

## **City of Keene Planning Board**

## **AGENDA**

Monday, May 22, 2023

6:30 PM City Hall, 2<sup>nd</sup> Floor Council Chambers

- I. Call to Order Roll Call
- II. Minutes of Previous Meeting April 24, 2023
- III. Final Vote on Conditional Approvals
- IV. Public Hearings
  - <u>SPR-967, Modification #7A Site Plan Railroad Land Parking Lot Landscaping Modifications</u> <u>– 0 Cypress St</u> - Applicant and owner Railroad Street Condominium Association proposes to remove and replace seven trees with thirty-four shrubs on the property at 0 Cypress St (TMP #574-041-000). The site is 5.54 ac and is located in the Downtown Core District.
  - 2. S-03-23 Conservation Residential Development Subdivision & SWP-CUP-02-23 Surface Water Protection Conditional Use Permit 19 Whitcomb's Mill Rd Applicant and owner Sandra R. Henry Trust proposes to subdivide the 12.42 ac parcel located at 19 Whitcomb's Mill Rd (TMP #237-018-000) into 9 lots, including 8 residential building lots that range in size from 0.38 to 0.77 ac and one open space lot that is 6.83 ac in size. Four lots are proposed to be developed as duplexes and four lots are proposed to be developed as single family homes. A new dead-end road is proposed to provide access to seven of the residential lots. Access to the 8th residential lot is proposed from Whitcomb's Mill Rd. A waiver is requested from Sec. 19.3.5.A.3 of the Land Development Code regarding the requirement that all structures shall be accessed from internal streets. The site is located in the Low Density 1 District.
  - 3. <u>SPR-06-23 Site Plan Roosevelt School Housing 438 Washington St</u> Applicant Monadnock Affordable Housing, on behalf of owner Community College System of New Hampshire, proposes to renovate the existing ~13,507 sf, 2-story school building; construct a ~8,548 sf 2-story addition; and construct a ~12,646 sf 2-story building with associated site improvements to create a 60 unit multifamily housing development on the property at 438 Washington St. (TMP #531-054-000). A waiver is requested from Sec. 20.14.3.D of the Land Development Code regarding the requirement that all off-street parking be screened and located to the side or rear of buildings. This site is 2.4 ac and is located in the Low Density District.
- V. Staff Updates
- VI. New Business

## VII. Upcoming Dates of Interest

- Joint Committee of the Planning Board and PLD June 12, 6:30 PM
- Planning Board Steering Committee June 13, 11:00 AM
- Planning Board Site Visit June 21, 8:00 AM <u>To Be Confirmed</u>
- Planning Board Meeting June 26, 6:30 PM

1		<u>City of Keene</u>	
2		New Hampshire	
3		-	
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5		PLANNING BOARD	
6		MEETING MINUTES	
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8	Monday, April 24, 2023	6:30 PM	Council Chambers, City Hall
	Members Present:	<b>Staff Present:</b>	
	David Orgaz, Vice Chair	Jesse Rounds, Com	nmunity Development
	Mayor George S. Hansel	Director	
	Roberta Mastrogiovanni	Mari Brunner, Seni	ior Planner
	Armando Rangel		
	Harold Farrington		
	Ryan Clancy Dondyn Montrolon Altomato		
	Randyn Markelon, Alternate		
	Members Not Present:		
	Gail Somers, Alternate		
	Tammy Adams, Alternate		
	Kenneth Kost, Alternate		
	Councilor Michael Remy		
	Emily Lavigne-Bernier		
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10	I) <u>Call to Order</u> – <u>Roll Call</u>		
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12	Vice Chair Orgaz called the meeting to order at 6:30 PM and a roll call was taken. Randyn		
13	Markelon was invited to join the session tonight.		
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15	II) <u>Election of Chair, Vice C</u>	hair, & Steering Committee	
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17	A motion was made by Mayor Ge	eorge Hansel to nominate David C	Orgaz as Chair of the Board.
18	The nomination was seconded by	Armando Rangel	
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20	Harold Farrington nominated him	self as Chair of the Board. The n	omination was seconded by
21	Mayor Hansel.		
22	-		
23	David Orgaz declined his nominat	tion for Chair.	
24	-		
25	The motion to nominate Harold F	arrington as Chair carried on a una	animous vote. A motion was
26	made by Mayor George Hansel	to nominate David Orgaz as Vie	ce-Chair of the Board. The

nomination was seconded by Ryan Clancy and was unanimously approved. 27

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PB Meeting Minutes April 24, 2023

A motion was made by Mayor George Hansel to nominate Roberta Mastrogiovanni as the third member of the Steering Committee. The motion was seconded by David Orgaz and was unanimously approved.

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Chair Farrington thanked his fellow Board members for the confidence placed in him, in
 nominating him Chair of the Board. He acknowledged staff for their work and indicated he would
 lean on them for their guidance and also acknowledged Chair Russell-Slack's service on the Board.

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## III) Minutes of Previous Meeting – March 27, 2023

A motion was made by Mayor George Hansel to approve the March 27, 2023 meeting minutes as
 presented. The motion was seconded by David Orgaz and was unanimously approved.

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- IV) Extension Requests
  - 1. <u>S-04-22 Conservation Residential Development Subdivision & SPR-04-22 Site</u> <u>Plan - 0 Drummer Rd</u> - Applicant and owner C. Eric Farris requests an extension to the deadline to satisfy the precedent conditions of approval for the 6-lot CRD subdivision, S-04-22, and site plan for the construction of 5 multi-family buildings, SPR-04-22, for the property located at 0 Drummer Rd (TMP# 515-015-000). The parcel is 13.1-ac and is located in the Low Density District.
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51 Ms. Brunner addressed the Board and stated that the Applicant for this project was not present 52 today and referred to their extension request letter on Page 9 of the Board's packet. She indicated 53 that this is their first extension request to extend the timeframe for them to meet their precedent 54 conditions of approval, which will need to be met before the Board can issue a final approval for 55 this application. Ms. Brunner went on to say that after the Applicant received conditional 56 approval, he heard about the Invest NH funding and he is also looking to participate in the Low 57 Income Housing Tax Credit program. Part of this proposal is to provide affordable housing and 58 he needs time to work through these details. 59

A motion was made by Mayor George Hansel to grant a 180-day extension to meet the conditions
 of approval for S-04-22 and SPR-04-22. The motion was seconded by David Orgaz and was
 unanimously approved.

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2. <u>SPR-11-16, and Modification #10 – Site Plan - Covenant Living of Keene - 95, 100, & 118 Wyman Rd</u> – Applicant SVE Associates, on behalf of owner Covenant Living of Keene, requests an extension to the deadline to satisfy the precedent conditions of approval for site plan SPR-11-16, Modification #10 for modifications to landscaping and pedestrian infrastructure on the properties at 95 Wyman Rd (TMP #221-019-000), 100 Wyman Rd (TMP #221-018-000), and 118 Wyman Rd (TMP #210-010- 000). The properties are a combined 67 acres in size and are located in the Rural District.

71 72 Mr. Greg Burdett, Executive Director of Covenant Living, addressed the Board and stated that
 they are working with Staff on satisfying conditions of approval #3-4 related to the installation

of pedestrian infrastructure on the Covenant Living site, which is taking longer than expected,and this is the reason for the extension request.

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A motion was made by Mayor George Hansel to grant a 180-day extension for SPR-11-16,
 Modification #10. The motion was seconded by David Orgaz and was unanimously approved.

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## V) Final Vote on Conditional Approvals

83 Chair Farrington asked staff whether there were any applications tonight that are ready for a final 84 vote. Ms. Brunner stated that there is one application that is ready for a final vote – subdivision application, S-08-22, for a two-lot subdivision of the property located at 284–88 Hurricane Road. 85 86 Ms. Brunner explained that the Board conditionally approved this application in August 2022 and 87 there were four conditions of approval, all of which have been met. These conditions included 88 having the owners sign the final plan, the submittal of four full-sized paper copies and two mylar 89 copies of the final plan, and the submittal of a check in the amount of \$51 to cover the cost of 90 recording the final plan at the Registry of Deeds, the submittal of a revised plan showing the 91 location of all rights-of-way, and an affidavit signed by the right-of-way holders and property 92 owners to be recorded with the final subdivision plot at the Cheshire County Registry of Deeds.

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A motion was made by Mayor George Hansel that the Planning Board issue final approval for S08-22. The motion was seconded by David Orgaz and carried on a unanimous vote.

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## VI) Boundary Line Adjustment

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## 3. <u>S-02-23 – Boundary Line Adjustment – 190 & 196 South Lincoln St</u> - Applicant Hans Porschitz, on behalf of owners Jennifer Whitehead & Aaron Cooper, proposes a boundary line adjustment between the properties at 190 & 196 South Lincoln St (TMP #s 572-004-000 & 587-001-000). This adjustment will result in the transfer of ~261 sf from the 0.13 ac parcel at 190 South Lincoln St to the 0.11 ac parcel at 196 South Lincoln St. Both properties are located in the Medium Density District.

- 106 A. <u>Board Determination of Completeness</u>
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108 Jesse Rounds, the Community Development Director, stated that the Applicant has requested 109 exemptions from submitting a drainage report, traffic analysis, soil analysis, and all other technical 100 reports. Staff have determined that the requested exemptions would have no bearing on the merits 111 of the application and recommend that the Board accept the application as "complete."

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A motion was made by Mayor George Hansel to accept the BLA application, S-02-23, as
"complete." The motion was seconded by David Orgaz and was unanimously approved.

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116 B. Public Hearing

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- 118 Mr. Hans Porschitz, the project applicant, addressed the Board. Mr. Porschitz stated that he was
- addressing the Board on behalf of Jennifer Whitehead, the owner of the property at 196 South
- 120 Lincoln Street, and Aaron Cooper, the former owner of the property at 190 South Lincoln Street.
- 121 The new owners of 190 South Lincoln Street are Emily Lavigne-Bernier and Casey Bernier. Mr.
- 122 Porschitz stated that the request is to adjust the lot line between the two parcels to reflect the actual
- 123 use of the two properties. He indicated that this mis-alignment was discovered last summer when
- they were doing some work on their property.
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- 126 Staff comments were next.
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Mr. Rounds addressed the Board and stated that this is a simple request. It is a request to transfer 261 sf of land by moving the side lot line that separates these two properties. At the Zoning Board of Adjustment meeting on March 6<sup>th</sup>, 2023, Mr. Porschitz requested a variance on behalf of the property owners to permit a smaller lot size than is allowed in the Medium Density District. In addition, there were two other variances requested at that time - one was to allow the garage on the property to be within the setback and the second variance was to allow a driveway to be within

- 134 three feet of the property line. All three variances were approved.
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- Mr. Rounds noted that as mentioned by Mr. Porschitz, there is garden that currently crosses theproperty line and this lot line adjustment would resolve this issue.
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- 139 Mr. Rounds stated that from staff's perspective, there were no concerns about this proposal. He 140 also noted that staff felt that this change would promote safe and orderly development of the City
- 141 and protect abutters from hazards, unsightliness, nuisances, and detriments to property values.
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- 143 Mr. Clancy asked who the current owner of the property at 190 South Lincoln Street was. Mr.
- Rounds stated that it is Emily Lavigne-Bernier and her partner. Mr. Clancy clarified that having Aaron Cooper listed as the property owner on the application would not be an issue. Mr. Rounds
- 146 answered in the negative.
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- 148 The Chair asked for public comment. With no comment from the public, the Chair closed thepublic hearing.
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- 151 C. <u>Board Discussion and Action</u>
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A motion was made by Mayor George Hansel that the Planning Board approve S-02-23 for a boundary line adjustment between the properties located at 190 South Lincoln St. (TMP# 572-004-000) and 196 South Lincoln St. (TMP# 587-001-000) as shown on the plan identified as "Boundary Line Adjustment Plat of Map-587 Lot-1 & Map 572 Lot-4 196 South Lincoln St and 190 South Lincoln St Keene, New Hampshire" prepared by Graz Engineering at a scale of 1" = 15 feet on November 2, 2022 and last revised on April 7, 2023, with the following conditions precedent prior to final approval and signature of the plans by the Planning Board Chair:

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- Submittal of four (4) full-sized paper copies, two (2) mylar copies, and a digital copy of
   the final plan.
- 163 2. Owners' signatures appear on the plan.

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- 4. Submittal of a check in the amount of \$51.00 made out to the City of Keene to cover the cost of recording the final plat.
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  5. Inspection of lot monuments by the Public Works Director or their designee following their
  installation or the submittal of a security in an amount deemed satisfactory to the Public
  Works Director to ensure that the monuments will be set."
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- 170 The motion was seconded by David Orgaz and was unanimously approved.
- 171172 VII. Staff Updates
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Ms. Brunner stated that there are a few Certificates of Adoption for Board members to sign to certify that the Board adopted amendments to its Regulations. The first one is for the amendments to the subdivision regulations that the Board adopted in February. The second is for the changes to the Conservation Residential Development subdivision regulations.

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- Ms. Brunner went on to say that there will be a meeting regarding the Community Power Program on April 25<sup>th</sup> at 6:00 pm at Heberton Hall. On May 2<sup>nd</sup> at 6:00 pm, there will be another in-person
- 181 meeting with a Zoom option.
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## 183 VIII. <u>New Business</u>

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- 185 None
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## 187 IX. Upcoming Dates of Interest

- 188 Joint Committee of the Planning Board and PLD May 8, 6:30 PM
- 189 Planning Board Steering Committee May 9, 11:00 AM
- 190 Planning Board Site Visit May 17, 8:00 AM To Be Confirmed
- 191 Planning Board Meeting May 22, 6:30 PM
- 192
- 193 There being no further business, Chair Farrington adjourned the meeting at 7 PM.
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- 195 Respectfully submitted by,
- 196 Krishni Pahl, Minute Taker
- 197
- 198 Reviewed and edited by,
- 199 Megan Fortson, Planning Technician

#### SPR-967, Modification #7A – Site Plan Review – Railroad Land Landscaping Modifications – 0 Cypress St

#### Request:

Applicant and owner Railroad Street Condominium Association, proposes to remove and replace six trees with thirty-one shrubs on the property at 0 Cypress St (TMP #574-041-000). The site is 5.54 ac and is located in the Downtown Core District.

#### **Background:**

Community

The subject parcel of this application is the former railroad land located at 0 Cypress St (TMP #574-041-000), which is now owned by the Railroad Street Condominium Association. The parcel is 5.54 acres in size and is located to the east of Main Street in the Downtown Core District. This parcel contains a variety of buildings and uses from ranging the Monadnock Food Co-op, Courtyard by the to Marriott hotel, offices for Southwestern

Services,

RAILRO AD STREET DUNBAR STREET MATER STREET

Figure 1. Aerial imagery of the railroad property located at 0 Cypress St (TMP #574-041-000).

clinic space for the hospital, residential living units, and many other uses. The development of this property was originally approved by the Planning Board in June 2006 as part of SPR-967. Several subsequent modifications have been made to the original site plan for this development to allow for changes to the buildings on the property and the site itself. Figure 1 above shows the full extent of this parcel.

As part of this application, the Applicant is proposing to replace seven trees that have already been removed with 34 Dwarf Inkberry shrubs in two existing interior parking lot landscaping islands on the eastern portion of the site along Community Way. The landscaping on this portion of the site was approved as part of the original site plan application in 2006. City Staff became aware that the trees had been removed in January 2023 and let the property owner know that they would either need to be replaced in the approved locations or a site plan modification would need to be submitted.

Section 20.5.5 of the LDC states that minor revisions to approved landscaping plans can approved by the Community Development Director or their designee, as long as the Applicant can demonstrate that there will be no reduction in the quantity or size (at maturity and planting) of plant material, that there will be no change to the approved location of plant materials, and that the proposed plants are of the same general category (e.g. shade, ornamental, evergreen) as the approved plants. Given that the Applicant is proposing to change the category and number of plants that are proposed to be installed in place of the trees that were removed, this request meets the threshold for review by the Planning Board.

#### **Completeness:**

The applicant has requested exemptions from submitting a grading plan, lighting plan, elevations, and all technical reports. After reviewing each request, staff recommend that the Board grant the requested exemptions as they have no bearing on the merits of the application and accept the application as "complete."

#### **Departmental Comments:**

There were no departmental comments on this application.

**Application Analysis:** The following is a review of the standards relevant to this application.



Figure 2. Snippet of the approved landscaping plan from SPR-967 with the location of the seven trees that were removed along Community Way circled in red.

<u>9.4.5.A – Parking lots of 10+ spaces.</u> "For parking lots of 10 or more parking spaces, either 1 tree at least 3-in diameter as measured 6-in from the ground after planting, or groupings of 3 or more trees at least 6-ft tall or 2-in diameter as measured 6-in above grade after planting, shall be required at the ratio of 1 tree per 10 parking spaces."

The Applicant has submitted an existing conditions exhibit showing that there are currently 172 parking spaces on the property and 33 remaining trees left on the site following the removal of seven trees. This plan is included as an attachment to this staff report. This number of parking spaces would require that 18 trees be planted on the site. Given that the Applicant has planted more than the minimum required number of trees, this standard appears to be met.

<u>20.5 - Landscaping.</u> The Applicant is proposing to replace seven existing trees that were removed in two interior landscaping islands on the eastern portion of the site with 34 Dwarf Inkberry shrubs. Figure 2 shows an aerial view of the trees that were removed. Figures 3 & 4 show Google Street View imagery of the trees that were removed and Figure 5 shows one of the stumps that was left behind following the removal of the trees. The narrative that was submitted by the Applicant states that these trees never thrived and were removed because of this. In the narrative, the Applicant states that one possible reason that the trees failed to thrive could potentially be that the underlying surface of the former rail yard was not conducive to the

growth and development of the trees. The narrative goes on to state that members of the condo association have noticed that Dwarf Inkberry shrubs have thrived in other areas of the site. Example photos of these shrubs are included as an attachment to this staff report.



Figure 3. Google Street View imagery showing five of the trees that were removed. (Imagery is from November 2021.)



Figure 4. Google Street View imagery showing the other two trees that were removed. (Imagery is from November 2021.)

During correspondence with City Staff, the Applicant noted that the members of the condo association have discussed whether the trees that were removed should be replaced with new trees or if replacing them with shrubs as currently proposed is sufficient. He explained that there has been no consensus amongst condo members and said that some members would prefer trees while others would prefer bushes that they believe would grow. The Applicant has also noted that he does not believe that salt or other roadside pollution played a role in the decline of the trees that were removed, but rather he believes that the soil conditions under the top 12-18" of soil provided are not suitable for the sustained growth of large trees. He explained that the subject parcel is an old rail yard that had little native soil present prior to its development. He also noted that there are other trees on the property that have been identified as being in distress that the condo association is looking to save.

Section 20.5.2 of the Land Development Code (LDC) outlines the landscaping installation requirements, including the requirement that trees be planted utilizing the best available practices to develop essential root structure; that plant materials be installed in a soil of sufficient volume, composition, and nutrient balance; that trees installed in areas of non-native or compacted soil shall be excavated to enable the placement of 300 cubic ft of native soil; and that protective measures (such as temporary fencing) be installed to protect the root masses of existing vegetation.

The Applicant has submitted a proposed landscaping plan that includes a landscaping detail showing how the proposed Dwarf Inkberry shrubs will be installed. The planting table on the landscaping plan shows that these plants will be 24" tall by 18" wide at the time of planting and will grow to a mature height of 3-4' and mature width of 4-6'. The Board may want to consider making the submittal of a security to cover the cost of the landscaping and its



Figure 5. A photo of one of the stumps that was left behind following the removal of the trees.

installation a precedent condition of approval to ensure that the landscaping will survive and will be replaced if it does not survive.

#### **Recommended Motion:**

If the Board is inclined to approve this request, the following motion is recommended:

"Approve SPR-967, Modification #7A as shown on the plan identified as, "Proposed Plantings, SCS Railroad St. Condo, Southwestern Community Services, 63 Community Way, Keene, NH" prepared by SVE Associates at a scale of 1 inch = 10 feet on March 24, 2023 and last revised on April 28, 2023, with the following conditions precedent prior to final approval and signature by the Planning Board Chair:

- 1. Owner's signature appears on the final plan.
- 2. Submittal of five full-sized paper copies and one digital copy of the final plan.
- 3. Submittal of a security to cover the cost of landscaping in a form and amount acceptable to the Community Development Director or their designee."



If you have questions about how to complete this form, please call: (603) 352-5440 or email: communitydevelopment@keenenh.gov

SECTION 1: PROJECT INFORMATION			
PROJECT NAME: Railroad Land Condominium Lands	scape Upgrade		
PROJECT ADDRESS(ES): 63 Community Way	MINOR PROJECT APPLICATION		
EXISTING OR PREVIOUS USE: Commercial Condominium	PROPOSED USE: Commercial Condominium		
GROSS FLOOR AREA OF 0 (Zero) NEW CONSTRUCTION (in square feet)	GROSS FLOOR AREA OF EXISTING N/A BUILDINGS/STRUCTURES (in square feet)		
AREA OF PROPOSED NEW 0 (Zero) IMPERVIOUS SURFACES (in square feet)	TOTAL AREA OF LAND DISTURBANCE (in square feet) 250+/- SF		
SECTION 2: CONTA	CT INFORMATION		
PROPERTY OWNER	APPLICANT		
NAME/COMPANY: Railroad Land Condominum Association	Keith F. Thibault		
P.O. Box 603 Keene, NH 03431	MAILING ADDRESS: Same		
<u>рноме:</u> (603)719.4208 or (603)209-1652	PHONE: Same		
kthibault@scshelps.org	EMAIL: Same		
SIGNATURE: Keith F. Thibault Digitally signed by Keith F. Thibault Date: 2023.03.29 20:50:12 -04'00'	SIGNATURE: Keith F. Thibault Digitally signed by Keith F. Thibault Date: 2023.03.29 20:50:39 -04'00'		
Keith F. Thibault	PRINTED NAME: Same		
AUTHORIZED AGENT (if different than Owner/Applicant)	FOR OFFICE USE ONLY:		
NAME/COMPANY:	TAX MAP PARCEL #(s): 574.041-0000000000		
MAILING ADDRESS:			
PHONE:	PARCEL SIZE: 5.54 DATE STAMP:		
EMAIL:	ZONING DISTRICT: DOWNTOWN APR 32023		
SIGNATORE.	with		
PRINTED NAME:	PROJECT #: SPR-967, Mod. 7A		



## Southwestern Community Services

People helping people in Cheshire and Sullivan Counties since 1965

To: City of Keene Planning Board

From: Keith F. Thibault, cdo, Southwestern Community Services

Date: April 12, 2023

Subject: Railroad Land Condo Association Landscaping Upgrade - Narrative

Thank you for the opportunity to present this narrative and accompanying Site Plan Application for landscaping upgrades within the downtown Railroad Land Commercial Condominium. We are looking to replace a small number of trees with a different form of landscaping.

The trees that were planted along this narrow parking/traffic island have never thrived. One theory is that the underlying surface of this former rail yard was not conducive to tree growth and development.

What we have observed, however, is that the Dwarf Inkberry plantings in very similar areas have thrived. I have provided a couple of pictures to exemplify this. We intend to replace the six trees removed with over thirty Inkberry plantings in this area.

Thanks again for your assistance with this request. Please do not hesitate to contact me with any questions or concerns. I can be reached by email at <u>kthibault@scshelps.org</u> or by phone at 603.719.4208.

CC: Beth Daniels, CEO Southwestern Community Services

63 Community Way PO Box 603 Keene, NH 03431 Phone: (603) 352-7512 Fax: (603) 352-3618



96-102 Main Street PO Box 1338 Claremont, NH 03743 Phone: (603) 542-9528 Fax: (603) 542-31405









## **Keith Thibault**

From: Sent: To: Keith Thibault Thursday, April 13, 2023 1:04 PM Keith Thibault

Example Photos of Dwarf Inkberry Plants on the Railroad Land Property



Keith...



## **Keith Thibault**

From: Sent: To: Keith Thibault Thursday, April 13, 2023 1:15 PM Keith Thibault



Keith...



## S-03-23 – Conservation Residential Development Subdivision and SWP-CUP-02-23 – Surface Water Protection Conditional Use Permit – 19 Whitcomb's Mill Rd

**<u>Request:</u>** Applicant and owner Sandra R. Henry Trust proposes to subdivide the 12.42 ac parcel located at 19 Whitcomb's Mill Rd (TMP #237-018-000) into 9 lots, including 8 residential building lots that range in size from 0.38 to 0.77 ac and one open space lot that is 6.83 ac in size. Four lots are proposed to be developed as duplexes and four lots are proposed to be developed as single family homes. A new dead-end road is proposed to provide access to seven of the residential lots. Access to the 8th residential lot is proposed from Whitcomb's Mill Rd. A waiver is requested from Sec. 19.3.5.A.3 of the Land Development Code regarding the requirement that all structures shall be accessed from internal streets. The site is located in the Low Density 1 District.

## Background:

The 12.42-acre tract of land that is the subject of this proposal is located on the west side of Whitcomb's Mill Road, approximately 0.15 miles north of NH Rt. 9. The site is currently undeveloped; however, it was historically cleared in some areas and used as a gravel pit. Adjacent land uses include residential properties to the north, agricultural properties to the west, the Langdon Place of Keene to the east, and the Cheshire Rail Trail to the south. The parcel has 762 feet of frontage along Whitcomb's Mill Road and is located in the Low Density 1 District.

Existing surface waters on the site include an intermittent stream that enters the property from the south and feeds into an ~1.9 acre forested wetland complex in the center of the property. The wetlands drain into White Brook, which runs along the northern parcel boundary. There are steep slopes (precautionary and prohibitive) located on the site; however, many of these slopes were created during the operation of the former gravel pit.

The applicant proposes to subdivide the parcel into nine lots, 8 of which would be residential lots that vary in size from  $\sim 0.38$  to  $\sim 0.77$  acres. The ninth lot would be reserved as open space and is  $\sim 6.83$  acre in size.



Figure 1. Aerial image of the 19 Whitcomb's Mill property.

The proposal includes four single-family lots and four duplex lots that could be developed as either single family or duplex homes, for a total of up to 12 residential dwelling units. The Applicant proposes to construct a dead-end public road to provide access for seven of the residential lots. The 8<sup>th</sup> residential lot, which could be developed as either a single family home or a duplex, is proposed to have access directly from Whitcomb's Mill Road. A waiver is requested

from Section 19.3.5.A.3.a of the Land Development Code regarding the requirement that all structures be accessed from interior streets.

