

TOWN OF ELIOT, MAINE

PLANNING BOARD AGENDA

TYPE OF MEETING: IN PERSON WITH REMOTE OPTION
PLACE: TOWN HALL/ZOOM

DATE: Tuesday Nov. 14, 2023
TIME: 6:00 P.M.

PLEASE NOTE: IT IS THE POLICY OF THE PLANNING BOARD THAT THE APPLICANT OR AN AGENT OF THE APPLICANT MUST BE PRESENT IN ORDER FOR REVIEW OF THE APPLICATION TO TAKE PLACE.

1. Planning Board Member Recognition
2. ROLL CALL
 - a) Quorum, Alternate Members, Conflicts of Interest
3. PLEDGE OF ALLEGIANCE
4. MOMENT OF SILENCE
5. 10-MINUTE PUBLIC INPUT SESSION
6. PUBLIC HEARING
7. NEW BUSINESS
8. OLD BUSINESS
 - a) Passamaquoddy Lane (Map 29 / Lot 34), PID #029-034-000: PB23-05, Site Plan Review - Staging & Storage Yard Site Plan Review
 - b) 17 Levesque Drive, (Map 29 / Lot 26), PID #029-026-000: PB23-1, Site Plan Amendment/Review – Car Wash
 - c) 76 Cedar Road (Map 71, Lot 25), PID# 071-025-000: PB23-16, Residential Subdivision (6 lots) – sketch plan review
9. REVIEW AND APPROVE MINUTES
 - a) Minutes – *If available*
10. OTHER BUSINESS / CORRESPONDENCE
11. a) Updates, if available: Ordinance Subcommittee, Comprehensive Plan, Town Planner, Board Member
SET AGENDA AND DATE FOR NEXT MEETING
 - a) December, 2023
12. ADJOURN

NOTE: All Planning Board Agenda Materials are available on the Planning Board/Planning Department webpages for viewing.

To view a live remote meeting: (Instructions can also be found on the Planning Board webpage)

- a) Go to www.eliotme.org
- b) Click on "Meeting Videos" – Located in the second column, on the left-hand side of the screen.
- c) Click on the meeting under "Live Events" – The broadcasting of the meeting will start at 6:00pm (Please note: streaming a remote meeting can be delayed up to a minute)

Instructions to join remote meeting:

To participate please call into meeting 5 minutes in advance of meeting start time. Please note that Zoom does state that for some carriers this can be a toll call. You can verify by contacting your carrier.

- a) Please call **1-646-558-8656**
 1. When prompted enter meeting number ID: **826 0828 9887**
 2. When prompted to enter Attendee ID
 3. When prompted enter meeting password: **170705**

Members of the Public calling in, will be first automatically be placed in a virtual waiting room until admitted by one of the members of the Planning Board. Members of the public will be unmuted one at time to allow for input. Please remember to state your name and address for the record.

- b) Press *9 to raise your virtual hand to speak



Christine Bennett, Planning Board Chair

ITEM 1 - ROLL CALL

Present: Carmela Braun – Chair, Jeff Leathe – Vice Chair, Suzanne O’Connor - Secretary, Christine Bennett, Jim Latter, and Paul Shiner.

Also Present: Jeff Brubaker, Town Planner.

Voting members: Carmela Braun, Jeff Leathe, Christine Bennett, Suzanne O’Connor, Jim Latter.

Note: Ms. Braun said that she would recuse herself from the Notice of Decision (NOD) for Village at Great Brook because she is a resident of that community. Also, that NOD will be the last item we will discuss on tonight’s agenda.

ITEM 2 – PLEDGE OF ALLEGIANCE

ITEM 3 – MOMENT OF SILENCE

ITEM 4 – 10-MINUTE PUBLIC INPUT SESSION

A person on Zoom asked if it was possible to go back to the public input for things that are not on the agenda tonight or are we passed that section.

Ms. Braun said that we’re passed that section this evening. How can we be of help to you.

Mr. (Brandon) Stock, 7 North Crescent Drive, said that I’m just a little curious for the Town ordinances. One of the areas that has not had a clarification on according to the (international) residential code regarding defining the habitable space in regards to setbacks on residential zoning.

Ms. Braun asked that he wait until we finish the review of the minutes.

Mr. Stock said that my question revolves around setbacks and ordinances, regarding habitable spaces in accordance with the International Residential Code (IRC); the definition of ‘habitable space’. For the current ordinance, ‘habitable space’ is restricted to a 20-foot setback from the side lot. So, I would like clarification that an uninhabitable space, according to the IRC, is then cleared up to a 10-foot side setback from the property lines. The current Town ordinances don’t really define or specify what a ‘habitable space’ is but, obviously, the Town ordinances do reference the IRC. I’m just looking for specifications on if we can apply the IRC definition to ‘habitable’ and ‘uninhabitable’ to the 10- and 20-foot limitations that are currently set in the Town ordinances.

Ms. Braun said that all of our ordinance changes for the June election have gone to the printer so we are unable to accommodate you at this time. We will add it to our list for the November ballot and hope we can accommodate you at that time. Thank you for bringing it to our attention.

47
48 Mr. Stock said yes.

49
50 Ms. Braun thanked him for bringing it to our attention.

51
52 Ms. Bennett added that we do occasionally have administrative meetings where we
53 discuss proposals to change our ordinances. We can dialogue with interested parties
54 around proposals to change definitions, which is what it sounds like you're asking for.

55
56 Mr. Stock said that it's not really a change; that it's just a clarification. I've interacted
57 with the CEO a couple of times. She's hesitant just because there's no clarity, it's just
58 there. But, obviously, the Town ordinances, even the website, references the IRC. But,
59 there is hesitancy on which way we should respond to the Town because there's no
60 clarity. It's not black and white, just kind of a gray area. As a homeowner, a residential
61 owner, we want to act, or perform, but we don't know. And, obviously, everything is held
62 up at the Town to approve or disapprove. There's just a gray area so nothing moves
63 along. So, it's not changing anything. It's just trying to see what's right or what's in
64 accordance with what's intended.

65
66 Mr. Latter asked if this is something you've gone to the CEO about and asked for a
67 permit or is this something you are bringing before the PB.

68
69 Mr. Stock said that we've gone to the CEO and she wasn't ready to act one way or the
70 other because there is no clarity. It is clearly not addressed in the Town ordinances but
71 the ordinances and Town website reference that IRC.

72
73 Mr. Latter said that there are two things. First, the CEO doesn't work for us. It is not as
74 though we can provide that person with clarity. The ordinances are what they are and, if
75 they're not completely clear, we can try to fix them but we can't give an interpretation to
76 clarify something for the CEO. That's not our role.

77
78 Mr. Stock asked what the proper forum would be for clarity with the CEO.

79
80 Mr. Latter said that the CEO ultimately works for the Planner and the Town Manager. I
81 just want to make sure you understand where our role is in all this.

82
83 Mr. Stock said that that sounds good. I'm trying to figure it out, as well. I can look at that
84 venue, as well.

85
86 Mr. Latter said that, just from a personal curiosity point of view, I would like to go back
87 and look at the exact piece you are looking for just so that I understand it if it does come
88 before us.

89
90 Ms. Bennet added that you could send it to our Land Use Assistant, who is a conduit for
91 both our Planner and the CEO.

Mr. Stock said that I can do that.

ITEM 5 – REVIEW AND APPROVE MINUTES

Mr. Latter moved, second by Ms. O'Connor, to approve the minutes of December 13, 2022, as amended.

VOTE

5-0

Motion approved

ITEM 6 – NOTICE OF DECISION

A. 360 River Road, PB22-22: Shoreland Zoning permit application for new residential pier system.

Mr. Later moved, second by Ms. Bennett, that the Planning Board accept PB22-22 Shoreland Zoning Permit application for a new residential pier, gangway, float, access ramp, and stairway for 360 River Road, Map 25/Lot 11.

VOTE

5-0

Motion approved

ITEM 7 – PUBLIC HEARING

There were no public hearings.

ITEM 8 –NEW BUSINESS

There was no new business.

ITEM 9 – OLD BUSINESS

A. Passamaquoddy Lane (Map 29/Lot34) PB23-4: Site Plan Review for Staging & Storage Yard – Sketch Plan Review

Received: January 31, 2023

1st Heard: April 18, 2023 (sketch plan review)

2nd Heard: May 2, 2023

3rd Heard: _____, 2023

Public Hearing: _____, 2023

Site Walk: N/A

Approval: _____, 2023

Mr. (Wyatt) Page, Project Engineer (Attar Engineering, Inc.) and Mr. (John) Pollard, applicant, were present for this application.

Ms. Bennett summarized the site walk held by the PB today on Passamaquoddy Lane at 3PM. Located Town of Eliot Utility Easement, approximate location of division line between the C/I Zone and Limited Commercial Shoreland Zone. Observed the disturbed area within the C/I Zone described as an existing gravel lot. Discussion regarding intend uses needing clarity. Owner has been approached by others, including the Town of Eliot interested in using the lot as a lay-down yard for construction materials, as well as vehicle storage, including campers and maybe heavy equipment. Desired site alterations will be removal of materials dumped by others, removal of trees and vegetation within the Limited Commercial Zone (LCZ) up to the location of the utility easement, and grading terrain to create a level surface. Discussion regarding various items that would be required for full site plan review. A residential abutter, Peter Cantrell, expressed concerns about light and noise pollution, as well as the hours of operation. The site walk adjourned at about 3:25PM.

Mr. Page said that, as far as the acceptable uses, clarifying what is allowed in the commercial zone, the three that are most similar to what we are looking for are: "clearing of vegetation for non-timber harvesting", which comes with its own set of restrictions. The one that is most fitting, but doesn't help to clarify much, is 'principal use, commercial' (not listed elsewhere). It is very broad but, as mentioned from our discussion of uses at the site walk, it would be a lay-down yard, vehicle storage, and that sort of thing, on behalf of other parties. Beyond that, it was just similar uses to those requiring site plan review.

Ms. Bennett, reviewing the Shoreland permitted uses table, said that the applicant had first listed off 'timber harvesting'.

Mr. Page said that timber harvesting is the clearing of vegetation for non-timber harvesting.

Ms. Bennett said that that is under the sub-heading of uses or activities without structures.

Mr. Page agreed.

Ms. Bennett said that the other one you cited was 'commercial, not listed' but that is a use that is listed under principal structures or uses. The principal use would be commercial.

Mr. Page agreed.

Ms. Bennett reviewed the table on principal structures or uses piece for uses that are listed. The one I think is most similar to what is proposed is 'off-site parking'.

Mr. page said that I understand that that is not allowed inside the Limited Commercial Zone. I also understand that this was brought up at the previous meeting as a potential fitting use. That becomes a question of what constitutes parking versus vehicle storage.

Ms. Braun suggested 'truck terminal, storage'. That seems to be the best that we could do as it is going to be primarily storage.

Mr. Page said yes. Then the question becomes if 'truck terminals, storage' fits under that broad umbrella of 'commercial, not listed elsewhere' or one of the others not as well enumerated. Because, as far as vehicle specific uses in this table that is currently being gone through, every single use that explicitly mentions vehicles is very expressly not allowed in the Limited Commercial Zone. For what it is worth, Ms. (Hannah) Bonine is on the call. I consulted with her earlier this week briefly at least with regard to whether or not she thinks it could fall under the 'commercial, not listed elsewhere' use and to also clarify that, based on our description provided to the PB of the project thus far, it does not fit under any of the explicitly not allowed vehicle uses; that she was generally in agreement to that, although it is worth noting that she was not the reviewer from SMPDC.

Ms. Braun asked if Ms. Bonine had any input for us on this application.

Ms. Bonine said that I looked at Mr. Page's descriptions of the uses and I definitely agree that it should not be classified as any of the auto-related uses, even though there may technically be autos involved. The off-site parking definition may be up for debate but you think of off-site parking as a satellite parking lot for a bunch of cars parking there. Technically, there is commercial heavy equipment that will be parked off-site of maybe their job site, or something like that but, whether it's classified as the same, it's not the same as an off-site parking lot where you have 50 cars a day coming in and out, parking their cars, things like that. Personally, I think the most direct use is really just that 'commercial, not stated otherwise' use here.

Ms. Braun asked how everyone feels about that.

Mr. Latter said, just to be clear, if you were using any of these other businesses, you would provide parking for an allowed use on-site, correct.

Ms. Braun said yes.

Mr. Latter said that they are not parking anything there to do business elsewhere so, in my mind, it doesn't fall under the definition of parking as I think it's intended.

Ms. Braun said yes. I think everyone is in agreement on that. Does everyone feel that 'commercial, not listed elsewhere' would be a suitable place to park this application. Does that classification seem logical. Several members were. Ms. Bennett, you aren't saying anything.

Ms. Bennett said that I guess I am. It is just a very broad catch-all; that we've only excluded a couple of things in the Limited Commercial Zone and that anything

commercial is then allowed to build in the Limited Commercial. Am I characterizing that correctly. Are we adhering to the spirit of Shoreland Zoning by allowing that.

Ms. Bonine said that I will admit that the ‘commercial, not listed elsewhere’ is kind of an odd use to be listed in any zoning ordinance but, specifically, in Shoreland Zoning. There are notes for all of the other zones for this use except for the Limited Commercial.

Ms. Bennett said that I am looking at what I printed out from our code under principal structures or uses for that ‘commercial, not listed elsewhere’; that that’s for the general district, not the Limited Commercial. Looking at Note #13, it was for every other zone ‘uses no except where permitted under another specific land use entry’.

Ms. Bonine said that I think that kind of eludes to what you were saying, that if it’s not explicitly mentioned in the use table just because just because you would classify it as commercial, does that mean it’s right in this zone, which seems to be then explicitly not permitted based on in the other zones, in the stream protection, resource protection, and the limited residential zones. The Limited Commercial seems to open up a little bit of leeway there for other commercial uses that just may not have been captured in that use table, which I think this falls under.

Ms. Braun asked if we were all set with that category. It is a grab bag, the only place we can put it. It’s a catch-all but it’s the only place it’s going to fit.

Mr. Latter added that the grab bag does exist.

Mr. Shiner asked if you are hesitant because you feel there may be some things missing and would it be appropriate to say that there are other **things that need to be added**.

Ms. Bennett said no. To be honest, I’m trying to put the gears of my mind together that, in the Limited Commercial, you can clear-cut and pave or create essentially impervious gravel surface. But that seems to be how our Shoreland Zoning is written and it was reviewed by the State.

Ms. Bonine said that there is a stipulation within that that you can’t clear or have a certain amount of impervious over a certain threshold in that zone. So, it is more restrictive than a non-Shoreland Zone in that sense. I know that the application meets that, that they are just under the impervious threshold. But you can’t just completely 100% impervious in a Limited Commercial Zone.

Ms. Braun asked if we are happy with the grab bag.

Ms. Bennett said sure. I hope we can talk further, Ms. Bonine, about what that threshold is because the plan presented to us looks like all of the Limited Commercial up to the easement that is owned. It’s not all of the Limited Commercial that exists within this parcel. That’s the percentage that’s being applied, all of the Limited Commercial for the

entirety of parcel is the denominator and the amount that is going to be cut and graded in this proposal is the numerator.

Ms. O'Connor said that that's the way I read the comments in the staff report. If you look at the map, that does seem to be about 20% that they're looking to clear and grade. If there is a restriction, it could be made on that 20%. It could be said that you can't clear that entire 20%, that it needs to be smaller in order to meet the threshold requirement, if we thought it was close. We could make a condition, or an adjustment, in that fraction, if I'm doing the math right. It's not just to the one side of the easement versus the whole other side of the easement.

Ms. Braun said that we need the following from the applicant: stormwater management, lighting plan, tree survey, contact the DEP. I wish you could tell us what's under that pile just so we know if there's anything hazardous that would contaminate anything.

Ms. Bennett said that we also had sedimentation and soil erosion control. Along that note, there's an enormous amount of invasive species there. That Japanese knotweed is vile and toxic so it should be disturbed with care. It is all that big, thick growth just along the edge of the fill (red stock/delicate arrowhead flowers). You start to see it all along roadways because roadwork has been done with dirty fill, so, there is a pile of dirty fill there. We may want to ask our Conservation Commission to weigh in on how best to move those materials off-site and where they should go. Right now, it's in its active state and, if you literally cut a little piece of that and drop it somewhere else, it will become a forest probably within 5 to 10 years. I think how you manage the property when you start to do the grading is going to be really important.

Ms. Braun said that you might want to contact the Conservation Commission to see when you could attend one of their meetings so you can explain your project to them.

Ms. Bennett said that we usually forward an application packet to them.

Ms. Braun said that, once we get a full site plan packet, a copy will go off to Ms. Bonine and then the Conservation Commission, as well. I think that's it for tonight. Thank you for the site walk today.

At this time, Ms. Braun recused herself and Mr. Leathe acted as Chair for the review.

PB22-21 - After-the-Fact Hybrid Amendment to Existing Subdivision Plan for Village at Great Brook Notice of Decision.

Mr. Leathe said that the next item of business is to decide how we handle the Notice of Decision (NOD) for 0 Bolt Hill Road, Village at Great Brook Subdivision. The PB has been asked by the applicant to postpone the discussion of this NOD until the next meeting, which would be the 16th. The rationale, according to Attar Engineering is that they have not had time due to staff constraints to meet with the developer and go through the NOD at the level they want to go through it. With that, it was not a decision by the PB

321 to defer this but I think, given their request, it seems reasonable to defer until our next
322 meeting if everyone is in favor of that.

323
324 Mr. Latter asked if we need anything from them to move this forward. We've already
325 made the decision. This is the Notice of Decision. This is "Okay. Here's the paper." Why
326 do they need an opportunity to review what our decision already is. If we need time to get
327 clarity and make sure we get everything absolutely right, that's fine.

328
329 Ms. O'Connor asked if they were appealing; that they are actually past the 30 days for
330 appeal.

331
332 Mr. Latter asked if that is contingent on this Notice of Decision being approved.

333
334 Ms. O'Connor said that's not what it says on the last page of the document. So your
335 question would be what is the reason for us not to do this.

336
337 Mr. Leathe said that is the question. The applicant has asked us to postpone it until the
338 next meeting. We can choose to do that or we can choose to go forward.

339
340 Ms. Bennett said that when I first heard of this proposal from the applicant, I initially
341 didn't think there was any reason why they needed to be here because it really is us
342 summarizing the proceedings of our deliberations and our findings of fact and conditions
343 of approval. With that said, we never take up any work on an application without the
344 applicant being present. That's why we have that clause with the 'public input' portion of
345 the meeting; that the public is welcome to make comments to us on anything that's not on
346 the agenda. We don't talk about another project that we are currently reviewing without
347 the applicant having the benefit of being part of our deliberation.

348
349 Mr. Leathe said that when we did discuss this, I think it was at the last meeting and went
350 through it in detail, their representative was here and he wasn't expecting it. So, he
351 listened to us and asked some questions but he really didn't opine on much of anything. I
352 think it's just a judgement call.

353
354 Mr. Latter said that I'm just wondering, as long as they weren't holding anything, or
355 anybody else, up and it's just a courtesy to push it to the next meeting, I have no problem
356 with it. I just want to make sure of that.

357
358 Mr. Leathe said that we have limited information. This was told to the Planner on Friday.
359 I found out about it a few hours ago.

360
361 Ms. Bennett said that the email got sent to the Planner but the Planner didn't see it until
362 2:00 this afternoon.

363
364 Mr. Leathe agreed it was late-breaking. So, I asked the Planner this afternoon to contact
365 them and give me a reason other than they just didn't want us to talk about it tonight.

366 Their reasoning from Ken Wood is that they haven't had time to review it. He asked what
367 the PB would like to do with this.

368
369 Ms. Bennett said that I think we should put it off to the next meeting. We don't hue to
370 any specific timeframe for these Notices of Decision. With some of them, we just do
371 them when we can do them. The decision has been made and there is a recording of it,
372 documentation of it, and this is just the summary document. Though I would love to get
373 this off our plate and, to be honest, there are probably only a couple of pieces that we had
374 redlined as needing to be discussed. To my mind, the only thing is that we don't know,
375 currently, how much the applicant paid for the third-party review and that's an internal
376 thing. Perhaps you, as Acting Chair, could talk with Ms. Tackett to run that up the
377 flagpole here at Town Hall, because someone knows.

378
379 Mr. Leathe said that there are several things that we don't know. However, they are
380 covered in the Notice of Decision. I have four questions on the Notice of Decision that I
381 don't think we have good answers to but I think our approach to those four is fine. It's up
382 to you guys. I'm always trying to be as courteous as we can be to applicants but, in a case
383 like this, I've not seen us postpone a Notice of Decision before in just my couple of years
384 here because an applicant asked us to. But that doesn't mean it's not going to happen in
385 the future.

386
387 Mr. Latter said that, if we do have a piece of information that we need to get on our side,
388 it sort of makes the decision a little easier to postpone so that we have all our ducks lined
389 up.

390
391 Mr. Leathe said that I guess another thing we could do is that I have four questions, you
392 may have questions. We outlined them before and we can outline them again; at least
393 discuss it and try to come to more finality on it so that when we do bring it back, if we
394 bring it back in two weeks, we'd be in a position to have a final document.

395
396 Ms. Bennett said that I think that's a good idea. We can go through it, we can document
397 it, and hopefully someone can get some answers for us.

398
399 The PB agreed that that was a good thing to do.

400
401 Mr. Leathe said that is what we will do. We're going to run through this very fairly
402 briefly compared to two weeks ago and just talk about the things we think are still
403 somewhat outstanding that we'd like further clarification on. Although we can put what
404 our desires are in the Notice of Decision whether we get the clarification, or not.

405
406 Ms. Bennett said that we have a strike-through on the words 'Site Plan'. I think that does
407 need to be stricken so our description of what the application was, and what our action
408 was, which was an 'after-the-fact amendment to existing subdivision plan/hybrid' and
409 then you have a forward slash 'subdivision review for Village at Great Brook
410 Subdivision'. Honestly, I feel like because this is memorializing our work and what was
411 put before us, I would propose that we right after that 'as built', because we were

presented with an ‘after-the-fact’ amendment. We were reviewing something essentially that, in its entirety, was built. And that was the rationale for going with the hybrid approach.

The PB concurred.

Ms. Bennett said that you’ve done a fabulous job of outlining all the pertinent materials that were submitted and reviewed with this application. I’m really going to the redlines, fonts, and under the Findings of Fact, you rightfully put in red that there is currently an active Homeowner’s Association (HOA). In reviewing this for the meeting, I was thinking that there was reference to a HOA, there was reference to transferring/deeding over property to the homeowners, but we never did see or have any confirmation, in my mind, that there is a HOA or what its structure is. So, we can either strike that or say that there will be a HOA at Village at Great Brook.

After a brief discussion, the PB agreed to the wording ‘The applicant testified that a Homeowner’s Association at Village at Great Brook will be established. It is unclear whether a homeowner’s association is currently established.’

Mr. Leathe asked if we settled on the consultant’s fee that was blank, had a number, and now is blank again.

There will be follow-up to verify the amount.

Mr. Leathe said that, under Finding #20, there are too many capitals in the word Select Board. Edit was made.

Mr. Leathe said that, in Finding #31, we talk about the performance guarantee and the performance bond has not been signed. I imagine it hasn’t been signed they don’t want to take on a liability when they haven’t finished their negotiations with the folks that have not signed the agreement.

Mr. Latter said that the Select Board approved the bond. The Finding doesn’t say that it was executed, it just says it was approved.

Mr. Leathe said that he wondered if we should note that anywhere in here that it hasn’t been signed.

Mr. Latter said that it’s a condition of the decision that it will be executed. The Finding is that the Select Board has agreed to the number but the condition is that it will be executed.

Ms. Bennett added that the scope of work will be completed, the scope of work that is in that performance guarantee will be completed or else the condition of approval will not have been satisfied.

Ms. Lemire said that Ms. Bennett had wanted the summary of Attar Engineering's zip file submission listed, regarding the life of the development, and just wanted to make sure that had been seen.

The PB said yes.

Ms. Lemire said that, under Conclusions, #3 and #4 are standard under subdivisions in our code that I put in all notices, specific to the particular approval.

Mr. Leathe said that I went through the draft from last meeting, and your rehabbing and corrections of these paragraphs, and I didn't find anything that you missed from what we discussed at the meeting. You did a really good job pulling that together.

Mr. Latter said that I just want to emphasize back to the applicant that we are not re-litigating this. If there is technical verbiage that should be one what and not the other, that's fine, but this is what it is.

Mr. Leathe said that you are totally correct.

Ms. Lemire said that the motion was fixed, that it was taken directly from what was stated at the meeting.

Mr. Leathe asked if there was any further discussion on this Notice that will be deferred until our next meeting.

Mr. Leathe said that someone brought up the appeal process and that raises an interesting question. So, at our last rendition, we had 'the decision can be appealed withing 30 days' after March 28th.

Ms. Lemire said that the appeal period is over. They can appeal it without the Decision but this is the document that goes to court.

Ms. O'Connor said that, as we've said, with the final Notice of Decision, there's not a timeclock for it because the decision is the final thing and this document can come in whatever the appropriate time.

Ms. Lemire said that the night you make the decision starts the clock. It goes for 30 days regardless of whatever comes.

Mr. Lethe asked of we needed a motion to table this because we revised it or do we need a motion to accept the revisions.

Ms. Lemire said that, if you're not going to approve this tonight, I would only make a motion to table it until the next meeting.

Mr. Latter moved, second by Ms. O'Connor, that the Planning Board table the Notice of Decision for PB22-21 After-the-Fact Amendment to Existing Subdivision Plan/Hybrid Subdivision Review for Village at Great Brook Subdivision/As-Built.

VOTE

4-0

Motion approved

Ms. Lemire said that I am going to send this, with the amendments, to you and I will CC Mr. Sudak so that he has it, as well.

Ms. Bennett added that we should also CC it to Mr. Sullivan who would be able to, with a note, that the only outstanding item at this point is the amount that was paid for the third-party technical for John Turner and he will be able to find that.

The PB agreed.

At this time, Ms. Braun returned as Chair of the PB.

ITEM 10 – OTHER BUSINESS/CORRESPONDENCE

Ms. Bennett said that I had an opportunity to speak with the Town Manager this morning just about the status of our request for a joint workshop with the SB. He said that the SB Chair has been out of town so he hasn't been able to weigh in. Mr. Sullivan indicated that their desire is that we join a SB meeting; that they invite us to a SB meeting instead of a stand-alone workshop.

Mr. Latter said that we can't join their meeting as a multiple-member body without having our own meeting and talk about business before us.

Ms. Bennett said that there are two hats we wear. So, we're not talking about a specific proposal or application but we're talking about proposed legislation – the proposed ordinance – and getting them up-to-speed as to what we are proposing.

Mr. Latter asked what is the issue with hosting a joint public meeting.

Ms. Bennett said that I don't think they want an additional meeting.

Mr. Latter said to post our meeting at their meeting. That's fine.

Mr. Leathe said that, with the Budget Committee, we had a joint meeting with them but we had a joint meeting with separate sets of minutes. It was quite interesting.

Mr. Latter said that we would meet at the same time and place as the SB. The SB calls it to order and you call it to order and then have the meeting.

Mr. Leathe said that that was essentially what we did and certain members of the committee talked with the SB.

Ms. Bennett said that Mr. Sullivan asked me if this was time-sensitive and I told him it was; that because we're taking the month of July off, we need our ordinance written for a November ballot by our June 6 meeting and that I had hoped to have a conversation prior to that. What he has proposed is that we have a joint meeting with the SB on their June 25th meeting. I don't get July off because I will be working with Mr. Brubaker to finalize all of our ordinances so that when we come back in August, we will have noticed our Public Meeting at the very end of July for our 8/13 meeting; that that will be when we hold a public hearing on all of our proposed ordinances for the November ballot. We then have to forward it to the SB, the SB goes through their process and the warrant gets finalized, then gets printed.

Ms. Braun said that it actually wouldn't be a workshop with them because, if they aren't going to meet until the end of June, we would just be presenting what the actually ordinance amendments are.

Ms. Bennett said that what Mr. Sullivan said, and this did make a certain amount of sense, there is a rationale for having a division of duties. We have been appointed by the SB. They have entrusted us to work with these particulars in drafting ordinances. The reason why I felt it was very important to get the SB on board or at least up to speed as to what the reason for drafting these ordinance revisions for LD2003 was that they need to be able to communicate why they are being drafted and what that means.

Mr. Leathe asked why we couldn't get on that earlier meeting.

Ms. Bennett said that it seems to be a very popular time for people to take vacations. Mr. Donhauser is not available and we can't get on. Mr. Shiner graciously volunteered to help put together to outline, coming with clear eyes, because I am pretty deep in the weeds on this LD2003, and to put together a logical slide deck for a presentation to the SB. It will give us a little more time to work on that.

Mr. Leathe said, so, are we asking for forgiveness in this approach. Are we just going to show up and tell them what we're going to do.

Ms. Bennett said that we don't have to ask permission. We just need for them to know what we're doing, more than they usually know what we're doing.

Ms. O'Connor said that we would go to this joint meeting and it would look like we are presenting our best version of what we want the ordinance to be because they have entrusted to us to do that.

Ms. Bennett said yes.

Ms. Braun added that, normally at a SB meeting when we're at this point in time, Mr. Brubaker goes to the meeting and presents to the SB exactly what we would be doing. In this case, they didn't get our ordinances until after the fact because we were so late with some of it.

Ms. Bennett said that they have been notified all along. They've heard of LD2003. But, the main pieces in my mind that they need to know is that this isn't voluntary, it's mandatory. They have rolled back our Home Rule authority on these different areas. The fact is that we really need to get our legislative body, the citizens, to approve these ordinances or we could be put into a legal limbo here. If that happens, the Budget Committee and the SB are going to have to put a nice hunk of change into the PB budget. We don't want to be the first town to take this to the Supreme Court. There will be challenges. There could be challenges if we don't adopt ordinances in time. It's highly likely that there are already option agreements out there on properties in our Suburban Zone in anticipating the affordable housing development density bonus. That's how real estate works.

Mr. Leathe said to remind him, again, when we have to have ordinance codified.

Ms. Bennett said that we may not even know when we meet with the SB June 25th. The statute, as written, is effective July 31st of this year. There are a variety of proposed legislation to amend LD2003, including an act to extend it two years. I testified in Augusta the second week of April about that bill; that it was a packed room and there were a lot of people like myself testifying in support of that. Almost every question from the housing committee was 'would 2024 be okay', so, this seems to be what the political compromise is going to be but we won't know. The legislature, at this point, did a work session on this bill on Friday of last week; that they had the legislature's legal analysts there and she stated that they are going to have to add an emergency preamble at this point because the legislature will probably adjourn June 30. Right now, they are going to be dealing with the budget for the next couple of weeks, then we're into June, and so it may not happen until the very, very end. We do know that we're not fully compliant with LD2003.

Ms. O'Connor said that there was an article a couple days ago in the Portland Press Herald about this. I saved it so I will send it to you.

Ms. Braun added that there is a town in court challenging the ADU portion.

Ms. O'Connor said yes, New Gloucester. The other thing is that there is another movement, or another LD something, to say that this would only apply to cities with a population over 10,000.

