

Matt Hancock Properties

**PO. Box 295
Casco, Maine 04015**

Owner
Matt Hancock Properties
PO. Box 295
Casco, Maine 04015
Tel: (207)-

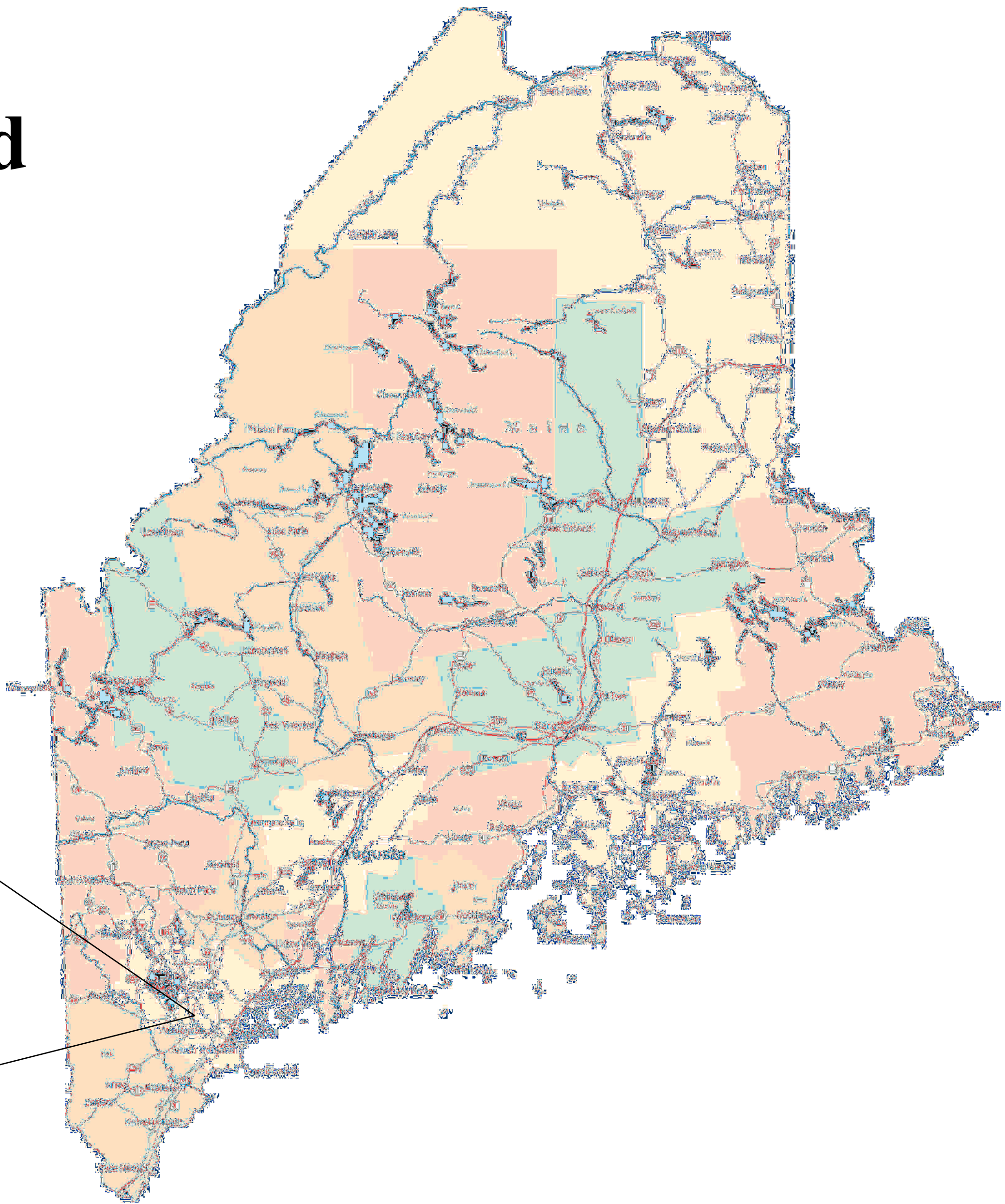
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Code Enforcement Director
Town of Windham
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Windham, ME. 04062
Tel: (207)-894-5960 ext. 1

Durant Homestead

**Chute Road
Windham, Maine 04062**



ACHERON ENGINEERING SERVICES
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Acheron International, Inc.

GENERAL NOTES:

1. THE TERM "INSPECTION" BY THE ENGINEERS AS USED HEREIN SHALL MEAN, INCLUDE AND BE LIMITED TO THE FOLLOWING:

- VISUAL OBSERVATIONS OF WORK COMPLETED BY THE CONTRACTOR,
- MEASUREMENTS OF PHYSICAL FEATURES AND COMPONENTS COMPLETED BY THE CONTRACTOR USING LAND SURVEYING EQUIPMENT TYPICALLY USED BY ENGINEERS AND SURVEYORS AND
- OBSERVATIONS OF LABELS ON MATERIALS AND EQUIPMENT SUPPLIED BY THE CONTRACTOR.

THE PURPOSE OF THE "INSPECTION" BY THE ENGINEER IS TO DETERMINE IF THE FINISHED WORK (AS-BUILT CONDITION) BY THE CONTRACTOR IS IN REASONABLE CONFORMITY WITH THE DIMENSIONS, ELEVATIONS AND CONFIGURATION DEPICTED BY THE DESIGN DRAWINGS AND SPECIFICATIONS OR ANY WRITTEN ADDENDUM. REASONABLE CONFORMITY RECOGNIZES THAT THERE IS A TOLERANCE THAT IS GENERALLY ACCEPTED FOR EACH OF THE TYPES OF CONSTRUCTION WORK DEPICTED ON THE DESIGN DRAWINGS.

2. LOCATE AND MARK ALL PROJECT BOUNDARIES PRIOR TO CONSTRUCTION.

3. LIMIT THE AMOUNT OF SOIL DISTURBANCE AT ANY ONE TIME.

4. INSTALL SEDIMENT BARRIERS PRIOR TO DISTURBING SOILS.

5. MARK SOIL DISTURBANCE LIMITS.

6. MULCH EXPOSED SOIL AS SOON AS POSSIBLE, AND REVEGETATE AS SOON AS FINAL GRADE IS ATTAINED.

7. INSPECT AND REPAIR EROSION CONTROL AND SEDIMENT TRAPPING MEASURES WEEKLY AND BEFORE AND AFTER EVERY STORM EVENT.

8. REMOVE TEMPORARY EROSION CONTROLS WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED.

9. STABILIZE DITCHES WITHIN 24 HOURS OF FINAL GRADE.

10. INSTALL SEDIMENT BARRIER DOWN SLOPE OF SOIL STOCK PILES.

11. DO NOT STORE SOIL STOCK PILES IN AREA OF CONCENTRATED FLOW OR POTENTIAL FLOODING.

12. ALL FILL MUST BE FREE OF FROZEN SOIL, ROCKS OVER 6-INCHES, SOD, BRUSH, STUMPS, TREE ROOTS, WOOD OR OTHER PERISHABLE MATERIALS.

13. MULCHING:

- A. APPLY TEMPORARY MULCH ON DISTURBED AREAS WITHIN 7 DAYS OF INITIAL DISTURBANCE OR PRIOR TO ANY STORM.
- B. DO NOT APPLY EROSION CONTROL MIX, OR HAY MULCH, IN AREAS OF CONCENTRATED WATER FLOWS.
- C. DO NOT USE EROSION CONTROL MIX, OR HAY MULCH FOR SLOPES STEEPER THAN 2:1.
- D. USE HAY MULCH AS A TEMPORARY MEASURE TO PROTECT BARE SOILS OR TO COVER NEWLY SEEDED AREAS.
- E. APPLY AT A RATE OF TWO SQUARE BALES (70-90 POUNDS) PER 1,000 SQ. FT.
- F. ANCHOR HAY MULCH USING ONE OF THE FOLLOWING METHODS:
 - STAPLE JUTE OR PLASTIC NETTING OVER MULCH IN ACCORDANCE WITH MFG. INSTRUCTIONS.
 - STRETCH TWINE BETWEEN PEGS IN A CRISS-CROSS PATTERN OVER MULCH (4-6 PEGS PER SQ. YD.).
 - TRACK EQUIPMENT OVER MULCH, SUCH THAT TRACKS ARE PARALLEL TO CONTOURS. TRACKING IS SUITABLE FOR SLOPES LESS THAN 3:1.

14. SEEDING:

- A. COMPLETE SEEDING WITHIN 7 DAYS OF FINAL GRADING.
- B. BROADCAST SEED OVER ENTIRE DITCH AND SURFACE AND RAKE INTO SOIL.
- C. APPLY HAY MULCH TO ALL SEEDED AREAS.
- D. SUMMER SEEDED DATES ARE FROM APRIL 1 TO SEPTEMBER 15.
- E. PERMANENT SEEDING SHOULD BE DONE 45 DAYS BEFORE FIRST KILLING FROST.
- F. THE SEED MIXTURE SHALL CONSIST OF SEEDS PROPORTIONED BY WEIGHT AS FOLLOWS:

| | Pounds/acre |
|---------------------|-------------|
| Kentucky Bluegrass | 20 lbs |
| Creeping Red Fescue | 20 lbs |
| Perennial Ryegrass | 5 lbs |

15. STABILIZATION BEFORE WINTER:

- SEPTEMBER 15:
 - ALL DISTURBED AREA MUST BE SEEDED WITH EROSION CONTROL MIX AND MULCHED.
 - ALL SLOPES MUST BE SEEDED AND MULCHED.
 - ALL GRASS LINED DITCHES AND CHANNELS MUST BE STABILIZED WITH MULCH OR AN EROSION CONTROL BLANKET.
- OCTOBER 1:
 - SLOPE STABILIZED WITH EROSION CONTROL BLANKET AND SEEDED WITH EROSION CONTROL MIX.
- NOVEMBER 15:
 - ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED.
 - ALL RIP-RAP SLOPES MUST BE CONSTRUCTED AND STABILIZED.
 - SEE EROSION CONTROL & STORMWATER MANAGEMENT PLAN FOR DETAILS OF WINTER CONSTRUCTION.

16. DEWATERING:

A DEWATERING PLAN IS NEEDED TO ADDRESS EXCAVATION DE-WATERING FOLLOWING HEAVY RAINFALL EVENTS OR WHERE THE EXCAVATION MAY INTERCEPT THE GROUNDWATER TABLE DURING CONSTRUCTION. PRIOR TO ANY DEWATER ACTIVITIES SUBMIT A DEWATERING PLAN TO OWNER AND DESIGN ENGINEER FOR APPROVAL. FILTER ALL PUMPED WATER THROUGH SOIL FILTER BAG (DIRT BAG) AS SHOWN ON EROSION CONTROL PLAN.

17. EROSION CONTROL:

MINIMUM EROSION CONTROL MEASURES WILL NEED TO BE IMPLEMENTED AND THE CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN ALL COMPONENTS OF THE EROSION CONTROL PLAN UNTIL THE SITE IS FULLY STABILIZED. HOWEVER, BASED ON SITE AND WEATHER CONDITIONS DURING CONSTRUCTION, ADDITIONAL EROSION CONTROL MEASURES MAY NEED TO BE IMPLEMENTED. ALL AREAS OF INSTABILITY AND EROSION MUST BE REPAIRED IMMEDIATELY DURING CONSTRUCTION AND NEED TO BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED OR VEGETATION IS ESTABLISHED. A CONSTRUCTION LOG MUST BE MAINTAINED FOR THE EROSION AND SEDIMENTATION CONTROL INSPECTIONS AND MAINTENANCE.

IN LIEU OF SILT FENCE EROSION CONTROL MIX CAN BE USED IF CONDITIONS BELOW ARE MET: FOLLOW MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE 2014

EROSION CONTROL MIX BERM:

THE ECM BERM SHOULD BE A MINIMUM OF 12" HIGH AND A MINIMUM OF TWO FEET WIDE. ON LONGER OR STEEPER SLOPES, THE BERM WILL NEED TO BE WIDER AND HIGHER. BERMS COMPOSED OF ECM CAN BE RESHAPED WHEN NECESSARY.

EROSION CONTROL MIX:

THE MIX MUST BE WELL-GRADED WITH AN ORGANIC COMPONENT THAT IS BETWEEN 50 AND 100% OF DRY WEIGHT, AND THAT IS COMPOSED OF FIBROUS AND ELONGATED FRAGMENTS. THE MINERAL PORTION OF THE MIX SHOULD BE NATURALLY INCLUDED IN THE PRODUCT WITH NO LARGER ROCKS (>4") OR LARGE AMOUNTS OF FINES (SILTS AND CLAYS) IN STUMP GRINDING. THE MINERAL SOIL ORIGINATES FROM THE ROOT BALL AND SHOULD NOT BE REMOVED BEFORE GRINDING. THE MIX SHOULD BE FREE OF REFUSE, MATERIAL TOXIC TO PLANT GROWTH OR UNSUITABLE MATERIAL (BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS).

18. WETPONDS:

- A. INSPECTION BY A PROFESSIONAL ENGINEER WILL CONSIST OF WEEKLY VISITS TO THE SITE TO INSPECT THE INSTALLATION OF EACH POND'S EMBANKMENT CONSTRUCTION, STORMWATER INLET, UNDERDRAINED GRAVEL OUTLET, GRAVEL OUTLET FILTER MATERIAL MAKEUP AND PLACEMENT, OUTLET CONTROL STRUCTURE, CLAY LINER (IF APPLICABLE), AND EMERGENCY SPILLWAY CONSTRUCTION FROM INITIAL GROUND DISTURBANCE TO FINAL STABILIZATION OF THE POND.
- B. CLAY LINER MIN THICKNESS = 1.5'
- C. PLACE LINER IN 9" LOOSE LIFTS.
- D. COMPACT CLAY LINER TO 95% STANDARD PROCTOR DENSITY PER ASTM D-2434.
- E. MINIMUM LINER PERMEABILITY 1x10⁻⁶/ Cm/SEC PER ASTM D-2432.
- F. LINER PLASTICITY INDEX NOT LESS THAN 15% PER ASTM D-423/424.
- G. SEE SHEET D-1 FOR MINIMUM & MAXIMUM GRAIN SIZE DISTRIBUTION FOR CLAY LINER. CONTRACTOR TO PROVIDE ALL TESTING RESULTS TO OWNER & ENGINEER FOR APPROVAL.

19. STONE BERMED LEVEL LIP SPREADER:

INSPECTIONS BY A PROFESSIONAL ENGINEER SHALL CONSIST OF WEEKLY VISITS TO THE SITE TO INSPECT EACH LEVEL SPREADERS CONSTRUCTION, STONE BERM MATERIAL AND PLACEMENT, SETTLING BASIN FROM INITIAL GROUND DISTURBANCE TO FINAL STABILIZATION OF THE LEVEL SPREADER.

20. ACHERON ENGINEERING HAS USED A REASONABLE STANDARD OF CARE TO TRY TO LOCATE UNDERGROUND FACILITIES IN THE VICINITY OF THIS PROJECT. THE LOCATIONS OF UNDERGROUND FACILITIES DEPICTED ON THIS DRAWING ARE APPROXIMATE. EXCAVATORS MUST COMPLY WITH ALL REQUIREMENTS OF TITLE 23 SECTION 3360, PROTECTION OF UNDERGROUND FACILITIES BEFORE COMMENCING OPERATIONS.

21. CONSTRUCTION OVERSIGHT:

THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION MAY REQUIRE THIRD-PARTY INSPECTIONS OF THE DEVELOPMENT'S EROSION AND SEDIMENTATION CONTROLS DURING CONSTRUCTION AND IMMEDIATELY AFTER FINAL STABILIZATION. IN ALL CASES, THE THIRD PARTY INSPECTION PROGRAM, TO BE IMPLEMENTED BY THE APPLICANT, MUST COMPLY WITH THE SPECIAL CONDITION FOR THIRD PARTY INSPECTION PROGRAM THAT WILL BE INCORPORATED AS PART OF THE DEPARTMENT ORDER ISSUED FOR THE DEVELOPMENT.

22. ALL CONSTRUCTION ACTIVITIES SHOULD FOLLOW GUIDANCE AS PRESENTED IN "MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS" PUBLISHED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION IN 2014.

23. SPILL PREVENTION. CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE CONTRACTOR OR OPERATOR MUST DEVELOPE, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.

NOTE: ANY SPILL OR RELEASE OF TOXIC OR HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE DEPARTMENT. FOR OIL SPILLS, CALL 1-800-482-0777 WHICH IS AVAILABLE 24 HOURS A DAY. FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1-800-452-4664 WHICH IS AVAILABLE 24 HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENT'S WEBSITE AT : HTTP://WWW.MAINE.GOV/DEP/SPILLS/EMERGSPELLRESP/

24. GROUNDWATER PROTECTION. DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE-TREATMENT OF STORMWATER PRIOR TO DISCHARGE TO THE INFILTRATION AREA, OR PROVIDE FOR TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.

NOTE: LACK OF APPROPRIATE POLLUTANT REMOVAL BEST MANAGEMENT PRACTICES (BMPS) MAY RESULT IN VIOLATIONS OF THE GROUNDWATER QUALITY STANDARD ESTABLISHED BY 38 M.R.S.A. §465-C(1).

25. FUGITIVE SEDIMENT AND DUST. ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE (SCE) SHOULD BE INCLUDED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEEP IMMEDIATELY AND NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS, THAT EXPERIENCE FUGITIVE DUST PROBLEMS, SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.

26. DEBRIS AND OTHER MATERIALS. MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

NOTE: TO PREVENT THESE MATERIALS FROM BECOMING A SOURCE OF POLLUTANTS, CONSTRUCTION AND POST-CONSTRUCTION ACTIVITIES RELATED TO A PROJECT MAY BE REQUIRED TO COMPLY WITH APPLICABLE PROVISION OF RULES RELATED TO SOLID, UNIVERSAL, AND HAZARDOUS WASTE, INCLUDING, BUT NOT LIMITED TO, THE MAINE SOLID WASTE AND HAZARDOUS WASTE MANAGEMENT RULES; MAINE HAZARDOUS WASTE MANAGEMENT RULES; MAINE OIL CONVEYANCE AND STORAGE RULES; AND MAINE PESTICIDE REQUIREMENTS.

27. EXCAVATION DE-WATERING. EXCAVATION DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.

NOTE: DEWATERING CONTROLS ARE DISCUSSED IN THE MAINE EROSION AND SEDIMENT CONTROL BMPS, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION."

28. AUTHORIZED NON-STORMWATER DISCHARGES. IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:

- (a) DISCHARGES FROM FIREFIGHTING ACTIVITY;
- (b) FIRE HYDRANT FLUSHINGS;
- (c) VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED);
- (d) DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX C(3);
- (e) ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
- (f) PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
- (g) UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
- (h) UNCONTAMINATED GROUNDWATER OR SPRING WATER;
- (i) FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
- (j) UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5));
- (k) POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
- (l) LANDSCAPE IRRIGATION.

29. UNAUTHORIZED NON-STORMWATER DISCHARGES. THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON-STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C (6). SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:

- (a) WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
- (b) FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
- (c) SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
- (d) TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.