The proposed new road, which roughly follows the location of the existing gravel driveway into the site, crosses through the 30-foot wetland buffer. The applicant has submitted a Surface Water Conditional Use Permit application, which has been referred to the Conservation Commission for review and comment at their meeting on Monday, May 15. Any comments or recommendations from the Conservation Commission will be shared with the Planning Board at the May meeting. In addition, due to the presence of precautionary and prohibitive slopes on the site, the applicant has requested a Hillsides Protection Conditional Use Permit in case it is required for impacts to steeps slopes on the site.

#### Completeness:

The Applicant requests exemptions from submitting a landscaping plan, lighting plan, building elevations, historic evaluation, screening analysis, and an architectural and visual appearance analysis. After reviewing each request, staff recommend that the Board grant the requested exemptions as they have no bearing on the merits of the application and accept the application as "complete."

## **Departmental Comments:**

Egineering:

- Please provide a percolation test for the proposed on-site stormwater basin.
- Inverts and pipe size at SMH#1 should be confirmed prior to submission of the connection permit to NHDES.
- Please be aware that you will need to submit the calculated sewer flow for the proposed development and a copy of the NHDES connection permit.
- Please be aware that trees are required every 50' on both sides of a street (public or private).
- All new public roads required to have sidewalks at least on one side of the street and street lighting, excluding Rural District.
- Per Section 22.3.4 of the LDC, dead-end streets cannot be longer than 750 ft.
- Per Section 22.3.13 of the LDC, installation of telecommunications infrastructure is required for all new roads.

Fire:

- Please describe how this proposal meets the requirements of Section 19.2.7 "Fire Protection and Water Supply" of the LDC.
- Fire ponds are fire not a reliable water source for firefighting purposes due to issues such a freezing over during winter months and running dry during droughts. Acceptable alternatives include a water main connection at street level or a cistern under certain conditions.
- As this is a dead end road, please demonstrate fire apparatus turnaround for the largest fire apparatus operated by KFD. Please contact the Fire Department to obtain specifications.
- Please be aware that a dead end road may need multiple access road.

Code Enforcement & Zoning:

• Please show the required frontage for Lot 8. (Note: this comment has been addressed)

- The narrative states that seven of the eight proposed building lots will have frontage and access from a private road; however, the zoning code requires frontage on a public road. Please, revise the proposal to show a public road, or alternatively, you may seek a variance from the ZBA to permit access to the new lots from a private road. (*Note: The applicant has revised the application to propose a public road*)
- Are any "Precautionary" or "Prohibitive" slope areas present on the site? If so, please show these areas on the plan, and provide the area of precautionary slopes and the area of prohibitive slopes that will be impacted by the proposed development, if any.
- Please be aware that building permits will be required.

**<u>Application Analysis – Subdivision Regulations:</u>** The following is a review of the applicable subdivision regulations in Section 19.2 and the CRD Subdivison regulations in Section 19.3.

**19.2.1 Lots -** All proposed lots appear to meet the requirements of the zoning regulations and CRD dimensional standards and will have frontage on either an existing Class V road or a street within an approved subdivision plan. This standard appears to be met.

**19.2.2 Character of Land for Subdivision -** The land proposed to be subdivided is not located in a flood hazard area. There are some man-made steep slopes present on the site that are proposed to be regraded as part of this proposal. This standard appears to be met.

**19.2.3 Scattered or Premature Development -** The proposed development is located off of an existing city street in an area of the city that is zoned for residential development. Staff have no concerns about the potential impact of this development on the capacity of the school system, adequacy of access streets, and availability of other public services. Fire access to the site is restricted due to the weight and capacity limits of the one-lane bridge over White Brook. Emergency access will be provided from the south via NH Route 9

**19.2.4 Preservation of Existing Features** – All significant existing features have been identified and are discussed later on in this staff report under CRD design criteria A.

**19.2.5 Monumentation** – This standard states that "The owner or developer shall provide permanent reference monuments in accordance with Article 22 of this LDC." Section 22.3.2 of the LDC states, "Final subdivision plans shall not be signed and recorded until after the monuments have been installed by the developer and verified by the Public Works Director, or security in an amount deemed satisfactory to the Public Works Director is posted ensuring the monuments will be set." Staff recommend that the Board include a condition of approval to require inspection of lot monuments by the Public Works Director or their designee following their installation or the submittal of a security in an amount deemed satisfactory to the Public Works Director to ensure that the monuments will be set.

**19.2.6 Special Flood Hazard Areas** – There are no special flood hazard areas located on any of the proposed developable lots. This standard is not applicable.

**19.2.7 Fire Protection and Water Supply** – This standard states that, for private fire protection water supply systems when it is infeasible or economically unreasonable to connect a fire hydrant to a public water main as determined by the Planning Board, the private fire protection water supply systems may include the following:

- "2. For single-family dwellings, underground cisterns and associated dry hydrants that meet the standards of NFPA 1142. The location, design, and provisions for ownership, maintenance, and all season access to the cistern and supporting facilities shall conform to the Keene Fire Department hydrant specifications.
- 3. Individual residential sprinkler systems meeting the standards of NFPA 13D or NFPA 13R may be installed; however, in no case may the installation of such a system be made a requirement of approval.
- 4. Any other public or private fire protection water supply system approved by the Fire Chief and determined by the Planning Board to provide a similar or greater level of fire protection than the options provided in (1) and (2) above."

The Applicant states in the project narrative that "Fire protection for the proposed new homes will be provided with individual home fire sprinkler systems. The applicant reserves the right to construct a fire pond within the existing wetland, subject to necessary permits and approvals including a NHDES wetlands permit and a waiver from the Keene Planning Board." Fire Department staff have indicated that a fire pond would not be an acceptable form of fire protection; however, individual sprinkler systems or an underground cistern and associated dry hydrants that meet the standards of NFPA 1142 would be acceptable. At the time of this staff report, this issue was still under discussion between staff and the applicant. Staff will provide a recommendation regarding fire protection at the Planning Board meeting on May 22.

**19.2.8 Utilities –** The applicant proposes to extend the existing sewer line located on the Langdon Place of Keene property to Whitcomb's Mill Road and down the length of the proposed new road in order to provide sewer service to the new lots. The City of Keene has an easement on the Langdon Place of Keene property that allows for this extension to occur. Private wells are proposed to provide domestic water service. This standard appears to be met.

**19.3.2 Dimensional Standards** – The CRD Dimensional requirements for the Low Density 1 District are shown in Table 1 in the "Required" column, and the proposed dimensions of the tract and new lots are shown in the "Proposed" column. The tract of land that is the subject of this proposal and all of the proposed new lots appear to meet the minimum dimensional requirements.

The maximum number of dwelling units allowed within the CRD subdivision is determined by dividing the total area of the tract by the density factor per dwelling unit, which is 1 acre for the Low Density 1 District. Based on this calculation, the maximum number of dwelling units that could be permitted for this property is 12 units (12.42 ac/1 ac = 12). The Applicant proposes to create 8 lots, four of which could be developed into duplexes for up to 12 units total.

With respect to open space, the applicant proposes to permanently reserve 6.83 acres as open space, or 55% of the tract (50% required). In the project narrative, the applicant notes that the open space lot will be used for passive recreation and will be managed by a Homeowner's Association (HOA).

			Required	Proposed
	Min tract size		5 acres	12.42 ac
	Min tract frontage		100 ft	762 ft
Tract	Perimeter building setback	From external roads	30 ft	30 ft
		From other tract boundaries	20 ft	20 ft
	Min. Lot Area		16,000 sf	16,338 sf
	Min Road Frontage		40 ft	40 ft
	Min Lot Width at Building Line		75 ft	N/A*
Lat	Min Front Setback		15 ft	15 ft
LOI	Min Rear Setback		20 ft	20 ft
	Min Side Setback		10 ft	10 ft
	Max Building Coverage		35%	N/A*
	Max Impervious Coverage		40%	N/A*

Table 1. Dimensi	onal requirements fo	CRD subdivision applications for the	e Low Density 1 District without city water.

\*These dimensional requirements will be reviewed at the time a building permit is submitted.

## 19.3.3. Permitted Uses

The CRD Subdivision regulations allow single-family and two-Family dwellings in the Low Density 1 District. While no development is currently proposed, the Applicant proposes to crate 8 residential lots, four of which could be developed as duplexes. The Applicant notes in the project narrative that the parcel reserved as open space will be used for passive recreation. Allowed open space uses include conservation, agriculture, forestry, and passive recreation.

## 19.3.5 Design Criteria

A. <u>General Criteria</u>. This section states that all development shall be located outside of primary conservation areas, and shall minimize impact to any identified secondary conservation areas. Identified primary conservation areas for this property include surface waters and their buffers (intermittent stream, wetlands complex, and White Brook) and the floodway associated with White Brook. Steep slopes were also identified on the topographical survey; however, after conducting a site vist on May 11, the City Engineer has determined that these areas consist of stockpiled materials left over from previous uses on the site and are not natural features subject to the Hillside Protection Overlay District. The applicant submitted a Hillside Protection Conditional Use Permit (CUP) in case it is necessary to allow for regrading these steep areas; however, the City Engineer and Zoning Administrator have determined that a Hillside Protection CUP is not required for this proposal.

All of the surface waters and the floodway are located on the proposed open space lot with the exception of a small area of wetlands that are within the right of way of the proposed road. The applicant has submitted a Surface Water Protection CUP application for this impact. The 30-foot surface water buffer is located on several of the proposed residential lots, including Lots 1, 2, 6, 7, & 8. Any development that occurs on those lots will need to comply with the City's Surface Water Protection Overlay District.

Secondary conservation areas on the site include the potential presence of a threatened species (the fringed gentian), an historic site (sawmill constructed in 1785), and stone walls located along the length of the western parcel boundary and sections of the eastern parcel boundary along Whitcomb's Mill Road. The applicant notes in the project narrative that the site was inspected by a botanist, and no evidence of the fringed gentian was found. The historic site and the stone walls are located within the open space land.

This standard also states that all structures shall be accessed from interior streets, rather than from roads bordering the perimeter of the tract. In addition, this section states "*in the event that a waiver of this standard is granted, shared driveways shall be incorporated where feasible.*" The Applicant requests a waiver from this standard for Lot 8, which is proposed to have access from Whitcomb's Mill Road. The applicant notes in the project narrative that if Lot 8 is developed as a duplex, it will have a shared driveway. A driveway permit would be issued by the City Engineer's office at the time that development is proposed.

The written waiver request is included in the project narrative attached to this staff report . In making a determination whether or not to grant this waiver request, the Board should find by a majority vote that the criteria outlined in Section 25.10.14 of the LDC have been met:

- "1. Specific circumstances relative to the subdivision, or conditions of the land in such subdivision, indicate that the waiver will properly carry out the spirit and intent of the regulations; and,
- 2. Granting the waiver will not increase the potential for creating adverse impacts to abutters, the community or the environment; and,
- 3. Consideration will also be given as to whether strict conformity with the regulations would pose an unnecessary hardship to the applicant."
- B. <u>Open Space Standards</u>. These standards state that the area of land designated as open space shall not be used to site individual lots, construction of buildings, facilities for accessory uses, roads and other areas for vehicular traffic. This section further states that the open space reserve should not be fragmented, should be located adjacent to other open space or protected lands when possible, and should be reasonably accessible from each proposed lot.

The proposed open space lot is proposed to be located roughly in the center of the tract of land where the wetlands complex is located. The applicant also proposes to include a buffer strip around the outer edge of the tract in the open space land. The applicant notes that no development is proposed on the open space parcel, and that this parcel will only be used for passive recreation. However, the narrative also states that "*The applicant reserves the right to construct a fire pond within the existing wetland, subject to necessary pennits and approvals.*" Construction of a fire pond in the open space parcel would not be an allowed use, and would require a waiver issued by the Planning Board. The open space lot could be accessed directly from each proposed house lot, from the adjacent rail trail via a proposed gravel path, or from Whitcomb's Mill Road.

C. <u>Open Space Ownership & Maintenance</u>. This section requires that all land designated as open space shall not be further subdivided, and shall remain as open space in perpetuity. In addition, all designated open space must be permanently protected by covenants or easements, shall be deeded to and maintained by a Homeowners Association, a non-profit

organization, or some other entity as approved by the Planning Board or its designee, and shall be held, managed and maintained by the developer until such time as they are transferred to the designated entity.

The applicant states in the project narrative that the open space land will be owned and managed by the Whitcomb's Mill Estates Homeowners Association. In accordance with Section 25.10.9.C of the Land Development Code, the applicant will be required to submit written documentation of any legal instruments required for the management of the designated Open Space land, and such documents will be subject to the review and approval of the City Attorney prior to signature by the Planning Board Chair. Staff have included this as a condition of approval in the recommended motion.

**<u>Application Analysis – Site Development Standards:</u>** The following is a review of the Site Development standards relevant to this application.

- 20.2 <u>Drainage & Stormwater Management</u>: Stormwater runoff from the new road is proposed to be directed into vegetated swales that will treat runoff and allow it to infiltrate into the ground. The cul-de-sac is proposed to be curbed, and stormwater runoff from this area will be directed into a stormwater detention basin. This detention basin will have an emergency overflow into the existing wetland. The applicant submitted a drainage report, which compares peak stormwater runoff for a 25-year rainfall event (4.88 inches) for pre-and post-development conditions. This report concludes that the proposed new road will not significantly change stormwater runoff post development.
- 20.3 <u>Sediment & Erosion Control</u>: The applicant proposed to use perimeter controls including silt fencing and a stabilized construction entrance to prevent sediemtnation and siltation from leaving the site during construction. The location of the silt fencing is shown on the plan set, and a detail for the stabilized construction entrance is shown on Sheet C-7 pf the plan set. This standard appears to be met.
- 20.4 <u>Snow Storage & Removal</u>: Snow is proposed to be stored around the perimeter of the road. If the road is accepted by City Council as a public road, snow removal will be handled by the City of Keene. This standard appears to be met.
- 20.5 <u>Landscaping</u>: No landscaping is proposed. The applicant intends to request a waiver from City Council from Section 22.3.16 of Article 22 of the Land Development Code, which requires at least one deciduous tree of at least 2-in caliper at planting every 50-ft on each side of any new street.
- 20.6 <u>Screening</u>: The applicant proposes to screen the development from Whitcomb's Mill Road and adjacent land uses with existing mature forest canopy that will preserved as a buffer around the development and included in the open space lot. This standard appears to be met.
- 20.7 <u>Lighting</u>: No lighting is proposed. The applicant intends to request a waiver from City Council from Section 22.3.8 of Article 22 of the Land Development Code, which requires streetlights at all intersections and along the length of proposed public streets in all residential zoning districts.

## 20.8 <u>Sewer & Water</u>: See "Utilities," above.

- 20.9 <u>Traffic & Access Management</u>: Access to seven of the eight developable lots within the development is proposed to be provided by a new dead-end public road. The applicant intends to seek a number of waivers from City Council for the design of this road, including the following sections of Article 22 of the Land Development Code:
  - 22.3.4 to allow a dead end street that is greater than 750 feet in length
  - 22.3.7 to allow a new residential street without a sidewalk
  - 22.3.8 to allow a new residential street without street lighting
  - 22.3.13 to allow a new street without installing telecommunications infrastructure
  - 22.3.16 to allow a new street without street trees

Staff recommend a that approval of this application be conditioned upon the applicant obtaining all required waivers from City Council for the proposed street design, as well as initial acceptance of the layout of the new street and submittal of a security for the construction of the street prior to final approval. If the applicant is denied any of the required waivers, the street design and subdivision plan may need to be modified to meet city code. Subsequent to final approval, staff recommend a condition of approval for final acceptance of the new street by City Council after construction of the street is complete.

Access to Lot 8 is proposed to be provided directly from Whitcomb's Mill Road. The issuance of a driveway permit for this property would be handled through the City Engineer's Office. In the event that a duplex is constructed, the lot will utilize a shared driveway.

With respect to traffic generation, the applicant submitted a traffic analysis which states that 8 detached single family homes and 4 attached single family homes (i.e. two duplexes) would generate a total of 106 trips per day. This analysis concludes that the overall development is expected to generate approximately 8 vehicle-trips (1 arrival, 7 departures) during the AM peak hour period, and 10 vehicle-trips (6 arrivals, 4 departures) during the worst-case PM peak hour period. City Engineering staff did not express any concerns about this level of traffic generation, or its impact on the surrounding street network and nearby intersections and bridges. However, it should be noted that the one-way bridge on Whitcomb's Mill Road has weight limits and is not planned to be replaced. Any heavy equipment and/or heavy duty vehicles will be required to access the site from the south via NH Route 9.

- 20.10 <u>Filling & Excavation</u>: No filling or excavation is proposed within the wetlands or other surface water areas. Excavation / regrading of previously stockpiled materials associated with the former gravel pit is proposed in the area of the cul-de-sac and on Lot 5 to create a buildable area and stabilize man-made steep slopes that were created at the edge of the former gravel pit excavation area. The applicant notes that ~1200 cubic yards of material will be hauled to or from the site.
- 20.11 <u>Surface Waters & Wetlands</u>: The existing wetland system has been delineated by a certified wetlands scientist and identified as primary conservation areas. Nearly all of the wetlands on the parent parcel will be captured within the new open space lot. The required

30 foot wetland buffer for these wetlands is shown on the plan. No development is proposed within the wetland buffer area.

Pursuant to Section 11.6 of the LDC, this proposal requires a Surface Water Protection Conditional Use Permit. The applicant has submitted a Surface Water CUP application, which is included as an attachment to this report. This application has been referred to the Conservation Commission for review at their meeting on Monday, May 15. Any feedback or recommendations from the Conservation Commission will be shared with the Planning Board at the May 22 Planning Board meeting.

- 20.12 <u>Hazardous or Toxic Materials</u>: This standard is not applicable.
- 20.13 <u>Noise</u>: The applicant states in the project narrative that no excessive noise will result from this proposal. This standard appears to be met.
- 20.14 <u>Architecture & Visual Appearance</u>: This standard does not apply as there is no development proposed at this time.

**<u>Recommended Motions</u>**: Recommended language for motions on this application will be provided at the May 22 Planning Board meeting.



## City of Keene, NH Conservation Residential Development (CRD) Subdivision Application

Conservation Residential Development (CRD) subdivisions are those consisting of 3 or more proposed lots and the layout and construction of a new road, where the existing parcel to be subdivided is located in either the Rural, Low Density, or Low Density-1 zoning districts, and meets the minimum lot size requirements specified in Article 19 of the Land Development Code (LDC).

If you have questions about how to complete this form, please call: (603) 352-5440 or email: communitydevelopment@keenenh.gov

SECTION 1: PROJECT INFORMATION			
CRD Whitcomb's Mill Estates	NUMBER OF LOTS PROPOSED:		
PROJECT ADDRESS(ES):			
19 Whitemos Mill Koad			
SECTION 2: CONTA	CT INFORMATION		
NAME/COMPANY:	NAME/COMPANY:		
Sandra R Henry Trust	Same as Owner		
MAILING ADDRESS:	MAILING ADDRESS:		
PO Box 9 Keene NUY 03431-0009			
PHONE:	PHONE:		
603-731-0555	6037316243		
EMAIL:	EMAIL:		
Schenry26@ yahoo.com			
Signature Sandia R Henry	Signature: Sander R Deng		
SANDRA R. HENRY	PRINTED NAME:		
And the state of the second	COLOR - REICHDENERING		
NAME/COMPANY:	TAX MAP PARCEL #(s)		
James Phippard Bickstone Land Use Consultants us MAILING ADDRESS:	237 018 000 000 000		
185 Winchester St Keene NHT 03431	LARGE HENLE AND ADDR ADDR ADDR ADDR ADDR ADDR ADDR		
PHONE:	TRACT SIZE: 12 112 CO DATE STAMP:		
603-357-0116	12.9200 DEDE		
EMAIL:	ZONING DISTRICT:		
Jphippard@ne.rr.com	1D-1 100 -		
SIGNATURE: parma Phen	APR 1 4 2023		
PRINTED NAME:	PROJECT #:		
James P Philopard	S-03-23		



Site Planning, Permitting and Development Consulting 185 Winchester Street, Keene, NH 03431 (603) 357-0116

## **PROJECT NARRATIVE**

## 12- UNIT CRD WHITCOMB'S MILL ROAD KEENE, NH

## April 14, 2023 Revised May 10, 2023

SR Henry Trust is the owner of 12.42 acres of land on the west side of Whitcomb's Mill Road. The property is zoned LD-1 and is TMP 237-018-000. It has 762 feet frontage on Whitcomb's Mill Road and has access to city sewer via an easement to the existing city sewer across Whitcomb's Mill Road on the Langdon Place of Keene property. Private drinking water wells will be installed for each of the dwelling units. Overhead power and cable TV lines will be installed along the road with underground services extended into each house lot.

This property abuts the Cheshire Rail Trail along its south side. An active farm abuts the property to the west. Single family residential properties abut the property to the north, and to the east, and across Whitcomb's Mill Road is Langdon Place of Keene, a senior living facility.

A new city street (Brookfield Lane) will be constructed to provide access to four single family house lots and three duplex lots. A fourth duplex lot will be proposed along the existing frontage at Whitcomb's Mill Road which will require a waiver for a driveway directly from Whitcomb's Mill Road, rather than the proposed new road. Each single family house lot will be greater than 16,000 sf in size. The duplex lots will be greater than 32,000 sf in size.

Approximately 6.87 acres of open space land will be permanently preserved as part of this proposal. The open space includes a forested wetland area of approximately 1.9 acres and land along White Brook. A continuous forested strip varying in width from 20 feet to over 100 feet will be preserved in its natural state except for one driveway to Whitcomb's Mill Road and a planned footpath connection to the Cheshire Rail Trail.

Land	REQUIRED	PROVIDED
Min. Tract Size	5 acres	12.42 acres
Min Tract Frontage	100 feet	762 feet
Min. Lot Area	16,000 sf	>16,000 feet
Min. Road Frontage	40 feet	>40 feet
Min. Lot Width at Building Line		
	75 feet	>75 feet
Min. Front Setback	15 feet	15 feet
Min. Rear Setback	20 feet	20 feet
Min. Side Setback	10 feet	10 feet
Max. Building Coverage		
	35%	N/A
Max. Impervious Coverage		
	40%	N/A
Density, LD-1 w/o city water	1 acre per lot @ 12.42	Up to 12 units on 8 lots
	acres	(4 duplex units and 4
		single family units)

CRD Dimensional Requirements for the LD-1 district without city water are summarized below:

## Primary and Secondary Conservation Areas on the Tract

Primary conservation areas include White Brook which exists along the north side of this tract. There is also a forested wetland of 1.9 acres which is located primarily in the center of the lot. This area is fed by an intermittent stream coming from the south, under the Cheshire Rail Trail and discharging into the wetland area which ultimately discharges to White Brook.

Secondary conservation areas within the forested open space include a potential historic site along the brook which was believed to be the location of a sawmill constructed in 1785 by a man named Holbrook which was eventually owned by a Whitcomb. Thus, the name Whitcomb's Mill Road. The NH Natural Heritage Bureau has also identified a threatened plant species, the fringed gentia which was believed to exist on or near this site in a wetland area at one time. We found no evidence of the fringed gentia during a site inspection by a local botanist. There are steep slopes along the south and west property lines that were created by the gravel pit operation. These areas will be part of the permanent open space and will not be disturbed.

## **Open Space Land**

The 6.87 acre open space land includes a wetland in the center of the property and the forested perimeter land surrounding the proposed house lots. The open space land will be owned by the Whitcomb's Mill Estates Homeowners Association. The open space land shall be used for passive recreation only including hiking, walking, fishing, snow shoeing, sledding, and other passive recreational uses. No motorized vehicles will be allowed except as necessary for maintenance. No tree cutting will be allowed except for dead or damaged trees which pose a safety hazard.

The applicant is proposing to construct a gravel footpath through a portion of the open space for a connection to the Cheshire Rail Trail at the southeast corner of the property, subject to approval of a license from the State of NH to allow the connection.

Fire protection for the proposed new homes will be provided with individual home fire sprinkler systems. The applicant reserves the right to construct a fire pond within the existing wetland, subject to necessary permits and approvals including a NHDES wetlands permit and a waiver from the Keene Planning Board. Each house lot has direct access to the open space land. A copy of the Open Space Covenants will be provided in the future.

## **Permitted Uses**

Single family dwellings and two-family dwellings are permitted uses in the LD-1 district under Table 19-3 in the LDC.

## **Design Criteria**

This proposal includes eight new building lots, four of which will be large enough to accommodate a duplex. Four lots are sized to accommodate one single family dwelling. Access to the proposed new building lots will be from the proposed new road with the exception of the access to Lot 8. Lot 8 is large enough to support a duplex and the access to this lot is proposed to be from Whitcomb's Mill Road. The final location for this driveway will be subject to approval from City staff at the time a driveway permit application is filed for Lot 8.

#### Waiver Criteria

A waiver is requested from section 19.3.5.A.3 to allow a shared driveway directly from Whitcomb's Mill Road to Lot 8.

- Specific circumstances relative to the subdivision, or conditions of the land in such subdivision, indicate that the waiver will properly carry out the spirit and intent of the regulations: It is not possible to bring a driveway from the new road to the building site on Lot 8 without crossing the wetland area, or without crossing Lot 7 in close proximity to the building site on Lot 7, or without cutting through the forested buffer between Lot 7 and Whitcomb's Mill Road. The least disruptive impact is to allow a driveway straight in from Whitcomb's Mill Road and onto Lot 8. In the event a duplex is proposed, this will be a shared driveway.
- 2. Granting the waiver will not increase the potential for creating adverse impacts to abutters, the community or the environment: This portion of Whitcomb's Mill Road is straight and has good line of sight in both directions. The driveway to the existing single family home across Whitcomb's Mill Road is located to the north and will not conflict with a proposed new driveway location to Lot 8. The addition of a residential driveway in this location will not result in excess traffic and will not create a safety hazard.
- 3. Consideration will also be given as to whether strict conformity with the regulations would pose an unnecessary hardship to the applicant. Denial of the waiver would result in the loss of two potential building sites for the applicant. The shortfall in income would force

the applicant to significantly raise the cost of the remaining building sites which could jeopardize the feasibility of the entire project.

Small portions of the building sites include areas within the wetland buffer. A Surface Water Conditional Use permit is required to allow these areas within the proposed building sites. An application for the SWCUP has been filed.

The applicant plans to petition Keene City Council to accept the proposed new road (Brookfield Lane) as a city street. Waivers of several city street design standards will be requested, including no curbing, no streetlights, and no street trees.

