

# NORWAY PLAINS ASSOCIATES, INC.

LAND SURVEYORS • SEPTIC SYSTEM DESIGNERS • CIVIL ENGINEERS

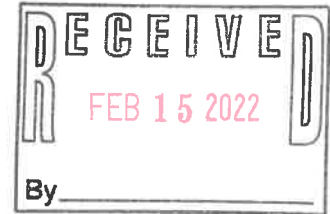
P.O. Box 249  
Continental Blvd. (03867)  
Rochester, NH 03866-0249  
Phone (603) 335-3948  
[www.norwayplains.com](http://www.norwayplains.com)



P. O. Box 268  
31 Mooney St.  
Alton, NH 03809  
Phone & Fax (603) 875-3948

February 10, 2022

Ryan O'Connor, Planner  
Department of Planning and Development  
33 Wakefield Street  
Rochester, NH 03867-1917



**Re: Case SP-22-02, Proposed Electric Vehicle Charging Facility for KO-GO LLC;  
Technical Review Group Response.**

Dear Ryan:

The following is a summary of action taken to address the comments from the February 3, 2022 TRG meeting and follow up comments posted on the City of Rochester View Point Cloud for the proposed major Non-Residential Site Plan Review Application for KO-GO LLC located on Farmington Road. To expedite the review process; I have listed the different departments comments and our responses.

**Planning Dept. & Conservation Commission Comments (Ryan O'Connor):**

- a) Please show the square footage of Impervious area for the site:
  - *The square footage and percentage of the overall parcel were added to the Existing Features Plan (Sheet E-1) and Overall Site Plan (Sheet C-1) under General Site Plan Note #5.*
- b) The site will need a stormwater and control plan as well as a maintenance and inspection plan since this location is within the aquifer overlay district.
  - *The Stormwater Management System Inspection and Maintenance Manual was included within the Stormwater Report as part of the initial submission.*
  - *A separate Stormwater Management Systems Inspection and Maintenance Manual is attached.*
- c) Please elaborate on the general maintenance of the property. Specifically, how maintenance of trash receptacles or other amenities will be cared for.
  - *As described by the applicant during the meeting, the facility operators will visit the site at least weekly, and if necessary, more frequently. During these visits, they will perform a general inspections of the grounds and pick-up any trash or debris. Located next to the charger units, there will be a small trash receptacle and windshield cleaning system (squeegee and windshield washing fluids). Depending on the weather and driving conditions, the frequency of the site visits will be adjusted. All trash will be removed from the site by the facilities manager each visit, as there will not be any dumpster located on the parcel.*

- d) A traffic memo will be needed for this site.
- *Attached is a copy of the letter sent to NHDOT as part of the NHDOT Driveway Permit Application. The letter describes the anticipated trip generated at the driveway as part of the proposed project. Please let us know if additional information is necessary.*
- e) Please specify any fire protection or emergency shutoffs planned.
- *The plans call out for small handheld fire extinguishers to be secured to the charging units. The applicant will work with the City of Rochester Fire Department to determine if additional fire suppression is required for the canopy during the building permit application review.*
- f) Our site plan regulations require a pitched or more traditional roofline for the canopy. Below are the requirements, please contact staff with any questions: (Site Plan Regulations, Section 2, Architecture (H) Particular Building Types &. Components).
- *The plan set has been amended to depict a sloped roofline for the canopy. The roofline will be pitched toward Route 11 / Farmington Road.*
  - *Please find an example of the proposed canopy that is being proposed. Detailed plans will be prepared and submitted as part of the building permit phase.*
  - *To account for the stormwater runoff from the pitched roof, a 2' stone drip edge has been added along the front edge of the canopy to capture the stormwater. A perforated pipe will collect the runoff and direct it to the stormwater infiltration basin. A detail of the drip edge was added to the Construction Details (Sheet C-4) of the plan set.*

**Economic Development (Jenn Marsh):**

No comments/concerns.

**Dept. of Public Works (Tim Goldthwaite):**

Chapter 218 Stormwater Permit is required.

- *The site has been designed to adhere to City of Rochester Chapter 218.*
- *A Drainage Report was submitted as part of the initial submission. There has not been any changes to the site plans which has an effect to the proposed stormwater management calculations or report.*
- *The applicant will file the City of Rochester Stormwater Management and Erosion Control Application prior to the start of construction once a site contractor has been selected.*

**Building & Licensing Services (Jim Grant):**

No comments entered as of 2/10/22

**Zoning (Crystal Galloway):**

Variance received on January 12, 2022. No other concerns.

**Fire Dept. (Tim Wilder):**

No comments/concerns.

**Assessing Dept. (Theresa Hervey)**

No comments entered as of 2/10/22

**Police Dept. (Gary Boudreau):**

No concerns. Once the site is up and operational, please work with either police or fire so we can get site contact information so we can contact someone if there are problems or need security camera footage.

- *The applicant will coordinate with the City of Rochester Police and Fire Department on the operator's contact information once the site is operational.*

If you have any questions regarding the revisions made to this plan set, the design itself or any supplemental material submitted to satisfy the conditions of approval, please feel free to call or email me.

Sincerely,

**NORWAY PLAINS ASSOCIATES, INC.**



By: \_\_\_\_\_  
Scott A. Lawler, P.E., Project Engineer

Cc: KO-GO LLC

# NORWAY PLAINS ASSOCIATES, INC.

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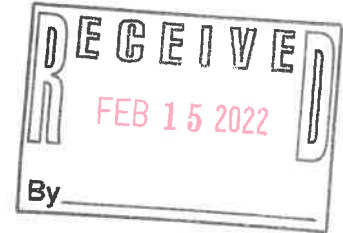
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February 3, 2022

Mr. James Hewitt, PE  
NHDOT Maintenance District 6  
PO Box 740  
Durham, NH 03824-0740



**Re: NHDOT Driveway Permit Application for KO-GO LLC; NH Route 11 (Farmington Road), Rochester NH**

Dear Jim;

On behalf of the Ko-Go, LLC, Norway Plains Associates, Inc. is pleased to submit a Driveway Permit Application for their project. Ko-Go, LLC are in the process of purchasing the property located on Farmington Road identified by the City of Rochester assessors as Tax Map 208, Lot 16 from the Estate of Robert Rowe, Sr. This parcel shares an existing driveway with 127 Farmington Road, a single family house currently owned by Clifton Jones; Tax Map 208, Lot 17. There is currently a gravel driveway with paved apron that provides access to the Jones residence.

The existing driveway to the parcels is located on the north side of Farmington Road, about 600 feet westerly of the Sterling Drive and Walmart Driveway intersections. This driveway has been servicing the residence for decades, as depicted on sheet 23 (Clyde Dutton & Walter Dutton) of the 1957 NHDOT Project P-3346 plans. The property is abutted to east by Meineke Car Care Center, NH Rails to Trails to the north and a vacant parcel directly across Route 11. Currently, there is a painted median in front of the property.

Ko-Go is proposed to construct an electric vehicle charging facility on the vacant property. This facility will accommodate 6 electric vehicles charging at a time with 4 additional parking stalls for awaiting vehicles. The chargers, all class 2 or class 3, will allow for extremely fast charging times. As such, the users are only allowed a maximum of an hour within the charging stalls. With most vehicles only requiring half that time to charge from 10% to 80% of their battery's capacity, it is unlikely most vehicles will need to full allotment of time.

To accommodate the increased traffic over a single family residency, the existing gravel driveway will be reconstructed to a 24-foot wide paved driveway into the parcel. In order to provide adequate separation from the abutting property to the east (Meineke) for grading and increase the two driveway separation to over 250 feet, the new driveway will be shifted approximately 20 feet westerly. This will require an extension of the existing stormwater pipe under the existing driveway. The proposed driveways will have flared radii of 25 feet, which will easily accommodate pedestrian vehicles. It is very unlikely there will be the need for any significantly sized trucks or tractor-trailers to be entering or existing the site. The painted median will provide ample room for a vehicle waiting to make a left turn into the site, similar to those entering the Meineke Car Care Center.

The Institute of Traffic Engineers (ITE) publishes trip generation information for a wide variety of land uses based on extensive data and studies from throughout the country. In the case of the proposed use, Electric Vehicle Charging Station, there isn't an applicable use within the ITE given the relatively newness of this type of business. Unlike a traditional Gas / Service Station (ITE 944), the vehicles entering and exiting this facility will be a much less frequency. Furthermore, there is also no associated small store or service building that will be located at this site.

As noted above, the anticipated timeframe for an average vehicle charge is around 30 minutes. Assuming the demand is maxed out, it could be estimated that a total of 12 vehicles could be entering and existing the driveway at the peak hour in the morning and afternoon. With the addition of the single family residence sharing the driveway, the peak hour trips generated would be 26; 13 entering and 13 exiting. It is also assumed that the trips will be equally distributed to the east and west on Route 11.

Given the limited number of peak hour trips generated by both business and the residence and based on the recent upgrades by NHDOT on this section of Route 11, we do not anticipate any off-site improvements is necessary as part of the proposed electric vehicle charging facility.

We look forward to discussing this project with you. Thank you for your consideration Sincerely,

**NORWAY PLAINS ASSOCIATES, INC.**



By:  
Scott A. Lawler, PE, Project Engineer

cc: Ko-Go, LLC  
City of Rochester Planning Department

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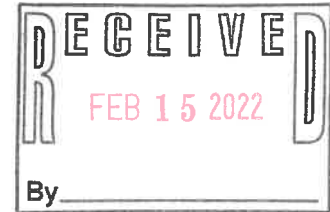
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January 21, 2022

Shanna Saunders, Planning Director  
Planning Department  
City of Rochester  
33 Wakefield Street  
Rochester, NH 03867



**Re: Nonresidential Site Plan Application; Ko-Go, LLC, 0 Farmington Road, Map 208, Lot 16.**

Dear Ms. Saunders:

On behalf of Ko-Go, LLC, Norway Plains Associates, Inc. is pleased to submit a Non-Residential Site Plan Application. Ko-Go, LLC is in the process of purchasing the property located on Farmington Road for the purpose of constructing an electric vehicle charging facility. The parcel located in front of 127 Farmington Road is identified by the City of Rochester assessors as Tax Map 208, Lot 16. The 1.66 acre vacant parcel is currently owned by the estate of Robert A. Rowe. The property is located in the Granite Ridge Development Zoning District as well as the Conservation Overlay and Aquifer Protection Overlay Districts.

The parcel is located on the north side of Farmington Road. To the southwest of the property there is a wetland complex that was delineated by B.H. Keith Associates on December 27, 2021. The parcel abuts the Meineke Car Care Center to the south and there is a vacant commercial property located across Route 11 / Farmington Road. Behind the parcel is the NH Rails to Trails system with the residential parcel beyond. Access to the parcel is off Route 11 via a shared driveway a residential property located on Tax Map 208, Lot 17.

The proposed project is the construction of an electrical vehicle (EV) charging facility. This facility will have 6 charging stations located under a canopy. The charging stations are a distinct design that incorporates individually designated charging spots with assigned charging units, designed to service EV owners/drivers as a complete EV charging system. This distinct system operates much like a traditional gas station in which drivers pull up to a pump and "power" their vehicle. No long-term parking is allowed as this would prevent other drivers from accessing the "power" that is needed. In addition to the 6 charging stations, there is a small parking area for 4 additional vehicles waiting for a spot to open up.

A new driveway to the facility will be constructed about 18 feet from the location of the existing gravel driveway. This paved driveway will be constructed to a width of 24 feet to accommodate two-way traffic. A stop sign and painted stop bar will be installed at the intersection of Route 11 / Farmington. This driveway reconstruction will require approval from NH Department of Transportation, given Route 11 is within the State's jurisdiction.

With the exception of short periods for maintenance, the facility will be accessible 24 hours a day, 7 days a week. Built within the EV units is a limit of 60 minutes that a vehicle can be charged. This limitation will allow for more users to access the chargers. As such, there will not be any long term parking allowed at the site. All of this is spelled out within the company app which also informs the user where the station is and what the availability of open charging stations. Generally, most users will be on site between 20 and 30 minutes, as that will allow for about 60 to 80% charges to the vehicles. The owners anticipate a minimum of 10 vehicles a day utilizing the

facility at the start. As EV become more popular and common place, the number of users will surely increase. This type of designated charging facility is the first one in New Hampshire and should provide a great place for travelers to and from the White Mountains and the lake regions to recharge their batteries and alleviate their 'range' anxiety.

