RunSafe Light Shrug

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Problem Statement: Outdoor physical activities can be difficult during the winter months because the days are significantly shorter and darker. Invisibility of the direct path and for runners from vehicle operators can feel unsafe and create a barrier to maintaining a healthy lifestyle.

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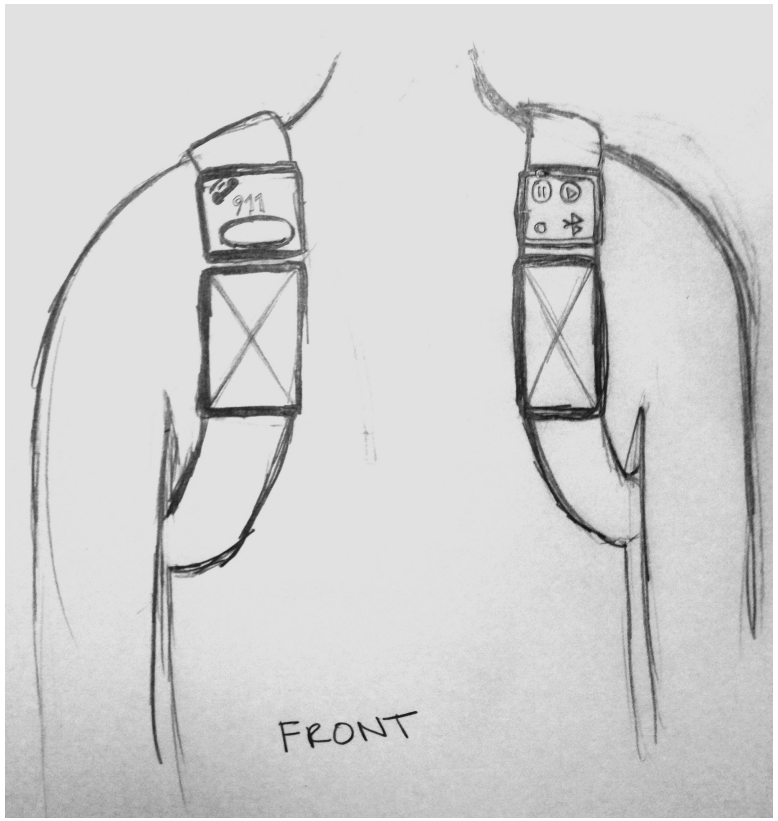

