> memo

ECT

To: Mr. Jason Bing, Ann Arbor Public Schools

From: Steve Thomas and Genesis Mickel
Environmental Consulting & Technology, Inc. (ECT)

Date: April 9, 2025

Re: Tree Transplant Project at the Thurston Nature Center Oak Savannah

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1.0 INTRODUCTION

Environmental Consulting and Technology, Inc. (ECT) was retained to help plan and oversee a tree transplant project on the grounds of Ann Arbor Public Schools' Thurston Elementary School. The transplant project was undertaken to retain and protect specific trees that were growing within a portion of the school grounds designated for eventual construction and landscape modification.

Thurston Elementary School contains several acres of wooded areas, a pond, and natural plantings commonly known as the "Thurston Nature Center" (TNC). The trees selected for transplantation were within or near the *Thurston Oak Savannah*, which was created around 2009, and located along the southern side of the TNC. The savannah was originally created by planting approximately one-half of an acre of mowed playground field with native oak tree stock along with several native grass & wildflower species. As the planted trees have grown, the savannah has been managed as a natural habitat and provided with additional features such as a sign, bird houses, and bat houses.

ECT's role in the tree transplant project included:

A. Development of a Tree Transplantation Specification Plan (attached)
B. Determination or assistance with tree transplant recipient (final) locations (details provided herein)
C. Determination or assistance with bat house final locations (details provided herein)
D. Documentation of the transplant effort (details provided herein)
E. Assistance with tree angles and soil and microtopographic righting (details provided herein)
F. Documentation of pre- and post-transplant conditions (original & final layout, provided herein)
G. Post transplant tree care recommendations (details provided herein)

2.0 TRANSPLANTATION SPECIFICATION PLAN

The Transplantation Specification Plan (TSP) provided guidance for planning, equipment, and contractor selection, execution, and post-transplant and maintenance activity. Refer to the attached copy of the TSP.

3.0 TREE TRANSPLANT FIELDWORK SUMMARY

The tree transplanting work was conducted from March 25-27, 2025 by Blacy Tree Transplant, headed by owner and foreman Randy Bloss, and aided by two transplant assistants. In total ten trees were

relocated from south side to the north side of the future construction and grading limits line, and all within the confines of, or immediately adjacent to, the existing Thurston Oak Savannah (refer to the attached *Photolog* for typical work-in-progress pictures). Transplant locations (destinations) for each of the ten trees were determined individually, and based upon each individual tree's species along with existing size and growth pattern, relative to the recipient location's current and future anticipated lighting intensity, moisture levels, and human constraints such as utility safety buffers (refer to the attached *Figure 1: Pre-Transplant Tree Map* and *Figure 2: Post-Transplant Tree Map*). Table 1 below lists the transplanted trees.

Table 1: List of Transplanted Trees in Thurston Savannah in March of 2025.

Tree Number*	Species	Common Name	Approximate Diameter (DBH, inches)**
1	*Quercus bicolor*	swamp white oak	10.5
2	*Quercus muehlenbergii*	chinquapin oak	4.5
3	*Quercus bicolor*	swamp white oak	5
4	*Quercus alba*	white oak	7
5	*Quercus macrocarpa*	bur oak	7
6	*Quercus bicolor*	swamp white oak	3.5
7	*Quercus alba*	white oak	5
8	*Quercus rubra*	red oak	2.5
9	*Quercus macrocarpa*	bur oak	4
10	*Quercus velutina*	black oak	4

* Tree locations are provided in *Figure 1* and *Figure 2*.
** Diameters are estimated (approximate, within 20% of measurable values in spring of 2025).

To help with identification, pink flags with a number (1 through 10) corresponding to each of the transplanted trees were left in place on March 27, tied to a southern-facing branch of the tree.

During construction, the TSP was followed except when not fully practicable or not warranted by site conditions. Exceptions in practice to the TSP were the following:

- Trees were oriented to their original compass orientation, or within 90 degrees of that orientation (this minor deviation from the TSP is anticipated to have no limiting effect on post-transplant tree health and survival).
- All trees that were transplanted were in excellent health, with the exception of Tree #10, a black oak (*Quercus velutina*). This black oak may have a lagging growth rate suggesting less than perfect health or adaptation to this locale. Nonetheless, this tree is expected to survive and perform well, post-transplant.
- Soils and subsoils were moist to saturated during the transplant work. Water tables were often within two or three feet of the ground surface. Therefore, no watering took place before, during, or immediately after the transplant work.
- Some of the recipient location soil plugs had to be moved back into the donor location with a skid steer, and not all of the original herbaceous material was able to be located at the very surface.
- The work was conducted well before the seasonal threat of oak wilt exists, and thus twigs and small branches that were cut or damaged during the transplant operation were not painted with a wound sealant.

