Public Workshop for
Potential Amendments to
District Rule 4550
(Conservation Management Practices)

November 7, 2022

webcast@valleyair.org
Valley’s Air Quality Challenges

• Valley’s challenges in meeting federal air quality standards unmatched due to unique geography, meteorology, and topography
• Valley designated as “Extreme” non-attainment of the 8-hour Ozone NAAQS; “Serious” non-attainment of federal standards for fine particulate matter (PM2.5)
  – Substantial emission reductions needed to achieve federal standards – need to go beyond already strict control limits
• Comprehensive strategy in 2018 PM2.5 Plan includes commitment to reduce emissions from mobile sources and number of stationary and area sources, including agricultural operations addressing:
  – Direct PM2.5 sources
  – NOx emissions (primary precursor to PM2.5)
Current District Rule 4550 Overview

• Rule 4550 first adopted August 19, 2004 as PM10 control measure
  – First rule of its kind in nation

• Environmental Protection Agency (EPA) finalized approval of Rule 4550 in Feb. 2006, and determined rule to meet Best Available Control Measure (BACM) requirements

• Rule established unique menu approach of control techniques to accommodate wide variability of agricultural industries found in Valley
  – Selected CMPs are listed on application forms that are submitted to District for approval as CMP Plan
  – Approved CMP plans enforced through onsite inspections
  – Operators required to submit applications to modify plans when changing CMPs
Rule 4550 Overview (cont’d)

• Rule 4550 is applicable to on-field farming and agricultural operation sites within San Joaquin Valley
• CMP plans are required for the following operations:
  – Farms with 100 acres or more
  – Dairies with 500 or more mature cows
  – Cattle feedlots with 190 or more cows
  – Turkey ranches with 55,000 or more turkeys
  – Chicken ranches with 125,000 or more chickens
  – Chicken egg ranches with 82,000 or more laying hens
• Operations required to maintain records verifying use of approved CMPs
• Rule requirements have reduced PM10 emissions by 35 tpd, representing a 24% reduction from source category to date
CMP Categories

- Land Preparation/Cultivation
- Harvest
- Unpaved Roads
- Unpaved Vehicle/Equipment Areas
- Manure Handling and Storage
- Overall Management/Feeding
- Open Areas and Feeding
- Other
CMP Examples

• Practices that reduce or eliminate the need to disturb the soil or manure
• Practices that protect the soil from wind erosion
• Equipment modifications to physically produce less PM10
• Applying water or dust suppressants to reduce emissions entrained by moving vehicles and equipment
• Reducing speed or access on unpaved roads and equipment areas
• Alternative practices to open burning
District Success in Implementing CMP Strategy

- Upon adoption, District implemented strategy and worked extensively with stakeholders to ensure compliance and program success
- District created special CMP application form with simplified checklists to ensure streamlined application process for operators
- District hosted number of workshops to assist sources to comply
- District has made notable achievements since adoption:
  - District has received over 8,500 CMP Plans since 2005, in addition to over 7,000 CMP Plan modification applications
  - Practices encompass 3.23 million acres of farmland
  - CMP program received EPA Region IX’s “2005 Environmental Award for Outstanding Achievement”
SGMA and Other Resource Management Considerations

• Groundwater regulated in California for decades, however state’s assessment concludes that groundwater overdrafted in recent years
• California’s Sustainable Groundwater Management Act (SGMA) enacted in 2014 to establish framework ensuring long-term reliability of groundwater supplies
  – Groundwater Sustainability Agencies (GSAs) to implement Groundwater Sustainability Plans (GSPs) for groundwater sustainability by 2040 for “critically overdrafted basins”
  – Majority of Valley considered “critically overdrafted basin”
• Williamson Act preserves farmland through contracts between landowners and government agencies
• Federal Endangered Species Act impacts management of fallowed lands
  – “Safe Harbor Agreements” available, not widely utilized
Working Together to Understand and Address SGMA Impacts

• Ongoing severe drought, SGMA implementation pose severe challenges to the San Joaquin Valley and concerted effort necessary at local, state, federal level to support transitions (water storage/recharge, working land maintenance, economic impacts, etc.)