An employee will visit the site a minimum of once a week to perform routine site maintenance. Maintenance to the EV units will be mostly done remotely through software patches. The units will send an alert directly to the owners if the unit is down, to which an employee would come to the site. In addition to the occasional site visits by an employee, there will be multiple security cameras placed around the facility to video record and allow the owner to have access to a "live" view of the facility.

As a result of the proposed site development, there will be an increase in the overall impervious surfaces. To account for the additional stormwater runoff, a shallow grass infiltration basin will be constructed behind the facility. This basin will provide some recharge of runoff back into the groundwater, provide treatment of runoff and avoid any additional runoff from leaving the property. Furthermore, the stormwater management system will achieve the standards outlined for a new development project within the City of Rochester Chapter 218 ordinance.

At this timeframe, there are no proposed facilities on the premise. As such, there are no proposed connections to the City water or any sanitary disposal system or connection to the City sewer system. Overhead wires will continue to service the property and the abutting residence. A new pole will be added to provide underground power and communication to the facility.

Depicted on the site plan are three light poles to provide illumination of the parking and driveways. These pole mounted fixtures will be capable of running off solar power. Within the canopy, there are recessed light fixtures to ensure the fixtures are full cut-off and downlighting. Landscaping has been shown to provide a nice aesthetic appearance from Route 11 and to provide screening to the rear residential use. A freestanding sign will be installed near the entrance.

With the exception of the aforementioned NHDOT approval for the driveway reconstruction, there are no other State or Federal permits required for this development. A City of Rochester Stormwater Management and Erosion Control permit will be applied for prior to start of construction. A Use variance from the City of Rochester Zoning Board of Adjustment was granted on January 5, 2022 to allow for the construction of an electric vehicle charging facility with 6 charging stations and associated lighting. Please refer to case Z-22-02.

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

**NORWAY PLAINS ASSOCIATES, INC.**



By:  
Scott A. Lawler, PE, Project Engineer

cc: Ko-Go, LLC



## **NONRESIDENTIAL SITE PLAN APPLICATION**

### **City of Rochester, New Hampshire**

Date: 1/20/22 Is a conditional use needed? Yes:      No: X Unclear:       
(If so, we encourage you to submit an application as soon as possible.)

#### **Property information**

Tax map #: 208; Lot #'s: 16; Zoning district: GRD

Property address/location: 0 Farmington Road

Name of project (if applicable): Proposed Electric Vehicle Charging Facility

Size of site: 1.66 acres; overlay zoning district(s)? Conservation and Aquifer Protection

#### **Property owner**

Name (include name of individual): Estate of Robert Rowe - Pamela Watson

Mailing address: 1215 Bond Street, Herndon, VA 20170

Telephone #:                                      Email:                                     

#### **Applicant/developer** (if different from property owner)

Name (include name of individual): KO-GO LLC - Victoria Perez

Mailing address: PO Box L; Exeter, NH 03833

Telephone #: 603-438-2695 Email: vperez@mobilekogo.com

#### **Engineer/designer**

Name (include name of individual): Norway Plains Associates, Inc. - Scott Lawler, PE

Mailing address: PO Box 249, Rochester, NH 03866

Telephone #: 603-335-3948 Fax #:                                     

Email address: slawler@norwayplains.com Professional license #: 10026

#### **Proposed activity** (check all that apply)

New building(s):              Site development (other structures, parking, utilities, etc.): X

Addition(s) onto existing building(s):              Demolition:              Change of use:



Describe proposed activity/use: Construct a commercial EV charging station with 6 charging units and parking for 10.

Describe existing conditions/use (vacant land?): The lot is current vacant land.

### Utility information

City water? yes ☐ no ☒; How far is City water from the site? \_\_\_\_\_

City sewer? yes ☐ no ☒; How far is City sewer from the site? \_\_\_\_\_

If City water, what are the estimated total daily needs? \_\_\_\_\_ 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? Infiltration Basin

### Building information

Type of building(s): Canopy

Building height: 13' Finished floor elevation: \_\_\_\_\_

### Other information

# parking spaces: existing: 0 total proposed: 10; Are there pertinent covenants? No

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

Number of existing employees: 0; number of proposed employees total: 0

Check any that are proposed: variance ☒; special exception ☐; conditional use ☐  
(see Case Z-22-02)

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
Building footprint(s) – give for each building(canopy)	1,560	2.2
Parking and vehicle circulation	5,289	7.3
Planted/landscaped areas (excluding drainage)	3,870	5.3
Natural/undisturbed areas (excluding wetlands)	51,783	71.4
Wetlands	6,490	8.9
Other – drainage structures, outside storage, etc.	3,525	4.9

## Comments

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

## 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: Victoria Perez

Date: 24 Jan 2022

Signature of agent: [Signature]

Date: 24 Jan 2022

## 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: \_\_\_\_\_

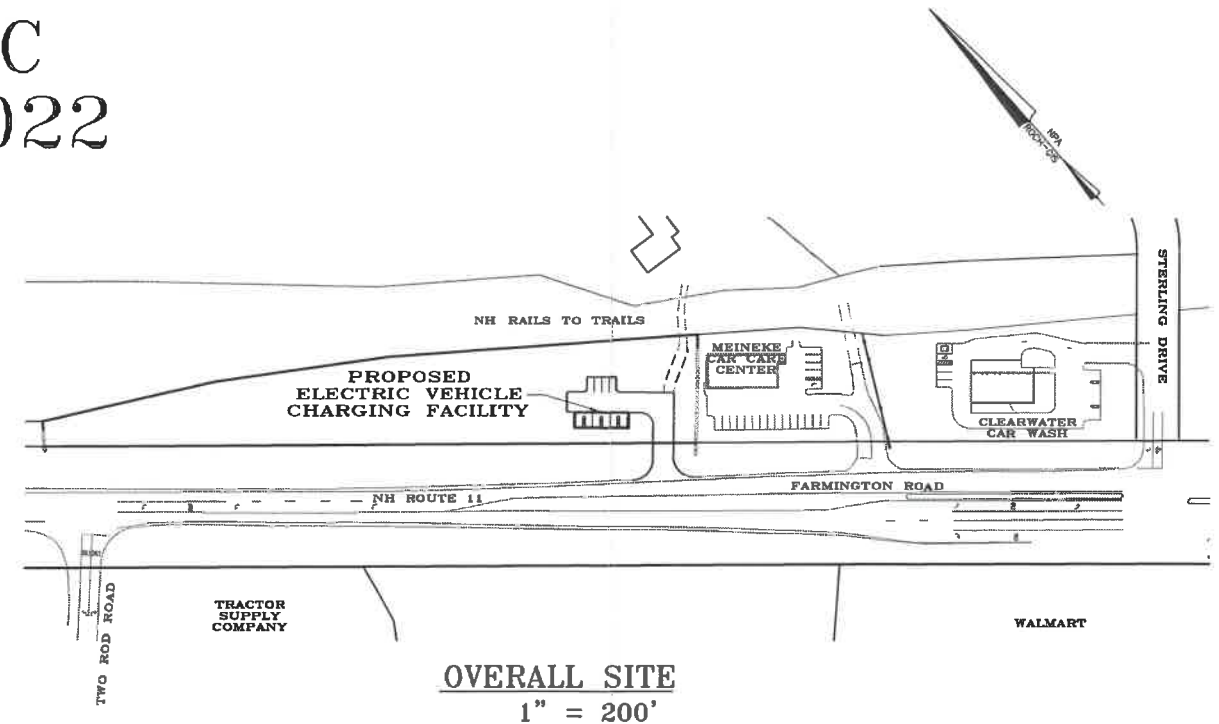
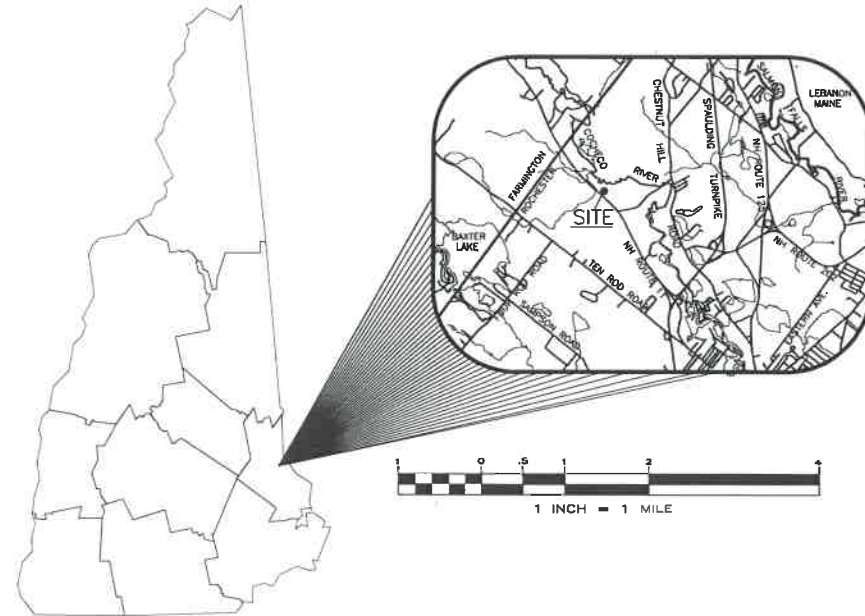


# PROPOSED ELECTRIC VEHICLE CHARGING FACILITY

## FARMINGTON ROAD

PREPARED FOR

KO-GO LLC  
JANUARY 2022



CIVIL ENGINEERS

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

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.

OWNER OF RECORD

TAX MAP 208, LOT 16  
OWNER OF RECORD:  
ESTATE OF ROBERT A. ROWE, SR.  
C/O PAMELA M. WATSON  
1215 BOND STREET  
HERNDON, VA 20170  
SCRD BOOK 4959, PAGE 42 &  
BOOK 1747 PAGE 132

APPLICANT

KO-GO, LLC  
C/O VICTORIA PEREZ  
PO BOX L  
EXETER, NH 03833  
(603) 438-2695

### STATE AND FEDERAL PERMITS:

STATE OF NEW HAMPSHIRE PERMIT NUMBERS:  
NHDES ALTERATION OF TERRAIN: NOT REQUIRED  
NHDES WETLANDS PERMIT: NOT REQUIRED  
NHDES DAM PERMIT: NOT REQUIRED  
NHDES SUBDIVISION PERMIT: NOT REQUIRED  
NHDES SUBSURFACE SYSTEMS PERMIT: NOT REQUIRED  
NHDES WASTEWATER PERMIT: NOT REQUIRED  
NHDOT DRIVEWAY/ENTRANCE PERMIT: 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).

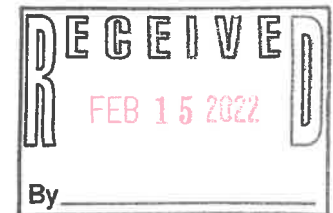
NPDES PERMIT: NOT REQUIRED

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

SHEET	NO.	DESCRIPTION	SCALE
E-1	COVER		
C-1	EXISTING FEATURES		1" = 40'
C-2	OVERALL SITE PLAN		1" = 40'
C-3	SITE LAYOUT PLAN		1" = 20'
C-4	GRADING, DRAINAGE, EROSION AND SEDIMENTATION CONTROL PLAN		1" = 20'
C-5	CONSTRUCTION DETAILS		AS SHOWN
L-1	EROSION AND SEDIMENTATION CONTROL DETAILS		AS SHOWN
L-2	SITE LANDSCAPING PLAN		1" = 20'
L-3	LIGHTING PLAN AND DETAILS		1" = 20'