- Trees were set vertically, or in some cases, were set with a very slight angle to the north and/or west to allow for better future balancing on account of cumulative wind force and southward (sun) favoring growth.

Prior to relocating/reinstalling the bat houses, support pole sleeves were re-secured with tapping screws. On March 26, the two bat houses were reinstalled to the north of the future construction and grading limits and were placed facing south on the southern periphery of the remaining savannah. This positioning will maximize solar exposure and maintain their original orientation and positioning relative to the savannah.

On March 27, two birdhouse supports were reinstalled in the savanna to the north of the future construction and grading limits. They were installed slightly away from tree canopies to encourage use by bluebirds or other open-land nesting species.

4.0 RECOMMENDED MAINTENANCE FOR TRANSPLANTED TREES

Certain tree-care steps will increase the probability of survival and good health of the transplanted trees. Typical tree care steps are provided in the TSP. The tree care provisions in the TSP are restated and reinterpreted when applicable for this project:

For short-term care—

a) *Mulching*
   i) *Apply hardwood mulch 3-4 inches thick outward beginning 4-6 inches from the trunk to the edges of soil disturbance. Mulch should not touch the trunk.*
   ii) *Mulch should be free of pests, mold, or disease.*

   Additional comment: All but two of the transplanted trees are growing in a grassy and thatch-heavy matrix. The positive role that applied mulching would play is being played by this thatch. Thus, mulch would not add much benefit for these trees. Wood chip mulch can protect a tree from foot traffic and mowing collisions. For the two trees that were relocated into a lawn area east of the original savannah (Tree #7 and Tree #8, see attached *Figure 2*), wood chip mulch could help to provide these protective functions. However, when ECT last saw these transplanted trees, the AAPS construction crew had protected them with wire garden fencing. Thus, the mulch is optional around these two trees. If that fencing is removed, then Tree #7 and Tree #8 should have mulch applied until the area is no longer mowed and no longer experiences regular foot traffic.

b) *Fertilizer*
   i) *A slow-release fertilizer may be applied, but is not critical. Schultz® brand All-Purpose 16-12-12 Slow Release Plant Food, available at most retail garden centers, is recommended, as it contains micro-nutrients that may be missing from the soil and feeds for up to 3 months.*

   Additional comment: Fertilizer is not critical for tree survival and is normally not desirable in prairie and savanna wildflower context (fertilizer can encourage weeds, and thereby reduce competitiveness of some native plants). However, a slow release fertilizer would help the trees recover their growth rates more rapidly. Randy Bloss recommends the Shultz brand All-Purpose Slow Release Granular Plant Food (3.5 lb bag). ECT recommends that if TNC stewards are amenable to the idea, that this product be utilized at a rate no higher than label instructions. If TNC stewards are not amenable to use of this product in the savanna, then its use can be avoided, since fertilizer is not likely critical for tree recovery.

c) *Staking*

i) *If necessary for tree stability, loosely stake to allow for normal swaying of the tree, but supportive enough to prevent tip over in high wind conditions. Most trees should not require staking.*
ii) *Stakes should be oriented east-west to best support the tree during high winds.*
iii) *Remove staking after two full growing seasons from trees that continue to hold a vertical or nearly vertical posture.*

Additional comment: The soils of extracted root balls of all ten trees consisted of fairly high percentage of clays and loam components. With these cohesive soils, the root balls will not tend to shift under normal conditions. If an unplanned event such as a vehicle bump or a tornado occurs and one or more trees are visibly shifted, the situation may need to be rectified and the need for stabilizing stakes can be determined at that time.

d) *Trunk Wrapping*
   i) *Trunk wrapping is unnecessary, as these trees are acclimated to this setting and environment.*

For longer term care—

a) *Watering*
   i) *Check subsoil and surface soil moisture with a moisture gauge. Ideally, soils remain moist but not waterlogged for long periods. Too much water can be as detrimental to recovering tree health as too little water. Soils at this location are heavy loams and clay loams; as such, they tend to hold moisture well. Plan for deep watering approximately once per week until late fall dormancy, depending on rainfall.*
   ii) *Less frequent watering is called for during periods of frequent, regular rain.*
   iii) *During periods of drought, plan for watering once or twice per week, depending on soil moisture content.*
   iv) *Installation of 2 to 3 water bags per tree is a good method to achieve slow and thorough watering.*

   Additional comment: Under fairly normal weather conditions, the trees will generally not be at high risk of experiencing dehydration stress until after their leaves begin to emerge and when high temperatures start to climb regularly above 50˚ F. Modern weather patterns are less predictable and more prone to extreme shifts. Having someone designated as responsible for monitoring weather and associated soil moisture levels in this area may help to ensure that the transplanted trees don't enter a water stress condition during the growing season in 2025, which could jeopardize their recovery. However, note above too that if soils are artificially waterlogged for long periods, tree recovery will be similarly jeopardized.

