Year 4 Monitoring Report
Final
Green Valley Farm II Mitigation Project

DMS Project #: 100111 | Contract #: 7862 | DWR # 20140073v2 | RFP: 16-007703

Randolph County, North Carolina
Cape Fear River Basin
Randleman Lake Watershed
HUC 03030003

Prepared By:

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For Environmental Banc and Exchange, LLC

Prepared For:
NC Department of Environmental Quality
Division of Mitigation Services

February 2024

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February 9, 2024

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RE: RES Green Valley Farm II: Year 4 Monitoring Report (NCDMS ID 100111)

Listed below are comments provided by DMS on January 5, 2024 regarding the RES Green Valley Farm II: Draft Year 4 Monitoring Report and RES' responses.

1. Based on last year's DMS site visit where a handful of easement corners were checked, it was observed that at least one witness post was missing from a corner of the project, and RES stated that a boundary walk would occur in 2023 to ensure that all witness posts were installed and marked. Was this work completed?
   The boundary walk occurred January 11, 2023. The work to replace the missing witness post happened on May 11, 2023. Additionally, on the same day more t-posts were installed along the conservation easement boundary to help address some scalloping noticed during the January boundary walk.

2. Please indicate locations of all scalloping and mowing around corner posts on Figure 2.
   The mowing is occurring around the corner posts along the southern boundary, marked on Figure 2. Since submittal of the draft report, this boundary has been marked off with horse tape for clarification. This work occurred on January 11, 2024.

3. Will trees need to be planted in the 0.1 acre area of encroachment in the southeast corner? If so, please indicate when this will be completed. Include species, number, and size (1 gallon, 5 gallon, etc.) in the MY5 report.
   To clarify, this area of encroachment is 0.01 acre, not 0.1 acre, and therefore unlikely to need any additional trees. However, RES will double check the area to determine if additional trees are needed during the boundary walk that will occur prior to the growing season. If the area needs additional stems these will be planted in the Fall of 2024 once we have ensured that encroachment in the area has stopped. Species, number, and size will be included in the MY5 report.

4. This is the final monitoring year, so the Stewardship Program (SP) will be visiting the site in 2024 to determine suitability for transfer to long-term management following DWR closeout. With the current ongoing encroachment violations, the SP program would not accept the site, which will delay closeout. After meeting with the landowner, please provide DMS with documentation summarizing the landowner discussions regarding the easement violations. If written correspondence is sent to the landowner, DMS requests copies of said correspondence. These actions should occur before the SP transfer site visit which could happen as early as late spring.
   Noted. All correspondence with the landowner will be provided to DMS. At this time, the only remaining easement violation is the 0.1 acre easement corner where the landowner is keeping equipment. This will be addressed early on to help prevent delay of site transfer to long-term management.

Table of Contents

1 Project Summary 1
1.1 Project Location and Description 1
1.2 Monitoring Protocol and Project Success Criteria 1
1.3 Project Components 2
1.4 Riparian Mitigation Approach 3
1.5 Construction and As-Built Conditions 3
1.6 Year 3 Monitoring Performance 3
2 Reference 4

Appendix A: Background Tables and Site Maps
Table 1: Buffer Project Areas and Assets
Table 2: Project Activity and Reporting History
Table 3: Project Contacts Table
Table 4: Project Background Information
Figure 1: Site Location Map
Figure 2: Current Conditions Plan View

Appendix B: Vegetation Assessment Data
Table 5: Plant Species Summary
Table 6: Supplemental Planted Species
Table 7: Vegetation Plot Mitigation Success Summary Table
Table 8: Stem Count Total and Planted by Plot Species

Appendix C: Vegetation Monitoring Plot Photos

Appendix D: Vegetation Data Sheets

1 Project Summary

1.1 Project Location and Description

The Green Valley Farm II Project is within the Randleman Lake Watershed of the Cape Fear River Basin within the 8-digit Hydrologic Unit Code (HUC) 03030003, 14-digit HUC 03030003010070 and DWR Sub-basin Number 03-06-08.

The Project is located in Randolph County approximately 2.3 miles northwest of Level Cross, North Carolina (**Figure 1**). To access the Project head North on Randleman Road from city center for one mile and turn left on Hockett Dairy Road. Go about 1.3 miles before taking a farm access road to reach the project, on the right side. The coordinates are 35.9086 °N and -79.833 °W.

Environmental Banc & Exchange, LLC (EBX), a wholly-owned subsidiary of Resource Environmental Solutions (RES), is pleased to provide this Monitoring Report for the Green Valley Farm II Riparian Buffer Mitigation Project (Project) as a full-delivery buffer mitigation project for the Division of Mitigation Services (DMS) (DMS #100111). This Project provides riparian buffer mitigation credits for unavoidable impacts due to development within the Randleman Lake Watershed (**Figure 1**). This Monitoring Report is in accordance with the Consolidated Buffer Mitigation Rule 15A NCAC 02B .0295 and the Randleman Lake Water Supply Watershed Buffer Rule 15A NCAC 02B .0250.

The conservation easement of the Green Valley Farm II Project totals approximately 7.19 acres and includes two unnamed tributaries that drain directly into Randleman Lake approximately 1,000 feet downstream of the Project. Land use within the Project parcel was primarily actively farmed row crops and newly planted riparian forest. The goal of the Project was to restore ecological function to the existing stream and riparian area by establishing appropriate plant communities while minimizing temporal and land disturbing impacts. Riparian area improvements help filter runoff from agricultural fields, thereby reducing nutrient and sediment loads to Project channels and the overall watershed. Restoration, of the Randleman Lake riparian area (as defined in 15A NCAC 02B .0250), results in a reduction of the water quality stressors affecting the Project. This Project is consistent with the management strategy for maintaining and protecting riparian areas in the Randleman Lake watershed.

The easement is comprised of four sections, separated by two crossings and UT4. This Project surrounds an existing DMS project, Green Valley Farm Buffer Restoration Site (DMS # 95012, 2014-0073v1) that was closed out (**Figure 2**). The Green Valley II Project is composed of two stream channels: UT1 and UT4. Both of these reaches are outside of the actual easement boundaries but included in the previous Green Valley Farm Project. UT4 is a tributary to UT1, which then flows into Randleman Lake. UT1 is approximately 1,677 linear feet and is on the western side of the project. UT4 is approximately 590 linear feet and runs between the four easement segments. Stream identifications were verified by the DWR site visit on September 1, 2011, as well as a re-evaluation for UT4 on February 23, 2017.

1.2 Monitoring Protocol and Project Success Criteria

Vegetation monitoring and visual assessments are to be conducted annually. Riparian area vegetation monitoring is based on the "Carolina Vegetation Survey-Ecosystem Enhancement Program Protocol for Recording Vegetation: Level 2 Plot Sampling Only Version 4.2". Monitoring plots were installed a minimum of 100 meters squared in size and covered at least two percent of the planted mitigation area. These plots were randomly placed throughout the planted riparian restoration area and was representative of the riparian area restoration. The following data was recorded for all trees in the plots: species, height, planting date (or volunteer), and grid location. All stems in plots were flagged with flagging tape. There are six fixed vegetation monitoring plots (**Figure 2**).

Photos are to be taken at all vegetation plot origins each monitoring year and be provided in the annual reports. Visual inspections and photos are to be taken to ensure that restoration areas are being maintained and compliant. The measures of vegetative success for the Project are the survival of at least four native hardwood tree species, where no one species is greater than 50 percent of stems, at a density of at least 260 stems per acre at the end of Year 5. Native volunteer species may be included to meet the performance standards as determined by NC Division of Water Resources (DWR).

A visual assessment of the conservation easement was performed each year to confirm:

- No encroachment has occurred;
- No invasive species in areas where invasive species were treated;
- Diffuse flow is being maintained in the conservation easement areas; and there has not been any cutting, clearing, filling, grading, or similar activities that would negatively affect the functioning of the riparian area.

Component/ Feature	Monitoring	Maintenance through project close-out
Vegetation	Annual vegetation monitoring	Vegetation shall be maintained to ensure the health and vigor of the targeted plant community. Routine vegetation maintenance and repair activities may include supplemental planting, pruning, mulching, and fertilizing. Exotic invasive plant species shall be treated by mechanical and/or chemical methods. Any vegetation requiring herbicide application will be performed in accordance with NC Department of Agriculture (NCDA) rules and regulations. Vegetation maintenance activities will be documented and reported in annual monitoring reports. Vegetation maintenance will continue through the monitoring period.
Invasive and Nuisance Vegetation	Visual Assessment	Invasive and noxious species will be monitored and treated so that none become dominant or alter the desired community structure of the Project. Locations of invasive and nuisance vegetation will be mapped.
Project Boundary	Visual Assessment	Project boundaries shall be identified in the field to ensure clear distinction between the mitigation project and adjacent properties. Boundaries will be marked with signs identifying the property as a mitigation project and will include the name of the long-term steward and a contact number. Boundaries may be identified by fence, marker, bollard, post, tree-blazing, or other means as allowed by Project conditions and/or conservation easement. Boundary markers disturbed, damaged, or destroyed will be repaired and/or replaced on an as-needed basis. Easement monitoring and staking/ signage maintenance will continue in perpetuity as a stewardship activity.
Road Crossing	Visual Assessment	Road crossings within the Project may be maintained only as allowed by conservation easement or existing easement, deed restrictions, rights of way, or corridor agreements. Crossings in easement breaks are the responsibility of the landowner to maintain.

