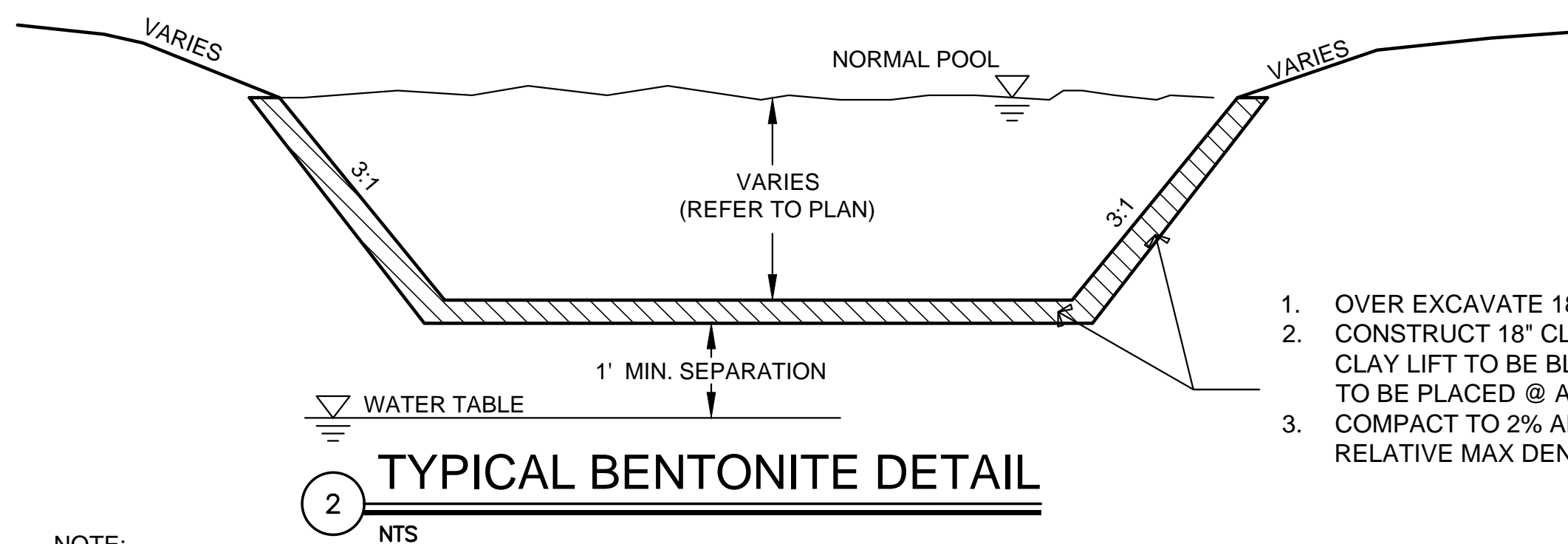
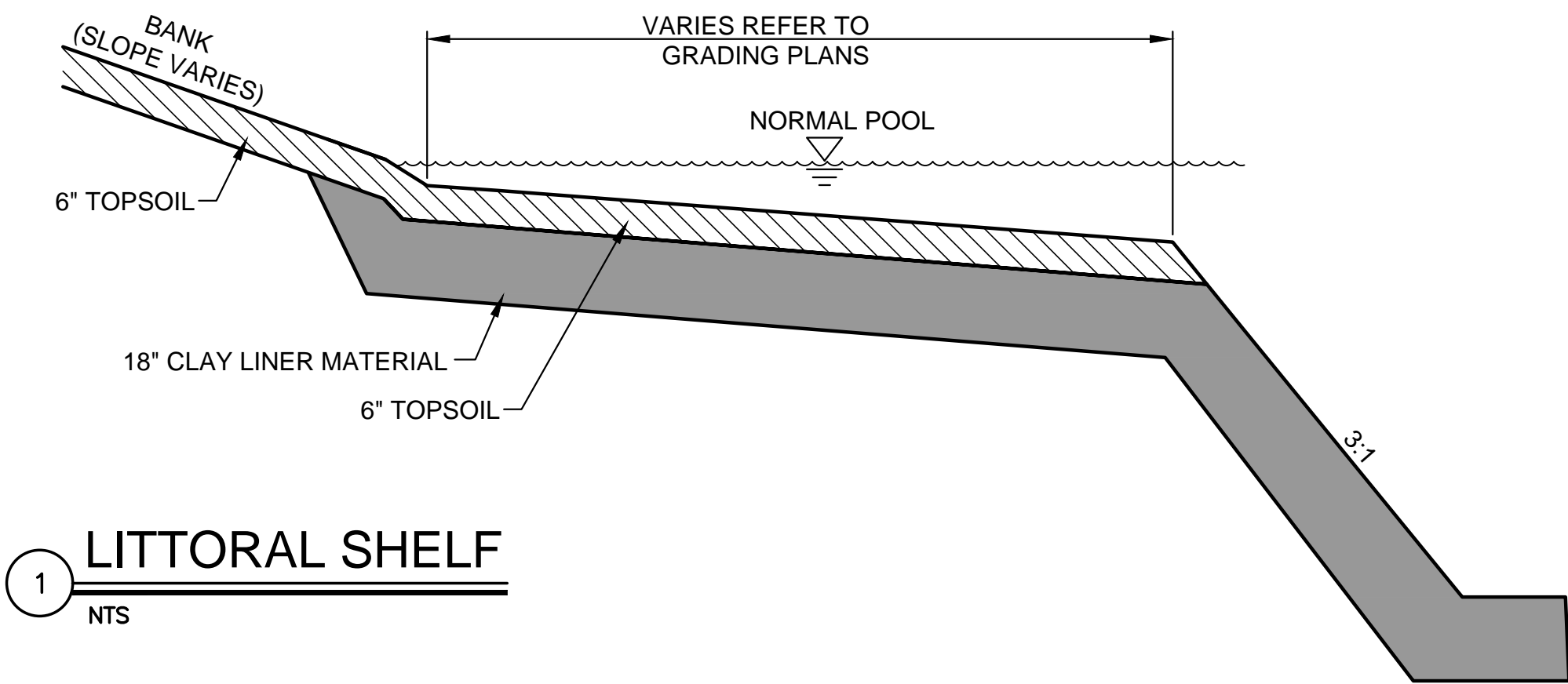


