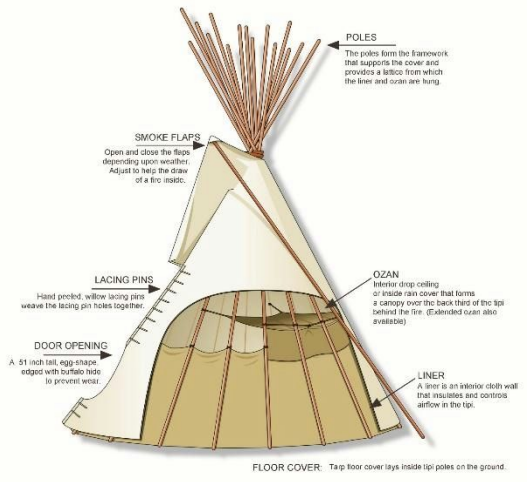
Spring 2016

Campus Sustainability Fund Proposal



Osgood Pond Portable Educational Space: Tipis for Classroom and Display Use

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Amount Requested for Project Completion:
Option A – Three 22' diam. Tipis with flame resistant fabric **$4620**

Option B – One 22' diam. Tipi with flame resistant fabric
Plus two 18' diam. Tipis w/o flame resistance **$3350**

B. Project Summary

Goals

The Osgood Pond Portable Educational Space Project proposes the acquisition of three Native American style tipis for use as educational and promotional space for the benefit of Paul Smith's College.

Project Justification and Relevance

The acquisition of tipis will provide movable, appealing and weatherproof educational space at the Osgood Pond site, the Paul Smith's College Campuses (including the Visitor's Interpretive Center) and at events such as recruitment and alumni functions, Woodsmen's meets and other on campus events. They will create flexible and portable space available for classes and special events. In addition, the use of a traditional Native American dwelling will increase cultural awareness and understanding.

I. Use

a) Portable Classrooms

Tipi covers fold up to about the size of a backpack and weigh 50 to 75 pounds each. While poles are long, they are light weight and can be cut easily in a woodland setting with the right type of trees. With minimal instruction, a tipi can be erected in about 30 to 60 minutes with a crew of 2 to 4 people. This makes it an ideal instant classroom for use at the Osgood Pond site, Paul Smith's main campus or at the VIC. The existing PSC outdoor classroom space is not weather proof and on days of good weather, it can be reserved during times of peak potential use. The 22' diameter tipi can comfortably accommodate about 20 seated adult students and an instructor. The 18' diameter tipi (Option B) can comfortably seat about 14 adults and an instructor. Having three units available would insure that tipis would be available for a variety of classes and other events. The space is engaging, unique and in keeping with the sustainable focus of our campus. Culinary and baking students would be able to cook on open fires in the larger tipis treated with CPIA-84 flame resistant treatment, which complies with even the extremely stringent California fire code.

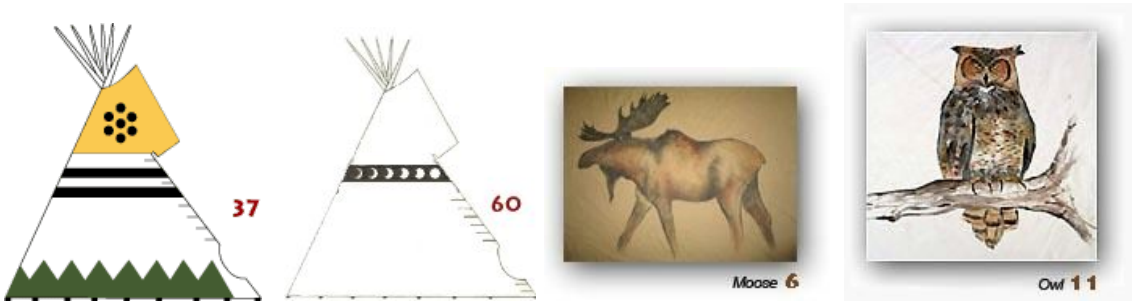
b) Special Events

In addition to classroom use, the tipis would be available for use for special events on or off campus due to their portability and easy set up. For example, setting up the three tipis along the lake shore during Welcome Week, Family Weekend, Graduation or campus visit weeks would create an appealing photo op for potential or new students and their families on campus. Special events such as Earth Day or SAM Fest could make use of the tipis to house special displays or performance venues, including Mohawk storytellers or singers. In addition, larger tipis which are flame resistant can accommodate campfires (with stones, grate and proper use of smoke flaps) to act as warming huts at the VIC during winter along cross country or snowshoeing trails. Imagine the lit tipis next the gazebo for the annual lighting ceremony, providing a warm place to gather with friends and roast marshmallows, no matter what the weather. Because of the ease of setup and the mobility of these structures, they can also be taken to events such as Woodsman's or Alumni events, recruitment functions or visits to local high schools.

