

S.L. CHASSE STEEL – 201 & 199 ROBINSON ROAD

SITE PLAN APPLICATIONS #03-21 #04-21 & CUP #07-21

STAFF REPORT #3

August 25, 2021

SITE: 201 & 199 Robinson Road; Map 105 Lot 17-2 and Lot 17-3

ZONING: General-One (G-1)

PURPOSE OF PLANS:

SP #03-21: To show one proposed industrial building totaling 22,500 SF (including 300 SF office space) and associated parking on Robinson Road.

SP #04-21: To show three proposed industrial buildings totaling 50,400 SF (including 2,520 SF office space) and associated parking on Robinson Road.

CUP #07-21: To show public water connection from the existing stub approximately 900 feet north of the site to lots 17-2 & 17-3.

ATTACHMENTS:

- A. Second Round of Peer Review of SP #03-21 by Fuss & O'Neill, dated June 15, 2021
- B. Peer Review of Traffic Impact and Access Study, dated August 6, 2021
- C. Peer Review of Drainage Study, dated June 14, 2021
- D. Applicant response to Attachment A, received August 17, 2021
- E. Applicant response to Attachment B, received August 17, 2021
- F. Second Round of Peer Review of SP #04-21 by Fuss & O'Neill, dated June 15, 2021
- G. Applicant response to Attachment A, received August 17, 2021

APPLICATION TRACKING:

- April 7, 2021 – Site Plan applications received.
- May 28, 2021 – Conditional Use Permit application received.
- June 1, 2021 – Revised plans received.
- June 9, 2021 – Public hearing scheduled, SP applications accepted, continued to June 23, 2021.
- June 23, 2021 – Public hearing scheduled, applicant requested continuance to July 28, 2021.
- July 28, 2021 – Public hearing scheduled, applicant requested continuance to August 25, 2021.
- August 17, 2021 – Revised plan sets received.
- August 25, 2021 – Public hearing scheduled.

COMMENTS:

Please note that since the revised plan set was received on August 17, 2021, and this report was authored on August 18, 2021, a full review by town staff and the peer reviewer remains pending.

Fire protection for the two site plans is still being addressed. The applicant does not know if on-site water tanks will be required. Staff requested an update from the Engineering Department on the status of the waterline and fire protection issue, who reported the following:

Brian

Per your request please find below a status update on this matter

WhiteWater, in coordination with Pennichuck and our consultant, have completed three fire flow tests, all three were done under different conditions

The results have provided us (Engineering and Fire) with an existing conditions/capability related to the Route 102 booster station area.

We expect that our consultant's report will provide an overall picture of existing capabilities and recommendations regarding meeting the fire flows for the proposed development.

We will share this findings with the applicant and their engineer once available

After the report gets reviewed, decisions will be made regarding what will be required by the applicant.

We expect this to be completed by next week or first week of September

Currently, no tanks are shown on the plan. Staff recommends the applicant proceed as if the tanks are required. If it is later found they are not necessary, removing them from the plan is less of a challenge than trying to locate them in the event they are necessary.

DRAFT MOTIONS

CONTINUE the public hearing to a date certain:

I move to continue the public hearing for the conditional use permit application and site plan applications for S.L. Chasse Steel at 199 and 201 Robinson Road; Map 105 Lot 17-3 and Lot 17-2 to date certain, _____, 2021.

Motion by: _____ Second: _____ Carried/Failed: _____



June 15, 2021

Mr. Brian Groth
Town Planner
Town of Hudson
12 School Street
Hudson, NH 03051

Re: Town of Hudson Planning Board Review
SL Chasse Steel Site Plan, Robinson Road
Tax Map 105 Lot 17-2; Acct. #1350-532
Reference No. 20030249.2020

Dear Mr. Groth:

Fuss & O'Neill (F&O) has reviewed the second submission of the materials received on May 28, 2021, related to the above-referenced project. A list of items reviewed is enclosed. The scope of our review is based on the Site Plan Review Codes, Stormwater Codes, Driveway Review Codes, Sewer Use Ordinance 77, Zoning Regulations, and criteria outlined in the CLD Consulting Engineers Proposal approved September 16, 2003, revised September 20, 2004, June 4, 2007, September 3, 2008, and October 2015.

The project appears to consist of the development of an industrial building with fuel pump area. Proposed improvements to the site also include the construction of a driveway, parking areas, drainage improvements, landscaping, lighting and other associated site improvements. The proposed buildings will be serviced by a private onsite subsurface disposal system for sewer. The applicant has proposed extending an existing water main along Robinson Road to provide water service to the subject site.

Please note that comments related to the proposed development at lot 17-3 will be forwarded with a separate letter. Also, the stormwater design documents provided as part of the review package incorporate both lots, so our drainage related comments have been provided separately.

The following items have outstanding issues:

1. Site Plan Review Codes (HR 275)

- g. *Former Fuss & O'Neill Comment:* HR 275-9.F. *The applicant did not provide copies of any easements or deeds as part of the package received for review.*

Current Fuss & O'Neill Comment: The applicant has provided a copy of the deed. We note no easements were provided, however, the deed references a State of New Hampshire easement.

2. Administrative Review Codes (HR 276)

- f. **Former/Current Fuss & O'Neill Comment:** HR 276-11.1.B.(17). We were unable to locate any benchmarks within the Site plan.

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3. Driveway Review Codes (HR 275-8.B. (34)/Chapter 193)

- a. **Former/Current Fuss & O'Neill Comment:** HR 193.10.E. The applicant has shown sight distances of 400 feet for the proposed driveway on the plan set. We note that the site line is very close to the existing grade at Station 1+00 and that it does not take into account snow or vegetation. The applicant should review the need to modify this area to better account for seasonal obstructions.

5. Utility Design/Conflicts

- a. *Former Fuss & O'Neill Comment:* HR 275-9.E and 276-13. The applicant has provided a typical septic system detail and shown the approximate septic location. We note that no water or well details were provided.

Current Fuss & O'Neill Comment: The applicant has stated that they are currently working on a water connection to the site, and an off-site water main extension plan was provided. We note that water lines are now shown on the site but details, size and materials are not provided.

- b. *Former Fuss & O'Neill Comment:* HR 275-9.E. The applicant has not shown the existing well or septic system on the plans.

Current Fuss & O'Neill Comment: The applicant has stated that they have not been located and will be decommissioned. The applicant should provide the information or review the need for a waiver.

- c. *Former Fuss & O'Neill Comment:* The applicant did not provide any information about the fuel pumping area or the underground tanks typically associated with the pumps.

Current Fuss & O'Neill Comment: The applicant has stated that they are in the process of design for the tanks.

- d. **New Fuss & O'Neill Comment:** The applicant has provided a water main profile that shows a minimum of 4 feet of cover in some sections. The minimum cover required by the Town of Hudson is 5 feet.
- e. **New Fuss & O'Neill Comment:** The applicant should review with the Hudson Fire Department whether hydrants should be installed along the proposed water main on Robinson Road. If required, hydrants shall meet the requirements of Hudson Engineering Technical Guidelines section 825.4.10.

7. Zoning (ZO 334)

- f. **New Fuss & O'Neill Comment:** ZO 334-36.C.(2). The applicant is proposing installation of a water main along Robinson Road that impacts a wetlands buffer. The applicant should review with the Town to determine if the proposed water main requires a Conditional Use Permit in accordance with the Ordinance.

10. State and Local Permits (HR 275-9.G.)

- b. *Former Fuss & O'Neill Comment:* HR 275-9.G. The applicant has not provided any information or

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details related to sizing or containment design for the fuel pumps, nor provided any information about state and local permitting for these structures.

Current Fuss & O'Neill Comment: The applicant has noted that the fuel pumps are in the process of being designed.

The following items require Town evaluation or input:

1. Site Plan Review Codes (HR 275)

- a. *Former Fuss & O'Neill Comment: Hudson Regulation (HR) 275-6.I. The scope of this review does not include the adequacy of any fire protection provisions for the proposed buildings. Fuss & O'Neill defers to the Hudson Fire Department for review of proposed fire protection for this facility. We note that the site is proposed to be serviced by a private well. The Town should review the need for an onsite cistern depending on the well capacity.*

Current Fuss & O'Neill Comment: The applicant has stated that they are coordinating with the Town and the Fire Department.

2. Administrative Review Codes (HR 276)

- b. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(6) The owner's signature is not shown on the plan set.*

Current Fuss & O'Neill Comment: The applicant noted that the owner will sign the final plan.

- c. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(12).(a). The applicant has shown a 100 foot residential buffer setback from adjacent residential lots, but based on the proposed industrial use for the site a 200 foot setback would be required for all buildings, parking or display areas.*

Current Fuss & O'Neill Comment: The applicant has requested a waiver to reduce the buffer to 100 feet.

4. Traffic

- a. *Former Fuss & O'Neill Comment: HR 275-9.B. The applicant has not provided any traffic information as part of the review package.*

Current Fuss & O'Neill Comment: The applicant has indicated that the Town has not requested any traffic information, and their understanding is that it is not required to this point. We note that between lots 2 and 3 there are over 130 parking spaces proposed, which may provide traffic impacts that warrant further review.

The following items are resolved or have no further Fuss & O'Neill input:

1. Site Plan Review Codes (HR 275)

- b. *Former Fuss & O'Neill Comment: HR 275-6.C. The applicant has not proposed a sidewalk along Robinson Road.*
- c. *Former Fuss & O'Neill Comment: HR 275-8.C.(2) and Zoning Ordinance (ZO) 334-15.A. The applicant has provided parking calculations on the plan set requiring 38 spaces, and 38 spaces have been*

Mr. Brian Groth

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proposed for the site.

- d. *Former Fuss & O'Neill Comment: HR 275-8.C.(4). The applicant has provided parking spaces that are 9 feet by 20 feet. We note that with will require Planning Board approval for spaces less than 10 feet wide.*

Current Fuss & O'Neill Comment: The applicant has revised the spaces to 10 feet by 20 feet. No further Fuss & O'Neill comment.

- e. *Former Fuss & O'Neill Comment: HR 275-8.C.(6). The applicant should show the proposed off-street loading spaces on the plan set. We note that 3 spaces are required and the applicant has noted 3 spaces are provided but they are not labeled. The applicant has provided 38 trailer parking spaces on the plan set but they do not meet the 60 foot long size requirement for loading spaces.*

Current Fuss & O'Neill Comment: The applicant has labeled the loading spaces on the plan set. No further Fuss & O'Neill comment.

- f. *Former Fuss & O'Neill Comment: HR 275-9.C.(11). The applicant has provided two handicap parking spaces on the plan which meets the minimum requirement. The applicant should show the sidewalk ramp location in relation to the handicap parking spaces on the site plan.*

Current Fuss & O'Neill Comment: The applicant has added the ramp to the plan. No further Fuss & O'Neill comment.

2. Administrative Review Codes (HR 276)

- a. *Former Fuss & O'Neill Comment: HR 276-7. The applicant did not list any waivers on the plan set or provided any completed waiver request forms as part of the package received for review.*

Current Fuss & O'Neill Comment: The applicant added a waiver to the plan set. No further Fuss & O'Neill comment.

- d. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(13). The applicant has not included details for any proposed business signage. The applicant should include a note stating that, "All signs are subject to approval by the Hudson PLANNING BOARD prior to installation thereof."*

Current Fuss & O'Neill Comment: The applicant has added the note to the plan set. No further Fuss & O'Neill comment.

- e. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(16).The applicant has not provided the locations of the driveways and travel ways within 200 feet of the site.*

Current Fuss & O'Neill Comment: The applicant has clarified the only travel way within 200 feet of the site is shown on the plans. No further Fuss & O'Neill comment.

- g. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(20). The applicant has not provided size and height of the existing building on the plan set or shown the driveway and landscaping areas.*

Current Fuss & O'Neill Comment: The applicant has noted that the existing building will be demolished along with the existing driveway. As most of the lot will be redeveloped the lack of this information on the plans would not impact the proposed improvements. No further Fuss & O'Neill comment.

- h. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(23). The applicant has not noted any pertinent highway projects on the plan set.*

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3. Driveway Review Codes (HR 275-8.B. (34)/Chapter 193)

- b. *Former Fuss & O'Neill Comment: HR 193.10.G. The applicant has only provided one driveway for the site but has also provided a connection to Lot 17-3. This connection links both sites via a 24 foot wide driveway.*

6. Drainage Design/Stormwater Management (HR 275-9.A./Chapter 290)

The review of the drainage design and Alteration of Terrain report was provided under a separate letter from Fuss & O'Neill dated April 30, 2021 and June 14, 2021.

7. Zoning (ZO 334)

- a. *Former Fuss & O'Neill Comment: Zoning Ordinance (ZO) 334-14.A. The applicant has noted that the proposed building height will be less than 38 feet on the plan set. No architectural drawings or elevations for the proposed building were included in the review package.*

Current Fuss & O'Neill Comment: The applicant has provided elevations. No further Fuss & O'Neill comment.

- b. *Former Fuss & O'Neill Comment: ZO 334-17 & 334-21. The applicant has noted that the subject parcel is located within the General (G-1) zoning district. The proposed use appears to be permitted by the Ordinance.*
- c. *Former Fuss & O'Neill Comment: ZO 334-33. The applicant has noted that no wetlands are located on the site.*
- d. *Former Fuss & O'Neill Comment: ZO 334-60. The applicant has not provided any information for any proposed signs on site, except traffic and parking signage.*
Current Fuss & O'Neill Comment: The applicant has noted that signs will be subject to approval by the Planning Board. No further Fuss & O'Neill comment.
- e. *Former Fuss & O'Neill Comment: ZO 334-84 and HR 218-4.E. The applicant has noted that the site is not located in a designated flood hazard area.*

8. Erosion Control/Wetland Impacts

- a. *Former Fuss & O'Neill Comment: HR 290-7.B.(16). The applicant should show snow storage locations on the plan set.*

Current Fuss & O'Neill Comment: The applicant has added snow storage areas to the plan. No further Fuss & O'Neill comment.

- b. *Former Fuss & O'Neill Comment: The Town of Hudson should reserve the right to require any additional erosion control measures as needed.*

9. Landscaping (HR 275-8.C.(7) & 276-11.1.B.(20)) and Lighting (HR 276-11.1.B.(14))

- a. *Former Fuss & O'Neill Comment: HR 275-8.C.(8). The applicant has proposed to use existing vegetation between the rear of the parking lot and the residential use to the north.*
- b. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(14). The applicant has shown lighting fixture locations on the plans with details and photometric information. The applicant has noted that the site will be in operation between 6:00 am and 6:00 pm Monday through Saturday, and is proposing to leave*

Mr. Brian Groth

June 15, 2021

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lighting on at all times for security and safety for the facility. We note that the site is heavily wooded between the proposed lighting areas and adjacent residential properties, and that luminaires are proposed to be installed at elevations lower than the grades at the property lines. Even though during winter months there will be minimal leaf cover, the proposed grading should prevent the luminaires from being visible to adjacent properties.

10. State and Local Permits (HR 275-9.G.)

- a. *Former Fuss & O'Neill Comment: HR 275-9.G. The applicant has listed all required permits and their status on the plan set.*
- c. *Former Fuss & O'Neill Comment: HR 275-9.G. The applicant did not provide copies of any applicable Town, State or Federal approvals or permits in the review package.*
- d. *Former Fuss & O'Neill Comment: Additional local permitting may be required.*

11. Other

- a. *Former Fuss & O'Neill Comment: The applicant should review the spot grade for the bottom of curb at the front of the building. One elevation appears to be 2 feet lower than the others.*
Current Fuss & O'Neill Comment: The applicant has revised the spot grade. No further Fuss & O'Neill comment.

Please feel free to call if you have any questions.

Very truly yours,



**Steven W.
Reichert, PE**

Digitally signed by Steven W. Reichert,
PE
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O'Neill, Inc.,
email=sreichert@fando.com
Date: 2021.06.15 12:49:46 -04'00'

Steven W. Reichert, P.E.

SWR:

Enclosure

cc: Town of Hudson Engineering Division – File
Keach-Nordstrom Associates, Inc. - svando@keachnordstrom.com



August 6, 2021

Mr. Brian Groth
Town Planner
Town of Hudson
12 School Street
Hudson, NH 03051

Re: Town of Hudson Planning Board Review – Traffic Study Review
SL Chasse Steel Site Plan, Robinson Road
Tax Map 105 Lot 17-2 & 17-3; Acct. #1350-532
Reference No. 20030249.2020

Dear Mr. Groth:

Fuss & O'Neill (F&O) has reviewed the Traffic Impact and Access Study received on July 23, 2021, related to the above-referenced project. The scope of this review letter is related to the traffic study only. Site plan, subdivision, and other review elements were previously provided.

The following items are noted:

4. Traffic

Fuss & O'Neill, Inc. has reviewed the traffic impact and access prepared by Transportation Engineering, Planning and Policy, LLC (TEPP) for Keach-Nordstrom Associates, Inc. (KNA) dated July 22, 2021, for the proposed commercial redevelopment on Robinson Road in Hudson, New Hampshire (Tax Map 115 Lots 17-2 and 17-3). The project proposes to replace one existing single-family housing unit with a 79,200 square foot light-industrial land use. Access and egress to the site will be provided via two proposed driveways—one on the east side of Robinson Road directly across from Christine Drive and one along Robinson Road 250 feet south of its intersection with Christine Drive. The two driveways will be connected internally to the site.

In review of the TEPP report, we would suggest the following:

- Based on the provided ATR vehicle speeds, it appears that the mean speed and 85th percentile speed for the northbound direction should be 39.7 mph and 44 mph, respectively. These values are represented correctly in Table 2 of the Vehicle Speeds section of the report, but are summarized incorrectly in the text immediately after. The text should be revised to reflect what is shown in Table 2.
- The last column of Table 8 is incorrectly labeled as 2032 No Build. This label should be revised to reflect 2032 Build conditions.

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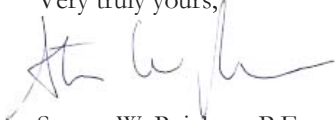
Mr. Brian Groth
August 6, 2021
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Overall, the procedures that the TEPP report uses are reasonable, with the appropriate ITE trip generation information used for the scenario provided. The analysis provided evaluated any impacts to Robinson Road at the driveway intersections. It should be noted that this site is within 1,200 feet of the Derry Road signalized intersection with Robinson Road and West Road. It's assumed that the majority of traffic from this site would need to travel through this signalized intersection, which would be up to an additional 27 vehicles in the AM either coming from Derry Road northbound or southbound approach, and up to an additional 21 vehicles in the PM existing the site via the eastbound approach. Should the Town have any concerns about the existing operations of this signalized intersection, we would recommend that the traffic study add additional discussion of the site trips accessing the Derry Road intersection. Since the trips generated by the proposed site are relatively low, a full signalized intersection analysis may not be warranted, but an idea of what the additional queue lengths would be with the addition of the site could be estimated with an evaluation of existing conditions, including some type of adjustment for COVID if Derry Road's current traffic is not back to pre COVID levels.

We concur with TEPP's overall conclusion that, given the relatively low number of new trips expected to be generated by the site's proposed land use (35 during the weekday morning peak hour and 25 during the weekday evening peak hour), there should be minimal impacts on traffic operations of Robinson Road. However, the report does not include the full impacted roadway network, only the adjacent site roadway, so further evaluation as described above may be warranted.

Please feel free to call if you have any questions.

Very truly yours,



Steven W. Reichert, P.E.

**Steven W.
Reichert, PE**

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PE
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SWR:

Enclosure

cc: Town of Hudson Engineering Division – File
Keach- Nordstrom Associates, Inc. - alewis@keachnordstrom.com



June 14, 2021

Mr. Brian Groth
Town Planner
Town of Hudson
12 School Street
Hudson, NH 03051

Re: Town of Hudson Planning Board Review - Stormwater Design Review
SL Chasse Steel Site Plan, Robinson Road
Tax Map 105 Lot 17-2 & 17-3; Acct. #1350-532
Reference No. 20030249.2020

Dear Mr. Groth:

Fuss & O'Neill (F&O) has reviewed the second submission of the materials received on May 28, 2021, related to the above-referenced project. The scope of this review letter is related to stormwater aspects of the project design only. Site plan, subdivision, and other review elements are provided under separate cover.

This review is based on the recently adopted Stormwater Regulations (Chapter 290), Subdivision Regulations (Chapter 289), Site Plan Review Regulations (Chapter 275), Hudson's Engineering Technical Guidelines and Typical Details, and general engineering practices. Due to the combined Alteration of Terrain Application for both lots 17-2 and 17-3, we have included comments for both of those lots as part of the overall stormwater design, and issued these separately from our Site Plan review comments.

The following items have outstanding issues:

6. Drainage Design/Stormwater Management (HR 275-9.A./Chapter 290)

- c. *Former Fuss & O'Neill Comment: HR 290-5.A.(5). The applicant has proposed a decrease in stormwater rates from the pre to post conditions in all storms analyzed, however, we do note an increase in stormwater volume in all storms analyzed at Analysis Point A. The applicant should provide additional information and review this volumetric increase with the Town.*

Current Fuss & O'Neill Comment: As previously noted, the design proposes a decrease in runoff rate, but the design does not meet the Regulation for runoff volumes at all storms analyzed for Analysis Point A. The most recent drainage calculations provided for review (during the first submittal-stamped April 6, 2021), illustrate the following increases in volume at Analysis Point A:

Year Storm Analyzed	Pre-Development Volume (cfs)	Post Development Volume (cfs)
10 year	75,737	94,931
25 year	135,577	161,520
50 year	201,728	230,049

The applicant shall provide additional information and review this volumetric increase with the Town.

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Mr. Brian Groth
June 14, 2021
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The following items require Town evaluation or input:

6. Drainage Design/Stormwater Management (HR 275-9.A./Chapter 290)

- f. *Former Fuss & O'Neill Comment: HR 290-7.B.(13). The applicant should provide the certified soil scientist's stamp on the Existing Conditions Plan for each plan set with the final plan submissions.*

Current Fuss & O'Neill Comment: The applicant has stated that the final plan will be stamped. We recommend the Town make this a Condition of Approval.

The following items are resolved or have no further Fuss & O'Neill input:

6. Drainage Design/Stormwater Management (HR 275-9.A./Chapter 290)

- a. *Former Fuss & O'Neill Comment: Hudson Regulations (HR) 290-10.A. The applicant should keep the Town informed of all communication with NHDES in relation to the required Alteration of Terrain permit being requested to ensure NHDES comments do not alter drainage design/calculations.*
- b. *Former Fuss & O'Neill Comment: HR 290-10.A. We note that additional items will be required for the NHDES AoT permit, which could potentially affect the stormwater calculations and/or construction of the site. Please provide additional detail on the following items:*
- i. *Former Fuss & O'Neill Comment: NHDES Env-Wq 1502.30 The applicant should verify that additional state/local requirements are not necessary to permit the project's "High Load Area" associated with the fueling area or parking areas.*
 - ii. *Former Fuss & O'Neill Comment: NHDES Env-Wq 1503.19(b) and statutory requirements of RSA 212-A:9, III, the NHDES adopted a rule amendment effective June 2, 2020, for the requirement of a Wildlife Habitat Assessment to be performed.*
 - iii. *Former Fuss & O'Neill Comment: NHDES Env-1505.03 The two sites may be required to meet this regulation or request a waiver from the 5-acre disturbed area limit.*
 - iv. *Former Fuss & O'Neill Comment: NHDES Env-1505.06(b)(1) The site may be required to meet this regulation or request a waiver from the 1-acre winter disturbed area limit.*
 - v. *Former Fuss & O'Neill Comment: NHDES Env-Wq 1507.05 and Env-Wq 1507.06 The applicant should provide additional drainage analyses to ensure the Channel Protection requirements of Env-Wq 1507.05 and Peak Flow Requirements of Env-Wq 1507.06 are being met at Analysis Point A in the event either of the projects are not constructed at the same time.*

Current Fuss & O'Neill Comment: The applicant has stated that the items were provided to NHDES and the permit is under review.

- d. *Former Fuss & O'Neill Comment: HR 290-5.A.(11). The Drainage Report calls for a 24"x24" horizontal top grate for both Infiltration Pond #2 and Detention Pond #2, while the details on Plan Sheet 12 (Lot 17-2 Set) calls for a 48"x48" top grate. The applicant should coordinate the details and the calculations.*

Current Fuss & O'Neill Comment: The applicant updated the details. No further Fuss & O'Neill comment.

- e. *Former Fuss & O'Neill Comment: HR 290-7.A.(9). An Inspection and Maintenance Plan should be provided by the applicant and a responsible party noted.*

Current Fuss & O'Neill Comment: The applicant has added the I & M Manual. No further Fuss & O'Neill comment.

- g. *Former Fuss & O'Neill Comment: The applicant will be required to comply with all provisions of the Town of Hudson's MS4 permit, including but not limited to annual reporting requirements, construction site stormwater*

Mr. Brian Groth

June 14, 2021

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runoff control, and record keeping requirements. The applicant has noted that the project has been designed to meet 2018 MS4 requirements. The applicant should update the note and ensure the design is compliant with the 2020 modifications to the MS4 permit.

Current Fuss & O'Neill Comment: The applicant has noted this requirement on the plan set. No further Fuss & O'Neill comment.

- h. *Former Fuss & O'Neill Comment: Please note that this review was carried out in accordance with applicable regulations and standards in place in New Hampshire at this time. Note that conditions at the site, including average weather conditions, patterns and trends, and design storm characteristics, may change in the future. In addition, future changes in federal, state or local laws, rules or regulations, or in generally accepted scientific or industry information concerning environmental, atmospheric and geotechnical conditions and developments may affect the information and conclusions set forth in this review. In no way shall Fuss & O'Neill be liable for any of these changed conditions that may impact the review, regardless of the source of or reason for such changed conditions. Other than as described herein, no other investigation or analysis has been requested by the Client or performed by Fuss & O'Neill in preparing this review.*

Please feel free to call if you have any questions.

Very truly yours,



Steven W. Reichert, P.E.

Steven W.
Reichert, PE

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SWR:

Enclosure

cc: Town of Hudson Engineering Division – File
Keach- Nordstrom Associates, Inc. - alewis@keachnordstrom.com



August 17, 2021

Mr. Brian Groth
Town Planner
Town of Hudson
12 School Street
Hudson, NH 03051

**Subject: Town of Hudson Planning Board Review
SL Chasse Steel Site Plan, Robinson Road
Tax Map 105 Lot 17-2; Acct.# 1350-532
Reference No. 20030249.2020
KNA Project # 20-0921-2**

Dear Mr. Groth:

Our office is in receipt of Fuss & O'Neill, Inc. review comments for the Town of Hudson dated June 15, 2021 for the project listed above. Based on the comments, we have made the required modifications to the plan set and attached a copy for final review. A response to each comment has been provided below.

The following items have outstanding issues:

1. Site Plan Review Codes (HR 275)

- g. HR 275-9.F. The applicant did not provide copies of any easements or deeds as part of the package received for review.*

The applicant has provided a copy of the deed. We note no easements were provided, however, the deed references a State of New Hampshire easement.

The property deed references easements that were part of the overall prior to the 2020 subdivision that does not affect this parcel.

2. Administrative Review Codes (HR 276)

- f. HR 276-11.1.B.(17). We were unable to locate any benchmarks within the Site plan. Benchmark is shown and labeled on the existing conditions plans.*

3. Driveway Review Codes (HR 275-8.B. (34)/Chapter 193)

- a. HR 193.10.G. The applicant has only provided one driveway for the site but has also provided a connection to Lot 17-3. This connection links both sites via a 24 foot wide driveway.*

Noted

5. Utility Design/Conflicts

- a. *HR 275-9.E and 276-13. The applicant has provided a typical septic system detail and shown the approximate septic location. We note that no water or well details were provided.*

The applicant has stated that they are currently working on a water connection to the site, and an off-site water extension plan was provided. We note that the water lines are shown on the site but details, size and materials are not provided.

Details have been included in this submittal as a part of the plan set.

- b. *HR 275-9.E. The applicant has not shown the existing well or septic system on the plans. Applicant has stated that they have not been located and will be decommissioned. The applicant should provide the information or review the need for a waiver.*

Existing well has been located and shown on the plans.

- c. The applicant did not provide any information about the fuel pumping area or the underground tanks typically associated with the pumps.

The applicant has stated that they are in the process of designing the fuel tanks.

Fuel pump area revised and is in the process of being designed and permitted by others.

- d. The applicant has provided a water main profile that shows a minimum of 4 feet of cover in some sections. The minimum cover by the town of Hudson is 5 feet.

Water main profile has been updated to show the minimum cover at 5 feet.

- e. The applicant should review with the Hudson Fire Department whether hydrants should be installed along the proposed main along Robinson Road. If required, hydrants shall meet the requirements of Hudson Engineering Technical Guidelines section 825.4.10.

KNA is working with the Town, Western and Sampson, Fire Department and DPW to determine how the water fire protection should be constructed.

7. Zoning (ZO 334)

- f. ZO 334-36.C.(2). The applicant is proposing installation of a water main along Robinson Road that impacts the wetland buffer. The applicant should review with the Town to determine if the proposed water main requires a Conditional use Permit in accordance with the Ordinance.

Conditional Use Permit has been submitted.

10. State and Local Permits (HR 275-9.G.)

- b. *HR 275-9.G. The applicant has not provided any information or details related to sizing or containment design for the fuel pumps, nor provided any information about state and local permitting for these structures.*

Fuel pump area revised and is in the process of being designed and permitted by others.

The following items require town evaluation or input:

1. Site Plan review Codes (HR 275)

- a. *Hudson Regulation (HR) 275-6.I. The scope of this review does not include the adequacy of any fire protection provisions for the proposed buildings. Fuss & O'Neill defers to the Hudson Fire Department for review of proposed fire protection for this facility. We note that the site is proposed to be serviced by a private well. The Town should review the need for an onsite cistern depending on the well capacity. The applicant has stated that they are coordinating with the Town and Fire Departments.*
Noted

2. Administrative review Codes (HR 276)

- b. *HR 276-11.1.B.(6) The owner's signature is not shown on the plan set. The applicant has noted the owner will sign the final plan.*
Noted
- c. *HR 276-11.1.B.(12).(a). The applicant has shown a 100 foot residential buffer setback from adjacent residential lots, but based on the proposed industrial use for the site a 200 foot setback would be required for all buildings, parking or display areas. The applicant has requested a waiver to reduce the buffer to 100 feet*
Noted

4. Traffic

- a. *HR 275-9.B. The applicant has not provided any traffic information as part of the review package. The applicant has indicated that the Town has not requested any traffic information and their understanding is that it is not required to this point, We note that between lots 2 and 3 there are over 130 parking spaces proposed, which may provide traffic impacts that warrant further review.*
A traffic report will be submitted to the Town.

I trust the content of this response letter and its attachments has addressed each of the comments, as noted. Should you have further questions or require additional information, please do not hesitate to contact our office.

Respectfully,



Shaun Vando
Project Engineer
Keach-Nordstrom Associates, Inc.



August 17, 2021

Mr. Brian Groth
Town Planner
Town of Hudson
12 School Street
Hudson, NH 03051

**Subject: Town of Hudson Planning Board Review – Stormwater Design Review
SL Chasse Steel Site Plan, Robinson Road
Tax Map 105 Lot 17-2 & 17-3; Acct.# 1350-532
Reference No. 20030249.2020
KNA Project # 20-0921-2**

Dear Mr. Groth:

Our office is in receipt of Fuss & O'Neill, Inc. review comments for the Town of Hudson dated June 14, 2021 for the project listed above. Based on the comments, we have made the required modifications to the plan set and attached a copy for final review. A response to each comment has been provided below.

6. Drainage Design/Stormwater Management (HR 275-9.A./Chapter 290)

- c. HR 290-5.A.(5). The applicant has proposed a decrease in stormwater rates from the pre to post conditions in all storms analyzed, however, we do note an increase in stormwater volume in all storms analyze at Analysis Point A. The applicant should provide additional information and review this volumetric increase with the Town.*

As previously noted, the design proposes a decrease in runoff rate, but the design does not meet the regulation for runoff volumes at all the storms analyzed for Analysis Point A. The most recent drainage calculations provided for review (during the first submittal stamped April 6, 2021), illustrate the following increases in volume at Analysis Point A.

Year Storm Analyzed	Pre-Develop Volume (cfs)	Post-Develop Volume (cfs)
10 Year	75,434	100,539
25 Year	135,110	166,828
50 Year	201,098	234,999

The applicant shall provide additional information and review this Volumatic increase with the Town.

The stormwater volume calculation meets the Alteration of Terrain requirements with the state. Given the soil types on this site it is impossible to infiltrate runoff volume to match the pre-development, but infiltration practices have been designed and implemented to the maximum extent practicable.

f. HR 290-7.B.(13). The applicant should provide the certified soil scientist's stamp on the Existing Conditions Plan for each plan set with the final plan submissions.

The applicant has stated that the final plan will be stamped. We recommend that town make this a Condition of Approval.

Noted

I trust the content of this response letter and its attachments has addressed each of the comments, as noted. Should you have further questions or require additional information, please do not hesitate to contact our office.

Respectfully,



Shaun Vando
Project Engineer
Keach-Nordstrom Associates, Inc.



June 15, 2021

Mr. Brian Groth
Town Planner
Town of Hudson
12 School Street
Hudson, NH 03051

Re: Town of Hudson Planning Board Review
SL Chasse Steel Site Plan, Robinson Road
Tax Map 105 Lot 17-3; Acct. #1350-532
Reference No. 20030249.2020

Dear Mr. Groth:

Fuss & O'Neill (F&O) has reviewed the second submission of the materials received on May 28, 2021, related to the above-referenced project. A list of items reviewed is enclosed. The scope of our review is based on the Site Plan Review Codes, Stormwater Codes, Driveway Review Codes, Sewer Use Ordinance 77, Zoning Regulations, and criteria outlined in the CLD Consulting Engineers Proposal approved September 16, 2003, revised September 20, 2004, June 4, 2007, September 3, 2008, and October 2015.

The project appears to consist of the development of three industrial buildings. Proposed improvements to the site also include the construction of a driveway, parking areas, drainage improvements, landscaping, lighting and other associated site improvements. The proposed buildings will be serviced by a subsurface disposal system. The applicant has proposed extending an existing water main along Robinson Road to provide water service to the subject site.

Please note that comments related to the proposed development at lot 17-2 will be forwarded with a separate letter. Also, the stormwater design documents provided as part of the review package incorporate both lots, so our drainage related comments have been provided separately.

The following items have outstanding issues:

1. Site Plan Review Codes (HR 275)

- e. *Former Fuss & O'Neill Comment: HR 275-8.C.(6). The applicant should show the proposed off-street loading spaces on the plan set. We note that 6 spaces are required and the applicant has noted that 7 spaces are provided, but they are not labeled. The applicant should show loading areas on the plan to be sure they do not conflict with circulation on the site and that the size is adequate.*

Current Fuss & O'Neill Comment: The applicant has shown and labeled 6 loading spaces on the plan set but continued to note that 7 are provided. The applicant should revise the note or add an additional area to the plan set.

- g. *Former Fuss & O'Neill Comment: HR 275-9.F. The applicant did not provide copies of any easements or deeds as part of the package received for review.*

Current Fuss & O'Neill Comment: The applicant has provided a copy of the deed. We

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t 603.668.8223
800.286.2469
www.fando.com

California
Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

Mr. Brian Groth

June 15, 2021

Page 2 of 6

note no easements were provided, however, the deed references a State of New Hampshire easement.

2. Administrative Review Codes (HR 276)

- f. **Former/Current Fuss & O'Neill Comment:** HR 276-11.1.B.(17). We were unable to locate any benchmarks within the Site plan.

4. Traffic

- b. **Former/Current Fuss & O'Neill Comment:** The applicant should clarify the intent for the uses of each building related to truck loading. Large WB-50 and WB-67 trucks cannot access overhead loading door areas at each building. The applicant should confirm that smaller box trucks are intended for use at this site.

5. Utility Design/Conflicts

- a. *Former Fuss & O'Neill Comment:* HR 275-9.E and 276-13. The applicant has provided a typical septic system detail and shown the approximate location. We note that no water/well details were provided.
Current Fuss & O'Neill Comment: The applicant has stated that they are currently working on a water connection to the site, and an off-site water main extension plan was provided. We note that water lines are now shown on the site but details, size and materials are not provided.
- d. **Former/Current Fuss & O'Neill Comment:** The applicant should provide details for sewer manholes, sewer trench, and sewer/drain separation
- e. **New Fuss & O'Neill Comment:** The applicant has provided a water main profile that shows a minimum of 4 feet of cover in some sections. The minimum cover required by the Town of Hudson is 5 feet.
- f. **New Fuss & O'Neill Comment:** The applicant should review with the Hudson Fire Department whether hydrants should be installed along the proposed water main on Robinson Road. If required, hydrants shall meet the requirements of Hudson Engineering Technical Guidelines section 825.4.10.

7. Zoning (ZO 334)

- f. **New Fuss & O'Neill Comment:** ZO 334-36.C.(2). The applicant is proposing installation of a water main along Robinson Road that impacts a wetlands buffer. The applicant should review with the Town to determine if the proposed water main requires a Conditional Use Permit in accordance with the Ordinance.

The following items require Town evaluation or input:

1. Site Plan Review Codes (HR 275)

- a. *Former Fuss & O'Neill Comment:* Hudson Regulation (HR) 275-6.I. The scope of this review does not include the adequacy of any fire protection provisions for the proposed buildings. Fuss & O'Neill defers to the Hudson Fire Department for review of proposed fire protection for this facility. We note that the site is

Mr. Brian Groth
June 15, 2021
Page 3 of 6

proposed to be serviced by a private well. The Town should review the need for an onsite cistern depending on the well capacity.

Current Fuss & O'Neill Comment: The applicant has stated that they are coordinating with the Town and the Fire Department.

2. Administrative Review Codes (HR 276)

- b. *Former Fuss & O'Neill Comment:* HR 276-11.1.B.(6) *The owner's signature is not shown on the plan set.*

Current Fuss & O'Neill Comment: The applicant noted that the owner will sign the final plan.

4. Traffic

- a. *Former Fuss & O'Neill Comment:* HR 275-9.B. *The applicant has not provided any traffic information as part of their review package.*

Current Fuss & O'Neill Comment: The applicant has indicated that the Town has not requested any traffic information, and their understanding is that it is not required to this point. We note that between lots 2 and 3 there are over 130 parking spaces proposed, which may provide traffic impacts that warrant further review.

The following items are resolved or have no further Fuss & O'Neill input:

1. Site Plan Review Codes (HR 275)

- b. *Former Fuss & O'Neill Comment:* HR 275-6.C. *The applicant has not proposed a sidewalk along Robinson Road.*
- c. *Former Fuss & O'Neill Comment:* HR 275-8.C.(2) and Zoning Ordinance (ZO) 334-15.A. *The applicant has provided parking calculations on the plan set noting that 90 spaces are required, and 110 spaces are proposed.*

Current Fuss & O'Neill comment: The applicant has reduced the number of parking spaces to 101 to accommodate the larger size spaces. No further Fuss & O'Neill comment.

- d. *Former Fuss & O'Neill Comment:* HR 275-8.C.(4). *The applicant has provided parking spaces that are 9 feet by 20 feet. We note that with will require the Planning Board approval for spaces less than 10 feet wide.*

Current Fuss & O'Neill Comment: The applicant has revised the spaces to 10 feet by 20 feet. No further Fuss & O'Neill comment.

- f. *Former Fuss & O'Neill Comment:* HR 275-9.C.(11). *The applicant has provided six handicap spaces on the plan. This adequately serves each building parking area as well as the total required for the site.*

2. Administrative Review Codes (HR 276)

- a. *Former Fuss & O'Neill Comment:* HR 276-7. *The applicant did not list any waivers on the plan set or provided any waiver request forms as part of the package received for review.*

Mr. Brian Groth

June 15, 2021

Page 4 of 6

Current Fuss & O'Neill Comment: The applicant has stated that no waivers are proposed for this site. No further Fuss & O'Neill comment.

- c. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(12). The applicant has shown a 100 foot residential buffer setback from adjacent residential lots, but based on the proposed industrial use for the site a 200 foot setback would be required for all buildings, parking or display areas.*

Current Fuss & O'Neill Comment: The applicant has revised the buffer on the plan set. No further Fuss & O'Neill comment.

- d. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(13). The applicant has not included details for any proposed business signage. The applicant should include a note stating that, "All signs are subject to approval by the Hudson PLANNING BOARD prior to installation thereof."*

Current Fuss & O'Neill Comment: The applicant has added the note to the plan set. No further Fuss & O'Neill comment.

- e. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(16). The applicant has not provided the locations of the driveways and travel ways within 200 feet of the site.*

Current Fuss & O'Neill Comment: The applicant has clarified the only driveway within 200 feet of the site. No further Fuss & O'Neill comment.

- g. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(23). The applicant has not noted any pertinent highway projects on the plan set.*

3. Driveway Review Codes (HR 275-8.B. (34)/Chapter 193)

- a. *Former Fuss & O'Neill Comment: HR 193.10.E. The applicant has shown sight distances of 400 feet for the proposed driveway on the plan set.*
- b. *Former Fuss & O'Neill Comment: HR 193.10.G. The applicant has only provided one driveway for the site but has also provided a connection to Lot 17-2. This connection links both sites via a 24 foot wide driveway.*

5. Utility Design/Conflicts

- b. *Former Fuss & O'Neill Comment: The distance between sewer manholes SMH #2 and SMH #1 exceeds the 300 foot maximum separation distance required by Town standards.*

Current Fuss & O'Neill Comment: The applicant has revised the manhole location. No further Fuss & O'Neill comment.

- c. *Former Fuss & O'Neill Comment: The applicant should review proposed grading between the drainage and sewer as there appears to be a conflict between the sewer between SMH #2/SMH #1 and the drain between CB#13/CB#12.*

Current Fuss & O'Neill Comment: The applicant has revised the layout to resolve the conflict. No further Fuss & O'Neill comment.

6. Drainage Design/Stormwater Management (HR 275-9.A./Chapter 290)

The review of the drainage design and Alteration of Terrain report was provided under a separate letter from Fuss & O'Neill dated April 30, 2021 & June 14, 2021.

Mr. Brian Groth

June 15, 2021

Page 5 of 6

7. Zoning (ZO 334)

- a. *Former Fuss & O'Neill Comment: Zoning Ordinance (ZO) 334-14.A. The applicant has noted the proposed building height will be less than 38 feet on the plan set. No architectural drawings or elevations for the proposed building were included in the review package.*

Current Fuss & O'Neill Comment: The applicant has provided elevations. No further Fuss & O'Neill comment.

- b. *Former Fuss & O'Neill Comment: ZO 334-17 & 334-21. The applicant has noted that the subject parcel is located within the General (G-1) zoning district. The proposed use appears to be permitted by the Ordinance.*

- c. *Former Fuss & O'Neill Comment: ZO 334-33. The applicant has noted that no wetlands are located on the site.*

- d. *Former Fuss & O'Neill Comment: ZO 334-60. The applicant has not provided any information for any proposed signs on site, except traffic and parking signage.*

Current Fuss & O'Neill Comment: Current Fuss & O'Neill Comment: The applicant has noted that signs will be subject to approval by the Planning Board. No further Fuss & O'Neill comment.

- e. *Former Fuss & O'Neill Comment: ZO 334-84 and HR 218-4.E. The applicant has noted that the site is not located in a designated flood hazard area.*

8. Erosion Control/Wetland Impacts

- a. *Former Fuss & O'Neill Comment: The Town of Hudson should reserve the right to require any additional erosion control measures as needed.*

9. Landscaping (HR 275-8.C.(7) & 276-11.1.B.(20)) and Lighting (HR 276-11.1.B.(14))

- a. *Former Fuss & O'Neill Comment: HR 275-8.C.(8). The suppliant has proposed to use existing vegetation between the rear of the parking lot and the residential use to the east.*

- b. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(14). The applicant has shown lighting fixture locations on the plans with details and photometric information. The applicant has noted that the site will be in operation between 6:00 am and 6:00 pm Monday through Saturday, and is proposing to leave lighting on at all times for security and safety for the facility. We note that the site is heavily wooded between the proposed lighting areas and adjacent residential properties, and that luminaires are proposed to be installed at elevations aren't much higher than the grading at property lines. During winter months there will be minimal leaf cover, but the proposed grading and distance from adjacent residential units should prevent the luminaires from being particularly visible to adjacent properties.*

10. State and Local Permits (HR 275-9.G.)

- a. *Former Fuss & O'Neill Comment: HR 275-9.G. The applicant has listed all required permits and their status on the plan set.*
- b. *Former Fuss & O'Neill Comment: HR 275-9.G. The applicant did not provide copies of any applicable Town, State or Federal approvals or permits in the review package.*
- c. *Former Fuss & O'Neill Comment: Additional local permitting may be required.*

Mr. Brian Groth
June 15, 2021
Page 6 of 6

11. Other

- a. *Former Fuss & O'Neill Comment: The applicant should clarify top of curb and bottom of curb on the spot grades provided for the sidewalk areas in front of the buildings. The applicant should also review the need for additional spot grades near the ramp locations.*
Current Fuss & O'Neill Comment: The applicant has added the grades to the plan set. No further Fuss & O'Neill comment.
- b. *Former Fuss & O'Neill Comment: The applicant has provided a dumpster enclosure detail on the plan set; however, a dumpster location was not shown on the plan set. The plan notes that none are proposed.*
Current Fuss & O'Neill Comment: The applicant has added the dumpster locations to the plan set. NO further Fuss & O'Neill comment.
- c. *Former Fuss & O'Neill Comment: The buildings proposed appear to be multi-tenant contractor building with multiple front doors for each unit. We note that most of those doors do not seem to exit on to the sidewalk in front of the building but onto grass between the sidewalk and the front of the building. The applicant should review the need to revise the sidewalk.*
Current Fuss & O'Neill Comment: The applicant has revised the sidewalk layout. No further Fuss & O'Neill comment.
- d. *Former Fuss & O'Neill Comment: The applicant should review the layout of Building 2. It appears to be backwards with the overhead doors facing the parking lot side of the building.*
Current Fuss & O'Neill Comment: The applicant has updated the layout of the building.
No further Fuss & O'Neill comment.

Please feel free to call if you have any questions.

Very truly yours,



Steven W. Reichert, P.E.

**Steven W.
Reichert, PE**

Digitally signed by Steven W. Reichert,
PE
DN: cn=Steven W. Reichert, PE, c=US,
o=Fuss & O'Neill, Inc., ou=Fuss &
O'Neill, Inc.,
email=sreichert@fando.com
Date: 2021.06.15 12:51:08 -04'00'

SWR:

Enclosure

cc: Town of Hudson Engineering Division – File
Keach- Nordstrom Associates, Inc. - svando@keachnordstrom.com

August 17, 2021

Mr. Elvis Dhima, PE
Town Planner
Town of Hudson
12 School Street
Hudson, NH 03051

Subject: SL Chasse Steel Site Plan, Robinson Road
Tax Map 105 Lot 17-3
KNA Project # 20-0921-2


Dear Elvis:

Our office has received emailed comments from the Town of Hudson dated June 2, 2021 for the project listed above. Based on the comments, we have made the required modifications to the plan set and attached a copy for final review. A response to each comment has been provided below.

1. An existing utility pole appears on the sight distance line of sight.
The sight distance plan has been updated and line of sight no longer has the existing utility pole.
2. Applicant shall remove all drainage swales within the Town right of way.
Drainage swales have been removed from the Town right of way.
3. Applicant shall provide guard railing along the proposed detention basins and parking area that has more than 4 foot vertical drop, within private property.
Guard rails have been added to parking areas with more than 4 foot vertical drop.
4. Applicant shall provide information related to estimated high water table information for TP-2 & TP-4.
Test pit information is shown on Sheet #11.
5. Applicant shall add a stop bar and stop sign at the entrance, This requirement shall be applicable for lot 17-2 as well.
Stop bar and stop signs added to the entrances of lots 17-2 & 17-3.

I trust the content of this response letter and its attachments has addressed each of the comments, as noted. Should you have further questions or require additional information, please do not hesitate to contact our office.

Respectfully,


Shaun Vando
Project Engineer
Keach-Nordstrom Associates, Inc.

August 17, 2021

Mr. Brian Groth
Town Planner
Town of Hudson
12 School Street
Hudson, NH 03051

**Subject: Town of Hudson Planning Board Review
SL Chasse Steel Site Plan, Robinson Road
Tax Map 105 Lot 17-3; Acct.# 1350-532
Reference No. 20030249.2020
KNA Project # 20-0921-2**

Dear Mr. Groth:

Our office is in receipt of Fuss & O'Neill, Inc. review comments for the Town of Hudson dated June 15, 2021 for the project listed above. Based on the comments, we have made the required modifications to the plan set and attached a copy for final review. A response to each comment has been provided below.

The following items have outstanding issues:

1. Site Plan Review Codes (HR 275)

- e. HR 275-8.C.(6). The applicant should show the proposed off-street loading spaces on the plan set. We note that 6 spaces are required and the applicant has noted that 7 spaces are provided, but they are not labeled. The applicant should show loading areas on the plan to be sure they do not conflict with circulation on the site and that the size is adequate.*

The applicant has shown and labeled 6 loading spaces on the plan set but continued to note that 7 are provided. The applicant should revise the note or add an additional area to the plan set.

Additional loading space has been added.

- g. HR 275-9.F. The applicant did not provide copies of any easements or deeds as part of the package received for review.*

The applicant has provided a copy of the deed. We note no easements were provided, however, the deed references a State of New Hampshire easement.

The property deed references easements that were part of the overall prior to the 2020 subdivision that does not affect this parcel.

2. Administrative Review Codes (HR 276)

- f. HR 276-11.1.B.(17). We were unable to locate any benchmarks within the Site plan.*

Civil Engineering

Land Surveying

Landscape Architecture

We were unable to locate any benchmarks within the Site Plan.

Benchmark is shown and labeled on the existing conditions plans.

4. Traffic

- b. *The applicant should clarify the intent for the uses of each building related to loading. Large WB-50 and WB-67 trucks cannot access overhead loading door areas at each building. The applicant should confirm that smaller box trucks are intended for use at this site.*

Noted

5. Utility Design/Conflicts

- a. *HR 275-9.E and 276-13. The applicant has provided a typical septic system detail and shown the approximate location. We note that no water/well details were provided.*
The applicant has stated that they are currently working on a water connection to the site, and an off-site water main extension plan was provided. We note the water lines are now shown on the site but details, size and materials are not provided.
Water details and information has been added to the plans.
- d. *The applicant should provide details for sewer manholes, sewer trench, and sewer/drain separation.*
Sewer details have been added.
- e. The applicant has provided a water main profile that shows a minimum of 4 feet of cover in some sections. The minimum cover required by the Town of Hudson is 5 feet.
Water main profile has been updated to show the minimum cover at 5 feet.
- f. The applicant should review with the Hudson Fire Department whether hydrants should be installed along the proposed water main on Robinson Road. If required, hydrants shall meet the requirements of Hudson Engineering Technical Guidelines section 825.4.10.
- g. ***KNA is working with the Town, Western and Sampson, Fire Department and DPW to determine how the water fire protection should be constructed.***

7. Zoning (ZO 334)

f.ZO 334-36.C.(2). The applicant is proposing installation of a water main along Robinson Road that impacts the wetland buffer. The applicant should review with the Town to determine if the proposed water main requires a Conditional use Permit in accordance with the Ordinance.

Conditional Use Permit has been submitted.

The following items require town evaluation or input:

1. Site Plan review Codes (HR 275)

Civil Engineering

Land Surveying

Landscape Architecture

- a. *Hudson Regulation (HR) 275-6.I. The scope of this review does not include the adequacy of any fire protection provisions for the proposed buildings. Fuss & O'Neill defers to the Hudson Fire Department for review of proposed fire protection for this facility. We note that the site is proposed to be serviced by a private well. The Town should review the need for an onsite cistern depending on the well capacity.*

The applicant has stated that they are coordinating with the Town and Fire Departments.

Noted

2. Administrative review Codes (HR 276)

- b. *HR 276-11.1.B.(6) The owner's signature is not shown on the plan set.*

The applicant has noted the owner will sign the final plan.

Noted

4. Traffic

- a. *HR 275-9.B. The applicant has not provided any traffic information as part of the review package.*

The applicant has indicated that the Town has not requested any traffic information and their understanding is that it is not required to this point. We note that between lots 2 and 3 there are over 130 parking spaces proposed, which may provide traffic impacts that warrant further review.

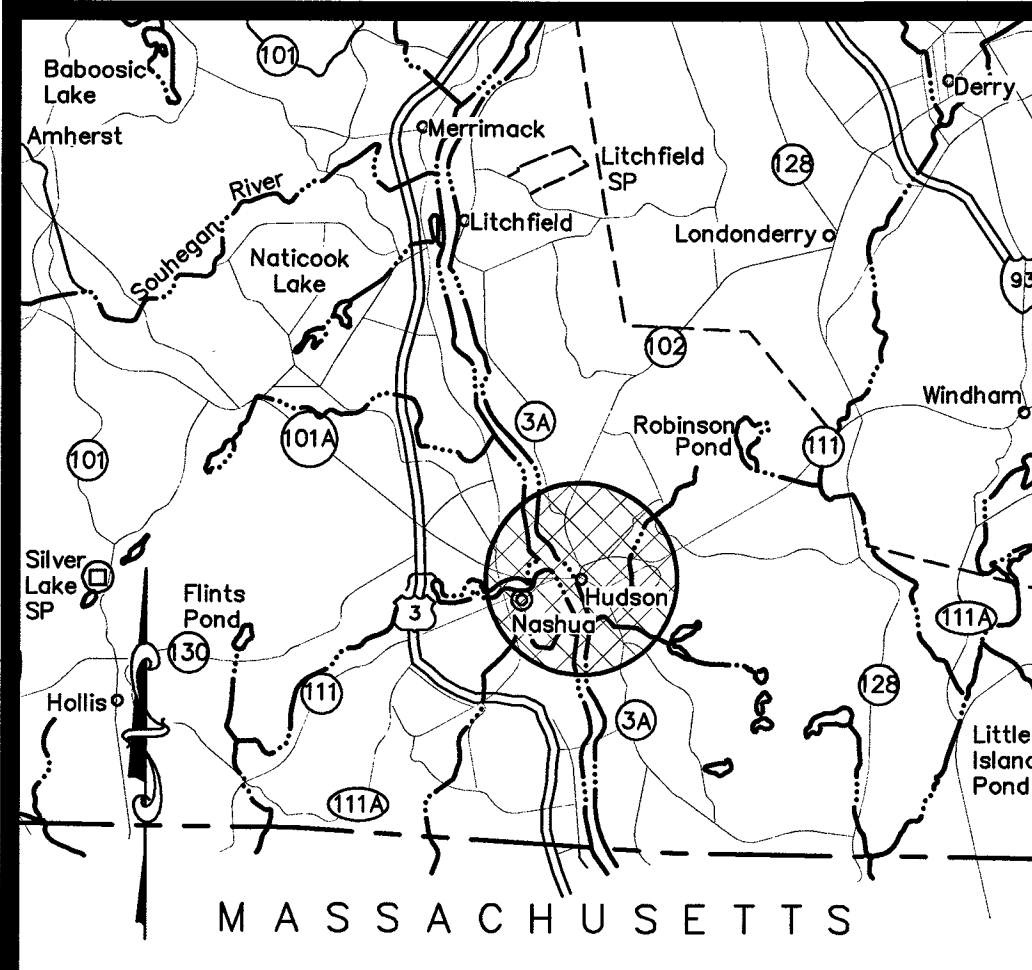
A traffic report will be submitted to the Town.

I trust the content of this response letter and its attachments has addressed each of the comments, as noted. Should you have further questions or require additional information, please do not hesitate to contact our office.

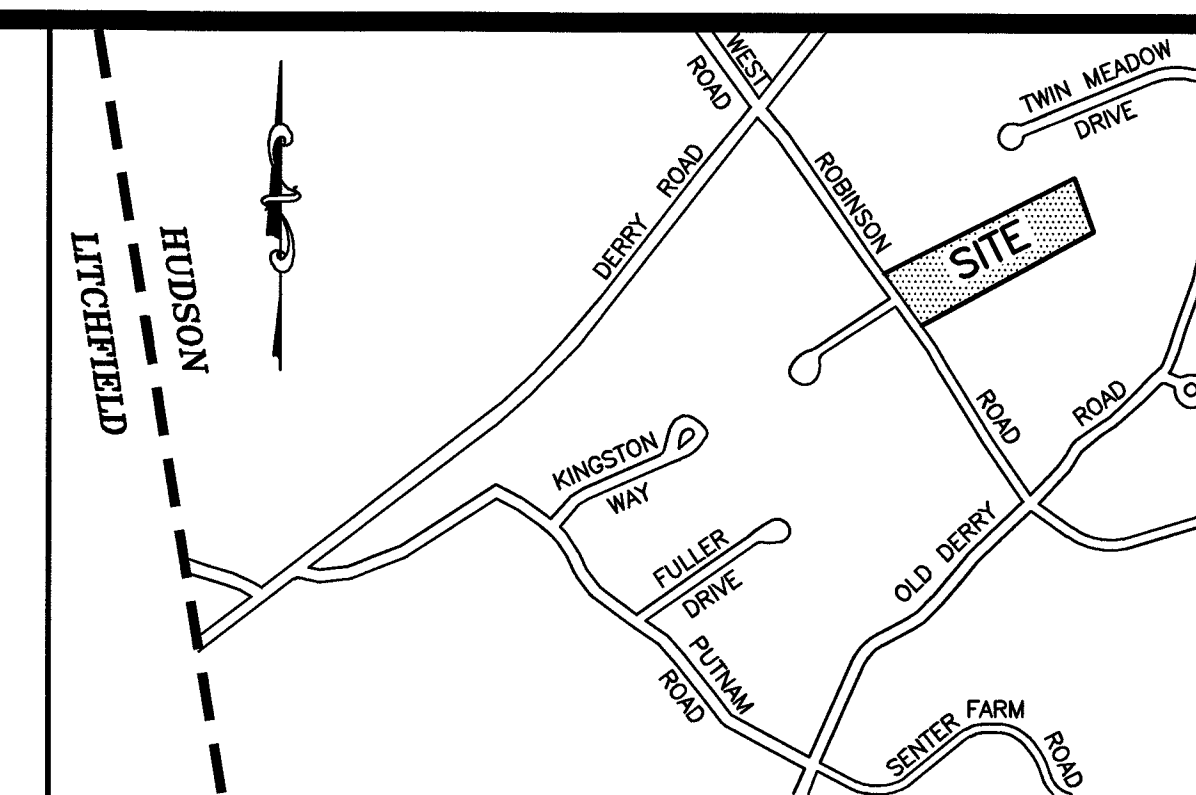
Respectfully,



Shaun Vando
Project Engineer
Keach-Nordstrom Associates, Inc.



VICINITY PLAN
NOT TO SCALE



LOCUS PLAN
SCALE: 1" = 1,000'

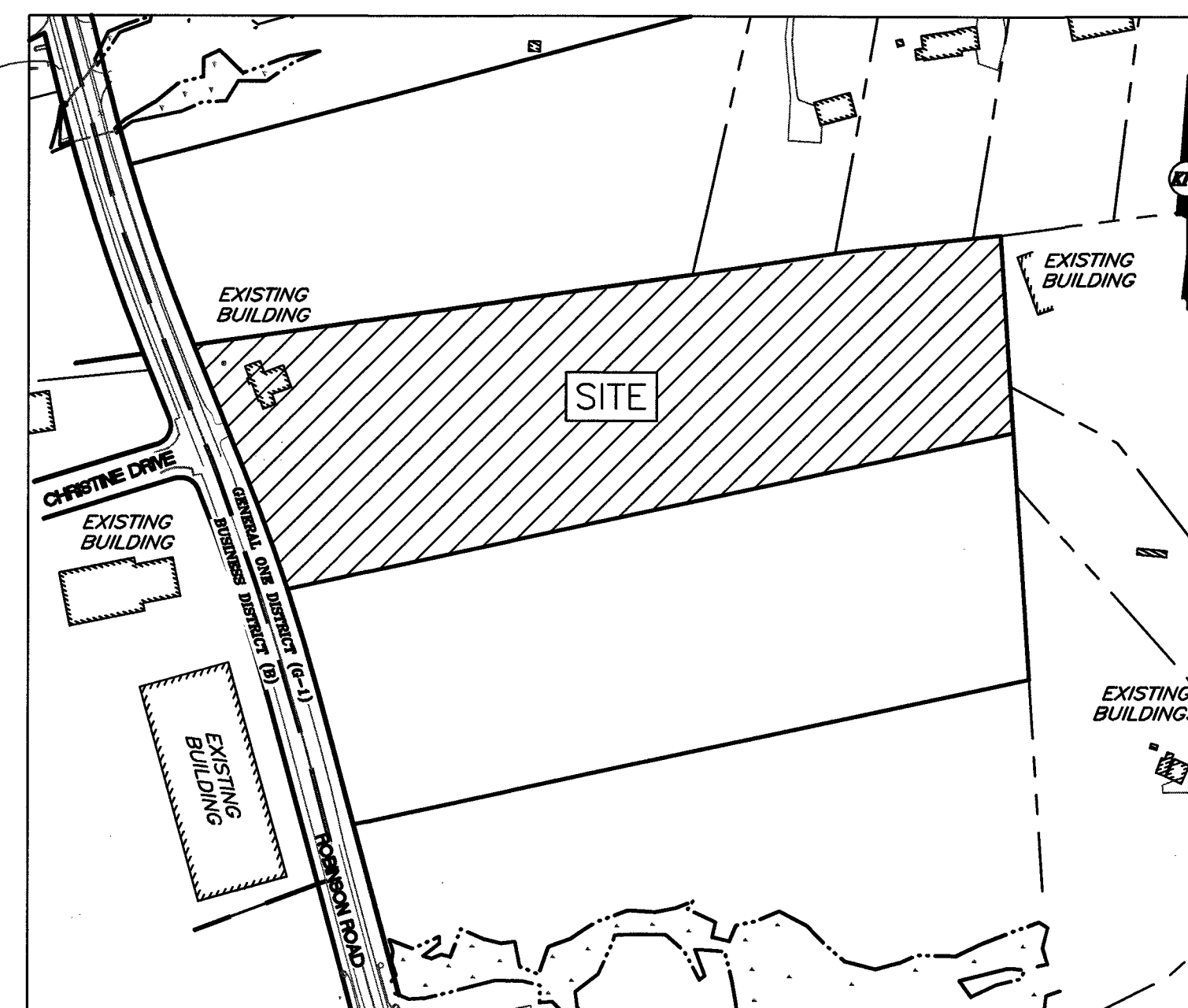
NON-RESIDENTIAL SITE PLAN S.L. CHASSE STEEL MAP 105 LOT 17-2 ROBINSON ROAD HUDSON, NEW HAMPSHIRE

NEW HAMPSHIRE FISH AND GAME THREATENED & ENDANGERED WILDLIFE CONDITIONS:

1. ENV-WQ 1506.04, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, RUNOFF DIVERSION, SLOPE INTERRUPTION, PERIMETER CONTROL, INLET PROTECTION, CHECK DAMS, AND SEDIMENT TRAPS SHALL NOT CONTAIN WELDED PLASTIC, PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH. SEE PLAN SHEET 6 FOR SPECS.
2. SLOPED GRANITE OR CAPE COD ASPHALT CURBING SHALL BE UTILIZED.
3. THERE WILL BE NO CATCH BASINS PLACED IN GRASSED OR GRAVELED AREAS ALONG THE EXTERIOR OF THIS PROJECT AGAINST UNDEVELOPED AREAS - OPEN GRASSED SWALES SHALL BE USED INSTEAD. SEE PLAN SHEET 5 FOR SPECS.
4. SUMPS IN OUTLET PIPES IN STORMWATER DETENTION BASIN OUTLETS SHALL NOT BE INCLUDED IN THE DESIGN.
5. THERE IS THE POTENTIAL FOR BLANDING'S TURTLES (STATE-ENDANGERED), SPOTTED TURTLES (STATE-THREATENED), EASTERN BOX TURTLES (STATE-ENDANGERED) AND EASTERN HOGNOSE SNAKES (STATE-ENDANGERED) TO BE WITHIN THE PROJECT VICINITY. ALL SITE OPERATORS SHALL BE PROVIDED WITH IDENTIFICATION FLYERS THAT INCLUDE NHFG CONTACT INFORMATION. NHFG SHALL BE CONTACTED IMMEDIATELY IF ANY OF THESE SPECIES OBSERVED AT MELISSA DOPERASKI 603-479-1129 (CALL OR TEXT) OR JOSH MEGYESY 978-578-0802 (CALL OR TEXT). SEE PLAN SHEET 16.
6. IF ANY THREATENED OR ENDANGERED SPECIES
7. ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES SHALL BE REPORTED IMMEDIATELY TO THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHFGREVIEW@WILDLIFE.NH.GOV. EMAIL SUBJECT LINE: NHB19-3617, EISENHOWER DRIVE WATER MAIN EXTENSION, WILDLIFE SPECIES OBSERVATION. PHOTOGRAPHS SHALL BE PROVIDED FOR VERIFICATION AS FEASIBLE.
8. THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.

OWNER OF RECORD/APPLICANT:
STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, NEW HAMPSHIRE 03051

PREPARED BY:
KEACH-NORDSTROM ASSOCIATES, INC.
10 COMMERCE PARK NORTH, SUITE 3
BEDFORD, NEW HAMPSHIRE 03110
(603) 627-2881



EXISTING FEATURES WITHIN 200 FEET
SCALE: 1" = 200'

LEGEND

- WETLAND
- EDGE OF PAVEMENT
- ZONE BOUNDARY
- PROPERTY LINE
- PROPERTY LINE

SHEET TITLE

MASTER SITE PLAN
EXISTING CONDITIONS PLAN
REMOVALS PLAN
NON-RESIDENTIAL SITE LAYOUT PLAN
GRADING, DRAINAGE & UTILITY PLAN
EROSION CONTROL PLAN
LANDSCAPE PLAN
LIGHTING PLAN
SIGHT DISTANCE PLAN & PROFILE
CONSTRUCTION DETAILS

SHEET No.

1
2
3
4
5
6
7
8
9
10-16

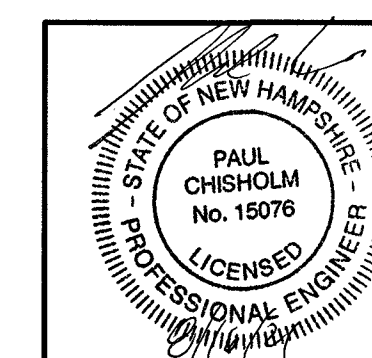
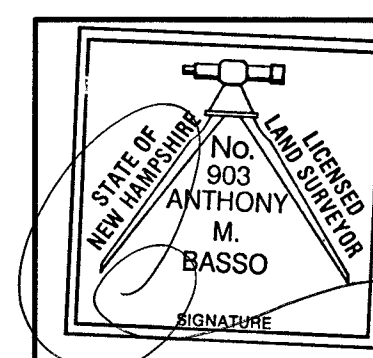
PURSUANT TO THE
SITE REVIEW
REGULATIONS OF
THE HUDSON
PLANNING BOARD,
THE SITE PLAN
APPROVAL
GRANTED HEREIN
EXPIRES TWO
YEARS FROM DATE
OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD
DATE OF MEETING: _____

SIGNATURE DATE: _____

SIGNATURE DATE: _____

SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.



KN KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

APRIL 6, 2021

REVISED AUGUST 17, 2021

PROJECT NO. 20-0921-2

OFFSITE WATER MAIN EXTENSION
PLAN & PROFILE

1



NPDES NOTE

THIS PROJECT DISTURBS IN EXCESS OF 1-ACRE OF LAND. THEREFORE IT WILL BE REQUIRED TO OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE AS ISSUED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THE OWNER/DEVELOPER AND "OPERATOR" (GENERAL CONTRACTOR) SHALL EACH BE REQUIRED TO PREPARE AND SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA PRIOR TO THE START OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MEETING THE REQUIREMENTS OF THE CURRENT CONSTRUCTION GENERAL PERMIT.

LEGEND

ABUTTER LINE	GB-TBS	GRANITE BOUND TO BE SET
PROPERTY LINE	IPIN-TBS	IRON PIN TO BE SET
WETLAND	DH-TBS	DRILL HOLE TO BE SET
EDGE OF PAVEMENT		PROPOSED UTILITY POLE
10' CONTOUR		PROPOSED SIGN
2' CONTOUR		PROPOSED LIGHT
BUILDING SETBACK		PROPOSED GAS VALVE
GREEN SPACE BUFFER		PROPOSED WATER VALVE
EASEMENT		PROPOSED HYDRANT
ZONE LINE		PROPOSED CHAIN LINK FENCE
IRON PIN		PROPOSED BARBED WIRE FENCE
STONE BOUND	OHU	PROPOSED OVERHEAD UTILITIES
UTILITY POLE	UGU	PROPOSED UNDERGROUND UTILITIES
GAS VALVE	G-G	PROPOSED GAS LINE
WATER VALVE	W-W	PROPOSED WATER LINE
HYDRANT	S-S	PROPOSED SEWER LINE
WATER SHUT OFF		PROPOSED DRAINAGE LINE
SEWER MANHOLE		PROPOSED TREELINE
TREELINE		PROPOSED EDGE OF PAVEMENT
		PROPOSED VERTICAL GRANITE CURB
		PROPOSED 2' CONTOUR
		PROPOSED RETAINING WALL
		PROPOSED BITUMINOUS CURB

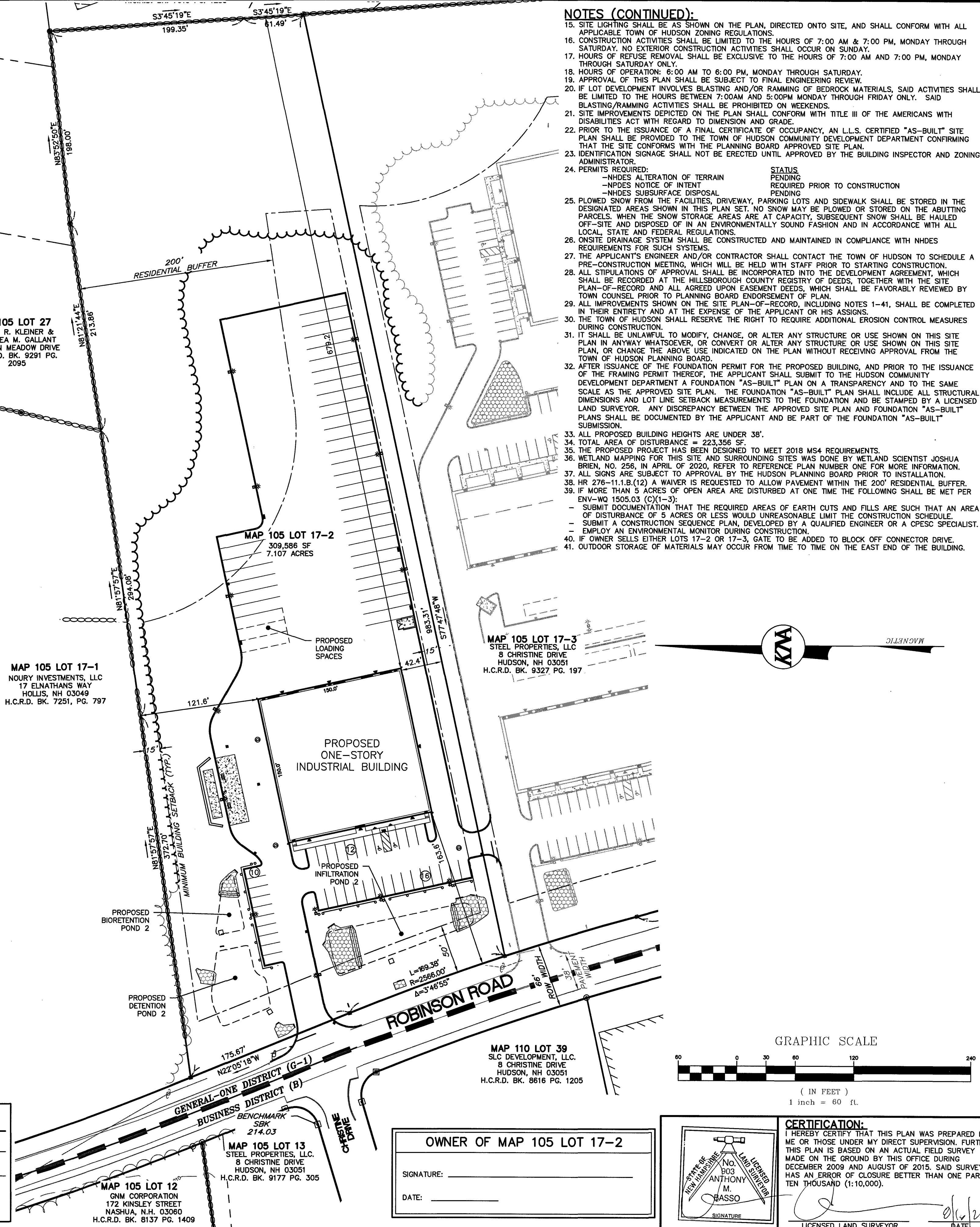
PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD
DATE OF MEETING: _____

SIGNATURE DATE: _____

SIGNATURE DATE: _____

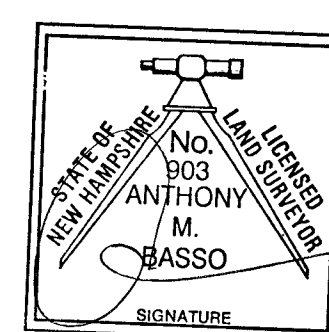
SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.