b) *Fertilizer*
c) *A slow-release fertilizer may be applied per product specifications. Do not over-fertilize. Schultz® brand All-Purpose 16-12-12 Slow Release Plant Food, available at most retail garden centers, is recommended, as it contains micro-nutrients that may be missing from the soil and feeds for up to 3 months.*

   See Additional comment above.

d) *Pruning*
   i) *Provided that the tree is watered appropriately, and no sign of disease is apparent, pruning of live limbs is not advised. Pruning should be limited to dead or dying branches as part of routine maintenance.*

5.0 SUMMARY AND CONCLUSION

The tree transplanting project in TNC's savannah resulted in the relocation of ten oak trees. The conditions during the transplant period were favorable, and these conditions are anticipated to support the survival and eventual strong growth of the transplanted trees. However, in the short term,

the steps noted above, such as watering and mulching, when and where warranted, will raise the likelihood of survival of these trees. Once these transplanted oak trees survive into fall of 2025, their likelihood of needing further assistance becomes much less.

Through October of 2025, in combination or in addition to monitoring moisture levels, ECT recommends a brief periodic check on the trees (i.e., someone can observe if they look healthy, look alive, and if there appear to be any unusual or unplanned conditions in the savannah). Thereafter, ECT recommends that the transplanted trees be briefly checked once per month through October of 2026. If any problems are encountered, ECT is prepared to provide further assistance. Thank you again for enlisting the support of ECT. If you have any questions, requests, or concerns regarding the transplant events or tree care going forward, please don't hesitate to contact Steve Thomas (sthomas@ectinc.com, 517-755-0851) or Genesis Mickel (gmickel@ectinc.com, 612-250-9672).

Attachment 1
Transplantation Specification Plans

1) DISCLAIMER
A) TRANSPLANTING A TREE IS AN EXTREMELY STRESSFUL PROCESS FOR THE TREE. MOST OF THE ROOTS ARE LOST AND THE TREE MAY GO INTO SHOCK DESPITE BEST PRACTICES DETAILED IN THIS TRANSPLANTATION PLAN (PLAN). THERE ARE NO GUARANTEES, INFERRED OR EXPLICIT, THAT A TRANSPLANTED TREE WILL SURVIVE THE PROCESS. ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC. (ECT) DEVELOPED THIS PLAN IN ACCORDANCE WITH INDUSTRY BEST PRACTICES, INCLUDING ANSI A300 PART 6 PLANTING AND TRANSPLANTING STANDARDS, CONSULTATION WITH INDUSTRY PROFESSIONALS, AND ECOLOGICAL BEST PROFESSIONAL JUDGEMENT TO MAXIMIZE TRANSPLANTATION SUCCESS. ECT AND ITS AFFILIATES SHALL BE HELD HARMLESS IF TRANSPLANTATION OF ANY TREE FAILS WHEN PERFORMED ACCORDING TO THE SPECIFICATION SET FORTH IN THIS PLAN.
B) THIS PLAN WAS DEVELOPED FOR ANN ARBOR PUBLIC SCHOOLS (AAPS) FOR THE THURSTON ELEMENTARY SCHOOL REDEVELOPMENT PROJECT (PROJECT) IN ANN ARBOR, MICHIGAN. THE PLAN COVERS TRANSPLANTATION OF SPECIFIC OAKS (QUERCUS SPP.) LOCATED IN THE PLANTED AREA KNOWN AS THE "OAK SAVANNAH". ADDITIONAL TREES MAY BE RELOCATED DURING A DIFFERENT PHASE OF THE PROJECT BUT ARE NOT INCLUDED IN THIS PLAN.

2) CONTRACTOR
A) A LOCAL TREE TRANSPLANTATION COMPANY (VENDOR) EXPERIENCED IN THIS WORK SHOULD BE CONTRACTED. IT IS RECOMMENDED THAT ALL WORK BE OVERSEEN BY AN ISA CERTIFIED ARBORIST AND CONFORM WITH ANSI A300 PART 6 PLANTING AND TRANSPLANTING STANDARDS. THE VENDOR SHALL PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO EFFECT TREE TRANSPLANTATION. FOR A FEE, THE VENDOR MAY WARRANT POST-TRANSPLANTATION TREE SURVIVAL FOR A PERIOD OF ONE (1) YEAR FROM DATE OF COMPLETION. HOWEVER, THIS WARRANTY SHOULD NOT EXTEND TO UNRELATED COMPLICATIONS SUCH AS DAMAGE DUE TO SCHOOL CONSTRUCTION OR OTHER FACTORS SUCH AS FAILURE TO FOLLOW A TREE WATERING PROGRAM.

