



*Project G.R.I.L.L., which stands for Growing Readiness in Learning and Leading, is a program designed to introduce High School students to the career opportunities available in manufacturing.*

**2018-2019**

Updated: 06/18

[www.projectgrill.org](http://www.projectgrill.org)

# ***Project G.R.I.L.L. Handbook***

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## Goals and Objectives

### Goals:

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This educational experience teams students from area High Schools with local manufacturers to design and build functional grills. During this journey, the students will learn all of the aspects associated with taking a product from concept through production.

### Objectives:

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Improve the image of Manufacturing by exposing our community, educators, students, and parents to the diverse career opportunities within Sheboygan County. Ultimately, working towards creating an expansive workforce to sustain the success we are cultivating today.

## Rules

1. Must complete a design proposal, see [design proposal page](#) for guidelines
2. Must fit and prepare 12 Johnsonville brats within one hour of lighting the grill.
  - The prepared brats must be cooked to a food safe temperature of 160 degrees
  - The brats must not be charred or burnt
3. Must be portable meaning each school is responsible for transporting their own grill to and from the unveiling.
4. Must incorporate *Project G.R.I.L.L.*, Sponsor, and School logos
5. Must include a way to control grill air flow
6. Structure and finish must be able to withstand normal grilling use
7. Must use charcoal
  - no more than 20 pounds of charcoal
  - one container of lighter fluid
  - one box of matches
8. Must complete presentation at unveiling, see [presentation page](#) for guidelines
9. Must show costing of the whole project
  - must include [preliminary budget](#)
  - must include [Bill Of Materials](#)
  - must produce [final project cost](#)

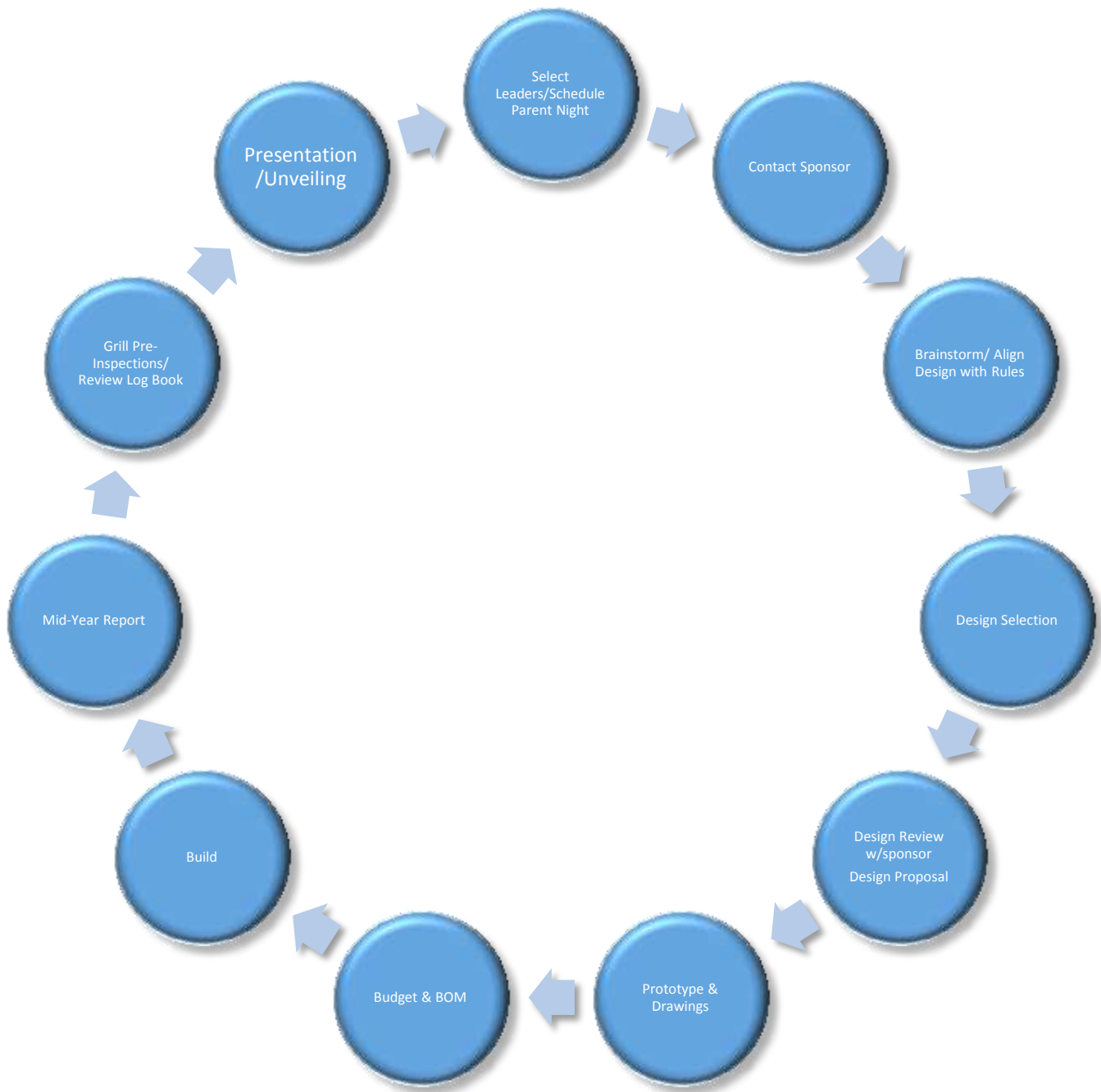
**Evaluation Point System:** A point system will be used to determine how well each team has utilized this handbook to keep their project on course. When the handbook is used along each step of the process, the team will score favorably. It should be understood that this project is not entirely about building a grill, but rather an opportunity to learn about the manufacturing process. Project G.R.I.L.L. offers students a complete insight of a manufacturing project from start to finish with a real life conclusion.

