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February 17, 2021

Mr. Frank Bumstead and Commission Members  
Inland Wetlands and Watercourses Commission  
Town of North Haven  
Memorial Town Hall  
18 Church Street  
North Haven, CT 06473

**Re: Response to REMA Comments  
Slate Upper School  
5100 Outer Ridge Road  
North Haven, Connecticut  
SLR #16156.00003**

Dear Chairman Bumstead and Commission Members,

SLR International Corporation (SLR) is in receipt of a letter from REMA Ecological Services, LLC, dated January 25, 2021, regarding the above-referenced project. We offer the following responses to the engineering comments contained therein:

#### **AQUIFER PROTECTION ZONE**

In accordance with regulations, plans and reports have been submitted to the Regional Water Authority (RWA) and the Connecticut Department of Public Health (CTDPH) for a project within an Aquifer Protection Area. RWA has reviewed the plans twice. Copies of those two letters are in the town files. RWA has not expressed any concerns with the project. The project has been designed to comply with the Connecticut Department of Energy & Environmental Protection's (CTDEEP) water quality guidelines. The first flush runoff has been directed to the aboveground basin to meet CTDEEP's water quality requirements. In addition, a hydrodynamic water quality chamber has been provided to pre-treat the water in the system based on the flow for expected rainfall events.

#### **SOIL ERODIBILITY**

All construction activities have been protected with erosion controls. A detailed construction phasing plan and erosion control plan are included with this submission. These plans show that at no time will the entire area be disturbed. The proposed erosion control plan has been designed to mitigate any temporary construction activities. It is our professional opinion that the implementation of the erosion control and phasing plans will prevent any adverse impacts on the adjacent wetlands.

#### **WATER QUALITY**

The underground chambers will include a liner and be solely for detention. No infiltration was used in calculations for the chambers or the aboveground basin. The underdrain has been removed from the stormwater basin. The first flush runoff from the watershed draining to the underground chambers

(WS 12) has been directed to the aboveground basin to meet the CTDEEP water quality requirements. The proposed plan includes several best management practices to protect the adjacent wetlands.

### **HYDROLOGIC SIZING CRITERIA**

The underdrain in the basin has been eliminated so that some, but minimal, infiltration can occur.

The site design has been revised to create more green stormwater practices and reduce impervious coverage. The revisions will introduce a new green roof area over the northern building as well as eliminate the sidewalks and narrow paved walkways around the buildings. The 5,930-square-foot reduction (12.1% reduction) of the proposed impervious area will result in a final impervious coverage from the development of 0.99 acres. Per the CTDEEP *Stormwater Manual* definition, the Stream Channel Protection criterion does not apply if a site has less than or equal to 1 acre of impervious cover. Therefore, this criterion is no longer applicable.

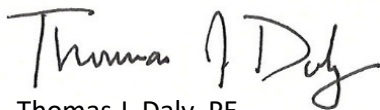
### **IMPACTS TO WETLAND HYDROLOGY**

Under existing conditions, the drainage area of the direct discharge to the aforementioned wetland fringe is 5.31 acres. Under proposed conditions, the direct discharge area to the wetland fringe will be reduced by only 0.62 acres (a reduction of 12% from existing conditions). This reduction in the drainage area will not cause a significant adverse impact to the wetland fringe. It should be noted that the proposed development will not cause a diversion that reduces the drainage area to the downstream wetlands off the property to the west. Illustrative watershed maps for both existing and proposed conditions are attached.

If you have any questions, please do not hesitate to contact me at (203) 271-1773.