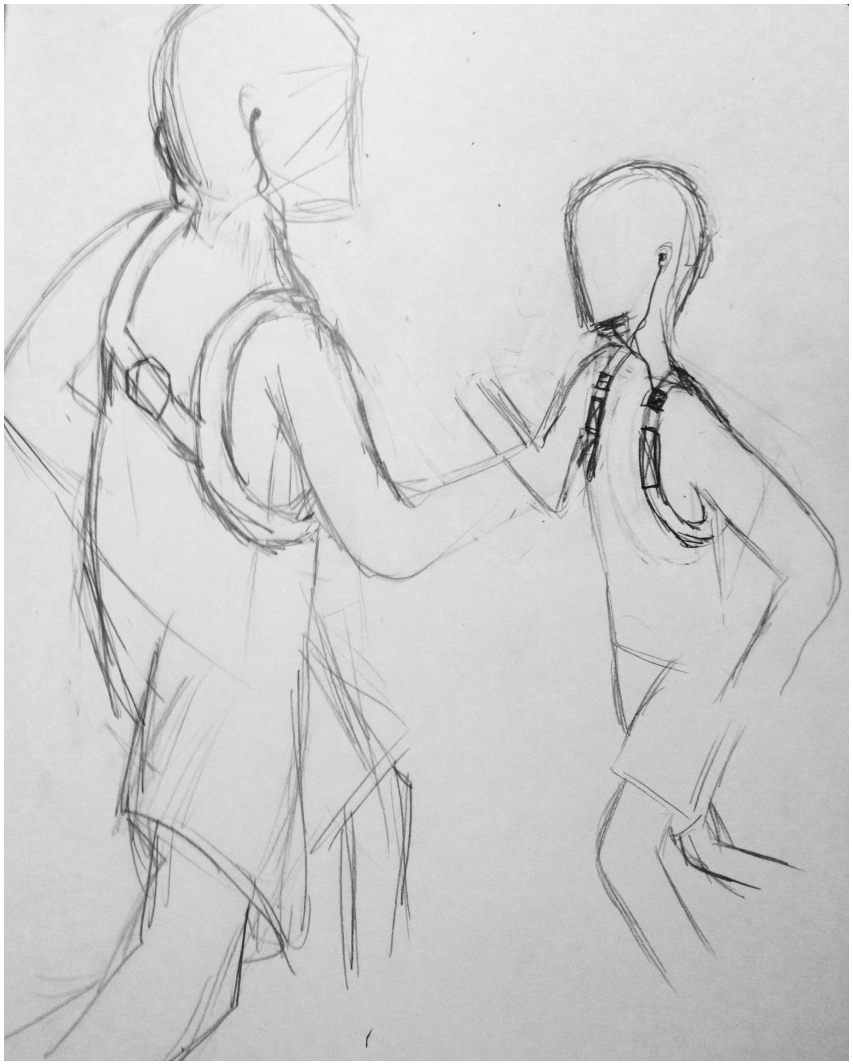

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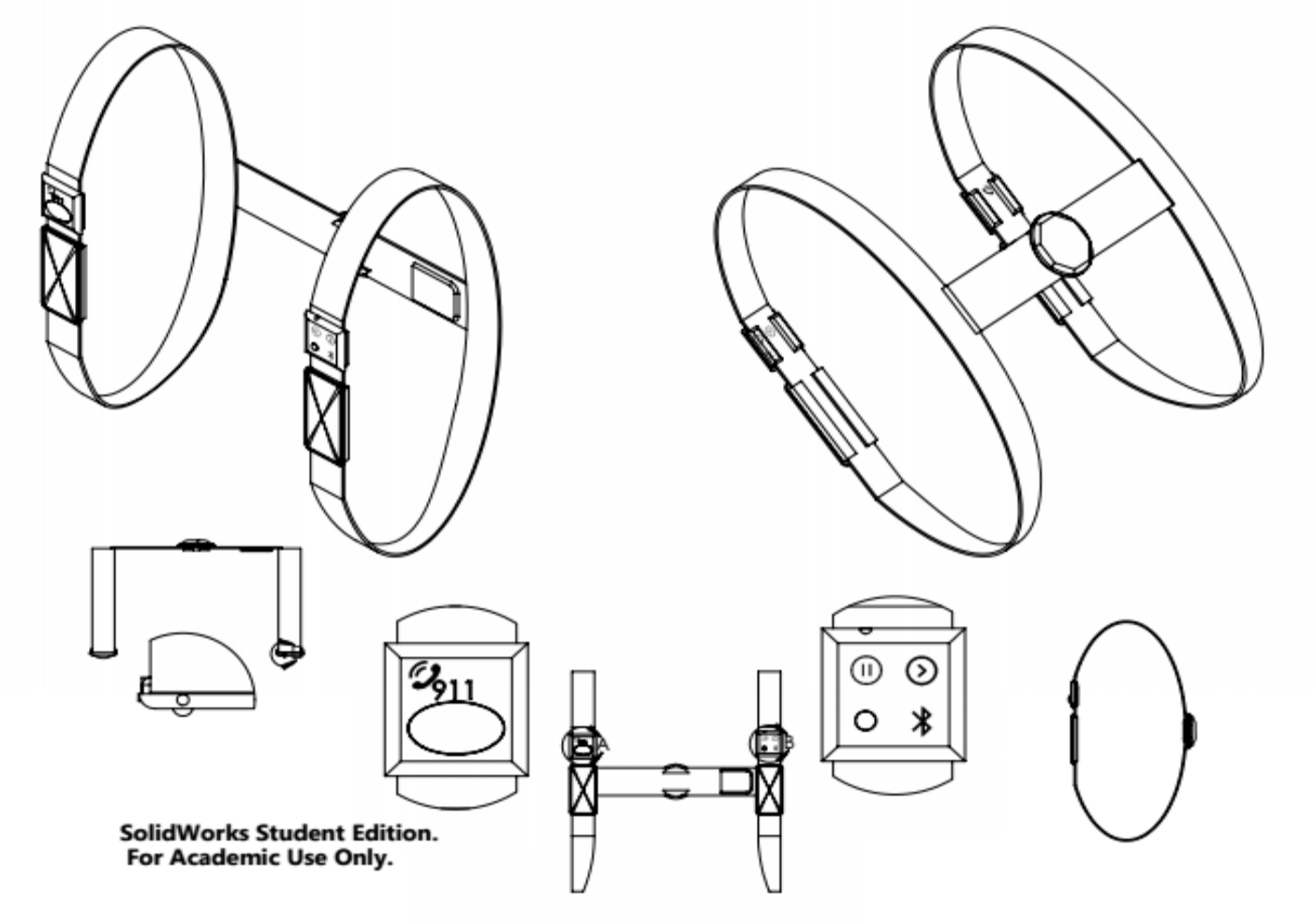