Ms. Bennett said LD214. LD214 and LD665 got analyzed and worked on on Friday together at the legislature. The sponsor is one of the committee member and he told the committee that he would amend that bill so that it would only apply to communities over 4,000. There are only six communities in the State that are over 10,000. Eliot is like #36

in terms of the largest communities in Maine. Maine has really small towns. I also spoke to Mr. Sullivan that I've said all along that we need to update our water and wastewater ordinance in conjunction with LD2003. I am going to propose that, when we update, to allow engineered systems for the affordable housing developments in the Suburban Zone. They are allowed, in final rule-making, to be put on public sewer, private sewer, septic systems, or engineered systems. Engineered systems are going to be required for anything that is going to propose more than 16 units by the State minimum **site** law. That came through in the middle of March; that the legislature is trying to get their head around having now to revise their own law – LD2003. I think you had posed this early on that LD2003, when I did the affordable housing development presentation, what are you worried about. What I'm worried about is what I put into the comments on rule-making when I actually transmitted to the legislative committee last week; that I'm really concerned about is what's going on across the river on the Piscataqua; that it's an impaired waterway. It's a state waterway of New Hampshire and Maine. The State of NH is not an EPA-designated state so they don't get to administer the Clean Water Act, themselves, with their own Department of Environmental Services; that the USEPA does it. It Maine, we're a designated state so we have the Maine DEP. So, the USEPA has worked with 13 towns across the river, including all of our neighbors up and down and all those around Great Bay. So, those 13 towns, instead of having individual permits for nitrogen going into the river, they have said that there is a total limit for the river of 8 milligrams/liter and, if nitrogen goes above 8 grams/liter, you're going to have to do more. They are all in it together. But, there are four towns on the Maine side that aren't, and that's Kittery, Eliot, South Berwick, and Berwick. So, the EPA, from what I've heard from the Conservation Law Foundation, he's really been driving this adherence to the Clean Water Act.

Mr. Latter said that the water doesn't know there's a state line.

Ms. Bennett said that the USEPA has been in contact with the Maine DEP about putting in regulations, here, for the four towns in Maine. So, that could be coming at some point. As I've said before, septic systems are horrible at removing nitrogen; that they are great at removing fecal coliforms, great at other things, but the nitrogen barely stops on its way to the ground water. And we're going to be putting a lot more septic systems into our Suburban Zone, which is all part of the Piscataqua watershed. A good portion of the Rural Zone water sheds to the York River but here it all goes, with the exception of Spruce Creek on the northeastern side. What is proposed is that we put forward an updated wastewater, sewage disposal, ordinance that requires new buildings to put in advanced treatment systems that will remove nitrogen. It's an aerobic system. You can actually retrofit septic systems with something they call the 'sledgehammer', which is basically putting a drum within your holding tank that is aerating. And it has to be powered.

Ms. O'Connor asked if that is for single-family homes, also.

Ms. Bennett said any new construction. The other thing I told Mr. Sullivan was that we also want to propose an impact fee on all building permits in Town – just \$100. The

Planner and I have been talking about this since LD2003 came out of the gate but, if we could put forward a relatively minimal impact fee, of you are going to build a house, you're going to pay a building permit, it's negligible compared to what you're building and spending. We collect that impact fee and put it into a reserve fund and create a revolving loan fund for homeowners to retrofit their septic systems to the latest technology. An ounce of prevention is worth a pound of cure, and this could provide an ounce of prevention for when the talks about us mitigating the nitrogen load get really serious, we could point to the fact that we're tasking these more passive steps.

Ms. O'Connor said that, regarding the newspaper article, the one thing that leaper off the page to me is that Cape Elizabeth is a town that is very close to passing; that they have already met the July 1st deadline. They have already had twelve public hearings.

Ms. Bennett said that that is the rationale for the workshop.

Ms. O'Connor said that we need to have a public hearing and reading the article I thought that it might take more than one.

Ms. Bennett said exactly, and that's what the SB needs to know. We need to be doing some public education.

Ms. Braun said that, when I talked with Mr. Sullivan, I said that I wanted to have community meetings and public input sessions because I wanted them to be aware. He said that we don't need their permission to hold a citizen's information meeting. We can call them any time we want on any subject. So, if we want to have a public information session, we can do that. We could turn one of our meetings into a public information session.

Ms. Bennett said that one of the outcomes I was looking for from this workshop was that we would set together a public information strategy. What are we going to put on the website. What are we going to put in the paper. How are we going to present this. Let's put some thought and consideration into the strategy we're going to put forward to get at least everyone to know what this is and be informed better.

Mr. Shiner said that, if you don't control the message, they will control it for you.

Ms. Braun said that one thing I did want to mention is that now that Mr. Brubaker is a father we need to be considerate of his time. He is not going to be spending as much time here. We must be mindful of his time and the amount we are asking him to do. So, anything that we can do that we want done on our own, in conjunction with him to aide him, but I would like not to have so much placed on him.

Ms. Bennett asked if she could give us an example to give us of where we might be putting too much on him.

Ms. Braun said, to be perfectly honest with you, it's the ordinances. And I know he wants to do it but we don't have to do everything in one session. We can space them out a little more.

Ms. Bennet said like not put all of LD2003 on the November ballot.

Ms. Braun said yes. We have five of them out there this time so he put all that work into five. If we cut it down to three, that kind of stuff, so he doesn't have that much; that he has other stuff that he has to do beyond this. Plus, he does the ordinances, he reviews the applications, and some of them, as you know, go more than one meeting; that he is also doing other projects, as well. So bear in mind that he has a little baby at home. I know he wants to put in the time and do the best he can, and he always does.

Ms. Bennett said that I have the utmost respect for Mr. Brubaker and I think all of us do. He is so capable that he has a hard time delegating it to anyone else. Maybe he can pull back a little more and allow us to do more.

Ms. Braun agreed. I could see, before little Jonah was born, that he was ready to crash. So, that is all that I ask.

ITEM 11 – SET AGENDA AND DATE FOR NEXT MEETING

The next regular Planning Board Meeting is scheduled for May 16, 2023 at 6PM.

ITEM 13 – ADJOURN

The meeting adjourned at 7:50 PM.

Suzanne O'Connor, Secretary
Date approved: _____

Respectfully submitted,

Ellen Lemire, Recording Secretary



TOWN OF ELIOT MAINE

PLANNING OFFICE

1333 State Road

Eliot ME, 03903

To: Planning Board
From: Jeff Brubaker, AICP, Town Planner
Cc: Kenneth Wood, P.E., Attar Engineering, Applicant's Representative
Shelly Bishop, Code Enforcement Officer
Kim Tackett, Land Use Administrative Assistant
Date: November 7, 2023 (report date)
November 14, 2023 (meeting date)
Re: PB23-4: Passamaquoddy Lane (Map 29/Lot 34): Site Plan Review – Staging & Storage Yard

Supplement to SMPDC staff report (in previous packets)

Application Details/Checklist Documentation	
✓ Address:	Passamaquoddy Lane
✓ Map/Lot:	29/34
✓ Zoning:	Commercial/Industrial (C/I) district
✓ Shoreland Zoning:	Areas of Limited Residential, Resource Protection, Freshwater Wetlands, and Limited Commercial
✓ Owner Name:	John Pollard
✓ Applicant Name:	John Pollard (Agent: Attar Engineering, Inc.)
✓ Proposed Project:	Staging & Storage Yard
✓ Application Received by Staff:	January 31, 2023
✓ Application Fee Paid and Date:	\$800 (\$650 – Site Plan Review ~8 ac.; \$150 – Public Hearing); \$25 due to complete public hearing fee January 31, 2023
Application Sent to Staff Reviewers:	Not yet sent
✓ Application Heard by PB Found Complete by PB	April 18 and October 17, 2023 TBD
✓ Site Walk	May 2, 2023
✓ Site Walk Publication	April 21, 2023 (Weekly Sentinel)
Public Hearing	TBD
Public Hearing Publication	TBD
✓ Reason for PB Review:	Site Plan Review

Tree score plan

The applicant states in the October 10, 2023, cover letter that “tree clearing needed for the construction of the project does not exceed the 40% 10-year clearing limit of Shoreland Overlay Zones

within the parcel as outlined in §44-35(p)(3) of the Town of Eliot Code of Ordinances as confirmed by a tree survey conducted by Attar Engineering on 5/24/23.”

The applicant surveyed each tree of 4” or greater diameter within the shoreland zone on the parcel and a part of the parcel outside of the shoreland zone. They calculated the basal area of the tree from the diameter. Each tree was included in a designated grid square, as shown on Sheet 3. The basal area for each grid square is included in the “Basal Area Calculations” document, with the total basal area for the shoreland zone calculated as about 25,000 sq. in.

Using 44-35(p)(3), the applicant calculates an allowable clearing of just over 10,000 sq. in. of basal area. The total proposed clearing is shown as 8,591 sq. in., below the 40% level. This is somewhat different than a tree score plan that is done “within a strip extending 75 feet, horizontal distance, from any other water body, tributary stream, or the upland edge of a wetland” [44-35(p)(2)]. Sheet 3 does not appear to show any clearing within 75 ft. of the wetland edge, on the wetland side of the sewer easement, though a break in the treeline is shown that appears to mark an existing gravel drive. Overall, the gravel storage portion falls outside of the shoreland zone.

There is a proposed tree line shown on the Site Plan (Sheet 1). Inside the shoreland overlay, the site plan shows part of the stormwater management pond/area and a site driveway, which would necessitate the selective clearing.

Stormwater

The applicant has included a Stormwater Plan with HydroCAD modeling of pre- and post-construction stormwater flows (previous packet). The net change in peak runoff for the two analysis points in the 50-year-storm event (Eliot’s standard) shows a decrease at each point:

- AP1: -2.36 cubic feet per second (cfs)
- AP2: -1.21 cfs

An erosion and sedimentation control plan, including a stabilized construction entrance, is included in the plan set.

Utility easement

The Town holds a 40-ft.-wide utility easement for the in-progress Water-Sewer Extension Project, with an upcoming contract to be let for the overland portion that would run the sewer line through the locus parcel. The site plan appears to show the utility easement substantially unaffected by the proposed storage yard and driveways.

At the October 17 meeting, the PB inquired about the cumulative impacts of tree clearing for both the proposed storage yard and the sewer line. A sheet (Drawing P5) from the draft 90% plan set for the Water-Sewer Extension Project is in your packet showing the overland sewer line route within the easement. The general depiction is about half of 40 ft. width is shown as cleared. Note that at minimum, there needs to be enough cleared width for the equipment needed to excavate the trench, place the sewer line, and backfill. Another helpful drawing is D1, also in your packet, showing a standard sewer trench section for both paved surface and cross-country, the latter being the installation method for this parcel. The trench width cited in this drawing is generally 36 in. or 24 in. plus the pipe diameter, suggesting that equipment maneuverability needs and not trench width may control the needed clearing width. However, this is only a planning-level summary of possible tree

clearing; the exact clearing width would be determined as this project gets into construction and the contractor begins working on that section. Paragraph 4 of the easement (in packet) requires the restoration of disturbed areas along the length of the sewer.

44-35(p)(8)b exempts from the clearing and vegetation removal standards “The removal of vegetation from the location of allowed structures or allowed uses, when the shoreline setback requirements of section 44-35(b) are not applicable.” The easement appears to be setback greater than 75 ft. from the protected wetlands. This exemption applies to paragraph (p)(2), which includes the above-discussed 40% rule, however, “the removal of vegetation is limited to that which is necessary”. The Water-Sewer Project is expected to be reviewed again by the PB at a later date; these standards may be discussed further then.

The easement is in your packet showing the encumbrances on the property and the rights of the grantee (the Town).

Water quality (45-419)

See Note 4 added to the plans acknowledging conformance to 45-419(a), regarding discharge of pollutants into surface waters or groundwaters. The note also states: “any activities covered in §45-419(b) are prohibited from being carried out in the lot area without proper consultation of the Town Code Enforcement Officer and appropriate modifications to the site”. This pertains to “outdoor storage facilities for fuel, chemicals, chemical or industrial wastes, and potentially harmful raw materials”. The PB may wish to have more specificity on this statement as it could be construed as granting flexibility for the location of these materials without the site plan showing where they might be located or how the impervious storage area would be designed.

Also in the cover letter, the applicant states: “Additionally, should the board require it, we shall add an oil and water separator at the outlet of the detention pond marked as 2P in the stormwater management plan to handle any incidental leakage from machinery stored on site.”

Lighting and glare (45-410)

See submitted lighting plan. The illuminance values are shown at or near 0 at the property lines suggesting compliance with 45-410 regarding glare onto town ways or adjacent properties. Lights are shown around the perimeter of the storage area, and lighting specifications are in the applicant’s submittal.

Uses

The proposed uses remain “Equipment storage, trucks, 3 or more”.

Shoreland zoning application

The submittal now includes a shoreland zoning application for the work within the shoreland zone.

Japanese knotweed

Per PB comment, the applicant has thoroughly researched and included in their submittal information on knotweed removal, along with the following statement in their 11/6 cover letter:

“Lastly, the at the request of Chairwoman Christine Bennet of the Town of Eliot Planning Board, we are including materials relating to the control methods and prevention of spread of the invasive Japanese Knot Weed plants present on the site. Contractors working on the construction of the site will be following the Best Management Practices outlined therein.”

The removal of non-native invasive vegetation species is also exempt from the tree and vegetation clearing standards [44-35(p)(8)f].

Site plan information waivers (33-127)

(12) High-intensity soils report

Recommendation

Review the new information. If acceptable, grant the waiver and deem the application complete. Further clarity on 45-419(b) could be addressed in the plans submitted for the public hearing.

* * *

Respectfully submitted,
Jeff Brubaker, AICP
Town Planner



ATTAR

ENGINEERING, INC

CIVIL • STRUCTURAL • MARINE

Mr. Jeffery Brubaker, AICP, Town Planner
Town of Eliot, Maine
1333 State Road
Eliot, Maine 03903

November 6th, 2023
Project No. C338-22

**RE: Preliminary Plan Application for Site Plan Review
Passamaquoddy Yard (Tax Map 29, Lot 34)
Passamaquoddy Lane, Eliot, Maine**

Dear Mr. Brubaker:

On behalf of the applicant, John (Rick) Pollard, I have enclosed a revised Preliminary Site Plan Application and supporting supplementary documents for your review and consideration.

The revised submission includes a modified Sheet 1 – Site Plan with note 4 replaced to address the adherence to §45-419 of the Town of Eliot Code of Ordinances as detailed below. Also included is a new photometric plan detailing the lighting of the site as designed by Ken Sweeney of Exposure Lighting to be added as Sheet 7 to the existing plan set. The photometric design of the site is fully adhering to dark-sky friendly requirements.

The proposed use of the site remains “Equipment Storage, trucks, 3 or more” as was outlined in the previous Site Plan Application, but statements prohibiting activities covered in §45-419 of the Town of Eliot Code of Ordinances have been added to the Application and to Sheet 1 of the plan set as included in this submission. Additionally, should the board require it, we shall add an oil and water separator at the outlet of the detention pond marked as 2P in the stormwater management plan to handle any incidental leakage from machinery stored on site. The language of §45-419 states:

- (a) *No activity shall locate, store, discharge or permit the discharge of any treated, untreated or inadequately treated liquid, gaseous, or solid materials of such nature, quantity, obnoxiousness, toxicity or temperature that run off, seep, percolate or wash into surface waters or groundwaters so as to contaminate, pollute or harm such waters or cause nuisances, such as objectionable shore deposits, floating or submerged debris, oil or scum, color, odor, taste or unsightliness to be harmful to human, animal, plant or aquatic life.*
- (b) *All outdoor storage facilities for fuel, chemicals, chemical or industrial wastes, and potentially harmful raw materials shall be located on impervious pavement, and shall be completely enclosed by an impervious dike which shall be high enough to contain the total volume of liquid kept within the storage area, plus the rain falling into this storage area during a 50-year storm, so that such liquid shall not be able to spill onto or seep into the ground surrounding the paved storage area. Storage tanks for "home heating oil" and diesel fuel, not exceeding 275 gallons in size, may be exempted from this requirement, in situations where neither a high seasonal water table (within 15 inches of the surface) nor rapidly permeable sandy soils are involved.*

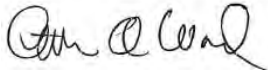
The language of the Waiver Request asking for the requirement for a High Intensity Soil Survey has been modified and is included in this submission as well.

Lastly, the at the request of Chairwoman Christine Bennet of the Town of Eliot Planning Board, we are including materials relating to the control methods and prevention of spread of the invasive Japanese Knot Weed plants present on the site. Contractors working on the construction of the site will be following the Best Management Practices outlined therein.

We look forward to discussing this project with the Planning Board at their next available meeting. Please contact me for any additional information or clarifications required.

Sincerely;

Kenneth A. Wood, P.E.
President

A handwritten signature in black ink, appearing to read "Ken A. Wood", written over a light blue rectangular background.

cc: John Pollard
C338-22 Cover 06Nov2023

Case No. _____	Site review? Yes No
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**APPLICATION FOR SITE PLAN REVIEW
TOWN OF ELIOT PLANNING BOARD**

☒ **Step 1.** (Fill in all blocks below - See the Planning Assistant if you don't understand.)

Tax Map 29 Lot# 34 Lot Size 8.2 AC Zoning District: C/I

Your Name Kenneth A. Wood, P.E. Your mailing address 1284 State Road

City/Town Eliot State: ME Zip: 03903 Telephone: 207-439-6023

Who owns the property now? John Pollard

Address (Location) of the property Passamaquoddy Lane

Property located in a flood zone? ☒ Yes ☐ No
(If yes, please complete the attached Flood Hazard Development Application and return it with your completed application)

☒ **Step 2** (establish your legal interest in the property)

Attach a copy of the Purchase and Sales Agreement, Deed, Tax records, Signed Lease, or other documents to the satisfaction of the Planning Assistant. If you are representing a corporation, provide documentation that you have authority to speak for the corporation.

☒ **Step 3** (Go to the Zoning Ordinance Section 45-290, Table of Land uses)

What SPECIFIC land use are you applying for? Equipment storage, trucks, 3 or more - See below
(You MUST make this selection from Section 45-290 of the Zoning Ordinance)

Having entered the SPECIFIC land use above now provide a more detailed description of what you want to do:

The project seeks to build an exterior staging/storage yard for construction equipment and vehicles.
The storage of construction vehicles does NOT include the refueling or storage of fuel, chemicals, chemical
or industrial wastes, or potentially harmful raw materials that may be used to service said vehicles
or install any stored construction equipment or structures.

Case No. _____
Site review? Yes No

☒ **Step 4 Attach ten (10) copies of a sketch plan, showing in approximate dimensions the following:**

- ☒ All zoning districts
- ☒ The location of all existing and/or proposed buildings
- ☒ The setbacks of all existing and proposed structures or uses.

- ☒ The location of proposed signs, their size, and direction of illumination.

- ☒ The location of all existing and/or proposed entrances and exits.

- ☒ All existing and/or proposed parking areas (parking is permitted in the front, rear and side of the premises, so long as it does not violate setback requirements.)

- ☒ Plans of buildings, sewage disposal facilities, and location of water supply.

☒ **Step 5 Sign the application (both owner and applicant must sign and date the application) and submit fee with preliminary plans (\$100 per acre for first 5 acres and \$50 per acre after five plus \$150 for advertising and public hearing fees)**

Applicant , Agent Date 11/6/2023

Property Owner _____ Date _____

☐ **Step 6 Application received by Planning Assistant**

Date received by the PA _____ PA initials _____

☐ **Step 7 The Planning Assistant will review the application and if complete, will place your application on a future Planning Board agenda**

☐ **Step 8 The applicant or representative of the applicant must attend the Planning Board meeting**

PART 1 - THE PROCEDURE

Case No. _____
Site review? Yes No

(STEP 1) Meet with the Planning Assistant to assure that Site Review is required. Obtain application forms and assemble data for submission.

(STEP 2) **Sketch Plan Stage** Application submission. Include 10 copies of the sketch plan, survey map, location map, and affidavit of ownership or legal interest. (Section 33-63)

(STEP 3) Applicant attends first meeting with Planning Board, describes project, and answers questions (*Board may review checklist for the Site Plan at this time or act on waivers requested for submission of data*)

(STEP 4) Board sets up site visit with applicant (Section 33-64).

(STEP 5) Board visits site with applicant.

(STEP 6) Applicant attends succeeding meetings. Board does preliminary review of the Ordinance requirements for applicability to the Site Plan. Board and notifies applicant of changes required to Sketch Plan after site inspection (Section 33-103).

(STEP 7) Applicant revises the “Sketch Plan” as needed, submits the Site Plan, and pays non-refundable fees prior to the second Planning Board meeting. (Sections 33-126 & 33-128).

(STEP 8) **Site Plan Stage** Applicant attends succeeding meetings with Planning Board and discusses Site Plan (Section 33-129) until Board votes to accept the Site Plan (Section 33-126) *Board schedules public hearing for future meeting when all requirements have been or will be met.*

(STEP 9) Board conducts Public Hearing (Section 33-130).

(STEP 10) **Approval stage** Board approves / approves with conditions / disapproves applicants application within 30 days of the close of the final Public Hearing or 75 days from date Board accepted completed application and Site Plan (Section 33-131). If more than one public hearing is held, the 30-day period begins after the last public hearing.

(STEP 11) Board issues a Notice of Decision, which contains findings certifying compliance with ordinance, reasons for conditional approval or reasons for disapproval (Section 33-131). The Notice of decision and signing of the final plan is for documentation purposes and does not determine the beginning of the appeal period.

(STEP 12) **Appeal Period** A 30-day appeal period begins from the date the Board makes a decision on the application. (Section 45-50) The applicant may begin work on the project during this period, but does so at his or her own risk.

PART 2

Case No. _____

Site review? Yes No

DETAILED ORDINANCE REFERENCES FOR EACH SITE REVIEW EVENT

1. Submit application. (Section 33-63) Include 10 copies of all submissions that show:

- ☒ Sketch Plan- (See Section 33-105) showing:
 - ☒ All zoning districts
 - ☒ Existing and proposed structures
 - ☒ Existing and proposed parking areas (parking is permitted in the front, rear and side of the premises, so long as it does not violate setback requirements.)
 - ☒ Existing and proposed Streets and entrances
 - ☒ Existing and proposed setbacks
 - ☒ Other site dimensions and area
 - ☒ Site and public improvements and facilities
 - ☒ Areas of excavation and grading
 - ☒ Any other site changes
 - ☒ Location Map-This is to be submitted along with or as part of the Sketch Plan (See Section 33-104) and includes:
 - ☒ Scale of 500 ft to the inch
 - ☒ Show all area within 2000 ft of property lines
 - ☒ All surrounding existing streets within 500 ft
 - ☒ Abutters lots and names within 500 ft of property boundary
 - ☒ Zoning districts within 500 ft
 - ☒ Outline of proposed development showing internal streets and entrances

2. Site inspection (Section 33-64) The Board and Applicant conduct site inspection. Applicant shall stake the lot corners, the location of all proposed structures, parking and the centerlines of all proposed streets and entrances in development. Verify that parking meets applicable setbacks

3. Board notifies applicant of changes required to Sketch Plan after site inspection such as contour interval, street classification, etc. (Section 33-103) and determines:

- ☒ If other Local, State or Federal agencies or officers (Section 33-102) should review Sketch Plan.
- ☒ If applicable, MaineDOT driveway permit is **required** prior to local approval for anyone installing, physically changing or changing the use of a driveway on state highway.
- ☒ If review by Eliot Fire Chief ____, Police Chief ____, or Road Commissioner ____ is required.

Case No. _____
Site review? Yes No

4. Applicant converts Sketch Plan into a "Site Plan" (Sections 33-126). The following requirements are considered by the Planning Board

Chapter 33 required information

☒4.1. Applicant shall provide one original and 10 copies of Site Plan drawn at a scale not smaller than 1-inch equals 20 feet showing the following information:

- ☒4.1.1. Development name, owner, developer, designer name and address and names and addresses of all abutters and abutters land use.
- ☒4.1.2. Certified perimeter survey showing a north arrow, graphic scale, corners of parcel, total acreage, etc. This means a survey of the property using the standards of practice established by the State of Maine Board of Licensure for Professional Land surveyors, MRSA Chapter 121.
- ☒4.1.3. Temporary markers.
- ☒4.1.4. Contour lines at 5-ft intervals or as Board decides.
- ☒4.1.5. A list of the provisions of Chapter 45 (Zoning) which are applicable to this area and identification of any zoning district boundaries affecting the development.
- ☒4.1.6. Storm water Drainage Plan. (50 year storm)
- ☒4.1.7. Required bridges or culverts.
- ☒4.1.8. Location of natural features or site elements to be preserved.
- ☒4.1.9. Soil Erosion and Sediment Control Plan.
- ☒4.1.10. High Intensity Soils Report.
- ☒4.1.11. Locations of sewers, water mains, culverts and drains.
- ☒4.1.12. Water supply information.
- ☒4.1.13. Sewerage System Plan.
- ☒4.1.14. Septic System Survey.
- ☒4.1.15. Estimated progress schedule.
- ☒4.1.16. Construction drawings for CEO which show floor areas, ground coverage, location of all structures, setbacks, lighting, signs, incineration devices, noise generating machinery likely to generate appreciable noise beyond the lot lines, waste materials, curbs, sidewalks, driveways, fences, retaining walls, etc.
- ☒4.1.17. Telecommunication tower details as required.

☒4.2. Additional requirements made by Board (Section 33-126).

Other Chapter 33 Site Review Ordinance Requirements.

- ☒4.4. Traffic data if applicable (Section 33-153)
- ☒4.5. Campground requirements if applicable (33-172)
- ☒4.6. Commercial Industrial requirements if applicable
 - ☒4.6.1. Landscaping (Section 33-175)

	Case No. _____		
	Site review?	Yes	No

- ☒ 4.6.2. Vibration (33-176)
- ☒ 4.6.3. Site Improvements (33-177)
- ☒ 4.6.4. Electromagnetic Interference (33-178)
- ☒ 4.6.5. Parking and Loading Areas (33-179, 45-487, 45-495)
- ☒ 4.6.6. Glare (33-180)

- ☒ 4.7. Motel requirements if applicable (Section 33-182)
- ☒ 4.8. Multi-family dwelling requirements if applicable (Section 33-183)

Chapter 35 Post-Construction Stormwater Management

Disturbance of more than one acre of land or less than one acre if the development is part of a larger common plan for development must comply with Chapter 35 Post – Construction Stormwater Management.

Chapter 45 Zoning Ordinance Requirements. compliance includes the following Article VIII Performance Standards:

- ☒ 4.9. Dimensional Standards (Section 45-405)
- ☒ 4.10. Traffic (Section 45-406)
- ☒ 4.11. Noise (Section 45-407)
- ☒ 4.12. Dust, Fumes, Vapors and Gases (Section 45-408)
- ☒ 4.13. Odor (Section 45-409)
- ☒ 4.14. Glare (Section 45-410)
- ☒ 4.15. Storm-water run-off for a 50 year storm. (Section 45-411)
- ☒ 4.16. Erosion Control (Section 45-412)
- ☒ 4.18. Preservation of Landscape (Section 45-413)
- ☒ 4.19. Relation of Buildings to Environment (Section 45-414)
- ☒ 4.20. Soil Suitability for Construction (Section 45-415)
- ☒ 4.21. Sanitary Standards for Sewage (Section 45-416)
- ☒ 4.22. Buffers and Screening (Section 45-417)
- ☒ 4.23. Explosive Materials (Section 45-418)
- ☒ 4.24. Water Quality (Section 45-419)
- ☒ 4.25. Refuse Disposal (Section 45-421)
- ☒ 4.26. Specific Activities (Article IX) which include:
 - ☒ 4.26.1. Accessory Use or Structure (Section 45-452)
 - ☒ 4.26.2. Home Occupation (Section 45-455)
 - ☒ 4.26.3. Mobile Homes (Section 45-457)
 - ☒ 4.26.4. Off-street Parking and Loading (Article X)
 - ☒ 4.26.5. Signs (Article XI)
- ☒ 4.27. In addition the Board may make other conditions for approval that will insure such compliance and would mitigate any adverse affects on adjoining or neighboring properties which might otherwise result from any proposed use (Section 33-131).

Case No. _____

Site review? Yes No

5. Board discussion of Site Plan (Section 33-126).

☒ 5.1. Board discusses Site Plan with applicant.

6. Public Hearing (Section 33-129 & 130).

☐ 6.1. Conducted within 30 days of Boards acceptance of Site Plan.

☐ 6.2. Three notices posted 10 days prior to the Public Hearing.

☐ 6.3. Notices advertised in two newspapers 10 days prior to Public Hearing.

☐ 6.4. Other Towns notified 10 days prior to if within 500 feet of applicant's lot.

☐ 6.5. Abutters notified 10 days prior to by certified mail, return receipt requested. \$150.00 paid by applicant to cover the cost of advertising and abutter notification (Sec. 1-25)

☐ 6.6. Selectmen, CEO, and Board of Appeals shall be notified 10 days prior to the Public Hearing.

7. Board approves / approves with conditions / disapproves applicants Application within 30 days of Public Hearing or 75 days from date Board accepted completed Application and Site Plan (Section 33-131).

Note: Computation of time shall be in accordance with Section 1-2 as follows:

"In computing any period of time prescribed or allowed by this Code, the day of the act, event or default from which the designated period of time begins to run shall not be included. The last day of the period so computed shall be included unless it is a Saturday, Sunday or legal holiday, in which event the period shall run until the end of the next day which is neither a Saturday, Sunday or legal holiday. When the period of time prescribed or allowed is less than seven days, intermediate Saturdays, Sundays and legal holidays shall be excluded in the computation."

8. Notice of Decision issued which contains findings certifying compliance with ordinance, reasons for conditional approval or reasons for disapproval (Section 33-131).



ATTAR

ENGINEERING, INC

CIVIL • STRUCTURAL • MARINE

Mr. Jeffrey Brubaker, AICP, Town Planner
Town of Eliot, Maine
1333 State Road
Eliot, ME 03903

November 6th, 2023
Project No. C338-22

**RE: Waiver Request – Site Plan Application
Passamaquoddy Yard (Tax Map 29, Lot 34)
Passamaquoddy Lane, Eliot Maine**

Dear Mr. Brubaker:

The purpose of this letter is to request that the Planning Board consider a waiver from compliance with the Town of Eliot Code of Ordinances. The waiver requests and justifications follow:

Code of Ordinances Chapter 33 Article III Division 4 §33-127(12) – High Intensity Soils Report

A waiver from the requirement that a high intensity soil survey (HISS) and report signed and sealed by a Maine Certified Soil Scientist is requested. Rationale for this waiver follows:

- The site is currently in use as a rough laydown yard leased to contractors associated with the Town Sewer Expansion Project containing vehicles and construction reclaim. The yard's surface is comprised of old, compacted reclaim and gravel present for an unknown amount of time. Conducting a soil survey of the native material through such materials would prove difficult, and the site is already serving its intended use, albeit in a reduced capacity from the scope of the proposed developments. Conducting a HISS would also very likely fail to identify if there were tanks or pockets of hazardous materials located on site as there would only be a handful of test pits with each test pit being a circle of a few feet in diameter while the size of the existing yard measures an approximate 34,300 s.f. in size. Such exploration of subsurface materials is not the intended purpose of a HISS.

Please contact me if any additional information or clarifications are required.

Sincerely;

Kenneth A. Wood, P.E.