## Scorecard

Criteria	School 1	School 2	School 3	School 4	School 5	School 6	School 7	School 8
Closely resembles original concept sketch. If not, changes were documented.	/10	/10	/10	/10	/10	/10	/10	/10
Incorporation of sponsor branding.	/15	/15	/15	/15	/15	/15	/15	/15
Comfortably fits 12 Johnsonville brats.	/10	/10	/10	/10	/10	/10	/10	/10
<b>General Appearance (20 points)</b>								
Fit and Finish	/10	/10	/10	/10	/10	/10	/10	/10
Flow of overall design	/5	/5	/5	/5	/5	/5	/5	/5
Paint Job	/5	/5	/5	/5	/5	/5	/5	/5
<b>Fabrication Quality (25 points)</b>								
Welds	/10	/10	/10	/10	/10	/10	/10	/10
Machining	/5	/5	/5	/5	/5	/5	/5	/5
Filing/ Grinding/ Sanding	/10	/10	/10	/10	/10	/10	/10	/10
<b>Grill Function (20 points)</b>								
Air flow can be controlled	/10	/10	/10	/10	/10	/10	/10	/10
Structure and finish must be able to withstand normal grill use	/5	/5	/5	/5	/5	/5	/5	/5
Must use charcoal	/5	/5	/5	/5	/5	/5	/5	/5
<b><i>Above &amp; Beyond (up to 20 additional points)</i></b>	<b>/20</b>	<b>/20</b>	<b>/20</b>	<b>/20</b>	<b>/20</b>	<b>/20</b>	<b>/20</b>	<b>/20</b>

Please add any additional comments on the back of this sheet.

## Process Flow



Maintain continuous communication with sponsor.

## Timeline

<b><i>Project GRILL 2018-19 - Milestones/Deadlines</i></b>	<u>Dates</u>
Boot Camp for teachers & sponsors	August 14, 2018
Select student leaders	Sept. 17 – Oct. 1
Kickoff event – team building	September 25
Align project w/rules & decide the future ownership of the grill	September 25
Contact – setup brainstorm session	September 25
Brainstorm session conducted between the school & sponsor	October 1 – 8
Present concept sketches & sponsor to review updated log book	October 15- 19
Agreement of plan selection between school & sponsor	October 15 – 19
Present scaled drawings & prototype to sponsor/parent meeting	November 5 -9
Present budget outline & bill of materials to sponsor	November 12 – 16
Start build	November 26
Mid-year reports	February 2019
Parade of manufacturers	March 7
Project GRILL scholarship applications due to Admin assistant	April 1
Grill pre-inspections	First week of May
Marketing presentation/unveiling	May 17