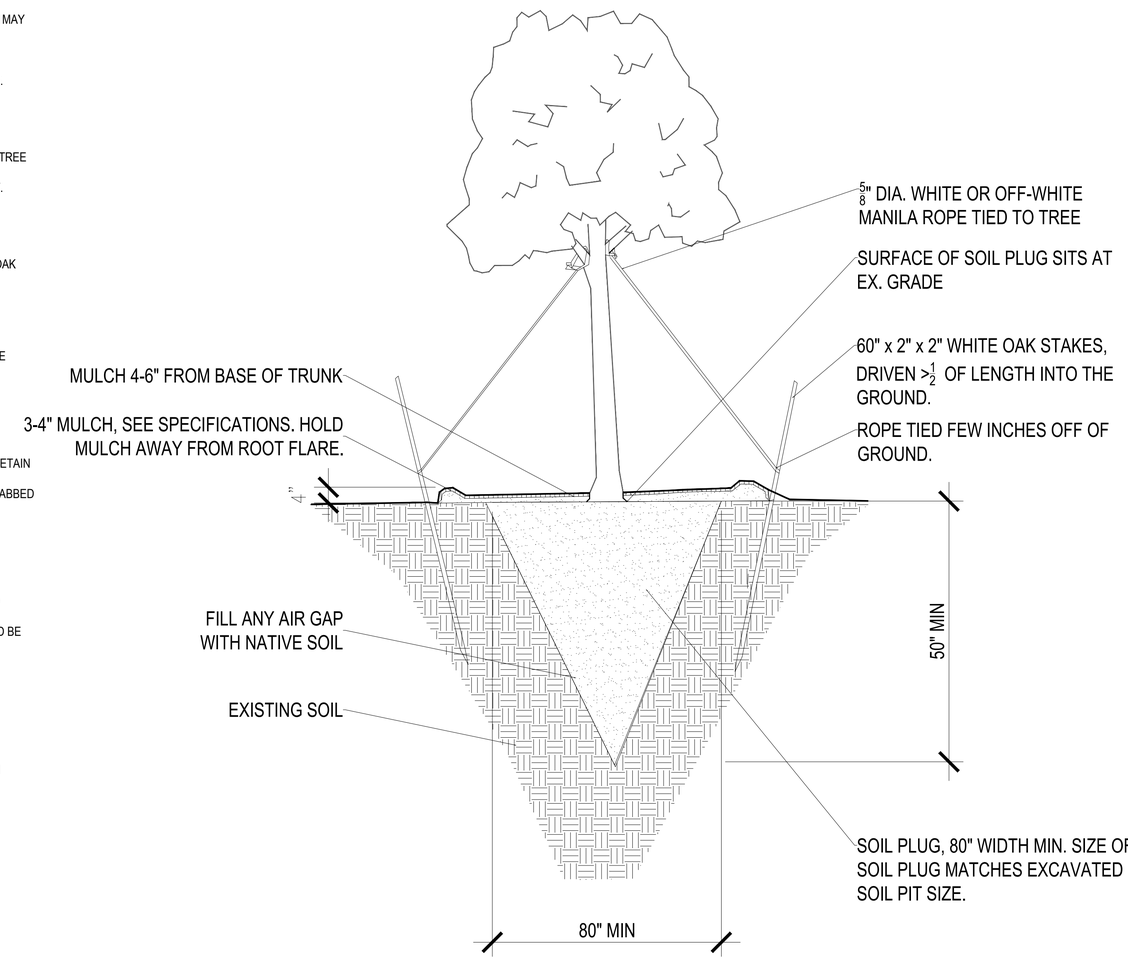
3) EQUIPMENT
A) A MECHANICAL TREE SPADE WILL BE REQUIRED FOR THIS WORK. TREES TRANSPLANTED WITH A MECHANICAL TREE SPADE HAVE A HIGHER RATE OF SUCCESS THAN TREES EXCAVATED WITH A BACKHOE OR A SKID STEER WITH LOADER OR BUCKET. BASED ON THE SIZES OF TREES TO BE TRANSPLANTED, AVERAGING 7 INCHES DBH, THE TREE SPADE DIAMETER SHOULD BE A MINIMUM OF 80 INCHES TO CAPTURE AS MUCH OF THE ROOT BALL AS POSSIBLE. TREE SPADES OF THIS SIZE ARE TYPICALLY TRUCK-MOUNTED.
B) EQUIPMENT BLADES MUST BE SHARP AND TRUE WITH NO BENDS OR DEFECTS. PRIOR TO ENTRY ONTO AAPS PROPERTY, EQUIPMENT MUST BE FREE OF OFF-SITE DIRT OR MUD WHICH MAY BE CARRYING INVASIVE SEEDS OR DISEASE.

