

**Civil  
Site Planning  
Environmental  
Engineering**

133 Court Street  
Portsmouth, NH  
03801-4413

February 12, 2026

Mr. Peter Britz, Director of Planning & Sustainability  
City of Portsmouth Planning & Sustainability Department  
1 Junkins Avenue  
Portsmouth, New Hampshire 03801

**Re: Application for Site Plan Amendment  
Assessor's Map 266, Lot 5  
St Patrick Academy Library Expansion  
315 Banfield Road  
Altus Project #P4801.3**

Mr. Britz:

On behalf of the Hope for Tomorrow Foundation (HFTF) and the Saint Patrick Academy, Altus Engineering, LLC (Altus) is pleased to submit plans for a Library Expansion at Saint Patrick Academy. The proposed project will construct a new library addition totaling approximately 2,115 square feet and includes renovations to the existing building to provide new bathrooms adjacent to the library. This library is to serve the current enrollment and there will be no increase to students or staffing. As shown in the architectural plans, there will be a "bell tower" on the northwest corner of the building. It is noted that the bell is an aesthetic feature and is not functional, as any sound will be from a speaker in the tower. Additionally, there are no modifications to the existing driveway or parking. There is a paved walkway around the building that will be relocated to accommodate the new building footprint.

In 2017 and 2019, Altus worked for HFTF for the permitting and construction of the new Saint Patrick Academy and Gymnasium respectively. Both projects required NHDES Alteration of Terrain permit for stormwater management and a system of porous pavements and multiple raingardens were design and installed to manage post-development flows below the pre-development conditions. This project will increase the impervious coverage 0.04%, from 15.9% to 16.3%. Altus has updated the drainage model from the 2019 analysis to include the new building addition. The results show that the Peak flows for all storm events continue to provide a decreases compared to the pre-development conditions. Altus also has reviewed the downstream structures and raingarden and eth have the capacity to handle the minor increase. A Drainage Memorandum has been prepared and is included in this submittal.

Altus looks forward to meeting with the Technical Advisory Committee at the March 3, 2026 meeting and working with the City on this project. Please feel free to call or email me in advance of the meeting should you have any questions or need any additional information.

Sincerely,  
**ALTUS ENGINEERING, LLC**



Cory D. Belden, PE  
Principal

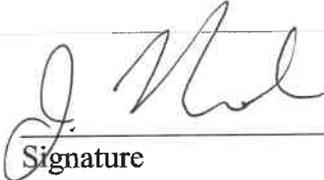
wde/4801 TAC work session cvr ltr.doc

Enclosure

Ecopsy: James Melone, St Patrick Academy  
Bryan Laroche, Oak Point Associates, Inc.

**Letter of Authorization**

I, James Melone, authorized representative for Hope for Tomorrow Foundation (HFTF), hereby authorize Altus Engineering, LLC and Oak Point Associates, Inc. of Portsmouth, New Hampshire to represent HFTF in all matters concerning engineering, architecture and related permitting for the development of 315 Banfield Road in Portsmouth, NH. The property is identified on the Assessor's Maps as Tax Map 266, Lot 5. This authorization shall include any meetings or signatures required for permit applications.

  
Signature

James Melone  
Print Name

2/12/24  
Date

# Site Plan Amendment

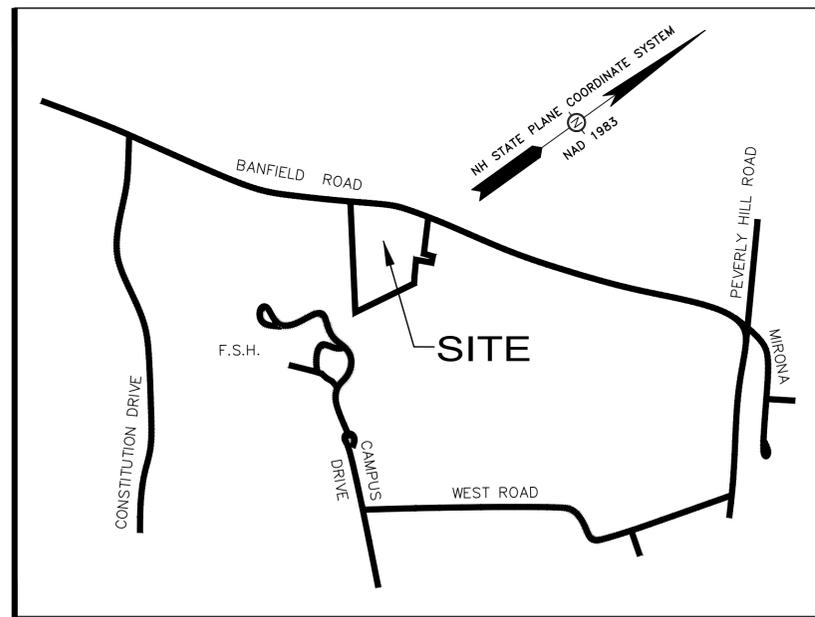
## SAINT PATRICK ACADEMY LIBRARY EXPANSION

315 Banfield Road  
 Portsmouth, New Hampshire  
 Assessor's Parcel 266 - 5

Plan Issued Date:

February 12, 2026

Technical Advisory Committee



Locus Map  
 Scale: Not to Scale

*Sheet Index*

<i>Title</i>	<i>Sheet No.:</i>	<i>Rev.</i>	<i>Date</i>
As-Built Plan (by JVA)	1 of 1	0	11/04/21
Overall Site Plan	C-1	0	02/12/26
Site Plan	C-2	0	02/12/26
Grading and Utilities Plan	C-3	0	02/12/26
Erosion Control Notes & Details	D-1	0	02/12/26
Detail Sheet	D-2	0	02/12/26
<u>Architectural Plans by Oak Point Associates</u>			
Floor Plan	AE101	0	02/04/26
Roof Plan	AE121	0	02/04/26
North and West Exterior Elevations	AE201	0	02/04/26
South Exterior Elevation	AE202	0	02/04/26

**Owner:**  
 HOPE FOR  
 TOMORROW FOUNDATION  
 315 BANFIELD ROAD  
 PORTSMOUTH, N.H. 03801  
 (603) 436-0739

**Applicant:**  
 SAINT PATRICK ACADEMY  
 315 BANFIELD ROAD  
 PORTSMOUTH, N.H. 03801  
 (603) 436-0739

**Civil Engineer:**



133 Court Street Portsmouth, NH 03801  
 (603) 433-2335 www.altus-eng.com

**Architect:**

OAK POINT ASSOCIATES  
 85 MIDDLE STREET  
 PORTSMOUTH, N.H. 03801  
 603.431.4849

**Surveyor:**

James Verra and  
 Associates, Inc.

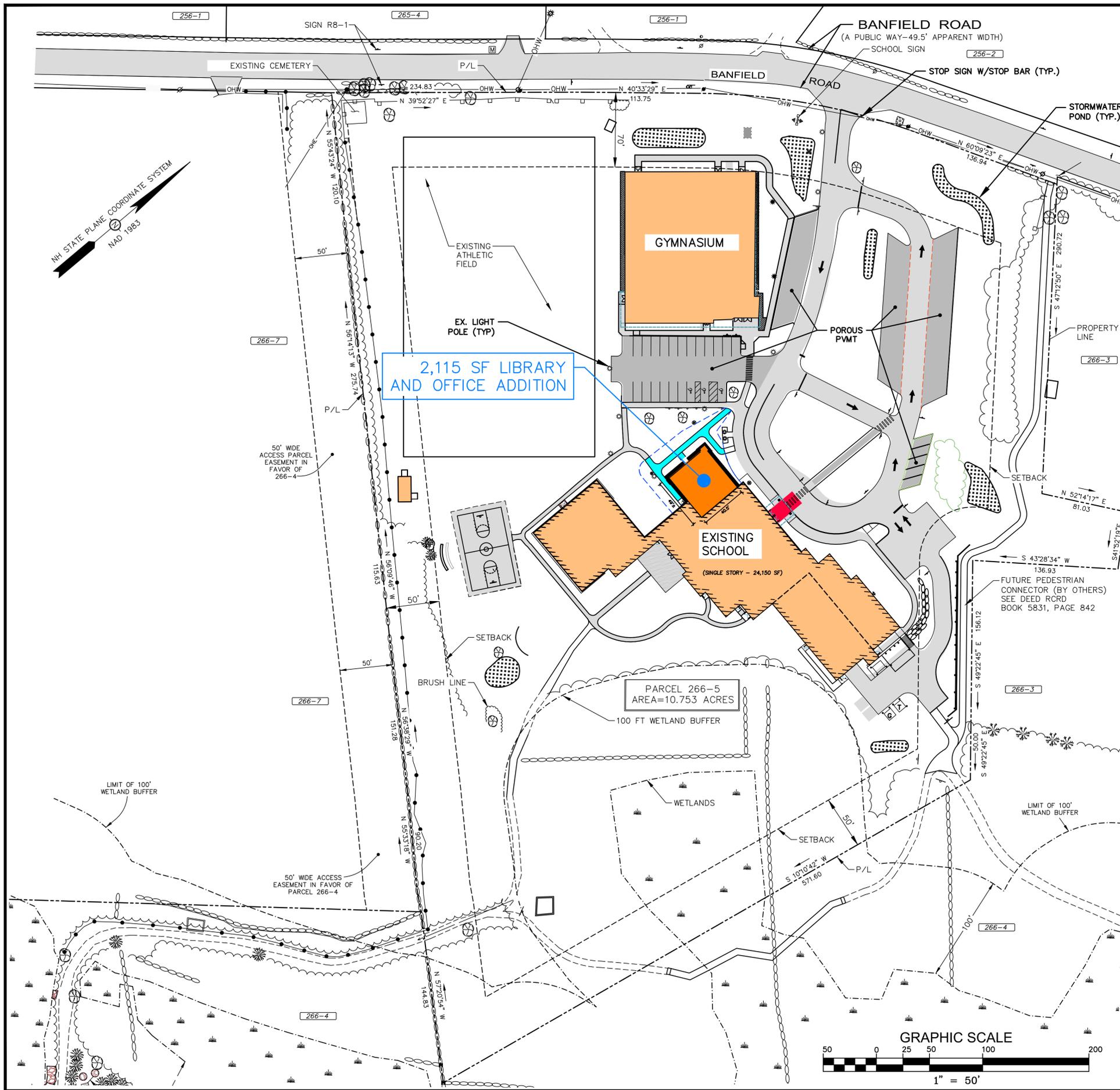
LAND SURVEYORS

101 SHATTUCK WAY - SUITE 8  
 NEWINGTON, N.H. 03801 - 7876  
 603-436-3557

Permit Summary

Site Plan Amendment Permit - Submitted February 13, 2026  
 Building Permit - to be filed by contractor  
 USEPA CGP / NOI is not required - Site disturbance is less than 1 acre





**ZONING REQUIREMENTS:**

PARCEL IS LOCATED IN THE INDUSTRIAL (I) ZONE

ZONING DIMENSIONS	REQUIRED	PROVIDED
MINIMUM LOT SIZE:	87,120 SF (2.0 ACRES)	468,400 SF (10.75 ACRES)
MINIMUM FRONTAGE:	200'	695.6'
MINIMUM SETBACKS:		
FRONT YARD:	70'	±71'
SIDE YARD:	50'	±68'
REAR YARD:	50'	±144'
MINIMUM LOT DEPTH:	100'	587'
MINIMUM OPEN SPACE:	20%	±74%
MAXIMUM STRUCTURE COVERAGE:	50%	9.3%
MAX. HEIGHT OF BUILDING:	70'	<40'

EXISTING BUILDING FOOTPRINT: ±41,440 SF  
 PROPOSED BUILDING: ±2,115 SF  
 TOTAL BUILDING AREA: ±43,555 SF

**SITE NOTES**

1. ALL BONDS AND FEES SHALL BE PAID/POSTED PRIOR TO INITIATING CONSTRUCTION.
2. ALL CONDITIONS OF THIS APPROVAL SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
3. ALL CONSTRUCTION SHALL MEET THE MINIMUM CONSTRUCTION STANDARDS OF THE CITY OF PORTSMOUTH & NHDOT'S STANDARD SPECIFICATIONS FOR ROAD & BRIDGE, LATEST EDITION. THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
4. THE CONTRACTOR SHALL VERIFY ALL BENCHMARKS AND TOPOGRAPHY IN THE FIELD PRIOR TO CONSTRUCTION.
5. THE CONTRACTOR SHALL VERIFY ALL BUILDING DIMENSIONS WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PRIOR TO CONSTRUCTION. ALL DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER FOR RESOLUTION.
6. AREA OF DISTURBANCE IS LESS THAN 43,560 SF, COVERAGE UNDER EPA NPDES PHASE II CONSTRUCTION GENERAL PERMIT IS NOT REQUIRED.
7. ALL CONDITIONS OF PREVIOUS APPROVALS SHALL CONTINUE TO APPLY.
8. THE CONTRACTOR SHALL VERIFY ALL BUILDING DIMENSIONS WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION. ANY AND ALL DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF BOTH THE ARCHITECT AND CIVIL ENGINEER FOR RESOLUTION.
9. SITEWORK CONTRACTOR SHALL PREPARE A LICENSED LAND SURVEYOR (LLS) STAMPED AS-BUILT SITE PLAN & PROVIDE A DIGITAL (CAD FORMAT) COPY FOR THE CITY'S G.I.S. DATA BASE.
10. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER REGARDING DROP OFF AND PICK UP TIMES FOR MATERIALS.
11. CONTRACTOR SHALL PROVIDE A FOUNDATION CERTIFICATE TO THE ENGINEER & CITY OF PORTSMOUTH PRIOR TO BACKFILLING OF FOUNDATION.