FILE NO. 116  
PLAN NO. C-2188  
DWG. NO. 21396 SP-2



# LAND SURVEYORS

# CIVIL ENGINEERS

## LEGEND

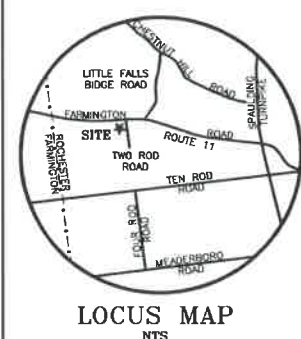
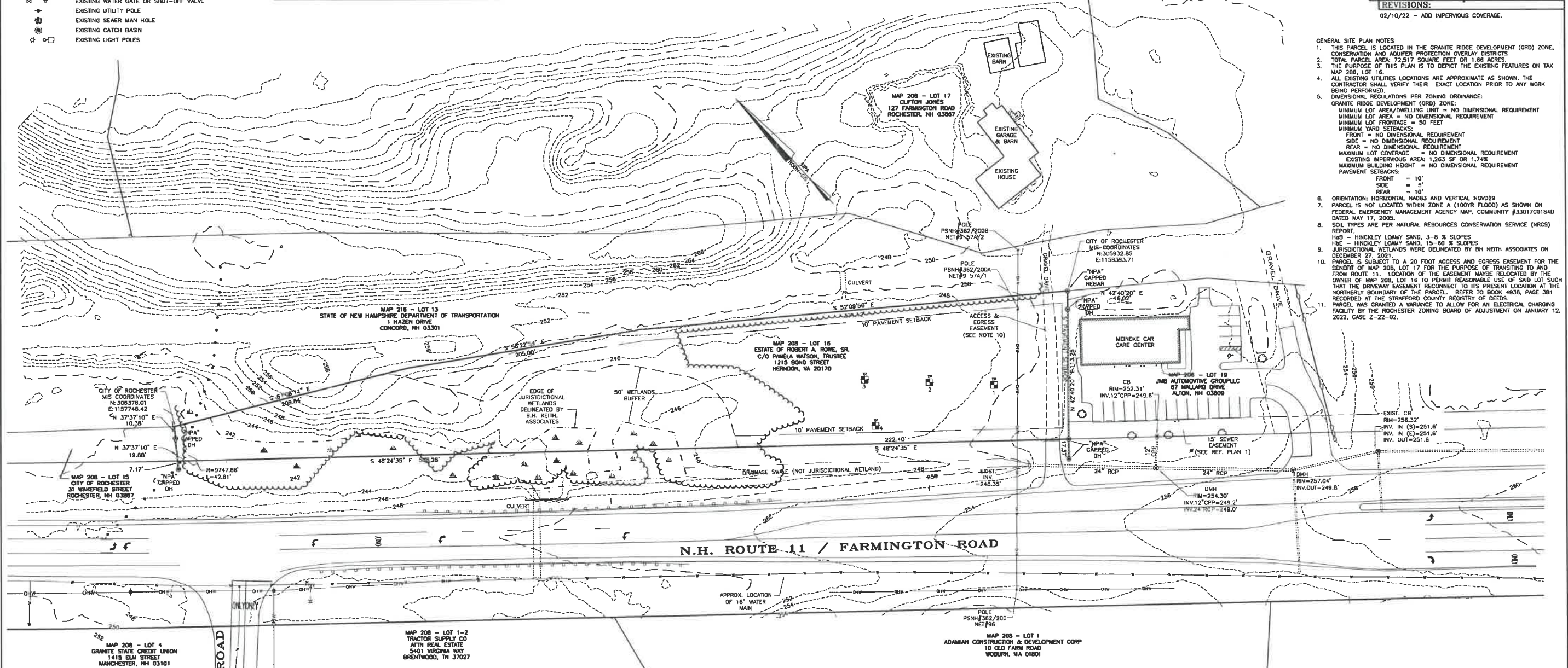
- PROPERTY LINE
- JURISDICTIONAL WETLANDS
- EXISTING TREE LINE
- EXISTING OVERHEAD WIRES
- EXISTING HYDRANT
- EXISTING WATER GATE OR SHUT-OFF VALVE
- EXISTING UTILITY POLE
- EXISTING SEWER MAN HOLE
- EXISTING CATCH BASIN
- EXISTING LIGHT POLES

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:  
02/10/22 - ADD IMPERVIOUS COVERAGE.

- GENERAL SITE PLAN NOTES:
- THIS PARCEL IS LOCATED IN THE GRANITE RIDGE DEVELOPMENT (GRD) ZONE, CONSERVATION AND AQUIFER PROTECTION OVERLAY DISTRICTS.
  - TOTAL PARCEL AREA: 72,517 SQUARE FEET OR 1.66 ACRES.
  - THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING FEATURES ON TAX MAP 208, LOT 16.
  - ALL EXISTING UTILITIES LOCATIONS ARE APPROXIMATE AS SHOWN. THE CONTRACTOR SHALL VERIFY THEIR EXACT LOCATION PRIOR TO ANY WORK BEING PERFORMED.
  - DIMENSIONAL REGULATIONS PER ZONING ORDINANCE:  
GRANITE RIDGE DEVELOPMENT (GRD) ZONE:  
MINIMUM LOT AREA/DWELLING UNIT = NO DIMENSIONAL REQUIREMENT  
MINIMUM LOT AREA = NO DIMENSIONAL REQUIREMENT  
MINIMUM LOT FRONTAGE = 50 FEET  
MINIMUM YARD SETBACKS:  
FRONT = NO DIMENSIONAL REQUIREMENT  
SIDE = NO DIMENSIONAL REQUIREMENT  
REAR = NO DIMENSIONAL REQUIREMENT  
MAXIMUM LOT COVERAGE = NO DIMENSIONAL REQUIREMENT  
EXISTING IMPERVIOUS AREA: 1,263 SF OR 1.74%  
MAXIMUM BUILDING HEIGHT = NO DIMENSIONAL REQUIREMENT  
PAVEMENT SETBACKS:  
FRONT = 10'  
SIDE = 5'  
REAR = 10'
  - ORIENTATION: HORIZONTAL NAD83 AND VERTICAL NAVD83
  - PARCEL IS NOT LOCATED WITHIN ZONE A (100YR FLOOD) AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY MAP, COMMUNITY #33017001840 DATED MAY 17, 2005.
  - SOIL TYPES ARE PER NATURAL RESOURCES CONSERVATION SERVICE (NRCS) REPORT.  
Hsb - HINCKLEY LOAMY SAND, 3-8 % SLOPES  
Hse - HINCKLEY LOAMY SAND, 15-60 % SLOPES
  - JURISDICTIONAL WETLANDS WERE DELINEATED BY BH KEITH ASSOCIATES ON DECEMBER 27, 2021.
  - PARCEL IS SUBJECT TO A 20 FOOT ACCESS AND EGRESS EASEMENT FOR THE BENEFIT OF MAP 208, LOT 17 FOR THE PURPOSE OF TRANSITING TO AND FROM ROUTE 11. LOCATION OF THE EASEMENT MAYBE RELOCATED BY THE OWNER OF MAP 208, LOT 16 TO PERMIT REASONABLE USE OF SAID LOT SUCH THAT THE DRIVEWAY EASEMENT RECONNECT TO ITS PRESENT LOCATION AT THE NORTHERLY BOUNDARY OF THE PARCEL. REFER TO BOOK 4938, PAGE 381 RECORDED AT THE STRAFFORD COUNTY REGISTRY OF DEEDS. PARCEL WAS GRANTED A VARIANCE TO ALLOW FOR AN ELECTRICAL CHARGING FACILITY BY THE ROCHESTER ZONING BOARD OF ADJUSTMENT ON JANUARY 12, 2022, CASE 2-22-02.



TEST PITS PERFORMED ON JANUARY 19, 2022 BY ASHLEY ROWE, DESIGNER

TEST PIT	DEPTH	SOIL TYPE	WATER OBSERVED
TEST PIT 1	0' - 12'	LOAM TOPSOIL	NO
TEST PIT 2	0' - 8'	LOOSE BANKRUN GRAVEL, COBBLES COMMON	NO
TEST PIT 3	0' - 8'	LOOSE BANKRUN GRAVEL, COBBLES COMMON	NO
TEST PIT 4	0' - 7'	LOAM TOPSOIL	NO

TAX MAP 208, LOT 16  
OWNER OF RECORD:  
ESTATE OF ROBERT ROWE  
C/O PAMELA WATSON  
1215 BOND STREET  
HERNDON, VA 20170  
SCRD BOOK 4959, PAGE 42 &  
BOOK 1747 PAGE 132

EXISTING FEATURES  
TAX MAP 208, LOT 16  
FARMINGTON ROAD  
ROCHESTER, NH  
PREPARED FOR:  
KO-GO LLC  
JANUARY 2021



FILE NO. 116  
PLAN NO. C-2188  
DWG. NO. 21396 SP-2

REFERENCE PLANS:  
1. LOT LINE REVISION - FARMINGTON RD/NH ROUTE 11 - ROCHESTER, N.H. FOR BLACK DOG CAR WASH LLC AND ROBERT A. ROWE, SR. DATED OCTOBER 2003 BY NORWAY PLAINS ASSOCIATES, INC. AND RECORDED AT THE STRAFFORD COUNTY REGISTRY OF DEEDS, PLAN 78-20.

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

NORWAY PLAINS ASSOCIATES, INC.

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

# LAND SURVEYORS



# CIVIL ENGINEERS

## 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.



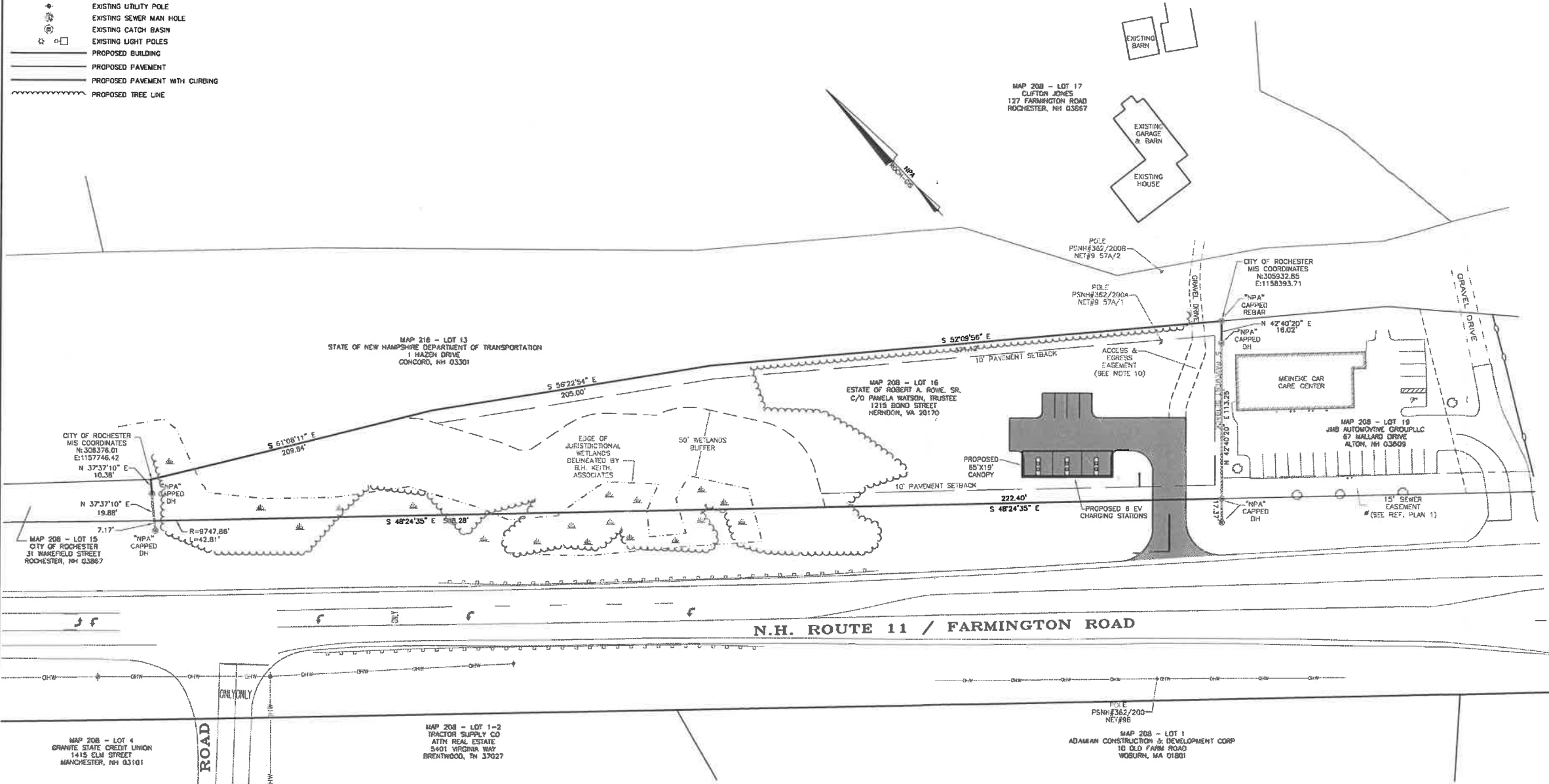
## REVISIONS:

02/10/22 - REVERSE CANOPY SIZE AND CHARGER UNIT LOCATIONS, ADD IMPERVIOUS COVERAGE.