PEORG NAME	Parent and Moth 282 Shed or proof programming-limit press (international state
CRD Whiteomb's Mill Estate	5
H knikombs Mill	CONTACTINFORMATION
MANEL/COMPANY	
Sandra R Heary Trust	Same as Owner
Po Box 9. Keene NH 07/31-0009	MAALIMA ADDRESS.
603-731-0555	ENCAL
Schenne 21 Que bar and	EMAN:
SENATURE	REMATURE
HAMALA C HENRY	PRINTED NAME:
SANDRA & HENTA/	
Harders - Harders - Harders	
MERCOMPANE	TAK MAP PRECELED
mes Phypand/Brickstone Land Use (OUDU)	10110000000000000000000000000000000000
5 Winchester St Keene NHT 0343	
603-357-0116	Manual D. 40 Curatulanc
	ZOMMA DISTANTS
phippard enerricom	
James & A.Q.	
R.MAME:	PROVINT & P
O Onioma	202000

## **Conditional Use Permit Narrative**

12 Unit CRD

Whitcomb's Mill Road

Keene NH

May 01, 2023



## **Conditional Use Permit Standards**

11.6.2 A - This proposed use will avoid encroachment into the Surface Water

**Protection Overlay District.** The proposed subdivision is designed to avoid and preserve the existing jurisdictional wetlands while creating buildable areas for up to 12 dwelling units. The jurisdictional wetlands will become part of the permanent open space. It was necessary to include several areas of the wetland buffer in order to provide the necessary land areas to meet minimum lot sizes required by zoning. Most of the wetland buffer areas on building lots lie within setback areas and cannot be built on.

## 11.6.2 B - Encroachment into the buffer area has been minimized to the

**maximum extent possible.** The proposed subdivision layout is the minimum encroachment possible which allows the creation of building sites for up to 12 dwellings.

## 11.6.2 C – The nature, design, siting and scale of the proposed use and the characteristics of the site will avoid the potential for adverse impacts to the

**surface water resource.** The surface water resources on this site include White Brook along the north side of the site, a forested wetland in the center of the site, and an intermittent stream at the southeast side of the site. Forested open space land provides a buffer to protect White Brook from the developed area. The jurisdictional wetlands in the center of the site and the intermittent stream will become part of the permanent open space and protected from development. A small footpath is planned running parallel to the intermittent stream for access to the Cheshire Rail Trail. The footpath will meander through the existing trees and will be outside the wetland buffer.

**11.6.2 D – The surface water buffer area shall be left in a natural state to the maximum extent possible.** All of the proposed open space land is intended to be left in a natural state as much as possible. Open space covenants are included in the Home Owners Association (HOA) documents requiring this. A small area along the downhill side of the proposed stormwater basin will require removal of a few trees to complete the grading outside the basin.

#### 11.6.2 E -

#### 1. Size, character and quality of the surface water -

White Brook is a small perennial stream flowing from west to east along the northern side of the site. The stream joins Black Brook approximately one mile east of the site and becomes Ash Swamp Brook.

The subdivision site is a former gravel pit 12.42 acres in size. The site was stripped of vegetation in the 1950's and 1960's and the sands and gravels were removed. The center of the site was excavated down to groundwater and was left as a small sedimentation basin and served to protect White Brook from sedimentation. The site was never reclaimed and re-vegetated but was left to grow fallow. The jurisdictional wetland in the center of the site is approximately 1.9 acres in size and collects stormwater from land areas south of the site through an intermittent stream and a stone culvert under the Cheshire Rail Trail. The wetland area is forested with saplings, small trees and scrub shrubs.

#### 2. Location and connectivity relative to other surface waters -

White Brook is a small perennial stream flowing from west to east along the northern side of the site. The stream joins Black Brook approximately one mile east of the site and becomes Ash Swamp Brook. The wetland area on the site is located immediately south of White Brook and discharges water to the stream. The wetland area receives stormwater from offsite to the south via the intermittent stream.

#### 3. Ecological and hydrological functions of the surface water -

The primary function of the forested wetland is stormwater retention and removal of sediments and nutrients before discharging stormwater to White Brook. Secondary functions include wildlife habitat primarily for birds and small animals.

#### 4. Topography, slopes, soils and vegetation within the resource -

Most of the site slopes gently downward to the north at slopes of 8% or less. There are very steep slopes along the south and west property lines left over from the gravel pit operation. The remaining soils on the site are remnants of the former gravel pit and are classified as 22C Colton gravelly sandy loam. The vegetation at the site is mostly small trees and scrub shrub which grew fallow after the gravel pit ceased operation.

## 5. Role of the buffer in mitigating soil erosion, sediment and nutrient transport, groundwater recharge, flood storage, and flow dispersion -

Most of the existing wetland buffer lacks adequate vegetation to effectively prevent soil erosion or to filter sediment and nutrients. Stormwater currently sheet drains through the buffer areas and into the existing wetland. The wetland buffers do not provide a significant source for groundwater recharge, flood storage or flow dispersion.

#### 6. Wildlife habitat or travel corridor -

The forested wetland and the land areas next to White Brook do provide wildlife habitat and a travel corridor for animals following the stream. Birds and small animals frequent this area and will benefit from preservation of the wetland as permanent space.

## 7. Stormwater runoff and potential to impact the surface water

**resource** – Stormwater runoff from the proposed new road will be collected and directed to a stormwater basin constructed in an upland area near the cul-de-sac. The basin is sized for a 25 year design storm and designed to collect sediments within the basin. Water overflowing the basin will discharge to a vegetated slope and eventually to the forested wetland. A stormwater report prepared by SVE Associates is attached.

## 8. Sensitivity of surface water resource to changes in the buffer zone -

As the house lots are developed the buffer areas will be stabilized with loam and vegetation. This will improve the ability of the buffers in these locations to filter stormwater runoff and protect the wetlands.

## WHITCOMB'S MILL ESTATES 19 Whitcombs Mill Road, KEENE, NEW HAMPSHIRE

OWNER & APPLICANT:

# Sandra R. Henry Trust

P.O. BOX 9 KEENE, NH 03431

APPROVED BY THE APPLICANT:		
INSPECTION PERMISSION: UPON APPROVAL OF THIS SITE PLAN, THE OWNER GRANTS PERMISSION FOR THE MEMBERS OR AGENTS OF THE KEENE PLANNING BOARD TO INSPECT THIS SITE AS NECESSARY.		
APPROVED BY THE KEENE PLANNING BOARD		
ON		
CERTIFIED BY CHAIRMAN		



N-1	NOTES
	*PLAN
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S-1	EXIST
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C-4	PROP
C-5	PROP
С-6	CONS
C-7	CONS
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## Project K2740 PREPARED BY

Civil Engineer:

**SVE** Associates

439 WEST RIVER ROAD BRATTLEBORO, VT 05302 PHONE (802) 257-0561

April 12, 2023 revised thru May 3, 2023 Development Consultant:

Brickstone Land Use Consultants

185 WINCHESTER ST. **KEENE**, NH 03431 PHONE (603) 357-0116

Land Surveyor:

## Huntley Survey & Design, PLLC 659 WEST ROAD

**TEMPLE, NH 03084** 

www.huntleysurvey.com PHONE (603) 924-1669

## INDEX OF PLANS

S AND LEGEND N OF CRD SUBDIVISION (1" = 50')PLEMENTAL SOILS AND  $\mathsf{GRAPHY} \mathsf{PLAN} (1" = 50')$ ING CONDITIONS PLAN (1" = 50')IVISION PLAN (1" = 50')POSED ROAD PLAN (1" = 30')POSED SEWER PLAN (1" = 30') POSED SEWER PLAN (1" = 30')POSED SEWER PROFILE (1" = 30')STRUCTION DETAILS STRUCTION DETAILS HUNTELY SURVEY & DESIGN, PLLC



iza Sargent

36 of 105
## **GENERAL CONSTRUCTION NOTES:**

- THE CONTRACTOR SHALL CALL DIG-SAFE, AT 1-888-344-7233 AT LEAST 72 HOURS BEFORE THE START OF EXCAVATION
- THE CONTRACTOR IS EXPECTED TO BE AWARE OF AND COMPLY WITH ALL PERMITS AND PERMIT CONDITIONS. ALL TRENCHING, EXCAVATION, SHEETING, SHORING, ETC. SHALL COMPLY WITH THE MOST CURRENT OSHA REGULATIONS. 3.
- THE CONTRACTOR SHALL NOTIFY SVE ASSOCIATES IF FIELD CONDITIONS VARY FROM THAT SHOWN ON THE PLAN(S). THE CONTRACTOR'S 4.
- WORK SHALL NOT VARY FROM THE PLAN(S) UNLESS SO AUTHORIZED BY SVE ASSOCIATES. 5
- ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH SITE PLANS AND SPECIFICATIONS PROVIDED OR IN ACCORDANCE WITH NH DEP'T OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. IN CASE OF CONFLICTS, THE MOST STRINGENT INTERPRETATION OF THE PLANS, SPECIFICATIONS, LOCAL OR STATE REGULATIONS, OR PERMIT 6.
- CONDITIONS SHALL APPLY. THE ENGINEER SHALL BE THE DETERMINANT AS TO WHAT APPLIES. ALL KNOWN SUBSURFACE UTILITIES AND STRUCTURES HAVE BEEN INDICATED ON THE PLAN(S) AS ACCURATELY AS POSSIBLE. THE EXACT
- LOCATION MAY VARY AND THE CONTRACTOR IS CAUTIONED TO PROCEED WITH CARE. CONTRACTOR SHALL VERIFY ALL BENCH MARKS, INVERTS, PIPES AND STRUCTURES ELEVATIONS PRIOR TO START OF WORK. IMMEDIATELY 8
- NOTIFY SVE ASSOCIATES IF THE FIELD INFORMATION DOES NOT MATCH PLAN INFORMATION. THE OWNER WILL PROVIDE BENCH MARKS. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL OTHER LAYOUT AND FOR REPLACEMENT OF 9. LAYOUT COMPLETED BY THE OWNER.
- CONTRACTOR SHALL PROVIDE A FULL SET OF AS-BUILT DRAWINGS TO THE OWNER WITH SWING TIES OR COORDINATES, LOCATING ALL 10. VALVES, FITTINGS, CORPORATIONS, STRUCTURES, PIPES, ETC. THE AS-BUILTS SHALL INDICATE MATERIALS, PIPE LENGTHS INSTALLED, ALL INVERTS, AND ALL STRUCTURE ELEVATIONS. ACCEPTANCE OF THE WORK IS SUBJECT TO ACCEPTANCE OF THE AS-BUILTS BY THE ENGINEER AND OWNER.
- MONUMENTATION THAT HAS BEEN DISTURBED SHALL BE RESET BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR AT NO COST TO THE 11. OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DE-WATERING AT NO ADDITIONAL COST TO THE OWNER.
- ALL SURFACES SHALL BE GRADED TO DRAIN. 1.3 ALL TREES WHOSE ROOTS HAVE BEEN DAMAGED SHALL BE REMOVED AT THE CONTRACTOR'S EXPENSE. 14.
- 15. THE CONTRACTOR SHALL RESTORE ALL DISTURBED SURFACES TO THEIR ORIGINAL CONDITION OR BETTER. ALL NEW AND EXISTING PIPES AND STRUCTURES SHALL BE CLEANED. ALL SIGNS SHALL BE REPLACED. ALL DAMAGED VEGETATION SHALL BE REPLACED.

## SEDIMENT AND EROSION CONTROL

- INSTALL ALL SEDIMENT & EROSION CONTROL MEASURES IN ACCORDANCE WITH MANUFACTURER'S DIRECTION OR DETAILS PROVIDED. PERIMETER CONTROLS MUST BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL EROSION CONTROL. HE SHALL TAKE ALL MEASURES NEEDED TO MINIMIZE EROSION TO THE GREATEST EXTENT POSSIBLE, AT NO ADDITIONAL COST TO THE OWNER, REGARDLESS OF DETAIL SHOWN ON THESE PLANS.
- 3. CONTRACTOR SHALL INSPECT AND REPAIR ALL SEDIMENT AND EROSION CONTROL MEASURES DAILY WHILE UNDER CONSTRUCTION, THEN AFTER EACH RAINFALL OF 0.5" IN 24 HOURS AND NOT LESS THAN ONCE A WEEK THEREAFTER UNTIL ALL UPHILL SOILS ARE WELL STABILIZED.
- 4. CONTRACTOR SHALL MAINTAIN INSPECTION LOGS ON SITE AS REQUIRED BY THE EPA STORMWATER POLLUTION PREVENTION PLAN. INSPECTION LOGS SHALL BE AVAILABLE FOR VIEWING BY THE APPROPRIATE AUTHORITIES UPON REQUEST.
- 5. SEED, FERTILIZE & MULCH ALL FINISH GRADED AREAS WITHIN 72 HOURS OF FINISH GRADING. ROADWAY STABILIZED W/IN 72 HOURS OF ACHIEVING FINISH GRADE
- 6. SEDIMENT CONTROLS AND/OR SILT FENCES SHALL BE REPLACED WHEN CLOGGED AND NO LONGER FUNCTIONAL
- 7. SEDIMENT CONTROLS AND/OR SILT FENCES SHALL REMAIN IN PLACE UNTIL ALL UPHILL VEGETATED AREAS ARE STABILIZED.
- 8. ALL SOIL STOCKPILES SHALL BE SEEDED AND MULCHED IF LEFT IN PLACE MORE THAN 21 DAYS.
- 9. SEEDING OF ALL DISTURBED AREAS SHALL BE COMPLETED NOT LATER THAN OCTOBER 15TH.
- 10. STABILIZATION OF ALL WORK AREAS SHALL BE COMPLETED NOT MORE THAN 45 DAYS FOLLOWING THE START OF WORK.
- 11. ALL SOIL SLOPES STEEPER THAN 3:1 SHALL BE COVERED WITH EROSION CONTROL FABRIC, S150 FROM NORTH AMERICAN GREEN OR APPROVED FOUAL
- 12. STABILIZE ALL DRAINAGE SWALES, BASINS, BERMS, AND DITCHES PRIOR TO DIRECTING RUNOFF TO THEM
- 13. CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE SEDIMENT AND EROSION CONTROLS AS REQUESTED BY THE ENGINEER.
- 14. LIMIT THE AREA OF DISTURBANCE TO SMALLEST PRACTICAL AREA, BUT IN NO CASE MORE THAN 5 ACRES AT ANY ONE TIME.
- 15. LOT CONSTRUCTION SHALL NOT COMMENCE UNTIL AFTER THE ASSOCIATED ROADWAY AND DRAINAGE IS COMPLETE AND STABLE.

## WINTER CONSTRUCTION REQUIREMENTS:

- 1. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND 1) INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, or 2) PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING. THE INSTALLATION OF EROSION CONTROL BLANKETS AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF SPRING THAW OR SPRING MELT EVENTS.
- ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
- 3. AFTER OCTOBER 15th, INCOMPLETE ROAD OR PARKING SURFACES WHERE WORK HAS STOPPED FOR THE WINTER SEASON SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL MEETING NHDOT ITEM 304.3 SPECIFICATIONS.

## PROJECT SPECIFIC NOTES:

- 1. ALL STORM DRAIN TO BE HIGH DENSITY SMOOTH BORE POLYETHYLENE, HANCOR OR APPROVED FOULL, U.N.O.
- 2. ALL AREAS TO BE VEGETATED SHALL RECEIVE A MINIMUM OF 6" OF LOAM, SEED AND MULCH. IF PLANS OR SPECIFICATIONS HAVE CONFLICTING DEPTHS OF LOAM, 6" OF LOAM SHALL BE THE PREVAILING DEPTH USED.
- SEEDING OF ALL DISTURBED AREAS SHALL BE COMPLETED NOT LATER THAN OCTOBER 15Th.
- . SEEDING OF ALL FINISHED AREAS SHALL BE COMPLETED NOT MORE THAN 72 HOURS AFTER FINISH GRADING. . STABILIZATION OF ALL WORK AREAS SHALL BE COMPLETED NOT MORE THAN 45 DAYS FOLLOWING THE START OF WORK.
- BROOM, WASH AND APPLY TACK COAT TO BASE PAVEMENT PRIOR TO WEAR COURSE PLACEMENT. ALL NEW EXTERIOR LIGHTS SHALL BE SHIELDED TO PROTECT AGAINST ADDED LIGHT POLLUTION.
- 8. STABILIZE ALL DRAINAGE SWALES PRIOR TO DIRECTING RUNOFF TO THEM.
- 9. PER RSA 155E:2 IF THE EXCAVATION VOLUME EXCEEDS 1,000 CUBIC YARDS, CONTRACTOR SHALL FILE "NOTICE OF INTENT TO EXCAVATE" WITH LOCAL AUTHORITY & PAY TAXES AS NEEDED.
- 10. PER RSA 79:10 IF TREE CUTTING EXCEEDS 10,000 BOARD FEET OR OVER 20 CORDS OF FUEL WOOD, CONTRACTOR SHALL FILE "NOTICE OF INTENT TO CUT WOOD OR TIMBER" WITH LOCAL AUTHORITY & PAY TAXES AS NEEDED.

## SEQUENCE OF WORK

#### THE SEQUENCE OF WORK SHALL BE FOLLOWED WITHIN EACH PHASE OF THE PROJECT. AT NO TIME OR PLACE SHALL PROJECT PHASING SUPERCEDE SOUND SEDIMENT AND EROSION CONTROL PLANNING.

- 1. INSTALL SILT FENCE IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS.
- IN LOCATIONS DETAILED ON THIS PLAN OR AS ORDERED BY THE ENGINEER. 2. CONSTRUCT THE STABILIZED CONSTRUCTION ENTRANCE TO PREVENT TRACKING OF SEDIMENT OFFSITE.
- CONSTRUCT AND STABILIZE THE DETENTION CONTROLS AND ALL INLET/OUTLET SWALES.
- 4. CLEAR AND GRUB THE ROAD CORRIDOR.
- 5. INSTALL SEWER MAIN.
- 6. CONSTRUCT ROAD IN ACCORDANCE WITH APPROVED PLANS.
- 7. LOAM AND SEED DISTURBED AREAS, STABILIZE SLOPES WITH MATTING WHERE SPECIFIED. 8. REMOVE SILT FENCE AFTER ALL UPHILL SOILS ARE STABILIZED.

#### PERMITS REQUIRED:

1. CITY OF KEENE, SITE PLAN REVIEW 2. NHDES SEWER CONNECTION NHDES WETLAND 4 FPA STORMWATER POLITION PREVENTION PLAN

#### STABILIZATION DEFINITION:

AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED: BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
A MINIMUM OF 85% VECETATED GROWTH HAS BEEN ESTABLISHED;
A MINIMUM OF 3" OF NO-EROSIVE MATERIAL SUCH STONE OR RIPRAP HAS BEEN INSTALLED;
4. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

## SEED SPECIFICATIONS

TEMPORARY SEED PERENNIAL RYE GRASS

#### PERMANENT SEED:

ALL MOWABLE AREAS: PARK SEED NHDOT TYPE 15 (CONSERVATION MIX ACCEPTABLE, AS APPROVED BY ENGINEER)

CREEPING RED FESCUE	40 LB/AC
PERENNIAL RYEGRASS	50 LB/AC
KENTUCKY BLUEGRASS	25 LB/AC
REDTOP	<u>5 LB/AC</u>
TOTAL:	120 LB/AC

ALL SLOPES 5:1 OR STEEPER: SLOPE SEED NHDOT TYPE 45 (OR OTHER WILDFLOWER MIX APPROVED BY ENGINEER)

CREEPING RED FESCUE PERENNIAL RYEGRASS REDTOP ALSIKE CLOVER LANCE-LEAVED COREOPSIS OXEYE DAISY BUTTERFLY WEED BLACKEYED SUSAN WILD LUPINE	35 LB/AC 30 LB/AC 5 LB/AC 5 LB/AC 3 LB/AC 3 LB/AC 3 LB/AC <u>3 LB/AC</u>
TOTAL:	95 LB/AC

#### LEGEND

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- CULVERT END SECTION
- SEWER MANHOLE
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- GATE VALVE DRAIN MANHOLE O
- HANDICAP PARKING
- ð. LIGHT POLE -Ø-

- - 100 YEAR FLOODPLAIN BOUNDARY
- · · WETLAND BOUNDARY
- SIGN
- UNLESS NOTED OTHERWISE U.N.O.
- N.I.C. NOT IN CONTRACT
- TO BE REMOVED T.B.R. OR APPROVED EQUA O.A.E.
- STABILIZED CONSTRUCTION ENTRANCE S.C.E.
- INTEGRAL CONCRETE CURB 100
- VCC VERTICAL CONCRETE CURB
- VERTICAL GRANITE CURB V.G.C.
- TIP-DOWN
- T.D.
- STONE WALL EDGE OF WATER THE REAL PROPERTY AND INCOME.
- TREE LINE
- EDGE OF PAVEMENT EDGE OF GRAVEL
- EDGE OF WETLANDS
  - SOILS TYPE KEY LETTER 60D 0

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CCRD [1-2-3]

123/456

-500-

● P1

- UTILITY POLE IRON PIN/PIPE CAPPED 5/8" REBAR CRB
  - 5/8" REBAR WITH CAP (SET) 4" X 4" GRANITE MONUMENT CHESHIRE REGISTRY OF DEEDS TAX MAP PARCEL NUMBER
  - DEED VOLUME & PAGE EXISTING CONTOUR PROPOSED CONTOUR PERCOLATION TEST

BUILDINGS: 30% PAVEMENT: 35% TOTAL IMPERMEABLE: 35% PROPERTY OWNER

SITE DATA TABLE

237-018-000-000

LOW DENSITY 1

REQUIRED:

75 FFFT

ALLOWED:

15

20'

10

MAXIMUM:

35 FEET/2 STORIES

541,043 SQ. FT. ± 12.42 ACRES

HILLSIDE PROTECTION OVERLAY

TAX MAP #:

ZONE:

LOT SIZE:

FRONTAGE:

LOT WIDTH:

BLDG. HEIGHT:

LOT COVERAGE:

KEENE, NH 03431

FRONT:

REAR:

SIDES:

BUILDING SETBACKS:

& APPLICANT: SANDRA R. HENRY TRUS P.O. BOX 9

SURFACE WATER PROTECTION OVERLAY

16,000 SF FOR CRD IN LOW DENSITY 1 W/O CITY WATER

100'/60' CUL-DE-SAC LOW DENSITY 1 40' CRD IN LOW DENSITY 1 W/O CITY WATER







#### Plan References

REFERENCES INCLUDE ALL INFORMATION REFERRED TO ON ANY OF THE FOLLOWING PLANS

- PRELIMINARY SUBDIVISION PLAN OF LAND, SANDRA R. HENRY TRUST, TAX MAP 237-LOT 18, 19 WHITCOMBS MILL ROAD, KEENE, NH, DATED MAY 29, 202; BY CHRISTOPHER PATON, PATON LAND SURVEYING (Obtained from Client and used with permission of Surveyor)
- SUBDIVISION PLAN OF LAND OWNED BY WESTON & NANCY GRISWOLD, WHITCOMBS MILL ROAD, KEENE, NH DATED APRIL 18, 1987, BY WAYNE McCUTCHEON ASSOC. (CCRD)
- 3. RIGHT OF WAY AND TRACK MAP, FITCHBURG R.R. CO., OPERATED BY THE BOSTON & MAINE R.R., VALUATION SHEET V 39 NH/35.

#### Notes

- THE BEARINGS SHOWN ON THIS PLAN IS/ARE REFERENCED TO NAD83 NH STATE PLANE GRID, BASED THE DATUM STATED ON PLAN REFERENCE No.1
- THE PERIMETER BOUNDARY LINES SHOWN ON THIS PLAN ARE SHOWN FROM PLAN REFERENCE No.1. INTERIOR LINES WERE CALCULATED BY THIS OFFICE.
- UNDERGROUND UTILITIES, STRUCTURES AND FACILITIES HAVE BEEN PLOTTED FROM PLAN REFERENCE No.1. THEIR EXISTENCE AND LOCATIONS MUST BE CONSIDERED APPROXIMATE. THERE MAY BE OTHER UNDERGROUND UTILITIES THE EXISTENCE OF WHICH ARE NOT KNOWN. THE SIZE AND LOCATION OF ALL UTILITIES AND STRUCTURES MUST BE VERIFIED PRIOR TO ANY AND ALL CONSTRUCTION. CALL DIG-SAFE PRIOR TO ANY CONSTRUCTION
- JURISDICTIONAL WETLANDS WERE DELINEATED BY CHRIS SPAULDING OF ECO ENVIRONMENTAL SOLUTIONS, LLC DURING THE MONTH OF APRIL, 2021 USING THE THREE PARAMETER APPROACH DESCRIBED IN TECHNICAL MANUAL Y48-1, THE CORPS OF ENGINEERS 1987 WETLAND DELINEATION MANUAL AND SUPPLEMENTED BY THE JANUARY 2012, REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION U.S. ARMY CORPS OF ENGINEERS, V.2.
- PORTIONS THE PARCEL(S) SHOWN ARE LOCATED IN ZONE A AND ARE WITHIN A SPECIAL FLOOD HAZARD AREA 5. PER FEMA PANEL 33005C0262E EFFECTIVELY DATED MAY 23, 2006
  - THE SUBDIVISION REGULATIONS OF THE CITY OF KEENE ARE A PART OF THIS PLAT AND APPROVAL OF THIS PLAT IS CONTINGENT ON COMPLETION OF ALL THE REQUIREMENTS OF SAID SUBDIVISION REGULATIONS EXCEPTING ONLY ANY VARIANCES OR MODIFICATIONS MADE IN WRITING BY THE BOARD AND ATTACHED HERETO.