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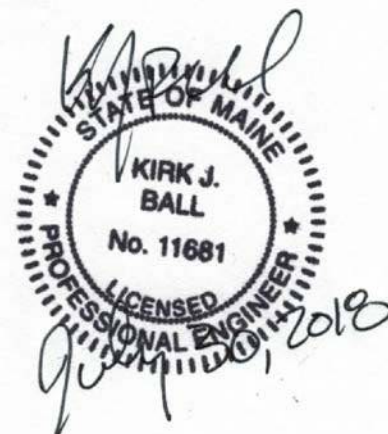
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|---|--|-----|---------|----------------------|
| | | | 10-9-18 | Date |
| | | KJB | Cktd | |
| | | BFG | Drwn | |
| | Revised per comments by Town of Windham, DEP & ACOE. | | | |
| i | No. | | | Revision Description |

| | |
|---------------|-----|
| Drwn By: BFG | KJB |
| Desg By: KJB | KJB |
| Ckld By: KJB | KJB |
| Apprd By: KJB | KJB |
| Date: 7-30-18 | |

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|--|---|
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| General Notes & Index | |
| Durant Homestead Chute Road, Windham, Maine | Matt Hancock Properties PO Box 295 Casco, Maine 04015 |

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|----------------------|
| Job Number: 79800 |
| Drawing No: i |
| Sheet 1 of 16 |



DO NOT USE FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY



MAINE
STATE OF MAINE
KIRK J.
BALL
No. 11681
LICENSED
PROFESSIONAL ENGINEER
12/1/2018

Drawing No:
C-2

Sheet 3 of 16

Drawn By: BPG
Desg By: BPG / KJB
Chkd By: KJB
Aprvd By: KJB
Date: 7-30-18

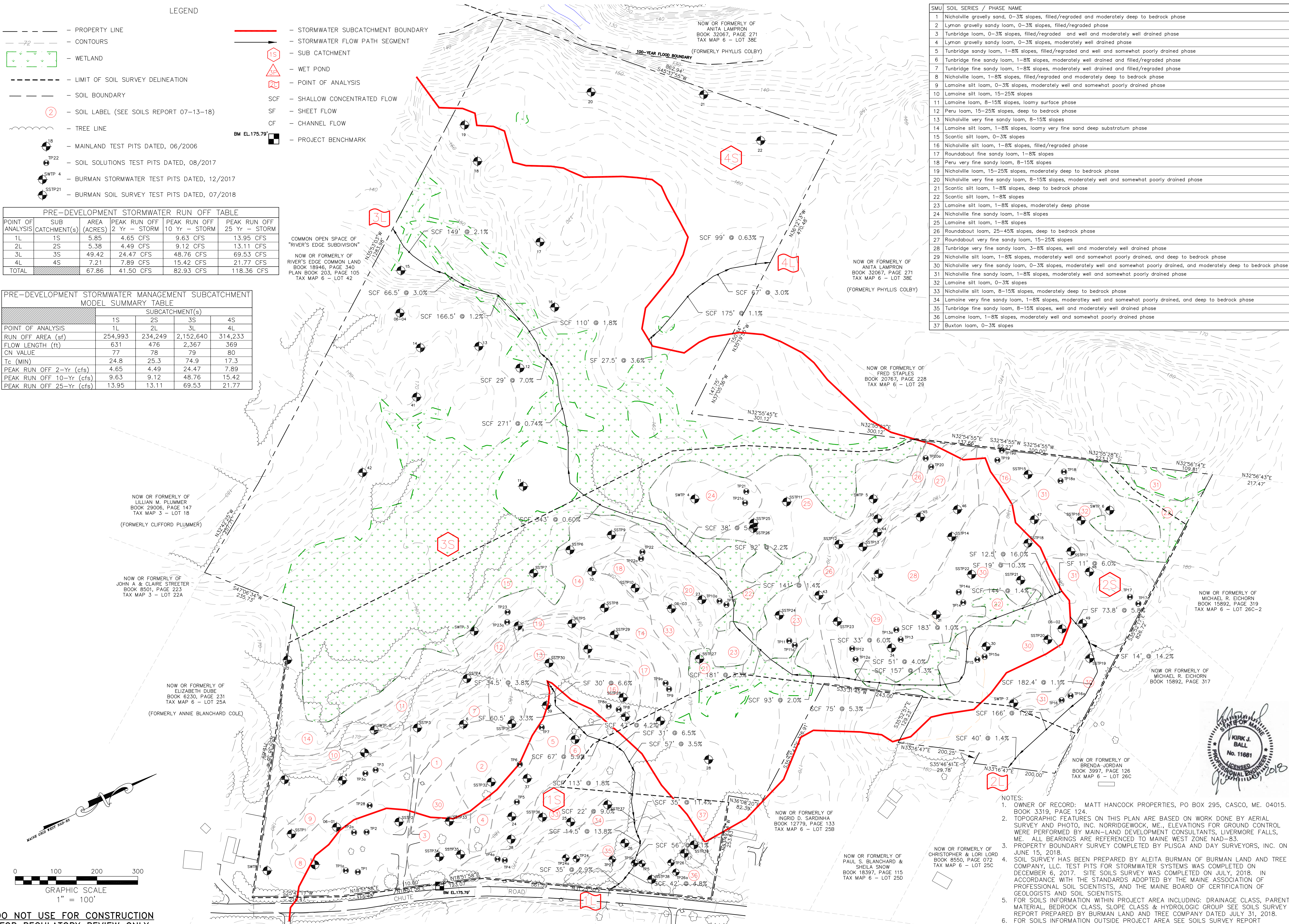
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|-----|--|-------|---------|---------|
| 1 | Revised per comments by Town of Windham, DEF & ACOE. | BFG | KJB | 10-9-18 |
| No. | Revision Description | Drawn | Checked | Date |

LEGEND

- PROPERTY LINE
---72--- CONTOURS
[Green dashed box] WETLAND
--- LIMIT OF SOIL SURVEY DELINEATION
--- SOIL BOUNDARY
② SOIL LABEL (SEE SOILS REPORT 07-13-18)
--- TREE LINE
● MAINLAND TEST PITS DATED, 06/2006
● TP22 SOIL SOLUTIONS TEST PITS DATED, 08/2017
● SWTP 4 BURMAN STORMWATER TEST PITS DATED, 12/2017
● SSTP21 BURMAN SOIL SURVEY TEST PITS DATED, 07/2018
- STORMWATER SUBCATCHMENT BOUNDARY
--- STORMWATER FLOW PATH SEGMENT
① SUB CATCHMENT
③ WET POND
--- POINT OF ANALYSIS
SCF - SHALLOW CONCENTRATED FLOW
SF - SHEET FLOW
CF - CHANNEL FLOW
BM EL.175.79' PROJECT BENCHMARK

| PRE-DEVELOPMENT STORMWATER RUN OFF TABLE | | | | | |
|--|------------------|--------------|---------------------------|----------------------------|----------------------------|
| POINT OF ANALYSIS | SUB CATCHMENT(s) | AREA (ACRES) | PEAK RUN OFF 2 Yr - STORM | PEAK RUN OFF 10 Yr - STORM | PEAK RUN OFF 25 Yr - STORM |
| 1L | 1S | 5.85 | 4.65 CFS | 9.63 CFS | 13.95 CFS |
| 2L | 2S | 5.38 | 4.49 CFS | 9.12 CFS | 13.11 CFS |
| 3L | 3S | 49.42 | 24.47 CFS | 48.76 CFS | 69.53 CFS |
| 4L | 4S | 7.21 | 7.89 CFS | 15.42 CFS | 21.77 CFS |
| TOTAL | | 67.86 | 41.50 CFS | 82.93 CFS | 118.36 CFS |

| PRE-DEVELOPMENT STORMWATER MANAGEMENT SUBCATCHMENT MODEL SUMMARY TABLE | | | | | |
|--|-----------------|---------|-----------|---------|--|
| POINT OF ANALYSIS | SUBCATCHMENT(s) | | | | |
| | 1S | 2S | 3S | 4S | |
| RUN OFF AREA (sf) | 254,993 | 234,249 | 2,152,640 | 314,233 | |
| FLOW LENGTH (ft) | 631 | 476 | 2,367 | 369 | |
| CN VALUE | 77 | 78 | 79 | 80 | |
| Tc (MIN) | 24.8 | 25.3 | 74.9 | 17.3 | |
| PEAK RUN OFF 2-Yr (cfs) | 4.65 | 4.49 | 24.47 | 7.89 | |
| PEAK RUN OFF 10-Yr (cfs) | 9.63 | 9.12 | 48.76 | 15.42 | |
| PEAK RUN OFF 25-Yr (cfs) | 13.95 | 13.11 | 69.53 | 21.77 | |



| SMU | SOIL SERIES / PHASE NAME |
|-----|--|
| 1 | Nicholville gravelly sand, 0-3% slopes, filled/regraded and moderately deep to bedrock phase |
| 2 | Lyman gravelly sandy loam, 0-3% slopes, filled/regraded phase |
| 3 | Tunbridge loam, 0-3% slopes, filled/regraded and well and moderately well drained phase |
| 4 | Lyman gravelly sandy loam, 0-3% slopes, moderately well drained phase |
| 5 | Tunbridge sandy loam, 1-8% slopes, filled/regraded and well and somewhat poorly drained phase |
| 6 | Tunbridge fine sandy loam, 1-8% slopes, moderately well drained and filled/regraded phase |
| 7 | Tunbridge fine sandy loam, 1-8% slopes, moderately well drained and filled/regraded phase |
| 8 | Nicholville loam, 1-8% slopes, filled/regraded and moderately deep to bedrock phase |
| 9 | Lamoine silt loam, 0-3% slopes, moderately well and somewhat poorly drained phase |
| 10 | Lamoine silt loam, 15-25% slopes |
| 11 | Lamoine loam, 8-15% slopes, loamy surface phase |
| 12 | Peru loam, 15-25% slopes, deep to bedrock phase |
| 13 | Nicholville very fine sandy loam, 8-15% slopes |
| 14 | Lamoine silt loam, 1-8% slopes, loamy very fine sand deep substratum phase |
| 15 | Scantic silt loam, 0-3% slopes |
| 16 | Nicholville silt loam, 1-8% slopes, filled/regraded phase |
| 17 | Roundabout fine sandy loam, 1-8% slopes |
| 18 | Peru very fine sandy loam, 8-15% slopes |
| 19 | Nicholville loam, 15-25% slopes, moderately deep to bedrock phase |
| 20 | Nicholville very fine sandy loam, 8-15% slopes, moderately well and somewhat poorly drained phase |
| 21 | Scantic silt loam, 1-8% slopes, deep to bedrock phase |
| 22 | Scantic silt loam, 1-8% slopes |
| 23 | Lamoine silt loam, 1-8% slopes, moderately deep phase |
| 24 | Nicholville fine sandy loam, 1-8% slopes |
| 25 | Lamoine silt loam, 1-8% slopes |
| 26 | Roundabout loam, 25-45% slopes, deep to bedrock phase |
| 27 | Roundabout very fine sandy loam, 15-25% slopes |
| 28 | Tunbridge very fine sandy loam, 3-8% slopes, well and moderately well drained phase |
| 29 | Nicholville silt loam, 1-8% slopes, moderately well and somewhat poorly drained, and deep to bedrock phase |
| 30 | Nicholville very fine sandy loam, 0-3% slopes, moderately well and somewhat poorly drained, and moderately deep to bedrock phase |
| 31 | Nicholville fine sandy loam, 1-8% slopes, moderately well and somewhat poorly drained phase |
| 32 | Lamoine silt loam, 0-3% slopes |
| 33 | Nicholville silt loam, 8-15% slopes, moderately deep to bedrock phase |
| 34 | Lamoine very fine sandy loam, 1-8% slopes, moderately well and somewhat poorly drained, and deep to bedrock phase |
| 35 | Tunbridge fine sandy loam, 8-15% slopes, well and moderately well drained phase |
| 36 | Lamoine loam, 1-8% slopes, moderately well and somewhat poorly drained phase |
| 37 | Buxton loam, 0-3% slopes |

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Pre-Development Stormwater Management Plan

Durant Homestead

Chute Road, Windham, Maine

Matt Hancock Properties

PO Box 295

Casco, Maine 04015

Job Number: 79800

Drawing No: C-3

Sheet 4 of 16

Drwn By: BEG

Desg By: BPG / KJB

Chkd By: KJB

Aprd By: KJB

Date: 7-30-18

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Brooksville, FL 34602

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Acheron International, Inc.

Revised per comments by Town of Windham, DEP # ACOE.

No. Revision Description

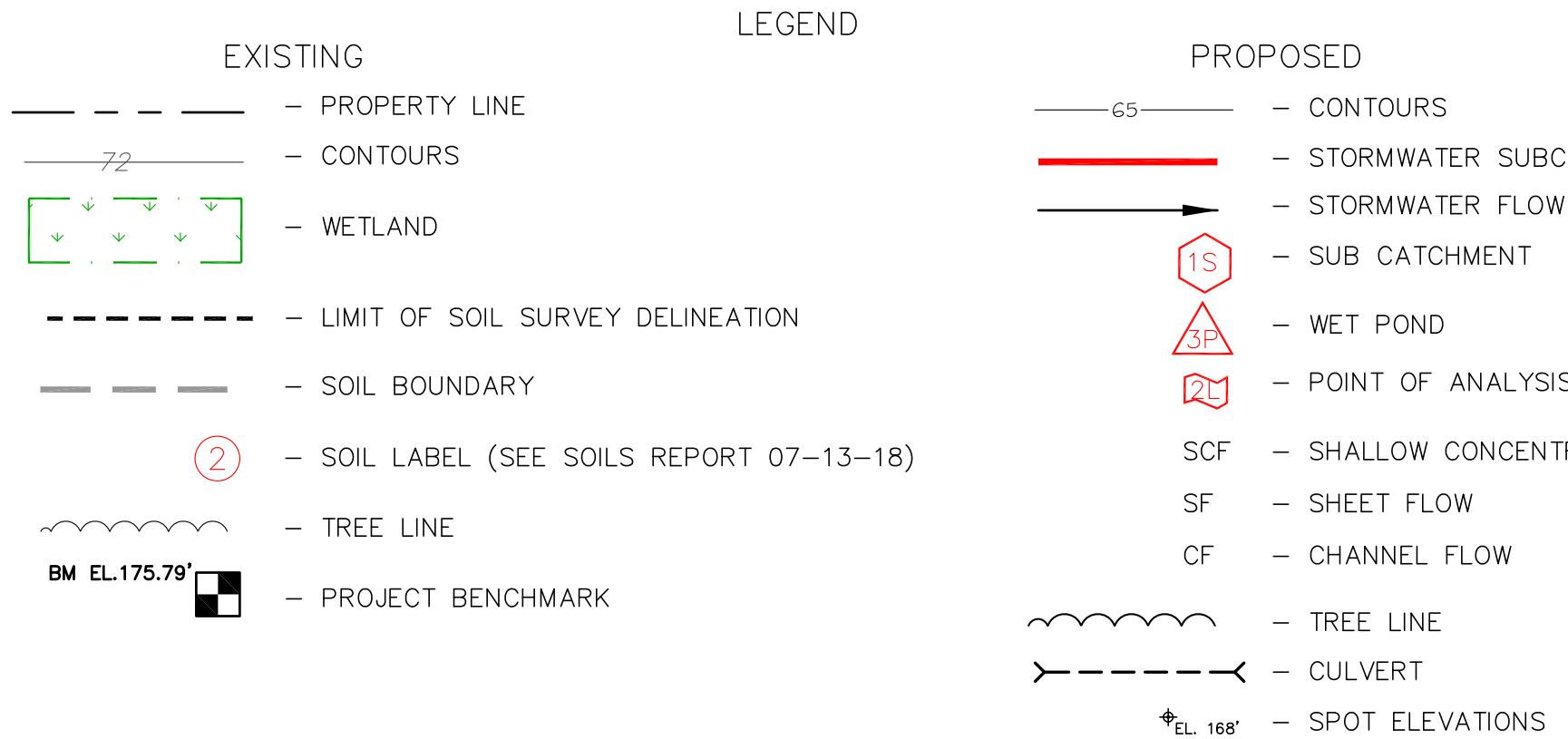
KIRK J. BALL

No. 11681

MAINE

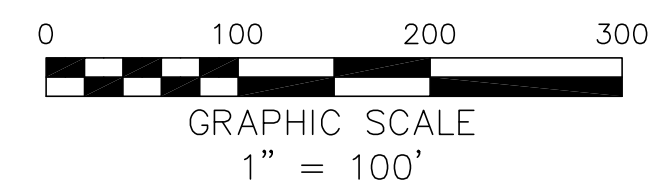
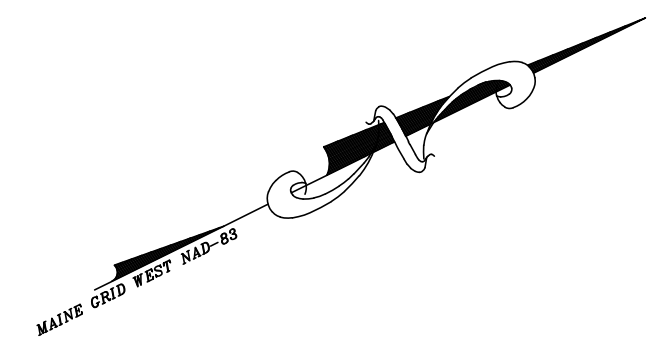
REGISTERED PROFESSIONAL ENGINEER