## Design Proposal

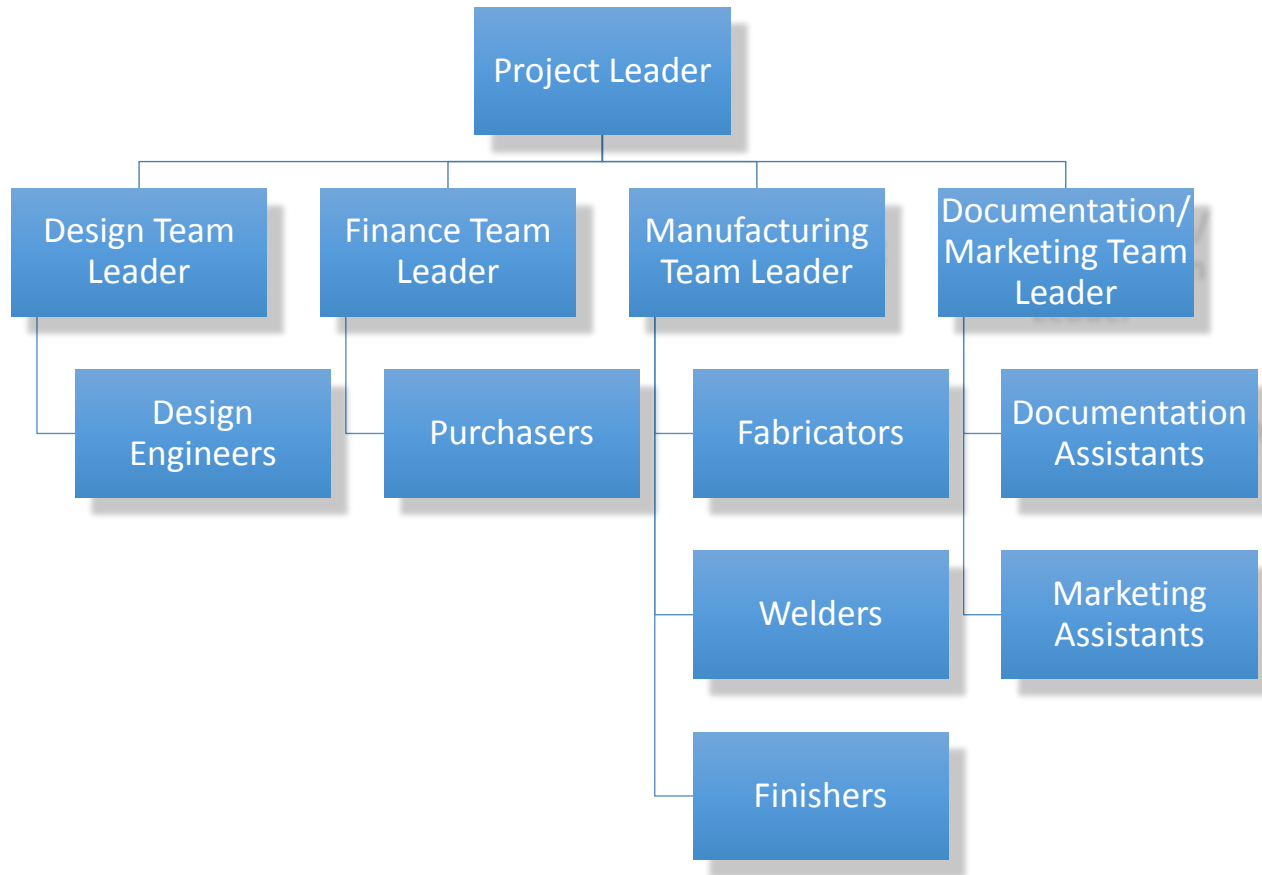
The student project leader will schedule a meeting with the sponsor to include all members of the team, to first meet with their sponsor and discuss their plans. Additional meetings will follow, to present a concept sketch, another to present the scaled drawings and a prototype. The sponsor, all team members, and parents should be present at this meeting to give final approval before moving forward. *The parents are required to sign a waiver to allow the students participation and this is a great way to kick off the project for all parties involved.* The design proposal will be shared with the sponsor throughout the journey.