Sincerely,

### **SLR International Corporation**



Thomas J. Daly, PE  
Manager of Civil and Structural Engineering

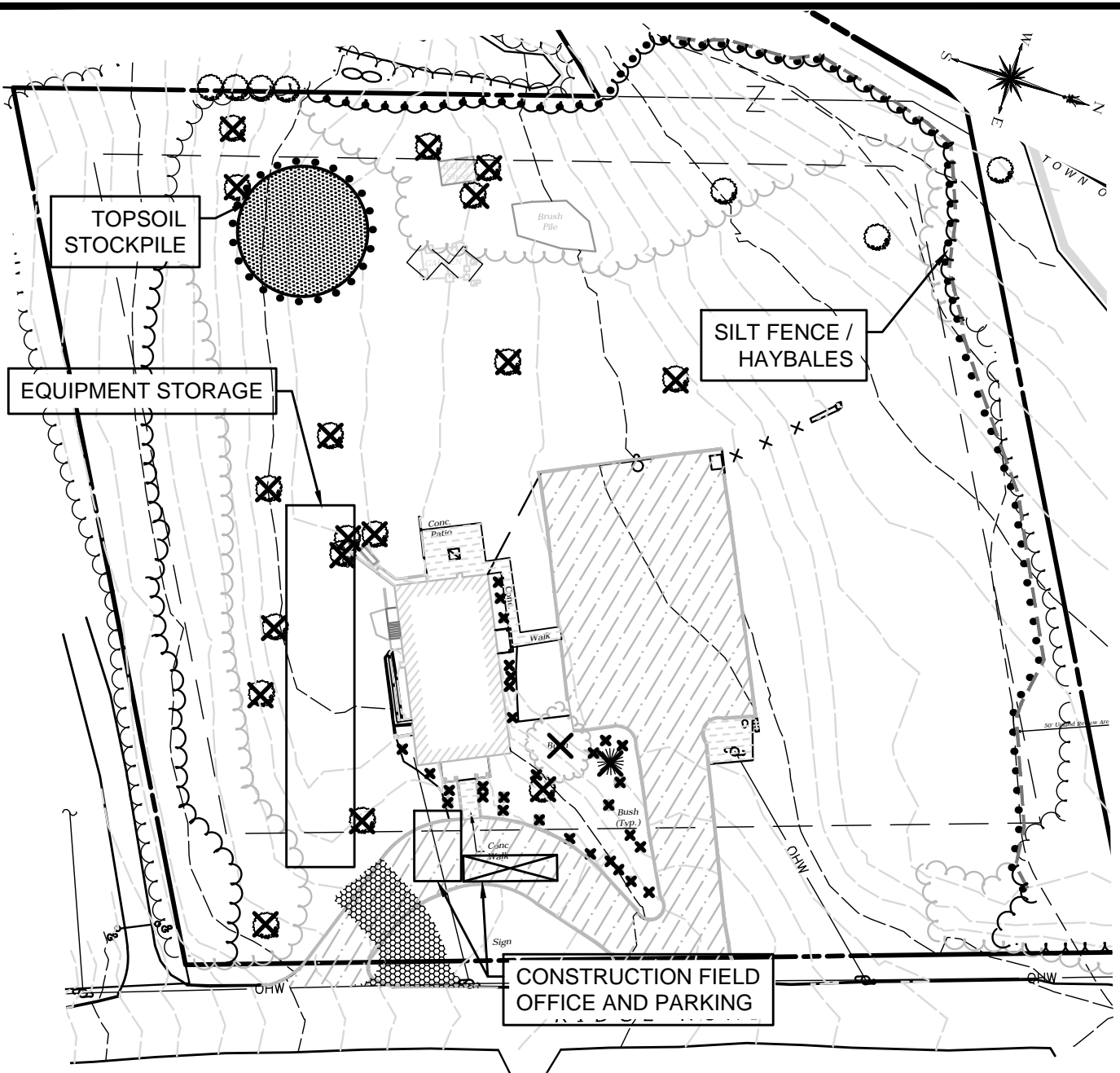
cc Ms. Jennifer Staple-Clark  
Attorney Tim Lee  
Attorney Tim Hollister

Enclosures

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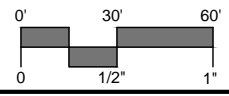
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**PHASE 1 CONSTRUCTION SEQUENCE (CLEARING & REMOVALS):**

1. CLEAR VEGETATION
2. INSTALL SILT FENCE/ HAYBALES
3. STUMP AND STRIP TOPSOIL
4. REMOVAL ASPHALT DRIVEWAY
5. INSTALL CONSTRUCTION ENTRANCE
6. REMAINING REMOVALS



