# PARKER RIVER ENVIRONMENTAL STUDIES BUILDING

# THE GOVERNOR'S ACADEMY

1 ELM STREET

BYFIELD, MA 01922

ZONING DISTRICT: RESIDENTIAL / AGRICULTURAL

APRIL 30, 2018

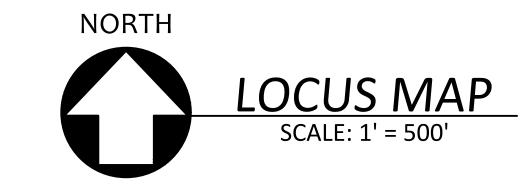
Revised JULY 06, 2018 (Peer Review Response)

Revised JULY 11, 2018 (Fire Chief Response)

Revised December 3, 2021 (Modification)

Revised January 27, 2022 (PB/Peer Review Comments)





ISSUED FOR: LOCAL PERMITTING



## OWNER/APPLICANT

THE GOVERNOR'S ACADEMY

1 ELM STREET

BYFIELD, MASSACHUSETTS 01922

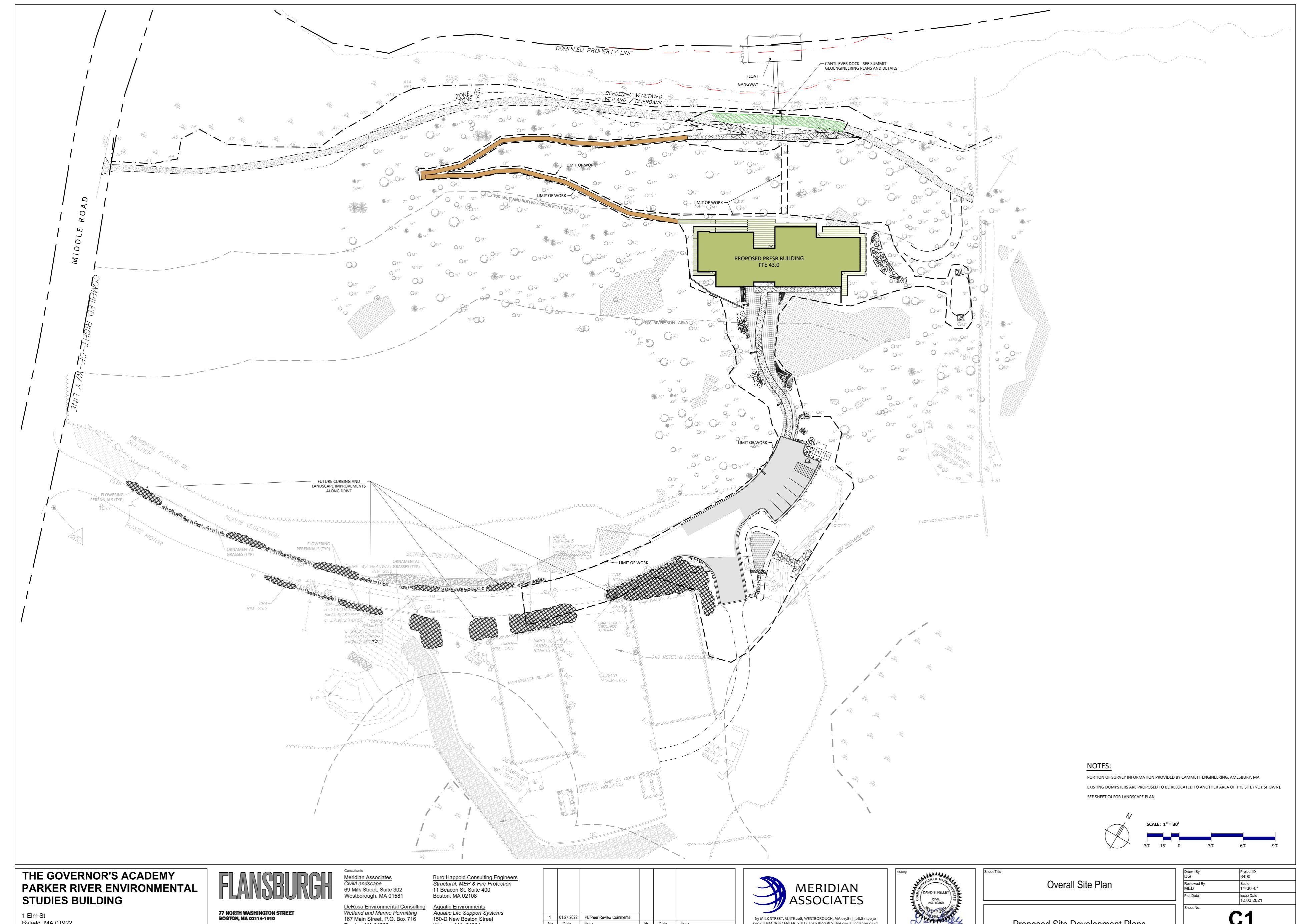
SURVEYING, CIVIL ENGINEERING & LANDSCAPE ARCHITECTURE





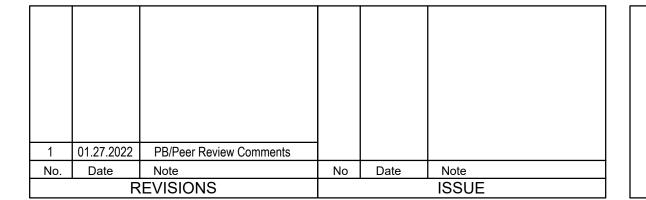
## DRAWING INDEX

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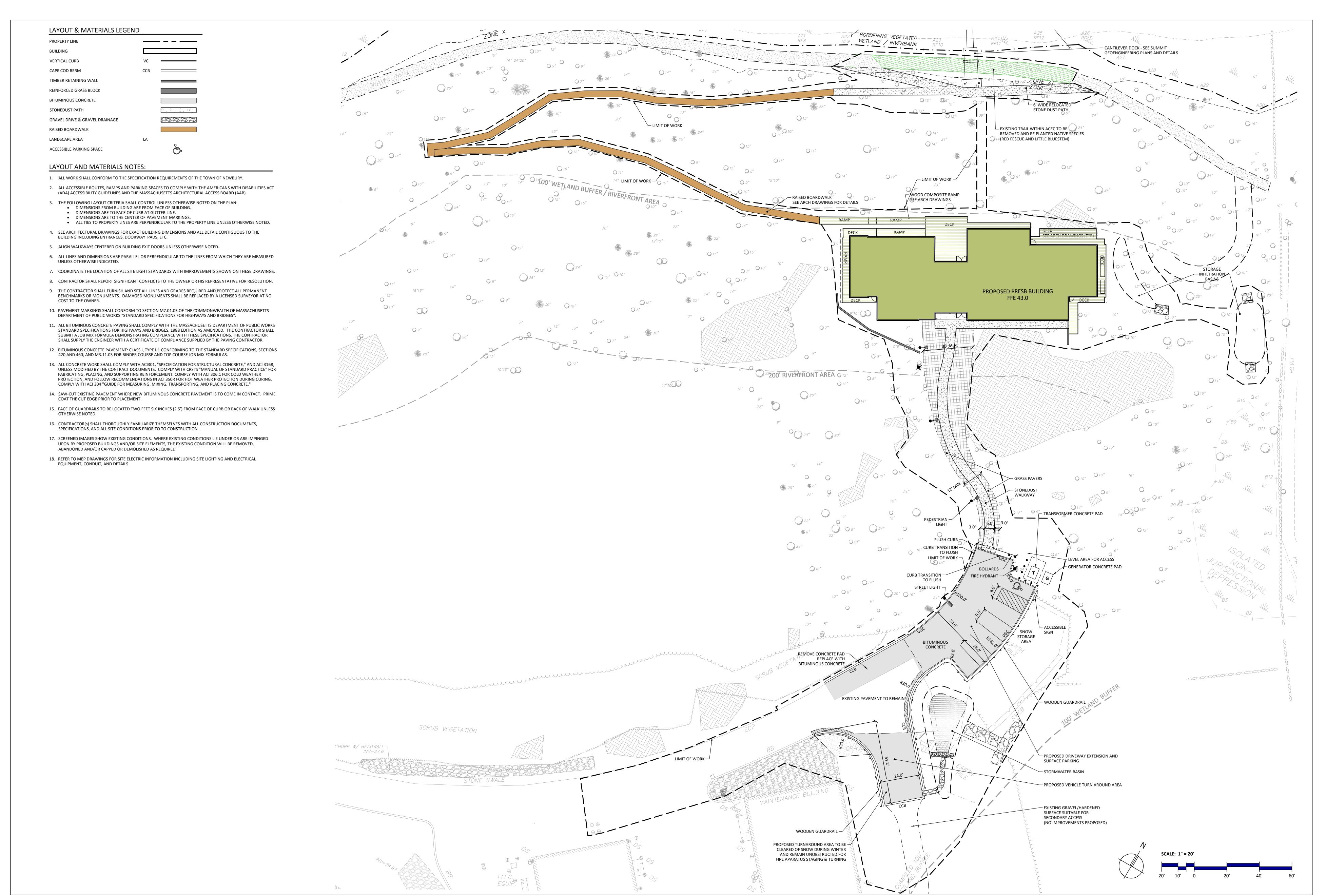
1 Elm St Byfield, MA 01922 77 North Washington Street Boston, Ma 02114-1910 Rowley, MA 01969 FLANSBURGH.COM