II. Relevance

While Native Americans in the Adirondack region used bark longhouses, not tipis, as their shelters, the tipi is reminder of Native American presence and their commitment to environmental stewardship and sustainability. Great care should be made to honor that heritage and to explain that tipis were used on the Great Plains and not in this region, acting as an educational opportunity on tradition and history.

Connecting the iconic tipis to PSC's commitment to sustainable living can be promoted in marketing materials. The tipis will be painted by students in traditional ways but one tipi will have the PSC leaning pine on one of the prominent faces of the tipi. Other ties to PSC and the Adirondacks can include mountains ringing the base, phases of the moon on the top or various animals native to our region.



Methods

The project will require the ordering of three canvas tipi covers and doors from an outside supplier, plus the use of students from EST 400 Capstone (Spring 2016) to produce tipi poles and lacing pins as part of their study of Native Americans' sustainable lifestyles.

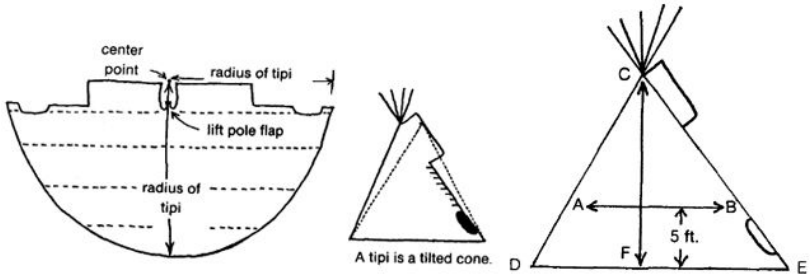
After looking at many companies which sell tipi covers, Nomadic Tipi Makers (www.tipi.com) has been identified as having the features wanted at the best price. However, at the time of ordering, we can ask for competitive bids from other providers which have comparable models.

Deborah Naybor will create a reservation and sign out policy. They can only be signed out by a faculty or staff member for educational, promotional or recreational use on PSC property or for a PSC related events (not for personal use). The person signing out the tipi assumes liability for the structure (see appendix for sign out sheet). The use of the tipis will be coordinated by an Environmental Studies faculty member and will be approved by the Dean/Department Chair.

Nomadic Tipi Makers Specifications

http://www.tipi.com/

	12’	14’	16’	18’	20’	22’	26’
Head-room at 5′ of height (A to B)	4′	7′	10′	11’2″	12’6″	15′	19′
Distance up the back (D to C)	9′	11′	13′	15′	17′	19′	23′
Distance up the front (E to C)	12′	14′	16′	18′	20′	22′	26′
Height – ground to top (F to C)	9′	10’2″	12’4″	13’2″	15’6″	18’6″	20’8″
Floor diameter – front to rear (E to D)	12′	14′	15’7″	18′	20’3″	22’6″	26′
Floor diameter -side to side	11′	12’7″	14′	16’6″	18’6″	20’6″	24′
Square feet of floor area	104	140	175	233	295	362	490
Square feet of tipi canvas	250	350	475	560	725	875	1125
Suggested no. of adults sleeping on matts	2	5	8	10	12	14	18
Maximum no. of people sitting on the ground	6	10	15	20	24	28	38
Weight of tipi cover (13 oz.)	22 lbs.	32 lbs.	43 lbs.	50 lbs.	67 lbs.	75 lbs.	102 lbs.
Weight of tipi cover (15 oz.)	29 lbs.	37 lbs.	50 lbs.	62 lbs.	80 lbs.	95 lbs.	n/a
Weight of 6 ft. tipi liner (10 oz.)	12 lbs.	16 lbs.	17 lbs.	19 lbs.	23 lbs.	27 lbs.	38 lbs.
Most tipi covers fold up to about the size of a full back pack.							