ENGINEER:  
  
 133 Court Street Portsmouth, NH 03801  
 (603) 433-2335 www.altus-eng.com

ISSUED FOR:  
 SITE PLAN AMENDMENT  
 ISSUE DATE:  
 FEBRUARY 12, 2026

REVISIONS  
 NO. DESCRIPTION BY DATE  
 0 INITIAL SUBMISSION CDB 02/12/26

PROFESSIONAL ENGINEER  
 CORY D. BELDEN  
 No. 14299  
 2/12/26

DRAWN BY: \_\_\_\_\_ CDB  
 APPROVED BY: \_\_\_\_\_ CDB  
 DRAWING FILE: 4801.3 DETAILS.DWG

SCALE:  
 22" x 34" - 1" = 50'  
 11" x 17" - 1" = 100'

OWNER:  
 HOPE FOR TOMORROW FOUNDATION  
 315 BANFIELD ROAD  
 PORTSMOUTH, N.H. 03801  
 ASSESSOR'S PARCEL 266-5

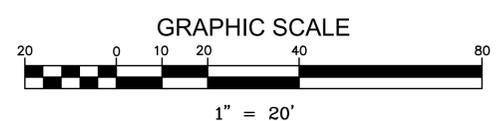
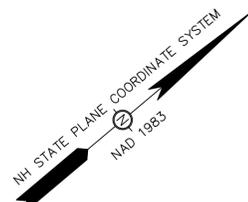
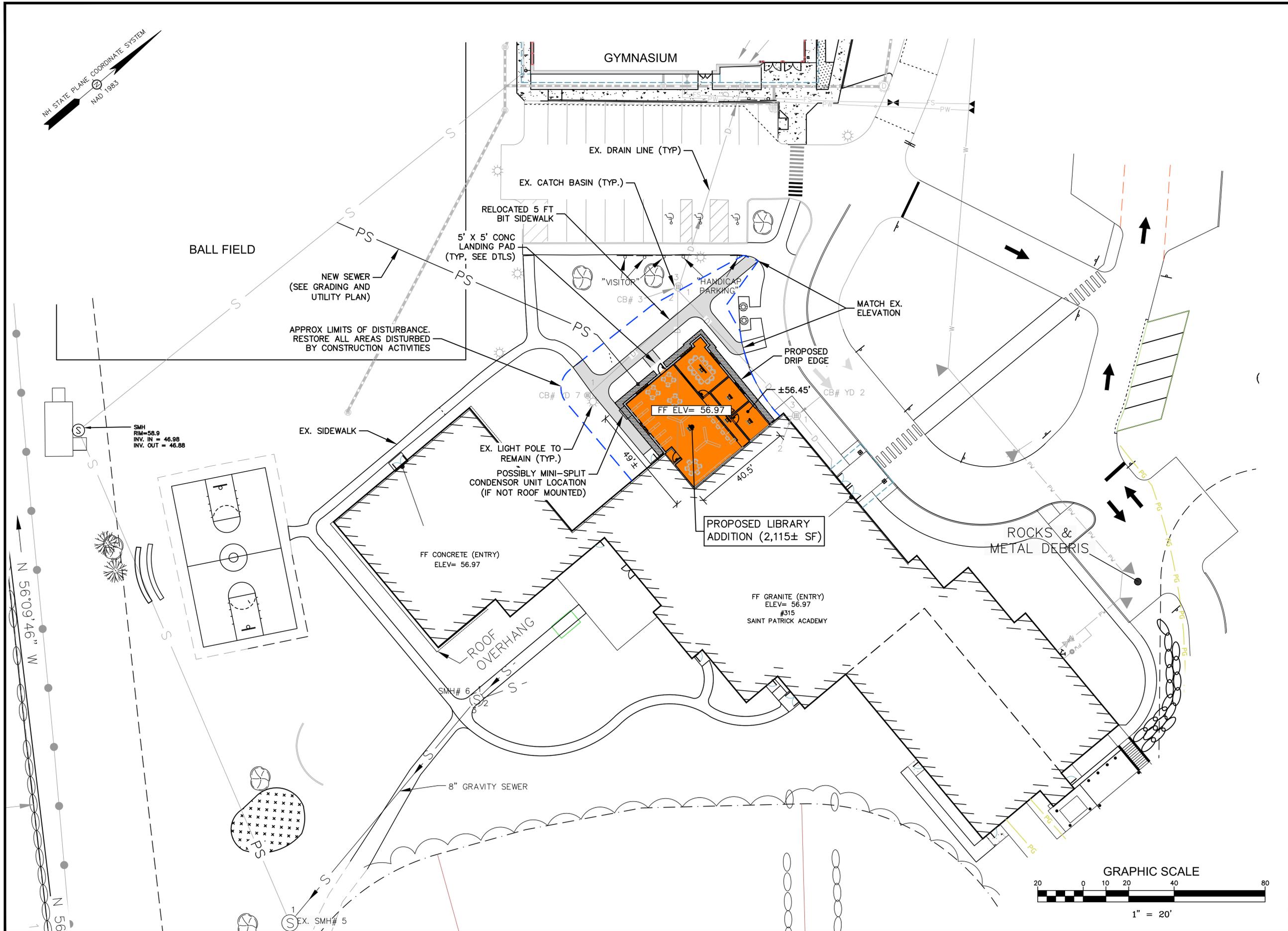
APPLICANT:  
 SAINT PATRICK ACADEMY  
 315 BANFIELD ROAD  
 PORTSMOUTH, N.H. 03801

PROJECT:  
 SAINT PATRICK ACADEMY  
 LIBRARY EXPANSION  
 315 BANFIELD ROAD  
 PORTSMOUTH, N.H.  
 ASSESSOR'S PARCEL 266-5

TITLE:  
 OVERALL SITE PLAN

SHEET NUMBER:  
 C-1

P:4801.3



ENGINEER:

**ALTUS**  
ENGINEERING

133 Court Street Portsmouth, NH 03801  
(603) 433-2335 www.altus-eng.com

*CORY D. BELDEN*  
No. 14239  
LICENSED PROFESSIONAL ENGINEER  
2/12/26

ISSUED FOR:  
**SITE PLAN AMENDMENT**

ISSUE DATE:  
**FEBRUARY 12, 2026**

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	02/12/26

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315 BANFIELD ROAD  
PORTSMOUTH, N.H. 03801

PROJECT:  
**SAINT PATRICK ACADEMY LIBRARY EXPANSION**  
315 BANFIELD ROAD  
PORTSMOUTH, N.H.  
ASSESSOR'S PARCEL 266-5

TITLE:  
**SITE PLAN**

SHEET NUMBER:  
**C-2**

P4801.3

DRAIN & SEWER TABLE

CB# 3  
RIM ELEV= 54.23  
(1) INV IN 12"HDPE= 51.46  
(2) INV IN 6"PVC= 51.61  
(3) INV OUT 12"HDPE= 51.13

SMH# 5  
RIM ELEV= 49.45  
(1) INV IN 8"HDPE= 43.30  
(2) INV OUT 8"HDPE= 43.25

CB# YD 7  
RIM ELEV= 55.78  
(1) INV OUT 3"PVC= 55.18

SMH# 6  
RIM ELEV= 56.14  
(1) INV IN 6"PVC= 49.22  
(2) INV IN 6"PVC= 49.14  
(3) INV OUT 8"PVC= 49.03

CONNECT TO EXIST 6"  
SEWER (4" X 6" WYE)  
EL = 48.5±

4" SEWER (PVC)  
S = 0.02

EX. SIDEWALK  
MATCH EX.  
ELEV = 55.9±

4" SEWER OUT (EL 52.0±)  
WITH EXTERNAL CLEANOUT

SMH# 58.9  
RIM=58.9  
INV. IN = 46.98  
INV. OUT = 46.88

EX. LIGHT POLE (TYP.)  
56.4±

OPTIONAL CONDENSOR  
PAD (3' X 4')

RESTORE ALL AREAS DISTURBED  
BY CONSTRUCTION ACTIVITIES

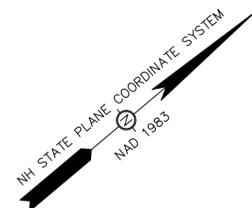
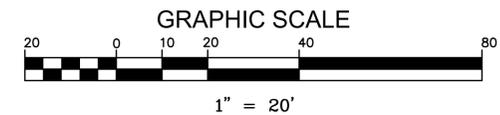
FF CONCRETE (ENTRY)  
ELEV= 56.97

PROPOSED LIBRARY  
ADDITION (2,115± SF)

FF GRANITE (ENTRY)  
ELEV= 56.97  
#315  
SAINT PATRICK ACADEMY

MATCH EX.  
ELEVATION

8" GRAVITY SEWER



ENGINEER:  
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ENGINEERING  
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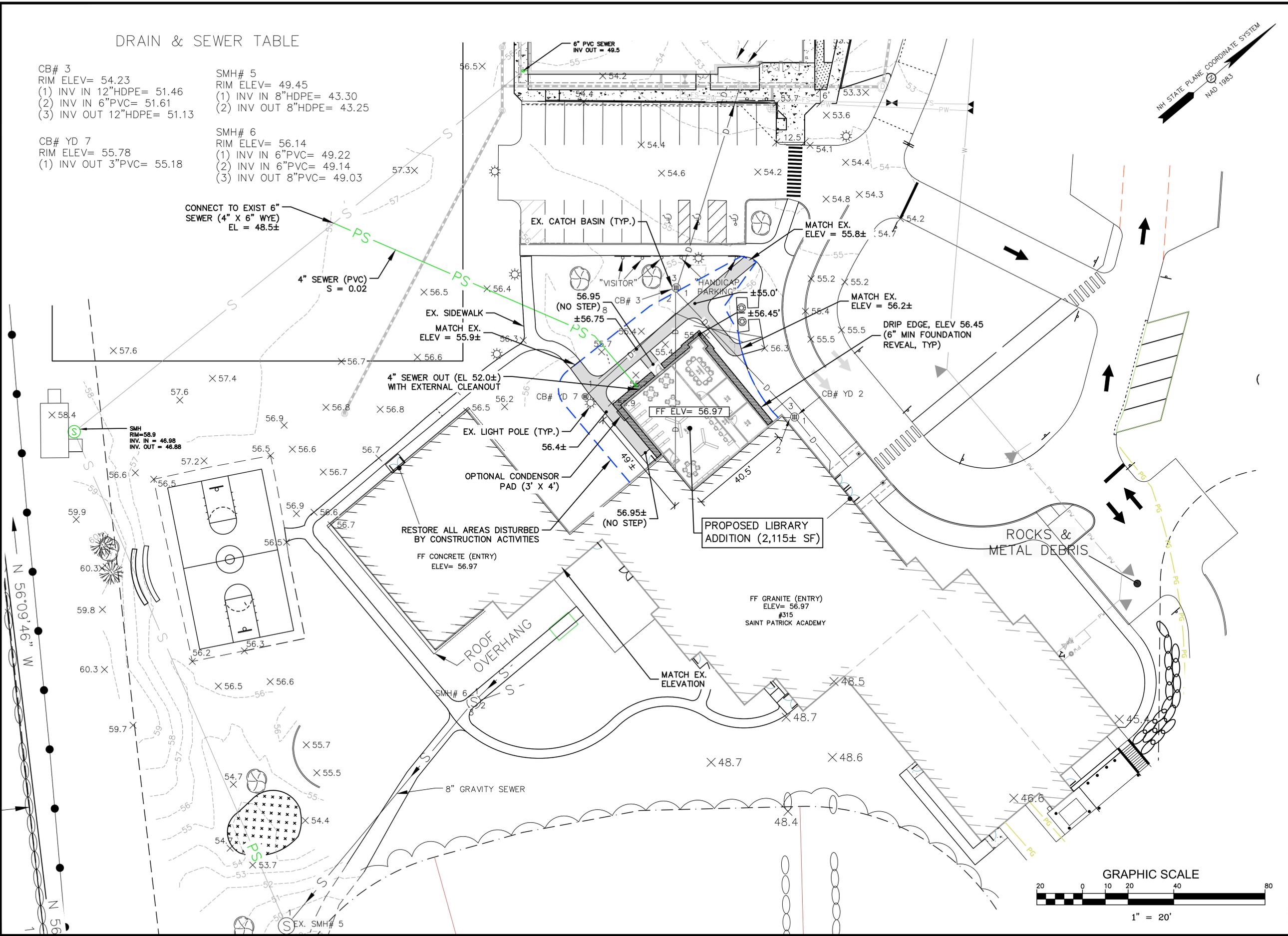
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266-5