4) PRE-PLANNING
A) OAKS SHOULD BE TRANSPLANTED OUTSIDE OF THE HIGH-RISK PERIOD FOR CONTRACTING OAK WILT DISEASE. IN MICHIGAN, THIS HIGH-RISK TIMEFRAME RUNS FROM APRIL 15-JULY 15.
B) UNDERGROUND UTILITIES SHALL BE MARKED BY "MISS DIG" (811) PRIOR TO WORK AND SHALL BE THE RESPONSIBILITY OF AAPS OR ITS CONTRACTOR.
C) DETERMINE PATHWAYS OF EQUIPMENT ACCESS THAT AVOID INTERFERENCE WITH EXISTING TREES TO BE RETAINED.
D) TREE TRANSPLANTATION LOCATIONS SHOULD BE STRATEGICALLY PLACED TO RETAIN MAXIMUM SPACING BETWEEN EXISTING TREES.
E) STAKE THE LOCATIONS OF RECIPIENT TRANSPLANTATION SITES.
F) TRANSPLANTED TREES SHOULD BE ORIENTED IN THEIR ORIGINAL COMPASS ORIENTATION. PRIOR TO MOVING, TIE A PIECE OF CONSTRUCTION FLAGGING TO THE SOUTH SIDE OF THE TREE TO MAINTAIN CORRECT ORIENTATION WHEN TRANSPLANTING TO NEW LOCATION. FLAGGING ALSO SERVES TO MARK WHICH TREES ARE TO BE MOVED.
G) STAKE CONSTRUCTION FENCING AROUND EXISTING TREES (I.E. TREES THAT WILL NOT BE TRANSPLANTED OR REMOVED) TO MINIMIZE THE POSSIBILITY OF DAMAGE FROM EQUIPMENT.
H) CONSTRUCTION MATTING SHOULD BE USED FOR ALL ACCESS PATHS, TURN AROUNDS, AND STAGING AREAS THAT MAY BE USED BY HEAVY EQUIPMENT, IN ORDER TO MINIMIZE SOIL COMPACTION AND DISTURBANCE TO GROUNDCOVER VEGETATION.
I) INSPECT ALL TREES TO BE TRANSPLANTED FOR SIGNS OF DISEASE OR POOR HEALTH. THESE SHOULD NOT BE TRANSPLANTED.
J) INSPECT ALL TREES TO BE TRANSPLANTED FOR SIGNS OF OLD INJURIES AND DOCUMENT THE LOCATION AND NATURE OF THE INJURIES.
K) OAK SAVANNAH TREES SHOULD NOT BE RELOCATED TO FOREST EDGES OR INTERIORS. MAXIMIZE CHANCES OF SUCCESS BY RELOCATING THESE TREES TO OTHER AREAS OF OPEN OAK SAVANNAH HABITAT WHERE THEY HAVE ADAPTED.
L) BECAUSE THE RECIPIENT SITE IS VIRTUALLY IDENTICAL TO THE DONOR SITE, SOIL TESTING IS NOT RECOMMENDED AS NECESSARY.
M) TREE PRUNING PRIOR TO TRANSPLANTATION IS NOT NECESSARY OR RECOMMENDED.
N) ROOT PRUNING PRIOR TO TRANSPLANTATION IS NOT RECOMMENDED, AS THIS MEASURE IS INTENDED WHEN THE TREE HAS A YEAR TO ACCLIMATE TO PRUNED ROOTS PRIOR TO TRANSPLANTATION.
O) EXCAVATED TREES SHOULD NOT BE STAGED ON SITE FOR TRANSPLANTING AT A LATER DATE. TREES SHOULD BE RE-PLANTED IMMEDIATELY. HOWEVER, IF NECESSARY, TREES CAN BE STAGED AT A NEARBY NURSERY FOR CARETAKING AND MONITORING UNTIL PLANTING.
P) PRE-WATERING TREES TO BE TRANSPLANTED WILL HELP THE SOIL PLUGS TO RETAIN SHAPE UPON EXCAVATION.

