Town of Simsbury

Office of Community Planning and Development - Zoning Commission Application

DATE: July 6, 2022 FEE: $ 540.00 CK #: 1669 APP #: _____

PROPERTY ADDRESS: 230 Bushy Hill Road

NAME OF OWNER: The Ethel Walker School attn: Beth McWilliams, CFO/CEO

MAILING ADDRESS: 230 Bushy Hill Road, Simsbury CT 06070

EMAIL ADDRESS: bmcwilliams@my.ethelwalker.org TELEPHONE # 860-408-4241

NAME OF AGENT: Same as owner

MAILING ADDRESS: _____

EMAIL ADDRESS: _____ TELEPHONE # _____

ZONING DISTRICT: R-40 LOT AREA: 106 SQ FT/(ACRES)

Does this site have wetlands? ☑ YES ☐ NO Have you applied for a wetlands permit? ☐ YES ☒ NO

REQUESTED ACTION (PLEASE CHECK APPROPRIATE BOX):

☐ **ZONE CHANGE**: The applicant hereby requests that said premises be changed from zone _____ to zone _____.

☐ **TEXT AMENDMENT:** Please attach proposed changes, including Articles and Sections, and purposes.

☐ **SPECIAL EXCEPTION**: The applicant hereby requests a public hearing pursuant to Article _____, Section _____.

☑ **SITE PLAN APPROVAL**: The applicant hereby requests

☐ PRELIMINARY ☒ FINAL ☒ SITE PLAN AMENDMENT pursuant to Article 5, Section J

☐ **SIGN PERMIT**

☐ **OTHER (PLEASE EXPLAIN)**: _____

*NOTE: Each application must fully comply with the requirements of the Zoning Regulations prior to receipt by the Commission. **Each application for zone change and/or special exception shall include a list of names and addresses of abutting property owners and all property owners within 100 feet of the subject site.***

A check payable to the Town of Simsbury must accompany this **original signed and dated** application. **Six (6) complete (folded) sets of plans and eleven (11) copies of the completed application and correspondence** must also be included. If you have a PDF of your plans, we would appreciate a copy of that sent to lbarkowski@simsbury-ct.gov, as well.

Beth McWilliams 6/27/22

Signature of Owner *Date* *Signature of Agent* *Date*

PROPOSED UPPER DORM
THE ETHEL WALKER SCHOOL

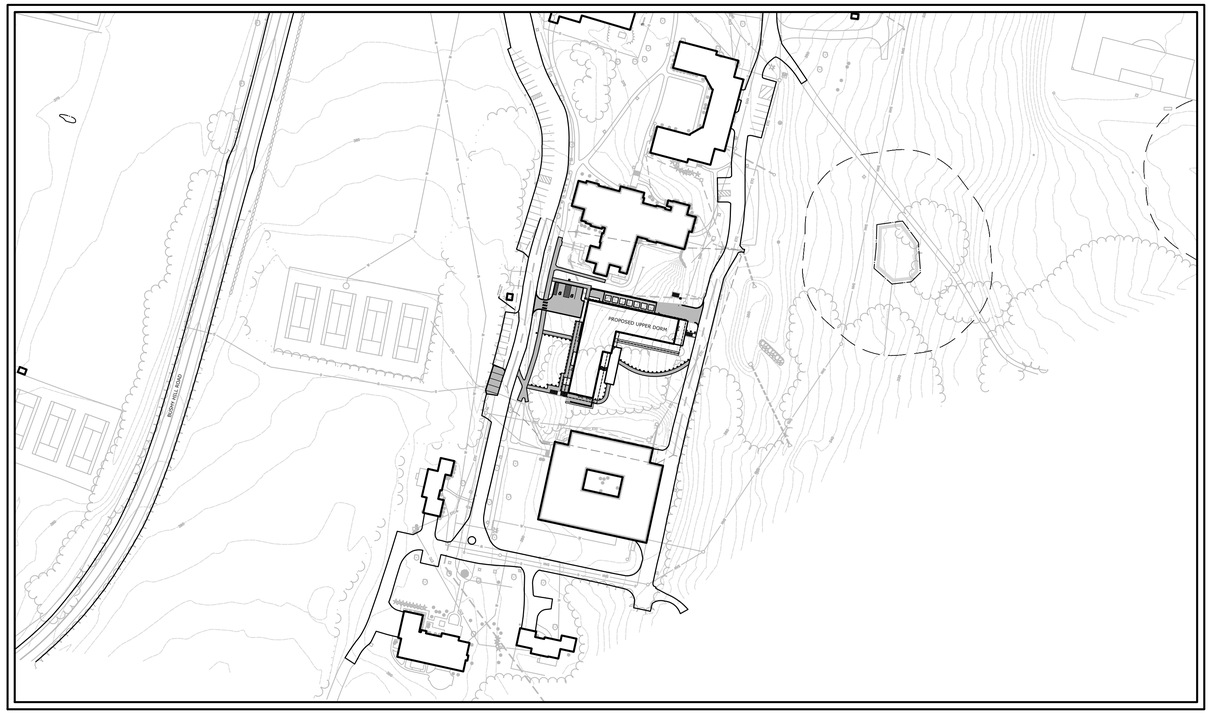
230 BUSHY HILL ROAD
SIMSBURY, CONNECTICUT

12628.00025
JUNE 27, 2022
REVISED: JULY 6, 2022

GENERAL NOTES

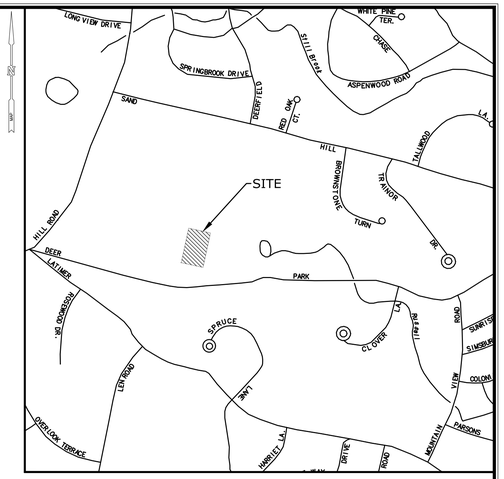
1. PROPERTY AND TOPOGRAPHIC INFORMATION COMPILED FROM:
   1.1.1. MAP ENTITLED "TOPOGRAPHIC SURVEY, PREPARED FOR THE THEL WALKER SCHOOL, 230 BUSHY HILL ROAD, SIMSBURY, CONNECTICUT," SCALE: 1"=20'; DATE: 3/20/2022, REVISED: 4/05/2022, PREPARED BY: SLR INTERNATIONAL CORPORATION
   1.1.2. AERIAL MAPPING PREPARED BY GOLDEN AERIAL SURVEYS
   1.1.3. AVAILABLE TOWN OF SIMSBURY GIS MAPPING
2. NORTH ARROW, BEARINGS AND COORDINATES ARE BASED UPON THE CONNECTICUT COORDINATE SYSTEM (NAD 1983). ELEVATIONS, CONTOURS AND BENCH MARK ARE BASED UPON (NAVD 1988)
3. INFORMATION REGARDING THE LOCATION OF EXISTING UTILITIES HAS BEEN BASED UPON AVAILABLE INFORMATION AND MAY BE INCOMPLETE, AND WHERE SHOWN SHOULD BE CONSIDERED APPROXIMATE. THE LOCATION OF ALL EXISTING UTILITIES SHOULD BE CONFIRMED PRIOR TO BEGINNING CONSTRUCTION. CALL "CALL BEFORE YOU DIG", 1-800-922-4455. ALL UTILITY LOCATIONS THAT DO NOT MATCH THE VERTICAL OR HORIZONTAL CONTROL SHOWN ON THE PLANS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION.
4. SLR INTERNATIONAL CORPORATION ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF MAPS AND DATA WHICH HAVE BEEN SUPPLIED BY OTHERS.
5. ALL UTILITY SERVICES ARE TO BE UNDERGROUND. THE EXACT LOCATION, MEANS OF CONSTRUCTION, AND SIZE OF ELECTRIC, TELEPHONE, AND CABLE TELEVISION ARE TO BE DETERMINED BY THE RESPECTIVE UTILITY COMPANIES.
6. ALL DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
7. SEDIMENT AND EROSION CONTROL MEASURES AS DEPICTED ON THESE PLANS AND DESCRIBED WITHIN THE SEDIMENT AND EROSION CONTROL NARRATIVE SHALL BE IMPLEMENTED AND MAINTAINED UNTIL PERMANENT COVER AND STABILIZATION IS ESTABLISHED. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL CONFORM TO THE "GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, CONNECTICUT - 2002". AND IN ALL CASES BEST MANAGEMENT PRACTICES SHALL PREVAIL
8. ALL DISTURBED AREAS SHALL RECEIVE A MINIMUM OF 4" TOPSOIL, AND BE SEEDED WITH GRASS, AS SHOWN ON THE PLANS.
9. ALL PROPOSED CONTOURS AND SPOT ELEVATIONS INDICATE FINISHED GRADE.
10. ALL CONSTRUCTION MATERIALS AND METHODS SHALL CONFORM TO THE TOWN OF SIMSBURY REQUIREMENTS AND TO THE APPLICABLE SECTIONS OF THE STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, AND INCIDENTAL CONSTRUCTION, FORM 818 AND ADDENDUMS.
11. THE PLANS REQUIRE A CONTRACTOR'S WORKING KNOWLEDGE OF LOCAL, MUNICIPAL, WATER AUTHORITY, AND STATE CODES FOR UTILITY SYSTEMS. ANY CONFLICTS BETWEEN MATERIALS AND LOCATIONS SHOWN, AND LOCAL REQUIREMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE EXECUTION OF WORK. THE ENGINEER WILL NOT BE HELD LIABLE FOR COSTS INCURRED TO IMPLEMENT OR CORRECT WORK WHICH DOES NOT CONFORM TO LOCAL CODE.
12. ALL FUEL, OIL, PAINT, OR OTHER HAZARDOUS MATERIALS USED DURING CONSTRUCTION SHOULD BE STORED IN A SECONDARY CONTAINER AND REMOVED TO A LOCKED INDOOR AREA WITH AN IMPERVIOUS FLOOR DURING NON-WORK HOURS.
13. COMPLIANCE WITH THE PERMIT CONDITIONS IS THE RESPONSIBILITY OF BOTH THE CONTRACTOR AND THE PERMITTEE.
14. A PRE-CONSTRUCTION MEETING, SCHEDULED THROUGH THE TOWN PLANNING DEPARTMENT, SHALL BE HELD PRIOR TO CONSTRUCTION.

ZONING DATA TABLE	
EXISTING ZONE: R-40	
	REQUIRED
LOT AREA	40,000 SQ. FT. (0.92 ACRES)
FRONTAGE	200 FT. MINIMUM
FRONT YARD	50 FT. MINIMUM
SIDE YARD	40 FT. MINIMUM
REAR YARD	50 FT. MINIMUM
MAXIMUM BUILDING HEIGHT	35 FT. MAXIMUM



PROJECT SITE VICINITY MAP:

0' 50' 100'
0 1/2" 1"
SCALE 1" = 100'



LOCATION MAP:

0' 250' 500'
0 1/2" 1"
SCALE 1" = 500'

LEGEND

EXISTING		PROPOSED
	STREET LINE	
	PROPERTY LINE	
	SETBACK LINE	
70	MAJOR CONTOUR	100
68	MINOR CONTOUR	98
× 70.5	SPOT GRADE	+ 70.5
	TREE LINE	
	TREE/ SHRUB	TG
	STONEWALL	
	SITE LIGHT	
	HYDRANT	
WV	WATER VALVE	WV
GV	GAS VALVE	GV
	CATCH BASIN	
	MANHOLE/YARD DRAIN	
SAN SAN	SANITARY SEWER W/MANHOLE	
	STORM DRAIN	
W W	WATER MAIN	
G G	GAS MAIN	
E E	ELECTRIC LINE	
ES ES	ELECTRIC, TELEPHONE, CABLE	ES ES
	UTILITY POLE	
	TRAFFIC SIGN	
	IRON PIPE	
	MONUMENT	
	EDGE OF PAVEMENT W/CURB	
	GUARD RAIL	
	CHAIN LINK FENCE	
	WATERCOURSE	
	WETLAND	

LIST OF DRAWINGS

NO.	NAME	TITLE
01	--	TITLE SHEET
02	EX	EXISTING CONDITIONS
03	LA	SITE PLAN - LAYOUT AND LANDSCAPING
04	GU	SITE PLAN - GRADING AND UTILITIES
05	SE-1	SEDIMENT AND EROSION CONTROL PLAN
06	SE-2	SEDIMENT AND EROSION CONTROL DETAILS AND SPECIFICATIONS
07	SD-1	SITE DETAILS
08	SD-2	SITE DETAILS
09	SD-3	SITE DETAILS

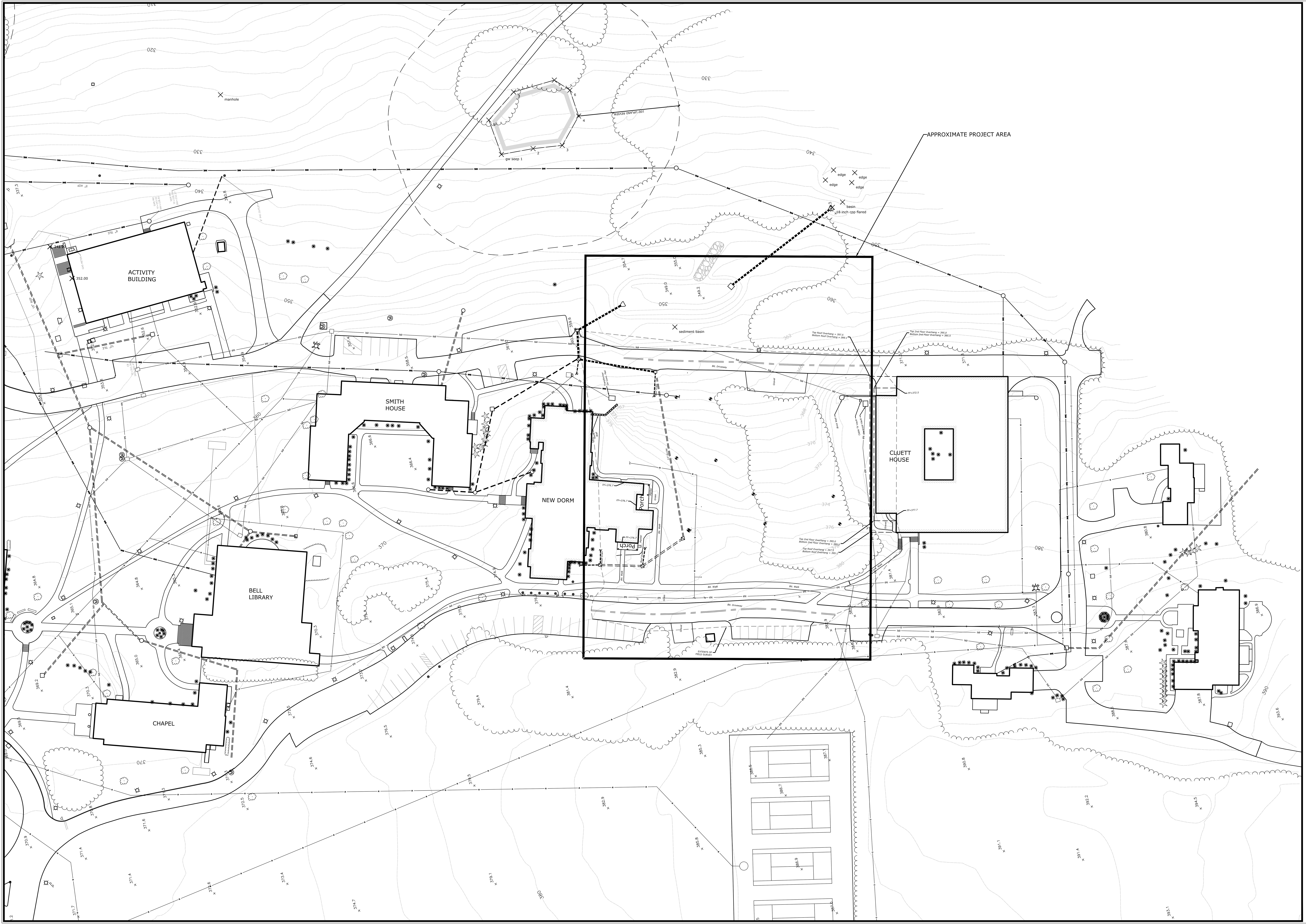
PREPARED BY:

SLR
99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773
SLRCONSULTING.COM

PREPARED FOR:

THE ETHEL WALKER SCHOOL
230 BUSHY HILL ROAD
SIMSBURY, CONNECTICUT 06070

811
Know what's below.
Call before you dig.
www.cbyd.com



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CHESHIRE, CT 06410
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DESCRIPTION	DATE	BY

EXISTING CONDITIONS

PROPOSED UPPER DORM
THE ETHEL WALKER SCHOOL
230 BUSHY HILL ROAD
SIMSBURY, CONNECTICUT

AWG	RH	TD
DESIGNED	DRAWN	CHECKED

SCALE: 1"=40'

DATE: JUNE 27, 2022

PROJECT NO.: 12628.00025

SHEET NO.: 02 OF 09

SHEET NAME: EX

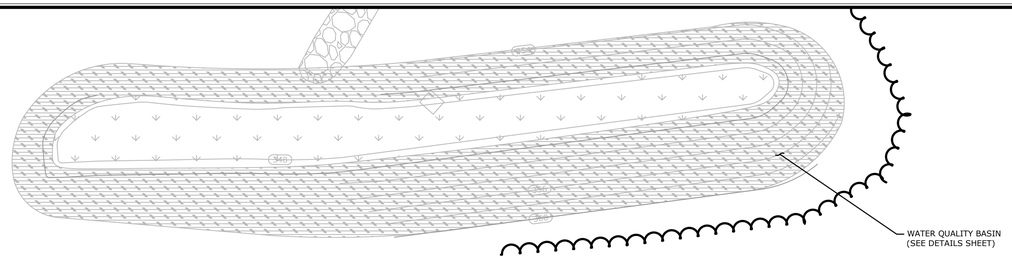
BASIN SEED MIXES

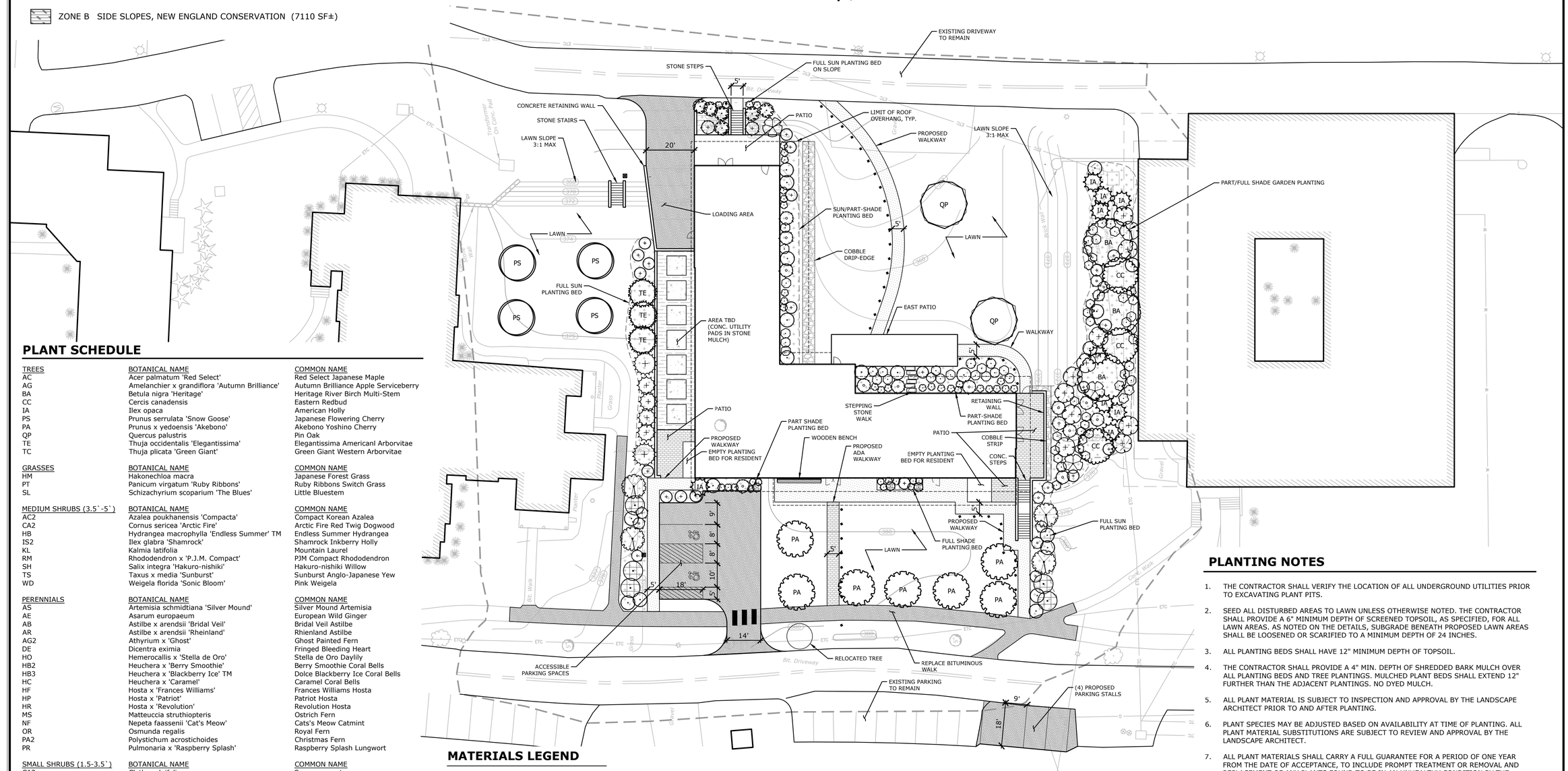
SEED MIX A - SHALLOW WATER BENCH ZONE
NEW ENGLAND WETMIX:
Species: Mud Plantain (Alisma plantago-aquatica), Swamp Milkweed (Asclepias incarnata), New York Aster (Aster novi-belgii), Nodding Bur Marigold (Bidens cernua), Bristly/Cosmos Sedge (Carex cosmosa), Fringed Sedge (Nodding) (Carex crinita), Hop Sedge (Carex lupulina), Lurid Sedge (Shallow) (Carex lurida), Blunt Broom Sedge (Carex scoparia), Fox Sedge (Carex vulpinoidea), Spotted Joe Pye weed (Eupatorium maculatum), Boneset (Eupatorium perfoliatum), Rattlesnake Grass (Glyceria canadensis), Fowl Mannagrass (Glyceria striata), Soft Rush (Juncus effusus), Square Stemmed Monkey Flower (Mimulus ringens) Sensitive Fern (Onoclea sensibilis), Green Bulrush (Scirpus atrovirens), Wool Grass (Scirpus cyperus), Soft-Stem Bulrush (Shoenoplectus tabernaemontani) (ex- S. validus), Blue Vervain (Verbena hastata)

SEED MIX B - BASIN SIDE SLOPES ZONE
NEW ENGLAND WILDLIFE/CONSERVATION:
Species : Big Bluestem (Andropogon gerardii), Switchgrass (Panicum virgatum), Little Bluestem (Schizachyrium scoparium), Virginia Wild Rye (Elymus virginicus), Partridge Pea (Chamaecrista fasciculata), Common Milkweed (Asclepias syriaca), Showy Tick-Trefoil (Desmodium canadense), New England Aster (Aster novae-angliae), Spotted Joe Pye Weed(Eupatorium maculatum), Grass Leaved Goldenrod (Euthamia graminifolia) Creeping Red Fescue(Festuca rubra), Ox Eye Sunflower (Heliopsis helianthoides), Deer Tongue(Panicum clandestinum), Tall/Green Headed Coneflower(Rudbeckia laciniata), Early Goldenrod (Solidago juncea), Indian Grass (Sorghastrum nutans)

ZONE A BASIN BOTTOM, NEW ENGLAND WETMIX (3240 SF±)

ZONE B SIDE SLOPES, NEW ENGLAND CONSERVATION (7110 SF±)





PLANT SCHEDULE

TREES	BOTANICAL NAME	COMMON NAME
AC	Acer palmatum 'Red Select'	Red Select Japanese Maple
AG	Amelanchier x grandiflora 'Autumn Brilliance'	Autumn Brilliance Apple Serviceberry
BA	Betula nigra 'Heritage'	Heritage River Birch Multi-Stem
CC	Cercis canadensis	Eastern Redbud
IA	Ilex opaca	American Holly
PS	Prunus serrulata 'Snow Goose'	Japanese Flowering Cherry
PA	Prunus x yedoensis 'Akebono'	Akebono Yoshino Cherry
QP	Quercus palustris	Pin Oak
TE	Thuja occidentalis 'Elegantissima'	Elegantissima Americanl Arborvitae
TC	Thuja plicata 'Green Giant'	Green Giant Western Arborvitae

GRASSES	BOTANICAL NAME	COMMON NAME
HM	Hakonechloa macra	Japanese Forest Grass
PT	Panicum virgatum 'Ruby Ribbons'	Ruby Ribbons Switch Grass
SL	Schizachyrium scoparium 'The Blues'	Little Bluestem

MEDIUM SHRUBS (3.5`-5`)	BOTANICAL NAME	COMMON NAME
AC2	Azalea poukhanensis 'Compacta'	Compact Korean Azalea
CA2	Cornus sericea 'Arctic Fire'	Arctic Fire Red Twig Dogwood
HB	Hydrangea macrophylla 'Endless Summer' TM	Endless Summer Hydrangea
IS2	Ilex glabra 'Shamrock'	Shamrock Inkberry Holly
KL	Kalmia latifolia	Mountain Laurel
RM	Rhododendron x 'P.J.M. Compact'	PJM Compact Rhododendron
SH	Salix integra 'Hakuro-nishiki'	Hakuro-nishiki Willow
TS	Taxus x media 'Sunburst'	Sunburst Anglo-Japanese Yew
WD	Weigela florida 'Sonic Bloom'	Pink Weigela

PERENNIALS	BOTANICAL NAME	COMMON NAME
AS	Artemisia schmidtiana 'Silver Mound'	Silver Mound Artemisia
AE	Asarum europaeum	European Wild Ginger
AB	Astilbe x arendsii 'Bridal Veil'	Bridal Veil Astilbe
AR	Astilbe x arendsii 'Rheinland'	Rhienland Astilbe
AG2	Athyrium x 'Ghost'	Ghost Painted Fern
DE	Dicentra eximia	Fringed Bleeding Heart
HO	Hemerocallis x 'Stella de Oro'	Stella de Oro Daylily
HB2	Heuchera x 'Berry Smoothie'	Berry Smoothie Coral Bells
HB3	Heuchera x 'Blackberry Ice' TM	Dolce Blackberry Ice Coral Bells
HC	Heuchera x 'Caramel'	Caramel Coral Bells
HF	Hosta x 'Frances Williams'	Frances Williams Hosta
HP	Hosta x 'Patriot'	Patriot Hosta
HR	Hosta x 'Revolution'	Revolution Hosta
MS	Matteuccia struthiopteris	Ostrich Fern
NF	Nepeta faassenii 'Cat's Meow'	Cats's Meow Catmint
OR	Osmunda regalis	Royal Fern
PA2	Polystichum acrostichoides	Christmas Fern
PR	Pulmonaria x 'Raspberry Splash'	Raspberry Splash Lungwort

SMALL SHRUBS (1.5-3.5`)	BOTANICAL NAME	COMMON NAME
CA3	Clethra alnifolia	Summersweet
JS	Juniperca chinensis 'Sargentii'	Sargent Juniper
PG	Picea pungens 'Glauca Globosa'	Blue Globe Colorado Spruce
WL	Weigela florida 'My Money Purple Effect'	Dwarf Variegated Weigela

TALL SHRUBS (5`-12`)	BOTANICAL NAME	COMMON NAME
AA	Aronia arbutifolia 'Brilliantissima'	Brilliant Red Chokeberry
CC2	Chamaecyparis obtusa 'Crippsii'	Cripps Hinoki False Cypress
CA	Cornus amomum	Silky Dogwood
FS	Forsythia x intermedia 'Spring Glory'	Spring Glory Forsythia
HV	Hamamelis virginiana	Common Witch Hazel
HL	Hydrangea paniculata 'Limelight'	Limelight Panicle Hydrangea
IS	Ilex verticillata 'Southern Gentleman'	Southern Gentleman Winterberry
IW	Ilex verticillata 'Winter Red'	Winter Red Winterberry
PC	Philadelphus coronarius	Sweet Mockorange
SV	Syringa vulgaris	Common Lilac
VH	Vaccinium corymbosum	Highbush Blueberry
VL	Viburnum lentago	Nannyberry

MATERIALS LEGEND

- BITUMINOUS CONCRETE/ASPHALT
- EXPOSED AGGREGATE CONCRETE
- BRICK PAVERS
- CONCRETE
- PLANTING BED
- STONE MULCH

PLANTING NOTES

1. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO EXCAVATING PLANT PITS.
2. SEED ALL DISTURBED AREAS TO LAWN UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL PROVIDE A 6" MINIMUM DEPTH OF SCREENED TOPSOIL, AS SPECIFIED, FOR ALL LAWN AREAS. AS NOTED ON THE DETAILS, SUBGRADE BENEATH PROPOSED LAWN AREAS SHALL BE LOOSENED OR SCARIFIED TO A MINIMUM DEPTH OF 24 INCHES.
3. ALL PLANTING BEDS SHALL HAVE 12" MINIMUM DEPTH OF TOPSOIL.
4. THE CONTRACTOR SHALL PROVIDE A 4" MIN. DEPTH OF SHREDDED BARK MULCH OVER ALL PLANTING BEDS AND TREE PLANTINGS. MULCHED PLANT BEDS SHALL EXTEND 12" FURTHER THAN THE ADJACENT PLANTINGS. NO DYED MULCH.
5. ALL PLANT MATERIAL IS SUBJECT TO INSPECTION AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO AND AFTER PLANTING.
6. PLANT SPECIES MAY BE ADJUSTED BASED ON AVAILABILITY AT TIME OF PLANTING. ALL PLANT MATERIAL SUBSTITUTIONS ARE SUBJECT TO REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT.
7. ALL PLANT MATERIALS SHALL CARRY A FULL GUARANTEE FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE, TO INCLUDE PROMPT TREATMENT OR REMOVAL AND REPLACEMENT OF ANY PLANTS FOUND TO BE IN AN UNHEALTHY CONDITION BY THE LANDSCAPE ARCHITECT. ALL REPLACEMENTS SHALL BE OF THE SAME KIND AND SIZE OF PLANTS SPECIFIED IN THE PLANT LIST.
8. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER PLANTING AND SHALL CONTINUE UNTIL ACCEPTANCE BY THE LANDSCAPE ARCHITECT AT THE END OF THE WARRANTY PERIOD. MAINTENANCE SHALL INCLUDE WATERING, MULCHING, TIGHTENING & REPLACING OF GUYS, REPLACEMENT OF SICK OR DEAD PLANTS, RESETTING PLANTS TO PROPER GRADE OR UPRIGHT (PLUMB) POSITION, RESTORATION OF SAUCERS, AND ALL OTHER CARE NEEDED FOR PROPER GROWTH OF THE PLANTS.
9. WHERE A SIZE RANGE IS SPECIFIED AT LEAST 50% OF PLANTS PROVIDED SHALL BE OF THE LARGER SIZE.
10. CONTRACTOR TO REMOVE TREE STAKES AFTER ONE GROWING SEASON.
11. TAKE NOTE TO PROTECT ROOT ZONES OF EXISTING TREES ROOT ZONES DURING CONSTRUCTION AS SHOWN ON PLANS.