#### Plan of CRD Subdivision

#### LAND OF Sandra R. Henry Trust located at

Tax Map 237 Lot 18 19 Whitcombs Mill Road, Keene, Cheshire County, New Hampshire Book 2060, Page 599

Scale 1"= 50'

Surveyed See Note 1 Plan prepared 03/24/2023 Project No. H23-007 CAD file No. H23-007 CRD.dwg

Huntley Survey & Design, PLLC

NH & VT Land Surveying, Wetlands & NH Septic System Design 659 West Road, Temple, NH 03084 (603) 924-1669 www.huntleysurvey.com













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- TOPOGRAPHY SHOWN ON THIS PLAN IS FROM LIDAR SURVEY AND MAPPING OBTAINED FROM http://lidar.unh.edu/map.) THE VERTICAL DATUM IS NAVD 88. CONTOUR INTERVAL IS TWO (2) FEET 3.
- UNDERGROUND UTILITIES, STRUCTURES AND FACILITIES HAVE BEEN PLOTTED FROM PLAN REFERENCE No.1. THEIR EXISTENCE AND LOCATIONS MUST BE CONSIDERED APPROXIMATE. THERE MAY BE OTHER UNDERGROUND UTILITIES THE EXISTENCE OF WHICH ARE NOT KNOWN. THE SIZE AND LOCATION OF ALL UTILITIES AND STRUCTURES MUST BE VERIFIED PRIOR TO ANY AND ALL CONSTRUCTION. CALL DIG-SAFE PRIOR TO ANY CONSTRUCTION.
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  - PORTIONS THE PARCEL(S) SHOWN ARE LOCATED IN ZONE A AND ARE WITHIN A SPECIAL FLOOD HAZARD AREA 6. PER FEMA PANEL 33005C0262E EFFECTIVELY DATED MAY 23, 2006.
  - SOILS LINES AND TYPES SHOWN HEREON WERE OBTAINED FROM NRCS WEB SOIL SURVEY ONLINE PROGRAM, SOIL SURVEY STAFF, NATURAL RESOURCES CONSERVATION SERVICE, UNITED STATES DEPARTMENT OF AGRICULTURE, WEB SOIL SURVEY, AVAILABLE ONLINE AT HTTPS://WEBSOILSURVEY.SC.EGOV.USDA.GOV/. ACCESSED MARCH 24, 2023.
  - THE SUBDIVISION REGULATIONS OF THE CITY OF KEENE ARE A PART OF THIS PLAT AND APPROVAL OF THIS PLAT IS CONTINGENT ON COMPLETION OF ALL THE REQUIREMENTS OF SAID SUBDIVISION REGULATIONS EXCEPTING ONLY ANY VARIANCES OR MODIFICATIONS MADE IN WRITING BY THE BOARD AND ATTACHED HERETO.

	APPROVED BY THE KEENE PLANNING BOARD
BY	CHAIRMAN
AND	SECRETARY
ON_	

#### Supplemental Soils and Topography Plan Plan of CRD Subdivision

LAND OF Sandra R. Henry Trust

located at Tax Map 237 Lot 18

19 Whitcombs Mill Road, Keene, Cheshire County, New Hampshire Book 2060, Page 599

Scale 1"= 50'

Surveyed See Note 1 Plan prepared 03/24/2023 Project No. H23-007 CAD File No. H23-007 CRD.dwg

#### Huntley Survey & Design, PLLC

NH & VT Land Surveying, Wetlands & NH Septic System Design 659 West Road, Temple, NH 03084 (603) 924-1669 www.huntleysurvey.com

























#### SEWER MANHOLE NOTES:

- 1. SEWER MANHOLES AND ALL COMPONENT PARTS SHALL HAVE ADEQUATE SPACE, STRENGTH AND LEAK PROOF QUALITIES REQUIRED BY, AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH, THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES (NHDES) CODE OF ADMINISTRATIVE RULES ENV-WQ 700.
- 2. MANHOLE BARREL SECTIONS, BASES AND CONE SECTIONS SHALL BE CONSTRUCTED OF PRECAST STEEL REINFORCED CONCRETE CONFORMING TO ASTM C478.
- 3. HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE SEALED FOR WATER TIGHTNESS USING AN OVER LAPPING DOUBLE ROW OF ELASTOMERIC OR MASTIC LIKE SEALANT.
- 4. INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. INVERT BRICKS SHALL BE LAID ON EDGE. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURBED OF 1" ABOVE THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE CHANNEL, UNDERLAYMENT OF INVERT AND SHELF, AND ALL BRICK MASONRY FOR SHELF AND INVERTS SHALL COMPLY WITH ASTM 032, CLAY OR SHALE, FOR GRADE 22 HARD BRICK.
- 5. FRAMES AND COVER SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30 INCH CLEAR OPENING, A 3 INCH (MINIMUM HEIGHT) WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER. ALL CASTINGS SHALL BE MANUFACTURED IN NORTH AMERICA.
- 6. BEDDING SHALL BE SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33 STONE SIZE NO. 67.
- 7. SHALL MANHOLE: WHEN MANHOLE IS LESS THAN 6 FEET DEEP. A REINFORCED CONCRETE SLAB COVER HAVING AN ECCENTRIC ENTRANCE AND CAPABLE OF SUPPORTING H-20 LOADS MAY BE USED.
- 8. PIPF TO MANHOLE JOINTS SHALL BE ELASTOMERIC SEALING RING CAST IN THE MANHOLE OPENING WITH THE SEAL FORMED ON THE SURFACE OF THE PIPE BY A STAINLESS STEEL COMPRESSION RING.
- 9. FLEXIBLE PIPE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN 48 INCHES OF THE MANHOLE FOR RCP PIPE OR WITHIN 60 INCHES FOR PVC PIPE LARGER THAN 15 INCH DIAMETER. NO FLEXIBLE JOINT SHALL BE REQUIRED FOR DUCTILE IRON OR PVC PIPE UP TO 15 INCH DIAMETER. PIPE JOINTS TO BE SEALED WITH HYDRAULIC CEMENT INSIDE SMH AFTER TESTING.
- 10. MANHOLE STEPS: NO MANHOLE STEPS ARE PERMITTED.
- 11. A LEAKAGE TEST SHALL BE PREFORMED IN ACCORDANCE WITH NH ENV-WQ 700. INVERT AND SHELF TO BE CONSTRUCTED AFTER LEAKAGE TEST.

PVC REDUCER

ELASTOMETRIC PVC COUPLING

STAINLELSS STEEL BANDS

FORCE MAIN

FLOW









-30" CAST IRON MANHOLE FRAMI AND COVER MARKED "SEWER", DESIGNED FOR H-20 LOADING.

MATCH EXISTING GRADE AND SLOPE -









Transportation: Engineering • Planning • Design

## MEMORANDUM

Ref: 2247A

To: James Phippard Brickstone Land Use Consultants, LLC

From: Stephen G. Pernaw, P.E., PTOE

Subject: Proposed Conservation Residential Development Keene, New Hampshire

Date: February 13, 2023

As requested, Pernaw & Company, Inc. has conducted this "trip generation analysis" for the proposed Conservation Residential Development (CRD) project that will be located on the west side of Whitcomb's Mill Road in Keene, New Hampshire. The subject site is located directly across from the Langdon Place of Keene driveway (see Figure 1). Available traffic count data was also researched at the NHDOT. The purpose of this memorandum is to summarize the available count data and the trip generation analyses for the subject site. To summarize:

<u>Proposed Development</u> – The development proposal involves the construction of eight singlefamily dwelling units and two duplexes, for a total of 12 dwelling units (see Attachment 1). Vehicular access to/from eleven dwelling units will be provided via a new full-access private site access road that will intersect the west side of Whitcomb's Mill Road directly across from the Langdon Place of Keene driveway. One dwelling unit will have driveway access via Whitcomb's Mill Road. The private access road for the proposed units will be maintained by the Home Owners Association. Whitcomb's Mill Road is a relatively narrow local road, and there is a one-lane bridge where its crosses over White Brook. The Whitcomb Mill Road approaches to NH9 and Arch Street operate under stop sign control.

<u>Existing Traffic Volumes</u> – Research at the NHDOT revealed that a short-term NHDOT traffic count was conducted on Whitcomb's Mill Road approximately 550-feet to the north of the proposed private road in August 2021. This section of the Whitcomb's Mill Road carried an estimated Annual Average Daily Traffic (AADT) volume of approximately 806 vehicles per day (vpd) in 2021, up slightly from 784 vpd in 2019. As an aside, the 2020 AADT (681 vpd) clearly shows the effects of the ongoing pandemic (see Attachment 2).

The 2021 hourly traffic volume data revealed that weekday volumes on Whitcomb's Mill Road typically reached peak levels from 7:00 to 8:00 AM and from 5:00 to 6:00 PM (see Attachment 3). The diagrams on Page 3 summarize the daily and hourly variations in traffic demand on this section of the street. The historical count data summarized on Page 4 shows that the AADT traffic volumes in 2021 are significantly lower than occurred in 2015 (approximately half).



Pernaw & Company, Inc.



= AUTOMATIC TRAFFIC RECORDER LOCATION (NHDOT)

Site Location

NORTH



2247A

Traffic Evaluation, Proposed Conservation Residential Development, Keene, New Hampshire

# **Drainage Summary**

for

# Whitcomb's Mill Estates 19 Whitcomb's Mill Road, Keene, NH

Prepared by SVE Associates April 11, 2023 Revised May 3, 2023

A comparison of peak stormwater runoff for the 25-year rainfall events in the post-development conditions was completed by SVE Associates using HydroCad 10.0 software. The storm event used in the model was Type III, 24-hour storm with the following rainfall depths for Keene, NH:

25 Year Event: 4.88 inches

#### **OVERVIEW:**

This project will consist of developing the 19 Whitcomb's Mill Road property, constructing a 20' wide, 900' long road, with cul-de-sac, constructing an extension of the City sewer main from the existing sewer manhole behind Langdon Place to the proposed cul-de-sac. Each lot will have its own individual drilled well for potable water.

### **EXISTING CONDITIONS:**

The existing condition of this property is a former gravel pit, with an existing gravel access road and two existing culverts. There is a wetland complex, approximately 1.9 acres in size, that drains to White Brook. Currently stormwater runoff sheet flows generally from the south to the north, and the two wetlands on the south side of the existing gravel access road, flow through the existing 12" and 36" diameter culverts to the wetland on the north side of the access road, and eventually flow into White Brook.

#### PROPOSED CONDITIONS:

The proposed conditions, modeled in the "Post-Development" drainage model, consist of the proposed 20' wide road with cul-de-sac. Once developed, most of the stormwater runoff will sheet flow off the proposed access road and infiltrate into the existing ground. The cul-de-sac will be curbed and sheet flow to the proposed stormwater detention basin. Should the emergency overflow be utilized, the overflow will discharge overland for 40+/- feet before reaching the manmade wetland. Vegetated roadside buffers will be maintained within the right-of-way to treat stormwater runoff.

#### **SVE** Associates

	25 year	
	Existing Proposed	
	Runoff	Runoff
	(cfs)	(cfs)
Summary Node 100R	0.38	0.94

## CONCLUSION:

There will be no adverse impact to downstream abutters due to stormwater runoff from the proposed road. Overall, there is no significant change in stormwater runoff post development, the total runoff is less than 1 cfs from the site in the 25-year storm event.



#### **SVE** Associates

#### <u>SPR-06-23 – Site Plan – Roosevelt School Housing – 438 Washington Street</u>

### **Request:**

Applicant Monadnock Affordable Housing, on behalf of owner Community College System of New Hampshire, proposes to renovate the existing ~13,507 sf, 2-story school building; construct a ~8,548 sf 2-story addition; and construct a ~12,646 sf 2-story building with associated site improvements to create a 60 unit multi-family housing development on the property at 438 Washington St. (TMP #531-054-000). A waiver is requested from Sec. 20.14.3.D of the Land Development Code regarding the requirement that all off-street parking be screened and located to the side or rear of buildings. This site is 2.4 ac and is located in the Low Density District.

#### **Background:**

The Roosevelt School is located at 438 Washington Street, on the corner of Washington Street and Woodbury Street. The property is surrounded by residential uses on all sides. Formerly a public middle school, the property is currently owned by the Community College System of NH and used as office and classroom space.

The application proposes to redevelop the property into a 60-unit, multi-family development, owned and operated by Keene Housing. The proposal includes the demolition of the existing gymnasium, the renovation of the existing school building with a new addition, and the construction of a new free-standing building to the rear of the existing school building. Site improvements will include sidewalks, playground, community garden, new parking surface and area, landscaping, and underground utilities.



Fig 1: 438 Washington Street - Aerial

The development will be broken up into two phases. Phase one will consist of the demolition of the gymnasium, the renovation of the remaining school building, and the construction of an 8,548 sq. ft. 2-story building addition with 30 dwelling units. In addition to the renovation and addition, site improvements such as parking, driveways, dumpster enclosure, utilities, and stormwater management facilities will also be installed. Phase two will consist of the construction of a 12,676 sq. ft., 2-story building with 30 additional dwelling units. Staff became aware of the change in proposed phasing of this project the day the agenda packets were distributed to the Board. This is why the application notice and submitted materials differ from the described phasing above.

The proposal received two Variances from the Zoning Board of Appeals. The first Variance was to allow multi-family housing where multi-family housing is not a permitted use. The second Variance was to allow building lot coverage to exceed 35% of the lot area, impervious surface to exceed 45% of the lot area, and to provide less than 55% of the lot area as green/open space.

A waiver is requested from Sec. 20.14.3.D of the Land Development Code regarding the requirement that all off-street parking be screened and located to the side or rear of buildings.

#### **Completeness:**

The applicant requests an exemption from submitting a screening analysis. After reviewing the request, staff has determined that exempting the applicant from submitting this information would have no bearing on the merits of the application and recommends that the Planning Board grant this exemption and accept the application as "complete."

**<u>Application Analysis:</u>** The following is a review of the Planning Board development standards relevant to this application.

- 20.2 Drainage: The submitted drainage report states that proposed stormwater management controls will consist of a closed drainage system that includes catch basins, roof drains, and an underground infiltration vault. The vault is designed to overflow treated stormwater into the existing municipal stormwater system that runs along Washington Street. The report notes that the site is proposed to be raised 3 ft. 4 ft. along the southern property line, however, the overall topography of the site will not be significantly altered and will not change stormwater patterns. The report concludes that peak stormwater flow will remain onsite and not impact off-site systems or downslope properties. It further states that the post-development peak flow rates and volumes will be less than the existing flow rates and volumes as a result of the proposed stormwater improvements. It appears that this standard has been met.
- 20.3 <u>Sediment & Erosion Control</u>: The Erosion Control Plan depicts the usage of tracking pads at the construction entrances and inlet protection around the existing and proposed catch basins. Sediment control logs are proposed along the southern and western property lines and along the Washington Street frontage to prevent silting off site. The plan also includes notes for temporary slope stabilization as needed during construction. It appears that this standard has been met.
- 20.4 <u>Snow Storage & Removal</u>: The applicant has a note on the Site Plan that snow on the site will be collected and hauled away as needed. It appears that this standard has been met.
- 20.5 <u>Landscaping</u>: The submitted Landscape Plan depicts the installation of 33 shade trees, 234 shrubs & bushes, and 68 perennials & annuals for a total of 525 plantings. Planting details have been submitted that appear to meet best practices. No invasive species are proposed to be installed on site. Protective fencing is shown around existing trees that will remain on the site. It appears that this standard has been met.
- 20.6 <u>Screening</u>: The submitted Landscape Plan depicts the usage of flowering evergreen shrubs along the Washington Street public right-of-way to provide screening for the proposed parking area and drive aisle. Sugar maples are proposed along the Woodbury Street public right-of-way and will provide screening for the development via the tree canopy due to the grade difference between the property and Woodbury Street.

A 6 ft. stockade fence is proposed along the southern property line to screen the parking area from the abutting residential property. The applicant states in their narrative that the fence and proposed evergreen shrubs will prevent light trespass from vehicle headlights onto the abutting property. The fence will continue to the western property line for additional screening to the western abutter. The existing woodland area will remain for additional screening.

A dumpster enclosure is proposed to be located to the south of the proposed new building. The enclosure will be a 6 ft. stockade fence on a concrete slab with protective bollards. The enclosure will be large enough to accommodate two five-yard dumpsters. It appears that this standard has been met.

- 20.7 <u>Lighting</u>: The Light Plan depicts the proposal to install 8 pole mounted light fixtures and 23 wall mounted light fixtures. The pole mounted fixtures will be 15 ft. tall, and the wall mounted fixtures will be installed between 10 ft and 15 in height. All proposed fixtures will have a CRI of 80 and a color temperature of 3,000k. All fixtures are full cut-off LEDs. It appears that this standard has been met.
- 20.8 <u>Sewer & Water</u>: The applicant states in their narrative that they intend to utilize municipal water and sewer utilities located under Washington Street. A 4 in. domestic water service and 8 in. sewer service are proposed for each building. A separate 8 in. water service is proposed for fire protection and will feed into the proposed fire hydrant as well as the buildings for the proposed sprinkler system. An average sewer flow calculation has been submitted to Engineering for review and estimates that the redevelopment will generate 9,686 GPD of effluent into the City's sewer system. Engineering believes there is sufficient capacity in the existing sewer system to accommodate the proposed flow. It appears that this standard has been met.
- 20.9 <u>Traffic & Access Management</u>: The proposed development intends to utilize the two existing site access points along Washington Street. The northern site access point will operate as an enter only pattern and the southern site access, across from George Street, will operate as both an entrance and exit pattern. The submitted Traffic Study states that the proposed development will generate approximately 60 more vehicle trips over a 24-hour period, however, both the AM and PM peak hour trips will be less than the previous community college use. The proposed development will generate 34 AM trips and 28 PM trips during their respective peak hours. The report states that a development that generates fewer than 50 vehicle trips per hour is considered to be low-volume traffic generator.

The applicant received a Special Exception from the Zoning Board of Adjustment to allow for less than one parking space per dwelling unit in lieu of the two parking spaces per dwelling unit that is normally required. The development proposes 70 parking spaces, with 4 accessible parking spaces. The submitted Traffic Study includes a parking evaluation based on a parking census that was conducted at several multi-family properties of similar size to the proposed development. The average parking demand was determined to be .51 parking spaces per unit. The report states that the proposed 70 parking spaces for 60 dwelling units is more than sufficient to meet the anticipated demand for parking in the development.

A Truck Turning Exhibit was prepared to demonstrate that emergency service vehicles can navigate safely throughout the site. The exhibit utilizes the City of Concord, NH's Tower 1 ladder truck as the template vehicle. The exhibit shows that the fire truck can enter and exit the site from the southern, two-way site access. The truck can navigate into the parking area behind the school building and then back out towards the dumpster enclosure to turn around. It appears that this standard has been met.

- 20.10 <u>Filling & Excavation</u>: The applicant states in their narrative that filling and excavation operations are anticipated to be consistent with other construction projects of similar size. Excavation will be required to install building foundations, utilities, and stormwater facilities. Fill material will be brought in to construct the parking lots. The subject property is located on Washington Street and has direct access to NH RT 10 to the north and NH RT 101 to the south. It appears that this standard has been met.
- 20.11 <u>Surface Waters & Wetlands</u>: There are no surface waters or wetlands on the site. This standard is not applicable.
- 20.12 <u>Hazardous & Toxic Materials</u>: The applicant states in their narrative that a Phase I Environmental Site Assessment was prepared by the Nobis Group in December 2022. The assessment revealed a Recognized Environmental Condition associated with a dry-cleaning facility located at 9 Griffin Street. A soil gas assessment is scheduled for May 17<sup>th</sup> to rule out any potential soil gas contamination from the dry-cleaning facility.

A hazardous building material assessment was conducted for the existing building. The applicant further states in their narrative that all identified hazardous building materials will be abated during the demolition process by a licensed abatement contractor. No other hazardous or toxic materials are anticipated to be found or stored on site. It appears that this standard has been met.

20.13 <u>Noise</u>: The applicant states in their narrative that the development is expected to be a low-volume traffic generator and is unlikely to increase noise levels in the neighborhood. It is also noted that Keene Housing anticipates that many of the residents in the proposed dwelling units will be elderly and/or persons with disabilities. Keene Housing has many similar housing developments, and none have been found to general enough noise to disturb neighboring residents. It appears that this standard has been met.

20.14 <u>Architecture & Visual Appearance</u>: The applicant states in their narrative that careful attention will be taken to historically restore and preserve the exterior of the portion of the Roosevelt school that will remain. The main front door will be constructed to mimic what was the original front door to the building. Historically appropriate windows and trim will be utilized.



Fig 2: School building & addition, east facade - Phase 1

The exterior façade of the new construction will consist of vinyl board & batten, PVC trim, brick cladding, and vinyl clapboard. The applicant states in their narrative that, "The exterior of the building façade has been articulated to create an undulating pattern of mixed siding materials including board and batten, horizontal siding, trim and colors." The Board will need to determine if this standard has been met.



Fig 3: New building east façade – Phase 2

The Board should take note of the following specific Architectural & Visual Appearance standards, in addition to the other standards in this section, when determining if the proposed elevations meet the Board's standards:

#### 20.14.2 Visual Interest

- **A.** *"Front facades and exterior walls shall be articulated to express an architectural identity to avoid a uniform appearance, and architectural details shall give the impression of being integral to and compatible with the overall design."*
- **B.** "Structures shall have architectural features (e.g. dominant gable ends, cornices, granite sills, arched openings, large windows framed with architecturally consistent trim, etc.) and patterns that provide visual interest at the pedestrian scale, reduce massive aesthetic effects, and harmonize with the City's distinctive architectural identity, unique character, and prevailing scale."
- **D.** "Architectural features shall conform to accepted architectural principles of design and construction."
- **G.** "Exterior materials, textures, and colors shall minimize visual aggressiveness and shall harmonize with the City's distinctive architectural identity and unique character. Surfaces with glossy finishes, reflective glass or dark tinted exteriors, or untreated aluminum, stainless steel, or metal exterior finishes shall be discouraged."

The applicant has requested a waiver from Section 20.14.3.D of the Land Development Code regarding the requirement that all off-street parking be located to the side or rear of buildings. The applicant has stated in their waiver request that due to the fact that the property is a corner lot and the proposal includes the preservation of a portion of the existing school building, locating the proposed parking only to the side and rear of the buildings on the site would be a hardship.

The Planning Board may grant a waiver from strict compliance with provisions of the Site Development Standards in Article 20 or site plan review standards in Section 25.12, on a case by-case basis, so long as the Board finds, by majority vote, that:

- 1. Strict conformity would pose an unnecessary hardship to the applicant and the waiver would not be contrary to the spirit and intent of the regulations; or
- 2. Specific circumstances relative to the site plan, or conditions of the land in such site plan, indicate that the waiver will properly carry out the spirit and intent of the regulations.

The Board will need to determine if the waiver request meets the above criteria.

#### **Recommended Motions for Waivers:**

If the Board is inclined to grant the requested waiver, the following language is recommended for a motion:

<u>Waiver Request:</u> "Grant a waiver from Section 20.14.3.D of the Land Development Code regarding the requirement that all off-street parking be located to the side or rear of buildings."

#### **Recommended Motion:**

If the Board is inclined to approve this request, the following motion is recommended:

"Approve SPR-06-23 as shown on the plan identified as "Roosevelt School Housing 438 Washington Street Keene, NH" prepared by Nobis Group at a scale of 1 in. = 30 ft. dated April 12, 2023 and last revised May 8, 2023 and the architectural elevations prepared by Warrenstreet Architects at a scale of 1/8 in. = 1 ft. dated May 8, 2023 with the following conditions:

- 1. Prior to final approval and signature by the Planning Board Chair, the following conditions precedent shall be met:
  - A. The owner's signature shall appear on the plan set.
  - B. Submittal of a security for sedimentation and erosion control, landscaping, and "as built" plans in a form and amount acceptable to the City Engineer.
  - C. Submittal of five full size paper copies and one digital copy of the final plan.
  - D. A copy of the NHDES Sewer Connection permit shall be submitted to the Department of Public Works.
  - E. A copy of the soil gas assessment shall be submitted to the Community Development Department.
  - F. Percolation tests for the proposed stormwater management system shall be conducted and their results submitted to the City Engineer for review and approval.
- 2. Subsequent to final approval and signature by the Planning Board Chair, the following conditions shall be met:
  - A. Prior to the commencement of site work, an Excavation Permit and Utility Connection Permit shall be obtained from the Department of Public Works.
  - B. Prior to the commencement of site work, the Community Development Department shall be notified when all erosion control measures are installed and the Community Development Director, or their designee, shall inspect the erosion control measures to ensure compliance with this site plan and all City of Keene regulations."



# City of Keene, Cl Site Plan Application

If you have questions about how to complete this form, please call: (603) 352-5440 or email: communitydevelopment@keenenh.gov

	SECTION 1: PROJE	CT INFORMATION		
PROJECT NAME: ROOSEVEIt		TYPE OF APPLICATIO	ON BEING SUBMITTED: APPLICATION	
PROJECT ADDRESS(ES): 438 Was	shington Street, Kee	ene NH 03431		APPLICATION
EXISTING OR PREVIOUS USE: Schoo	I/Classooms	PROPOSED USE: Mult	i-family Housing	I
<u>GROSS FLOOR AREA OF</u> <u>NEW CONSTRUCTION</u> (In square feet)	GROSS FLOOR AREA OF Bldg = 29,590 SF   NEW CONSTRUCTION (in square feet) Total Lot Coverage = 67.642 SF		F EXISTING RES (in square feet)	Bidg = 13,507 SF Total Lot Coverage = 46,412 SF
AREA OF PROPOSED NEW IMPERVIOUS SURFACES (in square fee	21,230 SF	TOTAL AREA OF LAND 98,000 SF	<u>DISTURBANCE</u> (in sq	juare feet)
	SECTION 2: CONTA	CT INFORMATION		
PROPERTY O	WNER		APPLICANT	
NAME/COMPANY: Matt Moore/ Com	munity College System of NH	NAME/COMPANY: Jos	shua Meehan / Monac	dnock Affordable Housing
MAILING ADDRESS: 28 College Drive, Concord NH 03301		MAILING ADDRESS: 8	MAILING ADDRESS: 831 Court Street, Keene, NH 03431	
рноле: 603-230-3565		PHONE: 603-283-5447		
memoore@ccsnh.edu		<sup>EMAIL:</sup> jmeeha	imeehan@keenehousing.org	
SIGNATURE: Matthing Marc		SIGNATURE:	IM	
PRINTED NAME: Matthew Moore		PRINTED NAME: JO	shua Meel	han
AUTHORIZED (if different than Ow	AGENT ner/Applicant)	FOR OFFICE USE ONLY:		
NAME/COMPANY: Chris Nadeau / Nobis Group		TAX MAP PARCEL #(s)		200
MAILING ADDRESS: 8 Chenell Drive, Concord NH 03301		*_ <b></b> *		
PHONE: 603-724-6227		PARCEL SIZE: 2.4		IMP:
EMAIL: cnadeau@nobis-group.com		ZONING DISTRICT: LOW DONSTRY		E G E I V E APR 1 4 2023
PRINTED NAME: Chris Nadeau		PROJECT #: SPR-06-23	By	



Roosevelt School Housing 438 Washington Street Keene, NH 03431 Tax Map 531 Lot 054

## **Project Narrative**

The approximate 2.4-acre subject site (Site) is located at 438 Washington Street in Keene, New Hampshire, catalogued as Tax Map 531 Lot 54 within the Low Density (LD) District. The Site is currently developed with a 2-story brick building, associated parking (bituminous pavement and gravel surface), basketball court, sidewalks, and utilities. The Site is primarily used by the Community College of New Hampshire for classrooms and offices for the institution. The Site abuts both Washington Street and Woodbury Street and is bound by residential communities to the north, south, east, and west.