2018

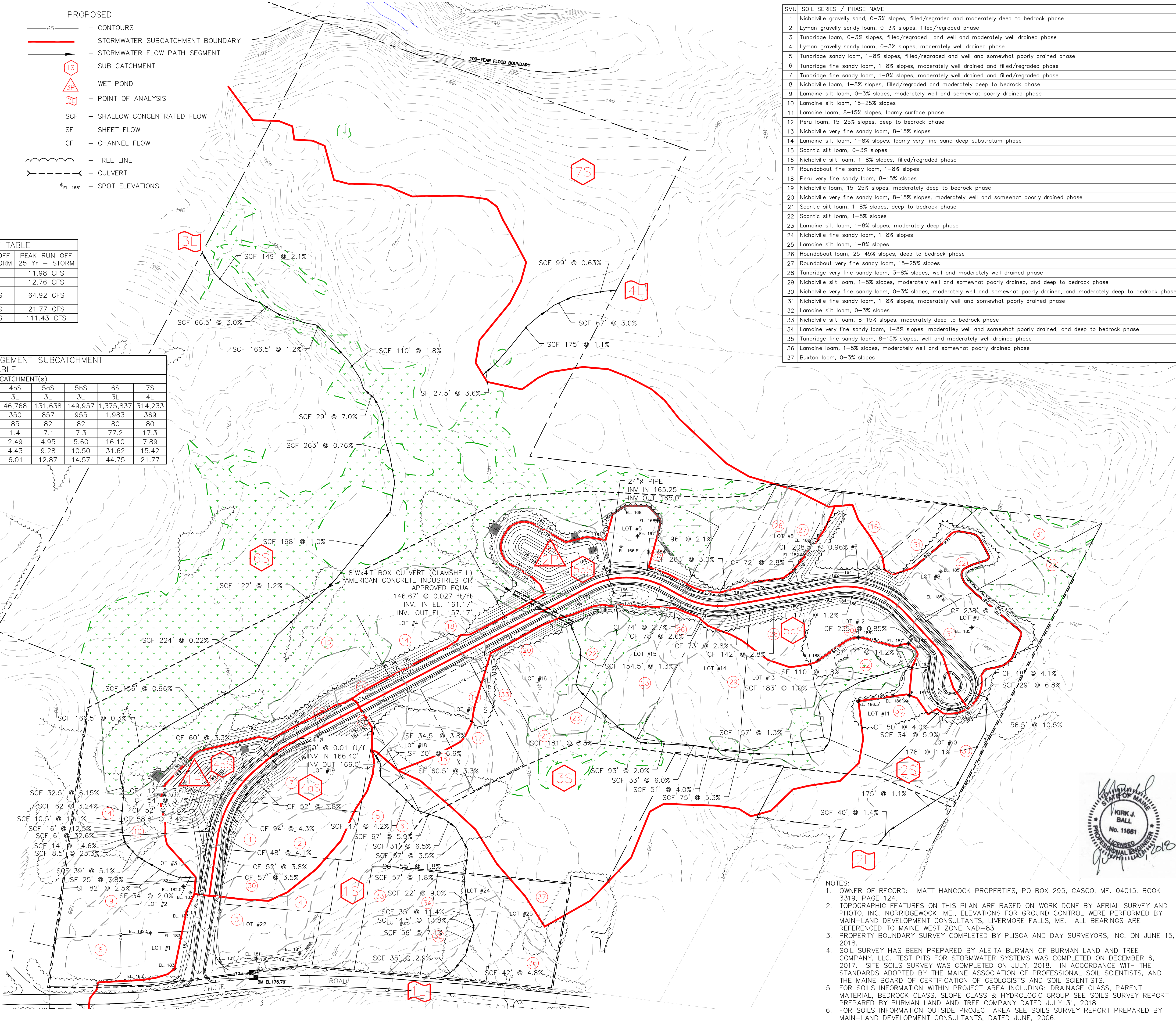


| POST-DEVELOPMENT STORMWATER RUN OFF TABLE | | | | | |
|---|-----------------------------|--------------|---------------------------|----------------------------|----------------------------|
| POINT OF ANALYSIS | SUB CATCHMENT(s) | AREA (ACRES) | PEAK RUN OFF 2 Yr - STORM | PEAK RUN OFF 10 Yr - STORM | PEAK RUN OFF 25 Yr - STORM |
| 1L | 1S | 5.30 | 4.22 CFS | 8.42 CFS | 11.98 CFS |
| 2L | 2S | 4.39 | 4.49 CFS | 8.96 CFS | 12.76 CFS |
| 3L | 3S, 4aS, 4bS, 5aS, 5bS & 6S | 50.95 | 24.34 CFS | 46.52 CFS | 64.92 CFS |
| 4L | 7S | 7.21 | 7.89 CFS | 15.42 CFS | 21.77 CFS |
| TOTAL | | 67.85 | 40.94 CFS | 79.32 CFS | 111.43 CFS |

| POST-DEVELOPMENT STORMWATER MANAGEMENT SUBCATCHMENT MODEL SUMMARY TABLE | | | | | | | | | | |
|---|-----------------|---------|---------|--------|--------|---------|---------|-----------|---------|--|
| | SUBCATCHMENT(s) | | | | | | | | | |
| | 1S | 2S | 3S | 4aS | 4bS | 5aS | 5bS | 6S | 7S | |
| POINT OF ANALYSIS | 1L | 2L | 3L | 3L | 3L | 3L | 3L | 3L | 4L | |
| RUN OFF AREA (sf) | 230,929 | 191,225 | 420,547 | 94,743 | 46,768 | 131,638 | 149,957 | 1,375,837 | 314,233 | |
| FLOW LENGTH (ft) | 630 | 449 | 1,038 | 303 | 350 | 857 | 955 | 1,983 | 369 | |
| CN VALUE | 79 | 79 | 80 | 81 | 85 | 82 | 82 | 80 | 80 | |
| Tc (MIN) | 31.9 | 17.8 | 48.1 | 1.1 | 1.4 | 7.1 | 7.3 | 77.2 | 17.3 | |
| PEAK RUN OFF 2-Yr (cfs) | 4.22 | 4.49 | 6.60 | 4.19 | 2.49 | 4.95 | 5.60 | 16.10 | 7.89 | |
| PEAK RUN OFF 10-Yr (cfs) | 8.42 | 8.96 | 12.91 | 8.00 | 4.43 | 9.28 | 10.50 | 31.62 | 15.42 | |
| PEAK RUN OFF 25-Yr (cfs) | 11.98 | 12.76 | 18.23 | 11.18 | 6.01 | 12.87 | 14.57 | 44.75 | 21.77 | |



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| SMU | SOIL SERIES / PHASE NAME |
|-----|--|
| 1 | Nicholville gravelly sand, 0-3% slopes, filled/regraded and moderately deep to bedrock phase |
| 2 | Lyman gravelly sandy loam, 0-3% slopes, filled/regraded phase |
| 3 | Tunbridge loam, 0-3% slopes, filled/regraded and well and moderately well drained phase |
| 4 | Lyman gravelly sandy loam, 0-3% slopes, moderately well drained phase |
| 5 | Tunbridge sandy loam, 1-8% slopes, filled/regraded and well and somewhat poorly drained phase |
| 6 | Tunbridge fine sandy loam, 1-8% slopes, moderately well drained and filled/regraded phase |
| 7 | Tunbridge fine sandy loam, 1-8% slopes, moderately well drained and filled/regraded phase |
| 8 | Nicholville loam, 1-8% slopes, filled/regraded and moderately deep to bedrock phase |
| 9 | Lamoine silt loam, 0-3% slopes, moderately well and somewhat poorly drained phase |
| 10 | Lamoine silt loam, 15-25% slopes |
| 11 | Lamoine loam, 8-15% slopes, loamy surface phase |
| 12 | Peru loam, 15-25% slopes, deep to bedrock phase |
| 13 | Nicholville very fine sandy loam, 8-15% slopes |
| 14 | Lamoine silt loam, 1-8% slopes, loamy very fine sand deep substratum phase |
| 15 | Scantic silt loam, 0-3% slopes |
| 16 | Nicholville silt loam, 1-8% slopes, filled/regraded phase |
| 17 | Roundabout fine sandy loam, 1-8% slopes |
| 18 | Peru very fine sandy loam, 8-15% slopes |
| 19 | Nicholville loam, 15-25% slopes, moderately deep to bedrock phase |
| 20 | Nicholville very fine sandy loam, 8-15% slopes, moderately well and somewhat poorly drained phase |
| 21 | Scantic silt loam, 1-8% slopes, deep to bedrock phase |
| 22 | Scantic silt loam, 1-8% slopes |
| 23 | Lamoine silt loam, 1-8% slopes, moderately deep phase |
| 24 | Nicholville fine sandy loam, 1-8% slopes |
| 25 | Lamoine silt loam, 1-8% slopes |
| 26 | Roundabout loam, 25-45% slopes, deep to bedrock phase |
| 27 | Roundabout very fine sandy loam, 15-25% slopes |
| 28 | Tunbridge very fine sandy loam, 3-8% slopes, well and moderately well drained phase |
| 29 | Nicholville silt loam, 1-8% slopes, moderately well and somewhat poorly drained, and deep to bedrock phase |
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Post Development Stormwater
Management Plan
Durant Homestead
Chute Road, Windham, Maine

Matt Hancock Properties
PO Box 295
Casco, Maine 04015

Job Number:
79800

Drawing No:
C-4

Sheet 5 of 16

Drwn By: BPG
Desg By: BPG / KJB
Chkd By: KJB
Aprvd By: KJB
Date: 7-30-18

Revised per comments by Town of Windham,
DEP & ACOE.

Revision Description
No.

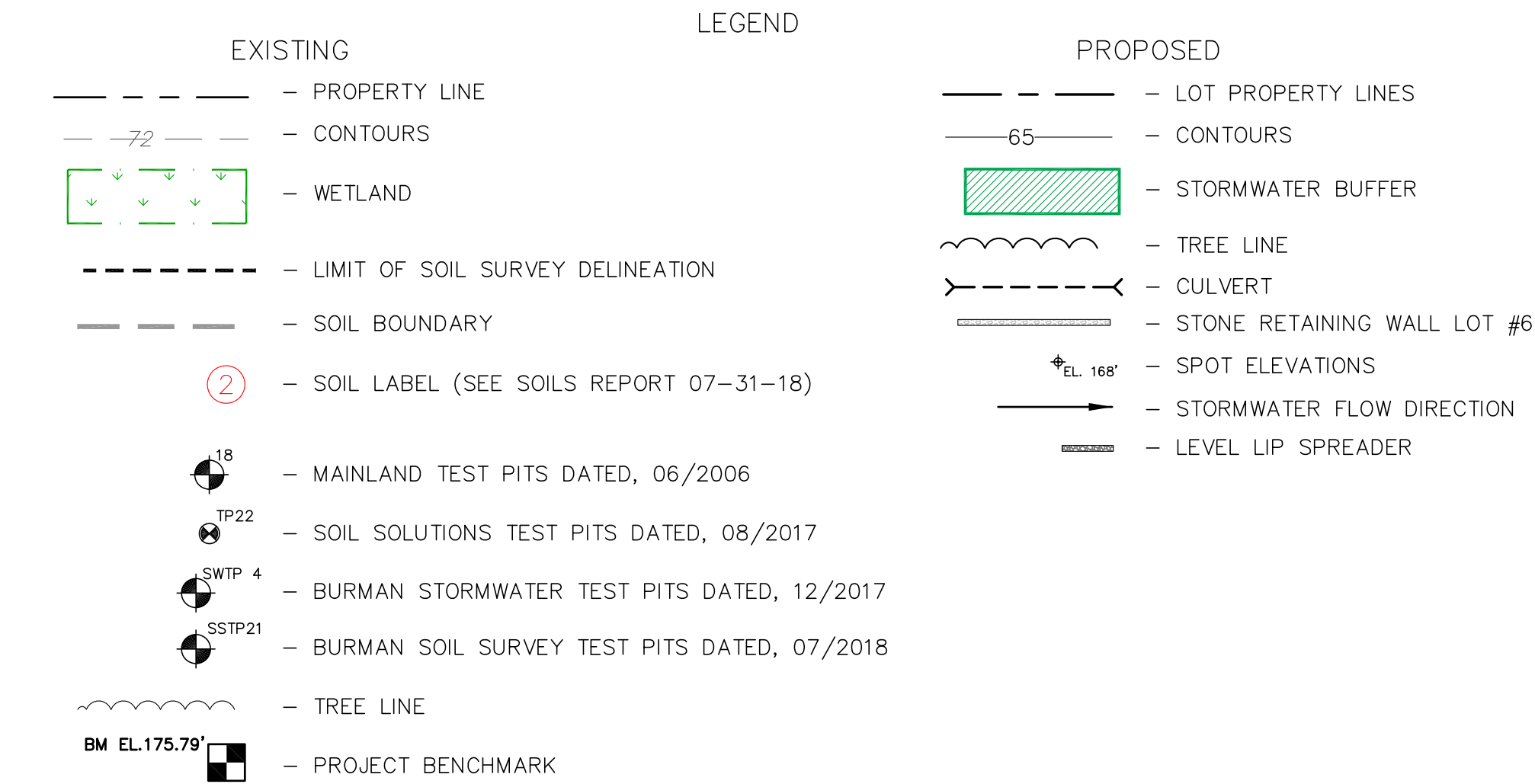
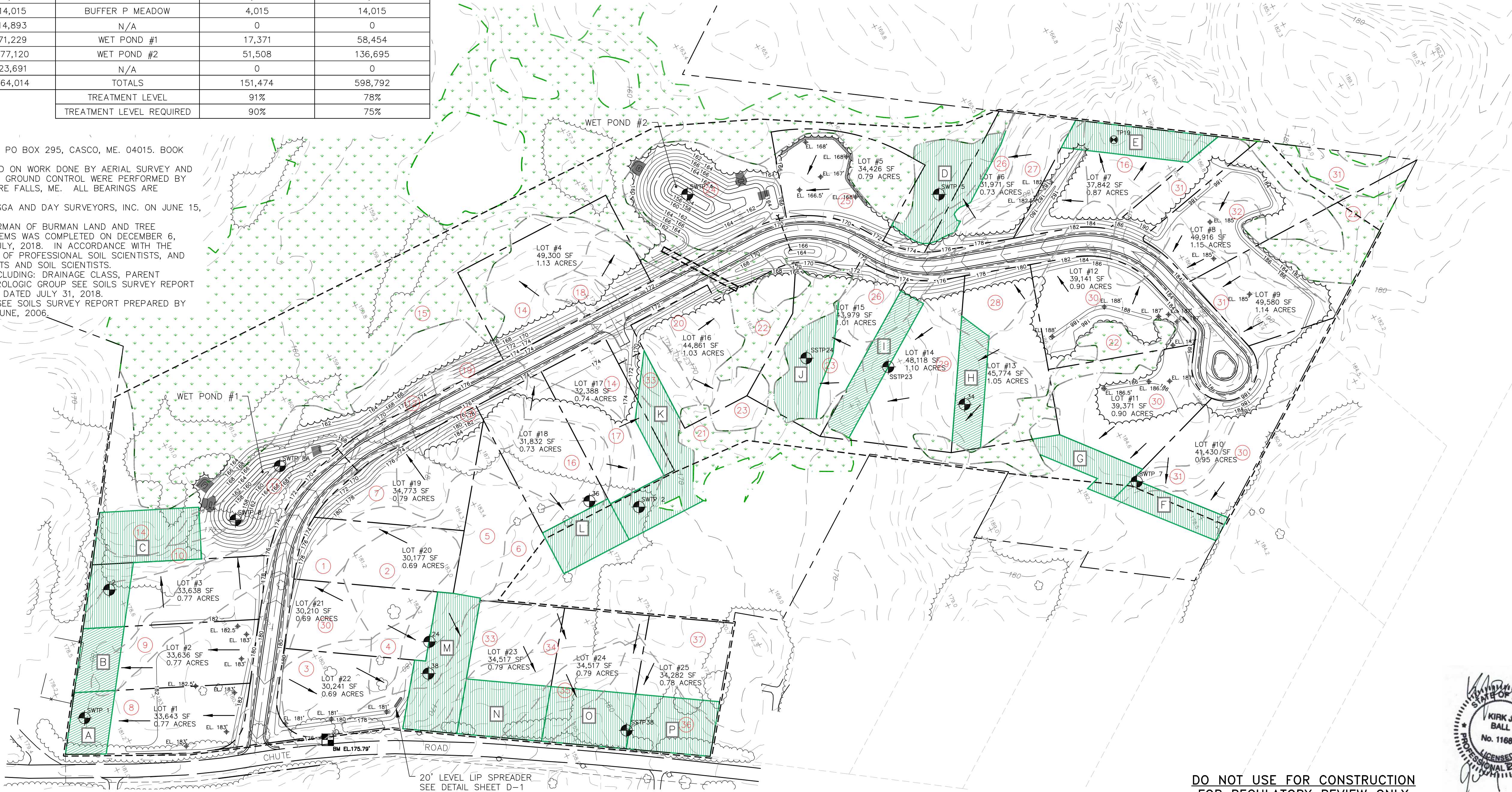
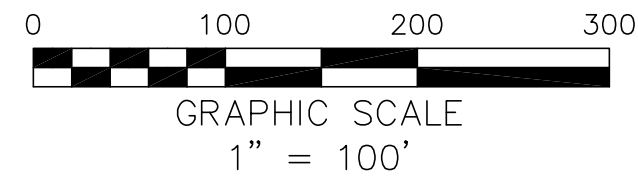
10-9-18
Date

KJB
Chkd

BPG
Drwn

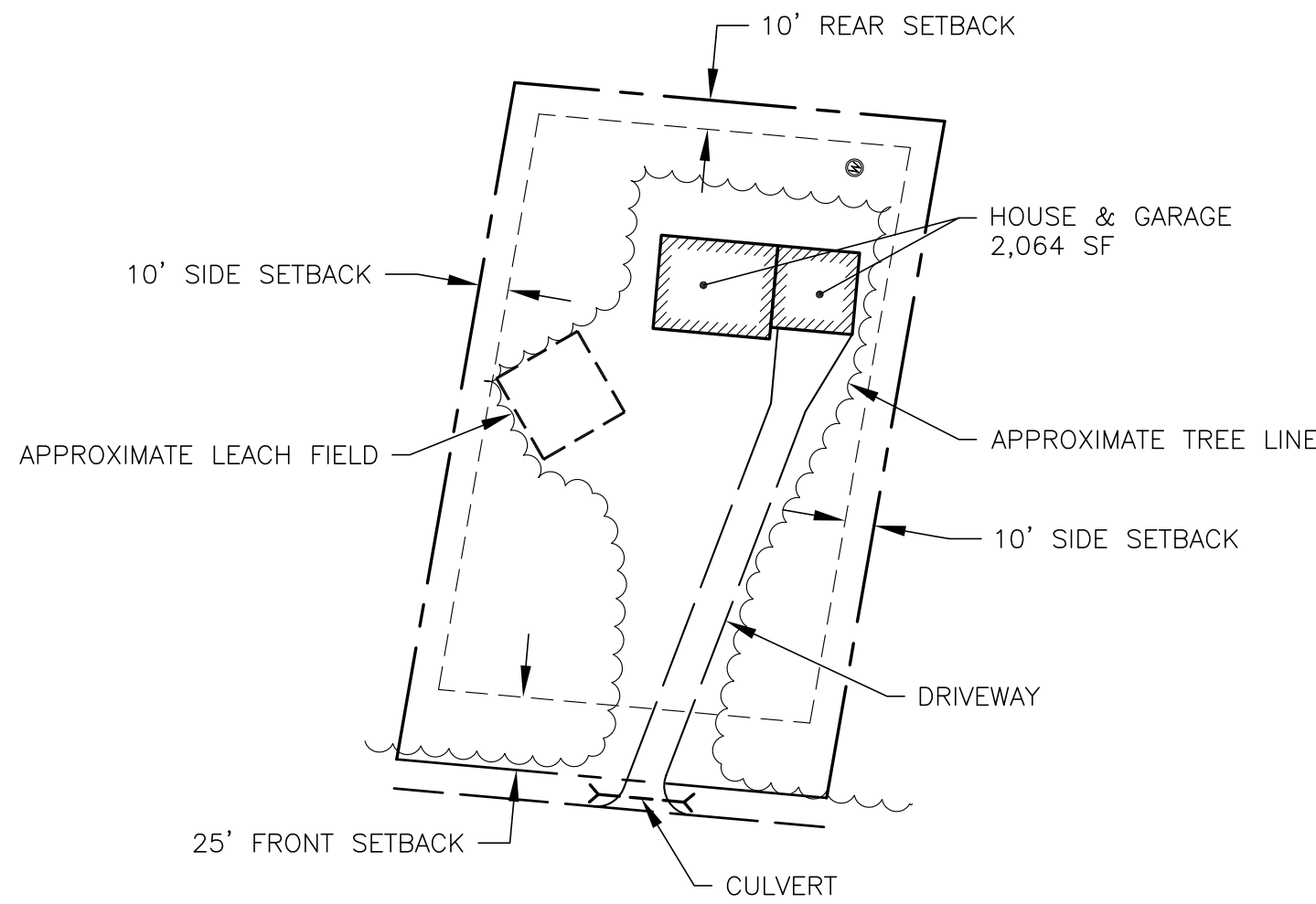
| DURANT HOMESTEAD PROJECT TREATMENT LEVEL SUMMARY | | | | | |
|---|----------------------|---------------------|-------------------------|------------------------------|-----------------------------|
| DESCRIPTION | IMPERVIOUS AREA (SF) | DEVELOPED AREA (SF) | TREATMENT BMP | IMPERVIOUS AREA TREATED (SF) | DEVELOPED AREA TREATED (SF) |
| LOT #1 | 3,040 | 25,956 | BUFFER A MEADOW | 3,040 | 21,063 |
| LOT #2 | 3,040 | 25,787 | BUFFER B MEADOW | 3,040 | 23,534 |
| LOT #3 | 3,040 | 13,040 | BUFFER C FORESTED | 1,512 | 9,512 |
| | | | WET POND #1 | 1,528 | 3,528 |
| LOT #4 | 3,040 | 13,040 | N/A | 0 | 0 |
| LOT #5 | 3,040 | 22,194 | WET POND #2 | 3,040 | 14,168 |
| LOT #6 | 3,040 | 13,040 | BUFFER D FORESTED | 3,040 | 13,040 |
| LOT #7 | 3,040 | 23,716 | BUFFER E FORESTED | 0 | 6,294 |
| | | | WET POND #2 | 3,040 | 17,422 |
| LOT #8 | 3,040 | 28,231 | WET POND #2 | 3,040 | 19,443 |
| LOT #9 | 3,040 | 22,096 | WET POND #2 | 3,040 | 17,131 |
| LOT #10 | 4,015 | 14,015 | BUFFER F FORESTED | 4,015 | 14,015 |
| LOT #11 | 4,015 | 27,457 | BUFFER G FORESTED | 4,015 | 22,227 |
| | | | WET POND #2 | 0 | 2,680 |
| LOT #12 | 4,015 | 20,794 | WET POND #2 | 4,015 | 11,372 |
| LOT #13 | 4,015 | 14,015 | BUFFER H FORESTED | 2,065 | 4,065 |
| | | | WET POND #2 | 1,950 | 9,950 |
| LOT #14 | 4,015 | 14,015 | BUFFER I FORESTED | 4,015 | 14,015 |
| LOT #15 | 4,015 | 14,015 | BUFFER J FORESTED | 2,065 | 13,822 |
| LOT #16 | 3,040 | 13,040 | N/A | 0 | 0 |
| LOT #17 | 4,015 | 30,438 | BUFFER K FORESTED | 2,007 | 18,692 |
| | | | WET POND #2 | 2,008 | 11,746 |
| LOT #18 | 4,015 | 28,775 | BUFFER L MEADOW | 1,065 | 12,875 |
| | | | WET POND #2 | 2,950 | 15,901 |
| LOT #19 | 4,015 | 14,015 | WET POND #1 | 4,015 | 14,015 |
| LOT #20 | 4,015 | 14,015 | WET POND #1 | 4,015 | 14,015 |
| LOT #21 | 4,015 | 14,015 | BUFFER M MEADOW | 0 | 2,000 |
| | | | WET POND #1 | 4,015 | 12,015 |
| LOT #22 | 4,015 | 29,327 | BERM, SPREADER & BUFFER | 4,015 | 23,058 |
| LOT #23 | 4,015 | 14,015 | BUFFER N MEADOW | 4,015 | 14,015 |
| LOT #24 | 4,015 | 14,015 | BUFFER O MEADOW | 4,015 | 14,015 |
| LOT #25 | 4,015 | 14,015 | BUFFER P MEADOW | 4,015 | 14,015 |
| ROAD STA. 0+00 TO 2+01 | 6,446 | 14,893 | N/A | 0 | 0 |
| ROAD STA. 2+01 TO 7+80 | 17,371 | 71,229 | WET POND #1 | 17,371 | 58,454 |
| ROAD STA. 7+80 TO END | 51,508 | 177,120 | WET POND #2 | 51,508 | 136,695 |
| POND BACK SLOPES | 0 | 23,691 | N/A | 0 | 0 |
| TOTALS | 165,950 | 764,014 | TOTALS | 151,474 | 598,792 |
| TREATMENT LEVEL | | | | 91% | 78% |
| TREATMENT LEVEL REQUIRED | | | | 90% | 75% |

