ProTerra
DESIGN GROUP, LLC

January 19, 2023

Town of Grafton Conservation Commission
30 Providence Road
Grafton, MA
508-839-5335, ext. 1410
Email: conservation@grafton-ma.gov

RE: Response to Peer Review
58 Follette Street, Grafton MA
By EcoTec, Inc. Memo Dated 11-17-2022

Dear Chairperson & Members of the Conservation Commission:

ProTerra Design Group, LLC (ProTerra) received the Memo from Arthur Allen of EcoTec, Inc. peer review comments dated November 17, 2022. This letter is provided as a response to the comments and recommendations of the review of the raw land cell tower site located at 58 Follette Street in Grafton, Massachusetts. The numbered items below correspond to comments within the memo. The responses are in blue.

EcoTec Comments & Recommendations:

1. As of today's date, there does not appear to be a DEP file number available.

   File number CE 164-1031 was received electronically via email of Tuesday, December 20th 2022. Although the project qualifies for a limited project, the Applicant is proposing to meet the general performance standards of 310 CMR 10.55 (4) for inland wetland and provide replication for less than 5,000 sf of wetland fill in accordance with the regulations. This has been clarified during our December 20th meeting with the alternatives in the application discussed with the Commission.

2. I am in general agreement with the proposed wetland replication construction and planting details. This being said, I have several specific concerns regarding the overall impacts and mitigation as noted below.

   Please refer to the revised plans dated 01-17-2023 and our responses to 3-5 below.

3. The project is proposing to replicate permanent wetland fill at a ratio of 2.5:1 (replicated to filled). This is 1.5 times more replication than is required and will result in the destruction of a high quality, mature, overstory forest buffer zone located between Follette Street and the wetland. I strongly recommend against disturbing any more of the forested buffer in this area than is necessary. The proposed replication area on the opposite (northwest) side of the wetland is in a less mature, lightly wooded area that is more suitable for replication. With

modifications to the stormwater basin and outlet, the replication area on the northwest side could be expanded somewhat. There is no particular reason to replicate to the extent currently proposed. In addition, the project proposes to remove an existing stone box culvert that is within the delineated wetland. The culvert is elevated above the wetland and removing and restoring its footprint would result in approximately 200-square feet of additional wetland that could be counted as part of project mitigation.

We have discussed the proposal with the Conservation Commission during the meeting of December 20, 2022. We have revised the replication area to the West of the wetlands to provide just above the required 1:1 replication area and have removed the eastern area to retain more of the forested buffer per your recommendation. The Commission believed it to be both prudent and beneficial to remove the existing stone culvert and open up the channel. It is anticipated that the stone slabs will require equipment to remove them due to their mass. In order to better accomplish this task and to quantify the temporary impacts, a small area containing 500 sf of temporary disturbance was added to the plan to provide access to the stone culvert area with small earth moving equipment on the Eastern part of the wetland. Graves Engineering under separate review of Grafton GIS mapping (topography at two-foot contour intervals) indicated that an additional upland drainage corridor likely exists and that the direction of flow is out of the wetland to the abutting property east of the project. We added of a culvert on the West side of the wetlands with invert above the existing 12" HDPE to preserve the existing flow path in that area per the peer reviewer.

4. A stockpile area for wetland topsoil is located on the southeast side of the wetland, outside the proposed clearing limit. I recommend relocating this stockpile to the northwest side of the wetland or adjusting the clearing limit to include this area. In general, there is very little room for staging of equipment and materials between Follette Street and the wetland. Given that the wetland has to be crossed before accessing the larger project area, additional detail should be provided regarding access, staging and sequencing of construction related to site access and the wetland crossing while also minimizing impacts to the forested buffer.

   We have adjusted the D-5 plan to show a stockpile area on the East and Northwest side of the proposed wetland crossing. The area of the crossing is the narrowest location and appears to follow the remnants of a cart path since grown in. We added a laydown area near the street to offload materials and equipment and created a written mitigation and sequencing plan to aid construction efforts if approved – see attached "WETLAND CROSSING AND CHANNEL MITIGATION SEQUENCING AND RESTORATION PLAN", dated January 17, 2023. Per the Commission, we also removed all references to hay and called out salt marsh bales or straw bales.