SLR
99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773
SLRCONSULTING.COM

DESCRIPTION	DATE	BY
ZONING SUBMISSION	7/06/2022	AWG

SITE PLAN - LAYOUT & LANDSCAPING

PROPOSED UPPER DORM
THE ETHEL WALKER SCHOOL
230 BUSHY HILL ROAD
SIMSBURY, CONNECTICUT

AWG	RH	TD
DESIGNED	DRAWN	CHECKED

1"=20'
SCALE

JUNE 27, 2022
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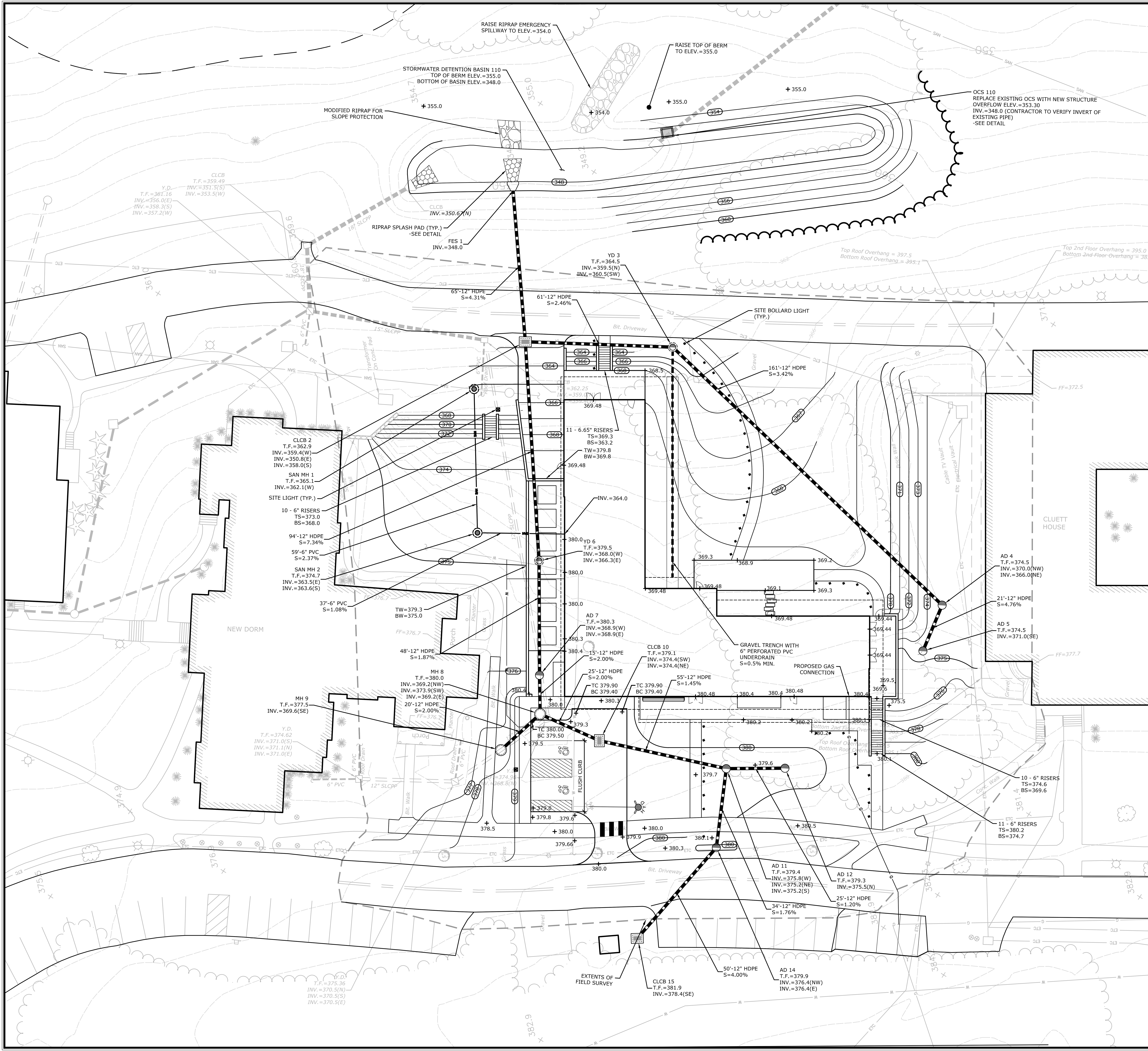
12628.00025
PROJECT NO.

03 OF 09
SHEET NO.

LA
SHEET NAME


RAISE RIPRAP EMERGENCY SPILLWAY TO ELEV.=354.0
RAISE TOP OF BERM TO ELEV.=355.0
STORMWATER DETENTION BASIN 110
TOP OF BERM ELEV.=355.0
BOTTOM OF BASIN ELEV.=348.0
MODIFIED RIPRAP FOR SLOPE PROTECTION
OCS 110
REPLACE EXISTING OCS WITH NEW STRUCTURE
OVERFLOW ELEV.=353.30
INV.=348.0 (CONTRACTOR TO VERIFY INVERT OF EXISTING PIPE)
-SEE DETAIL
RIPRAP SPLASH PAD (TYP.)
-SEE DETAIL
FES 1
INV.=348.0
YD 3
T.F.=364.5
INV.=359.5(N)
INV.=360.5(SW)
65'-12" HDPE
S=4.31%
61'-12" HDPE
S=2.46%
SITE BOLLARD LIGHT (TYP.)
161'-12" HDPE
S=3.42%
CLCB 2
T.F.=362.9
INV.=359.4(W)
INV.=350.8(E)
INV.=358.0(S)
SAN MH 1
T.F.=365.1
INV.=362.1(W)
SITE LIGHT (TYP.)
10 - 6" RISERS
TS=373.0
BS=368.0
11 - 6.65" RISERS
TS=369.3
BS=363.2
TW=379.8
BW=369.8
INV.=364.0
94'-12" HDPE
S=7.34%
59'-6" PVC
S=2.37%
SAN MH 2
T.F.=374.7
INV.=363.5(E)
INV.=363.6(S)
YD 6
T.F.=379.5
INV.=368.0(W)
INV.=366.3(E)
37'-6" PVC
S=1.08%
TW=379.3
BW=375.0
NEW DORM
AD 7
T.F.=380.3
INV.=368.9(W)
INV.=368.9(E)
48'-12" HDPE
S=1.87%
15'-12" HDPE
S=2.00%
MH 8
T.F.=380.0
INV.=369.2(NW)
INV.=373.9(SW)
INV.=369.2(E)
25'-12" HDPE
S=2.00%
20'-12" HDPE
S=2.00%
MH 9
T.F.=377.5
INV.=369.6(SE)
CLCB 10
T.F.=379.1
INV.=374.4(SW)
INV.=374.4(NE)
55'-12" HDPE
S=1.45%
TC 379.90
BC 379.40
TC 380.00
BC 379.50
FLUSH CURB
GRAVEL TRENCH WITH 6" PERFORATED PVC UNDERDRAIN
S=0.5% MIN.
PROPOSED GAS CONNECTION
CLUETT HOUSE
AD 4
T.F.=374.5
INV.=370.0(NW)
INV.=366.0(NE)
21'-12" HDPE
S=4.76%
AD 5
T.F.=374.5
INV.=371.0(SE)
10 - 6" RISERS
TS=374.6
BS=369.6
11 - 6" RISERS
TS=380.2
BS=374.7
AD 11
T.F.=379.4
INV.=375.8(W)
INV.=375.2(NE)
INV.=375.2(S)
AD 12
T.F.=379.3
INV.=375.5(N)
25'-12" HDPE
S=1.20%
34'-12" HDPE
S=1.76%
50'-12" HDPE
S=4.00%
AD 14
T.F.=379.9
INV.=376.4(NW)
INV.=376.4(E)
CLCB 15
T.F.=381.9
INV.=378.4(SE)
EXTENTS OF FIELD SURVEY
Bit. Driveway

STORM WATER MAINTENANCE PROGRAM

UPON SITE DEVELOPMENT, THERE WILL BE A NEED TO PERIODICALLY MAINTAIN STORMWATER SYSTEMS ON THE PROPERTY. THE STORMWATER SYSTEM CONSISTS OF PIPING AND CATCH BASINS.

IN ORDER TO ENSURE OPTIMAL PERFORMANCE OF THE SYSTEM, THE FOLLOWING STORMWATER MAINTENANCE PROGRAM HAS BEEN ESTABLISHED. THE PROPERTY OWNER WILL BE RESPONSIBLE FOR IMPLEMENTATION OF THIS PROGRAM. A LOG OF ALL INSPECTIONS, CLEANING AND REPAIRS SHALL BE MAINTAINED BY THE PROPERTY OWNER AND BE AVAILABLE FOR REVIEW.

A. CATCH BASINS/YARD DRAINS

CATCH BASINS ARE DESIGNED WITH 4-FOOT MINIMUM DEPTH SUMPS FOR THE PURPOSE OF COLLECTING COARSE SEDIMENT. ALL CATCH BASINS SHOULD BE INSPECTED TWO TIMES PER YEAR, TYPICALLY WHEN THE SITE IS SWEPT IN THE SPRING AFTER WINTER SANDING AND IN THE FALL AFTER ALL THE LEAVES HAVE FALLEN. SITE SWEEPING SHALL BE PROVIDED BETWEEN APRIL 15 AND MAY 15 EACH SPRING.

SEDIMENT SHOULD BE REMOVED WHEN IT EXTENDS TO WITHIN 6 INCHES OF THE OUTLET PIPE INVERT OR NOT LESS THAN ONCE PER YEAR. CLEANOUT WITH A VACUUM TRUCK IS GENERALLY THE BEST AND MOST CONVENIENT METHOD. THE SEDIMENT SHALL BE DISPOSED OF IN AN APPROVED OFF-SITE LOCATION IN ACCORDANCE WITH TOWN AND STATE REQUIREMENTS.

B. PAVEMENT SWEEPING

THE PARKING AREA AND ROADWAY SHALL BE SWEPT ANNUALLY. SWEEPING SHOULD OCCUR IN THE SPRING AFTER WINTER SANDING, BETWEEN APRIL 15 AND MAY 15. SALT ALTERNATIVES SHALL BE USED DURING WINTER MONTHS FOR DEICING.

C. STORMWATER BASIN

MOWING: THE UPPER STAGE, SIDE SLOPES, AND EMBANKMENT OF STORMWATER POND MUST BE MOWED AT LEAST ONCE PER YEAR TO DISCOURAGE WOODY GROWTH AND CONTROL WEEDS.

INSPECTIONS: BASIN SHOULD BE INSPECTED TWICE PER YEAR(SPRING AND FALL) TO ENSURE THAT THE STRUCTURE OPERATES IN THE MANNER ORIGINALLY INTENDED. WHEN POSSIBLE, INSPECTIONS SHOULD BE CONDUCTED DURING WET WEATHER TO DETERMINE IF THE BASIN IS MEETING THE TARGETED DETENTION TIMES PER APPROVED DESIGN. IN PARTICULAR, THE OUTLET CONTROL DEVICE SHOULD BE REGULARLY INSPECTED FOR EVIDENCE OF CLOGGING OR, CONVERSELY, FOR TOO RAPID A RELEASE, AND THE FLOW PATH SHOULD BE CHECKED FOR EROSION PROBLEMS. OTHER PROBLEMS THAT SHOULD BE CHECKED FOR INCLUDE SUBSIDENCE, OUTLET WATER TURBIDITY, BANK/BED/OUTLET EROSION, CRACKING, OR TREE GROWTH ON THE EMBANKMENT; THE ACCUMULATION OF SEDIMENT AROUND THE OUTLET; THE ADEQUACY OF UPSTREAM/DOWNSTREAM CHANNEL EROSION CONTROL MEASURES; AND MODIFICATIONS TO THE BASIN OR ITS CONTRIBUTING WATERSHED THAT MAY INFLUENCE BASIN PERFORMANCE. INSPECTIONS SHOULD BE CARRIED OUT WITH DESIGN PLANS IN HAND.

DEBRIS AND LITTER REMOVAL: DEBRIS AND LITTER WILL ACCUMULATE NEAR THE OUTLET CONTROL DEVICEAND SHOULD BE REMOVED DURING REGULAR INSPECTION AND/OR MOWING OPERATIONS. PARTICULAR ATTENTION SHOULD BE PAID TO FLOATABLE DEBRIS THAT COULD EVENTUALLY CLOG THE CONTROL DEVICE OR RISER.

SEDIMENT REMOVAL: WHEN PROPERLY DESIGNED, DETENTION/WATER QUALITY BASINS WILL ACCUMULATE SEDIMENT OVER TIME. HOWEVER, MOST OF THE SEDIMENT WILL BE TRAPPED IN THE SEDIMENT CHAMBERS AND CATCH BASIN SUMP UNITS BEFORE REACHING THE BASIN. THE REMAINDER WILL ACCUMULATE IN THE STORMWATER POND. ACCUMULATED SEDIMENT MUST BE REMOVED FROM THE BASIN EVERY 5 YEARS, AFTER ONE HALF (15"±) OF THE SEDIMENT STORAGE CAPACITY IN THE FOREBAY HAS BEEN FILLED, AFTER 4 INCHES OF SEDIMENT HAS ACCUMULATED IN THE MAIN PORTION OF THE BASIN, OR WHEN SIGNIFICANT ALGAL GROWTH IS OBSERVED. A PERMANENT MEASURING DEVICE SHALL BE INSTALLED IN THE MIDDLE OF THE FOREBAY AND IN THE MAIN PORTION OF THE BASIN. THE MARKER SHALL DELINEATE INCHES UP FROM THE BOTTOM OF THE BASIN SO THE DEPTH OF SEDIMENT CAN EASILY BE MEASURED. MORE FREQUENT SPOT CLEANOUTS MAY BE NEEDED AROUND THE OUTLET CONTROL DEVICE OR THE SEDIMENT FOREBAY.

SEDIMENT REMOVAL OPERATIONS ARE RELATIVELY SIMPLE. FRONT-END LOADERS, BACKHOES, OR VACUUM TRUCKS CAN BE USED TO REMOVE THE ACCUMULATED SEDIMENT FOLLOWED BY MANUAL REMOVAL OF SEDIMENT DEPOSITED AROUND THE OUTLET CONTROL DEVICE. THE SEDIMENT SHALL BE DISPOSED OF IN AN APPROVED OFF-SITE LOCATION IN ACCORDANCE WITH TOWN AND STATE REQUIREMENTS. THE DISTURBED AREA SHOULD BE IMMEDIATELY SEEDED WITH APPROPRIATE GRASS SEED AND MULCHED WITH HAY AFTER REMOVAL OPERATIONS ARE COMPLETED TO PREVENT THE OUTLET CONTROL DEVICE FROM CLOGGING.

D. PROPRIETARY HYDRODYNAMIC SEPARATOR

BEFORE BEING DISCHARGED TO THE STORMWATE BASIN, STORMWATER RUNOFF FROM THE ROADWAY AND BUILDING WILL BE DIRECTED TO A HYDRODYNAMIC SEPARATOR. THIS STRUCTURE WILL REMOVE SUSPENDED SOLIDS, DEBRIS AND FLOATABLES CONSTITUENTS FROM STORMWATER. OIL, SCUM, AND SEDIMENT WILL EVENTUALLY ACCUMULATE AND CAN BE REMOVED THROUGH A MANHOLE LOCATED AT THE TOP OF THE SEPARATOR. THIS STRUCTURE WILL BE MAINTAINED YEARLY, OR MORE FREQUENTLY AS REQUIRED. THE UNIT SHOULD BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. WASTE MATERIAL WILL BE PROPERLY DISPOSED OF OFF THE SITE.

E. LAWN AND VEGETATED AREAS

VEGETATED COVER SHALL BE MAINTAINED ON ALL EARTH SURFACES TO MINIMIZE SOIL EROSION. USE IF FERTILIZER SHOULD BE MINIMIZED AND APPLIED USING PRUDENT APPLICATION PROCESSES.

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DESCRIPTION	DATE	BY
ZONING SUBMISSION	7/06/2022	AWG

SITE PLAN - GRADING AND UTILITIES

PROPOSED UPPER DORM
THE ETHEL WALKER SCHOOL
230 BUSHY HILL ROAD
SIMSBURY, CONNECTICUT

AWG	RH	TD
DESIGNED	DRAWN	CHECKED

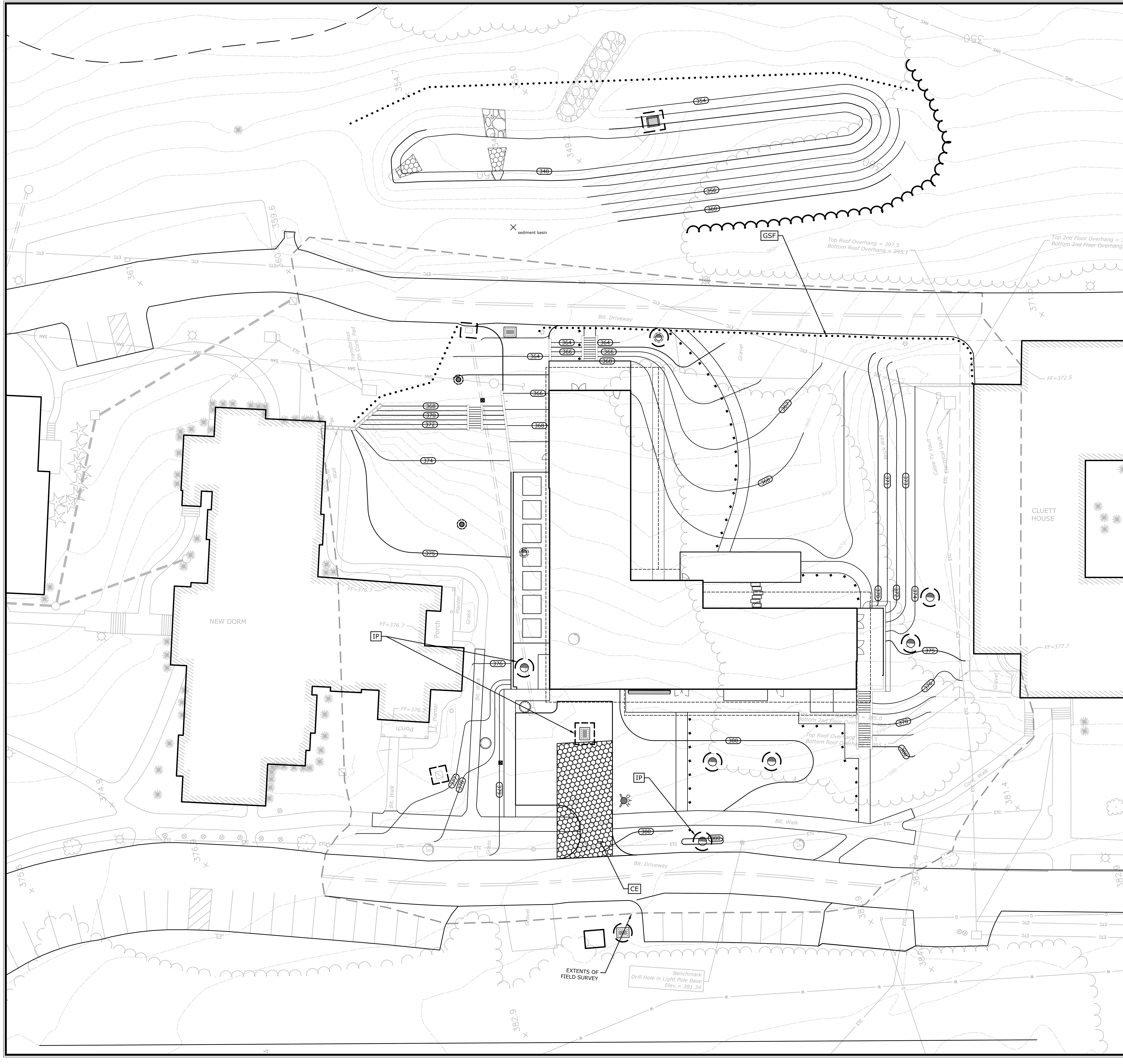
SCALE: 1"=20'

DATE: JUNE 27, 2022

PROJECT NO.: 12628.00025

SHEET NO.: 04 OF 09

SHEET NAME: GU



EROSION CONTROL NOTES
CONTRACTOR RESPONSIBILITIES

1. SEDIMENT AND EROSION CONTROLS SHALL BE INSPECTED AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCH OR GREATER. A LOG OF SUCH INSPECTIONS SHALL BE MAINTAINED AT THE SITE.
2. THE SEDIMENT AND EROSION CONTROL PLAN SHALL BE MODIFIED BY THE CONTRACTOR AT THE DIRECTION OF THE ENGINEER AND THE TOWN'S DESIGNATED REPRESENTATIVE AS NECESSITATED BY CHANGING SITE CONDITIONS
3. INSPECTION OF THE SITE FOR EROSION SHALL CONTINUE FOR A PERIOD OF THREE MONTHS AFTER COMPLETION WHEN RAINFALLS OF ONE INCH OR MORE OCCUR.
4. ALL DEWATERING WASTE WATERS SHALL BE DISCHARGED IN A MANNER WHICH MINIMIZES THE DISCOLORATION OF THE RECEIVING WATERS.
5. THE SITE SHOULD BE KEPT CLEAN OF LOOSE DEBRIS, LITTER, AND BUILDING MATERIALS SUCH THAT NONE OF THE ABOVE ENTER WATERS OR WETLANDS.
6. A COPY OF ALL PLANS AND REVISIONS, AND THE SEDIMENT AND EROSION CONTROL PLAN SHALL BE MAINTAINED ON-SITE AT ALL TIMES DURING CONSTRUCTION.
7. ALL CATCH BASIN SUMPS SHOULD BE INSPECTED AFTER CONSTRUCTION COMPLETION AND SEDIMENT REMOVED. THE SEDIMENT SHALL BE DISPOSED OF IN AN APPROVED LOCATION.
8. MONITORING REPORTS SHALL BE PROVIDED TO THE TOWN OF FARMINGTON AND CONTRACTOR EVERY TWO WEEKS AND FOR ANY STORM OVER ½ INCH. REPAIRS SHALL BE MADE WITHIN 24 HOURS AFTER REPORTING.
9. PROPOSED DETENTION BASINS SHALL NOT BE UTILIZED AS TEMPORARY SEDIMENTATION BASINS DURING CONSTRUCTION.

SOIL EROSION AND SEDIMENT CONTROL NARRATIVE

SEDIMENT AND EROSION CONTROL MEASURES AS DEPICTED ON THESE PLANS AND DESCRIBED WITHIN THE SEDIMENT AND EROSION CONTROL NARRATIVE SHALL BE IMPLEMENTED AND MAINTAINED UNTIL PERMANENT COVER AND STABILIZATION IS ESTABLISHED. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL CONFORM TO THE "GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, CONNECTICUT - 2002, TOWN OF SIMSBURY STANDARDS, AND IN ALL CASES BEST MANAGEMENT PRACTICES SHALL PREVAIL.

1. PURPOSE AND DESCRIPTION OF PROJECT
A.) CONSTRUCTION OF A NEW DORMITORY BUILDING.
B.) DISTURBED AREA: ± 1.6 ACRES

2. IDENTIFICATION OF EROSION AND SEDIMENT CONTROL CONCERNS
A.) CUTS AND FILLS ASSOCIATED WITH CONSTRUCTION.

3. IDENTIFICATION OF OTHER POSSIBLE PERMITS
THE PERMITS REQUIRED FOR THE PROJECT ARE LOCAL INLAND WETLANDS, AND PLANNING AND ZONING PERMITS.

4. RESPONSIBLE PARTY
MS. BETH MCWILLIAMS
THE ETHEL WALKER SCHOOL
230 BUSHY HILL ROAD
SIMSBURY, CT 06070

EROSION CONTROL LEGEND

	CE	CONSTRUCTION ENTRANCE
	IP	INLET PROTECTION (TYP. OF ALL INLETS)
	GSF	SEDIMENT FILTER FENCE
	SW	STRAW WATTLES
	STK	TEMPORARY SOIL STOCKPILE AREA SURROUNDED WITH SEDIMENT FILTER FENCE

0' 10' 20'
0 1/2" 1"

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DESCRIPTION	DATE	BY

SEDIMENT & EROSION CONTROL PLAN

PROPOSED UPPER DORM
THE ETHEL WALKER SCHOOL
230 BUSHY HILL ROAD
SIMSBURY, CONNECTICUT

AWG	RH	TD
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SCALE: 1"=20'

DATE: JUNE 27, 2022

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SHEET NO.: 05 OF 09

SHEET NAME: SE-1

SEDIMENT AND EROSION CONTROL SPECIFICATIONS

GENERAL:

THESE GUIDELINES SHALL APPLY TO ALL WORK CONSISTING OF ANY AND ALL TEMPORARY AND/OR PERMANENT MEASURES TO CONTROL WATER POLLUTION AND SOIL EROSION, AS MAY BE REQUIRED, DURING THE CONSTRUCTION OF THE PROJECT. IN GENERAL, ALL CONSTRUCTION ACTIVITIES SHALL PROCEED IN SUCH A MANNER SO AS NOT TO POLLUTE ANY WETLANDS, WATERCOURSE, WATERBODY, AND CONDUIT CARRYING WATER, ETC. THE CONTRACTOR SHALL LIMIT, INSOFAR AS POSSIBLE, THE SURFACE AREA OF EARTH MATERIALS EXPOSED BY CONSTRUCTION METHODS AND IMMEDIATELY PROVIDE PERMANENT AND TEMPORARY POLLUTION CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT WETLANDS, WATERCOURSES, AND WATERBODIES, AND TO PREVENT, INSOFAR AS POSSIBLE, EROSION ON THE SITE.

LAND GRADING

GENERAL:

1. THE RESHAPING OF THE GROUND SURFACE BY EXCAVATION AND FILLING OR A COMBINATION OF BOTH, TO OBTAIN PLANNED GRADES, SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING CRITERIA:
   a. THE CUT FACE OF EARTH EXCAVATION SHALL NOT BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2:1).
   b. THE PERMANENT EXPOSED FACES OF FILLS SHALL NOT BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2:1).
   c. THE CUT FACE OF ROCK EXCAVATION SHALL NOT BE STEEPER THAN ONE HORIZONTAL TO FOUR VERTICAL (1:4).
   d. PROVISION SHOULD BE MADE TO CONDUCT SURFACE WATER SAFELY TO STORM DRAINS TO PREVENT SURFACE RUNOFF FROM DAMAGING CUT FACES AND FILL SLOPES.
   e. EXCAVATIONS SHOULD NOT BE MADE SO CLOSE TO PROPERTY LINES AS TO ENDANGER ADJOINING PROPERTY WITHOUT PROTECTING SUCH PROPERTY FROM EROSION, SLIDING, SETTLING, OR CRACKING.
   f. NO FILL SHOULD BE PLACED WHERE IT WILL SLIDE OR WASH UPON THE PREMISES OF ANOTHER OWNER OR UPON ADJACENT WETLANDS, WATERCOURSES, OR WATERBODIES.
   g. PRIOR TO ANY REGRADING, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE PLACED AT THE ENTRANCE TO THE WORK AREA IN ORDER TO REDUCE MUD AND OTHER SEDIMENTS FROM LEAVING THE SITE.

TOPSOILING

GENERAL:

1. TOPSOIL SHALL BE SPREAD OVER ALL EXPOSED AREAS IN ORDER TO PROVIDE A SOIL MEDIUM HAVING FAVORABLE CHARACTERISTICS FOR THE ESTABLISHMENT, GROWTH, AND MAINTENANCE OF VEGETATION.
2. UPON ATTAINING FINAL SUBGRADES, SCARIFY SURFACE TO PROVIDE A GOOD BOND WITH TOPSOIL.
3. REMOVE ALL LARGE STONES, TREE LIMBS, ROOTS AND CONSTRUCTION DEBRIS.
4. APPLY SOIL AMENDMENTS AS FOLLOWS:
   LIME: ACCORDING TO SOIL TEST OR AT THE RATE OF 2 TONS PER ACRE.
   ROCK DUST: ACCORDING TO SOIL TEST OR AT THE RATE OF 2 TONS PER ACRE

MATERIAL:

1. TOPSOIL SHOULD HAVE PHYSICAL, CHEMICAL, AND BIOLOGICAL CHARACTERISTICS FAVORABLE TO THE GROWTH OF PLANTS.
2. TOPSOIL SHOULD HAVE A SANDY OR LOAMY TEXTURE.
3. TOPSOIL SHOULD BE RELATIVELY FREE OF SUBSOIL MATERIAL AND MUST BE FREE OF LARGE STONES , LUMPS OF SOIL, ROOTS, TREE LIMBS, TRASH, OR CONSTRUCTION DEBRIS. IT SHOULD BE FREE OF ROOTS OR RHIZOMES SUCH AS THISTLE, NUTGRASS, AND QUACKGRASS.
4. AN ORGANIC MATTER CONTENT OF SIX PERCENT (6%) IS REQUIRED. AVOID LIGHT COLORED SUBSOIL MATERIAL.
5. SOLUBLE SALT CONTENT OF LESS THAN 400 PPM IS REQUIRED.
6. THE TOPSOIL SHALL BE WARRANTED BY SELLER TO BE FREE OF DETECTABLE RESIDUES OF CHEMICAL PESTICIDES, HERBICIDES, PETROLEUM PRODUCTS, OR OTHER UNSUITABLE TOXINS.

APPLICATION:

1. AVOID SPREADING WHEN TOPSOIL IS WET OR FROZEN.
2. SPREAD TOPSOIL UNIFORMLY TO A DEPTH OF AT LEAST FOUR INCHES (4"), OR TO THE DEPTH SHOWN ON THE LANDSCAPING PLANS.

TEMPORARY VEGETATIVE COVER

TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED ON ALL UNPROTECTED AREAS THAT PRODUCE SEDIMENT, AREAS WHERE FINAL GRADING HAS BEEN COMPLETED, AND AREAS WHERE THE ESTIMATED PERIOD OF BARE SOIL EXPOSURE IS LESS THAN 12 MONTHS. TEMPORARY VEGETATIVE COVER SHALL BE APPLIED IF AREAS WILL NOT BE PERMANENTLY SEEDED BY SEPTEMBER 1.

GENERAL:

1. INSTALL REQUIRED SURFACE WATER CONTROL MEASURES.
2. REMOVE LOOSE ROCK, STONE, AND CONSTRUCTION DEBRIS FROM AREA.
3. APPLY SOIL AMENDMENTS AS FOLLOWS:
   LIME: ACCORDING TO SOIL TEST OR AT THE RATE OF 1 TONS PER ACRE.
   ROCK DUST: ACCORDING TO SOIL TEST OR AT THE RATE OF 1 TONS PER ACRE
4. UNLESS HYDROSEEDED, WORK IN LIME TO A DEPTH OF 4 INCHES WITH A DISK OR ANY SUITABLE EQUIPMENT. DO NOT WORK FINISHED COMPOST INTO THE SOIL - APPLY IT EVENLY TO SOIL SURFACE AS A SEED BED.
5. TILLAGE SHOULD ACHIEVE A REASONABLY UNIFORM LOOSE SEEDBED. WORK ON CONTOUR IF SITE IS SLOPING.

SITE PREPARATION:

1. SELECT APPROPRIATE SPECIES FOR THE SITUATION. NOTE RATES AND SEEDING DATES (SEE VEGETATIVE COVER SELECTION & MULCHING)
2. APPLY SEED UNIFORMLY ACCORDING TO THE RATE INDICATED BY BROADCASTING, DRILLING, OR HYDRAULIC APPLICATION.
3. UNLESS HYDROSEEDED, COVER RYEGRASS SEEDS WITH NOT MORE THAN 1/4 INCH OF SOIL USING SUITABLE EQUIPMENT.
4. MULCH IMMEDIATELY AFTER SEEDING IF REQUIRED. (SEE VEGETATIVE COVER SELECTION & MULCHING SPECIFICATION BELOW.) APPLY STRAW AND ANCHOR TO SLOPES GREATER THAN 3%%% OR WHERE NEEDED.

PERMANENT VEGETATIVE COVER

GENERAL:

PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED AS VARIOUS SECTIONS OF THE PROJECT ARE COMPLETED IN ORDER TO STABILIZE THE SOIL, REDUCE DOWNSTREAM DAMAGE FROM SEDIMENT AND RUNOFF, AND TO ENHANCE THE AESTHETIC NATURE OF THE SITE. IT WILL BE APPLIED TO ALL CONSTRUCTION AREAS SUBJECT TO EROSION WHERE FINAL GRADING HAS BEEN COMPLETED AND A PERMANENT COVER IS NEEDED.

SITE PREPARATION:

1. INSTALL REQUIRED SURFACE WATER CONTROL MEASURES.
2. REMOVE LOOSE ROCK, STONE, AND CONSTRUCTION DEBRIS FROM AREA.
3. PERFORM ALL PLANTING OPERATIONS PARALLEL TO THE CONTOURS OF THE SLOPE.
4. APPLY TOPSOIL AS INDICATED ELSEWHERE HEREIN.
5. APPLY SOIL AMENDMENTS AS FOLLOWS:
   LIME: ACCORDING TO SOIL TEST OR AT THE RATE OF 1 TONS PER ACRE.
   ROCK DUST: ACCORDING TO SOIL TEST OR AT THE RATE OF 1 TONS PER ACRE
6. UNLESS HYDROSEEDED, WORK IN LIME TO A DEPTH OF 4 INCHES WITH A DISK OR ANY SUITABLE EQUIPMENT. DO NOT WORK FINISHED COMPOST

VEGETATED COVER SELECTION AND MULCHING

TEMPORARY VEGETATIVE COVER:

PERENNIAL RYEGRASS 5 LBS./1,000 SQ.FT. (LOLIUM PERENNE)
DUTCH WHITE CLOVER (TRIFOLIUM REPENS) 1/4 LBS PER 1000 SF. OR 6LBS/AC.

* PERMANENT VEGETATIVE COVER:

DUTCH WHITE CLOVER 30%
BARON KENTUCKY BLUEGRASS 30%
JAMESTOWN II CHEWINGS FESCUE 20%
PALMER PERENNIAL RYEGRASS 20%

NEW ENGLAND EROSION CONTROL/R3ESOTRATION MIX FOR MOIST SITES AT 1/8 LB PER 1000 S.F. FOR 5 LBS/AC.