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| DURANT HOMESTEAD WET POND SUMMARY TABLE | | |
|--|------------|------------|
| DESCRIPTION | POND #1 | POND #2 |
| IMPERVIOUS AREA | 30,944 SF | 74,591 SF |
| LANDSCAPED AREA | 112,166 SF | 172,009 SF |
| PERMANENT POOL VOLUME REQUIRED | 12,635 CF | 23,899 CF |
| DESIGNED PERMANENT POOL VOLUME | 26,295 CF | 26,535 CF |
| CHANNEL PROTECTION VOLUME | 6,318 CF | 11,950 CF |
| LENGTH TO WIDTH RATIO | 3.1 : 1 | 3.6 : 1 |
| MEAN DEPTH | 3.0 FT | 3.1 FT |

- NOTES:
- IMPERVIOUS AREA = 3,040 SF
LOTS 1- 9 & 16
 - IMPERVIOUS AREA = 4,015 SF
LOTS 10 - 15 & 17 - 25
 - LANDSCAPED AREA = 10,000 SF
LOTS 3 - 4, 6, 10, 13 - 16, 19 - 21, & 23 - 25
 - RE-GRADED FOR STORMWATER TREATMENT SEE SHEET C-6
LOTS 1, 2, 5, 7- 9, 11, 12, 17, 18 & 22
 - DRIVEWAY CULVERTS 12"Ø ADS N-12 UNLESS OTHERWISE NOTED.



TYPICAL LOT LAYOUT
SCALE: 1" = 60'

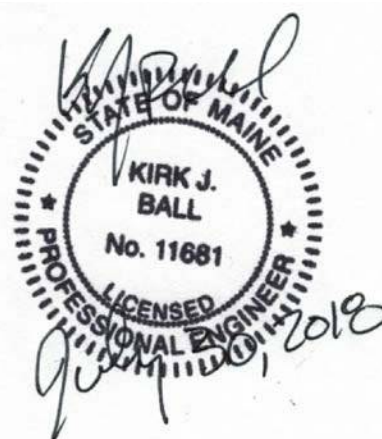
Post Development Stormwater
Treatment Site Plan
Durant Homestead
Chute Road, Windham, Maine

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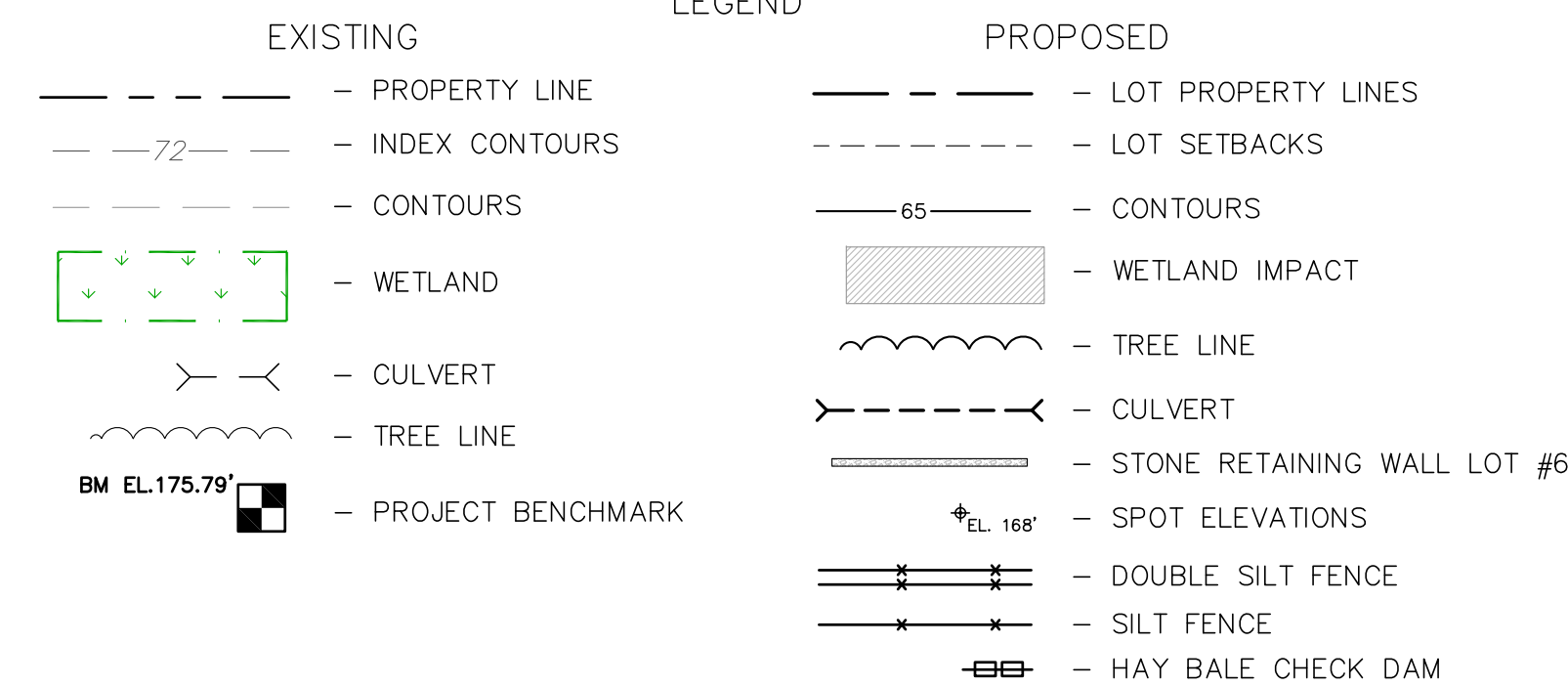
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Desg By: BFG / KJB
Chkd By: KJB
Apprd By: KJB
Date: 7-30-18

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No. Revision Description
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BFG
Chkd
Dwn

Job Number:
79800
Drawing No:
C-5
Sheet 6 of 16

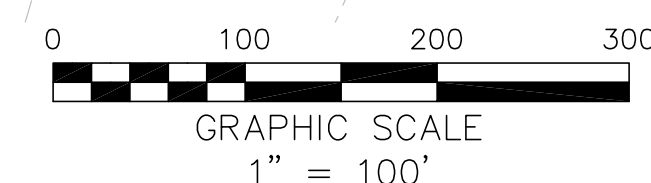


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Subdivision Grading
Site Plan
Durant Homestead
Chute Road, Windham, Maine
Matt Hancock Properties
PO Box 295
Casco, Maine 04015

Job Number:
79800

Drawing No
C-6

Sheet 7 of 16

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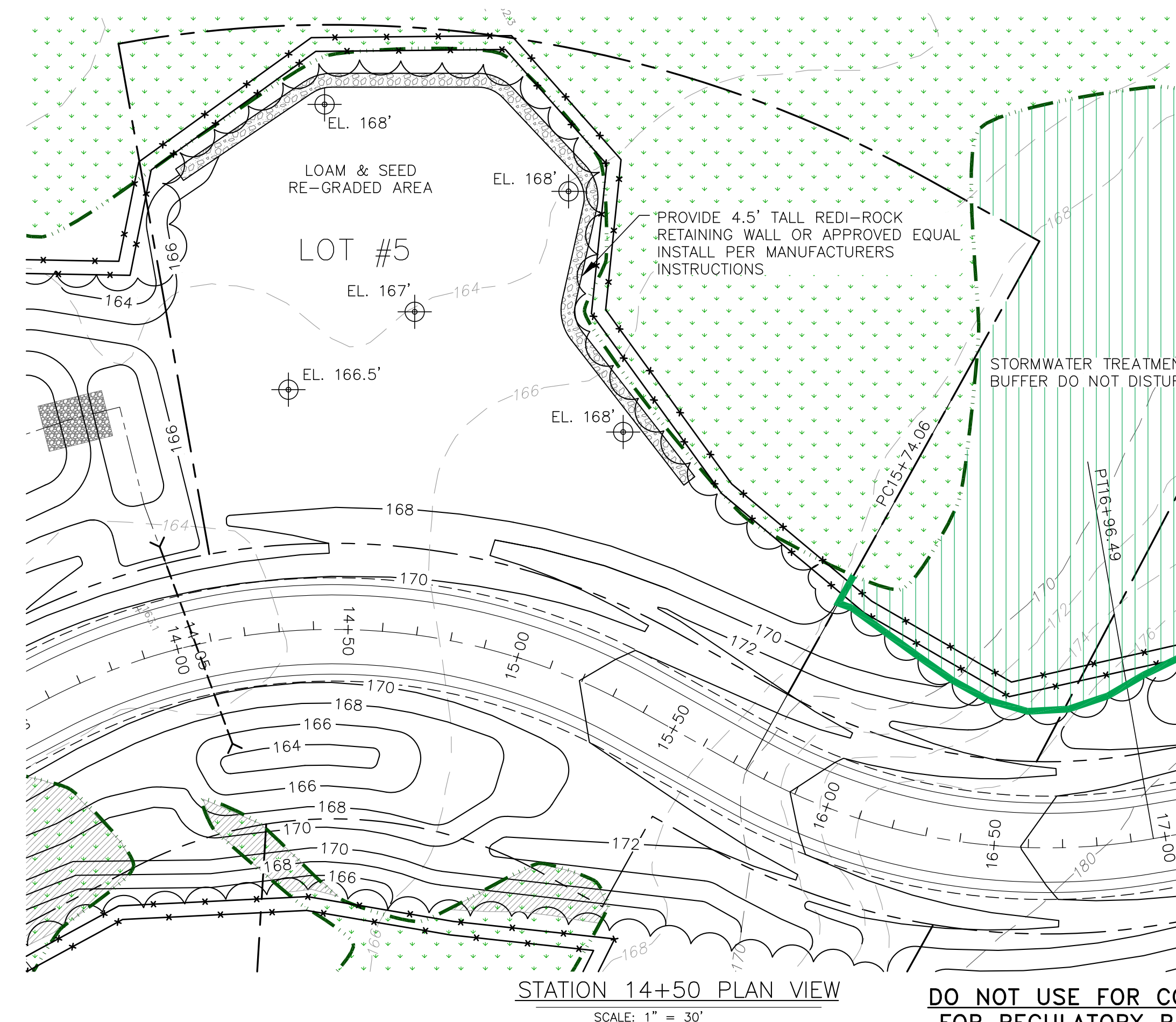
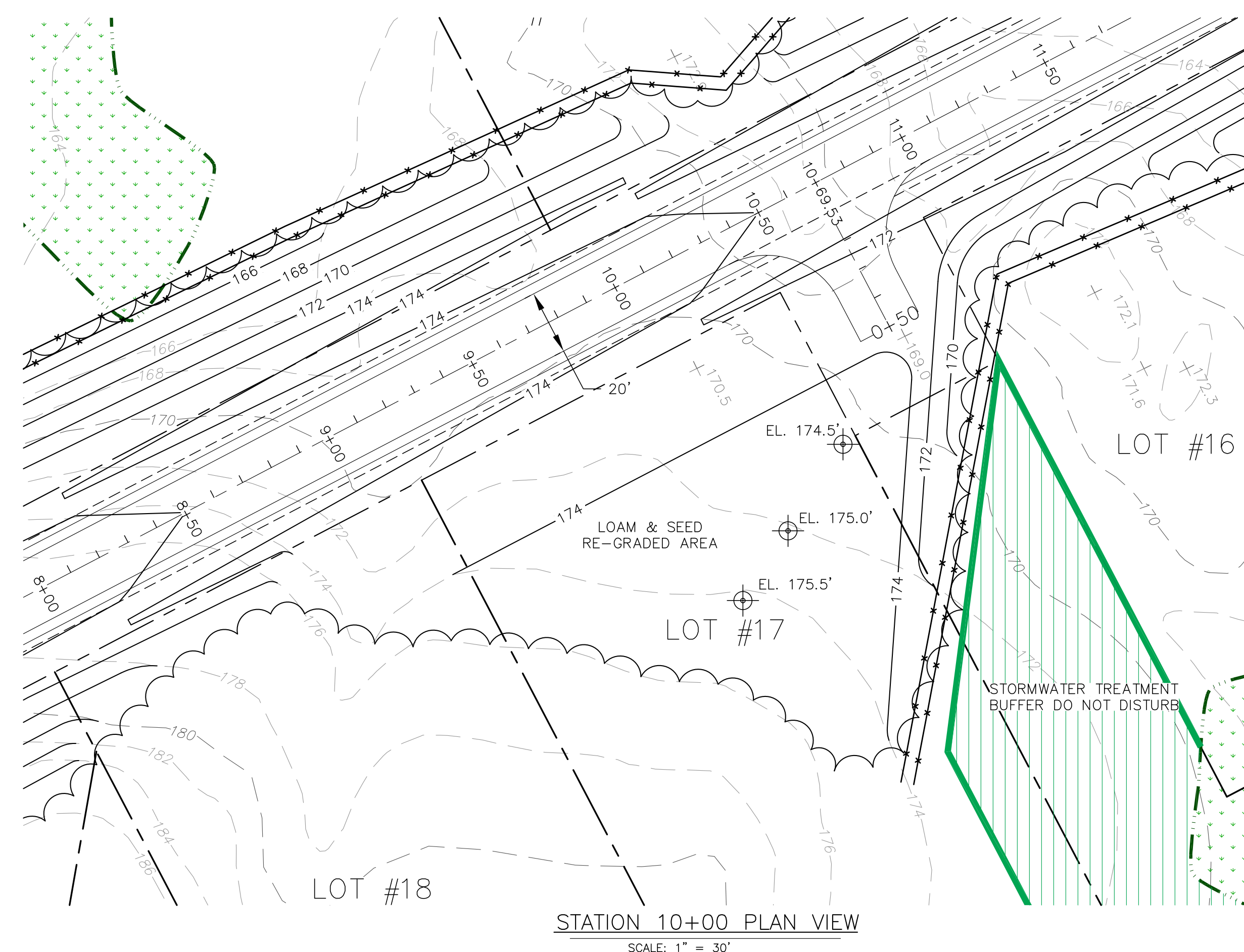
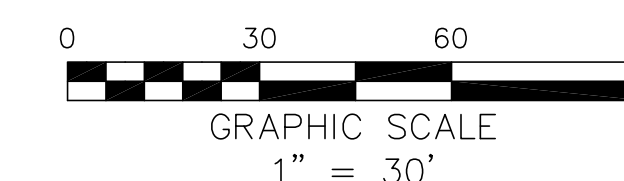
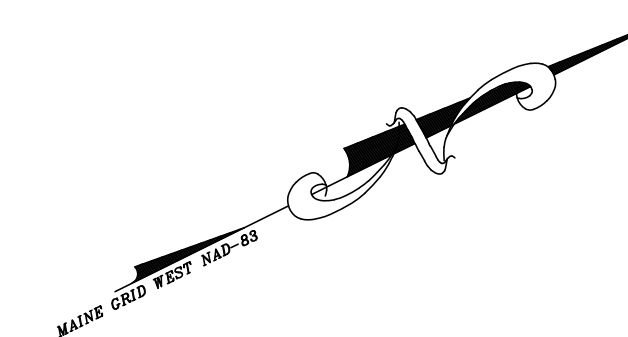
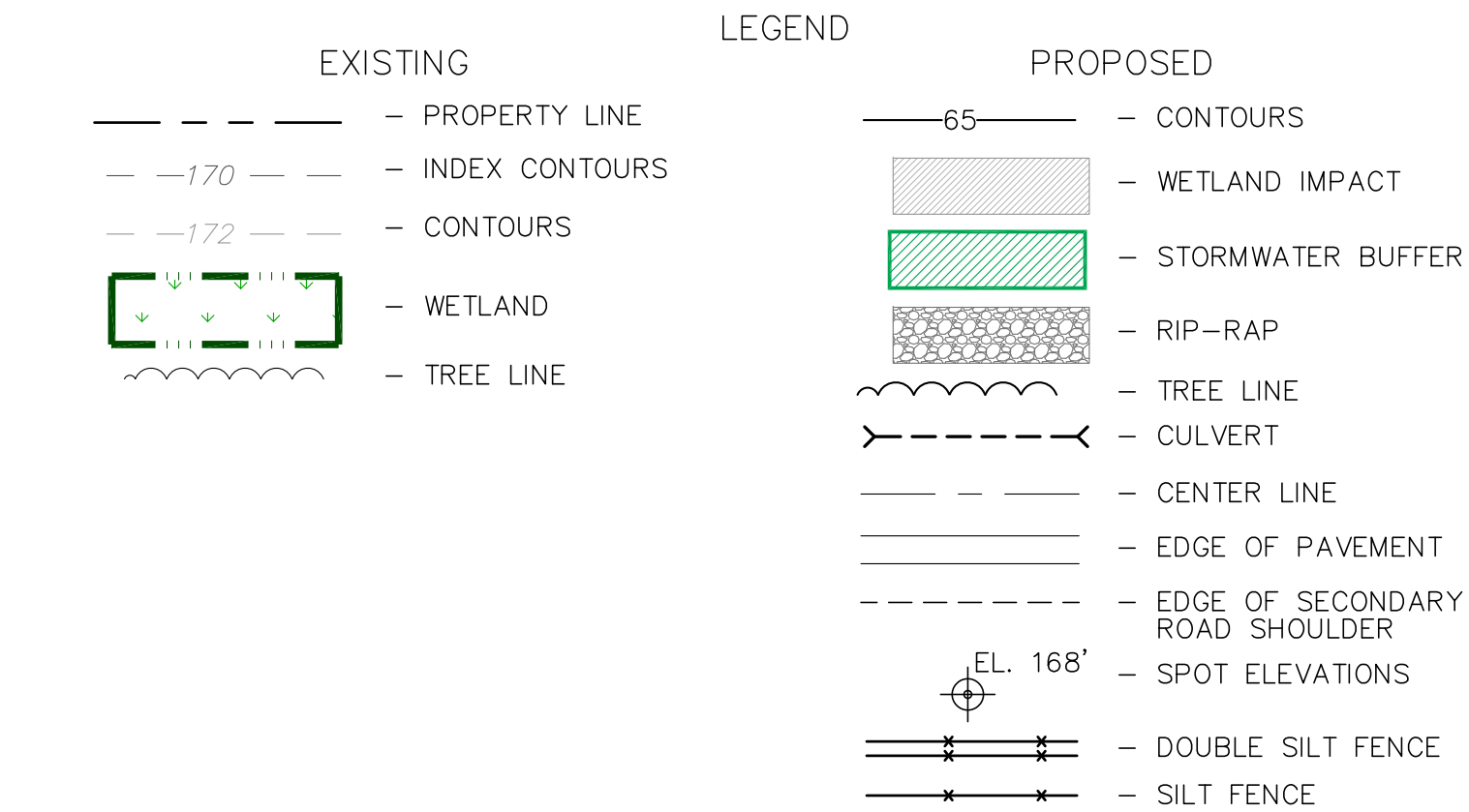
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Desg By: BFG / KJB
Chkd By: KJB
Apprd By: KJB
Date: 7-30-18

