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Page 2: PART I: PROJECT INFORMATION

Q1 Project Title:

Water Harvesting at Pine Forest Charter School

Q2 Contact Person:

John Taylor

Q3 Organization (if any):

Terra BIRDS

Q4 Contact Address:

P.O. Box 605; Flagstaff, AZ; 86002

Q5 Contact Email Address:

JT@terrabirds.org

Q6 Contact Telephone Number:

(928) 699-0610

Q7 Project Physical Address:

2257 E. Cedar Ave., Flagstaff, AZ; 86004

Q8 Tax ID # (if an organization):

[REDACTED]

Q9 Please provide one or two sentences that describe the project:

Terra BIRDS leads student learners in stewardship of the Pine Forest campus. The three-project revolves around managing storm water to irrigate a food forest; and collecting roof water into a large barrel to water the pre-school gardens. There is one final series of steps to complete to turn a flooding problem into a water harvesting solution!

Q10 Funds Requested (not to exceed \$2,000 total):

\$2000.00

Page 3: PART II: REQUIRED APPLICATION MATERIALS

Q11 Project and Project Goals: Describe the project and its goals. Include in appropriate detail how the project matches the goals for the Guidelines for Neighborhood Sustainability Projects. Include the geographic area/neighborhoods/communities affected. All Water Conservation projects must include an estimation of total water usage on the property where the project will occur and a narrative explaining how the project will save water.

Four years ago, Pine Forest School moved into a property on the corner of Cedar Ave & 4th St, which included a massive parking lot (to serve the previous occupant- a church). A substantial section of the asphalt was removed to create space for the playground and gardens. The problem, however, was that stormwater from the remaining parking lot aggregated and, as a result of the changed gradients, flooded a section of the school. Terra BIRDS school gardening program engaged Pine Forest students in solving the problem, by building a series of elevated walkways and swales that effectively channeled the water away from the building, and into a series of basins that provide rainwater for fruit tree orchards and berry bushes. Over the years, Terra BIRDS and Pine Forest Gardeners have managed the upper 75% of this stormwater system; with the lower 25% of the system still to be completed. The lower end of the system also includes a 600 gallon rainwater collection tank which is partially installed, but still needs the overflow design to be completed. Educational goals for the project include: teaching kids to observe urban watersheds and design ways to effectively use the water to create habitats and gardens, and solve flooding issues; how to develop and maintain landscapes with little or no City potable water inputs; and to develop teamwork, critical thinking, patience and problem solving to address challenges and turn them into sustainable solutions. The Pine Forest Project is a model of urban sustainable landscape design for the Sunnyside Neighborhood, and really for all of Flagstaff. The Pine Forest habitat and vegetable gardens and orchard cover approximately one-half acre. Virtually no potable water is used, reclaimed water is used only as needed, and the majority of the water needs of the site are satisfied by aggregating and 'sinking' storm water and development of organically rich soils that effectively hold water 'like a sponge.'

Q12 Community Partners: List the individual(s), community groups, or not-for-profit organizations affiliated with the project and describe the responsibilities of each. Describe which of the cooperating organization(s) have already agreed to participate in the project and provide contact information for a person from each organization. For some projects it may be appropriate to list organizations that you anticipate cooperating with but do not yet have a commitment from.

Community Partner 1:

**Pine Forest Charter School; on-going relationship;
please contact Director Cindy Roe and/or Principal Kelly
Smith at 779-9880.**

Q13 Previous Experience/Expected Challenges: Describe any expected challenges and how you anticipate overcoming these, including through previous experience.

Terra BIRDS has worked with school communities leading campus stewardship projects for eight years. Our approach is one of constant assessment and following, with students and teachers, the 'problem-solution-expectation' engineering model. The most significant challenge is working around old asphalt infrastructure and neighborhood drainage patterns, but we have been successful in incrementally overcoming these problems via observation and problem-solving, hard work, determination, and follow-through.

Q14 Project Milestones and Timeline: Provide a list of project milestones with an approximate timeline. Include details necessary to accomplish each milestone.

Progress to-date on this project have been funded via a grant from the AZ Community Foundation of Flagstaff and the AZ Game & Fish Heritage Fund, both of which have been 'fully used.' Ongoing progress, and essentially completion, we aim to fund via this Neighborhood Sustainability Grant. This will cover a series of 6 day-long work sessions in April & May of 2020 that include the majority of the Pine Forest student population. We will also lead a community work day in early June. With these work sessions, we will complete installation of the rainwater collection tank and stormwater system of swales and basins to capture the majority of water on the site, and safely deliver any overflow into a final basin on the lower edge of the property. The system will be ready for a hoped-for 2020 monsoon season.