1.3 Project Components

This Project generates 175,509.615 riparian restoration credits on existing cropland. These riparian mitigation credits generated service Randleman Lake buffer impacts within the Randleman Lake watershed. The total mitigation credits that the Green Valley Farm II Mitigation Project generates are summarized below and in **Table 1.**

Location	Jurisdictional Streams	Restoration Type	Reach ID/Component	Buffer Width (ft)	Creditable Area (sf)*	Initial Credit Ratio (x:1)	% Full Credit	Final Credit Ratio (x:1)	Riparian Buffer Credits (BMU)
Rural	Subject	Restoration	UT1/4	50-100	110,917	1	100%	1.00000	110,917.000
Rural	Subject	Restoration	UT1/4	101-200	195,735	1	33%	3.03030	64,592.615
			TOTALS		**306,652**				**175,509.615**

1.4 Riparian Mitigation Approach

Restoration efforts along UT1 and UT4 were accomplished through the planting, establishment, and protection of a hardwood forest community. The result was a riparian habitat that functions to mitigate nutrient and sediments inputs from the surrounding uplands. Traditional riparian restoration, as outlined in 15A NCAC 02B .0295 (n), was utilized. All riparian restoration activities took place within the 50-200' riparian area along to UT1 and UT4 and was subject to crediting and ratios as outlined in the Consolidated Buffer Mitigation Rule. Mitigation ratios followed those provided in the Consolidated Buffer Mitigation Rule. Prior to the issuance of the RFP (#16-007703), RES received approval for restoration on February 27, 2012, and an update on March 24, 2017. RES received an email from DWR on May 13, 2019, that indicated that an updated site visit was not necessary.

1.5 Construction and As-Built Conditions

Revegetation of the Site included treating invasive species and planting native hardwood bareroot trees. Prior to planting, RES prepped the Site by spraying and ripping the easement. Piedmont Alluvial Forest is the target community type for the riparian restoration areas. The community is defined by Schafale (2012). The planting of bareroot trees occurred in May 2020. Deviations from the initial planting plan were due to bareroot availability. A list of the planted tree species can be found in **Table 5**. Additionally, a temporary and permanent seed mixture was applied in areas where row crops were present. Among a variety of seeds, the mixture also included black-eyed Susan (*Rudbeckia hirta*) which is a perennial, pollinator species.

1.6 Year 4 Monitoring Performance

Monitoring of the six permanent vegetation plots was completed on October 10, 2023. Vegetation tables are in **Appendix B** and associated photos are in **Appendix C**. Year 4 monitoring data indicates that six out of six plots are exceeding the success criteria of 260 planted stems per acre. Planted stem densities ranged from 324 to 890 planted stems per acre with a mean of 594 planted stems per acre across all plots. A total of 12 species were documented within the plots. Volunteer species were noted at Year 4 monitoring and are expected to increase in upcoming years. The average tree height observed was 4.6 feet.

Areas of previous encroachment that were addressed with additional signage in 2022 are in good condition and appear to be preventing additional encroachment. A boundary walk occurred in January 2023. The additional areas of encroachment that were noted during this walk and the missing witness post noticed previously were addressed in May 2023 with the installation of new t-posts and signage. There is still some minor scalloping along the easement line and the landowner is mowing around corner posts. In January 2024 horse tape was installed along the easement boundary where scalloping is present to reduce the encroachment around the corner posts. The boundary line where this work occurred is marked on Figure 2. Additionally, during fall vegetation monitoring a small area of encroachment was noticed on the south-eastern easement boundary. The area has been mowed and is being used to store equipment. This will be discussed with the landowner and horse tape was installed in January 2024 to clarify the boundary.

Johnson grass (*Sorghum halepense*) is still prolific within the two southern easement portions. Trees are surviving and are beginning to get tall enough to shade out the grass, but an additional pre-emergent treatment is planned for before the growing season to give the trees a further head start this year. Additionally, three princess trees (*Paulownia tomentosa*) were noted by vegetation plot two. These individuals will be treated before the 2024 growing season.

2 Reference

Lee Michael T., Peet Robert K., Roberts Steven D., and Wentworth Thomas R., 2008. *CVS-EEP Protocol for Recording Vegetation Level*. Version 4.2

NC Environmental Management Commission. 2014. Rule 15A NCAC 02B.0295 - Mitigation Program Requirements for the Protection and Maintenance of Riparian Buffers.

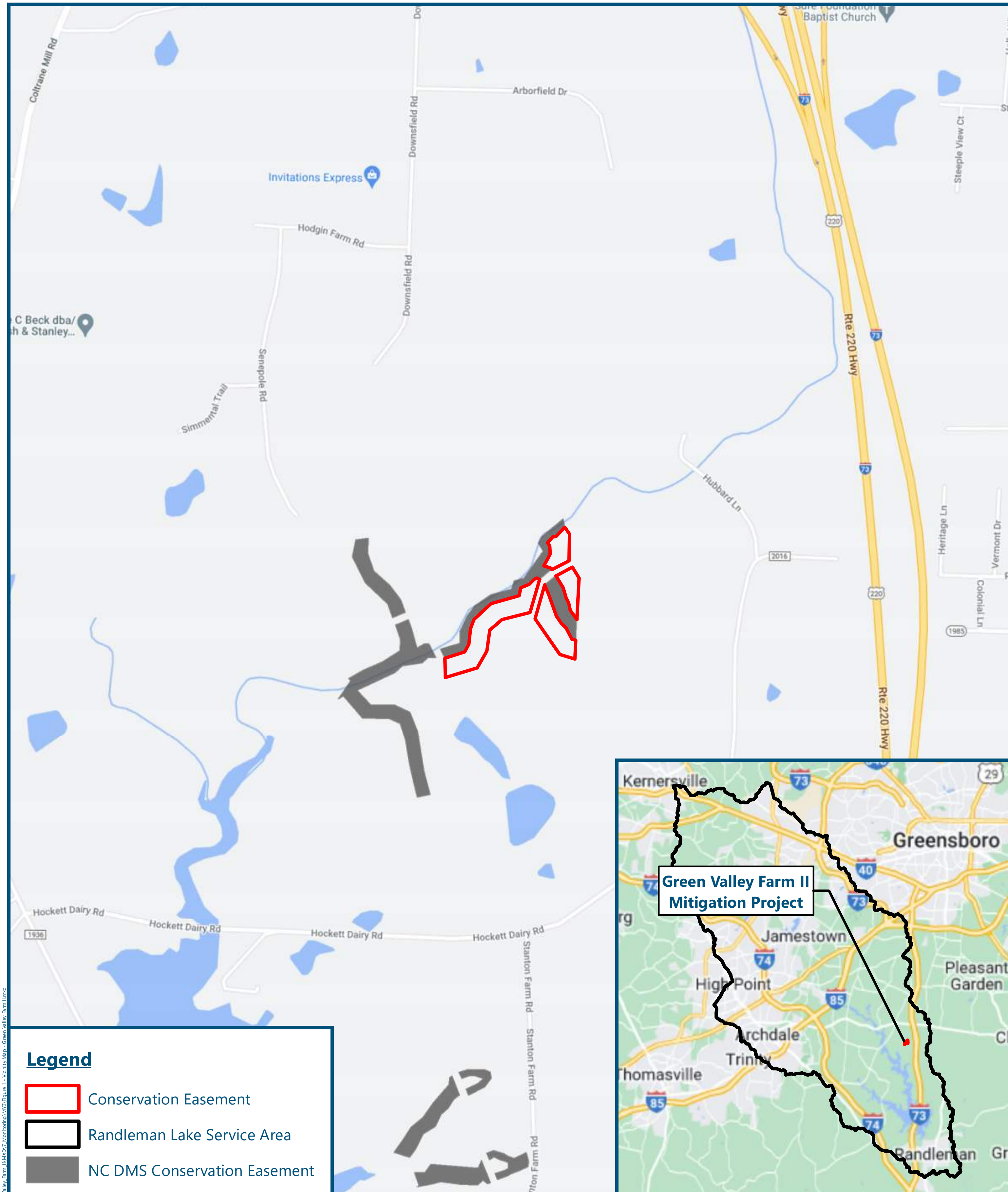
NC Environmental Management Commission. 2010. Rule 15A NCAC 02B .0250 - Randleman Lake Water Supply Watershed: Protection and Maintenance of Existing Riparian Buffers.

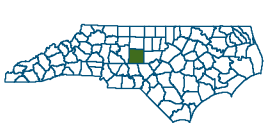
Resource Environmental Solutions, LLC (2020). Green Valley Farm II Mitigation Project – Final Mitigation Plan.

Schafale, M.P. 2012. Classification of the Natural Communities of North Carolina, Fourth Approximation. North Carolina Natural Heritage Program, Division of Parks and Recreation, NCDENR, Raleigh, NC.

Appendix A

Project Background Tables and Site Maps


Baptist Church
Coltrane Mill Rd
Arborfield Dr
Downsfield Rd
Invitations Express
Hodgin Farm Rd
Steeple View Ct
C Beck dba/
h & Stanley...
Senepole Rd
Simmental Trail
Rte 220 Hwy
Hubbard Ln
Heritage Ln
Vermont Dr
Colonial Ln
2016
220
1985
Hockett Dairy Rd
1936
Stanton Farm Rd
Legend
Conservation Easement
Randleman Lake Service Area
NC DMS Conservation Easement
Kernersville
Greensboro
Green Valley Farm II
Mitigation Project
Jamestown
High Point
Pleasant
Garden
Archdale
Trinity
Thomasville
Randleman