OWNER OF MAP 105 LOT 17-2

SIGNATURE: _____

DATE: _____

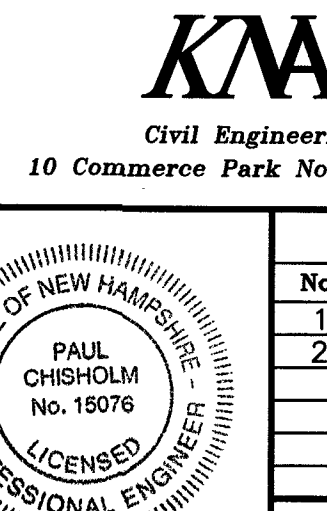


CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION. FURTHER, THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY MADE ON THE GROUND BY THIS OFFICE DURING DECEMBER 2009 AND AUGUST OF 2015. SAID SURVEY HAS AN ERROR OF CLOSURE BETTER THAN ONE PART IN TEN THOUSAND (1:10,000).

LICENSED LAND SURVEYOR

DATE: 06/21



Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

MASTER SITE PLAN S.L. CHASSE STEEL MAP 105 LOT 17-2 ROBINSON ROAD HUDSON, NEW HAMPSHIRE HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:

STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, N.H. 03051
H.C.R.D. BK. 9327 PG. 197



KEACH-NORDSTROM ASSOCIATES, INC.

Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

REVISIONS

No.	DATE	DESCRIPTION	BY
1	05/12/21	TOWN COMMENTS	SCV
2	08/17/21	TOWN AND AOT COMMENTS	SCV

DATE: APRIL 6, 2021

PROJECT NO: 20-0921-2

SCALE: 1" = 60'

SHEET 1 OF 16

REFERENCE PLANS:

- "SUBDIVISION PLAN, NOURY INVESTMENT, LLC, MAP 105 LOTS 16 & 17, ROBINSON ROAD & OLD DERRY ROAD, HUDSON, NEW HAMPSHIRE, DATED NOVEMBER 20, 2019, WITH REVISIONS THROUGH 05/13/20, PREPARED BY KEACH-NORDSTROM ASSOCIATES, INC. (14 SHEETS). H.C.R.D. PLAN NUMBER: 40605

NOTES:

- THE PURPOSE OF THIS PLAN IS TO SHOW A PROPOSED 22,500 SF INDUSTRIAL BUILDING AND ASSOCIATED PARKING ON ROBINSON ROAD ON MAP 105 LOT 17-2 IN THE TOWN OF HUDSON, NEW HAMPSHIRE, AND NO OTHER PURPOSE.
- MAP 105 LOT 17-2 INDICATES TOWN OF HUDSON TAX ASSESSOR'S MAP AND LOT NUMBER.
- OWNER OF RECORD: STEEL PROPERTIES, LLC, 8 CHRISTINE DRIVE, HUDSON, NH 03051, H.C.R.D. BK. 9327 PG. 197
- AREA OF SUBJECT PARCEL = 309,586 SF, OR 7.107 ACRES
- BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON AN ACTUAL FIELD SURVEY PERFORMED BY THIS OFFICE DURING DECEMBER 2009 AND AUGUST 2015.
- HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NGVD29 FROM GPS SURVEY METHODS POST PROCESSED THROUGH NOAA-OPUS.
- THE SUBJECT PARCEL IS LOCATED WITHIN THE GENERAL-ONE (G-1) ZONING DISTRICT. DIMENSIONAL REQUIREMENTS ARE AS FOLLOWS FOR LOTS SERVICED WITHOUT MUNICIPAL SEWER AND WATER:

	REQUIRED	PROPOSED
MINIMUM LOT AREA	87,120 SF	305,312 SF
MINIMUM LOT FRONTAGE	200 FT	345.05 (ROBINSON),
MINIMUM BUILDING SETBACKS:		
FRONT	50 FT	163.6 FT
SIDE	15 FT	42.4 FT
REAR	15 FT	679.2 FT
- PARCEL WILL BE SERVICED BY INDIVIDUAL SEPTIC AND MUNICIPAL WATER.
- THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE AT 811.
- THE SUBJECT PREMISES IS NOT LOCATED WITHIN A DESIGNATED FLOOD ZONE AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) MAP NUMBER 33011C0509D, PANEL 508 OF 701, AND MAP NUMBER 33011C0509D, PANEL 509 OF 701, EFFECTIVE DATE SEPTEMBER 25, 2009. THE SUBJECT PARCEL IS LOCATED IN ZONES 'A' & 'X'.
- EASEMENTS, RIGHTS AND RESTRICTIONS SHOWN OR IDENTIFIED HEREON ARE THOSE FOUND DURING RESEARCH AT THE HILLSBOROUGH COUNTY REGISTRY OF DEEDS. OTHER EASEMENTS, RIGHTS, AND RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF THE SUBJECT PREMISES MAY DETERMINE.
- OPEN SPACE: REQUIRED = 40%, PROPOSED = 62%
- PARKING CALCULATIONS:

	REQUIRED	PROPOSED
22,500 SF INDUSTRIAL BUILDING = 1 SPACE/600 SF = 37 SPACES		
300 SF OFFICE = 1 SPACE/300 SF = 1 SPACE		
TOTAL REQUIRED = 38 PARKING SPACES		
PROPOSED:		
TOTAL PROPOSED = 38 PARKING SPACES (INCLUDING 2 ACCESSIBLE PARKING SPACES)		
- LOADING:

	REQUIRED	PROVIDED
1 SPACE/FIRST 5,000 SF + 1 SPACE/10,000 SF x 17,500 SF = 1 + 2 = 3 SPACES		
PROVIDED = 3 SPACES		

LEGEND

- GB-F GRANITE BOUND FOUND
- IPIN-F IRON PIN FOUND
- DH-F DRILL HOLE FOUND
- UTILITY POLE
- ABUTTER LINE
- PROPERTY LINE
- WETLAND
- GUARDRAIL
- OVERHEAD UTILITIES
- DRAINAGE LINE
- TREELINE
- EDGE OF PAVEMENT
- STONEWALL
- BUILDING SETBACK
- ZONE LINE
- 10' CONTOUR
- 2' CONTOUR

SCS SOILS LEGEND

- CpB** CHATFIELD-HOLLIS-CANTON, 3 TO 8% SLOPES
- CpC** CHATFIELD-HOLLIS-CANTON, 8 TO 15% SLOPES
- HsB** HINCKLEY LOAMY SAND, 3 TO 8% SLOPES

SOURCE: USDA-SCS WEB SOIL SURVEY HILLSBOROUGH COUNTY

UTILITY NOTE

THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN DRAWN FROM FIELD SURVEY INFORMATION AND OR PLOTTED FROM EXISTING DRAWINGS. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHER, KEACH-NORDSTROM ASSOCIATES, INC. DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS POSSIBLE FROM THE INFORMATION AVAILABLE. KEACH-NORDSTROM ASSOCIATES, INC. HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.

SITE SPECIFIC SOIL MAP UNIT KEY

SYMBOL	MAP UNIT	SLOPE CLASS	DRAINAGE CLASS	HSG
42A	CANTON SANDY LOAM	0-3%	WELL	B
42B	CANTON SANDY LOAM	3-8%	WELL	B
42C	CANTON SANDY LOAM	8-15%	WELL	B
42D	CANTON SANDY LOAM	15-25%	WELL	B
62A	CHARLTON FINE SANDY LOAM	0-3%	WELL	B
62B	CHARLTON FINE SANDY LOAM	3-8%	WELL	B
62C	CHARLTON FINE SANDY LOAM	8-15%	WELL	B
62D	CHARLTON FINE SANDY LOAM	15-25%	WELL	B
178B	CHARLTON-CHATFIELD COMPLEX 60-40	3-8%	WELL	B
178C	CHARLTON-CHATFIELD COMPLEX 60-40	8-15%	WELL	B
178D	CHARLTON-CHATFIELD COMPLEX 60-40	15-25%	WELL	B
178E	CHARLTON-CHATFIELD COMPLEX 60-40	25-50%	WELL	B
444A	NEWFIELDS FINE SANDY LOAM	0-3%	MODERATELY WELL	B
444B	NEWFIELDS FINE SANDY LOAM	3-8%	MODERATELY WELL	B
444C	NEWFIELDS FINE SANDY LOAM	8-15%	MODERATELY WELL	B
444D	NEWFIELDS FINE SANDY LOAM	15-25%	MODERATELY WELL	B

THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOILS SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, PRODUCED BY A CERTIFIED SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCE CONSERVATION SERVICE. THERE IS A NARRATIVE REPORT THAT ACCOMPANIES THIS MAP AND MAP KEY.

THIS SITE-SPECIFIC SOIL MAP WAS COMPLETED BY CYNTHIA M. BALCIUS, NEW HAMPSHIRE CERTIFIED SOIL SCIENTIST #82 OF STONEY RIDGE ENVIRONMENTAL LLC. FIELD WORK WAS COMPLETED ON THE FOLLOWING DATE(S):

- Field Indicators of Hydric Soils in the United States, Version 8.1, 2017. L.M. Vasillas, G.W. Hurt, and J.F. Berkowitz (eds.). United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with the National Technical Committee for Hydric Soils.
- Field Indicators for Identifying Hydric Soils in New England, Version 4, June 2018. New England Hydric Soils Technical Committee.
- The Site-Specific Soil Mapping Standards For New Hampshire And Vermont. SSSNIE Special Publication No.3, Version 5, December 2017.
- Soil Survey Manual. United States Department of Agriculture Handbook No.18. Issued March 2017. US Government Printing Office. Soil Survey Staff. Washington D.C. 20402.
- New Hampshire State-Wide Numerical Soils Legend. USDA Natural Resources Conservation Service, Durham, New Hampshire. Issue #10, January 2011.
- Field Book for Describing and Sampling Soils, Version 3.0 National Soil Survey Center. Natural Resources Conservation Service. U. S. Department of Agriculture, Lincoln, Nebraska. September 2012.
- Keys to Soil Taxonomy. Twelfth Edition. 2014. United States Department of Agriculture. Natural Resources Conservation Service.

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD
DATE OF MEETING: _____

SIGNATURE DATE: _____

SIGNATURE DATE: _____

SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.

MAP 105 LOT 27
MARK R. KLEINER &
CHELSEA M. GALLANT
18 TWIN MEADOW DRIVE
H.C.R.D. BK. 9291 PG. 2095

MAP 105 LOT 17-1
NOURY INVESTMENTS, LLC
17 ELNATHANS WAY
HOLLIS, NH 03049
H.C.R.D. BK. 7251, PG. 797

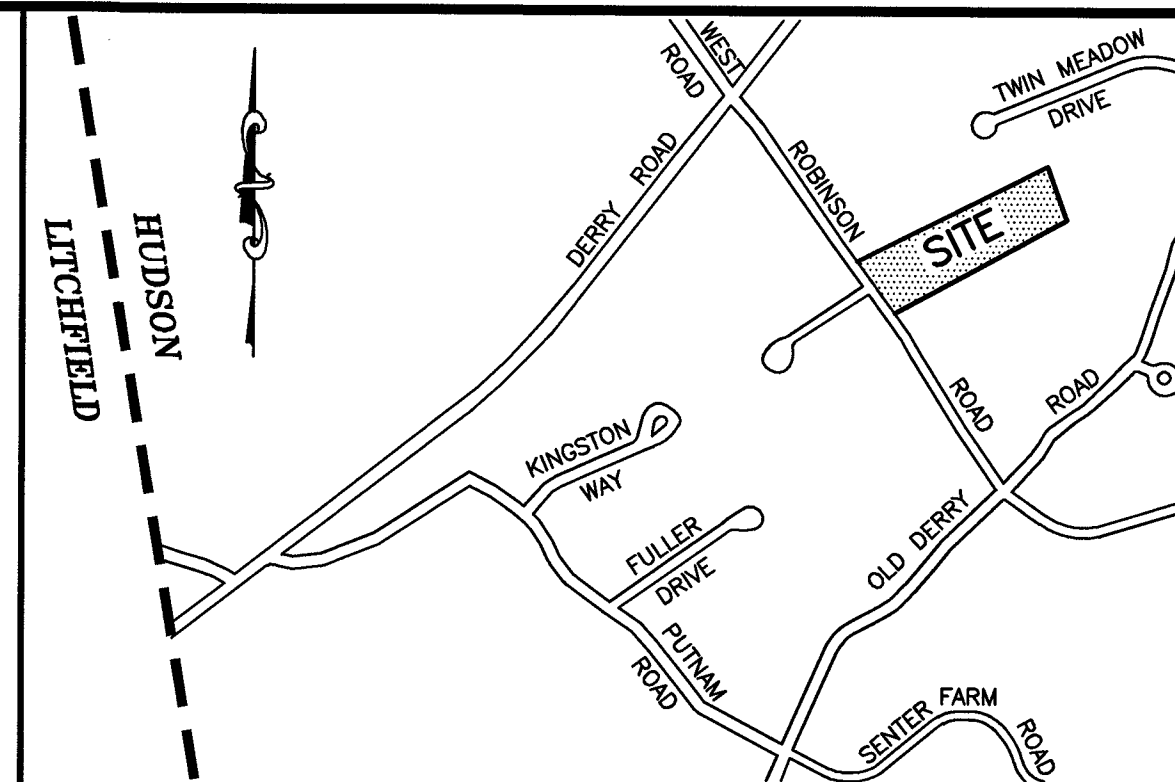
MAP 105 LOT 17-2
309,586 SF
7.107 ACRES

MAP 105 LOT 17-3
STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, NH 03051
H.C.R.D. BK. 9327 PG. 197

MAP 110 LOT 39
SLC DEVELOPMENT, LLC
8 CHRISTINE DRIVE
HUDSON, NH 03051
H.C.R.D. BK. 8616 PG. 1205

MAP 105 LOT 13
STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, NH 03051
H.C.R.D. BK. 9177 PG. 305

MAP 105 LOT 12
GNM CORPORATION
172 KINSLEY STREET
NASHUA, N.H. 03060
H.C.R.D. BK. 8137 PG. 1409



LOCUS PLAN
SCALE: 1" = 1,000'

REFERENCE PLANS:

- "SUBDIVISION PLAN, NOURY DEVELOPMENT, LLC, MAP 105 LOTS 16 & 17, ROBINSON ROAD & OLD DERRY ROAD, HUDSON, NEW HAMPSHIRE, DATED NOVEMBER 20, 2019, WITH REVISIONS THROUGH 05/13/20, PREPARED BY KEACH-NORDSTROM ASSOCIATES, INC. (14 SHEETS).

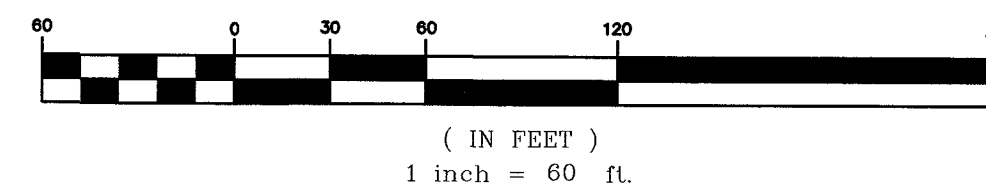
NOTES:

- THE PURPOSE OF THIS PLAN IS TO SHOW EXISTING CONDITIONS PRESENT ON MAP 105 LOT 17-2, ON ROBINSON ROAD IN THE TOWN OF HUDSON, NEW HAMPSHIRE AND NO OTHER PURPOSE.
- TOTAL SITE AREA = 309,586 SF, OR 7.107 ACRES.
- MAP 105 LOT 17-2 INDICATES TOWN OF HUDSON TAX ASSESSOR'S MAP AND LOT NUMBER.
- OWNER OF RECORD: STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, N.H. 03051
H.C.R.D. BK. 9327 PG. 197
- BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON AN ACTUAL FIELD SURVEY PERFORMED BY THIS OFFICE DURING DECEMBER 2009 AND AUGUST 2015.
- HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NGVD29 FROM GPS SURVEY METHODS POST PROCESSED THROUGH NOAA-OPUS.
- THE SUBJECT PARCEL IS LOCATED WITHIN THE GENERAL-ONE (G-1) ZONING DISTRICT. DIMENSIONAL REQUIREMENTS ARE AS FOLLOWS FOR LOTS SERVICED WITHOUT MUNICIPAL SEWER AND WATER:

MINIMUM LOT AREA:	REQUIRED
MINIMUM LOT FRONTAGE:	87,120 SF
MINIMUM BUILDING SETBACKS:	200 FT
FRONT:	50 FT
SIDE:	15 FT
REAR:	15 FT
OPEN SPACE:	40%
- PARCEL WILL BE SERVICED BY INDIVIDUAL SEPTIC AND WELL.
- THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE, THE CONTRACTOR SHALL CONTACT DIG SAFE AT 811.
- THE SUBJECT PREMISES IS NOT LOCATED WITHIN A DESIGNATED FLOOD ZONE AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) MAP NUMBER 330110C0508D, PANEL 508 OF 701. THE SUBJECT PARCEL IS LOCATED IN ZONE "X".
- EASEMENTS, RIGHTS AND RESTRICTIONS SHOWN OR IDENTIFIED HEREON ARE THOSE FOUND DURING RESEARCH AT THE HILLSBOROUGH COUNTY REGISTRY OF DEEDS. OTHER EASEMENTS, RIGHTS, AND RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF THE SUBJECT PREMISES MAY DETERMINE.
- THE CONTRACTOR SHALL ONLY USE BENCHMARKS AS PROVIDED BY THE SURVEYOR.



GRAPHIC SCALE



EXISTING CONDITIONS PLAN

S.L. CHASSE STEEL

MAP 105 LOT 17-2

ROBINSON ROAD

HUDSON, NEW HAMPSHIRE

HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:

STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, N.H. 03051
H.C.R.D. BK. 9327 PG. 197

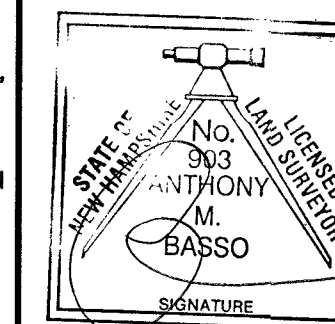
KA KEACH-NORDSTROM ASSOCIATES, INC.

Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION. FURTHER, THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY MADE ON THE GROUND BY THIS OFFICE DURING DECEMBER 2009 AND AUGUST OF 2015. SAID SURVEY HAS AN ERROR OF CLOSURE BETTER THAN ONE PART IN TEN THOUSAND (1:10,000).

LICENSED LAND SURVEYOR
DATE: 9/16/24



REVISIONS

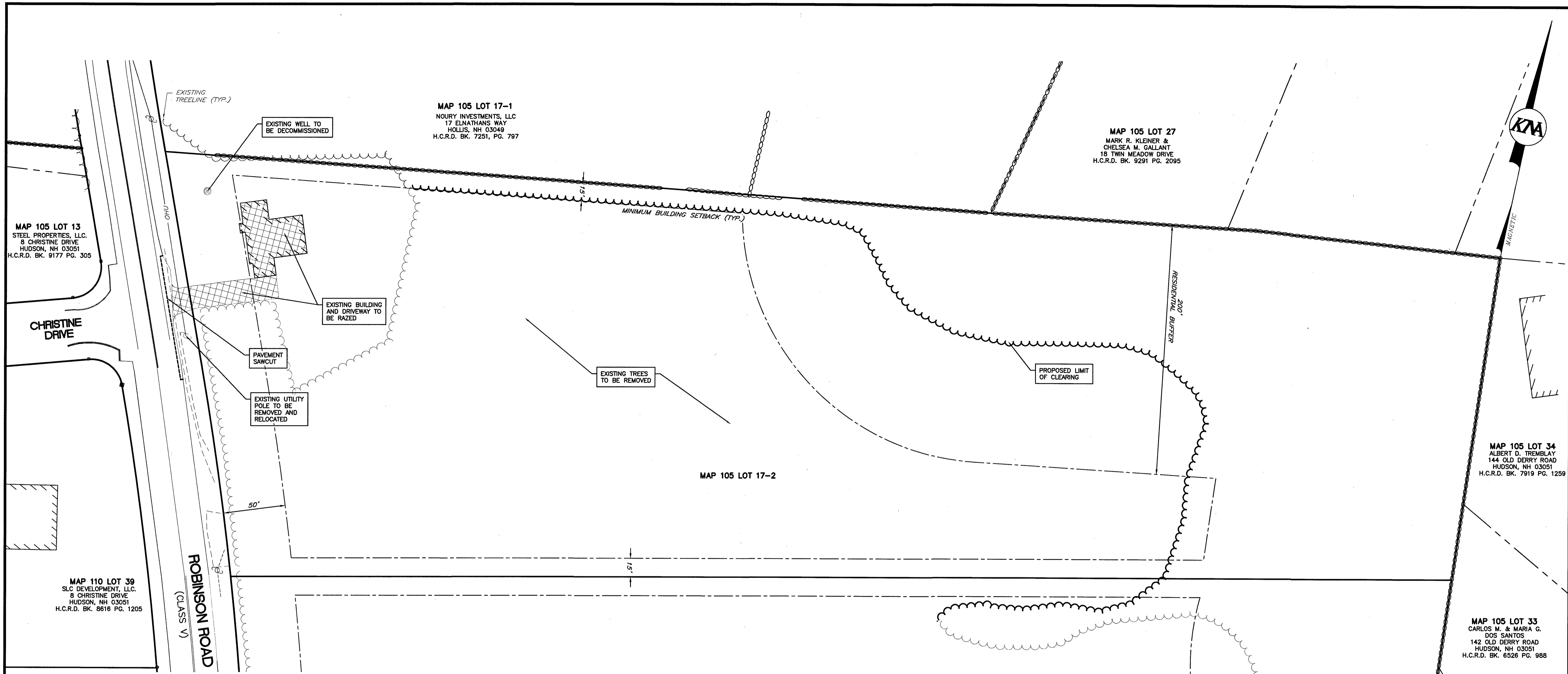
No.	DATE	DESCRIPTION	BY
1	05/12/21	TOWN COMMENTS	SCV
2	08/17/21	TOWN AND AOT COMMENTS	SCV

DATE: APRIL 6, 2021

PROJECT NO: 20-0921-2

SCALE: 1" = 60'

SHEET 2 OF 16



LEGEND

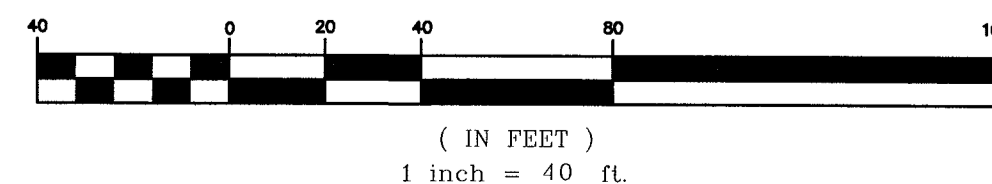
GB-F	GRANITE BOUND FOUND	G	GAS LINE
IPIN-F	IRON PIN FOUND	W	WATER LINE
DH-F	DRILL HOLE FOUND	S	SEWER LINE
IPP-F	IRON PIPE FOUND	---	DRAINAGE LINE
RRS-F	RAILROAD SPIKE FOUND	~~~~~	TREELINE
U	UTILITY POLE	=====	EDGE OF PAVEMENT
S	SIGN	=====	VERTICAL GRANITE CURB
L	LIGHT	=====	SLOPED GRANITE CURB
G	GAS VALVE	=====	BITUMINOUS CURB
W	WATER VALVE	=====	EDGE OF GRAVEL
H	HYDRANT	-----	10' CONTOUR
WS	WATER SHUT OFF	-----	2' CONTOUR
W	WELL	=====	STONEWALL
SM	SEWER MANHOLE	=====	SCS SOIL LINE
DM	DRAINAGE MANHOLE	=====	BUILDING SETBACK
C	CATCH BASIN	=====	EASEMENT
F	FLARED END SECTION	=====	LIMIT OF CLEARING
A	ABUTTER LINE	=====	SAWCUT LINE
P	PROPERTY LINE	=====	PAVEMENT TO BE REMOVED
W	WETLAND	=====	
SF	STOCKADE FENCE	=====	
OHU	OVERHEAD UTILITIES	=====	

REMOVALS NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED REMOVALS ASSOCIATED WITH THE DEVELOPMENT OF MAP 105; LOT 17-2.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.
3. ALL STUMPS, ROOTS, BRANCHES, BRUSH, WOODS AND OTHER PERISHABLE MATERIAL RESULTING FROM THE CLEARING AND GRUBBING OPERATIONS SHALL BE DISPOSED OF BY AN APPROVED METHOD.
4. STRIP, STOCKPILE AND REUSE ONSITE GRAVEL AND FILL AREAS WHERE APPROPRIATE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE DESIGN ENGINEER.
5. REMOVE ALL ASPHALT, CURBING, CONCRETE, VEGETATION, TREES, SHRUBS, AND STRUCTURES WITHIN THE HATCHED AREA, UNLESS OTHERWISE NOTED.
6. DEBRIS REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
7. EXISTING WELL TO BE DECOMMISSIONED BY A LICENSED CONTRACTOR.

SEE SHEET 1 FOR NOTES
AND REFERENCE PLANS

GRAPHIC SCALE



PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD
DATE OF MEETING: _____

SIGNATURE DATE: _____

SIGNATURE DATE: _____

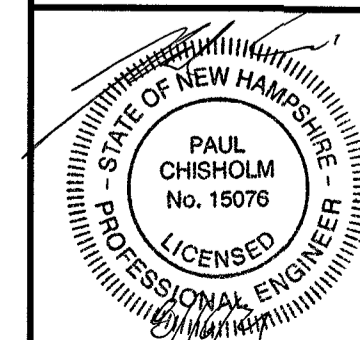
SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.



REMOVALS PLAN
S.L. CHASSE STEEL
MAP 105 LOT 17-2
ROBINSON ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:
STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, N.H. 03051
H.C.R.D. BK. 9327 PG. 197

KMA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881



REVISIONS			
No.	DATE	DESCRIPTION	BY
1	05/12/21	TOWN COMMENTS	SCV
2	08/17/21	TOWN AND AOT COMMENTS	SCV
DATE: APRIL 6, 2021		SCALE: 1" = 40'	
PROJECT NO: 20-0921-2		SHEET 3 OF 16	

MAP 105 LOT 13
STEEL PROPERTIES, LLC.
8 CHRISTINE DRIVE
HUDSON, NH 03051
H.C.R.D. BK. 9177 PG. 305

CHRISTINE DRIVE

MAP 110 LOT 39
SLC DEVELOPMENT, LLC.
8 CHRISTINE DRIVE
HUDSON, NH 03051
H.C.R.D. BK. 8616 PG. 1205

ROBINSON ROAD
(CLASS V)

MAP 105 LOT 17-1
NOURY INVESTMENTS, LLC
17 ELNATHANS WAY
HOLLIS, NH 03049
H.C.R.D. BK. 7251, PG. 797

MAP 105 LOT 27
MARK R. KLEINER &
CHELSEA M. GALLANT
18 TWIN MEADOW DRIVE
HUDSON, NH 03051
H.C.R.D. BK. 9291 PG. 2095

MAP 105 LOT 34
ALBERT D. TREMBLAY
144 OLD DERRY ROAD
HUDSON, NH 03051
H.C.R.D. BK. 7919 PG. 1259

MAP 105 LOT 33
CARLOS M. & MARIA G.
DOS SANTOS
142 OLD DERRY ROAD
HUDSON, NH 03051
H.C.R.D. BK. 6526 PG. 988

LEGEND

- GB-F GRANITE BOUND FOUND
- IPIN-F IRON PIN FOUND
- DH-F DRILL HOLE FOUND
- UTILITY POLE
- PROPOSED SIGN
- PROPOSED LIGHT
- PROPOSED HYDRANT
- PROPOSED WELL
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED OUTLET STRUCTURE
- ABUTTER LINE
- PROPERTY LINE
- OVERHEAD UTILITIES
- TREELINE
- EDGE OF PAVEMENT
- STONEWALL
- BUILDING SETBACK
- ZONE LINE
- PROPOSED TREELINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED BITUMINOUS CURB
- PROPOSED SWALE
- EASEMENT
- SITE LIGHTING
- BUILDING WALL PACK LIGHTING

LOAM & SEED ALL DISTURBED AREAS (TYP.)

SEE SHEET 1 FOR NOTES
AND REFERENCE PLANS

GRAPHIC SCALE



(IN FEET)
1 inch = 40 ft.

NON-RESIDENTIAL SITE LAYOUT PLAN

S.L. CHASSE STEEL
MAP 105 LOT 17-2
ROBINSON ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:

STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, N.H. 03051
H.C.R.D. BK. 9327 PG. 197

KMA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
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REVISIONS

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DATE: APRIL 6, 2021

SCALE: 1" = 40'

PROJECT NO: 20-0921-2

SHEET 4 OF 16



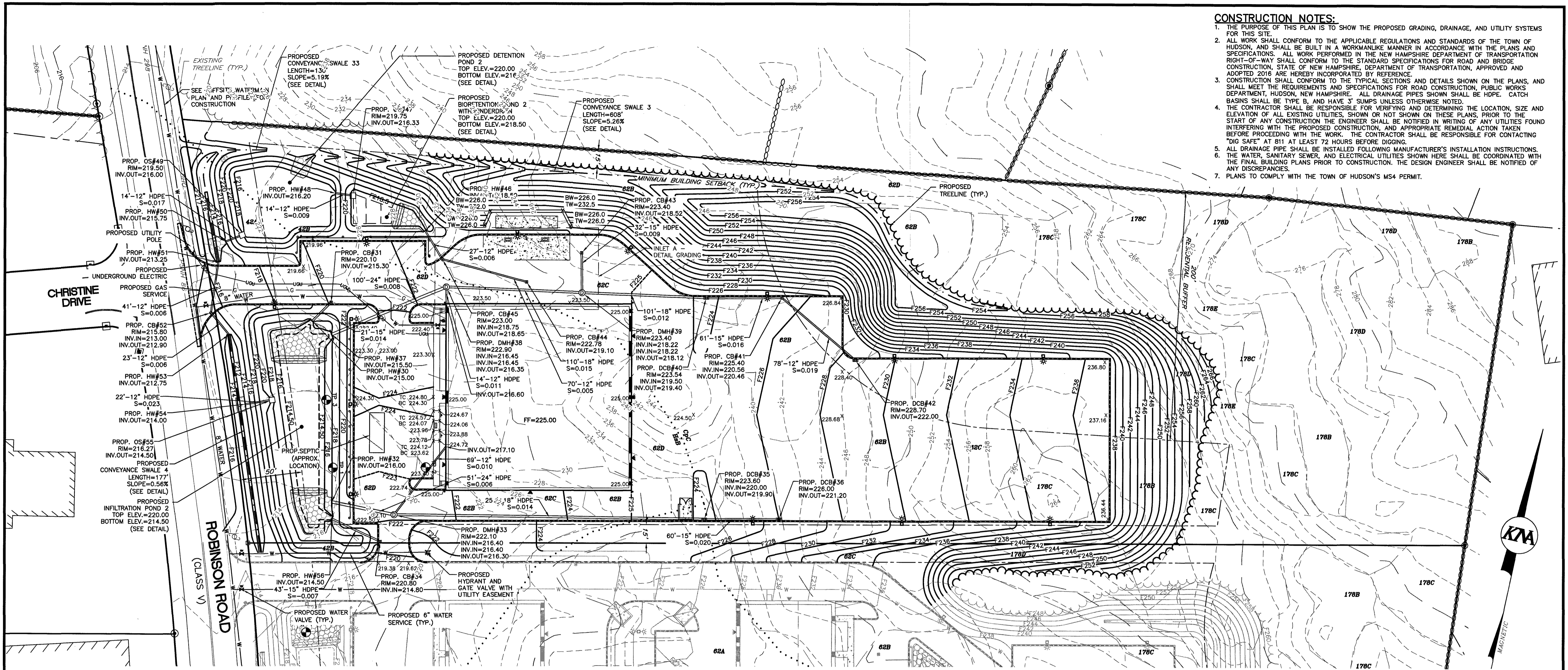
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SITE REVIEW
REGULATIONS OF
THE HUDSON
PLANNING BOARD,
THE SITE PLAN
APPROVAL
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APPROVED BY THE HUDSON, NH PLANNING BOARD
DATE OF MEETING: _____

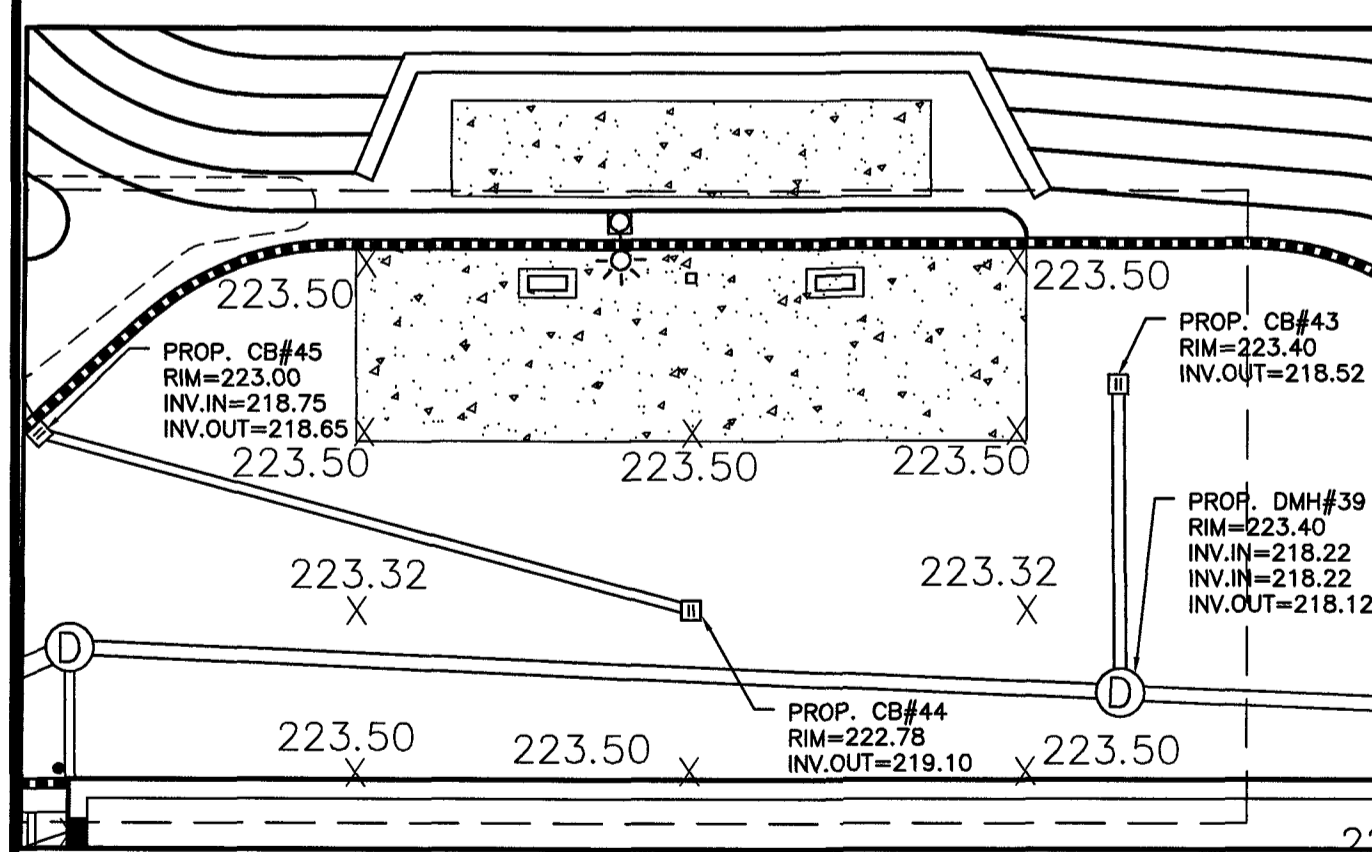
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MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING
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- CONSTRUCTION NOTES:**
1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED GRADING, DRAINAGE, AND UTILITY SYSTEMS FOR THIS SITE.
 2. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF HUDSON, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. ALL WORK PERFORMED IN THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, APPROVED AND ADOPTED 2016 ARE HEREBY INCORPORATED BY REFERENCE.
 3. CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET THE REQUIREMENTS AND SPECIFICATIONS FOR ROAD CONSTRUCTION, PUBLIC WORKS DEPARTMENT, HUDSON, NEW HAMPSHIRE. ALL DRAINAGE PIPES SHOWN SHALL BE HDPE. CATCH BASINS SHALL BE TYPE B, AND HAVE 3' SUMPS UNLESS OTHERWISE NOTED.
 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.
 5. ALL DRAINAGE PIPE SHALL BE INSTALLED FOLLOWING MANUFACTURER'S INSTALLATION INSTRUCTIONS. THE WATER, SANITARY SEWER AND ELECTRICAL UTILITIES SHOWN HERE SHALL BE COORDINATED WITH THE FINAL BUILDING PLANS PRIOR TO CONSTRUCTION. THE DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES.
 7. PLANS TO COMPLY WITH THE TOWN OF HUDSON'S MS4 PERMIT.



INSET A - DETAIL GRADING
SCALE: 1" = 20'

- LEGEND**
- CB-F GRANITE BOUND FOUND
 - IPIN-F IRON PIN FOUND
 - DH-F DRILL HOLE FOUND
 - UTILITY POLE
 - PROPOSED SIGN
 - PROPOSED LIGHT
 - PROPOSED HYDRANT
 - PROPOSED WELL
 - PROPOSED SEWER MANHOLE
 - PROPOSED DRAINAGE MANHOLE
 - PROPOSED CATCH BASIN
 - PROPOSED OUTLET STRUCTURE
 - ABUTTER LINE
 - PROPERTY LINE
 - WETLAND
 - GUARDRAIL
 - OVERHEAD UTILITIES
 - DRAINAGE LINE
 - TREELINE
 - EDGE OF PAVEMENT
 - STONEWALL
 - BUILDING SETBACK
 - ZONE LINE
 - 10' CONTOUR
 - 2' CONTOUR
- PROPOSED GUARDRAIL**
- OHU PROPOSED OVERHEAD UTILITIES
 - UGU PROPOSED UNDERGROUND UTILITIES
 - G PROPOSED GAS LINE
 - W PROPOSED WATER LINE
 - S PROPOSED SEWER LINE
 - PROPOSED DRAINAGE LINE
 - PROPOSED TREELINE
 - PROPOSED EDGE OF PAVEMENT
 - PROPOSED VERTICAL GRANITE CURB
 - PROPOSED SLOPED GRANITE CURB
 - PROPOSED BITUMINOUS CURB
 - PROPOSED 2' CONTOUR
 - PROPOSED SWALE
 - PROPOSED RETAINING WALL
 - PROPOSED STONEWALL
 - EASEMENT
 - SITE LIGHTING
 - BUILDING WALL PACK LIGHTING
 - TEST PIT

SITE SPECIFIC SOIL MAP UNIT KEY

SYMBOL	MAP UNIT	SLOPE CLASS	DRAINAGE CLASS	HSG
42A	CANTON SANDY LOAM	0-3%	WELL DRAINED	B
42B	CANTON SANDY LOAM	3-8%	WELL DRAINED	B
42C	CANTON SANDY LOAM	8-15%	WELL DRAINED	B
42D	CANTON SANDY LOAM	15-25%	WELL DRAINED	B
62A	CHARLTON FINE SANDY LOAM	0-3%	WELL DRAINED	B
62B	CHARLTON FINE SANDY LOAM	3-8%	WELL DRAINED	B
62C	CHARLTON FINE SANDY LOAM	8-15%	WELL DRAINED	B
62D	CHARLTON FINE SANDY LOAM	15-25%	WELL DRAINED	B
178B	CHARLTON-CHATFIELD COMPLEX (60-40)	3-8%	WELL DRAINED	B
178C	CHARLTON-CHATFIELD COMPLEX (60-40)	8-15%	WELL DRAINED	B
178D	CHARLTON-CHATFIELD COMPLEX (60-40)	15-25%	WELL DRAINED	B
178E	CHARLTON-CHATFIELD COMPLEX (60-40)	25-50%	WELL DRAINED	B
444A	NEWFIELDS FINE SANDY LOAM	0-3%	MODERATELY WELL DRAINED	B
444B	NEWFIELDS FINE SANDY LOAM	3-8%	MODERATELY WELL DRAINED	B
444C	NEWFIELDS FINE SANDY LOAM	8-15%	MODERATELY WELL DRAINED	B
444D	NEWFIELDS FINE SANDY LOAM	15-25%	MODERATELY WELL DRAINED	B

THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOILS SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, PRODUCED BY A CERTIFIED SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCE CONSERVATION SERVICE. THERE IS A NARRATIVE REPORT THAT ACCOMPANIES THIS MAP AND MAP KEY.

SCS SOIL MAP UNIT KEY

SYMBOL	MAP UNIT	SLOPE CLASS
CpB	CHATFIELD-HOLLIS-CANTON	3-8%
CpC	CHATFIELD-HOLLIS-CANTON	8-15%
HsB	HINCKLEY LOAMY SAND	3-8%
Pla	PIPESTONE LOAMY SAND	0-3%

SOURCE: WEB SOIL SURVEY,
WWW.WEBSOILSURVEY.SCGOV.USDA.GOV



LOAM & SEED ALL DISTURBED AREAS (TYP.)

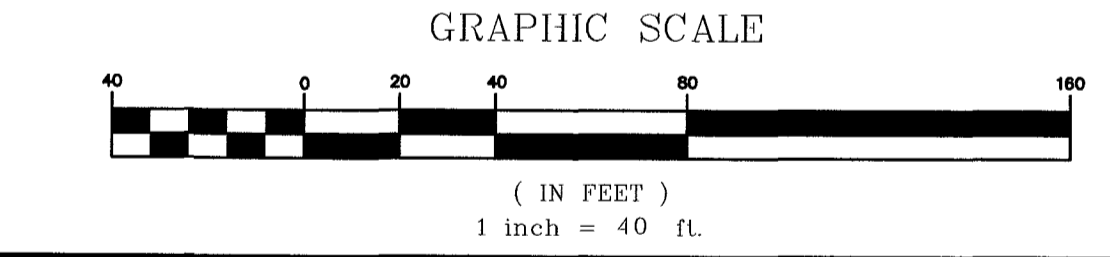
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APPROVED BY THE HUDSON, NH PLANNING BOARD
DATE OF MEETING: _____

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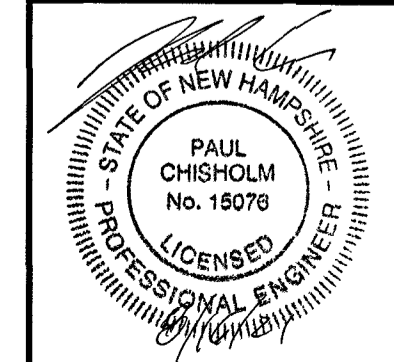
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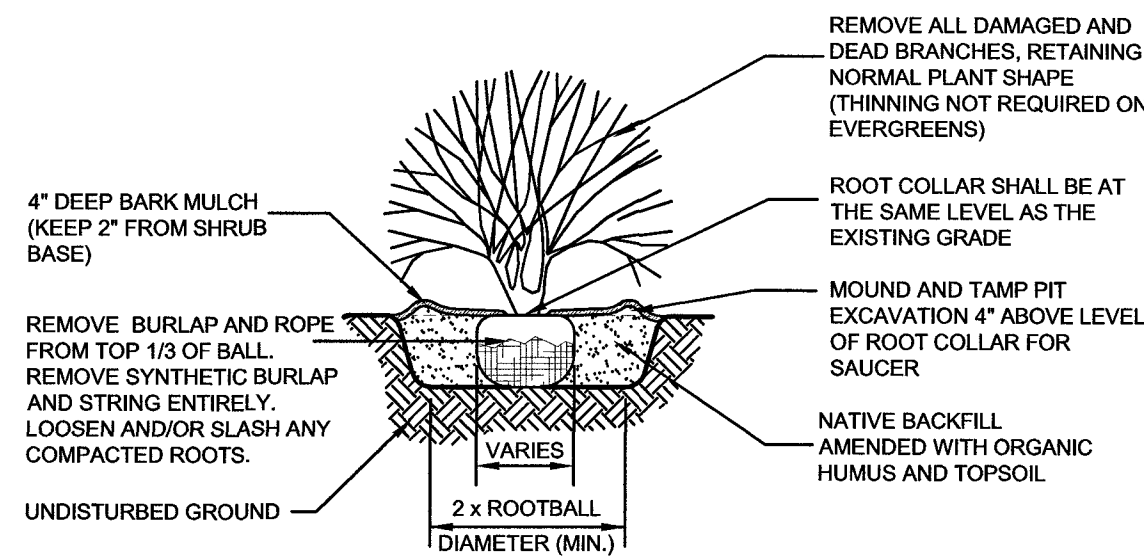
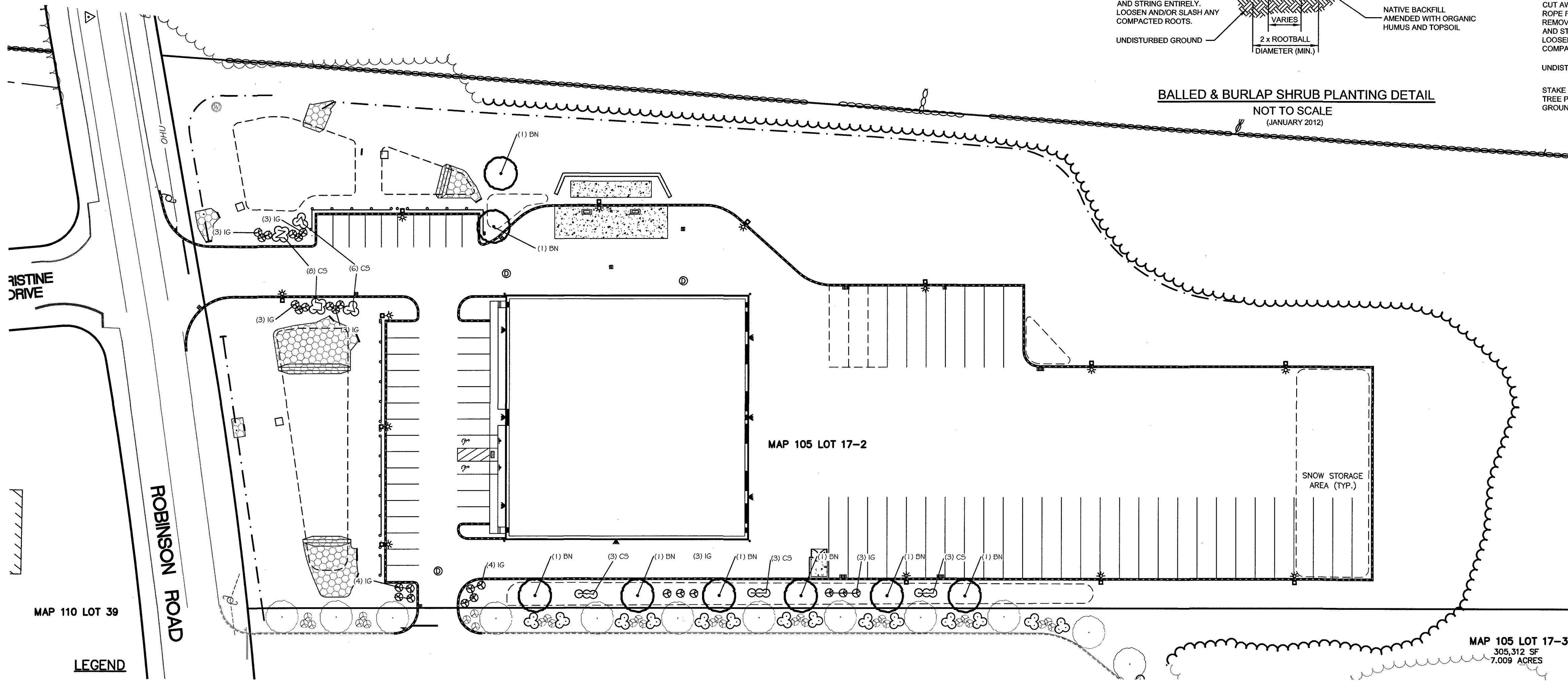
GRADING, DRAINAGE & UTILITY PLAN
S.L. CHASSE STEEL
MAP 105 LOT 17-2
ROBINSON ROAD
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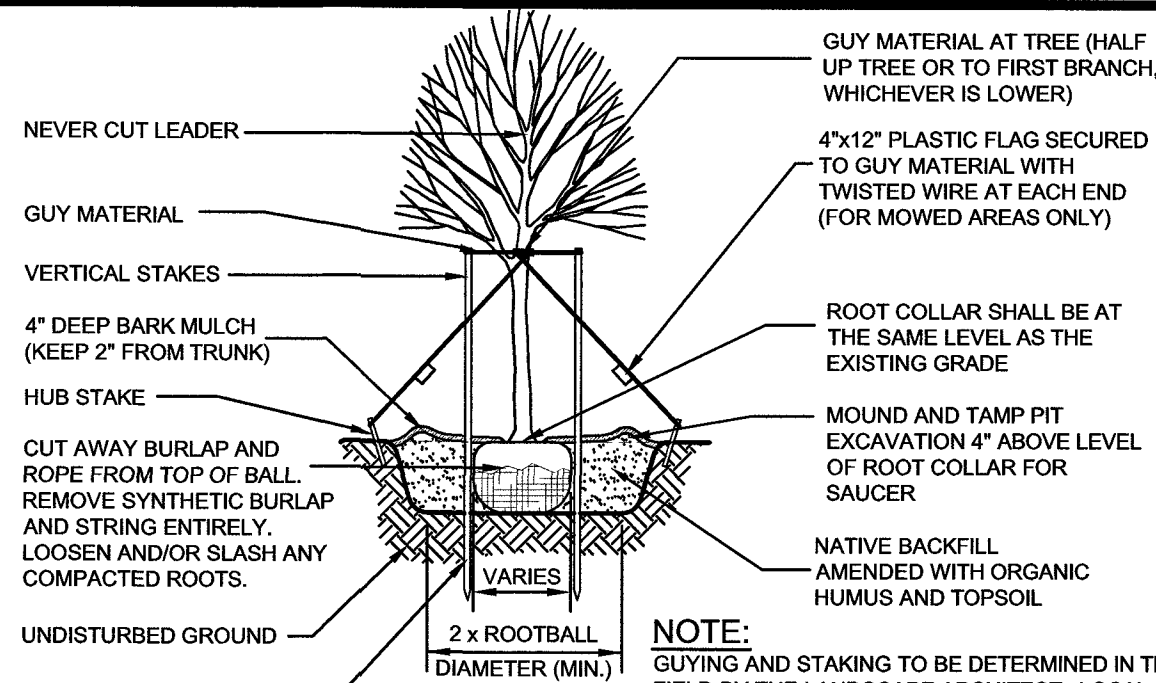
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BALLED & BURLAP SHRUB PLANTING DETAIL
NOT TO SCALE
(JANUARY 2012)



DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE
(JANUARY 2012)

LEGEND

- GB-F GRANITE BOUND FOUND
- IPIN-F IRON PIN FOUND
- DH-F DRILL HOLE FOUND
- UTILITY POLE
- PROPOSED SIGN
- PROPOSED LIGHT
- PROPOSED HYDRANT
- PROPOSED WELL
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- BUILDING SETBACK
- ZONE LINE
- PROPOSED TREELINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED BITUMINOUS CURB
- PROPOSED SWALE
- EASEMENT



LANDSCAPE NOTES:

- THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED SITE LANDSCAPE WHICH PROVIDES CLIMATIC RELIEF AND AESTHETIC APPEAL.
- ALL PLANT MATERIALS USED SHALL BE NURSERY STOCK AND SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF INSTALLATION. ANY MATERIAL WHICH DIES OR DOES NOT SHOWN HEALTHY APPEARANCE WITHIN THIS TIME SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE; WITH SAME WARRANTY REQUIREMENTS AS THE ORIGINAL. WARRANTIES TYPICALLY DO NOT COVER LOSS DUE TO INSECT INFESTATION OR MECHANICAL DAMAGE (I.E. SNOW STORAGE).
- IF THE SOIL CONDITIONS ARE EXTREMELY SANDY, ALL TREES SHALL HAVE A 6" LAYER OF COMPACTED TOPSOIL PLACED IN THE BASE OF THE PLANT PIT AS A MOISTURE RETENTION LAYER. THE PLANT PIT SIDEWALLS SHALL BE OVER EXCAVATED BY AN ADDITIONAL 12" BEYOND THE NORMAL OUTSIDE RADIUS OF THE HOLE. A TOPSOIL MIXTURE SHALL BE USED TO BACKFILL THE HOLE AS FOLLOWS: ORGANIC TOPSOIL, AMENDED WITH 10% WOOD ASH, 10% MANURE, 30% PEATMOSS AND A GRANULAR HYDROGEL TO ABSORB AND RETAIN WATER.
- PLANTING BEDS AND SAUCERS SHALL RECEIVE A 4" MINIMUM THICKNESS OF PINE/HEMLOCK BARK MULCH OVER A 5oz. POLYPROPYLENE WEED CONTROL FABRIC.
- PAVEMENT AND ROAD BASE MATERIAL ENCOUNTERED IN ANY LAWN OR PLANTING BED SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SUITABLE AMENDED SOIL INSTALLED AS SPECIFIED IN THE TURF ESTABLISHMENT SCHEDULE.
- PLANT TYPES SHOWN ARE SUBJECT TO AVAILABILITY. SUBSTITUTE MATERIALS CAN BE IMPLEMENTED WITH APPROVAL FROM KEACH NORDSTROM ASSOCIATES PRIOR TO CONSTRUCTION.

LANDSCAPE CALCULATIONS

REQUIRED PARKING LOT INTERIOR LANDSCAPE AREA
PROPOSED PAVED AREA: 29,393 SF
10% REQUIRED LANDSCAPE AREA: 2,939 SF
PROVIDED LANDSCAPE AREA: 6,822 SF

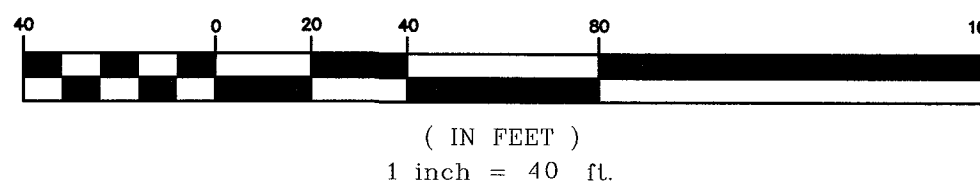
REQUIRED PARKING LOT SHADE TREES AND SHRUBS
PROPOSED SHADE AREA: 9,540 SF
SHADE TREES REQUIRED (9,540/1,600): 6 TREES REQUIRED
(OR 1 TREE/5 PROP. PARKING SPACES) 8 TREES REQUIRED
SHADE TREES PROVIDED: 8 TREES PROVIDED
SHRUBS REQUIRED (9,540/200): 48 SHRUBS, OR
(OR 1.6 x 38 PROP. PARKING SPACES) 61 SHRUBS PROVIDED
SHRUBS PROVIDED: 49 SHRUBS PROVIDED

PLANTING SCHEDULE

Botanical Name/Common Name	Size	Label	Quantity	Mature Height
Trees				
<i>Betula nigra</i> 'Heritage' / Heritage River Birch	3-3.5" CAL.	AR	8	40-60'
Shrubs				
<i>Cornus sericea</i> 'Arctic Fire' / Arctic Fire Red-Osier Dogwood	#3	CS	23	5-6'
<i>Ilex glabra</i> 'Compacta' / Compact Inkberry	#3	IG	26	5-6'

SEE SHEET 1 FOR NOTES
AND REFERENCE PLANS

GRAPHIC SCALE



LANDSCAPE PLAN

S.L. CHASSE STEEL

MAP 105 LOT 17-2

ROBINSON ROAD

HUDSON, NEW HAMPSHIRE

HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:

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8 CHRISTINE DRIVE
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SHEET 7 OF 16

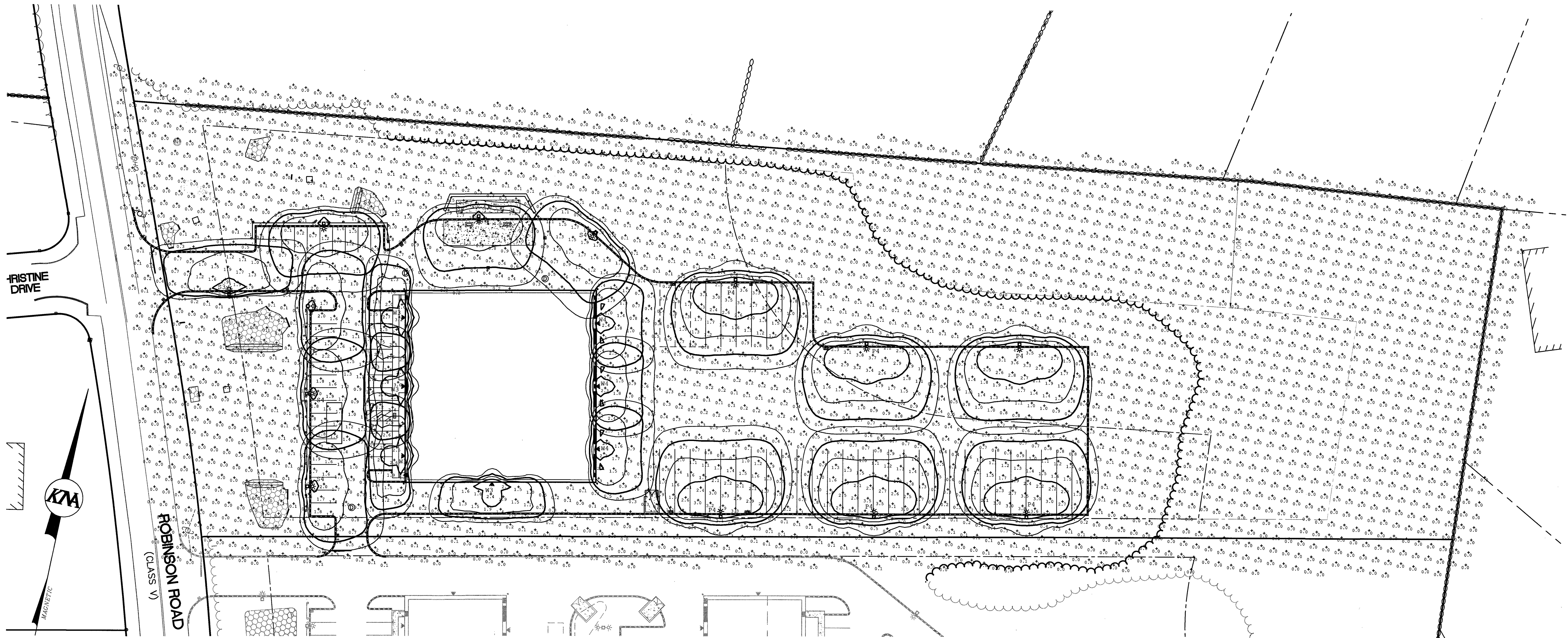
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LIGHTING NOTES:

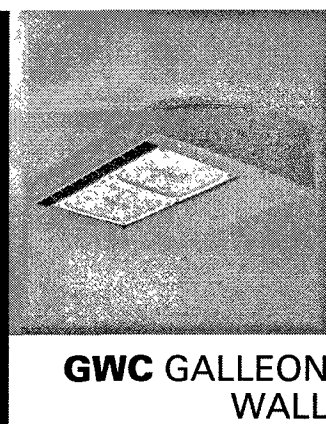
- ALL LIGHTS/FIXTURES SHALL BE AS SPECIFIED BY CHARRON LIGHTING.
- ALL PROPOSED LIGHTS/FIXTURES ARE TO BE FULL CUTOFF.
- FIXTURES SHALL BE MOUNTED AS HEIGHTS AS SPECIFIED IN TABLE.
- PRIOR TO CONSTRUCTION, THE SITE CONTRACTOR SHALL COORDINATE WITH THE PROJECT ELECTRICIAN FOR THE EXACT LOCATION, LAYOUT, CONDUIT SIZE AND CIRCUITS ASSOCIATED WITH THE SITE LIGHTING.
- LIGHTING WILL BE ON AT ALL TIMES TO PROVIDE SECURITY AND SAFETY FOR THE FACILITY.



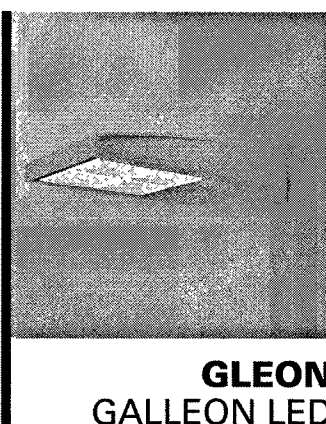
LUMINAIRE SCHEDULE				
SYMBOL	QTY	LABEL	ARRANGEMENT	DESCRIPTION
☐*	6	P4	SINGLE	GLEON-AF-02-LED-E1-SL4/ SSS4A20SFN1 (20' AFG)
☐*	1	S3	SINGLE	GLEON-AF-01-LED-E1-SL3-HSS/ SSS4A20SFN1 (20' AFG)
☐*	6	S4	SINGLE	GLEON-AF-01-LED-E1-SL4/ SSS4A20SFN1 (20' AFG)
☐*	4	W3	SINGLE	GWC-AF-01-LED-E1-SL3-600/ WALL MTD 15' AFG
☐*	3	W4	SINGLE	GWC-AF-01-LED-E1-SL4-600/ WALL MTD 15' AFG

STATAREA_1
FRONT PARKING LOT
ILLUMINANCE (FC)
AVERAGE = 1.68
MAXIMUM = 2.8
MINIMUM = 0.8
AVG/MIN RATIO = 2.10
MAX/MIN RATIO = 3.50

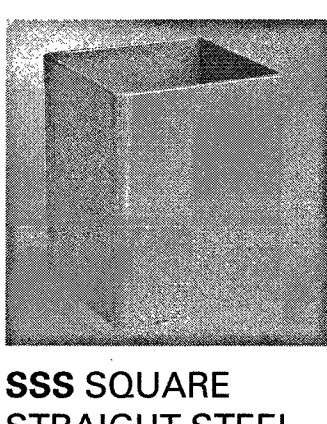
STATAREA_2
TRUCK YARD
ILLUMINANCE (FC)
AVERAGE = 1.21
MAXIMUM = 4.3
MINIMUM = 0.1
AVG/MIN RATIO = 12.10
MAX/MIN RATIO = 43.00



GWC GALLEON WALL



GLEON GALLEON LED

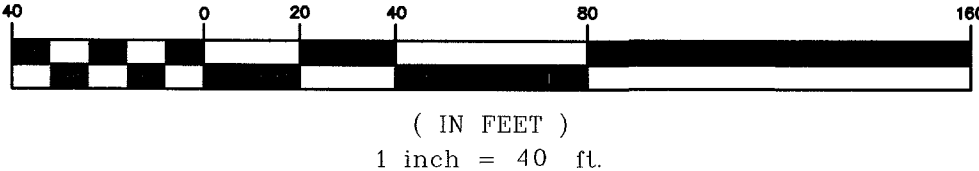


SSS SQUARE STRAIGHT STEEL

LEGEND

- ☐ CB-F
- ☐ IPIN-F
- ☐ DH-F
- ☐ UTILITY POLE
- ☐ PROPOSED SIGN
- ☐ PROPOSED LIGHT
- ☐ PROPOSED HYDRANT
- ☐ PROPOSED WELL
- ☐ PROPOSED SEWER MANHOLE
- ☐ PROPOSED DRAINAGE MANHOLE
- ☐ PROPOSED CATCH BASIN
- ☐ PROPOSED OUTLET STRUCTURE
- ☐ ABUTTER LINE
- ☐ PROPERTY LINE
- ☐ OVERHEAD UTILITIES
- ☐ TREE LINE
- ☐ EDGE OF PAVEMENT
- ☐ STONEWALL
- ☐ BUILDING SETBACK
- ☐ ZONE LINE
- ☐ PROPOSED TREE LINE
- ☐ PROPOSED EDGE OF PAVEMENT
- ☐ PROPOSED BITUMINOUS CURB
- ☐ PROPOSED SWALE
- ☐ EASEMENT
- ☐ SITE LIGHTING
- ☐ BUILDING WALL PACK LIGHTING

GRAPHIC SCALE



SEE SHEET 1 FOR NOTES AND REFERENCE PLANS

IN ASSOCIATION WITH:

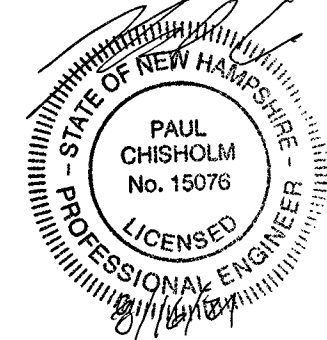


P.O. BOX 4650
MANCHESTER, NH 03108
(603) 624-4827
FAX (603) 624-9764
SALES@CHARRONINC.COM

LIGHTING PLAN
S.L. CHASSE STEEL
MAP 105 LOT 17-2
ROBINSON ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:
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8 CHRISTINE DRIVE
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SHEET 8 OF 16		

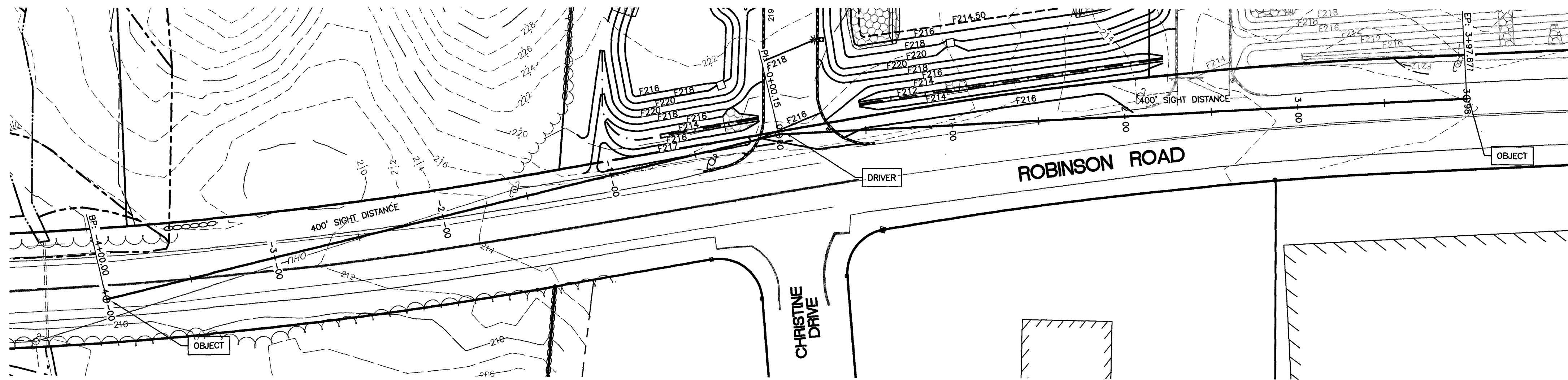
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DATE OF MEETING: _____

SIGNATURE DATE: _____

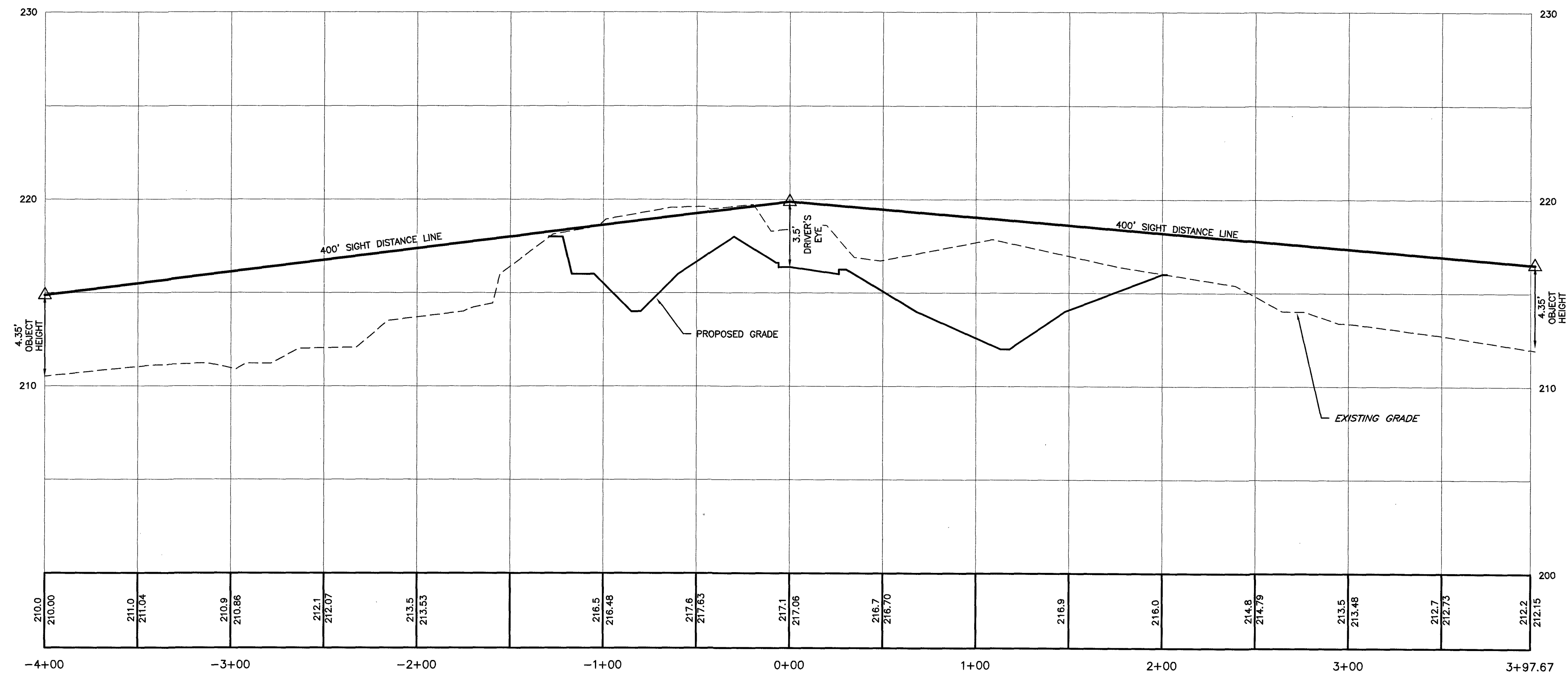
SIGNATURE DATE: _____

SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.