- GENERAL SITE PLAN NOTES
- THIS PARCEL IS LOCATED IN THE GRANITE RIDGE DEVELOPMENT (GRD) ZONE, CONSERVATION AND ACQUIFER PROTECTION OVERLAY DISTRICTS
  - TOTAL PARCEL AREA: 72,517 SQUARE FEET OR 1.66 ACRES.
  - THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING FEATURES ON TAX MAP 208, LOT 16.
  - ALL EXISTING UTILITIES LOCATIONS ARE APPROXIMATE AS SHOWN. THE CONTRACTOR SHALL VERIFY THEIR EXACT LOCATION PRIOR TO ANY WORK BEING PERFORMED.
  - DIMENSIONAL REGULATIONS PER ZONING ORDINANCE:
    - GRANITE RIDGE DEVELOPMENT (GRD) ZONE:
      - MINIMUM LOT AREA/DWELLING UNIT = NO DIMENSIONAL REQUIREMENT
      - MINIMUM LOT AREA = NO DIMENSIONAL REQUIREMENT
      - MINIMUM LOT FRONTAGE = 50 FEET
      - MINIMUM YARD SETBACKS:
        - FRONT = NO DIMENSIONAL REQUIREMENT
        - SIDE = NO DIMENSIONAL REQUIREMENT
        - REAR = NO DIMENSIONAL REQUIREMENT
      - MAXIMUM LOT COVERAGE = NO DIMENSIONAL REQUIREMENT
      - PROPOSED IMPERVIOUS AREA: 6,666 SF OR 5.19%
      - MAXIMUM BUILDING HEIGHT = NO DIMENSIONAL REQUIREMENT
      - PAVEMENT SETBACKS:
        - FRONT = 10'
        - SIDE = 5'
        - REAR = 10'
  - ORIENTATION: HORIZONTAL NAD83 AND VERTICAL NGVD29.
  - PARCEL IS NOT LOCATED WITHIN ZONE A (100YR FLOOD) AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY MAP, COMMUNITY #33017001840 DATED MAY 17, 2005.
  - SOIL TYPES ARE PER NATURAL RESOURCES CONSERVATION SERVICE (NRCS) REPORT:
    - H8B - HINCKLEY LOAMY SAND, 3-8 % SLOPES
    - H8E - HINCKLEY LOAMY SAND, 15-60 % SLOPES
  - JURISDICTIONAL WETLANDS WERE DELINEATED BY BH KEITH ASSOCIATES ON DECEMBER 27, 2021.
  - PARCEL IS SUBJECT TO A 20 FOOT ACCESS AND EGRESS EASEMENT FOR THE BENEFIT OF MAP 208, LOT 17 FOR THE PURPOSE OF TRANSFERRING TO AND FROM ROUTE 11. LOCATION OF THE EASEMENT WAYBE RELOCATED BY THE OWNER OF MAP 208, LOT 16 TO PERMIT REASONABLE USE OF SAID LOT SUCH THAT THE DRIVEWAY EASEMENT RECONNECT TO ITS PRESENT LOCATION AT THE NORTHERLY BOUNDARY OF THE PARCEL. REFER TO BOOK 4938, PAGE 381 RECORDED AT THE STRAFFORD COUNTY REGISTRY OF DEEDS.
  - PARCEL WAS GRANTED A VARIANCE TO ALLOW FOR AN ELECTRICAL CHARGING FACILITY BY THE ROCHESTER ZONING BOARD OF ADJUSTMENT ON JANUARY 12, 2022, CASE 2-22-02.
  - 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 THIS ACCESS.
  - PLEASE CONTACT THE FIRE DEPARTMENT AT 330-7162 WITH ANY QUESTIONS ABOUT ACCESS REQUIREMENTS.
  - SNOW SHALL NOT BE PILED IN SUCH A MANNER AS TO BLOCK THE VISIBILITY OF THE VEHICLES ON NH ROUTE 11 AND ALL EXCESS SNOW SHALL BE REMOVED FROM THE SITE.
  - 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.
  - ALL UTILITIES MUST BE UNDERGROUND, INCLUDING UTILITIES EXTENDED ONTO THE SITE FROM EXISTING POLES NEAR THE SITE. HOWEVER, IF THE ONLY POLE NEARBY IS ACROSS THE STREET, ONE ADDITIONAL POLE MAY BE PLACED ON/NEAR THE PROPERTY TO ALLOW FOR OVERHEAD EXTENSION OF WIRES ACROSS THE STREET. UTILITIES EXTENDING FROM ANY SUCH NEW POLE MUST BE UNDERGROUND. THE APPLICANT MAY WORK WITH THE CITY STAFF AS APPROPRIATE TO ADDRESS THIS REQUIREMENT.
  - 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.

- ## 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

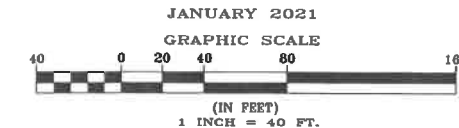
CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN 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.



TAX MAP 208, LOT 16  
OWNER OF RECORD:  
ESTATE OF ROBERT ROWE  
C/O PAMELA WATSON  
1215 BOND STREET  
HERNDON, VA 20170  
SCRD BOOK 4959, PAGE 42 &  
BOOK 1747 PAGE 132

**PROPOSED ELECTRIC VEHICLE CHARGING FACILITY**  
TAX MAP 208, LOT 16  
FARMINGTON ROAD  
ROCHESTER, NH  
PREPARED FOR:  
**KO-GO LLC**

FINAL APPROVAL BY  
ROCHESTER PLANNING BOARD  
CERTIFIED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



FILE NO. 116  
PLAN NO. C-2188  
DWG. NO. 21396 SP-2

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

**NORWAY PLAINS ASSOCIATES, INC.**

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



## 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 CANOPY
- - -	PROPOSED PAVEMENT
- - -	PROPOSED TREE LINE
- - -	PROPOSED STANDARD PAVEMENT
- - -	PROPOSED CONCRETE



EXISTING HOUSE

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:

02/10/22 - REVISE CANOPY SIZE AND CHARGER UNIT LOCATIONS.

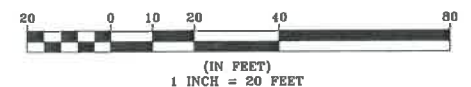
## PROJECT SPECIFIC CONSTRUCTION PHASING:

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 SOCK, ETC.) AROUND THE OUTER PERIMETER OF THE CONSTRUCTION SITE AS DEPICTED ON SHEET C-3 PRIOR TO EARTH MOVING OPERATIONS.
3. INSTALL ORANGE SHED FENCE 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 DRIVEWAY CONNECTION TO FARMINGTON ROAD. 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 STOCKPILE 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-4.
8. ALL DITCHES/SWALES AND BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
9. PERFORM THE NECESSARY CUTS AND FILLS TO SUBGRADE IN THE CANOPY AND PARKING LOT AREAS.
  - 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-2 AND C-3 AS EACH STRUCTURE IS COMPLETED INSTALL THE CORRESPONDING SEDIMENT CONTROL MEASURE.
13. CONSTRUCT THE INFILTRATION BASIN AND OUTLET PROTECTION. LOAM SEED AND MULCH THE SIDE SLOPES OF THE BASIN AS DIRECTED IN THE INFILTRATION BASIN DETAILS AND TEMPORARY SEDIMENT CONTROL BARRIER DEPICTED ON SHEET C-3.
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 NDSM, VOL. 3 SHOULD BE EMPLOYED.

**SITE LAYOUT PLAN**  
**TAX MAP 208, LOT 16**  
**FARMINGTON ROAD**  
**ROCHESTER, NH**

PREPARED FOR:  
**KO-GO LLC**

JANUARY 2021  
 GRAPHIC SCALE



## GENERAL UTILITY NOTES

1. CONTRACTOR SHALL NOTIFY DIG-SAFE (1-888-344-7233) 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
2. ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE AS SHOWN. THE CONTRACTOR SHALL VERIFY THEIR LOCATIONS AND ELEVATIONS.
3. THESE PLAN SHOWS ONLY THOSE FEATURES THAT WERE VISUALLY APPARENT ON THE DATE OF THE SURVEY. THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC. FROM THIS PLAN, BUT IN EXISTENCE IS NOT INTENDED OR IMPLIED.
4. ANY UTILITY POLES THAT NEED TO BE RELOCATED OR INSTALLED SHALL BE COORDINATED WITH EVERSOURCE OR FAIRPOINT, WHOM EVER HAS CONTROL OVER THEM.
5. PROPOSED UTILITIES ARE TO BE UNDERGROUND. COORDINATE LOCATION OF UNDERGROUND UTILITIES AND TRANSFORMER PADS WITH EVERSOURCE AND OTHER PERTINENT UTILITY COMPANIES.

FILE NO. 116  
 PLAN NO. C-2188  
 DWG. NO. 21396 SP-2

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

**NORWAY PLAINS ASSOCIATES, INC.**

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

C-2

## LEGEND

- PROPERTY LINE
- JURISDICTIONAL WETLANDS
- EXISTING TREE LINE
- EXISTING DRAIN LINE
- EXISTING CONTOUR LINE
- EXISTING TEST PIT
- EXISTING SPOT GRADE
- PROPOSED SPOT GRADE
- PROPOSED TREE LINE
- PROPOSED ROOF DRAIN LINE
- PROPOSED CONTOUR LINE
- PROPOSED SILTATION SOCK
- CORRUGATED POLYETHYLENE PIPE
- PROPOSED OUTLET PROTECTION
- PROPOSED TEMPORARY STABILIZED CONSTRUCTION EXIT

TEST PITS PERFORMED ON JANUARY 19, 2022 BY ASHLEY ROWE, DESIGNER

TEST PIT 1  
0' - 12" LOAM TOPSOIL  
12' - 66" LOOSE BANKRUN GRAVEL, COBBLES COMMON. NO REDOX FEATURES PRESENT  
WATER OBSERVED AT 66"

TEST PIT 2  
0' - 8" LOAM TOPSOIL  
8' - 67" LOOSE BANKRUN GRAVEL, COBBLES COMMON. NO REDOX FEATURES PRESENT  
WATER OBSERVED AT 67"

TEST PIT 3  
0' - 8" LOAM TOPSOIL  
8' - 60" LOOSE BANKRUN GRAVEL, COBBLES COMMON. NO REDOX FEATURES PRESENT  
WATER OBSERVED AT 60"

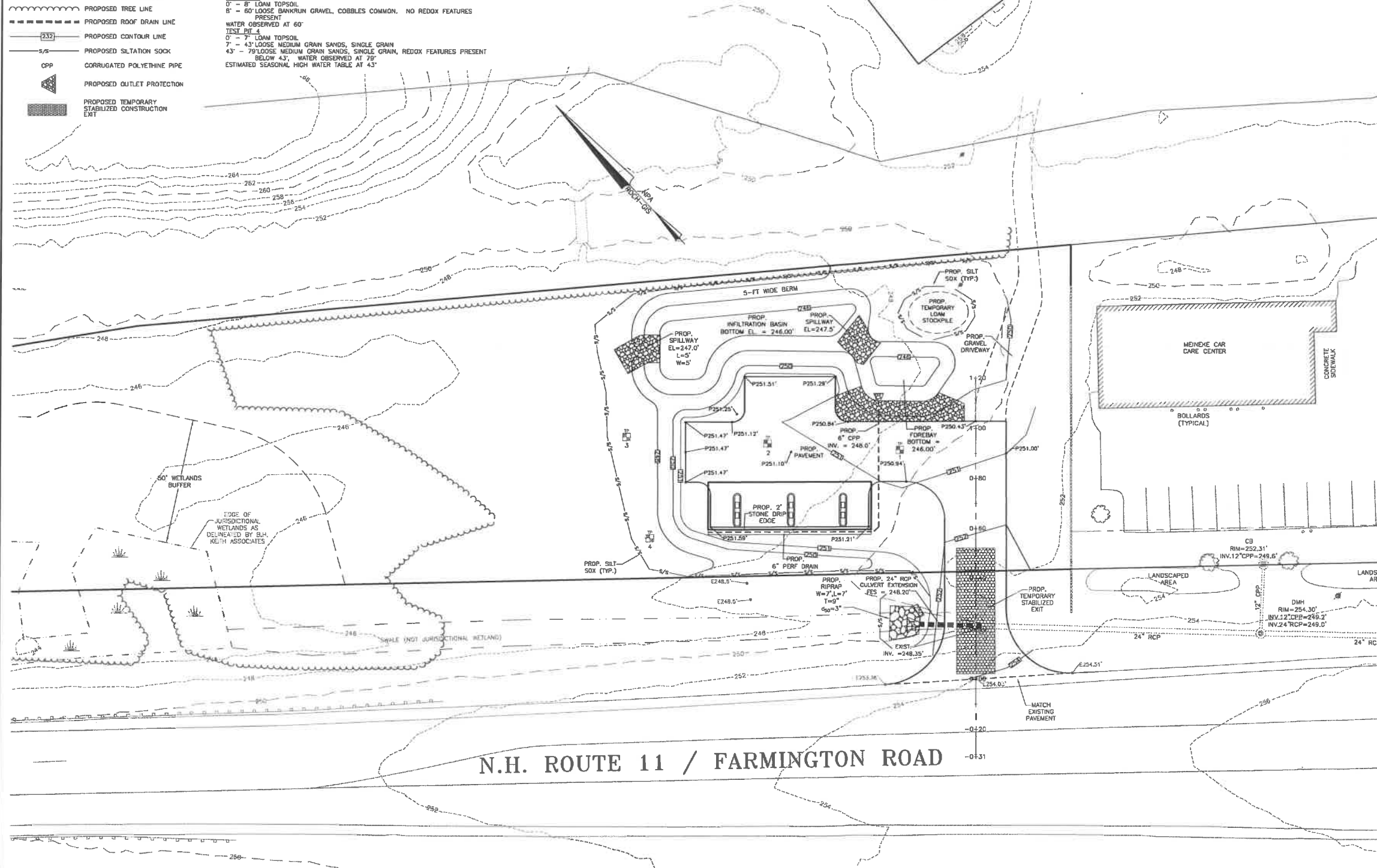
TEST PIT 4  
0' - 7" LOAM TOPSOIL  
7' - 43" LOOSE MEDIUM GRAIN SANDS, SINGLE GRAIN  
43' - 79" LOOSE MEDIUM GRAIN SANDS, SINGLE GRAIN, REDOX FEATURES PRESENT  
BELOW 43', WATER OBSERVED AT 79"  
ESTIMATED SEASONAL HIGH WATER TABLE AT 43"