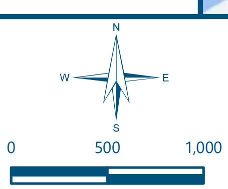


Figure 1 - Project Vicinity

Green Valley Farm II Mitigation Project

Randolph County, North Carolina

Date: 10/13/2022

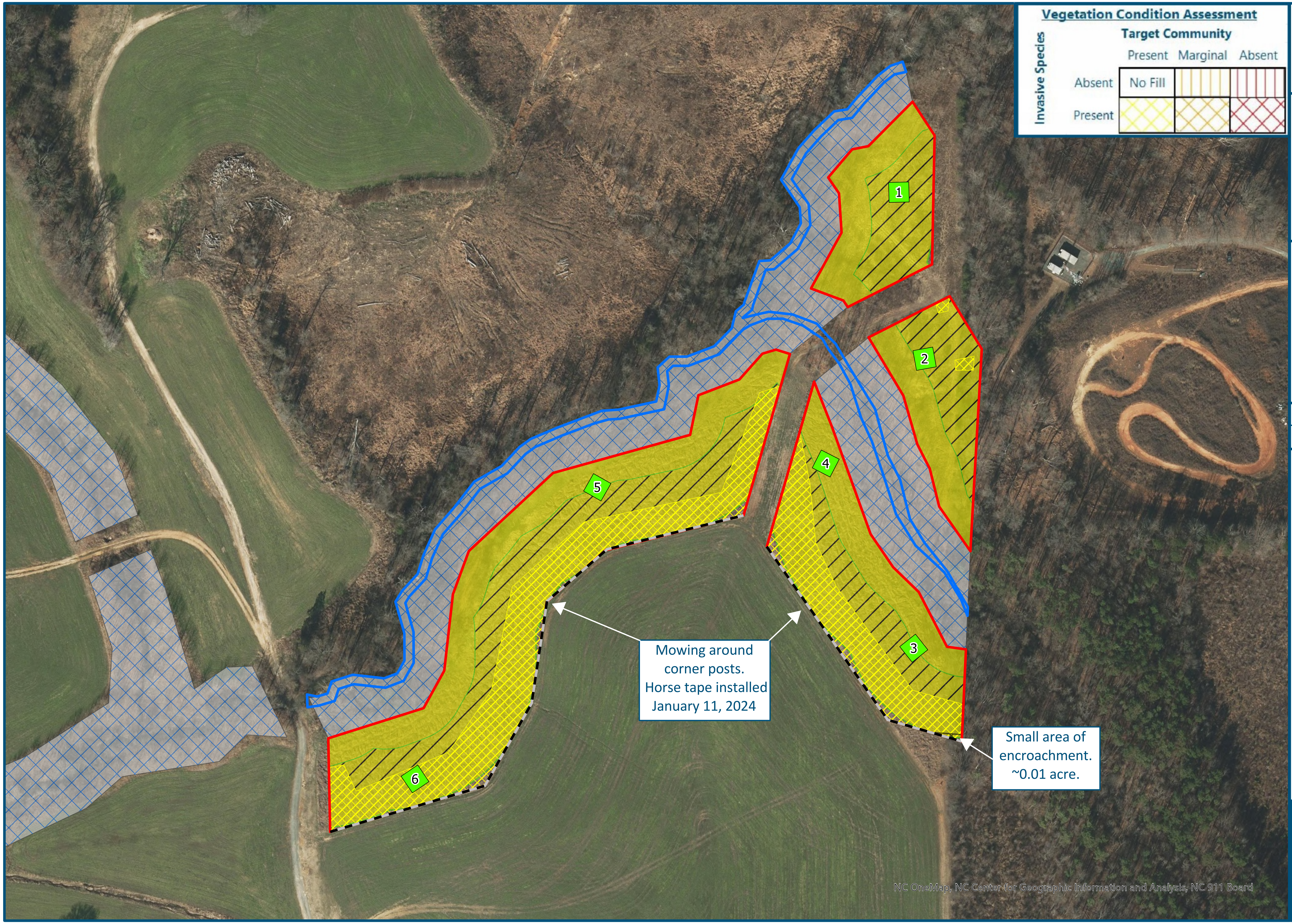
Drawn by: GDS

Checked by: MDE

1 inch = 1,000 feet

res

Restoring a resilient earth for a modern world



res
Restoring a resilient earth for a modern world

N
W
E
S

0 75 150
Feet

Figure 2 - CCPV MY4

Green Valley Farm II Mitigation Project

Randolph County, North Carolina

Date: 2/6/2024	Drawn by: KTO
1 inch = 150 feet	Checked by: JRM

Legend

- Conservation Easement
- Green Valley Farm Easement from 0-50' (Closed Out)

Fixed Vegetation Plot

- >260 stems/acre
- Stream Top of Bank

Buffer Zones

- Restoration, 0-100'
- Restoration, 101-200'
- Encroachment
- Corner Mowing

Table 1. Buffer Project Areas and Assets

Credit Type	Location	Subject?	Feature Type	Mitigation Activity	Min-Max Buffer Width (ft)	Feature Name	Total Area (sf)	Creditable Area (sf)	Initial Credit Ratio (x:1)	% Full Credit	Final Credit Ratio (x:1)	Riparian Buffer Credits
Buffer	Rural	Yes	I / P	Restoration	50-100	UT1/4	110,917	110,917	1	100%	1	110,917.000
Buffer	Rural	Yes	I / P	Restoration	101-200	UT1/4	195,735	195,735	1	33%	3.0303	64,592.615
						Totals	**306,652**	**306,652**				**175,509.615**

Table 2. Project Activity and Reporting History
Green Valley Farm II Site

Elapsed Time Since planting complete: 4 year 7 months
Number of reporting Years[1]: 4

Activity or Deliverable	Data Collection Complete	Completion or Delivery
Restoration Plan	NA	Jan-20
Final Design – Construction Plans	NA	NA
Stream Construction	NA	NA
Site Planting	NA	May-20
As-built (Year 0 Monitoring – baseline)	May-20	Jun-20
Year 1 Monitoring	Nov-20	Dec-20
Year 2 Monitoring	Nov-21	Nov-21
Supplemental Tree Planting	N/A	Apr-22
Johnson Grass Ring Spray	N/A	May-22
Year 3 Monitoring	Oct-22	Nov-22
Additional Easement Markings	N/A	May-23
Year 4 Monitoring	Oc-2023	Nov-23
Year 5 Monitoring		

1 = The number of reports or data points produced excluding the baseline

Table 3. Project Contacts Table Green Valley Farm II Site	
Planting Contractor	H&J Forestry
Planting contractor POC	Matt Hitch
Nursery Stock Suppliers	Arborgen
Monitoring Performers	RES / 3600 Glenwood Ave, Suite 100, Raleigh, NC 27612
Monitoring POC	Katie Obenauf 336.705.3041

Table 4. Project Background Information			
Project Name	Green Valley Farm II		
County	Randolph		
Project Area (acres)	7.19		
Project Coordinates (latitude and longitude)	Latitude: 35.9086 N Longitude: -79.833 W		
Planted Acreage (Acres of Woody Stems Planted)	7.19		
Project Watershed Summary Information			
Physiographic Province	Southern Outer Piedmont		
River Basin	Randleman Lake		
USGS Hydrologic Unit 8-digit	03030003	USGS Hydrologic Unit 14-digit	03030003010070
DWR Sub-basin	03-06-08		

Appendix B

Vegetation Assessment Data

Table 5. Green Valley Farm II Planted Species Summary

Common Name	Scientific Name	Total Stems Planted
Willow Oak	*Quercus phellos*	1,900
River Birch	*Betula nigra*	1,200
White Oak	*Quercus alba*	1,100
Water Oak	*Quercus nigra*	1,000
American Sycamore	*Platanus occidentalis*	800
Tulip Poplar	*Liriodendron tulipfera*	800
Southern Crabapple	*Malus angustifolia*	800
Northern Red Oak	*Quercus rubra*	600
Common Persimmon	*Diospyros virginiana*	500
American Plum	*Prunus americana*	500
Eastern Redbud	*Cercis canadensis*	500
Common Elderberry	*Sambucus canadensis*	200
Black Walnut	*Juglans nigra*	100
	Total	10,000

Table 6. Green Valley Farm II Supplemental Planted Species

Common Name	Size (gallons)	Stems Planted
Cherrybark oak	1	33
American Elm	1	63
	2	148
	3	20
Hackberry	5	79
Pawpaw	3	40
Pin oak	1	223
	3	148
Tulip poplar	3	26
	5	31
Red oak	3	10
Redbud	3	46
River birch	1	110
	2	121
	3	59
Shumard oak	1	116
	3	4
Sycamore	5	12
White oak	1	78
	3	55
Willow oak	1	78
	Total	**1500**

Table 7. Green Valley Farm II Vegetation Plot Mitigation Success Summary

Plot #	Planted Stems/Acre	Volunteer Stems/Acre	Total Stems/Acre	Success Criteria Met?	Average Planted Stem Height
1	890	2469	3359	Yes	4.2
2	728	931	1659	Yes	5.1
3	445	81	526	Yes	4.7
4	728	162	890	Yes	3.4
5	445	243	688	Yes	4.4
6	324	40	364	Yes	6.6
Project Avg	**594**	**654**	**1248**	**Yes**	**4.6**