GRADING NOTES

- EXISTING POND GRADING IS IN VARIOUS STATES OF COMPLETION. PART "A" PROJECT EARTHWORK CONTRACTOR HAS LEFT PROPOSED GRADES AND STRUCTURES UNFINISHED. CONTRACTOR SHALL SHAPE AND BLEND GRADES BETWEEN LAKES AS DEFINED. DEWATERING, EARTHWORK, CLAY / BENTONITE LINER, 95% COMPACTION, TESTING COMPACTION, TREE REMOVAL (IF REQUIRED) AND FINAL GRADE SHAPING SHALL BE SUBSIDIARY TO EACH ASSOCIATED STRUCTURE.
- THIS IS DESIGN GRADING. ALL GRADES ABOVE THE NORMAL POOL ELEVATION SHALL BE CONTOURED SMOOTHLY WITH GENTLE ROUNDING/SHAPING OF ALL AFFECTED LAND SURFACES. ABRUPT TRANSITIONS AT THE TOP OF SLOPES WHERE PROPOSED GRADES MEET EXISTING ARE NOT ACCEPTABLE. SURVEY STAKES FOR POND GRADING ARE FOR GENERAL GRADING PURPOSES ONLY. NOT ALL SLOPES ARE CONSTANT AND THEREFORE THE GRADING PLANS SHALL BE REFERRED TO FOR FINAL GRADE SHAPING. ALL BERMS & POND EDGES SHALL BE FINAL GRADED/SHAPED WITH A TRACK DOZER, NOT A BLADE. THE GRADING SHALL BE APPROVED BY MKEC'S LANDSCAPE ARCHITECT PRIOR TO THE ADDITION OF THE TOPSOIL LAYER.
- EXISTING NATURAL AREAS (TREES & PASTURE) OUTSIDE OF THE NOTED LIMITS OF GRADING SHALL BE PRESERVED & SHALL BE OFF LIMITS TO ANY TYPE OF CONSTRUCTION ACTIVITY. TEMPORARY CONSTRUCTION FENCE SHALL BE ERECTED AROUND NOTED LOCATIONS PRIOR TO THE START OF CONSTRUCTION.
- A 6" LAYER OF TOPSOIL SHALL BE STRIPPED IN ALL AREAS OF CUT AND FILL AND SAVE BACK FOR TOPSOIL REPLACEMENT IN RESERVES (BERMS AND DRAINAGE WAYS), AND STREET R/W FOR CURB BACKFILL. NOTE: THE FINISHED GRADE INDICATES THE SURFACE ELEVATION AFTER THE ELEVATION LAYER OF TOPSOIL HAS BEEN PLACED. IN CASES WHERE GRADING IS DIRECTED UNDER TREE DRIP LINES NO TOPSOIL STRIPPING SHALL BE PERFORMED WITHIN THESE AREAS. (COST SUBSIDIARY TO EARTHWORK).
- CONTRACTOR SHALL COORDINATE WITH OWNER'S REPRESENTATIVE ON HAUL ROAD ROUTES, IF OTHER THAN THOSE INDICATED ON THE PLANS.
- EARTHWORK COMPACTION SHALL BE AT 95% STANDARD DENSITY. BERM COMPACTION SHALL BE AT 90% STANDARD DENSITY. CONTRACTOR SHALL PROVIDE TEST RESULTS TO CONFIRM COMPACTION.
- REMOVAL OF EXISTING DRIVES, PAVEMENT, STRUCTURES, AND DEBRIS SHALL BE SUBSIDIARY TO SITE CLEARING AND RESTORATION. DEBRIS IF CRUSHED INTO SMALL PIECES MAY BE WASTED ON SITE UNDER THE PROPOSED BERMS. THERE SHALL BE A MINIMUM OF 3" OF SOIL COVER. CONCRETE DEBRIS MAY ALSO BE WASTED ON SITE IN PROPOSED PONDS AS FISH HABITATS. COORDINATE WITH OWNER'S REPRESENTATIVE.
- AS THE PROJECT NEARS COMPLETION, THE CONTRACTOR SHALL RIP (SCARIFY) ALL HAUL ROADS WITH AN AGRICULTURAL IMPLEMENT INTENDED FOR SUCH PURPOSES TO A DEPTH OF 18". MULTIPLE PASSES MAY BE NECESSARY TO THOROUGHLY ALLEVIATE COMPACTION.

