



TOWN OF EXETER, NEW HAMPSHIRE

10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 • FAX 772-4709
www.exeternh.gov

LEGAL NOTICE EXETER PLANNING BOARD AGENDA

The Exeter Planning Board will meet on Thursday, April 10, 2025 at 7:00 P.M. in the Nowak Room of the Town Office building located at 10 Front Street, Exeter, New Hampshire, to consider the following:

APPROVAL OF MINUTES: March 27, 2025

NEW BUSINESS: PUBLIC HEARINGS

Continued public hearing on the application of StoneArch Development for site plan review of a proposal for the redevelopment of the property located at 112 Front Street. The proposal includes the demolition of the existing buildings and new construction of seventeen (17) townhouse style condominium units and associated site improvements. The subject property is located in the C-1, Central Area Commercial zoning district and identified as Tax Map Parcel #73-14. PB Case #24-17.

The application of StoneArch Development for a multi-family site plan review for the proposed construction of a six (6) unit townhouse style residential condominium development along with associated parking and site improvements. The subject property is located at 57 Portsmouth Avenue, in the C-2, Highway Commercial zoning district. Tax Map Parcel #73-14. PB Case #25-1.

The application of Dade Auto Holdings Realty Trust (Volvo Cars of Exeter) for a minor site plan review and Wetland Conditional Use Permit (CUP) for the for the proposed construction of a 6,200 SF addition to the rear of the existing Volvo dealership at 140 Portsmouth Avenue along with associated site improvements. The subject property is located in the C-2, Highway Commercial zoning district and is identified as Tax Map Parcel #52-108 and #51-1. PB Case #25-2.

OTHER BUSINESS

- Master Plan Discussion
- Land Use Regulations Review
- Field Modifications
- Bond and/or Letter of Credit Reductions and Releases

EXETER PLANNING BOARD

Langdon J. Plumer, Chairman

Posted 03/28/25: Exeter Town Office and Town of Exeter website

**TOWN OF EXETER
PLANNING BOARD
NOWAK ROOM
10 FRONT STREET
FEBRUARY 27, 2025
DRAFT MINUTES
7:00 PM**

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42

I. PRELIMINARIES:

BOARD MEMBERS PRESENT BY ROLL CALL: Chair Langdon Plumer, Clerk, John Grueter, Gwen English, Nancy Belanger Select Board Representative, Alternate Mary Kennedy and Alternate Dean Hubbard

STAFF PRESENT: Town Planner Dave Sharples

II. CALL TO ORDER: Chair Plumer called the meeting to order at 7:00 PM and introduced the members.

III. NEW BUSINESS:

1. The application of Willey Creek Company for site plan review, lot line adjustment and Wetlands and Shoreland conditional use permits for the proposed relocation of Building D of the Ray Farm Condominium development and associated site improvements off of Ray Farmstead Road. The subject properties are located in the C-3, Epping Road Highway Commercial zoning district and are identified as Tax Map Parcel #47-8 and #47-8.1. PB Case #22-3.

Chair Plumer announced that the Board has received a letter from the applicant requesting a continuance.

Ms. English motioned to approve the request of Willey Creek Company, Planning Board Case #22-3 for a continuance to the April 24, 2025 Planning Board meeting at 7 PM in the Nowak Room at Exeter Town Offices. Mr. Grueter seconded the motion. A vote was taken, all were in favor, the motion passed 4-0-0.

Chair Plumer advised the two remaining applicants and the abutters that the Board would hear each of their applications for one and a half hours, until 8:30 PM for the application of Green & Company and until 10 PM for Stonearch Dev.

2. Continued public hearing on the application of Green & Company for site plan review and Wetlands Conditional Use Permit (CUP) for a proposed Mixed-Use Neighborhood Development (MUND) project consisting of a townhouse development (off Haven Lane) with thirty-two (32) three-bedroom units, a four-story mixed-use building on Portsmouth Avenue having 4,418 S.F. commercial use on the first floor and thirty-six (36) one-bedroom units above, and one separate duplex structure with three-bedroom

43 units on Haven Lane, along with associated site improvements. The subject property is located at 76
44 Portsmouth Avenue, in the C-2, Highway Commercial zoning district, Tax Map Parcel #65-118. PB Case
45 #24-8.

46

47 Chair Plumer read the Public Hearing Notice out loud.

48

49 Mr. Sharples reviewed that the application was proposed to the Board on December 19th and numerous
50 comments and concerns were raised by the Board and abutters. A site walk was held on January 9, 2025
51 and the applicant was scheduled to return to the Board at their January 23, 2025 meeting. The
52 applicant appeared at the Conservation Commission's January 14, 2025 meeting and requested a
53 continuance to reassess the project design and the Commission's concerns. The applicant appeared at
54 the Commission's February 11, 2025 meeting to present their redesigned plans and the Commission
55 voted that they had no objection to the application with two conditions of approval. Mr. Sharples
56 referenced a memo from the Commission dated February 12, 2025. The applicant submitted revised
57 plans and supporting documents dated February 14, 2025 to the Planning Board. Staff is in process of
58 reviewing the redesigned plans and documents. There was another Technical Review Committee
59 meeting this morning with a host of comments. Plans will be revised and resubmitted. The TRC will
60 issue another comment letter and Underwood Engineers (UEI) gave approval this morning issuing their
61 third comment letter.

62

63 Alternate, Marty Kennedy, recused himself from this application and left the meeting table to sit with
64 the public as he did traffic consulting work for the Town.

65

66 Attorney John Bosum of DTC Lawyers presented the application on behalf of Green & Company. He
67 indicated the application was for site plan review and wetlands conditional use permit in the mixed-use
68 neighborhood development or MUND. He noted the traffic engineer was present as well as Jenna Green
69 and John O'Neil.

70

71 Attorney Bosum reviewed the project changes that elapsed, reducing the number of units to 36 one-
72 bedrooms in the first phase after hearing concerns from abutters concerning traffic and building height
73 and from the site walk. He noted the Conservation Commission on February 11 had no objection to the
74 conditional use permit after reviewing the revised plans which are before the Board this evening. He
75 noted that while the proposal could be a large hotel or car dealership and generate more traffic the
76 design proposed a nice transition o townhomes on Haven to taller structures on Portsmouth Avenue.
77 He reviewed the density of the rear of the parcel as one unit for 7,200 SF compared to Jady Hill with one
78 unit for 8,000 SF and noted MUND has no density requirement.

79

80 Paige Libbey of Jones & Beach Engineers, Inc. indicated that the second access to Haven was added and
81 looped. A building was moved across the road out of the wetland buffer. Parking will be across the
82 street for three buildings to reduce buffer impact. There will be green space behind the mail house for
83 recreational purposes. There will be pedestrian access to Portsmouth Avenue. There are two crossings
84 requiring state wetlands approval and drainage and utilities. She noted the section of porous pavement,
85 filtration drip edges for treatment of roof runoff and the landscaping plan with 8' fence on the property
86 line of adjacent abutters with buffered plantings. She noted two waivers are requested one for

87 driveway radius for the right of way not wide enough which meets Haven which is wider; and one
88 waiver for grading within five feet of the property line. She discussed restoration after construction.

89
90 Ms. Libbey reviewed the traffic memo submitted in January which was reviewed by VHB and that the
91 engineer indicated the number of trips per hour proposed met the minimum number of trips and felt a
92 traffic study would not tell them more than they know now, and the expense could be put toward
93 intersection improvements where there are already issues at Alumni and Green Hill Road. The applicant
94 would contribute to the DPW road improvement and lights could be better coordinated. Ms. Libbey
95 indicated that in phase two there will be a reduction in some cases or so slight that a traffic study is not
96 warranted. Kim, the traffic engineer, reviewed the number of trips per peak hour in the morning on a
97 weekday and on Saturday and noted no notable or significant impact or different flow or impact on
98 safety. He referenced the numbers in table one to one car per six minutes one way and going the other.
99 All turn left, a low volume with some going down Bonny, starting on Haven and splitting out.

100
101 Mr. Grueter asked who had the stop sign – at the end of Bonny Drive. Ms. Belanger asked if the second
102 loop could be gated since it is for emergency. Ms. Libbey will reach out to the fire department. Ms.
103 Belanger indicated she would be concerned with that waiver.

104
105 Ms. English asked about stormwater and Unit 6 at Building 2 which was no longer there. Ms. Libbey
106 explained the building was pulled closer to the roadway to reduce buffer impact. Space was lost for the
107 fifth unit and swapped.

108
109 Ms. English asked about parking and Ms. Libbey noted there was excess parking, more than required
110 and some had spaces in front of the garage.

111
112 Ms. English asked about building 4 being close to a ditch that floods and whether that was moved or
113 reduced. Ms. Libbey indicated there was originally another unit but shifted back and pulled away. She
114 indicated pedestrian access was added, drainage connection and the large culvert runs parallel to the
115 stream.

116
117 Chair Plumer asked if the culvert was upgraded as discussed. Ms. Libbey indicated there was a blocked
118 culvert on the adjacent Thirsty Moose property and they have contacted the owner to get the culvert
119 upgraded.

120
121 Mr. Grueter asked about trash removal and Chair Plumer noted it would be stored in the garage until
122 picked up.

123
124 Mr. Grueter asked about the retaining wall and Ms. Libbey confirmed it would be part of phase 1.

125
126 Ms. English asked the rationale of not having the roadway access on Portsmouth Avenue and Ms. Libbey
127 explained there were concerns about traffic cutting through the Jady Hill neighborhood to downtown.

128
129 Ms. English asked about height reduction of the buildings as the plans say 40.’ Ms. Libbey indicated the
130 plans will be revised to show 35.’

131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174

Ms. English asked if there were architectural drawings of the town homes and Ms. Libbey indicated no. Ms. English and Mr. Grueter noted those would be nice to see.

Chair Plumer noted that a pocket neighborhood was being created and compared the aesthetics of building 3 to a New Jersey motel. He asked if that could be more in character with the neighborhood and if building 1 could be staggered to give the town homes some personality. He questioned if a unit could be taken out of building 3 so that there is more elbow room and if there could be more green space.

Ms. English stated that there are buildings in the 75' setback a couple of units almost entirely, some half. She stated that it was too much, at capacity. She questioned if a couple of units could be eliminated, and the height adjusted with unit 1 and 34 that are closer to Haven so they would have a lower profile. She noted there are no two stories home on Bonny Drive. Chair Plumer noted the same for Building 6. Ms. English indicated she was not in favor of that much infringement on the setbacks. Only one parking space is required per unit.

Ms. Libbey indicated the buffer was discussed at length with the Conservation Commission and Gove Environmental discussed the function and values of the eastern wetland. Impervious surface was reduced by 70%. Those wetlands were determined to have very limited function and value. Ms. English noted she appreciated the changes but did not agree that the buffers serve a purpose.

Ms. Belanger asked about the pedestrian bridge and the leased building on Portsmouth Avenue's parking lot. Ms. Libbey indicated that the portion of the property was leased and there will not be public parking there. Mr. Green indicated that Federated Auto leases the space and their parking lot was the biggest issue with the adjacent Thirsty Moose restaurant, and they don't want anyone using their parking lot for other than their own business and are on top of enforcing that.

Mr. Grueter asked about the 10% requirement of MUND for affordable housing. Mr. Sharples indicated note 6 shows 4 units in phase one and four units in phase two, proportionally for each phase and in total.

Chair Plumer announced there had been letters received from the Thomases at 28 Haven Lane, email from the Boudreau and Gaudette at 11 Bonny, from Michael Hauck and Danielle Frank at 3 Haven, Daniel Halleren at 32 Haven, Rachel Gross at 9, Joan Hayes and a detailed letter from Ryan O'Brien at 20 Haven with comments the Board has heard before. He asked that the public comment be limited to new concerns and not repeat what the Board has heard already, in the interest of time.

Craig Boudreau of 11 Bonny Drive showed his house and asked why the proposed fence could continue. Ms. Libbey indicated the tree line would remain. Mr. Boudreau indicated concerns people will park in front of his home and cut through because there is no fence. Chair Plumer noted it is private property. Mr. Boudreau indicated people cut through all the time and noted the number of places where fence is being put and asked for the same.

175 (inaudible) showed a photo of the lot buffer taken out and expressed concerns with noise and the lost
176 view.

177
178 Ryan O'Brien read a letter on behalf of Inga Newcomb of 14 Haven Lane that she doesn't want to live on
179 a busy road and wants to keep the green buffer and single building above the residences with no access.
180 She wanted access to be on Portsmouth Avenue.

181
182 Mr. O'Brien expressed concerns with density, the homes being built in a depression, water, long-term
183 problems and wanted to know who will be liable and responsible when the sewer backs up. He noted
184 concerns with MUND conditions, using MUND to create a disconnected neighborhood and the delay of
185 phase 2 with the commercial phase done years later. He expressed generally concerns with the MUND
186 component itself allowing bigger and closer direct conflict in opposition to the intent of the master plan
187 which promotes protection of light and air and would like to see the ordinance changed. He discussed
188 the shadow cast on buildings by the higher buildings and would like mature trees to remain to break up
189 the line of buildings so abutters don't see clear through to Portsmouth Ave.

190
191 Diane of 5 Bonny Drive expressed concerns with traffic and deliveries.

192
193 Michael Hauck expressed concerns with buffers and screening and noise and light pollution. Ms. Frank
194 expressed concerns with fencing, shrubs and wanting 4" caliper trees to the height of the building
195 included in the condo documents for maintenance. She noted two petitions were handed in from 9
196 abutting owners and 70 residents of the Jady Hill community concerning noise during construction for so
197 many hours and with property values, traffic, loss of forest and reduced quality of life.

198
199 Chair Plumer asked about construction times and Mr. Sharples indicated that is set by the Select Board,
200 Chapter 7 and the Planning Board has no authority to restrict construction times and all properties must
201 be treated equally.

202
203 Mr. Francheski of 36 Haven Lane expressed concerns with stormwater in heavy rain, water damage and
204 the road pitching to his house. He commented that if the road is extended the stormwater will no
205 longer go to the ravine.

206
207 Christine Tindle of 12 Bonny Drive expressed concerns with traffic and no stop sign on Haven the blind
208 turn and four way stop. She requested stop signs at both ends of Bonny Drive and will take concerns for
209 the speed limit and speed bumps to the Select Board.

210
211 Mr. Sharples indicated at this point the application is on day 70 and an extension needs to be agreed to
212 by the applicant.

213
214 Ms. Belanger discussed having a traffic study and expressed concerns about if the Federated Auto
215 business lease was transferred. Mr. Sharples noted a traffic study would not address parking. She felt
216 the huge, underutilized parking lot could affect Portsmouth Avenue and have more impact on Jady Hill
217 which the Board is being asked to approve ten years from now and how MUND could be approved in
218 phase two is not happening.

219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262

Chair Plumer agreed he had concerns with approving something not being built for ten years. Ms. English agreed and questioned what happens if there is a MUND with no commercial. Ms. Libbey indicated there is commercial use there now. Mr. Sharples recommended living in the regulations and not thinking hypothetically and agreed there is commercial use there now.

Michael Green addressed the traffic memo and low volume and while he agreed intersections need stop signs and turning lights this was discussed at TRC and the Board has not yet seen those comments. There are existing issues not caused by this development. He noted he originally had tow 50' buildings and is now at 34 units doing 10% affordable and he keeps hearing take away, take away but there is a limit. The units have been decreased significantly from 80 to 34 with significantly less impact to traffic and people.

Mr. Sharples noted that this morning the traffic engineer called VHB (the 3rd party review) and spoke to Jason Plourde and agreed the analysis is not warranted, beyond existing problems and spending \$25,000 on a study would be better invested solving issues that exist today. Ms. Belanger indicated she was surprised TRC had no concern with that many units and it seems low. Mr. Sharples explained the IT standards are based on average trips. Ms. Belanger questioned if Jason would be available for the next meeting. Mr. Sharples will reach out to him.

Ms. Belanger motioned to table Planning Board Case #24-8 to the March 13, 2025 Planning Board meeting at 7 PM in the Nowak Room. Ms. English seconded the motion. A vote was taken, all were in favor, the motion passed 4-0-0.

3. The application of StoneArch Development for site plan review of a proposal for the redevelopment of the property located at 112 Front Street. The proposal includes the demolition of the existing buildings and new construction of seventeen (17) townhouse style condominium units and associated site improvements.

C-1, Central Area Commercial zoning district
Tax Map Parcel #73-14
PB Case #24-17.

Mr. Kennedy returned to the meeting table and Chair Plumer activated the alternates.

Chair Plumer read out loud the Public Hearing Notice.

Mr. Sharples noted that the applicant appeared before the Board at the January 23, 2025 meeting to present their plans for the redevelopment of the property. Public comment was opened, and a site walk was held on February 6, 2025 and the applicant indicated they were developing a landscaping plan prior to the Feb. 13, 2025 meeting which was not completed so an extension was requested to allow them time to address issues raised during the site walk and the UEI comments. The applicant submitted plans and supporting documents dated Feb. 19, 2025. Staff is still reviewing materials. The applicant is requesting three waivers. Numerous letters and emails were received and were provided to the Board.

263 Christian Smith of Beals Assoc. presented the application. He reviewed changes to the plans and moted
264 all units have two parking spaces in front of the garages. The is less impervious pavement. He reviewed
265 the stormwater catch basin and engineer request from the town for an 8" pipe. He reviewed drainage
266 calculations. He referenced the landscape design plan and showed the plan with a vinyl fence, existing
267 mature trees and two stormwater ponds, pervious pavement and walkway.

268
269 Chair Plumer asked about stormwater from the buildings and Mr. Smith explained the layer of pervious
270 pavement.

271
272 Ms. Belanger asked about fencing at the cemetery and Mr. Sharples indicated the cemetery had a 6'
273 fence on their side.

274
275 Ms. English asked about the two colors of the fence, gray and white. Mr. Sharples explained that the
276 abutter of lot 106 preferred that color.

277
278 Chair Plumer asked if the driveway closed to the property line could be taken out. Ms. English and Ms.
279 Belanger agreed. Mr. Kennedy questioned if they would still need the waiver. Mr. Smith indicated there
280 would still be grading within 5.' Mr. Kennedy asked if the distance could be shown on the plan. Mr.
281 Grueter asked if sidewalks could reach both ends of the parking lot. Mr. Smith indicated the landscape
282 designer wanted to save a couple of trees and add more plantings.

283
284 Ms. English asked about the entry and Mr. Smith indicated from the garage most often.

285
286 Chair Plumer asked if the town homes could be individualized, staged to give it a neighborhood feel
287 and get away from the hotel look. Mr. Smith indicated the only difficulty would be with the front
288 building. Mr. Grueter asked if a unit could be removed and building two and three turned to face each
289 other to have a bigger grass area. He noted the side of the building might be better to look at than the
290 garage. Mr. Sharples indicated it may violate the setbacks.

291
292 Chair Plumer opened the hearing to questions and comments from the public at 9:21 PM.

293
294 Jim of 5 Gill Street expressed concerns with the history of the neighborhood, design, density, traffic and
295 character of the neighborhood. He opposed the three waivers and asked to keep the driveway away
296 from his property.

297
298 Charlie French of 9 Gill Street expressed concerns with the scale of the project and density with the
299 surrounding neighborhood and character, with screening and noted flipping the buildings would put the
300 road closer with less screening.

301
302 Jeff of 111 Front Street expressed concerns with there being any waivers and with the scale, with
303 parking and density and history of the lot. He recommended taking away 4-5 units. He expressed
304 concerns with zoning and how this parcel became commercially zoned. He reviewed the history of the
305 zoning ,and research by the Planning Office. He noted there was a warrant article approved in 1988 to
306 make properties with multiple zoning into one zone and there is no information on how this became

307 commercial, the tax card says R-2, there is no legal decision. He questioned whether the town homes
308 would be condominiums or apartments. He expressed concerns with parking.

309

310 Ms. Belanger indicated there was commercial use, an art gallery, a grocery store, some residential use,
311 some commercial. Ms. English noted the town planner at the time lives across from the library and he
312 could be asked.

313

314 David H. of 114 Front Street expressed concerns with the size of the project and asked if it could be
315 shrunk to fit in with the neighborhood. He expressed concerns with density and fire hazards and asked
316 if the fire department signed off on it. He expressed concerns with headlights into his home 20' away
317 and the character of the neighborhood with a towering 35' building. He expressed concerns with traffic
318 and would like a traffic analysis. He indicated Front Street is a nightmare and snow blocks the view now.

319

320 Bill Campbell of 7 Riverwoods Drive asked if there were a workforce component – no. He referenced a
321 Seacoast article which stated the project would fit in nicely with the stately homes there. He noted the
322 master plan intent to have density be reasonable and 17 units on 1.6 acres not being in character of the
323 town.

324

325 Dana of 9 Gill Street expressed concerns with conversations and promises made by the developer at the
326 site walk not being kept, with regard to the 6' cedar fence she was promised.

327

328 Rory Morisette of 12 & 14 Parker expressed concerns with the size of the project, traffic, snow piles,
329 pipes, heavy rain water, pooling, grading, density and stated that he also understood there would be a
330 cedar fence. He noted school was close by. He stated there were never any commercial businesses
331 there when he was growing up.

332

333 (unidentified) stated that he did talk about fencing and would need to remove trees. He indicated he
334 worked with all abutters, and referenced the Academy buildings which have a similar federal design. He
335 noted he worked with Julie Gilman at the Heritage Committee. Mr. Grueter disagreed and noted the
336 Committee only talked about saving the existing historical Merrill House.

337

338 S. Nelson of Gill Street expressed concerns with density, traffic and the proximity of the driveway.

339

340 Mr. Sharples explained the difference between a traffic memo and a traffic analysis which does actual
341 traffic counts and concludes what if any improvements could be made.

342

343 Adele Robertson of 106 Front Street expressed concerns with church, on Sunday and the time of year
344 factored in to when school is open.

345

346 Marie Carr of 4 Cross Road indicated she is not an abutter, but that Nancy Merrill wrote the book on
347 Exeter. She expressed concerns with density and questioned if the home in front could be preserved
348 and a larger home built in back.

349

350 Mr. Sharples recommended the Board providing the applicant a feel on the three waivers before
351 continuing the hearing to the next available date.

352

353 Mr. Smith addressed pavement width of 22' and the bulk of impervious, grading within 5,' and the
354 conventional pavement use the first 150' with catch basin and pipe. He referenced the support media
355 beneath including filtration and stone which is designed to support vehicle traffic and was reviewed by
356 the TRC and fire department.

357

358 Mr. Kennedy questioned the wavier for 5' and the proximity of the driveway and property line. Ms.
359 Belanger agreed. Mr. Sharples explained there are instances when there is a low volume, of little or no
360 impact when the town engineer will allow the connection to drainage and Mr. Smith feels it is fair
361 because of the town engineer recommending the conventional pavement at the drive entrance/exit. Mr.
362 Grueter agreed the measurements should be double-checked and provided.

363

364 ***Ms. Belanger motioned to table Planning Board Case #24-17 to the March 13, 2025 meeting of the***
365 ***Planning Board at the Nowak Room at 7 PM. Mr. Kennedy seconded the motion. A vote was taken,***
366 ***all were in favor, the motion passed 6-0-0.***

367

368 **IV. OLD BUSINESS**

369

370 **APPROVAL OF MINUTES**

371

372 February 13, 2025

373

374 Ms. Belanger, Mr. Kennedy, and Ms. English recommended edits.

375

376 ***Ms. Belanger motioned to approve the February 13, 2025 meeting minutes, as amended. Ms. English***
377 ***seconded the motion. A vote was taken, all were in favor, the motion passed 6-0-0.***

378

379

380 **V. OTHER BUSINESS**

381

382 • Master Plan Discussion

383

384 • Field Modifications

385

386 • Bond and/or Letter of Credit Reductions and Release

387

388 **VI. TOWN PLANNER'S ITEMS**

389 **VII. CHAIRPERSON'S ITEMS**

390 **VIII. PB REPRESENTATIVE'S REPORT ON "OTHER COMMITTEE ACTIVITY"**

391 Ms. Belanger reported that the Select Board is looking at the parking situation at Pickpocket Road.

392 **IX. ADJOURN**

393 Ms. Belanger motioned to adjourn the meeting at 10:30 PM. Mr. Grueter seconded the
394 motion. A vote was taken and passed unanimously.

395 Respectfully submitted.

396 Daniel Hoijer,
397 Recording Secretary (Via Exeter TV)

**TOWN OF EXETER
PLANNING BOARD
NOWAK ROOM
10 FRONT STREET
MARCH 13, 2025
DRAFT MINUTES
7:00 PM**

I. PRELIMINARIES:

BOARD MEMBERS PRESENT BY ROLL CALL: Chair Langdon Plumer, Vice-Chair Aaron Brown, John Grueter, Clerk, Jen Martel, Nancy Belanger Select Board Representative, and Alternate Marty Kennedy

STAFF PRESENT: Town Planner Dave Sharples

II. CALL TO ORDER: Chair Plumer called the meeting to order at 7:00 PM and introduced the members.

III. NEW BUSINESS:

1. Continued public hearing on the application of Green & Company for site plan review and Wetlands Conditional Use Permit (CUP) for a proposed Mixed-Use Neighborhood Development (MUND) project consisting of a townhouse development (off Haven Lane) with thirty-two (32) three-bedroom units, a four-story mixed-use building on Portsmouth Avenue having 4,418 S.F. commercial use on the first floor and thirty-six (36) one-bedroom units above, and one separate duplex structure with three-bedroom units on Haven Lane, along with associated site improvements. The subject property is located at 76 Portsmouth Avenue, in the C-2, Highway Commercial zoning district, Tax Map Parcel #65-118. PB Case #24-8.

Chair Plumer read the Public Hearing Notice out loud.

Mr. Sharples reviewed that the application was proposed to the Board on December 19th and numerous comments and concerns were raised by the Board and abutters. A site walk was held on January 9, 2025 and the applicant was scheduled to return to the Board at their January 23, 2025 meeting. The applicant appeared at the Conservation Commission's January 14, 2025 meeting and requested a continuance to reassess the project design and the Commission's concerns. The applicant appeared at the Commission's February 11, 2025 meeting to present their redesigned plans and the Commission voted that they had no objection to the wetland Conditional Use Permit (CUP) application with two conditions of approval. Mr. Sharples referenced a memo from the Commission dated February 12, 2025.

Mr. Sharples noted that the applicant submitted revised plans and supporting documents dated February 14, 2025 to the Planning Board. There was another Technical Review Committee meeting on February 27, 2025. Plan changes were submitted but revised plans are yet to be submitted. The TRC

43 issued another comment letter on March 5, 2025 and Underwood Engineers (UEI) provided comments
44 in their March 4 letter. There are two waivers being requested as outlined in the waiver request letter
45 from Jones & Beach dated January 13, 2025.

46

47 Mr. Sharples noted that Jason Plourde, the town's third-party review traffic engineer, will be available
48 via Zoom for discussions concerning the traffic memo.

49

50 Alternate, Marty Kennedy, recused himself from this application and left the meeting table to sit with
51 the public as he did traffic consulting work for the Town.

52

53 Paige Libbey of Jones & Beach Engineers, Inc. indicated that at the last meeting the Board had concerns
54 with traffic which will be addressed tonight. She noted that the applicant made changes to break up
55 two of the buildings into four units and three units. Any buildings with four or more units had horizontal
56 jogs added to break up the façade. She noted changes to parking for buildings 2, 3 and 11 with the road
57 widened for a better turn radius from garages without backing into the travel lane. She provided a
58 handout showing the proposed changes. She noted changes to architectural elevations for buildings 8, 1
59 and 11 which will have the height decreased from 35' to 30.' She noted the applicant is working on
60 addressing the comments from the most recent UEI letter.

61

62 Ms. Libbey noted that their traffic engineer had conversations with the town's 3rd party review engineer,
63 Jason, and with town staff, and heard from abutters about existing issues and felt it would be more
64 beneficial to make a contribution to address those issues rather than do a traffic study which would tell
65 us what we already know.

66

67 Jason Plourde of VHB appeared remotely. He noted he reviewed Dr. Kim's memo and per trip
68 generation which were in accordance with the Inst. of Traffic Engineers and NH Department of
69 Transportation standards and had no issues with that. Mr. Plourde noted that while the 50-100 vehicles
70 per hour will generally have no significant impact, given existing issues the addition of one more car
71 would be considered exacerbation of the existing issues. He therefore noted that while the
72 development is not exceeding recommendations, the location of the development has existing issues.
73 He referenced Portsmouth Avenue, Alumni drive, Green Hill Road with traffic signals outdated and not
74 talking to each other. He referenced the limited site on Bonny Drive and Greenhill at Clover Street. He
75 noted issues with queuing beyond intersections of Portsmouth Avenue. He referenced the lack of stop
76 signs on Bonny Drive or Haven Lane and recommended the Select Board and Department of Public
77 Works be contacted. He referenced the Manual of Traffic Control Engineers and limited site lines when
78 on Bonny Drive at Haven Lane. He referenced Bonny Drive at Greenhill Road, Clover Street at Bonny
79 Drive having offset angles. He noted that if signals functioned properly vehicle queues may be resolved.
80 Issues on Portsmouth Avenue are known, and he indicated he would be in favor of contribution of funds
81 by the applicant rather than additional traffic study and review. Side street safety should be looked at
82 as well.

83

84 Vice-Chair Brown asked if impact after development would be better than currently. Mr. Plourde noted
85 that it is not the volume, but the location. The intersection is already operating with deficiency. This

86 development does not trigger the threshold but existing conditions on Portsmouth Avenue and safety
87 on Haven Lane and Bonny Drive are adding to the existing problem.

88

89 Ms. Belanger asked about phase two being 4-10 years away. Mr. Plourde noted there could be more
90 than one development during that time period and would be hard to predict. Ms. Belanger noted the
91 purview of the Board is in the here and now.

92

93 Ms. Martel asked how the contribution would work and expressed concerns that a contribution doesn't
94 guarantee improvement anytime in the near future. Mr. Sharples noted that exaction by the Planning
95 Board is imposed on the developer outside of the Select Board for improvements. In this case to fix
96 issues similar to Continental Drive. The funds would be held in escrow until the project is done.
97 Portsmouth Avenue is already in the town's capital improvement plan (CIP). The signals could
98 potentially be done, if funds were found. As part of Rockingham Planning Commission's Complete
99 Street study traffic will be looked at. Ms. Martel asked what year and Mr. Sharples indicated 2029 but
100 stop signs are in the Select Board's purview along with the police department and DPW. The Planning
101 Board could recommend that DPW weighs in. Ms. Martel noted that the problem is exacerbated. Mr.
102 Brown questioned if any development should not be allowed until the lights are resolved? He
103 questioned the cost for the repair. Mr. Plourde recommended having the contractor open the signal
104 cabinets and look at the equipment to allow them to be able to talk to each other. Mr. Sharples will
105 look into this. He noted that a specific purpose for the exaction funds would be attached like with
106 Riverwoods for example – "for public safety use."

107

108 (unidentified) stated the number of cars is tripling in the neighborhood. Mr. Brown noted the impact
109 may be significant to the abutters.

110

111 (unidentified) indicated 50-100 cars is the general rule of thumb for increase but if already deficient that
112 threshold is thrown out the window and noted narrow roads. Mr. Plourde indicated he looked at the
113 aerial widths and Bonny and Haven are built to town standards and exceed site plan review and
114 subdivision regulations minimum 24.'

115

116 Mr. Francheski expressed concerns with traffic jams after the second phase of construction.

117

118 Mr. Plourde noted synchronizing the signals will keep the entrance functional. Three or four
119 movements affected, Alumni Drive and Greenhill Road would be stuck as well. If updated and
120 synchronized volumes along the corridor would progress and not be stuck between two signals.

121

122 (unidentified) asked if there would be another traffic study to make sure its working. Mr. Plourde noted
123 that the town would be conducting traffic analysis, so a separate study is not recommended specific to
124 this project. Mr. Brown noted it is in the master plan to have further direction for Portsmouth Avenue.

125

126 Susan Taylor noted she is a bus driver, and the problem persists from High Street to downtown.

127

128 Ms. Belanger noted that correct timing could get traffic moving and possibly stop people from cutting
129 through Jady Hill.

130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173

Cathy Boudreau indicated when there is a parking ban people have to park somewhere and noted there are children playing.

Ms. Belanger questioned whether the Board could approve something so far out and expressed concerns with the underutilized parking lot of the existing business and making sure with the pedestrian bridge that parking there is only for their business.

Christina Tindle noted the development is permitted because of MUND (Mixed Use Neighborhood Development) but the commercial part of the project is disconnected in phase 2. Mr. Brown noted there is an existing commercial use there now.

Noel of 11 Bonny Drive indicated she is an abutter and would like a fence and questioned how wetlands become commercial property. She asked who is liable for water issues. Mr. Sharples noted the property has been zoned commercial as long as he has been here. Ms. Libbey noted they are dealing with buffers and setbacks. Chair Plumer noted they have to have a stormwater management plan, 90% of the projects in Exeter have wetlands and the Conservation Commission reviewed the application thoroughly and the Board listens to their recommendations.

Ryan O'Brien expressed concerns with phasing and the walkway to Portsmouth Avenue.

Michael Hauck and Danielle Frank requested overlay renderings on Haven Lane with our homes in the foreground, on Bonny Drive and Portsmouth Ave with the Federated business and townhomes, the completed project. She asked about construction hours and the neighborhood having to deal with that for two years and requested the Select Board limit construction hours. Mr. Sharples noted the change would need to be town-wide for the Select Board but he could talk to the developer and see what their plans are.

Lisa Medlock of 11 Haven Drive asked about the effects of two years of construction on their homes. Mr. Brown noted there are pre-blasting surveys to protect against damage, but Mr. Green noted blasting is doubtful.

Steve Taylor expressed concerns with the entrances and fire truck loop. Ms. Libbey indicated the truck turning plans are in the plan set and the fire department weighed in, that the extra entrance is needed. Ms. Belanger asked if it could be gated and Ms. Libbey noted if gated there is nowhere to pull up, back up or turn around accessible to everyday and would need to be two-way, not one way. Mrs. Taylor agreed with turning concerns. Mr. Sharples explained the process and noted Jason from the Fire Department provides the dimensions and creates a template which is reviewed by the fire department.

Ms. Martel asked about considering a landscaped island in building 1 and 11.

Mr. Sharples asked the Board their feelings on exaction versus a traffic analysis and Ms. Martel, Chair Plumer agreed the analysis was not needed. Mr. Brown noted the exaction made sense and would like to see the problem resolved if the Town Planner could make some calls. He noted the traffic study is

174 not going to provide anything additional. Ms. Belanger agreed and will raise the issue of stop signs at
175 the Select Board meeting.

176

177 The Board discussed the parameters for the visual rendering including views from Portsmouth Avenue,
178 the neighborhood from the inside and outside in. Ms. Libbey will bring renderings to the next meeting
179 but won't have them a week before. Vice-Chair Brown indicated the scale could be shown of the
180 existing homes.

181

182 ***Vice-Chair Brown motioned to table Planning Board Case #24-8 to the March 27, 2025 Planning Board***
183 ***meeting at 7 PM in the Nowak Room. Ms. Belanger seconded the motion. A vote was taken, all were***
184 ***in favor, the motion passed 5-0-0.***

185

186 3. The continued application of StoneArch Development for site plan review of a proposal for the
187 redevelopment of the property located at 112 Front Street. The proposal includes the demolition of the
188 existing buildings and new construction of seventeen (17) townhouse style condominium units and
189 associated site improvements.

190 C-1, Central Area Commercial zoning district

191 Tax Map Parcel #73-14

192 PB Case #24-17.

193

194 Mr. Kennedy returned to the meeting table and Chair Plumer activated the alternates.

195

196 Chair Plumer read out loud the Public Hearing Notice.

197

198 Mr. Sharples noted that the applicant appeared before the Board at the January 23, 2025 meeting to
199 present their plans for the redevelopment of the property. Public comment was opened, and a site walk
200 was held on February 6, 2025. The applicant submitted plans and supporting documents dated Feb. 19,
201 2025 and appeared at the February 27, 2025 meeting to address concerns raised during the site walk
202 and of UEI dated February 20, 2025. Revised plans and supporting documents were submitted on
203 March 5, 2025. The applicant is requesting two waivers. The previous waiver for grading within 5' is no
204 longer necessary as the entranceway has moved 5.5' off the easterly property line.

205

206 Christian Smith of Beals Assoc. presented the changes to the plans and noted all units have two parking
207 spaces in front of the garages. He noted they looked at staggering the buildings, but it was messy. He
208 added architectural changes to the exterior of the buildings, bay windows, dormers and gables. The
209 proposed landscaping plan was provided and final UEI comments addressed.

210

211 Chair Plumer asked if moving the driveway would affect the front of the building. Mr. Smith indicated
212 the building position will not change as 1' was removed from each end.

213

214 Chair Plumer asked about fencing and Ms. Smith showed the plantings and fences. Mr. Brown noted
215 there were breaks to preserve tree roots. He requested the fence details be added to the plans.

216

217 Ms. Martel questioned sheets a1a and a1b and the hip roof. She noted the buildings seem backward
218 with the garages facing each other. Mr. O'Neil noted the function of the two car garages and the
219 purview of the Board with respect to architecture. Mr. Smith noted the front would be pleasing to
220 abutters.

221
222 Dale Atkins expressed concerns with the size of the buildings compared to surrounding homes and
223 opined that there should be ten units at most.

224
225 Bill Campbell of 7 Riverwoods Drive asked why 17 units be jammed into this lot and expressed concerns
226 with height, density and character. He asked if the Board could recommend renditions from Gill Street.

227
228 Randy Daley the Cemetery Custodian asked about the fence. Mr. O'Neil noted the Cemetery owns the
229 existing 6' chain link fence and that will be surrounded by landscaping. Mr. Sharples noted the cemetery
230 fence continues to Linden Street. Mr. Daley expressed concerns with sound during construction or a
231 funeral. Ms. Martel noted there is not a lot of screening and recommended doubling it up with larger
232 species.

233
234 Mr. Grueter asked if there was a well for irrigation and Mr. O'Neil indicated yes.

235
236 Sarah Nelson of 8 Gill Street expressed concerns with density and referenced Article 1, Section 1.2
237 purposes of the zoning ordinance to lessen congestion in the street and to prevent overcrowding of land
238 and undue concentration of population and Article 10 – Growth Management, aesthetics and scenic
239 beauty and greenspace and with the driveway and number of homes. She asked about snow storage
240 and snow melt into neighbor's yards and if removal is part of the equation.

241
242 Rory Morissette of 12 and 14 Parker expressed concerns with density of plantings on the Parker Street
243 side and additional runoff.

244
245 Chair Plumer noted that he would like to see reduction. The project is very dense and not compatible,
246 the height is noticeable and will be interested to see the renderings. Mr. O'Neil noted the developer has
247 the right to utilize yield. Mr. Sharples reviewed the yield in the zone, which is 3500 SF of lot area per
248 dwelling unit removing the driveway. 69,349 SF minus the 9,687 SF of driveway. 59,661 SF/3500 is
249 17.05 units. Mr. Smith noted a ¼ acre parcel with a duplex at 11 Gill Street.

250
251 David Harrington stated that he sent a letter and expressed concerns with density being overwhelming
252 for neighbors and would like something to block headlights.

253
254 Jim Kneeland of Gill Street expressed concerns with density and character of the neighborhood and the
255 master plan. Ms. Belanger noted the Board has to go by the zoning ordinance.

256
257 Mr. Campbell noted if the lots on Gill Street were compared to the quarter acre units they would get six.
258 Ms. Smith noted he referenced a duplex not a single-family home.

259

260 Jeff of 111 Front Street expressed concerns with density and guest parking. Mr. Smith noted there is
261 parking behind garage doors, two 9'x9' spaces, four total. He stated that he doesn't think the parcel
262 should be zoned commercial. Mr. Sharples noted the official zoning map has shown the parcel as
263 commercial for 40 years. It was bifurcated before the vote and the town relies on the map created after
264 which no one appealed. Mr. Smith noted it was very plain, commercial bifurcations were zoned
265 commercial after the vote.

266
267 Sam Makarkur noted the buildings could be 50' high. The use is allowed with no zoning relief and they
268 have been through Technical Review Committee (TRC), architect, landscaping, fencing and modifications
269 to break up the buildings. The property height abuts multi-family residences and 111-113 Front Street is
270 multi-family across the street with a modern parking garage. This is not a historic district, but they
271 worked with the Heritage Commission. There is a lot of multi-family on Front Street. Keeping the front
272 of the Merrill Building was not feasible. The developer has gone above and beyond with no legal
273 obligation to do so.

274
275 Chair Plumer asked about snow removal and Mr. Smith noted if full. There is no additional runoff
276 leaving to abutting property.

277
278 Jim Davis of 115 Front Street asked about maintenance of the porous pavement. Mr. Smith noted the
279 Homeowner's Association or Management Company. A plow with rubberized blade would be used. He
280 referenced the grassed area and that there would be no snow on Front Street. Mr. Sharples noted the
281 conditions of approval would address stormwater manual and inspection requirements annually. UEI
282 does third party inspections and bmps (best management practices) have to be met during construction.

283
284 Mr. Kennedy asked about the parking area not being considered part of the driveway and Mr. Sharples
285 explained how the ordinance reads.

286
287 (unidentified) asked about apartments or transient housing and Mr. Sharples noted the type of
288 ownership doesn't change anything whether individual or homeowners, with regard to maintenance
289 and submission requirements.

290
291 Ms. Martel reviewed the lighting plan and requested more information on the plan.

292
293 David H. asked about several motion lights all going off at once if an animal walks past. Mr. Brown
294 noted the lighting on the plan won't go off the property.

295
296 Ms. Martel recommended changes to plantings in the snow storage area.

297
298 Ms. Martel asked about curbs and trash removal. Mr. O'Neil noted no curbs and private trash removal.

299
300 Ms. Martel requested the diseased tree be replaced with a significant specimen tree with a big mulch
301 area.

302

303 ***Vice-Chair Brown motioned to table Planning Board Case #24-17 to the March 27, 2025 meeting of the***
304 ***Planning Board at the Nowak Room at 7 PM. Ms. Belanger seconded the motion. A vote was taken,***
305 ***all were in favor, the motion passed 6-0-0.***

306

307 **IV. OLD BUSINESS**

308

309 **APPROVAL OF MINUTES**

310

311 February 27, 2025

312

313 ***Ms. Belanger motioned to table approval of the February 27, 2025 meeting minutes. Mr. Grueter***
314 ***seconded the motion. A vote was taken, all were in favor, the motion passed 6-0-0.***

315

316

317 **V. OTHER BUSINESS**

318

319 • Master Plan Discussion

320

321 • Field Modifications

322

323 • Bond and/or Letter of Credit Reductions and Release

324

325 **VI. TOWN PLANNER'S ITEMS**

326 **VII. CHAIRPERSON'S ITEMS**

327 **VIII. PB REPRESENTATIVE'S REPORT ON "OTHER COMMITTEE ACTIVITY"**

328 **IX. ADJOURN**

329 ***Mr. Grueter motioned to adjourn the meeting at 10:39 PM. Mr. Belanger seconded the***
330 ***motion. A vote was taken and passed unanimously.***

331 Respectfully submitted.

332 Daniel Hoijer,

333 Recording Secretary (Via Exeter TV)

**TOWN OF EXETER
PLANNING BOARD
NOWAK ROOM
10 FRONT STREET
MARCH 27, 2025
DRAFT MINUTES
7:00 PM**

I. PRELIMINARIES:

BOARD MEMBERS PRESENT BY ROLL CALL: Chair Langdon Plumer, Vice-Chair Aaron Brown, Gwen English, Jen Martel, Nancy Belanger Select Board Representative, Alternate Marty Kennedy, and Alternate Dean Hubbard

STAFF PRESENT: Town Planner Dave Sharples

II. CALL TO ORDER: Chair Plumer called the meeting to order at 7:00 PM and introduced the members. Alternates, Marty Kennedy and Dean Hubbard were activated.

III. NEW BUSINESS:

1. Continued public hearing on the application of StoneArch Development for site plan review of a proposal for the redevelopment of the property located at 112 Front Street. The proposal includes the demolition of the existing buildings and new construction of seventeen (17) townhouse style condominium units and associated site improvements. The subject property is located in the C-1, Central Area Commercial zoning district and identified as Tax Map Parcel #73-14. PB Case #24-17.

Chair Plumer referenced a request for a continuance from the applicant to the Board's April 10, 2025 meeting.

Vice-Chair Brown motioned to continue Planning Board Case #24-17 to the Board's April 10, 2025 meeting at 7 PM at Town Offices in the Nowak Room. Ms. English seconded the motion. A vote was taken, all were in favor, the motion passed 7-0-0.

2. Continued public hearing on the application of Green & Company for site plan review and Wetlands Conditional Use Permit (CUP) for a proposed Mixed-Use Neighborhood Development (MUND) project consisting of a townhouse development (off Haven Lane) with thirty-two (32) three-bedroom units, a four-story mixed-use building on Portsmouth Avenue having 4,418 S.F. commercial use on the first floor and thirty-six (36) one-bedroom units above, and one separate duplex structure with three-bedroom units on Haven Lane, along with associated site improvements. The subject property is located at 76 Portsmouth Avenue, in the C-2, Highway Commercial zoning district, Tax Map Parcel #65-118. PB Case #24-8.

Chair Plumer read the Public Hearing Notice out loud.

43 Alternate, Marty Kennedy, recused himself from this application and left the meeting table to sit with
44 the public.

45

46 Mr. Sharples summarized that the application was proposed to the Board on December 19, 2024. A site
47 walk was held on January 9, 2025. The applicant returned to the Board on January 23, 2025. The
48 applicant appeared at the Conservation Commission's January 14, 2025 and February 11, 2025 meeting.
49 The Commission voted that they had no objection to the wetland Conditional Use Permit (CUP)
50 application with two conditions of approval. Mr. Sharples referenced a memo from the Commission
51 dated February 12, 2025.

52

53 Mr. Sharples noted that a second Technical Review Committee (TRC) meeting was conducted on
54 February 27, 2025 and comment letters from Underwood Engineers (UEI) and TRC were provided to the
55 Board.

56

57 Mr. Sharples noted that the applicant submitted revised plans and supporting documents dated March
58 19, 2025 to the Planning Board. The TRC issued another comment letter on March 5, 2025 and
59 Underwood Engineers (UEI) provided comments in their March 4 letter. There are two waivers being
60 requested as outlined in the waiver request letter from Jones & Beach dated January 13, 2025.

61

62 Mr. Sharples indicated that at the prior Planning Board meeting, several items were discussed that
63 included traffic, sidewalk access, construction hours, hydrant location, one access point vs two access
64 points.

65

66 Mr. Sharples noted that regarding traffic, the Planning Board agreed to forego a full traffic impact
67 analysis and instead impose an exaction as agreed by the applicant to offset some of the cost to
68 coordinate the three (3) traffic signals on Portsmouth Ave between High St and Alumni Drive. He spoke
69 with Electric Light who does our signal work and they estimated that connecting the three signals
70 (equipment and labor), preparing a timing plan, and implementing said plan would be approximately \$7-
71 10K per signal. To this end, the applicant has agreed to provide the town with \$20,000 toward this effort
72 and Mr. Sharples noted that he believes this is more than fair.

73

74 Mr. Sharples noted sidewalk access was discussed. It appeared that there was a concern that the lease
75 in the front of the parcel could prohibit pedestrian access on the proposed sidewalk that runs from the
76 Haven Lane side of the development to Portsmouth Ave. He noted he will be prepared with a condition
77 of approval if needed to address this matter.

78

79 Mr. Sharples noted that construction hours were also discussed by an abutter, and it was requested that
80 the Planning Board restrict the construction hours to beyond the Town's current ordinance. Mr.
81 Sharples told the board that he would reach out to the applicant to see if they would voluntarily restrict
82 the hours. They have agreed to restrict the hours from 7am to 7pm daily and only inside work on
83 Sundays.

84

85 Mr. Sharples noted regarding the hydrant location, the Fire Department reviewed the latest location
86 shown on the plans and found that location acceptable.

87 Mr. Sharples noted that he also spoke to the Fire Department about the two access points on Haven
88 Lane and they prefer this configuration over the one access point and turnaround.

89

90 Paige Libbey of Jones & Beach Engineers, Inc. noted that the applicant and Attorney Bosen were
91 present. Minor modifications were made to the plans to address UEI comments concerning utilities.

92

93 She noted that the applicant made changes to break up two of the buildings into four units and three
94 units. Any buildings with four or more units had horizontal jogs added to break up the façade. She
95 noted changes to parking for buildings 2, 3 and 11 with the road widened for a better turn radius from
96 garages without backing into the travel lane. She provided a handout showing the proposed changes.
97 She noted changes to architectural elevations for buildings 8, 1 and 11 which will have the height
98 decreased from 35' to 30.'

99

100 Ms. Libbey noted that the town's 3rd party review engineer, Jason Plourde, of VHB addressed traffic at
101 the last meeting and recommended that it would be more beneficial to make a contribution to address
102 those issues rather than do a traffic study.

103

104 Ms. Libbey noted that the Board requested architectural renderings at the last meeting, and she posted
105 photos from above showing access to Portsmouth Ave, from Haven Lane in from the western entrance
106 by building 11, a zoomed in version which included building 11 and a portion of building 1 with a slightly
107 different roof line at 30' height instead of 35.' She posted photos of the view facing building 1 which is
108 pulled forward. She posted photos of the eastern entrance of Haven Lane with buildings 7 and 6 in the
109 distance. She showed where the green space will be near the mail house. She posted photos facing
110 building 3 and building 10 and a view down the sidewalk away from Portsmouth Avenue, a photo
111 between buildings perpendicular to Haven Lane, a view of buildings 8 and 9, from Portsmouth Avenue
112 facing the side, and buildings 4 and 5. She posted the view from Haven Lane with the 8' fence, building 1
113 fence at the perimeter of the property line entrance of Haven Lane, the rear property of the three
114 abutters showing fence and where it ends close to the wetland buffer.

115

116 Chair Plumer asked about 11 Bonny Drive and whether the wide areas of trees will remain. Ms. Libbey
117 referenced sheet L1 of the Landscaping Plan.

118

119 Ms. Martel asked about the fence and Ms. Libbey noted it would be white, vinyl, stockade and that she
120 would add the detail to the plan set.

121

122 Ms. Martel asked about the balconies facing into the development and Ms. Libbey noted that was
123 because otherwise the view would be the Thirsty Moose property where 5 and 6 have balconies facing
124 the woodland.

125

126 Ms. English noted there was a lot of pavement, and asked about putting a living island in the middle.
127 Ms. Libbey noted it would obstruct car's view backing in and out, and angled parking was not a solution
128 that would work behind the garages. She noted the spaces would not be striped but open. Mr. Sharples
129 noted the pavement is porous and Ms. English expressed concerns with heat.

130

131 Chair Plumer asked about the gray hashed area by building 11 and Ms. Libbey noted there is an open
132 area between the buildings, also building 3. She noted adding another island may make plowing
133 difficult, but she can look into that.

134

135 Ms. English asked if 11 could be outside the buffer. Ms. Libbey noted they would lose parking because
136 of the curve in the road.

137

138 Chair Plumer asked about two-way traffic through the middle. Vice-Chair Brown noted it is a driveway
139 not a road so safety for cars to move is a bigger priority than an island. The pavement is already porous
140 and he noted he liked the layout. He noted flexibility makes sense for construction hours on holidays.

141

142 Ms. English questioned TRC and UEi notes with regard to a comment about NH DOT. Ms. Libbey noted
143 the area was urban compact and Paul Vlasich was fine with the way it was drawn. Mr. Sharples
144 addressed the driveway flare radius and the improved layout.

145

146 Ms. English questioned #55 – guardrail removal and Ms. Libbey noted the guardrail is still there in front
147 of parking spaces, snow will be removed at the building on Portsmouth Avenue.

148

149 Ms. English asked about concerns with patches of porous pavement and depth to high water table. Ms.
150 Libbey noted the patches are gone and the sections will be regulated with signage. She noted the areas
151 with the islands are difficult to clean but described the process with the access door.

152

153 Ms. English asked about planting trees near porous pavement (#67) and Ms. Libbey noted the trees
154 were moved not eliminated and showed the area.

155

156 Ms. English asked about the guidelines not met referenced on page 7. Ms. Libbey noted a narrative was
157 provided. Mr. Sharples noted it was his comment concerning the front building on Portsmouth Ave
158 concerning windows and the windows were changed ,and he had no further comments.

159

160 Ms. English asked about the sidewalk (page 8) and Ms. Libbey noted the flare was questioned to connect
161 the sidewalk and was removed entirely. Mr. Sharples asked how that would work with “phase 1.” Ms.
162 Libbey noted it will go straight to Portsmouth Avenue in Phase 2.

163

164 Ms. Belanger asked about #9 on page 8 and Ms. Libbey indicated it is shown on sheet C-1, the property
165 juts out which comes from when Portsmouth Avenue was widened but not in front of this property and
166 they are talking with DOT to clean that up.

167

168 Ms. Martel asked about the waiver for grading within 5’ of property lines and Ms. Libbey referenced
169 sheet C-3 where the sidewalk runs along the property line, to install buffering and make sure the
170 drainage swale works, to maintain connectivity to wetland, the fence, plantings along the buffer. The
171 Right of Way is only 40’ wide so 24’ with road, curbing, grading, excavation it will get close. There will
172 be silt fencing and construction fencing to protect abutting land.

173

174 Ms. Martel asked if the sidewalk fence on Haven Lane could be pulled back and Ms. Libbey noted it was
175 pretty tight with the grade and culvert.

176
177 Chair Plumer asked about the flow of the culvert and Ms. Libbey depicted the flow path, same as today.

178
179 Ms. Martel asked about the sidewalk and Ms. Libbey showed the sidewalk with Portsmouth Avenue
180 wider in line with MUND (Mixed Used Neighborhood Development).

181
182 Chair Plumer asked about parking in front of stores and Ms. Libbey noted there will be no parking in
183 front of stores and showed the areas of parking. Ms. Martel asked about resident parking in back and
184 Ms. Libbey noted it would not be limited only to residents.

185
186 Ms. Martel asked about trash, utilities, elevator and stores. Ms. Libbey showed the loading area and
187 noted there would be private trash removal.

188
189 Ms. English asked about curbing and signage for plowing. Ms. Libbey depicted the guardrail, curbing and
190 retaining wall. Ms. Libbey discussed underground detention, the filtration treatment and runoff
191 treatment for the front sidewalk.

192
193 Ms. English asked about the culvert between building 5 and the parking area which she referred to as a
194 ditch. She noted she was nervous about a severe rain event being 10' away. Ms. Libbey referenced the
195 48" culvert perpendicular to the stream and the culvert being replaced at the backside of the Thirsty
196 Moose property and how the two culverts will be tied into the structure to allow addition outlet with
197 the usual parallel flow with the stream, future erosion prevention and sizing up to 50-year storm from a
198 runoff perspective.

199
200 Chair Plumer asked about the washed out gully and Ms. Libbey noted a wetland permit would be filed
201 with the state for the southwest most end filled in for construction of sidewalk and drainage. The area
202 will be cleaned up and restored where erosion was happening. She noted the elevation of the building
203 and that the pipe would be well overtopped before it could ever flood that building.

204
205 Ms. English asked if there were enough snow storage and Ms. Libbey noted areas designated and plans
206 to truck excess off site.

207
208 Ms. Martel noted landscape island plantings would die is used for snow storage. Ms. Libbey noted they
209 could look for better locations.

210
211 Ms. English recommended having as much vegetation as possible and recommended moving the snow
212 storage so that the plantings won't be damaged. Vice-Chair Brown asked to review snow storage for
213 "phase 1." Ms. Libbey noted the entranceway, parking area at the edge of the building, sidewalk,
214 islands and along the mail house pull off, and the location where the town pushes snow off Haven Lane.
215 Vice-Chair Brown noted that between building 6 and 7 would be ideal. Ms. Belanger noted concerns
216 with treatment of melting snow. Ms. Libbey noted the area could be graded to flow away from
217 wetlands and to porous pavement.

218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261

Chair Plumer asked if the long strip between building 6 and 7 were a retaining wall and Ms. Libbey indicated yes.

Ms. English asked to identify plantings on the landscape plan especially the northern border exit into haven Lane on the left side of the road. She asked if the 7-8 plantings were tall enough to provide screening. Ms. Libbey noted there were arborvitae, grasses and taller trees. She noted the label on the plan. Ms. Martel noted there was a symbol on the plan.

Ms. English asked about HVAC in "Phase 2." Ms. Libbey noted it would be on the roof but dropped down, not visible. "Phase 1" would be internal.

Ms. English asked about bike racks and Ms. Libbey noted she needed to add those as part of "phase 2."

Ms. English asked about the proposed trail and whether there was a significant grade. Ms. Libbey noted it would loop and follow the contours. There would also be a couple of steps so it would not be as steep.

Ms. English asked about removal of invasives, and Ms. Libbey noted that would require permitting with the wetland bureau and so it is not proposed.

Ms. English asked about recreation areas and Ms. Libbey noted it meets regulations, the green space around the units and trail as well. Ms. Martel recommended taking out the area by "phase 2."

Ms. Martel asked about the drainage plans in "phases 1 and 2." Ms. Libbey reviewed the grading plan, porous pavement area, infiltration, and jellyfish system. She noted the front was trickier and would have underground detention.

Ms. Martel asked about roof runoff for "phase 1." Ms. Libbey noted filtration drip edges behind buildings to be treated with a filter course and stone reservoir. She described the impermeable liner to lower sections underground to the sections that can infiltrate stormwater.

Ms. Martel noted the proposed snow storage area recommended by Vice-Chair Brown would not be treated and drain to the wetland.

Ms. Belanger asked about #58 on page 2. Ms. Libbey noted the road was widened in sections setback to gage, with the second floor cantilevered. She noted that adding would interfere with plowing.

Ms. Belanger asked about #65-66 on page 4 and 5 and whether they were still waiting on DPW. Ms. Libbey noted she spoke to Paul Vlasich yesterday and he wants to meet to finalize the layout.

Vice-Chair Brown asked about electric vehicle charging stations and Ms. Libbey noted the conduit note plan plans as part of "phase 2." Mr. Sharples noted that in "phase 1" residents have garages.

262 Vice-Chair Brown asked about the pedestrian access in “phase 1 and phase 2.” Ms. Libbey noted from
263 Haven Lane to Portsmouth Avenue the neighborhood could walk through. Ms. Libbey noted she did not
264 envision the public going behind the units. Ms. Libbey noted it is clear where the sidewalk and parking
265 are.

266
267 Ms. English asked about landscaping behind 11 Bonny Drive and whether it would be adequately
268 shielded. She noted she would like to see that beefed up. Ms. Libbey noted there would be a few more
269 trees in the section. The Board provided Ms. Libbey with a letter dated March 23rd from the abutter.
270 Ms. Libbey noted they would not disturb the wetland by cutting trees and putting in a fence. Ms. Martel
271 agreed that shrubs can’t be planted in the woods and wetland and noted the best screening would be
272 on 11 Bonny Drive. Ms. Belanger encouraged the applicant and abutter to have conversations.

273
274 Craig Boudreau of 11 Bonny Drive noted he was concerned with flooding and lighting. He noted he
275 wouldn’t want to walk through people’s back yards. He noted his preference was natural screening and
276 a fence. He noted the buffer proposed was unrealistic and wants it to go up to the unit. Ms. Libbey
277 noted where the fence is proposed to end and not wanting additional wetland impact. She noted they
278 were happy to reach out and work with the abutter.

279
280 Susan Taylor of 30 Haven Lane noted it is wet behind the Thirsty Moose property and behind the Auto
281 Parts store and there are cones and yellow tape at this point.

282
283 Vice-Chair Brown asked why it couldn’t be one-way. Ms. Libbey asked which way they would want it to
284 go and noted it would be difficult to enforce. She noted she cannot reduce the parking aisle width.

285
286 Ms. Belanger asked about phases and when the approval expires. She asked about the lease being
287 extended. Chair Plumer noted it could be continued when ready to build “phase 2.” Vice-Chair Brown
288 noted it was recommended that drainage and access should be done now. Attorney Bosen discussed
289 vesting under the regulations and concerns if MUND were to go away. He discussed the terminology of
290 phasing and how the applicant did not propose phasing, and the lack of a definition. He noted it could
291 be referred to as one project. Ms. Libbey noted it was not referred to until TRC discussed water and
292 access. Attorney Bosen discussed active and substantial building. Mr. Sharples noted it could be vested
293 five years and hope for an extension. There is four more years on the lease with the auto parts store
294 and the tenant’s option to extend for five more. Mr. Green noted they could know 30 days before it
295 renews, or the lessee could leave early. Mr. Sharples noted the building permit is good for a year to 18
296 months. Mr. Sharples noted the Board follows Section 13.8 of the site plan regulations. Mr. Sharples
297 noted the Board has the authority to waive 13.8.4 but if they waived it, it would not be defined.

298
299 The Board recessed briefly to continue Case #25-1 to their next meeting due to being late in the evening
300 and not likely to be finished by 10 PM which is when no new business is conducted.

301
302 The hearing resumed at 9:24 PM.

303

304 Ms. English asked about the lighting plan and expressed concerns that bulbs not hang down past the
305 shade as she has seen in other properties. Ms. Libbey referenced L-3 and noted there will be a couple of
306 decorative street lights and lights at the rear of the parking lot, rear of building and front in “phase 2.”
307

308 Ms. Libbey addressed the waiver for grading within 5’ of the property line for buffering and fencing. She
309 noted the restoration plan. Mr. Sharples noted the access is exempt from the provision.

310
311 ***Vice-Chair Brown motioned after reviewing the criteria for granting waivers, to approve the request of***
312 ***Green and Company for a waiver from Section 9.3.6.7 of the site plan review and subdivision***
313 ***regulations regarding grading within 5’ of the property line for Planning Board Case #24-8. Mr.***
314 ***Hubbard seconded the motion. A roll call vote was taken: Ms. Belanger voted aye, Ms. English voted***
315 ***aye, Vice-Chair Brown voted aye, Chair Plumer voted aye, Mr. Hubbard voted aye and Ms. Martel***
316 ***voted aye. The motion passed 6-0-0.***

317
318 Ms. Libbey addressed the waiver for the standard specifications for construction – Section E(II)(D)(1)
319 Curb Radius Intersections (DPW construction standards). She noted the ROW is 40’ wide and she
320 outlined the turning template used by the Fire Department. She noted a wider radius could not be fit.
321 Chair Plumer noted it is unique to the situation.

322
323 Ms. Belanger asked if it would be affected if sidewalks were put in. Ms. Libbey noted that would reduce
324 the road width and then they would have the radius at that point.

325
326 Vice-Chair Brown agreed it was a unique situation.

327
328 ***Vice-Chair Brown motioned after reviewing the criteria for granting waivers, to approve the request of***
329 ***Green and Company for a waiver of Section E(II)(D)(1) – Curb Radius Intersections (DPW construction***
330 ***standards) for Planning Board Case #24-8. Ms. Belanger seconded the motion. A roll call vote was***
331 ***taken, Ms. Martel voted aye, Mr. Hubbard voted aye, Chair Plumer voted aye, Vice-Chair Brown voted***
332 ***aye, Ms. English voted aye, and Ms. Belanger voted aye. The motion passed 6-0-0.***

333
334 Ms. Libbey read the responses to the wetlands Conditional Use Permit (CUP) into the record. She noted
335 it was a permitted use in the zone for MUND in C-2. She noted there were alternate designs submitted
336 and revised and referenced wetlands D and C crossing which are limited value. She noted 7.7% of the
337 limited use buffer and plaques to be placed along the tree line. She noted the language to be contained
338 in the condominium documents. She referenced the function and value report from the wetland
339 scientist who concluded the impact was not detrimental to the wetland as all have been degraded, flood
340 flow is not compromised, and the erosion of the existing channel was noted. Wetland C and D are
341 manmade with little to no value. She noted the design was altered to maintain connectivity. She noted
342 the NH DES Alteration of Terrain application (AoT), wastewater and EPA general permits, and that
343 flooding would not increase to neighboring property. She addressed mitigation elsewhere on the site
344 and noted the existing vegetated area to be permanently conserved as greenspace. She discussed
345 restoration proposal to all areas not permanently impacted.

346

347 Ms. Martel indicated that snow storage was not addressed adequately enough for the impact marked
348 temporary to the buffer which is more likely permanent and noted she was uncomfortable voting to
349 approve the CUP when she has not seen how it will be addressed.

350

351 Ms. Libbey noted the proposal for grading to porous pavement where stormwater would be treated.
352 She noted road salt can't be used for maintenance, they will not use multiple treatments and bring one.

353

354 Ms. Martel indicated the stairs by the kiosk would make the proposal challenging, they were not going
355 to get a berm there. Attorney Bosen recommended it be a condition of approval to not use salt or
356 chloride products. Ms. Martel indicated salt or not, there would be other solvents, such as motor oil.
357 Ms. Libbey noted the slope was not huge, only 6" and UEI could review on their end.

358

359 Vice-Chair Brown asked if it was not permitted to truck off snow from the property. Mr. Sharples noted
360 it was not required in the regulations. Vice-Chair Brown noted the islands were not practical with
361 vegetation. Ms. Libbey indicated the grades could be changed to make it work and snow could be
362 trucked off in a bad winter. Vice-Chair Brown agreed grading should work and the town engineer was
363 more qualified. Mr. Green noted the grading was not a significant change. Vice-Chair Brown indicated
364 he was comfortable making it a condition of approval. Chair Plumer agreed. Ms. English noted she was
365 concerned with it. Vice-Chair Brown indicated he was less comfortable with the Board making a
366 redesign than the town engineer. Chair Plumer agreed. Ms. Libbey noted the change was in line with
367 others that could come up waiting for state approvals.

368

369 Ms. Martel noted there was more parking than needed and more asphalt. Ms. English agreed with Ms.
370 Martel. She noted she believed it was too much of a buffer impact for this site.

371

372 Mr. Sharples read the Conservation Commission's proposed conditions concerning upgrade of the 18"
373 culvert as discussed; and the deed restriction be executed to permanently protect the passive recreation
374 trail.

375

376 Ms. Libbey noted the wetland in the protected greenspace was a higher value and the application went
377 through extensive process with Conservation, and they felt comfortable after hearing the testimony
378 from Gove Environmental with the conditions Mr. Sharples outlined.

379

380 Ms. Libbey noted that the condition could read that UEI review and insure that all stormwater flows to
381 be treated. Mr. Sharples added and be reviewed by the town engineer or designee, or a design that
382 achieves that. Vice-Chair Brown recommended giving the flexibility.

383

384 Mr. Sharples read the proposed conditions.

385

386 ***Vice-Chair Brown motioned after reviewing the criteria for a wetlands Conditional Use Permit to***
387 ***approve the request of Green and Company with the conditions read by Town Planner Dave Sharples.***
388 ***Ms. Belanger seconded the motion. A roll call vote was taken: Ms. Belanger voted aye, Ms. English***
389 ***voted nay, Vice-Chair Brown voted aye, Chair Plumer voted aye, Mr. Hubbard voted aye and Ms.***
390 ***Martel voted nay. The motion passed 4-2-0.***

391
392 The Board discussed phasing and approval time. Vice-Chair Brown noted they would likely finish the
393 first portion in three years and sell and quick as they are built in this market leaving a potential gap in
394 time for the front portion of the project. The applicant is concerned about zoning changes and don't
395 want to lose their approval. The front of the project is what the public desired with rezoning. Attorney
396 Bosen noted there could be a waiver so that the residential units can be completed, utilities and walking
397 path.

398
399 Ms. Belanger asked if it were typical to approve a project for that many years and Chair Plumer
400 referenced Riverwoods. Vice-Chair Brown noted it was very typical, right now the market is very fluid.
401 Mr. Sharples noted there is one that has been approved for five years. Ms. Belanger noted phasing
402 came up at TRC. Mr. Sharples noted in order to identify what to do first. Chair Plumer noted that
403 granting an extension was no big problem. Mr. Sharples advised that if the approval time is waived it
404 would be in perpetuity unless otherwise stated. Vice-Chair Brown recommended 15 years. Ms. Libbey
405 noted they would also need to extend their state approvals. Mr. Green noted this was designed under
406 MUND and that may change, the Board may change. He noted they intend to move rapidly, 15 years
407 would be wonderful, 11-12 ok, one year would not work. Ms. English noted Portsmouth Ave could
408 change, stormwater regs could change. Attorney Bosen recommended focusing on the here and now
409 and not being speculative. Mr. Green noted they could do 12. Mr. Sharples read the proposed
410 condition: "this approval shall be valid for a period of 12 years from today's date."

411
412 Vice-Chair Brown asked what would happen if they didn't do anything. He would like to see improved
413 screening for 11 Bonny Drive. Mr. Green recommended discussing that with the homeowner on site.

414
415 Ms. Green noted they could add a row of trees behind the building. The fence was shown on the plan to
416 the point of wetlands buffer and then the row of trees could continue behind the building. Mr.
417 Boudreau noted a 10' fence would be better, he noted he wanted a fence.

418
419 Mr. Sharples read the proposed condition: "to construct a living fence a minimum of 8' height which
420 shall be shown on the plans the length of building 1 between building 1 and 11 Bonny Drive."

421
422 Mr. Green noted they could extend the fence shown on the plan by 20' and have a living fence to the
423 end of the building shown on plan. Mr. Sharples added the language "as discussed at the meeting."

424
425 ***Vice-Chair Brown motioned to approve the request of Green and Company, Planning Board Case #24-***
426 ***8 for multi-family site plan with the conditions read by the Town Planner. Mr. Hubbard seconded the***
427 ***motion. A roll call vote was taken: Ms. Martel voted nay, Mr. Hubbard voted aye, Chair Plumer voted***
428 ***aye, Vice-Chair Brown voted aye, Ms. English voted nay and Ms. Belanger voted nay. The motion***
429 ***failed 3-3-0.***

430
431 Mr. Sharples read the standard conditions and additional conditions of approval:
432

- 433 1. An electronic as built plan with details acceptable to the Town shall be provided prior to the issuance
434 of a certificate of occupancy. This plan must be in a dwg or dxf file format and in NAD 1983 State Plane
435 New Hampshire FIPS 2800 feet coordinates;
436
- 437 2. A preconstruction meeting shall be arranged by the applicant and his contractor with the Town
438 engineer prior to any site work commencing. The following must be submitted for review and approval
439 prior to the preconstruction meeting:
440
- 441 i. the SWPPP (storm water pollution prevention plan), if applicable, be submitted to and
442 reviewed for approval by DPW prior to the preconstruction meeting; and
 - 443 ii. A project schedule and construction cost estimate.
444
- 445 3. Third party construction inspection fees shall be paid prior to scheduling the preconstruction
446 meeting.
447
- 448 4. The annual operations and stormwater maintenance report in the stormwater management
449 operation and maintenance manual)revised March 15, 2025) shall be completed and submitted to the
450 Town engineer annually on or before January 31st. This requirement shall be an ongoing condition of
451 approval and included in the condominium documents.
452
- 453 5. All comments in the UEI review letter dated 3/26/25 shall be addressed to the satisfaction of the
454 Town Planner and Town Engineer, or their designee, prior to signing the final plans.
455
- 456 6. All condominium documents including declaration and by laws shall be submitted to the Town
457 Planner for review and approval prior to signing the final plans. The documents submitted to the Town
458 shall include language regarding the maintenance requirements of the pervious pavers and stormwater
459 practices shown on the plans and other applicable conditions of this approval. The condominium
460 documents shall be reviewed by the town's attorney, at the applicant's expense.
461
- 462 7. All applicable state permit approval numbers shall be noted on the final plans.
463
- 464 8. All applicable fees to be paid including, but not limited to sewer/water connection fees, impact fees
465 and inspection fees (including third party inspection fees) prior to issuance of a certificate of occupancy.
466
- 467 9. All landscaping shown on plans shall be maintained and any dead or dying vegetation shall be
468 replaced, no later than the following growing season. as long as the site plan remains valid.
469
- 470 10. All outdoor lighting (including security lights) shall be down lit and shielded so no direct light is
471 visible from adjacent properties and/or right of ways.
472
- 473 11. The applicant shall submit the land use and stormwater management information about the project
474 using the PTAPP online municipal tracking tool. The PTAPP submittal must be accepted by DPW prior to
475 the preconstruction meeting.
476

477 12. Use of the proposed sidewalk from the residential units to Portsmouth Avenue shall be unrestricted
478 for use by the residents of this project. The intent of this condition is to insure that any lease of the
479 front portion of the lot will not impede pedestrian access to the sidewalk.

480

481 13. No building shall be closer than 20' from the side property lines and this shall be reflected on the
482 final plans.

483

484 14. As agreed by the applicant, the applicant shall provide a \$20,000 contribution to be used toward the
485 improvement of vehicular traffic flow from the site to Portsmouth Ave which includes as a minimum the
486 signalized intersection at Green Hill Road and Portsmouth Ave. This contribution shall be made when
487 submitting for a building permit.

488

489 15. As agreed by the applicant, all construction hours shall be limited to 7 AM to 7 PM daily with only
490 inside construction on Sundays.

491

492 16. On the final plans bike racks shall be added to phase 2 to the satisfaction of the Town Planner.

493

494 17. A constructed and living fence a minimum of 8' in height shall be shown on the final plans between
495 the length of building 1 and 11 Bonny Drive, as discussed at the meeting.

496

497 18. *This approval shall be valid for a period for 12 years from today's date. (revised to 10 years from*
498 *today's date).*

499

500 19. The proposed pedestrian trail shall be reviewed by the Conservation and Sustainability Planner prior
501 to signing the final plans.

502

503 Ms. Belanger asked about the ROW along Portsmouth Avenue being transferred. Mr. Sharples will do
504 more research on why the state didn't take it and whether the Town would want it.

505

506 Ms. Belanger noted her issue was the length of years of approval, she noted she would be fine with ten
507 years. Mr. Sharples noted with the building permit it will likely go to 12 anyway.

508

509 Ms. Martel noted she had a hard time approving the CUP and is not comfortable with so much impact
510 from pavement in wetlands buffers. She noted the spirit of the MUND to have limited parking and four
511 per unit. Ms. English agreed.

512

513 Ms. Libbey asked about the as built plans for phase 1 and phase 2 and whether they would be separate,
514 and Mr. Sharples indicated yes.

515

516 ***Ms. Belanger motioned to approve the request of Green and Company, Planning Board Case #24-8 for***
517 ***a multi-family site plan with the conditions read by Town Planner Dave Sharples, with said site plan***
518 ***approval valid for a period of ten years from today's date. Mr. Hubbard seconded the motion. A roll***
519 ***call vote was taken: Ms. Belanger voted aye, Ms. English voted nay, Vice-Chair Brown voted aye,***
520 ***Chair Plumer voted aye, Mr. Hubbard voted aye and Ms. Martel voted nay. The motion passed 4-2-0.***

521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560

Ms. English asked about stop signs and Ms. Belanger noted she brought that up at the Select Board meeting. Mr. Sharples noted he would follow up.

3. The application of StoneArch Development for a multi-family site plan review for the proposed construction of a six (6) unit townhouse style residential condominium development along with associated parking and site improvements. The subject property is located at 57 Portsmouth Avenue, in the C-2, Highway Commercial zoning district. Tax Map Parcel #73-14. PB Case #25-1.

The Board scheduled a site walk at the proposed site, for April 10, 2025 at 8 AM.

Vice-Chair Brown motioned to continue Planning Board Case #25-1 to the Board's April 10, 2025 meeting at 7 PM at the Exeter Town Offices in the Nowak Room. Ms. Belanger seconded the motion. A vote was taken, all were in favor, the motion passed 6-0-0.

IV. OLD BUSINESS

APPROVAL OF MINUTES

March 13, 2025
February 27, 2025

Ms. Belanger motioned to table approval of the February 27, 2025 and March 13, 2025 meeting minutes. Ms. English seconded the motion. A vote was taken, all were in favor, the motion passed 6-0-0.

V. OTHER BUSINESS

- Master Plan Discussion
- Field Modifications
- Bond and/or Letter of Credit Reductions and Release

VI. TOWN PLANNER'S ITEMS

VII. CHAIRPERSON'S ITEMS

VIII. PB REPRESENTATIVE'S REPORT ON "OTHER COMMITTEE ACTIVITY"

561 **IX. ADJOURN**

562 Chair Plumer adjourned the meeting at 11:20

563 PM.

564 Respectfully submitted.

565 Daniel Hoijer,

566 Recording Secretary (Via Exeter TV)



TOWN OF EXETER

Planning and Building Department

10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 • FAX 772-4709

www.exeternh.gov

Date: April 3, 2025
To: Planning Board
From: Dave Sharples, Town Planner
Re: StoneArch Development 112 Front Street PB Case #24-17

The Applicant has submitted a multi-family site plan review application for the proposed redevelopment of the property located at 112 Front Street. The developer is proposing to demolish the existing buildings on the site and construct seventeen (17) townhouse-style residential condominiums and associated site improvements. The property is located in the C-1, Central Area Commercial zoning district and is identified as Tax Map Parcel #73-14.

The Applicant originally appeared before the Board at the January 23rd, 2025 meeting to present their plans for the redevelopment of the subject property. A site walk was conducted on February 6th, 2025. The Applicant returned to the Planning Board for further discussion at the February 27th and March 13th, 2025 meetings, at which it was tabled to the March 27th, 2025 meeting. The Applicant subsequently submitted a request for continuance to the April 10th, 2025 meeting to provide them adequate time to address those comments and/or concerns raised at the March 13th, 2025 Planning Board meeting. At the last meeting, I was asked by a Board member to include a status on the statutory 65-day timeframe. This has now exceeded that timeframe but that was due to the applicant requesting a continuance until this meeting. Should the Board not reach a position to take action on this application at this meeting then I would recommend that you ask the applicant to agree on the record to such an extension.

The Applicant has submitted revised plans and supporting documents, dated 4/2/25, and those materials are enclosed for your review. Staff is still in the process of reviewing the recent submission and an update will be provided at the meeting.

The Applicant was originally requesting three (3) waivers from the Board's Site Plan Review & Subdivision Regulations as outlined in the waiver request letters, dated 01/21/25 and 02/19/25 (previously mailed), however, the requested waiver from Section 9.3.6.4 for grading within five feet (5') of an exterior property line waiver (included in the 1/21/25 waiver request letter) is no longer necessary given the recent revisions to the site plan.

I have provided motions below for your convenience. I will be on vacation the week of the Planning Board meeting and Kristen will be attending in my absence. I have provided her with conditions of approval should the Board decide to act on the application.

Waiver Motions:

Roadway and Fire Lanes Less than 24' Width waiver motion: After reviewing the criteria for granting waivers, I move that the request of StoneArch Development (PB Case #24-17) for a waiver from Section 9.14.9 of the Site Plan Review and Subdivision Regulations to permit proposed roadway and fire lanes to be less than 24' in width be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Stormwater Management for Redevelopment Standards waiver motion: After reviewing the criteria for granting waivers, I move that the request of StoneArch Development (PB Case #24-17) for a waiver from Section 9.3.2.7 of the Site Plan Review and Subdivision Regulations regarding stormwater management requirements for redevelopment be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Planning Board Motions:

Multi-Family Site Plan Motion: I move that the request of StoneArch Development (PB Case #24-17) for Multi-Family Site Plan approval be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Thank You.

Enclosures

**70 Portsmouth Avenue
Stratham, New Hampshire
0388
603 – 583 - 4860
Fax: 583 - 4863**

April 2, 2025

Chairman
Town of Exeter Planning Board
10 Front Street
Exeter, NH 03833

RE: Letter of Explanation
112 Front Street, LC.
Proposed 17-unit residential townhouse condominium
Tax Map 0073 Lot #: 0014

Dear Members of the Board:

The applicant is proposing to demolish the existing house and barn structures and remove the foundation/slabs. The redevelopment will consist of 16 residential townhouse condominium units (1 three-unit building, 2 four-unit buildings, and 1-five-unit building) with a reconfigured private driveway, parking, utilities and drainage structures. Specifically, porous pavement and infiltration ponds are proposed for drainage along with underground water, sewer, gas, and electric/communications services.

The revised design is being submitted showing a reduction of one unit in the building along Front Street and the removal of a proposed catchbasin in the driveway that was connecting to the municipal drainage system. The portion of driveway that had been designated as standard pavement was transitioned back to porous pavement in order to address the stormwater in that vicinity. Miscellaneous comments from Underwood Engineering and associated changes to lighting, improved landscaping, drainage, and grading have been incorporated.

Thank you for your consideration.

Very truly yours,
BEALS ASSOCIATES, PLLC

Christian O. Smith

Christian O. Smith P.E.
Principal



Exeter Planning Board,
David Sharples, Town Planner
Town Planning Office, Town of Exeter
10 Front Street
Exeter, NH 03833

April 2, 2025

Re: 112 Front Street, LLC – 112 Front Street – Residential Development
Response to UEI Comments – 2nd Round

Dear Mr. Chairman, Members of the Board, & Mr. Sharples:

We are in receipt of a second review letter from Underwood Engineers, dated February 20, 2025 and we offer the following responses to the noted comments. Each comment is followed by our response in **bold**.

Drainage Analysis

- 31.** The profile shown on the utility plan is in conflict with the boundary between subcatchments 1.2 & 2.3. Run-off from the roofs of (at least) units 1 and 2 as well as the pavement in front of the two units, is going to be turned by the entrance driveway's dominating profile slope and be routed toward Front Street.

Comment 31 partially addressed. The Sewer Profile, although closely mimicking the existing condition, should show a proposed finished grade line all the way to the existing manhole in the street as the entire sewer run is to be disturbed.

Response: The sewer profile has been revised.

- 32.** Comment 1 asks for Architectural drawings, the subcatchment boundary running along Units 14-17 implies a (4) hipped roof system to the back, but none of the other subcatchment boundaries support this roof arrangement. Confirm that the catchment boundaries are correct relative to the proposed roof pitches.

Comment partially addressed. UE acknowledges the note that the roofs will be directed to the reservoir course under the porous pavement. We note the architectural drawings appear to show gutters however the depiction of the gutters does not appear large enough to capture the volume of water from the proposed buildings and convey it from the middle of the back of the building to the front without some form of downspout and connected underground piping. UE also notes the top of the reservoir course is 21" below the surface of the porous pavement, which is not a deep profile to accommodate 100' plus of underground piping.

Response: The latest architectural plans have been provided as part of this submission.

- 33.** PTAP Database: The Applicant is requested to enter project related stormwater tracking information contained in the site plan application documents using the Great Bay Pollution Tracking and Accounting Program (PTAP) database (www.unh.edu/unhsc/ptapp).

Comment not addressed. At the point where the project is approved, should the PTAP entry fail to demonstrate an effective reduction in pollutants, it is quite late in the process. The applicant need not submit the proposed project, but a draft entry of the proposed project is prudent.

Response: A PTAPP database entry has been completed and a summary report is provided as part of this submittal.

New Comments

- 34.** A proposed catch basin (PCB #1) is shown with a connection to the Town's existing drainage system in Front Street. This is prohibited by Section 9.3.

Response: PCB#1 has been removed and the driveway entrance has been reverted back to porous pavement. This approach has been reviewed and accepted by planning staff and the planning board.

- 35.** Landscaping Plan: A number of deciduous trees are shown at the edges of the porous pavement. Consider minimizing the planting of trees, or at least the planting of deciduous trees, where porous pavement is shown to reduce clogging of the pavement, cutting down on maintenance.

Response: An Inspection & Maintenance Plan is part of the project that outlines maintenance and reporting requirements to the Town of Exeter. This has been reviewed with the project landscape architect.

- 36.** It appears that placement of the porous pavement sign on the west side may make it more visible to plow truck drivers entering the complex.

Response: The porous pavement sign has been moved to the opposite (west) side of the driveway.

- 37.** UE is of the opinion that the advantages of continuing gravity sewer in front of Units N through P to a terminus manhole rather than the proposed service lateral and clean-out, outweigh the minor cost difference.

Response: The sewer layout has been reviewed and accepted by DPW with no concerns.

- 38.** The gravity sewer is labelled as 6" on the plans and profile, but the manhole invert call-outs identify the inverts as 8". Env-Wq 700 limits 6" sewer to no greater than 10 units and 1% slope.

Response: The 6" sewer line label has been revised.

- 39.** It is unclear what size pipe is proposed for the services between the main and unit. The detail shows part of the service as 6” and implies part of it is 4”. Coordinate the proposed sewer design consistently across the plans, profile and detail(s).

Response: The sewer design has been coordinated.

- 40.** UE notes a delineated ROW through the main drive aisle of the site. The value of delineating a ROW across common land is unclear. We note the mail kiosk is not contained within the ROW.

Response: It is assumed UE is referring to the “Limit of Access Drive” callout on the plan that is used to determine the density calculation. This is not a right-of-way.

- 41.** The new location shown for the mail kiosk requires users to park in the drive aisle with no pullover area.

Response: The mail kiosk has been relocated from the drive aisle.

- 42.** The water main is positioned underneath landscaped islands and garage accesses rather than in the common drive aisle (ROW).

Response: The utility layout has been reviewed and accepted by DPW with no concerns of their locations.

Thank you for your timely and professional review of the submitted plans. We hope the information provided address your concerns. Please feel free to contact our office if you have any additional question and/or comments.

Very Truly Yours,

BEALS ASSOCIATES, PLLC

Christian O. Smith

Christian O. Smith, PE
Principal

Residential Development - 112 Front Street, Exeter

Submission ID

- 601

Approval Status

- New Submission

Map No.

- 73

Parcel ID

- 14

Property Owner

- 112 Front Street, LLC

Project Street Address

- 112 Front Street

This project is for a municipality

- No

This project is inside MS-4 Permit Area

- Yes

Project is within the 200 meter coastal zone or stream buffer zone

- No

Discharges to an impaired waterbody

- No

Offsite mitigation

- No

By submitting this form, I certify all information is true and correct to the best of my knowledge and professional judgement.

- Yes

Town

- Exeter

Land Use Type

- Multi-Family and High-Density Residential

Hydrologic Unit Code (HUC)-10

- 0106000308 – Exeter Squamscott River

Last Updated By

- JohnLorden

Report Submitted By

-

Last Updated On

- Tue, 04/01/2025 - 12:28

Report Submitted

- Tue, 04/01/2025 - 12:20

Impervious Surface Management Table - Structural BMPs

Structural BMP	Impervious Surface Managed (ac)	Runoff Volume Storage at Design Capacity (ft ³)	Design Storm Depth (")	Infiltration Rate (in/hr)
Porous Pavement	0.82	15828.00	7.5	1.02
Infiltration/Surface Infiltration	0.01	1938.00	7.5	1.02
Total Impervious Cover (acres)		0.82		
Total Management (acres)		0.83		
Effective Impervious Cover (acres)		-0.01		

Impervious Surface Management Table - Non-Structural BMPs

Non-Structural BMP	Amount	Unit	Description
BMP Operation and Maintenance	0.00		

Land Use Conversion Table

Soils		Existing Conditions			Future Conditions		
Hydrologic Group	Acres	Land Use Type	Acres	Impervious and/or Paved Surfaces Acres	Land Use Type	Acres	Impervious and/or Paved Surfaces Acres
B	1.57	Residential	1.57	0.15	Residential	1.57	0.82
Totals	1.57		1.57	0.15		1.57	0.82

Wastewater Management Table

Existing Conditions			Future Conditions		
Management Option	Discharge (GPD)	Description	Management Option	Discharge (GPD)	Description
Sewered	600.00	4-Bedroom House	Sewered	7200.00	16 3-Bedroom Units
Totals	600			7200	

RESIDENTIAL SITE PLAN

112 FRONT STREET

(NH ROUTE 111)

TAX MAP 73, LOT 14

DECEMBER 9, 2024

NOT FOR CONSTRUCTION

DRAWING INDEX

CIVIL ENGINEERS:



70 PORTSMOUTH AVE.
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603-583-4860,
FAX: 603-583-4863



LOCATION MAP



SCALE: 1"=500'

SHEET #	TITLE
	COVER SHEET
1-3	EXISTING CONDITION PLANS (BERRY SURVEY)
4	DEMOLITION PLAN
5	PARKING & PAVEMENT PLAN
6	GRADING, DRAINAGE, & EROSION CONTROL
7	UTILITY PLAN
8	LIGHTING & PLANTING DETAIL PLAN
8b	PLANTING PLAN
9	EROSION & SEDIMENT CONTROL DETAILS
10-11	CONSTRUCTION DETAILS
12	EXETER LADDER TRUCK MANEUVERING PLAN

LAND SURVEYORS:

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825
603-332-2863

RECORD OWNER/APPLICANT

112 FRONT STREET, LLC
42J DOVER POINT ROAD
DOVER, NEW HAMPSHIRE

PLAN SET LEGEND

5/8" REBAR		VCC	
DRILL HOLE		OVERHEAD ELEC. LINE	
CONC. BOUND		FENCING	
UTILITY POLE		DRAINAGE LINE	
DRAIN MANHOLE		SEWER LINE	
SEWER MANHOLE		GAS LINE	
EXISTING LIGHT POLE		WATER LINE	
EXISTING CATCH BASIN		STONE WALL	
PROPOSED CATCH BASIN		TREE LINE	
WATER GATE		ABUT. PROPERTY LINES	
WATER SHUT OFF		EXIST. PROPERTY LINES	
HYDRANT		BUILDING SETBACK LINES	
PINES, ETC.		EXIST. CONTOUR	
MAPLES, ETC.		PROP. CONTOUR	
EXIST. SPOT GRADE		SOIL LINES	
PROP. SPOT GRADE			
DOUBLE POST SIGN			
SINGLE POST SIGN			

WAIVERS REQUESTED:

- SECTION 9.14.9 TO PROVIDE A 24-FOOT WIDE DRIVEWAY
- SECTION 9.3.6.4 TO RESTRICT GRADING WITHIN 5 FEET OF A PROPERTY LINE

REQUIRED STATE & FEDERAL PERMITS

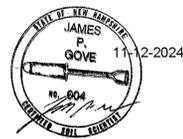
CONSTRUCTION GENERAL PERMIT
NHDES SEWER CONNECTION
NHDES WATER CONNECTION

PB CASE # TBD

CHAIRMAN SIGNATURE:

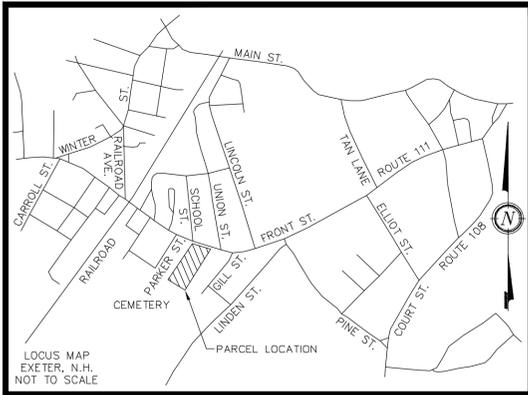
WETLAND/SOIL CONSULTANT:

GOVE ENVIRONMENTAL SERVICES INC.
8 CONTINENTAL DRIVE,
BLDG 2 UNIT H
EXETER, NH 03833
603-778-0644

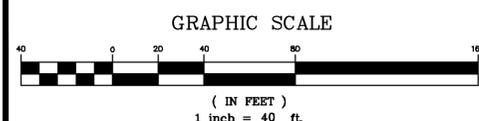
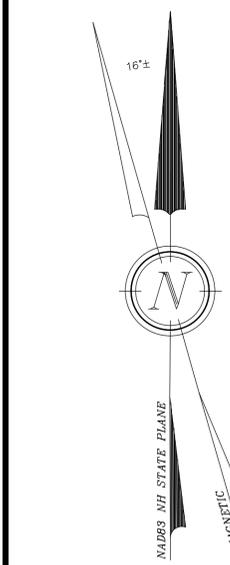
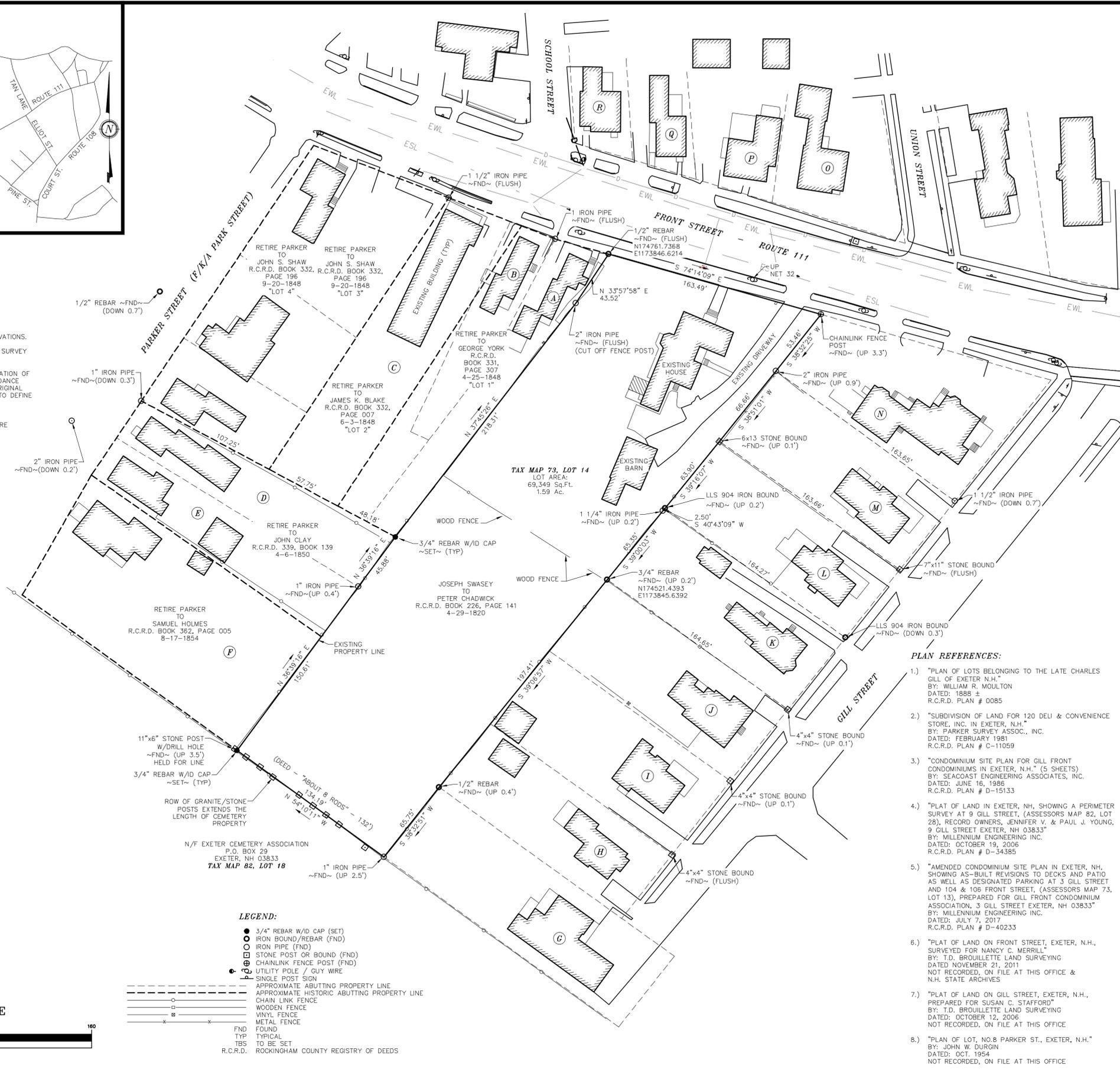


REVISIONS:		DATE:
1	REVISED PER REVIEW COMMENTS	01/17/25
2	REVISED PARKING LAYOUT	02/19/25
3	REVISED PER REVIEW COMMENTS	04/01/25
4		
5		

NH-1531 PROPOSED RESIDENTIAL PLAN



- NOTES:**
- OWNER: 112 FRONT STREET, LLC
42J DOVER POINT ROAD
DOVER, NH 03820
 - TAX MAP 73, LOT 14
 - R.C.R.D. BOOK 6571, PAGE 2507
 - LOT AREA: 69,349 Sq.Ft., 1.59 Ac.
 - VERTICAL DATUM BASED ON USGS NAVD88 ELEVATIONS. HORIZONTAL COORDINATES BASED ON NAD83. COORDINATES GATHERED USING CARLSON BRX7 SURVEY GRADE GPS RECEIVERS.
 - THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES OF TAX MAP 73, LOT 14 IN ACCORDANCE WITH AND IN RELATION TO THE CURRENT AND ORIGINAL LEGAL DESCRIPTIONS, AND IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP, OR DEFINE THE LIMITS OF TITLE.
 - NH STANDARD PROPERTY SURVEY WITH A CLOSURE BETTER THAN 1:10,000.



- LEGEND:**
- 3/4" REBAR W/D CAP (SET)
 - IRON BOUND/REBAR (FND)
 - IRON PIPE (FND)
 - STONE POST OR BOUND (FND)
 - CHAINLINK FENCE POST (FND)
 - UTILITY POLE / GUY WIRE
 - SINGLE POST SIGN
 - APPROXIMATE ABUTTING PROPERTY LINE
 - - - APPROXIMATE HISTORIC ABUTTING PROPERTY LINE
 - CHAIN LINK FENCE
 - WOODEN FENCE
 - VINYL FENCE
 - METAL FENCE
 - FND FOUND
 - TYP TYPICAL
 - TO BE SET
 - R.C.R.D. ROCKINGHAM COUNTY REGISTRY OF DEEDS

- PLAN REFERENCES:**
- "PLAN OF LOTS BELONGING TO THE LATE CHARLES GILL OF EXETER, N.H." BY: WILLIAM R. MOULTON DATED: 1888 ± R.C.R.D. PLAN # 0085
 - "SUBDIVISION OF LAND FOR 120 DELI & CONVENIENCE STORE, INC. IN EXETER, N.H." BY: PARKER SURVEY ASSOC., INC. DATED: FEBRUARY 1981 R.C.R.D. PLAN # C-11059
 - "CONDOMINIUM SITE PLAN FOR GILL FRONT CONDOMINIUMS IN EXETER, N.H." (5 SHEETS) BY: SEACOAST ENGINEERING ASSOCIATES, INC. DATED: JUNE 16, 1986 R.C.R.D. PLAN # D-15133
 - "PLAT OF LAND IN EXETER, NH, SHOWING A PERIMETER SURVEY AT 9 GILL STREET, (ASSESSORS MAP 82, LOT 28), RECORD OWNERS, JENNIFER V. & PAUL J. YOUNG, 9 GILL STREET EXETER, NH 03833" BY: MILLENNIUM ENGINEERING INC. DATED: OCTOBER 19, 2006 R.C.R.D. PLAN # D-34385
 - "AMENDED CONDOMINIUM SITE PLAN IN EXETER, NH, SHOWING AS-BUILT REVISIONS TO DECKS AND PATIO AS WELL AS DESIGNATED PARKING AT 3 GILL STREET AND 104 & 106 FRONT STREET, (ASSESSORS MAP 73, LOT 13), PREPARED FOR GILL FRONT CONDOMINIUM ASSOCIATION, 3 GILL STREET EXETER, NH 03833" BY: MILLENNIUM ENGINEERING INC. DATED: JULY 7, 2017 R.C.R.D. PLAN # D-40233
 - "PLAT OF LAND ON FRONT STREET, EXETER, N.H., SURVEYED FOR NANCY C. MERRILL" BY: T.D. BROUILLETTE LAND SURVEYING DATED NOVEMBER 21, 2011 NOT RECORDED, ON FILE AT THIS OFFICE & N.H. STATE ARCHIVES
 - "PLAT OF LAND ON GILL STREET, EXETER, N.H., PREPARED FOR SUSAN G. STAFFORD" BY: T.D. BROUILLETTE LAND SURVEYING DATED: OCTOBER 12, 2006 NOT RECORDED, ON FILE AT THIS OFFICE
 - "PLAN OF LOT, NO.8 PARKER ST., EXETER, N.H." BY: JOHN W. DURGIN DATED: OCT. 1954 NOT RECORDED, ON FILE AT THIS OFFICE

- ABUTTERS :**
- N/F MICHELLE E. HARRITON REVOCABLE TRUST HARRITON, MICHELLE E., TRUSTEE & HARRITON, BENJAMIN MICHAEL 114 FRONT STREET EXETER, NH 03833 **TAX MAP 73, LOT 15** R.C.R.D. BOOK 6482, PAGE 2462
 - N/F JOHN & TERESA TOOMEY FAMILY REVOCABLE TRUST TOOMEY, JOHN & TERESA, TRUSTEES 2 NEWFIELDS ROAD EXETER, NH 03833 **TAX MAP 73, LOT 16** R.C.R.D. BOOK 6174, PAGE 602
 - N/F ART UP FRONT STREET LLC 120 FRONT STREET EXETER, NH 03833 **TAX MAP 73, LOT 17** R.C.R.D. BOOK 5755, PAGE 1773
 - N/F JEANETTE MORRISSETTE TRUST MORRISSETTE, JEANETTE, TRUSTEE 12 PARKER STREET EXETER, NH 03833 **TAX MAP 73, LOT 21** R.C.R.D. BOOK 3468, PAGE 947
 - N/F ROY E. MORRISSETTE REVOCABLE TRUST MORRISSETTE, ROY E., TRUSTEE 14 PARKER STREET EXETER, NH 03833 **TAX MAP 73, LOT 22** R.C.R.D. BOOK 6496, PAGE 2880
 - N/F MDU MILLER REVOCABLE TRUST MILLER, DEBORAH J. & MARK A., TRUSTEES 16 PARKER STREET EXETER, NH 03833 **TAX MAP 73, LOT 23** R.C.R.D. BOOK 6530, PAGE 879
 - N/F MAHATA HALL FAMILY TRUST MAHATA, MINI & HALL, BRETT, TRUSTEES 17 GILL STREET EXETER, NH 03833 **TAX MAP 82, LOT 24** R.C.R.D. BOOK 6116, PAGE 1827
 - N/F UNGER-DESMOND 2018 REVOCABLE TRUST UNGER, NICHOLAS F. & DESMOND, BARBARA S., TRUSTEES 20 MAIN STREET EXETER, NH 03833 **TAX MAP 82, LOT 25** R.C.R.D. BOOK 5957, PAGE 081
 - N/F POWERS, VINCENT & ANNMARIE 13 GILL STREET EXETER, NH 03833 **TAX MAP 82, LOT 26** R.C.R.D. BOOK 5580, PAGE 338
 - N/F MASKWA, ERIC & EVAGELIA 11 GILL STREET EXETER, NH 03833 **TAX MAP 82, LOT 27** R.C.R.D. BOOK 6197, PAGE 2683
 - N/F FRENCH, CHARLES ANDREW & GASTICH, DANA ERIN 9 GILL STREET EXETER, NH 03833 **TAX MAP 82, LOT 28** R.C.R.D. BOOK 6124, PAGE 164
 - N/F SUSAN C. STAFFORD REVOCABLE TRUST STAFFORD, SUSAN C., TRUSTEE 1301 SEAFARER CIRCLE 104 JUPITER, FL 33477 **TAX MAP 73, LOT 11** R.C.R.D. BOOK 4879, PAGE 2548
 - N/F NEALON FAMILY REVOCABLE TRUST NEALON, JAMES D. & KRISTIN F., TRUSTEES 5 GILL STREET EXETER, NH 03833 **TAX MAP 73, LOT 12** R.C.R.D. BOOK 6449, PAGE 189
 - N/F DALE A. ATKINS REVOCABLE TRUST ATKINS, DALE A., TRUSTEE 104 FRONT STREET EXETER, NH 03833 **TAX MAP 73, LOT 13-1** R.C.R.D. BOOK 5983, PAGE 001
 - N/F ELLEN WOLFF LIVING TRUST WOLFF, ELLEN, TRUSTEE 3 GILL STREET EXETER, NH 03833 **TAX MAP 73, LOT 13-2** R.C.R.D. BOOK 6479, PAGE 440
 - N/F RUSSMAN, BRETT M. & ROBERTSON, ADELE G. (LIFE ESTATE) 106 FRONT STREET EXETER, NH 03833 **TAX MAP 73, LOT 13-3** R.C.R.D. BOOK 5807, PAGE 1710
 - N/F LINDE, ARTHUR & JEAN 109 FRONT STREET EXETER, NH 03833 **TAX MAP 73, LOT 239** R.C.R.D. BOOK 5400, PAGE 914
 - N/F GARSTKA, JEFFREY STACI P.O. BOX 154 PORTSMOUTH, NH 03802-0154 **TAX MAP 73, LOT 238** R.C.R.D. BOOK 5013, PAGE 281
 - N/F DAVIS, JAMES M. & JODY W. 115 FRONT STREET EXETER, NH 03833 **TAX MAP 73, LOT 237** R.C.R.D. BOOK 3101, PAGE 870
 - N/F WEBSTER, PAUL M. & ELIZABETH 117 FRONT STREET EXETER, NH 03833 **TAX MAP 73, LOT 236** R.C.R.D. BOOK 6489, PAGE 1994

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

12-2-24

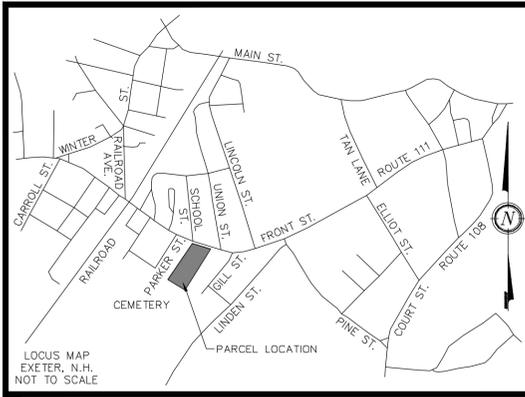
KENNETH A. BERRY L.L.S. 805 DATE

#	REVISION	DATE	DESCRIPTION
12-2-24			UPDATE EX. CONDITIONS PLANS
11-11-24			ADD BOUNDS SET

BOUNDARY PLAN
LAND OF
112 FRONT STREET, LLC
112 FRONT STREET
EXETER, N.H.
TAX MAP 73, LOT 14

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 40 FT.
DATE : SEPTEMBER 20, 2024
FILE NO. : DB 2024 - 100



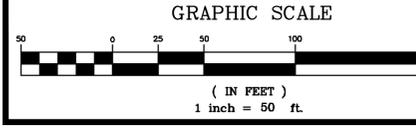
UTILITY NOTE:
THE UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR NOR THE ENGINEER MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE.

