San Joaquin Valley Air Pollution Control District
AB 617 Community Emission Reduction Program

Alternative to Agricultural Open Burning
Emission Reduction Program Plan
December 1, 2020

South Central Fresno Community
Shafter Community

PROJECT IDENTIFICATION

SOUTH CENTRAL FRESNO CERP AG.1: INCENTIVE PROGRAM FOR DEPLOYING ON-FIELD ALTERNATIVES TO THE OPEN BURNING OF AGRICULTURAL MATERIALS

SHAFTER CERP A.3: INCENTIVE PROGRAM FOR DEPLOYING ON-FIELD ALTERNATIVES TO THE OPEN BURNING OF AGRICULTURAL MATERIALS

This is a Community Identified Project included and prioritized in the California Air Resources Board (CARB) and District adopted South Central Fresno and Shafter Community Emission Reduction Programs (CERP).

This measure will reduce Particulate Matter (PM), Oxides of Nitrogen (NOx), and Reactive Organic Gases (ROG) emissions from agricultural open burning of orchard and vineyard removals by incentivizing chipping and soil reincorporation or land application as an alternative.

COMMUNITY SUPPORT

This measure received support from both the South Central Fresno and Shafter Community Steering Committees and was included in each of the respective adopted Community Emission Reduction Programs. Information about the Steering Committees is included below:

(1) Name(s) of the community group(s):
   a. South Central Fresno Steering Committee Map
   b. Shafter Steering Committee Map
(2) Purpose of community group(s)
   a. AB617 Community Engagement and Public Input
(3) Total number of members in the community group(s)
   a. South Central Fresno – 34 members
   b. Shafter – 27 members
(4) Date(s) of formation/establishment
   a. South Central Fresno – December 2018

b. Shafter – December 2018

(5) A description of the decision-making process must be included.

a. South Central Fresno Steering Committee Charter
b. Shafter Steering Committee Charter

(6) Community Support Demonstration

a. South Central Fresno CERP
b. Shafter CERP

MECHANISM FOR INFORMING COMMUNITY

This measure has been discussed at Community Steering Committee meetings in addition to the outreach activities conducted to inform residents of the program and requirements for participation. The outreach conducted has and will continue to be the following:

- Social media
- Mailers
- Print ads
- Press releases and press events
- Bus ads
- Events, town halls, webinars, etc.
- Other ideas as brought up by committee

PARTICIPANT REQUIREMENTS

(A) Alternative to Agricultural Open Burning Incentive Pilot Program Eligibility: The Alternative to Agricultural Open Burning Incentive Pilot Program (Program) guidelines are attached to this program plan as Exhibit A. In implementing this CERP measure, the District will follow existing Program guidelines and eligibility criteria. Only commercial agricultural operations are eligible to apply. The participant must submit an application and obtain an executed voucher from the District prior to chipping any of the vineyard or orchard acres to be removed at the location referenced in their application. Applications are processed on a first-come-first-served basis. Land conversions intended for non-agricultural purposes are not eligible for this Program. The final disposition of agricultural material must be used on-site or at another agricultural location and cannot be sold or used for other non-agricultural off-site uses including, but not limited to, biomass power generation or composting.

(B) Participant Requirements: The Program application is attached to this program plan as Exhibit B. A certification section is included in the application and details participant requirements. Participation in the Program occurs in five phases: Voucher Application, District Pre-Inspection, Voucher Execution, Voucher Redemption, and District Post-Inspection.

(1) Voucher Application: A participant must submit a completed voucher application along with the Certifications Form signed by the applicant, a

completed IRS Form W-9, a site map confirming the acreage to be removed, and a detailed and itemized quote from any service providers for the planned activities.

(2) District Pre-Inspection: If the Voucher Application is determined by a District Program Specialist to be complete and eligible, a pre-inspection of the orchard or vineyard will be scheduled and conducted by a District Air Quality Field Assistant.

(3) Voucher Execution: Upon completion of the pre-inspection, the District Program Specialist will review the pre-monitoring inspection report, execute a voucher if the application is deemed eligible, and mail or email the voucher to the applicant. Participants may then commence chipping of the removed vineyard or orchard, and the subsequent soil incorporation or land application as indicated on their executed voucher.

