

DEERFIELD PLANNING BOARD  
P O BOX 159  
DEERFIELD, NEW HAMPSHIRE  
FEBRUARY 23, 2022

MINUTES OF MEETING

PRESENT; Board members Peter Schibbelhute, Fred McGarry, Board of Selectmen's Representative, William Perron, Robert Cote, Donald Wyman. Also present Sylvia von Aulock, SNHPC, and secretary Jane Boucher.

7PM Chair Peter Schibbelhute called the meeting to order.

APPROVAL OF MANIFEST

Fred McGarry moved to approve the manifest in the amount of \$112.50 and a time sheet for Jane Boucher. (\$112.50 SNHPC, Time Sheet 17 1/2 hours) William Perron seconded. Voted in favor.

APPROVAL OF MINUTES

Fred McGarry moved to approve the minutes of February 9, 2022. Robert Cote seconded. Voted in favor.

REQUEST FOR EXTENSION

Brian Judd requested an extension of 30 days for conditional approval for a subdivision. Fred McGarry moved to grant a 30 day extension to Brian Judd for a subdivision on Mount Delight Road. William Perron seconded. Extension to lapse on March 26, 2022. Voted in favor.

SNHPC REGIONAL HOUSING STUDY

Sylvia von Aulock reported that throughout 2022 SNHPC will be conducting a Regional Housing Study. Further information can be found on SNHPC website.

7:15PM CONTINUATION; MAJOR SUBDIVISION EDWARD AND SANDRA CROSS; RANGE ROAD

Edward Cross and Roscoe Blaisdell were present. Also present Erroll Rhodes and Linda Perry.

Board members reviewed Steve Keach's comments dated 2/23/22. A copy is attached to these minutes.

Mr. Blaisdell provided copies of plans as well as well as requests for three waivers. A copy of the request for waivers is attached to these plans.

Fred McGarry noted that he is not prepared to address waiver requests. He moved to remove the construction of driveway on Lot 71-5 as part of bonding. There was no second.

Board members reviewed the submitted plans and voiced concerns

regarding steep driveways, their associated drainage ,and the proposed fire pond were just a few of their concerns.

It was noted that Steve Keach had not received a copy of the waiver requests dated 2/3/22. Linda Perry questioned the volume details for the fire pond.

The Board will need a report from a State Certified Hydrologist. Mr. Cross said he was currently looking for someone to do a report.

Members of the Board noted that there were several issues that need to be addressed before granting waivers. They agreed that Mr. Cross's Engineer, Christian Smith, meet with Steve Keach to review plans . They agreed that they need more verification from KNA regarding the project.

Roscoe Blaisdell said that the engineer will meet with Steve Keach.

Mr. Cross asked that Conditional Approval be granted with the condition of a Hydrologic Study be conducted. He noted that he would like to begin work on the roads. Board members felt that they would like more information from Steve Keach and meeting with the engineer would be helpful .

Fred McGarry moved to continue the Public Hearing for Edward and Sandra Cross to March 23, 2022 at 7:15PM. William Perron seconded. Voted in favor.

The meeting was adjourned at 8:35PM.

Recorded and transcribed by Jane Boucher  
Pending Approval by the Planning Board

February 23, 2022

Mr. Peter Schibbelhute; Chairman  
Deerfield Planning Board  
Post Office Box 159  
Deerfield, New Hampshire 03037

Subject: **Proposed Subdivision of the Land of Edward & Sandra Cross  
Range Road (Map 414 – Lot 71); Deerfield, New Hampshire**  
KNA Project No. 21-0816-3

Dear Mr. Schibbelhute:

As you may recall, on September 22<sup>nd</sup> and January 26<sup>th</sup> we issued letter reports in response to the subject application. Within each report we offered a series of comments and recommendations generated upon consideration and review of project plans and supporting information received through each respective date. Subsequently, on February 18<sup>th</sup> we received the following additional and/or revised information from the applicant's consultants:

- Project plans (4 drawings, identified as Sheets 3 through 6. Updated copies of Sheets 1 and 2 were not submitted) having various dates of preparation and revision.
- Construction Cost Estimates for various items of proposed work, dated February 04 or 09, 2022.