5) EXECUTION
A) EXCAVATION
I) EXCAVATE SOIL PITS FIRST WITH THE TREE SPADE.
II) SET SOIL PLUGS ASIDE ON CONSTRUCTION MATTING OR A SIMILAR APPROPRIATE SURFACE. THESE WILL BE USED TO FILL IN DONOR SITE HOLES. IF PLUGS FALL APART AND DO NOT RETAIN STRUCTURAL INTEGRITY, SET ASIDE THE SOD LAYER WITH INTACT HERBACEOUS MATERIAL.
III) IF THE SOIL PIT OF THE RECIPIENT HOLE HAS BEEN GLAZED (SMOOTHED OUT) BY THE SPADE BLADES, AT THE VENDOR'S DISCRETION, THE EDGES OF THE PIT MAY BE SCORED AND STABBED WITH A SHOVEL TO BREAK APART THE SOIL AND HELP NEW ROOT GROWTH TO PENETRATE THE SOIL PIT EDGE.
IV) BOTTOM OF PIT MAY BE WATERED UNTIL POOLED SEVERAL INCHES TO AID IN HYDRATING TREE ROOTS AFTER PLANTING. WATER WILL DISPERSE UPWARD ALONG PIT WALLS UPON INSERTION OF SOIL PLUG.
B) TREE TRANSPLANTATION
I) USING THE TREE SPADE, REMOVE THE TREE FROM ORIGINAL LOCATION.
II) IF ANY BRANCHES IMPEDE THE FUNCTION OF THE TREE SPADE AND CANNOT BE WORKED AROUND, TRIM THE MINIMUM AMOUNT TO ALLOW TREE SPADE ACCESS TO THE TREE.
III) TO AVOID THE SPREAD OF OAK WILT DISEASE, ANY CUT ENDS OF HEALTHY BRANCHES SHOULD BE PAINTED OR SPRAYED WITH A TREE WOUND SEALANT. TREEKOTETM /TREE WOUND DRESSING AND SPECTRACIDE PRUNING SEAL ARE TWO BRANDS AVAILABLE AT MOST RETAIL GARDEN CENTERS.
IV) INSERT THE TREE INTO THE EXCAVATED SOIL PIT SO THAT IT IS UPRIGHT WHEN VIEWED FROM ALL ANGLES. TO THE EXTENT POSSIBLE, THE GROUND LEVEL OF THE SOIL PLUG SHOULD BE LEVEL WITH THE EXISTING GROUND.
V) REMOVE THE SPADE FROM THE TREE.
VI) BACKFILL WITH LOOSE, NATIVE SOIL ANY GAPS REMAINING AROUND THE EDGES OF PLANTING HOLE AFTER TREE IS SET INTO PLACE.
VII) WATER-IN AS GAPS ARE FILLED TO ASSIST IN SETTLING SOIL TO REMOVE AIR POCKETS.
VIII) MANUALLY (E.G., BACK OF SHOVEL) TAMPING DOWN SOIL IS ACCEPTABLE, BUT DO NOT COMPACT.
IX) WATER THE TREE SLOWLY AND THOROUGHLY. INSTALLATION OF 2 TO 3 WATER BAGS PER TREE IS A GOOD METHOD TO ACHIEVE SLOW AND THOROUGH WATERING.
X) APPLICATION OF A ROOT GROWTH STIMULATOR IS NOT NECESSARY.
C) BACKFILL
I) BACKFILL THE DONOR SITE PITS CREATED FROM TREE SPADING WITH THE PLUGS EXTRACTED FROM RECIPIENT SOIL PITS. THE GROUND COVER VEGETATION SHOULD BE FLUSH WITH EXISTING GROUND, AND LEAVES-UP/ROOTS-DOWN WHEN FINISHED.
II) IF SOIL PITS FELL APART DURING PLACEMENT ON MATTING, FILL HOLES WITH SUBSOIL FIRST, FINISHING WITH THE SOD LAYER ON TOP.
III) THE GROUND LEVEL OF THE SOIL PLUG SHOULD IDEALLY BE LEVEL WITH THE EXISTING GROUND. EXCAVATED SOILS OFTEN RESHAPE DURING EXCAVATION; THEREFORE, SLIGHT DEPRESSION OR MOUNDING OF 1-3 INCHES IS ACCEPTABLE.
IV) FILL GAPS AROUND SOIL PIT EDGES WITH LOOSE, NATIVE SOIL AS NEEDED.
V) WATER GROUND COVER VEGETATION SLOWLY AND THOROUGHLY. THE INTENT IS FOR HERBACEOUS VEGETATION TO SURVIVE AND ACCLIMATE AT THE NEW LOCATION.