The **RunSafe Light Shrug** provides runners with a comfortable and safe way to illuminate their path. The shrug includes features such as a responsive lights, personal body alarm, and automatic volume control to improve runner safety.

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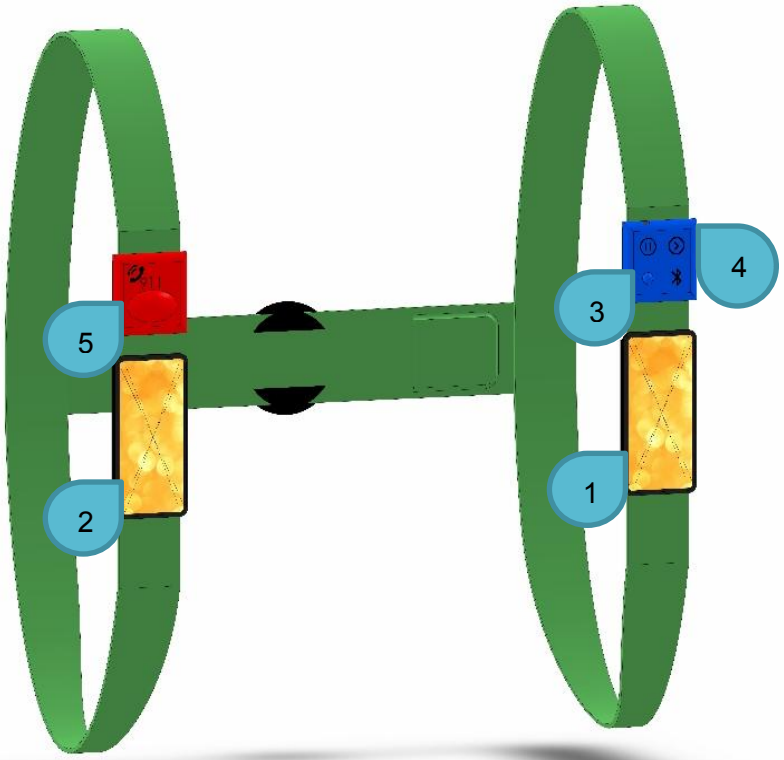

1. Sensor that pings off vehicle IP addresses and Bluetooth signals from nearby cars. Interacts with Bluetooth connectivity feature and LEDs.

2. Responsive LEDs that light the runner's direct path. Lights have dimmable response to vehicle proximity to reduce blinding effect on drivers.

3. Power on/off. Pressing the button (location) of the LED light activates the front and rear LED lights.

4. Headphone jack with Bluetooth connectivity and play and pause buttons. Music is turned down when nearby cars are pinged to direct the user's attention to the car and their own safety.

5. Personal Body Alarm and Strobe. Pressing the button activates the red strobe light and body alarm. A secondary feature is that it sends the police the user's location.