Based upon our consideration and review of these materials we offer the following remarks:

**General Comments**

1. The only State Agency Permit required under this application is NHDES Subdivision Approval. As previously acknowledged in our letter report of January 26<sup>th</sup>, we understand this approval has been received.
2. Again, as acknowledged in our letter report of January 26<sup>th</sup>, it is understood the applicant intends to convey a 0.367-acre parcel at the northeast corner of the subject tract for future use as fire pond. We continue to remind your Board that municipal acceptance of this property will require action by the Board of Selectmen under applicable statute.
3. As shown on the drawings we understand the applicant proposes to provide access to each proposed building lot via construction of each of two private ways.

*Civil Engineering*

*Land Surveying*

*Landscape Architecture*

10 Commerce Park North, Suite 3B

Bedford, NH 03110

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Correspondingly, we continue to recommend the following note be added to the final plat: "All future streets and ways shown on this plat are intended by the owner/applicant and the Deerfield Planning Board to be platted, constructed and maintained as private ways in perpetuity. Neither the approval nor recording of this plat shall be construed to represent an offer of public dedication under New Hampshire law of dedication and acceptance of public highways and streets."

4. In order to satisfy the requirements of Sections V-1 and V-2 of the Subdivision Regulations we previously recommended any approval granted to this application by the Planning Board be conditional upon the applicant posting a performance guarantee, in an amount and form acceptable to the Town of Deerfield, to serve as a financial surety for full and final completion of private ways, related infrastructure and any public improvements constructed within the existing public way at Range Road. As acknowledged above, the applicant's consultant recently submitted separate construction cost estimates for each of two future subdivision roadways, proposed fire pond installation and residential driveway construction on platted Lot 71-5. Based upon consideration and review of the same we offer the following remarks at this time:

- Several Planning/Design Matters Comments which follow continue to recommend project plans be further revised to either achieve or demonstrate compliance with applicable requirements of the Subdivision Regulations. For this reason, we have no choice but to treat plans submitted to date as progress drawings. Although construction cost estimates submitted to date define various quantities of work which correspond with design information illustrated on the current drawings, unless and until the drawings depict final design information, we are reluctant to attempt to derive or endorse construction cost opinions generated from progress drawings. That said we do recommend adjustment of several unit price values upon which the construction cost opinions have been based to more closely reflect current fair-market conditions and values.
- X • We note one construction cost estimate submitted purports to estimate the anticipated cost of residential driveway construction on platted Lot 71-5. As a practical matter, although RSA 674:36 provides authority for municipal subdivision regulations to require performance guarantees be given as financial surety for full and final completion of future public improvements as well as common private improvements intended to serve multiple properties/ownerships, in our view neither statute nor provisions of Article V of the Deerfield Subdivision Regulations serve to require or authorize receipt of surety for construction of a future private residential driveway.

### **Zoning Matters**

1. We understand the applicant previously submitted draft homeowner association documents for this planned Open Space Development pursuant to applicable requirements of Section 325.4. H of the Zoning Ordinance. We recommend any approval

granted to this application occur subsequent, or be conditional upon, receipt of favorable review of these documents by Town Counsel.

2. To fully identify and define the extent of certain internal setbacks and separation dimensions required under Section 325.4. D.1 (b) of the Zoning Ordinance we continue to recommend: (a) the text of Note No. 7 on the final subdivision plat be expanded to specify applicable dimensional requirements contained in the referenced Section of the Zoning Ordinance; and (b) the final plat be expanded to graphically illustrate the same.