6) POST-TRANSPLANTATION
A) MULCHING
I) APPLY HARDWOOD MULCH 3-4 INCHES THICK OUTWARD BEGINNING 4-6 INCHES FROM THE TRUNK TO THE EDGES OF SOIL DISTURBANCE. MULCH SHOULD NOT TOUCH THE TRUNK.
II) MULCH SHOULD BE FREE OF PESTS, MOLD, OR DISEASE.
B) FERTILIZER
I) A SLOW-RELEASE FERTILIZER MAY BE APPLIED, BUT IS NOT CRITICAL. SCHULTZ® BRAND ALL-PURPOSE 16-12-12 SLOW RELEASE PLANT FOOD, AVAILABLE AT MOST RETAIL GARDEN CENTERS, IS RECOMMENDED, AS IT CONTAINS MICRO-NUTRIENTS THAT MAY BE MISSING FROM THE SOIL AND FEEDS FOR UP TO 3 MONTHS.
C) STAKING
I) IF NECESSARY FOR TREE STABILITY, LOOSELY STAKE TO ALLOW FOR NORMAL SWAYING OF THE TREE, BUT SUPPORTIVE ENOUGH TO PREVENT TIP OVER IN HIGH WIND CONDITIONS. MOST TREES SHOULD NOT REQUIRE STAKING.
II) STAKES SHOULD BE ORIENTED EAST-WEST TO BEST SUPPORT THE TREE DURING HIGH WINDS.
III) REMOVE STAKING AFTER TWO FULL GROWING SEASONS FROM TREES THAT CONTINUE TO HOLD A VERTICAL OR NEARLY VERTICAL POSTURE.
D) TRUNK WRAPPING
I) TRUNK WRAPPING IS UNNECESSARY, AS THESE TREES ARE ACCLIMATED TO THIS SETTING AND ENVIRONMENT.

7) MAINTENANCE
A) WATERING
I) CHECK SUBSOIL AND SURFACE SOIL MOISTURE WITH A MOISTURE GAUGE. IDEALLY, SOILS REMAIN MOIST BUT NOT WATERLOGGED FOR LONG PERIODS. TOO MUCH WATER CAN BE AS DETRIMENTAL TO RECOVERING TREE HEALTH AS TOO LITTLE WATER. SOILS AT THIS LOCATION ARE HEAVY LOAMS AND CLAY LOAMS; AS SUCH, THEY TEND TO HOLD MOISTURE WELL. PLAN FOR DEEP WATERING APPROXIMATELY ONCE PER WEEK UNTIL LATE FALL DORMANCY, DEPENDING ON RAINFALL.
II) LESS FREQUENT WATERING IS CALLED FOR DURING PERIODS OF FREQUENT, REGULAR RAIN.
III) DURING PERIODS OF DROUGHT, PLAN FOR WATERING ONCE OR TWICE PER WEEK, DEPENDING ON SOIL MOISTURE CONTENT.
IV) INSTALLATION OF 2 TO 3 WATER BAGS PER TREE IS A GOOD METHOD TO ACHIEVE SLOW AND THOROUGH WATERING.
B) FERTILIZER
C) A SLOW-RELEASE FERTILIZER MAY BE APPLIED PER PRODUCT SPECIFICATIONS. DO NOT OVER-FERTILIZE. SCHULTZ® BRAND ALL-PURPOSE 16-12-12 SLOW RELEASE PLANT FOOD, AVAILABLE AT MOST RETAIL GARDEN CENTERS, IS RECOMMENDED, AS IT CONTAINS MICRO-NUTRIENTS THAT MAY BE MISSING FROM THE SOIL AND FEEDS FOR UP TO 3 MONTHS.
D) PRUNING
I) PROVIDED THAT THE TREE IS WATERED APPROPRIATELY, AND NO SIGN OF DISEASE IS APPARENT, PRUNING OF LIVE LIMBS IS NOT ADVISED. PRUNING SHOULD BE LIMITED TO DEAD OR DYING BRANCHES AS PART OF ROUTINE MAINTENANCE.



TREE TRANSPLANTATION

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1/2"=1'-0"

Thurston Tree Transplantation Plan

CALL BEFORE YOU DIG
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3/17/2025 9:41 AM by Esther Chiang

ANN ARBOR PUBLIC SCHOOLS - THURSTON ELEMENTARY 2025

ECT PROJECT No.:	250098
DESIGNED BY:	GM,ST
DRAWN BY:	EC
CHECKED BY:	GM, ST
APPROVED BY:	GM, ST
STATUS: FINAL DESIGN	
REVISIONS:	

TREE TRANSPLANTATION DETAIL AND NOTES

1

N:\A2117-ANN ARBOR PUBLIC SCHOOL\250098-THURSTON ELEMENTARY SCH_2025\3_DATA\CAD\THURSTON TREE TRANSPLANTATION PLAN.DWG

Attachment 2
Transplant Project Photographic Log

ECT Environmental Consulting & Technology, Inc.

TRANSPLANT PROJECT PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
ANN ARBOR PUBLIC SCHOOLS	Thurston Elementary School, Ann Arbor, Michigan	250098

Photo No.	Date:
1	03/25/2025

Direction Photo Taken:

Southwest

Description:

Tree #5, an approximately 7-inch trunk diameter bur oak, being approached for extraction by the tree spade, operated by Blacy Tree Transplant.

Photo No.	Date:
2	03/25/2025

Direction Photo Taken:

Southwest

Description:

Tree #5, an approximately 7-inch diameter bur oak, being surrounded for extraction by the tree spade.

ECT Environmental Consulting & Technology, Inc.