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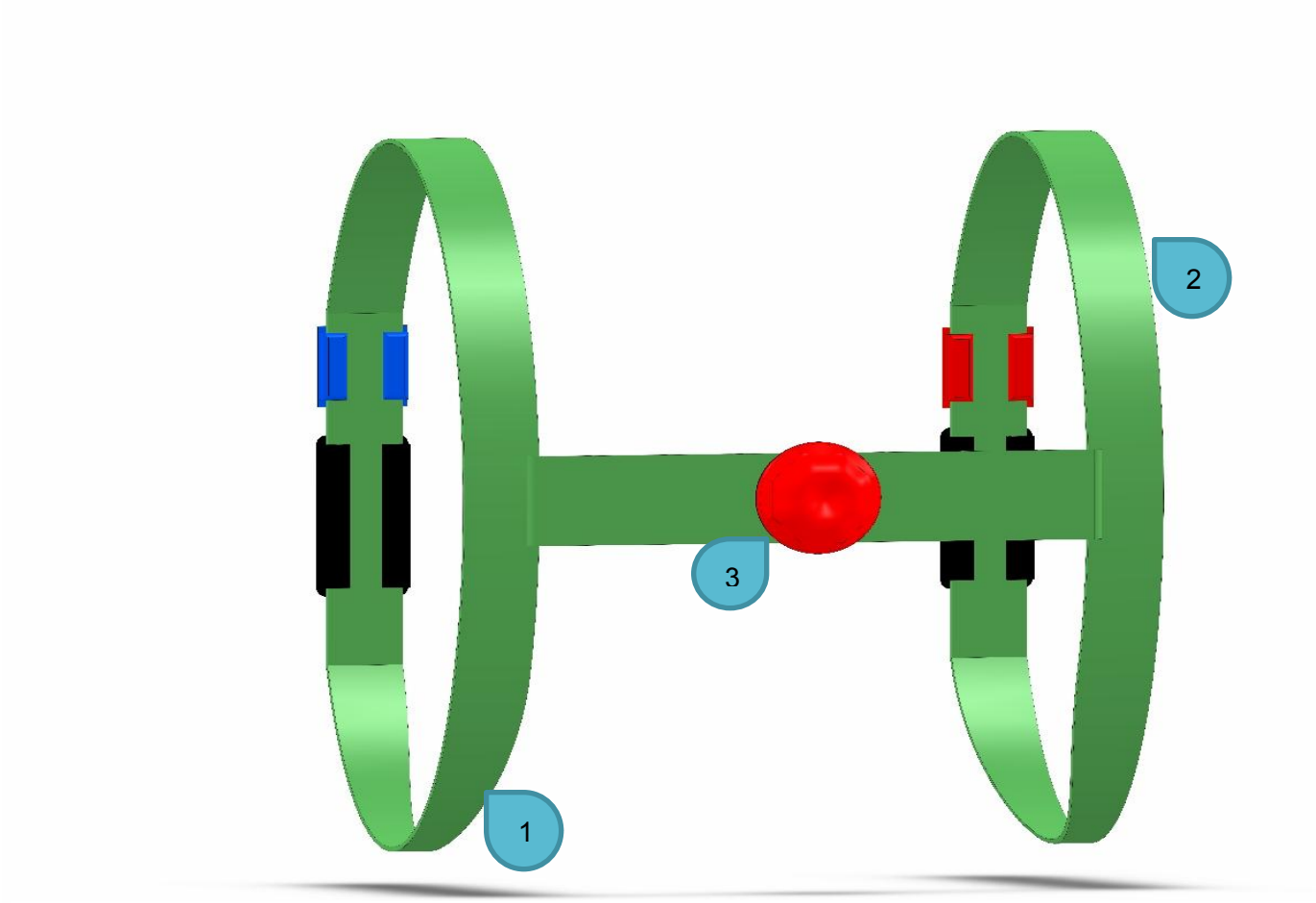

1 Contour shape: Arm straps are thinner under the arms to reduce chafing on runners and improve comfort.

2 Fabric is quick dry elastic to fit closely to the runners' body. The elastic allows the device to move with the runners' body eliminating bouncing and chafing.