Q15 Project Sustainability: Describe how/whether the project might be maintained beyond the life of this grant and include these efforts in the project milestones.

Pine Forest Charter School intends to continue its "Earth Stewardship Program' into perpetuity, with aim to continuously engage students in responsibility and visioning for sustainable land stewardship on the campus as part of the Pine Forest curriculum and vision.

Q16 Other Project Details: If appropriate, describe current use of site and relevant details of ownership. Proceed to the next question if you need to upload a map or photo of the site.

The entire Southwest corner of the Pine Forest Campus (owned by the school) is used for playground, natural space and garden, and sports.

Q17 Optional Upload: Upload a map or photo of the site (file size limited to 16MB).

IMG_1431.jpeg (3.9MB)

Q18 Detailed Budget and Budget Narrative: Provide the total project budget in detail, specifying which aspects of the project are to be funded by the Neighborhood Sustainability Grant and include any additional funding sources. Optional: download this PDF template and re-upload in the next question. Type "see attachment" in the comment box if using this option.

Terra BIRDS staff leadership of six youth engagement programs with Pine Forest students & teachers, and one community volunteer day = \$2800. Parts & supply for water harvesting = \$200. Cost & Delivery of landscape materials for basins & swales = \$500. Total = \$3500. \$2000 from Neighborhood Sustainability Grant, \$1000 in-kind from Terra BIRDS via support from AZ Community Foundation, \$500 billable to Pine Forest School.

Q19 Optional Budget Upload: Upload your budget and narrative (file size limited to 16MB).

Respondent skipped this question

Q20 Community References: Include at least two independent references.

Reference 1 (R1) Name:	Dave Roth
R1 Affiliation:	Ponderosa High School
R1 Occupation:	Principal
R1 Phone:	928-679-8081
R1 Email:	droth@ccrasd.org
Reference 2 (R2) Name:	Amy Hagin
R2 Affiliation:	City of Flagstaff Parks
R2 Occupation:	Director
R2 Phone:	928-326-1559
R2 Email:	ahagin@flagstaffaz.gov

Q21 Optional - Letters of Support: Letters of support are optional. If your application includes letters of support, please compile your letters into one PDF and upload (file size limited to 16 MB) here. Use the following file name: Your Name_Your Project Title Abbreviated_Sustainability Grant_Month Year.

Respondent skipped this question

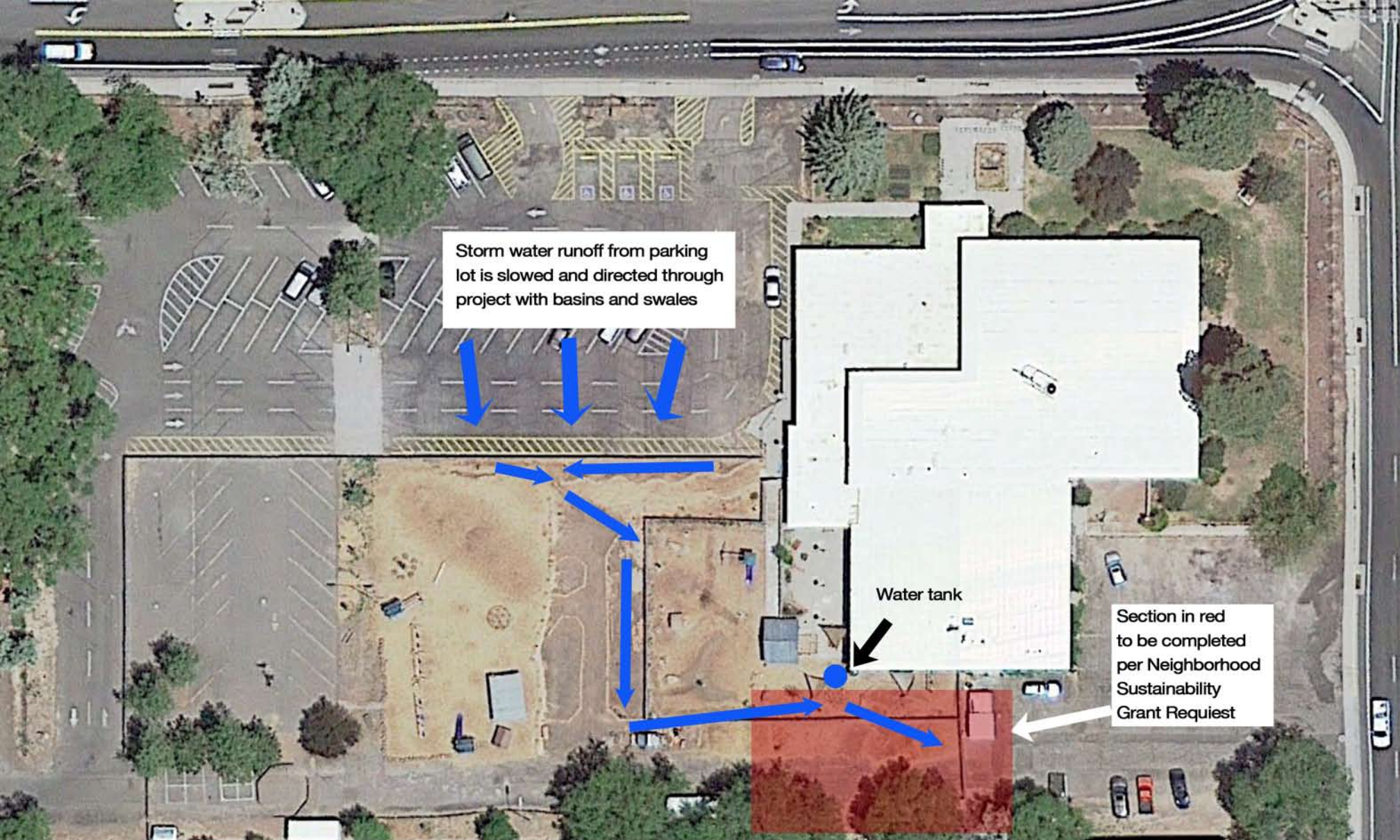
Q22 Mandatory Attendance at Sustainability Commission meeting: Attendance at the March 26th Sustainability Commission meeting is mandatory. This meeting is held from 4:30-6:30pm at Flagstaff City Hall (211 W. Aspen Avenue). Please refer to the Sustainability Commission webpage for agendas. You may send a representative from your organization or a project partner in your place in the case that you are unable to attend. Please check the box below confirming you will attend the meeting.