5. The wetland drains via an existing, 12-inch corrugated plastic culvert located between wetland flags A-8 and A-9. This culvert appears to have been installed to facilitate the development of 56 Follette Street as it extends approximately 100-feet underground between Follette Street and house No. 56 before daylighting on the east side of No. 56. The culvert appears to turn with no visible manholes. The design and installation of this culvert is questionable and I recommend against permitting new development discharging to it without

confirmation of its design, condition and functionality. Repair or replacement of the culvert should be made as necessary to ensure its long-term functionality.

We engaged Pipe Explorers, LLC video pipe inspection services to review the existing 12" culvert to determine the condition and approximate location along 56 Follette Street. The culvert was estimated to be approximately 20 years old consisting of a double wall HDPE. Two 45 degree HDPE bend fittings were found to be installed per the attached sketch to parallel the road on the front of the lot to the discharge point in the existing drainage along Follette Street. The video inspection revealed no clogs, debris, or structural deficiencies and appeared in good serviceable condition. Light staining inside the pipe indicated typical flows at 1/3rd the depth or below. No flow was observed at our time of visit and no erosion appeared at the channel downstream.

If you have any questions or need further information, please do not hesitate to call.

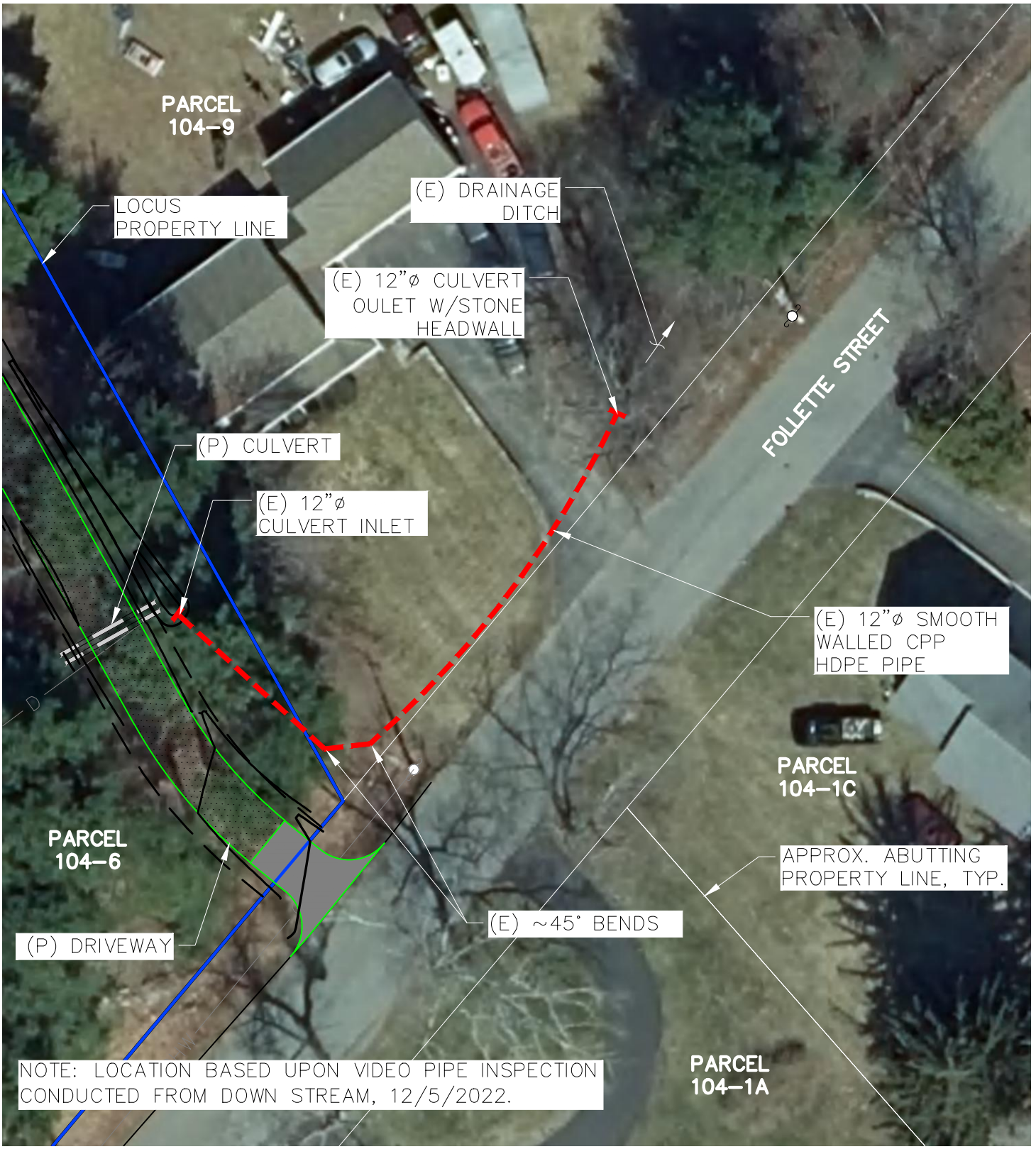
Sincerely,
ProTerra Design Group, LLC

Jesse Moreno, PE
Digitally signed by Jesse Moreno, PE
Date: 2023.01.19 15:10:50 -05'00'