C338-22 Waiver Request_REV.doc

FOR OFFICE USE ONLY:

PERMIT NO.: _____

ISSUE DATE: _____

FEE AMOUNT: _____

TOWN OF ELIOT
SHORELAND ZONING PERMIT APPLICATION

GENERAL INFORMATION

1. APPLICANT Kenneth A. Wood Attar Engineering, Inc.	2. APPLICANT'S ADDRESS 1284 State Road Eliot, ME 03903	3. APPLICANT'S TEL. # 207-439-6023
4. PROPERTY OWNER John (Rick) Pollard	5. OWNER'S ADDRESS P.O. Box 61 Eliot, ME 03903	6. OWNER'S TEL. # 207-439-8871
7. CONTRACTOR Same as owner(above)	8. CONTRACTOR'S ADDRESS	9. CONTRACTOR'S TEL. #
10. LOCATION/ADDRESS OF PROPERTY Passamaquoddy Lane	11. TAX MAP/PAGE & LOT # AND DATE LOT WAS CREATED Tax Map 29 Lot 34	12. ZONING DISTRICT C/I
<div>13. DESCRIPTION OF PROPERTY INCLUDING A DESCRIPTION OF ALL PROPOSED CONSTRUCTION, (E.G. LAND CLEARING, ROAD BUILDING, SEPTIC SYSTEMS, AND WELLS - PLEASE NOTE THAT A SITE PLAN SKETCH IS REQUIRED ON PAGE 3).</div> <div>Wet wooded area featuring a travel easement with a partially constructed paved road.</div>		

14. PROPOSED USE OF PROJECT	15. ESTIMATED COST OF CONSTRUCTION
Laydown yard for equipment and vehicle storage	\$15,000 - \$20,000 for the detention pond

SHORELAND AND PROPERTY INFORMATION

16. LOT AREA (SQ. FT.) 357,591	17. FRONTAGE ON ROAD (FT.) 916
18. SQ. FT. OF LOT TO BE COVERED BY NON-VEGETATED SURFACES 43,039	19. ELEVATION ABOVE 100 YR. FLOOD Unknown, base flood elevation for Zone A is undetermined
20. FRONTAGE ON WATERBODY (FT.) Approx. 650' on Great Creek	21. HEIGHT OF PROPOSED STRUCTURE No structures are proposed
22. EXISTING USE OF PROPERTY Undeveloped laydown storage	23. PROPOSED USE OF PROPERTY Developed laydown yard

Note: Questions 24 & 25 apply only to expansions of portions of existing structures which are less than the required setback.

<p>24. A) TOTAL FLOOR AREA OF PORTION OF STRUCTURE WHICH IS LESS THAN REQUIRED SETBACK AS OF 1/1/89:</p> <p align="center">N/A SQ. FT.</p> <p>B) FLOOR AREA OF EXPANSIONS OF PORTION OF STRUCTURE WHICH IS LESS THAN REQUIRED SETBACK FROM 1/1/89 TO PRESENT:</p> <p align="center">N/A SQ. FT.</p> <p>C) FLOOR AREA OF PROPOSED EXPANSION OF PORTION OF STRUCTURE WHICH IS LESS THAN REQUIRED SETBACK:</p> <p align="center">N/A SQ. FT.</p> <p>D) % INCREASE OF FLOOR AREA OF ACTUAL AND PROPOSED EXPANSIONS OF PORTION OF STRUCTURE WHICH IS LESS THAN REQUIRED SETBACK SINCE 1/1/89:</p>	<p>25. A) TOTAL VOLUME OF PORTION OF STRUCTURE WHICH IS LESS THAN REQUIRED SETBACK AS OF 1/1/89:</p> <p align="center">N/A CUBIC FT.</p> <p>B) VOLUME OF EXPANSIONS OF PORTION OF STRUCTURE WHICH IS LESS THAN REQUIRED SETBACK FROM 1/1/89 TO PRESENT:</p> <p align="center">N/A CUBIC FT.</p> <p>C) VOLUME OF PROPOSED EXPANSION OF PORTION OF STRUCTURE WHICH IS LESS THAN REQUIRED SETBACK:</p> <p align="center">N/A CUBIC FT.</p> <p>D) % INCREASE OF VOLUME OF ACTUAL AND PROPOSED EXPANSIONS OF PORTION OF STRUCTURE WHICH IS LESS THAN REQUIRED SETBACK SINCE 1/1/89:</p>
--	--

$(\% \text{ INCREASE} = \frac{B+C}{A} \times 100)$ <u>N/A</u> %	$(\% \text{ INCREASE} = \frac{B+C}{A} \times 100)$ <u>N/A</u> %
--	--

NOTE: IT IS IMPERATIVE THAT EACH MUNICIPALITY DEFINE WHAT CONSTITUTES A STRUCTURE, FLOOR AREA, AND VOLUME AND APPLY THOSE DEFINITIONS UNIFORMLY WHEN CALCULATING EXISTING AND PROPOSED SO. FT. AND CU. FT.

SITE PLAN

PLEASE INCLUDE: LOT LINES; AREA TO BE CLEARED OF TREES AND OTHER VEGETATION; THE EXACT POSITION OF PROPOSED STRUCTURES, INCLUDING DECKS, PORCHES, AND OUT BUILDINGS WITH ACCURATE SETBACK DISTANCES FROM THE SHORELINE, SIDE AND REAR PROPERTY LINES; THE LOCATION OF PROPOSED WELLS, SEPTIC SYSTEMS, AND DRIVEWAYS; AND AREAS AND AMOUNTS TO BE FILLED OR GRADED. IF THE PROPOSAL IS FOR THE EXPANSION OF AN EXISTING STRUCTURE, PLEASE DISTINGUISH BETWEEN THE EXISTING STRUCTURE AND THE PROPOSED EXPANSION.

NOTE: FOR ALL PROJECTS INVOLVING FILLING, GRADING, OR OTHER SOIL DISTURBANCE YOU MUST PROVIDE A SOIL EROSION CONTROL PLAN DESCRIBING THE MEASURES TO BE TAKEN TO STABILIZE DISTURBED AREAS BEFORE, DURING AND AFTER CONSTRUCTION (See attached guidelines)

See attached plan set

SCALE: _____ = _____ FT.

FRONT OR REAR ELEVATION

SIDE ELEVATION

See attached plan set

DRAW A SIMPLE SKETCH SHOWING BOTH THE EXISTING
AND PROPOSED STRUCTURES WITH DIMENSIONS

ADDITIONAL PERMITS, APPROVALS, AND/OR REVIEWS REQUIRED

CHECK IF REQUIRED:

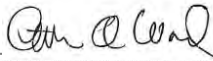
- PLANNING BOARD REVIEW/APPROVAL
(e.g. Subdivision, Site Plan Review)
- BOARD OF APPEALS REVIEW/APPROVAL
- FLOOD HAZARD DEVELOPMENT PERMIT
- EXTERIOR PLUMBING PERMIT
(Approved HHE 200 Application Form)
- INTERIOR PLUMBING PERMIT
- DEP PERMIT (Site Location,
Natural Resources Protection Act) (NRPA Attached)
- ARMY CORPS OF ENGINEERS PERMIT
(e.g. Sec. 404 of Clean Waters Act) (Self Verification Notification)

OTHERS:

NOTE: APPLICANT IS ADVISED TO CONSULT WITH THE CODE ENFORCEMENT OFFICER AND APPROPRIATE STATE AND FEDERAL AGENCIES TO DETERMINE WHETHER ADDITIONAL PERMITS, APPROVALS, AND REVIEWS ARE REQUIRED

I CERTIFY THAT ALL INFORMATION GIVEN IN THIS APPLICATION IS ACCURATE. ALL PROPOSED USES SHALL BE IN CONFORMANCE WITH THIS APPLICATION AND THE TOWN OF ELIOT SHORELAND ZONING ORDINANCE. I AGREE TO FUTURE INSPECTIONS BY THE CODE ENFORCEMENT OFFICER AT REASONABLE HOURS.

APPLICANT'S SIGNATURE



AGENT'S SIGNATURE (if applicable)

DATE

11/6/2023

DATE

APPROVAL OR DENIAL OF APPLICATION

____ MAP ____ LOT #

(For Office Use Only)

THIS APPLICATION IS: ____ APPROVED ____ DENIED

IF DENIED, REASON FOR DENIAL:

IF APPROVED, THE FOLLOWING CONDITIONS ARE PRESCRIBED:

NOTE: IN APPROVING A SHORELAND ZONING
PERMIT, THE PROPOSED USE SHALL COMPLY WITH THE PURPOSES AND
REQUIREMENTS OF THE SHORELAND ZONING ORDINANCE FOR THE TOWN
OF ELIOT.

CODE ENFORCEMENT OFFICER
DATE

x

NOTE: THIS CHECKLIST IS INTENDED TO ASSIST THE CEO IN
TRACKING A SHORELAND ZONING PERMIT THROUGH THE
REVIEW PROCESS

Appendix 1

SHORELAND ZONING PERMIT CHECKLIST

CHECKOFF FOR ALL STRUCTURES:

- COMPLETE SHORELAND ZONING PERMIT APPLICATION
- PAY APPROPRIATE FEE
- LOT AREA
- % OF LOT COVERED BY NON-VEGETATED SURFACES
- HEIGHT OF STRUCTURE
- SETBACK FROM HIGH WATER LINE
- ELEVATION SETBACK FROM SIDE AND REAR LOT LINES
- % INCREASE OF EXPANSIONS OF PORTION OF STRUCTURE WHICH IS LESS THAN REQUIRED SETBACK
- COPY OF INTERIOR AND EXTERIOR PLUMBING PERMITS
- COPY OF DEED
- ELEVATION OF LOWEST FLOOR TO 100 YEAR FLOOD ELEVATION
- COPY OF ADDITIONAL PERMIT(S) AS REQUIRED
(See Page 5 of Application Form)
- SOIL EROSION CONTROL PLAN PROVIDED

CHECKOFF FOR FURTHER REVIEW:

- COPY OF FILE TO BOARD OF APPEALS IF VARIANCE OR SPECIAL EXCEPTION IS REQUIRED
- COPY OF FILE TO PLANNING BOARD IF PLANNING BOARD REVIEW IS REQUIRED

CHECK OFF FOR SITE VISITS BY CEO:

- PRIOR TO CLEARING AND EXCAVATION
- PRIOR TO FOUNDATION POUR
- PRIOR TO FINAL LANDSCAPING
- PRIOR TO OCCUPANCY

NOTE: WHERE THE SHORELAND ZONING ORDINANCE REQUIRES A VARIANCE, A CONDITIONAL USE, OR SPECIAL EXCEPTION BY THE BOARD OF APPEALS OR THE PLANNING BOARD, THEN THIS SPECIAL PERMIT SHALL BE COMPLETED BY THE APPROPRIATE BOARD AND ATTACHED TO THE SHORELAND PERMIT APPLICATION.

Appendix 2

[Maine Department of Agriculture, Conservation & Forestry](#)

[DACF Home](#) → [Bureaus & Programs](#) → [Maine Natural Areas Program](#) → [Communities, Plants, and Animals](#) → [Invasive Plants](#) → Japanese Knotweed

Maine Natural Areas Program



Japanese knotweed

Japanese Knotweed

(Mexican bamboo)

Fallopia japonica

2019 Status in Maine: Widespread. Severely Invasive.

Description: Robust, very tall (to 10') perennial herb growing in dense stands. **Leaves:** Simple, alternate, entire, flat at base and abruptly tapering to pointed tip, ~6" long and 3-4" wide. **Flowers:** Small, white, abundant, in small spikes along stems, late summer in Maine (late July or August). **Fruits:** Small, (<½") with thin "wings" to enable wind dispersal. **Stem:** 1-2" diameter, round, hollow, with swollen nodes where leaves meet the stem. Dead, brown-red stalks persist through winter.

Native range: Eastern Asia. **How arrived in U.S.:** As an ornamental; also for fodder and erosion control.

Reproduction: Mostly by fragments of living stem or rhizome. Fertile seeds are sometimes produced, and all seed should be treated as potentially viable. Can sprout from any stem node or rhizome fragment.

Habitat: Open uplands, riverbanks, lakeshores, forest edges, disturbed areas within the forest. Extremely adaptable, tolerant of dry to seasonally saturated soils. Especially problematic along larger rivers where spring flooding transports live rhizomes downstream.



Japanese knotweed branch, note zig-zag shape of stem

Similar native species: None in our area.

Similar non-native species: Giant knotweed (*Fallopia sachalinensis*) is typically taller than Japanese knotweed (to 12') and has larger leaves with heart-shaped bases that taper more gradually toward the tip. The two species hybridize (*F.x boehemicum*), and can back-cross. Giant knotweed and the hybrid are also invasive.

Fact Sheets and Identification Links

- [Kings County, Wisconsin](http://www.kingcounty.gov/environment/animalsAndPlants/noxious-weeds/weed-identification/invasive-knotweeds/knotweed-control-video.aspx) (<http://www.kingcounty.gov/environment/animalsAndPlants/noxious-weeds/weed-identification/invasive-knotweeds/knotweed-control-video.aspx>), link to several videos, the first is about identification
- Go Botany page for *Fallopia japonica* (<https://gobotany.nativeplanttrust.org/species/fallopia/japonica/>)
- New Hampshire Department of Agriculture, Markets & Food [Preventing the Spread of Japanese Knotweed](https://www.agriculture.nh.gov/publications-forms/documents/japanese-knotweed-bmps.pdf) (<https://www.agriculture.nh.gov/publications-forms/documents/japanese-knotweed-bmps.pdf>)
- PennState Extension [Japanese Knotweed](https://extension.psu.edu/japanese-knotweed) (<https://extension.psu.edu/japanese-knotweed>)
- Michigan DNR [Best Control Practices Japanese Knotweed](https://www.michigan.gov/invasives/-/media/Project/Websites/invasives/Documents/Best-Control-Practices/knotweed_BCP.pdf) (https://www.michigan.gov/invasives/-/media/Project/Websites/invasives/Documents/Best-Control-Practices/knotweed_BCP.pdf)

Control Methods

New patches (<20 stems) can be cut repeatedly throughout the growing season^{*(#fn1)}, as often as once/week, for several years. Larger patches cannot be controlled manually without a persistent, reliable labor source. Smothering with heavy black landscaping cloth or erosion control fabric can be successful but requires biweekly maintenance and must be repeated for up to 10 years; see references for sources of information on this method. Herbicides^{†(#fn2)} are effective. For small patches, use stem injection or cut-drip applications of glyphosate^{*(#fn1)}. Be sure to dispose of cut stems carefully. For large patches, cut or mow when plants are approximately 3' tall, then apply glyphosate as foliar spray when plants have re-grown to 3-5' tall later in the same growing season, or apply to uncut, mature stems just before flowering. Avoid application of foliar herbicide during flowering as bees are attracted to this species. Follow-up will be needed in almost all circumstances. ***Special rules apply to herbicide use in or near wetlands and water bodies - consult the [Maine Board of Pesticides Control](https://www.maine.gov/dacf/php/pesticides/) (<https://www.maine.gov/dacf/php/pesticides/>).***

* Correctly dispose of all plant parts^{‡(#ref1)} † Follow all label directions when using herbicides^{‡(#ref2)}



Japanese knotweed plant, which is a single clone

Control Technique Video Demonstrations

- [Kings County, Wisconsin \(10:00 total\)](http://www.kingcounty.gov/environment/animalsAndPlants/noxious-weeds/weed-identification/invasive-knotweeds/knotweed-control-video.aspx) (<http://www.kingcounty.gov/environment/animalsAndPlants/noxious-weeds/weed-identification/invasive-knotweeds/knotweed-control-video.aspx>), several videos explaining mechanical and chemical methods, including herbicide stem injection
- [USFWS West Virginia Field Office \(6:30\)](https://www.youtube.com/watch?v=6lOGgOkpUYM) (<https://www.youtube.com/watch?v=6lOGgOkpUYM>), ecology of species, cutting to manage height for herbicide application

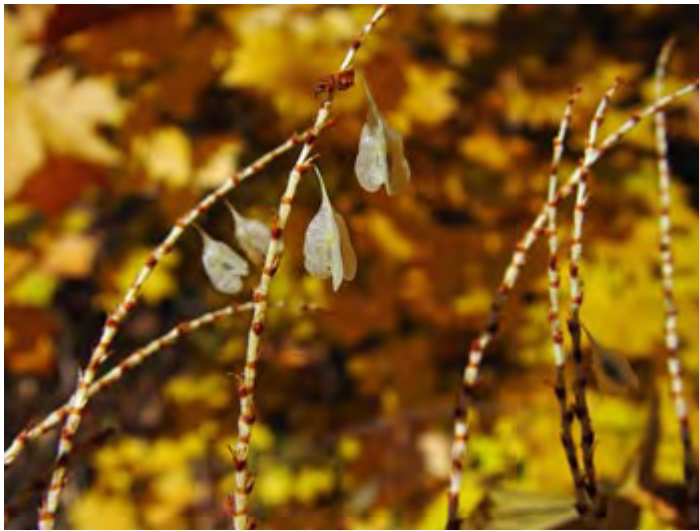
Please email invasives.mnap@maine.gov ([mailto:invasives.mnap@maine.gov?subject=invasive species question](mailto:invasives.mnap@maine.gov?subject=invasive%20species%20question)) if you have questions about invasive species in Maine



Japanese knotweed cut stem, showing hollow center and node



Japanese knotweed flowers



Japanese knotweed fruit



Japanese knotweed shoots

Credits

Preventing the Spread of **Japanese knotweed**

Reynoutria japonica

(AKA: *Fallopia japonica*, *Polygonum cuspidatum*)



Best Management Practices

New Hampshire Department of Agriculture,
Markets & Food
2018

Prepared by: Douglas Cygan

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Purpose statement:

Japanese knotweed is an aggressive invasive plant species that is becoming more widespread in the state of New Hampshire and the northeast. Because it can be spread vegetatively, the probability of moving Japanese knotweed during routine maintenance and in fill material associated with construction activities is increasing across the state, leaving municipalities and landowners with the costs associated with remediation of this destructive weed. Because of this, it is worthwhile to consider how to address Japanese knotweed movement prior to maintenance activities and during the planning phase of construction projects, rather than mitigating the damage post-construction. These BMPs will help you to understand the risks associated with Japanese knotweed; how Japanese knotweed is moved, both naturally and as a part of maintenance and construction activities; identify some basic critical control points to reduce the movement of Japanese knotweed; and provide some Integrated Pest Management (IPM) based control methods for Japanese knotweed.



Japanese knotweed in flower

Regulatory statement:

Japanese knotweed is a listed prohibited invasive species in the State of New Hampshire, and as such: “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” (Agr 3802.01(b)). Transportation of Japanese knotweed in fill is a violation of these rules, and the NH Department of Agriculture, Markets & Food (DAMF) has enforcement authority of these rules. However, a regulatory response is only initiated *after* the knotweed has been moved and a resulting violation confirmed.

A strictly regulatory response to violations is not the most effective way to manage for Japanese knotweed. Effective management involves including best management practices as part of your overall plan – including ensuring that clean fill is used, vehicles are cleaned, and properties are inspected periodically throughout the process. This manual should help you to achieve these goals.

Who should use this manual:

This manual is intended to provide management strategies for developers, site managers, contractors, utility companies, sand & gravel operations, highway/roadway maintenance crews, landscapers, property owners and others working on projects where Japanese knotweed occurs. It is intended to reduce the risk of spreading Japanese knotweed by providing effective on-site management practices.

What is Japanese knotweed:

Japanese knotweed (*Reynoutria japonica* also known as *Fallopia japonica* and *Polygonum cuspidatum*) is an aggressive and highly invasive herbaceous to somewhat woody perennial originating from eastern Asia (Japan, Korea, China and Taiwan). Japanese knotweed is very similar to two other closely related invasive knotweeds found in New Hampshire: giant knotweed (*Reynoutria sachalinensis*) and Bohemia knotweed (*Reynoutria ×bohemica* [*R. japonica* x *R.*

sachalinensis]. All three knotweeds should be managed following the practices described in this manual. Japanese knotweed is one of the 1,200 species found in the buckwheat / knotweed family (Polygonaceae). One of the family characteristics that this plant has are noticeably jointed stems leading many people to believe Japanese knotweed is actually a bamboo. It was first brought to the United States in the late 1800's for ornamental and horticultural purposes. It quickly became popular in the nursery trade and has been planted in landscapes throughout North America. It was also planted for erosion control and as a forage crop; little did they know at the time how damaging these practices would be.

Invasive characteristics of Japanese knotweed:

- Fast growing, ~ 8" per day
- Large woody rhizomes that penetrate the ground up to 10' deep and laterally can exceed 40'
- Allelopathic properties (*chemical compounds that are released by certain plants to eliminate vegetative competition*) allowing it to displace native vegetation
- Forms dense clonal communities
- Regenerates from rhizome fragments as small as ½" in length
- Rhizomes can remain dormant for up to 20-years
- Cut or mowed stem fragments can regenerate from nodes
- Outcompetes native species and reduces or eliminates native plant diversity
- Grows through concrete and pavement causing issues with infrastructure, utilities, drainage, septic systems, walls, and foundations

Movement and dispersal:

Construction/Earth Moving activities are one of the leading causes of Japanese knotweed spreading throughout the state. Small ½" fragments of its rhizomes can survive long periods of time in a dormant state and regenerate when conditions allow, which is why it is imperative to scout for and manage Japanese knotweed prior to moving any earthen materials both on and off site. The most common cause of spread is the result of construction activities in areas where Japanese knotweed occurs such as, routine maintenance of roadway drainage channels, slope work, or site-work involving excavation. Screening earthen material containing knotweed rhizomes often results in the rhizomes being chopped into numerous viable propagules waiting to regenerate.



Mowing/Cutting can result in the spread of Japanese knotweed under certain conditions. Mowed/cut stems/fragments with nodes/joints have the ability to develop adventitious roots and shoots if they come in contact with moist soils or water. This occurs when clods of mowed/cut knotweed stems accumulate on equipment and eventually drop off. Larger stem pieces usually have sufficient moisture reserves to retain their viability whereas mowed/chewed up stem fragments are less likely to regenerate on their own.

Mowing/cutting does nothing to manage or reduce knotweed populations. In fact, these types of impacts typically break dormancy of lateral buds along the rhizomes thus expanding the outer limits of the population. Mowing/cutting should only be done if safety is an issue and the equipment is

cleaned before moving off site. If mowing/cutting is required, then foliar herbicide treatments or smothering should be integrated as part of the management effort.

Pathways for introduction of Japanese knotweed:

Vector	Notes	Long Distance
Construction - residential/commercial	Excavation of earthen material	Yes
Roadway – construction/maintenance	Excavation of earthen material	Yes
Machinery/equipment	Tracks, tire treads, soil clods	Yes
Rivers - flowing water/flooding	Scour damage, uprooting	Yes
Collecting - specimens	Hedge/fence row/specimen	Yes
Mowing – viable stem fragments	Stem fragments, mower decks	Yes

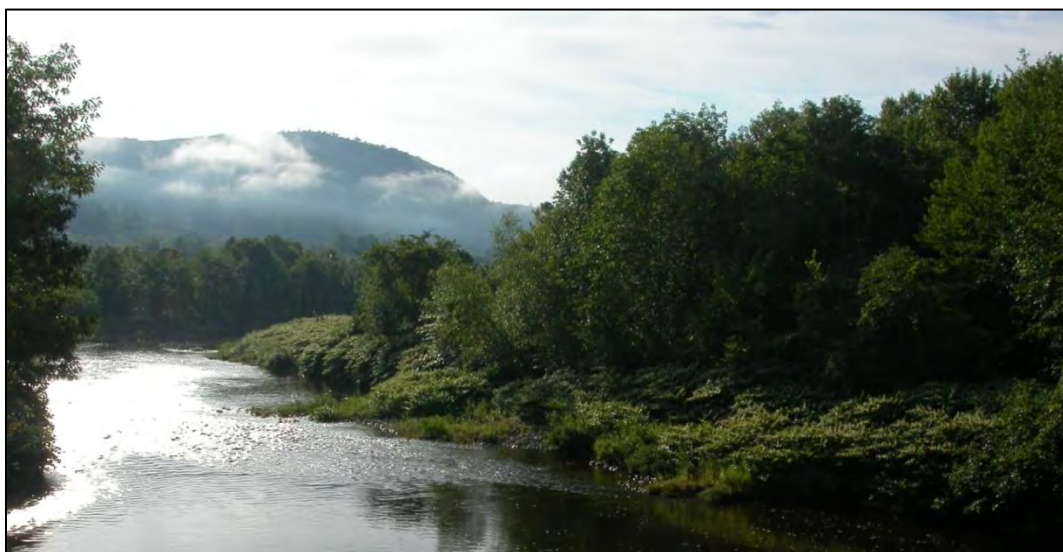
Japanese knotweed impacts:

Structural:

When Japanese knotweed occurs adjacent to man-made structures such as bridge abutments, roads, sidewalks, parking lots, and foundations, the rhizome can damage and even weaken their structural integrity as the rhizome system expands in size. As the rhizome increases in diameter, upward pressure is exerted, which can split structures at their weakest points. The rhizomes can also damage subsurface drainage, underground conduits, septic systems, etc.

Environmental:

Japanese knotweed can spread very quickly and forms dense colonies that out-compete native vegetation by blocking sunlight, releasing chemicals (allelopathic) from its rhizome that suppress plant growth and germination, and robbing nutrients and water from the soil. In floodplain and shoreline habitats, knotweed is moved by flowing water during flooding and ice flow events. Whole or partial Japanese knotweed plants are carried downstream and take hold to form new populations. The Baker River is one of New Hampshire's river systems being choked by knotweed. Increases in Japanese knotweed populations within riverine systems can impede water flow and lead to increased risk of flooding.



The Baker River in Rumney, NH, just one of the many areas along this resource choked by Japanese knotweed

Reproduction by seed is not typically an issue that warrants the same precautionary measures as with vegetative propagules. Although seeds can and do germinate, they rarely survive. Seeds and seedlings tend to be fed on by small mammals, injured by frost, or fail to develop due to dry soil conditions and/or lack of sunlight.

The low risk of Japanese knotweed establishing via seed (sexual reproduction) clearly indicates that human activities are a primary cause for its spread and establishment on embankments and floodplains associated with surface waters and wetlands. The source of reproductive material for these areas usually originates from Japanese knotweed growing within the watershed, which was brought there in fill material for commercial / residential development and/or road construction / maintenance. Human activities and/or sheet flow runoff can transport living and viable propagules into surface waters and adjacent habitats where they take root. Because there is a close relationship between human activities and the spread of Japanese knotweed, due diligence can significantly reduce the spread, as well as the economic and environmental costs of Japanese knotweed.

Community:

Japanese knotweed has very few aesthetic qualities that make it a desirable landscape plant, especially as the aboveground portion of the plant dies off leaving dead persistent stalks from late fall to spring. In unmaintained areas and natural habitats, these dead-brown stalks remain standing for up to 5-years. In urban environments, debris and trash tend to accumulate in Japanese knotweed thickets and, in some cases rat/rodent populations increase. Japanese knotweed stands also provide discrete locations for drug use and other illicit activities. All of these factors diminish intrinsic and monetary values of communities, personal property, and natural landscapes.

Economic:

The presence of Japanese knotweed in any location whether in development/construction sites, occurring along roadways, adjacent to homes or buildings or choking rivers and waterways all cause economic impacts. These impacts are difficult to quantify, but are attributed to structural damage/failure, safety concerns for motorists, flooding damage, and loss of important habitats.

According to 2016 cost estimates from the Rockingham County Conservation District (RCCD), the typical cost to manage knotweed using a glyphosate based product is approximately \$500/acre for the initial treatment. A follow up second year treatment costs approximately \$300/acre and if treatments for a third and subsequent years are necessary, the cost is around \$200/acre/per year. These cost figures do not include site remediation, removal of vegetative growth, soil stabilization or revegetation.

Identification of Japanese knotweed:

Japanese knotweed grows to a height of 10' with a spreading habit of approximately 5'. When mature, the greenish stems with purple splotches grow to 1 inch in diameter and are hollow with segmented joints. The joints, where reproductive nodes form, have a characteristic tannish papery sheath, typical of plants in the buckwheat family. After the first killing frost in the fall, the entire aboveground portion of the plant dies off and turns brown. The stalks remain persistent throughout the winter and into the spring. Emergence from winter dormancy begins in April. The young shoots resemble those of asparagus and are sometimes collected for culinary purposes. Its rapid growth rate allows it to attain 8" in height per day.

Leaves are 4-7" long by 3-4" wide and arranged alternately along the zigzagged stems and branches. The leaf petioles arise from the nodes. The leaves themselves are semi-triangular in shape with smooth margins and a flat truncate base. One of the aspects of Japanese knotweed that allows it to outcompete native species is that the foliage density creates a thick canopy that significantly reduces light levels to the ground below.

Stems are upright, tall-10', greenish with purple splotches, hollow between raised nodes, profusely branched, and grow to 1" in diameter.

Rhizomes are horizontal underground stems that have a high capacity for storing carbohydrates for growth and overwintering. The rhizome accounts for 2/3 of the plant's entire mass and can travel up to 20' horizontally with some accounts of up to 60', and go 6-10' deep. Rhizomes have a dark brown exterior and a bright orange interior. Perennating buds found on the crown and along the rhizomes will also react to shoot damage, i.e., mowing/cutting, by sending up additional shoots along the rhizome. This typically results in radial/clonal spread of the plant and increases its shoot density. These latent buds also allow rhizome fragments, as small as ½" long, to regenerate into new plants when severed. This can occur from ice flows along waterways or by construction activities involving excavation where Japanese knotweed occurs. Evidence also shows that Japanese knotweed releases chemicals into the soil in the form of allelopaths for the purpose of eliminating competition.

Flowering begins in mid-August and lasts for about 3-weeks. The flowers are small, whitish-green and form dense clusters, called panicles, from the leaf axils. The flowers are pollinated by insects, primarily honeybees and other types of bees. *Because of issues with honeybee and native bee decline, any attempt at using chemical control should be delayed until after flowering and honeybees and other pollinators are no longer present.*

Japanese knotweed is a dioecious type plant, meaning there are both male and female plants. Although it is typically thought that Japanese knotweed seeds are sterile, an anecdotal study conducted by the DAMF found a germination rate of 95% for seeds collected throughout New Hampshire. This anecdotal evidence shows that it can be spread from seed and not just rhizome and stem fragments. Several factors may limit the seeds' ability to become fully mature including competition, dry or wet conditions, shade, predation and frost damage. Examination of where Japanese knotweed occurs clearly demonstrates an association with disturbance events rather than seed dispersal. The seeds that form immediately after flowering are contained in a 3-wing calyx that can be carried in the wind or by water.

What to look for:

- fleshy red tinged shoots when breaking through the ground
- large, heart or spade-shaped green leaves
- leaves arranged in a zig-zag pattern along the stem
- a hollow stem, like bamboo
- dense clumps that can be several meters deep
- clusters of cream flowers towards mid-August that attract bees
- die back between September and November, leaving brown stems



Japanese knotweed flowers

Pre-construction considerations:

1. Survey the site for the presence of Japanese knotweed prior to buying or commencing work.
 - a. Learn how to identify Japanese knotweed, and other invasive plants.
 - b. If site has been disturbed / cleared, look for emerging shoots poking through the soil.
 - c. Look at aerial imagery (Google Earth, Bing Maps or other program) to search for possible presence of Japanese knotweed.
 - d. If Japanese knotweed does occur, determine feasibility and prudence for management.
2. Timeframe for treatment and development
 - a. Develop management plans that will meet the timeframe of the project.
 - b. Initiate herbicide treatments or smothering within the necessary timeframe (3-5 years) to ensure success.
3. Management of treated material
 - a. Herbicide treatments are often not successful the first time and require retreatment. Plan accordingly and if the material is needed only use it in locations where further treatments can occur.
4. Keep all material on-site, if possible. If this is not possible, ensure that it will be going to a location where it can be monitored and corrective action taken if needed.