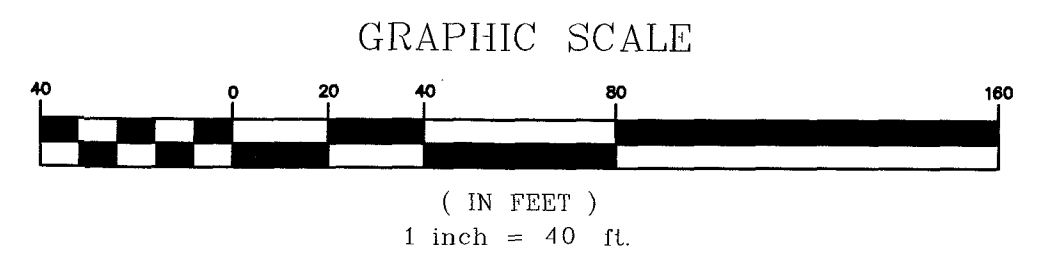


SIGHT DISTANCE PLAN
SCALE: 1" = 40'

- UTILITY POLE
- ABUTTER LINE
- PROPERTY LINE
- OVERHEAD UTILITIES
- TREELINE
- EDGE OF PAVEMENT
- VERTICAL GRANITE CURB
- BITUMINOUS CURB
- 10' CONTOUR
- 2' CONTOUR
- BUILDING SETBACK
- PROPOSED SIGN
- PROPOSED LIGHT
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED TREELINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED BITUMINOUS CURB
- PROPOSED 2' CONTOUR
- PROPOSED SWALE
- SITE LIGHTING
- BUILDING WALL PACK LIGHTING



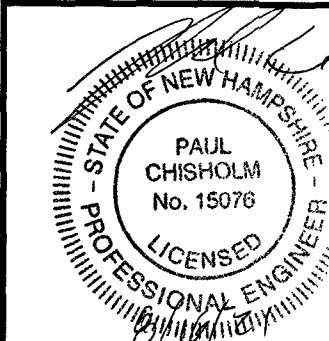
SIGHT DISTANCE PROFILE
SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)



SIGHT DISTANCE PLAN & PROFILE
S.L. CHASSE STEEL
MAP 105 LOT 17-2
ROBINSON ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:
STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, N.H. 03051
H.C.R.D. BK. 9327 PG. 197

KMA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 687-2881



REVISIONS			
No.	DATE	DESCRIPTION	BY
1	05/12/21	TOWN COMMENTS	SCV
2	08/17/21	TOWN AND AOT COMMENTS	SCV

DATE: APRIL 6, 2021 SCALE: 1" = 40'
PROJECT NO: 20-0921-2 SHEET 9 OF 16

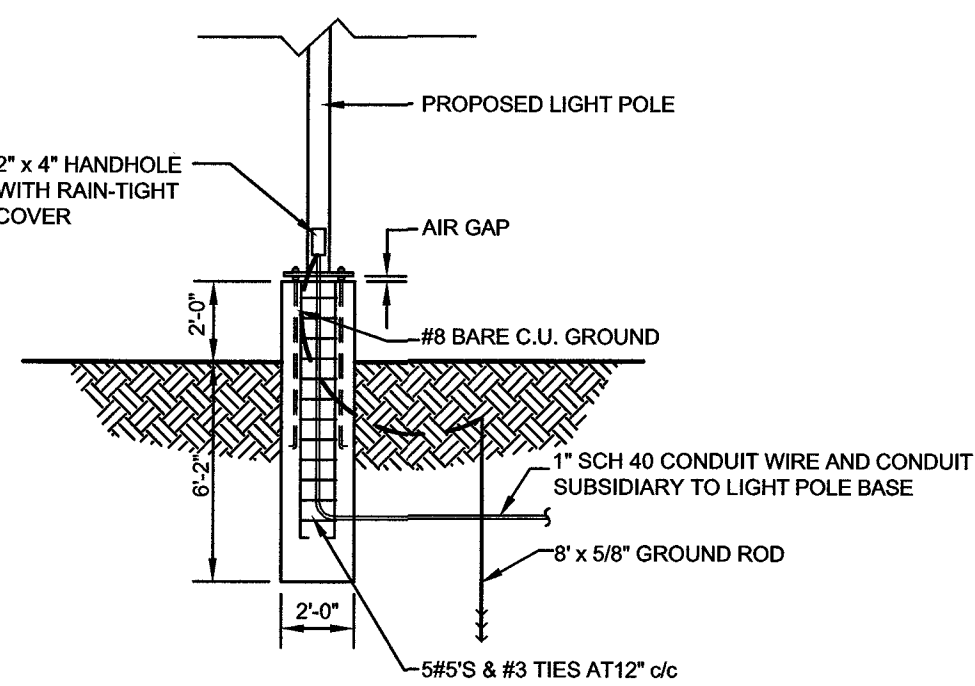
PURSUANT TO THE
SITE REVIEW
REGULATIONS OF
THE HUDSON
PLANNING BOARD,
THE SITE PLAN
APPROVAL
GRANTED HEREIN
EXPIRES TWO
YEARS FROM DATE
OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD
DATE OF MEETING: _____

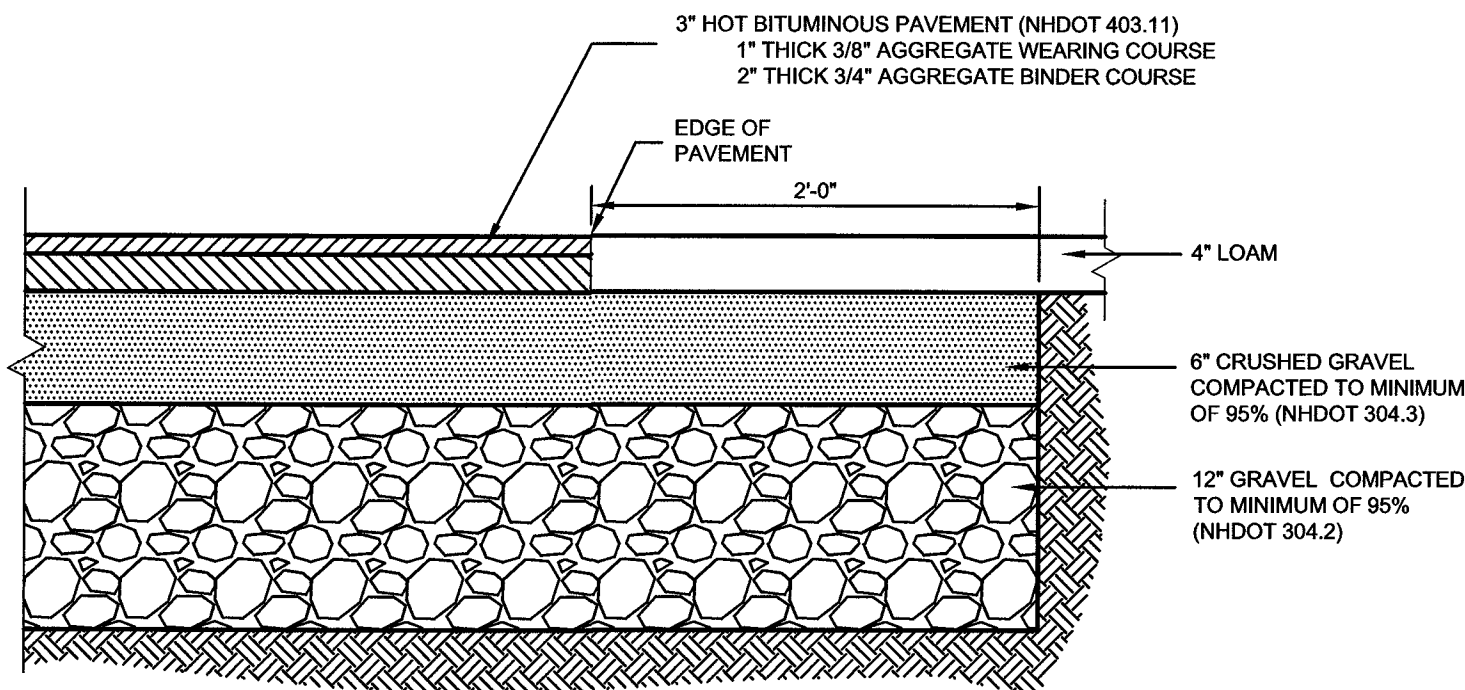
SIGNATURE DATE: _____

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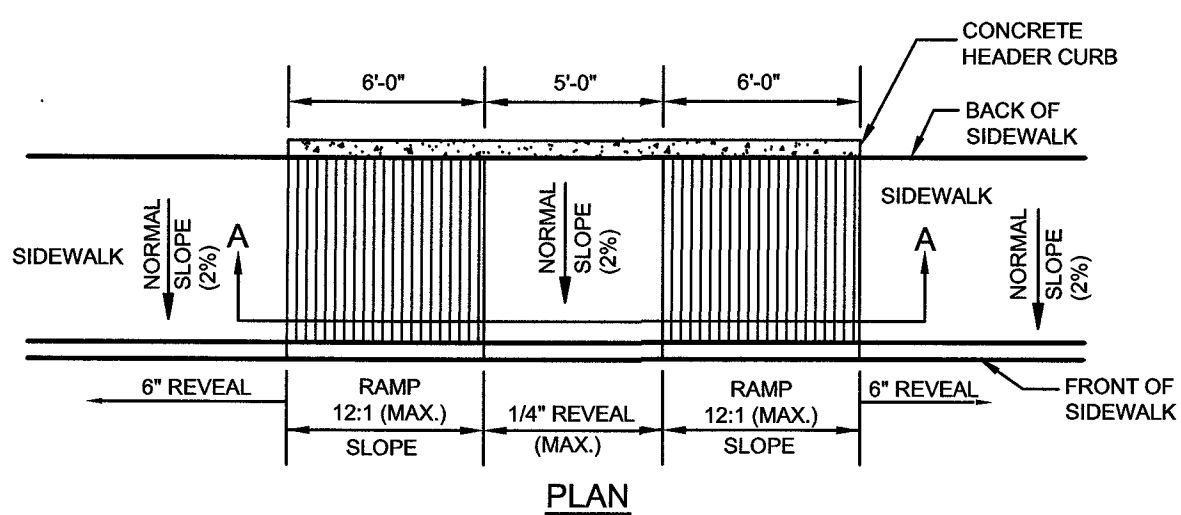
SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD
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BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.



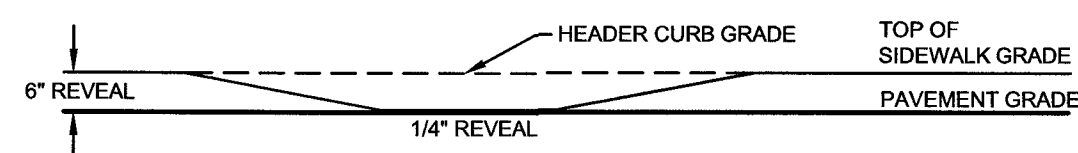
CONCRETE LIGHT POLE BASE DETAIL
NOT TO SCALE
(MARCH 2008)



DRIVEWAY AND PARKING LOT SECTION
NOT TO SCALE
(MARCH 2008)



PLAN

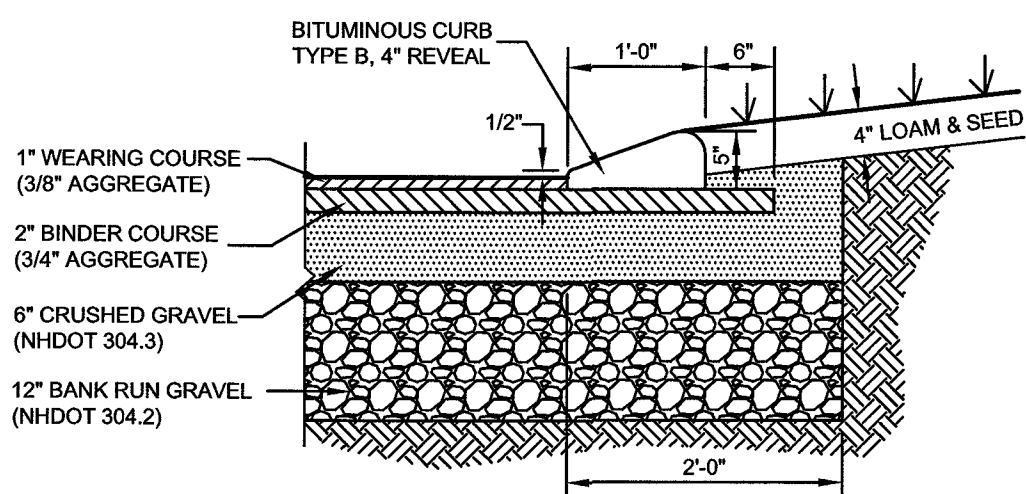


SECTION A-A

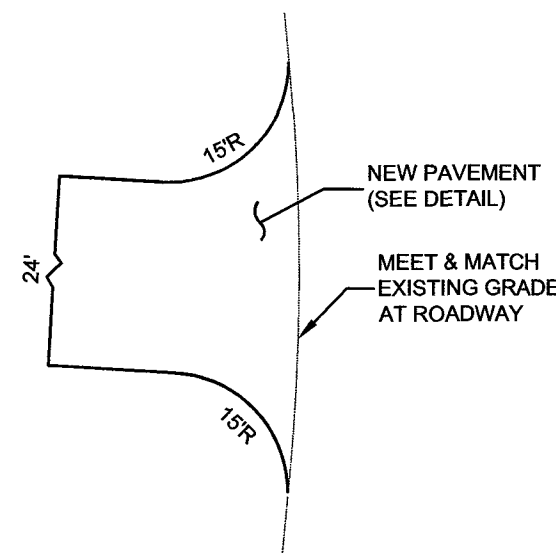
NOTES:

1. A BROOM FINISH TRANSVERSE TO THE SLOPE OF THE RAMP SHALL BE USED ON PORTLAND CEMENT CONCRETE RAMP.
2. MAINTAIN THE NORMAL PAVEMENT PROFILE THROUGHOUT THE RAMP AREA.
3. MAINTAIN A MAXIMUM 1/4" OF CURB REVEAL AT THE RAMP, SEE SECTION A-A.

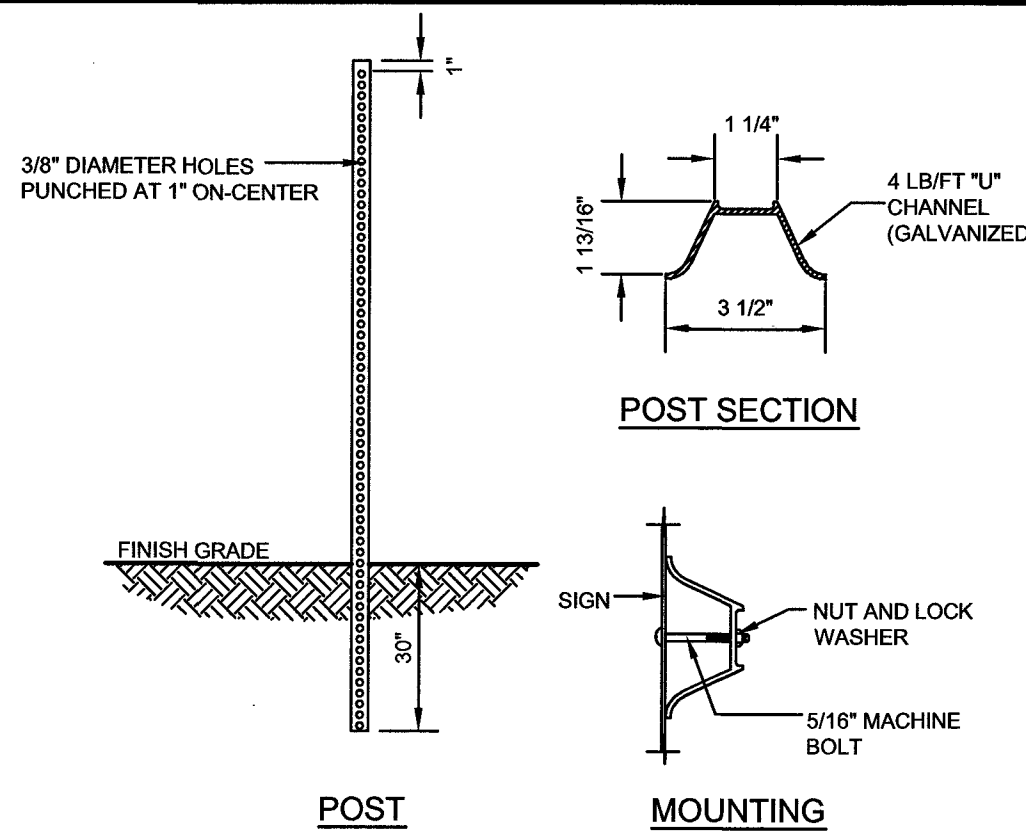
SIDEWALK RAMP
NOT TO SCALE
(JUNE 2012)



BITUMINOUS CURB TYPE B DETAIL
NOT TO SCALE
(MARCH 2008)



DRIVEWAY DETAIL
NOT TO SCALE

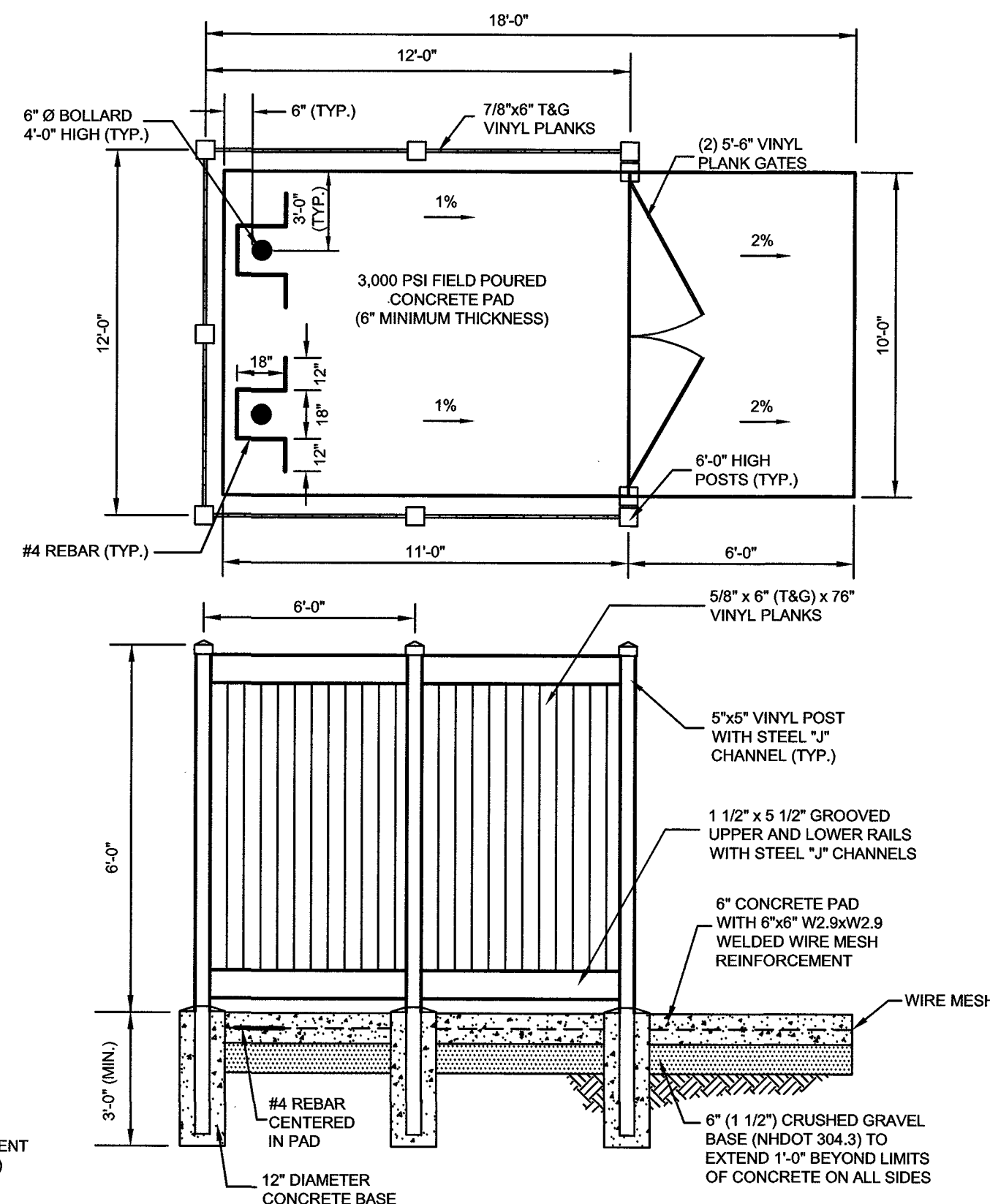


POST

MOUNTING

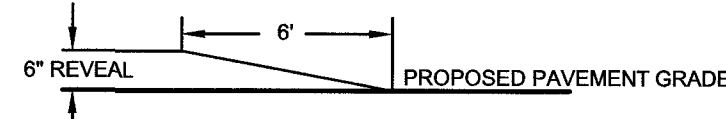
NOTE:
POST SHALL CONFORM TO NHDOT 615.2.5.3

STEEL SIGN POST DETAIL
NOT TO SCALE
(MARCH 2008)

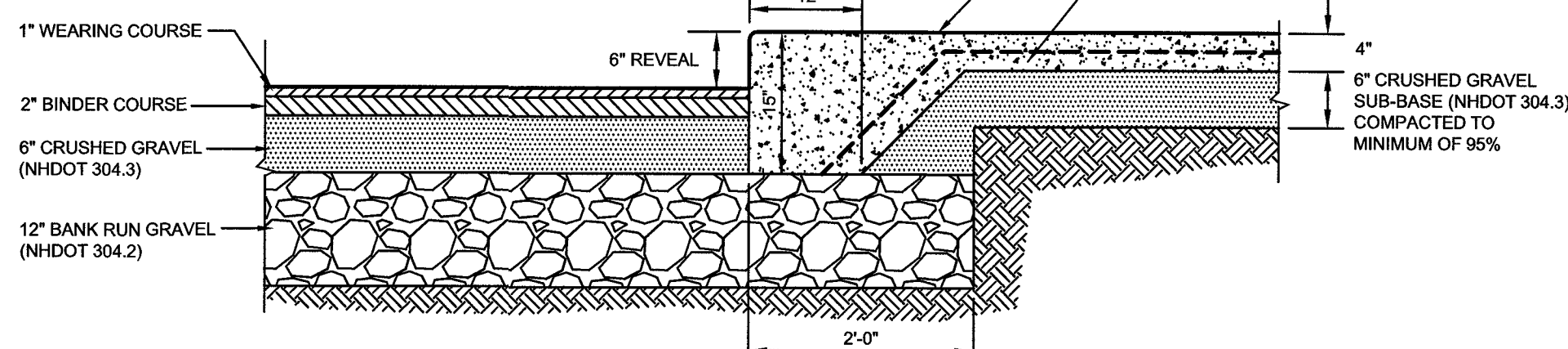


NOTE:
THIS DUMPSTER ENCLOSURE WILL ACCOMMODATE MOST 2, 4, 6 AND 8 CY DUMPSTERS.

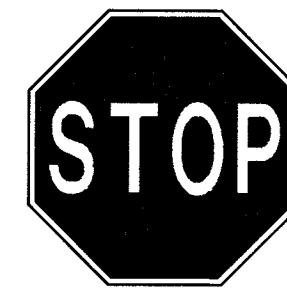
VINYL TRASH ENCLOSURE DETAIL
NOT TO SCALE
(MARCH 2008)



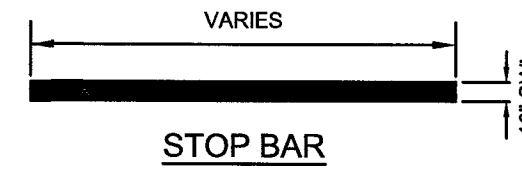
CURB TIP DOWN
NOT TO SCALE



INTEGRAL CURB AND WALK DETAIL
NOT TO SCALE
(MARCH 2008)



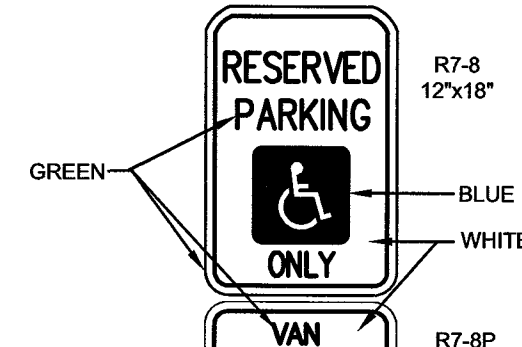
STOP SIGN DETAIL
NOT TO SCALE
(MARCH 2008)



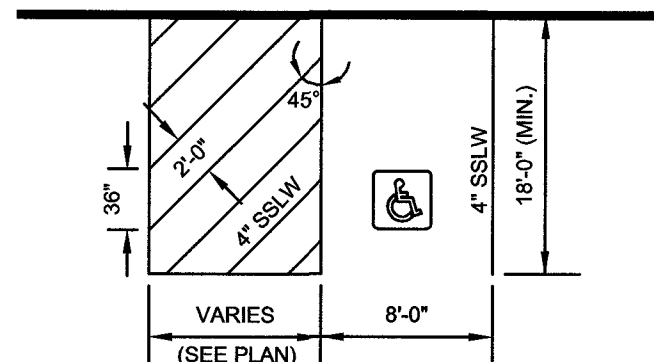
STOP BAR



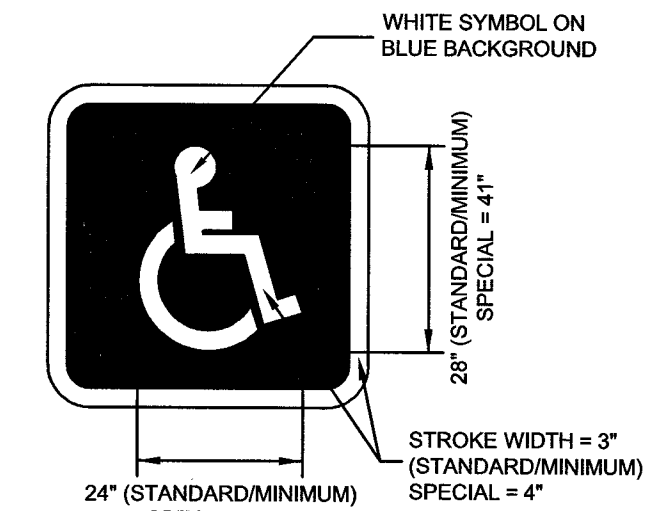
HANDICAP PARKING SIGN DETAIL
NOT TO SCALE
(MARCH 2008)



VAN ACCESSIBLE HANDICAP PARKING SIGN DETAIL
NOT TO SCALE
(NOVEMBER 2016)

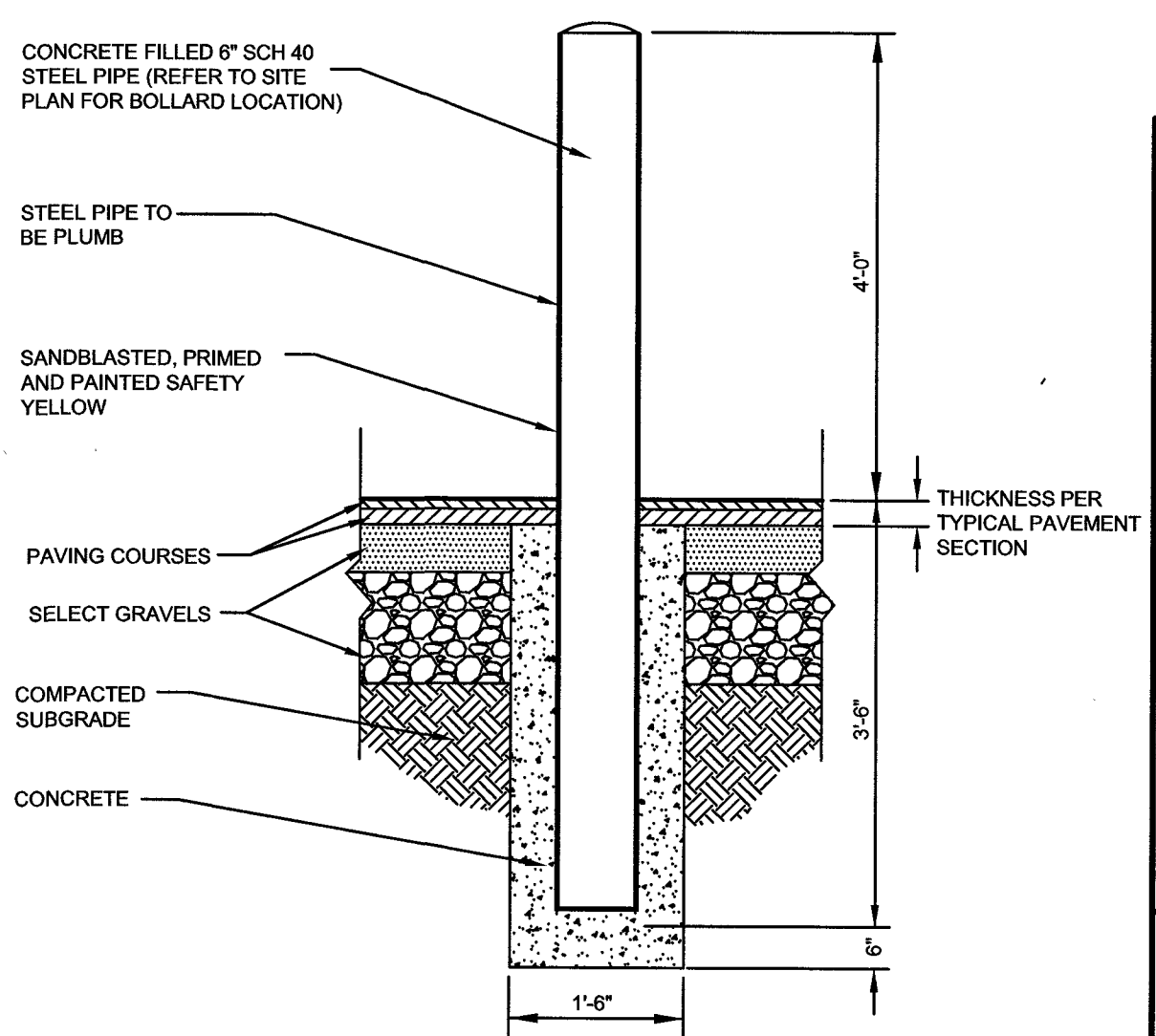


HANDICAP STRIPING DETAIL
NOT TO SCALE
(MARCH 2012)

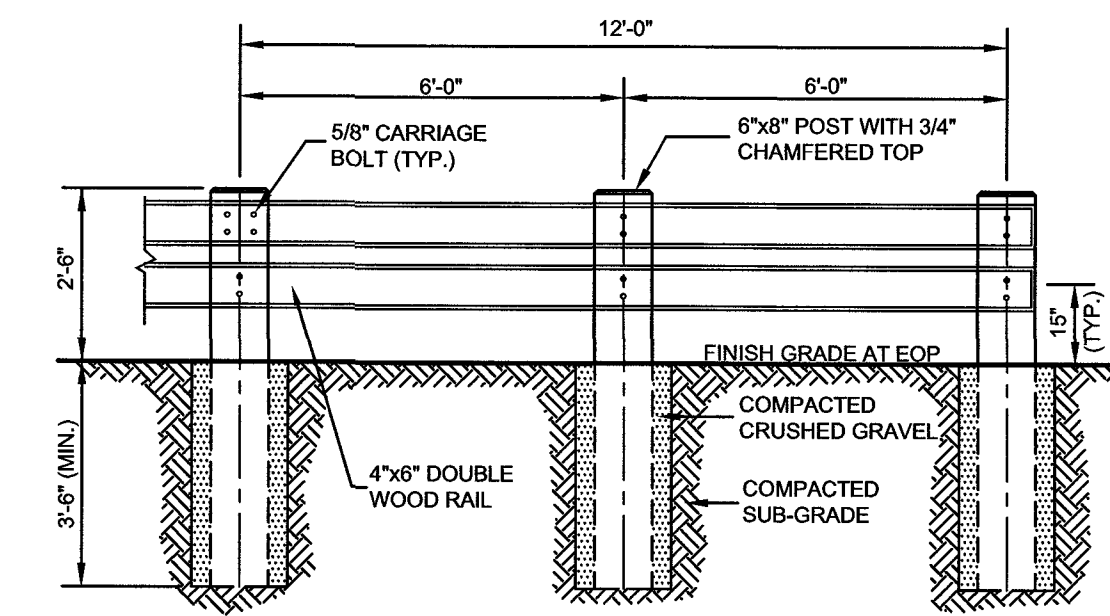


STRIPING NOTES:

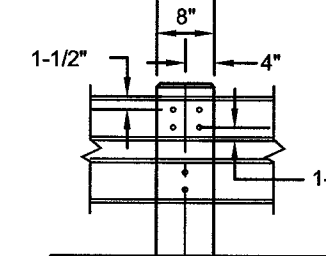
1. ALL PAVEMENT MARKINGS SHALL BE IN CONFORMANCE WITH THESE STANDARDS AND THE CURRENT EDITION OF MUTCD.
2. WIDTH OF LINES SHALL VARY NO MORE THAN 1/4 INCH FROM THAT SPECIFIED.
3. THE WET FILM THICKNESS OF A PAINTED LINE SHALL BE A MINIMUM OF 15 MILS THROUGHOUT THE ENTIRE WIDTH AND LENGTH OF LINE SPECIFIED.
4. OVERSPRAY SHALL BE KEPT TO AN ABSOLUTE MINIMUM.



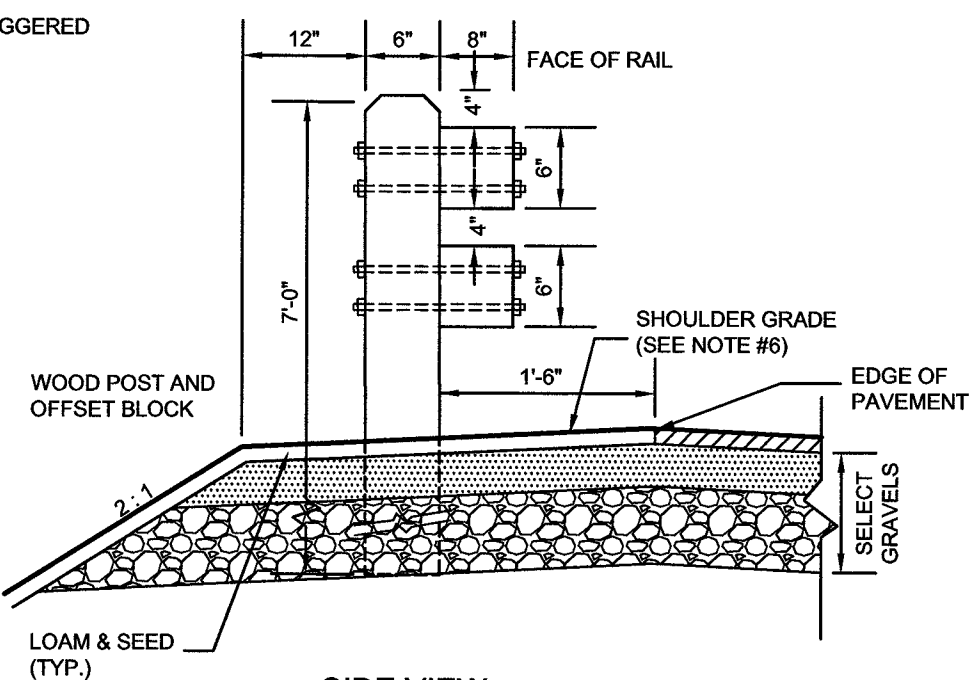
BOLLARD DETAIL
NOT TO SCALE
(MARCH 2008)



ELEVATION



BOLT DETAIL



SIDE VIEW

NOTES:

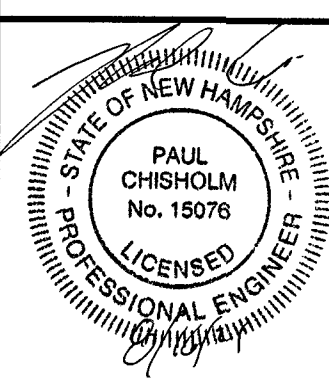
1. ALL TIMBERS SHALL BE PRESSURE TREATED.
2. PAY LIMIT = PER LINEAR FOOT INCLUDING END SECTION.
3. ALL HARDWARE SHALL BE HOT DIPPED GALVANIZED.

WOOD BEAM GUARDRAIL
NOT TO SCALE
(AUGUST 2011)

CONSTRUCTION DETAILS
S.L. CHASSE STEEL
MAP 105 LOT 17-2
ROBINSON ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

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DATE: APRIL 6, 2021		SCALE: AS SHOWN	
PROJECT NO: 20-0921-2		SHEET 10 OF 16	

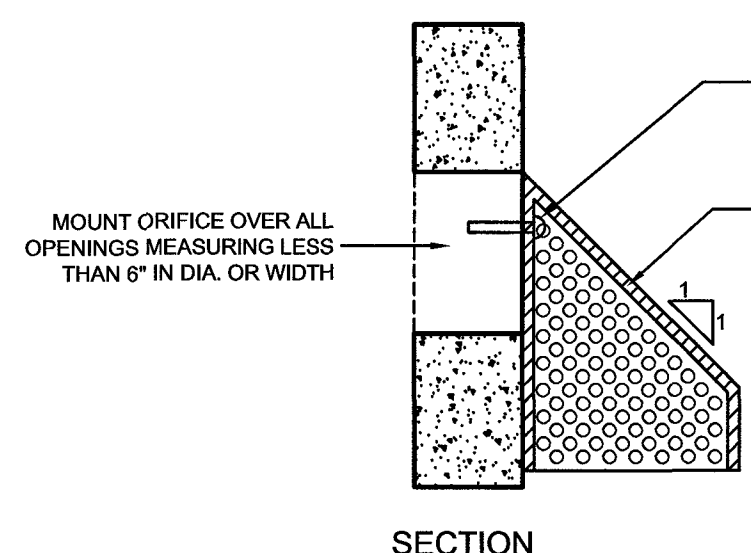
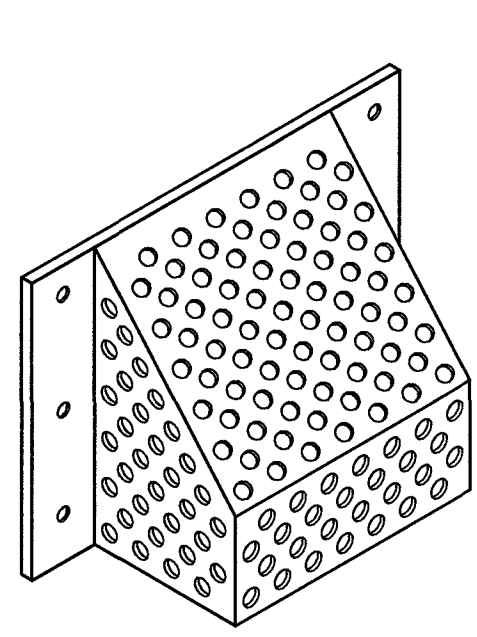
PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD
DATE OF MEETING: _____

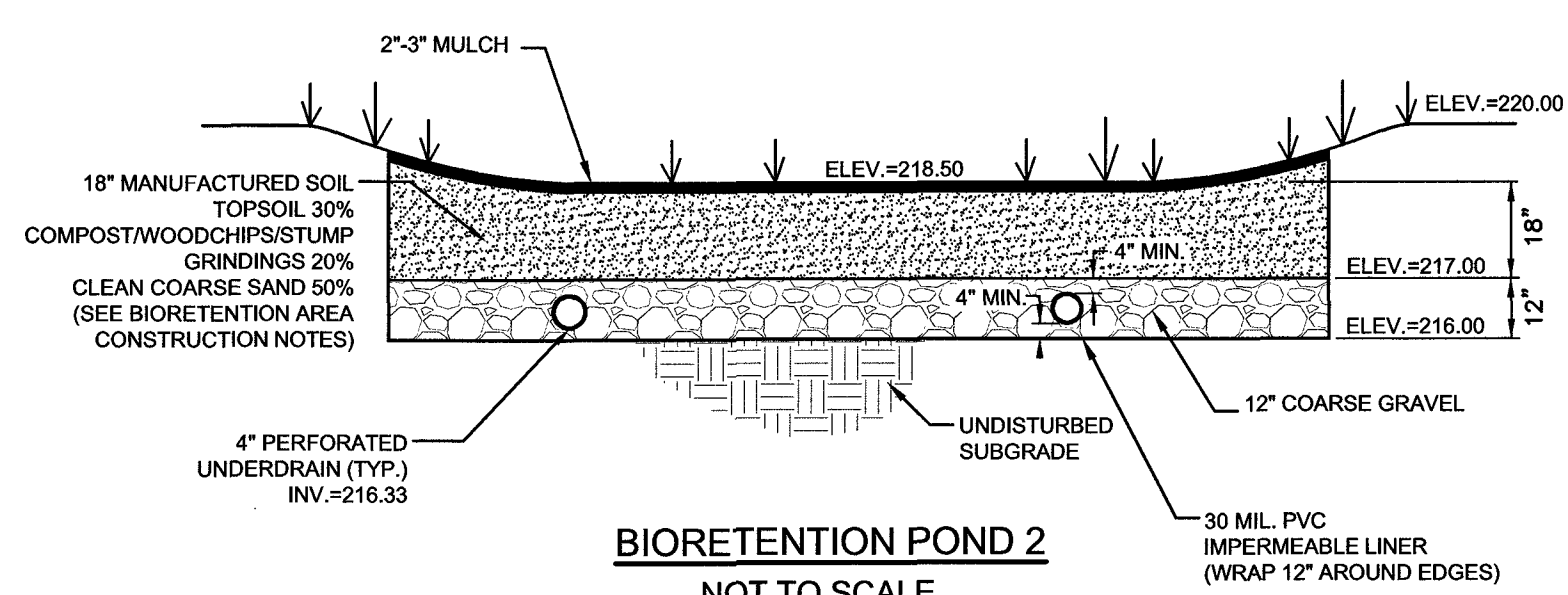
SIGNATURE DATE: _____

SIGNATURE DATE: _____

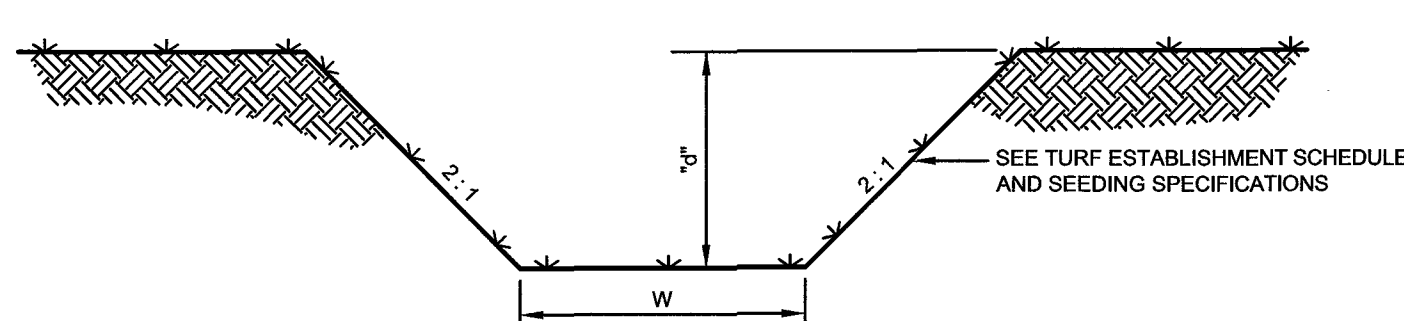
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ISOMETRIC
TRASH RACK DETAIL
NOT TO SCALE



BIORETENTION POND 2
NOT TO SCALE



SWALE	SWALE WIDTH "W"	SWALE LENGTH	SWALE SLOPE	DEPTH "d"
3	2'	608	0.0526 FT/FT	2'
33	2'	130'	0.0519 FT/FT	1'
4	2'	177'	0.0056 FT/FT	2'

- MAINTENANCE**
- TIMELY MAINTENANCE IS IMPORTANT TO KEEP THE VEGETATION IN THE SWALE IN GOOD CONDITION. MOWING SHOULD BE DONE FREQUENTLY ENOUGH TO KEEP THE VEGETATION IN VIGOROUS CONDITION AND TO CONTROL ENCROACHMENT OF WEEDS AND WOODY VEGETATION, HOWEVER IT SHOULD NOT BE MOVED TOO CLOSELY SO AS TO REDUCE THE FILTERING EFFECT. FERTILIZE ON AN "AS NEEDED" BASIS TO KEEP THE GRASS HEALTHY. OVER FERTILIZATION CAN RESULT IN THE SWALE BECOMING A SOURCE OF POLLUTION.
 - THE SWALE SHOULD BE INSPECTED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE THE CONDITION OF THE SWALE. RILLS AND DAMAGED AREAS SHOULD BE PROMPTLY REPAIRED AND RE-VEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION.

CONVEYANCE SWALE DETAIL
NOT TO SCALE
(MARCH 2008)

TP #3	TP #1	TP #2
LOGGED BY GPC PERC TEST @ 20" DATE: 3-16-2020 PERC RATE: 8 MIN./INCH IMPERVIOUS LAYER: NONE WATER ENCOUNTERED: NONE	LOGGED BY GPC PERC TEST @ 20" DATE: 3-1-2021 PERC RATE: 8 MIN./INCH IMPERVIOUS LAYER: NONE WATER ENCOUNTERED: NONE	LOGGED BY GPC PERC TEST @ 20" DATE: 3-1-2021 PERC RATE: 8 MIN./INCH IMPERVIOUS LAYER: NONE WATER ENCOUNTERED: NONE
0" TOP SOIL	0" FOREST MAT	0" FOREST MAT
8" 5Y 5/4, GRANULAR, FRIABLE LOAMY SAND, ROOTS	12" 10YR 5/4, COARSE SAND, SINGLE GRAIN, STONES, MASSIVE	4" 5Y 3/4, SANDY LOAM, GRANULAR FRIABLE, STONES, MASSIVE
18" 10YR 5/6, GRANULAR, FRIABLE, LOAMY SAND, FEW ROOTS	36" 10YR 5/6, GRANULAR, FRIABLE, SAND, SINGLE GRAIN, MASSIVE	32" 10YR 5/6, GRANULAR, FRIABLE, SAND, SINGLE GRAIN, MASSIVE
28" 10YR 6/6, SAND SINGLE GRAIN GRAVELLY		
70" BOTTOM OF HOLE	72" BOTTOM OF HOLE	72" BOTTOM OF HOLE

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

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MAINTENANCE REQUIREMENTS:

- SEDIMENT FOREBAYS:**
- INSPECT AT LEAST ANNUALLY;
 - CONDUCT PERIODIC MOWING OF EMBANKMENTS (GENERALLY TWO TIMES PER YEAR) TO CONTROL GROWTH OF WOODY VEGETATION ON EMBANKMENTS;
 - REMOVE DEBRIS FROM OUTLET STRUCTURES AT LEAST ONCE ANNUALLY;
 - REMOVE AND DISPOSE OF ACCUMULATED SEDIMENT BASED ON INSPECTION;
 - INSTALL AND MAINTAIN A STAFF GAGE OR OTHER MEASURING DEVICE, TO INDICATE DEPTH OF SEDIMENT ACCUMULATION AND LEVEL AT WHICH CLEAN-OUT IS REQUIRED.
- INFILTRATION:**
- REMOVAL OF DEBRIS FROM INLET AND OUTLET STRUCTURES;
 - REMOVAL OF ACCUMULATED SEDIMENT;
 - INSPECTION AND REPAIR OF OUTLET STRUCTURES AND APPURTENANCES;
 - INSPECTION OF INFILTRATION COMPONENTS AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EVENT EXCEEDING 2.5 INCHES IN A 24 HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS WARRANTED BY SUCH INSPECTION;
 - INSPECTION OF PRETREATMENT MEASURES AT LEAST TWICE ANNUALLY, AND REMOVAL OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY;
 - PERIODIC MOWING OF EMBANKMENTS;
 - REMOVAL OF WOODY VEGETATION FROM EMBANKMENTS;
 - INSPECTION AND REPAIR OF EMBANKMENTS AND SPILLWAYS;
 - IF AN INFILTRATION SYSTEM DOES NOT DRAIN WITHIN 72-HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE INFILTRATION FUNCTION, INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE INFILTRATION TRENCH.

TYPICAL INFILTRATION POND SECTION - WITH FOREBAY
NOT TO SCALE

POND NUMBER	ELEV. A	ELEV. B	ELEV. C
2	220.00	214.50	215.50

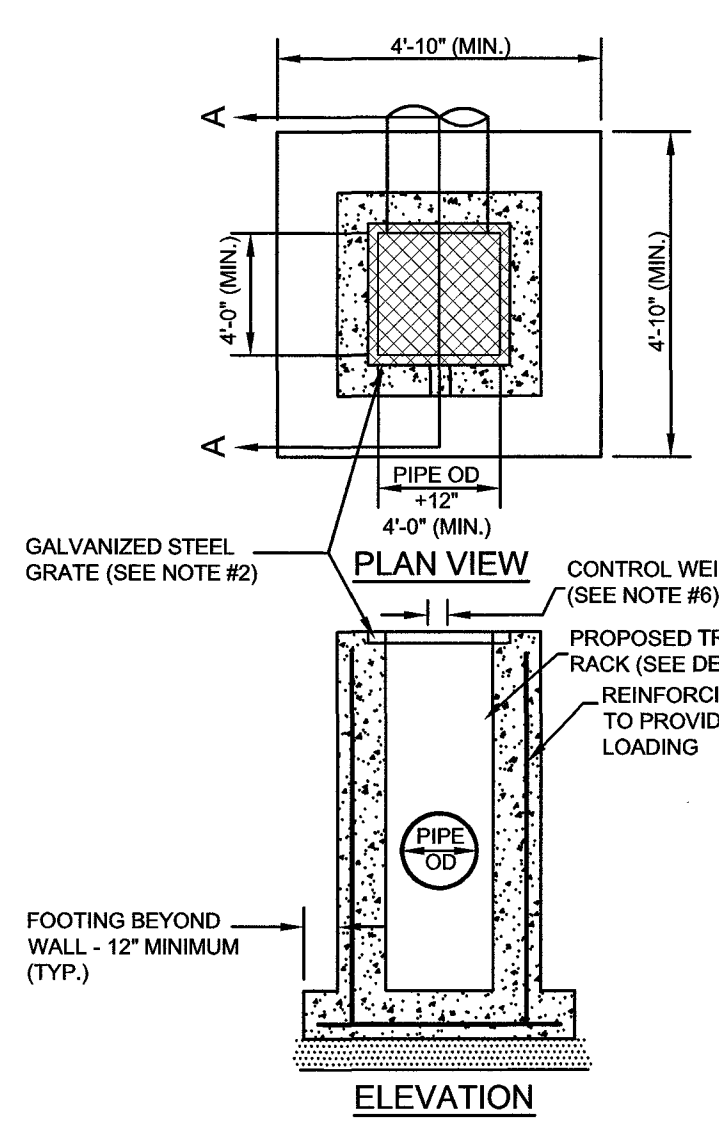
- CONSTRUCTION PRACTICE REQUIREMENTS:**
- STORMWATER PONDS, INFILTRATION BASINS, AND SWALES MUST BE INSTALLED BEFORE ROUGH GRADING TO SITE.
 - RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMPs ARE STABILIZED.
 - STORMWATER PONDS, INFILTRATION BASINS, AND SWALES MUST BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
 - DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATION WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION SYSTEM.
 - AFTER THE INFILTRATION SYSTEM AREA IS EXCAVATED TO THE FINAL DESIGN ELEVATION, THE FLOOR SHOULD BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG.
 - DO NOT PLACE INFILTRATION SYSTEMS INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
 - INFILTRATION BASIN FLOOR PREPARATION WILL INCLUDE GRASS TURF THAT CAN BE INUNDATED FOR UP TO 72 HOURS.
 - INFILTRATION AREAS ARE TO BE PROTECTED FROM OVER-COMPACTION DURING CONSTRUCTION.

MATERIAL TYPE/SPECIFICATIONS

- ZONE I**
WELL GRADED MIXTURE OF GRAVEL, SAND, SILT OR CLAY WITH MAX. 6-INCH SIZE STONE AND GEADATION AS INDICATED BELOW. PLACE IN MAX. 12-INCH THICK LIFTS TO 95% OF MAX. DRY DENSITY IN ACCORDANCE WITH ASTM D1557. SCARIFY SURFACE PRIOR TO PLACING SUBSEQUENT LIFT. IN ADDITION, REMOVE ORGANIC SOILS.
- | SIEVE SIZE | PERCENT BY WEIGHT PASSING |
|------------|---------------------------|
| 1-INCH | 100 |
| NO. 4 | 50 TO 100 |
| NO. 40 | 30 TO 70 |
| NO. 200 | 20 TO 40 |
- ZONE II**
DRAINAGE LAYER: PLACE IN MAX. 12-INCH THICK LIFTS TO 95% OF MAX. DRY DENSITY IN ACCORDANCE WITH ASTM D1557.
- | SIEVE SIZE | PERCENT BY WEIGHT PASSING |
|------------|-----------------------------|
| 1-INCH | 100 |
| NO. 4 | 70-100 |
| NO. 200 | 0-12 (IN SAND PORTION ONLY) |

NOTES

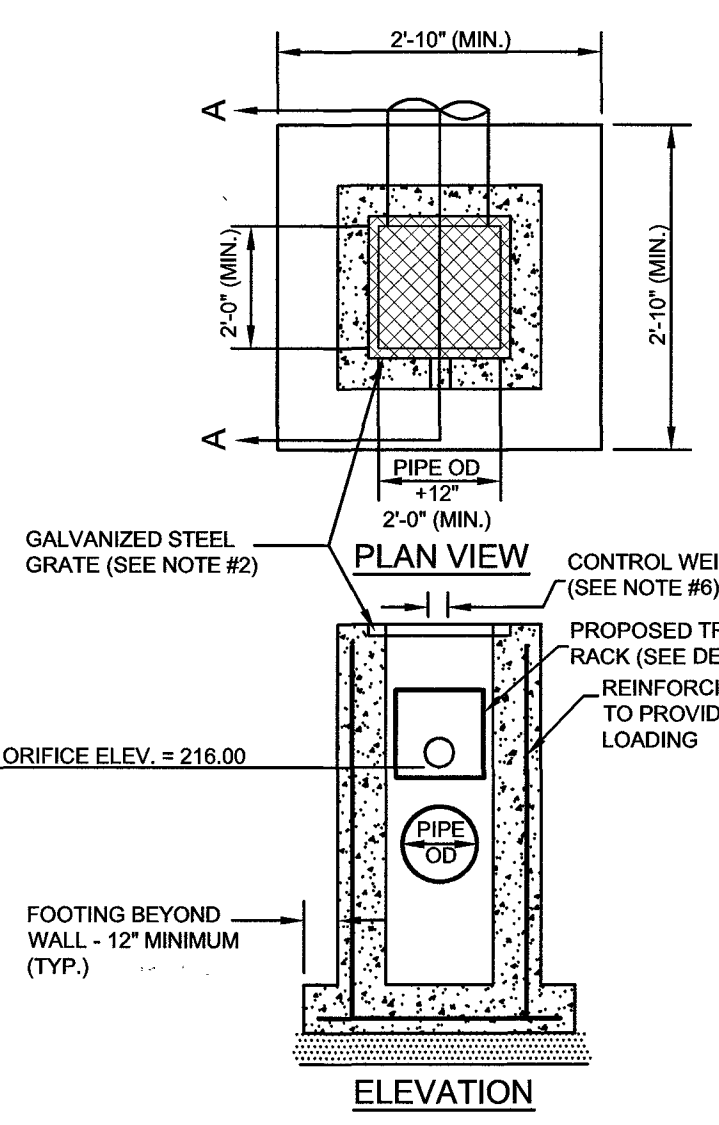
- ALL CEMENT CONCRETE TO BE 4,000 PSI MINIMUM.
- GALVANIZED STEEL GRATE SHALL BE BOLTED TO TOP OF STRUCTURE.
- OUTLET PIPE SHALL NOT BE LESS THAN 15" MINIMUM.
- ALL OPENINGS CAST IN AS REQUIRED.
- PRECAST REINFORCED CONCRETE STRUCTURE TO MEET ASTM C-478 DESIGNATION AND H-20 LOADING.
- CONTROL WEIR SHALL BE SIZED TO MITIGATE DESIGN STORM AS REQUIRED BY THE REGULATIONS.



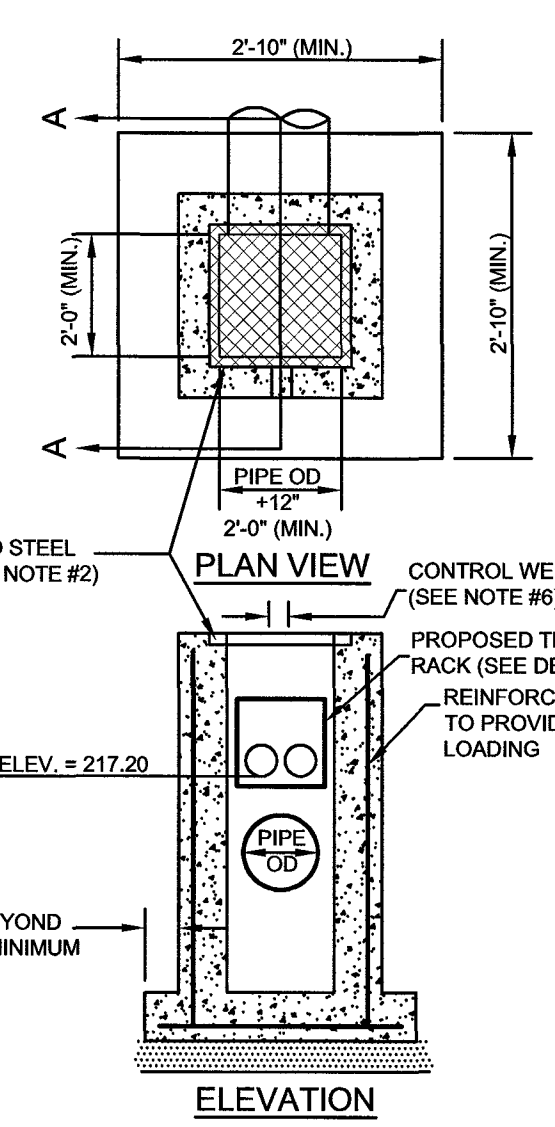
OUTLET STRUCTURE #42 AT BIORETENTION POND #2
NOT TO SCALE
(AUGUST 2011)

NOTES

- ALL CEMENT CONCRETE TO BE 4,000 PSI MINIMUM.
- GALVANIZED STEEL GRATE SHALL BE BOLTED TO TOP OF STRUCTURE.
- OUTLET PIPE SHALL NOT BE LESS THAN 15" MINIMUM.
- ALL OPENINGS CAST IN AS REQUIRED.
- PRECAST REINFORCED CONCRETE STRUCTURE TO MEET ASTM C-478 DESIGNATION AND H-20 LOADING.
- CONTROL WEIR SHALL BE SIZED TO MITIGATE DESIGN STORM AS REQUIRED BY THE REGULATIONS.



OUTLET STRUCTURE #48 AT DETENTION POND #2
NOT TO SCALE
(AUGUST 2011)



OUTLET STRUCTURE #50 AT INFILTRATION POND #2
NOT TO SCALE
(AUGUST 2011)

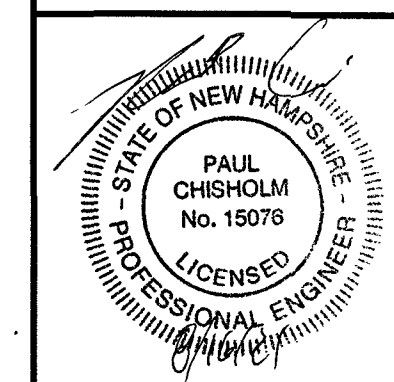
NOTES

- ALL CEMENT CONCRETE TO BE 4,000 PSI MINIMUM.
- GALVANIZED STEEL GRATE SHALL BE BOLTED TO TOP OF STRUCTURE.
- OUTLET PIPE SHALL NOT BE LESS THAN 15" MINIMUM.
- ALL OPENINGS CAST IN AS REQUIRED.
- PRECAST REINFORCED CONCRETE STRUCTURE TO MEET ASTM C-478 DESIGNATION AND H-20 LOADING.
- CONTROL WEIR SHALL BE SIZED TO MITIGATE DESIGN STORM AS REQUIRED BY THE REGULATIONS.

CONSTRUCTION DETAILS
S.L. CHASSE STEEL
MAP 105 LOT 17-2
ROBINSON ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:
STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, N.H. 03051
H.C.R.D. BK. 9327 PG. 197

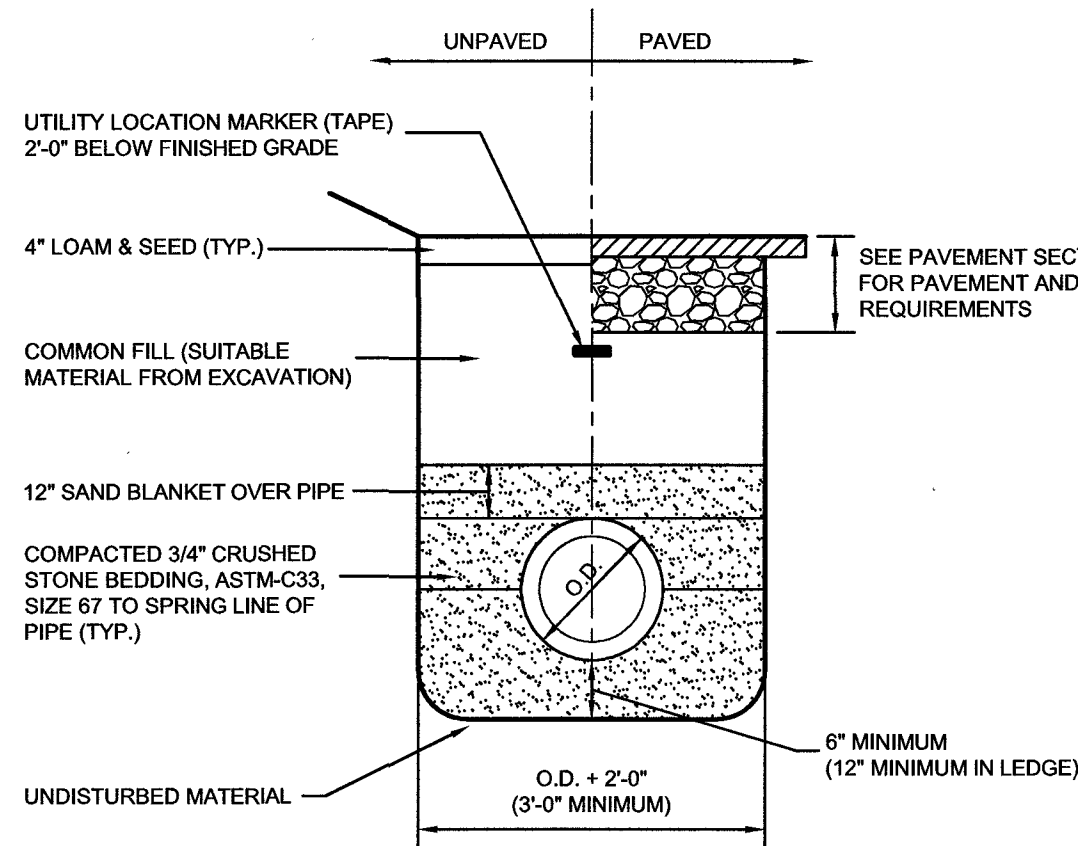
KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881



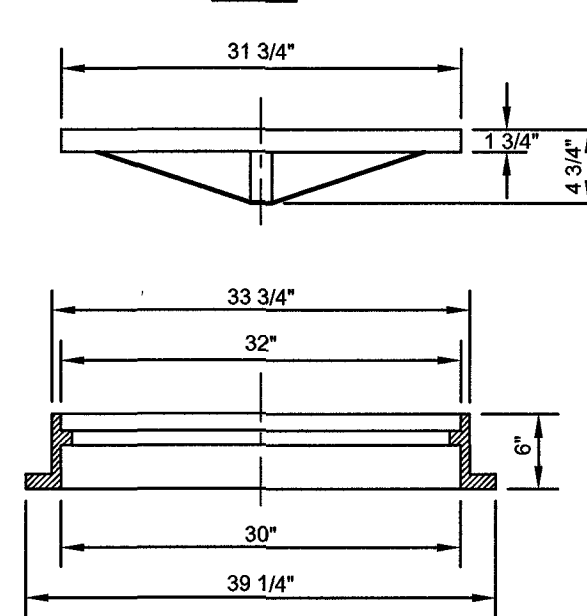
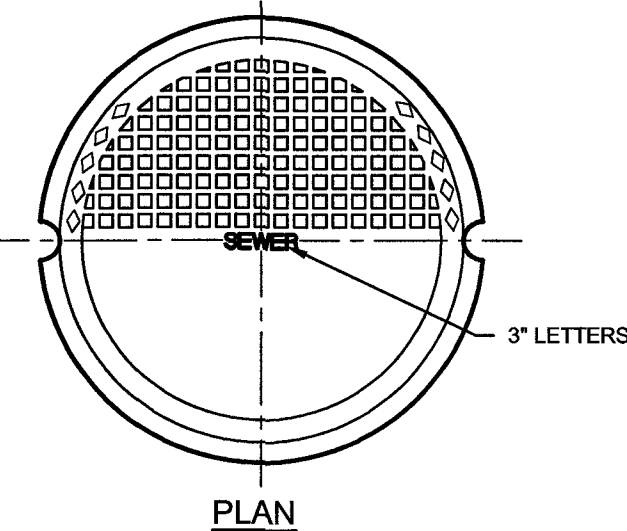
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DATE: APRIL 6, 2021			
SCALE: AS SHOWN			
PROJECT NO: 20-0921-2			
SHEET 12 OF 16			

NOTES:

- MINIMUM SIZE PIPE FOR HOUSE SERVICE SHALL BE 4 INCHES. MINIMUM SIZE FOR STREET SEWER LINES SHALL BE 8 INCHES.
- PIPE AND JOINT MATERIALS:
 - DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA):
 - AWWA C151/A21.51-02 - FOR DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL OR SAND-LINED MOLDS, FOR WATER OR OTHER LIQUIDS;
 - AWWA C150/A21.50-02 - FOR THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A536-84 (2004) DUCTILE IRON CASTINGS;
 - JOINTS SHALL BE MECHANICAL, PUSH-ON OR BALL-AND-SOCKET TYPE.
 - PLASTIC GRAVITY SEWER PIPE AND FITTINGS SHALL COMPLY WITH THE FOLLOWING STANDARDS:
 - ASTM D3034-04A - PVC, SOLID WALL;
 - AT LEAST 46 PSI AT 5% PIPE DIAMETER DEFLECTION, AS MEASURED IN ACCORDANCE WITH ASTM D2414-02 DURING MANUFACTURING; AND
 - JOINT SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D3121-96A(2003)E1 AND SHALL BE PUSH-ON OR BELL-AND-SPIGOT TYPE.
- DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.
- JOINTS SHALL BE DEPENDENT UPON PROPER MATERIALS (SEE NOTE #2) FOR WATER TIGHTNESS, AND ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.
- SERVICE CONNECTIONS SHALL USE SANITARY TEE OR WYE FITTINGS FOR ALL NEW CONSTRUCTION. THE CENTERLINE OF ALL BUILDING CONNECTIONS SHALL ENTER THE TOP HALF OF THE SEWER. ANY SERVICE CONNECTION WITH A VERTICAL RISE UP TO 4 FEET MAY HAVE THE SEWER FITTING SET VERTICALLY. ANY SERVICE CONNECTION WITH A VERTICAL RISE UP TO 12 FEET SHALL EMPLOY NON-ENCASED RISERS THAT PROTECT AGAINST PIPE PENETRATION OR FAILURE AT THE FITTING BY THE USE OF BELL-ON-BELL CONNECTIONS. FOR EXISTING SEWER WHERE FITTINGS CANNOT BE INSTALLED, SADDLE CONNECTIONS SHALL BE USED. PRESSURE SEWERAGE SHALL HAVE AN ISOLATION VALVE OR CURB STOP VALVE INSTALLED AT THE PROPERTY LINE. IF A CHECK VALVE IS USED AT THE PROPERTY LINE, THE VALVE SHALL BE INSTALLED WITHIN A VAULT TO FACILITATE MAINTENANCE. ROOF DOWNSPOUTS, EXTERIOR OR INTERIOR FOUNDATION DRAINS, SUMP PUMPS OR OTHER SOURCE OF SURFACE WATER RUN-OFF OR GROUND WATER SHALL NOT BE DIRECTLY OR INDIRECTLY CONNECTED TO A PUBLIC SEWER.
- PIPE INSTALLATION:
 - THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER.
 - PIPES SHALL BE CAREFULLY BEDDED ON A 4 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL.
 - BEDDING AND RE-FILL, FOR A DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE, SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH THE APPROPRIATE MECHANICAL DEVICES.
 - THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET SEWER CONNECTION TO THE HOUSE FOUNDATION AT A GRADE OF NOT LESS THAN 1/8 INCH PER FOOT.
 - PIPE JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.



