

United States
Department
of Agriculture

Natural
Resources
Conservation
Service
(NRCS)

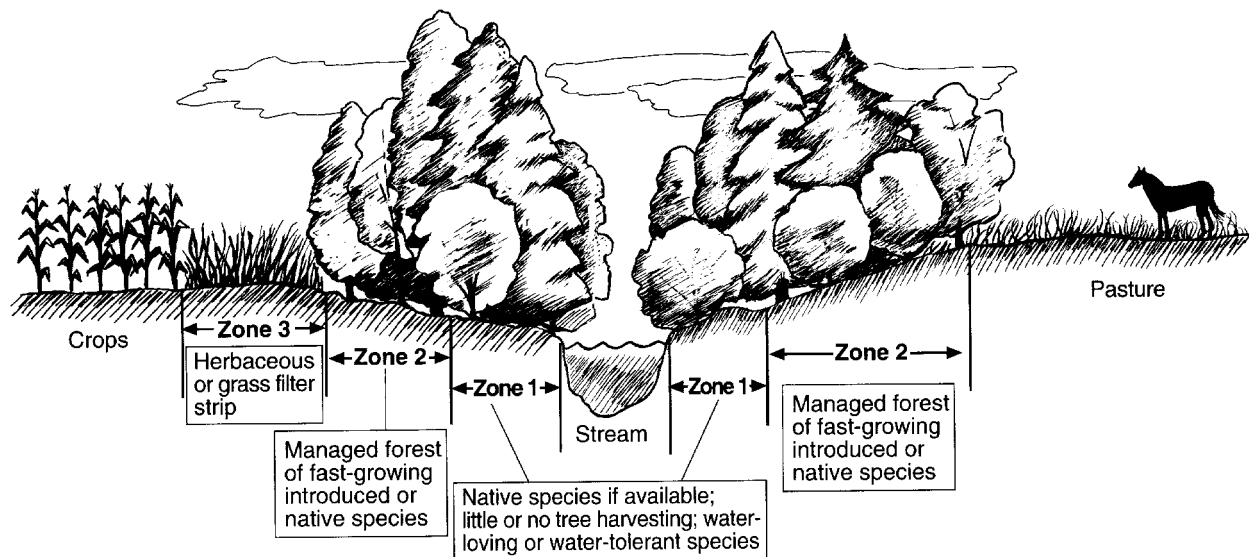
and

Collaborating Technical Centers,
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1999