99 REALTY DRIVE  
CHESHIRE, CT 06410  
203.271.1773  
SLRCONSULTING.COM

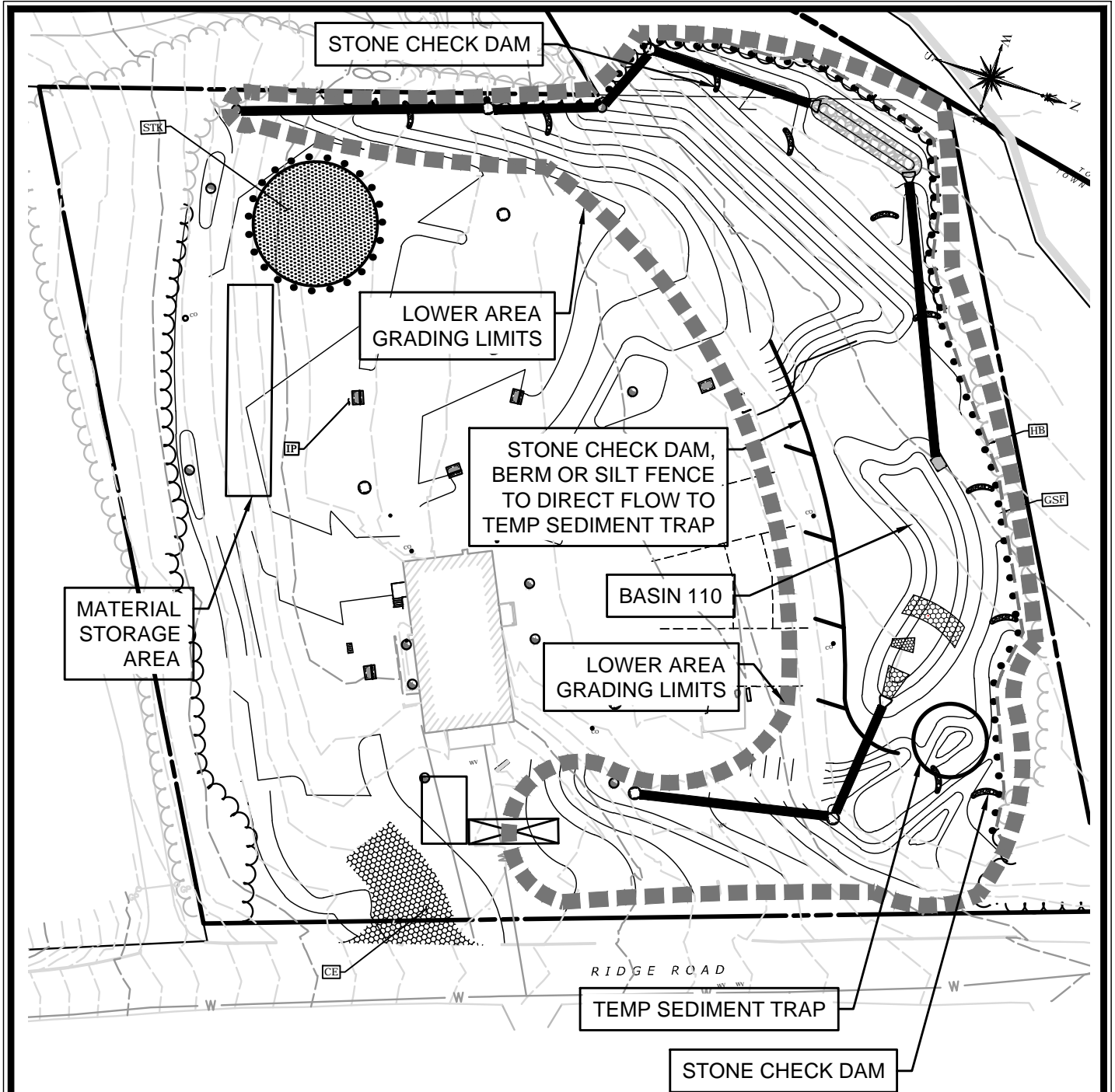
**PHASING PLANS - 1**  
**SLATE UPPER SCHOOL**  
**5100 RIDGE ROAD**  
**NORTH HAVEN, CONNECTICUT**