- PLAN REFERENCES:**
- "PLAN OF LOTS BELONGING TO THE LATE CHARLES GILL OF EXETER, N.H." BY: WILLIAM R. MOULTON DATED: UNKNOWN R.C.R.D. PLAN # 0085
 - "SUBDIVISION OF LAND FOR 120 DELI & CONVENIENCE STORE, INC. IN EXETER, N.H." BY: PARKER SURVEY ASSOC., INC. DATED: FEBRUARY 1981 R.C.R.D. PLAN # C-11059
 - "CONDOMINIUM SITE PLAN FOR GILL FRONT CONDOMINIUMS IN EXETER, N.H." (5 SHEETS) BY: SEACOAST ENGINEERING ASSOCIATES, INC. DATED: JUNE 16, 1986 R.C.R.D. PLAN # D-15133
 - "PLAT OF LAND IN EXETER, NH, SHOWING A PERIMETER SURVEY AT 9 GILL STREET, (ASSESSORS MAP 82, LOT 28), RECORD OWNERS, JENNIFER V. & PAUL J. YOUNG, 9 GILL STREET EXETER, NH 03833" BY: MILLENNIUM ENGINEERING INC. DATED: OCTOBER 19, 2006 R.C.R.D. PLAN # D-34385
 - "AMENDED CONDOMINIUM SITE PLAN IN EXETER, NH, SHOWING AS-BUILT REVISIONS TO DESKS AND PATIO AS WELL AS DESIGNATED PARKING AT 3 GILL STREET AND 104 & 106 FRONT STREET, (ASSESSORS MAP 73, LOT 13), PREPARED FOR GILL FRONT CONDOMINIUM ASSOCIATION, 3 GILL STREET EXETER, NH 03833" BY: MILLENNIUM ENGINEERING INC. DATED: JULY 7, 2017 R.C.R.D. PLAN # D-40233
 - "PLAT OF LAND ON FRONT STREET, EXETER, N.H., SURVEYED FOR NANCY C. MERRILL" BY: T.D. BROUILLETTE DATED NOVEMBER 21, 2011 NOT RECORDED, ON FILE AT THIS OFFICE

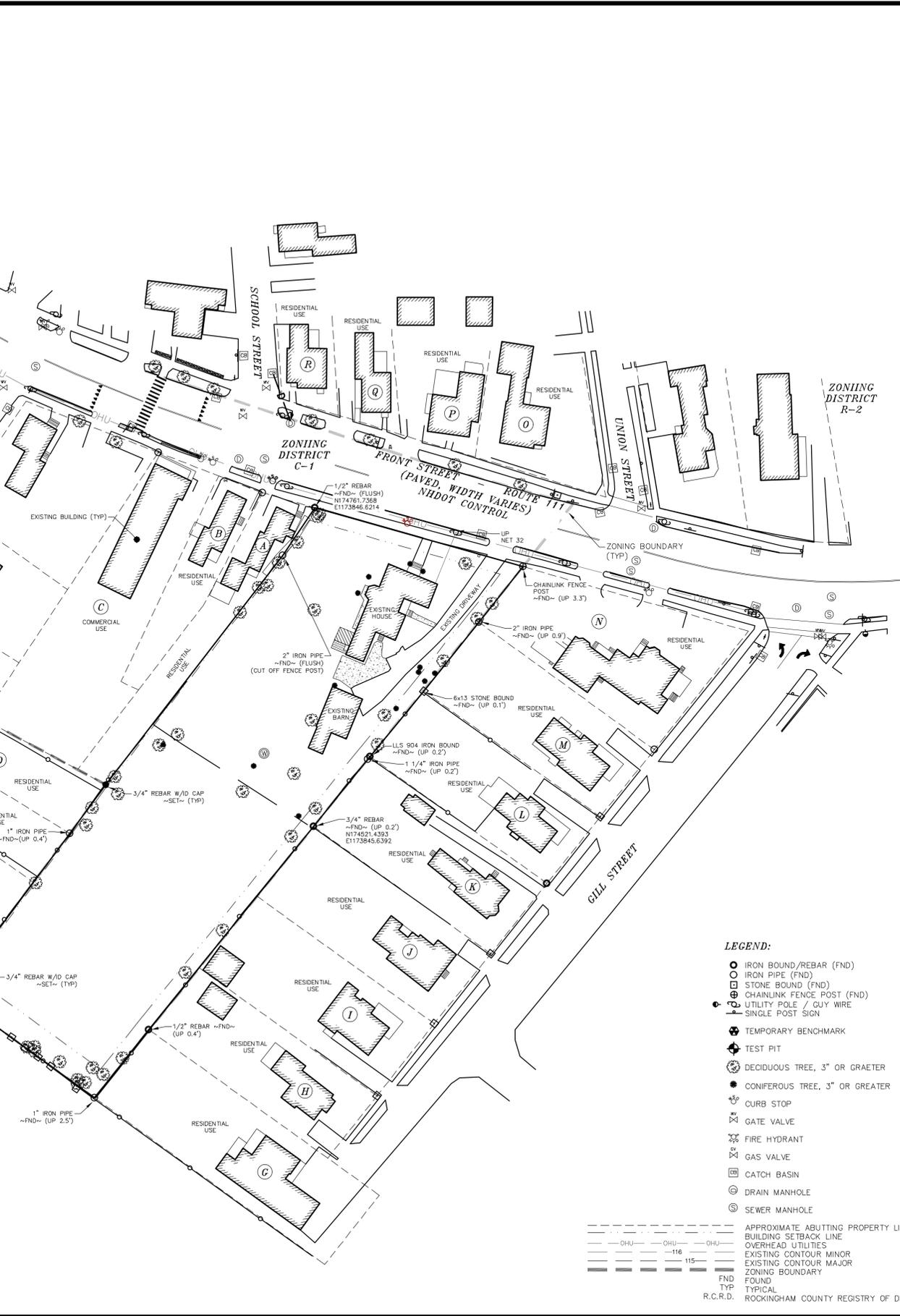
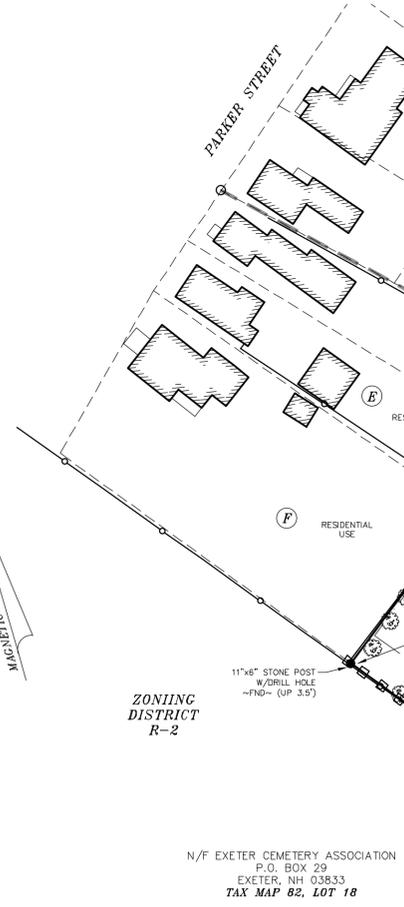


SOILS:
599 - URBAN LAND, HOOSC COMPLEX, 3 TO 15 % SLOPES
SEE: USDA/NRCS WEBSOIL

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.
1-15-25
KENNETH A. BERRY L.L.S. 805 DATE



- NOTES:**
- OWNER: 112 FRONT STREET, LLC
42J DOVER POINT ROAD
DOVER, NH 03820
 - TAX MAP 73, LOT 14
 - R.C.R.D. BOOK 6571, PAGE 2507
 - LOT AREA: 69,349 Sq.Ft., 1.59 Ac.
 - ZONING: C-1, CENTRAL AREA COMMERCIAL DISTRICT
MIN. LOT SIZE: 5,000
MIN. LOT WIDTH: 50'
MIN. LOT DEPTH: 100'
MAX. BUILDING HEIGHT: 35'
FRONT BUILDING SETBACK: 10' OR THE AVERAGE OF THE BLOCK, WHICHEVER IS LESS
THE AVERAGE FRONT SETBACK OF THE BLOCK: 14.69'
SIDE BUILDING SETBACK: EQUAL TO THE SIDE YARD OF THE ABUTTING PROPERTY OR 10', WHICHEVER IS LESS.
RIGHT SIDE ABUTTING HOUSE: 1.43'
LEFT SIDE ABUTTING HOUSE: 63.59'
REAR BUILDING SETBACK: 20'
MAX. BUILDING COVERAGE: 75%
MIN. OPEN SPACE: 5%
 - I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE & BELIEF, THIS PARCEL DOES NOT FALL WITHIN THE FLOOD PLAIN, FLOOD HAZARD REFERENCE: FEMA, COMMUNITY # - 330130, MAP # - 33015C0402E, DATED: MAY 17, 2005.
 - VERTICAL DATUM BASED ON USGS NAVD88 ELEVATIONS. HORIZONTAL COORDINATES BASED ON NAD83, COORDINATES GATHERED USING CARLSON BRX7 SURVEY GRADE GPS RECEIVERS.
 - THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS OF EXETER TAX MAP 73, LOT 14 AS OF THE DATE OF THE SURVEY: SEPTEMBER 2024.
 - THE LOT IS SERVICED BY MUNICIPAL WATER AND SEWER.
 - EXISTING IMPERVIOUS AREA:
HOUSE, PORCH, STEPS, SCREEN PORCH AND PATIO: 2,456 Sq.Ft., 3.54%
BARN: 998 Sq.Ft., 1.44%
CONCRETE PADS AND FRONT WALK: 1,068 Sq.Ft., 1.54%
DRIVEWAY: 2,075 Sq.Ft., 2.99%
TOTAL: 6,597 Sq.Ft., 9.51%



- LEGEND:**
- IRON BOUND/REBAR (FND)
 - IRON PIPE (FND)
 - STONE BOUND (FND)
 - CHAINLINK FENCE POST (FND)
 - UTILITY POLE / GUY WIRE
 - SINGLE POST SIGN
 - TEMPORARY BENCHMARK
 - TEST PIT
 - DECIDUOUS TREE, 3" OR GREATER
 - CONIFEROUS TREE, 3" OR GREATER
 - CURB STOP
 - GATE VALVE
 - FIRE HYDRANT
 - GAS VALVE
 - CATCH BASIN
 - DRAIN MANHOLE
 - SEWER MANHOLE
 - APPROXIMATE ABUTTING PROPERTY LINE
 - BUILDING SETBACK LINE
 - OVERHEAD UTILITIES
 - EXISTING CONTOUR MINOR
 - EXISTING CONTOUR MAJOR
 - ZONING BOUNDARY
 - FND FOUND
 - TYP TYPICAL
 - R.C.R.D. ROCKINGHAM COUNTY REGISTRY OF DEEDS

- ABUTTERS :**
- N/F MICHELLE E. HARRITON REVOCABLE TRUST
HARRITON, MICHELLE E., TRUSTEE & HARRITON, BENJAMIN MICHAEL
114 FRONT STREET
EXETER, NH 03833
TAX MAP 73, LOT 15
R.C.R.D. BOOK 6482, PAGE 2462
 - N/F JOHN & TERESA TOOMEY FAMILY REVOCABLE TRUST
TOOMEY, JOHN & TERESA, TRUSTEES
2 NEWFIELDS ROAD
EXETER, NH 03833
TAX MAP 73, LOT 16
R.C.R.D. BOOK 6174, PAGE 602
 - N/F ART UP FRONT STREET LLC
120 FRONT STREET
EXETER, NH 03833
TAX MAP 73, LOT 17
R.C.R.D. BOOK 5755, PAGE 1773
 - N/F JEANETTE MORRISSETTE TRUST
MORRISSETTE, JEANETTE, TRUSTEE
12 PARKER STREET
EXETER, NH 03833
TAX MAP 73, LOT 21
R.C.R.D. BOOK 3468, PAGE 947
 - N/F ROY E. MORRISSETTE REVOCABLE TRUST
MORRISSETTE, ROY E., TRUSTEE
14 PARKER STREET
EXETER, NH 03833
TAX MAP 73, LOT 22
R.C.R.D. BOOK 6496, PAGE 2880
 - N/F MDU MILLER REVOCABLE TRUST
MILLER, DEBORAH J. & MARK A., TRUSTEES
16 PARKER STREET
EXETER, NH 03833
TAX MAP 73, LOT 23
R.C.R.D. BOOK 6530, PAGE 879
 - N/F MAHATA HALL FAMILY TRUST
MAHATA, MINI & HALL, BRETT, TRUSTEES
17 GILL STREET
EXETER, NH 03833
TAX MAP 82, LOT 24
R.C.R.D. BOOK 6116, PAGE 1827
 - N/F UNGER-DESMOND 2018 REVOCABLE TRUST
UNGER, NICHOLAS F. & DESMOND, BARBARA S., TRUSTEES
23 MAIN STREET
EXETER, NH 03833
TAX MAP 82, LOT 25
R.C.R.D. BOOK 5957, PAGE 081
 - N/F POWERS, VINCENT & ANMARIE
13 GILL STREET
EXETER, NH 03833
TAX MAP 82, LOT 26
R.C.R.D. BOOK 5580, PAGE 338
 - N/F MASKWA, ERIC & EVAGELIA
11 GILL STREET
EXETER, NH 03833
TAX MAP 82, LOT 27
R.C.R.D. BOOK 6197, PAGE 2683
 - N/F FRENCH, CHARLES ANDREW & GASTICH, DANA ERIN
9 GILL STREET
EXETER, NH 03833
TAX MAP 82, LOT 28
R.C.R.D. BOOK 6124, PAGE 164
 - N/F SUSAN C. STAFFORD REVOCABLE TRUST
STAFFORD, SUSAN C., TRUSTEE
1301 SEAFARER CIRCLE 104
JUPITER, FL 33477
TAX MAP 73, LOT 11
R.C.R.D. BOOK 4879, PAGE 2548
 - N/F NEALON FAMILY REVOCABLE TRUST
NEALON, JAMES D. & KRISTIN F., TRUSTEES
5 GILL STREET
EXETER, NH 03833
TAX MAP 73, LOT 12
R.C.R.D. BOOK 6449, PAGE 189
 - N/F DALE A. ATKINS REVOCABLE TRUST
ATKINS, DALE A., TRUSTEE
104 FRONT STREET
EXETER, NH 03833
TAX MAP 73, LOT 13-1
R.C.R.D. BOOK 5983, PAGE 001
 - N/F ELLEN WOLFF LIVING TRUST
WOLFF, ELLEN, TRUSTEE
3 GILL STREET
EXETER, NH 03833
TAX MAP 73, LOT 13-2
R.C.R.D. BOOK 6479, PAGE 440
 - N/F RUSSMAN, BRETT M. & ROBERTSON, ADELE G. (LIFE ESTATE)
106 FRONT STREET
EXETER, NH 03833
TAX MAP 73, LOT 13-3
R.C.R.D. BOOK 5807, PAGE 1710
 - N/F LINDE, ARTHUR & JEAN
109 FRONT STREET
EXETER, NH 03833
TAX MAP 73, LOT 239
R.C.R.D. BOOK 5400, PAGE 914
 - N/F GARSTKA, JEFFREY STACI
P.O. BOX 154
PORTSMOUTH, NH 03802-0154
TAX MAP 73, LOT 238
R.C.R.D. BOOK 5013, PAGE 281
 - N/F DAVIS, JAMES M. & JODY W.
115 FRONT STREET
EXETER, NH 03833
TAX MAP 73, LOT 237
R.C.R.D. BOOK 3101, PAGE 870
 - N/F WEBSTER, PAUL M. & ELIZABETH
117 FRONT STREET
EXETER, NH 03833
TAX MAP 73, LOT 236
R.C.R.D. BOOK 6489, PAGE 1994

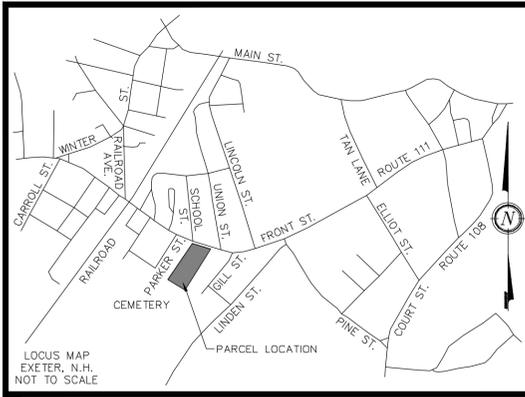
EXETER PLANNING BOARD CASE NUMBER:

ADD CB 501 DATA & SEWER SERVICE INVERT & LOCATION UPDATE EX. CONDITIONS PLANS ADD BOUNDS SET	REVISION	DATE
	#3	1-15-25
	#2	12-2-24
	#1	11-11-24

OVERVIEW EXISTING CONDITIONS PLAN
LAND OF
112 FRONT STREET, LLC
112 FRONT STREET
EXETER, N.H.
TAX MAP 73, LOT 14

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 50 FT.
DATE : SEPTEMBER 20, 2024
FILE NO. : DB 2024 - 100

SHEET 1



- NOTES:**
- 1.) OWNER: 112 FRONT STREET, LLC
421 DOVER POINT ROAD
DOVER, NH 03820
 - 2.) TAX MAP 73, LOT 14
 - 3.) R.C.R.D. BOOK 6571, PAGE 2507
 - 4.) LOT AREA: 69,349 Sq.Ft., 1.59 Ac.
 - 5.) THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS OF EXETER TAX MAP 73, LOT 14 AS OF THE DATE OF THE SURVEY: SEPTEMBER 2024.
 - 6.) SEE OVERVIEW EXISTING CONDITIONS PAGE FOR COMPLETE NOTES.

ABUTTERS:

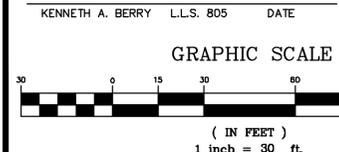
N/F MICHELLE E. HARRITON REVOCABLE TRUST
HARRITON, MICHELLE E., TRUSTEE & HARRITON, BENJAMIN MICHAEL
114 FRONT STREET
EXETER, NH 03833
TAX MAP 73, LOT 15
R.C.R.D. BOOK 6482, PAGE 2462

N/F JOHN & TERESA TOOMEY FAMILY REVOCABLE TRUST
TOOMEY, JOHN & TERESA, TRUSTEES
2 NEWFIELDS ROAD
EXETER, NH 03833
TAX MAP 73, LOT 16
R.C.R.D. BOOK 6174, PAGE 602



I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

1-15-25



EXETER PLANNING BOARD CASE NUMBER:

ADD CB 501 DATA & SEWER SERVICE INVERT & LOCATION UPDATE EX. CONDITIONS PLANS ADD BOUNDS SET	REVISION	DATE
	#3	1-15-25
	#2	12-2-24
	#1	11-11-24

EXISTING CONDITIONS PLAN
LAND OF
112 FRONT STREET, LLC
112 FRONT STREET
EXETER, N.H.
TAX MAP 73, LOT 14

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE: 1 IN. EQUALS 30 FT.
DATE: SEPTEMBER 20, 2024
FILE NO.: DB 2024 - 100

SHEET 2

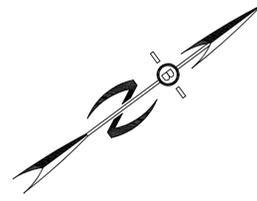
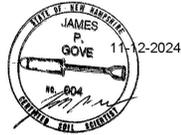
- LEGEND:**
- IRON BOUND/IRON ROD (FND)
 - IRON PIPE (FND)
 - STONE BOUND (FND)
 - CHAINLINK FENCE POST (FND)
 - UTILITY POLE / GUY WIRE SINGLE POST SIGN
 - TEMPORARY BENCHMARK
 - TEST PIT
 - CURB STOP
 - GATE VALVE
 - FIRE HYDRANT
 - GAS VALVE
 - CATCH BASIN
 - DRAIN MANHOLE
 - SEWER MANHOLE
 - 5348 ○ EXISTING SPOT ELEVATION
 - APPROXIMATE ABUTTING PROPERTY LINE
 - BUILDING SETBACK LINE
 - OVERHEAD UTILITIES
 - EXISTING CONTOUR MINOR
 - EXISTING CONTOUR MAJOR
 - ZONING BOUNDARY
 - EXISTING WATER LINE
 - EXISTING SEWER LINE
 - EXISTING DRAIN LINE
 - FND FOUND
 - TYP TYPICAL
 - TO BE REMOVED
 - R.C.R.D. ROCKINGHAM COUNTY REGISTRY OF DEEDS



LOCATION MAP
1"=500'

SITE DATA:

LOCATION: 112 FRONT STREET, EXETER, NEW HAMPSHIRE
 ZONING DISTRICTS: CENTRAL AREA COMMERCIAL (C-1)
 EXISTING USE: RESIDENTIAL HOME
 PROPOSED USE: 17 TOWN HOUSE UNITS

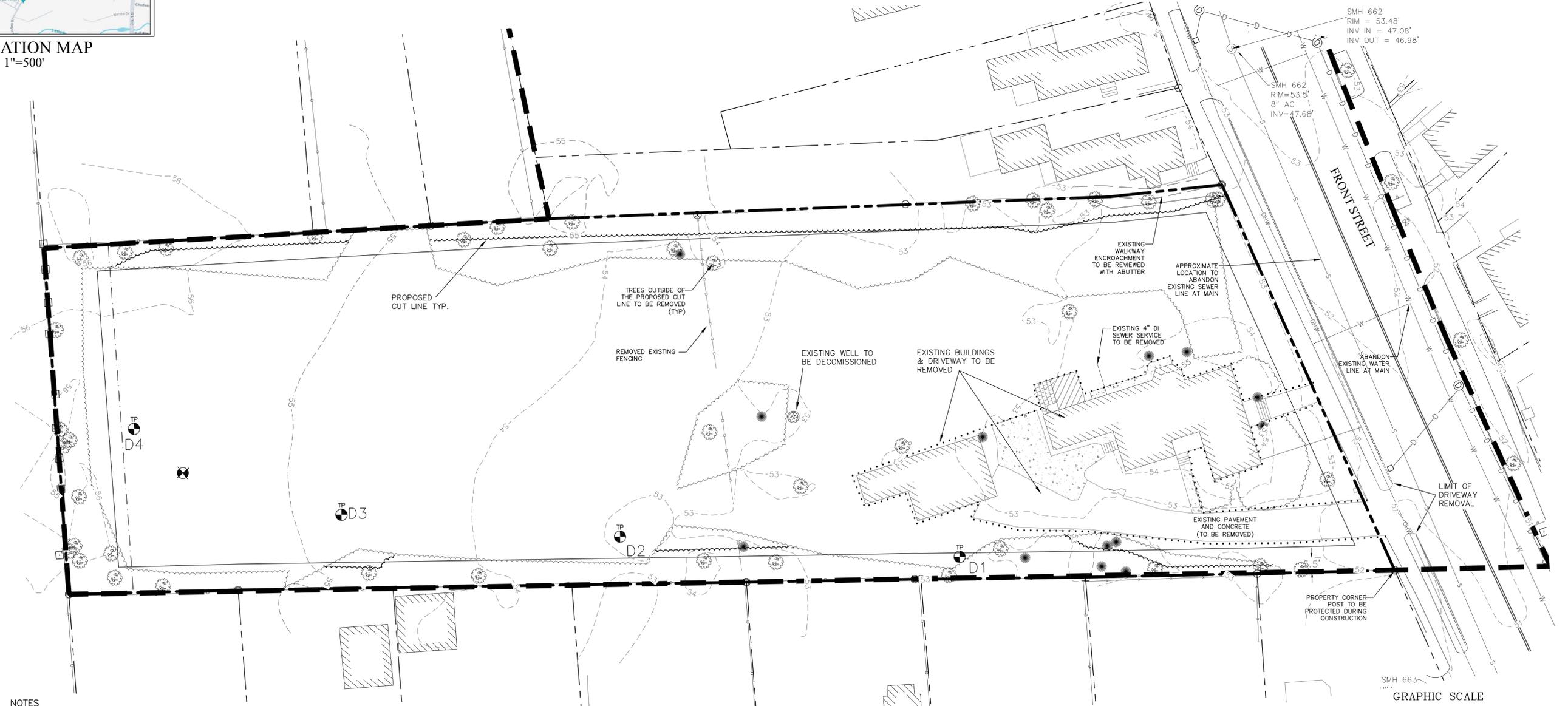


PREPARED FOR:

112 FRONT STREET, LLC
 42J DOVER POINT ROAD
 DOVER, NH 03820

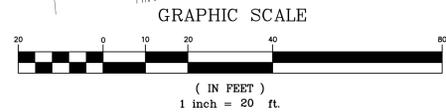


70 PORTSMOUTH AVE,
 THIRD FLOOR, SUITE 2
 STRATHAM, N.H. 03885
 PHONE: 603-583-4860,
 FAX: 603-583-4863



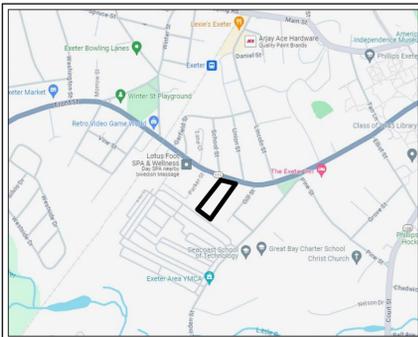
NOTES

- ALL EXISTING STRUCTURES IN THE CONSTRUCTION AREA SHALL BE REMOVED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS, UNLESS NOTED TO REMAIN ON THE SITE PLANS. ANY BURNING ON-SITE SHALL BE SUBJECT TO LOCAL ORDINANCES.
- ALL EXISTING UTILITIES SHALL BE TERMINATED IN CONFORMANCE WITH LOCAL, STATE, AND UTILITY COMPANY STANDARDS, SPECIFICATIONS, AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES PRIOR TO THE START OF WORK. WATER AND SEWER SERVICES SHALL BE ABANDONED AT THE MAIN BY A CONTRACTOR LICENSED BY EXETER PUBLIC WORKS. CONTRACTOR SHALL COORDINATE TRAFFIC CONTROL WITH THE TOWN PRIOR TO COMMENCING WORK.
- EROSION AND SEDIMENTATION CONTROLS ARE TO BE INSTALLED PRIOR TO ANY EARTH MOVING ACTIVITIES.
- A TREE CLEARING PERMIT FROM LOCAL AND STATE AUTHORITIES MAY BE REQUIRED PRIOR TO COMMENCEMENT OF CONSTRUCTION. ALL STUMPS AND DEBRIS ARE TO BE REMOVED FROM SITE.
- THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCING ALONG PROPERTY LINES IN ALL AREAS WHERE SILT FENCING IS NOT REQUIRED WHERE CONSTRUCTION IS PROPOSED ADJACENT TO ABUTTING PROPERTIES.
- EXISTING SEWER SERVICE AND APPURTENANCES TO BE REMOVED AND DISPOSED OF PER TOWN AND STATE REQUIREMENTS. NEW SERVICES FOR EACH UNIT TO BE INSTALLED & CONNECTED PER TOWN SPECIFICATIONS, SEQUENCING AND SCHEDULING: (SEE DETAIL SHEETS FOR COMPLETE CONSTRUCTION SEQUENCE AND EROSION CONTROL SPECIFICATION.)
- DEMOLITION REQUIREMENTS: CONDUCT DEMOLITION TO MINIMIZE INTERFERENCE WITH THE ADJACENT AND OCCUPIED BUILDING AREAS, IN COMPLIANCE WITH THE GOVERNING LAWS. PRIME CONSIDERATION SHALL BE GIVEN TO THE SAFETY, PROTECTION AND CONVENIENCE OF THE PUBLIC AND OWNER'S PERSONNEL.
- LEAVE SITE IN CLEAN CONDITION.
- STUMP DISPOSAL TO BE OUTSIDE LIMITS OF PAVEMENT, DRAINAGE STRUCTURES, ETC.
- TEMPORARY EARTH MATERIAL STOCKPILES TO BE IN UPLAND AREAS AND COMPLETELY IMPOUNDED BY SILT FENCE/HAYBALE EROSION CONTROLS.
- THE LANDOWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.
- WETLANDS WERE NOT FOUND ON SITE BY GOVE ENVIRONMENTAL SERVICES, INC. OF EXETER, NH STANDARDS UTILIZED US ARMY CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1 (JAN 1987), AND REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012 AND FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4, NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE. WETLANDS DELINEATED BY CWS JAMES GOVE, #004, FIELD WORK 9-11-2024.
- ALL WATER, SEWER, ROAD (INCLUDING DRIVEWAY), AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 9.3 STORMWATER MANAGEMENT STANDARDS, STORMWATER MANAGEMENT PLAN, STORMWATER POLLUTION PREVENTION PLAN, AND EROSION AND SEDIMENT CONTROL STANDARDS, AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN EXETER, NEW HAMPSHIRE. SEE SECTION 9.14 ROADWAYS, ACCESS POINTS, AND FIRE LANES AND SECTION 9.13 PARKING AREAS FOR EXCEPTIONS.
- THE CONTRACTOR MUST OBTAIN A VALID UTILITY PIPE INSTALLER'S LICENSE AND THE JOB SUPERVISOR OR FOREMAN MUST BE CERTIFIED BY THE TOWN PRIOR TO WORKING ON ANY WATER, SEWER, OR DRAINAGE PIPES THAT ARE IN A TOWN STREET OR RIGHT OF WAY, OR THAT WILL CONNECT OR MAY BE CONNECTED TO A TOWN WATER, SEWER, OR DRAINAGE SYSTEM. A LICENSED SUPERVISOR OR FOREMAN MUST BE PRESENT AT THE JOB SITE AT ALL TIMES DURING CONSTRUCTION OF THESE UTILITIES.



REVISED PARKING LAYOUT	02/19/25
REVISED PER REVIEW COMMENTS	01/17/25
REVISIONS:	DATE:

DEMOLITION PLAN			
RESIDENTIAL DEVELOPMENT 112 FRONT STREET EXETER, NH TAX MAP 73, LOT 14			
DATE:	DEC 9, 2024	SCALE:	1" = 20'
PROJ. NO:	NH-1531	SHEET NO.:	4



LOCATION MAP
1"=500'

TOWN NOTES

1. THE LANDOWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL WETLANDS REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.
2. THE APPLICANT HAS DESIGNED THIS SITE TO SAFELY ACCOMMODATE MAXIMUM SIZE VEHICLES AND TRUCKS. (DESIGN VEHICLE IS THE EXETER LADDER TRUCK OR 35' BOX TRUCK) EITHER DELIVERING TO, OR USING THE PROPERTY.
3. ALL SNOW SHALL BE STORED IN THE AREA(S) DEPICTED ON THIS PLAN AS SNOW STORAGE AREAS. IN THE EVENT THAT THE AREA(S) APPROVED FOR SNOW STORAGE BECOME FULL, THE OWNER SHALL REASONABLY REMOVE EXCESS SNOW FROM THE SITE, AND SHALL NOT ALLOW SNOW TO BE STORED WITHIN TRAVEL AISLES.
4. ALL WASTE MATERIALS AND RECYCLABLE SHALL BE CONTAINED WITHIN THE BUILDING(S) OR APPROVED STORAGE FACILITIES AND SHALL NOT BE OTHERWISE STORED ON THE PROPERTY. REFUSE COLLECTION WILL BE BY DUMPSTER AS NEEDED.
5. ALL WATER, SEWER, ROAD (INCLUDING PARKING LOT), AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 9.5 GRADING, DRAINAGE, AND EROSION & SEDIMENT CONTROL AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN EXETER, NEW HAMPSHIRE.

ZONING REQUIREMENTS:
 ZONING DISTRICT - CENTRAL AREA (C1)
 MINIMUM LOT SIZE - 5,000 S.F.
 MINIMUM LOT WIDTH - 50 FT.
 MINIMUM LOT DEPTH - 100 FT.
 MINIMUM DWELLING UNIT - 3,500 S.F.

BUILDING SETBACKS
 FRONT=10 FT.
 SIDE=10 FT.
 REAR=20 FT.
 BUILDING HEIGHT=35 FT.
 MAXIMUM BUILDING COVERAGE = 75%
 MINIMUM OPEN SPACE = 5%

DENSITY CALCULATION:
 PARCEL AREA - 69,349 SF
 (-) DRIVEWAY AREA - 8,872 S.F.
 = 60,374 S.F.
 60,374/3500 (SF/UNIT) = 17.28 UNITS

PARKING CALCULATIONS:
 TOTAL NUMBER OF UNITS=16
 2 SPACES PER UNIT AND 1 SPACE PER 4 UNITS FOR VISITOR
TOTAL SPACES REQUIRED=36
 16 UNITS HAVE 2 SPACES=32
 PLUS 2-EXTERIOR VISITOR STALLS (WITHIN DRIVES UNITS E-M)
TOTAL SPACES PROVIDED=64

24' DRIVE DENSITY CALCULATION:
 PARCEL AREA LESS 24' DRIVEWAY AREA =
 69,349 SF - 9,687 SF = 59,662 SF
 59,662/3500 (SF/UNIT) = 17.05 UNITS

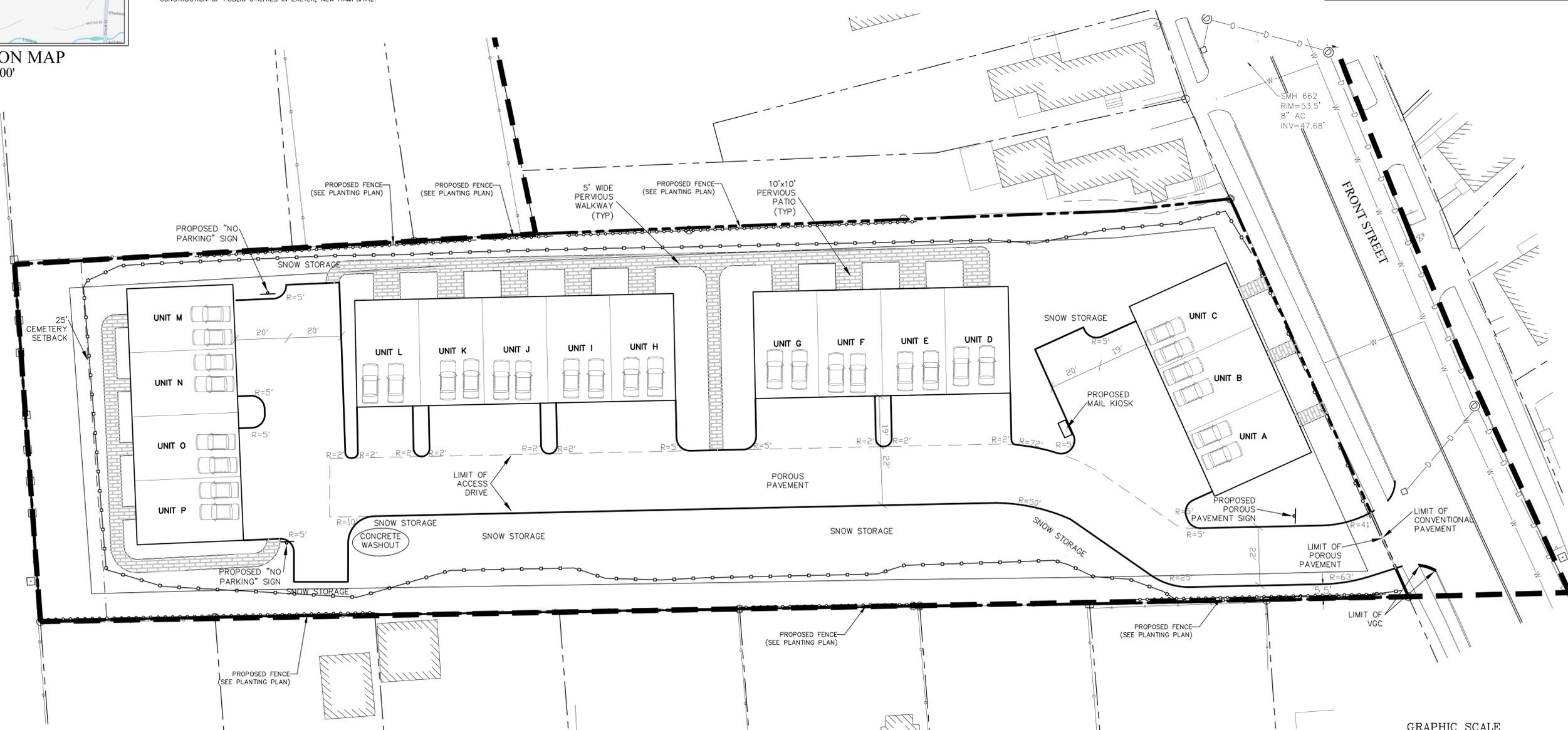
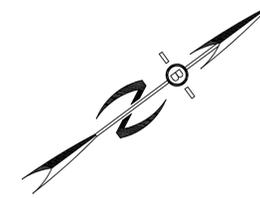
INCLUSIVE OF PARKING AISLES:
 69,349 SF - 13,138 SF = 56,211 SF
 56,211 SF/3,500 SF/UNIT = 16.06 UNITS

PREPARED FOR:

112 FRONT STREET, LLC
 42J DOVER POINT ROAD
 DOVER, NH 03820

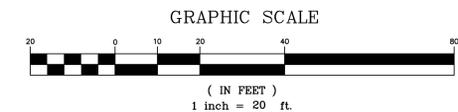


70 PORTSMOUTH AVE,
 THIRD FLOOR, SUITE 2
 STRATHAM, N.H. 03885
 PHONE: 603-583-4860,
 FAX: 603-583-4863



NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW 16 TOWN HOUSE UNITS WITH ASSOCIATED PARKING SPACES.
2. ALL CONSTRUCTION SHALL CONFORM TO TOWN OF EXETER STANDARDS AND REGULATIONS.
3. ALL WATER, SEWER, ROAD (INCLUDING PARKING LOT), AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 9.3 STORMWATER MANAGEMENT STANDARDS, STORMWATER MANAGEMENT PLAN, STORMWATER POLLUTION PREVENTION PLAN, AND EROSION AND SEDIMENT CONTROL STANDARDS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN EXETER, NEW HAMPSHIRE. SEE SECTION 9.14 ROADWAYS, ACCESS POINTS, AND FIRE LANES AND SECTION 9.13 PARKING AREAS FOR EXCEPTIONS.
4. IN ACCORDANCE WITH SITE PLAN REVIEW & SUBDIVISION REGULATIONS SECTIONS 7.15.10 AND 9.3.4 THE APPLICANT SHALL PROVIDE THE TOWN WITH THREE COPIES OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND ALSO ENSURE THAT ONE COPY REMAINS ON SITE.
5. ALL PROPOSED SIGNAGE SHALL CONFORM WITH THE TOWN ZONING REGULATIONS UNLESS A VARIANCE IS OTHERWISE REQUESTED.
6. TOTAL PROPOSED DISTURBANCE FOR CONSTRUCTION = 1.34 ACRES.
7. UPON COMPLETION OF CONSTRUCTION AND PRIOR TO RELEASE OF BOND, THE APPLICANT SHALL SUBMIT A LETTER TO THE TOWN, SIGNED AND STAMPED BY THE DESIGN ENGINEER, WHO MUST BE A LICENSED PROFESSIONAL ENGINEER IN NH, STATING CONSTRUCTION HAS BEEN COMPLETED IN CONFORMANCE WITH THE APPROVED PLANS.
8. UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN LOCATED FROM FIELD OBSERVATIONS AND THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. BEALS ASSOCIATES OR ANY OF THEIR EMPLOYEES TAKE NO RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN, THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND UTILITIES OR STRUCTURES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1-888-DIG-SAFE.
9. THIS PLAN HAS BEEN PREPARED FOR MUNICIPAL APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS. THIS INCLUDES ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS OF THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED.
10. ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
11. THIS SITE IS NOT LOCATED IN THE 100 YEAR FLOOD ZONE.
12. ALL ONSITE PAVEMENT WILL BE POROUS PAVEMENT. SEE PLAN FOR LIMITS.
13. GARBAGE WILL BE STORED IN TOWER BINS WITHIN GARAGES FOR PRIVATE PICKUP.



REVISED PER REVIEW COMMENTS	04/01/25
REVISED PER PB REVIEW & COMMENTS	03/03/25
REVISED PARKING LAYOUT	02/19/25
REVISED PER REVIEW COMMENTS	01/17/25
REVISIONS:	DATE:

PARKING & PAVEMENT PLAN	
RESIDENTIAL DEVELOPMENT 112 FRONT STREET EXETER, NH TAX MAP 73, LOT 14	
DATE:	DEC 9, 2024
SCALE:	1" = 20'
PROJ. NO:	NH-1531
SHEET NO.	5

This map product is within the technical standards of the National Cooperative Soil Survey. It is a special purpose product, intended for infiltration requirements by the NH DES Alteration of Terrain Bureau. It was produced by a professional soil scientist, and is not a product of the USDA Natural Resources Conservation Service. There is a report that accompanies this map. The site specific soil map was produced 11-12-2024, and was prepared by James P. Gove, CSS # 004, Gove Environmental Services, Inc.

SOIL IDENTIFICATION LEGEND

Map Unit Symbol	Map Unit Name	HISS Symbol	Hydrologic Soil Group
313	Deerfield loamy sand	311	B
699	Urban Land	n/a	Impervious

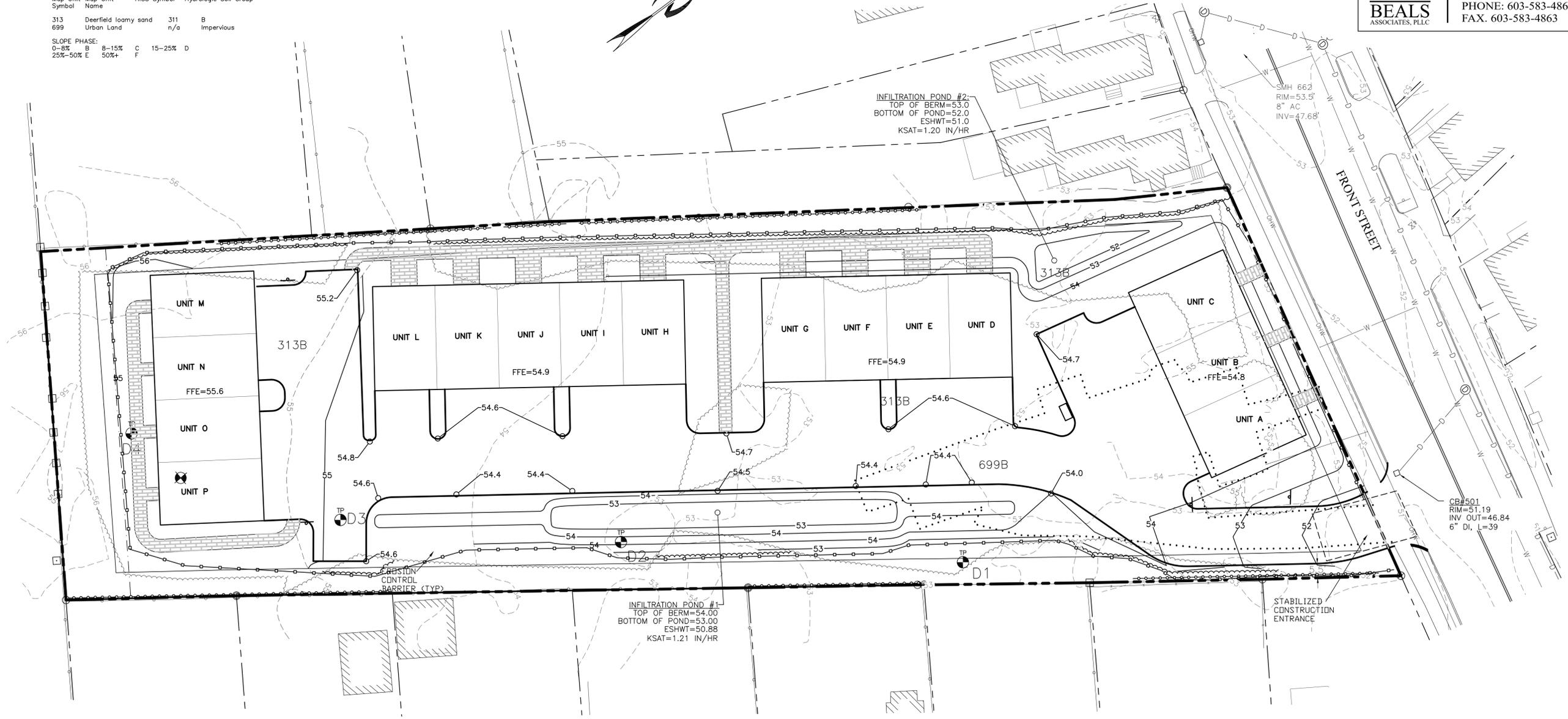
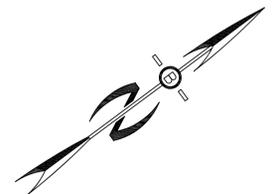
SLOPE PHASE:

Slope	Phase
0-8%	A
8-15%	B
15-25%	C
25%-50%	E
50%+	F

PREPARED FOR:
112 FRONT STREET, LLC
 42J DOVER POINT ROAD
 DOVER, NH 03820



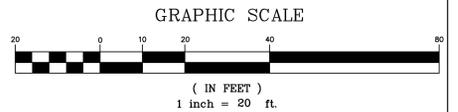
70 PORTSMOUTH AVE,
 THIRD FLOOR, SUITE 2
 STRATHAM, N.H. 03885
 PHONE: 603-583-4860,
 FAX: 603-583-4863



UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM FIELD OBSERVATION AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER BEALS ASSOCIATES, NOR ANY OF THEIR EMPLOYEES TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND STRUCTURES AND/OR UTILITIES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1-888-DIG-SAFE (1-888-344-7233) AND EXETER DPW (603) 773-6157.

NOTES:

- CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER SO THAT EROSION AND AIR AND WATER POLLUTION WILL BE MINIMIZED.
- STRAW BALES SHALL BE ANCHORED INTO THE SOIL USING 2" x 2" STAKES DRIVEN THROUGH THE BALES AND AT LEAST 18 INCHES IN TO THE SOIL.
- SEEDING, FERTILIZING, AND MULCHING SHALL CONFORM TO THE RECOMMENDATIONS IN THE APPROPRIATED VEGETATIVE BMP.
- THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES THE CONTRACTOR SHALL TAKE PRECAUTIONS AND INSTRUCTIONS FROM THE PLANNING DEPARTMENT IN ORDER TO PREVENT, ABATE AND CONTROL THE EMISSION OF FUGITIVE DUST INCLUDING BUT NOT LIMITED TO WETTING, COVERING, SHIELDING, OR VACUUMING.
- THE NH COMMISSIONER OF AGRICULTURE PROHIBITS THE COLLECTION, POSSESSION, IMPORTATION, TRANSPORTATION, SALE, PROPAGATION, TRANSPLANTATION, OR CULTIVATION OF PLANTS BANNED BY NH LAW RSA 430:53 AND NH CODE ADMINISTRATIVE RULES AGR 3800. THE PROJECT SHALL MEET ALL REQUIREMENTS AND THE INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
- THE CONSTRUCTION SITE OPERATOR AND OWNER SHALL SUBMIT A NOTICE OF INTENT (NOI) TO USEPA, WASHINGTON, DC, STORMWATER NOTICE PROCESSING CENTER AT LEAST FOURTEEN DAYS PRIOR TO COMMENCEMENT OF WORK ON SITE. EPA WILL POST THE NOI AT <http://efpubl.epa.gov/npdes/stormwater/noi/noisearch.cfm>. AUTHORIZATION IS GRANTED UNDER THE PERMIT ONCE THE NOI IS SHOWN IN "ACTIVE STATUS".
- ALL DRAINAGE STRUCTURES AND SWALES SHALL BE BUILT AND STABILIZED PRIOR TO HAVING RUNOFF DIRECTED TO THEM.
- ALL ROOF RUNOFF SHALL BE DIRECTED UNDERGROUND TO THE RESERVOIR COURSE BELOW THE POROUS PAVEMENT.



GRADING, DRAINAGE, & EROSION CONTROL PLAN

RESIDENTIAL DEVELOPMENT
 112 FRONT STREET
 EXETER, NH
 TAX MAP 73, LOT 14

REVISED PER REVIEW COMMENTS	04/01/25
REVISED PER PB REVIEW & COMMENTS	03/03/25
REVISED PARKING LAYOUT	02/19/25
REVISED PER REVIEW COMMENTS	01/17/25
REVISIONS:	DATE:



DATE:	DEC 9, 2024	SCALE:	1" = 20'
PROJ. NO:	NH-1531	SHEET NO.	6

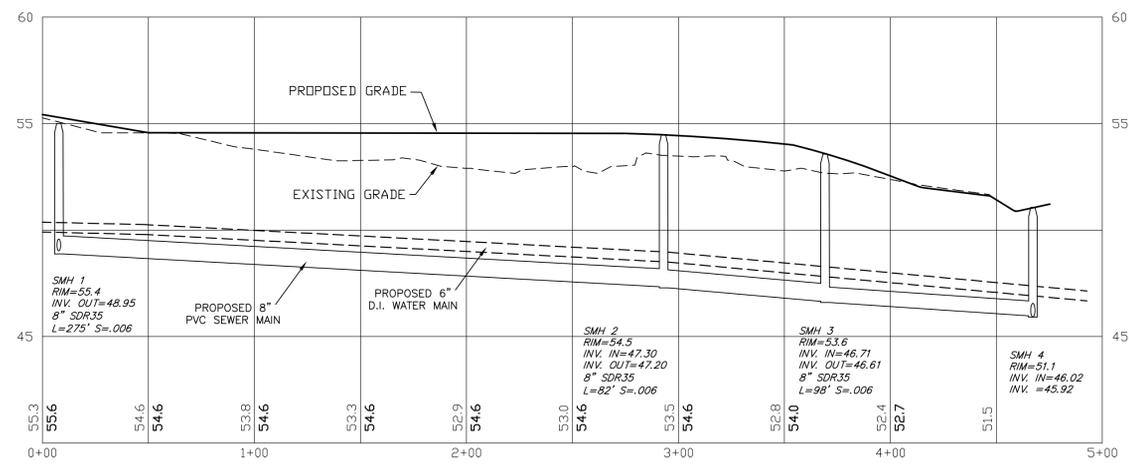
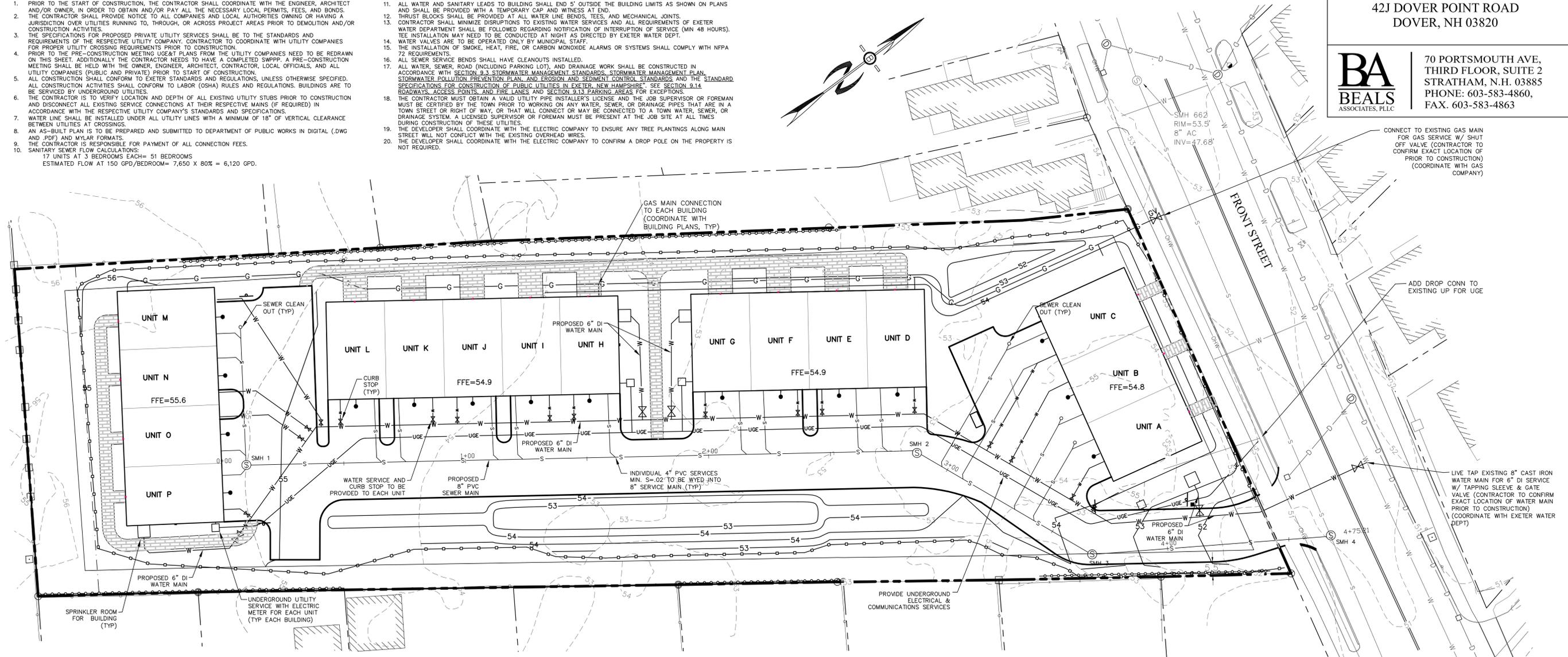
UTILITY NOTES:

- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT AND/OR OWNER IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, FEES, AND BONDS.
- THE CONTRACTOR SHALL PROVIDE NOTICE TO ALL COMPANIES AND LOCAL AUTHORITIES OWNING OR HAVING A JURISDICTION OVER UTILITIES RUNNING TO, THROUGH, OR ACROSS PROJECT AREAS PRIOR TO DEMOLITION AND/OR CONSTRUCTION ACTIVITIES.
- THE SPECIFICATIONS FOR PROPOSED PRIVATE UTILITY SERVICES SHALL BE TO THE STANDARDS AND REQUIREMENTS OF THE RESPECTIVE UTILITY COMPANY. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES FOR PROPER UTILITY CROSSING REQUIREMENTS PRIOR TO CONSTRUCTION.
- PRIOR TO THE PRE-CONSTRUCTION MEETING USE&E PLANS FROM THE UTILITY COMPANIES NEED TO BE REDRAWN ON THIS SHEET. ADDITIONALLY THE CONTRACTOR NEEDS TO HAVE A COMPLETED SWPPP. A PRE-CONSTRUCTION MEETING SHALL BE HELD WITH THE OWNER, ENGINEER, ARCHITECT, CONTRACTOR, LOCAL OFFICIALS, AND ALL UTILITY COMPANIES (PUBLIC AND PRIVATE) PRIOR TO START OF CONSTRUCTION.
- ALL CONSTRUCTION SHALL CONFORM TO EXETER STANDARDS AND REGULATIONS, UNLESS OTHERWISE SPECIFIED. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR (OSHA) RULES AND REGULATIONS. BUILDINGS ARE TO BE SERVICED BY UNDERGROUND UTILITIES.
- THE CONTRACTOR IS TO VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITY STUBS PRIOR TO CONSTRUCTION AND DISCONNECT ALL EXISTING SERVICE CONNECTIONS AT THEIR RESPECTIVE MAINS (IF REQUIRED) IN ACCORDANCE WITH THE RESPECTIVE UTILITY COMPANY'S STANDARDS AND SPECIFICATIONS.
- WATER LINE SHALL BE INSTALLED UNDER ALL UTILITY LINES WITH A MINIMUM OF 18" OF VERTICAL CLEARANCE BETWEEN UTILITIES AT CROSSINGS.
- AN AS-BUILT PLAN IS TO BE PREPARED AND SUBMITTED TO DEPARTMENT OF PUBLIC WORKS IN DIGITAL (.DWG AND .PDF) AND MYLAR FORMATS.
- THE CONTRACTOR IS RESPONSIBLE FOR PAYMENT OF ALL CONNECTION FEES.
- SANITARY SEWER FLOW CALCULATIONS:
17 UNITS AT 3 BEDROOMS EACH= 51 BEDROOMS
ESTIMATED FLOW AT 150 GPD/BEDROOM= 7,650 X 80% = 6,120 GPD.

- ALL WATER AND SANITARY LEADS TO BUILDING SHALL END 5' OUTSIDE THE BUILDING LIMITS AS SHOWN ON PLANS AND SHALL BE PROVIDED WITH A TEMPORARY CAP AND WITNESS AT END.
- THRUST BLOCKS SHALL BE PROVIDED AT ALL WATER LINE BENDS, TEES, AND MECHANICAL JOINTS.
- CONTRACTOR SHALL MINIMIZE DISRUPTIONS TO EXISTING WATER SERVICES AND ALL REQUIREMENTS OF EXETER WATER DEPARTMENT SHALL BE FOLLOWED REGARDING NOTIFICATION OF INTERRUPTION OF SERVICE (MIN 48 HOURS).
- TEE INSTALLATION MAY NEED TO BE CONDUCTED AT NIGHT AS DIRECTED BY EXETER WATER DEPT.
- WATER VALVES ARE TO BE OPERATED ONLY BY MUNICIPAL STAFF.
- THE INSTALLATION OF SMOKE, HEAT, FIRE, OR CARBON MONOXIDE ALARMS OR SYSTEMS SHALL COMPLY WITH NFPA 72 REQUIREMENTS.
- ALL SEWER SERVICE BENDS SHALL HAVE CLEANOUTS INSTALLED.
- ALL WATER, SEWER, ROAD (INCLUDING PARKING LOT), AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 9.3 STORMWATER MANAGEMENT STANDARDS, STORMWATER MANAGEMENT PLAN, STORMWATER POLLUTION PREVENTION PLAN, AND EROSION AND SEDIMENT CONTROL STANDARDS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN EXETER, NEW HAMPSHIRE. SEE SECTION 9.14 ROADWAYS, ACCESS POINTS, AND FIRE LANES AND SECTION 9.13 PARKING AREAS FOR EXCEPTIONS.
- THE CONTRACTOR MUST OBTAIN A VALID UTILITY PIPE INSTALLER'S LICENSE AND THE JOB SUPERVISOR OR FOREMAN MUST BE CERTIFIED BY THE TOWN PRIOR TO WORKING ON ANY WATER, SEWER, OR DRAINAGE PIPES THAT ARE IN A TOWN STREET OR RIGHT OF WAY, OR THAT WILL CONNECT OR MAY BE CONNECTED TO A TOWN WATER, SEWER, OR DRAINAGE SYSTEM. A LICENSED SUPERVISOR OR FOREMAN MUST BE PRESENT AT THE JOB SITE AT ALL TIMES DURING CONSTRUCTION OF THESE UTILITIES.
- THE DEVELOPER SHALL COORDINATE WITH THE ELECTRIC COMPANY TO ENSURE ANY TREE PLANTINGS ALONG MAIN STREET WILL NOT CONFLICT WITH THE EXISTING OVERHEAD WIRES.
- THE DEVELOPER SHALL COORDINATE WITH THE ELECTRIC COMPANY TO CONFIRM A DROP POLE ON THE PROPERTY IS NOT REQUIRED.

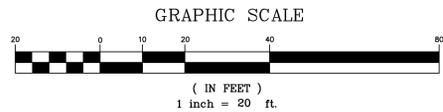
PREPARED FOR:
112 FRONT STREET, LLC
421 DOVER POINT ROAD
DOVER, NH 03820

BA BEALS ASSOCIATES, PLLC
 70 PORTSMOUTH AVE,
 THIRD FLOOR, SUITE 2
 STRATHAM, N.H. 03885
 PHONE: 603-583-4860,
 FAX: 603-583-4863



UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM FIELD OBSERVATION AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER BEALS ASSOCIATES, NOR ANY OF THEIR EMPLOYEES TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND STRUCTURES AND/OR UTILITIES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1-888-DIG-SAFE (1-888-344-7233) AND EXETER DPW (603) 773-6157.

REVISED PER REVIEW COMMENTS	04/01/25
REVISED PER PB REVIEW & COMMENTS	03/03/25
REVISED PARKING LAYOUT	02/19/25
REVISED PER REVIEW COMMENTS	01/17/25
REVISIONS:	DATE:



UTILITY PLAN
 RESIDENTIAL DEVELOPMENT
 112 FRONT STREET
 EXETER, NH
 TAX MAP 73, LOT 14

DATE:	DEC 9, 2024	SCALE:	1" = 20'
PROJ. NO:	NH-1531	SHEET NO.:	7





LIGHT POST



WALL MOUNT

Symbol	Qty	Label	Arrangement	Description	Tag	LLF	Luminaire Lumens
■	1	P3	Single	PEMCO: PMJOETIC130W3K03-CXX	MOUNTED ON 10' PEMCO POLE: PLB132410S125T300N-CXX	0.900	3427
●	16	W1	Single	TMS: 33W-0-15LED-30K-VXX-WX-CXX-DIML	WALL MTD 10' AFG	0.900	1109
■	3	W3	Single	PERFORMANCE IN LIGHTING: N20-R-15-F3-CXX-70-3K-UNV-0-10V	WALL MTD 10' AFG	0.900	1396
■	16	WS1	Single	WAC: W2-W204-CXX	WALL MTD 7' AFG AT PATIOS	0.900	945

Label	Units	Avg	Max	Min	Avg/Min	Max/Min
ENTIRE AREA	Fc	0.23	9.5	0.0	N.A.	N.A.

LIGHTING NOTES:

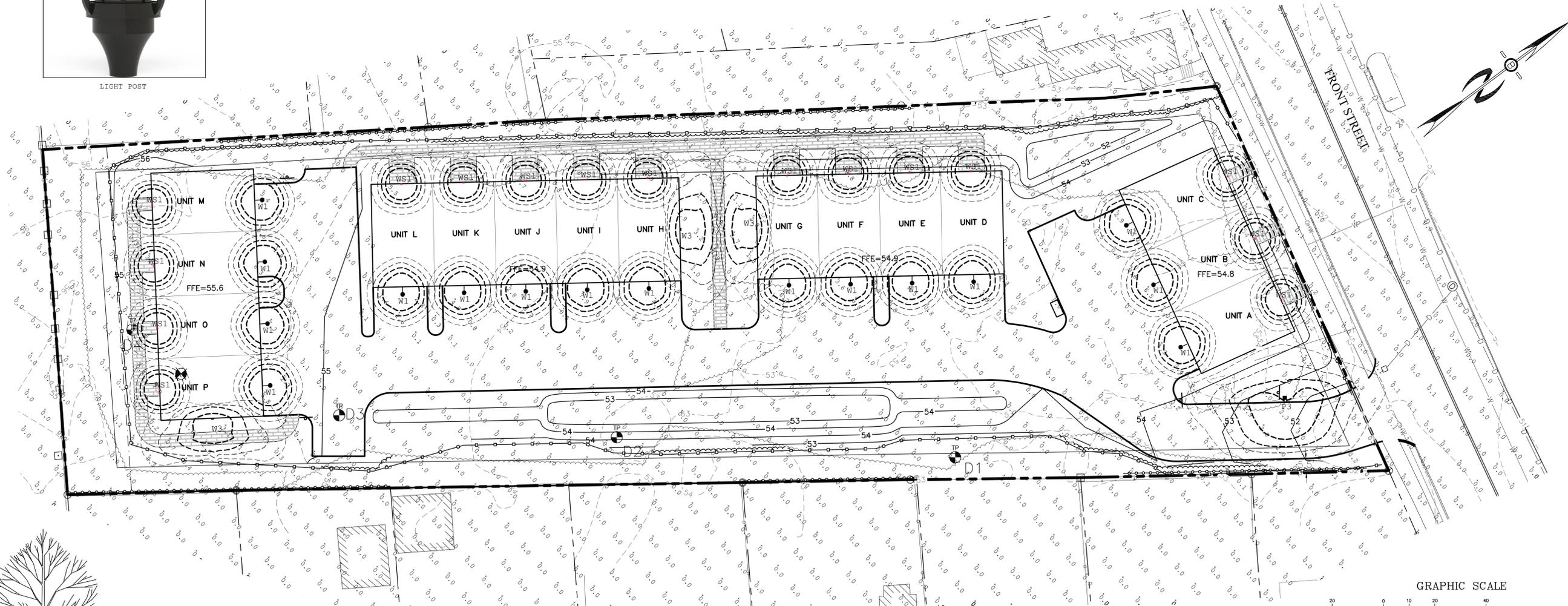
1. ALL OUTDOOR LIGHTING SHALL BE SO DIRECTED & SHIELDED THAT NO GLARE WILL SPILL OUT ONTO RESIDENTIALLY ZONED ABUTTERS
2. AFTER 10:00 PM ONLY THAT AMOUNT OF LIGHT NECESSARY FOR THE SECURITY OF THE PREMISES SHALL BE PERMITTED.

PREPARED FOR:

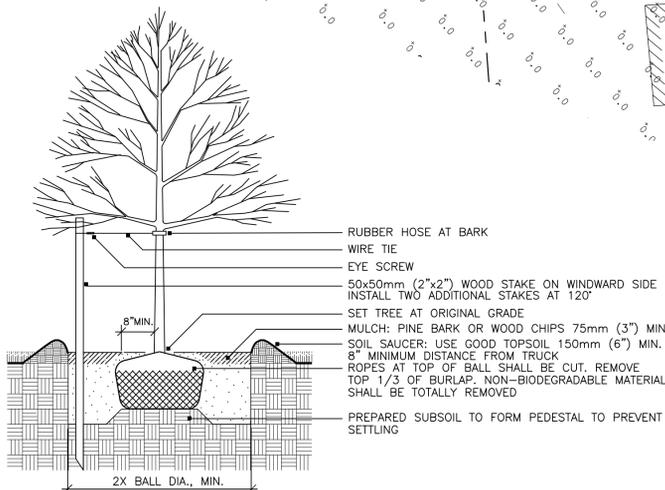
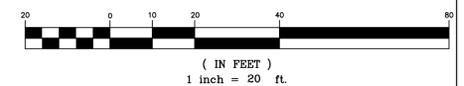
112 FRONT STREET, LLC
42J DOVER POINT ROAD
DOVER, NH 03820



70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603-583-4860,
FAX: 603-583-4863

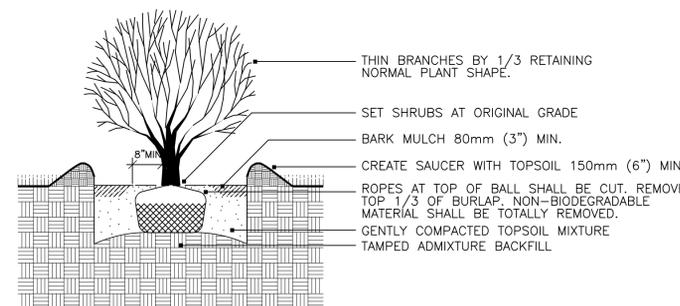


GRAPHIC SCALE



DECIDUOUS TREE PLANTING WITH STAKE AND WIRE TIE - HEAVY DUTY

NOTE: STAKING TO BE USED IN PARKING ISLANDS AND OTHER CONFINED AREAS AS NECESSARY TO AVOID CONFLICTS WITH PEDESTRIANS



SHRUB PLANTING - BALL & BURLAP

NOT TO SCALE

REVISED PER PB REVIEW & COMMENTS	03/03/25
REVISED PARKING LAYOUT	02/19/25
REVISED PER REVIEW COMMENTS	01/17/25
REVISIONS:	DATE:

**LIGHTING & PLANTING
DETAIL PLAN**

RESIDENTIAL DEVELOPMENT
112 FRONT STREET
EXETER, NH
TAX MAP 73, LOT 14

DATE:	DEC 9, 2024	SCALE:	1" = 20'
PROJ. NO:	NH-1531	SHEET NO.	8



PLANT LIST - 112 FRONT ST.

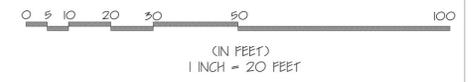
Quantity	Botanical Name	Common Name	Size
1	Acer palmatum 'Bloodgood'	BLOODGOOD JAPANESE MAPLE	2" Caliper B&B
2	Acer griseum	PAPERBARK MAPLE	2" Caliper B&B
2	Acer rubrum 'October Glory'	OCTOBER GLORY RED MAPLE	3" Caliper B&B
4	Amelanchier x grandiflora 'Robin Hill'	ROBIN HILL SERVICEBERRY	2" Caliper B&B
1	Cercis canadensis 'Forest Pansy'	FOREST PANSY EASTERN REDBUD	3" Caliper B&B
8	Liquidambar styraciflua 'Slender Silhouette'	SILHOUETTE SWEETGUM	2.5" Caliper B&B
6	Magnolia soulangeana	SAUGER MAGNOLIA	2.5" Caliper B&B
8	Malus x 'Prairifire'	PRAIRIFIRE CRABAPPLE	2.5" Caliper B&B
6	Nyssa sylvatica 'Wildfire'	WILDFIRE TUPELO	2.5" Caliper B&B
11	Picea abies	NORWAY SPRUCE	9-10 ft. ht. B&B
9	Picea glauca	WHITE SPRUCE	8-9 ft. ht. B&B
5	Syringa reticulata 'Ivory Silk'	IVORY SILK LILAC	2.5" Caliper B&B
22	Taxus x media 'Hicksii'	HICKSII UPRIGHT YEW	5-8 ft. ht. B&B
9	Thuja occidentalis 'Holmstrup'	HOLMSTRUP ARBORVITAE	6-7 ft. ht. B&B
24	Thuja plicata 'Green Giant'	GREEN GIANT ARBORVITAE	9-10 ft. ht. B&B
18	Azalea 'Girards Hotshot'	HOTSHOT AZALEA	5 Gallon
2	Buxus microphylla 'Winter Gem'	WINTER GEM BOXWOOD	5 Gallon
21	Cephalanthus occidentalis 'Fiber Optics'	FIBER OPTICS BUTTONBUSH	5 Gallon
5	Chamaecyparis pisifera 'Mop'	MOP GOLD THREAD CYPRESS	5 Gallon
3	Hydrangea arborescens 'NCHA7'	MINI MAUVELETTE HYDRANGEA	3 Gallon
10	Hydrangea macrophylla 'Endless Summer'	ENDLESS SUMMER HYDRANGEA	5 Gallon
3	Hydrangea paniculata 'Pinky Winky™'	PINKY WINKY HYDRANGEA	7 Gallon
40	Ilex crenata 'Sky Pencil'	SKY PENCIL HOLLY	5 Gallon
2	Ilex crenata 'Stedds'	STEDDS JAPANESE HOLLY	7 Gallon
17	Itea virginica 'Sprich Little Henry'	LITTLE HENRY SWEETSPIRE	5 Gallon
9	Physocarpus opulifolius 'Mandia'	COPPERTINA NINEBARK	5 Gallon
26	Pinus mugo 'Mops'	MOPS MUGO PINE	3 Gallon
2	Rhododendron 'PJM'	PJM RHODODENDRON	5 Gallon
12	Spiraea japonica 'Goldflame'	GOLDFLAME SPIREA	3 Gallon
2	Viburnum dentatum 'Christom'	BLUE MUFFIN VIBURNUM	5 Gallon
19	Aster novae-angliae 'Purple Dome'	PURPLE DOME NE ASTER	1 Gallon
17	Astilbe chinensis 'Pumila'	PUMILA PINK ASTILBE	1 Gallon
46	Calamagrostis x acutiflora 'Karl Foerster'	KARL FOERSTER REED GRASS	2 Gallon
16	Coreopsis 'Tequila Sunrise'	TEQUILA SUNRISE TICKSEED	1 Gallon
12	Hemeroallis 'Happy Returns'	HAPPY RETURNS DAYLILY	5 Gallon
40	Miscanthus sinensis 'Purpurascens'	PURPURASCENS MAIDEN GRASS	2 Gallon
8	Perovskia atriplicifolia 'Little Spire'	LITTLE SPIRE RUSSIAN SAGE	1 Gallon
22	Sedum 'Autumn Joy'	AUTUMN JOY SEDUM	1 Gallon

PLANT LIST - NEIGHBOR AT 106 FRONT ST.

Quantity	Botanical Name	Common Name	Size
2	Chamaecyparis obtusa 'Gracilis'	GRACILIS HINOKI FALSE CYPRESS	6-7 ft. ht. B&B
2	Juniperus virginiana 'Emerald Sentinel™'	EMERALD SENTINEL RED CEDAR	8-9 ft. ht. B&B
3	Thuja occidentalis 'Holmstrup'	HOLMSTRUP ARBORVITAE	6-7 ft. ht. B&B

NOTES: PLANT VARIETY AND SIZE MAY VARY BASED ON AVAILABILITY. SUBSTITUTIONS SHALL BE APPROVED BY OWNER OR DESIGNER.
 REFER TO SHEET 8 FOR PLANTING NOTES, SPECIFICATIONS AND DETAILS.
 PROPOSED FENCE SECTIONS TO PROVIDE VISUAL BUFFER ARE NOTED ON PLAN. STYLE TO BE SOLID VINYL FOR LONGEVITY.

GRAPHIC SCALE



REVISIONS:	DATE:
ENHANCED PLANTING PER PD REVIEW & COMMENTS	05/21/25
REVISED PER PD REVIEW & COMMENTS	05/05/25

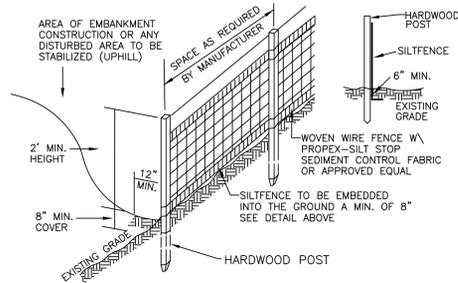
PLANTING PLAN

RESIDENTIAL DEVELOPMENT
 112 FRONT STREET
 EXETER, NH
 TAX MAP 73, LOT 14

DATE:	FEB 18, 2025	SCALE:	1" = 20'
PROJ. NO:	NH-1531	SHEET NO.	8b

CONSTRUCTION SEQUENCE

- CUT AND REMOVE TREES IN CONSTRUCTION AREAS AS REQUIRED OR DIRECTED.
- CONSTRUCT AND/OR INSTALL TEMPORARY AND PERMANENT EROSION AND DETENTION CONTROL FACILITIES AS REQUIRED. EROSION, SEDIMENT AND DETENTION CONTROL FACILITIES SHALL BE INSTALLED AND STABILIZED PRIOR TO ANY EARTH MOVING OPERATION AND PRIOR TO DIRECTING RUNOFF TO THEM.
- CLEAR CUT, GRUB AND DISPOSE OF DEBRIS IN APPROVED FACILITIES. STUMPS AND DEBRIS ARE TO BE REMOVED FROM SITE AND DISPOSED OF PER STATE AND LOCAL REGULATIONS.
- EXCAVATE AND STOCKPILE TOPSOIL /LOAM. ALL AREAS SHALL BE STABILIZED IMMEDIATELY AFTER GRADING.
- CONSTRUCT TEMPORARY CULVERTS AS REQUIRED OR DIRECTED.
- CONSTRUCT THE ROADWAY AND ITS ASSOCIATED DRAINAGE STRUCTURES.
- INSTALL PIPE AND CONSTRUCTION ASSOCIATED APPURTENANCES AS REQUIRED OR DIRECTED. ALL DISTURBED AREAS SHALL STABILIZED IMMEDIATELY AFTER GRADING.
- BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES AND DISTURBED AREAS SHALL BE SEEDED OR MULCHED AS REQUIRED, OR DIRECTED.
- DAILY OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINAGE CHECK DAMS, DITCHES, SEDIMENT TRAPS, ETC. TO PREVENT EROSION ON THE SITE AND PREVENT ANY SILTATION OF ABUTTING WATERS OR PROPERTY.
- INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION
- COMPLETE PERMANENT SEEDING AND LANDSCAPING
- REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDING AREAS HAVE ESTABLISHED THEMSELVES AND SITE IMPROVEMENTS ARE COMPLETE. SMOOTH AND RE-VEGETATE ALL DISTURBED AREAS.
- ALL SWALES AND DRAINAGE STRUCTURES WILL BE CONSTRUCTED AND STABILIZED PRIOR TO HAVING RUNOFF DIRECTED TO THEM.
- FINISH PAVING ALL DRIVEWAYS



SILT FENCE CONSTRUCTION SPECIFICATIONS

- WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES AND FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP MID AND BOTTOM SECTIONS AND BE EMBEDDED INTO GROUND A MINIMUM OF 8" THE FENCE POSTS SHALL BE A MINIMUM 48" LONG, SPACED AT 10'.
- MAXIMUM 10' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER.
- THE ENDS OF THE FABRIC SHALL BE OVERLAPPED BY SIX INCHES, FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BYPASSING MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED.
- REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE AND PROPERLY DISPOSED OF PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE
- FOR SEDIMENT STORAGE SILT FENCES SHALL BE REMOVED WHEN NO LONGER NEEDED AND
- THE SEDIMENT COLLECTED SHALL BE DISPOSED AS DIRECTED BY THE ENGINEER. THE AREA DISTURBED BY THE REMOVAL SHALL BE SMOOTHED AND RE-VEGETATED

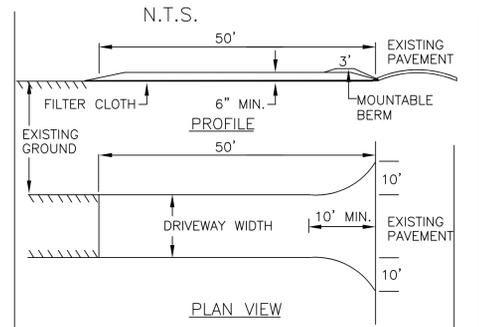
SILT FENCE MAINTENANCE

- 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.

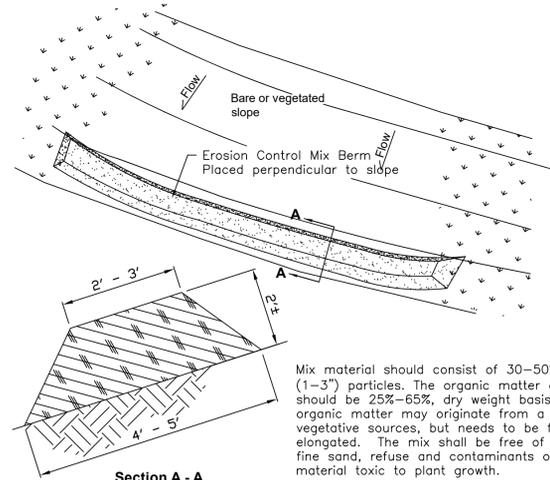
SEEDING SPECIFICATIONS

- GRADING AND SHAPING
 - SLOPES SHALL NOT BE STEEPER THAN 2:1;3:1 SLOPES OR FLATTER ARE PREFERRED. WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
- SEEDBED PREPARATION
 - SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
 - STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
- ESTABLISHING A STAND
 - LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
 AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100 LBS PER 1,000 SQ. FT.,
 NITROGEN(N), 50 LBS PER ACRE OR 1. 1 LBS PER 1,000 SQ.FT.
 PHOSPHATE(P2O5), 100 LBS PER ACRE OR 2. 2 LBS PER 1,000 SQ.FT.
 POTASH(K2O), 100 LBS PER ACRE OR 2. 2 LBS PER 1,000 SQ.FT.
 (NOTE: THIS IS THE EQUIVALENT OF 500 LBS PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS PER ACRE OF 5-10-10.)

STABILIZED CONSTRUCTION ENTRANCE



- STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
- THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET,
- THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
- THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICH EVER IS GREATER.
- GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
- ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.



Mix material should consist of 30-50% large (1-3") particles. The organic matter content should be 25-65%, dry weight basis. The organic matter may originate from a variety of vegetative sources, but needs to be fibrous and elongated. The mix shall be free of silt, clay, fine sand, refuse and contaminants or any material toxic to plant growth.

Erosion Control Mix berms are effective filters for overland flow conditions and should not be used to filter concentrated flow such as that found in drainage ditches, streams, etc.

Erosion Control Mix Berm

- SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.
- REFER TO TABLE(G-E1 THIS SHEET) FOR APPROPRIATE SEED MIXTURES AND TABLE(H-E1 THIS SHEET) FOR RATES OF SEEDING. ALL LEGUMES (CROWN VETCH, BIRDS FOOT TREFLOIL, AND FLAT PEA) MUST BE INOCULATED WITH THEIR SPECIFIC INOCULANT.
- WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 1.
- MULCH
 - HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
 - MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING. HAY OR STRAW MULCH SHALL BE PLACED AT A RATE OF 90 LBS PER 1000 SQ. FT.
- MAINTENANCE TO ESTABLISH A STAND
 - PLANTED AREA SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
 - FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIAL STAKE 2 TO 3 YEARS TO BECOME ESTABLISHED.
 - IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

SEEDING RATES

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 Sq. Ft.
A. TALL FESCUE	20	0.45
CREeping RED FESCUE	20	0.45
RED TOP	2	0.05
TOTAL	42	0.95
B. TALL FESCUE	15	0.35
CREeping RED FESCUE	10	0.25
CROWN VETCH	15	0.35
OR		
FLAT PEA	30	0.75
TOTAL	40 OR 55	0.95 OR 1.35
C. TALL FESCUE	20	0.45
CREeping RED FESCUE	20	0.45
BIRDS FOOT TREFLOIL	8	0.20
TOTAL	48	1.10
D. TALL FESCUE	20	0.45
FLAT PEA	30	0.75
TOTAL	50	1.20
E. CREeping RED FESCUE 1/2	50	1.15
KENTUCKY BLUEGRASS 1/2	50	1.15
TOTAL	100	2.30
F. TALL FESCUE 1	150	3.60

PREPARED FOR:
112 FRONT STREET, LLC
42J DOVER POINT ROAD
DOVER, NH 03820

BA BEALS ASSOCIATES, PLLC
 70 PORTSMOUTH AVE,
 THIRD FLOOR, SUITE 2
 STRATHAM, N.H. 03885
 PHONE: 603-583-4860,
 FAX: 603-583-4863

TEMPORARY EROSION CONTROL MEASURES

- NO MORE THAN 1.58 ACRES OF LAND SHALL BE EXPOSED AT ANY ONE TIME.
- EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED OR DIRECTED BY THE ENGINEER ALL DISTURBED AREAS SHALL BE RETURNED TO ORIGINAL GRADES AND ELEVATIONS.
- DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 4" OF LOAM AND SEEDED WITH NOT LESS THAN 1.10 POUNDS OF SEED PER 1000 SQUARE FEET OF AREA. (48 POUNDS PER ACRE) SEE SEED SPECIFICATIONS THIS SHEET.
- SILT FENCES AND OTHER EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY RAIN EVENT GREATER THAN 0.5" DURING THE LIFE OF THE PROJECT. ALL DAMAGED AREAS SHALL BE REPAIRED, SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED OF.
- AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
- AREAS MUST BE SEEDED AND MULCHED WITHIN 3 DAYS OF FINAL GRADING, PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING, OR TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF SOIL.

WINTER MAINTENANCE

- ALL DISTURBED AREAS THAT DO NOT HAVE AT LEAST 85% VEGETATIVE COVERAGE PRIOR TO OCTOBER 15TH, SHALL BE STABILIZED BY APPLYING MULCH AT A RATE OF 3-4 TONS PER ACRE. ALL SIDE SLOPES, STEEPER THAN 4:1, THAT ARE NOT DIRECTED TO SWALES OR DETENTION BASINS, SHALL BE LINED WITH BIODEGRADABLE/PHOTODEGRADABLE "JUTE MATTING" (EXCELSIOR'S CURLEX II OR EQUAL). ALL OTHER SLOPES SHALL BE MULCHED AND TACKED AT A RATE OF 3-4 TONS PER ACRE. THE APPLICATION OF MULCH AND/OR JUTE MATTING SHALL NOT OCCUR OVER EXISTING SNOW COVER. IF THE SITE IS ACTIVE AFTER OCTOBER 15TH, ANY SNOW THAT ACCUMULATES ON DISTURBED AREAS SHALL BE REMOVED. PRIOR TO SPRING THAW ALL AREAS WILL BE STABILIZED, AS DIRECTED ABOVE.
- ALL SWALES THAT DO NOT HAVE FULLY ESTABLISHED VEGETATION SHALL BE EITHER LINED WITH TEMPORARY JUTE MATTING OR TEMPORARY STONE CHECK DAMS (APPROPRIATELY SPACED). STONE CHECK DAMS WILL BE MAINTAINED THROUGHOUT THE WINTER MONTHS. IF THE SWALES ARE TO BE MATTED WITH PERMANENT LINERS OR RIPRAP WITH ENGINEERING FABRIC, THIS SHALL BE COMPLETED PRIOR TO WINTER SHUTDOWN OR AS SOON AS THEY ARE PROPERLY GRADED AND SHAPED.
- PRIOR TO OCT. 15TH ALL ROADWAY AND PARKING AREAS SHALL BE BROUGHT UP TO AND THROUGH THE BANK RUN GRAVEL APPLICATION. IF THESE AREAS' ELEVATIONS ARE PROPOSED TO REMAIN BELOW THE PROPOSED SUBGRADE ELEVATION, THE SUBGRADE MATERIAL SHALL BE ROUGHLY CROWNED AND A 3" LAYER OF CRUSHED GRAVEL SHALL BE PLACED AND COMPACTED. THIS WILL ALLOW THE SUBGRADE TO SHED RUNOFF AND WILL REDUCE ROADWAY EROSION. THIS CRUSHED GRAVEL DOES NOT HAVE TO CONFORM TO NH DOT 304.3, BUT SHALL HAVE BETWEEN 15-25% PASSING THE #200 SIEVE AND THE LARGEST STONE SIZE SHALL BE 2". IF THE SITE IS ACTIVE AFTER NOVEMBER 15TH, ANY ACCUMULATED SNOW SHALL BE REMOVED FROM ALL ROADWAY AND PARKING AREAS.
- AFTER OCTOBER 15TH, THE END OF NEW HAMPSHIRE'S AVERAGE GROWING SEASON, NO ADDITIONAL LOAM SHALL BE SPREAD ON SIDE SLOPES AND SWALES. THE STOCKPILES THAT WILL BE LEFT UNDISTURBED UNTIL SPRING SHALL BE SEEDED BY THIS DATE. AFTER OCTOBER 15TH, ANY NEW OR DISTURBED PILES SHALL BE MULCHED AT A RATE OF 3-4 TONS PER ACRE. ALL STOCKPILES THAT WILL REMAIN THROUGHOUT THE WINTER SHALL BE SURROUNDED WITH SILT FENCING.

SEEDING GUIDE

USE	SEEDING MIXTURE*	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	FAIR
	C	POOR	GOOD	EXCELLENT	GOOD
	D	FAIR	FAIR	GOOD	EXCELLENT
	E	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER.	A	GOOD	GOOD	GOOD	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	GOOD	EXCELLENT	EXCELLENT	FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES.	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR
	C	GOOD	GOOD	EXCELLENT	FAIR
	D	FAIR	GOOD	GOOD	EXCELLENT
PLAY AREAS AND ATHLETIC FIELDS. (TOPSOIL IS ESSENTIAL FOR GOOD TURF.)	F	FAIR	EXCELLENT	EXCELLENT	**
	G	FAIR	EXCELLENT	EXCELLENT	**

GRAVEL PIT, SEE NH-PM-24 IN APPENDIX FOR RECOMMENDATION REGARDING RECLAMATION OF SAND AND GRAVEL PITS.
 * REFER TO SEEDING MIXTURES AND RATES IN TABLE 7-36.
 ** POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAY AREAS OR ATHLETIC FIELDS.
 NOTE: TEMPORARY SEED MIX FOR STABILIZATION OF TURF SHALL BE WINTER RYE OR OATS AT A RATE OF 2.5 LBS. PER 1000 S.F. AND SHALL BE PLACED PRIOR TO OCT. 15, IF PERMANENT SEEDING NOT YET COMPLETE.

REVISIONS:	DATE:
REVISED PER REVIEW COMMENTS	01/17/25

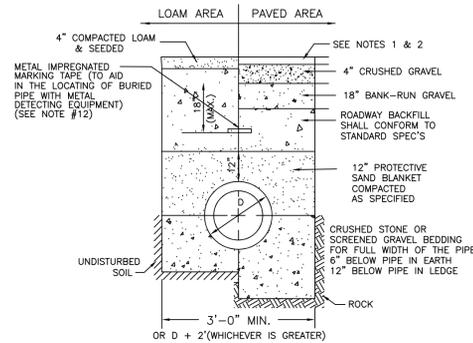
EROSION & SEDIMENT CONTROL DETAILS

RESIDENTIAL DEVELOPMENT
 112 FRONT STREET
 EXETER, NH
 TAX MAP 73, LOT 14

DATE:	DEC 9, 2024	SCALE:	NTS'
PROJ. NO:	NH-1531	SHEET NO.	9

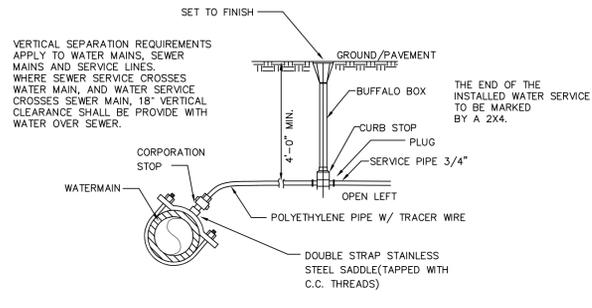
PREPARED FOR:
112 FRONT STREET, LLC
42J DOVER POINT ROAD
DOVER, NH 03820

BA BEALS
 ASSOCIATES, PLLC
 70 PORTSMOUTH AVE,
 THIRD FLOOR, SUITE 2
 STRATHAM, N.H. 03885
 PHONE: 603-583-4860,
 FAX: 603-583-4863

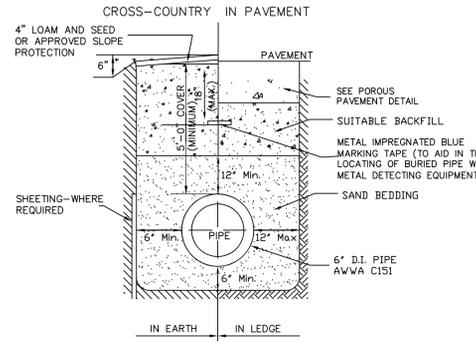


- NOTE:
 1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
 2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPEC'S.

TYPICAL SEWER TRENCH DETAIL
 NOT TO SCALE

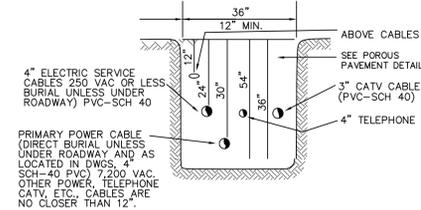


TYPICAL WATER SERVICE CONNECTION

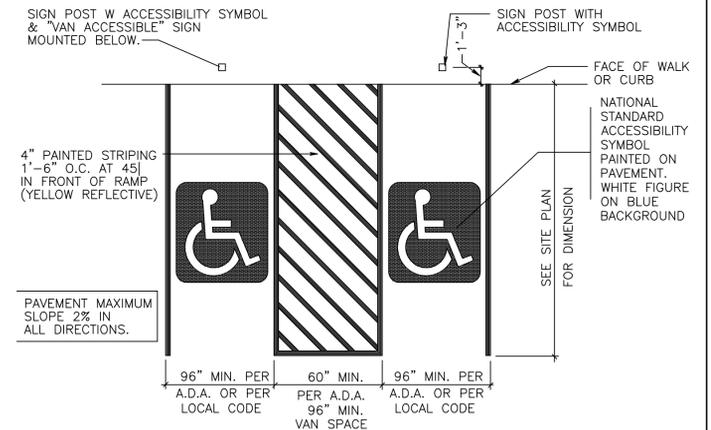


TYPICAL TRENCH DETAIL FOR WATER SYSTEM

- NOTE: ALL UTILITIES SHALL BE REVIEWED AND APPROVED BY APPROPRIATE UTILITY COMPANY. SERVICE BOX CONNECTIONS SHALL BE "FLUSH MOUNT" TO GREATEST EXTENT POSSIBLE AND LOCATED AT PROPERTY LINE CORNERS.



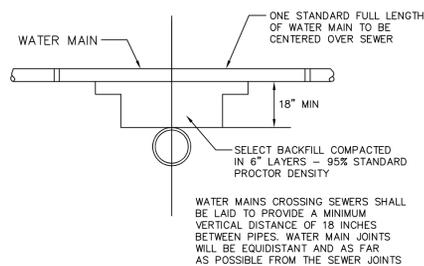
UTILITY TRENCH DETAIL



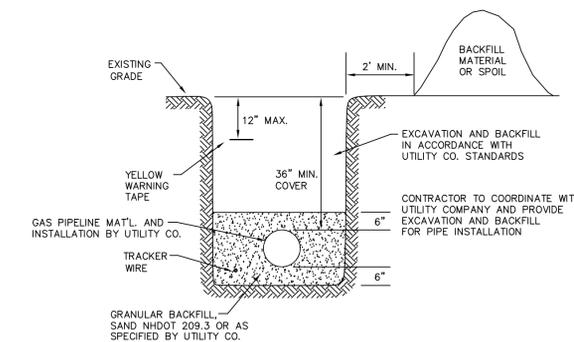
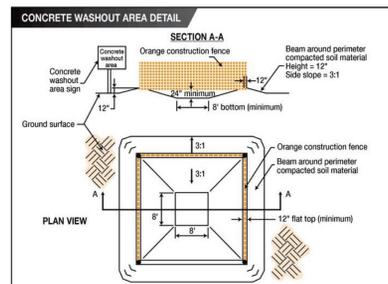
PARKING STALL FOR THE PHYSICALLY CHALLENGED

NOT TO SCALE DEC. 15, 1991

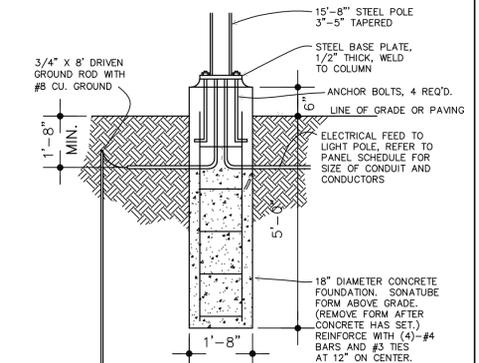
SEPARATION NOTES:
 SEWERS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES (460 MM) BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER. THIS SHALL BE THE CASE WHERE THE WATER MAIN IS EITHER ABOVE OR BELOW THE SEWER. THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO MAINTAIN LINE AND GRADE.



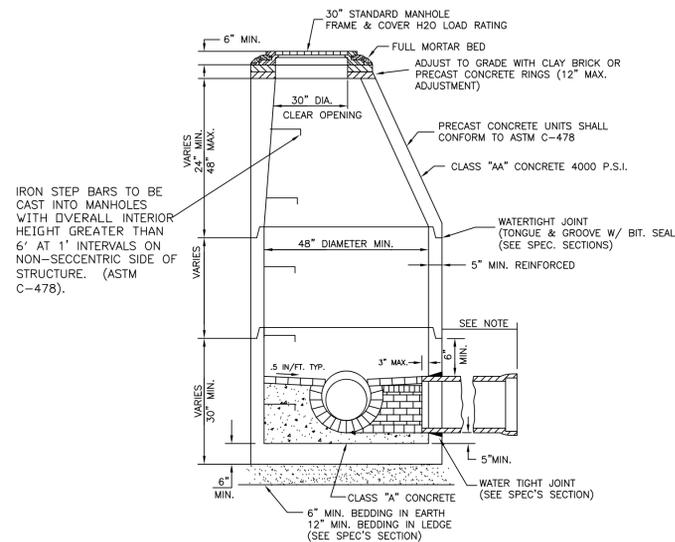
WATER/SEWER MAIN CROSSING



GAS TRENCH DETAIL



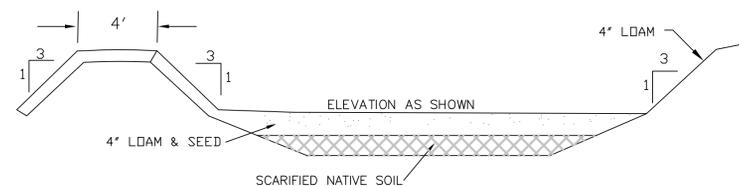
POLE FOUNDATION LIGHT BASE DETAIL
 SCALE: NONE



NOTE:

TYPE OF PIPE	SIZE	MAX. DISTANCE TO FIRST JOINT
R.C.P. C.I.	ALL	48"
V.C.	0-12"	18"
	> 12"	36"

SEWER MANHOLE
 TYPICAL SECTION
 NOT TO SCALE

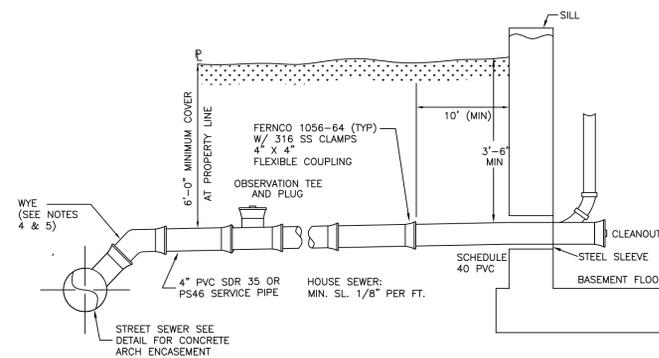


INFILTRATION POND NOTES:

- 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 SYSTEM INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.

INFILTRATION POND DETAIL

NOT TO SCALE



DETAIL OF HOUSE SEWER SERVICE

- NOTES:
- SEWER SERVICE FROM PROPERTY LINE TO 10' OUTSIDE OF BUILDING SHALL BE INSTALLED UNDER THIS CONTRACT ONLY WHEN OUTSIDE THE TRENCH DEWATERING OR LEDGE EXCAVATION IS REQUIRED.
 - PIPE DEPTH AT HOUSE SHALL BE ABOVE THE SEASONAL GROUND WATER LEVEL.
 - SEWER SHALL BE BELOW SLAB ONLY WHEN BASEMENT TOILETS EXIST.
 - JOINTS SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATER TIGHTNESS. 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.
 - WYES: WHERE WYE IS NOT AVAILABLE IN THE EXISTING STREET SEWER, AN APPROPRIATE CONNECTION SHALL BE MADE FOLLOWING MANUFACTURERS INSTRUCTIONS USING A BOLTED, CLAMPED, OR EPOXY-CEMENTED SADDLE, TAPPED INTO A SMOOTHLY DRILLED OR SAWN OPENING IN THE SEWER.

