MEMORANDUM

Date:

December 7, 2021

To:

Lower Platte South Natural Resources District Board of Directors

From:

Ariana Kennedy, Resources Conservationist AK

Subject:

Minutes for Recreation, Forestry & Wildlife Subcommittee Meeting

On Monday, December 6, 2021, at 5:30 p.m., the Recreation, Forestry and Wildlife subcommittee met via Zoom. Subcommittee members on the Zoom meeting; Anthony Schutz – Chair, Lisa Lewis, Christine Lamberty, Susan Seacrest, Ray Stevens and John Yoakum. Other attendees were Gary Aldridge, Brian Schuele (Olsson), Deb Eagan, Paul Zillig, David Potter, Dan Schulz, Jay Seaton and Ariana Kennedy.

First on the agenda was the Homestead Trail Location 9 concrete box culvert bids. This is the site on Homestead Trail where the bridge and trail were closed during the summer of 2021 due to significant erosion near and around the south abutment. Bids were opened on Monday, November 29. Five bids were received and Bauer Underground, Inc. was the low bidder at \$316,762.50. The Opinion of Probable Cost prepared by Olsson was \$311,275.00. Olsson provided a bid tabulation for all bids received.

Olsson discovered the amount of riprap quantity needed for the project had been overestimated in the bid documents. The riprap line item in the bids submitted by the five contractors were compared to one another. Bauer submitted the low bid on this line item and remained the low bidder for the project. Olsson has contacted Bauer Underground, Inc. about the reduction in riprap and as a result, Bauer has agreed to reduce the contract amount to \$274,835.00. Bauer is a good contractor and has experience in culvert work. Consequently, Olsson provided a letter of recommendation to award Bauer the project. Substantial completion of the project is to occur on or before April 30, 2022. Schuele answered questions from the subcommittee. Olsson recommendation letter, Olsson Opinion of Probable Cost, and Olsson bid tabulation are attached to this memorandum.

It was moved by Lewis and seconded by Lamberty and unanimously approved to recommend the Lower Platte South NRD Board of Directors award the Homestead Trail Location 9 Concrete Box Culvert project to Bauer Underground, Inc. in an amount not to exceed \$274,835.00.

Next, on the agenda was the professional services contract with Olsson for construction oversight on the Homestead Trail Location 9 Concrete Box Culvert project. Letter Agreement Amendment #3 for Professional Services between LPSNRD and Olsson for construction phase services is attached to this memorandum. The scope of services for the construction phase on the box culvert project are for project management, construction management, on-site field management, and project close-out. The Agreement is based on time and materials, not to exceed \$27,680.00. Schuele answered questions from the subcommittee. Legal counsel has reviewed and approved the Agreement.

It was moved by Lewis and seconded by Seacrest and unanimously approved to recommend the Lower Platte South NRD Board of Directors approve Letter Agreement Amendment #3 between the Lower Platte South NRD and Olsson for construction phase services on the Homestead Trail Location 9 Concrete Box Culvert project in an amount not to exceed \$27,680.00.

A quorum was not present, a motion will need to be placed on the floor and seconded to allow Board action on this item.

Last, on the agenda was the Lower Platte South Natural Resources District Landscape Tree Cost-Share Program. Seaton stated this program's guidelines were based on the District Community Forestry Program. The cost-share program is 75% of the cost of a landscape tree up to \$115 with a maximum of 85 applicants per year. The District budgeted \$10,000 for this pilot program in fiscal year 2022. He mentioned the District landscape tree cost-share program spawned from the City of Lincoln tree voucher program. Residential or commercial properties located in the District are eligible for the District program. The guidelines for the program include; rules for the program, an applicant checklist, an application form, and a list of species eligible for the program are attached to this memorandum.

It was moved by Stevens and seconded by Yoakum and unanimously approved to recommend the Lower Platte South NRD Board of Directors adopt the Lower Platte South Natural Resources District Landscape Tree Cost-Share Program guidelines and authorize the General Manager to approve applications up to the budgeted amount.

Meeting adjourned at 6:15 p.m.

PC: RF&W subcommittee file



December 1, 2021

Lower Platte South Natural Resources District Attn: Paul Zillig 3125 Portia St Lincoln, NE 68521

Re: Homestead Trail Location 9 Concrete Box Culvert

Hickman, Nebraska

Olsson Project No. 019-14720

Dear Mr. Zillig:

Bids were received on November 29, 2021, for the above referenced project. This letter is prepared to summarize the bids received and provide our recommendations for making an award on the project. A bid tabulation has been prepared for the project and is attached for your reference.