Aquatic Environments
Aquatic Life Support Systems
150-D New Boston Street Woburn, MA. 01801









THE GOVERNOR'S ACADEMY
PARKER RIVER ENVIRONMENTAL
STUDIES BUILDING

1 Elm St
Byfield, MA 01922

77 NORTH WASHINGTON S
BOSTON, MA 02114-1910
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FLANSBURGH

Meridian Associates
Civil/Landscape
69 Milk Street, Suite 302
Westborough, MA 01581

DeRosa Environmental Consulting
Wetland and Marine Permitting
167 Main Street, P.O. Box 716

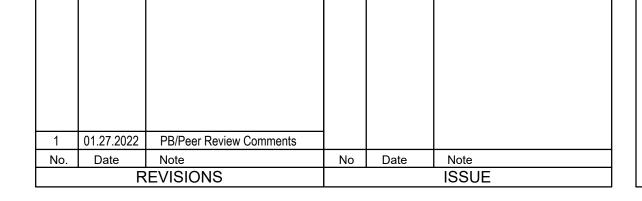
Rowley, MA 01969

Buro Happold Consulting Engineers
Structural, MEP & Fire Protection
11 Beacon St, Suite 400
Boston, MA 02108

Aquatic Life Support Systems

150-D New Boston Street

Woburn, MA. 01801







Layout & Materials Plan

Drawn By
DG

Reviewed By
MEB

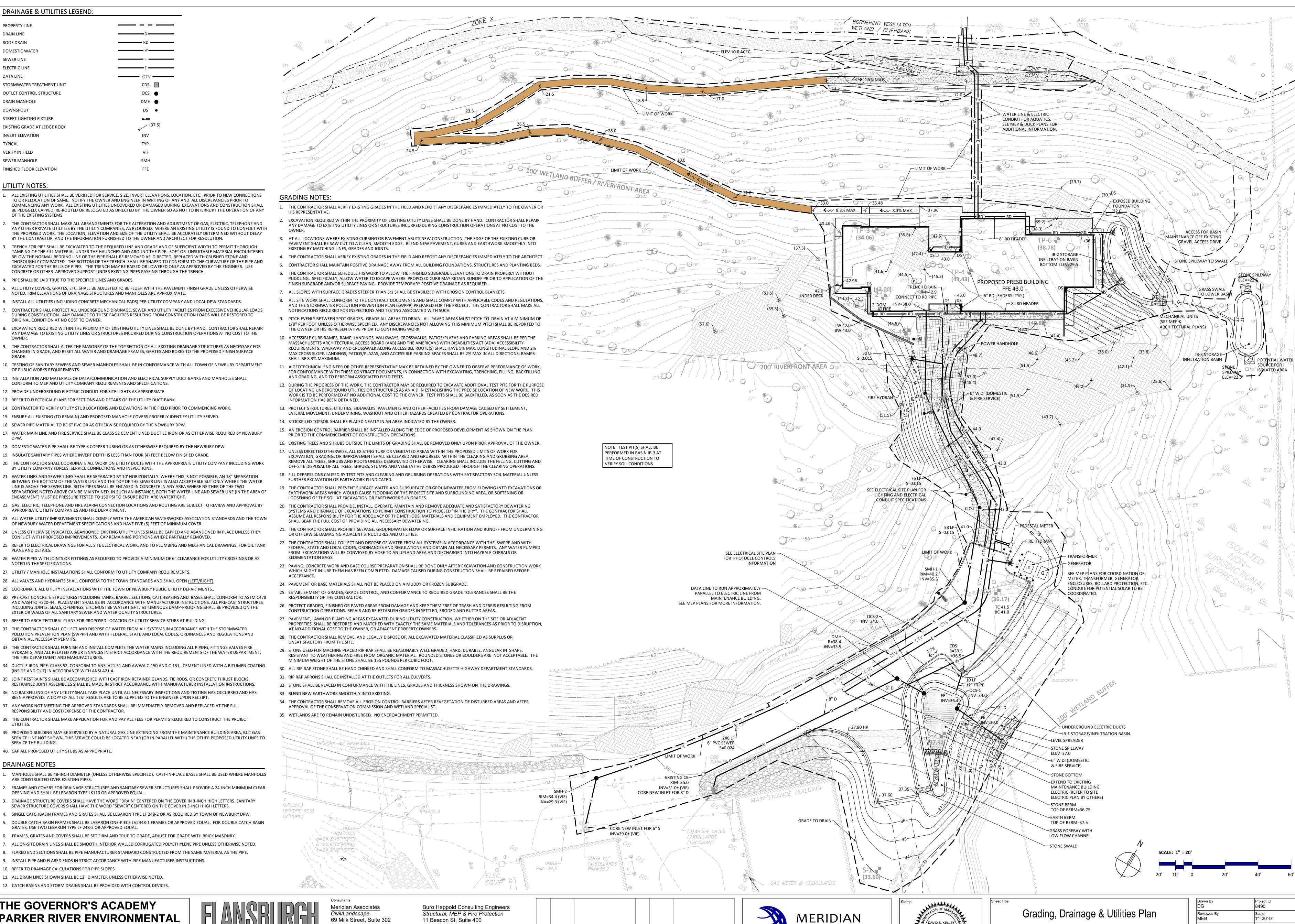
Project ID
8490

Scale
1"=20'-0"

Plot Date

Issue Date
12.03.2021

Sheet No.