(4) Voucher Redemption: The applicant has 180 days from the voucher execution date to complete the project. Once a participant has completed the chipping and soil incorporation or land application, they may submit a Claim for Payment packet to begin the voucher redemption process. A complete Claim for Payment packet is required as part of the voucher redemption process and must include a completed and signed voucher, a breakdown of services conducted, and copies of any invoices and receipts for the services performed. A District Program Specialist will review the submitted Claim for Payment packet for completeness, and begin coordination for the post-inspection.

(5) District Post-Inspection: After receiving a completed Claim for Payment packet, a District Air Quality Field Assistant conduct the post-inspection site visit. Photographs will be taken during the site visit and a post-inspection report will be completed, indicating the final disposition of agricultural material. District Staff will review the post-monitoring report, and issue reimbursement to the participant for eligible costs, up to the approved voucher amount.

FUNDING AMOUNTS

The approved CERPs include $1,000,000 for the Shafter community and $375,000 for the South Central Fresno community for the implementation of this measure. This funding will eliminate agricultural burning of up to 2,000 acres in Shafter, and up to 700 acres in South Central Fresno, helping to achieve the ongoing emissions reductions associated with the phase-out of agricultural open burning.

Table 1 summarizes the eligible alternative practices and incentive amounts available to South Central Fresno and Shafter community farmers through the Program. These funding levels represent the maximum incentive amounts based on the number of acres removed and the final disposition of the agricultural material. If the total project cost of the orchard or vineyard removal, and the cost of chipping and disking or spreading, as

applicable, are less than the incentive amount, the final amount reimbursed to the participant will be reduced. There are no minimum match requirements for participation in the program; however, participants must pay for any costs that exceed the incentive amount.

Cost-Effectiveness of each project's emissions reductions is calculated according to the following formula:

Formula A-1: *Cost-Effectiveness ($/ton) = Grant Amount ($) / Total Emission Reductions (tons/acre)*

Table 1: Eligible Incentive Amounts for South Central Fresno and Shafter Communities

Project Type	Maximum Incentive per Acre*	Maximum Incentive (per applicant per year)
Chipping with soil incorporation (soil incorporation/whole orchard recycling)	$600 per acre	$60,000
Chipping without soil incorporation (land application of mulch or other on-site practices)	$300 per acre	$30,000

* The final funding amount reimbursed may be less than the maximum incentive amount if the final invoice amount for the project is less than the maximum incentive amount or if the final project is different from the proposed project. For example, the project proposed and funded was 100% soil incorporation but the final project was 50% soil incorporation and 50% land application.

PROJECT SELECTION AND REPORTING

Projects will be approved on a first come, first served basis determined by the submittal of a complete program application.

The District will report program information in accordance with Community Air Protection program guidelines found at: https://ww3.arb.ca.gov/msprog/cap/docs/cap_incentives_2019_guidelines.pdf.

EMISSION REDUCTION TARGETS

The goal of this measure is to abate the agricultural open burning of up to 2,000 acres in the Shafter Community with an expected emission reduction of up to 525.8 tons per year, and up to 700 acres in South Central Fresno with an expected emission reduction of up to 184 tons per year.

The District will utilize an established Program emission reduction calculation methodology to calculate the emission reductions achieved from each completed project.

EMISSIONS REDUCTIONS METHODOLOGY FOR ALTERNATIVE TO AGRICULTURAL OPEN BURNING INCENTIVE PILOT PROGRAM

The Program's emissions reduction calculations are based on the following references for tier ratings, emission factors, and process rates:

- District's 2007 Area Sources Emission Inventory Methodology, 670 – Agricultural Burning (revised June 1, 2009)[1]
- The District's Final Staff Report and Recommendation on Agricultural Open Burning (2010 Ag Burning Staff Report)[2]
- The Carl Moyer Program Guidelines[3]
- EMFAC2017 for MHDT[4]

Step 1: Determine baseline emissions for open field burning
Step 2: Determine emissions for alternatives to agricultural open burning
Step 3: Calculate emissions reductions by subtracting the total alternative to agricultural open burn emissions from the baseline emissions for open burning

The following details each of these steps.