• As a local component of tremendous challenges facing our region, District currently working with ag researchers, stakeholders, and agency partners (NRCS, CDFA) to evaluate feasibility/effectiveness of conservation practices on fallowed lands to mitigate potential PM impacts from disturbed acreage through amendments to Rule 4550
  - Additional research in close coordination with agencies and stakeholders essential in continuing to identify Valley-specific and sustainable solutions
  - New strategies must be supported by strong education and outreach efforts
  - New strategies must be supported by new state/federal funding given vast amounts of land anticipated to be fallowed and significant costs
Potential CMPs Under Consideration for Fallow Land

- **Cross Wind Ridges (NRCS Code 588):** Establish stabilized ridges by normal tillage and planting equipment, perpendicular with direction of erosive winds (not appropriate for unstable soils such as sands or loamy sands)

- **Cross Wind Trap Strips (NRCS Code 589):** Provide a cover of erosion-resistant herbaceous plants established in one or more strips, typically perpendicular to the most erosive wind events

- **Cover Crop (NRCS Code 340):** Use seeding or natural vegetation/regrowth of plants to cover soil surface

- **Woody Residue Treatment (NRCS Code 384):** Treatment of residual woody material created due to management activities or natural disturbances

- **Crop Residue Management (NRCS Codes 345 and 329):** Maintain crop residue from previous crops until tilling for the next crop
Potential Conservation Management Practices Under Consideration for Fallow Land (Cont’d)

• **Surface Roughening (NRCS Code 609):** Produce and maintain stable clods or aggregates on the land surface by bedding, rough discing, or tillage that leaves the surface covered by stable clods.

• **Range Planting (NRCS Code 550):** The seeding and establishment of herbaceous and woody species for the improvement of vegetation composition and productivity of the plant community to meet management goals.

• **Conservation Cover (NRCS Code 327):** Establish and maintain permanent vegetative cover.

• **Conservation Tillage (NRCS Codes 345 and 329):** Types of tillage that reduce loss of soil and water in comparison to conventional tillage.
Other Potential CMPs Under Consideration

• **Field Windbreaks (NRCS Code 380):** Plant or maintain a single or multiple row of trees or shrubs adjacent to windward edge of the field as close to perpendicular as practicable with the direction of erosive winds.

• **Wind Barrier (NRCS Code 603):** Plant or maintain perennial or annual plants in rows or narrow strips interspersed throughout a crop field as close to perpendicular as practical with the direction of erosive winds.

• **Conservation Reserve Program (CRP):** Farm Service Agency land conservation program. Offers yearly rental payment to remove environmentally sensitive land from ag production and plant species that will improve environmental health and quality (10-15 year contracts).

• **Stripcropping (NRCS Code 585):** Establish crops in parallel strips across prevailing wind erosion direction alternated with strips having a protective cover that is resistant to wind erosion.
Next Steps

• District staff analyzing technological and economic feasibility of these practices, taking into account costs, cost-effectiveness, and considerations depending on specific conservation management practices
  – Costs and feasibility of most effective practices available
  – Review of requirements in other air districts

• Socioeconomic Impact Analysis being conducted by third-party consultant to evaluate regional economic impacts of proposed amendments

• Public scoping meeting held December 16, 2021

• Ongoing opportunities for public input throughout rule development process:
  – Regular updates are provided at Citizens Advisory Committee (CAC), Environmental Justice Advisory Group (EJAG), and District Governing Board meetings
Public Engagement Process for Rule 4550 Amendments

- Public Workshop November 2022
- Public Workshop 1st Quarter 2023
- Publication of Proposed Rule
- 2023 Governing Board Public Hearing

Public Participation and Comment Invited throughout Process
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