



# Standards Oversight Council (SOC)

Developing effective technical standards that protect Wisconsin's natural resources

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## **NRCS 380 Windbreak-Shelterbelt Establishment and Renovation Standard Update Team MEETING NOTES**

Wednesday, February 23, 2022 ▲ 1:00pm – 3:30pm ▲

Online Meeting

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### **1:00 Welcome & Introduction (Kate, Allan)**

Goal: Welcome and review today's meeting objective.

Welcome everyone!

Confirm Attendance: Eric Hurley (Sponsor) – NRCS

Allan Braun (Team Leader) – NRCS

Mic Armstrong, NRCS

Jeremiah Auer, DNR

Michael Demchik, UW Stevens Point

Roy Diver, NRCS

Tony Johnson, UW Madison Division Extension

Shannon Rohde, Portage Co., Central WI Windshed Partnership Group

Matt Wilson, Savanna Institute

Peter Wisniewski, WisDOT

Drew Zelle, DATCP

Absent: Mike Stanek

Guests: None

### **Notes Review (Kate)**

Goal: Review and approve 1/26/2022 draft meeting notes. Identify open action items.

Draft meeting notes from January meeting were emailed to the team for review.

- Mike Demchik came up with some windbreak research resources from MN which are posted on the team website. Mike can also incorporate this information as appropriate for the team as the discussions unfold (for example, there was resource for fruit and nut trees in windbreaks).
- No questions or comments to the notes were raised by the team, so Kate will post online as final.

### **Windbreak History (Roy, Team)**

Goal: Provide context of the history of the standard, cost sharing and implementation. Team discussion.

Some key points from the presentation and team discussion are below:

- Windbreaks have been used for over 80 years, early in NRCS history.
- Can be single or multiple rows, shrubs and trees.
- Purposes are listed in the standard are primarily: reduce soil erosion from wind, protect plants from wind damage, manage snow deposition, enhance wildlife habitat, provide visual and noise screens, improve irrigation efficiency, and reduce energy use. New NRCS resource concern added for carbon storage.
- Has evolved over the years. For example, they previously would use shrubs under center pivot irrigation, though this is no longer favorable due to interference.
- Maintenance needed – thin out dead trees, may need to mow/weed if there's competition.
- Old windbreaks may have used CPS 650 for renovation (which is now part of the new 380) in adding another row behind an existing windbreak to fill in gaps.
- 2002 and 2011 standards promoted single species in a row, to avoid variations in growth. Species could be changed if soils changed.
- 2016 standard dropped the single species language, and doesn't say anything against alternating species. Despite the 2016 update to the standard, the EQIP 2022 cookbook sheets still says coniferous and deciduous species and trees and shrubs shall not be mixed in the same row. *The EQIP cookbook needs to change to match the standard.* This can be done at the state office.
- Associated practices – mulching, tree and shrub site prep.
- Central WI Windshed Partnership started in late 1980s to promote windbreaks. CWWP encouraged diversity in windbreaks, including as much as 8 to 12 species in a 3-row windbreak. NRCS didn't support multi-species windbreaks so there was a split in NRCS vs CWWP projects.
- Some perceived/actual negatives:
  - Producer perspective can be that yield is less right along windbreak edge, but there IS overall net benefit with additional yield in the middle of the field.
  - Producers also don't want to lose cropland area.
  - Maintenance requires work.
  - Trees get in the way of machinery.
  - NRCS has seen some cost sharing complications – timing may not work well with ordering of trees, or may not pay out until a 2<sup>nd</sup> or 3<sup>rd</sup> year after installation. CWWP streamlines process somewhat. CPS 612 Tree and Shrub Establishment can be simpler for a similar installation.

- Article by Smith et al, posted on [SOC team website](#) identifies some of the challenges.
- CRP vs EQIP usage for windbreaks – NRCS programs require usage of the practice standard to obtain cost sharing.
  - CRP – annual payment for 10-15 years, has been 50% cost share but might be little less – landowner may not want to tie up land that long, not as many resource concerns as EQIP or CSP. Resource concern for wind erosion is required to be present, wildlife is a secondary resource concern that can be added to wind erosion. No other resource concerns apply to CRP.
  - EQIP – pays better cost sharing than CRP and doesn't tie producer to a long-term contract. Full range of resource concerns can be assessed.
  - Conservation Stewardship Program (CSP) to reward landowners that are doing the practice already – get money for what's in place PLUS cost sharing for new practices. No enhancements specific to windbreaks exist currently.
- Who can design a windbreak? Job approval authority is based on experience and varies across the state. NRCS planners with many years' experience would have job approval authority to put together windbreak design. New employees would likely have someone else in their office who could help.
- NRCS has a Windbreak Technology Course that is good for comprehensive information.
- There have been 100 EQIP contracts for windbreaks over past 10 years. This is not a lot, and could certainly be improved.

### **Multi-Species Windbreaks (Shannon, Team)**

Goal: Provide an overview of the specifications, benefits, successes, failures.

