

St. Louis District Mitigation Tree Planting Guidance

Items the applicant or agent should be provided before the submittal of a Tree Planting Plan:

- All applicants should be provided the NRCS "TREE/SHRUB ESTABLISHMENT"(Missouri-MO NRCS 612 and Illinois-IL NRCS 612) guidance (2011) when proposing tree planting in their mitigation plan.
- Also see "RIPARIAN FOREST BUFFER" guidance (MO NRCS 391 and IL NRCS 391)
- Also see "TREE/SHRUB SITE PREPARATION" guidance, (MO 490 Tree_Shrub Site Preparation and IL 490 Tree_Shrub Site Preparation)

Bare Root Seedling Plantings:

1. The preferred minimum seedling spacing should be 10-ft by 10-ft. This would allow for 436 trees per acre for the initial planting.
2. Per IL NRCS Guidance a 70% survival rate should be achieved at the end of the monitoring period (No less than 5-years of monitoring). This equates to 305 trees per acre at the end of the monitoring period.
3. If an applicant proposes greater tree spacing or fewer trees per acre initially, than the survival rate may be higher or lower. In this case the final number of trees per acre still **MUST BE 300 TREES PER ACRE**, regardless.
4. Only 20% of the surviving trees after the monitoring period may be from natural recruitment (Volunteer Trees).
5. Volunteer trees accepted as replacement for planted trees must be of a size commensurate with (or larger than) the surviving planted stock.
6. All sites should be planted to hard mast tree species. If soft mast trees species are approved within a mitigation plan, no more than 20% of the total planted tree species should be soft mast. Project managers may determine if soft mast tree species should be planted within a particular mitigation project on a case by case basis. For example, if a site shows heavy growth of volunteer soft mast species prior to construction of a mitigation project, than the percentage may be reduced or soft mast species may not even be approved for planting at the site.

*In summary, the PREFERRED Spacing is 10 X 10 with a PREFERRED survival rate minimum of 70% after the monitoring period. However, if the spacing and survival rate preferences are not used for a particular site, there **SHALL BE** a minimum of 300 surviving trees per acre (may include the 20% of trees from natural recruitment) at the end of the monitoring period.

Containerized Tree Plantings:

1. The preferred minimum tree spacing should be 20-ft by 20-ft. This would allow for 109 trees per acre for the initial planting.
2. Per IL NRCS Guidance a 70% survival rate is suggested. However, for containerized trees the District would like each site to achieve an 80% survival rate at the end of the monitoring period (No less than 5-years of monitoring). This equates to 87 trees per acre at the end of the monitoring period.
3. The minimum number of surviving trees per acre must be 87 at the end of the monitoring period regardless of spacing and planting rate densities.
4. Only 20% of the surviving trees after the monitoring period may be from natural recruitment (Volunteer Trees).
5. Volunteer trees accepted as replacement for the planted trees must be of a size commensurate with (or larger than) the surviving planted stock.
6. All sites should be planted to hard mast tree species. If soft mast trees species are approved within a mitigation plan, no more than 20% of the total planted tree species should be soft mast. Project managers may determine if soft mast tree species should be planted within a particular mitigation project on a case by case basis. For example, if a site shows heavy growth of volunteer soft mast species prior to construction of a mitigation project, then the percentage may be reduced or soft mast species may not even be approved for planting at the site.

*In summary, the PREFERRED Spacing is 20 X 20 with a PREFERRED survival rate minimum of 80% after the monitoring period. However, if the spacing and survival rate preferences are not used for a particular site, there SHALL BE a minimum of 87 surviving trees per acre (may include the 20% of trees from natural recruitment) at the end of the monitoring period.

Direct Seeding:

If an applicant proposes direct seeding within their mitigation plan, the applicant shall follow the NRCS "TREE/SHRUB ESTABLISHMENT" guidance (Missouri-MO NRCS 612 and Illinois-IL NRCS 612). Reference the "Direct Seeding" section.

Modifications to tree a planting plan based on site performance:

This guidance should be utilized when reviewing and approving a proposed mitigation plan. It provides the minimum requirements that should be authorized when reviewing a tree planting plan within a mitigation proposal. The District has also determined that because no two sites are the same and unforeseen circumstances can arise, then the tree planting rates, spacing, species and survival rates can be modified only after at least two years of monitoring. This will allow the applicant to modify the tree planting plan based on on-site observation and change in conditions

of a site. This allows the District, the agency performing mitigation site compliance, to modify a plan based on the variety of conditions each individual site may go through. However, by providing this guidance initially, it will allow the District and the applicant to stay consistent when reviewing and putting mitigation plans out on public notice for the resources agencies and the public to comment on.