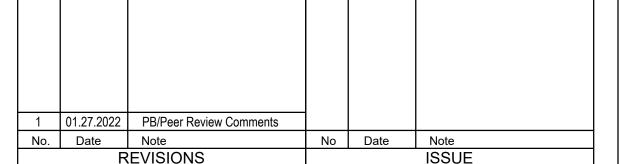


THE GOVERNOR'S ACADEMY PARKER RIVER ENVIRONMENTAL STUDIES BUILDING

1 Elm St Byfield, MA 01922

Vestborough, MA 01581

11 Beacon St, Suite 400 Boston, MA 02108





**Proposed Site Development Plans** 

1"=20'-0" 12.03.2021

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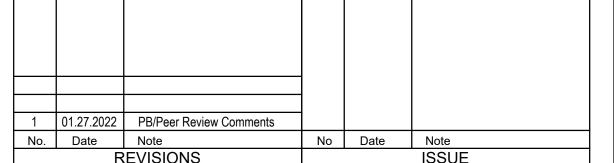
DeRosa Environmental Consulting Wetland and Marine Permitting 167 Main Street, P.O. Box 716 Rowley, MA 01969

Aquatic Environments Aquatic Life Support Systems 150-D New Boston Street Woburn, MA. 01801

#### LANDSCAPE NOTES: 1. ALL PLANT MATERIAL SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED BY THE "AMERICAN STANDARD FOR NURSERY STOCK" PUBLISHED BY AmericanHort 2014 AND AS 2. ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF FINAL ACCEPTANCE. 3. ANY PROPOSED SUBSTITUTIONS OF PLANT MATERIAL SHALL BE MADE WITH MATERIAL EQUIVALENT TO THE DESIRED MATERIAL IN OVERALL FORM, HEIGHT, BRANCHING HABIT FLOWER, LEAF, COLOR, FRUIT AND CULTURE. PROPOSED SUBSTITUTIONS WILL ONLY BE CONSIDERED IF SUBMITTED WITH ENUMERATED REASONS WHY SUBSTITUTIONS ARE PROPOSED. 4. TOPSOIL STRIPPED FROM THE SITE AND PROPERLY STOCKPILED PRIOR TO APPLICATION MAY, UPON APPROVAL OF THE LANDSCAPE ARCHITECT, BE USED FOR PREPARATION OF LAWNS AND PLANTING BEDS. IT SHOULD BE FREE OF LARGE (ONE (1) INCH OR GREATER) COBBLES, ROOTS, OLD SOD, TRASH, WOOD OR OTHER CONTAMINANTS AND BE OF A FRIABLE CONSISTENCY AND SUITABLE FOR PLANT GROWTH. VERIFY LOCATIONS OF ALL EXISTING UTILITY LINES PRIOR TO PLANTING AND REPORT ANY CONFLICTS TO THE OWNER OR OWNER'S REPRESENTATIVE. PROVIDE TREES, SHRUBS, AND GROUNDCOVERS AS SHOWN AND SPECIFIED. THE WORK INCLUDES: SOIL PREPARATION, INSTALLATION OF TREES, SHRUBS AND GROUNDCOVERS, PLANTING MIXES, MULCH AND PLANTING ACCESSORIES, WARRANTY, WATERING AND MAINTENANCE DURING CONSTRUCTION AND WARRANTY PERIODS. PRIOR TO PLANTING, PLANTS MAY BE INSPECTED BY OWNER OR OWNER'S REPRESENTATIVE. THEY SHALL RESERVE THE RIGHT TO REFUSE ACCEPTANCE OF PLANTS UPON DELIVERY BASED ON PLANT VIGOR/CONDITION, UNAUTHORIZED SUBSTITUTIONS, AND/OR NONCONFORMANCE WITH THE PLANTING PLANS AND SPECIFICATIONS. SUCH APPROVAL SHALL NOT AFFECT THE RIGHT OF INSPECTION AND REJECTION DURING THE PROGRESS OF THE PROJECT. EXISTING TRAIL WITHIN ACEC TO BE 8. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO ADJUST FINAL GRADES IN THE FIELD TO SAVE EXISTING VEGETATION. REMOVED AND BE PLANTED WITH NATIVE 4 SPECIES (RED FESCUE AND LITTLE BLUESTEM) 9. PLANT QUANTITIES NOTED IN THE PLANT SCHEDULE ARE APPROXIMATE AND ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FURNISHING AND INSTALLATION OF ALL PLANT MATERIALS NOTED ON THE PLANTING PLAN. 10. NO PLANT SHALL BE PLANTED BEFORE ACCEPTANCE OF ROUGH GRADING. 11. REPAIR AND REESTABLISH GRADES IN SETTLED, ERODED AND RUTTED AREAS TO THE SPECIFIED GRADE AND TOLERANCES PRIOR TO PLANTING OR LOAM AND SEEDING OPERATIONS. 12. BALLED AND BURLAPPED PLANTS MAY BE PLANTED IN THE SPRING FROM APRIL 1ST UNTIL JUNE 15TH AND IN THE FALL FROM AUGUST 15TH TO NOVEMBER 1ST. 13. PLANTING PLAN IS DIAGRAMMATIC IN NATURE. FINAL PLACEMENT OF PLANTS TO BE APPROVED BY THE LANDSCAPE ARCHITECT IN THE FIELD. 14. ALL PLANTING BEDS TO BE FILLED WITH AT LEAST 24" DEEP PLANTING SOIL AND CROWNED ABOVE ADJACENT LAWN OR IMPROVED AREAS. ALL PLANTING BEDS TO BE MULCHED WITH AGED HARDWOOD BARK MULCH TO A DEPTH OF THREE (3) INCHES. 15. PROVIDE FIVE (5) FOOT DIAMETER MULCH CIRCLE AROUND ALL INDIVIDUAL TREE PLANTINGS AND CONTINUOUS MULCH BED AROUND SHRUB PLANTINGS. DO NOT EXTEND MULCH LAYER ABOVE SOIL LEVEL AT TRUNKS/STEMS OF INSTALLED PLANT MATERIAL. 16. ALL SHADE TREES ALONG SIDEWALKS SHALL HAVE A MINIMUM SIX (6) FOOT BRANCHING HEIGHT. 17. PLANT MATERIALS DEPICTED IN ROWS SHALL CONTAIN MATCHING PLANT SPECIMENS SPACED EQUALLY ALONG INDICATED AREA. 18. PLANT MATERIALS SHALL BEAR SAME RELATIONSHIP TO FINISH GRADE AS THEY BORE TO GRADE IN THE NURSERY. 19. CAUTION SHALL BE USED NOT TO EXTEND MULCH LAYER ABOVE SOIL LEVEL AT TRUNKS/STEMS OF INSTALLED PLANT MATERIAL. 20. ALL PLANT MATERIALS AND LAWN AREAS TO BE MAINTAINED BY LANDSCAPE CONTRACTOR UNTIL FINAL WRITTEN ACCEPTANCE PROVIDED TO CONTRACTOR BY OWNER OR OWNER'S 21. REPLACE, IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS, ALL PLANTS THAT ARE DEAD OR AS DETERMINED BY THE OWNER OR OWNER'S REPRESENTATIVE ARE IN AN UNHEALTHY OR UNSIGHTLY CONDITION AND HAVE LOST THEIR NATURAL SHAPE DUE TO DEAD BRANCHES OR OTHER CAUSES DUE TO THE CONTRACTOR'S NEGLIGENCE. THE COST OF SUCH REPLACEMENT(S) IS AT THE CONTRACTOR'S EXPENSE. 22. ALL PLANT MATERIALS TO REMAIN ALIVE AND BE IN HEALTHY, VIGOROUS CONDITION AND SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF FINAL WRITTEN ACCEPTANCE 23. ALL PLANT MATERIALS ARE INTENDED TO BE DROUGHT TOLERANT ONCE ESTABLISHED. NO IRRIGATION SYSTEM IS PROPOSED. PROPOSED PRESB BUILDING 24. THE LANDSCAPE CONTRACTOR SHALL FURNISH TOPSOIL. TOPSOIL SHALL BE FERTILE, FRIABLE, NATURAL AND PRODUCTIVE TOPSOIL OF GOOD CLAY-LOAM TYPE. IT SHALL BE FREE OF WEED SEEDS. TOPSOIL SHALL BE WITHOUT ADMIXTURE OF SUBSOIL AND SHALL BE REASONABLY FREE OF STONES, LUMPS, ROOTS, STICKS AND OTHER FOREIGN MATTER. TOPSOIL SHALL NOT BE WORKED OR APPLIED IN A MUDDY OR WET CONDITION. 