Step 1: Determine Baseline Emissions from Open Field Burning

Emissions of PM2.5, NOx and VOC from open burning operations have been estimated by the District based on the following:

Emissions estimates for orchard removals and open field burning include:

- Highway vehicle emissions to deliver mobile equipment to the site
- Emissions from a dozer used to remove the trees or vines
- Emissions from a wheel loader used to stack trees or vines into piles for burning
- Emissions from open burning of trees, vines and roots

The analysis for Step 1 will be divided into the following:

a. Determine the emissions for each off-road emissions source
    - Dozer

[1] 2007 Area Sources Emission Inventory Methodology, 607 – Agricultural Burning, Table 9 (June 9, 2008). https://www.valleyair.org/Air_Quality_Plans/EmissionsMethods/MethodForms/Current/AgBurningPFW2007.pdf
[2] Final Staff Report and Recommendations on Agricultural Open Burning, chapter 6 (May 20, 2010). https://www.valleyair.org/BurnPrograms/Ag_Burning.htm#,
[3] The Carl Moyer Program Guidelines 2017 Revisions (April 27, 2017). https://ww2.arb.ca.gov/sites/default/files/classic/msprog/moyer/guidelines/2017/2017_cmpgl.pdf
[4] EMFAC2017 https://arb.ca.gov/emfac/2017/

- Wheel loader

b. Determine the emissions for the heavy duty haul truck used to haul the heavy equipment to the orchard/vineyard removal site
c. Determine the emissions from open burning of removed agricultural material
d. Calculate the baseline open burning emissions from the orchard/vineyard removal project

a. Determine emissions from off-road equipment

Emissions from off-road equipment are determined by identifying typical equipment used to conduct open field burning of orchard/vineyard removals. The District's 2010 Ag Burning Staff Report identifies bhp, tier rating, and process rates for "typical equipment" used for this activity. Equipment emission factor obtained from Carl Moyer Program Guidelines 2017 Revisions.

Table 2

Emission Source	bhp	Tier	Pollutant	Emission Factor (g/bhp-hr)	Emissions lb/hr	Processing Rate (hr/acre)
Dozer	300	2	NOx	3.79	2.5	2
			PM2.5	0.09	0.1	
			VOC	0.09	0.1	
Wheel loader	250	2	NOx	4.15	2.3	1
			PM2.5	0.09	0.0	
			VOC	0.11	0.1	

To calculate the emissions for each piece of off-road equipment multiply the bhp of the emission source by the emission factor and divide by 453.6. Then multiply by the processing rate.

$$E_{off\ road\ equip} = (\frac{A\ x\ B}{C})\ x\ D$$

Where:
$E_{off\text{-}road\text{-}equip}$ = Emissions (lb/acre)
A = bhp of emission source (dozer, wheel loader, etc.)
B = Emission Factor (g/bhp-hr)
C= 453.6 (g/1 lb)
D = Processing Rate (hr/acre)

Example: Calculating NO_x emissions for Dozer

$$\left(\frac{300\ x\ 3.79}{453.6}\right) x\ 2 = 5.01\ \text{lb/acre}$$

This calculation was performed for each entry in Table 2 above to create Table 3 below.

Table 3

Emission Source	bhp	Tier	Pollutant	Emission Factor (g/bhp-hr)	Emissions lb/hr	Processing Rate (hr/acre)	Emissions (lb/acre)
Dozer	300	2	NOx	3.79	2.5	2	5.01
			PM2.5	0.09	0.1		0.12
			VOC	0.09	0.1		0.12
Wheel loader	250	2	NOx	4.15	2.3	1	2.29
			PM2.5	0.09	0.0		0.05
			VOC	0.11	0.1		0.06
Total Emissions (lb/acre)			NOx				7.30
			PM2.5				0.17
			VOC				0.18

b. Determine emissions for the heavy duty haul truck used to haul the heavy equipment to the orchard/vineyard removal site

Heavy Haul Truck vehicle emissions are obtained from EMFAC2017 for MHDT. Highway vehicle emissions for delivery of equipment assumes two 100 mile round-trips for a heavy haul truck to deliver a dozer and wheel loader.

Table 4

Emission Source	Pollutant	g/mile	Round trip Miles	# of round trips
Heavy Haul Truck	NOx	3.66	100	2
	PM2.5	0.11		
	VOC	0.34		

To calculate the emissions for a heavy duty haul truck, multiply the MHDT emission factor by round trip miles and number of trips. Then divide by 453.6.

$$E_{heavy\ haul\ truck} = \frac{F\ x\ G\ x\ H}{C}$$

Where:

$E_{heavy\text{-}haul\text{-}truck}$ = Emissions (lb/project)

F = MHDT Emission Factor (g/mile)

G = Round trip miles
H = Number of trips
C = 453.6 (g/1 lb)

Example: Calculating $PM_{2.5}$ emissions for Heavy Haul Truck to transport 2 pieces of equipment

$$\frac{0.11\ x\ 100\ x\ 2}{453.6} = 0.05\ lb/project$$

This calculation was performed for each entry in Table 4 above to create Table 5 below.

