

## **Improving Paint Removal Mechanisms at Sgt. Splatters**

## **Abstract**

Paintballing is a continuously growing and popular sport [1-3]. As such an “artsy” sport, it is no wonder why paintballing is enjoyed by so many. From the rush of adrenaline upon first entering a field, to the feeling of accomplishment when you strike your first opponent, a game of paintballing is full of its wonders. However, such magnificence comes at a great cost. The aftermath of a full game may not be so beautiful, especially after the accumulation of multiple games that cause a small, pretty splatter to become gooey gunks everywhere. The beauty of paintballing then becomes hard to appreciate when a field is no longer clean.

The following Request for Proposal (RFP) provides a framework for a solution to the issue of ineffective paintball facility cleaning methods, specifically focusing on an indoor paintball facility close to the University of Toronto: Sargent Splatters. As the largest indoor Paintball facility in Canada, with over 35,000 square feet of walls, Sgt. Splatters faces a great challenge when it comes down to keeping their field clean. The greatest challenge, commonly shared between all other paintballing facilities, is removing accumulated paint gunks from the walls without compromising the cleanliness of the sand [4-7].

Currently, a manual scrape-down of the walls with a metal hand scraper is the primary cleaning method. It involves heavy physical labor, is time-consuming, and requires the shutdown of the facility for an entire week. Since the primary stakeholders of this opportunity consist of the staff members, customers and owner of Sgt. Splatters, as well as the facility building itself, these issues affect all of them. As well, given that Sgt. Splatter prioritizes customer safety, their field is incorporated with a sand-based ground to soften the impact of falls, thereby preventing possible injury. Although this feature is popular among many other paintball facilities, and effective in achieving its objective, it greatly complicates the cleaning process. As referred to by the Sgt. Splatters Manager, an ideal solution should reduce closure time, optimize revenue, and consider the cleanliness of the sand. A further read into this RFP will outline specifics to the necessary requirements in the development of a feasible solution [4-6, Appendix B].

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## 1. The Challenges of Removing Paint after a Game

Sgt. Splatters Paintball Facility currently utilizes lengthy and inefficient cleaning methods for removing the painting from the walls. This translates to a defective distribution of resources, which ultimately impacts the profit for the company. As explained by Sgt. Splatters Manager, current cleaning methods involve a metal hand-scraper used by staff members, which requires the closing of the facility for an entire week. [Appendix B]

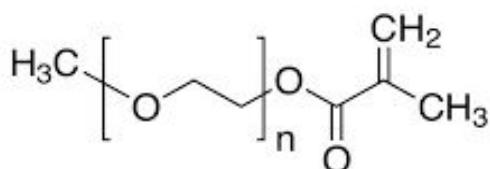
This Request for Proposal (RFP) aims to provide detailed information on the opportunity that arises from improving current cleaning methods at Sgt. Splatters. As well, it outlines the necessary background information for a design, along with the requirements that must be considered when addressing this opportunity.

## 2. Understanding Sgt. Splatters

Sgt. Splatters is an indoor paintball field that was established in 1992. The current owner of the facility is Deep Patel. He already owned several other paintball fields before acquiring Sgt. Splatters on August 2, 2014. They cater to a variety of people, as they offer packages for cases like bachelor parties and corporate groups, though the participants are predominantly male. They offer rentals and cheaper prices for those who bring their own equipment, but only allow the use of their own paintballs on the field. [4-7, Appendix B]

### 2.1 Paintball Pellet Properties

Paintballs pellets have two main components: a shell and a filling. The shell is made of a gelatin capsule, while the filling is made primarily with a Polyethylene glycol (PEG) filling.



PEG ( $C_{2n}H_{4n+2}O_{n+1}$ ) is a non-skin irritating, water-soluble polymer, biodegradable, with low toxicity and a freezing point of -15 degrees Celsius. [Add cite] They are hydrophilic molecules, meaning they dissolve easily in water. However, it is also soluble in methanol, ethanol, acetonitrile, benzene and dichloromethane. [12-15]

Figure 2: PEG's chemical formula.

## 2.2 The Field

Sgt. Splatters claims to be the biggest indoor field in Canada, with over 35,000 feet square of building walls, as outlined in Figure X:

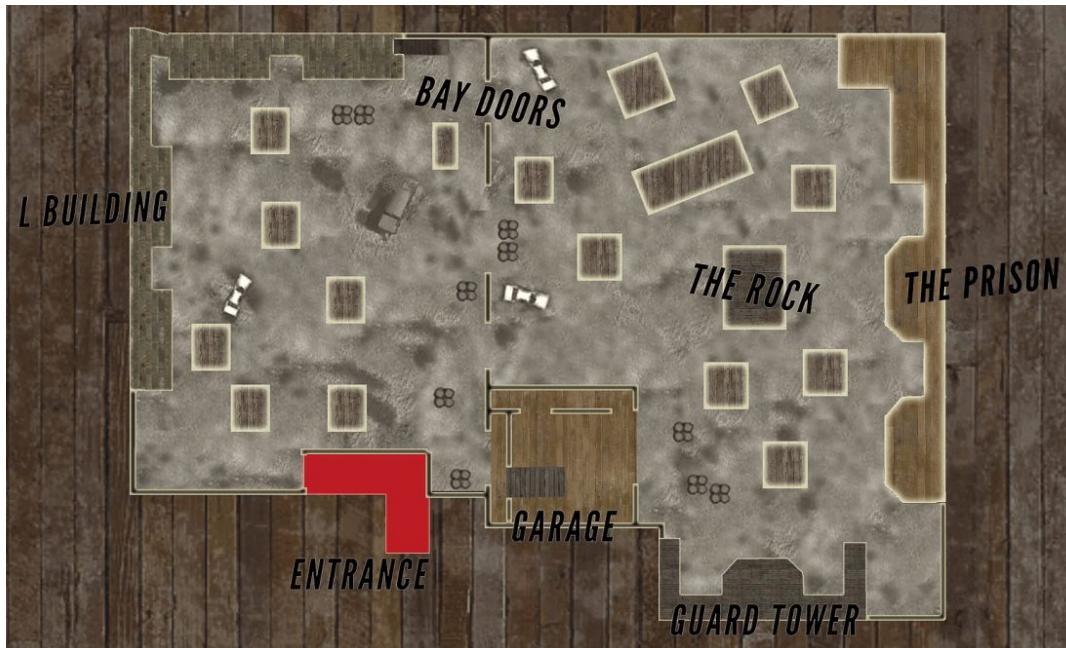


Figure 3: Elevation view of Paintball Field. The thin line that cuts through “BAY DOORS” are the walls that hold back the sand from the right field, which has a higher elevation.