NEW ENGLAND SHOWY WILD FLOW MIX AT 1/16 LB PER 1000 S.F. OR 2 LBS/AC

* LOFTS - "TRIPLEX GENERAL" MIX OR APPROVED EQUAL. RECOMMENDED RATE/TIME SEEDING.
SPRING SEEDING: 4/1 to 5/31
FALL SEEDING: 8/16 to 10/15

TEMPORARY MULCHING:

STRAY 70-90 LBS./1,000 SQ.FT. (TEMPORARY VEGETATIVE AREAS) WOOD FIBER IN HYDROMULCH SLURRY 25-50 LBS./1,000 SQ. FT.

ESTABLISHMENT:
1. SMOOTH AND FIRM SEEDBED WITH CULTIPACKER OR OTHER SIMILAR EQUIPMENT PRIOR TO SEEDING (EXCEPT WHEN HYDROSEEDING).
2. SELECT ADAPTED SEED MIXTURE FOR THE SPECIFIC SITUATION. NOTE RATES AND THE SEEDING DATES (SEE VEGETATIVE COVER SELECTION & MULCHING SPEC. BELOW).
3. APPLY SEED UNIFORMLY ACCORDING TO RATE INDICATED, BY BROADCASTING, DRILLING, OR HYDRAULIC APPLICATION.
4. COVER GRASS AND LEGUME SEED WITH NOT MORE THAN 1/4 INCH OF SOIL WITH SUITABLE EQUIPMENT (EXCEPT WHEN HYDROSEEDING).
5. MULCH IMMEDIATELY AFTER SEEDING, IF REQUIRED, ACCORDING TO TEMPORARY MULCHING SPECIFICATIONS. (SEE VEGETATIVE COVER SELECTION & MULCHING SPECIFICATION BELOW).
6. USE PROPER INOCULAT ON ALL LEGUME SEEDLINGS, USE FOUR (4) TIMES NORMAL RATES WHEN HYDROSEEDING.
7. USE SOD WHERE THERE IS A HEAVY CONCENTRATION OF WATER AND IN CRITICAL AREAS WHERE IT IS IMPORTANT TO GET A QUICK VEGETATIVE COVER TO PREVENT EROSION.

MAINTENANCE:

1. TEST FOR SOIL ACIDITY EVERY THREE (3) YEARS AND LIME AS REQUIRED.

EROSION CHECKS

GENERAL:

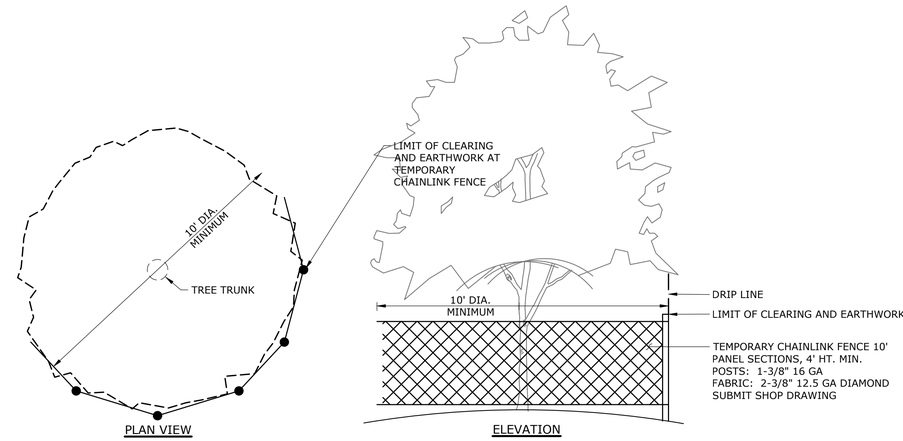
1. TEMPORARY PERVIOUS BARRIERS USING BALES OF HAY OR STRAW, HELD IN PLACE WITH STAKES DRIVEN THROUGH THE BALES AND INTO THE GROUND OR GEOTEXTILE FABRIC FASTENED TO A FENCE POST AND BURIED INTO THE GROUND, SHALL BE INSTALLED AND MAINTAINED AS REQUIRED TO CHECK EROSION AND REDUCE SEDIMENTATION.

CONSTRUCTION:

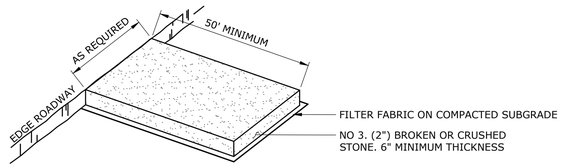
1. BALES SHOULD BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED INTO THE SOIL A MINIMUM OF FOUR (4") INCHES.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY WOOD STAKES OR REINFORCEMENT BARS DRIVEN THROUGH THE BALES AND INTO THE GROUND. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD THE PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
4. GEOTEXTILE FABRIC SHALL BE SECURELY ANCHORED AT THE TOP OF A THREE FOOT (3') HIGH FENCE AND BURIED A MINIMUM OF FOUR INCHES (4") TO THE SOIL. SEAMS BETWEEN SECTIONS OF FILTER FABRIC SHALL OVERLAP A MINIMUM OF TWO FEET (2').

INSTALLATION AND MAINTENANCE:

1. BALED HAY EROSION BARRIERS SHALL BE INSTALLED AT ALL STORM SEWER INLETS.
2. BALED HAY EROSION BARRIERS AND GEOTEXTILE FENCE SHALL BE INSTALLED AT THE LOCATION INDICATED ON THE PLAN AND IN ADDITIONAL AREAS AS MAY BE DEEMED APPROPRIATE DURING CONSTRUCTION.
3. ALL EROSION CHECKS SHALL BE MAINTAINED UNTIL ADJACENT AREAS ARE STABILIZED.
4. INSPECTION SHALL BE FREQUENT (AT MINIMUM MONTHLY AND BEFORE AND AFTER HEAVY RAIN) AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. EROSION CHECKS SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORMWATER FLOW OR DRAINAGE.



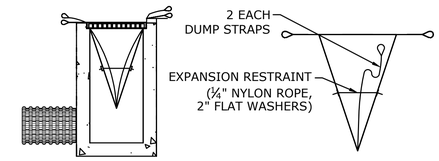
TREE PROTECTION
NOT TO SCALE

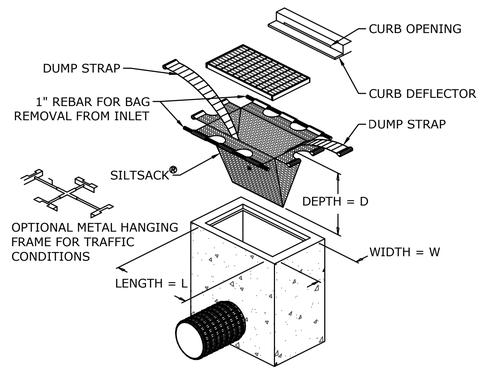


NOTES:

1. CONSTRUCTION ENTRANCE PAD SHALL BE INSTALLED AND MAINTAINED DURING OPERATIONS WHICH GENERATE VEHICULAR TRACKING OF MUD.

CONSTRUCTION ENTRANCE PAD
NOT TO SCALE





INLET PROTECTION
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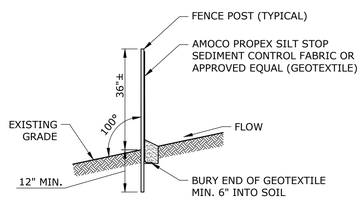

SEDIMENT FILTER FENCE
NOT TO SCALE

EROSION CONTROL MAINTENANCE INTERVALS

EROSION CONTROL MEASURE	CONTROL OBJECTIVE	INSPECTION/MAINTENANCE	FAILURE INDICATORS	REMOVAL
SILT FENCE (SF) (RELATED: IP, STK)	- INTERCEPT, AND REDIRECT/DETAIN SMALL AMOUNTS OF SEDIMENT FROM SMALL DISTURBED AREAS. - DECREASE VELOCITY OF SHEET FLOW. - PROTECT SENSITIVE SLOPES OR SOILS FROM EXCESSIVE WATER FLOW.	INSPECT AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL OF 0.5 INCHES OR MORE. ACCUMULATED SEDIMENT MUST BE REMOVED ONCE ITS DEPTH IS EQUAL TO ½ THE TRENCH HEIGHT. INSPECT FREQUENTLY DURING PUMPING OPERATIONS IF USED FOR DEWATERING OPERATIONS.	- PHYSICAL DAMAGE OR DECOMPOSITION - EVIDENCE OF OVERTOPPED OR UNDERCUT FENCE - EVIDENCE OF SIGNIFICANT FLOWS EVADING CAPTURE - REPETITIVE FAILURE	SILT FENCE MAY BE REMOVED AFTER UPHILL AND SENSITIVE AREAS HAVE BEEN PERMANENTLY STABILIZED.
CONSTRUCTION ENTRANCE (CE)	- REDUCE THE TRACKING OF SEDIMENT OFF-SITE ONTO PAVED SURFACES.	INSPECT AT THE END OF EACH WORK DAY AND IMMEDIATELY REPAIR DAMAGES. PERIODIC ADDITION OF STONE, OR LENGTHENING OF ENTRANCE MAY BE REQUIRED AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PAVED SURFACES AS A RESULT OF INEFFICIENCY OF CONSTRUCTION ENTRANCE SHALL BE IMMEDIATELY REMOVED.	- SEDIMENT IN ROADWAY ADJACENT TO SITE	CONSTRUCTION ENTRANCE MAY BE REMOVED ONCE THE SITE HAS BEEN PERMANENTLY STABILIZED, AND ALL OTHER SECTIONS OF ROADWAY HAVE BEEN PERMANENTLY PAVED.
INLET PROTECTION (IP)	- PROHIBIT SILT IN CONSTRUCTION-RELATED RUNOFF FROM ENTERING STORM DRAINAGE SYSTEM.	INSPECT AFTER ANY RAIN EVENT. IF FILTER BAG INSIDE CATCH BASIN CONTAINS MORE THAN 6` OF SEDIMENT, REMOVE SEDIMENT FROM BAG. CHECK SURROUNDING SILT FENCE AND HAY BALES PER NOTED ABOVE.	- RIPPED BAG - FAILED HAY BALES / SILT FENCE - SIGNIFICANT SILT PRESENCE IN STORM DRAINAGE SYSTEM OUTFLOW.	INLET PROTECTION MAY BE REMOVED ONCE THE SITE HAS BEEN PERMANENTLY STABILIZED, AND ALL SECTIONS OF ROADWAY HAVE BEEN PERMANENTLY PAVED.
STOCKPILE PROTECTION (STK)	- RETAIN SOIL STOCKPILE IN LOCATIONS SPECIFIED, AND REDUCE WATER-TRANSPORT.	INSPECT SILT FENCE AT THE END OF EACH WORK DAY AND IMMEDIATELY REPAIR DAMAGES. PERIODIC REINFORCEMENT OF SILT FENCE, OR ADDITION OF HAY BALES MAY BE NECESSARY.	- EVIDENCE OF STOCK PILE DIMINISHING DUE TO RAIN EVENTS - FAILURE OF SILT FENCE	STOCKPILE PROTECTION MAY BE REMOVED ONCE THE STOCKPILE IS USED OR REMOVED.
TEMPORARY SEDIMENT TRAP (TST)	- DETAIN SEDIMENT-LADEN RUNOFF FROM SMALL DISTURBED AREAS LONG ENOUGH TO ALLOW A MAJORITY OF THE SEDIMENT TO SETTLE OUT.	INSPECT AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL OF 0.5 INCHES OR MORE. STONE OUTLET SHOULD BE AT LEAST 1 FOOT BELOW CREST OF EMBANKMENT. SEDIMENT MUST BE REMOVED WHEN ACCUMULATION REACHES ½ OF THE REQUIRED WET STORAGE.	- TURBID WATER - EXCESSIVE SEDIMENT ACCUMULATION - OVERTOPPING EVIDENCE	TST MAY BE REMOVED ONCE THE CONTRIBUTING DRAINAGE AREA IS PERMANENTLY STABILIZED.
TEMPORARY DIVERSION BERM/SWALE (DB)	- MINIMIZE VELOCITY AND CONCENTRATION OF SHEET FLOW ACROSS CONSTRUCTION SITE TO A SEDIMENT TRAPPING FACILITY. - DIVERT WATER ORIGINATING FROM UNDISTURBED AREA AWAY FROM CONSTRUCTION.	WHEN LOCATED WITHIN CLOSE PROXIMITY TO ONGOING CONSTRUCTION ACTIVITIES, INSPECT AT THE END OF EACH WORK DAY AND IMMEDIATELY REPAIR DAMAGES. OTHERWISE INSPECT AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL OF 0.5 INCHES OR MORE. REPAIR THE TEMPORARY MEASURE AND ANY OTHER ASSOCIATED MEASURES WITHIN 24 HOURS.	- PHYSICAL DAMAGE - EXCESSIVE SCOURING/EROSION - REPETITIVE FAILURE	TEMPORARY DIVERSIONS MAY BE REMOVED ONCE CONSTRUCTION HAS CEASED AND THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED.

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CHESHIRE, CT 06410
203.271.1773
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DESCRIPTION	DATE	BY

SEDIMENT AND EROSION CONTROL DETAILS AND SPECIFICATIONS

PROPOSED UPPER DORM
THE ETHEL WALKER SCHOOL
230 BUSHY HILL ROAD
SIMSBURY, CONNECTICUT

AWG	RH	TD
DESIGNED	DRAWN	CHECKED

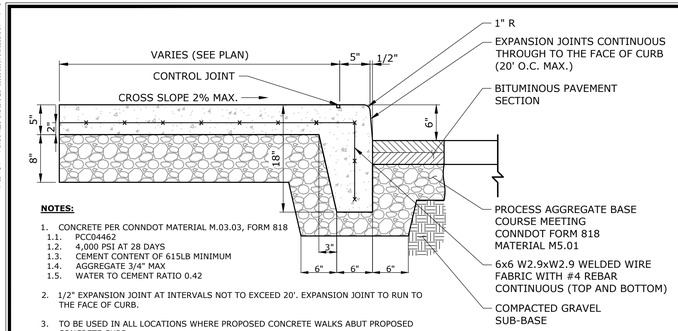
AS NOTED
SCALE

JUNE 27, 2022
DATE

12628.00025
PROJECT NO.

06 OF 09
SHEET NO.

SE-2
SHEET NAME

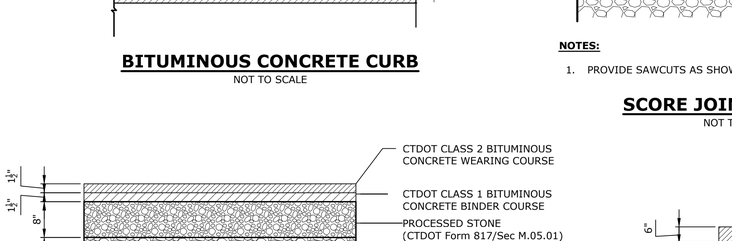


NOTES:

1. CONCRETE PER CONNDOT MATERIAL M.03.03, FORM 818
   1.1. PCC04462
   1.2. 4,000 PSI AT 28 DAYS
   1.3. CEMENT CONTENT OF 615LB MINIMUM
   1.4. AGGREGATE 3/4" MAX
   1.5. WATER TO CEMENT RATIO 0.42
2. 1/2" EXPANSION JOINT AT INTERVALS NOT TO EXCEED 20'. EXPANSION JOINT TO RUN TO THE FACE OF CURB.
3. TO BE USED IN ALL LOCATIONS WHERE PROPOSED CONCRETE WALKS ABUT PROPOSED CONCRETE CURB

CAST-IN-PLACE INTEGRAL CONCRETE WALK AND CURB

NOT TO SCALE

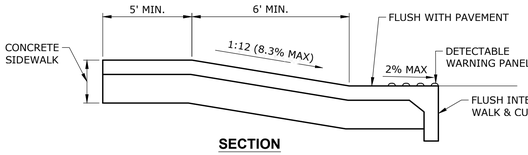


NOTES:

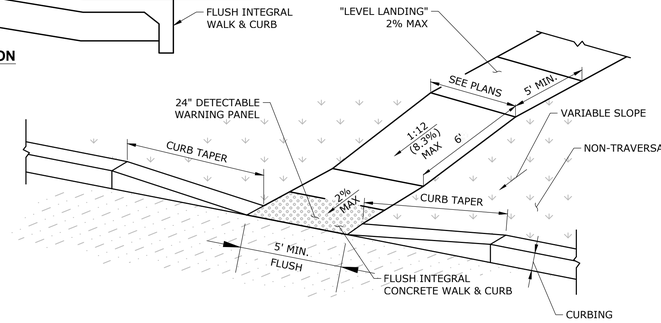
1. CONCRETE PER CONNDOT MATERIAL M.03.03, FORM 818
   1.1. PCC04462
   1.2. 4,000 PSI AT 28 DAYS
   1.3. CEMENT CONTENT OF 615LB MINIMUM
   1.4. AGGREGATE 3/4" MAX
   1.5. WATER TO CEMENT RATIO 0.42
2. 1/2" EXPANSION JOINT AT INTERVALS NOT TO EXCEED 20'. EXPANSION JOINT TO RUN TO THE FACE OF CURB.
3. TO BE USED IN ALL LOCATIONS WHERE PROPOSED CONCRETE WALKS ABUT PROPOSED CONCRETE CURB

FLUSH INTEGRAL CONCRETE WALK & CURB

NOT TO SCALE

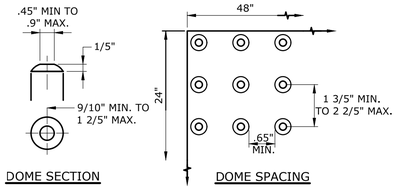


SECTION



ACCESSIBLE SIDEWALK LANDINGS & RAMPS

NOT TO SCALE



DOME SECTION

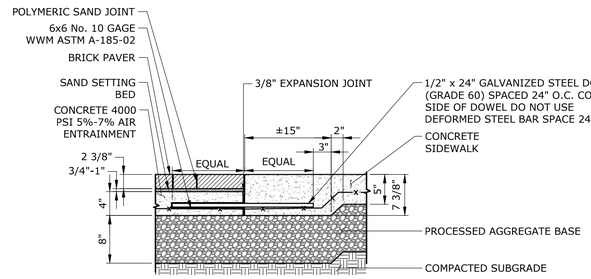
DOME SPACING

NOTES:

1. MAXIMUM SLOPES OF ADJOINING GUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO THE SIDEWALK RAMP OR ACCESSIBLE ROUTE SHOULD NOT EXCEED 20:1.
2. CARE SHALL BE TAKEN TO ASSURE UNIFORM GRADE ON THE RAMP, FREE OF SAGS AND ABRUPT GRADE CHANGES.
3. CONCRETE PER CONNDOT MATERIAL M.03.03, FORM 818
   3.1. PCC04462
   3.2. 4,000 PSI AT 28 DAYS
   3.3. CEMENT CONTENT OF 615LB MINIMUM
   3.4. AGGREGATE 3/4" MAX
   3.5. WATER TO CEMENT RATIO 0.42
4. SIDEWALK RAMPS SHALL HAVE A COARSE BROOM FINISH TRANSVERSE TO THE SLOPE OF THE RAMP. THE SURFACE ALONG ACCESSIBLE ROUTES SHALL BE STABLE, FIRM AND SLIP RESISTANT IN COMPLIANCE WITH ADAAG SECTION 4.5.
5. DIAGONAL SIDEWALK RAMPS AT MARKED CROSSINGS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARED SIDES.
6. WHEN INSTALLING RAMPS WITHIN OR NEXT TO EXISTING WALKS, CUT ADJACENT WALKS TO THE NEAREST EXPANSION/CONTRACTION JOINT OR DUMMY JOINT. 12:1 MAY NOT BE ACHIEVABLE DUE TO SIDEWALK GRADE. IN RECOGNITION OF THIS, A MINIMUM LIMIT OF 15' FOR A PARALLEL RAMP SHALL BE USED.
7. EXPANSION JOINTS IN CONCRETE SHALL MATCH THOSE IN ADJACENT SIDEWALKS BUT IN NO CASE SHALL THE SPACING BETWEEN EXPANSION JOINTS EXCEED 12' UNLESS OTHERWISE NOTED.
8. TRANSITION TO FULL HEIGHT CURB. INSTALL STONE CURBING IF ADJACENT CURBING IS STONE. INSTALL CONCRETE CURBING IF ADJACENT CURBING IS CONCRETE OR BITUMINOUS.
9. TO PERMIT WHEELCHAIR WHEELS TO ROLL BETWEEN DOMES, ALIGN DOMES ON A SQUARE GRID. IN THE DIRECTION OF PEDESTRIAN TRAVEL.

DETECTABLE WARNING STRIP FOR ACCESSIBLE WALK

NOT TO SCALE

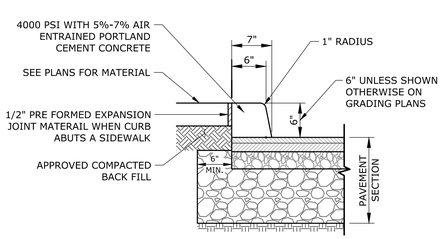


NOTES:

1. EXPANSION JOINTS 20' O.C. MAXIMUM.
2. CONCRETE BASE SHALL BE SCREEDED WITH A FLOAT FINISH AND PITCHED TO GRADE.

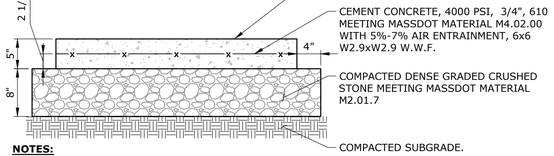
BRICK & CONCRETE SIDEWALK JOINT

NOT TO SCALE



EXTRUDED CONCRETE CURB

NOT TO SCALE

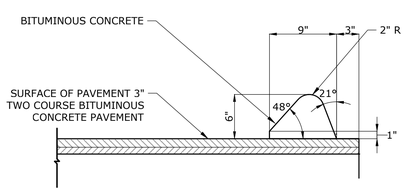


NOTES:

1. EXPANSION JOINTS 20' O.C. MAXIMUM SCORE JOINTS 5' O.C. TYPICAL.
2. SEE SPECIFICATION FOR EXPOSED AGGREGATE FINISH
3. ALL CONCRETE WALKING SURFACES SHALL BE SEALED PER SPECIFICATION

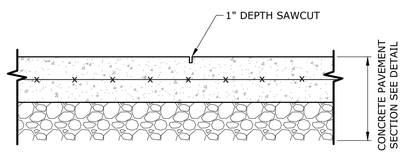
CEMENT CONCRETE SIDEWALK

NOT TO SCALE



BITUMINOUS CONCRETE CURB

NOT TO SCALE

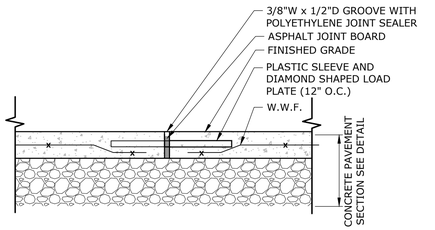


NOTES:

1. PROVIDE SAWCUTS AS SHOWN ON THE PLANS.

SCORE JOINT - SAWCUT

NOT TO SCALE



NOTES:

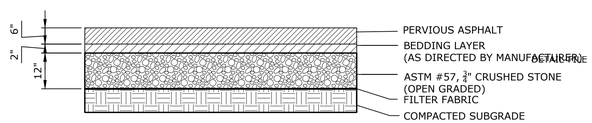
1. PROVIDE PREFORMED EXPANSION JOINT AT ALL CONSTRUCTION JOINT, AND OTHER LOCATIONS WHERE CONCRETE ABUTTS EXISTING CONCRETE.

CEMENT CONCRETE EXPANSION JOINT

NOT TO SCALE

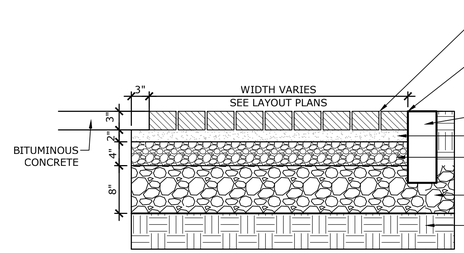
BITUMINOUS CONCRETE

NOT TO SCALE



PERVIOUS ASPHALT

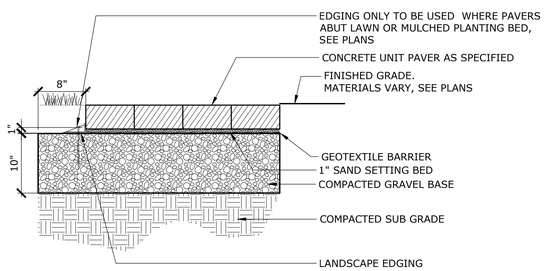
NOT TO SCALE



NOTE:
SUBGRADE IS NOT TO BE OVER COMPACTED.

PERMEABLE UNIT PAVERS

NOT TO SCALE



DECORATIVE CONCRETE UNIT PAVERS ON A SAND AND GRAVEL BASE

NOT TO SCALE

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99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773
SLRCONSULTING.COM

DESCRIPTION	DATE	BY

SITE DETAILS

PROPOSED UPPER DORM
THE ETHEL WALKER SCHOOL
230 BUSHY HILL ROAD
SIMSBURY, CONNECTICUT

AWG	RH	TD
DESIGNED	DRAWN	CHECKED

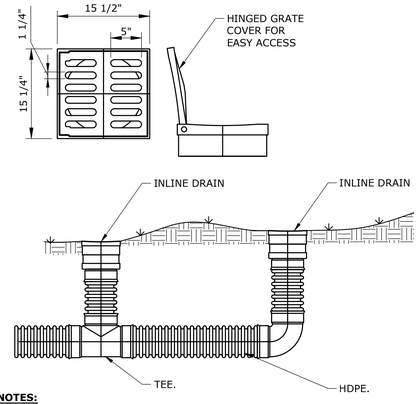
AS NOTED
SCALE

JUNE 27, 2022
DATE

12628.00025
PROJECT NO.

07 OF 09
SHEET NO.

SD-1
SHEET NAME



NOTES:

1. ALL AREA DRAIN GRATES SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED ON PLANS.

   1.1. 15" CAST IRON GRATE DRAIN AREA = 92.5SQ. INCH GRATE HAS H-20 (HEAVY TRAFFIC) DOT RATING .

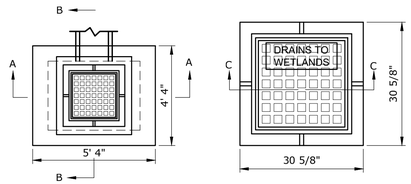
   1.2. MATERIAL SHALL CONFORM TO ASTM A48 - CLASS 30B.

   1.3. CASTINGS ARE FURNISHED WITH A BLACK PAINT.

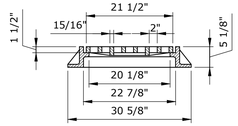
   1.4. INLINE DRAIN TO BE NYLOPLAST INC OR APPROVED EQUAL.

AREA DRAIN AND GRATE

NOT TO SCALE



PLAN



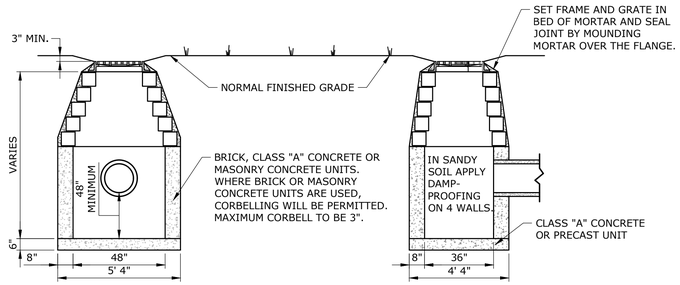
SECTION C-C

NOTES:

1. YARD DRAIN FRAMES & GRATES SHALL BE PATTERN #R-3404 AS MANUFACTURED BY THE "NEENAH FOUNDRY COMPANY" OF NEENAH, WISCONSIN, OR APPROVED EQUAL.

YARD DRAIN FRAME & GRATE

NOT TO SCALE



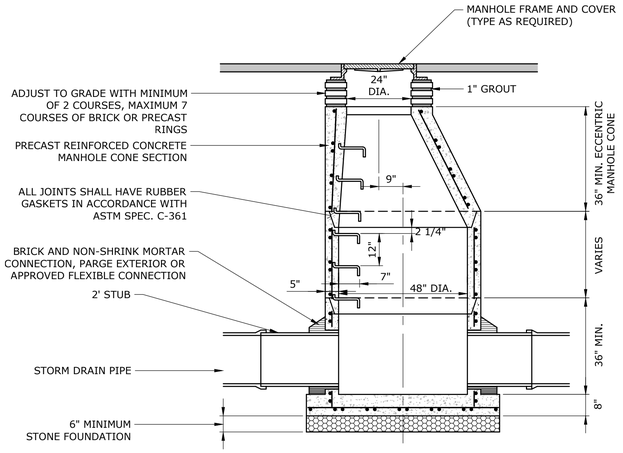
SECTION A-A **SECTION B-B**

NOTES:

1. WHERE PRECAST CONCRETE UNIT IS USED FOR SUMP, THE TOP OF THE UNIT SHALL BE AT LEAST 6" BELOW THE BOTTOM OF THE PIPE OUTLETTING FROM THE CATCH BASIN.

YARD DRAIN

NOT TO SCALE

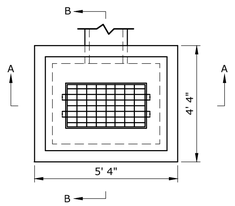


NOTES:

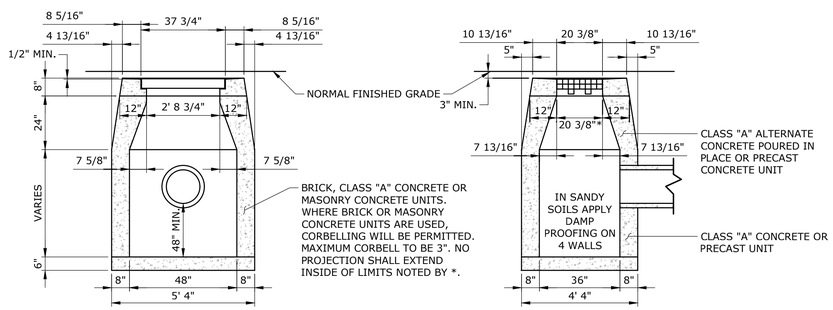
1. 5' OR 6' DIAMETER PRECAST BASES MAY BE REQUIRED DUE TO SIZE OR NUMBER OF PIPES AT THE MANHOLE. PRECAST REDUCERS WILL BE PLACED ABOVE THE 5' OR 6' BASES AS DIRECTED BY THE ENGINEER. WALL THICKNESS TO INCREASE BY 1" FOR EACH 1'-0" OF INSIDE DIAMETER.

PRECAST CONCRETE STORM DRAINAGE MANHOLE

NOT TO SCALE



PLAN



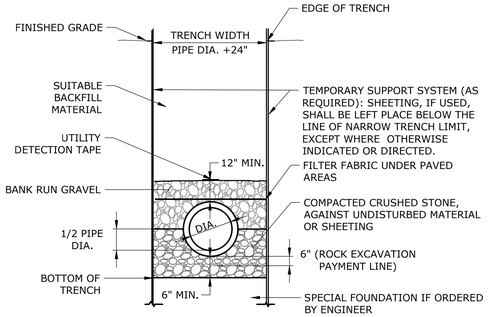
SECTION A-A SECTION B-B

NOTES:

1. WHERE PRECAST CONCRETE UNIT IS USED FOR SUMP, THE TOP OF THE UNIT SHALL BE AT LEAST 6" BELOW THE BOTTOM OF THE PIPE OUTLETTING FROM THE CATCH BASIN.

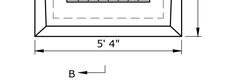
TYPE "C-L" CATCH BASIN

NOT TO SCALE

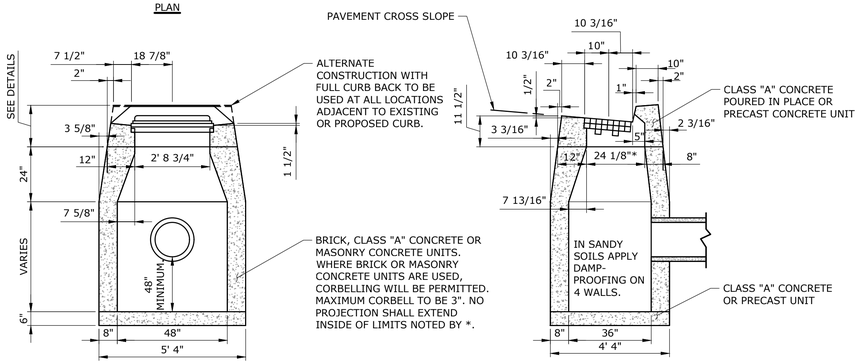


TYPICAL TRENCH SECTION STORM DRAIN AND CULVERTS

NOT TO SCALE



PLAN



SECTION A-A SECTION B-B

NOTES:

1. WHEN CATCH BASIN IS SET IN CONCRETE PAVEMENT, THE 1/2" SLOPE ON THE TOP SURFACE SHALL BE CHANGED TO MATCH ADJOINING PAVEMENT.
2. WHERE PRECAST CONCRETE UNIT IS USED FOR SUMP, THE TOP OF THE UNIT SHALL BE AT LEAST 6" BELOW THE BOTTOM OF THE PIPE OUTLET FROM THE CATCH BASIN.