TYPICAL SEWER SERVICE PIPE TRENCH
NOT TO SCALE
EXHIBIT SW1



SEWER MANHOLE FRAME AND COVER DETAIL
NOT TO SCALE
(MARCH 2008)

NOTES:

NEW HAMPSHIRE MAINTAINS A CLEAR OPENING DESIGNATION OF 30" FOR ITS MANHOLE CASTINGS.

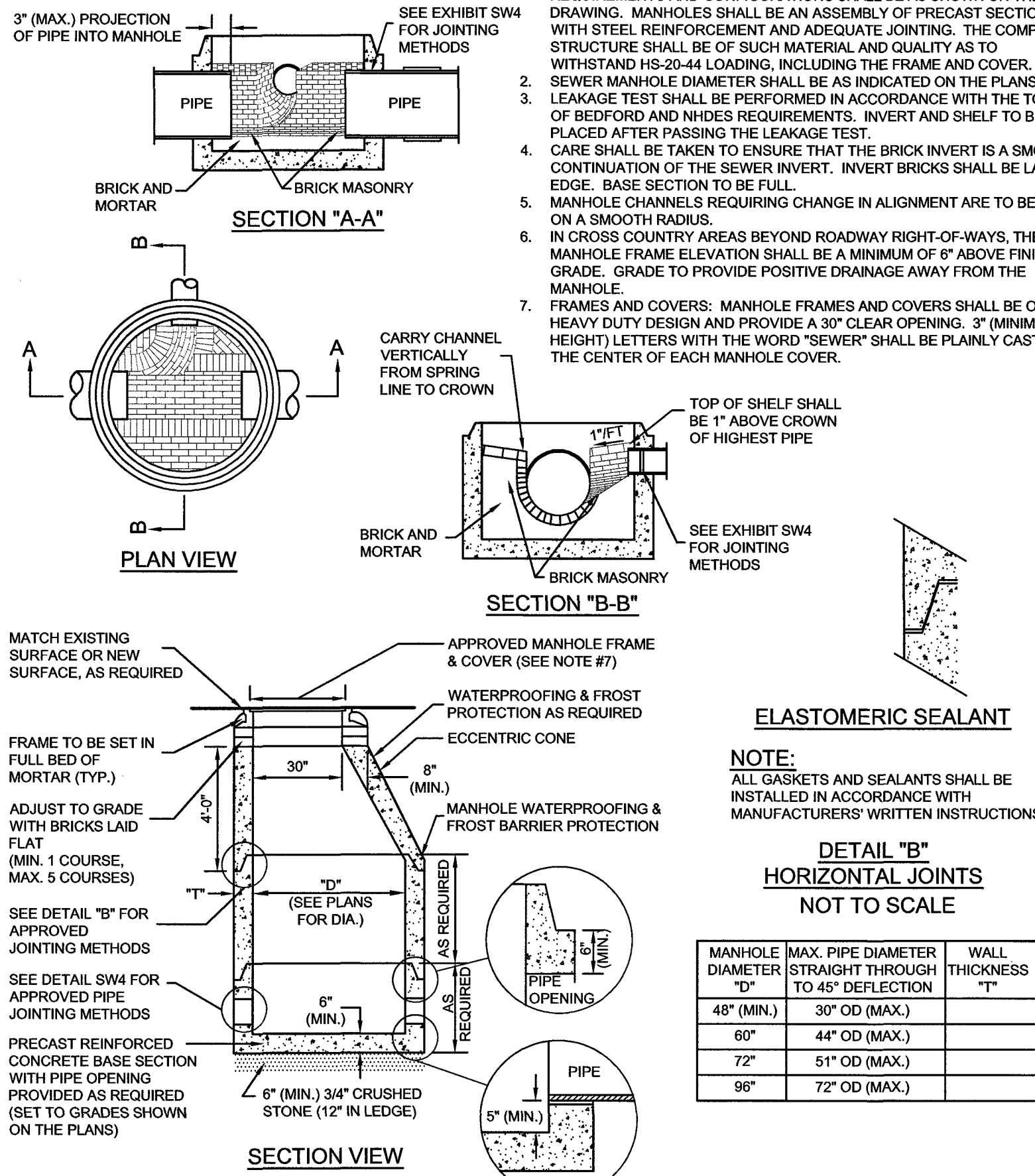
FEATURES:

- 3" LETTERING
- COVERS MARKED SEWER
- NONROCKING COVER
- DIAMOND SURFACE DESIGN

SPECIFICATIONS:

- FULLY MACHINED FRAME AND COVER
- H-20 LOAD RATED
- GRAY CAST IRON MEETS ASTM A48 CLASS 30

- TESTING: THE COMPLETED HOUSE SEWER SHALL BE SUBJECTED TO A LEAKAGE TEST IN ANY OF THE FOLLOWING MANNERS: (PRIOR TO BACKFILLING)
 - AN OBSERVATION TEE SHALL BE INSTALLED AS SHOWN AND WHEN READY FOR TESTING, AN INFLATABLE BLADDER OR PLUG SHALL BE INSERTED JUST UPSTREAM FROM THE OPENING IN THE TEE. AFTER INFLATION, WATER SHALL BE INTRODUCED INTO THE SYSTEM ABOVE THE PLUG TO A HEIGHT OF 5 FEET ABOVE THE LEVEL OF THE PLUG. THE PIPE SHALL BE LEFT EXPOSED AND LIBERALLY HOSED WITH WATER TO SIMULATE, AS NEARLY AS POSSIBLE, WET TRENCH CONDITIONS OR, IF THE TRENCH IS WET, THE GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. INSPECTIONS FOR LEAKS SHALL BE MADE THROUGH THE CLEAN OUT WITH A FLASHLIGHT.
 - DRY FLUORESCENCE DYE SHALL BE SPRINKLED INTO THE TRENCH OVER THE PIPE. IF THE TRENCH IS DRY, THE PIPE SHALL BE LIBERALLY HOSED WITH WATER, OR IF THE TRENCH IS WET, GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. OBSERVATION FOR LEAKS SHALL BE MADE IN THE FIRST DOWNSTREAM MANHOLE.
 - LEAKAGE OBSERVED IN ANY OF THE ABOVE TESTS SHALL BE CAUSE FOR NON-ACCEPTANCE AND THE PIPE SHALL BE DUG-UP, IF NECESSARY, AND RE-LAID SO AS TO ASSURE WATER-TIGHTNESS.
 - ILLEGAL CONNECTIONS, NOTHING BUT SANITARY WASTE FLOW FROM TOILETS, SINKS, LAUNDRY, ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS, SUMP PUMPS OR ANY OTHER SIMILAR CONNECTION CARRYING RAIN WATER, DRAINAGE OR GROUND WATER, SHALL NOT BE PERMITTED.
 - WATER SERVICE SHALL NOT BE LAID IN THE SAME TRENCH AS THE SEWER SERVICE, UNLESS NECESSARY AND APPROVED BY THE A.H.J. WHEN NECESSARY, THE WATER SERVICE SHALL BE PLACED ABOVE AND TO ONE SIDE OF THE SEWER SERVICE, AS SHOWN.
 - LOCATION: THE LOCATION OF THE WYE SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS MATERIAL ROD OR PIPE SHALL BE PLACED OVER THE WYE TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PIPE FINDER.
 - CHIMNEY CONNECTIONS ARE ONLY PERMITTED IF ALLOWED BY THE A.H.J. ANY VERTICAL RISE GREATER THAN 4 FEET SHALL BE PROVIDED WITH ADDED SUPPORT BY ENCASING THE FITTING AND RISER IN A PRECAST CONCRETE CHIMNEY. UP TO 12 FEET OF VERTICAL RISE CAN ALSO BE SECURED BY PROPER MEANS AS LONG AS IT CONSISTS OF A BELL-ON-BELL CONNECTION PROPERLY PROTECTED AGAINST PIPE PENETRATION AND IF IT IS ALLOWED BY THE A.H.J.
 - UNLESS OTHERWISE NOTED, ALL GRANULAR MATERIAL SHALL BE PLACED IN 12" MAXIMUM LIFTS AND COMPACTED TO 95% OF THE MODIFIED PROCTOR TEST DENSITY.



TYPICAL SEWER MANHOLE

NOTES:

- IT IS THE INTENTION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS SHALL BE AS SHOWN ON THE DRAWING. MANHOLES SHALL BE AN ASSEMBLY OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT AND ADEQUATE JOINTING. THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND HS-20-44 LOADING, INCLUDING THE FRAME AND COVER.
- SEWER MANHOLE DIAMETER SHALL BE AS INDICATED ON THE PLANS.
- LEAKAGE TEST SHALL BE PERFORMED IN ACCORDANCE WITH THE TOWN OF BEDFORD AND NHDES REQUIREMENTS. INVERT AND SHELF TO BE PLACED AFTER PASSING THE LEAKAGE TEST.
- CARE SHALL BE TAKEN TO ENSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. INVERT BRICKS SHALL BE LAID ON EDGE. BASE SECTION TO BE FULL.
- MANHOLE CHANNELS REQUIRING CHANGE IN ALIGNMENT ARE TO BE BUILT ON A SMOOTH RADIUS.
- IN CROSS COUNTRY AREAS BEYOND ROADWAY RIGHT-OF-WAYS, THE MANHOLE FRAME ELEVATION SHALL BE A MINIMUM OF 6" ABOVE FINISHED GRADE. GRADE TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE MANHOLE.
- FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30" CLEAR OPENING. 3" (MINIMUM) HEIGHT LETTERS WITH THE WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH MANHOLE COVER.

- ALL COMPONENT PARTS OF MANHOLE STRUCTURES SHALL HAVE THE STRENGTH, LEAK RESISTANCE AND SPACE NECESSARY FOR THE INTENDED SERVICE.
- MANHOLE STRUCTURES SHALL HAVE A LIFE EXPECTANCY IN EXCESS OF 25 YEARS.
- MANHOLE STRUCTURES SHALL BE DESIGNED TO WITHSTAND H-20 LOADING AND SHALL NOT LEAK IN EXCESS OF ONE GPD PER FOOT OF MANHOLE FOR THE LIFE OF THE STRUCTURE.
- BARRELS, CONCRETE GRADE RINGS AND CONE SECTIONS SHALL BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE AND SHALL CONFORM TO ASTM C478.
- BEDDING: CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33 100% PASSING 1 INCH SCREEN
90% PASSING 3/4 INCH SCREEN
20-55% PASSING 3/8 INCH SCREEN
0-10% PASSING #8 SIEVE
0-5% PASSING #40 SIEVE
WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, CRUSHED STONE 1/2 INCH TO 1-1/2 INCH SHALL BE USED.
- BASE SECTIONS SHALL BE OF MONOLITHIC CONSTRUCTION TO A POINT AT LEAST 6 INCHES ABOVE THE CROWN OF THE INCOMING PIPE.
- HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF AN OVERLAPPING TYPE, SEALED FOR WATER-TIGHTNESS USING A DOUBLE ROW OF AN ELASTOMERIC OR MASTIC-LIKE SEALANT.
- PIPE TO MANHOLE JOINTS SHALL BE AS FOLLOWS:
 - ELASTOMERIC, RUBBER SLEEVE WITH WATERTIGHT JOINTS AT THE MANHOLE OPENING AND PIPE SURFACES;
 - CAST INTO THE WALL OR SECURED WITH STAINLESS STEEL CLAMPS;
 - ELASTOMERIC SEALING RING CAST IN THE MANHOLE OPENING WITH SEAL FORMED ON THE SURFACE OF THE PIPE BY COMPRESSION OF THE RING; AND
 - NON-SHRINK GROUTED JOINTS WHERE WATERTIGHT BONDING TO THE MANHOLE AND PIPE CAN BE OBTAINED.
- MANHOLE CONE SECTIONS SHALL BE ECCENTRIC IN SHAPE.
- ALL PRECAST SECTIONS AND BASES SHALL HAVE THE DATE OF MANUFACTURE AND THE NAME OR TRADEMARK OF THE MANUFACTURER IMPRESSED OR INDUBLY MARKED ON THE INSIDE WALL.
- ALL PRECAST SECTIONS AND BASES SHALL BE COATED ON THE EXTERIOR WITH A BITUMINOUS DAMP-PROOFING COATING.
- MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND INVERT. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY. INVERTS AND SHELVES SHALL BE PLACED AFTER TESTING.
- MATERIALS OF CONSTRUCTION FOR MANHOLES SHALL BE AS FOLLOWS:
 - CONCRETE FOR PRECAST BASES OR GRADE RINGS SHALL CONFORM TO THE REQUIREMENTS FOR CLASS AA CONCRETE IN THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION";
 - REINFORCING FOR PRECAST CONCRETE SHALL BE STEEL OR STRUCTURAL FIBERS THAT CONFORM TO THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION";
 - PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORMING TO ASTM C478;
 - THE MANHOLE FRAME AND COVER SHALL PROVIDE A 30-INCH DIAMETER CLEAR OPENING; THE MANHOLE COVER SHALL HAVE THE WORD "SEWER" IN 3-INCH LETTERS CAST INTO THE TOP SURFACE;
 - THE CASTINGS SHALL BE OF EVEN-GRAINED CAST IRON, SMOOTH AND FREE FROM SCALE, LUMPS, BLISTERS, SAND HOLES AND DEFECTS;
 - CONTACT SURFACES OF COVERS AND FRAMES SHALL BE MACHINED AT THE FOUNDRY TO PREVENT ROCKING OF COVERS IN ANY ORIENTATION;
 - CASTINGS SHALL BE EQUAL TO CLASS 30, BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORMING TO ASTM A4848M;
 - BRICK MASONRY FOR SHELF, INVERT AND GRADE ADJUSTMENT SHALL BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORMING TO ASTM C32, CLAY OR SHALE, FOR GRADE SS HARD BRICK;
 - MORTAR SHALL BE COMPOSED OF TYPE II PORTLAND CEMENT AND SAND WITH OR WITHOUT HYDRATED LIME ADDITION;
 - PROPORTIONS IN MORTAR OF PARTS BY VOLUMES SHALL BE:
 - 4.5 PARTS SAND AND 1.5 PARTS CEMENT; OR
 - 4.5 PARTS SAND, ONE PART CEMENT AND 0.5 PARTS HYDRATED LIME;
 - CEMENT SHALL BE TYPE II PORTLAND CEMENT CONFORMING TO ASTM C150/C150M;
 - HYDRATED LIME SHALL BE TYPE S CONFORMING TO THE ASTM C207 "STANDARD SPECIFICATIONS FOR HYDRATED LIME FOR MASONRY PURPOSES";
 - SAND SHALL CONSIST OF INERT NATURAL SAND CONFORMING TO THE ASTM C33 "STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES";
 - CONCRETE FOR DROP SUPPORTS SHALL CONFORM TO THE REQUIREMENT FOR CLASS AAA CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION";
 - SUBJECT TO (Q) BELOW, A FLEXIBLE PIPE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES FROM ANY MANHOLE CONNECTION:
 - WITHIN 48-INCHES FOR REINFORCED CONCRETE (RC) PIPE; AND
 - WITHIN 60-INCHES FOR PVC PIPE LARGER THAN 15-INCH DIAMETER;
 - NO FLEXIBLE JOINT SHALL BE REQUIRED FOR D.I. PIPE OR FOR PVC PIPE UP THROUGH 15-INCH DIAMETER; AND
 - WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED IN LIEU OF A CONE SECTION, PROVIDED THE SLAB HAS AN ECCENTRIC ENTRANCE OPENING AND IS CAPABLE OF SUPPORTING H-20 LOADS.
- MANHOLE TESTING:
 - MANHOLES SHALL BE TESTED FOR LEAKAGE USING A VACUUM TEST.
 - THE MANHOLE VACUUM TEST SHALL CONFORM TO THE FOLLOWING:
 - THE INITIAL VACUUM GAUGE TEST PRESSURE SHALL BE 10 INCHES Hg; AND
 - THE MINIMUM ACCEPTABLE TEST HOLD TIME FOR A 1-INCH Hg PRESSURE DROP TO 9 INCH Hg SHALL BE:
 - NOT LESS THAN 2 MINUTES FOR MANHOLES LESS THAN 10 FEET DEEP IN DEPTH;
 - NOT LESS THAN 2.5 MINUTES FOR MANHOLES 10 TO 15 FEET DEEP; AND
 - NOT LESS THAN 3 MINUTES FOR MANHOLES MORE THAN 15 FEET DEEP.
 - THE MANHOLE SHALL BE REPAIRED AND RETESTED IF THE TEST HOLD TIMES FAIL TO ACHIEVE THE ACCEPTANCE LIMITS SPECIFIED IN (B) ABOVE.
 - INVERTS AND SHELVES SHALL NOT BE INSTALLED UNTIL AFTER SUCCESSFUL TESTING IS COMPLETED.
 - FOLLOWING COMPLETION OF THE LEAKAGE TEST, THE FRAME AND COVER SHALL BE PLACED ON THE TOP OF THE MANHOLE OR SOME OTHER MEANS USED TO PREVENT ACCIDENTAL ENTRY BY UNAUTHORIZED PERSONS, CHILDREN OR ANIMALS UNTIL THE CONTRACTOR IS READY TO MAKE FINAL ADJUSTMENTS TO GRADE.

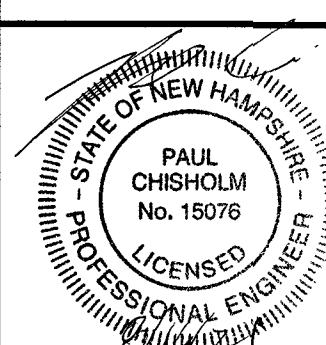
CONSTRUCTION DETAILS
S.L. CHASSE STEEL
MAP 105 LOT 17-2
ROBINSON ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:

STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, N.H. 03051
H.C.R.D. BK. 9327 PG. 197

KMA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture

10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881



REVISIONS			
No.	DATE	DESCRIPTION	BY
1	05/12/21	TOWN COMMENTS	SCV
2	08/17/21	TOWN AND AOT COMMENTS	SCV
DATE: APRIL 6, 2021		SCALE:	
PROJECT NO: 20-0921-2		SHEET 13 OF 16	

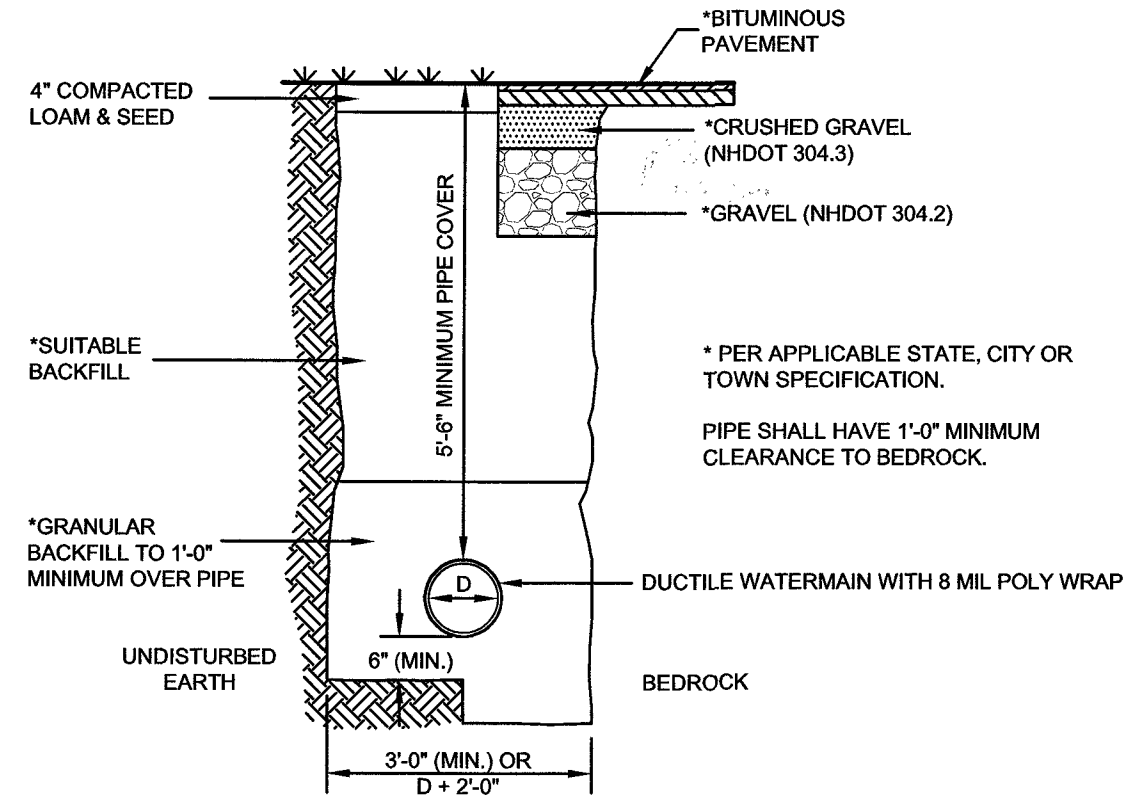
PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD
DATE OF MEETING: _____

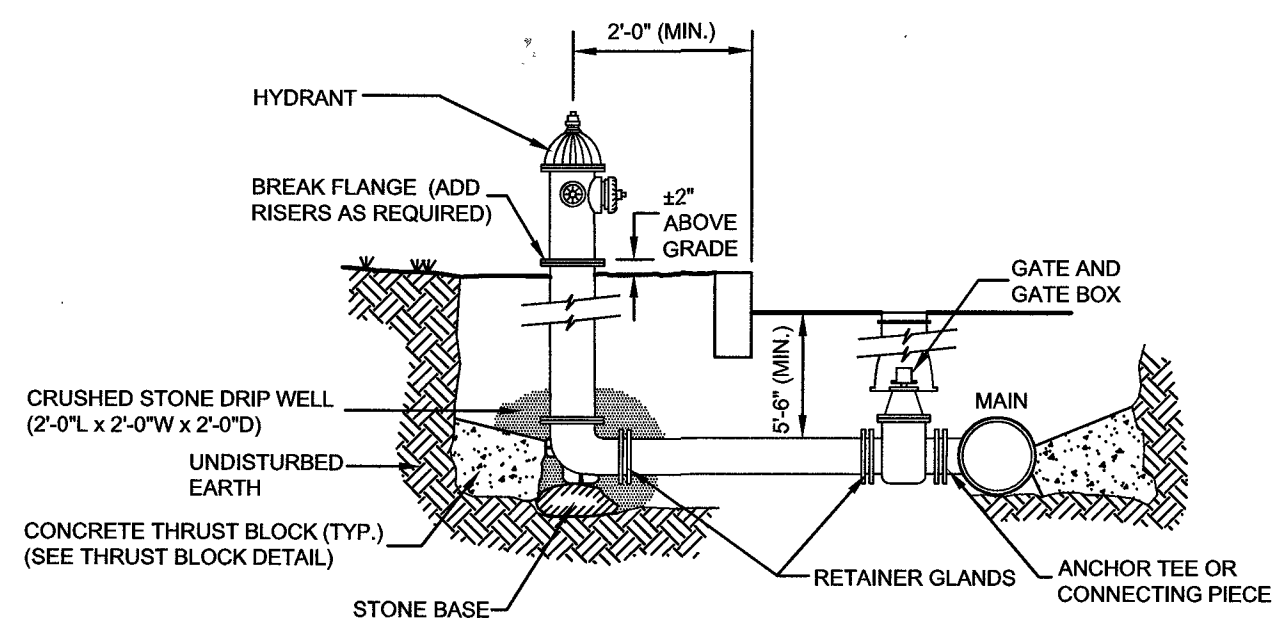
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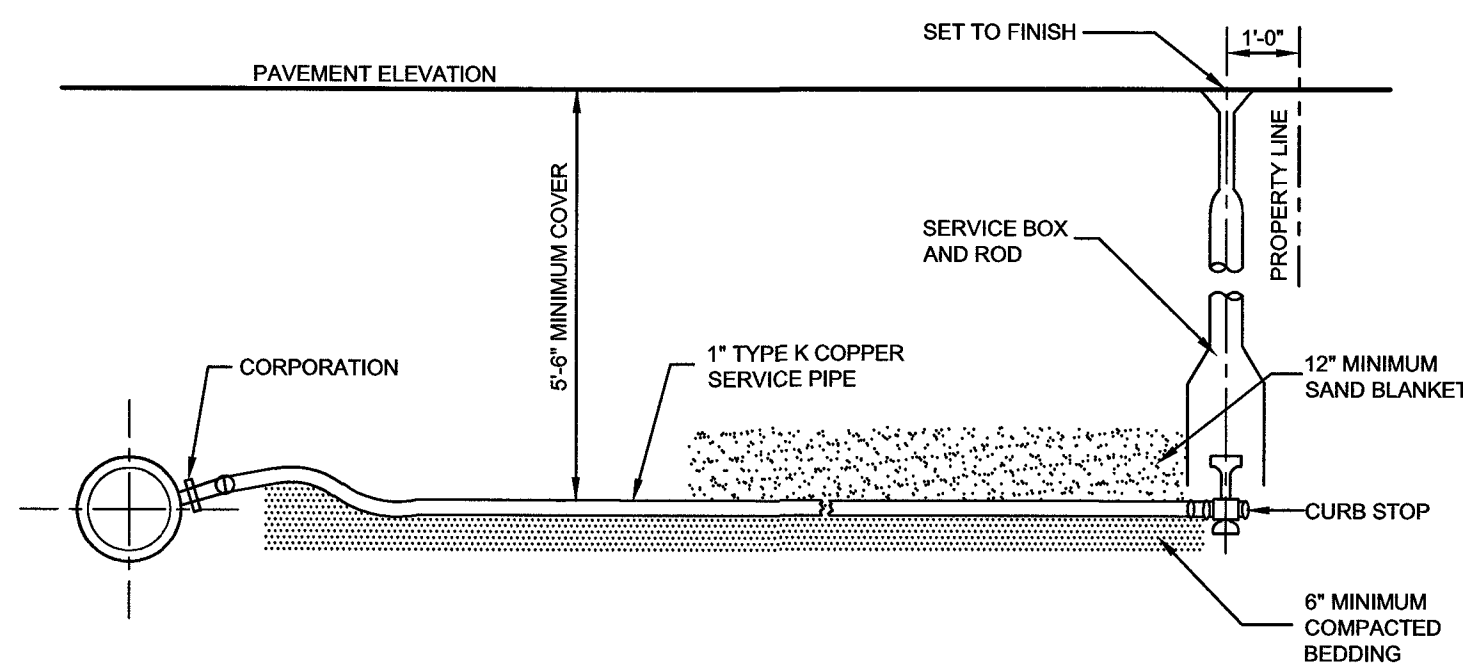
SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.



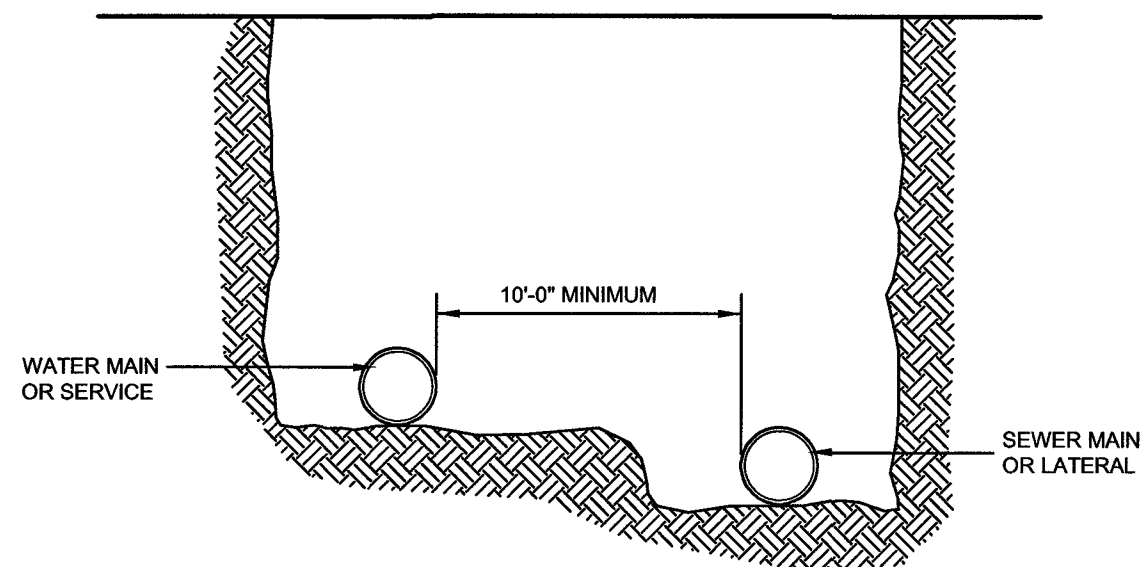
WATER LINE TRENCH DETAIL
NOT TO SCALE
(MARCH 2008)



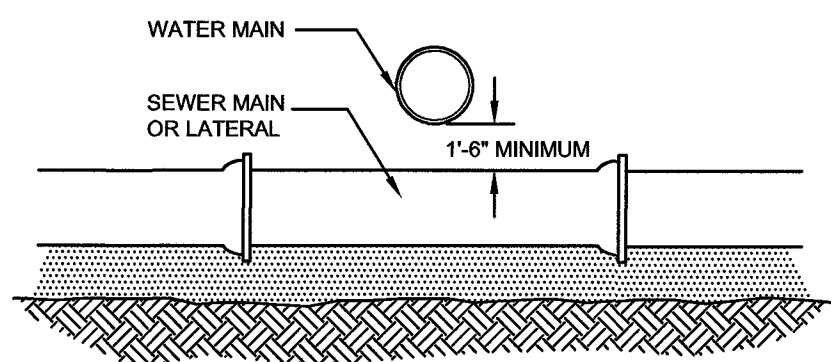
HYDRANT INSTALLATION
NOT TO SCALE
(MARCH 2008)



WATER SERVICE CONNECTION
NOT TO SCALE
(MARCH 2008)

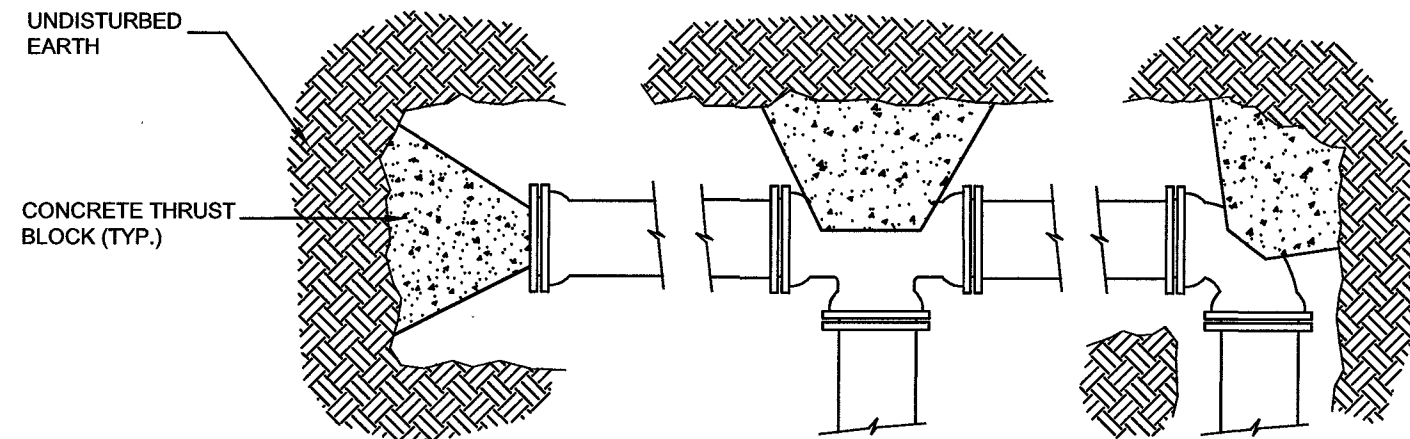


PARALLEL INSTALLATION

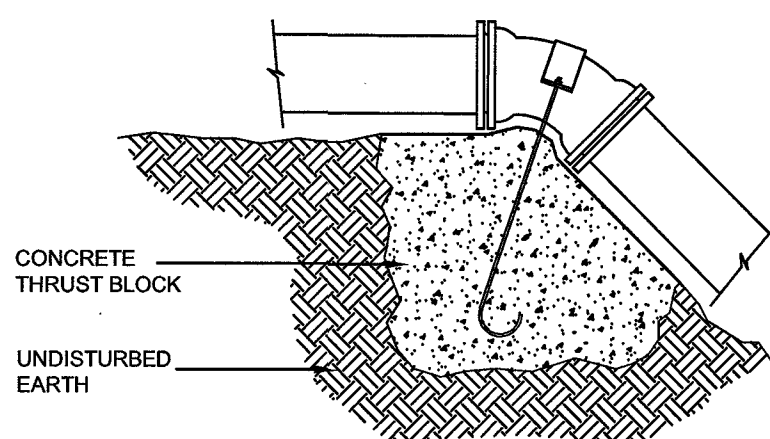


MAIN CROSSINGS

WATER MAIN/SEWER MAIN SEPARATION
NOT TO SCALE
(AUGUST 2011)



PLAN - HORIZONTAL BENDS, TEES AND PLUGS

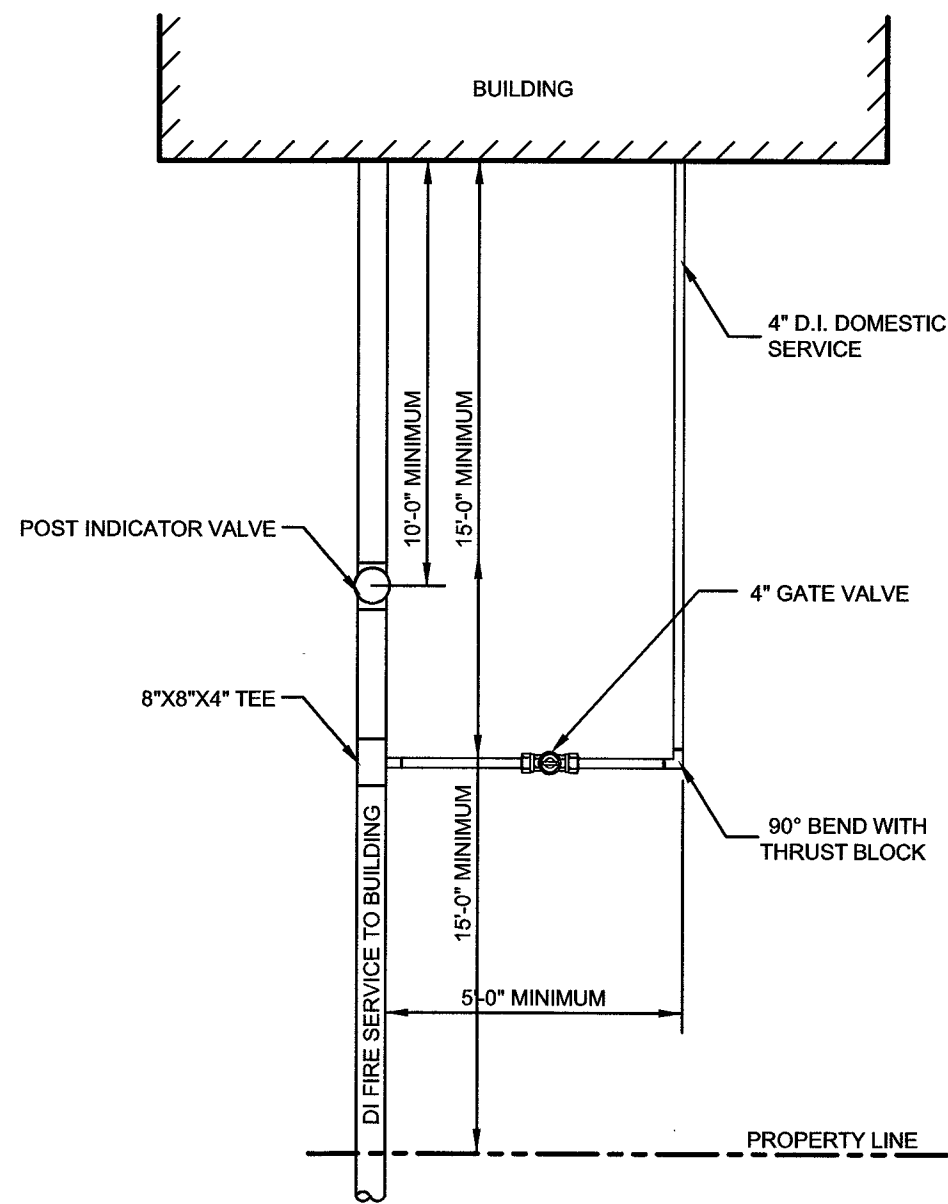


ELEVATION - VERTICAL BENDS

NOTES

1. THRUST BLOCK DIMENSIONS TO BE DETERMINED IN FIELD BY ENGINEER BASED ON PIPE SIZE, WATER PRESSURE AND SOIL TYPE.
2. STONE BACKING MAY BE SUBSTITUTED FOR CONCRETE THRUST BLOCKS PROVIDED THE STONE(S) ARE OF EQUAL SIZE AND BEAR ON UNDISTURBED EARTH.
3. USE OF JOINT RESTRAINT SYSTEMS SHALL NOT ELIMINATE THRUST BLOCK REQUIREMENTS (WHERE POSSIBLE).

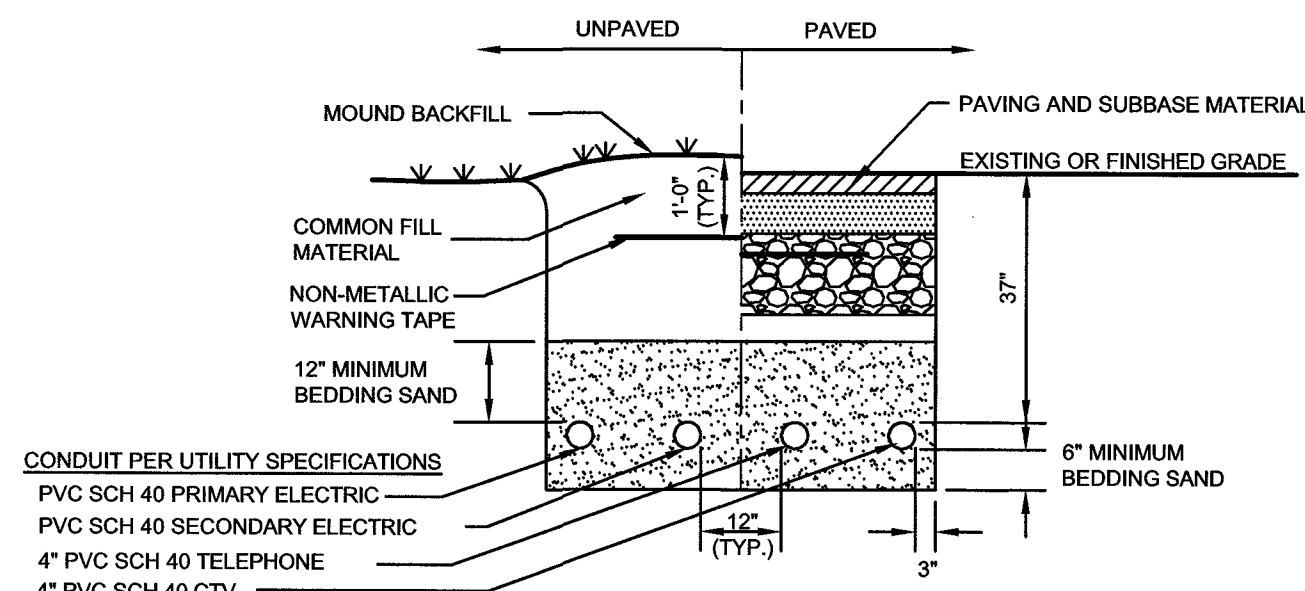
THRUST BLOCKS
NOT TO SCALE
(MARCH 2008)



NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO MANCHESTER WATER WORKS, INC. TECHNICAL SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5'-6\"/>

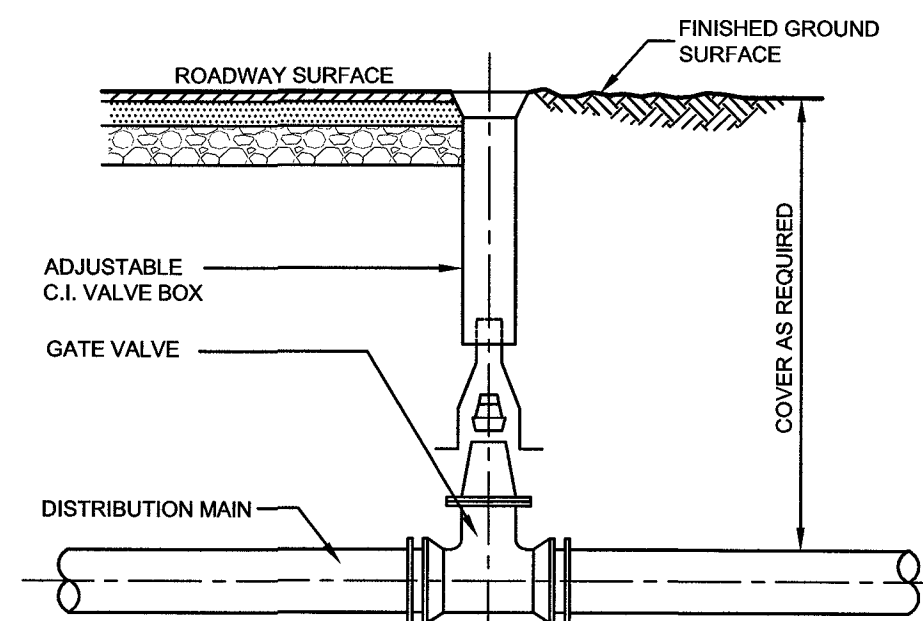
DOMESTIC SERVICE TAPPED OFF FIRE SERVICE
(A-24)
NOT TO SCALE
(MARCH 2008)



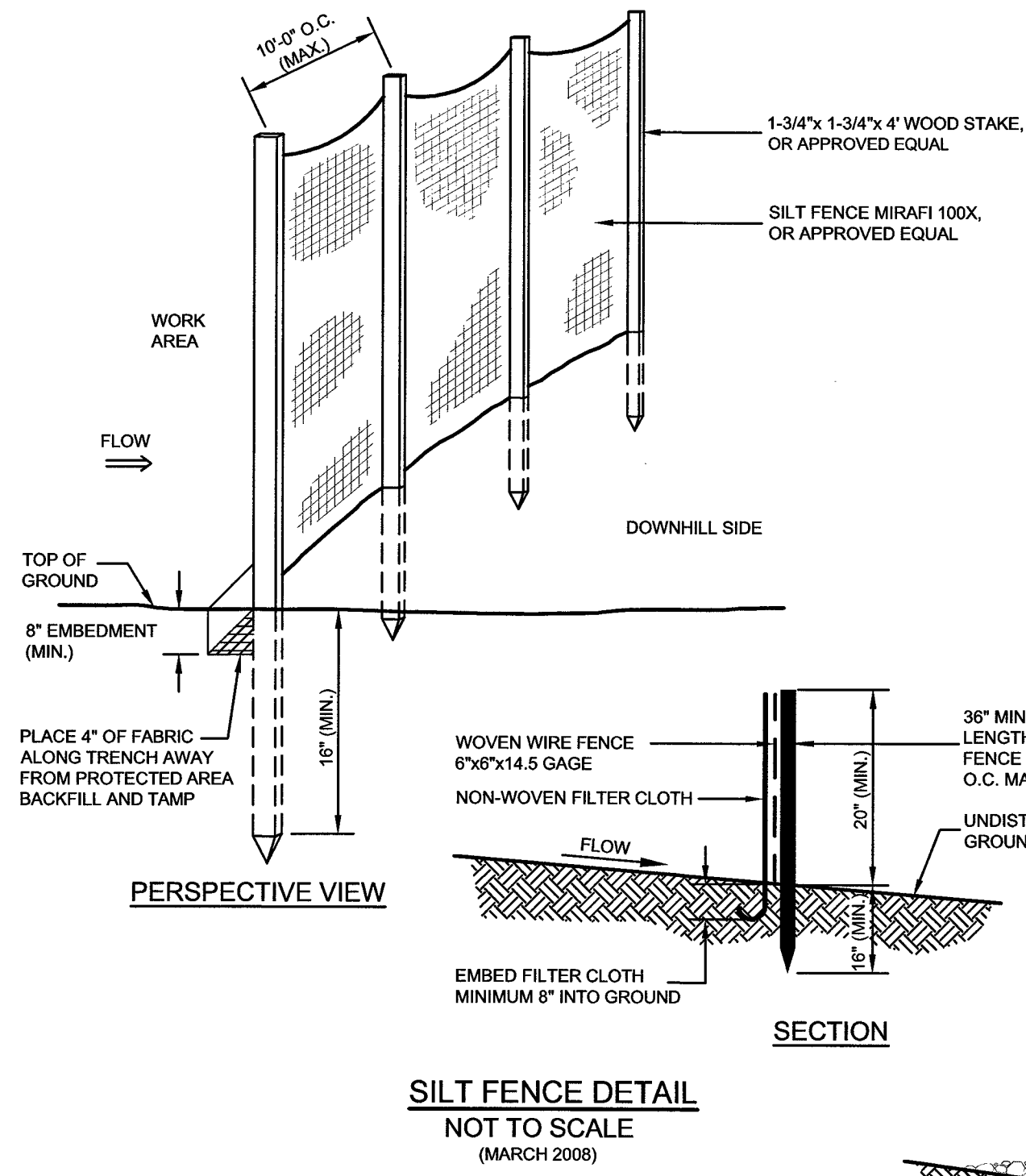
NOTES:

1. INSTALLATION AND MATERIALS OF UNDERGROUND UTILITIES SHALL CONFORM TO LOCAL UTILITY COMPANY SPECIFICATIONS.
2. COORDINATE WITH UTILITY COMPANIES PRIOR TO THE START OF CONSTRUCTION.

UTILITY TRENCH DETAIL
NOT TO SCALE



WATER AND GAS GATE VALVE
NOT TO SCALE
(MARCH 2008)



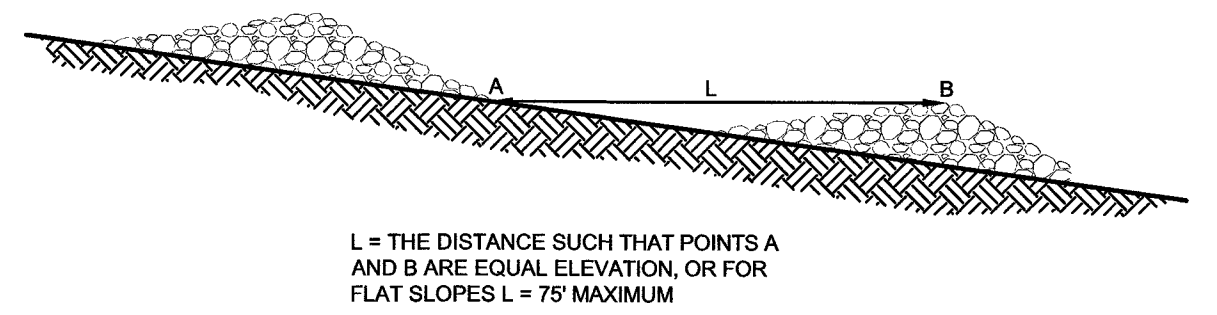
SILT FENCE DETAIL
NOT TO SCALE
(MARCH 2008)

CONSTRUCTION SPECIFICATIONS:

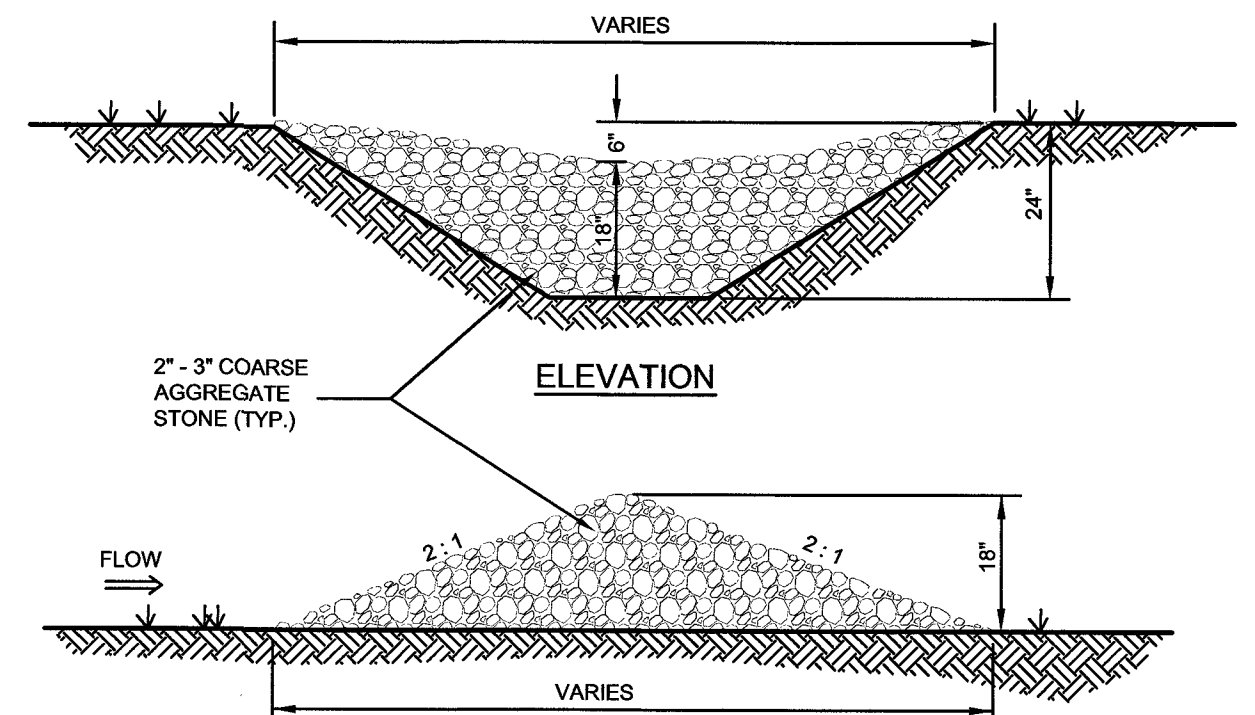
1. THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.
2. THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
3. WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIE OR STAPLES WHERE NOTED OR AS DIRECTED BY DESIGN ENGINEER.
4. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MIDSECTION AND BOTTOM.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
6. FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 16 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

MAINTENANCE:

1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2. IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
4. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.



STONE CHECK DAM SPACING DETAIL
NOT TO SCALE
(MARCH 2008)



STONE CHECK DAM DETAIL
NOT TO SCALE

CONSTRUCTION DETAILS

S.L. CHASSE STEEL

MAP 105 LOT 17-2
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HILLSBOROUGH COUNTY

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REVISIONS

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2	08/17/21	TOWN AND AOT COMMENTS	SCV

DATE: APRIL 6, 2021 SCALE: AS SHOWN
PROJECT NO: 20-0921-2 SHEET 14 OF 16

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD
DATE OF MEETING: _____

SIGNATURE DATE: _____

SIGNATURE DATE: _____

SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.

TURF ESTABLISHMENT SCHEDULE

PURPOSE:

TO ESTABLISH AND MAINTAIN PERMANENT AND TEMPORARY TURF AREAS, RESTORE GROWTH TO EXISTING TURF AREAS DISTURBED DURING CONSTRUCTION AND CONTROL SOIL EROSION.

PREPARATION AND EXECUTION:

1. RAKE THE SUBGRADE OF ALL AREAS TO BE LOAMED AND SEEDED TO REMOVE RUBBISH, STICKS, ROOTS AND STONES LARGER THAN 1 INCH.
2. PLACE LOAM OVER AREAS TO BE SEEDED AND SPREAD.
3. FINE GRADE SURFACE AND SUPPLEMENT WITH SUITABLE LOAM WHERE NEEDED TO CREATE A UNIFORM SURFACE ACCORDING TO THE FINISH GRADES INDICATED. TOP AND BOTTOM OF SLOPES SHALL BE ROUNDED. NO LOAM SHALL BE SPREAD IF THE SUBGRADE IS EXCESSIVELY WET OR FROZEN.
4. APPLY LIME EVENLY OVER LOAM SURFACE AND THOROUGHLY INCORPORATE LIME INTO THE LOAM BY HEAVY RAKING TO AT LEAST ONE-HALF THE DEPTH OF THE LOAM.
5. APPLY NO PHOSPHATE, SLOW RELEASE FERTILIZER AND MIX WITH THE UPPER 2 INCHES OF LOAM.
6. DETERMINE APPROPRIATE MIXTURE FOR AREA TO BE SEEDED BASED ON EXAMINATION OF PROJECT PLANS. UNIFORMLY SPREAD THE SEED BY BROADCASTING OR HYDROSEEDING. IF BROADCASTING, LIGHTLY RAKE INTO THE PREPARED SURFACE AND ROLL. IF, HYDROSEEDING, USE 4 TIMES THE RECOMMENDED RATE OF INOCULANT. AFTER SEED IS SPREAD, WATER THOROUGHLY WITH A FINE SPRAY.
7. SEEDING FOR PERMANENT COVER SHALL OCCUR BETWEEN SEPTEMBER 15 AND OCTOBER 15 AND BETWEEN APRIL 15 AND JUNE 15. SEEDING SHALL NOT BE DONE DURING WINDY WEATHER, WHEN THE GROUND IS FROZEN OR EXCESSIVELY WET OR OTHERWISE UNTILLABLE.
8. WITHIN 24 HOURS AFTER SEEDING OPERATION, UNIFORMLY MULCH THE AREA WITH STRAW. ANCHOR MULCH ON ALL SLOPES EXCEEDING 3 : 1 USING MULCH NETTING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER.
9. PROTECT AND PREVENT AGAINST WASHOUTS, ANY WASHOUTS WHICH OCCUR SHALL BE PROMPTLY REGRADED AND RESEED.
10. WHEN IT IS IMPRACTICAL TO ESTABLISH PERMANENT GROWTH ON DISTURBED EARTH BY OCTOBER 15, A TEMPORARY SEED MIXTURE SHALL BE USED. WHEN TEMPORARY SEEDING CANNOT ESTABLISH VISIBLE GROWTH, THE DISTURBED AREA SHALL BE COVERED WITH SIX INCHES OF MULCH FOR THE WINTER.

MAINTENANCE:

ALL SEEDED AREAS SHALL BE KEPT WATERED AND IN GOOD CONDITION. RESEED AS NECESSARY TO ESTABLISH HEALTHY UNIFORM GROWTH OVER THE ENTIRE SEEDED AREA. MAINTAIN SEEDED AREAS IN AN APPROVED CONDITION UNTIL FINAL ACCEPTANCE. MAINTENANCE SHALL INCLUDE REPAIRS FOR DAMAGE CAUSED BY EROSION.

APPLICATION RATES:

1. LOAM SHALL BE APPLIED AT A MINIMUM COMPACTED THICKNESS OF 4 INCHES.
2. LIME SHALL BE APPLIED AT A RATE OF 75 TO 100 POUNDS PER 1,000 S.F.
3. FERTILIZER SHALL BE APPLIED AT A RATE OF 30 POUNDS PER 1,000 S.F. IT IS RECOMMENDED THAT THE SOIL BE TESTED PRIOR TO APPLYING ANY FERTILIZERS TO DETERMINE WHAT LEVELS AND RATES ARE NECESSARY.
4. SEED MIXTURE FOR LAWN AREAS SHALL BE APPLIED AT A RATE OF AT LEAST 80 POUNDS PER ACRE OR 2 POUNDS PER 1,000 S.F.
5. TEMPORARY SEED MIXTURE SHALL BE APPLIED AT A RATE OF 2 POUNDS PER 1,000 S.F.
6. SEED MIXTURE FOR SLOPE AREAS SHALL BE APPLIED AT A RATE OF 80 POUNDS PER ACRE OR 2 POUNDS PER 1,000 S.F.
7. SEED MIXTURE FOR STORMWATER MANAGEMENT AREAS SHALL BE APPLIED AT A RATE OF 70 POUNDS PER ACRE OR 1.6 POUNDS PER 1,000 S.F.
8. MULCH SHALL BE APPLIED AT A RATE OF 90 POUNDS PER 1,000 S.F.

MATERIALS:

1. LOAM USED FOR TOPSOIL SHALL BE FRIABLE, FERTILE, NATURAL FREE-DRAINING LOAM; FREE OF ROOTS, GRASS, STICKS, WEEDS, CLAY, SOD LUMPS, DEBRIS AND STONES LARGER THAN 1 INCH IN ANY DIMENSION. SOIL SHALL NOT BE EXCESSIVELY ACID OR ALKALINE AND CONTAIN NO TOXIC MATERIALS.

2. LIME SHALL BE GROUND LIMESTONE CONTAINING NO LESS THAN 95% CALCIUM AND MAGNESIUM CARBONATES.

3. FERTILIZER SHALL BE NO PHOSPHORUS, SLOW RELEASE.

4. SEED MIXTURE FOR LAWN AREAS SHALL BE 99% PURE LIVE SEED AND CONSIST OF THE FOLLOWING:

25% CREEPING RED FESCUE
25% KENTUCKY BLUEGRASS
15% REDTOP
25% MANHATTAN PERENNIAL RYEGRASS

5. TEMPORARY SEEDING MIXTURE SHALL BE AN APPROVED CONSERVATION MIX OR CONSIST OF THE FOLLOWING:

15% BLACKWELL OR SHELTER SWITCHGRASS
30% NIAGRA OR KAW BIG BLUESTEM
30% CAMPER OR BLAZE LITTLESTEM
15% NE-27 OR BLAZE SAND LOVEGRASS
10% VIKING BIRDSFOOT TREFOIL

6. SEED MIXTURE FOR SLOPE AREAS SHALL BE 99% PURE LIVE SEED AND SHALL CONSIST OF THE FOLLOWING:

30% CREEPING RED FESCUE
40% PERENNIAL RYE GRASS
15% REDTOP

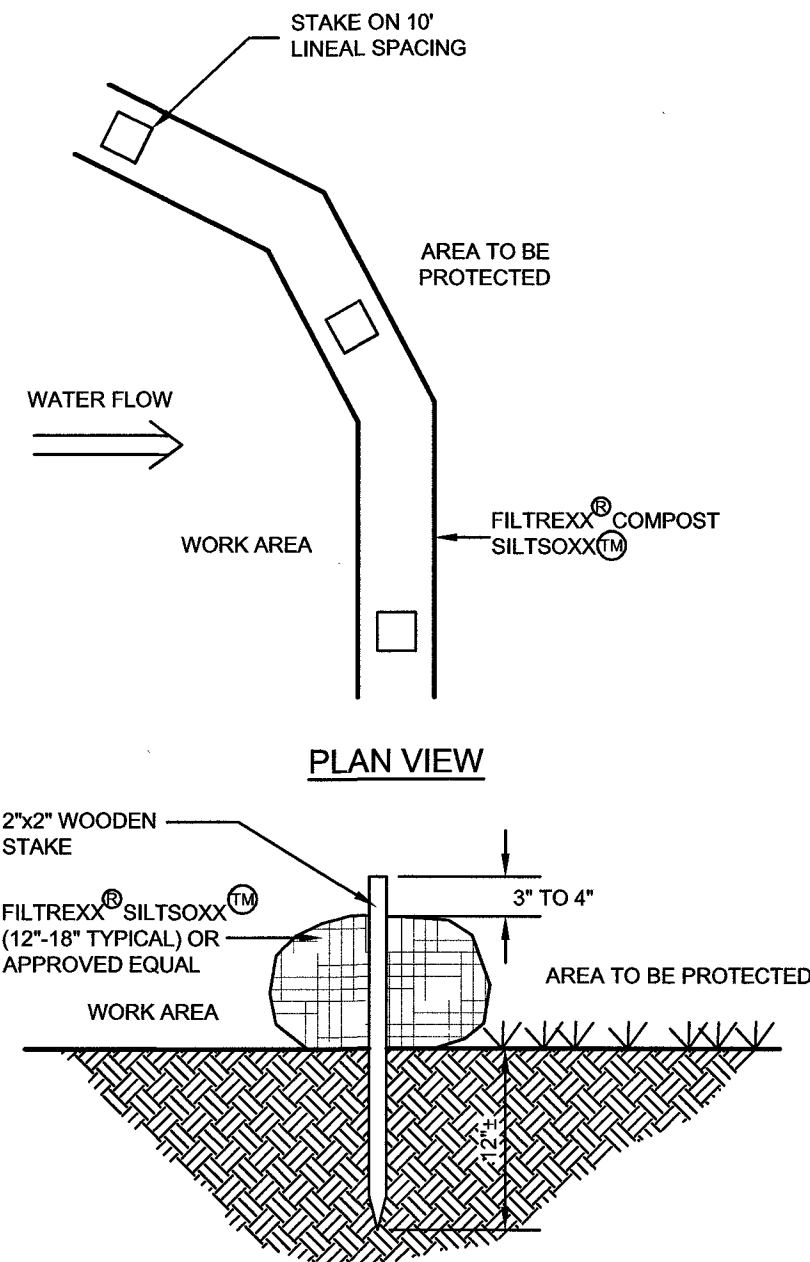
7. SEED MIXTURE FOR STORMWATER MANAGEMENT AREAS, INCLUDING DETENTION BASINS AND VEGETATED TREATMENT SWALES SHALL CONSIST OF THE FOLLOWING:

30% CREEPING RED FESCUE
15% SWITCH GRASS
15% FOX SEDGE
15% CREEPING BENTGRASS
10% FLATPEA
20% WILDFLOWER VARIETY

8. STRAW USED FOR MULCH SHALL CONSIST OF MOWED AND PROPERLY CURED GRASS OR LEGUME MOWINGS, FREE FROM WEEDS, TWIGS, DEBRIS OR OTHER DELETERIOUS MATERIAL AND ROT OR MOLD.

9. NATIVE PLANTINGS SHOULD BE USED FOR ALL NEW GREENSCAPES.

10. ALL WILDFLOWER SEEDING MIXES SHOULD BE FREE OF INVASIVE SPECIES.



NOTES:

1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.

2. SILTSSOXX® COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.

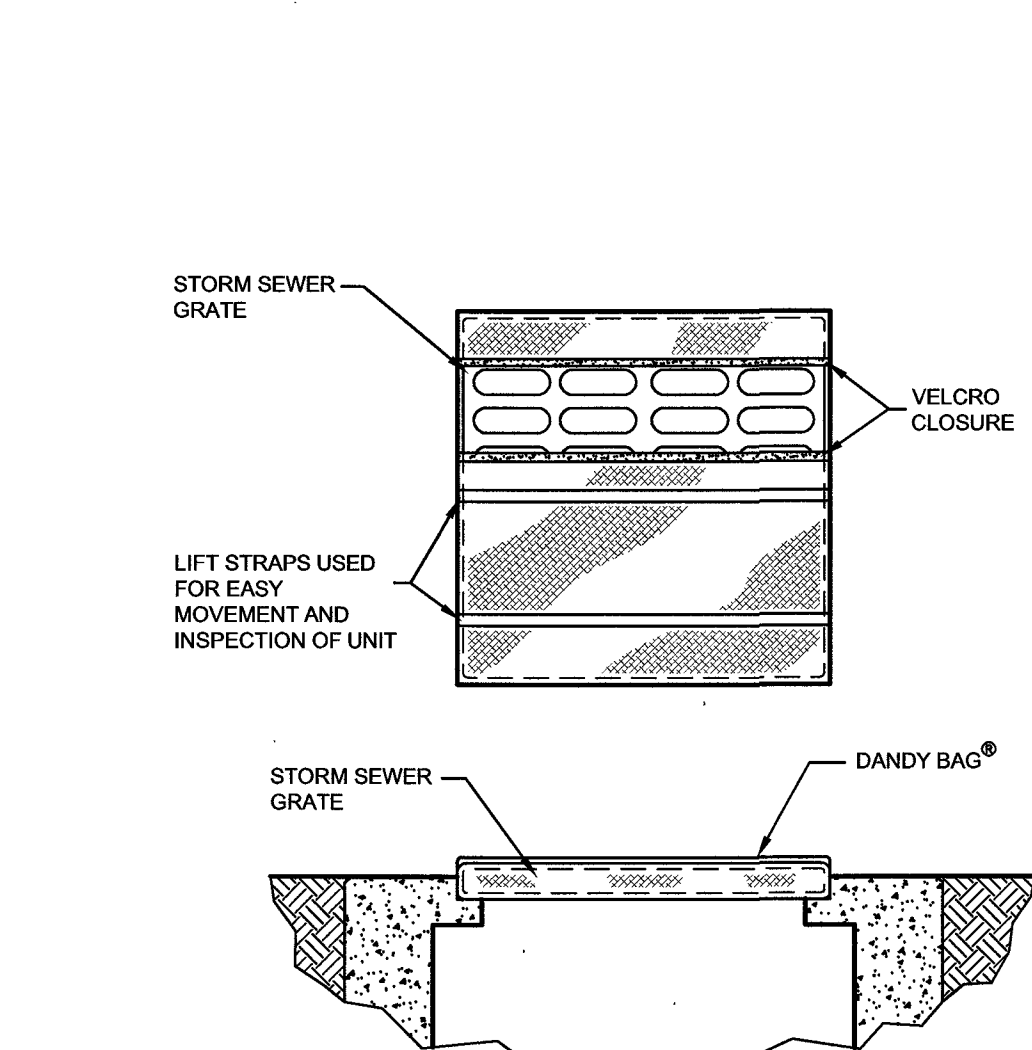
3. SILTSSOXX® DEPICTED IS FOR MINIMUM SLOPES. GREAT SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER.

4. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

FILTREXX® SILTSSOXX® DETAIL

NOT TO SCALE

(AUGUST 2011)



HI-FLOW DANDY BAG® (SAFETY ORANGE)

MECHANICAL PROPERTIES	TEST METHOD	UNITS	MARV
GRAB TENSILE STRENGTH	ASTM D 4632	kN (lbs)	1.62 (365) x 0.89 (200)
GRAB TENSILE ELONGATION	ASTM D 4632	%	24 x 10
PUNCTURE STRENGTH	ASTM D 4833	kN (lbs)	0.40 (90)
MULLEN BURST STRENGTH	ASTM D 3786	kPa (psi)	3097 (450)
TRAPEZOID TEAR STRENGTH	ASTM D 4533	kN (lbs)	0.51 (115) x 0.33 (75)
UV RESISTANCE	ASTM D 4365		90
APPARENT OPENING SIZE	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
FLOW RATE	ASTM D 4481	1/min/m ² (gal/min/ft ²)	5907 (145)
PERMITTIVITY	ASTM D 4481	Sec-1	2.1

DANDY BAG®

NOT TO SCALE

(APRIL 2010)

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD

DATE OF MEETING: _____

SIGNATURE DATE: _____

SIGNATURE DATE: _____

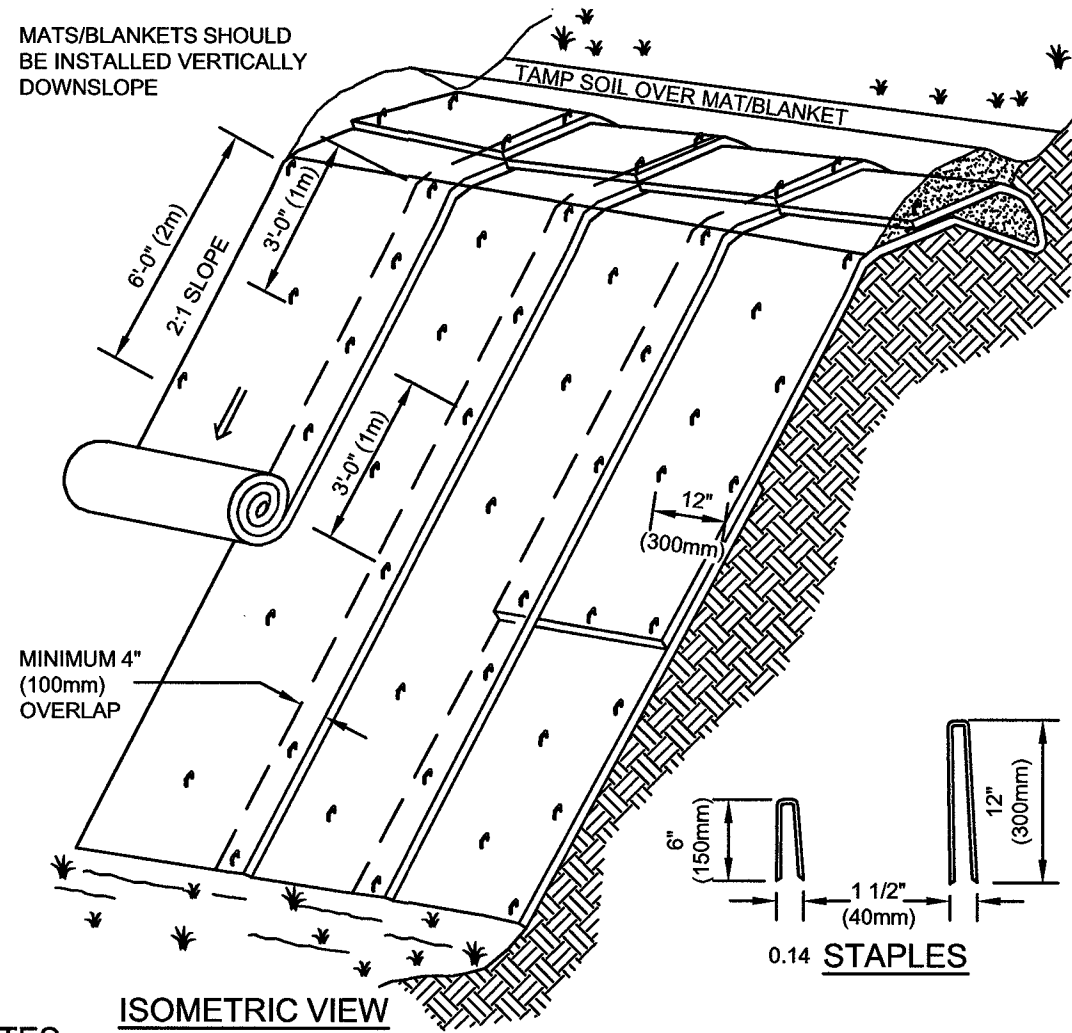
SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.

