXCAVATED, ARE ADJACENT TO THE WINDSOR SERIES SOILS, AND THE REMAINING HORIZONS RESEMBLE THOSE OF THE WINDSOR SERIES OSD AND REMAIN EXCESSIVELY DRAINED. THE HYDROLOGIC SOIL GROUP IS A.

TP #8 12-7-2018
0-6" 10YR3/2 SANDY LOAM FILL.
6-38" MIXED SANDY FILL.
38-46" 10YR5/2 +5/3 FINE TO MEDIUM SANDS, GRANULAR, FRIABLE TO LOOSE.
46-84" 10YR5/4 FINE TO MEDIUM SANDS, LOOSE, SINGLE GRAINED. NO REDOX FEATURES OBSERVED.
NOTES: SHWT 84"+. 300A/abada, UDIPSAMMENTS NEARLY LEVEL (SEE SOILS SERIES MAPPING LEGEND). THE SOILS WITHIN THIS UNIT HAVE BEEN EXCAVATED, ARE ADJACENT TO THE WINDSOR SERIES SOILS, AND THE REMAINING HORIZONS RESEMBLE THOSE OF THE WINDSOR SERIES OSD AND REMAIN EXCESSIVELY DRAINED. THE HYDROLOGIC SOIL GROUP IS A.



FILE NO. 154
PLAN NO. C-2780
DWG. NO. 17233/SP-1
F.B. NO.

31 Mooney Street, Alton, N.H. 603-875-3948

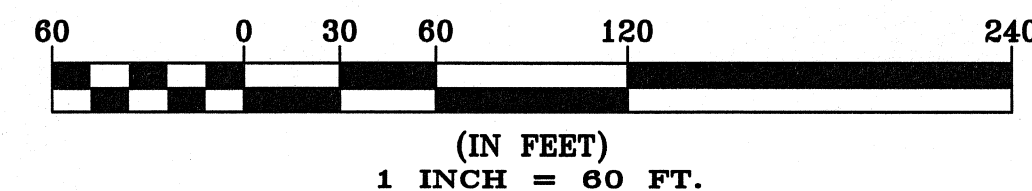
NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

D-1

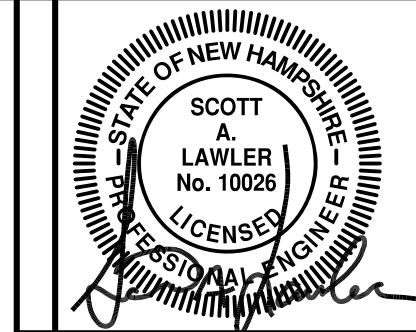
SITE SPECIFIC SOILS MAP
TAX MAP 221, LOT 186
35 LYDALL WAY
ROCHESTER, NH
PREPARED FOR:
LYDALL EASTERN, INC.

DECEMBER 2018
GRAPHIC SCALE



LEGEND

- PROPERTY LINE
- - - JURISDICTIONAL WETLANDS
- EXISTING TREE LINE
- EXISTING DRAIN LINE
- EXISTING CONTOUR LINE
- EXISTING UTILITY POLE
- TP EXISTING TEST PIT LOCATION & NUMBER
- 29B EXISTING SOIL TYPE
- NRCS SOIL TYPE BOUNDARY LINE
- SITE SPECIFIC SOIL TYPE BOUNDARY LINE
- SUBCATCHMENT BOUNDARIES
- A → B SUBCATCHMENT DRAINAGE PATH
- 7 SUBCATCHMENT AREA
- CB DRAINAGE BASINS OR CATCH BASINS
- R1 DRAINAGE REACHES
- POA#1 POINTS OF ANALYSIS



SOIL SERIES MAPPING LEGEND:

THE "NEW HAMPSHIRE STATE-WIDE NUMERICAL LEGEND" PROVIDES THE SERIES NUMBERS USED. THE SERIES AND MAP UNITS ARE DESCRIBED AS FOLLOWS:

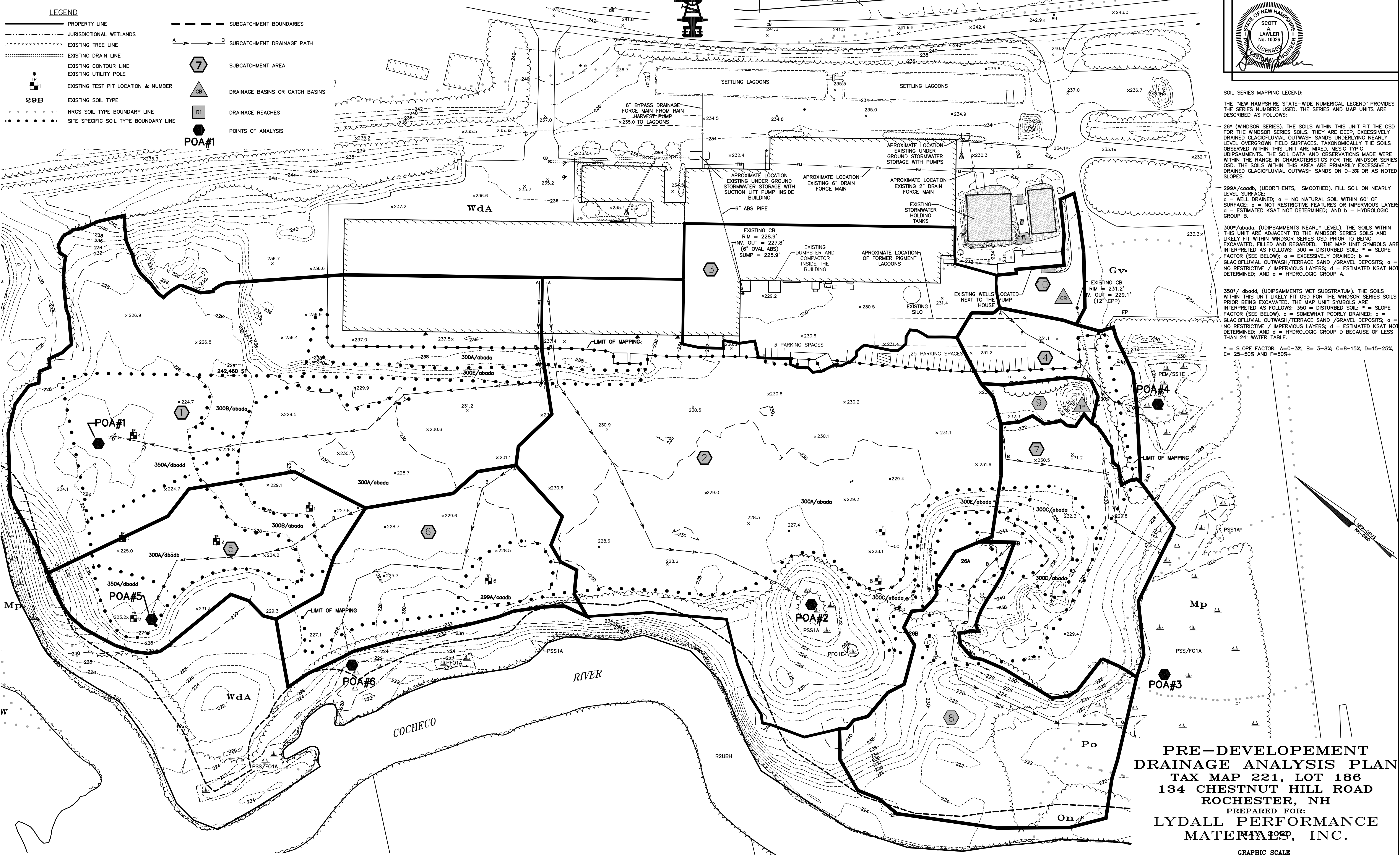
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c = WELL DRAINED; a = NO NATURAL SOIL WITHIN 60" OF SURFACE; a = NOT RESTRICTIVE FEATURES OR IMPERVIOUS LAYER
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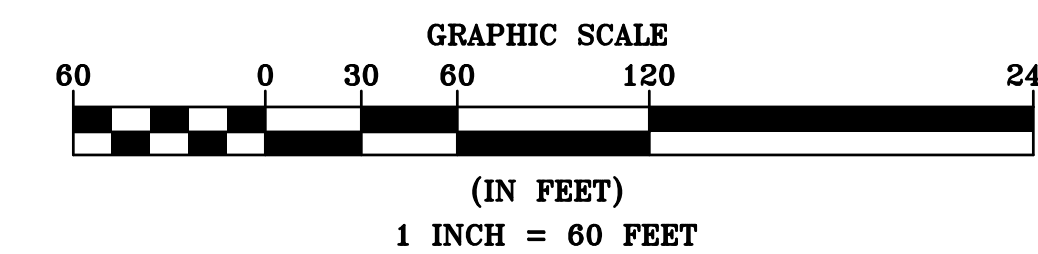
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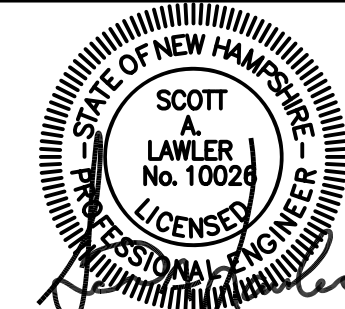
**PRE-DEVELOPEMENT
DRAINAGE ANALYSIS PLAN**
TAX MAP 221, LOT 186
134 CHESTNUT HILL ROAD
ROCHESTER, NH
PREPARED FOR:
**LYDALL PERFORMANCE
MATERIALS, INC.**