Acheron International, Inc.

| | | | | | |
|-----|---|-------|------|---------|------|
| | | | | | |
| 1 | Revised per comments by Town of Windham, DEF & ACOE. | BPG | KJB | 10-9-18 | Date |
| No. | Revision Description | Drawn | Chkd | | |



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Proposed Lot Grading
Lots 1-3, 6, 18 & 23
Durant Homestead
Chute Road, Windham, Maine
Matt Hancock Properties
PO Box 295
Casco, Maine 04015

Job Number:
79800

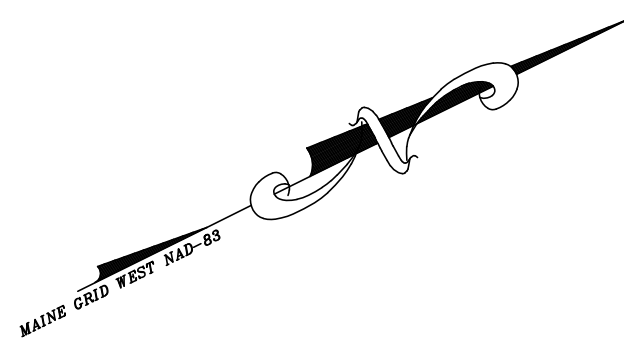
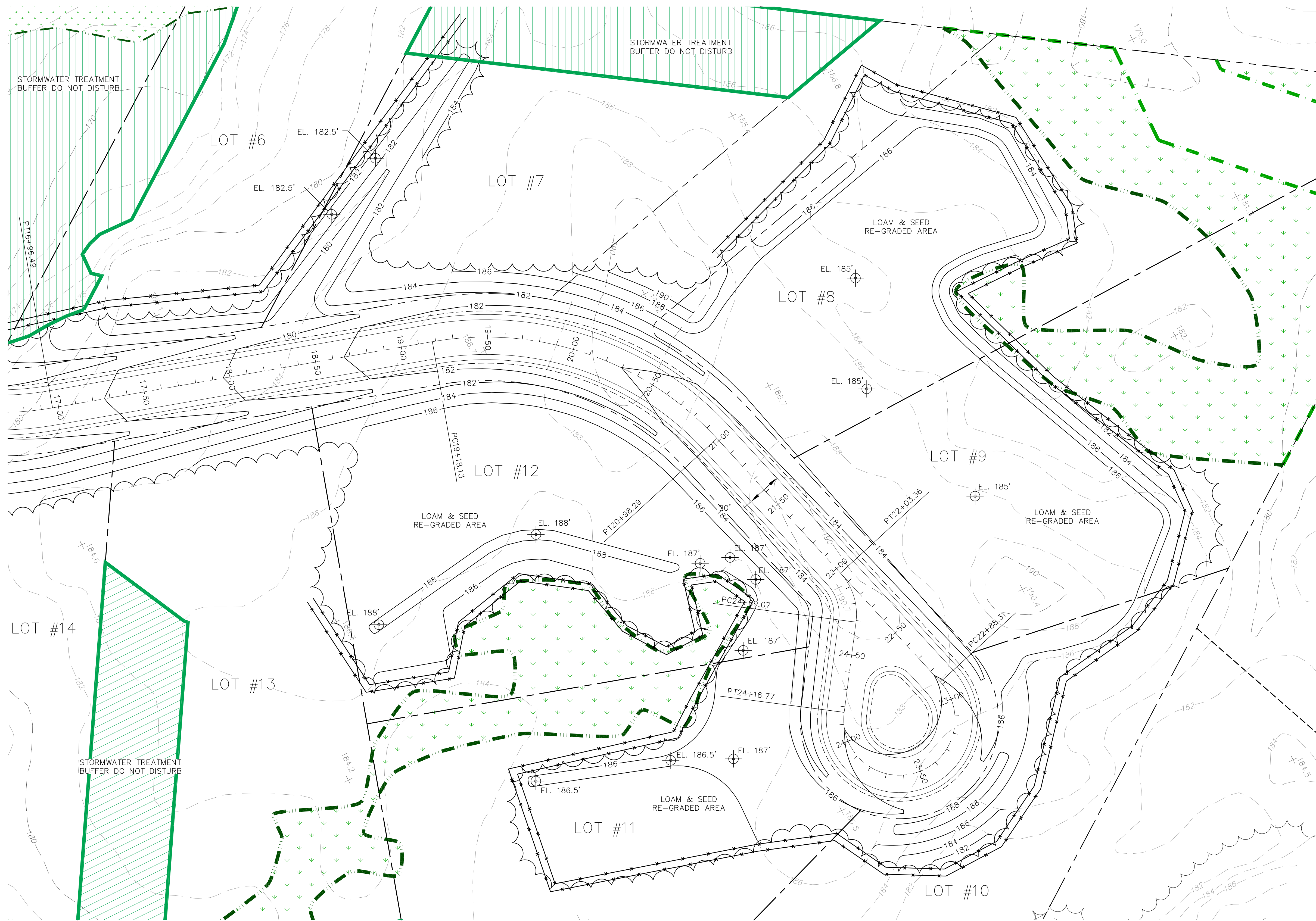
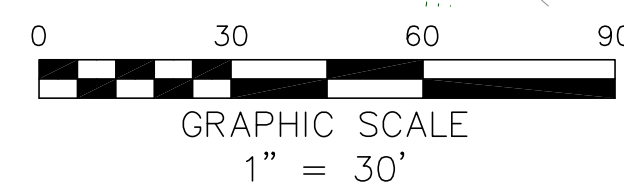
Drawing No.
C-7
Sheet 8 of 16

Drwn By: BPG
 Desg By: BPG / KJB
 Chkd By: KJB
 Aprvd By: KJB
 Date: 7-30-18

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| | | | | |
|---|--|-----|-----|---------|
| I | Revised per comments by Town of Windham, DEP & ACOE. | BPG | KJB | 10-9-18 |
|---|--|-----|-----|---------|



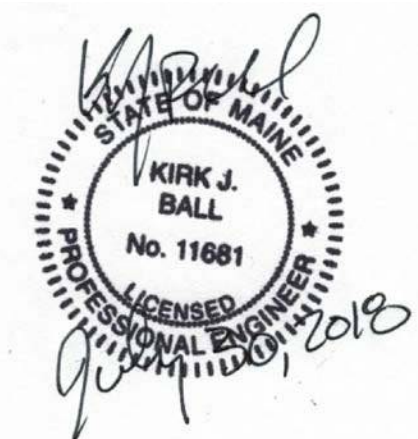
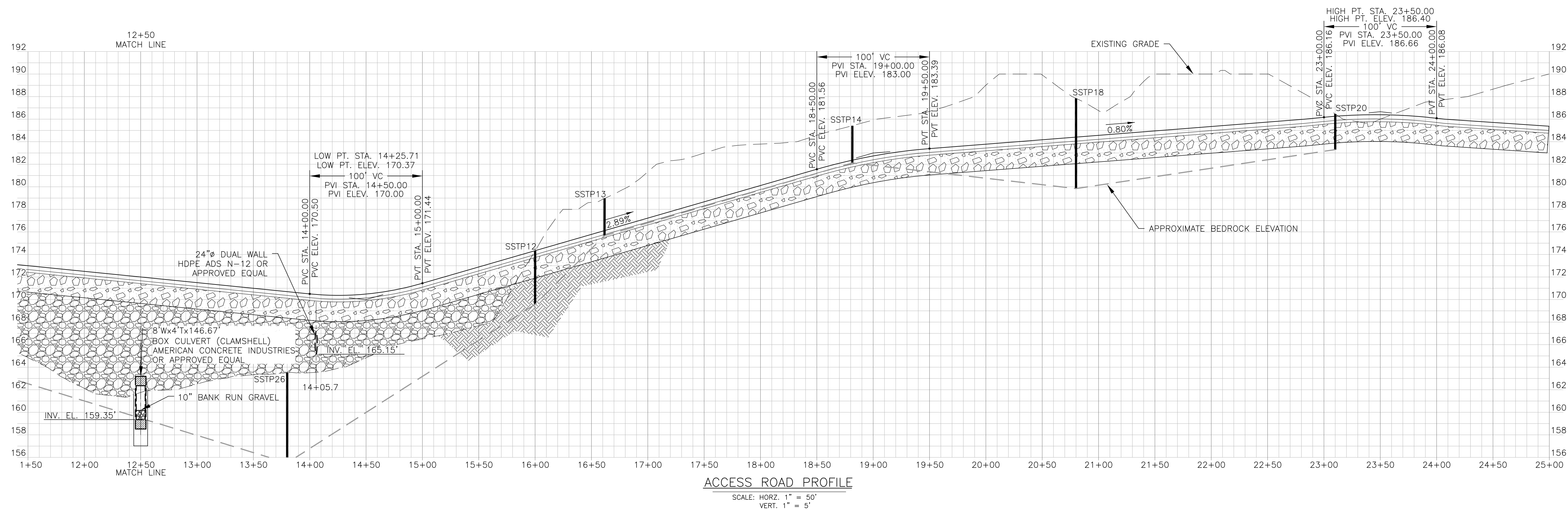
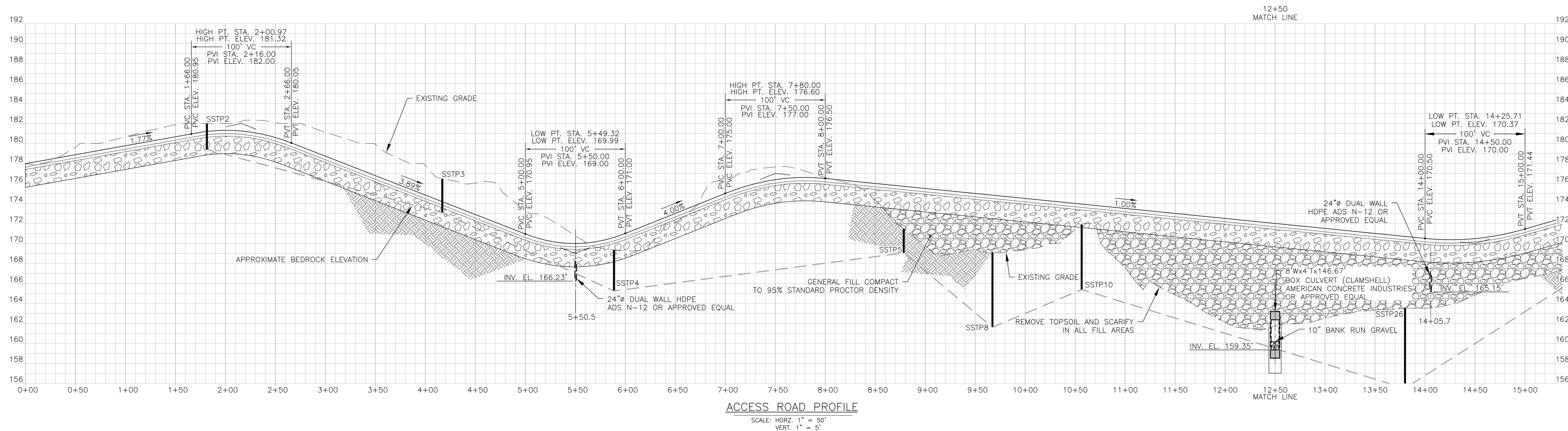
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- PROPERTY LINE
 - INDEX CONTOURS
 - CONTOURS
 - WETLAND
 - TREE LINE
- LEGEND**
- PROPOSED**
- 65 CONTOURS
 - TREE LINE
 - CULVERT
 - CENTER LINE
 - EDGE OF PAVEMENT
 - EDGE OF SECONDARY ROAD SHOULDER
 - SPOT ELEVATIONS
 - DOUBLE SILT FENCE
 - SILT FENCE
 - STORMWATER BUFFER

CUL-DE-SAC PLAN VIEW
SCALE: 1" = 30'

DO NOT USE FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY



| | | | |
|---|--|--|--|
| Proposed Lot Grading Lots 8-13 Durant Homestead Chute Road, Windham, Maine Matt Hancock Properties PO Box 295 Casco, Maine 04015 | | Job Number: 79800 | |
| Drawing No: C-8 | | Sheet 9 of 16 | |
| ACHERON ENGINEERING SERVICES Engineering, Environmental & Geologic Consultants www.AcheronEngineering.com 147 Main St. Newport, ME. 04953 (207)-368-5700 | | Down By: BFG Desg By: BFG / KJB Chkd By: KJB Aprvd By: KJB Date: 7-30-18 | |
| Revised per comments by Town of Windham, DEP & ACOE. | | No. 1 | |
| Revision Description | | BFG KJB Date 10-9-18 | |



DO NOT USE FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

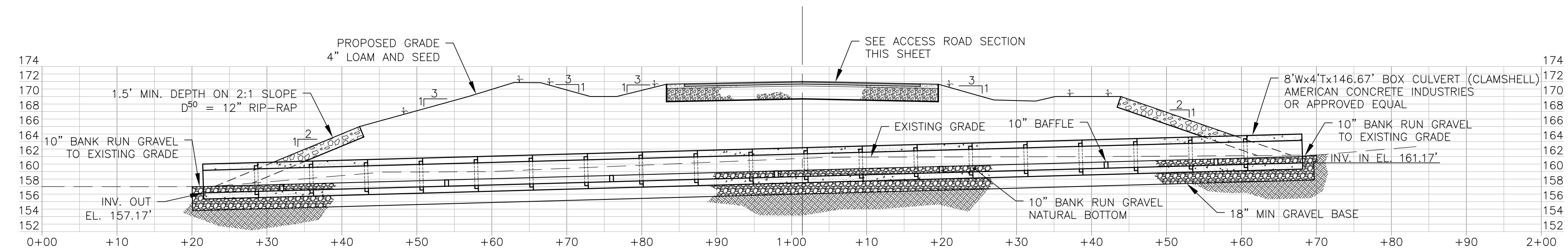
| | | |
|---|---|---------------------------------------|
| Subdivision Access Road Profile and Typical Section Durant Homestead Chute Road, Windham, Maine Matt Hancock Properties PO Box 295 Casco, Maine 04015 | | Job Number: 79800 |
| ACHERON ENGINEERING SERVICES Engineering, Environmental & Geologic Consultants www.acheronengineering.com 147 Main St. Newport, ME. 04953 (207)-368-5700 | | Drawing No: C-10 Sheet 11 of 16 |
| Drawn By: BFG Desg By: BFG / KJB Chkd By: KJB Aprvd By: KJB Date: 7-30-18 | Revised per comments by Town of Windham, DEP & ACOE. Revision Description No. | Job Number: 79800 |

CONCRETE:
COMPRESSION STRENGTH MIN. 5,000PSI @ 28 DAYS
AIR-ENTRAINMENT MIN. 5%-6%

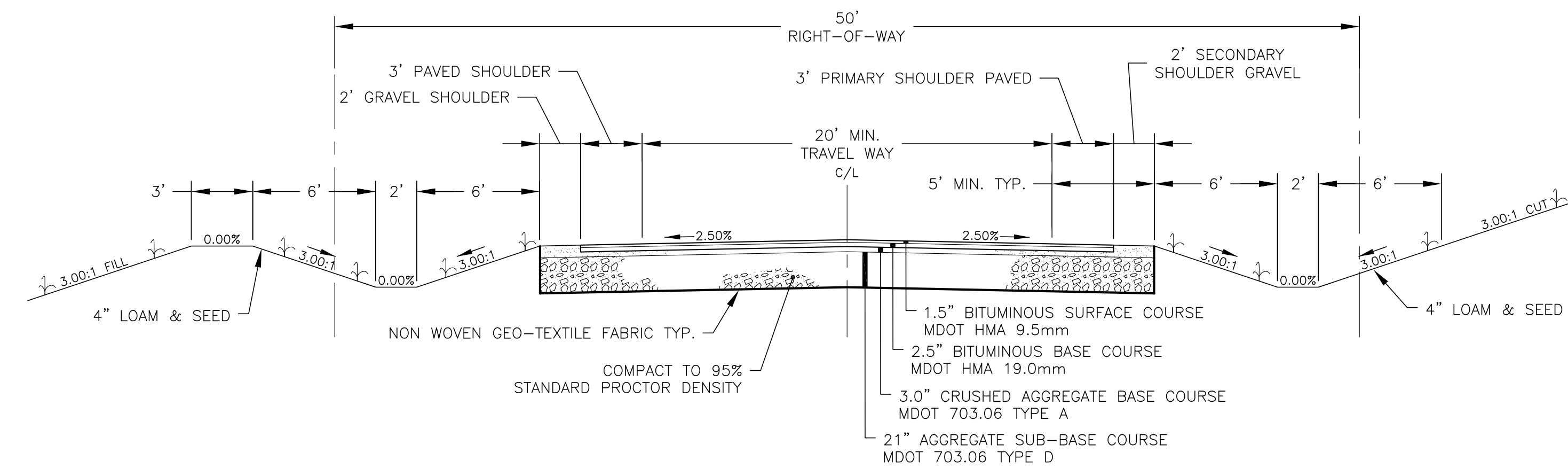
STRUCTURAL REINFORCEMENT:
REBAR PER ASTM A615, GRADE 60
WWF PER ASTM A1064, GRADE 70
INTEGRATE REBAR WITH LIFTING INSERTS