Table 5

Emission Source	Pollutant	g/mile	Round trip Miles	# of round trips	lb/project
Heavy Haul Truck	NOx	3.66	100	2	1.61
	PM2.5	0.11			0.05
	VOC	0.34			0.15

c. Determine emissions from open burning of removal of agricultural material

Emission factors for open burning are taken from the District's 2007 Area Sources Emission Inventory Methodology, 670 – Agricultural Burning (revised 01Jun09) for orchard and vineyard removals.

To calculate the emissions from open burning of the removal of agricultural material (orchard/vineyard) multiply the emission factor by the fuel load.

$$E_{open\ burn} = \text{I x J}$$

Where:
$E_{open\text{-}burn}$ = Open burn emissions (lb/acre)
I = Emission Factor (lb/ton)
J = Fuel Load (ton/acre)

Table 6

Emission Source	Pollutant	lb/ton	ton/acre
Ag Burn	NOx	5.20	30 (Orchard removal) 15 (Vineyard removal)
	PM2.5	7.30	
	VOC	6.30	

Example: Calculating VOC emissions for open burning of orchard removal

$$6.30 \text{ x } 30 = 189 \text{ ton/acre}$$

This calculation was performed for each entry in Table 6 above to create Table 7 below.

Table 7

Emission Source	Pollutant	lb/ton	ton/acre	lb/acre
Ag Burn Orchard Removal	NOx	5.2	30	156.0
	PM2.5	7.3		219.0
	VOC	6.3		189.0
Ag Burn Vineyard Removal	NOx	5.2	15	78.0
	PM2.5	7.3		109.5
	VOC	6.3		94.5

d. Calculate the baseline open burning emissions from the orchard/vineyard removal project

To calculate the baseline open burning emissions from orchard/vineyard removal projects, take the sum of the following: sum of the off road equipment emissions multiplied by the number of acres removed, emissions from the heavy haul truck trips, open burn emissions multiplied by the number of acres removed. Then divide by 2000.

$$BE_{OB} = \frac{(\sum E_{off\ road\ equip}\ x\ N_{acres}) + E_{heavy\ haul\ truck} + (E_{open\ burn}\ x\ N_{acres})}{2000}$$

Where:
BE_{OB} = Baseline emissions open burning
$E_{off\text{-}road\text{-}equip}$ = Emissions (lb/acre) for all off road equipment listed in table 2
$E_{heavy\text{-}haul\text{-}truck}$ = Emissions (lb/project)
$E_{open\text{-}burn}$ = Open burn emissions (lb/acre)
N_{acres} = Number of acres removed (orchard or vineyard)

Example: Calculating NO_x baseline emissions reduction for open burn of 40 acre orchard removal:

$$\frac{(7.30\ x\ 40) + 1.61 + (156.00\ x\ 40)}{2000} = 3.3\ tons\ NOx/project$$

Table 8

Pollutant	Open Burning (tons/40 acre project)
NOx	3.27
PM2.5	4.38
VOC	3.78

Step 2: Determine Emissions for Alternatives to Agricultural Burning

Emissions estimates for orchard removals, chipping, and soil incorporation or land application include:

- Highway vehicle emissions to deliver mobile equipment to the site
- Emissions from a dozer used to remove the trees or vines
- Emissions from a wheel loader used to stack trees or vines into piles
- Emissions from an excavator to load ag material into grinder
- Emissions from fuel combustion from the use of a grinder
- Emissions from grinding ($PM_{2.5}$)
- Tractor emissions to spread chipped ag material
- Emissions from dozer to rip soil (3 passes)
- Tractor emissions used to incorporate/disc ag material chips

