

POCKET WETLAND DESIGN	
DRAINAGE AREA	62,234 SF
WETLAND AREA	1,570 SF
SURFACE TO WATERSHED RATIO	.03
LENGTH	90'
WIDTH	10'
L TO W RATIO	9:1
SURFACE AREA ALLOCATION	
WET POOL	165 SF (10.5%)
LOW MARSH	710 SF (45.2%)
HIGH MARSH	695 SF (44.3%)
WATER QUALITY VOLUME ALLOCATION	
WET POOL	330 CF (18.9%)
LOW MARSH	347.5 CF (19.9%)
HIGH MARSH	1065 CF (61.1%)
ESHGW	53.0'

WETLAND SEED MIX		
COMMON NAME	AMOUNT	SUPPLIER
NEW ENGLAND WETMIX	1.0 LB./2500 S.F.	NEW ENGLAND WETLAND PLANTS, INC.
NEW ENGLAND LOGGING ROAD MIX	1.0 LB./2200 S.F.	NEW ENGLAND WETLAND PLANTS, INC.

ACCEPTABLE WETLAND REPLACEMENT PLANTINGS		
SCIENTIFIC NAME	COMMON NAME	
SHRUBS		
VACCINIUM CORYMBOSUM	HIGHBUSH BLUEBERRY	
ILEX VERTICILLATA	WINTERBERRY	
RHODODENDRON VISCOSUM	SWAMP AZALEA	
VIBURNUM DENTATUM	ARROW WOOD	
LINDERA BENZOIN	SPICEBUSH	
CORNUS AMOMUM	SILKY DOGWOOD	
TREES		
ACER RUBRUM	RED MAPLE	
TSUGA CANADENSIS	EASTERN HEMLOCK	
ULMUS AMERICANA	AMERICAN ELM	

WETLAND REPLACEMENT NOTES:
 WETLAND FILL AREA AT CROSSING: 1,730 SF
 HISTORIC FILL AREA: 2,038 SF
 TEMPORARY DISTURBANCE: 855 SF
 TOTAL WETLANDS ALTERED: 4624 SF

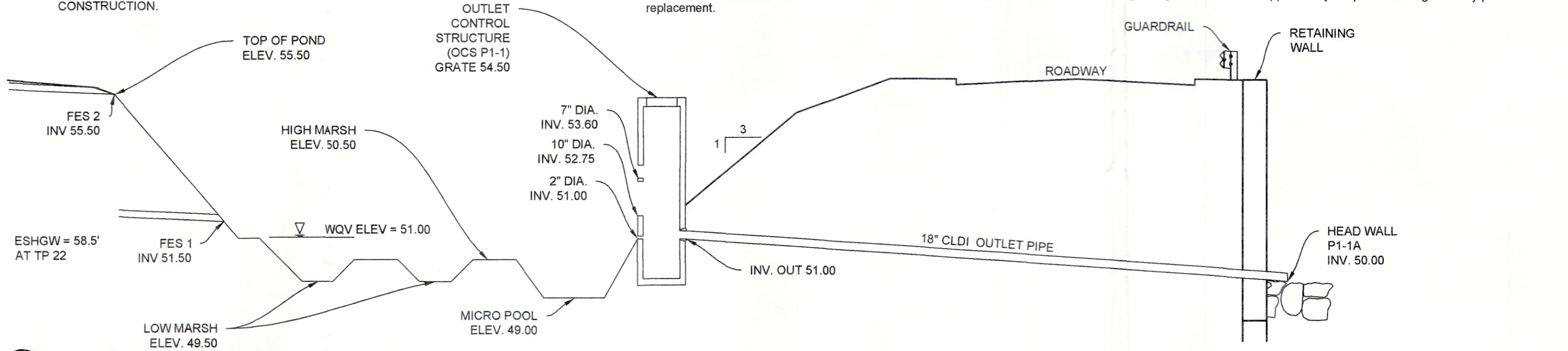
WETLAND REPLACEMENT AT TEMPORARY DISTURBANCE AREAS = 855 SF
 WETLAND REPLACEMENT FOR HISTORIC FILL AND WETLAND CROSSING AREA = (1730 + 2039) x 1.5 = 5660 SF