Table 8. Green Valley Farm II Stem Count Total and Planted by Plot Species

Green Valley Farm II			Current Plot Data (MY4 2023)																		Annual Means											
			100111-01-0001			100111-01-0002			100111-01-0003			100111-01-0004			100111-01-0005			100111-01-0006			MY4 (2023)			MY3 (2022)			MY2 (2021)			MY1 (2020)			MY0 (2020)		
Scientific Name	Common Name	Species Type	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T
Acer negundo	boxelder	Tree						1			1			3			5			1			11			6								
Acer rubrum	red maple	Tree																											18					
Asimina triloba	pawpaw	Tree																1	1	1	1	1	1											
Betula nigra	river birch	Tree	7	7	7	2	2	2				2	2	2	1	1	1	2	2	2	14	14	14	17	17	17	12	12	14	15	15	15	18	18	18
Cercis canadensis	eastern redbud	Tree				6	6	6										1	1	1	7	7	7	7	7	7	5	5	5	6	6	6	1	1	1
Diospyros virginiana	common persimmon	Tree																									1	1	1	1	1	1	14	14	14
Fraxinus pennsylvanica	green ash	Tree			11			1															12			29			16			25			
Juglans nigra	black walnut	Tree															1						1										3	3	3
Liquidambar styraciflua	sweetgum	Tree			32			16															48			67			55			22			
Liriodendron tulipifera	tuliptree	Tree	3	3	15	1	1	4			1			1							4	4	21	4	4	11	2	2	6	2	2	8	3	3	3
Malus angustifolia	southern crabapple	Tree																												1	1	1	4	4	4
Morus rubra	red mulberry	Tree							1	1	1	2	2	2							3	3	3	5	5	5	4	4	4	5	5	5			
Nyssa sylvatica	blackgum	Tree							1	1	1										1	1	1	1	1	1									
Platanus occidentalis	American sycamore	Tree			6	3	3	5							1	1	1				4	4	12	6	6	29	5	5	9	6	6	12	14	14	14
Prunus americana	American plum	Tree																															5	5	5
Quercus	oak	Tree																									1	1	1						
Quercus alba	white oak	Tree	7	7	7	1	1	1	3	3	3	1	1	1	2	2	2				14	14	14	14	14	14	12	12	12	13	13	13	16	16	16
Quercus nigra	water oak	Tree	1	1	1																1	1	1	1	1	1	1	1	1	2	2	2	14	14	14
Quercus phellos	willow oak	Tree	4	4	4	5	5	5	1	1	1	2	2	2				1	1	1	13	13	13	13	13	13	11	11	11	12	12	12	43	43	43
Quercus rubra	northern red oak	Tree							4	4	4	10	10	10	7	7	7	2	2	2	23	23	23	23	23	23	19	19	19	26	26	26	19	19	19
Sambucus canadensis	Common Elderberry	Shrub																															1	1	1
Ulmus americana	American elm	Tree							1	1	1	1	1	1				1	1	1	3	3	3	3	3	3									
		Stem count	22	22	83	18	18	41	11	11	13	18	18	22	11	11	17	8	8	9	88	88	185	94	94	226	73	73	172	89	89	148	155	155	155
		size (ares)	1			1			1			1			1			1			6			6			6			6			6		
		size (ACRES)	0.02			0.02			0.02			0.02			0.02			0.02			0.15			0.15			0.15			0.15			0.15		
		Species count	5	5	8	6	6	9	6	6	8	6	6	8	4	4	6	6	6	7	12	12	16	11	11	14	11	11	14	11	11	13	13	13	13
		Stems per ACRE	890	890	3359	728	728	1659	445	445	526	728	728	890	445	445	688	324	324	364	594	594	1248	634	634	1524	492	492	1160	600	600	998	1045	1045	1045

Appendix C

Vegetation Monitoring Plot Photos

Green Valley Farm II Vegetation Monitoring Plot Photos

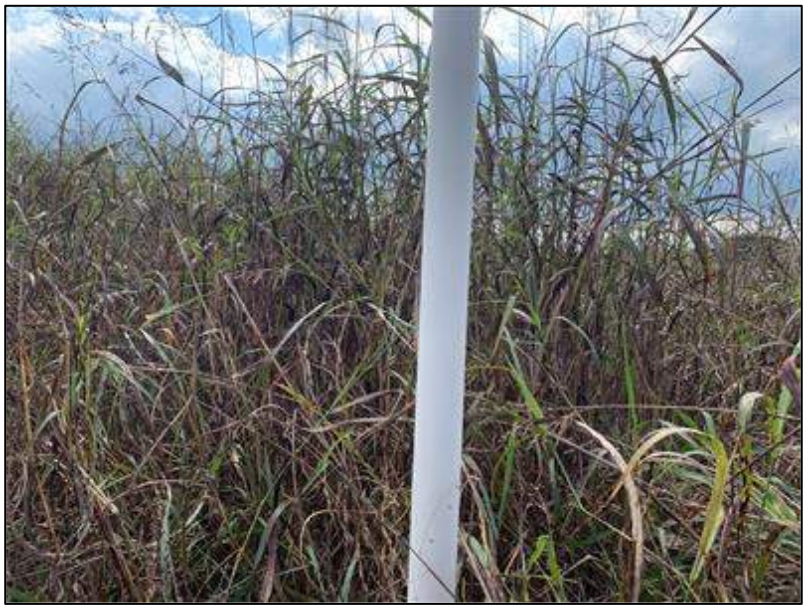
Vegetation Plot 1
10/10/2023

Vegetation Plot 2
10/10/2023

Vegetation Plot 3
10/10/2023

Vegetation Plot 4
10/10/2023

Vegetation Plot 5
10/10/2023



Vegetation Plot 6
10/10/2023

Appendix D

Vegetation Data Sheets

GV F II

Plot (continued): 100111-01-0001

ID	Species	map char	source	X (m)	Y (m)	Oct 2022 Data ddh (mm)	Oct 2022 Data Height (cm)	Oct 2022 Data DBH (cm)	Notes*	THIS YEAR'S DATA ddh (mm)	THIS YEAR'S DATA Height (cm)	THIS YEAR'S DATA DBH (cm)	THIS YEAR'S DATA Re-sprout	Vigor*	Damage*	Notes

Vegetation Monitoring Data (VMD) Datasheet — **Please fill in any missing data and correct any errors.**

Plot 100111-01-0001

VMD Year (1-5): 4 Date: 10 / 10 / 23 - / /

Taxonomic Standard:

Taxonomic Standard DATE:

Latitude or UTM-N: (dec.deg. or m) Datum:

Longitude or UTM-E: UTM Zone:

Coordinate Accuracy (m): X-Axis bearing (deg): 0

Plot Dimensions: X: 10 Y: 10 ☐ Plot has reverse orientation for X and Y axis (Y is 90 degrees to the right of X

Party: Jamey, Katie — Role:

Date last planted:

New planting date m/yy? /

☐ Check box if plot was not sampled, specify reason below

Notes:

ID	Species Name	Map char	Source*	X 0.1m	Y 0.1m	Oct 2022 Data Height 1cm*	Oct 2022 Data DBH 1 cm	Notes*	THIS YEAR'S DATA Height 1cm*	DBH 1 cm	Re-sprout	Vigor*	Damage*	Notes
1	Quercus phellos	a	R	0.3	0.3	77.0		☐	110		☐	3		
2	Quercus nigra	f	R	3.2	0.2	165.0	0.2	☐	220	0.8	☐	3		
3	Quercus phellos	k	R	4.7	0.3	30.0		☐	30		☐	2		
5	Quercus phellos	q	R	7.2	0.2	90.0		☐	120		☐	3		
6	Quercus phellos	t	R	8.5	0.2	50.0		☐	30		☒	2		
7	Betula nigra	v	R	9.4	2.3	132.0	*DBH?*	☐	140	0.2	☐	3		
8	Quercus alba	s	R	8.2	2.4	25.0		☐	30		☐	3		
9	Betula nigra	p	R	7.1	2.5	70.0		☐	80		☐	3		
10	Betula nigra	l	R	5.5	2.6	150.0	0.2	☐	140	0.2	☐	2		
11	Liriodendron tulipifera	i	R	4.0	2.7	73.0		☐	140	0.4	☐	3		
12	Quercus alba	e	R	2.8	2.9	150.0	0.2	☐	170	0.8	☐	3		
13	Betula nigra	b	R	1.4	3.0	185.0	0.4	☐	220	0.7	☐	3		
14	Quercus alba	d	R	2.3	6.4	110.0	*DBH?*	☐	140	0.4	☐	3		
15	Betula nigra	g	R	3.3	6.2	92.0		☐	60		☒	2		
16	Quercus alba	j	R	4.5	5.9	60.0		☐	80		☐	3		
17	Quercus alba	m	R	5.5	5.8	73.0		☐	130	0.6	☐	3		
18	Quercus alba	o	R	6.7	5.6	122.0	*DBH?*	☐	160	0.6	☐	3		
20	Liriodendron tulipifera	u	R	9.2	6.0	60.0		☐	100		☐	3		
21	Betula nigra	r	R	7.5	8.9	*Missing*		☐	X		☐	X		Dead
22	Liriodendron tulipifera	n	R	5.9	9.0	60.0		☐	110		☐	3		
23	Betula nigra	h	R	3.7	9.1	210.0	0.7	☐	300	1.4	☐			
24	Betula nigra	c	R	1.9	9.4	175.0	0.2	☐	210	0.7	☐	3		
317	Quercus alba	w	R	9.8	5.9	65.0		☐	128		☐	3		

 # stems: 23

New Stems, not included last year, but are obviously planted. If more space needed, use blank PWS (Planted Woody Stems) Form:

Species Name	Source*	X (m)	Y (m)	Height 1 cm*	DBH 1 cm	Vigor*	Damage*	Notes

*SOURCE: Tr=Transplant, L=Live stake, B=Ball and burlap, P=Potted, Tu=Tubling, R=bare Root, M=Mechanically, U=Unknown

*VIGOR: 4=excellent, 3=good, 2=fair, 1=unlikely to survive year, 0=dead, M=missing.

*DAMAGE: REMoval, CUT, MOWing, BEAVer, DEER, RODents, INSects, GAME, LIVESTock, Other/Unknown ANIMal, Human TRAMpled, Site Too WET, Site Too DRY, FLOOD, DROUght, STORM, HURRicane, DISeased, VINE Strangulation, UNKNown, specify other.

*HEIGHT PRECISION drops to 10cm if >2.5m and 50cm if >4m.