Jesse Moreno, PE
Managing Partner

Enclosure

cc: Verizon Wireless, Lucas Environmental, Robinson & Cole LLP



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DRAINAGE
SKETCH PLAN

58 FOLLETTE STREET
GRAFTON, MA 01519

SCALE: 1" = 20'
DATE: DECEMBER 8, 2022

SK

JANUARY 17, 2023

WETLAND CROSSING AND CHANNEL MITIGATION SEQUENCING AND RESTORATION PLAN

THE FOLLOWING PLAN WAS PREPARED TO ALLOW FOR THE CONSTRUCTION OF THE PROPOSED CELL TOWER DRIVEWAY WITH 12" CULVERTS AT THE PROPOSED WETLAND IMPACT AREA. THE WETLAND REPLICATION AREA HAS BEEN DESIGNED WITH A 1:1 RATIO BASED UPON THE "MASSACHUSETTS INLAND WETLAND REPLICATION GUIDELINES" (MASSDEP, MARCH 2002) AND THE GENERAL PERFORMANCE STANDARDS OF THE REGULATIONS SET FORTH AT 310 CMR 10.55(4)(B). THE CONSTRUCTION OF THE WETLAND REPLICATION AREA WILL BE CONDUCTED UNDER THE SUPERVISION OF THE QUALIFIED ENGINEER OR SCIENTIST. THE PROPOSED GENERAL CONSTRUCTION SEQUENCE FOR THE DRIVEWAY CROSSING WORK IS AS FOLLOWS:

1. PRIOR TO THE START OF EARTH-MOVING ACTIVITIES, AN EROSION CONTROL BARRIER WILL BE INSTALLED AT THE DOWNGRADIENT LIMIT OF WORK AS SHOWN ON THE SITE PLAN. AT UPGRADIENT AREAS SNOW FENCE OR OTHER SUITABLE BARRIER MAY BE USED TO DELINEATE THE LIMIT OF WORK.

2. THE PROPOSED DRIVEWAY LAYOUT WILL BE CLEARED AND GRUBBED WITH THE CUT MATERIALS REMOVED FROM THE AREA AND DISPOSED OF PROPERLY OFF-SITE. CERTAIN OF THESE LOGS AND BRANCHES MAY BE RETAINED ON-SITE FOR USE IN THE WETLAND REPLICATION AREA (SEE WETLAND REPLICATION AREA STEPS 16 AND BEYOND). REMAINING SLASH/BRANCHES MAY BE CHIPPED/GROUND FOR USE IN TEMPORARY EROSION CONTROL BERMS.

3. THE LEAF LITTER , FINE WOODY DEBRIS, AND SOIL FROM THE WETLAND IMPACT AREA AND THE ADJACENT AREA WILL BE COLLECTED AND RETAINED FOR USE IN THE WETLAND REPLICATION AREA AND ADJACENT BUFFER ZONE (SEE WETLAND REPLICATION AREA STEP 16 BELOW). SEPARATE LEAF LITTER/FINE WOODY DEBRIS FROM SOIL TO BE USED IN SEPARATE STEPS.

4. THE PROPOSED DRIVEWAY LAYOUT WILL BE EXCAVATED TO LOADBEARING SUBSOIL. IF DEWATERING IS REQUIRED, IT WILL BE PUMPED TO A CONTAINMENT AREA WITHIN THE PROPOSED LIMIT OF WORK AWAY FROM THE WETLAND BOUNDARY (WATER IS NOT ANTICIPATED AT THE DEPTHS PROPOSED TO BE EXCAVATED OUTSIDE THE HIGH GROUNDWATER SEASON.)

5. ANY PROPOSED UTILITIES WILL BE INSTALLED WITHIN THE DRIVEWAY AND THE AREA WILL BE BACKFILLED IN COMPACTED LIFTS WITH SUITABLE ROADBASE/STRUCTURAL FILL. THE FOOTINGS FOR THE PROPOSED BOX CULVERT WILL BE INSTALLED. THE PROPOSED BOX CULVERT WILL THEN BE INSTALLED AS SHOWN ON THE SITE PLAN.