The proposed development consists of the demolition of the gymnasium associated with the existing brick building and the construction of two multi-family housing buildings, landscape areas, parking, sidewalks, playground area, community garden, associated underground utilities, and stormwater controls. Access to the site will remain the same with two driveways off Washington Street. The proposed development will be constructed in two phases. Phase 1 consists of the partial demolition of the existing building, the renovation of the existing building, and the construction of an approximate 8,548 SF 2-story building addition(s) with 30 units. Phase 2 will consist of the construction of a 12,676 SF, 2-story building with 30 units, parking, driveways, dumpster enclosure, utilities, and stormwater controls.

## Site Development Standards

Section 20.2 Drainage & Stormwater Management: Stormwater controls are proposed within this Site consisting of a closed drainage system that includes catch basins, field inlets, drainage manholes, roof drains, and a subsurface infiltration gallery that will overflow treated stormwater into the existing drainage system within Washington Street. The Site will be raised approximately 3-4' along the south property line, however, the overall topography of the Site will not be significantly altered and will not change existing stormwater patterns.

*Section 20.3 Sediment & Erosion Control:* Prior to construction the site will have sediment and erosion controls installed. The design and placement of all erosion and sediment control measures



will comply with the standards and practices contained in the most recent version of the NH Department of Environmental Services NH Stormwater Manual. These controls will consist of two (2) construction entrance tracking pads, inlet protection on existing and proposed catch basins, sediment logs downgradient of proposed disturbances, and Erosion control matting on slopes of 3:1 or steeper.

Section 20.4 Snow Storage & Removal: Consistent with other Keene Housing properties, all snow will be removed from the site using heavy equipment to allow the continued safe passage of vehicles into, out of, and through all travel lanes and parking areas.

*Section 20.5 Landscaping*: A landscape plan has been prepared listing primarily Native and drought resistant plant materials. Island and planting beds are called out to be mulch. The ratio and spacing of deciduous shade trees exceed the minimum standards based on the required ratio of parking spaces and impervious parking area.

*Section 20.6 Screening:* A staggered evergreen edge based on perimeter boundary length has been shown along the east side yard (Washington Street) and south property edges to screen vehicular light trespass as required by the ordinance. The strategy and plant count were reviewed by staff and adjusted per their comments.

*Section 20.7 Lighting:* Lighting consists of Lithonia D-Series LED fixtures mounted on 15-foot poles with external glare shields and programmable controls for dimming, photocell and motion detection. Exterior building lighting consists of Lithonia WDGE1 LED wall sconces with motion detection. Lighting has been designed to limit light trespass across property boundaries to less than 0.1 footcandles and 1.0 footcandles at Right-of-Way boundaries.

Section 20.8 Sewer & Water: Water and Sewer services have been designed to connect to the municipal systems within Washington Street. Fire service for each building has been designed with an 8-inch ductile iron pipe also servicing an on-site fire hydrant. Domestic water service for each building has been designed with a 4-inch ductile iron pipe. Fire and domestic services will be independently connected to the municipal water main and will have shut-off valves for each. Sewer has been designed as an 8-inch SDR-35 PVC gravity pipe with manholes at changes in direction or grade. The new service will be connected to an existing sanitary manhole in Washington Street. The project will require a Sewer Connection Permit from the New Hampshire Department of Environmental Services.



Section 20.9 Traffic & Access Management: A Traffic and Parking Study was prepared by Stephen G. Pernaw & Company on February 16, 2023 and is attached with the application. The study concluded that the project will generate fewer trips than the existing community college during the weekday peak hours, but slightly more trips on the average weekday basis. The projects is characterized by Mr. Pernaw as a low-volume traffic generator since it generates less than 50 vehicle-trips/hour and is less intensive than the previous community college. Mr. Pernaw also concluded that the proposed parking supply of 70-spaces exceeds the anticipated parking demand by a comfortable margin. Access to the site will be similar to the current use, with a one way entrance at the north end of the site and a two way driveway at the south end of the site, opposite George Street.

*Section 20.10 Filling & Excavation:* Filling and Excavation is expected to be consistent with any other construction project of similar size. Excavation will be required to install building foundations, utilities and stormwater controls. Filling will consist of import of select material to construct parking lots. There is no blasting or rock removal anticipated.

*Section 20.11 Surface Waters & Wetlands:* There are no surface waters or wetlands on or adjacent to the site.

Section 20.12 Hazardous & Toxic Materials: A Phase I Environmental Site Assessment was prepared by Nobis Group on December 22, 2022 which identified a Recognized Environmental Condition associated with a dry cleaning facility cross-gradient to the property (9 Griffin Street) with an identified groundwater plume including exceedances of TCE above the NHDES vapor intrusion standard. As a result Nobis recommended a soil gas assessment be performed to rule out any potential soil gas contamination from the dry cleaning facility. The assessment is scheduled for May 17<sup>th</sup>.

A hazardous building material assessment was conducted for the existing building. All identified hazardous building materials will be abated during the demolition process by a licensed abatement contractor.

No other hazardous or toxic materials are anticipated to be stored on site, other than normal household cleaners/products.

Section 20.13 Noise: Each of the two phases will have 22 1-bedroom apartments and 8 twobedroom apartments, for a total of 60 apartments when the entire site has been completed. All



apartments will be occupied by low- and moderate-income households. Although there will be no age or disability requirements, Keene Housing expects that most of the apartments will be occupied by elderly or disabled persons. As noted in the traffic section, the project is expected to be a low-volume traffic generator so vehicle traffic is unlikely to increase the noise level in the neighborhood. Keene Housing has many similar housing developments, and none have been found to generate enough noise to disturb neighboring residents.

*Section 20.14 Architecture & Visual Appearance:* Careful attention has been taken to historically restore the exterior appearance of the Roosevelt school with appropriate windows and trim. The main front stair will be constructed to mimic what was originally the front door to the building. The addition to the school will be located in the current location of the school gym which will be razed.

The architectural vernacular of the Phase I addition and phase II freestanding building to the rear of the property will ultimately house 60 one and two-bedroom apartments. The exterior of the building facade has been articulated to create an undulating pattern of mixed siding materials including board and batten, horizontal siding, trim and colors. We believe the proposed building elevations meet the City of Keene's desire to have a facade that provides a respectful and appropriate reflection of the street patterns along Washington and Woodbury Streets.

## **Approved Variances**

The site has three (3) approved variances with the Zoning Board of Adjustment (ZBA). These variances are:

- Article 3.3.5 To allow multifamily housing use where multifamily housing is not a permitted use.
- Article 3.3.3 To allow buildings which cover more than 35% of the lot, impervious surfaces of more than 45% coverage and less than 55% green/open space.
- Article 9.2.6, 9.2.7 A special exception from the parking requirements to allow less than 2 spaces per unit.

Since the above approvals, the building footprint increased therefore the applicant went before the zoning board at their last meeting (May 1<sup>st</sup>, 2023) for this additional increase in lot coverage and was approved.



May 8, 2023 File No. 100569.000

City of Keene Planning Department Evan J. Clements, AICP - Planner 3 Washington Street Keene, New Hampshire 03431

Re: Site Plan Application SPR-06-23 Roosevelt School Housing Development 438 Washington Street, Keene, NH Map 531, Block 54

## Dear Evan:

On behalf of Monadnock Affordable Housing, we are submitting the following waiver request in response to comments provided in a Memorandum dated April 28<sup>th</sup>, 2023.

Section 20.14.3: Site Design and Relationship to Surrounding Community: "All required off-street parking shall be to the side or rear of buildings on the proposed site, and such parking shall be screened or aligned in accordance with Section 9.4."

1. Strict Conformity would pose an unnecessary Hardship to the applicant and the waiver would not be contrary to the spirit and intent of the regulations.

The property is a corner lot and has street frontage on two sides so placing all parking to the rear or side would be a hardship. The existing school building is being preserved and currently has parking in front of the building. If all parking was required to be in the rear and side, the existing building would need to be demolished and reconstructed closer to Washington Street to support the number of housing units proposed.

2. Specific circumstances relative to the site plan, or conditions of the land in such site plan, indicate that the waiver will properly carry out the spirit and intent of the regulations.

Nobis Group® 18 Chenell Drive Concord, <u>NH</u> 03301 T (603) 224-4182



The property is located on the corner of Woodbury and Washington Streets. The existing school building is being repurposed and currently has parking along Washington Street. The proposed site plan shows landscaping/screening between the parking and Washington Street. The property is located on the low side of an 8-10 foot tall retaining wall along the Woodbury Street boundary providing a buffer between the Right-of-Way and any parking/driveways.

3. In granting a waiver, the Planning Board may require any mitigation that is reasonable and necessary to ensure that the spirit and intent of the standard being waived will be preserved, and to ensure that no increase in adverse impacts associated with granting the waiver will occur.

If you have questions or require additional information, please contact us at (603) 224-4182 or <u>cnadeau@nobis-group.com</u>.

Sincerely,

NOBIS GROUP®

/ Chris Nadeau, PE Director, Commercial Services

# **ROOSEVELT SCHOOL HOUSING 438 WASHINGTON STREET** KEENE, NH SHEET INDEX SITE ENGINEER I.D. NOBIS GROUP - CONCORD, NH ARCHITECT CS WARRENSTREET ARCHITECTS- CONCORD, NH SURVEYOR G-RICHARD D. BARTLETT & ASSOCIATES- CONCORD, NH LANDSCAPE ARCHITECT S-WARRENSTREET ARCHITECTS- CONCORD, NH S-2 SITE LIGHTING C-1 VISIBLE LIGHT - HAMPTON, NH TRAFFIC ENGINEER C-2 C-3 C-4 C-5 C-6 C-7 C-8 C-9 C-1 STEPHEN G. PERNAW & COMPANY, INC - CONCORD, NH OWNER MONADNOCK AFFORDABLE HOUSING CORP. AN AFFILIATE OF KEENE HOUSING - KEENE, NH C-′ L-1 LA-LA-LA-LA-LA-USGS TOPOGRAPHIC MAP KEENE, NH 2021 NORTH APPROXIMATE SCALE 1 INCH = 2,000 FEET QUADRANGLE LOCATION APRIL 12, 2023 REVISED MAY 8, 2023



. <u>N</u>	10.	DRAWING NAME
		COVER SHEET
1	1	GENERAL NOTES & LEGEND
2	2 3	EXISTING CONDITIONS PLAN CONDOMINIUM PLAN
1 2 3 4 5 5 7 3 9 10 11	4 5 6 7 8 9 10 11 12 13 14	DEMOLITION PLAN PROPOSED SITE PLAN GRADING AND DRAINAGE PLAN UTILITY LAYOUT PLAN EROSION CONTROL PLAN CONSTRUCTION DETAILS CONSTRUCTION DETAILS CONSTRUCTION DETAILS CONSTRUCTION DETAILS CONSTRUCTION DETAILS CONSTRUCTION DETAILS
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NOBIS PROJECT NO. 100569.000

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DRAIN MANHOLE

CATCH BASIN

#### GENERAL NOTES

THESE DRAWINGS SHOULD BE REVIEWED IN CONJUNCTION WITH THE ACCOMPANYING DESIGN REPORT TITLED
"STORMWATER MANAGEMENT REPORT FOR ROOSEVELT SCHOOL HOUSING, 438 WASHINGTON STREET,KEENE, N# DATED
APRIL 12, 2023 PREPARED BY NOBIG GROUP.
EXISTING CONDITIONS, TOPOGRAPHICAL, INFORMATION, NORTH ORIENTATION, NORTH ARROW, AND COORDINATE VALUES
DEPICTED ON THESE DRAWINGS ARE BASED ON PLANS TITLED "KISTING CONDITIONS PLAT OF ROOSEVELT VILLAGE
CONDOMINIUM, DATED JANUARY 24, 2023, DY RICHARD D, BARTLETT & ASSOCIATES LLC.

Conduminum, united danuart (a), 2023, bit normand) d ban teri i a associates test. T HESE DRAWINGS AND ACCOMPAYING TEXT HAVE BEEN REPREATED FOR MONADNOCK AFFORDABLE HOUSING, CORP, AN AFFILIATE OF KEENE HOUSING, FOR REVIEW BY THE CITY OF KEENE PLANNING BOARD, CODE ENFORCEMENT, GENERAL SERVICES, POLICE, AND FIRE DEPARTIMENTS. C. THE CONTRACTOR SHALL OBTAIN COVERAGE UNDER EPA NPDES GENERAL PERMIT FOR STORM WATER DISCHARGES FOR CONSTRUCTION ACTIVITIES PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INPLEMENTING AN ENVIRONMENTAL FROTECTION AGENCY [FEASI STORM WATER POLLITION PREVENTION PLAN PRIOR TO THE START OF CONSTRUCTION AND DURING CONSTRUCTION ON-SITE IN ACCORDANCE WITH THE EPA REGULATIONS UNDER THE CLEAW WATER ACT.

CONSTRUCTION SEQUENCE:

- 1. CONSTRUCT TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO ANY EARTH MOVING INSPECT EROSION AND SEDIMENT CONTROL MEASURES WEEK! Y AND WITHIN 24 HOURS OF ANY SIGNIFI EVENT (12° OF RAIN OR MORE), PERFORM ANY INEEDED MANTENANCE AND STABILIZATION AS NEEDED. IFICANT RAINFALL
- 2. DISTURBANCES OF AREAS SHALL BE MINIMIZED, NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED FOR LONGER THAN TWO WEEKS DURING THE GROWING SEASON. AREAS WHICH WILL NOT BE PERMANENTLY SEEDED WITHIN TWO WEEKS OI DISTURBANCE SHALL BE TEMPORARILY SEEDED AND MULCHED. ALL AREAS SHALL BE STABILIZED WITHIN THOSED MULCH AND TACKIFIER WITHIN 72 HOURS OF ACHELVING FINISHED GRADE AND PRIOR TO THE END OF THE GROWING SEASON.
- 3. PERFORM DEMOLITION OF EXISTING SITE FEATURES AS SHOWN ON DEMOLITION PLAT
- 4. PERFORM CLEARING AND GRUBBING TO LIMITS SHOWN ON DEMOLITION PLAN.
- 5. EXCAVATE AND GRADE, THEN INSTALL LOAM, SEED, AND EROSION CONTROL MATTING. 6. REMOVE AND TEMPORARILY STOCKPILE LOAM AND TOPSOIL FOR REUSE, IF NEEDED, ON SITE. SEED AND/OR MULCH STOCKPILES AND ENCIRCLE WITH SILT FENCE.
- 7. CONDUCT ALL UNDERGROUND UTILITY STRUCTURE AND PIPING INSTALLATION, BACKFILL, AND COMPACTING.
- 8. CONSTRUCT BUILDING FOUNDATION.
- 9. PLACE AND COMPACT NEW GRAVEL COURSES IN THE PARKING, SIDEWALK.
- 10. PLACE, GRADE, AND STABILIZE DISTURBED AREAS WITH TEMPORARY SEEDING AND MULCHING.
- 11. BEGIN CONSTRUCTION OF BUILDING AND REMAINING SITE WORK.
- 12.PLACE PAVEMENT COURSES, SIDEWALKS, AND CURBING
- 13. ALL CUT AND FILL SLOPES SHALL BE STABILIZED, LOAMED, SEEDED, AND MULCHED.
- 14 COMPLETE PERMANENT SEEDING AND LANDSCAPING IN ACCORDANCE WITH THE LANDSCAPE DESIGN AND DETAILS
- 15.SWEEP COMPLETED PAVEMENT AND CLEAN OUT CATCH BASINS AND DRAINAGE PIPES DURING CONSTRUCTION CLOSE-OUT PROCEDURES. PROPERLY DISPOSE OF COLLECTED SEDIMENT AND DEBRIS.
- 16. REMOVE TEMPORARY EROSION CONTROL MEASURES AND PROPERLY DISPOSE OF FOLLOWING CONSTRUCTION AND ONCE FULL GROUND COVER HAS BEEN ESTABLISHED.



EROSION CONTROL NOTES:

#### GRASS SEED MIXES SHALL CONSIST OF THE MIXTURES AS DETAILED IN THE FOLLOWING TABLES, WITH 98% PURITY:



SEED 50 RED FESCUE (CREEPING) 50 KENTUCKY BLUE 23 PERENNIAL RYE GRASS 10 RED TOP 10 BY % MAS LANDINO CLOVER

WINTER CONSTRUCTION NOTES:

CATCH BASINS: CARE SHOULD BE TAKEN TO ENSURE THAT SEDIMENTS DO NOT ENTER CATCH BASINS DURING EXCAVATION FOR PIPE TRENCHES, DITCHES AND SWALES. THE CONTRACTOR SHOULD PLACE NON-WOVEN GEOTEXTILE FARIC FOR NUE PROTECTION OVER INLETS IN AREAS OF SOLI DISTURBANCE, WHICH ARE SUBJECT TO SEDIMENT CONTRAINATION. PLACE INLET PROTECTION DEVICES, IN CATCH BASINS AND MAINTAIN UNTIL ALL CONSTRUCTION ACTIVITIES HAVE CEASED AND THE SUBBOUINDING APEAS ARE WELL VEGETATED

SEDIMENT TRAPS AND/OR BASINS SHOULD BE USED AS NECESSARY TO CONTAIN RUNOFF UNTIL BASINS/PONDS ARE STABILIZED

ALL SWALES AND PONDS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF INTO THEM.

SCHEDULE OF WORK THIS WORK IS ANTICIPATED TO BEGIN IN THE SPRING 2024 WITH A FINAL COMPLETION DATE IN FALL 2026. NO WINTER EARTH DISTURBANCE IS EXPECTED FOR THIS PROJECT. SHOULD WINTER WORK BE REQUIRED, THIS PLAN AND THE ACCOMPANYING STORM WATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE MODIFIED ACCORDINGLY.

ADEQUATE MEASURES SHOULD BE TAKEN TO MINIMIZE AIR BORNE DUST PARTICLES ARISING FROM SOIL DISTURBANCE AND

CUNS HUUCION. OISTURBED AREA SHOULD BE MININIZED AND NOT EXCEED 100.000 SOUARE FEET IN AREA AT ANY ONE TIME. \*NO DISTURBED AREA SHOULD BE LEFT INGSTRAILIZED FOR LONGER THAN TWO WEEKS DURING THE GROWING SEASON. \*PERMINENT EROSION CONTROL FEATURES SHOULD BE INCORPORATED INTO THE PROJECT AT THE EARLIEST PRACTICABLE TIME, AS SPECIFIED ON THE CONTRACT PLANS. \*WITHIN IA JAVS OF COMPLETING WORK IN AN AREA. AND PRIOR TO ANTICIPATED RIN EVENTS, APPLY HAVISITRAW MULCH AND TACKFIER ON ALL DISTURBED SOL AREAS. APPLCATION RATES OF 2 TONS OF STRAW OR HAY PER ACRE SHOULD BE USED TO PREVENT EROSION ONTEN IN A MAREAS. APPLCATION RATES OF 2 TONS OF STRAW OR HAY PER ACRE SHOULD BE USED TO PREVENT EROSION UNTIL VEGETATIVE COVER CAN BE STRAUBLIEND. ATTERNATIVELY, APPLY WOOD CHIPS OR GROUND BARK MULCH 2 TO § INCHES DEEP AT A RATE OF 10 TO 20 TONS PER ACRE. \* WHEN EROSION IS LIKELY TO BE APROBLEM, GROUND SHOULD BE CONCEPORACRE. \* AS WORK PRORESSES, PATCH SEDION AND LEGNISM OF CANTON SHOLLD BE SCHEDULED AND PERFORMED SUCH THA' GRADING OPERATION AND PERMANENT EROSION CONTROL FEATURES CAN FOLLOW IMMEDIATELY THEREAFTER. \* AS WORK PRORESSES, PATCH SEDIONS AND MULCHING SHOULD BE DONE AS REQUIRED ON AREAS PREVIOUSLY TREATED TO MANTAIN OR ESTABLISH PROTECTIVE COVER.

REATED TO MAINTAIN OR ESTABLISH PROTECTIVE COVER. REMOVE ACCUMULATED SEDIMENTS AND DEBRIS WHEN SEDIMENT CONTAINMENT DEVICES REACH 33% CAPACITY.

EROSION CONTROL IMPLEMENTATION SCHEDULE THE FOLLOWING GENERAL SOCHDULE IDENTIFIES THE PROPOSED SOIL EROSION AND SEDIMENT CONTROL AND STORM WATER MANAGEMENT MEASURES THAT ARE TO BE IMPLEMENTED PRIOR TO AND DURING CONSTRUCTION:

PERFORM LIMITED GRUBBING, STRIPPING AND SITE GRADING ONLY AS NEEDED TO COMPLETE IMMEDIATE WORK GOALS.
BLOCK STORM WATER FLOW AS NECESSARY TO INSTALL ALL STORM WATER STRUCTURES IN THE DRY.
INSTALL PERMANENT STORM DRAIN SYSTEM.
INSTALL TEMPORARY SOLIL STABILIZATION MEASURE INCLUDING SEED. MILCH, FERTILIZER, MATTING, ETC.
REDIRECT FLOWS INTO FINISHED STRUCTURES PRIOR TO FILL OPERATIONS.
PLACE HUMBY AND CONDUCT FERMANENT SEEDING AND MULCHING OF ALL DISTURBED GROUND.

TEMPORARY STABILIZATION: EROSION CONTROL MEASURES SHALL BE IMPLEMENTED, AS WRITTEN HEREIN AND AS DEPICTED ON THE ACCOMPANYING PLAN, FROM THE COMMENCEMENT OF CONSTRUCTION ACTIVITY UNTIL FINAL STABILIZATION IS COMPLETE:

TEMPORARY GRADING: TEMPORARY GRADING DURING CONSTRUCTION SHOULD BE PERFORMED IN SUCH A MANNER TO FACILITATE MAXIMUM INFILTRATION OF STORMWATER AND MINIMIZE OR ELIMINATE STORMWATER RUNOFF FROM THE SITE

MULCH: MULCHING WITH LOOSE HAY OR STRAW, AT A RATE OF 2 TONS PER ACRE, SHALL BE DONE IMMEDIATELY AFTER EACH AREA HAS BEEN FINAL GRADED. WHEN SEED FOR EROSION CONTROL IS SOWN PRIOR TO PLACING THE MULCH, THE MULCH SHOLD BE PLACED ON THE SEEDED AREAS WITHIN 48 HOURS AFTER SEEDING.

TACKIPIER: PLACEMENT OF SOIL TACKIPIER HAS PROVEN TO BE AN EFFECTIVE METHOD OF PREVENTING SOIL AND ADHERING MULCH IN PLACE. THE PLACEMENT OF A SOIL TACKIFIER SHOULD BE PERFORMED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND SHOULD BE REAPPLIED AS NECESSARY TO CONTROL AIR BORN DUST AND S MULCH LOSS UNTIL PERMANENT VEGETATION IS ESTABLISHED.

ROAD CLEANING: THE CONTRACTOR SHALL SWEEP ROADS DAILY, OR AS NEEDED TO MAINTAIN CLEAN PAVED SURFACES A ALL CONSTRUCTION ACCESS/EGRESS POINTS.

DUST CONTROL: THE CONTRACTOR SHALL IMPLEMENT DUST CONTROL MEASURES AS NEEDED TO PREVENT AIRBORNE DU PARTICLES FROM LEAVING THE SITE. DUST CONTROL MEASURES SHALL CONSIST OF USE OF A WATER TRUCK EQUIPPED WITH A SRRAV-ABR THAT DISSIFIES THE WATER VENUE YOUER LEADER.

PERMANENT STABILIZATION: GRASS, TREES, SHRUBS AND MULCHED PLANTING BEDS WILL BE CONSTRUCTED AND MAINTAIRED IN LOCATIONS AS SHOWN ON THE DRAWINGS TO STABILIZE AREAS NOT WITHIN THE PARKING LOT/BUILDING FOOTPRINT. THE CONTRACTOR WILL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL FOR ONE YEAR AFTER COMPLETION.

AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:

BAGE COURSE GRAVELS HAVE BEEN INSTALLED IN ARCAS TO BE PAVED, A MINIMUM OF 8% VEGETATED GROWTH HAS BEEN ESTABLISHED; A MINIMUM OF 3° OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; EROSION CONTROL IN JAMEETS HAVE BEEN PROPERTY (INSTALLED)

ALL ROADWAYS/PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE

CONSTRUCTION SHALL BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

EXCAVATION DEWATERING: SHOULD EXCAVATION DEWATERING BE REQUIRED, THE CONTRACTOR MUST INSURE THAT ANY EXCAVATION DEWATERING DISCHARGES ARE NOT CONTAMINATED. NOTE: THE WATER IS CONSIDERED UNCONTAMINATED IF THERE IS NO GROUNDWATER CONTAMINATION WITHIN 1,000 FEET OF THE DISCHARGE.

THE CONTRACTOR MUST TREAT ANY UNCONTAMINATED EXCAVATION DEWATERING AS NECESSARY TO REMOVE SUSPENDED SOLIDS AND TURBIDITY DURING CONSTRUCTION. THE DISCHARGES MUST BE SAMPLED AT A LOCATION PRIOR TO MIXING WITH STORM WATER OR STREAM FLOW AT LEAST ONCE PER WEEK DURING WEEKS WHEN DISCHARGES OCCUR. THE SAMPLES MUST BE ANALYZED FOR TOTAL SUSPENDED SOLIDS (TSS) AND MUST MEET MONTHLY AVERAGE AND MAXIMUM DALLY TSS LUMTATIONS OF 60 MULIGRAMS PER JUTER (MICL, RESPECTIVELY.