A total of five (5) bids were opened for the project, and the apparent low was submitted by Bauer Underground, Inc. located in Lincoln for \$316,762.50.

Since this Contractor has been considered a responsive and responsible bidder, it is our recommendation that an award should be made to Bauer Underground, Inc.

It has also been identified that the riprap quantity for the project was overestimated. The correct quantity is 504 TN and this reduction in quantity would result in a contract amount of \$274,835.00. Bauer Underground, Inc. has been notified of this adjustment and has agreed to reduce the contract amount accordingly.

Please feel free to contact us with any additional questions that you may have.

Sincerely.

Brian Schuele, PE

enc: Bid Tabulation

cc: File

Opin	ion of Proba	able Cost								
LPSNRD Homestead 9 Box Culvert OPC					Oisson					
12/1/2021										
	Bid Item #	NDOT Item #	item	Quantity	Unit	Bid Unit Price	Bid Price			
	1	0030.00	Mobilization	1	LS	\$45,000.00	\$45,000.00			
	2	1000.00	Large Tree Removal	4	EA	\$750.00	\$3,000.00			
	3	1009.00	General Clearing and Grubbing	1	LS	\$10,000.00	\$10,000.00			
	4	1030.00	Earthwork Measured in Embankment	225	CY	\$25.00	\$5,625.00			
	5	1041.00	Salvaging and Replacing Topsoil	260	SY	\$30.00	\$7,800.00			
တ	6	4045.00	Remove Bridge Structure	1	EA	\$15,000.00	\$15,000.00			
ead	7	6105.03	Rock Riprap, Type C	1,045	TN	\$100.00	\$104,500.00			
Homestead	8	6406.00	Pedestrian Handrail	90	LF	\$100.00	\$9,000.00			
	9	L003.03	Seeding, Type F Rural Mix (City of Lincoln	0.09	AC	\$2,500.00	\$225.00			
_	10	L010.99	Erosion Control Blanket	405	SY	\$5.00	\$2,025.00			
	11	L022.10	Fabric Silt Fence	200	LF	\$5.00	\$1,000.00			
	12	-	PVC Coated Wire Gabion	22	CY	\$400.00	\$8,800.00			
	13	_	Limestone Screenings, Martin Marietta - Product #0965	50	SY	\$15.00	\$750.00			
	14		Concrete Box Culvert	27	LF	\$3,650.00	\$98,550.00			
				Total o	of All U	nit Price Bid Items	\$311,275.00			

In providing opinions of probable construction cost, it is recognized that neither the Client nor Olsson has control over the costs of labor, equipment or materials, or over the contractor's methods of determining prices or bidding. The opinion of probable construction costs is based on Olsson's reasonable professional judgment and experience and does not constitute a warranty, express or implied, that the contractor's bids or the negotiated price of the work on the Project(s) will not vary from the Client's budget or from any opinion of probable cost prepared by Olsson.



Homestead Trail Location 9 Concrete Box Culvert - 2021 Hickman, Nebraska

Monday, November 29, 2021

Olsson Project No.