REVISED PER REVIEW COMMENTS	DATE:
REVISED PER PB /ENG REVIEW & COMMENTS	04/01/25
REVISED PER REVIEW COMMENTS	03/03/25
REVISED PER REVIEW COMMENTS	01/17/25
REVISIONS:	DATE:

CONSTRUCTION DETAILS

RESIDENTIAL DEVELOPMENT
 112 FRONT STREET
 EXETER, NH
 TAX MAP 73, LOT 14

DATE:	SCALE:	NTS
DEC 9, 2024		
PROJ. NO:	SHEET NO.	10

CONSTRUCTION SPECIFICATIONS FOR POROUS ASPHALT
THE UNH STORM WATER CENTER
INSTALLATION RECOMMENDATIONS

- INSTALLATION
- A. PERCOLATION BEDS (REFERS TO NO 57 STONE)
 1. OWNER SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO ALL PERCOLATION BED AND POROUS PAVING WORK.
 2. SUB GRADE PREPARATION
 - A. EXISTING SUB GRADE UNDER BED AREAS SHALL NOT BE COMPACTED OR SUBJECT TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC PRIOR TO STONE BED PLACEMENT.
 - B. WHERE EROSION OF SUB GRADE HAS CAUSED ACCUMULATION OF FINE MATERIALS AND/OR SURFACE PONDING, THIS MATERIAL SHALL BE REMOVED WITH LIGHT EQUIPMENT AND THE UNDERLYING SOILS SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES WITH A YORK RAKE OR EQUIVALENT AND LIGHT TRACTOR.
 - C. BRING SUB GRADE OF STONE PERCOLATION BED TO LINE, GRADE, AND ELEVATIONS INDICATED. FILL AND LIGHTLY REGRADE ANY AREAS DAMAGED BY EROSION, PONDING, OR TRAFFIC COMPACTION BEFORE THE PLACING OF STONE. ALL BED BOTTOMS ARE LEVEL GRADE.
 3. RECHARGE BED INSTALLATION (REFERS TO NO 3 STONE)
 - A. UPON COMPLETION OF SUB GRADE WORK, THE ENGINEER SHALL BE NOTIFIED AND SHALL INSPECT AT HIS DISCRETION BEFORE PROCEEDING WITH PERCOLATION BED INSTALLATION.
 - B. PERCOLATION BED AGGREGATE SHALL BE PLACED IMMEDIATELY AFTER APPROVAL OF SUB GRADE PREPARATION. ANY ACCUMULATION OF DEBRIS OR SEDIMENT WHICH HAS TAKEN PLACE AFTER APPROVAL OF SUB GRADE SHALL BE REMOVED PRIOR TO INSTALLATION OF AGGREGATE AT NO EXTRA COST TO THE OWNER.
 - C. INSTALL COARSE AGGREGATE NO. 3 (1 1/2" STONE) IN 8-INCH MAXIMUM LIFTS. LIGHTLY COMPACT EACH LAYER WITH EQUIPMENT, KEEPING EQUIPMENT MOVEMENT OVER STORAGE BED SUBGRADES TO A MINIMUM. INSTALL AGGREGATE TO GRADES INDICATED ON THE DRAWINGS.
 - D. INSTALL 3" LIFT PEA GRAVEL LAYER TO PREVENT MIGRATION OF FINES FROM THE FILTER COARSE (NHDOT 304.1)
 - E. INSTALL FILTER COARSE (NHDOT 304.1 SAND LESS THAN 2% FINES) IN 2, 4" LIFTS. LIGHTLY COMPACT EACH LAYER WITH EQUIPMENT, KEEPING EQUIPMENT MOVEMENT OVER STORAGE BED SUBGRADES TO A MINIMUM. INSTALL AGGREGATE TO GRADES INDICATED ON THE DRAWINGS.
 - F. INSTALL CHOKER BASE COURSE (AASHTO # 57 STONE) AGGREGATE EVENLY OVER SURFACE OF STONE BED, SUFFICIENT TO ALLOW PLACEMENT OF PAVEMENT, AND NOTIFY ENGINEER FOR APPROVAL. CHOKER BASE COURSE SHALL BE SUFFICIENT TO ALLOW FOR EVEN PLACEMENT OF ASPHALT BUT NO THICKER THAN 4-INCH IN DEPTH.
 4. SURROUNDING AREAS
 - A. BEFORE THE POROUS PAVEMENT IS INSTALLED, ADJACENT SOIL AREAS SHOULD BE SLOPED AWAY FROM ALL PAVEMENT EDGES, TO PREVENT POTENTIAL SEDIMENT FROM WASHING ONTO THE PAVEMENT SURFACE.
 - B. TO ACCOMPLISH THIS, A SEQUENCE OF SWALES SHOULD BE EXCAVATED INTO ALL EARTHEN (UNPAVED) AREAS AT LEAST ON THE UPHILL SIDES OF THE PAVEMENT, AND WHERE NECESSARY, TO BELOW THE CURB OR PAVEMENT ELEVATION. ITS SHAPE AND PAINTINGS CAN BE INTEGRATED WITH THE PROJECT'S ARCHITECTURE AND LANDSCAPE, AND DESIGNED TO MAXIMIZE INFILTRATION. SWALE OVERFLOW, WHEN IT OCCURS, CAN BE DISCHARGED FROM ONE SWALE TO ANOTHER BY CONNECTING PIPES UNDER DRIVEWAYS.
 - C. BUILDING BASEMENTS AND FOUNDATIONS SHOULD BE WATERPROOFED AS NECESSARY, WHERE THE POROUS PAVEMENT ABUTS BUILDINGS.
 5. TRANSPORTING MATERIAL
 - A. TRANSPORTING MATERIAL
 1. TRANSPORTING MATERIAL OF MIX TO THE SITE SHALL BE IN VEHICLES WITH SMOOTH, CLEAN DUMP BEDS THAT HAVE BEEN SPRAYED WITH A NON-PETROLEUM RELEASE AGENT.
 2. THE MIX SHALL BE COVERED DURING TRANSPORT TO CONTROL COOLING.
 3. POROUS BITUMINOUS ASPHALT SHALL NOT BE STORED IN EXCESS OF 90 MINUTES BEFORE PLACEMENT.
 - B. ASPHALT PLACEMENT
 1. THE POROUS BITUMINOUS SURFACE COURSE SHALL BE LAID IN ONE LIFT DIRECTLY OVER THE CHOKER COARSE, FILTER COARSE, AND CRUSHED STONE BASE COURSE TO A 4-INCH FINISHED THICKNESS. THE SURFACE CAN BE LAID IN TWO LIFTS IF SECOND LIFT IS DONE WITHIN 10 BUSINESS DAYS AND THE INITIAL COURSE IS CLEAN AND FREE OF SEDIMENT.
 2. THE LAYING TEMPERATURE OF THE BITUMINOUS MIX SHALL BE BETWEEN 300 DEGREES FAHRENHEIT AND 350 DEGREES FAHRENHEIT (BASED ON THE RECOMMENDATIONS OF THE ASPHALT SUPPLIER).
 3. INSTALLATION SHALL TAKE PLACE WHEN AMBIENT TEMPERATURES ARE 55 DEGREES FAHRENHEIT OR ABOVE, WHEN MEASURED IN THE SHADE AWAY FROM ARTIFICIAL HEAT.
 4. THE USE OF A REMIXING MATERIAL TRANSFER DEVICE BETWEEN THE TRUCKS AND THE PAVEMENT IS HIGHLY RECOMMENDED TO ELIMINATE COLD LUMPS IN THE MIX.
 5. THE POLYMER-MODIFIED ASPHALT IS VERY DIFFICULT TO RAKE. A WELL-HEATED SCREED SHOULD BE USED TO MINIMIZE THE NEED FOR RAKING.
 6. COMPACTION OF THE SURFACE COURSE SHALL TAKE PLACE WHEN THE SURFACE IS COOL ENOUGH TO RESIST A 10-TON ROLLER. (140F, SURFACE TEMPERATURE) ONE OR TWO PASSES IS ALL THAT IS REQUIRED FOR PROPER COMPACTION. MORE ROLLING COULD CAUSE A REDUCTION IN THE SURFACE POROSITY WHICH IS UNACCEPTABLE.
 - C. IN THE EVENT CONSTRUCTION SEDIMENT IS INADVERTENTLY DEPOSITED ON THE FINISHED POROUS SURFACE, IT MUST BE IMMEDIATELY REMOVED BY VACUUMING.
 5. AFTER FINAL ROLLING, NO VEHICULAR TRAFFIC OF ANY KIND SHALL BE PERMITTED ON THE SURFACE UNTIL COOLING AND HARDENING HAS TAKEN PLACE, AND IN NO CASE WITHIN THE FIRST 48 HOURS. PROVIDE BARRIERS AS NECESSARY AT NO EXTRA COST TO THE OWNER TO PREVENT VEHICULAR USE; REMOVE AT THE DISCRETION OF THE ENGINEER.
 6. STRIPING PAINT FOR TRAFFIC LANES AND PARKING BAYS SHALL BE CHLORINATED RUBBER BASE, FACTORY MIXED, NON-BLEEDING, FAST DRYING, BEST QUALITY, WHITE TRAFFIC PAINT WITH A LIFE EXPECTANCY OF TWO YEARS UNDER NORMAL TRAFFIC USE.
 - A. PAVEMENT MARKING: LATEX, WATER-BASE EMULSION, READY-MIXED, COMPLYING WITH PS TT-P-1952.
 - B. SWEEP AND CLEAN SURFACE TO ELIMINATE LOOSE MATERIAL AND DUST.
 - C. PAINT 4 INCH WIDE TRAFFIC LANE STRIPING IN ACCORDANCE WITH LAYOUTS OF PLAN. APPLY PAINT WITH MECHANICAL EQUIPMENT TO PRODUCE UNIFORM STRAIGHT EDGES. APPLY IN TWO COATS AT MANUFACTURER'S RECOMMENDED RATES. PROVIDE CLEAR, SHARP LINES USING WHITE TRAFFIC PAINT, INSTALLED IN ACCORDANCE WITH NHDOT SPECIFICATIONS.
 6. WORK SHALL BE DONE EXPERTLY THROUGHOUT, WITHOUT STAINING OR INJURY TO OTHER WORK.
 - TRANSITION TO ADJACENT IMPERVIOUS BITUMINOUS PAVING SHALL BE MERGED NEATLY WITH FLUSH, CLEAN LINE. FINISHED PAVING SHALL BE EVEN, WITHOUT POCKETS, AND GRADED TO ELEVATIONS SHOWN ON DRAWING.
 7. POROUS PAVEMENT BEDS SHALL NOT BE USED FOR EQUIPMENT OR MATERIALS STORAGE DURING CONSTRUCTION, AND UNDER NO CIRCUMSTANCES SHALL VEHICLES BE ALLOWED TO DEPOSIT SOIL ON PAVED POROUS SURFACES.
 8. REPAIR OF DAMAGED PAVING
 - A. ANY EXISTING PAVING ON OR ADJACENT TO THE SITE THAT HAS BEEN DAMAGED AS A RESULT OF CONSTRUCTION WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER WITHOUT ADDITIONAL COST TO THE OWNER.
 9. FIELD QUALITY CONTROL
 - A. THE FULL PERMEABILITY OF THE PAVEMENT SURFACE SHALL BE TESTED BY APPLICATION OF CLEAN WATER AT THE RATE OF AT LEAST 5 GPM OVER THE SURFACE, USING A HOSE OR OTHER DISTRIBUTION DEVICE. WATER USED FOR THE TEST SHALL BE CLEAN, FREE OF SUSPENDED SOLIDS AND DELETERIOUS LIQUIDS AND WILL BE PROVIDED AT NO EXTRA COST TO THE OWNER. ALL APPLIED WATER SHALL INFILTRATE DIRECTLY WITHOUT PUDDLE FORMATION OR SURFACE RUNOFF, AND SHALL BE OBSERVED BY THE ENGINEER AND OWNER.
 - B. TEST IN-PLACE BASE AND SURFACE COURSE FOR COMPLIANCE WITH REQUIREMENTS FOR THICKNESS AND SURFACE SMOOTHNESS. REPAIR OR REMOVE AND REPLACE UNACCEPTABLE WORK AS DIRECTED BY THE OWNER.
 - C. SURFACE SMOOTHNESS: TEST FINISHED SURFACE FOR SMOOTHNESS AND EVEN DRAINAGE, USING A TEN-FOOT TO CENTERLINE OF PAVED AREA. SURFACE WILL NOT BE ACCEPTED IF GAPS OR RIDGES EXCEED 3/16 OF AN INCH.

MINIMUM COMPACTION REQUIREMENTS

COMPACTION SHALL BE PERFORMED TO NOT LESS THAN NINETY-FIVE PERCENT (95%) MAXIMUM DENSITY AS DETERMINED IN A LABORATORY COMPACTION TEST, PERFORMED UNDER THE SPECIFICATIONS OF ASTM D1557-64T, METHOD "A", (BACK FILL MATERIAL OF A STONY NATURE SHALL BE TESTED UNDER METHOD "C" OR "D" OF THE SAME ASTM DESIGNATION) OR OTHER APPROVED ASTM OR AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) SPECIFICATIONS. SUCH TEXT SHALL ALSO BE USED FOR ESTABLISHING THE OPTIMUM MOISTURE CONTENT OF THE MATERIALS. THE IN-PLACE DRY UNIT WEIGHT OF THE COMPACTED MATERIALS SHALL BE DETERMINED BY METHODS SPECIFIED UNDER ASTM "D" 1556-58T OR OTHER APPROVED ASTM OR AASHTO SPECIFICATIONS. THE IN-PLACE COMPACTION TEST TO BE CONSISTENT WITH THE APPROVED LABORATORY COMPACTION TEST.

TABLE 5. POROUS ASPHALT MIX DESIGN CRITERIA.

SIEVE SIZE (INCH/MM)	PERCENT PASSING (%)
0.75/19	100
0.50/12.5	85-100
0.375/9.5	55-75
NO.4/4.75	10-25
NO.8/2.36	5-10
NO.200/0.075 (#200)	2-4
BINDER CONTENT (AASHTO T164)	6.0-6.5%
AIR VOID CONTENT BY CORELOK (ASTM D6752)*	16.0-20.0%
AIR VOID CONTENT BY PARAFFIN WAX (AASHTO T275)**	18.0-22.0%
DRAINDOWN (ASTM D6390)**	<= 0.3 %
RETAINED TENSILE STRENGTH (AASHTO 283)***	>= 80 %

* EITHER METHOD IS ACCEPTABLE
**CELLULOSE OR MINERAL FIBERS MAY BE USED TO REDUCE DRAINDOWN.
***IF THE TSR (RETAINED TENSILE STRENGTH) VALUES FALL BELOW 80% WHEN TESTED PER NAPA IS 131 (WITH A SINGLE FREEZE THAW CYCLE RATHER THAN 5). STEP 4, THE CONTRACTOR SHALL EMPLOY AN ANTISTRIP ADDITIVE, SUCH AS HYDRATED LIME (ASTM C977) OR A FATTY AMINE, TO RAISE THE TSR VALUE ABOVE 80%.

MIX SUMMARY
POROUS ASPHALT PAVEMENT MIX
THE UNH STORM WATER CENTER

POROUS ASPHALT SHALL BE FOUR INCHES THICK WITH A BITUMINOUS MIX OF 6% TO 6.5% BY WEIGHT DRY AGGREGATE AND AIR VOIDS OF 18-22%. IN ACCORDANCE WITH ASTM D6390, DRAIN DOWN OF THE BINDER SHALL BE NO GREATER THAN 0.3%. IF MORE ABSORPTIVE AGGREGATES, SUCH AS LIMESTONE, ARE USED IN THE MIX, THEN THE AMOUNT OF BITUMEN IS TO BE BASED ON THE TESTING PROCEDURES OUTLINED IN THE NATIONAL ASPHALT PAVEMENT ASSOCIATION'S INFORMATION SERIES 131 - "PERVIOUS ASPHALT PAVEMENTS" (2003) OR NHDOT EQUIVALENT. MIX SUPPLIERS MAY HAVE A SUITABLE IN-HOUSE SPECIFICATION FOR OPEN GRADED FRICTION COURSE (OGFC) THAT CAN BE USED.

USE NEAT ASPHALT BINDER MODIFIED WITH AN ELASTOMERIC POLYMER TO PRODUCE A BINDER MEETING THE REQUIREMENTS OF PG 76-22 AS SPECIFIED IN AASHTO MP-1. THE ELASTOMER POLYMER SHALL BE STYRENE-BUTADIENE-STYRENE (SBS), OR APPROVED EQUAL, APPLIED AT A RATE OF 3% BY WEIGHT OF THE TOTAL BINDER. THE COMPOSITE MATERIALS SHALL BE THOROUGHLY BLENDED AT THE ASPHALT REFINERY OR TERMINAL PRIOR TO BEING LOADED INTO THE TRANSPORT VEHICLE. THE POLYMER MODIFIED ASPHALT BINDER SHALL BE HEAT AND STORAGE STABLE.

AGGREGATE SHALL BE MINIMUM 90% CRUSHED MATERIAL AND HAVE A GRADATION OF:

COMPOSITION OF MIXTURE
SIEVE SIZE (INCH/MM) PERCENT PASSING: 0.75/191000.50/12.585-1000.375/9.555-75NO.4/4.7510-25NO.8/2.365-10NO.200/0.0752-4TOTAL AGGREGATE: 3-5-94% ASPHALT OF TOTAL MIX: 6-5
ADD HYDRATED LIME AT A DOSAGE RATE OF 1.0% BY WEIGHT OF THE TOTAL DRY AGGREGATE TO MIXES CONTAINING GRANITE. HYDRATED LIME SHALL MEET THE REQUIREMENTS OF ASTM C 977. THE ADDITIVE MUST BE ABLE TO PREVENT THE SEPARATION OF THE ASPHALT BINDER FROM THE AGGREGATE AND ACHIEVE A REQUIRED TENSILE STRENGTH RATIO (TSR) OF AT LEAST 80% ON THE ASPHALT MIX WHEN TESTED IN ACCORDANCE WITH AASHTO T 283. THE ASPHALTIC MIX SHALL BE TESTED FOR ITS RESISTANCE TO STRIPPING BY WATER IN ACCORDANCE WITH ASTM D-1664. IF THE ESTIMATED COATING AREA IS NOT ABOVE 95 PERCENT, ANTI-STRIPPING AGENTS SHALL BE ADDED TO THE ASPHALT.

NO WORK SHALL BE STARTED UNTIL THE CONTRACTOR HAS SUBMITTED AND THE ENGINEER HAS APPROVED A MIX DESIGN INCLUDING THE PERCENTAGE OF EACH INGREDIENT INCLUDING BINDER, POLYMER, AND THE JOB-MIX FORMULA FROM SUCH A COMBINATION. THE JOB-MIX FORMULA SHALL ESTABLISH A SINGLE PERCENTAGE OF AGGREGATE PASSING SIEVE AND A SINGLE PERCENTAGE OF BITUMINOUS MATERIAL TO BE ADDED TO THE AGGREGATE. NO CHANGE IN THE JOB-MIX FORMULA MAY BE MADE WITHOUT WRITTEN APPROVAL OF THE ENGINEER. THE JOB-MIX FORMULA MUST FAITHFULLY WITH THE MASTER RANGE SPECIFIED IN COMPOSITION OF MIXTURE TABLE.

TRANSPORTING MATERIAL: SEE CONSTRUCTION AND INSTALL SPECIFICATIONS

FOR QUESTIONS ON MIX SPECIFICATIONS CONTACT ROBERT ROSEEN, PHD, AT THE UNH STORM WATER CENTER. 603-862-4024.

MAINTENANCE SPECIFICATIONS FOR POROUS ASPHALT PARKING LOT AREAS AND LOW VOLUME ROADS
THE UNH STORM WATER CENTER

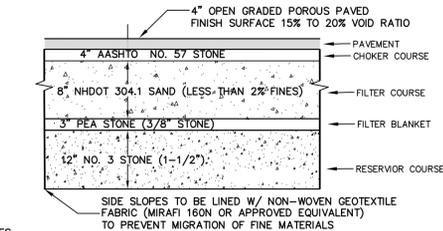
THE FOLLOWING RECOMMENDATIONS WILL HELP ASSURE THAT THE PAVEMENT IS MAINTAINED TO PRESERVE ITS HYDROLOGIC EFFECTIVENESS.

WINTER MAINTENANCE:

1. SANDING FOR WINTER TRACTION IS PROHIBITED. DEICING IS PERMITTED (NACL, MGC12, OR EQUIVALENT). REDUCED SALT APPLICATION IS POSSIBLE AND CAN BE A COST SAVINGS FOR WINTER MAINTENANCE. NONTXIC, ORGANIC DEICERS, APPLIED EITHER AS BLENDED, MAGNESIUM CHLORIDE-BASED LIQUID PRODUCTS OR AS PRETREATED SALT, ARE PREFERABLE.
2. PLOWING IS ALLOWED. BLADE SHOULD BE SET APPROXIMATELY 1" ABOVE ROAD SURFACE. ICE AND LIGHT SNOW ACCUMULATION ARE GENERALLY NOT AS PROBLEMATIC AS FOR STANDARD ASPHALT. SNOW WILL ACCUMULATE DURING HEAVIER STORMS AND SHOULD BE PLOWED.

ROUTINE MAINTENANCE:

1. ASPHALT SEAL COATING MUST BE ABSOLUTELY FORBIDDEN. SURFACE SEAL COATING IS NOT REVERSIBLE.
2. THE PAVEMENT SURFACE SHOULD BE VACUUMED 1 OR 2 TIMES PER YEAR, AND AT ANY ADDITIONAL TIMES SEDIMENT IS SPILLED, ERODED, OR TRACKED ONTO THE SURFACE.
3. PLANTED AREAS ADJACENT TO PERVIOUS PAVEMENT SHOULD BE WELL MAINTAINED TO PREVENT SOIL WASHOUT ONTO THE PAVEMENT. IF ANY BARE SPOTS OR ERODED AREAS ARE OBSERVED WITHIN THE PLANTED AREAS, THEY SHOULD BE REPLANTED AND/OR STABILIZED AT ONCE.
4. IMMEDIATELY CLEAN ANY SOIL DEPOSITED ON PAVEMENT. SUPERFICIAL DIRT DOES NOT NECESSARILY CLOG THE PAVEMENT USE; HOWEVER, DIRT THAT IS GROUND IN REPEATEDLY BY TIRES CAN LEAD TO CLOGGING. THEREFORE, TRUCKS OR OTHER HEAVY VEHICLES SHOULD BE PREVENTED FROM TRACKING OR SPILLING DIRT ONTO THE PAVEMENT.
5. DO NOT ALLOW CONSTRUCTION STAGING, SOIL/MULCH STORAGE, ETC. ON UNPROTECTED PAVEMENT SURFACE.
6. REPAIRS: POTHOLES OF LESS THAN 50 SQUARE FEET CAN BE PATCHED BY ANY MEANS SUITABLE WITH STANDARD PAVEMENT OR A PERVIOUS MIX IS PREFERRED. FOR AREAS GREATER THAN 50 SQ. FT. IN NEED OF REPAIR, APPROVAL OF PATCH TYPE SHOULD BE SOUGHT FROM A QUALIFIED ENGINEER. ANY REQUIRED REPAIR OF DRAINAGE STRUCTURES SHOULD BE DONE PROMPTLY TO ENSURE CONTINUED PROPER FUNCTIONING OF THE SYSTEM.
7. WRITTEN AND VERBAL COMMUNICATION TO THE POROUS PAVEMENT'S FUTURE OWNER SHOULD MAKE CLEAR THE PAVEMENT'S SPECIAL PURPOSE AND SPECIAL MAINTENANCE REQUIREMENTS SUCH AS THOSE LISTED HERE.
8. A PERMANENT SIGN SHOULD BE ADDED AT THE ENTRANCE AND END OF THE POROUS ASPHALT AREA TO INFORM RESIDENTS AND MAINTENANCE STAFF OF THE SPECIAL NATURE AND PURPOSE OF THE PAVEMENT, AND ITS SPECIAL MAINTENANCE REQUIREMENTS.

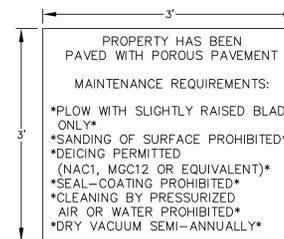


NOTES:

1. 4" FRICTION COURSE CONSISTS OF COARSER AGGREGATE AND STIFFER BINDER. SEE TABLE
2. A WORKING COURSE 4" THICK CONSISTS OF AASHTO NO. 57 STONE.
3. TOP COAT SHOULD BE VACUUMED A MINIMUM OF TWICE A YEAR.
5. ADJACENT AREAS TO POROUS PAVEMENT SHOULD BE GRADED AWAY FROM PAVEMENT TO PREVENT SEDIMENT FROM RUNNING ONTO POROUS AREA AND CLOGGING PORES. ROOF RUNOFF TO BE DIRECTED INTO SUBBASE MATERIAL.

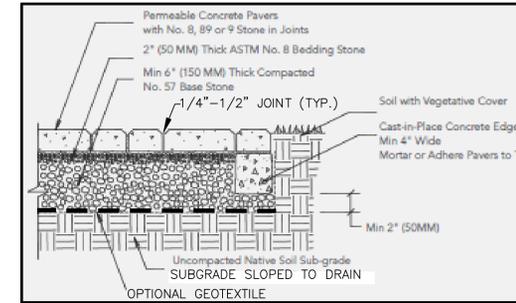
POROUS PAVEMENT

NOT TO SCALE



POROUS PAVEMENT SIGN DETAIL

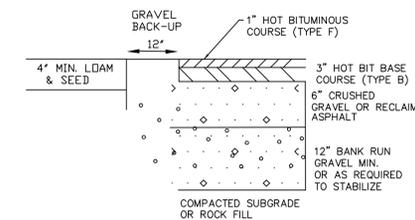
NOT TO SCALE



ROUTINE MAINTENANCE: VISUAL INSPECTION OF THE PERVIOUS PAVERS TO ENSURE THAT THEY ARE CLEAN OF DEBRIS AND SEDIMENTS. ROUTINE CLEANING PROCEDURES WOULD INCLUDE BLOWING (WITH LEAF BLOWER OR SIMILAR) IN FALL, TRUCK-SWEEPING AND/OR DRY VACUUMING. ADD STONE TO REFILL JOINT SPACE AFTER SWEEPING/VACUUMING IF NEEDED.

PERVIOUS PAVER DETAIL
TO BE "TREMIRON" OR APPROVED EQUAL

NOT TO SCALE



NOTES: * IN AREAS OF BEDROCK, MINIMUM 24" SEPARATION FROM BANK RUN GRAVEL
* PAVEMENT TRENCH PATCH SHALL MATCH EXISTING PAVEMENT DEPTHS.

TYPICAL PAVEMENT SECTION
NEW ASPHALT

PREPARED FOR:

112 FRONT STREET, LLC
42J DOVER POINT ROAD
DOVER, NH 03820



70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603-583-4860,
FAX: 603-583-4863

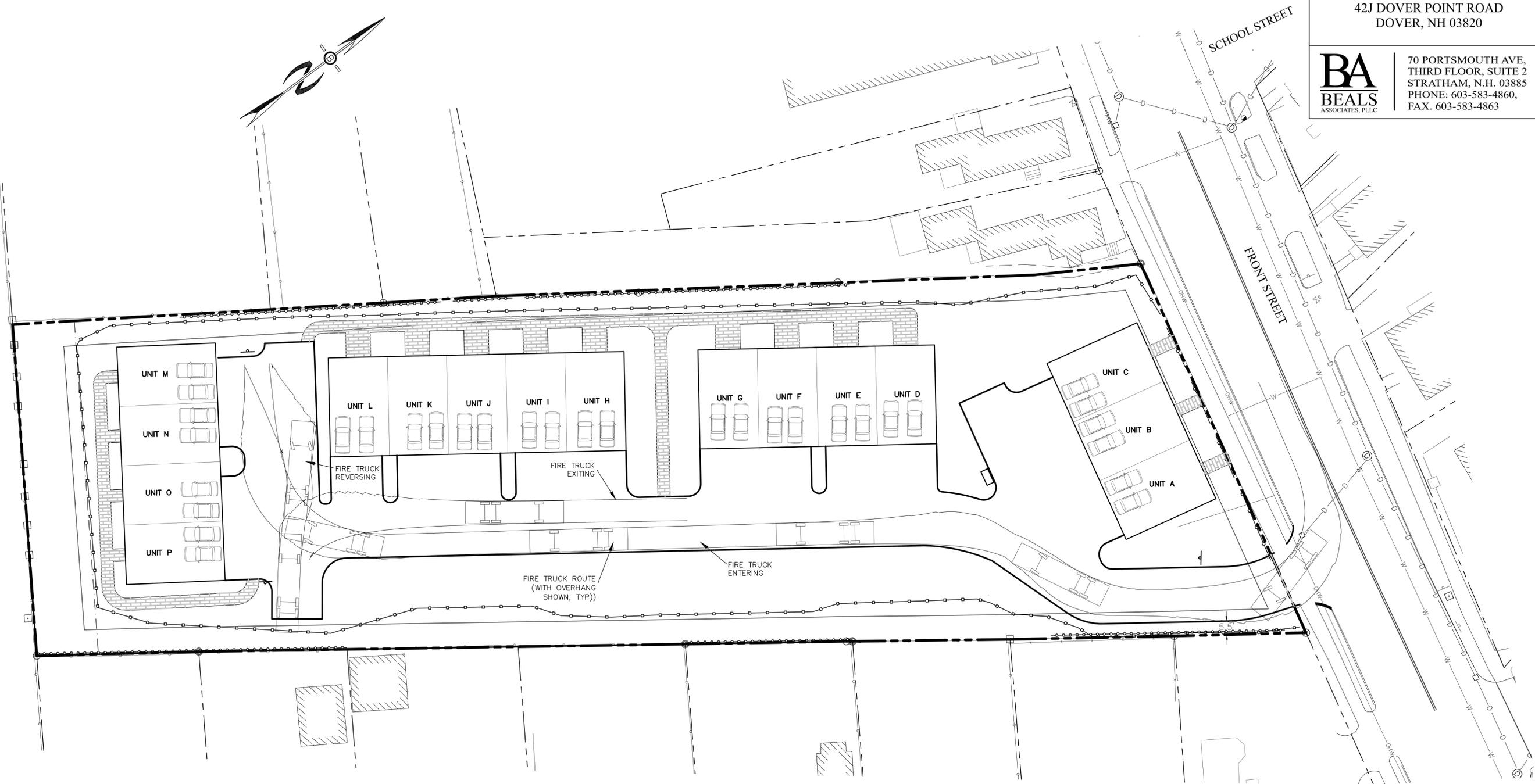


REVISED PER REVIEW COMMENTS	04/01/25
REVISED PER REVIEW COMMENTS	01/17/25
REVISIONS:	DATE:
CONSTRUCTION DETAILS	
RESIDENTIAL DEVELOPMENT 112 FRONT STREET EXETER, NH TAX MAP 73, LOT 14	
DATE:	DEC 9, 2024
SCALE:	NTS
PROJ. NO:	NH-1531
SHEET NO.	11

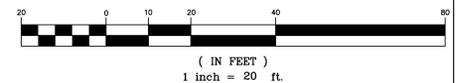
PREPARED FOR:
 112 FRONT STREET, LLC
 42J DOVER POINT ROAD
 DOVER, NH 03820



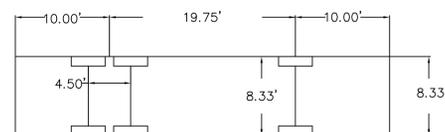
70 PORTSMOUTH AVE,
 THIRD FLOOR, SUITE 2
 STRATHAM, N.H. 03885
 PHONE: 603-583-4860,
 FAX: 603-583-4863



GRAPHIC SCALE



Exeter Aerial Ladder Truck

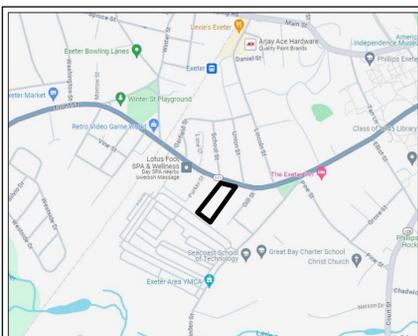


Tire Diameter: 3.6 FEET



REVISED PER REVIEW COMMENTS	04/01/25
REVISED PARKING LAYOUT	02/19/25
REVISED PER REVIEW COMMENTS	01/17/25
REVISIONS:	DATE:

EXETER LADDER TRUCK MANEUVERING PLAN	
RESIDENTIAL DEVELOPMENT 112 FRONT STREET EXETER, NH TAX MAP 73, LOT 14	
DATE: DEC 9, 2024	SCALE: 1" = 20'
PROJ. NO: NH-1531	SHEET NO. 12



LOCATION MAP
1"=500'

TOWN NOTES

1. THE LANDOWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL WETLANDS REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.
2. THE APPLICANT HAS DESIGNED THIS SITE TO SAFELY ACCOMMODATE MAXIMUM SIZE VEHICLES AND TRUCKS. (DESIGN VEHICLE IS THE EXETER LADDER TRUCK OR 35' BOX TRUCK) EITHER DELIVERING TO, OR USING THE PROPERTY.
3. ALL SNOW SHALL BE STORED IN THE AREA(S) DEPICTED ON THIS PLAN AS SNOW STORAGE AREAS. IN THE EVENT THAT THE AREA(S) APPROVED FOR SNOW STORAGE BECOME FULL, THE OWNER SHALL REASONABLY REMOVE EXCESS SNOW FROM THE SITE, AND SHALL NOT ALLOW SNOW TO BE STORED WITHIN TRAVEL AISLES.
4. ALL WASTE MATERIALS AND RECYCLABLE SHALL BE CONTAINED WITHIN THE BUILDING(S) OR APPROVED STORAGE FACILITIES AND SHALL NOT BE OTHERWISE STORED ON THE PROPERTY. REFUSE COLLECTION WILL BE BY DUMPSTER AS NEEDED.
5. ALL WATER, SEWER, ROAD (INCLUDING PARKING LOT), AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 9.5 GRADING, DRAINAGE, AND EROSION & SEDIMENT CONTROL AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN EXETER, NEW HAMPSHIRE.

ZONING REQUIREMENTS:
ZONING DISTRICT - CENTRAL AREA (C1)
MINIMUM LOT SIZE - 5,000 S.F.
MINIMUM LOT WIDTH - 50 FT.
MINIMUM LOT DEPTH - 100 FT.
MINIMUM DWELLING UNIT - 3,500 S.F.

BUILDING SETBACKS:
FRONT=10 FT.
SIDE=10 FT.
REAR=20 FT.
BUILDING HEIGHT=35 FT.
MAXIMUM BUILDING COVERAGE = 75%
MINIMUM OPEN SPACE = 5%

DENSITY CALCULATION:
PARCEL AREA - 69,349 SF
(-) DRIVEWAY AREA - 8,872 S.F.
= 60,374 S.F.
60,477/3500 (SF/UNIT) = 17.28 UNITS

PARKING CALCULATIONS:
TOTAL NUMBER OF UNITS=17
2 SPACES PER UNIT AND 1 SPACE PER 4 UNITS FOR VISITOR
TOTAL SPACES REQUIRED=41
17 UNITS HAVE 2 SPACES=34
PLUS 2-EXTERIOR VISITOR STALLS (WITHIN DRIVES UNITS E-M)
TOTAL SPACES PROVIDED=51

24' DRIVE DENSITY CALCULATION:
PARCEL AREA LESS 24' DRIVEWAY AREA = 69,349 SF - 9,687 SF = 59,662 SF
= 60,374 S.F.
59,662/3500 (SF/UNIT) = 17.05 UNITS

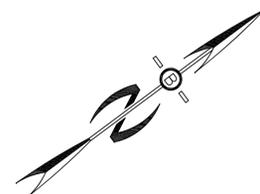
INCLUSIVE OF PARKING AISLES:
69,349 SF - 13,138 SF = 56,211 SF
56,211 SF/3,500 SF/UNIT = 16.06 UNITS

PREPARED FOR:

112 FRONT STREET, LLC
42J DOVER POINT ROAD
DOVER, NH 03820

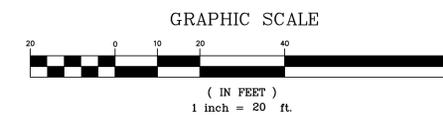


70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603-583-4860,
FAX: 603-583-4863



NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW 17 TOWN HOUSE UNITS WITH ASSOCIATED PARKING SPACES.
2. ALL CONSTRUCTION SHALL CONFORM TO TOWN OF EXETER STANDARDS AND REGULATIONS.
3. ALL WATER, SEWER, ROAD (INCLUDING PARKING LOT), AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 9.3 STORMWATER MANAGEMENT STANDARDS, STORMWATER MANAGEMENT PLAN, STORMWATER POLLUTION PREVENTION PLAN, AND EROSION AND SEDIMENT CONTROL STANDARDS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN EXETER, NEW HAMPSHIRE. SEE SECTION 9.14 ROADWAYS, ACCESS POINTS, AND FIRE LANES AND SECTION 9.13 PARKING AREAS FOR EXCEPTIONS.
4. IN ACCORDANCE WITH SITE PLAN REVIEW & SUBDIVISION REGULATIONS SECTIONS 7.15.10 AND 9.3.4 THE APPLICANT SHALL PROVIDE THE TOWN WITH THREE COPIES OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND ALSO ENSURE THAT ONE COPY REMAINS ON SITE.
5. ALL PROPOSED SIGNAGE SHALL CONFORM WITH THE TOWN ZONING REGULATIONS UNLESS A VARIANCE IS OTHERWISE REQUESTED.
6. TOTAL PROPOSED DISTURBANCE FOR CONSTRUCTION = 1.34 ACRES.
7. UPON COMPLETION OF CONSTRUCTION AND PRIOR TO RELEASE OF BOND, THE APPLICANT SHALL SUBMIT A LETTER TO THE TOWN, SIGNED AND STAMPED BY THE DESIGN ENGINEER, WHO MUST BE A LICENSED PROFESSIONAL ENGINEER IN NH, STATING CONSTRUCTION HAS BEEN COMPLETED IN CONFORMANCE WITH THE APPROVED PLANS.
8. UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN LOCATED FROM FIELD OBSERVATIONS AND THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. BEALS ASSOCIATES OR ANY OF THEIR EMPLOYEES TAKE NO RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN, THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND UTILITIES OR STRUCTURES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1-888-DIG-SAFE.
9. THIS PLAN HAS BEEN PREPARED FOR MUNICIPAL APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS. THIS INCLUDES ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS OF THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED.
10. ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
11. THIS SITE IS NOT LOCATED IN THE 100 YEAR FLOOD ZONE.
12. BEYOND THE ENTRANCE DRIVE, ALL PAVEMENT WILL BE POROUS PAVEMENT. SEE PLAN FOR LIMITS.
13. GARBAGE WILL BE STORED IN TOTEY BINS WITHIN GARAGES FOR PRIVATE PICKUP.



REVISED PER REVIEW COMMENTS	04/01/25
REVISED PER PB REVIEW & COMMENTS	03/03/25
REVISED PARKING LAYOUT	02/19/25
REVISED PER REVIEW COMMENTS	01/17/25
REVISIONS:	DATE:

PRESENTATION PLAN	
RESIDENTIAL DEVELOPMENT 112 FRONT STREET EXETER, NH TAX MAP 73, LOT 14	
DATE:	DEC 9, 2024
SCALE:	1" = 20'
PROJ. NO:	NH-1531
SHEET NO.	1



FRONT ELEVATION

SCALE: 1/4" = 1'-0"



REAR ELEVATION

SCALE: 1/4" = 1'-0"



RIGHT ELEVATION

SCALE: 1/4" = 1'-0"



LEFT ELEVATION

SCALE: 1/4" = 1'-0"

NO.	1	REVISION	DEVELOPMENT OF ELEVATIONS FOR ALL BUILDINGS
-----	---	----------	---

DATE	3/31/25	REVISION	DEVELOPMENT OF ELEVATIONS FOR ALL BUILDINGS
------	---------	----------	---

NO.	1	REVISION	DEVELOPMENT OF ELEVATIONS FOR ALL BUILDINGS
-----	---	----------	---

ELEVATIONS

DRAWN BY:	AD
CHECKED BY:	RM
DATE ISSUED:	3/31/25
SCALE:	PER PAGE
JOB NO.:	2420PF

112 FRONT STREET
EXETER, N.H. (3 UNIT)

--



FRONT ELEVATION
SCALE: 1/4" = 1'-0"



REAR ELEVATION
SCALE: 1/4" = 1'-0"



RIGHT ELEVATION
SCALE: 1/4" = 1'-0"



LEFT ELEVATION
SCALE: 1/4" = 1'-0"

--

NO.	DATE	REVISION
1	3/31/25	DEVELOPMENT OF ELEVATIONS FOR ALL BUILDINGS

--

ELEVATIONS

DRAWN BY:	AD
CHECKED BY:	RM
DATE ISSUED:	3/31/25
SCALE:	PER PAGE
JOB NO.:	2420PF

112 FRONT STREET
EXETER, N.H. (4 UNIT WITH HIP)

--



FRONT ELEVATION
SCALE: 1/4" = 1'-0"



REAR ELEVATION
SCALE: 1/4" = 1'-0"



RIGHT ELEVATION
SCALE: 1/4" = 1'-0"



LEFT ELEVATION
SCALE: 1/4" = 1'-0"

NO.	REVISION
1	DEVELOPMENT OF ELEVATIONS FOR ALL BUILDINGS

DATE	3/31/25
NO.	1

DRW. BY:	AD
CHECKED BY:	RM
DATE ISSUED:	3/31/25
SCALE:	PER PAGE
JOB NO.:	2420PF

ELEVATIONS

DRW. BY:	AD
CHECKED BY:	RM
DATE ISSUED:	3/31/25
SCALE:	PER PAGE
JOB NO.:	2420PF

112 FRONT STREET
EXETER, N.H. (4 UNIT WITH GABLE)

--



FRONT ELEVATION

SCALE: 1/4" = 1'-0"



REAR ELEVATION

SCALE: 1/4" = 1'-0"



RIGHT ELEVATION

SCALE: 1/4" = 1'-0"



LEFT ELEVATION

SCALE: 1/4" = 1'-0"

NO.	DATE	REVISION
1	3/31/25	DEVELOPMENT OF ELEVATIONS FOR ALL BUILDINGS

ELEVATIONS

DRAWN BY:	AD
CHECKED BY:	RM
DATE ISSUED:	3/31/25
SCALE:	PER PAGE
JOB NO.:	2420P

112 FRONT STREET
EXETER, N.H. (5 UNIT)

April 2, 2025
stacilgarstka@gmail.com

RE: Planning Board
Meeting on April 10, 2025 – Public Comment – **Planning Board Case #24-17**

Subject: 112 Front Street

Dear Members of the Planning Board,

We are writing to formally express our concerns regarding the proposed development at 112 Front Street. While we acknowledge the developer's right to utilize this property, we respectfully submit that the current proposal, if approved at full density, will have significant and enduring negative impacts on the character, livability, and overall well-being of our neighborhood.

It is important to note that while the developer stands to gain considerably from this project, the burdens associated with it—including, but not limited to, increased noise, traffic congestion, and light pollution—will fall disproportionately on the current residents of the area. As a principle we often impart to our children, just because something is legally permissible does not necessarily mean that it is wise or appropriate. Similarly, while the proposed construction of 17 units may ostensibly comply with existing zoning regulations, we respectfully question whether such a development truly serves the best interests of the surrounding residential community.

The property at 112 Front Street, though classified as C1 on the town's tax map, is situated within a predominantly residential neighborhood that has long been home to families. Surrounding properties consist largely of single-family homes and several multi-family units that are conversions of historic single-family dwellings. Our own property at 111-113 Front Street, built as a duplex in the 1830s, required extensive renovation when we acquired it; however, we never entertained the idea of demolition. This stands in stark contrast to the proposed development, which calls for the demolition of a historic home and the construction of large-scale multi-family units that are likely to result in substantial adverse effects, such as increased noise, traffic congestion, and light pollution. Furthermore, the existing multi-family properties in the area are smaller in scale, with fewer bedrooms, which further highlights the disproportionate nature of the proposed development.

Additionally, it is worth noting that the Town of Exeter's own records continue to list this property as being within an R-2 Zone in various official documents, including the most recent tax assessment and the October 2024 List of Property Owners available on the Town website (please see attached documentation). Despite our repeated efforts to

engage in productive discussions with the Town regarding this matter, our inquiries have been met with dismissal.

It is apparent that there is confusion, even within the town offices, regarding the precise zoning classification of this lot. For instance, we had a meeting approximately one year ago with Doug Eastman concerning 112 Front Street. During this conversation, Doug indicated that the property was located within the R-2 Zone and suggested that a developer could reasonably build four or five units at this location. His informal assessment highlights the ambiguity surrounding the zoning classification. Given this confusion, how are abutters such as ourselves supposed to fully understand the zoning of this property, particularly when even the Building Inspector/Code Enforcement Officer has been unclear about the status of the property in the town's records?

We are also concerned by the developer's repeated assertion that the current proposal is preferable to the alternative of a large industrial building. While we acknowledge the developer's efforts to enhance landscaping and install fencing, we feel that the project should not be accepted simply because it could be worse. We firmly believe that a more balanced approach is achievable and urge the developer to reconsider the density of the project. Reducing the number of units would allow for a reasonable return on investment while preserving the integrity of the surrounding residential area. Since the proposed units are not designated as affordable housing, a lower-density development would better align the developer's interests with those of the existing community.

The proposed density also raises significant concerns regarding parking and green space. Front Street is already difficult to navigate, particularly on Sunday mornings or during events at the Art Studio, due to parking on both sides of the street. The addition of seventeen 3-4 bedroom townhouse units, coupled with insufficient guest parking, would exacerbate congestion and create safety hazards, particularly with cars parked in front of the development or on surrounding streets such as Gill Street, Union Street, and School Street.

In light of these concerns, we respectfully urge the Planning Board to carefully consider the long-term impacts of the proposed development on the neighborhood. A more measured and thoughtful approach, one that reduces the density of the project and strikes a better balance between return on investment and community preservation, would better serve both the developer's interests and the well-being of current residents.

We appreciate your time and attention to this matter, and trust that the Planning Board will give due consideration to these concerns as part of the decision-making process.

Jeffrey and Staci Garstka
111-113 Front Street

112 FRONT ST

Location 112 FRONT ST

Mblu 73 / 14 / 1

Acct# M5795R

Owner 112 FRONT STREET LLC

Assessment \$837,900

Appraisal \$837,900

PID 2560

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2025	\$498,100	\$339,800	\$837,900

Assessment			
Valuation Year	Improvements	Land	Total
2025	\$498,100	\$339,800	\$837,900

Parcel Addresses

Additional Addresses
No Additional Addresses available for this parcel

Owner of Record

Owner 112 FRONT STREET LLC

Sale Price \$1,502,500

Co-Owner

Certificate

Address 42J DOVER POINT RD

Book & Page 6571/2507

DOVER, NH 03820

Sale Date 09/12/2024

Instrument 81

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
112 FRONT STREET LLC	\$1,502,500		6571/2507	81	09/12/2024
MERRILL FAMILY ALTON TRUST	\$0		5206/1237	38	12/09/2010
MERRILL NANCY C	\$0		/0		

Building Information

Building 1 : Section 1

Year Built: 1851
Living Area: 3,366
Replacement Cost: \$683,530
Building Percent Good: 70
Replacement Cost Less Depreciation: \$478,500

Building Attributes

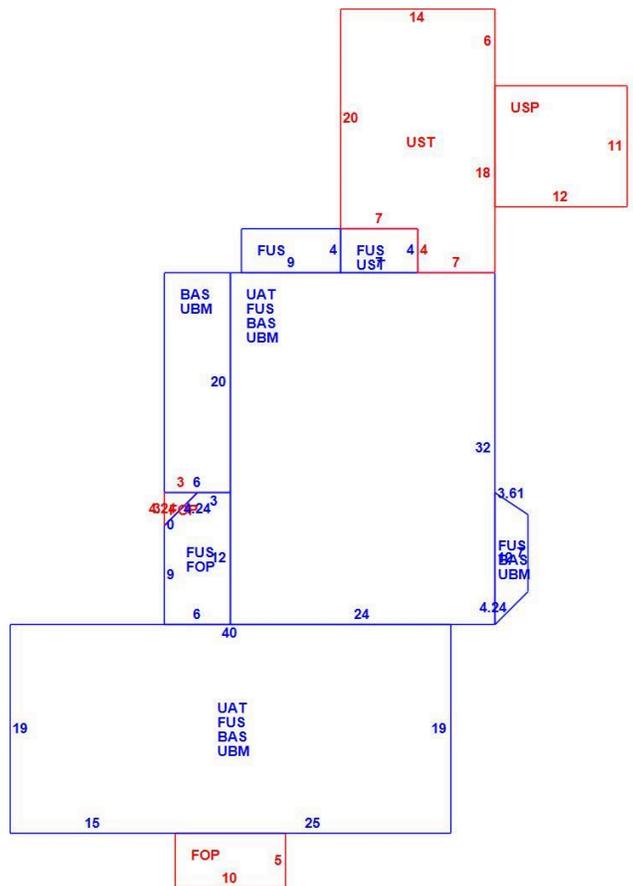
Field	Description
Style:	Colonial
Model	Residential
Grade:	Good
Stories:	2 Stories
Occupancy	1
Exterior Wall 1	Clapboard
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F GlS/Cmp
Interior Wall 1	Plastered
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	Carpet
Heat Fuel	Oil
Heat Type:	Forced Air-Duc
AC Type:	None
Total Bedrooms:	5 Bedrooms
Total Bthrms:	1
Total Half Baths:	1
Total Xtra Fixtrs:	
Total Rooms:	11 Rooms
Bath Style:	Average
Kitchen Style:	Average
Num Kitchens	01
Cndtn	
MHP	
Fireplaces	
Fndtn Cndtn	
Basement	

Building Photo



(<https://images.vgsi.com/photos/ExeterNHPhotos/0001018297.jpg>)

Building Layout



(ParcelSketch.aspx?pid=2560&bid=2560)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
FUS	Upper Story, Finished	1,689	1,689
BAS	First Floor	1,677	1,677
FOP	Porch, Open, Finished	123	0
UAT	Attic, Unfinished	1,528	0

UBM	Basement, Unfinished	1,677	0
USP	Porch, Screen, Unfinished	132	0
UST	Utility, Storage, Unfinished	336	0
		7,162	3,366

Extra Features

Extra Features				Legend
Code	Description	Size	Assessed Value	Bldg #
FPL3	2 STY	2.00 UNITS	\$6,700	1
HTH	HEARTH	2.00 UNITS	\$1,500	1

Land

Land Use

Use Code 1010
Description Single Fam MDL-01
Zone R-2
Neighborhood 70
Alt Land Appr No
Category

Land Line Valuation

Size (Acres) 1.6
Frontage 0
Depth 0
Assessed Value \$339,800
Appraised Value \$339,800

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Assessed Value	Bldg #
BRN5	2 STORY			768.00 S.F.	\$8,600	1
BRN1	BARN - 1 STORY			198.00 S.F.	\$1,100	1
RPV2	PAVED DRIVE - MED			1.00 UNITS	\$800	1
LNT	LEAN-TO			216.00 S.F.	\$900	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2024	\$498,700	\$339,800	\$838,500
2023	\$288,200	\$168,700	\$456,900
2022	\$288,200	\$168,700	\$456,900

Assessment			
Valuation Year	Improvements	Land	Total
2024	\$498,700	\$339,800	\$838,500
2023	\$288,200	\$168,700	\$456,900
2022	\$288,200	\$168,700	\$456,900

List by Owner

Owner Full Name	Co-Owner Full Name	Number	Street Name	Apt	Map	Lot	Unit	Total Land	Total Improvements	Total Value	Zoning	Land Acres
1 CASS STREET LLC		1	CASS ST		63	274		225,700	437,600	663,300	R-2	0.21
10 ARBOR STREET LLC		10	ARBOR ST		73	32		224,100	265,700	489,800	C-1	0.20
10 EPPING RD CONDO ASSOC		10	EPPING RD		63	38	MC	0	0	0		0.00
10-12 AUBURN STREET LLC		10-12	AUBURN ST		71	18		234,400	280,500	514,900	R-2	0.13
100 BEECH HILL ROAD LLC		100	BEECH HILL RD		13	1		288,000	271,200	559,200	RU	2.15
100 DOMAIN LLC 55.24% & MVC DOMAIN DR LLC 31.57% ETAL	C/O BOULOS ASSET MANAGEMENT	100	DOMAIN DR		88	5		4,225,000	23,516,500	27,741,500	I	17.53
100 HIGH ST CONDOMINIUM		100	HIGH ST		71	51	MC	0	0	0	R-2	0.38
103 EPPING ROAD LLC		103	EPPING RD		55	70		239,900	0	239,900	C-2	1.50
107 PONEMAH ROAD LLC		50	LINDEN ST		82	11		253,300	268,500	521,800	R-2	0.35
107 WATSON ROAD REALTY TR	KUCHARSKI KIRK J & PATRICIA TRUSTEES	107	WATSON RD		19	13		304,300	257,100	561,400	RU	4.00
108 HEIGHTS LLC	C/O TWO GUYS SELF STORAGE	108	PORTSMOUTH AVE		52	52		620,000	193,100	813,100	C-2	0.80
109 WATSON ROAD REALTY TR	KUCHARSKI KIRK J & PATRICIA TRUSTEES	109	WATSON RD		19	14		279,300	387,900	667,200	RU	4.69
11 COURT ST UNITS 1 & 2 LLC		11	COURT ST	1	72	158	1	0	498,300	498,300		0.00
11 COURT ST UNITS 1 & 2 LLC		11	COURT ST	2	72	158	2	0	498,300	498,300		0.00
111 LINDEN STREET LLC		111	LINDEN ST		103	5		321,700	0	321,700	R-1	5.98
112 FRONT STREET LLC		112	FRONT ST		73	14		339,800	498,700	838,500	R-2	1.60
119-121 FRONT STREET LLC		119-121	FRONT ST		73	215		252,100	388,500	640,600	R-2	0.11
12 CONTINENTAL DRIVE LLC		46	ENERGY WAY		46	1		1,054,500	8,116,500	9,171,000	CT-1	20.35
12 HAMPTON FALLS RD	CONDOMINIUM	12	HAMPTON FALLS RD		86	16	MC	0	0	0	R-2	0.24
12 LINCOLN ST LLC		12	LINCOLN ST		73	262		306,400	520,500	826,900	R-2	0.48
12 MACE ROAD LLC		105	PORTSMOUTH AVE	13	65	124	13	0	243,100	243,100	C-2	0.00
12 MACE ROAD LLC		105	PORTSMOUTH AVE	15	65	124	15	0	243,100	243,100	C-2	0.00
12 MACE ROAD LLC		105	PORTSMOUTH AVE	18	65	124	18	0	247,800	247,800	C-2	0.00
120 EPPING ROAD INVESTMENT LLC		120	EPPING RD		55	7		467,300	305,000	772,300	C-2	0.73
127 WATER STREET REALTY LLC		127	WATER ST		72	22		268,600	295,800	564,400	WC	0.07
129 WATER STREET SPE LLC		129	WATER ST		72	21		166,500	101,900	268,400	WC	0.03
129 WATER STREET SPE LLC		156	FRONT ST	116	73	49	15	0	268,300	268,300	R-5	0.00
129 WATER STREET SPE LLC		156	FRONT ST	412	73	49	72	0	268,000	268,000	R-5	0.00
13 POWDER MILL REALTY TRUST	LOMBARA STEPHEN TRUSTEE	13	POWDER MILL RD		102	9		286,700	119,200	405,900	R-1	2.00
13-15 WASHINGTON	STREET CONDOMINIUMS	13-15	WASHINGTON ST		73	125	MC	0	0	0		0.11
133 EPPING ROAD LLC		133	EPPING RD		55	64		483,500	263,300	746,800	C-2	0.84
134 FRONT STREET LLC		134	FRONT ST		73	29		338,500	572,700	911,200	C-1	0.51
14 BITTERSWEET LN CONDO ASSOC		14	BITTERSWEET LN		65	67	MC	0	0	0		1.13
14 PINE STREET FUNERAL	HOME REALTY LLC	14	PINE ST		73	2		302,900	522,800	825,700	R-2	0.60
140 EPPING ROAD LLC		140	EPPING RD	3	55	54	4	0	286,800	286,800	C-3	0.00
141-143 FRONT STREET LLC	C/O EXETER LUMBER	12	KOSSUTH ST		73	200		202,900	193,500	396,400	C-1	0.06
141-143 FRONT STREET LLC	C/O EXETER LUMBER	141-143	FRONT ST		73	198		486,300	427,900	914,200	C-1	0.15
154 WATER STREET CO LLC		28	FRONT ST		72	160		400,200	276,300	676,500	C-1	0.19
156 EPPING ROAD LLC		156	EPPING RD		47	1	1	1,367,000	2,801,200	4,168,200	C-3	6.73
158 EPPING ROAD LLC		1	CONTINENTAL DR		47	1	2A	520,800	0	520,800		1.99
16 HALL PLACE LLC	C/O JAMES LABRANCHE	16	HALL PL		72	49	MC	0	0	0	R-3	0.29



TOWN OF EXETER

Planning and Building Department

10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 • FAX 772-4709

www.exeternh.gov

Date: April 3, 2025
To: Planning Board
From: Dave Sharples, Town Planner
Re: StoneArch Development 57 Portsmouth Avenue PB Case #25-1

The Applicant has submitted a multi-family site plan review application for the proposed development of the vacant property located at 57 Portsmouth Avenue. The developer is proposing the construction of a six (6) unit townhouse style residential condominium development along with associated parking and site improvements. The property is located in the C-2, Highway Commercial zoning district and is identified as Tax Map Parcel #65-137.

This application was originally scheduled for the March 27th, 2025 Planning Board meeting, however, due to time restrictions, the Board voted to table the presentation of the application to the April 10th, 2025 meeting. The Board also scheduled a site walk at the subject property for April 10, 2025 at 8am. Please refer to the meeting materials provided in your last meeting packet.

The application, plans and supporting documents, dated 01/28/25 were provided for your review. A Technical Review Committee (TRC) meeting was conducted on February 20th, 2025. A copy of the UEI comment letter, dated 02/18/25, was also provided for your review. TRC comments from Town departments were minimal and were so noted by the developer and engineer at the meeting.

The Applicant obtained several variances for the proposed construction of this project from the Zoning Board of Adjustment at their November 19th, 2024 meeting. Copies of the ZBA notice of decision and minutes from that meeting were also included for your review.

The Applicant is requesting two (2) waivers from the Board's Site Plan Review & Subdivision Regulations in conjunction with the application. Please see the waiver request letter from Beals Associates, PLLC, dated 01/28/25, included in the meeting materials.

The Applicant submitted revised plans and supporting documents, dated 03/19/25, and those materials have also been provided for your review.

At a minimum, I would suggest that the Planning Board consider a vote on accepting the plans as complete for review purposes, and, if deemed complete, hold the public hearing to get input from the public.

I have provided motions below for your convenience. I will be on vacation the week of the meeting and Kristen will be attending the meeting in my absence.

Waiver Motions:

Roadway and Fire Lanes Less than 24' Width waiver motion: After reviewing the criteria for granting waivers, I move that the request of StoneArch Development (PB Case #25-1) for a waiver from Section 9.14.9 of the Site Plan Review and Subdivision Regulations to permit proposed roadway and fire lanes to be less than 24' in width be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Grading within 5 feet of exterior property line waiver motion: After reviewing the criteria for granting waivers, I move that the request of StoneArch Development (PB Case #25-1) for a waiver from Section 9.3.6.4. of the Site Plan Review and Subdivision Regulations regarding grading within 5 feet of an exterior property line be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Planning Board Motions:

Table Motion: I move that the application of StoneArch Development (PB Case #25-1) be TABLED to the (date/time/place) Planning Board meeting and revised plans/documents shall be submitted to the Planning Office at least eight (8) days prior to the meeting or the application may remain on the table to a future meeting.

Multi-Family Site Plan Motion: I move that the request of StoneArch Development (PB Case #25-1) for Multi-Family Site Plan approval be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / DENIED.

Thank You.

Enclosures

**70 Portsmouth Avenue
Stratham, New Hampshire
03885
603 – 583 - 4860
Fax: 583 - 4863**

January 28, 2025

Chairman
Town of Exeter Planning Board
10 Front Street
Exeter, NH 03833

RE: Letter of Explanation
Stonearch Development
Proposed Residential Condominium Site Plan - 57 Portsmouth Avenue
Tax Map 0065 Lot #: 0137

Dear Members of the Board:

The applicant is proposing to create a 6-unit town house style (two 3-unit buildings) residential condominium development on the referenced parcel located at 57 Portsmouth Avenue. The driveway entrance will be expanded, but utilize the existing curb cut on Portsmouth Avenue that served the previously demolished single-family house. The units are proposed to be served by underground utilities, with municipal water and sewer services. A catch basin tie-in to the existing Portsmouth Avenue closed drainage system is proposed.

Thank you for your consideration.

Very truly yours,
BEALS ASSOCIATES, PLLC

Christian O. Smith

Christian O. Smith P.E.
Principal



TOWN OF EXETER, NH APPLICATION FOR SITE PLAN REVIEW

OFFICE USE ONLY

THIS IS AN APPLICATION FOR:

- COMMERCIAL SITE PLAN REVIEW
- INDUSTRIAL SITE PLAN REVIEW
- MULTI-FAMILY SITE PLAN REVIEW
- MINOR SITE PLAN REVIEW
- INSTITUTIONAL/NON-PROFIT SPR

_____	APPLICATION #
_____	DATE RECEIVED
_____	APPLICATION FEE
_____	PLAN REVIEW FEE
_____	ABUTTERS FEE
_____	LEGAL NOTICE FEE
_____	TOTAL FEES

_____	INSPECTION FEE
_____	INSPECTION COST
_____	REFUND (IF ANY)

1. NAME OF LEGAL OWNER OF RECORD: Blake Properties of NH, LLC

_____ TELEPHONE: () _____

ADDRESS: PO Box 368, Newfields, NH, 03856

2. NAME OF APPLICANT: Stonearch Development Corp.

ADDRESS: 42J Dover Point Road, Dover, NH

_____ TELEPHONE: (978) 375-3153

3. RELATIONSHIP OF APPLICANT TO PROPERTY IF OTHER THAN OWNER: _____

Under Agreement

(Written permission from Owner is required, please attach.)

4. DESCRIPTION OF PROPERTY: Previously developed, now vacant

ADDRESS: 57 Portsmouth Avenue, Exeter, NH

TAX MAP: 65 PARCEL #: 137 ZONING DISTRICT: C-2

AREA OF ENTIRE TRACT: 0.26 Acres PORTION BEING DEVELOPED: 0.24 Acres



5. ESTIMATED TOTAL SITE DEVELOPMENT COST \$ _____

6. EXPLANATION OF PROPOSAL: Develop parcel with 6 townhouse style residential condominium units with underground utilities and access drive.

7. ARE MUNICIPAL SERVICES AVAILABLE? (YES/NO) Yes

If yes, Water and Sewer Superintendent must grant written approval for connection.
If no, septic system must comply with W.S.P.C.C. requirements.

8. LIST ALL MAPS, PLANS AND OTHER ACCOMPANYING MATERIAL SUBMITTED WITH THIS APPLICATION:

<u>ITEM:</u>	<u>NUMBER OF COPIES</u>
A. _____	
B. _____	
C. <u>See Transmittal Letter</u>	
D. _____	
E. _____	
F. _____	

9. ANY DEED RESTRICTIONS AND COVENANTS THAT APPLY OR ARE CONTEMPLATED (YES/NO) No IF YES, ATTACH COPY.

10. NAME AND PROFESSION OF PERSON DESIGNING PLAN:

NAME: Beals Associates, PLLC - Christian O Smith, PE

ADDRESS: 70 Portsmouth Avenue, Third Floor, Stratham, NH 03885

PROFESSION: Civil Engineer TELEPHONE: (603) 583-4860

11. LIST ALL IMPROVEMENTS AND UTILITIES TO BE INSTALLED:

6 townhouse style residential condominium units (3 units in 2 buildings). Underground electric, cable, gas, drainage, and water services are proposed along with a sewer connection to the main in Portsmouth Avenue for disposal.



12. HAVE ANY SPECIAL EXCEPTIONS OR VARIANCES BEEN GRANTED BY THE ZONING BOARD OF ADJUSTMENT TO THIS PROPERTY PREVIOUSLY?

IF YES, DESCRIBE BELOW. (Please check with the Planning Department Office to verify)

- Article 4, Section 4.4, Schedule III: Front setback less than required 50' to 9'
- Article 4, Section 4.4, Schedule III: Side setback less than required 20' to 7.7'
- Article 4, Section 4.4, Schedule III: Rear setback less than required 50' to 8.7'
- Article 4, Section 4.4, Schedule III: Density less than 5,000 sf /unit to 1,960 sf
- Article 4, Section 4.4, Schedule III: Buidling coverage of 36.7% where 30% maximum is required.

13. WILL THE PROPOSED PROJECT INVOLVE DEMOLITION OF ANY EXISTING BUILDINGS OR APPURTENANCES? IF YES, DESCRIBE BELOW.

(Please note that any proposed demolition may require review by the Exeter Heritage Commission in accordance with Article 5, Section 5.3.5 of the Exeter Zoning Ordinance).

No

14. WILL THE PROPOSED PROJECT REQUIRE A “NOTICE OF INTENT TO EXCAVATE” (State of NH Form PA-38)? IF YES, DESCRIBE BELOW.

No

NOTICE: I CERTIFY THAT THIS APPLICATION AND THE ACCOMPANYING PLANS AND SUPPORTING INFORMATION HAVE BEEN PREPARED IN CONFORMANCE WITH ALL APPLICABLE REGULATIONS; INCLUDING BUT NOT LIMITED TO THE “SITE PLAN REVIEW AND SUBDIVISION REGULATIONS” AND THE ZONING ORDINANCE. FURTHERMORE, IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 15.2 OF THE “SITE PLAN REVIEW AND SUBDIVISION REGULATIONS”, I AGREE TO PAY ALL COSTS ASSOCIATED WITH THE REVIEW OF THIS APPLICATION.

DATE 1-27-2025 OWNER’S SIGNATURE Christian O Smith for Blake Properties of NH (see attached Letter of Auth.)

ACCORDING TO RSA 676.4.I (c), THE PLANNING BOARD MUST DETERMINE WHETHER THE APPLICATION IS COMPLETE WITHIN 30 DAYS OF SUBMISSION. THE PLANNING BOARD MUST ACT TO APPROVE, CONDITIONALLY APPROVE, OR DENY AN APPLICATION WITHIN SIXTY FIVE (65) DAYS OF ITS ACCEPTANCE BY THE BOARD AS A COMPLETE APPLICATION. A SEPARATE FORM ALLOWING AN EXTENSION OR WAIVER TO THIS REQUIREMENT MAY BE SUBMITTED BY THE APPLICANT.



SITE PLAN REVIEW APPLICATION CHECKLIST

A COMPLETED APPLICATION FOR SITE PLAN REVIEW MUST CONTAIN THE FOLLOWING

1. Application for Hearing (✓)
2. Abutter's List Keyed to Tax Map (including the name and business address of every engineer, architect, land surveyor, or soils scientist whose professional seal appears on any plan submitted to the Board) (✓)
3. Completed- "Checklist for Site Plan Review" (✓)
4. Letter of Explanation (✓)
5. Written Request for Waiver (s) from "Site Plan Review and Subdivision Regulations" (if applicable) (✓)
6. Completed "Preliminary Application to Connect and /or Discharge to Town of Exeter- Sewer, Water or Storm Water Drainage System(s)"(if applicable) (✓)
7. Planning Board Fees (✓)
8. Seven (7) full-sized copies of Site Plan (✓)
9. Fifteen (15) 11"x17" copies of the final plan to be submitted **TEN DAYS PRIOR** to the public hearing date. (✓)
10. Three (3) pre-printed 1"x 2 5/8" labels for each abutter, the applicant and all consultants. (✓)

NOTES: All required submittals must be presented to the Planning Department office for distribution to other Town departments. Any material submitted directly to other departments will not be considered.

LETTER OF AUTHORIZATION

I, Gary Blake owner of Blake Properties of NH, and the property located at 57 Portsmouth Avenue, Exeter, NH, (Tax Map 65, Lot 137), do hereby authorize Beals Associates, PLLC, of 70 Portsmouth Avenue, Stratham, NH, to act on my behalf in all matters to be discussed at the Exeter Planning Board hearings, other Land Use Board approval hearings, or State Permitting Agencies concerning the property previously mentioned.

I hereby appoint Beals Associates, PLLC to act on my behalf in the permitting process.

Shawna Fournier
Witness

Gary Blake 10.25.24
Owner Date



SITE PLAN REQUIREMENTS

7.4 Existing Site Conditions Plan

Submission of this plan will not be applicable in all cases. The applicability of such a plan will be considered by the TRC during its review process as outlined in Section 6.5 Technical Review Committee (TRC) of these regulations. The purpose of this plan is to provide general information on the site, its existing conditions, and to provide the base data from which the site plan or subdivision will be designed. The plan shall show the following:

APPLICANT	TRC	REQUIRED EXHIBITS
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.1 Names, addresses, and telephone numbers of the owner, applicant, and person(s) or firm(s) preparing the plan.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.2 Location of the site under consideration, together with the current names and addresses of owners of record, of abutting properties and their existing land use.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.3 Title, date, north arrow, scale, and Planning Board Case Number.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.4 Tax map reference for the site under consideration, together with those of abutting properties.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.5 Zoning (including overlay) district references.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.6 A vicinity sketch or aerial photo showing the location of the land/site in relation to the surrounding public street system and other pertinent location features within a distance of 2,000-feet, or larger area if deemed necessary by the Town Planner.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.7 Natural features including watercourses and water bodies, tree lines, significant trees (20-inches or greater in diameter at breast height) and other significant vegetative cover, topographic features, and any other environmental features that are important to the site design process.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.8 Man-made features such as, but not limited to, existing roads, structures, and stone walls. The plan shall also indicate which features are to be retained and which are to be removed or altered.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.9 Existing contours at intervals not to exceed 2-feet with spot elevations provided when the grade is less than 5%. All datum provided shall reference the latest applicable US Coast and Geodetic Survey datum and should be noted on the plan.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.10 A High Intensity Soil Survey (HISS) of the entire site, or appropriate portion thereof. Such soil surveys shall be prepared by a certified soil scientist in accordance with the standards established by the Rockingham County Conservation District. Any cover letters or explanatory data provided by the certified soil scientist shall also be submitted.



<input checked="" type="checkbox"/> N/A	<input type="checkbox"/>	7.4.11 State and Federally designated wetlands, setback information, total wetlands proposed to be filled, other pertinent information and the following wetlands note: "The landowner is responsible for complying with all applicable local, state, and federal wetlands regulations, including any permitting and setback requirements required under these regulations."
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.12 Surveyed property lines including angles and bearings, distances, monument locations, and size of the entire parcel. A professional land surveyor licensed in New Hampshire must attest to said plan.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.13 The lines of existing abutting streets and driveway locations within 200-feet of the site.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.14 The location, elevation, and layout of existing catch basins and other surface drainage features.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.15 The shape, size, height, location, and use of all existing structures on the site and approximate location of structures within 200-feet of the site.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.16 The size and location of all existing public and private utilities, including off-site utilities to which connection is planned.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.17 The location of all existing easements, rights-of-way, and other encumbrances.
<input checked="" type="checkbox"/> N/A	<input type="checkbox"/>	7.4.18 All floodplain information, including the contours of the 100-year flood elevation, based upon the Flood Insurance Rate Map for Exeter, as prepared by the Federal Emergency Management Agency, dated May 17, 1982.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.19 All other features which would fully explain the existing conditions of the site.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.20 Name of the site plan or subdivision.



7.5 Proposed Site Conditions Plan (Pertains to Site Plans Only)

The purpose of this plan is to illustrate and fully explain the proposed changes taking place within the site. The proposed site conditions plan shall depict the following:

APPLICANT	TRC	REQUIRED EXHIBITS
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.1 Proposed grades and topographic contours at intervals not to exceed 2-feet with spot elevations where grade is less than 5%. All datum provided shall reference the latest applicable US Coast and Geodetic Survey datum and should be noted on the plan.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.2 The location and layout of proposed drainage systems and structures including elevations for catch basins.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.3 The shape, size, height, and location of all proposed structures, including expansion of existing structures on the site and first floor elevation(s). Building elevation(s) and a rendering of the proposed structure(s).
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.4 High Intensity Soil Survey (HISS) information for the site, including the total area of wetlands proposed to be filled.
<input type="checkbox"/> N/A	<input type="checkbox"/>	7.5.5 State and Federally designated wetlands, setback information, total wetlands proposed to be filled, other pertinent information and the following wetlands note: "The landowner is responsible for complying with all applicable local, state, and federal wetlands regulations, including any permitting and setback requirements required under these regulations."
<input type="checkbox"/> N/A	<input type="checkbox"/>	7.5.6 Location and timing patterns of proposed traffic control devices.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.7 The location, width, curbing and paving of all existing and proposed streets, street rights-of-way, easements, alleys, driveways, sidewalks and other public ways. The plan shall indicate the direction of travel for one-way streets. See Section 9.14 – Roadways, Access Points, and Fire Lanes for further guidance.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.8 The location, size and layout of off-street parking, including loading zones. The plan shall indicate the calculations used to determine the number of parking spaces required and provided. See Section 9.13 – Parking Areas for further guidance.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.9 The size and location of all proposed public and private utilities, including but not limited to: water lines, sewage disposal facilities, gas lines, power lines, telephone lines, cable lines, fire alarm connection, and other utilities.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.10 The location, type, and size of all proposed landscaping, screening, green space, and open space areas.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.11 The location and type of all site lighting, including the cone(s) of illumination to a measurement of 0.5-foot-candle.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.12 The location, size, and exterior design of all proposed signs to be located on the site.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.13 The type and location of all solid waste disposal facilities and accompanying screening.



<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.14 Location of proposed on-site snow storage.
<input type="checkbox"/> N/A	<input type="checkbox"/>	7.5.15 Location and description of all existing and proposed easement(s) and/or right-of-way.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.16 A note indicating that: "All water, sewer, road (including parking lot), and drainage work shall be constructed in accordance with Section 9.5 Grading, Drainage, and Erosion & Sediment Control and the Standard Specifications for Construction of Public Utilities in Exeter, New Hampshire". See Section 9.14 Roadways, Access Points, and Fire Lanes and Section 9.13 Parking Areas for exceptions.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.17 Signature block for Board approval

OTHER PLAN REQUIREMENTS (See Section indicated)

- N/A 7.7 Construction plan
- 7.8 Utilities plan
- 7.9 Grading, drainage and erosion & sediment control plan
- 7.10 Landscape plan
- 7.11 Drainage Improvements and Storm Water Management Plan
- N/A 7.12 Natural Resources Plan
- N/A 7.13 Yield Plan

**ABUTTERS LIST
FOR
NH- 1535 EXETER, NH - STONEARCH
DATE JANUARY 23, 2025**

SUBJECT PARCEL

TAX MAP/LOT

65-137

OWNER OF RECORD

BLAKE PROPERTIES OF NH LLC
PO BOX 368
NEWFIELDS, NH 03856

ABUTTERS

TAX MAP/LOT

65-136

OWNER OF RECORD

CHATHAM EXETER HAS LLC
C/O CHATHAM LODGING TRUST
222 LAKEVIEW AVE SUITE 200
WEST PALM BEACH FL. 33401

65-138

KIMBERLY MONTGOMERY
14 HIGHLAND ST.
EXETER, NH 03833

65-138-1

RACHEL TRABELSI
12 HIGHLAND ST.
EXETER, NH 03833

65-139

J&M EVERGREEN REALTY TRUST
MA KEN TRUSTEE
55 PORTSMOUTH AVE.
EXETER, NH 03833

65-112

EXETER MOBIL REALTY TRUST
YOGENDRA PATEL TRUSTEE
2 REGENCY RIDGE
ANDOVER, MA 01810

65-113

GROUP 1 REALTY INC.
800 GESSNER SUITE 500
HOUSTON, TX 77024

65-114

BANK OF AMERICA
CORP REAL ESTATE ASSESSMENTS
PO BOX 32547
CHARLOTTE, NC 28232

**ABUTTERS LIST
FOR
NH- 1535 EXETER, NH - STONEARCH
DATE JANUARY 23, 2025**

PROFESSIONALS

ENGINEERING FIRM

BEALS ASSOCIATES, PLLC.
70 PORTSMOUTH AVE. 3RD FLOOR
STRATHAM, NH 03885

WETLANDS & SOILS

GOVE ENVIRONMENTAL SERVICES
8 CONTINENTAL DRIVE, UNIT H
EXETER, NH 03833

DEVELOPER

STONEARCH DEVELOPMENT
42 DOVER PT RD UNIT J
DOVER, NH 03820



TOWN OF EXETER, NEW HAMPSHIRE

10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 • FAX 772-4709

www.exeternh.gov

DATE: January 1, 2024
TO: Applicants
FROM: Planning & Building Department
RE: Preliminary Application to Connect and/or Discharge to Town of Exeter Sewer, Water and/or Storm Drainage System(s)

Attached is the “Preliminary Application to Connect and/or Discharge to Town of Exeter Sewer, Water or Storm Water Drainage System(s)”. This Application form must be completed by the applicant or the applicant’s authorized agent for projects that are subject to Planning Board approval or for a change of use. It is a prerequisite for submission of the “Applications for Sewer Service, Water Service and Storm Drainage Work.” All of the application forms referenced above must be completed and approved prior to the issuance of a building permit. This application is intended to address a number of different scenarios and therefore, all sections may not be applicable to your particular situation. Please read the application carefully and fill out as completely as possible. If there are any questions, please feel free to contact the Planning and Building Department Offices. All forms must be submitted to the Planning and Building Department Office for review and distribution.

Please Note: Any approval(s) granted in conjunction with this application will be valid for a period of one (1) year from the date of such approvals(s).

SECTION A: PROPOSED NEW CONNECTIONS OR MODIFICATION OF EXISTING CONNECTIONS

SANITARY SEWER

Description of work _____

Title of plan _____

Total design flow (gpd) _____

**For any non-residential discharge or residential discharge exceeding 5,000 GPS, or for a change of use, complete Section C of this form.*

Approved _____ Date _____
Water & Sewer Managing Engineer

WATER

Description of work _____

Title of plan _____

Total design flow (gpd) _____

Approved _____ Date _____
Water & Sewer Managing Engineer

STORMWATER

Description of work _____

Title of plan _____

Total design flow
(10-year storm, CFS) _____

Approved _____ Date _____
Highway Superintendent

APPROVALS ARE VALID FOR PERIOD OF ONE (1) YEAR FROM DATE OF APPROVAL

SECTION B: IMPACT FEES

Provide the following information to determine if a water and/or sewer impact fee will be required for a new development or a change or increase in use.

Current/prior Use(s)

Describe current use(s) _____

<u>Use</u>	<u>Unit Flow (gpd)</u>	<u>Total Existing Flow</u>
Total existing flow		<u>0</u>

Proposed Use(s)

Describe proposed use(s) _____

<u>Use</u>	<u>Unit Design Flow (gpd)</u>	<u>Total Design Flow</u>
<u>6 3-BR units</u>	<u>450</u>	<u>2,700</u>
Total proposed flow		<u>2,700</u>

Impact Fees (80% of the design flow)

Change in flow rate (gpd) 2,700 x 0.8 = Impact Fee flow rate (gpd) 2,160

If there is a decrease in flow rates, no water or sewer impact fee will be charged. If there is an increase in flow rates, a water and/or sewer impact fee will be charged using the following formula:

Sewer Impact Fee: Flow increase (gpd) 2,160 x \$1.81= _____

Water Impact Fee: Flow increase (gpd) 2,160 x \$3.74 = _____

Approved by Town of Exeter

Town Planner _____ Date _____
Water & Sewer Managing Engineer _____ Date _____

APPROVALS ARE VALID FOR PERIOD OF ONE (1) YEAR FROM DATE OF APPROVAL

SECTION C: SANITARY SEWER CLASSIFICATION AND BASELINE MONITORING

(NON-RESIDENTIAL DISCHARGES OR RESIDENTIAL DISCHARGE OVER 5,000 GPD)

In accordance with Title 40 of the Code of Federal Regulations, Part 403 Section 403.14, information provided herein shall be available to the public without restriction except as specified in 40 CFR Part 2. A discharge permit will be issued on the basis of the information provided in this section.

In accordance with all terms and conditions of the Town of Exeter, New Hampshire Ordinances Chapter 15, all persons discharging wastewater into the town’s facilities shall comply with all applicable federal, state, and local Industrial Pre-treatment rules.

PART I - USER INFORMATION

Property Owner Name _____

Owner’s Representative _____

Address _____

Phone _____ email _____

Tenant Name _____

Address _____

Phone _____ email _____

PART II - PRODUCT OR SERVICE INFORMATION

Products Manufactured _____

Services Provided _____

SIC Code(s) _____ Building Area (SF) _____

Number of Employees _____ Days/week of operation _____ Shifts per day _____

PART III - CATEGORY OF SEWER DISCHARGE

Type of Discharge Septic Proposed Existing Change of Use

Water Use (gpd) _____ (from Section A)

Check all that apply:

- Domestic waste only (toilets & sinks)
- Domestic waste plus some process wastewater
- Federal pre-treatment standards (40 CFR) applies

PART IV - CLASSIFICATION DETERMINATION

(to be completed by Town staff)

CLASS 1 - SIGNIFICANT OR CATEGORICAL INDUSTRIAL USER _____

CLASS 2 - MINOR INDUSTRIAL OR COMMERCIAL USER _____

CLASS 3 - INSIGNIFICANT INDUSTRIAL OR COMMERCIAL USER _____

CLASS 4 - NON-SYSTEM USER, OR DISCONTINUED SERVICE _____

See attached sheet for the basis of the determination.

Determined by _____ Title _____ Date _____

Approved _____ Date _____

Water & Sewer Managing Engineer

PART V - CERTIFICATION

I have personally examined and am familiar with the information submitted in this section for the above name use. The information provided is true, accurate and complete. I am aware that there are significant penalties from federal, state and/or town regulatory agencies for submitting false information, including the possibility of fine and/or imprisonment.

I acknowledge and agree to pay all charges incurred for monitoring, testing and subsequent analysis performed on the Town of Exeter sewer, water and/or stormwater drainage system(s), in the course of determining the town's ability to serve the project. Further, I acknowledge and agree that failure to accurately declare said flow requirements shall be sufficient cause to deny access to the Town of Exeter sewer, water and/or stormwater drainage system(s).

Signature of Applicant John O'Neill Date _____

Name of Property Owner _____

APPROVALS ARE VALID FOR PERIOD OF ONE (1) YEAR FROM DATE OF APPROVAL



January 28, 2025
Chairman
Town of Exeter Planning Board
10 Front Street
Exeter, NH 03833

RE: Proposed Residential Development at 57 Portsmouth Avenue – Waiver Requests
Tax Map 65 Lot #: 137

Dear Members of the Board:

This is written to formalize a request for two waivers specific to the design for the referenced subdivision application.

Your petitioner seeks the following relief:

1. We respectfully request a waiver to the Town of Exeter's Site Plan Review and Subdivision Regulations Section 9.14.9 which requires a 24-foot-wide access points and fire lanes to multi-family developments. This requirement can be waived based upon the review and recommendation of the Exeter Department of Public Works.

We feel the waiver is justified as:

- 13.7.1 The proposed design provide adequate access for the Town of Exeter's Aerial Ladder Truck (see Sheet 12) and the reduced width will decrease stormwater flow from the driveway due to the reduction of impervious area. Therefore, granting of the waiver will not be detrimental to public safety, health, or welfare, nor could it be deemed injurious to other property.
- 13.7.2 The conditions upon which this request is made expressly due to the fact that the proposed development access to Portsmouth Avenue is in the same location as the existing access. The existing curb cut is being utilized and is unique to the parcel/proposal and not generally applicable to other properties.
- 13.7.3 Due to the location of the curb cut for the existing driveway, the proposed driveway was placed in the same location. This would result in a hardship if the strict letter of the regulations is carried out as it would add needless impervious area to the development where access for all potential emergency response vehicles is provided with the proposed reduced width drive without potential conflict.
- 13.7.4 The waiver would not be contrary to the spirit and intent of the regulations as the proposed development will result in adequate width for cars to pass each other in

opposite directions as well as the Town of Exeter's largest fire truck (the aerial ladder truck) to maneuver into and out of the property.

13.7.5 The proposed waiver does not propose to vary the provisions of the Zoning Ordinance or Master Plan. This is demonstrated by the facts cited above, particularly the fact that sufficient fire access will be provided as part of this proposed development.

2. We respectfully request a waiver to the Town of Exeter's Site Plan Review and Subdivision Regulations Section 9.3.6.4 which restricts grading within 5 feet of any exterior property line.

We feel the waiver is justified as:

13.7.1 The proposed design provides adequate space to work between the proposed disturbance and the property line of the commercial property, therefore granting of the waiver will not be detrimental to public safety, health, or welfare, nor could it be deemed injurious to other property.

13.7.2 The conditions upon which this request is made expressly due to the fact that the proposed development access to Portsmouth Avenue is in the same location as the existing access. The existing curb cut is being utilized and is unique to the parcel/proposal and not generally applicable to other properties.

13.7.3 Due to the location of the curb cut for the existing driveway, the proposed driveway was placed in essentially the same location. This would result in a hardship if the strict letter of the regulations is carried out as it would be illogical to move the drive further west off the existing drive location. Care will be taken to ensure no disturbance to the abutting property, and adequate screening will be maintained to the extent possible.

13.7.4 The waiver would not be contrary to the spirit and intent of the regulations as the proposed development will result in adequate width for construction to take place without causing harm to abutting commercial property.

13.7.5 The proposed waiver does not propose to vary the provisions of the Zoning Ordinance or Master Plan. This is demonstrated by the facts cited above, as well as the fact that no structures are to be located within 5-feet of the property line.

Thank you for your consideration.
Very truly yours,
BEALS ASSOCIATES, PLLC

Christian O Smith

Christian O. Smith, PE
Principal

John P. Hayes III CSS, CWS
7 Limestone Way
North Hampton, NH 03862
Phone: 603-205-4396
johnphayes@comcast.net

12/9/24

Chris Berry
Berry Surveying and Engineering
335 Second Crown Point Road
Barrington NH 03825

12/9/24

Site Evaluation for Wetlands
Map 65 Lot 137
57 Portsmouth Avenue Exeter, NH

Dear Chris,

This letter is to report the results of a site evaluation for wetlands that was performed by John P. Hayes on the above mentioned property, on December 9, 2024. The parcel is located on the southeast side of Portsmouth Avenue, northwest of Highland Street, and southwest of Alumni Drive, in Exeter, NH. The lot is approximately 0.3 acres in size. The results of the wetland evaluation of this property, and the surrounding area, were that no jurisdictional wetlands, or areas of poorly drained soil, were found on the lot, or within 100 feet of any of the properties boundary lines. Please feel free to contact me if you have any questions, or I can be of any further assistance.

Sincerely,

John P. Hayes III



John P. Hayes III CSS, CWS

3125.00

February 18, 2025

Mr. David Sharples, Town Planner
Town Planning Office, Town of Exeter
10 Front Street
Exeter, NH 03833

Re: *57 Portsmouth Avenue Residential Development
Design Review Engineering Services
Exeter, New Hampshire*

Site Information:

Tax Map/Lot#: 65 / 137
Address: 57 Portsmouth Avenue
Lot Area: 0.27 ac
Zoning District: C2 Highway Commercial
Proposed Use: Residential
Water: Municipal
Sewer: Municipal
Applicant: Stonearch Development
Design Engineer: Beals Associates

Review No. 1

Documents Reviewed:

- Site plan set entitled "Residential Site Plan 57 Portsmouth Avenue" last revised 1/28/2025, prepared by Beals Associates
- "Drainage Analysis & Sediment and Erosion Control Plan" dated 1/28/2025, prepared by Beals Associates

Dear Mr. Sharples:

Based on our review of the above information, we offer the following in accordance with the Town of Exeter Regulations and standard engineering practice.

Plan Sheets

1. UE notes the project has been granted relief from the Zoning Board for a number of setback conditions, add the effective front, side, and rear setback lines for the project.

Mr. Sharples

February 18, 2025

2. Architectural drawings were not provided with the submission, however renderings were. UE notes that the renderings:
 - Do not match the building footprints. Revise, as appropriate, such that exact footprints, including front and rear porches and balconies, including posts, are accurately depicted on the plans.
 - Do not depict the embankment to remain off Unit C's northwesterly corner.
3. As shown, the retaining wall along the back and side of units D through F appears to be the building foundation, rather than a separate wall. Please clarify.
4. The front corner and side of Unit D is exposed to vehicle impact.
5. The width of the driveway entrance at the back of the sidewalk is approximately 40'. The fire truck turning template indicates it can likely still make the turn if it reduced to approximately 30' wide.
6. Will a mail kiosk or dumpster be required?
7. Connection to the municipal drainage system is prohibited per Town regulations.
8. It appears the existing stone wall along the backside of the sidewalk along Portsmouth Avenue will remain?
9. Is blasting anticipated for the work at the slopes on the side and rear of the site?
10. The retaining walls appear to hold back as much as 16' of earth with 10' being required for much of the proposed use. The retaining wall will need to be designed by a professional engineer in the State of New Hampshire.
11. We note retaining walls are proposed as close as 4' from the property line and the guy pole supporting Utility Pole 14. Final design of retaining walls often occurs (by others) closer to the time of construction. Due to the proximity of the abutting parcel, the dimensions of the structural elements (and future maintenance) required of the proposed retaining wall need to be considered as part of the overall design approval.
12. Update clearing limits to reflect practical construction needs.
13. A constructed drainage conveyance from the high point off the south corner of Unit F is needed to facilitate a controlled passage of run-off, both:
 - Northwesterly along the retaining wall to relief off of Unit C's northwest corner, and
 - Northeasterly along the rear of Building 1 to relief off of Unit D's southeasterly corner.
14. Indicate a potential concrete washout pit location.



Mr. Sharples

February 18, 2025

15. UE notes the sprinkler rooms for each building. That being the case, a 6" main is considerably larger than needed and may suffer stagnation from time to time if insufficient water isn't circulating through it.
16. Consider bringing one gravity sewer line into the drive aisle between the buildings and bringing the sewer services from both buildings out to it rather than the two lateral sewer lines with clean-outs as proposed.
17. Label the invert at the sewer cleanouts at the end of each of the service runs.
18. Please add a note that existing water and sewer services must be abandoned at the main by a contractor properly licensed by Exeter Public Works. In addition, specifically label the existing water and sewer connections to be abandoned.
19. Please add a note to direct the Contractor to coordinate traffic control with the Town prior to any work within Portsmouth Avenue and to coordinate bypass pumping of the sewer during installation of the new manhole.
20. Label the size and material of the existing sewer main in Portsmouth Avenue.

Truck Turning Plan

21. The turn into the driveway is a tight fit. Consideration of a mountable type of curb instead of vertical granite curb may be prudent for this location.
22. The truck can only turn around and drive out if the 2 parking spaces next to Unit D are empty.

Details

23. Add details as appropriate to:
 - Address comment 14 above,
 - Address Comment 22 above.

Drainage Analysis

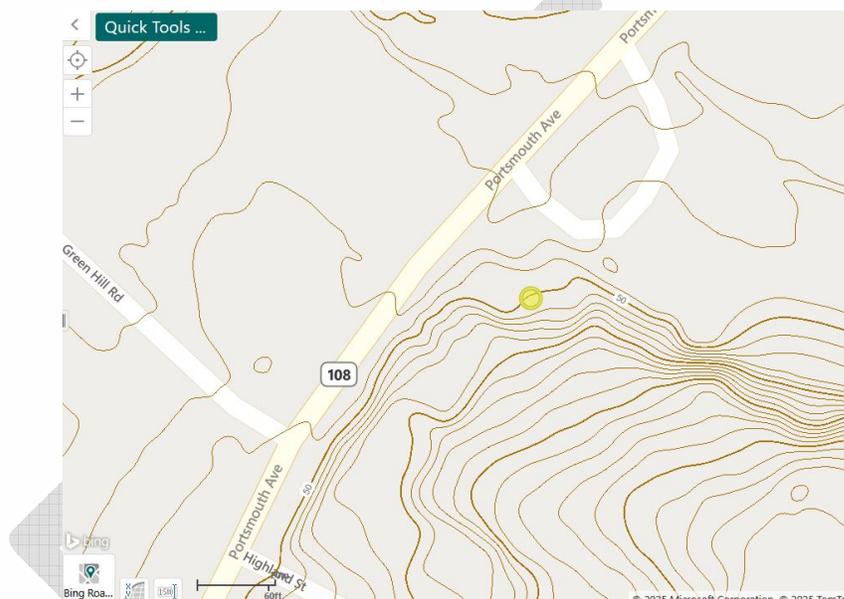
24. No stormwater detention or treatment is proposed for the project.
25. Onsite treatment of stormwater is required per Exeter regulations 9.3.2.....
26. No increase in stormwater leaving the site is allowed per Exeter regulations 9.3.2.....
27. Post- volume and flowrate exceed the pre- values for all evaluated storms. No onsite infiltration or storage is proposed. Almost all run-off flows toward the Town's ROW with most of it piped directly to the Town's drainage system in Portsmouth Ave.
28. The drainage report states the increase in flow leaving the stie would have no impact on the Town's system. Provide information/data to support this statement.



Mr. Sharples

February 18, 2025

29. A WQV storm model is typically the rainfall event needed to produce the equivalent of 1" of runoff over the drainage area, the precise rainfall varies based on the site specifics, but is typically between 1.6 and 1.9 inches for Urban B/C areas.
30. In reviewing the southeasterly limits of the subcatchment(s), UE notes that the slopes continue far beyond the study area. We acknowledge that the image below represents a macro-view of the area, but if the site is going to direct onsite and offsite drainage to Exeter's drainage system, the area needs to be delineated and the conveyance designed accordingly.



31. **PTAP Database:** The Applicant is requested to enter project related stormwater tracking information contained in the site plan application documents using the Great Bay Pollution Tracking and Accounting Program (PTAP) database (www.unh.edu/unhsc/ptapp).

A written response is required to facilitate future reviews. Please contact us if you have any questions.

Very truly yours,
UNDERWOOD ENGINEERS, INC.

Allison M. Rees, P.E. (NH)
Project Manager

Robert J. Saunders, P.E. (NH, ME, VT, PA)
Project Manager





TOWN OF EXETER, NEW HAMPSHIRE

10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 • FAX 772-4709

www.exeternh.gov

November 20, 2024

Christian O. Smith, P.E., Principal
Beals Associates PLLC
70 Portsmouth Avenue, 3rd Floor
Stratham, New Hampshire 03885

Re: Zoning Board of Adjustment Case #24-10 - Variance Request
57 Portsmouth Avenue, Exeter, N.H.
Tax Map Parcel #65-137

Dear Mr. Smith:

This letter will serve as official notice that the Zoning Board of Adjustment, at its November 19th, 2024 meeting, vote to approve your client's application for a variance from Article 4, Section 4.4 seeking relief from the required minimum front, side and rear setbacks, the minimum density (lot area/unit) requirement and maximum building coverage requirement for the proposed residential development of the property located at 57 Portsmouth Avenue, as presented.

Please be advised that in accordance with Article 12, Section 12.4 of the Town of Exeter Zoning Ordinance entitled "Limits of Approval" that all approvals granted by the Board of Adjustment shall only be valid for a period of three (3) years from the date such approval was granted; therefore, should substantial completion of the improvements, modifications, alterations or changes in the property not occur in this period of time, this approval will expire.

If you should have any questions, please do not hesitate to contact the Building Department office at (603) 773-6112.

Sincerely,

Esther Olson-Murphy
Chairwoman
Exeter Zoning Board of Adjustment

cc: John O'Neill, Stonearch Development Corp., Applicant
Blake Properties of NH, LLC, property owner
Douglas Eastman, Building Inspector/Code Enforcement Officer
Janet Whitten, Town Assessor
Dave Sharples, Town Planner

EOM: bsm

Town of Exeter
Zoning Board of Adjustment
November 19, 2024, 7 PM
Town Offices Nowak Room
Draft Minutes

1
2
3
4
5
6
7 **I. Preliminaries**

8 **Members Present:** Chair Esther Olson-Murphy, Vice-Chair Theresa Page, Robert Prior,
9 Martha Pennell - Alternate, and Laura Montagno - Alternate.

10
11 **Members Absent:** Clerk Laura Davies, Kevin Baum, Mark Lemos - Alternate

12
13 **Call to Order:** Chair Esther Olson-Murphy called the meeting to order at 7 PM.

14
15 **I. New Business**

16 A. The application of 163 Water C-2, LLC for a variance from Article 5, Section 5.6.3
17 and 5.6.6 OffStreet Parking Schedule to permit no off-street parking to be
18 provided where 14 spaces are required for a proposed change in use from a
19 retail use to a restaurant use. The subject property is located at 163 Water
20 Street, Unit C-2, in the WC-Waterfront Commercial zoning district. Tax Map
21 Parcel #72-17-2. ZBA Case #24-8.

22 Attorney Briana Matuszco of DTC Lawyers spoke on behalf of applicant
23 163 Water C-2 LLC and its owner Anthony Callendrello. Justin Corriss, the
24 manager of Vino e Vivo and of the proposed new establishment at 163 Water
25 Street, was also present.

26 Attorney Matuszco said the applicant proposes to operate a restaurant at
27 163 Water Street, currently the location of Paws Pet Boutique, whose lease runs
28 out at the end of January 2025. The space is directly above Vine e Vivo, and the
29 new restaurant would be part of Vino e Vivo's license and corporate structure;
30 they would be operating as a single entity. The restaurant will have 40 seats and
31 will be open Tuesday - Thursday from 5 to 10 PM and Friday and Saturday from
32 5 to 11 PM. The restaurant will have 5-6 employees. There will be no live music
33 and they will strictly enforce last call and a hard out. The applicant intends to
34 restore the historic nature of the space, and construction is slated to begin in
35 March. The proposed opening of the restaurant is in July 2025. The applicant is
36 seeking variance relief to permit no off-street parking where 14 spaces are
37 required. The proposed use does not have enough off-street parking to comply
38 with the zoning ordinances. The property is currently grandfathered for [relief in
39 the amount of] 5 spaces. The zoning requires 14 spaces, so the applicant is
40 requesting relief for 9 spaces.

41 Attorney Matuszco went through the variance criteria. 1) The variance will
42 not be contrary to the public interest and 2) The spirit of the ordinance will be
43 observed; yes, this will not change the essential character of the locality, which is
44 a mixed retail, office, and residential use, located on a busy main street with free

220 Ms. Page made a motion to approve the application of Stonearch Development Corp. for
221 a variance from Article 4, Section 4.3 to permit a minor subdivision of the property
222 located at 12A Little River Road with less than the required lot frontage (width) and with
223 frontage on a private right-of-way. The subject property is located in the R-2, Single
224 Family Residential zoning district. Tax Map Parcel #62-90-1. ZBA Case #24-9, as
225 presented, with the condition that sufficient screening be provided between lot 1 and the
226 abutter. Mr. Prior seconded; he suggested the term "additional" in place of "sufficient"
227 screening.

228 Mr. Prior moved to amend the motion by removing the word "sufficient" and
229 replacing it with the word "additional. Ms. Pennell seconded. Ms. Olson-Murphy,
230 Ms. Page, Mr. Prior, Ms. Pennell, and Ms. Montagno voted aye. The motion
231 passed 5-0.

232 On the amended motion, Ms. Olson-Murphy, Ms. Page, Mr. Prior, Ms. Pennell, and Ms.
233 Montagno voted aye. The motion passed 5-0.

234
235 Mr. Smith mentioned that Mr. O'Neal is already working with that abutter.
236 That was a big tangled mess of invasive weeds and the neighbor has been
237 thrilled that Mr. O'Neal has been working with him on it.
238

- 239 C. The application of Stonearch Development Corp. for variances from Article 4.
240 Section 4.4 seeking relief from the required minimum front, side and rear
241 setbacks, the minimum density (lot area/unit) requirement and maximum building
242 coverage requirement for the proposed residential development of the property
243 located at 57 Portsmouth Avenue. The subject property is located in the C-2,
244 Highway Commercial zoning district. Tax Map Parcel #65-137. ZBA Case #24-
245 10.

246 Christian Smith of Beals Associates spoke on behalf of John O'Neal of
247 Stonearch Development. Mr. Smith said this property is just south of the
248 Hampton Inn. The existing conditions plan depicts where the house was, but it's
249 now a vacant lot. The applicant is looking to create two triplex buildings on the
250 lot, which creates a lot of requests for relief due to the size and shape of the
251 parcel. This would be a residential condominium development. The driveway
252 entrance will use the existing curb cut on Portsmouth Avenue. It will have
253 municipal water and sewer service, with closed drainage tying into the existing
254 town drainage system.

255 Mr. Smith went through the variance criteria. 1) The variance will not be
256 contrary to the public interest; yes, the proposed development will provide
257 alternative housing opportunities to single-family residents and will provide
258 additional tax revenue to the municipality. The proposed layout provides parking
259 behind the building, which will result in a much-improved view from Portsmouth
260 Ave as opposed to if the parking were in the front. The setbacks and density are
261 not within the letter of the ordinance, but this type of housing is supported in the
262 Master Plan. 2) The spirit of the ordinance will be observed; yes, the access to

263 the multi-family district and off-street parking are a permitted use, and multi-
264 family residential use is permitted by special exception. The property was
265 formerly a single-family residential dwelling. 3) Substantial justice is done; yes,
266 there is no gain to the general public that would outweigh the loss to the
267 developer that would result from a strict adherence to the setback and density
268 requirements of the C2 zone, which are targeted at commercial developments.
269 The Master Plan supports this type of housing in this area on Portsmouth
270 Avenue. 4) The value of surrounding properties will not be diminished; yes, the
271 surrounding properties would be enhanced by the addition of quality triplexes that
272 would enhance the street view of the current vacant lot. Enhanced screening and
273 vegetation to the surrounding properties will be provided through the Planning
274 Board site review application. This will provide privacy for abutting parcels as well
275 as the residents of the townhouse units. 5) Literal enforcement of zoning
276 ordinance will result in an unnecessary hardship; yes, due to the size and shape
277 of the parcel, the building envelope would be 828 square feet if the setbacks
278 were applied. These provisions are generally applied to commercial development
279 and need not apply to residential townhouse units. The parcel is in close
280 proximity to the C1 district, and those provisions would eliminate much of the
281 relief needed. The proposed use and density are reasonable in light of the fact
282 that the parcel is served by water and sewer services.