Riparian Forest Buffer

A Design Exercise for use with the Conservation Practice Job Sheet - 391

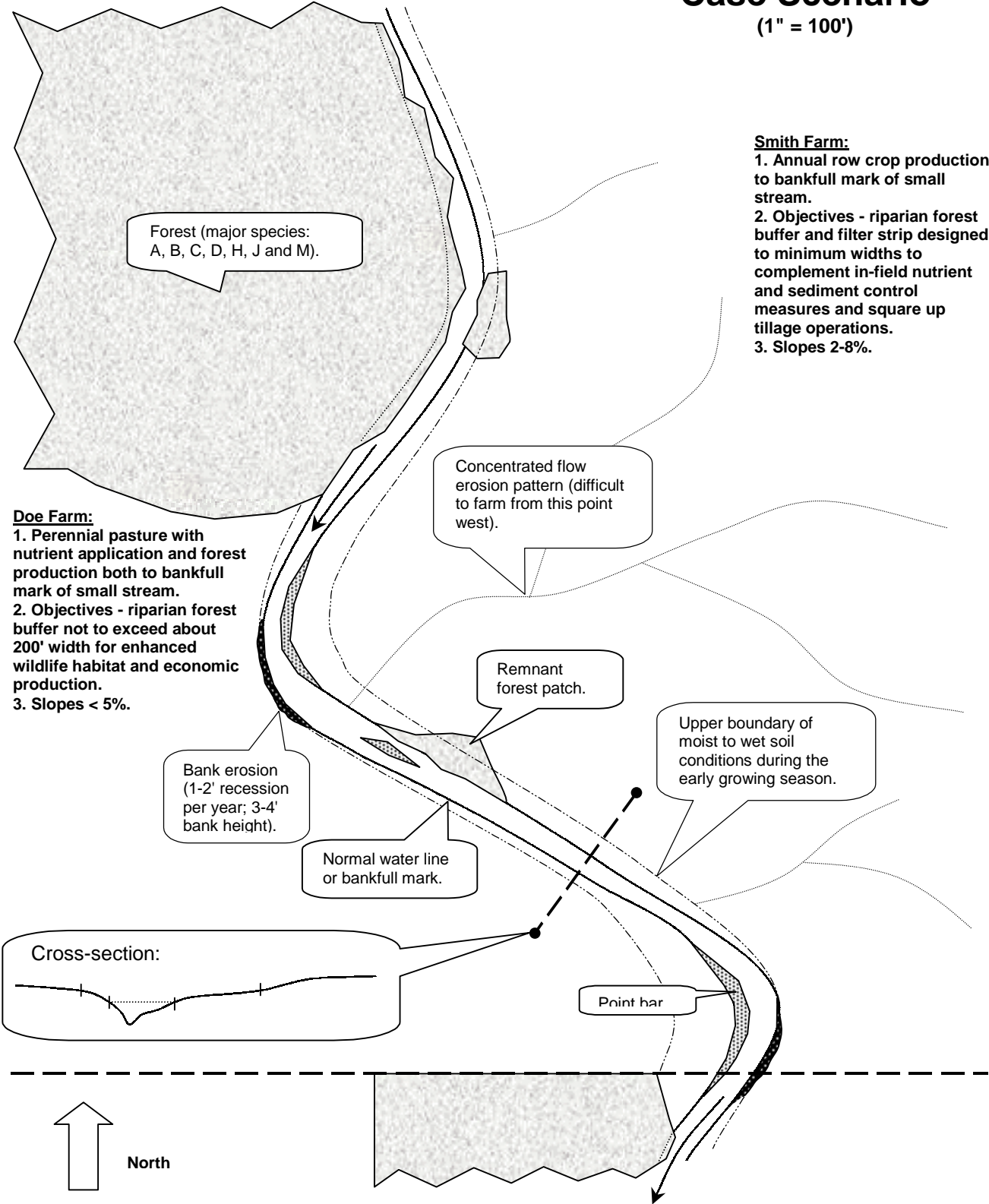


Instructions (read all instructions before starting):

1. Given the "case scenario" on page 2 and your knowledge of riparian forest buffer design, prepare a possible design sketch on page 4 of the riparian forest buffer zones for the Smith Farm. Study the design sketch for the Doe Farm on page 5 and ask the instructor for the design strategy.
2. Focus on the area surrounding the dashed line noted as the "Cross-section" near the bottom of page 2. Using the generic NRCS Field Office Technical Guide (FOTG) information on page 3, prepare a possible layout of species for each of your zones on page 6. Denote each plant by its "letter." Study the layout of species for the Doe Farm on page 7 and ask the instructor for the design strategy.
3. Work in pairs. There are many right answers! Pay attention to the given details and sketch map scales. Be ready to explain your design strategy.

Case Scenario

(1" = 100')



- Smith Farm:**
1. Annual row crop production to bankfull mark of small stream.
 2. Objectives - riparian forest buffer and filter strip designed to minimum widths to complement in-field nutrient and sediment control measures and square up tillage operations.
 3. Slopes 2-8%.

- Doe Farm:**
1. Perennial pasture with nutrient application and forest production both to bankfull mark of small stream.
 2. Objectives - riparian forest buffer not to exceed about 200' width for enhanced wildlife habitat and economic production.
 3. Slopes < 5%.

FOTG, Section II. Conservation Tree/Shrub Suitability Groups (for use with planning exercise).