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:

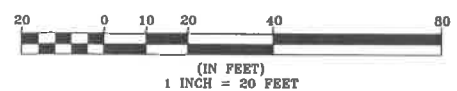
02/10/22 - ADD DRIP EDGE AND PERF. DRAIN PIPE.



GRADING, DRAINAGE,  
EROSION AND  
SEDIMENTATION  
CONTROL PLAN  
TAX MAP 208, LOT 16  
FARMINGTON ROAD  
ROCHESTER, NH

PREPARED FOR:  
KO-GO LLC  
JANUARY 2021

GRAPHIC SCALE



FILE NO. 116  
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31 Mooney Street, Alton, N.H. 603-875-3948

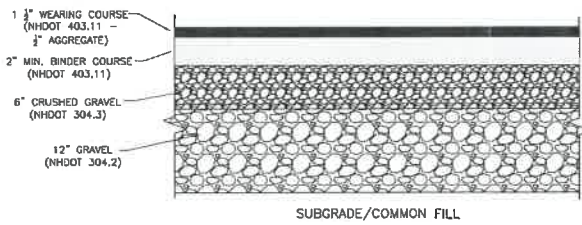
NORWAY PLAINS ASSOCIATES, INC.

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

C-3

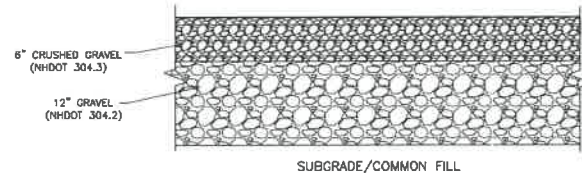


# LAND SURVEYORS



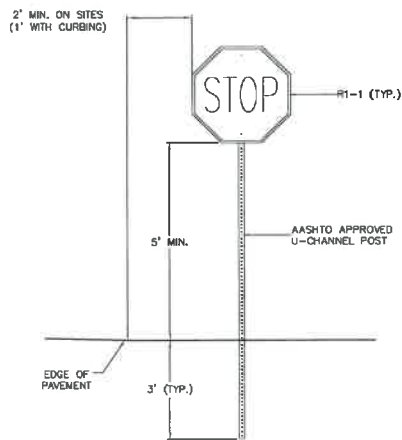
**STANDARD PAVEMENT CROSS-SECTIONS**  
NOT TO SCALE

- PAVEMENT NOTES:**
1. PLACE COMMON FILL IN 12 INCH LIFTS. COMPACT COMMON FILL TO 95% MAXIMUM PROCTOR DENSITY.
  2. PLACE GRAVEL IN MAXIMUM 8 INCH LIFTS. COMPACT TO 95% MAXIMUM PROCTOR DENSITY.
  3. PLACE CRUSHED GRAVEL IN MAXIMUM 8 INCH LIFTS. COMPACT TO 95% MAXIMUM PROCTOR DENSITY.
  4. PAVEMENT MUST BE INSTALLED IN TWO COURSES, A BINDER COURSE AND A WEARING COURSE.



**GRAVEL DRIVEWAY CROSS-SECTIONS**  
NOT TO SCALE

- GRAVEL DRIVEWAY NOTES:**
1. PLACE COMMON FILL IN 12 INCH LIFTS. COMPACT COMMON FILL TO 95% MAXIMUM PROCTOR DENSITY.
  2. PLACE GRAVEL IN MAXIMUM 8 INCH LIFTS. COMPACT TO 95% MAXIMUM PROCTOR DENSITY.
  3. PLACE CRUSHED GRAVEL IN MAXIMUM 8 INCH LIFTS. COMPACT TO 95% MAXIMUM PROCTOR DENSITY.



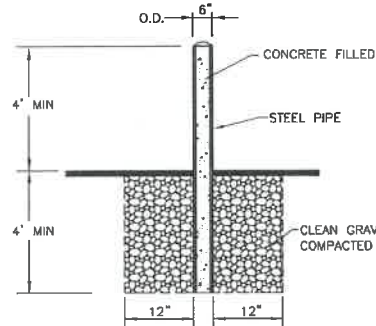
**TYPICAL TRAFFIC SIGN**  
NOT TO SCALE

- NOTES:**
1. SIGN POST SHALL BE AASHTO APPROVED U-CHANNEL OR OTHER PER AASHTO "SPECIFICATIONS FOR STRUCTURAL SUPPORT OF HIGHWAY SIGNS, LUMINARIES 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.

ITEM NO.	SIGN SIZE		TEXT	NO. SIGNS REQ'D
	HEIGHT	WIDTH		
R1-1	30"	30"	STOP	1

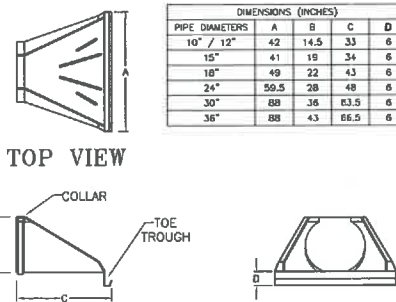
FILE NO. 116  
PLAN NO. C-2188  
DWG. NO. 21396 SP-2

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



**STEEL BOLLARD DETAIL**  
NOT TO SCALE

- BOLLARD NOTES:**
1. BOLLARDS SHALL BE COVERED WITH DURABLE PLASTIC OR PVC COVER, WHITE IN COLOR.



**FLAIRED END SECTION DETAIL**  
NOT TO SCALE

DIMENSIONS (INCHES)				
PIPE DIAMETERS	A	B	C	D
10" / 12"	42	14.5	33	6
15"	41	19	34	6
18"	49	22	43	6
24"	59.5	28	48	6
30"	88	36	63.5	6
36"	88	43	66.5	6

**INFILTRATION BASIN CROSS SECTION**  
NOT TO SCALE

- CONSTRUCTION NOTES:**
1. DO NOT PLACE INFILTRATION BASIN INTO SERVICE UNTIL THE BMP HAS BEEN SEEDDED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
  2. DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO THE INFILTRATION BASIN DURING ANY STAGE OF CONSTRUCTION.
  3. CLEAR AND GRUB THE AREA WHERE THE INFILTRATION BASIN IS TO BE LOCATED. STOCKPILE LOAM FOR REUSE LATER.
  4. THE FOUNDATION AREA SHALL BE SCARIFIED PRIOR TO PLACING FILL. ALL UNSUITABLE MATERIAL UNDER THE BERM SHALL BE REMOVED AND REPLACED WITH SUITABLE FOUNDATION MATERIAL.
  5. THE BERM SHALL BE CONSTRUCTED BEGINNING FROM THE LOWEST POINT UNIFORMLY ALONG ITS ENTIRE LENGTH. PLACE MATERIALS IN MAXIMUM 12" LOOSE LIFTS COMPACTED TO 95% MAXIMUM DRY DENSITY. EMBANKMENT SOIL SHALL HAVE NO ORGANIC MATTER OR FROZEN MATERIAL, AND NO STONES LARGER THAN 2/3 OF THE MAXIMUM LOOSE LIFT THICKNESS. EMBANKMENT FILL MATERIAL SHALL HAVE THE FOLLOWING GRADATION:

SEIVE SIZE:	% PASSING:
#4	80-90
#10	50-60
#100	30-45
#200	15-30

6. THE BOTTOM OF THE INFILTRATION BASIN SHALL RECEIVE FOUR INCHES OF LOAM AND BE SEEDDED WITH NEW ENGLAND EROSION CONTROL / RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES. THE MIX SHALL BE APPLIED AT A RATIO OF 35 LBS PER ACRE. SEED MIX AVAILABLE FROM:

NEW ENGLAND WETLAND PLANTS, INC.  
820 WEST STREET  
AMHERST, MA 01002

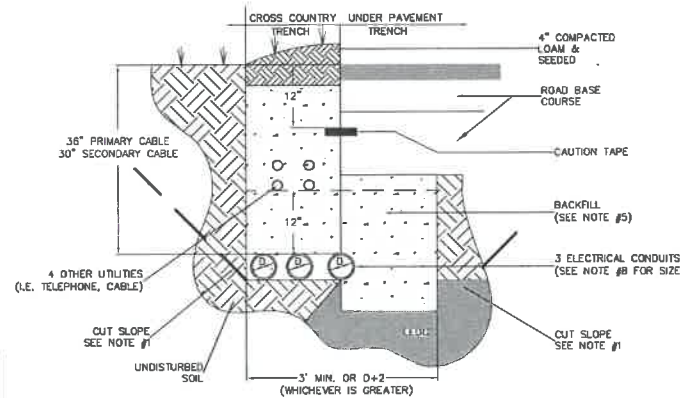
7. ALL DISTURBED AREAS NOT OTHERWISE PLANTED SHALL RECEIVE FOUR INCHES OF LOAM AND SEEDDED PER THE CONSTRUCTION SEQUENCING AND EROSION CONTROL NOTES ON SHEET D1.

# CIVIL ENGINEERS

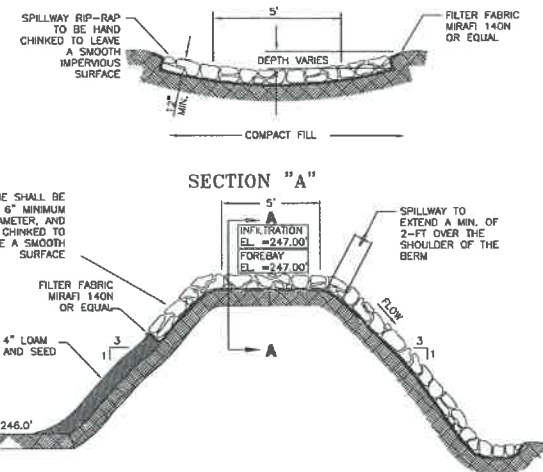
CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITH IN THE PLAN 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.



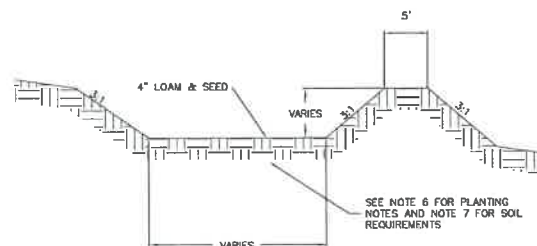
**REVISIONS:**  
02/10/22 - ADD DRIP EDGE DETAIL.