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315 BANFIELD ROAD  
PORTSMOUTH, N.H. 03801

PROJECT:  
**SAINT PATRICK ACADEMY LIBRARY EXPANSION**  
315 BANFIELD ROAD  
PORTSMOUTH, N.H.  
ASSESSOR'S PARCEL 266-5

TITLE:  
**GRADING AND UTILITIES PLAN**

SHEET NUMBER:  
**C-3**



# SEDIMENT AND EROSION CONTROL NOTES

## CONSTRUCTION SEQUENCE / EROSION CONTROL

- PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS.
- TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC) MUST BE USED AS NECESSARY UNTIL AREAS ARE STABILIZED.
- ALL PAVED AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- ALL DISTURBED AREAS SHALL BE SEEDING/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE
- ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL.
- THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 43,000 SQUARE FEET AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
- 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 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED.
  - A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED.
  - OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.

## TEMPORARY EROSION & SEDIMENT CONTROL AND STABILIZATION PRACTICES

All work shall be in accordance with state and local permits. Work shall conform to the practices described in the "New Hampshire Stormwater Manual, Volumes 1 - 3", issued December 2008, as amended. As indicated in the sequence of Major Activities, the silt fences shall be installed prior to commencing any clearing or grading of the site. Structural controls shall be installed concurrently with the applicable activity. Once construction activity ceases permanently in an area, silt fences and any earth/dikes will be removed once permanent measures are established.

During construction, runoff will be diverted around the site with stabilized channels where possible. Sheet runoff from the site shall be filtered through hay bale barriers, stone check dams, and silt fences. All storm drain inlets shall be provided with hay bale filters or stone check dams. Stone rip rap shall be provided at the outlets of drain pipes and culverts where shown on the drawings.

Stabilize all ditches, swales, stormwater ponds, level spreaders and their contributing areas prior to directing flow to them.

Temporary and permanent vegetation and mulching is an integral component of the erosion and sedimentation control plan. All areas shall be inspected and maintained until vegetative cover is established. These control measures are essential to erosion prevention and also reduce costly rework of graded and shaped areas.

Temporary vegetation shall be maintained in these areas until permanent seeding is applied. Additionally, erosion and sediment control measures shall be maintained until permanent vegetation is established.

## INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES

### A. GENERAL

These are general inspection and maintenance practices that shall be used to implement the plan:

- The smallest practical portion of the site shall be denuded at one time, but in no case shall it exceed 5 acres at one time.
- All control measures shall be inspected at least once each week and following any storm event of 0.25 inches or greater.
- All measures shall be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours.
- Built-up sediment shall be removed from silt fence or other barriers when it has reached one-third the height of the fence or bale, or when "bulges" occur.
- All diversion dikes shall be inspected and any breaches promptly repaired.
- Temporary seeding and planting shall be inspected for bare spots, washouts, and unhealthy growth.
- The owner's authorized engineer shall inspect the site on a periodic basis to review compliance with the Plans.
- All roadways and parking lots shall be stabilized within 72 hours of achieving finished grade.
- All cut and fill slopes shall be seeded/loamed within 72 hours of achieving finished grade.
- An area shall be considered stable if one of the following has occurred:
  - Base coarse gravels have been installed in areas to be paved;
  - A minimum of 85% vegetated growth as been established;
  - A minimum of 3 inches of non-erosive material such as stone or riprap has been installed;
- The length of time of exposure of area disturbed during construction shall not exceed 45 days.

### B. MULCHING

Mulch shall be used on highly erodible soils, on critically eroding areas, on areas where conservation of moisture will facilitate plant establishment, and where shown on the plans.

- Timing - In order for mulch to be effective, it must be in place prior to major storm events. There are two (2) types of standards which shall be used to assure this:
  - Apply mulch prior to any storm event. This is applicable when working within 100 feet of wetlands. It will be necessary to closely monitor weather predictions, usually by contacting the National Weather Service in Concord, to have adequate warning of significant storms.
  - Required Mulching within a specified time period. The time period can range from 21 to 28 days of inactivity on a area, the length of time varying with site conditions. Professional judgment shall be used to evaluate the interaction of site conditions (soil erodibility, season of year, extent of disturbance, proximity to sensitive resources, etc.) and the potential impact of erosion on adjacent areas to choose an appropriate time restriction.

## INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (CONT)

### 2. Guidelines for Winter Mulch Application -

Type	Rate per 1,000 s.f.	Use and Comments
Hay or Straw	70 to 90 lbs.	Must be dry and free from mold. May be used with plantings.
Wood Chips or Bark Mulch	460 to 920 lbs.	Used mostly with trees and shrub plantings.
Jute and Fibrous Matting (Erosion Blanket)	As per manufacturer Specifications	Used in slope areas, water courses and other Control areas.
Crushed Stone 1/4" to 1-1/2" dia.	Spread more than 1/2" thick	Effective in controlling wind and water erosion.

Erosion Control Mix 2" thick (min)

- The organic matter content is between 80 and 100% dry weight basis.
- Particle size by weight is 100% passing a #6 screen and a minimum of 70 % maximum of 85% passing a 0.75" screen.
- The organic portion needs to be fibrous and elongated.
- Large portions of silts, clays or fine sands are not acceptable in the mix.
- Soluble salts content is less than 4.0 mmhos/cm.
- The pH should fall between 5.0 and 8.0.

- Maintenance - All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied.

### C. TEMPORARY GRASS COVER

- Seedbed Preparation - Apply fertilizer at the rate of 600 pounds per acre of 10-10-10. Apply limestone (equivalent to 50 percent calcium plus magnesium oxide) at a rate of three (3) tons per acre.

- Seeding -
  - Utilize annual rye grass at a rate of 40 lbs/acre.
  - Where the soil has been compacted by construction operations, loosen soil to a depth of two (2) inches before applying fertilizer, lime and seed.
  - Apply seed uniformly by hand, cyclone seeder, or hydroseder (slurry including seed and fertilizer). Hydroseddings, which include mulch, may be left on soil surface. Seeding rates must be increased 10% when hydrosedding.

- Maintenance - Temporary seedings shall be periodically inspected. At a minimum, 95% of the soil surface should be covered by vegetation. If any evidence of erosion or sedimentation is apparent, repairs shall be made and other temporary measures used in the interim (mulch, filter barriers, check dams, etc.).

### D. FILTERS

- Tubular Sediment Barrier
  - See detail.
  - Install per manufacturer's requirements.

- Silt Fence (if used)
  - Synthetic filter fabric shall be a pervious sheet of propylene, nylon, polyester or ethylene yarn and shall be certified by the manufacturer or supplier as conforming to the following requirements:

Physical Property	Test	Requirements
Filtering Efficiency	VTM-51	75% minimum
Tensile Strength at 20% Maximum Elongation*	VTM-52	Extra Strength 50 lb/in in (min) Standard Strength 30 lb/in in (min)
Flow Rate	VTM-51	0.3 gal/sf/min (min)

\* Requirements reduced by 50 percent after six (6) months of installation.

Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizer to provide a minimum of six (6) months of expected usable construction life at a temperature range of 0 degrees F to 120' F.

- Posts shall be spaced a maximum of ten (10) feet apart at the barrier location or as recommended by the manufacturer and driven securely into the ground (minimum of 16 inches).

- A trench shall be excavated approximately six (6) inches wide and eight (8) inches deep along the line of posts and upslope from the barrier.

- When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least one (1) inch long, tie wires or hog rings. The wire shall extend no more than 36 inches above the original ground surfaces.

- The "standard strength" filter fabric shall be stapled or wired to the fence, and eight (8) inches of the fabric shall be extended into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.

- When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of item (g) applying.

- The trench shall be backfilled and the soil compacted over the filter fabric.

- Silt fences shall be removed when they have served their useful purpose but not before the upslope areas has been permanently stabilized.

### 3. Sequence of Installation -

Sediment barriers shall be installed prior to any soil disturbance of the contributing upslope drainage area.

### 4. Maintenance -

- Silt fence barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. They shall be repaired if there are any signs of erosion or sedimentation below them. Any required repairs shall be made immediately. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water, the sediment barriers shall be replaced with a temporary stone check dam.

- Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier still is necessary, the fabric shall be replaced promptly.

- Sediment deposits must be removed when deposits reach approximately one-third (1/3) the height of the barrier.

- Any sediment deposits remaining in place after the silt fence or other barrier is no longer required shall be removed. The area shall be prepared and seeded.

- Additional stone may have to be added to the construction entrance, rock barrier and riprap lined swales, etc., periodically to maintain proper function of the erosion control structure.

### E. PERMANENT SEEDING -

- Bedding - stones larger than 1 1/2", trash, roots, and other debris that will interfere with seeding and future maintenance of the area should be removed. Where feasible, the soil should be tilled to a depth of 5" to prepare a seedbed and mix fertilizer into the soil.

- Fertilizer - lime and fertilizer should be applied evenly over the area prior to or at the time of seeding and incorporated into the soil. Kinds and amounts of lime and fertilizer should be based on an evaluation of soil tests. When a soil test is not available, the following minimum amounts should be applied:

Agricultural Limestone @ 100 lbs. per 1,000 s.f.  
10-20-20 fertilizer @ 12 lbs. per 1,000 s.f.

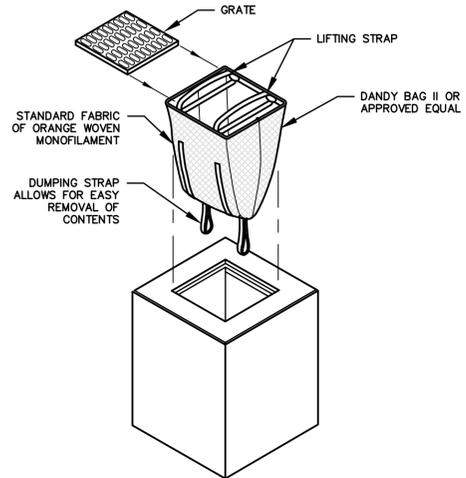
- Seed Mixture (See Landscape Drawings for additional information):

- Lawn seed mix shall be a fresh, clean new seed crop. The Contractor shall furnish a dealer's guaranteed statement of the composition of the mixture and the percentage of purity and germination of each variety.
- Seed mixture shall consist of
  - 1/3 Kentucky blue,
  - 1/3 perennial rye, and
  - 1/3 fine fescue.
- Turf type tall fescue is unacceptable.

- Sodding - sodding is done where it is desirable to rapidly establish cover on a disturbed area. Sodding an area may be substituted for permanent seeding procedures anywhere on site. Bed preparation, fertilizing, and placement of sod shall be performed according to the S.C.S. Handbook. Sodding is recommended for steep sloped areas, areas immediately adjacent to sensitive water courses, easily erodible soils (fine sand/silt), etc.

## WINTER CONSTRUCTION NOTES

- All proposed vegetated areas which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and elsewhere seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting. The installation of erosion control blankets or mulch and netting shall not occur over accumulated snow or on frozen ground and shall be completed in advance of thaw or spring melt events;
- All ditches or swales which do not exhibit a minimum of 85% 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; and
- 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 per NHDOT Item 304.3.