283 Mr. Prior said the density seems pretty significant. This is a lot with a
284 significant slope, are they going to dig it out and add a retaining wall? Mr. Smith
285 said yes, the back building would be drive-under garages and the front would be
286 at-grade garages. Each of these units would have a garage at ground level, so
287 the back hill would need to be cut into with a retaining wall. That would be slab
288 on grade. There would be a retaining wall/frost wall for the foundation.

289 Mr. Prior said they haven't asked for parking relief. Mr. Smith said they
290 have 2 spaces in each garage plus a guest space. Mr. Prior said you would need
291 2 additional spaces. The rule is one space per bedroom plus one per four units.

292 Ms. Page said it's C2 so the residential uses permitted are mixed-use
293 neighborhood development, which we're not looking at, and residential
294 conversion, which includes not more than 4 units. Ms. Olson-Murphy said it's not
295 a conversion, it's an empty lot. Ms. Page asked when the previous building was
296 taken down. Mr. O'Neal said it's been at least 5 years. Ms. Montagno said she
297 thinks it's been longer than that.

298 Mr. Smith said regarding the guest spaces, there is 20+ feet in the paved
299 parking section behind the back building, so there are 2 spaces proposed there.

300 Ms. Olson-Murphy asked about fire accessibility. Mr. Smith said these are
301 going to be sprinklered. The hydrant is not far away from us, so the Fire
302 Department would hook up to the hydrant and fight it from Portsmouth Avenue.

303 Mr. Prior asked if they have to go through technical review. Mr. Smith said
304 yes, the full site plan review includes technical review. Fire, Police, and DPW will
305 look at it.

306 Mr. Prior asked if they are concerned about access onto Portsmouth Ave,
307 which is a fairly busy road. Mr. Smith said Mr. O'Neal has engaged a traffic
308 consultant. Mr. Prior asked if exiting the property would be strictly to the right,
309 and Mr. Smith said he assumes that's what the traffic consultant would
310 recommend.

311 Ms. Pennell asked if each unit has an underground garage, and Mr. Smith
312 said each has a ground-level garage.

313 Ms. Pennell asked where the front door to the back units is. Mr. O'Neal
314 said there's a garage door and a service door for each of the units. The ground
315 floor is the garage and office space, the first floor is the living area, and the
316 second floor is 3 bedrooms or 2 bedrooms and a study. The foundation wall
317 serves as retainage and allows people to have a patio in the back. Mr. Smith
318 showed a rendering of the proposed building.

319 Ms. Olson-Murphy asked for public comment.

320 Ryan O'Brian of 20 Haven Lane said it would be great to see something
321 in this spot which has been vacant for so long. He doesn't have an issue with
322 infringing on the side setbacks, but he has an issue with the separation between
323 residential zones and commercial zones. There are numerous examples of a
324 vapor-thin barrier between residential and commercial along Portsmouth Avenue.
325 There is a residential R2 zone in the back. This is a residential use of the C2
326 zone but it abuts two single-family units. It's critical to maintain a buffer between
327 the C2 zone and the residential zone. With proposed development in this area,
328 it's likely that Portsmouth Avenue will need to be widened at some point. If this
329 building is that far forward, you're not going to be able to put a second lane there.

330 Danielle Frank of 31 Haven Lane said she's not opposed to construction
331 at this site. We'd like to see something new in the neighborhood, but this is too
332 much for too small a lot. This was a single family home and the lot size has not
333 changed. This would negatively impact the surrounding neighborhood with
334 overcrowding.

335 Steve Taylor of 30 Haven Lane said he is concerned about traffic in that
336 area and drainage of water causing flooding on Haven Lane. If you put 6 units in
337 that tight area, the traffic problems would be threefold, especially with the 111
338 units they want to put on the side where Sanel Auto Parts is. Adding 6 onto that
339 small lot, which has been vacant since 2015, you're going to be overcrowded and
340 you'll have to change those lights.

341 Kyle Taylor of 30 Haven Lane said Hampton Inn uses this property as
342 overflow parking. They already cannot handle the amount of parking they have.

343 Mr. Smith said typically an individual dwelling unit will generate 11 or 12
344 vehicle trips per day. To say that 6 homes here is going to create a threefold
345 problem, the math doesn't work. We're working with a traffic engineer and will get
346 this figured out. We anticipate that it will be a right-out only. These folks wanted
347 an exit from the back but there's no right of way or room. If Hampton Inn is using
348 this property he's not aware of an agreement to do so. There's no allowance for
349 that use in the future. The drainage will connect to a catch basin on the corner of

350 the sidewalk at Hampton Inn. There are things that can be done on-site to
351 mitigate any concerns that the DPW may have.

352 Ms. Olson-Murphy said the applicant implied that the setbacks for a
353 commercial area are more aggressive than residential, but the setbacks they're
354 requesting also don't align with any residential setbacks. You're asking for 9 and
355 it's 25 in a residential area. You'd be here even if the build was in a residential
356 zone.

357 Mr. Prior said he doesn't have a problem with the proposed setbacks. A
358 few years ago we discussed adopting something called "form-based code," and
359 one of the initiatives was to move buildings toward the road and have parking
360 behind. The members of the public here are from Haven Lane, and are not the
361 abutters, who would have been notified of this. He doesn't believe they will
362 necessarily be impacted by the rear setback.

363 Ms. Olson-Murphy said we heard another application for this property and
364 the rear abutters did come. It was a single building with 8 units of short-term
365 rentals for nurses. Their concerns may have been with the short-term nature of
366 that proposal.

367 Ms. Montagno said although there's proximity to the C1 district, every
368 building between this property and C1 is residential. It's not residential units
369 going next to commercial units. The difference between the setbacks of C1 and
370 C2 are dramatic. In C1, the setback is 10 feet. Those setbacks are reasonable
371 given what's in proximity. Mr. Prior said we're extending residential one property
372 further north from Highland Ave. Ms. Olson-Murphy said if you meet the
373 setbacks, the lot is not buildable. No matter what goes there, there will be
374 setback relief.

375 Ms. Page said in C2, residential conversions are permitted, but we're
376 going beyond that to do 6 units instead of 4 and there's no existing home that's
377 being converted. Do we need to consider a variance for the use? Mr. Prior said if
378 there had been one required, Doug [Eastman] would have made it part of the
379 application.

380 Ms. Olson-Murphy asked if the Board is ok with the setbacks. Mr. Prior
381 said given where it's located, he doesn't have a problem with it. Ms. Page said
382 the Master Plan is consistent with putting buildings closer to the road, especially
383 coming in closer to town from the 101.

384 Ms. Olson-Murphy asked the Board about the density and building
385 coverage requests. Mr. Prior said the conversation regarding C1 vs C2 has
386 allayed some of his concerns about density. He was concerned about 6 but
387 doesn't necessarily see a benefit to the town or abutters in holding a line and
388 saying they must only have 4. Once you've increased the size of the building
389 envelope, there is sufficient room for 6 townhomes on that parcel. Ms. Olson-
390 Murphy said it still seems significant. It's been a vacant lot for 8 - 10 years so
391 anything is going to look huge there. She's worried about the bulk of it. If it has
392 parking underneath it will have the 35-foot height. Mr. Prior said we were not
393 asked for height relief. Directly across Portsmouth Ave is the two-story Blake

394 Auto building. Ms. Page said the layering of three and three helps. It's using the
395 lot without crowding all the units together.

396 The Board reviewed the rendering again. Ms. Olson-Murphy said it looks
397 better than an empty lot. Mr. Prior said it's a big building. The buildings will be
398 more aligned than they are in the rendering. Only at an angle would you be able
399 to see the back building.

400 Ms. Olson-Murphy asked the Board if they wanted to go through the
401 variance criteria. Mr. Prior said he thinks it's been explained clearly enough. Ms.
402 Montagno said it's been documented in the application. Mr. Prior said he didn't
403 note any places where he disagreed with the conclusions reached. The only
404 condition he would recommend is unnecessary in this case, which is full Planning
405 Board review.

406 Mr. Prior made a motion to approve the application of Stonearch Development Corp. for
407 variances from Article 4 Section 4.4 seeking relief from the required minimum front, side
408 and rear setbacks, the minimum density (lot area/unit) requirement and maximum
409 building coverage requirement for the proposed residential development of the property
410 located at 57 Portsmouth Avenue as presented. Ms. Pennell seconded. Ms. Olson-
411 Murphy, Ms. Page, Mr. Prior, Ms. Pennell, and Ms. Montagno voted aye. The motion
412 passed 5-0.

413
414 **II. Other Business**

415 A. Minutes Approval - August 20, 2024

416 Ms. Olson-Murphy said there are not enough members present [who were in
417 attendance at the August meeting] to review this set of minutes, so it was tabled
418 until the next meeting.

419
420 B. Minutes Approval - October 15, 2024

421 Ms. Page moved to approve the minutes of October 15, 2024 as presented. Mr. Prior
422 seconded. The motion passed 5-0.

423
424 **III. Adjournment**

425
426 Mr. Prior moved to adjourn. Ms. Page seconded. The motion passed 5-0 and the
427 meeting was adjourned at 8:30 PM.

428
429 Respectfully Submitted,
430 Joanna Bartell
431 Recording Secretary
432



Exeter Planning Board,
David Sharples, Town Planner
Town Planning Office, Town of Exeter
10 Front Street
Exeter, NH 03833

March 19, 2025

Re: 57 Portsmouth Ave. – Residential Development
Response to UEI Comments

Dear Mr. Chairman, Members of the Board, & Mr. Sharples:

We are in receipt of a review letter from Underwood Engineers, dated February 18, 2025 and we offer the following responses to the noted comments. Each comment is followed by our response in **bold**.

Plan Sheets

1. UE notes the project has been granted relief from the Zoning Board for a number of setback conditions, add the effective front, side, and rear setback lines for the project.

Response: Comment noted.

2. Architectural drawings were not provided with the submission; however renderings were. UE notes that the renderings:

- Do not match the building footprints. Revise, as appropriate, such that exact footprints, including front and rear porches and balconies, including posts, are accurately depicted on the plans.
- Do not depict the embankment to remain off Unit C's northwesterly corner.

Response: Architectural drawings will be provided under separate cover. Final footprints including building appurtenances will be coordinated with those drawings.

3. As shown, the retaining wall along the back and side of units D through F appears to be the building foundation, rather than a separate wall. Please clarify.

Response: The foundation for the building will be a separate structure with the retaining wall tying into it on each side.

4. The front corner and side of Unit D is exposed to vehicle impact.

Response: A bollard has been proposed for the building protection.

5. The width of the driveway entrance at the back of the sidewalk is approximately 40'. The fire truck turning template indicates it can likely still make the turn if it reduced to approximately 30' wide.

Response: The driveway entrance has been revised as requested.

6. Will a mail kiosk or dumpster be required?

Response: A mail kiosk has been added to the plans. A dumpster is not required as noted in Note #12 on Sheet 3.

7. Connection to the municipal drainage system is prohibited per Town regulations.

Response: The connection to the municipal drainage system has been removed.

8. It appears the existing stone wall along the backside of the sidewalk along Portsmouth Avenue will remain?

Response: This is correct.

9. Is blasting anticipated for the work at the slopes on the side and rear of the site?

Response: Blasting is not anticipated for construction.

10. The retaining walls appear to hold back as much as 16' of earth with 10' being required for much of the proposed use. The retaining wall will need to be designed by a professional engineer in the State of New Hampshire.

Response: This is understood and noted on the plans.

11. We note retaining walls are proposed as close as 4' from the property line and the guy pole supporting Utility Pole 14. Final design of retaining walls often occurs (by others) closer to the time of construction. Due to the proximity of the abutting parcel, the dimensions of the structural elements (and future maintenance) required of the proposed retaining wall need to be considered as part of the overall design approval.

Response: This can be discussed with the board as is normally completed post approval.

12. Update clearing limits to reflect practical construction needs.

Response: A proposed tree line has been added for required clearing.

13. A constructed drainage conveyance from the high point off the south corner of Unit F is needed to facilitate a controlled passage of run-off, both:

- Northwesterly along the retaining wall to relief off of Unit C's northwest corner, and
- Northeasterly along the rear of Building 1 to relief off of Unit D's southeasterly corner.

Response: Runoff behind the wall will be captured in a combination of the stone infiltration trench and typical stone behind the retaining wall.

14. Indicate a potential concrete washout pit location.

Response: The concrete washout pit has been added to Sheet 3.

15. UE notes the sprinkler rooms for each building. That being the case, a 6" main is considerably larger than needed and may suffer stagnation from time to time if insufficient water isn't circulating through it.

Response: The proposed main has been reduced to 4" however will be reviewed by the water department.

16. Consider bringing one gravity sewer line into the drive aisle between the buildings and bringing the sewer services from both buildings out to it rather than the two lateral sewer lines with clean-outs as

proposed.

Response: A single gravity sewer line has been provided.

17. Label the invert at the sewer cleanouts at the end of each of the service runs.

Response: Invert data has been added as requested.

18. Please add a note that existing water and sewer services must be abandoned at the main by a contractor properly licensed by Exeter Public Works. In addition, specifically label the existing water and sewer connections to be abandoned.

Response: Note #6 on the utility page addresses this requirement.

19. Please add a note to direct the Contractor to coordinate traffic control with the Town prior to any work within Portsmouth Avenue and to coordinate bypass pumping of the sewer during installation of the new manhole.

Response: Note 21 has been added.

20. Label the size and material of the existing sewer main in Portsmouth Avenue.

Response: The existing sewer main has been labeled as 8-inch PVC on Sheet 5.

Truck Turning Plan

21. The turn into the driveway is a tight fit. Consideration of a mountable type of curb instead of vertical granite curb may be prudent for this location.

Response: The onsite curbing has been revised to sloped granite and a detail has been added.

22. The truck can only turn around and drive out if the 2 parking spaces next to Unit D are empty.

Response: In an emergency situation if the spaces are occupied the truck can back out if needed.

Details

23. Add details as appropriate to:

- Address comment 14 above,
- Address Comment 22 above.

Response: Details have been added or revised.

Drainage Analysis

24. No stormwater detention or treatment is proposed for the project.

Response: Stormwater treatment and detention has been provided in the form of a stone infiltration trench behind the retaining wall.

25. Onsite treatment of stormwater is required per Exeter regulations 9.3.2.....

Response: See previous response.

26. No increase in stormwater leaving the site is allowed per Exeter regulations 9.3.2.....

Response: There is only a minimal increase for both the WQV and 2-year storm events, which

will not impact the capacity of the municipal stormwater system.

27. Post- volume and flowrate exceed the pre- values for all evaluated storms. No onsite infiltration or storage is proposed. Almost all run-off flows toward the Town's ROW with most of it piped directly to the Town's drainage system in Portsmouth Ave.

Response: See previous responses.

28. The drainage report states the increase in flow leaving the site would have no impact on the Town's system. Provide information/data to support this statement.

Response: There is only a minimal increase for both the WQV and 2-year storm events, which will not impact the capacity of the municipal stormwater system.

29. A WQV storm model is typically the rainfall event needed to produce the equivalent of 1" of run-off over the drainage area, the precise rainfall varies based on the site specifics, but is typically between 1.6 and 1.9 inches for Urban B/C areas.

Response: Water Quality Volume is defined by the NH Stormwater Manual as the volume that results from 1-inch of rainfall, not 1-inch of runoff.

30. In reviewing the southeasterly limits of the subcatchment(s), UE notes that the slopes continue far beyond the study area. We acknowledge that the image below represents a macro-view of the area, but if the site is going to direct onsite and offsite drainage to Exeter's drainage system, the area needs to be delineated and the conveyance designed accordingly.

Response: The topography from the survey is a more accurate tool than the macro-view. All offsite stormwater will continue to flow in the direction it currently flows, and the same volume of stormwater from offsite flows will contribute the same amount of volume.

31. **PTAP Database:** The Applicant is requested to enter project related stormwater tracking information contained in the site plan application documents using the Great Bay Pollution Tracking and Accounting Program (PTAP) database (www.unh.edu/unhsc/ptapp).

Response: This will be completed after local approvals are received.

Thank you for your timely and professional review of the submitted plans. We hope the information provided address your concerns. Please feel free to contact our office if you have any additional question and/or comments.

Very Truly Yours,

BEALS ASSOCIATES, PLLC

Christian O. Smith

Christian O. Smith, PE
Principal

RESIDENTIAL SITE PLAN

57 PORTSMOUTH AVE

(NH ROUTE 108)

TAX MAP 65, LOT 137

JANUARY 28, 2024

NOT FOR CONSTRUCTION

DRAWING INDEX

CIVIL ENGINEERS:



70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603-583-4860



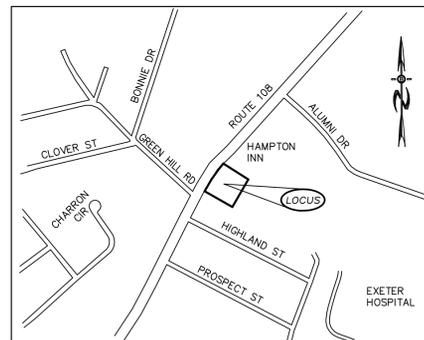
LAND SURVEYORS:

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825
603-332-2863

WETLAND/ENVIRONMENTAL CONSULTANT:

JOHN P. HAYES III CSS, CWS
7 LIMESTONE WAY
NORTH HAMPTON, NH 03862
603-205-4396

LOCATION MAP



SCALE: 1"=500'

SHEET #	TITLE
1-2	COVER SHEET
3	EXISTING CONDITION PLANS (BERRY SURVEY)
4	PARKING & PAVEMENT PLAN
5	GRADING, DRAINAGE, & EROSION CONTROL
6	UTILITY PLAN
7	LIGHTING & LANDSCAPE PLAN
8-9	EROSION & SEDIMENT CONTROL DETAILS
10	CONSTRUCTION DETAILS
10	EXETER LADDER TRUCK MANEUVERING PLAN

RECORD APPLICANT
STONEARCH DEVELOPMENT CORP.
42J DOVER POINT ROAD
DOVER, NEW HAMPSHIRE

RECORD OWNER
BLAKE PROPERTIES OF NH, LLC
PO BOX 368
NEWFIELDS, NEW HAMPSHIRE 03856

PLAN SET LEGEND

<ul style="list-style-type: none"> 5/8" REBAR DRILL HOLE CONC. BOUND UTILITY POLE DRAIN MANHOLE SEWER MANHOLE EXISTING LIGHT POLE EXISTING CATCH BASIN PROPOSED CATCH BASIN WATER GATE WATER SHUT OFF HYDRANT PINES, ETC. MAPLES, ETC. EXIST. SPOT GRADE PROP. SPOT GRADE DOUBLE POST SIGN SINGLE POST SIGN 	<ul style="list-style-type: none"> VCC OVERHEAD ELEC. LINE FENCING DRAINAGE LINE SEWER LINE GAS LINE WATER LINE STONE WALL TREE LINE ABUT. PROPERTY LINES EXIST. PROPERTY LINES BUILDING SETBACK LINES EXIST. CONTOUR PROP. CONTOUR SOIL LINES 	<ul style="list-style-type: none"> VERTICAL GRANITE CURB
---	---	---

REQUIRED PERMITS
CONSTRUCTION GENERAL PERMIT
NHDES SEWER CONNECTION
NHDES WATER CONNECTION

APPROVED ZONING RELIEF:
Article 4, Section 4.4, Schedule III: Front setback less than required 50' to 9'
Article 4, Section 4.4, Schedule III: Side setback less than required 20' to 7.7'
Article 4, Section 4.4, Schedule III: Rear setback less than required 50' to 8.7'
Article 4, Section 4.4, Schedule III: Density less than 5,000 sf/unit to 1,960 sf
Article 4, Section 4.4, Schedule III: Building coverage of 36.7% where 30% maximum is required.

PB CASE # TBD
CHAIRMAN SIGNATURE:

REVISIONS:		DATE:
1	REVISED PER REVIEW COMMENTS	03/19/25
2		
3		
4		
5		

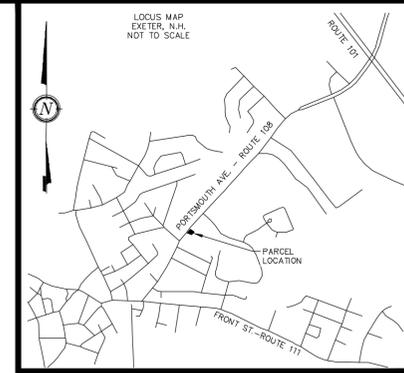
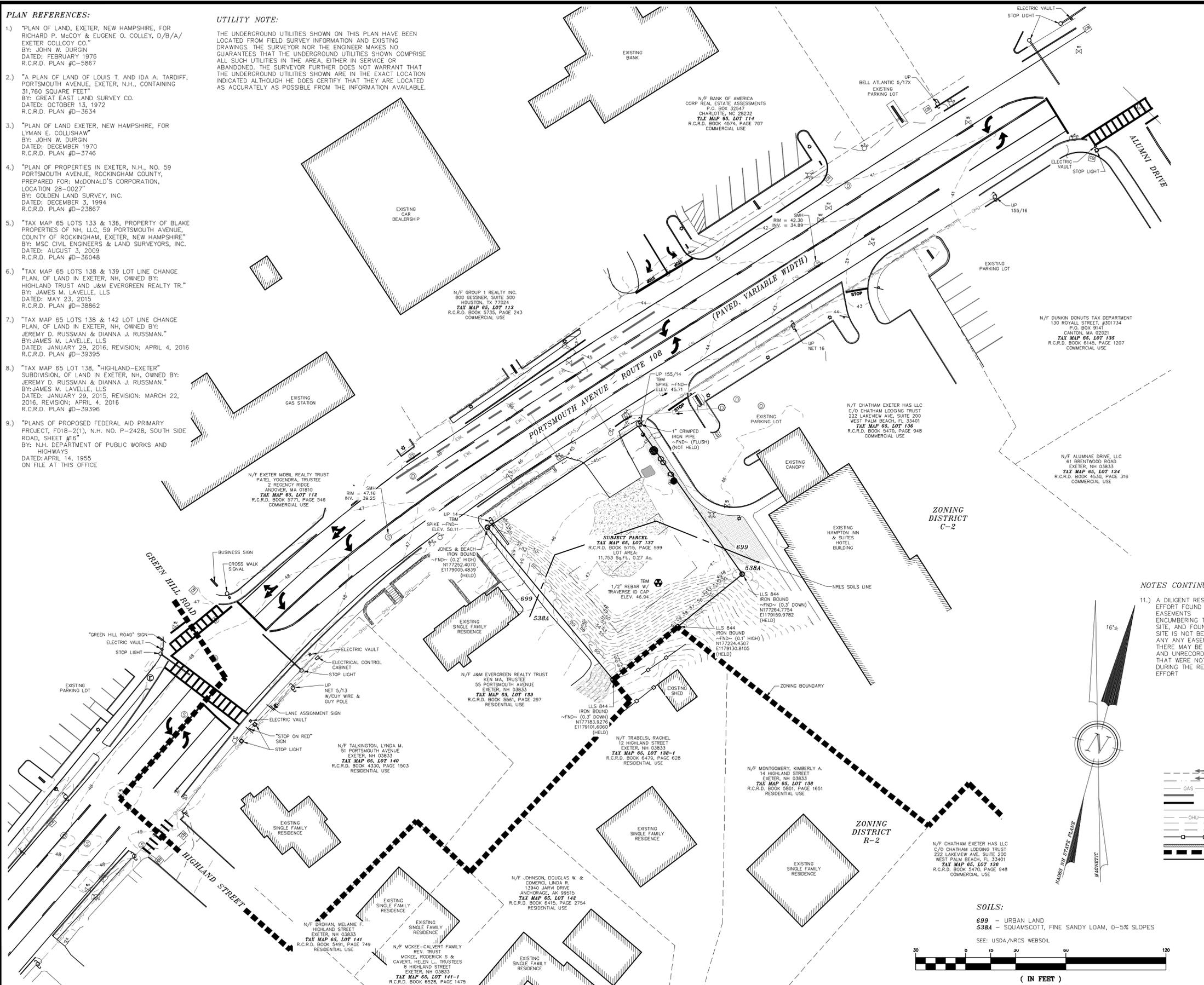
NH-1535 PROPOSED RESIDENTIAL PLAN

PLAN REFERENCES:

- "PLAN OF LAND, EXETER, NEW HAMPSHIRE, FOR RICHARD P. MCCOY & EUGENE O. COLLEY, D/B/A/ EXETER COLLOIDY CO." BY: JOHN W. DURGIN DATED: FEBRUARY 1976 R.C.R.D. PLAN #C-5867
- "A PLAN OF LAND OF LOUIS T. AND IDA A. TARDIFF, PORTSMOUTH AVENUE, EXETER, N.H., CONTAINING 31,760 SQUARE FEET" BY: GREAT EAST LAND SURVEY CO. DATED: OCTOBER 13, 1972 R.C.R.D. PLAN #D-3634
- "PLAN OF LAND EXETER, NEW HAMPSHIRE, FOR LYMAN E. COLLISHAW" BY: JOHN W. DURGIN DATED: DECEMBER 1970 R.C.R.D. PLAN #D-3746
- "PLAN OF PROPERTIES IN EXETER, N.H., NO. 59 PORTSMOUTH AVENUE, ROCKINGHAM COUNTY, PREPARED FOR: McDONALD'S CORPORATION, LOCATION 28-0027" BY: GOLDEN LAND SURVEY, INC. DATED: DECEMBER 3, 1994 R.C.R.D. PLAN #D-23867
- "TAX MAP 65 LOTS 133 & 136, PROPERTY OF BLAKE PROPERTIES OF NH, LLC, 59 PORTSMOUTH AVENUE, COUNTY OF ROCKINGHAM, EXETER, NEW HAMPSHIRE" BY: MSC CIVIL ENGINEERS & LAND SURVEYORS, INC. DATED: AUGUST 3, 2009 R.C.R.D. PLAN #D-36048
- "TAX MAP 65 LOTS 138 & 139 LOT LINE CHANGE PLAN, OF LAND IN EXETER, NH, OWNED BY: HIGHLAND TRUST AND J&M EVERGREEN REALTY TR." BY: JAMES M. LAVELLE, LLS DATED: MAY 23, 2015 R.C.R.D. PLAN #D-38862
- "TAX MAP 65 LOTS 138 & 142 LOT LINE CHANGE PLAN, OF LAND IN EXETER, NH, OWNED BY: JEREMY D. RUSSMAN & DIANNA J. RUSSMAN." BY: JAMES M. LAVELLE, LLS DATED: JANUARY 29, 2016, REVISION; APRIL 4, 2016 R.C.R.D. PLAN #D-39395
- "TAX MAP 65 LOT 138, 'HIGHLAND-EXETER' SUBDIVISION, OF LAND IN EXETER, NH, OWNED BY: JEREMY D. RUSSMAN & DIANNA J. RUSSMAN." BY: JAMES M. LAVELLE, LLS DATED: JANUARY 29, 2015, REVISION; MARCH 22, 2016, REVISION; APRIL 4, 2016 R.C.R.D. PLAN #D-39396
- "PLANS OF PROPOSED FEDERAL AID PRIMARY PROJECT, F018-2(1), N.H. NO. P-2428, SOUTH SIDE ROAD, SHEET #16" BY: N.H. DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS DATED: APRIL 14, 1955 ON FILE AT THIS OFFICE

UTILITY NOTE:

THE UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR NOR THE ENGINEER MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE.



NOTES:

- OWNER: BLAKE PROPERTIES OF NH, LLC P.O. BOX 368 NEWFIELDS, NH 03856
- APPLICANT: STONEARCH DEVELOPMENT CORP. 425 DOVER POINT ROAD DOVER, NH 03820
- TAX MAP 65, LOT 137 PROJECT ADDRESS: 57 PORTSMOUTH AVE.
- R.C.R.D. BOOK 5715, PAGE 599
- LOT AREA: 11,753 Sq.Ft., 0.26 Ac.
- ZONING: C-2, HIGHWAY COMMERCIAL DISTRICT MIN. LOT SIZE: 20,000 Sq.Ft. MIN. LOT WIDTH: 150' MIN. LOT DEPTH: 100' MAX. BUILDING HEIGHT: 35' 50' PERMITTED BY SPECIAL EXCEPTION FRONT BUILDING SETBACK: 50' SIDE BUILDING SETBACK: 20' REAR BUILDING SETBACK: 50' 20' PERMITTED BY SPECIAL EXCEPTION MAX. BUILDING COVERAGE: 30% MIN. OPEN SPACE: 15%
- I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE & BELIEF, THIS PARCEL DOES NOT FALL WITHIN THE FLOOD PLAIN. FLOOD HAZARD REFERENCE: FEMA, COMMUNITY # - 330130, MAP # - 33015C0402E, DATED: MAY 17, 2005.
- VERTICAL DATUM BASED ON USGS NAVD88 ELEVATIONS. HORIZONTAL COORDINATES BASED ON NAD83, COORDINATES GATHERED USING CARLSON BRX7 SURVEY GRADE GPS RECEIVERS.
- THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS OF EXETER TAX MAP 65, LOT 137 AS OF THE DATE OF THE SURVEY: OCTOBER 2024.
- THE LOT IS SERVICED BY MUNICIPAL WATER AND SEWER.
- EXISTING IMPERVIOUS AREA: DRIVEWAY: 644 Sq.Ft., 5.47% GRAVEL AREA: 1,828 Sq.Ft., 15.56% TOTAL: 2,472 Sq.Ft., 21.03%

NOTES CONTINUED:

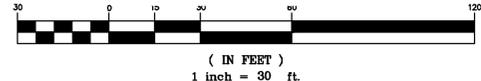
- A DILIGENT RESEARCH EFFORT FOUND NO EASEMENTS ENCLUMBERING THE PROJECT SITE, AND FOUND THAT THE SITE IS NOT BENEFITED BY ANY ANY EASEMENTS. THERE MAY BE RECORDED AND UNRECORDED RIGHTS THAT WERE NOT FOUND DURING THE RESEARCH EFFORT

EXISTING LEGEND:

- IRON BOUND/IRON ROD (FND)
- IRON PIPE (FND)
- UTILITY POLE / GUY WIRE
- SINGLE POST SIGN
- TEMPORARY BENCHMARK (TBM)
- CURB STOP
- GATE VALVE
- FIRE HYDRANT
- GAS VALVE
- CATCH BASIN
- DRAIN MANHOLE
- SEWER MANHOLE
- SEWER CLEAN OUT
- POLE LIGHT
- ELECTRIC MANHOLE
- UNDERGROUND ELECTRIC VAULT
- ABUTTING PROPERTY LINE (APPROXIMATE)
- BUILDING SETBACK LINE
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING DRAIN LINE
- OVERHEAD UTILITIES
- EXISTING CONTOUR MINOR
- EXISTING CONTOUR MAJOR
- WOODEN FENCE
- VERTICAL GRANITE CURB (V.G.C.)
- ZONING BOUNDARY
- NRCS SOIL BOUNDARY
- NRCS SOIL LABEL
- FOUND
- TYP
- E.O.P.
- S.S.W.L.
- D.S.Y.L.
- D.D.Y.L.
- ROCKINGHAM COUNTY REGISTRY OF DEEDS

SOILS:

699 - URBAN LAND
 538A - SQUAMSCOTT, FINE SANDY LOAM, 0-5% SLOPES
 SEE: USDA/NRCS WEBSOL



REVISION	DATE	DESCRIPTION
#1	1-24-25	UPDATE UTILITY INFORMATION

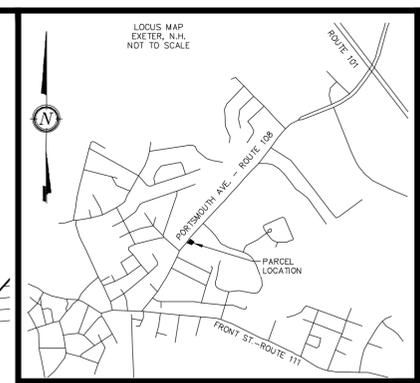
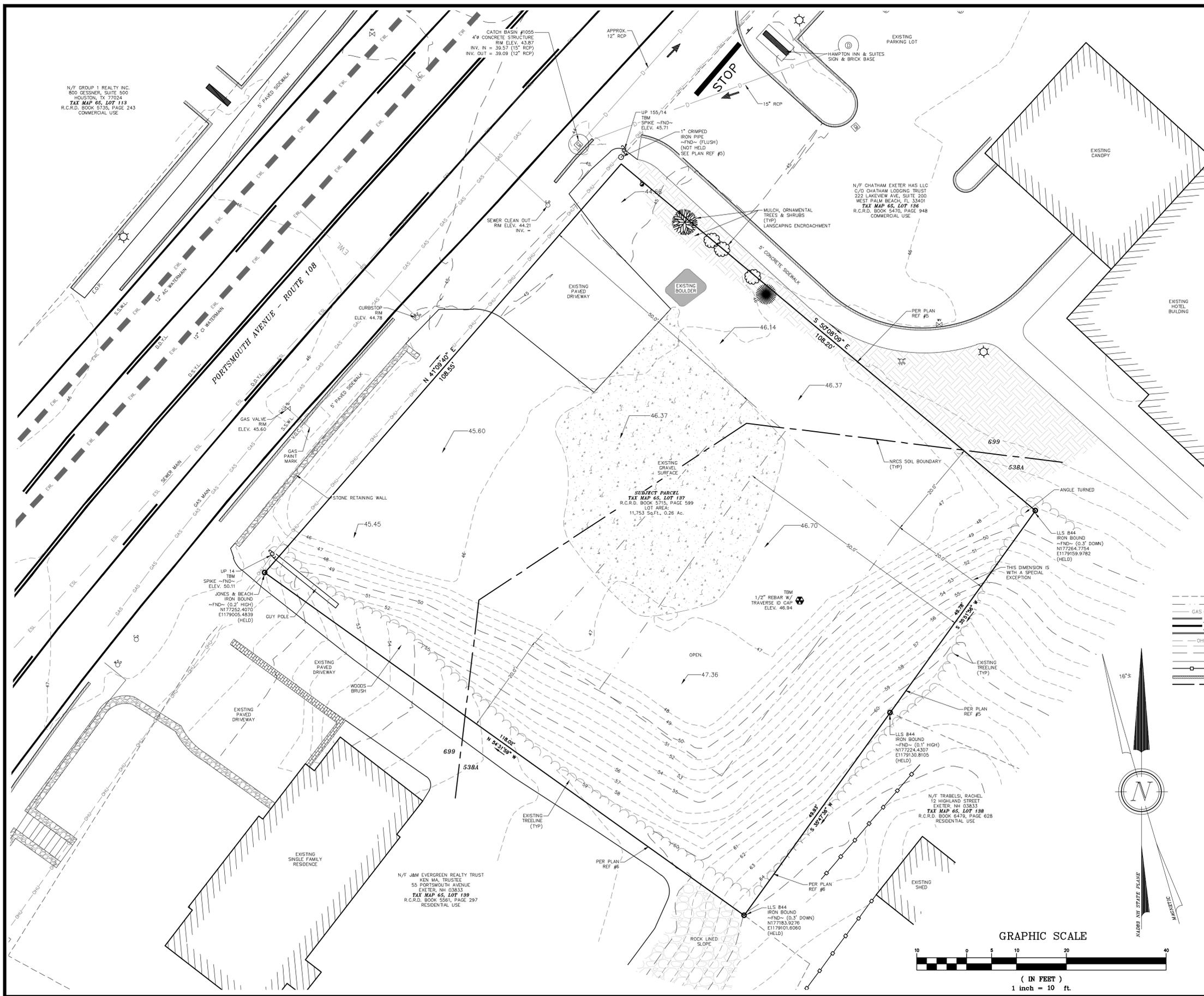
EXISTING CONDITIONS PLAN OVERVIEW FOR STONEARCH DEVELOPMENT CORP. BLAKE PROPERTIES OF NH, LLC 57 PORTSMOUTH AVENUE EXETER, NH
TAX MAP 65, LOT 137

BERRY SURVEYING & ENGINEERING
 335 SECOND CROWN POINT ROAD
 BARRINGTON, NH 03825 (603)332-2863
 SCALE : 1 IN. EQUALS 30 FT.
 DATE : NOVEMBER 25, 2024
 FILE NO. : DB 2024 - 109



I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.
 1-24-25
 KENNETH A. BERRY L.L.S. 805 DATE

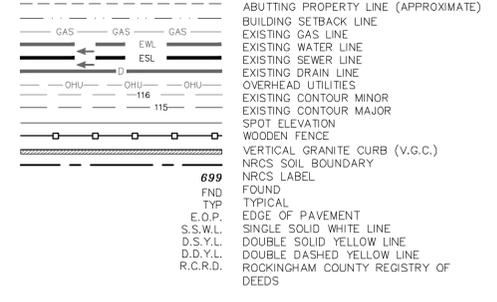
N/F GROUP 1 REALTY INC.
800 GESSNER, SUITE 500
HOUSTON, TX 77024
TAX MAP 65, LOT 113
R.C.R.D. BOOK 5725, PAGE 243
COMMERCIAL USE



- NOTES:**
- OWNER: BLAKE PROPERTIES OF NH, LLC
P.O. BOX 368
NEWFIELDS, NH 03856
 - APPLICANT: STONEARCH DEVELOPMENT CORP.
425 DOVER POINT ROAD
DOVER, NH 03820
 - TAX MAP 65, LOT 137
 - R.C.R.D. BOOK 5715, PAGE 599
 - LOT AREA: 11,753 Sq.Ft., 0.26 Ac.
 - THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS OF EXETER TAX MAP 65, LOT 137 AS OF THE DATE OF THE SURVEY: OCTOBER 2024.
 - SEE OVERVIEW EXISTING CONDITIONS PAGE FOR COMPLETE NOTES AND ABUTTERS.

EXISTING LEGEND:

- ○ ○ IRON BOUND/IRON ROD (FND)
- ○ ○ IRON PIPE (FND)
- ○ ○ UTILITY POLE / GUY WIRE
- ○ ○ SINGLE POST SIGN
- ○ ○ TEMPORARY BENCHMARK (TBM)
- ○ ○ CURB STOP
- ○ ○ GATE VALVE
- ○ ○ FIRE HYDRANT
- ○ ○ GAS VALVE
- ○ ○ CATCH BASIN
- ○ ○ DRAIN MANHOLE
- ○ ○ SEWER MANHOLE
- ○ ○ SEWER CLEAN OUT
- ○ ○ POLE LIGHT



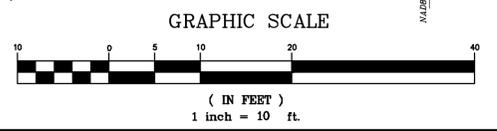
SOILS:

699 - URBAN LAND
538A - SQUAMSCOTT, FINE SANDY LOAM, 0-5% SLOPES
SEE: USDA/NRCS WEBSOIL

UTILITY NOTE:

THE UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR NOR THE ENGINEER MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE.

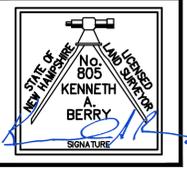
I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.
1-24-25
KENNETH A. BERRY L.L.S. 805 DATE

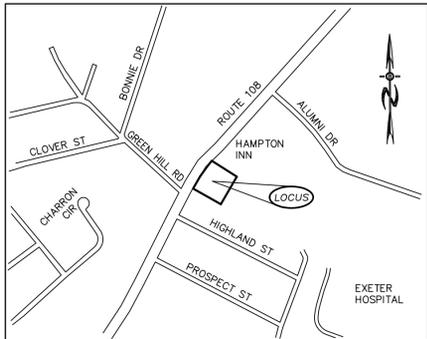


REVISION	DATE	DESCRIPTION
#1	1-24-25	UPDATE UTILITY INFORMATION

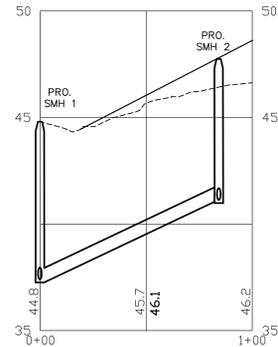
EXISTING CONDITIONS DETAIL PLAN
FOR
STONEARCH DEVELOPMENT CORP.
LAND OF
BLAKE PROPERTIES OF NH, LLC
57 PORTSMOUTH AVENUE
EXETER, NH
TAX MAP 65, LOT 137

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 10 FT.
DATE : NOVEMBER 25, 2024
FILE NO. : DB 2024 - 109





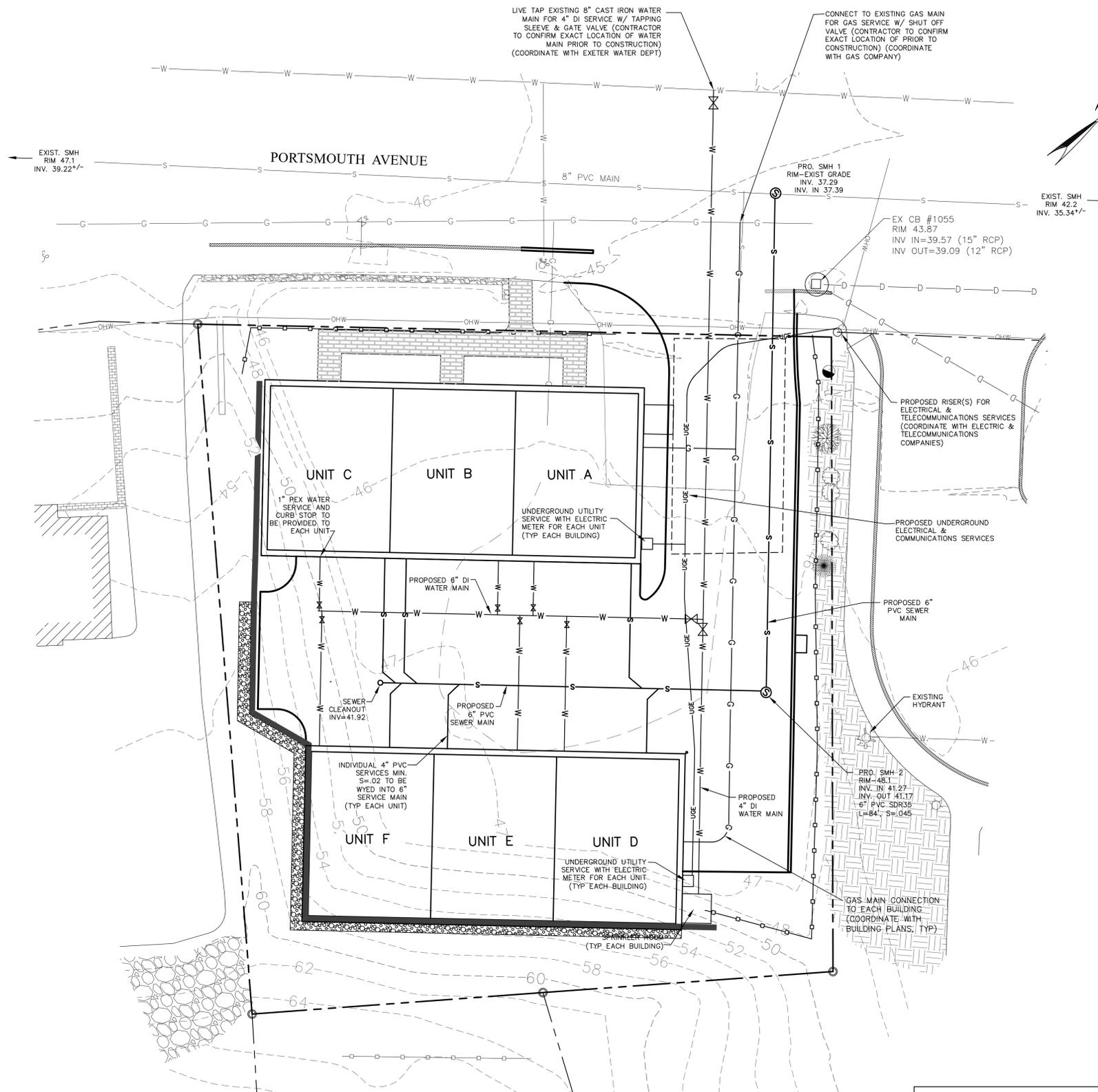
LOCATION MAP
1"=500'



SEWER PROFILE
HORIZONTAL: 1"=40'
VERTICAL: 1"=4'



UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM FIELD OBSERVATION AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER BEALS ASSOCIATES, NOR ANY OF THEIR EMPLOYEES TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND STRUCTURES AND/OR UTILITIES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1-888-DIG-SAFE (1-888-344-7233) AND EXETER DPW (603) 773-6157.



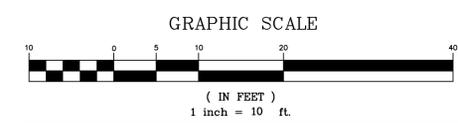
PREPARED FOR:
STONEARCH DEVEL. CORP.
421 DOVER POINT ROAD
DOVER, NH 03820



70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603-583-4860



- UTILITY NOTES:**
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT AND/OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, FEES, AND BONDS.
 - THE CONTRACTOR SHALL PROVIDE NOTICE TO ALL COMPANIES AND LOCAL AUTHORITIES OWNING OR HAVING A JURISDICTION OVER UTILITIES RUNNING TO, THROUGH, OR ACROSS PROJECT AREAS PRIOR TO DEMOLITION AND/OR CONSTRUCTION ACTIVITIES.
 - THE SPECIFICATIONS FOR PROPOSED PRIVATE UTILITY SERVICES SHALL BE TO THE STANDARDS AND REQUIREMENTS OF THE RESPECTIVE UTILITY COMPANY. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES FOR PROPER UTILITY CROSSING REQUIREMENTS PRIOR TO CONSTRUCTION. PRIOR TO THE PRE-CONSTRUCTION MEETING USE&T PLANS FROM THE UTILITY COMPANIES NEED TO BE REDRAWN ON THIS SHEET. ADDITIONALLY THE CONTRACTOR NEEDS TO HAVE A COMPLETED SWPPP. A PRE-CONSTRUCTION MEETING SHALL BE HELD WITH THE OWNER, ENGINEER, ARCHITECT, CONTRACTOR, LOCAL OFFICIALS, AND ALL UTILITY COMPANIES (PUBLIC AND PRIVATE) PRIOR TO START OF CONSTRUCTION.
 - ALL CONSTRUCTION SHALL CONFORM TO EXETER STANDARDS AND REGULATIONS, UNLESS OTHERWISE SPECIFIED. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR (OSHA) RULES AND REGULATIONS. BUILDINGS ARE TO BE SERVED BY UNDERGROUND UTILITIES.
 - THE CONTRACTOR IS TO VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITY STUBS PRIOR TO CONSTRUCTION AND DISCONNECT ALL EXISTING SERVICE CONNECTIONS AT THEIR RESPECTIVE MAINS (IF REQUIRED) IN ACCORDANCE WITH THE RESPECTIVE UTILITY COMPANY'S STANDARDS AND SPECIFICATIONS.
 - WATER LINE SHALL BE INSTALLED UNDER ALL UTILITY LINES WITH A MINIMUM OF 18" OF VERTICAL CLEARANCE BETWEEN UTILITIES AT CROSSINGS.
 - AN AS-BUILT PLAN IS TO BE PREPARED AND SUBMITTED TO DEPARTMENT OF PUBLIC WORKS IN DIGITAL (.DWG AND .PDF) AND MYLAR FORMATS.
 - THE CONTRACTOR IS RESPONSIBLE FOR PAYMENT OF ALL CONNECTION FEES.
 - SANITARY SEWER FLOW CALCULATIONS:
6 UNITS AT 3 BEDROOMS EACH = 18 BEDROOMS
DESIGN FLOW AT 150 GPD/BEDROOM = 2,700 GPD.
 - ALL WATER AND SANITARY LEADS TO BUILDING SHALL END 5' OUTSIDE THE BUILDING LIMITS AS SHOWN ON PLANS AND SHALL BE PROVIDED WITH A TEMPORARY CAP AND WITNESS AT END.
 - THRUST BLOCKS SHALL BE PROVIDED AT ALL WATER LINE BENDS, TEES, AND MECHANICAL JOINTS.
 - CONTRACTOR SHALL MINIMIZE DISRUPTIONS TO EXISTING WATER SERVICES AND ALL REQUIREMENTS OF EXETER WATER DEPARTMENT SHALL BE FOLLOWED REGARDING NOTIFICATION OF INTERRUPTION OF SERVICE (MIN 48 HOURS). SEE SECTION 9.14. ROADWAYS, ACCESS POINTS, AND FIRE LANES AND SECTION 9.13. PARKING AREAS FOR EXCEPTIONS.
 - THE CONTRACTOR MUST OBTAIN A VALID UTILITY PIPE INSTALLER'S LICENSE AND THE JOB SUPERVISOR OR FOREMAN MUST BE CERTIFIED BY THE TOWN PRIOR TO WORKING ON ANY WATER, SEWER, OR DRAINAGE PIPES THAT ARE IN A TOWN STREET OR RIGHT OF WAY, OR THAT WILL CONNECT OR MAY BE CONNECTED TO A TOWN WATER, SEWER, OR DRAINAGE SYSTEM. A LICENSED SUPERVISOR OR FOREMAN MUST BE PRESENT AT THE JOB SITE AT ALL TIMES DURING CONSTRUCTION OF THESE UTILITIES.
 - THE DEVELOPER SHALL COORDINATE WITH THE ELECTRIC COMPANY TO ENSURE ANY TREE PLANTINGS ALONG MAIN STREET WILL NOT CONFLICT WITH THE EXISTING OVERHEAD WIRES.
 - THE DEVELOPER SHALL COORDINATE WITH THE ELECTRIC COMPANY TO CONFIRM A DROP POLE ON THE PROPERTY IS NOT REQUIRED.
 - CONTRACTOR TO COORDINATE TRAFFIC CONTROL WITH THE TOWN PRIOR TO ANY WORK WITHIN PORTSMOUTH AVENUE AND TO COORDINATE BYPASS PUMPING OF THE SEWER DURING INSTALLATION OF THE NEW MANHOLE.

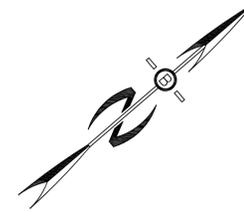


		UTILITY PLAN	
		RESIDENTIAL DEVELOPMENT 57 PORTSMOUTH AVE. EXETER, NH TAX MAP 65, LOT 137	
REVISED PER REVIEW COMMENTS	03/19/25	DATE:	JAN 28, 2025
REVISIONS:	DATE:	PROJ. NO:	NH-1535
		SCALE:	1" = 10'
		SHEET NO.:	5



WALL MOUNT

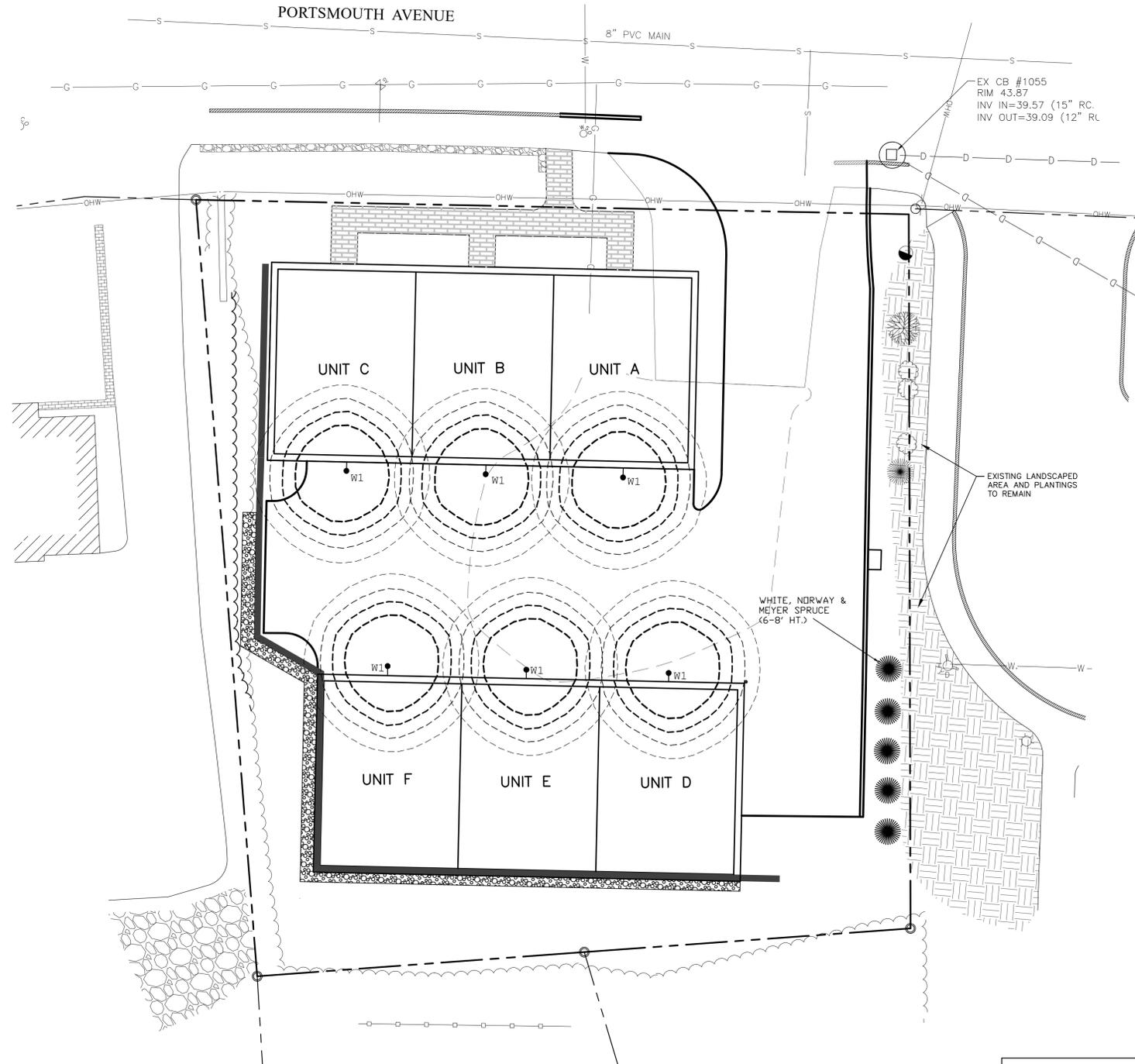
Luminaire Schedule							
Symbol	Qty	Label	Arrangement	Description	Tag	LLF	Luminaire Lumens
●	6	W1	Single	TMS: 33W-0-15LED-30K-VXX-WM-CXX-DIML	WALL MTD 10' AFG	0.900	1109



STONEARCH DEVEL. CORP.
42J DOVER POINT ROAD
DOVER, NH 03820



70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603-583-4860

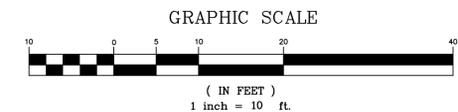


LIGHTING NOTES:

1. ALL OUTDOOR LIGHTING SHALL BE SO DIRECTED & SHIELDED THAT NO GLARE WILL SPILL OUT ONTO RESIDENTIALLY ZONED ADJUTERS
2. AFTER 10:00 PM ONLY THAT AMOUNT OF LIGHT NECESSARY FOR THE SECURITY OF THE PREMISES SHALL BE PERMITTED.

PLANTING NOTES:

1. NO PLANT MATERIALS SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
2. A 4-INCH DEEP SHREDDED PINE BARK SHALL BE INSTALLED UNDER ALL SHRUBS, AND IN ALL PLANTING BEDS, AS DIRECTED BY OWNER.
3. ALL TREES SHALL BE BAILED AND BURLAPPED, UNLESS OTHERWISE NOTED, OR APPROVED BY THE OWNER.
4. ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF FINAL ACCEPTANCE.
5. LOAM AND SEED ALL AREAS NOT OTHERWISE NOTED.
6. DO NOT INSTALL LOAM IN AREAS OF EXISTING TREES TO REMAIN.
7. THE LANDSCAPING OF THE SITE DEPICTED ON THIS PLAN IS INTEGRAL TO THE APPROVAL BY THE EXETER PLANNING BOARD AND SHALL BE REASONABLY MAINTAINED AND WHEN DEAD OR REMOVED, MUST BE REASONABLY REPLACED.



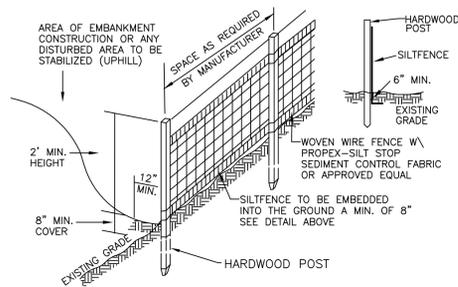
LIGHTING & LANDSCAPE PLAN

RESIDENTIAL DEVELOPMENT
57 PORTSMOUTH AVE.
EXETER, NH
TAX MAP 65, LOT 137

REVISIONS:	DATE:	DATE:	SCALE:	1" = 10'
			PROJ. NO:	NH-1535
			SHEET NO.	6

CONSTRUCTION SEQUENCE

- CUT AND REMOVE TREES IN CONSTRUCTION AREAS AS REQUIRED OR DIRECTED.
- CONSTRUCT AND/OR INSTALL TEMPORARY AND PERMANENT EROSION AND DETENTION CONTROL FACILITIES AS REQUIRED. EROSION, SEDIMENT AND DETENTION CONTROL FACILITIES SHALL BE INSTALLED AND STABILIZED PRIOR TO ANY EARTH MOVING OPERATION AND PRIOR TO DIRECTING RUNOFF TO THEM.
- CLEAR CUT, GRUB AND DISPOSE OF DEBRIS IN APPROVED FACILITIES. STUMPS AND DEBRIS ARE TO BE REMOVED FROM SITE AND DISPOSED OF PER STATE AND LOCAL REGULATIONS.
- EXCAVATE AND STOCKPILE TOPSOIL /LOAM. ALL AREAS SHALL BE STABILIZED IMMEDIATELY AFTER GRADING.
- CONSTRUCT TEMPORARY CULVERTS AS REQUIRED OR DIRECTED.
- CONSTRUCT THE ROADWAY AND ITS ASSOCIATED DRAINAGE STRUCTURES.
- INSTALL PIPE AND CONSTRUCTION ASSOCIATED APPURTENANCES AS REQUIRED OR DIRECTED. ALL DISTURBED AREAS SHALL STABILIZED IMMEDIATELY AFTER GRADING.
- BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES AND DISTURBED AREAS SHALL BE SEEDED OR MULCHED AS REQUIRED, OR DIRECTED.
- DAILY OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINAGE CHECK DAMS, DITCHES, SEDIMENT TRAPS, ETC. TO PREVENT EROSION ON THE SITE AND PREVENT ANY SILTATION OF ABUTTING WATERS OR PROPERTY.
- INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION
- COMPLETE PERMANENT SEEDING AND LANDSCAPING
- REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDING AREAS HAVE ESTABLISHED THEMSELVES AND SITE IMPROVEMENTS ARE COMPLETE. SMOOTH AND RE-VEGETATE ALL DISTURBED AREAS.
- ALL SWALES AND DRAINAGE STRUCTURES WILL BE CONSTRUCTED AND STABILIZED PRIOR TO HAVING RUNOFF DIRECTED TO THEM.
- FINISH PAVING ALL DRIVEWAYS



SILT FENCE CONSTRUCTION SPECIFICATIONS

- WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES AND FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP MID AND BOTTOM SECTIONS AND BE EMBEDDED INTO GROUND A MINIMUM OF 8" THE FENCE POSTS SHALL BE A MINIMUM 48" LONG, SPACED A
- MAXIMUM 10' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER.
- THE ENDS OF THE FABRIC SHALL BE OVERLAPPED BY SIX INCHES, FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BYPASSING MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT
- REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE AND PROPERLY DISPOSED OF PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE
- FOR SEDIMENT STORAGE SILT FENCES SHALL BE REMOVED WHEN NO LONGER NEEDED AND
- THE SEDIMENT COLLECTED SHALL BE DISPOSED AS DIRECTED BY THE ENGINEER. THE AREA DISTURBED BY THE REMOVAL SHALL BE SMOOTHED AND RE-VEGETATED

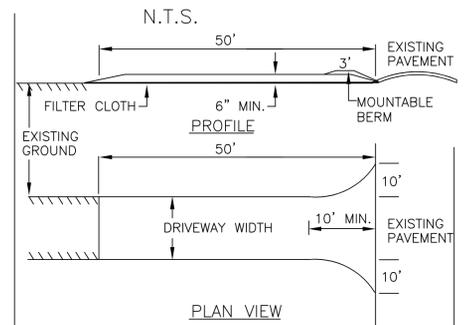
SILT FENCE MAINTENANCE

- 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.

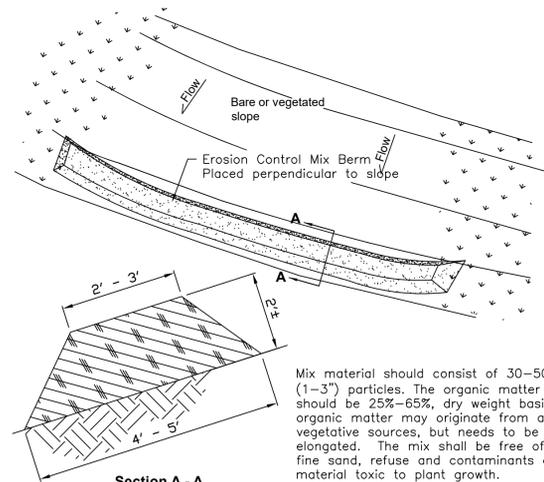
SEEDING SPECIFICATIONS

- GRADING AND SHAPING
 - SLOPES SHALL NOT BE STEEPER THAN 2:1;3:1 SLOPES OR FLATTER ARE PREFERRED. WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
- SEEDBED PREPARATION
 - SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
 - STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
- ESTABLISHING A STAND
 - LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
 - AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100 LBS PER 1,000 SQ. FT..
 - NITROGEN(N), 50 LBS PER ACRE OR 1. 1 LBS PER 1,000 SQ.FT.
 - PHOSPHATE(P205), 100 LBS PER ACRE OR 2. 2 LBS PER 1,000 SQ.FT.
 - POTASH(K2O), 100 LBS PER ACRE OR 2. 2 LBS PER 1,000 SQ.FT.
 (NOTE: THIS IS THE EQUIVALENT OF 500 LBS PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS PER ACRE OF 5-10-10.)

STABILIZED CONSTRUCTION ENTRANCE



- STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
- THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET,
- THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
- THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICH EVER IS GREATER.
- GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
- ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.



Mix material should consist of 30-50% large (1-3") particles. The organic matter content should be 25-65%, dry weight basis. The organic matter may originate from a variety of vegetative sources, but needs to be fibrous and elongated. The mix shall be free of silt, clay, fine sand, refuse and contaminants or any material toxic to plant growth.

Erosion Control Mix berms are effective filters for overland flow conditions and should not be used to filter concentrated flow such as that found in drainage ditches, streams, etc.

Erosion Control Mix Berm

- SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.
- REFER TO TABLE(G-E1 THIS SHEET) FOR APPROPRIATE SEED MIXTURES AND TABLE(H-E1 THIS SHEET) FOR RATES OF SEEDING. ALL LEGUMES (CROWN VETCH, BIRDS FOOT TREFLOIL, AND FLAT PEA) MUST BE INOCULATED WITH THEIR SPECIFIC INOCULANT.
- WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 1.
- MULCH
 - HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
 - MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING. HAY OR STRAW MULCH SHALL BE PLACED AT A RATE OF 90 LBS PER 1000 SQ. FT.
- MAINTENANCE TO ESTABLISH A STAND
 - PLANTED AREA SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
 - FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIAL STAKE 2 TO 3 YEARS TO BECOME ESTABLISHED.
 - IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

SEEDING RATES

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 Sq. Ft.
A. TALL FESCUE	20	0.45
CREeping RED FESCUE	20	0.45
RED TOP	2	0.05
TOTAL	42	0.95
B. TALL FESCUE	15	0.35
CREeping RED FESCUE	10	0.25
CROWN VETCH	15	0.35
OR		
FLAT PEA	30	0.75
TOTAL	40 OR 55	0.95 OR 1.35
C. TALL FESCUE	20	0.45
CREeping RED FESCUE	20	0.45
BIRDS FOOT TREFLOIL	8	0.20
TOTAL	48	1.10
D. TALL FESCUE	20	0.45
FLAT PEA	30	0.75
TOTAL	50	1.20
E. CREeping RED FESCUE 1/2	50	1.15
KENTUCKY BLUEGRASS 1/2	50	1.15
TOTAL	100	2.30
F. TALL FESCUE 1	150	3.60

PREPARED FOR:

STONEARCH DEVEL. CORP.
42J DOVER POINT ROAD
DOVER, NH 03820



70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603-583-4860

TEMPORARY EROSION CONTROL MEASURES

- NO MORE THAN 0.26 ACRES OF LAND SHALL BE EXPOSED AT ANY ONE TIME.
- EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED OR DIRECTED BY THE ENGINEER ALL DISTURBED AREAS SHALL BE RETURNED TO ORIGINAL GRADES AND ELEVATIONS.
- DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 4" OF LOAM AND SEEDED WITH NOT LESS THAN 1.10 POUNDS OF SEED PER 1000 SQUARE FEET OF AREA. (48 POUNDS PER ACRE) SEE SEED SPECIFICATIONS THIS SHEET.
- SILT FENCES AND OTHER EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY RAIN EVENT GREATER THAN 0.5" DURING THE LIFE OF THE PROJECT. ALL DAMAGED AREAS SHALL BE REPAIRED, SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED OF.
- AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
- AREAS MUST BE SEEDED AND MULCHED WITHIN 3 DAYS OF FINAL GRADING, PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING, OR TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF SOIL.

WINTER MAINTENANCE

- ALL DISTURBED AREAS THAT DO NOT HAVE AT LEAST 85% VEGETATIVE COVERAGE PRIOR TO OCTOBER 15TH, SHALL BE STABILIZED BY APPLYING MULCH AT A RATE OF 3-4 TONS PER ACRE. ALL SIDE SLOPES, STEEPER THAN 4:1, THAT ARE NOT DIRECTED TO SWALES OR DETENTION BASINS, SHALL BE LINED WITH BIODEGRADABLE/PHOTODEGRADABLE "JUTE MATTING" (EXCELSIOR'S CURLEX II OR EQUAL). ALL OTHER SLOPES SHALL BE MULCHED AND TACKED AT A RATE OF 3-4 TONS PER ACRE. THE APPLICATION OF MULCH AND/OR JUTE MATTING SHALL NOT OCCUR OVER EXISTING SNOW COVER. IF THE SITE IS ACTIVE AFTER OCTOBER 15TH, ANY SNOW THAT ACCUMULATES ON DISTURBED AREAS SHALL BE REMOVED. PRIOR TO SPRING THAW ALL AREAS WILL BE STABILIZED, AS DIRECTED ABOVE.
- ALL SWALES THAT DO NOT HAVE FULLY ESTABLISHED VEGETATION SHALL BE EITHER LINED WITH TEMPORARY JUTE MATTING OR TEMPORARY STONE CHECK DAMS (APPROPRIATELY SPACED). STONE CHECK DAMS WILL BE MAINTAINED THROUGHOUT THE WINTER MONTHS. IF THE SWALES ARE TO BE MATTED WITH PERMANENT LINERS OR RIPRAP WITH ENGINEERING FABRIC, THIS SHALL BE COMPLETED PRIOR TO WINTER SHUTDOWN OR AS SOON AS THEY ARE PROPERLY GRADED AND SHAPED.
- PRIOR TO OCT. 15TH ALL ROADWAY AND PARKING AREAS SHALL BE BROUGHT UP TO AND THROUGH THE BANK RUN GRAVEL APPLICATION. IF THESE AREAS' ELEVATIONS ARE PROPOSED TO REMAIN BELOW THE PROPOSED SUBGRADE ELEVATION, THE SUBGRADE MATERIAL SHALL BE ROUGHLY CROWNED AND A 3" LAYER OF CRUSHED GRAVEL SHALL BE PLACED AND COMPACTED. THIS WILL ALLOW THE SUBGRADE TO SHED RUNOFF AND WILL REDUCE ROADWAY EROSION. THIS CRUSHED GRAVEL DOES NOT HAVE TO CONFORM TO NH DOT 304.3, BUT SHALL HAVE BETWEEN 15-25% PASSING THE #200 SIEVE AND THE LARGEST STONE SIZE SHALL BE 2". IF THE SITE IS ACTIVE AFTER NOVEMBER 15TH, ANY ACCUMULATED SNOW SHALL BE REMOVED FROM ALL ROADWAY AND PARKING AREAS.
- AFTER OCTOBER 15TH, THE END OF NEW HAMPSHIRE'S AVERAGE GROWING SEASON, NO ADDITIONAL LOAM SHALL BE SPREAD ON SIDE SLOPES AND SWALES. THE STOCKPILES THAT WILL BE LEFT UNDISTURBED UNTIL SPRING SHALL BE SEEDED BY THIS DATE. AFTER OCTOBER 15TH, ANY NEW OR DISTURBED PILES SHALL BE MULCHED AT A RATE OF 3-4 TONS PER ACRE. ALL STOCKPILES THAT WILL REMAIN THROUGHOUT THE WINTER SHALL BE SURROUNDED WITH SILT FENCING.

SEEDING GUIDE

USE	SEEDING MIXTURE*	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	FAIR
	C	POOR	GOOD	EXCELLENT	GOOD
	D	FAIR	FAIR	EXCELLENT	EXCELLENT
	E	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER.	A	GOOD	GOOD	GOOD	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	GOOD	EXCELLENT	EXCELLENT	FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES.	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR
	C	GOOD	GOOD	EXCELLENT	FAIR
	D	FAIR	GOOD	GOOD	EXCELLENT
PLAY AREAS AND ATHLETIC FIELDS. (TOPSOIL IS ESSENTIAL FOR GOOD TURF.)	F	FAIR	EXCELLENT	EXCELLENT	**
	G	FAIR	EXCELLENT	EXCELLENT	**

GRAVEL PIT, SEE NH-PM-24 IN APPENDIX FOR RECOMMENDATION REGARDING RECLAMATION OF SAND AND GRAVEL PITS.
* REFER TO SEEDING MIXTURES AND RATES IN TABLE 7-36.
** POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAY AREAS OR ATHLETIC FIELDS.

NOTE: TEMPORARY SEED MIX FOR STABILIZATION OF TURF SHALL BE WINTER RYE OR OATS AT A RATE OF 2.5 LBS. PER 1000 S.F. AND SHALL BE PLACED PRIOR TO OCT. 15, IF PERMANENT SEEDING NOT YET COMPLETE.

REVISIONS:	DATE:

EROSION & SEDIMENT CONTROL DETAILS

RESIDENTIAL DEVELOPMENT
57 PORTSMOUTH AVE.
EXETER, NH
TAX MAP 65, LOT 137

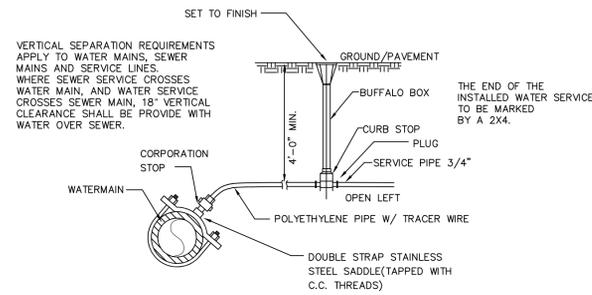
DATE:	JAN 28, 2025	SCALE:	NTS'
PROJ. NO:	NH-1535	SHEET NO.	7

PREPARED FOR:

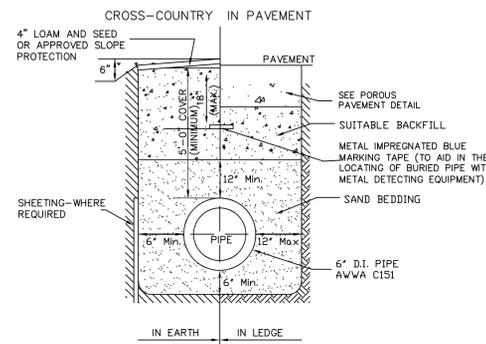
STONEARCH DEVEL. CORP.
42J DOVER POINT ROAD
DOVER, NH 03820



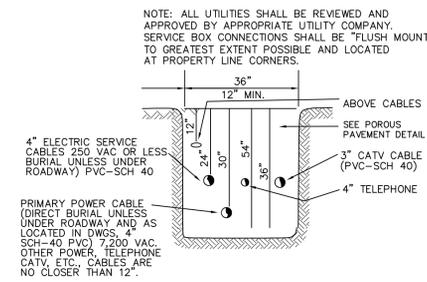
70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603-583-4860



TYPICAL WATER SERVICE CONNECTION

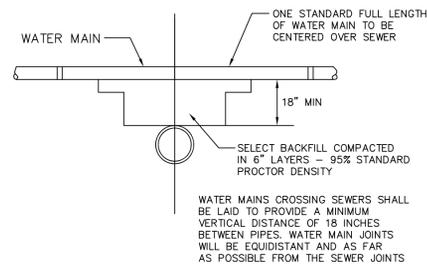


TYPICAL TRENCH DETAIL FOR WATER SYSTEM

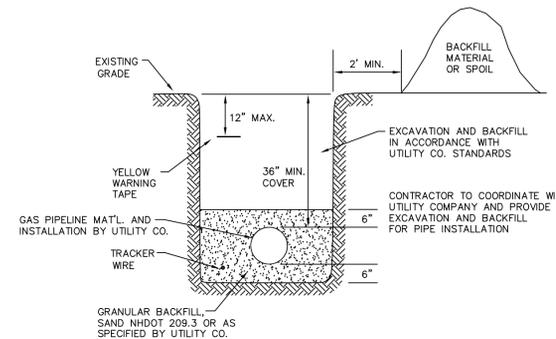


UTILITY TRENCH DETAIL

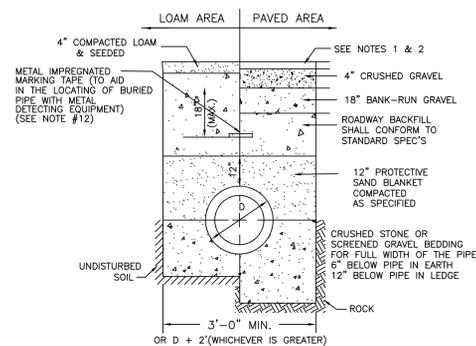
SEPARATION NOTES:
SEWERS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES (460 MM) BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER. THIS SHALL BE THE CASE WHERE THE WATER MAIN IS EITHER ABOVE OR BELOW THE SEWER. THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO MAINTAIN LINE AND GRADE.



WATER/SEWER MAIN CROSSING



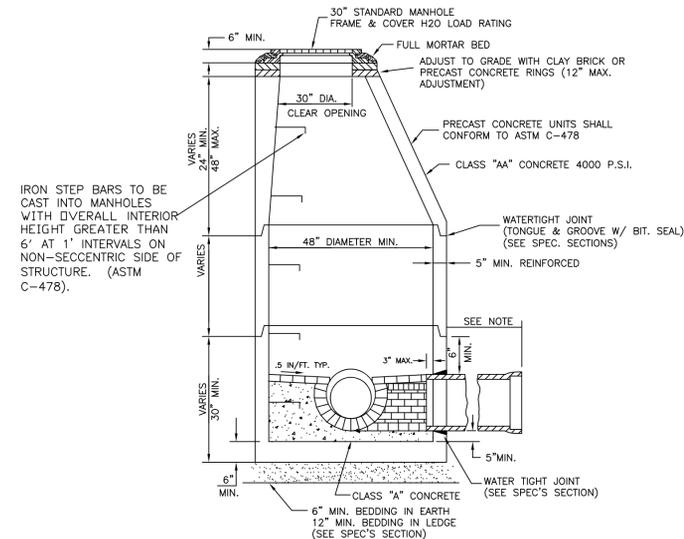
GAS TRENCH DETAIL



NOTE:
1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPEC'S.

TYPICAL SEWER TRENCH DETAIL

NOT TO SCALE

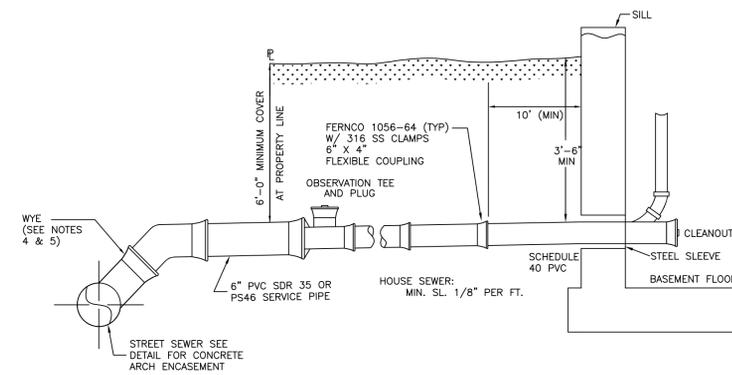


TYPE OF PIPE	SIZE	MAX. DISTANCE TO FIRST JOINT
R.C.P., C.I.	ALL	48'
V.C.	0-12"	18'
V.C.	> 12"	36'

SEWER MANHOLE

TYPICAL SECTION

NOT TO SCALE



NOTES:
1) SEWER SERVICE FROM PROPERTY LINE TO 10' OUTSIDE OF BUILDING SHALL BE INSTALLED UNDER THIS CONTRACT ONLY WHEN OUTSIDE THE TRENCH DEWATERING OR LEDGE EXCAVATION IS REQUIRED.
2) PIPE DEPTH AT HOUSE SHALL BE ABOVE THE SEASONAL GROUND WATER LEVEL.
3) SEWER SHALL BE BELOW SLAB ONLY WHEN BASEMENT TOILETS EXIST.
4) JOINTS SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATER TIGHTNESS. 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
5) WYES: WHERE WYE IS NOT AVAILABLE IN THE EXISTING STREET SEWER, AN APPROPRIATE CONNECTION SHALL BE MADE FOLLOWING MANUFACTURERS INSTRUCTIONS USING A BOLTED, CLAMPED, OR EPOXY-CEMENTED SADDLE, TAPPED INTO A SMOOTHLY DRILLED OR SAWN OPENING IN THE SEWER.

DETAIL OF HOUSE SEWER SERVICE

REVISED PER REVIEW COMMENTS	03/19/25
REVISIONS:	DATE:

CONSTRUCTION DETAILS

RESIDENTIAL DEVELOPMENT
57 PORTSMOUTH AVE.
EXETER, NH
TAX MAP 65, LOT 137

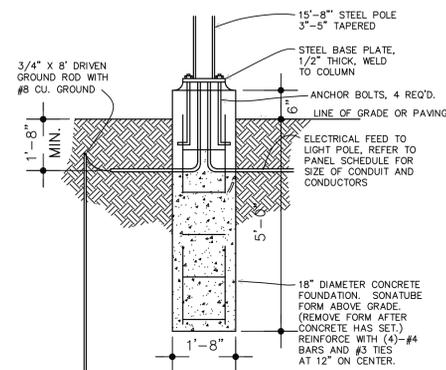
DATE:	JAN 28, 2025	SCALE:	NTS
PROJ. NO:	NH-1535	SHEET NO.	8

PREPARED FOR:

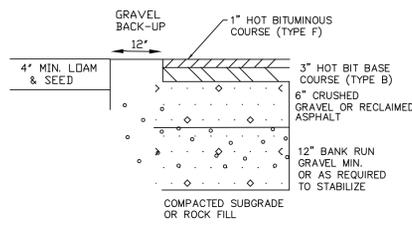
STONEARCH DEVEL. CORP.
42J DOVER POINT ROAD
DOVER, NH 03820



70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603-583-4860



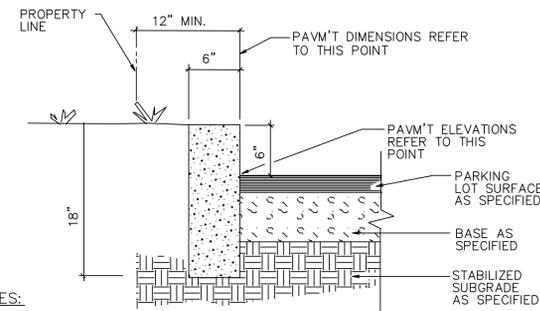
**POLE FOUNDATION
LIGHT BASE DETAIL**
SCALE: NONE



NOTES: * IN AREAS OF BEDROCK, MINIMUM 24" SEPARATION FROM BANK RUN GRAVEL.
* PAVEMENT TRENCH PATCH SHALL MATCH EXISTING PAVEMENT DEPTHS.

TYPICAL PAVEMENT SECTION

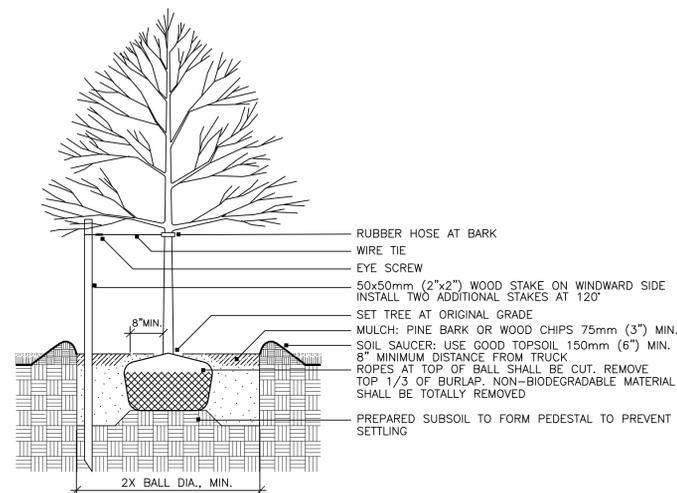
NEW ASPHALT



NOTES:

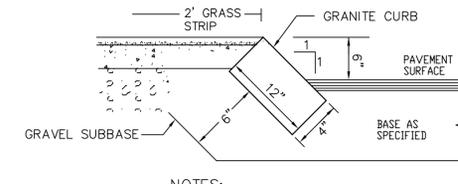
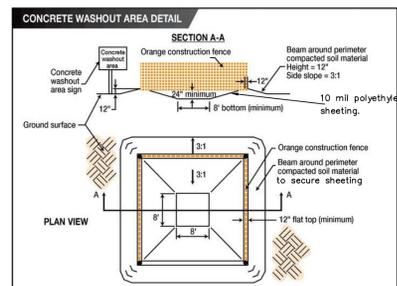
1. EDGING TO BE PLACED PRIOR TO PLACING TOP SURFACE COURSE.
2. JOINTS BETWEEN STONES SHALL BE MORTARED.

6" VERTICAL GRANITE CURB
NOT TO SCALE



DECIDUOUS TREE PLANTING WITH STAKE AND WIRE TIE - HEAVY DUTY

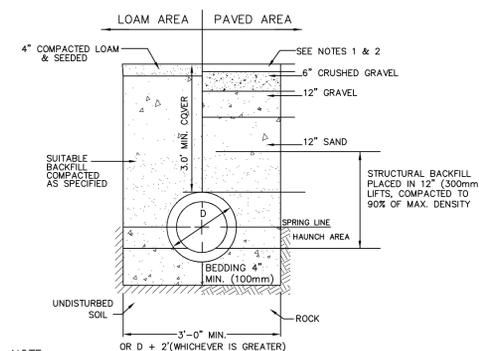
NOTE: STAKING TO BE USED IN PARKING ISLANDS AND OTHER CONFINED AREAS AS NECESSARY TO AVOID CONFLICTS WITH PEDESTRIANS



NOTES:

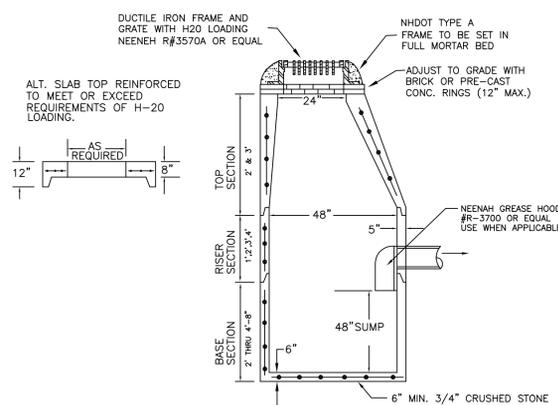
1. EDGING TO BE PLACED PRIOR TO PLACING TOP SURFACE COURSE.
2. JOINTS BETWEEN STONES SHALL BE MORTARED.
3. SALVAGE GRANITE CURBS ON-SITE AND RESET TO THE EXTENT POSSIBLE.

GRANITE SLOPE CURB DETAIL
NOT TO SCALE

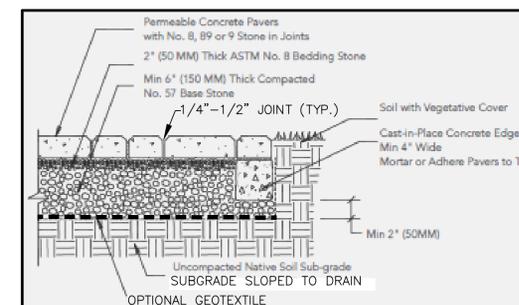


- NOTE:
1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
 2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPEC'S.

TYPICAL DRAINAGE TRENCH DETAIL



PRECAST CATCH BASIN
NOT TO SCALE



ROUTINE MAINTENANCE: VISUAL INSPECTION OF THE PERVIOUS PAVERS TO ENSURE THAT THEY ARE CLEAN OF DEBRIS AND SEDIMENTS. ROUTINE CLEANING PROCEDURES WOULD INCLUDE BLOWING (WITH LEAF BLOWER OR SIMILAR) IN FALL, TRUCK-SWEEPING AND/OR DRY VACUUMING. ADD STONE TO REFILL JOINT SPACE AFTER SWEEPING/VACUUMING IF NEEDED.

PERVIOUS PAVER DETAIL
TO BE "TREMOR" OR APPROVED EQUAL

NOT TO SCALE

REVISED PER REVIEW COMMENTS	03/19/25
REVISIONS:	DATE:

CONSTRUCTION DETAILS

RESIDENTIAL DEVELOPMENT
57 PORTSMOUTH AVE.
EXETER, NH
TAX MAP 65, LOT 137

DATE:	JAN 28, 2025	SCALE:	NTS
PROJ. NO:	NH-1535	SHEET NO.	9

DRAINAGE ANALYSIS & SEDIMENT AND EROSION CONTROL PLAN

Prepared for:
**RESIDENTIAL DEVELOPMENT
57 PORTSMOUTH AVENUE, LLC**

Prepared by:
**BEALS ASSOCIATES, PLLC
70 PORTSMOUTH AVENUE
STRATHAM, NH 03885**

Project Number:
NH-1535
57 Portsmouth Avenue
Exeter, New Hampshire
January 28, 2025
Revised March 19, 2025

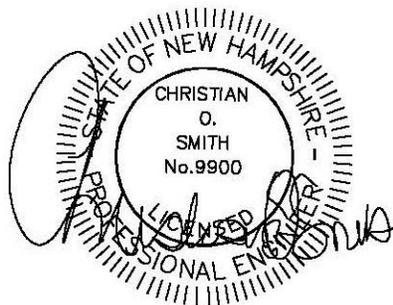


Table of Contents

1.0	Analysis Summary	Page 1
2.0	Existing Conditions Analysis	Page 2
3.0	Proposed Conditions Analysis	Page 2
4.0	Sediment & Erosion Control Best Management Practices	Pages 3-6
5.0	Conclusion	Page 6

Appendix I - Existing Conditions Analysis

WQV (1-Inch) 24-Hour Summary
2-Year 24-Hour Summary
10-Year 24-Hour Complete
25-Year 24-Hour Summary
50-Year 24-Hour Summary

Appendix II - Proposed Conditions Analysis

WQV (1-Inch) 24-Hour Summary
2-Year 24-Hour Summary
10-Year 24-Hour Complete
25-Year 24-Hour Summary
50-Year 24-Hour Summary

Appendix III - Charts, Graphs, and Calculations

Appendix IV - Plans

Sheet W-1 Existing Watershed Plan
Sheet W-2 Proposed Watershed Plan

1.0 ANALYSIS SUMMARY

Stonearch Development Corporation proposes to construct a residential development to establish 6 residential units on a 0.27+/-acre parcel of land located at 57 Portsmouth Avenue in Exeter, New Hampshire. A drainage analysis of 0.32 acres of the proposed site improvement was conducted for the purpose of estimating the peak rate of stormwater run-off and to subsequently design adequate drainage structures. Two models were compiled: one for the area in its existing (pre-construction) condition and a second for its proposed (post-construction) condition. The analysis was conducted using Extreme Precipitation data provided by Cornell University for the following 24-hour duration storm events:

Storm Event	Rainfall Depth (inches)
WQV	1.00
2-Year	3.22
10-Year	4.91
25-Year	6.24
50-Year	7.49

These storm events use the USDA NRCS TR-20 method within the HydroCAD Stormwater Modeling System environment to model the rainfall and predict stormwater runoff flows and volumes. A Type III storm pattern was used in the model. The purpose of this analysis is to estimate the peak rates of run-off from the site for detention adequacy purposes, and to compare the peak rate of run-off between the existing and proposed conditions.

Peak Rate of Discharge

Analysis Point # Analysis Point Description	Condition	Component Peak Rate of Discharge (CFS)				
		WQV	2-Year	10-Year	25-Year	50-Year
Reach #100 - Existing Catch Basin	Existing	0.05	0.52	0.99	1.38	1.76
	Proposed	0.14	0.60	0.97	1.27	1.55

Channel Protection

Analysis Point # Analysis Point Description	Condition	2-Year Storm Volume (Acre-Feet)
Reach #100 - Existing Catch Basin	Existing	0.041
	Proposed	0.050

Minor increases are shown to Reach #100 for the WQV and 2-Year storm events due to the increase in impervious on the site compared to the vacant lot. The 10-Year, 25-Year, and 50-Year storms all show a reduction in peak discharge rate. While the lot was previously developed, the undeveloped vacant condition was used for the pre- and post-development conditions. The

single analysis point is the existing catch basin in Portsmouth Avenue to the north corner of the development. These minor increases in the lower storms events will have no impact to the existing municipal system.

The proposed residential development includes a driveway off of Portsmouth Avenue at the same location as the previous development on the parcel. The driveway extends into the site and opens to a maneuvering area between the residential buildings. The proposed improvement area includes a single sub-catchment that ends at an existing catch basin to the north in Portsmouth Avenue. In addition to the slight increase in peak rate of runoff for the WQV and 2-Year storm events, the channel protection volume for the 2-year storm event increases 0.009 acre-feet, below the 0.100 allowable threshold.

In addition, the potential for increased erosion and sedimentation is handled by way of silt fence surrounding the disturbed areas. The use of Best Management Practices per the Rockingham Conservation District / DES Handbook have been applied to the design of these structures and will be observed during all stages of construction. All land disturbed during construction will be stabilized within 30 days of groundbreaking. Existing wetlands and abutters will suffer no adverse effects resulting from this proposed development.

2.0 EXISTING CONDITIONS ANALYSIS

The existing property is located on a parcel consisting of a partial driveway entrance to a gravel area where previous development existed. The developed portion of the property is relatively flat with steep slopes on the west and south sides. The existing topography is such that the site analysis is divided into one sub-catchment within the area proposed to be improved. Final Reach #100 flows to the existing catch basin by the end of the driveway entrance in Portsmouth Avenue where stormwater runoff enters the municipal stormwater system.

Classified by a NRCS Soil Mapping, the land of the site is composed of relatively flat slopes surrounded on two sides by sloping land and soils categorized into a dual Hydrologic Soil Group (HSG) C/D. Per Exeter Site Review Regulations, an HSG of D is used for the analysis.

3.0 PROPOSED CONDITIONS ANALYSIS

The addition of impervious area causes an increase in the curve number (Cn) which results in an increase in peak rates of run-off from the site. The proposed development divides the single sub-catchment from the pre-development condition into two sub-catchments in the post-development condition, with the same catch basin in Portsmouth Avenue used as the analysis point.

In an effort to prevent the sedimentation of abutting properties, all stormwater from roofs, paved areas with the use of curbing, and remainder of the site will be directed towards the catch basin. To reduce runoff and increase infiltration, a stone infiltration trench was provided along the back of the retaining wall. During construction, appropriate Best Management Practices (BMP's) will be applied so as to negate the potential for sediment-laden run-off to discharge towards abutting

properties prior to the final stabilization of the proposed grading. The structures outlined in this proposal provide for adequate treatment of stormwater run-off for sediment control.

4.0 SEDIMENT & EROSION CONTROL PLANS **BEST MANAGEMENT PRACTICES (BMP's)**

The proposed site development is protected from erosion and the roadways and abutting properties are protected from sediment by the use of Best Management Practices as outlined in the New Hampshire Stormwater Manual. Any area disturbed by construction will be re-stabilized within 30 days, and abutting properties and wetlands will not be adversely affected by this development. All swales and drainage structures will be constructed and stabilized prior to having run-off directed to them.

4.1 Silt Barrier / Construction Fence

The plan set demonstrates the location of silt barriers for sediment control. Sheet E-1, Erosion and Sediment Control Details, has the specifications for installation and maintenance of the silt barriers selected for the site. In areas where the limits of construction need to be emphasized to operators, construction fence for added visibility will be installed. Orange construction fence will be VISI Perimeter Fence by Conwed Plastic Fencing, or approved equal. The four-foot construction fencing is to be installed using six-foot posts buried at least two feet into the ground spaced six to eight feet apart.

4.2 Vegetated Stabilization

All areas that are disturbed during construction will be stabilized with vegetated material within 30 days of disturbance. Construction will be managed in such a manner that erosion is prevented and that no abutter's property will be subjected to any siltation, unless otherwise permitted. All areas to be planted with grass for long-term cover will follow the specifications on the Erosion & Sediment Controls Detail plan using the seeding mixture below:

Mixture C	Pounds per Acre	Pounds per 1,000 sf
Tall Fescue	20	0.45
Creeping Red Fescue	20	0.45
Birdsfoot Trefoil	8	0.20
Total	48	1.10

4.3 Stabilized Construction Entrance/Exit

A temporary gravel construction entrance/exit provides an area where mud can be dislodged from tires before the vehicle leaves the construction site to reduce the amount of mud and sediment transported onto paved municipal and state roads. The stone size for the gravel pad should be between 1- and 2-inch coarse aggregate and the pad itself constructed to a minimum length of 50'

for the full width of the access road. The aggregate should be placed at least six inches thick. The Erosion and Sediment Control Details sheet has the plan and profile view details.

4.4 Drainage Swales / Stormwater Conveyance Channels

Drainage swales will be stabilized with vegetation for long term cover as outlined below using seed mixture C. As a general rule, velocities in the swale should not exceed 3.0 feet per second for a vegetated swale although velocities as high as 4.5 FPS are allowed under certain soil conditions.

4.5 Level Spreaders

Level spreaders enable any run-off directed towards them to be spread evenly into sheet flow prior to discharge into wetlands or treatment by a filter strip, thus allowing for better filter strip efficiency and a lesser potential for erosion.

4.6 Vegetated Buffers

Vegetated buffers are areas of land with natural or planted vegetation designed to receive sheet run-off from upgradient development. These natural areas, preferably wooded, are effective in removing sediment and sediment-laden pollutants from such run-off, although their effectiveness is severely diminished when forced to deal with concentrated flow and must therefore be equipped with a level-spreading device. Vegetated buffers should not have a slope exceeding fifteen percent and have a minimum length of seventy-five feet.

4.7 Filter Strips

Filter strips are areas of land with natural or planted vegetation designed to receive sheet run-off from upgradient development. These natural areas, preferably wooded, are effective in removing sediment and sediment-laden pollutants from such run-off, although their effectiveness is severely diminished when forced to deal with concentrated flow and must therefore be equipped with a level-spreading device. Filter strips should not have a slope exceeding fifteen percent and have a minimum length of seventy-five feet.

4.8 Environmental Dust Control

Dust will be controlled on the site using multiple Best Management Practices. Mulching and temporary seeding will be the first line of protection to be utilized where problems occur. If dust problems are not solved by these applications, the use of water and calcium chloride can be applied. Calcium chloride will be applied at a rate that will keep the surface moist but not cause pollution.

4.9 Construction Sequence

1. Construct and/or install temporary and permanent sediment erosion and temporary detention control facilities, as required. Erosion, sediment, and facilities shall be installed and stabilized prior to any earth moving operation, and prior to directing run-off to them.
2. Cut and remove brush and trees in construction areas as directed or required.

3. Clear, cut, grub, and dispose of debris in approved facilities.
4. Excavate and stockpile topsoil / loam. All disturbed areas shall be stabilized immediately after grading.
5. Construct the paved area, drainage, and buildings.
6. Begin permanent and temporary seeding and mulching. All cut and fill slopes and disturbed areas shall be seeded and mulched as required or directed.
7. Daily, or as required, construct temporary berms, drainage ditches, sediment traps, etc. to prevent erosion on the site and prevent any siltation of abutting waters or property.
8. Inspect and maintain all erosion and sediment control measures during construction.
9. Complete permanent seeding and landscaping.
10. Remove temporary erosion control measures after seeding areas have established themselves and site improvements are complete. Smooth and re-vegetate all disturbed areas.
11. All swales and drainage structures will be constructed and stabilized prior to having run-off being directed to them.

4.10 Temporary Erosion Control Measures

1. The smallest practical area of land shall be exposed at any one time.
2. Erosion and sediment control measures shall be installed as shown on the plans and at locations as required, or directed by the engineer.
3. Disturbed areas shall be loamed with a minimum of 4" of loam and seeded with not less than 1.10 pound of seed per 1,000 square feet (48 pounds per acre) of area.
4. Silt barriers shall be inspected periodically and after every rainstorm during the life of the project. All damaged areas shall be repaired and sediment deposits shall periodically be removed and properly disposed of.
5. After all disturbed areas have been stabilized, the temporary erosion control measures are to be removed and the area disturbed by the removal smoothed and revegetated.

6. Areas must be seeded and mulched within 5 days of final grading, permanently stabilized within 15 days of final grading, or temporarily stabilized within 30 days of initial disturbance of soil.

4.11 Inspection and Maintenance Schedule

Silt barriers shall be inspected during and after storm events to ensure that the fence still has integrity and is not allowing sediment to pass.

5.0 CONCLUSION

This proposed site development off of Portsmouth Avenue in Exeter, NH will have no adverse effect on the abutting property owners by way of stormwater run-off or siltation. The post-construction peak rates of run-off for the site will be slightly higher than the existing conditions for the WQV and 2-Year storm events, as shown in the tables above, and will be directed into the municipal drainage system. Appropriate steps will be taken to eliminate erosion and sedimentation; these will be accomplished through the construction of a drainage system consisting of porous pavement and infiltration ponds. The Best Management Practices developed by the State of New Hampshire have been utilized in the design of this system and these applications will be enforced throughout the construction process.

An Alteration of Terrain Permit (RSA 485: A-17) is not required for this project due to the area of disturbance being less than 100,000 square feet.

Respectfully Submitted,

BEALS ASSOCIATES, *PLLC*.