The analysis for Step 2 will be divided into the following:

a. Determine the emissions for each off-road emissions source
    - Dozer #1
    - Wheel loader
    - Excavator
    - Grinder (Combustion)
    - Tractor (Spreading)
    - Dozer #2
    - Tractor (Discing)
b. Determine the emissions for the heavy duty haul truck used to haul the heavy equipment to the orchard/vineyard removal site
c. Determine the emissions from grinding orchard/vineyard removal
d. Calculate the emissions for alternatives to agricultural burning from the orchard/vineyard removal project

a. Determine emissions from off-road equipment

Emissions from off-road equipment are determined by identifying typical equipment used to conduct open field burning of orchard/vineyard removals. The District's

2010 Ag Burning Staff Report identifies bhp, tier rating, and process rates for "typical equipment" used for this activity.
Note: For projects that choose land application of the chipped material rather than soil incorporation, remove soil ripping and discing equipment and related activities from calculations.

Table 9

Emission Source	bhp	Tier	Pollutant	Tier Standard (g/bhp-hr)	Emissions lb/hr	Processing Rate (hr/acre)
Dozer #1	300	2	NOx	3.79	2.5	2
			PM2.5	0.09	0.1	
			VOC	0.09	0.1	
Wheel loader	250	2	NOx	4.15	2.3	1
			PM2.5	0.09	0.0	
			VOC	0.11	0.1	
Excavator	240	1	NOx	5.93	3.1	1
			PM2.5	0.12	0.1	
			VOC	0.29	0.2	
Grinder	1,000	2	NOx	3.79	8.4	1
			PM2.5	0.09	0.2	
			VOC	0.09	0.2	
Tractor (Spreading)	115	2	NOx	4.15	1.1	1
			PM2.5	0.13	0.0	
			VOC	0.15	0.0	
Dozer #2 (3 passes)	600	2	NOx	3.79	5.0	4.5
			PM2.5	0.09	0.1	
			VOC	0.09	0.1	
Tractor (Discing)	115	2	NOx	4.15	1.1	1
			PM2.5	0.13	0.0	
			VOC	0.15	0.0	

To calculate the emissions for each piece of off-road equipment multiply the bhp of the emission source by the emission factor and divide by 453.6. Then multiply by the processing rate.

$$E_a = (\frac{A \; x \; B}{C}) \; x \; D$$

Where:
E_a = Emissions$_{(PM2.5, NOx, VOC)}$ (lb/acre)
A = bhp of emission source (dozer, wheel loader, etc.)

B = Emission Factor (g/bhp-hr)
C = 453.6 (g/1 lb)
D = Processing Rate (hr/acre)

Example: Calculating NO_x emissions for Dozer #1

$$\left(\frac{300\ x\ 3.79}{453.6}\right) x\ 2 = 5.01\ \text{lb/acre}$$

This calculation was performed for each entry in table 9 above to create table 10 below.

Table 10

Emission Source	bhp	Tier	Pollutant	Tier Standard (g/bhp-hr)	Emissions lb/hr	Processing Rate (hr/acre)	Emissions (lb/acre)
Dozer #1	300	2	NOx	3.79	2.5	2	5.01
			PM2.5	0.09	0.1		0.12
			VOC	0.09	0.1		0.12
Wheel loader	250	2	NOx	4.15	2.3	1	2.29
			PM2.5	0.09	0.0		0.05
			VOC	0.11	0.1		0.06
Excavator	240	1	NOx	5.93	3.1	1	3.14
			PM2.5	0.12	0.1		0.06
			VOC	0.29	0.2		0.15
Grinder	1,000	2	NOx	3.79	8.4	1	8.36
			PM2.5	0.09	0.2		0.20
			VOC	0.09	0.2		0.20
Tractor (Spreading)	115	2	NOx	4.15	1.1	1	1.05
			PM2.5	0.13	0.0		0.03
			VOC	0.15	0.0		0.04
Dozer #2	600	2	NOx	3.79	5.0	4.5	22.56
			PM2.5	0.09	0.1		0.52
			VOC	0.09	0.1		0.54
Tractor (Discing)	115	2	NOx	4.15	1.1	1	1.05
			PM2.5	0.13	0.0		0.03
			VOC	0.15	0.0		0.04
Total Emissions (lb/acre)			NOx				43.46
			PM2.5				1.23
			VOC				1.19

b. Determine emissions for the heavy duty haul truck used to haul the heavy equipment to the orchard/vineyard removal site

Heavy Haul Truck vehicle emissions are taken from EMFAC2017 for MHDT. Highway vehicle emissions for delivery of equipment assumes six 100 mile round-trips for a heavy haul truck to deliver two dozers, a wheel loader, and a tractor.