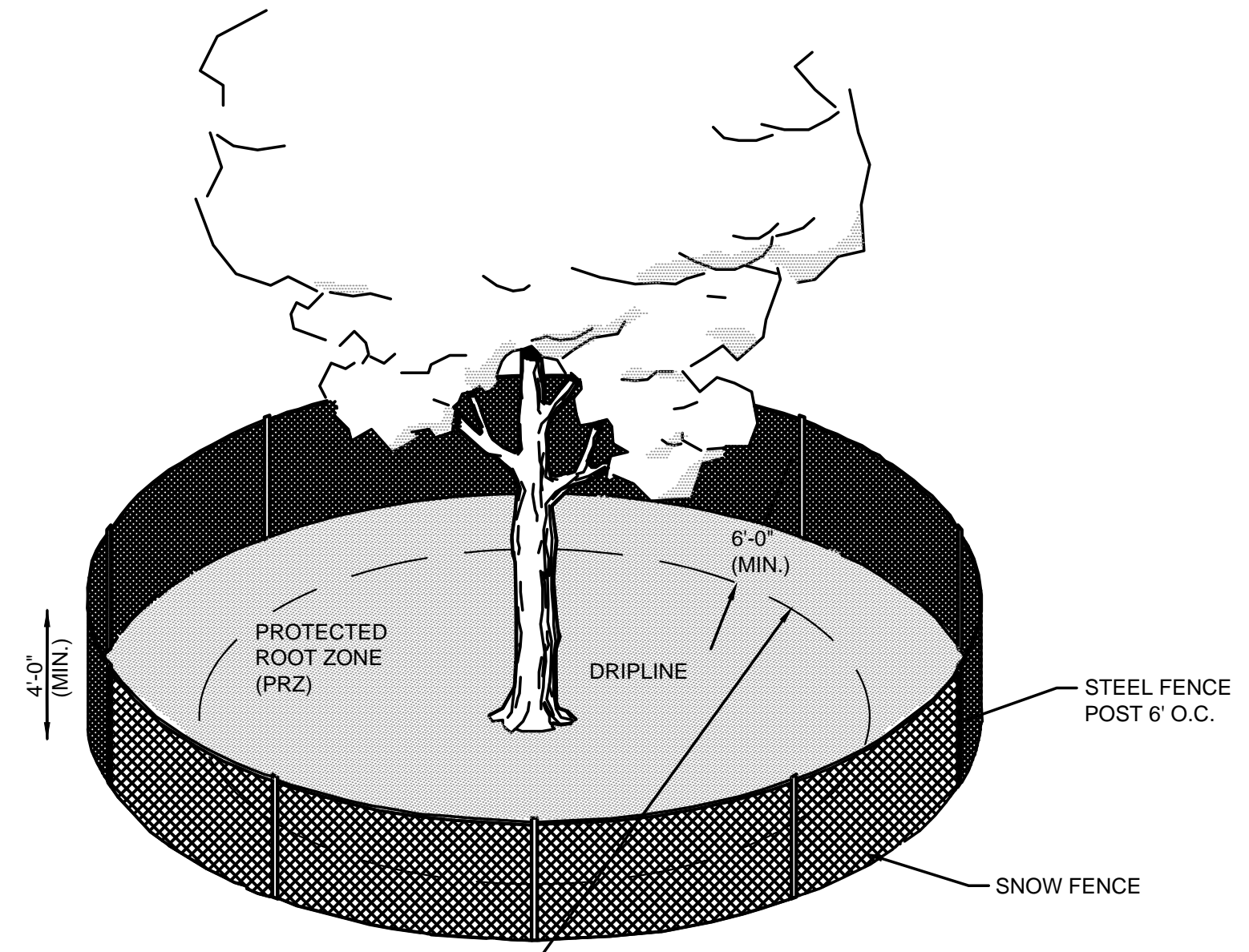


NOTE:

- CONTRACTOR SHALL USE CHOICE MATERIAL FOR CLAY LINER \geq PI-16.
- PERMEABILITY TEST OF THE IN PLACE LINER MATERIAL SHALL BE PERFORMED BY A GEOTECHNICAL SOILS ENGINEER AT LOCATIONS DETERMINED BY THE PROJECT INSPECTOR (2 TEST PER POND). THE CLAY LINER MATERIAL SHALL MEET OR EXCEED A PERMEABILITY RATING VALUE OF 1×10^{-6} CM/SEC. ALL COST ASSOCIATED WITH THIS WORK SHALL BE SUBSIDIARY TO EARTHWORK ITEMS.

GENERAL TREE & NATURAL AREA PROTECTION NOTES:

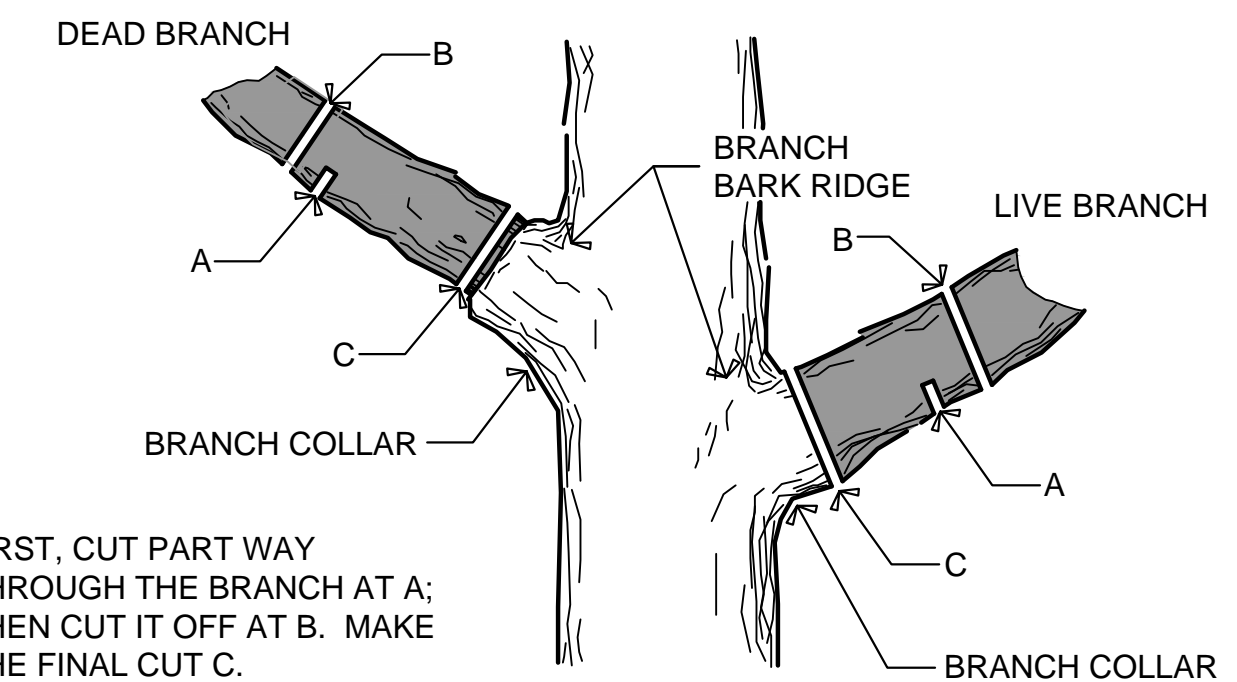
- TREES AND NATIVE PRAIRIE PASTURE ARE AN IMPORTANT ASSET TO THE DEVELOPER. EVERY EFFORT SHOULD BE MADE TO PRESERVE EACH AND EVERY TREE AND PASTURE SPACE (UNLESS NOTED FOR REMOVAL) AS DIRECTED IN THESE PLANS AND NOTES.
- BEFORE ANY TYPE OF CONSTRUCTION BEGINS WITHIN THE PROJECT IMPROVEMENT AREA THE CONTRACTOR SHALL INSTALL PROTECTION FENCE WHERE NOTED AROUND ALL TREE MASSES, INDIVIDUAL TREES ADJACENT TO THE CONSTRUCTION LIMITS, AND NATIVE PRAIRIE AREAS THAT ARE NOT NOTED FOR REMOVAL/ OR DISTURBANCE.
- THE NATIVE PRAIRIE PASTURE SHALL BE IMPACTED AS LITTLE AS POSSIBLE. CONSTRUCTION EQUIPMENT & STORED MATERIALS SHALL REMAIN OUT OF AREAS NOTED TO BE PRESERVED. CONSTRUCTION TRAFFIC SHALL BE LIMITED TO A CONFINED SPACE WITHIN THE STREET R.O.W. OR IMMEDIATE CONSTRUCTION AREA. VEHICLES SHALL NOT RANDOMLY CROSS PASTURE SPACES BUT RATHER STAY ON PREDEFINED ROUTES/ HAUL ROADS THAT THE OWNERS REPRESENTATIVE AGREES TO. IT IS NOT THE INTENTION OF THESE REQUIREMENTS TO MAKE THE PROJECT MORE DIFFICULT BUT RATHER TO THOUGHTFULLY PLAN HOW TO GET THE PROJECT BUILT WITHOUT DESTROYING THE AESTHETIC QUALITIES OF THE PROPERTY.