Christian O. Smith

Christian O Smith, PE
Principal

Appendix I

Existing Conditions Analysis

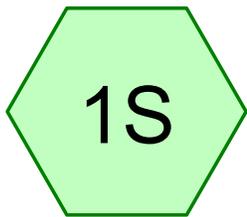
WQV 24-Hour Summary

2-Year 24-Hour Summary

10-Year 24-Hour Complete

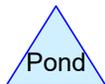
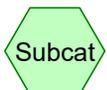
25-Year 24-Hour Complete

50-Year 24-Hour Summary



Site Subcat

Analysis Point - Ex CB



NH-1535 Existing

Prepared by Beals Associates, PLLC

HydroCAD® 10.20-6a s/n 01754 © 2024 HydroCAD Software Solutions LLC

Printed 1/23/2025

Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.220	77	Brush, Fair, HSG D (1S)
0.042	96	Gravel surface, HSG D (1S)
0.023	98	Paved parking, HSG D (1S)
0.031	77	Woods, Good, HSG D (1S)
0.316	81	TOTAL AREA

NH-1535 Existing

Prepared by Beals Associates, PLLC

HydroCAD® 10.20-6a s/n 01754 © 2024 HydroCAD Software Solutions LLC

Printed 1/23/2025

Page 3

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.316	HSG D	1S
0.000	Other	
0.316		TOTAL AREA

NH-1535 Existing

Prepared by Beals Associates, PLLC

HydroCAD® 10.20-6a s/n 01754 © 2024 HydroCAD Software Solutions LLC

Type III 24-hr 1-INCH Rainfall=1.00"

Printed 1/23/2025

Page 4

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Site Subcat

Runoff Area=13,746 sf 7.34% Impervious Runoff Depth=0.18"
Tc=6.0 min CN=WQ Runoff=0.05 cfs 0.005 af

Reach #100: Analysis Point - Ex CB

Inflow=0.05 cfs 0.005 af
Outflow=0.05 cfs 0.005 af

Total Runoff Area = 0.316 ac Runoff Volume = 0.005 af Average Runoff Depth = 0.18"
92.66% Pervious = 0.292 ac 7.34% Impervious = 0.023 ac

NH-1535 Existing

Type III 24-hr 2-YR Rainfall=3.22"

Prepared by Beals Associates, PLLC

Printed 1/23/2025

HydroCAD® 10.20-6a s/n 01754 © 2024 HydroCAD Software Solutions LLC

Page 1

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Site Subcat

Runoff Area=13,746 sf 7.34% Impervious Runoff Depth=1.56"
Tc=6.0 min CN=WQ Runoff=0.52 cfs 0.041 af

Reach #100: Analysis Point - Ex CB

Inflow=0.52 cfs 0.041 af
Outflow=0.52 cfs 0.041 af

Total Runoff Area = 0.316 ac Runoff Volume = 0.041 af Average Runoff Depth = 1.56"
92.66% Pervious = 0.292 ac 7.34% Impervious = 0.023 ac

NH-1535 Existing

Type III 24-hr 10-YR Rainfall=4.91"

Prepared by Beals Associates, PLLC

Printed 1/23/2025

HydroCAD® 10.20-6a s/n 01754 © 2024 HydroCAD Software Solutions LLC

Page 1

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Site Subcat

Runoff Area=13,746 sf 7.34% Impervious Runoff Depth=2.96"
Tc=6.0 min CN=WQ Runoff=0.99 cfs 0.078 af

Reach #100: Analysis Point - Ex CB

Inflow=0.99 cfs 0.078 af
Outflow=0.99 cfs 0.078 af

Total Runoff Area = 0.316 ac Runoff Volume = 0.078 af Average Runoff Depth = 2.96"
92.66% Pervious = 0.292 ac 7.34% Impervious = 0.023 ac

NH-1535 Existing

Prepared by Beals Associates, PLLC

HydroCAD® 10.20-6a s/n 01754 © 2024 HydroCAD Software Solutions LLC

Type III 24-hr 10-YR Rainfall=4.91"

Printed 1/23/2025

Page 2

Summary for Subcatchment 1S: Site Subcat

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.99 cfs @ 12.10 hrs, Volume= 0.078 af, Depth= 2.96"
Routed to Reach #100 : Analysis Point - Ex CB

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-YR Rainfall=4.91"

Area (sf)	CN	Description
1,334	77	Woods, Good, HSG D
9,574	77	Brush, Fair, HSG D
1,009	98	Paved parking, HSG D
1,829	96	Gravel surface, HSG D
13,746		Weighted Average
12,737		92.66% Pervious Area
1,009		7.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Reach #100: Analysis Point - Ex CB

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.316 ac, 7.34% Impervious, Inflow Depth = 2.96" for 10-YR event
Inflow = 0.99 cfs @ 12.10 hrs, Volume= 0.078 af
Outflow = 0.99 cfs @ 12.10 hrs, Volume= 0.078 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

NH-1535 Existing

Type III 24-hr 25-YR Rainfall=6.24"

Prepared by Beals Associates, PLLC

Printed 1/23/2025

HydroCAD® 10.20-6a s/n 01754 © 2024 HydroCAD Software Solutions LLC

Page 1

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Site Subcat

Runoff Area=13,746 sf 7.34% Impervious Runoff Depth=4.14"
Tc=6.0 min CN=WQ Runoff=1.38 cfs 0.109 af

Reach #100: Analysis Point - Ex CB

Inflow=1.38 cfs 0.109 af
Outflow=1.38 cfs 0.109 af

Total Runoff Area = 0.316 ac Runoff Volume = 0.109 af Average Runoff Depth = 4.14"
92.66% Pervious = 0.292 ac 7.34% Impervious = 0.023 ac

NH-1535 Existing

Type III 24-hr 50-YR Rainfall=7.49"

Prepared by Beals Associates, PLLC

Printed 1/23/2025

HydroCAD® 10.20-6a s/n 01754 © 2024 HydroCAD Software Solutions LLC

Page 2

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Site Subcat

Runoff Area=13,746 sf 7.34% Impervious Runoff Depth=5.28"
Tc=6.0 min CN=WQ Runoff=1.76 cfs 0.139 af

Reach #100: Analysis Point - Ex CB

Inflow=1.76 cfs 0.139 af
Outflow=1.76 cfs 0.139 af

Total Runoff Area = 0.316 ac Runoff Volume = 0.139 af Average Runoff Depth = 5.28"
92.66% Pervious = 0.292 ac 7.34% Impervious = 0.023 ac

Appendix II

Proposed Conditions Analysis

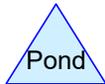
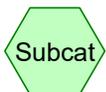
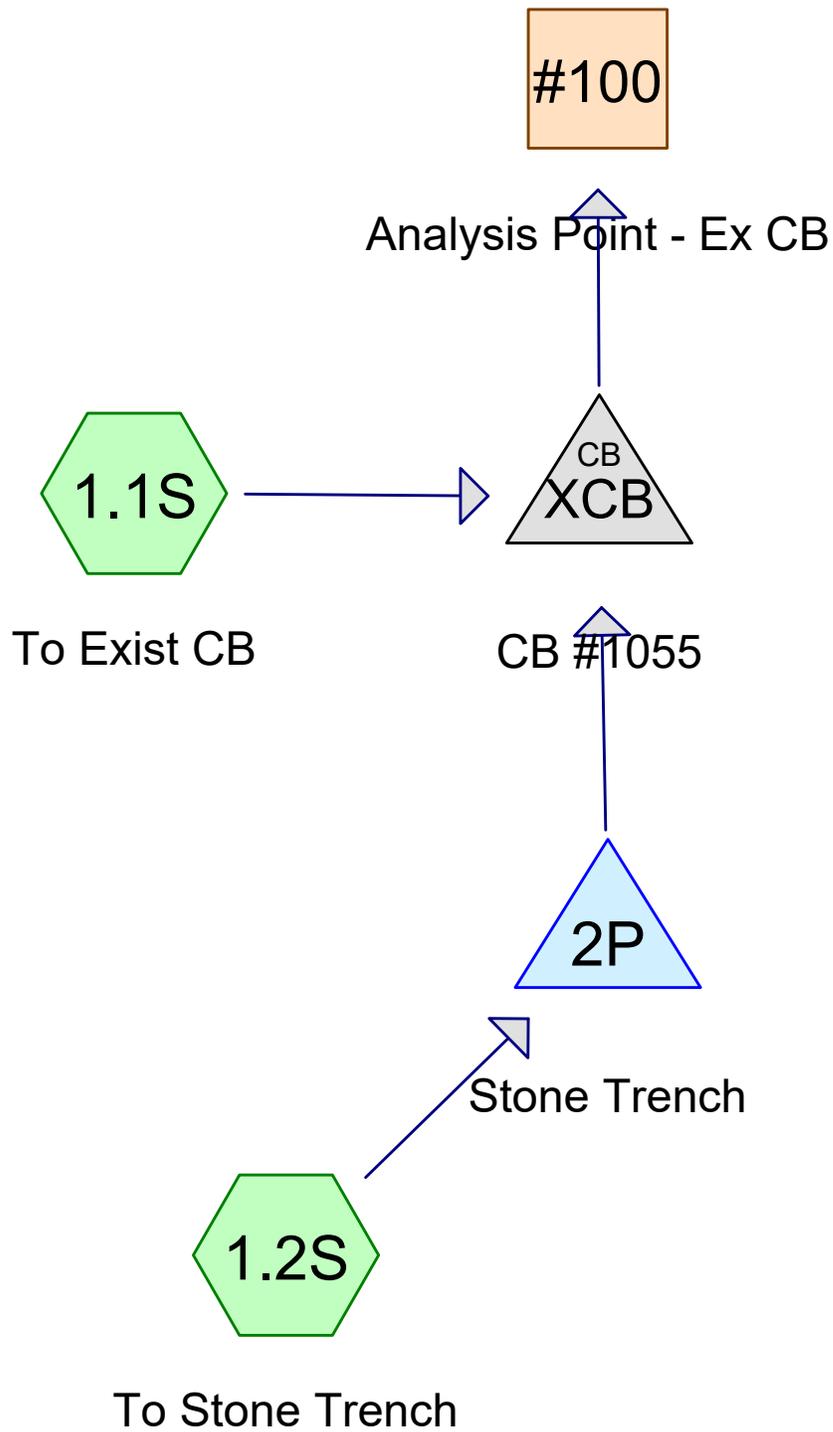
WQV 24-Hour Summary

2-Year 24-Hour Summary

10-Year 24-Hour Complete

25-Year 24-Hour Complete

50-Year 24-Hour Summary



NH-1535 Proposed

Prepared by Beals Associates, PLLC

HydroCAD® 10.20-6a s/n 01754 © 2024 HydroCAD Software Solutions LLC

Printed 3/18/2025

Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.095	80	>75% Grass cover, Good, HSG D (1.1S, 1.2S)
0.103	98	Paved parking, HSG D (1.1S)
0.090	98	Roofs, HSG D (1.1S, 1.2S)
0.028	77	Woods, Good, HSG D (1.1S, 1.2S)
0.316	91	TOTAL AREA

NH-1535 Proposed

Prepared by Beals Associates, PLLC

HydroCAD® 10.20-6a s/n 01754 © 2024 HydroCAD Software Solutions LLC

Printed 3/18/2025

Page 3

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.316	HSG D	1.1S, 1.2S
0.000	Other	
0.316		TOTAL AREA

NH-1535 Proposed

Type III 24-hr 1-INCH Rainfall=1.00"

Prepared by Beals Associates, PLLC

Printed 3/18/2025

HydroCAD® 10.20-6a s/n 01754 © 2024 HydroCAD Software Solutions LLC

Page 4

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1S: To Exist CB Runoff Area=10,423 sf 71.26% Impervious Runoff Depth=0.59"
Tc=6.0 min CN=WQ Runoff=0.14 cfs 0.012 af

Subcatchment 1.2S: To Stone Trench Runoff Area=3,323 sf 29.34% Impervious Runoff Depth=0.28"
Tc=6.0 min CN=WQ Runoff=0.02 cfs 0.002 af

Reach #100: AnalysisPoint - Ex CB Inflow=0.14 cfs 0.012 af
Outflow=0.14 cfs 0.012 af

Pond 2P: Stone Trench Peak Elev=48.00' Storage=0 cf Inflow=0.02 cfs 0.002 af
Discarded=0.02 cfs 0.002 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.002 af

Pond XCB: CB #1055 Peak Elev=39.26' Inflow=0.14 cfs 0.012 af
15.0" Round Culvert n=0.012 L=50.0' S=0.0100 '/ Outflow=0.14 cfs 0.012 af

Total Runoff Area = 0.316 ac Runoff Volume = 0.013 af Average Runoff Depth = 0.51"
38.88% Pervious = 0.123 ac 61.12% Impervious = 0.193 ac

NH-1535 Proposed

Type III 24-hr 2-YR Rainfall=3.22"

Prepared by Beals Associates, PLLC

Printed 3/18/2025

HydroCAD® 10.20-6a s/n 01754 © 2024 HydroCAD Software Solutions LLC

Page 1

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1S: To Exist CB Runoff Area=10,423 sf 71.26% Impervious Runoff Depth=2.53"
Tc=6.0 min CN=WQ Runoff=0.60 cfs 0.050 af

Subcatchment 1.2S: To Stone Trench Runoff Area=3,323 sf 29.34% Impervious Runoff Depth=1.82"
Tc=6.0 min CN=WQ Runoff=0.14 cfs 0.012 af

Reach #100: Analysis Point - Ex CB Inflow=0.60 cfs 0.050 af
Outflow=0.60 cfs 0.050 af

Pond 2P: Stone Trench Peak Elev=48.00' Storage=0 cf Inflow=0.14 cfs 0.012 af
Discarded=0.14 cfs 0.012 af Primary=0.00 cfs 0.000 af Outflow=0.14 cfs 0.012 af

Pond XCB: CB #1055 Peak Elev=39.45' Inflow=0.60 cfs 0.050 af
15.0" Round Culvert n=0.012 L=50.0' S=0.0100 '/' Outflow=0.60 cfs 0.050 af

Total Runoff Area = 0.316 ac Runoff Volume = 0.062 af Average Runoff Depth = 2.36"
38.88% Pervious = 0.123 ac 61.12% Impervious = 0.193 ac

NH-1535 Proposed

Type III 24-hr 10-YR Rainfall=4.91"

Prepared by Beals Associates, PLLC

Printed 3/18/2025

HydroCAD® 10.20-6a s/n 01754 © 2024 HydroCAD Software Solutions LLC

Page 1

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1S: To Exist CB

Runoff Area=10,423 sf 71.26% Impervious Runoff Depth=4.13"
Tc=6.0 min CN=WQ Runoff=0.97 cfs 0.082 af

Subcatchment 1.2S: To Stone Trench

Runoff Area=3,323 sf 29.34% Impervious Runoff Depth=3.28"
Tc=6.0 min CN=WQ Runoff=0.26 cfs 0.021 af

Reach #100: Analysis Point - Ex CB

Inflow=0.97 cfs 0.082 af
Outflow=0.97 cfs 0.082 af

Pond 2P: Stone Trench

Peak Elev=48.00' Storage=0 cf Inflow=0.26 cfs 0.021 af
Discarded=0.26 cfs 0.021 af Primary=0.00 cfs 0.000 af Outflow=0.26 cfs 0.021 af

Pond XCB: CB #1055

Peak Elev=39.56' Inflow=0.97 cfs 0.082 af
15.0" Round Culvert n=0.012 L=50.0' S=0.0100 '/' Outflow=0.97 cfs 0.082 af

Total Runoff Area = 0.316 ac Runoff Volume = 0.103 af Average Runoff Depth = 3.93"
38.88% Pervious = 0.123 ac 61.12% Impervious = 0.193 ac

NH-1535 Proposed

Prepared by Beals Associates, PLLC

HydroCAD® 10.20-6a s/n 01754 © 2024 HydroCAD Software Solutions LLC

Type III 24-hr 10-YR Rainfall=4.91"

Printed 3/18/2025

Page 2

Summary for Subcatchment 1.1S: To Exist CB

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.97 cfs @ 12.10 hrs, Volume= 0.082 af, Depth= 4.13"
Routed to Pond XCB : CB #1055

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-YR Rainfall=4.91"

Area (sf)	CN	Description
234	77	Woods, Good, HSG D
2,762	80	>75% Grass cover, Good, HSG D
4,502	98	Paved parking, HSG D
2,925	98	Roofs, HSG D
10,423		Weighted Average
2,996		28.74% Pervious Area
7,427		71.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 1.2S: To Stone Trench

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.26 cfs @ 12.10 hrs, Volume= 0.021 af, Depth= 3.28"
Routed to Pond 2P : Stone Trench

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-YR Rainfall=4.91"

Area (sf)	CN	Description
979	77	Woods, Good, HSG D
1,369	80	>75% Grass cover, Good, HSG D
0	98	Paved parking, HSG D
975	98	Roofs, HSG D
3,323		Weighted Average
2,348		70.66% Pervious Area
975		29.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

NH-1535 Proposed

Prepared by Beals Associates, PLLC

HydroCAD® 10.20-6a s/n 01754 © 2024 HydroCAD Software Solutions LLC

Type III 24-hr 10-YR Rainfall=4.91"

Printed 3/18/2025

Page 3

Summary for Reach #100: Analysis Point - Ex CB

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.316 ac, 61.12% Impervious, Inflow Depth = 3.13" for 10-YR event
 Inflow = 0.97 cfs @ 12.10 hrs, Volume= 0.082 af
 Outflow = 0.97 cfs @ 12.10 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Summary for Pond 2P: Stone Trench

Inflow Area = 0.076 ac, 29.34% Impervious, Inflow Depth = 3.28" for 10-YR event
 Inflow = 0.26 cfs @ 12.10 hrs, Volume= 0.021 af
 Outflow = 0.26 cfs @ 12.10 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.0 min
 Discarded = 0.26 cfs @ 12.10 hrs, Volume= 0.021 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond XCB : CB #1055

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
 Peak Elev= 48.00' @ 0.00 hrs Surf.Area= 223 sf Storage= 0 cf
 Flood Elev= 53.00' Surf.Area= 223 sf Storage= 357 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 0.0 min (793.4 - 793.4)

Volume	Invert	Avail.Storage	Storage Description
#1	48.00'	357 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 892 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
48.00	223	0	0
52.00	223	892	892

Device	Routing	Invert	Outlet Devices
#1	Discarded	48.00'	3.00 cfs Exfiltration at all elevations
#2	Primary	51.90'	4.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Discarded OutFlow Max=0.00 cfs @ 12.10 hrs HW=48.00' (Free Discharge)
 ↑1=Exfiltration (Passes 0.00 cfs of 3.00 cfs potential flow)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=48.00' TW=39.09' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

NH-1535 Proposed

Type III 24-hr 10-YR Rainfall=4.91"

Prepared by Beals Associates, PLLC

Printed 3/18/2025

HydroCAD® 10.20-6a s/n 01754 © 2024 HydroCAD Software Solutions LLC

Page 4

Summary for Pond XCB: CB #1055

Inflow Area = 0.316 ac, 61.12% Impervious, Inflow Depth = 3.13" for 10-YR event
 Inflow = 0.97 cfs @ 12.10 hrs, Volume= 0.082 af
 Outflow = 0.97 cfs @ 12.10 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.97 cfs @ 12.10 hrs, Volume= 0.082 af
 Routed to Reach #100 : Analysis Point - Ex CB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
 Peak Elev= 39.56' @ 12.09 hrs
 Flood Elev= 43.87'

Device	Routing	Invert	Outlet Devices
#1	Primary	39.09'	15.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 39.09' / 38.59' S= 0.0100 '/ Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.23 sf

Primary OutFlow Max=0.96 cfs @ 12.10 hrs HW=39.55' TW=0.00' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 0.96 cfs @ 2.32 fps)

NH-1535 Proposed

Type III 24-hr 25-YR Rainfall=6.24"

Prepared by Beals Associates, PLLC

Printed 3/18/2025

HydroCAD® 10.20-6a s/n 01754 © 2024 HydroCAD Software Solutions LLC

Page 1

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1S: To Exist CB Runoff Area=10,423 sf 71.26% Impervious Runoff Depth=5.42"
Tc=6.0 min CN=WQ Runoff=1.27 cfs 0.108 af

Subcatchment 1.2S: To Stone Trench Runoff Area=3,323 sf 29.34% Impervious Runoff Depth=4.50"
Tc=6.0 min CN=WQ Runoff=0.36 cfs 0.029 af

Reach #100: AnalysisPoint - Ex CB Inflow=1.27 cfs 0.108 af
Outflow=1.27 cfs 0.108 af

Pond 2P: Stone Trench Peak Elev=48.00' Storage=0 cf Inflow=0.36 cfs 0.029 af
Discarded=0.36 cfs 0.029 af Primary=0.00 cfs 0.000 af Outflow=0.36 cfs 0.029 af

Pond XCB: CB #1055 Peak Elev=39.63' Inflow=1.27 cfs 0.108 af
15.0" Round Culvert n=0.012 L=50.0' S=0.0100 '/' Outflow=1.27 cfs 0.108 af

Total Runoff Area = 0.316 ac Runoff Volume = 0.137 af Average Runoff Depth = 5.20"
38.88% Pervious = 0.123 ac 61.12% Impervious = 0.193 ac

NH-1535 Proposed

Type III 24-hr 50-YR Rainfall=7.49"

Prepared by Beals Associates, PLLC

Printed 3/18/2025

HydroCAD® 10.20-6a s/n 01754 © 2024 HydroCAD Software Solutions LLC

Page 2

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1S: To Exist CB Runoff Area=10,423 sf 71.26% Impervious Runoff Depth=6.64"
Tc=6.0 min CN=WQ Runoff=1.55 cfs 0.132 af

Subcatchment 1.2S: To Stone Trench Runoff Area=3,323 sf 29.34% Impervious Runoff Depth=5.67"
Tc=6.0 min CN=WQ Runoff=0.45 cfs 0.036 af

Reach #100: Analysis Point - Ex CB Inflow=1.55 cfs 0.132 af
Outflow=1.55 cfs 0.132 af

Pond 2P: Stone Trench Peak Elev=48.00' Storage=0 cf Inflow=0.45 cfs 0.036 af
Discarded=0.45 cfs 0.036 af Primary=0.00 cfs 0.000 af Outflow=0.45 cfs 0.036 af

Pond XCB: CB #1055 Peak Elev=39.70' Inflow=1.55 cfs 0.132 af
15.0" Round Culvert n=0.012 L=50.0' S=0.0100 '/' Outflow=1.55 cfs 0.132 af

Total Runoff Area = 0.316 ac Runoff Volume = 0.168 af Average Runoff Depth = 6.40"
38.88% Pervious = 0.123 ac 61.12% Impervious = 0.193 ac

Appendix III

Charts, Graphs, and Calculations

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Metadata for Point

Smoothing	No
State	New Hampshire
Location	New Hampshire, United States
Latitude	42.984 degrees North
Longitude	70.938 degrees West
Elevation	10 feet
Date/Time	Wed Jan 08 2025 12:33:10 GMT-0500 (Eastern Standard Time)

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr
1yr	0.26	0.41	0.50	0.67	0.82	1.01	1yr	0.71	0.99	1.14	1.57	2.00	2.68	2.91
2yr	0.32	0.50	0.61	0.83	1.02	1.21	2yr	0.88	1.18	1.40	1.85	2.39	3.22	3.57
5yr	0.37	0.58	0.72	0.99	1.25	1.50	5yr	1.08	1.47	1.73	2.30	2.93	4.09	4.59
10yr	0.42	0.65	0.81	1.13	1.46	1.77	10yr	1.26	1.73	2.04	2.70	3.42	4.91	5.56
25yr	0.50	0.77	0.95	1.36	1.79	2.20	25yr	1.55	2.15	2.53	3.35	4.20	6.24	7.15
50yr	0.57	0.87	1.08	1.56	2.10	2.60	50yr	1.81	2.54	2.98	3.94	4.91	7.49	8.66
100yr	0.66	0.99	1.24	1.79	2.45	3.07	100yr	2.12	3.00	3.52	4.64	5.74	9.00	10.49
200yr	0.75	1.12	1.42	2.06	2.87	3.63	200yr	2.48	3.55	4.15	5.47	6.71	10.81	12.71
500yr	0.90	1.33	1.72	2.49	3.55	4.53	500yr	3.06	4.43	5.17	6.80	8.27	13.77	16.39

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr
1yr	0.24	0.37	0.45	0.60	0.74	0.89	1yr	0.64	0.87	0.95	1.26	1.55	2.28	2.54
2yr	0.32	0.49	0.60	0.81	1.00	1.19	2yr	0.87	1.16	1.37	1.82	2.33	3.11	3.50
5yr	0.36	0.55	0.68	0.93	1.19	1.42	5yr	1.03	1.39	1.62	2.12	2.74	3.82	4.28
10yr	0.39	0.61	0.75	1.05	1.35	1.63	10yr	1.17	1.59	1.82	2.40	3.07	4.41	4.97
25yr	0.45	0.69	0.86	1.23	1.61	1.95	25yr	1.39	1.90	2.12	2.78	3.58	4.90	6.06
50yr	0.50	0.77	0.95	1.37	1.85	2.24	50yr	1.59	2.19	2.36	3.12	4.01	5.54	7.02
100yr	0.57	0.85	1.07	1.55	2.12	2.57	100yr	1.83	2.51	2.65	3.48	4.48	6.25	8.12
200yr	0.63	0.95	1.20	1.74	2.43	2.95	200yr	2.10	2.88	2.95	3.88	4.99	7.01	9.65
500yr	0.74	1.11	1.42	2.07	2.94	3.56	500yr	2.54	3.48	3.42	4.48	5.80	8.14	11.77

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr
1yr	0.28	0.44	0.54	0.72	0.89	1.08	1yr	0.76	1.06	1.26	1.71	2.17	2.97	3.10
2yr	0.33	0.51	0.63	0.86	1.05	1.26	2yr	0.91	1.23	1.48	1.95	2.49	3.40	3.66



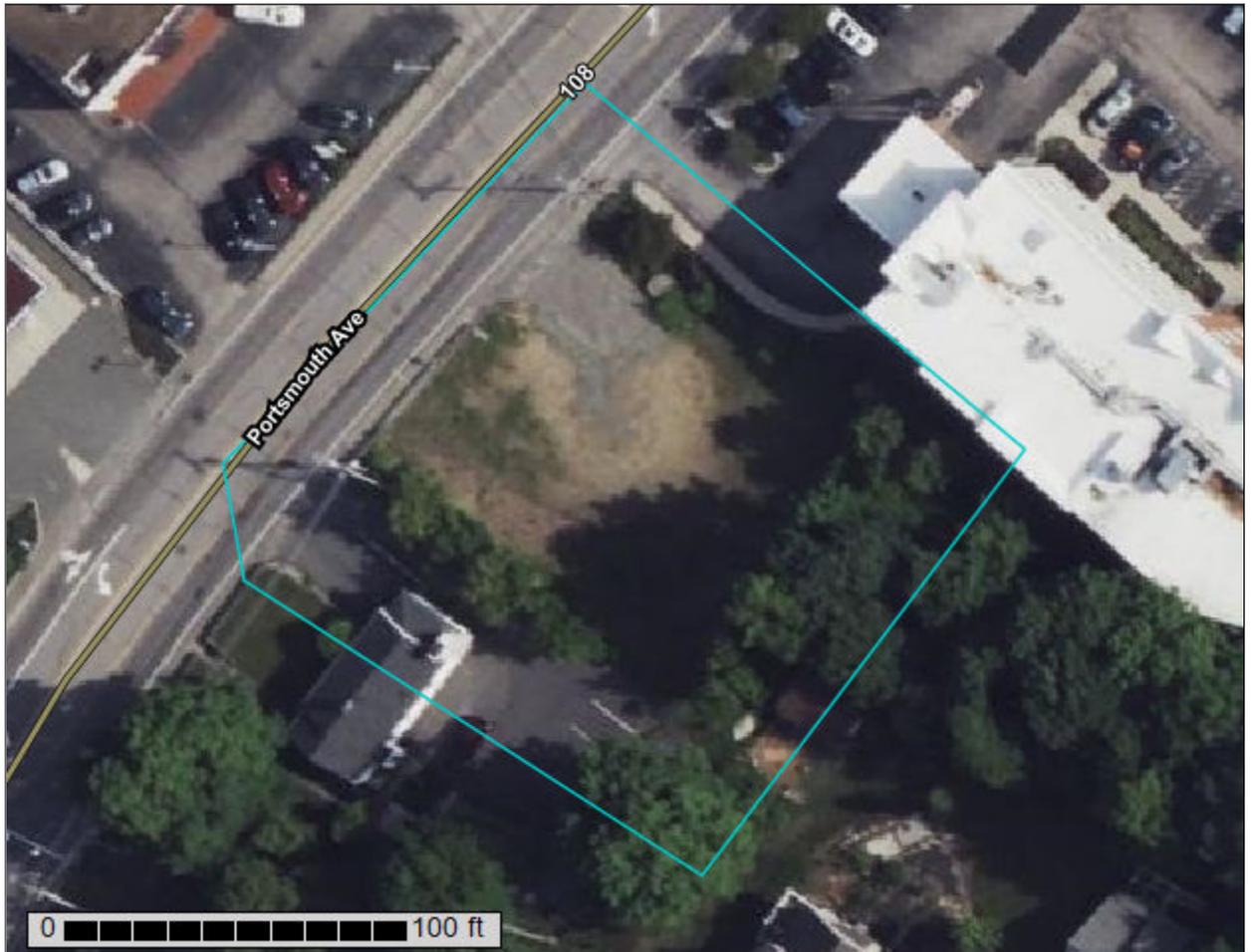
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Rockingham County, New Hampshire



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	11
Rockingham County, New Hampshire.....	13
538A—Squamscott fine sandy loam, 0 to 5 percent slopes.....	13
699—Urban land.....	14
References	15

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

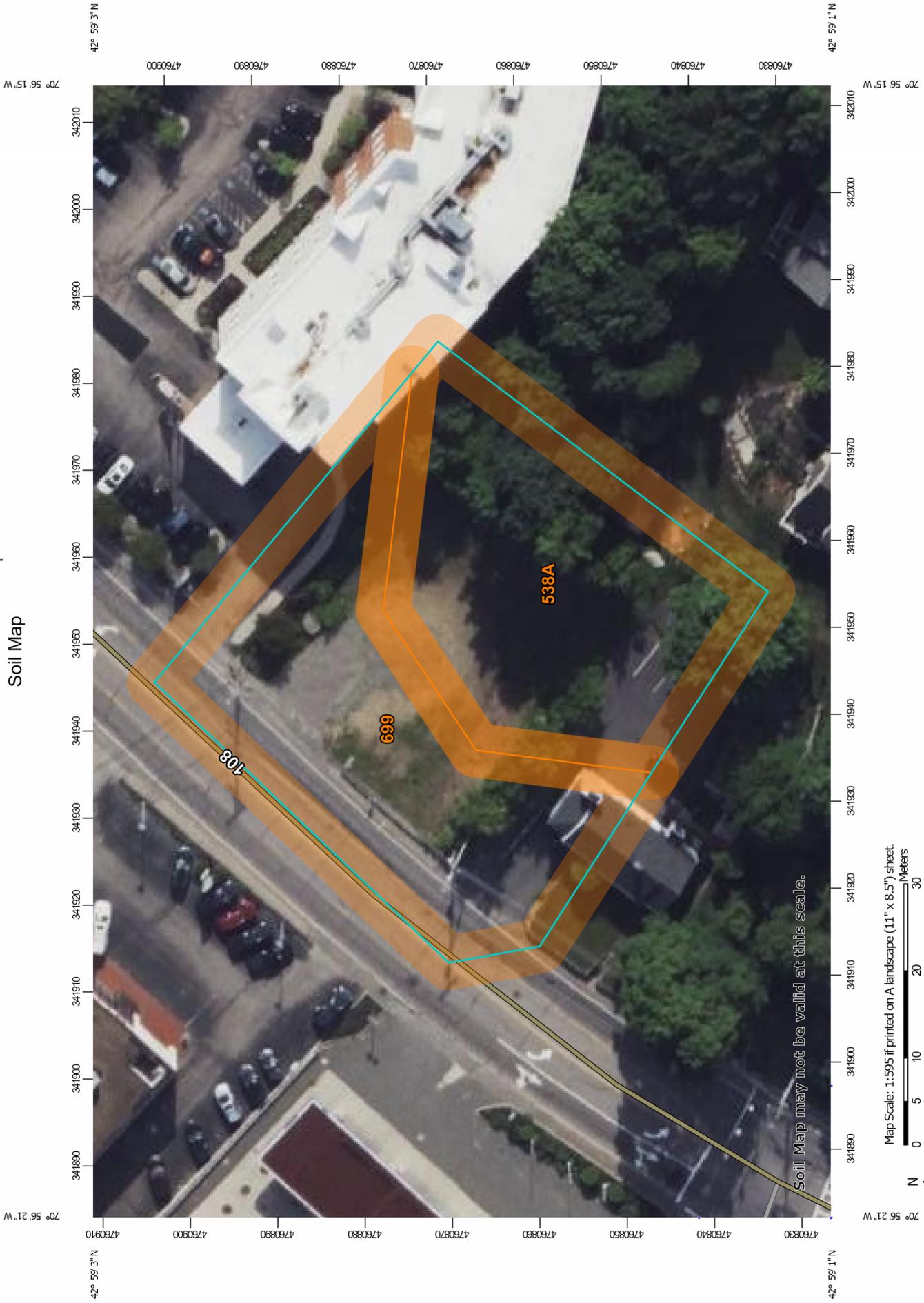
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.

Map Scale: 1:595 if printed on A landscape (11" x 8.5") sheet.



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

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

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

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Rockingham County, New Hampshire
 Survey Area Data: Version 27, Sep 3, 2024

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

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

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
538A	Squamscott fine sandy loam, 0 to 5 percent slopes	0.3	48.1%
699	Urban land	0.3	51.9%
Totals for Area of Interest		0.7	100.0%

Map Unit Descriptions

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

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

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

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

Custom Soil Resource Report

onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Rockingham County, New Hampshire

538A—Squamscott fine sandy loam, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 9cp9
Elevation: 0 to 1,000 feet
Mean annual precipitation: 30 to 55 inches
Mean annual air temperature: 45 to 54 degrees F
Frost-free period: 120 to 180 days
Farmland classification: Farmland of local importance

Map Unit Composition

Squamscott and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Squamscott

Setting

Landform: Marine terraces

Typical profile

H1 - 0 to 4 inches: fine sandy loam
H2 - 4 to 12 inches: loamy sand
H3 - 12 to 19 inches: fine sand
H4 - 19 to 65 inches: silt loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F144AY019NH - Wet Lake Plain
Hydric soil rating: Yes

Minor Components

Maybid

Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

Scitico

Percent of map unit: 5 percent

Custom Soil Resource Report

Landform: Marine terraces

Hydric soil rating: Yes

Eldridge

Percent of map unit: 5 percent

Hydric soil rating: No

699—Urban land

Map Unit Composition

Urban land: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Minor Components

Not named

Percent of map unit: 15 percent

Hydric soil rating: No

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

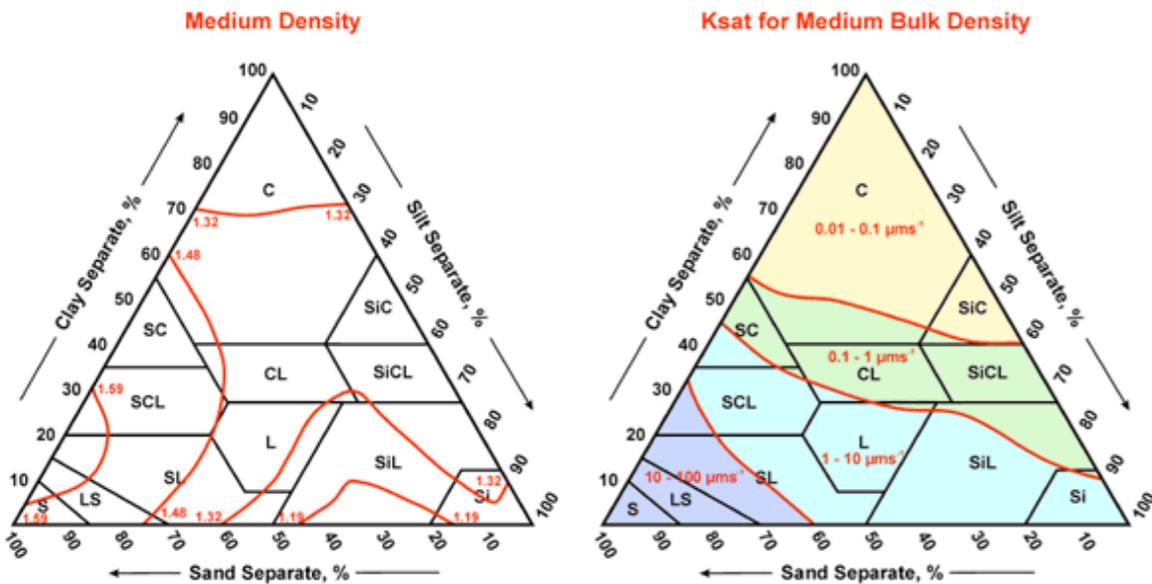
United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

K_{sat} VALUES

FOR

NEW HAMPSHIRE SOILS

(Including Hydrologic and DES Soil Lot Sizing Groups)



From: Guide for Estimating Ksat from Soil Properties (Exhibit 618-9). (<http://soils.usda.gov/technical/handbook/contents/part618ex.html>)

Sponsored by the Society of Soil Scientists of Northern New England
 SSSNNE Special Publication No. 5
 September, 2009

Soil Series	legend number	Ksat low - B in/hr	Ksat high - B in/hr	Ksat low - C in/hr	Ksat high - C in/hr	Hyd. Grp.	Group	Land Form	Temp.	Soil Textures	Spodosol ?	Other
Mundal	610	0.6	2.0	0.06	0.6	C	3	Firm, platy, loamy till	frigid	loamy	yes	gravelly sandy loam in Cd
Natchaug	496			0.20	2.0	D	6	Organic Materials - Freshwater	mesic	loamy	no	organic over loam
Naumburg	214	6.0	20.0	6.00	20.0	C	5	Outwash and Stream Terraces	frigid	sandy	yes	
Newfields	444	0.6	2.0	0.60	2.0	B	3	Loose till, sandy textures	mesic	loamy over sandy	no	sandy or sandy-skeletal
Nicholville	632	0.6	2.0	0.60	2.0	C	3	Terraces and glacial lake plains	frigid	silty	yes	very fine sandy loam
Ninigret	513	0.6	6.0	6.00	20.0	B	3	Outwash and Stream Terraces	mesic	loamy over sandy	no	sandy or sandy-skeletal
Occum	1	0.6	2.0	6.00	20.0	B	2	Flood Plain (Bottom Land)	mesic	loamy	no	loamy over loamy sand
Ondawa	101	0.6	6.0	6.00	20.0	B	2	Flood Plain (Bottom Land)	frigid	loamy	no	loamy over loamy sand
Ondawa	201	0.6	6.0	6.00	20.0	B	2	Flood Plain (Bottom Land)	frigid	loamy	no	occ flood, loamy over l. sand
Ossipee	495			0.20	2.0	D	6	Organic Materials - Freshwater	frigid	loamy	no	organic over loam
Pawcatuck	497			20.00	100.0	D	6	Tidal Flat	mesic	sandy or sandy-skeletal	no	organic over sand
Paxton	66	0.6	2.0	0.00	0.2	C	3	Firm, platy, loamy till	mesic	loamy	no	
Peacham	549	0.6	2.0	0.00	0.2	D	6	Firm, platy, silty till, schist & phyllite	frigid	loamy	no	organic over loam
Pemi	633	0.6	2.0	0.06	0.6	C	5	Terraces and glacial lake plains	frigid	silty	no	
Pennichuck	460	0.6	2.0	0.60	2.0	B	4	Friable till, silty, schist & phyllite	mesic	loamy-skeletal	no	20 to 40 in. deep
Peru	78	0.6	2.0	0.06	0.6	C	3	Firm, platy, loamy till	frigid	loamy	yes	
Pillsbury	646	0.6	2.0	0.06	0.2	C	5	Firm, platy, loamy till	frigid	silty	no	
Pipestone	314					B	5	Outwash and Stream Terraces	mesic	sandy	yes	
Pittstown	334	0.6	2.0	0.06	0.2	C	3	Firm, platy, silty till, schist & phyllite	mesic	loamy	no	channery silt loam in Cd
Plaisted	563	0.6	2.0	0.06	0.6	C	3	Firm, platy, silty till, schist & phyllite	frigid	loamy	yes	channery silt loam in Cd
Podunk	104	0.6	6.0	6.00	20.0	B	3	Flood Plain (Bottom Land)	frigid	loamy	no	loamy to coarse sand in C
Pondicherry	992			6.00	20.0	D	6	Organic Materials - Freshwater	frigid	sandy or sandy-skeletal	no	organic over sand
Poocham	230	0.6	2.0	0.20	2.0	B	3	Terraces and glacial lake plains	mesic	silty	no	silt loam in C
Pootatuck	4	0.6	6.0	6.00	20.0	B	3	Flood Plain (Bottom Land)	mesic	loamy	no	single grain in C
Quonset	310	2.0	20.0	20.00	100.0	A	1	Outwash and Stream Terraces	mesic	sandy-skeletal	no	shale
Rawsonville	98	0.6	6.0	0.60	6.0	C	4	Loose till, bedrock	frigid	loamy	yes	20 to 40 in. deep
Raynham	533	0.2	2.0	0.06	0.2	C	5	Terraces and glacial lake plains	mesic	silty	no	
Raypol	540	0.6	2.0	6.00	100.0	D	5	Outwash and Stream Terraces	mesic	co. loamy over sandy (skeletal)	no	
Redstone	665	2.0	6.0	6.00	20.0	A	1	Weathered Bedrock Till	frigid	fragmental	yes	loamy cap
Ricker	674	2.0	6.0	2.00	6.0	A	4	Organic over bedrock (up to 4" of mineral)	cryic	fibric to hemic	no	well drained, less than 20 in. deep
Ridgebury	656	0.6	6.0	0.00	0.2	C	5	Firm, platy, loamy till	mesic	loamy	no	
Rippowam	5	0.6	6.0	6.00	20.0	C	5	Flood Plain (Bottom Land)	mesic	loamy	no	
Roundabout	333	0.2	2.0	0.06	0.6	C	5	Terraces and glacial lake plains	frigid	silty	no	silt loam in the C
Rumney	105	0.6	6.0	6.00	20.0	C	5	Flood Plain (Bottom Land)	frigid	loamy	no	
Saco	6	0.6	2.0	6.00	20.0	D	6	Flood Plain (Bottom Land)	mesic	silty	no	strata
Saddleback	673	0.6	2.0	0.60	2.0	C/D	4	Loose till, bedrock	cryic	loamy	yes	less than 20 in. deep
Salmon	630	0.6	2.0	0.60	2.0	B	2	Terraces and glacial lake plains	frigid	silty	yes	very fine sandy loam
Saugatuck	16	0.06	0.2	6.00	20.0	C	5	Outwash and Stream Terraces	mesic	sandy	yes	ortstein
Scantic	233	0.0	0.2	0.00	0.2	D	5	Silt and Clay Deposits	frigid	fine	no	
Scarboro	115	6.0	20.0	6.00	20.0	D	6	Outwash and Stream Terraces	mesic	sandy	no	organic over sand, non stony
Scio	531	0.6	2.0	0.60	2.0	B	3	Terraces and glacial lake plains	mesic	silty	no	gravelly sand in 2C
Scitico	33	0.0	0.2	0.00	0.2	C	5	Silt and Clay Deposits	mesic	fine	no	
Scituate	448	0.6	2.0	0.06	0.2	C	3	Firm, platy, sandy till	mesic	loamy	no	loamy sand in Cd
Searsport	15	6.0	20.0	6.00	20.0	D	6	Outwash and Stream Terraces	frigid	sandy	no	organic over sand
Shaker	439	2.0	6.0	0.00	0.2	C	5	Sandy/loamy over silt/clay	mesic	co. loamy over clayey	no	
Shapleigh	136					C/D	4	Sandy Till	mesic	sandy	yes	less than 20 in. deep
Sheepscoot	14	6.0	20.0	6.00	20.0	B	3	Outwash and Stream Terraces	frigid	sandy-skeletal	yes	gravelly coarse sand
Sisk	667	0.6	2.0	0.00	0.6	C	3	Firm, platy, loamy till	cryic	loamy	yes	sandy loam in Cd
Skerry	558	0.6	2.0	0.06	0.6	C	3	Firm, platy, sandy till	frigid	loamy	yes	loamy sand in Cd
Squamscott	538	6.0	20.0	0.06	0.6	C	5	Sandy/loamy over silt/clay	mesic	sandy over loamy	yes	
Stetson	523	0.6	6.0	6.00	20.0	B	2	Outwash and Stream Terraces	frigid	sandy-skeletal	yes	loamy over gravelly
Stissing	340	0.6	2.0	0.06	0.2	C	5	Firm, platy, silty till, schist & phyllite	mesic	loamy	no	
Success	154	2.0	6.0	6.00	20.0	A	1	Sandy Till	frigid	sandy-skeletal	yes	cemented
Sudbury	118	2.0	6.0	2.00	20.0	B	3	Outwash and Stream Terraces	mesic	sandy	no	loam over gravelly sand

STORMWATER MANAGEMENT / BMP INSPECTION & MAINTENANCE PLAN

RESIDENTIAL DEVELOPMENT 57 PORTSMOUTH AVENUE, EXETER, NH

NH-1535
January 2025

Proper construction, inspections, maintenance, and repairs are key elements in maintaining a successful stormwater management program on a developed property. Routine inspections ensure permit compliance and reduce the potential for deterioration of infrastructure or reduced water quality.

For the purpose of this Stormwater Management Program, a significant rainfall event is considered an event of three (3) inches or more in a 24-hour period or at least 0.5 inches in a one-hour period. During construction, inspections should be conducted every two weeks or after a 0.25" rainfall event in a 24-hour period per the EPA NPDES Phase II SWPPP, until the entire disturbed area is fully restabilized. Upon full stabilization of the project and filing of an NOI, inspections need only be conducted after a significant rainfall event as described above or as described in the maintenance guidelines below.

During construction activities Stonearch Development Corporation with an address of 42J Dover Point Road, Dover, NH 03820 and a phone of (978) 375-3153 or their heirs and/or assigns, shall be responsible for inspections and maintenance activities for the above project site. Stonearch Development Corporation shall be responsible for *ongoing inspection and maintenance* of the BMP drainage structures and treatment areas.

The owner is responsible to ensure that any subsequent owner has copies of the Log Form and Annual Report records and fully understands the responsibilities of this plan. The grantor owner(s) will ensure this document is provided to the grantee owner(s) by duplicating the Ownership Responsibility Sheet which is found toward the back of this document, which will be maintained with the Inspection & Maintenance Logs and provided to the Town of Exeter upon request.

Documentation:

A maintenance log (i.e., report) will be kept summarizing inspections, maintenance, and any corrective actions taken. The log will include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task (see Stormwater System Operation and Maintenance Plan Inspection & Maintenance Manual Checklist attached). If a maintenance task requires the clean-out of any sediments or debris, the location where the sediment and debris was disposed after removal shall be indicated.

Best Management Practices (BMP) Maintenance Guidelines

The following provides a list of recommendations and guidelines for managing the Stormwater facilities. The cited areas, facilities, and measures will be inspected and the identified deficiencies will be corrected. Clean-out must include the removal and legal disposal of any accumulated sediments and debris.

DURING CONSTRUCTION

1. Stabilized Construction Entrance

A temporary gravel construction entrance provides an area where mud can be dislodged from tires before the vehicle leaves the construction site to reduce the amount of mud and sediment transported onto paved municipal and state roads. The stone size for the pad should be between 1 and 2-inch coarse aggregate, and the pad itself constructed to a minimum length of 50' for the full width of the access road. The aggregate should be placed at least six inches thick. A plan view and profile are shown on Sheet E1 - Sediment and Erosion Control Detail Plan.

2. Dust Control

Dust will be controlled on the site using multiple BMPs. Mulching and temporary seeding will be the first line of protection to be utilized where problems occur. If dust problems are not solved by these applications, the use of water and calcium chloride can be applied. Calcium chloride will be applied at a rate that will keep the surface moist but not cause pollution.

3. Temporary Erosion and Sediment Control Devices / Barriers

Function – Temporary erosion and sediment control devices are utilized during construction period to divert, store and filter stormwater from non-stabilized surfaces. These devices include, but are not limited to: silt fences, hay bales, filters, sediment traps, stone check dams, mulch and erosion control blankets.

Maintenance – Temporary erosion and sediment control devices shall be inspected and maintained on a weekly basis and following a significant storm event (>0.5-inch rain event) throughout the construction period to ensure that they still have integrity and are not allowing sediment to pass. Sediment build-up in swales will be removed if it is deeper than six inches. Sediment is to be removed from sumps in the catch basin semi-annually. Refer to the Site Plan drawings for the maintenance of temporary erosion and sediment control devices.

4. Invasive Species

THE NH COMMISSIONER OF AGRICULTURE PROHIBITS THE COLLECTION, POSSESSION, IMPORTATION, TRANSPORTATION, SALE, PROPAGATION, TRANSPLANTATION, OR CULTIVATION OF PLANTS BANNED BY NH LAW RSA 430:53 AND NH CODE ADMINISTRATIVE RULES AGR 3800. THE PROJECT

SHALL MEET ALL REQUIREMENTS AND THE INTENT OF. RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.

POST CONSTRUCTION / LONG TERM MAINTENANCE:

5. Catch Basins/Manholes

Inspect catch basins 2 times per year (preferably in spring and fall) to ensure that the catch basins are working in their intended fashion and that they are free of debris. Clean structures when sediment depths reach 12” from invert of outlet. If the basin outlet is designed with a hood to trap floatable materials (i.e. Snout), check to ensure watertight seal is working. Remove floating debris and hydrocarbons at the time of the inspection.

6. Culverts

Inspect culverts 2 times per year (preferably in spring and fall) to ensure that the culverts are working in their intended fashion and that they are free of debris. Remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit and to repair any erosion damage at the culvert’s inlet and outlet. Repair/replace culvert if it becomes crushed or deteriorated.

7. Vegetated Areas

Inspect slopes and embankments early in the growing season to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows. The facilities will be inspected after major storms and any identified deficiencies will be corrected.

8. Roadways and Paved Surfaces

Clear accumulations of winter sand along roadways at least once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader.

9. Invasive Species

Background

Invasive plants are introduced, alien, or non-native plants, which have been moved by people from their native habitat to a new area. Some exotic plants are imported for human use such as landscaping, erosion control, or food crops. They also can arrive as "hitchhikers" among shipments of other plants, seeds, packing materials, or fresh produce. Some exotic plants become invasive and cause harm by:

- Becoming weedy and overgrown;
- Killing established shade trees;

- Obstructing pipes and drainage systems;
- Forming dense beds in water;
- Lowering water levels in lakes, streams, and wetlands;
- Destroying natural communities;
- Promoting erosion on stream banks and hillsides; and
- Resisting control except by hazardous chemical.

During maintenance activities, check for the presence of invasive plants and remove in a safe manner. They should be controlled as described on the following fact sheet prepared by the University of New Hampshire Cooperative Extension entitled Methods for Disposing Non-Native Invasive Plant dated January 2010.

In the event that invasive species are noticed growing in any of the stormwater management practices, the invasive vegetation shall be removed completely to include root matter and disposed of properly. Prior to disposal, the vegetation shall be placed on and completely cover with a plastic tarp for a period of two – three weeks until plants are completely dead. If necessary or to expedite the process, spray only the invasive vegetation and roots with a systemic nonselective herbicide after placement on the tarp (to prevent chemical migration) and then cover.

Annual Report

Description: The owner is responsible to keep an **Inspection & Maintenance Activity Log** that documents inspection, maintenance, and repairs to the storm water management system, and a **Deicing Log** to track the amount and type of deicing material applied to the site. The original owner is responsible to ensure that any subsequent owner (s) have copies of the Stormwater System Operation and Maintenance Plan & Inspection and Maintenance Manual, copies of past logs and check lists. This includes any owner association for potential condominium conversion of the property. The Annual Report will be prepared and submitted to the Town of Exeter DPW upon request.

Disposal Requirements

Disposal of debris, trash, sediment, and other waste materials should be done at suitable disposal/recycling sites and in compliance with all applicable local, state, and federal waste regulations.

STORMWATER SYSTEM OPERATION AND MAINTENANCE PLAN

Inspection & Maintenance Manual Checklist

Residential Development

57 Portsmouth Avenue, Exeter, NH

BMP / System	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance / Cleanout Threshold
Stabilized Construction Entrance	Weekly	Inspect adjacent roadway for sediment tracking Inspect stone for sediment accumulation	Sweep adjacent roadways as soon as sediment is tracked. Top dress with additional stone when necessary to prevent tracking
Sediment Control Devices / Barriers	Weekly	Inspect accumulated sediment level, rips, and tears	Repair or replace damaged lengths. Remove and dispose of accumulated sediment once level reaches 1/3 of barrier height
Pavement Sweeping	Spring and Fall	Removal of sand and litter from impervious areas	N/A
Litter/Trash Removal	Routinely	Inspect dumpsters, outdoor waste receptacles area, and yard areas, as well as ponds and swale areas.	Site will be free of litter/trash.
Deicing Agents	N/A	N/A	Use salt as the primary agent for roadway safety during winter.
Landscaping	Maintained as required and mulched each Spring	N/A	Trash/debris and weed removal
Drainage Pipes & Catch Basins	Spring and Fall	Check for sediment accumulation & clogging.	More than 12" sediment depth from outlet pipe
Annual Report	1 time per year	Submit Annual Report to Town of Exeter Inspector upon request	

Anti-icing Route Data Form

Truck Station:

Date:

Air Temperature

Pavement Temperature

Relative Humidity

Dew Point

Sky

Reason for applying:

Route:

Chemical:

Application Time:

Application Amount:

Observation (first day):

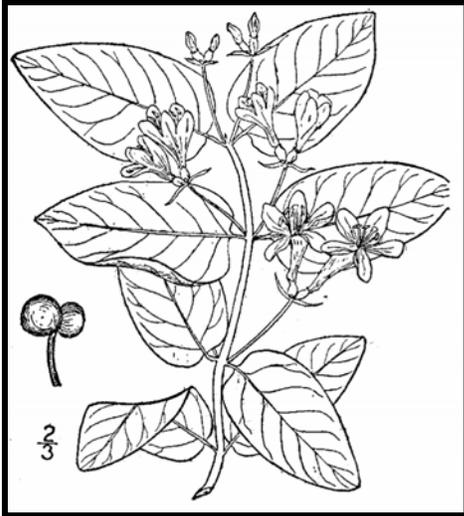
Observation (after event):

Observation (before next application);

Name:

Methods for Disposing Non-Native Invasive Plants

Prepared by the Invasives Species Outreach Group, volunteers interested in helping people control invasive plants. Assistance provided by the Piscataquog Land Conservancy and the NH Invasives Species Committee. Edited by Karen Bennett, Extension Forestry Professor and Specialist.



Tatarian honeysuckle

Lonicera tatarica

USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 3: 282.

Non-native invasive plants crowd out natives in natural and managed landscapes. They cost taxpayers billions of dollars each year from lost agricultural and forest crops, decreased biodiversity, impacts to natural resources and the environment, and the cost to control and eradicate them.

Invasive plants grow well even in less than desirable conditions such as sandy soils along roadsides, shaded wooded areas, and in wetlands. In ideal conditions, they grow and spread even faster. There are many ways to remove these non-native invasives, but once removed, care is needed to dispose the removed plant material so the plants don't grow where disposed.

Knowing how a particular plant reproduces indicates its method of spread and helps determine

the appropriate disposal method. Most are spread by seed and are dispersed by wind, water, animals, or people. Some reproduce by vegetative means from pieces of stems or roots forming new plants. Others spread through both seed and vegetative means.

Because movement and disposal of viable plant parts is restricted (see NH Regulations), viable invasive parts can't be brought to most transfer stations in the state. Check with your transfer station to see if there is an approved, designated area for invasives disposal. This fact sheet gives recommendations for rendering plant parts non-viable.

Control of invasives is beyond the scope of this fact sheet. For information about control visit www.nhinvasives.org or contact your UNH Cooperative Extension office.

New Hampshire Regulations

Prohibited invasive species shall only be disposed of in a manner that renders them nonliving and nonviable. (Agr. 3802.04)

No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant species, which includes all of their cultivars and varieties, listed in Table 3800.1 of the New Hampshire prohibited invasive species list. (Agr 3802.01)

How and When to Dispose of Invasives?

To prevent seed from spreading remove invasive plants before seeds are set (produced). Some plants continue to grow, flower and set seed even after pulling or cutting. Seeds can remain viable in the ground for many years. If the plant has flowers or seeds, place the flowers and seeds in a heavy plastic bag “head first” at the weeding site and transport to the disposal site. The following are general descriptions of disposal methods. See the chart for recommendations by species.

Burning: Large woody branches and trunks can be used as firewood or burned in piles. For outside burning, a written fire permit from the local forest fire warden is required unless the ground is covered in snow. Brush larger than 5 inches in diameter can't be burned. Invasive plants with easily airborne seeds like black swallow-wort with mature seed pods (indicated by their brown color) shouldn't be burned as the seeds may disperse by the hot air created by the fire.

Bagging (solarization): Use this technique with softer-tissue plants. Use heavy black or clear plastic bags (contractor grade), making sure that no parts of the plants poke through. Allow the bags to sit in the sun for several weeks and on dark pavement for the best effect.

Tarping and Drying: Pile material on a sheet of plastic and cover with a tarp, fastening the tarp to the ground and monitoring it for escapes. Let the material dry for several weeks, or until it is clearly nonviable.

Chipping: Use this method for woody plants that don't reproduce vegetatively.

Burying: This is risky, but can be done with watchful diligence. Lay thick plastic in a deep pit before placing the cut up plant material in the hole. Place the material away from the edge of the plastic before covering it with more heavy plastic. Eliminate as much air as possible and toss in soil to weight down the material in the pit. Note that the top of the buried material should be at least three feet underground. Japanese knotweed should be at least 5 feet underground!

Drowning: Fill a large barrel with water and place soft-tissue plants in the water. Check after a few weeks and look for rotted plant material (roots, stems, leaves, flowers). Well-rotted plant material may be composted. A word of caution- seeds may still be viable after using this method. Do this before seeds are set. This method isn't used often. Be prepared for an awful stink!

Composting: Invasive plants can take root in compost. Don't compost any invasives unless you know there is no viable (living) plant material left. Use one of the above techniques (bagging, tarping, drying, chipping, or drowning) to render the plants nonviable before composting. Closely examine the plant before composting and avoid composting seeds.



Japanese knotweed
Polygonum cuspidatum
USDA-NRCS PLANTS Database /
Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 1: 676.

Be diligent looking for seedlings for years in areas where removal and disposal took place.

Suggested Disposal Methods for Non-Native Invasive Plants

This table provides information concerning the disposal of removed invasive plant material. If the infestation is treated with herbicide and left in place, these guidelines don't apply. Don't bring invasives to a local transfer station, unless there is a designated area for their disposal, or they have been rendered non-viable. This listing includes wetland and upland plants from the New Hampshire Prohibited Invasive Species List. The disposal of aquatic plants isn't addressed.

Woody Plants	Method of Reproducing	Methods of Disposal
Norway maple <i>(Acer platanoides)</i> European barberry <i>(Berberis vulgaris)</i> Japanese barberry <i>(Berberis thunbergii)</i> autumn olive <i>(Elaeagnus umbellata)</i> burning bush <i>(Euonymus alatus)</i> Morrow's honeysuckle <i>(Lonicera morrowii)</i> Tatarian honeysuckle <i>(Lonicera tatarica)</i> showy bush honeysuckle <i>(Lonicera x bella)</i> common buckthorn <i>(Rhamnus cathartica)</i> glossy buckthorn <i>(Frangula alnus)</i>	Fruit and Seeds 	<p>Prior to fruit/seed ripening</p> <p>Seedlings and small plants</p> <ul style="list-style-type: none"> ▪ Pull or cut and leave on site with roots exposed. No special care needed. <p>Larger plants</p> <ul style="list-style-type: none"> ▪ Use as firewood. ▪ Make a brush pile. ▪ Chip. ▪ Burn. <hr/> <p>After fruit/seed is ripe</p> <p>Don't remove from site.</p> <ul style="list-style-type: none"> ▪ Burn. ▪ Make a covered brush pile. ▪ Chip once all fruit has dropped from branches. ▪ Leave resulting chips on site and monitor.
oriental bittersweet <i>(Celastrus orbiculatus)</i> multiflora rose <i>(Rosa multiflora)</i>	Fruits, Seeds, Plant Fragments 	<p>Prior to fruit/seed ripening</p> <p>Seedlings and small plants</p> <ul style="list-style-type: none"> ▪ Pull or cut and leave on site with roots exposed. No special care needed. <p>Larger plants</p> <ul style="list-style-type: none"> ▪ Make a brush pile. ▪ Burn. <hr/> <p>After fruit/seed is ripe</p> <p>Don't remove from site.</p> <ul style="list-style-type: none"> ▪ Burn. ▪ Make a covered brush pile. ▪ Chip – only after material has fully dried (1 year) and all fruit has dropped from branches. Leave resulting chips on site and monitor.

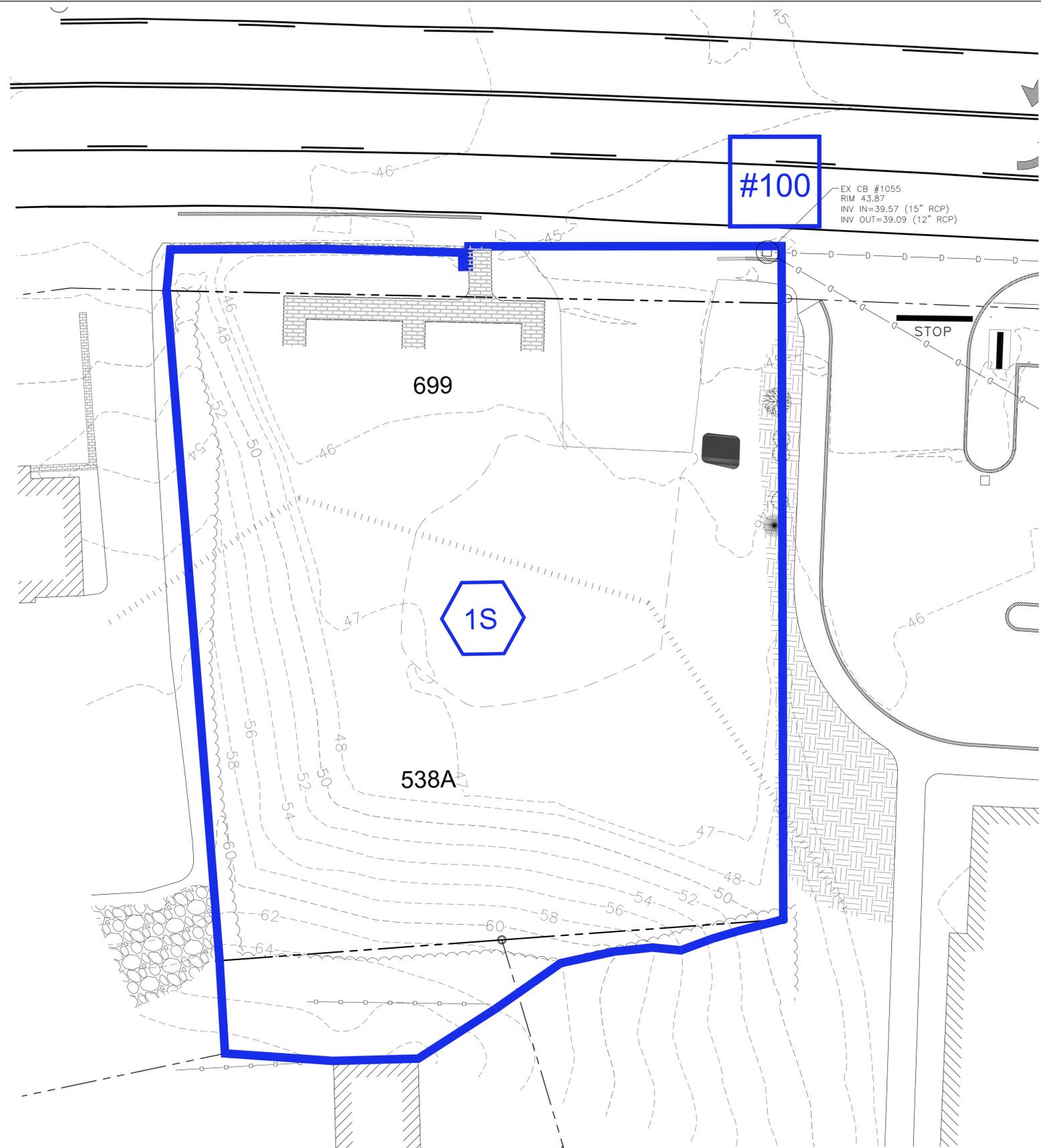
Non-Woody Plants	Method of Reproducing	Methods of Disposal
<p>garlic mustard (<i>Alliaria petiolata</i>)</p> <p>spotted knapweed (<i>Centaurea maculosa</i>)</p> <ul style="list-style-type: none"> ▪ Sap of related knapweed can cause skin irritation and tumors. Wear gloves when handling. <p>black swallow-wort (<i>Cynanchum nigrum</i>)</p> <ul style="list-style-type: none"> ▪ May cause skin rash. Wear gloves and long sleeves when handling. <p>pale swallow-wort (<i>Cynanchum rossicum</i>)</p> <p>giant hogweed (<i>Heracleum mantegazzianum</i>)</p> <ul style="list-style-type: none"> ▪ Can cause major skin rash. Wear gloves and long sleeves when handling. <p>dame's rocket (<i>Hesperis matronalis</i>)</p> <p>perennial pepperweed (<i>Lepidium latifolium</i>)</p> <p>purple loosestrife (<i>Lythrum salicaria</i>)</p> <p>Japanese stilt grass (<i>Microstegium vimineum</i>)</p> <p>mile-a-minute weed (<i>Polygonum perfoliatum</i>)</p>	<p>Fruits and Seeds</p> 	<p>Prior to flowering</p> <p>Depends on scale of infestation</p> <p>Small infestation</p> <ul style="list-style-type: none"> ▪ Pull or cut plant and leave on site with roots exposed. <p>Large infestation</p> <ul style="list-style-type: none"> ▪ Pull or cut plant and pile. (You can pile onto or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material. <hr/> <p>During and following flowering</p> <p>Do nothing until the following year or remove flowering heads and bag and let rot.</p> <p>Small infestation</p> <ul style="list-style-type: none"> ▪ Pull or cut plant and leave on site with roots exposed. <p>Large infestation</p> <ul style="list-style-type: none"> ▪ Pull or cut plant and pile remaining material. (You can pile onto plastic or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material.
<p>common reed (<i>Phragmites australis</i>)</p> <p>Japanese knotweed (<i>Polygonum cuspidatum</i>)</p> <p>Bohemian knotweed (<i>Polygonum x bohemicum</i>)</p>	<p>Fruits, Seeds, Plant Fragments</p> <p>Primary means of spread in these species is by plant parts. Although all care should be given to preventing the dispersal of seed during control activities, the presence of seed doesn't materially influence disposal activities.</p>	<p>Small infestation</p> <ul style="list-style-type: none"> ▪ Bag all plant material and let rot. ▪ Never pile and use resulting material as compost. ▪ Burn. <p>Large infestation</p> <ul style="list-style-type: none"> ▪ Remove material to unsuitable habitat (dry, hot and sunny or dry and shaded location) and scatter or pile. ▪ Monitor and remove any sprouting material. ▪ Pile, let dry, and burn.

January 2010

UNH Cooperative Extension programs and policies are consistent with pertinent Federal and State laws and regulations, and prohibits discrimination in its programs, activities and employment on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sex, sexual orientation, or veteran's, marital or family status. College of Life Sciences and Agriculture, County Governments, NH Dept. of Resources and Economic Development, Division of Forests and Lands, NH Fish and Game, and U.S. Dept. of Agriculture cooperating.

Appendix IV

Plans



PREPARED FOR:
STONEARCH DEVEL. CORP.
 42J DOVER POINT ROAD
 DOVER, NH 03820

BA
BEALS
 ASSOCIATES, PLLC

70 PORTSMOUTH AVE,
 THIRD FLOOR, SUITE 2
 STRATHAM, N.H. 03885
 PHONE: 603-583-4860,
 FAX: 603-583-4863

**** THIS DRAWING IS FOR DRAINAGE PURPOSES ONLY ****

WATERSHED LEGEND

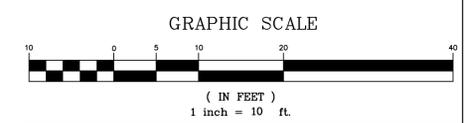
-  SUBCATCHMENT
-  REACH
-  POND
-  LIMIT OF SUBCATCHMENT

SOIL INFORMATION WAS OBTAINED FROM USDA NATURAL RESOURCES CONSERVATION SERVICE (NRCS):

SOIL IDENTIFICATION LEGEND:

MAP UNIT SYMBOL	MAP UNIT NAME	HYDROLOGIC SOIL GROUP
538A	SQUAMSCOTT FINE SANDY LOAM	C/D
699	URBAN LAND	

SLOPE PHASES:
 A=0-3%, B=3-8%, C=8-15%, D=15-25%, E=25%+



EXISTING WATERSHED PLAN

RESIDENTIAL DEVELOPMENT
 57 PORTSMOUTH AVE.
 EXETER, NH
 TAX MAP 65, LOT 137

REVISIONS:	DATE:

DATE:	JAN 28, 2025	SCALE:	1" = 10'
PROJ. NO.:	NH-1535	SHEET NO.:	WS-1



TOWN OF EXETER

Planning and Building Department

10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 • FAX 772-4709

www.exeternh.gov

Date: April 3, 2025

To: Planning Board

From: Dave Sharples, Town Planner

Re: Dade Auto Holdings Realty Trust (Volvo Cars of Exeter) - PB Case #25-2
140 Portsmouth Avenue

The Applicant has submitted applications for a minor site plan review and Wetland Conditional Use Permit (CUP) for the proposed construction of a 6,200 SF addition to the rear of the existing Volvo dealership at 140 Portsmouth Avenue along with associated site improvements. The property is located in the C-2, Highway Commercial zoning district and is identified as Tax Map Parcel #52-108 and #51-1.

Attached please find application, plans and supporting documents, dated 2/19/25 for your review. A Technical Review Committee (TRC) meeting was conducted on March 20th, 2025. TRC comments from Town departments were minimal and were so noted by the developer and engineer at the meeting. The materials were provided to UEI for a cursory review and they indicated that the application was very complete and appeared that it may not need review by them. Please see email enclosed from Allison Rees, P.E., dated 2/19/25.

The Applicant is requesting one (1) waiver from the Board's Site Plan Review & Subdivision Regulations in conjunction with the application for relief from Section 9.2.4-1a. regarding the proposed pitch of the roof. Please see the waiver request letter from Warrenstreet Architects, Inc., dated March 31, 2025 included in the attached materials.

The Applicant has submitted revised plans and supporting documents, dated 04/02/25, and those materials are enclosed for your review. Staff is still in the process of reviewing these materials and an update will be provided at the meeting.

The Applicant will be presenting their Wetlands CUP application to the Conservation Commission at their April 8th, 2025 meeting. An update on the Commission's recommendations will be provided at the Planning Board meeting.

At a minimum, I would suggest that the Planning Board consider a vote on accepting the plans as complete for review purposes, and, if deemed complete, hold the public hearing to get input from the public and consider scheduling a site walk if deemed appropriate.

I have provided motions below for your convenience. I will be on vacation the week of the Planning Board meeting and Kristen will be attending in my absence. I have provided her with conditions of approval should the Board decide to forego a site walk and act on the application.

Waiver Motions:

Roof Pitch motion: After reviewing the criteria for granting waivers, I move that the request of Dade Auto Holdings/Volvo Cars of Exeter (PB Case #25-2) for a waiver from Section 9.2.4.1.a) requiring a 3:12 or greater pitched roof, or gabled roof, where practical be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED

Planning Board Motions:

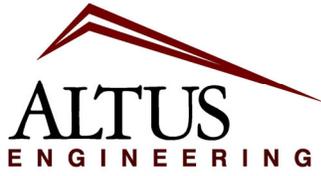
Table Motion: I move that the application of Dade Auto Holdings/Volvo Cars of Exeter (PB Case #25-2) be TABLED to the (date/time/place) Planning Board meeting and revised plans/documents shall be submitted to the Planning Office at least eight (8) days prior to the meeting or the application may remain on the table to a future meeting.

Conditional Use Permit (Wetlands) Motion: After reviewing the criteria for a Wetlands Conditional Use permit, I move that the request of Dade Auto Holdings/Volvo Cars of Exeter (PB Case #25-2) for a Wetlands Conditional Use Permit be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Minor Site Plan Motion: I move that the request of Dade Auto Holdings/Volvo Cars of Exeter (PB Case #25-2) for Minor Site Plan approval be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Thank You.

Enclosures



Civil
Site Planning
Environmental
Engineering

133 Court Street
Portsmouth, NH
03801-4413

February 19, 2025

Town of Exeter
Planning Board / Technical Review Committee
10 Front Street
Exeter, NH 03833

**RE: Minor Site Plan Application (Case #25-2)
Volvo Cars of Exeter - Service Center Expansion
Tax Map 52, Lot 108/Tax Map 51, Lot 1
Altus Project P5625**

Dear Board and Committee Members,

On behalf of Dade Auto Holdings Realty Trust (DAH), Altus Engineering, LLC (Altus) is pleased to submit the attached Application for a Minor Site Plan Review to construct an automobile service center expansion at the existing Volvo dealership and service center located at 140 Portsmouth Avenue. The property is identified on the Exeter Assessors Maps as Tax Map 52, Lot 108 and Tax Map 51, Lot 1 in the Highway Commercial (C-2) zoning district and is approximately 2.92 acres in size (two lots). The new building expansion will be located on the north "back" side of the existing Volvo building and completely within existing pavement area. Therefore, the proposed improvements will have no increase to the impervious area for the site. Per town stormwater regulations for redevelopment (Section 9.3.2.4), the existing site is over 60% impervious area and requires treatment to 30% of the existing impervious area and 43% is provided. Treatment is provided by modifying and directing additional flows to the existing stormwater wet pond that was constructed in 2020 during the last site improvements. Temporary impacts within the wetland buffer are proposed to construct a new drain line to the wet pond and reconstruct a portion of the existing parking lot, which total approximately 375 square feet.

Included in the application materials, please find the following: Five (5) copies of the full size plans, and supporting materials, and two copies of the drainage report for the Technical Review Committee.

1. Site Review Application, Checklists, and Fee
2. Letter of Authorization
3. Conditional Use Permit – Wetlands Conservation District
4. Abutter List and Mailing labels
5. Letter of Explanation
6. Parking Calculations
7. Site Cost Estimate
8. Autoturn Truck Turning Templates
9. Drainage Report / Stormwater Inspection and Maintenance Manual (2 hard copies)
10. Project Plans (22" x 34")

If you have any questions, please do not hesitate to contact us.

Sincerely,
Cory D. Belden, PE

A handwritten signature in blue ink, appearing to read "Cory Belden".

ECopy: Dan Enxing / Dade Auto Holdings Realty Trust

LETTER OF EXPLANATION

Minor Site Plan Application (Case #25-2) Volvo Cars of Exeter - Service Center Expansion

Tax Map 52, Lot 108/Tax Map 51, Lot 1
Altus Project P5625

February 2025

Dade Auto Holdings Realty Trust (DAH) is proposing to construct an automobile service center expansion at the existing Volvo dealership and service center located at 140 Portsmouth Avenue. The property is identified on the Exeter Assessors Maps as Tax Map 52, Lot 108 and Tax Map 51, Lot 1 in the Highway Commercial (C-2) zoning district and is approximately 2.92 acres in size (two lots). The new building expansion will be located on the north side of the existing building and completely within the existing pavement area. Therefore, the proposed improvements will have no increase to the impervious area for the site.

Per town of Exeter stormwater regulations for redevelopment (Section 9.3.2.4), the existing site is over 60% impervious area and requires treatment of 100% of all new impervious areas and 30% of the existing impervious area. A stormwater wet pond was constructed in 2020 to provide treatment to a portion of the site. This project will direct the flows from the new building and pick up roof drains from the existing buildings to direct additional flows to the wet pond. The outlet structure will be modified (raised 1 ft) to provide additional treatment capacity to the wet pond. The proposed stormwater improvements will provide treatment to 43% of the existing site impervious area.

Temporary impacts within the wetland buffer are proposed to construct a new drain line to the wet pond and reconstruct a portion of the existing parking lot, which total approximately 375 square feet.



TOWN OF EXETER, NH APPLICATION FOR SITE PLAN REVIEW

OFFICE USE ONLY

THIS IS AN APPLICATION FOR:

- COMMERCIAL SITE PLAN REVIEW
- INDUSTRIAL SITE PLAN REVIEW
- MULTI-FAMILY SITE PLAN REVIEW
- MINOR SITE PLAN REVIEW
- INSTITUTIONAL/NON-PROFIT SPR

_____	APPLICATION #
_____	DATE RECEIVED
_____	APPLICATION FEE
_____	PLAN REVIEW FEE
_____	ABUTTERS FEE
_____	LEGAL NOTICE FEE
_____	TOTAL FEES

_____	INSPECTION FEE
_____	INSPECTION COST
_____	REFUND (IF ANY)

1. **NAME OF LEGAL OWNER OF RECORD:** Dade Auto Holdings Realty Trust
 _____ **TELEPHONE:** (603) 772-5975

ADDRESS: 149 Portsmouth Avenue, Exeter, NH 03833

2. **NAME OF APPLICANT:** Same as owner
ADDRESS: _____
 _____ **TELEPHONE:** () _____

3. **RELATIONSHIP OF APPLICANT TO PROPERTY IF OTHER THAN OWNER:** _____

 (Written permission from Owner is required, please attach.)

4. **DESCRIPTION OF PROPERTY:** Volvo Cars Exeter Automobile Dealership and Service Center
ADDRESS: 149 Portsmouth Avenue, Exeter, NH 03833
TAX MAP: 252 / 251 **PARCEL #:** 108 / 01 **ZONING DISTRICT:** C-2
AREA OF ENTIRE TRACT: 2.92 acres **PORTION BEING DEVELOPED:** 0.38 acres



5. **ESTIMATED TOTAL SITE DEVELOPMENT COST \$** \$99,400

6. **EXPLANATION OF PROPOSAL:** The proposed project will construct a service center addition approximately 6,200 sf in size within existing pavement area. No increase to site impervious.

7. **ARE MUNICIPAL SERVICES AVAILABLE? (YES/NO)** Yes

If yes, Water and Sewer Superintendent must grant written approval for connection.
If no, septic system must comply with W.S.P.C.C. requirements.

8. **LIST ALL MAPS, PLANS AND OTHER ACCOMPANYING MATERIAL SUBMITTED WITH THIS APPLICATION:**

<u>ITEM:</u>	<u>NUMBER OF COPIES</u>
A. <u>Condition Use Permit Application</u>	<u>5</u>
B. <u>Abutter List and Mailing labels</u>	<u>5/1</u>
C. <u>Letter of Explanation</u>	<u>5</u>
D. <u>Site Cost Estimate</u>	<u>5</u>
E. <u>Parking calculations</u>	<u>5</u>
F. <u>Drainage Report / Stormwater Maintennace Manual</u>	<u>2/5</u>
G. <u>Site Plans/ Autoturn Truck Movements</u>	<u>5</u>

9. **ANY DEED RESTRICTIONS AND COVENANTS THAT APPLY OR ARE CONTEMPLATED (YES/NO)** No IF YES, ATTACH COPY.

10. **NAME AND PROFESSION OF PERSON DESIGNING PLAN:**

NAME: Cory Belden - Altus Engineering, LLC

ADDRESS: 133 Court Street, Portsmouth NH 03801

PROFESSION: Civil Engineer **TELEPHONE:** (603) 433-2335

11. **LIST ALL IMPROVEMENTS AND UTILITIES TO BE INSTALLED:**

The project will construct a new 6,200 square foot building addition for an expansion of the vehicle service center.

The building will be located within existing pavement area, so there will be no increase in impervious area for the project. All utilities will be extended internally from the existing building to the addition

Roof runoff from the new building and existing buildings will be directed to the existing wet pond for treatment. Modifications to the pond outlet will provide additional treatment capacity to provide treatment to 43% of the site impervious (30% required).



12. HAVE ANY SPECIAL EXCEPTIONS OR VARIANCES BEEN GRANTED BY THE ZONING BOARD OF ADJUSTMENT TO THIS PROPERTY PREVIOUSLY?

IF YES, DESCRIBE BELOW. (Please check with the Planning Department Office to verify)

No variances are known

13. WILL THE PROPOSED PROJECT INVOLVE DEMOLITION OF ANY EXISTING BUILDINGS OR APPURTENANCES? IF YES, DESCRIBE BELOW.

(Please note that any proposed demolition may require review by the Exeter Heritage Commission in accordance with Article 5, Section 5.3.5 of the Exeter Zoning Ordinance).

No.

14. WILL THE PROPOSED PROJECT REQUIRE A “NOTICE OF INTENT TO EXCAVATE” (State of NH Form PA-38)? IF YES, DESCRIBE BELOW.

No.

NOTICE: I CERTIFY THAT THIS APPLICATION AND THE ACCOMPANYING PLANS AND SUPPORTING INFORMATION HAVE BEEN PREPARED IN CONFORMANCE WITH ALL APPLICABLE REGULATIONS; INCLUDING BUT NOT LIMITED TO THE “SITE PLAN REVIEW AND SUBDIVISION REGULATIONS” AND THE ZONING ORDINANCE. FURTHERMORE, IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 15.2 OF THE “SITE PLAN REVIEW AND SUBDIVISION REGULATIONS”, I AGREE TO PAY ALL COSTS ASSOCIATED WITH THE REVIEW OF THIS APPLICATION.

DATE February 19, 2025 OWNER’S SIGNATURE _____

see letter of authorization

ACCORDING TO RSA 676.4.I (c), THE PLANNING BOARD MUST DETERMINE WHETHER THE APPLICATION IS COMPLETE WITHIN 30 DAYS OF SUBMISSION. THE PLANNING BOARD MUST ACT TO APPROVE, CONDITIONALLY APPROVE, OR DENY AN APPLICATION WITHIN SIXTY FIVE (65) DAYS OF ITS ACCEPTANCE BY THE BOARD AS A COMPLETE APPLICATION. A SEPARATE FORM ALLOWING AN EXTENSION OR WAIVER TO THIS REQUIREMENT MAY BE SUBMITTED BY THE APPLICANT.



SITE PLAN REQUIREMENTS

7.4 Existing Site Conditions Plan

Submission of this plan will not be applicable in all cases. The applicability of such a plan will be considered by the TRC during its review process as outlined in Section 6.5 Technical Review Committee (TRC) of these regulations. The purpose of this plan is to provide general information on the site, its existing conditions, and to provide the base data from which the site plan or subdivision will be designed. The plan shall show the following:

APPLICANT	TRC	REQUIRED EXHIBITS
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.1 Names, addresses, and telephone numbers of the owner, applicant, and person(s) or firm(s) preparing the plan.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.2 Location of the site under consideration, together with the current names and addresses of owners of record, of abutting properties and their existing land use.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.3 Title, date, north arrow, scale, and Planning Board Case Number.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.4 Tax map reference for the site under consideration, together with those of abutting properties.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.5 Zoning (including overlay) district references.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.6 A vicinity sketch or aerial photo showing the location of the land/site in relation to the surrounding public street system and other pertinent location features within a distance of 2,000-feet, or larger area if deemed necessary by the Town Planner.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.7 Natural features including watercourses and water bodies, tree lines, significant trees (20-inches or greater in diameter at breast height) and other significant vegetative cover, topographic features, and any other environmental features that are important to the site design process.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.8 Man-made features such as, but not limited to, existing roads, structures, and stone walls. The plan shall also indicate which features are to be retained and which are to be removed or altered.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.4.9 Existing contours at intervals not to exceed 2-feet with spot elevations provided when the grade is less than 5%. All datum provided shall reference the latest applicable US Coast and Geodetic Survey datum and should be noted on the plan.
<input type="checkbox"/> NA	<input type="checkbox"/>	7.4.10 A High Intensity Soil Survey (HISS) of the entire site, or appropriate portion thereof. Such soil surveys shall be prepared by a certified soil scientist in accordance with the standards established by the Rockingham County Conservation District. Any cover letters or explanatory data provided by the certified soil scientist shall also be submitted.



<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>7.4.11 State and Federally designated wetlands, setback information, total wetlands proposed to be filled, other pertinent information and the following wetlands note: "The landowner is responsible for complying with all applicable local, state, and federal wetlands regulations, including any permitting and setback requirements required under these regulations."</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>7.4.12 Surveyed property lines including angles and bearings, distances, monument locations, and size of the entire parcel. A professional land surveyor licensed in New Hampshire must attest to said plan.</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>7.4.13 The lines of existing abutting streets and driveway locations within 200-feet of the site.</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>7.4.14 The location, elevation, and layout of existing catch basins and other surface drainage features.</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>7.4.15 The shape, size, height, location, and use of all existing structures on the site and approximate location of structures within 200-feet of the site.</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>7.4.16 The size and location of all existing public and private utilities, including off-site utilities to which connection is planned.</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>7.4.17 The location of all existing easements, rights-of-way, and other encumbrances.</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>7.4.18 All floodplain information, including the contours of the 100-year flood elevation, based upon the Flood Insurance Rate Map for Exeter, as prepared by the Federal Emergency Management Agency, dated May 17, 1982.</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>7.4.19 All other features which would fully explain the existing conditions of the site.</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>7.4.20 Name of the site plan or subdivision.</p>



7.5 Proposed Site Conditions Plan (Pertains to Site Plans Only)

The purpose of this plan is to illustrate and fully explain the proposed changes taking place within the site. The proposed site conditions plan shall depict the following:

APPLICANT	TRC	REQUIRED EXHIBITS
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.1 Proposed grades and topographic contours at intervals not to exceed 2-feet with spot elevations where grade is less than 5%. All datum provided shall reference the latest applicable US Coast and Geodetic Survey datum and should be noted on the plan.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.2 The location and layout of proposed drainage systems and structures including elevations for catch basins.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.3 The shape, size, height, and location of all proposed structures, including expansion of existing structures on the site and first floor elevation(s). Building elevation(s) and a rendering of the proposed structure(s).
<input type="checkbox"/> NA	<input type="checkbox"/>	7.5.4 High Intensity Soil Survey (HISS) information for the site, including the total area of wetlands proposed to be filled.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.5 State and Federally designated wetlands, setback information, total wetlands proposed to be filled, other pertinent information and the following wetlands note: "The landowner is responsible for complying with all applicable local, state, and federal wetlands regulations, including any permitting and setback requirements required under these regulations."
<input type="checkbox"/> NA	<input type="checkbox"/>	7.5.6 Location and timing patterns of proposed traffic control devices.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.7 The location, width, curbing and paving of all existing and proposed streets, street rights-of-way, easements, alleys, driveways, sidewalks and other public ways. The plan shall indicate the direction of travel for one-way streets. See Section 9.14 – Roadways, Access Points, and Fire Lanes for further guidance.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.8 The location, size and layout of off-street parking, including loading zones. The plan shall indicate the calculations used to determine the number of parking spaces required and provided. See Section 9.13 – Parking Areas for further guidance.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.9 The size and location of all proposed public and private utilities, including but not limited to: water lines, sewage disposal facilities, gas lines, power lines, telephone lines, cable lines, fire alarm connection, and other utilities.
<input type="checkbox"/> NA	<input type="checkbox"/>	7.5.10 The location, type, and size of all proposed landscaping, screening, green space, and open space areas.
<input type="checkbox"/> NA	<input type="checkbox"/>	7.5.11 The location and type of all site lighting, including the cone(s) of illumination to a measurement of 0.5-foot-candle.
<input type="checkbox"/> NA	<input type="checkbox"/>	7.5.12 The location, size, and exterior design of all proposed signs to be located on the site.
<input type="checkbox"/> NA	<input type="checkbox"/>	7.5.13 The type and location of all solid waste disposal facilities and accompanying screening.



<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.14 Location of proposed on-site snow storage.
<input type="checkbox"/>	<input type="checkbox"/>	7.5.15 Location and description of all existing and proposed easement(s) and/or right-of-way.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.16 A note indicating that: "All water, sewer, road (including parking lot), and drainage work shall be constructed in accordance with Section 9.5 Grading, Drainage, and Erosion & Sediment Control and the Standard Specifications for Construction of Public Utilities in Exeter, New Hampshire". See Section 9.14 Roadways, Access Points, and Fire Lanes and Section 9.13 Parking Areas for exceptions.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.5.17 Signature block for Board approval

OTHER PLAN REQUIREMENTS (See Section indicated)

- 7.7 Construction plan
- 7.8 Utilities plan
- 7.9 Grading, drainage and erosion & sediment control plan
- 7.10 Landscape plan
- 7.11 Drainage Improvements and Storm Water Management Plan
- 7.12 Natural Resources Plan
- 7.13 Yield Plan



SITE PLAN REVIEW APPLICATION CHECKLIST

A COMPLETED APPLICATION FOR SITE PLAN REVIEW MUST CONTAIN THE FOLLOWING

1. Application for Hearing (X)
2. Abutter's List Keyed to Tax Map (X)
(including the name and business address of every engineer, architect, land surveyor, or soils scientist whose professional seal appears on any plan submitted to the Board)
3. Completed- " Checklist for Site Plan Review" (X)
4. Letter of Explanation (X)
5. Written Request for Waiver (s) from " Site Plan Review and Subdivision Regulations" ()
(if applicable)
6. Completed "Preliminary Application to Connect and /or Discharge to Town of Exeter- Sewer, Water or Storm Water Drainage System(s)"(if applicable) ()
7. Planning Board Fees (X)
8. Seven (7) full-sized copies of Site Plan (X)
9. Fifteen (15) 11"x17" copies of the final plan to be submitted **TEN DAYS PRIOR** to the public hearing date. ()
10. Three (3) pre-printed 1"x 2 5/8" labels for each abutter, the applicant and all consultants. (X)

NOTES: All required submittals must be presented to the Planning Department office for distribution to other Town departments. Any material submitted directly to other departments will not be considered.

Letter of Authorization

I, Daniel Enxing, authorized representative for Dade Auto Holdings Realty Trust (DAH), hereby authorize Altus Engineering, LLC to represent DAH as the Owner/Applicant in all matters concerning engineering and related permitting for the proposed site development located at 140 Portsmouth Avenue in Exeter, New Hampshire and identified on Tax Map 52, Lot 108 and Tax Map 51, Lots 1,3,&4. This authorization shall include representation at public hearings and other project-related meetings, in addition to any signatures required for any local, state or federal permit applications.


Signature

Daniel J Enxing
Print Name

2/12/25
Date


Witness

Adam Enxing
Print Name

2/12/25
Date

Town of Exeter



Planning Board Application for Conditional Use Permit: Wetlands Conservation Overlay District

March 2020

**Town of Exeter
 Planning Board Application
 Conditional Use Permit: Wetland Conservation Overlay District**

Detailed Proposal including intent, project description, and use of property: (Use additional sheet as needed)

The proposed project will have two temporary impact areas within the 75 ft wetland buffer to
 1) reconstruct a portion of the existing parking lot (210 sf), and
 2) reconstruct a drainage line to the existing wet pond (165 sf)

These impact areas will be restored to existing grade and conditions upon completion of the work.

There will be no new permanent impacts for impervious areas within the wetland buffer limits.

(SEE DRAINAGE AND GRADING PLAN, SHEET C-3 FOR IMPACT AREAS)

Wetland Conservation Overlay District Impact (in square footage):

Temporary Impact	Wetland: (SQ FT.)	Buffer: (SQ FT.)
	<input type="checkbox"/> Prime Wetlands _____	<input type="checkbox"/> Prime Wetlands _____
	<input type="checkbox"/> Exemplary Wetlands _____	<input type="checkbox"/> Exemplary Wetlands _____
	<input type="checkbox"/> Vernal Pools (>200SF) _____	<input type="checkbox"/> Vernal Pools (>200SF) _____
	<input type="checkbox"/> VPD _____	<input checked="" type="checkbox"/> VPD <u>375 sf</u>
	<input type="checkbox"/> PD _____	<input type="checkbox"/> PD _____
	<input type="checkbox"/> Inland Stream _____	<input type="checkbox"/> Inland Stream _____
Permanent Impact	Wetland:	Buffer:
	<input type="checkbox"/> Prime Wetlands _____	<input type="checkbox"/> Prime Wetlands _____
	<input type="checkbox"/> Exemplary Wetlands _____	<input type="checkbox"/> Exemplary Wetlands _____
	<input type="checkbox"/> Vernal Pools (>200SF) _____	<input type="checkbox"/> Vernal Pools (>200SF) _____
	<input type="checkbox"/> VPD _____	<input type="checkbox"/> VPD _____
	<input type="checkbox"/> PD _____	<input type="checkbox"/> PD _____
	<input type="checkbox"/> Inland Stream _____	<input type="checkbox"/> Inland Stream _____

List any variances/special exceptions granted by Zoning Board of Adjustment including dates:

None

Describe how the proposal meets conditions in **Article 9.1.6.B** of the Zoning Ordinance (attached for reference):

See Attachment - A

9.1.6. B: Conditions: Prior to issuance of a conditional use permit, the Planning Board shall conclude and make a part of the record, compliance with the following criteria:

1. That the proposed use is permitted in the underlying zoning district;
2. No alternative design which does not impact a wetland or wetland buffer or which has less detrimental impact on the wetland or wetland buffer is feasible;
3. A wetland scientist has provided an impact evaluation that includes the “functions and values” of the wetland(s), an assessment of the potential project-related impacts and concluded to the extent feasible, the proposed impact is not detrimental to the value and function of the wetland(s) or the greater hydrologic system.
4. That the design, construction and maintenance of the proposed use will, to the extent feasible, minimize detrimental impact on the wetland or wetland buffer;
5. That the proposed use will not create a hazard to individual or public health, safety and welfare due to the loss of wetland, the contamination of groundwater, or other reasons;
6. The applicant may propose an increase in wetland buffers elsewhere on the site that surround a wetland of equal or greater size, and of equal or greater functional value than the impacted wetland
7. In cases where the proposed use is temporary or where construction activity disturbs areas adjacent to the immediate use, the applicant has included a restoration proposal revegetating any disturbed area within the buffer with the goal to restore the site as nearly as possible to its original grade and condition following construction.
8. That all required permits shall be obtained from the New Hampshire Department of Environmental Services Water Supply and Pollution Control Division under NH RSA §485-A: 17, the New Hampshire Wetlands Board under NH RSA §483-A, and the United States Army Corps of Engineers under Section 404 of the Clean Water Act.;

Attachment A

CONDITIONAL USE PERMIT APPLICATION

Detailed Proposal including intent, project description, and use of property:

Dade Auto Holdings Realty Trust (DAH) is proposing to construct an automobile service center expansion at the existing Volvo dealership and service center located at 140 Portsmouth Avenue. The property is identified on the Exeter Assessors Maps as Tax Map 52, Lot 108 and Tax Map 51, Lot 1 in the Highway Commercial (C-2) zoning district and is approximately 2.92 acres in size (two lots). The new building expansion will be located on the north side of the existing building and completely within the existing pavement area. Therefore, the proposed improvements will have no increase to the impervious area for the site.

Per town of Exeter stormwater regulations for redevelopment (Section 9.3.2.4), the existing site is over 60% impervious area and requires treatment of 100% of all new impervious areas and 30% of the existing impervious area. A stormwater wet pond was constructed in 2020 to provide treatment to a portion of the site. This project will direct the flows from the new building and pick up roof drains from the existing buildings to direct additional flows to the wet pond. The outlet structure will be modified (raised 1 ft) to provide additional treatment capacity to the wet pond. The proposed stormwater improvements will provide treatment to 43% of the existing site impervious area.

Temporary impacts within the wetland buffer are proposed to construct a new drain line to the wet pond and reconstruct a portion of the existing parking lot, which total approximately 375 square feet.

List any variances/special exceptions granted by Zoning Board of Adjustment including dates:

None

Describe how your proposal meets the conditions of Article 9.1.6.B of the Town of Exeter Zoning Ordinance:

1. That the proposed use is permitted in the underlying zoning district;

The project involves expansion of an existing conforming use within the C-2 zoning district.

2. No alternative design which does not impact a wetland or wetland buffer or which has less detrimental impact on the wetland or wetland buffer is feasible;

The site is an existing developed site with an existing building, site improvements, and utilities. The proposed building addition will not encroach in the wetlands buffer. The only impacts in the buffer will be to direct flows to the existing stormwater management system for treatment and to reconstruct a portion of the existing parking located within the wetland buffer.

3. A wetland scientist has provided an impact evaluation that includes the “functions and values” of the wetland(s), an assessment of the potential project-related impacts and concluded to the extent feasible, the proposed impact is not detrimental to the value and function of the wetland(s) or the greater hydrologic system.

The proposed impacts are minor and temporary. The improvements will provide an increase in the amount of runoff from the site that is treated prior to discharging to the wetlands, which will result in an improved condition.

4. That the design, construction and maintenance of the proposed use will, to the extent feasible, minimize detrimental impact on the wetland or wetland buffer.

The proposed site will provide additional stormwater management and treatment to an existing site. There will be no direct impacts to the wetlands. The combination of providing additional stormwater treatment and restoring the buffer areas to the original conditions will minimize any detrimental impacts on the wetland or wetland buffer.

- 5. That the proposed use will not create a hazard to individual or public health, safety and welfare due to the loss of wetland, the contamination of groundwater, or other reasons;**

There are no direct impacts to the wetlands. The site is an existing developed site. The wetland buffer will be maintained and treatment will be provided to additional impervious areas. The function and value of the wetland should not be impacted and the project will not create a hazard to individual or public health, safety or welfare.

- 6. The applicant may propose an increase in wetland buffers elsewhere on the site that surround a wetland of equal or greater size, and of equal or greater functional value than the impacted wetland;**

The proposed impacts are minor and temporary and will be restored to the original condition and grade. No additional wetland buffer areas are proposed.

- 7. In cases where the proposed use is temporary or where construction activity disturbs areas adjacent to the immediate use, that the landowner agrees to restore the site as nearly as possible to its original grade and condition following construction;**

The landowner proposes and agrees to restore the temporary impact areas to the original grade and condition following construction.

- 8. That all required permits shall be obtained from the New Hampshire Department of Environmental Services Water Supply and Pollution Control Division under NH RSA §485-A: 17, the New Hampshire Wetlands Board under NH RSA §483-A, and the United States Army Corps of Engineers under Section 404 of the Clean Water Act.**

There are no direct impacts to wetlands, therefore, does not require a New Hampshire Department of Environmental Services Permit required under RSA 482-A or a United States Army Corps of Engineers Permit as required under Section 404 of the Clean Water Act. The proposed project does not occur within the 250-foot protected shoreland, as regulated under the Comprehensive Shoreland Protection Act (RSA 483-B), and does not require a permit.

**Volvo Cars Exeter / Dada Auto Holdings Realty Trust
140 Portsmouth Avenue
Exeter, NH**

**Tax Map 52 Lot 108 &
Tax Map 51, Lot 01**

Abutters List

Prepared on February 13, 2025

Exeter

- 1) 52-107
TILAK Hospitality, LLC
110 Hartwell Ave Suite 300
Lexington, MA 02421
- 2) 52-097
Town of Exeter
10 Front Street
Exeter, NH 03833
- 3) 51-003-04
Dada Auto Holdings Realty Trust
140 Portsmouth Avenue
Exeter, NH 03833
- 4) 51-015
Kevin King Enterprises Co, LLC
137 Portsmouth Avenue
Exeter, NH 03833
- 5) 52-109
Tobey Exeter Properties
139 Portsmouth Avenue
Exeter, NH 03833

PROFESSIONALS

Owners/Applicant:

Dada Auto Holdings Realty Trust
140 Portsmouth Avenue
Exeter, NH 03833

Engineer:

Cory D. Belden, P.E.
Altus Engineering, LLC.
133 Court Street
Portsmouth, NH 03801

Architect:

Jonathan Smith, AIA
Warren Street Architects, Inc.
4 Crecent Street, Unit 2
Concord, NH 03303

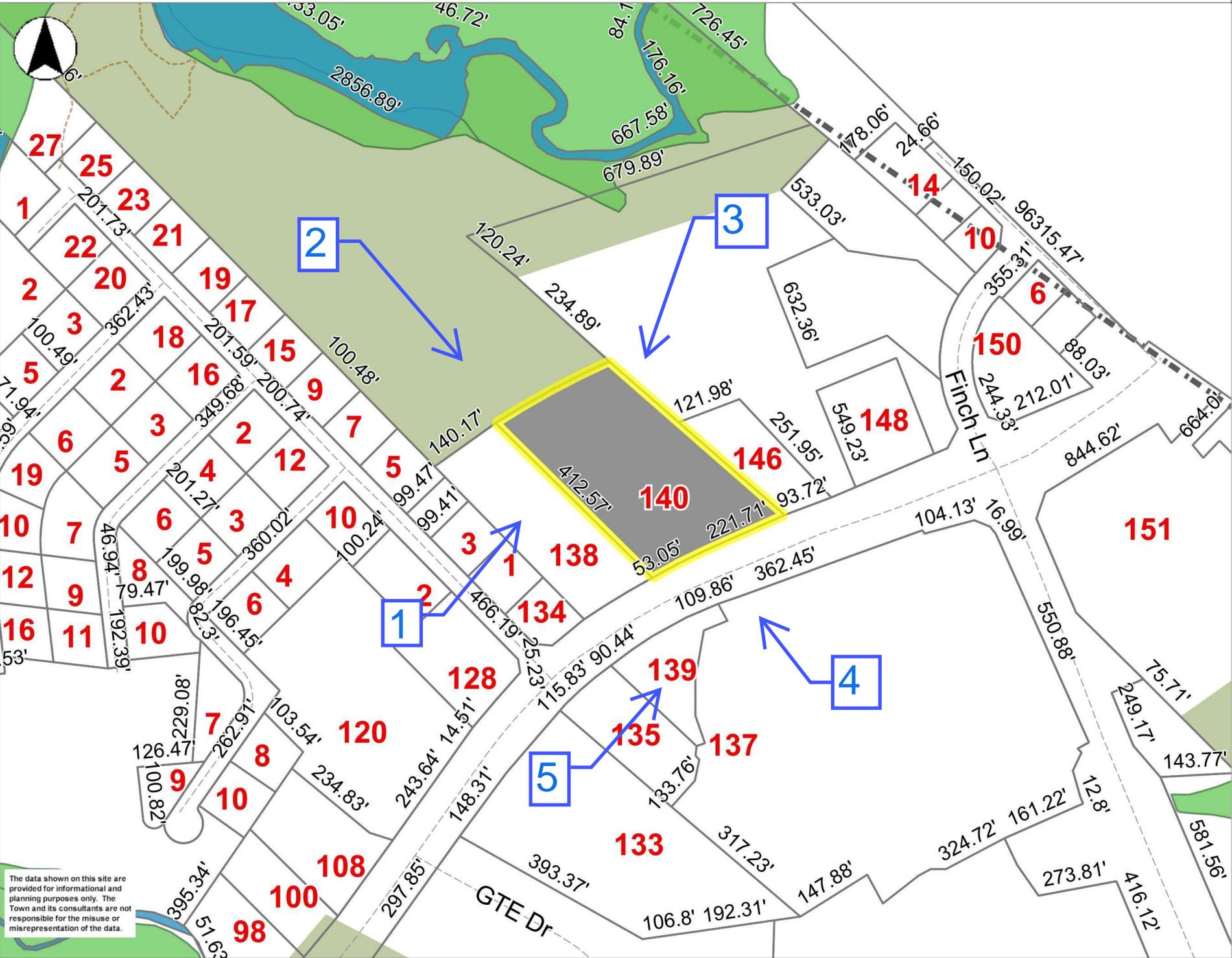
Surveyor:

Brenda Kolbow, PLS
TF Moran
170 Commerce Way, Suite 102
Portsmouth, NH 03801



Parcels - Lot Dimensions

- Parcels
- Abutting Towns - Basemap
- Transmission Lines - Basemap
- NH Highways
 - Interstate
 - US Highway
 - State Highway
- Streets - Basemap
 - Streets - 1:144000
 - Streets - 1:18000
- Trails - Basemap
- Railroad - Basemap
- Water - Basemap
- TOE Parks & Recreation - Basemap
- ROW - Basemap
- Prime Wetlands - Basemap
- NH Conservation & Public - Basemap
- Town Boundary - Basemap

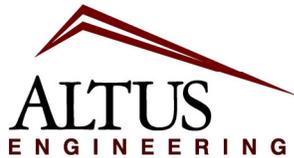


The data shown on this site are provided for informational and planning purposes only. The Town and its consultants are not responsible for the misuse or misrepresentation of the data.

