



# Downwinders

reducing toxic air pollution in north texas *at risk*

## Applicant Information Form Sue Pope North Texas Pollution Reduction Program

Organization:	Blue Sky Services
Organization type	Corporation
Organization Street Address:	PO Box 866126
City, State, Zip	Plano, TX 75086

Project Officer (Title, First, MI, Last, Suffix):		VP Operations, Rick V. Pfeil			
Phone— extension	214-436-0030	Fax		Email	Bluesky-services@live.com
Project Name		Alternative Energy Landscaping Services			
Location of Project		North Central Texas Ozone Nonattainment Area			
Project Start Date (MM/DD/YYYY)		8/1/2009			
Project End Date (MM/DD/YYYY)		8/1/2014			

**BUDGET:** Please summarize your budget request in the space provided. You should also provide a more detailed budget in your preproposal.

Line Item	Requested Funds	Matching Funds
Salaries and Benefits		\$14,000
Equipment	\$48,800	\$10,000
Other:		\$20,000
<b>Total:</b>	\$48,800	Up to \$34,000

**PROJECT TITLE**

Alternative Energy Landscaping Services (Replacement of gasoline lawn services with clean propane services)

**PROJECT MANAGER**

Rick Pfeil  
VP Operations  
Blue Sky Services  
Phone:214-436-0030  
email:bluesky-services@live.com

**TOTAL PROJECT COST**

Maximum \$82,800  
(\$48,800 Equipment funding and up to \$34,000 in matching funds for operating expenses)

**PROJECT PERIOD**

Beginning Date: August 2009  
Ending Date: August 2014

**SUMMARY STATEMENT**

There is a strong need to reduce lawn mower emissions in the North Central Texas area, not only to improve air quality, but also to protect the health of children who are increasingly suffering from asthmatic symptoms. Gasoline powered lawn mowers do not have the regulations that automobiles have and thus do not even require the minimum catalytic converter. Gasoline powered mowers are estimated by the State of California to pollute as much as 40 automobiles. Blue Sky Services requires the financial assistance of the Sue Pope fund to create a sustainable clean air business model to compete in the recession driven hyper-competitive market that is currently slashing prices with existing and older repaired gasoline powered mowers.

## PROJECT DESCRIPTION

There is a strong need to reduce lawn equipment emissions in the NCT area to improve air quality. Some of the general statistics supporting the benefits of propane and propane lawn equipment are below:

1. Propane has long been recognized as a green, eco friendly alternative energy.
2. Propane is an approved alternative fuel listed in both the Clean Air Act of 1990 and the National Energy Policy Act of 1992
3. Garden Equipment engines emit high levels of carbon monoxide, volatile organic compounds and nitrogen oxides, producing up to 10% of the nations air pollution.
4. A conventional lawn mower pollutes as much in an hour as 40 late model cars.
5. EPA and CARB Certified Engines
6. Propane exhaust creates 60 percent to 70 percent less smog-producing hydrocarbons than gasoline, according to studies by an independent laboratory.
7. Propane cuts emissions of toxins and carcinogens like benzene and toluene by up to 96%, compared to gasoline, according to studies by a nationally recognized, independent research and development laboratory.
8. Zero Class I or II ozone-depleting chemicals (40 CFR Part 82).
9. Zero evaporative emissions
10. Zero ozone depleting hydrocarbons
11. Low greenhouse-gas emissions
12. 97% fewer particulates
13. 96% fewer carcinogens

## TARGET DATES AND MILESTONES

*July 2009*

*Begin bidding process for medium sized commercial and municipal lawn maintenance contracts in Allen and Plano*

*August 2009*

*Place orders for equipment*

*September 2009*

Receive equipment and begin servicing new contracts and customers

*October 2009*

Review operational strengths and weaknesses

Identify new opportunities

Calculate 1<sup>st</sup> quarter emissions reductions

November 2009

Expand municipal contract bidding process and commercial sales to Richardson, Frisco, McKinney, and Dallas.

2010 – 2014

Continue operations and calculating quarterly emissions reductions.