### INSTALLATION AND MAINTENANCE:

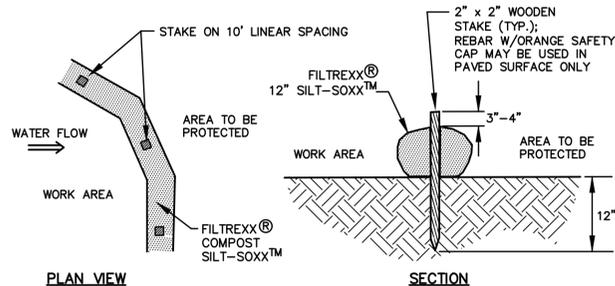
INSTALLATION: REMOVE THE GRATE FROM CATCH BASIN. IF USING OPTIONAL OIL ABSORBENTS, PLACE ABSORBENT PILLION IN UNIT. STAND GRATE ON END. MOVE THE TOP LIFTING STRAPS OUT OF THE WAY AND PLACE THE GRATE INTO CATCH BASIN. INSERT SO THE GRATE IS BELOW THE TOP STRAPS AND ABOVE THE LOWER STRAPS. HOLDING THE LIFTING DEVICES, INSERT THE GRATE INTO THE INLET.

MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM VICINITY OF THE UNIT AFTER EACH STORM EVENT. AFTER EACH STORM EVENT AND AT REGULAR INTERVALS, LOOK INTO THE CATCH BASIN INSERT. IF THE CONTAINMENT AREA IS MORE THAN 1/3 FULL OF SEDIMENT, THE UNIT MUST BE EMPTIED. TO EMPTY THE UNIT, LIFT THE UNIT OUT OF THE INLET USING THE LIFTING STRAPS AND REMOVE THE GRATE. IF USING OPTIONAL ABSORBENTS, REPLACE ABSORBENT WHEN NEAR SATURATION.

### UNACCEPTABLE INLET PROTECTION METHOD:

A SIMPLE SHEET OF GEOTEXTILE UNDER THE GRATE IS NOT ACCEPTABLE.

## STORM DRAIN INLET PROTECTION NOT TO SCALE



### NOTES:

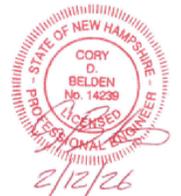
- SILT-SOXX OR APPROVED EQUAL MAY BE USED IN PLACE OF SILT FENCE OR OTHER SEDIMENT BARRIERS.
- ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
- SILT-SOXX COMPOST/SOIL/ROCK/SEED FILL MATERIAL SHALL BE ADJUSTED AS NECESSARY TO MEET THE REQUIREMENTS OF THE SPECIFIC APPLICATION.
- ALL SEDIMENT TRAPPED BY SILT-SOXX SHALL BE DISPOSED OF PROPERLY.

## TUBULAR SEDIMENT BARRIER NOT TO SCALE

ENGINEER:



133 Court Street Portsmouth, NH 03801  
(603) 433-2335 www.altus-eng.com



ISSUED FOR:

### SITE PLAN AMENDMENT

ISSUE DATE:

FEBRUARY 12, 2026

### REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	02/12/26

DRAWN BY: \_\_\_\_\_ CDB  
APPROVED BY: \_\_\_\_\_ CDB  
DRAWING FILE: 4801.3 DETAILS.DWG

SCALE:

NOT TO SCALE

OWNER:

HOPE FOR  
TOMORROW FOUNDATION  
315 BANFIELD ROAD  
PORTSMOUTH, N.H. 03801  
ASSESSOR'S PARCEL  
266-5

APPLICANT:

SAINT  
PATRICK  
ACADEMY

315 BANFIELD ROAD  
PORTSMOUTH, N.H. 03801

PROJECT:

SAINT PATRICK  
ACADEMY  
LIBRARY EXPANSION

315 BANFIELD ROAD  
PORTSMOUTH, N.H.  
ASSESSOR'S PARCEL 266-5

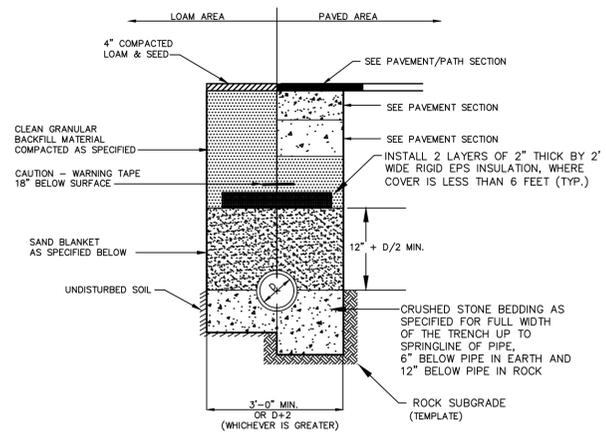
TITLE:

EROSION CONTROL  
NOTES & DETAILS

SHEET NUMBER:

D-1

P-4801.3



BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

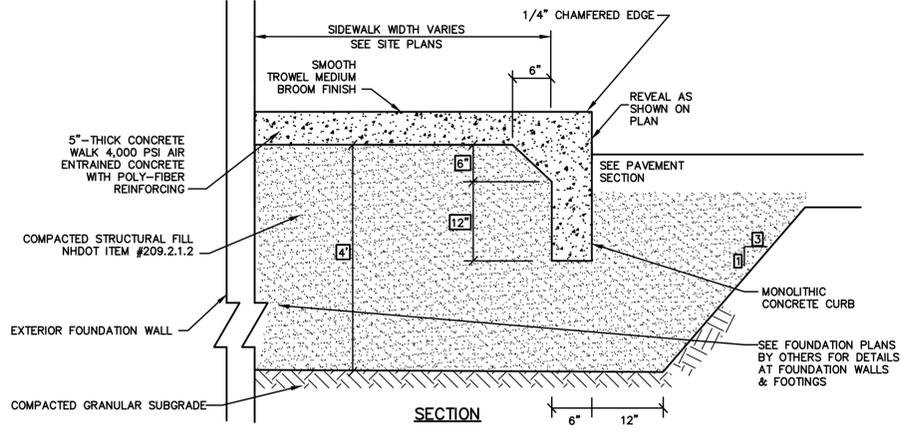
SAND BLANKET		CRUSHED STONE BEDDING *	
SIEVE SIZE	% FINER BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT
1/2"	90 - 100	1"	100
200	0 - 15	3/4"	90 - 100
		3/8"	20 - 55
		# 4	0 - 10
		# 8	0 - 5

\* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

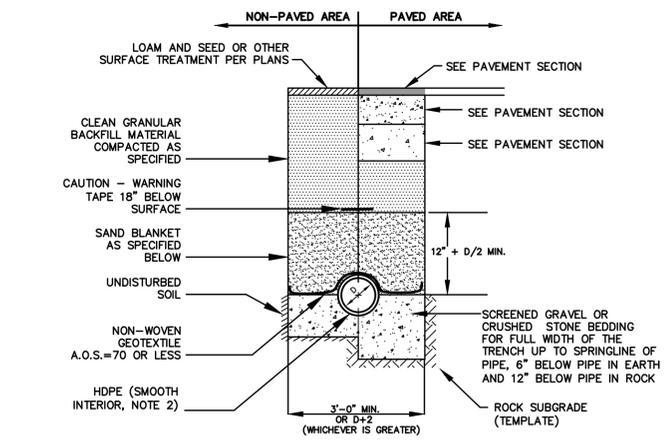
**SEWER TRENCH SECTION NOT TO SCALE**

**STANDARD TRENCH NOTES:**

- ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE; BACKFILL AS STATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN ON THE DRAWING.
- BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33, STONE SIZE NO. 67.  
 100% PASSING 1 INCH SCREEN  
 90 - 100% PASSING 3/4 INCH SCREEN  
 20 - 55% PASSING 3/8 INCH SCREEN  
 0 - 10% PASSING #4 SIEVE  
 0 - 5% PASSING #8 SIEVE  
 WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1-1/2 INCH TO 1/2 INCH SHALL BE USED.
- SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER, SO GRADED THAT 90 - 100% PASSES 1/2 INCH SIEVE AND NOT MORE THAN 15% WILL PASS A #200 SIEVE. BLANKET MAY BE OMITTED FOR CAST-IRON, DUCTILE IRON, AND REINFORCED CONCRETE PIPE PROVIDED HOWEVER, THAT NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE.
- SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS; PIECES OF PAVEMENT; ORGANIC MATTER; TOP SOIL; ALL WET OR SOFT MUCK, PEAT, OR CLAY; ALL EXCAVATED LEDGE MATERIAL; ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION; AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.
- BASE COURSE AND PAVEMENT SHALL MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES - DIVISIONS 300 AND 400 RESPECTIVELY.
- SHEETING, IF REQUIRED: WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION 1 FOOT ABOVE THE TOP OF PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.
- W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES IN NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE OUTSIDE DIAMETER (O.D.) ALSO, W SHALL BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
- FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUND TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- CONCRETE FOR ENCASEMENT SHALL CONFORM TO THE NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATION REQUIREMENTS FOR CLASS A (3000#) CONCRETE AS FOLLOWS:  
 CEMENT: 6.0 BAGS PER CUBIC YARD  
 WATER: 5.75 GALLONS PER BAG CEMENT  
 MAXIMUM SIZE OF AGGREGATE: 1 INCH  
 CONCRETE ENCASEMENT IS NOT ALLOWED FOR PVC PIPE.
- CONCRETE FULL ENCASEMENT: IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MINIMUM). BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.
- NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES DESIGN STANDARDS REQUIRE TEN FEET (10') SEPARATION BETWEEN WATER AND SEWER. REFER TO CITY'S STANDARD SPECIFICATIONS FOR METHODS OF PROTECTION IN AREAS THAT CANNOT MEET THESE REQUIREMENTS.



**CONCRETE SLAB (SIDEWALK) DETAILS @ BLDG. ENTRANCES NOT TO SCALE**

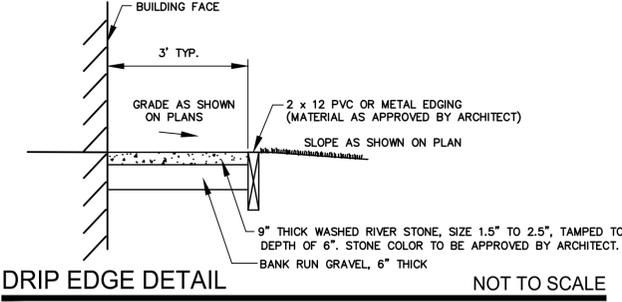


- NOTES:
- BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
  - ALL PIPE SHALL BE HDPE WITH SMOOTH INTERIOR AND CORRUGATED EXTERIOR, ADS TYPE N-12 OR APPROVED EQUAL.

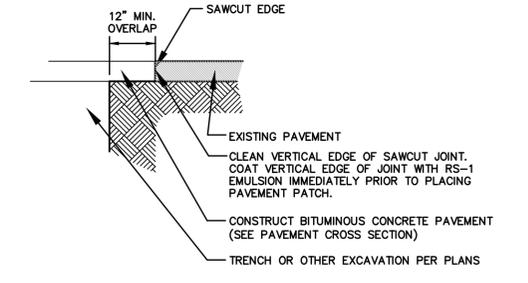
SAND BLANKET/BARRIER		SCREENED GRAVEL OR CRUSHED STONE BEDDING*	
SIEVE SIZE	% FINER BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT
1/2"	90 - 100	1"	100
200	0 - 15	3/4"	90 - 100
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		# 4	0 - 10
		# 8	0 - 5

\* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

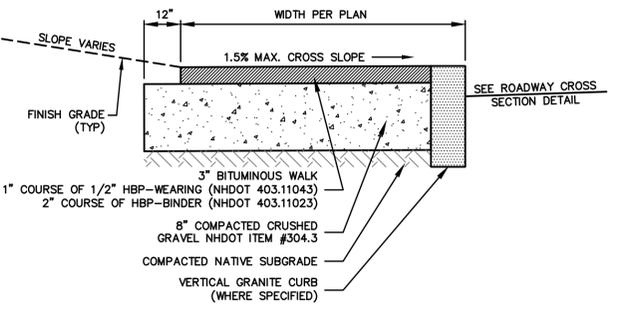
**STORM DRAIN TRENCH NOT TO SCALE**



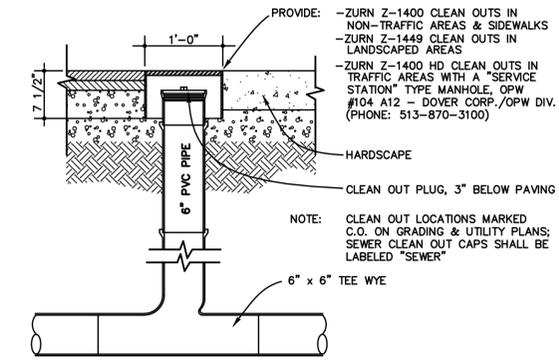
**DRIP EDGE DETAIL NOT TO SCALE**



**TYPICAL PAVEMENT SAWCUT NOT TO SCALE**



**BITUMINOUS SIDEWALK NOT TO SCALE**



**CLEANOUT DETAIL NOT TO SCALE**

ENGINEER:

133 Court Street Portsmouth, NH 03801  
 (603) 433-2335 www.altus-eng.com

ISSUED FOR: **SITE PLAN AMENDMENT**

ISSUE DATE: **FEBRUARY 12, 2026**

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	02/12/26

DRAWN BY: \_\_\_\_\_ CDB  
 APPROVED BY: \_\_\_\_\_ CDB  
 DRAWING FILE: 4801.3 DETAILS.DWG

SCALE: **NOT TO SCALE**

OWNER: **HOPE FOR TOMORROW FOUNDATION**  
 315 BANFIELD ROAD  
 PORTSMOUTH, N.H. 03801  
 ASSESSOR'S PARCEL 266-5

APPLICANT: **SAINT PATRICK ACADEMY**  
 315 BANFIELD ROAD  
 PORTSMOUTH, N.H. 03801

PROJECT: **SAINT PATRICK ACADEMY LIBRARY EXPANSION**  
 315 BANFIELD ROAD  
 PORTSMOUTH, N.H.  
 ASSESSOR'S PARCEL 266-5

TITLE: **DETAIL SHEET**

SHEET NUMBER: **D-2**

P4801.3

**50%  
SUBMISSION**  
02-04-26

BML RMT XXX  
DESIGNED BY: XXX  
DRAWN BY: XXX  
CHECKED BY: XXX  
PROJECT: 22402.05

**SAINT PATRICK ACADEMY**  
315 BANFIELD ROAD  
PORTSMOUTH, N.H. 03801

**SAINT PATRICK ACADEMY  
LIBRARY EXPANSION**  
315 BANFIELD ROAD  
PORTSMOUTH, N.H. 03801

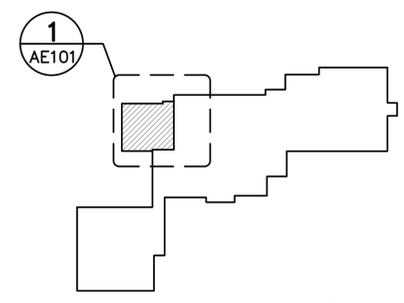
**FLOOR PLAN**

**GENERAL NOTES**

- SEE SHEET G-003 FOR GENERAL CONSTRUCTION NOTES.
- SEE SHEET AE001 FOR WALL TYPES AND GENERAL WALL TYPE NOTES.
- SEE SHEET AE601 FOR DOOR SCHEDULE.
- SEE SHEET AE621 FOR WINDOW AND BORROWED LITE TYPES.
- SEE SHEET AE641 FOR FINISH SCHEDULES.

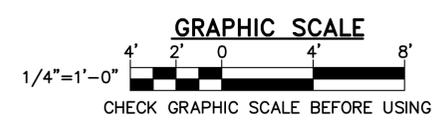
**KEYNOTES (THIS SHEET ONLY)**

- REINFORCED CONCRETE EXTERIOR STOOP, SEE STRUCTURAL SHEETS.
- SKYLIGHT ABOVE, SEE ROOF PLAN.
- BUILT-IN STORAGE.
- 6'-0" HIGH ARCHITECTURAL SCREENING, CARRY (14) LINEAR FEET AND (1) GATE WITH LATCH.



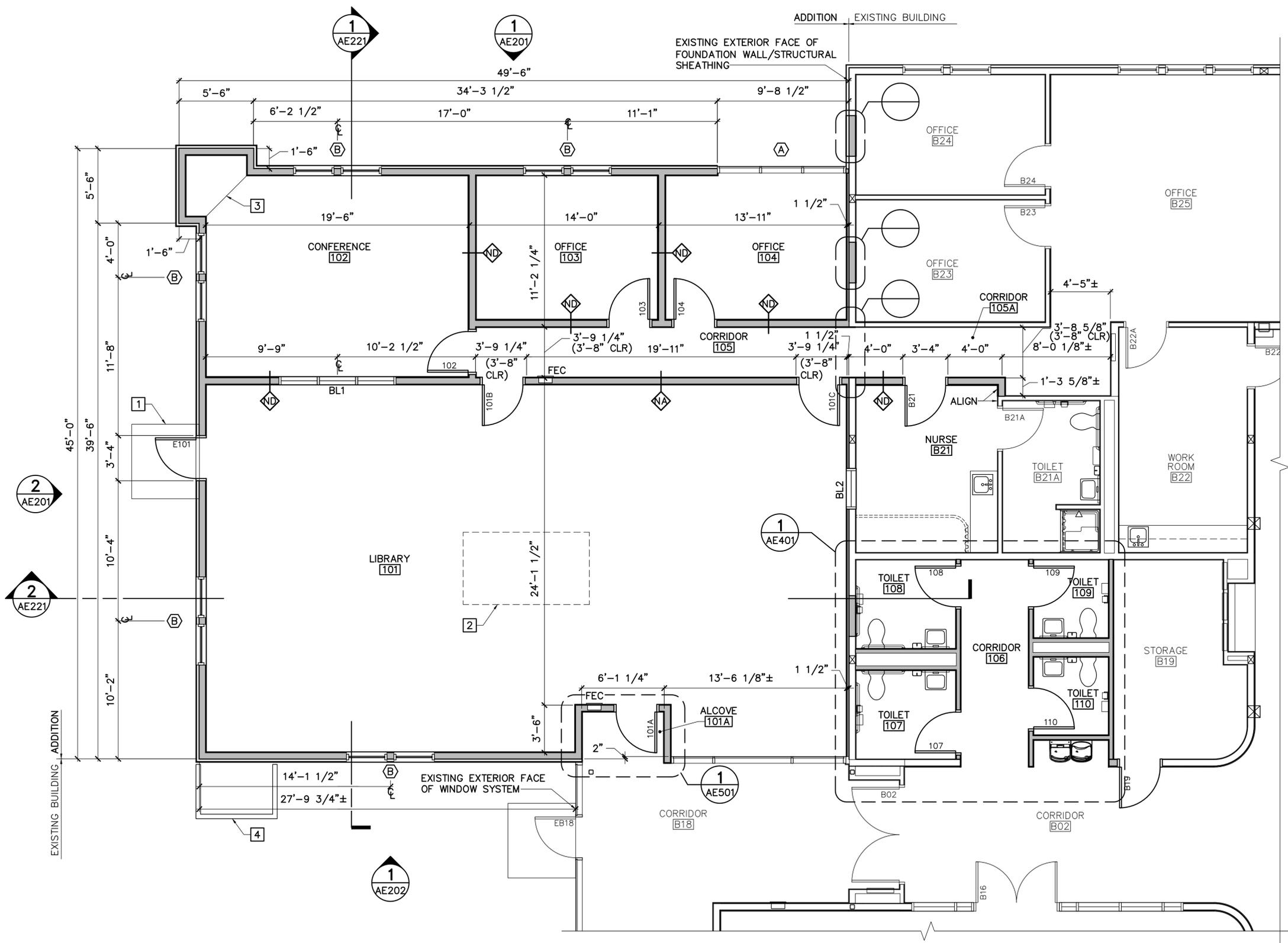
**KEY PLAN**  
NOT TO SCALE  
PLAN NORTH

**1 PARTIAL FLOOR PLAN**  
AE101 SCALE: 1/4"=1'-0"



NO.	DATE	DESCRIPTION	BY
REVISIONS			

SCALE: AS NOTED  
DATE: 02-04-26  
DWG.: **AE101**  
SHEET: **X** OF **XX**



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SUBMISSION**  
02-04-26

BWL  
SAS  
XXX

DESIGNED BY:  
DRAWN BY:  
CHECKED BY:

PROJECT:  
22402.05

**SAINT PATRICK ACADEMY**  
315 BANFIELD ROAD  
PORTSMOUTH, N.H. 03801

**SAINT PATRICK ACADEMY  
LIBRARY EXPANSION**  
315 BANFIELD ROAD  
PORTSMOUTH, N.H. 03801

**ROOF PLAN**

**GENERAL NOTES**

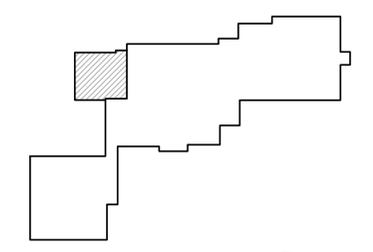
- SEE SHEET S-002 FOR COMPONENT AND CLADDING DESIGN PRESSURES.
- SEE SHEET AE641 FOR EXTERIOR FINISH SCHEDULE.

**KEYNOTES (THIS SHEET ONLY)**

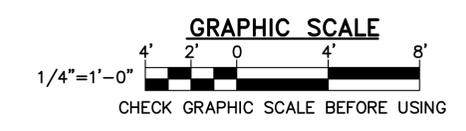
- CURB MOUNTED SKYLIGHT, SEE SHEET AE623.
- EPDM ROOF SYSTEM, SEE DETAIL 1/AE521.

**ROOF LEGEND**

- EXISTING ASPHALT SHINGLE ROOF SYSTEM
- EXISTING EPDM MEMBRANE ROOF SYSTEM
- ROOF PITCH
- RD ROOF DRAIN  
SEE DETAIL 5/AE521
- HP HIGH POINT
- VTR VENT THROUGH ROOF  
SEE DETAIL 4/AE521

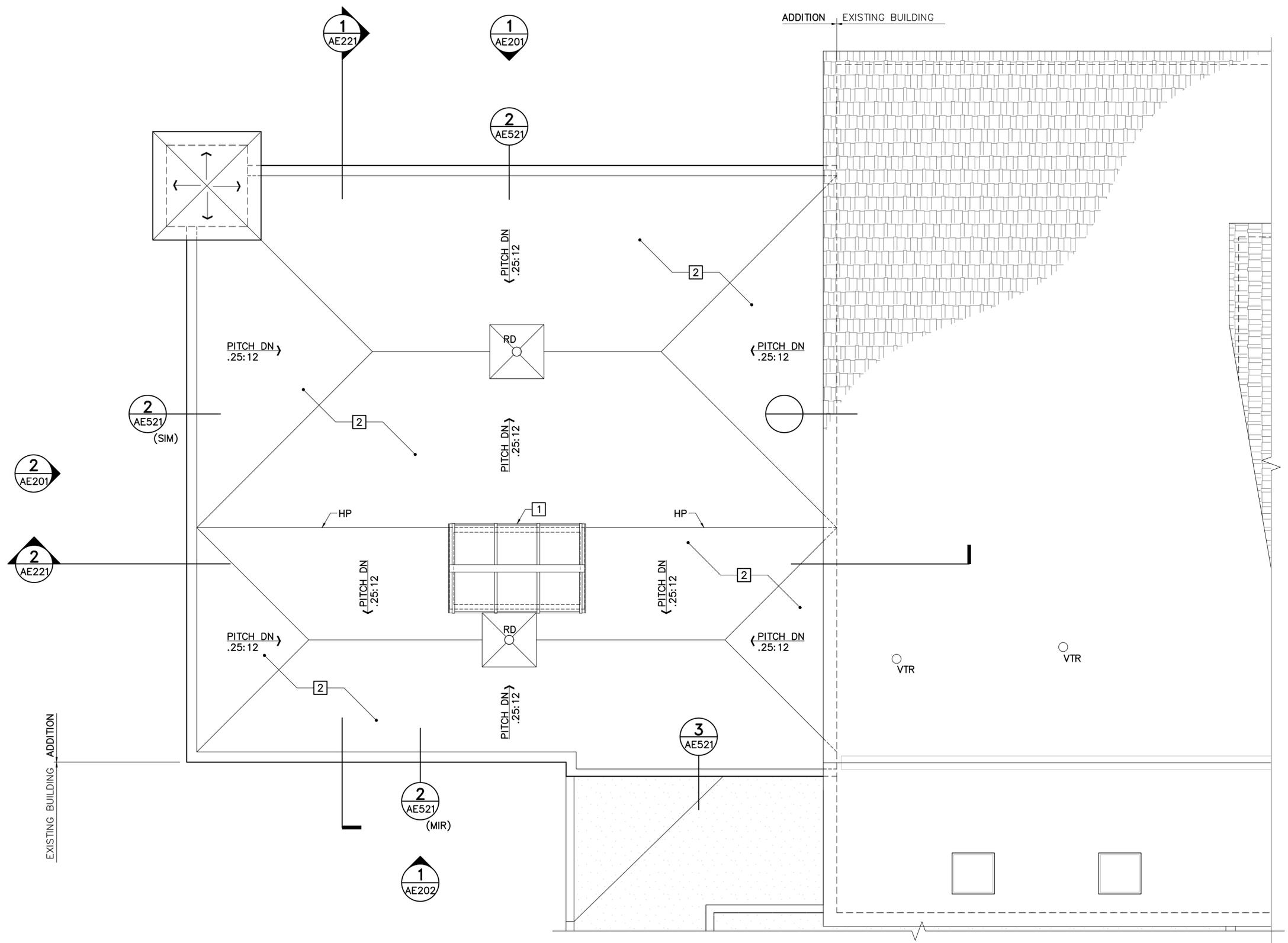


**KEY PLAN**  
NOT TO SCALE  
PLAN NORTH



NO.	DATE	DESCRIPTION	BY
REVISIONS			

SCALE: AS NOTED  
DATE: 02-04-26  
DWG.: **AE121**  
SHEET: **X** OF **XX**



**1 PARTIAL ROOF PLAN**  
AE121 SCALE: 1/4"=1'-0"

**50%  
SUBMISSION**  
02-04-26

BML  
RMT  
XXX

DESIGNED BY:  
DRAWN BY:  
CHECKED BY:

PROJECT:  
22402.05

**SAINT PATRICK ACADEMY**  
315 BANFIELD ROAD  
PORTSMOUTH, N.H. 03801

**SAINT PATRICK ACADEMY  
LIBRARY EXPANSION**  
315 BANFIELD ROAD  
PORTSMOUTH, N.H. 03801

**NORTH  
AND WEST  
EXTERIOR  
ELEVATIONS**

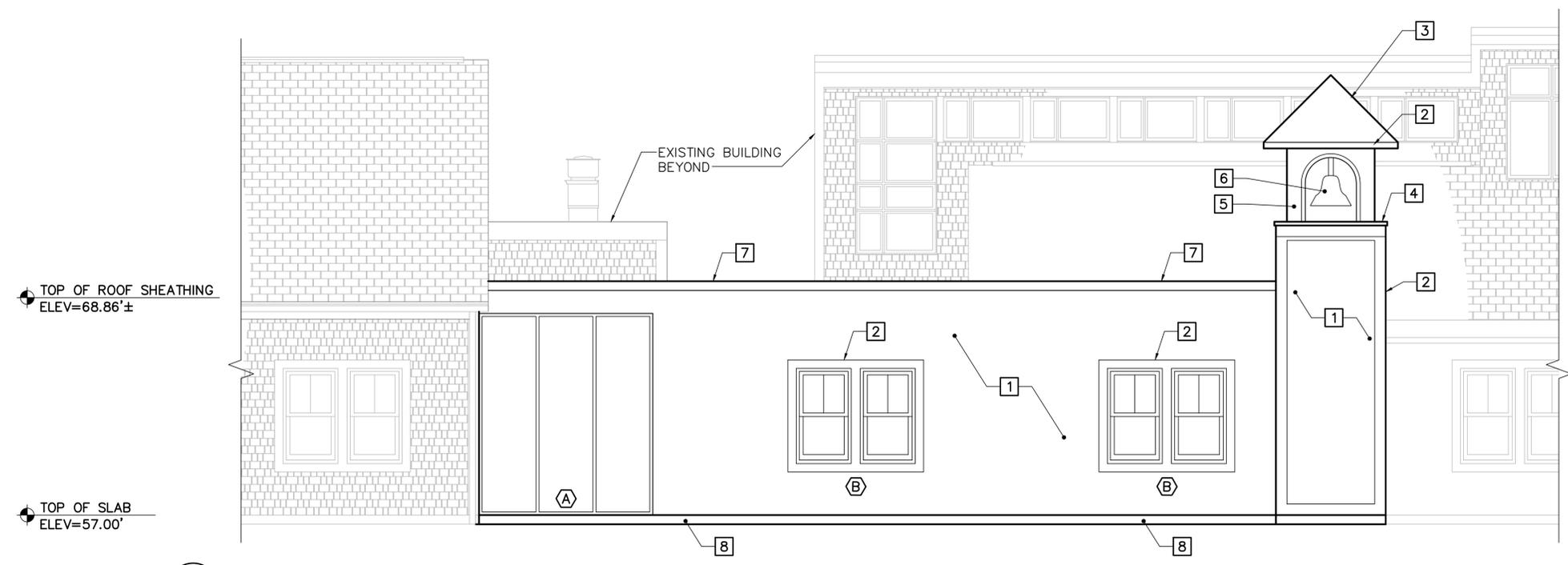
SCALE: AS NOTED  
DATE: 02-04-26  
DWG.: **AE201**  
SHEET: **X** OF **XX**

**GENERAL NOTES**

- SEE SHEET AE621 FOR WINDOW TYPES.
- SEE SHEET AE641 FOR EXTERIOR FINISH SCHEDULE.

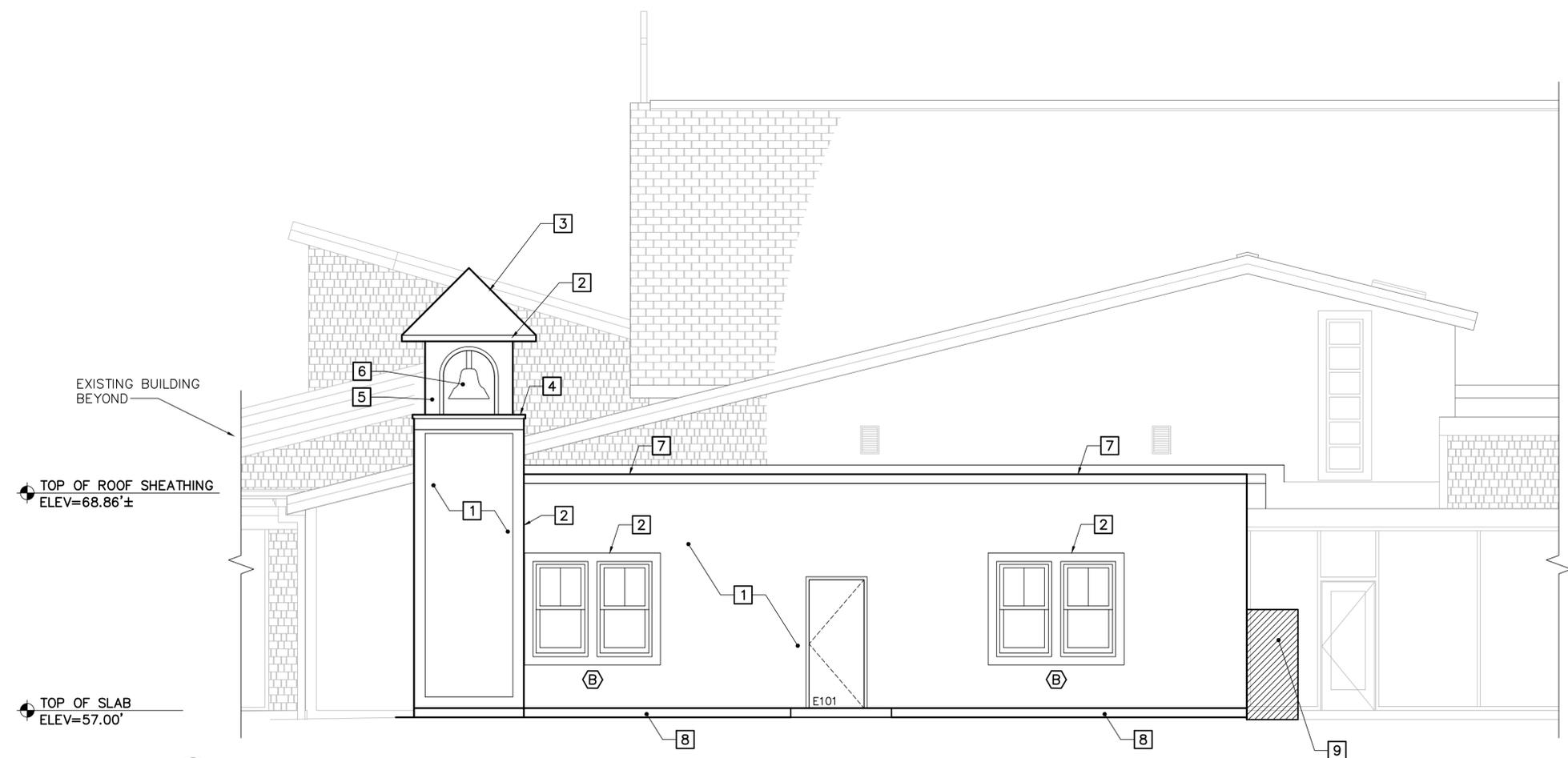
**KEYNOTES (SHEETS AE201 AND AE202)**

- VINYL SHINGLE SIDING, COLOR TO MATCH EXISTING SCHOOL.
- 1x PVC TRIM.
- ASPHALT SHINGLE ROOF SYSTEM.
- PRECAST CONCRETE SILL.
- STEEL FRAMED BELL TOWER WITH PVC TRIM.
- 2'-0" STATIONARY ALUMINUM BELL.
- PREFINISHED METAL FASCIA WITH DRIP EDGE.
- CEMENTITIOUS FINISH SYSTEM OVER FOUNDATION INSULATION.
- 6'-0" HIGH ARCHITECTURAL SCREENING, CARRY (14) LINEAR FEET AND (1) GATE WITH LATCH.



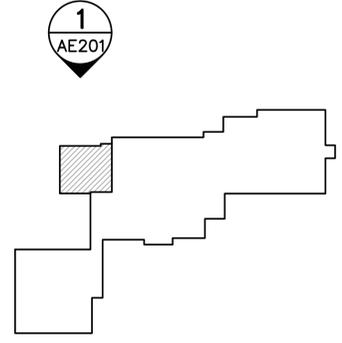
**1 NORTH EXTERIOR ELEVATION**

AE101,AE121,AE201 SCALE: 1/4"=1'-0"

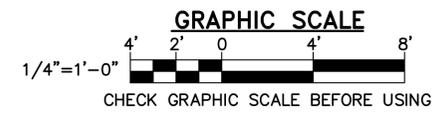


**2 WEST EXTERIOR ELEVATION**

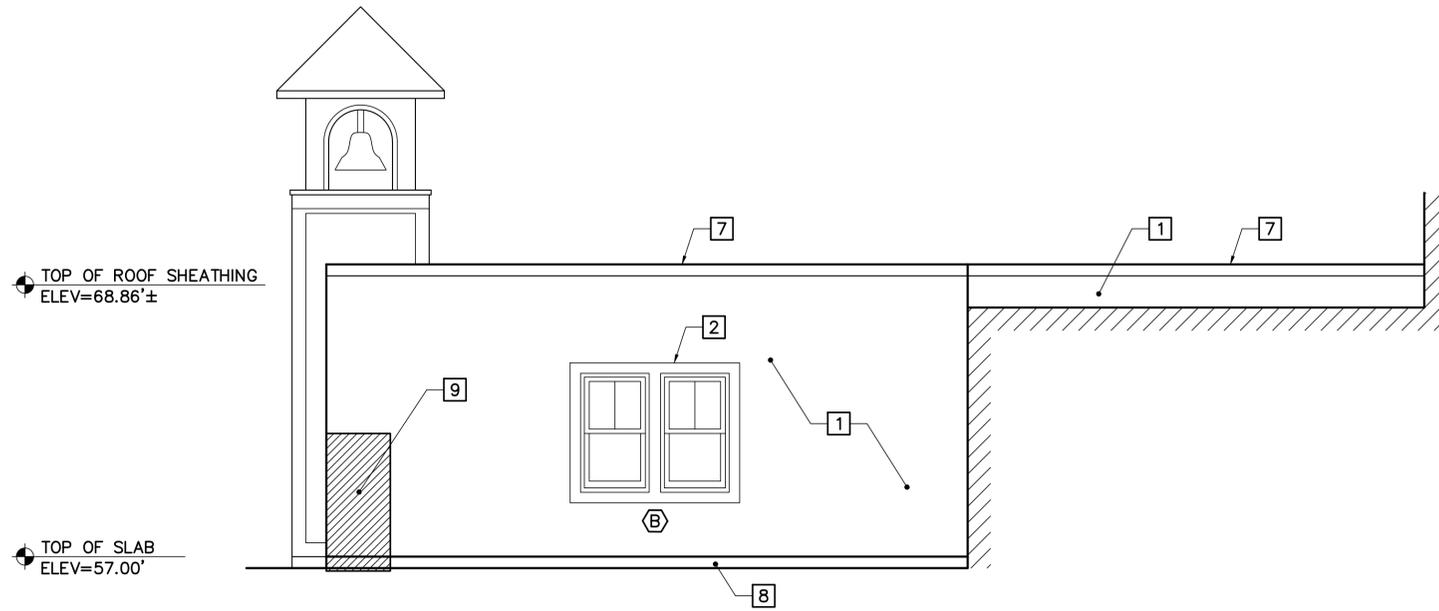
AE101,AE121,AE201 SCALE: 1/4"=1'-0"



**KEY PLAN**  
NOT TO SCALE  
PLAN NORTH



NO.	DATE	DESCRIPTION	BY
REVISIONS			

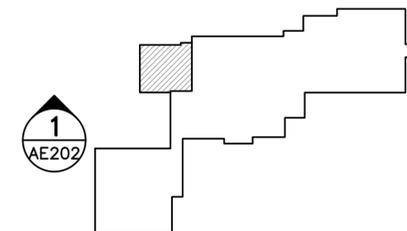


**GENERAL NOTES**

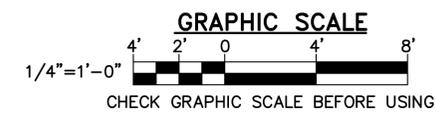
1. SEE SHEET AE201 FOR KEYNOTES.
2. SEE SHEET AE621 FOR WINDOW TYPES.
3. SEE SHEET AE641 FOR EXTERIOR FINISH SCHEDULE.