### **Planning/Design Matters**

1. Sheet 3 of the drawings, entitled "Road Access Plan – H1" illustrates the alignment and grading of two private ways intended to provide vehicular access to each proposed building lot from Range Road. To satisfy applicable requirements of Sections III-6. E (3) (c), III-6. E (3) (d) & III-6. E (3) (e) of the Subdivision Regulations we continue to recommend the drawings be expanded to provide all technical information required under cited Sections of the Regulations.
2. To satisfy applicable requirements of Section III-6. E (3) (f) of the Subdivision Regulations the applicant's consultant previously prepared and submitted a stormwater management report. We continue to recommend the content of this report be expanded to fully address applicable requirements contained in Section IV-5. A of the Regulations.
3. Sections IV-4, IV-5, IV-6 and IV-7 respectively of the Subdivision Regulations provide design and construction standards for streets & driveways; drainage and stormwater management facilities; erosion & sedimentation control and utility installations. We continue to recommend the design engineer review these standards and revise the project plans to comply with the same, or in the alternative, formally request Planning Board approval of one or more waivers of specific standards specified under the same. As currently presented on Sheet 3, design plans for proposed access, drainage and utility accommodations are neither complete nor in compliance with applicable design standards specified under each of the cited Sections of the Subdivision Regulations.
4. As shown on Sheet 4, an estimated 274 feet of all-season safe sight distance is available to the north of the proposed private way intended to provide vehicular access to proposed Lots 71-4 & 71-5 whereas a minimum of 400-feet is required under Section IV-4. B.4 (b) (6) of the Subdivision Regulations.
5. The project plans include Sheet 5 entitled "Dry Hydrant Details". This drawing depicts the intent to excavate a fire pond on an outparcel to be offered to the Town of Deerfield. Given that it does not appear this proposed fire pond will be fed by surface water, it must be presumed that it is the designer's intent that the static volume available for fire-fighting purposes will be derived from groundwater. Apart from a single test pit excavated adjacent to this proposed fire pond we are unaware of the existence of hydrogeologic data which endeavors to demonstrate a sufficient static volume of water will be available during all seasons of the year. While we anticipate it may in fact be

Deerfield Planning Board  
February 23, 2022

possible for the applicant to excavate and construct a serviceable fire pond at this location, we continue to recommend the applicant prepare and submit technical data, prepared by one or more qualified professionals, which successfully demonstrates a dependable volume of water of sufficient quality and quantity sufficient for use in firefighting, will be available at this location during all seasons of the calendar year.

We trust you will find the foregoing remarks responsive to your recent request. In the event your Board should have specific questions or require additional assistance related to this application, please contact this writer at your convenience.

Sincerely:

Steven B. Keach, P.E.  
President  
Keach-Nordstrom Associates, Inc.

**BEALS ASSOCIATES** PLLC

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February 3, 2022

Mr. Peter Schibbelhute, Chairman  
Town of Deerfield Planning Board  
PO Box 159  
Deerfield, NH 03037

RE: Proposed Subdivision of Land of Edward & Sandra Cross  
Range Road, Deerfield, NH  
Tax Map 414 Lot #: 71

Dear Members of the Board:

This is written to formalize a request for waivers general design and construction specifications in the regulations for the referenced subdivision application.

Your petitioner seeks the following relief:

1. We respectfully request a waiver to Subdivision Regulations Sections IV-4, IV-6 & IV-7 to allow the design plans to be approved as presented. The vast majority of the required elements cited in Section IV-4 are presented in the design plan set (a separate waiver request is provided for sight distance). The remaining required information would not seem to be applicable to the proposed subdivision with 2-common driveways. Specific to Section IV-6, we feel we have provided all the required information cited in the section on the design plans inclusive of the erosion and sediment control details. If the Board or reviewing engineer feel differently, we would submit that any additional information would not result in an improvement to the design plans for construction. Specific to Section IV-7, the remaining required information (underground utility design, etc.) will be determined by the Utility company providing service, and we anticipate an as-built for the common drive sections will be required and provided. We feel the waiver is justified as the proposed subdivision is served by 2-common driveways which will remain in private ownership. Again, the vast majority of the required elements in the cited sections is indeed provided within the design plans, and additional information would not appear to provide useful information from which to judge the project/design. Finally, as the construction will be laid out by field survey, and there will be no town maintenance required for the proposed access drives, culverts, erosion controls, etc., we believe the waivers, if approved, do maintain the intent of the subdivision regulations.