- EQUIPMENT AND CONSTRUCTION MATERIALS SHALL REMAIN OUT OF AND AWAY FROM TREE DIPLINES SO AS TO NO COMPACT THE ROOT ZONE OR DAMAGE THE TREES. CHEMICAL SPILL DAMAGE SHALL BE PREVENTED BY FILLING GAS TANKS, CLEANING TOOLS, AND REPAIRING EQUIPMENT WELL OUTSIDE TREE PROTECTED ROOT ZONES. MIXING TRUCKS SHALL BE RINSED OUT OFF SITE. WHERE IT OCCURS THAT A CONSTRUCTION ROUTE OR A PROPOSED IMPROVEMENT OCCURS WITHIN A TREE'S PROTECTED ROOT ZONE, IT MAY BE NECESSARY, DEPENDENT UPON THE TYPE OF CONSTRUCTION AND EQUIPMENT USED, TO INSTALL A ROOT PROTECTION BRIDGE OR APPROVED EQUIVALENT. THIS MAY BE DETERMINED IN THE FIELD AT THE DIRECTION OF THE OWNER'S REPRESENTATIVE (REFER TO DETAIL THIS SHEET). DAMAGED TREES THAT ARE NOTED FOR PRESERVATION SHALL BE REPLACED OR THE DAMAGES AMENDED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE WRITTEN RECOMMENDATIONS FROM A CERTIFIED ARBORIST TO THE OWNER'S REPRESENTATIVE AS TO HOW TO AMEND DAMAGED TREES AND ROOT ZONES.
- ANY TREE THAT MUST HAVE BRANCHES REMOVED SHALL BE TRIMMED WITH SHARP INSTRUMENT/ TOOL THAT IS INTENDED FOR SUCH OPERATIONS. CONSULT LANDSCAPE ARCHITECT PRIOR TO TRIMMING. KNOCKING BRANCHES OFF WITH A BACKHOE OR OTHER SIMILAR MACHINE IS NOT ACCEPTABLE! REFER TO TREE TRIMMING DETAIL ON THIS SHEET FOR TRIMMING PROCEDURE.