019-14720

	3	CONTRACTOR			Bauer Under	ground, Inc	K2 Cons	struction	Judd	Bros	MC W	fells	HR Boo	elestrom		
					Lincoln, Nebraska		Lincoln, Nebraska		Lincoln, Nebraska		Omaha, Nebraska		Lincoln, Nebraska			
		ITEM	UNIT	QTY.	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension
ase Bld	NDOT Item #											J. D.C.				
1	0030.00	Mobilization	LS	1 1	\$ 30,500.00	30,500.00	\$ 25,000,00		\$ 50,000.00	\$ 50,000.00		58,000.00	\$ 50,000.00	\$ 50,000,00	s - T	\$ -
2	1000.00	Large Tree Removal	EA	4	\$ 950.00 \$	3,800.00					\$ 2,900.00 \$		\$ 2,500.00	\$ 10,000.00	\$ -	\$.
3	1009.00	General Clearing and Grubbing	LS	1	\$ 5,000.00 \$	5,000.00	\$ 16,000.00				\$ 30,000,00 \$		\$ 15,000.00	\$ 15,000.00	\$ -	\$
4	1030,00	Earthwork Measured in Embankment	CY	225	\$ 26.00 \$	5 850.00	\$ 13.00			\$ 18,000.00			\$ 40.00	\$ 9,000.00	\$ -	\$
5	1041.00	Salvaging and Replacing Topsoil	SY	260	\$ 10.00 \$	2,600.00	\$ 5.25	\$ 1,365.00	\$ 10.00	\$ 2,600.00	\$ 10.00 \$	2,600.00	\$ 5.00	\$ 1,300.00	5 -	\$ -
6	4045.00	Remove Bridge Structure	EA	1	\$ 12,500.00 \$	\$ 12.500.00	\$ 17,500.00						\$ 6,500.00	\$ 6,500.00	\$ -	\$
7	6105.03	Rock Riprap, Type C	TIN	1045	\$ 77.50 \$		\$ 80.00		\$ 90.00	\$ 94,050.00	\$ 112.00 \$	117,040.00	\$ 100.00	\$ 104,500.00	5 -	\$.
В	6406.00	Pedestrian Handrail	LF	90	\$ 50.00 \$	\$ 4,500.00	\$ 145.00	\$ 13,050.00		\$ 6,750.00	\$ 150.00 \$	13.500.00	\$ 150.00	\$ 13,500.00	\$ -	\$.
9	L003.03	Seeding, Type F Rural Mix (City of Lincoln)	AC	0.09	\$ 20,000.00 \$	1,800.00	\$ 28,500.00			\$ 900.00			\$ 8,250.00	\$ 742.50		\$ -
10	L010.99	Erosion Control Blanket	SY	405	\$ 5.00	\$ 2,025.00	\$ 2,50	\$ 1,012.50		\$ 2,025,00	\$ 4.00 \$			\$ 2,227.50	\$ -	\$
11	L022.10	Fabric Silt Fence	LF	200	\$ 5.00	\$ 1,000.00	\$ 4.40	\$ 880.00			\$ 5.00 \$			\$ 1,000.00		\$ -
12	.9	PVC Coated Wire Gabion	CY	22	\$ 200.00 \$	\$ 4,400.00	\$ 370.00	\$ 8,140.00						\$ 6,710,00		\$
13		Limestone Screenings, Martin Marietta - Product #0965	SY	50	\$ 50.00 \$	\$ 2,500.00	\$ 18.00	\$ 900.00					\$ 28.00	\$ 1,400.00	\$ -	\$
14	1.0	Concrete Box Culvert	LF.	27	\$ 5,900.00	\$ 159,300.00	\$ 5,400.00	\$ 145.800.00	\$ 7,000.00	\$ 189,000.00	\$ 10,500.00 \$	283,500.00	\$ 15,500.00	\$ 418,500.00	s -	\$ -
		1	otal of Ba	se Bid:		\$ 316,762,50		\$ 323,537.50		\$ 443,825,00		587,735.00		\$ 640,380,00		s .
		Substantial (Final (Saturday, Ap Tuesday, Ma			pril 30, 2022 lay 31, 2022		April 30, 2022 May 31, 2022	Saturday, Ap Tuesday, Ma			Ipril 30, 2022 Nay 31, 2022		
5% Bld Bond: Yes						Yes		Yes		Yes		Yes				
				es												
	Addendum 1:							-		•			·			
				Notes:										İ		



LETTER AGREEMENT AMENDMENT #3

December 1, 2021

This AMENDMENT ("Amendment") shall amend and become a part of the Letter Agreement for Professional Services dated March 14, 2019 between Lower Platte South NRD ("Client") and Olsson, Inc. ("Olsson") providing for professional services for the following Project (the "Agreement"):

PROJECT DESCRIPTION AND LOCATION

Homestead Trail #9 Box Culvert (the "Project") Near Hickman, Nebraska

SCOPE OF SERVICES

Olsson will furnish Project Management, Construction Management, On-site Field, Project Close-Out, during the construction phase of the Homestead Trail #9 Box Culvert project. By performing the services, no authority or responsibility is assumed to supervise, direct, or control the Contractor's work or the Contractor's means, method, techniques, or procedures of construction. Olsson shall not have authority or responsibility for safety precautions and programs incident to the Contractor's work or for any failure of the Contractor to comply with laws, regulations, rules, ordinances, codes or orders applicable to the Contractor furnishing and performing the work. The Contractor shall have sole responsibility for safety and for maintaining safe practices and avoiding unsafe practices or conditions. These services shall in no way relieve the Contractor of complete supervision of the work or the Contractor's obligation for complete compliance with the drawings and specifications.