Passing the Bay Doors and Garage, the field is divided into two different elevations. From the Bay Doors to The Prison, the elevation is higher by 1.5 meters than that of the L Building to the Bay Doors.

All buildings in contact with a facility wall (L Building, The Prison, Garage and Guard Tower) have two floors, and windows. The only other building with two floors is The Rock.



*Figure 4: Picture of The L Building*



*Figure 5: Picture of The Prison*



*Figure 6: Pictures of the Field*

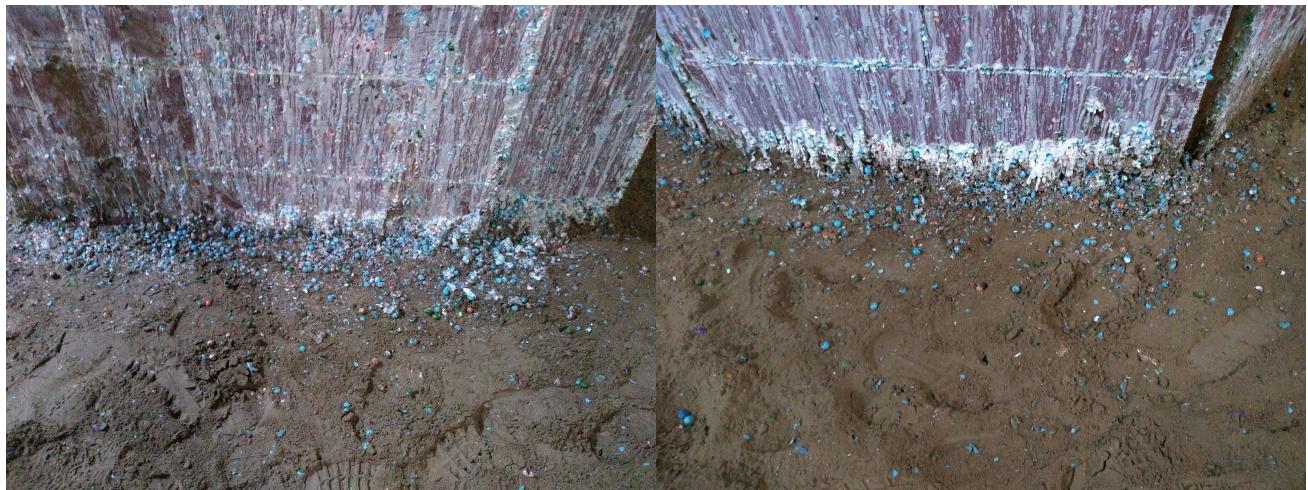
The floor of the field is covered by sand. As explained by the manager and members of the staff, this was a choice of the owner given a preference of customers.[4-6, Appendix B] “Sand absorbs the impact when people fall or jump from one elevation to other. It prevents injuries, and players like it”, as explained by one of the staff members. During our interviews, staff members repeatedly emphasized how the sand was one of the major components of the field and, hence, one of the most important to the facility. Preserving a dry sand for players is a key priority of the facility, since it allows for a better and much more comfortable flow of game. [4-5, Appendix B]

### 2.3 The Aftermath of Fun: Cleaning the Field

After two months, the field must undergo a full cleaning procedure. This process involves:

1. Scraping the paint from the walls of every building. This is done with a metal hand-scraper.
2. Removing paint debris that accumulates at the edges between buildings and the sand floor [As shown in Figure 7].
3. Gathering debris and put it into cardboard boxes so that it can be later disposed and recycled.
4. Changing the sand and power washing the facility (only done every two years due to cost).

According to the Sgt. Splatters Manager, this process requires the facility to close for a whole week to customers. During that week, staff members hand-scrape the entire field. [4-5, Appendix B]



*Figure 7: Painting Debris (gunk) accumulating between the Edge of Buildings and Sand*

### **2.3.1 Current Cleaning Methods**

The preferred cleaning method up to now, has been metal hand-scrappers since they are able to remove the paint without being damaged or needing constant replacement.

As explained by staff members, Sgt. Splatters has around 6 scrapers. All of which have not required replacement in the past 3 years.

While scraping the walls, the pellets and paint is collected and recycled. This is done to assure that the sand is kept clean, dry, and gunk free.

However, this is a lengthy process, which involves considerable physical activity from staff members. Therefore, the facility is interested in looking for a more efficient method. [4-6, Appendix B]

### **2.4 Improving Paint-Removal Mechanisms**

There have been previous attempts to improving the cleaning method for the facility, however, none were found to be effective. As explained by Sgt. Splatters staff, those methods either required constant replacement or involved procedures that would get the sand wet and gunky. For these reasons, metal scrapers have been preferred. Nonetheless, staff members explain that this procedure requires a lot of man work; and a more efficient method would be preferred by them and the owner. [4-5]

In addition to the physical labor involved in the process, the facility must close for an entire week when a full cleanse of the field happens.

During said week, employees attend work under regular hours. However, the facility experiences revenue losses. A more efficient cleaning method would specifically reduce the time the facility would have to close and, consequently, decrease revenue losses. [4-5, Appendix B]

## **3. Stakeholders**

In this section, the primary and secondary stakeholders affected by this opportunity are expanded upon. Stakeholders are listed and described in order of decreasing importance. By our definition, primary stakeholders are those directly impacted by the problem while secondary stakeholders are those indirectly impacted.<sup>1</sup>

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<sup>1</sup> Direct defined as: “without intervening factors or intermediaries.”

### **3.1 Primary Stakeholders**

#### **3.1.1 Staff at Sgt. Splatters**

The staff at Sgt. Splatters are the workers performing daily cleaning procedures. They are directly affected by the comfort and ease of the cleaning method as they are the ones implementing it. The time spent cleaning impacts them, through feelings of tiredness and increase in hourly salary earned.