Management guidelines:

1. Provide identification training for employees and contractors involved with scouting or performing vegetation management
2. Prior to initiating any project conduct a site visit to scout for and locate Japanese knotweed. This step is critical. It is worth the time to do a thorough job. Plot infestations on plans to make personnel aware of their locations.
3. Consider which management method is most appropriate for the scale of the knotweed population - herbicide treatments or smothering.
4. Plan activities to eradicate the Japanese knotweed prior to commencement of work. If herbicides are used, then the application needs to be done within the timeframe outlined on the pesticide label.
5. Avoid working in areas where Japanese knotweed occurs.
6. Do not reuse soils containing Japanese knotweed plant parts/propagules. If soil associated with Japanese knotweed needs to be excavated and moved, then stockpile the material on-site.
7. If on-site fill piles already have Japanese knotweed, treat chemically or smother.
8. Do not bring Japanese knotweed infested soils to the site. If soil is required from off-site sources, inspect the source, site, and material prior to purchase. If Japanese knotweed is found on piled material, inform the company of the regulations regarding the movement of Japanese knotweed.
9. Maintain a 20' buffer beyond the aboveground portion of the Japanese knotweed to prevent excavating rhizome fragments.
10. Prior to moving equipment out of an infested area, inspect and clean by removing all soils, seeds and/or plant parts. This can be done manually or by pressure washing. Avoid washing oils and greases from equipment to reduce risk of contamination.
11. Stabilize and revegetate disturbed soils as soon as possible.
12. Use non-invasive cover crops or native seed for revegetation.
13. Monitor the site to ensure that control methods were effective.
14. Do not move soils containing living and viable propagules off-site unless for proper treatment/disposal.
15. Periodically inspect the project to determine if Japanese knotweed fragments are beginning to establish.

16. Conduct an inspection at the completion of the project to ensure that Japanese knotweed plants have not established. If they have, meet with the project management team to determine a response.
17. Consider including a clause in contracts requiring inspection of the project site one year after completion to address any discovered Japanese knotweed stands resulting from the construction activities.

Methods to control Japanese knotweed:

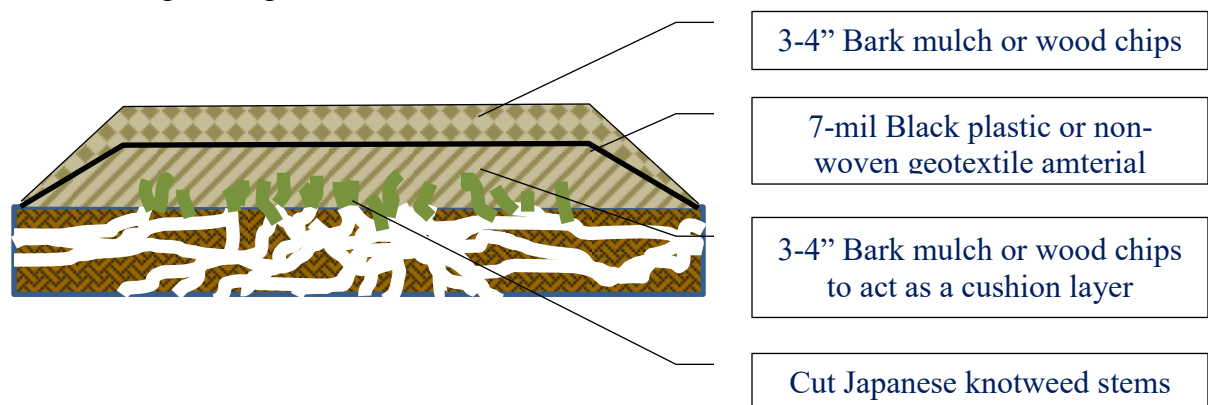
The following methods detail several options available for the management / eradication of Japanese knotweed plants, and knotweed infested soil both on-site and off-site. The methods are based on Integrated Pest Management (IPM), which is based on mechanical, cultural, biological and chemical controls.

Mechanical:

Mowing/Cutting alone will not eradicate Japanese knotweed and, therefore, should only be used in combination with herbicide applications or smothering. Cutting the aboveground portion of the plant usually stimulates dormant lateral buds along the rhizome system, which then send up new shoots further away from the crown, essentially increasing the total number of stems and extending the limits of the stand. This can have a serious impact to buildings and roadway infrastructure. The cut portion of the Japanese knotweed can be left in place and allowed to dry in the sun. Once the cut stems turn tan to brown in color they are no longer a threat. If freshly cut portions of the plant are moved to another location, ensure they do not come in contact with moist soil, wetlands or surface waters where they can regenerate.

Hand pulling or digging should be limited to new populations that came in with soil containing propagules of Japanese knotweed or small young populations where only a handful of stalks occur. New occurrences in construction sites or work areas can easily be removed by grasping onto the emerging stalks and pulling. If they resist then using a shovel or spade dig adjacent to the stalk to access the rhizome. Ensure that all dug plant material is destroyed before disposing of elsewhere. If herbicide was used as a control method, it's possible that it may take 3-5 years to determine if the management was 100% successful

Smothering is a very effective alternative if you wish to avoid the use of herbicides. Not only does it eliminate the need for chemicals, but there are also no soil disturbance/erosion issues. Here are the general guidelines:



1. Allow the knotweed to grow in the spring without attempting to control it;
2. Cut the knotweed at the base and close to the ground around the first week in June (allowing for early rapid growth causes the plant to exhaust the stored carbohydrates thus weakening the rhizome system);

3. Pile all of the stems on an impervious surface such as a tarp, plastic, pavement, etc. so they can dry (after turning brown the stems are no longer viable or a threat);
4. Spread an adequate layer of mulch, grass clipping or other material over the cut stems to prevent them from puncturing the tarp or plastic, which will be applied in the next step;
5. Cover the entire area with the biggest heavy-duty dark colored tarp you can find, or use large sheets of thick (7-mil or thicker) black plastic. If more than one tarp or sheet of plastic is used make sure to have a wide overlap of 2' between sheets to prevent sunlight from penetrating. Also, make sure the cover material extends a few feet beyond the limit of knotweed in all directions;
6. Weight the top of the tarp/plastic and seal the edges with rocks, sticks, soil, sand, mulch, etc. Do not puncture the tarp/plastic as this can allow knotweed stems to survive. If any tears or holes develop, patch them.
7. If aesthetics is an issue, the tarp/plastic can be covered with attractive bark mulch or other material. If it's on a steep slope some method of anchoring will be required to ensure the mulch doesn't slide off into the surface water. Mulch also protects the plastic from UV photo-degradation.
8. After 5 years the covering material can be removed and the area replanted. If the area falls under the Comprehensive Shoreland Protection Act (CSPA) then approved plants must be used.

Although this method is time consuming it has been very successful for use in sensitive areas here in NH.

Cultural:

Cultural control involves the alteration to the environment to make it inhospitable for the invasive plant to grow. Unfortunately, Japanese knotweed is highly adaptable to most environments and conditions and cultural controls are not an option. Japanese knotweed grows in soil pH levels ranging from 3.0 to 8.5, it tolerates wet soils, dry soils, and dappled shade. Controlled burning and grazing are also not effective as only the upper portion of the plant is affected and the rhizome system remains intact.

Biological:

Biological control of Japanese knotweed is currently unavailable (as of 2016). However, research is underway to evaluate a leaf-eating insect imported from Japan called a *psyllid*. The *psyllid* was found on knotweed growing wild in Japan and is undergoing host specificity tests with the USDA. The New Hampshire Department of Agriculture, Markets & Food (DAMF) will continue to monitor the status of its availability in hopes that it will soon be viable option for control.

Chemical:

Chemical control can be very effective for managing Japanese knotweed, but can only be done by a NH licensed herbicide applicator or by property owners on their land. Special permits issued by the DAMF Pesticide Control Division may be required so plan accordingly and allow sufficient time for application processing.

Understanding Japanese knotweed physiology will greatly improve the success of chemical control measures. Japanese knotweed is unlike most plants in that the flow of nutrients/carbohydrates is in one direction. Nutrients/carbohydrates move upward during the growing season until flowering and then the process reverses to deliver the nutrients/carbs back down to the rhizome system for overwintering. Therefore, time the application so it occurs just after flowering up until the first killing frost (September – November). This greatly improves the efficacy of the treatment (*early season applications will have little effect on the plant other*

than foliage burn). **Another reason for waiting until after flowering is to avoid impacts to foraging honeybees and other pollinators.** Understanding the timing for chemical control is the key to success.

Herbicides containing the active ingredient (a.i.) glyphosate have been very effectively applied as a 2.5% solution foliar spray. Glyphosate bonds with the carbohydrates and is translocated throughout the rhizome system to kill the plant. In addition, a non-ionic surfactant / spreader / sticker should be used.

A strategy to increase efficacy of chemical control is to cut and remove the aboveground portion of the Japanese knotweed in early June, allowing the stalks to regenerate before treating. Cutting the aboveground portion of the plant automatically stimulates regrowth. This process requires energy stored in the rhizome to be used for new shoot development and thus weakens the rhizome system. Apply the chemical treatment as described above. An added benefit to doing a pretreatment cutting is that the shoots will be shorter at the time of treatment. Typically knotweed grows to 10' tall whereas the regrowth from cutting is usually about half the height, making it easier to access and confirm treatment coverage.

The use of herbicides does not guarantee complete success, and follow-up applications will likely be required for up to 3-5 years. Although 100% control has also been achieved, the average success rate is around 85% after the first treatment. If any viable Japanese knotweed plants survive they will continue to grow, spread and repopulate the site in a matter of years. Japanese knotweed has the ability to remain dormant for many years so even when the site looks to be free of it, it may just be waiting. Long-term monitoring and management is recommended.



Tech Tip

Thorough surveys and early planning efforts will increase the likelihood of success.

Disposal of Japanese knotweed:

- Japanese knotweed crowns and rhizomes can be disposed of by burning/incinerating, burying (>5' below ground), chipping, or sending to a landfill that will accept it. They cannot be stockpiled near wetland or surface waters unless they have been killed by herbicide or heat treatments. Composting crowns and rhizomes is **not** recommended.
- Brown dead stalks of Japanese knotweed can be composted. If the stems are freshly cut then they pose a risk of spreading and need to be dry before composting.
- Never dispose of Japanese knotweed into wetlands, surface waters or in areas with moist soil as the stems may take root.

Utilization of soil containing treated Japanese knotweed rhizomes:

Often the soil from an area with Japanese knotweed populations is needed elsewhere on a project or needs to be taken offsite. By the State's administrative invasive species rules, this can only be done if the Japanese knotweed propagules are non-living or non-viable, in other words, if the risk has been limited by treatment.

Although moving this soil it is not recommended as this could potentially spread surviving rhizome fragments, there are BMP's that can be used to reduce movement, including:

On-site:

Ensure that all of the Japanese knotweed plants have been treated using appropriate herbicides. Allow the herbicide to work and translocate throughout the plant to the point where the leaves become symptomatic / turn yellow. Soil material can then be excavated and moved wherever it is needed. Keep in mind that any remaining viable rhizome fragments can and probably will regenerate. It is your responsibility to ensure this does not happen, and if it does, it is your responsibility to remediate the issue to avoid a possible violation.

Off-site:

The DAMF recognizes that retention of soil materials on site is not always an option, e.g., in roadway maintenance projects or sand & gravel operations. If soil needs to be moved elsewhere, then actions need to be taken to ensure that any remaining viable Japanese knotweed propagules do not become established at their final destination. Any Japanese knotweed that survives needs to be controlled to prevent any possible violations. Deposition sites should not be adjacent to or in close proximity to wetlands, surface waters or sensitive habitats.

Other resources:**Japanese knotweed / invasive species reporting system:**

Populations of Japanese knotweed and other invasive species can be reported, by you, directly into the free mapping database program EDDMapS (www.eddmaps.org). This program maps the locations of known invasive species populations nationwide that can be used to determine potential problem areas or help track newly detected invasive species outbreaks for Early Detection & Rapid Response measures. EDDMapS can be accessed via their website, or by using the *Outsmart Invasives* smartphone app. This app automatically records the coordinates for the plant(s). The user must include a clear photo for verification purposes. Although the app includes numerous other data entry fields, they are not required since invasive populations are dynamic changing from year to year. Once the report is submitted it then goes to the approved verifier for the state and released if approved. The photo(s) and information are then available to anyone to view. The information EDDMapS provides can be a valuable resource for anyone involved with early planning and development stages for all types of development / construction.

New Hampshire Department of Agriculture, Markets & Food:

Available on the DAMF website (<http://agriculture.nh.gov/divisions/plant-industry/invasive-plants.htm>) are numerous invasive species fact sheets, control/management guidelines, and possible funding sources for non-commercial invasive plant control initiatives.

For additional information and guidance regarding Japanese knotweed and/or other invasive species, contact:

Douglas Cygan, Invasive Species Coordinator
New Hampshire Department of Agriculture, Markets & Food,
29 Hazen Drive
Concord, NH 03301
(603) 271-3488
Douglas.cygan@agr.nh.gov

Japanese knotweed Identifying Photos



Mature flowering Japanese knotweed cluster



Alternately arranged leaves on zig-zag stem



Jointed/segmented stem



Crown/rhizome



Underground rhizome structure

Japanese knotweed Identifying Photos



Stems are hollow and segmented with partitions



New shoots emerging in the spring-April/May



Many small whitish flowers along the stems



Flowers attract honeybees and other pollinators



Flowering is arranged in panicles



Seeds, 3-wing calyx, develop in the fall

What to look for during and post construction



Rhizome segments/fragments that have regenerated



Large segment of rhizome regenerating



Accidental spread from rhizome fragments



Construction site with regenerated rhizome segments

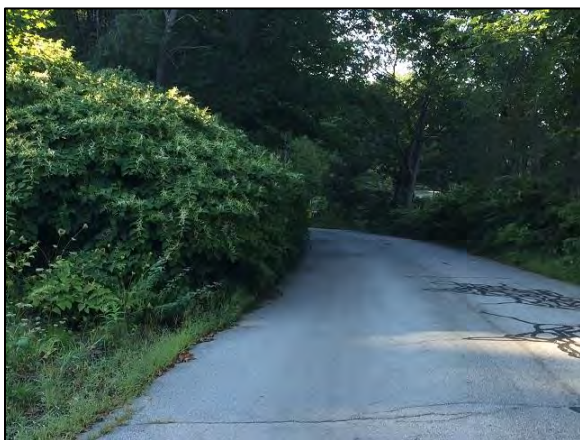


Wood chips containing Japanese knotweed



Erosion/scour damage moving rhizomes

Problems resulting from movement of Japanese knotweed propagules in soil material



Roadway sight distance and safety issues



Obstruction of fire hydrant



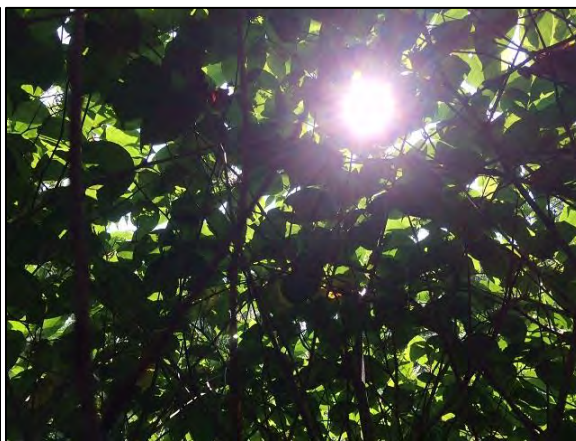
Structural damage to residential home/basement



Power grid sub-station impacts



River embankment/floodplain/farm field impacts



Dense canopy closure outcompetes native plants

Effects from herbicide and smothering



Herbicide effects on right vs untreated on left



Smothering using 7-mil black plastic and 4" mulch



Herbicide treatment after June cutting (Before)



Success of post flowering herbicide treatment (After)



Mutation resulting from insufficient herbicide



On-going project using herbicide to restore site



Catalog #: _____

Project: _____

Prepared By: _____

Date: _____

Steel Poles

Square Straight



QUICK LINKS

[Ordering Guide](#)[Configurations](#)[Dimensions](#)[EPA](#)

FEATURES & SPECIFICATIONS

Pole Shaft

- Straight poles are 4", 5", or 6" square.
- Pole shaft is electro-welded ASTM-A500 Grade C steel tubing with a minimum yield strength of 50,000 psi.
- On Tenon Mount steel poles, tenon is 2-3/8" O.D. high-strength pipe. Tenon is 4-3/4" in length.

Hand-Hole

- Standard hand-hole location is 12" above pole base.
- Poles 22' and above have a 3" x 6" reinforced hand-hole. Shorter poles have a 2" x 4" non-reinforced hand-hole.

Base

- Pole base is ASTM-A36 hot-rolled steel plate with a minimum yield strength of 36,000 psi.
- Two-piece square base cover is optional.

Anchor Bolts

- Poles are furnished with anchor bolts featuring zinc-plated double nuts and washers. Galvanized anchor bolts are optional.
- Anchor Bolts conform to ASTM F 1554-07a Grade 55 with a minimum yield strength of 55,000 PSI.

Ground Lug

- Ground lug is standard.

Duplex Receptacle

- Weatherproof duplex receptacle is optional.

Ground Fault Circuit Interrupter

- Self-testing Ground fault circuit interrupter is optional.

Finishes

- Every pole is provided with the DuraGrip Protection System and a 5-year limited warranty:
- When the top-of-the line DuraGrip Plus Protection System is selected, in addition to the DuraGrip Protection System, a non-porous, automotive-grade corrosion coating is applied to the lower portion of the pole interior sealing and further protecting it from corrosion. This option extends the limited warranty to 7 years.

Determining The Luminaire/Pole Combination For Your Application:

- Select luminaire from luminaire ordering information.
- Select bracket configuration if required
- Determine EPA value from luminaire/ bracket EPA chart
- Select Pole Height
- Select MPH to match wind speed in the application area (See windspeed maps).
- Confirm pole EPA equal to or exceeding value of luminaire/bracket EPA
- Consult factory for special wind load requirements and banner brackets.

Pole Vibration Damper

- A pole vibration damper is recommended in open terrain areas of the country where low steady state winds are common.
- Non-tapered poles and lightly loaded poles are more susceptible to destructive vibration if a damper is not installed.

Listings

- UL Listed
- BAA/TAA Compliant



Steel Poles - Square Straight

Type: _____

 Have questions? Call us at (800) 436-7800

ORDERING GUIDE

[Back to Quick Links](#)

TYPICAL ORDER EXAMPLE: 4SQ B3 S11G 24 S PLP DGP						
Pole Series	Mounting Method	Material	Height ²	Mounting Configuration	Pole Finish	Options
4SQ - 4" x 4" Square Straight Pole (New Build) 5SQ - 5" x 5" Square Straight Pole (New Build) 6SQ - 6" x 6" Square Straight Pole (New Build) 4SQU - 4" x 4" Square Straight Pole (Retrofit) 5SQU - 5" x 5" Square Straight Pole (Retrofit) 6SQU - 6" x 6" Square Straight Pole (Retrofit)	Bolt-On Mount¹ - See pole selection guide for patterns and fixture matches B5 - 5" Traditional Drilling Pattern B3 - 3" Reduced Drilling Pattern B2 - 2" Reduced Drilling Pattern T - Tenon Mount - See pole selection guide for tenon and fixture/bracket matches I - No Mounting Holes ¹ - Use with: BKA-IFM4 - Flush Mount Adapter ⁷ Greenlee Lifestyle CH Mounting Style Enterprise, Lexington, Constitution PT Single Mounting ²	S11G - 11 Ga. Steel (4SQ/4SQU and 5SQ/5SQU Only) S07G - 07 Ga. Steel	8' 10' 12' 13' 14' 15' 16' 17' 17'6" 18' 20' 22' 22'6" 23' 24' 25' 26' 27' 28' 30' 32' 35' 39'	S - Single/Parallel D180 - Double D90 - Double DN90 - Double T90 - Triple TN120 - Triple Q90 - Quad QN90 - Quad N - Tenon Mount (Standard Tenon size is 2-3/8" O.D.) ⁸	BRZ - Bronze BLK - Black PLP - Platinum Plus WHT - White SVG - Satin Verde Green GPT - Graphite MSV - Metallic Silver BZA - Alternate Bronze	GA - Galvanized Anchor Bolts SF - Single Flood ³ DF - Double Flood ³ DGP - DuraGrip [®] Plus LAB - Less Anchor Bolts CRXX - Conduit Raceway ⁴



Need more information?
Click here for our glossary

Have additional questions?
Call us at (800) 436-7800



Accessory Ordering Information

DESCRIPTION	PART NUMBER
4BC - 4" Square Base Cover	122559CLR
5BC - 5" Square Base Cover	122561CLR
6BC - 6" Square Base Cover	122563CLR
5BC - 5' Square Universal Base Cover	132488CLR
6BC - 6' Square Universal Base Cover	131252CLR
ER2 - Weatherproof Duplex Receptacle	122566CLR
GFI - Ground Fault Circuit Interrupter	122567CLR
MH5 - mounting Hole Plugs for use with 5" traditional drill pattern (3 set of 3 plugs)	132336
MH3 - mounting Hole Plugs for use with 3" reduced drill pattern (3 set of 3 plugs)	681126
MH2 - Mounting Hole Plugs for use with 2" reduced drill pattern (3 sets of 3 plugs)	725841
Vibration Damper - 4" Square Pole (bolt-on mount only)	172539
Vibration Damper - 5" Square Pole (bolt-on mount only)	172538
Vibration Damper - 6" Square Pole (bolt-on mount only)	178361

FOOTNOTES:
1 - See Area Light Brackets - 3" Reduced Drill Pattern and Area Light Brackets - 5" Traditional Drill Pattern Spec Sheets.
2 - Pole heights will have +/- 1/2" tolerance.
3 - See Flood Lighting Brackets section for choice of FBO brackets.
4 - CR selection must indicate required height and side of pole mounting location. Mounting template required at time of order.

Steel Poles - Square Straight

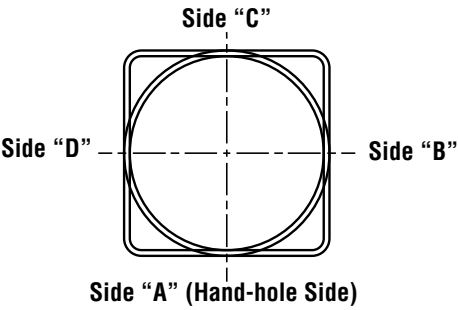
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 Have questions? Call us at (800) 436-7800

DRILLING LOCATIONS

[Back to Quick Links](#)

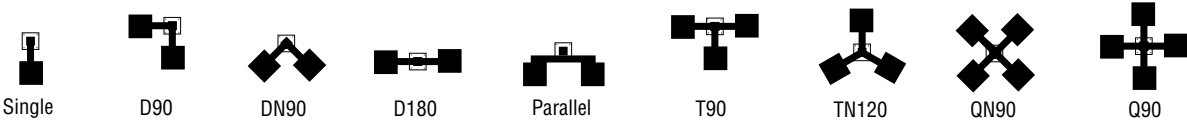
Sides	A	B	C	D
Hand-hole	X			
Single	X			
D180		X		X
D90	X			X
DN90 ¹				
T90	X	X		X
TN120 ²				
Q90	X	X	X	X
QN90 ³				
Single FBO	X			
Double FBO		X		X



- NOTES:**
- 1 - Two locations will be 45° to the left and right of Side A.
 - 2 - Other two locations will be 120° to the left and right of Side A.
 - 3 - Two locations will be 45° to the left and right of Side A and two locations will be 135° to the left and right of Side A.

Consult factory for custom variations. Standard SF and DF pole preparations are located 3/4 of the height of the pole from the base, except on 20' poles. Maximum height for SF and DF pole preparations on 20' poles is 13' from the base.

FIXTURE CONFIGURATIONS



Steel Poles - Square Straight

Type: _____

 Have questions? Call us at (800) 436-7800

BOLT CIRCLE

STANDARD BASEPLATE

4" (102mm) square
10-1/8" (257mm) sq.



11" (279mm) Dia. Bolt Circle

5" (127mm) square
10-1/8" (257mm) sq.



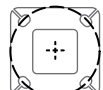
11" (279mm) Dia. Bolt Circle

5" (127mm) square
10-1/8" (257mm) sq.



11" (279mm) Dia. Bolt Circle

6" (152mm) square
12" (305mm) sq.



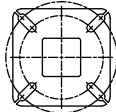
12" (305mm) Dia. Bolt Circle

Bolt Circle Designator	B	C	D	J
Bolt Circle	Slotted 8"-11" (203mm-279mm)	Slotted 9"-11" (229mm-279mm)	Slotted 9"-11" (229mm-279mm)	Slotted 12" (305mm)
Anchor Bolt Size	3/4" x 30" (19mm x 762mm)	3/4" x 30" (19mm x 762mm)	1" x 36" (25mm x 914mm)	1" x 36" (25mm x 914mm)
Anchor Bolt Projection	3-1/4" (83mm)	3-1/4" (83mm)	4" (102mm)	4" (102mm)
Base Plate Opening for Wireway Entry	3-5/8" (92mm)	4-3/4" (121mm)	4-5/8" (117mm)	5-5/8" (143mm)
Base Plate Dimensions	10-1/8" sq. x 3/4" thk. (257mm x 19mm)	10-1/8" sq. x 3/4" thk. (257mm x 19mm)	10-1/8" sq. x 1" thk. (257mm x 25mm)	12" sq. x 1-1/8" thk. (305mm x 29mm)
Pole Gauge	11	11	7	7

Note: Base plate illustrations may change without notice. Do not use for setting anchor bolts. Consult factory for the appropriate anchor bolt template.

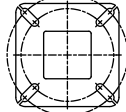
UNIVERSAL BASEPLATE

4" (102mm) square
10.5" (267mm) sq.



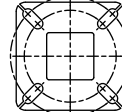
4SQ

5" (127mm) square
11.125" (283mm) sq.



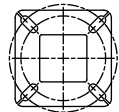
5SQ

5" (127mm) square
11.75" (298mm) sq.



5SQ

6" (152mm) square
12-1/2" (318mm) sq.



14" (356mm) Dia. Bolt Circle

Bolt Circle Designator	E	F	G	H
Bolt Circle	Slotted 9"-12"	Slotted 10"-13"	Slotted 10"-13"	Slotted 11"-14" (279mm-356mm)
Anchor Bolt Size	3/4" x 30" (19mm x 762 mm)	3/4x 30" (25mm x 914 mm)	1x 36" (25mm x 914 mm)	1" x 36" (25mm x 914mm)
Anchor Bolt Projection	3-1/4" (83 mm)	3-1/4" (83 mm)	4" (102 mm)	4" (102mm)
Base Plate Opening for Wireway Entry	3-5/8" (92mm)	4-3/4" (121mm)	5-1/8" (130 mm)	5-5/8" (143mm)
Base Plate Dimensions	10-1/2" sq. x 3/4" thk. (267 mm x 19 mm)	11-1/8 sq. x 3/4" thk. (283 mm x 19 mm)	11-3/4" sq. x 1" thk. (298 mm x 25 mm)	12 1/2" sq. x 1 1/8" thk. (318mm x 29mm)
Pole Gauge	11	11	7	7

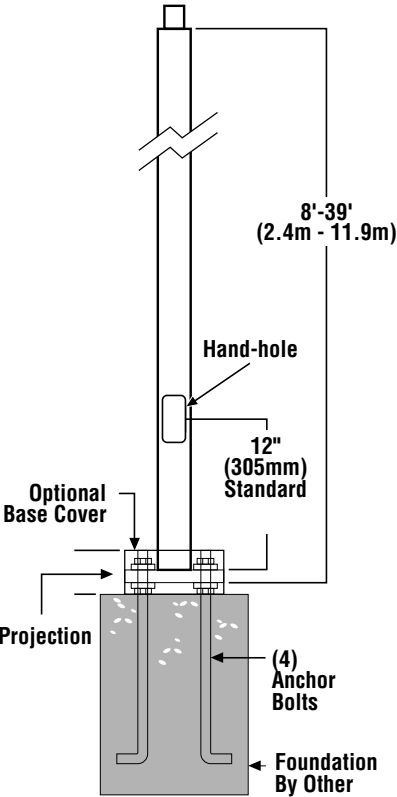
Note: Base plate illustrations may change without notice. Do not use for setting anchor bolts. Consult factory for the appropriate anchor bolt template.



PRODUCT DIMENSIONS

[Back to Quick Links](#)

SQT –
N= 2-3/8" (60mm) O.D. x 4-3/4" (121mm) Tenon

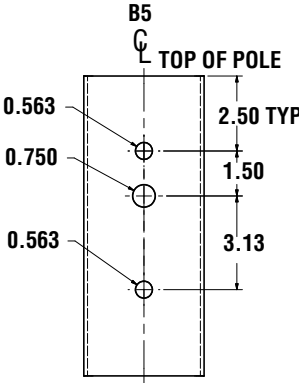
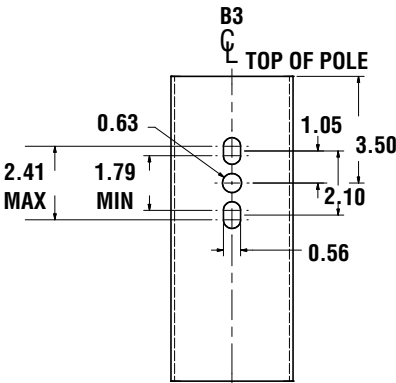
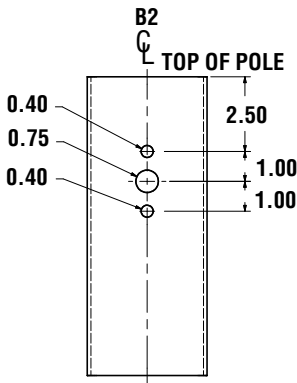


SF –
Single Flood
Pole Preparation



SHIPPING WEIGHTS	
4"(102mm) sq. 11 Ga. is approximately	7.50 lbs./ft.
4"(102mm) sq. 07 Ga. is approximately	10.00 lbs./ft.
5"(127mm) sq. 11 Ga. is approximately	9.00 lbs./ft.
5"(127mm) sq. 07 Ga. is approximately	12.50 lbs./ft.
6"(152mm) sq. 07 Ga. is approximately	15.40 lbs./ft.
Anchor Bolts (3/4" x 30")(19mm x 762mm)	15 lbs. (7kg)/set
Anchor Bolts (1" x 36")(25mm x 914mm)	30 lbs. (14kg)/set

Bolt-On Mount 2-Bolt Pattern



Steel Poles - Square Straight

Type: _____

 Have questions? Call us at (800) 436-7800

WIND SPEED

[Back to Quick Links](#)

EPA Information

All LSI Industries' poles are guaranteed to meet the EPA requirements listed. LSI Industries is not responsible if a pole order has a lower EPA rating than the indicated wind-loading zone where the pole will be located.
CAUTION: This guarantee does not apply if the pole/bracket/fixture combination is used to support any other items such as flags, pennants, or signs, which would add stress to the pole. LSI Industries cannot accept responsibility for harm or damage caused in these situations.

NOTE: Pole calculations include a 1.3 gust factor over steady wind velocity. Example: poles designed to withstand 80 MPH steady wind will withstand gusts to 104 MPH. EPAs are for locations 100 miles away from hurricane ocean lines. Consult LSI for other areas. Note: Hurricane ocean lines are the Atlantic and Gulf of Mexico coastal areas. For applications in Florida or Canada, consult factory.