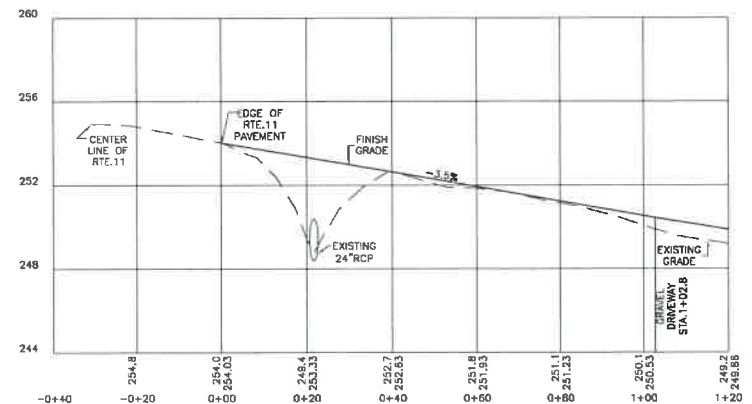
- NOTES:**
1. ALL NON-METALLIC CONDUIT AND FITTINGS SHALL BE ELECTRICAL GRADE, SCHEDULE 40 PVC, AND SHALL CONFORM TO THE APPLICABLE SECTIONS OF NFPA 70-1990 AND BE UL LISTED. ONLY GRAY-LOADED CONDUIT WILL BE ACCEPTED. ANY PVC CONDUIT NOT HAVING THE PROPER NFPA AND UL MARKINGS WILL NOT BE ACCEPTED. ALL STEEL CONDUITS SHALL CONFORM TO ASTM A120 AND BE RIGID GALVANIZED STEEL. ALL PVC JOINTS MUST BE COMPOUNDED. STEEL FITTINGS SHALL BE SEaled WITH COMPOUND.
  2. ALL 90 DEGREE SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL WITH A MINIMUM RADIUS OF 36 INCHES FOR PRIMARY CABLES AND 24 INCHES FOR SECONDARY CABLES. ALL STEEL SHEETS WITHIN 18" OF THE SURFACE SHALL BE PROPERLY GROUNDING.
  3. A 10-FOOT HORIZONTAL SECTION OF RIGID GALVANIZED STEEL CONDUIT WILL BE REQUIRED AT EACH SWEEP, UNLESS IN THE OPINION OF THE EVERSOURCE DESIGNER, THE SWEEP-PVC JOINT IS NOT SUBJECT TO FAILURE DURING CABLE PULLING.
  4. THE CONDUIT SHALL CROSS PAVED AREAS AT APPROXIMATELY 90 DEGREES.
  5. BACKFILL MAY BE MADE WITH EXCAVATED MATERIAL OR COMPARABLE, UNLESS MATERIAL IS DEEMED UNSUITABLE BY EVERSOURCE. BACKFILL SHALL BE FREE OF FROZEN LUMPS, ROCKS, DEBRIS, AND RUBBISH. ORGANIC MATERIAL SHALL NOT BE USED AS BACKFILL. BACKFILL SHALL BE THOROUGHLY COMPACTED IN 8-INCH LIFTS.
  6. A SUITABLE PULL STRING, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE EVERSOURCE IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BELONG INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BENDING THE STRING TO THE CONDUIT.
  7. ROUTING OF THE CONDUIT AND INSPECTION PRIOR TO BACKFILL WILL BE PROVIDED BY EVERSOURCE. INSTALLATION OF THE CONDUIT WILL BE DONE BY THE CONTRACTOR. THE EVERSOURCE SUPERVISOR MUST BE NOTIFIED 3 BUSINESS DAYS PRIOR TO BACKFILLING THE TRENCH. IN THE EVENT THAT A CABLE CANNOT BE SUCCESSFULLY PULLED THROUGH THE COMPLETED CONDUIT SYSTEM DUE TO A CONSTRUCTION ERROR, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND REPAIR THE INVOLVED CONDUIT. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL RESULTING EXPENSES.
  8. NORMAL CONDUIT SIZES FOR EVERSOURCE ARE 3-INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4-INCH FOR THREE PHASE SECONDARY, AND 5-INCH FOR THREE PHASE PRIMARY.
  9. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRICAL SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND WHERE APPLICABLE THE NATIONAL ELECTRIC CODE.
  10. CONDUIT 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.



**SPILLWAY DETAIL**  
NOT TO SCALE



- INFILTRATION BASIN MAINTENANCE:**
1. THE BOTTOM, SIDE SLOPES AND CREST SHALL BE MOWED AND THE VEGETATION MAINTAINED IN A HEALTHY CONDITION.
  2. EMBANKMENTS SHOULD BE INSPECTED ANNUALLY BY A QUALIFIED PROFESSIONAL FOR SETTLEMENT, EROSION, SEEPAGE, ANIMAL BURROWS, AND WOODY VEGETATION. REPAIR AS NECESSARY.
  3. A QUALIFIED PROFESSIONAL SHALL INSPECT THE OUTLET PIPE, SPILLWAY, AND OUTLET PROTECTION ANNUALLY. REPAIR AS NECESSARY.
  4. TRASH AND DEBRIS SHALL BE REMOVED FROM THE BASIN AND PIPE INLETS AND OUTLETS WHENEVER PRESENT.
  5. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN THE DEPTH EXCEEDS 4 INCHES.



**DRIVEWAY PROFILE**

H: 1" = 20'  
V: 1" = 4'

**CONSTRUCTION DETAILS**  
TAX MAP 208, LOT 16  
FARMINGTON ROAD  
ROCHESTER, NH  
PREPARED FOR:  
KO-GO LLC  
JANUARY 2021

C-4





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 HYDROLOGICAL 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.

## 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) 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 FENCED:  
a) BASE COURSE GRAVELS HAVE BEEN INSTALLED.
- 2. TEMPORARY STABILIZATION:**  
ALL 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:**  
a) ALL AREAS OF EXPOSED OR DISTURBED SOIL SHALL BE DISTURBED DURING CONSTRUCTION, NO MORE THAN 5 ACRES SHALL BE DISTURBED (NOT STABILIZED) AT ANY TIME.  
b) ONLY DISTURB, CLEAR, OR GRADE AREAS NECESSARY FOR CONSTRUCTION.  
c) FLAG OR OTHERWISE DELINEATE AREAS NOT TO BE DISTURBED.  
d) EXCLUDE VEHICLES AND CONSTRUCTION EQUIPMENT FROM THESE AREAS TO PRESERVE NATURAL VEGETATION.
- 5. ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHALL BE PROTECTED DURING CONSTRUCTION:**  
a) CLEARING AND DISTURBANCE SHALL BE WITH THE APPROVED GRADING AND DRAINAGE PLAN DEPICTED ON SHEET C-3.  
b) 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-3.
- 6. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED IN THE AMOUNT NECESSARY TO COMPLETE FINISHED GRADING AND BE PROTECTED FROM EROSION.**
- 7. STOCKPILES, BORROW AREAS AND SPOILS SHALL BE STABILIZED AS DESCRIBED UNDER "SOIL STOCKPILE PRACTICES"**
- 8. 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.**
- 9. AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND/OR OTHER OBJECTIONABLE MATERIALS.**
- 10. AREAS SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3-INCHES PRIOR TO REDUCE EROSION, SLURPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILLS INTENDED TO SUPPORT BUILDINGS, STRUCTURES, SITE UTILITIES, CONDUITS AND OTHER FACILITIES, SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OF COMPACTION.**
- 11. 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.**
- 12. 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 FILLS.**
- 13. 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.**
- 14. THE OUTER FACE OF THE FILL SLOPE OF THE FILL 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 N.H.S.M. VOL. 3.**
- 15. ROUGHEN THE SURFACE OF ALL SLOPES DURING THE CONSTRUCTION OPERATION TO REDUCE EROSION, SLURPAGE, SETTLEMENT AND FACILITATE VEGETATION ESTABLISHMENT.**
- 16. USE SLOPE BREAKS, SUCH AS DIVERSIONS, BENCHES, OR CONTOUR FURROWS AS APPROPRIATE TO REDUCE THE LENGTH OF CUT-FILL SLOPES TO LIMIT SEED AND SEDIMENT DURING ALL PHASES OF CONSTRUCTION.**
- 17. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE EVALUATED BY A PROFESSIONAL ENGINEER (PREFERABLY THE DESIGN ENGINEER) TO DETERMINE IF THE PROPOSED DESIGN AREA SHALL BE DEEMED TO PROPERLY MANAGE THE CONDITION.**
- 18. STABILIZE ALL GRADED AREAS (AS ABOVE) WITH VEGETATION, CRUSHED STONE, COMPOST BLANKET, OR OTHER GROUND COVER AS SOON AS GROUNDS ARE 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.**
- 19. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.**
- 20. 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 EXCEPTED, ADAPTED AND REFERENCED FROM "NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3 CONSTRUCTION PHASE EROSION AND SEDIMENT CONTROLS, DECEMBER 2008" (N.H.S.M., VOL. 3)

## 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, BERMES, SANDBAGS OR OTHER APPROVED PRACTICES.
3. STOCKPILES SHALL BE SURROUNDED BY SEDIMENT BARRIERS AS DESCRIBED ON THE PLANS AND IN N.H.S.M. VOL. 3, TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILE.
4. IMPLEMENT WIND EROSION CONTROL MEASURES AS APPROPRIATE ON ALL STOCKPILED MATERIAL.
5. PLACE BAGGED MATERIALS ON PALLETS OR UNDERCOVER.

- PROTECTION OF INACTIVE STOCKPILES:**  
a) 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.
- b) INACTIVE STOCKPILES OF CONCRETE, RUBBER, ASPHALT, 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:**  
a) 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 AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIAL FROM THE STOCKPILE.
- b) THE INTEGRITY OF THE BARRIER SHALL BE INSPECTED AT THE END OF EACH WORKING DAY.
- c) WHEN A STORM IS PREDICTED, STOCKPILES SHALL BE PROTECTED WITH AN ANCHORED PROTECTIVE COVERING.

## WINTER STABILIZATION & CONSTRUCTION PRACTICES:

- MAINTENANCE REQUIREMENTS:**  
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 FUNCTION.
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 N.H.S.M. 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 SEED 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 N.H.S.M., 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 SEED 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 OVER-HEAT.
  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, 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 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 SHALL 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 SEIVE, BY WEIGHT, PASSES THE NUMBER 200 SEIVE.
  12. SEDIMENT BARRIERS THAT ARE INSTALLED DURING FROZEN CONDITIONS SHALL CONSIST OF EROSION CONTROL MIX BERMES, OR CONTINUOUS CONTAINED BERMES. SILT FENCES AND HAY BALES SHALL NOT BE INSTALLED WHEN FROZEN CONDITIONS PREVENT PROPER EMBEDMENT OF THESE BARRIERS.

## PERMANENT VEGETATION SEEDING RECOMMENDATIONS:

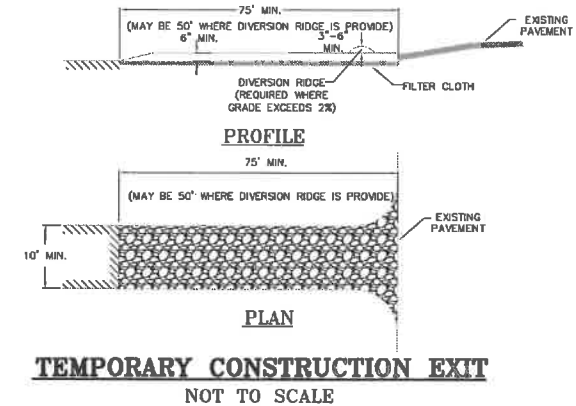
- SITE PREPARATION:**
1. INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS, AND SEDIMENT TRAPS.
  2. GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
  3. RUNOFF SHALL BE DIVERTED FROM THE SEEDBED 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 LINE 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 CONTINGENT ON THE GENERAL CONTOUR, AND SHALL BE 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, DEBRIS 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 2 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 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 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, CULPACKER 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 CULPACKER TYPE SEEDER OR HYDROSEEDER IS USED, THE SEEDBED SHALL BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A ROLLER, OR JOINT 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 GROWN VEGETATION IS SEEDING IN LATE SUMMER AT LEAST 50% OF THE SEED SHALL BE HARD SEED (UNSCARIFIED). IF SEEDING CANNOT BE DONE WITHIN THE SPECIFIED SEEDING DATES, MULCH ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE DESCRIBED IN THE N.H.S.M. VOL. 3, AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING DATE.
  5. AREAS SEEDED 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 N.H.S.M. VOL. 3.
  6. 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 RAKING 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 MUST 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 MOVED 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.
  5. 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.