PROJECT PHASE: FOR CONSTRUCTION

REV: ---

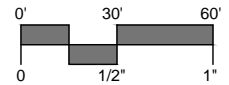
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**FIG. 1**



**PHASE 2 CONSTRUCTION SEQUENCE:**

1. COMPLETE MASS GRADING, FORM BASINS AND INSTALL LOWER STORM DRAIN PIPING.
2. PLACE STONE CHECKS DAMS AS NECESSARY BASED ON FIELD CONDITIONS.
3. TEMPORARY SEED & MULCH LOWER AREA. MULCH WITH SPRAYED FILTER MATRIX IF OUTSIDE OPTIMAL SEEDING PERIOD.

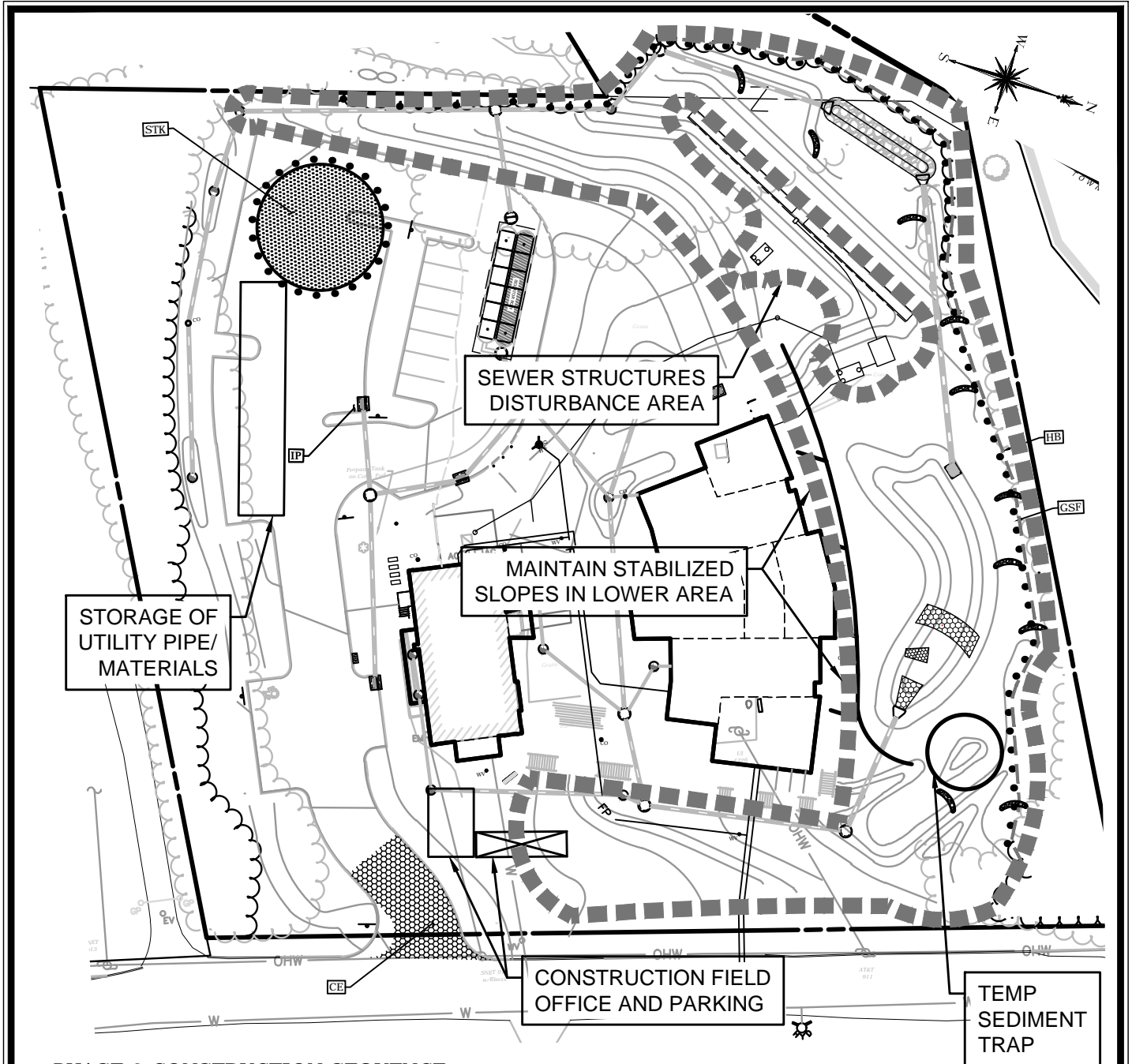


**PHASING PLANS - 2**  
**SLATE UPPER SCHOOL**  
**5100 RIDGE ROAD**  
**NORTH HAVEN, CONNECTICUT**

PROJECT PHASE: **FOR CONSTRUCTION**      REV: ---

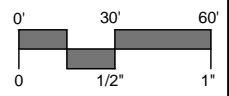
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**FIG. 2**



**PHASE 3 CONSTRUCTION SEQUENCE:**

1. MAINTAIN STABILIZED SLOPES IN LOWER AREA TO GREATEST EXTENT POSSIBLE. ANY DISTURBANCE WILL IMMEDIATELY BE STABILIZED.
2. INSTALL SEWER STRUCTURES. TOPSOIL AND SEED BACKFILLED AREAS.
3. BUILDING FOUNDATIONS.
4. INSTALL UPPER STORM DRAINAGE PIPING.
5. INSTALL UNDERGROUND STORM STORAGE TANKS, ASSOCIATED PIPING & REMAINING UTILITIES.
6. REPLACE STONE CHECKS DAMS BASED ON FIELD CONDITIONS.