**1 SOUTH EXTERIOR ELEVATION**

AE101,AE121,AE202 SCALE: 1/4"=1'-0"



**KEY PLAN**  
NOT TO SCALE  
PLAN NORTH



NO.	DATE	DESCRIPTION	BY
REVISIONS			

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SUBMISSION  
02-04-26**

BML  
RMT  
XXX  
DESIGNED BY:  
DRAWN BY:  
CHECKED BY:  
PROJECT: 22402.05

**SAINT PATRICK ACADEMY**  
315 BANFIELD ROAD  
PORTSMOUTH, N.H. 03801

**SAINT PATRICK ACADEMY  
LIBRARY EXPANSION**  
315 BANFIELD ROAD  
PORTSMOUTH, N.H. 03801

**SOUTH  
EXTERIOR  
ELEVATION**

SCALE: AS NOTED  
DATE: 02-04-26

DWG.: **AE202**  
SHEET: **X** OF **XX**

# **DRAINAGE MEMOMANDUM**

## **Saint Patrick Academy Library Expansion**

315 Banfield Road, Portsmouth, NH

Assessor's Parcel 266-5

February 12, 2026

### **Table of Contents**

- Project Description
- Drainage Analysis
  - Stormwater Modeling Summary
- Conclusion
- Attachments
  - A) HydroCAD Routing Diagram
  - B) BMP Worksheet for Raingarden #1
  - C) Stage Storage Table for Raingaden #1
  - D) Peak Flow Results at Point of Analysis #1
  - E) Revised Post-Development Watershed Plan

### ***PROJECT DESCRIPTION***

In 2019, the Hope for Tomorrow Foundation (HFTF) and Saint Patrick Academy (Academy) developed a 200-student school at 315 Banfield Road, followed by construction of a gymnasium in 2020 on the 10.7-acre property. The Academy now plans to construct a new library addition totaling approximately 2,115 square feet. The proposed total lot impervious coverage will increase from 15.9% to 16.3% with the proposed addition. The proposed site improvements will not necessitate any additional parking. Stormwater from the proposed roof area will be managed through internal roof drains, directed to an existing catch basin, and routed through a previously installed raingarden for treatment. Altus has incorporated the new library addition into the drainage model to review the capacity of the raingarden. The peak elevation of the raingarden has only a 0.03 foot (3/8") increase as a result of the building addition for the 50-year storm event. Therefore, the raingarden has adequate capacity to manage the slight increase in flow. The stormwater management system for the site still provides a decrease in the peak discharge rates for all storms analyzed compared to the 2020 Pre-Development site condition. All rainfall intensities also include the 15% increase for Seacoast communities.

## ***Drainage Analysis***

In 2020, for the construction of the St. Patrick Academy gymnasium, a NHDES Alteration of Terrain permit was approved (AoT-1786, dated April 10, 2020). A comprehensive drainage study was prepared for the permit that modeled the Pre-Development and Post Development site conditions. Per NHDES AoT regulations, the site is compliant if the impervious area does not increase by more than 5% or 2,500 square feet. Therefore, an amendment to the AoT permit is not required for this permit.

*Env-Wq-1503.21.d.4 - As compared to the project as originally approved, the total impervious area has decreased, remained the same, or increased by the smaller of 5% or 2,500 square feet.*

As noted in the project description, Altus has updated the drainage model to include the new building addition. Utilizing the updated model, Altus has reviewed the existing Raingarden #1 for storage capacity and WQV treatment requirements. The BMP worksheet and storage table are included as an attachment. With the increase impervious are for the library, the required WQV increased slightly to 2,035 cubic feet of storage. The raingarden provides 2,238 cubic feet and therefore meets the WQV requirement. As noted, the peak elevation of the 50 year storm only resulted in an increase of 0.03 ft. Therefore the capacity is also adequate to accommodate the library. Lastly the peak flows were compared to the pre-development flows from the 2020 AoT permit application at the Point of Analysis #1. The results below show that the Peak flows for all storm events continue to provide a decrease compared to the pre-development conditions.

### **Stormwater Modeling Summary** **Peak Q (cfs) for Type III 24-Hour Storm Events**

	<b>2-Yr Storm (3.71 inch)</b>	<b>10-Yr Storm (5.64 inch)</b>	<b>25-Yr Storm (7.14 inch)</b>	<b>50-Yr Storm (8.57 inch)</b>
<b>POA #1 – Banfield Road</b>				
Pre (2020)	6.15	12.60	16.66	25.51
Post (2020)	5.85	11.76	15.74	24.33
Post (Library-2025)	<b>5.97</b>	<b>11.85</b>	<b>15.79</b>	<b>24.38</b>
<b>New Net Change</b>	<b>-0.18</b>	<b>-0.75</b>	<b>-0.87</b>	<b>-1.13</b>

As the above table demonstrates, the proposed peak rates of runoff will be decreased from the existing conditions of the site at the analysis point for all analyzed storm events. All storms are analyses utilizing the 15% increase to rainfall intensities for Seacoast communities.

## ***Conclusion***

This proposed 2,115 square foot library addition at Saint Patrick Academy, located at 335 Banfield Road in Portsmouth, NH will not have an adverse effect on abutting properties and infrastructure as a result of stormwater runoff. Post-construction peak rates of runoff from the site will remain lower than the Pre-development conditions for all analyzed storm events, including the 15% increase to rainfall for seacoast communities. The construction of a comprehensive stormwater drainage system will provide the required treatment to stormwater runoff. Appropriate steps will be taken to properly mitigate erosion and sedimentation through the use of temporary and permanent Best Management Practices for sediment and erosion control.

## ***Attachments***

The following attachments are included for reference:

- A) HydroCAD Routing Diagram
- B) BMP Worksheet for Raingarden #1
- C) Stage Storage Table for Raingaden #1
- D) Peak Flow Results at Point of Analysis #1
- E) Revised Post-Development Watershed Plan

Prepared by:

**ALTUS ENGINEERING, LLC**



Cory D. Belden, P.E.



## FILTRATION PRACTICE DESIGN CRITERIA (Env-Wq 1508.06)

Type/Node Name:                     Raingarden #1 (HydroCAD Pond RG1) - Updated for 2026 Library

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable

YES		Have you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.06(b)?	
3.47	ac	$A$ = Area draining to the practice <sup>1</sup>	
0.43	ac	$A_I$ = Impervious area draining to the practice	
0.12	decimal	$I$ = percent impervious area draining to the practice, in decimal form	
0.16	unitless	$R_v$ = Runoff coefficient = $0.05 + (0.9 \times I)$	
0.56	ac-in	$WQV$ = $1'' \times R_v \times A$	
2,035	cf	$WQV$ conversion (ac-in $\times$ 43,560 sf/ac $\times$ 1ft/12")	
509	cf	25% $\times$ $WQV$ (check calc for sediment forebay volume)	
1,526	cf	75% $\times$ $WQV$ (check calc for surface sand filter volume)	
	sumps	Method of Pretreatment? (not required for clean or roof runoff)	
	cf	$V_{SED}$ = sediment forebay volume, if used for pretreatment	← $\geq 25\%WQV$
1,000	sf	$A_{SA}$ = surface area of the practice	
1.00	iph	$I_{DESIGN}$ = design infiltration rate <sup>2</sup>	
	Yes/No	If $I_{DESIGN}$ is $< 0.50$ iph, has an underdrain been provided?	
24.4	hours	$T_{DRAIN}$ = drain time = $V / (A_{SA} * I_{DESIGN})$	← $\leq 72$ -hrs
39.25	feet	$E_{FC}$ = elevation of the bottom of the filter course material	
38.25	feet	$E_{UD}$ = invert elevation of the underdrain (UD), if applicable	
37.75	feet	$E_{BTM}$ = elevation of the bottom of the practice (i.e., bottom of the stone reservoir).	
37.00	feet	$E_{SHWT}$ = elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
34.00	feet	$E_{ROCK}$ = elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
1.00	feet	$D_{FC\ to\ UD}$ = depth to UD from the bottom of the filter course <sup>3</sup>	← $\geq 1'$
5.25	feet	$D_{FC\ to\ ROCK}$ = depth to bedrock from the bottom of the filter course <sup>3</sup>	← $\geq 1'$
2.25	feet	$D_{FC\ to\ SHWT}$ = depth to SHWT from the bottom of the filter course <sup>3</sup>	← $\geq 1'$
0.75	feet	$D_{BTM\ to\ SHWT}$ = depth to SHWT from the bottom of the practice <sup>3</sup>	← $\geq 2'$
42.24	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
43.00	ft	Elevation of the top of the practice	
YES		10 peak elevation $\leq$ Elevation of the top of the practice	← yes

### If a surface sand filter is proposed:

YES	ac	Drainage Area check.	← $< 10$ ac
	cf	$V$ = volume of storage <sup>4,5</sup> (attach a stage-storage table)	← $\geq 75\%WQV$
	inches	$D_{FC}$ = filter course thickness	← 18"
	Sheet	Note what sheet in the plan set contains the filter course specification	
	Yes/No	Access grate provided?	← yes
		The filter shall not be covered in grass. What is covering the filter?	