3 Red LED strobe to alert vehicles and runners from behind.

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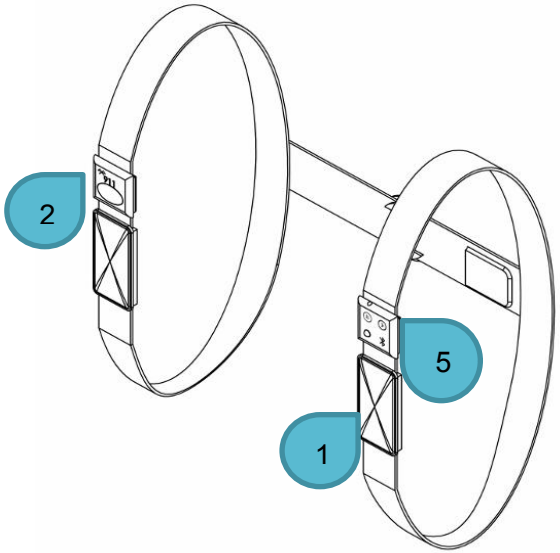
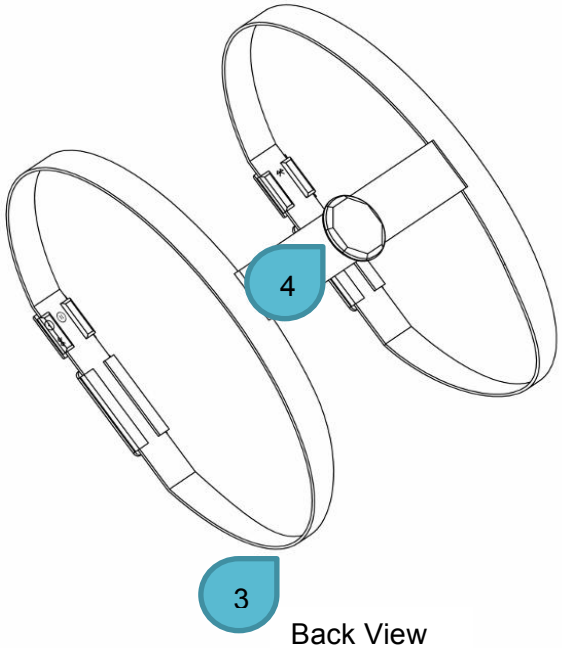


Front View



Back View

1 Responsive LEDs that light the runner's direct path. Lights have dimmable response to vehicle proximity to reduce blinding effect on drivers.

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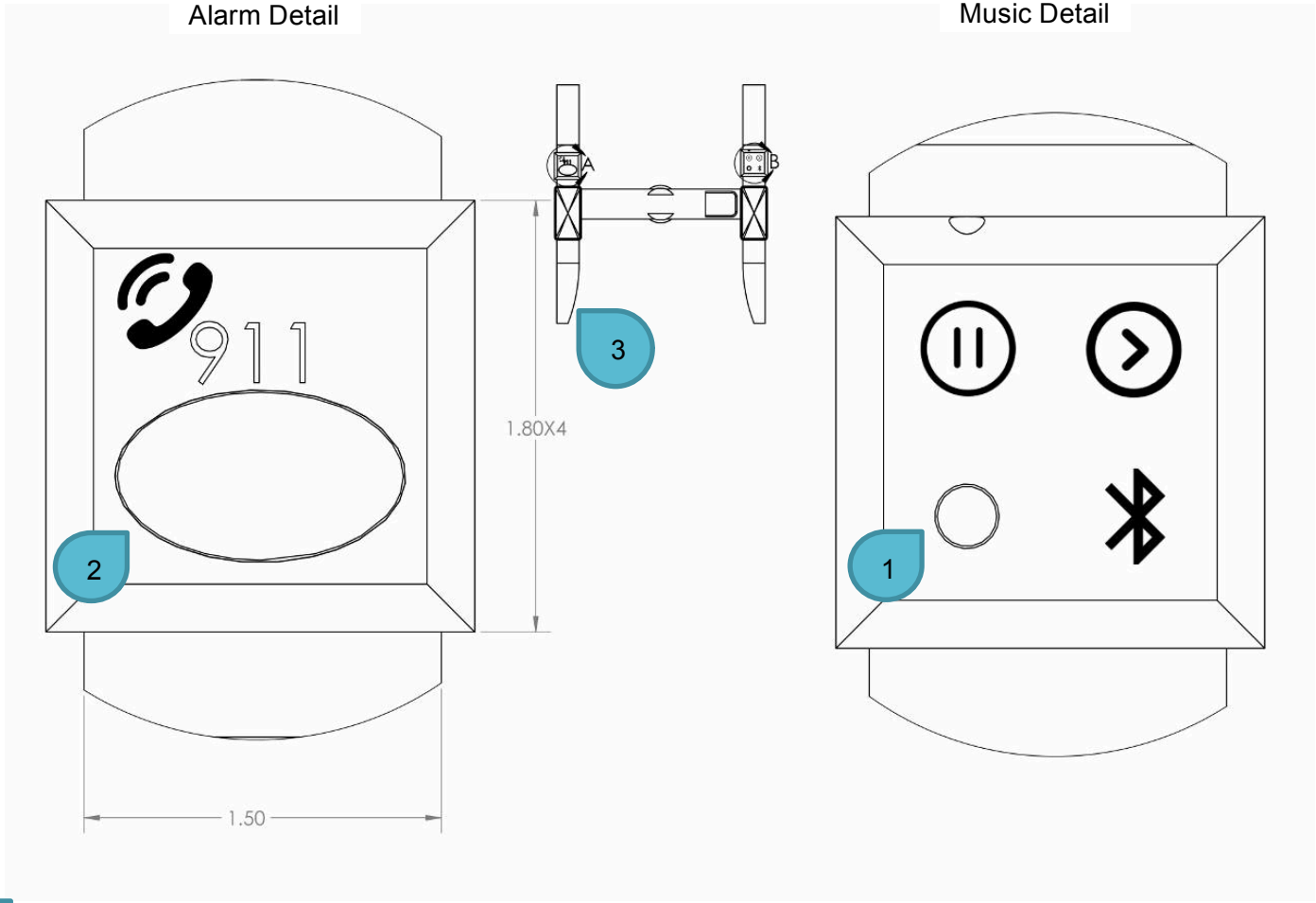