Plot (continued): 100111-01-0001

ID	Species	map char	source	X (m)	Y (m)	Oct 2022 Data: ddh (mm)	Height (cm)	DBH (cm)	Notes*	THIS YEAR'S DATA: ddh (mm)	Height (cm)	DBH (cm)	Re-sprout	Vigor*	Damage*	Notes

Natural Woody Stems - tallied by species

Explanation of cut-off & subsampling**:

Height Cut-Off (All stems shorter than this are ignored. If >10cm, explain why to the right.): ☐ 10cm ☐ 50cm ☐ 100cm ☐ 137cm

Species Name	☑ c	SEEDLINGS — HEIGHT CLASSES: Sub-Seed	10 cm-50 cm	50 cm-100 cm	100 cm-137 cm	SAPLINGS — DBH: Sub-Sapl	0-1 cm	1-2.5	TREES — DBH: 2.5-	5-	=10 (write DBH)
FRPE											
PLOC											
LIST											
LITU											

**Required if cut-off >10cm or subsample ? 100%.

1 2 3 4 5 6 7 8 9 10

Form WS2, ver 9.1

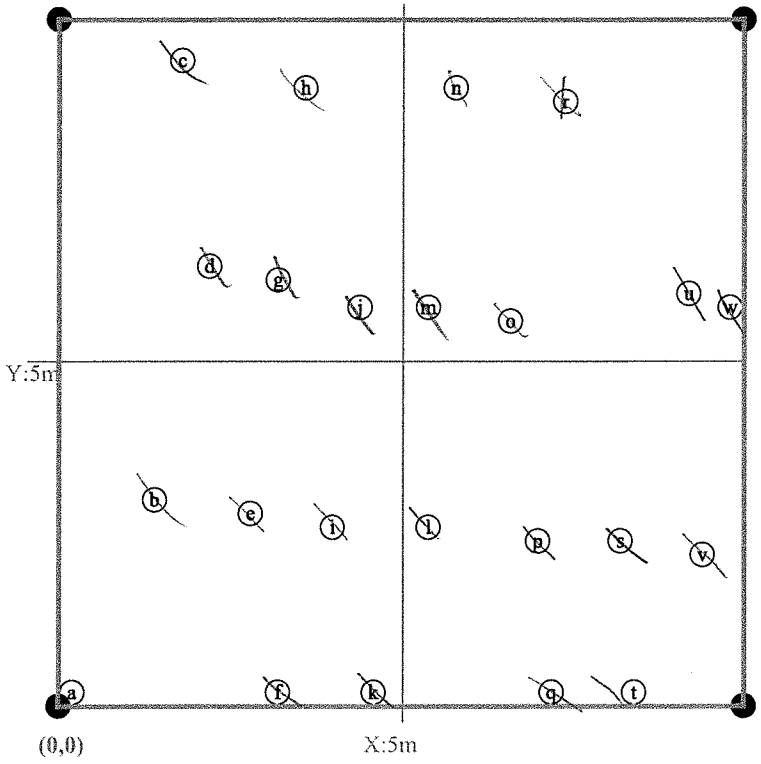
Map of stems on plot 100111-01-0001

X-axis: 0°

 # stems: 23

map size: small

N



*SOURCE: Tr=Transplant, L=Live stake, B=Ball and burlap, P=Potted, Tu=Tubling, R=bare Root, M=Mechanically, U=Unknown

*VIGOR: 4=excellent, 3=good, 2=fair, 1=unlikely to survive year, 0=dead, M=missing.

*DAMAGE: REMoval, CUT, MOWing, BEAVer, DEER, RODents, INSects, GAME, LIVESTock, Other/Unknown ANIMal, Human TRAMpled, Site Too WET, Site Too DRY, FLOOD, DROUght, STORM, HURRicane, DISeased, VINE Strangulation, UNKNown, specify other.

*HEIGHT PRECISION drops to 10cm if >2.5m and 50cm if >4m.

Vegetation Monitoring Data (VMD) Datasheet **Please fill in any missing data and correct any errors.**

Plot 100111-01-0002

VMD Year (1-5): 4 Date: 10 / 10 / 23 - / /

Taxonomic Standard:

Taxonomic Standard DATE:

Latitude or UTM-N: (dec.dcg. or m) Datum:

Longitude or UTM-E: UTM Zone:

Coordinate Accuracy (m): X-Axis bearing (deg): 70

Plot Dimensions: X: 10 Y: 10 ☐ Plot has reverse orientation for X and Y axis (Y is 90 degrees to the right of X

Party:	Role:
Jane	
Kati	

Date last planted:

New planting date m/yy? /

☐ Check box if plot was not sampled, specify reason below

Notes:

ID	Species Name	Map char	Source*	X 0.1m	Y 0.1m	Oct 2022 Data Height 1cm*	Oct 2022 Data DBH 1 cm	Notes*	THIS YEAR'S DATA Height 1cm*	DBH 1 cm	Re-sprout	Vigor*	Damage*	Notes
26	Quercus phellos	a	R	0.4	0.3	83.0		☐	85		☐	1		
27	Platanus occidentalis	b	R	0.6	1.4	200.0	0.5	☐	290	1.5	☐	3		
28	Quercus phellos	c	R	0.8	2.6	40.0		☐	45		☐	1		
29	Platanus occidentalis	d	R	0.9	3.9	140.0	0.1	☐	190	0.6	☐	2		
30	Platanus occidentalis	e	R	0.9	5.3	140.0	0.1	☐	170	0.5	☐	2		
31	Quercus phellos	f	R	0.9	6.4	35.0		☐	35		☐	2		
32	Betula nigra	g	R	0.9	7.6	57.0		☐	M		☐			missing
33	Cercis canadensis	h	R	0.9	9.0	85.0		☐	115		☐	3		
35	Cercis canadensis	n	R	3.3	6.8	77.0		☐	70		☐	2		
36	Betula nigra	l	R	3.1	5.3	200.0	0.1	☐	220	0.3	☐	3		
37	Quercus alba	k	R	3.1	3.4	50.0		☐	50		☐	3		
38	Cercis canadensis	j	R	3.1	2.0	86.0		☐	140	0.2	☐	3		
39	Betula nigra	i	R	3.0	0.6	100.0		☐	140	0.1	☐	3		
40	Cercis canadensis	o	R	5.5	1.5	90.0		☐	100		☐	2		
43	Quercus phellos	p	R	5.8	7.5	150.0	0.1	☐	180	0.4	☐	3		
45	Quercus phellos	r	R	9.7	9.8	60.0		☐	60		☐	2		
48	Cercis canadensis	s	R	9.9	2.9	180.0	0.6	☐	210	1.0	☐	3		
49	Cercis canadensis	q	R	9.7	1.2	250.0	1.0	☐	320	1.2	☐	3		
591	Liriodendron tulipifera	m	R	3.2	5.5	290.0	1.5	☐	400	3.2	☐	4		

 # stems: *19*

New Stems, not included last year, but are obviously planted. If more space needed, use blank PWS (Planted Woody Stems) Form:

Species Name	Source*	X (m)	Y (m)	Height 1 cm*	DBH 1 cm	Vigor*	Damage*	Notes

*SOURCE: Tr=Transplant, L=Live stake, B=Ball and burlap, P=Potted, Tu=Tubling, R=bare Root, M=Mechanically, U=Unknown

*VIGOR: 4=excellent, 3=good, 2=fair, 1=unlikely to survive year, 0=dead, M=missing.

*DAMAGE: REMoval, CUT, MOWing, BEAVer, DEER, RODents, INSects, GAME, LIVESTock, Other/Unknown ANIMal, Human TRAMpled, Site Too WET, Site Too DRY, FLOOD, DROUght, STORM, HURRicane, DISeased, VINE Strangulation, UNKNown, specify other.

*HEIGHT PRECISION drops to 10cm if >2.5m and 50cm if >4m.

Printed in the CVS-EEP Entry Tool ver. 2.3.1

Plot (continued): 100111-01-0002

ID	Species	map char	source	X (m)	Y (m)	Oct 2022 Data: ddh (mm)	Height (cm)	DBH (cm)	Notes*	THIS YEAR'S DATA: ddh (mm)	Height (cm)	DBH (cm)	Re-sprout	Vigor*	Damage*	Notes

Natural Woody Stems - tallied by species

Explanation of cut-off & subsampling**:

Height Cut-Off (All stems shorter than this are ignored. If >10cm, explain why to the right.): ☐ 10cm ☐ 50cm ☐ 100cm ☐ 137cm

Species Name	☑ c	SEEDLINGS — HEIGHT CLASSES: Sub-Seed	10 cm-50 cm	50 cm-100 cm	100 cm-137 cm	SAPLINGS — DBH: Sub-Sapl	0-1 cm	1-2.5	TREES — DBH: 2.5-	5-	=10 (write DBH)
LITU											
LIST											
FRPE											
PLOC											
ACNE											

**Required if cut-off >10cm or subsample ? 100%.

●1 ●2 ●3 ●4 ●5 ●6 ●7 ●8 ●9 ●10

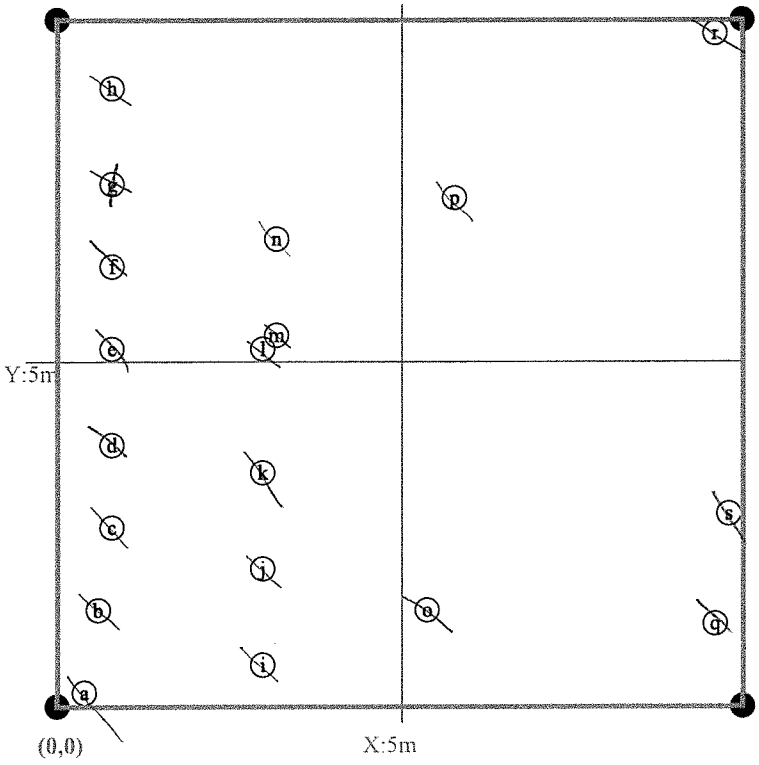
Form WS2, ver 9.1

Map of stems on plot 100111-01-0002

X-axis: 70°

N

 # stems: 19
map size: small



*SOURCE: Tr=Transplant, L=Live stake, B=Ball and burlap, P=Potted, Tu=Tubling, R=bare Root, M=Mechanically, U=Unknown

*VIGOR: 4=excellent, 3=good, 2=fair, 1=unlikely to survive year, 0=dead, M=missing.