25. REUSE EXISTING TOPSOIL ENCOUNTERED ON-SITE AND AMEND TO PARAMETERS LISTED BELOW. IF ADDITIONAL TOPSOIL IS NEEDED PROVIDE FERTILE, FRIABLE, NATURAL TOPSOIL OF LOAMY CHARACTER (FOR PLANTING MIX), WITHOUT ADMIXTURE OF SUBSOIL MATERIAL, OBTAINED FROM A WELL-DRAINED SITE, REASONABLY FREE OF CLAY, LUMPS, COARSE SANDS, STONES, PLANTS, ROOTS, STICKS AND OTHER FOREIGN MATERIALS, WITH ACIDITY RANGE OF BETWEEN PH 6.0 AND 6.8. TOPSOIL SHALL NOT BE DELIVERED OR WORKED IN A MUDDY OR 26. PLANTING MIX SHALL BE THE SPECIFIED MATERIALS IN THE FOLLOWING PROPORTIONS: 3 PARTS TOPSOIL, 1 PART PEAT MOSS, 1 PART SAND, WITH 5 POUNDS OF SUPERPHOSPHATE/ CUBIC YARD OF MIXTURE (ONLY IF PLANTS ARE INSTALLED IN SPRING). AMEND AS NECESSARY. ALL AMENDMENTS SHALL BE THOROUGHLY INCORPORATED INTO MIXTURE TO ENSURE 27. PLANTING MIX SHALL BE SPREAD TO A MINIMUM DEPTH OF SIX (6) INCHES AFTER SETTLING ON ALL DISTURBED AREAS, TURFGRASS LAWN AREAS AND PLANTING BED SUBGRADE AREAS UPON COMPLETION OF FINAL GRADING. SEEDING OPERATION OR SPREADING OF TURFGRASS SOD TO BE COMPLETED IMMEDIATELY FOLLOWING THE APPLICATION OF THE PLANTING MIX OVER THE SUBGRADE. SCARIFY SUBGRADE TO A DEPTH OF 2" BEFORE PLACING TOPSOIL. 28. LOAM AND SEED ALL DISTURBED AREAS UNLESS OTHERWISE INDICATED ON PLAN. LOAM WITH TOPSOIL SPREAD TO A MINIMUM DEPTH OF (6) SIX INCHES. 29. SEED OR PROVIDE SOD FOR ALL TURFGRASS LAWN AREAS WITH A DROUGHT TOLERANT TURFGRASS SEED MIX (80% TALL FESCUE, 10% PERENNIAL RYEGRASS, 10% KENTUCKY BLUEGRASS). 30. PERENNIALS, BULBS AND ANNUALS ARE TO BE PLANTED IN A WELL PREPARED BED WHICH SHALL INCLUDE PEAT AND SLOW RELEASE FERTILIZER. BEDS SHALL BE SKIMMED WITH ONE AND ONE-HALF (1-1/2) INCH TO TWO (2) INCH MULCH (INCLUDING GROUNDCOVERS). 31. SPREAD 10-10-10 FERTILIZER AT A RATE OF TWENTY-TWO (22) POUNDS PER ONE THOUSAND (1,000) SQUARE FEET AND INCORPORATE INTO THE SOIL UNIFORMLY. LIGHTING NOTES: 32. APPLY DOLOMITIC LIME AT THE RATE OF ONE HUNDRED (100) POUNDS PER ONE THOUSAND (1,000) SQUARE FEET THE AREAS BEING PREPARED FOR PLANTING. 1. PROPOSED STREET LIGHT FIXTURES TO BE "THE EDGE 33. THE LANDSCAPE CONTRACTOR IS TO CLEAN AND REMOVE ANY DEBRIS FROM THE SITE CAUSED BY THEIR WORK. LED" AREA LIGHTING 240 LED LUMINAIRE MOUNTED 34. NATIVE SEED MIX SHALL BE "NEW ENGLAND NATIVE WARM SEASON GRASS MIX" AS SUPPLIED FROM NEW ENGLAND WETLAND PLANTS, WWW.NEWP.COM. SPECIES INCLUDED: LITTLE AT 25' HEIGHT FROM BETA/ RUUD LIGHTING. BLUESTEM, (SCHIZACHYRIUM SCOPARIUM), BIG BLUESTEM, (ANDROPOGON GERARDII), VIRGINIA WILD RYE, (ELYMUS VIRGINICUS), INDIAN GRASS, (SORGHASTRUM NUTANS), CREEPING 2. REFER TO MEP/SITE ELECTRICAL FOR PEDESTRIAN RED FESCUE, (FESTUCA RUBRA), SWITCH GRASS, (PANICUM VIRGATUM). LIGHT FIXTURES, WIRING, ETC. PLANT SCHEDULE QTY SYM LATIN NAME COMMON NAME SIZE NOTES SHRUBS 24"-30" Ht. | #3 Pot | BR | DR | N | ST | 48" OC | Yellow/White | Birds/Butterflies | Fall/Winter Interest | May-June 3 CSB Cornus sericea 'Bud's Yellow' Bud's Yellow Redosier Dogwood 10 | CSF | Cornus sericea 'Farrow' Artic Fire' Artic Fire Redosier Dogwood 24"-30" Ht. | #3 Pot | BR | DR | N | ST | 36" OC | White | Birds/Butterflies | Fall/Winter Interest | May-June 6 | VD | Viburnum dentatum 'Ralph Senior' Autumn Jazz Arrowwood Viburnum | 36"-60" Ht. | #7 Pot | BR | N | ST | 6' OC | White | Birds/Butterflies | May-June GROUNDCOVER 22 EP Purple Coneflower Echinacea purpurea #1 Pot DR | DT | N | ST | 18" OC | Purple | Birds/Butterflies | June-August 77 | HR | Hemerocallis 'Happy Returns' Happy Returns Daylily #1 Pot | ST - 15" OC | Yellow | Butterflies | Fragrant | June-October | DR | DT | 12" OC | Purple | Butterfliles | Fragrant | June-August Lavandula angustifolia 'Hidcote' 110 LA English Lavender 26 RH Rudbeckia hirta Black-eyed Susan #1 Pot DR | DT | N | Yellow | Butterflies | June-September ORNAMENTAL GRASSES 21 AV Andropogon virginicus Broom Sedge Bluestem #2 Pot BR | DR | DT | N | ST | 24" OC | Green/Tan | Warm Season Grass | September 10 MS Miscanthus Sinensis 'Gracillimus' #3 Pot DR | DT | 48" OC | Copper | Winter Interest | August-February Maiden Grass #3 Pot 15 PVH Panicum virgatum 'Heavy Metal' Heavy Metal Switchgrass | BR | DT | N | ST | 24" OC | Pink-Tinged | Winter Interest | July-February 15 PVN | Panicum virgatum 'Northwind' Northwind Switchgrass #3 Pot | BR | DT | N | ST | 24" OC | Yellow | Winter Interest | July-February 16 | SS Schizachyrium scoparium Little Bluestem | BR | DR | DT | N | ST | 18" OC | Bronze | Winter Interest | August-February **ABBREVIATIONS B&B: BALL AND BURLAP BR: BIORETENTION PLANT** CAL: CALIPER DR: DEER RESISTANT DT: DROUGHT TOLERANT N: NATIVE OC: ON CENTER ST: SALT TOLERANT -LOAM AND SEED ALL -DISTURBED AREAS. SCRUB VEGETATION - FUTURE CURBING AND LANDSCAPE -IMPROVEMENTS ALONG DRIVE 18"HDPE W/ HEADWALL -SEE SHEET C1 FOR FUTURE LANDSCAPE IMPROVEMENTS PROPOSED LIGHTING LEGEND PROPOSED PLANTING LEGEND SHRUBS, PERENNIALS, GROUNDCOVERS & VINES **GRASS PAVER BLOCKS EVERGREEN, SHADE & ORNAMENTAL TREES** SCALE: 1" = 20' **EXISTING TREE TO REMAIN AND BE PROTECTED** THE GOVERNOR'S ACADEMY Buro Happold Consulting Engineers Structural, MEP & Fire Protection Landscape & Lighting Plan Civil/Landscape MERIDIAN Scale 1"=20'-0" 11 Beacon St, Suite 400 Boston, MA 02108 **ASSOCIATES** 12.03.2021 DeRosa Environmental Consulting Wetland and Marine Permitting Aquatic Life Support Systems 1 Elm St 1 01.27.2022 PB/Peer Review Comments 167 Main Street, P.O. Box 716 **BOSTON, MA 02114-1910** 150-D New Boston Street 69 MILK STREET, SUITE 208, WESTBOROUGH, MA 01581 | 508.871.7030 Woburn, MA. 01801 Rowley, MA 01969