Use ONLY with “Wind Speed Map for ASCE 7-10

POLE¹	Mtg. Height Length (ft)	Wall Thick (ga)	BOLT CIRCLE			EPA								
			Designator	Dia. (in)	Anchor bolt Dia {in}	110 MPH	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH	160 MPH	170 MPH	180 MPH
4" x 11-ga x 12'	12	11	B	8" - 11"	0.75	13.9	12.5	11.3	9.2	7.6	6.3	5.2	4.3	3.6
4" x 11-ga x 14'	14	11	B	8" - 11"	0.75	10.7	9.5	8.5	6.8	5.4	4.4	3.5	2.7	2.1
4" x 11-ga x 16'	16	11	B	8" - 11"	0.75	8.2	7.2	6.4	4.9	3.8	2.9	2.1	1.5	1.0
4" x 11-ga x 18'	18	11	B	8" - 11"	0.75	6.3	5.4	4.7	3.4	2.4	1.6	1.0	0.4	n/a
4" x 11-ga x 20'	20	11	B	8" - 11"	0.75	4.6	3.9	3.2	2.1	1.2	0.6	n/a	n/a	n/a
4" x 11-ga x 22'	22	11	B	8" - 11"	0.75	7.6	6.6	5.7	4.2	3.0	2.0	1.2	0.5	n/a
4" x 11-ga x 24'	24	11	B	8" - 11"	0.75	6.0	5.1	4.3	2.9	1.8	0.9	n/a	n/a	n/a
4" x 11-ga x 26'	26	11	B	8" - 11"	0.75	4.6	3.7	3.0	1.7	0.7	n/a	n/a	n/a	n/a
4" x 7-ga x 14'	14	7	B	8" - 11"	0.75	18.3	16.4	14.9	12.2	10.2	8.5	7.1	5.9	5.0
4" x 7-ga x 16'	16	7	B	8" - 11"	0.75	14.7	13.2	11.8	9.6	7.8	6.3	5.2	4.2	3.4
4" x 7-ga x 18'	18	7	B	8" - 11"	0.75	11.9	10.5	9.3	7.4	5.9	4.6	3.6	2.8	2.1
4" x 7-ga x 20'	20	7	B	8" - 11"	0.75	9.6	8.4	7.4	5.7	4.3	3.2	2.3	1.6	0.9
4" x 7-ga x 22'	22	7	B	8" - 11"	0.75	7.7	6.6	5.7	4.2	3.0	2.0	1.2	0.5	n/a
4" x 7-ga x 24'	24	7	B	8" - 11"	0.75	6.0	5.1	4.3	2.9	1.8	0.9	n/a	n/a	n/a
4" x 7-ga x 26'	26	7	B	8" - 11"	0.75	4.6	3.7	3.0	1.7	0.7	n/a	n/a	n/a	n/a
4" x 7-ga x 28'²	28	7	B	8" - 11"	0.75	3.3	2.5	1.8	0.7	n/a	n/a	n/a	n/a	n/a
4" x 7-ga x 30'²	30	7	B	8" - 11"	0.75	2.2	1.4	0.8	n/a	n/a	n/a	n/a	n/a	n/a
5" x 11-ga x 14'	14	11	C	9" - 11"	0.75	17.4	15.7	14.1	11.5	9.3	7.7	6.3	5.2	4.2
5" x 11-ga x 16'	16	11	C	9" - 11"	0.75	13.8	12.3	10.9	8.7	6.9	5.5	4.3	3.3	2.5
5" x 11-ga x 18'	18	11	C	9" - 11"	0.75	10.8	9.6	8.4	6.5	4.9	3.7	2.6	1.8	1.1
5" x 11-ga x 20'	20	11	C	9" - 11"	0.75	8.5	7.3	6.3	4.6	3.2	2.1	1.2	0.5	n/a
5" x 11-ga x 22'	22	11	C	9" - 11"	0.75	10.9	9.5	8.3	6.2	4.5	3.2	2.1	1.2	0.5
5" x 11-ga x 24'	24	11	C	9" - 11"	0.75	8.8	7.5	6.4	4.5	3.0	1.8	0.8	n/a	n/a
5" x 11-ga x 26'	26	11	C	9" - 11"	0.75	6.8	5.7	4.6	3.0	1.6	0.6	n/a	n/a	n/a
5" x 11-ga x 28'	28	11	C	9" - 11"	0.75	5.2	4.1	3.2	1.6	0.4	n/a	n/a	n/a	n/a
5" x 11-ga x 30'	30	11	C	9" - 11"	0.75	3.6	2.7	1.8	0.4	n/a	n/a	n/a	n/a	n/a
5" x 7-ga x 20'	20	7	D	9" - 11"	1.00	21.6	19.3	17.3	14.0	11.3	9.2	7.4	6.0	4.8
5" x 7-ga x 22'	22	7	D	9" - 11"	1.00	20.7	18.6	16.6	13.3	10.7	8.5	6.8	5.4	4.2
5" x 7-ga x 24'	24	7	D	9" - 11"	1.00	17.7	15.6	13.8	10.8	8.5	6.6	5.0	3.7	2.6
5" x 7-ga x 26'	26	7	D	9" - 11"	1.00	14.9	13.1	11.4	8.8	6.6	4.9	3.5	2.3	1.3
5" x 7-ga x 28'	28	7	D	9" - 11"	1.00	12.5	10.9	9.4	6.9	4.9	3.4	2.1	1.0	n/a
5" x 7-ga x 30'	30	7	D	9" - 11"	1.00	10.3	8.9	7.5	5.2	3.4	2.0	0.8	n/a	n/a
5" x 7-ga x 35'	35	7	D	9" - 11"	1.00	6.0	4.8	3.6	1.8	n/a	n/a	n/a	n/a	n/a
6" x 7-ga x 24'	24	7	J	12"	1.00	18.6	16.4	14.3	11.2	8.6	6.5	4.8	3.4	2.2
6" x 7-ga x 26'	26	7	J	12"	1.00	15.6	13.4	11.7	8.8	6.5	4.6	3.0	1.8	0.7
6" x 7-ga x 28'	28	7	J	12"	1.00	12.9	10.9	9.3	6.7	4.6	2.8	1.5	n/a	n/a
6" x 7-ga x 30'	30	7	J	12"	1.00	10.4	8.8	7.3	4.8	2.9	1.3	n/a	n/a	n/a
6" x 7-ga x 32'	32	7	J	12"	1.00	8.3	6.8	5.5	3.1	1.3	n/a	n/a	n/a	n/a
6" x 7-ga x 34'	34	7	J	12"	1.00	6.5	5.0	3.7	1.6	n/a	n/a	n/a	n/a	n/a
6" x 7-ga x 35'	35	7	J	12"	1.00	5.5	4.2	2.9	0.9	n/a	n/a	n/a	n/a	n/a
6" x 7-ga x 39'	39	7	J	12"	1.00	2.3	1.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a

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Note:
1- Poles shorter than these listed here in for each gauge have EPA rating equal to or greater than what is provided in this table. To Confirm EPA ratings on shorter poles, contact LSI Industries.
2- LSI Industries recommends a vibration damper be ordered with this length.

Steel Poles - Square Straight

Type: _____

 Have questions? Call us at (800) 436-7800

WIND SPEED

POLE¹	Mtg. Height Length (ft)	Wall Thick (ga)	BOLT CIRCLE			EPA								
			Designator	Dia. (in)	Anchor bolt Dia {in}	110 MPH	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH	160 MPH	170 MPH	180 MPH
5" x 11-ga x 14'	14	11	F	11"	0.75	17.6	15.8	14.2	11.5	9.4	7.7	6.3	5.2	4.3
5" x 11-ga x 14'	14	11	F	13"	0.75	17.6	15.8	14.2	11.5	9.4	7.7	6.3	5.2	4.3
5" x 11-ga x 16'	16	11	F	11"	0.75	13.9	12.2	11.0	8.8	7.0	5.5	4.3	3.4	2.5
5" x 11-ga x 16'	16	11	F	13"	0.75	13.9	12.2	11.0	8.8	7.0	5.5	4.3	3.4	2.5
5" x 11-ga x 18'	18	11	F	11"	0.75	11.0	9.6	8.4	6.5	5.0	3.7	2.7	1.8	1.1
5" x 11-ga x 18'	18	11	F	13"	0.75	11.0	9.6	8.4	6.5	5.0	3.7	2.7	1.8	1.1
5" x 11-ga x 20'	20	11	F	11"	0.75	8.6	7.4	6.4	4.6	3.3	2.2	1.3	0.5	-
5" x 11-ga x 20'	20	11	F	13"	0.75	8.6	7.4	6.4	4.6	3.3	2.2	1.3	0.5	-
5" x 11-ga x 22'	22	11	F	11"	0.75	12.7	11.1	9.6	7.4	5.6	4.1	3.0	2.0	1.1
5" x 11-ga x 22'	22	11	F	12"	0.75	10.3	8.9	7.7	5.7	4.1	2.8	1.8	0.9	-
5" x 11-ga x 22'	22	11	F	13"	0.75	8.6	7.4	6.4	4.6	3.1	2.0	1.1	-	-
5" x 11-ga x 24'	24	11	F	11"	0.75	10.2	8.9	7.6	5.6	4.0	2.6	1.6	0.7	-
5" x 11-ga x 24'	24	11	F	12"	0.75	8.0	6.9	5.8	4.0	2.6	1.5	0.5	-	-
5" x 11-ga x 24'	24	11	F	13"	0.75	6.7	5.5	4.6	3.0	1.7	0.7	-	-	-
5" x 11-ga x 26'	26	11	F	11"	0.75	8.1	6.9	5.8	4.0	2.5	1.3	-	-	-
5" x 11-ga x 26'	26	11	F	12"	0.75	6.2	5.1	4.1	2.6	1.3	-	-	-	-
5" x 11-ga x 26'	26	11	F	13"	0.75	5.0	4.0	3.1	1.6	0.5	-	-	-	-
5" x 11-ga x 28'	28	11	F	11"	0.75	6.3	5.2	4.3	2.5	1.1	-	-	-	-
5" x 11-ga x 28'	28	11	F	12"	0.75	4.6	3.6	2.7	1.2	-	-	-	-	-
5" x 11-ga x 28'	28	11	F	13"	0.75	3.4	2.5	1.7	-	-	-	-	-	-
5" x 11-ga x 30'	30	11	F	11"	0.75	4.7	3.7	2.8	1.2	-	-	-	-	-
5" x 11-ga x 30'	30	11	F	12"	0.75	3.1	2.2	1.4	-	-	-	-	-	-
5" x 11-ga x 30'	30	11	F	13"	0.75	2.0	1.2	0.5	-	-	-	-	-	-
5" x 7-ga x 20'	20	7	G	11"	0.75	19.0	17.0	15.0	12.2	9.7	7.8	6.2	5.0	3.8
5" x 7-ga x 20'	20	7	G	12"	0.75	21.4	19.1	17.1	13.8	11.2	9.1	7.3	5.9	4.7
5" x 7-ga x 20'	20	7	G	13"	0.75	21.4	19.2	17.2	13.9	11.3	9.2	7.4	6.0	4.8
5" x 7-ga x 20'	20	7	G	11"	1	21.7	19.4	17.4	14.0	11.4	9.3	7.5	6.0	4.8
5" x 7-ga x 20'	20	7	G	13"	1	21.7	19.4	17.4	14.0	11.4	9.3	7.5	6.0	4.8
5" x 7-ga x 22'	22	7	G	11"	0.75	16.0	14.1	12.5	9.8	7.6	5.9	4.4	3.3	2.3
5" x 7-ga x 22'	22	7	G	12"	0.75	17.7	15.9	14.2	11.2	8.7	7.0	5.4	4.1	3.0
5" x 7-ga x 22'	22	7	G	13"	0.75	19.9	17.3	15.6	12.6	10.0	8.0	6.3	5.0	3.8
5" x 7-ga x 22'	22	7	G	11"	1	21.0	18.7	16.7	13.4	10.6	8.5	6.8	5.4	4.2
5" x 7-ga x 22'	22	7	G	12"	1	23.4	20.6	18.4	15.0	12.2	9.9	8.0	6.4	5.1
5" x 7-ga x 22'	22	7	G	13"	1	21.3	18.8	17.0	13.7	11.0	8.8	7.0	5.6	4.3
5" x 7-ga x 24'	24	7	G	11"	0.75	13.3	11.6	10.0	7.7	5.7	4.2	2.9	1.9	1.0
5" x 7-ga x 24'	24	7	G	12"	0.75	15.0	13.0	11.6	8.9	6.8	5.1	3.8	2.6	1.7
5" x 7-ga x 24'	24	7	G	13"	0.75	16.6	14.6	12.9	10.2	8.0	6.1	4.6	3.3	2.3
5" x 7-ga x 24'	24	7	G	11"	1	17.5	15.7	13.9	10.9	8.6	6.7	5.0	3.7	2.7
5" x 7-ga x 24'	24	7	G	12"	1	20.0	17.4	15.4	12.3	9.9	7.8	6.0	4.7	3.5
5" x 7-ga x 24'	24	7	G	13"	1	18.1	16.0	14.2	11.0	8.7	6.7	5.3	3.9	2.8
5" x 7-ga x 26'	26	7	G	11"	0.75	10.9	9.3	8.0	5.9	4.1	2.7	1.6	0.6	-
5" x 7-ga x 26'	26	7	G	12"	0.75	12.4	10.9	9.5	7.0	5.1	3.6	2.3	1.3	-
5" x 7-ga x 26'	26	7	G	13"	0.75	14.0	12.3	10.7	8.1	6.0	4.4	3.1	2.0	1.0
5" x 7-ga x 26'	26	7	G	11"	1	15.0	13.2	11.5	8.8	6.7	4.9	3.5	2.3	1.3

Steel Poles - Square Straight

Type: _____

 Have questions? Call us at (800) 436-7800

WIND SPEED

POLE¹	Mtg. Height Length (ft)	Wall Thick (ga)	BOLT CIRCLE			EPA								
			Designator	Dia. (in)	Anchor bolt Dia {in}	110 MPH	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH	160 MPH	170 MPH	180 MPH
5" x 7-ga x 26'	26	7	G	12"	1	17.0	14.8	13.0	10.2	7.9	6.0	4.4	3.1	2.1
5" x 7-ga x 26'	26	7	G	13"	1	15.3	13.5	11.8	9.0	6.8	5.0	3.6	2.5	1.4
5" x 7-ga x 28'	28	7	G	11"	0.75	8.9	7.4	6.3	4.3	2.7	1.4	-	-	-
5" x 7-ga x 28'	28	7	G	12"	0.75	10.2	8.8	7.5	5.3	3.5	2.1	1.0	-	-
5" x 7-ga x 28'	28	7	G	13"	0.75	11.8	10.2	8.8	6.4	4.5	3.0	1.7	0.7	-
5" x 7-ga x 28'	28	7	G	11"	1	12.5	10.9	9.5	7.0	5.0	3.3	2.1	1.0	-
5" x 7-ga x 28'	28	7	G	12"	1	14.2	12.4	11.0	8.2	6.0	4.3	3.0	1.7	0.8
5" x 7-ga x 28'	28	7	G	13"	1	12.9	11.0	9.7	7.2	5.2	3.6	2.2	1.1	-
5" x 7-ga x 30'	30	7	G	11"	0.75	7.0	5.8	4.7	2.8	1.3	-	-	-	-
5" x 7-ga x 30'	30	7	G	12"	0.75	8.4	7.0	5.8	3.8	2.2	0.9	-	-	-
5" x 7-ga x 30'	30	7	G	13"	0.75	9.7	8.2	7.0	4.8	3.0	1.6	0.5	-	-
5" x 7-ga x 30'	30	7	G	11"	1	10.4	8.8	7.6	5.3	3.4	2.0	0.8	-	-
5" x 7-ga x 30'	30	7	G	12"	1	12.0	10.3	9.0	6.4	4.4	2.9	1.6	0.5	-
5" x 7-ga x 30'	30	7	G	13"	1	10.6	9.1	7.7	5.5	3.6	2.1	1.0	-	-
5" x 7-ga x 35'	35	7	G	11"	0.75	3.2	2.2	1.2	-	-	-	-	-	-
5" x 7-ga x 35'	35	7	G	12"	0.75	4.4	3.2	2.2	0.5	-	-	-	-	-
5" x 7-ga x 35'	35	7	G	13"	0.75	5.5	4.2	3.1	1.3	-	-	-	-	-
5" x 7-ga x 35'	35	7	G	11"	1	6.0	4.8	3.6	1.8	-	-	-	-	-
5" x 7-ga x 35'	35	7	G	12"	1	7.3	6.0	4.8	2.7	1.1	-	-	-	-
5" x 7-ga x 35'	35	7	G	13"	1	6.3	5.0	3.8	1.9	-	-	-	-	-
6" x 7-ga x 24'	24	7	H	11"	1	16.5	14.4	12.6	9.6	7.2	5.3	3.8	2.5	1.4
6" x 7-ga x 24'	24	7	H	12-1/2"	1	19.8	17.5	15.4	12.0	9.2	7.0	5.3	3.8	2.7
6" x 7-ga x 24'	24	7	H	14"	1	23.0	20.5	18.0	14.3	11.2	8.9	6.9	5.3	3.8
6" x 7-ga x 26'	26	7	H	11"	1	13.7	11.8	10.2	7.5	5.3	3.6	2.1	1.0	-
6" x 7-ga x 26'	26	7	H	12-1/2"	1	16.5	14.6	12.6	9.6	7.0	5.2	3.6	2.2	1.1
6" x 7-ga x 26'	26	7	H	14"	1	19.6	17.3	15.2	11.7	8.9	6.7	5.0	3.5	2.2
6" x 7-ga x 28'	28	7	H	11"	1	11.0	9.3	7.8	5.5	3.5	1.9	0.6	-	-
6" x 7-ga x 28'	28	7	H	12-1/2"	1	13.8	12.0	10.2	7.5	5.2	3.4	1.9	0.7	-
6" x 7-ga x 28'	28	7	H	14"	1	16.4	14.5	12.5	9.4	6.9	4.7	3.2	1.8	0.7
6" x 7-ga x 30'	30	7	H	11"	1	9.0	7.3	6.0	3.6	1.9	0.5	-	-	-
6" x 7-ga x 30'	30	7	H	12-1/2"	1	11.4	9.6	8.0	5.5	3.4	1.7	-	-	-
6" x 7-ga x 30'	30	7	H	14"	1	14.0	12.0	10.0	7.2	5.0	3.2	1.6	-	-
6" x 7-ga x 32'	32	7	H	11"	1	7.0	5.5	4.2	2.0	-	-	-	-	-
6" x 7-ga x 32'	32	7	H	12-1/2"	1	9.2	7.6	6.0	3.8	1.8	-	-	-	-
6" x 7-ga x 32'	32	7	H	14"	1	11.4	9.7	8.0	5.4	3.2	1.6	-	-	-
6" x 7-ga x 34'	34	7	H	11"	1	5.1	3.7	2.5	0.6	-	-	-	-	-
6" x 7-ga x 34'	34	7	H	12-1/2"	1	7.2	5.6	4.4	2.2	-	-	-	-	-
6" x 7-ga x 34'	34	7	H	14"	1	9.3	7.6	6.2	3.6	1.7	-	-	-	-
6" x 7-ga x 35'	35	7	H	11"	1	4.2	3.0	1.8	-	-	-	-	-	-
6" x 7-ga x 35'	35	7	H	12-1/2"	1	6.2	4.8	3.6	1.4	-	-	-	-	-
6" x 7-ga x 35'	35	7	H	14"	1	8.2	6.6	5.2	2.9	1.0	-	-	-	-
6" x 7-ga x 39'	39	7	H	11"	1	1.0	-	-	-	-	-	-	-	-
6" x 7-ga x 39'	39	7	H	12-1/2"	1	3.0	1.6	0.5	-	-	-	-	-	-
6" x 7-ga x 39'	39	7	H	14"	1	4.6	3.3	2.0	-	-	-	-	-	-

All LSI Industries' poles are guaranteed to meet the EPA requirements listed. LSI Industries is not responsible if a pole order has a lower EPA rating than the indicated wind-loading zone where the pole will be located.

CAUTION: This guarantee does not apply if the pole/bracket/fixture combination is used to support any other items such as flags, pennants, or signs, which would add stress to the pole. LSI Industries cannot accept responsibility for harm or damage caused in these situations.

Note:

1- Poles shorter than these listed here in for each gauge have EPA rating equal to or greater than what is provided in this table. To Confirm EPA ratings on shorter poles, contact LSI Industries.

2- LSI Industries recommends a vibration damper be ordered with this length.



Mirada Medium (MRM)

Outdoor LED Area Light



IP66 IK08



OVERVIEW

Lumen Package	7,000 - 48,000
Wattage Range	48 - 401
Efficacy Range (LPW)	117 - 160
Weight lbs(kg)	30 (13.6)

QUICK LINKS

[Ordering Guide](#)[Performance](#)[Photometrics](#)[Dimensions](#)

FEATURES & SPECIFICATIONS

Construction

- Rugged die-cast aluminum housing contains factory prewired driver and optical unit. Cast aluminum wiring access door located underneath.
- Designed to mount to square or round poles.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Shipping weight: 37 lbs in carton.

Optical System

- State-of-the-Art one piece silicone optic sheet delivers industry leading optical control with an integrated gasket to provide IP66 rated sealed optical chamber in 1 component.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in IES Types 2, 3, 5W, FT, FTA and AM.
- Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 93%.
- Zero uplight.
- Available in 5000K, 4000K, and 3000K color temperatures per ANSI C78.377. Also Available in Phosphor Converted Amber with Peak intensity at 610nm.
- Minimum CRI of 70.
- Integral louver (IL) and integral half louver (IH) options available for enhanced backlight control.

Electrical

- High-performance programmable driver features over-voltage, under-voltage, short-circuit and over temperature protection. Custom lumen and wattage packages available.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 Vac) Input 50/60 Hz or optional High Voltage (347-480 Vac).
- L80 Calculated Life: >100k Hours (See Lumen Maintenance chart)
- Total harmonic distortion: <20%
- Operating temperature: -40°C to +50°C (-40°F to +122°F). 42L and 48L lumen packages rated to +40°C.
- Power factor: >.90
- Input power stays constant over life.
- Field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- Components are fully encased in potting material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can easily be accessed.

Controls

- Optional integral passive infrared Bluetooth™ motion and photocell sensor (see page 8 for more details). Fixtures operate independently and can be commissioned via iOS or Android configuration app

- LSI's AirLink™ wireless control system options reduce energy and maintenance costs while optimizing light quality 24/7. (see controls section for more details).

Installation

- Designed to mount to square or round poles.
- A single fastener secures the hinged door, underneath the housing and provides quick & easy access to the electrical compartment.
- Included terminal block accepts up to 12 ga. wire.
- Utilizes LSI's traditional 3" drill pattern B3 for easy fastening of LSI products.

Warranty

- LSI LED Fixtures carry a 5-year warranty.

Listings

- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- IDA compliant; with 3000K color temperature selection.
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable for wet Locations.
- IP66 rated Luminaire per IEC 60598.
- 3G rated for ANSI C136.31 high vibration applications are qualified.
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
- Patented Silicone Optics (US Patent NO. 10,816,165 B2)
- IK08 rated luminaire per IEC 66262 mechanical impact code



Mirada Medium Outdoor LED Area Light

ORDERING GUIDE

[Back to Quick Links](#)

TYPICAL ORDER EXAMPLE:

MRM LED 36L SIL FTA UNV DIM 50 70CRI ALSCS04 BRZ IL

Family	Light Source	Lumen Package	Light Output	Distribution	Orientation ²	Voltage	Driver
MRM - Mirada	LED	7L - 7,000 lms 9L - 9,000 lms 12L - 12,000 lms 18L - 18,000 lms 24L - 24,000 lms 30L - 30,000 lms 36L - 36,000 lms 42L - 42,000 lms 48L - 48,000 lms Custom Lumen Packages ¹	SIL - Silicone	2 - Type 2 3 - Type 3 SW - Type 5 Wide FT - Forward Throw FTA - Forward Throw Automotive AM - Automotive Merchandise	(blank) - standard L - Optics rotated left 90° R - Optics rotated right 90°	UNV - Universal Voltage (120-277V) HV - High Voltage (347-480V)	DIM - 0-10V Dimming (0-10%)

Color Temp	Color Rendering	Finish	Options
50 - 5,000 CCT 40 - 4,000 CCT 30 - 3,000 CCT AMB - Phosphor Converted Amber ¹²	70CRI - 70 CRI	BLK - Black BRZ - Dark Bronze GMG - Gun Metal Gray GPT - Graphite MSV - Metallic Silver PLP - Platinum Plus SVG - Satin Verde Green WHT - White	(Blank) - None IH - Integral Half Louver (Moderate Spill Light Cutoff) ² IL - Integral Louver (Sharp Spill Light Cutoff) ²

Controls (Choose One)

(Blank) - None

Wireless Controls System

ALSC - AirLink Synapse Control System

ALSCH - AirLink Synapse Control System Host / Satellite³

ALSCS02 - AirLink Synapse Control System with 12-20' Motion Sensor

ALSCHS02 - AirLink Synapse Control System Host / Satellite with 12-20' Motion Sensor³

ALSCS04 - AirLink Synapse Control System with 20-40' Motion Sensor

ALSCHS04 - AirLink Synapse Control System Host / Satellite with 20-40' Motion Sensor³

ALBCS1 - AirLink Blue Wireless Motion & Photo Sensor Controller (8-24' mounting height)

ALBCS2 - AirLink Blue Wireless Motion & Photo Sensor Controller (25-40' mounting height)

Stand-Alone Controls

EXT - 0-10v Dimming Leads extended to housing exterior

CR7P - 7 Pin Control Receptacle ANSI C136.41⁵IMSBT1 - Integral Bluetooth™ Motion and Photocell Sensor (8-24' MH)⁵IMSBT2 - Integral Bluetooth™ Motion and Photocell Sensor (25-40' MH)⁵

Button Type Photocells

PC120 - 120V

PC208-277 - 208-277V

PC347 - 347V

Accessory Ordering Information⁷

CONTROLS ACCESSORIES	
Description	Order Number ⁸
PC120 Photocell for use with CR7P option (120V) ⁸	122514
PC208-277 Photocell for use with CR7P option (208V, 240V, 277V) ⁸	122515
Twist Lock Photocell (347V) for use with CR7P ⁸	122516
Twist Lock Photocell (480V) for use with CR7P ⁸	1225180
AirLink 5 Pin Twist Lock Controller ⁸	661409
AirLink 7 Pin Twist Lock Controller ⁸	661410
PMOS24-24V Pole-Mounted Occupancy Sensor (24V)	665284CLR
Shorting Cap for use with CR7P	149328

FUSING OPTIONS ¹¹	
Description	Order Number
Single Fusing (120V)	See Fusing Accessory Guide
Single Fusing (277V)	
Double Fusing (208V, 240V)	
Double Fusing (480V)	
Double Fusing (347V)	

SHIELDING OPTIONS	
Mirada Small	See Shielding Guide
Mirada Medium	
Mirada Large	
Zone Medium	
Zone Large	
Slice Medium	

MOUNTING ACCESSORIES ⁹	
Description	Order Number ⁸
Universal Mounting Bracket	684616CLR
Adjustable Slip Fitter (2" - 2 3/8" Tenon)	688138CLR
Horizontal Slip Fitter (2" - 2 3/8" Tenon)	652761CLR
Quick Mount Pole Bracket (Square Pole)	687073CLR
Quick Mount Pole Bracket (4-5" Round Pole)	689903CLR
15 Tilt Quick Mount Pole Bracket (Square Pole)	688003CLR
15 Tilt Quick Mount Pole Bracket (4-5" Round Pole)	689905CLR
Wall Mount Bracket	382132CLR
Wood Pole Bracket (6" Minimum Pole Diameter)	751219CLR

MISCELLANEOUS ACCESSORIES	
Description	Order Number
Field Install Integral Louver (Sharp Spill Light Cutoff)	690981
Field Install Integral Half Louver (Moderate Spill Light Cutoff)	743415
10" Linear Bird Spike Kit (3" Recommended per Luminaire)	751632

FOOTNOTES:

- Custom lumen and wattage packages available, consult factory. Values are within industry standard tolerances but not DLC listed.
- Not available with SW distribution
- Consult Factory for availability.
- Not available in HV.
- IMSBT is field configurable via the LSI app that can be downloaded from your smartphone's native app store.
- Control device or shorting cap must be ordered separately. See Accessory Ordering Information.
















- Accessories are shipped separately and field installed.
- Factory installed CR7P option required. See Options.
- "CLR" denotes finish. See Finish options.
- Only available with ALSC/ALSCH control options.
- Fusing must be located in hand hole of pole. See [Fusing Accessory Guide](#) for compatibility.
- Only available in 9L, 12L, 18L and 24L Lumen Packages. Consult factory for lead time and availability.





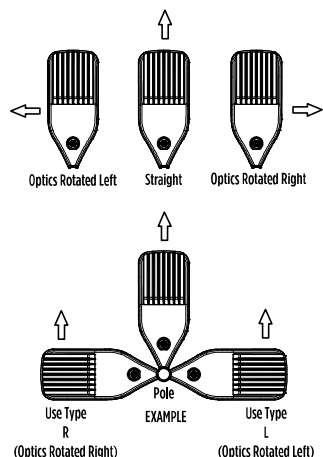
Mirada Medium Outdoor LED Area Light

ACCESSORIES

MOUNTING ACCESSORIES			SHIELDING, POLES & MISC. ACCESSORIES		
Side Arm	Universal Mounting Bracket Mounts to $\geq 3"$ square or round (tapered/straight) poles with (2) mounting hole spaces between 3.5" to 5" Part Number: BKA UMB CLR		Shielding	Integral Louver Field Install Integral Louver provides maximum backlight control by shielding each individual row of LEDs Part Number: 686485	
	Quick Mount Plate True one person installation to existing/new construction poles with hole spaces between 2.4 to 4.6" Part Number: BKS PQM B3B5 XX CLR			Integral Half Louver Field Install Integral Half Louver provides great backlight control without impacting front side distribution. Part Number: 743416	
	15° Tilt Quick Mount Plate True one person installation to existing/new construction poles with hole spaces between 2.4 to 4.6" Part Number: BKS PQ15 B3B5 XX CLR			External Shield External shield blocks view of light source from any side of luminaire, additional shielding configurations available Part Number: 785970BLK (3") / 785962BLK (6")	
Tenon / Slipfitter	Adjustable Slipfitter Mounts onto a 2" (51mm) ID, 2.375" (60mm) O.D. tenon and provides 180° of tilt (max 45° above horizontal) Part Number: BKA ASF CLR		Poles	Square Poles 14 - 39" steel and aluminum poles in 4", 5" and 6" sizes for retrofit and new construction Part Number: 450/550/650	
	Square Tenon Top Mounts onto a 2" (51mm) ID, 2.375" (60mm) O.D. tenon and allows for mounting up to 4 luminaires Part Number: BKA XNM *			Round Poles 10 - 30" steel and aluminum poles in 4" and 5" sizes for retrofit and new construction Part Number: 4RP/SRP	
	Square Internal Slipfitter Mounts inside 4" or 5" square pole and allows for mounting up to 4 luminaires Part Number: BKA X_ISF * CLR			Tapered Poles 20' - 39" steel and aluminum poles for retrofit and new construction Part Number: RTP	
Wall Mount / Wood Pole	Wall Mount Bracket Mounts onto vertical wall surface (hardware/anchors not included) Part Number: BKS XB0 WM CLR		Misc.	Bird Spikes 10' Linear Bird Spike Kit, 4' recommended per luminaire, includes silicone adhesive and application tool Part Number: 751632	
	Wood Pole Bracket Mounts onto wooden poles (6" minimum OD, hardware/anchors not included) Part Number: BKS XB0 WP CLR			Replace CLR with paint finish description Replace XX with SQ for square pole or RD for round pole ($\geq 3"$ OD) Replace * with S (Single), D180 (Double @180°), D90 (Double @90°), T90 (Triple), Q90 (Quad) Replace _ with 4 (4" square pole) or 5 (5" square pole)	

OPTICS ROTATION

Top View



ACCESSORIES/OPTIONS

Integral Louver (IL) and House-Side Shield (IH)

Accessory louver and shield available for improved backlight control without sacrificing street side performance. LSI's Integral Louver (L) and Integral House-Side Shield (IH) options deliver backlight control that significantly reduces spill light behind the poles for applications with pole locations close to adjacent properties. The design maximizes forward reflected light while reducing glare, maintaining the optical distribution selected, and most importantly eliminating light trespass. Both options rotate with the optical distribution.