The design proposal will include the following items:

- ❖ Organizational Chart
  - It may be possible that not every position can be filled but every attempt should be made to assign the positions to be successful.
- ❖ Drawings or sketches
  - It is not necessary to use computer generated drawings but if hand sketches are used they must be neat and done on graph paper.
- ❖ Preliminary budget
  - A preliminary budget must be presented to the Sponsor for approval before the project can officially begin.
- ❖ Timeline
  - An accurate timeline of dates must be completed and these dates must be held accountable to the Sponsor.
- ❖ Log book
  - An accurate Daily, Weekly and Monthly log book of activities must be kept along with pictures when possible. This information will be critical for the development of the final presentation which will be displayed at the unveiling.



## Organizational Chart



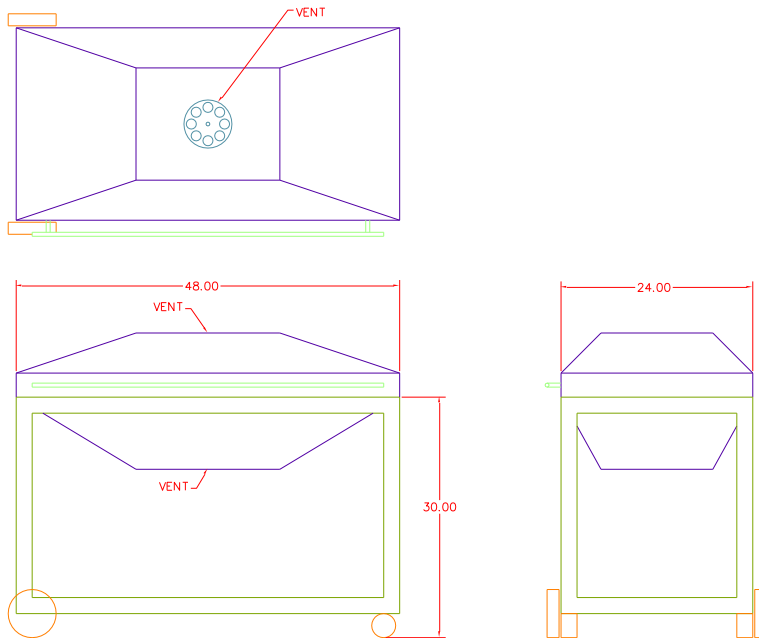
The next page gives a detailed explanation of each of these roles. It is understood that it may not be possible to employ a large enough group to fill each of these roles; however, every attempt should be made to recruit individuals to take on these responsibilities. The goal of this project is two fold; to build an ultimate grill but also to be successful entrepreneurs along the way. You may have built the best grill known to man but went over budget or could not market your product. These qualities are also necessary to be successful.

## Organizational Chart

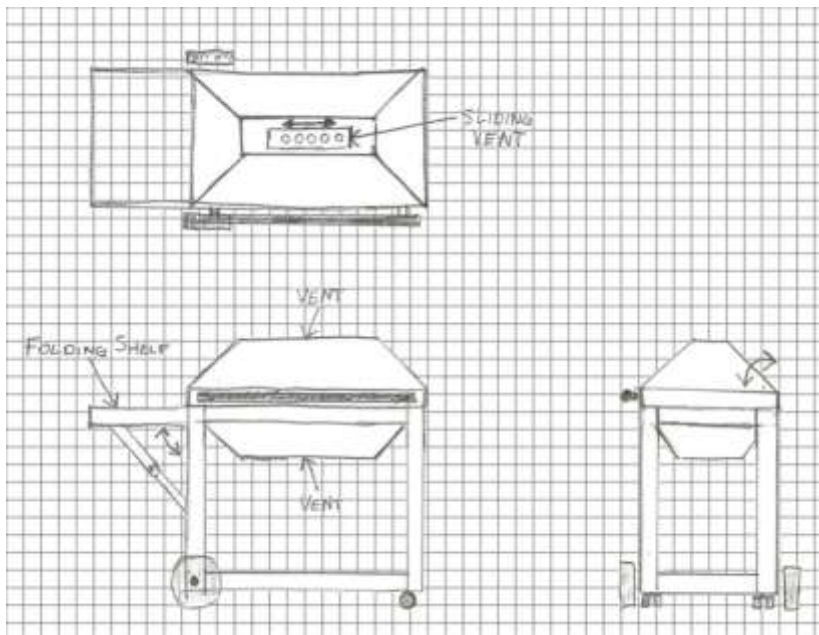
- ❖ Project Leader – (add teacher name) (add student name) leads entire project, assigns responsibilities for teams, schedules meetings with High School and Sponsor representatives, monitors deadlines
  