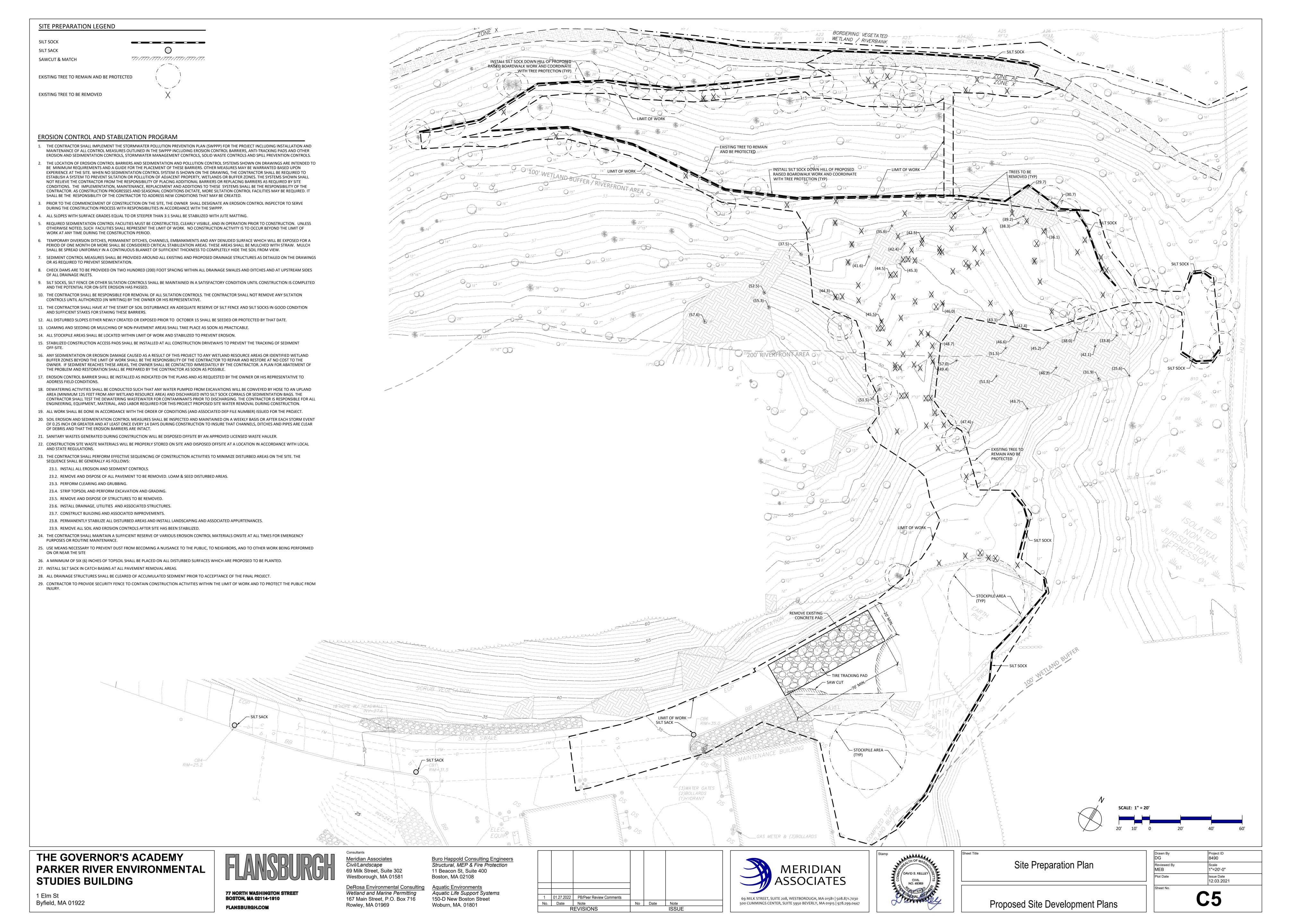
PARKER RIVER ENVIRONMENTAL STUDIES BUILDING