The construction duration is estimated at <u>150</u> working days, with approximately <u>35</u> days of active construction observation required.

Project and Construction Management

Olsson shall perform the following general project management services:

 Olsson will provide monthly invoices, showing percent of work completed for each task to the Client and manage the project budget.

Olsson shall furnish a Construction Administrator to manage and oversee the construction work, develop and maintain project documents and reporting procedures and respond to contract related questions or changes in conditions that may be encountered. Olsson shall perform the following construction administration services:

 Olsson will review and process the Contractor's monthly payment requests, and forward to the Client for payment.

- Olsson will coordinate the preparation of any change orders that are agreed to by the
 contract parties. Documentation to support the basis for the claim will be developed, as
 well as justification for change to the contract price. Olsson will review all change orders
 to ensure that the Client's interests have been protected in the proceedings, and all
 change order requests will be discussed with the Client before they are developed in final
 form
- Answer contractors' questions and interpret construction documents. Questions and interpretations will be answered with a written Request for Information (RFI) or similar process.
- Olsson will set up and maintain appropriate project files related to the project. Included in the project file shall be all project correspondence, work change directives, change orders, meeting minutes, request for information, material certifications, test reports and project schedules.

Construction Inspection and Testing

Construction Observation and Reporting

Olsson will observe the Contractor's work and perform the services listed below. Olsson shall not have the responsibility for the superintendence of construction site conditions, safety, safe practices or unsafe practices or conditions, operation, equipment, or personnel other than employees of Olsson. This service shall in no way relieve the Contractor of complete supervision of the work or the Contractor's obligation for complete compliance with the drawings and specifications. The Contractor shall have sole responsibility for safety and for maintaining safe practices and avoiding unsafe practices or conditions.

- Olsson shall conduct site visits to perform field observation of the general progress of the work to assist in determining if the work is proceeding in general accordance with the plans and specifications. All discrepancies will be reported to the Client and Contractor.
- Olsson will complete weekly field construction reports containing a summary of the Contractor's progress, general conditions of the work, problems & resolutions or proposed resolutions and installed quantities.
- Project Documentation: Compile documentation to support the basis of all Requests For Information (RFI), Field Orders, Work Change Directives, and Change Orders.
- Pay Requests: Verify quantities of stored materials and completed work. Prepare and process payment requests based on field verifications of quantities requested by the Contractor.
- Liaison: Serve as Construction Administrators liaison with contractor, working principally through contractor's superintendent and assist Contractors in understanding the intent of the contract documents.
- Review of Work, Rejection of Defective Work, Observations and Tests: Conduct on-site
 observations of the Work in progress. Report to Construction Administrator whenever
 Field Observer believes that any work is unsatisfactory, faulty or defective or does not
 conform to the contract documents, or has been damaged, or does not meet the
 requirements of any governing agency, test or approval required to be made; and advise
 Construction Administrator of work that Field Observer believes should be corrected or
 rejected or should be uncovered for observation, or requires special testing, or approval.
- Modifications: Consider and evaluate Contractor's suggestions for modifications to the Plans and Specifications and report with Field Observer's recommendations to

Construction Administrator. Transmit to Contractor decisions as issued by the Construction Administrator.

Materials and Other Testing

Olsson shall provide materials testing and other testing as required for construction of the project. This would include:

•

- o On-site material (2) EA Standard Proctors
- Concrete Olsson will perform concrete sampling; including slump, air entrainment and temperature on composite samples of concrete. Cylinders will be cast from the concrete used in the construction of the pavement and structures for compressive strength testing.
 We have assumed the following number of Tests required for testing of concrete:
 - o Concrete Box Culvert (_4_) sets of 5 samples
- Reinforced Concrete Box Culvert and Reinforcing Steel Olsson will perform inspection
 and coordination during the installation of the R.C. Box culvert (footings, walls, roof, wings)
 excavation and formwork, steel reinforcement; reinforcing steel layout and spacing, epoxy
 coating damage and repair, sheet pile walls, structural steel inspection, granular backfill,
 railing construction and rip rap placement.
- Reporting: Olsson field professionals will prepare typed field reports summarizing each
 day's field observations, presenting test results, and detailing items not in compliance with
 the project drawings and/or specifications. Field reports will be reviewed by our
 Construction Manager and summarized in letters transmitted to the Client and General
 Contractor. Olsson is not responsible for the Contractor's means or methods and does
 not have the obligation or authority to stop Contractor's work. Olsson responsibility as
 special inspector is to report our field observations and test results to the Contractor and
 Client as provided herein.