#### **3.1.2 Players at Sgt. Splatters**

Any individual that makes the decision to participate in paintballing at Sgt. Splatters is directly impacted. Their presence within the facility causes them to be affected by anything that happens in the surroundings. Specifically, as they play, the cleanliness of the field and sand directly impacts them through contaminating their outerwear. As well, the aesthetics and comfort caused by cleanliness of the facility impacts players' moods, or mental health, as well as future decisions to return or recommend to others. Furthermore, player physical health can be affected if the facility lacks hazard prevention or safety features.

#### **3.1.3 Owner of Location: Deep Patel**

Money flows in and out of the owner as he is the individual investing in the finances of the facility. Any money earned or spent comes from him. Any change to Sgt. Splatters would affect the business and thereby affect the owner. He has given permission to attempt this challenge, and will expect results.

#### **3.1.4 Sgt Splatters Facility Building**

The facility is being directly affected by the solution, whether it is being cleaned in a different manner, or physical alterations made directly to the building. As well, the new reputation of the facility is affected, such as an increase in reputation due to improvement in cleanliness, or the opposite, if the implementation does not fulfill requirements.

### **3.2 Secondary Stakeholders**

#### **3.2.1 Current and Future Student Design Team**

The current design team has the task of framing the opportunity and providing a solution. They are the individuals making engineering decisions and performing engineering design in response to the problem. As a result, the opportunity and problem directly impacts the current design team. Additionally, however, any possible design team revisiting this problem in the future is affected. Both the current situation at Sgt. Splatters and the resulting situation after the current design team implements a solution design will impact the route at which the future design team approaches the problem.

### **3.2.2 Teaching Staff**

Every member of the Praxis II teaching team is affected, as they are overlooking the current student design team. Since the current student design team represents the reputation of Engineering Science students at the University of Toronto, the teaching staff instructing the students is affected too. Any large decision made by the student teaching team is held within guidelines and constraints produced by the teaching team. If there was a failure to meet these constraints and a resulting consequence occurs between the community and the student design team, the teaching staff end up becoming involved.

### **3.2.3 Other Paintballing Establishments**

The design for a new paint-removal cleaning method could be further expanded and applied to other Paintballing Establishments that experience a similar challenges. Likewise, this could help them prevent revenue losses, or develop a more cost-effective process according to their needs.

## **4. Requirements**

With the purpose of addressing a high level objective of increasing the efficiency of paint-removal methods, a comprehensive description of the requirements for this opportunity is provided below.

### **4.1 Objectives**

#### **4.1.1 High Level Objectives**

Design an alternative that will increase the efficiency of the cleaning methods required to remove dry paint from the walls<sup>2</sup>.

#### **4.1.2 Detailed Objectives**

The following detailed objectives endeavour to address specific stakeholder needs:

1. Increase efficiency of cleaning methods by reducing the amount of time and/or man hours.
2. Maximize cost-effectiveness of the overall process.
3. Improve customer experience, particularly with regards to the cleanliness of the field.

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<sup>2</sup> Symbols referring to link between requirements will be as follows: [requirement initials #]. Where HO refers to High Level Objective, DO Detailed Objectives, M metrics followed by the corresponding number. E.g [DO 2] would allude to Detailed Objective 2.

This will show how requirements were derived from one another.

## 4.2 Metrics, Constraints, Criteria

### 4.2.1 Metrics

1. Measure time effectiveness of the solution. It is checked by the amount of time it takes to clean each building either by timing each building or taking the total time and averaging the time per building. [DO 1] [DO 2]
2. Measure cost effectiveness of the solution. It will be expressed in terms of the time it takes to begin saving money or producing more revenue after implementing the solution. [DO 2]
3. Check the usability of the solution. Done by recording the time required to train staff to become well accustomed with the new solution and start implementing it. [DO 1] [DO 2] [DO 3]
4. Check the quality of the sand. This will be done after using the new alternative and compare it to the quality of the sand after using the original cleaning method. Good sand quality is defined as having a texture most suitable for running and having as little paint in it as possible. [DO 3]

Quality will be checked through the combination of a qualitative and quantitative test, as described below.

#### *Qualitative Test*

Measured by feelings of experienced players after running through the path marked in red. form across of playing on the sand after using the alternative to using the original method the dirtiness of the sand and by a group of more experienced players comparing.



*Figure 8: Path for experienced players to run through for the sand feeling quality test. The yellow part is a repeat in path that the players have already run through, so it can be neglected.*

### Quantitative Test

This test is similar to the Marlin Beach Litter Measurement Test [16]. It will be performed as follows:

1. Recollect different sand samples from the edge between buildings and the sand-floor after<sup>3</sup> a) the facility was cleaned with the metal hand-scrappers and b) after the facility is cleaned with the proposed solution
2. Weigh both samples
3. Wash both samples to remove any paint debris or gunk that may remain in them
4. Weight both samples again. The sample that has the most similar weight before and after removing the paint debris, will be considered the most effective<sup>4</sup>.

[Figure 7, 4-5]

#### 4.2.2 Constraints

- Solution must not impede the usability of the facility, such as structures and obstacles [DO3] [M 3] [M 4]
- Solution must not result in worse quality sand [DO 3] [M 3] [M 4]
- Solution must comply with the regulations by which the facility runs. [DO 1] [DO 3] [M 3] [7]

#### 4.2.3 Criteria Rubrics and Curves

	Satisfactory	Good	Outstanding
Time it takes to clean. (1)	The alternative does not reduce the time by a significant amount meaning it takes within five minutes of the normal amount.	The alternative reduces the time of cleaning to be approximately half of the time	The alternative reduces the total time to clean to average less than ten minutes per building.