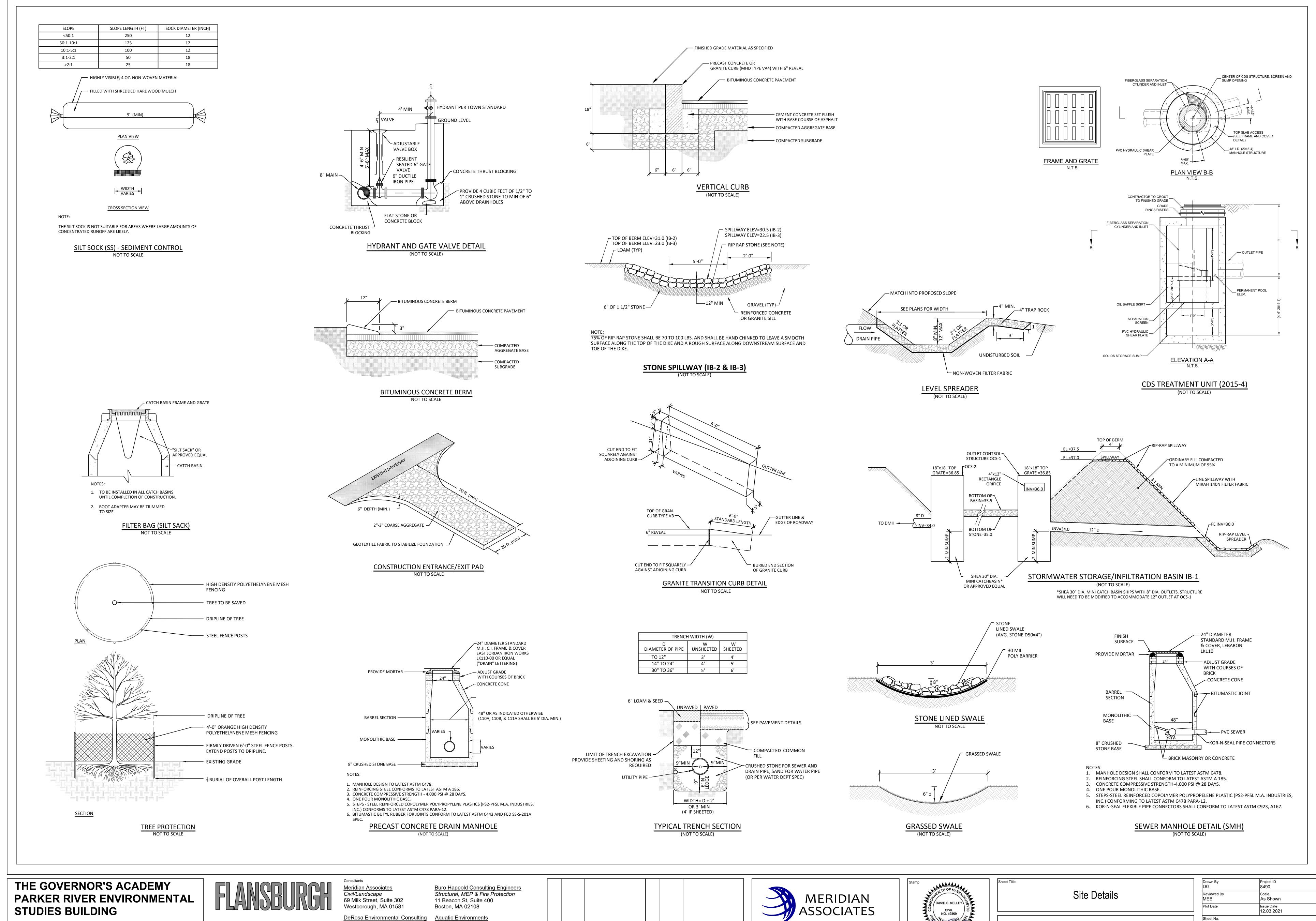
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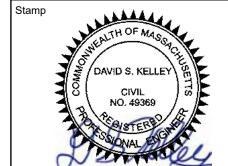
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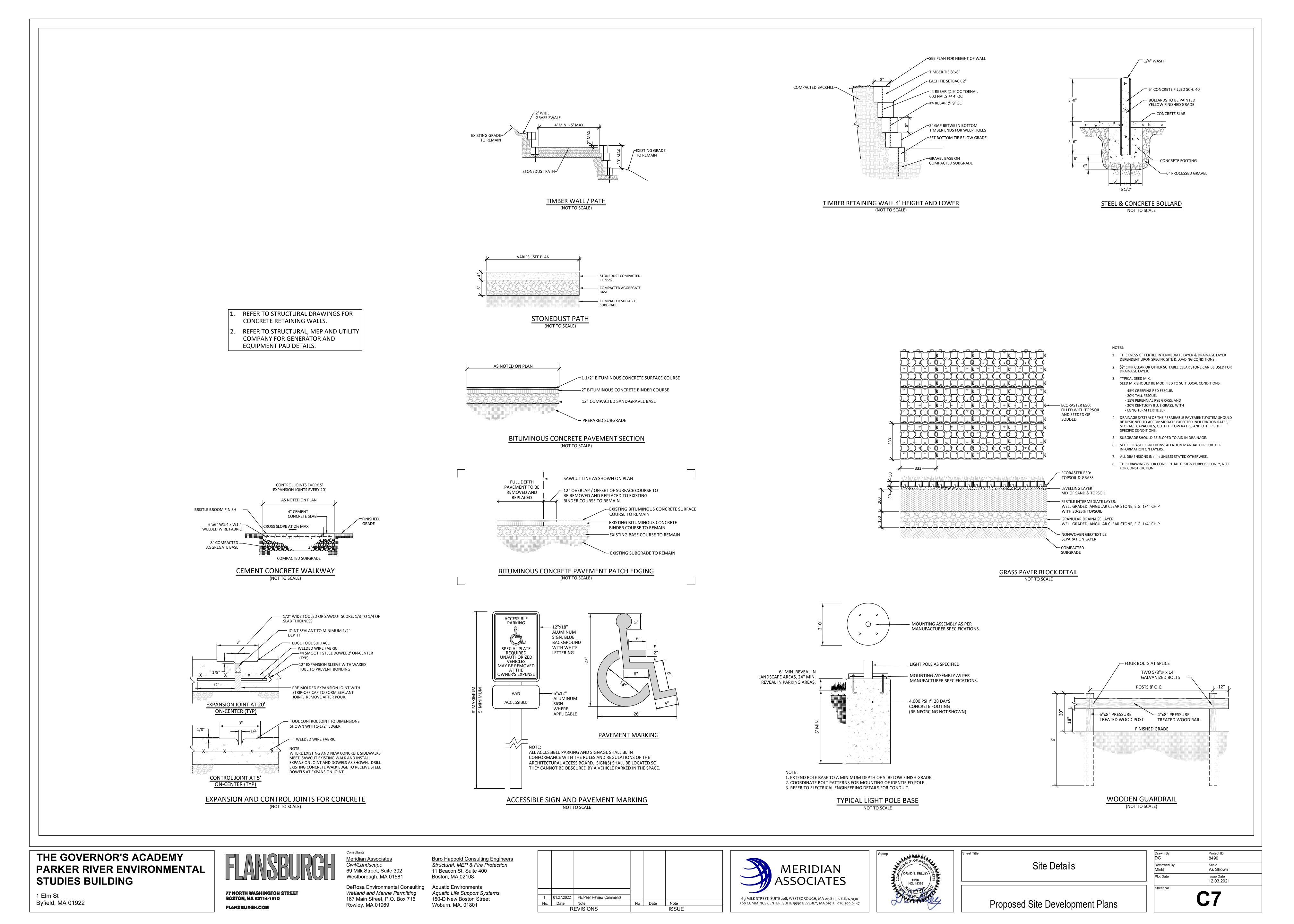
Aquatic Life Support Systems 
 1
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 PB/Peer Review Comments

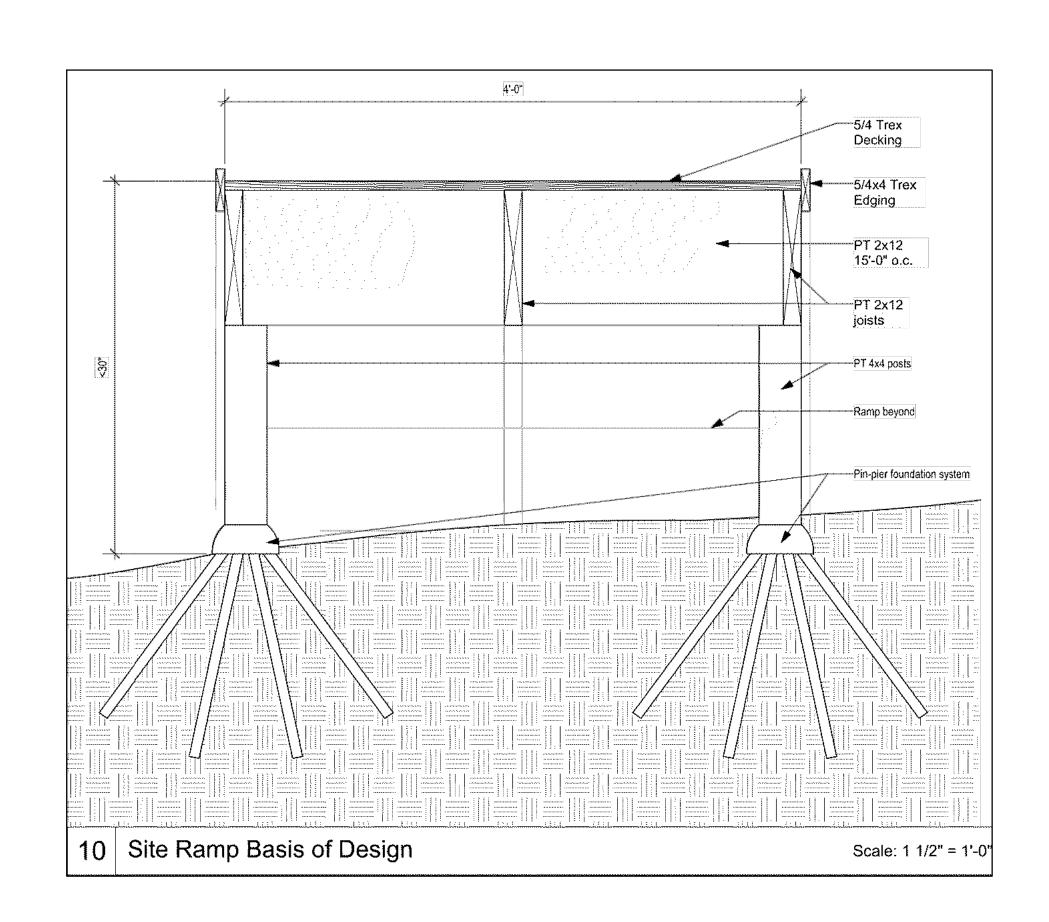
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 150-D New Boston Street No Date Note Woburn, MA. 01801