Species	<u>N</u> ative or <u>I</u> ntroduced	<u>C</u> onifer, <u>D</u> eciduous	<u>I</u> ntolerant, <u>M</u> od. tolerant, or <u>T</u> olerant of Shade	Suited for <u>T</u> imber-Veneer, <u>F</u> iber (short rotation), or <u>C</u> hristmas Trees	<u>I</u> ntolerant, <u>M</u> oderately tolerant, or <u>T</u> olerant of Soil Wetness	<u>R</u> apid, <u>M</u> oderate or <u>S</u> low Growth Rate	20-year Height - Feet	<u>R</u> esprouts	Wildlife Habitat Value - <u>H</u> igh, <u>M</u> oderate, <u>L</u> ow	Notes
Species A	N	C	M	T, C	I	M	35-55	-	H	
Species B	N	D	I	T	T	R	45-65	-	M	
Species C	N	D	M	T	T	M	45-55	R	M	
Species D	N	C	T	T	M	S	30-55	-	H	
Species E	N	D	I	F	T	M	35-60	R	L	
Species F	I	D	I	F	T	R	45-75	R	L	
Species G	N	D	I	-	T	R	25-35	R	M	Multiple stems
Species H	N	D	I	-	T	R	15-25	R	M	Multiple stems
Species I	I	D	I	-	T	R	12-20	R	M	Multiple stems
Species J	N	C	M	T, C	M	M	35-50	-	M	
Species K	I	C	M	C	M	M	35-55	-	M	
Species L	N	D	M	-	M	M	5-8	-	H	
Species M	N	D	M	-	T	M	5-8	-	M	
Species N	I	D	M	-	T	R	7-10	R	M	
Species O	I	C	M	T	T	M	30-50	-	M	
Species P	N	D	M	-	M	M	10-18	-	M	
Species Q	I	D	M	-	T	M	10-18	-	H	
Species R	I	D	I	-	M	M	15-25	R	M	Multiple stems
Species S	I	D	M	-	T	R	15-20	R	M	Multiple stems

Herbaceous-Grass

Species Data:

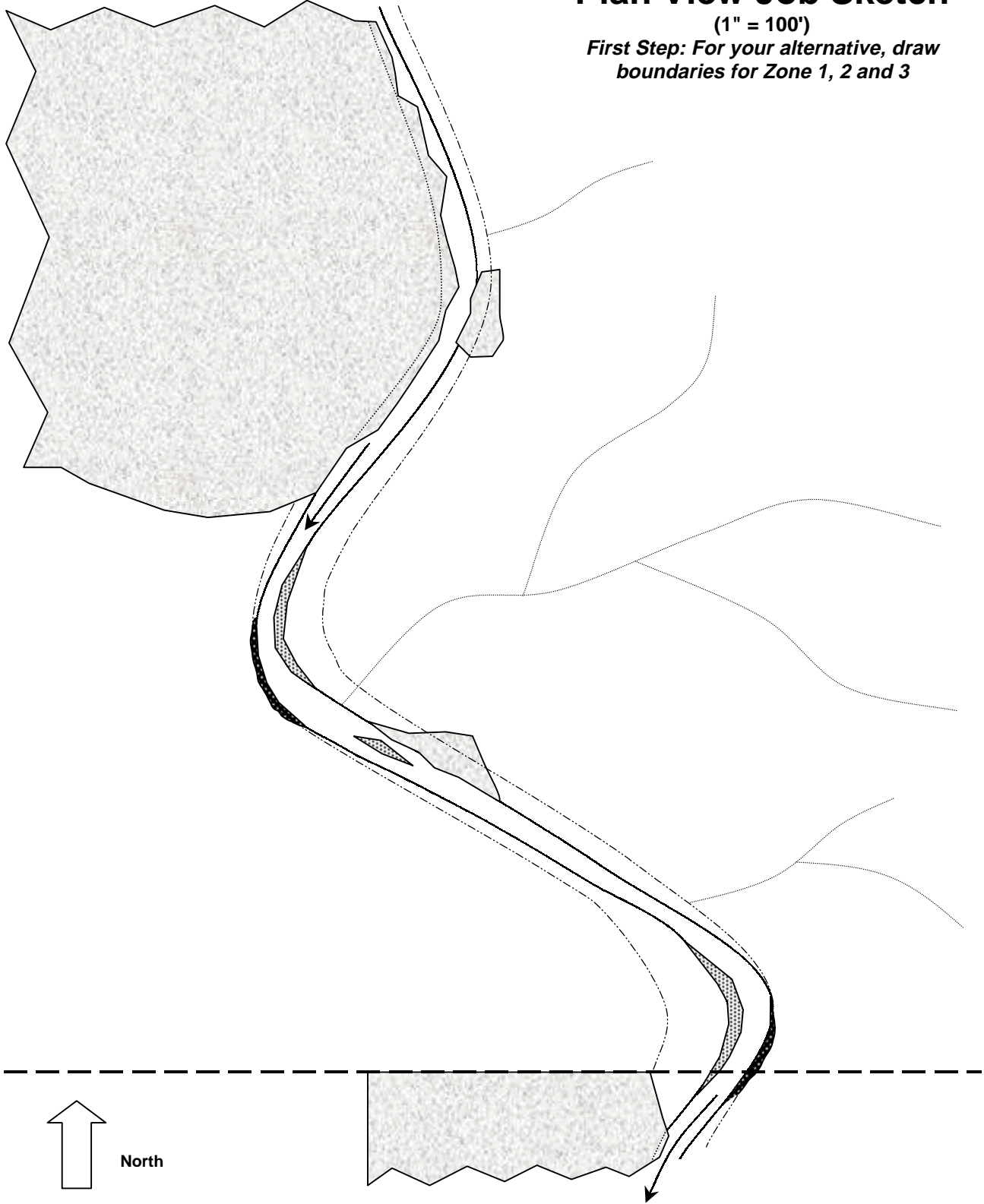
Species	<u>N</u> ative or <u>I</u> ntroduced	<u>C</u> onifer, <u>D</u> eciduous	<u>I</u> ntolerant, <u>M</u> od. tolerant, or <u>T</u> olerant of Shade	Suited for <u>T</u> imber-Veneer, <u>F</u> iber (short rotation), or <u>C</u> hristmas Trees	<u>I</u> ntolerant, <u>M</u> oderately tolerant, or <u>T</u> olerant of Soil Wetness	<u>R</u> apid, <u>M</u> oderate or <u>S</u> low Growth Rate	20-year Height - Feet	<u>R</u> esprouts	Wildlife Habitat Value - <u>H</u> igh, <u>M</u> oderate, <u>L</u> ow	Notes
Species T	I	H*	I	-	I	R	-	-	M	
Species U	I	H*	I	-	M	R	-	-	M	
Species V	I	H*	I	-	M	R	-	-	M	
Species W	I	H*	I	-	T	R	-	-	M	

*H = Herbaceous-Grass Species

Plan View Job Sketch

(1" = 100')