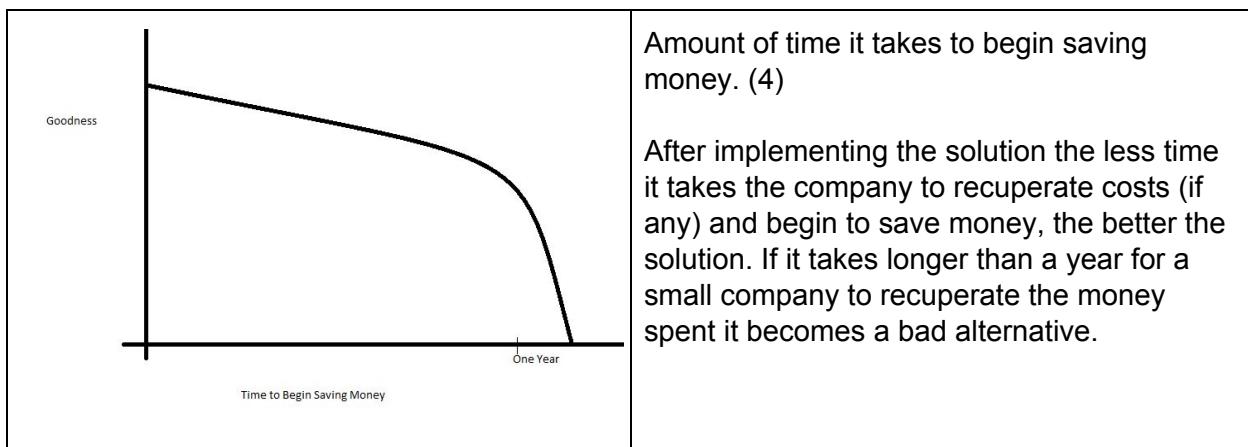
<sup>3</sup> This is the area of major concern for primary stakeholders, since the gunks form from the paint dripping and accumulating at the edges. If the gunks gain considerable size, the sand acquires a texture that unsettles players. Sgt. Splatters staff have constantly mentioned that players' satisfaction is one of their main objectives; therefore, the quality of the sand is primordial. [Figure 7, 4-5]

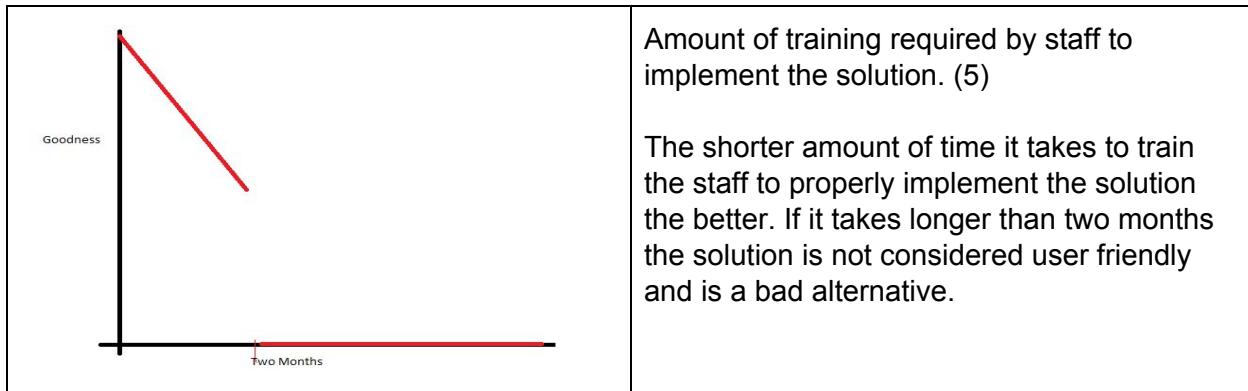
<sup>4</sup> Effective used in the context of: The most effective cleaning method will be better at preventing gunk from accumulating at the edge between buildings and the sand-floor. Therefore, after the residue paint is fully removed from the samples, the one whose weight remains the most similar, will indicate that less paint dripped to the floor and accumulated.

		it takes to clean each building.	
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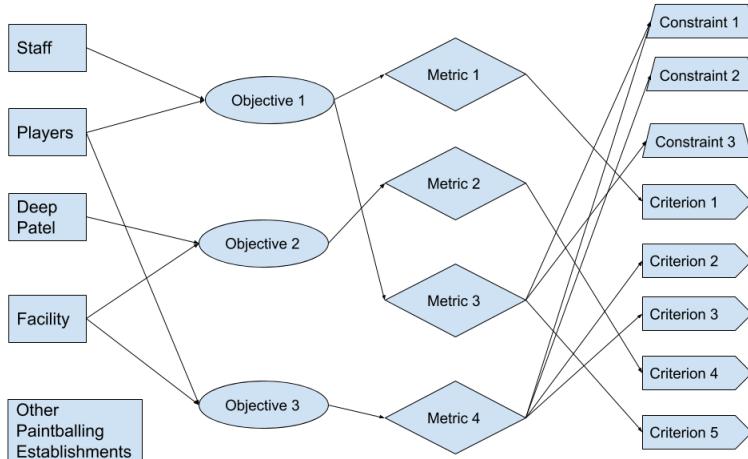
Quality of the sand: Qualitative Test (2)	Unacceptable	Satisfactory	Outstanding
Feelings from experience players	The alternative causes the quality of the sand to be noticeably worse than when cleaning with the original method. Meaning the sand is dirtier than before and has a worse feeling when playing on.	The alternative causes the quality of the sand to stay the same as when using the original cleaning method. Players do not feel a difference when playing on the field.	The alternative improves the quality of the sand and players feel a noticeable positive difference when playing on the field.

Quality of the sand: Quantitative Test (3)	Unacceptable	Satisfactory	Outstanding
Sand composition compared to new packaging of sand	The amount of paint weighed after using the alternative increased by at least 15% when compared to using the current cleaning method.	The amount of paint weighed after using the alternative is within +/-15% when compared to the current cleaning method.	The amount of paint weighed after using the alternative decreased by at least 15% when compared to the current cleaning method.





#### 4.2.4 Visual Representation of Requirements and Stakeholders



*Figure 9: Representation of link between requirements*

### 5. Reference Designs: How has paint been removed before?

#### 5.1 Sand rotator (Sand Sifter: Barber Sand Man)

One option that they have tried in the past is similar to a walk-behind sand sifter. This machine picks up sand as the user walks around and sifts the sand to remove debris. It is able to clean sand well in many conditions but it has no effect with cleaning the walls. When asked about other methods they have tried in the past



they mentioned that they had used a machine to rotate and pick up the debris from the sand, but the manager at Sgt. Splatters said “it never really worked, it was a lot more of a hassle” [4]. This led them to going back to only using the scrapers on the walls of the facility. [8]

## 5.2 Power washing

Power washing the facility is another alternative that can be used to clean the facility. Since it uses pressurized water, combined with the force it exerts and water's chemical properties, it is effective when washing the hydrophilic paint. The issue with power washing is that the water ruins the sand in the facility, so each power washing process must be accompanied by a full sand replacement. As a result, this process becomes more timely and costly than the power washing alone. Sgt. Splatters currently uses this method once every few years to completely clean the facility and replace the sand. [10]



## 5.3 Metal Scraper

The blade is made with flexible steel for durability, while the handle is usually a type of strong plastic for durability. The staff that are cleaning the facility are each provided with a scraper and a box. They go around to each building, use the scraper to remove paint and paintball capsules from the wall, and collect everything into the wooden box. This was the most effective method they currently discovered. However, the issues with this design is that it takes over 20 minutes to clean each small building. To clean the entire facility, they must close Sgt. Splatters for a week, meaning potential revenue loss. The solution also does not address the cleanliness of the sand, resulting in accidental paint dripping in the process of cleaning. This solution also requires hours of manual labour [9].