FILE NO. 154
PLAN NO. C-
DWC. NO. 17233/SP-3
F.B. NO.

LEGEND

- PROPERTY LINE
- - - JURISDICTIONAL WETLANDS
- - - EXISTING TREE LINE
- - - EXISTING DRAIN LINE
- - - 230 - - - EXISTING CONTOUR LINE
TP EXISTING TEST PIT
NRCS SOIL TYPE BOUNDARY LINE
• • • • • SITE SPECIFIC SOIL TYPE BOUNDARY LINE
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- - - PROPOSED TREE LINE
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PROPOSED FLARED END SECTION (FES)
- SUBCATCHMENT BOUNDARIES
A → B SUBCATCHMENT DRAINAGE PATH
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1R DRAINAGE REACHES
POA#1 POINTS OF ANALYSIS



SOIL MAP NOTES:

A. THIS SITE-SPECIFIC SOIL MAP WAS COMPLETED IN MAY 2019 BY DAVID J. ALLAIN, NH CERTIFIED SOIL SCIENTIST #13, ROUND POND SOIL SURVEY, 374 POND HILL ROAD, BARRINGTON NH 03825. SITE-SPECIFIC SOIL MAPPING STANDARDS FOR NEW HAMPSHIRE AND VERMONT, VERSION 5.0, DECEMBER 2017, SSSNNE SPECIAL PUBLICATION NO.3 WAS USED AS A REFERENCE AND GUIDE IN DEVELOPING THIS MAP. THE DISTURBED SOIL MAPPING SUPPLEMENT FOR NEW HAMPSHIRE DES AOT SITE SPECIFIC SOIL MAPS, FEBRUARY 2011 WAS ALSO CONSIDERED TO COMPLY WITH THE SOIL MAPPING REQUIREMENTS OF RSA 485-A:17 AND NHDES ENV-WQ 1500, ALTERATION OF TERRAIN (AOT) PROGRAM. THE SOILS WERE IDENTIFIED USING THE NEW HAMPSHIRE STATE-WIDE NUMERICAL SOILS LEGEND* PREPARED BY THE USDA NRCS, DURHAM NH, ISSUE #10, JANUARY 2011.