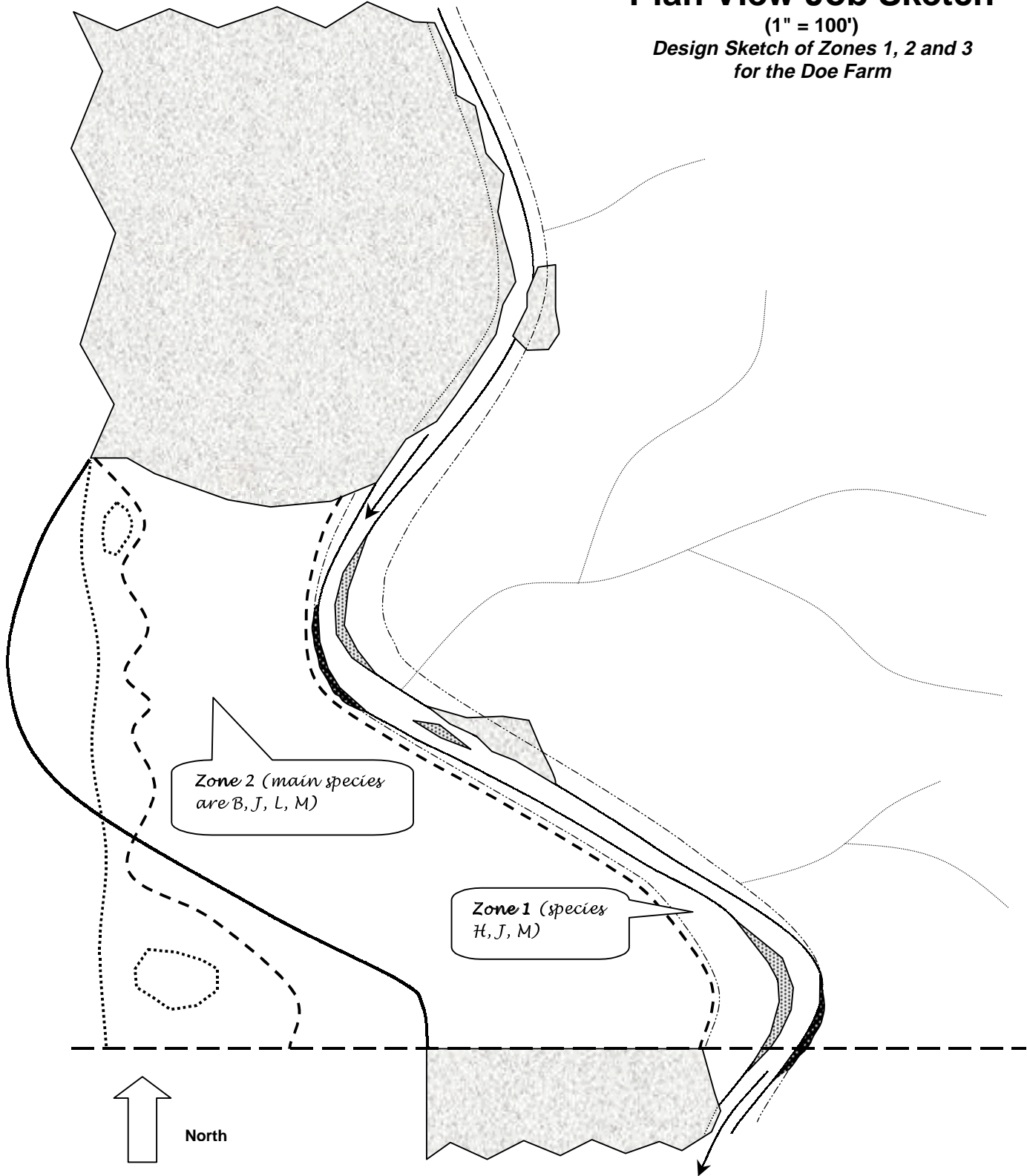
First Step: For your alternative, draw boundaries for Zone 1, 2 and 3



Plan View Job Sketch

(1" = 100')

*Design Sketch of Zones 1, 2 and 3
for the Doe Farm*



Plan View Close-up - Job Sketch

Scale: 1" = 10'. Use 5' spacing for plants < 25' in height and 10' for > 25' heights.