## 6. Conclusion

The challenge that Sgt. Splatters faces when cleaning the paint off their field has had significant impact on their community. It is hard to appreciate a field that was designed to have “the look and feel of your favorite action film or first-person-shooter game” when there is gunk accumulating on all of their walls. The facility staff have already attempted other methods, but nothing has satisfied their criteria better than the hand scrape, which still costs a week of revenue to complete. As such, attempting to solve this challenge through an innovative engineering design will go a long way in helping the Sgt. Splatters paintball community.

## 7. Appendix A: References and Source Extracts

- [1] T. Gase, "Paintball's popularity continues to spread | www.simivalleyacorn.com | Simi Valley Acorn," 26-Nov-2010. [Online]. Available: <https://web.archive.org/web/20101126150440/http://www.simivalleyacorn.com/news/2006-07-07/Sports/020.html>. [Accessed: 17-Feb-2019].

Paintball's popularity continues to spread

2006-07-07 / Sports

By Thomas Gase [tgase@theacorn.com](mailto:tgase@theacorn.com)

 SHARPSHOOTER-Samuel Prieto, 19, Lance Corporal of Marine Aircraft Wing 39 from Camp Pendleton, is under heavy paintball attack and attempts to return fire during a game last Saturday at Simi Valley Paintball USA. The sport continues to grow, and has been a fixture of late on ESPN.

SHARPSHOOTER-Samuel Prieto, 19, Lance Corporal of Marine Aircraft Wing 39 from Camp Pendleton, is under heavy paintball attack and attempts to return fire during a game last Saturday at Simi Valley Paintball USA. The sport continues to grow, and has been a fixture of late on ESPN. In 1986, Mike Schwartz went to Six Flags Magic Mountain to try an unknown sport with his friends. The mysterious sport was paintball, and thanks to Schwartz, hundreds of people in Simi Valley and Moorpark are now playing it on a regular basis.

- [2] IBISWorld, "Paintball Fields in the US. Industry Market Research Reports, Trends, Statistics, Data, Forecasts," Sep-2018. [Online]. Available: <https://www.ibisworld.com/industry-trends/specialized-market-research-reports/consumer-goods-services/sports-recreation/paintball-fields.html>. [Accessed: 17-Feb-2019].





- [3] K. Greenberg, "Sporting Goods Group Dissects Team Sports," 11-Sep-2009. [Online]. Available:

<https://www.mediapost.com/publications/article/113363/sporting-goods-group-dissects-team-sports.html>. [Accessed: 17-Feb-2019].



In fact, said SGMA President Tom Cove in a release, the economy is doing the most damage to team-sport participation. "Frankly, many families have not been able to afford to pay the basic fees for their children to play in local recreational sports programs or to play on some travel teams," he says -- adding that attrition from traditional sports is also due to the growing popularity of developing sports like lacrosse, rugby, paintball, and ultimate Frisbee, which are attracting athletes who used to play traditional sports like football, basketball, and baseball.

- [4] A. Diaz Lozano Patino, *Interview with Sargent Splatters Staff*. 54 Wingold Avenue. Toronto, Ontario, 2019.

- [5] A. Alvear, *Interview with Sargent Splatters Manager*. 54 Wingold Avenue. Toronto, Ontario, 2019.

- [6] A. Alvear, "Field Notes at Sgt. Splatters." 26-Jan-2019.

- [7] "Sgt. Splatter's Project Paintball | Largest Indoor Paintball Toronto." [Online]. Available: <https://www.sgtssplatters.com/>. [Accessed: 17-Feb-2019].



**Toronto's Largest Indoor Paintball Field**

35,000 ft, 2 two-story urban war zone of buildings and abandoned vehicles!

BROWSE PACKAGES



## Sgt Splatters Paintball Rules

All players must understand and adhere to these rules to preserve safety and fun for everyone.

### **Sgt. Splatters Rules**

1. Always wear approved goggles at shooting range and in or near playing field (AT ALL TIMES). Not adhering to this rule is cause for immediate dismissal from the game.
2. Never shoot at anyone who is not wearing approved eye protection.
3. A player is emphatically disallowed from shooting at any other player showing a neutrality symbol, any non-player, any judge, or any referee.
4. No player may shoot at any person or object outside the perimeter of the playing field. Please keep your finger away from the trigger when outside of the playing area. Areas outside of the playing area is referred to as the safety area.
5. Observe all safety rules applicable to firearms when handling paintball guns or other gas powered devices capable of launching projectiles.
6. Never shoot anything from a paint gun except the water-soluble paintballs, which must be purchased as Sgt.Splatter's only.
7. Firearms and explosives are strictly forbidden.
8. No physical confrontation between players, i.e. hand-to-hand combat, taking prisoners, etc. is permitted.
9. Consumption of alcohol or drugs on the premises or in the parking area is strictly prohibited.
10. National, regional, and local laws apply.
11. Paintball markers or other gas-powered devices used in paintball games must not have a paintball or other projectile chambered while in the staging area.
12. Never look down the barrel of a gun. Ask the staff to clean your gun for you.
13. Barrel plugs must ALWAYS be in the gun if you are not playing on the field.

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- 11. Paintball markers or other gas-powered devices used in paintball games must not have a paintball or other projectile chambered while in the staging area.
- 12. Never look down the barrel of a gun. Ask the staff to clean your gun for you.
- 13. Barrel plugs must ALWAYS be in the gun if you are not playing on the field.
- 14. Please be aware that bruising and or welts are a possibility. They are an expected result of playing paintball.