Luminaire Shown with Integral Louver (IL)



Luminaire Shown with IMSBT Option



7 Pin Photoelectric Control

7-pin ANSI C136.41-2013 control receptacle option available for twist lock photocontrols or wireless control modules. Control accessories sold separately. Dimming leads from the receptacle will be connected to the driver dimming leads (Consult factory for alternate wiring).

Luminaire Shown with CR7P





Mirada Medium Outdoor LED Area Light

[Back to Quick Links](#)

PERFORMANCE

DELIVERED LUMENS*												
Lumen Package	Distribution	CRI	3000K CCT			4000K CCT			5000K CCT			Wattage
			Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	
7L	2	70	7560	157	B2-U0-G2	7560	157	B2-U0-G2	7560	157	B2-U0-G2	48
	3		7616	159	B1-U0-G2	7616	159	B1-U0-G2	7616	159	B1-U0-G2	
	5W		7292	152	B3-U0-G1	7292	152	B3-U0-G1	7292	152	B3-U0-G1	
	FT		7562	158	B2-U0-G2	7562	158	B2-U0-G2	7562	158	B2-U0-G2	
	FTA		7595	158	B2-U0-G2	7595	158	B2-U0-G2	7595	158	B2-U0-G2	
	AM		7687	160	B1-U0-G1	7687	160	B1-U0-G1	7687	160	B1-U0-G1	
9L	2	70	9853	159	B2-U0-G2	9853	159	B2-U0-G2	9853	159	B2-U0-G2	62
	3		9926	160	B2-U0-G2	9926	160	B2-U0-G2	9926	160	B2-U0-G2	
	5W		9504	153	B3-U0-G2	9504	153	B3-U0-G2	9504	153	B3-U0-G2	
	FT		9856	159	B2-U0-G3	9856	159	B2-U0-G3	9856	159	B2-U0-G3	
	FTA		9900	160	B2-U0-G2	9900	160	B2-U0-G2	9900	160	B2-U0-G2	
	AM		10019	162	B2-U0-G1	10019	162	B2-U0-G1	10019	162	B2-U0-G1	
12L	2	70	13135	155	B3-U0-G2	13135	155	B3-U0-G2	13135	155	B3-U0-G2	85
	3		13232	156	B2-U0-G2	13232	156	B2-U0-G2	13232	156	B2-U0-G2	
	5W		12669	149	B4-U0-G2	12669	149	B4-U0-G2	12669	149	B4-U0-G2	
	FT		13138	155	B2-U0-G3	13138	155	B2-U0-G3	13138	155	B2-U0-G3	
	FTA		13196	155	B2-U0-G2	13196	155	B2-U0-G2	13196	155	B2-U0-G2	
	AM		13355	157	B2-U0-G2	13355	157	B2-U0-G2	13355	157	B2-U0-G2	
18L	2	70	19318	143	B3-U0-G3	19318	143	B3-U0-G3	19318	143	B3-U0-G3	135
	3		19461	144	B3-U0-G3	19461	144	B3-U0-G3	19461	144	B3-U0-G3	
	5W		18633	138	B4-U0-G2	18633	138	B4-U0-G2	18633	138	B4-U0-G2	
	FT		19324	143	B3-U0-G3	19324	143	B3-U0-G3	19324	143	B3-U0-G3	
	FTA		19408	144	B3-U0-G3	19408	144	B3-U0-G3	19408	144	B3-U0-G3	
	AM		19641	145	B3-U0-G2	19641	145	B3-U0-G2	19641	145	B3-U0-G2	
24L	2	70	25957	147	B4-U0-G3	25957	147	B4-U0-G3	25957	147	B4-U0-G3	176
	3		26149	149	B3-U0-G4	26149	149	B3-U0-G4	26149	149	B3-U0-G4	
	5W		25037	142	B5-U0-G3	25037	142	B5-U0-G3	25037	142	B5-U0-G3	
	FT		25964	148	B3-U0-G4	25964	148	B3-U0-G4	25964	148	B3-U0-G4	
	FTA		26077	148	B3-U0-G3	26077	148	B3-U0-G3	26077	148	B3-U0-G3	
	AM		26393	150	B3-U0-G2	26393	150	B3-U0-G2	26393	150	B3-U0-G2	
30L	2	70	32417	140	B4-U0-G3	32417	140	B4-U0-G3	32417	140	B4-U0-G3	232
	3		32656	141	B3-U0-G4	32656	141	B3-U0-G4	32656	141	B3-U0-G4	
	5W		31267	135	B5-U0-G3	31267	135	B5-U0-G3	31267	135	B5-U0-G3	
	FT		32424	140	B3-U0-G4	32424	140	B3-U0-G4	32424	140	B3-U0-G4	
	FTA		32566	140	B4-U0-G3	32566	140	B4-U0-G3	32566	140	B4-U0-G3	
	AM		32960	142	B3-U0-G3	32960	142	B3-U0-G3	32960	142	B3-U0-G3	
36L	2	70	38275	133	B4-U0-G4	38275	133	B4-U0-G4	38275	133	B4-U0-G4	288
	3		38557	134	B4-U0-G5	38557	134	B4-U0-G5	38557	134	B4-U0-G5	
	5W		36917	128	B5-U0-G4	36917	128	B5-U0-G4	36917	128	B5-U0-G4	
	FT		38283	133	B4-U0-G5	38283	133	B4-U0-G5	38283	133	B4-U0-G5	
	FTA		38450	134	B4-U0-G4	38450	134	B4-U0-G4	38450	134	B4-U0-G4	
	AM		38916	135	B3-U0-G3	38916	135	B3-U0-G3	38916	135	B3-U0-G3	





Mirada Medium Outdoor LED Area Light

PERFORMANCE (CONT.)

DELIVERED LUMENS*												
Lumen Package	Distribution	CRI	3000K CCT			4000K CCT			5000K CCT			Wattage
			Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	
42L	2	70	44118	125	B5-U0-G4	44118	125	B5-U0-G4	44118	125	B5-U0-G4	354
	3		44444	126	B4-U0-G5	44444	126	B4-U0-G5	44444	126	B4-U0-G5	
	5W		42555	120	B5-U0-G4	42555	120	B5-U0-G4	42555	120	B5-U0-G4	
	FT		44130	125	B4-U0-G5	44130	125	B4-U0-G5	44130	125	B4-U0-G5	
	FTA		44322	125	B4-U0-G4	44322	125	B4-U0-G4	44322	125	B4-U0-G4	
	AM		44859	127	B4-U0-G3	44859	127	B4-U0-G3	44859	127	B4-U0-G3	
48L	2	70	48795	122	B5-U0-G4	48795	122	B5-U0-G4	48795	122	B5-U0-G4	401
	3		49156	123	B4-U0-G5	49156	123	B4-U0-G5	49156	123	B4-U0-G5	
	5W		47066	117	B5-U0-G4	47066	117	B5-U0-G4	47066	117	B5-U0-G4	
	FT		48809	122	B4-U0-G5	48809	122	B4-U0-G5	48809	122	B4-U0-G5	
	FTA		49021	122	B5-U0-G4	49021	122	B5-U0-G4	49021	122	B5-U0-G4	
	AM		49615	124	B4-U0-G3	49615	124	B4-U0-G3	49615	124	B4-U0-G3	

ELECTRICAL DATA (AMPS)*						
Lumens	120V	208V	240V	277V	347V	480V
7L	0.40	0.23	0.20	0.17	0.14	0.10
9L	0.52	0.30	0.26	0.22	0.18	0.13
12L	0.71	0.41	0.35	0.31	0.24	0.18
18L	1.13	0.65	0.56	0.49	0.39	0.28
24L	1.47	0.85	0.73	0.64	0.51	0.37
30L	1.93	1.12	0.97	0.84	0.67	0.48
36L	2.40	1.38	1.20	1.04	0.83	0.60
42L	2.95	1.70	1.48	1.28	1.02	0.74
48L	3.4A	1.9A	1.7A	1.5A	1.2A	0.8A

ELECTRICAL DATA - PHOSPHOR CONVERTED AMBER (AMPS)*							
Lumens	Watts	120V	208V	240V	277V	347V	480V
9L	74.3	0.6A	0.4A	0.3A	0.3A	0.2A	0.2A
12L	102.9	0.9A	0.5A	0.4A	0.4A	0.3A	0.2A

*Electrical data at 25°C (77°F). Actual wattage may differ by +/-10%

RECOMMENDED LUMEN MAINTENANCE¹ (7-18L)					
Ambient	Initial²	25h²	50hr²	75hr²	100hr²
0-50 C	100%	96%	92%	88%	84%

RECOMMENDED LUMEN MAINTENANCE¹ (24-48L)					
Ambient	Initial²	25h²	50hr²	75hr²	100hr²
0-40 C	100%	100%	97%	94%	92%

- Lumen maintenance values at 25C are calculated per TM-21 based on LM-80 data and in-situ testing.
- In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times the IESNA LM-80-08 total test duration for the device under testing.
- In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times the IESNA LM-80-08 total test duration for the device under testing.

DELIVERED LUMENS*					
Lumen Package	Distribution	Phosphor Converted Amber (Peak 610nm)			Wattage
		Delivered Lumens	Efficacy	BUG Rating	
9L	2	5848	80	B2-U0-G2	74
	3	6018	82	B1-U0-G2	
	5W	5471	74	B3-U0-G1	
	FT	5801	79	B1-U0-G2	
	FTA	5924	81	B1-U0-G1	
	AM	5995	81	B1-U0-G1	
12L	2	7530	74	B2-U0-G2	102
	3	7749	76	B1-U0-G2	
	5W	7045	69	B3-U0-G2	
	FT	7470	73	B2-U0-G2	
	FTA	7628	75	B2-U0-G2	
	AM	7720	76	B1-U0-G1	
18L	2	9311	69	B2-U0-G2	135
	3	9582	71	B2-U0-G2	
	5W	8712	65	B3-U0-G2	
	FT	9237	68	B2-U0-G2	
	FTA	9433	70	B2-U0-G2	
	AM	9546	71	B2-U0-G1	
24L	2	10955	63	B2-U0-G2	175
	3	11273	64	B2-U0-G2	
	5W	10249	59	B3-U0-G2	
	FT	10867	62	B2-U0-G2	
	FTA	11097	63	B2-U0-G2	
	AM	11230	64	B2-U0-G1	

*LEDs are frequently updated therefore values are nominal.





Mirada Medium Outdoor LED Area Light

PHOTOMETRICS

[Back to Quick Links](#)

Luminaire photometry has been conducted by an accredited laboratory in accordance with IESNA LM-79. As specified by IESNA LM-79 the entire luminaire is tested as the source resulting in a luminaire efficiency of 100%.

MRM-LED-30L-SIL-2-40-70CRI

LUMINAIRE DATA

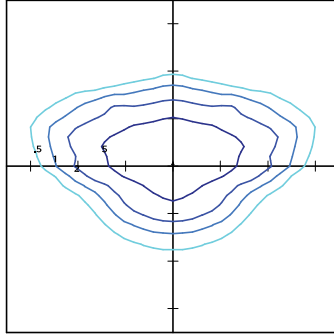
Type 2 Distribution

Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,416
Watts	232
Efficacy	140
IES Type	Type II - Short
BUG Rating	B4-U0-G3

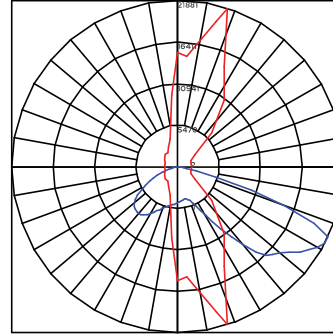
Zonal Lumen Summary

Zone	Lumens	%Luminaire
Low (0-30)°	4796	15%
Medium (30-60)°	19811	61%
High (60-80)°	7474	23%
Very High (80-90)°	335	1%
Uplight (90-180)°	0	0%
Total Flux	32416	100%

ISO FOOTCANDLE



POLAR CURVE



25' Mounting Height/ 25' Grid Spacing

■ 5 FC ■ 2 FC ■ 1 FC ■ 0.5 FC

MRM-LED-30L-SIL-3-40-70CRI

LUMINAIRE DATA

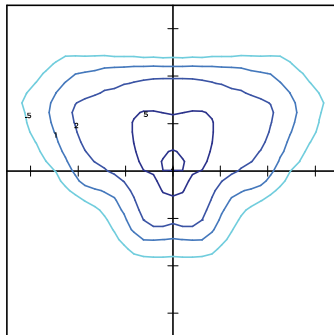
Type 3 Distribution

Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,656
Watts	232
Efficacy	141
IES Type	Type III - Short
BUG Rating	B3-U0-G4

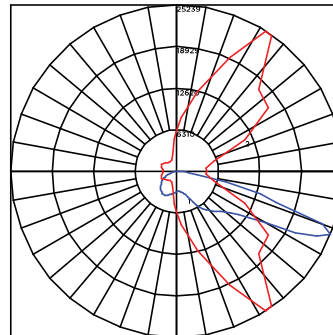
Zonal Lumen Summary

Zone	Lumens	%Luminaire
Low (0-30)°	3385	10%
Medium (30-60)°	16250	50%
High (60-80)°	12430	38%
Very High (80-90)°	591	2%
Uplight (90-180)°	0	0%
Total Flux	32656	100%

ISO FOOTCANDLE



POLAR CURVE



25' Mounting Height/ 25' Grid Spacing

■ 5 FC ■ 2 FC ■ 1 FC ■ 0.5 FC

MRM-LED-30L-SIL-FT-40-70CRI

LUMINAIRE DATA

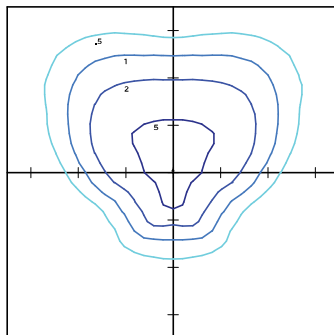
Type FT Distribution

Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,424
Watts	232
Efficacy	140
IES Type	Type IV - Short
BUG Rating	B3-U0-G4

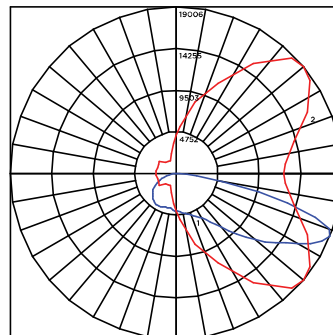
Zonal Lumen Summary

Zone	Lumens	%Luminaire
Low (0-30)°	3952	12%
Medium (30-60)°	15505	48%
High (60-80)°	12279	38%
Very High (80-90)°	688	2%
Uplight (90-180)°	0	0%
Total Flux	32424	100%

ISO FOOTCANDLE



POLAR CURVE



25' Mounting Height/ 25' Grid Spacing

■ 5 FC ■ 2 FC ■ 1 FC ■ 0.5 FC





Mirada Medium Outdoor LED Area Light

PHOTOMETRICS (CONT)

MRM-LED-30L-SIL-5W-40-70CRI

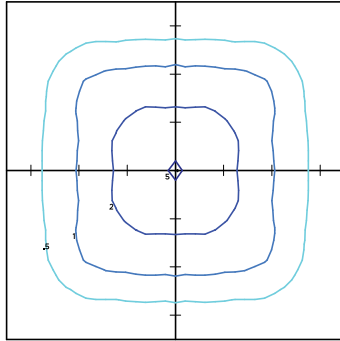
LUMINAIRE DATA

Type 5W Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	31,267
Watts	232
Efficacy	135
IES Type	Type VS - Short
BUG Rating	B5-U0-G3

Zonal Lumen Summary

Zone	Lumens	%Luminaire
Low (0-30)°	3138	10%
Medium (30-60)°	13193	42%
High (60-80)°	14641	47%
Very High (80-90)°	296	1%
Uplight (90-180)°	0	0%
Total Flux	31267	100%

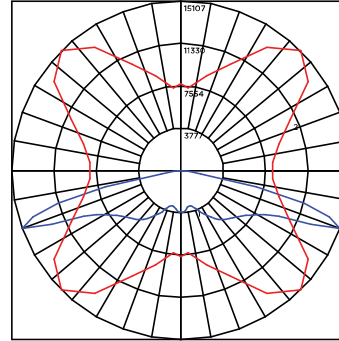
ISO FOOTCANDLE



25' Mounting Height/ 25' Grid Spacing

■ 5 FC ■ 2 FC ■ 1 FC ■ 0.5 FC

POLAR CURVE



MRM-LED-30L-SIL-FTA-40-70CRI

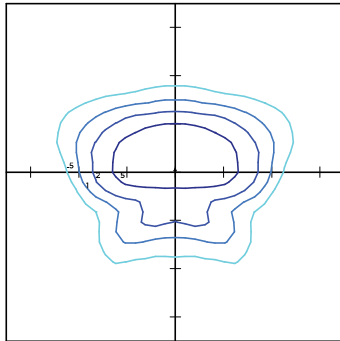
LUMINAIRE DATA

Type FTA Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,566
Watts	232
Efficacy	140
IES Type	Type VS - Short
BUG Rating	B4-U0-G3

Zonal Lumen Summary

Zone	Lumens	%Luminaire
Low (0-30)°	6986	21%
Medium (30-60)°	19172	59%
High (60-80)°	5875	18%
Very High (80-90)°	534	2%
Uplight (90-180)°	0	0%
Total Flux	32566	100%

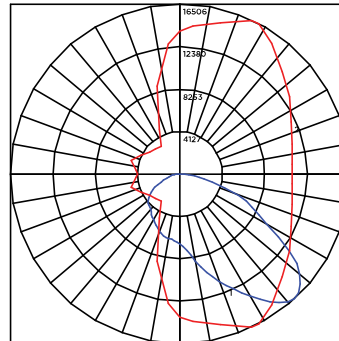
ISO FOOTCANDLE



25' Mounting Height/ 25' Grid Spacing

■ 5 FC ■ 2 FC ■ 1 FC ■ 0.5 FC

POLAR CURVE



MRM-LED-30L-SIL-AM-40-70CRI

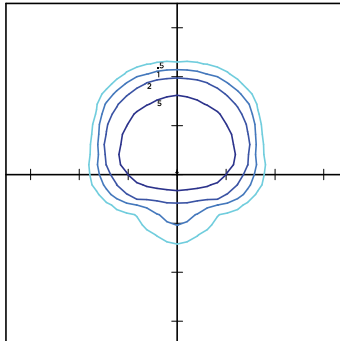
LUMINAIRE DATA

Type AM Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,960
Watts	232
Efficacy	142
IES Type	Type III - Very Short
BUG Rating	B3-U0-G3

Zonal Lumen Summary

Zone	Lumens	%Luminaire
Low (0-30)°	6363	19%
Medium (30-60)°	22026	67%
High (60-80)°	4192	13%
Very High (80-90)°	379	1%
Uplight (90-180)°	0	0%
Total Flux	32960	100%

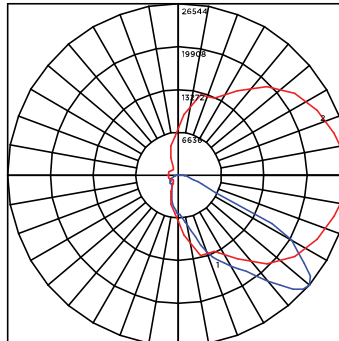
ISO FOOTCANDLE



25' Mounting Height/ 25' Grid Spacing

■ 5 FC ■ 2 FC ■ 1 FC ■ 0.5 FC

POLAR CURVE

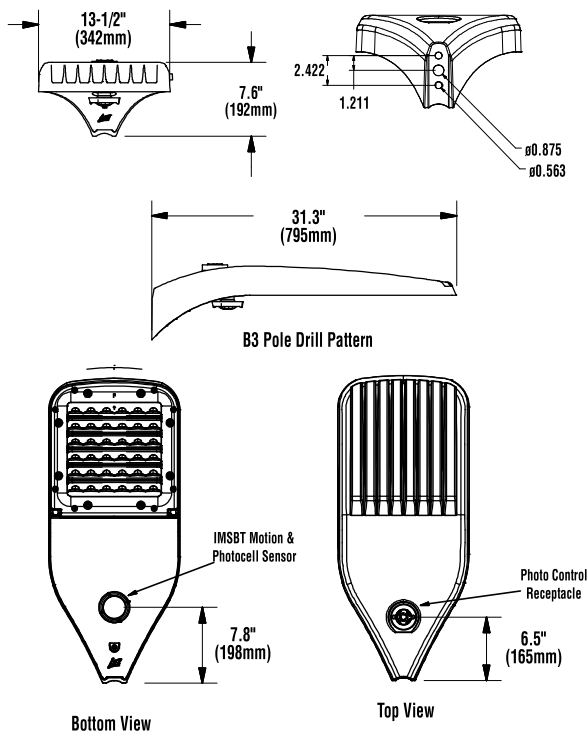




Mirada Medium Outdoor LED Area Light

[Back to Quick Links](#)

PRODUCT DIMENSIONS



LUMINAIRE EPA CHART - MRM						
Tilt Degree		0°	30°	45°	Tilt Degree	
Single		0.5	1.5	1.9	T90°	1.0 2.5 2.8
D180°		1.0	1.5	1.9	TN120°	1.0 3.3 3.9
D90°		0.8	1.9	2.3	Q90°	1.0 2.5 2.8

CONTROLS

AirLink Wireless Lighting Controller

The AirLink integrated controller is a California Title 24 compliant lighting controller that provides real-time light monitoring and control with utility-grade power monitoring. It includes a 24V sensor input and power supply to connect a sensor into the outdoor AirLink wireless lighting system. The wireless integrated controller is compatible with this fixture.

Click the link below to learn more details about AirLink.

<https://www.lsicorp.com/wp-content/uploads/documents/products/airlink-outdoor-specsheet.pdf>

Integral Bluetooth™ Motion and Photocell Sensor (IMSBT)

Slim low profile sensor provides multi-level control based on motion and/or daylight. Sensor controls 0-10 VDC LED drivers and is rated for cold and wet locations (-30° C to 70° C). Two unique PIR lenses are available and used based on fixture mounting height. All control parameters are adjustable via an iOS or Android App capable of storing and transmitting sensor profiles.

Click the link below to learn more details about IMSBT.

<https://www.lsicorp.com/wp-content/uploads/documents/products/imsbt-specsheet.pdf>

AirLink Blue

Wireless Bluetooth Mesh Outdoor Lighting Control System that provides energy savings, code compliance and enhanced safety/security for parking lots and parking garages. Three key components; Bluetooth wireless radio/sensor controller, Time Keeper and an iOS App. Capable of grouping multiple fixtures and sensors as well as scheduling time-based events by zone. Radio/Sensor Controller is factory integrated into Area/Site, Wall Mounted, Parking Garage and Canopy luminaires.

Click the link below to learn more details about AirLink Blue.

<https://www.lsicorp.com/product/airlink-blue/>

LEGEND

PROPERTY LINE

EXT. ABUTTER LINE

EXT. EASEMENT

EXT. STONEWALL

EXT. GRAVEL

THE FUTURE

RRR TREELINE

EXT. MAJOR CON

EXT. MINOR CONTOUR

PRP. MAJOR CONTOUR

PRP. MINOR C

ZONING LINE

EXT. STREAM LIMITS

EXT STORM LINE

PRP. STORM LINE

PRP. SPOT GRADE

PRP. FENCE

TAX MAP 29, LOT 34

FOR:

ATTAR ENGINEERING, INC.

SCALE:

$$1'' = 30'$$

APPROVED BY:

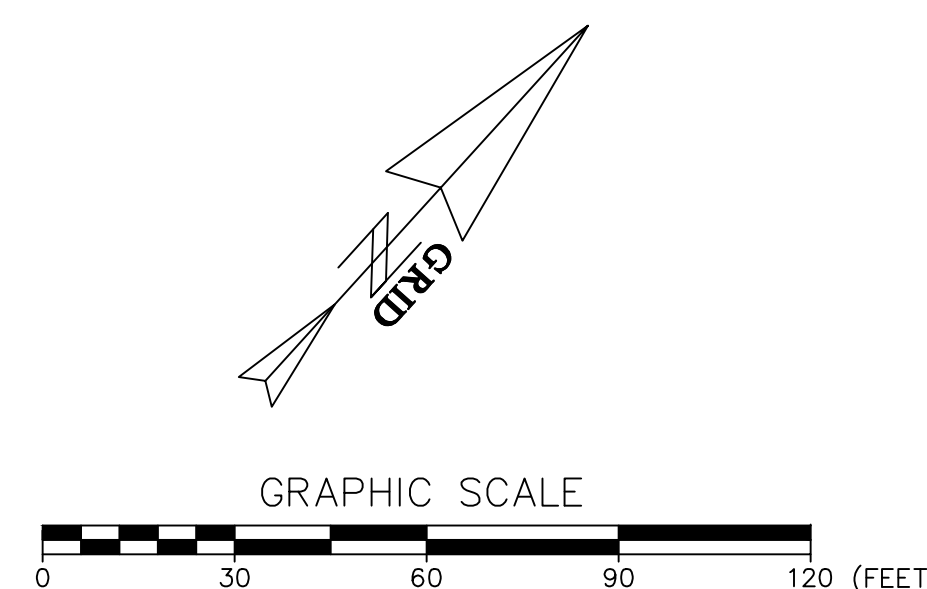
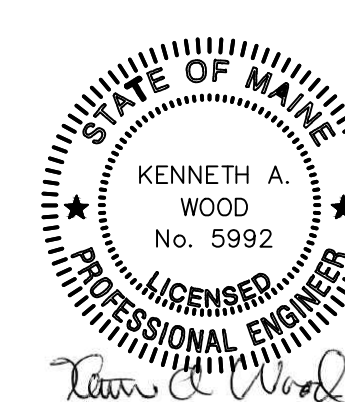
DRAWN BY:

WRP

DATE:
11 / 02 / 2007

<p> $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ $\frac{1}{4} \times \frac{1}{4} = \frac{1}{16}$ $\frac{1}{16} \times \frac{1}{16} = \frac{1}{256}$ $\frac{1}{256} \times \frac{1}{256} = \frac{1}{65,536}$ $\frac{1}{65,536} \times \frac{1}{65,536} = \frac{1}{4,294,967,296}$ $\frac{1}{4,294,967,296} \times \frac{1}{4,294,967,296} = \frac{1}{18,446,744,073,709,551,616}$ </p>	<p> $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ $\frac{1}{4} \times \frac{1}{4} = \frac{1}{16}$ $\frac{1}{16} \times \frac{1}{16} = \frac{1}{256}$ $\frac{1}{256} \times \frac{1}{256} = \frac{1}{65,536}$ $\frac{1}{65,536} \times \frac{1}{65,536} = \frac{1}{4,294,967,296}$ $\frac{1}{4,294,967,296} \times \frac{1}{4,294,967,296} = \frac{1}{18,446,744,073,709,551,616}$ </p>
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REVISION DATE:





TOWN OF ELIOT MAINE

PLANNING OFFICE

1333 State Road

Eliot ME, 03903

To: Planning Board
From: Jeff Brubaker, AICP, Town Planner
Cc: Kenneth A. Wood, PE, Attar Engineering, Applicant's Representative
Wyatt Page, Attar Engineering, Applicant's Representative
Shelly Bishop, Code Enforcement Officer
Kim Tackett, Land Use Administrative Assistant
Date: November 6, 2023 (report date)
November 14, 2023 (meeting date)
Re: PB23-1: 17 Levesque Dr. (Map 29/Lot 26): Site Plan Amendment/Review – Car Wash

Application Details/Checklist Documentation	
✓ Address:	17 Levesque Dr.
✓ Map/Lot:	29/26
✓ Zoning:	Commercial/Industrial (C/I)
✓ Shoreland Zoning:	None
✓ Owner Name:	York Hospital
✓ Applicant Name:	Shawn Moore; Agent: Attar Engineering, Inc.
✓ Proposed Project:	Car Wash Building
✓ Application Received by Staff:	January 3, 2023
✓ Application Fee Paid and Date:	\$300 (\$100 SPR; \$25 change of use; \$175 public hearing) May 4, 2023
Application Sent to Staff Reviewers:	Reviewers contacted individually (e.g. Town of Kittery wastewater, Kittery Water District)
✓ Application Heard by PB	February 21, July 25, September 5, and October 3, 2023
✓ Found Complete by PB	September 5, 2023
Site Walk	Not held
Site Walk Publication	N/A
Public Hearing	October 3, 2023 (scheduled)
Public Hearing Publication	September 22, 2023 (Weekly Sentinel)
✓ Reason for PB Review:	Site Plan Amendment, Change of Use, SPR uses

Overview

Applicant seeks site plan review and approval to construct a 4-bay, 3,300 sq. ft. auto wash facility with 2 vacuum islands and associated parking at 17 Levesque Dr., within Eliot Commons. The 4/27/23 cover letter describes the lot as follows: “The 1.1-acre plat designated as Unit 4 within the larger 4.47-acre parcel located at 17 Levesque Drive, is currently undeveloped aside from existing paved driveway and parking shared by the family dental and State Farm buildings.”

The applicant has indicated that the car wash would be open 24 hours a day, 7 days a week, as it can operate unattended. (From a 7/26 email from Jeff Arimento, in previous packet: “these types of

locations are typically open 24/7 with no full time employee”). My notes say that they would plan to have an attendant there the first few weeks to ensure everything is running smoothly, and then only occasionally after that but on-call and nearby 24/7.

Type of review needed

Post-public-hearing deliberation – take an overall action on the application, unless there is reason to continue deliberation and the applicant concurs with continuance. See motion templates.

Use

The use listed in the Site Plan Review application is *auto service station*. Recommendation: review as “use similar to” *auto repair garage*.

Right, title, and interest (33-106)

Town records show an approximately 4.4-acre parcel (Map 29, Lot 26) running from Route 236 to the Post Office lot line, owned by Guys Realty LLC, which includes the bank, dental office, and State Farm building. The latter building also includes a marijuana/medical marijuana testing facility. The lot is part of Eliot Commons, which has condominium lot lines for various units within the overall parcel. That is reflected in the 2006 quitclaim deed to York Hospital included in the submittal.

The submittal includes a purchase agreement between York Hospital and the applicant (specifying the condo lot size as “approximately 1 ± acres”), with an extension clause based on the timing of the Town’s site plan and code review; as-built plans from 1986; and a 2020 condominium plat showing an approved but not built York Hospital two-story professional office building. The 1986 as-builts show the site to be developed as vacant but with an 8” sanitary sewer line running across it.