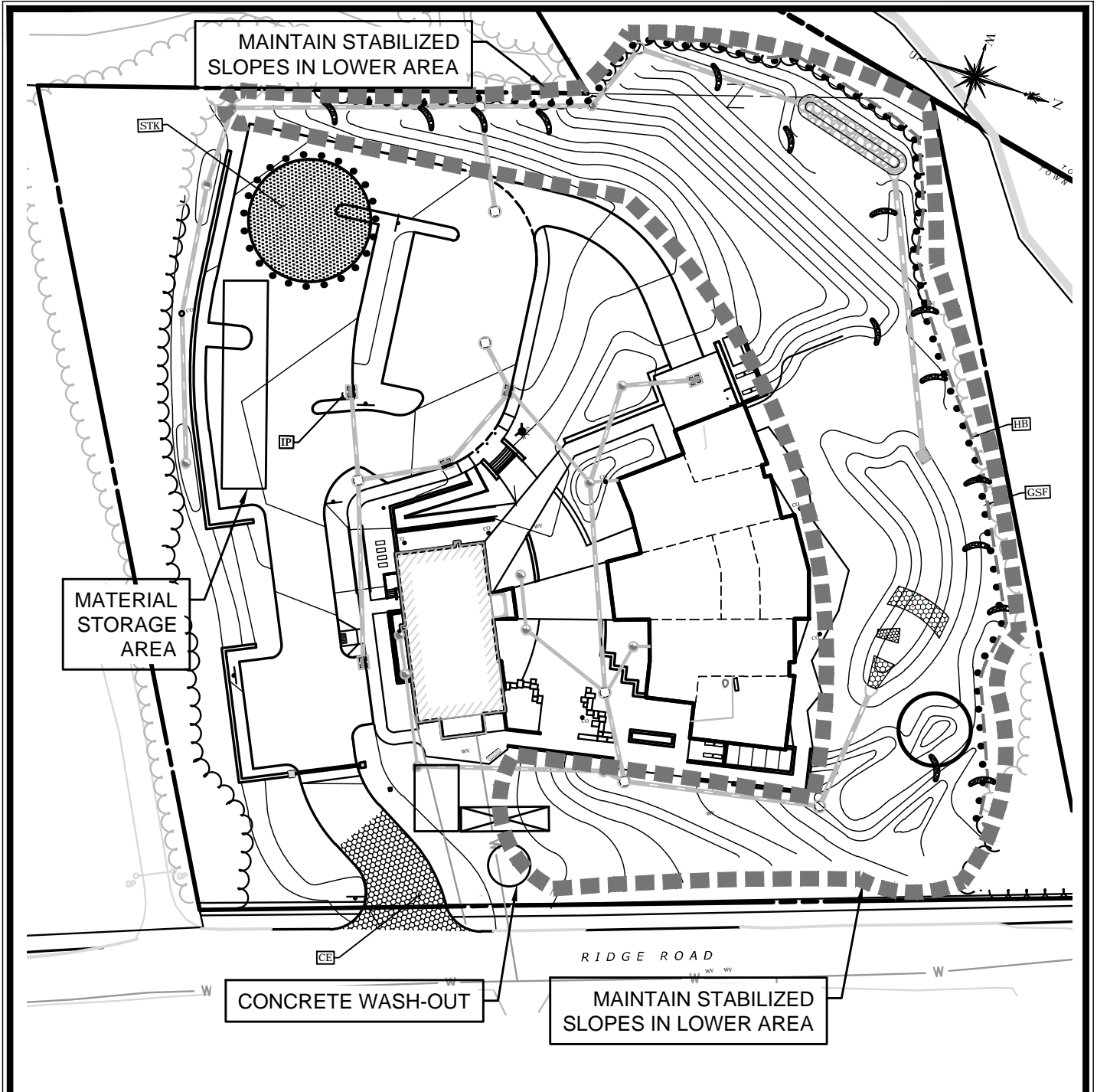


**PHASING PLANS - 3**  
**SLATE UPPER SCHOOL**  
**5100 RIDGE ROAD**  
**NORTH HAVEN, CONNECTICUT**  
 PROJECT PHASE: FOR CONSTRUCTION      REV: ---

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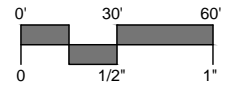


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**PHASE 4 CONSTRUCTION SEQUENCE:**

1. MAINTAIN STABILIZED SLOPES IN LOWER AREA.
2. CONTINUE BUILDING WORK, SITE WALLS & SIDEWALKS.
3. UPPER AREA GRADING AND SEED.
4. PARKING LOT PREP & PAVE.