*Please Note:*

*A waiver must be read and signed before the participant is allowed to take part in any paintball event.*

HOME > INFO > WAIVERS

## Do I need to sign a waiver?

Yes, every individual that is going to play has to sign a waiver. If you are a minor (under 18), please have a waiver signed from your parents/guardians. Either you can go sign a Online Waiver or download a PDF Waiver and get it signed. We do have Online Waiver signing system at our facility as well. Please click the link below to save time and sign an Online Waiver now:

[ONLINE WAIVER](#)

[PDF WAIVER](#)

[8] “Walk Behind Beach Sand Cleaner: Barber SAND MAN.” [Online]. Available: <http://www.hbarber.com/Cleaners/SandMan/Default.html>. [Accessed: 17-Feb-2019].

The SAND MAN is a light-weight, easily maneuverable, walk behind sand sifter. The sieving unit is compact enough to be transported in the bed of a pickup truck and lightweight enough to be unloaded by one person. Independent brakes on each wheel and a differential lock, which assists in soft sand conditions, aid maneuverability.

The walk behind sand sifter is propelled by high flotation rubber tires, which provide excellent traction in sand but will not harm grass or paved surfaces. The SAND MAN is powered by a reliable, noise restricted, 5.5HP HONDA gasoline engine.

The SAND MAN sand sifter elevates the sand and utilizes a sifting screen to sieve the debris. The debris is then deposited into the collector. There are three interchangeable screens with mesh sizes of 3/16", 3/8" & 1/2". Different sieve size is determined by the application. The sand sifter's smaller mesh is used for ultra fine cleaning and the larger mesh allows for deeper cleaning and rapid sifting speed in wet sand. The operator, while the machine is in use, can easily adjust the cleaning depth, from 0-4".

The 5.3 gallon (20 liter) collector can be easily emptied into either of the on-board storage hoppers for a total capacity of 14 gallons (54 liters).



[9] “A. Richard Tools 4-in Screw Bit Taping Knife with Plastic Handle | Lowe’s Canada.” [Online]. Available: [https://www.lowes.ca/putty-knives/a-richard-tools-4-in-screw-bit-taping-knife-with-plastic-handle\\_g1589261.html](https://www.lowes.ca/putty-knives/a-richard-tools-4-in-screw-bit-taping-knife-with-plastic-handle_g1589261.html). [Accessed: 17-Feb-2019].



4-in Screw Bit Taping Knife with Plastic Handle

- Flexible high-carbon steel blade
- Screw, spread and tapes drywall joints

Materials: Steel, Plastic

[10] “Costco Wholesale.” [Online]. Available: <https://www.costco.ca/Powerplay-2030-PSI-Spyder-Pressure-Washer-with-4-wheel-Steering-with-High-Pressure-Foam-Cannon.product.100470578.html>. [Accessed: 17-Feb-2019].



- [11] “Getting into the sport of paintball,” 30-Mar-2018. [Online]. Available: <http://www.defconpaintball.com/getting-into-the-sport-of-paintball>. [Accessed: 17-Feb-2019].
- [12] Gregory, “What Are Paintballs Made Of? - Paintball & Airsoft | Paintimpact!,” *Paintball & Airsoft | Paintimpact!*, 15-Feb-2017. [Online]. Available: <https://paintimpact.com/what-are-paintballs-made-of/>. [Accessed: 02-Feb-2019].

#### WHAT IS THE FILL MADE OF?

The fill is the liquid contained within the inside of the paintball.

The consistency of these is much more varied than the shell, which is pretty much invariably gelatin. **Most modern paintballs are made using water-soluble dyes contained within polyethylene glycol.**

PEG freezes at a lower temperature than water as well, something like -15°C which makes the myth of “frozen paintballs” maiming someone a lot less likely than they appear on the surface.

While it’s possible that some of the earliest paintballs around could be frozen, modern ones are much more likely to deform and shrink and just gum up your barrel rather than turning into a deadly projectile.

In addition to the PEG fill, there are also some very cheap variants which use an oil based fill. There’s not a lot to be recommended for them, so you should avoid them if at all possible.

**The oil-based fill is hard on equipment, makes it harder to wash off of clothing and other wearable gear, and it can have an effect on the local environment.**  
These cheap variants are why a lot of fields will require you to buy your paint there instead of allowing you to bring your own.

## ARE PAINTBALLS TOXIC?

For the most part, you'll find that paintballs are completely non-toxic. You don't need to worry if you get a splatter in your mouth during a match or anything, and they're made entirely of food-grade materials so even eating one isn't going to do much harm.

Eating a bunch of them is ill-advised, as you're likely to suffer a laxative effect. This is the main reason that you should always keep them away from children. The "chewy" texture and bright colors can make them attractive.

There is one area where you should take care, however. **Paintballs can be very toxic for dogs and cats.** They are "osmotically active" which means they'll pull water from the intestinal tract and can cause severe imbalances in electrolytes.

This can prove fatal. If your dog or cat has ingested paintballs, it's best to seek veterinary treatment immediately.

- [13] "How Does it work? FAQ | Sgt. Splatter's Project Paintball." [Online]. Available: <https://www.sgtspatters.com/faq>. [Accessed: 02-Feb-2019].
- [14] "Physical Properties of Poly(ethylene glycol) (PEG)-Based Resins for Combinatorial Solid Phase Organic Chemistry: A Comparison of PEG-Cross-Linked and PEG-Grafted Resins - ACS Combinatorial Science (ACS Publications)." [Online]. Available: <https://pubs.acs.org/doi/10.1021/cc990048c>. [Accessed: 02-Feb-2019].