NOTE: THE TEMPORARY FENCE IS TO BE CONSTRUCTED AROUND SPECIFIED AREAS/TREES PRIOR TO ANY CONSTRUCTION AND SHALL REMAIN UNTIL ALL CONSTRUCTION IS COMPLETE. CONSTRUCTION EQUIPMENT AND MATERIALS ARE NOT PERMITTED WITHIN THE (PRZ). THE FENCE PLACEMENT AROUND THE (PRZ) MAY ONLY BE ADJUSTED WITH PERMISSION FROM THE LANDSCAPE ARCHITECT.

WEIR NOTES

- ALL CONCRETE TO HAVE MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS. CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGN TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
- ALL CONCRETE SHALL CONFORM TO THE CURRENT "ACI MANUAL OF CONCRETE PRACTICE".
- PORTLAND CEMENT SHALL CONFORM TO ASTM C-150, TYPE I.
- ALL AGGREGATE FOR NORMAL WEIGHT CONCRETE SHALL MEET ASTM C33.
- CONTRACTOR SHALL APPLY A THIN-SET MORTAR FINISH TO ALL EXPOSED CONCRETE SURFACES. COLOR TO BE DETERMINED. CONTRACTOR SHALL PROVIDE A 10 S.F. MOCKUP FOR REVIEW AND APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.
- ALL REINFORCING TO MEET ASTM A615, GR. 60.
- CONCRETE COVER SHALL BE 3" IN BOTTOM OF FOOTING CAST AGAINST SOIL. ALL OTHER COVER SHALL BE 2" MEASURED AT THE GREATEST DEPTH OF THE RUSTICATION.
- ALL FOOTINGS SHALL BEAR ON UNDISTURBED EARTH OR ENGINEERED FILL AT ELEVATIONS SHOWN ON DETAILS.
- CONTRACTOR SHALL RECONSTRUCT ANY REMOVED OR DAMAGED EXISTING POND LINER PER POND AND BENTONITE DETAILS. ONCE COMPLETE, EACH POND LINER SHALL BE CONTINUOUS AND FREE OF ANY GAPS. SEE GRADING DETAILS FOR INFORMATION.
- EARTHWORK AND LINER RECONSTRUCTION SHALL BE CONSIDERED SUBSIDIARY TO WEIR CONSTRUCTION.
- GABIONS AND MATTRESSES SHALL BE PVC COATED.
- TURF REINFORCEMENT MAT SHALL BE NORTH AMERICAN GREEN SC-250 OR APPROVED EQUAL.



FIRST, CUT PART WAY THROUGH THE BRANCH AT A; THEN CUT IT OFF AT B. MAKE THE FINAL CUT C.

TREE TRIMMING NOTES

- NOTIFY MKEC PROJECT ENGINEER PRIOR TO COMMENCEMENT OF EASEMENT CLEARING & GRUBBING OPERATIONS. CONTRACTOR SHALL HAVE LIMITS OF REMOVAL DEFINED WITH FLAG & LATH. MKEC PROJECT ENGINEER WILL PROVIDE JUDGEMENT CALLS FOR TREES IN QUESTION. PROVIDE MKEC 24-HOUR NOTICE. TREES MAY BE BURNED ON SITE. REGULATORY & PERMITTING APPROVALS SHALL BE SECURED BY CONTRACTOR.
- TRIMMING OF BRANCHES SHALL NOT BE DONE WITH A BACKHOE!

GRADING DETAILS

PROJECT NO. 468-85308

DATE OCT. 2018

SCALE AS SHOWN

DESIGNED DFL DRAWN DML CHECKED JAG

NO. REVISION DATE

SHEET NO.

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