6. THE PROPOSED DRIVEWAY WILL BE FILLED IN COMPACTED LIFTS. THE DRIVEWAY AND SIDE SLOPES WILL BE BACKFILLED WITH SUITABLE MATERIALS AND WILL BE BROUGHT UP TO SUBGRADE. THE SIDE SLOPES WILL BE LOAMED AND SEEDED (OR HYDROSEEDED) FOR PERMANENT COVER AT 3:1 OR FLATTER. FOR SLOPES STEEPER THAN 3 TO 1, THE SIDE SLOPES WILL BE PROTECTED WITH A PROPERLY APPLIED/INSTALLED EROSION CONTROL BLANKET OR

RIP RAP. AT THE APPROPRIATE TIME, THE ASPHALT APRON WILL BE CONSTRUCTED AT THE END OF THE DRIVEWAY TO LOCAL DPW STANARDS.

7. ONCE THE SITE AND THE DRIVEWAY AND SIDE SLOPES ARE STABLE AND WITH PERMISSION OF THE CONSERVATION COMMISSION AND/OR AGENT, THE EROSION CONTROLS MAY BE REMOVED ALONG THE WETLAND CROSSING AREA.

8. THE WETLAND REPLICATION AND CHANNEL MITIGATION AREA WILL BE MARKED IN THE FIELD. THE DOWNGRADIENT EDGE AND/OR SIDESWILL BE PREPARED FOR EROSION CONTROL.

9. THE WETLAND REPLICATION AREA MAY BEGIN AFTER THE LOWER STORMWATER BASIN STRUCTURE AND CULVERTS ARE INSTALLED AND STABILIZED WITH EROSION CONTROL BLANKETS AND ARE DEEMED READY TO RECEIVE AND MITIGATE RUNOFF. THE CHANNEL MITIGATION AREA MAY BEGIN AFTER THE DRIVEWAY CROSSING IS CONSTRUCTED.

10. SEGMENTS OF 6- TO 8-INCH DIAMETER COIR LOGS AND LIVE BRANCHES WILL BE PROCURED TO USE IN THE STONE CULVERT MITIGATION AREA.

11. THE EXISTING THREE-SIDED STONE CULVERT WILL BE EXCAVATED AND REMOVED WITH SMALL TRACKED EARTH MOVING EQUIPMENT. ORGANIC MATERIAL PRESENT WILL BE SAVED AND USED FOR THE BOTTOM AND LOWER SIDE SLOPES OF THE CHANNEL.

12. THE STONE CULVERT PIECES MAY BE KEPT ONSITE AND RE-PURPOSED ALONG THE EXSTING DRIVEWAY AS SLOPE STABILIZATION. THE AREA WILL BE SHAPED INTO A SHALLOW CHANNEL AND PREPPED FOR INSTALLATION OF THE COIR LOG AND LIVE STAKING TO CREATE AN OPEN CHANNEL APPROXIMATELY 8” TO 18” DEEP WHERE THE CULVERT ONCE STOOD.

13. IT IS INTENDED FOR THE BOTTOM OF THE CONSTRUCTED CHANNEL TO BE GRAVELLY SANDY LOAM WITH 2-3” RIVERSTONE INSTALLED TO COVER AT LEAST 30 TO 60% OF THE BOTTOM. ATOP THE STONE WILL BE A LIGHT LAYER OF ORGANIC MATERIAL EXCAVATED FROM STEP 13. THE BOTTOM OF THE CHANNEL WILL BE SEEDED WITH A SUITABLE WETLAND SEED MIX.

14. PRIOR TO THE START OF EARTH-MOVING ACTIVITIES IN THE REPLICATION AREA, AN EROSION CONTROL BARRIER OF PROPERLY INSTALLED COMPOST SOCK (OR SALT MARSH HAY/STRAW BALE) ONLY TO AVOID THE INTRODUCTION OF INVASIVE SPECIES TO THE WETLAND REPLICATION AREA WILL BE INSTALLED ALONG THE DOWNGRADIENT EDGE.

15. THE WETLAND REPLICATION AREA WILL BE CLEARED AND GRUBBED TAKING CARE TO AVOID THE ROOTS OF THE SURROUNDING MODERATE SIZED TREES. THE TOP SOIL FROM THE AREA IF SUITABLE MAY BE STOCKPILED AND COMBINED WITH MATERIAL FROM STEP 3.