### If an underground sand filter is proposed:

YES	ac	Drainage Area check.	← $< 10$ ac
	cf	$V$ = volume of storage <sup>4,5</sup> (attach a stage-storage table)	← $\geq 75\%WQV$
	inches	$D_{FC}$ = filter course thickness	← 24"
	Sheet	Note what sheet in the plan set contains the filter course specification	
	Yes/No	Access grate provided?	← yes



**4801.2 POST-Ph3-Library\_2025**

Prepared by Altus Engineering

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Type III 24-hr 2-Year Rainfall=3.71"

Printed 2/12/2026

**Stage-Area-Storage for Pond RG1: Raingarden 1**

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
37.50	1,000	0	42.80	2,440	4,337
37.60	1,000	33	42.90	2,520	4,517
37.70	1,000	66	43.00	<b>2,600</b>	<b>4,698</b>
37.80	1,000	99			
37.90	1,000	132			
38.00	1,000	165			
38.10	1,000	198			
38.20	1,000	231			
38.30	1,000	264			
38.40	1,000	297			
38.50	1,000	330			
38.60	1,000	363			
38.70	1,000	396			
38.80	1,000	429			
38.90	1,000	462			
39.00	1,000	495			
39.10	1,000	528			
39.20	1,000	561			
39.30	1,000	594			
39.40	1,000	627			
39.50	1,000	660			
39.60	1,000	693			
39.70	1,000	726			
39.80	1,000	759			
39.90	1,000	792			
40.00	1,000	825			
40.10	1,000	858			
40.20	1,000	891			
40.30	1,000	924			
40.40	1,000	957			
40.50	1,000	990			
40.60	1,000	1,000			
40.70	1,000	1,010			
40.80	1,000	1,031			
40.90	1,000	1,064			
41.00	1,000	1,098			
41.10	1,080	1,278			
41.20	1,160	1,458			
41.30	1,240	1,637			
41.40	1,320	1,817			
41.50	1,400	1,998			
41.60	1,480	2,178			
41.70	1,560	2,358			
41.80	1,640	2,537			
41.90	1,720	2,717			
42.00	1,800	2,898			
42.10	1,880	3,078			
42.20	1,960	3,258			
42.30	2,040	3,437			
42.40	2,120	3,617			
42.50	2,200	3,798			
42.60	2,280	3,978			
42.70	2,360	4,158			

41.75 outlet / WQV = 2478 cf

**4801.2 POST-Ph3-Library\_2025**

*Type III 24-hr 2-Year Rainfall=3.71"*

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Page 1

**Summary for Link POA1: POA #1**

Inflow Area = 5.529 ac, 31.57% Impervious, Inflow Depth > 1.45" for 2-Year event  
Inflow = 5.97 cfs @ 12.16 hrs, Volume= 0.670 af  
Primary = 5.97 cfs @ 12.16 hrs, Volume= 0.670 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-30.00 hrs, dt= 0.05 hrs

**4801.2 POST-Ph3-Library\_2025**

*Type III 24-hr 10-Year Rainfall=5.64"*

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Page 2

**Summary for Link POA1: POA #1**

Inflow Area = 5.529 ac, 31.57% Impervious, Inflow Depth > 2.98" for 10-Year event  
Inflow = 11.85 cfs @ 12.14 hrs, Volume= 1.372 af  
Primary = 11.85 cfs @ 12.14 hrs, Volume= 1.372 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-30.00 hrs, dt= 0.05 hrs

**4801.2 POST-Ph3-Library\_2025**

*Type III 24-hr 25-Year Rainfall=7.14"*

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Page 3

**Summary for Link POA1: POA #1**

Inflow Area = 5.529 ac, 31.57% Impervious, Inflow Depth > 4.24" for 25-Year event  
Inflow = 15.79 cfs @ 12.14 hrs, Volume= 1.954 af  
Primary = 15.79 cfs @ 12.14 hrs, Volume= 1.954 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-30.00 hrs, dt= 0.05 hrs

**4801.2 POST-Ph3-Library\_2025**

*Type III 24-hr 50-Year Rainfall=8.57"*

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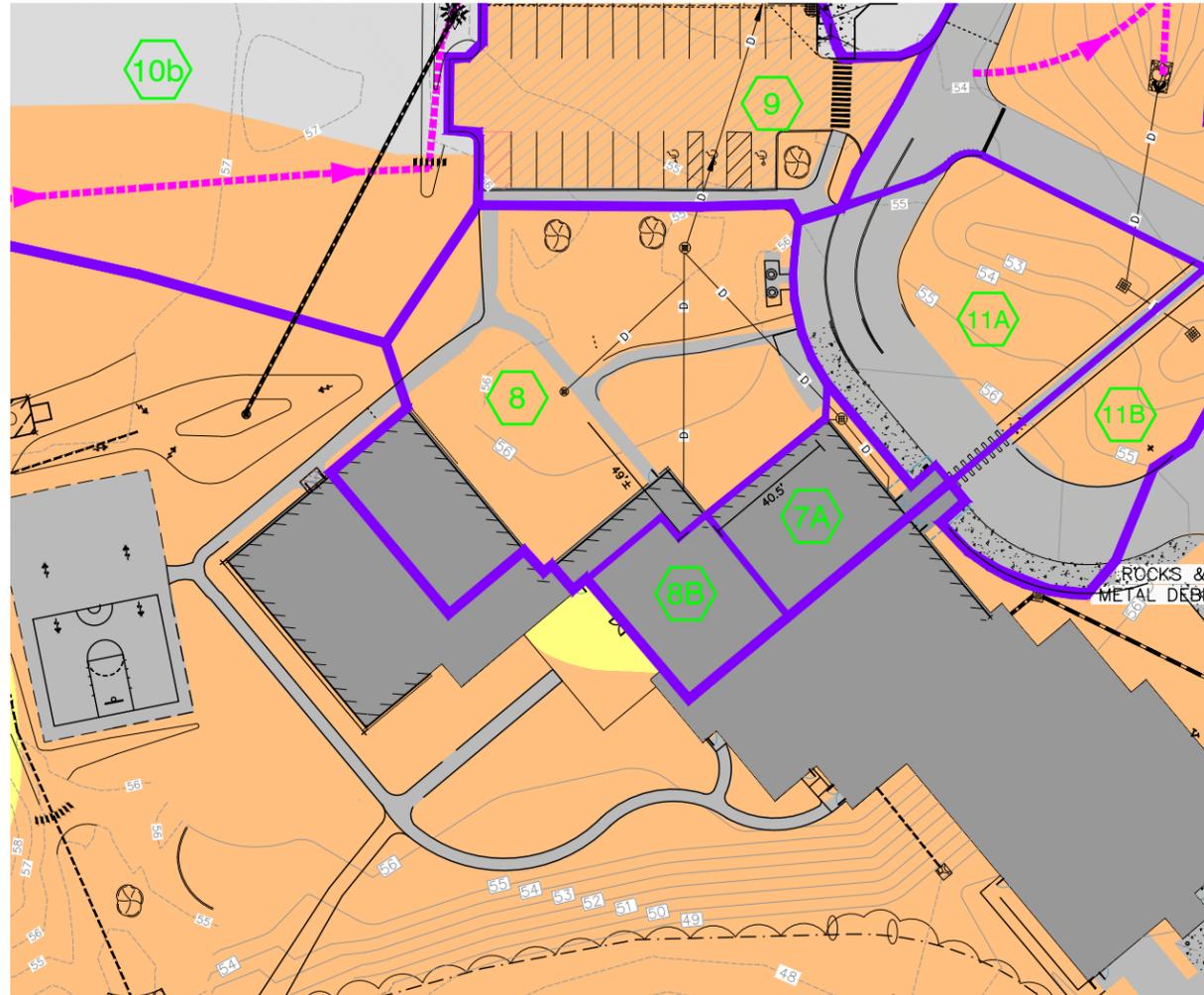
Page 4

**Summary for Link POA1: POA #1**

Inflow Area = 5.529 ac, 31.57% Impervious, Inflow Depth > 5.49" for 50-Year event  
Inflow = 24.38 cfs @ 12.17 hrs, Volume= 2.530 af  
Primary = 24.38 cfs @ 12.17 hrs, Volume= 2.530 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-30.00 hrs, dt= 0.05 hrs

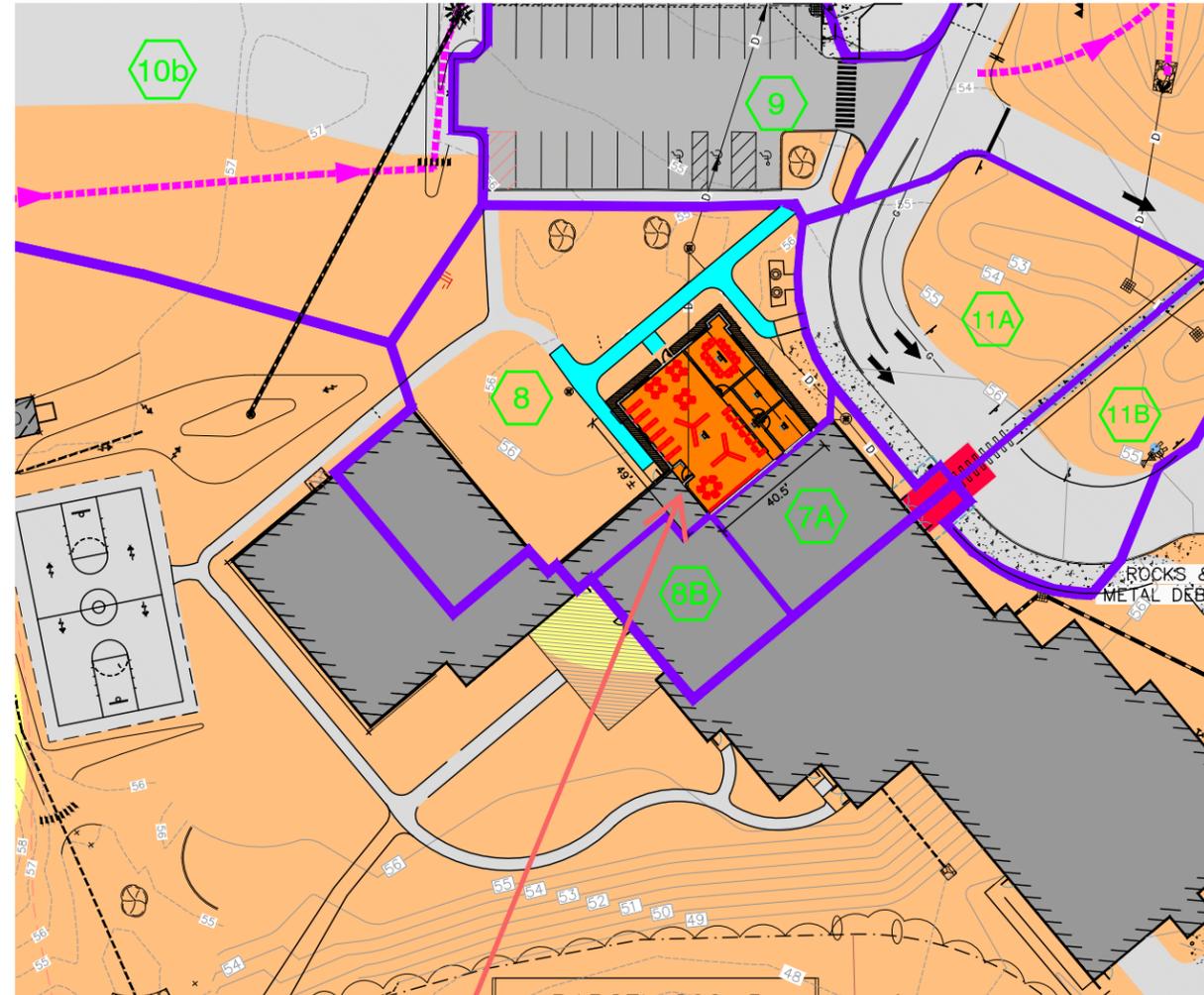
# PRE



**LEGEND**

	WATERSHED BOUNDARY
	Tc PATH
	SUBCATCHMENT
	POND
	REACH
	SOILS - HSG B
	SOILS - HSG C
	SOILS - IMPERVIOUS PAVE/BLDG
	LIBRARY ADDITION

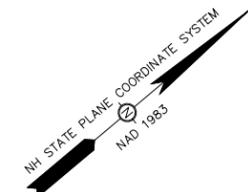
# POST



**LIBRARY ADDITION**

**NOTES**

1. SITE SPECIFIC SOILS SURVEY PERFORMED BY JOSEPH W. NOEL, CSS #017, NOVEMBER - DECEMBER 2016.
2. WETLANDS DELINEATED BY JOSEPH W. NOEL, CWS #086, SEPTEMBER 2016.
3. THE LEFT SIDE OF THE PLAN DEPICTS THE SITE BEFORE THE LIBRARY AND THE RIGHT DEPICTS THE SITE AFTER THE LIBRARY IS CONSTRUCTED



ENGINEER:

133 Court Street Portsmouth, NH 03801  
(603) 433-2335 www.altus-eng.com

ISSUED FOR: DRAINAGE MEMO

ISSUE DATE: FEBRUARY 12, 2026

REVISIONS	NO.	DESCRIPTION	BY	DATE
0		DRAINAGE MEMO	CDB	02/12/26

DRAWN BY: JMG  
APPROVED BY: CDB  
DRAWING FILE: 4801EC.DWG

SCALE:  
22" x 34" - 1" = 30'  
11" x 17" - 1" = 60'

OWNER:  
  
HOPE FOR TOMORROW FOUNDATION  
315 BANFIELD ROAD  
PORTSMOUTH, N.H. 03801

APPLICANT:  
  
SAINT PATRICK ACADEMY  
315 BANFIELD ROAD  
PORTSMOUTH, N.H. 03801

PROJECT:  
  
LIBRARY EXPANSION  
BANFIELD ROAD  
PORTSMOUTH, N.H.  
ASSESSOR'S PARCELS  
266-4, 266-5 & 266-6

TITLE:  
  
REVISED POST-DEVELOPMENT WATERSHED PLAN

SHEET NUMBER:  
  
WS-3