Dimensional requirements (45-405)

Dimension	Standard	Met?
Min lot size	3 acres	Met for Eliot Commons overall and Map 29, Lot 26.
Lot line setbacks (ft)	30/20/30 front/side/rear	Appears to be met
Building height (ft)	55	Met
Lot coverage	50%	Appears to be met. See Note 5 on site plan; along with 2 existing buildings, car wash increases coverage from 7.4% to 9.8%.
Min street frontage (ft)	300	Met
Max sign area (sf)	Max. 50 sf for wall-mounted, 100 sf for common freestanding	<p>Signs will need a sign permit from the Code Enforcement Officer and will need to accord with Ch. 45, Art. XI standards. Currently, application package only shows 32 sf (4’ x 8’) illuminated drive-through menu showing wash options. PB also requested more info on signage at 7/25 review.</p> <p>I have previously suggested that, while unclear in the Code, given the context of the other Eliot Commons outparcels (e.g. Kennebunk Savings, Blatt-Kingston dental office), the car wash could be eligible for a</p>

		freestanding sign rather than just a plaque on the Eliot Commons common sign.
Building separation (C/I district)	Min. 20 ft. for multiple principal structures on a single lot	Met with respect to distance from existing adjacent red building.

Stormwater

The lot is currently vacant with grass cover. Sheet 1, Note 7 reports a total proposed new impervious surface of 17,650 sq. ft. Total disturbed area is reported as 0.73 acres. The amount of disturbed area is under the amount needed for a DEP Stormwater Management Permit. The project is individually under the 1-acre disturbed area threshold for Town post-construction stormwater management requirements (Ch. 35) and erosion and sedimentation control plan (Ch. 34) requirements, but is part of a larger common plan of development (i.e. Eliot Commons) that may warrant these requirements.

Sheet 1 shows a stormwater detention pond located in the rear of the parcel. A stormwater management plan is included in the application package. The plan states that the detention pond “outlets to a level spreader that returns channelized flow to sheet flow” and then to a wooded buffer before leaving the site to a wetland. Sheet 7 includes erosion/sedimentation control notes and details. The stormwater pre- and post-construction analysis with HydroCAD modeling results shows reductions in peak stormwater flows for all three analysis points.

- AP1: -1.29 cubic feet per second (cfs)
- AP2: -0.11 cfs
- AP3: -0.96 cfs

Another smaller stormwater management area is also shown to the south of the building.

Parking

Four diagonal employee spaces are provided in the front of the site, and four are provided at the vacuum islands. This part of the lot appears contiguous with the parking pool for the real estate/marijuana testing facility building and dental office, which accords with Note 6 reporting a total of 12 spaces on site. Note 6 estimates 2 employees at the largest shift, though as noted elsewhere in this report, the car wash will often be unattended.

Traffic (45-406)

A single driveway enters onto Levesque Dr., which is a private drive within Eliot Commons. A one-way loop of 12 ft. in width loops around to the wash bays, two with auto payment kiosks, one self-serve bay, and one detailing bay. There is also an auxiliary exit in the rear of the lot behind the back of the real estate/marijuana testing facility building.

Water service and use

The previous packet included my email regarding the sewer allocation and water use. The sewer allocation review continues at the Select Board; currently, the Town Manager and Select Board are waiting on more information from the applicant in order to continue that review. Town staff also continue to seek specific information on what other communities allow for car wash water use.

The cover letter notes that the site is served by public water. The applicant estimates that average daily water use for the two (2) automatic bays will be 2,700 gallons per day (gpd), though daily usage will vary based on customer volume. The self-serve unit would use additional water. The applicant estimates that peak daily usage will be 11,000 gpd. Kittery Water District (KWD) staff have concurred with the project.

Wastewater and disposal of wash water

Proposed sewer connections

A 7/28 letter from Ken Wood (in previous packet) states that Eliot Commons owner Sea Dog Realty will be able to approve the private sewer connection to Levesque Dr. after PB approval, before building permitting. The private Eliot Commons wastewater system pumps from a pump station next to The Residences at Eliot Commons, out to Route 236 via a forcemain, southeast down Route 236, and then southwest down Bolt Hill Rd., into the public sewer system. Sheet 3 shows a proposed new 8" sewer lateral from the car wash building to a private gravity line on Levesque Dr., with a manhole near the parking spaces. That gravity line appears to flow to the pump station. The existing forcemain sending sewerage from the pump station out to Route 236 is also shown crossing the car wash site. General note 1 on Sheet 3 speaks to the PVC (SDR 35) sewer lines meeting Kittery Sewer District standards.

The cover letter and 7/25 meeting addressed the Town's Route 236 Water-Sewer Extension Project. The project (estimated to be complete in 2025) will extend a gravity sewer line down Levesque Dr. to allow for a connection from the car wash (see attached project plan sheet). The Town holds an easement for a future public gravity sewer line down Levesque Dr., with the approximate easement lines shown on the plan. Based on review discussions, and depending on timing of construction, if approved, it is understood the building would start with the private system connection and switch to the public sewer system when available.

Wash water disposal and reuse/recycling

Wash water disposal has been discussed in previous reviews. Chapter 18, regulating sewer connections, Chapter 31, regulating non-stormwater discharges, and Sections 45-419 and -420, prohibit or restrict treated or hazardous wastewater and wastes into surface waters, ground waters, the public sewer system, or the Town's storm sewer system. Ch. 31 exempts only "individual residential car washing". In their stormwater management plan, the applicant states: "The carwash operation system includes exterior drains that are routed to the sanitary sewer system, therefore carwash operations are separate from, and will not adversely affect, the stormwater management system."

Per a PB question, the applicant described how each bay will have a sediment pit with filter and oil-water separator for treating wash water before going into the sewer system. In my 7/25 meeting notes and a subsequent email communication, the applicant indicated that a wash water reuse system is a possibility but it is not something that the applicant plans to install due to their expense.

The 7/28 letter from Ken Wood, Attar Engineering (in previous packet), somewhat changes course and indicates that there would be 20% reuse and recycling.

The car wash will discharge approximately 2,700 GPD to the municipal system. The facility will use both touch-free and friction type wash systems in 2 different bays. Approximately 20% of the wash water will be reused and recycled through a reverse osmosis system. The car

wash facility will discharge all other wash-water to the municipal system, minimizing particulate and soluble pollutants which would otherwise be generated by a typical vehicle being washed in a driveway. The requested 2,700 GPD capacity is the equivalent of 10-3, bedroom dwelling units.

Sewer allocation and capacity

See also information and correspondence in previous packets.
--

In 2021, Town of Eliot staff began formal discussions with the Town of Kittery about increasing our reserve capacity at the Kittery treatment plant. The Intermunicipal Agreement (IMA) was updated to increase the reserve capacity by 200,000 gpd, to a total of 400,000 gpd. The IMA is included in the packet. The Town's Route 236 Water-Sewer Project consultant, Underwood Engineers, had estimated in 2020 that the existing annual average sewer flow from Eliot was 120,000 gpd, with another 26,300 gpd in "unrealized allocations" – related to approved projects that had not yet been built or generated wastewater. Assuming current use of between 125,000 and 150,000 gpd, the Town would have 250,000 to 275,000 in remaining reserve capacity, though the IMA also includes peak daily and one-hour limits.

The process for applicants to request sewer allocation for the Town of Eliot is in the packet. This is a Public Works document. More information is in Chapter 18 of the Town Code and here: <https://www.eliotmaine.org/public-works/pages/sewer-application-process>.

Per a PB 7/25 comment, I contacted the Kittery Sewer Department on the phone on 8/29. They indicated that for a car wash they would typically ask for a sediment filter and oil-water separator, which the applicant has already committed to providing.

Tree buffer

The plans show the existing woods in the rear of the parcel, where Eliot Commons abuts 155 HL Dow. There are a few existing trees between the parcel and the Post Office, and the plans show the addition of two new shade trees in the front of the car wash.

Solid waste

A dumpster with 6' stockade fence screening is shown in the rear of the lot.

Recommendation

Approval with conditions

One caveat: from a phone conversation with the applicant's representative, I understand that if the Select Board holds the applicant to a lower sewer allocation, then they may wish to scale down the project rather than install additional water recycling technology. If this is the case, the site plan implications should be discussed at the meeting.

Motion templates

To be provided at meeting

* * *

Respectfully submitted, Jeff Brubaker, AICP; Town Planner



TOWN OF ELIOT MAINE

PLANNING OFFICE

1333 State Road

Eliot ME, 03903

To: Planning Board
From: Jeff Brubaker, AICP, Town Planner
Cc: Walter E. Pelkey, BH2M, Applicant's Representative
Shelly Bishop, Code Enforcement Officer
Date: November 6, 2023 (report date)
November 14, 2023 (meeting date)
Re: PB23-16: 76 Cedar Rd. (Map 71, Lot 25) – Residential Subdivision (6 lots) – **sketch plan**

Application Details/Checklist Documentation	
Address	76 Cedar Rd.
Map/Lot	71/25
PB Case#	23-16
Zoning District(s)	Rural (not in Critical Rural Overlay)
Shoreland Zoning District(s)	Limited Residential
Property Owner(s)	David Springer
Applicant Name(s)	David Springer
Proposed Project	6-lot conventional residential subdivision
Sketch Plan	
✓ Application Received by Staff	May 4, 2023
✓ Application Sent to Staff Reviewers	August 22, 2023
✓ Application Reviewed By PB	September 19, October 3, and November 14 (scheduled), 2023
✓ Site Walk	October 17, 2023
✓ Site Walk Publication	October 8, 2023 (Portsmouth Herald/Seacoast Online)
Sketch Plan Approval	
Preliminary Plan	
Application Received by Staff	
Fee Paid and Date	
Application Sent to Staff Reviewers	
Notice Mailed to Abutters	
Application Reviewed by PB	
Application Found Complete by PB	
Public Hearing	
Public Hearing Publication	
Preliminary Plan Approval	
Final Plan	

Application Received by Staff	
Fee Paid and Date	
Application Reviewed by PB	
Public Hearing (if any)	
Public Hearing Publication	

Overview

Applicant seeks sketch plan review for a 6-lot conventional residential subdivision of the subject ~21.5-acre parcel, which is undeveloped. At the time of this report, the applicant is revising their sketch plan to accommodate additional open space (see discussion below and in my November 1 review letter, in packet), which may change the number of lots.

Affidavit of ownership

Photo of the warranty deed signature page included in submittal

There was some question about whether the parcel was part of the adjacent conservation easement held by Great Works Land Trust (GWLT), but in communicating with GWLT, this parcel is not part of the easement. The applicant indicated that the property was taken out of the state's Farmland Current Land Use tax program.

Zoning

Rural (outside of Critical Rural Overlay [CRO]); LR shoreland zoning in one corner of the lot

Shoreland zoning – Lot 1 question

See attached November 1 review letter/memo to the applicant. The letter concludes: “a possible reasonable finding is that the applicant must deduct from Lot 1, being governed by 44-35(a)(2) and having a freshwater wetland, the area below the upland edge of the wetland, to achieve the 3-acre minimum lot size. This might not be the only reasonable finding.” This could be a moot point if Lot 1 is eliminated to accommodate the 10% open space requirement.

Open Space Development

On September 19, the PB suggested that the applicant consider an Open Space Development (OSD), which is optional for the applicant since the tract is outside of the CRO [45-467(B)]. So far, the applicant has maintained a preference for a conventional subdivision.

Dimensional requirements

Standard	Planner review
Min. lot size: 3 acres [41-255; 41-218(e); 45-405]	Met , unless larger lots needed for subsurface wastewater systems based on soil characteristics
Min. street frontage: 200 ft.	Appears to be met for Lots 1-4. Not met for Lot 5. Unclear for Lot 6.

Min. street frontage waiver/modification	Applicant is seeking a 50% reduction in street frontage for cul-de-sac Lots 5-6 per 41-255(g).
Setbacks: appropriate for location of subdivision and type of development/use contemplated [41-255]. 45-405 setbacks: 30' front/20' side/30' rear	Standard setbacks shown on sketch plan

House lot layouts

Per PB September 19 review comment, the updated sketch plan shows typical house and septic locations, well exclusion zones around the septic locations, driveways, and (as shown previously) the wetland impact area related to the Lot 3 driveway.

Ch. 41, Art. IV – General Requirements

Section	Standard/ summary	Planner review
41-212	Air quality	No comments currently
41-213	Water quality	No comments currently
41-214	Soil quality and erosion-sedimentation control	<p>Soil map and classifications included in application. Soils report will be needed at preliminary plan submittal, unless waived by the PB [41-150(11)]</p> <p>April 6, 2023, soil narrative report included in 10/3/23 submittal – “Class B-High Intensity Soil Survey (Minimum Standards)” – signed/sealed by Mark J. Hampton, certified Maine soil scientist. Soils:</p> <ul style="list-style-type: none"> • Buxton – Group C – moderately well drained, test pits SS-4, SS-5, and SS-9 • Lamoine – Group D – somewhat poorly drained, test pits SS-2 and SS-7 • Scantic – Group D – poorly drained, test pits SS-1, SS-3, SS-6, and SS-8 located in wetland areas <p>Modified soils report was submitted on October 18 with updated test pit information for SS-8, showing a limiting factor of 6” instead of 15”.</p>

41-215	Preservation of natural resources and scenic beauty	<p>Lot is undeveloped with agricultural fields, woodlands, and wetlands. Per applicant, lot was taken out of the Maine Current Land Use (Farmland) Tax Program (corrected from previous report that cited Tree Growth). As noted above, it is not in the adjacent conservation easement.</p> <p>Per ECC and PB review comments, applicant's 10/3/23 meeting submittal includes an April 7, 2023, letter from Mark J. Hampton, C.S.S., L.S.E. (Certified Soil Scientist #216, Licensed Site Evaluator #263) outlining his delineation, the flagging of wetlands and the transmittal of wetland flag locations to the applicant's engineer, BH2M, for mapping. The letter notes that the wetlands "do not meet the definition of wetlands of special significance as defined by [DEP]". The updated sketch plan (with house/septic locations) continues to show the avoidance of wetland impacts except for the Lot 3 driveway (3,900 sf). An updated wetland letter (in packet) provided on October 18 also states that the "wetlands found onsite are not coastal wetlands as defined by [DEP]".</p> <p>Also in the 10/3/23 meeting submittal is an April 8, 2023, letter from Mr. Hampton describing his vernal pool assessment, stating in part: "all the wetlands evaluated on the parcel do not have the parameters to support a vernal pool, there were no areas of ponded water of sufficient depth to support amphibian breeding environment." An updated vernal pool letter (in packet), dated April 8, 2022/October 12, 2023, states: "I found no evidence of any indicator species for vernal pools on the property."</p>
41-216	Preservation of historical features and traditional land use pattern	The 2009 Comprehensive Plan lists the landscape as part of a scenic view. It is recommended that a scenic view evaluation be included in a landscape plan as part of preliminary plan submittal.
41-217	Water supply	The general location of individual wells shall be indicated on the subdivision plan by a Maine-licensed site evaluator [41-217(d)]. This is a requirement but may be deferred to submittal of the preliminary subdivision plan. The sketch plan shows well exclusion areas around the septic fields.
41-218	Sewage disposal	The sketch plan shows septic locations, and the submittal includes soil test pit results [41-218(d)]. PB comment about nitrates by the wetlands was discussed by the applicant's representative on September 19.

41-220	Relationship of subdivision to community services	Per 41-220(c), up to 10% open space may be required by PB. See November 1 letter/memo to applicant in your packet. In summary, it recommends that the PB activate the 10% open space requirement, focusing on the front portion of the lot near Cedar Rd. and the shoreland zoning buffer, and that the sketch plan be revised accordingly. At the time of this report (November 6), an updated sketch plan is forthcoming from the applicant.
41-221	Traffic and streets	The applicant proposes a minor cul-de-sac street built to Town standards and proposed to be dedicated to the Town, with a 40 ft. right-of-way width and a length of 1,000 ft., the maximum allowed. The street would serve all six lots from Cedar Rd.
41-222	Public health and safety	No comments currently
41-223	Local/state/federal land use policies	No comments currently

Subdivision design standards

Section 41-255 – Lots

Subsection (a) states:

The lot size, width, depth, shape and orientation and the minimum building setback lines shall be appropriate for the location of the subdivision and for the type of development and use contemplated and shall conform to the requirements of section 41-218(e).

The proposed lots all meet the 3-acre minimum lot size, though 41-218(e) allows for the requirement of larger lots if warranted based on soil characteristics and environmental considerations. House lots smaller than 3 acres are not allowed unless via an open space development.

Section 41-256 – Reservation of land

The PB may require reservation of land for parks and/or recreational purposes, or may waive the requirement. If the latter, the PB may require a cash payment-in-lieu (PIL). No public parks are located within 1 mile of the subdivision.

Options for the PB to consider:

- PB can deem the reservation of land to be appropriate and require it. The PB can then review the type of reservation to see if it complies with 41-256(a)'s design standards. This could potentially be:
 - A public park, pocket park, playground, or playfield
 - A walking trail along the road (which is proposed to be dedicated to the Town as a public road), with or without small public parking area
- PB can waive the requirement and not require payment-in-lieu – no further review would be needed on this topic.

- PB can waive the requirement and require payment-in-lieu – next step would be to request an analysis to determine the required payment-in-lieu from Town staff or a third-party consultant (if the latter, costs covered by the applicant)

At the October 3 meeting, the applicant expressed openness to either the trail along the road or the payment-in-lieu option for William Murray Rowe Park.

Site walk/inspection and contour interval

A site walk was held on October 17, 2023, including several PB members, the applicant's representative, and members of the public. The site walk notes should be verbally summarized at this meeting. Having conducted the site walk, the PB should prescribe the contour interval to be used on preliminary plans.

Stormwater and erosion-sedimentation control plan

Per the applicant, the application will need a stormwater permit-by-rule (PBR) from DEP. Per the Town Code, at preliminary plan submittal, a stormwater/drainage plan is required [41-150(9) and 41-213] as well as an erosion and sedimentation control plan [41-150(10), 41-214, and Ch. 34].

Other notes

- Part of Lot 1 is in a flood zone, per 1989 FEMA FIRM map.
- Note ECC comments.



TOWN OF ELIOT MAINE
PLANNING OFFICE
1333 State Road
Eliot ME, 03903

To: Walter E. Pelkey, BH2M, Applicant's Representative
From: Jeff Brubaker, AICP, Town Planner
Cc: Planning Board (for November 14, 2023, meeting packet)
Conservation Commission
Kim Tackett, Land Use Administrative Assistant
Shelly Bishop, Code Enforcement Officer
Date: November 1, 2023
Re: PB23-16: 76 Cedar Rd. (Map 71, Lot 25) – Residential Subdivision (6 lots): **Town Planner Review Letter 1 – Sketch Plan, Open Space, and Shoreland Zoning**

Background

This letter/memo provides review comments on the Town's subdivision regulations related to open space and shoreland zoning as applied to the subject Sketch Plan (version received September 21), after further thinking about the Planning Board's (PB) review so far as well as the site visit. It is intended for your consideration as well as the Conservation Commission's courtesy review and PB's anticipated continued review on November 14. Unless otherwise noted, all numerical citations are to the Eliot Town Code.

As has been discussed, Section 41-220(c) authorizes the PB to require a subdivider to provide up to 10 percent of the total tract to be subdivided as open space or other public sites. On September 19, the PB indicated that this open space may be warranted. On October 3, the applicant team and PB discussed an approach to protect open space and wetlands by requiring deed restrictions for each lot prohibiting disturbance of the wetland areas (except for Lot 3's driveway) and landscaping, boulders, and-or signs on lots to demarcate for individual lot owners where they should not disturb wetland areas. Also discussed was adding a note to the plans that any additional wetland impacts would require individual permits by Maine DEP and the US Army Corps of Engineers.

At the latter meeting, the PB Chair also asked about the applicability of Section 44-35(a)(2) in the layout of Lot 1. This shoreland zoning provision states: "Land below the normal high-water line of a water body or upland edge of a wetland and land beneath roads serving more than two lots shall not be included toward calculating minimum lot area."

The following are my comments on the above for your and your team's, the PB's, and Conservation Commission's consideration.

Section 44-35(a)(2) – Land not included in calculating minimum lot area

Section 44-35(a)(1) requires that a lot within the shoreland zone meet the base zoning district's minimum lot size (3 acres). Lot 1 in the Sketch Plan is the only lot with shoreland zoning. It is 130,923 sq. ft., slightly above 3 acres. 57,567 sq. ft. (~1.3 ac.) are shown as upland, with most of the back portion of the lot (73,356 sq. ft., ~1.7 ac.) being delineated wetlands. For the sake of discussion and

brevity, I will assume here that it is exactly 1.7 ac. of wetlands. If Lot 1 is regulated by shoreland zoning and 1.7 ac. is below the upland edge of a wetland, the question is whether it should be discounted in drawing the lot to meet the 3-acre minimum.

The following definitions from Section 1-2 are relevant:

Wetland means a freshwater or coastal wetland.

Freshwater wetland means freshwater swamps, bogs and similar areas, other than forested wetlands, which are:

1. Of ten or more contiguous acres; or of less than ten contiguous acres and adjacent to a surface water body, excluding any river, stream or brook, such that in a natural state, the combined surface area is in excess of ten acres; and
- (2) Inundated or saturated by surface or groundwater at a frequency and for a duration sufficient to support, and which under normal circumstances do support, a prevalence of wetland vegetation typically adapted for life in saturated soils.

Freshwater wetlands may contain small stream channels or inclusions of land that do not conform to the criteria of this definition.

Forested wetland means a freshwater wetland dominated by woody vegetation that is six meters tall (approximately 20 feet) or taller.

Coastal wetland means all tidal and subtidal lands; all lands with vegetation present that is tolerant of salt water and occurs primarily in a salt water or estuarine habitat; and any swamp, marsh, bog, beach, flat or other contiguous low land which is subject to tidal action during the highest annual tide in which an activity is proposed as identified in tide tables published by the National Ocean Service. Coastal wetlands may include portions of coastal sand dunes. Note: All areas below the highest annual tide are coastal wetlands. These areas may consist of rocky ledges, sand and cobble beaches, mud flats, etc., in addition to salt marshes and salt meadows. Coastal wetlands, by definition, include all areas affected by tidal action, not just those areas where salt marshes and salt meadows exist. Cobble and sand beaches, mudflats, and rocky ledges, below the highest annual tide are all considered to be coastal wetlands.

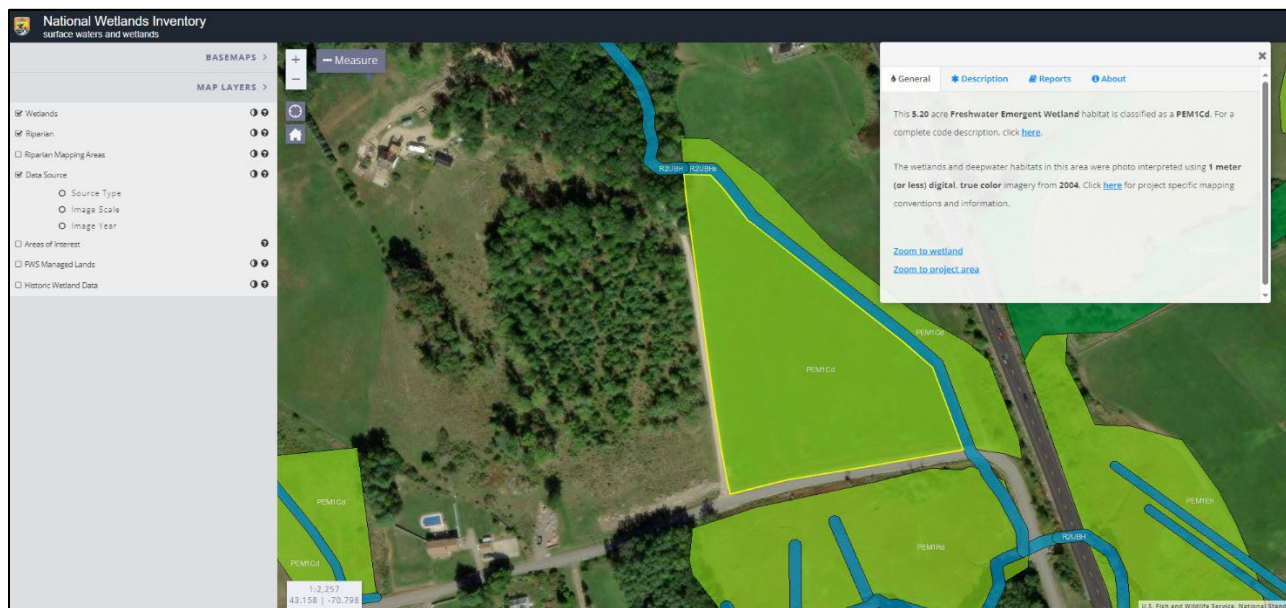
Upland edge of a wetland means the boundary between upland and wetland. For purposes of a coastal wetland, this boundary is the line formed by the landward limits of the salt tolerant vegetation and/or the highest annual tide level, including all areas affected by tidal action. For purposes of a freshwater wetland, the upland edge is formed where the soils are not saturated for a duration sufficient to support wetland vegetation; or where the soils

PB23-16: 76 Cedar Rd. (Map 71, Lot 25) – Residential Subdivision (6 lots): **Town Planner Review Letter 1 – Sketch Plan, Open Space, and Shoreland Zoning**

support the growth of wetland vegetation, but such vegetation is dominated by woody stems that are six meters (approximately 20 feet) tall or taller.

The Lot 1-4 delineated wetland on the subject tract is adjacent to both freshwater and coastal wetlands as shown on the National Wetlands Inventory (NWI).¹

The following screen capture shows the 5.2-acre NWI freshwater wetland on adjacent Map 72, Lot 12 (Bondgarden) as shown on U.S. Fish and Wildlife Service’s (USFWS) Wetlands Mapper site (accessed November 1, 2023). The coastal wetland associated with Sturgeon Creek is shown hemmed in on the south side of Cedar Rd. and does not extend across the road to the subject tract.



The Lot 1-4 wetland is a total of 5.4 acres, as shown in the table below. If the above depicted freshwater wetland and Lot 1-4 wetland are seen to be contiguous, then a possible finding is that the wetland is more than 10 contiguous acres, meeting the first criterion for a freshwater wetland.

Lot	Total area (sf)	Upland (sf)	Wetland (sf)	Wetland (ac)
1	130,923	57,567	73,356	1.68
2	157,431	88,033	69,398	1.59
3	163,966	83,971	79,995	1.84
4	131,489	118,328	13,161	0.30
Total			235,910	5.42
NWI freshwater wetland on Map 72, Lot 12				5.20
Total wetland area between two tracts				10.62

The NWI map feature for the 5.2-acre wetland states that the Bondgarden wetland is emergent and supports hydrophytes – “This vegetation is present for most of the growing season in most years.”

¹ <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/> and also on the Town’s online GIS system: <https://next.axisgis.com/EliotME/>.

PB23-16: 76 Cedar Rd. (Map 71, Lot 25) – Residential Subdivision (6 lots): **Town Planner Review Letter 1 – Sketch Plan, Open Space, and Shoreland Zoning**

The water regime is seasonally flooded: “Surface water is present for extended periods especially early in the growing season, but is absent by the end of the growing season in most years. The water table after flooding ceases is variable, extending from saturated to the surface to a water table well below the ground surface.” Therefore, a possible finding is that the second freshwater wetland criterion is met.

From aerial imagery and the site visit, it seems from looking at this wetland on Lot 1 that a portion of it (especially closer to Cedar Rd.) would not have the tall, woody vegetation to characterize it as a forested wetland.

Therefore, a possible reasonable finding is that the applicant must deduct from Lot 1, being governed by 44-35(a)(2) and having a freshwater wetland, the area below the upland edge of the wetland, to achieve the 3-acre minimum lot size. This might not be the only reasonable finding.

Coastal wetland

A letter you passed along from Soil Scientist and Site Evaluator Mark J. Hampton, C.S.S., L.S.E., dated April 7, 2023, and updated October 12, 2023, concludes: “The wetlands found onsite do not meet the definition of wetlands of special significance as defined by [DEP]. The wetlands found onsite are not coastal wetlands as defined by [DEP].” The NWI mapping also seems consistent with this – the coastal wetland for Sturgeon Creek’s tidal area being hemmed in on the south side of Cedar Rd. I do not think it is needed, but if the PB has reason to look into this further, it could be an element of third-party review during the preliminary plan stage.

41-220(c) – Open space requirement

41-220(c) only authorizes the PB to require up to 10 percent of the subdivision land be provided for “open space or other public sites”; it does not specify the premises for doing so. There are a few factors that might undergird the activating of this requirement in this context, especially for the area in the southern and eastern portion of the tract.

1. The tract is next to an existing conservation easement.
2. The wetlands would be protected from development through the dedication of the land to a public entity or qualified holder (e.g. land trust).
3. The reservation would speak to the intent of 41-215 – Preservation of natural resources and scenic beauty.
4. This view was described as scenic in the 2009 Comprehensive Plan.
5. Beginning with Habitat maps show a rare species mapped in this area along with an adjacent large habitat block.²

This reservation may require a substantial change to Lots 1 and 2 and-or the potential elimination of Lot 1. This could obviate the shoreland zoning lot area deduction question above.

I will therefore recommend to the PB that they activate the 10% open space requirement and ask for the sketch plan to be revised to address this. I look forward to discussing this further during the anticipated November 14 review.

² <https://webapps2.cgis-solutions.com/beginningwithhabitat/mapviewer/>

November 8, 2023

Jeff Brubaker
Town Planner
1333 State Road
Eliot, ME 03903

Re: Sketch Plan Review
5 Lot Subdivision
76 Cedar Road

Dear Jeff;

On behalf of the applicant, David Springer, we are submitting Sketch Plan revisions for a proposed five lot subdivision located at 76 Cedar Road. We have updated the plans with open space, reduced the lot count to five lots and added septic test pits. The following documents are included:

- Sketch Plan - Subdivision
- Septic Test Pit Logs

We look forward to discussing this project at the Nov. 14, 2023 Planning Board meeting.

If you require any additional information, please feel free to contact me at (207)839-2771, ext. 201 or by email at wpelkey@bh2m.com.