- ❖ Design Team Leader– (add student name) leads design engineers to produce grill designs and monitors deadlines
  - Design Engineers – develop concept of product, produce accurate drawings for manufacturing
  
- ❖ Finance Team Leader– (add student name) leads purchasers, meets with Engineering group for project costing, schedules material purchases and monitors deadlines
  - Purchasers – find affordable supplies and research components
  
- ❖ Manufacturing Team Leader– (add student name) leads group and monitors deadlines
  - ◆ Fabricators – fabricate parts from prints for assembly
  - ◆ Welders – weld components together
  - ◆ Finishers – finish aesthetics and test grill for fit and functionality(all movable parts)
  
- ❖ Documentation/Marketing Team Leader– (add student name) leads group and monitors documentation and presentation deadlines
  - ◆ Documentation Assistants – edit project log book: pictures, power points, instruction manual
  - ◆ Marketing Assistants – develop marketing concept and materials (pictures, flyers, video, etc.)

## Drawings or Sketches

The following AutoCAD drawing is a representation of what is required when using AutoCAD to submit your drawing to your Sponsor.



The following hand sketch is a representation of what is required, if AutoCAD or a 3D program is not an available resource, to submit to your Sponsor.



## Preliminary Budget

Today's Date: \_\_\_\_\_

Project Name: \_\_\_\_\_

School: \_\_\_\_\_

Fund Source: Project G.R.I.L.L. \_\_\_\_\_

Amt. of Funds Provided: \$2,500.00 \_\_\_\_\_

Alter. Fund Source: \_\_\_\_\_

Amt. of Funds Provided: \_\_\_\_\_

Prepared by: \_\_\_\_\_

Signature: \_\_\_\_\_

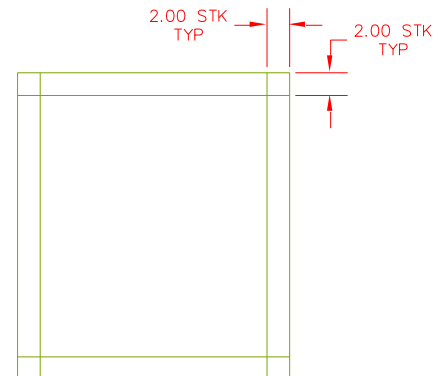
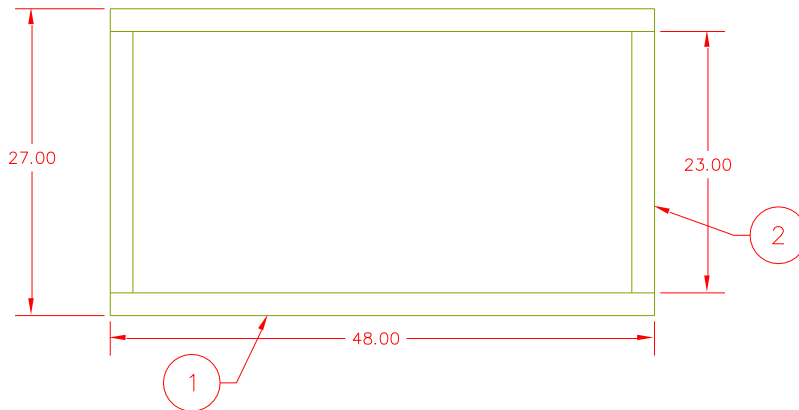
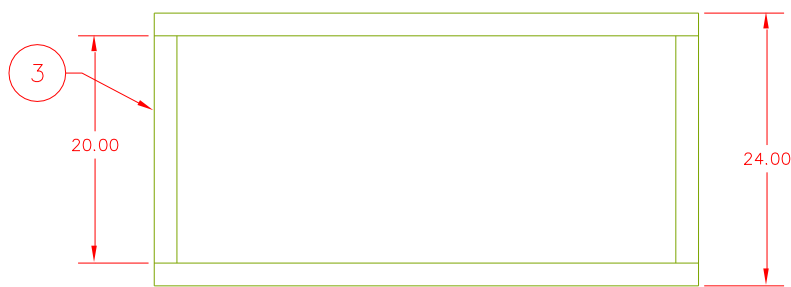
ITEM		ESTIMATED AMOUNT
1	Trailer	\$ 400.00
2	Steel	\$ 200.00
3	Paint	\$ 400.00
4		\$
5		\$
6		\$
7		\$
8		\$
9		\$
10		\$
11		\$
12		\$
13		\$
14		\$
15		\$
<b>TOTAL</b>		<b>\$1000.00</b>