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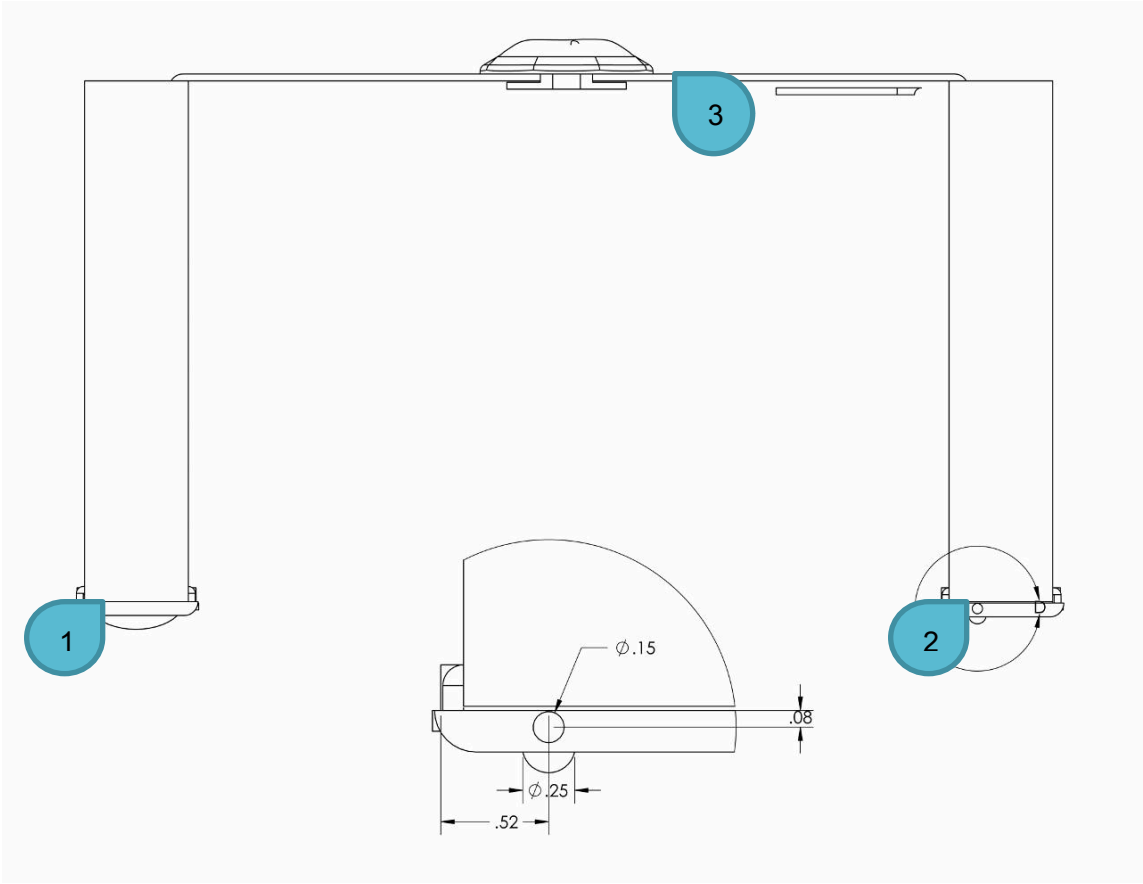