Thank you for your consideration.

Very truly yours,  
BEALS ASSOCIATES, PLLC

*Christian O. Smith*

Christian O. Smith, PE  
Principal



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December 23, 2021

Mr. Peter Schibbelhute, Chairman  
Town of Deerfield Planning Board  
PO Box 159  
Deerfield, NH 03037

RE: Proposed Subdivision of Land of Edward & Sandra Cross  
Range Road, Deerfield, NH  
Tax Map 414 Lot #: 71

Dear Members of the Board:

This is written to formalize a request for waivers specific to the stormwater regulations for the referenced subdivision application.

Your petitioner seeks the following relief:

1. We respectfully request a waiver to Subdivision Regulations Section IV-5 which require a stormwater evaluation consistent with the NHDES AoT rules and design criteria. We feel the waiver is justified as proposed subdivision is served by 2-common driveways which will remain in private ownership. Proposed driveway culverts have been evaluated and erosion and sediment controls have been designed to mitigate any potential impact to the Town right-of-way (ROW) associated with Range Road. All stormwater ultimately flows to a large wetland complex and ultimately an existing 72" culvert which flows south under Range Road. It is our understanding that the Planning Board wanted the driveway culverts and driveway swales protected from erosion potential thereby protecting the existing swale within the Range Road ROW. Finally, any potential minor potential flow increases do not pose an adverse impact to the existing wetland nor municipal drainage system.

Thank you for your consideration.

Very truly yours,  
BEALS ASSOCIATES, PLLC

*Christian O. Smith*

Christian O. Smith, PE  
Principal



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February 3, 2022

Mr. Peter Schibbelhute, Chairman  
Town of Deerfield Planning Board  
PO Box 159  
Deerfield, NH 03037

RE: Proposed Subdivision of Land of Edward & Sandra Cross  
Range Road, Deerfield, NH  
Tax Map 414 Lot #: 71

Dear Members of the Board:

This is written to formalize a request for waivers specific to the sight distance regulations for the referenced subdivision application.

Your petitioner seeks the following relief:

1. We respectfully request a waiver to Subdivision Regulations Section IV-4.B.4(b) which requires 400-feet of all-season safe sight distance for new roads. We feel the waiver is justified as proposed subdivision is served by 2-common driveways which will remain in private ownership. The southerly common driveway provides 274' of sight distance from the driveway to looking north. This drive serves only 2-residential lots, which will result in very little traffic entering and exiting Range Road. The intersection with Range Road is proposed as a stop-controlled intersection. Finally, The American Association of State Highway and Transportation Officials (AASHTO) geometric design criteria require 250' of stopping sight distance on a crest vertical curve for the 35-mile per hour posted speed limit (e.g. an approaching vehicle traveling toward the driveway on Range Road – see attached excerpt). It should be noted that the sight distances depicted are straight line on the profile, the actual travel distance on the pavement of Range Road through the 274' of sight distance depicted is over 317-feet and all other views from the proposed drives meet or exceed the requisite 400'.

Thank you for your consideration.

Very truly yours,  
BEALS ASSOCIATES, PLLC

*Christian O. Smith*

Christian O. Smith, PE  
Principal

Metric				US Customary			
Design speed (km/h)	Stopping sight distance (m)	Rate of vertical curvature, $K^a$		Design speed (mph)	Stopping sight distance (ft)	Rate of vertical curvature, $K^a$	
		Calculated	Design			Calculated	Design
20	20	0.6	1	15	80	3.0	3
30	35	1.9	2	20	115	6.1	7
40	50	3.8	4	25	155	11.1	12
50	65	6.4	7	30	200	18.5	19
60	85	11.0	11	35	250	29.0	29
70	105	16.8	17	40	305	43.1	44
80	130	25.7	26	45	360	60.1	61
90	160	38.9	39	50	425	83.7	84
100	185	52.0	52	55	495	113.5	114
110	220	73.6	74	60	570	150.6	151
120	250	95.0	95	65	645	192.8	193
130	285	123.4	124	70	730	246.9	247
				75	820	311.6	312
				80	910	383.7	384