BAR CLEARANCE:
2" CLR EXTERIOR; 1.5" CLR INTERIOR

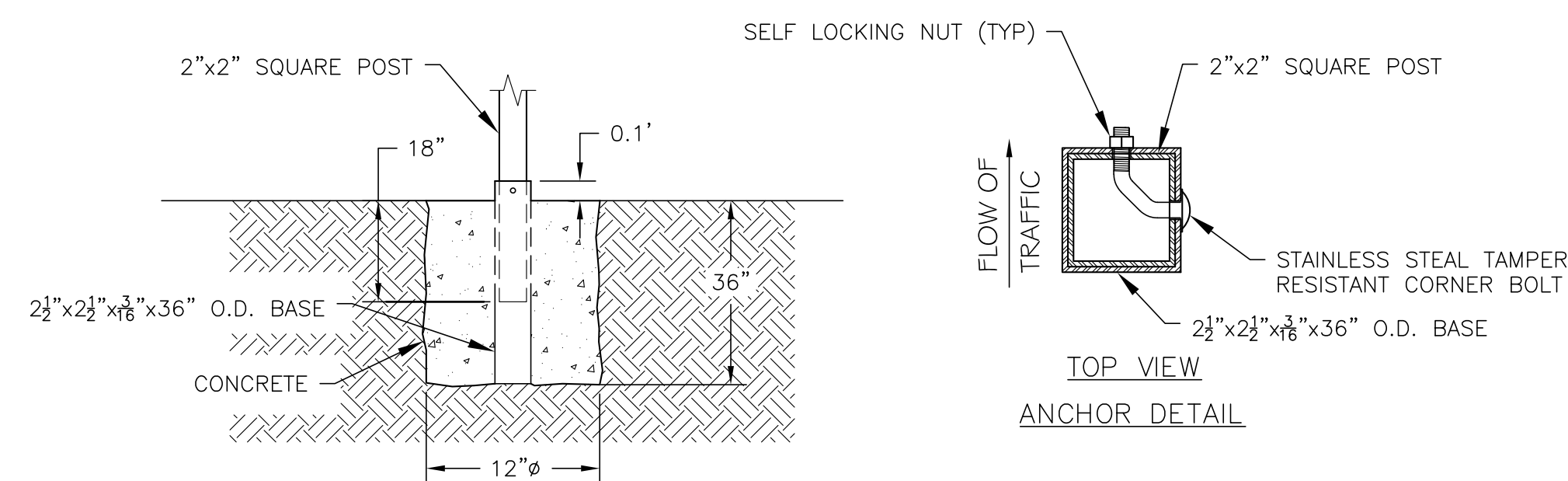
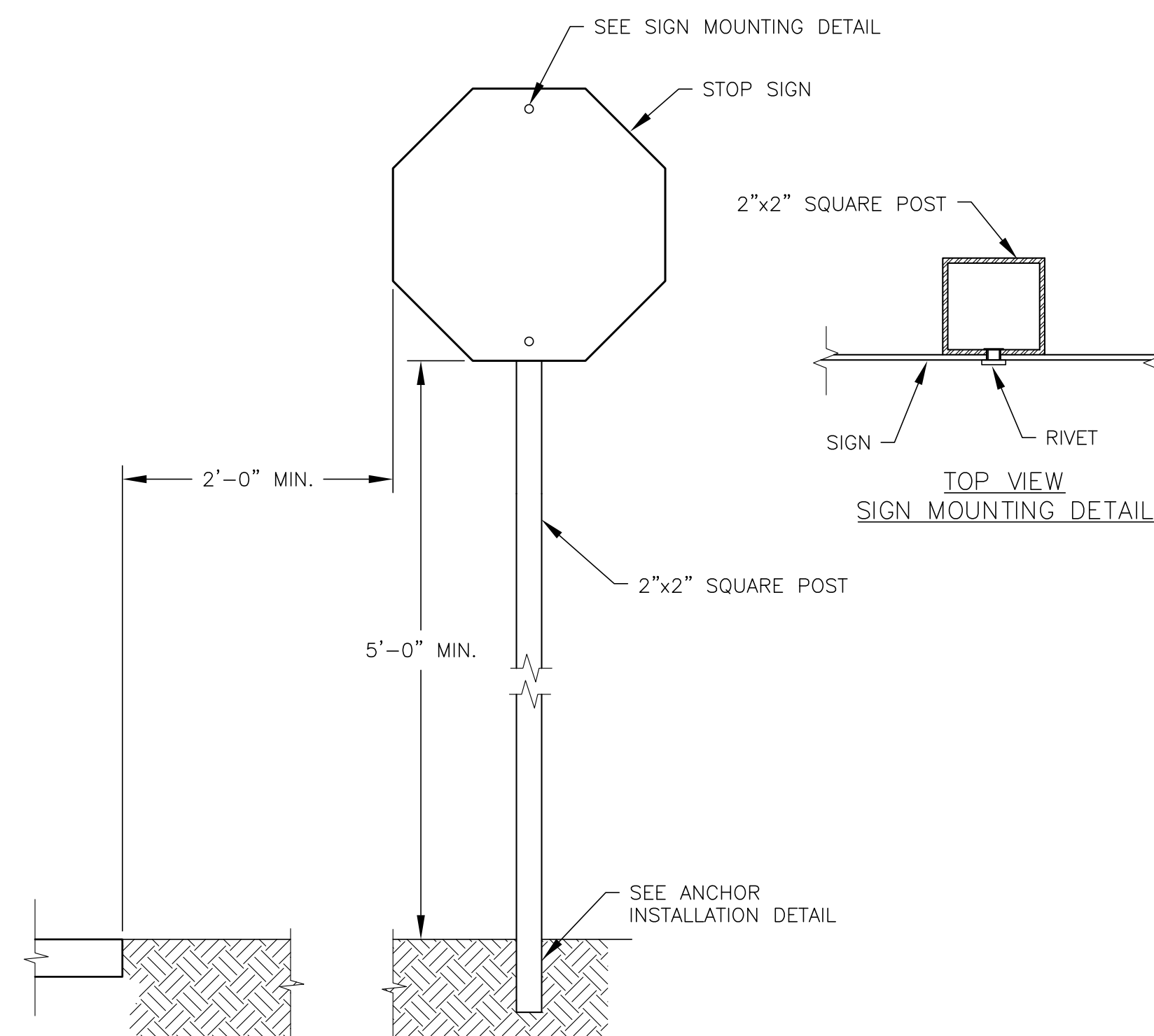
MANUFACTURING & MATERIALS:
CONFORM STRICTLY TO ASTM C1433 & AASHTO
MINIMUM SOIL COVER 2'
DESIGNED FOR H20 WHEEL LOAD RATING



SCALE: HORZ. 1" = 10'
VERT. 1" = 10'



SCALE: 1" = 5'



SIGN POST DETAIL
NOT TO SCALE



DO NOT USE FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

Subdivision Access Road
Typical Section and Culvert Crossing
Durant Homestead

Restaurant Homestead
 100 Minute Road, Windham, Maine
Matt Hancock Properties
PO Box 295
Casco, Maine 04015

Job Number:
79800

Drawing No:
C-11

Sheet 12 of 16

ACHERON ENGINEERING SERVICES
Engineering, Environmental & Geologic Consultants

www.AcheronEngineering.com

147 Main St.
 Newport, ME 04953
 (207)-368-5700

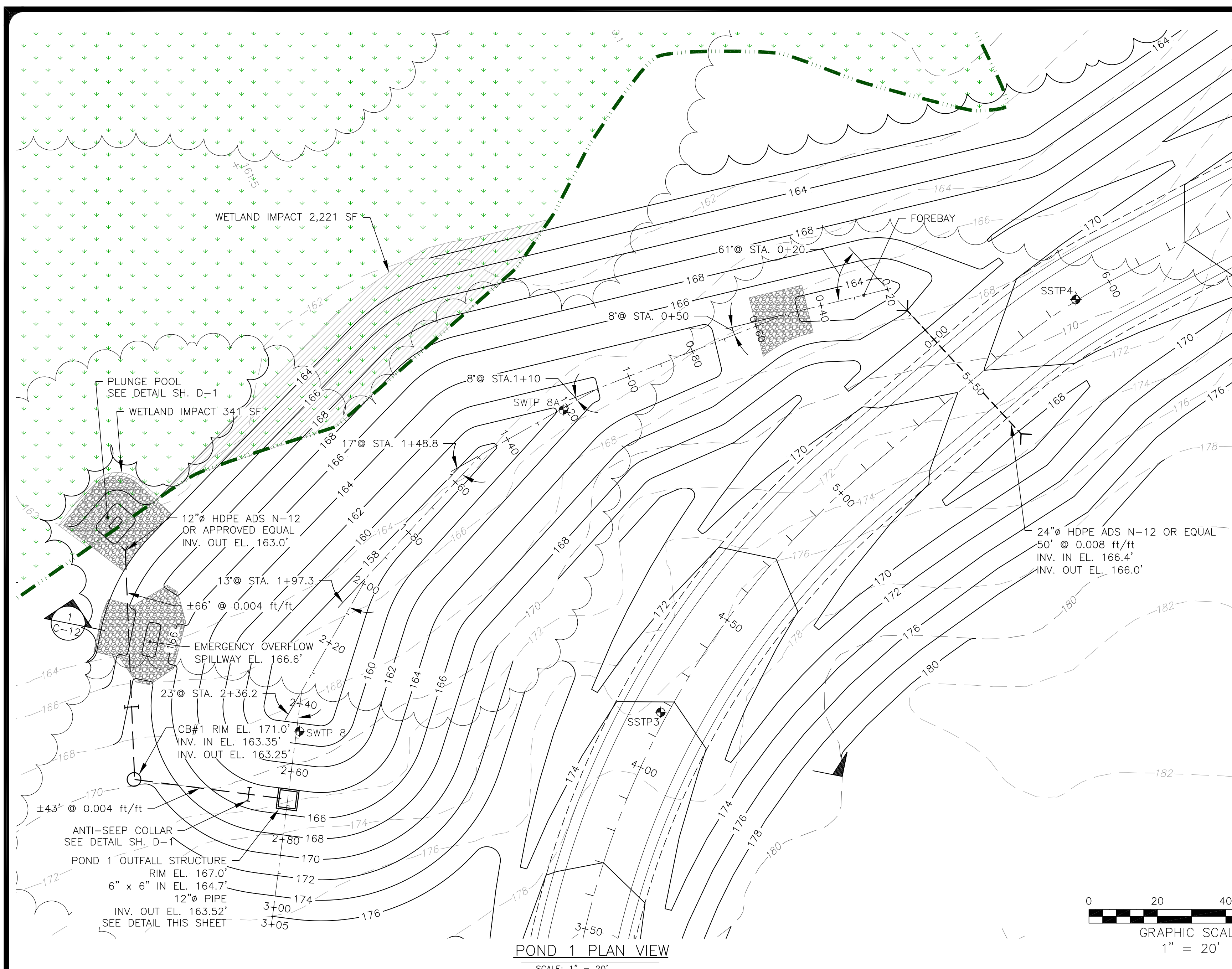
24466 Powell Rd.
 Brooksville, FL 34602
 (852)-796-6236

Drawn By: BFG
 Desg By: BFG / KJB
 Chkd By: KJB
 Apprd By: KJB
 Date: 7-30-18

Acheron International, Inc.

Drwn By: BPG
Desg By: BPG / KJB
Chkd By: KJB
Aprvd By: KJB
Date: 7-30-18

| No. | Revision Description | Drawn | Checked | Date |
|-----|--|-------|---------|---------|
| 1 | Revised per comments by Town of Windham, DEP & ACOE. | BFG | KJB | 10-9-18 |

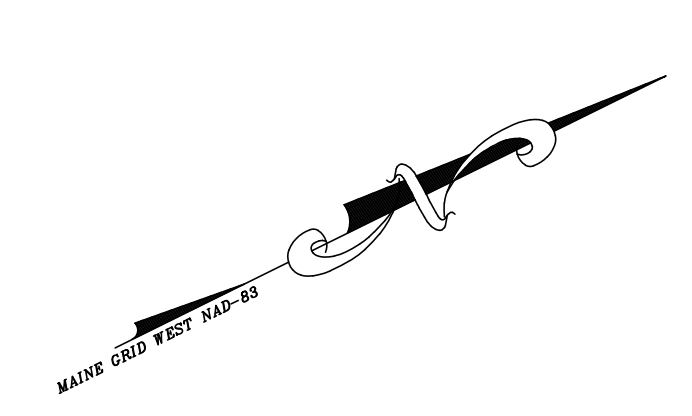


NOTES:
WETPONDS:

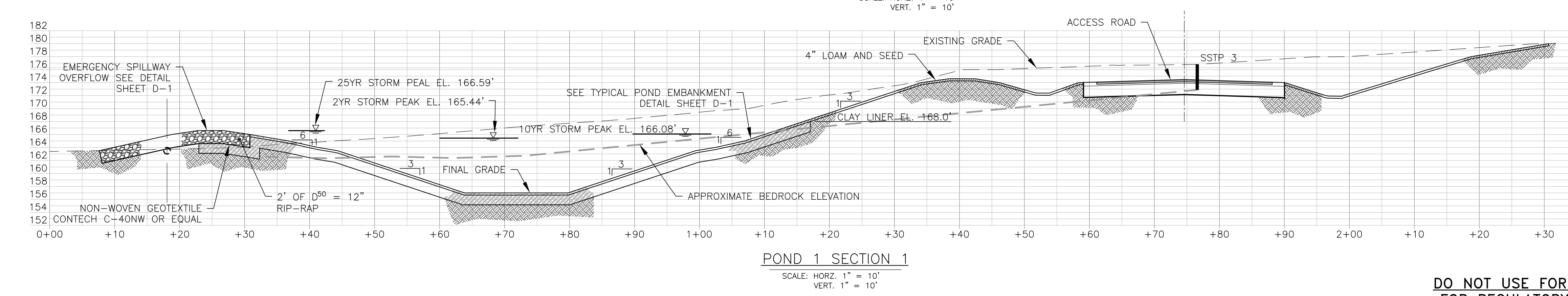
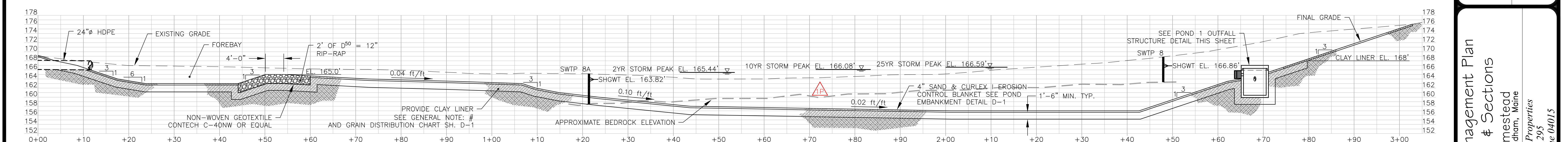
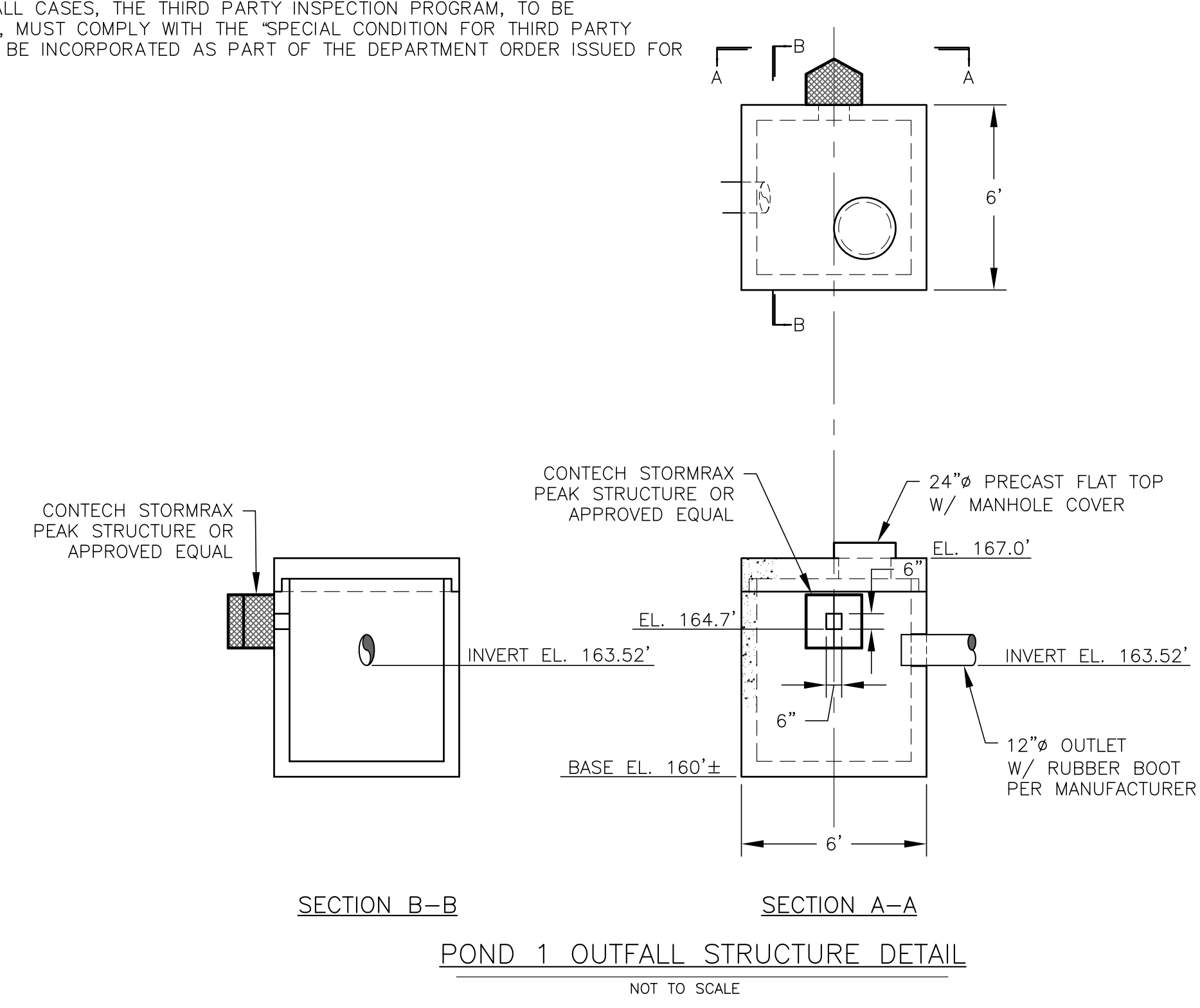
- A. INSPECTION BY A PROFESSIONAL ENGINEER WILL CONSIST OF WEEKLY VISITS TO THE SITE TO INSPECT THE INSTALLATION OF EACH POND'S EMBANKMENT CONSTRUCTION, STORMWATER INLET, UNDERDRAINED GRAVEL OUTLET, GRAVEL OUTLET FILTER MATERIAL MAKEUP AND PLACEMENT, OUTLET CONTROL STRUCTURE, CLAY LINER (IF APPLICABLE), AND EMERGENCY SPILLWAY CONSTRUCTION FROM INITIAL GROUND DISTURBANCE TO FINAL STABILIZATION OF THE POND.
- B. CLAY LINER MIN THICKNESS = 1.5'
- C. PLACE LINER IN 9" LOOSE LIFTS
- D. COMPACT CLAY LINER TO 95% STANDARD PROCTOR DENSITY PER ASTM D-2434.
- E. MINIMUM LINER PERMEABILITY 1x10-6/ Cm/SEC PER ASTM D-2432.
- F. LINER PLASTICITY INDEX NOT LESS THAN 15% PER ASTM D-423/424.
- G. SEE SHEET D-1 FOR MINIMUM & MAXIMUM GRAIN SIZE DISTRIBUTION FOR CLAY LINER.
- CONTRACTOR TO PROVIDE ALL TESTING RESULTS TO OWNER & ENGINEER FOR APPROVAL.