PERFORMANCE SPECIFICATIONS

- Erosion Control Location and Delineation of Work Areas**
 A silt fence shall remain as the lower limit of work until the wetland replication/restoration areas are stabilized. The upper limit of wetland replication area shall be marked with stakes 20 feet apart prior to performing wetland replication activities.
- Excavation and Stockpiling of Topsoil and Mineral Soil from Wetland Replication Area**
 From the Wetland Replication Area as marked, all existing vegetation, with particular focus on invasive species, shall be cleared except for the individual species which are noted on sheet 16. Existing vegetation to remain shall be protected by encircling with silt fence. Topsoil shall be removed and shall be stockpiled outside the wetland replication area and on-site. All mineral soil shall be excavated to subgrade elevation, or as otherwise directed in the field. Excavated mineral soil shall be stockpiled outside the wetland replication area and on-site. No heavy equipment shall pass the line of erosion control during this work.
- Temporary Wetland Crossing Area**
 Install temporary crossing mats or panels over existing wetland soil. Do not excavate or grub area. Inspect crossing for rutting and damage when replacement area is complete and mats are removed, repair accordingly. Use slash, brush or other materials to help stabilize approaches. No heavy equipment shall pass the line of staked erosion control during this work.
- Excavation of Topsoil from Wetland Fill Area**
 From the Wetland Fill Area, all topsoil shall be excavated to the elevation of the topsoil-subsoil boundary as determined in the field. All remaining vegetation shall be excavated with the topsoil. No heavy equipment shall pass the line of staked erosion control during this work. Topsoil removed from the wetland fill area shall be reused in the wetland replication area.
- Excavation and Stockpiling of Topsoil and Mineral Soil from Temporary Wetland Disturbance Area**
 From the Temporary Wetland disturbance Area as marked, all existing vegetation, with particular focus on invasive species, shall be cleared. Topsoil shall be removed and may be stockpiled outside the temporary wetland disturbance area and on-site. All mineral soil shall be excavated to subgrade elevation, or as otherwise directed in the field. Excavated mineral soil may be stockpiled outside the wetland replication area and on-site. After completion of the retaining wall, the disturbed area shall be backfilled with the stockpiled mineral and top soil. The area shall then be planted as specified on these plans and seeded with New England Wetmix.
- Placement and Grading of Topsoil in Wetland Replication Area**
 Topsoil in the wetland replication area and in the temporarily disturbed area along the roadway shall be graded roughly to the elevation of the adjacent wetland. Topsoil shall be finish graded by hand to elevations as shown on sheet 16, or as otherwise directed in the field. If extra soil is needed to complete finished grading, soils with at least 10% organic material shall be used.
- Revegetation with Indigenous Wetland Plant Species**
 The excavated topsoil placed in the wetland replication area contains dormant seeds, roots and rhizomes of indigenous vegetation. When this soil is relocated and finish graded, germination and growth of the plant material within will result. In order expedite this natural process, container-grown wetland plant stock will be planted in the wetland replication area according to the plant list provided. Following planting of container grown stock, the wetland replication area will be seeded with a mixture of herbaceous wetland plant species to augment development of wetland vegetation and provide initial vegetative stabilization for erosion control. A light mulch of clean, weed free straw shall be spread on the surface of the seeded area to allow erosion control during the establishment period.
- Relocation of erosion control**
 Following planting and seeding of the wetland replication area, a second line of silt fencing with compost filter tubes shall be installed along the new limit of work. This work is intended to reduce or prevent erosion of the newly-planted replacement wetland. Upon installation of a second erosion control line, remove initial erosion control along wetland replication area perimeter.
- Onsite Supervision**
 During construction of the wetland replication area and the fill area, the work will be under the direct supervision of a wetland scientist.
- Replacement of Unsatisfactory Plantings**
 75% survival of planted woody vegetation and 75% herbaceous cover with healthy foliage shall be assumed satisfactory evidence of growth after two growing seasons. All dead or unsatisfactory plants shall be removed and replaced in kind and size by the contractor with plants as originally established under this specification and planting plan. Any substitutions of plant material which may be necessary or desirable after the first growing season must be approved by the permit-issuing authority prior to replacement.

- PLANTING NOTE:**
- NEW ENGLAND WETMIX TO BE USED WITHIN WETLAND REPLACEMENT / RESTORATION AREA.
 - NEW ENGLAND LOGGING ROAD MIX TO BE USED FOR UPLAND AREAS.
 - MULCH WITH STRAW IF SEEDING PERFORMED AFTER JUNE 15TH.
 - SHRUBS TO BE MINIMUM 2'-3" TALL, TREES TO BE MINIMUM 1.5" CALIPER CONTAINER GROWN (MIN. 5 GAL.)
 - MIN OF 3 DIFFERENT TYPES OF SHRUBS TO BE PLANTED IN EACH TEMPORARY WETLAND DISTURBANCE AREA. MINIMUM OF 5 DIFFERENT SHRUBS TO PLANTED IN THE WETLAND REPLICATION AREA.
 - GROUND PROTECTION MATS TO BE REMOVED UPON COMPLETION OF WETLAND REPLACEMENT AREA CONSTRUCTION.

- NOTE:**
- POCKET WETLAND CONSTRUCTION SHALL BE MONITORED DURING CONSTRUCTION BY A QUALIFIED WETLAND SCIENTIST.
 - PRIOR TO POCKET WETLAND CONSTRUCTION A PLANTING LIST SHALL BE DEVELOPED BASED UPON PLANTINGS AVAILABLE AT THE TIME OF CONSTRUCTION.



1 CROSS SECTION DETENTION POND (P1-1) - POCKET WETLAND
 NOT TO SCALE

NOT FOR CONSTRUCTION

Ranger Engineering Group, Inc.
 13 Branch Street, Suite 101
 Methuen, MA, 01844
 Tel: 978-208-1762
 rangereng.com



By C.O.J.
 3/18/21

THE VILLAGE AT CRICKET LANE
 BYFIELD (NEWBURY), MA 01922
 ASSESSOR'S MAP R-20 LOT 175

WETLAND DETAILS

CRICKET LANE, LLC
 92 MIDDLESEX ROAD
 TYNGSBOROUGH, MA 01879

NO.	DATE	BY	REVISIONS
4	01/29/2021	BCO	FINAL REVIEW COMMENT REVISIONS
3	12/09/2020	BCO	REVIEW COMMENT REVISIONS
2	08/17/2020	BCO	REVIEW COMMENT REVISIONS
1	06/26/2020	BCO	REVIEW COMMENT REVISIONS

PROJECT: 15-1516
 DATE: 2020-08-10
 DRAWING SCALE: AS NOTED
 DRAWN BY: OMR
 APPROVED BY: BCO

CS6031
 SHEET 23 OF 30