Name of Project or Group:

Carleton GNCTR Team 2015

Name of Applicant:

Hailey Quiquero

Position of Applicant:

Captain

Email of Applicant:

carletongnctr@gmail.com

How many Undergraduate Engineering students are involved? Specify Departments and/or programs if possible.

25 - All Departments, majority Civil

Description of Proposal:

Sending a team to the Great Northern Concrete Toboggan Race is a long standing tradition at Carleton. The team of undergraduate engineering students designs and constructs a sled with a concrete running surface, along with a technical exhibition to display information to judges. The competition is academic and provides great opportunities to students to network with industry professionals and peers from other universities across the country.

The current complement of tools used by Carleton's GNCTR Team are not sufficient for the nature of the work to be done. Up-to-date cordless tools will improve participant safety, time and material efficiency, and overall quality of the project. Simply put, we can no longer continue to use the wrong tools for this project.

The following tools are required for construction of the GNCTR Technical Exhibition display and shipping container. Additionally, these tools would be used for on-site assembly and construction of the display, as well as emergency repairs to the display and/or the toboggan. These items may also find further use in the concrete and steel components of the project.

The tools specified are of high enough quality to perform the tasks required, and be long lasting for future GNCTR Teams. All of the tools would be storable in the team shed, however batteries should be stored indoors through extreme hot or cold temperature months. The items are listed in order of necessity.

• Drill/Driver Kit
• Spade/Drill/Driver Bits
• Circular Saw
• Socket Set
• Chop/Mitre Saw
• Air Compressor with Nailer/Stapler

In addition to tools, the team is also in need of some materials to build the shipping container. It is our goal this year to construct a structurally sound and durable crate that can be used for years to come. Shipping containers typically form the base for the Technical Exhibition displays of GNCTR teams. This is a large component of the competition, and the display must look smart and professional. With the following materials, we will be able to construct a reusable crate, and save time and money for future teams. Again, if total funding is not available, the items are listed in order of necessity.

• 3/4" Good One Side Plywood
• 3/8" Good One Side Plywood
• Luan (Skin Plywood)
• Dimensional Lumber
- Pine 1x3's
- 2x4's

- 2x6's
- 4x4's
• Hardware
• Adhesive

Proposal Benefits:

If the team is able to acquire new tools, it will improve the construction and overall safety of the technical exhibition display. The creation of a durable and polished crate is following the captains' decision to take the team in a new direction – one which we believe will represent the school in new light, academically and professionally. We believe that with the right materials, this crate can be used for shipping and the technical display for many years to come.

If funding is received, CUESEF will be considered a Gold Level Sponsor of the GNCTR team. The CUESEF logo will therefore be included on the toboggan and all team apparel, along with a logo and link on our website, which gets a lot of student traffic. The CUESEF logo will also be placed on all tools and the shipping crate, which will be used and seen by the dozens of undergraduate engineering students who will volunteer with GNCTR over the next several years. The majority of these student volunteers are in their first or second year, and come from all departments in the Faculty of Engineering.

Estimated Equipment Lifespan:

The tools will last an expected 5-7 years with proper care, and some tools are lifetime guaranteed. The crate is estimated to last for at least 3 years.

Implementation Schedule:

Currently, the team is working on acquiring funding from sponsors, and has begun testing different concrete mix designs for our slab.

If funding is received, the tools and materials will be purchased within the successive weeks, and construction will begin by mid-November.

The shipping crate/technical display and toboggan will be fully built and shipped to Kelowna by the competition date in late January, 2015.

Cost Breakdown: Item, Any funding from other sources, Multiple funding options:

1 Drill/Driver Kit - $210
2 Spade/Drill/Driver Bits - $45
3 Circular Saw - $149
4 Socket Set - $20
5 Chop/Mitre Saw - $100
6 Air Compressor with Nailer/Stapler - $200
7 3/4" Good One Side Plywood - $60
8 3/8" Good One Side Plywood (3) - $135
9 Luan (Skin Plywood) (6) - $108
10 Dimensional Lumber
(a) Pine 1x3's (19) - $47.50
(b) 2x4's (12) - $60
(c) 2x6's (7) - $56
(d) 4x4's (4) - $48
11 Hardware - $50
12 Adhesive (2) - $20

Total Funding: $1308.50
Partial Funding Option 1 (Items 1-9): $1027
Partial Funding Option 2 (Items 1-6): $724
(All items are listed in order of necessity)

The total team budget is estimated at $30000, with funding coming from multiple sponsoring companies (monetary and in-kind sponsorship), fundraising events, CSES (amount still unknown) and the Faculty of Engineering ($4000). The rest of the team's budget will be covered by fees to team members.