CONSTRUCTION OVERSIGHT:

THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION MAY REQUIRE THIRD-PARTY INSPECTIONS OF THE DEVELOPMENT'S EROSION AND SEDIMENTATION CONTROLS DURING CONSTRUCTION AND IMMEDIATELY AFTER FINAL STABILIZATION. IN ALL CASES, THE THIRD PARTY INSPECTION PROGRAM, TO BE IMPLEMENTED BY THE APPLICANT, MUST COMPLY WITH THE "SPECIAL CONDITION FOR THIRD PARTY INSPECTION PROGRAM" THAT WILL BE INCORPORATED AS PART OF THE DEPARTMENT ORDER ISSUED FOR THE DEVELOPMENT.



- EXISTING**
- PROPERTY LINE
 - INDEX CONTOURS
 - CONTOURS
 - WETLAND
 - TREE LINE
- LEGEND**
- PROPOSED**
- CONTOURS
 - WETLAND IMPACT
 - RIP-RAP
 - TREE LINE
 - CULVERT
 - ANTI-SEEP COLLAR
 - CATCH BASIN
 - PIPE
 - CENTER LINE
 - EDGE OF PAVEMENT
 - EDGE OF SECONDARY ROAD SHOULDER
 - CLAY LINER
 - SAND
 - LOAM AND SEED



DO NOT USE FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY



Stormwater Management Plan
Pond #1 Plan & Sections

Durant Homestead
Chute Road, Windham, Maine
Matt Hancock Properties
PO Box 295
Casco, Maine 04015

Job Number:
79800

Drawing No:
C-12

Sheet 13 of 16

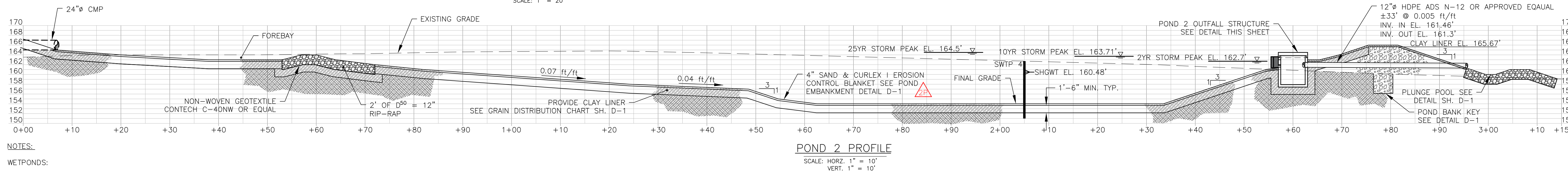
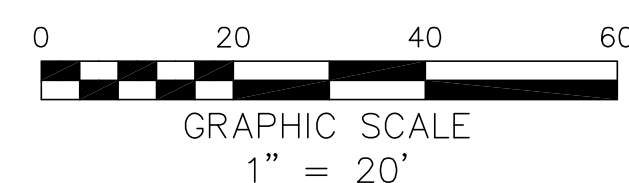
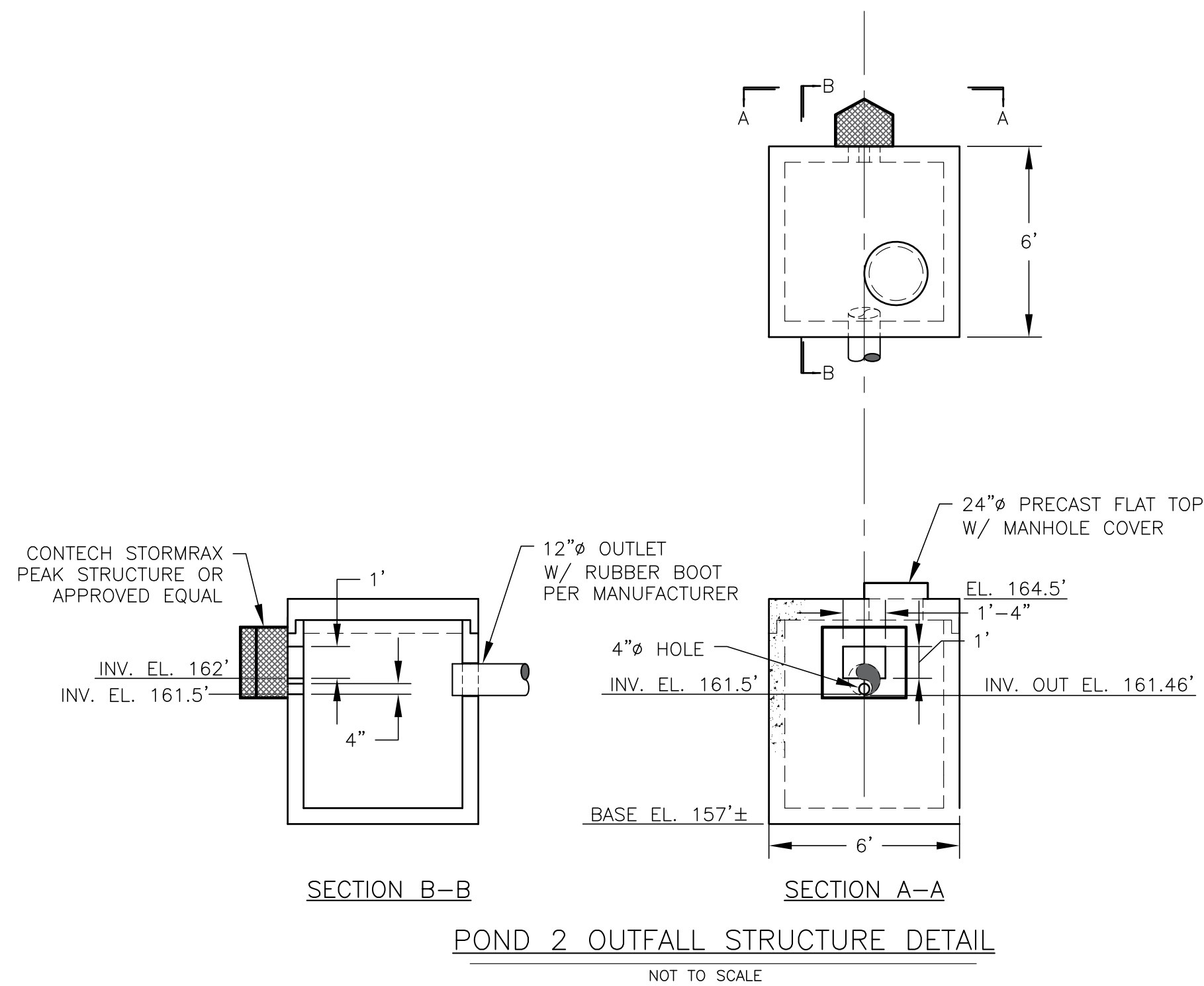
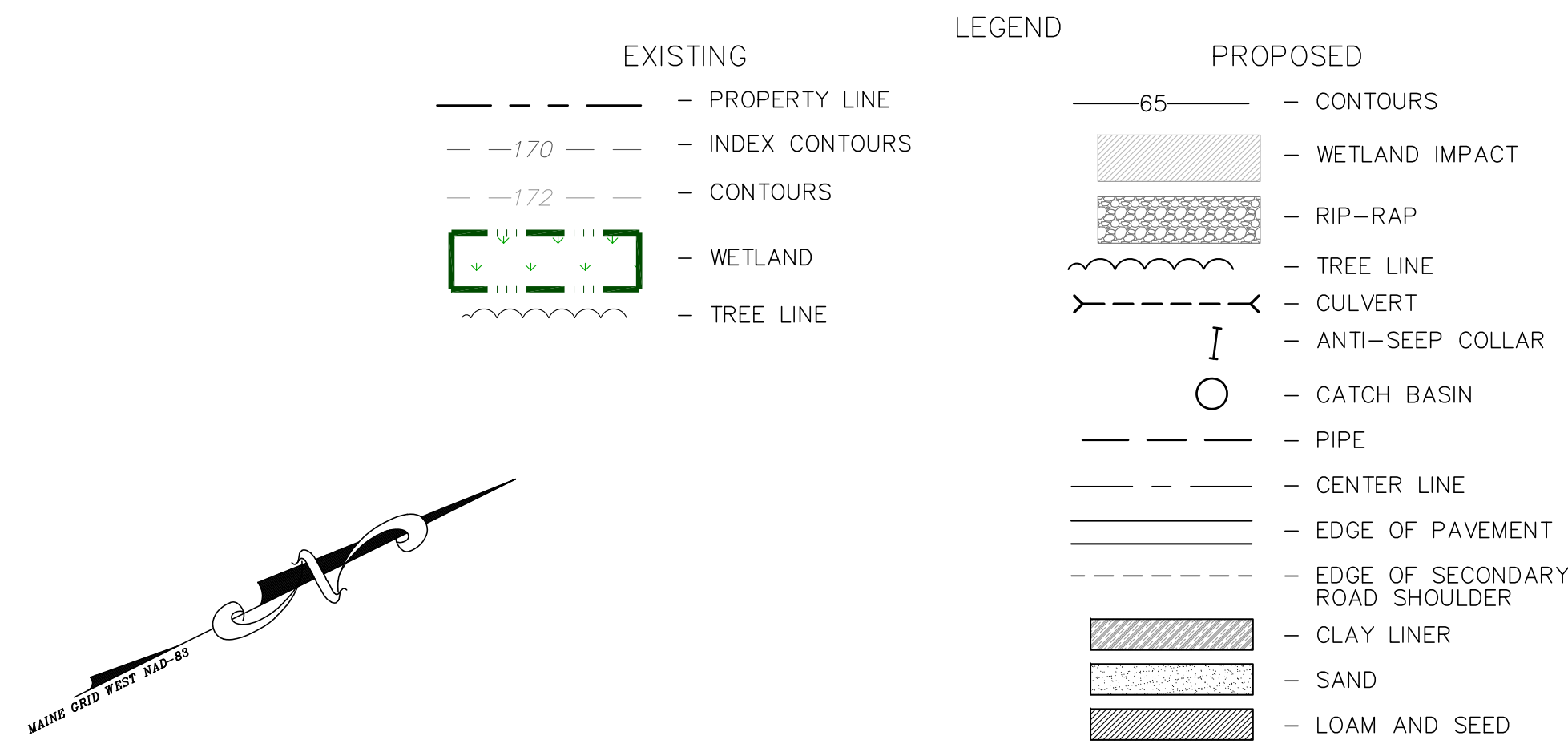
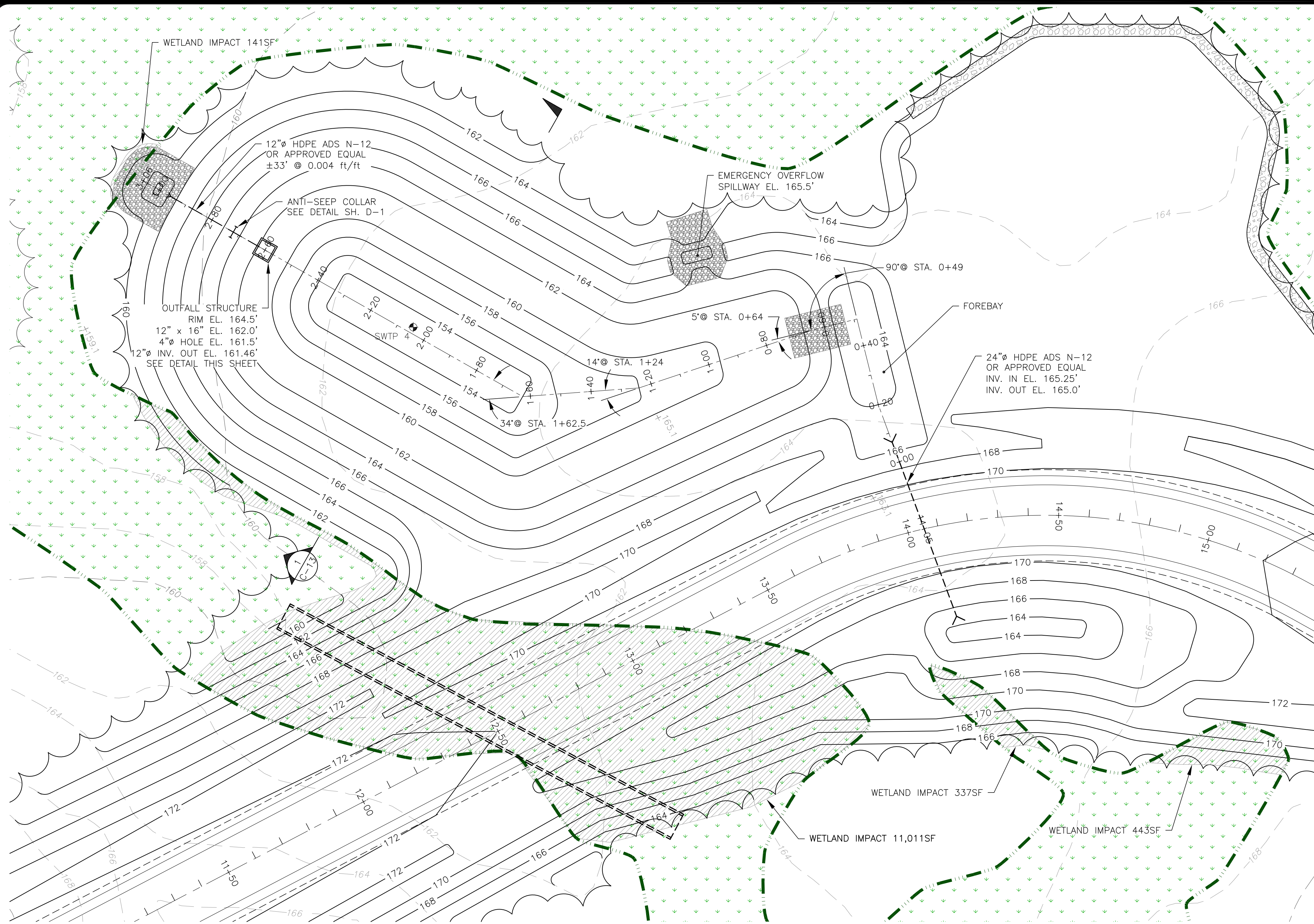
Drawn By: BFG
Desg By: BFG / KJB
Chkd By: KJB
Apprv By: KJB
Date: 7-30-18

Revised per comments by Town of Windham, DEP & ACOE.
No. Revision Description

10-9-18
KJB
BFG
Drwn
Chkd

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Engineering, Environmental & Geologic Consultants

www.acheronengineering.com
24466 Powell Rd.
Brooksville, FL 34602
(352)-796-6236
Acheron International, Inc.



NOTES:

WETPONDS:

A. INSPECTION BY A PROFESSIONAL ENGINEER WILL CONSIST OF WEEKLY VISITS TO THE SITE TO INSPECT THE INSTALLATION OF EACH POND'S EMBANKMENT CONSTRUCTION, STORMWATER INLET, UNDERDRAINED GRAVEL OUTLET, GRAVEL OUTLET FILTER MATERIAL MAKEUP AND PLACEMENT, OUTLET CONTROL STRUCTURE, CLAY LINER (IF APPLICABLE), AND EMERGENCY SPILLWAY CONSTRUCTION FROM INITIAL GROUND DISTURBANCE TO FINAL STABILIZATION OF THE POND.

B. CLAY LINER MIN THICKNESS = 1.5'

C. PLACE LINER IN 9" LOOSE LIFTS.

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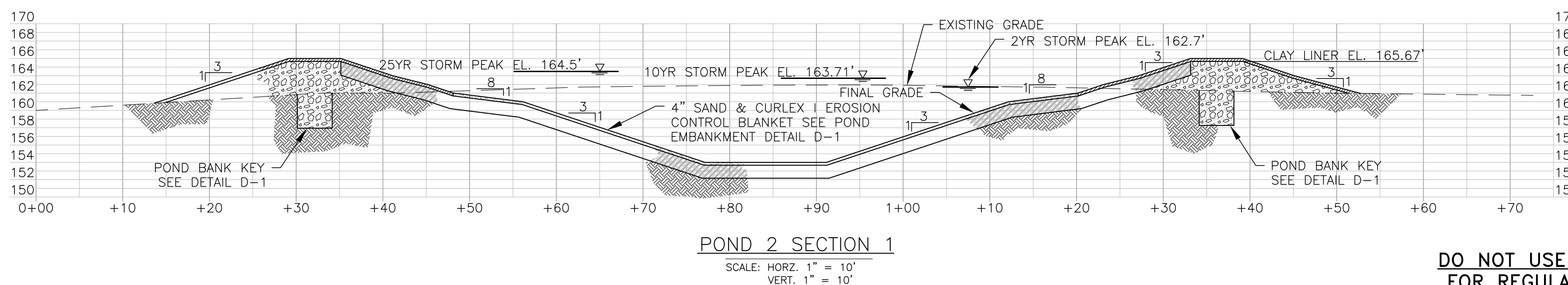
E. MINIMUM LINER PERMEABILITY 1x10-6/ cm/SEC PER ASTM D-2432.

F. LINER PLASTICITY INDEX NOT LESS THAN 15% PER ASTM D-423/424.

G. SEE SHEET D-1 FOR MINIMUM & MAXIMUM GRAIN SIZE DISTRIBUTION FOR CLAY LINER. CONTRACTOR TO PROVIDE ALL TESTING RESULTS TO OWNER & ENGINEER FOR APPROVAL.

CONSTRUCTION OVERSIGHT:

THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION MAY REQUIRE THIRD-PARTY INSPECTIONS OF THE DEVELOPMENT'S EROSION AND SEDIMENTATION CONTROLS DURING CONSTRUCTION AND IMMEDIATELY AFTER FINAL STABILIZATION. IN ALL CASES, THE THIRD PARTY INSPECTION PROGRAM, TO BE IMPLEMENTED BY THE APPLICANT, MUST COMPLY WITH THE "SPECIAL CONDITION FOR THIRD PARTY INSPECTION PROGRAM" THAT WILL BE INCORPORATED AS PART OF THE DEPARTMENT ORDER ISSUED FOR THE DEVELOPMENT.