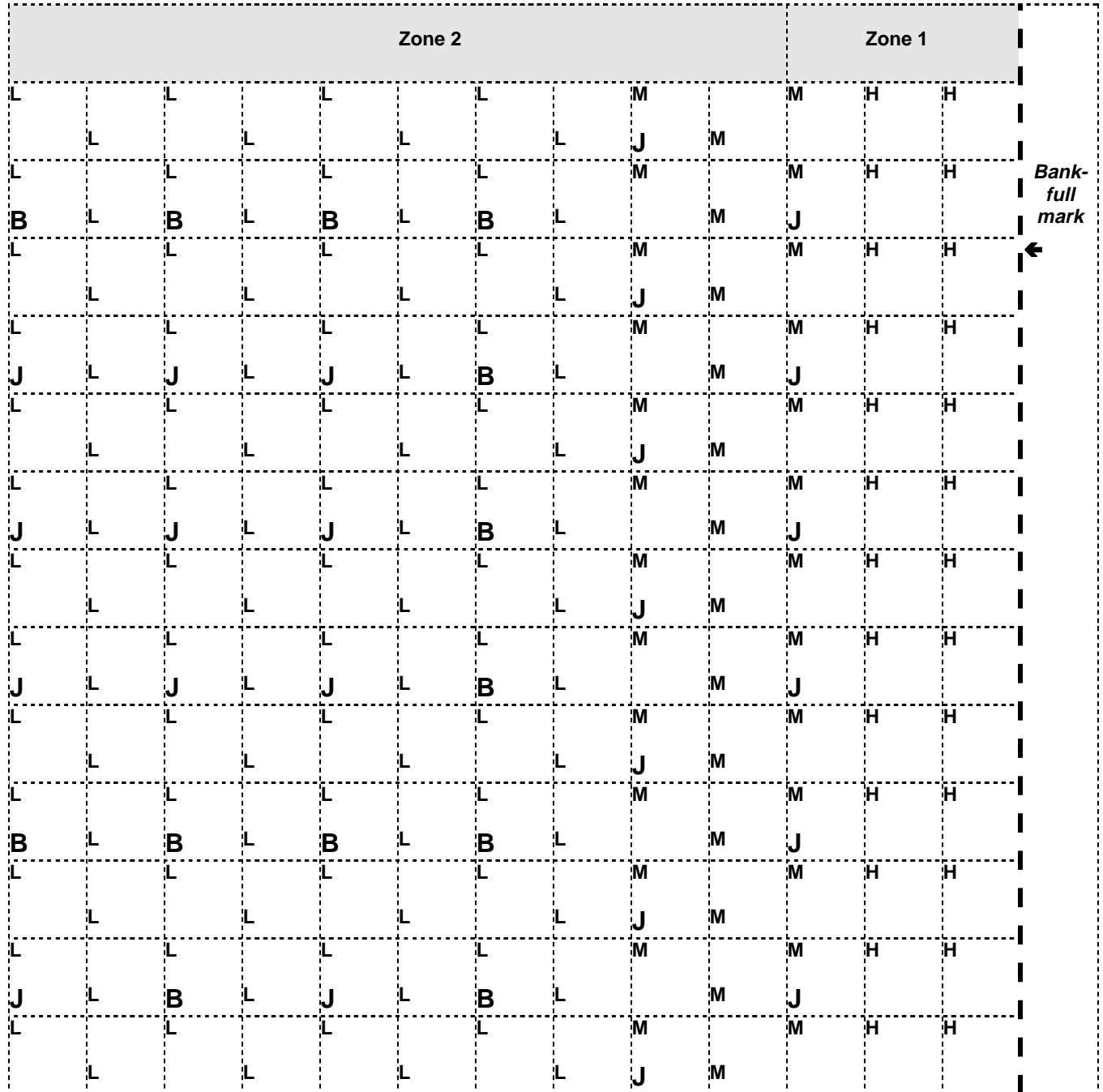
Task: Indicate a representative area's relative proportions of species and planting densities by using the species "letter" for individual plants. Sketch zone boundaries and any other pertinent features. Use the area noted as "Cross-section" line on the Case Scenario map.

Grid lines are 1/2-inch squares (5' x 5').

Plan View Close-up - Job Sketch - Doe Farm

Scale: 1" = 10'. Use 5' spacing for plants < 25' in height and 10' for > 25' heights.

Task: Indicate a representative area's relative proportions of species and planting densities by using the species "letter" for individual plants. Sketch zone boundaries and any other pertinent features. Use the area noted as "Cross-section" line on the Case Scenario map.



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