STORMWATER POLLUTION PREVENTION PLAN: THE PROJECT IS SUBJECT TO THE REQUIREMENTS OF THE USEPA NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (PPOES) CONSTRUCTION PREVENTION (WHICH NOLIDES A WRITTEN STORM WATER POLLUTION PREVENTION (SWPPP) PLAN FOR CONSTRUCTION, THE SWPPP FLAN SHALL OUTLINE DEFALLED SPECIFICATIONS FOR IMPLEMENTATION, INSPECTION, AND MANTENANCE OF ALL ERGSON CONTROL MEAURES. THE CONTRACTOR HAS DISCHEDEVENTIONS (THE SWPPP) PLANCE WITH THE ERGSION OF ATLE MESSION CONTROL MEAURES. THE CONSIDEL FOR AMPLEMENTATION, INSPECTION, AND AND SHALLE RESPONSIBLE FOR ANY FRANLES RESULTION FROM LACK OF COMPLANCE.

SEED MIX	
	% GERMINATION (MIN.)
	85
	80
	90
	90
D MIX	
	% GERMINATION (MIN.)
	85
	85
	90
	85
	85

ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWT BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, BHALL BE STABILEED BY SEEDING AND INSTALLING ACRE ELSEWINE MILLOF HERVINNO IN THE STRING SHALL BE ENVOED AND REPLACED AT PARTO 25 YOUND FER AND APROFELSEWING INTO SERVINNO IN THE STRING SHALL BE DEVOED AND REPLACED AT PARTO 25 YOUND FER AND THE PLACEMENT OF ENGSION CONTROL BLANKETS OR MULCH AND TACKIFIER SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND.

ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS. FOR THE DESIGN FLOW CONDITIONS.

AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3-INCHES OF CRUSHED GRAVE PRINDOT ITEM 304.3 OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.



#### ROOSEVELT SCHOOL HOUSING

438 WASHINGTON STREET KEENE, NH 03431

APPLICANT: MONADNOCK AFFORDABLE HOUSING ORP. AN AFFILIATE OF KEENE HOUSIN 831 COURT STREET KEENE, NH 03431

OWNER OWNER: COMMUNITY COLLEGE SYSTEM OF NEW HAMPSHIRE 28 COLLEGE DRIVE CONCORD, NH 03301

$\triangle$	05/08/2023	RESPONSE TO CITY COMMENTS	
NO.	DATE	DESCRIPTION	
	REVISIONS		

SCALE: AS NOTED

DATE APRIL 12, 2023 NOBIS PROJECT NO. 100569.000 RAWN BY: EAL/MGD CHECKED BY JCN CAD DRAWING FILE 100569.000-C-005-NOTES & LEGEND.dv

SHEET TITLE

GENERAL NOTES & LEGEND

> SHEET G-1







NOTES: 1. REFER TO SURVEYOR'S PLAN FOR PLAN REFERENCES ADDITIONAL NOTES, EXISTING DRAINAGE AND SANITARY SEWER INVERT INFORMATION.

DEMANDED AND SAMILARY SERVICES INFORMATION. 2. LOCATION AND ELEVATION OF UTUILITIES ARE APPROXIMATE ONLY AND ARE BASED ON FIELD MEASUREMENTS OF VISIBLE STRUCTURES. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTUILITIES PRIOR TO CONSTRUCTION AND WILL NOTIFY ENGINEER AND OWNER IMMEDIATELY OF ANY CONFLICTS.

THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING DIG SAFE (1-888-DIG-SAFE) AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF WORK. THE CONTRACTOR WILL COORDINATE WORK WITH THE TOWN FIRE AND POLICE DEPARTMENTS.

COORDINATE WORK WITH THE TOWN FIRE AND FOLICE DEPARTMENTS. 0. DEMOLISM STRUCTURES AND SITE FEATURES AS SHOWN HEREFON AND REMOVE PAVEMENT TO LIMITS INDICATED. 0. CONTRACTOR IS RESPONSIBLE FOR OFF-SITE DISPOSAL OF CONSTRUCTION DEMOLITION DEBRIS IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

REGULATIONS. 6. CONTRACTOR WILL COORDINATE REMOVAL/RELOCATION OF UNDERGROUND GAS AND OVERHEAD UTILITES WITH RESPECTIVE UTILITY COMPANIES. 7. ABATEMENT OF HAZARODUS MATERIALS SUCH AS LEAD PANIT, ASBESTOS, ETC., WILL BE PERFORMED BY A LICENSED CONTRACTOR PRIOR TO COMMENCEMENT OF DEMOLITION. A PRE-DEMOLITION SURVEY WILL BE PERFORMED BY CONTRACTOR PRIOR TO THE START OF DEMOLITION ACTIVITIES TO ENSURE PROPER DEMOLITION AND DISPOSAL PROCEDURES.

8. DEMOLITION SEQUENCING WILL BE AS DIRECTED BY THE PRIME CONTRACTOR AND THE ARCHITECT.

I FOR ARCS OUTSIDE OF THE PROPOSED BUILDING FOOTPRINT, DEMOLISH ALL EXISTING BUILDINGS AND FOUNDATIONS TO 24" BELOW FINISHED GRADE, CONSULT WITH ENGINEER FOR DEMOLITION REQUIREMENTS FOR AREAS WITHIN THE PROPOSED BUILDING FOOTPRINT.

10. ALL WORK PERFORMED TO CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE MUNICIPAL CONSTRUCTION STANDARDS.

11. REFER TO SHEET G-1 FOR GENERAL NOTES AND LEGEND FOR CONSTRUCTION SEQUENCING NOTES. 12. CONTRACTOR WILL NOTIFY OWNER, ENGINEER, AND ARCHITECT IMMEDIATELY IF SITE CONDITIONS DIFFER FROM WHAT IS SHOWN ON PLAN.

CONTRACTOR WILL PROTECT ALL EXISTING UTILITIES WITHIN THE LIMIT OF WORK. CONTRACTOR WILL BE RESPONSIBLE FOR DAMAGES TO EXISTING UTILITIES AND ALL COSTS ASSOCIATED WITH REPLACEMENT OR REPAIR WILL BE BORNE BY THE CONTRACTOR.

CONTRACTOR. 14. CONTRACTOR WILL PROTECT ALL SITE FEATURES OUTSIDE LIMIT OF WORK SHOWN HEREON. CONTRACTOR WILL BE RESPONSIBLE FOR DAMAGES TO EXISTING SITE FEATURES AND ALL COST ASSOCIATED WITH REPLACEMENT OR REPAIR WILL BE BORNE BY THE CONTRACTOR. 15. DEMOLTIONREMOVAL OF EXISTING STORMWATER STRUCTURES AND PIPING WILL BE CONDUCTED DRY CONDITIONS TO THE EXTENT FRACTICAL. INSTALLATION OF NEW STRUCTURES AND PIPE WILL BE CONDUCTED PRIOR TO DEMOLITION TO THE EXTENT PRACTICAL.

PRIOR TO THE START OF CONSTRUCTION AND ISSUANCE OF ANY PERMITS, A PRE-CONSTRUCTION MEETING WILL BE HELD WITH CITY OF KEENE ENGINEERING SERVICES TO DISCUSS SITE INSPECTIONS, ASSOCIATED FEES, SCHEDULE, ETC.





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NOTES: 1. REFER TO SURVEYOR'S PLAN FOR BASE PLAN REFERENCES AND ADDITIONAL NOTES. ALE LEVATION SHOWN AT BUILDING CONNERS AND REPAIRS ENDINOUND IN USE
ALE LEVATION SHOWN ARE IN REFERENCE TO THE SURVEY PLAN AND MUST
VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
CONTRACTOR WILL NOTIFY OWNER & REVOINEER IMMEDIATELY IF SITE CONDITIONS
DIFFER FROM WHAT IS SHOWN ON PLAN.
SPOT ELEVATIONS SHOWN AT BUILDING CORNERS ARE PROPOSED GROUND
ELEVATIONS.
STONE DRIP EDGE PIPING WILL BE CONNECTED TO THE CLOSED DRAINAGE SYSTEM.

STONE DRIP EDGE PIPING WILL BE CONNECTED TO THE CLOSED DRAINAGE SYSTEM.
FINISH WALK AND CURB ELEVATIONS WILL BE 6' ABOVE FINISH PAVEMENT.
ALL ELEVATIONS SHOWN ARE IN REFERENCE TO THE BENCHMARK AND MUST BE VERIFIED BY THE GENERAL CONTRACTOR AT GROUNDBREAK.
LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES ARE APPRXIMATE ONLY AND ARE BASED ON RECORDS FROM THE UTILITY COMPANIES AND FIELD MEASUREMENTS OF VISIBLE STRUCTURES. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION AND WILL NOTFY ENGINEER AND OWNER IMMEDIATELY OF ANY CONFLICTS.
ALL WORK ON SITE, ALL UTILITY MORK AND ALL WORK WITH CITY RO.W WILL BE PERFORMED IN ACCORDANCE WITH THE CITY OF KEENE SPECIFICATIONS, LATEST EDITION.

LEMON. I THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING DIG SAFE (1-888-DIG-SAFE) AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF WORK. THE CONTRACTOR WILL COORDINATE WORK WITH THE CITY FIRE, POLICE, AND COMMUNITY DEVELOPMENT DEPARTMENTS.

11. ALL STORM DRAIN PIPING WITH LESS THAN 3.0 FEET OF COVER WILL BE OVERLAID WITH 2" THICK RIGID INSULATION FOR THE FULL WIDTH OF PIPE TRENCH. 12. REFER TO SHEET G-1 FOR GENERAL NOTES AND LEGEND.

	CB-5 (5' O.D. STRUCTURE) RIM = 509 5
	INV IN = 504.7 (FROM CB-4)
N)	INV. OUT = 504.6
	L = 92 LF - 15" HDPE (TO CB-6)
	S = 0.0054 FT/FT
	CB-6 (6' O.D. STRUCTURE)
	RIM = 507.8
	INV. IN = 504.1 (6" PVC ROOF DRAIN)
N)	INV. IN = 504.1 (FROM CB-5)
N)	INV. IN = 501.0 (FROM CB-7)
	INV. OUT = 500.9
	L = 17 LF - 15" HDPE (TO CB-8)
	S = 0.0059 FT/FT
	CB-7 (5' O.D. STRUCTURE)
	RIM = 505.5
0	IND ( INL FOR A (EDOM DAVID )

INV. IN = 501.4 (FROM DMH-3) INV. OUT = 501.3 L = 61 LF - 15" HDPE (TO CB-6) S = 0.005 FT/FT

EX CB 653 RIM = 504.26 INV. IN = 500.76\* INV. OUT = 500.76 SUMP = 498.6

\*USE SAME INVERT IN HOLE FOR NEW 15" HPD DRAINAGE PIPE.

DMH-2 (5' O.D. STRUCTURE TO GALLERY-1)

DMH-3 (5' O.D. STRUCTURE FROM GALLERY-1)




RESPONSE TO CITY

COMMENTS DESCRIPTION

APRIL 12, 2023

EAL/MGD

JCN

60'

30'

5/8/2023

 REFER TO SURVEYOR'S PLAN, FOR BASE PLAN REFERENCES AND ADDITIONAL NOTES.
 ALL ELEVATIONS SHOWN ARE IN REFERENCE TO THE SURVEY PLAN AND MUST BE
 VERIFIED BY THE GENERAL CONTRACTOR PROINT TO THE START OF CONSTRUCTION.
 THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY
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 THEREW UNIT HE MOLATED AD AND WILL ADDITY PUBLIER AND MAKEN AND AND MALE ADDITION AND AND ADDITION AND ADDIT nobis Nobis Group® 18 Chenell Drive Concord, NH 03301 T(603) 224-4182 www.nobis-group.cor 5. THERE WILL BE NO PHYSICAL CONNECTION BETWEEN A PUBLIC OR PRIVATE POTABLE THERE WILL BE NO PHYSICAL CONVERTION BETWEEN A PUBLIC OR PRIVATE POTABLE WATTER SUPPLY SYSTEM AND CA SECTION BETWEEN A PUBLIC OR PRIVATE POTABLE PERMIT THE PASSAGE OF SERVINGE OR POLLUTED WATER INTO THE POTABLE SUPPLY SEWER OR SEVEN TANHOLE AND ON SEVER WILL BE LOCATED WITHIN THE WELL PROTECTIVE RADIE STABLISHED IN ENVING 300 FOR ANY PUBLIC WATER SUPPLY WELLS OR WITHIN 100 FEET FOR ANY PRIVATE BLOCATED WITHIN THE WELL SEVER OR SEVER NAMHOLE ANY PRIVATE BLOCATED WITHIN THE WELL PROTECTIVE RADIE STABLISHED IN ENVING 300 FOR ANY PUBLIC WATER SUPPLY WELLS OR WITHIN 100 FEET FOR ANY PRIVATE SUPPLY WELLS EWERS WILL BE LOCATED AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. A DEVIXATION FROM THE SEPARATION RECOURSEMENTS WILL BE ALLOWED WHERE NECESSARY TO AVOID CONFLICT WITH SUBSURFACE STRUCTURE CONTERNAME. AND ADVIXING FOUNDATIONS, PROVIDED THAT THE SERVER IS CULTUR'CHAMERS, AND BUILDING FOUNDATIONS, PROVIDED THAT THE SERVER IS REQUIREMENTS SPECIFIED IN ENVINO 704.00. WHENEVER SEWERS MUST CROSS WATER MAINS, THE SEWER WILL BE CONSTRUCTED AS FOLLOWS: 5.1. VERTICAL SEPARATION OF THE SEWER AND WATER MAIN WILL BE NOT LESS THAN 18 INCHES, WITH WATER ABOVE SEWER; AND 5.2. SEWER PIPE JOINTS WILL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM THE WATER MAIN. THE WALES WAIN. THE CONTRACTOR WILL PROVIDE A MINIMUM NOTICE OF FOURTEEN (14) DAYS TO ALL CORPORATIONS, COMPANIES ANDIOR LOCAL AUTHORITIES OWNING OR HAVING A JURISDICTION OVER UTILITIES RUNNING TO. THROUGH OR ACROSS PROJECT AREAS PRIOR TO DEMOLITION AND/OR CONSTRUCTION ACTIVITIES. NOT ISSUED THE LOCATION, SIZE, DEPTH AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES WILL BE TO THE STANDARDS AND REQUIREMENTS OF THE RESPECTIVE UTILITY COMPANY (ELECTRIC, TELEPHONE, CABLE TELEVISION, FIRE ALARM, GAS, WATER, AND SEWER). FOR CONSTRUCTION 8. ALL CONSTRUCTION WILL CONFORM TO THE TOWN STANDARDS AND REGULATIONS, UNLESS OTHERWISE SPECIFIED ALL CONSTRUCTION ACTIVITIES WILL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS. RESULATIONS. 9. THE CONTRACTOR IS TO VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITY STUBS PRIOR TO CONSTRUCTION AND DISCONNECT ALL EXISTING SERVICE CONNECTIONS AT THEIR RESPECTIVE MANYS IN ACCORDANCE WITH THE RESPECTIV UTILITY COMPANYS STANDARDS AND SPECIFICATIONS. ENGINEER TO BE NOTIFIED. 10. AS-BUILT PLANS WILL BE SUBMITTED TO DEPARTMENT OF PUBLIC WORKS. 10. A5-BUILT FLANS WILL BE SUBMITTED TO DEPARTMENT OF PUBLIC WORKS.
11. INVERTS AND SHELVES: MANUADES WILL HAVE A BRICK PAVES SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW AT CHANGES IN DIRECTION. THE INVERTS WILL BE LAID OIL IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES WILL BE CONSTRUCTED TO THE ELEVATION OF THE THEORIGH CHANNEL LUNGERLAYMENT OF INVERT, AND SHELF WILL CONSIST OF GRADE SS HARD BRICK MASONRY. ROOSEVELT SCHOOL HOUSING FRAMES AND COVERS: MANHOLE FRAMES AND COVERS WILL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30 INCH DIA, CLEAR OPENING. THE WORD "SEWER" WILL BE CAST INTO THE CENTER OF THE UPPER FACE OF EACH COVER WITH RAISED, 3" LETTERS. 438 WASHINGTON STREET KEENE, NH 03431 LEI TEKS. 13. WILLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H20 LOADS. APPLICANT: MONADNOCK AFFORDABLE HOUSING, CONTRACTOR WILL PLACE 2" WIDE METAL WIRE IMPREGNATED GREEN PLASTIC WARNING TAPE OVER ENTIRE LENGTH OF ALL GRAVITY SEWERS, SERVICES, AND FORCE MAINS. 15. ALL SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN) WILL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS. ORP. AN AFFILIATE OF KEENE HOUSIN 831 COURT STREET KEENE, NH 03431 PLANS. 6. ROPOSED RIM ELEVATIONS OF SANITARY MANHOLES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES. ADJUST ALL OTHER RIM ELEVATIONS OF MANHOLES, WATER GATES, GAS GATES AND OTHER UTILITIES TO FINISH GRADE. OWNER. OWNER: OMMUNITY COLLEGE SYSTEM OF NEW HAMPSHIRE 28 COLLEGE DRIVE 28 COLLEGE DRIVE T. ALL SAINTARY SEWER SERVICE LATERALS, FOR FUTURE RESIDENTIAL CONNECTION, WILL END AT THE LIMITS OF THE R.O.W., AS SHOWN ON PLANS AND WILL BE PROVIDED WITH A TEMPORARY FULL GAND WITNESS AT END.
 18. DIMENSIONS ARE SHOWN TO CENTERLINE OF PIPE OR FITTING. CONCORD, NH 03301 10. BIMEDIANO AND SUPER PROVIDED AND ADDITIONAL OF THE CONTINUES OF THE SUPER PROVIDED ACCORDING TO NHOES STANDARDS OF DESIGN AND CONSTRUCTION FOR SEWAGE AND WASTEWATER TREATMENT FACILITIES, CHAPTER ENV-WQ 700, CONFORMING TO THE FOLLOWING MIN. CRITERIA. ENV-WQ 704.06 GRAVITY SEWER PIPE TESTING: ENV-WQ 704.06 GRAVITY SEWER PIPE TESTING: GRAVITY SEWERS WILL BE TESTED FOR WATER TICHTNESS BY USE OF LOW-PRESSURE AR TESTS CONFORMING WITH ASTIM F1417-92(2005) OR UNHBELL PCD PIPE ASSOCIATION UNH-B4. LINES WILL BE CLEAHED AND VISUALLY INSPECTED USING A LAMP TEST AND BY INTRODUCING WATER TO DETERMINE THAT THERE IS NO STANDING WATER IN THE SEWER AND TRUE TO LINE AND GRADE FOLLOWING INSTALLATION AND PRIOR TO USE. DEFLECTION TESTS WILL TAKE PLACE NOT LESS THAN 30 DAYS NOR MORE THAN 30 DAYS FOLLOWING INSTALLATION. THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 5% PERCENT OF AVERAGE INSIDE DIAMETER. A RIGID BALL OR MNOREL WITH A DIAMETER OF AT LEAST 59% OF THE AVERAGE INSIDE PIPE DIAMETER SHALL BE USED FOR TESTING PIPE DEFLECTION THE DEFLECTION TEST SHALL BE CONDUCTED WITHOUT MECHANICAL PULLING DEVICES. 1 05/08/2023 NO. DATE REVISIONS ENV-WQ 704.09 FORCE MAIN AND PRESSURE SEWER TESTING WILL BE TESTED IN ACCORDANCE WITH SECTION 4 OF AWWA C800-05, AND AT A RESSURE EQUAL TO THE GREATER OF 150 PERCENT OF THE DESIGN OPERATING TOTAL DYNAMIC HEAD OR AT LEAST 100 PSI. ..... GRAPHIC SCALE ENV-WQ 704.17 SEWER MANHOLES: WILL BE TESTED FOR LEAKAGE USING A VACUUM TEST. TESTING WILL BE CONDUCTED PRIOR TO PLACEMENT OF SHELVES AND INVERTS CONDUCTED PHILOR TO PLACEMENT OF SHELVES AND INVENTS SEWERS WILL BE BURIED TO A MINIMUM DEPTH OF A FEET BELOW GRADE IN ALL ROADWAY LOCATIONS, AND TO A MINIMUM DEPTH OF A FEET BELOW GRADE IN ALL CROSS-COUNTRY LOCATIONS, PROVIDE TWO-INCHES OF R-10 FOAM BOARD INSULATION 2-FOOT WIDE TO BE INSTALLED 6-INCHES OVER SEWER PIPE IN AREAS WHERE DEPTH IS NOT ACHIEVED, A NHDES WAIVER IS NEEDED IF THE MINIMUM REQUIRED DEPTH CANNOT BE MET. DATE OBIS PROJECT NO. 100569.000 RAWN BY: HECKED BY 21. SEWER AND WATER INFRASTRUCTURE ON PRIVATE PROPERTY IS TO REMAIN PRIVATE, HOWEVER, THE TOWN RESERVES THE RIGHT TO ENTER THE PROPERTY IN ORDER TO INSPECT, REPAIR AND/OR TERMINATE INDIVIDUAL SEWER OR WATER SERVICES (AT OWNER'S EXPENSE). AD DRAWING FILE 00569.000-C-400-UTILITY.dwg 22. CONTRACTOR WILL SET RINS OF NEW SANITARY SEWER MANHOLES TO EXISTING FINISHED GRADE FOR THE WINTER SEASON. RIMS WILL BE RAISED IN THE SPRING PRIOR TO PLACEMENT OF 1\* BITUMINOUS OVERLAY. SHEET TITLE 23. SERVICE LATERAL LOCATIONS SHOWN ARE APPROXIMATE AND MAY BE ADJUSTED IN THE FIELD BASED ON INPUT FROM TOWN INSPECTOR AND/OR PROJECT CLERK OF THE WORKS. 24\_REFER TO SHEET G-1 FOR GENERAL NOTES AND LEGEND UTILITY PLAN 25. EXISTING WATER AND SEWER LINES MUST BE DISCONTINUED AT THE WATER AND SEWER MAIN. SHEET C-4



- NOTES: 1. THIS PLAN IS NOT INTENDED TO SHOW PERMANENT DRAINAGE DESIGNES AND TO BE USED FOR TEMPORARY EROSION AND SEDMENT CONTROL CNLY. 2. CONTRACTOR TO GRADE ACTIVE EXCAVATION AREAS TO ALLOW MAXIMUM INFLITATION OF STORMWATER AND MININZE RUNOFF FROM DISTURBED AREAS. 3. DISTURBENCES OF AREAS TO BE MININZED. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED FOR LONGER THAN TWO WEEK DURING THE GROWING SEASON. AREAS WHICH WILL NOT BE FERMANENTLY SEEDED WITHIN TWO WEEKS OF DISTURBANCE SHALL BE STABILIZED FOR LONGER THAN TWO WEEK DURING THE GROWING SEASON. AREAS WHICH WILL NOT BE FERMANENTLY SEEDED WITHIN TWO WEEKS OF DISTURBANCE SHALL BE STABILIZED WITH SEEDED AND MULCHED. ALL AREAS SHALL BE STABILIZED WITH SEEDED AND MULCHED. AND FRIOR TO THE END OF THE GROWING SEASON. FOR FURTHEN INFORMATION ON BEST MANAGEMENT PRACTICES SEE COMPLETE PLAN SET AND STORMWATER POLLUTION PREVENTION PLAN SUMPHY POR THIS PROLECT PREARED BY NOBIS ENGINEENING, INC., (DATE).
- PREVENTION FLAN (SWI-PP) FLAN THIS PROJECT PREPARED BY NOBIS EXPONEERING, NO. (CATE). 5. USE TEMPORAPY EROSION AND BEDIMENT CONTROL PRODUCTS THETTING MANDRACTURES (CATE) NOTAFLASTIC MATERIALS SUCH AS JUTE. SIGAL, OR CORFIDER. NON-FLASTIC MATERIALS SUCH AS JUTE. SIGAL, OR CORFIDER. OX-DEGRADABLE, PHOTOBOGRADABLE, UV-DEGRADABLE, OX-DEGRADABLE, OR OXO-BIODEGRADABLE, UV-DEGRADABLE, OX-DEGRADABLE, OR OXO-BIODEGRADABLE, UV-DEGRADABLE, OX-DEGRADABLE, OR OXO-BIODEGRADABLE, UV-DEGRADABLE, AND POLYESTEN) ARE NOT EQUIVALENT ALTERNATIVES. NETTING VICULES AND POLYPROPYLEE. NYCLON-POLYETHYLEE, AND POLYESTEN) ARE NOT EQUIVALENT ALTERNATIVES. NETTING VICULES ARE DOSION UVTH MOVABLE JOINTS BETWEENEN THE HORIZONTAL AND VERTICAL TWINES, ALLOWING THE TWINES TO MOVE INDEPENDENTLY AND THUS REDUCING THE FORENTIAL FOR WILDLIFE ENTANCIEMENT. 1. AVIGID THE USE OF SILT FENCES REINFORCED WITH METAL OR PLASTIC MESH OR IF POSSIBLE RECOMMEND THE USE OF EROSION CONTROL BERNS. 3. WHEN NO LONGER REQUIRED. TIMPORARY EROSION AND SEDIMENT CONTROL REMS.

- I USE NOWWOVEN COIR FABRIC WHEN & SURFACE FABRIC TREATMENT IS REQUIRED FOR EROSION CONTROL AND STABILIZATION, SUCH AS 10% BIDDEGRADABLE COCONUT FIBER MAT OR EQUAL AS REVIEWED AND APPROVED BY THE PROJECT DESIGN ENGINEER.
- DESIGN ENGINEER. 9. USE WOYEN COIR FABRIC WHEN SITE CONDITIONS WARRANT. THE OUTER LAYER OF WOYEN COIR FABRIC SHOLLD BE A HIGH STRENGTH, CONTINUOUSLY WOYEN ANT (I.e., WITHOUT SEAMS) AND MADE OF 100% COCONUT FIBER. 10. REFER TO GENERAL NOTES AND EGEND SHEET FOR ADDITIONAL EROSION CONTROL NOTES AND CONSTRUCTION SEQUENCE.