NOTES:

1. THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA OR SOURCE OF SEDIMENT AS POSSIBLE.
2. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE TRAP SHALL BE LESS THAN 5 ACRES.
3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
4. THE SIDE SLOPES OF THE TRAP SHALL BE 3:1 OR FLATTER, AND SHALL BE STABILIZED IMMEDIATELY AFTER THEIR CONSTRUCTION.
5. THE OUTLET OF THE TRAP SHALL BE A MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP AND SHALL DISCHARGE TO A STABILIZED AREA.
6. THE TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
7. THE MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.
8. SEDIMENT TRAPS AND/OR BASINS SHOULD BE USED AS NECESSARY TO CONTAIN RUNOFF UNTIL BASINS/PONDS ARE STABILIZED.

TEMPORARY SEDIMENT TRAP DETAIL

NOT TO SCALE



NOTES:

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
4. EROSION BLANKETS TO BE A BGN150 OR AN APPROVED ALTERNATIVE WHICH MUST CONSIST OF ALL NATURAL FIBERS.

EROSION CONTROL BLANKETS - SLOPE INSTALLATION

NOT TO SCALE

(AUGUST 2011)

CONSTRUCTION SEQUENCE

1. THE CONTRACTOR WILL ENSURE THAT NO MORE THAN 5 ACRES IS DISTURBED AT ANY ONE TIME.
2. FIRST CUT AND CLEAR TREES AND BRUSH ONLY WITHIN DESIGNATED LIMITS OF CLEARING AS NECESSARY TO FACILITATE PROPOSED CONSTRUCTION. ALL TREES, BRANCHES AND OTHER VEGETATIVE MATERIALS SHALL BE PROPERLY DISPOSED OF OFF SITE BY THE CONTRACTOR. THIS PROJECT IS MANAGED TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
3. PRIOR TO COMMENCEMENT OF ANY EARTHMOVING OPERATIONS, ALL APPLICABLE TEMPORARY EROSION CONTROL MEASURES, INCLUDING SPECIFIED PERIMETER SILTATION FENCING AND STABILIZED CONSTRUCTION EXIT SHALL BE IN PLACE AS SHOWN ON THE PROJECT PLANS.
4. COMPLETE GRUBBING OPERATIONS. ALL STUMPS AND SIMILAR ORGANIC DEBRIS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR. NATIVE ORGANIC SOIL MATERIALS SUITABLE FOR USE AS TOPSOIL SHALL BE STOCKPILED WITHIN AREAS OUT OF THE WAY OF OTHER CONSTRUCTION ACTIVITIES AND DRAINAGE FLOW. STOCKPILES SHALL BE TEMPORARILY SEEDED WITH WINTER RYE AND BE SURROUNDED WITH STRAW BALES AND/OR FABRIC SILTATION FENCE IN ORDER TO PREVENT LOSS DUE TO EROSION.
5. BEGIN EARTHMOVING OPERATIONS, COMMENCING WITH WORK NEEDED TO BALANCE SITE AND FACILITATE BUILDING FOUNDATION AND RETAINING WALL CONSTRUCTION. PERMANENT DOWNSLOPE WORK SHALL BE PROTECTED FROM UPGRADIENT STORMWATER FLOW BY THE CONSTRUCTION OF TEMPORARY EARTHEN DIKES OR EXCAVATED SWALES.
6. ONCE BUILDING FOUNDATION WORK IS UNDERWAY, CONTINUE EARTHMOVING OPERATIONS UNTIL DESIGN SUBGRADE IS ACHIEVED.
7. DETENTION BASINS/SWALES SHALL BE INSTALLED BEFORE ROUGH GRADING THE SITE.
8. DITCHES/SWALES/BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
9. TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC.) MUST BE USED AS NECESSARY UNTIL SOILS ARE STABILIZED.
10. INSTALL DRAINAGE SWALE SYSTEMS AND OTHER UTILITIES WORKING FROM LOW TO HIGH. INCOMPLETE WORK SHALL BE PROTECTED FROM SILTATION BY THE USE OF SILTATION BARRIERS AROUND SWALES UNTIL THE SITE HAS BECOME FULLY STABILIZED.
11. DEEPLY TILL THE BASE OF THE INFILTRATION BASIN TO RESTORE INFILTRATION RATES FOLLOWED BY A PASS WITH A LEVELING DRAG. STORMWATER FLOWS ARE NOT TO BE DIRECTED TO THE INFILTRATION AREA UNTIL CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
12. PLACE GRAVEL AND CRUSHED GRAVEL OVER PROPOSED DRIVEWAY, WALKS AND PARKING AREAS AND COMPACT IN SPECIFIED LIFT THICKNESS.
13. COMPLETE EXCAVATION/STABILIZATION GRADING ACTIVITIES. WHEN COMPLETE, IMMEDIATELY BEGIN TOPSOILING PROPOSED TURF AREAS USING STOCKPILED LOAM SUPPLEMENTED WITH BORROW LOAM, IF NECESSARY, TO LEAVE A THICKNESS OF 4 INCHES OF FRIABLE LOAM.
14. FINE GRADE ALL TURF AREAS AND HYDROSEED WITH THE SPECIFIED SEED MIXTURE IMMEDIATELY AFTER FINE GRADING IS COMPLETED. ALL AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
15. INSTALL THE BINDER COURSE OF PAVEMENT OVER ALL DESIGNATED AREAS.
16. CONTINUE TO MONITOR AND RECTIFY MINOR SITE AND SLOPE EROSION UNTIL ENTIRE SITE APPEARS TO BE COMPLETELY STABILIZED AND VEGETATED WITH A HEALTHY STAND OF TURF OR GROUND COVER. MAINTAIN SPECIFIED SILTATION/EROSION CONTROL MEASURES THROUGH ONE WINTER.
17. INSTALL THE SPECIFIED WEARING COURSE OF PAVEMENT OVER THE BINDER COURSE.
18. COMPLETE INSTALLATION OF LANDSCAPING, SIGNAGE AND OTHER SITE AMENITIES.

CERTIFICATE OF OCCUPANCY PHASING PLAN AGREEMENT:

1. THE FOLLOWING SITE IMPROVEMENTS ARE REQUIRED FOR INDIVIDUAL CERTIFICATES OF OCCUPANCY AS CONSTRUCTION PROGRESSES:

- A. ROAD BASE COAT;
- B. STOP SIGNS AND TEMPORARY STRIPING OF STOP BAR;
- C. GRADING AND DRAINAGE;
- D. LOAM AND SEED THAT SUPPORTS THE SUBJECT UNIT OF THE CERTIFICATE OF OCCUPANCY;
- E. TEMPORARY STRIPING OF VISITOR PARKING; AND
- F. UTILITIES.

EROSION CONTROL NOTES

1. EXPOSED EARTHWORK SHALL BE CONFINED TO AS LIMITED AN AREA AS IS PRACTICAL AT ANY GIVEN TIME THROUGHOUT THE CONSTRUCTION SEQUENCE. AT NO TIME SHALL MORE THAN FIVE (5) ACRES OF SITE AREA BE IN AN UNSTABLE CONDITION UNLESS AN ENVIRONMENTAL MONITOR IS EMPLOYED THROUGH THE DURATION OF CONSTRUCTION. NO GIVEN AREA OF THE SITE SHALL BE LEFT IN AN UNSTABILIZED CONDITION FOR A PERIOD OF TIME EXCEEDING FORTY-FIVE (45) CALENDAR DAYS.
2. TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH PROJECT PLANS. IN ADDITION, SIMILAR MEASURES SHALL BE INSTALLED WHERE AND WHEN THE FIELD CONDITION, OR FIELD OPERATION OF THE INDIVIDUAL SITE CONTRACTOR, MAY WARRANT. ALL TEMPORARY EROSION CONTROL MEASURES USED SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER 0.25" OF RAINFALL OR MORE. THEY SHALL BE CLEANED AND MAINTAINED AND OTHERWISE KEPT IN AN EFFECTIVE OPERATING MANNER THROUGHOUT THE CONSTRUCTION PERIOD.
3. ALL DISTURBED AREAS DESIGNATED TO BE TURF, SHALL RECEIVE A MINIMUM APPLICATION OF 4 INCHES OF LOAM (COMPACTED THICKNESS), PRIOR TO FINAL SEEDING AND MULCHING.
4. EROSION CONTROL AND STABILIZATION SHALL BE IN ACCORDANCE WITH HILLSBOROUGH COUNTY CONSERVATION DISTRICT-VEGETATIVE STANDARD AND SPECIFICATIONS FOR SEEDING GRASSES AND LEGUMES FOR LONG-TERM COVER ON EXCAVATED AREAS.
5. ALL SWALES AND DITCHLINES SHALL BE PERIODICALLY CLEANED OF DEPOSITED SEDIMENT SO AS TO MAINTAIN AN EFFECTIVE GRADE AND CROSS SECTION. ALL SWALES AND DITCHLINES SHALL BE FULLY STABILIZED PRIOR TO HAVING STORMWATER DIRECTED TOWARDS THEM.
6. IN THE EVENT THAT, DURING CONSTRUCTION OF ANY PORTION OF THIS PROJECT, A WINTER SHUTDOWN IS NECESSARY, THE CONTRACTOR SHALL STABILIZE ALL INCOMPLETE WORK AND PROVIDE FOR SUITABLE METHODS OF DIVERTING RUNOFF IN ORDER TO ELIMINATE SHEET FLOW ACROSS FROZEN SURFACES.
7. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - A. BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
 - B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
 - D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
8. DUST SHALL BE CONTROLLED BY THE USE OF WATER AS NECESSARY THROUGHOUT THE CONSTRUCTION PERIOD, IN ACCORDANCE WITH ENV-A 1000.
9. IN NO WAY ARE THOSE TEMPORARY EROSION CONTROL MEASURES INDICATED ON THESE PLANS TO BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR SHALL USE JUDGEMENT IN INSTALLING SUPPLEMENTARY EROSION CONTROL MEASURES WHERE AND WHEN SPECIFIC SITE CONDITIONS AND/OR CONSTRUCTION METHODOLOGIES MAY WARRANT.
10. THE TOWN RESERVES THE RIGHT TO REQUIRE ADDITIONAL EROSION CONTROL MEASURES DURING CONSTRUCTION.
11. AREAS HAVING FINISH GRADE SLOPES OF 3 : 1 OR STEEPER, SHALL BE STABILIZED WITH JUTE MATTING WHEN AND IF FIELD CONDITIONS WARRANT, OR IF SO ORDERED. JUTE MATTING INSTALLED TO CONFORM WITH THE RECOMMENDED BEST MANAGEMENT PRACTICE OUTLINED IN VOLUME 3 OF THE NEW HAMPSHIRE STORMWATER MANUAL. EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION:
12. DETENTION BASINS/SWALES SHALL BE INSTALLED BEFORE ROUGH GRADING THE SITE.
13. DITCHES/SWALES/BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
14. TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC.) MUST BE USED AS NECESSARY UNTIL SOILS ARE STABILIZED.
15. ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
16. ALL CUT AND FILL SLOPES SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

WINTER CONSTRUCTION NOTES:

1. ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 4:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3 OR, IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON, BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.
4. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - A. BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
 - B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
 - D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

CONSTRUCTION DETAILS

S.L. CHASSE STEEL

MAP 105 LOT 17-2

ROBINSON ROAD

HUDSON, NEW HAMPSHIRE

HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:

STEEL PROPERTIES, LLC

8 CHRISTINE DRIVE

HUDSON, N.H. 03051

H.C.R.D. BK. 9327 PG. 197

KMA

KEACH-NORDSTROM ASSOCIATES, INC.

Civil Engineering Land Surveying Landscape Architecture

10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

REVISIONS

No.	DATE	DESCRIPTION	BY
1	05/12/21	TOWN COMMENTS	SCV
2	08/17/21	TOWN AND AOT COMMENTS	SCV

DATE: APRIL 6, 2021

SCALE: AS SHOWN

PROJECT NO: 20-0921-2

SHEET 15 OF 16

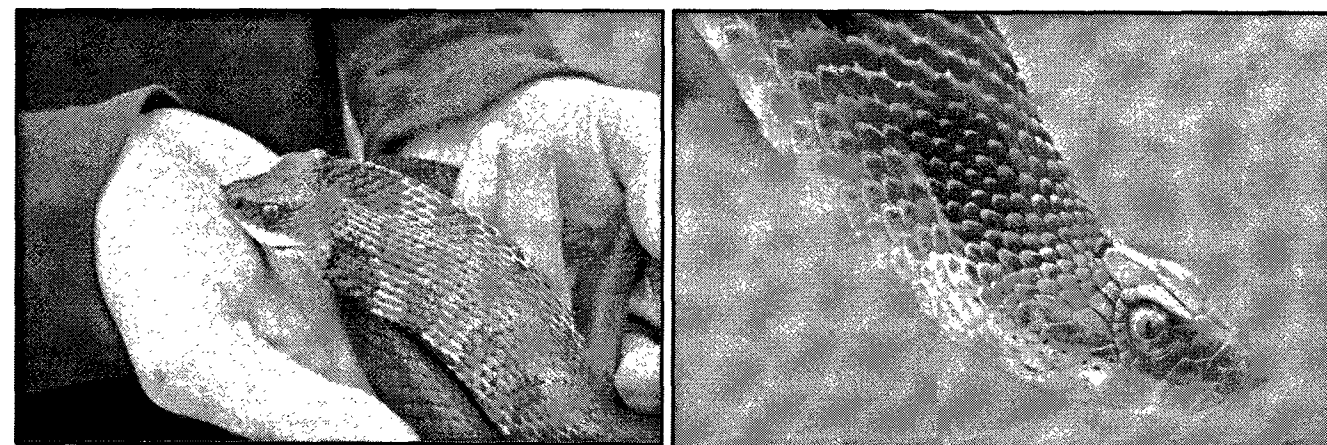


REPORT EASTERN HOGNOSE SNAKE OBSERVATIONS

Report sightings immediately to NHFG Wildlife Division at 603-271-2461 (M-F 8-4) or to NHFG Wildlife Biologist Melissa Doperalski 603-479-1129 (call or text) anytime.

Please report promptly, noting specific location and date – Photographs strongly encouraged

- Black, gray or patterned appearance
- upturned snout
- Adults are 2-3 ft. long
- May spread neck out or hiss
- May play dead if they feel threatened.
- Rarely bite – display is a defense strategy
- Can be found in a variety of habitats throughout the season



REPORT OBSERVATIONS EASTERN BOX TURTLE (state endangered)

Report sightings immediately to NHFG Wildlife Division to New Hampshire Fish and Game:

Wildlife Biologist Melissa Doperalski 603-479-1129 (call or text) anytime
Wildlife Biologist Josh Megyesy at 978-578-0802 (call or text), or
If you are unable to reach a biologist you may also contact the Wildlife Administrator at: 603-271-2461 (M-F 8-4)

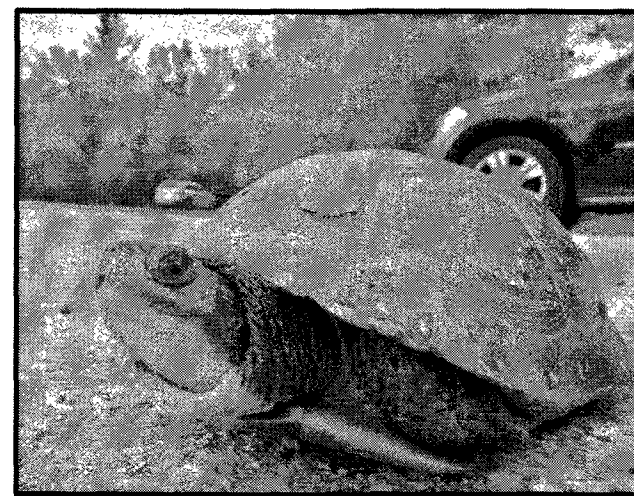
Please report promptly, noting specific location and date – Photographs strongly encouraged

- Smaller turtle about 4.5-7 inches long (adult ones).
- Highly domed shell with variable patterning.
- Shell color patterns vary greatly from irregular yellow or orange markings with dark brown or black base.
- Skin is uniformly dark with yellow or orange markings.
- During warm months (May – June) nests in loose, sandy or loamy soil
- Eastern box turtles nests are protected under state law.



PLEASE REPORT OBSERVATIONS OF RARE TURTLES

*The NH Fish & Game Department is requesting
observations of the following turtle species*

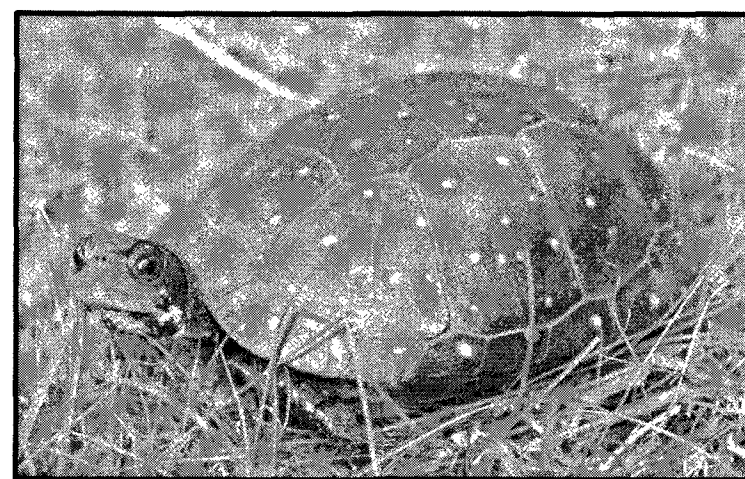


Blanding's turtle
(State Endangered)

Large, dark/black domed shell with lighter speckles.

Distinct yellow throat/chin.

Aquatic but often moves on land.



Spotted turtle
(State Threatened)

Small, mostly aquatic with black or dark brown with yellow spots.

Fairly flat shell compared to Blanding's turtle.

Spots vary in color and number.

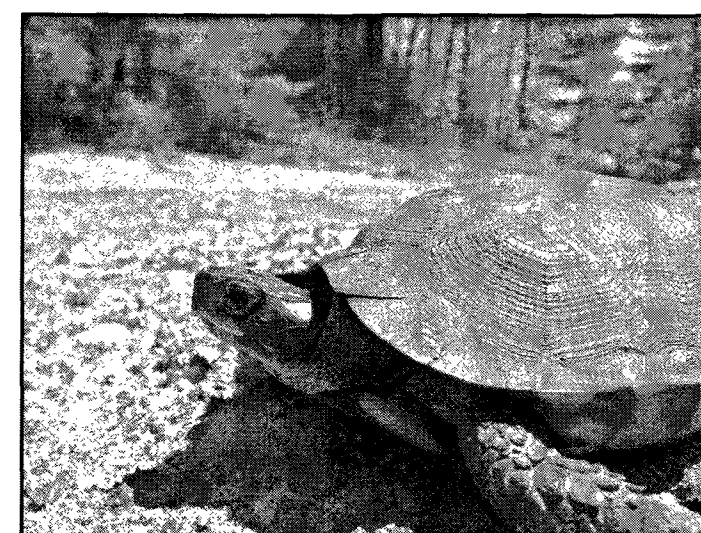
Report sightings immediately to NHFG Wildlife Division at 603-271-2461 (M-F 8-4) or to NHFG Wildlife Biologist Melissa Doperalski 603-479-1129 (cell) anytime.

Please report promptly, noting specific location and date – Photographs strongly encouraged

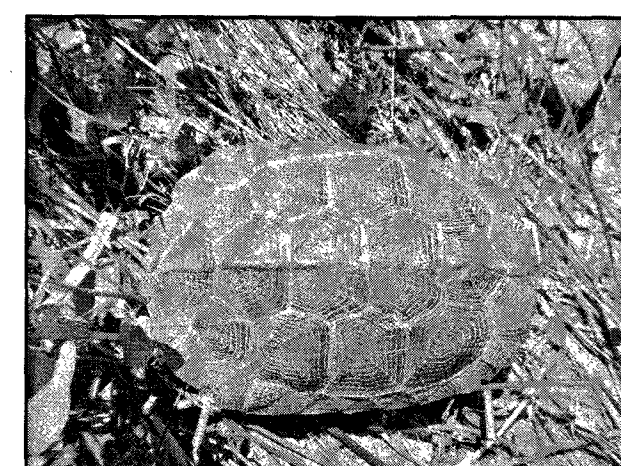
Wood Turtle

(Glyptemys insculpta)

(New Hampshire Species of Special Concern)



- Neck and forelimbs are orange.
- Characterized by its highly sculpted shell with each large scute taking on an irregular pyramidal shape.
- Adults can be 5-8 inches long.



Please report sightings to NH Fish and Game at RAARP@wildlife.nh.gov or at 603-271-2461. Photo documentation, location, and date/time of observation is helpful.

NOTE: It is illegal to remove a wood turtle from the wild (RSA 207:1, FIS 804.02).

CONSTRUCTION DETAILS

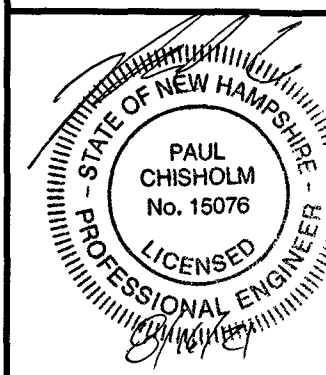
S.L. CHASSE STEEL
MAP 105 LOT 17-2
ROBINSON ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:

STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, N.H. 03051
H.C.R.D. BK. 9327 PG. 197

KMA
KEACH-NORDSTROM ASSOCIATES, INC.

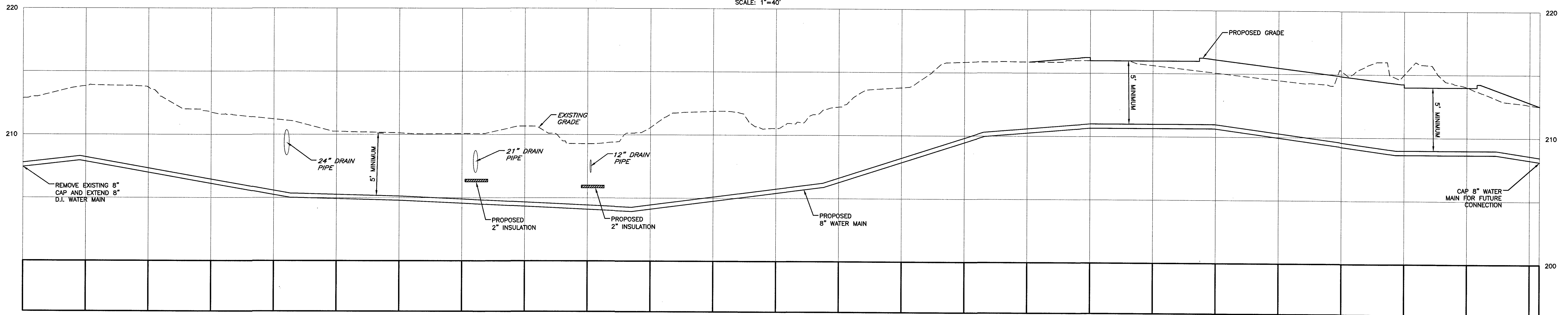
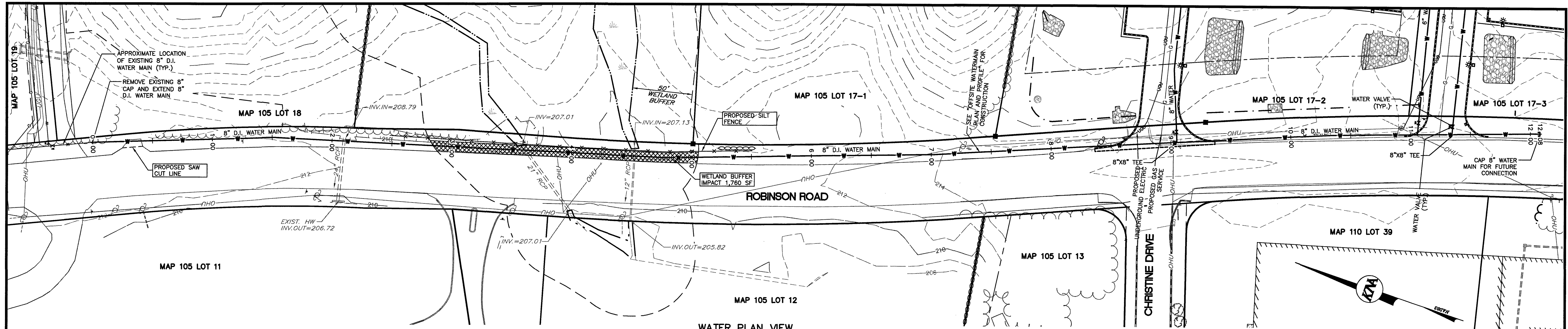
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 827-2881



REVISIONS

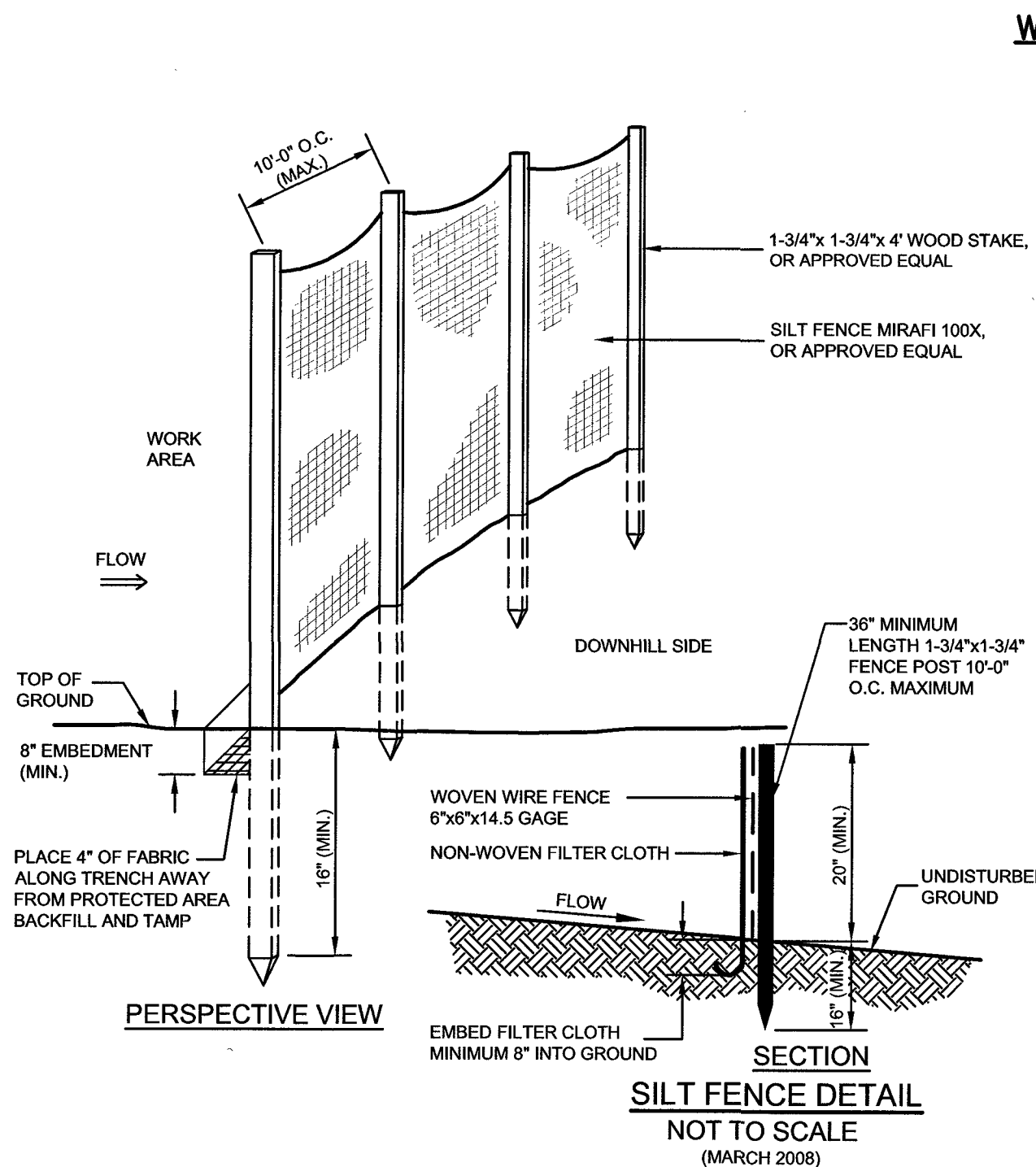
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1	05/12/21	TOWN COMMENTS	SCV
2	08/17/21	TOWN AND AOT COMMENTS	SCV

DATE: APRIL 6, 2021	SCALE: AS SHOWN
PROJECT NO: 20-0921-2	SHEET 16 OF 16



LEGEND

GB-F	GRANITE BOUND FOUND	STONEMALL
IPIN-F	IRON PIN FOUND	BUILDING SETBACK
DH-F	DRILL HOLE FOUND	EASEMENT
IPP-F	IRON PIPE FOUND	PROPOSED WATER VALVE
RRS-F	RAILROAD SPIKE FOUND	PROPOSED HYDRANT
UT	UTILITY POLE	PROPOSED WELL
S	SIGN	PROPOSED DRAINAGE MANHOLE
L	LIGHT	PROPOSED CATCH BASIN
W	WELL	PROPOSED END SECTION
SM	SEWER MANHOLE	PROPOSED PROPERTY LINE
DM	DRAINAGE MANHOLE	PROPOSED GUARDRAIL
CB	CATCH BASIN	PROPOSED UNDERGROUND UTILITIES
AL	ABUTTER LINE	PROPOSED GAS LINE
PL	PROPERTY LINE	PROPOSED WATER LINE
ST	STREAM	PROPOSED DRAINAGE LINE
WL	WETLAND	PROPOSED TREE LINE
OHU	OVERHEAD UTILITIES	PROPOSED EDGE OF PAVEMENT
DL	DRAINAGE LINE	PROPOSED SLOPED GRANITE CURB
TL	TREE LINE	PROPOSED 2' CONTOUR
10'	10' CONTOUR	EASEMENT
2'	2' CONTOUR	SILT FENCE



WATER PROFILE, SCALE: 1"=40' HOR., 1"=5' VERT.

CONSTRUCTION SPECIFICATIONS:

- THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.
- THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
- WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIE OR STAPLES WHERE NOTED OR AS DIRECTED BY DESIGN ENGINEER.
- FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MIDSECTION AND BOTTOM.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
- FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 16 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

MAINTENANCE:

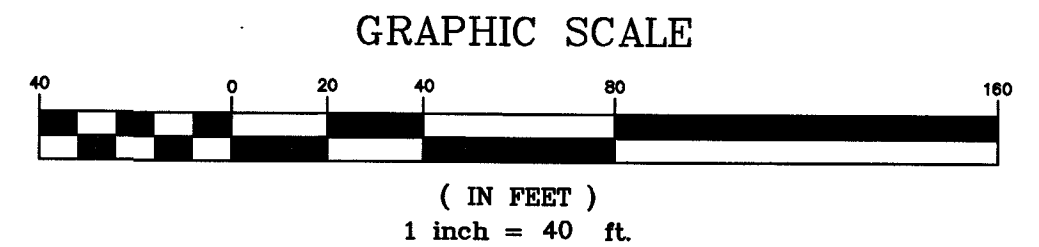
- SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
- IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
- SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
- SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

LOAM & SEED ALL DISTURBED AREAS (TYP.)



CONSTRUCTION NOTES:

- THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED WATER CONNECTIONS TO ROBINSON ROAD.
- ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF HUDSON, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. ALL WORK PERFORMED IN THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, APPROVED AND ADOPTED 2018 ARE HEREBY INCORPORATED BY REFERENCE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.
- ALL WATER CONSTRUCTION SHALL CONFORM WITH THE TOWN OF HUDSON AND LOCAL UTILITY COMPANY.



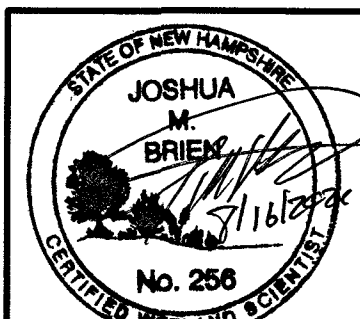
OFFSITE WATER MAIN EXTENSION PLAN AND PROFILE, S.L. CHASSE STEEL, MAP 105 LOTS 17-2 & 17-3, ROBINSON ROAD, HUDSON, NEW HAMPSHIRE, HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT: STEEL PROPERTIES, LLC, 8 CHRISTINE DRIVE, HUDSON, N.H. 03051, H.C.R.D. BK. 9327 PG. 197

KEACH-NORDSTROM ASSOCIATES, INC., Civil Engineering Land Surveying Landscape Architecture, 10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

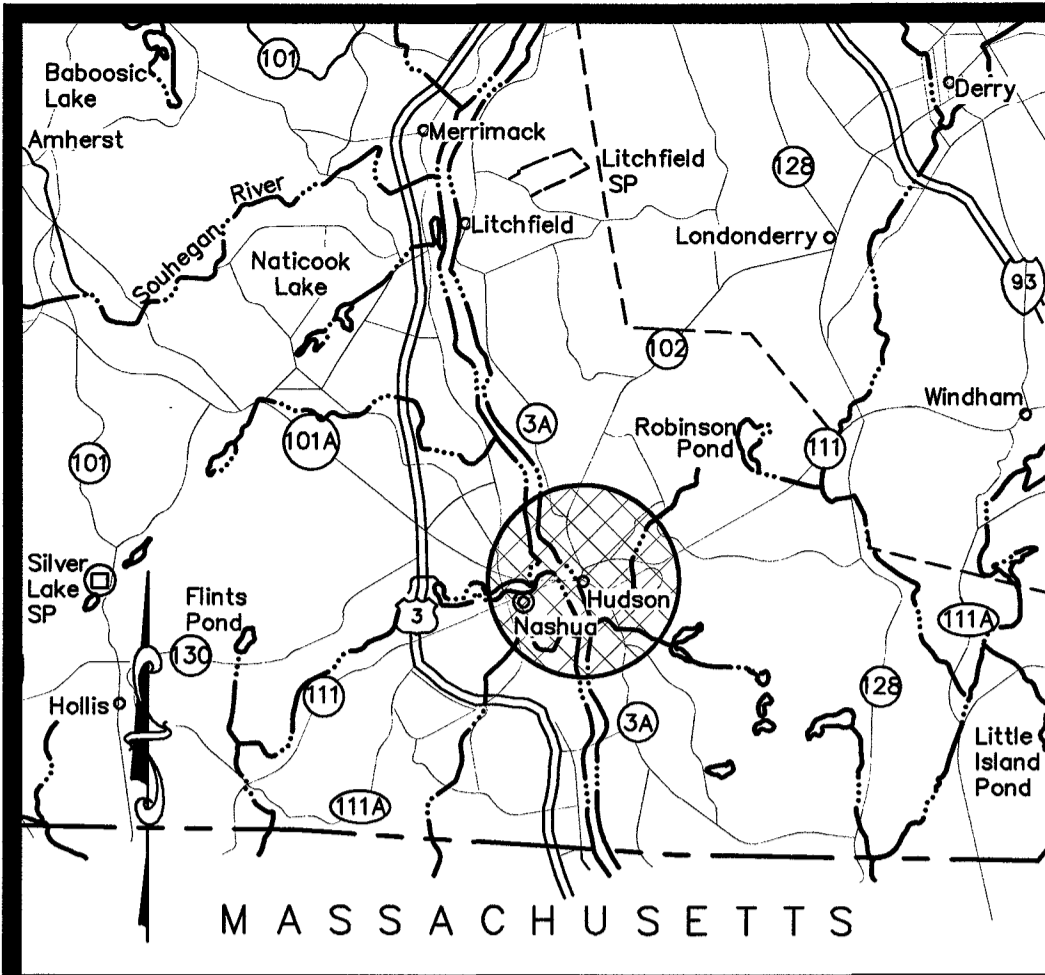


REVISIONS			
No.	DATE	DESCRIPTION	BY
DATE: MAY 25, 2021		SCALE: 1" = 40'	
PROJECT NO: 20-0921-2		SHEET 1 OF 1	



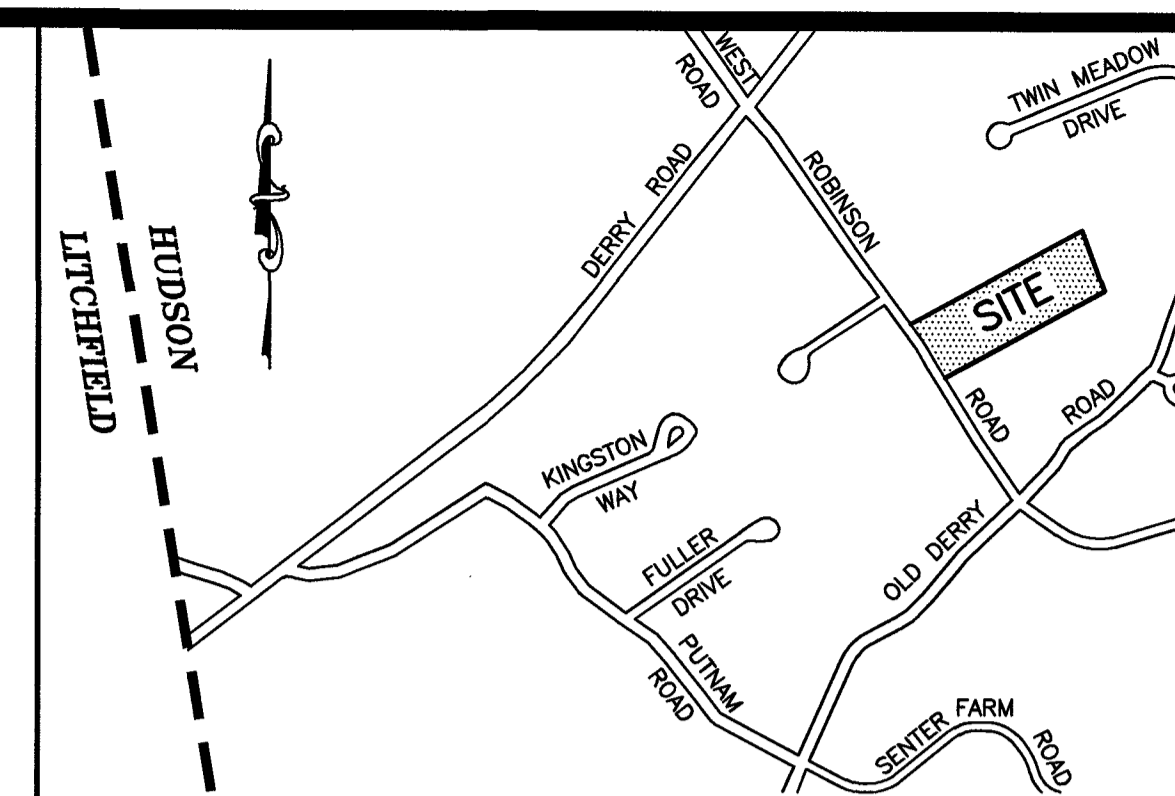
WETLAND SCIENTIST'S CERTIFICATION:

JOSHUA BRIEN, CERTIFIED WETLAND SCIENTIST #256 OF KEACH-NORDSTROM ASSOCIATES, INC. OF BEDFORD, NH PERFORMED THE DELINEATION OF JURISDICTIONAL WETLANDS IN JANUARY OF 2020 USING THE TECHNICAL CRITERIA IN THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (TECHNICAL REPORT Y-87-1, JANUARY 1987).



VICINITY PLAN
NOT TO SCALE

NON-RESIDENTIAL SITE PLAN S.L. CHASSE CONTRACTOR BUILDINGS MAP 105 LOT 17-3 ROBINSON ROAD HUDSON, NEW HAMPSHIRE



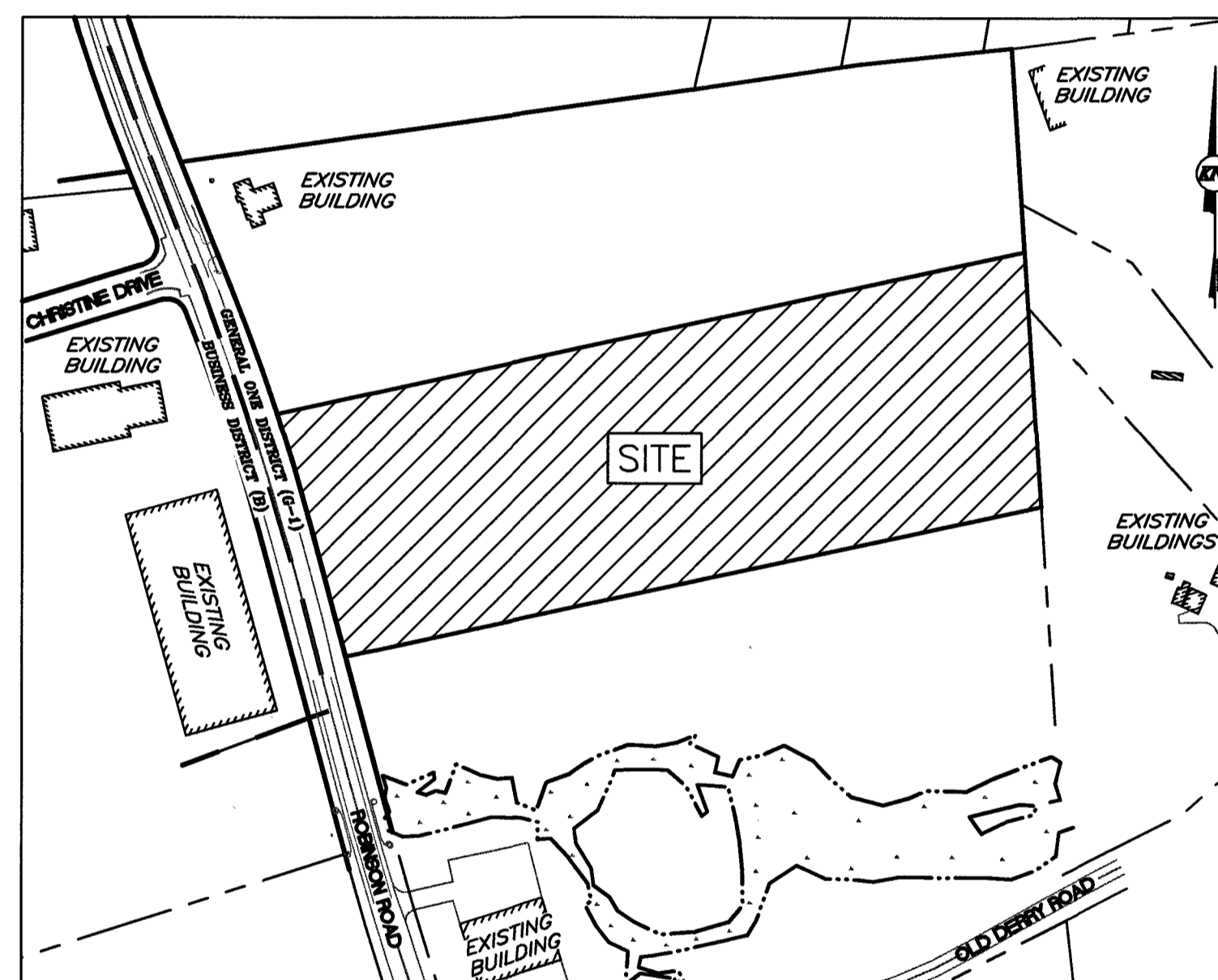
LOCUS PLAN
SCALE: 1" = 1,000'

NEW HAMPSHIRE FISH AND GAME THREATENED & ENDANGERED WILDLIFE CONDITIONS:

- ENV-WQ 1506.04, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, RUNOFF DIVERSION, SLOPE INTERRUPTION, PERIMETER CONTROL, INLET PROTECTION, CHECK DAMS, AND SEDIMENT TRAPS SHALL NOT CONTAIN WELDED PLASTIC, PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH. SEE PLAN SHEET 5 FOR SPECS.
- SLOPED GRANITE OR CAPE COD ASPHALT CURBING SHALL BE UTILIZED.
- THERE WILL BE NO CATCH BASINS PLACED IN GRASSED OR GRAVELED AREAS ALONG THE EXTERIOR OF THIS PROJECT AGAINST UNDEVELOPED AREAS - OPEN GRASSED SWALES SHALL BE USED INSTEAD. SEE PLAN SHEET 4 FOR SPECS.
- SUMPS IN OUTLET PIPES IN STORMWATER DETENTION BASIN OUTLETS SHALL NOT BE INCLUDED IN THE DESIGN.
- THERE IS THE POTENTIAL FOR BLANDING'S TURTLES (STATE-ENDANGERED), SPOTTED TURTLES (STATE-THREATENED), EASTERN BOX TURTLES (STATE-ENDANGERED) AND EASTERN HOGNOSE SNAKES (STATE-ENDANGERED) TO BE WITHIN THE PROJECT VICINITY. ALL SITE OPERATORS SHALL BE PROVIDED WITH IDENTIFICATION FLYERS THAT INCLUDE NHFG CONTACT INFORMATION. NHFG SHALL BE CONTACTED IMMEDIATELY IF ANY OF THESE SPECIES OBSERVED AT MELISSA DOPERALSKI 603-479-1129 (CALL OR TEXT) OR JOSH MEGYESY 978-578-0802 (CALL OR TEXT). SEE PLAN SHEET 16.
- IF ANY THREATENED OR ENDANGERED SPECIES
- ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES SHALL BE REPORTED IMMEDIATELY TO THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHFGREVIEW@WILDLIFE.NH.GOV. EMAIL SUBJECT LINE: NHB19-3817, EISENHOWER DRIVE WATER MAIN EXTENSION, WILDLIFE SPECIES OBSERVATION. PHOTOGRAPHS SHALL BE PROVIDED FOR VERIFICATION AS FEASIBLE.
- THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.

OWNER OF RECORD/APPLICANT:
SLC DEVELOPMENT, LLC
8 CHRISTINE DRIVE
HUDSON, NEW HAMPSHIRE 03051

PREPARED BY:
KEACH-NORDSTROM ASSOCIATES, INC.
10 COMMERCE PARK NORTH, SUITE 3
BEDFORD, NEW HAMPSHIRE 03110
(603) 627-2881



EXISTING FEATURES WITHIN 200 FEET
SCALE: 1" = 200'

LEGEND

- WETLAND
- EDGE OF PAVEMENT
- ZONE BOUNDARY
- PROPERTY LINE
- PROPERTY LINE

SHEET TITLE

MASTER SITE PLAN
EXISTING CONDITIONS PLAN
NON-RESIDENTIAL SITE LAYOUT PLAN
GRADING, DRAINAGE & UTILITY PLAN
EROSION CONTROL PLAN
LANDSCAPE PLAN
LIGHTING PLAN
SIGHT DISTANCE PLAN & PROFILE
CONSTRUCTION DETAILS

SHEET No.

1
2
3
4
5
6
7
8
9 - 15

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL	APPROVED BY THE HUDSON, NH PLANNING BOARD DATE OF MEETING: _____
	_____ SIGNATURE DATE: _____
	_____ SIGNATURE DATE: _____
SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.	



KMA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture

10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

APRIL 6, 2021

REVISED AUGUST 17, 2021

PROJECT NO. 20-0921-2

LEGEND

- GB-TBS GRANITE BOUND TO BE SET
- IPIN-TBS IRON PIN TO BE SET
- DH-TBS DRILL HOLE TO BE SET
- PROPOSED UTILITY POLE
- PROPOSED SIGN
- PROPOSED LIGHT
- PROPOSED GAS VALVE
- PROPOSED WATER VALVE
- PROPOSED HYDRANT
- PROPOSED CHAIN LINK FENCE
- PROPOSED BARBED WIRE FENCE
- OHU PROPOSED OVERHEAD UTILITIES
- UGU PROPOSED UNDERGROUND UTILITIES
- G PROPOSED GAS LINE
- W PROPOSED WATER LINE
- S PROPOSED SEWER LINE
- PROPOSED DRAINAGE LINE
- PROPOSED TREELINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED VERTICAL GRANITE CURB
- PROPOSED 2' CONTOUR
- PROPOSED RETAINING WALL
- PROPOSED BITUMINOUS CURB
- ABUTTER LINE
- PROPERTY LINE
- WETLAND
- EDGE OF PAVEMENT
- 10' CONTOUR
- 2' CONTOUR
- BUILDING SETBACK
- GREEN SPACE BUFFER
- EASEMENT
- ZONE LINE
- IRON PIN
- STONE BOUND
- UTILITY POLE
- GAS VALVE
- WATER VALVE
- HYDRANT
- WATER SHUT OFF
- SEWER MANHOLE
- TREELINE



PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD
DATE OF MEETING: _____

SIGNATURE DATE: _____

SIGNATURE DATE: _____

SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.

MAP 105 LOT 34
ALBERT D. TREMBLAY
144 OLD DERRY ROAD
HUDSON, NH 03051
H.C.R.D. BK. 7919 PG. 1259

MAP 105 LOT 33
CARLOS M. & MARIA G. DOS SANTOS
142 OLD DERRY ROAD
HUDSON, NH 03051
H.C.R.D. BK. 6526 PG. 988

MAP 105 LOT 32
NIREL, LLC
140 OLD DERRY ROAD
HUDSON, NH 03051
H.C.R.D. BK. 8899 PG. 2935

MAP 105 LOT 17-4
GREY FOX REALTY, LLC
40 TEMPLE STREET
NASHUA, NH 03060
H.C.R.D. BK. 9315, PG. 2447

MAP 105 LOT 17-2
STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, NH 03051
H.C.R.D. BK. 9327 PG. 197

MAP 105 LOT 17-3
305,312 SF
7,009 ACRES

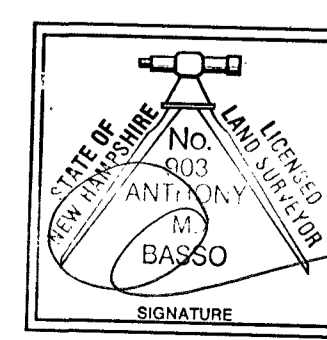
PROPOSED INDUSTRIAL BUILDING #1
18,400 SF

MAP 110 LOT 39
S.C. DEVELOPMENT, LLC
8 CHRISTINE DRIVE
HUDSON, NH 03051
H.C.R.D. BK. 8816 PG. 1205

OWNER OF MAP 105 LOT 17-3

SIGNATURE: _____

DATE: _____



CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION. FURTHER, THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY MADE ON THE GROUND BY THIS OFFICE DURING DECEMBER 2009 AND AUGUST OF 2015. SAID SURVEY HAS AN ERROR OF CLOSURE BETTER THAN ONE PART IN TEN THOUSAND (1:10,000).

LICENSED LAND SURVEYOR

DATE

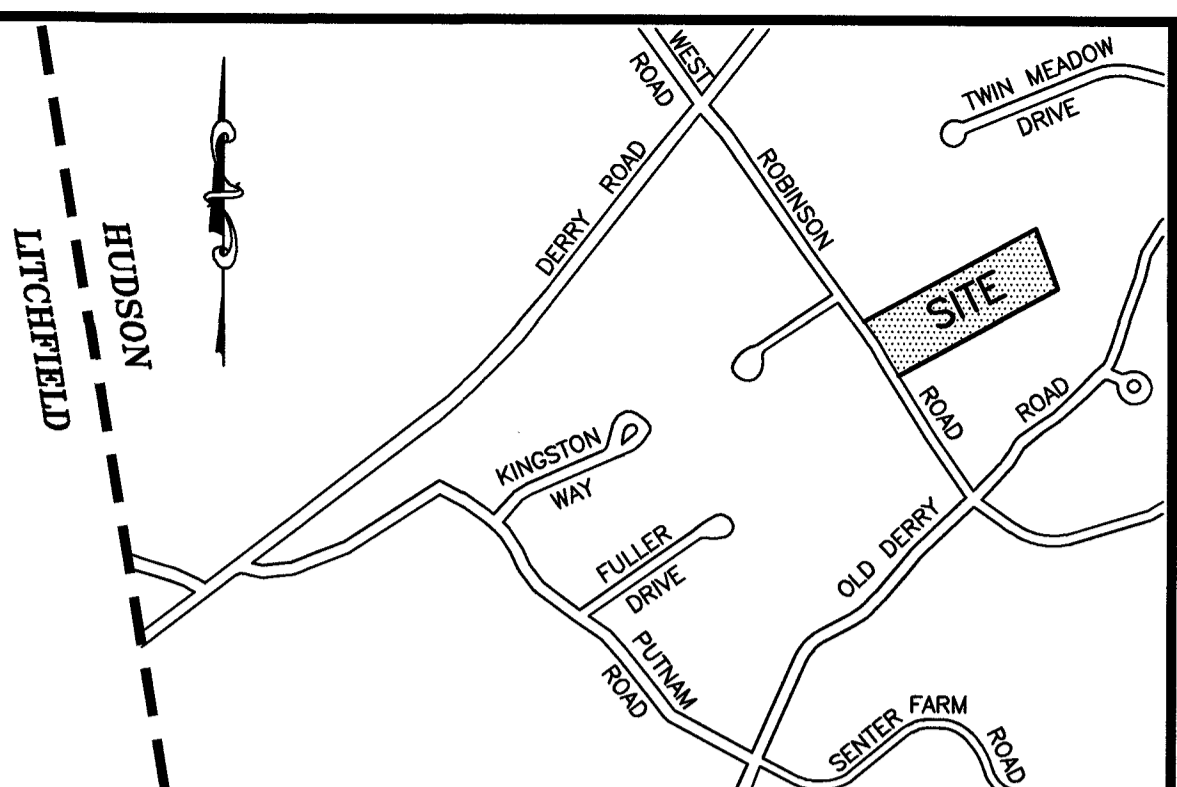
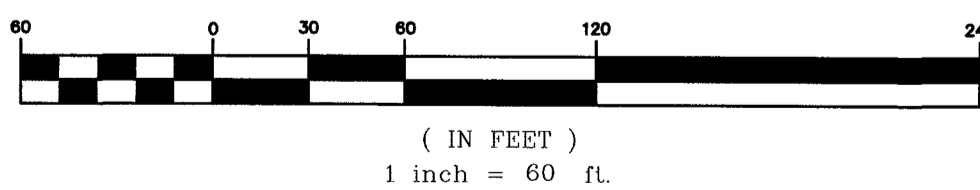
NOTES (CONTINUED):

15. SITE LIGHTING SHALL BE AS SHOWN ON THE PLAN, DIRECTED ONTO SITE, AND SHALL CONFORM WITH ALL APPLICABLE TOWN OF HUDSON ZONING REGULATIONS.
16. CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO THE HOURS OF 7:00 AM & 7:00 PM, MONDAY THROUGH SATURDAY. NO EXTERIOR CONSTRUCTION ACTIVITIES SHALL OCCUR ON SUNDAY.
17. HOURS OF REFUSE REMOVAL SHALL BE EXCLUSIVE TO THE HOURS OF 7:00 AM AND 7:00 PM, MONDAY THROUGH SATURDAY ONLY.
18. HOURS OF OPERATION: 6:00 AM TO 6:00 PM, MONDAY THROUGH SATURDAY.
19. APPROVAL OF THIS PLAN SHALL BE SUBJECT TO FINAL ENGINEERING REVIEW.
20. IF LOT DEVELOPMENT INVOLVES BLASTING AND/OR RAMMING OF BEDROCK MATERIALS, SAID ACTIVITIES SHALL BE LIMITED TO THE HOURS BETWEEN 7:00AM AND 5:00PM MONDAY THROUGH FRIDAY ONLY. SAID BLASTING/RAMMING ACTIVITIES SHALL BE PROHIBITED ON WEEKENDS.
21. REFUSE REMOVAL SHALL BE LIMITED TO MONDAY THROUGH FRIDAY, 7:00 AM TO 7:00 PM ONLY. SAID ACTIVITIES SHALL BE PROHIBITED ON SATURDAY AND SUNDAY.
22. SITE IMPROVEMENTS DEPICTED ON THE PLAN SHALL CONFORM WITH TITLE III OF THE AMERICANS WITH DISABILITIES ACT WITH REGARD TO DIMENSION AND GRADE.
23. PRIOR TO THE ISSUANCE OF A FINAL CERTIFICATE OF OCCUPANCY, AN L.L.S. CERTIFIED "AS-BUILT" SITE PLAN SHALL BE PROVIDED TO THE TOWN OF HUDSON COMMUNITY DEVELOPMENT DEPARTMENT CONFIRMING THAT THE SITE CONFORMS WITH THE PLANNING BOARD APPROVED SITE PLAN.
24. IDENTIFICATION SIGNAGE SHALL NOT BE ERECTED UNTIL APPROVED BY THE BUILDING INSPECTOR AND ZONING ADMINISTRATOR.
25. PERMITS REQUIRED:
 - NHDES ALTERATION OF TERRAIN PENDING
 - NHDES NOTICE OF INTENT REQUIRED PRIOR TO CONSTRUCTION
 - NHDES SUBSURFACE DISPOSAL PENDING
26. PLOWED SNOW FROM THE FACILITIES, DRIVEWAY, PARKING LOTS AND SIDEWALK SHALL BE STORED IN THE DESIGNATED AREAS SHOWN IN THIS PLAN SET. NO SNOW MAY BE PLOWED OR STORED ON THE ADJUTING PARCELS. WHEN THE SNOW STORAGE AREAS ARE AT CAPACITY, SUBSEQUENT SNOW SHALL BE HAULED OFF-SITE AND DISPOSED OF IN AN ENVIRONMENTALLY SOUND FASHION AND IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
27. ON-SITE DRAINAGE SYSTEM SHALL BE CONSTRUCTED AND MAINTAINED IN COMPLIANCE WITH NHDES REQUIREMENTS FOR SUCH SYSTEMS.
28. ALL STIPULATIONS OF APPROVAL SHALL BE INCORPORATED INTO THE DEVELOPMENT AGREEMENT, WHICH SHALL BE RECORDED AT THE HILLSBOROUGH COUNTY REGISTRY OF DEEDS, TOGETHER WITH THE SITE PLAN-OF-RECORD AND ALL AGREED UPON EASEMENT DEEDS, WHICH SHALL BE FAVORABLY REVIEWED BY TOWN COUNSEL PRIOR TO PLANNING BOARD ENDORSEMENT OF PLAN.
29. ALL IMPROVEMENTS SHOWN ON THE SITE PLAN-OF-RECORD, INCLUDING NOTES 1-42, SHALL BE COMPLETED IN THEIR ENTIRETY AND AT THE EXPENSE OF THE APPLICANT OR HIS ASSIGNS.
30. THE TOWN OF HUDSON SHALL RESERVE THE RIGHT TO REQUIRE ADDITIONAL EROSION CONTROL MEASURES DURING CONSTRUCTION.
31. IT SHALL BE UNLAWFUL TO MODIFY, CHANGE, OR ALTER ANY STRUCTURE OR USE SHOWN ON THIS SITE PLAN IN ANYWAY WHATSOEVER, OR CONVERT OR ALTER ANY STRUCTURE OR USE SHOWN ON THIS SITE PLAN, OR CHANGE THE ABOVE USE INDICATED ON THE PLAN WITHOUT RECEIVING APPROVAL FROM THE TOWN OF HUDSON PLANNING BOARD.
32. IT IS NOT PROPOSED FOR THE FACILITY TO HAVE DUMPSTERS OR OUTDOOR TRASH RECEPTACLES.
33. ON-SITE DRAINAGE SYSTEM SHALL BE CONSTRUCTED AND MAINTAINED IN COMPLIANCE WITH NHDES REQUIREMENTS FOR SUCH SYSTEMS.
34. THE APPLICANT'S ENGINEER AND/OR CONTRACTOR SHALL CONTACT THE TOWN OF HUDSON TO SCHEDULE A PRECONSTRUCTION MEETING, WHICH WILL BE HELD WITH STAFF PRIOR TO STARTING CONSTRUCTION.
35. AFTER ISSUANCE OF THE FOUNDATION PERMIT FOR THE PROPOSED BUILDING, AND PRIOR TO THE ISSUANCE OF THE FRAMING PERMIT THEREOF, THE APPLICANT SHALL SUBMIT TO THE HUDSON COMMUNITY DEVELOPMENT DEPARTMENT A FOUNDATION "AS-BUILT" PLAN ON A TRANSPARENCY AND TO THE SAME SCALE AS THE APPROVED SITE PLAN. THE FOUNDATION "AS-BUILT" PLAN SHALL INCLUDE ALL STRUCTURAL DIMENSIONS AND LOT LINE SETBACK MEASUREMENTS TO THE FOUNDATION AND BE STAMPED BY A LICENSED LAND SURVEYOR. ANY DISCREPANCY BETWEEN THE APPROVED SITE PLAN AND FOUNDATION "AS-BUILT" PLANS SHALL BE DOCUMENTED BY THE APPLICANT AND BE PART OF THE FOUNDATION "AS-BUILT" SUBMISSION.
36. ALL PROPOSED BUILDING HEIGHTS ARE UNDER 38'.
37. TOTAL AREA OF DISTURBANCE = 255,405 SF
38. THE PROPOSED PROJECT HAS BEEN DESIGNED TO MEET 2018 MS4 REQUIREMENTS.
39. WETLAND MAPPING FOR THIS SITE AND SURROUNDING SITES WAS DONE BY WETLAND SCIENTIST JOSHUA BRIEN, NO. 256, IN APRIL 2020, REFER TO REFERENCE PLAN NUMBER ONE FOR MORE INFORMATION.
40. ALL SIGNS ARE SUBJECT TO APPROVAL BY HUDSON PLANNING BOARD PRIOR TO INSTALLATION.
41. IF MORE THAN 5 ACRES OF OPEN AREA ARE DISTURBED AT ONE TIME THE FOLLOWING SHALL BE MET PER ENV-NH 1505.03 (C)(1)-(3):
 - SUBMIT DOCUMENTATION THAT THE REQUIRED AREAS OF EARTH CUTS AND FILLS ARE SUCH THAT AN AREA OF DISTURBANCE OF 5 ACRES OR LESS WOULD UNREASONABLE LIMIT THE CONSTRUCTION SCHEDULE.
 - SUBMIT A CONSTRUCTION SEQUENCE PLAN, DEVELOPED BY A QUALIFIED ENGINEER OR A CPESC SPECIALIST.
 - EMPLOY AN ENVIRONMENTAL MONITOR DURING CONSTRUCTION.
42. IF OWNER SELLS EITHER LOTS 17-2 OR 17-3, GATE TO BE ADDED TO BLOCK OFF CONNECTOR DRIVE.



ORIGIN

GRAPHIC SCALE



LOCUS PLAN

SCALE: 1" = 1,000'

REFERENCE PLANS:

1. "SUBDIVISION PLAN, NOURY INVESTMENTS, LLC, MAP 105 LOTS 16 & 17, ROBINSON ROAD & OLD DERRY ROAD, HUDSON, NEW HAMPSHIRE, DATED NOVEMBER 20, 2019, WITH REVISIONS THROUGH 05/13/20, PREPARED BY KEACH-NORDSTROM ASSOCIATES, INC. (14 SHEETS)
2. H.C.R.D. PLAN NUMBER: 40605

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THREE PROPOSED INDUSTRIAL BUILDINGS TOTALING 50,400 SF AND ASSOCIATED PARKING ON ROBINSON ROAD ON MAP 105 LOT 17-3 IN THE TOWN OF HUDSON, NEW HAMPSHIRE, AND NO OTHER PURPOSE.
2. MAP 105 LOT 17 INDICATES TOWN OF HUDSON TAX ASSESSOR'S MAP AND LOT NUMBER.
3. OWNER OF RECORD: STEEL PROPERTIES, LLC, 8 CHRISTINE DRIVE, HUDSON, N.H. 03051, H.C.R.D. BK. 9327 PG. 197
4. AREA OF SUBJECT PARCEL = 305,312 SF, OR 7,009 ACRES
5. BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON AN ACTUAL FIELD SURVEY PERFORMED BY THIS OFFICE DURING DECEMBER 2009 AND AUGUST 2015.
6. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NGVD29 FROM GPS SURVEY METHODS POST PROCESSED THROUGH NOAA-OPUS.
7. THE SUBJECT PARCEL IS LOCATED WITHIN THE GENERAL-ONE (G-1) ZONING DISTRICT. DIMENSIONAL REQUIREMENTS ARE AS FOLLOWS FOR LOTS SERVED WITHOUT MINIMUM SEWER AND WATER:

	REQUIRED	PROPOSED
MINIMUM LOT AREA	87,120 SF	305,312 SF
MINIMUM LOT FRONTAGE	200 FT	322.83 (ROBINSON),
MINIMUM BUILDING SETBACKS:		
FRONT	50 FT	142 FT
SIDE	15 FT	46 FT
REAR	15 FT	152 FT
8. PARCEL WILL BE SERVED BY INDIVIDUAL SEPTIC AND TOWN WATER.
9. THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE AT 811.
10. THE SUBJECT PREMISES IS NOT LOCATED WITHIN A DESIGNATED FLOOD ZONE AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) MAP NUMBER 33011C0508D, PANEL 508 OF 701, AND MAP NUMBER 33011C0509D, PANEL 509 OF 701, EFFECTIVE DATE SEPTEMBER 25, 2009. THE SUBJECT PARCEL IS LOCATED IN ZONES 'A' & 'X'.
11. EASEMENTS, RIGHTS AND RESTRICTIONS SHOWN OR IDENTIFIED HEREON ARE THOSE FOUND DURING RESEARCH AT THE HILLSBOROUGH COUNTY REGISTRY OF DEEDS. OTHER EASEMENTS, RIGHTS, AND RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF THE SUBJECT PREMISES MAY DETERMINE.
12. OPEN SPACE: REQUIRED = 40%, PROPOSED = 48%
13. PARKING CALCULATIONS:

	REQUIRED	PROPOSED
INDUSTRIAL = 1 SPACE/600 SF		
BUILDING 1: 1 SPACE/600 SF X 17,480 SF = 29.13 SPACES		
BUILDING 2: 1 SPACE/600 SF X 17,480 SF = 29.13 SPACES		
BUILDING 3: 1 SPACE/600 SF X 12,920 SF = 21.53 SPACES		
OFFICE = 1 SPACE/300 SF		
BUILDING 1: 1 SPACE/300 SF X 920 SF = 3.07 SPACES		
BUILDING 2: 1 SPACE/300 SF X 920 SF = 3.07 SPACES		
BUILDING 3: 1 SPACE/300 SF X 680 SF = 2.27 SPACES		
TOTAL		
BUILDING 1: 29.13 SPACES + 3.07 SPACES = 33 SPACES		
BUILDING 2: 29.13 SPACES + 3.07 SPACES = 33 SPACES		
BUILDING 3: 21.53 SPACES + 2.27 SPACES = 23.80 SPACES		
TOTAL COMBINED SPACES REQUIRED = 90 SPACES		
PROPOSED:		
BUILDING 1: 43 SPACES + 2 HANDICAP SPACES = 44 SPACES		
BUILDING 2: 32 SPACES + 2 HANDICAP SPACES = 31 SPACES		
BUILDING 3: 27 SPACES + 2 HANDICAP SPACES = 26 SPACES		
TOTAL PROPOSED = 44 SPACES + 31 SPACES + 26 SPACES = 101 TOTAL SPACES		
14. LOADING:

	REQUIRED	PROPOSED
1 SPACE/FIRST 5,000 SF + 1 SPACE/10,000 SF X 45,400 SF = 1 + 4.54 = 6 SPACES		
BUILDING 1: 1 + 1.34 = 3 LOADING SPACES		
BUILDING 2: 1 + 1.34 = 3 LOADING SPACES		
BUILDING 3: 1 + 0 = 1 LOADING SPACE		
PROPOSED:		
BUILDING 1: 3 SPACES		
BUILDING 2: 3 SPACES		
BUILDING 3: 1 SPACE		
TOTAL PROPOSED: 7 SPACES		

MASTER SITE PLAN
S.L. CHASSE STEEL
MAP 105 LOT 17-3
ROBINSON ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:

STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, NH 03051
H.C.R.D. BK. 9327 PG. 197



KEACH-NORDSTROM ASSOCIATES, INC.

Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

REVISIONS

No.	DATE	DESCRIPTION	BY
1	05/12/21	TOWN COMMENTS	SCV
2	08/17/21	TOWN AND AOT COMMENTS	SCV

DATE: APRIL 6, 2021

SCALE: 1" = 60'

PROJECT NO: 20-0921-1

SHEET 1 OF 15

- LEGEND**
- GB-F GRANITE BOUND FOUND
 - IPIN-F IRON PIN FOUND
 - DH-F DRILL HOLE FOUND
 - UTILITY POLE
 - ABUTTER LINE
 - PROPERTY LINE
 - WETLAND
 - GUARDRAIL
 - OVERHEAD UTILITIES
 - DRAINAGE LINE
 - TREELINE
 - EDGE OF PAVEMENT
 - STONEWALL
 - BUILDING SETBACK
 - ZONE LINE
 - 10' CONTOUR
 - 2' CONTOUR

SCS SOILS LEGEND

- CpB** CHATFIELD-HOLLIS-CANTON,
3 TO 8% SLOPES
- CpC** CHATFIELD-HOLLIS-CANTON,
8 TO 15% SLOPES
- HsB** HINCKLEY LOAMY SAND,
3 TO 8% SLOPES

SOURCE: USDA-SCS WEB SOIL SURVEY
HILLSBOROUGH COUNTY

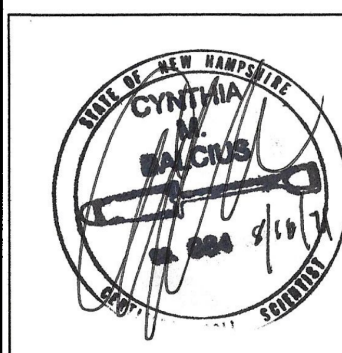
UTILITY NOTE

THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN DRAWN FROM FIELD SURVEY INFORMATION AND OR PLOTTED FROM EXISTING DRAWINGS. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHER, KEACH-NORDSTROM ASSOCIATES, INC. DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. KEACH-NORDSTROM ASSOCIATES, INC. HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.