## BOM (Bill of Materials)

Each item on the preliminary budget page requires a drawing and cost break down per item needed to construct the item. The items must be able to be purchased by anyone who reads the BOM and constructed by anyone who reads the drawing.

MATERIAL CUT LIST			
ITEM	MATERIAL	SIZE	QTY
1	H.R.S. SQ. TUBE	2" x 2" x 1/8" WALL x 48	4
2	H.R.S. SQ. TUBE	2" x 2" x 1/8" WALL x 23	4
3	H.R.S. SQ. TUBE	2" x 2" x 1/8" WALL x 20	4



## Mid-year Report

Mid-way through your project (February) your student project leader will contact your sponsor representative to arrange a mid-year report meeting with upper level management personnel to be held at the sponsor's location. The mid-year report has been included as part of the process so that your team can interact with company officials and share your journey with them.

Be prepared to answer any and all questions about your process and what steps have been taken to get to this important stage. If you had problems discuss them. If you learned something, be proud to share this. This is your opportunity to explain to your sponsor what this program has done for you and why future students should be able to have this same experience.

Follow these suggested guidelines:

Create a Power Point presentation that will guide the audience along your journey.

Attempt to incorporate speeches from more than one participant.

Share your up to date log book with photos.

Bring along a 3D model, if you have one, and possibly the drawings of the grill.

Your presentation will include the following:

- ❖ Introduction of team members
- ❖ Speech of approximately 5-10 minutes explaining your product to your sponsor
- ❖ Thank your sponsor (especially your mentor)
- ❖ Include the best thing about your grill
- ❖ #1 lesson learned
- ❖ Closing

Remember that you are meeting with company officials. They are taking time out of their busy schedules to see you and your presentation. They will be looking at you individually and as a team. Present yourselves professionally in attire, posture, and speech.

**Final Project Cost**  
(Actual)

Today's Date: \_\_\_\_\_

Project Name: \_\_\_\_\_

School: \_\_\_\_\_

Fund Source: Project G.R.I.L.L. \_\_\_\_\_

Amt. of Funds Provided: \$2,500.00 \_\_\_\_\_

Alter. Fund Source: \_\_\_\_\_

Amt. of Funds Provided: \_\_\_\_\_

Prepared by: \_\_\_\_\_

Signature: \_\_\_\_\_

ITEM		TOTAL AMOUNT
1	Trailer	\$ 500.00
2	GRILL	\$ 200.00
3	Advertising	\$ 100.00
4	Hardware	\$ 50.00
5		\$
6		\$
7		\$
8		\$
9		\$
10		\$
11		\$
12		\$
14		\$
15		\$
<b>TOTAL</b>		<b>\$850.00</b>



## Pre-inspection

Two weeks prior to the unveiling, there will be a pre-inspection of your grill and log book. A member of the Project G.R.I.L.L. committee will contact the student leader and setup a date for the pre-inspection. The pre-inspection has been included as part of the process to ensure that your team will be successful and deliver your product at the unveiling.

The grill must be available for this inspection and must be near completion. Be prepared to answer any and all questions about your process and what it took to bring your grill to this important stage. If you had problems discuss them. If you learned something, be proud to share this.