Three series of poly(ethylene glycol) (PEG)-based polymers were synthesized and characterized with respect to their physical properties. Polyoxyethylene-polyoxypropylene (POEPOP), polyoxyethylene-polyoxetane (SPOCC), and polyoxyethylene-polystyrene (POEPS-3) were synthesized respectively by anion polymerization, cation polymerization, and radical polymerization. Both bulk and suspension modes were used to synthesize the polymers from derivatized PEG monomers (PEG 400, PEG 900, and PEG 1500). The three supports were compared with two commercially available PEG-grafted supports (TentaGel S OH, ArgoGel-OH) and two polystyrene supports (aminomethylated polystyrene [ $\text{PS-NH}_2$ ] and macroporous aminomethylated polystyrene [PLAMS]) with respect to their swelling properties, loading, NMR spectral quality, as well as solvent and reagent accessibility. Loadings of 0.3–0.7 mmol/g were obtained for the PEG-based resins. Swelling of the PEG-based resins was determined to be higher than that of the PEG-grafted resins and polystyrene supports. The PEG-based resins gave better resolved high-resolution NMR spectra than the PEG-grafted resins when examined by magic angle spinning nanoprobe (MAS) NMR spectroscopy. Moreover, fluorescence quenching of polymer bound 2-amino-benzoate by protonation with *p*-toluenesulfonic acid showed moderate to fast diffusion through the polymer depending on the solvent and the polymer matrix.

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- [15] "What Is Polyethylene Glycol? | Sciencing." [Online]. Available: <https://sciencing.com/polyethylene-glycol-2507.html>. [Accessed: 02-Feb-2019].

Polyethylene glycol (PEG) is made from ethylene glycol (ethane-1,2-diol), the main ingredient in antifreeze. When ethylene glycol (molecular weight, 62.07) polymerizes, reacts with itself (in water), the reaction yields a variety of products containing varying numbers of ethylene glycol units. These products are all called PEGs. The general molecular formula for PEG is  $H(OCH_2CH_2)_nOH$ , where  $n$  represents the number of ethylene glycol units contained in the PEG polymer. PEGs have many industrial, food and pharmaceutical uses.

## Types of PEGs

The molecular weights of PEGs are determined by the number of ethylene glycol units incorporated into each PEG polymer and vary from 300 grams per mole to 10,000,000 grams per mole. The molecular weight in turn determines the characteristics of each type or category of PEG. Low molecular weight PEGs, containing two-to-four ethylene glycol units per polymer, are clear, watery liquids. PEGs containing up to 700 ethylene glycol units per polymeric product are clear, thick liquids. PEGs having 1,000 or more ethylene glycol units per polymeric product are waxy solids.

## Characteristics of PEGs

PEGs are non-toxic, odorless, colorless, nonirritating and do not evaporate easily. PEGs are considered inert (they do not react with other materials), and they are nontoxic. PEGs are soluble in many organic solvents. All PEGs readily dissolve in water and do not change the color, odor or taste of the water.

## Medical Uses of PEGs

The characteristics of PEGs make them excellent materials for use in the pharmaceutical industry. PEGs are used as lubricants and are employed in a variety of pharmaceutical products as solvents, dispensing agents, ointments, delivery liquids for medications, fillers for tablets, as suppository bases, in ophthalmic solutions and as a treatment for constipation. PEGs are also used in veterinary products.

## Industrial Uses of PEGs

In manufacturing processes, PEGs are used as water-based coatings, anti-dusting agents in agricultural products, brighteners in electroplating, cleaners and detergents, moisturizers in cosmetic products, dye carriers for paints and inks, packaging products, non-stick agents for molded products, color stabilizers for paper, ceramics manufacture, a softener and anti-static agent in textile manufacture and in soldering fluxes.

## Oral Health Uses of PEGs

PEGs, in combination with other products, are used in toothpastes, breath fresheners and mouthwashes, including anti-plaque and antiseptic mouth rinses. PEGs are used to keep all ingredients in solution and to increase the shelf-life and stability of the products.

[16] Central Baltic Interreg IV A Programme, “Beach Litter Measurement Method

Description.” [Online]. Available:

[https://www.hsr.se/sites/default/files/appendix1\\_measurement\\_method.pdf](https://www.hsr.se/sites/default/files/appendix1_measurement_method.pdf) [Accessed: 14-Feb-2019].

- For Measurement Area 1 & 2, the work group (at least four persons) count and pick up litter at the rear edge of the beach and the shoreline (see diagram 8).
- The work group is divided up into smaller groups of two persons each, whereby one measures the other person makes notes in the relevant protocol(s). The person making the protocol should be behind the person counting the litter to ensure that no litter is missed. If an item of litter is spotted by the person keeping the protocol, that item of litter should also be collected ar

Set up a measuring tape between point C and D, and place a peg in the middle to mark the finishing point. You should also mark point C and D with pegs.

The distance between the starting point and the finishing point should be 100 metres, and the angle between the starting point line and the finishing point line, in other words between A & B and C & D, should be 90 degrees.

Set out pegs (E and F) to mark the waterline and the rear edge of the beach, ten metres from point A and B. You should then affix a length of string between these pegs. The angle between this length of string and the aforementioned 100 metre long length of string should be 90°. This area represents Measurement Area 1.

Determine the coordinates of the four corners for Measurement Area 2 (A-D) as well as for the points E and F with the help of GPS, and note these coordinates in the protocol. You should also mark these points on the map and document them by way of photo to make it easier to find the same points when performing future measurements. Calculate the average width and the area for Measurement Area 1, and record this information in protocol BC02:1.

METHOD 1: Calculate the area of the measurement area ( $m^2$ ) by measuring the distance between A-B and E-F. Calculate the average by dividing by two, and then multiply the result by 10 m (see diagram 4).

METHOD 2: Calculate the area with the help of GPS (please consult with MARLIN beforehand).

Calculate the area for Measurement Area 2 and record it in protocol BC02:1.

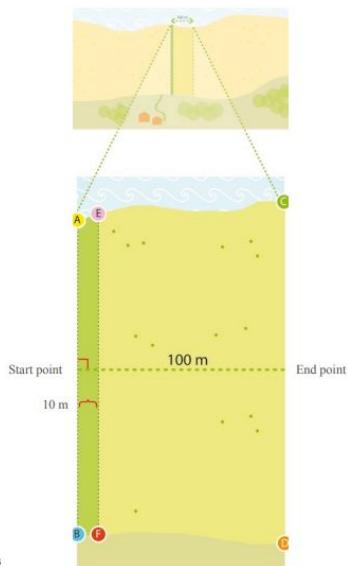


Diagram 3

## 8. Appendix B: Field Notes

## **PART 1, Summary:**

When deciding on which community to select for field notes, I wanted to pick something fun for my peers to work with, which led to selection of a paintball facility. I began researching paintball facilities in Toronto, and came upon Sgt. Splatters, located near Dufferin and Glencairn. It was accessible by TTC and was one of the closest to the downtown campus, so geographically it was the ideal choice. Upon researching, I found out that they had the largest indoor paintball field in Canada (which was also designed by a Hollywood set designer) (2), reservation booking for specific groups such as corporate parties and birthdays, and a set of specific rules such as using only their (water soluble) field paint and only using semi-automatic markers (3). I sent an email on January 24 to their general contact requesting for a visitation and recorded, and got a reply back within 2 hours by Deep, who I assumed to be one of their tech people due to only offering his first name. He agreed to let me visit on January 26, my preferred day of contact but did not specify the time, instead leaving his phone number to call if I had any questions (1). I interpreted it as a test to check if I was serious about my intentions and attempted to give a call the following day, but due to scheduling conflict (ESEC) we were unable to have a conversation, so I sent him a message that I would call early on the day of my visitation to confirm a good time. I asked to visit at 3, and he agreed , but stated that someone else named Bob would be my point of contact.