Post Construction Services

Substantial Completion

Olsson will conduct a walk-through of the project. A "punch list" of deficiencies will be prepared and distributed, which will indicate what is necessary for the Contractor to achieve Final Completion of the project.

Project Closeout / Final Quantities

Provide written documentation concerning final completion, final quantities and payment to the Contractor and the Owner, including a list of outstanding items, if any, to be completed prior to the making of such payment.

Final Completion

Olsson will conduct a final walk-through of the project with the Contractor and Owner to determine that all items on the "punch list" were addressed, and that the Contractor has achieved final completion of the project

Record Drawings

Olsson will prepare record drawings, based on contractors' "red lines" and site observation. This information will be combined and one set of redlined record drawings in PDF format will be provided to the Client at the completion of the project.

Construction Staking

Olsson shall provide the initial horizontal and vertical control points for the project. All additional construction staking is the responsibility of the contractor.

COMPENSATION

For the additional Scope of Services specifically set forth in this Amendment, Client shall pay Olsson the following fee in addition to the fee(s) set forth in the Agreement:

Task	Description	Fee Type	Fee					
Phase 601 – Homestead #9 Box Culvert Construction Phase Services								
601001	Construction Phase Services	TMNTE	\$27,680.00					
Total	\$27,680.00							

TERMS AND CONDITIONS OF SERVICE

All provisions of the original Agreement not specifically amended herein shall remain unchanged.

If this Contract Amendment satisfactorily sets forth your understanding of our agreement, please sign in the space provided below. Retain a copy for your files and return an executed original to Olsson. This proposal will be open for acceptance for a period of 30 days from the date set forth above, unless changed by us in writing.

above, unless changed by us in writing.	
OLSSON, INC. By Brian Schuele, PE	By Bulling Eric Beiermann
By signing below, you acknowledge that you have Amendment. If you accept this Amendment, ple	ve full authority to bind Client to the terms of this ase sign:
LOWER PLATTE SOUTH NRD	
BySignature	
Printed Name	
Title	Dated:

Lower Platte South Natural Resources District's (LPSNRD) Landscape Tree Cost-Share Rules:

The Lower Platte South Natural Resources District ("District") has budgeted funds for the purpose of sharing the total cost of trees for the good of urban forest. Below is the program rules and District administering guidelines.

- Applications will be awarded in order (Based on the submission date).
- Maximum of 1 tree per applicant AND location per year.
- Applications will be accepted year around until available funds are expended.
 - o Maximum of 85 applicants per year.
- Applications will be reviewed by the District Forester and approved by the General Manager.
- Applicants give permission for District Forester to visit site to inspect planting area and planted tree.
- Tree planting location must be within the District. See map.
 - o Can be planted on rights-of-way, common areas, etc., with proper approval.
 - o Can be on private ground residential & commercial.
 - o Land cannot be owned by the United State government, the State of Nebraska, and/or any division of government of the State of Nebraska (i.e. county, city, local government).
- The address of tree planting must be accurate with:
 - o Detailed map of exact location of future tree placement.
 - o Pictures of tree placement location.
- Confirmation of request for tree planting, via email receipt, from Digger's Hotline, 811
 - o Applicants are required to call Digger's Hotline (811) prior to any planting.
- No shrubs, grass, flowers and orchard trees.
 - o Species not recommended for the District will NOT be approved. See list.
- Standard landscape size $1 \frac{1}{2}$ " stock $(1"-1\frac{3}{4}")$ for deciduous trees and 4-5" for conifer trees is the recommended size. Root maker bag trees 3 gallon to 15 gallon trees are encouraged as well. All trees must be guaranteed for 1 year.
- District will provide technical expertise for tree planting location, tree selection, proper planting and maintenance.
- Cost-Share will be 75% of the cost of the tree, with a maximum of \$115.
- No cost share will be for the nursery to plant.
 - o Applicant can plant tree themselves.
 - o Nursery can plant, Applicant is responsible for nursery planting cost.
- Applicants will be provided with the Landscape Tree Cost-Share Program checklist.
- Applicants must sign and date application prior to planting.
- Applicants after planting will provide District confirmation of tree planting, via email receipt from nursery and pictures of planted tree.