TYPE "C" CATCH BASIN

NOT TO SCALE

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99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773
SLRCONSULTING.COM

DESCRIPTION	DATE	BY

SITE DETAILS

PROPOSED UPPER DORM
THE ETHEL WALKER SCHOOL
230 BUSHY HILL ROAD
SIMSBURY, CONNECTICUT

AWG	RH	TD
DESIGNED	DRAWN	CHECKED

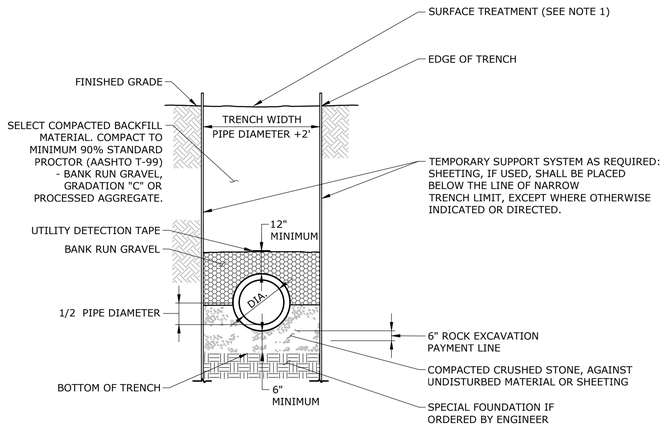
AS NOTED — SCALE

JUNE 27, 2022 — DATE

12628.00025 — PROJECT NO.

08 OF 09 — SHEET NO.

SD-2 — SHEET NAME

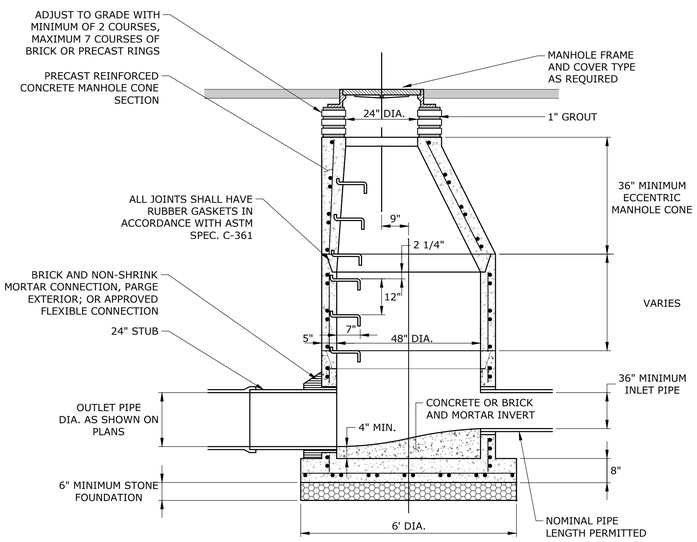


NOTES:

1. SEE APPROPRIATE DETAIL FOR PAVEMENT REPAIR INFORMATION WHEN INSTALLING SANITARY SEWER MAINS IN PAVED AREAS.

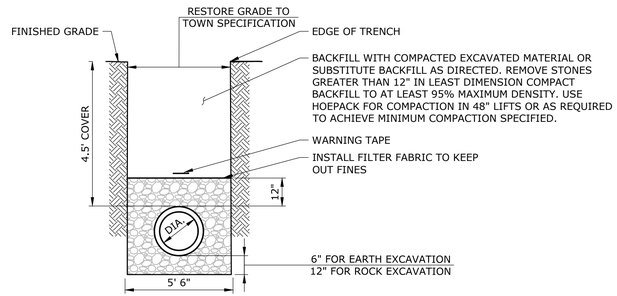
SANITARY SEWER TRENCH

NOT TO SCALE



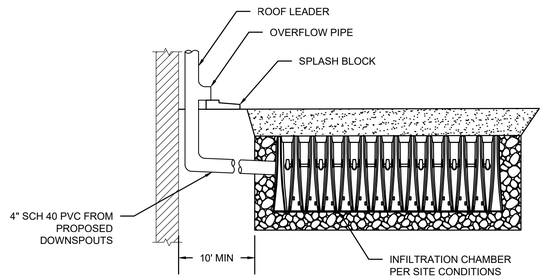
PRECAST CONCRETE SANITARY MANHOLE

NOT TO SCALE



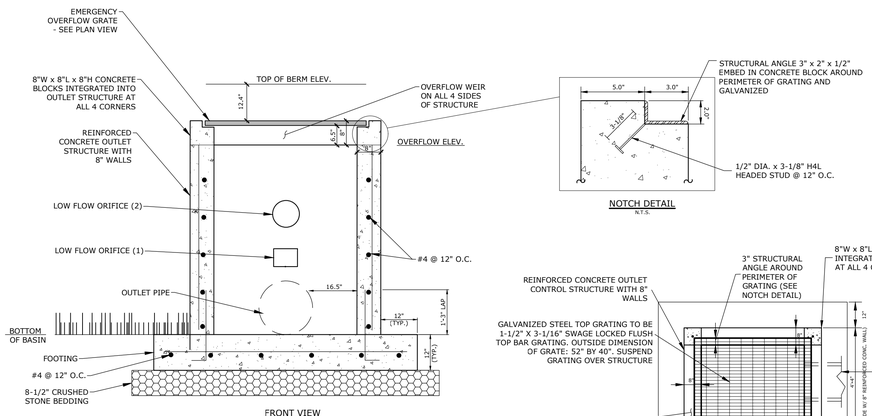
WATER MAIN TRENCH

NOT TO SCALE



ROOF LEADER DETAIL

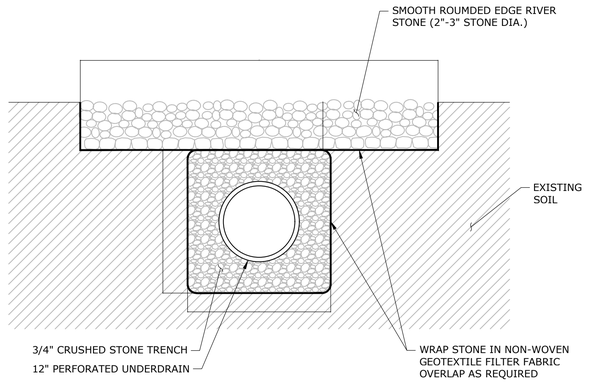
NOT TO SCALE



	DET 110
TOP OF BERM ELEVATION	355.0
OVERFLOW ELEVATION	353.3
100-YEAR WATER SURFACE ELEV.	354.0
LOW FLOW ORIFICE DIMENSIONS (1)	6" x 8"
LOW FLOW ORIFICE INVERT (1)	349.9
LOW FLOW ORIFICE DIMENSIONS (2)	9"
LOW FLOW ORIFICE INVERT (2)	351.0
OUTLET PIPE DIAMETER	18"
OUTLET PIPE INVERT	348.0
BASIN BOTTOM ELEVATION	348.0

DETENTION BASIN 110 OUTLET CONTROL STRUCTURE

SCALE: 1"=2'



GRAVEL STRIP WITH UNDERDRAIN

NOT TO SCALE

SLR
99 REALTY DRIVE
CHESHIRE, CT 06410
(203) 271-1773
SLRCONSULTING.COM

DESCRIPTION	DATE	BY

SITE DETAILS

PROPOSED UPPER DORM
THE ETHEL WALKER SCHOOL
230 BUSHY HILL ROAD
SIMSBURY, CONNECTICUT

AWG	RH	TD
DESIGNED	DRAWN	CHECKED

AS NOTED — SCALE

JUNE 27, 2022 — DATE

12628.00025 — PROJECT NO.

09 OF 09 — SHEET NO.

SD-3 — SHEET NAME

LOWER LEVEL / FIRST FLOOR PLAN

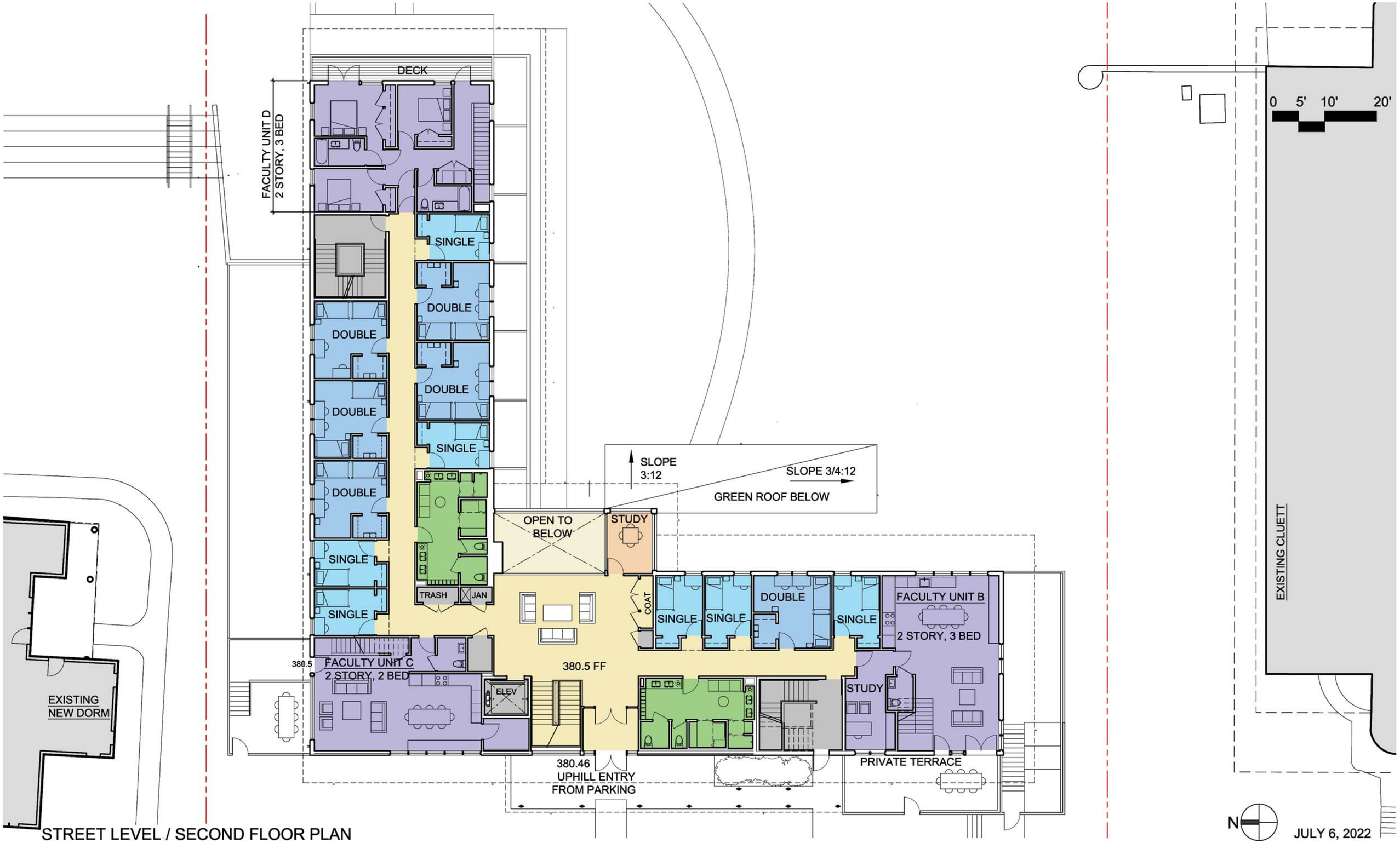
JULY 6, 2022

ETHEL WALKER SCHOOL UPPER DORMITORY

230 BUSHY HILL ROAD, SIMSBURY, CT

MARYANN THOMPSON ARCHITECTS

741 MOUNT AUBURN STREET WATERTOWN MA 02472 | T: 617 744 5187 F: 617 491 3844



STREET LEVEL / SECOND FLOOR PLAN

JULY 6, 2022

ETHEL WALKER SCHOOL UPPER DORMITORY 230 BUSHY HILL ROAD, SIMSBURY, CT

MARYANN THOMPSON ARCHITECTS
741 MOUNT AUBURN STREET WATERTOWN MA 02472 | T: 617 744 5187 F: 617 491 3844

THIRD FLOOR PLAN

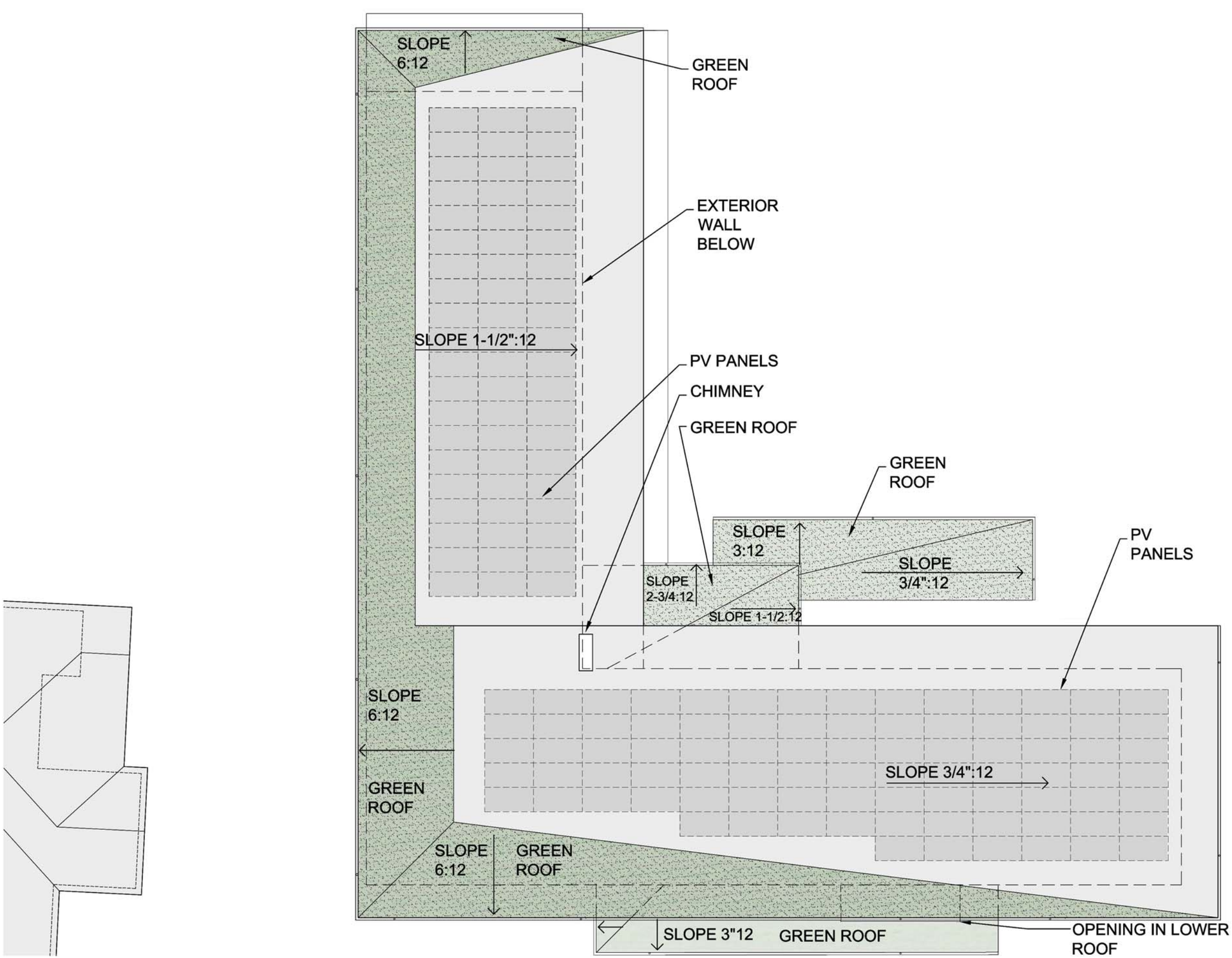
JULY 6, 2022

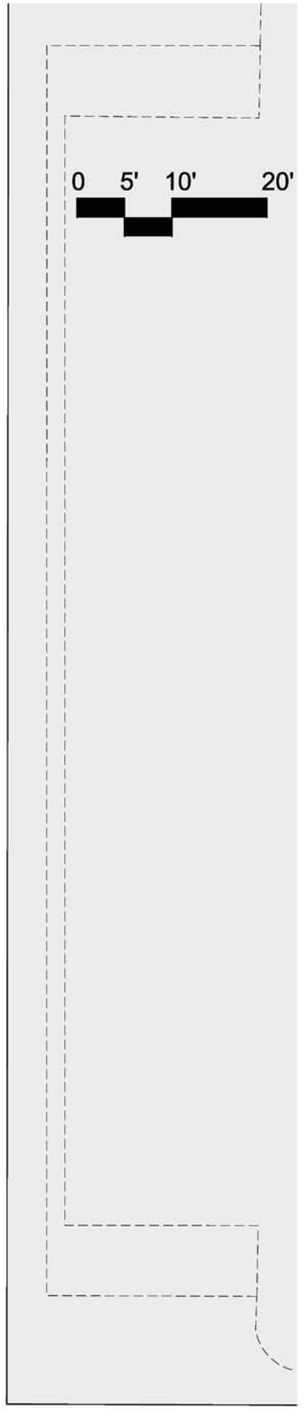
ETHEL WALKER SCHOOL UPPER DORMITORY

230 BUSHY HILL ROAD, SIMSBURY, CT

MARYANN THOMPSON ARCHITECTS

741 MOUNT AUBURN STREET WATERTOWN MA 02472 | T: 617 744 5187 F: 617 491 3844





ROOF PLAN

N

JULY 6, 2022

ETHEL WALKER SCHOOL UPPER DORMITORY 230 BUSHY HILL ROAD, SIMSBURY, CT

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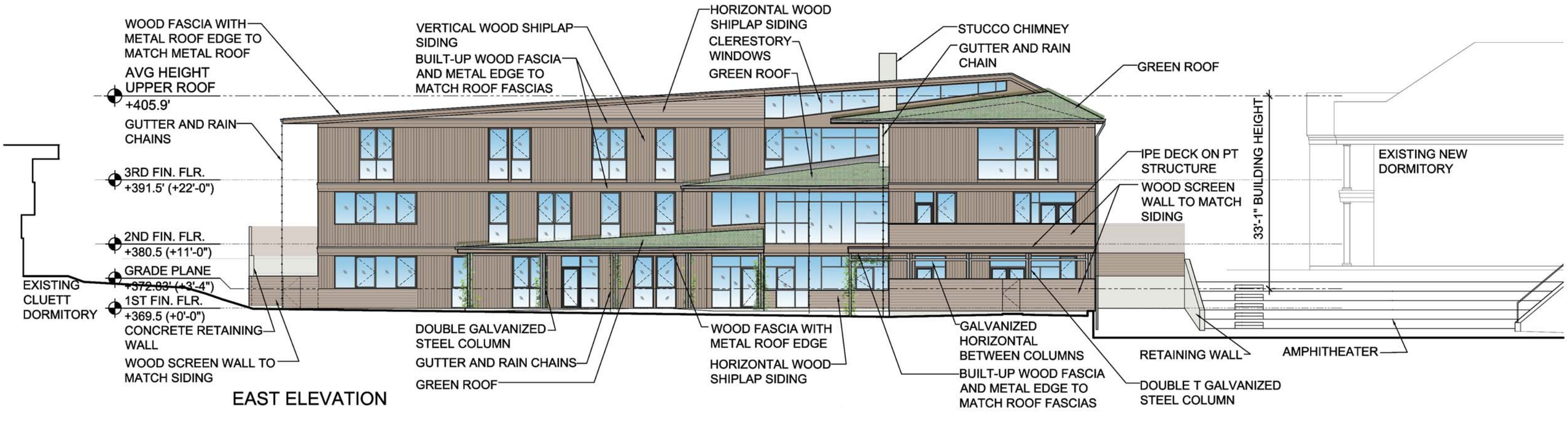
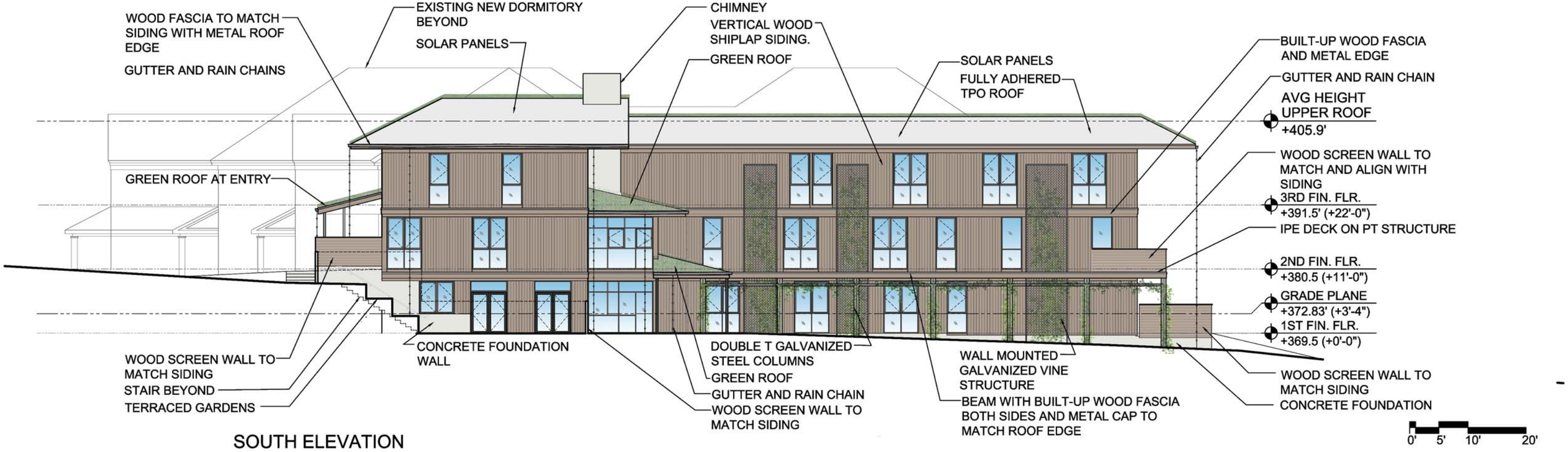


EAST ELEVATION



SOUTH ELEVATION

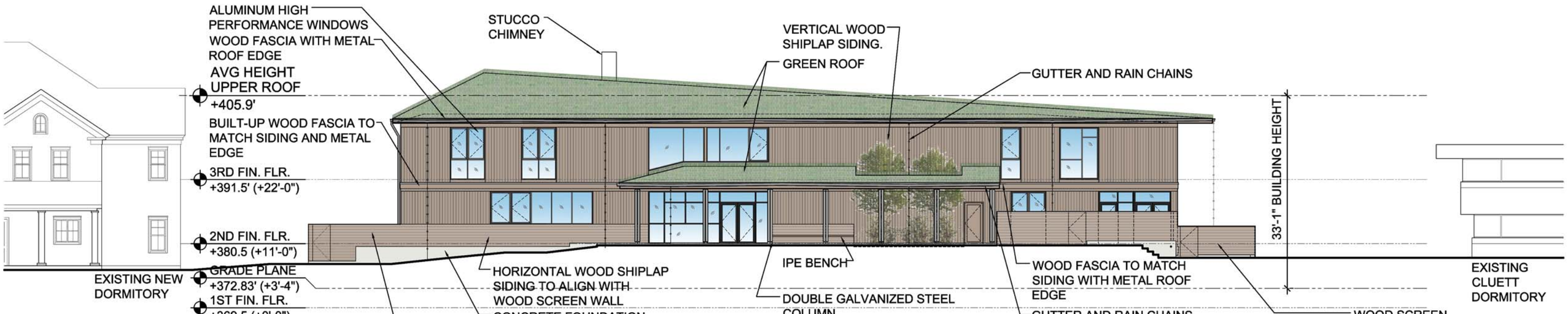
JULY 6, 2022

ETHEL WALKER SCHOOL UPPER DORMITORY

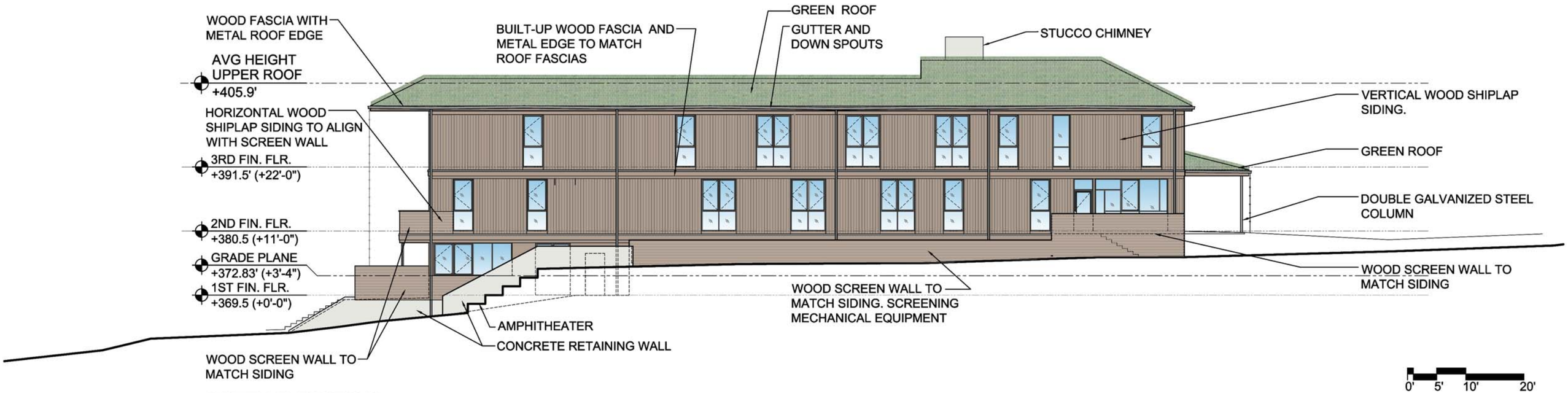
230 BUSHY HILL ROAD, SIMSBURY, CT

MARYANN THOMPSON ARCHITECTS

741 MOUNT AUBURN STREET WATERTOWN MA 02472 | T: 617 744 5187 F: 617 491 3844



WEST ELEVATION



NORTH ELEVATION

0' 5' 10' 20'

JULY 6, 2022

ETHEL WALKER SCHOOL UPPER DORMITORY

230 BUSHY HILL ROAD, SIMSBURY, CT

MARYANN THOMPSON ARCHITECTS

741 MOUNT AUBURN STREET WATERTOWN MA 02472 | T: 617 744 5187 F: 617 491 3844

ETHEL WALKER SCHOOL
UPPER DORM

Drainage Report

Prepared for:

Ethel Walker School

230 Bushy Hill Road

Simsbury, CT 06070

SLR #141.12628.00025.0010

June 27, 2022

Drainage Report

Ethel Walker School Upper Dorm
230 Bushy Hill Road
Simsbury, Connecticut
June 27, 2022
SLR #141.12628.00025.0010

This Drainage Report has been prepared in support of the proposed dormitory to be constructed at 230 Bushy Hill Road in the town of Simsbury, Connecticut. The development proposes to construct a new dormitory building located between two existing dormitories on the site. New courtyards, sidewalks, and parking areas will be included as well as all associated site infrastructure.

Figure 1 – #D15 115 006 Parcel

Table 1 – Stormwater Data

Parcel Size Total	106.1 acres
Existing Impervious Area (Watershed Area)	1.10 acres
Proposed Impervious Area (Watershed Area)	1.61 acres
Soil Types (Hydrologic Soil Group)	"B" and "C"
Parcel Zoning Code	R-40
Existing Land Use	Woods, open space, bituminous driveway, parking lot, sidewalk, and building
Proposed Land Use	Woods, open space, bituminous driveway, parking lot, sidewalk, and building
Design Storm for Stormwater Management (Town of Simsbury)	No increases in peak rates of runoff for the 2-, 10-, 25-, 50-, and 100-year storms, Connecticut Department of Energy & Environmental Protection (CTDEEP) Water Quality Volume (WQV)
Water Quality Measures	2-foot sump catch basin, retention storage
Design Storm for Storm Drainage (Town of Simsbury)	25-year storm
Federal Emergency Management Agency Special Flood Hazard Areas	Area of Minimal Flood Hazard (Zone X)
Connecticut Department of Energy & Environmental Protection Aquifer Protection Areas	Not Applicable

STORMWATER MANAGEMENT APPROACH

The stormwater management system for this site has been designed utilizing Best Management Practices (BMPs) to provide water quality management and to ensure that predevelopment peak rates of runoff would not be exacerbated due to the new development. The proposed design was planned in accordance with the *Simsbury Stormwater Article* dated September 28, 2011, as included as part of the Town's Land Use Department, and the Connecticut Department of Energy & Environmental (CTDEEP) *2004 Stormwater Manual.*

The performance standards outlined in the *Simsbury Stormwater Article* are organized into the following three areas:

1. Planning and Site Design Criteria Checklist
2. Stormwater Quantity and Quality Requirements
3. Design and Construction Requirements

1. Planning and Site Design Criteria Checklist

The goal is to preserve natural resources, maintain existing drainage patterns to the maximum extent possible, and manage rainfall on the site through a series of BMPs. An improvement in site runoff conditions is expected based on the proposed stormwater improvements planned for the project. The proposed project will expand the existing stormwater treatment train to consist of a catch basin with 2-foot sump and retention storage.

2. Stormwater Quantity and Quality Requirements

2.1 Redevelopment

Projects with more than 50 percent predevelopment impervious surface cover are considered redevelopment projects. At a minimum, redevelopment projects must implement planning, design criteria, and structural BMP measures to meet water quality treatment and recharge volume requirements for at least 50 percent of the postdevelopment effective impervious area.

Based on visual investigation of existing land use, soil subsurface testing, and aerial photogrammetry, the site's land use consists mostly of the existing school building, paved parking lots and drives, sidewalks, grassed areas, and some woods.

Table 2 Existing Impervious Area Chart

Types of Impervious Areas	Area (acres)
Buildings	0.28
Paved	0.79
Gravel	0.03
Total Impervious Area	1.10
Project Limits	4.51
% Impervious =	24.3%

Per the definition of impervious area in the Simsbury Zoning Regulations, the existing land use was delineated. The project limits were determined to contain approximately 24.3 percent of impervious area. Therefore, the adjustment factor of 50 percent was not applied to the water quality standard requirements.

2.2 Peak Rate

The postdevelopment impervious area will be increased compared to the predevelopment conditions' impervious coverage. The proposed development will expand the existing detention basin that is designed to mitigate the increase in stormwater runoff from the site due to the new impervious surfaces. Therefore, the peak-rate requirements from the *Simsbury Stormwater Article* for the 2-, 10-, 25-, 50-, and 100-year, 24-hour design storm events are met. A detailed hydrologic analysis has been prepared, and the results of the peak rates of runoff are included in that section of this report.

2.3 Recharge Volume

The required recharge volume was calculated by multiplying the Effective Impervious Area – Volume (EIA-V) by the groundwater recharge depth. The EIA-V is the effective impervious area after the application of any Site BMP volume incentives.

The site is predominantly located within Hydrologic Soil Groups "B" and "C." Therefore, the groundwater recharge depth used in the computations was 0.35 as a conservative calculation, per Table 1.2 of the *Simsbury Stormwater Article*.

The required Recharge Volume was calculated to be 0.016 acre-feet (ac-ft). The provided volume achieved by the proposed stormwater basin is 0.144 ac-ft, thus meeting Simsbury's Recharge Volume requirements. The volume provided is also used toward meeting the CTDEEP Water Quality Volume (WQV) and Simsbury Groundwater Recharge Volume (GRV) requirements, which are further discussed in this report.

2.4 Water Quality

The required water quality volume for the project is 1 inch of rainfall over the Effective Impervious Area – Water Quality (EIA-WQ).

The stormwater basin has approximately 0.144 ac-ft of storage volume below the lower orifice elevation. Therefore, the volume provided meets Simsbury's WQV requirements. The underground storage chambers will each include an isolator row and will be preceded by a pretreatment proprietary hydrodynamic separator. These units were sized based on CTDEEP requirements for Water Quality Flow (WQF), which is discussed in the Water Quality Management section of this report.