Some key points from Shannon's presentation and team discussion on the work of Central WI Windshed Partnership (CWWP) are below:

- Background:
  - In 1986, citizens of the Town of Stockton petitioned Portage County LCC to address wind erosion control.
  - In the early 90s the RC&D program (which moved to separate private/public sector coalition now known as CWWP) did some test plot windbreaks and the program expanded from there.
  - CWWP has many partners: WPVGA, vegetable processing industry, numerous LCDs in central WI (Adams, Juneau, Portage, Waushara and Wood) but have expanded with projects with other counties statewide, and DATCP. They also work with NRCS, Extension, Hancock Ag Research Station, Golden Sands RC&D, and DOT.
- CWWP offers the design and plant selection, site prep, machine planting, and weed barrier/fabric mulch.

- They use a 6' or 10' wide fabric mulch weed barrier to control weed growth so less competition for water and nutrients. It allows rainfall through and also retains moisture in the soil during dryer times. Critters can settle in under fabric but they haven't seen a big problem with animals effecting plant establishment.
  - The don't add mulch directly around the trees. Mulching in each hole with the tree would be very labor intensive and could create nesting ground.
  - MN research showed pea gravel in the hole helped reduce weeds and eliminated vole activity.
- A windbreak can have a lot of species variety for different heights, habitat and appearances.
  - Species selection is typically based on landowner preferences, what's native, and hardy for the specific growing area. Forestry Tech Notes 1 (used primarily with the 612 Tree/Shrub Planting standard) and 4 are good starting points with individual species by soil type (MLRA soil area).
  - Species list in Tech Note 4 will be updated by this team. Tech Note is old language, these are now being called Guidance Documents. This is the Guidance Document we will be revising as mentioned in the opening meeting.
  - They use a variety of designs with variety of shrubs and trees depending on site specifics. The species combination benefits wind, noise, living snow fence, habitat, and helps maintain the windbreak if there are insects or disease. Longer term, the trees with a shorter lifespan may need to be harvested out.
  - Some species have other benefit. For example, false indigo bush can be chopped down with corn chopper and fed to livestock and the plant will resume growing.
  - Design can include combinations of coniferous and deciduous. With multiple rows the pattern must be offset so that a hardwood is planted in line with a conifer in the adjacent row. This mimics having a row of all conifer and all hardwood and is more pleasing to landowners. They try to match up similar porosity needs and growth patterns for deciduous combinations. They wouldn't usually match up fast growing poplar and slow growing oak.
  - Lower heights shrubs, like under power lines or pivots, would be things like ninebark, silky dogwood, red osier dogwood, Roselow crabapple, highbush cranberry.
  - The federal standard doesn't restrict using multiple species, but this team could adjust language to directly *encourage* it. Cost sharing program should also match the standard.
  - What about species for harvesting fruits or nuts?
    - CWWP has used hazelnuts and elderberry but not many other harvesting species.

- Mike Demchik has some research on this; article is on the team website. Use of windsheds in agroforestry can include firewood, food production, decorative woody florals.
- Maintenance is important for establishment. Even with the fabric barrier, weeds will crowd the fabric opening and will need to be removed. CWWP has a 3-year maintenance program with weeding, mowing, and dead plant replacement.
- In most situations, 70% cost share is available with county SWRM funds. They also may use NRCS EQIP funds.
- Conservation tillage, cover crops, grass plantings may also tie in to conservation practices along with windbreaks. NRCS associated practices are part of other guidance documents.

**Next Meeting Topics and Plan of Action (Kate, Allan)**

Goal: Identify priority topics and goals for next meeting. Review Action Items.

Some outstanding topics to discuss at a future meeting:

- Team will continue to discuss concepts, then will look at specifics for document revision, then pivot to the guidance documents.
- Discussion topics:
  - Criteria evaluation specific to outside elements: roads, utilities above and below ground, and other living snow fence recommendations. Figure 1 in Forestry Tech Note 4 shows setbacks. Mike Demchik has guide for plantings near power lines from Dairyland Power that he'll share. Each utility is likely to have different rules for plantings under power lines. Peter could do a presentation at the next meeting.
  - Wildlife habitat – potential incorporation into CPS and guidance doc (may need input or presentation by a wildlife biologist). NRCS hedgerow standard would have more wildlife focus than windbreaks and NRCS is having internal discussions now on whether to add hedgerows.
  - Resource concerns – Carbon already on the new national standard; team may think about specific criteria or considerations specific to that purpose.
  - Stock types - Guidance document material (Tech Note 4), so that would be later in process after standard is drafted. Could include presentation by Jeremiah Auer (and Mic Armstrong?)
  - O&M – could be a new guidance document for the “how to.” Where to include the expectation and get it done.
  - Should we have a tool like the Excel spreadsheet that Iowa uses (guidance document).
- Team previously discussed a field trip later in spring (April or May?) to see the windbreaks in person together—firsthand look at what is “good” and “bad” and what rehabilitation and better O&M could look like. Shannon could host at Hancock

Research Station, which also has meeting space. We would see old, run-down windbreaks as well as good, high quality windbreaks.

Next meeting will be online, on March 30 from 1:00 -4:00 pm.

Action Items developed today:

1. **Peter:** prepare presentation on living snow fence recommendations and recommendations related to roads and utilities for next meeting.
2. **Kate:** reach out to Mike Stanek to request him present on soil loss and WEPS at our next meeting. **Allan** will help provide specifics to Mike.
3. **Kate:** finalize and post meeting notes from 1/26.
4. **Kate:** draft 2/23 meeting notes. Reviewed by **Allan**, then reviewed by full **Team**.
5. **Allan and Kate:** prepare agenda for 3/30 meeting and send to team one week prior to meeting.

3:30 *End*