Lower Platte South Natural Resources District's (LPSNRD) Landscape Tree Cost-Share Applicant Checklist:

- Step 1: Double Check, make sure the tree will be planted in the LPSNRD.
- Step 2: Determine what tree you (the Applicant) would like to plant.
 - o Check species list provided by LPSNRD, is it approved by the LPSNRD?
 - Yes, time for Step 2.
 - No.....
 - What other species would you be interested in that are approved?
 - The LPSNRD Forester is available for consultation.
- Step 3: Shop....
 - o Applicants will shop around to find their species of choice.
 - o LPSNRD Forester can help in recommending a nursery close to home.
 - o Procure a written bid from nursery, with price prior to buying.
- Step 4: Apply....
 - o Fill out the LPSNRD Landscape Tree Cost-Share Program application form.
 - All information must be accurate, and Applicant must provide:
 - Address where tree will be planted.
 - Detailed map of exact location of tree planting.
 - o The more pictures the better, to see all directions and area is ideal for planting.
 - Pictures of tree placement location.
 - Receipt from 811-Digger's Hotline confirming planting site has been marked.
 - Bid from nursery for the tree.
 - Submit all information to LPSNRD Forester, preferably via email.
- Step 5: Inspection and Approval...
 - o LPSNRD Forester will review the application.
 - Forester will alert Applicant of application submission.
 - Forester then reviews application.
 - Forester will contact Applicant for any additional information needed.
 - If needed, Forester will visit the site to insure it is ideal for the tree.
 - Forester approves application, submits it to General Manager for final approval.
 - General Manager approves.
- Step 6: Purchase tree, plant tree and request for cost-share.
 - o With Applicant approved, they will go purchase tree.
 - o Tree will then be planted.
 - Applicant is responsible for tree planting.
 - LPSNRD does not cost share on planting.
 - o Send request to LPSNRD Forester for cost-share.
 - Forester will inspect tree & planting.
 - o Forester will submit request to accounting to issue cost-share.

LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT LANDSCAPE TREE COST-SHARE PROGRAM

*	Address:			
*	Town and Zip Code	H		
*	Phone Number:			
*	Email:			
*	Have you ever appl	ied to the LF	PSNRD Landscape Tree Cost-Share?	
	Yes	, Year:	; No	
*	Is this the address	where the tr	ee will be planted?	
*	If not, list address l	oelow, TREE	MUST BE PLANTED IN District:	
*	Address:	J==		
*	Town and Zip Code			
*	Requested Tree Sp	ecies:		
*	Nursery Purchasing	g From:		
*	Purchase Price:			
*	BE SURE TO INCLUI	DE BID/ESTI	MATE FROM NURSERY WITH APPLIC	ATION.
*	Applicant Must cor	itact Digger'	s Hotline, 811, prior to approval.	
*	Attach email receip	t from Digge	er's Hotline to application.	
*	o NO TREES CA	N BE PLANT	ng location at address. TED BENEATH POWER LINES! cting the site prior to planting.	
*	This application ha the LPSNRD Genera		wed by the LPSNRD District Forester	and approved by
PSNRD	District Forester	Date	LPSNRD General Manager	Date

Species	Height	Spread	Note
Baldcypress	50	30	
River Birch	50	40	
Catalpa	50	35	
Kentucky Coffeetree	50	40	
Cottonwood, Native	80	60	
Elm spp. mis	50	40	Disease resistant varieties available.
Ginkgo	45	35	Males only
Hackberry	50	50	
Hickory spp.	40	40	Native Species only
Oak spp.	50	40	Prioritize native species
Pecan	50	50	
Sycamore	80	50	
Tulip Tree	50	40	
Black Walnut	60	45	
Yellow Buckeye	40	30	
Black Cherry	35	20	
Goldenrain Tree	35	25	
Horsechestnut	60	40	
Persimmon	30	20	
Yellowwood	25	20	
Chestnut spp.	25	25	Disease resistant varieties available.
Flowering Crabapple	20	15	Several varieties avaliable.
Hophornbeam	20	15	
Redbud	20	15	
Serviceberry	15	15	
Douglasfir	50	30	
Concolor Fir	50	25	
Eastern White Pine	70	40	
Ponderosa Pine	65	30	
Red Pine	40	30	
Southwestern White Pine	35	20	
Black Hills Spruce	50	30	
Norway Spruce	70	40	
White Spruce	50	30	