C. Project Budget and Timeline

1. Budget

While the ability to have three large tipis (22') which are flame resistant (Option A below) would allow a longer season and variety of use, we have included a second option in respect to other demands on Sustainability funds to purchase one large flame resistant treated tipi and two smaller (18'), non-flame resistant tipis (Option B below). While this could limit the number of overnight guests or students able to use the structures, it does offer a reduced cost. By ordering and shipping three tipis, we may be able to negotiate a lower price.

Nomadic Tipis (www.tipi.com)

Tipi Size	(floor diameter front to rear)	8′	12′	14′	16′	18′	20′	22′
TIPI COVER FABRIC	13 oz. SUNFORGER army duck canvas	–	$410	$515	$635	$770	$920	$1,125
	13 oz. Sunforger *flame resistant* army duck canvas	$238	$550	$660	$780	$940	$1,125	$1,380

	15 oz. ALL-WEATHER army duck canvas	–	$555	$675	$790	$930	$1,095	$1,320

Option A – Three 22’ diameter tipis with flame retardant fabric plus doors –seats 84 people total (maximum)

Item	Cost per item	Quantity	Total Cost
22’ diameter 13 oz. flame resistant tipi cover	$1380	3	$4140
Door covers	$20	3	$60
Shipping	$140	3	$420
Total			**$4620**

Option B – One 22’ diameter tipi with flame retardant fabric plus door and Two 18’ diameter tipi w/o flame retardant fabric plus doors – seats 64 people total (maximum)

Item	Cost per item	Quantity	Total Cost
22’ diameter 13 oz. flame resistant tipi cover	$1380	1	$1380
18’ diameter 13 oz. tipi cover w/o flame resistant	$770	2	$1540
Door covers	$20	3	$60
Shipping (22’)	$140	1	$140
Shipping (18’)	$115	2	$230
Total			**$3350**

2. Timeline

Tipi sales are more vigorous as summer approaches and the busiest season is March through June. Once funding is secure, tipis will be ordered and estimated delivery time would be 60 to 90 days. The tipis will be available for use year round through a reservation system. With proper maintenance and storage the canvas covers should last 5 years of constant exposure during very wet conditions to up to 20 years in drier conditions and if stored properly when not in use.

D. Supporting Documents

PSC Tipi Sign-out Form

This form assigns primary responsibility for use of a tipi to the faculty or staff member listed below. The borrower will be responsible for taking the necessary precautions to protect the equipment and to use it in a manner in compliance with its designed use, therefore not subjecting the equipment to possible theft or damage. If it is determined that loss or damage is a result of negligence, the borrower may be held financially responsible for the repair or replacement of the equipment. These tipis are to be used on PSC property for educational or promotional use unless special permission is granted and personal use is NOT permitted.

Tipi # _____ Checkout Date_____ Expected return Date: _____
Proposed location for set up: _____
Name of Responsible Borrower: _____
Event/Purpose:
_____
_____
_____
_____
_____
_____

1. The borrower will be responsible for return of the equipment in like condition as received. The tipi cover will be clean and dry upon return. Arrangements will be made for return to the VIC.
2. If loss or damage of the equipment/property occurs and determination is made that the loss or damage is a result of negligence, the borrower may be held financially responsible for the repair or replacement of the item(s).

3. The borrower cannot modify the equipment in any way. Erection and use of the tipi(s) will follow the attached information provided.
4. The borrower promises to display provided informational material on the historic use of tipis.

I have read the above information and agree to the terms and conditions herein contained.

_____	_____
Borrower Signature	Date
_____	_____
EST Faculty Coordinator	Date
_____	_____
Dean/Dept. Chair	Date

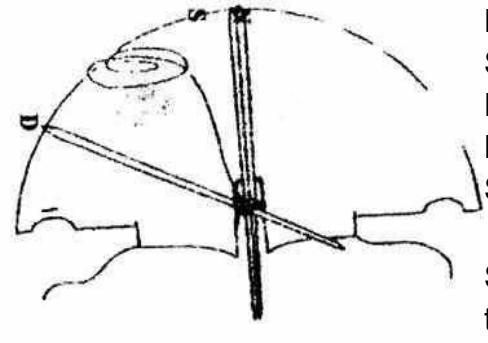
TIPI ASSEMBLY INSTRUCTIONS

Manataka American Indian Council

POLES

The length of the poles should be 2-4 feet longer than the tipi diameter, or longer if preferred. Ribbons can be tied to the tips of the poles, except for smoke flap poles. Peal all the bark off the poles with a draw knife. Make sure every inch is smooth - so it will not cut or tear the cover. .