SITE SPECIFIC SOIL MAP UNIT KEY

SYMBOL	MAP UNIT	SLOPE CLASS	DRAINAGE CLASS	HSG
42A	CANTON SANDY LOAM	0-3%	WELL	B
42B	CANTON SANDY LOAM	3-8%	WELL	B
42C	CANTON SANDY LOAM	8-15%	WELL	B
42D	CANTON SANDY LOAM	15-25%	WELL	B
62A	CHARLTON FINE SANDY LOAM	0-3%	WELL	B
62B	CHARLTON FINE SANDY LOAM	3-8%	WELL	B
62C	CHARLTON FINE SANDY LOAM	8-15%	WELL	B
62D	CHARLTON FINE SANDY LOAM	15-25%	WELL	B
178B	CHARLTON-CHATFIELD COMPLEX 60-40	3-8%	WELL	B
178C	CHARLTON-CHATFIELD COMPLEX 60-40	8-15%	WELL	B
178D	CHARLTON-CHATFIELD COMPLEX 60-40	15-25%	WELL	B
178E	CHARLTON-CHATFIELD COMPLEX 60-40	25-50%	WELL	B
444A	NEWFIELDS FINE SANDY LOAM	0-3%	MODERATELY WELL	B
444B	NEWFIELDS FINE SANDY LOAM	3-8%	MODERATELY WELL	B
444C	NEWFIELDS FINE SANDY LOAM	8-15%	MODERATELY WELL	B
444D	NEWFIELDS FINE SANDY LOAM	15-25%	MODERATELY WELL	B

THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOILS SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, PRODUCED BY A CERTIFIED SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCE CONSERVATION SERVICE. THERE IS A NARRATIVE REPORT THAT ACCOMPANIES THIS MAP AND MAP KEY.



THIS SITE-SPECIFIC SOIL MAP WAS COMPLETED BY CYNTHIA M. BALCIUS, NEW HAMPSHIRE CERTIFIED SOIL SCIENTIST #82 OF STONEY RIDGE ENVIRONMENTAL LLC. FIELD WORK WAS COMPLETED ON THE FOLLOWING DATE(S):

- Field Indicators of Hydric Soils in the United States, Version 8.1, 2017, L.M. Vasilos, G.W. Hurt, and J.F. Berkowitz (eds.), United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with the National Technical Committee for Hydric Soils.
- Field Indicators for Identifying Hydric Soils in New England, Version 4, June 2018, New England Hydric Soils Technical Committee.
- The Site-Specific Soil Mapping Standards for New Hampshire And Vermont, SSNNE Special Publication No.3, Version 5, December 2017.
- Soil Survey Manual, United States Department of Agriculture Handbook No.18, issued March 2017, US Government Printing Office, Soil Survey Staff, Washington D.C. 20402.
- New Hampshire State-Wide Numerical Soils Legend, USDA Natural Resources Conservation Service, Durham, New Hampshire, Issue #10, January 2011.
- Field Book for Describing and Sampling Soils, Version 3.0 National Soil Survey Center, Natural Resources Conservation Service, U. S. Department of Agriculture, Lincoln, Nebraska, September 2012.
- Keys to Soil Taxonomy, Twelfth Edition, 2014, United States Department of Agriculture, Natural Resources Conservation Service.

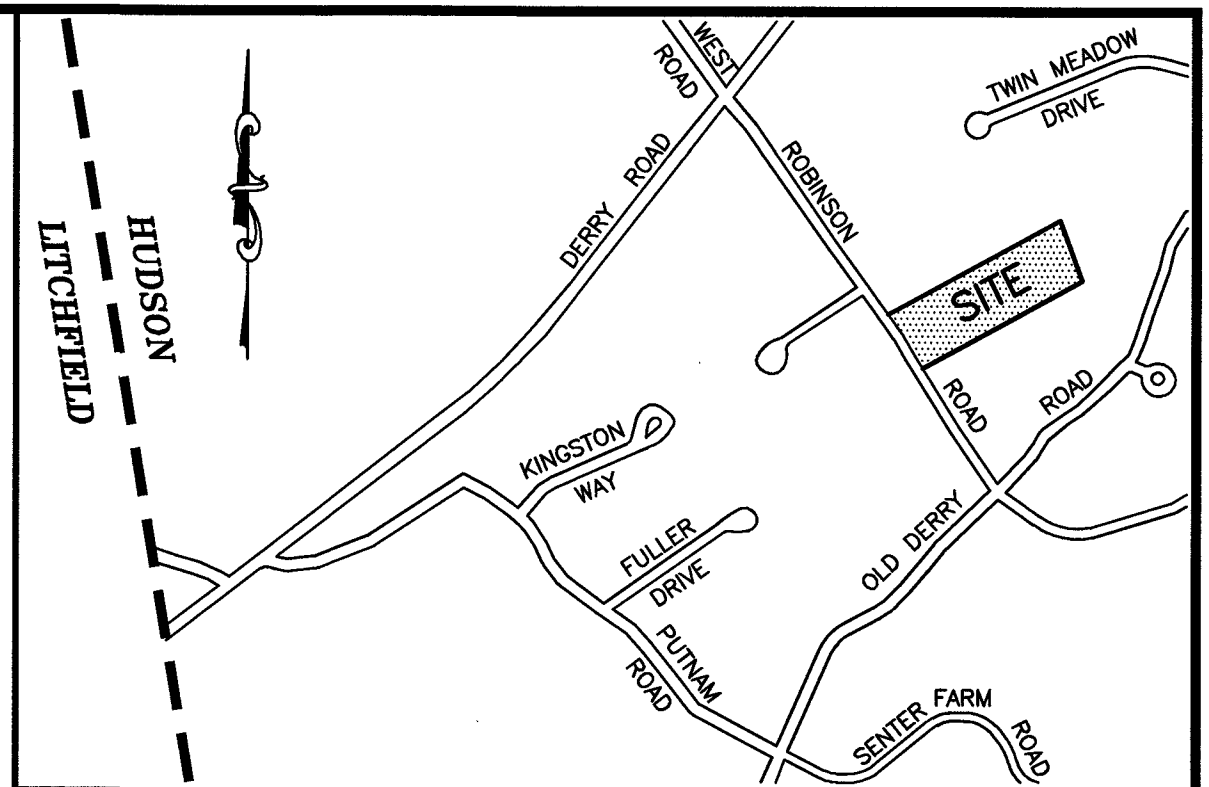
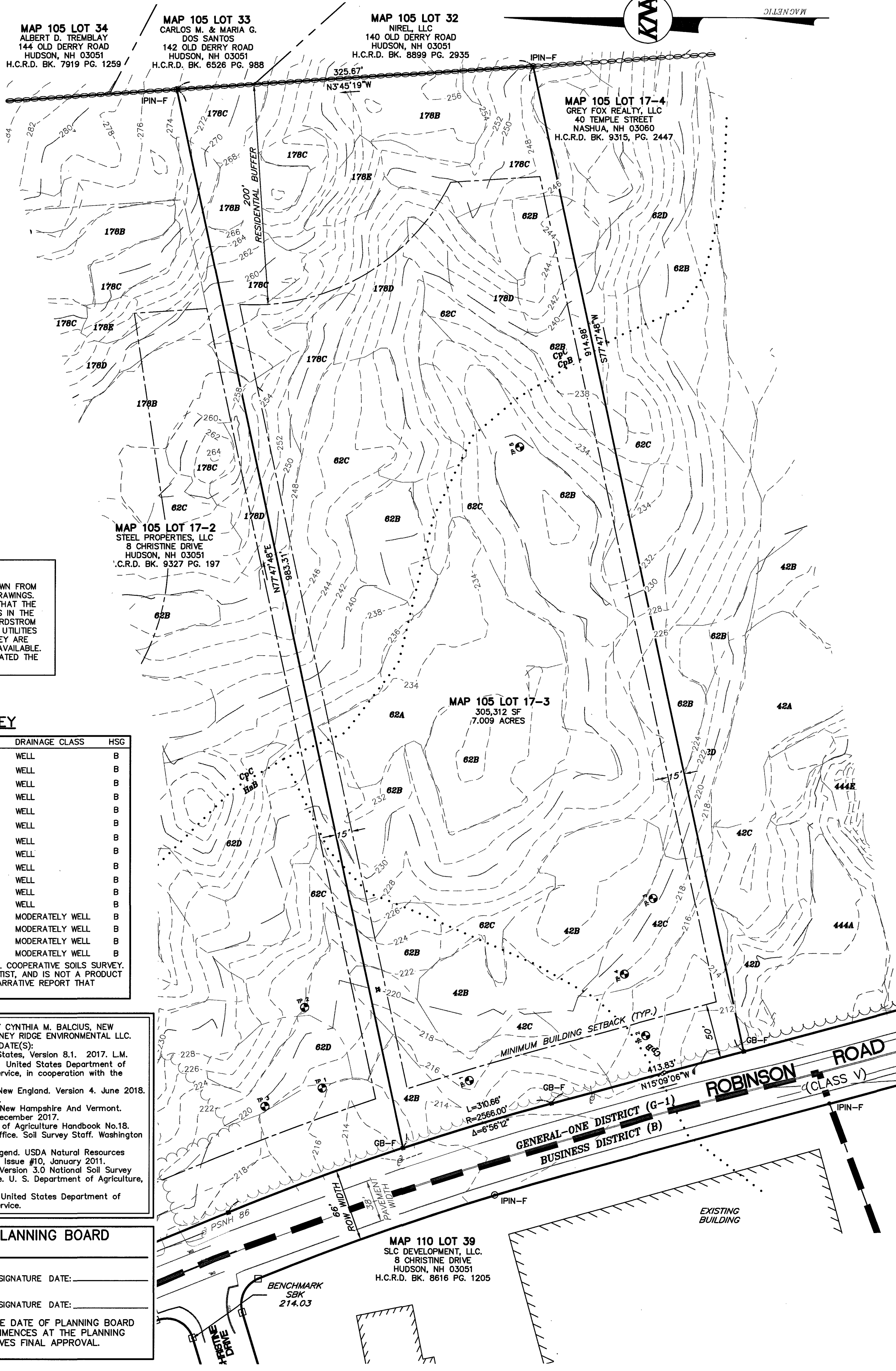
PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD
DATE OF MEETING: _____

SIGNATURE DATE: _____

SIGNATURE DATE: _____

SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.



LOCUS PLAN

SCALE: 1" = 1,000'

REFERENCE PLANS:

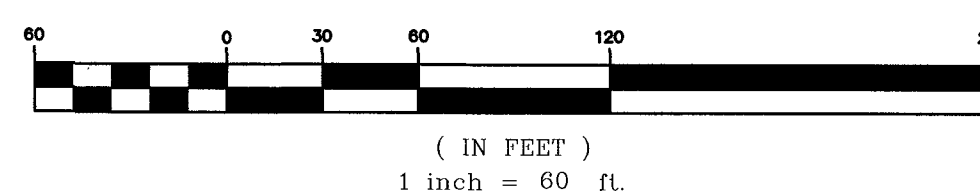
- "SUBDIVISION PLAN, NOURY INVESTMENT, LLC, MAP 105 LOTS 16 & 17, ROBINSON ROAD & OLD DERRY ROAD, HUDSON, NEW HAMPSHIRE, DATED NOVEMBER 20, 2019, WITH REVISIONS THROUGH 05/13/20, PREPARED BY KEACH-NORDSTROM ASSOCIATES, INC. (14 SHEETS) H.C.R.D. PLAN NUMBER: 40605

NOTES:

- THE PURPOSE OF THIS PLAN IS TO SHOW EXISTING CONDITIONS PRESENT ON MAP 105 LOT 17-3, ON ROBINSON ROAD IN THE TOWN OF HUDSON, NEW HAMPSHIRE AND NO OTHER PURPOSE.
- TOTAL SITE AREA = 305,312 SF, OR 7.009 ACRES
- MAP 105 LOT 17-3 INDICATES TOWN OF HUDSON TAX ASSESSOR'S MAP AND LOT NUMBER.
- OWNER OF RECORD: SDJ DEVELOPMENT, LLC
8 CHRISTINE DRIVE
HUDSON, N.H. 03051
H.C.R.D. BK. 9327 PG. 197
- BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON AN ACTUAL FIELD SURVEY PERFORMED BY THIS OFFICE DURING DECEMBER 2009 AND AUGUST 2015.
- HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NGVD29 FROM GPS SURVEY METHODS POST PROCESSED THROUGH NOAA-OPUS.
- THE SUBJECT PARCEL IS LOCATED WITHIN THE GENERAL-ONE (G-1) ZONING DISTRICT. DIMENSIONAL REQUIREMENTS ARE AS FOLLOWS FOR LOTS SERVICED WITHOUT MUNICIPAL SEWER AND WATER:
MINIMUM LOT AREA: 87,120 SF
MINIMUM LOT FRONTAGE: 200 FT
MINIMUM BUILDING SETBACKS:
FRONT 50 FT
SIDE 15 FT
REAR 15 FT
OPEN SPACE: 40%
8. PARCEL WILL BE SERVICED BY INDIVIDUAL SEPTIC AND WELL.
- THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE, THE CONTRACTOR SHALL CONTACT DIG SAFE AT 811.
- THE SUBJECT PREMISES IS NOT LOCATED WITHIN A DESIGNATED FLOOD ZONE AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) MAP NUMBER 3301100508D, PANEL 508 OF 701. THE SUBJECT PARCEL IS LOCATED IN ZONE "X".
- EASEMENTS, RIGHTS AND RESTRICTIONS SHOWN OR IDENTIFIED HEREON ARE THOSE FOUND DURING RESEARCH AT THE HILLSBOROUGH COUNTY REGISTRY OF DEEDS. OTHER EASEMENTS, RIGHTS, AND RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF THE SUBJECT PREMISES MAY DETERMINE.
- THE CONTRACTOR SHALL ONLY USE BENCHMARKS AS PROVIDED BY THE SURVEYOR.



GRAPHIC SCALE



EXISTING CONDITIONS PLAN
S.L. CHASSE STEEL
MAP 105 LOT 17-3
ROBINSON ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

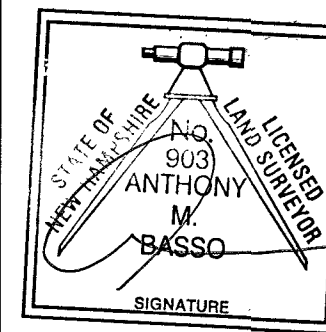
OWNER OF RECORD/APPLICANT:
STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, NH 03051
H.C.R.D. BK. 9327 PG. 197

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION. FURTHER, THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY MADE ON THE GROUND BY THIS OFFICE DURING DECEMBER 2009 AND AUGUST OF 2015. SAID SURVEY HAS AN ERROR OF CLOSURE BETTER THAN ONE PART IN TEN THOUSAND (1:10,000).

ANTHONY M. BASSO
LICENSED LAND SURVEYOR
DATE: 8/16/24



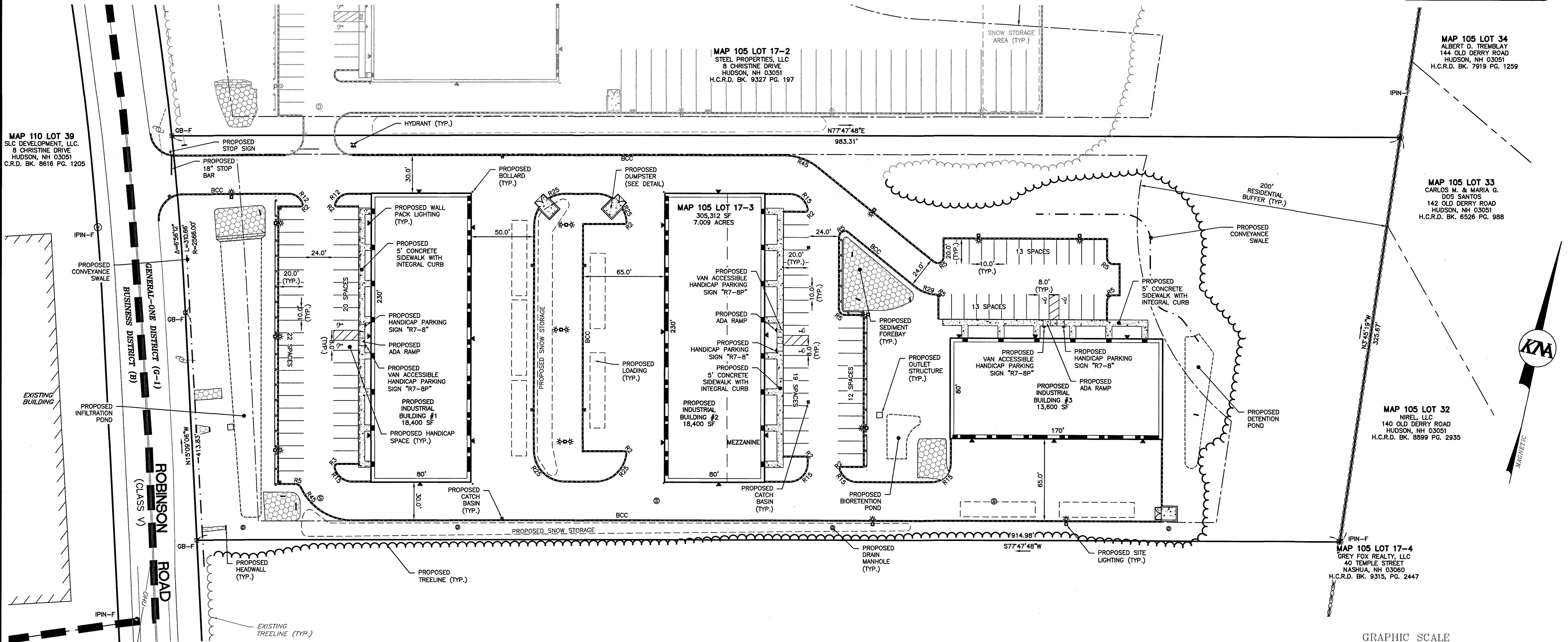
REVISIONS

No.	DATE	DESCRIPTION	BY
1	05/12/21	TOWN COMMENTS	SCV
2	08/17/21	TOWN AND AOT COMMENTS	SCV

DATE: APRIL 6, 2021
PROJECT NO: 20-0921-1
SCALE: 1" = 60'
SHEET 2 OF 15

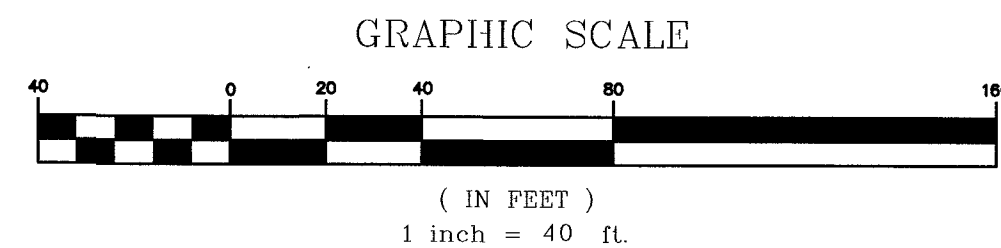
LOAM & SEED ALL DISTURBED AREAS (TYP.)

SEE SHEET 1 FOR NOTES
AND REFERENCE PLANS



LEGEND

- GB-F GRANITE BOUND FOUND
- IPIN-F IRON PIN FOUND
- DH-F DRILL HOLE FOUND
- UTILITY POLE
- PROPOSED SIGN
- PROPOSED LIGHT
- PROPOSED HYDRANT
- PROPOSED WELL
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED OUTLET STRUCTURE
- ABUTTER LINE
- PROPERTY LINE
- OVERHEAD UTILITIES
- TREELINE
- EDGE OF PAVEMENT
- STONEWALL
- BUILDING SETBACK
- ZONE LINE
- PROPOSED TREELINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED BITUMINOUS CURB
- PROPOSED SWALE
- EASEMENT
- SITE LIGHTING
- BUILDING WALL PACK LIGHTING



NON-RESIDENTIAL SITE LAYOUT PLAN
S.L. CHASSE STEEL
MAP 105 LOT 17-3
ROBINSON ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:
STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, NH 03051
H.C.R.D. BK. 9327 PG. 197

KMA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture

10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

NPDES NOTE

THIS PROJECT DISTURBS IN EXCESS OF 1-ACRE OF LAND. THEREFORE IT WILL BE REQUIRED TO OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE AS ISSUED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THE OWNER/DEVELOPER AND "OPERATOR" (GENERAL CONTRACTOR) SHALL EACH BE REQUIRED TO PREPARE AND SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA PRIOR TO THE START OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MEETING THE REQUIREMENTS OF THE CURRENT CONSTRUCTION GENERAL PERMIT.

REVISIONS

No.	DATE	DESCRIPTION	BY
1	05/12/21	TOWN COMMENTS	SCV
2	08/17/21	TOWN AND AOT COMMENTS	SCV

DATE: APRIL 6, 2021
PROJECT NO: 20-0921-1
SCALE: 1" = 40'
SHEET 3 OF 15



PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL.

APPROVED BY THE HUDSON, NH PLANNING BOARD
DATE OF MEETING: _____
SIGNATURE DATE: _____
SIGNATURE DATE: _____

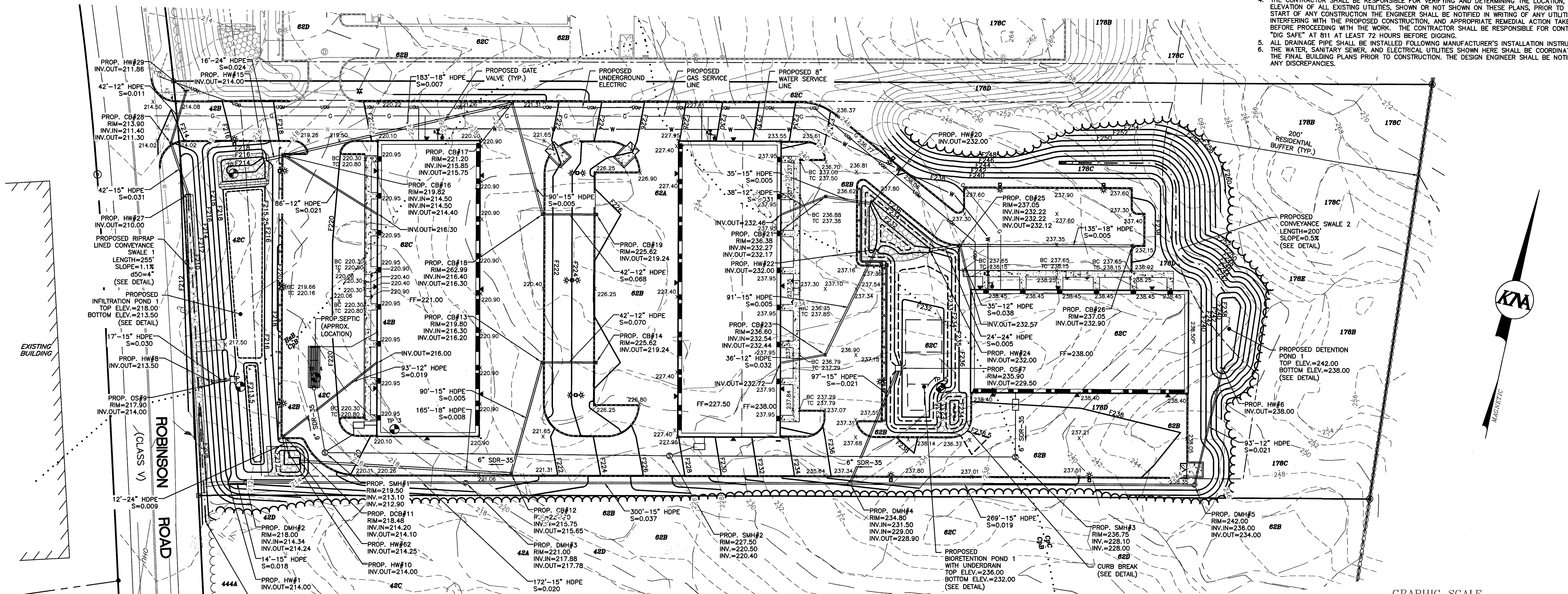
SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.

NPDES NOTE

THIS PROJECT DISTURBS IN EXCESS OF 1-ACRE OF LAND. THEREFORE IT WILL BE REQUIRED TO OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE AS ISSUED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THE OWNER/DEVELOPER AND "OPERATOR" (GENERAL CONTRACTOR) SHALL EACH BE REQUIRED TO PREPARE AND SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA PRIOR TO THE START OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MEETING THE REQUIREMENTS OF THE CURRENT CONSTRUCTION GENERAL PERMIT.

CONSTRUCTION NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED GRADING, DRAINAGE, AND UTILITY SYSTEMS FOR THIS SITE.
2. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF HUDSON, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. ALL WORK PERFORMED IN THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, APPROVED AND ADOPTED 2016 ARE HEREBY INCORPORATED BY REFERENCE.
3. CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET THE REQUIREMENTS AND SPECIFICATIONS FOR ROAD CONSTRUCTION, PUBLIC WORKS DEPARTMENT, HUDSON, NEW HAMPSHIRE. ALL DRAINAGE PIPES SHOWN SHALL BE HDPE. CATCH BASINS SHALL BE TYPE B, AND HAVE 3' SUMPS UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.
5. ALL DRAINAGE PIPE SHALL BE INSTALLED FOLLOWING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. THE WATER, SANITARY SEWER, AND ELECTRICAL UTILITIES SHOWN HERE SHALL BE COORDINATED WITH THE FINAL BUILDING PLANS PRIOR TO CONSTRUCTION. THE DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES.



LEGEND

GB-F	GRANITE BOUND FOUND	— — — — —	PROPOSED CHAIN LINK FENCE
IPIN-F	IRON PIN FOUND	— — — — —	PROPOSED STOCKADE FENCE
DH-F	DRILL HOLE FOUND	— — — — —	PROPOSED POST & RAIL FENCE
U-P	UTILITY POLE	— — — — —	PROPOSED BARBED WIRE FENCE
+	PROPOSED SIGN	— — — — —	PROPOSED GUARDRAIL
*	PROPOSED LIGHT	— — — — —	PROPOSED OVERHEAD UTILITIES
+	PROPOSED HYDRANT	— — — — —	PROPOSED UNDERGROUND UTILITIES
+	PROPOSED WELL	— — — — —	PROPOSED GAS LINE
+	PROPOSED SEWER MANHOLE	— — — — —	PROPOSED WATER LINE
+	PROPOSED DRAINAGE MANHOLE	— — — — —	PROPOSED SEWER LINE
+	PROPOSED CATCH BASIN	— — — — —	PROPOSED DRAINAGE LINE
+	PROPOSED OUTLET STRUCTURE	— — — — —	PROPOSED TREELINE
+	ABUTTER LINE	— — — — —	PROPOSED EDGE OF PAVEMENT
+	PROPERTY LINE	— — — — —	PROPOSED VERTICAL GRANITE CURB
+	WETLAND	— — — — —	PROPOSED SLOPED GRANITE CURB
+	GUARDRAIL	— — — — —	PROPOSED BITUMINOUS CURB
+	OVERHEAD UTILITIES	— — — — —	PROPOSED 2' CONTOUR
+	DRAINAGE LINE	— — — — —	PROPOSED SWALE
+	TREELINE	— — — — —	PROPOSED RETAINING WALL
+	EDGE OF PAVEMENT	— — — — —	PROPOSED STONEWALL
+	STONEWALL	— — — — —	EASEMENT
+	BUILDING SETBACK	— — — — —	SITE LIGHTING
+	10' CONTOUR	— — — — —	BUILDING WALL PACK LIGHTING
+	2' CONTOUR	— — — — —	TEST PIT

LOAM & SEED ALL DISTURBED AREAS (TYP.)

SITE SPECIFIC SOIL MAP UNIT KEY

SYMBOL	MAP UNIT	SLOPE CLASS	DRAINAGE CLASS	HSG
42A	CANTON SANDY LOAM	0-3%	WELL DRAINED	B
42B	CANTON SANDY LOAM	3-8%	WELL DRAINED	B
42C	CANTON SANDY LOAM	8-15%	WELL DRAINED	B
42D	CANTON SANDY LOAM	15-25%	WELL DRAINED	B
62A	CHARLTON FINE SANDY LOAM	0-3%	WELL DRAINED	B
62B	CHARLTON FINE SANDY LOAM	3-8%	WELL DRAINED	B
62C	CHARLTON FINE SANDY LOAM	8-15%	WELL DRAINED	B
62D	CHARLTON FINE SANDY LOAM	15-25%	WELL DRAINED	B
178B	CHARLTON-CHATFIELD COMPLEX (60-40)	3-8%	WELL DRAINED	B
178C	CHARLTON-CHATFIELD COMPLEX (60-40)	8-15%	WELL DRAINED	B
178D	CHARLTON-CHATFIELD COMPLEX (60-40)	15-25%	WELL DRAINED	B
178E	CHARLTON-CHATFIELD COMPLEX (60-40)	25-50%	WELL DRAINED	B
444A	NEWFIELDS FINE SANDY LOAM	0-3%	MODERATELY WELL DRAINED	B
444B	NEWFIELDS FINE SANDY LOAM	3-8%	MODERATELY WELL DRAINED	B
444C	NEWFIELDS FINE SANDY LOAM	8-15%	MODERATELY WELL DRAINED	B
444D	NEWFIELDS FINE SANDY LOAM	15-25%	MODERATELY WELL DRAINED	B

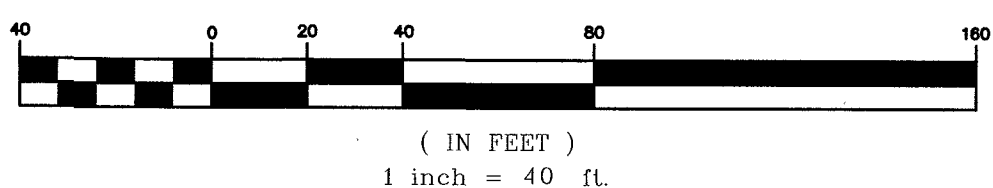
THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOILS SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, PRODUCED BY A CERTIFIED SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCE CONSERVATION SERVICE. THERE IS A NARRATIVE REPORT THAT ACCOMPANIES THIS MAP AND MAP KEY.

SCS SOIL MAP UNIT KEY

SYMBOL	MAP UNIT	SLOPE CLASS
CpB	CHATFIELD-HOLLIS-CANTON	3-8%
CpC	CHATFIELD-HOLLIS-CANTON	8-15%
HsB	HINCKLEY LOAMY SAND	3-8%
PIA	PIPESTONE LOAMY SAND	0-3%

SOURCE: WEB SOIL SURVEY,
WWW.WEBSOILSURVEY.SCGOV.USDA.GOV

GRAPHIC SCALE



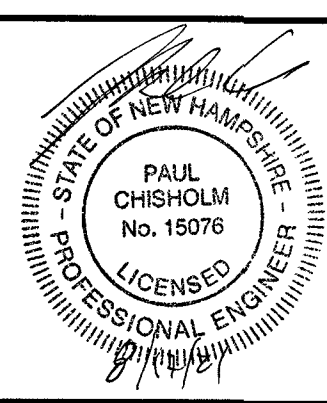
GRADING, DRAINAGE & UTILITY PLAN S.L. CHASSE STEEL MAP 105 LOT 17-3 ROBINSON ROAD HUDSON, NEW HAMPSHIRE HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:

STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, NH 03051
H.C.R.D. BK. 9327 PG. 197

KMA KEACH-NORDSTROM ASSOCIATES, INC.

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REVISIONS

No.	DATE	DESCRIPTION	BY
1	05/12/21	TOWN COMMENTS	SCV
2	08/17/21	TOWN AND AOT COMMENTS	SCV

DATE: APRIL 6, 2021

SCALE: 1" = 40'

PROJECT NO: 20-0921-1

SHEET 4 OF 15

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

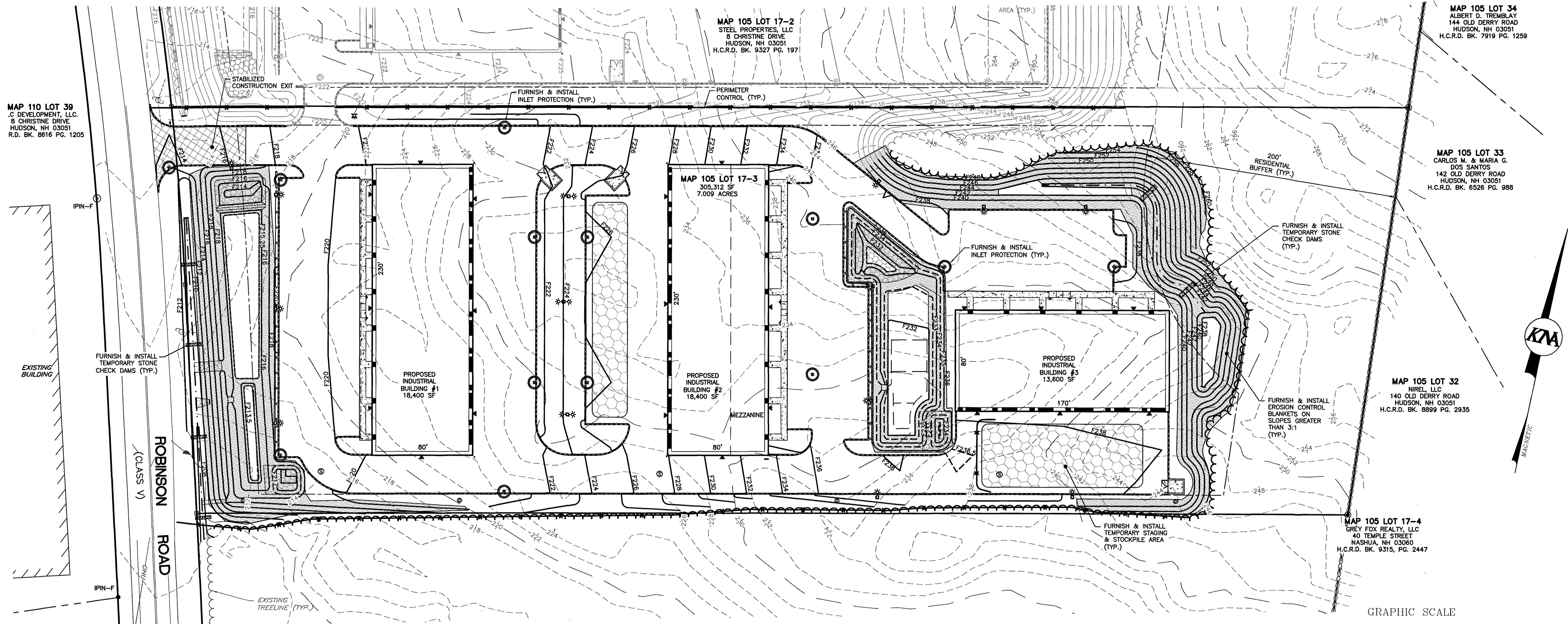
APPROVED BY THE HUDSON, NH PLANNING BOARD
DATE OF MEETING: _____

SIGNATURE DATE: _____

SIGNATURE DATE: _____

SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.

LOAM & SEED ALL DISTURBED AREAS (TYP.)



EROSION CONTROL NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE REQUIRED ONSITE TEMPORARY CONSTRUCTION EROSION CONTROL MEASURES AS WELL AS THE PERMANENT EROSION CONTROL MEASURES.
2. ALL MEASURES IN THE PLAN SHALL MEET AS A MINIMUM THE BEST MANAGEMENT PRACTICES SET FORTH IN VOLUME 3 OF THE NEW HAMPSHIRE STORMWATER MANUAL TITLED "EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION," DATED DECEMBER 2010, AS AMENDED FROM TIME TO TIME.
3. WHENEVER PRACTICAL, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED OR SUPPLEMENTED. THE STRIPPING OF VEGETATION SHALL BE DONE IN A MANNER THAT MINIMIZES SOIL EROSION.
4. APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO LAND DISTURBANCE.
5. THE AREA OF DISTURBANCE SHALL BE KEPT TO A MINIMUM. DISTURBED AREAS REMAINING IDLE FOR MORE THAN 30 DAYS SHALL BE STABILIZED.
6. MEASURES SHALL BE TAKEN TO CONTROL EROSION WITHIN THE PROJECT AREA. SEDIMENT IN RUNOFF WATER SHALL BE TRAPPED AND RETAINED WITHIN THE PROJECT AREA USING APPROVED MEASURES. WETLAND AREAS AND SURFACE WATERS SHALL BE PROTECTED FROM SEDIMENT.
7. OFFSITE SURFACE WATER AND RUNOFF FROM UNDISTURBED AREAS SHALL BE DIVERTED AWAY FROM DISTURBED AREAS WHERE FEASIBLE OR CARRIED NON-EROSIVELY THROUGH THE PROJECT AREA. INTEGRITY OF DOWNSTREAM DRAINAGE SYSTEMS SHALL BE MAINTAINED.
8. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN FUNCTIONING CONDITION UNTIL FINAL SITE STABILIZATION IS ACCOMPLISHED.
9. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. TRAPPED SEDIMENT AND OTHER DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN 30 DAYS UNLESS CONDITIONS DICTATE OTHERWISE.
10. THE TOWN OF HUDSON SHALL RESERVE THE RIGHT TO REQUIRE FURTHER EROSION CONTROL PRACTICES DURING CONSTRUCTION SHOULD THEY FIND IT NECESSARY.
11. INFILTRATION AREAS ARE TO BE PROTECTED FROM OVER-COMPACTION DURING CONSTRUCTION.
12. SLOPES OVER 2:1 TO BE DESIGNED BY A GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.

EROSION & SEDIMENT CONTROL LEGEND

- PERMANENT OUTLET PROTECTION APRON (RIP RAP)
- INLET PROTECTION
- PERIMETER CONTROL
- ORANGE CONSTRUCTION FENCING
- TEMPORARY STONE CHECK DAM
- STABILIZED CONSTRUCTION EXIT
- STAGING AND STOCKPILE AREA
- EROSION CONTROL BLANKETS
- NON DISTURBANCE AREA



NPDES NOTE

THIS PROJECT DISTURBS IN EXCESS OF 1-ACRE OF LAND, THEREFORE IT WILL BE REQUIRED TO OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE AS ISSUED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THE OWNER/DEVELOPER AND "OPERATOR" (GENERAL CONTRACTOR) SHALL EACH BE REQUIRED TO PREPARE AND SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA PRIOR TO THE START OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MEETING THE REQUIREMENTS OF THE CURRENT CONSTRUCTION GENERAL PERMIT.

**EROSION CONTROL PLAN
S.L. CHASSE STEEL
MAP 105 LOT 17-3
ROBINSON ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY**

OWNER OF RECORD/APPLICANT:
STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, NH 03051
H.C.R.D. BK. 9327 PG. 197

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881



REVISIONS			
No.	DATE	DESCRIPTION	BY
1	05/12/21	TOWN COMMENTS	SCV
2	08/17/21	TOWN AND AOT COMMENTS	SCV

DATE: APRIL 6, 2021 SCALE: 1" = 40'
PROJECT NO: 20-0921-1 SHEET 5 OF 15

SEE SHEET 1 FOR NOTES
AND REFERENCE PLANS

PLANTING SCHEDULE				
Botanical Name/ Common Name	Size	Label	Quantity	Mature Height
Trees				
<i>Acer rubrum</i> 'Redpointe' / Redpointe Red Maple	3-3.5" CAL	AR	7	40-60'
<i>Betula nigra</i> 'Heritage' / Heritage River Birch	3-3.5" CAL	BN	15	40-60'
Shrubs				
<i>Cornus sericea</i> 'Arctic Fire' / Arctic Fire Red-Osier Dogwood	#3	CS	102	5-6'
<i>Ilex glabra</i> 'Compacta' / Compact Inkberry	#3	IG	72	5-6'
Grasses				
<i>Calamagrostis a.</i> 'Karl Foerster' / Karl Foerster Feather Reed Grass	#2	KF	20	5'

MAP 110 LOT 39
SLC DEVELOPMENT, LLC
8 CHRISTINE DRIVE
HUDSON, NH 03051
H.C.R.D. BK. 8616 PG. 1205

MAP 105 LOT 17-2
STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, NH 03051
H.C.R.D. BK. 9327 PG. 197

MAP 105 LOT 34
ALBERT D. TREMBLAY
144 OLD DERRY ROAD
HUDSON, NH 03051
H.C.R.D. BK. 7919 PG. 1259

MAP 105 LOT 33
CARLOS M. & MARIA G.
DOS SANTOS
142 OLD DERRY ROAD
HUDSON, NH 03051
H.C.R.D. BK. 6526 PG. 988

MAP 105 LOT 32
NIREL, LLC
140 OLD DERRY ROAD
HUDSON, NH 03051
H.C.R.D. BK. 8899 PG. 2935

MAP 105 LOT 17-4
GREY FOX REALTY, LLC
40 TEMPLE STREET
NASHUA, NH 03060
H.C.R.D. BK. 9315, PG. 2447

LEGEND

- GB-F GRANITE BOUND FOUND
- IPIN-F IRON PIN FOUND
- DH-F DRILL HOLE FOUND
- UTILITY POLE
- PROPOSED SIGN
- PROPOSED LIGHT
- PROPOSED HYDRANT
- PROPOSED WELL
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED OUTLET STRUCTURE
- ABUTTER LINE
- PROPERTY LINE
- OVERHEAD UTILITIES
- TREELINE
- EDGE OF PAVEMENT
- STONEWALL
- BUILDING SETBACK
- ZONE LINE
- PROPOSED TREELINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED BITUMINOUS CURB
- PROPOSED SWALE
- EASEMENT



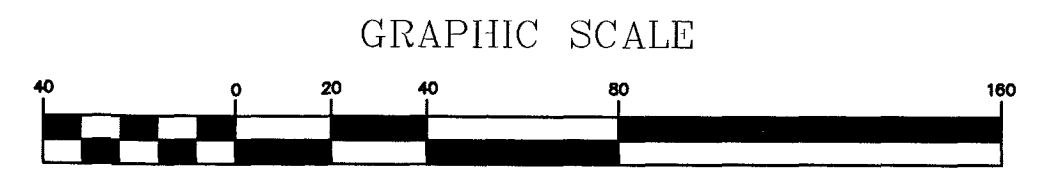
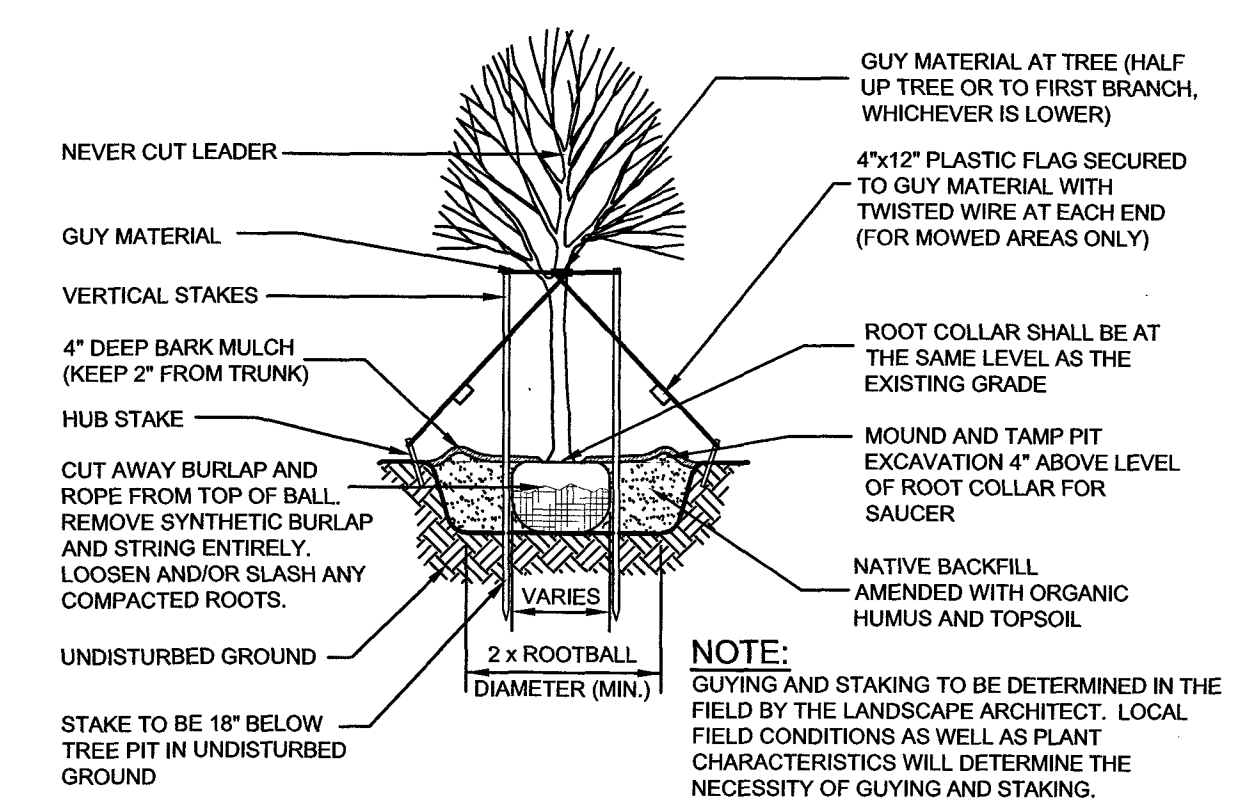
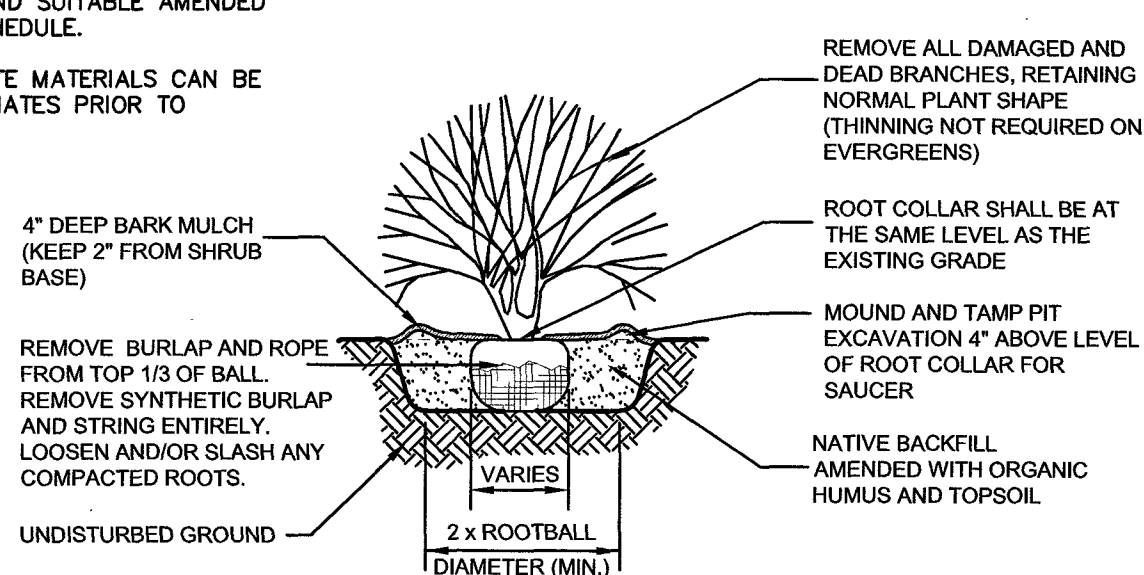
LANDSCAPE NOTES:

- THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED SITE LANDSCAPE WHICH PROVIDES CLIMATIC RELIEF AND AESTHETIC APPEAL.
- ALL PLANT MATERIALS USED SHALL BE NURSERY STOCK AND SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF INSTALLATION. ANY MATERIAL WHICH DIES OR DOES NOT SHOWN HEALTHY APPEARANCE WITHIN THIS TIME SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE, WITH SAME WARRANTY REQUIREMENTS AS THE ORIGINAL. WARRANTIES TYPICALLY DO NOT COVER LOSS DUE TO INSECT INFESTATION OR MECHANICAL DAMAGE (I.E. SNOW STORAGE).
- IF THE SOIL CONDITIONS ARE EXTREMELY SANDY, ALL TREES SHALL HAVE A 6" LAYER OF COMPACTED TOPSOIL PLACED IN THE BASE OF THE PLANT PIT AS A MOISTURE RETENTION LAYER. THE PLANT PIT SIDEWALLS SHALL BE OVER EXCAVATED BY AN ADDITIONAL 12" BEYOND THE NORMAL OUTSIDE RADIUS OF THE HOLE. A TOPSOIL MIXTURE SHALL BE USED TO BACKFILL THE HOLE AS FOLLOWS: ORGANIC TOPSOIL, AMENDED WITH 10% WOOD ASH, 10% MANURE, 30% PEATMOSS AND A GRANULAR HYDROGEL TO ABSORB AND RETAIN WATER.
- PLANTING BEDS AND SAUCERS SHALL RECEIVE A 4" MINIMUM THICKNESS OF PINE/HEMLOCK BARK MULCH OVER A 5oz. POLYPROPYLENE WEED CONTROL FABRIC.
- PAVEMENT AND ROAD BASE MATERIAL ENCOUNTERED IN ANY LAWN OR PLANTING BED SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SUITABLE AMENDED SOIL INSTALLED AS SPECIFIED IN THE TURF ESTABLISHMENT SCHEDULE.
- PLANT TYPES SHOWN ARE SUBJECT TO AVAILABILITY. SUBSTITUTE MATERIALS CAN BE IMPLEMENTED WITH APPROVAL FROM KEACH NORDSTROM ASSOCIATES PRIOR TO CONSTRUCTION.

LANDSCAPE CALCULATIONS

REQUIRED PARKING LOT INTERIOR LANDSCAPE AREA
PROPOSED PARKING AREA PAVED: 11,452 SF
10% REQUIRED LANDSCAPE AREA: 1,145 SF
PROVIDED LANDSCAPE AREA: 9,426 SF

REQUIRED PARKING LOT SHADE TREES AND SHRUBS
PROPOSED PARKING AREA: 11,452 SF
SHADE TREES REQUIRED (11,452/1,600): 8 TREES REQUIRED
(OR 1 TREE/5 PROP. PARKING SPACES) 22 TREES REQUIRED
SHADE TREES PROVIDED: 22 TREES PROPOSED
SHRUBS REQUIRED (11,452/200): 58 SHRUBS, OR
(OR 1.6 x 108 PROP. PARKING SPACES) 173 SHRUBS PROPOSED
SHRUBS PROVIDED: 174 SHRUBS PROPOSED



LANDSCAPE PLAN
S.L. CHASSE STEEL
MAP 105 LOT 17-3
ROBINSON ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:
STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, NH 03051
H.C.R.D. BK. 9327 PG. 197

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

REVISIONS

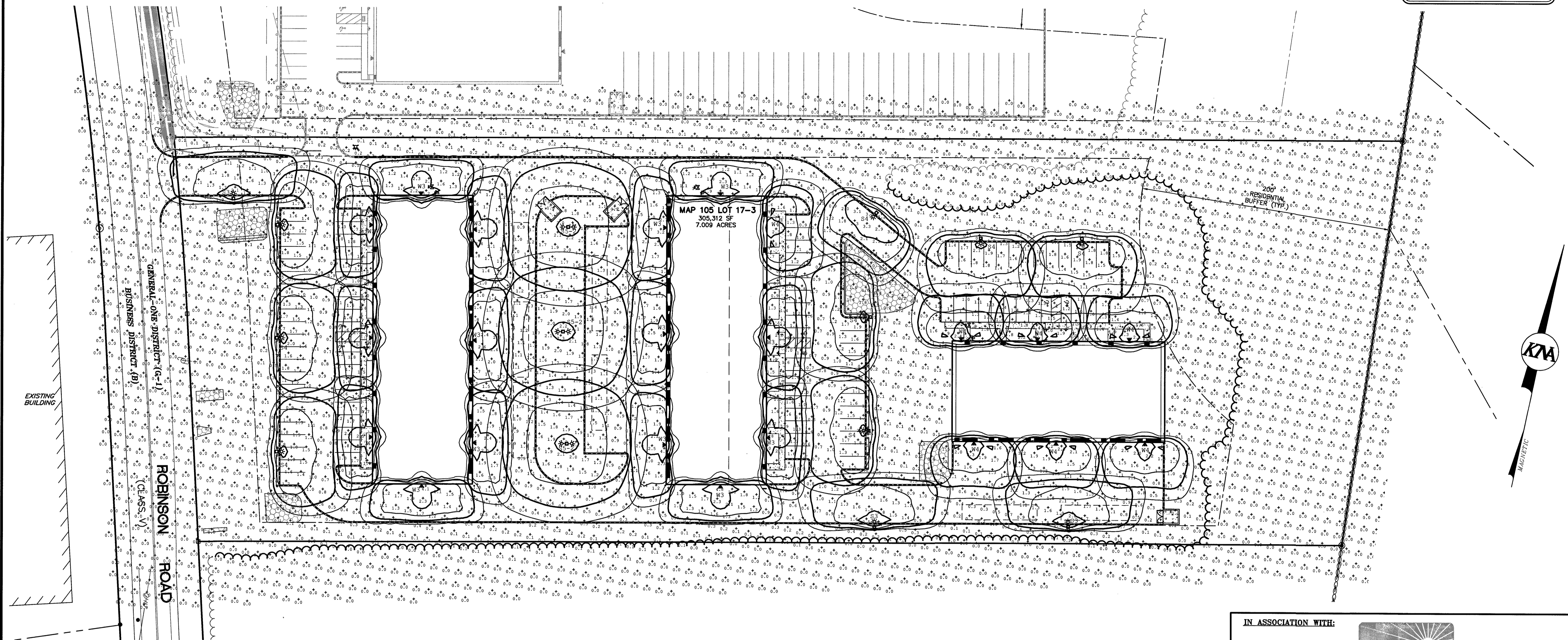
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DATE: APRIL 6, 2021 SCALE: 1" = 40'
PROJECT NO: 20-0921-1 SHEET 6 OF 15

PURSUANT TO THE
SITE REVIEW
REGULATIONS OF
THE HUDSON
PLANNING BOARD,
THE SITE PLAN
APPROVAL
GRANTED HEREIN
EXPIRES TWO
YEARS FROM DATE
OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD
DATE OF MEETING: _____
SIGNATURE DATE: _____
SIGNATURE DATE: _____
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SEE SHEET 1 FOR NOTES
AND REFERENCE PLANS



LIGHTING NOTES:

- ALL LIGHTS/FIXTURES SHALL BE AS SPECIFIED BY CHARRON LIGHTING.
- ALL PROPOSED LIGHTS/FIXTURES ARE TO BE FULL CUTOFF.
- FIXTURES SHALL BE MOUNTED AS HEIGHTS AS SPECIFIED IN TABLE.
- PRIOR TO CONSTRUCTION, THE SITE CONTRACTOR SHALL COORDINATE WITH THE PROJECT ELECTRICIAN FOR THE EXACT LOCATION, LAYOUT, CONDUIT SIZE AND CIRCUITS ASSOCIATED WITH THE SITE LIGHTING.
- LIGHTING WILL BE ON AT ALL TIMES TO PROVIDE SECURITY AND SAFETY FOR THE FACILITY.

LUMINAIRE SCHEDULE				
SYMBOL	QTY	LABEL	ARRANGEMENT	DESCRIPTION
	3	S3	SINGLE	GLEON-AF-01-LED-E1-SL3-HSS/ SSS4A20SFN1 (20' AFG)
	8	S4	SINGLE	GLEON-AF-01-LED-E1-SL4/ SSS4A20SFN1 (20' AFG)
	3	S5-2	BACK-BACK	GLEON-AF-01-LED-E1-SWQ/ SSS4A20SFN2 (20' AFG)
	15	W3	SINGLE	GWC-AF-01-LED-E1-SL3-600/ WALL MTD 15' AFG
	7	W4	SINGLE	GWC-AF-01-LED-E1-SL4-600/ WALL MTD 15' AFG

STATAREA_1
1ST PARKING LOT
ILLUMINANCE (FC)
AVERAGE = 1.29
MAXIMUM = 2.7
MINIMUM = 0.5
AVG/MIN RATIO = 2.58
MAX/MIN RATIO = 5.40

STATAREA_2
2ND PARKING LOT (BETWEEN THE 2 BUILDINGS)
ILLUMINANCE (FC)
AVERAGE = 1.48
MAXIMUM = 4.7
MINIMUM = 0.6
AVG/MIN RATIO = 2.47
MAX/MIN RATIO = 7.83

STATAREA_3
3RD PARKING LOT
ILLUMINANCE (FC)
AVERAGE = 1.11
MAXIMUM = 2.1
MINIMUM = 0.6
AVG/MIN RATIO = 1.85
MAX/MIN RATIO = 3.50

STATAREA_4
4TH PARKING LOT
ILLUMINANCE (FC)
AVERAGE = 1.36
MAXIMUM = 2.2
MINIMUM = 1.0
AVG/MIN RATIO = 1.36
MAX/MIN RATIO = 2.20

LEGEND

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- IPIN-F IRON PIN FOUND
- DH-F DRILL HOLE FOUND
- UTILITY POLE
- PROPOSED SIGN
- PROPOSED LIGHT
- PROPOSED HYDRANT
- PROPOSED WELL
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- PROPOSED DRAINAGE MANHOLE
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- EDGE OF PAVEMENT
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- BUILDING SETBACK
- ZONE LINE
- PROPOSED TREELINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED BITUMINOUS CURB
- PROPOSED SWALE
- EASEMENT
- SITE LIGHTING
- BUILDING WALL PACK LIGHTING

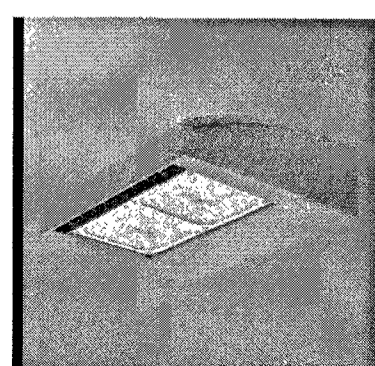
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DATE OF MEETING: _____

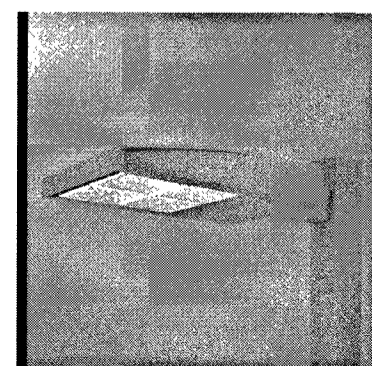
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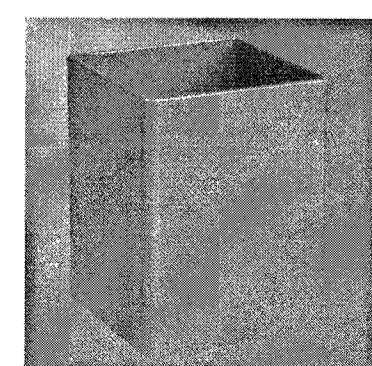
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**GWC GALLEON
WALL**



**GLEON
GALLEON LED**



**SSS SQUARE
STRAIGHT STEEL**

IN ASSOCIATION WITH:



P.O. BOX 4550
MANCHESTER, NH 03108
(603) 624-4827
FAX (603) 624-9764
SALES@CHARRONINC.COM

LIGHTING PLAN
S.L. CHASSE STEEL
MAP 105 LOT 17-3
ROBINSON ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:

STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, NH 03051
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REVISIONS

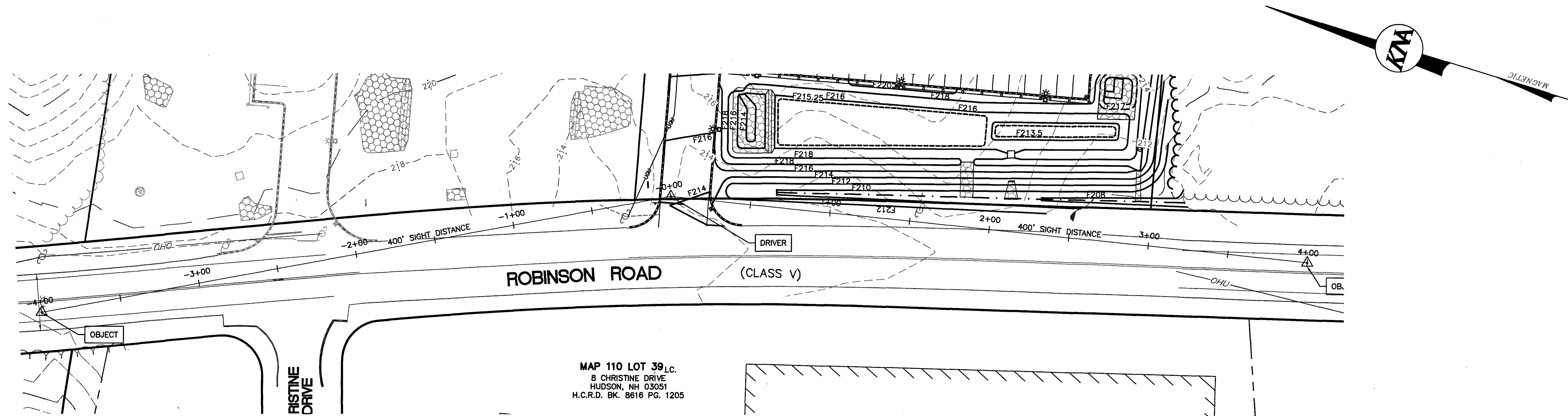
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SCALE: 1" = 40'

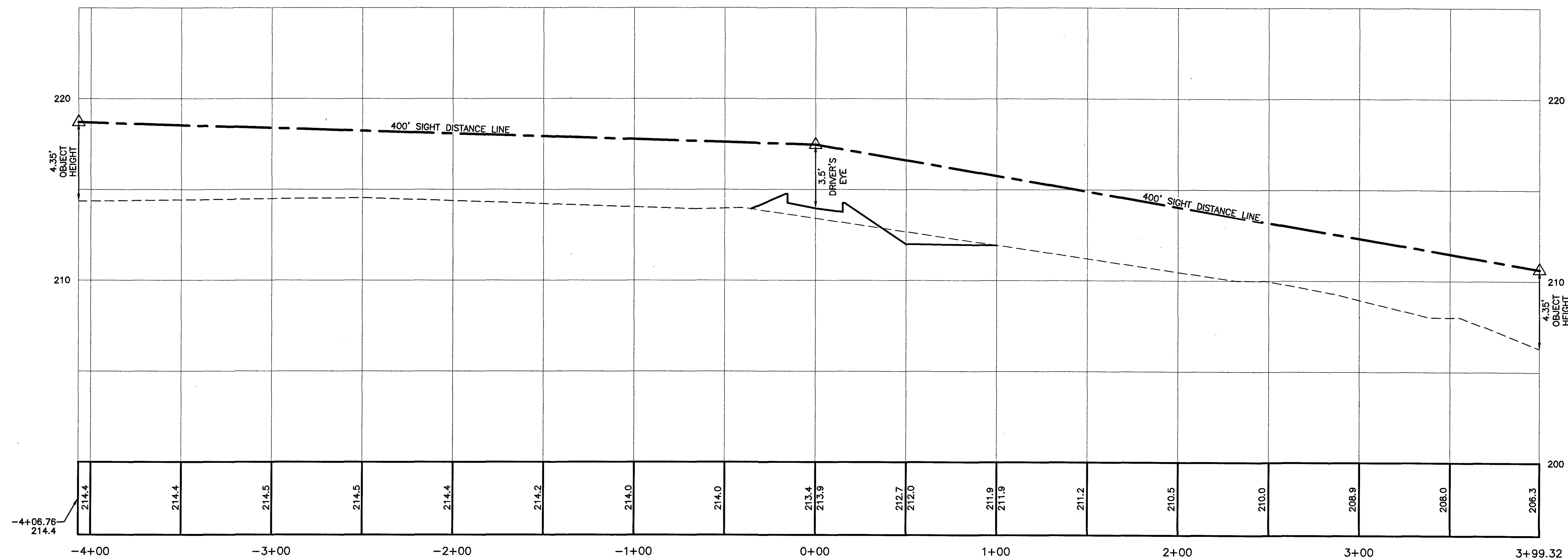
PROJECT NO: 20-0921-1

SHEET 7 OF 15



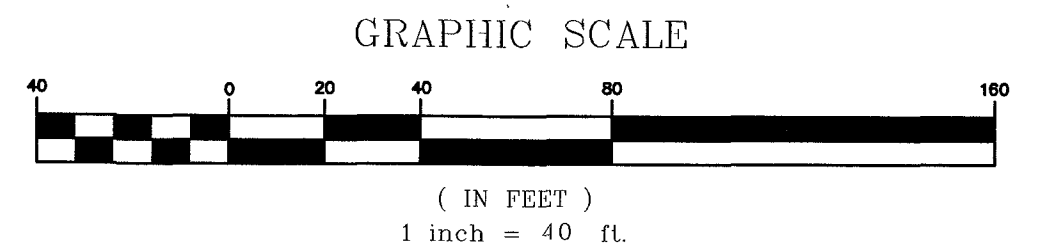
MAP 110 LOT 39 LC.
8 CHRISTINE DRIVE
HUDSON, NH 03051
H.C.R.D. BK. 8616 PG. 1205

SIGHT DISTANCE PLAN
SCALE: 1" = 40'



SIGHT DISTANCE PROFILE

SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)



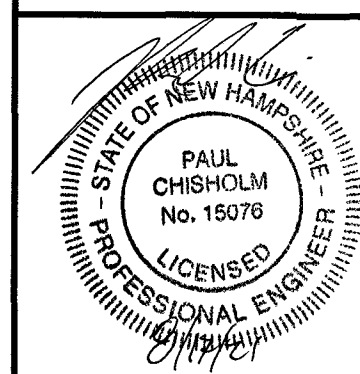
SIGHT DISTANCE PLAN & PROFILE
S.L. CHASSE STEEL
MAP 105 LOT 17-3
ROBINSON ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:

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8 CHRISTINE DRIVE
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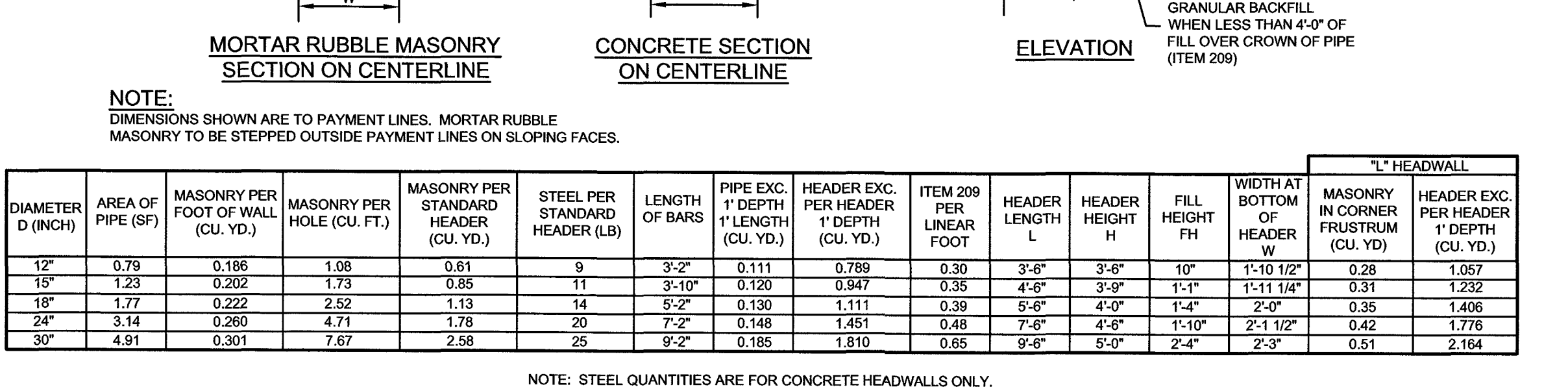
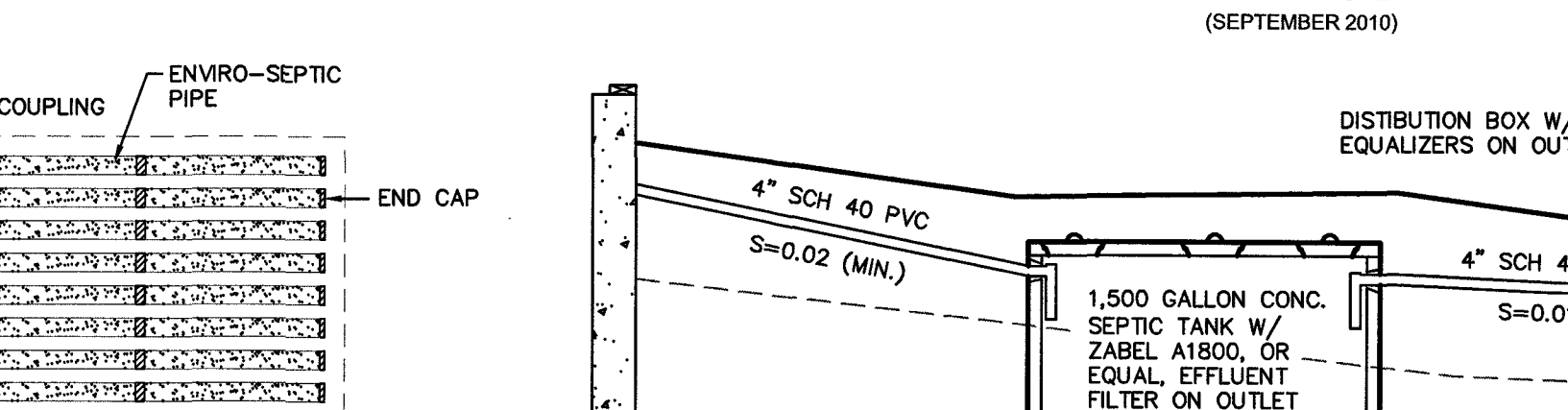
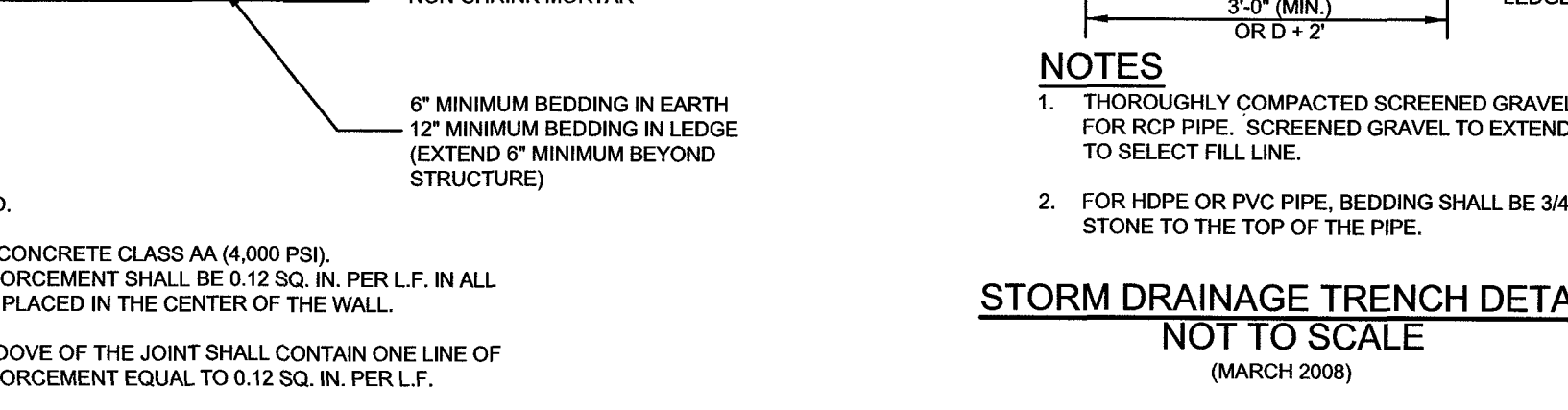
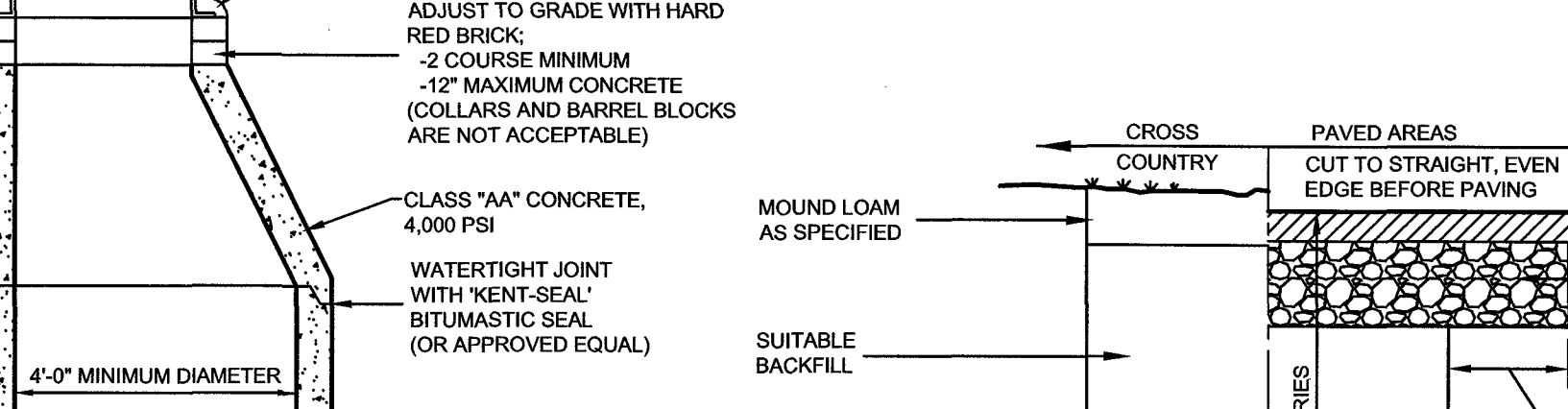
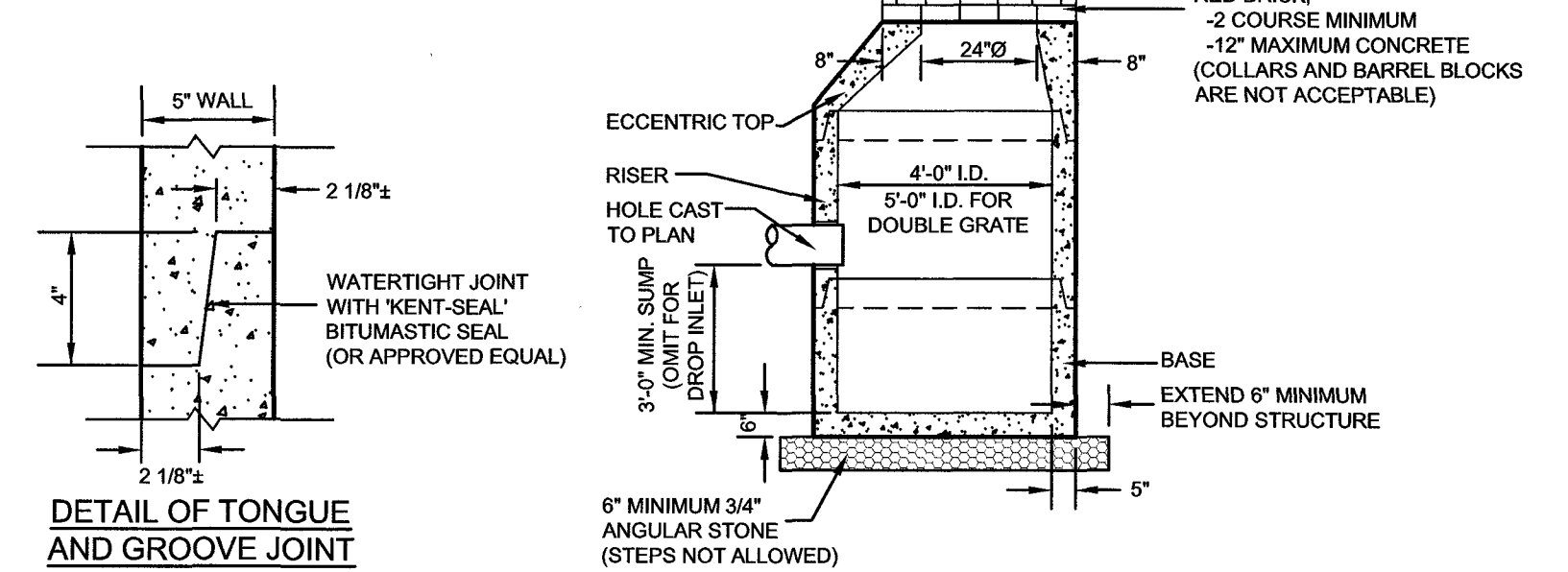
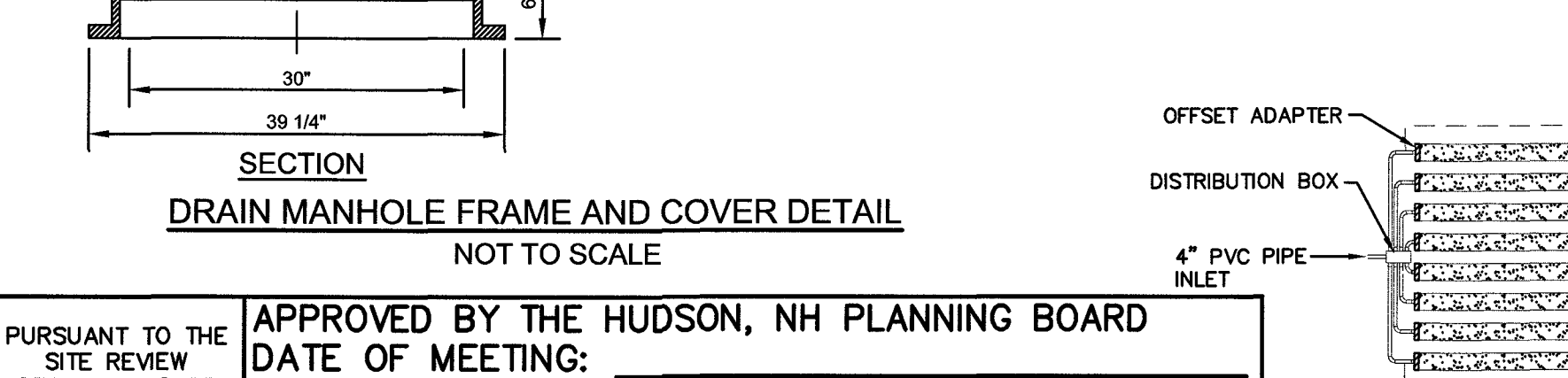
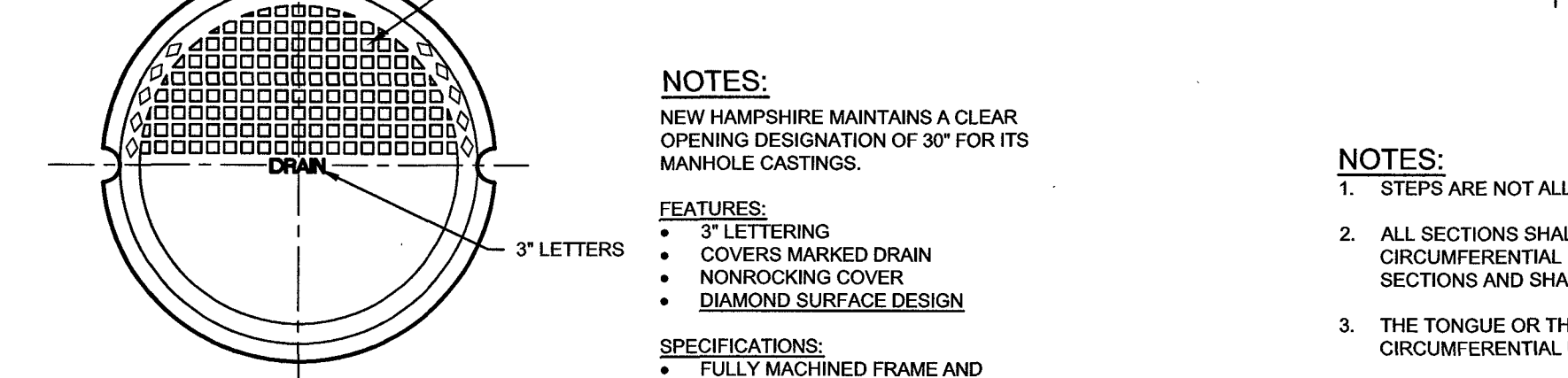
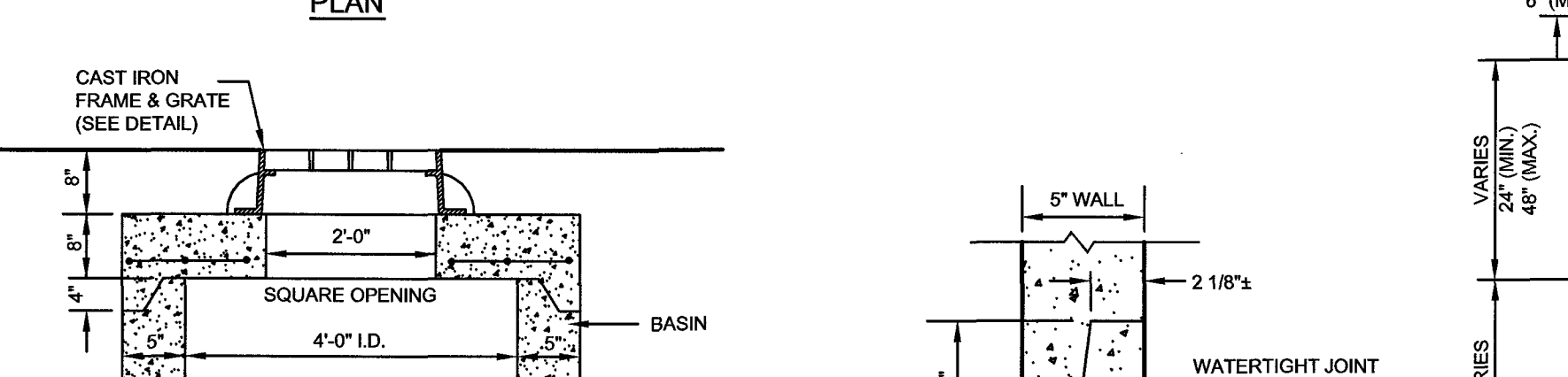
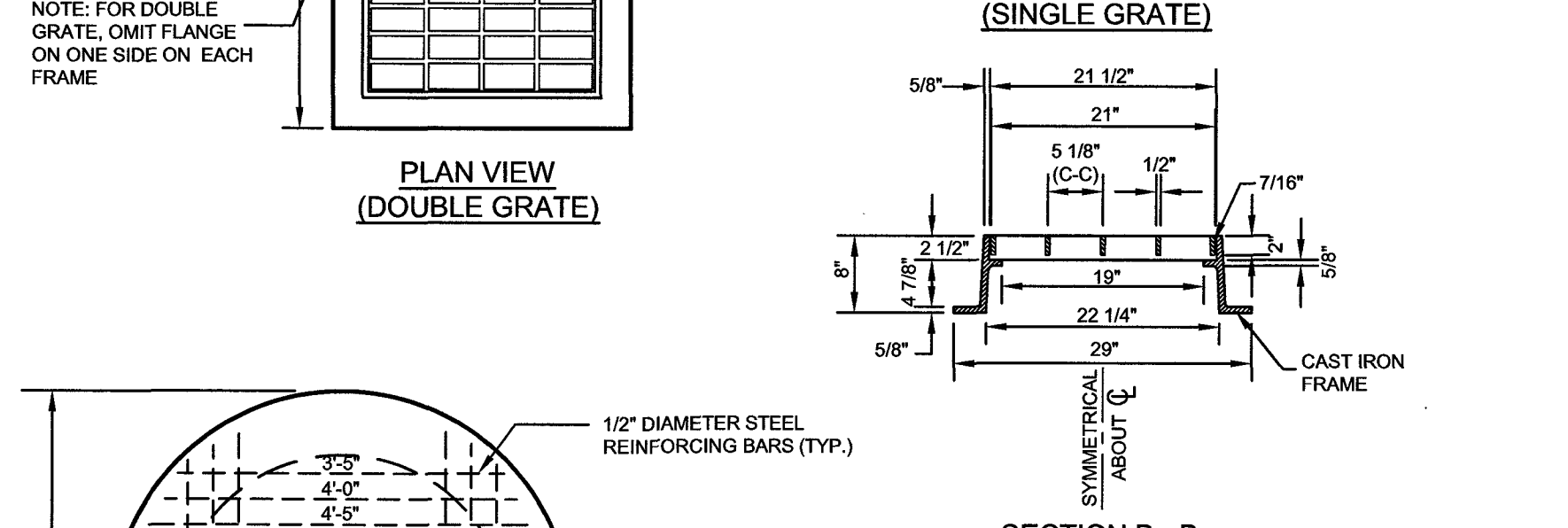
PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD
DATE OF MEETING: _____

SIGNATURE DATE: _____

SIGNATURE DATE: _____

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PRIME JOINT WITH EMULSION

SELECT GRAVELS AS SPECIFIED

SURFACE COURSE TO MATCH EXISTING, OR AS SPECIFIED

2' MINIMUM

BEYOND

PLAN

L

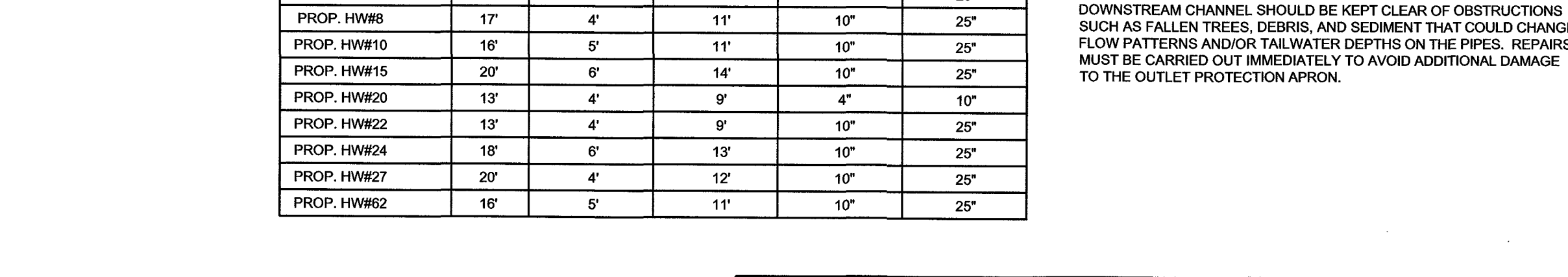
L_a

V

30%
15%
0.3 TO 0.5 #50

CONSTRUCTION SPECIFICATIONS:

1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. FRACTURED ROCK USED FOR FILTER OR RIP RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF



W
C

30'

5' MIN.

3" MIN. LOAM & SEED OVER ALL EXPOSED SURFACES TO PREVENT EROSION

3:1 SLOPE

STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
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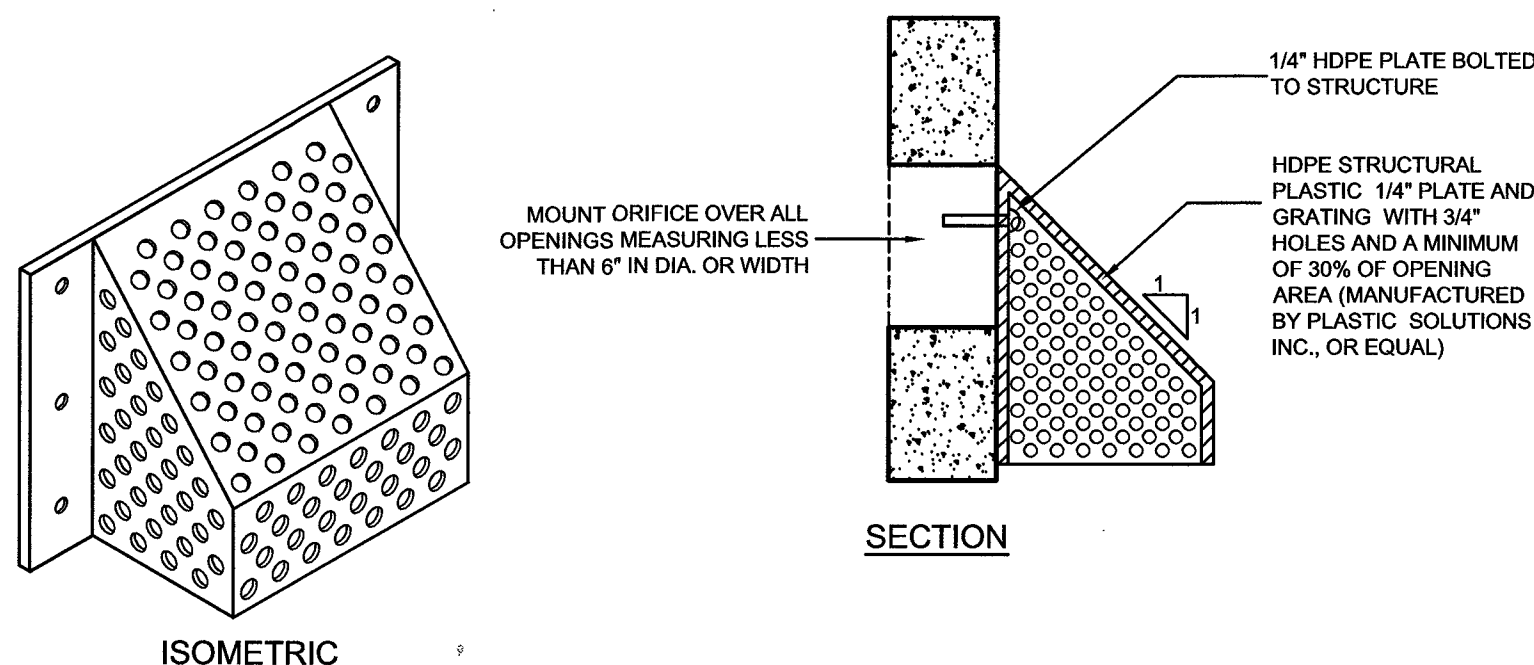
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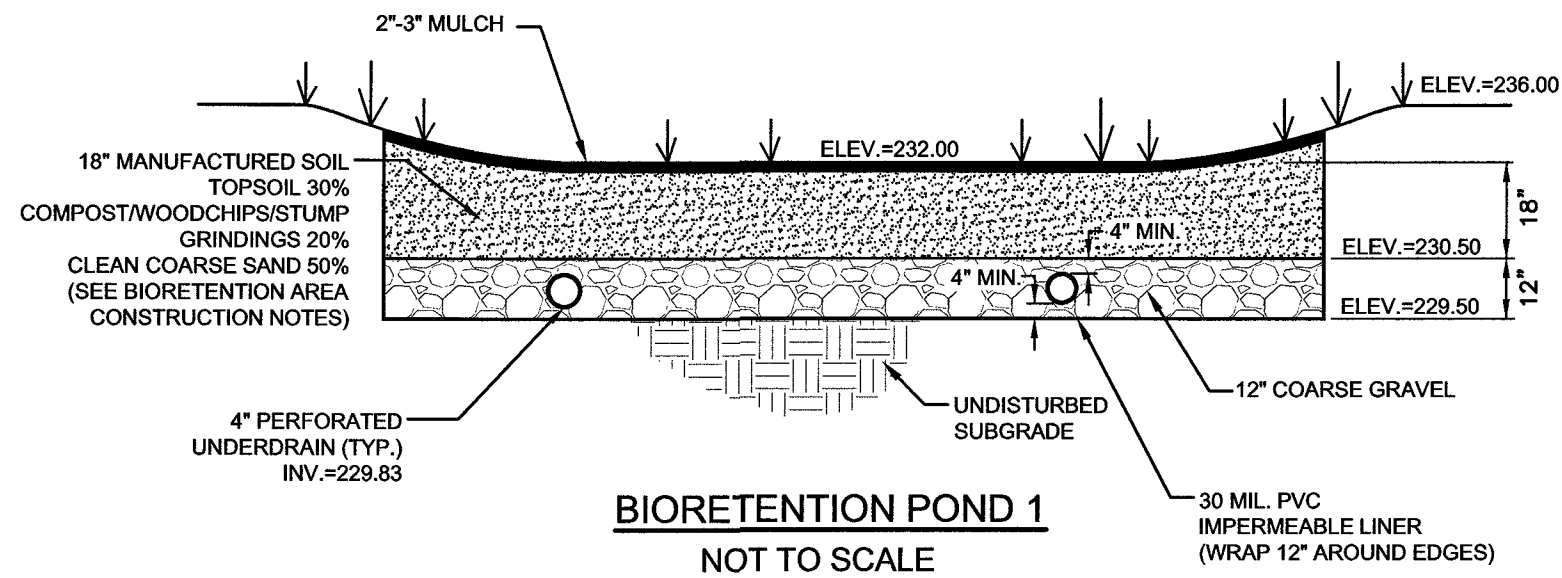
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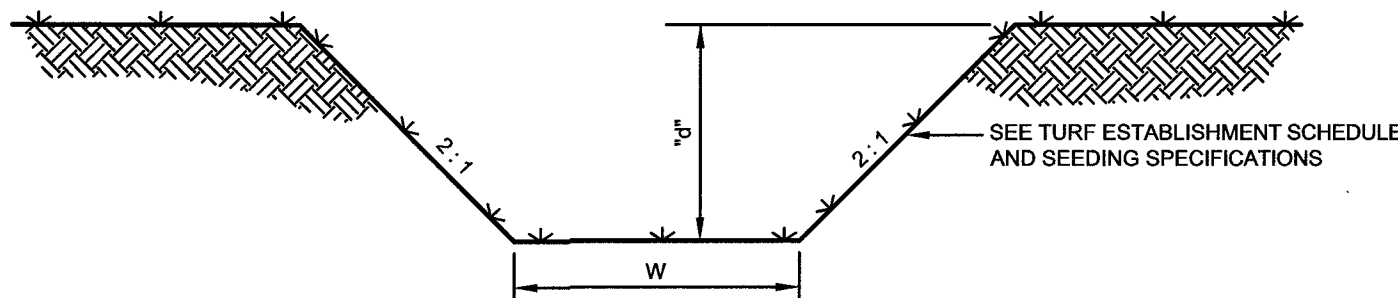
DATE: APRIL 6, 2021	SCALE: AS SHOWN
PROJECT NO: 20-0921-1	SHEET 10 OF 15



TRASH RACK DETAIL
NOT TO SCALE



BIORETENTION POND 1
NOT TO SCALE



SWALE	SWALE WIDTH "W"	SWALE LENGTH	SWALE SLOPE "d"	DEPTH "d"
1	2'	255'	0.0078 FT/FT	2'
2	2'	200'	0.0050 FT/FT	1'

MAINTENANCE

- TIMELY MAINTENANCE IS IMPORTANT TO KEEP THE VEGETATION IN THE SWALE IN GOOD CONDITION. MOWING SHOULD BE DONE FREQUENTLY ENOUGH TO KEEP THE VEGETATION IN VIGOROUS CONDITION AND TO CONTROL ENCROACHMENT OF WEEDS AND WOODY VEGETATION, HOWEVER IT SHOULD NOT BE MOWED TOO CLOSELY SO AS TO REDUCE THE FILTERING EFFECT. FERTILIZE ON AN "AS NEEDED" BASIS TO KEEP THE GRASS HEALTHY. OVER FERTILIZATION CAN RESULT IN THE SWALE BECOMING A SOURCE OF POLLUTION.
- THE SWALE SHOULD BE INSPECTED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE THE CONDITION OF THE SWALE. RILLS AND DAMAGED AREAS SHOULD BE PROMPTLY REPAIRED AND RE-VEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION.

CONVEYANCE SWALE DETAIL

NOT TO SCALE
(MARCH 2008)

TP #1	TP #2	TP #3	TP #4	TP #5
LOGGED BY GPC PERC TEST @ 20" DATE: 10-22-2020 PERC RATE: 8 MIN./INCH IMPERVIOUS LAYER: NONE WATER ENCOUNTERED: NONE	LOGGED BY GPC PERC TEST @ 20" DATE: 10-22-2020 PERC RATE: 8 MIN./INCH IMPERVIOUS LAYER: NONE WATER ENCOUNTERED: NONE	LOGGED BY GPC PERC TEST @ 20" DATE: 3-16-2020 PERC RATE: 8 MIN./INCH IMPERVIOUS LAYER: NONE WATER ENCOUNTERED: NONE	LOGGED BY GPC PERC TEST @ 20" DATE: 3-16-2020 PERC RATE: 8 MIN./INCH IMPERVIOUS LAYER: NONE WATER ENCOUNTERED: NONE	LOGGED BY GPC PERC TEST @ 20" DATE: 10-22-2020 PERC RATE: 8 MIN./INCH IMPERVIOUS LAYER: NONE WATER ENCOUNTERED: NONE
0" 6" 16" 48" 60" BOTTOM OF HOLE	0" 10" 24" 64" BOTTOM OF HOLE	0" 8" 18" 28" 70" BOTTOM OF HOLE	0" 8" 18" 28" 70" BOTTOM OF HOLE	0" 6" 24" 44" 60" BOTTOM OF HOLE
FOREST MAT 10YR 6/6, GRANULAR, FRIABLE FINE LOAMY SAND, ROOTS 10YR 5/4, GRANULAR, FRIABLE, SAND COARSE, FEW ROOTS 10YR 6/3, FIRM, SAND, W/ REDOX FEATURES	FOREST MAT 10YR 6/4, GRANULAR, FRIABLE, SAND COARSE, FEW ROOTS 10YR 7/3, SAND	TOP SOIL 5Y 5/4, GRANULAR, FRIABLE LOAMY SAND, ROOTS 10YR 5/6, GRANULAR, FRIABLE, LOAMY SAND, FEW ROOTS 10YR 6/6, SAND SINGLE GRAIN GRAVELLY	TOP SOIL 5Y 5/4, GRANULAR, FRIABLE LOAMY SAND, ROOTS 10YR 5/6, GRANULAR, FRIABLE, LOAMY SAND, FEW ROOTS 10YR 6/6, SAND SINGLE GRAIN GRAVELLY	FOREST MAT 10YR 5/6, GRANULAR, FRIABLE FINE LOAMY SAND, ROOTS 10YR 5/2, GRANULAR, FRIABLE, SAND COARSE, FEW ROOTS 10YR 4/2, FIRM, SAND, W/ REDOX FEATURES

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD
DATE OF MEETING: _____

SIGNATURE: _____ DATE: _____

SIGNATURE: _____ DATE: _____

SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.

MAINTENANCE REQUIREMENTS:

SEDIMENT FOREBAYS:

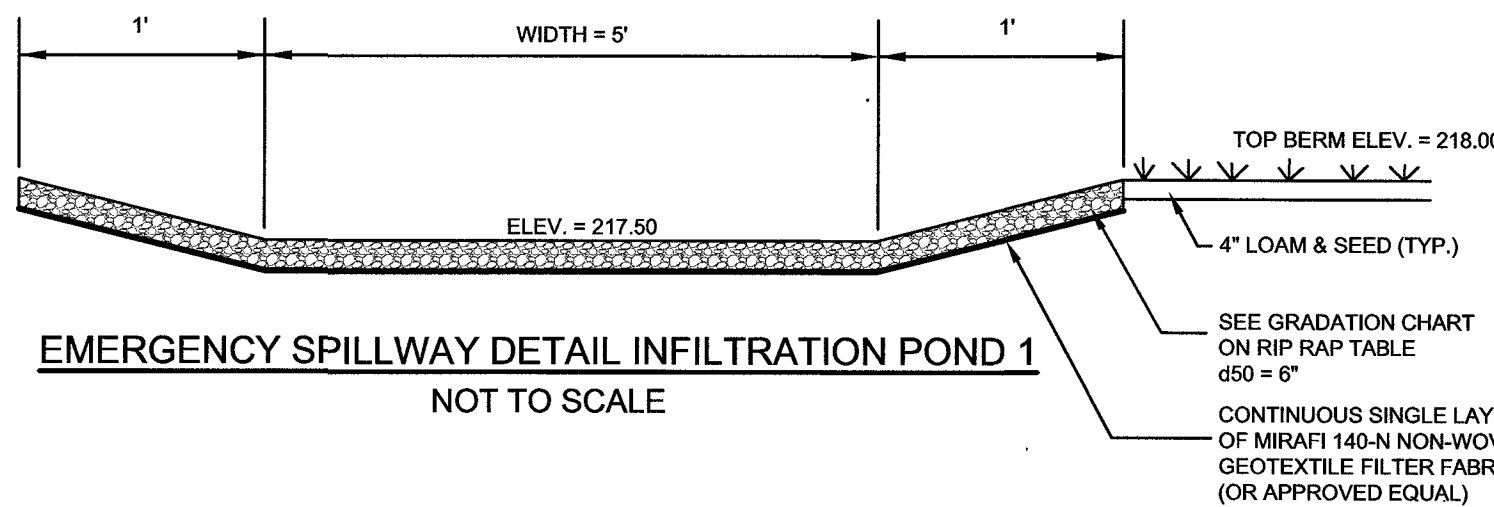
- INSPECT AT LEAST ANNUALLY;
- CONDUCT PERIODIC MOWING OF EMBANKMENTS (GENERALLY TWO TIMES PER YEAR) TO CONTROL GROWTH OF WOODY VEGETATION ON EMBANKMENTS;
- REMOVE DEBRIS FROM OUTLET STRUCTURES AT LEAST ONCE ANNUALLY;
- REMOVE AND DISPOSE OF ACCUMULATED SEDIMENT BASED ON INSPECTION;
- INSTALL AND MAINTAIN A STAFF GAGE OR OTHER MEASURING DEVICE, TO INDICATE DEPTH OF SEDIMENT ACCUMULATION AND LEVEL AT WHICH CLEAN-OUT IS REQUIRED.

INFILTRATION:

- REMOVAL OF DEBRIS FROM INLET AND OUTLET STRUCTURES;
- REMOVAL OF ACCUMULATED SEDIMENT;
- INSPECTION AND REPAIR OF OUTLET STRUCTURES AND APPURTENANCES;
- INSPECTION OF INFILTRATION COMPONENTS AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EVENT EXCEEDING 2.5 INCHES IN A 24 HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS WARRANTED BY SUCH INSPECTION;
- INSPECTION OF PRETREATMENT MEASURES AT LEAST TWICE ANNUALLY, AND REMOVAL OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY;
- PERIODIC MOWING OF EMBANKMENTS;
- REMOVAL OF WOODY VEGETATION FROM EMBANKMENTS;
- INSPECTION AND REPAIR OF EMBANKMENTS AND SPILLWAYS;
- IF AN INFILTRATION SYSTEM DOES NOT DRAIN WITHIN 72-HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE INFILTRATION FUNCTION, INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE INFILTRATION TRENCH.

CONSTRUCTION PRACTICE REQUIREMENTS:

- STORMWATER PONDS, INFILTRATION BASINS, AND SWALES MUST BE INSTALLED BEFORE ROUGH GRADING TO SITE.
- RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMPs ARE STABILIZED.
- STORMWATER PONDS, INFILTRATION BASINS, AND SWALES MUST BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATION WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION SYSTEM.
- AFTER THE INFILTRATION SYSTEM AREA IS EXCAVATED TO THE FINAL DESIGN ELEVATION, THE FLOOR SHOULD BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG.
- DO NOT PLACE INFILTRATION SYSTEMS INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
- INFILTRATION BASIN FLOOR PREPARATION WILL INCLUDE GRASS TURF THAT CAN BE INUNDATED FOR UP TO 72 HOURS.
- INFILTRATION AREAS ARE TO BE PROTECTED FROM OVER-COMPACTION DURING CONSTRUCTION.



EMERGENCY SPILLWAY DETAIL INFILTRATION POND 1
NOT TO SCALE

TP #5

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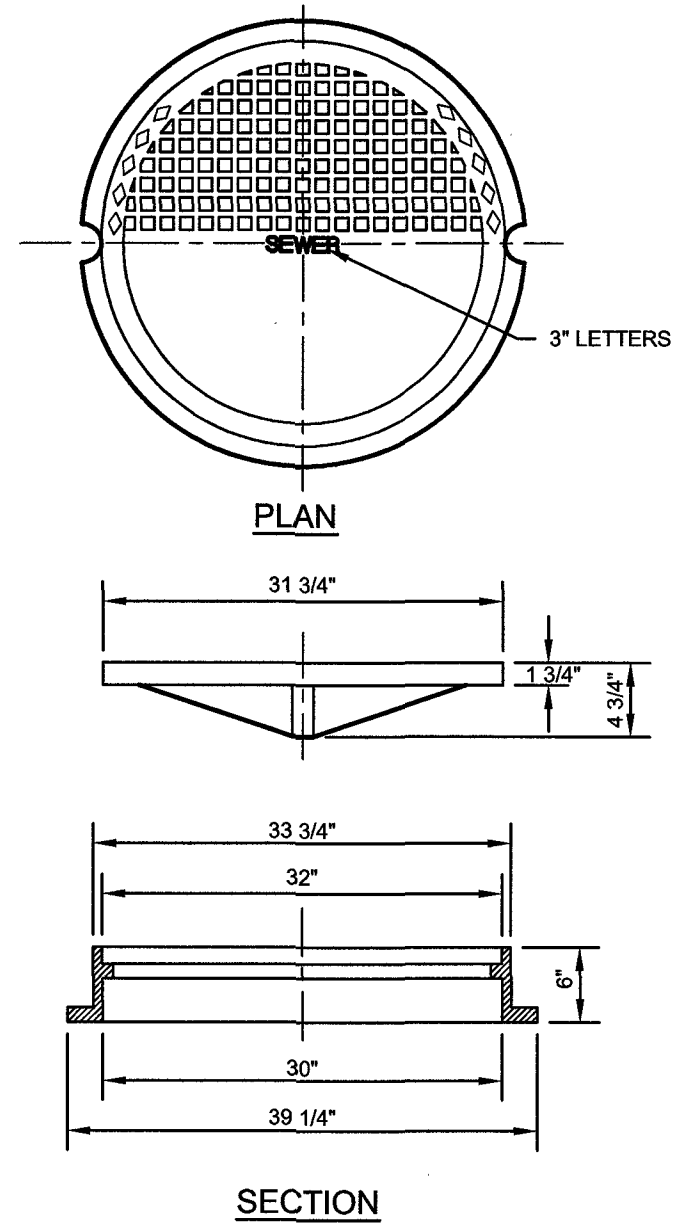
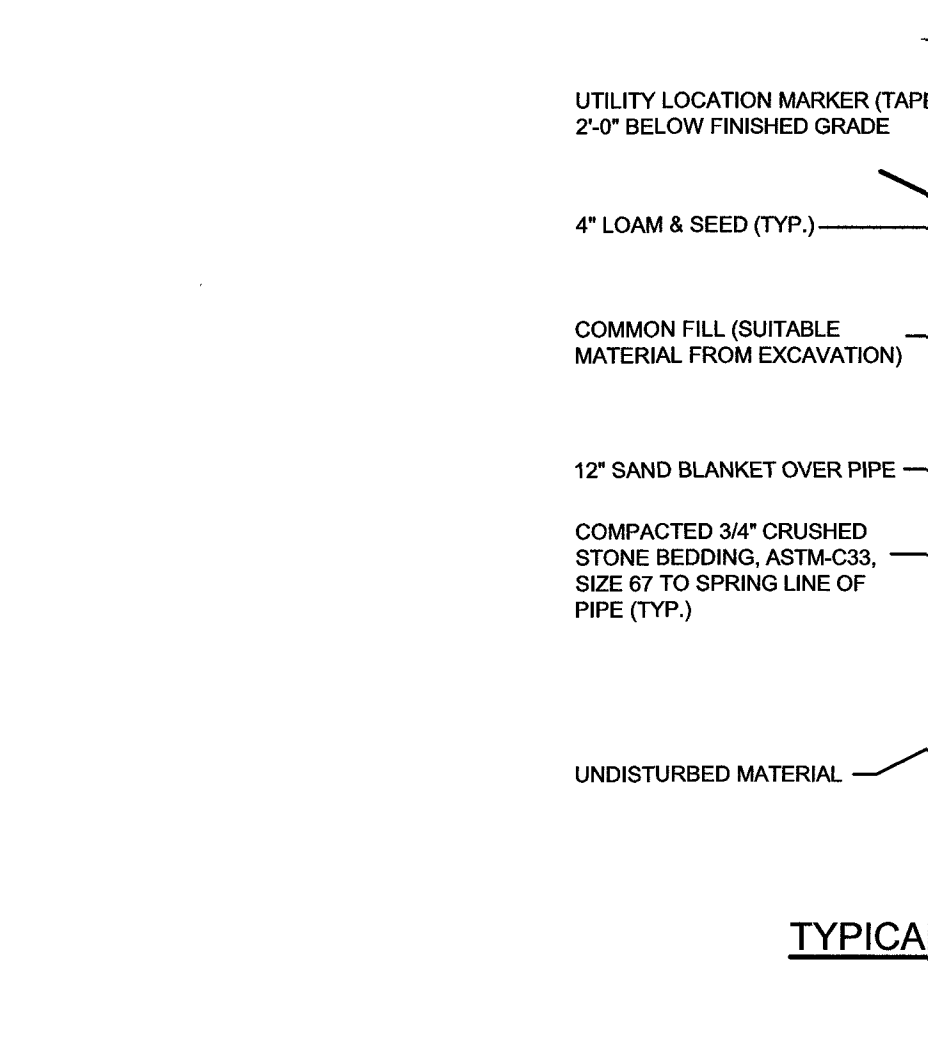
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NOTES:

- MINIMUM SIZE PIPE FOR HOUSE SERVICE SHALL BE 4 INCHES. MINIMUM SIZE FOR STREET SEWER LINES SHALL BE 8 INCHES.
- PIPE AND JOINT MATERIALS:
 - DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA):
 - AWWA C151/A21.51-02 - FOR DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL OR SAND-LINED MOLDS, FOR WATER OR OTHER LIQUIDS;
 - AWWA C150/A21.50-02 - FOR THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A536-84 (2004) DUCTILE IRON CASTINGS;
 - JOINTS SHALL BE MECHANICAL, PUSH-ON OR BALL-AND-SOCKET TYPE.
 - PLASTIC GRAVITY SEWER PIPE AND FITTINGS SHALL COMPLY WITH THE FOLLOWING STANDARDS:
 - ASTM D3034-04A - PVC, SOLID WALL;
 - AT LEAST 46 PSI AT 5% PIPE DIAMETER DEFLECTION, AS MEASURED IN ACCORDANCE WITH ASTM D2414-02 DURING MANUFACTURING; AND
 - JOINT SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D3212-96A(2003)E1 AND SHALL BE PUSH-ON OR BELL-AND-SPIGOT TYPE.
- DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.
- JOINTS SHALL BE DEPENDENT UPON PROPER MATERIALS (SEE NOTE #2) FOR WATER TIGHTNESS, AND ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.
- SERVICE CONNECTIONS SHALL USE SANITARY TEE OR WYE FITTINGS FOR ALL NEW CONSTRUCTION. THE CENTER LINE OF ALL BUILDING CONNECTIONS SHALL ENTER THE TOP HALF OF THE SEWER. ANY SERVICE CONNECTION WITH A VERTICAL RISE UP TO 4 FEET MAY HAVE THE SEWER FITTING SET VERTICALLY. ANY SERVICE CONNECTION WITH A VERTICAL RISE UP TO 12 FEET SHALL EMPLOY NON-ENCASED RISERS THAT PROTECT AGAINST PIPE PENETRATION OR FAILURE AT THE FITTING BY THE USE OF BELL-ON-BELL CONNECTIONS. FOR EXISTING SEWER WHERE FITTINGS CANNOT BE INSTALLED, SADDLE CONNECTIONS SHALL BE USED. PRESSURE SEWERAGE SHALL HAVE AN ISOLATION VALVE OR CURB STOP VALVE INSTALLED AT THE PROPERTY LINE. IF A CHECK VALVE IS USED AT THE PROPERTY LINE, THE VALVE SHALL BE INSTALLED WITHIN A VAULT TO FACILITATE MAINTENANCE. ROOF DOWNSPOUTS, EXTERIOR OR INTERIOR FOUNDATION DRAINS, SUMP PUMPS OR OTHER SOURCE OF SURFACE WATER RUN-OFF OR GROUND WATER SHALL NOT BE DIRECTLY OR INDIRECTLY CONNECTED TO A PUBLIC SEWER.



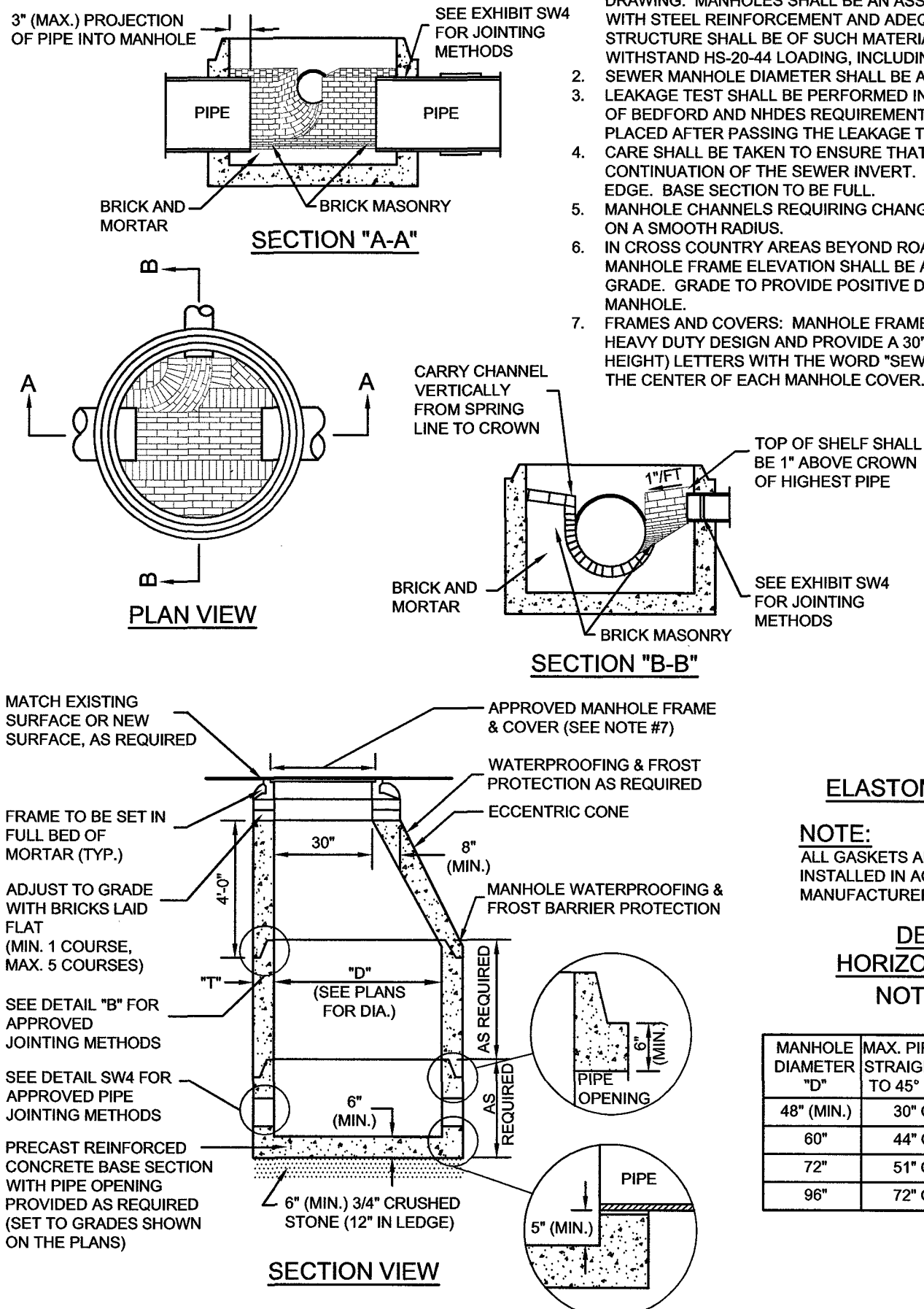
SEWER MANHOLE FRAME AND COVER DETAIL
NOT TO SCALE
(MARCH 2008)

NOTES:
NEW HAMPSHIRE MAINTAINS A CLEAR OPENING DESIGNATION OF 30" FOR ITS MANHOLE CASTINGS.

- FEATURES:
- 3" LETTERING
 - COVERS MARKED SEWER
 - NONROCKING COVER
 - DIAMOND SURFACE DESIGN

- SPECIFICATIONS:
- FULLY MACHINED FRAME AND COVER
 - H-20 LOAD RATED
 - GRAY CAST IRON MEETS ASTM A48 CLASS 30

NOT TO SCALE
(MARCH 2008)



NOTES:

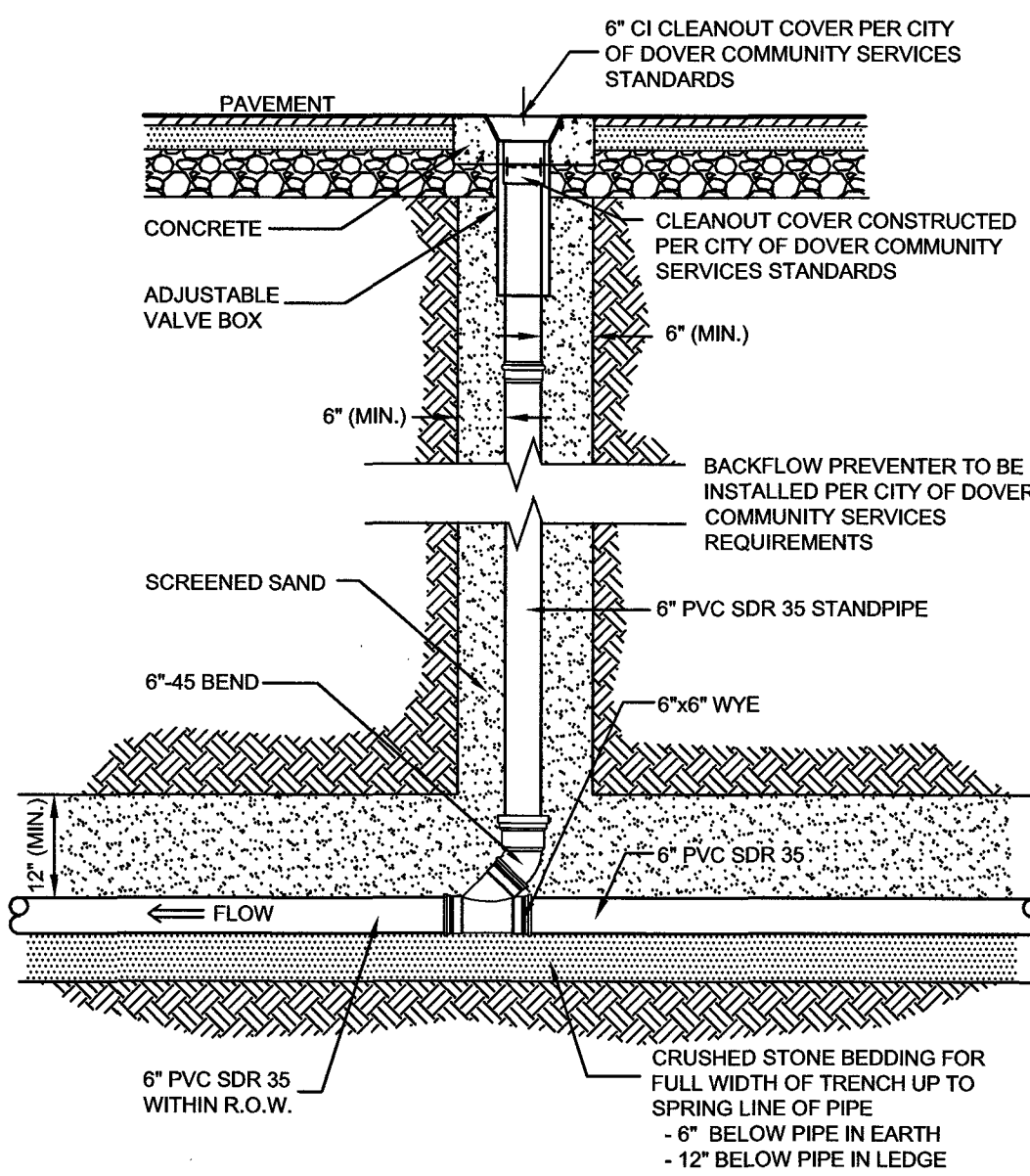
- IT IS THE INTENTION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAK-PROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS SHALL BE AS SHOWN ON THE DRAWING. MANHOLES SHALL BE AN ASSEMBLY OF PRECAST SECTIONS WITH STEEL REINFORCEMENT AND ADEQUATE JOINTING. THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND HS-20-44 LOADING, INCLUDING THE FRAME AND COVER. SEWER MANHOLE DIAMETER SHALL BE AS INDICATED ON THE PLANS.
- LEAKAGE TEST SHALL BE PERFORMED IN ACCORDANCE WITH THE TOWN OF BEDFORD AND NHDES REQUIREMENTS. INVERT AND SHELF TO BE PLACED AFTER PASSING THE LEAKAGE TEST.
- CARE SHALL BE TAKEN TO ENSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. INVERT BRICKS SHALL BE LAID ON EDGE. BASE SECTION TO BE FULL.
- MANHOLE CHANNELS REQUIRING CHANGE IN ALIGNMENT ARE TO BE BUILT ON A SMOOTH RADIUS.
- IN CROSS COUNTRY AREAS BEYOND ROADWAY RIGHT-OF-WAYS, THE MANHOLE FRAME ELEVATION SHALL BE A MINIMUM OF 6" ABOVE FINISHED GRADE. GRADE TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE MANHOLE.
- FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30" CLEAR OPENING. 3" (MINIMUM HEIGHT) LETTERS WITH THE WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH MANHOLE COVER.

ELASTOMERIC SEALANT

NOTE:
ALL GASKETS AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

DETAIL "B"
HORIZONTAL JOINTS
NOT TO SCALE

MANHOLE DIAMETER "D"	MAX. PIPE DIAMETER STRAIGHT THROUGH TO 45° DEFLECTION	WALL THICKNESS "T"
48" (MIN.)	30" OD (MAX.)	
60"	44" OD (MAX.)	
72"	51" OD (MAX.)	
96"	72" OD (MAX.)	

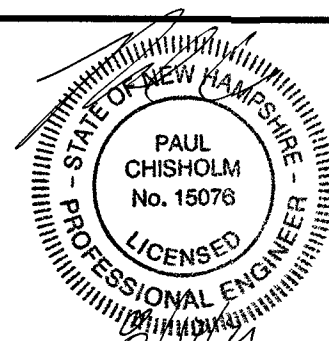


- ALL COMPONENT PARTS OF MANHOLE STRUCTURES SHALL HAVE THE STRENGTH, LEAK RESISTANCE AND SPACE NECESSARY FOR THE INTENDED SERVICE.
- MANHOLE STRUCTURES SHALL HAVE A LIFE EXPECTANCY IN EXCESS OF 25 YEARS.
- MANHOLE STRUCTURES SHALL BE DESIGNED TO WITHSTAND H-20 LOADING AND SHALL NOT LEAK IN EXCESS OF ONE GALLON PER VERTICAL FOOT OF MANHOLE FOR THE LIFE OF THE STRUCTURE.
- BARRELS, CONCRETE GRADE RINGS AND CONE SECTIONS SHALL BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE AND SHALL CONFORM TO ASTM C478.
- BEDDING: CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33 100% PASSING 1 INCH SCREEN 90% PASSING 3/4 INCH SCREEN 20-55% PASSING 3/8 INCH SCREEN 0-10% PASSING #4 SIEVE 0-5% PASSING #8 SIEVE
- WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, CRUSHED STONE 1/2 INCH TO 1-1/2 INCH SHALL BE USED.
- BASE SECTIONS SHALL BE OF MONOLITHIC CONSTRUCTION TO A POINT AT LEAST 6 INCHES ABOVE THE CROWN OF THE INCOMING PIPE.
- HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF AN OVERLAPPING TYPE, SEALED FOR WATER-TIGHTNESS USING A DOUBLE ROW OF AN ELASTOMERIC OR MASTIC-LIKE SEALANT.
- PIPE TO MANHOLE JOINTS SHALL BE AS FOLLOWS:
 - ELASTOMERIC, RUBBER SLEEVE WITH WATERTIGHT JOINTS AT THE MANHOLE OPENING AND PIPE SURFACES.
 - CAST INTO THE WALL OR SECURED WITH STAINLESS STEEL CLAMPS;
 - ELASTOMERIC SEALING RING CAST IN THE MANHOLE OPENING WITH SEAL FORMED ON THE SURFACE OF THE PIPE BY COMPRESSION OF THE RING; AND
 - NON-SHRINK GROUTED JOINTS WHERE WATER-TIGHT BONDING TO THE MANHOLE AND PIPE CAN BE OBTAINED.
- MANHOLE CONE SECTIONS SHALL BE ECCENTRIC IN SHAPE.
- ALL PRECAST SECTIONS AND BASES SHALL HAVE THE DATE OF MANUFACTURE AND THE NAME OR TRADEMARK OR IMPRESSION MARKED ON THE INSIDE WALL.
- ALL PRECAST SECTIONS AND BASES SHALL BE COATED ON THE EXTERIOR WITH A BITUMINOUS DAMP-PROOFING COATING.
- MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY. INVERTS AND SHELVES SHALL BE PLACED AFTER TESTING.
- MATERIALS OF CONSTRUCTION FOR MANHOLES SHALL BE AS FOLLOWS:
 - CONCRETE FOR PRECAST BASES OR GRADE RINGS SHALL CONFORM TO THE REQUIREMENTS FOR CLASS AA CONCRETE IN THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATIONS' STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION;
 - REINFORCING FOR PRECAST CONCRETE SHALL BE STEEL OR STRUCTURAL FIBERS THAT CONFORM TO THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATIONS' STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION;
 - PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORM TO ASTM C478;
 - THE MANHOLE FRAME AND COVER SHALL PROVIDE A 30-INCH DIAMETER CLEAR OPENING; THE MANHOLE COVER SHALL HAVE THE WORD "SEWER" IN 3-INCH LETTERS CAST INTO THE TOP SURFACE;
 - THE CASTINGS SHALL BE OF EVEN-GRAINED CAST IRON, SMOOTH AND FREE FROM SCALE, LUMPS, BLISTERS, SAND HOLES AND DEFECTS;
 - CONTACT SURFACES OF COVERS AND FRAMES SHALL BE MACHINED AT THE FOUNDRY TO PREVENT ROCKING OF COVERS IN ANY ORIENTATION;
 - CASTINGS SHALL BE EQUAL TO CLASS 30, BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORMING TO ASTM A48/A48M;
 - BRICK MASONRY FOR SHELF, INVERT AND GRADE ADJUSTMENT SHALL BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORMING TO ASTM C32, CLAY OR SHALE, FOR GRADE SS HARD BRICK;
 - MORTAR SHALL BE COMPOSED OF TYPE II PORTLAND CEMENT AND SAND WITH OR WITHOUT HYDRATED LIME ADDITION;
 - PROPORTIONS IN MORTAR OF PARTS BY VOLUMES SHALL BE:
 - 4.5 PARTS SAND AND 1.5 PARTS CEMENT; OR
 - 4.5 PARTS SAND, ONE PART CEMENT AND 0.5 PARTS HYDRATED LIME;
 - CEMENT SHALL BE TYPE II PORTLAND CEMENT CONFORMING TO ASTM C150/C150M;
 - HYDRATED LIME SHALL BE TYPE S CONFORMING TO THE ASTM C207 "STANDARD SPECIFICATIONS FOR HYDRATED LIME FOR MASONRY PURPOSES";
 - SAND SHALL CONSIST OF INERT NATURAL SAND CONFORMING TO THE ASTM C33 "STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES";
 - CONCRETE FOR DROP SUPPORTS SHALL CONFORM TO THE REQUIREMENT FOR CLASS AAA CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATIONS' STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION;
 - SUBJECT TO (Q) BELOW, A FLEXIBLE PIPE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES FROM ANY MANHOLE CONNECTION:
 - WITHIN 48-INCHES FOR REINFORCED CONCRETE (RC) PIPE; AND
 - WITHIN 60-INCHES FOR PVC PIPE LARGER THAN 15-INCH DIAMETER;
 - NO FLEXIBLE JOINT SHALL BE REQUIRED FOR D.I. PIPE OR FOR PVC PIPE UP THROUGH 15-INCH DIAMETER; AND
 - WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED IN LIEU OF A CONE SECTION, PROVIDED THE SLAB HAS AN ECCENTRIC ENTRANCE OPENING AND IS CAPABLE OF SUPPORTING H-20 LOADS.
- MANHOLE TESTING:
 - MANHOLES SHALL BE TESTED FOR LEAKAGE USING A VACUUM TEST.
 - THE MANHOLE VACUUM TEST SHALL CONFORM TO THE FOLLOWING:
 - THE INITIAL VACUUM GAUGE TEST PRESSURE SHALL BE 10 INCHES Hg; AND
 - THE MINIMUM ACCEPTABLE TEST HOLD TIME FOR A 1-INCH Hg PRESSURE DROP TO 9 INCH Hg SHALL BE:
 - NOT LESS THAN 2 MINUTES FOR MANHOLES LESS THAN 10 FEET DEEP IN DEPTH;
 - NOT LESS THAN 2.5 MINUTES FOR MANHOLES 10 TO 15 FEET DEEP; AND
 - NOT LESS THAN 3 MINUTES FOR MANHOLES MORE THAN 15 FEET DEEP.
 - THE MANHOLE SHALL BE REPAIRED AND RETESTED IF THE TEST HOLD TIMES FAIL TO ACHIEVE THE ACCEPTANCE LIMITS SPECIFIED IN (B) ABOVE.
 - INVERTS AND SHELVES SHALL NOT BE INSTALLED UNTIL AFTER SUCCESSFUL TESTING IS COMPLETED.
 - FOLLOWING COMPLETION OF THE LEAKAGE TEST, THE FRAME AND COVER SHALL BE PLACED ON THE TOP OF THE MANHOLE OR SOME OTHER MEANS USED TO PREVENT ACCIDENTAL ENTRY BY UNAUTHORIZED PERSONS, CHILDREN OR ANIMALS UNTIL THE CONTRACTOR IS READY TO MAKE FINAL ADJUSTMENTS TO GRADE.

S.L. CHASSE STEEL
MAP 105 LOT 17-3
ROBINSON ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:
STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, NH 03051
H.C.R.D. BK. 9327 PG. 197

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881



REVISIONS		
No.	DATE	DESCRIPTION
1	05/12/21	TOWN COMMENTS
2	08/17/21	TOWN AND AOT COMMENTS

DATE: APRIL 6, 2021
PROJECT NO: 20-0921-1
SCALE:
SHEET 12 OF 15

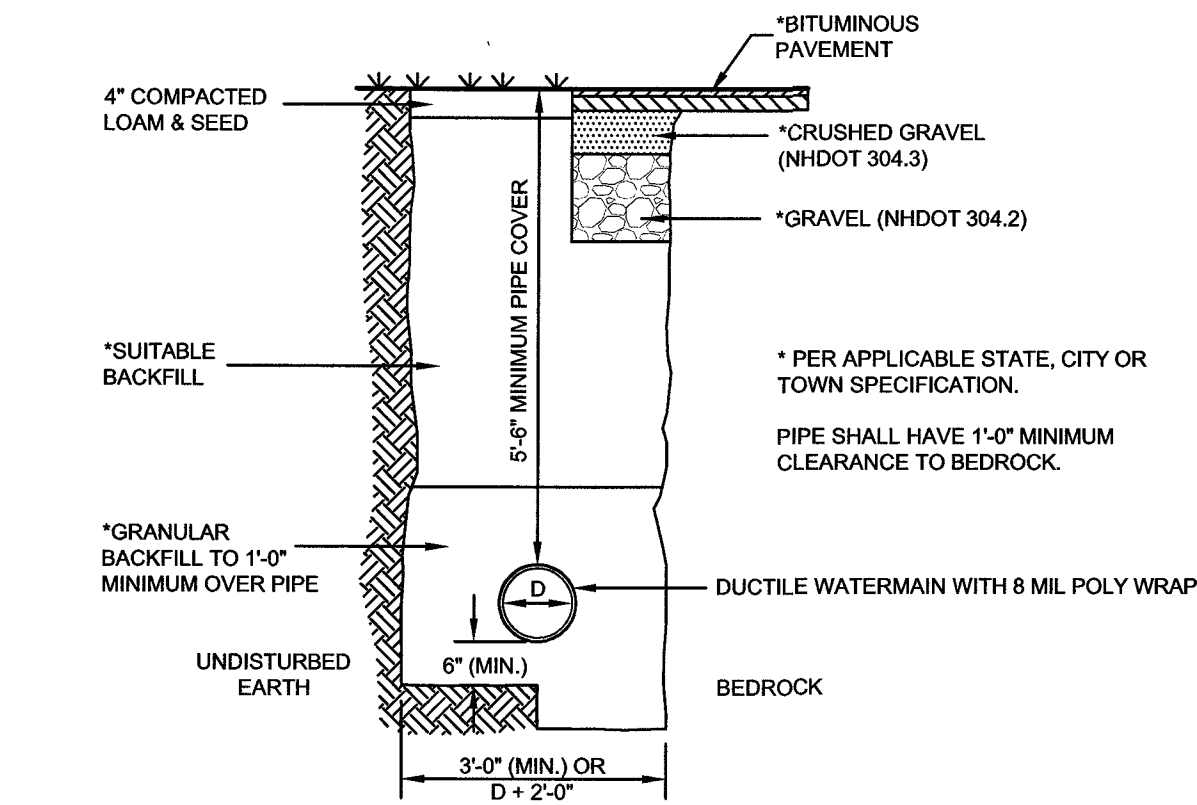
PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD
DATE OF MEETING: _____

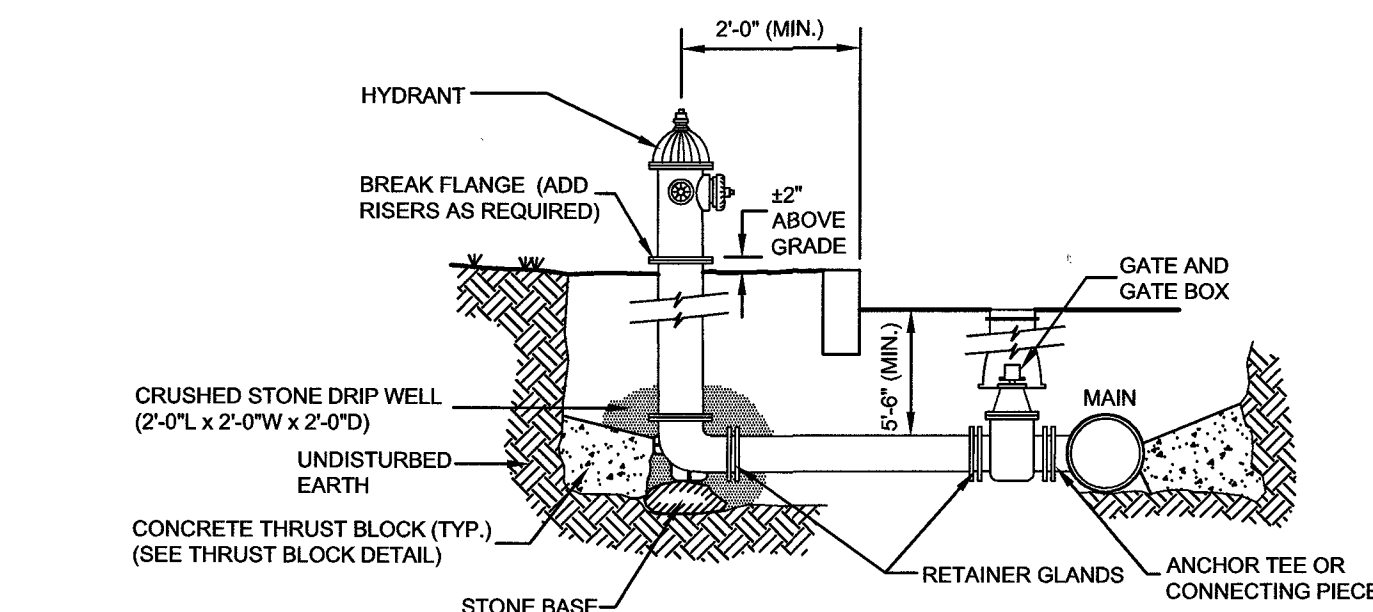
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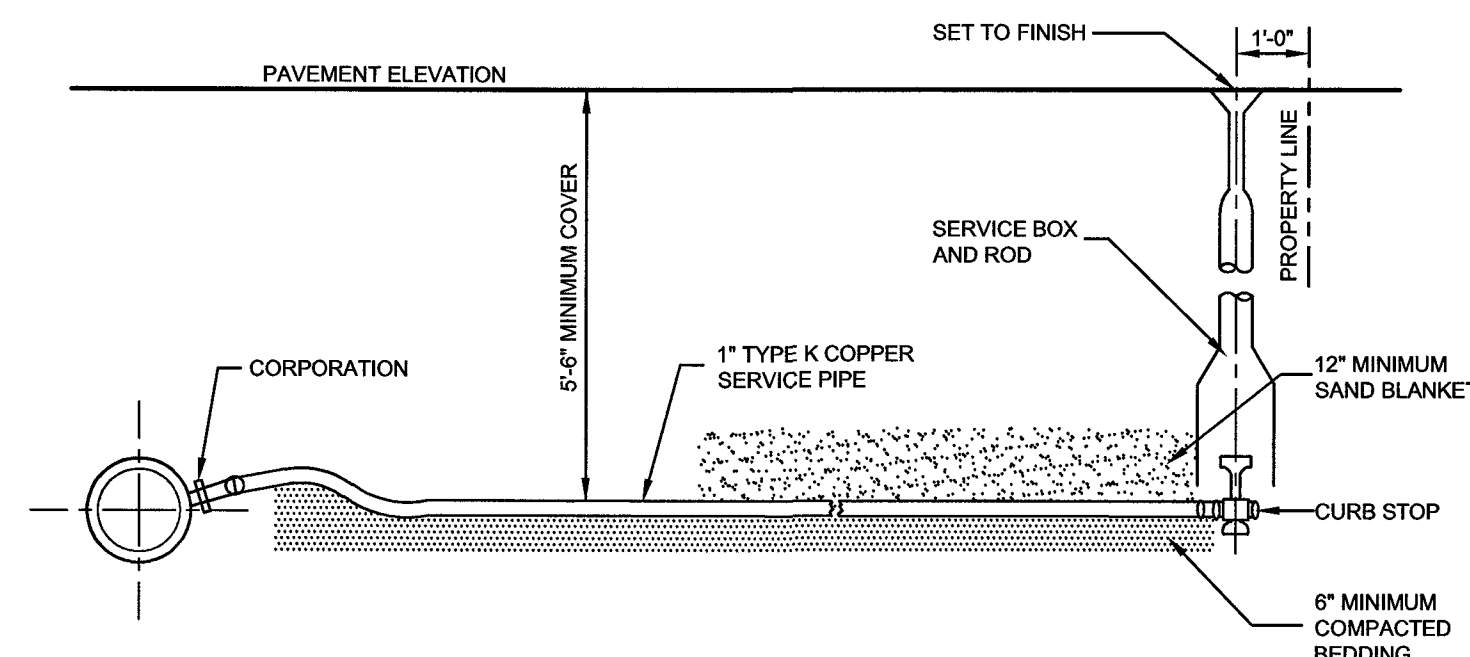
SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.