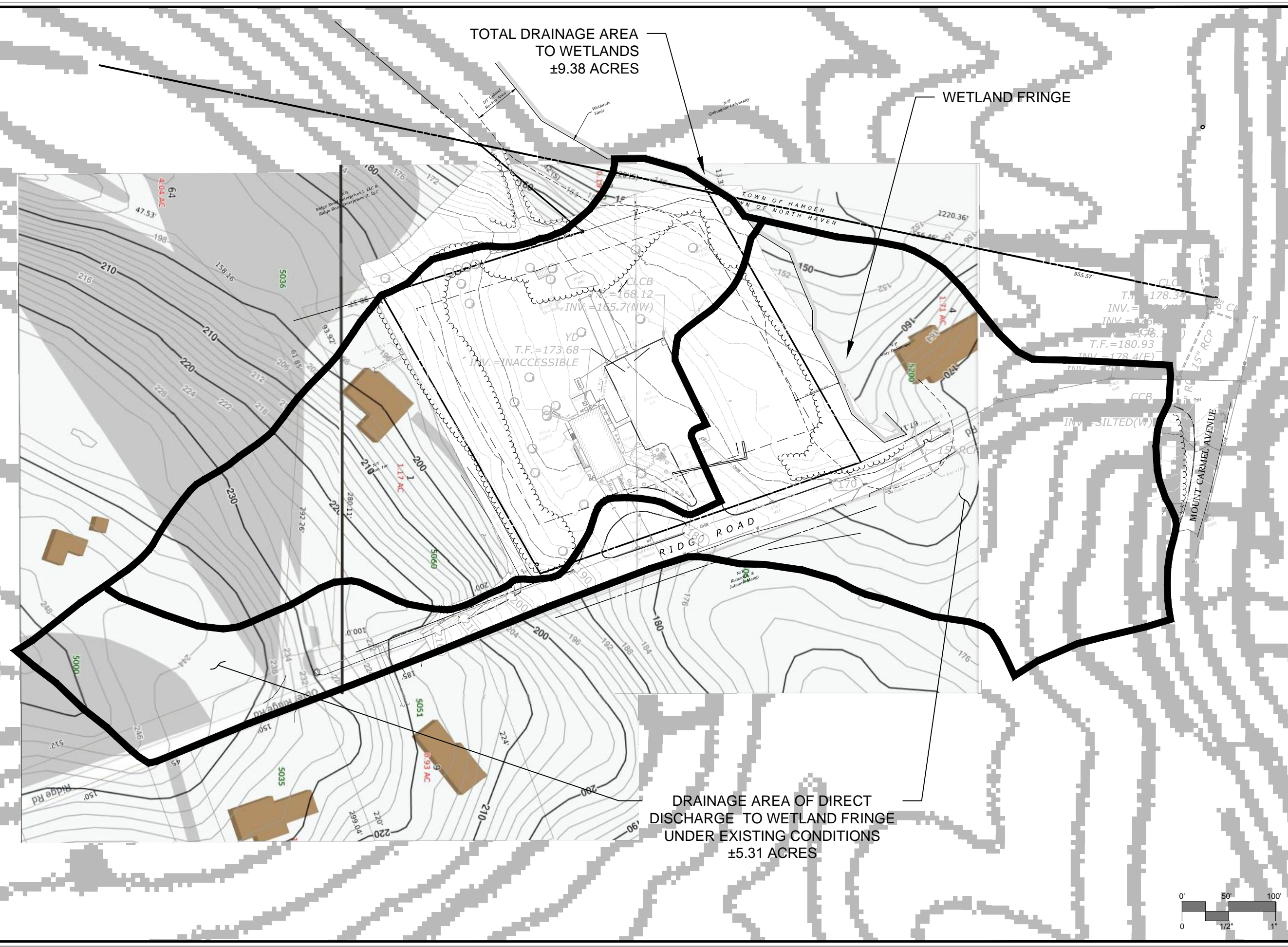
**PHASING PLANS - 4**  
**SLATE UPPER SCHOOL**  
**5100 RIDGE ROAD**  
**NORTH HAVEN, CONNECTICUT**  
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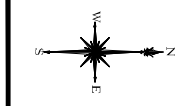
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TOTAL DRAINAGE AREA TO WETLANDS  
±9.38 ACRES