FIGURE 1



N = North Tripod
S = South Tripod
D = Door Pole
LP = Lifting Pole
SF = Smoke Flap Poles (2)

Select the three strongest poles for the tripod (North, South and Door). Another pole is the longest pole and is called the lifting pole (LP), and two twisted or bendable, medium-size poles for the smoke flap poles.

Lay the cover out flat, right side up (the smooth side of the seam is the right side). One of the tripod poles is laid on the cover near the door (D) even with the bottom hem. The other two are laid on the cover, side by side, running down the middle even with the bottom hem.

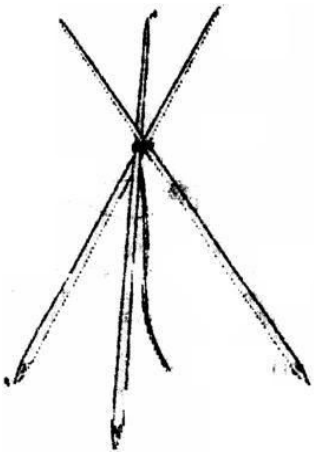
POLE ASSEMBLY

The three poles cross and be tied together 15" beyond the tipi cover. Label and mark the poles with tape or paint them to omit this step next time you erect the tipi. The poles should be tied together firmly, but not too tight. When the tripod is set up, the knot will tighten and if it is too tight the poles may break.

The poles should be tied with a rope long enough to reach the ground plus 9' to 10' extra feet so that it can be wrapped around

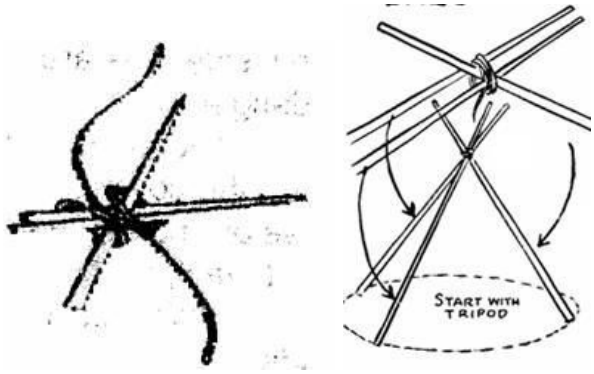
the bundle several times and staked down in the center of the tipi in the event of strong winds.

FIGURE 2



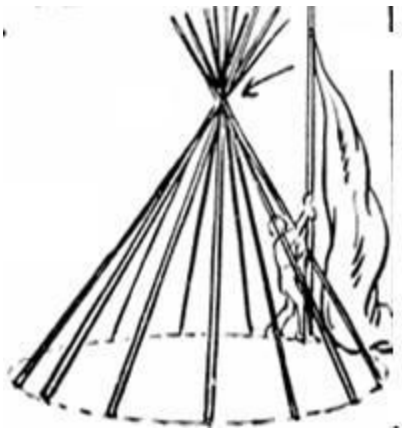
The tripod is stood up by walking under the poles. Have one person hold the rope tightly to steady the lift process. Spread the tripod apart so the ends are spread evenly in the approximate diameter of the tipi. Starting at the front, stack the rest of the poles in crotch top. Leave a space for the lifting pole directly opposite the door. Take the rope hanging down from the top of the tripod poles and go outside the frame and walk the rope around the tipi poles four times to wrap all the poles together at the crotch. The remaining length of the rope should then be brought back inside the frame and wrapped around an inside pole or staked to the ground at the center in case of high winds.

FIGURE 3



COVER

The cover should now be rolled from both sides to the center along the lift pole, having the tie at the top exposed. Slide the lift pole (LP) under the cover and tie the pole tightly to the cover using the tie between the smoke flaps.

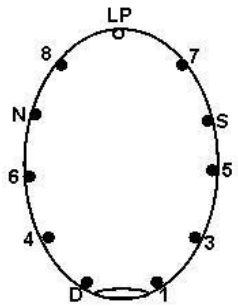


The butt end of the pole should be even with the bottom of the cover. Have someone hold the butt end to the ground and lift the pole

and cover into the open spot in the crotch left at the back of the frame.

Start up at the top pinhole and slide wooden lacing pins into the holes that hold the front of the cover together. The left side goes over the right side.