2.5 Conveyance

The proposed storm drainage system was designed to provide adequate capacity to convey the 25-year storm event. The discharge capacity of the outlet pipe from the stormwater basin was sized to provide adequate capacity for the 100-year storm event.

The computer program titled *Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2019* by Autodesk, Inc., Version 2018.3, was used for designing the proposed storm drainage collection system. Storm drainage computations performed include pipe capacity and hydraulic grade line calculations. The contributing watershed to each individual catch basin inlet was delineated to determine the drainage area and land coverage. These values were used to determine the stormwater runoff to each inlet using the Rational Method. The rainfall intensities for the site were obtained from the National Oceanic and Atmospheric Administration (NOAA) Atlas 14, Volume 10, Precipitation Frequency Data Server (PFDS).

2.6 Offsite Mitigation and Stormwater Mitigation Bank

Offsite mitigation and stormwater mitigation bank are not applicable to this project.

2.7 Site BMP Incentive Credits

Site BMP Incentive Credits allow for a reduction in the postdevelopment impervious area used for calculation purposes, resulting in the Effective Impervious Area (EIA). The project site does not take credit for any of the Site BMP Incentives listed in the *Simsbury Stormwater Article*.

3. Design and Construction Requirements

3.1 BMP Requirements

The development has been designed in accordance with the guidelines of the CTDEEP *2004 Stormwater Quality Manual.* All construction and erosion and sediment controls provided are in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control.* Structural stormwater BMPs were selected using the guidance of the Site BMP Selection Matrix (Table 1.3) of the *Simsbury Stormwater Article.*

3.2 Special Detention Areas

Special Detention Areas are not applicable to the proposed project.

STORMWATER OPERATION AND MAINTENANCE

A detailed Stormwater Management Operation and Maintenance Plan is included in the proposed Utilities Plan Sheet UT, which comprises of recommended frequency of services, procedures for inspection and maintenance of the proposed BMPs, disposal of materials, and owner's responsibilities.

WATER QUALITY MANAGEMENT

In addition to the water quality requirements from the Town of Simsbury, the proposed drainage plan has also been developed following the recommendations set forth in the CTDEEP *2004 Stormwater Quality Manual.* All of the treatment measures described in this section will help maintain water quality of the stormwater runoff from the proposed site.

Stormwater runoff from the proposed improvements will be collected by a subsurface pipe and catch basin drainage system. The proposed drainage system will include catch basins with 2-foot sumps that will trap sediments.

The volume requirements associated with the CTDEEP WQV and GRV were achieved by the retention volume provided in the stormwater detention basin. The CTDEEP *2004 Stormwater Quality Manual* (Chapter 7) recommends methods for sizing stormwater treatment measures with WQV and GRV

computations. The WQV addresses the initial stormwater runoff also commonly referred to as the "first flush" runoff. The WQV provides adequate volume to store the initial 1 inch of runoff, which tends to contain the highest concentrations of potential pollutants. The GRV provides adequate volume to maintain the predevelopment annual groundwater recharge and promote infiltration based on the soils found on the site. When provided, the GRV will achieve similar stormwater infiltration capabilities and maintain adequate groundwater recharge. All supporting calculations for the volume provided as well as WQV and GRV computations have been included in the Appendix of this report.

HYDROLOGIC ANALYSIS

A detailed hydrologic analysis has been conducted to analyze the predevelopment and postdevelopment peak-flow rates from the site. One analysis point was chosen based on the fact that it receives stormwater runoff from the total proposed project site, including the contributing offsite upstream areas. The existing subwatershed and existing detention basin design was used to determine runoff for current site conditions. The existing watershed was then modified to reflect the proposed changes to the site and analyze the hydrology under proposed conditions. The total watershed area delineated is approximately 4.51 acres under existing conditions and 4.74 acres proposed conditions. A watershed map for both existing and proposed conditions is included in the Appendix of this report. The following table provides a brief description of the analysis point used in this hydrology study:

Analysis Point	Description
A	Outflow from Detention Basin

The method of predicting the surface water runoff rates utilized in this analysis is a computer program titled *Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2019* by Autodesk, Inc., Version 2020. The *Hydrographs* program is a computer model that utilizes the methodologies set forth in the *Technical Release No. 55* (TR-55) manual and *Technical Release No. 20* (TR-20) computer model, originally developed by the United States Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS). The *Hydrographs* computer modeling program is primarily used for conducting hydrology studies such as this one.

The *Hydrographs* computer program forecasts the rate of surface water runoff based upon several factors. The input data includes information on land use, hydrologic soil type, vegetation, contributing watershed area, time of concentration, rainfall data, storage volumes, and the hydraulic capacity of structures. The computer model predicts the amount of runoff as a function of time, with the ability to include the attenuation effect due to dams, lakes, large wetlands, floodplains, and stormwater management basins. The input data for rainfalls with statistical recurrence frequencies of 2, 10, 25, 50, and 100 years was obtained from the NOAA Atlas 14, Volume 10 database.

Table 4 NOAA Rainfall Amounts

Storm Frequency	Rainfall (inches)
2-year	3.37
10-year	5.43
25-year	6.72
50-year	7.66
100-year	8.71

Land use for the site under existing and proposed conditions was determined from field survey, town topographic maps, and aerial photogrammetry. Land use types used in the analysis included woods, grassed or open space, building, and impervious (drives, sidewalks, parking). Soil types in the watershed were determined from the CTDEEP Geographic Information System (GIS) database of the USDA-NRCS soil survey for Hartford County, Connecticut. For the analysis, the site was determined to contain hydrologic soil types "B" and "C" as classified by NRCS. Composite runoff Curve Number (CN) for each subwatershed was calculated based on the different land use and soil types. The time of concentration (Tc) was estimated for each subwatershed using the TR-55 methodology and was computed by summing all travel times through the watershed as sheet flow, shallow concentrated flow, and channel flow.

The existing conditions were modeled with the *Hydrographs* program to determine the peak-flow rates for the various storm events at the analysis point. A revised model was developed incorporating the proposed grading, storm drainage, proposed land coverage, and the expanded stormwater detention basin. The flows obtained with the revised model were then compared to the results of the existing conditions model. A reduction in the predevelopment peak runoff rates is expected under proposed conditions due to the proposed improvements to the site. The following peak rates of runoff were obtained from the *Hydrographs* hydrology results:

Analysis Point A – Outflow from Detention Basin					
	Peak Runoff Rate (cubic feet per second)				
Storm Frequency (years)	**2**	**10**	**25**	**50**	**100**
Existing Conditions	2.7	10.1	14.7	17.2	21.0
Proposed Conditions	2.7	5.5	12.1	16.6	19.1

Detention Basin 110					
	Water Surface Elevation (feet)				
Storm Frequency (years)	**2**	**10**	**25**	**50**	**100**
Existing Conditions*	352.2	353.2	353.4	353.6	353.8
Proposed Conditions**	351.5	353.1	353.6	353.7	354.0

*Top Elevation of Berm = 354.7 feet
**Top Elevation of Berm = 355.0 feet

CONCLUSION

The results of the hydrologic analysis demonstrate that there will be no increases in peak-flow rates from the project site. The proposed project will introduce a new stormwater treatment train consisting of catch basins with 2-foot sumps and retention storage.

The proposed stormwater management design was planned in accordance with the Town of Simsbury Stormwater regulations and the CTDEEP *2004 Stormwater Manual.* The design meets Simsbury's stormwater requirements for redevelopment, peak rate, recharge volume, water quality, and conveyance.

All supporting documentation and stormwater-related computations are attached to this report along with the *Hydraflow Hydrographs* model results for stormwater management and *Hydraflow Storm Sewers* model results for the proposed storm drainage system. Illustrative watershed maps for both existing and proposed conditions are also attached to this report.

Attachments

Appendix A – United States Geological Survey Location Map
Appendix B – Federal Emergency Management Agency Flood Insurance Rate Map
Appendix C – Natural Resources Conservation Service Hydrologic Soil Group Map
Appendix D – Storm Drainage Computations
Appendix E – Water Quality Computations
Appendix F – Hydrologic Analysis – Input Computations
Appendix G – Hydrologic Analysis – Computer Model Results
Appendix H – Watershed Maps

12628.00025.jn1522.rpt.docx

APPENDIX A

UNITED STATES GEOLOGICAL SURVEY LOCATION MAP

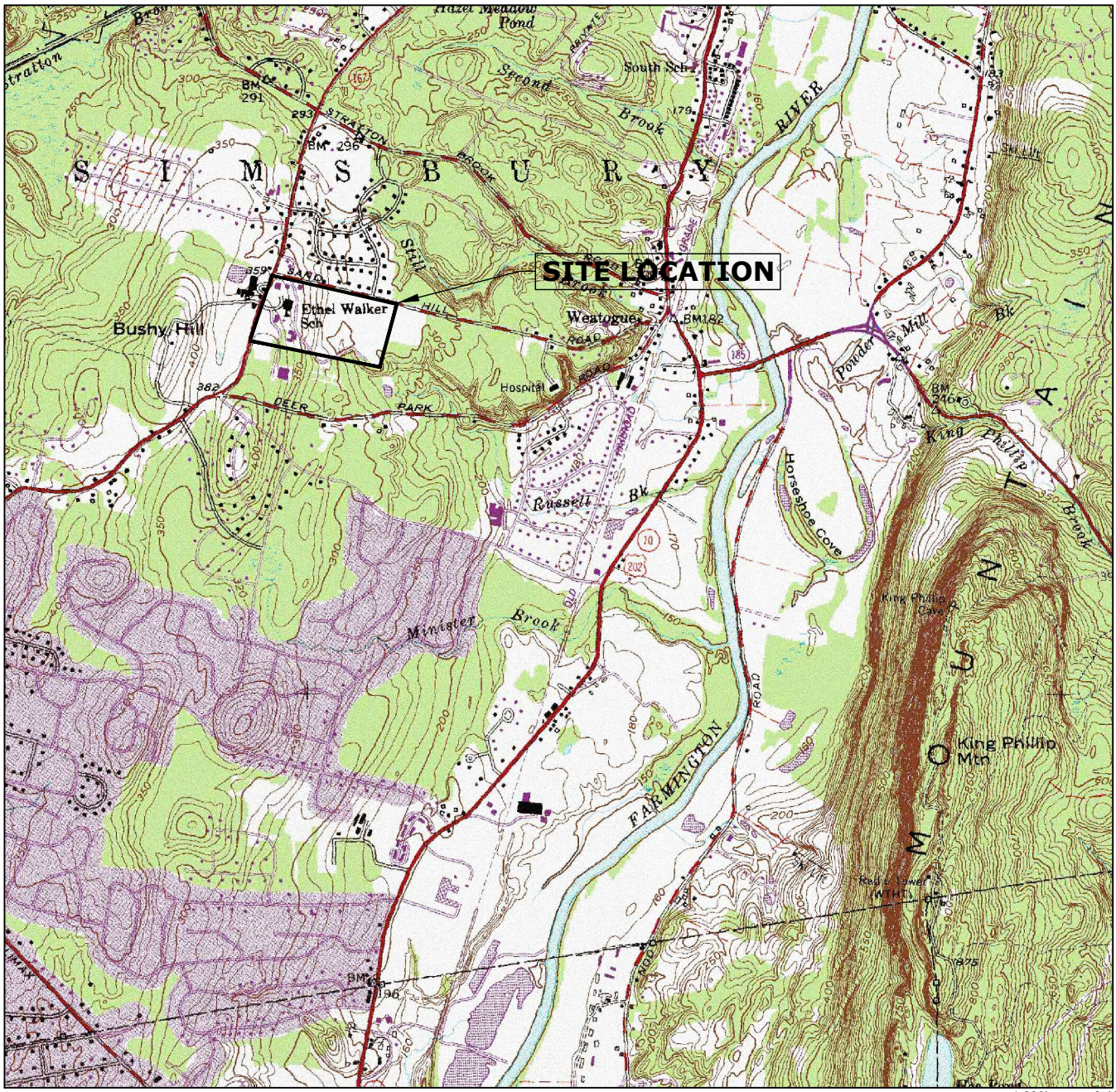
Drainage Report

Ethel Walker School

230 Bushy Hill Road

Simsbury, Connecticut 06070

June 27, 2022



SLR

99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773
SLRCONSULTING.COM

USGS QUADRANGLE MAP, QUAD NO. 36

ETHEL WALKER SCHOOL
UPPER DORM

230 BUSHY HILL ROAD
SIMSBURY, CONNECTICUT

PROJECT PHASE□ REV□---

DATE	**JUNE 15, 2022**
SCALE	**1"=2,400'**
PROJ. NO.	**12628.00025**

DESIGNED	DRAWN	CHECKED
AES	**AES**	**MCB**

DRAWING NAME□

LOC

APPENDIX B

FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP

Drainage Report

Ethel Walker School

230 Bushy Hill Road

Simsbury, Connecticut 06070

June 27, 2022

National Flood Hazard Layer FIRMette

FEMA

72°50'18"W 41°51'8"N

72°49'40"W 41°50'41"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/9/2022 at 2:46 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX C

NATURAL RESOURCES CONSERVATION SERVICE HYDROLOGIC SOIL GROUP MAP

Drainage Report

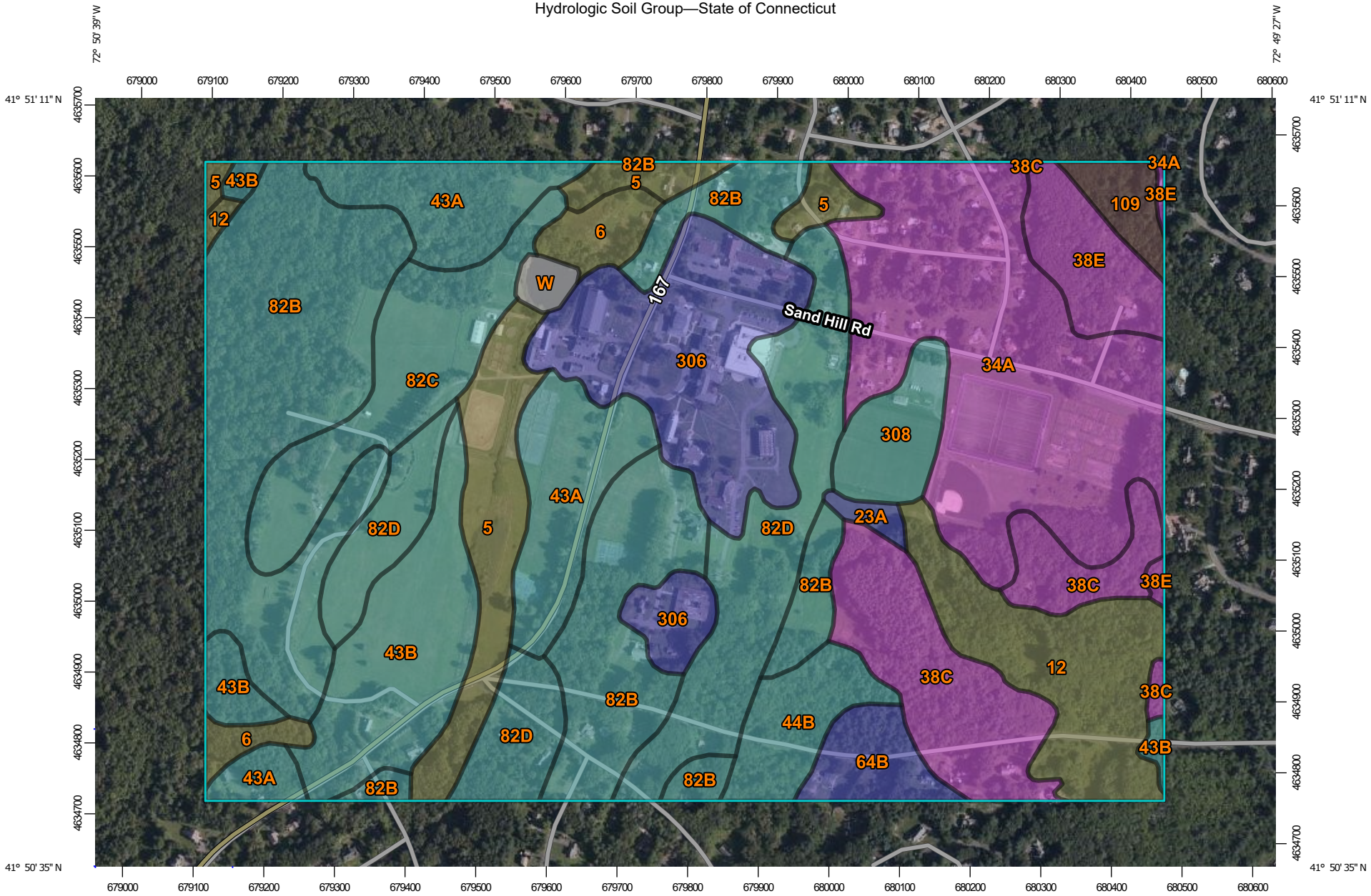
Ethel Walker School

230 Bushy Hill Road

Simsbury, Connecticut 06070

June 27, 2022

Hydrologic Soil Group—State of Connecticut



Map Scale: 1:7,640 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 350 700 1400 2100

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
Survey Area Data: Version 21, Sep 7, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 24, 2019—Oct 24, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
5	Wilbraham silt loam, 0 to 3 percent slopes	C/D	16.4	5.4%
6	Wilbraham and Menlo soils, 0 to 8 percent slopes, extremely stony	C/D	5.1	1.7%
12	Raypol silt loam	C/D	17.0	5.6%
23A	Sudbury sandy loam, 0 to 5 percent slopes	B	1.1	0.3%
34A	Merrimac fine sandy loam, 0 to 3 percent slopes	A	41.8	13.8%
38C	Hinckley loamy sand, 3 to 15 percent slopes	A	20.3	6.7%
38E	Hinckley loamy sand, 15 to 45 percent slopes	A	7.9	2.6%
43A	Rainbow silt loam, 0 to 3 percent slopes	C	21.4	7.0%
43B	Rainbow silt loam, 3 to 8 percent slopes	C	19.2	6.3%
44B	Rainbow silt loam, 2 to 8 percent slopes, very stony	C	6.8	2.2%
64B	Cheshire fine sandy loam, 3 to 8 percent slopes, very stony	B	5.0	1.6%
82B	Broadbrook silt loam, 3 to 8 percent slopes	C	59.3	19.5%
82C	Broadbrook silt loam, 8 to 15 percent slopes	C	15.2	5.0%
82D	Broadbrook silt loam, 15 to 25 percent slopes	C	30.0	9.9%
109	Fluvaquents-Udifluvents complex, frequently flooded	B/D	3.1	1.0%
306	Udorthents-Urban land complex	B	26.8	8.8%
308	Udorthents, smoothed	C	6.1	2.0%
W	Water		1.3	0.4%
Totals for Area of Interest			**303.7**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

APPENDIX D

STORM DRAINAGE COMPUTATIONS

Drainage Report

Ethel Walker School

230 Bushy Hill Road

Simsbury, Connecticut 06070

June 27, 2022

Rational Method Individual Basin Calculations

Project: Proposed Upper Dorm By: AES Date: 6/7/22
Location: Simsbury, Connecticut Checked: Date:

Basin Name	Impervious Area C=0.9 (sf)	Grassed Area C=0.3 (sf)	Wooded Area C=0.2 (sf)	Total Area (sf)	Total Area (ac)	Weighted C	Tc (min)
System 100							
AD 7	318	51	0	369	0.01	0.82	5.0
CLCB 10	6038	2958	3440	12436	0.29	0.56	5.0
AD 11	2914	1518	1802	6234	0.14	0.55	5.0
AD 14	2496	586	2202	5284	0.12	0.54	5.0
AD 15	942	224	1540	2706	0.06	0.45	5.0
AD 12	2283	2493	1401	6177	0.14	0.50	5.0
YD 3	0	90	0	90	0.01	0.30	5.0
AD 4	1209	2623	3471	7303	0.17	0.35	18.5
AD 5	0	405	0	405	0.01	0.30	5.0
Q TO MH 9	5559	7837	7925	21321	0.49	0.42	5.0

Rational Method Roof Drain System Calculations

Project: Proposed Upper Dorm By: AES Date: 6/7/22
Location: Simsbury, Connecticut Checked: Date:

Total Roof Runoff to Proposed Storm Drainage System (In Hydraflow Model)

	KKNOWN Q TO MH 9	ROOF TO YD 3					
C	0.42	0.90					
I	9.06	9.06					
A	0.49	0.28					
Q	1.86	2.28					

NOAA Atlas 14, Volume 10, Version 3
Location name: Simsbury, Connecticut, USA*
Latitude: 41.8484°, Longitude: -72.833°
Elevation: 345.08 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.351** (0.270-0.451)	**0.420** (0.323-0.541)	**0.533** (0.408-0.688)	**0.626** (0.477-0.814)	**0.755** (0.558-1.03)	**0.852** (0.618-1.19)	**0.953** (0.673-1.38)	**1.07** (0.715-1.59)	**1.23** (0.793-1.89)	**1.36** (0.858-2.14)
10-min	**0.497** (0.382-0.639)	**0.595** (0.457-0.766)	**0.755** (0.578-0.976)	**0.887** (0.676-1.15)	**1.07** (0.791-1.46)	**1.21** (0.875-1.68)	**1.35** (0.953-1.96)	**1.51** (1.01-2.25)	**1.74** (1.13-2.69)	**1.92** (1.22-3.03)
15-min	**0.585** (0.450-0.752)	**0.700** (0.538-0.901)	**0.888** (0.680-1.15)	**1.04** (0.795-1.36)	**1.26** (0.930-1.71)	**1.42** (1.03-1.98)	**1.59** (1.12-2.30)	**1.78** (1.19-2.64)	**2.04** (1.32-3.16)	**2.26** (1.43-3.57)
30-min	**0.791** (0.609-1.02)	**0.949** (0.730-1.22)	**1.21** (0.925-1.56)	**1.42** (1.08-1.85)	**1.72** (1.27-2.34)	**1.94** (1.41-2.70)	**2.17** (1.53-3.15)	**2.43** (1.63-3.61)	**2.79** (1.81-4.32)	**3.09** (1.96-4.88)
60-min	**0.998** (0.768-1.28)	**1.20** (0.921-1.54)	**1.53** (1.17-1.97)	**1.80** (1.37-2.34)	**2.17** (1.61-2.96)	**2.46** (1.78-3.43)	**2.75** (1.94-3.99)	**3.08** (2.07-4.58)	**3.54** (2.29-5.48)	**3.92** (2.48-6.19)
2-hr	**1.29** (0.997-1.65)	**1.54** (1.19-1.97)	**1.96** (1.51-2.51)	**2.30** (1.77-2.98)	**2.78** (2.07-3.77)	**3.13** (2.29-4.36)	**3.51** (2.50-5.10)	**3.95** (2.66-5.86)	**4.61** (3.00-7.11)	**5.17** (3.28-8.14)
3-hr	**1.48** (1.15-1.89)	**1.78** (1.38-2.27)	**2.26** (1.75-2.90)	**2.67** (2.05-3.43)	**3.22** (2.41-4.37)	**3.63** (2.67-5.05)	**4.07** (2.93-5.93)	**4.61** (3.11-6.81)	**5.42** (3.53-8.33)	**6.12** (3.90-9.61)
6-hr	**1.87** (1.46-2.36)	**2.26** (1.77-2.86)	**2.91** (2.27-3.70)	**3.44** (2.67-4.41)	**4.18** (3.15-5.65)	**4.72** (3.50-6.56)	**5.32** (3.86-7.74)	**6.06** (4.10-8.92)	**7.22** (4.71-11.0)	**8.22** (5.25-12.8)
12-hr	**2.30** (1.81-2.88)	**2.83** (2.23-3.56)	**3.70** (2.90-4.67)	**4.42** (3.45-5.62)	**5.41** (4.11-7.29)	**6.14** (4.59-8.51)	**6.95** (5.08-10.1)	**7.97** (5.41-11.7)	**9.57** (6.26-14.6)	**11.0** (7.03-17.1)
24-hr	**2.68** (2.13-3.35)	**3.37** (2.67-4.21)	**4.50** (3.55-5.64)	**5.43** (4.27-6.86)	**6.72** (5.14-9.03)	**7.66** (5.77-10.6)	**8.71** (6.43-12.7)	**10.1** (6.86-14.7)	**12.3** (8.05-18.6)	**14.2** (9.13-22.0)
2-day	**3.01** (2.40-3.73)	**3.85** (3.07-4.78)	**5.23** (4.16-6.51)	**6.37** (5.04-7.99)	**7.94** (6.13-10.6)	**9.08** (6.90-12.6)	**10.4** (7.75-15.2)	**12.1** (8.29-17.6)	**15.0** (9.89-22.7)	**17.7** (11.4-27.2)
3-day	**3.28** (2.63-4.04)	**4.20** (3.37-5.20)	**5.72** (4.57-7.10)	**6.98** (5.54-8.72)	**8.71** (6.75-11.7)	**9.96** (7.61-13.7)	**11.4** (8.55-16.6)	**13.3** (9.14-19.3)	**16.6** (10.9-25.0)	**19.6** (12.6-30.1)
4-day	**3.52** (2.84-4.34)	**4.51** (3.63-5.57)	**6.14** (4.91-7.59)	**7.48** (5.96-9.32)	**9.33** (7.25-12.4)	**10.7** (8.16-14.7)	**12.2** (9.17-17.8)	**14.3** (9.79-20.6)	**17.8** (11.7-26.7)	**20.9** (13.5-32.2)
7-day	**4.22** (3.41-5.16)	**5.33** (4.31-6.54)	**7.16** (5.77-8.81)	**8.67** (6.94-10.7)	**10.8** (8.40-14.3)	**12.3** (9.42-16.8)	**14.0** (10.5-20.2)	**16.3** (11.2-23.5)	**20.1** (13.3-30.2)	**23.6** (15.3-36.1)
10-day	**4.91** (3.99-5.98)	**6.08** (4.94-7.43)	**8.01** (6.48-9.82)	**9.61** (7.72-11.9)	**11.8** (9.24-15.6)	**13.4** (10.3-18.2)	**15.2** (11.4-21.8)	**17.6** (12.2-25.3)	**21.6** (14.3-32.2)	**25.1** (16.3-38.3)
20-day	**7.08** (5.79-8.57)	**8.30** (6.78-10.1)	**10.3** (8.39-12.6)	**12.0** (9.68-14.7)	**14.3** (11.2-18.5)	**15.9** (12.3-21.3)	**17.8** (13.3-25.1)	**20.2** (14.0-28.7)	**23.9** (16.0-35.5)	**27.2** (17.7-41.4)
30-day	**8.90** (7.31-10.7)	**10.1** (8.32-12.3)	**12.2** (9.95-14.8)	**13.9** (11.3-16.9)	**16.2** (12.7-20.8)	**17.9** (13.8-23.7)	**19.7** (14.7-27.4)	**22.0** (15.4-31.2)	**25.4** (17.0-37.6)	**28.4** (18.5-43.0)
45-day	**11.2** (9.21-13.4)	**12.4** (10.2-15.0)	**14.5** (11.9-17.5)	**16.3** (13.3-19.8)	**18.6** (14.7-23.8)	**20.4** (15.7-26.7)	**22.3** (16.5-30.4)	**24.4** (17.1-34.4)	**27.3** (18.3-40.3)	**29.7** (19.4-44.9)
60-day	**13.0** (10.8-15.6)	**14.4** (11.9-17.2)	**16.5** (13.6-19.9)	**18.3** (15.0-22.2)	**20.8** (16.4-26.4)	**22.7** (17.4-29.5)	**24.6** (18.2-33.2)	**26.5** (18.7-37.3)	**29.0** (19.5-42.6)	**30.9** (20.2-46.6)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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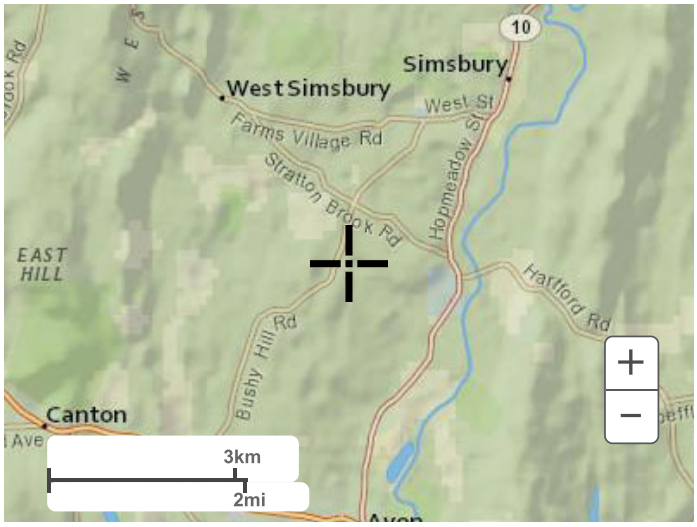
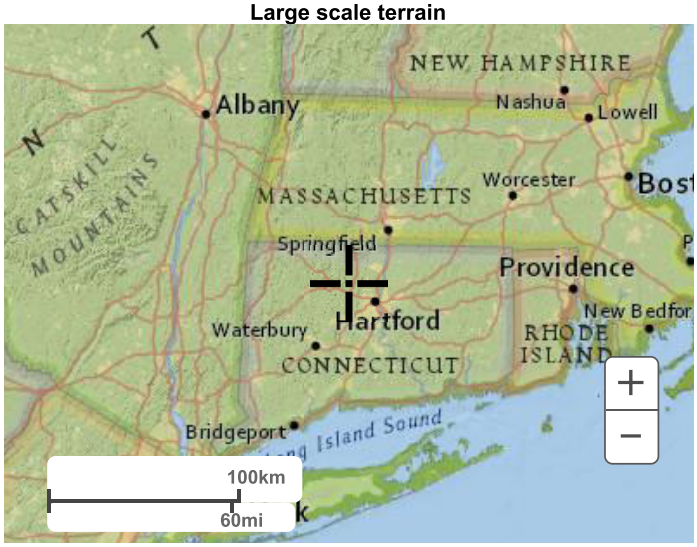
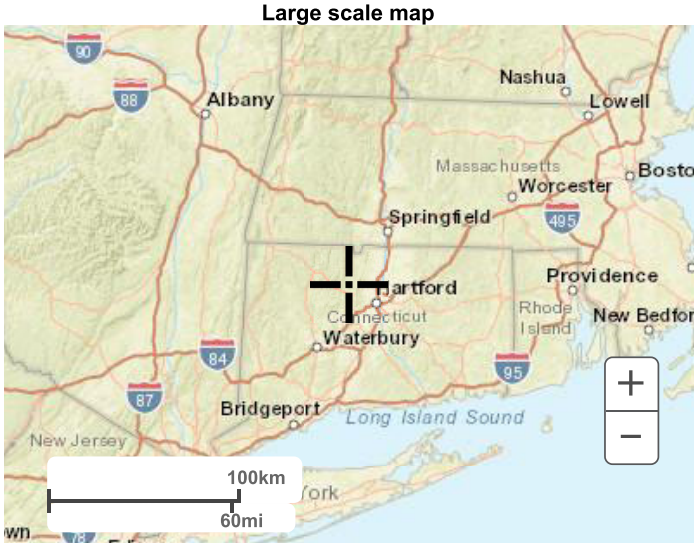
PF graphical