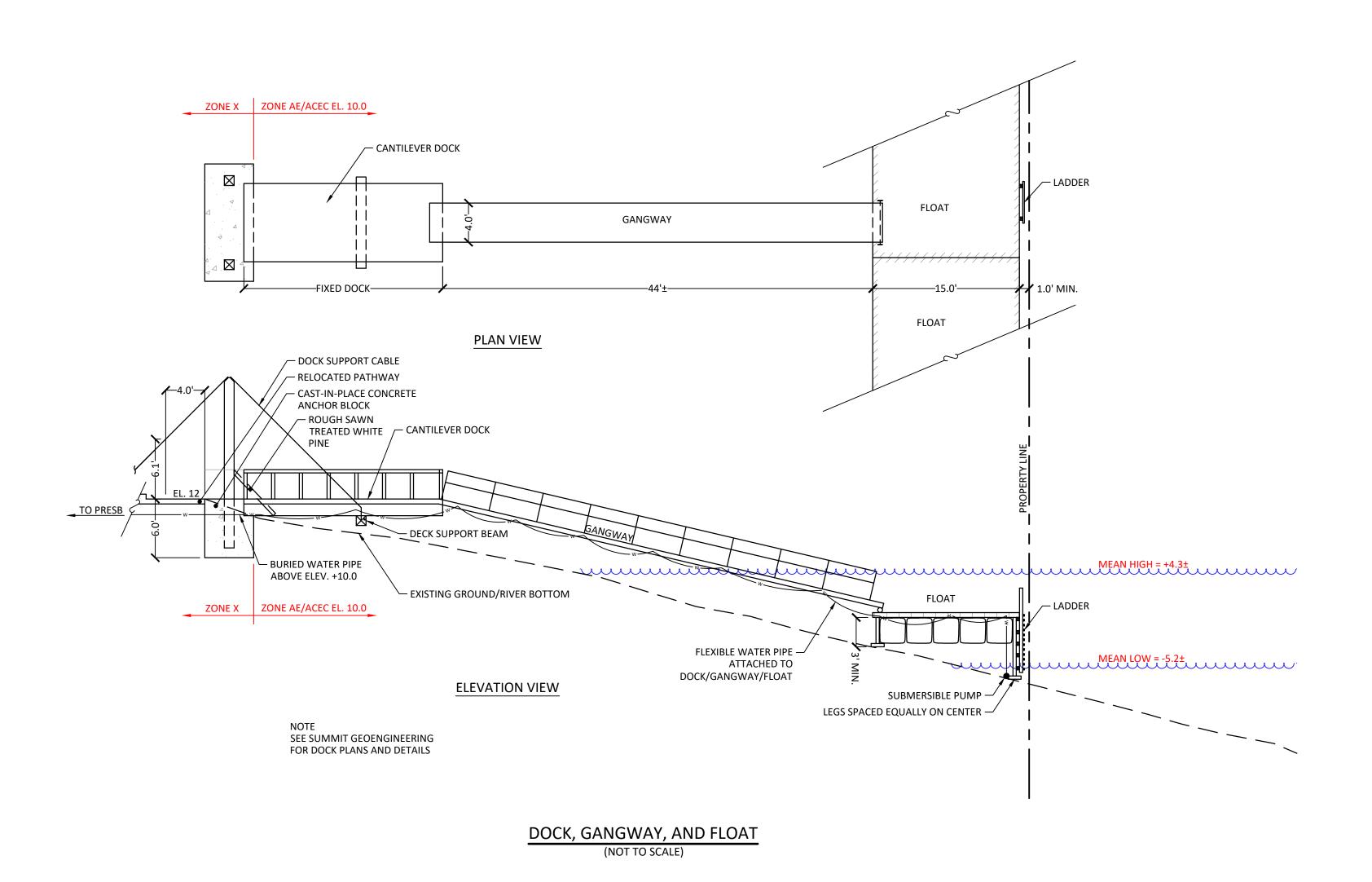




C6

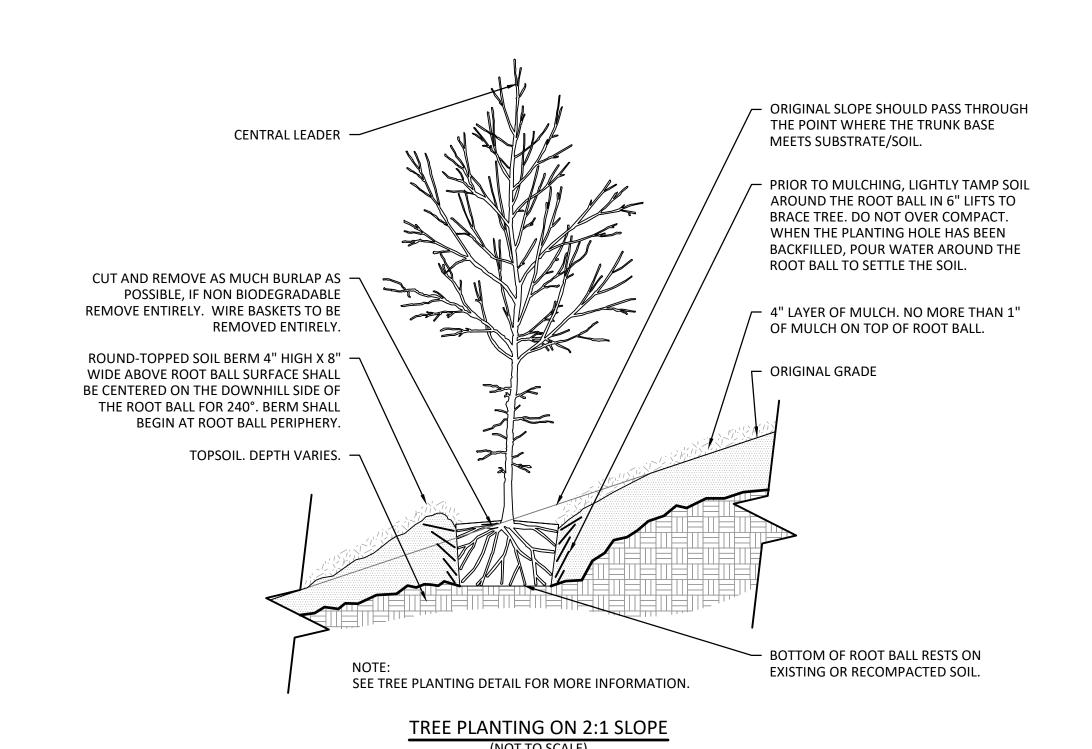


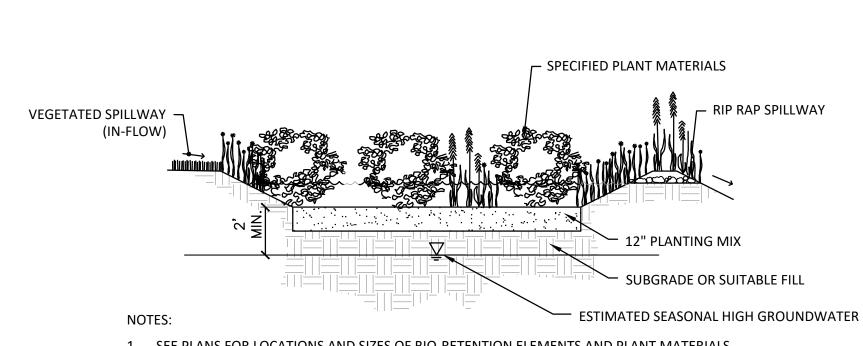




Meridian Associates
Civil/Landscape

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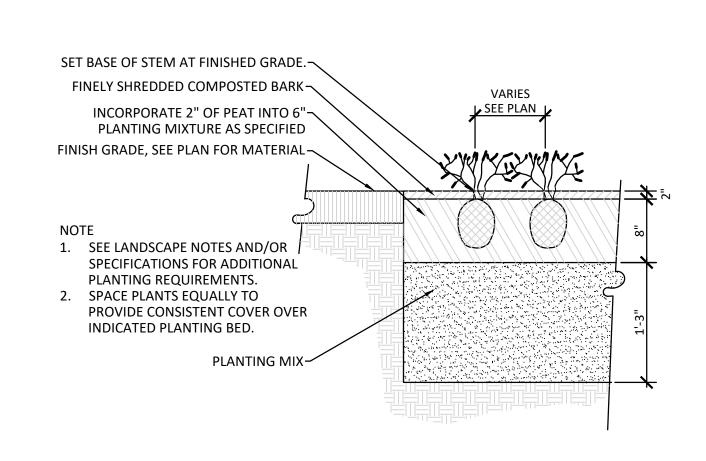




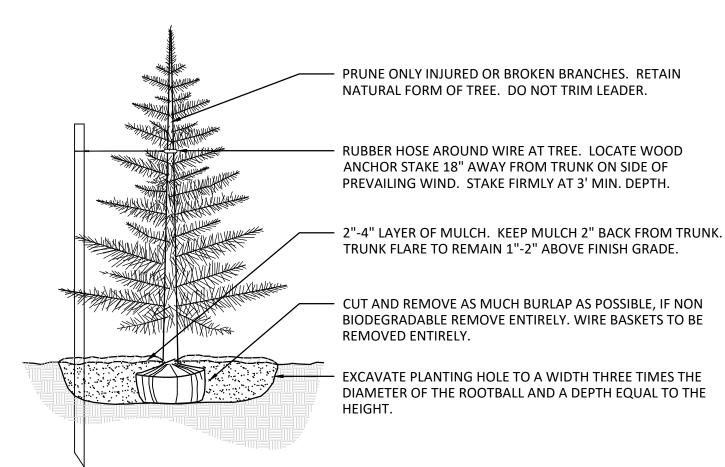
1. SEE PLANS FOR LOCATIONS AND SIZES OF BIO-RETENTION ELEMENTS AND PLANT MATERIALS. 2. THE PLANTING MIX SHOULD BE A MIXTURE OF SAND, COMPOST AND SOIL. SPECIFICALLY, 40% SAND, 20-30% TOPSOIL, AND 30-40% COMPOST. THE CLAY CONTENT SHOULD NOT EXCEED 15%. MIX MUST BE UNIFORM, FREE OF STONES, STUMPS, ROOTS OR SIMILAR OBJECTS LARGER THAT 2 INCHES.

3. VERIFY SOIL CONDITIONS PRIOR TO AND DURING CONSTRUCTION.

### **BIO-RETENTION BASIN**



GROUNDCOVER / ANNUAL / PERENNIAL PLANTING



NOTES:

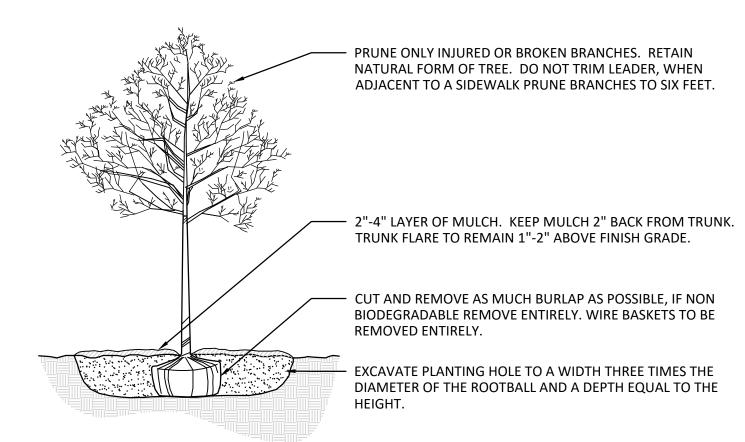
BACKFILL PLANTING HOLE WITH EXISTING SOIL AMENDED AS NECESSARY.

BACKFILL HALF THE SOIL AND WATER TO SETTLE OUT AIR POCKETS, COMPLETE BACKFILLING AND REPEAT WATERING.

IF ROOTS ARE CIRCLING THE ROOTBALL EXTERIOR, CUT ROOTS VERTICALLY IN SEVERAL PLACES PRIOR TO PLANTING.

ONLY STAKE TREES SITUATED ON WINDY SITES OR EXPOSED TO SUBSTANTIAL PEDESTRIAN