<sup>a</sup> Rate of vertical curvature,  $K$ , is the length of curve per percent algebraic difference in intersecting grades ( $A$ ).  $K = L/A$

**Exhibit 3-76. Design Controls for Stopping Sight Distance and for Crest and Sag Vertical Curves**

The values of  $K$  derived above when  $S$  is less than  $L$  also can be used without significant error where  $S$  is greater than  $L$ . As shown in Exhibit 3-75, extension of the diagonal lines to meet the vertical lines for minimum lengths of vertical curves results in appreciable differences from the theoretical only where  $A$  is small and little or no additional cost is involved in obtaining longer vertical curves.

For night driving on highways without lighting, the length of visible roadway is that roadway that is directly illuminated by the headlights of the vehicle. For certain conditions, the minimum stopping sight distance values used for design exceed the length of visible roadway. First, vehicle headlights have limitations on the distance over which they can project the light intensity levels that are needed for visibility. When headlights are operated on low beams, the reduced candlepower at the source plus the downward projection angle significantly restrict the length of visible roadway surface. Thus, particularly for high-speed conditions, stopping sight distance values exceed road-surface visibility distances afforded by the low-beam headlights regardless of whether the roadway profile is level or curving vertically. Second, for crest vertical curves, the area forward of the headlight beam's point of tangency with the roadway surface is shadowed and receives only indirect illumination.

Since the headlight mounting height (typically about 600 mm [2 ft]) is lower than the driver eye height used for design (1,080 mm [3.5 ft]), the sight distance to an illuminated object is controlled by the height of the vehicle headlights rather than by the direct line of sight. Any object within the shadow zone must be high enough to extend into the headlight beam to be directly illuminated. On the basis of Equation (3-43), the bottom of the headlight beam is about

### ***What a one-second advantage can mean to you***

Everybody wants the gift of more time, but how valuable could just one measly, crummy second be to you? When it comes to using your brakes on the highway, it could mean – well, a whole lot more than you might imagine.

Studies have shown that it takes the average driver from one-half to three-quarters of a second to perceive a need to hit the brakes, and *another* three-quarters of a second to move your foot from the gas to the brake pedal. Everybody's reaction times are different, but that's up to a full one-and-a-half seconds between when you first start to realize you're in trouble and before you even start to slow down.

This is fundamental – there's no changing human physiology. But let's look how that affects your ability to stop your car.

The table below shows the distances it takes an average car to come to a stop on dry pavement from different speeds, including the distance traveled for just *one second* of perception and reaction time.

Speed	Perception/Reaction Distance	Braking Distance	Overall Stopping Distance	Equal to Approx Number of Car Lengths (@15 feet)
30 mph	44 feet	45 feet	89 feet	6
40 mph	59 feet	80 feet	139 feet	9
50 mph	73 feet	125 feet	198 feet	14
60 mph	88 feet	180 feet	268 feet	18
70 mph	103 feet	245 feet	348 feet	23
80mph	117 feet	320 feet	439 feet	29

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Fire Pond Calculations:

To determine the area of the pond L x W x D (7.48 gallons per Cubic Foot of water)

Volume of a Pond in Cubic Feet

Elevation = 345'-2,776 s.f. (elevation at bottom of the intake strainer)

346'-3,175 s.f.

347'-3,598 s.f.

348'-4,047 s.f. (4.2' below existing water elevation to account for drought or ice)

$$\frac{(2,776 + 3,175)}{2} + \frac{(3,175 + 3,598)}{2} + \frac{(3,598 + 4,047)}{2} = \text{CF} \\ \times 7.48 = \text{gallons}$$

$$(2,975) + (3,386) + (3,822) = (10,183 \text{ C.F.}) \times 7.48 = 76,172 \text{ gallons}$$

As the large wetland upstream of the area the fire pond is located is fed by stormwater culverts and a perennial stream (as well as annual rainfall), we feel the calculations are conservative and demonstrate a year round water supply in excess of 60,000 gallons at any time.