0 340 680 ft

Printed on 02/14/2025 at 10:06 AM

Exeter MapsOnline



**Civil
Site Planning
Environmental
Engineering**

133 Court Street
Portsmouth, NH
03801-4413

PARKING CALCULATIONS

**Volvo Cars of Exeter
140 Portsmouth Avenue
Exeter, NH**

TAX MAPS 52, LOT 108 / 51, Lot 01

February 13, 2025

Dade Auto Holdings Realty Trust owns and operates the Volvo Cars of Exeter property located at 140 Portsmouth Avenue, Exeter, NH. The site is an automobile dealership and service center. The existing building is 18,158 square feet in size (single story) and the proposed project will construct an 6,200 square foot addition to expand the existing service center. The front 7,010 square foot portion operates as the dealership, sales, and office space. The remaining 17,348 square foot portion of the building will be used as a service center.

To determine the expected parking that will be generated by the existing/proposed uses, Altus utilized the ITE Parking Generation Manual, 6th Edition. Altus prepared this Parking Demand Analysis based on the following uses:

Automobile Sales (New) – ITE Land Use Code 840

GFA = 7,010 sf
Peak Period Parking Demand on a Weekdays 10:00 AM to 3:00 PM
Setting/Location: General Urban/Suburban
Average Rate (Weekday) = 2.29 spaces / 1,000 GFA = **16.05 spaces**

Automobile Parts and Service Center – ITE Land Use Code 943

GFA = 17,348 sf
Peak Period Parking Demand on a Weekdays (Mon – Fri)
Setting/Location: General Urban/Suburban
Average Rate (Weekday) = 1.79 spaces / 1,000 GFA = **31.05 spaces**

TOTAL PARKING DEMAND = 48 spaces

Based on ITE, it is reasonable to believe that the parking demand will be approximately 48 spaces for the automobile dealership and service center uses on the property. The existing site provides over 120 parking spaces, many of which are used for vehicle inventory display and storage. It is Altus' opinion that the proposed building addition can function adequately without adverse impacts to the community.

Wde/5625 parking demand.docx

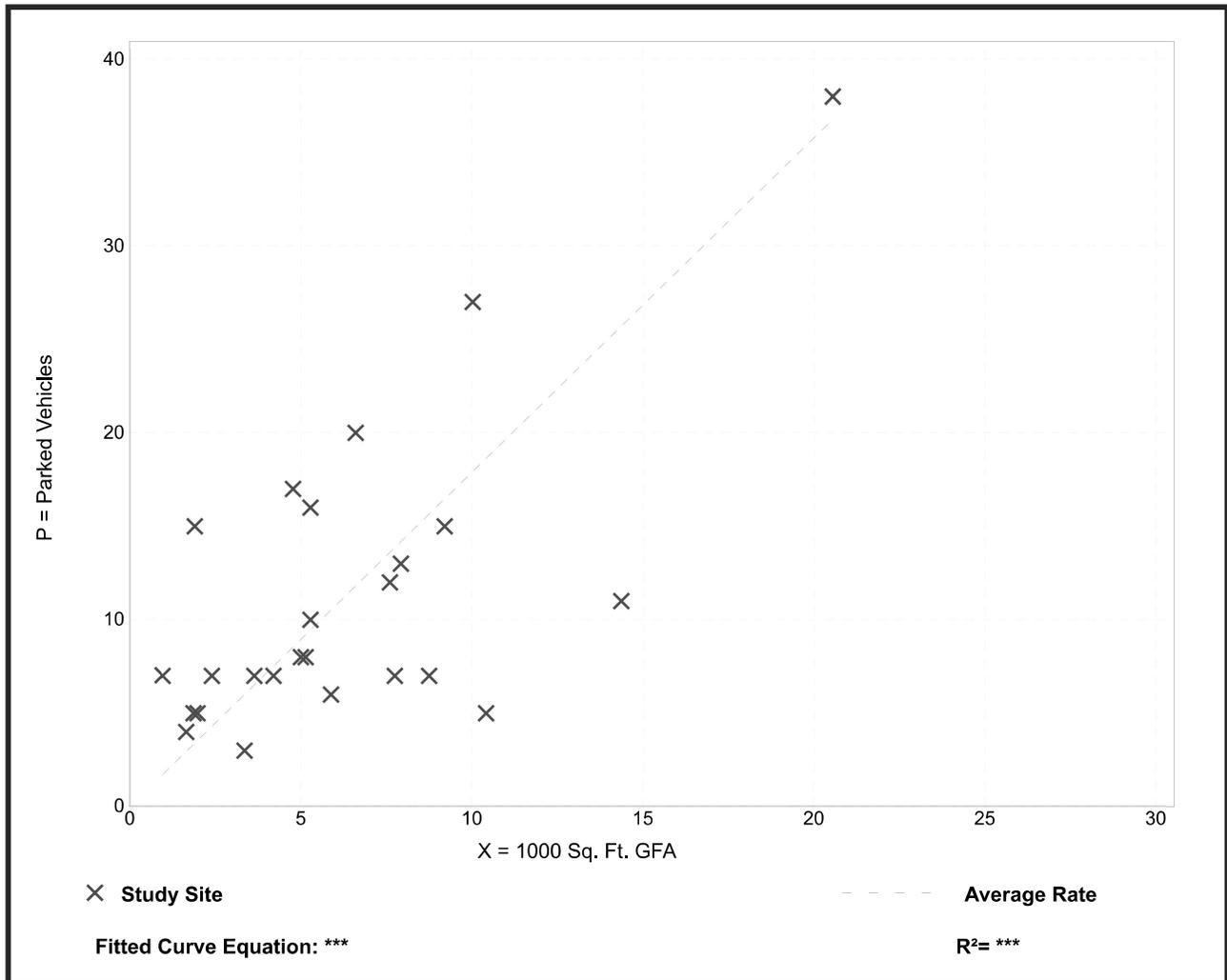
Automobile Parts and Service Center (943)

Peak Period Parking Demand vs: 1000 Sq. Ft. GFA
On a: Weekday (Monday - Friday)
Setting/Location: General Urban/Suburban
 Number of Studies: 25
 Avg. 1000 Sq. Ft. GFA: 6.2

Peak Period Parking Demand per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
1.79	0.48 - 7.89	1.59 / 3.08	1.34 - 2.24	1.16 (65%)

Data Plot and Equation



Volvo Service Center Expansion

140 Portsmouth Ave
Exeter, New Hampshire
Site Work Estimate

BASIS: Site Plans dated February 19, 2025

DATE: 12-Feb-25

PROJECT: 5625

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL COST
SITE PREPARATION	1.00	LS	\$5,000.00	\$5,000
TEMPORARY EROSION CONTROL				
SILT BARRIER	480	LF	\$4.00	\$1,920
ALLOWANCE FOR E&SC INSPECTIONS	1	LS	\$2,000.00	\$2,000
AGGREGATE BASE COURSES				
12" BANK RUN GRAVEL	376	CY	\$20.00	\$7,520
6" CRUSHED GRAVEL	188	CY	\$28.00	\$5,264
RETAINING WALLS				
SITE RETAINING WALLS	1	LS	\$15,000.00	\$15,000
HOT BITUMINOUS PAVEMENT				
BITUMINOUS PAVEMENT	255	TON	\$95.00	\$24,225
STORM DRAINAGE				
CATCH BASINS/DMH	1	LS	\$4,000.00	\$4,000
DRAIN PIPE 0-15"	430	LF	\$50.00	\$21,500

SUBTOTAL:	\$86,429
Contingency (15%):	\$12,964
USE:	\$99,400

NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: FEBRUARY 19, 2025

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CBD	02/19/25

DRAWN BY: _____ JMG
APPROVED BY: _____ CBD
DRAWING FILE: 5625-site.dwg

SCALE:
22" x 34" - 1" = XX'
11" x 17" - 1" = XX'

OWNER/APPLICANT:

Dade Auto Holdings Realty Trust
140 Portsmouth Avenue
Exeter, NH 03833

PROJECT:

VOLVO CARS OF EXETER
**SERVICE CENTER
EXPANSION**

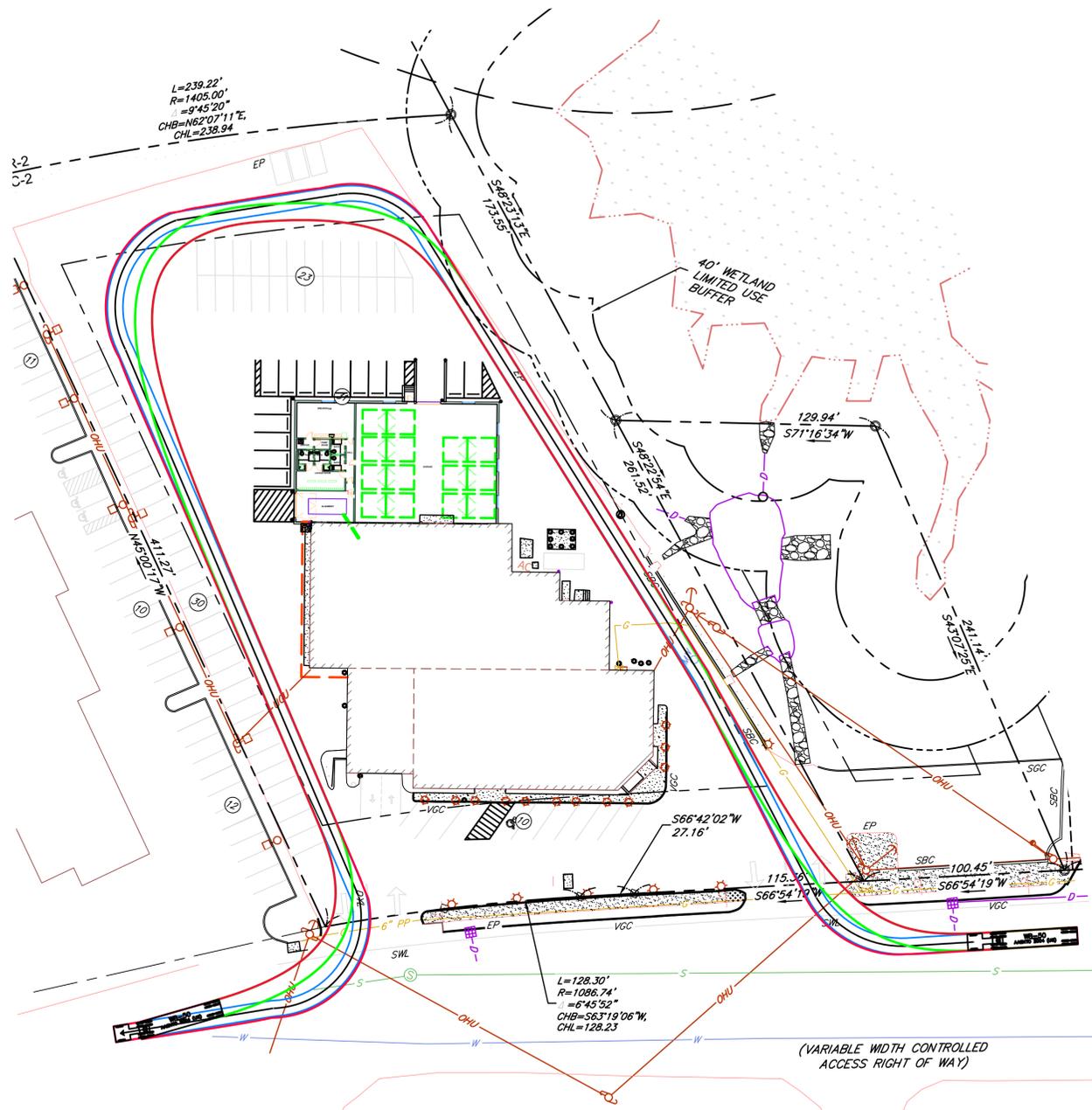
TAX MAP 52, LOT 108
TAX MAP 51, LOTS 1

140 Portsmouth Avenue
Exeter, NH 03833

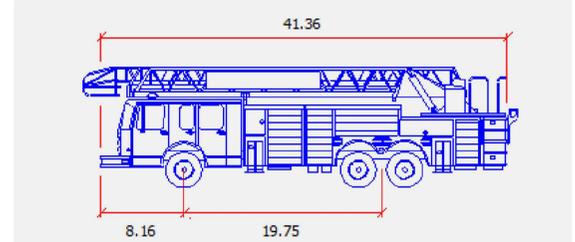
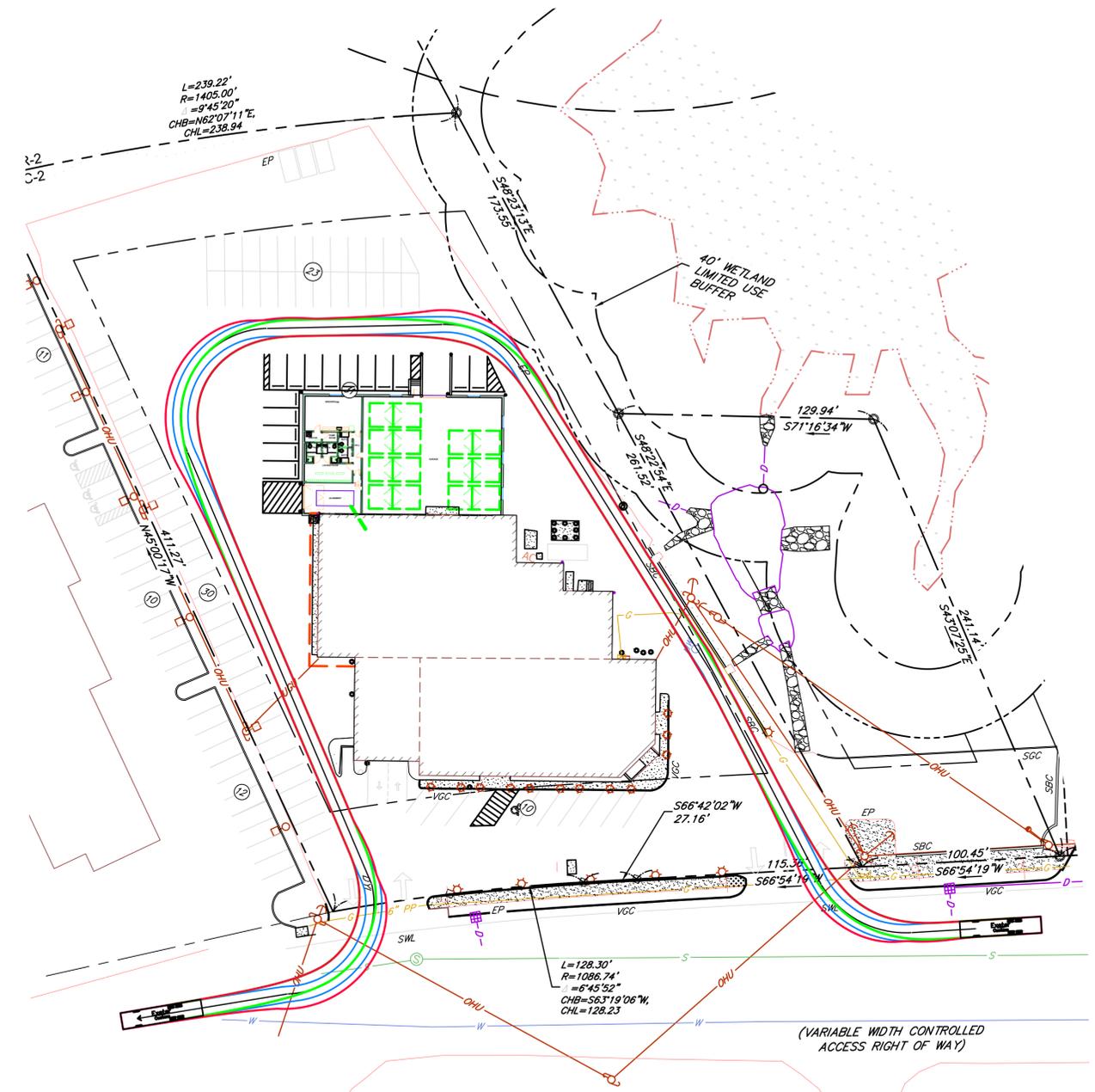
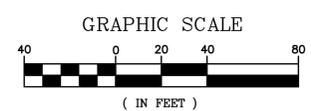
TITLE:

AUTOTURN TRUCK
TURNING TEMPLATES

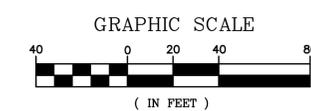
SHEET NUMBER:
AT-1



AASHTO (WB-50) TRANSPORT TRUCK



CUSTOM - EXETER AERIAL FIRE TRUCK



March 31, 2025

David Sharples, Town Planner
Town of Exeter Planning Department
10 Front Street
Exeter NH 03833

**RE: Volvo Cars Exeter, Site and Subdivision Regulations Waiver Request
140 Portsmouth Avenue, Exeter NH**

Dear, Mr. Sharples,

Please consider the following waiver request to section 9.2.4-1a of the Site and Subdivision Regulations as amended August 2023 for the above-mentioned project.

We request that the Town of Exeter allows the submitted project to proceed with a roof slope less than the 3:12 required under section 9.2.4-1a. We have proposed that the roof pitch of the addition matches the existing service bay building that the addition is attached too. This reason for matching the existing roof slopes is to prevent a differential height between the addition and the existing building from exceeding two feet which would require the existing building to be structurally upgraded to accommodate additional drifting snow load per International Building Code 2021 section 1608.2.1. The existing and proposed roof pitches are approximately 1:12.

Thank you for your consideration of this request.

Respectfully,



Jonathan Smith AIA
Principal Architect

WARRENSTREET ARCHITECTS INC.



Barbara Mcevoy <bmcevoy@exeternh.gov>

Volvo Service Center Expansion

1 message

Allison Rees <arees@underwoodengineers.com>

Wed, Feb 19, 2025 at 2:46 PM

To: "dsharples@exeternh.gov" <dsharples@exeternh.gov>, Paul Vlasich <pvlasic@exeternh.gov>,
"bmcevoy@exeternh.gov" <bmcevoy@exeternh.gov>

Cc: "Robert J. Saunders" <rsaunders@underwoodengineers.com>

Good afternoon,

I received the pdfs of the submittal materials for the Volvo Service Center Expansion project from Cory at Altus. We took a brief look at the submittal this afternoon.

The submittal is very complete and very well done. Based on our brief review, it appears to us this may not need a review by UE for the following reasons:

- There is no increase in impervious area
- They are increasing the percentage of the site that will receive stormwater treatment
- They are decreasing flow rates in the post condition
- The water and sewer will be internal plumbing changes, they don't propose any external changes to the existing water and sewer services
- They meet regs for parking, dimensions, etc
- There are no requests for waivers
- It appears there are no issues with fire truck access

Once you've taken a look at their submittal, if you do see something you'd like us to take a look at further, please let me know and I'll prepare an ESR.

Thank you,

Allison



Allison Rees, P.E. (NH)

Project Manager

Office: (603) 230-9898

Minor Site Plan Application

Volvo Cars of Exeter Service Center Expansion

140 PORTSMOUTH AVENUE
EXETER, NEW HAMPSHIRE

TAX MAP 52, LOT 108 &
TAX MAP 51, LOT 01

ISSUED FOR PLANNING BOARD

THIS DRAWING SET HAS NOT BEEN RELEASED FOR CONSTRUCTION

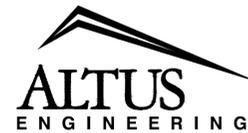
Plan Issue Date:

APRIL 1, 2025

Owner/Applicant:

Dade Auto Holdings Realty Trust
140 Portsmouth Avenue
Exeter, NH 03833

Civil Engineer:



133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

Architect:



27 Warren Street Concord NH 03301
T 603.225.0640 F 603.225.0621 www.warrenstreet.coop

Surveyor:



Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

170 Commerce Way, Suite 102
Portsmouth, NH 03801
Phone (603) 431-2222
Fax (603) 431-0910
www.tfmoran.com



LOCUS

NOT TO SCALE

Sheet Index

Sheet Title	Sheet No.:	Rev.	Date
Existing Conditions Plan (TFM)	S-1	0	10/30/24
Existing Conditions Plan (TFM)	S-2	0	10/30/24
Site Preparation Plan	C-1	0	02/19/25
Site Plan	C-2	1	02/19/25
Grading & Drainage Plan	C-3	0	02/19/25
Detail Sheet	D-1	0	02/19/25
Detail Sheet	D-2	0	02/19/25
Detail Sheet	D-3	0	02/19/25
First Floor Plan (Warren Street)	A01	0	02/12/25
Exterior Elevations (Warren Street)	A02	0	03/21/25

PERMIT APPROVAL NOTES:

CONSTRUCTION SHALL NOT COMMENCE UNTIL ALL REGULATORY APPROVALS HAVE BEEN RECEIVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTING THE PROJECT IN ACCORDANCE WITH ALL CONDITIONS OF THE APPROVALS.

- CONDITIONAL USE PERMIT – WETLANDS CONSERVATION DISTRICT – 375 SF DISTURBANCE WITHIN BUFFER.
- WAIVER REQUEST – SECTION 9.2.4-1A. ARCHITECTURAL STANDARDS PROPOSED ROOF SLOPE OF 1:12 WHERE 3:12 IS REQUIRED

LEGEND:

Table with 2 columns: Symbol and Description. Includes items like AC (AIR CONDITIONER), B.G. (BELOW GRADE), CBF (CONCRETE BOUND "NHHH" FOUND), etc.

Table with 2 columns: Symbol and Description. Includes items like -5.0 (LIMIT OF TOPOGRAPHIC SURVEY), -10.0 (LIMIT OF TOPOGRAPHIC SURVEY), etc.

EASEMENT NOTES:

- 1. MAP 51 LOTS 3.3 & 3.4 ARE SUBJECT TO THE SLOPE EASEMENTS AND DRAINAGE EASEMENT AS RECORDED IN RCRD BK.#3200 PG.#2270 (SEE ALSO PLAN REFERENCE 12).

I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY THOSE UNDER MY DIRECT SUPERVISION AND ARE THE RESULT OF A FIELD SURVEY CONDUCTED IN FEBRUARY 2022 & SEPTEMBER 2024. THIS SURVEY CONFORMS TO THE ACCURACY REQUIREMENTS OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS.



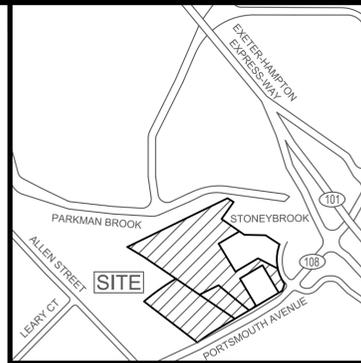
2024-10-30 DATE

LICENSED LAND SURVEYOR

TOWN OF EXETER SHORELAND DISTRICT NOTE:

THE EXETER 300' SHORELAND DISTRICT LINE AND EXETER 150' SHORELAND PROTECTION BUILDING SETBACK LOCATIONS SHOWN HEREON ARE SUBJECT TO CHANGE. THIS PLAN SHOWS A PRELIMINARY BOUNDARY SUBJECT TO VERIFICATION OF SOIL DISCONTINUITY PER EXETER SHORELAND DEFINITION IN THE ZONING REGULATIONS.

LOCATION PLAN



NOTES:

- 1. THE PARCELS ARE LOCATED IN THE C-2 HIGHWAY COMMERCIAL ZONING DISTRICT AND PARTIALLY WITHIN THE EXETER SHORELAND PROTECTION DISTRICT (SEE TOWN OF EXETER SHORELAND DISTRICT NOTE), THE WETLANDS CONSERVATION DISTRICT AND THE FLOODPLAIN DEVELOPMENT OVERLAY DISTRICTS & THE NHDES SHORELAND PROTECTION ZONE.

MAP 51 LOTS 1 & 3.4 AND MAP 52 LOT 108 EXISTING CONDITIONS PLAN EXETER VOLVO 146, 0 & 140 PORTSMOUTH AVENUE EXETER, NEW HAMPSHIRE COUNTY OF ROCKINGHAM OWNED BY DADE AUTO HOLDINGS REALTY TRUST

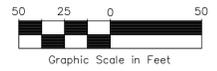
SCALE: 1" = 50' (22x34) 1" = 100' (11x17) OCTOBER 30, 2022

Seacoast Division TFM logo and contact information for Civil Engineers, Structural Engineers, Traffic Engineers, Land Surveyors, Landscape Architects, Scientists.

Table with columns: REV, DATE, DESCRIPTION, DR, CK. Row 1: 45894-30, DR, M/P, FB, 541, S-1

2024-10-30 12:57pm W:\T\M-BED\FOR\Projects\Civil\Survey\ITM Projects\45894-30 Warren\Exeter - Exeter Volvo\Carlsen_Survey\Drawings\45894-30 Survey.dwg

Copyright 2022 © TFMoran, Inc. 48 Constitution Drive, Bedford, NH. 03110. All rights reserved. These plans and materials may not be copied, duplicated, replicated or otherwise reproduced in any form whatsoever without the prior written permission of TFMoran, Inc.



CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

MAP 52 LOT 109 TEBBY EXETER PROPERTIES, LLC C/O HANNAFORD BROS CO. 90 BOX 1000-MS000. PORTLAND, ME 04104 RCRD BK.#4368 PG.#1793

MAP 51 LOT 15 KEVIN KING ENTERPRISES CO, LLC C/O HANNAFORD BROS CO. PO BOX 6500 CARLISLE, PA 17013 RCRD BK.#3792 PG.#0479

MAP 51 LOT 13 MCFARLAND REALTY TRUST HENRY O. MCFARLAND, TRUSTEE 151 PORTSMOUTH AVENUE EXETER, NH 03833 RCRD BK.#4451 PG.#426

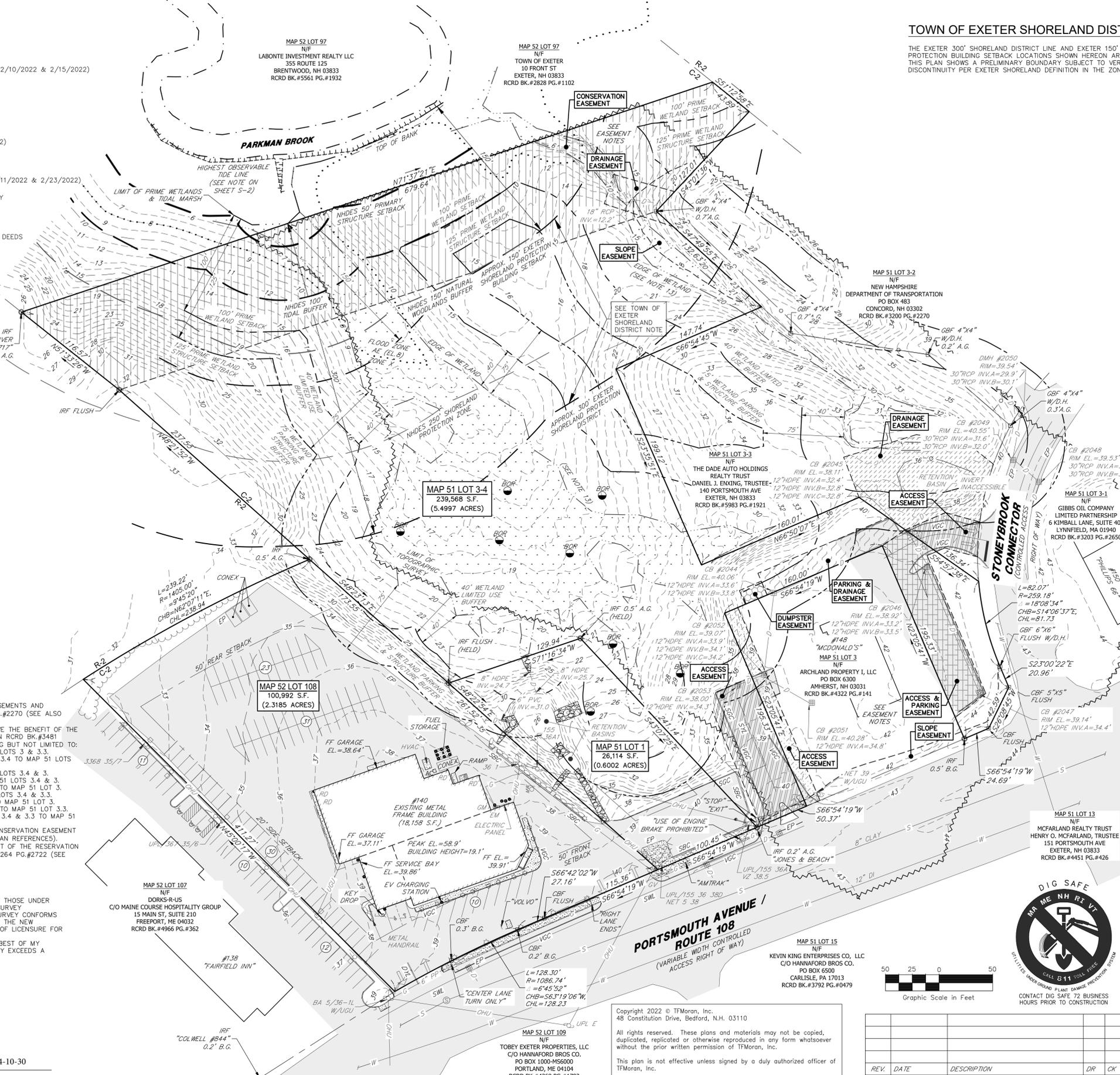
MAP 51 LOT 3 ARCHLAND PROPERTY 1, LLC PO BOX 6300 AMHERST, NH 03031 RCRD BK.#4322 PG.#141

MAP 51 LOT 3-1 GIBBS OIL COMPANY LIMITED PARTNERSHIP 6 KIMBALL LANE, SUITE 40C LYNNFIELD, MA 01940 RCRD BK.#3203 PG.#2650

OWNER OF RECORD: MAP 51 LOT 1: DADE AUTO HOLDINGS REALTY TRUST DANIEL J. ENXING, TRUSTEE 140 PORTSMOUTH AVENUE EXETER, NH 03833 RCRD BK.#5983 PG.#1921

MAP 51 LOT 3.4: DADE AUTO HOLDINGS REALTY TRUST DANIEL J. ENXING, TRUSTEE 140 PORTSMOUTH AVENUE EXETER, NH 03833 RCRD BK.#5983 PG.#1921

MAP 52 LOT 108: DADE AUTO HOLDINGS REALTY TRUST DANIEL J. ENXING, TRUSTEE 140 PORTSMOUTH AVENUE EXETER, NH 03833 RCRD BK.#5815 PG.#2471



Oct 30, 2024 - 12:57pm
 \\TFM-BEDFORD\Projects\Civil-Survey\TFM Projects\45894-30 Warrenstreet - Exeter Volvo\Carlson Survey\Drawings\45894-30 Survey.dwg

WETLANDS NOTE:

IN MAY AND JUNE OF 2022, CYNTHIA M. BALCIUS CWS, CSS, CPESC OF STONEY RIDGE ENVIRONMENTAL LLC (SRE) COMPLETED A WETLAND DELINEATION REVIEW OF THE ABOVE REFERENCED SITE AND A VERNAL POOL ASSESSMENT. THE WETLAND DELINEATION REVIEW FOLLOWED THE EXISTING WETLAND DELINEATION COMPLETED IN 2021 BY OTHERS. SRE HAS CONCURRED, CONFIRMED AND REFRESHED THE WETLAND DELINEATION USING THE FOLLOWING STANDARDS:

- 1) UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE. 2016. FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 8.0. L.M. VASILAS, G.W. HURT, AND J.F. BERKOWITZ (EDS.), USDA, NRCS, IN COOPERATION WITH THE NATIONAL TECHNICAL COMMITTEE FOR HYDRIC SOILS.
- 2) FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND. VERSION 4. JUNE 2018. NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE.
- 3) NORTH AMERICAN DIGITAL FLORA: NATIONAL WETLAND PLANT LIST, VERSION 2.1.0 (HTTP://WETLAND_PLANTS.USACE.ARMY.MIL). U.S. ARMY CORPS OF ENGINEERS, ENGINEER RESEARCH AND DEVELOPMENT CENTER, COLD REGIONS RESEARCH AND ENGINEERING LABORATORY, HANOVER, NH, AND BONAP, CHAPEN HILL.
- 4) THE NATIONAL WETLAND PLANT LIST: 2016 WETLAND RATINGS. LICHVAR, R.W., D.L. BANKS, W.N. KIRCHNER, AND N.C. MELVIN. 2016. PHYTONEURON 2016-30: 1-17. PUBLISHED 28 APRIL 2016. ISSN 2153 733X.
- 5) CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL. JANUARY 1987. WETLANDS RESEARCH PROGRAM TECHNICAL REPORT Y-87-1.
- 6) REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION. JANUARY 2012, VERSION 2. U.S. ARMY CORPS OF ENGINEERS. ENVIRONMENTAL LABORATORY ERDC/EL TR-12-1.
- 7) CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. DECEMBER 1979. L. COWARDIN, V. CARTER, F. GOLET, AND E. LAROE. US DEPARTMENT OF THE INTERIOR. FISH AND WILDLIFE SERVICE. FWS/OBS-79/31.
- 8) NHDES WETLANDS RULES CHAPTERS100 THROUGH 900. ISSUED ON DECEMBER 15, 2019 AND AS AMENDED THROUGH APRIL 15, 2020.
- 9) RSA 482: A. THE STATE OF NEW HAMPSHIRE WETLAND STATUTE.

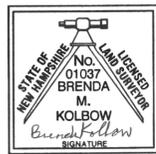
THE FOLLOWING REFERENCES WERE UTILIZED TO COMPLETE THE VERNAL POOL ASSESSMENTS AND THE WETLAND FUNCTION & VALUE ASSESSMENTS:

- 1) ARMY CORPS OF ENGINEERS HIGHWAY METHODOLOGY WORKBOOK SUPPLEMENT (APPENDIX A, USACE, SEPTEMBER 1999).
- 2) CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. DECEMBER 1979. L. COWARDIN, V. CARTER, F. GOLET, AND E. LAROE. US DEPARTMENT OF THE INTERIOR. FISH AND WILDLIFE SERVICE. FWS/OBS-79/31.
- 3) IDENTIFYING AND DOCUMENTING VERNAL POOLS IN NEW HAMPSHIRE 3RD ED. 2016. NEW HAMPSHIRE FISH & GAME.
- 4) ARMY CORPS OF ENGINEERS "VERNAL POOL ASSESSMENT" DRAFT GUIDANCE, SEPTEMBER 10, 2013. APPENDIX L ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT COMPENSATORY MITIGATION GUIDANCE.

PLAN REFERENCES:

1. "SUBDIVISION OF LAND EXETER, N.H. FOLGER J. & ANITA F. WENTWORTH" BY JOHN W. DURGIN ASSOCIATES, INC., DATED MAY 21, 1984. RCRD PLAN #D-13038.
2. "PLAN OF LAND STRATHAM & EXETER, N.H. FOR LIONEL R. LABONTE" BY DURGIN-SCHOFIELD ASSOCIATES", DATED DEC. 1987. RCRD PLAN #D-18051.
3. "PLAN OF PROPERTIES IN EXETER, NH NO. 59 PORTSMOUTH AVENUE ROCKINGHAM COUNTY PREPARED FOR: MCDONALD'S CORPORATION" BY GOLDEN LAND SURVEY, INC., DATED DECEMBER 3, 1994 REV. MARCH 29, 1995. RCRD PLAN #D-23862.
4. "LOT LINE ADJUSTMENT PLAN ASSESSORS MAP 9-02 LOT 32 & LOT 33 PORTSMOUTH AVE. - ROUTE 108 EXETER, NEW HAMPSHIRE PREPARED FOR GIBBS OIL COMPANY LIMITED PARTNERSHIP" BY MHF, INC. DATED JULY 18, 1996 WITH REVISION 2 DATED 9/30/96. RCRD PLAN #D-25278.
5. "WETLAND MITIGATION PLAN ASSESSORS MAP 9-02 LOT 32 & LOT 33 PORTSMOUTH AVE. - ROUTE 108 EXETER, NEW HAMPSHIRE PREPARED FOR GIBBS OIL COMPANY LIMITED PARTNERSHIP" BY MHF, INC. DATED NOVEMBER 21, 1996. RCRD PLAN #D-25387.
6. "LOT LINE ADJUSTMENT PLAN TAX MAP 51, LOT 3, STARRY BROOK CORPORATION AND TAX MAP 52, LOT 97, TOWN OF EXETER" BY LITTLE RIVER SURVEY COMPANY, DATED DECEMBER 1997. RCRD PLAN #D-26032.
7. "SUBDIVISION PLAN FOR USIS CORPORATION U.S. INVESTMENT SERVICES PORTSMOUTH AVENUE COUNTY OF ROCKINGHAM EXETER, NH." BY MILLETTE, SPRAGUE & COLWELL, INC." DATED JUNE 10, 1998, WITH REVISION 1, DATED 9/9/98. RCRD PLAN #D-26595.
8. "EASEMENT PLAN FOR MCDONALD'S CORP. PORTSMOUTH AVENUE/NH. ROUTE 108 COUNTY OF ROCKINGHAM EXETER, NH." BY MILLETTE, SPRAGUE & COLWELL, INC." DATED MAY 14, 1999, WITH REVISION 2, DATED 09/09/99. RCRD PLAN #D-28074.
9. "ALTA/ACSM LAND TITLE SURVEY OF ROLLINSFORD ASSOCIATES, LLC FOR MCDONALD'S CORP. PORTSMOUTH AVENUE/ROUTE 108 COUNTY OF ROCKINGHAM EXETER, NH." BY MILLETTE, SPRAGUE & COLWELL, INC." DATED APRIL 22, 1999, WITH REVISION 2, DATED 10/27/99. RCRD PLAN #D-28096.
10. "LOT LINE REVISION PORTSMOUTH AVENUE - NH ROUTE 108 EXETER, NEW HAMPSHIRE FOR THE RICHMOND COMPANY, INC. " BY JAMES VERRA AND ASSOCIATES, INC., DATED 6/8/2000 WITH REVISION 4, DATED 4/29/2001. RCRD PLAN #D-30822.
11. "PLAN OF LAND VOLVO CARS OF EXETER TAX MAP 52 LOT 108 140 PORTSMOUTH AVENUE EXETER, NEW HAMPSHIRE" BY S.E.C. & ASSOCIATES, INC., DATED OCTOBER 06, 2017. RCRD PLAN #D-40467.
12. "PROPERTY ACQUIRED BY STATE OF NEW HAMPSHIRE FROM STARRY BROOK CORPORATION IN EXETER, N.H. ROCKINGHAM COUNTY DATE: FEB. 21, 1997.". SEE RCRD BK.#3200 PG.#2274 & BK.#3200 PG.#2275.

I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY THOSE UNDER MY DIRECT SUPERVISION AND ARE THE RESULT OF A FIELD SURVEY CONDUCTED IN FEBRUARY 2022 & SEPTEMBER 2024. THIS SURVEY CONFORMS TO THE ACCURACY REQUIREMENTS OF AN URBAN SURVEY OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS.
 I FURTHER CERTIFY THAT THIS SURVEY IS CORRECT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, AND THE FIELD TRAVERSE SURVEY EXCEEDS A PRECISION OF 1:15,000.



Copyright 2022 © TFMoran, Inc.
 48 Constitution Drive, Bedford, N.H. 03110
 All rights reserved. These plans and materials may not be copied, duplicated, replicated or otherwise reproduced in any form whatsoever without the prior written permission of TFMoran, Inc.
 This plan is not effective unless signed by a duly authorized officer of TFMoran, Inc.

2024-10-30
 DATE

MAP 51 LOTS 1 & 3.4 AND MAP 52 LOT 108
NOTES
EXETER VOLVO
146, 0 & 140 PORTSMOUTH AVENUE
EXETER, NEW HAMPSHIRE
COUNTY OF ROCKINGHAM
 OWNED BY
DADE AUTO HOLDINGS REALTY TRUST

SCALE: NO SCALE OCTOBER 30, 2024

Seacoast Division

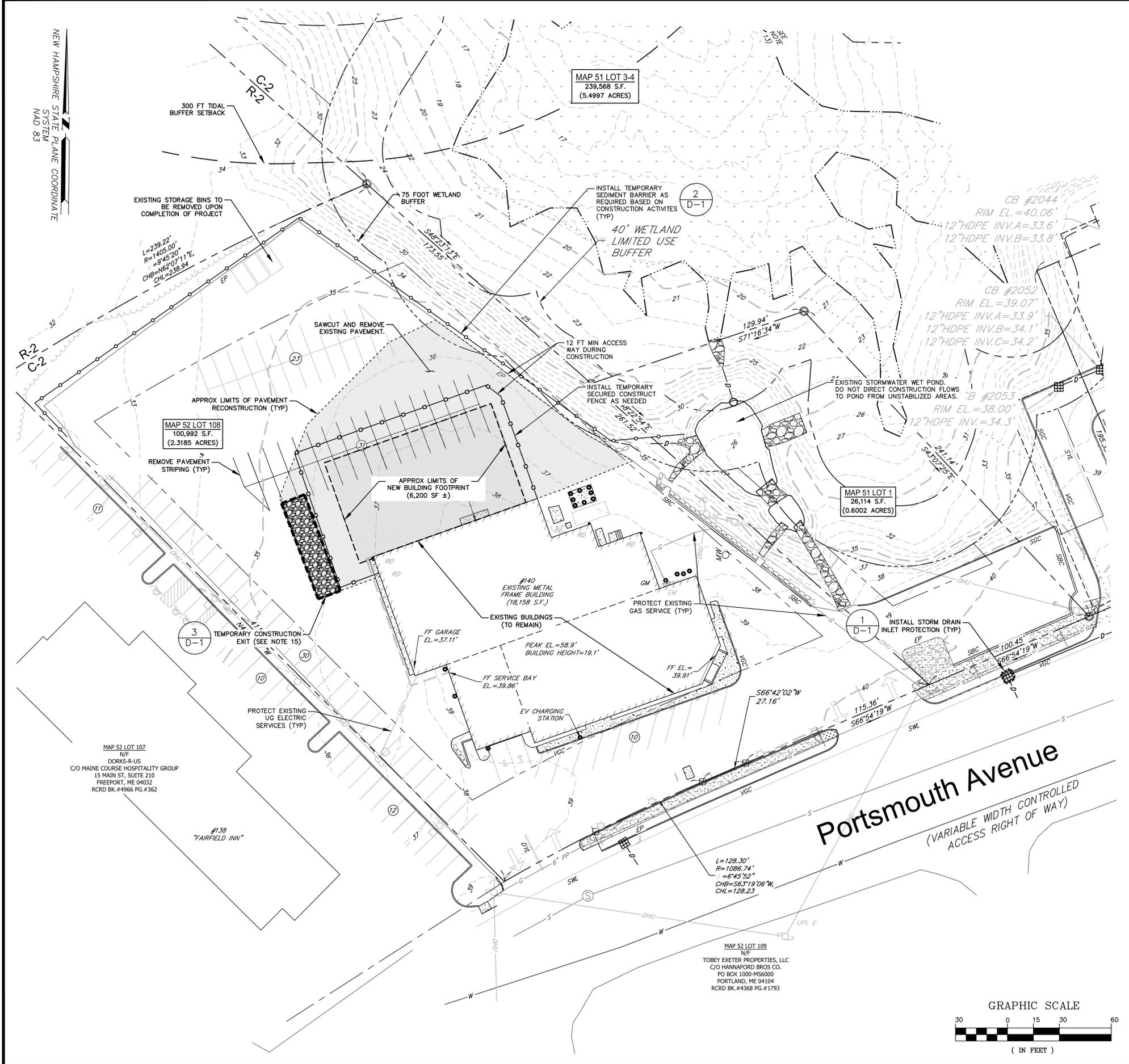
TFM

Civil Engineers
 Structural Engineers
 Traffic Engineers
 Land Surveyors
 Landscape Architects
 Scientists

170 Commerce Way, Suite 102
 Portsmouth, NH 03801
 Phone (603) 431-2222
 Fax (603) 431-0910
 www.tfmoran.com

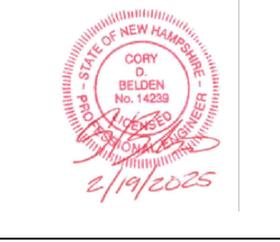
FILE	45894-30	DR	MVP	FB	541	S-2
		CK	BMK	CADFILE		

REV.	DATE	DESCRIPTION	DR	CK



CASE #25-2
TOWN OF EXETER PROJECT REFERENCE

ALTUS ENGINEERING
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com



NOT FOR CONSTRUCTION

ISSUED FOR: **PLANNING BOARD**

ISSUE DATE: **FEBRUARY 19, 2025**

REVISIONS
NO. DESCRIPTION BY DATE
0 INITIAL SUBMISSION CBD 02/19/25

DRAWN BY: _____ JMG
APPROVED BY: _____ CBD
DRAWING FILE: _____ 5625-site.dwg

SCALE:
22" x 34" - 1" = 30'
11" x 17" - 1" = 60'

OWNER/APPLICANT:
Dade Auto Holdings Realty Trust
140 Portsmouth Avenue
Exeter, NH 03833

PROJECT:
VOLVO CARS OF EXETER SERVICE CENTER EXPANSION
TAX MAP 52, LOT 108
TAX MAP 51, LOTS 1
140 Portsmouth Avenue
Exeter, NH 03833

TITLE:
SITE PREPARATION PLAN

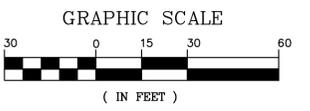
SHEET NUMBER:
C-1

DEMOLITION NOTES:

- LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND NOT GUARANTEED. CONTRACTOR SHALL LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR AND/OR RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
- MATERIAL TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE NOTED. DISPOSAL SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.
- ANY DAMAGE BY THE CONTRACTOR DURING DEMOLITION AND/OR CONSTRUCTION SHALL BE REPAIRS OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND FEES NECESSARY TO COMPLETE THE WORK.
- CONTRACTOR SHALL REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF THE WORK. ALL STUBS SHALL BE REMOVED AND SURFACES GRUBBED WITHIN THE LIMITS OF WORK.
- ALL WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL BE COORDINATED WITH THE TOWN OF EXETER DEPARTMENT OF PUBLIC WORKS AND POLICE DEPARTMENT IF WITHIN THE ROADWAY.
- CONTRACTOR SHALL PROTECT ALL FIELD STONE WALLS, FENCES, MAILBOXES, STRUCTURES, ETC. THROUGHOUT THE COMPLETION OF THE WORK.
- EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION WORK. THIS INCLUDES SILT FENCE / SILT SOCK AND INLET PROTECTION BARRIERS.
- CONTRACTOR SHALL SAWCUT PAVEMENT AT EDGES OF TRENCHES FOR CLEAN VERTICAL EDGES.
- CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS ACCESS TO THE SITE THROUGHOUT CONSTRUCTION.
- PAVEMENT RECONSTRUCTION LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE AND REPRESENT A MINIMUM REQUIREMENT. ADDITIONAL RECONSTRUCTION MAY BE REQUIRED OR REQUESTED BY THE OWNER. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT RECONSTRUCTION.
- CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, PAVEMENT, PIPES AND HEADWALLS LOCATED WITHIN THE LIMITS OF CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE WITH ALL APPLICABLE UTILITIES. WORK ASSOCIATED WITH UTILITIES, BUT NOT LIMITED TO, RELOCATION OF UTILITY POLES.
- CONTRACTOR SHALL NOTIFY DIG-SAFE 72 HOURS PRIOR TO ANY WORK STARTING. CONTRACTOR REQUIRED TO MAINTAIN AN ACTIVE DIG-SAFE PERMIT THROUGHOUT THE DURATION OF CONSTRUCTION.
- TEMPORARY CONSTRUCTION EXIT LOCATION MAY CHANGE BASE ON CONTRACTOR MEANS AND METHODS AND OPERATIONS. CONTRACTOR SHALL LIMIT TRACKING OF SEDIMENTS FROM THE SITE BY CONSTRUCTION VEHICLES TO PORTSMOUTH AVE.
- ALL UTILITY SERVICES (SEWER, WATER, GAS, & ELECTRIC) WILL BE EXTENDED FROM THE EXISTING BUILDING TO THE PROPOSED ADDITION AND NO NEW EXTERNAL UTILITY SERVICES ARE REQUIRED.

LEGEND

- PROPERTY LINE
- - - BUILDING SETBACK
- - - WETLAND BOUNDARY
- - - WETLAND SETBACK
- VGC SBC EXISTING CURB/ VERTICAL GRANITE OR SLOPED BIT CURB
- ▨ PROP. PAVEMENT
- 60--- EXISTING CONTOUR
- ▭60▭ PROPOSED CONTOUR/INTERMEDIATE CONTOUR
- 100.00 PROPOSED SPOT GRADE
- W-WV EXISTING WATER/CURB STOP/VALVE/HYDRANT
- S-S EXISTING SEWER/MANHOLE
- G-GV EXISTING GAS/VALVE
- OHU-UGU EXIST. OVERHEAD/UNDERGROUND UTILITIES/POLE
- D-D EXISTING DRAINAGE/CB/DMH
- W-WV PROPOSED THRUST BLOCK/CURB STOP/VALVE/HYDRANT
- ▭▭ PROPOSED DRAINAGE (HARD PIPE)/CB/DCB/DMH/FES
- ▭▭ PROPOSED CATCH BASIN INLET PROTECTION
- ▭▭ PROPOSED DRAINAGE (PERFORATED PIPE)/CLEANOUT
- 4% PROPOSED GROUND SLOPE/APPROX. GRADE
- SILTFENCE/SEDIMENT BARRIER/CONST. FENCE
- ▭▭ STABILIZED CONSTRUCTION EXIT
- - - PROPOSED LIMIT OF DISTURBANCE
- ④④ PARKING COUNT
- ▭▭ PROPOSED RIPRAP

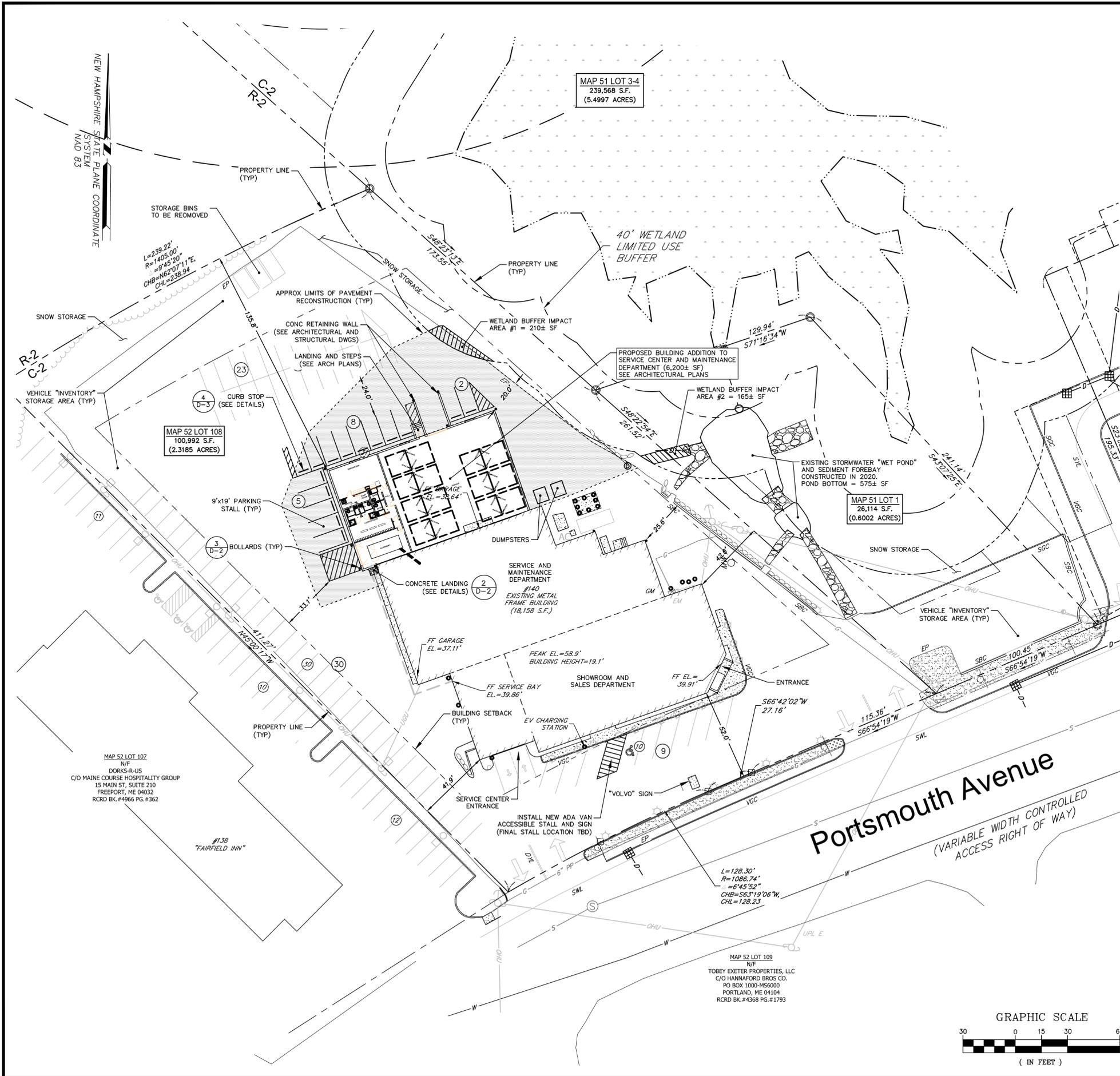


MAP 52 LOT 109
N/F
TOBEY EXETER PROPERTIES, LLC
C/O HANNAFORD BROS CO.
PO BOX 1000-MS6000
PORTLAND, ME 04104
RCRD BK.#4368 PG.#1793

MAP 52 LOT 107
N/F
DORKS-R-US
C/O MAINE COURSE HOSPITALITY GROUP
15 MAIN ST, SUITE 210
FREEPORT, ME 04032
RCRD BK.#4966 PG.#362

#138
"FAIRFIELD INN"

NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM NAD 83

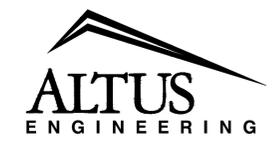


CASE #25-2

TOWN OF EXETER PROJECT REFERENCE

APPROVED FOR THE RECORD:

EXETER PLANNING BOARD DATE



133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com



SITE NOTES

- THE PARCELS ARE SHOWN ON THE TOWN OF EXETER ASSESSOR'S MAP AS TAX MAP 51, LOT 1 AND TAX MAP 52, LOT 108
- OWNER OF RECORD: PARCEL AREA:

MAP 51 LOT 1: DADE AUTO HOLDINGS REALTY TRUST DANIEL J. ENXING, TRUSTEE 140 PORTSMOUTH AVENUE EXETER, NH 03833 RCRD BK.5983 PG.#1921	26,114 S.F. (0.6002 ACRES)
MAP 52 LOT 108: DADE AUTO HOLDINGS REALTY TRUST DANIEL J. ENXING, TRUSTEE 140 PORTSMOUTH AVENUE EXETER, NH 03833 RCRD BK.5815 PG.#2471	100,992 S.F. (2.3185 ACRES)
- THE PARCELS ARE LOCATED IN THE C-2 HIGHWAY COMMERCIAL ZONING DISTRICT. THE 75 FOOT WETLANDS CONSERVATION DISTRICT BOUNDARY PARTIALLY EXTENDS ONTO EACH PARCEL.
- DENSITY AND DIMENSIONAL REGULATIONS: C-2

MINIMUM LOT AREA:	REQUIRED 20,000 S.F.	PROVIDED 100,992 S.F.
MINIMUM LOT WIDTH:	150'	228'±
MINIMUM LOT DEPTH:	100'	400'±
MINIMUM YARD SETBACKS:		
FRONT-	50'	52.0'±
SIDE-	20'	41.9'±
REAR-	50'	135.8'±
MAXIMUM STRUCTURE DIMENSIONS:		
BUILDING HEIGHT:	35'	< 35'
BUILDING COVERAGE:	30%	24.1%
MINIMUM OPEN SPACE:	15%	14.3%*

*EXISTING LOT COVERAGE IS 14.3% FOR LOT 52-108. NO INCREASE IN IMPERVIOUS AREA IS PROPOSED. THE COMBINED TWO LOT OPEN SPACE IS 26.5%.
- PARKING CALCULATIONS: (ALTERNATIVE PARKING CALCULATION PER 5.6.3.B.1)
 ITE 840 AUTOMOBILE SALES (NEW) = 7,010 SF x 2.29/1000 SF = 16.05
 ITE 943 AUTOMOBILE SERVICE CENTER = 17,348 SF x 1.79/1000 SF = 31.05
 TOTAL REQUIRED PARKING SPACES = 48 SPACES
 TOTAL PARKING SPACES PROVIDED = 77 SPACES
 NOTE: ADDITIONAL SPACES CAN BE ALLOCATED FOR CUSTOMER/EMPLOYEE PARKING AS NEEDED.
- HORIZONTAL DATUM IS NAD83 (2011) PER STATIC GPS OBSERVATIONS. THE VERTICAL DATUM IS NAVD88 PER STATIC GPS OBSERVATIONS. THE CONTOUR INTERVAL IS 1 FOOT.
- WETLANDS DEPICTED ON THIS PLAN WERE DELINEATED ON FEBRUARY 23, 2022 BY JASON R. AUBE CWS #313 ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (JANUARY) AND THE REGIONAL SUPPLEMENT TO THE U.S. CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH-CENTRAL AND NORTHEAST REGION, VERSION 2.0 (JANUARY 2012).
- THE LANDOWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL WETLANDS REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.
- THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. ALTUS ENGINEERING MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UNDERGROUND UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE.
- ALL WATER, SEWER, ROAD, AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 9.5 GRADING, DRAINAGE, AND EROSION & SEDIMENT CONTROL AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN EXETER, NEW HAMPSHIRE.
- COORDINATE ALL WORK WITHIN FIVE (5) FEET OF PROPOSED BUILDINGS WITH BUILDING CONTRACTOR AND ARCHITECTURAL DRAWINGS.
- THE CONTRACTOR SHALL VERIFY ALL BUILDING DIMENSIONS WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PRIOR TO CONSTRUCTION. ALL DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER FOR RESOLUTION.
- ANY WORK THAT WILL IMPACT TRAFFIC ON PORTSMOUTH AVENUE SHALL BE COORDINATED WITH EXETER POLICE (LT STEVE BOLDUC AT SBOLDUC@EXETER.NH.GOV). ANY WORK WITHIN THE ROADWAY WILL REQUIRE TOWN EXETER POLICE DETAIL FOR TRAFFIC CONTROL AT THE OWNERS EXPENSE. CONTRACTOR SHALL COORDINATE WITH TOWN OF EXETER DPW AND POLICE DEPARTMENT FOR REQUIREMENTS.
- PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC DEVICES," "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AND THE AMERICANS WITH DISABILITIES ACT.
- ALL BONDS AND FEES SHALL BE PAID/POSTED PRIOR TO INITIATING CONSTRUCTION.
- THE CONTRACTOR SHALL VERIFY ALL BENCHMARKS AND TOPOGRAPHY IN THE FIELD PRIOR TO CONSTRUCTION.
- SNOW SHALL BE STORED AT THE EDGE OF PAVEMENT, IN AREAS SHOWN HEREON. IF THERE IS NOT ADEQUATE ROOM FOR SNOW STORAGE IN AN EXTREME STORM EVENT, THEN SNOW SHALL BE REMOVED FROM THE SITE.
- ALL OF THE PROPOSED BUILDING IMPROVEMENTS WILL OCCUR WITHIN THE EXISTING PAVEMENT AREA. NO NEW IMPERVIOUS AREAS ARE PROPOSED.
- ALL UTILITY CONNECTIONS WILL BE EXTENDED INTERNALLY FROM THE EXISTING BUILDING. NO NEW EXTERNAL UTILITY SERVICES ARE PROPOSED.

NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: FEBRUARY 19, 2025

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CBD	02/19/25

DRAWN BY: JMG
 APPROVED BY: CBD
 DRAWING FILE: 5625-site.dwg

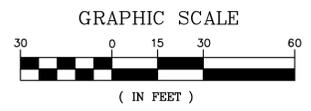
SCALE:
 22" x 34" - 1" = XX'
 11" x 17" - 1" = XX'

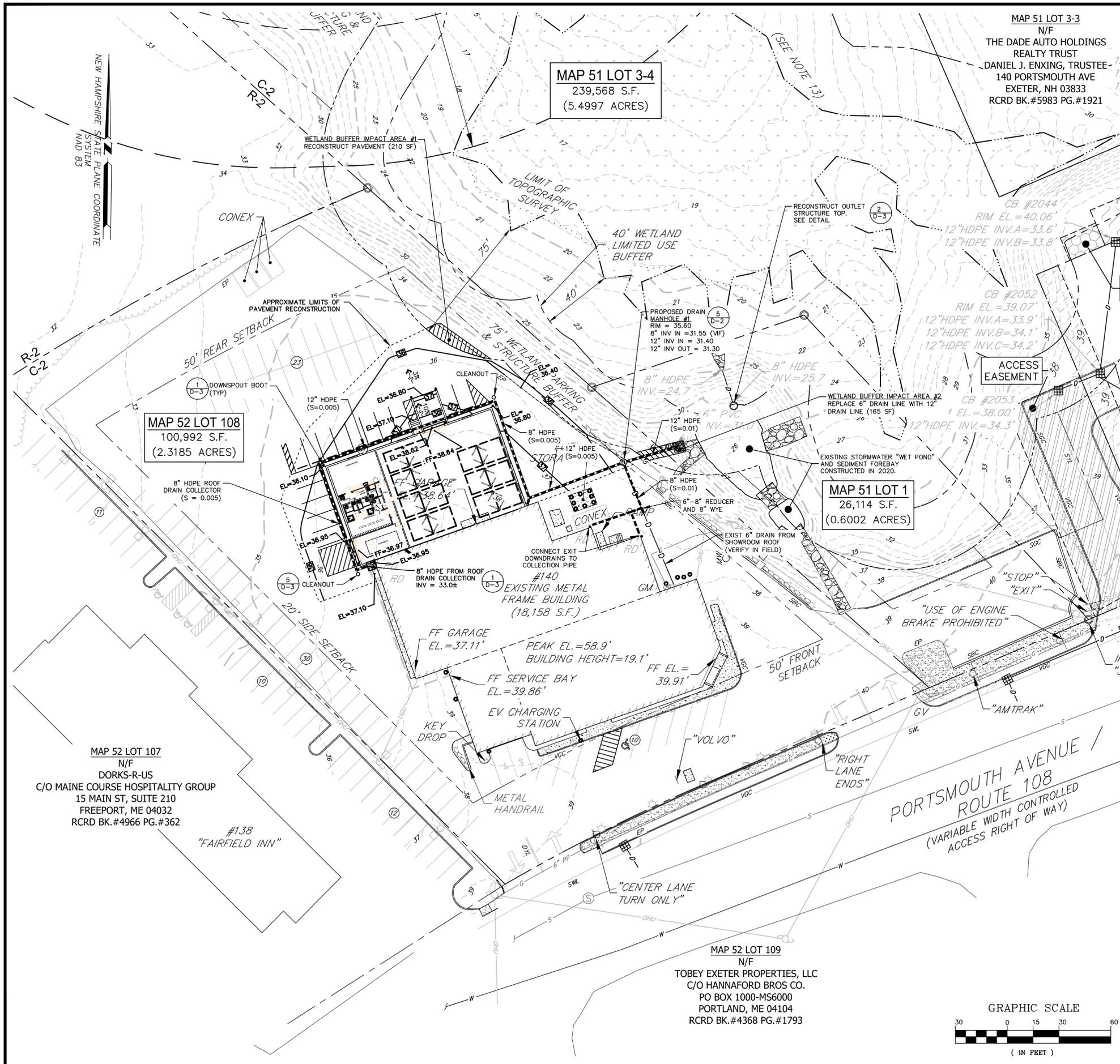
OWNER/APPLICANT:
Dade Auto Holdings Realty Trust
 140 Portsmouth Avenue
 Exeter, NH 03833

PROJECT:
**VOLVO CARS OF EXETER
 SERVICE CENTER
 EXPANSION**
 TAX MAP 52, LOT 108
 TAX MAP 51, LOTS 1
 140 Portsmouth Avenue
 Exeter, NH 03833

TITLE:
SITE PLAN
 SHEET NUMBER:

C-2





CASE #25-2
TOWN OF EXETER PROJECT REFERENCE

ALTUS ENGINEERING
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com



GRADING AND DRAINAGE NOTES

- CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS. CONTRACTOR SHALL PAY CLOSE ATTENTION TO DRIVEWAY ENTRANCES.
- EXISTING MANHOLES AND CATCHBASINS WITHIN LIMITS OF CONSTRUCTION SHALL BE ADJUSTED TO FINISH GRADES.
- ALL WATER SHUT OFF VALVES WITHIN THE LIMITS OF CONSTRUCTION SHALL BE ADJUSTED TO FINISH GRADES.
- CONTRACTOR SHALL CLEAN ALL STRUCTURES WITHIN THE CONSTRUCTION LIMITS IMMEDIATELY UPON COMPLETION OF THE WORK. ALL SEDIMENT AND DEBRIS SHALL BE DISPOSED OF PER FEDERAL, STATE AND LOCAL REGULATIONS.
- STORM DRAIN PIPING, UNLESS OTHERWISE NOTED, SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR APPROVED EQUAL).
- PROPOSED CATCHBASINS SHALL BE EQUIPPED WITH OIL/WATER SEPARATOR HOODS AND 2' SUMPS.
- ALL DISTURBED AREAS THAT ARE NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
- CONTRACTOR SHALL PROVIDE THE FOLLOWING MINIMUM REQUIREMENTS FOR COMPACTION:

BELOW PAVEMENT AND CONCRETE AREAS:	95%
TRENCH BEDDING AND BACKFILL:	95%
BELOW LOAM AND SEED AREAS:	90%

 COMPACTION PERCENTAGES SHALL BE THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557, METHOD C. FIELD DENSITY TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.
- ALL WATER, SEWER, ROAD, AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 9.5 GRADING, DRAINAGE, AND EROSION & SEDIMENT CONTROL AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN EXETER, NEW HAMPSHIRE. CONTRACTOR SHALL GRADE SLOPES TO THE LINES AND GRADES SHOWN ON THE PLANS. SLOPES STEEPER THAN 2:1 SHALL INCLUDE 6" RIP-RAP STONE FOR A DEPTH OF 18". SLOPES FROM 4:1 TO 2:1, CONTRACTOR SHALL PROVIDE A SLOPE STABILIZATION BLANKET.

NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: FEBRUARY 19, 2025

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CBD	02/19/25

DRAWN BY: JMG
APPROVED BY: CBD
DRAWING FILE: 5625-site.dwg

SCALE:
22" x 34" - 1" = XX'
11" x 17" - 1" = XX'

OWNER/APPLICANT:

Dade Auto Holdings Realty Trust
140 Portsmouth Avenue
Exeter, NH 03833

PROJECT:
VOLVO CARS OF EXETER SERVICE CENTER EXPANSION

TAX MAP 52, LOT 108
TAX MAP 51, LOTS 1

140 Portsmouth Avenue
Exeter, NH 03833

TITLE:
GRADING AND DRAINAGE PLAN

SHEET NUMBER:
C-3

SEDIMENT AND EROSION CONTROL NOTES

PROJECT NAME AND LOCATION

VOLVO DEALERSHIP SERVICE CENTER EXPANSION

Dade Auto Holdings Realty Trust
140 Portsmouth Avenue
Exeter, NH 03833

DESCRIPTION

The project consists of constructing an addition to the existing Volvo Dealership and Service Center facility on Portsmouth Avenue in Exeter. The existing showroom building and maintenance building will remain. See architectural drawings for building related items adjacent to the additions. Site improvements include parking lot reconstruction, re-grading, underground utilities, and storm water management.

DISTURBED AREA

The total area to be disturbed on the parcel and for the building addition, parking areas, drainage, and utility construction is approximately 18,500 SF± (less than 1-acre). The combined disturbed area does NOT exceed 43,560 SF (1 acre), thus a SWPPP will NOT be required for compliance with the USEPA-NPDES Construction General Permit. All local requirements for stormwater and erosion control during construction are still required.

NPDES CONSTRUCTION GENERAL PERMIT— exempt

Site disturbance is less than one acre, therefore Contractor is NOT required to prepare a Stormwater Pollution Prevention Plan (SWPPP) or file an NOI (Notice of Intent) in accordance with federal storm water permit requirements under the USEPA-NPDES Construction General Permit.

SEQUENCE OF MAJOR ACTIVITIES

THE FOLLOWING PROVIDES AN ANTICIPATED SEQUENCE OF CONSTRUCTION ACTIVITIES. ACTUAL SEQUENCE WILL DEPEND ON CONTRACTOR MEANS AND METHODS AND PROPOSED WORK PLAN.

- Hold a pre-construction meeting with City & stake holders.
- Install temporary erosion control measures, including drain inlet protection, sediment barriers, and stabilized construction exit/entrance as necessary for the initial phase of construction. Erosion control measures shall be maintained throughout construction for various phases of work.
- Remove pavement and structures intended to be removed within the work limits.
- Construct utility infrastructure. Rough grade lot to prepare for site development.
- Construct Foundations.
- Construct building addition framing.
- Construct pavement to binder course.
- Complete building addition interiors.
- Complete pavement wearing course.
- When all construction activity is complete and site is stabilized, remove all temporary erosion and sediment devices and all sediment that has been trapped by these devices.

NAME OF RECEIVING WATER

The site drains to a wetland that drains to Parkman Brook.

TEMPORARY EROSION & SEDIMENT CONTROL AND STABILIZATION PRACTICES

All work shall be in accordance with state and local permits. Work shall conform to the practices described in the "New Hampshire Stormwater Manual, Volumes 1 - 3", issued December 2008, as amended. As indicated in the sequence of Major Activities, the silt fences shall be installed prior to commencing any clearing or grading of the site. Structural controls shall be installed concurrently with the applicable activity. Once construction activity ceases permanently in an area, silt fences and any earth/dikes will be removed once permanent measures are established.

During construction, runoff will be diverted around the site with stabilized channels where possible. Sheet runoff from the site shall be filtered through hay bale barriers, stone check dams, and silt fences. All storm drain inlets shall be provided with hay bale filters or stone check dams. Stone rip rap shall be provided at the outlets of drain pipes and culverts where shown on the drawings.

Stabilize all ditches, swales, stormwater ponds, level spreaders and their contributing areas prior to directing flow to them.

Temporary and permanent vegetation and mulching is an integral component of the erosion and sedimentation control plan. All areas shall be inspected and maintained until vegetative cover is established. These control measures are essential to erosion prevention and also reduce costly rework of graded and shaped areas.

Temporary vegetation shall be maintained in these areas until permanent seeding is applied. Additionally, erosion and sediment control measures shall be maintained until permanent vegetation is established.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES

A. GENERAL

These are general inspection and maintenance practices that shall be used to implement the plan:

- The smallest practical portion of the site shall be denuded at one time, but in no case shall it exceed 5 acres at one time.
- All control measures shall be inspected at least once each week and following any storm event of 0.25 inches or greater.
- All measures shall be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours.
- Built-up sediment shall be removed from silt fence or other barriers when it has reached one-third the height of the fence or bale, or when "bulges" occur.
- All diversion dikes shall be inspected and any breaches promptly repaired.
- Temporary seeding and planting shall be inspected for bare spots, washouts, and unhealthy growth.
- The owner's authorized engineer shall inspect the site on a periodic basis to review compliance with the Plans.
- All roadways and parking lots shall be stabilized within 72 hours of achieving finished grade.
- All cut and fill slopes shall be seeded/loamed within 72 hours of achieving finished grade.
- An area shall be considered stable if one of the following has occurred:
 - Base coarse gravel has been installed in areas to be paved;
 - A minimum of 85% vegetative growth as been established;
 - A minimum of 3 inches of non-erosive material such as stone or riprap has been installed;
- or —
- Erosion control blankets have been properly installed.
- The length of time of exposure of area disturbed during construction shall not exceed 45 days.

B. MULCHING

Mulch shall be used on highly erodible soils, on critically eroding areas, on areas where conservation of moisture will facilitate plant establishment, and where shown on the plans.

- Timing — In order for mulch to be effective, it must be in place prior to major storm events. There are two (2) types of standards which shall be used to assure this:
 - Apply mulch prior to any storm event. This is applicable when working within 100 feet of wetlands. It will be necessary to closely monitor weather predictions, usually by contacting the National Weather Service in Concord, to have adequate warning of significant storms.
 - Required Mulching within a specified time period. The time period can range from 21 to 28 days of inactivity on a area, the length of time varying with site conditions. Professional judgment shall be used to evaluate the interaction of site conditions (soil erodibility, season of year, extent of disturbance, proximity to sensitive resources, etc.) and the potential impact of erosion on adjacent areas to choose an appropriate time restriction.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (CON'T)

2. Guidelines for Winter Mulch Application —

Type	Rate per 1,000 s.f.	Use and Comments
Hay or Straw	70 to 90 lbs.	Must be dry and free from mold. May be used with plantings.
Wood Chips or Bark Mulch	460 to 920 lbs.	Used mostly with trees and shrub plantings.
Jute and Fibrous Matting (Erosion Blanket)	As per manufacturer Specifications	Used in slope areas, water courses and other Control areas.
Crushed Stone 1/4" to 1-1/2" dia.	Spread more than 1/2" thick	Effective in controlling wind and water erosion.
Erosion Control Mix	2" thick (min)	<ul style="list-style-type: none"> The organic matter content is between 80 and 100%, dry weight basis. Particle size by weight is 100% passing a 6" screen and a minimum of 70 % maximum of 85% passing a 0.75" screen. The organic portion needs to be fibrous and elongated. Large portions of silts, clays or fine sands are not acceptable in the mix. Soluble salts content is less than 4.0 mmhos/cm. The pH should fall between 5.0 and 8.0.

- Maintenance — All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied.

C. TEMPORARY GRASS COVER

- Seedbed Preparation — Apply fertilizer at the rate of 600 pounds per acre of 10-10-10. Apply limestone (equivalent to 50 percent calcium plus magnesium oxide) at a rate of three (3) tons per acre.
- Seeding —
 - Utilize annual rye grass at a rate of 40 lbs/acre.
 - Where the soil has been compacted by construction operations, loosen soil to a depth of two (2) inches before applying fertilizer, lime and seed.
 - Apply seed uniformly by hand, cyclone seeder, or hydroseeder (slurry including seed and fertilizer). Hydroseedings, which include mulch, may be left on soil surface. Seeding rates must be increased 10% when hydroseeding.
- Maintenance — Temporary seedings shall be periodically inspected. At a minimum, 95% of the soil surface should be covered by vegetation. If any evidence of erosion or sedimentation is apparent, repairs shall be made and other temporary measures used in the interim (mulch, filter barriers, check dams, etc.).

D. FILTERS

- Tubular Sediment Barrier
 - See detail.
 - Install per manufacturer's requirements.
- Silt Fence (if used)
 - Synthetic filter fabric shall be a pervious sheet of polypropylene, nylon, polyester or ethylene yarn and shall be certified by the manufacturer or supplier as conforming to the following requirements:

Physical Property	Test	Requirements
Filtering Efficiency	VIM-51	75% minimum
Tensile Strength at 20% Maximum Elongation*	VIM-52	Extra Strength 50 lb/lin in (min) Standard Strength 30 lb/lin in (min)
Flow Rate	VIM-51	0.3 gal/sf/min (min)

* Requirements reduced by 50 percent after six (6) months of installation.

Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizer to provide a minimum of six (6) months of expected usable construction life at a temperature range of 0 degrees F to 120° F.

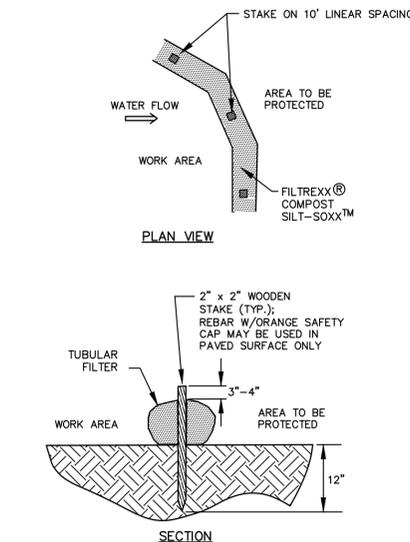
- Pasts shall be spaced a maximum of ten (10) feet apart at the barrier location or as recommended by the manufacturer and driven securely into the ground (minimum of 16 inches).
 - A trench shall be excavated approximately six (6) inches wide and eight (8) inches deep along the line of posts and upslope from the barrier.
 - When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least one (1) inch long, tie wires or hog rings. The wire shall extend no more than 36 inches above the original ground surfaces.
 - The "standard strength" filter fabric shall be stapled or wired to the fence, and eight (8) inches of the fabric shall be extended into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.
 - When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of item (g) applying.
 - The trench shall be backfilled and the soil compacted over the filter fabric.
 - Silt fences shall be removed when they have served their useful purpose but not before the upslope areas has been permanently stabilized.
- Sequence of Installation — Sediment barriers shall be installed prior to any soil disturbance of the contributing upslope drainage area.
 - Maintenance —
 - Silt fence barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. They shall be repaired if there are any signs of erosion or sedimentation below them. Any required repairs shall be made immediately. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water, the sediment barriers shall be replaced with a temporary stone check dam.
 - Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier still is necessary, the fabric shall be replaced promptly.
 - Sediment deposits must be removed when deposits reach approximately one-third (1/3) the height of the barrier.
 - Any sediment deposits remaining in place after the silt fence or other barrier is no longer required shall be removed. The area shall be prepared and seeded.

NOTES:

- SILTSOXX OR APPROVED EQUAL SHALL BE USED FOR TUBULAR SEDIMENT BARRIERS.
- ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS.
- COMPOST/SOIL/ROCK/SEED FILL MATERIAL SHALL BE ADJUSTED AS NECESSARY TO MEET THE REQUIREMENTS OF THE SPECIFIC APPLICATION.
- ALL SEDIMENT TRAPPED BY BARRIER SHALL BE DISPOSED OF PROPERLY.

2 TUBULAR SEDIMENT BARRIER DETAIL NOT TO SCALE

D-1



3 STABILIZED CONSTRUCTION EXIT NOT TO SCALE

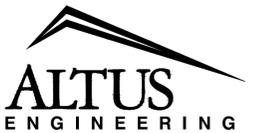
D-1

CONSTRUCTION SPECIFICATIONS

- REFERENCE NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3 (LATEST EDITION), SECTION 4.2
- *TEMPORARY CONSTRUCTION EXIT REQUIREMENTS AND BMP DETAIL.
- STONE SIZE — 3" COARSE AGGREGATE
- THICKNESS — SIX (6) INCHES (MINIMUM)
- LENGTH — 75 FOOT MINIMUM, OR 50 FOOT ALLOWED WHEN DIVERSION RIDGE IS PROVIDED.
- WIDTH — 1/2 OF DRIVEWAY (10 FOOT MINIMUM)
- FILTER FABRIC — MIRAFI 600X OR APPROVED EQUAL
- SURFACE WATER CONTROL — ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
- MAINTENANCE — THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
- 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.

CASE #25-2

TOWN OF EXETER PROJECT REFERENCE



133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com



NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: FEBRUARY 19, 2025

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CB	02/19/25

DRAWN BY: JMG

APPROVED BY: CBD

DRAWING FILE: 5625-site.dwg

SCALE: NOT TO SCALE

OWNER/APPLICANT: Dade Auto Holdings Realty Trust
140 Portsmouth Avenue
Exeter, NH 03833

PROJECT: VOLVO CARS OF EXETER SERVICE CENTER EXPANSION

TAX MAP 52, LOT 108
TAX MAP 51, LOTS 1
140 Portsmouth Avenue
Exeter, NH 03833

TITLE:

DETAILS

SHEET NUMBER: D-1

D-1



NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: FEBRUARY 19, 2025

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	cbd	02/19/25

DRAWN BY: JMG
APPROVED BY: CBD
DRAWING FILE: 5625-site.dwg

SCALE: NOT TO SCALE

OWNER/APPLICANT:

Dade Auto Holdings Realty Trust
140 Portsmouth Avenue
Exeter, NH 03833

PROJECT:

VOLVO CARS OF EXETER
SERVICE CENTER
EXPANSION

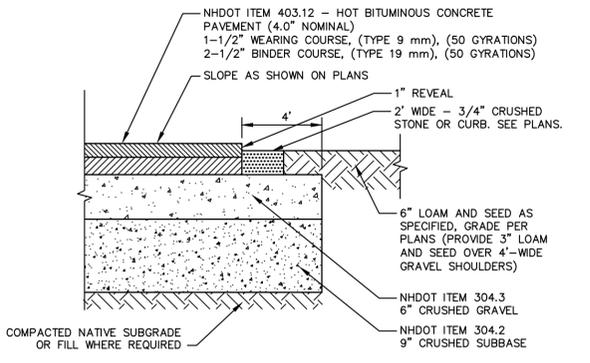
TAX MAP 52, LOT 108
TAX MAP 51, LOTS 1
140 Portsmouth Avenue
Exeter, NH 03833

TITLE:

DETAILS

SHEET NUMBER:

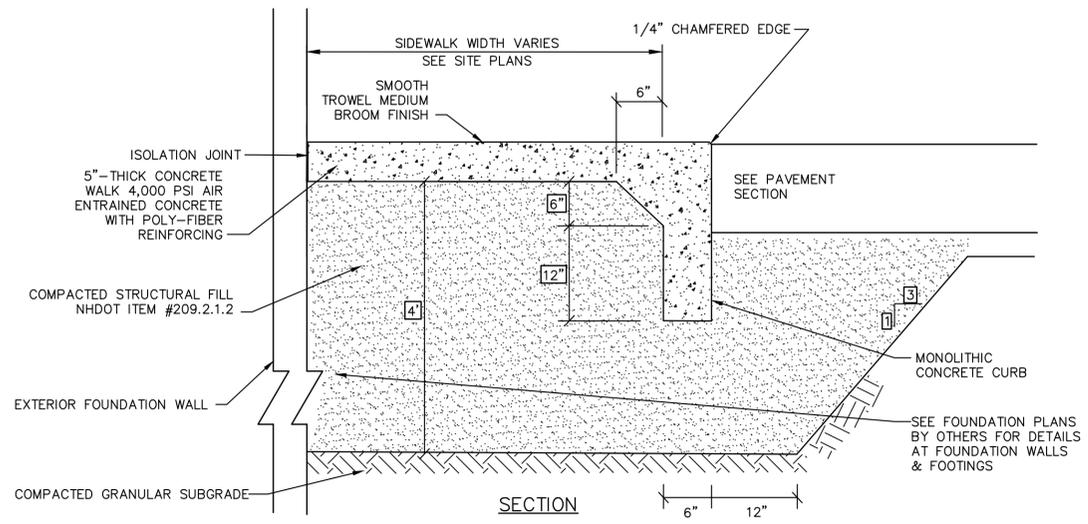
D-2



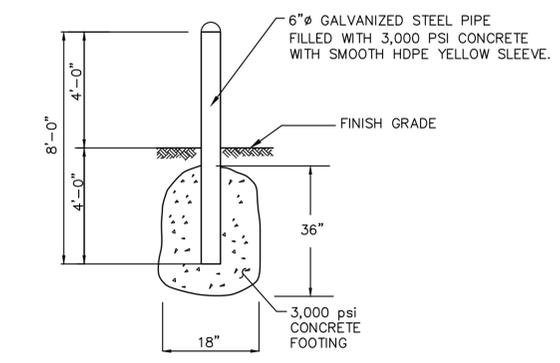
NOTES:

- INSTALL TACK COAT TO BINDER COURSE PAVEMENT PRIOR TO INSTALLING WEARING COURSE.
- REMOVE LEDGE WITHIN 30° OF SURFACE.
- ALL LOAM, CLAY, MUCK, ORGANIC AND/OR YIELDING MATERIAL SHALL BE REMOVED TO A DEPTH OF NO LESS THAN 18.5" BELOW FINISH GRADE. INSTALL COMPACTED SAND OR GRAVEL BORROW TO SUBGRADE, AS NECESSARY.
- SUBGRADE SHALL BE FREE OF VOIDS THAT ALLOW MOVEMENT/SETTLEMENT OF MATERIALS.
- SUBGRADE SHALL BE PROOF ROLLED WITH A FULLY LOADED DUMP TRUCK PRIOR TO PLACEMENT OF GRAVEL. PROOF ROLLING TO BE VIEWED AND APPROVED BY ENGINEER.

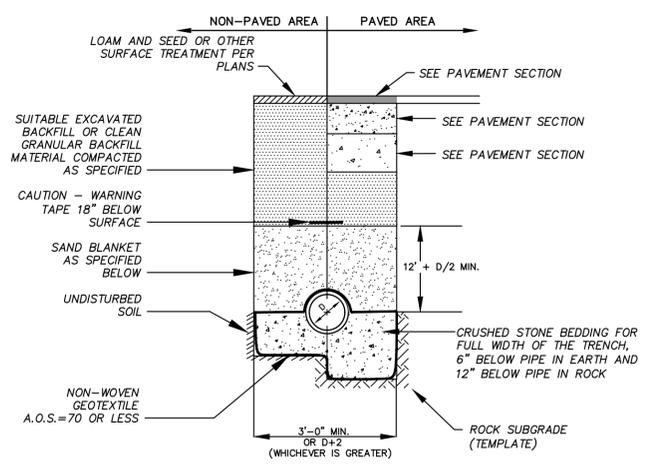
1 PAVEMENT CROSS SECTION NOT TO SCALE



2 CONCRETE SLAB DETAILS @ BLDG. ENTRANCES NOT TO SCALE



3 BOLLARD NOT TO SCALE

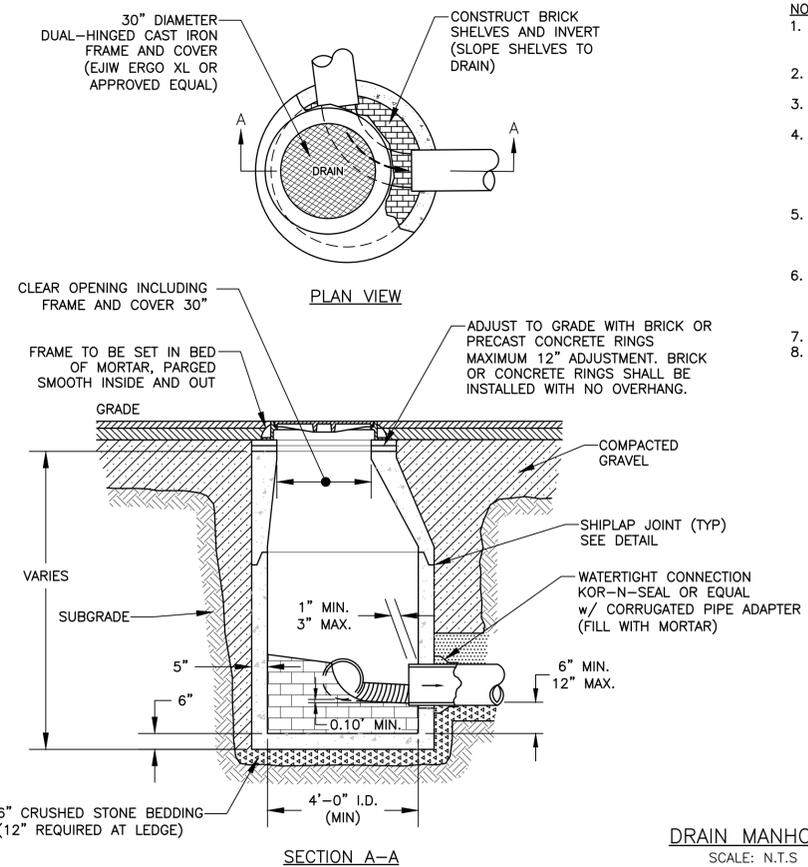


BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

SAND BLANKET/BARRIER		SCREENED GRAVEL OR CRUSHED STONE BEDDING*	
SIEVE SIZE	% FINER BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT
1/2"	90 - 100	1"	100
200	0 - 15	3/4"	90 - 100
		3/8"	20 - 55
		# 4	0 - 10
		# 8	0 - 5

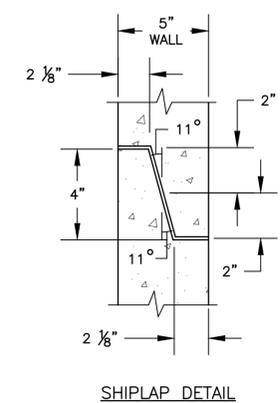
* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

4 STORM DRAIN TRENCH DETAIL NOT TO SCALE



5 DRAIN MANHOLE DETAIL NOT TO SCALE

- NOTES:**
- SUMP BASE, BARRELS AND TOP (CONE OR FLAT) SECTIONS SHALL BE PRECAST REINFORCED CONCRETE (4,000psi AT 28-DAY).
 - STRUCTURE SHALL BE DESIGNED FOR HS-20 LOAD RATING.
 - PIPES IN STRUCTURE SHALL BE WITHIN THE SUMP BASE PORTION OF THE CATCHBASIN.
 - IN THE EVENT THAT SHIPLAP JOINTS OCCUR BELOW INVERT OUT PIPE, THE HORIZONTAL JOINT SHALL BE SEALED FOR WATER TIGHTNESS USING A DOUBLE ROW OF ELASTOMERIC (KENT SEAL OR EQUAL) OR MASTIC SEALANT.
 - CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
 - THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT..
 - EACH CASTING TO HAVE LIFTING HOLES CAST IN.
 - LADDER RUNGS SHALL BE OMITTED.



DRAIN MANHOLE SCALE: N.T.S.

SHIPLAP DETAIL



NOT FOR CONSTRUCTION

ISSUED FOR: **PLANNING BOARD**

ISSUE DATE: **FEBRUARY 19, 2025**

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CBD	02/19/25

DRAWN BY: _____ JMG
APPROVED BY: _____ CBD
DRAWING FILE: _____ 5625-site.dwg

SCALE: **NOT TO SCALE**

OWNER/APPLICANT:

Dade Auto Holdings Realty Trust
140 Portsmouth Avenue
Exeter, NH 03833

PROJECT:

VOLVO CARS OF EXETER
SERVICE CENTER
EXPANSION

TAX MAP 52, LOT 108
TAX MAP 51, LOTS 1

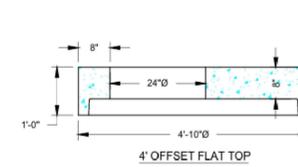
140 Portsmouth Avenue
Exeter, NH 03833

TITLE:

DETAILS

SHEET NUMBER:

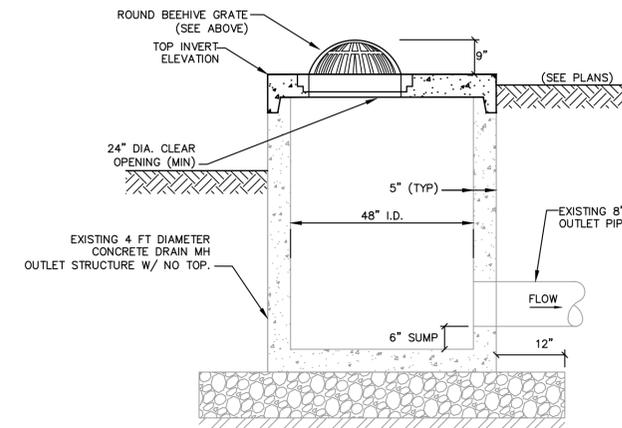
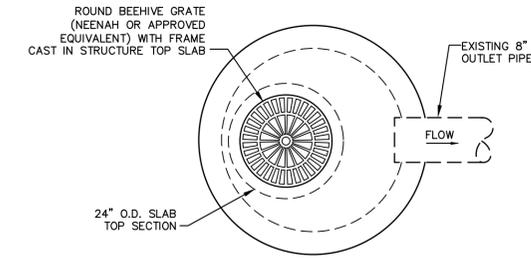
D-3



4 FT FLAT TOP WITH OFFSET OPENING DETAIL
BY American Concrete Industries & Superior Concrete Llc
992 Minot Ave
Auburn, ME 04210
Tel: 207-784-1388 / Fax: 207-783-4039

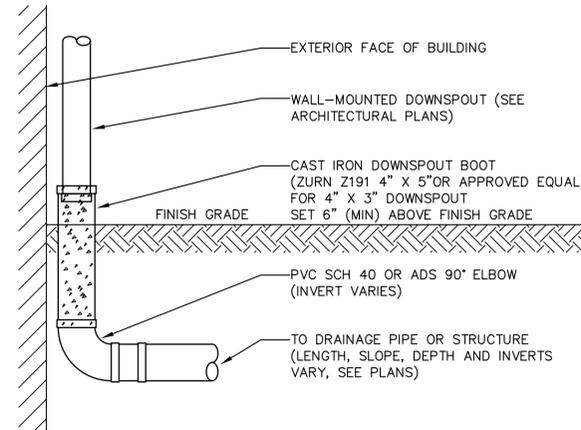
NOTES:

1. OUTLET STRUCTURE SHALL BE CONSTRUCTED ONSITE OR PRECAST TO EQUAL DIMENSIONS.
2. ALL JOINTS AND PIPE OPENINGS SHALL BE SEALED WATERTIGHT WITH MORTAR.
3. STRUCTURE IS TO BE BUILT TO WITHSTAND H20 LOADING.
4. SOIL UNDERLYING THE STRUCTURE'S GRAVEL BASE PAD AND THE PAD ITSELF ARE TO BE COMPACTED TO 95% MODIFIED PROCTOR.
5. ALL CONCRETE SHALL BE 4,000 PSI MINIMUM.

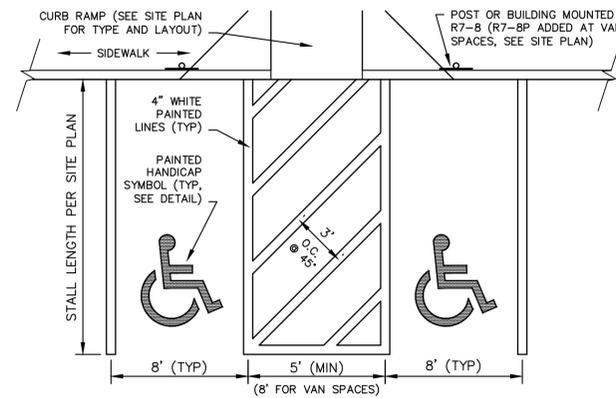


2 **OUTLET STRUCTURE DETAIL**

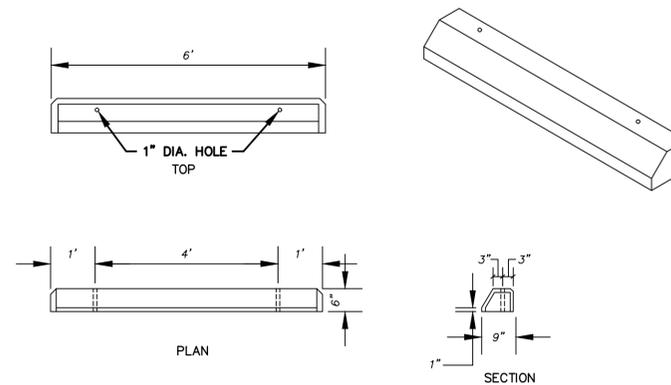
NOT TO SCALE



1 **EXTERIOR ROOF DRAIN CONNECTION** NOT TO SCALE



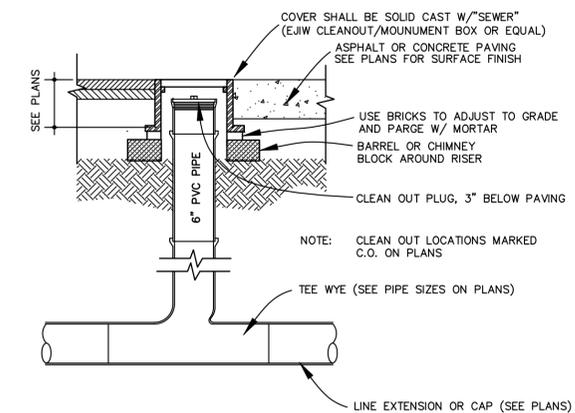
3 **ACCESSIBLE PARKING STALL** NOT TO SCALE



NOTES:

1. ALL SURFACES TO HAVE A SPONGE FLOAT FINISH.
2. ALL EXPOSED EDGES TO HAVE A 3/4" CHAMFER

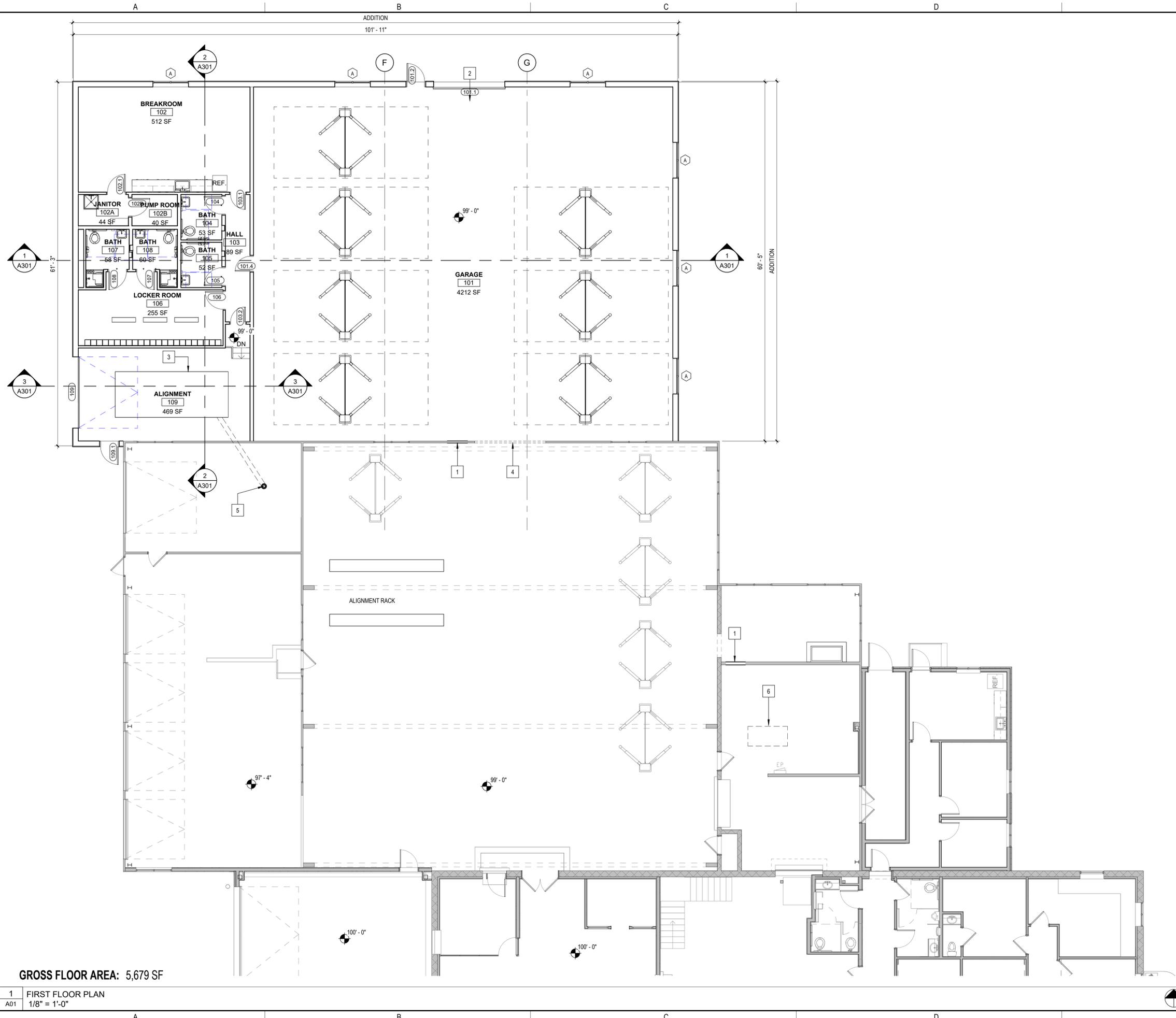
4 **VEHICLE "CURB" STOP DETAIL** NOT TO SCALE



NOTES:

1. SEWER SERVICE LATERAL SHALL BE SLOPED AT 1/4" PER FOOT MINIMUM.
2. WARNING TAPE SHALL BE PLACED 12" ABOVE THE LATERAL SERVICE LINE.
3. COVER AND BARREL BLOCK TRANSITION SHALL BE PARGED AND SEALED WITH MORTAR.
4. PVC TO PVC CONNECTIONS SHALL BE DONE WITH PVC GASKETED COUPLINGS.
5. MONUMENT BOXES LOCATED IN LANDSCAPE AREAS MAY BE INSTALLED DIRECT ON CRUSHED GRAVEL BASE WITHOUT BARREL/CHIMNEY.

5 **CLEANOUT** NOT TO SCALE



GROSS FLOOR AREA: 5,679 SF

1 FIRST FLOOR PLAN
A01 1/8" = 1'-0"

GENERAL PLAN NOTES

1. ARCHITECTURAL DATUM = 100'-0". THE ARCHITECTURAL DATUM IS INDEPENDENT OF ELEVATIONS SHOWN ON THE CIVIL DRAWINGS. SEE CIVIL DRAWINGS FOR CORRESPONDING DATUM IN HEIGHT ABOVE SEA LEVEL.
2. ALL DIMENSIONS AT NEW WALLS ARE TO OUTSIDE FACE OF STUD, FACE OF CONCRETE, FACE OF MASONRY, OR CENTER OF OPENING, U.N.O. AT EXISTING WALLS DIMENSIONS ARE TO FINISH FACE OF WALL.
3. DO NOT SCALE DRAWINGS. CONTACT ARCHITECT FOR ANY DISCREPANCY PRIOR TO COMMENCING WITH ANY WORK.
4. REFER TO DIMENSION PLANS FOR GENERAL PARTITION NOTES & PARTITION TYPES.
5. VERIFY FIELD CONDITIONS PRIOR TO COMMENCEMENT OF EACH PORTION OF THE WORK. NOTIFY ARCHITECT OF DISCREPANCIES.
6. ALL LUMBER IN DIRECT CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED INCLUDING ALL SILL PLATES FOR WOOD STUD WALLS.
7. REVIEW PRIOR TO INSTALLATION. ANY CONFLICT OF ENGINEERING TRADE DEVICES (I.E. FIRE ALARM STROBES) WITH ARCHITECTURAL DETAILS AND BRING THOSE DISCREPANCIES TO THE ARCHITECT FOR REVIEW.
8. PROVIDE BLOCKING FOR MILLWORK, MECHANICAL FIXTURES, PLUMBING FIXTURES AND OTHER ITEMS IDENTIFIED IN THE CONSTRUCTION DOCUMENTS.
9. COORDINATE MISC. STEEL REQUIREMENTS FOR MOUNTING / HANGING OWNER SUPPLIED EQUIPMENT.

