Hardiness Zone: 5b (use in 4b and 5a is dependent on a cold hardy seed source) Soil Moisture:

VERY WET							VERY D	RY
occasionally saturated or very wet soil	consisten moist, we drained s	ell	occasional periods of dry soil			prolonged periods of dry soil		
2 3	4 5	6	7	8	9	10	11	12

*western seed sources are thought to be more drought tolerant than eastern sources

Sun/Shade: prefers full sun, tolerates partial shade

Salt: some observed tolerance

pH: ≤ 8.2

Insect/Disease Factors: none limiting, cankers can occasionally be a serious problem **Growth Characteristics:**

Height: 20'-30'

Width: 25'-35'

Form/Habit: open, spreading and somewhat flat-topped, typically multi-stemmed or low branching tree, multi-stem and single-stem forms available

Rate: medium

Ornamental Characteristics:

Flower: very showy, purplish-pink, early spring before leaves emerge, edible

Fruit: 2"-3" pod, changes from light green to brown

Seasonal Foliage Color: new growth emerge glossy reddish-purple, medium to dark green in summer, greenish-yellow to golden yellow in fall

Bark: dark gray-brown in youth, attractive with age, trunk and branches become scaly and expose cinnamon colored inner bark

Other: attractive heart-shaped foliage

Transplant Issues: easy to transplant B&B, moderately difficult to transplant bare root, better success in transplanting bare root in fall, do not attempt to transplant > 2" caliper trees bare root

Management Issues: none of significance

Suggested Uses: wide street tree lawns/pits preferred if using multi-stemmed form, narrow street tree lawns/pits if using standard or with pruning, parks, suitable for CU-Structural Soil[™]

Cultivars: 'Forest Pansy' (zone 5b or 6, slightly smaller than species, slow growth rate, exceptionally glossy new growth, red-purple spring foliage, bronze summer foliage, yellow-orange fall color),

'Northern Strain' or 'Minnesota Strain' (more cold hardy seed produced variety, availability may be limited), **f.** *alba* (commonly called **Whitebud**, cold hardiness also depends on seed source, fast growth rate, foliage slightly lighter green than species, white flowers)