Large scale terrain



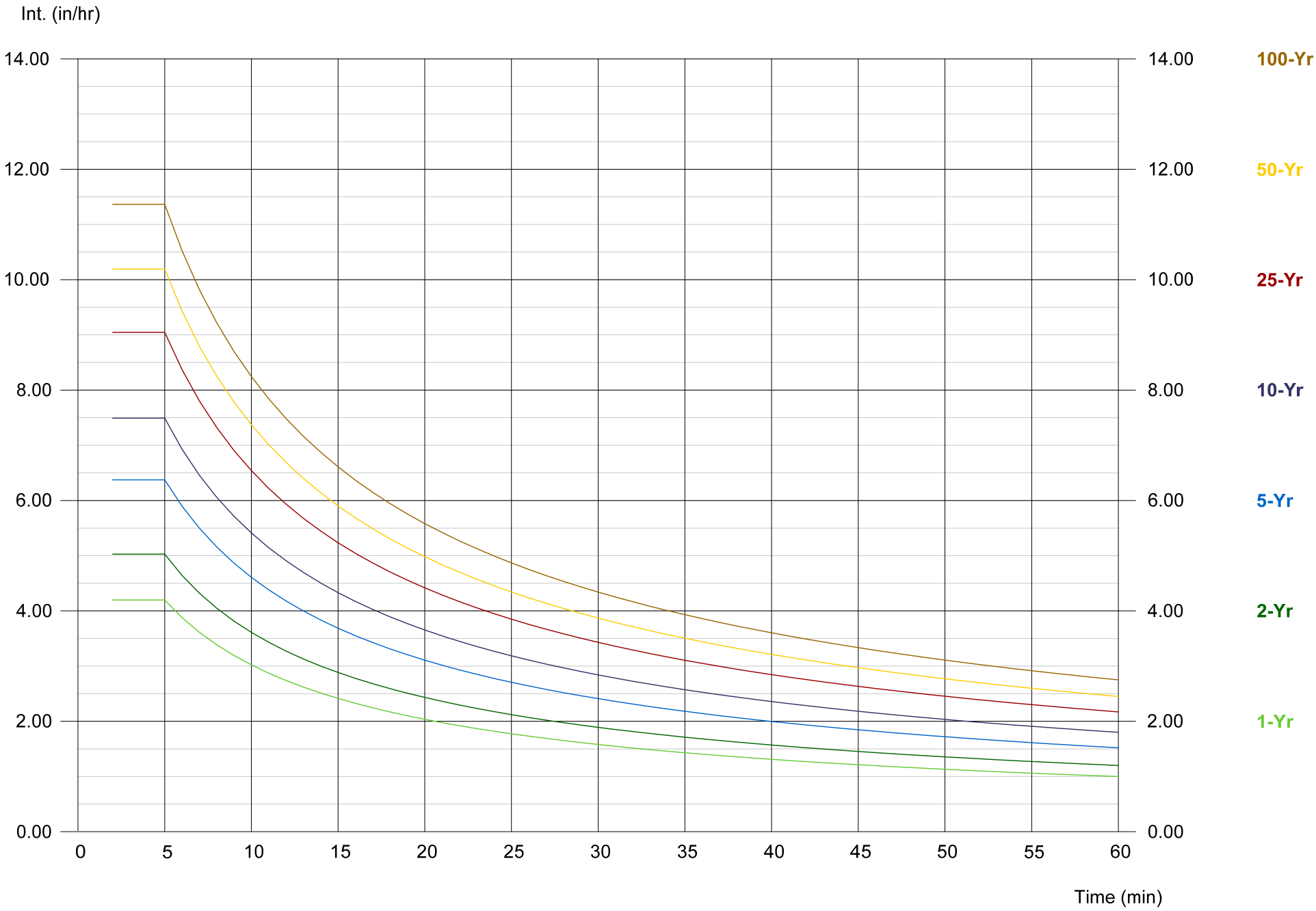
Large scale map



Large scale aerial

Storm Sewer IDF Curves

IDF file: Simsbury.IDF



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Jun 13 2022

12-inch HDPE @ 0.5%

Q > ROOF TO YD 3 = 2.28 cfs

Circular

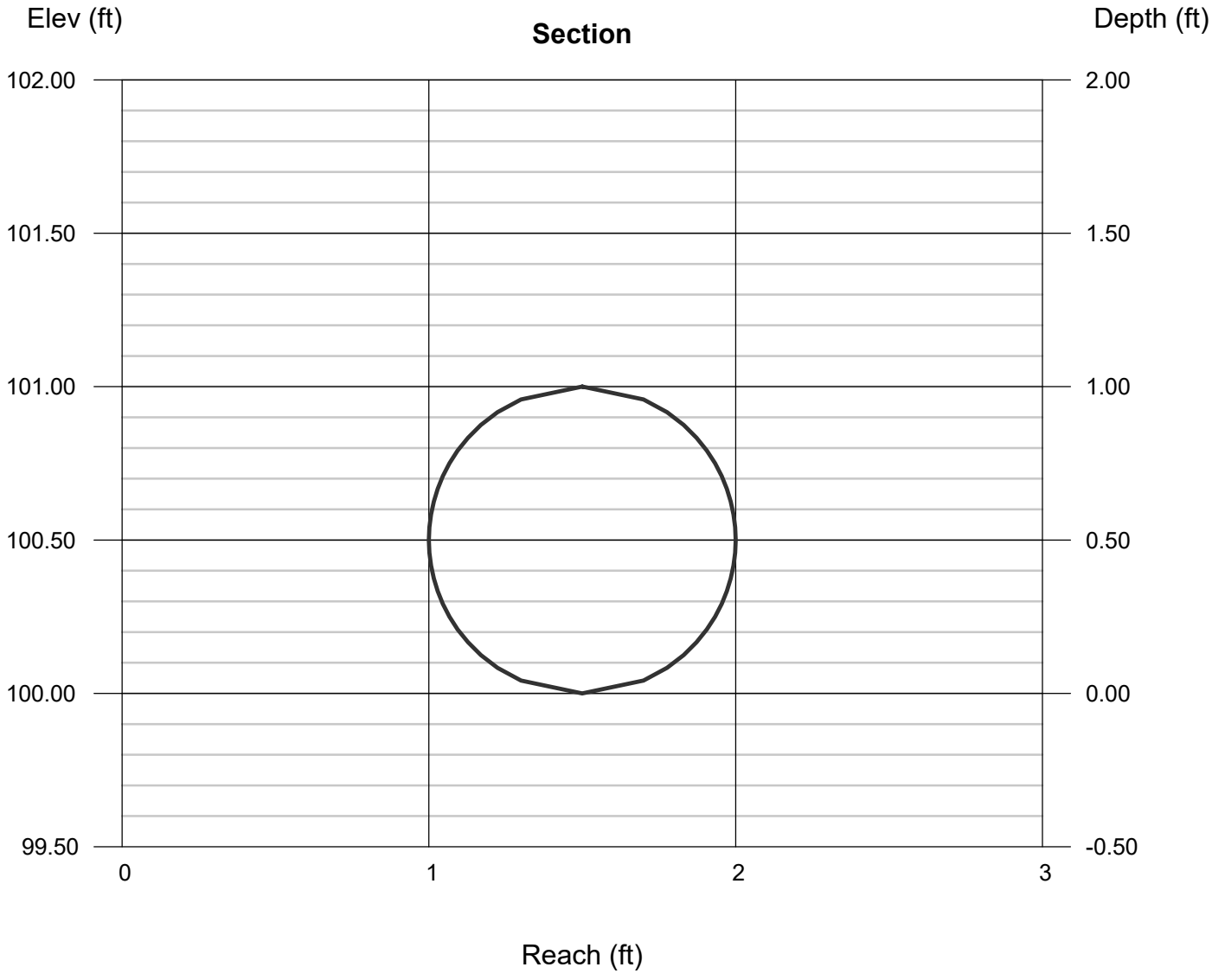
Diameter (ft)	= 1.00
Invert Elev (ft)	= 100.00
Slope (%)	= 0.50
N-Value	= 0.012

Calculations

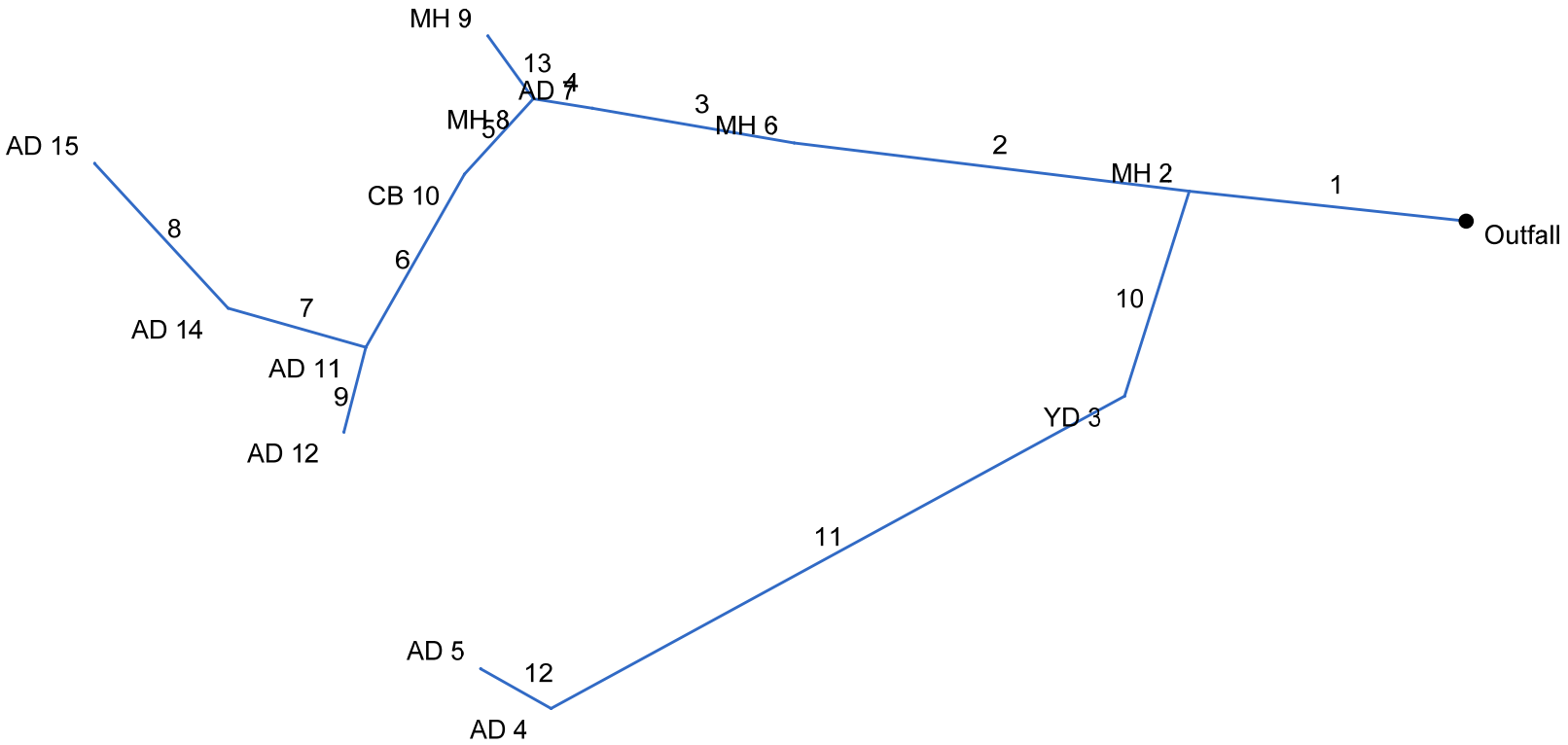
Compute by:	Q vs Depth
No. Increments	= 10

Highlighted

Depth (ft)	= 1.00
Q (cfs)	= 2.728
Area (sqft)	= 0.79
Velocity (ft/s)	= 3.47
Wetted Perim (ft)	= 3.14
Crit Depth, Yc (ft)	= 0.71
Top Width (ft)	= 0.00
EGL (ft)	= 1.19



Hydraflow Storm Sewers Extension for Autodesk® AutoCAD® Civil 3D® Plan



Project File: System 100-02.stm	Number of lines: 13	Date: 6/10/2022

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	65.000	-172.407	MH	0.00	0.00	0.00	0.0	348.00	4.31	350.80	12	Cir	0.012	0.99	362.90	FES 1 - MH 2
2	1	93.000	1.051	MH	0.00	0.00	0.00	0.0	359.40	7.42	366.30	12	Cir	0.012	0.15	379.50	MH 2 - MH 6
3	2	48.000	3.352	DrGrt	0.00	0.01	0.82	5.0	368.00	1.87	368.90	12	Cir	0.012	0.50	380.30	MH 6 - AD 7
4	3	14.000	-0.674	MH	0.00	0.00	0.00	0.0	368.90	2.14	369.20	12	Cir	0.012	0.92	380.00	AD 7 - MH 8
5	4	27.000	-64.912	Grate	0.00	0.29	0.56	5.0	373.90	1.85	374.40	12	Cir	0.012	0.50	379.10	MH 8 - CLCB 10
6	5	55.000	-11.765	DrGrt	0.00	0.06	0.45	5.0	374.40	1.45	375.20	12	Cir	0.012	2.02	379.40	CLCB 10 - AD 11
7	6	34.000	84.780	DrGrt	0.00	0.12	0.54	5.0	375.80	1.76	376.40	12	Cir	0.012	0.92	379.90	AD 11 - AD 14
8	7	52.000	33.883	DrGrt	0.00	0.06	0.45	5.0	376.40	3.85	378.40	12	Cir	0.012	1.00	381.90	AD 14 - AD 15
9	6	25.000	-12.862	DrGrt	0.00	0.14	0.50	5.0	375.20	1.20	375.50	12	Cir	0.012	1.00	379.30	AD 11 - AD 12
10	1	61.000	-83.265	DrGrt	0.00	0.01	0.30	5.0	358.00	2.46	359.50	12	Cir	0.012	1.07	364.50	MH 2 - YD 3
11	10	161.000	41.643	DrGrt	0.00	0.17	0.35	18.5	360.50	3.42	366.00	12	Cir	0.012	1.42	374.50	YD 3 - AD 4
12	11	20.000	69.046	DrGrt	0.00	0.01	0.30	5.0	370.00	5.00	371.00	12	Cir	0.012	1.00	374.50	AD 4 - AD 5
13	4	21.000	48.309	MH	1.86	0.00	0.00	0.0	369.20	1.90	369.60	12	Cir	0.012	1.00	377.50	MH 8 - MH 9

Project File: System 100-02.stm

Number of lines: 13

Date: 6/10/2022

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	65.000	0.00	0.87	0.00	0.00	0.42	0.0	19.6	4.5	3.76	8.01	4.79	12	4.31	348.00	350.80	353.60	354.22	351.10	362.90	FES 1 - MH 2
2	1	93.000	0.00	0.68	0.00	0.00	0.36	0.0	6.2	8.2	4.82	10.51	9.76	12	7.42	359.40	366.30	359.88	367.21	362.90	379.50	MH 2 - MH 6
3	2	48.000	0.01	0.68	0.82	0.01	0.36	5.0	6.1	8.3	4.84	5.28	7.05	12	1.87	368.00	368.90	368.75	369.81	379.50	380.30	MH 6 - AD 7
4	3	14.000	0.00	0.67	0.00	0.00	0.35	0.0	6.1	8.3	4.78	5.65	6.39	12	2.14	368.90	369.20	369.81	370.10	380.30	380.00	AD 7 - MH 8
5	4	27.000	0.29	0.67	0.56	0.16	0.35	5.0	6.0	8.4	2.94	5.25	5.81	12	1.85	373.90	374.40	374.44	375.13	380.00	379.10	MH 8 - CLCB 10
6	5	55.000	0.06	0.38	0.45	0.03	0.19	5.0	5.7	8.6	1.61	4.65	3.18	12	1.45	374.40	375.20	375.13	375.74	379.10	379.40	CLCB 10 - AD 11
7	6	34.000	0.12	0.18	0.54	0.06	0.09	5.0	5.6	8.6	0.79	5.13	3.86	12	1.76	375.80	376.40	376.07	376.77	379.40	379.90	AD 11 - AD 14
8	7	52.000	0.06	0.06	0.45	0.03	0.03	5.0	5.0	9.0	0.24	7.57	1.53	12	3.85	376.40	378.40	376.77	378.60	379.90	381.90	AD 14 - AD 15
9	6	25.000	0.14	0.14	0.50	0.07	0.07	5.0	5.0	9.0	0.63	4.23	2.13	12	1.20	375.20	375.50	375.74	375.83	379.40	379.30	AD 11 - AD 12
10	1	61.000	0.01	0.19	0.30	0.00	0.07	5.0	19.3	4.5	0.30	6.05	3.12	12	2.46	358.00	359.50	358.15	359.72	362.90	364.50	MH 2 - YD 3
11	10	161.000	0.17	0.18	0.35	0.06	0.06	18.5	18.5	4.6	0.29	7.13	3.34	12	3.42	360.50	366.00	360.64	366.22	364.50	374.50	YD 3 - AD 4
12	11	20.000	0.01	0.01	0.30	0.00	0.00	5.0	5.0	9.0	0.03	8.63	1.84	12	5.00	370.00	371.00	370.04	371.07	374.50	374.50	AD 4 - AD 5
13	4	21.000	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	1.86	5.32	3.21	12	1.90	369.20	369.60	370.10	370.18	380.00	377.50	MH 8 - MH 9

Project File: System 100-02.stm | Number of lines: 13 | Run Date: 6/10/2022

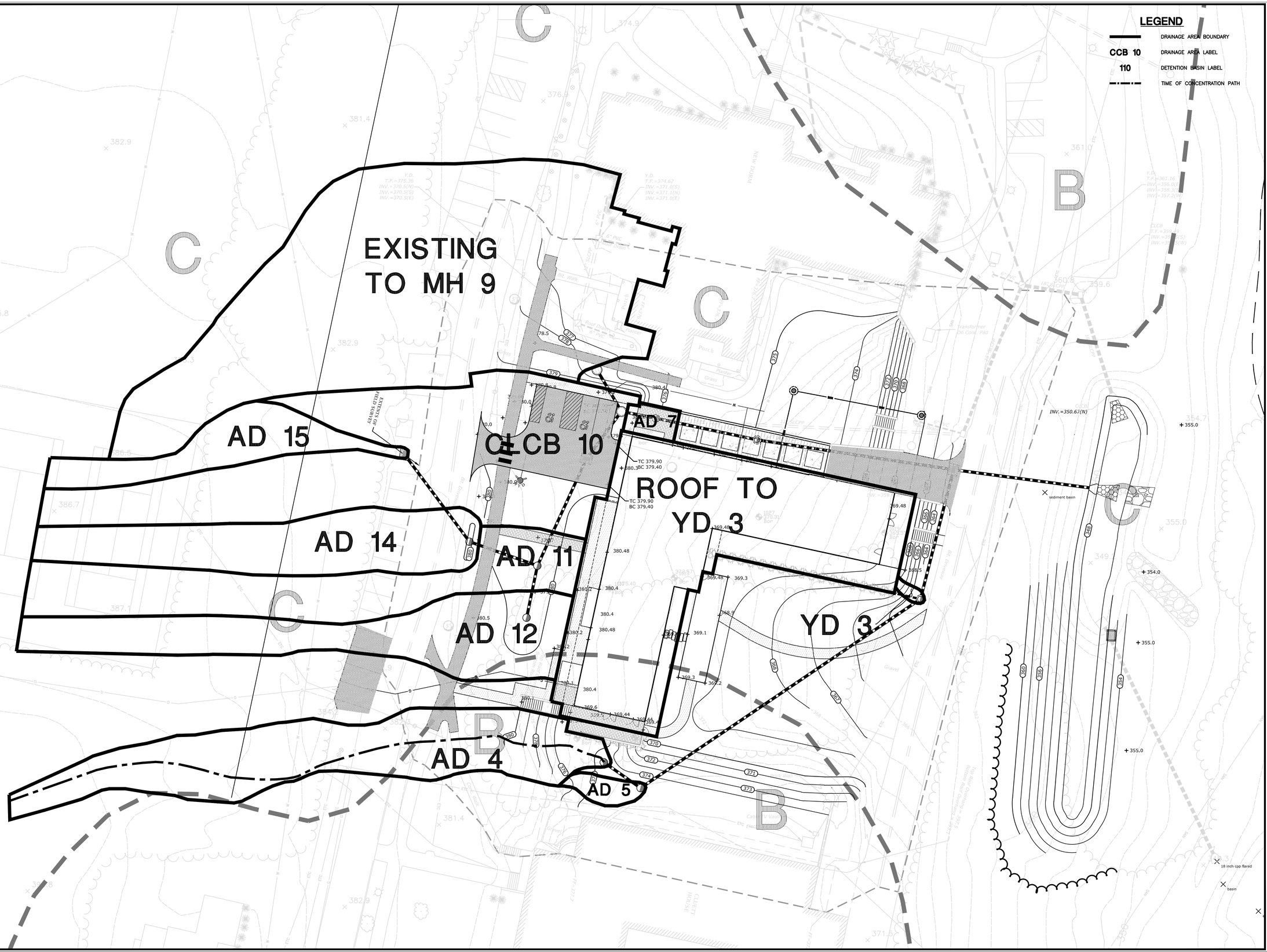
NOTES:Intensity = 43.36 / (Inlet time + 3.80) ^ 0.72; Return period =Yrs. 25 ; c = cir e = ellip b = box

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
			Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf		Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf	Ave Sf	Enrgy loss		
	(in)	(cfs)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(%)	(ft)	(K)	(ft)
1	12	3.76	348.00	353.60	1.00	0.79	4.79	0.36	353.96	0.949	65.000	350.80	354.22	1.00	0.79	4.78	0.36	354.57	0.949	0.949	0.617	0.99	0.35
2	12	4.82	359.40	359.88	0.48*	0.37	13.08	0.64	360.52	0.000	93.000	366.30	367.21	0.91**	0.75	6.44	0.64	367.85	0.000	0.000	n/a	0.15	0.10
3	12	4.84	368.00	368.75	0.75*	0.63	7.63	0.65	369.40	0.000	48.000	368.90	369.81	0.91**	0.75	6.47	0.65	370.46	0.000	0.000	n/a	0.50	n/a
4	12	4.78	368.90	369.81	0.91	0.75	6.38	0.64	370.45	0.000	14.000	369.20	370.10 j	0.90**	0.75	6.40	0.64	370.74	0.000	0.000	n/a	0.92	0.59
5	12	2.94	373.90	374.44	0.54*	0.43	6.87	0.35	374.79	0.000	27.000	374.40	375.13	0.73**	0.62	4.75	0.35	375.49	0.000	0.000	n/a	0.50	0.18
6	12	1.61	374.40	375.13	0.73	0.43	2.61	0.22	375.35	0.000	55.000	375.20	375.74 j	0.54**	0.43	3.74	0.22	375.96	0.000	0.000	n/a	2.02	0.44
7	12	0.79	375.80	376.07	0.27*	0.17	4.74	0.14	376.20	0.000	34.000	376.40	376.77	0.37**	0.27	2.98	0.14	376.91	0.000	0.000	n/a	0.92	0.13
8	12	0.24	376.40	376.77	0.37	0.11	0.92	0.07	376.84	0.000	52.000	378.40	378.60 j	0.20**	0.11	2.14	0.07	378.67	0.000	0.000	n/a	1.00	n/a
9	12	0.63	375.20	375.74	0.54	0.23	1.47	0.12	375.86	0.000	25.000	375.50	375.83 j	0.33**	0.23	2.79	0.12	375.95	0.000	0.000	n/a	1.00	n/a
10	12	0.30	358.00	358.15	0.15*	0.07	3.99	0.08	358.23	0.000	61.000	359.50	359.72	0.22**	0.13	2.25	0.08	359.80	0.000	0.000	n/a	1.07	n/a
11	12	0.29	360.50	360.64	0.14*	0.07	4.44	0.08	360.72	0.000	161.000	366.00	366.22	0.22**	0.13	2.24	0.08	366.30	0.000	0.000	n/a	1.42	n/a
12	12	0.03	370.00	370.04	0.04*	0.01	2.48	0.02	370.06	0.000	20.000	371.00	371.07	0.07**	0.02	1.21	0.02	371.09	0.000	0.000	n/a	1.00	n/a
13	12	1.86	369.20	370.10	0.90	0.47	2.49	0.24	370.34	0.000	21.000	369.60	370.18 j	0.58**	0.47	3.93	0.24	370.42	0.000	0.000	n/a	1.00	n/a

Project File: System 100-02.stm | Number of lines: 13 | Run Date: 6/10/2022

Notes: * depth assumed; ** Critical depth.; j-Line contains hyd. jump ; c = cir e = ellip b = box



DRAINAGE AREA MAP - STORM DRAINAGE SYSTEM

PROPOSED UPPER DORM
THE ETHEL WALKER SCHOOL
230 BUSHY HILL ROAD
SIMSBURY, CONNECTICUT

DESIGNED	DRAWN	CHECKED
MCB	MCB	TJD

SCALE: 1"=30'

DATE: JUNE 27, 2022

PROJECT NO.: 12628.00025

SHEET NO.: 1 OF 1

SHEET NAME: CB

DESCRIPTION | DATE | BY

SLR
99 REALTY DRIVE
CHESHIRE, CT 06410
203 271 1773
SLRCONSULTING.COM

APPENDIX E

WATER QUALITY COMPUTATIONS

Drainage Report

Ethel Walker School

230 Bushy Hill Road

Simsbury, Connecticut 06070

June 27, 2022

STORMWATER QUALITY CALCULATIONS
Water Quality Volume (WQV)

Basin ID	Post-Development Impervious Area (ac.)	Total Area (ac.)	Percent Impervious	Volumetric Runoff Coeff., R	Recharge Depth[1.], D (in.)	WQV (ac-ft)	GRV (ac-ft)	Total Volume Required [2.] (ac-ft)	Total Volume Provided[1.] (ac-ft)
110	1.63	4.71	35%	0.36	0.35	0.142	0.016	0.142	***0.144***

1. - Depth of Runoff to be Recharged or Recharge Depth taken from Table 7-4 found on page 7-6 of the CT DEEP Stormwater Quality
2. - GRV is considered as part of the total WQV required.

$$\mathbf{WQV} = \frac{(1.0 \text{ inches}) \times A \times R}{12}$$

Where: WQV = Water Quality Volume in acre-feet
A = Contributing Area in acres
R = 0.05 + 0.009 (I)
I = Site Imperviousness as percent

$$\mathbf{GRV} = \frac{D \times A \times I}{12}$$

Where: GRV = Groundwater Recharge Volume in acre-feet
D = Depth of Runoff to be Recharged in inches
A = Contributing Area in acres

STORMWATER QUALITY CALCULATIONS
Water Quality Volume (WQV)

DET 110

Elevation (ft)	Surface Area (ft2)	Volume (ft3)	Volume (ac-ft)	Cumulative Volume (ac-ft)
348.0	2,485	0.0	0.000	**0.000**
349.0	3,345	2,915.0	0.067	**0.067**
349.9	4,119	3,358.8	0.077	**0.144**

APPENDIX F

HYDROLOGIC ANALYSIS – INPUT COMPUTATIONS

Drainage Report

Ethel Walker School

230 Bushy Hill Road

Simsbury, Connecticut 06070

June 27, 2022

Curve Number Calculations

Project: Ethel Walker School Upper Dorm
Location: 230 Bushy Hill Road
Simsbury, CT
By: MCB Date: 6/15/22 Checked: Date:
Circle one: ***Present*** Developed Watershed: EX WS10

Soil Name and Hydrologic Group (appendix A)	Cover Description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN Value [1.] Table 2-2	Figure 2-3	Figure 2-4	Area Acres Sq. Ft. %	Product of CN x Area
B Soil	Woods - Good Condition	55			0.19	10.48
B Soil	Open Space - Good Condition	61			0.39	23.59
B Soil	Gravel	85			0.01	0.44
C Soil	Woods - Good Condition	70			1.14	79.83
C Soil	Open Space - Good Condition	74			1.68	124.33
C Soil	Gravel	89			0.03	2.96
N/A	Building	98			0.28	27.38
N/A	Paved/Impervious	98			0.79	77.50
				Totals =	4.51	346.51
					(0.00704	sq mi)

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{346.51}{4.51}$ Use CN = **77**

Curve Number Calculations

Project: Ethel Walker School Upper Dorm
Location: 230 Bushy Hill Road
Simsbury, CT
By: MCB Date: 6/15/22 Checked: Date:
Circle one: Present ***Developed*** Watershed: PR WS 10

Soil Name and Hydrologic Group (appendix A)	Cover Description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN Value [1.] Table 2-2	Figure 2-3	Figure 2-4	Area Acres Sq. Ft. %	Product of CN x Area
B Soil	Woods - Good Condition	55			0.03	1.71
B Soil	Open Space - Good Condition	61			0.49	29.94
B Soil	Gravel	85			0.01	0.44
C Soil	Woods - Good Condition	70			0.98	68.70
C Soil	Open Space - Good Condition	74			1.61	119.41
C Soil	Gravel	89			0.01	0.81
N/A	Building	98			0.58	57.15
N/A	Paved/Impervious	98			1.03	100.71
				Totals =	4.74	378.88
					(0.00741	sq mi)

CN (weighted) = $\frac{\text{total product}}{\text{total area}}$ = $\frac{378.88}{4.74}$ Use CN = 80

Time of Concentration (T_c) or Travel Time (T_t) Worksheet

Project: Ethel Walker School Proposed Dorm | By: MCB | Date: 06/15/22
Location: 230 Bushy Hill Road, Simsbury, CT | Checked: | Date:
Circle one: ***Present*** Developed | Watershed: EX WS-10
Circle one: ***T_c*** T_t | Subwatershed:

Sheet flow (applicable to T_c only)

		Segment ID	A-B		
1.	Surface description (Table 3-1)		WOODS		
2.	Manning's roughness coeff. for sheet flow, n (Table 3-1)		0.400		
3.	Flow Length, L (< 300ft)	ft.	100.0		
4.	Two-year 24-hr rainfall, P_2	in.	3.37		
5.	Land slope, s	ft./ft.	0.040		
6.	$T_t = \frac{0.007\,(nL)^{0.8}}{P_2^{0.5}\,(s^{0.4})}$	hr.	0.264	=	0.264

Shallow concentrated flow (assume hyd. radius = depth of flow)

		Segment ID	B-C		C-D		D-E		E-F		
7.	Surface description		WOODS		BIT		WOODS		GRASS		
8.	Manning's roughness coeff., n		0.100		0.015		0.100		0.080		
9.	Paved or unpaved		UNPVD		PVD		UNPVD		UNPVD		
10.	Depth of flow, d (default values: d=.4 unpaved, d=.2 paved)	ft.	0.40		0.20		0.40		0.40		
11.	Flow Length, L	ft.	57.0		136.0		187.0		64.0		
12.	Watercourse slope, s	ft./ft.	0.053		0.088		0.144		0.219		
13.	Average velocity, $V = \frac{1.49}{n}(d^{2/3})(s^{1/2})$	fps.	1.86		10.08		3.07		4.73		
14.	$T_t = \frac{L}{3600 * V}$	hr.	0.009	+	0.004	+	0.017	+	0.004	=	0.033

Channel flow

		Segment ID									
15.	Channel Bottom width, b	ft.									
16.	Horizontal side slope component, z (z horiz:1 vert)	ft.									
17.	Depth of flow, d	ft.									
18.	Cross sectional flow area, A (assume trapazoidal)	$ft.^2$									
19.	Wetted perimeter, P_w	ft.									
20.	Hydraulic Radius, $R = \frac{A}{P_w}$	ft.									
21.	Channel slope, s	ft./ft.									
22.	Manning's roughness coeff., n										
23.	$V = \frac{1.49}{n}(R^{2/3})(s^{1/2})$	fps.									
24.	Flow length, L	ft.									
25.	$T_t = \frac{L}{3600 * V}$	hr.		+						=	0.000
26.	Watershed or subarea T_c or T_t (add T_t in steps 6, 14 & 25)	hr.									0.297

Time of Concentration (T_c) or Travel Time (T_t) Worksheet

Project: Ethel Walker School Proposed Dorm | By: AES | Date: 06/15/22
Location: 230 Bushy Hill Road, Simsbury, CT | Checked: | Date:
Circle one: Present ***Developed*** | Watershed: PR-WS 10
Circle one: ***T_c*** T_t | Subwatershed:

Sheet flow (applicable to T_c only)

		Segment ID	A-B		
1.	Surface description (Table 3-1)		WOODS		
2.	Manning's roughness coeff. for sheet flow, n (Table 3-1)		0.400		
3.	Flow Length, L (< 300ft)	ft.	100.0		
4.	Two-year 24-hr rainfall, P_2	in.	3.37		
5.	Land slope, s	ft./ft.	0.040		
6.	$T_t = \frac{0.007\,(nL)^{0.8}}{P_2^{0.5}\,(s^{0.4})}$	hr.	0.264	=	0.264

Shallow concentrated flow (assume hyd. radius = depth of flow)

		Segment ID	B-C		C-D		D-E		
7.	Surface description		WOODS		GRASS		BIT		
8.	Manning's roughness coeff., n		0.100		0.240		0.010		
9.	Paved or unpaved		UNPVD		UNPVD		PVD		
10.	Depth of flow, d (default values: d=.4 unpaved, d=.2 paved)	ft.	0.40		0.40		0.20		
11.	Flow Length, L	ft.	57.0		122.0		48.0		
12.	Watercourse slope, s	ft./ft.	0.053		0.086		0.052		
13.	Average velocity, $V = \frac{1.49}{n}(d^{2/3})(s^{1/2})$	fps.	1.86		0.99		11.63		
14.	$T_t = \frac{L}{3600 * V}$	hr.	0.009	+	0.034	+	0.001	=	0.044

Channel flow

		Segment ID	D-E					
15.	Channel Bottom width, b	ft.	12" HDPE					
16.	Horizontal side slope component, z (z horiz:1 vert)	ft.	--					
17.	Depth of flow, d	ft.	FULL					
18.	Cross sectional flow area, A (assume trapazoidal)	$ft.^2$	0.79					
19.	Wetted perimeter, P_w	ft.	3.14					
20.	Hydraulic Radius, $R = \frac{A}{P_w}$	ft.	0.25					
21.	Channel slope, s	ft./ft.	0.036					
22.	Manning's roughness coeff., n		0.012					
23.	$V = \frac{1.49}{n}(R^{2/3})(s^{1/2})$	fps.	9.38					
24.	Flow length, L	ft.	287.0					
25.	$T_t = \frac{L}{3600 * V}$	hr.	0.008				=	0.008