WETLAND FRINGE

DRAINAGE AREA OF DIRECT DISCHARGE TO WETLAND FRINGE UNDER EXISTING CONDITIONS  
±5.31 ACRES



**MILONE & MACBROOM**  
 NOW PART OF **SLR**  
 50 BEAULY DRIVE  
 CHESHIRE, CT 06410  
 203.271.1773  
 WWW.MMINC.COM

NO.	DATE	REVISIONS

**EXISTING WATERSHED AREA TO WETLANDS**  
**SLATE UPPER SCHOOL**  
 5100 RIDGE ROAD  
 NORTH HAVEN, CONNECTICUT

FAB DESIGNED  
 FAB DRAWN  
 TD CHECKED

SCALE  
**1"=100'**

**FEBRUARY 17, 2021**  
 DATE

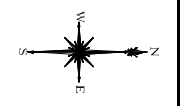
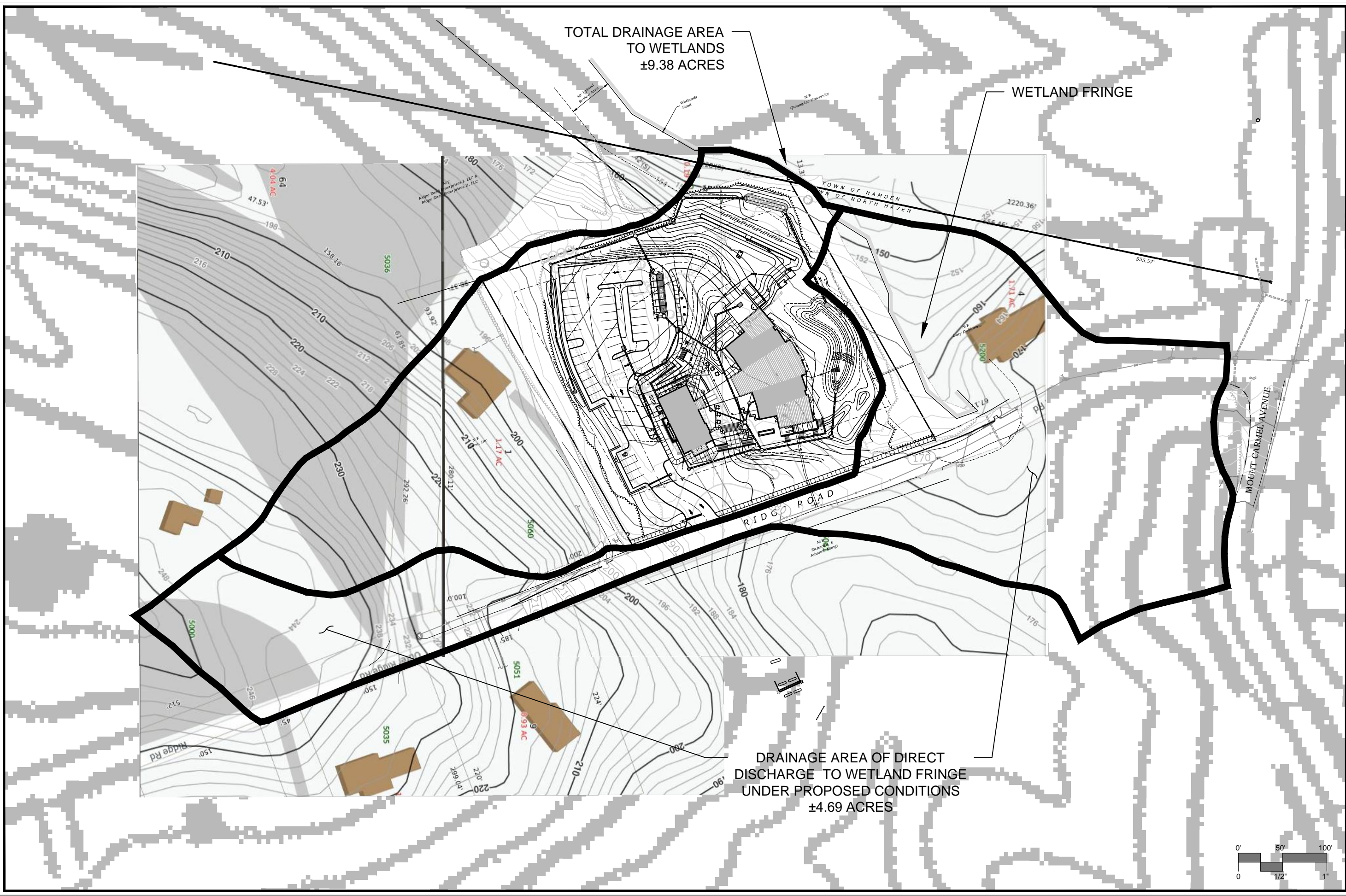
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**EX**



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REVISIONS	

**PROPOSED WATERSHED AREA TO WETLANDS**  
**SLATE UPPER SCHOOL**  
 5100 RIDGE ROAD  
 NORTH HAVEN, CONNECTICUT

FAB DESIGNED	FAB DRAWN	TD CHECKED
SCALE 1"=100'		
DATE FEBRUARY 17, 2021		
PROJECT NO. 6156-03		

**PR**