Nobis Group® 18 Chenel Drive Concord, NH 03301 T(603) 224-4182 www.nobis-group.com
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NOT ISSUED FOR CONSTRUCTION
HOUSING
438 WASHINGTON STREET KEENE, NH 03431
APPLICANT: MONADNOCK AFFORDABLE HOUSING, CORP, AN AFFILIATE OF KEENE HOUSING 831 COURT STREET KEENE, NH 03431
OWNER: COMMUNITY COLLEGE SYSTEM OF NEW HAMPSHIRE 28 COLLEGE ORIVE CONCORD, NH 03301
COMMENTS
NO. DATE DESCRIPTION REVISIONS
SCALE: AS NOTED
DATE: APRIL 12, 2023 NOBIS PROJECT NO. 100569.000
DRAWN BY: EAL/MGD CHECKED BY: JCN
CAD DRAWING FILE: 100569.000-C-700-DETAILS dwg
SHEET TITLE
CONSTRUCTION DETAILS
sheet C-6





1. DETECTABLE WARNING SURFACES SHALL BE CAST IRON WITHIN THE CITY R.O.W.

2. CONCRETE ADJACENT TO ALL DETECTABLE WARNINGS SHALL HAVE A BROOM FINISH. 3. THE COLOR OF THE DETECTABLE WARNING SHALL PROVIDE A VISUAL CONTRAST TO THE SURROUNDING SURFACE AND SHALL BE AS SPECIFIED ON THE PLANS.

4. WHERE A RAMP OR LEVEL LANDING MEETS A CURB RADIUS, ALIGN THE EDGE OF THE DETECTABLE WARNING AREA PARALLEL TO THE CURB TO THE MAXIMUM EXTENT FEASIBLE.

DETECTABLE WARNING DETAILS

NOT TO SCALE



MUTCD SPECIFICATION MOUNTING HEIGHT

30"

18"

6"

18"

30"

12"

30"

NOTE: 1. MOUNTING HEIGHT IS THE CLEARANCE OF THE BOTTOM OF THE SIGN TO THE NEAREST EDGE OF PAVEMENT.

3. ALL SIGNS SHALL BE FABRICATED OF DIAMOND GRADE SHEETING.

SIGN SUMMARY

NOT TO SCALE

2. ALL SIGN POSTS SHALL BE 2.5#/FT. U-CHANNEL POSTS, PAINTED GREEN AND CONFORM TO NHOT SPECIFICATION 615.2.5.3.

7'-0

7'-0'

7'-0"

7'-0"

30"

12"

12"

12"

30"

36″

24"

R1-1

R7-8

R7-8A

R8-3A

R5-1

R6-1(R)(L)

R6-2(R)(L)

NOTES:

SIGN

STOP

ENTER

EC 4.200





0.65" MIN BASE TO BASE SPACING



-STREET SETBACK: 24" IS THE MINIMUM DISTANCE BETWEEN THE STREET AND THE RACK. 36" IS RECOMMENDED.

PROVIDE BICYCLE RACKS MANUFACTURED BY DERO BIKE RACK CO., 504 MALCOLM AVENUE SE, SUITE 100, MINNEAPOLIS, MN 55414, 1-888-337-6729, FAX: 612-331-2731 WEBSITE: WWW.DERO.COM

BIKE RACK

NOT TO SCALE

















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NOT ISSUED FOR CONSTRUCTION	1		DOWN DOWN No. GRAN No. GRAN DOWN No. GRAN DOWN DOWN DOWN DOWN DOWN DOWN DOWN DOW
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HOUSING 438 WASHINGTON STREET KEENE, NH 03431 APPLICANT: MONADNOCK AFFORDABLE HOUSING, CORP, AN AFFILIATE OF KEENE HOUSING CORP, AN AFFILIATE OF KEENE HOUSING CORP, AN AFFILIATE OF KEENE HOUSING COMMUNITY COLLEGE SYSTEM OF NEW HAMPSHIRE 28 COLLEGE DRIVE CONCORD, NH 03301 OWNER: COMMUNITY COLLEGE SYSTEM OF NEW HAMPSHIRE 28 COLLEGE DRIVE CONCORD, NH 03301 COMMUNITY COLLEGE SYSTEM OF NEW HAMPSHIRE 28 COLLEGE DRIVE CONCORD, NH 03301 COMMUNITY COLLEGE SYSTEM OF NEW HAMPSHIRE 28 COLLEGE DRIVE CONCORD, NH 03301 COMMUNITY COLLEGE DRIVE CONCORD, NH 03301 COMMUNITY COLLEGE DRIVE CONCORD, NH 03301 COMMENTS NO. DATE DESCRIPTION REVISIONS SCALE: AS NOTED DATE: APRIL 12, 2023 NOBIS PROJECT NO. 100569.000 DRAWN BY: EALMGD CHECKED BY: JCN CAD DRAWING FILE: 100569.000-C-700-DETAILS.dwg SHEET TITLE CONSTRUCTION DETAILS SHEET C-7	RO	OSEVE	ELT SCHOOL
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### MC-3500 STORMTECH CHAMBER SPECIFICATIONS

#### CHAMBERS SHALL BE STORMTECH MC-3500.

- 2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- 3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS. THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE ASAFTOL REP BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE ASAFTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: ) INSTANTANEOUS (<) MINJ AASITO DESIGN TRUCINE LOAD COM IMIMUM OVER 2) MAXIMUM PERMANENT ((75-NF) COVER LOAD AND 3 ALLOWABLE COVER WITH PARKED (+WEEK) AASITO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION: TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS. TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 37: TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, B) THE ARCH STIFFNESS CONSTANT SHALL BE GRAFTER THAN OR EQUAL TO 460 LESIFTY. THE ASC IS DEFINED IN SECTION 62.8 OF ASTIM F218. AND J1 TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73' F / 23' C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OW FLOW FOLCH CALL
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER NANUPACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DEUVERING CHAMBERS TO THE PROLECT SITE AS FOLLOWS: THE STRUCTURAL EVALUATION SHALL BE BEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE STRUCTURAL EVALUATION SHALL BE BEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE STRUCTURAL EVALUATION SHALL DE MONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 195 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE IMMIMUM REQUIRED BY ASTIM F2/87 AND BY SECTIONS 3 AND 1.21 OF THE ASHTO LIFFD BRIDGE DESIGN SPECIFICATIONS FOR UNAS THE STRUCTURE STRUCTURES. THE TSTUCHENE DESIGN SPECIFICATIONS FOR UNAS THE STRUCTURE SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75 YEAR MODILIED USED FOR DESIGN.

- 9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY

### IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

- STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- 2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE"
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORNITECH RECOMMENDS 3 BACKFILL METHODS: STONESHOTER LOCATED OF THE CHAMBER BED. BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE. BACKFILL FORM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.

- 4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- 5 IOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE
- 6 MAINTAIN MINIMUM 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS
- 7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
- 8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
- 9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
- 10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- 11. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

#### NOTES FOR CONSTRUCTION EQUIPMENT

- 1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED: NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS. NO ROBBER TREE LOADER JUMP TRUCK, OR EXCANATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WTH THE "STORMTECH MC-3500/AC4300 CONSTRUCTION GUIDE". WEIGHT UMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- 3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.
- USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANY"

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT

#### **INSPECTION & MAINTENANCE**

- TEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT A. INSPECTION PORTS (IF PRESENT) A. REMOVEGORE LO ON NYLOFAST INLINE DRAIN A.2. REMOVE AND CLEAN FLEXISTORM FILTER IN INSTALLED A.2. REMOVE AND CLEAN FLEXISTORM FILTER IN INSTALLED A.4. LOWERA CAMBER INTO ISOLATOR ROW FILLS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL) A.5. IF SEDIMENT IS AT OR ABOVE, 3' (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3. B. ALLI SOLATOR FILLS ROWS

  - B. ALISOLATOR PLUS ROWS
     B. REINOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
     B. REINOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
     IN MIRROS ON POLES OF CAMERAS MAY BUSED TO AVOID A CONTINED SPACE ENTRY
     I) FORLIOW OSHA REGULATIONS FOR CONFIRED SPACE ENTRY IF ENTERING MANHOLE
     B. IF SEDIMENT IS AT, OR ARBUCK 2: 100 min PMOCEED TO STEP 2: IF NOT, FROCEED TO STEP 2:
- STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS A. A FIXED CULVERT CLEANING NOZZLE WITH HEAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN C. VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, EILTERS, AND LIDS: RECORD OBSERVATIONS AND ACTIONS
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

### NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER FI EVATIONS
- 2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY



INSERTA TEE DETAIL

SECTION A-A	(CENTERED ON INSERTA-TEE INLET) OVER BEDDING STONE FOR SCOUR PROTECTION AT
CHAMBER	SIDE INLET CONNECTIONS. GEOTEXTILE MUST EXTEND 6* (150 mm) PAST CHAMBER FOOT

	BEDDING STONE FOR SCOUR PROTECTION AT			
	SIDE INLET CONNECTIONS. GEOTEXTILE MUST EXTEND 6" (150 mm) PAST CHAMBER FOOT	CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
		SC-310	6* (150 mm)	4" (100 mm)
		SC-740	10" (250 mm)	4" (100 mm)
		DC-780	10" (250 mm)	4" (100 mm)
NO	TES: DADT NUMPERS WILL VARY RASED ON MUST DIDE	MC-3500	12" (300 mm)	6" (150 mm)
•	MATERIALS. CONTACT STORMTECH FOR MORE	MC-4500	12" (300 mm)	8" (200 mm)
	INFORMATION.	MC-7200	12" (300 mm)	8" (200 mm)
•	CONTACT ADS ENGINEERING SERVICES IF INSERTA TEE INLET MUST BE RAISED AS NOT ALL INVERTS ARE POSSIBLE.	INSERTA TEE FITTIN GASKETED & SOLVENT	GS AVAILABLE FOR SDR 2 WELD, N-12, HP STORM, 0	6, SDR 35, SCH 40 IPS C-900 OR DUCTILE IRON



SIDE VIEW



MC-3500 6" (150 mm) INSPECTION PORT DETAIL





NOTES: EXPLOSE TO BE DETERMINED BY SITE DESIGN ENGINEER, SEE TECH NOTE #3.22 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO GUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY ADDITIONAL PIPE TO STANDARD MANIFOLD DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY ADDITIONAL PIPE TO STANDARD MANIFOLD THIS DESIGN EXPLOSIBLE FOR THIS DESIGN ENDINES. THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENDINEER IS RESPONSIBLE FOR THE DUBLICATION OF THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENDINEER IS RESPONSIBLE FOR THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENDINEER IS RESPONSIBLE FOR THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THIS INFORMATION IS DUE TO THE DUBLICATION OF THIS INFORMATION ON SOIL CONDITIONS OR DEALTHOUT SITE SPECIFIC INFORMATION IS DUE TO THE DUBLICATION OF THIS DESIGNED WITHOUT SITE SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARD INFORMATION ON SOIL CONTINUES ON DESIGNED WITHOUT SITE SPECIFIC INFORMATION ON SOIL CONDITIONS ON DEALTH SITE DESIGN OF THIS INFORMATION IS DUE TO THE DUBLICATION OF THIS DESIGNED WITHOUT SITE SPECIFIC INFORMATION ON SOIL CONDITIONS ON DEALTH SITE DESIGN OF THIS INFORMATION IS DUBLICATION OF THIS DESIGNED WITHOUT SITE SPECIFIC INFORMATION ON DEALTH SITE DUBLICATION ON DEALTH SITE DUBLICATION OF THIS INFORMATION ON DEALTH SITE DUBLICATION OF THIS INFORMATION ON DEALTH SITE DUBLICATION ON DEALTH SITE DUBLICATION OF THIS INFORMATION ON DEALTH SITE DUBLICATION OF THIS INFORMATION ON DEALTH SITE DUBLICATION OF THIS DUBLICAT TY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS VIDED. NOT FOR CONSTRUCTION: THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

	PROPOSED LAYOUT	PROPOSED ELEVATIONS		PART TYPE	ITEM ON	DESCRIPTION
36	STORMTECH MC-3500 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	511.5			24" BOTTOM CORED END CAP, PART#: MC3500IEPP24BC / TYP OF
8	STORMTECH MC-3500 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	505.5	PREFABRICATED END CAP	A	CONNECTIONS AND ISOLATOR PLUS ROWS
12	STONE ABOVE (in)	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	505.0	PREFABRICATED END CAP	B	12" TOP CORED END CAP, PART#: MC3500IEPP12T / TYP OF ALL 12
9	STONE BELOW (in)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	505.0	PREFABRICATED END CAP	C	12" BOTTOM CORED END CAP, PART#: MC3500IEPP12B / TYP OF A
40	STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	505.0	FLAMP	D	INSTALL FLAMP ON 24" ACCESS PIPE / PART#: MCFLAMP
	INSTALLED SYSTEM VOLUME (CF)	TOP OF STONE:	504.0	MANIFOLD	F	12" x 12" TOP MANIFOLD, ADS N-12
7438	(PERIMETER STONE INCLUDED)	TOP OF MC-3500 CHAMBER:	503.5	MANIFOLD	F	12" x 12" BOTTOM MANIFOLD, ADS N-12
	(COVER STONE INCLUDED)	12" X 12" TOP MANIFOLD INVERT:	501.95	INSERTA TEE	G	6" DIAMETER
0000	(DASE STONE INCLUDED)		500.25	CONCRETE STRUCTURE	H	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)
2209	STOTEM AREA (SI)	24 ISOLATOR ROW PLUS INVERT:	433.32	CONCRETE STRUCTURE	1	OCS (DESIGN BY ENGINEER / PROVIDED BY OTHERS)
213.9	STOTEM PERIMETER (ii)	BOTTOM OF MC-3300 CHAMBER.	499.75	INSPECTION PORT	J	6" SEE DETAIL





RESPONSE TO CITY 1 05/08/2023 
 Image: Marcology
 Comments

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 DATE
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 REVISIONS

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Nobis Group®

18 Chenell Drive Concord, NH 03301 T(603) 224-4182

www.nobis-group.com

5/8/2023

NOT ISSUED FOR CONSTRUCTION

ROOSEVELT SCHOOL

HOUSING

438 WASHINGTON STREET KEENE, NH 03431

APPLICANT MONADNOCK AFFORDABLE HOUSING

ORP. AN AFFILIATE OF KEENE HOUSIN 831 COURT STREET

KEENE, NH 03431

OWNER

COMMUNITY COLLEGE SYSTEM OF NEW HAMPSHIRE 28 COLLEGE DRIVE CONCORD, NH 03301

NDS

SCALE: AS NOTED

DATE: APRIL 12, 2023 NOBIS PROJECT NO. 100569.000 RAWN BY: EAL/MGD CHECKED BY JCN CAD DRAWING FILE 100569.000-C-700-DETAILS.dwg

SHEET TITLE

CONSTRUCTION DETAILS

# SHEET C-10





MC-3500 TECHNICAL SPECIFICATION

## STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B" STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T" END CAPS WITH A WELDED CROWN PLATE END WITH "C"

PART #	STUB	B	С	
MC3500IEPP06T	6" (160 mm)	33.21" (844 mm)		
MC3500IEPP06B	6 (150 mm)		0.66" (17 mm)	
MC3500IEPP08T	07 (000)	31.16" (791 mm)		
MC3500IEPP08B	6 (200 mm)		0.81" (21 mm	
MC3500IEPP10T	407 (050)	29.04" (738 mm)		
MC3500IEPP10B	10 (250 mm)		0.93" (24 mm)	
MC3500IEPP12T	12" (200 mm)	26.36" (670 mm)		
MC3500IEPP12B	12 (300 mm)		1.35" (34 mm)	
MC3500IEPP15T	457 (275)	23.39" (594 mm)		
MC3500IEPP15B	15 (3/5 mm)		1.50* (38 mm)	
MC3500IEPP18TC		20.02" (600 mm)		
MC3500IEPP18TW	19" (4E0 mm)	20.03 (309 mm)	1.77* (45 mm)	
MC3500IEPP18BC	10 (450 mm)			
MC3500IEPP18BW		-		
MC3500IEPP24TC		44.405 (200)		
MC3500IEPP24TW	0.47 (000)	14.46 (306 mm)		
MC3500IEPP24BC	24 (000 mm)		2.06* (52.mm)	
MC3500IEPP24BW		-	2.00 (52 mm)	
MC3500IEPP30BC	30" (750 mm)		2.75* (70 mm)	





NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.



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5/8/2023

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FOR

CONSTRUCTION

ROOSEVELT SCHOOL

HOUSING

438 WASHINGTON STREET

KEENE, NH 03431

APPLICANT: MONADNOCK AFFORDABLE HOUSING, CORP, AN AFFILIATE OF KEENE HOUSING

831 COURT STREET KEENE, NH 03431

OWNER COMMUNITY COLLEGE SYSTEM OF NEW HAMPSHIRE 28 COLLEGE DRIVE CONCORD, NH 03301

 Image: Dot / 05/08/2023
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REVISIONS

SCALE:

AS NOTED

NOBIS PROJECT NO. 100569.000

DATE

RAWN BY:

CHECKED BY

SHEET TITLE

CAD DRAWING FILE: 100569.000-C-700-DETAILS.dwg

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APRIL 12, 2023

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JCN

CONSTRUCTION

DETAILS

SHEET C-11





	Nobis Group® 18 Chenell Drive Concord, NH Di33011 T(603) 224-4182 www.nobis-group.com					
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ROC 438 MONAA CORP, /	DSEVELT SCHOOL HOUSING WASHINGTON STREET KEENE, NH 03431 APPLICANT: DNOCK AFFORDABLE HOUSING, NA AFFILIATE OF KEENE HOUSING 831 COURT STREET KEENE, NH 03431 OWNER: UNITY COLLEGE SYSTEM OF NEW HAMPSHIRE 288 COLLEGE DRIVE CONCORD, NH 03301					
<u>∧</u> ( NO.	05/08/2023 RESPONSE TO CITY COMMENTS DATE DESCRIPTION REVISIONS					
0	30' 60' GRAPHIC SCALE					
DATE: APRIL 12, 2023 NOBIS PROJECT NO. 100569.000 DRAWN BY: EAL/MGD CHECKED BY: JCN CAD DRAWING FILE: 100569.000-C-600-LIGHT.dwg SHEET TITLE LIGHT PLAN						
	SHEET L-1					

Designer Heidi G. Connors Visible Light, Inc. 24 Stickney Terrace Suite 6 Hampton, NH 0384; Date 5/10/2023 Scale 1°=20' Drawing No. Summary

р	Filename	Lumens per		Wattage	Distribut
	DSX0_LED_P2 _30K_80CRI_B LC3.ies	Lamp 3916	0.9	45.14	TYPE III, SHORT, BUG RATING: B0 - U0 - G2
	DSX0_LED_P2 _30K_80CRI_T FTM.ies	5501	0.9	45.14	TYPE IV, SHORT, BUG RATING: B1 - U0 - G3
	DSX0_LED_P2 _30K_80CRI_T 5M.ies	5621	0.9	45.14	TYPE VS, BUG RATING: B3 - U0 - G1
	WDGE1_LED_P 2_30K_80CRI_ VW.ies	1876	0.9	15.0178	TYPE II, VERY SHORT, BUG RATING: B1 - U0 - G0
	WDGE1_LED_P 2_30K_80CRI_ VF.ies	1872	0.9	15.0178	TYPE II, VERY SHORT, BUG RATING: B1 - U0 - G0
	WDGE2_LED_P 4_30K_80CRI_ T2M.ies	4063	0.9	46.6589	TYPE III, MEDIUM, BUG RATING: B1 - U0 - G1
	WDGE2_LED_P 4_30K_80CRI_ TFTM.ies	4002	0.9	46.6589	TYPE IV, SHORT, BUG RATING: B1 - U0 -

x	Min	Max/Min	Avg/Min
fc	0.2 fc	36.5:1	9.5:1
fc	0.0 fc	N/A	N/A
fc	0.2 fc	27.0:1	6.0:1



	F	
		ACCOUNT OF THE ACTION OF THE A
PROJECT ITTLE / ADDRESS: ROOSEVELT SCHOOL HOUSING PHASE 2 438 WASHINGTON STREET KEENE, NH 03431 SCALE: AS NOTED DWN BY: CB JOB 5: 389 CH: BY: JH PRIVIDATE: 592024 43100 PM ISSUE DATE: NOT FOR CONSTRUCTION REVISION DATE: 05 0224 43100 PM ISSUE DATE: NOT FOR CONSTRUCTION REVISION DATE: COMMENTS 1 Date 1 Revision 1 Date 1 R		PLANKEY.
		PROJECT ITILE / ADDRESS: ROOSEVELT SCHOOL HOUSING PHASE 2 438 WASHINGTON STREET KEENE, NH 03431
ARCHITECTS INC. WITH THE SOLE INTENT TO BUILD THE PROJECT TITLED ABOVE AT ONE LOCATION NOTED HEREIN. THE USE OF THE CONTENT FOR ANY OTHER PRIAPOSE IN		SCALE AS NOTED DWN BY: CB JOB #: 3899 CIK BY: JH PRINT DATE: 582023 43156 PM ISSUE DATE: NOT FOR CONSTRUCTION RYSON DATE: COMBENTS 1 Date 1 Revision 1 LANDSCAPE PLAN LANDSCAPE PLAN SHET NUMBER: 1 OF 8 ARCH 822/RUFL105 DRIED AND SCAPE PLAN
F Copyright Warnensteel Architects Inc. 0 1990-2017	F	SHEET NUMBER: 1 OF 6 ARCH 2018 A 10 F 5 ARCH 2018 A