You will be required to present your up to date log book. The log book is the entire history of how your project became an actual grill and it should be able to tell that story on its own. Remember that if no one was there to explain your grill the log book should give anyone the timeline from start to finish. The log book very easily can become your guideline for your final presentation because it should have captured all of the interesting events along the way.

How to prepare:

- ❖ Plan 30 – 60 minutes for this meeting
- ❖ Organize your entire team and instructor
- ❖ Invite your sponsor (need not be present)
- ❖ Have your up to date log book available for inspection

What to expect:

- ❖ Be prepared to answer all questions about this entire process
- ❖ Be prepared to explain your plan to complete the grill if it is not complete at this time

## Scholarship

One Project G.R.I.L.L. scholarship per high school is available each year. All high school seniors that successfully participated in Project G.R.I.L.L. can apply for the scholarship in the award amount of \$1000.

### Criteria

- ❖ High school senior participating or having participated in Project G.R.I.L.L.
- ❖ Minimum high school GPA of 2.5 or 3 out of 5 GED tests completed
- ❖ Enroll in a minimum of 6 credits at an accredited post-secondary education institution upon high school graduation

### Application Process

- Complete and sign the Project G.R.I.L.L. application form.
- All information must be contained on the application form in the space provided. Additional pages are not allowed.
- Submit the Project G.R.I.L.L. Scholarship Instructor Reference Form for completion. Instructor shall seal the completed form in an envelope and return to student.
- Submit the Project G.R.I.L.L. Scholarship Principal, Guidance Counselor, Secondary Instructor or Employer Reference Form for completion. Reference shall seal the completed form in an envelope and return to student.
- Submit the application, 2 sealed references, and high school transcripts through the end of the first semester of the current year to the Instructor.
- Completed applications must be received by the application deadline (see current year application for date).
- Instructors will present the chosen applicants scholarship packet to the Project G.R.I.L.L. scholarship committee.
- The Project G.R.I.L.L. scholarship committee will select one recipient from each school to receive a scholarship after reviewing the applications.

### Award Process

- Scholarship selection is based solely on information contained on the application form.
- Awards will be announced/presented at the Project G.R.I.L.L. unveiling.
- Awards will be disbursed to the student's school of choice during the first semester of college after official verification of enrollment has been received.
- If a school does not present any applications by the scheduled deadline that school will not be awarded with a scholarship and that scholarship is not transferrable to any other school.

## Unveiling Presentation

It should be understood that as entrepreneurs you have developed a marketable product which could essentially be reproduced and sold by any manufacturing firm in the area. You are certainly proud of your accomplishments and now you should feel compelled to want to showcase your product to the public. This is your opportunity to tell the public why your product is the best as well as how and why they should want to purchase it. Your team must feel the desire to explain to the public why this was a worthwhile endeavor to be a part of and why other students should want this experience.

The presentation is the final portion of the project and will be delivered at the unveiling event. Your presentation will include the following:

- ❖ Introduction of team members
- ❖ Speech of approximately 3-5 minutes explaining your product to the public
- ❖ Thank you to the sponsor
- ❖ Best thing about your grill
- ❖ #1 lesson learned
- ❖ Closing
- ❖ Final Costing

Remember that this is your chance to show everyone the pride and workmanship you have put into this entire project. The limitations are only the ones you place on yourselves. Make this the best showcase for your product.

## Evaluation Point System

Each project will be evaluated upon the following criteria with the corresponding values:

1. Design Process – 100 points
2. Monthly Updates – 50 points
3. Mid-year Report – 50 points
4. Budget – 100 points
5. Unveiling Presentation – 100 points
6. Finished Grill – 100 points

Total possible points earned – 500 points

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### 1. Design Process (100 points) – Determined by Sponsor (*Points due to Secretary*)

- ❖ Concept Sketch – presented to sponsor at beginning of project (50 points)
  - A neat, accurate rendition of what the finished grill will look like (15 points)
  - Includes company branding (15 points)
  - Includes color scheme (15 points)
  - Drawn on paper (5 points)
- ❖ Drawings (50 points)
  - Accurate dimensions of grill (25 points)
  - Color included, where appropriate (15 points)
  - Printed on paper (10 points)