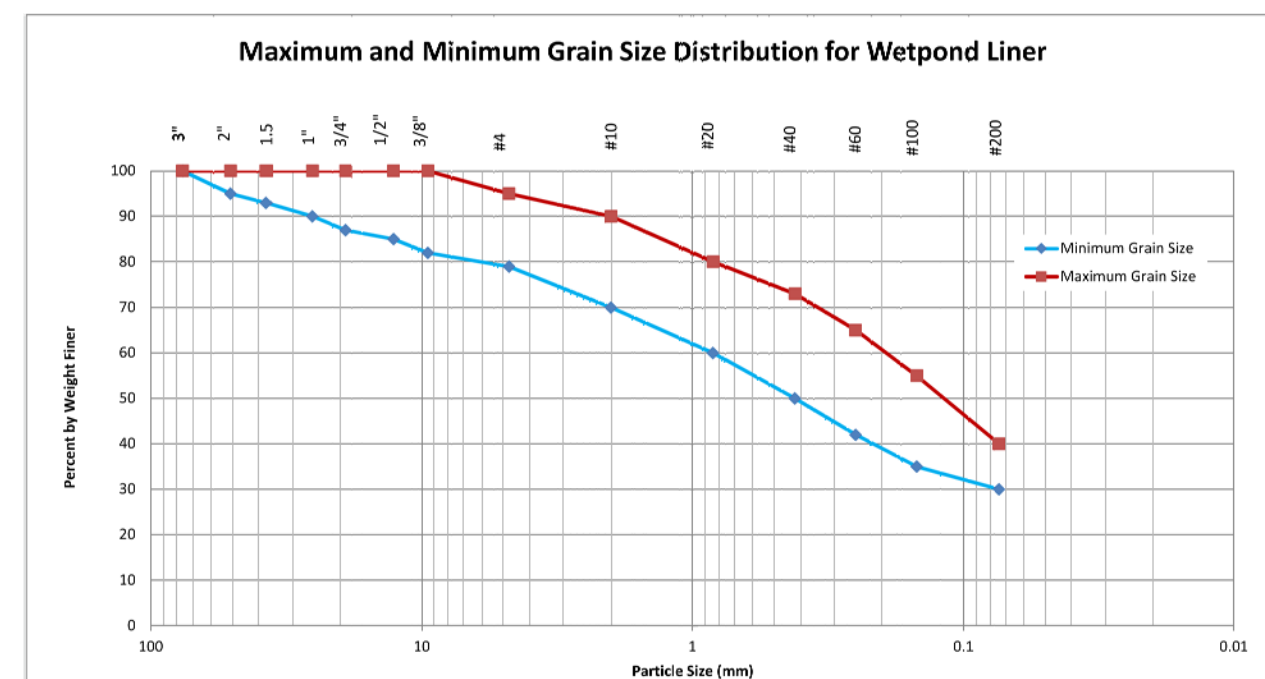
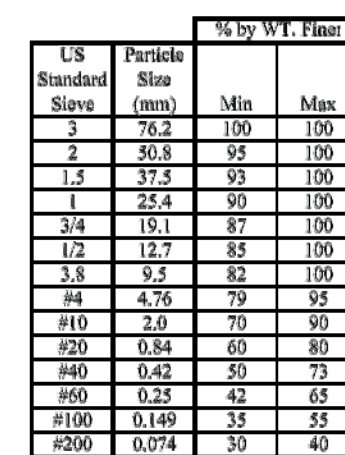


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| | | | | | | | | | |
|---|--|--------------------|--|--------------|--|---------------|--|---------------|--|
| Drwn By: BFG | | Desg By: BFG / KJB | | Chkd By: KJB | | Aprvd By: KJB | | Date: 7-30-18 | |
| Revised per comments by Town of Windham, DEP & ACOE. | | BFG | | Dwn | | KJB | | 10-9-18 | |
| Revision Description | | No. | | Date | | Date | | Date | |
| ACHERON ENGINEERING SERVICES Engineering, Environmental & Geologic Consultants www.acheronengineering.com 24466 Powell Rd Brooksville, FL 34602 (352)-796-6236 Acheron International, Inc. | | | | | | | | | |
| Stormwater Management Plan Pond #2 Plan & Sections Durant Homestead Chute Road, Windham, Maine Matt Hancock Properties PO Box 295 Casco, Maine 04015 | | | | | | | | | |
| Job Number: 79800 | | | | | | | | | |
| Drawing No: C-13 | | | | | | | | | |
| Sheet 14 of 16 | | | | | | | | | |

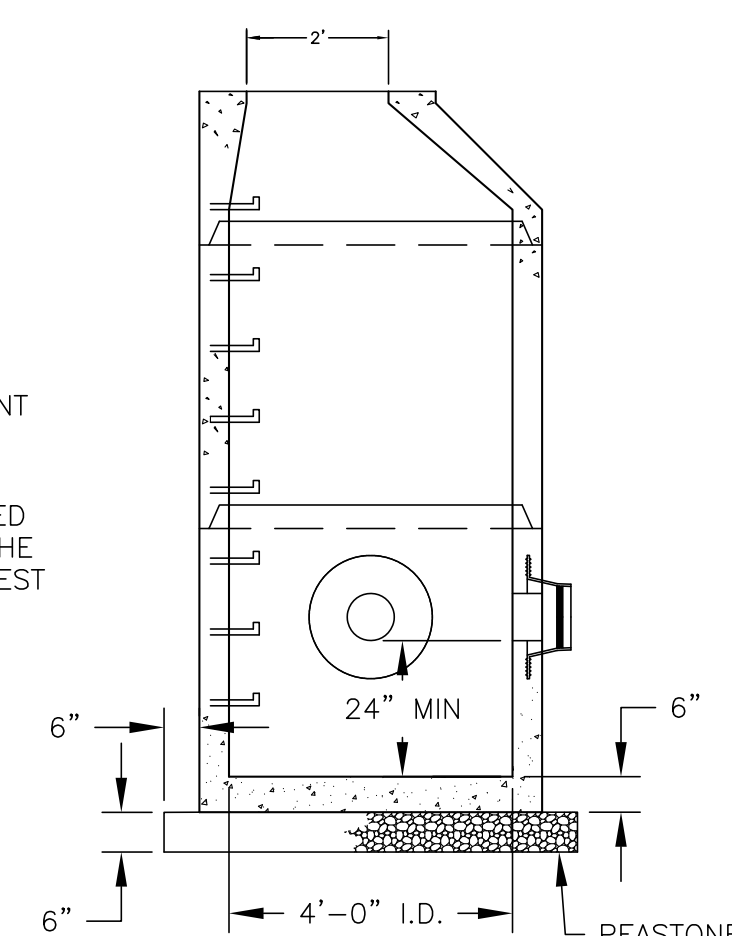
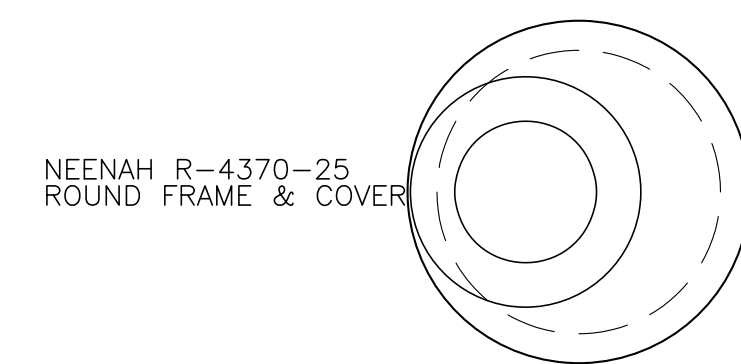
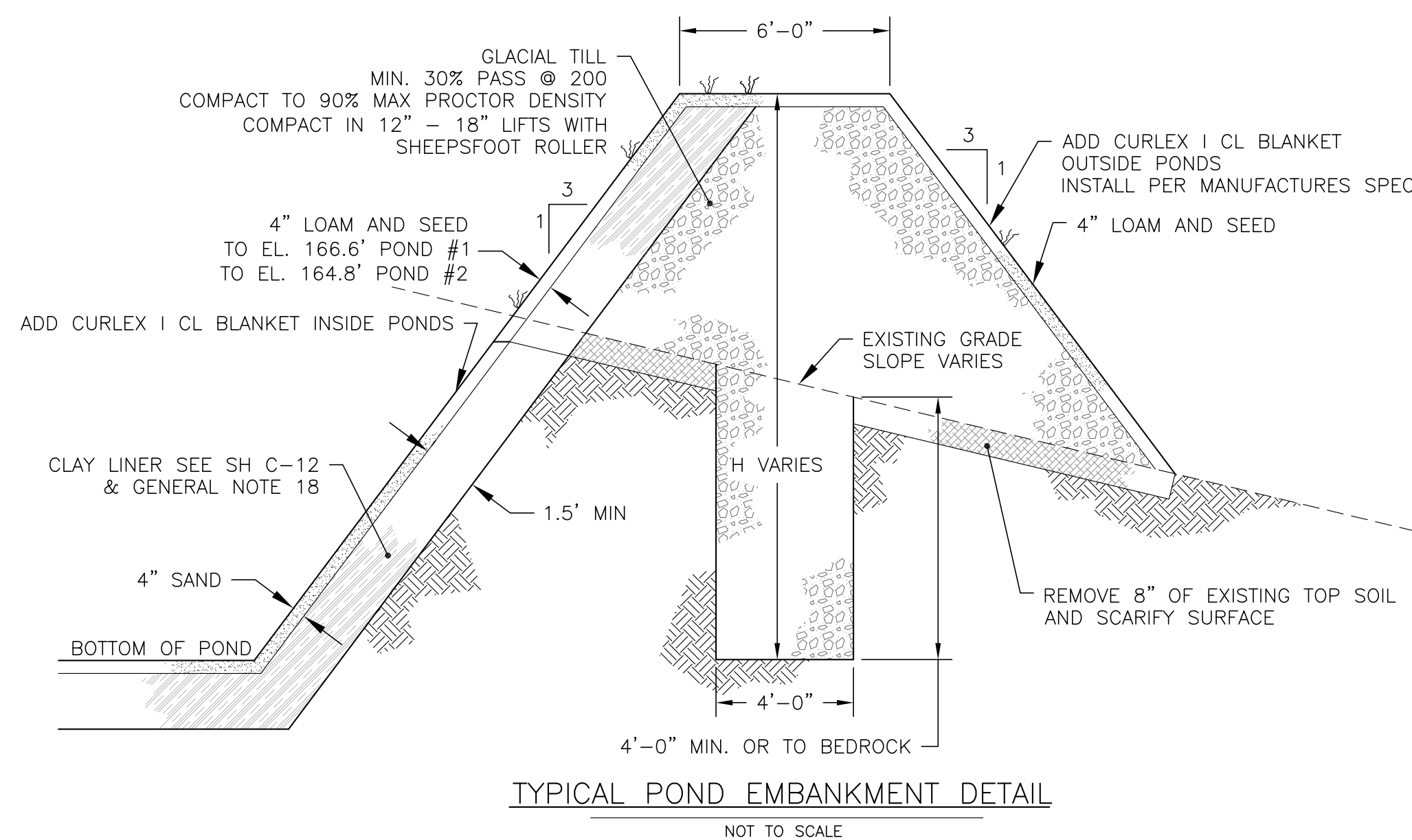
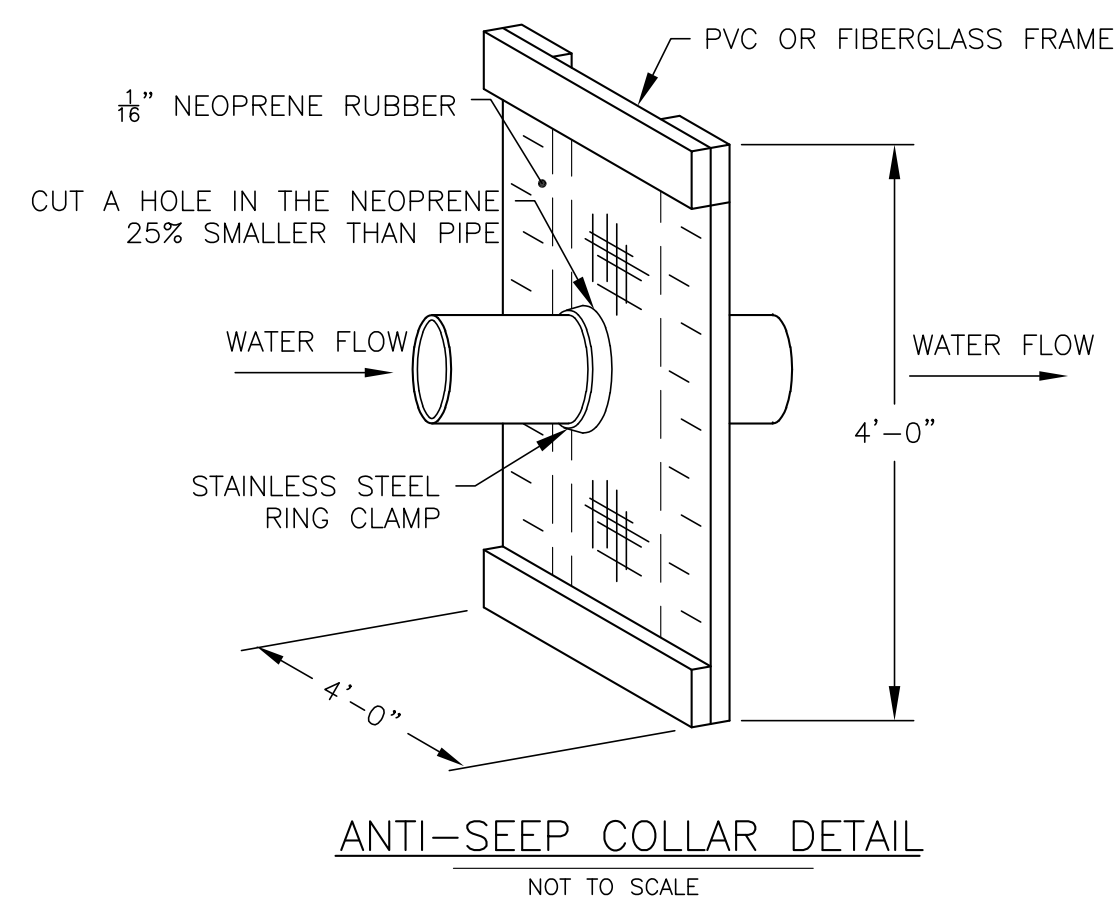
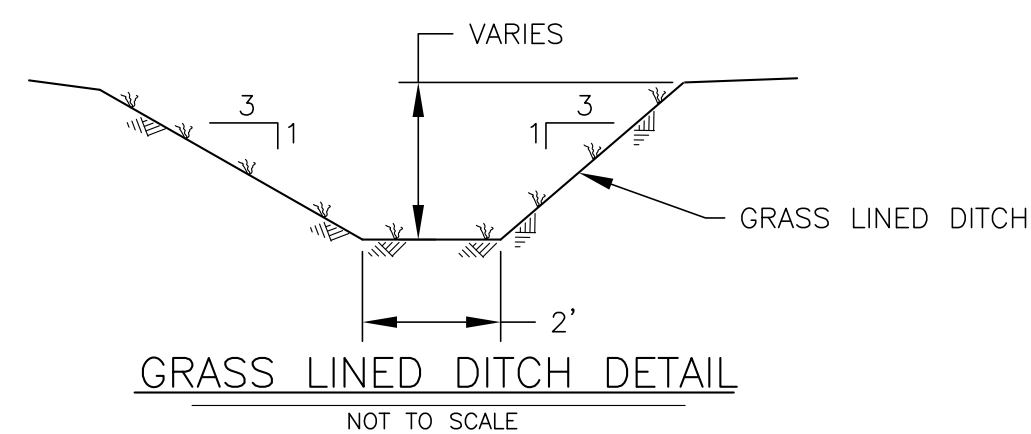


| EMERGENCY OVERFLOW ELEVATION TABLE | | | |
|------------------------------------|--------|--------|--------|
| POND | EL. A | EL. B | EL. C |
| 1 | 166.6' | 168.0' | 164.0' |
| 2 | 165.5' | 166.0' | 164.0' |



NOTE:
THE SEED MIXTURE SHALL CONSIST OF SEEDS PROPORTIONED
BY WEIGHT AS FOLLOWS:

| | Pounds/acre |
|---------------------|-------------|
| Kentucky Bluegrass | 20 lbs |
| Creeping Red Fescue | 20 lbs |
| Perennial Ryegrass | 5 lbs |



MANHOLE NOTES:

1. EXTERIOR ASPHALT COATED
2. LOCK JOINT FLEXIBLE PIPE SLEEVES, CAST IN
3. MANHOLE STEPS @ 12" O.C.



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FOR REGULATORY REVIEW ONLY

Construction Details

Durant Homestead
Chute Road, Windham, Maine

*Matt Hancock Properties
PO Box 295
Casco, Maine 04015*

Job Number:
79800

Drawing No:

D-1

Sheet 15 of 16

Drwn By: BPG
 Desg By: BPG / KJB
 Chkd By: KJB
 Aprvd By: KJB
 Date: 7-30-18

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Engineering, Environmental & Geologic Consultants

www.AcheronEngineering.com
147 Main St.
Newport, ME 05853
(207)-566-5700

24466 Powell Rd.
Brookville, PA 15002
(352)-661-2321
Fehr International, Inc.

| | | | KJB | 10-9-18 |
|-----------------------------|---|-------------------|--------|---------|
| No. | | BFG <i>Dwn</i> | Cikl'd | Date |
| I | Revised per comments by Town of Windham, DEP & ACOE. | | | |
| <i>Revision Description</i> | | | | |



6" THICK LAYER OF
3" TO 1 1/2" Ø
CRUSHED STONE

FILTER BAG

SILTY WATER
FROM PUMP

OPENING AND TRAP
CLOSURE FOR UP TO
4" Ø HOSE

DIRT BAG®

FLOW

3'-0"

3'-0"

5'-0" ±

TOP VIEW

PUMP DISCHARGE HOSE

EXTEND FABRIC -
2' BEYOND STONE

GEOTEXTILE FABRIC
UNDER STONE FOR
EASE OF REMOVAL

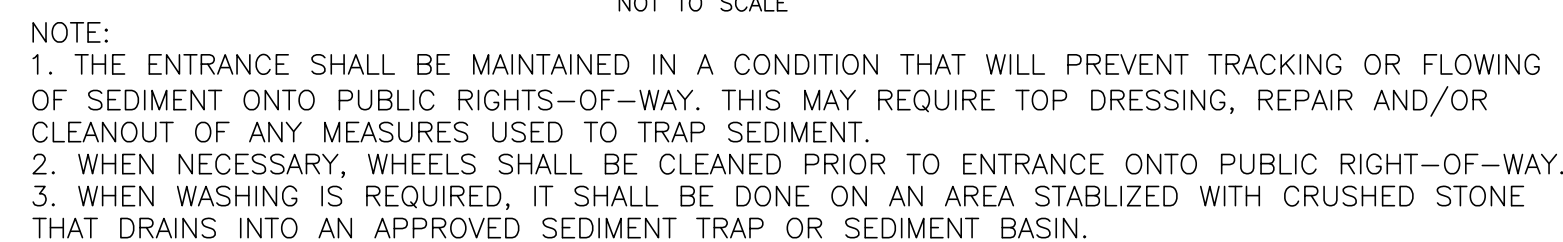
FINISH GRADE OR
UNDISTURBED GROUND

SIDE VIEW

FILTER BAG DETAIL

NOT TO SCALE

- HAY BALE ANCHORING DETAIL
- NOT TO SCALE



Professional Engineer Seal for Kirk J. Ball, No. 11681, State of Maine, License 11681, dated 2018.

Subdivision Access Road Erosion Control Details

Job Number:
79800

Drawing No:
D-2

Sheet 16 of 16

Drawn By: BPG
 Desg By: BPG / K
 Chkd By: KJB
 Aprvd By: KJB
 Date: 7-30-18

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