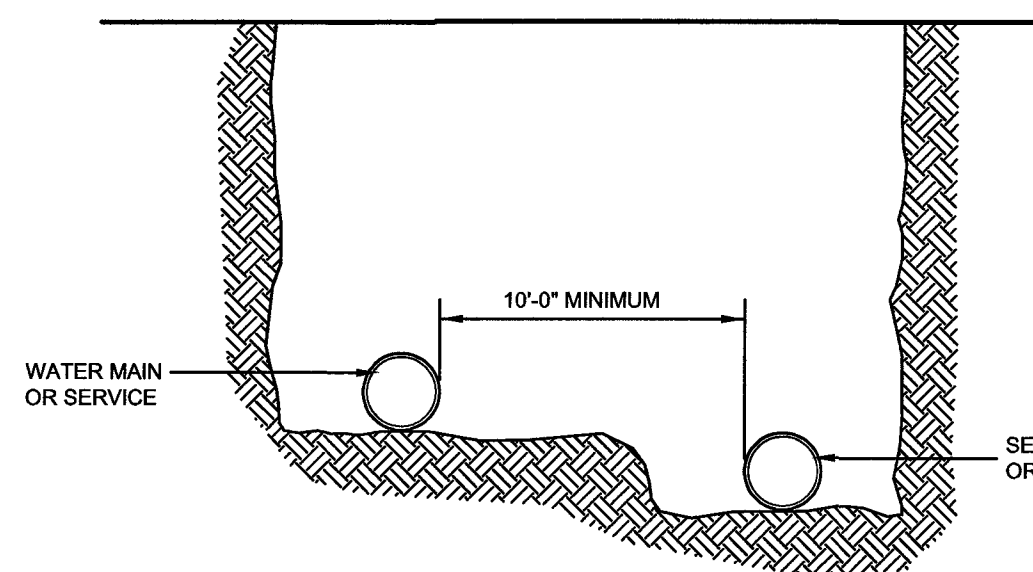
WATER LINE TRENCH DETAIL
NOT TO SCALE
(MARCH 2008)



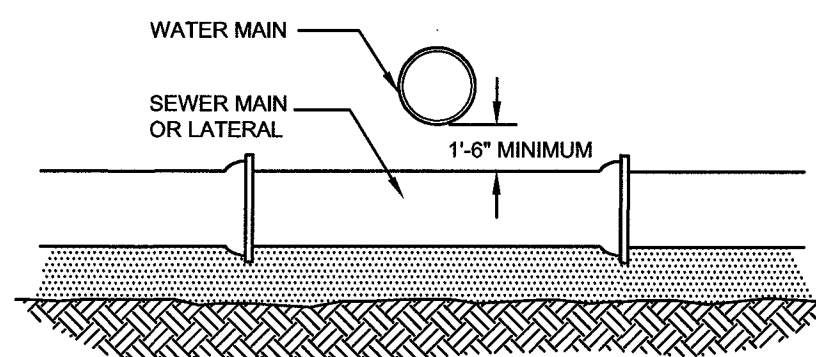
HYDRANT INSTALLATION
NOT TO SCALE
(MARCH 2008)



WATER SERVICE CONNECTION
NOT TO SCALE
(MARCH 2008)

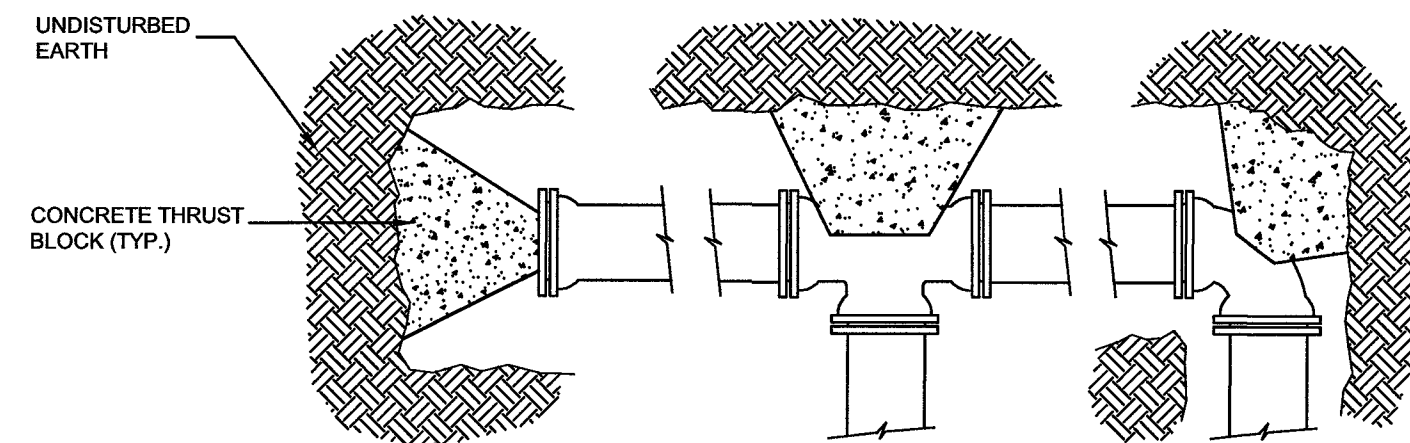


PARALLEL INSTALLATION

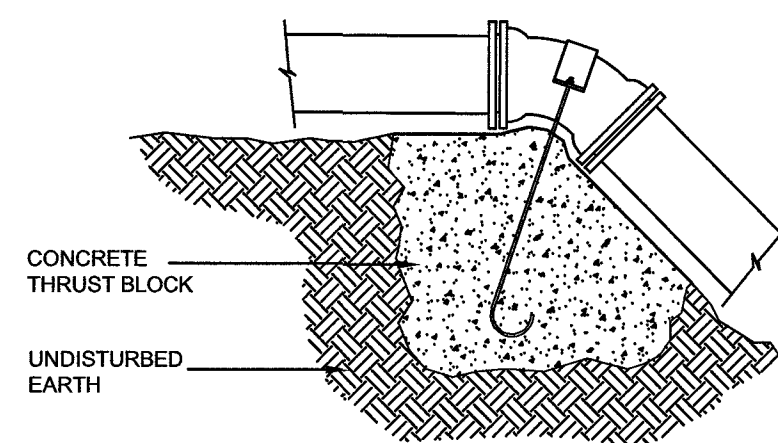


MAIN CROSSINGS

WATER MAIN/SEWER MAIN SEPARATION
NOT TO SCALE
(AUGUST 2011)



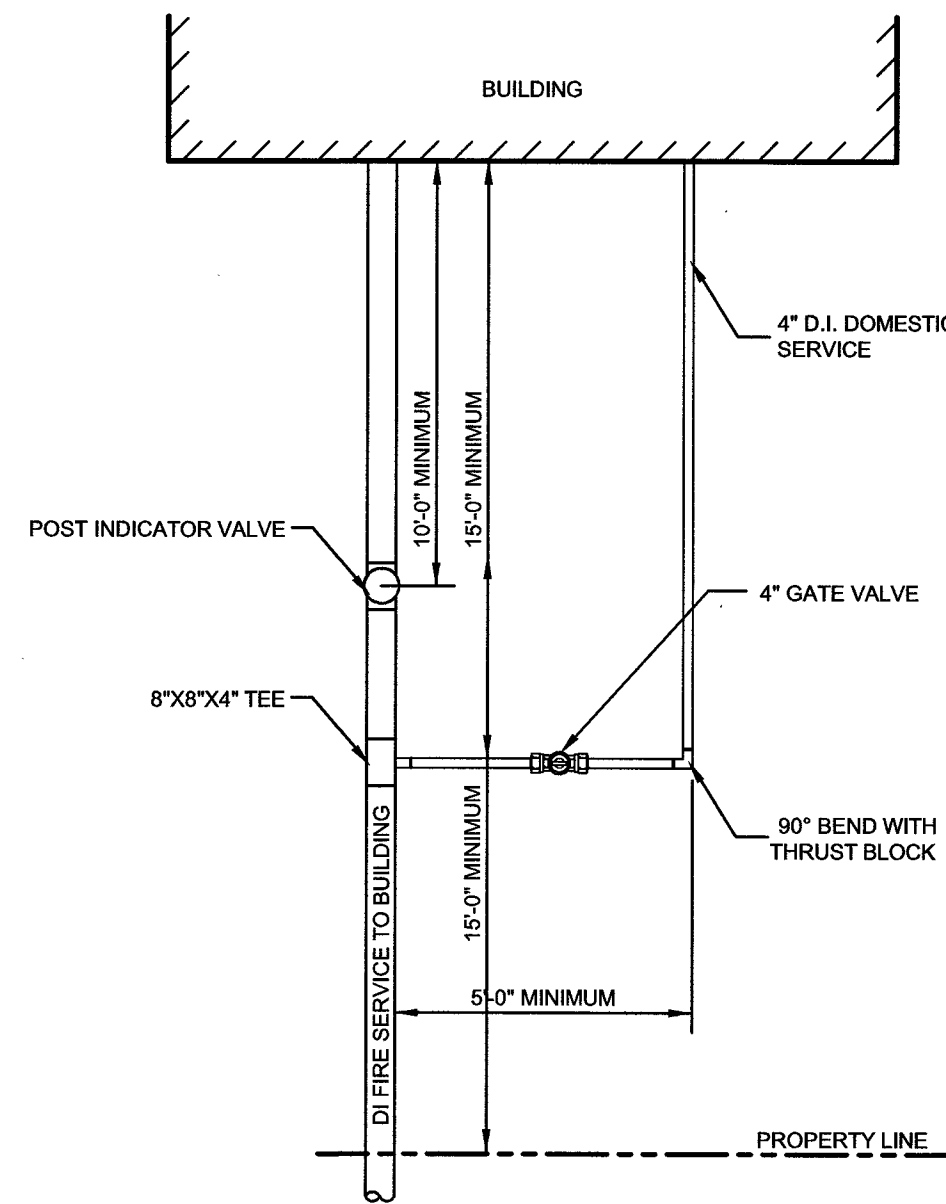
PLAN - HORIZONTAL BENDS, TEES AND PLUGS



ELEVATION - VERTICAL BENDS

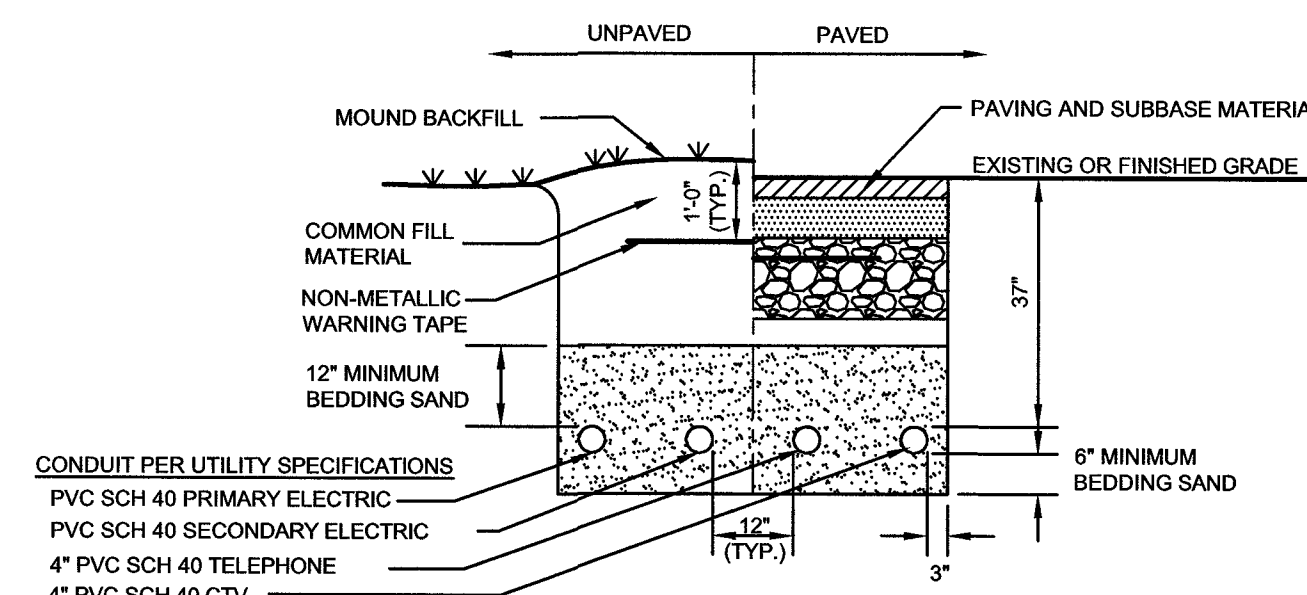
- NOTES:**
1. THRUST BLOCK DIMENSIONS TO BE DETERMINED IN FIELD BY ENGINEER BASED ON PIPE SIZE, WATER PRESSURE AND SOIL TYPE.
 2. STONE BACKING MAY BE SUBSTITUTED FOR CONCRETE THRUST BLOCKS PROVIDED THE STONE(S) ARE OF EQUAL SIZE AND BEAR ON UNDISTURBED EARTH.
 3. USE OF JOINT RESTRAINT SYSTEMS SHALL NOT ELIMINATE THRUST BLOCK REQUIREMENTS (WHERE POSSIBLE).

THRUST BLOCKS
NOT TO SCALE
(MARCH 2008)



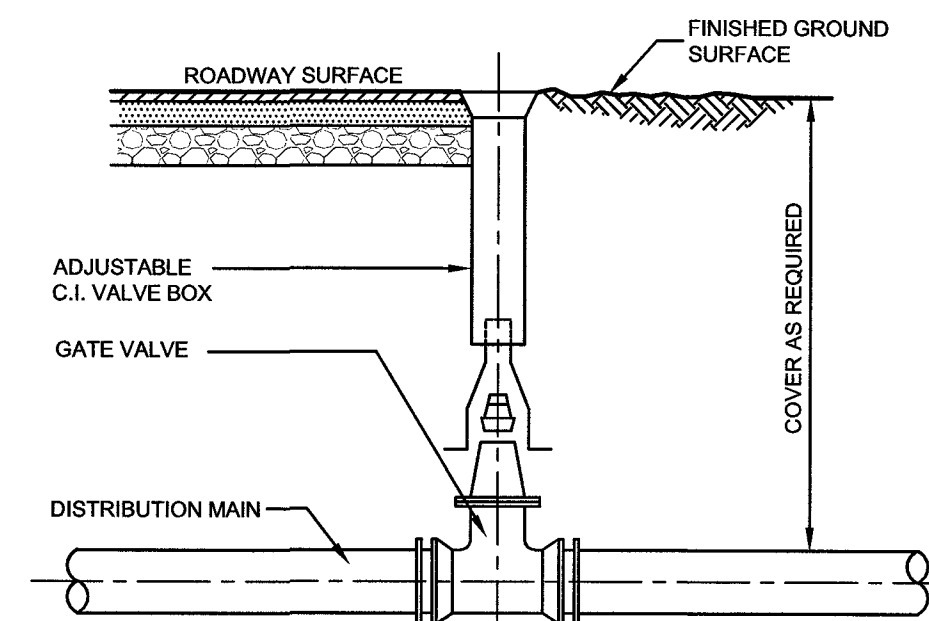
- NOTES:**
1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO MANCHESTER WATER WORKS, INC. TECHNICAL SPECIFICATIONS.
 2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5'-6\"/>

DOMESTIC SERVICE TAPPED OFF FIRE SERVICE
(A-24)
NOT TO SCALE
(MARCH 2008)

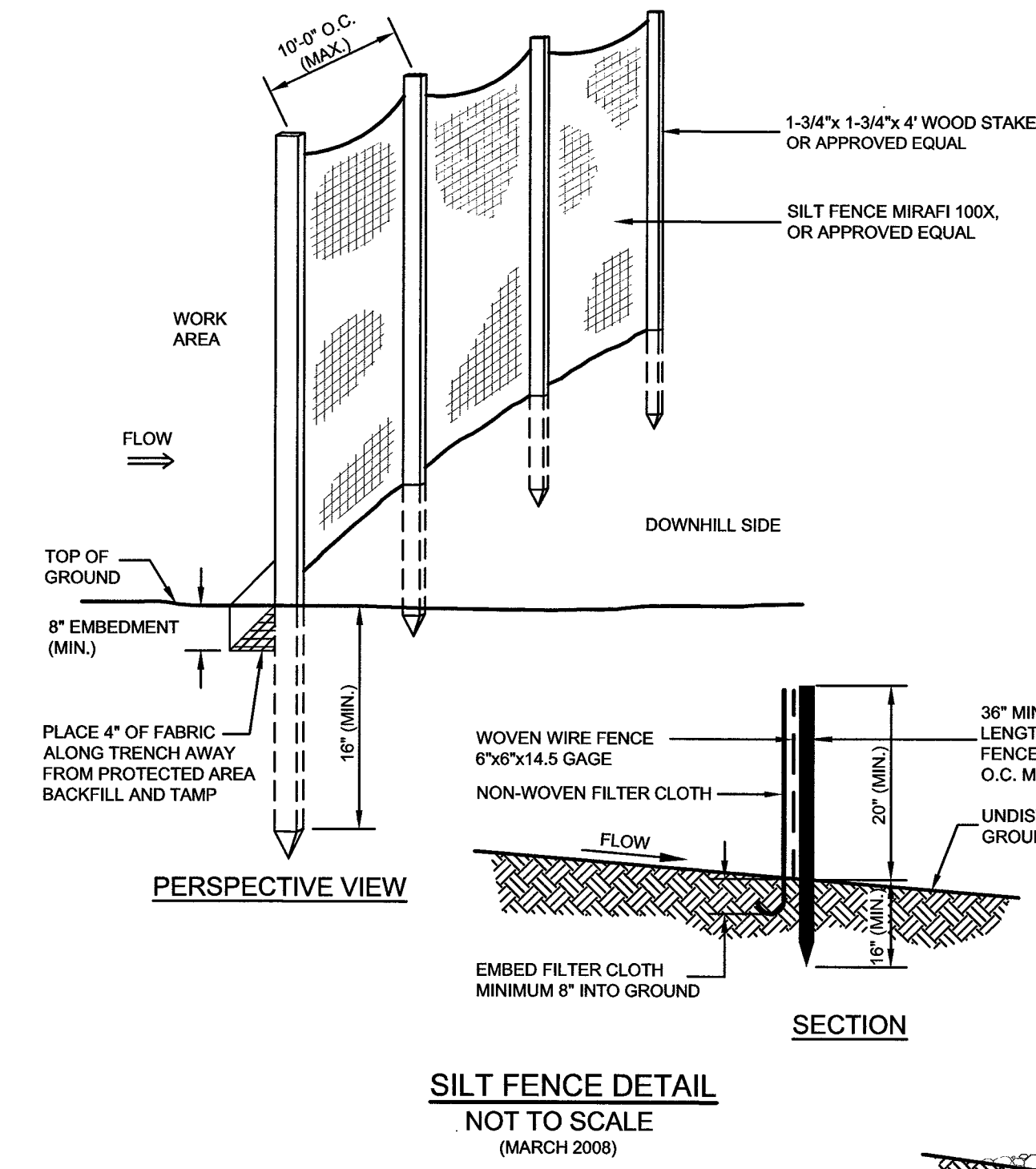


- NOTES:**
1. INSTALLATION AND MATERIALS OF UNDERGROUND UTILITIES SHALL CONFORM TO LOCAL UTILITY COMPANY SPECIFICATIONS.
 2. COORDINATE WITH UTILITY COMPANIES PRIOR TO THE START OF CONSTRUCTION.

UTILITY TRENCH DETAIL
NOT TO SCALE



WATER AND GAS GATE VALVE
NOT TO SCALE
(MARCH 2008)



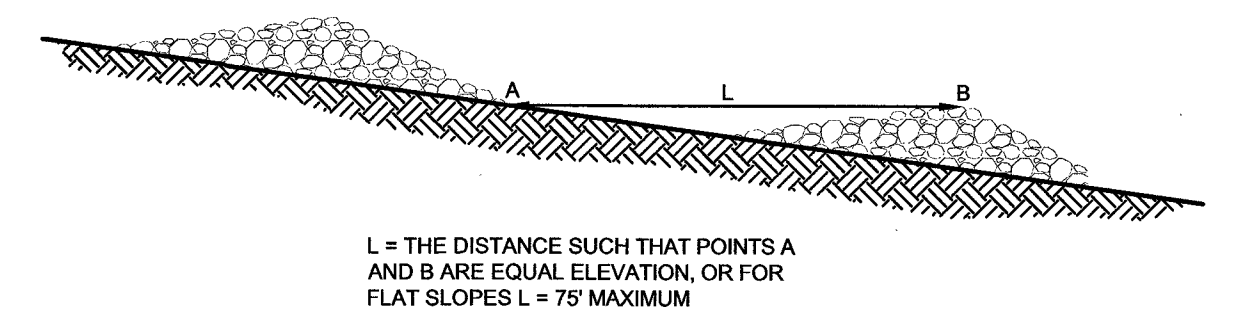
SILT FENCE DETAIL
NOT TO SCALE
(MARCH 2008)

CONSTRUCTION SPECIFICATIONS:

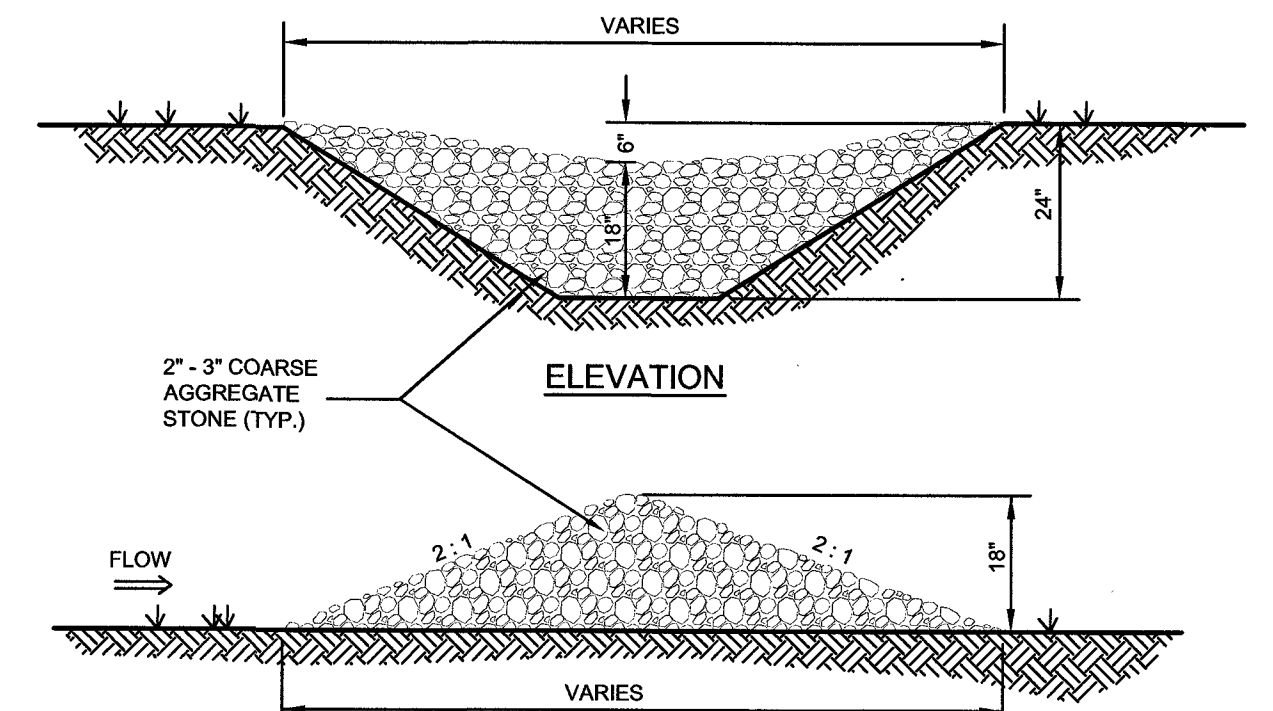
1. THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.
2. THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
3. WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIE OR STAPLES WHERE NOTED OR AS DIRECTED BY DESIGN ENGINEER.
4. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MIDSECTION AND BOTTOM.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
6. FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 16 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

MAINTENANCE:

1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2. IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
4. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.



STONE CHECK DAM SPACING DETAIL
NOT TO SCALE
(MARCH 2008)

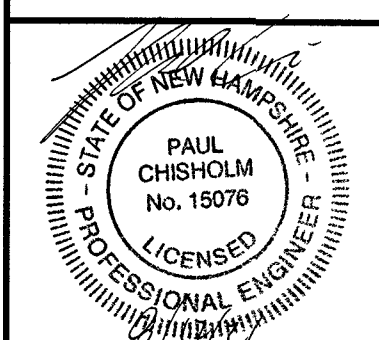


STONE CHECK DAM DETAIL
NOT TO SCALE
(MARCH 2008)

CONSTRUCTION DETAILS
S.L. CHASSE STEEL
MAP 105 LOT 17-3
ROBINSON ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:
STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, NH 03051
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KA
KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881



REVISIONS			
No.	DATE	DESCRIPTION	BY
1	05/12/21	TOWN COMMENTS	SCV
2	08/17/21	TOWN AND AOT COMMENTS	SCV
DATE: APRIL 6, 2021		SCALE: AS SHOWN	
PROJECT NO: 20-0921-1		SHEET 13 OF 15	

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD
DATE OF MEETING: _____

SIGNATURE DATE: _____

SIGNATURE DATE: _____

SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.

TURF ESTABLISHMENT SCHEDULE

PURPOSE:

TO ESTABLISH AND MAINTAIN PERMANENT AND TEMPORARY TURF AREAS, RESTORE GROWTH TO EXISTING TURF AREAS DISTURBED DURING CONSTRUCTION AND CONTROL SOIL EROSION.

PREPARATION AND EXECUTION:

1. RAKE THE SUBGRADE OF ALL AREAS TO BE LOAMED AND SEEDED TO REMOVE RUBBISH, STICKS, ROOTS AND STONES LARGER THAN 1 INCH.
2. PLACE LOAM OVER AREAS TO BE SEEDED AND SPREAD.
3. FINE GRADE SURFACE AND SUPPLEMENT WITH SUITABLE LOAM WHERE NEEDED. TO CREATE A UNIFORM SURFACE ACCORDING TO THE FINISH GRADES INDICATED. TOP AND BOTTOM OF SLOPES SHALL BE ROUNDED. NO LOAM SHALL BE SPREAD IF THE SUBGRADE IS EXCESSIVELY WET OR FROZEN.
4. APPLY LIME EVENLY OVER LOAM SURFACE AND THOROUGHLY INCORPORATE LIME INTO THE LOAM BY HEAVY RAKING TO AT LEAST ONE-HALF THE DEPTH OF THE LOAM.
5. APPLY NO PHOSPHATE, SLOW RELEASE FERTILIZER AND MIX WITH THE UPPER 2 INCHES OF LOAM.
6. DETERMINE APPROPRIATE MIXTURE FOR AREA TO BE SEEDED BASED ON EXAMINATION OF PROJECT PLANS. UNIFORMLY SPREAD THE SEED BY BROADCASTING OR HYDROSEEDING. IF BROADCASTING, LIGHTLY RAKE INTO THE PREPARED SURFACE AND ROLL. IF HYDROSEEDING, USE 4 TIMES THE RECOMMENDED RATE OF INOCULANT. AFTER SEED IS SPREAD, WATER THOROUGHLY WITH A FINE SPRAY.
7. SEEDING FOR PERMANENT COVER SHALL OCCUR BETWEEN SEPTEMBER 15 AND OCTOBER 15 AND BETWEEN APRIL 15 AND JUNE 15. SEEDING SHALL NOT BE DONE DURING WINDY WEATHER, WHEN THE GROUND IS FROZEN OR EXCESSIVELY WET OR OTHERWISE UNTILLABLE.
8. WITHIN 24 HOURS AFTER SEEDING OPERATION, UNIFORMLY MULCH THE AREA WITH STRAW. ANCHOR MULCH ON ALL SLOPES EXCEEDING 3:1 USING MULCH NETTING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER.
9. PROTECT AND PREVENT AGAINST WASHOUTS, ANY WASHOUTS WHICH OCCUR SHALL BE PROMPTLY REGRADED AND RESEED.
10. WHEN IT IS IMPRACTICAL TO ESTABLISH PERMANENT GROWTH ON DISTURBED EARTH BY OCTOBER 15, A TEMPORARY SEED MIXTURE SHALL BE USED. WHEN TEMPORARY SEEDING CANNOT ESTABLISH VISIBLE GROWTH, THE DISTURBED AREA SHALL BE COVERED WITH SIX INCHES OF MULCH FOR THE WINTER.

MAINTENANCE:

ALL SEEDED AREAS SHALL BE KEPT WATERED AND IN GOOD CONDITION. RESEED AS NECESSARY TO ESTABLISH HEALTHY UNIFORM GROWTH OVER THE ENTIRE SEEDED AREA. MAINTAIN SEEDED AREAS IN AN APPROVED CONDITION UNTIL FINAL ACCEPTANCE. MAINTENANCE SHALL INCLUDE REPAIRS FOR DAMAGE CAUSED BY EROSION.

APPLICATION RATES:

1. LOAM SHALL BE APPLIED AT A MINIMUM COMPACTED THICKNESS OF 4 INCHES.
2. LIME SHALL BE APPLIED AT A RATE OF 75 TO 100 POUNDS PER 1,000 S.F.
3. FERTILIZER SHALL BE APPLIED AT A RATE OF 30 POUNDS PER 1,000 S.F. IT IS RECOMMENDED THAT THE SOIL BE TESTED PRIOR TO APPLYING ANY FERTILIZERS TO DETERMINE WHAT LEVELS AND RATES ARE NECESSARY.
4. SEED MIXTURE FOR LAWN AREAS SHALL BE APPLIED AT A RATE OF AT LEAST 80 POUNDS PER ACRE OR 2 POUNDS PER 1,000 S.F.
5. TEMPORARY SEED MIXTURE SHALL BE APPLIED AT A RATE OF 2 POUNDS PER 1,000 S.F.
6. SEED MIXTURE FOR SLOPE AREAS SHALL BE APPLIED AT A RATE OF 80 POUNDS PER ACRE OR 2 POUNDS PER 1,000 S.F.
7. SEED MIXTURE FOR STORMWATER MANAGEMENT AREAS SHALL BE APPLIED AT A RATE OF 70 POUNDS PER ACRE OR 1.8 POUNDS PER 1,000 S.F.
8. MULCH SHALL BE APPLIED AT A RATE OF 90 POUNDS PER 1,000 S.F.

MATERIALS:

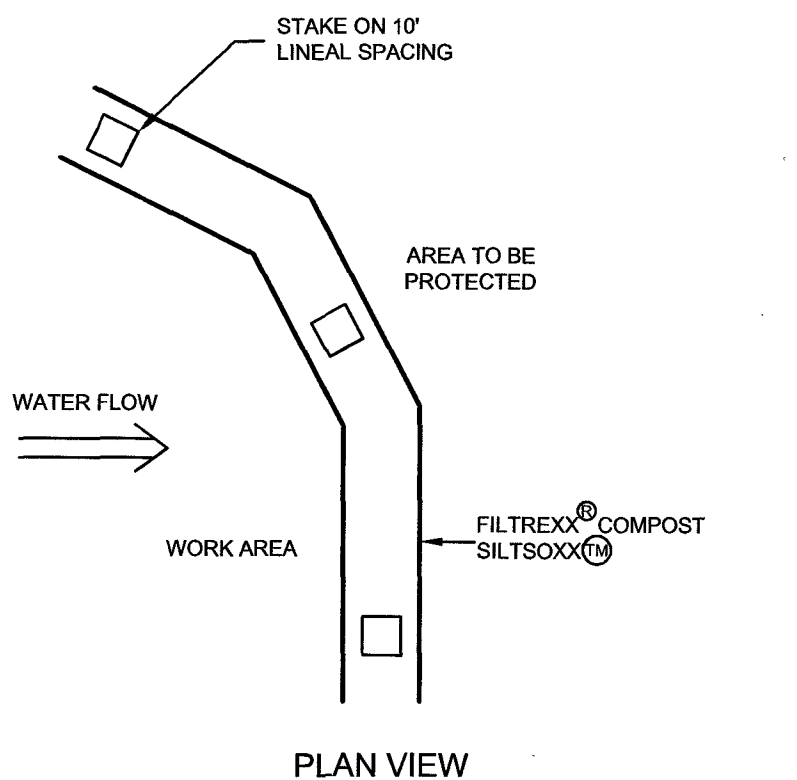
1. LOAM USED FOR TOPSOIL SHALL BE FRIABLE, FERTILE, NATURAL FREE-DRAINING LOAM; FREE OF ROOTS, GRASS, STICKS, WEEDS, CLAY, SOD LUMPS, DEBRIS AND STONES LARGER THAN 1 INCH IN ANY DIMENSION. SOIL SHALL NOT BE EXCESSIVELY ACID OR ALKALINE AND CONTAIN NO TOXIC MATERIALS.
2. LIME SHALL BE GROUND LIMESTONE CONTAINING NO LESS THAN 95% CALCIUM AND MAGNESIUM CARBONATES.
3. FERTILIZER SHALL BE NO PHOSPHORUS, SLOW RELEASE.
4. SEED MIXTURE FOR LAWN AREAS SHALL BE 99% PURE LIVE SEED AND CONSIST OF THE FOLLOWING:
 - 25% CREEPING RED FESCUE
 - 25% KENTUCKY BLUEGRASS
 - 25% REDTOP
 - 25% MANHATTAN PERENNIAL RYEGRASS
5. TEMPORARY SEEDING MIXTURE SHALL BE AN APPROVED CONSERVATION MIX OR CONSIST OF THE FOLLOWING:
 - 15% BLACKWELL OR SHELTER SWITCHGRASS
 - 30% NIAGRA OR KAW BIG BLUESTEM
 - 30% CAMPER OR BLAZE LITTLESTEM
 - 15% NE-27 OR BLAZE SAND LOVEGRASS
 - 10% VIKING BIRDSFOOT TREFOL

6. SEED MIXTURE FOR SLOPE AREAS SHALL BE 99% PURE LIVE SEED AND SHALL CONSIST OF THE FOLLOWING:
 - 30% CREEPING RED FESCUE
 - 40% PERENNIAL RYE GRASS
 - 15% REDTOP
 - 15% BIRDSFOOT TREFOL

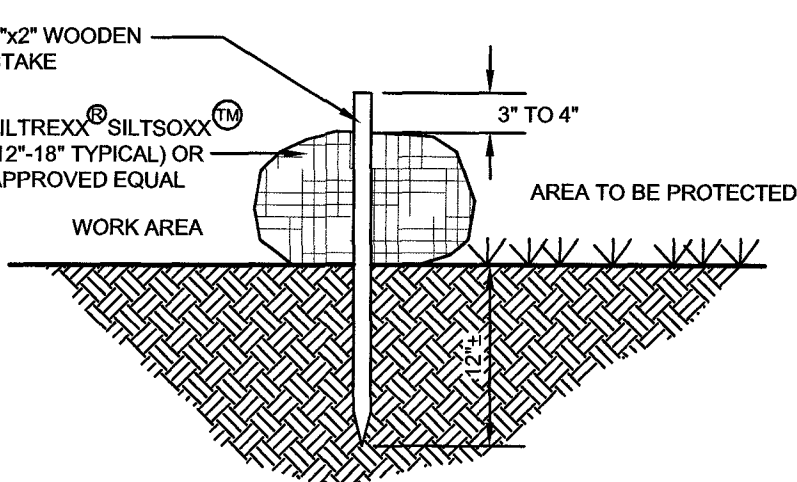
INOCULUM SPECIFIC TO BIRDSFOOT TREFOL MUST BE USED WITH THIS MIXTURE. IF SEEDING BY HAND, A STICKING AGENT SHALL BE USED. IF SEEDING WITH A HYDROSEEDER, USE FOUR TIMES THE RECOMMENDED AMOUNT OF INOCULUM.

7. SEED MIXTURE FOR STORMWATER MANAGEMENT AREAS, INCLUDING DETENTION BASINS AND VEGETATED TREATMENT SWALES SHALL CONSIST OF THE FOLLOWING:
 - 25% CREEPING RED FESCUE
 - 15% SWITCH GRASS
 - 15% FOX SEDGE
 - 15% CREEPING BENTGRASS
 - 10% FLATPEA
 - 20% WILDFLOWER VARIETY

8. STRAW USED FOR MULCH SHALL CONSIST OF MOWED AND PROPERLY CURED GRASS OR LEGUME MOWINGS, FREE FROM WEEDS, TWIGS, DEBRIS OR OTHER DELETERIOUS MATERIAL AND ROT OR MOLD.
9. NATIVE PLANTINGS SHOULD BE USED FOR ALL NEW GREENSCAPES.
10. ALL WILDFLOWER SEEDING MIXES SHOULD BE FREE OF INVASIVE SPECIES.



PLAN VIEW

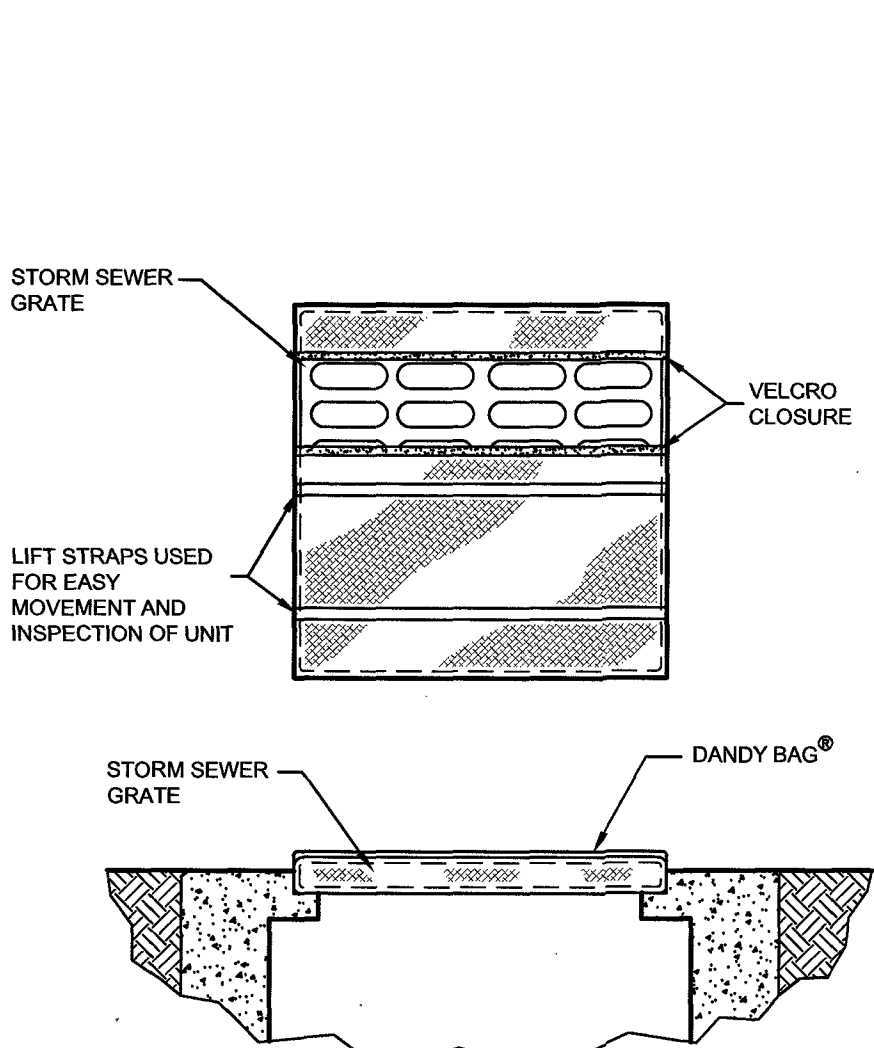


SECTION VIEW

NOTES:

1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. SILTOSOXX® COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.
3. SILTOSOXX® DEPICTED IS FOR MINIMUM SLOPES. GREAT SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER.
4. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

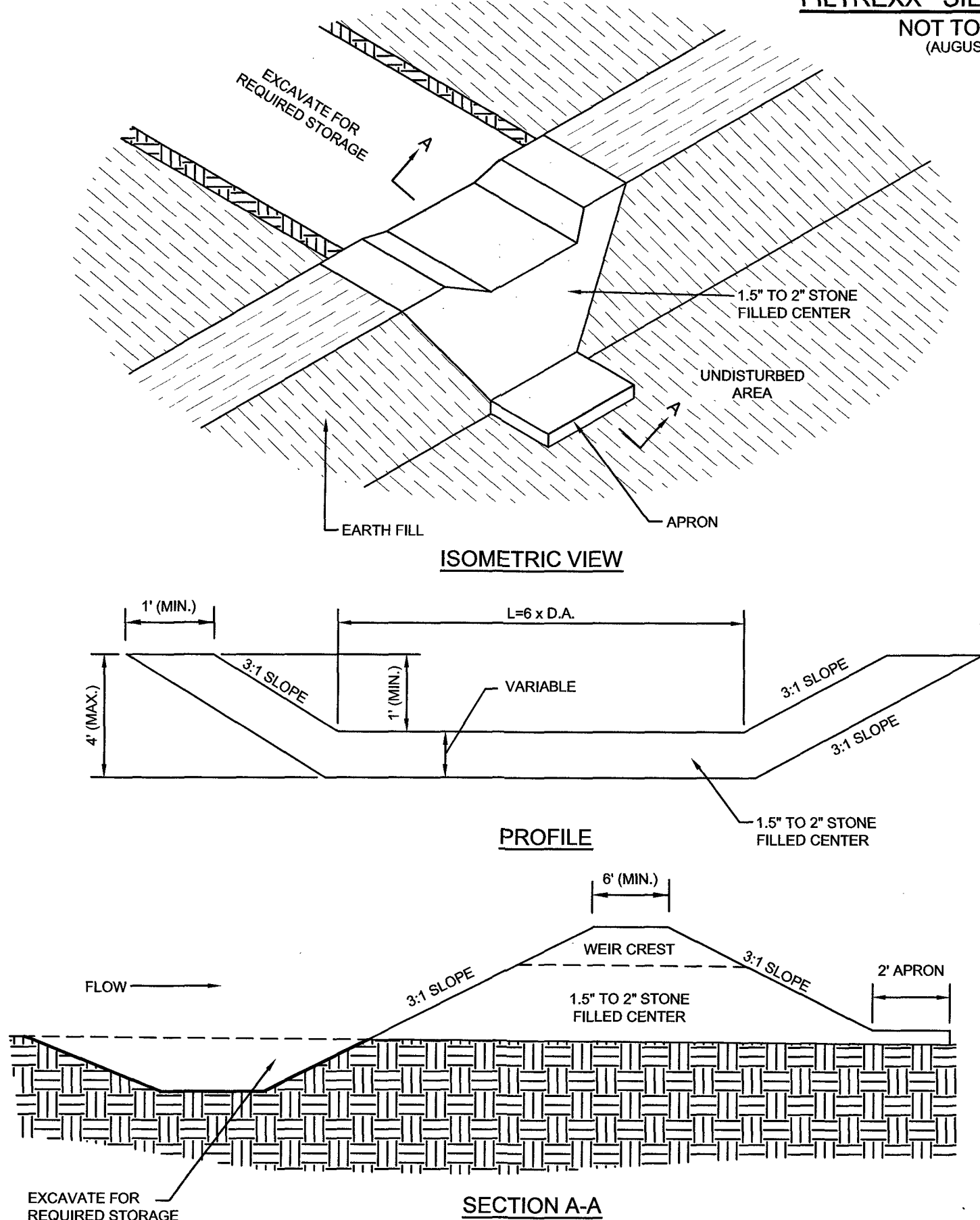
FILTREXX® SILTOSOXX® DETAIL
NOT TO SCALE
(AUGUST 2011)



HI-FLOW DANDY BAG® (SAFETY ORANGE)

MECHANICAL PROPERTIES	TEST METHOD	UNITS	MARV
GRAB TENSILE STRENGTH	ASTM D 4632	KN (lbs)	1.62 (365) x 0.89 (200)
GRAB TENSILE ELONGATION	ASTM D 4632	%	24 x 10
PUNCTURE STRENGTH	ASTM D 4833	KN (lbs)	0.40 (90)
MULLEN BURST STRENGTH	ASTM D 3786	KPa (psi)	3097 (450)
TRAPEZOID TEAR STRENGTH	ASTM D 4833	KN (lbs)	0.51 (115) x 0.33 (75)
UV RESISTANCE	ASTM D 4355	%	90
APPARENT OPENING SIZE	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
FLOW RATE	ASTM D 4481	1/min/m ² (gal/min/ft ²)	5907 (145)
PERMITTIVITY	ASTM D 4491	Sec ⁻¹	2.1

DANDY BAG®
NOT TO SCALE
(APRIL 2010)

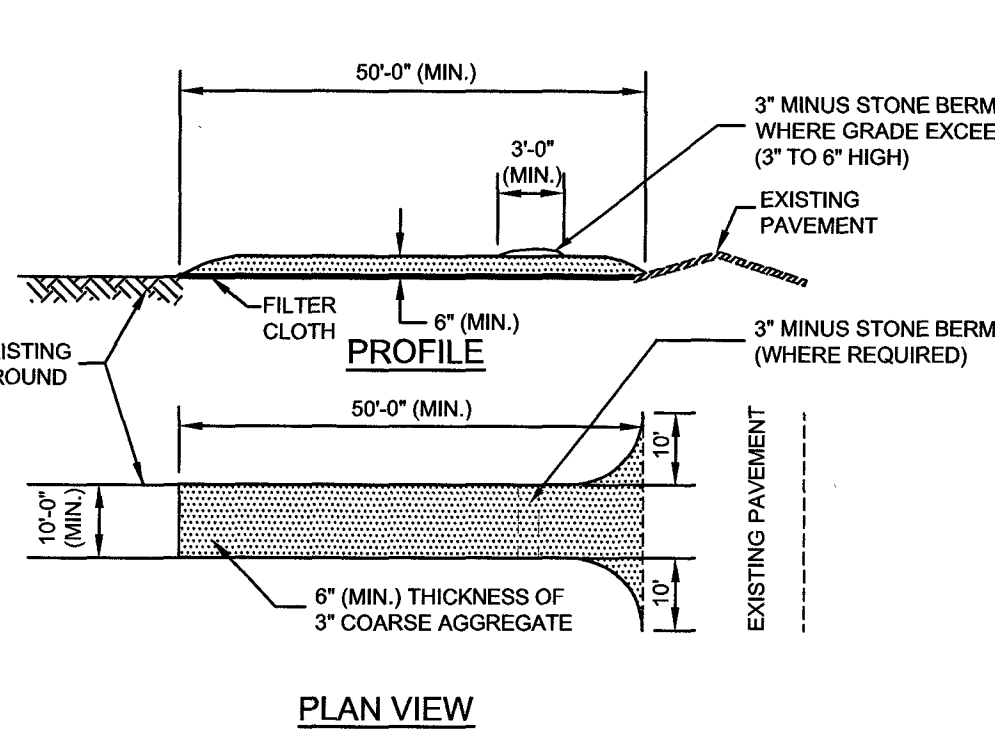


SECTION A-A

NOTES:

1. THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA OR SOURCE OF SEDIMENT AS POSSIBLE.
2. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE TRAP SHALL BE LESS THAN 5 ACRES.
3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
4. THE SIDE SLOPES OF THE TRAP SHALL BE 3:1 OR FLATTER, AND SHALL BE STABILIZED IMMEDIATELY AFTER THEIR CONSTRUCTION.
5. THE OUTLET OF THE TRAP SHALL BE A MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP AND SHALL DISCHARGE TO A STABILIZED AREA.
6. THE TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
7. THE MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.
8. SEDIMENT TRAPS AND/OR BASINS SHOULD BE USED AS NECESSARY TO CONTAIN RUNOFF UNTIL BASINS/PONDS ARE STABILIZED.

TEMPORARY SEDIMENT TRAP DETAIL
NOT TO SCALE



PLAN VIEW

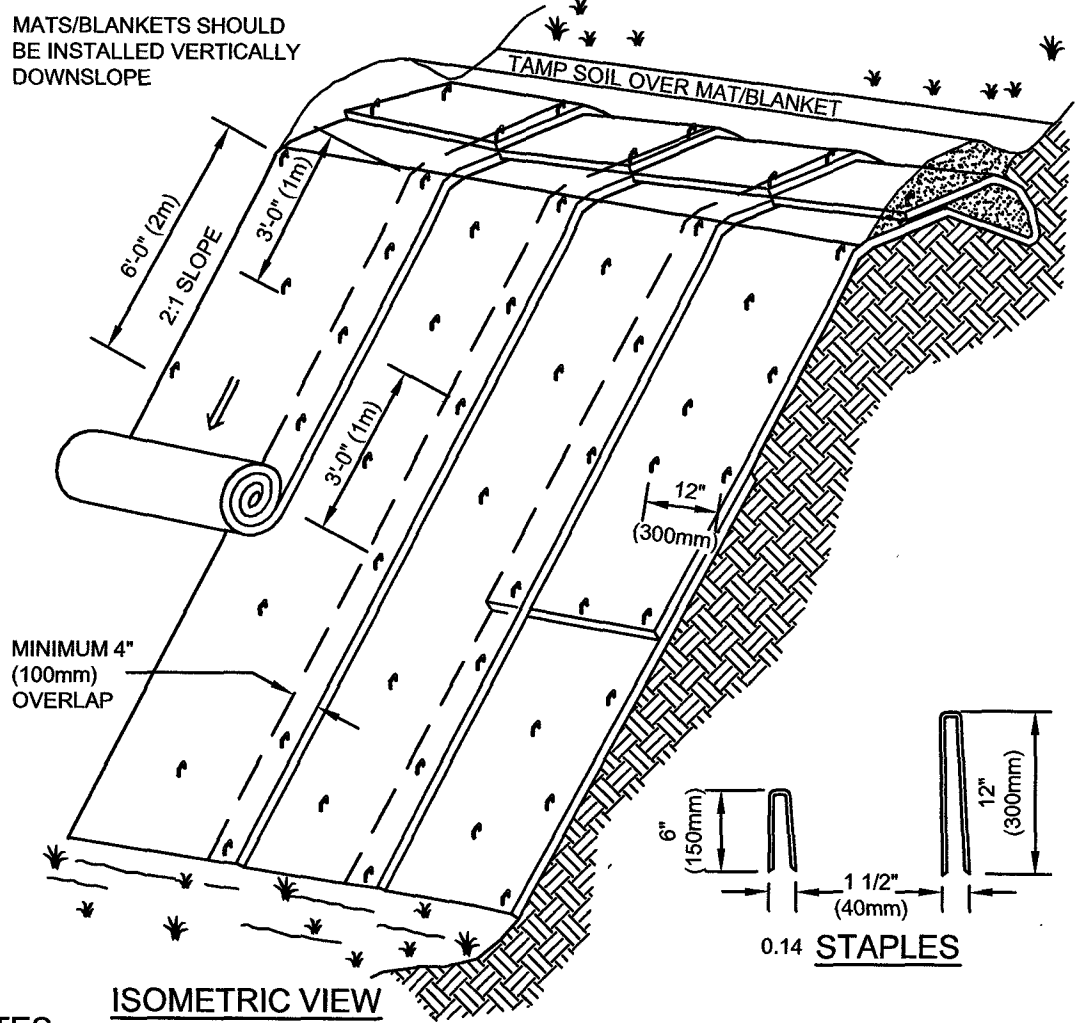
STABILIZED CONSTRUCTION EXIT DETAIL
NOT TO SCALE

MAINTENANCE:

1. MUD AND SOIL PARTICLES WILL EVENTUALLY CLOG THE VOIDS IN THE CRUSHED STONE AND THE EFFECTIVENESS OF THE CRUSHED STONE PAD WILL NOT BE SATISFACTORY. WHEN THIS OCCURS, THE PAD SHOULD BE TOPDRESSED WITH NEW CRUSHED STONE OR COMPLETE REPLACEMENT OF THE PAD MAY BE NECESSARY WHEN THE PAD BECOMES COMPLETELY CLOGGED.
2. IF WASHING FACILITIES ARE USED, THE SEDIMENT TRAPS SHOULD BE CLEANED OUT AS OFTEN AS NECESSARY TO ASSURE THE ADEQUATE TRAPPING EFFICIENCY AND STORAGE VOLUME IS AVAILABLE. VEGETATIVE FILTER STRIPS SHOULD BE MAINTAINED TO INSURE A VIGOROUS STAND OF VEGETATION AT ALL TIMES.

CONSTRUCTION SPECIFICATIONS:

1. STONE FOR A STABILIZED CONSTRUCTION EXIT SHALL BE 3 INCH MINIMUM STONE, RECLAIMED STONE OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED EXIT SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3. THE THICKNESS OF THE STONE FOR THE STABILIZED EXIT SHALL NOT BE LESS THAN 3 INCHES.
4. THE WIDTH OF THE EXIT SHALL NOT BE LESS THAN THE FULL WIDTH OF THE AREA WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICHEVER IS GREATER.
5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENCE LOT.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION EXIT SHALL BE PIPED BENEATH THE EXIT. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.
8. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. THE MOUNTABLE BERM IS REQUIRED FOR 50' LONG EXITS.



NOTES:

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
4. EROSION BLANKETS TO BE A BCN150 OR AN APPROVED ALTERNATIVE WHICH MUST CONSIST OF ALL NATURAL FIBERS.

EROSION CONTROL BLANKETS - SLOPE INSTALLATION
NOT TO SCALE
(AUGUST 2011)

CONSTRUCTION SEQUENCE

1. THE CONTRACTOR WILL ENSURE THAT NO MORE THAN 5 ACRES IS DISTURBED AT ANY ONE TIME.
2. FIRST CUT AND CLEAR TREES AND BRUSH ONLY WITHIN DESIGNATED LIMITS OF CLEARING AS NECESSARY TO FACILITATE PROPOSED CONSTRUCTION. ALL TREES, BRANCHES AND OTHER VEGETATIVE MATERIALS SHALL BE PROPERLY DISPOSED OF OFF SITE BY THE CONTRACTOR. THIS PROJECT IS MANAGED TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
3. PRIOR TO COMMENCEMENT OF ANY EARTHMOVING OPERATIONS, ALL APPLICABLE TEMPORARY EROSION CONTROL MEASURES, INCLUDING SPECIFIED PERIMETER SILTATION FENCING AND STABILIZED CONSTRUCTION EXIT SHALL BE IN PLACE AS SHOWN ON THE PROJECT PLANS.
4. COMPLETE GRUBBING OPERATIONS. ALL STUMPS AND SIMILAR ORGANIC DEBRIS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR. NATIVE ORGANIC SOIL MATERIALS SUITABLE FOR USE AS TOPSOIL SHALL BE STOCKPILED WITHIN AREAS OUT OF THE WAY OF OTHER CONSTRUCTIONS AND ACTIVITIES AND DRAINAGE FLOW. STOCKPILES SHALL BE TEMPORARILY SEEDED WITH WINTER RYE AND BE SURROUNDED WITH STRAW BALES AND/OR FABRIC SILTATION FENCE IN ORDER TO PREVENT LOSS DUE TO EROSION.
5. BEGIN EARTHMOVING OPERATIONS, COMMENCING WITH WORK NEEDED TO BALANCE SITE AND FACILITATE BUILDING FOUNDATION AND RETAINING WALL CONSTRUCTION. PERMANENT DOWNSLOPE WORK SHALL BE PROTECTED FROM UPGRADIENT STORMWATER FLOW BY THE CONSTRUCTION OF TEMPORARY EARTHEN DIKES OR EXCAVATED SWALES.
6. ONCE BUILDING FOUNDATION WORK IS UNDERWAY, CONTINUE EARTHMOVING OPERATIONS UNTIL DESIGN SUBGRADE IS ACHIEVED.
7. DETENTION BASINS/SWALES SHALL BE INSTALLED BEFORE ROUGH GRADING THE SITE.
8. DITCHES/SWALES/BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
9. TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC.) MUST BE USED AS NECESSARY UNTIL SOILS ARE STABILIZED.
10. INSTALL DRAINAGE SWALE SYSTEMS AND OTHER UTILITIES WORKING FROM LOW TO HIGH. INCOMPLETE WORK SHALL BE PROTECTED FROM SILTATION BY THE USE OF SILTATION BARRIERS AROUND SWALES UNTIL THE SITE HAS BECOME FULLY STABILIZED.
11. DEEPLY TILL THE BASE OF THE INFILTRATION BASIN TO RESTORE INFILTRATION RATES FOLLOWED BY A PASS WITH A LEVELING DRAG. STORMWATER FLOWS ARE NOT TO BE DIRECTED TO THE INFILTRATION AREA UNTIL CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
12. PLACE GRAVEL AND CRUSHED GRAVEL OVER PROPOSED DRIVEWAY, WALKS AND PARKING AREAS AND COMPACT IN SPECIFIED LIFT THICKNESS.
13. COMPLETE EXCAVATION/STABILIZATION GRADING ACTIVITIES. WHEN COMPLETE, IMMEDIATELY BEGIN TOPSOILING PROPOSED TURF AREAS USING STOCKPILED LOAM SUPPLEMENTED WITH BORROW LOAM, IF NECESSARY, TO LEAVE A THICKNESS OF 4 INCHES OF FRIABLE LOAM.
14. FINE GRADE ALL FUTURE TURF AREAS AND HYDROSEED WITH THE SPECIFIED SEED MIXTURE IMMEDIATELY AFTER FINE GRADING IS COMPLETED. ALL AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
15. INSTALL THE BINDER COURSE OF PAVEMENT OVER ALL DESIGNATED AREAS.
16. CONTINUE TO MONITOR AND RECTIFY MINOR SITE AND SLOPE EROSION UNTIL ENTIRE SITE APPEARS TO BE COMPLETELY STABILIZED AND VEGETATED WITH A HEALTHY STAND OF TURF OR GROUND COVER. MAINTAIN SPECIFIED SILTATION/EROSION CONTROL MEASURES THROUGH ONE WINTER.
17. INSTALL THE SPECIFIED WEARING COURSE OF PAVEMENT OVER THE BINDER COURSE.
18. COMPLETE INSTALLATION OF LANDSCAPING, SIGNAGE AND OTHER SITE AMENITIES.

CERTIFICATE OF OCCUPANCY PHASING PLAN AGREEMENT:

1. THE FOLLOWING SITE IMPROVEMENTS ARE REQUIRED FOR INDIVIDUAL CERTIFICATES OF OCCUPANCY AS CONSTRUCTION PROGRESSES:
 - A. ROAD BASE COAT;
 - B. STOP SIGNS AND TEMPORARY STRIPING OF STOP BARS;
 - C. GRADING AND DRAINAGE;
 - D. LOAM AND SEED THAT SUPPORTS THE SUBJECT UNIT OF THE CERTIFICATE OF OCCUPANCY;
 - E. TEMPORARY STRIPING OF VISITOR PARKING; AND
 - F. UTILITIES.

EROSION CONTROL NOTES

1. EXPOSED EARTHWORK SHALL BE CONFINED TO AS LIMITED AN AREA AS IS PRACTICAL AT ANY GIVEN TIME THROUGHOUT THE CONSTRUCTION SEQUENCE. AT NO TIME SHALL MORE THAN FIVE (5) ACRES OF SITE AREA BE IN AN UNSTABLE CONDITION UNLESS AN ENVIRONMENTAL MONITORING PROGRAM IS EMPLOYED THROUGH THE DURATION OF CONSTRUCTION. NO GIVEN AREA OF THE SITE SHALL BE LEFT IN AN UNSTABILIZED CONDITION FOR A PERIOD OF TIME EXCEEDING FORTY-FIVE (45) CALENDAR DAYS.
2. TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH PROJECT PLANS. IN ADDITION, SIMILAR MEASURES SHALL BE INSTALLED WHERE AND WHEN THE FIELD CONDITION, OR FIELD OPERATION OF THE INDIVIDUAL SITE CONTRACTOR, MAY WARRANT. ALL TEMPORARY EROSION CONTROL MEASURES USED SHALL BE INSPECTED WEEKLY WITHIN 24 HOURS AFTER 0.25" OF RAINFALL OR MORE. THEY SHALL BE CLEANED AND MAINTAINED AND OTHERWISE KEPT IN AN EFFECTIVE OPERATING MANNER THROUGHOUT THE CONSTRUCTION PERIOD.
3. ALL DISTURBED AREAS DESIGNATED TO BE TURF SHALL RECEIVE A MINIMUM APPLICATION OF 4 INCHES OF LOAM (COMPACTED THICKNESS), PRIOR TO FINAL SEEDING AND MULCHING.
4. EROSION CONTROL AND STABILIZATION SHALL BE IN ACCORDANCE WITH HILLSBOROUGH COUNTY CONSERVATION DISTRICT-VEGETATIVE STANDARD AND SPECIFICATIONS FOR SEEDING GRASSES AND LEGUMES FOR LONG-TERM COVER ON EXCAVATED AREAS.
5. ALL SWALES AND DITCHLINES SHALL BE PERIODICALLY CLEANED OF DEPOSITED SEDIMENT SO AS TO MAINTAIN AN EFFECTIVE GRADE AND CROSS SECTION. ALL SWALES AND DITCHLINES SHALL BE FULLY STABILIZED PRIOR TO HAVING STORMWATER DIRECTED TOWARDS THEM.
6. IN THE EVENT THAT, DURING CONSTRUCTION OF ANY PORTION OF THIS PROJECT, A WINTER SHUTDOWN IS NECESSARY, THE CONTRACTOR SHALL STABILIZE ALL INCOMPLETE WORK AND PROVIDE FOR SUITABLE METHODS OF DIVERTING RUNOFF IN ORDER TO ELIMINATE SHEET FLOW ACROSS FROZEN SURFACES.
7. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - A. BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
 - B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
 - D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
8. DUST SHALL BE CONTROLLED BY THE USE OF WATER AS NECESSARY THROUGHOUT THE CONSTRUCTION PERIOD, IN ACCORDANCE WITH ENV-A 1000.
9. IN NO WAY ARE THOSE TEMPORARY EROSION CONTROL MEASURES INDICATED ON THESE PLANS TO BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR SHALL USE JUDGEMENT IN INSTALLING SUPPLEMENTARY EROSION CONTROL MEASURES WHERE AND WHEN SPECIFIC SITE CONDITIONS AND/OR CONSTRUCTION METHODOLOGIES MAY WARRANT.
10. THE TOWN RESERVES THE RIGHT TO REQUIRE ADDITIONAL EROSION CONTROL MEASURES DURING CONSTRUCTION.
11. AREAS HAVING FINISH GRADE SLOPES OF 3:1 OR STEEPER, SHALL BE STABILIZED WITH JUTE MATTING WHEN AND IF FIELD CONDITIONS WARRANT, OR IF SO ORDERED. JUTE MATTING INSTALLED TO CONFORM WITH THE RECOMMENDED BEST MANAGEMENT PRACTICE OUTLINED IN VOLUME 5 OF THE NEW HAMPSHIRE STORMWATER MANUAL. EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION.
12. DETENTION BASINS/SWALES SHALL BE INSTALLED BEFORE ROUGH GRADING THE SITE.
13. DITCHES/SWALES/BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
14. TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC.) MUST BE USED AS NECESSARY UNTIL SOILS ARE STABILIZED.
15. ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
16. ALL CUT AND FILL SLOPES SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

WINTER CONSTRUCTION NOTES:

1. ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 4:1. AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3 OR, IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON, BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.
4. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - A. BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
 - B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
 - D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

CONSTRUCTION DETAILS S.L. CHASSE STEEL

MAP 105 LOT 17-3
ROBINSON ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:
STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, NH 03051
H.C.R.D. BK. 9327 PG. 197

KMA

KEACH-NORDSTROM ASSOCIATES, INC.

Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

REVISIONS

No.	DATE	DESCRIPTION	BY
1	05/12/21	TOWN COMMENTS	SCV
2	08/17/21	TOWN AND AOT COMMENTS	SCV

DATE: APRIL 6, 2021

PROJECT NO: 20-0921-1

SCALE: AS SHOWN

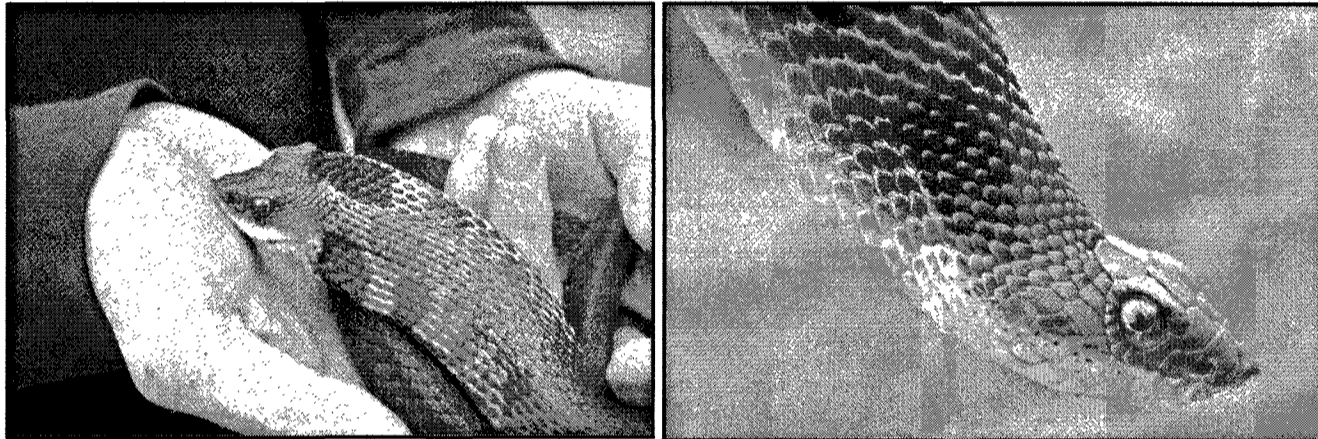
SHEET 14 OF 15



**REPORT EASTERN HOGNOSE SNAKE
OBSERVATIONS**

Report sightings immediately to NHFG Wildlife Division at 603-271-2461 (M-F 8-4) or to NHFG Wildlife Biologist Melissa Doperalski 603-479-1129 (call or text) anytime.
Please report promptly, noting specific location and date – Photographs strongly encouraged

- Black, gray or patterned appearance
- upturned snout
- Adults are 2-3 ft. long
- May spread neck out or hiss
- May play dead if they feel threatened.
- Rarely bite – display is a defense strategy
- Can be found in a variety of habitats throughout the season



**REPORT OBSERVATIONS
EASTERN BOX TURTLE (state endangered)**

Report sightings immediately to NHFG Wildlife Division to New Hampshire Fish and Game:
Wildlife Biologist Melissa Doperalski 603-479-1129 (call or text) anytime
Wildlife Biologist Josh Megyesy at 978-578-0802 (call or text), or
If you are unable to reach a biologist you may also contact the Wildlife Administrator at: 603-271-2461 (M-F 8-4)

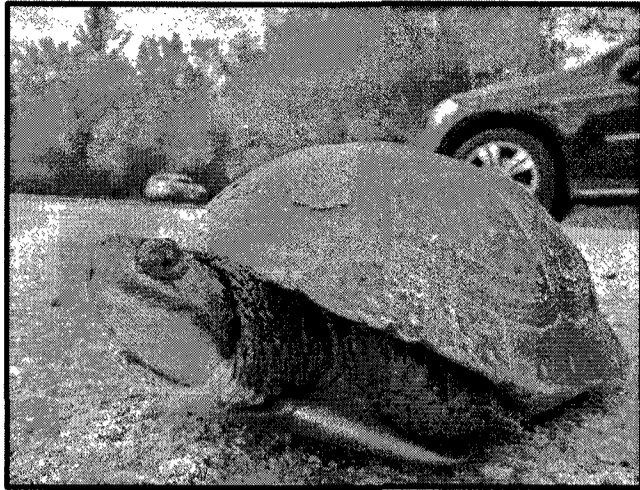
Please report promptly, noting specific location and date – Photographs strongly encouraged

- Smaller turtle about 4.5-7 inches long (adult ones).
- Highly domed shell with variable patterning.
- Shell color patterns vary greatly from irregular yellow or orange markings with dark brown or black base.
- Skin is uniformly dark with yellow or orange markings.
- During warm months (May – June) nests in loose, sandy or loamy soil
- Eastern box turtles nests are protected under state law.



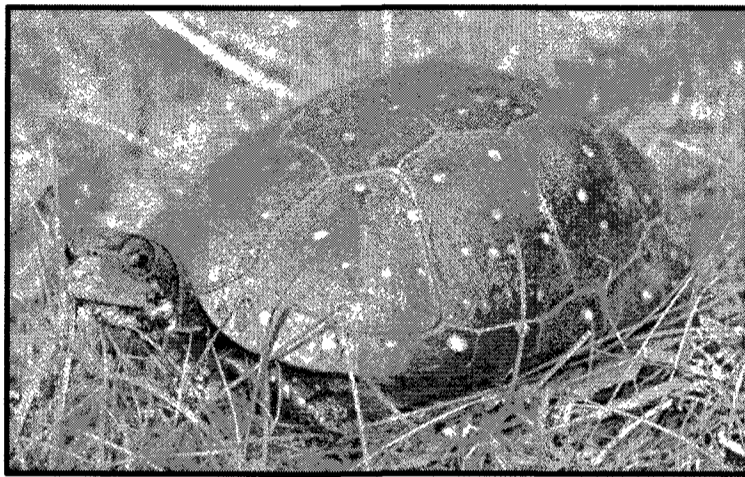
**PLEASE REPORT OBSERVATIONS OF
RARE TURTLES**

*The NH Fish & Game Department is requesting
observations of the following turtle species*



Blanding's turtle
(State Endangered)

Large, dark/black domed shell with lighter speckles.
Distinct yellow throat/chin.
Aquatic but often moves on land.



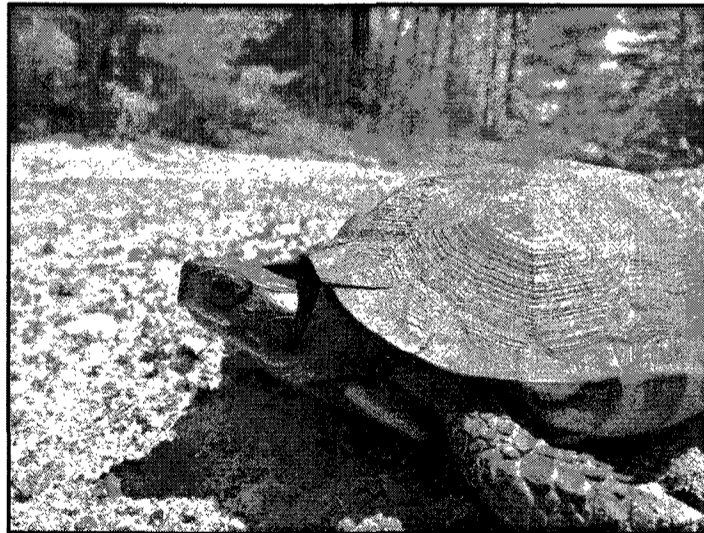
Spotted turtle
(State Threatened)

Small, mostly aquatic with black or dark brown with yellow spots.
Fairly flat shell compared to Blanding's turtle.
Spots vary in color and number.

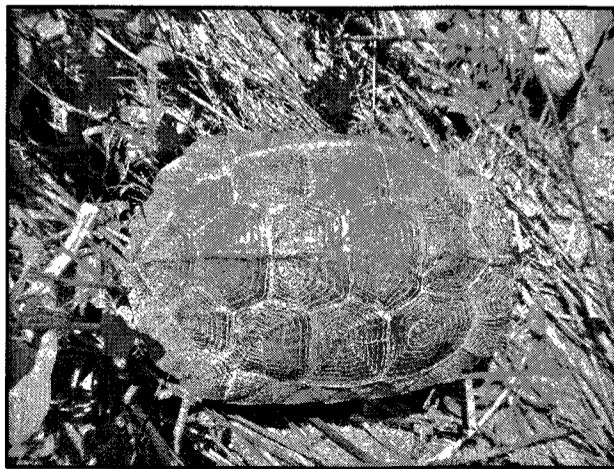
Report sightings immediately to NHFG Wildlife Division at 603-271-2461 (M-F 8-4) or to NHFG Wildlife Biologist Melissa Doperalski 603-479-1129 (cell) anytime.
Please report promptly, noting specific location and date – Photographs strongly encouraged

Wood Turtle

(*Glyptemys insculpta*)
(New Hampshire Species of Special Concern)



- Neck and forelimbs are orange.
- Characterized by its highly sculpted shell with each large scute taking on an irregular pyramidal shape.
- Adults can be 5-8 inches long.



Please report sightings to NH Fish and Game at RAARP@wildlife.nh.gov or at 603-271-2461. Photo documentation, location, and date/time of observation is helpful.

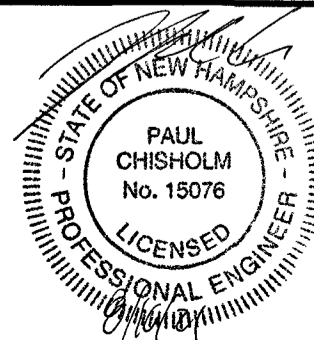
NOTE: It is illegal to remove a wood turtle from the wild (RSA 207:1, FIS 804.02).

**CONSTRUCTION DETAILS
S.L. CHASSE STEEL**
MAP 105 LOT 17-3
ROBINSON ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF RECORD/APPLICANT:
STEEL PROPERTIES, LLC
8 CHRISTINE DRIVE
HUDSON, NH 03051
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DATE: APRIL 6, 2021		SCALE: AS SHOWN	
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