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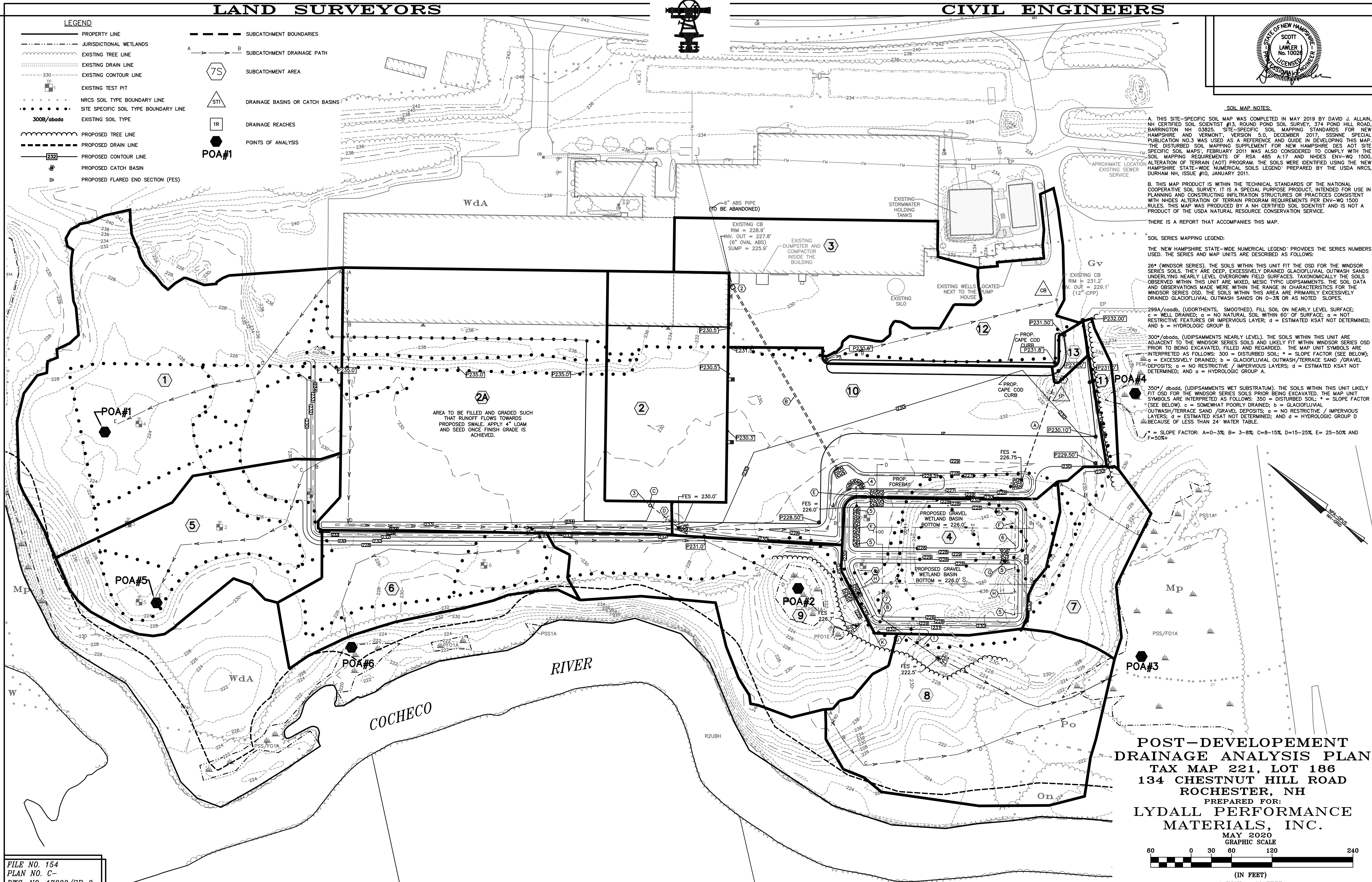
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FILE NO. 154
PLAN NO. C-
DWG. NO. 17233/SP-3
F.B. NO.

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

POST-DEVELOPEMENT
DRAINAGE ANALYSIS PLAN
TAX MAP 221, LOT 186
134 CHESTNUT HILL ROAD
ROCHESTER, NH
PREPARED FOR:
LYDALL PERFORMANCE
MATERIALS, INC.

MAY 2020
GRAPHIC SCALE
60 0 30 60 120 240
(IN FEET)
1 INCH = 60 FEET