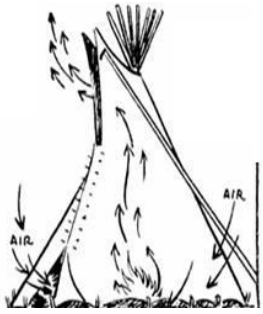
Adjust the poles and pull down the cover tight. Stake out the bottom and adjust the poles from the inside again so the cover lays smooth. Put the ends of the two remaining poles in the smoke flap pockets provided at the top corners of the smoke flaps.



N = North Pole
S = South Pole
D = Door Pole
LP = Lift Pole

The example here is only a 10' tipi (kinda small). Notice the shape is not a circle but an egg-shaped oval.

FIREPLACE



Dig a hole about 10" X 15" off center from the center pole bundle and line with stones (not river stones as they may burst from the heat. Fires should be small and controlled with a grate to prevent sparks. A bucket of water should be kept next to the fire pit at all times.

Why a Tipi?

Patrick Whitefield *Permaculture Magazine*
http://www.permaculture.co.uk/readers-solutions/101-reasons-build-and-live-tipi

When I bought my first tipi, I already had an all-weather tent, a good set of bender tarps and a choice of two caravans to live in. What did I need a tipi for? None of that mattered. I fell in love with the sheer beauty of it.

The beauty goes far deeper than appearances. The circle is an organic, healing shape, powerful medicine for anyone who has been shut up in rectangles for half a lifetime. Contact with the earth is not a metaphor in a tipi. When I sit down I can feel the skin of our mother under my bum. I look up and see the circle of poles reaching up into the air to meet the patch of sky through the smoke hole. In the center of the circle the flames of an open fire dance their dance of life. From where I'm pitched I can hear the gurgle of a nearby stream falling asleep to the sound on a quiet evening.

A tipi is a highly practical way to live outside. In fact, with a tipi beauty and practicality are one and the same. The idea of something being useful but ugly, or beautiful but useless, is largely a product of our unbalanced industrial society. A tipi is strong, roomy, weatherproof, easy to pitch and above all has a fire inside. It was developed by the people of the great plains of North America, and it is hard to improve on a structure which has enabled people to thrive in such a harsh environment.

Ways to use your tipi

There are many ways of using a tipi, from a weekend tent to a permanent home. Some people keep one just for fairs and festivals and, though this can hardly be called tipi living, it's a good use for one. A tipi adds dignity and grace to a scene, and provides a space where people can get together, make tea and music and dry themselves when it gets a little wet outside.

A tipi pitched in the garden of a house can provide an extra bedroom, a refuge from the rectangular confines of bricks and mortar, or a meditation space. But if it left up for a long time, it must be well used, as it will rot without a fire being regularly lit inside to dry the canvas.

Class Tipi project, Carleton College, MN
https://apps.carleton.edu/campus/facilities/sustainability/evnironmental_house/?image_id=60770

Tipi Technology from Teaching Tolerance Classroom Practice # 17: Spring 2000

As a teaching assistant, I wanted to show students who were earning their master's degrees in teaching how multicultural education can work in the science classroom. In fact, I wanted to push them further. Washington state has established Essential Academic Learning Requirements for science, one of which states, "Science and technology are human endeavors, interrelated to each other, to society and to the workplace." I wanted to ask my students to reflect on the assumptions we make about science: Is science only one body of knowledge about the physical world? Or do different peoples understand the physical world in different ways?

Long Standing Bear Chief, a Blackfoot friend, had shown me how to put up a tipi. I had always wondered, "How do they balance all those poles together?" and "How do they get the canvas up around that tall cone?" Some of the solutions Long Standing Bear Chief showed me seemed both efficient and counter-intuitive. I thought that if I could get my students to consider the tipi as a solution to an engineering challenge, they might come to understand that the way in which Blackfoot people solved that tough survival problem was scientific. But I wanted them to do more than respect an artifact of another culture. I wanted them to try to understand a tipi as a Blackfoot person might…..Feedback from the students was enthusiastic. They expressed their respect for Blackfoot ingenuity. They teased about the prowess of Blackfoot women, acknowledging that a task traditionally accomplished by two women had taken as many as 14 students to manage.

E. Follow Through

Once the tipis are delivered, the reservation and sign out system will be initiated immediately and the tipis can be erected on campus for display when not in use or stored at the North Campus site (VIC). Storage has been approved by VIC.