I/a representative will attend the March 26th commission meeting.

Page 4: PART III: APPLICANT SIGNATURE

Q23 I have read and understood the information regarding my application for a Neighborhood Sustainability Grant and I understand that the grant money is not a prize for personal profit or gain and is strictly for the project described. I further understand that the City of Flagstaff has the right to allocate and supervise the spending of the grant money and when projects do not proceed within the stated timetable, the City of Flagstaff reserves the right to request that the grant be refunded. I understand that recipients of these grants may be invited by the City of Flagstaff to participate in promotion and publicity of the project. Please type your name below to electronically sign and signal your agreement to these terms and conditions listed in the Grant Application and Agreement.

Applicant Electronic Signature:	John Taylor
Title:	Executive Director
Date:	2/27/2020



Storm water runoff from parking lot is slowed and directed through project with basins and swales

Water tank

Section in red to be completed per Neighborhood Sustainability Grant Request

Pine Forest Charter School
Terra BIRDS School Garden Project Site





AN ARIZONA CHARTER SCHOOL GUIDED BY THE
CORE PRINCIPLES OF PUBLIC WALDORF EDUCATION
ESTABLISHED IN 1995

March 10, 2020

Dear Ms. Clark,

Pine Forest has collaborated with Terra BIRDS for many years, and since moving to our new location on Cedar Avenue the partnership has continued to support students, teachers and the community. Terra BIRDS has applied for the Neighborhood Sustainability Grant in hopes of supporting continued student programs at Pine Forest.

Our students have participated in programs that support their growing knowledge about the environment and developing an understanding about what is meaningful for Pine Forest in this neighborhood at the base of Mount Elden. Currently students have learning opportunities, led by Terra BIRDS and Willow Bend around the naturalistic water feature that supports the nearby wildlife, such as birds, squirrels, skunks and lizards. Students view pollinators in the wildlife viewing area that has been planted with native grasses, shrubs and perennials. The water catchment system that has been installed with other local grants waters fruit trees, gardens and natural habitats. This has been an excellent source of water conservation learning for our students.

Thanks to Terra BIRDS and their abilities to instill joy in the environment for children, parents, teachers and neighbors, the community enjoys seeing everyone learn, play and explore in the outdoor areas. We look forward to the continued programs that Terra BIRDS has to offer our students. We appreciate the city's consideration of Terra BIRDS application for the Neighborhood Sustainability Grant.

Sincerely,

A handwritten signature in cursive script that reads "Cindy Roe".

Cindy Roe

Executive Director

928-779-9880

croe@pineforestschool.org