OWNER
DADE AUTO HOLDINGS REALTY TRUST

CONSTRUCTION MANAGER
TURNSTONE CORPORATION
479 NASHUA ST
MILFORD, NH 03055
(603) 249-9300

CONSULTANTS:

CIVIL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

LANDSCAPE
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

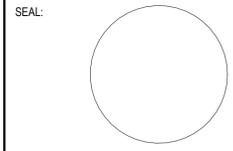
STRUCTURAL
TFMORAN INC.
48 CONSTITUTION DRIVE
BEDFORD, NH 03110
P. (603) 472-4488

PLUMBING / MECHANICAL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

ELECTRICAL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

Warrenstreet
Planning | Landscapes | Architecture | Interiors

WARRENSTREET ARCHITECTS, INC.
4 CRESCENT STREET, UNIT 2
CONCORD, NEW HAMPSHIRE 03303
40 STARK STREET
MANCHESTER, NEW HAMPSHIRE 03103
P. (603) 225-0640
WWW.WARRENSTREET.COOP



PROJECT TITLE / ADDRESS:
VOLVO CARS - EXETER NH
40 PORTSMOUTH AVE,
EXETER, NH 03833

PLAN KEY:

SCALE: AS NOTED DWN BY: TG
PROJECT #: 3744 CHK BY: JS
PRINT DATE: 2/12/2025 4:07:28 PM

ISSUE DATE:
PROGRESS

REVISION	DATE	COMMENTS

FIRST FLOOR PLAN

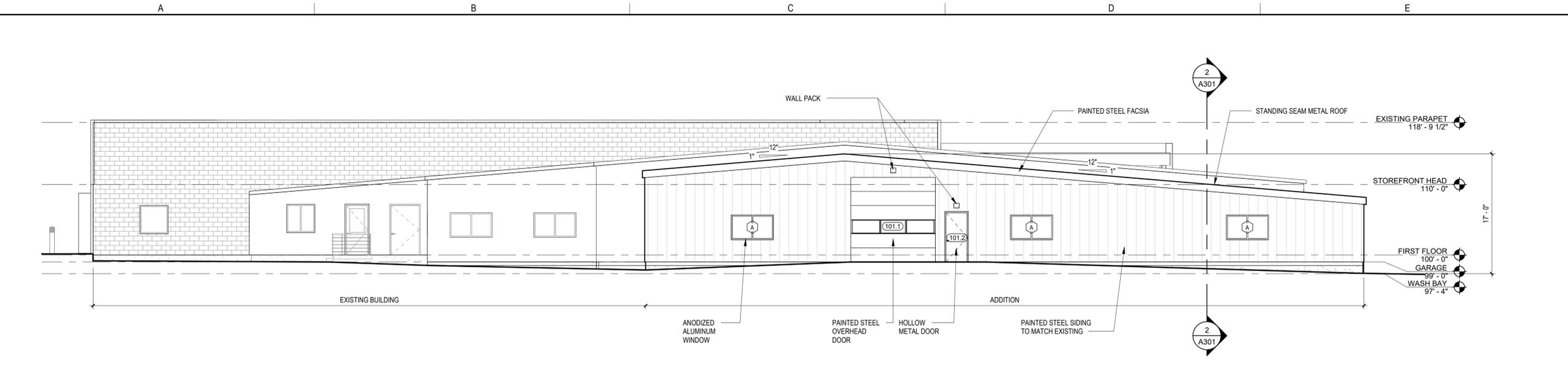
A01

SHEET NUMBER: OF 20 ARCHITECTURAL

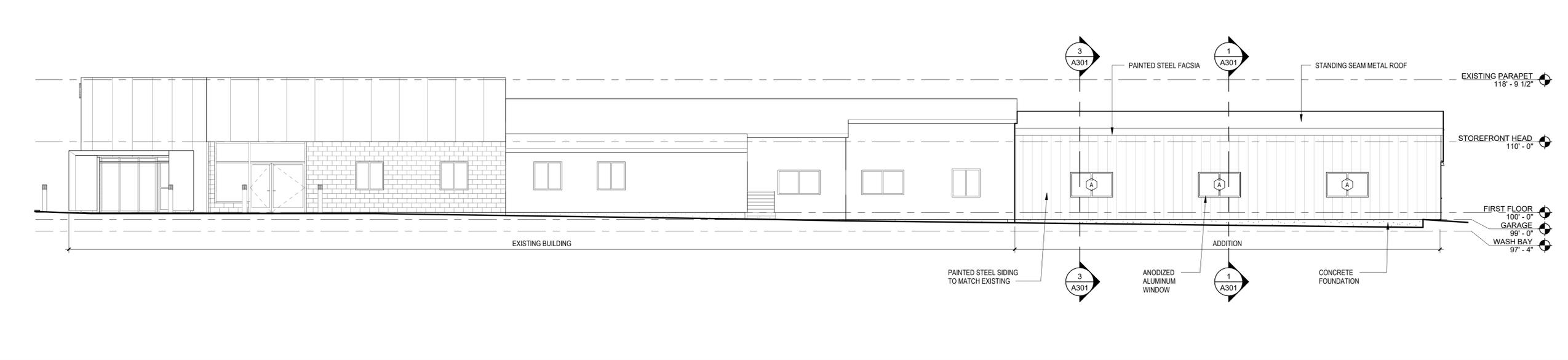
THE DRAWING AND ITS CONTENT IS THE INTELLECTUAL PROPERTY OF WARRENSTREET ARCHITECTS INC. WITH THE SOLE INTENT TO BUILD THE PROJECT TITLED ABOVE AT ONE LOCATION NOTED HEREIN. THE USE OF THE CONTENT FOR ANY OTHER PURPOSE IS PROHIBITED AND PROTECTED UNDER COPYRIGHT LAW.

Copyright Warrenstreet Architects Inc. © 1990 - 2025

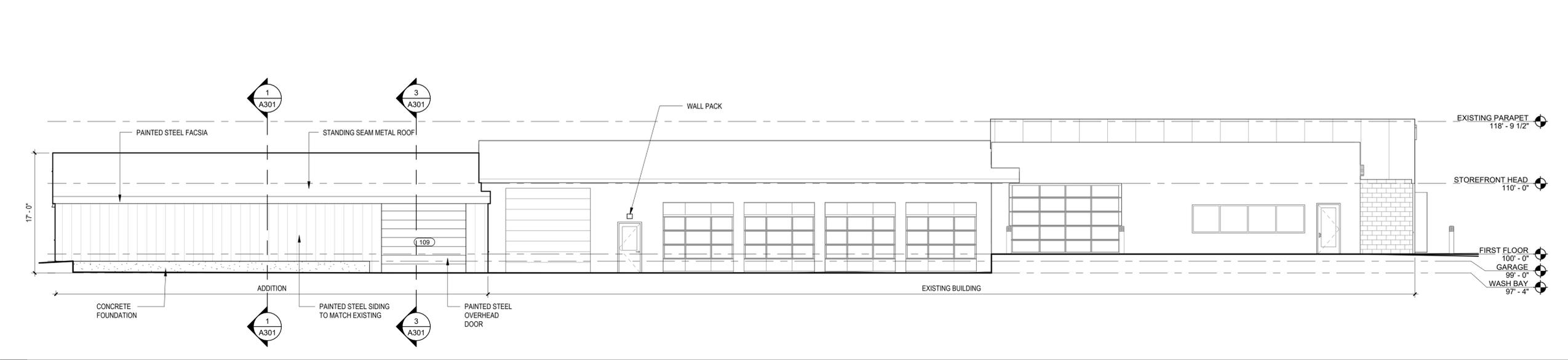
three inches = one foot
 one and one half inches = one foot
 one inch = one foot
 three quarter inch = one foot
 one quarter inch = one foot
 one eighth inch = one foot



1 NORTH ELEVATION
 A02 1/8" = 1'-0"



2 EAST ELEVATION
 A02 1/8" = 1'-0"



3 WEST ELEVATION
 A02 1/8" = 1'-0"

OWNER
 DADE AUTO HOLDINGS REALTY TRUST

CONSTRUCTION MANAGER
 TURNSTONE CORPORATION
 479 NASHUA ST
 MILFORD, NH 03055
 (603) 249-9300

CONSULTANTS:
CIVIL
 NAME
 STREET
 CITY, STATE, ZIP
 TELEPHONE

LANDSCAPE
 NAME
 STREET
 CITY, STATE, ZIP
 TELEPHONE

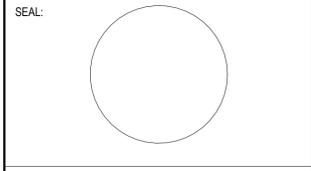
STRUCTURAL
 TFMORAN INC.
 48 CONSTITUTION DRIVE
 BEDFORD, NH 03110
 P. (603) 472-4488

PLUMBING / MECHANICAL
 NAME
 STREET
 CITY, STATE, ZIP
 TELEPHONE

ELECTRICAL
 NAME
 STREET
 CITY, STATE, ZIP
 TELEPHONE

Warrenstreet
 Planning | Landscapes | Architecture | Interiors

WARRENSTREET ARCHITECTS, INC.
 4 CRESCENT STREET, UNIT 2
 CONCORD, NEW HAMPSHIRE 03303
 40 STARK STREET
 MANCHESTER, NEW HAMPSHIRE 03103
 P. (603) 225-0640
 WWW.WARRENSTREET.COOP



PROJECT TITLE / ADDRESS:
VOLVO CARS - EXETER NH
 40 PORTSMOUTH AVE,
 EXETER, NH 03833

PLAN KEY:

SCALE: AS NOTED DWN BY: TG
 PROJECT #: 3744 CHK BY: JS
 PRINT DATE: 3/21/2025 3:26:18 PM

ISSUE DATE:
PROGRESS

REVISION	DATE	COMMENTS

EXTERIOR ELEVATIONS

A02

SHEET NUMBER: OF 20 ARCHITECTURAL
 THE DRAWING AND ITS CONTENT IS THE INTELLECTUAL PROPERTY OF WARRENSTREET ARCHITECTS INC. WITH THE SOLE INTENT TO BUILD THE PROJECT TITLED ABOVE AT ONE LOCATION NOTED HEREIN. THE USE OF THE CONTENT FOR ANY OTHER PURPOSE IS PROHIBITED AND PROTECTED UNDER COPYRIGHT LAW.

Copyright Warrenstreet Architects Inc. © 1990 - 2025

DRAINAGE ANALYSIS

FOR

Volvo Dealership Facility Expansion

**140 Portsmouth Avenue
Exeter, NH**

**Tax Map 52, Lot 108
&
Tax Map 51, Lot 1**

February 19, 2025

Prepared For:

**Dade Auto Holdings Realty Trust
140 Portsmouth Avenue
Exeter, NH 03833**

Prepared By:

ALTUS ENGINEERING
133 Court Street
Portsmouth, NH 03801
Phone: (603) 433-2335



Table of Contents

Section 1	Narrative
	Project Description
	Site Soils
	Pre-Development (Existing Conditions)
	Post-Development (Proposed Conditions)
	Calculation Methods
	Drainage Analysis
	Conclusions
	Disclaimer
Section 2	Aerial Photo
	USGS Location Map
Section 3	Drainage Analysis, Pre-Development
Section 4	Drainage Analysis, Post-Development
Section 5	Extreme Precipitation Table
Section 6	BMP Sizing Calculations
Section 7	NRCS Soils Report
Section 8	Stormwater Operations and Maintenance Plan
Section 9	Watershed Plans
	Pre-Development Watershed Plan
	Post-Development Watershed Plan
Section 10	Wet pond Design Plans
	Jones and Beach Engineering Inc., 2020

Section 1

Narrative

Project Description

Volvo Cars of Exeter, NH is proposing a service center expansion to its existing facility at 140 Portsmouth Avenue, Exeter, New Hampshire. The combined 2.92-acre site is delineated as Tax Map 52, Lot 108 and Tax Map 51, Lot 1, and is situated within the C-2: Highway Commercial Zoning district. Access to the development is provided via a driveway off Portsmouth Avenue/Route 108. The service center expansion will be fully within existing pavement area so no increase in impervious surface area will be introduced to the site. The proposed stormwater management system incorporates the existing wet pond/retention basin, with modifications to the outlet structure to provide additional treatment. This approach is designed to mitigate stormwater impacts and enhance the quality of stormwater discharged from the property. In accordance with the Exeter Site and Subdivision Regulations, redevelopment projects with an impervious surface area exceeding 60% must incorporate measures that provide treatment for 100% of the additional proposed impervious surface and at least 30% of the existing impervious and pavement areas. Currently, the site achieves treatment for 26% of its impervious surface area. Following construction, treatment is projected to increase to 43%, thereby exceeding the 30% required.

Site Soils

Site soil data as obtained from the USDA National Resources Conservation Service Web Soil Survey (NRCSWSS). According to NRCSWSS data, the site is underlain by 38B Eldridge fine sandy loam, 299 Udorthents smooth, and 699 Urban land-Canton complex soils. Altus classifies these soils as Hydrologic Soil Group D, indicative of their poor infiltration capacity.

Pre-Development (Existing Conditions)

The site currently comprises an automobile facility designed for vehicle servicing and sales. The site is 75% impervious, consisting of buildings and parking. Stormwater roof runoff is collected via roof drains and is either conveyed east where it discharges towards the existing retention basin/wet pond or conveyed west where it discharges onto the parking lot and drain towards the northwest border of the property line. The west side parking lot generally directs runoff toward the site's northwest border, the north side draining into an adjacent wetland, and the east side channeling water to the existing retention basin. Hydrologically, the site is characterized by seven delineated sub-catchments as presented in the accompanying Pre-Development Watershed Plan. Runoff analysis was conducted at two specific points of analysis (POA): POA #1, located along the northwest border of the property, and POA #2, situated within the wetland to the northeast of the site.

Post-Development (Proposed Conditions)

The proposed site plan incorporates a building expansion to the existing facility. The new building will be located within existing pavement areas, effectively adding no new impervious surface area to the site. Runoff from the new building as well as the down drains from the existing building and the east parking lot will be conveyed to the retention basin/wet pond. The north parking lot will drain to the wetland northeast of the site. Modifications will be made to the outlet structure of the wet pond in order to raise and provide added storage for treatment. These improvements will provide treatment for 43% of the existing impervious area where 30% is required. The post-development watersheds are delineated on the accompanying “Post-Development Watershed Plan”. Modifications to the delineated areas were made to sub-catchments to account for the improvements to the property. The site was divided into eight post-development sub-catchment areas. The same points of analysis in the Pre-Development model were used for comparison of the Pre- and Post-development conditions. The Post-Development Watershed Plan illustrates the proposed stormwater management system. Site topography, existing features, proposed site improvements, proposed grading, drainage and erosion control measures are shown on the accompanying plans. Recommended erosion control measures are based upon the December 2008 edition of the “*New Hampshire Stormwater Manual Volumes 1 through 3*” prepared by NHDES and Comprehensive Environmental, Inc. as amended.

Calculation Methods

The drainage study was completed using the USDA SCS TR-20 Method within the HydroCAD Stormwater Modeling System. Reservoir routing was performed with the Dynamic Storage Indication method with automated calculation of tailwater conditions. A Type III 24-hour rainfall distribution was utilized in analyzing the data for the 2, 10, 25 and 50 year - 24-hour storm events using rainfall data provided by the Northeast Regional Climate Center (NRCC). 15% was added to each storm event’s rainfall data as required in the city or Portsmouth site plan review regulations. A time span of 0 to 24 hours was analyzed at 0.01-hour increments.

Drainage Analysis

A complete summary of the drainage model is included in the appendix of this report. The following table compares pre- and post-development peak rates at the Points of Analysis identified on the plans for the 2, 10, 25 and 50-year storm events:

Stormwater Modeling Summary
Peak Q (cfs) for Type III 24-Hour Storm Events

	2-Yr Storm (3.69 inch)	10-Yr Storm (5.59 inch)	25-Yr Storm (7.10 inch)	50-Yr Storm (8.50 inch)
POA #1				
Pre	4.57	7.06	9.01	10.84
Post	4.02	6.21	7.93	9.53
Change	-0.55	-0.85	-1.08	-1.31
POA #2				
Pre	3.34	5.57	8.47	9.90
Post	2.89	4.59	7.09	9.61
Change	-0.45	-0.98	-1.38	-0.29

As the above table demonstrates, the proposed peak rates of runoff at the point of analysis will be decreased from the existing conditions for all storm events analyzed.

Conclusion

The proposed minor site plan and redevelopment of the property at 140 Portsmouth Avenue, Exeter, New Hampshire, is anticipated to have no detrimental impact on adjacent properties due to stormwater runoff. There will be no increase in impervious area for the proposed improvements. The post-development conditions will provide treatment for 43% of the sites' impervious surface area, an increase of approximately 15,900 square feet of additional treatment. The peak runoff rates will be reduced compared to current conditions for all evaluated storm events. Comprehensive measures, incorporating both temporary and permanent Best Management Practices for sediment and erosion control, will be implemented to mitigate potential erosion and sedimentation impacts.

Disclaimer

Altus Engineering, notes that stormwater modeling is limited in its capacity to precisely predict peak rates of runoff and flood elevations. Results should not be considered to represent actual storm events due to the number of variables and assumptions involved in the modeling effort. Surface roughness coefficients (n), entrance loss coefficients (k_e), velocity factors (k_v) and times of concentration (T_c) are based on subjective field observations and engineering judgment using available data. For design purposes, curve numbers (C_n) describe the average conditions. However, curve numbers will vary from storm to storm depending on the antecedent runoff conditions (ARC) including saturation and frozen ground. Also, higher water elevations than predicted by modeling could occur if drainage channels, closed drain systems or culverts are not maintained and/or become blocked by debris before and/or during a storm event as this will impact flow capacity of the structures. Structures should be re-evaluated if future changes occur within relevant drainage areas in order to assess any required design modifications.

Section 2

Aerial Photo and USGS Map

Volvo Cars of Exeter

140 Portsmouth Ave, Exeter, NH

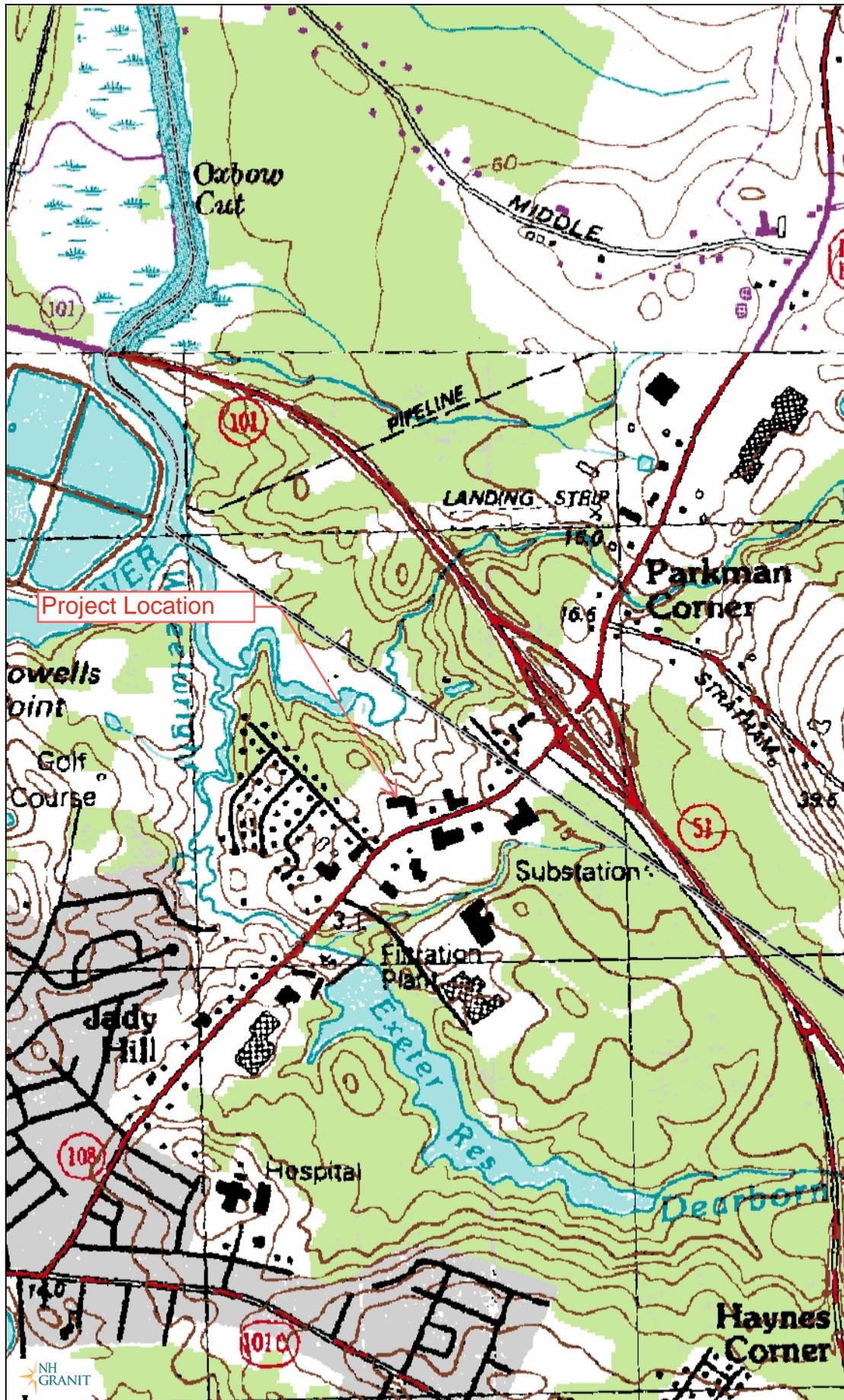
Legend

-  140 Portsmouth Ave
-  Untitled Polygon

140 Portsmouth Ave



Map by NH GRANIT



Legend

- State
- County
- City/Town

Map Scale

1: 12,988

© NH GRANIT, www.granit.unh.edu

Map Generated: 2/18/2025



Notes



Section 3

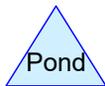
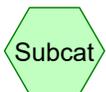
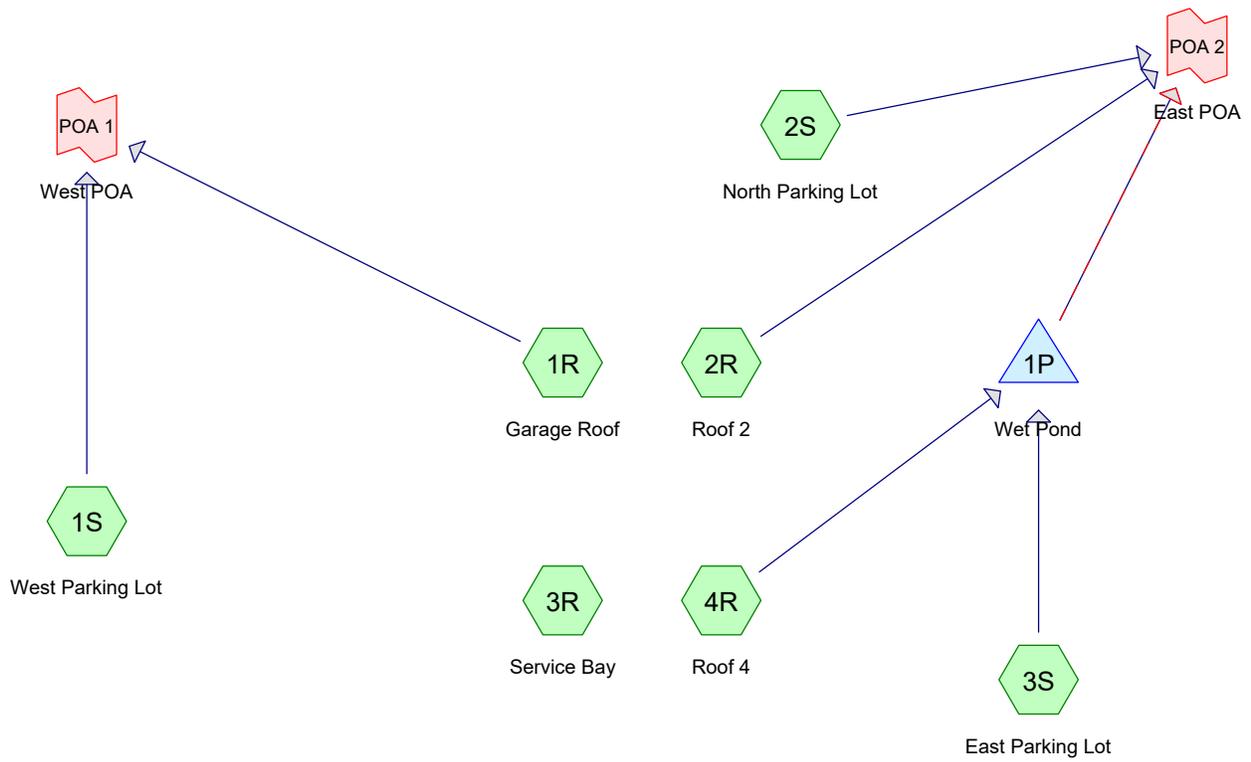
Pre-Development Drainage Calculations

10-Year, 24-Hour Complete Results

2-Year, 24-Hour Summary

25-Year, 24-Hour Summary

50-Year, 24-Hour Summary



5625-HC-PRE-012825

Prepared by Altus Engineering

HydroCAD® 10.00-26 s/n 01222 © 2020 HydroCAD Software Solutions LLC

Printed 2/10/2025

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.727	80	>75% Grass cover, Good, HSG D (1S, 2S, 3S)
1.938	98	Paved parking, HSG D (1S, 2S, 3S)
0.417	98	Roofs, HSG D (1R, 2R, 3R, 4R)
0.016	77	Woods, Good, HSG D (1S)
3.098	94	TOTAL AREA

5625-HC-PRE-012825

Prepared by Altus Engineering

Printed 2/10/2025

HydroCAD® 10.00-26 s/n 01222 © 2020 HydroCAD Software Solutions LLC

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
3.098	HSG D	1R, 1S, 2R, 2S, 3R, 3S, 4R
0.000	Other	
3.098		TOTAL AREA

5625-HC-PRE-012825

Prepared by Altus Engineering

Printed 2/10/2025

HydroCAD® 10.00-26 s/n 01222 © 2020 HydroCAD Software Solutions LLC

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.727	0.000	0.727	>75% Grass cover, Good	1S, 2S, 3S
0.000	0.000	0.000	1.938	0.000	1.938	Paved parking	1S, 2S, 3S
0.000	0.000	0.000	0.417	0.000	0.417	Roofs	1R, 2R, 3R, 4R
0.000	0.000	0.000	0.016	0.000	0.016	Woods, Good	1S
0.000	0.000	0.000	3.098	0.000	3.098	TOTAL AREA	

5625-HC-PRE-012825

Prepared by Altus Engineering

HydroCAD® 10.00-26 s/n 01222 © 2020 HydroCAD Software Solutions LLC

Type III 24-hr 10 Year Rainfall=5.65"

Printed 2/10/2025

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1R: Garage Roof	Runoff Area=3,810 sf 100.00% Impervious Runoff Depth>5.41" Tc=6.0 min CN=98 Runoff=0.48 cfs 0.039 af
Subcatchment 1S: West Parking Lot	Runoff Area=52,031 sf 94.08% Impervious Runoff Depth>5.29" Tc=6.0 min CN=97 Runoff=6.57 cfs 0.527 af
Subcatchment 2R: Roof 2	Runoff Area=5,570 sf 100.00% Impervious Runoff Depth>5.41" Tc=6.0 min CN=98 Runoff=0.71 cfs 0.058 af
Subcatchment 2S: North Parking Lot	Runoff Area=33,969 sf 36.41% Impervious Runoff Depth>4.18" Tc=6.0 min CN=87 Runoff=3.73 cfs 0.272 af
Subcatchment 3R: Service Bay	Runoff Area=1,746 sf 100.00% Impervious Runoff Depth>5.41" Tc=6.0 min CN=98 Runoff=0.22 cfs 0.018 af
Subcatchment 3S: East Parking Lot	Runoff Area=30,793 sf 75.06% Impervious Runoff Depth>4.95" Tc=6.0 min CN=94 Runoff=3.78 cfs 0.291 af
Subcatchment 4R: Roof 4	Runoff Area=7,049 sf 100.00% Impervious Runoff Depth>5.41" Tc=6.0 min CN=98 Runoff=0.90 cfs 0.073 af
Pond 1P: Wet Pond	Peak Elev=28.09' Storage=6,342 cf Inflow=4.68 cfs 0.364 af Primary=2.44 cfs 0.297 af Secondary=0.00 cfs 0.000 af Outflow=2.44 cfs 0.297 af
Link POA 1: West POA	Inflow=7.06 cfs 0.566 af Primary=7.06 cfs 0.566 af
Link POA 2: East POA	Inflow=5.57 cfs 0.627 af Primary=5.57 cfs 0.627 af

Total Runoff Area = 3.098 ac Runoff Volume = 1.278 af Average Runoff Depth = 4.95"
23.98% Pervious = 0.743 ac 76.02% Impervious = 2.356 ac

Summary for Subcatchment 1R: Garage Roof

Runoff = 0.48 cfs @ 12.08 hrs, Volume= 0.039 af, Depth> 5.41"

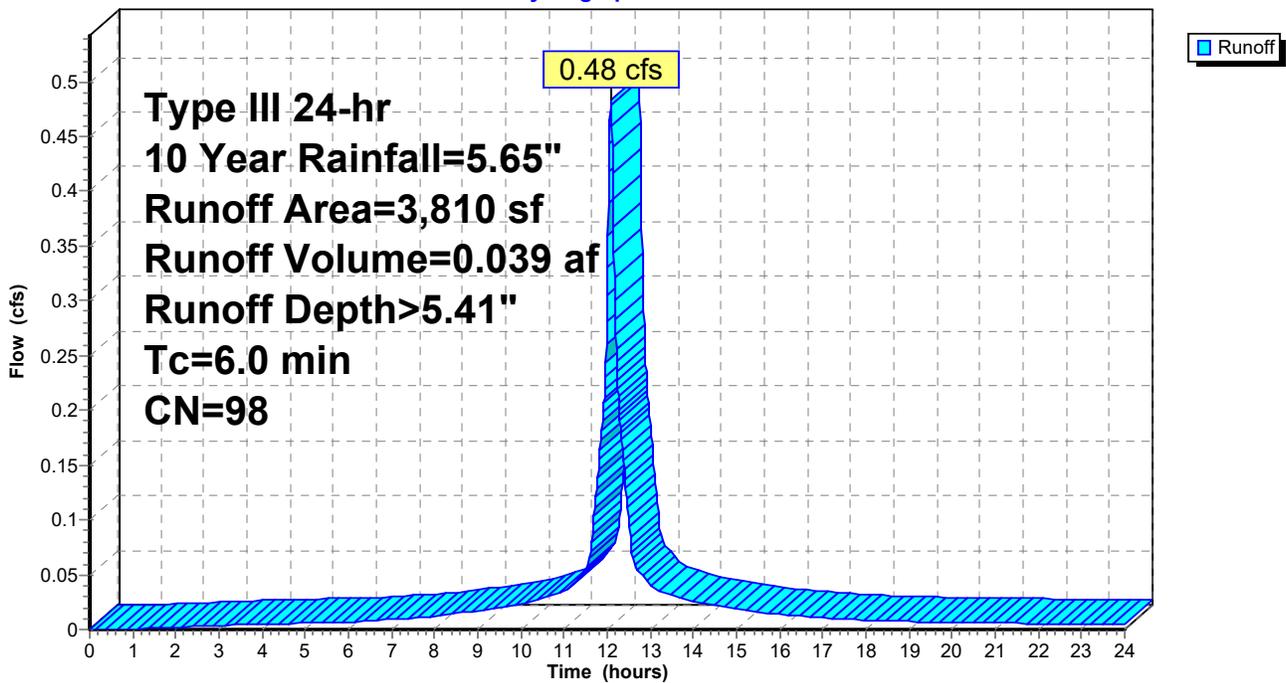
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10 Year Rainfall=5.65"

Area (sf)	CN	Description
3,810	98	Roofs, HSG D
3,810		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1R: Garage Roof

Hydrograph



Summary for Subcatchment 1S: West Parking Lot

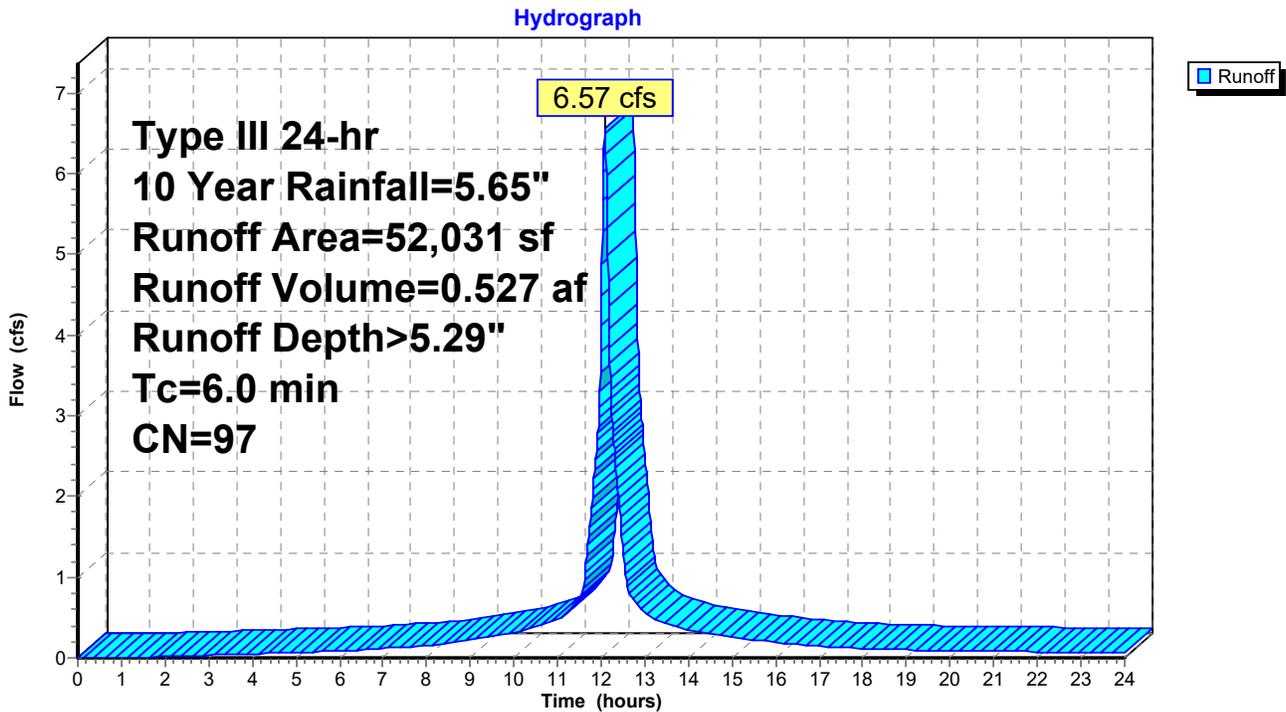
Runoff = 6.57 cfs @ 12.08 hrs, Volume= 0.527 af, Depth> 5.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10 Year Rainfall=5.65"

Area (sf)	CN	Description
48,949	98	Paved parking, HSG D
2,370	80	>75% Grass cover, Good, HSG D
712	77	Woods, Good, HSG D
52,031	97	Weighted Average
3,082		5.92% Pervious Area
48,949		94.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: West Parking Lot



Summary for Subcatchment 2R: Roof 2

Runoff = 0.71 cfs @ 12.08 hrs, Volume= 0.058 af, Depth> 5.41"

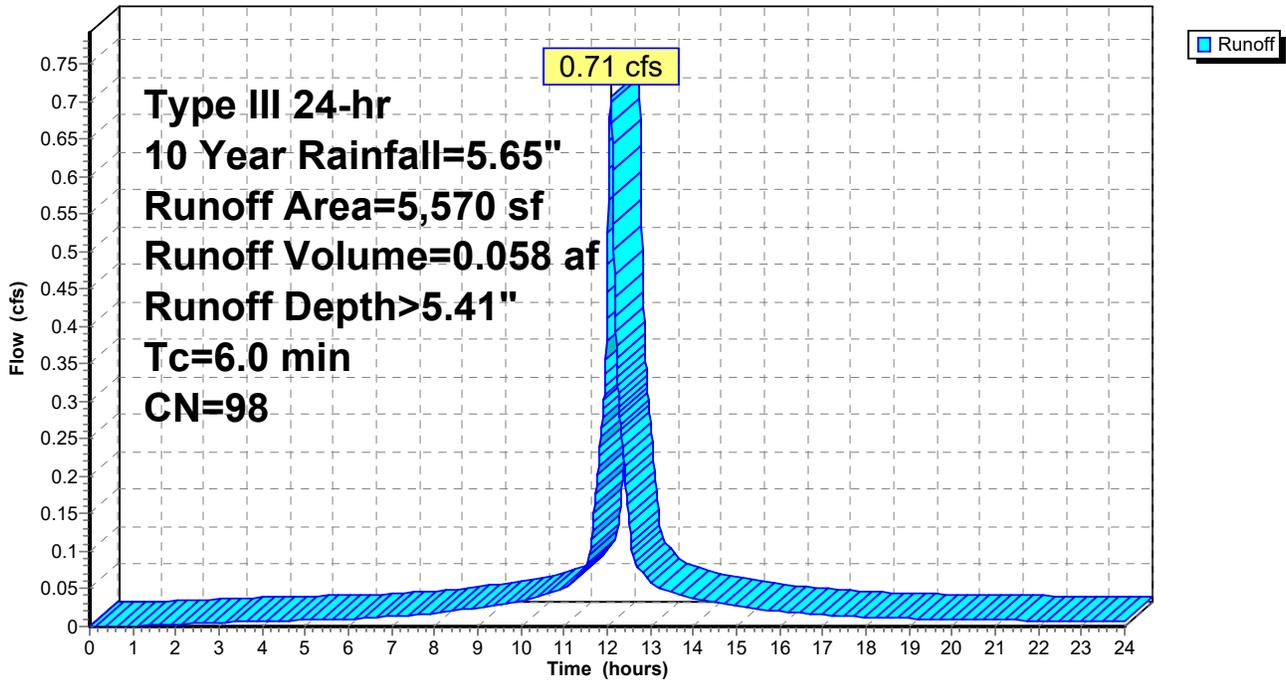
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10 Year Rainfall=5.65"

Area (sf)	CN	Description
5,570	98	Roofs, HSG D
5,570		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2R: Roof 2

Hydrograph



Summary for Subcatchment 2S: North Parking Lot

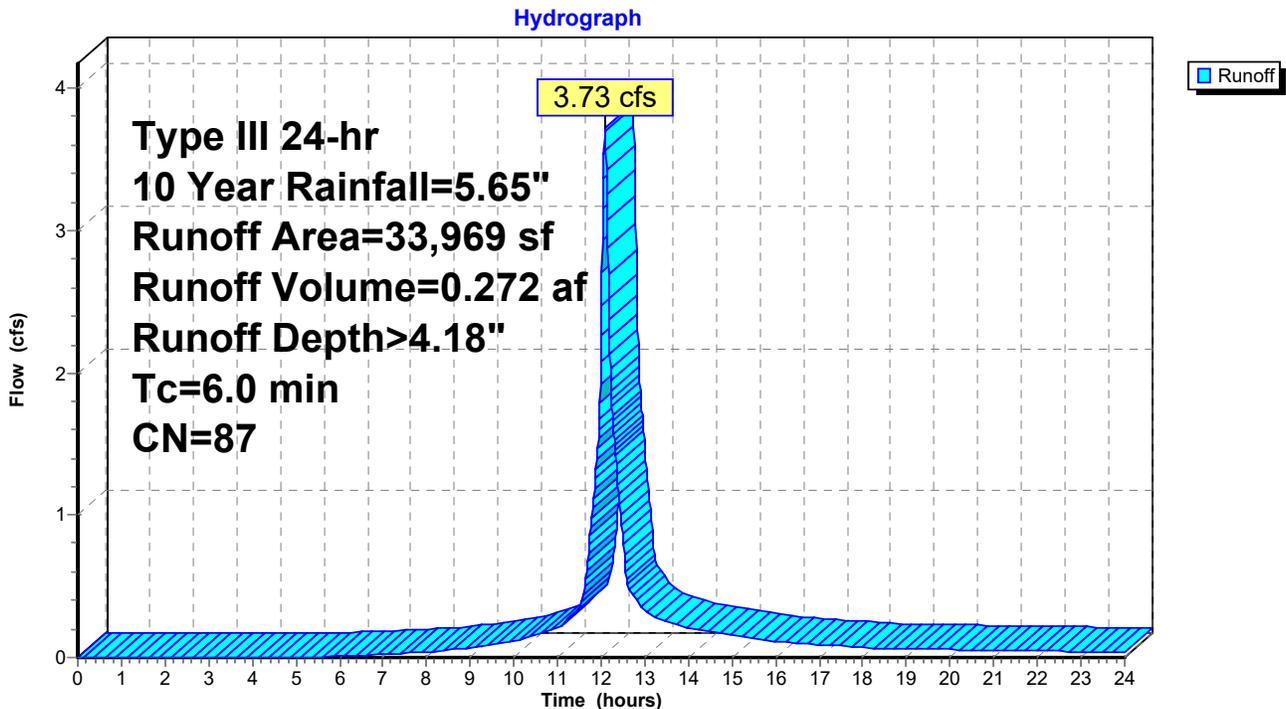
Runoff = 3.73 cfs @ 12.09 hrs, Volume= 0.272 af, Depth> 4.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10 Year Rainfall=5.65"

Area (sf)	CN	Description
12,369	98	Paved parking, HSG D
21,600	80	>75% Grass cover, Good, HSG D
33,969	87	Weighted Average
21,600		63.59% Pervious Area
12,369		36.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2S: North Parking Lot



Summary for Subcatchment 3R: Service Bay

Runoff = 0.22 cfs @ 12.08 hrs, Volume= 0.018 af, Depth> 5.41"

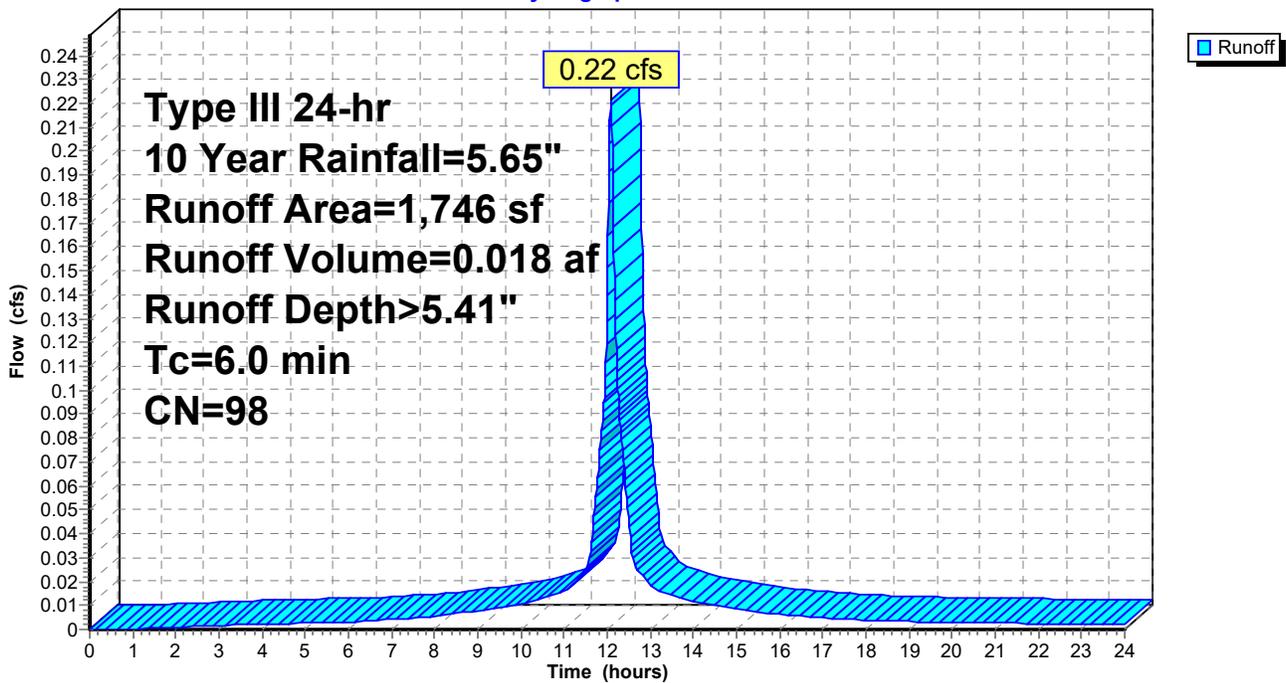
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10 Year Rainfall=5.65"

Area (sf)	CN	Description
1,746	98	Roofs, HSG D
1,746		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 3R: Service Bay

Hydrograph



Summary for Subcatchment 3S: East Parking Lot

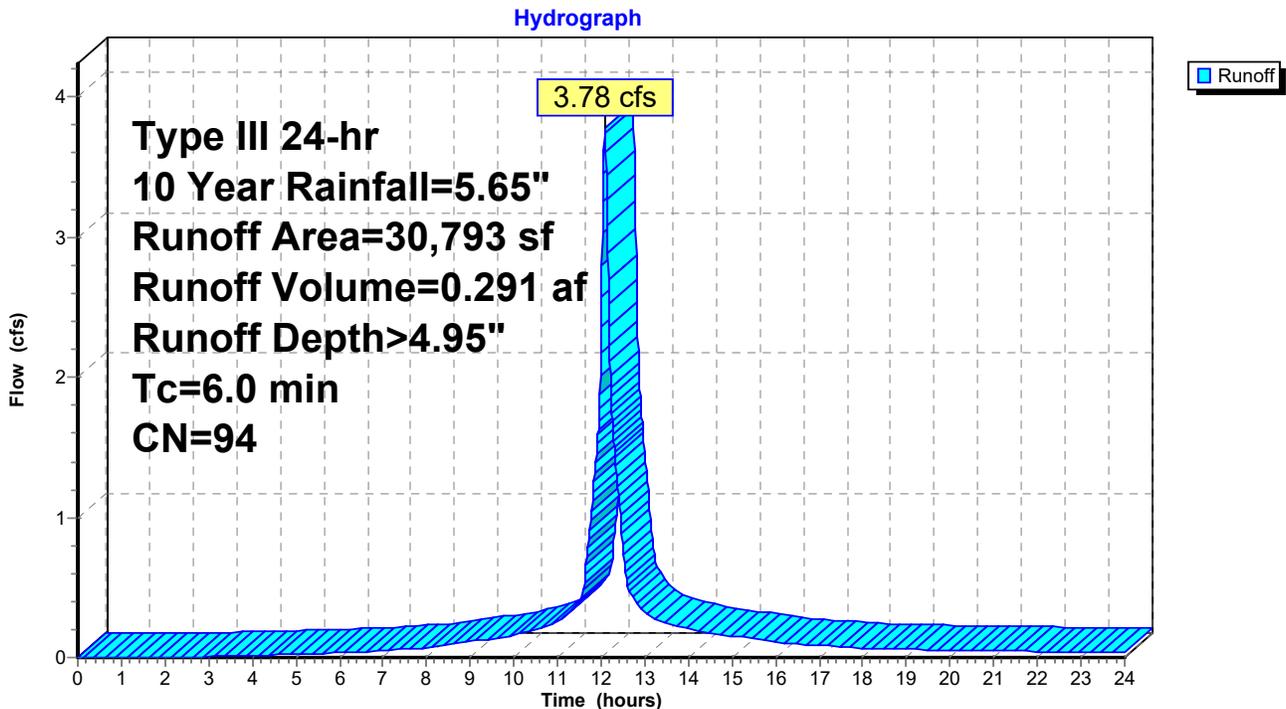
Runoff = 3.78 cfs @ 12.08 hrs, Volume= 0.291 af, Depth> 4.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10 Year Rainfall=5.65"

Area (sf)	CN	Description
23,113	98	Paved parking, HSG D
7,680	80	>75% Grass cover, Good, HSG D
30,793	94	Weighted Average
7,680		24.94% Pervious Area
23,113		75.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 3S: East Parking Lot



Summary for Subcatchment 4R: Roof 4

Runoff = 0.90 cfs @ 12.08 hrs, Volume= 0.073 af, Depth> 5.41"

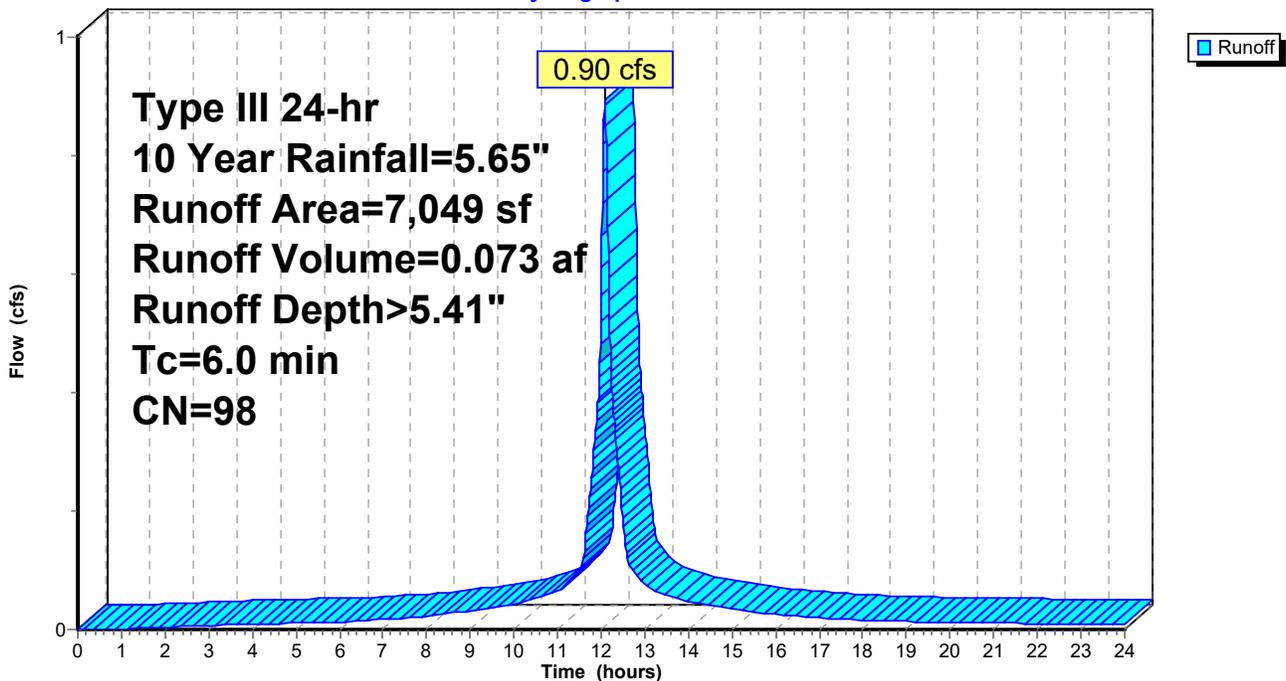
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10 Year Rainfall=5.65"

Area (sf)	CN	Description
7,049	98	Roofs, HSG D
7,049		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 4R: Roof 4

Hydrograph



Summary for Pond 1P: Wet Pond

Inflow Area = 0.869 ac, 79.71% Impervious, Inflow Depth > 5.03" for 10 Year event
 Inflow = 4.68 cfs @ 12.08 hrs, Volume= 0.364 af
 Outflow = 2.44 cfs @ 12.22 hrs, Volume= 0.297 af, Atten= 48%, Lag= 7.9 min
 Primary = 2.44 cfs @ 12.22 hrs, Volume= 0.297 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Peak Elev= 28.09' @ 12.22 hrs Surf.Area= 2,318 sf Storage= 6,342 cf
 Flood Elev= 30.00' Surf.Area= 3,188 sf Storage= 11,582 cf

Plug-Flow detention time= 150.2 min calculated for 0.297 af (82% of inflow)
 Center-of-Mass det. time= 78.5 min (843.3 - 764.7)

Volume	Invert	Avail.Storage	Storage Description
#1	23.00'	13,254 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
23.00	571	0	0
24.00	787	679	679
25.00	1,029	908	1,587
26.00	1,298	1,164	2,751
27.00	1,592	1,445	4,196
28.00	2,277	1,935	6,130
29.00	2,719	2,498	8,628
30.00	3,188	2,954	11,582
30.50	3,500	1,672	13,254

Device	Routing	Invert	Outlet Devices
#1	Primary	25.50'	8.0" Round Culvert L= 20.0' Ke= 0.500 Inlet / Outlet Invert= 25.50' / 24.50' S= 0.0500 1/1' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf
#2	Device 1	26.00'	6.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	28.00'	48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	29.50'	8.0' long x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=2.44 cfs @ 12.22 hrs HW=28.09' TW=0.00' (Dynamic Tailwater)

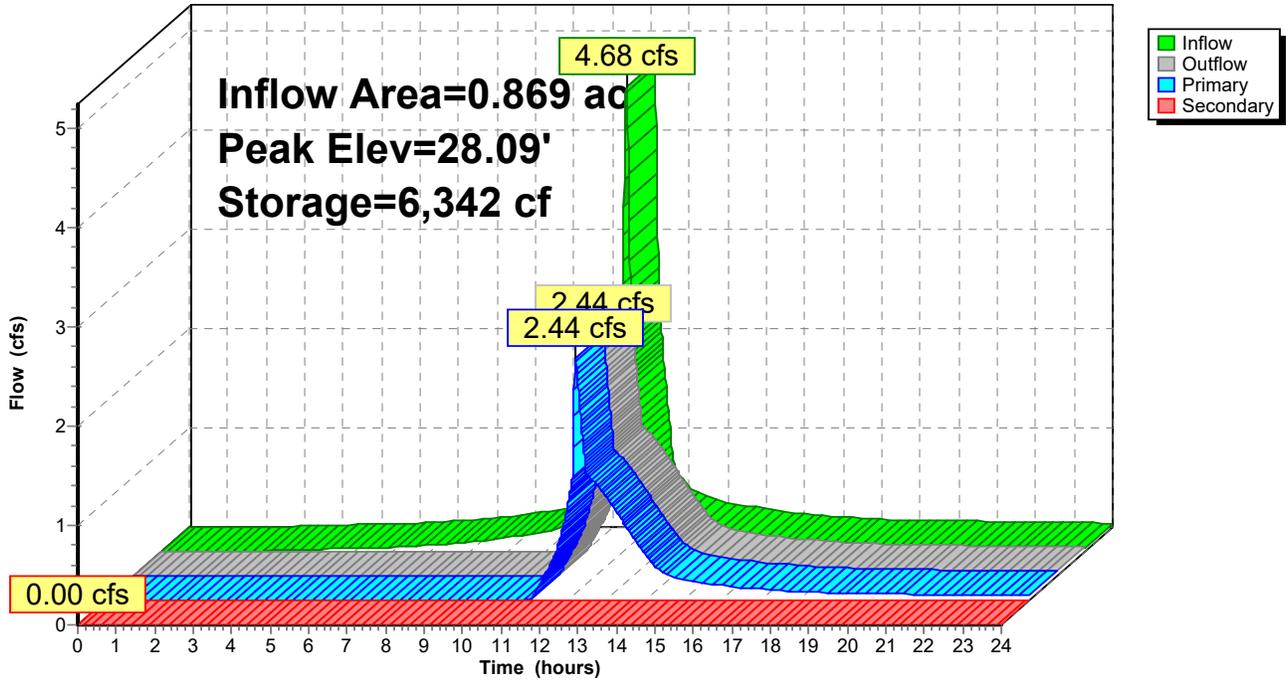
- ↑ 1=Culvert (Passes 2.44 cfs of 2.53 cfs potential flow)
- ↑ 2=Orifice/Grate (Orifice Controls 1.28 cfs @ 6.54 fps)
- ↑ 3=Orifice/Grate (Weir Controls 1.15 cfs @ 0.99 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=23.00' TW=0.00' (Dynamic Tailwater)

- ↑ 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: Wet Pond

Hydrograph

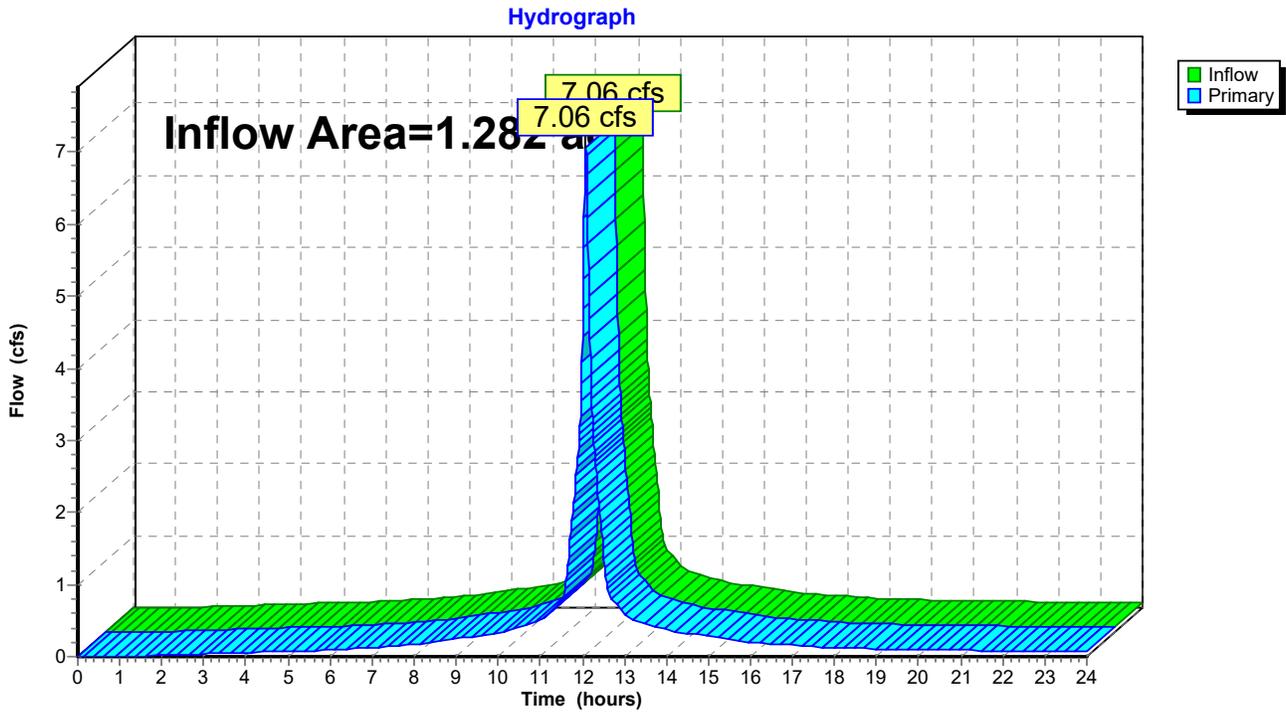


Summary for Link POA 1: West POA

Inflow Area = 1.282 ac, 94.48% Impervious, Inflow Depth > 5.30" for 10 Year event
Inflow = 7.06 cfs @ 12.08 hrs, Volume= 0.566 af
Primary = 7.06 cfs @ 12.08 hrs, Volume= 0.566 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link POA 1: West POA

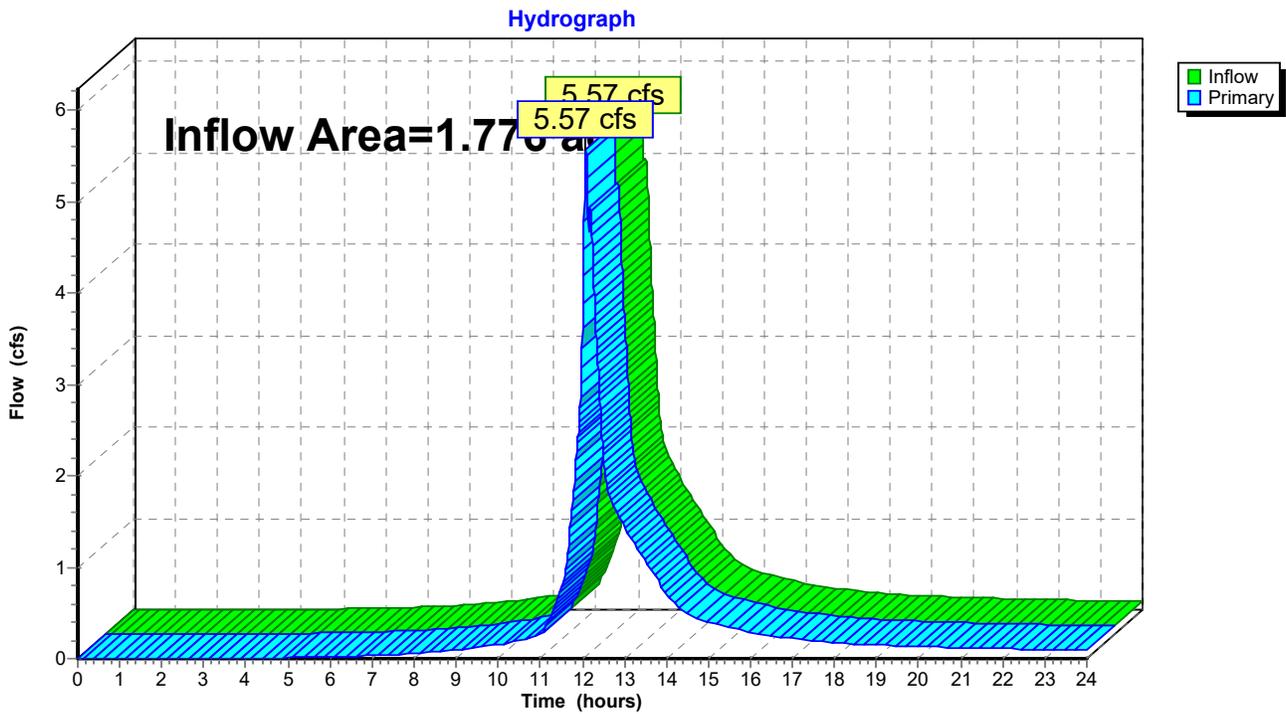


Summary for Link POA 2: East POA

Inflow Area = 1.776 ac, 62.16% Impervious, Inflow Depth > 4.23" for 10 Year event
Inflow = 5.57 cfs @ 12.09 hrs, Volume= 0.627 af
Primary = 5.57 cfs @ 12.09 hrs, Volume= 0.627 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link POA 2: East POA



5625-HC-PRE-012825

Prepared by Altus Engineering

HydroCAD® 10.00-26 s/n 01222 © 2020 HydroCAD Software Solutions LLC

Type III 24-hr 2 Year Rainfall=3.70"

Printed 2/10/2025

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1R: Garage Roof	Runoff Area=3,810 sf 100.00% Impervious Runoff Depth>3.46" Tc=6.0 min CN=98 Runoff=0.32 cfs 0.025 af
Subcatchment 1S: West Parking Lot	Runoff Area=52,031 sf 94.08% Impervious Runoff Depth>3.35" Tc=6.0 min CN=97 Runoff=4.25 cfs 0.333 af
Subcatchment 2R: Roof 2	Runoff Area=5,570 sf 100.00% Impervious Runoff Depth>3.46" Tc=6.0 min CN=98 Runoff=0.46 cfs 0.037 af
Subcatchment 2S: North Parking Lot	Runoff Area=33,969 sf 36.41% Impervious Runoff Depth>2.36" Tc=6.0 min CN=87 Runoff=2.15 cfs 0.153 af
Subcatchment 3R: Service Bay	Runoff Area=1,746 sf 100.00% Impervious Runoff Depth>3.46" Tc=6.0 min CN=98 Runoff=0.14 cfs 0.012 af
Subcatchment 3S: East Parking Lot	Runoff Area=30,793 sf 75.06% Impervious Runoff Depth>3.03" Tc=6.0 min CN=94 Runoff=2.38 cfs 0.178 af
Subcatchment 4R: Roof 4	Runoff Area=7,049 sf 100.00% Impervious Runoff Depth>3.46" Tc=6.0 min CN=98 Runoff=0.58 cfs 0.047 af
Pond 1P: Wet Pond	Peak Elev=27.31' Storage=4,716 cf Inflow=2.97 cfs 0.225 af Primary=0.97 cfs 0.159 af Secondary=0.00 cfs 0.000 af Outflow=0.97 cfs 0.159 af
Link POA 1: West POA	Inflow=4.57 cfs 0.359 af Primary=4.57 cfs 0.359 af
Link POA 2: East POA	Inflow=3.34 cfs 0.349 af Primary=3.34 cfs 0.349 af

Total Runoff Area = 3.098 ac Runoff Volume = 0.786 af Average Runoff Depth = 3.04"
23.98% Pervious = 0.743 ac 76.02% Impervious = 2.356 ac

5625-HC-PRE-012825

Prepared by Altus Engineering

HydroCAD® 10.00-26 s/n 01222 © 2020 HydroCAD Software Solutions LLC

Type III 24-hr 25 Year Rainfall=7.19"

Printed 2/10/2025

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1R: Garage Roof	Runoff Area=3,810 sf 100.00% Impervious Runoff Depth>6.95" Tc=6.0 min CN=98 Runoff=0.62 cfs 0.051 af
Subcatchment 1S: West Parking Lot	Runoff Area=52,031 sf 94.08% Impervious Runoff Depth>6.83" Tc=6.0 min CN=97 Runoff=8.40 cfs 0.679 af
Subcatchment 2R: Roof 2	Runoff Area=5,570 sf 100.00% Impervious Runoff Depth>6.95" Tc=6.0 min CN=98 Runoff=0.90 cfs 0.074 af
Subcatchment 2S: North Parking Lot	Runoff Area=33,969 sf 36.41% Impervious Runoff Depth>5.66" Tc=6.0 min CN=87 Runoff=4.97 cfs 0.368 af
Subcatchment 3R: Service Bay	Runoff Area=1,746 sf 100.00% Impervious Runoff Depth>6.95" Tc=6.0 min CN=98 Runoff=0.28 cfs 0.023 af
Subcatchment 3S: East Parking Lot	Runoff Area=30,793 sf 75.06% Impervious Runoff Depth>6.47" Tc=6.0 min CN=94 Runoff=4.88 cfs 0.381 af
Subcatchment 4R: Roof 4	Runoff Area=7,049 sf 100.00% Impervious Runoff Depth>6.95" Tc=6.0 min CN=98 Runoff=1.14 cfs 0.094 af
Pond 1P: Wet Pond	Peak Elev=28.48' Storage=7,274 cf Inflow=6.02 cfs 0.475 af Primary=2.73 cfs 0.408 af Secondary=0.00 cfs 0.000 af Outflow=2.73 cfs 0.408 af
Link POA 1: West POA	Inflow=9.01 cfs 0.730 af Primary=9.01 cfs 0.730 af
Link POA 2: East POA	Inflow=8.47 cfs 0.849 af Primary=8.47 cfs 0.849 af

Total Runoff Area = 3.098 ac Runoff Volume = 1.670 af Average Runoff Depth = 6.47"
23.98% Pervious = 0.743 ac 76.02% Impervious = 2.356 ac

5625-HC-PRE-012825

Prepared by Altus Engineering

HydroCAD® 10.00-26 s/n 01222 © 2020 HydroCAD Software Solutions LLC

Type III 24-hr 50 Year Rainfall=8.63"

Printed 2/10/2025

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1R: Garage Roof	Runoff Area=3,810 sf 100.00% Impervious Runoff Depth>8.38" Tc=6.0 min CN=98 Runoff=0.74 cfs 0.061 af
Subcatchment 1S: West Parking Lot	Runoff Area=52,031 sf 94.08% Impervious Runoff Depth>8.26" Tc=6.0 min CN=97 Runoff=10.10 cfs 0.823 af
Subcatchment 2R: Roof 2	Runoff Area=5,570 sf 100.00% Impervious Runoff Depth>8.38" Tc=6.0 min CN=98 Runoff=1.08 cfs 0.089 af
Subcatchment 2S: North Parking Lot	Runoff Area=33,969 sf 36.41% Impervious Runoff Depth>7.06" Tc=6.0 min CN=87 Runoff=6.13 cfs 0.459 af
Subcatchment 3R: Service Bay	Runoff Area=1,746 sf 100.00% Impervious Runoff Depth>8.38" Tc=6.0 min CN=98 Runoff=0.34 cfs 0.028 af
Subcatchment 3S: East Parking Lot	Runoff Area=30,793 sf 75.06% Impervious Runoff Depth>7.90" Tc=6.0 min CN=94 Runoff=5.90 cfs 0.466 af
Subcatchment 4R: Roof 4	Runoff Area=7,049 sf 100.00% Impervious Runoff Depth>8.38" Tc=6.0 min CN=98 Runoff=1.37 cfs 0.113 af
Pond 1P: Wet Pond	Peak Elev=28.92' Storage=8,402 cf Inflow=7.27 cfs 0.579 af Primary=2.95 cfs 0.511 af Secondary=0.00 cfs 0.000 af Outflow=2.95 cfs 0.511 af
Link POA 1: West POA	Inflow=10.84 cfs 0.884 af Primary=10.84 cfs 0.884 af
Link POA 2: East POA	Inflow=9.90 cfs 1.059 af Primary=9.90 cfs 1.059 af

Total Runoff Area = 3.098 ac Runoff Volume = 2.038 af Average Runoff Depth = 7.89"
23.98% Pervious = 0.743 ac 76.02% Impervious = 2.356 ac

Section 4

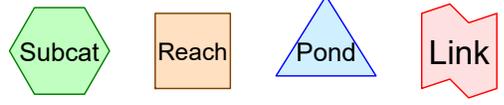
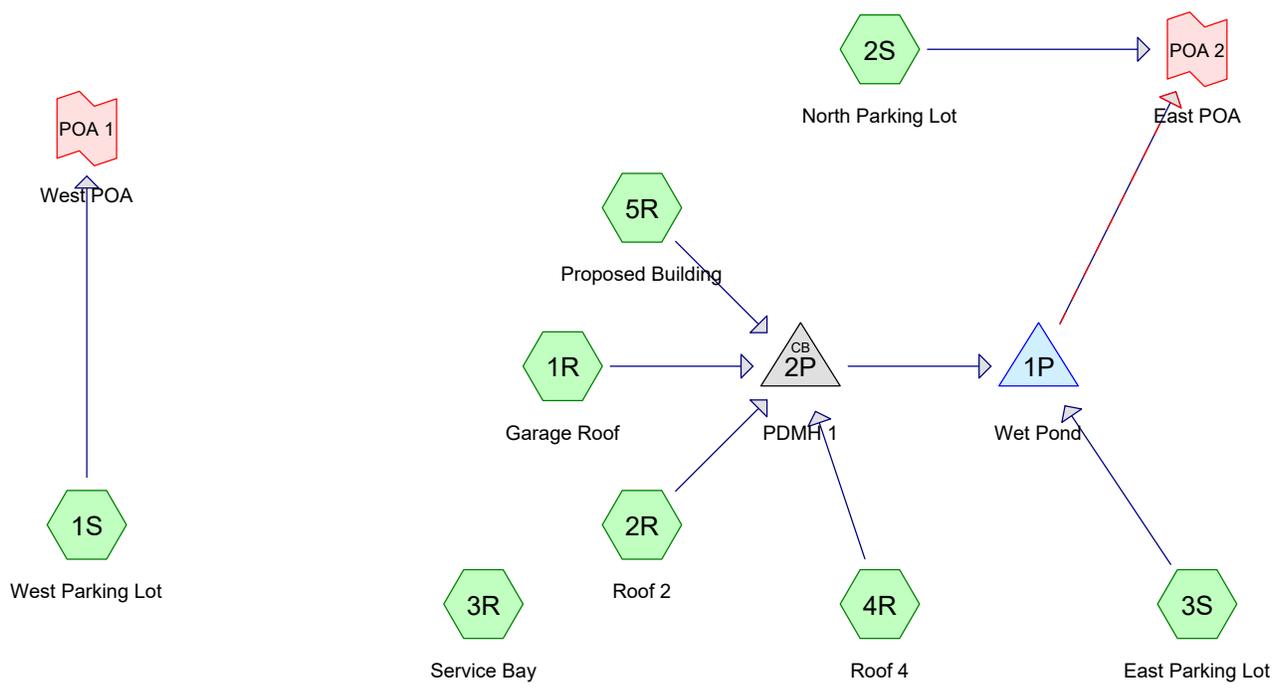
Post-Development Drainage Calculations

10-Year, 24-Hour Complete Results

2-Year, 24-Hour Summary

25-Year, 24-Hour Summary

50-Year, 24-Hour Summary



Routing Diagram for 5625-HC-POST-012825
 Prepared by Altus Engineering, Printed 2/10/2025
 HydroCAD® 10.00-26 s/n 01222 © 2020 HydroCAD Software Solutions LLC

5625-HC-POST-012825

Prepared by Altus Engineering

HydroCAD® 10.00-26 s/n 01222 © 2020 HydroCAD Software Solutions LLC

Printed 2/10/2025

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.727	80	>75% Grass cover, Good, HSG D (1S, 2S, 3S)
1.796	98	Paved parking, HSG D (1S, 2S, 3S)
0.559	98	Roofs, HSG D (1R, 2R, 3R, 4R, 5R)
0.016	77	Woods, Good, HSG D (1S)
3.098	94	TOTAL AREA

5625-HC-POST-012825

Prepared by Altus Engineering

Printed 2/10/2025

HydroCAD® 10.00-26 s/n 01222 © 2020 HydroCAD Software Solutions LLC

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
3.098	HSG D	1R, 1S, 2R, 2S, 3R, 3S, 4R, 5R
0.000	Other	
3.098		TOTAL AREA

5625-HC-POST-012825

Prepared by Altus Engineering

Printed 2/10/2025

HydroCAD® 10.00-26 s/n 01222 © 2020 HydroCAD Software Solutions LLC

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.727	0.000	0.727	>75% Grass cover, Good	1S, 2S, 3S
0.000	0.000	0.000	1.796	0.000	1.796	Paved parking	1S, 2S, 3S
0.000	0.000	0.000	0.559	0.000	0.559	Roofs	1R, 2R, 3R, 4R, 5R
0.000	0.000	0.000	0.016	0.000	0.016	Woods, Good	1S
0.000	0.000	0.000	3.098	0.000	3.098	TOTAL AREA	

5625-HC-POST-012825

Prepared by Altus Engineering

HydroCAD® 10.00-26 s/n 01222 © 2020 HydroCAD Software Solutions LLC

Type III 24-hr 10 Year Rainfall=5.65"

Printed 2/10/2025

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1R: Garage Roof Runoff Area=3,810 sf 100.00% Impervious Runoff Depth>5.41"
Tc=6.0 min CN=98 Runoff=0.48 cfs 0.039 af

Subcatchment 1S: West Parking Lot Runoff Area=49,128 sf 93.73% Impervious Runoff Depth>5.29"
Tc=6.0 min CN=97 Runoff=6.21 cfs 0.497 af

Subcatchment 2R: Roof 2 Runoff Area=5,570 sf 100.00% Impervious Runoff Depth>5.41"
Tc=6.0 min CN=98 Runoff=0.71 cfs 0.058 af

Subcatchment 2S: North Parking Lot Runoff Area=30,681 sf 29.60% Impervious Runoff Depth>3.97"
Tc=6.0 min CN=85 Runoff=3.23 cfs 0.233 af

Subcatchment 3R: Service Bay Runoff Area=1,746 sf 100.00% Impervious Runoff Depth>5.41"
Tc=6.0 min CN=98 Runoff=0.22 cfs 0.018 af

Subcatchment 3S: East Parking Lot Runoff Area=30,793 sf 75.06% Impervious Runoff Depth>4.95"
Tc=6.0 min CN=94 Runoff=3.78 cfs 0.291 af

Subcatchment 4R: Roof 4 Runoff Area=7,049 sf 100.00% Impervious Runoff Depth>5.41"
Tc=6.0 min CN=98 Runoff=0.90 cfs 0.073 af

Subcatchment 5R: Proposed Building Runoff Area=6,185 sf 100.00% Impervious Runoff Depth>5.41"
Tc=6.0 min CN=98 Runoff=0.79 cfs 0.064 af

Pond 1P: Wet Pond Peak Elev=29.08' Storage=8,836 cf Inflow=6.66 cfs 0.525 af
Primary=2.45 cfs 0.458 af Secondary=0.00 cfs 0.000 af Outflow=2.45 cfs 0.458 af

Pond 2P: PDMH 1 Peak Elev=32.58' Inflow=2.87 cfs 0.234 af
12.0" Round Culvert n=0.012 L=40.0' S=0.0125 '/' Outflow=2.87 cfs 0.234 af

Link POA 1: West POA Inflow=6.21 cfs 0.497 af
Primary=6.21 cfs 0.497 af

Link POA 2: East POA Inflow=4.59 cfs 0.691 af
Primary=4.59 cfs 0.691 af

Total Runoff Area = 3.098 ac Runoff Volume = 1.274 af Average Runoff Depth = 4.93"
23.98% Pervious = 0.743 ac 76.02% Impervious = 2.355 ac

Summary for Subcatchment 1R: Garage Roof

Runoff = 0.48 cfs @ 12.08 hrs, Volume= 0.039 af, Depth> 5.41"

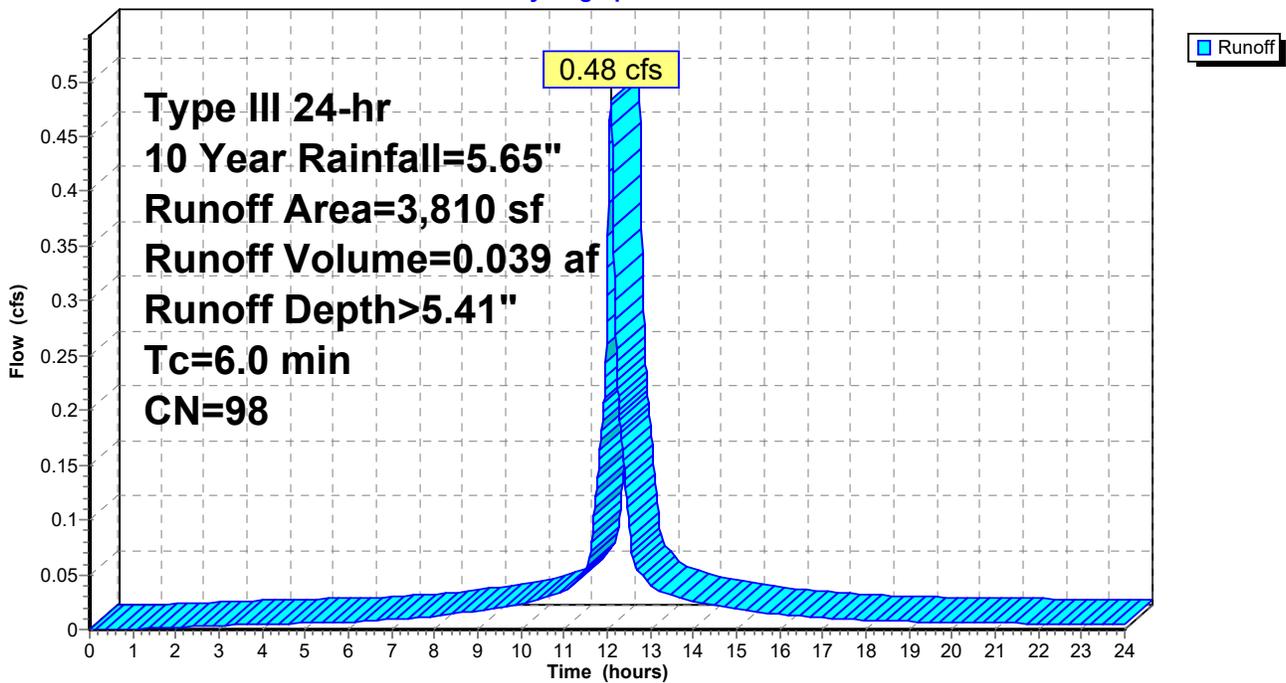
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10 Year Rainfall=5.65"

Area (sf)	CN	Description
3,810	98	Roofs, HSG D
3,810		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1R: Garage Roof

Hydrograph



Summary for Subcatchment 1S: West Parking Lot

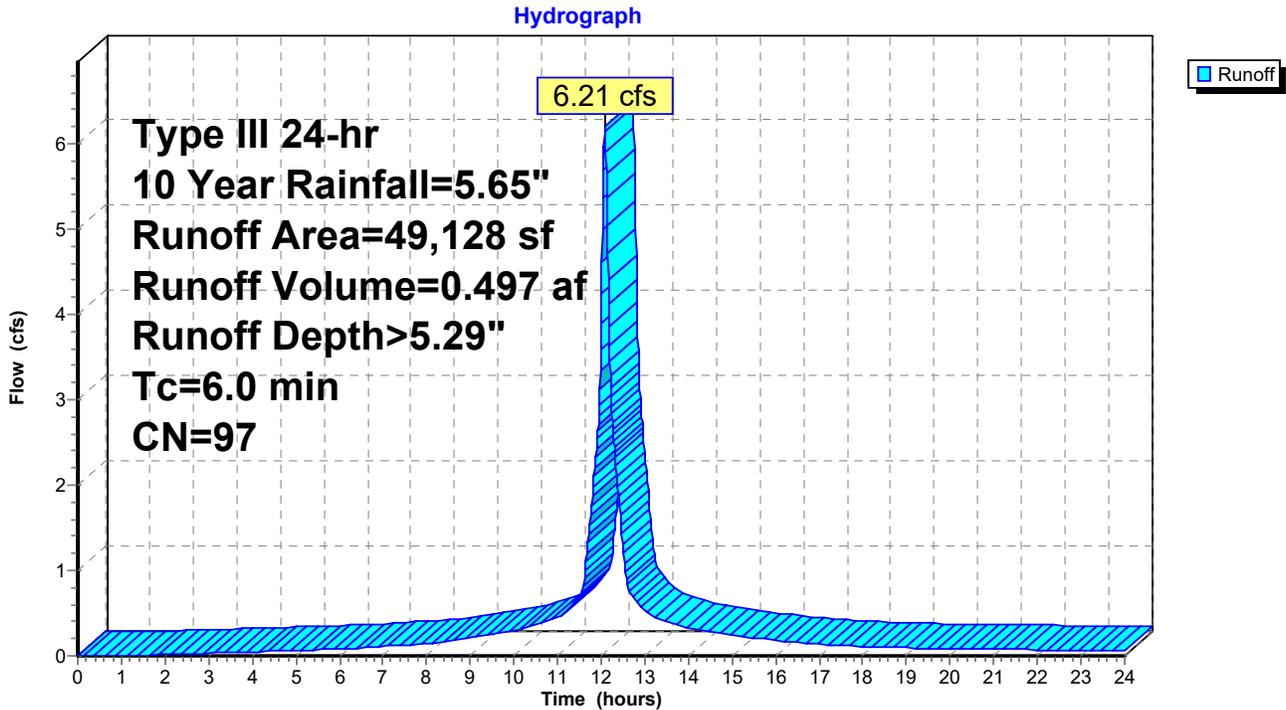
Runoff = 6.21 cfs @ 12.08 hrs, Volume= 0.497 af, Depth> 5.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10 Year Rainfall=5.65"

Area (sf)	CN	Description
46,046	98	Paved parking, HSG D
2,370	80	>75% Grass cover, Good, HSG D
712	77	Woods, Good, HSG D
49,128	97	Weighted Average
3,082		6.27% Pervious Area
46,046		93.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: West Parking Lot



Summary for Subcatchment 2R: Roof 2

Runoff = 0.71 cfs @ 12.08 hrs, Volume= 0.058 af, Depth> 5.41"

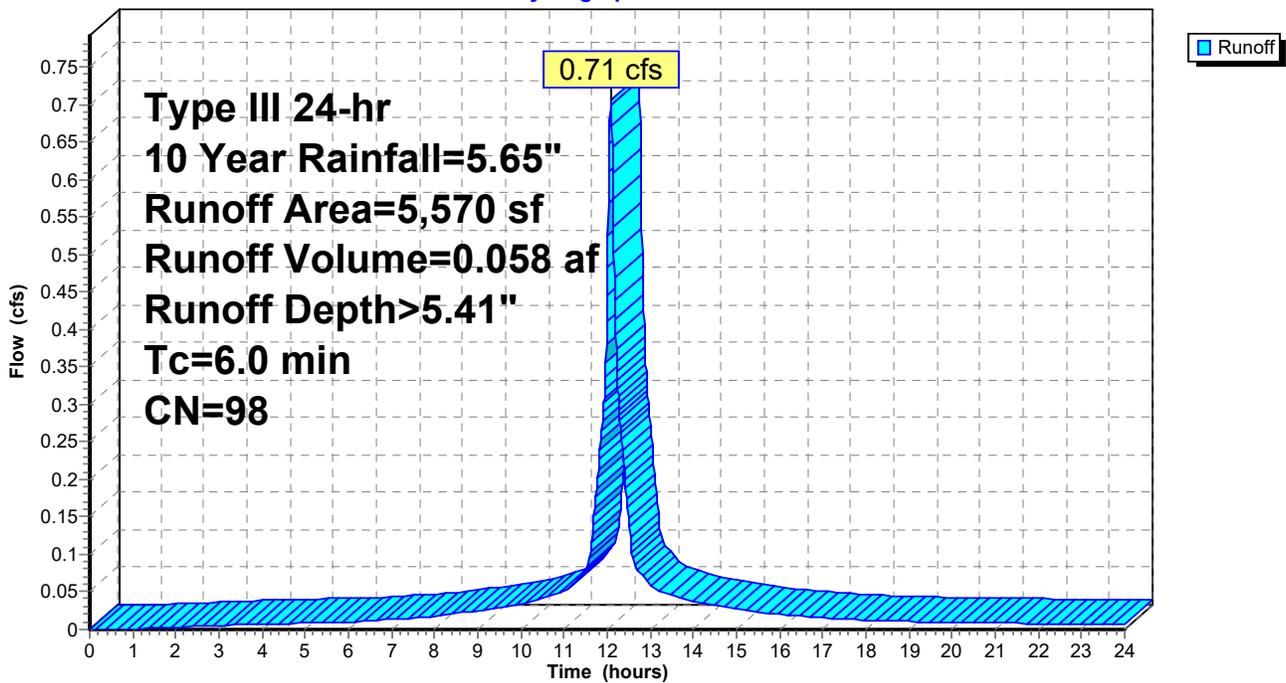
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10 Year Rainfall=5.65"

Area (sf)	CN	Description
5,570	98	Roofs, HSG D
5,570		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2R: Roof 2

Hydrograph



Summary for Subcatchment 2S: North Parking Lot

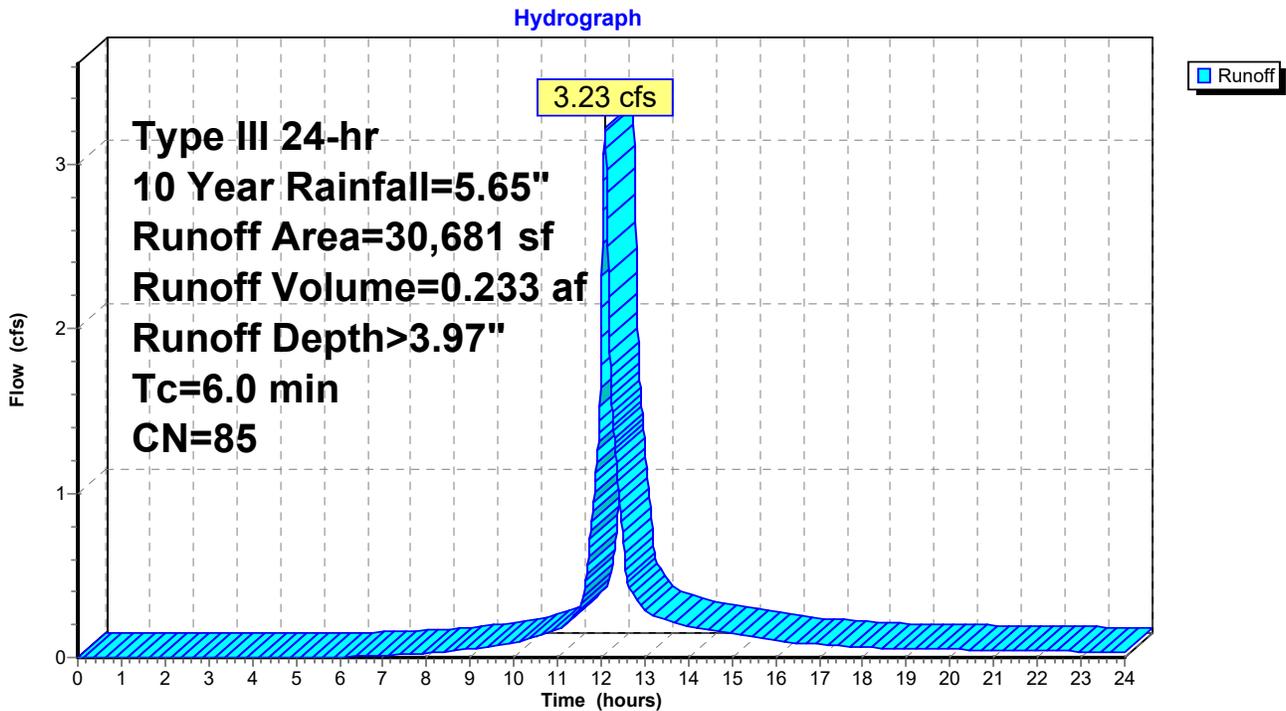
Runoff = 3.23 cfs @ 12.09 hrs, Volume= 0.233 af, Depth> 3.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=5.65"

Area (sf)	CN	Description
9,081	98	Paved parking, HSG D
21,600	80	>75% Grass cover, Good, HSG D
30,681	85	Weighted Average
21,600		70.40% Pervious Area
9,081		29.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2S: North Parking Lot



Summary for Subcatchment 3R: Service Bay

Runoff = 0.22 cfs @ 12.08 hrs, Volume= 0.018 af, Depth> 5.41"

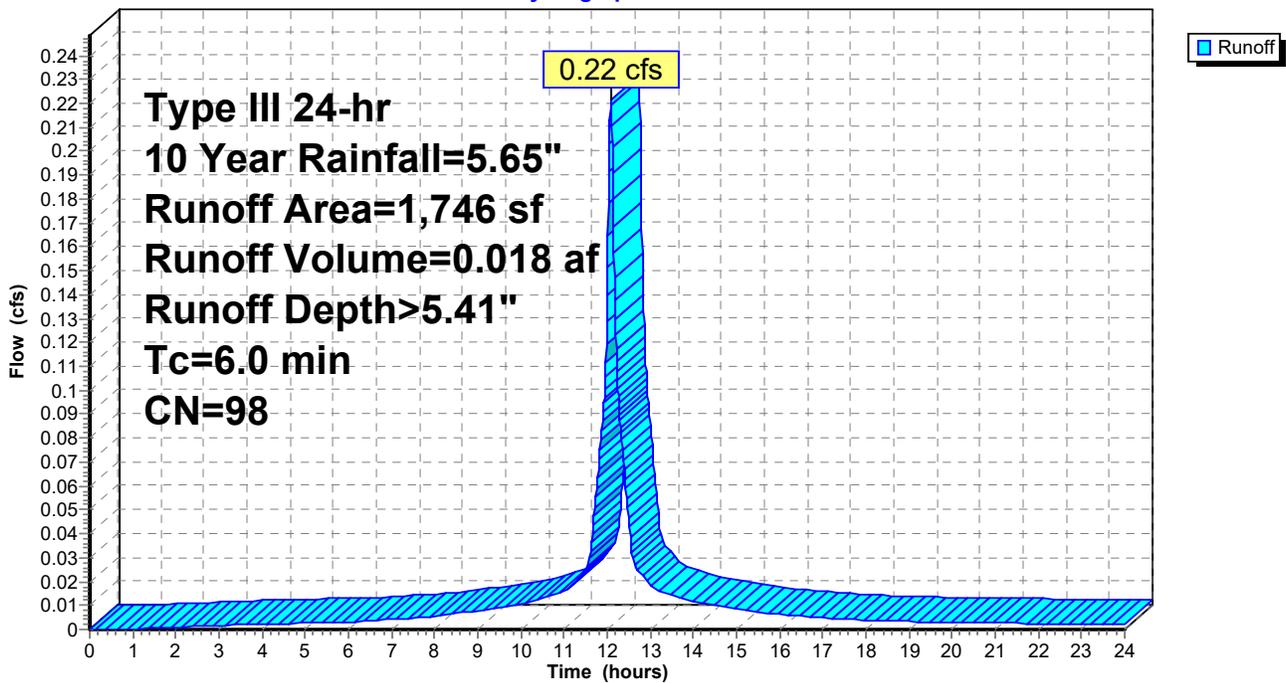
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10 Year Rainfall=5.65"

Area (sf)	CN	Description
1,746	98	Roofs, HSG D
1,746		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 3R: Service Bay

Hydrograph



Summary for Subcatchment 3S: East Parking Lot

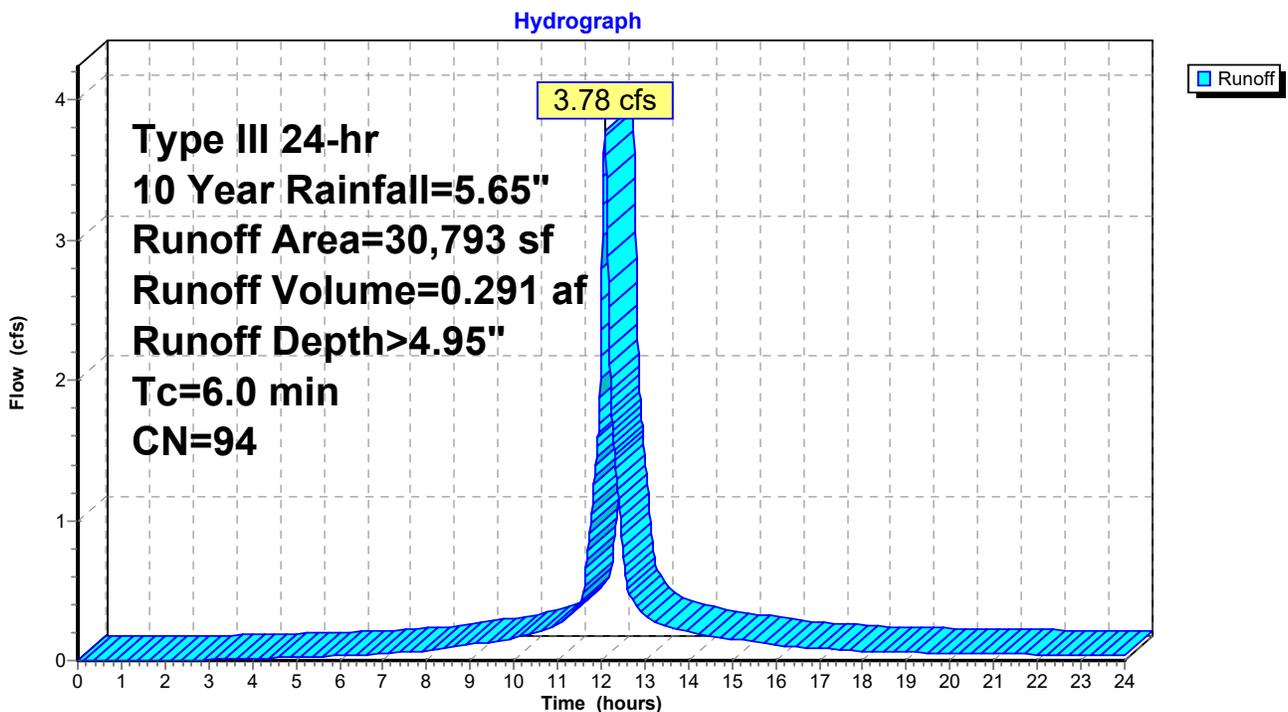
Runoff = 3.78 cfs @ 12.08 hrs, Volume= 0.291 af, Depth> 4.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10 Year Rainfall=5.65"

Area (sf)	CN	Description
23,113	98	Paved parking, HSG D
7,680	80	>75% Grass cover, Good, HSG D
30,793	94	Weighted Average
7,680		24.94% Pervious Area
23,113		75.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 3S: East Parking Lot



Summary for Subcatchment 4R: Roof 4

Runoff = 0.90 cfs @ 12.08 hrs, Volume= 0.073 af, Depth> 5.41"

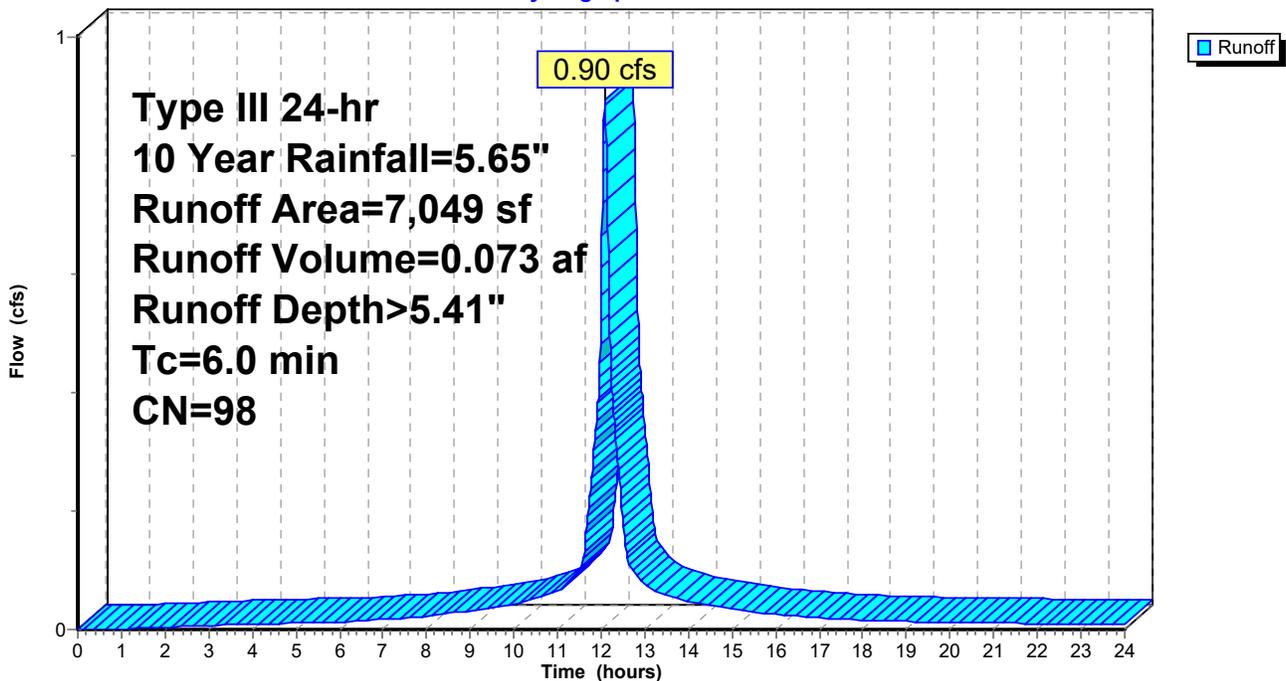
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10 Year Rainfall=5.65"

Area (sf)	CN	Description
7,049	98	Roofs, HSG D
7,049		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 4R: Roof 4

Hydrograph



Summary for Subcatchment 5R: Proposed Building

Runoff = 0.79 cfs @ 12.08 hrs, Volume= 0.064 af, Depth> 5.41"

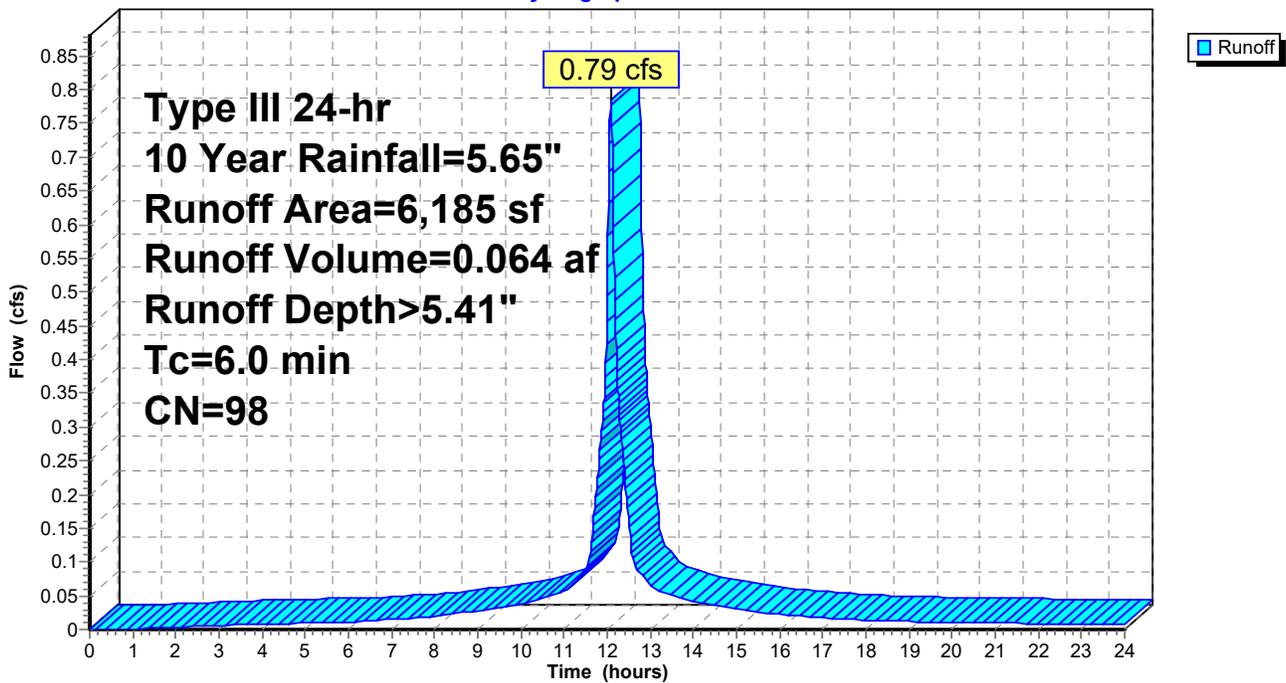
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10 Year Rainfall=5.65"