16. THE WETLAND REPLICATION AREA WILL BE EXCAVATED TO A GRADE OF 12 TO 16 INCHES BELOW THE EXISTING GRADE OF THE ADJACENT WETLAND MEASURED SEVERAL FEET WITHIN THE WETLAND BOUNDARY TAKING CARE TO AVOID THE ROOTS OF THE SURROUNDING MODERATE SIZED TREES TO BE RETAINED. DUE TO THE LIMITED GRADING REQUIRED TO

CONSTRUCT THE PROPOSED WETLAND REPLICATION AREA, THE SIDE SLOPES WITHIN THE ADJACENT BUFFER ZONE WILL BE MINIMAL.

17. THE EXCAVATION WORK WILL BE REVIEWED BY A QUALIFIED ENGINEER/SCIENTIST. MODIFICATIONS TO THE PROPOSED GRADING MAY BE MADE IN THE FIELD DICTATED BY OBSERVED SUBSURFACE HYDROLOGIC CONDITIONS.

18. THE WETLAND REPLICATION AREA WILL BE BROUGHT TO THE FINAL GRADE WITH A MINIMUM OF 6 TO 8 INCHES OF A ROUGHLY GRADED WETLAND SUBSTRATE. THE BUFFER ZONE SIDE SLOPE WILL BE BROUGHT TO FINAL GRADE WITH A 4-TO 6- INCH-THICK LAYER OF QUALITY LOAMY TOPSOIL. THE WETLAND SUBSTRATE WILL CONSIST OF A 2:1 MIXTURE OF HIGH QUALITY LOAMY TOP SOIL AND MATERIAL SET ASIDE IN STEP 3. THE AREA WILL BE GRADED TO HAVE A VARIED MICROTOPOGRAPHY AND WILL INCLUDE PITS, MOUNDS, VALLEYS, AND RIDGES TO PROVIDE WATER STORAGE WITHIN THIS DEPRESSED AREA.

19. THE WETLAND REPLICATION AREA WILL BE PLANTED WITH WETLAND SAPLING, SHRUB, AND HERBACEOUS SPECIES SPECIFIED IN THE TABLE ON THE PLANS. THE SPECIES WILL BE PLANTED ON SLIGHT MOUNDS SPACED THROUGHOUT THE WETLAND REPLICATION AREA.

20. AFTER PLANTING, THE SAPLINGS AND SHRUBS WILL BE WELL WATERED IN AND ALL PLANTINGS WILL BE MULCHED WITH STRAW TO HELP RETAIN MOISTURE AND KEEP WEED GROWTH IN CHECK.

21. THE CONTRACTOR WILL WATER PLANTINGS AT LEAST TWICE WEEKLY OR AS REQUIRED BASED UPON TIME OF YEAR FOR AT LEAST FOUR WEEKS AFTER PLANTING AND AS NEEDED IF STRESS IS OBSERVED UNTIL THEY ARE WELL ESTABLISHED.

22. LEAF LITTER AND FINE WOODY DEBRIS COLLECTED FROM THE IMPACT AREA (SEE WETLAND IMPACT AREA STEP 3 ABOVE) WILL BE SPREAD THROUGHOUT THE MITIGATION AREA AND IMMEDIATE BUFFER TO PROVIDE HABITAT.

23. AFTER THE WETLAND REPLICATION AREA HAS BECOME VEGETATIVELY STABILIZED, AND FOLLOWING APPROVAL OF THE ISSUING AUTHORITY, ALL EROSION CONTROL WILL BE REMOVED AND DISPOSED OF PROPERLY AND THE COMPOST WILL BE SPREAD OUT.

24. FOR A TWO-YEAR PERIOD FOLLOWING THE CONSTRUCTION OF THE WETLAND REPLICATION AREA, VEGETATION AND HYDROLOGY WILL BE EVALUATED NEAR THE END OF EACH GROWING SEASON BY A QUALIFIED ENGINEER/SCIENTIST. IF AT THE END OF A TWO-YEAR PERIOD APPROPRIATE VEGETATION COVERAGE IN THE WETLAND REPLICATION AREA AND WETLAND RESTORATION AT THE CROSSING IS AT LEAST 75% OR GREATER THE MITIGATION WILL BE DEEMED SUCCESSFUL AND SUBMITTED FOR APPROVAL BY THE LOCAL CONSERVATION COMMISSION.