- MAINTENANCE REQUIREMENTS:**
1. 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.
  2. THE CONTRACTOR SHALL SWEEP THE PAVEMENT AT EXITS WHENEVER SOIL MATERIALS ARE TRACKED ONTO THE ADJACENT PAVEMENT OR TRAVELED WAY.
  3. WHEN WHEEL WASHING IS REQUIRED, IT SHALL BE CONDUCTED ON AN AREA STABILIZED WITH ADEQUATE, WHICH DRAINS INTO AN APPROVED SEDIMENT-TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.
- CONSTRUCTION SPECIFICATIONS:**
1. THE MINIMUM STONE USED SHALL BE 3-INCH CRUSHED STONE.
  2. 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.
  3. THE PAD SHALL BE THE FULL WIDTH OF CONSTRUCTION ACCESS ROAD OR 10 FEET, WHICHEVER IS GREATER.
  4. THE PAD SHALL SLOPE AWAY FROM THE EXISTING ROADWAY.
  5. THE PAD SHALL BE AT LEAST 8 INCHES THICK.
  6. THE GEOTEXTILE FILTER FABRIC SHALL BE PLACED BETWEEN THE STONE PAD AND THE EARTH SURFACE BELOW THE PAD.
  7. THE PAD SHALL BE MAINTAINED OR REPLACED WHEN MUD AND SOIL PARTICLES CLOG THE VOIDS IN THE STONE SUCH THAT MUD AND SOIL PARTICLES ARE TRACKED OFF-SITE.
  8. NATURAL DRAINAGE THAT CROSSES THE LOCATION OF THE STONE PAD SHALL BE INTERCEPTED AND PIPED BENEATH THE PAD, AS NECESSARY, WITH SUITABLE OUTLET PROTECTION.

## PERMANENT VEGETATION SEEDING RECOMMENDATIONS:

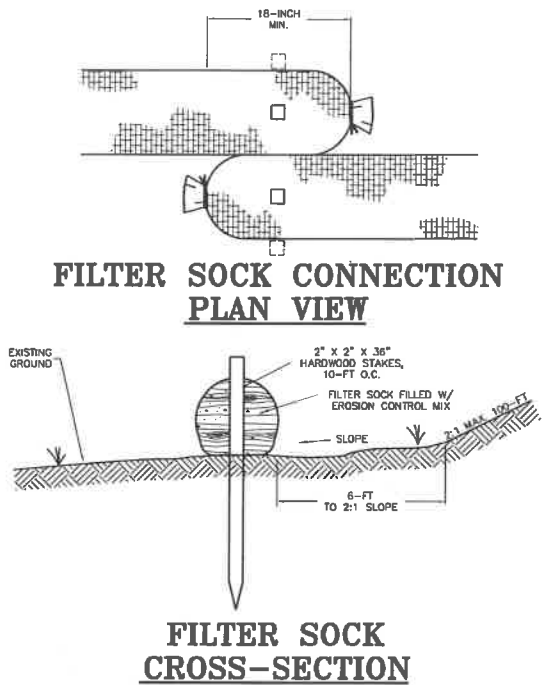
USE	MIXTURE	SPECIES	LBS./ACRE	LBS./1,000-SF
STEEP CUTS AND FILLS, GORRONS AND DISPOSAL AREAS	A	TALL FESCUE	20	0.45
		CREeping RED FESCUE	20	0.45
		REDTOP TOTAL	42	0.95
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER	A	TALL FESCUE	20	0.45
		CREeping RED FESCUE	20	0.45
		REDTOP TOTAL	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 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)

## TEMPORARY VEGETATION SEEDING RECOMMENDATIONS:

SPECIES	PER ACRE BUSHES (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)



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

- MAINTENANCE REQUIREMENTS:**
1. FILTER SOCK MAINTENANCE SHALL FOLLOW THE SAME SCHEDULE AS EROSION CONTROL MIX BERMES.
- CONSTRUCTION SPECIFICATIONS:**
1. 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.
  2. THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL CONTOUR.
  3. 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.
  4. 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:**
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. STONES AND TRASH SHALL BE REMOVED SO AS NOT TO INTERFERE WITH THE SEEDING AREA.
  2. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
  3. IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHALL BE APPLIED DURING THE GROWING SEASON.
  4. APPLY LIMESTONE 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 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

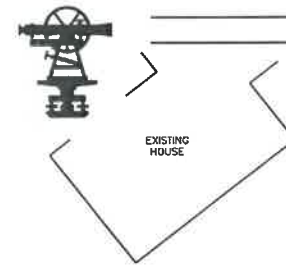
- SEEDING:**
1. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULPACKER TYPE SEEDER OR HYDRO SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.
  2. TEMPORARY SEED SHALL TYPICALLY OCCUR PRIOR TO SEPTEMBER 15.
  3. AREAS SEEDED 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 N.H.S.M. VOL. 3.
  4. 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:**
1. 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.
  2. 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.
  3. 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.

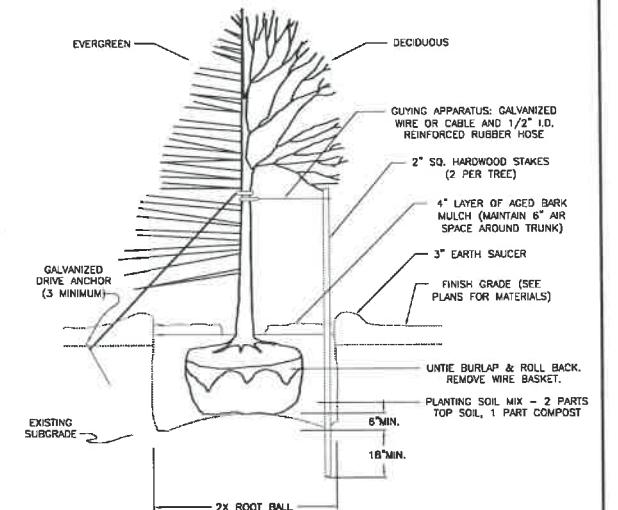
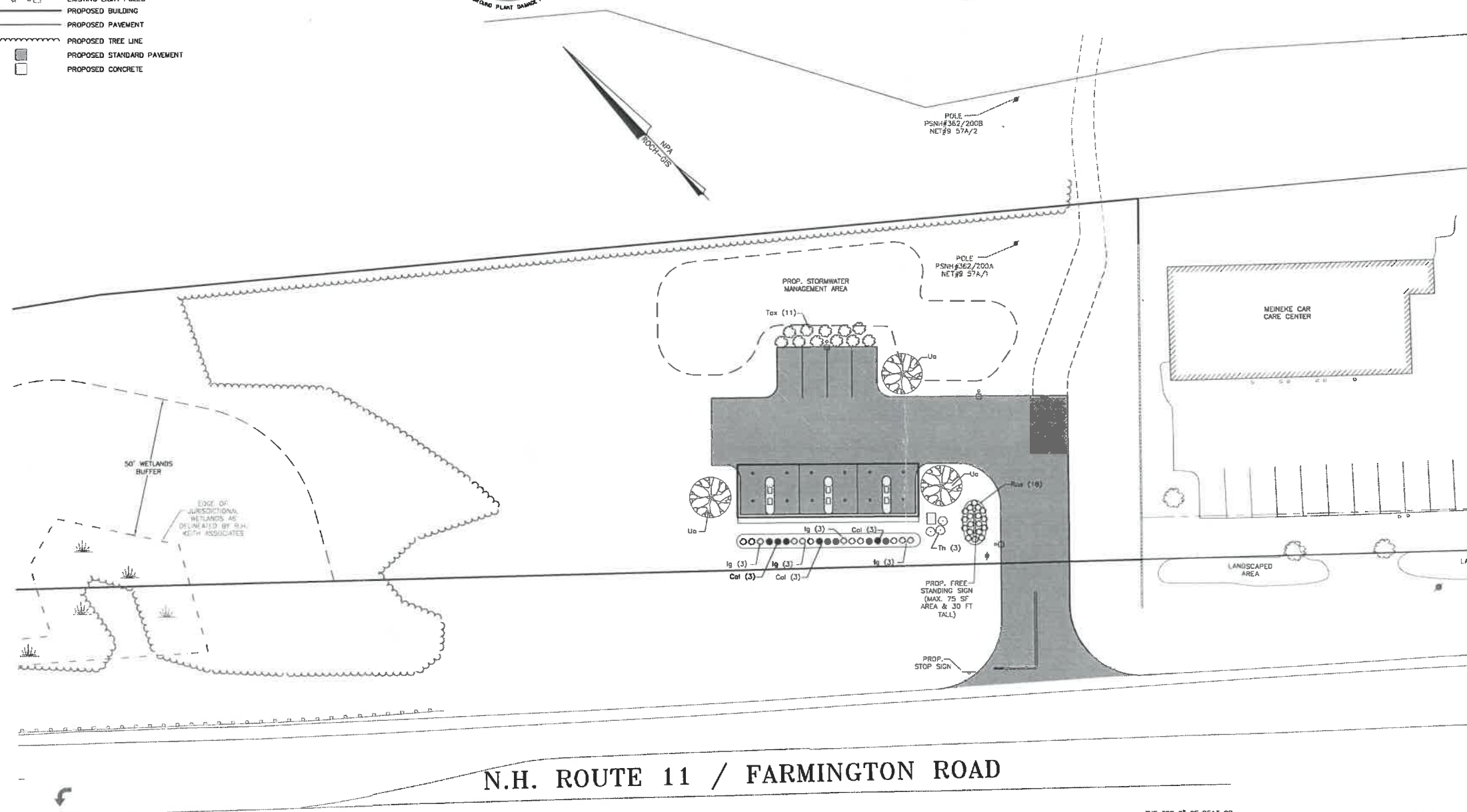
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PLAN NO. C-2188  
DWG. NO. 21396 SP-2

LEGEND

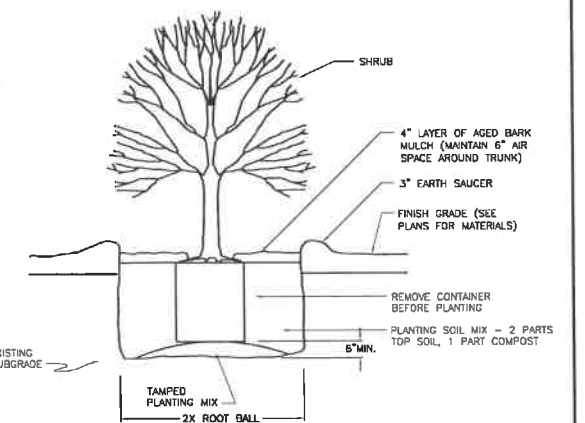
- PROPERTY LINE
- - - JURISDICTIONAL WETLANDS
- - - EXISTING TREE LINE
- - - EXISTING OVERHEAD WIRES
- - - EXISTING HYDRANT
- - - EXISTING WATER GATE OR SHUT-OFF VALVE
- - - EXISTING UTILITY POLE
- - - EXISTING SEWER MAN HOLE
- - - EXISTING CATCH BASIN
- - - EXISTING LIGHT POLES
- - - PROPOSED BUILDING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



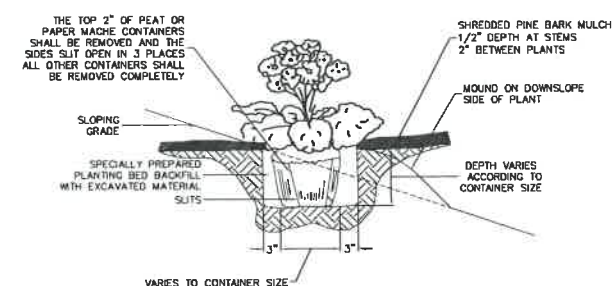
CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN 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.



**TREE PLANTING DETAIL**  
NOT TO SCALE



**SHRUB PLANTING DETAIL**  
NOT TO SCALE



**PERENNIAL PLANTING DETAIL**  
NOT TO SCALE

PLANT LIST

TREES	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE
Ua	Ulmus americana 'Princeton'	Princeton American Elm	3	3-3.5" col.
SHRUBS	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE
Th	Thuja plicata 'Green Giant'	Green Giant Arborvitae	3	3-4' Ht.
Tax	Taxus Media 'Greenways'	Greenway Yew	11	5 gal.
Ros	Rosa 'Sunny Knockout'	Sunny Knockout Rose	18	3 gal.
PERENNIALS, GROUNDCOVERS, VINES and ANNUALS	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE
Ig	Ilex glabra 'Shamrock'	Shamrock Inkberry	12	5 gal.
Col	Calamagrostis acutifolia 'Karl Foerster'	Feather Reed Grass	9	1 gal.