Area (sf)	CN	Description
6,185	98	Roofs, HSG D
6,185		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 5R: Proposed Building

Hydrograph



Summary for Pond 1P: Wet Pond

Inflow Area = 1.226 ac, 85.62% Impervious, Inflow Depth > 5.14" for 10 Year event
 Inflow = 6.66 cfs @ 12.08 hrs, Volume= 0.525 af
 Outflow = 2.45 cfs @ 12.33 hrs, Volume= 0.458 af, Atten= 63%, Lag= 14.6 min
 Primary = 2.45 cfs @ 12.33 hrs, Volume= 0.458 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Peak Elev= 29.08' @ 12.33 hrs Surf.Area= 2,755 sf Storage= 8,836 cf
 Flood Elev= 30.00' Surf.Area= 3,188 sf Storage= 11,582 cf

Plug-Flow detention time= 135.7 min calculated for 0.458 af (87% of inflow)
 Center-of-Mass det. time= 77.6 min (836.4 - 758.8)

Volume	Invert	Avail.Storage	Storage Description
#1	23.00'	13,254 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
23.00	571	0	0
24.00	787	679	679
25.00	1,029	908	1,587
26.00	1,298	1,164	2,751
27.00	1,592	1,445	4,196
28.00	2,277	1,935	6,130
29.00	2,719	2,498	8,628
30.00	3,188	2,954	11,582
30.50	3,500	1,672	13,254

Device	Routing	Invert	Outlet Devices
#1	Primary	25.50'	8.0" Round Culvert L= 20.0' Ke= 0.500 Inlet / Outlet Invert= 25.50' / 24.50' S= 0.0500 1/1 Cc= 0.900 n= 0.012, Flow Area= 0.35 sf
#2	Device 1	29.00'	48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	26.00'	6.0" Vert. Orifice/Grate C= 0.600
#4	Secondary	29.50'	8.0' long x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=2.45 cfs @ 12.33 hrs HW=29.08' TW=0.00' (Dynamic Tailwater)

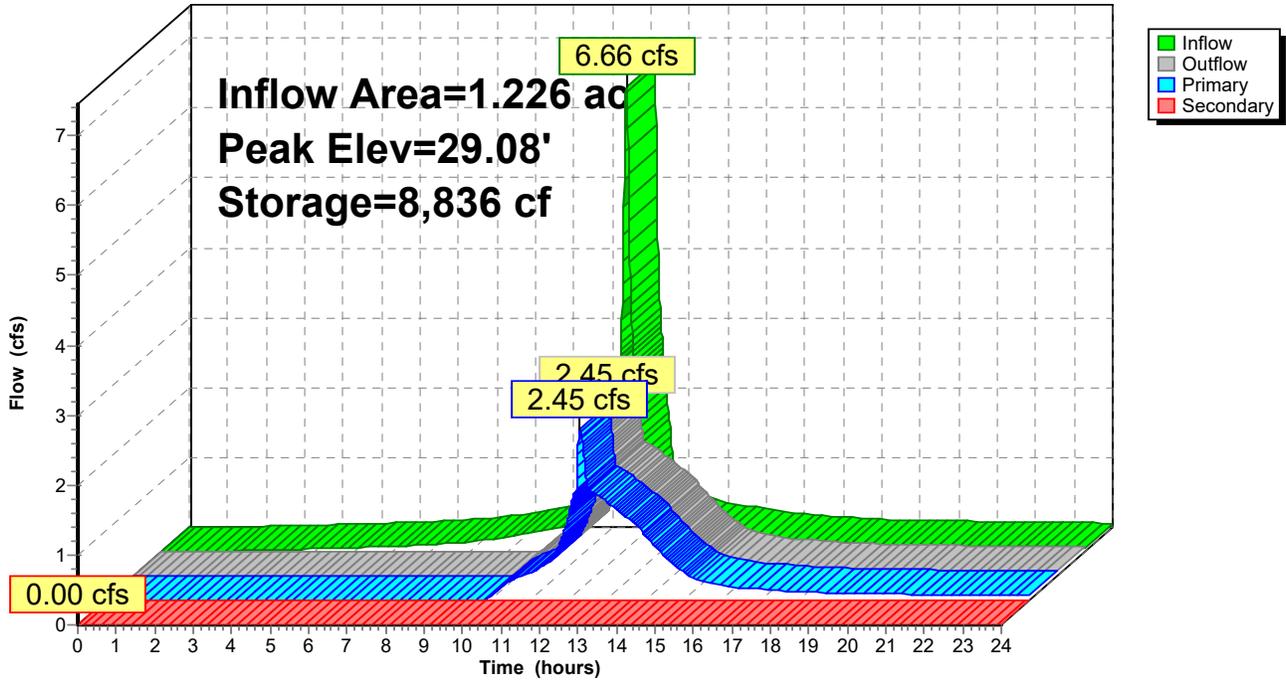
- ↑ 1=Culvert (Passes 2.45 cfs of 3.03 cfs potential flow)
- ↑ 2=Orifice/Grate (Weir Controls 0.86 cfs @ 0.90 fps)
- ↑ 3=Orifice/Grate (Orifice Controls 1.59 cfs @ 8.09 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=23.00' TW=0.00' (Dynamic Tailwater)

- ↑ 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: Wet Pond

Hydrograph



Summary for Pond 2P: PDMH 1

Inflow Area = 0.519 ac, 100.00% Impervious, Inflow Depth > 5.41" for 10 Year event
 Inflow = 2.87 cfs @ 12.08 hrs, Volume= 0.234 af
 Outflow = 2.87 cfs @ 12.08 hrs, Volume= 0.234 af, Atten= 0%, Lag= 0.0 min
 Primary = 2.87 cfs @ 12.08 hrs, Volume= 0.234 af

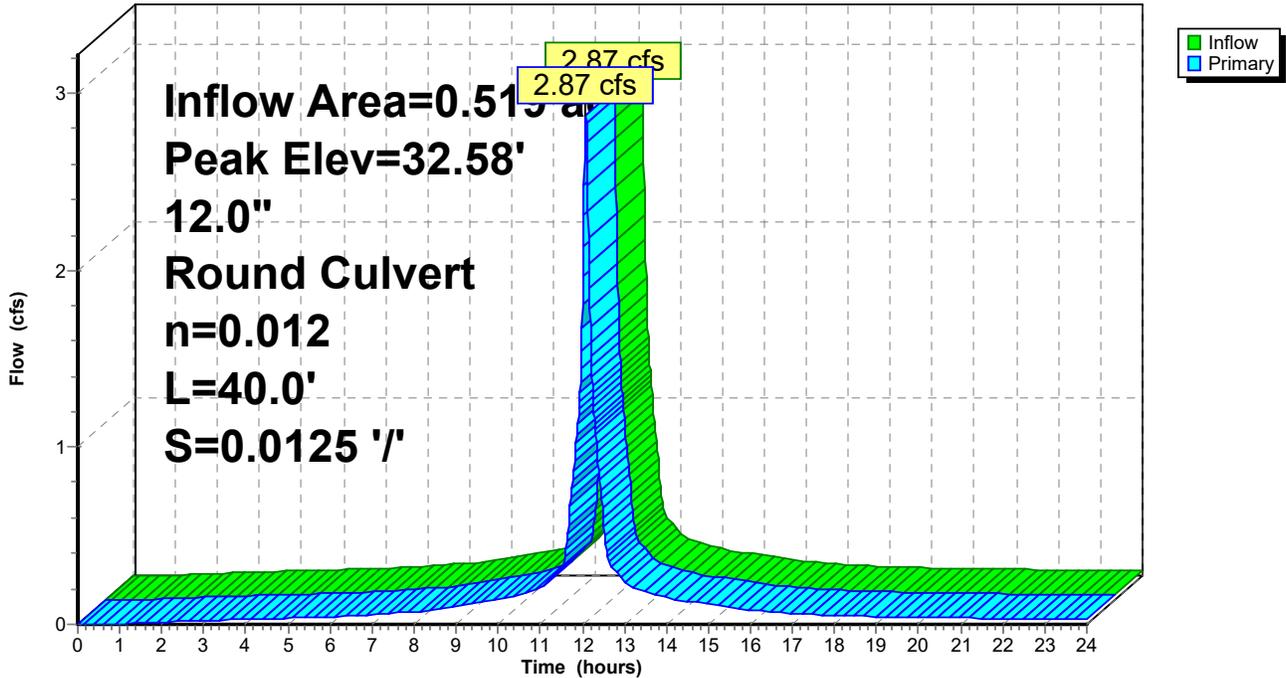
Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Peak Elev= 32.58' @ 12.08 hrs
 Flood Elev= 35.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	31.50'	12.0" Round Culvert L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 31.50' / 31.00' S= 0.0125 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=2.87 cfs @ 12.08 hrs HW=32.58' TW=28.27' (Dynamic Tailwater)
 ←1=Culvert (Inlet Controls 2.87 cfs @ 3.65 fps)

Pond 2P: PDMH 1

Hydrograph

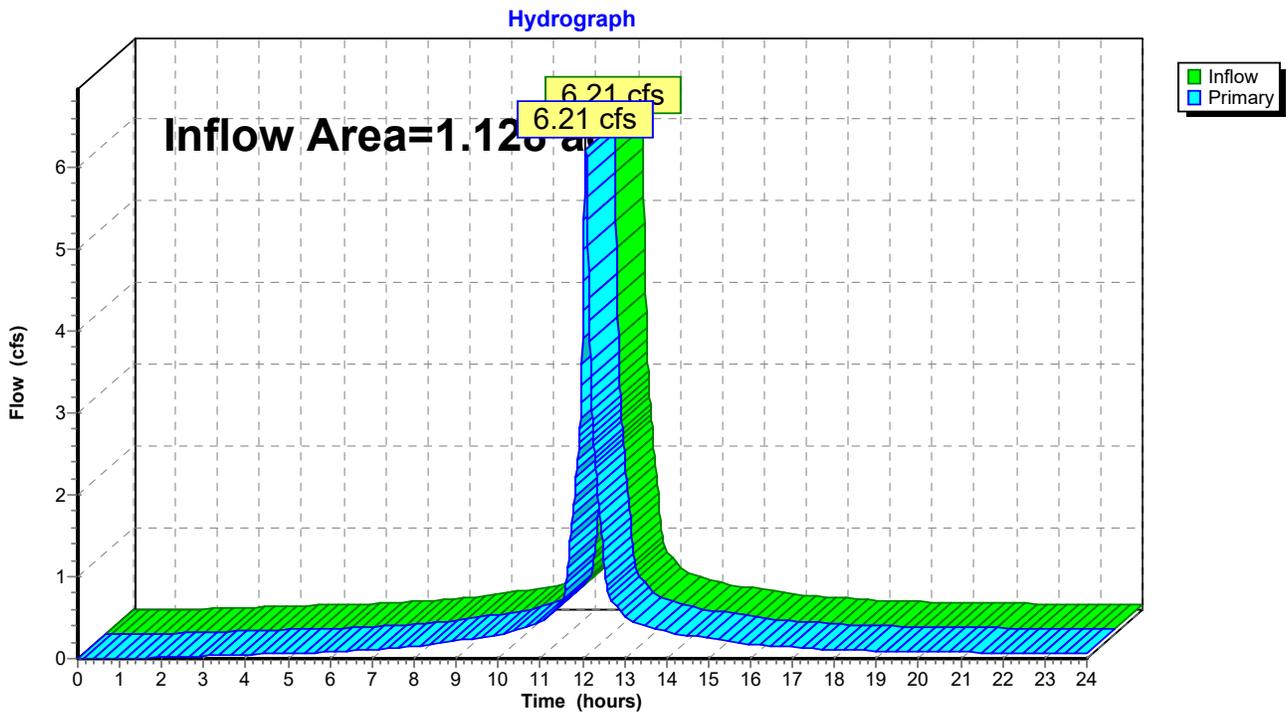


Summary for Link POA 1: West POA

Inflow Area = 1.128 ac, 93.73% Impervious, Inflow Depth > 5.29" for 10 Year event
Inflow = 6.21 cfs @ 12.08 hrs, Volume= 0.497 af
Primary = 6.21 cfs @ 12.08 hrs, Volume= 0.497 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link POA 1: West POA

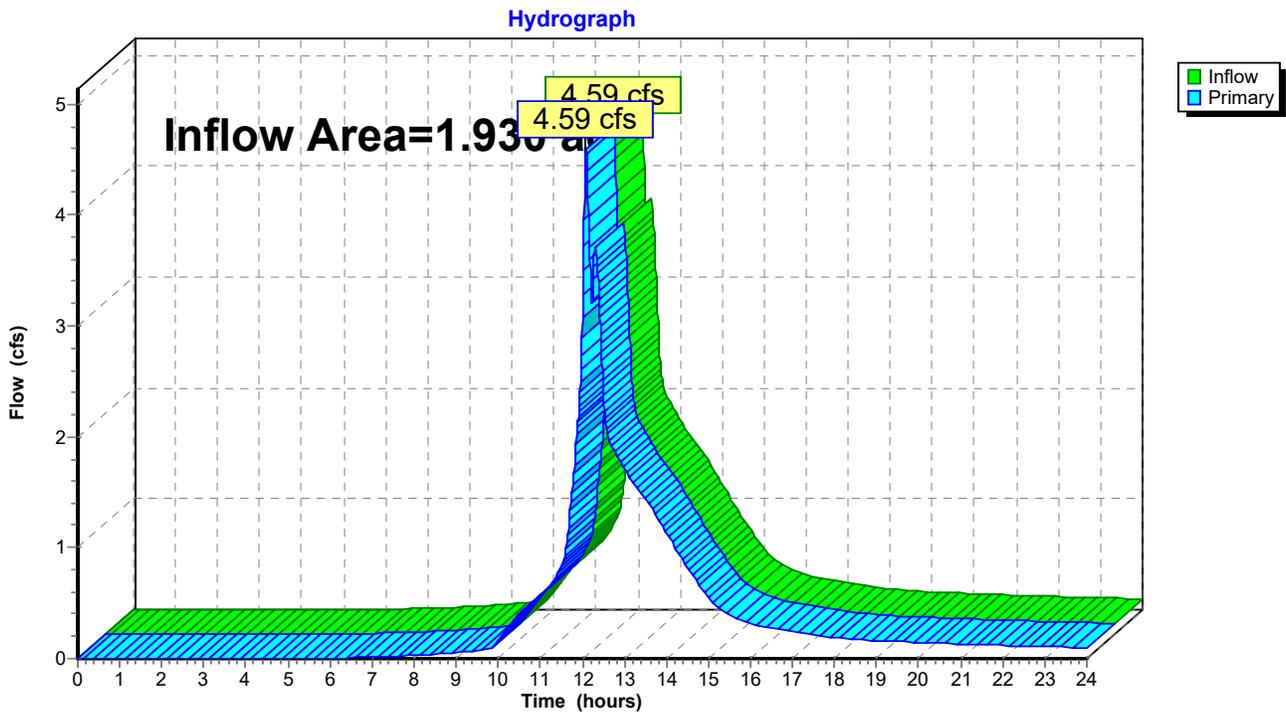


Summary for Link POA 2: East POA

Inflow Area = 1.930 ac, 65.18% Impervious, Inflow Depth > 4.29" for 10 Year event
Inflow = 4.59 cfs @ 12.09 hrs, Volume= 0.691 af
Primary = 4.59 cfs @ 12.09 hrs, Volume= 0.691 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link POA 2: East POA



5625-HC-POST-012825

Prepared by Altus Engineering

HydroCAD® 10.00-26 s/n 01222 © 2020 HydroCAD Software Solutions LLC

Type III 24-hr 2 Year Rainfall=3.70"

Printed 2/10/2025

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1R: Garage Roof	Runoff Area=3,810 sf 100.00% Impervious Runoff Depth>3.46" Tc=6.0 min CN=98 Runoff=0.32 cfs 0.025 af
Subcatchment 1S: West Parking Lot	Runoff Area=49,128 sf 93.73% Impervious Runoff Depth>3.35" Tc=6.0 min CN=97 Runoff=4.02 cfs 0.315 af
Subcatchment 2R: Roof 2	Runoff Area=5,570 sf 100.00% Impervious Runoff Depth>3.46" Tc=6.0 min CN=98 Runoff=0.46 cfs 0.037 af
Subcatchment 2S: North Parking Lot	Runoff Area=30,681 sf 29.60% Impervious Runoff Depth>2.19" Tc=6.0 min CN=85 Runoff=1.81 cfs 0.128 af
Subcatchment 3R: Service Bay	Runoff Area=1,746 sf 100.00% Impervious Runoff Depth>3.46" Tc=6.0 min CN=98 Runoff=0.14 cfs 0.012 af
Subcatchment 3S: East Parking Lot	Runoff Area=30,793 sf 75.06% Impervious Runoff Depth>3.03" Tc=6.0 min CN=94 Runoff=2.38 cfs 0.178 af
Subcatchment 4R: Roof 4	Runoff Area=7,049 sf 100.00% Impervious Runoff Depth>3.46" Tc=6.0 min CN=98 Runoff=0.58 cfs 0.047 af
Subcatchment 5R: Proposed Building	Runoff Area=6,185 sf 100.00% Impervious Runoff Depth>3.46" Tc=6.0 min CN=98 Runoff=0.51 cfs 0.041 af
Pond 1P: Wet Pond	Peak Elev=28.09' Storage=6,343 cf Inflow=4.25 cfs 0.328 af Primary=1.28 cfs 0.261 af Secondary=0.00 cfs 0.000 af Outflow=1.28 cfs 0.261 af
Pond 2P: PDMH 1	Peak Elev=32.25' Inflow=1.87 cfs 0.150 af 12.0" Round Culvert n=0.012 L=40.0' S=0.0125 '/' Outflow=1.87 cfs 0.150 af
Link POA 1: West POA	Inflow=4.02 cfs 0.315 af Primary=4.02 cfs 0.315 af
Link POA 2: East POA	Inflow=2.89 cfs 0.390 af Primary=2.89 cfs 0.390 af

Total Runoff Area = 3.098 ac Runoff Volume = 0.783 af Average Runoff Depth = 3.03"
23.98% Pervious = 0.743 ac 76.02% Impervious = 2.355 ac

5625-HC-POST-012825

Type III 24-hr 25 Year Rainfall=7.19"

Prepared by Altus Engineering

Printed 2/10/2025

HydroCAD® 10.00-26 s/n 01222 © 2020 HydroCAD Software Solutions LLC

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1R: Garage Roof	Runoff Area=3,810 sf 100.00% Impervious Runoff Depth>6.95" Tc=6.0 min CN=98 Runoff=0.62 cfs 0.051 af
Subcatchment 1S: West Parking Lot	Runoff Area=49,128 sf 93.73% Impervious Runoff Depth>6.83" Tc=6.0 min CN=97 Runoff=7.93 cfs 0.642 af
Subcatchment 2R: Roof 2	Runoff Area=5,570 sf 100.00% Impervious Runoff Depth>6.95" Tc=6.0 min CN=98 Runoff=0.90 cfs 0.074 af
Subcatchment 2S: North Parking Lot	Runoff Area=30,681 sf 29.60% Impervious Runoff Depth>5.43" Tc=6.0 min CN=85 Runoff=4.36 cfs 0.319 af
Subcatchment 3R: Service Bay	Runoff Area=1,746 sf 100.00% Impervious Runoff Depth>6.95" Tc=6.0 min CN=98 Runoff=0.28 cfs 0.023 af
Subcatchment 3S: East Parking Lot	Runoff Area=30,793 sf 75.06% Impervious Runoff Depth>6.47" Tc=6.0 min CN=94 Runoff=4.88 cfs 0.381 af
Subcatchment 4R: Roof 4	Runoff Area=7,049 sf 100.00% Impervious Runoff Depth>6.95" Tc=6.0 min CN=98 Runoff=1.14 cfs 0.094 af
Subcatchment 5R: Proposed Building	Runoff Area=6,185 sf 100.00% Impervious Runoff Depth>6.95" Tc=6.0 min CN=98 Runoff=1.00 cfs 0.082 af
Pond 1P: Wet Pond	Peak Elev=29.52' Storage=10,113 cf Inflow=8.54 cfs 0.682 af Primary=3.23 cfs 0.613 af Secondary=0.07 cfs 0.000 af Outflow=3.29 cfs 0.613 af
Pond 2P: PDMH 1	Peak Elev=32.94' Inflow=3.66 cfs 0.300 af 12.0" Round Culvert n=0.012 L=40.0' S=0.0125 '/' Outflow=3.66 cfs 0.300 af
Link POA 1: West POA	Inflow=7.93 cfs 0.642 af Primary=7.93 cfs 0.642 af
Link POA 2: East POA	Inflow=7.09 cfs 0.932 af Primary=7.09 cfs 0.932 af

Total Runoff Area = 3.098 ac Runoff Volume = 1.665 af Average Runoff Depth = 6.45"
23.98% Pervious = 0.743 ac 76.02% Impervious = 2.355 ac

5625-HC-POST-012825

Type III 24-hr 50 Year Rainfall=8.63"

Prepared by Altus Engineering

Printed 2/10/2025

HydroCAD® 10.00-26 s/n 01222 © 2020 HydroCAD Software Solutions LLC

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1R: Garage Roof	Runoff Area=3,810 sf 100.00% Impervious Runoff Depth>8.38" Tc=6.0 min CN=98 Runoff=0.74 cfs 0.061 af
Subcatchment 1S: West Parking Lot	Runoff Area=49,128 sf 93.73% Impervious Runoff Depth>8.26" Tc=6.0 min CN=97 Runoff=9.53 cfs 0.777 af
Subcatchment 2R: Roof 2	Runoff Area=5,570 sf 100.00% Impervious Runoff Depth>8.38" Tc=6.0 min CN=98 Runoff=1.08 cfs 0.089 af
Subcatchment 2S: North Parking Lot	Runoff Area=30,681 sf 29.60% Impervious Runoff Depth>6.82" Tc=6.0 min CN=85 Runoff=5.41 cfs 0.400 af
Subcatchment 3R: Service Bay	Runoff Area=1,746 sf 100.00% Impervious Runoff Depth>8.38" Tc=6.0 min CN=98 Runoff=0.34 cfs 0.028 af
Subcatchment 3S: East Parking Lot	Runoff Area=30,793 sf 75.06% Impervious Runoff Depth>7.90" Tc=6.0 min CN=94 Runoff=5.90 cfs 0.466 af
Subcatchment 4R: Roof 4	Runoff Area=7,049 sf 100.00% Impervious Runoff Depth>8.38" Tc=6.0 min CN=98 Runoff=1.37 cfs 0.113 af
Subcatchment 5R: Proposed Building	Runoff Area=6,185 sf 100.00% Impervious Runoff Depth>8.38" Tc=6.0 min CN=98 Runoff=1.20 cfs 0.099 af
Pond 1P: Wet Pond	Peak Elev=29.77' Storage=10,865 cf Inflow=10.30 cfs 0.828 af Primary=3.34 cfs 0.717 af Secondary=2.76 cfs 0.042 af Outflow=6.09 cfs 0.759 af
Pond 2P: PDMH 1	Peak Elev=33.35' Inflow=4.40 cfs 0.363 af 12.0" Round Culvert n=0.012 L=40.0' S=0.0125 '/' Outflow=4.40 cfs 0.363 af
Link POA 1: West POA	Inflow=9.53 cfs 0.777 af Primary=9.53 cfs 0.777 af
Link POA 2: East POA	Inflow=9.61 cfs 1.160 af Primary=9.61 cfs 1.160 af

Total Runoff Area = 3.098 ac Runoff Volume = 2.033 af Average Runoff Depth = 7.87"
23.98% Pervious = 0.743 ac 76.02% Impervious = 2.355 ac

Section 5

Extreme Precipitation Table

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Metadata for Point

Smoothing State	Yes
Location	
Latitude	42.991 degrees North
Longitude	70.932 degrees West
Elevation	10 feet
Date/Time	Tue Jan 28 2025 14:49:43 GMT-0500 (Eastern Standard Time)

15% added to values for modeling

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2d:
1yr	0.26	0.40	0.50	0.66	0.82	1.04	1yr	0.71	0.99	1.22	1.57	2.05	2.68	2.91	1yr	2.38	2.8
2yr	0.32	0.50	0.62	0.82	1.02	1.30	2yr	0.88	1.18	1.52	1.94	2.50	3.22	3.57	2yr	2.85	3.4
5yr	0.37	0.58	0.73	0.98	1.25	1.62	5yr	1.08	1.47	1.90	2.45	3.16	4.10	4.60	5yr	3.63	4.4
10yr	0.41	0.65	0.83	1.12	1.46	1.90	10yr	1.26	1.73	2.25	2.92	3.78	4.91	5.56	10yr	4.35	5.3
25yr	0.48	0.77	0.98	1.35	1.79	2.36	25yr	1.55	2.15	2.80	3.67	4.79	6.25	7.16	25yr	5.53	6.8
50yr	0.54	0.87	1.11	1.56	2.10	2.79	50yr	1.81	2.54	3.33	4.38	5.74	7.50	8.67	50yr	6.64	8.3
100yr	0.60	0.98	1.26	1.80	2.45	3.30	100yr	2.12	3.00	3.96	5.24	6.88	9.00	10.51	100yr	7.97	10.
200yr	0.69	1.12	1.45	2.08	2.87	3.90	200yr	2.48	3.55	4.70	6.24	8.23	10.82	12.73	200yr	9.57	12.
500yr	0.82	1.34	1.75	2.54	3.55	4.86	500yr	3.06	4.43	5.88	7.86	10.44	13.78	16.41	500yr	12.20	15.

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2d:
1yr	0.24	0.37	0.45	0.60	0.74	0.89	1yr	0.64	0.87	0.94	1.26	1.56	2.28	2.54	1yr	2.02	2.4

Section 6

BMP Sizing Calculations



STORMWATER POND DESIGN CRITERIA

Env-Wq 1508.03

Type/Node Name: **Wet Pond/1P**

Enter the type of stormwater pond (e.g., Wet Pond) and the node name in the drainage analysis, if applicable.

1.23	ac	A = Area draining to the practice	
1.05	ac	A _i = Impervious area draining to the practice	
0.86	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.82	unitless	R _v = Runoff coefficient = 0.05 + (0.9 x I)	
1.01	ac-in	WQV = 1" x R _v x A	
3,653	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
365	cf	10% x WQV (check calc for sediment forebay and micropool volume)	
1,826	cf	50% x WQV (check calc for extended detention volume)	
375	cf	V _{SED} = Sediment forebay volume	≥ 10%WQV
8,628	cf	V _{PP} = Permanent pool volume (volume below the lowest invert of the outlet structure) Attach stage-storage table.	
no	cf	Extended Detention? ¹	≤ 50% WQV
-		V _{ED} = Volume of extended detention (if "yes" is given in box above)	
		E _{ED} = Elevation of WQV if "yes" is given in box above ⁴	
-	cfs	2Q _{avg} = 2 * V _{ED} / 24 hrs * (1hr / 3600 sec) (used to check against Q _{EDmax} below)	
	cfs	Q _{EDmax} = Discharge at the E _{ED} (attach stage-discharge table)	< 2Q _{avg}
-	hours	I _{ED} = Drawdown time of extended detention = 2V _{ED} /Q _{EDmax}	≥ 24-hrs
2.00	:1	Pond side slopes	≥ 3:1
25.00	ft	Elevation of seasonal high water table	
29.00	ft	Elevation of lowest pond outlet	
20.00	ft	Max floor = Maximum elevation of pond bottom (ft)	
17.00	ft	Minimum floor (to maintain depth at less than 8')	≤ 8 ft
23.00	ft	Elevation of pond floor ³	≤ Max floor and > Min floor
50.00	ft	Length of the flow path between the inlet and outlet at mid-depth	
20.00	ft	Average width ([average of the top width + average bottom width]/2)	
2.50	:1	Length to average width ratio	≥ 3:1
Yes	Yes/No	Is the perimeter curvilinear.	← Yes
Yes	Yes/No	Are the inlet and outlet located as far apart as possible.	← Yes
Yes	Yes/No	Is there a manually-controlled drain to dewater the pond over a 24hr period?	
		If no state why:	
		What mechanism is proposed to prevent the outlet structure from clogging (applicable for orifices/weirs with a dimension of <6")?	
29.77	ft	Peak elevation of the 50-year storm event	
30.50	ft	Berm elevation of the pond	
YES		50 peak elevation ≤ the berm elevation?	← yes

1. If the entire WQV is stored in the perm. pool, there is no extended det., and the following five lines do not apply.
2. This is the elevation of WQV if the hydrologic analysis is set up to include the permanent pool storage in the node description.
3. If the pond floor elevation is above the max floor elev., a hydrologic budget must be submitted to demonstrate that a minimum depth of 3 feet can be maintained. (First check whether a revised "lowest pond outlet" elev. will resolve the issue.)

Designer's Notes: Dimensions for Wetpond/1P are based of survey data from TFM and design details from Jones N Beach.

Peak elevation during a 50 year storm event will have 6.77' of water from bottom of pond up. 6.77'<8'.

Stage-Area-Storage for Pond 1P: Wet Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
23.00	571	0	28.30	2,410	6,833
23.10	593	58	28.40	2,454	7,076
23.20	614	119	28.50	2,498	7,324
23.30	636	181	28.60	2,542	7,576
23.40	657	246	28.70	2,586	7,832
23.50	679	313	28.80	2,631	8,093
23.60	701	381	28.90	2,675	8,358
23.70	722	453	29.00	2,719	8,628
23.80	744	526	29.10	2,766	8,902
23.90	765	601	29.20	2,813	9,181
24.00	787	679	29.30	2,860	9,465
24.10	811	759	29.40	2,907	9,753
24.20	835	841	29.50	2,954	10,046
24.30	860	926	29.60	3,000	10,344
24.40	884	1,013	29.70	3,047	10,646
24.50	908	1,103	29.80	3,094	10,953
24.60	932	1,195	29.90	3,141	11,265
24.70	956	1,289	30.00	3,188	11,582
24.80	981	1,386			
24.90	1,005	1,485			
25.00	1,029	1,587			
25.10	1,056	1,691			
25.20	1,083	1,798			
25.30	1,110	1,908			
25.40	1,137	2,020			
25.50	1,164	2,135			
25.60	1,190	2,253			
25.70	1,217	2,373			
25.80	1,244	2,496			
25.90	1,271	2,622			
26.00	1,298	2,751			
26.10	1,327	2,882			
26.20	1,357	3,016			
26.30	1,386	3,153			
26.40	1,416	3,293			
26.50	1,445	3,436			
26.60	1,474	3,582			
26.70	1,504	3,731			
26.80	1,533	3,883			
26.90	1,563	4,038			
27.00	1,592	4,196			
27.10	1,661	4,358			
27.20	1,729	4,528			
27.30	1,798	4,704			
27.40	1,866	4,887			
27.50	1,935	5,077			
27.60	2,003	5,274			
27.70	2,071	5,478			
27.80	2,140	5,688			
27.90	2,208	5,906			
28.00	2,277	6,130			
28.10	2,321	6,360			
28.20	2,365	6,594			

Section 7

NRCS Soils Report



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Rockingham County, New Hampshire



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map (Volvo-Exeter).....	9
Legend.....	10
Map Unit Legend (Volvo-Exeter).....	11
Map Unit Descriptions (Volvo-Exeter).....	11
Rockingham County, New Hampshire.....	13
32B—Boxford silt loam, 3 to 8 percent slopes.....	13
32C—Boxford silt loam, 8 to 15 percent slopes.....	14
38B—Eldridge fine sandy loam, 3 to 8 percent slopes.....	15
299—Udorthents, smoothed.....	16
699—Urban land.....	17
997—Ipswich mucky peat, low salt.....	17
References	19

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

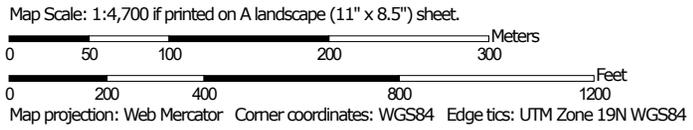
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map (Volvo-Exeter)



Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

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

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Rockingham County, New Hampshire
 Survey Area Data: Version 27, Sep 3, 2024

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

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

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

Map Unit Legend (Volvo-Exeter)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
32B	Boxford silt loam, 3 to 8 percent slopes	20.6	24.5%
32C	Boxford silt loam, 8 to 15 percent slopes	11.1	13.3%
38B	Eldridge fine sandy loam, 3 to 8 percent slopes	16.8	20.0%
299	Udorthents, smoothed	5.9	7.0%
699	Urban land	6.2	7.4%
997	Ipswich mucky peat, low salt	23.4	27.9%
Totals for Area of Interest		83.9	100.0%

Map Unit Descriptions (Volvo-Exeter)

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

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

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

Custom Soil Resource Report

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

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

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

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

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

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

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

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

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

Rockingham County, New Hampshire

32B—Boxford silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9cn4

Elevation: 0 to 1,000 feet

Mean annual precipitation: 30 to 55 inches

Mean annual air temperature: 45 to 54 degrees F

Frost-free period: 120 to 180 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Boxford and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Boxford

Setting

Parent material: Glaciomarine

Typical profile

H1 - 0 to 2 inches: silt loam

H2 - 2 to 13 inches: silt loam

H3 - 13 to 23 inches: silty clay loam

H4 - 23 to 60 inches: silty clay

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)

Depth to water table: About 12 to 36 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: D

Ecological site: F144AY018NY - Moist Lake Plain

Hydric soil rating: No

Minor Components

Eldridge

Percent of map unit: 10 percent

Hydric soil rating: No

Scitico

Percent of map unit: 10 percent

Landform: Marine terraces

Hydric soil rating: Yes

32C—Boxford silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9cn5
Elevation: 0 to 110 feet
Mean annual precipitation: 47 to 49 inches
Mean annual air temperature: 48 degrees F
Frost-free period: 155 to 165 days
Farmland classification: Not prime farmland

Map Unit Composition

Boxford and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Boxford

Setting

Parent material: Glaciomarine

Typical profile

H1 - 0 to 2 inches: silt loam
H2 - 2 to 13 inches: silt loam
H3 - 13 to 23 inches: silty clay loam
H4 - 23 to 60 inches: silty clay

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 12 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: F144AY018NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Scitico

Percent of map unit: 10 percent

Custom Soil Resource Report

Landform: Marine terraces
Hydric soil rating: Yes

Slope inclusion

Percent of map unit: 10 percent
Hydric soil rating: No

38B—Eldridge fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9cnb
Elevation: 90 to 1,000 feet
Mean annual precipitation: 30 to 55 inches
Mean annual air temperature: 45 to 54 degrees F
Frost-free period: 120 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Eldridge and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Eldridge

Setting

Parent material: Outwash over glaciolacustrine

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 23 inches: loamy fine sand
H3 - 23 to 62 inches: loamy very fine sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: F144AY027MA - Moist Sandy Outwash
Hydric soil rating: No

Minor Components

Boxford

Percent of map unit: 5 percent
Hydric soil rating: No

Well drained inclusion

Percent of map unit: 5 percent
Hydric soil rating: No

Squamscott

Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

Scitico

Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

299—Udorthents, smoothed

Map Unit Setting

National map unit symbol: 9cmt
Elevation: 0 to 840 feet
Mean annual precipitation: 44 to 49 inches
Mean annual air temperature: 48 degrees F
Frost-free period: 155 to 165 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Properties and qualities

Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

699—Urban land

Map Unit Composition

Urban land: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Minor Components

Not named

Percent of map unit: 15 percent

Hydric soil rating: No

997—Ipswich mucky peat, low salt

Map Unit Setting

National map unit symbol: 9cq2

Elevation: 0 to 20 feet

Mean annual precipitation: 48 to 49 inches

Mean annual air temperature: 46 to 48 degrees F

Frost-free period: 155 to 165 days

Farmland classification: Not prime farmland

Map Unit Composition

Ipswich and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ipswich

Setting

Landform: Salt marshes

Typical profile

Oi - 0 to 15 inches: mucky peat

Oe - 15 to 63 inches: mucky peat

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Very poorly drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (0.60 to 20.00 in/hr)

Depth to water table: About 0 inches

Frequency of flooding: Frequent

Frequency of ponding: Frequent

Maximum salinity: Strongly saline (16.0 to 60.0 mmhos/cm)

Custom Soil Resource Report

Available water supply, 0 to 60 inches: Very high (about 16.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8w

Hydrologic Soil Group: A/D

Ecological site: R144AY002CT - Tidal Salt High Marsh mesic very frequently flooded

Hydric soil rating: Yes

Minor Components

Not named wet

Percent of map unit: 15 percent

Landform: Salt marshes

Hydric soil rating: Yes

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Section 8

Stormwater Operations & Maintenance Plan

STORMWATER INSPECTION AND MAINTENANCE MANUAL

Volvo Dealership Facility Expansion Tax Map 52, Lot 108 & Map 51, Lot 1 140 Portsmouth Avenue Exeter, NH

OWNER:
Dade Auto Holdings Realty Trust
140 Portsmouth Avenue
Exeter, NH 03833

Proper inspection, maintenance, and repair are key elements in maintaining a successful stormwater management program on a developed property. Routine inspections ensure permit compliance and reduce the potential for deterioration of infrastructure or reduced water quality. The following responsible parties shall be in charge of managing the stormwater facilities:

RESPONSIBLE PARTIES:

Owner: Dade Auto Holdings Realty Trust 603-772-5975
Name Company Phone

Inspection: Dade Auto Holdings Realty Trust 603-772-5975
Name Company Phone

Maintenance: Dade Auto Holdings Realty Trust 603-772-5975
Name Company Phone

NOTES:

Written inspection forms and maintenance logs shall be completed yearly by a qualified inspector retained the owner or assigns.

Photographs of each stormwater BMP are to be taken at each inspection and submitted with the annual inspection reports.

Inspection and maintenance responsibilities shall transfer to any future property owner(s).

This manual shall be updated as needed to reflect any changes related to any transfer of ownership and/or any delegation of inspection and maintenance responsibilities to another entity



WET PONDS/RETENTION BASINS

Function – Wet ponds have a permanent pool of water and have the capacity to temporarily store stormwater runoff and release it at a controlled rate, provide flood control and provide water quality treatment.

Maintenance

- For the first year of operation, the wet pond shall be inspected after every major storm to ensure proper functioning. Thereafter, the basin shall be inspected at least once every six months. Inspections shall include verification that the pond is slowly emptying through the gravel filter for a short time (12-24 hours) after a storm.
- Inlets and Outlets: The inlets and outlets of the pond shall be checked periodically to ensure that flow structures are not blocked by debris. All ditches or pipes connecting ponds in series shall be checked for debris that may obstruct flow.
- Gravel Trench: The gravel trench shall be clear of clogging material (e.g., decaying leaves) so that discharge through the trench is not impeded. The top several inches of the gravel in the outlet trench shall be replaced with fresh material when water ponds above the permanent pool for more than 72 hours. The sediments removed from the wet pond shall be disposed of in accordance with application regulations.
- Embankments: Wet ponds shall be inspected annually for erosion, side slopes destabilization, embankment settling or other signs of structural failure. Corrective actions shall be taken immediately upon identification of a problem.
- Mowing: Wet pond berms and side slopes should be mowed at least twice annually to prevent the establishment of woody vegetation.

CULVERTS AND DRAINAGE PIPES

Function – Culverts and drainage pipes convey stormwater away from buildings, walkways, and parking areas and to surface waters or closed drainage systems.

Maintenance

- Culverts and drainage pipes shall be inspected semi-annually, or more often as needed, for accumulation of debris and structural integrity. Leaves and other debris shall be removed from the inlet and outlet to insure the functionality of drainage structures. Debris shall be disposed of on site where it will not concentrate back at the drainage structures or at a solid waste disposal facility.
- Riprap Areas - Culvert outlets and inlets shall be inspected during annual maintenance and operations for erosion and scour. If scour or creek erosion is identified, the outlet owner shall take appropriate means to prevent further erosion. Increased lengths of riprap may require a NHDES Permit and/or local permit.

CATCH BASINS/YARD DRAINS

Function – Catch basins and field drains collect stormwater, primarily from paved surfaces and roofs. Stormwater from paved areas often contains sediment and contaminants. Sumps serve to trap sediment, trace metals, nutrients and debris. Hooded catch basins trap hydrocarbons and floating debris.

Maintenance

- Remove leaves and debris from structure grates on an as-needed basis.
- Sumps shall be inspected and cleaned annually and any removed sediment and debris shall be disposed of at a solid waste disposal facility.

RIP RAP OUTLETS, SWALES AND PLUNGE POOLS

Function – Rip rap outlets slow the velocity of runoff, minimizing erosion and maximizing the treatment capabilities of associated buffers. Vegetated buffers, either forested or meadow, slow runoff which promotes and reduces peak rates of runoff. The reduced velocities and the presence of vegetation encourage the filtration of sediment and the limited bio-uptake of nutrients.

Maintenance

- Inspect riprap, level spreaders and buffers at least annually for signs of erosion, sediment buildup, or vegetation loss.
- Inspect level for signs of condensed flows. Level spreader and rip rap shall be maintained to disperse flows evenly over level spreader.
- If a meadow buffer, provide periodic mowing as needed to maintain a healthy stand of herbaceous vegetation.
- If a forested buffer, then the buffer should be maintained in an undisturbed condition, unless erosion occurs.
- If erosion of the buffer (forested or meadow) occurs, eroded areas should be repaired and replanted with vegetation similar to the remaining buffer. Corrective action should include eliminating the source of the erosion problem and may require retrofit or reconstruction of the level spreader.
- Remove debris and accumulated sediment and dispose of properly.

LANDSCAPED AREAS – ORGANIC FERTILIZER MANAGEMENT

Function – All fertilizer used on site shall be certified organic. Organic fertilizer management involves controlling the rate, timing and method of organic fertilizer application so that the nutrients are taken up by the plants thereby reducing the chance of polluting the surface and ground waters. Organic fertilizer management can be effective in reducing the amounts of phosphorus and nitrogen in runoff from landscaped areas, particularly lawns.

Maintenance

- Have the soil tested by your landscaper or local Soil Conservation Service for nutrient requirements and follow the recommendations.
- Do not apply organic fertilizer to frozen ground.
- Clean up any organic fertilizer spills.
- Do not allow organic fertilizer to be broadcast into water bodies.
- When organically fertilizing a lawn, water thoroughly, but do not create a situation where water runs off the surface of the lawn.

LANDSCAPED AREAS - LITTER CONTROL

Function – Landscaped areas tend to filter debris and contaminates that may block drainage systems and pollute the surface and ground waters.

Maintenance

- Litter Control and lawn maintenance involves removing litter such as trash, leaves, lawn clippings, pet wastes, oil and chemicals from streets, parking lots, and lawns before materials are transported into surface waters.
- Litter control shall be implemented as part of the grounds maintenance program.

VEGETATIVE SWALES

Function – Vegetative swales filter sediment from stormwater, promote infiltration, and the uptake of contaminants. They are designed to treat runoff and dispose of it safely into the natural drainage system.

Maintenance

- Timely maintenance is important to keep a swale in good working condition. Mowing of grassed swales shall be monthly to keep the vegetation in vigorous condition. The cut vegetation shall be removed to prevent the decaying organic litter from adding pollutants to the discharge from the swale.
- Fertilizing shall be bi-annual or as recommended from soil testing.
- Inspect swales following significant rainfall events.
- Woody vegetation shall not be allowed to become established in the swales or rock riprap outlet protection and if present shall be removed.
- Accumulated debris disrupts flow and leads to clogging and erosion. Remove debris and litter as necessary.
- Inspect for eroded areas. Determine cause of erosion and correct deficiency as required. Monitor repaired areas.

CONTROL OF INVASIVE PLANTS

Function – Invasive plants are introduced, alien, or non-native plants, which have been moved by people from their native habitat to a new area. Some exotic plants are imported for human use such as landscaping, erosion control, or food crops. They also can arrive as "hitchhikers" among shipments of other plants, seeds, packing materials, or fresh produce. Some exotic plants become invasive and cause harm by:

- becoming weedy and overgrown;
- killing established shade trees;
- obstructing pipes and drainage systems;
- forming dense beds in water;
- lowering water levels in lakes, streams, and wetlands;
- destroying natural communities;
- promoting erosion on stream banks and hillsides; and
- resisting control except by hazardous chemical.

Maintenance

During maintenance activities, check for the presence of invasive plants and remove in a safe manner as described in the attached "Methods for Disposing Non-Native Invasive Plants" prepared by the UNH Cooperative Extension.

GENERAL CLEAN UP

- Upon completion of the project, the contractor shall remove all temporary stormwater structures (i.e., temporary stone check dams, silt fence, temporary diversion swales, catch

basin inlet filter, etc.). Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform to the existing grade, prepared, and seeded. Remove any sediment in catch basins and clean drain pipes that may have accumulated during construction.

- Once in operation, all paved areas of the site should be swept at least once annually at the end of winter/early spring prior to significant spring rains.

SNOW MANAGEMENT

Snow should never be stored in any stormwater practice as it may affect functionality by blocking drains and reducing the storage volume available for runoff. The Owner/Applicant and any maintenance personnel should take great care to ensure that snow is stored only in areas depicted on the site plan and away from locations that could negatively impact drainage infrastructure or flow paths.

APPENDIX

- A. Stormwater System Operations and Maintenance Report
- B. Site Grading and Drainage Plan

STORM WATER SYSTEM OPERATION AND MAINTENANCE REPORT

General Information		
Project Name		
Owner		
Inspector's Name(s)		
Inspector's Contact Information		
Date of Inspection	Start Time:	End Time:
Type of Inspection: <input type="checkbox"/> Annual Report <input type="checkbox"/> Post-storm event <input type="checkbox"/> Due to a discharge of significant amounts of sediment		
Notes:		

General Site Questions and Discharges of Significant Amounts of Sediment			
Subject	Status	Notes	
<i>A discharge of significant amounts of sediment may be indicated by (but is not limited to) observations of the following. Note whether any are observed during this inspection:</i>			
			<i>Notes/ Action taken:</i>
1	Do the current site conditions reflect the attached site plan?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	Is the site permanently stabilized, temporary erosion and sediment controls are removed, and stormwater discharges from construction activity are eliminated?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	Is there evidence of the discharge of significant amounts of sediment to surface waters, or conveyance systems leading to surface waters?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Permit Coverage and Plans				
#	BMP/Facility	Inspected	Corrective Action Needed and Notes	Date Corrected
	Catch Basins	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Drainage Pipes	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Riprap Aprons/Plunge Pools	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Site Vegetation	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Retention Basins/Wet Ponds	<input type="checkbox"/> Yes <input type="checkbox"/> No		

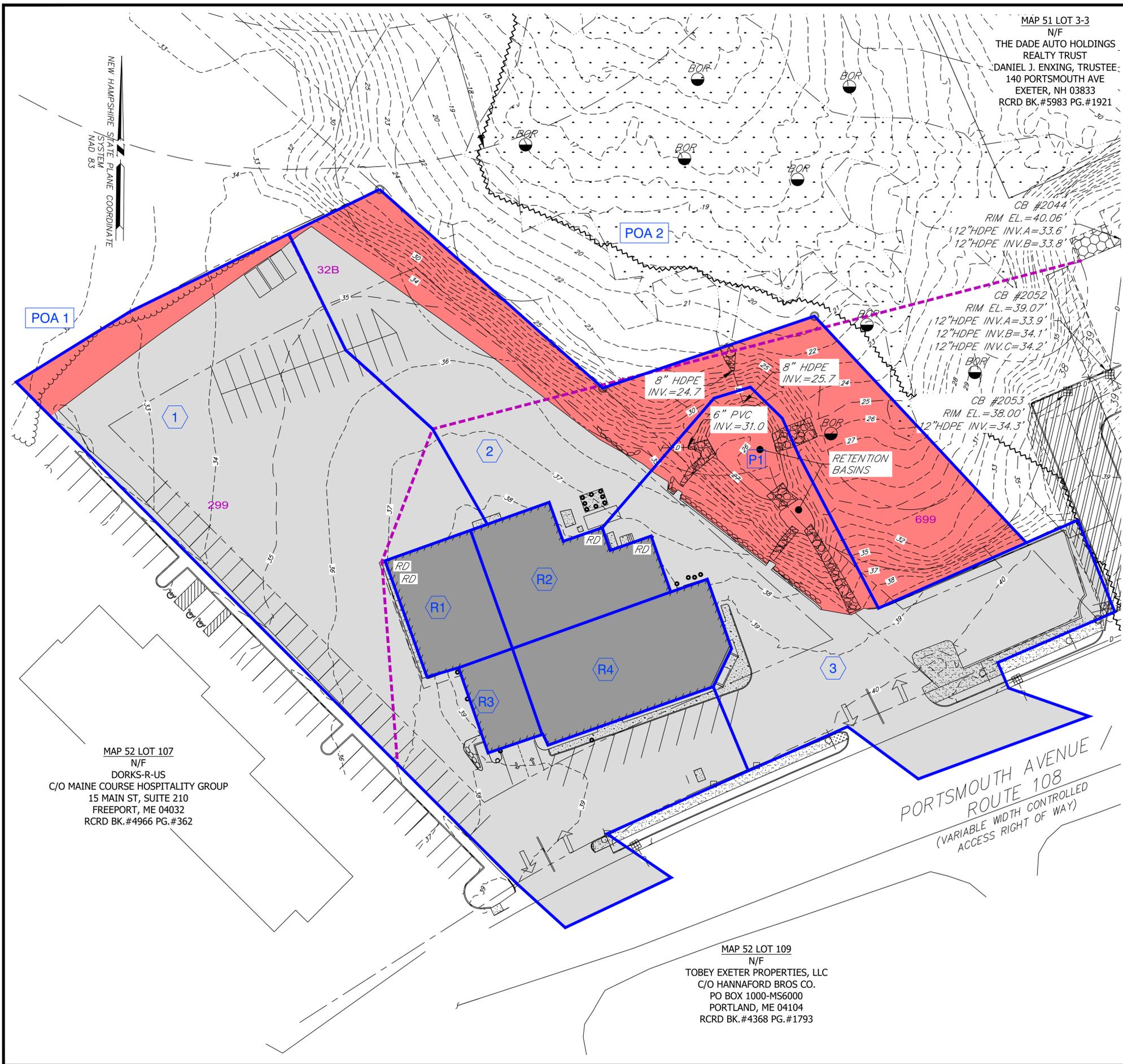
- INSPECTOR TO TAKE REPRESENTATIVE PHOTOGRAPHS OF EACH BMP INSPECTED AND INCLUDE THEM IN THE ANNUAL INSPECTION REPORT.

Section 9

Watershed Plans

Pre-Development Watershed Plan

Post-Development Watershed Plan



MAP 51 LOT 3-3
N/F
THE DADE AUTO HOLDINGS
REALTY TRUST
DANIEL J. ENXING, TRUSTEE
140 PORTSMOUTH AVE
EXETER, NH 03833
RCRD BK.#5983 PG.#1921

NEW HAMPSHIRE STATE PLANE COORDINATE
SYSTEM
NAD 83



133 Court Street
(603) 433-2335
Portsmouth, NH 03801
www.altus-eng.com



NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: FEBRUARY 19, 2025

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CBD	02/19/25

DRAWN BY: JMC
APPROVED BY: CBD
DRAWING FILE: 5625-site.dwg

SCALE:
22" x 34" - 1" = 30'
11" x 17" - 1" = 60'

OWNER/APPLICANT:

Dade Auto Holdings Realty Trust
140 Portsmouth Avenue
Exeter, NH 03833

PROJECT:

VOLVO CARS OF EXETER
**SERVICE CENTER
EXPANSION**

TAX MAP 52, LOT 108
TAX MAP 51, LOTS 1

140 Portsmouth Avenue
Exeter, NH 03833

TITLE:

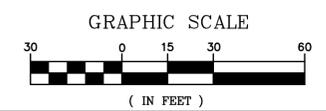
PRE WATERSHED
PLAN

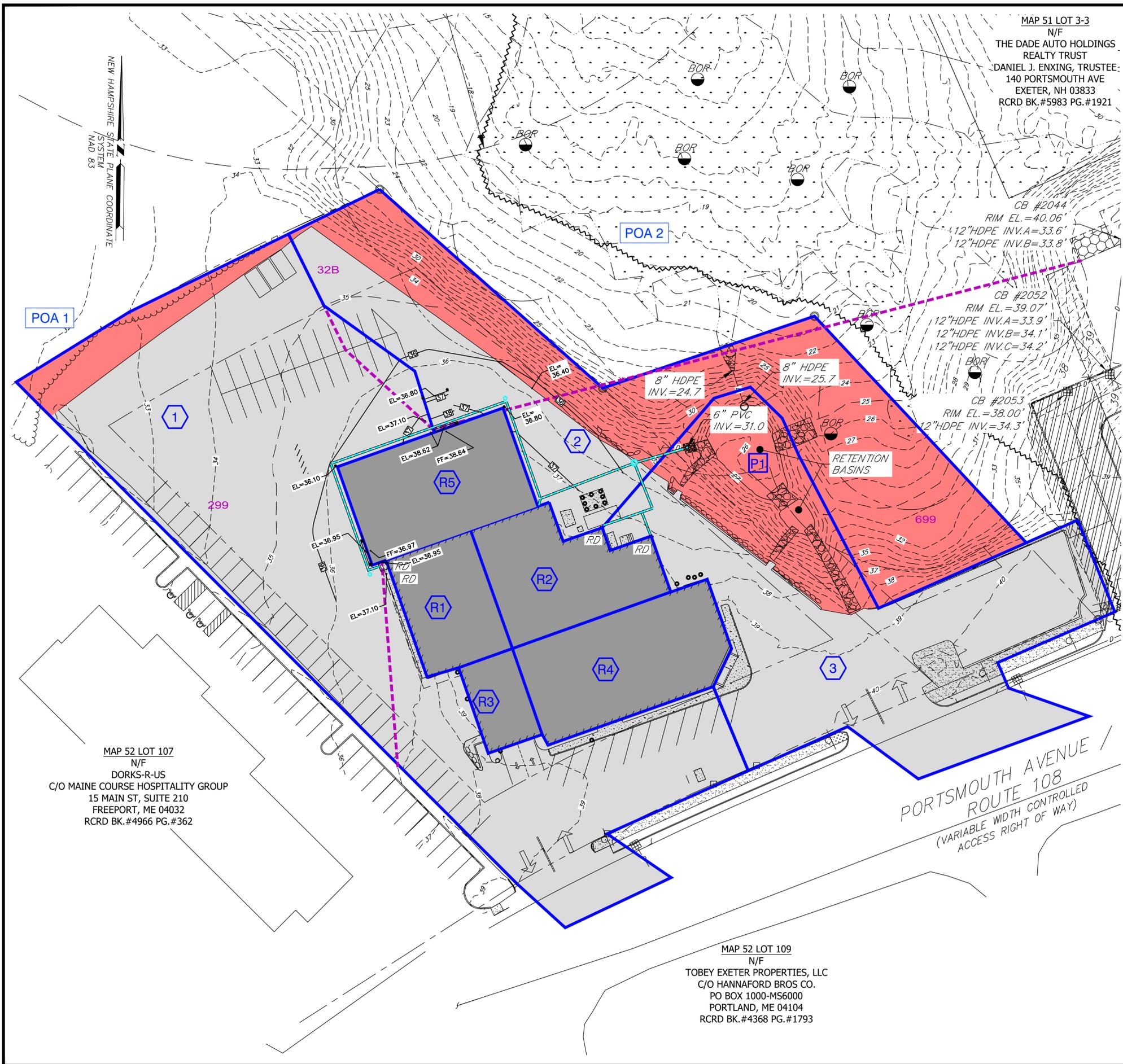
SHEET NUMBER:

WS-1

LEGEND

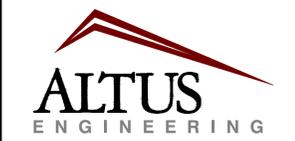
	WATERSHED BOUNDARY
	Tc PATH
	REACH PATH
	SOIL BOUNDARY
	SOIL DESIGNATION 599
	SOILS - HSG A
	SOILS - HSG B
	SOILS - HSG C
	SOILS - HSG D
	SOILS - IMPERVIOUS PAVE/BLDG
	SOILS - OPEN WATER
	SUBCATCHMENT/POND/REACH
	POINT OF ANALYSIS





MAP 51 LOT 3-3
N/F
THE DADE AUTO HOLDINGS
REALTY TRUST
DANIEL J. ENXING, TRUSTEE
140 PORTSMOUTH AVE
EXETER, NH 03833
RCRD BK.#5983 PG.#1921

NEW HAMPSHIRE STATE PLANE COORDINATE
SYSTEM
NAD 83



133 Court Street
(603) 433-2335
Portsmouth, NH 03801
www.altus-eng.com



NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: FEBRUARY 19, 2025

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CBD	02/19/25

DRAWN BY: JMC
APPROVED BY: CBD
DRAWING FILE: 5625-site.dwg

SCALE:
22" x 34" - 1" = 30'
11" x 17" - 1" = 60'

OWNER/APPLICANT:

Dade Auto Holdings Realty Trust
140 Portsmouth Avenue
Exeter, NH 03833

PROJECT:

VOLVO CARS OF EXETER
**SERVICE CENTER
EXPANSION**

TAX MAP 52, LOT 108
TAX MAP 51, LOTS 1

140 Portsmouth Avenue
Exeter, NH 03833

TITLE:

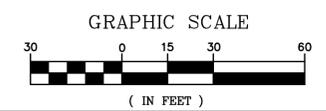
POST WATERSHED
PLAN

SHEET NUMBER:

WS-2

LEGEND

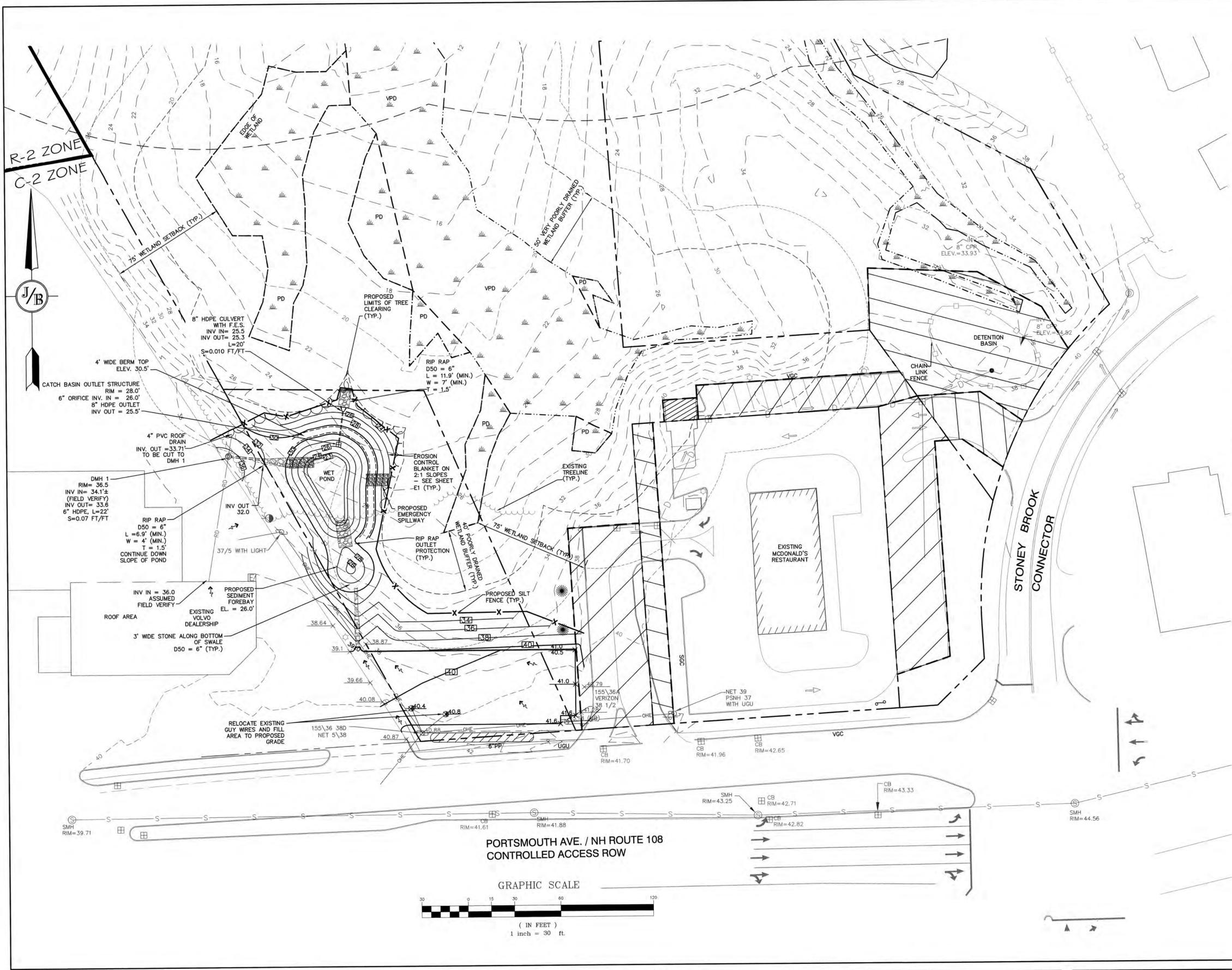
	WATERSHED BOUNDARY
	Tc PATH
	REACH PATH
	SOIL BOUNDARY
	SOIL DESIGNATION 599
	SOILS - HSG A
	SOILS - HSG B
	SOILS - HSG C
	SOILS - HSG D
	SOILS - IMPERVIOUS PAVE/BLDG
	SOILS - OPEN WATER
	SUBCATCHMENT/POND/REACH
	POINT OF ANALYSIS



Section 10

Wet pond Design Plans

Jones and Beach Engineering, Inc., 2020

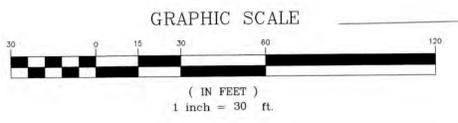


- GRADING AND DRAINAGE NOTES:**
- UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM FIELD OBSERVATION AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER JONES & BEACH ENGINEERS, INC., NOR ANY OF THEIR EMPLOYEES TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES AND/OR UTILITIES NOT SHOWN THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND STRUCTURES AND/OR UTILITIES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 888-DIG-SAFE (888-344-7233).
 - VERTICAL DATUM: NGVD 29. HORIZONTAL DATUM: PER PLAN REFERENCE 1.
 - ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
 - SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED. SEE CONSTRUCTION SEQUENCE ON SHEET E1.
 - PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS REQUIRED TO HAVE THE PROJECT'S LAND SURVEYOR STAKE OR FLAG CLEARING LIMITS. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED.
 - ALL SWALES AND DETENTION PONDS ARE TO BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
 - PROPOSED RIM ELEVATIONS OF DRAINAGE STRUCTURES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES.
 - ALL SLOPES AND ANY SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH NORTH AMERICAN GREEN S75 EROSION CONTROL BLANKETS (OR AN EQUIVALENT APPROVED IN WRITING BY THE ENGINEER), UNLESS OTHERWISE SPECIFIED.
 - ALL DRAINAGE STRUCTURE INTERIOR DIAMETERS (4" MIN) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS.
 - ALL DRAINAGE STRUCTURES SHALL BE PRECAST, UNLESS OTHERWISE SPECIFIED.
 - LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY ALL GOVERNING AUTHORITIES.
 - NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
 - ALL EXPOSED AREAS SHALL BE SEEDED AS SPECIFIED WITHIN 3 DAYS OF FINAL GRADING.
 - SHOULD CONSTRUCTION STOP FOR LONGER THAN 3 DAYS, THE SITE SHALL BE SEEDED AS SPECIFIED.
 - MAINTAIN EROSION CONTROL MEASURES AFTER EACH RAIN EVENT OF 0.5" OR GREATER IN A 24 HOUR PERIOD AND AT LEAST ONCE A WEEK.
 - THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE, AS THE GENERAL CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SEDIMENT FROM LEAVING THE SITE.
 - IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
 - THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
 - SEDIMENT SHALL BE REMOVED FROM ALL SEDIMENT BASINS BEFORE THEY ARE 25% FULL.
 - ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH PROJECT SPECIFICATIONS.
 - ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED, IF DEEMED NECESSARY BY ON-SITE INSPECTION BY ENGINEER AND/OR REGULATORY OFFICIALS.
 - SEE ALSO EROSION AND SEDIMENT CONTROL SPECIFICATIONS ON SHEET E1.
 - ALL WATER, SEWER, ROAD (INCLUDING PARKING LOT) AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 9.5 GRADING, DRAINAGE, AND EROSION & SEDIMENT CONTROL AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN EXETER, NH.
 - TOTAL DISTURBED AREA = 20,000 S.F. ±

PROJECT PARCEL
TOWN OF EXETER
TAX MAP 51, LOTS 1, 3.3, & 3.4

APPLICANT/OWNER
DADE AUTO HOLDINGS REALTY TRUST
DANIEL ENXING, TRUSTEE
140 PORTSMOUTH AVENUE, EXETER, NH 03833
BK 5983 PG 1921

TOTAL LOT AREA
322,331 SQ. FT.
7.4 ACRES



Design: JSR Draft: DJM Date: 8/29/2019
Checked: JSR Scale: 1"=30' Project No.: 15236.2
Drawing Name: 15236-PLAN.dwg

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.



REV.	DATE	REVISION	BY
2	2/3/20	REVISED PER PLANNING BOARD	DJM
1	12/12/19	REVISED PER TRC MEETING	DJM
0	11/12/19	ISSUED FOR REVIEW	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.
Civil Engineering Services

85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885

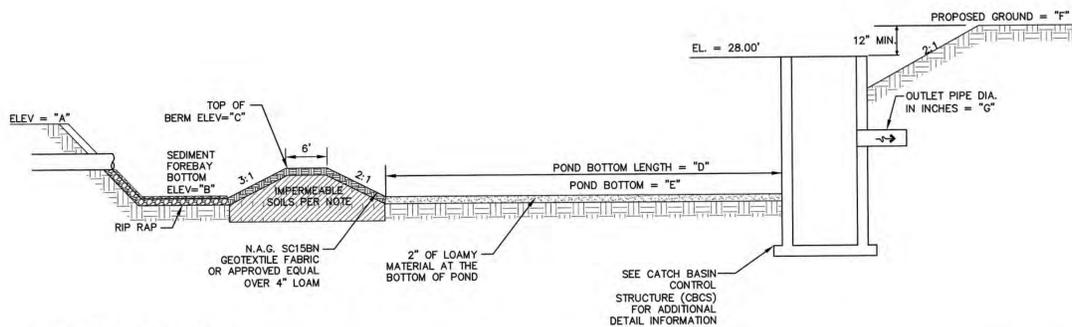
603-772-4746
FAX: 603-772-0227
E-Mail: JBE@JONESANDBEACH.COM

Plan Name: **GRADING AND DRAINAGE PLAN**
PROPOSED PARKING LOT SITE PLAN
146 PORTSMOUTH AVENUE, EXETER, NH

Project:

Owner of Record: DADE AUTO HOLDINGS REALTY TRUST DANIEL ENXING, TRUSTEE
140 PORTSMOUTH AVENUE, EXETER, NH 03833 BK 5983 PG 1921

DRAWING No.
C3
SHEET 4 OF 6
JBE PROJECT NO. 15236.2



WET POND SECTION

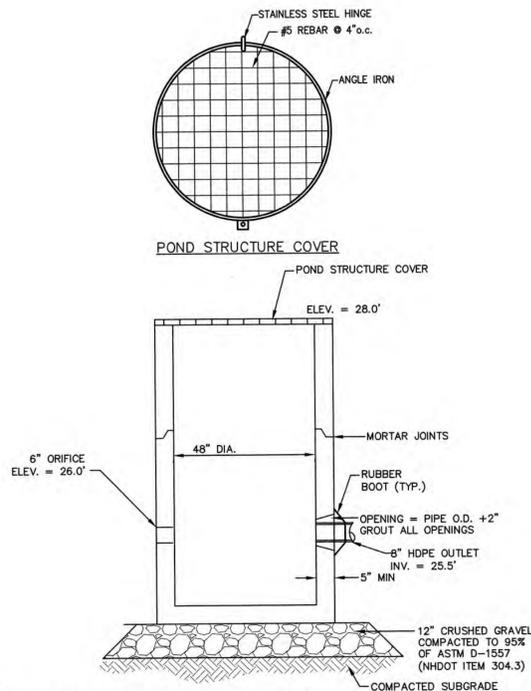
NOT TO SCALE

OUTLET STRUCTURE INVERT TABLE

OUTLET STRUCTURE	ELEVATIONS/DIMENSIONS						
	A	B	C	D	E	F	G
POND 1	30.50	26.00	28.00	43.40	23.00	30.50	8"

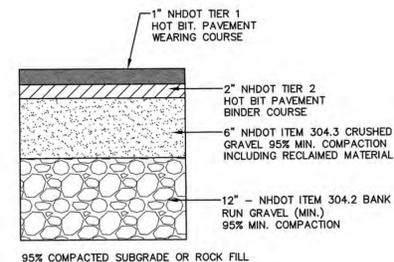
WET POND CONSTRUCTION CRITERIA

- FOUNDATION PREPARATION -- THE FOUNDATION AREA SHALL BE CLEARED OF TREES LOGS, STUMPS, ROOTS, BRUSH, BOULDERS, SOD, AND RUBBISH. IF NEEDED TO ESTABLISH VEGETATION, THE TOPSOIL AND SOD SHALL BE STOCKPILED AND SPREAD ON THE COMPLETED DAM AND SPILLWAYS. FOUNDATION SURFACES SHALL BE SLOPED NO STEEPER THAN 1:1. THE FOUNDATION AREA SHALL BE THOROUGHLY SCARIFIED BEFORE PLACEMENT OF THE MATERIAL. THE SURFACE SHALL HAVE MOISTURE ADDED OR IT SHALL BE COMPACTED, IF NECESSARY, SO THAT THE FIRST LAYER OF FILL MATERIAL CAN BE COMPACTED AND BONDED TO THE FOUNDATIONS. THE CUTOFF TRENCH AND ANY OTHER REQUIRED EXCAVATIONS SHALL BE DUG TO THE LINES AND GRADES SHOWN ON THE PLANS OR AS STAKED IN THE FIELD. IF THEY ARE SUITABLE, EXCAVATED MATERIALS SHALL BE USED IN THE PERMANENT FILL. EXISTING STREAM CHANNELS IN THE FOUNDATION AREA SHALL BE SLOPED NO STEEPER THAN 1:1 AND DEEPEMED AND WIDENED AS NECESSARY TO REMOVE ALL STONES, GRAVEL, SAND, STUMPS, ROOTS, AND OTHER OBJECTIONABLE MATERIAL AND TO ACCOMMODATE COMPACTION EQUIPMENT. FILL PLACEMENT -- THE MATERIAL PLACED IN THE FILL SHALL BE FREE OF DETRIMENTAL AMOUNTS OF SOD, ROOTS, FROZEN SOIL, STONES MORE THAN 6 INCHES IN DIAMETER (EXCEPT FOR ROCK FILLS), AND OTHER OBJECTIONABLE MATTER.
- SELECTED BACK FILL MATERIAL SHALL BE PLACED AROUND STRUCTURES, PIPE CONDUITS AND ANTI SEEP COLLARS AT ABOUT THE SAME RATE ON ALL SIDES. TO PREVENT DAMAGE FROM UNEQUAL LOADING, THE PLACING AND SPREADING OF FILL MATERIAL SHALL BE STARTED AT THE LOWEST POINT OF THE FOUNDATION AND THE FILL BROUGHT UP IN HORIZONTAL LAYERS OF SUCH THICKNESS THAT THE REQUIRED COMPACTION CAN BE OBTAINED. THE FILL SHALL BE CONSTRUCTED IN CONTINUOUS HORIZONTAL LAYERS EXCEPT WHERE OPENINGS OR SECTIONALIZED FILLS ARE REQUIRED. IN THOSE CASES, THE SLOPE OF THE BONDING SURFACES BETWEEN THE EMBANKMENT IN PLACE AND THE EMBANKMENT TO BE PLACED SHALL NOT BE STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL. THE BONDING SURFACE SHALL BE TREATED THE SAME AS THAT SPECIFIED FOR THE FOUNDATION SO AS TO INSURE A GOOD BOND WITH THE NEW FILL. THE DISTRIBUTION AND GRADATION OF MATERIALS SHALL BE SUCH THAT NO LENSES, POCKETS, STREAKS, OR LAYERS OF MATERIAL DIFFER SUBSTANTIALLY IN TEXTURE OF GRADATION FROM THE SURROUNDING MATERIAL. IF IT IS NECESSARY TO USE MATERIALS OF VARYING TEXTURE AND GRADATION, THE MORE IMPERVIOUS MATERIAL SHALL BE PLACED IN THE CENTER AND UPSTREAM PARTS OF THE FILL. IF ZONED FILLS OF SUBSTANTIALLY DIFFERING MATERIALS ARE SPECIFIED, THE ZONES SHALL BE PLACED ACCORDING TO THE LINES AND GRADES SHOWN ON THE DRAWINGS OR AS STAKED IN THE FIELD.
- MOISTURE CONTROL -- THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL BE ADEQUATE FOR OBTAINING THE REQUIRED COMPACTION. MATERIAL THAT IS TOO WET SHALL BE DRIED TO MEET THIS REQUIREMENT, AND MATERIAL THAT IS TOO DRY SHALL HAVE WATER ADDED AND MIXED UNTIL THE REQUIREMENT IS MET.
- COMPACTION -- CONSTRUCTION EQUIPMENT SHALL BE OPERATED OVER THE AREAS OR EACH LAYER OF FILL TO INSURE THAT THE REQUIRED COMPACTION IS OBTAINED. SPECIAL EQUIPMENT SHALL BE USED IF NEEDED TO OBTAIN THE REQUIRED COMPACTION. IF A MINIMUM REQUIRED DENSITY IS SPECIFIED, EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY. FILL ADJACENT TO STRUCTURES, PIPE CONDUITS, AND ANTI SEEP COLLARS SHALL BE COMPACTED TO A DENSITY EQUIVALENT TO THAT OF THE SURROUNDING FILL BY MEANS OF HAND TAMPING OR MANUALLY DIRECTED POWER TAMPER OR PLATE VIBRATORS. FILL ADJACENT TO CONCRETE STRUCTURES SHALL NOT BE COMPACTED UNTIL THE CONCRETE IS STRONG ENOUGH TO SUPPORT THE LOAD.
- PROTECTION -- A PROTECTIVE COVER OF VEGETATION SHALL BE ESTABLISHED ON ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, AND BORROW AREA IF SOIL AND CLIMATIC CONDITIONS PERMIT. IF SOIL OR CLIMATIC CONDITIONS PRECLUDE THE USE OF VEGETATION AND PROTECTION IS NEEDED, NON-VEGETATIVE MEANS SUCH AS MULCHES OR GRAVEL MAY BE USED. IN SOME PLACES, TEMPORARY VEGETATION MAY BE USED UNTIL CONDITIONS PERMIT ESTABLISHMENT OF PERMANENT VEGETATION. THE EMBANKMENT AND SPILLWAY SHALL BE FENCED IF NECESSARY TO PROTECT THE VEGETATION.
- SEEDBED PREPARATION, SEEDING, FERTILIZING, AND MULCHING SHALL COMPLY WITH THE APPROPRIATE VEGETATIVE BMP'S.
- CONCRETE -- THE MIX DESIGN AND TESTING OF CONCRETE SHALL BE CONSISTENT WITH THE STRENGTH REQUIREMENTS OF THE JOB. MIX REQUIREMENTS OR NECESSARY STRENGTH SHALL BE SPECIFIED. THE TYPE OF CEMENT, AIR ENTRAINMENT, SLUMP, AGGREGATE, OR OTHER PROPERTIES SHALL BE SPECIFIED IF NECESSARY. ALL CONCRETE IS TO CONSIST OF A WORKABLE MIX THAT CAN BE PLACED AND FINISHED IN AN ACCEPTABLE MANNER. NECESSARY CURING SHALL BE SPECIFIED. REINFORCING STEEL SHALL BE PLACED AS INDICATED ON THE PLANS AND SHALL BE HELD SECURELY IN PLACE DURING CONCRETE PLACEMENT. SUB GRADES AND FORMS SHALL BE INSTALLED TO LINE AND GRADE, AND THE FORMS SHALL BE MORTAR TIGHT AND UNYIELDING AS THE CONCRETE IS PLACED.
- THE CONTRACTOR WILL NOTIFY JONES & BEACH ENGINEERS AFTER THE POND BOTTOM HAS BEEN EXCAVATED FOR A MANDATORY INSPECTION PRIOR TO BUILDING BERMS, PLACING STONE OR INSTALLING PIPE SYSTEM.
- BERMS AND WEIRS SEPARATING THE FOREBAY AND POND SHOULD BE CONSTRUCTED WITH CLAY OR NON-CONDUCTIVE SOILS, AND/OR A FINE GEOTEXTILE, OR SOME COMBINATION THEREOF, TO AVOID WATER SEEPAGE AND SOIL PIPING THROUGH THESE EARTHEN DIVIDERS.



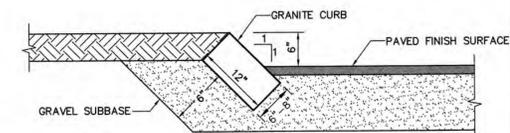
CATCH BASIN CONTROL STRUCTURE (CBCS)

NOT TO SCALE



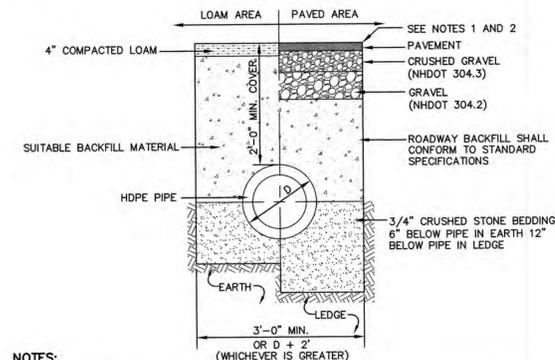
TYPICAL BITUMINOUS PAVEMENT

NOT TO SCALE



SLOPED GRANITE CURB

NOT TO SCALE



NOTES:

- PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
- NEW ROADWAY CONSTRUCTION SHALL CONFORM WITH PROJECT AND TOWN SPECIFICATIONS.
- ALL MATERIALS ARE TO BE COMPACTED TO 95% OF ASTM D-1557.

DRAINAGE TRENCH

NOT TO SCALE

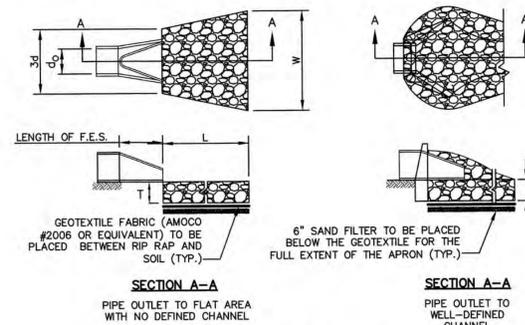


TABLE 7-24--RECOMMENDED RIP RAP GRADATION RANGES

THICKNESS OF RIP RAP = 1.5 FEET

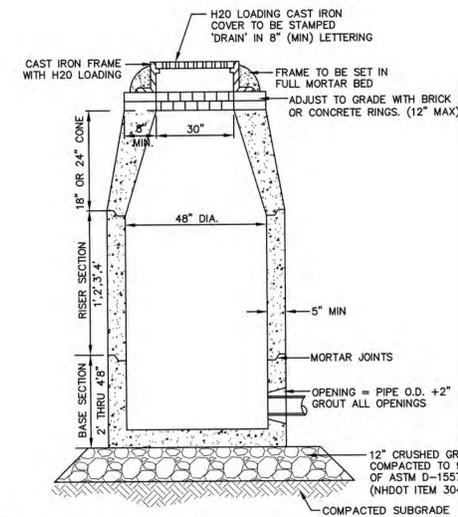
d50 SIZE =	0.50 FEET	6 INCHES
% OF WEIGHT SMALLER THAN THE GIVEN d50 SIZE	SIZE OF STONE (INCHES) FROM	TO
100%	9	12
85%	8	11
50%	6	9
15%	2	3

NOTES:

- THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
- THE RIP RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
- GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
- STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.
- OUTLETS TO A DEFINED CHANNEL SHALL HAVE 2:1 OR FLATTER SIDE SLOPES AND SHOULD BEGIN AT THE TOP OF THE CULVERT AND TAPER DOWN TO THE CHANNEL. BOTTOM THROUGH THE LENGTH OF THE APRON.
- MAINTENANCE: THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIP RAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO OUTLET PROTECTION.

RIP RAP OUTLET PROTECTION APRON

NOT TO SCALE



NOTES:

- BASE SECTION SHALL BE MONOLITHIC WITH 48" INSIDE DIAMETER.
- ALL SECTIONS SHALL BE DESIGNED FOR H2O LOADING.
- CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000 PSI, TYPE II CEMENT.
- FRAMES AND GRATES SHALL BE HEAVY DUTY AND DESIGNED FOR H2O LOADING.
- PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS SO AS TO BE WATERTIGHT.
- JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE BUTYL RUBBER.
- ALL DRAIN MANHOLE FRAMES AND GRATES SHALL BE NHDOT TYPE MH-1, OR NENAH R-1798 OR APPROVED EQUAL (30" DIA. TYPICAL).
- STANDARD FRAME(S) AND GRATE(S) SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM, BUT NO MORE THAN 12"), OR PRECAST CONCRETE 'DONUTS'.

DRAIN MANHOLE

NOT TO SCALE

WJ15236 - EXETER - 148 PORTSMOUTH AVE. - SEACOST SHEARDING\WJ15236-2-PLAN.dwg, 1/30/2020, 9:44:24 AM

Design: JSR Draft: DJM Date: 8/29/2019
 Checked: JSR Scale: AS NOTED Project No.: 15236.2
 Drawing Name: 15236-PLAN.dwg
 THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.



REV.	DATE	REVISION	BY
2	2/3/20	REVISED PER PLANNING BOARD	DJM
1	12/12/19	REVISED PER TRC MEETING	DJM
0	11/12/19	ISSUED FOR REVIEW	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

Civil Engineering Services

85 Portsmouth Ave. PO Box 219 Stratham, NH 03885

603-772-4746
 FAX: 603-772-0227
 E-Mail: JBE@JONESANDBEACH.COM

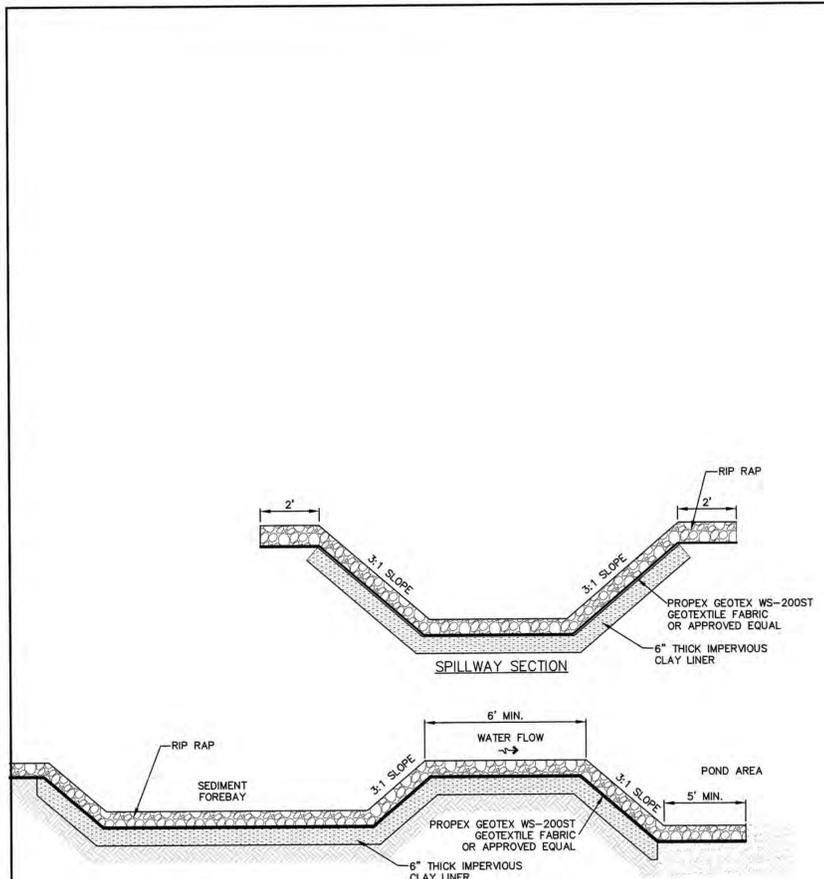
Plan Name: **DETAIL SHEET**

Project: **PROPOSED PARKING LOT SITE PLAN 146 PORTSMOUTH AVENUE, EXETER, NH**

Owner of Record: **DADE AUTO HOLDINGS REALTY TRUST DANIEL ENXING, TRUSTEE 140 PORTSMOUTH AVENUE, EXETER, NH 03833 BK 5983 PG 1921**

DRAWING No. **D1**

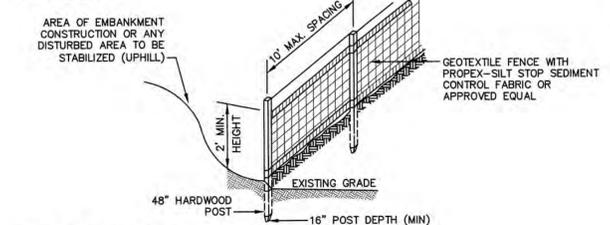
SHEET 5 OF 6
 JBE PROJECT NO. 15236.2



- NOTES:**
- A 6" THICK IMPERVIOUS CLAY LINER IS TO BE PLACED UNDER ENTIRE SEDIMENT FOREBAY AND SPILLWAY AND ONLY AROUND THE SIDES OF THE ENTIRE BIORETENTION AREA.
 - SEDIMENT SHALL BE REMOVED FROM BEHIND THE STRUCTURE WHEN IT HAS ACCUMULATED TO ONE HALF THE ORIGINAL HEIGHT OF THE STRUCTURE.
 - EMBANKMENT MATERIAL SHALL BE CLEAN MINERAL SOIL FREE OF ROOTS, ORGANIC MATTER, AND OTHER DELETERIOUS SUBSTANCES. IT SHALL CONTAIN NO ROCKS OR LUMPS OVER FOUR INCHES (4") IN DIAMETER. THIS MATERIAL SHALL BE INSTALLED IN 6" LIFTS COMPACTED TO 92% OF ASTM D-1557, AND SHALL MEET THE FOLLOWING SPECIFICATIONS: #4 SIEVE 40-90%, #10 SIEVE 50-80%, #20 SIEVE 25-40%, #100 SIEVE 15-30% (OF THE TOTAL SAMPLE).
 - 6" THICK IMPERVIOUS CLAY LINER MATERIAL SHALL BE CLEAN SILTY-CLAY BORROW FREE OF ROOTS, ORGANIC MATTER, AND OTHER DELETERIOUS SUBSTANCES, AND SHALL CONTAIN NO ROCKS OR LUMPS OVER THREE INCHES (3") IN DIAMETER. THIS MATERIAL SHALL BE INSTALLED IN 6" LIFTS COMPACTED TO 92% OF ASTM D-1557, AND SHALL MEET THE FOLLOWING SPECIFICATIONS: #4 SIEVE 95-100%, #10 SIEVE 60-90%, #20 SIEVE 40-60%, #100 SIEVE 25-45% (OF THE FRACTION PASSING THE #4 SIEVE). THE CLAY COMPONENT SHALL HAVE A PLASTICITY INDEX OF AT LEAST 8 AND A HYDRAULIC CONDUCTIVITY OF 10 TO THE -6 CM/SEC.
 - COMPACTION AND MATERIALS TESTING SERVICES SHALL BE PERFORMED BY AN INDEPENDENT GEOTECHNICAL ENGINEER RETAINED BY THE OWNER.

SEDIMENT FOREBAY SPILLWAY

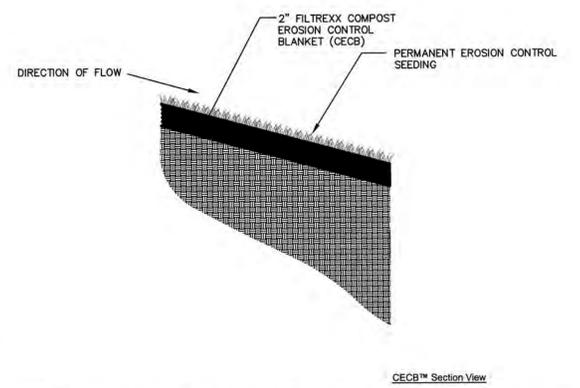
NOT TO SCALE



- CONSTRUCTION SPECIFICATIONS:**
- WOVEN FABRIC FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP, MID AND BOTTOM AND EMBEDDED IN THE GROUND A MINIMUM OF 8" AND THEN COVERED WITH SOIL.
 - THE FENCE POSTS SHALL BE A MINIMUM OF 48" LONG, SPACED A MAXIMUM 10' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND.
 - WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THE ENDS OF THE FABRIC SHALL BE OVERLAPPED 6", FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BY-PASSING.
 - MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED AND PROPERLY DISPOSED OF WHEN IT IS 6" DEEP OR VISIBLE 'BULGES' DEVELOP IN THE SILT FENCE.
 - PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE FOR SEDIMENT STORAGE.
 - SILT FENCE SHALL REMAIN IN PLACE FOR 24 MONTHS.

SILT FENCE

NOT TO SCALE



FILTREX COMPOST EROSION CONTROL BLANKET (CECB)

- NOT TO SCALE**
- NOTES:**
- CECB™ TO MEET FILTREX® INSTALLATION SPECIFICATIONS.
 - CECB™ MUST USE FILTREX® CERTIFIED GROWING MEDIA™.
 - CECB™ MUST BE INSTALLED BY A FILTREX® CERTIFIED INSTALLER.
 - CECB™ SHALL BE APPLIED TO 100% OF BARE SOIL OR AREA SPECIFIED.
 - CECB™ SHALL BE INSTALLED AT LEAST 10 FEET OVER THE SLOPE SHOULDER OR INTO EXISTING VEGETATION.
 - EROSION CONTROL SEEDING SHALL MEET JURISDICTIONAL AGENCY SPECIFICATIONS OR WILL BE AT THE DISCRETION OF THE ENGINEER.
 - CECB™ SHALL NOT BE INSTALLED IN AREAS OF CONCENTRATED FLOW WHERE MAX. FLOW EXCEEDS 4 CFS OR SHEAR STRESS EXCEEDS 2 LBS./SQ.FT.
 - CECB™ INSTALLED ON SLOPES GREATER THAN 2:1 SHALL USE ADDITIONAL SLOPE STABILIZATION PRACTICES, SUCH AS FILTREX® LOCKDOWN NETTING™ OR FILTREX® PROFLOXX™.

SEEDING SPECIFICATIONS

- GRADING AND SHAPING**
 - SLOPES SHALL NOT BE STEEPER THAN 2:1 WITHOUT APPROPRIATE EROSION CONTROL MEASURES AS SPECIFIED ON THE PLANS (3:1 SLOPES OR FLATTER ARE PREFERRED).
 - WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
- SEEDBED PREPARATION**
 - SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
 - STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND FERTILIZER AND LIME MIXED INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
- ESTABLISHING A STAND**
 - LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL TYPES AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
 - AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100 LBS. PER 1,000 SQ.FT.
 - NITROGEN(N), 50 LBS. PER ACRE OR 1.1 LBS. PER 1,000 SQ.FT.
 - PHOSPHATE(P2O5), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ.FT.
 - POTASH(K2O), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ.FT.
 (NOTE: THIS IS THE EQUIVALENT OF 500 LBS. PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS. PER ACRE OF 5-10-10.)
 - SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.
 - REFER TO THE 'SEEDING GUIDE' AND 'SEEDING RATES' TABLES ON THIS SHEET FOR APPROPRIATE SEED MIXTURES AND RATES OF SEEDING. ALL LEGUMES (CROWNVETCH, BIRDSFOOT, TREFOL AND FLATPEA) MUST BE INOCULATED WITH THEIR SPECIFIC INOCULANT PRIOR TO THEIR INTRODUCTION TO THE SITE.
 - WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20th OR FROM AUGUST 10th TO SEPTEMBER 1st.
- MULCH**
 - HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
 - MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING. HAY OR STRAW MULCH SHALL BE PLACED AT A RATE OF 90 LBS PER 1000 S.F.
- MAINTENANCE TO ESTABLISH A STAND**
 - PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
 - FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIALS TAKE 2 TO 3 YEARS TO BECOME FULLY ESTABLISHED.
 - IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, ANNUAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

USE	SEEDING MIXTURE 1/	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	FAIR
	C	POOR	GOOD	EXCELLENT	GOOD
	D	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER.	A	GOOD	GOOD	GOOD	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	F	GOOD	EXCELLENT	EXCELLENT	POOR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES.	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
PLAY AREAS AND ATHLETIC FIELDS (TOPSOIL IS ESSENTIAL FOR GOOD TURF.)	E	FAIR	EXCELLENT	EXCELLENT	2/
	F	FAIR	EXCELLENT	EXCELLENT	2/

GRAVEL PIT, SEE NH-FM-24 IN APPENDIX FOR RECOMMENDATION REGARDING RECLAMATION OF SAND AND GRAVEL PITS.

1/ REFER TO SEEDING MIXTURES AND RATES IN TABLE BELOW.

2/ POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAYING AREA AND ATHLETIC FIELDS.

NOTE: TEMPORARY SEED MIX FOR STABILIZATION OF TURF SHALL BE WINTER RYE OR OATS AT A RATE OF 2.5 LBS. PER 1000 S.F. AND SHALL BE PLACED PRIOR TO OCTOBER 15th, IF PERMANENT SEEDING NOT YET COMPLETE.

SEEDING GUIDE

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 SQ. FT.
A. TALL FESCUE	20	0.45
CREeping RED FESCUE	20	0.45
RED TOP	2	0.05
TOTAL	42	0.95
B. TALL FESCUE	15	0.35
CREeping RED FESCUE	10	0.25
CROWN VETCH	15	0.35
OR FLAT PEA	30	0.75
TOTAL	40 OR 55	0.95 OR 1.35
C. TALL FESCUE	20	0.45
CREeping RED FESCUE	20	0.45
BIRDS FOOT TREFOL	8	0.20
TOTAL	48	1.10
D. TALL FESCUE	20	0.45
FLAT PEA	30	0.75
TOTAL	50	1.20
E. CREeping RED FESCUE 1/	50	1.15
KENTUCKY BLUEGRASS 1/2	50	1.15
TOTAL	100	2.30
F. TALL FESCUE 1	150	3.60

1/ FOR HEAVY USE ATHLETIC FIELDS CONSULT THE UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION TURF SPECIALIST FOR CURRENT VARIETIES AND SEEDING RATES.

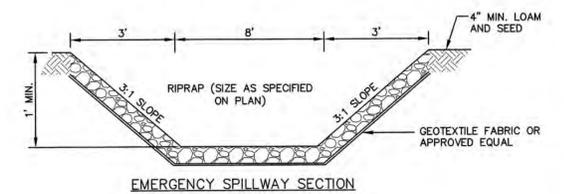
SEEDING RATES

TEMPORARY EROSION CONTROL NOTES

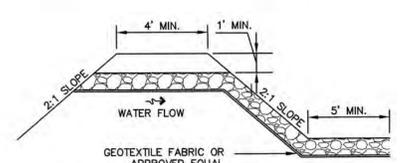
- THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME. AT NO TIME SHALL AN AREA IN EXCESS OF 5 ACRES BE EXPOSED AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
- EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED, DIRECTED BY THE ENGINEER.
- ALL DISTURBED AREAS (INCLUDING POND AREAS BELOW THE PROPOSED WATERLINE) SHALL BE RETURNED TO PROPOSED GRADES AND ELEVATIONS. DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 6" OF SCREENED ORGANIC LOAM AND SEEDED WITH SEED MIXTURE 'C' AT A RATE NOT LESS THAN 1.10 POUNDS OF SEED PER 1,000 S.F. OF AREA (48 LBS. / ACRE).
- SILT FENCES AND OTHER BARRIERS SHALL BE INSPECTED EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 0.5" OR GREATER. ALL DAMAGED AREAS SHALL BE REPAIRED, AND SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED OF.
- AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
- AREAS MUST BE SEEDED AND MULCHED OR OTHERWISE PERMANENTLY STABILIZED WITHIN 3 DAYS OF FINAL GRADING, OR TEMPORARILY STABILIZED WITHIN 14 DAYS OF THE INITIAL DISTURBANCE OF SOIL. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
- ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING NORTH AMERICAN GREEN S75 EROSION CONTROL BLANKETS (OR AN EQUIVALENT APPROVED IN WRITING BY THE ENGINEER) ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION 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.
- ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
- AFTER NOVEMBER 15th, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3" OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.
- AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
 - A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH STONE OR RIPRAP HAS BEEN INSTALLED; OR
 - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- FUGITIVE DUST CONTROL IS REQUIRED TO BE CONTROLLED IN ACCORDANCE WITH ENV-A 1000, AND THE PROJECT IS TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.

CONSTRUCTION SEQUENCE

- A PRE-CONSTRUCTION MEETING IS TO BE HELD WITH ALL DEPARTMENT HEADS PRIOR TO THE START OF CONSTRUCTION.
- WETLAND BOUNDARIES ARE TO BE CLEARLY MARKED PRIOR TO THE START OF CONSTRUCTION.
- CUT AND REMOVE TREES IN CONSTRUCTION AREA AS REQUIRED OR DIRECTED.
- INSTALL SILT FENCING, HAY BALES PRIOR TO THE START OF CONSTRUCTION. THESE ARE TO BE MAINTAINED UNTIL THE FINAL PAVEMENT SURFACING AND LANDSCAPING AREAS ARE ESTABLISHED.
- CLEAR, CUT, GRUB AND DISPOSE OF DEBRIS IN APPROVED FACILITIES.
- CONSTRUCT AND/OR INSTALL TEMPORARY OR PERMANENT SEDIMENT AND/OR DETENTION BASIN(S) AS REQUIRED. THESE FACILITIES SHALL BE INSTALLED AND STABILIZED PRIOR TO DIRECTING RUN-OFF TO THEM.
- STRIP LOAM WITHIN LIMITS OF WORK PER THE RECOMMENDATIONS OF THE PROJECT ENGINEER AND STOCKPILE EXCESS MATERIAL. STABILIZE STOCKPILE AS NECESSARY.
- PERFORM PRELIMINARY SITE GRADING IN ACCORDANCE WITH THE PLANS.
- INSTALL THE DRAINAGE SYSTEMS FIRST, THEN ANY OTHER UTILITIES IN ACCORDANCE WITH THE PLAN AND DETAILS. ANY CONFLICTS BETWEEN UTILITIES ARE TO BE RESOLVED WITH THE INVOLVEMENT AND APPROVAL OF THE ENGINEER.
- ALL SWALES AND DRAINAGE STRUCTURES ARE TO BE CONSTRUCTED AND STABILIZED PRIOR TO HAVING RUN-OFF DIRECTED TO THEM.
- DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINAGE DITCHES, CHECK DAMS, SEDIMENT TRAPS, ETC., TO PREVENT EROSION ON THE SITE AND PREVENT ANY SILTATION OF ABUTTING WATERS AND/OR PROPERTY.
- PERFORM FINAL FINE GRADING, INCLUDING PLACEMENT OF 'SELECT' SUBGRADE MATERIALS.
- PAVE ALL PARKING LOTS WITH INITIAL 'BASE COURSE'.
- PERFORM ALL REMAINING SITE CONSTRUCTION (I.E. CURBING, UTILITY CONNECTIONS, ETC.).
- LOAM AND SEED ALL DISTURBED AREAS AND INSTALL ANY REQUIRED SEDIMENT AND EROSION CONTROL FACILITIES (I.E. RIP RAP, EROSION CONTROL BLANKETS, ETC.).
- FINISH PAVING ALL PARKING AREAS WITH 'FINISH' COURSE.
- ALL PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- COMPLETE PERMANENT SEEDING AND LANDSCAPING.
- REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDING AREAS HAVE BEEN 75%-85% ESTABLISHED AND SITE IMPROVEMENTS ARE COMPLETE. SMOOTH AND RE-VEGETATE ALL DISTURBED AREAS.
- CLEAN SITE AND ALL DRAINAGE STRUCTURES, PIPES AND SUMPS OF ALL SILT AND DEBRIS.
- ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL.
- UPON COMPLETION OF CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY ANY RELEVANT PERMITTING AGENCIES THAT THE CONSTRUCTION HAS BEEN FINISHED IN A SATISFACTORY MANNER.



EMERGENCY SPILLWAY SECTION



EMERGENCY SPILLWAY PROFILE

EMERGENCY SPILLWAY

NOT TO SCALE

W:\15236 - EXETER - 146 PORTSMOUTH AVE - SEACAST SHEARD\G15236.2-PLAN.dwg, 1/30/2020 9:44:29 AM

Design: JSR	Draft: DJM	Date: 8/29/2019
Checked: JSR	Scale: AS NOTED	Project No.: 15236.2
Drawing Name: 15236-PLAN.dwg		

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.



REV.	DATE	REVISION	BY
2	2/3/20	REVISED PER PLANNING BOARD	DJM
1	12/12/19	REVISED PER TRC MEETING	DJM
0	11/12/19	ISSUED FOR REVIEW	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

Civil Engineering Services

85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885

603-772-4746
FAX: 603-772-0227
E-Mail: JBE@JONESANDBEACH.COM

Plan Name:	EROSION AND SEDIMENT CONTROL DETAILS
Project:	PROPOSED PARKING LOT SITE PLAN 146 PORTSMOUTH AVENUE, EXETER, NH
Owner of Record:	DADE AUTO HOLDINGS REALTY TRUST DANIEL ENXING, TRUSTEE 140 PORTSMOUTH AVENUE, EXETER, NH 03833 BK 5983 PG 1921

DRAWING No.

E1

SHEET 6 OF 6
JBE PROJECT NO. 15236.2