TRANSPLANT PROJECT PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
ANN ARBOR PUBLIC SCHOOLS	Thurston Elementary School, Ann Arbor, Michigan	250098

Photo No.	Date:
3	03/25/2025

Direction Photo Taken:

Southwest

Description:

Tree #5, an approximately 7-inch diameter bur oak, has been surrounded for extraction by the tree spade. The blades of the spade are about to be lowered.

Photo No.	Date:
4	03/25/2025

Direction Photo Taken:

Southwest

Description:

Tree #5, an approximately 7-inch diameter bur oak, surrounded for extraction by the tree spade. The blades of the spade are being lowered.

ECT Environmental Consulting & Technology, Inc.

TRANSPLANT PROJECT PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
ANN ARBOR PUBLIC SCHOOLS	Thurston Elementary School, Ann Arbor, Michigan	250098

Photo No.	Date:
5	03/25/2025

Direction Photo Taken

Southwest

Description:

Tree #5, an approximately 7-inch diameter bur oak, extracted by the tree spade.

Photo No.	Date:
6	03/25/2025

Direction Photo Taken:

Northeast

Description:

Tree #5, an approximately 7-inch diameter bur oak, being transported to its recipient (final) location while in the tree spade.

ECT Environmental Consulting & Technology, Inc.

TRANSPLANT PROJECT PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
ANN ARBOR PUBLIC SCHOOLS	Thurston Elementary School, Ann Arbor, Michigan	250098

Photo No.	Date:
7	03/25/2025

Direction Photo Taken:

North

Description:

Tree #5, an approximately 7-inch diameter bur oak, being planted into its recipient (final) location by the tree spade.

Photo No.	Date:
8	03/25/2025

Direction Photo Taken:

Northeast

Description:

Tree #5, an approximately 7-inch diameter bur oak, fully transplanted into its recipient (final) location.

ECT Environmental Consulting & Technology, Inc.

TRANSPLANT PROJECT PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
ANN ARBOR PUBLIC SCHOOLS	Thurston Elementary School, Ann Arbor, Michigan	250098

Photo No.	Date:
9	03/25/2025

Direction Photo Taken:

West

Description:

Tree #5, an approximately 7-inch diameter bur oak, fully transplanted into its recipient (final) location. The plug ground surface vegetation and elevation essentially matches that of the recipient location.

Photo No.	Date:
10	03/25/2025

Direction Photo Taken:

East

Description:

Tree #10, an approximately 4-inch diameter black oak, extracted by the tree spade.

ECT Environmental Consulting & Technology, Inc.

TRANSPLANT PROJECT PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
ANN ARBOR PUBLIC SCHOOLS	Thurston Elementary School, Ann Arbor, Michigan	250098

Photo No.	Date:
11	03/25/2025

Direction Photo Taken:

North

Description:

Tree #10, an approximately 4-inch diameter black oak, planted into its recipient (final) location.

Photo No.	Date:
12	03/25/2025

Direction Photo Taken:

Description:

A typical view of soils after tree extraction. Soils are generally loamy, fertile, and with good cohesiveness and water retention capacity.

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TRANSPLANT PROJECT PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
ANN ARBOR PUBLIC SCHOOLS	Thurston Elementary School, Ann Arbor, Michigan	250098

Photo No.	Date:
13	03/27/2025

Direction Photo Taken:

North/Northwest

Description:

Tree transplanting is complete. View from the southeastern periphery of the as-built savannah, which now contains unmoved trees and transplanted trees.

Photo No.	Date:
14	03/27/2025

Direction Photo Taken:

East

Description:

Tree transplanting is complete. View from the southwestern periphery of the as-built savannah, which now contains unmoved trees and transplanted trees. The bare spot in the left foreground is the original location of Tree #6. Note the two relocated bat houses visible in the center and center-right of the photo.

Attachment 3

Figure 1: Pre-Transplant Tree Map
and
Figure 2: Post-Transplant Tree Map

Project Area (± 25.09 ac.)

Approximate Future Disturbance-Grading Limits

Tree Locations

Transplant Trees Original Locations

Unmoved Trees

N

0 25 50

US Feet

Base Layer: NAIP Imagery, 2023

Figure 1
Original Savannah Tree Layout

Thurston Elementary School
Ann Arbor, Michigan

Date: 4/9/2025

ECT

Project Area (± 25.09 ac.)

Approximate Future Disturbance-Grading Limits

Tree Locations

Transplant Trees Final Location

Unmoved Trees

Structures

Bat House

Bird House

Thurston Oak Savannah sign

N

0 20 40

US Feet

Base Layer: NAIP Imagery, 2023

Figure 2
As-Built Savannah Tree Layout

Thurston Elementary School
Ann Arbor, Michigan

Date: 4/9/2025

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