26. Watershed or subarea T_c or T_t (add T_t in steps 6, 14 & 25) hr. 0.317

NOAA Atlas 14, Volume 10, Version 3
Location name: Simsbury, Connecticut, USA*
Latitude: 41.8484°, Longitude: -72.833°
Elevation: 345.08 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.351** (0.270-0.451)	**0.420** (0.323-0.541)	**0.533** (0.408-0.688)	**0.626** (0.477-0.814)	**0.755** (0.558-1.03)	**0.852** (0.618-1.19)	**0.953** (0.673-1.38)	**1.07** (0.715-1.59)	**1.23** (0.793-1.89)	**1.36** (0.858-2.14)
10-min	**0.497** (0.382-0.639)	**0.595** (0.457-0.766)	**0.755** (0.578-0.976)	**0.887** (0.676-1.15)	**1.07** (0.791-1.46)	**1.21** (0.875-1.68)	**1.35** (0.953-1.96)	**1.51** (1.01-2.25)	**1.74** (1.13-2.69)	**1.92** (1.22-3.03)
15-min	**0.585** (0.450-0.752)	**0.700** (0.538-0.901)	**0.888** (0.680-1.15)	**1.04** (0.795-1.36)	**1.26** (0.930-1.71)	**1.42** (1.03-1.98)	**1.59** (1.12-2.30)	**1.78** (1.19-2.64)	**2.04** (1.32-3.16)	**2.26** (1.43-3.57)
30-min	**0.791** (0.609-1.02)	**0.949** (0.730-1.22)	**1.21** (0.925-1.56)	**1.42** (1.08-1.85)	**1.72** (1.27-2.34)	**1.94** (1.41-2.70)	**2.17** (1.53-3.15)	**2.43** (1.63-3.61)	**2.79** (1.81-4.32)	**3.09** (1.96-4.88)
60-min	**0.998** (0.768-1.28)	**1.20** (0.921-1.54)	**1.53** (1.17-1.97)	**1.80** (1.37-2.34)	**2.17** (1.61-2.96)	**2.46** (1.78-3.43)	**2.75** (1.94-3.99)	**3.08** (2.07-4.58)	**3.54** (2.29-5.48)	**3.92** (2.48-6.19)
2-hr	**1.29** (0.997-1.65)	**1.54** (1.19-1.97)	**1.96** (1.51-2.51)	**2.30** (1.77-2.98)	**2.78** (2.07-3.77)	**3.13** (2.29-4.36)	**3.51** (2.50-5.10)	**3.95** (2.66-5.86)	**4.61** (3.00-7.11)	**5.17** (3.28-8.14)
3-hr	**1.48** (1.15-1.89)	**1.78** (1.38-2.27)	**2.26** (1.75-2.90)	**2.67** (2.05-3.43)	**3.22** (2.41-4.37)	**3.63** (2.67-5.05)	**4.07** (2.93-5.93)	**4.61** (3.11-6.81)	**5.42** (3.53-8.33)	**6.12** (3.90-9.61)
6-hr	**1.87** (1.46-2.36)	**2.26** (1.77-2.86)	**2.91** (2.27-3.70)	**3.44** (2.67-4.41)	**4.18** (3.15-5.65)	**4.72** (3.50-6.56)	**5.32** (3.86-7.74)	**6.06** (4.10-8.92)	**7.22** (4.71-11.0)	**8.22** (5.25-12.8)
12-hr	**2.30** (1.81-2.88)	**2.83** (2.23-3.56)	**3.70** (2.90-4.67)	**4.42** (3.45-5.62)	**5.41** (4.11-7.29)	**6.14** (4.59-8.51)	**6.95** (5.08-10.1)	**7.97** (5.41-11.7)	**9.57** (6.26-14.6)	**11.0** (7.03-17.1)
24-hr	**2.68** (2.13-3.35)	**3.37** (2.67-4.21)	**4.50** (3.55-5.64)	**5.43** (4.27-6.86)	**6.72** (5.14-9.03)	**7.66** (5.77-10.6)	**8.71** (6.43-12.7)	**10.1** (6.86-14.7)	**12.3** (8.05-18.6)	**14.2** (9.13-22.0)
2-day	**3.01** (2.40-3.73)	**3.85** (3.07-4.78)	**5.23** (4.16-6.51)	**6.37** (5.04-7.99)	**7.94** (6.13-10.6)	**9.08** (6.90-12.6)	**10.4** (7.75-15.2)	**12.1** (8.29-17.6)	**15.0** (9.89-22.7)	**17.7** (11.4-27.2)
3-day	**3.28** (2.63-4.04)	**4.20** (3.37-5.20)	**5.72** (4.57-7.10)	**6.98** (5.54-8.72)	**8.71** (6.75-11.7)	**9.96** (7.61-13.7)	**11.4** (8.55-16.6)	**13.3** (9.14-19.3)	**16.6** (10.9-25.0)	**19.6** (12.6-30.1)
4-day	**3.52** (2.84-4.34)	**4.51** (3.63-5.57)	**6.14** (4.91-7.59)	**7.48** (5.96-9.32)	**9.33** (7.25-12.4)	**10.7** (8.16-14.7)	**12.2** (9.17-17.8)	**14.3** (9.79-20.6)	**17.8** (11.7-26.7)	**20.9** (13.5-32.2)
7-day	**4.22** (3.41-5.16)	**5.33** (4.31-6.54)	**7.16** (5.77-8.81)	**8.67** (6.94-10.7)	**10.8** (8.40-14.3)	**12.3** (9.42-16.8)	**14.0** (10.5-20.2)	**16.3** (11.2-23.5)	**20.1** (13.3-30.2)	**23.6** (15.3-36.1)
10-day	**4.91** (3.99-5.98)	**6.08** (4.94-7.43)	**8.01** (6.48-9.82)	**9.61** (7.72-11.9)	**11.8** (9.24-15.6)	**13.4** (10.3-18.2)	**15.2** (11.4-21.8)	**17.6** (12.2-25.3)	**21.6** (14.3-32.2)	**25.1** (16.3-38.3)
20-day	**7.08** (5.79-8.57)	**8.30** (6.78-10.1)	**10.3** (8.39-12.6)	**12.0** (9.68-14.7)	**14.3** (11.2-18.5)	**15.9** (12.3-21.3)	**17.8** (13.3-25.1)	**20.2** (14.0-28.7)	**23.9** (16.0-35.5)	**27.2** (17.7-41.4)
30-day	**8.90** (7.31-10.7)	**10.1** (8.32-12.3)	**12.2** (9.95-14.8)	**13.9** (11.3-16.9)	**16.2** (12.7-20.8)	**17.9** (13.8-23.7)	**19.7** (14.7-27.4)	**22.0** (15.4-31.2)	**25.4** (17.0-37.6)	**28.4** (18.5-43.0)
45-day	**11.2** (9.21-13.4)	**12.4** (10.2-15.0)	**14.5** (11.9-17.5)	**16.3** (13.3-19.8)	**18.6** (14.7-23.8)	**20.4** (15.7-26.7)	**22.3** (16.5-30.4)	**24.4** (17.1-34.4)	**27.3** (18.3-40.3)	**29.7** (19.4-44.9)
60-day	**13.0** (10.8-15.6)	**14.4** (11.9-17.2)	**16.5** (13.6-19.9)	**18.3** (15.0-22.2)	**20.8** (16.4-26.4)	**22.7** (17.4-29.5)	**24.6** (18.2-33.2)	**26.5** (18.7-37.3)	**29.0** (19.5-42.6)	**30.9** (20.2-46.6)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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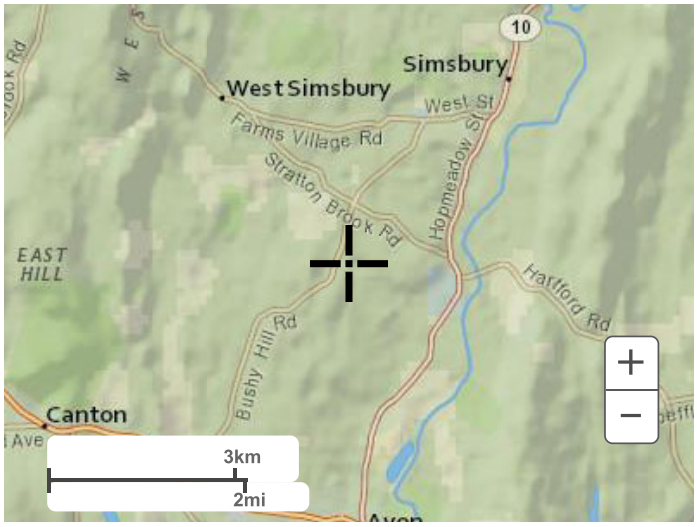
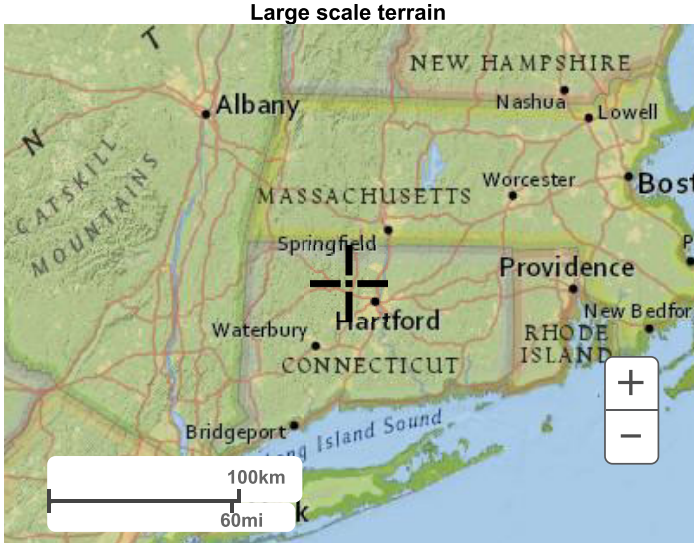
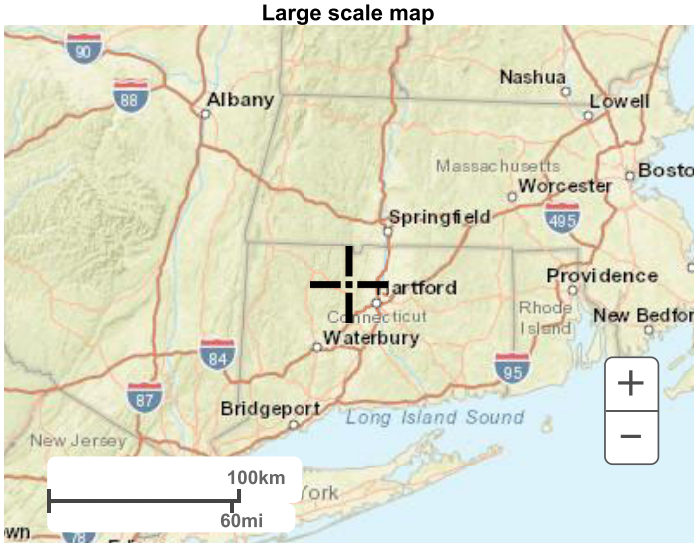
PF graphical



Large scale terrain



Large scale map



Large scale aerial

APPENDIX G

HYDROLOGIC ANALYSIS – COMPUTER MODEL RESULTS

Drainage Report

Ethel Walker School

230 Bushy Hill Road

Simsbury, Connecticut 06070

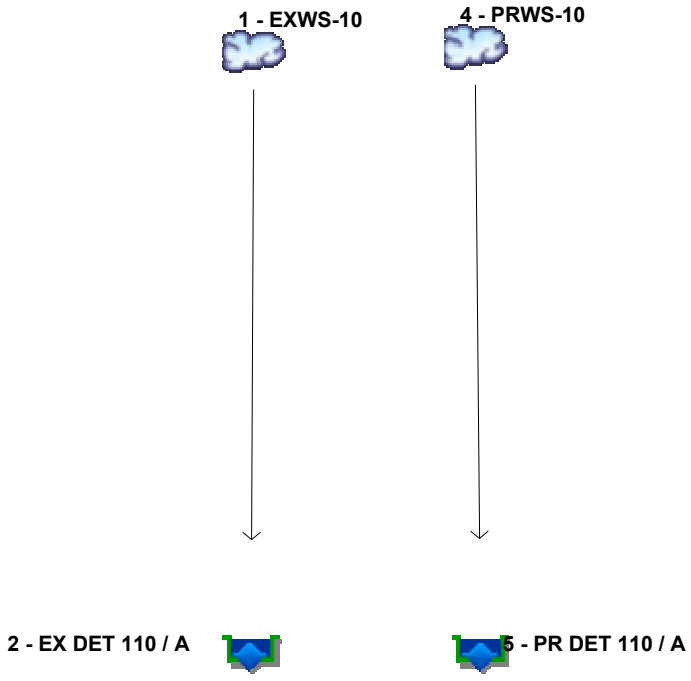
June 27, 2022

Hydrographs Peak Flowrate Summary (cfs)
Existing vs. Proposed

Storm Event	2yr		10yr		25yr		50yr		100yr	
	Exist	**Prop**	**Exist**	**Prop**	**Exist**	**Prop**	**Exist**	**Prop**	**Exist**	**Prop**
Point of Analysis A	2.7	2.7	10.1	5.5	14.7	12.1	17.2	16.6	21.0	19.1
DET 110 W.S. Elev. (ft.) Top of Berm Elev.=354.7 Top of Berm Elev.=355.0	352.2	351.5	353.2	353.1	353.4	353.6	353.6	353.7	353.8	354.0

Study Area	**Description**
A	Outflow from Detention Basin

Watershed Model Schematic



Legend

Hyd.	Origin	Description
1	SCS Runoff	EXWS-10
2	Reservoir	EX DET 110 / A
4	SCS Runoff	PRWS-10
5	Reservoir	PR DET 110 / A

Hydraflow Table of Contents

EWS-Model01.gpw

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Monday, 06 / 6 / 2022

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	-------	4.901	-------	-------	11.28	15.54	18.70	22.25	EXWS-10
2	Reservoir	1	-------	2.730	-------	-------	10.06	14.72	17.20	21.00	EX DET 110 / A
4	SCS Runoff	------	-------	6.008	-------	-------	12.99	17.54	20.89	24.63	PRWS-10
5	Reservoir	4	-------	2.738	-------	-------	5.476	12.09	16.63	19.12	PR DET 110 / A

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (acft)	Hydrograph Description
1	SCS Runoff	4.901	3	735	0.517	------	------	------	EXWS-10
2	Reservoir	2.730	3	753	0.503	1	352.17	0.149	EX DET 110 / A
4	SCS Runoff	6.008	3	732	0.625	------	------	------	PRWS-10
5	Reservoir	2.738	3	756	0.616	4	351.54	0.329	PR DET 110 / A

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (acft)	Hydrograph Description
1	SCS Runoff	11.28	3	732	1.158	------	------	------	EXWS-10
2	Reservoir	10.06	3	741	1.143	1	353.16	0.234	EX DET 110 / A
4	SCS Runoff	12.99	3	732	1.332	------	------	------	PRWS-10
5	Reservoir	5.476	3	753	1.324	4	353.05	0.545	PR DET 110 / A

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (acft)	Hydrograph Description
1	SCS Runoff	15.54	3	732	1.595	------	------	------	EXWS-10
2	Reservoir	14.72	3	738	1.581	1	353.37	0.254	EX DET 110 / A
4	SCS Runoff	17.54	3	732	1.807	------	------	------	PRWS-10
5	Reservoir	12.09	3	747	1.799	4	353.57	0.634	PR DET 110 / A

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (acft)	Hydrograph Description
1	SCS Runoff	18.70	3	732	1.924	------	------	------	EXWS-10
2	Reservoir	17.20	3	738	1.910	1	353.60	0.278	EX DET 110 / A
4	SCS Runoff	20.89	3	732	2.162	------	------	------	PRWS-10
5	Reservoir	16.63	3	741	2.153	4	353.73	0.662	PR DET 110 / A

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (acft)	Hydrograph Description
1	SCS Runoff	22.25	3	732	2.298	------	------	------	EXWS-10
2	Reservoir	21.00	3	738	2.284	1	353.80	0.296	EX DET 110 / A
4	SCS Runoff	24.63	3	732	2.564	------	------	------	PRWS-10
5	Reservoir	19.12	3	744	2.555	4	353.99	0.707	PR DET 110 / A

Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020 Monday, 06 / 6 / 2022

Pond No. 1 - EX DET 110

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 349.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	349.00	540	0.000	0.000
1.00	350.00	1,582	0.023	0.023
2.00	351.00	2,463	0.046	0.069
3.00	352.00	3,344	0.066	0.136
4.00	353.00	3,944	0.084	0.219
5.00	354.00	4,544	0.097	0.317
5.70	354.70	5,813	0.083	0.400

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	4.00	0.00	0.00
Span (in)	= 18.00	4.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 349.00	349.60	0.00	0.00
Length (ft)	= 69.00	0.00	0.00	0.00
Slope (%)	= 1.44	0.00	0.00	n/a
N-Value	= .012	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.70	0.00	10.00	0.00
Crest El. (ft)	= 353.00	350.60	353.50	0.00
Weir Coeff.	= 3.33	0.68	2.60	3.33
Weir Type	= Rect	30 degV	Broad	---
Multi-Stage	= Yes	Yes	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0.000	349.00	0.00	0.00	---	---	0.00	---	0.00	---	---	---	0.000
1.00	0.023	350.00	0.20 ic	0.20 ic	---	---	0.00	---	0.00	---	---	---	0.203
2.00	0.069	351.00	0.55 ic	0.47 ic	---	---	0.00	0.07	0.00	---	---	---	0.535
3.00	0.136	352.00	2.23 ic	0.63 ic	---	---	0.00	1.58	0.00	---	---	---	2.207
4.00	0.219	353.00	6.77 ic	0.68 ic	---	---	0.00	6.08	0.00	---	---	---	6.758
5.00	0.317	354.00	17.46 ic	0.08 ic	---	---	14.29 s	3.07 s	9.19	---	---	---	26.64
5.70	0.400	354.70	18.91 ic	0.05 ic	---	---	16.00 s	2.82 s	34.18	---	---	---	53.04

Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020 Monday, 06 / 6 / 2022

Pond No. 2 - PR DET 110

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 348.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	348.00	2,485	0.000	0.000
1.00	349.00	3,345	0.067	0.067
2.00	350.00	4,205	0.086	0.153
3.00	351.00	5,117	0.107	0.260
4.00	352.00	6,028	0.128	0.388
5.00	353.00	7,031	0.150	0.537
6.00	354.00	8,033	0.173	0.710
7.00	355.00	9,000	0.195	0.906

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	6.00	9.00	0.00
Span (in)	= 18.00	8.00	9.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 348.00	349.90	351.00	0.00
Length (ft)	= 69.00	0.00	0.00	0.00
Slope (%)	= 1.44	0.00	0.00	n/a
N-Value	= .012	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 14.00	0.00	10.00	0.00
Crest El. (ft)	= 353.30	0.00	354.00	0.00
Weir Coeff.	= 3.33	3.33	2.60	3.33
Weir Type	= Rect	---	Broad	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0.000	348.00	0.00	0.00	0.00	---	0.00	---	0.00	---	---	---	0.000
1.00	0.067	349.00	0.00	0.00	0.00	---	0.00	---	0.00	---	---	---	0.000
2.00	0.153	350.00	0.07 ic	0.07 ic	0.00	---	0.00	---	0.00	---	---	---	0.072
3.00	0.260	351.00	1.48 ic	1.48 ic	0.00	---	0.00	---	0.00	---	---	---	1.480
4.00	0.388	352.00	3.88 ic	2.18 ic	1.68 ic	---	0.00	---	0.00	---	---	---	3.865
5.00	0.537	353.00	5.43 ic	2.71 ic	2.71 ic	---	0.00	---	0.00	---	---	---	5.421
6.00	0.710	354.00	19.19 ic	0.64 ic	0.85 ic	---	17.69 s	---	0.00	---	---	---	19.19
7.00	0.906	355.00	21.24 ic	0.21 ic	0.28 ic	---	20.73 s	---	26.00	---	---	---	47.22

APPENDIX H

WATERSHED MAPS

Drainage Report

Ethel Walker School

230 Bushy Hill Road

Simsbury, Connecticut 06070

June 27, 2022

SLR

99 REALTY DRIVE
CHESHIRE, CT 06410
(203) 271-1773
SLRCONSULTING.COM

DESCRIPTION	DATE	BY

WATERSHED MAP - EXISTING CONDITIONS

PROPOSED UPPER DORM
THE ETHEL WALKER SCHOOL
230 BUSHY HILL ROAD
SIMSBURY, CONNECTICUT

MCB	MCB	TJD
DESIGNED	DRAWN	CHECKED

1"=30'
SCALE

JUNE 27, 2022
DATE

12628.00025
PROJECT NO.

1 OF 2
SHEET NO.

EXWS
SHEET NAME

SLR

99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773
SLRCONSULTING.COM

DESCRIPTION	DATE	BY

WATERSHED MAP - PROPOSED CONDITIONS

PROPOSED UPPER DORM
THE ETHEL WALKER SCHOOL
230 BUSHY HILL ROAD
SIMSBURY, CONNECTICUT

MCB	MCB	TJD
DESIGNED	DRAWN	CHECKED

1"=30' (SCALE)
JUNE 27, 2022 (DATE)
12628.00025 (PROJECT NO.)
2 OF 2 (SHEET NO.)

PRWS
SHEET NAME

UPPER SCHOOL DORM, 53 BEDS TOTAL

FIRST FLOOR:
9 BEDS, 2 SHOWERS
4.5 STUDENTS PER SHOWER
3 SINGLES AND 3 DOUBLES

(SUMMER: 1 BUNK BED EACH ROOM:
15 BEDS, 7.5 STUDENTS PER SHOWER)

AREA:
8384 SQ FT FIRST FLOOR
8196 SQ FT SECOND FLOOR
8084 SQ FT THIRD FLOOR
TOTAL 24,664 SQ FT
(INCLUDING EXTERIOR WALLS AND UNFINISHED BASEMENT)

NOTE:
SEE CIVIL AND LANDSCAPE DRAWINGS FOR INFORMATION ON ALL SITE WORK

35'-5"
3/A3.0
2/A3.0
RC
LOW WOOD SCREEN WALL TO MATCH SIDING
PRIVATE ENTRY PORCH
4/A2.1
369.0 FF
D-COAT 139
D-KITCHEN/LIVING 138
DW
REF
DUTCH DOOR 137B
D-POWDER 140
D-STUDY 137
DUTCH DOOR 137A
D-STAIR 141
369.5 FF
367.75 FF
369.46 FF
SINGLE 142 SEE A7.2
STAIR-1 136
DOUBLE 143 SEE A7.2
DOUBLE 144 SEE A7.2
DOUBLE 145 SEE A7.2
369.5 FF
FACILITIES STORAGE 135
UTILITIES 134
CLOSET 133
TRASH 132
JANITOR 131
SHARED BATH 146 SEE A7.7
CORRIDOR 130
FACULTY STORAGE 129
FACULTY STORAGE 128
TOILET 123 SEE A7.6
COAT 124
CORRIDOR 120
AFFILIATE 127
FACULTY STORAGE 126
FACULTY STORAGE 125
IT 122
UTILITIES 121
STAIR-3 103
SEATING 104
MUSIC ROOM 119
CORRIDOR 118
CORRIDOR 105
LAUNDRY 118 SEE A7.2
UTILITIES 117
DUTCH DOOR 109A
A-BATH-2 113
A-HALL 110
A-STUDY 109
A-BEDROOM 2 111
A-BEDROOM 1 114
A-BATH-1 116
A-CLOSET 115
A-KITCHEN/LIVING 112
CORRIDOR 108 SEE A7.8
SINGLE 106 SEE A7.2
SINGLE 107 SEE A7.2
KITCHEN 102 SEE A7.6
COMMONS 101 SEE A7.3
LOWER VESTIBULE 100 SEE A7.3
+369.5 FF
MAIN DOWNHILL ENTRY PORCH
369.46 FF
RC
GRAVEL STRIP WITH PERFORATED DRAINAGE PIPE SIZED TO CATCH DRAINAGE OFF ROOF ABOVE
GALVANIZED STEEL TRELLIS WITH TRUMPET VINES
FOR FACULTY UNIT D SEE A7.21
FACULTY UNIT D
2 STORY, DOWNHILL ENTRY
3 BED + STUDY
796+828 =1619 SF
1/A2.0
2/A2.0
1/A3.1
3/A3.1
2/A3.1
4/A3.1
5/A3.1
1/A2.1
2/A2.1
129'-10 1/2"
SCREENED MECHANICAL EQUIPMENT
+376'-6"
1/A3.0
+/-16'-10"
20'-0"
FIRE SEPERATION LINE
NEW DORMITORY
PATH TO CAMPUS
2nd - 380.5 FF
2/A2.2
133'-6 1/2"
FACULTY UNIT A, ACCESSIBLE
1 STORY, DOWNHILL ENTRY, 2 BED + STUDY; 1258 SF
FOR FACULTY UNIT A SEE A7.10
PRIVATE PATIO
20'-0"
+/-28'-8"
35'-5"
CLUETT
3/A3.0
2/A3.0
2/A3.1
4/A3.1
3/A2.0
5/A3.1

01 LOWER LEVEL/ FIRST FLOOR PLAN
SCALE: 1/8"=1'-0"

MARYANN THOMPSON ARCHITECTS

741 MOUNT AUBURN ST
WATERTOWN, MA. 02472

T. 617.744.5187
F. 617.491.3844

ETHEL WALKER SCHOOL, UPPER DORM

230 BUSHY HILL RD, SIMSBURY, CT

REVISIONS:

	DATE
SCHEMATIC DESIGN	01.28.22
DESIGN DEVELOPMENT	03.28.22

CURRENT ISSUE:

SET	DATE
ZONING SUBMISSION	07.06.22

SCALE AT 24"X36": 1/8" = 1'-0"
0 5' 10'

DRAWING TITLE:

LOWER LEVEL/
1ST FLOOR PLAN

A1.1

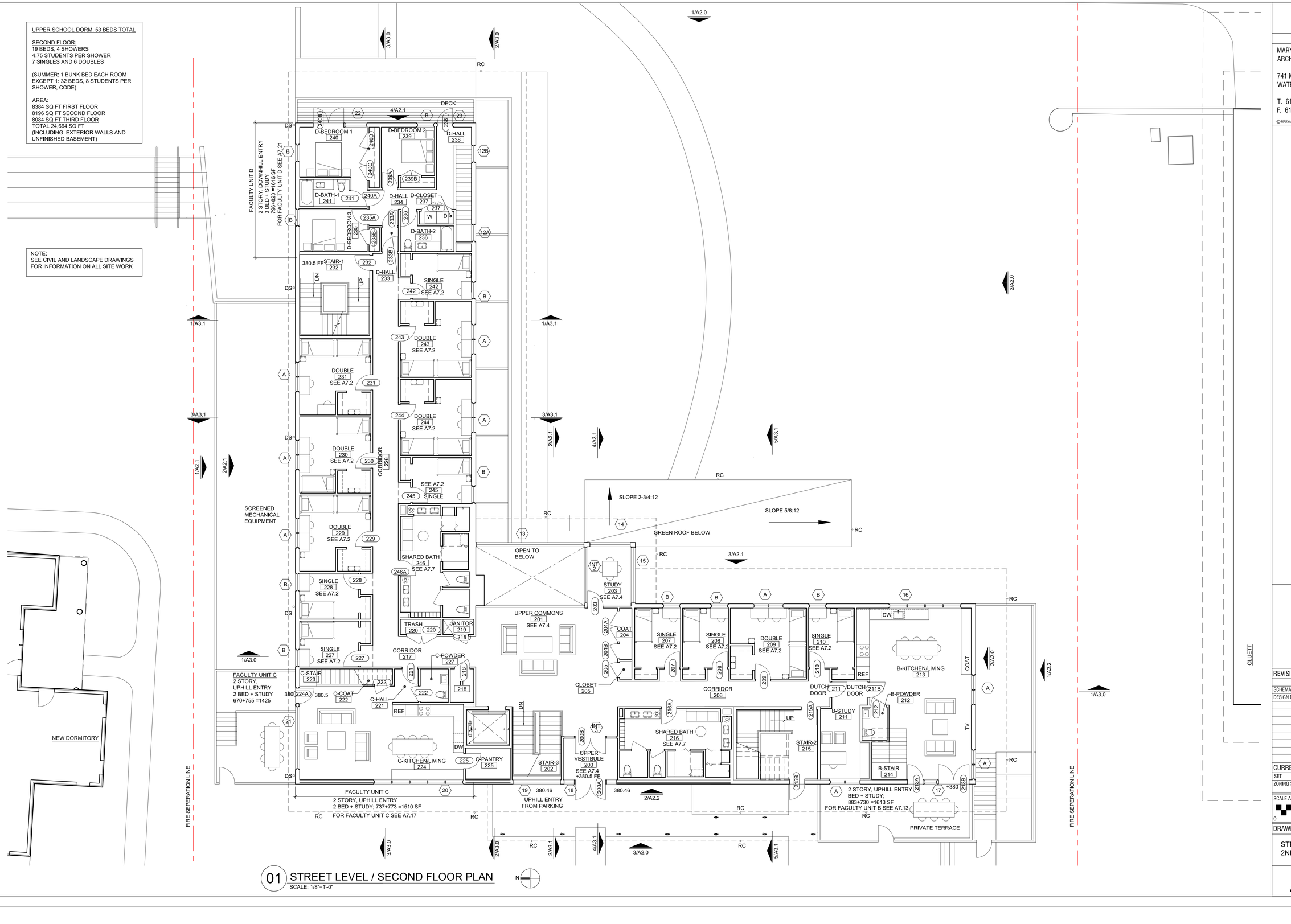
UPPER SCHOOL DORM, 53 BEDS TOTAL

SECOND FLOOR:
19 BEDS, 4 SHOWERS
4.75 STUDENTS PER SHOWER
7 SINGLES AND 6 DOUBLES

(SUMMER: 1 BUNK BED EACH ROOM EXCEPT 1: 32 BEDS, 8 STUDENTS PER SHOWER, CODE)

AREA:
8384 SQ FT FIRST FLOOR
8196 SQ FT SECOND FLOOR
8084 SQ FT THIRD FLOOR
TOTAL 24,664 SQ FT
(INCLUDING EXTERIOR WALLS AND UNFINISHED BASEMENT)

NOTE:
SEE CIVIL AND LANDSCAPE DRAWINGS FOR INFORMATION ON ALL SITE WORK



01 STREET LEVEL / SECOND FLOOR PLAN
SCALE: 1/8"=1'-0"

MARYANN THOMPSON ARCHITECTS

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ZONING SUBMISSION	07.06.22

SCALE AT 24"X36": 1/8" = 1'-0"
0 5' 10'

DRAWING TITLE:

STREET LEVEL/
2ND FLOOR PLAN

A1.2

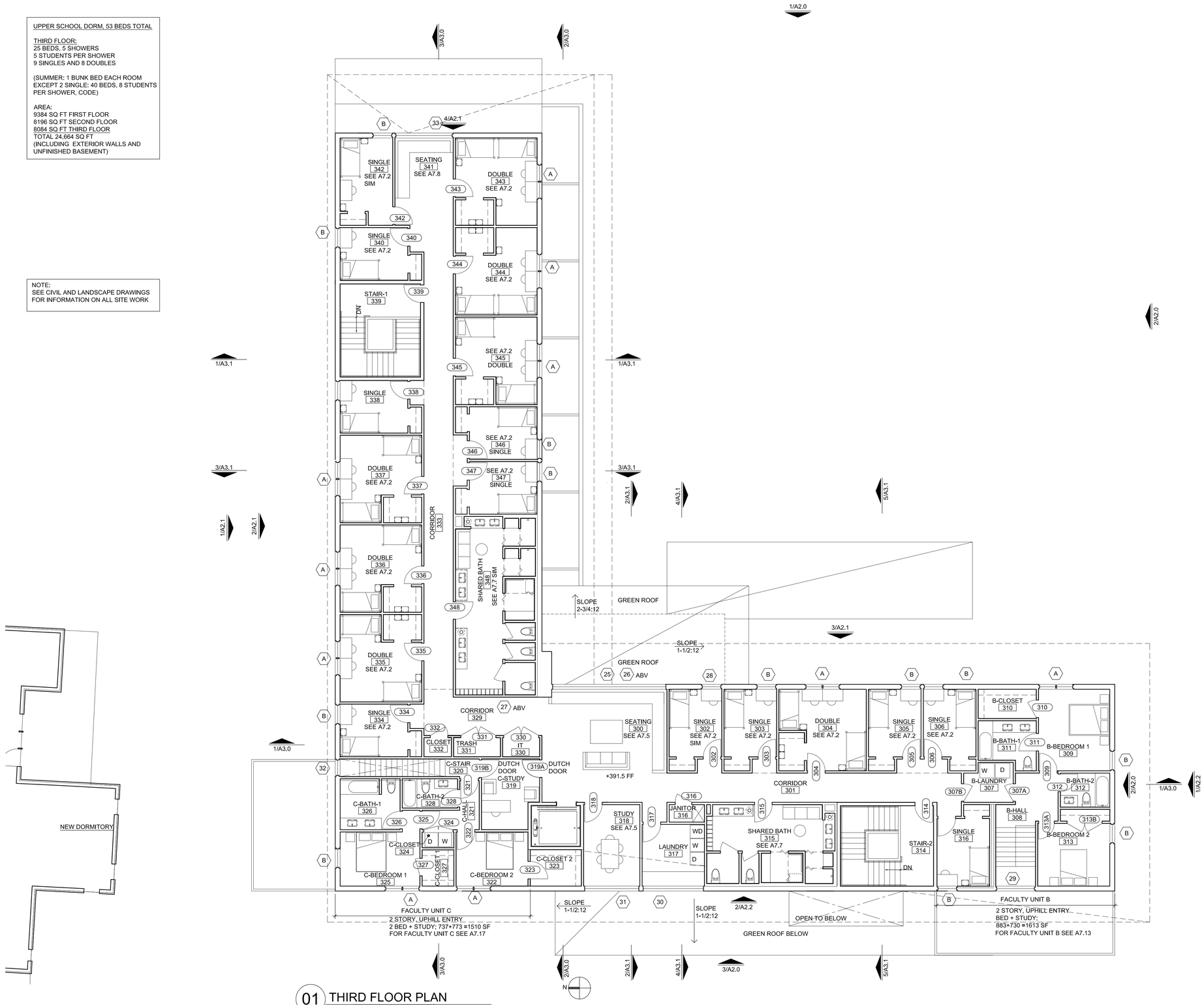
UPPER SCHOOL DORM, 53 BEDS TOTAL

THIRD FLOOR:
25 BEDS, 5 SHOWERS
5 STUDENTS PER SHOWER
9 SINGLES AND 8 DOUBLES

(SUMMER: 1 BUNK BED EACH ROOM EXCEPT 2 SINGLE: 40 BEDS, 8 STUDENTS PER SHOWER, CODE)