Arial View

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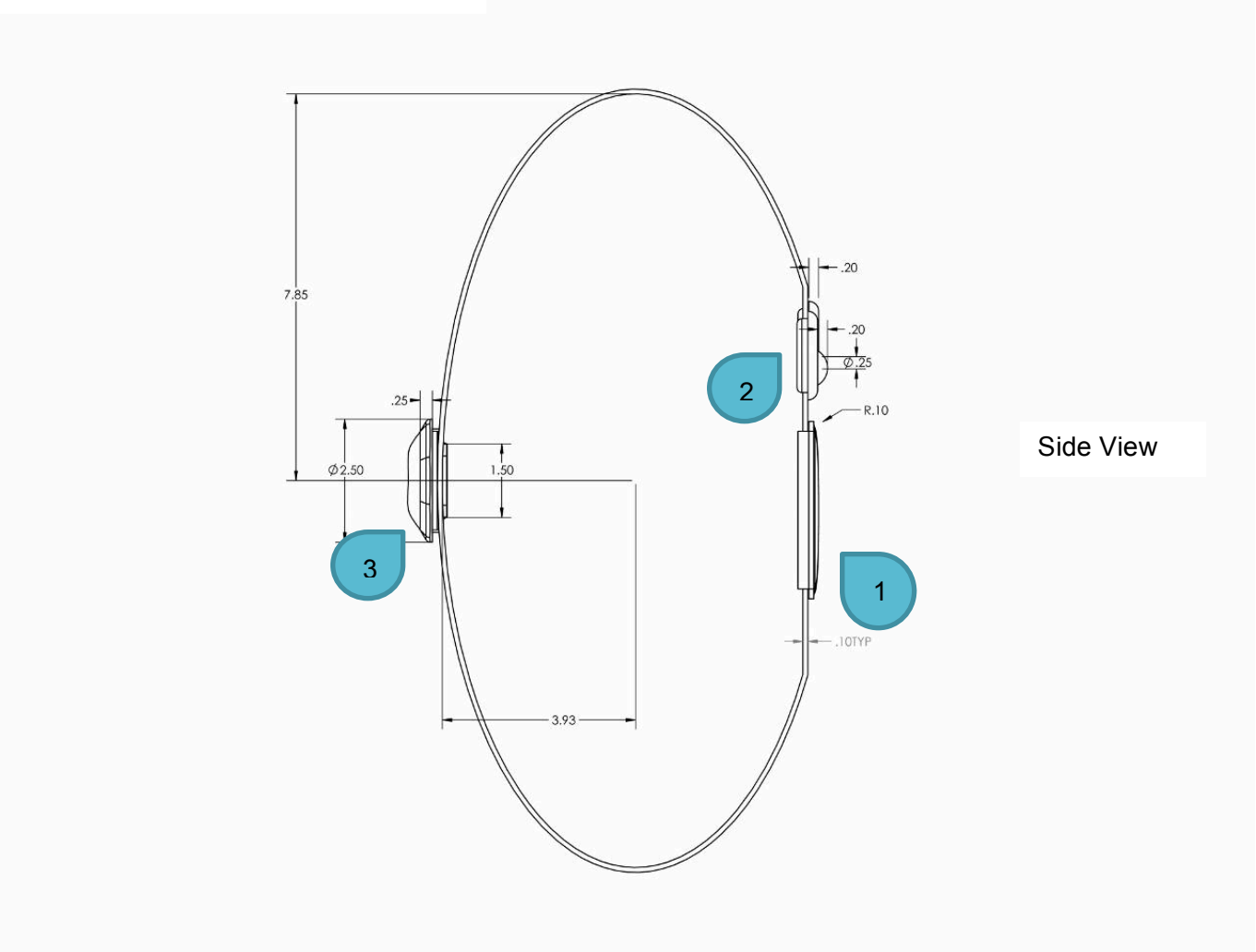