#### **EVERGREEN TREE PLANTING**



BACKFILL PLANTING HOLE WITH EXISTING SOIL AMENDED AS NECESSARY.

BACKFILL HALF THE SOIL AND WATER TO SETTLE OUT AIR POCKETS, COMPLETE BACKFILLING AND REPEAT WATERING.

IF ROOTS ARE CIRCLING THE ROOTBALL EXTERIOR, CUT ROOTS VERTICALLY IN SEVERAL PLACES PRIOR TO PLANTING.

ONLY STAKE TREES SITUATED ON WINDY SITES OR EXPOSED TO SUBSTANTIAL PEDESTRIAN

#### TREE PLANTING

2"-4" LAYER OF MULCH. KEEP MULCH 2" BACK FROM TRUNK. TRUNK FLARE TO REMAIN 1"-2" ABOVE FINISH GRADE.

- CUT AND REMOVE AS MUCH BURLAP AS POSSIBLE, IF NON

BIODEGRADABLE REMOVE ENTIRELY. WIRE BASKETS TO BE REMOVED ENTIRELY.

EXCAVATE PLANTING HOLE TO A WIDTH THREE TIMES THE DIAMETER OF THE ROOTBALL AND A DEPTH EQUAL TO THE

BACKFILL PLANTING HOLE WITH EXISTING SOIL AMENDED AS NECESSARY. BACKFILL HALF THE SOIL AND WATER TO SETTLE OUT AIR POCKETS, COMPLETE BACKFILLING AND REPEAT WATERING.

IF ROOTS ARE CIRCLING THE ROOTBALL EXTERIOR, CUT ROOTS VERTICALLY IN SEVERAL PLACES PRIOR TO PLANTING.

SHRUB PLANTING (NOT TO SCALE)

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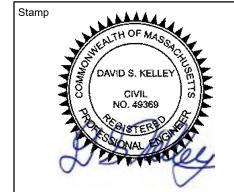
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1 01.27.2022 PB/Peer Review Comments No. Date Note No Date Note





Project ID 8490 As Shown 12.03.2021