Photo	Туре	Sym	Qty	Common Name	Botanical Name	Hardiness	Habit o	of Growth	Sun	Drought Tolerant	Native	Toxicity	Installed	Туре	Use	Description & Notes (Height, Exposure, Bloom, Color)
							Height	Spread	LARG	E SHA		FES				
	IOUDIIS GE TREE	EAR	1	EASTERN REDBUD	CERCIS CANADENSIS	4-9	15'-30'	15'-25'	FULL SUN TO	YES	YES	3	4"+ CAL - 14' HGT	B&B	Ornamental Tree	Rosy pink flowers appear in April. Reddish-purple leaves change to dark green, the spreading, graceful crown. Full sun or light shade. Partial shade preferred in windy,
									PARTIAL				MIN			of the Eastern Redbud can be contained in small spaces, and are not large and inva is a good choice for a flowering tree in parking lots, along streets, and near sidewa
	iduquis Ge tree	AMH	8	AMERICAN HORNBEAM	CARPINUS CAROLINIANA VAR. FOREST PANSY	3-9	25'-50'	15'-25'	FULL SUN TO PARTIAL SHADE	NO	YES	4	4"+ CAL - 14' HGT MIN	B&B	Ornamental Tree	Rosy pink flowers appear in April. Reddish-purple leaves change to dark green, the spreading, graceful crown. Full sun or light shade. Partial shade preferred in windy
LAR	IQUQUS GE TRES	SUM	14	SUGAR MAPLE	ACER SACCHARUM VAR.TEMPLE UPRIGHT OR LEGACY MONUMENTALE	4-8	25'-50'	15'-25'	FULL SUN TO PARTIAL SHADE	YES	YES	3	4"+ CAL - 14' HGT MIN	B&B	Shade Tree	Sugar maple trees are well-known for the liquid gold that resides insiste them: sug- hingh in sugar context, which means not smuch of it is needed in order to create m that, sugar maple trees add a dose of stunning beauty to any landscape, enlivening they change to a vibrant orange-red come fall.
	IDUDUS GETTIES	REMB	5	RED MAPLE	ACER RUBRUM VAR. BRANDYWINE	3-9	40'-60'	25'-35'	FULL SUN TO PARTIAL SHADE	YES	YES	1	4"+ CAL - 14' HGT MIN	B&B	Shade Tree	<sup>1</sup> Brandywine' has a brilliant red-purple autumn color. It produces only male flowers fruits or nuisance seedlings. It has a significant level of tolerance to potato leafhopp commercially available red maple cultivars.
	ENT ENT WEITING AL THEE	FLD	1	FLOWERING DOGWOOD	CORNUS FLORIDA	5-9	20'-40'	15'-25'	FULL SUN TO PARTIAL SHADE	YES	YES	1	3 1/2" CAL 10-12 FT HGT	B&B	Ornamental Tree	An excellent landscape choice for all four seasons, the white dogwood is a favorite gardens. White "flowers" show their beauty in spring, foliage turns a vibrant red-pu glossy red fruits attract winter songbirds for the enjoyment of all. This tree is a grea near utility lines. next to larger buildings, or near patios.
Ject LAR	IDUOUS GE TREE	BLG	1	BLACK GUM	NYSSA SYLVATICA VAR. RED RAGE	4-9	30'-60'	20'-30'	FULL SUN TO PARTIAL SHADE	YES	YES	2	4"+ CAL - 14' HGT MIN	B&B	Shade Tree	Black gum (Nyssa sylvatica), or black tupelo, is a medium to large growing deciduou zones 4 to 9. Few trees are able to compete with black gum in regard to summer an September; its dark green foliage gives way to intense red fall color with hues of or purple, which makes it a wonderful selection for home landscapes.
Dec.	IDUDUS GE TREE	AMB	2	AMERICAN HOPHORNBEAM	OSTRYA VIRGINIANA	3-9	30'-40'	25'-30'	FULL SUN TO PARTIAL SHADE	YES	YES	4	4"+ CAL - 14' HGT MIN	B&B	Shade Tree	American hophornbeam is a small understory tree of well-drained, deciduous thrives on neglect. It is the upland equivalent to hombeam (Carpinus carolini American hophornbeam's fail color is not sensational, it helps to "soften" the landscape.
DEC.	IDUDUS GE THEE	GGS	1	GINKGO 'GOLDSPIRE'	GINKGO BILOBA 'GOLDSPIRE'	4-9	12'-16'	5'-6'	FULL SUN TO PARTIAL SHADE	YES	YES	1	3 1/2 CAL	B&B	NA	Far more dense and narrowky pyramidal than most, Ginkajo Goldspire <sup>144</sup> , a F selection, is a highly ornamental, non-fruiting (male). Tolerant of air pollution environmental stresses, it stands out brilliantly in the small garden or as a st
	_		-			SM	ALL F	LOW	ERING	TREES	- SHR	UBS A	AND BL	ISHE	S	
	NUOVE WERKG	CIC	10	CINNAMON CLETHRA	CLETHRA ACUMINATA	5-7	10'-20'	6'-10'	FULL SUN TO FULL	YES	YES	4	7 GAL	CTN	NA	This small deciduous tree or multi-stemmed shrub is suitable as an understory plant woodlands. Cinnamon clethra will grow 6-12' tall and with age its outer bark exfolia cinnamon colored inner bark.
EVE FLO SMA	RGREEN WERING LL BUSH	SUS	19	SUMMERSWEET	CLETHRA ALNIFOLIA VAR. HUMMINGBIRD	4-9	6'-8'	8'-10'	FULL SUN TO PARTIAL	YES	YES	4	5 GAL	CTN	NA	A wide variety of butterfiles and songbirds are attracted to summersweet clethra fo seed. Native to the eastern United States, it provides exceptional four seaon inter- grean leaves in the spring, spay what or print fragmant summer Towers, golden yell
Cow Shr	/ GROWING VB	SWF	4	SWEET FERN	COMPTONIA PEREGGRINA	2-6	24"	24"	SHADE FULL SUN TO PARTIAL	YES	YES	0	5 GAL	CTN	NA	ann meretsting, genicate orned seed capsules in winter. Easily grown in average, medium, well-drained soil in full sun to part shade. Adaptat Itolerates wet conditions and wind including sheltered seashore areas), drought an solis (prefers sandy, acids (coam, but tolerate; poor soils). Does not transplant well
	iduonis Weaung Ue	DFO	4	DWARF FOTHERGILLA	FOTHERGILLASPP VAR. MOUNT AIRY BLUE	5-9	5'-6'	5'-6'	SHADE FULL SUN TO PARTIAL	NO	VES	0	7 GAL	CTN	NA	however, it can spread rapidly to form colonies. A decidious should be applied to the spread bases that have spectracillar range of fall scentral, bottleval-like, white Bowers appear before folgage emerges in spring. A the landscape in semi-shaded mixed shrub borders, or as a background shrub, or he
A DER		СМН	2	COMMON WITCH HAZEL	HAMAMELIS VIRGINIANA	3-9	15'-20'	15'-25'	SHADE FULL SUN TO PARTIAL	YES	YES	4	5 GAL	CTN	NA	Common witch-bazel is a large shrub with a picturesque irregular branching habit th along woodland edges. The large, rounded, dark green leaves often hang onto the v vellow strap-like flowers of this native shrub are among the last blooms to appear i
and the second s	пароне мелика Че	BHN	5	WEIGELA SHRUB	WEIGELA FLORIDA sonic bloom pink	4-8	4'-5'	4'-5'	SHADE FULL SUN	YES	YES	1	5 GAL	CTN	NA	hidden by the leaves. Get the strongest rebicoming weigela on the market today with Sonic Bloom® Pink w fonda). Weigela is an undernanding disciduous shrub that is easy to grow. Recent bn us this colortul selection featuring a florfic display of showy 11/2" tunnel-shaped bloc. Sonic Bloom® Pink forms clusters or hot pink both that open to pink lute spring.
	MarcelM	BJC	15	BLUE CHIP JUNIPER	JUNIPERUS HORIZONTALIS 'BLUE CHIP'	3-9	12"	4-6'	FULL SUN TO PARTIAL	YES	YES	3	5GAL	CTN	NA	A superior low evergreen shrub that displays beautiful silver-blue foliage on in habit. The deer resistant foliage retains its rich color all year long. A durable, for edging driveways. Plant on slopes or along retaining walls for erosion co
	NGREUN	DJC	140	Dwarf Creeping Juniper	Juniperus procumberis 'Nana'	4-9	6-12"	4-6'	FULL SUN TO PARTIAL	YES	YES	3	5 GAL	CTN	NA	Dwarf creeping juniper forms a compact mat of bluish green foliage with a fe fine-needled branches grow over each other, and vary in length. The scales purple tinge in winter. It is a very pretty spreading juniper.
EVER SMA	RGREEN WERING LL BUSH	LOB	27	LOWBUSH BLUEBERRY	VACCINIUM ANGUSTIFOLDIUM	2-7	2'-3'	18"-24"	FULL SUN IO PARTIAL	NO	YES	0	7 GAL	CTN	NA	Wild lowbush blueberries have always called New Hampshire home. These entixulant-packed fulls are common in attendured fields, in succession for mountaintops, and along roadsides. They grow best in well-drained, gravely surface layer of organic "duff" and a pH of 4.0 to 5.0. They work I thrive unde
Dec Flo Shi	ciduous wering rubs	NFS	8	Neon Spirea	Spirea Japonica 'Neon Flash'	4-9	3-4'	3-4'	Full Sun	YES	YES	NO	5 Gal	CTN	NA	that offers dense shade. Bright neon red flowers appear over a long period and are offset by a neat m foliage that becomes dark burgundy in fail. Creates a colorful low hedge or n Deciduous.
								PERE	NNIALS	S AND	ANNU	AL CO	LOR			
	ASONAL LOR	нүо	90	HYACINTHS (40) bulb count	HYACINTHUS ORIENTALIS	3-9	6-10"	6"	FULL SUN	YES	NO	4	1 YR POTTED	2 qt.	-	proxume The Prinks is a selection of Hyacrith bulbs in every shade of pink, wh mass plantings, containers, parks and gardens. Hyacriths bloom for an exte time and combine very well with early flowering tulips. Their length is about 1 they flower mid Spring.
Pe	RRENIAL	HCL	18	HIDECOAT LAVENDER	LAVENDULA ANGUSTFOLIA	5-9	18-24"	18-24"	FULL SUN TO PARTIAL SHADE	YES	YES	4	1 YR POTTED	1 gal.	-	Priotoce's a compact English Lavender that grows only 18-24 inches tall. fragrant, deep purple-blue flowers. Excellent for both fresh and dried bou lavender attracts bees and butterflies but repls deer and rabbits. Perfec and drought tolerant once established.
SE/ CO	ASONAL	EPS	90	PURPLE CORNFLOWER	Echinacea purpurea 'Bright Star'	3-8	24-48"	12-18"	FULL SUN - PARTIAL SHADE	YES	YES	3	1 YR POTTED	2 qt.	-	Echnacea purpurea, commonly called purple coneflower, is a coarse, rough perennial that is native to moist parkins, meadwars and open woods of the co southeastern United States Easily grown in average, dry to medium, well- su to part shade. Best in full sun. An adaptable plant that is tolerant of drou and poor soil. Divide clumps when they become overcrowded (about every and poor soil.
PE	RENNIAL	HFS	60	Daylily	Hemerocallis flava - 'Stella De Oro Dwarf'	4-11	36"	18"	Full-Partial Sun	YES	NO	1	1 YR POTTED	2 qt.	-	Isensational, award-winning selection that blooms with heavy clusters of 2-17.1 blooms. Rebiomos freely into eavy fall. This eavy to care for plant forms neat Herbaceous. S/PSh, June/July, Lemon Yellow - Planted in front of southern
	ed Lawns	SFL	NA	Seeded Ornamental Fine Lawn Mix	(Kentucky Bluegrass and Creeping Red Fescue Blend) 11b/1000sf @ \$19/Ib	3-9	8"	NA	Full to Partial Shade	GRAS	SES YES	0	SEED MIX	-	-	Lofts Seed Company or approved equal. Species: 70% tall fescue - Festuc. 30% creeping red rescue - festuca rubra. Fine Grade, fertilize, seed and Hy Rate: 5 lav1.000 sf add 10% if hydroseed. Seed Dates April 15 - June 30 a October 15 unies approved otherwise.
THERE A	ndow.	NGS	NA	Native Grass Seed Mix by American Meadows	SKU# AM016056 1lb/1500sf @ \$34/lb	3-7	24"	NA	Full Sun	YES	YES	0	SEED MIX	•	-	This mixture is made up of warm and cool-season grasses that are native to will be a hardy. long-testing solution to any area. Fine Grade, fertilize, seed Seed Rate: 25 libet 100 sf add 10% if hydroseed. Seed Dates April 15 - Ju 15 - October 15 unless approved otherwise.
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## **D-Series Size 0** LED Area Luminaire



d"series

### **Specifications**



Catalog Number

Notes

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## Introduction

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications, with typical energy savings of 70% and expected service life of over 100,000 hours.

Order	Ordering Information         EXAMPLE: DSX0 LED P6 40K 70CRI T3M MVOLT SPA NLTAIR2 PIRHN DDBXD								
DSX0 LED									
Series	LEDs	Color temperature <sup>2</sup>	Color Rendering Index <sup>2</sup>	Distribution		Voltage	Mounti	ng	
DSX0 LED	Forward optics           P1         P5           P2         P6           P3         P7           P4         Rotated optics           P10 <sup>1</sup> P12 <sup>1</sup> P11 <sup>1</sup> P13 <sup>1</sup>	(this section 70CRI only) 30K 3000K 40K 4000K 50K 5000K (this section 80CRI only, extended lead times apply) 27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K 5000K	70CRI 70CRI 70CRI 80CRI 80CRI 80CRI 80CRI 80CRI 80CRI	AFR       Automotive front row         T1S       Type I short         T2M       Type II medium         T3M       Type III medium         T3LG       Type III low glare <sup>3</sup> T4M       Type IV medium         T4LG       Type IV nedium         TFTM       Forward throw medium	T5MType V mediumT5LGType V low glareT5WType V wideBLC3Type III backlight control 3BLC4Type IV backlight control 3LCC0Left corner cutoff 3RCC0Right corner cutoff 3	MVOLT (120V-277V) HVOLT (347V-480V) XVOLT (277V-480V	4 Shippe 5.6 SPA 7.8 RPA SPA5 RPA5 SPA5 RPA5 SPA8N WBA MA	ed included Square pole mounting (#8 drilling, 3.5" min. SQ pole) Round pole mounting (#8 drilling, 3" min. RND pole) Square pole mounting (#5 drilling, 3" min. SQ pole) <sup>9</sup> Round pole mounting (#5 drilling, 3" min. RND pole) <sup>9</sup> Square narrow pole mounting (#8 drilling, 3" min. SQ pole) Wall bracket <sup>10</sup> Mast arm adapter (mounts on 2 3/8" OD horizontal tenon)	
Control opti	Control options				Other options		Finish (required	d)	
Shipped in NLTAIR2 PIR	stalled HN nLight AIR gen 2 er ambient sensor, 8 sensor enabled at 2	nabled with bi-level motion / 40' mounting height, ambient fc. <sup>11, 12, 18, 19</sup>	PER7 Seven- ordered FAO Field a BL30 Bi-leve	pin receptacle only (controls d separate) <sup>14, 19</sup> djustable output <sup>15, 19</sup> el switched dimming, 30% <sup>16, 19</sup>	Shipped installed           HS         Houseside shield (black f           L90         Left rotated optics <sup>1</sup> D00         Right method optics <sup>1</sup>	inish standard) <sup>20</sup>	DDBXD D DBLXD B DNAXD N	ark Bronze lack latural Aluminum	
PIR	PIR High/low, motion/ambient sensor, 8–40' mounting beight ambient sensor enabled at 2fc <sup>13, 18, 19</sup>		<b>BL50</b> Bi-level switched dimming, 50% <sup>16,19</sup>		K90 Right rotated optics <sup>1</sup> CCE Coastal Construction <sup>21</sup>		DWHXD W	vnite extured dark bronze	
PER	NEMA twist-lock re	eceptacle only (controls ordered	DMG 0-10v fixture	dimming wires pulled outside (for use with an external control.	HA 50°C ambient operation	22	DBLBXD Te	extured black	
PER5	PERS Five-pin receptacle only (controls ordered separate) <sup>14,19</sup>		ordered separately) <sup>17</sup>		Shipped separately EGSR External Glare Shield (rev required, matches housir	versible, field install ng finish)	DNATXD Te DWHGXD Te	extured natural aluminum extured white	



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BSDB Bird Spikes (field install required)



**Specifications** 

Depth (D1):

Depth (D2):

Height:

Width:

Weight:

(without options)

# WDGE1 LED Architectural Wall Sconce





Catalog Number

Notes

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### Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing true site-wide solution.

WDGE1 delivers up to 2,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. The compact size of WDGE1, with its integrated emergency battery backup option, makes it an ideal over-the-door wall-mounted lighting solution.

### **WDGE LED Family Overview**

5.5"

1.5"

8"

**Q**"

9 lbs

Luminaire			C	Lumens (4000K)							
	Stalluaru EM, O C	COIG EM, -20 C	Selisor	P1	P2	P3	P4	P5	P6		
WDGE1 LED	4W			1,200	2,000						
WDGE2 LED	10W	18W	Standalone / nLight	1,200	2,000	3,000	4,500	6,000			
WDGE3 LED	15W	18W	Standalone / nLight	7,500	8,500	10,000	12,000				
WDGE4 LED			Standalone / nLight	12,000	16,000	18,000	20,000	22,000	25,000		

### **Ordering Information**

### EXAMPLE: WDGE1 LED P2 40K 80CRI VF MVOLT SRM PE DDBXD

Series	Package	Color Temperature C	CRI	Distribution	Voltage	Mounting
WDGE1 LED	P1 P2	27K         2700K           30K         3000K           35K         3500K           40K         4000K           50K <sup>1</sup> 5000K	80CRI 90CRI	<ul><li>VF Visual comfort forward throw</li><li>VW Visual comfort wide</li></ul>	MVOLT 347²	Shipped included         SRM       Surface mounting bracket         ICW       Indirect Canopy/Ceiling Washer bracket (dry/damp locations only) <sup>5</sup> Shipped separately         AWS       3/8inch Architectural wall spacer         PBBW       Surface-mounted back box (top, left, right conduit entry) Use when there is no junction box available.

Options			Finish						
E4WH <sup>3</sup> PE <sup>4</sup> DS DMG BCE BAA	<sup>3</sup> Emergency battery backup, Certified in CA Title 20 MAEDBS (4W, 0°C min) Photocell, Button Type Dual switching (comes with 2 drivers and 2 light engines; see page 3 for details) 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately) Bottom conduit entry for back box (PBBW). Total of 4 entry points. Buy America(n) Act Compliant			Dark bronze Black Natural aluminum White Sandstone		DDBTXD DBLBXD DNATXD DWHGXD DSSTXD	Textured d Textured b Textured r Textured w Textured sa	ark bro Iack Iatural hite andstor	nze aluminum ne
Accessories           Ordered and shipped separately.           WDGEAWS DDBXD         WDGE 3/8inch Architectural Wall Spacer (specify finish)           WDGE1PBBW DDBXD U         WDGE1 surface-mounted back box (specify finish)					NO 1 2 3	TES 50K not available 347V not available E4WH, DS or PE. E4WH not availab PE or DS	n 90CRI. with e with	4 5	PE not available with DS. Not qualified for DLC. Not available with E4WH.



One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.lithonia.com © 2019-2022 Acuity Brands Lighting, Inc. All rights reserved. WDGE1 LED



# **STORMWATER MANAGEMENT PLAN**

## ROOSEVELT SCHOOL HOUSING 438 WASHINGTON STREET KEENE, NH 03431

## FOR MONADNOCK AFFORDABLE HOUSING 831 COURT STREET KEENE, NH 03431

## BY NOBIS GROUP®

(800) 394-4182

www.nobis-group.com

Nobis Project No. 100569.000

APRIL 12<sup>™</sup>, 2023



### NARRATIVE

### **Project Description**

The approximate 2.4-acre subject site (Site) is located at 438 Washington Street in Keene, New Hampshire, catalogued as Tax Map 531 Lot 54 within the Low Density (LD) District. The Site is currently developed with a 2-story brick building, associated parking (bituminous pavement and gravel surface), basketball court, sidewalks, and utilities. The Site is primarily used by the Community College of New Hampshire for classrooms and offices for the institution. The Site abuts both Washington Street and Woodbury Street and is bound by residential communities to the north, south, east, and west.

The proposed development consists of the demolition of the gymnasium associated with the existing brick building and the construction of two multi-family housing buildings, landscape areas, parking, sidewalks, playground area, community garden, associated underground utilities, and stormwater controls. Access to the site will remain the same with two driveways off Washington Street. The proposed development will be constructed in two phases. Phase 1 will consist of the construction of a 12,676 SF, 2-story building with 30 units, parking, driveways, dumpster enclosure, utilities, and stormwater controls. Phase 2 will consist of the partial demolition of the existing building, the renovation of the existing building, and the construction of an approximate 8,548 SF 2-story building addition(s) with 30 units.

Stormwater controls are proposed within this Site consisting of a closed drainage system that includes catch basins, field inlets, drainage manholes, roof drains, and a subsurface infiltration gallery that will overflow treated stormwater into the existing drainage system within Washington Street. The Site will be raised approximately 3-4' along the south property line, however, the overall topography of the Site will not be significantly altered and will not change existing stormwater patterns.

The purpose of this report is to demonstrate that the proposed Site improvements will not adversely affect surrounding resources through implementation of specific stormwater best management practices (BMPs) to control stormwater quality and quantity.

### **Existing Site Conditions**

The project Site consists of an existing 2-story brick building which is primarily used as school classrooms and offices, basketball court, associated parking areas (bituminous pavement and gravel surface), utilities, and a stormwater control. Along the northern property line there is an existing 8-ft tall retaining wall along Woodbury Street and to the northwest portion of the Site there are steep slopes. The Site generally slopes southeast from a highpoint along Woodbury Street toward the existing drainage system in Washington Street. There is one existing drainage structure within the Site (CB 653) that collects stormwater runoff from the building (roof drains) and the parking area along Washington Street. From there, the water is directed to the drainage system in Washington Street. Stormwater runoff also flows off Site to the abutting property (Tax Map 531-53) and to CB 656 and CB (un-named) which directs runoff to the existing drainage system within Washington Street.

### **Proposed Site Conditions**

The proposed phased project includes the construction of a 12,676 SF 2-story building (phase 1), partial demolition of the existing building (phase 2), renovation of the existing building (phase 2), and the construction of an approximately 8,548 SF 2-story addition(s) to the existing building (phase 2 – total phase 2 building footprint = 16,914 SF). Other associated construction will include landscape areas, playground area, community garden area, sidewalks, parking, underground utilities, and stormwater controls.

The additional stormwater runoff from the proposed impervious development will be directed into a new on-site closed drainage system that includes the construction of field inlets (nyloplast), catch basins, drainage manholes, 15" HDPE drainpipes, 6" PVC drainpipes, and a subsurface infiltration gallery (comprised of Stormtech MC-3500 Chambers) for infiltration and treatment of stormwater. The gallery is designed to infiltrate the majority of the stormwater and is also equipped with an overflow pipe, that will be used during higher storm events, directing treated stormwater to the drainage system within Washington Street

### <u>Soils</u>

Based on the test pits performed by a certified wetlands soil scientist the soils on the site are categorized as Udorthents which are moderately well drained to excessively well-draining soils and are considered Hydrologic Soil Group (HSG) A for the drainage analysis. The infiltration rate used for the subsurface infiltration gallery is 5 in/hr. Confirmatory testing shall take place before the construction of the subsurface gallery for infiltration and depth to estimate seasonal highwater table. If the native soils have an infiltration rate higher than 10 in/hr then the soils will need to be amended 2-ft below the stone base of the system.

### Points of Interest

For this drainage analysis, two points of interest have been established: OFFSITE (Tax Map 531-31) (POI 1) and Washington Street Drainage System (POI 2). POI 1 flows southwest off-site to the abutting residential property. POI 2 is the existing drainage system within Washington Street.

### **Erosion and Sediment Control Practices / Site Stabilization**

The contractor will be responsible for all temporary erosion and sediment control measures during construction, while the property owner will be ultimately responsible for maintaining all permanent erosion and sediment control measures as may be required.

During construction activities BMPs including sediment logs, inlet protection at catch basins, tracking control pads, maintaining a clean paved surface, and temporary seeding and mulching will be used to control the quality of stormwater leaving the site.

### Summary of Results

POI #	DESCRIPTION	STORM EVENT								
			2 Year	10 Year	25 Year	100 Year	2 Year	10 Year		
			(cfs)	(cfs)	(cfs)	(cfs)	(ac-ft)	(ac-ft)		
POI 1	Offsite	EXIST. =	0.0	0.0	0.0	0.0	0.00	0.00		
	(Tax Map 531-31)	PROP. =	0.0	0.0	0.0	0.0	0.0	0.00		
POI 2	Washington Street	EXIST. =	1.7	3.4	4.8	7.7	0.18	0.35		
	Drainage System	PROP. =	1.3	2.2	2.9	6.9	0.10	0.17		

### **Conclusions**

The preceding table and following calculations reflect the results of the proposed Site improvements on the peak stormwater discharge rates. The peak flow has been retained on the Site and therefore will not impact off-site systems or downgradient properties in the modeled storm events. The post-development peak flow rates and volumes will be less than the existing flow rates and volumes as a result of attenuation and infiltration provided by the proposed subsurface stormwater gallery.

Calculations are included for the 2-year, 10-year, 25-year, and 100-year storm events.



Transportation: Engineering • Planning • Design

### MEMORANDUM

Ref: 2252A

To: Jonathan Halle, AIA, ASLA, EDAC, LEED AP Warren Street Architects

From: Stephen G. Pernaw, P.E., PTOE

Subject: Roosevelt School Housing – <u>Traffic & Parking Study</u> Keene, New Hampshire

Date: February 16, 2023

As requested, Pernaw & Company, Inc. has conducted this Traffic/Parking study for your office on behalf of Keene Housing regarding the proposed Roosevelt School Housing project at 438 Washington Street, in Keene, New Hampshire. The site is situated at the southwest corner of the Washington Street/Woodbury Street intersection. The purpose of this memorandum is to summarize the results of our research of available traffic count data, the trip generation analyses for the former and proposed uses at the subject site, and a parking demand evaluation. To summarize:

<u>Proposed Development</u> – According to the plan entitled "*Conceptual Site Plan*," Sheet C-1, dated February 2023 that was prepared by Nobis (see Attachment 1), this project involves the construction of a new two-story 30-unit affordable apartment building behind the existing school (Phase 1), and then renovations to the Roosevelt School to provide 30 additional affordable apartments (Phase 2).

Access to the site will be provided by the two existing site driveways on Washington Street: the northerly site driveway will continue as a one-way enter-only driveway, and the southerly site driveway will function as a full-access driveway (for arrivals and departures). Similar to all residential developments, this 60-unit affordable housing facility will be in operation seven days a week, and 24 hours per day. The location of the subject site is depicted on Figure 1.

<u>Existing Conditions</u> – Washington Street functions as a two-lane minor arterial roadway with a general north-south orientation in the immediate study area. The roadway is delineated with a four-inch double-yellow centerline (passing maneuvers prohibited) and four-inch single-white edge lines. Paved shoulders and sidewalks are present on both sides of the roadway. Marked crosswalks are present on the north and east legs of the Washington Street/George Street intersection. The speed limit is posted at 30 mph in both directions on Washington Street.



Pernaw & Company, Inc.



= AUTOMATIC TRAFFIC RECORDER LOCATION (NHDOT)

Site Location



2252A

Traffic Evaluation, Proposed Roosevelt School Housing, Keene, New Hampshire

NORTH



<u>Existing Traffic Volumes</u> – Research at the New Hampshire Department of Transportation (NHDOT) revealed that short-term automatic traffic recorder counts were conducted on Washington Street to the north and the south of the subject site by the NHDOT in July 2020 and August 2021. The northerly count station is located approximately 0.5 mile from the site. This section of Washington Street carried an estimated Annual Average Daily Traffic (AADT) volume of approximately 4,861 vehicles per day (vpd) in 2021, down from 5,888 vpd in 2019 (pre-Covid 19). The southerly count station is located approximately 0.2 miles from the subject site. This section of Washington Street carried a slightly higher AADT volume of approximately 5,428 vpd in 2021.

The raw data from the 2020 and 2021 traffic counts is summarized graphically on Page 4 and shows the daily and hourly variations in traffic demand on the corridor. The hourly traffic volumes in the area typically reach peak levels during the morning and late afternoon on weekdays; thus, reflecting typical commuting patterns. The detail sheets pertaining to these counts are attached (see Attachments 2-6).



### Findings & Conclusions

- Traffic counts conducted by the NHDOT at two nearby locations on Washington Street in July 2020 and August 2021 revealed that the highest traffic hours occurred from 7-8 or 8-9 AM, and again from 3-4 or 4-5 PM on weekdays. On weekends, peak traffic flow tends to occur during the midday.
- 2. During the worst-case weekday PM peak hour period, the 60 affordable dwelling units are expected to generate approximately 28 vehicle-trips (16 arrivals, 12 departures). By way of comparison, the former Community College likely generated approximately 83 vehicle-trips during the same hour. From this, it is reasonable to conclude that the proposed affordable housing project is less intensive than the previous community college from a traffic operations, capacity and safety standpoint.
- 3. The parking demand study demonstrates that proposed parking supply (70 stalls) exceeds the anticipated parking demand by a comfortable margin based on three separate and independent sources:
  - The Keene Housing parking data indicates a peak demand of 40 occupied stalls.
  - The ITE parking generation rates indicates a peak parking demand of 59 occupied stalls.
  - The ULI parking ratios indicate a peak parking demand of 51 occupied stalls.



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December 12, 2022

Marika Labash NH Division of Historical Resources 19 Pillsbury Street Concord, NH 03301-3570

Re: Roosevelt School, 438 Washington St., Keene RPR

Dear Marika:

On behalf of Warrenstreet Architects and Keene Housing, I am submitting the enclosed Request for Project Review. Should you have any questions regarding the form, please do not hesitate to contact me. I've also enclosed two stamped/addressed envelopes. If you wouldn't mind, could you please send the results to both myself and Jonathan Halle? Thanks very much for your assistance.

Sincerely,

Lina Mausol

Lisa Mausolf Preservation Consultant

### Description of the Proposed Project

The Roosevelt School at 438 Washington Street, corner of Woodbury Street, was constructed in 1922. The Neo-Classical brick elementary school was designed by Boston architect Clarence P. Hoyt who also designed the Keene High School at 17 Washington Street (1912). The building has seen various exterior alterations over the years including the replacement of the original multi-paned double-hung windows, the blocking of the original main entrance and the construction of a large c.1970 addition to the southwest.



c.1930 Postcard showing original 1922 school.



View of original building with c.1970 addition at left.

The building was utilized by the Keene School District until 2009. In its later years it was home to the Center for Instructional Resources, Technology and Training, a life education program for Keene High School students. It was purchased by the Community College System in 2009 and until recently was occupied by River Valley Community College.

Keene Housing proposes to acquire the building and renovate the existing building into approximately twenty housing units. New construction consisting of three or four story buildings would be built to the northwest and southwest of the existing building and contain an additional 66 to 80 units of housing. Project design is currently in its early stages and conceptual plans are included in this submittal. Keene Housing is currently investigating various funding options which may include NH Housing Finance Authority and/or CDBG funds.

The 2.4 acre parcel surrounding the school building is largely paved. There are no known archaeological resources on the site.



Photo 1: View looking SW-W at main façade and northeast elevation of original school



Photo 2: View looking SW from Woodbury Street at original school building.



Photo 3: View looking SE from Woodbury Street. Rear elevation of original building at left and c.1970 addition at right.



Photo 4: View looking north from Washington Street. C.1970 addition at left and original school building to right.