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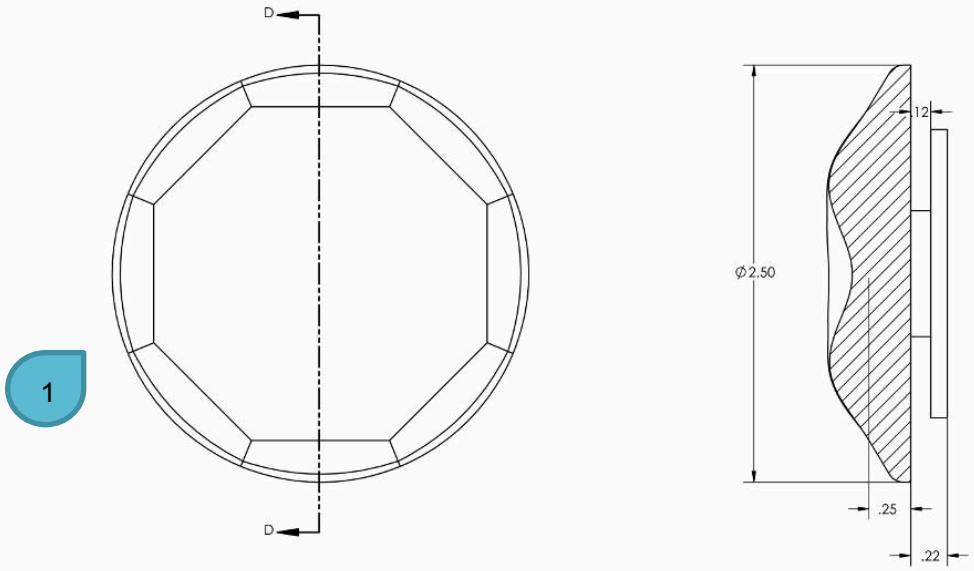

Rear Strobe Detail

1 Red LED strobe to alert vehicles and runners from behind.

Design Critique Feedback

- Concern about the Personal Alarm and 911 button
    - Could be accidentally pressed and send false alarms to police
    - Include a “cancel” or “nevermind” button for the 911 call
    - Could add in time delay feature (i.e. 30 seconds) for light and sound to alert user that the button has been pushed prior to alerting police
    - Could add a twist feature instead of button to reduce false alarms
        - Question was raised about whether this would be too difficult to use in the case of a real emergency
    - Was the feature limited to use with phone reception?
        - Could similar technology to Life Alert be used instead for more consistency
        - If user was hiking (not running) device could be useful, but cell tower reception is often limited and inconsistent
    - make it clear to other people how to use 911 straps if user is unconscious and needs help (not necessary)
- Music/Bluetooth Feature
    - If user running on the side of a road where there are a lot of cars passing by, music might go up and down because of the constant pinging
    - Critiquers liked this feature and said there’s nothing on the market that does this
- Unintended users
    - Question was posed about providing alternative setting for bike riders to adjust proximity setting for speed and city traffic
- Context of use
    - Suggestion was made to show an illustration of a runner wearing the device to show placement and scale.
    - Critiquer was confused about how the device would be worn and the size
- Adjustable straps
    - Users want the ability to adjust the size between shoulder blades and around arms
    - Feedback was that body types can vary within a given size range and including adjustable straps would improve the design
- Future use
    - Most students though it was a great idea and useful design
    - Four students thought we should take our design on Shark Tank and try to make and market it.
    - Three students said they would use it.
- Order of sketches
    - The color renderings should come before the detailed sketches of the features to provide context
    - The detailed sketches are not well understood without having seen the other views
- Additional features
    - Pocket for keys
    - Way to include phone pocket