Sincerely,



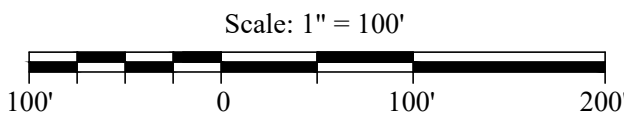
Walter Pelkey
Project Manager

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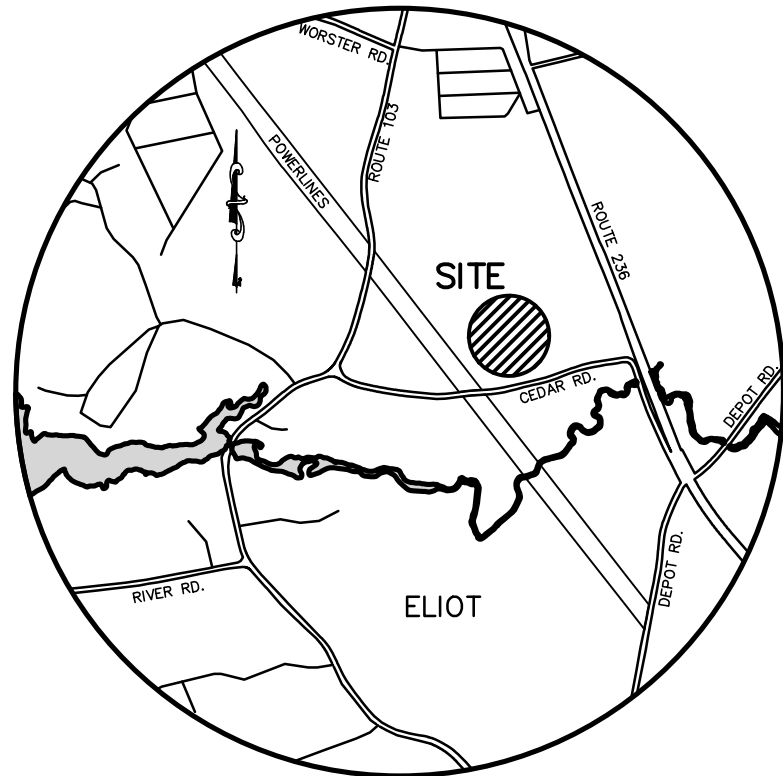


SYMBOL	DESCRIPTION
	3/4" IRON PIPE SET PER PLAN REF.
	PROPERTY LINE
	ZONE LINE
	FLOOD ZONE
	EDGE OF PAVEMENT
	ABUTTER PROPERTY LINE
	NOW OR FORMERLY
	GRAVEL
	UTILITY POLE

LEGEND



Scale: 1" = 100'



LOCATION MAP
SCALE: 1" = 2000'

NOTES:

- OWNER/APPLICANT: DAVID SPRINGER
12 WHITE PINE WAY
NORTH BERWICK, MAINE
- ENGINEER: AUSTIN FAGAN, PE#16523
BH2M
380B MAIN STREET
GORHAM, MAINE
- SURVEYOR: ROBERT C. LIBBY, PLS#2190
BH2M
- HIGH INTENSITY SOILS: MARK HAMPTON ASSOCIATES, INC.
WETLAND DELINEATION P.O. BOX 1931
PORTLAND, ME
- DEED REFERENCE: BOOK 19189, PAGE 627
- TAX MAP REFERENCE: MAP 71, LOT 25
- ZONING: RURAL
LIMITED RESIDENTIAL
- PROJECT AREA: 21.546 ACRES (OPEN SPACE 3.005 ACRES)
- PROPOSED USE: SINGLE FAMILY SUBDIVISION
- MINIMUM STANDARDS: LOT SIZE - 3 ACRES
FRONTAGE - 200'
SETBACKS - 30' FRONT & REAR, 20' SIDE
- SEWER SERVICE: INDIVIDUAL ON SITE SEPTIC SYSTEMS
- WATER SERVICE: INDIVIDUAL DRILLED WELLS
- ELECTRIC/TELEPHONE: UNDERGROUND FROM CEDAR ROAD
- ALL CONSTRUCTION AND SITE ALTERATIONS SHALL BE DONE IN ACCORDANCE WITH THE EROSION PREVENTION PROVISIONS OUTLINED IN THE MAINE EROSION CONTROL AND SEDIMENTATION HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES, LATEST EDITION.
- FAILURE TO COMMENCE SUBSTANTIAL CONSTRUCTION OF THE SUBDIVISION WITHIN TWO YEARS OF THE DATE OF APPROVAL AND SIGNING OF PLAN SHALL RENDER THE PLAN NULL AND VOID. "SUBSTANTIAL CONSTRUCTION" FOR THE APPROVED PLAN AS SHOWN SHALL MEAN THE COMPLETION OF THE ROADWAY BASE, PER ART. II, SEC. 41-36.
- PLAN REFERENCE: DIVISION OF LAND, CEDAR ROAD, ELIOT, MAINE, FOR CHERYL L. GOODWIN, DATED AUGUST 22, 2005 BY ANDERSON LIVINGSTON ENGINEERS, INC..
- WETLAND IMPACTS: 3,984 S.F. (LOT 3)

I CERTIFY THAT THIS SURVEY CONFORMS TO THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS TECHNICAL STANDARDS OF PRACTICE FOR A STANDARD BOUNDARY SURVEY WITH THE FOLLOWING EXCEPTIONS:

- NO SURVEYORS REPORT
- INTERIOR LOTS ONLY

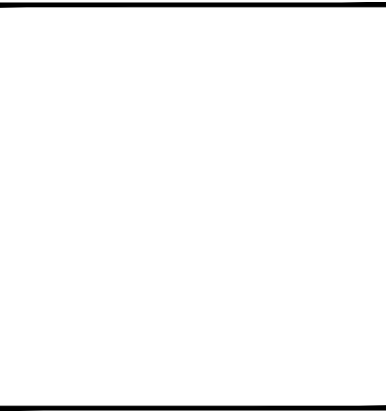
PLAN REVIEWED AND APPROVED BY THE TOWN OF ELIOT PLANNING BOARD.

CHAIR	DATE

ROBERT C. LIBBY JR.

PLS #2190

NO.	DATE	REVISION	DESCRIPTION
1	5/14/23		Sketch Plan Submission
2	9/27/23		Sketch Plan II Submission
3	11/8/23		Added Open Space



BH2M

Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors

380B Main Street
Gorham, Maine 04038
Tel. (207) 839-2771
www.bh2m.com

FOR
David Springer
12 White Pine Way
North Berwick, ME

SKETCH PLAN
6 LOT SUBDIVISION

DESIGNED W. Pelkey	DATE April 2023
DRAWN Dept.	SCALE 1" = 100'
CHECKED R. Libby	JOB. NO. 23008

SHEET
1

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MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

7414

October 30, 2023

Mr. David Springer
12 White Pine Way
North Berwick, ME 03906

Re: Preliminary Soil Evaluation, 6 Lot Subdivision, Cedar Road Eliot, ME


Dear David,

I have completed a preliminary soil evaluation on a proposed 6 lot subdivision located on Cedar Road Eliot, ME. The soil evaluation was conducted in accordance with the Maine Subsurface Wastewater Disposal Rules dated September 23, 2023. I evaluated two hand excavated soil test pits on each lot. The soils found on the parcel are glacial till and marine lacustrine soils. I was able to find suitable soils and area for a septic system on each lot. The soil log descriptions are attached to this letter.

The soils as evaluated meet the minimum requirements of the state rules. In my opinion, there are suitable soils and enough area on each lot for a septic system. A septic system for a 3 bedroom home could be either a 900 square feet or 1400 system for either type of soil found. Subsurface wastewater disposal designs can be prepared at a future date.

If you have any questions or require additional information, please contact me.

Sincerely,



Mark J. Hampton C.S.S., L.S.E.
Certified Soil Scientist #216
Licensed Site Evaluator #263

SOIL PROFILE / CLASSIFICATION INFORMATION**DETAILED DESCRIPTION OF
SUBSURFACE CONDITIONS AT PROJECT SITES**Project Name:
Cedar Road SubdivisionApplicant Name:
David SpringerProject Location (municipality):
EliotExploration Symbol # TP-1 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness Ground surface elev. _____
" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by	S.E.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
	9	C	4	15	<input checked="" type="checkbox"/> Restrictive Layer
	Profile	Condition	Percent	Depth	<input type="checkbox"/> Bedrock
S.S.	Soil Series/Phase Name:				
	<input type="checkbox"/> Hydric <input type="checkbox"/> Non-hydric				
	Hydrologic Soil Group				

Exploration Symbol # TP-2 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness Ground surface elev. _____
" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by	S.E.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
	9	C	4	16	<input checked="" type="checkbox"/> Restrictive Layer
	Profile	Condition	Percent	Depth	<input type="checkbox"/> Bedrock
S.S.	Soil Series/Phase Name:				
	<input type="checkbox"/> Hydric <input type="checkbox"/> Non-hydric				
	Hydrologic Soil Group				

Exploration Symbol # TP-3 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness Ground surface elev. _____
" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Fine Sandy Loam	Friable	Dark Brown	
10	Fine Sandy Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

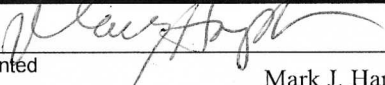
Soil Details by	S.E.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
	8	C	2	16	<input checked="" type="checkbox"/> Restrictive Layer
	Profile	Condition	Percent	Depth	<input type="checkbox"/> Bedrock
S.S.	Soil Series/Phase Name:				
	<input type="checkbox"/> Hydric <input type="checkbox"/> Non-hydric				
	Hydrologic Soil Group				

Exploration Symbol # TP-4 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness Ground surface elev. _____
" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Fine Sandy Loam	Friable	Dark Brown	
10	Fine Sandy Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by	S.E.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
	8	C	3	16	<input checked="" type="checkbox"/> Restrictive Layer
	Profile	Condition	Percent	Depth	<input type="checkbox"/> Bedrock
S.S.	Soil Series/Phase Name:				
	<input type="checkbox"/> Hydric <input type="checkbox"/> Non-hydric				
	Hydrologic Soil Group				

INVESTIGATOR INFORMATION AND SIGNATURE

Signature	Date
	10/30/2023
Name Printed	Cert/Lic/Reg. #
Mark J. Hampton	263/216
Title	
<input checked="" type="checkbox"/> Licensed Site Evaluator <input checked="" type="checkbox"/> Certified Soil Scientist <input type="checkbox"/> Certified Geologist <input type="checkbox"/> Professional Engineer	

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SOIL PROFILE / CLASSIFICATION INFORMATION**DETAILED DESCRIPTION OF
SUBSURFACE CONDITIONS AT PROJECT SITES**Project Name:
Cedar Road SubdivisionApplicant Name:
David SpringerProject Location (municipality):
EliotExploration Symbol # TP-5 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness Ground surface elev. _____
" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Fine Sandy Loam	Friable	Dark Brown	
10	Fine Sandy Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. S.S.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock
	8 D Profile Condition	2 Percent	12 " Depth	
Soil Series/Phase Name:		<input type="checkbox"/> Hydric Hydrologic <input type="checkbox"/> Non-hydric Soil Group		

Exploration Symbol # TP-6 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness Ground surface elev. _____
" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Fine Sandy Loam	Friable	Dark Brown	
10	Fine Sandy Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. S.S.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock
	8 D Profile Condition	2 Percent	12 " Depth	
Soil Series/Phase Name:		<input type="checkbox"/> Hydric Hydrologic <input type="checkbox"/> Non-hydric Soil Group		

Exploration Symbol # TP-7 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness Ground surface elev. _____
" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	
10	Sandy Loam	Friable	Brown	
20	Sandy Loam	Firm	Olive	Common and Distinct
30				
40				
50				
60				

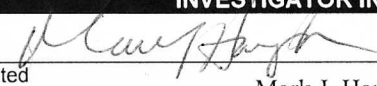
Soil Details by S.E. S.S.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock
	3 C Profile Condition	4 Percent	16 " Depth	
Soil Series/Phase Name:		<input type="checkbox"/> Hydric Hydrologic <input type="checkbox"/> Non-hydric Soil Group		

Exploration Symbol # TP-8 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness Ground surface elev. _____
" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	
10	Sandy Loam	Friable	Brown	
20	Sandy Loam	Firm	Olive	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. S.S.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock
	3 C Profile Condition	3 Percent	16 " Depth	
Soil Series/Phase Name:		<input type="checkbox"/> Hydric Hydrologic <input type="checkbox"/> Non-hydric Soil Group		

INVESTIGATOR INFORMATION AND SIGNATURE

Signature	Date
	10/30/2023
Name Printed	Cert/Lic/Reg. #
Mark J. Hampton	263/216
Title	
<input checked="" type="checkbox"/> Licensed Site Evaluator <input checked="" type="checkbox"/> Certified Soil Scientist <input type="checkbox"/> Certified Geologist <input type="checkbox"/> Professional Engineer	

affix professional seal

SOIL PROFILE / CLASSIFICATION INFORMATION**DETAILED DESCRIPTION OF
SUBSURFACE CONDITIONS AT PROJECT SITES**Project Name:
Cedar Road SubdivisionApplicant Name:
David SpringerProject Location (municipality):
EliotExploration Symbol # TP-9 ☒ Test Pit ☐ Boring ☐ Probe

" Organic horizon thickness Ground surface elev. _____

" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	
10	Sandy Loam	Friable	Brown	
20				
30	Sandy Loam	Firm	Olive	Common and Distinct
40				
50				
60				

Soil Details by S.E. S.S.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
	3 Profile	2 Percent	17 Depth	<input checked="" type="checkbox"/> Restrictive Layer
	C Condition			<input type="checkbox"/> Bedrock
	Soil Series/Phase Name:		<input type="checkbox"/> Hydric	Hydrologic
			<input type="checkbox"/> Non-hydric	Soil Group

Exploration Symbol # TP-10 ☒ Test Pit ☐ Boring ☐ Probe

" Organic horizon thickness Ground surface elev. _____

" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	
10	Sandy Loam	Friable	Brown	
20				
30	Sandy Loam	Firm	Olive	Common and Distinct
40				
50				
60				

Soil Details by S.E. S.S.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
	3 Profile	2 Percent	18 Depth	<input checked="" type="checkbox"/> Restrictive Layer
	C Condition			<input type="checkbox"/> Bedrock
	Soil Series/Phase Name:		<input type="checkbox"/> Hydric	Hydrologic
			<input type="checkbox"/> Non-hydric	Soil Group

Exploration Symbol # TP-11 ☒ Test Pit ☐ Boring ☐ Probe

" Organic horizon thickness Ground surface elev. _____

" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	
10	Sandy Loam	Friable	Brown	
20	Sandy Loam	Firm	Olive	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. S.S.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
	3 Profile	4 Percent	18 Depth	<input checked="" type="checkbox"/> Restrictive Layer
	C Condition			<input type="checkbox"/> Bedrock
	Soil Series/Phase Name:		<input type="checkbox"/> Hydric	Hydrologic
			<input type="checkbox"/> Non-hydric	Soil Group

Exploration Symbol # TP-12 ☒ Test Pit ☐ Boring ☐ Probe

" Organic horizon thickness Ground surface elev. _____

" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	
10	Sandy Loam	Friable	Brown	
20	Sandy Loam	Firm	Olive	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. S.S.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
	3 Profile	3 Percent	16 Depth	<input checked="" type="checkbox"/> Restrictive Layer
	C Condition			<input type="checkbox"/> Bedrock
	Soil Series/Phase Name:		<input type="checkbox"/> Hydric	Hydrologic
			<input type="checkbox"/> Non-hydric	Soil Group

INVESTIGATOR INFORMATION AND SIGNATURE

Signature

Date

10/30/2023

Name Printed

Mark J. Hampton

Cert/Lic/Reg. #

263/216

Title

☒ Licensed Site Evaluator☒ Certified Soil Scientist☐ Certified Geologist☐ Professional Engineer

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MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

7414

Cedar Road
Eliot, ME
David Springer

Soil Narrative Report

DATE: Soil Profiles observed on April 6, 2023

BASE MAP: Base plan provided by BH2M Scale 1 inch equals 100 feet and two foot contours.

GROUND CONTROL: Soil survey boundaries located by Mark Hampton Associates, Inc. for Class B Soil Survey

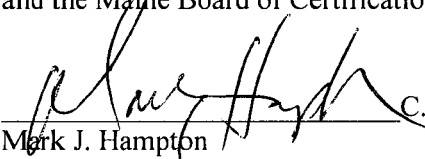
Class B-High Intensity Soil Survey (Minimum Standards)

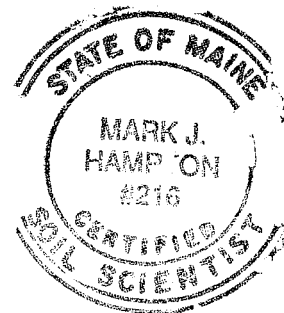
Mapping units of 1 acre or less.
Scale of 1"= 200 feet or larger.
Up to 25% inclusions in mapping units of which no more than 15% may be dissimilar soils.
Ground Control – test pits located by means of compass by chaining, pacing, or taping from known survey control points
Base Map – 5 foot contour intervals

Provided:

Mapping units of 1 acre or less
Base map scale of 1"= 60 feet.
Up to 25 percent inclusions in mapping units of which no more than 15 percent is dissimilar soils.
Baseline information and test pits located by pacing and taping from known survey control points.
Ground topographic survey with one foot contours and ground control provided.

The accompanying soil profile descriptions, soil map, and this soil narrative report were done in accordance with the standards adopted by the Maine Association of Professional Soil Scientists, and the Maine Board of Certification of Geologists and Soil Scientists.

 C.S.S. #216, L.S.E. #263 4/6/23
Mark J. Hampton Date



Legend for Soil Maps

1. Drainage Class

Excessively Well Drained	EWD
Well Drained	WD
Moderately Well Drained	MWD
Somewhat Poorly Drained	SPD
Poorly Drained	PD
Very Poorly Drained	VPD

2. Slope Designation

0-3%	A
3-8%	B
8-15%	C
15-25%	D
>25%	E

3. Note: High Intensity Soil Survey has been prepared by Mark Hampton Associates, Inc. in accordance with the standards adopted by the Maine Association of Professional Soil Scientists, and the Maine Board of Certification of Geologists and Soil Scientists.



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7414

Cedar Road
Eliot, ME
David Springer

Buxton
(Aquic Dystric Eutrochrepts)

SETTING

PARENT MATERIAL: Derived from glaciomarine or glaciolauustrine sediments
LANDFORM: Coastal lowlands and river valleys
POSITION IN LANDSCAPE: Intermediate positions on landform
SLOPE GRADIENT RANGES: (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Moderately well drained with a perched watertable from 1.5 to 3.0 feet below the surface at some time from November to May or during periods of heavy precipitation.

TYPICAL PROFILE:

<u>Surface Layer:</u>	Dark Brown, fine sandy loam 0-7"
<u>Subsurface Layer:</u>	Olive brown, silt loam, 8-15"
<u>Subsoil Layer:</u>	Olive gray silty clay loam, 15-32"
<u>Substratum:</u>	Gray silty clay loam +32"

HYDROLOGIC GROUP: Group C
SURFACE RUNOFF: Moderate to moderately slow
PERMEABILITY: Slow to very slow
DEPTH TO BEDROCK: Greater than 60 inches
HAZARD TO FLOODING: None

INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Scantic, Lamoine

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.





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7414

Cedar Road
Eliot, ME
David Springer

Lamoine
(Aeric Haplaquepts)

SETTING

PARENT MATERIAL: Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM: Coastal lowlands and river valleys
POSITION IN LANDSCAPE: Intermediate positions on landform
SLOPE GRADIENT RANGES: (A) 0-3 %, (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Somewhat poorly drained with a perched watertable from 0.5 to 2.0 feet below the surface at some time from November to June or during periods of heavy precipitation.

TYPICAL PROFILE:

<u>Surface Layer:</u>	Dark Brown, fine sandy loam 0-7"
<u>Subsurface Layer:</u>	Lt. Olive brown silt loam, 7-14"
<u>Subsoil Layer:</u>	Olive silty clay loam, 14-21"
<u>Substratum:</u>	Olive, silty clay loam, 21-65"

HYDROLOGIC GROUP: Group D
SURFACE RUNOFF: Moderate to moderately slow
PERMEABILITY: Slow to very slow
DEPTH TO BEDROCK: Greater than 65 inches
HAZARD TO FLOODING: None

INCLUSIONS (Within Mapping Unit)

CONTRASTING: Buxton, Scantic

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.





MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

7414

Cedar Road
Eliot, ME
David Springer

Scantic
(Aquic Haplorthod)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Lower positions on landform
SLOPE GRADIENT RANGES:	(A) 0-3%, (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS:	Poorly drained with a perched watertable from 0.0 to 1.0 feet below the surface at some time from October to May or during periods of heavy precipitation.
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TYPICAL PROFILE:	<u>Surface Layer:</u>	Dark grayish brown, silt loam 0-9"
	<u>Subsurface Layer:</u>	Olive gray silt loam, 9-16"
	<u>Substratum:</u>	Gray silty clay loam, 16"+

HYDROLOGIC GROUP:	Group D
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None

INCLUSIONS (Within Mapping Unit)

CONTRASTING:	Lamoine, Buxton
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USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.



SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION
OF SOIL CONDITIONS AT PROJECT SITES

Project Name:

Subdivision

Applicant Name:

David Springer

Project Location (municipality):

Eliot

Exploration Symbol # SS-9 ☐ Test Pit ☒ Boring ☐ Probe
 ____ " Organic horizon thickness Ground surface elev. ____
 ____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
0	Ap	Black	F. Sandy Loam	Grand Very Friable	
10	Bg	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable
20	Bg	Olive Brown	Silty Clay Loam	Fine Grandu	Firm
30					Common and Distinct
40					
50	Cd	Olive Gray	Silty Clay Loam	Platy	Very Firm
60					

Soil Series/Phase Name: Buxton Limiting Factor ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock
 Depth 16 " Soil Details
 Drainage Class ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD Slope 6 Percent Hydric Soil ☒ No ☐ Yes Hydrologic Soil Group

Exploration Symbol # ____ ☐ Test Pit ☐ Boring ☐ Probe
 ____ " Organic horizon thickness Ground surface elev. ____
 ____ " Depth: ☐ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
0					
10					
20					
30					
40					
50					
60					

Soil Series/Phase Name: ____ Limiting Factor ☐ Groundwater ☐ Restrictive Layer ☐ Bedrock
 Depth ____ " Soil Details
 Drainage Class ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☐ PD ☐ VPD Slope ____ Percent Hydric Soil ☐ No ☐ Yes Hydrologic Soil Group

Exploration Symbol # ____ ☐ Test Pit ☐ Boring ☐ Probe
 ____ " Organic horizon thickness Ground surface elev. ____
 ____ " Depth: ☐ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
0					
10					
20					
30					
40					
50					
60					


Soil Series/Phase Name: ____ Limiting Factor ☐ Groundwater ☐ Restrictive Layer ☐ Bedrock
 Depth ____ " Soil Details
 Drainage Class ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☐ PD ☐ VPD Slope ____ Percent Hydric Soil ☐ No ☐ Yes Hydrologic Soil Group

Exploration Symbol # ____ ☐ Test Pit ☐ Boring ☐ Probe
 ____ " Organic horizon thickness Ground surface elev. ____
 ____ " Depth: ☐ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
0					
10					
20					
30					
40					
50					
60					

Soil Series/Phase Name: ____ Limiting Factor ☐ Groundwater ☐ Restrictive Layer ☐ Bedrock
 Depth ____ " Soil Details
 Drainage Class ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☐ PD ☐ VPD Slope ____ Percent Hydric Soil ☐ No ☐ Yes Hydrologic Soil Group

SOIL SCIENTIST INFORMATION AND SIGNATURE


 Signature
 Mark J. Hampton
 Name Printed

4/6/2023

Date

216

SS License No.



SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION
OF SOIL CONDITIONS AT PROJECT SITES

Project Name:

Subdivision

Applicant Name:

David Springer

Project Location (municipality):

Eliot

Exploration Symbol # SS-1 ☐ Test Pit ☒ Boring ☐ Probe

" Organic horizon thickness Ground surface elev. _____

" Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	F. Sandy Loam	Grand	Very Friable	
Bg1	Gray	F. Sandy Loam	Weak Sub Ang Blocky	Firm	Common and Distinct
Bg2	Olive Brown	Silty Clay Loam	Fine Grandu	Firm	
Cg	Olive Gray	Silty Clay Loam	Platy	Very Firm	

Depth below mineral soil horizon (inches)

Soil Series/Phase Name:

Scantic

Limiting Factor

6

Depth

☒ Groundwater☒ Restrictive Layer☐ Bedrock

Drainage Class

☐ ED ☐ SED ☐ WD ☐ MWD☐ SPD ☒ PD ☐ VPD

Slope

2

Percent

Hydric Soil

☐ No☒ Yes

Hydrologic

Soil Group

Exploration Symbol # SS-2 ☐ Test Pit ☒ Boring ☐ Probe

" Organic horizon thickness Ground surface elev. _____

" Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Weak Angular	Very Friable	
Bg	Brown	F. Sandy Loam	Sub Ang Blocky	Friable	
Bg	Olive Gray	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Silty Clay Loam	Medium Platy	Very Firm	

Depth below mineral soil horizon (inches)

Soil Series/Phase Name:

Lamoine

Limiting Factor

13

Depth

☒ Groundwater☒ Restrictive Layer☐ Bedrock

Drainage Class

☐ ED ☐ SED ☐ WD ☐ MWD☒ SPD ☐ PD ☐ VPD

Slope

2

Percent

Hydric Soil

☒ No☐ Yes

Hydrologic

Soil Group

Exploration Symbol # SS-3 ☐ Test Pit ☒ Boring ☐ Probe

" Organic horizon thickness Ground surface elev. _____

" Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Fine Grandul	Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Firm	Common and Distinct
Bg2	Gray Brown	Silty Clay Loam	Thin Platy	Firm	
Cg	Olive	Silty Clay Loam	Medium Platy	Very Firm	

Depth below mineral soil horizon (inches)

Soil Series/Phase Name:

Scantic

Limiting Factor

6

Depth

☒ Groundwater☒ Restrictive Layer☐ Bedrock

Drainage Class

☐ ED ☐ SED ☐ WD ☐ MWD☐ SPD ☒ PD ☐ VPD

Slope

2

Percent

Hydric Soil

☐ No☒ Yes

Hydrologic

Soil Group

Exploration Symbol # SS-4 ☐ Test Pit ☒ Boring ☐ Probe

" Organic horizon thickness Ground surface elev. _____

" Depth: ☐ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Grand	Friable	
Bhs	Brown	F. Sandy Loam	Fine Grandul	Friable	
Bs	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	Common and Distinct
Cd	Olive Gray	Silty Clay Loam	Platy	Very Firm	

Depth below mineral soil horizon (inches)

Soil Series/Phase Name:

Buxton

Limiting Factor

15

Depth

☒ Groundwater☒ Restrictive Layer☐ Bedrock

Drainage Class

☐ ED ☐ SED ☐ WD ☒ MWD☐ SPD ☐ PD ☐ VPD

Slope

15

Percent

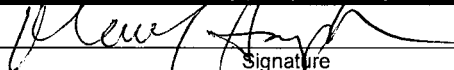
Hydric Soil

☒ No☐ Yes

Hydrologic

Soil Group

SOIL SCIENTIST INFORMATION AND SIGNATURE



Mark J. Hampton

Name Printed

4/6/2023

Date

216

SS License No.



SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION
OF SOIL CONDITIONS AT PROJECT SITES

Project Name:

Subdivision

Applicant Name:

David Springer

Project Location (municipality):

Eliot

Exploration Symbol # SS-5 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. _____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	F. Sandy Loam	Grand	Very Friable	
Bg	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
Bg	Olive Brown	Silty Clay Loam	Fine Grandu	Firm	Common and Distinct
Cd	Olive Gray	Silty Clay Loam	Platy	Very Firm	

Depth below mineral soil horizon (inches)

Soil Series/Phase Name:

Buxton

Limiting Factor

16 "

Depth

☒ Groundwater☒ Restrictive Layer☐ Bedrock

Soil Details

Drainage Class

☐ ED ☐ SED ☐ WD ☒ MWD
☐ SPD ☐ PD ☐ VPD

Slope

6

Percent

Hydric Soil

☒ No☐ Yes

Hydrologic

Soil Group

Exploration Symbol # SS-6 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. _____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	F. Sandy Loam	Weak Angular	Very Friable	
Bg1	Gray	F. Sandy Loam	Sub Ang Blocky	Firm	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Thin Platy	Firm	
Cg	Olive	Silty Clay Loam	Medium Platy	Very Firm	

Depth below mineral soil horizon (inches)

Soil Series/Phase Name:

Scantic

Limiting Factor

6 "

Depth

☒ Groundwater☒ Restrictive Layer☐ Bedrock

Soil Details

Drainage Class

☐ ED ☐ SED ☐ WD ☐ MWD
☐ SPD ☒ PD ☐ VPD

Slope

3

Percent

Hydric Soil

☐ No☒ Yes

Hydrologic

Soil Group

Exploration Symbol # SS-7 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. _____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Fine Grandul	Friable	
Bg	Brown	Silt Loam	Weak Sub Ang Blocky	Friable	
Bg	Gray Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive	Silty Clay Loam	Medium Platy	Very Firm	

Depth below mineral soil horizon (inches)

Soil Series/Phase Name:

Lamoine

Limiting Factor

13 "

Depth

☒ Groundwater☒ Restrictive Layer☐ Bedrock

Soil Details

Drainage Class

☐ ED ☐ SED ☐ WD ☐ MWD
☒ SPD ☐ PD ☐ VPD

Slope

4

Percent

Hydric Soil

☒ No☐ Yes

Hydrologic

Soil Group

Exploration Symbol # SS-8 ☐ Test Pit ☒ Boring ☐ Probe

____ " Organic horizon thickness Ground surface elev. _____

____ " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	F. Sandy Loam	Grand	Friable	
Bg1	Gray	F. Sandy Loam	Fine Grandul	Firm	Common and Distinct
Bg2	Olive Brown	Silty Clay Loam	Fine Grandul	Firm	
Cg	Olive Gray	Silty Clay Loam	Platy	Very Firm	

Depth below mineral soil horizon (inches)

Soil Series/Phase Name:

Scantic

Limiting Factor

6 "

Depth

☒ Groundwater☒ Restrictive Layer☐ Bedrock

Soil Details

Drainage Class

☐ ED ☐ SED ☐ WD ☒ MWD
☐ SPD ☒ PD ☐ VPD

Slope

6

Percent

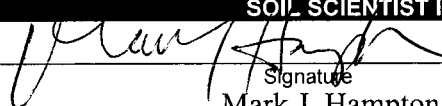
Hydric Soil

☐ No☒ Yes

Hydrologic

Soil Group

SOIL SCIENTIST INFORMATION AND SIGNATURE



Mark J. Hampton

Name Printed

4/6/2023

Date

216

SS License No.





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SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

7414

April 8, 2022/October 12, 2023

Mr. David Springer
12 White Pine Way
North Berwick, ME 03906

Re: Vernal pool assessment, 21+ acre parcel, Cedar Road Eliot, ME

Dear David,

I have completed a vernal pool assessment on the 21+ acre parcel located on Cedar Road Eliot, ME. The vernal pool assessment was conducted in accordance with Chapter 335 Significant Wildlife Habitat, Section 9 Significant Vernal Pools for the Maine Department of Environmental Protection. This section outlines the definition of a vernal pool as well as the requirements of a vernal pool to meet the definition of significance as related to the number of amphibian egg masses counted during the breeding season.

I recently completed a delineation of wetlands on the parcel and all the wetlands evaluated on the parcel do not have the parameters to support a vernal pool, there were no areas of ponded water of sufficient depth to support amphibian breeding environment. I found no evidence of any indicator species for vernal pools on the property.

If you have any questions or require additional information, please contact me.

Sincerely,

Mark J. Hampton C.S.S., L.S.E.
Certified Soil Scientist #216
Licensed Site Evaluator #263



MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

7414

April 7, 2023/October 12, 2023

Mr. David Springer
12 White Pine Way
North Berwick, ME 03906

Re: Wetland Delineation, 21+ acres on Cedar Road Eliot, ME

Dear David,

I have completed a delineation of wetlands on the 21+ acres located on Cedar Road in Eliot, ME. The wetland delineation was completed in accordance with the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual for the Northcentral and Northeast Regions dated January 2012. These manuals require the presence of three parameters for a wetland to be present, wetland hydrology, hydrophytic vegetation, and hydric soils.

The wetlands I found on the parcel were flagged with yellow flagging. The flagging was labeled in an alphanumeric sequence. The wetland flags were located by GPS equipment capable of locating a point to within three feet. The wetland data has been forwarded to BH2M. The wetlands found onsite are forested wetlands. The wetlands found onsite do not meet the definition of wetlands of special significance as defined by Maine Department of Environmental Protection. The wetlands found onsite are not coastal wetlands as defined by Maine Department of Environmental Protection.

If you have any questions or require additional information, please contact me.

Sincerely,

Mark J. Hampton C.S.S., L.S.E.
Certified Soil Scientist #216
Licensed Site Evaluator #263