FILE NO. 116  
PLAN NO. C-2188  
DWG. NO. 21396 SP-2

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

**NORWAY PLAINS ASSOCIATES, INC.**

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

**LANDSCAPING PLAN**  
**TAX MAP 208, LOT 16**  
**FARMINGTON ROAD**  
**ROCHESTER, NH**  
PREPARED FOR:  
**KO-GO LLC**  
JANUARY 2021  
GRAPHIC SCALE



# LAND SURVEYORS

# CIVIL ENGINEERS

## LEGEND

- PROPERTY LINE
- EXISTING OVERHEAD WRES
- EXISTING LIGHT POLES
- PROPOSED BUILDING
- PROPOSED PAVEMENT
- ☆ PROPOSED PAVEMENT WITH CURBING
- PROPOSED LIGHT POLES
- PROPOSED BUILDING LIGHT FIXTURES
- PROPOSED LIGHT FOOTCANDLE
- PROPOSED LIGHT ISOLUMINATION LINES

Luminaire Schedule				
Symbol	Label	Qty	Arrangement	Description
☆	C	12	SINGLE	HC615D010-HM612840-61WDH
○	S3	1	SINGLE	FIRSTLIGHT-SCL2-SPMU-BZ-T3-NW-00 (15' AFG)
○	S4	2	SINGLE	FIRSTLIGHT-SCL2-SPMU-BZ-T4F-NW-00-BLS (15' AFG)

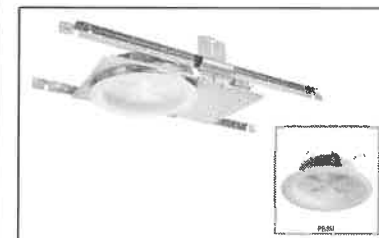


EXISTING HOUSE

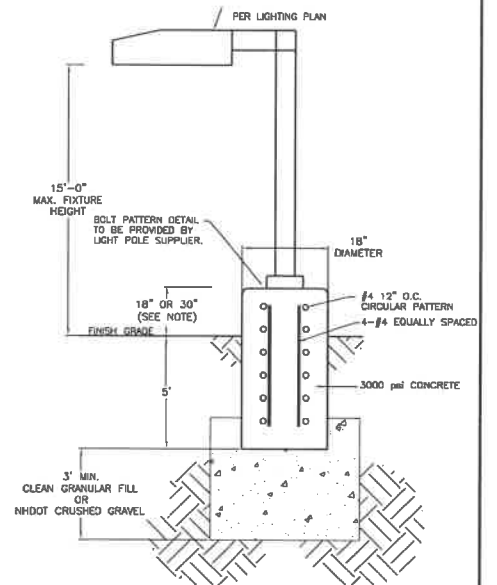
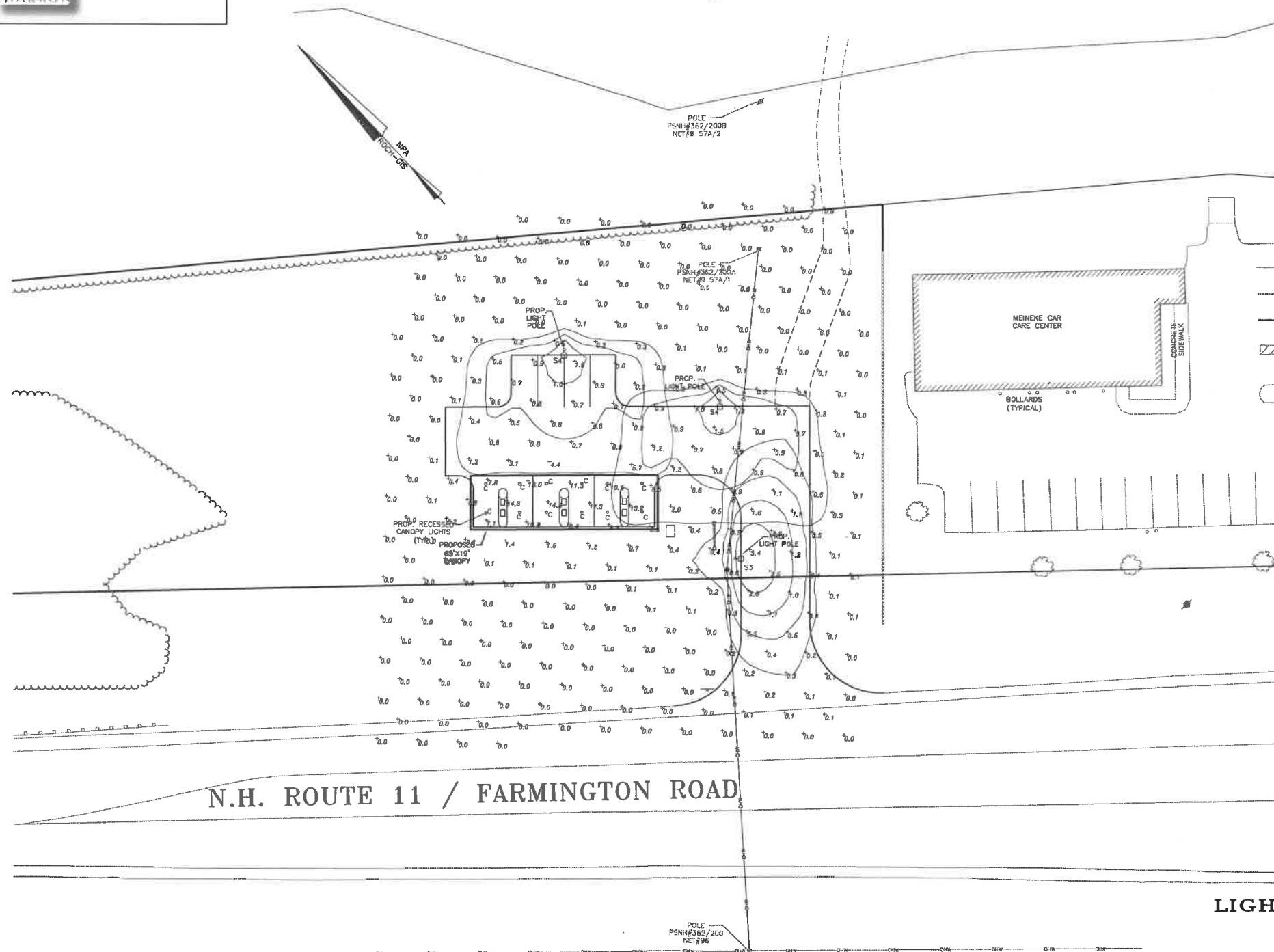
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FIRSTLIGHT TECHNOLOGIES SOLAR LED LIGHT



COOPER LIGHTING SOLUTIONS HALO COMMERCIAL



## POLE MOUNTED LIGHT DETAIL

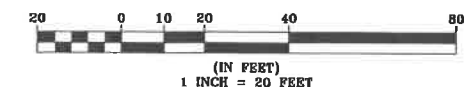
NOT TO SCALE

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

## LIGHTING PLAN AND DETAILS

TAX MAP 208, LOT 16  
FARMINGTON ROAD  
ROCHESTER, NH

PREPARED FOR:  
KO-GO LLC  
JANUARY 2021  
GRAPHIC SCALE



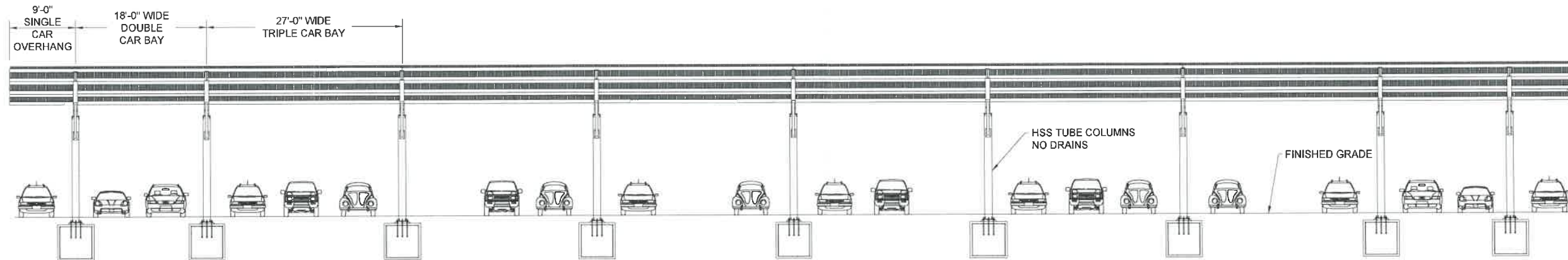
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PLAN NO. C-2188  
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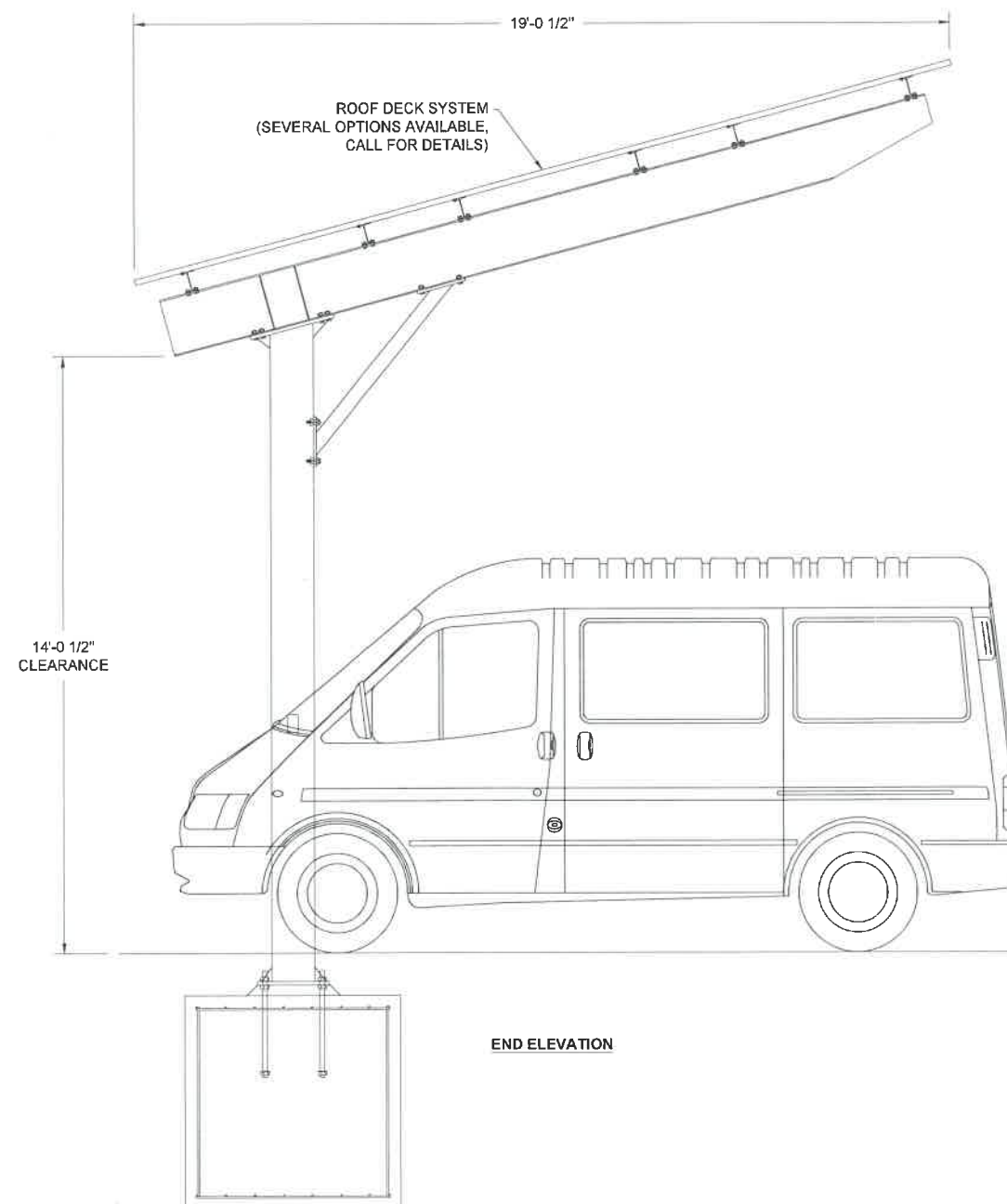
NORWAY PLAINS ASSOCIATES, INC.

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





FRONT ELEVATION



END ELEVATION



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**PRELIMINARY DRAWING  
NOT FOR CONSTRUCTION**

**JOB # -**

**QUOTE #**

-

**DRAWING #**

-

IN-LINE COLUMNS, SINGLE PARKING ROW

**CUSTOMER:**  
PARKING CANOPY (NON-SOLAR)

**LOCATION:** -

**SCALE:** N.T.S. **DRAWN BY:** DWI

**DATE:** 8.5.21 **SHEET:** 1 OF 1