AREA:
9384 SQ FT FIRST FLOOR
8196 SQ FT SECOND FLOOR
8084 SQ FT THIRD FLOOR
TOTAL 24,664 SQ FT
(INCLUDING EXTERIOR WALLS AND UNFINISHED BASEMENT)

NOTE:
SEE CIVIL AND LANDSCAPE DRAWINGS FOR INFORMATION ON ALL SITE WORK



01 THIRD FLOOR PLAN
SCALE: 1/8"=1'-0"

MARYANN THOMPSON ARCHITECTS

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ETHEL WALKER SCHOOL, UPPER DORM

230 BUSHY HILL RD, SIMSBURY, CT

REVISIONS:

	DATE
SCHEMATIC DESIGN	01.28.22
DESIGN DEVELOPMENT	03.28.22

CURRENT ISSUE:

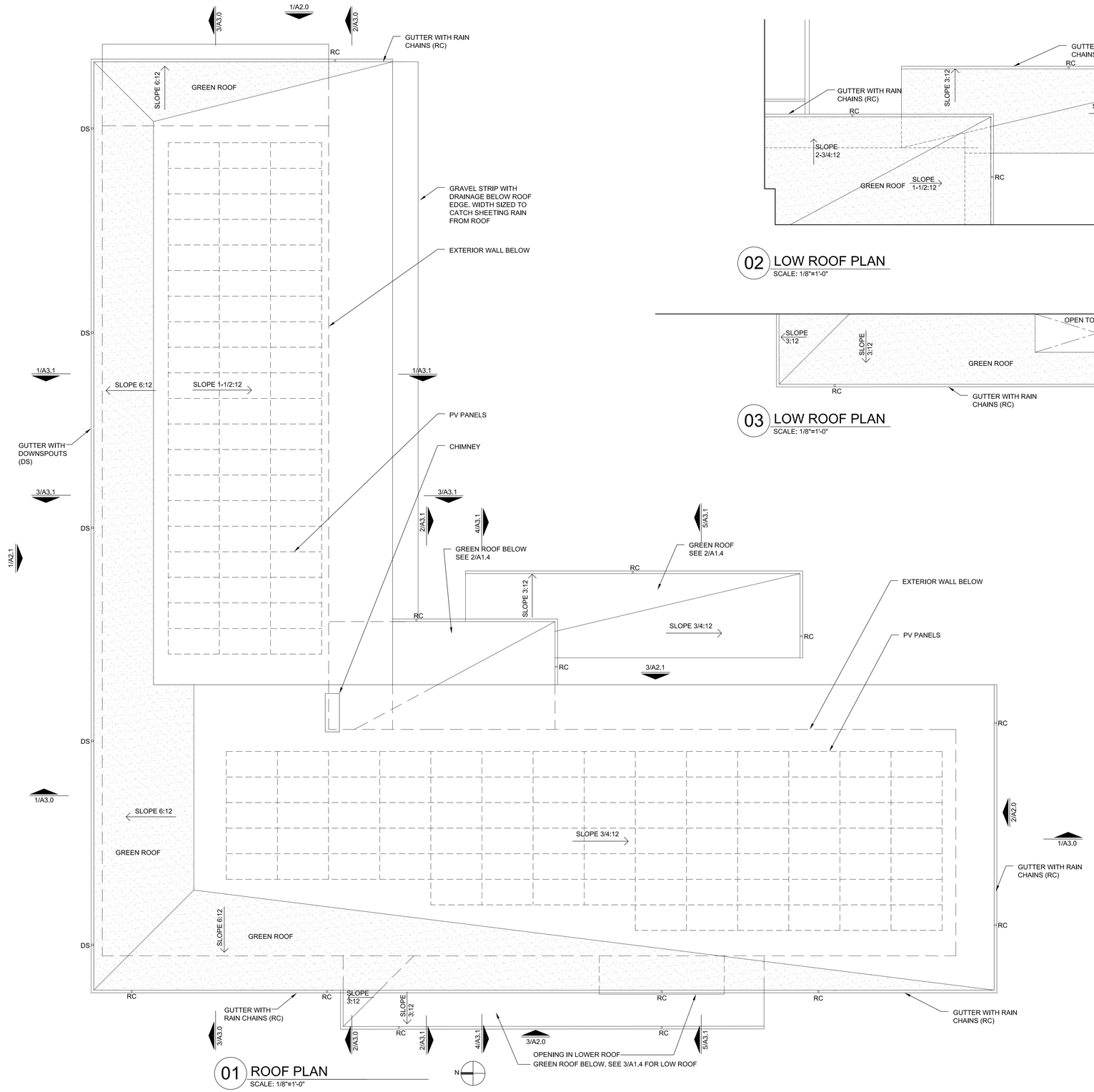
SET	DATE
ZONING SUBMISSION	07.06.22

SCALE AT 24"X36": 1/8" = 1'-0"
0 5' 10'

DRAWING TITLE:

THIRD FLOOR PLAN

A1.3



01 ROOF PLAN
SCALE: 1/8"=1'-0"

02 LOW ROOF PLAN
SCALE: 1/8"=1'-0"

03 LOW ROOF PLAN
SCALE: 1/8"=1'-0"

MARYANN THOMPSON ARCHITECTS

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ETHEL WALKER SCHOOL, UPPER DORM 230 BUSHY HILL RD, SIMSBURY, CT

REVISIONS:

	DATE
SCHEMATIC DESIGN	01.28.22
DESIGN DEVELOPMENT	03.28.22

CURRENT ISSUE:

SET	DATE
ZONING SUBMISSION	07.06.22

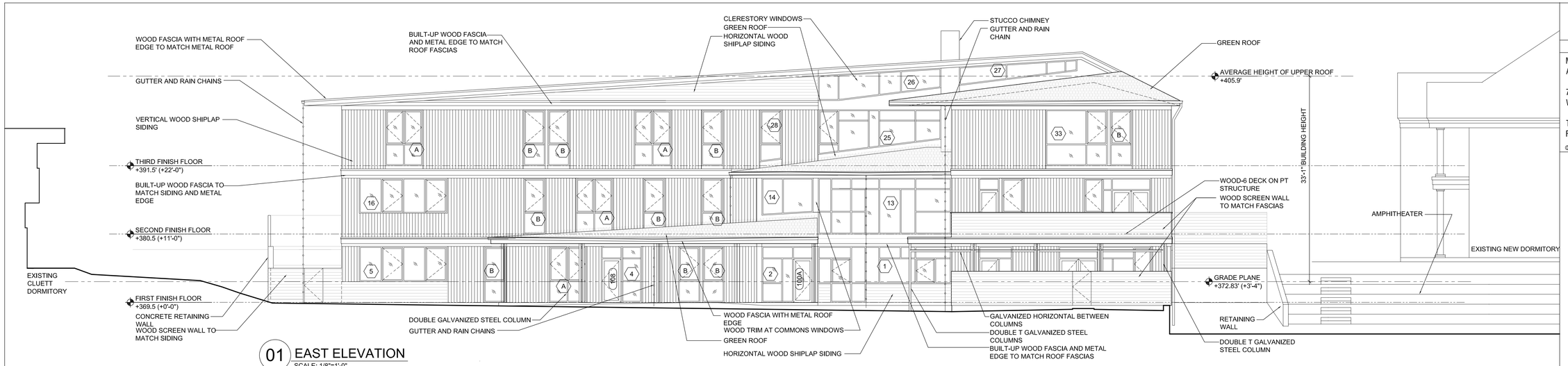
SCALE AT 24"X36": 1/8" = 1'-0"

0 5' 10'

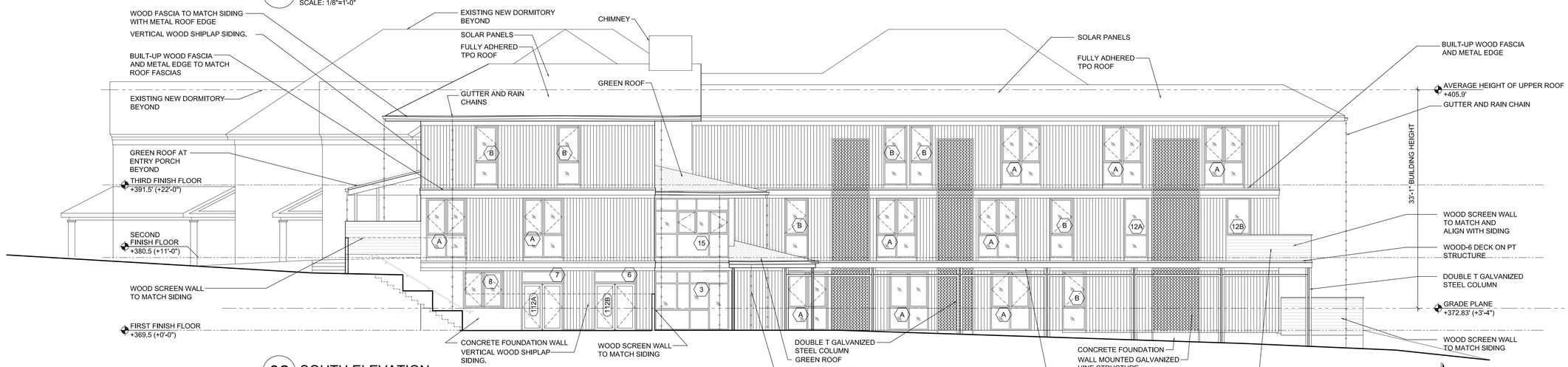
DRAWING TITLE:

ROOF PLAN

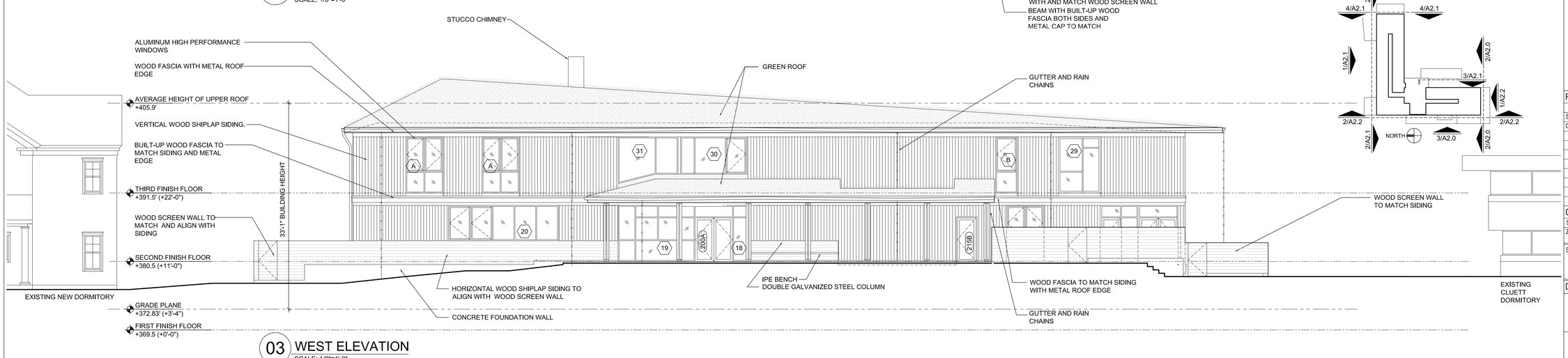
A1.4



01 EAST ELEVATION
SCALE: 1/8"=1'-0"



02 SOUTH ELEVATION
SCALE: 1/8"=1'-0"



03 WEST ELEVATION
SCALE: 1/8"=1'-0"

MARYANN THOMPSON ARCHITECTS

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ETHEL WALKER SCHOOL, UPPER DORM

230 BUSHY HILL RD, SIMSBURY, CT

REVISIONS:

	DATE
SCHEMATIC DESIGN	01.28.22
DESIGN DEVELOPMENT	03.28.22

CURRENT ISSUE:

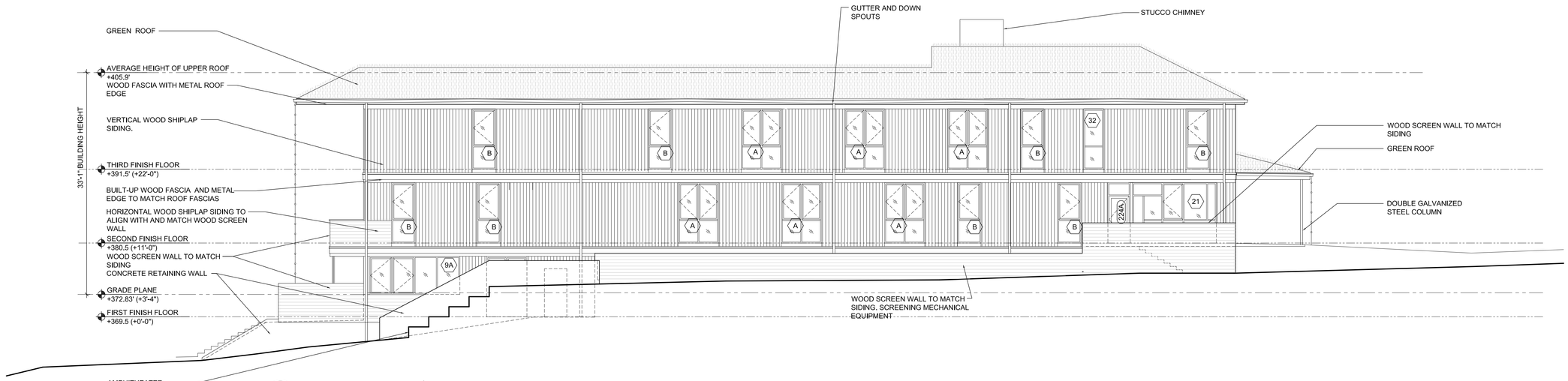
SET	DATE
ZONING SUBMISSION	07.06.22

SCALE AT 24"X36": 1/8" = 1'-0"

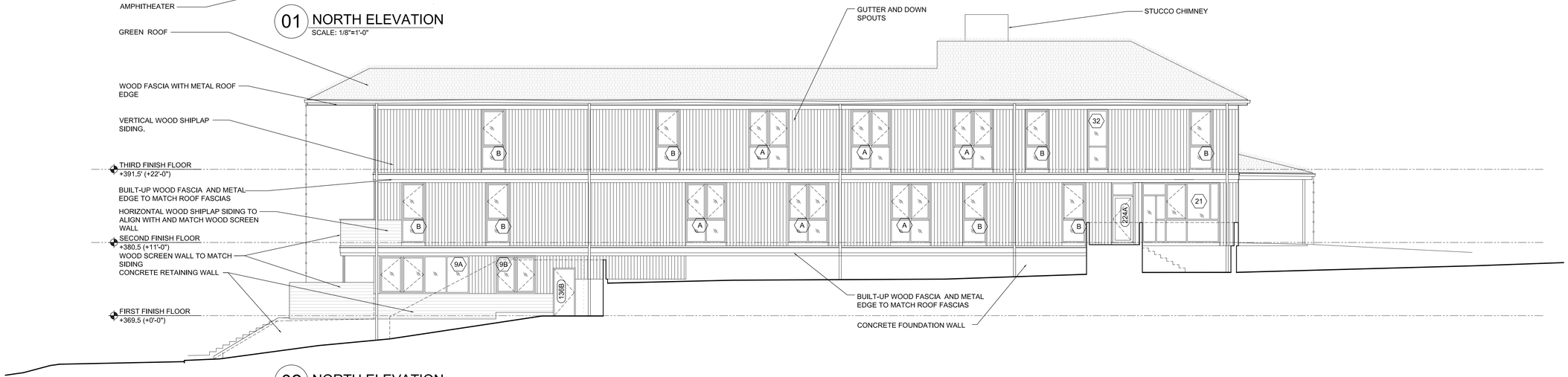
DRAWING TITLE:

BUILDING ELEVATIONS

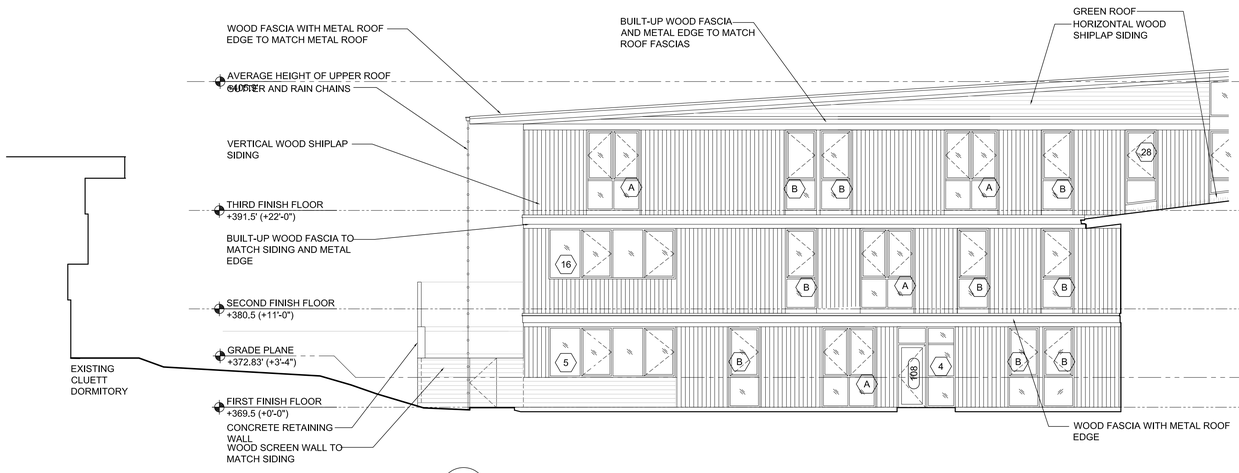
A2.0



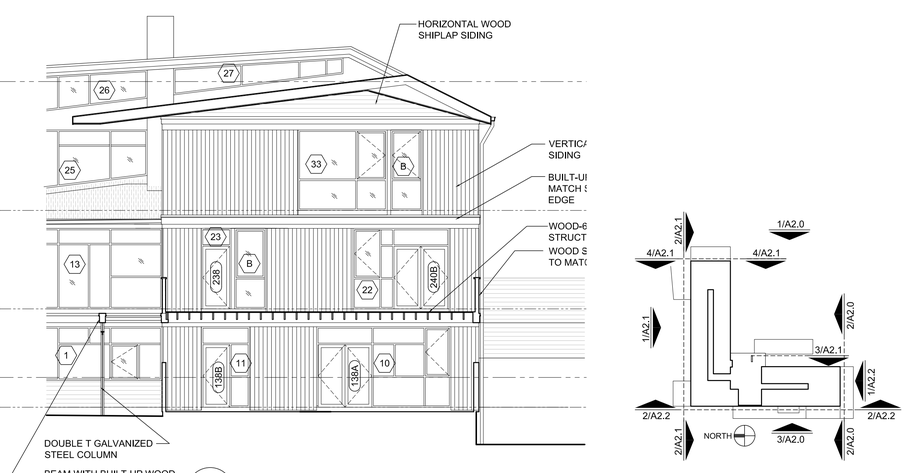
01 NORTH ELEVATION
SCALE: 1/8"=1'-0"



02 NORTH ELEVATION
SCALE: 1/8"=1'-0"



03 PARTIAL EAST ELEVATION
SCALE: 1/8"=1'-0"



04 PARTIAL EAST ELEVATION
SCALE: 1/8"=1'-0"

MARYANN THOMPSON ARCHITECTS

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ETHEL WALKER SCHOOL, UPPER DORM

230 BUSHY HILL RD, SIMSBURY, CT

REVISIONS:

	DATE
SCHEMATIC DESIGN	01.28.22
DESIGN DEVELOPMENT	03.28.22

CURRENT ISSUE:

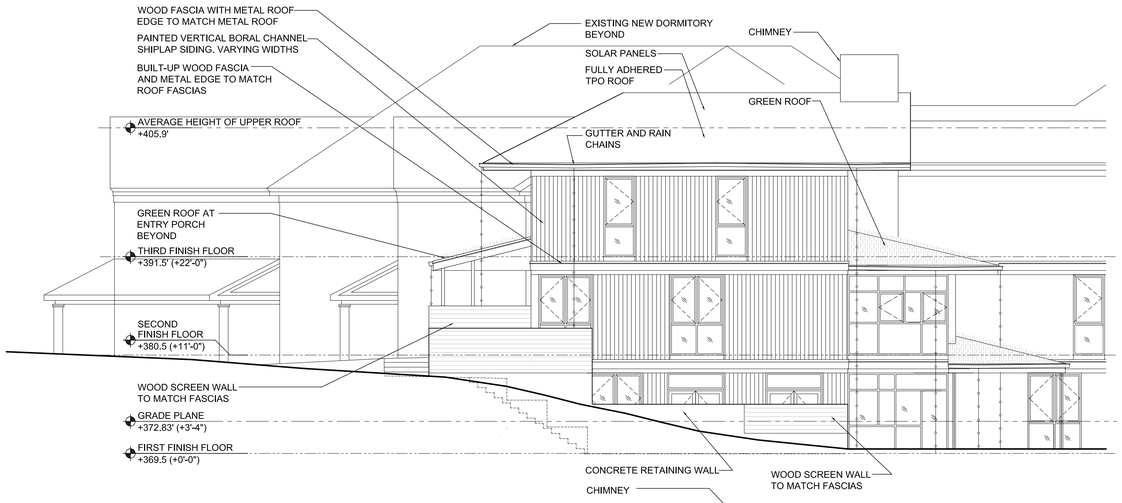
SET	DATE
ZONING SUBMISSION	07.06.22

SCALE AT 24"X36": 1/8" = 1'-0"

DRAWING TITLE:

BUILDING ELEVATIONS

A2.1

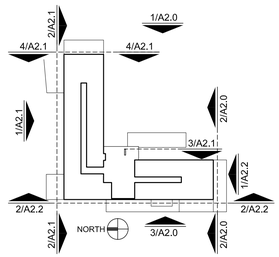


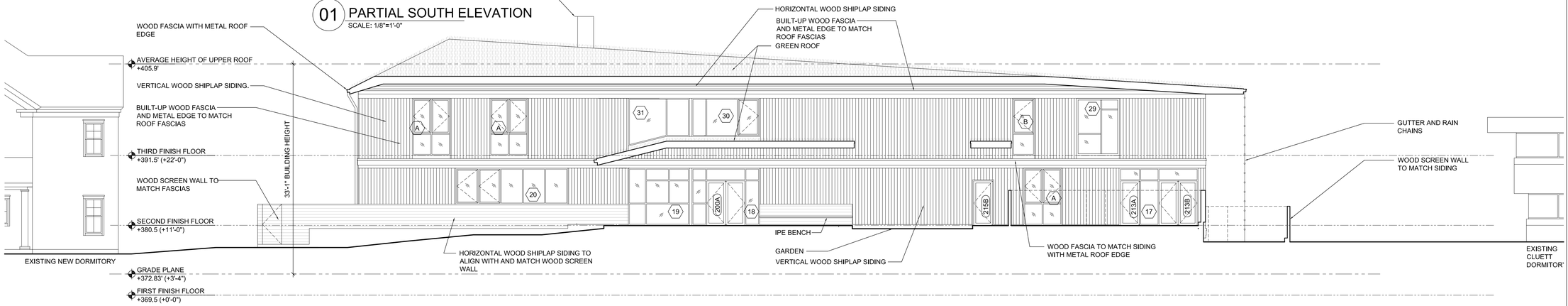
01 PARTIAL SOUTH ELEVATION

SCALE: 1/8"=1'-0"

EXTERIOR FINISH SCHEDULE

WOOD SIDING	VERTICAL SHIPLAP AND AREAS OF HORIZONTAL SHIPLAP AS SHOWN ON ELEVATIONS. NAKAMOTO FORESTRY, PIKA PIKA - RUSTIC BROWN. WOOD WITH SHOU SUGI BAN, CHARRING FINISH, HIGH HEAT TREATMENT ALL THE WAY THROUGH. FINISHED WITH LINSEED OIL BROWN TOP COAT. SEALED ALL 6 SIDES.
SCREEN WALLS AND GUARD RAILS	SPACED WOOD BOARD SCREEN WALLS TO MATCH SIDING. OVER PT FRAMING PER DETAILS. BOARDS SPACED TO ALIGN WITH HORIZONTAL SHIPLAP ON BUILDING AS SHOWN ON ELEVATIONS.
WINDOWS	KLAR ALUMINUM WINDOWS WITH TRIPLE GLAZING. SEE WINDOW SCHEDULE FOR MORE INFORMATION
TRIM	1X AND 5/4 WOOD TO MATCH SIDING. SEE DETAILS FOR MORE INFORMATION
ROOF	FULLY ADHERED MEMBRANE ROOF, GRAY TPO OR SIMILAR AS RECOMMENDED BY GREEN ROOF COMPANY. FULLY WELDED SEAMS.
FASCIA	BUILT-UP 1X WOOD TO MATCH SIDING WITH MILLED DRIP EDGE
METAL ROOF EDGE	GALVALUME OR SIMILAR. PROFILES AS SHOWN IN DRAWINGS
GUTTERS/DOWNSPOUTS	GALVALUME OR SIMILAR. AS SHOWN IN DRAWINGS. PROVIDE SHOP DRAWINGS AND MOCK-UPS
RAIN CHAINS	TBD. PROVIDE CONCEALED SUPPORT WITHIN GUTTERS
DECK	5/4 X 6 IPE DECK BOARDS OVER 2X P.T. JOIST. PT JOIST TO BE PRIMED AND PAINTED. STAINLESS STEEL FASTENERS, 2 PER EACH JOIST EVERY BOARD, ALIGNED ACROSS DECK
VINE TRELLIS	GALVANIZED STEEL TBD AND STAINLESS STEEL WIRE ROPE MESH, AVIARY MESH
COLUMNS	GALVANIZED STEEL DOUBLE T PER STRUCTURAL
SOFFITS	WOOD TONGUE AND GROOVE OR KNOT WOOD ALUMINUM SOFFIT TONGUE AND GROOVE, WOOD COLOR TBD





02 NORTH ELEVATION

SCALE: 1/8"=1'-0"

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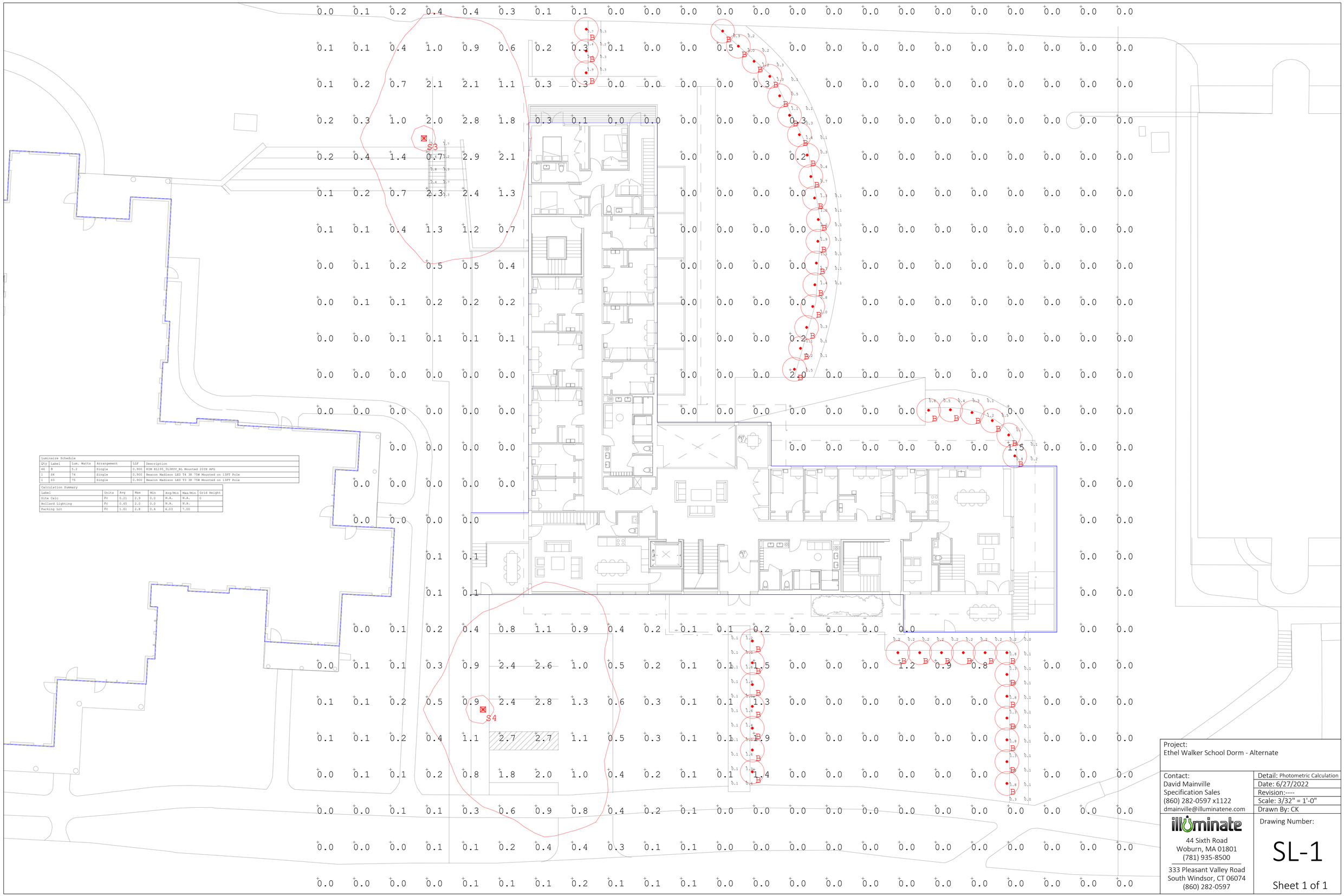
ZONING SUBMISSION	07.06.22

SCALE AT 24"X36": 1/8" = 1'-0"

DRAWING TITLE:

ELEVATIONS AND EXT. FINISH SCHEDULE

A2.2



Luminaire Schedule

Qty	Label	Lum. Watts	Arrangement	LLF	Description
46	B	5.2	Single	0.900	KIM EL195_3L3MUV_BL Mounted 20IN APG
1	S4	74	Single	0.900	Beacon Madison LED T4 3K 75W Mounted on 13FT Pole
1	S3	75	Single	0.900	Beacon Madison LED T3 3K 75W Mounted on 13FT Pole

Calculation Summary

Label	Units	Avg	Max	Min	Avg/Min	Max/Min	Grid Height
Site Calc	Fc	0.21	2.9	0.0	N.A.	N.A.	0
Bollard Lighting	Fc	0.65	2.0	0.0	N.A.	N.A.	
Parking Lot	Fc	1.61	2.8	0.4	4.03	7.00	

Project:
Ethel Walker School Dorm - Alternate

Contact:
David Mainville
Specification Sales
(860) 282-0597 x1122
dmainville@illuminatene.com

Detail: Photometric Calculation
Date: 6/27/2022
Revision:----
Scale: 3/32" = 1'-0"
Drawn By: CK

illuminate
44 Sixth Road
Woburn, MA 01801
(781) 935-8500

333 Pleasant Valley Road
South Windsor, CT 06074
(860) 282-0597

Drawing Number:

SL-1

Sheet 1 of 1