## CRITERIA

### 1) Achieving Key Reductions

The DFW nine-county nonattainment area is downwind of major point sources in Texas and replacing traditional lawnmowers, weed-eaters, and blowers in this region will positively benefit the air quality for all members of the population in these areas especially for school age children as Blue Sky will service and partner with local schools for lawn maintenance (see Public Impact section below)

The quantitative outcomes of the project will include replacing the traditional gasoline powered lawn service equipment in the region which will net the greatest nitrogen oxides (NOx) emission reductions, in addition to achieving the greatest particulate matter (PM), volatile organic compound (VOC), and carbon monoxide (CO) emission reductions. Total emissions reductions achieved from this project will be calculated on a quarterly basis based on netting the difference between the average emissions of traditional gasoline equipment versus the emissions of the new propane powered equipment. Emission reductions will be calculated throughout the activity life of the project. Because of the longevity of lawn maintenance equipment, which typically remain in a fleet for 7- to 10-years, long term emissions reductions associated with the replacement of older gasoline equipment many of which pre-date emissions control requirements, have the potential to be significant.

Table 1 demonstrates the emissions reductions benefit that could be realized by replacing gasoline powered mowing services with new propane powered mowing services.

**Table 1 – Emission Reductions from Replacing Existing Lawn services**

MODEL	GASOLINE ENGINE EMISSION FACTOR (g/kW-hr) <sup>*</sup>	PROPANE ENGINE EMISSION FACTOR (g/kW-hr)	ANNUAL GASOLINE LAWN FOOTPRINT (40 Hours)**	ANNUAL PROPANE LAWN FOOTPRINT (40 Hours)**	INDIVIDUAL HOME ANNUAL REDUCTION	TOTAL PROJECT ANNUAL REDUCTION
KAWASAKI FH381V	NOx	NOx	NOx	NOx	NOx	NOx
	10.1	6.19	.692	.14	.552	264.9
	CO	CO	= Auto Miles	= Auto Miles	= Auto Miles	= Auto Miles
	315	31.7	289.9	58.6	231.3	111045.1

\* Calculated using ESA21 model from Dr. John Pratte and Dr. Matthew Laposata.

\*\* Based on 1 hour of equipment run time per week for 40 weeks per year.

\*\*\* Based on 16 customers per day, per mower, for 6 days per week.

### 2) Public Impact.

The public impact of this project will be achieved through coordination and cooperation with local school district personnel and PTA's. Blue Sky Services will achieve public awareness through two means. First, Blue Sky Services will provide local schools with grounds maintenance and thus reduce the schools emissions and carbon footprint, which school district officials and staff can proudly share with their community. Second, Blue Sky Services will coordinate with local PTA's (beginning with Plano ISD in 2009 and expanding to other DFW ISD's in 2010) to promote the reduced emissions services. This will be a mutually beneficial relationship as the PTA's will share the awareness of Blue Sky's propane based lawncare service and the PTA will receive some funding back as parents who sign up for new lawn

service online will be able to identify their school for fundraising. This type of fundraising is called “passive fundraising and is similar to “pizza night” fundraising. The PTA will receive 3% of the regular lawncare revenues from customers who identify their school for fundraising.

Blue Sky Services intends to promote the Sue Pope fund, the award, and the prospective city governments with a press release and media event. This event would also be used to promote a lawncare equipment pollution reduction awareness campaign within the nine-county nonattainment area. The lawncare equipment pollution reduction campaign would include education for homeowners, office building management, apartment complex management, and city administrators about the harmful effects of lawncare equipment emissions. This event has the potential to be an exemplar project that encourages other regions to participate in similar type programs to reduce emissions and improve air quality.

**COLLABORATIONS OR PARTNERSHIPS**

Blue Sky Services is developing relationships with the City of Allen, the City of Plano, and the City of Dallas. These cities have programs and/or departments for transitioning towards being greener municipal consumers. These cities and others in the DFW area require open public bidding on contracts and Blue Sky Services has registered with BidSync (an online government procurement site for government contracts, government bids, and requests for proposals) to receive notifications of all landscaping projects in the nine-county nonattainment area.

**DETAILED BUDGET**

Based upon total available funding received through the Sue Pope Fund, the Alternative Energy Landscaping Service project would fund the equipment necessary to provide landscaping services to area residents, businesses, and especially allow Blue Sky to bid on local DFW area city contracts.

**Requested Funds**

2 riding 61 inch mowers (\$14,000 each)	\$28,000
4 walk-behind 33 inch mowers (\$ 4,100 each)	\$16,400
4 small electric push mowers (\$700 each)	\$ 2,800
4 Lehr propane trimmers (\$200 each)	\$ 800
4 Lehr propane blowers (\$200 each)	\$ 800

**Matching Funds**

Startup Operating Costs (marketing/fuel/etc)	\$20,000
2 Box Trucks	\$10,000
Office Manager Salary	\$14,000

---

**Project TOTAL**

**\$82,800**