*DAMAGE: REMoval, CUT, MOWing, BEAVer, DEER, RODents, INSects, GAME, LIVESTock, Other/Unknown ANIMal, Human TRAMpled, Site Too WET, Site Too DRY, FLOOD, DROUght, STORM, HURRicane, DISeased, VINE Strangulation, UNKNown, specify other.

*HEIGHT PRECISION drops to 10cm if >2.5m and 50cm if >4m.

Printed in the CVS-EEP Entry Tool ver. 2.3.1

Vegetation Monitoring Data (VMD) Datasheet **Please fill in any missing data and correct any errors.**

Plot 100111-01-0003

VMD Year (1-5): 4 Date: 10 / 10 / 23 - / /

Taxonomic Standard:

Taxonomic Standard DATE:

Latitude or UTM-N: (dec.deg. or m) Datum:

Longitude or UTM-E: UTM Zone:

Coordinate Accuracy (m): X-Axis bearing (deg): 170

Plot Dimensions: X: 10 Y: 10 ☐ Plot has reverse orientation for X and Y axis (Y is 90 degrees to the right of X

Party:	Role:
Jamey	
Katie	

Date last planted:

New planting date m/yy? /

☐ Check box if plot was not sampled, specify reason below

Notes:

ID	Species Name	Map char	Source*	X 0.1m	Y 0.1m	Oct 2022 Data Height 1cm*	Oct 2022 Data DBH 1 cm	Notes*	THIS YEAR'S DATA Height 1cm*	DBH 1 cm	Rc-sprout	Vigor*	Damage*	Notes
51	Quercus alba	ⓑ	R	0.2	0.4	72.0		☐	150	0.5	☐	3		
53	Quercus alba	ⓖ	R	3.8	2.3	60.0		☐	60		☐	2		
56	Quercus alba	ⓘ	R	8.4	0.9	47.0		☐	65		☐	3		
61	Quercus rubra	ⓕ	R	3.7	5.3	55.0		☐	60		☐	3		
62	Quercus rubra	ⓓ	R	2.4	5.6	55.0		☐	55		☐	2		
69	Platanus occidentalis	ⓗ	R	7.7	7.3	48.0		☐	M		☐			missing
71	Quercus rubra	ⓛ	R	9.8	7.1	237.0	0.4	☐	250	1.0	☐	2		
594	Quercus rubra	ⓔ	R	3.6	4.7	143.0	0.1	☐	150	0.3	☐	1		
595	Ulmus americana	ⓐ	R	0.1	5.7	205.0	0.3	☐	300	2.2	☐	4		
596	Nyssa sylvatica	ⓒ	R	2.2	9.8	33.0		☐	110		☐	4		
599	Morus rubra	ⓙ	R	9.9	1.2	195.0	0.1	☐	230	0.5	☐	1		
601	Quercus phellos	ⓚ	R	9.9	5.0	139.0	0.1	☐	153	0.3	☐	3		

 # stems: 12

New Stems, not included last year, but are obviously planted. If more space needed, use blank PWS (Planted Woody Stems) Form:

Species Name	Source*	X (m)	Y (m)	Height 1 cm*	DBH 1 cm	Vigor*	Damage*	Notes

*SOURCE: Tr=Transplant, L=Live stake, B=Ball and burlap, P=Potted, Tu=Tubling, R=bare Root, M=Mechanically, U=Unknown

*VIGOR: 4=excellent, 3=good, 2=fair, 1=unlikely to survive year, 0=dead, M=missing.

*DAMAGE: REMoval, CUT, MOWing, BEAVer, DEER, RODents, INSects, GAME, LIVESTock, Other/Unknown ANIMal, Human TRAMpled, Site Too WET, Site Too DRY, FLOOD, DROUght, STORM, HURRicane, DISeased, VINE Strangulation, UNKNown, specify other.

*HEIGHT PRECISION drops to 10cm if >2.5m and 50cm if >4m.

Plot (continued): 100111-01-0003					Oct 2022 Data			Notes*	THIS YEAR'S DATA					
ID	Species	map char	source	X (m)	Y (m)	ddh (mm)	Height (cm)	DBH (cm)		ddh (mm)	Hcight (cm)	DBH (cm)	Re-sprout	Vigor*	Damage*	Notes

Natural Woody Stems - tallied by species

Explanation of cut-off & subsampling**:

Height Cut-Off (All stems shorter than this are ignored. If >10cm, explain why to the right.): ☐ 10cm ☐ 50cm ☐ 100cm ☐ 137cm

Species Name	☑ c	SEEDLINGS — HEIGHT CLASSES				SAPLINGS — DBH			TREES — DBH		
		Sub-Seed	10 cm-50 cm	50 cm-100 cm	100 cm-137 cm	Sub-Sapl	0-1 cm	1-2.5	2.5-	5-	=10 (write DBH)
LITU		___	•			___					
ACNE		___	•			___					
		___				___					
		___				___					
		___				___					
		___				___					
		___				___					

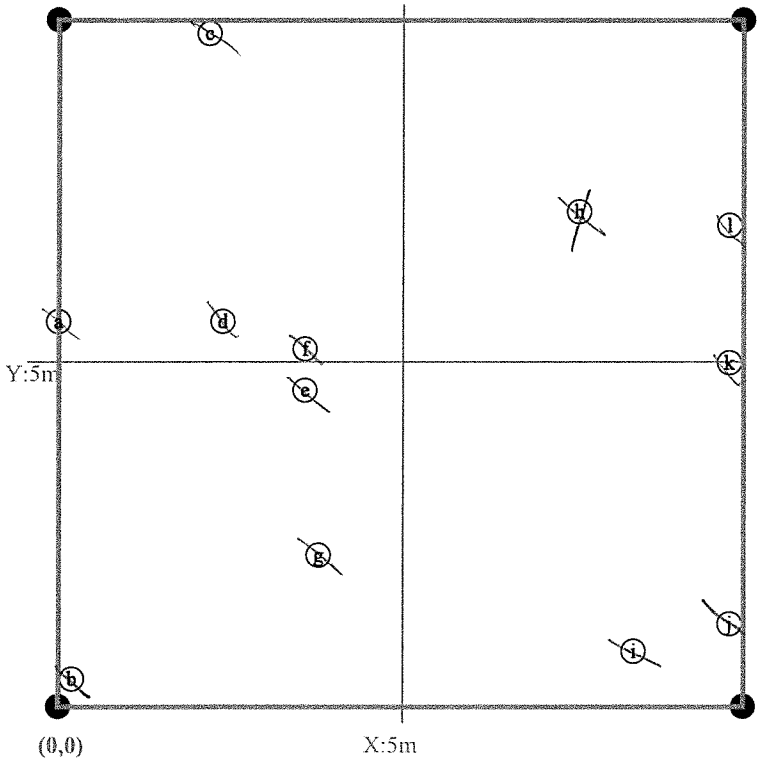
**Required if cut-off >10cm or subsample ? 100%. ●1 ●2 ●3 ●4 ●5 ●6 ●7 ●8 ●9 ●10 Form WS2, ver 9.1

Map of stems on plot 100111-01-0003

X-axis: 170°

N

 # stems: 12
map size: small



*SOURCE: Tr=Transplant, L=Live stake, B=Ball and burlap, P=Potted, Tu=Tubling, R=bare Root, M=Mechanically, U=Unknown

*VIGOR: 4=excellent, 3=good, 2=fair, 1=unlikely to survive year, 0=dead, M=missing.

*DAMAGE: REMoval, CUT, MOWing, BEAVer, DEER, RODents, INSects, GAME, LIVESTock, Other/Unknown ANIMal, Human TRAMpled, Site Too WET, Site Too DRY, FLOOD, DROUght, STORM, HURRicane, DISeased, VINE Strangulation, UNKNown, specify other.

*HEIGHT PRECISION drops to 10cm if >2.5m and 50cm if >4m.

Vegetation Monitoring Data (VMD) Datasheet **Please fill in any missing data and correct any errors.**

Plot 100111-01-0004

VMD Year (1-5): 4 Date: 10 / 10 / 23 - / /

Taxonomic Standard:

Taxonomic Standard DATE:

Latitude or UTM-N: (dec.deg. or m) Datum:

Longitude or UTM-E: UTM Zone:

Coordinate Accuracy (m): X-Axis bearing (deg): 90

Plot Dimensions: X: 10 Y: 10 ☐ Plot has reverse orientation for X and Y axis (Y is 90 degrees to the right of X

Party:	Role:
Jarvey	
Katie	

Date last planted:

New planting date m/yy? /

☐ Check box if plot was not sampled, specify reason below

Notes:

ID	Species Name	Map char	Source*	X 0.1m	Y 0.1m	Oct 2022 Data Height 1cm*	Oct 2022 Data DBH 1 cm	Notes*	THIS YEAR'S DATA Height 1cm*	DBH 1 cm	Re-sprout	Vigor*	Damage*	Notes
77	Quercus alba	ⓑ	R	0.4	0.7	62.0		☐	60		☐	2		
78	Quercus rubra	ⓜ	R	5.3	0.6	95.0		☐	90		☐	1		
79	Quercus rubra	ⓙ	R	4.3	1.3	72.0		☐	60		☐	3		
80	Quercus phellos	ⓖ	R	3.1	2.2	195.0	0.3	☐	310	1.5	☐	3		
81	Quercus phellos	ⓔ	R	2.0	3.3	60.0		☐	90		☐	3		
83	Quercus rubra	ⓒ	R	0.5	8.0	60.0		☐	60		☐	3		
84	Quercus rubra	ⓓ	R	1.5	7.0	*Missing*		☐	X		☐	X		Dead
85	Morus rubra	ⓕ	R	2.5	6.2	58.0		☐	M		☐			Missing
86	Quercus rubra	ⓘ	R	3.3	5.4	65.0		☐	70		☐	3		
87	Morus rubra	ⓚ	R	4.3	4.7	47.0		☐	50		☐	2		
88	Morus rubra	ⓝ	R	5.2	3.8	65.0		☐	20		☒	1		
89	Morus rubra	ⓞ	R	6.4	3.0	*Missing*		☐	X		☐	X		Dead
91	Quercus rubra	ⓢ	R	8.7	1.1	40.0		☐	30		☐	2		shaded
92	Quercus rubra	ⓤ	R	9.8	0.5	20.0		☐	35		☐	3		
93	Quercus rubra	ⓣ	R	8.8	4.8	57.0		☐	40		☒	1		
94	Quercus rubra	ⓠ	R	7.7	5.7	70.0		☐	65		☐	2		shaded out
95	Quercus rubra	ⓟ	R	6.7	6.4	58.0		☐	X		☐	X		Dead
100	Betula nigra	ⓡ	R	8.2	9.6	143.0	0.2	☐	200	1.0	☐	3		
603	Betula nigra	ⓗ	R	3.3	2.4	220.0	0.4	☐	200	1.0	☐	2	Pulled over	
604	Quercus rubra	ⓐ	R	0.1	8.4	60.0		☐	65		☐	3		
605	Ulmus americana	ⓛ	R	4.8	5.0	195.0	0.3	☐	220	2.0	☐	3		

 # stems: 21

New Stems, not included last year, but are obviously planted. If more space needed, use blank PWS (Planted Woody Stems) Form:

	Species Name	Source*	X (m)	Y (m)	Height 1 cm*	DBH 1 cm	Vigor*	Damage*	Notes
A)	QU RU				180	0.4	3		

*SOURCE: Tr=Transplant, L=Live stake, B=Ball and burlap, P=Potted, Tu=Tubling, R=bare Root, M=Mechanically, U=Unknown

*VIGOR: 4=excellent, 3=good, 2=fair, 1=unlikely to survive year, 0=dead, M=missing.

*DAMAGE: REMoval, CUT, MOWing, BEAVer, DEER, RODents, INSects, GAME, LIVESTock, Other/Unknown ANIMal, Human TRAMpled, Site Too WET, Site Too DRY, FLOOD, DROUght, STORM, HURRicane, DISeased, VINE Strangulation, UNKNown, specify other.

*HEIGHT PRECISION drops to 10cm if >2.5m and 50cm if >4m.

Plot (continued): 100111-01-0004

ID	Species	map char	source	X (m)	Y (m)	Oct 2022 Data: ddh (mm)	Height (cm)	DBH (cm)	Notes*	THIS YEAR'S DATA: ddh (mm)	Height (cm)	DBH (cm)	Re-sprout	Vigor*	Damage*	Notes

Natural Woody Stems - tallied by species

Explanation of cut-off & subsampling**:

Height Cut-Off (All stems shorter than this are ignored. If >10cm, explain why to the right.): ☐ 10cm ☐ 50cm ☐ 100cm ☐ 137cm

Species Name	☑ c	SEEDLINGS — HEIGHT CLASSES: Sub-Seed	10 cm-50 cm	50 cm-100 cm	100 cm-137 cm	SAPLINGS — DBH: Sub-Sapl	0-1 cm	1-2.5	TREES — DBH: 2.5-	5-	=10 (write DBH)
ACNE											
LFTU											

**Required if cut-off >10cm or subsample ? 100%.

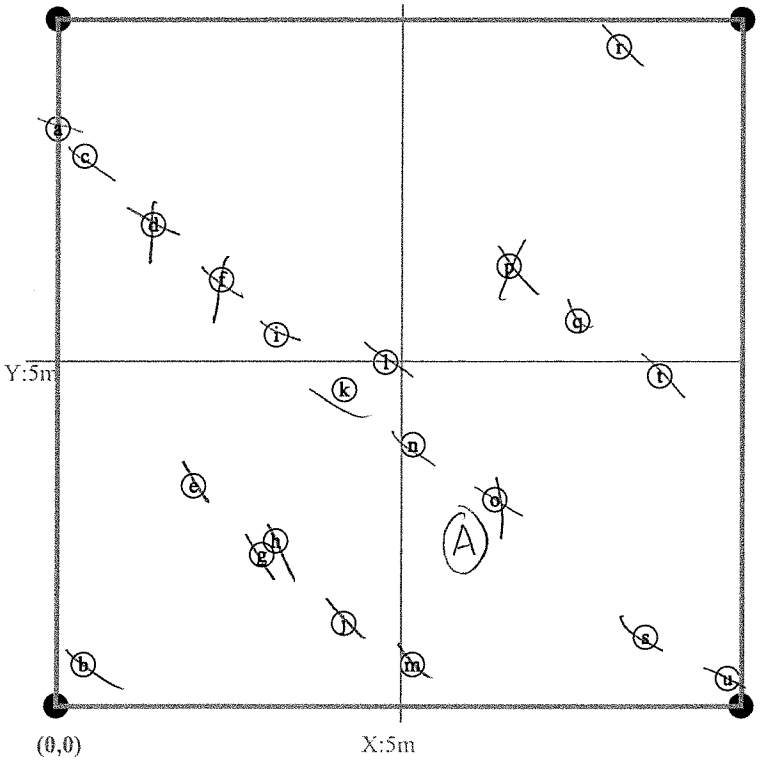
Form WS2, ver 9.1

Map of stems on plot 100111-01-0004

X-axis: 90°

N

 # stems: 21
map size: small



*SOURCE: Tr=Transplant, L=Live stake, B=Ball and burlap, P=Potted, Tu=Tubling, R=bare Root, M=Mechanically, U=Unknown

*VIGOR: 4=excellent, 3=good, 2=fair, 1=unlikely to survive year, 0=dead, M=missing.

*DAMAGE: REMoval, CUT, MOWing, BEAVer, DEER, RODents, INSccts, GAME, LIVESTock, Other/Unknown ANIMal, Human TRAMpled, Site Too WET, Site Too DRY, FLOOD, DROUght, STORM, HURRicane, DISeased, VINE Strangulation, UNKNown, specify other.

*HEIGHT PRECISION drops to 10cm if >2.5m and 50cm if >4m.

Vegetation Monitoring Data (VMD) Datasheet **Please fill in any missing data and correct any errors.**

Plot 100111-01-0005

VMD Year (1-5): 4 Date: 10/10/23 - / /

Taxonomic Standard:

Taxonomic Standard DATE:

Latitude or UTM-N: (dec.deg. or m)

Longitude or UTM-E:

Datum:

UTM Zone:

Coordinate Accuracy (m):

X-Axis bearing (deg): 30

Plot Dimensions: X: 10 Y: 10 ☐ Plot has reverse orientation for X and Y axis (Y is 90 degrees to the right of X

Party:	Role:
Jamey	
Katie	

Date last planted:

New planting date m/yy? /

☐ Check box if plot was not sampled, specify reason below

Notes:

ID	Species Name	Map char	Source*	X 0.1m	Y 0.1m	Oct 2022 Height 1cm*	Oct 2022 DBH 1 cm	Notes*	THIS YEAR'S Height 1cm*	THIS YEAR'S DBH 1 cm	THIS YEAR'S Re-sprout	THIS YEAR'S Vigor*	THIS YEAR'S Damage*	THIS YEAR'S Notes
103	Platanus occidentalis	a	R	0.5	0.1	145.0	0.1	☐	250	1.0	☐	3		
115	Quercus rubra	n	R	9.8	1.3	82.0		☐	80		☐	2		
116	Quercus rubra	l	R	9.0	1.8	42.0		☐	75		☐	3		
117	Quercus rubra	i	R	8.3	2.4	90.0		☐	100		☐	3		
120	Quercus rubra	g	R	5.8	4.5	*Missing*		☐	X		☐			Dead
121	Quercus rubra	e	R	4.0	5.9	*Missing*		☐	X		☐			Dead
125	Quercus rubra	c	R	0.8	8.8	91.0		☐	80		☐	2		
126	Quercus alba	d	R	2.0	9.3	37.0		☐	70		☐	3		
130	Quercus rubra	k	R	8.7	6.1	45.0		☐	40		☐	1		
132	Betula nigra	h	R	6.4	7.6	205.0	0.1	☐	310	2.1	☐	3		
133	Quercus alba	f	R	5.3	8.4	170.0	0.2	☐	170	1.5	☐	2		
607	Quercus rubra	m	R	9.8	1.0	90.0		☐	M		☐			missing
608	Quercus rubra	b	R	0.9	1.1	109.0	*DBH?*	☐	120		☐	2		
609	Quercus rubra	j	R	8.1	7.8	165.0	0.2	☐	170	0.7	☐	3		

 # stems: 14

New Stems, not included last year, but are obviously planted. If more space needed, use blank PWS (Planted Woody Stems) Form:

Species Name	Source*	X (m)	Y (m)	Height 1 cm*	DBH 1 cm	Vigor*	Damage*	Notes

*SOURCE: Tr=Transplant, L=Live stake, B=Ball and burlap, P=Potted, Tu=Tubling, R=bare Root, M=Mechanically, U=Unknown

*VIGOR: 4=excellent, 3=good, 2=fair, 1=unlikely to survive year, 0=dead, M=missing.

*DAMAGE: REMoval, CUT, MOWing, BEAVer, DEER, RODents, INSects, GAME, LIVESTock, Other/Unknown ANIMal, Human TRAMpled, Site Too WET, Site Too DRY, FLOOD, DROUght, STORM, HURRicane, DISeased, VINE Strangulation, UNKNown, specify other.

*HEIGHT PRECISION drops to 10cm if >2.5m and 50cm if >4m.