Table 11

Emission Source	Pollutant	g/mile	Round trip Miles	# of round trips
Heavy Haul Truck	NOx	3.66	100	6
	PM2.5	0.11		
	VOC	0.34		

To calculate the emissions for a heavy duty haul truck, multiply the MHDT emission factor by round trip miles and number of trips. Then divide by 453.6.

$$E_b = \frac{F\ x\ G\ x\ H}{C}$$

Where:
E_b = Emissions (lb/project)
F = MHDT Emission Factor (g/mile)
G = Round trip miles
H = Number of trips
C = 453.6 (g/1 lb)

Example: Calculating $PM_{2.5}$ emissions for Heavy Haul Truck to transport 6 pieces of equipment

$$\frac{0.11\ x\ 100\ x\ 6}{453.6} = 0.15\ lb/project$$

This calculation was performed for each entry in Table 11 above to create Table 12 below.

Table 12

Emission Source	Pollutant	g/mile	Round trip Miles	# of round trips	lb/day
Heavy Haul Truck	NOx	3.66	100	6	4.84
	PM2.5	0.11			0.15
	VOC	0.34			0.45

c. *Determine emissions from grinding orchard/vineyard removal*

Chipping/grinding emission factor was taken from the District's 2010 Ag Burning Staff Report, based on the emissions from permitted chipping/grinding operations.

Table 13

Emission Source	Pollutant	lb/ton	ton/acre
Chipping and Grinding	PM2.5	0.0071	30

To calculate the $PM_{2.5}$ emissions from grinding agricultural material multiply the emission factor for grinding by the fuel load factor.

$$E_{chipping} = \mathrm{I}\ x\ \mathrm{J}$$

Where:

$E_{chipping}$ = Emissions from chipping/grinding (lb/acre)

I = Emission Factor (lb/ton)

J = Fuel Load (ton/acre)

Example: Calculating $PM_{2.5}$ emissions from grinding orchard removal material

$$0.0071\ x\ 30 = 0.2\ \mathrm{lb/acre}$$

This calculation was performed for each entry in Table 13 above to create Table 14 below.

Table 14

Emission Source	Pollutant	lb/ton	ton/acre	lb/acre
Chipping and Grinding	PM2.5	0.0071	30	0.2

d. *Calculate the emissions for alternatives to agricultural burning from the orchard/vineyard removal project*

To calculate the emissions for alternatives to agricultural burning from orchard/vineyard removal projects, take the sum of the following: sum of the off road equipment emissions multiplied by the number of acres removed and emissions from the heavy haul truck trips. Then divide by 2000.

$$E_{Soil\ Incorporation} = \frac{(\sum E_{off\ road\ equip}\ x\ N_{acres}) + E_{heavy\ haul\ truck}}{2000}$$

Where:

$E_{Soil\text{-}Incorporation}$= Emissions soil incorporation

$E_{off\text{-}road\text{-}equip}$ = Emissions (lb/acre) for all off road equipment listed in table 2

$E_{heavy\text{-}haul\text{-}truck}$ = Emissions (lb/project)
N_{acres} = Number of acres removed (orchard or vineyard)

Example: Calculating NO_x emissions for chipping and soil incorporation of 40 acre orchard removal project

$$\frac{(43.46\ x\ 40) + 4.84}{2000} = 0.57\ tons\ NOx/project$$

Table 15

Pollutant	Alternative to Open Burning Soil Incorporation (tons/40 acre project)
NOx	0.87
PM2.5	0.03
VOC	0.02

Step 3: Calculate Emissions Reductions

The last step is to calculate the emissions reductions by subtracting the total alternative to agricultural open burn emissions from the baseline emissions for open burning.

$$ER = \mathrm{A} - \mathrm{B}$$

Where:
ER = Emission Reduction
A = Baseline emissions for open burning orchard/vineyard removal (Step 2)
B = Total alternative to agricultural open burn emissions (Step 1)

Example: Calculating NO_x emissions reductions from a 40 acre orchard removal with chipping and soil incorporation as an alternative to open burning

$$3.27 - 0.87 = 2.40\ \mathrm{tons/project}$$

Table 16

Pollutant	Emissions Reductions (tons/40 acre project)
NOx	2.40
PM2.5	4.36
VOC	3.76