### 2. Monthly Updates (50 points) – Determined by Committee Secretary

- ❖ 50/50 = All 7 monthly reports completed and submitted on time, thorough and accurate
- ❖ 35/50 = 5 of 7 submitted on time, thorough and accurate
- ❖ 20 or fewer/50 = numerous late or incomplete reports

\* Scores may fall between standards based on actual work submitted

## Evaluation Point System

### 3. Mid-year Report (50 points) – Determined by Sponsor (*Points due to Secretary*)

- ❖ 50/50 = Accurate, thorough, complete, and student-led (based on provided PowerPoint)
- ❖ 35/50 = Some elements missing or not fully developed, but gives a general idea of progress to date
- ❖ 20/50 = Many elements missing or incomplete/not student-led

\* Scores may fall between standards based on actual work submitted

### 4. Budget (100 points) – Determined by Committee Secretary

- ❖ 50 points awarded for a completed preliminary budget
- ❖ Updated monthly, submitted to committee in spreadsheet form, including In-kind donations
- ❖ 50/50 = All 7 monthly budget reports are accurate, thorough, complete and submitted on time
- ❖ 35/50 = 4 of 7 monthly budget reports are accurate, thorough, complete and submitted on time
- ❖ 20 or fewer/50 = numerous late or incomplete budgets

\* Scores may fall between standards based on actual work submitted

### 5. Unveiling Presentation (100 points) – Determined by Judges

- ❖ Introduce Team (10 points)
- ❖ Thank the Sponsor (10 points)
- ❖ Best thing about your grill (25 points)
- ❖ #1 lesson learned (25 points)
- ❖ Closing (10 points)
- ❖ Presentation stayed within 3-5 min timeframe allotted (20 points)

### 6. Finished Grill (100 points) – Determined by Judges

- ❖ Closely resembles original concept sketch. If not, changes were documented along the way. (Must bring original concept sketch and changes to unveiling) (10 points)
- ❖ Incorporation of sponsor branding (15 points)
- ❖ Grill can fit 12 Johnsonville Brats, comfortably (10 points)

## Evaluation Point System

- ❖ General Appearance (20 points)
  - Fit and finish (10 points)
  - Flow of overall design (5 points)
  - Paint job (5 points)
- ❖ Fabrication Quality (25 points)
  - Welds (10 points)
  - Machining (5 points)
  - Filling/Grinding/Sanding (10 points)
- ❖ Grill Function (20 points)
  - Air flow can be controlled (10 points)
  - Structure and finish must be able to withstand normal grill use (5 points)
  - Must use charcoal (following guidelines on pg. 4) (5 points)

- ❖ Above and Beyond (up to 20 additional points)

Some examples could be:

- Wiring/electrical – including appearance, everything functions as designed, an added wow factor that deserves points beyond the normal criteria, etc.

## Team Guidelines

1. Be Safe - Our number one goal is to change the mindset students have about manufacturing and to **SAFELY** expose them to the rewarding careers manufacturing has to offer. All corporate partners participating in *Project G.R.I.L.L.* take extreme measures to provide a safe and professional environment for their employees. Our hope is that you will use this same philosophy and maintain a safe environment for your students throughout the *Project G.R.I.L.L.* experience. It's never too early to help the students realize that they own their own safety and should hold their peers accountable as well! Include your safety protocol in your school portfolio.
2. Each team is required to stay within a budget of \$2,500. Donations from your partner company can be accepted if they support the branding of your corporate partner. All other donations, monetary or tangible goods, must be brought to the attention of the sponsor and approved by sponsor before the school can accept the donation.
3. Each high school team is responsible for communicating any proposed design changes to their partner company. These design changes must be agreed to by both parties before they are incorporated. The students must remember that the sponsor is the school's customer.
4. Each high school team and partner company must mutually agree on the final destination of the grill. Examples of this may be to sell the grill and donate the proceeds to a charity of your choice, or to use the proceeds to purchase additional equipment for your school's technical education department.
5. Have fun and make the best of this opportunity. Learn as much as you possibly can along the way and make positive impressions by showing your appreciation to the manufacturing companies who are investing in your future. Make your High School proud to be a participant in *Project G.R.I.L.L.* and set the stage for future classmates to participate in the program.