Plot (continued): 100111-01-0005

ID	Species	map char	source	X (m)	Y (m)	Oct 2022 Data ddh (mm)	Height (cm)	DBH (cm)	Notes*	THIS YEAR'S DATA ddh (mm)	Height (cm)	DBH (cm)	Re-sprout	Vigor*	Damage*	Notes

Natural Woody Stems - tallied by species

Explanation of cut-off & subsampling**:

Height Cut-Off (All stems shorter than this are ignored. If >10cm, explain why to the right.): ☐ 10cm ☐ 50cm ☐ 100cm ☐ 137cm

Species Name	☑ c	SEEDLINGS — HEIGHT CLASSES: Sub-Seed	10 cm-50 cm	50 cm-100 cm	100 cm-137 cm	SAPLINGS — DBH: Sub-Sapl	0-1 cm	1-2.5	TREES — DBH: 2.5-	5-	=10 (write DBH)
ACNE		___				___					
JUNT		___				___					
		___				___					
		___				___					
		___				___					
		___				___					
		___				___					

**Required if cut-off >10cm or subsample ? 100%.

●1 ●2 ●3 ●4 ●5 ●6 ●7 ●8 ●9 ●10

Form WS2, ver 9.1

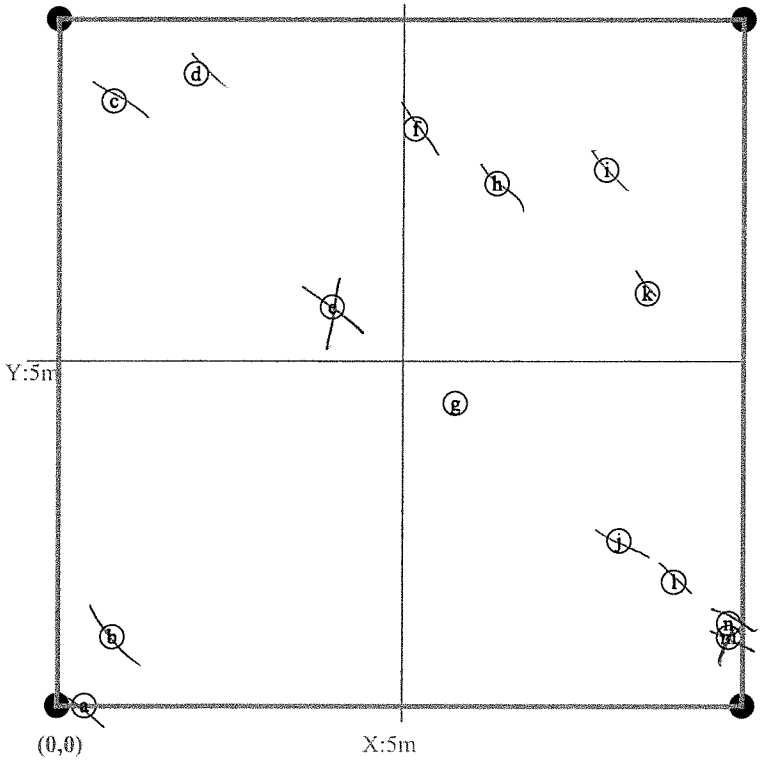
Map of stems on plot 100111-01-0005

X-axis: 30°

N

 # stems: 14

map size: small



*SOURCE: Tr=Transplant, L=Live stake, B=Ball and burlap, P=Potted, Tu=Tubling, R=bare Root, M=Mechanically, U=Unknown

*VIGOR: 4=excellcnt, 3=good, 2=fair, 1=unlikely to survive year, 0=dead, M=missing.

*DAMAGE: REMoval, CUT, MOWing, BEAVer, DEER, RODents, INSects, GAME, LIVESTock, Other/Unknown ANIMal, Human TRAMpled, Site Too WET, Site Too DRY, FLOOD, DROUght, STORM, HURRicane, DISeased, VINE Strangulation, UNKNown, specify other.

*HEIGHT PRECISION drops to 10cm if >2.5m and 50cm if >4m.

Vegetation Monitoring Data (VMD) Datasheet **Please fill in any missing data and correct any errors.**

Plot 100111-01-0006

VMD Year (1-5): 4 Date: / / - / /

Taxonomic Standard:

Taxonomic Standard DATE:

Latitude or UTM-N: (dcc.deg. or m)

Longitude or UTM-E:

Datum: NAD83/W

UTM Zone:

Coordinate Accuracy (m):

X-Axis bearing (deg): 50

Plot Dimensions: X: 10 Y: 10 ☐ Plot has reverse orientation for X and Y axis (Y is 90 degrees to the right of X

Party:	Role:

Date last planted:

New planting date m/yy? /

☐ Check box if plot was not sampled, specify reason below

Notes:

ID	Species Name	Map char	Source*	X 0.1m	Y 0.1m	Oct 2022 Data Height 1cm*	Oct 2022 Data DBH 1 cm	Notes*	THIS YEAR'S DATA Height 1cm*	DBH 1 cm	Re-sprout	Vigor*	Damage*	Notes
612	Quercus phellos	ⓐ	R	0.2	1.5	142.0	0.1	☐	150	1.2	☐	3	Brouse	
613	Morus rubra	ⓒ	R	1.2	3.2	150.0	0.2	☐	M		☐			missing
614	Cercis canadensis	ⓓ	R	2.8	3.5	143.0	0.3	☐	85		☒	3		stump sprout
615	Betula nigra	ⓑ	R	0.8	8.5	135.0	*DBH?*	☐	X		☐			Dead
616	Quercus rubra	ⓘ	R	8.2	6.7	200.0	0.7	☐	230	0.9	☐	3		
617	Ulmus americana	ⓗ	R	8.2	3.3	145.0	0.3	☐	150	0.4	☐	1	Brouse	
618	Betula nigra	ⓖ	R	6.8	8.9	270.0	1.9	☐	190	0.7	☐	3		
619	Betula nigra	ⓔ	R	6.2	9.0	190.0	0.3	☐	320	2.5	☐			
620	~~Platanus occidentalis~~ ASTR	ⓕ	R	6.6	9.6	220.0	0.6	☐	220	1.0	☐	3		
621	Betula nigra	ⓙ	R	9.6	8.8	220.0	0.7	☐	330	3.0	☐	3		

 # stems: *10* New Stems, not included last year, but are obviously planted. If more space needed, use blank PWS (Planted Woody Stems) Form:

	Species Name	Source*	X (m)	Y (m)	Height 1 cm*	DBH 1 cm	Vigor*	Damage*	Notes
A)	QUER				145	0.5	2		

Natural Woody Stems - tallied by species

Explanation of cut-off & subsampling**:

Height Cut-Off (All stems shorter than this are ignored. If >10cm, explain why to the right.): ☐ 10cm ☐ 50cm ☐ 100cm ☐ 137cm

Species Name	☑ c	SEEDLINGS — HEIGHT CLASSES Sub-Seed	10 cm-50 cm	50 cm-100 cm	100 cm-137 cm	SAPLINGS — DBH Sub-Sapl	0-1 cm	1-2.5	TREES — DBH 2.5-	5-	=10 (write DBH)
ACNE											

**Required if cut-off >10cm or subsample ? 100%. ●1 ●2 ●3 ●4 ●5 ●6 ●7 ●8 ●9 ●10 Form WS2, ver 9.1

*SOURCE: Tr=Transplant, L=Live stake, B=Ball and burlap, P=Potted, Tu=Tubling, R=bare Root, M=Mechanically, U=Unknown

*VIGOR: 4=excellent, 3=good, 2=fair, 1=unlikely to survive year, 0=dead, M=missing.

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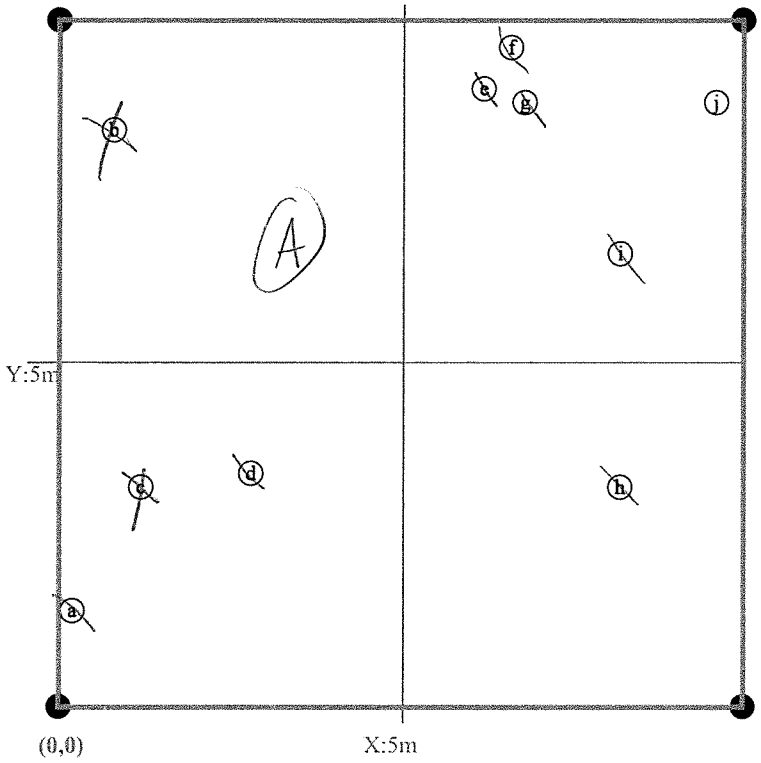
*HEIGHT PRECISION drops to 10cm if >2.5m and 50cm if >4m.

Map of stems on plot 100111-01-0006

X-axis: 50°

N

 # stems: 10
map size: small



*SOURCE: Tr=Transplant, L=Live stake, B=Ball and burlap, P=Potted, Tu=Tubling, R=bare Root, M=Mechanically, U=Unknown

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