I arrived on location on time, noticing a severe barrier to entry for the disabled in the form of a set of steep stairs leading to the only entrance. When I asked for Bob, the staff said he was supposed to be there, but was running late. I was told to wait, and I observed for a while until Bob arrived and was directed to me (4). He gave me the business card for Deep, who was actually the owner of the establishment. Bob agreed to give a tour of the place and a recorded interview, but for the tour there was hardly any movement as the space I was permitted to walk in without any equipment was less than the size of a 2 story house. Upon entering the facility, on the left there is the proshop and on the right washrooms. If you head in there is the preparation area, where people put on and have maintenance done on their equipment. There are stairs leading up to the second floor where there were only tables and lockers. Bob gave me a tour of most of the facility from the preparation area, and we had the recorded conversation in the proshop, as that appeared to be the only quiet area. During the conversation I noticed there were some discrepancies between their website and what Bob said (i.e. full auto weapons were actually allowed) (3 for website, 6/7 for what Bob said).

"Sgt. Splatters has parent companies," said Bob, meaning there is an entire network of paintball facilities that they work with, but this facility has just the one indoor field. However everyone is included at all times, as according to Bob "what happens is since every game is anywhere from 8 to 10 minutes, we rotate, so if we have a party going on they play for 10 minutes, they come out and take a break and while they're taking a break our walk ons go in and play, and we switch." In terms of maintenance, "what happens in the field is, weekly basis we do scrape the buildings and the walls, but we have sand on the floor out there so changing that sand is every 2 to 3 years. Depends on how quickly it gets muddy outside, because it goes a little damp after a few years because you've been using it for so much long, there's a lot of people going out there breathing and all that so we do that same change when we do sand change we power wash the place." Bob also adds that they use hand scrapers (7).

## **PART 2, Interpretation:**

The first claim, which can be clearly observed, is that the facility is created and maintained to maximize profit. Their facilities are rather rudimentary but accomplish the purpose of providing a satisfactory paintballing experience. All their benches on the second floor, even for the group parties, are picnic benches commonly seen in parks. You can see the bare brick walls, and it appears there are motor fans that appear to be for cooling down in the summer, but the facility is comfortably warm. The paint on their tables appear to be chipping off, and the washrooms are comparable to those seen in some unkempt restaurants (5). But none of those are important in the paintballing experience, so they could remain unimproved. Their number of staff appears to be minimized; they have a row of tablets on a wall to fill out waivers, and all 4 members of the staff onsite were busy doing different tasks (6). It all appears as though the spending on the part of Sgt. Splatters is minimized yet they still attempt to provide a good experience so customers will return again (no limit on how long to play, 3). As Bob said, "usually we want them to be happy just cause we want them to come back and have fun again." (7)

Another claim is that paintballing and its operation are male dominated. All the staff members onsite were male, and I didn't notice until after the visit but not one of the customers going onto the field were female. The only females there were mothers/chaperones. I also noticed during my conversation with Bob that he used male pronouns over gender neutral pronouns in some scenarios (never a female pronoun), suggesting he generalized paintballers to be males (7).

A third claim is that the community is close. Bob knows when the pros are more likely to play, and he interrupted me before I finished my question multiple times but he interrupted with the kinds of responses I was looking for (which saved a lot of time), suggesting he was experienced with these scenarios (7). Deep, the owner, was the one who directed me to him instead of another staff member, which suggests that even the owner has a strong understanding of the capabilities of his underlings.

The most important claim is that their facility operates heavily on trust. While observing on the deck I noticed that the referee did not have a full view of the field and decided to ask Bob about that. However, he was busy running the shop all by himself. I considered asking another staff member and realized that all 4 of them were occupied; other than Bob, there was another refereeing and the remaining two were running the maintenance/rental/payment portion. It requires all these members to be fully competent in their tasks so there is no hole in the customer experience. When I finally got to Bob I asked him about the referee not being able to see the whole field, and he stated that if there were more people maybe they would use 2 referees but one is fine. He was unconcerned that not all the field was visible to the referee, and I think it is because he trusts the customers not to cause incidents (6). When I thought about it more and observed the games going on, it appeared paintballing itself is dependent on trust and following the rules, as each player has to admit that they were caught and head back to respawn zone or off the field; one referee cannot keep track of all interactions, so in essentiality the game is refereed mostly by the players. The referee is mostly there to fix issues with the equipment (6). Thus, trust between all members of the community is essential for operation of the facility, and so far there have been no serious breaches of it, for although he admits there are "absolutely" disobedient delinquents, "we've never had incidents where we've had to call 911" (7).

## **PART 3, Direct Evidence:**

### **1. Email Conversation with Deep (emphasis on response time).**

D deep@sgtsplatters.com <sarge@sgtsplatters.com> Reply all | v  
Thu 1/24, 2:38 PM  
Andreas Olivier Alvear ·

Hi Andreas

Yes we can help you with this.

Yes you can come on 26th January for your project.

Please give me a call if you have any questions. Deep 905 716 9150

Thank you

...

AA Andreas Olivier Alvear Reply all | v  
Thu 1/24, 1:10 PM

To whom it may concern,

I am Andreas, a first-year student at the Engineering Science program at the University of Toronto. I would like to inquire whether it would be possible to conduct a site visit during the coming weekend (January 26 or 27) during your operating hours. In our Praxis 102 class we are to complete a project which will culminate in student groups solving a problem or improving an aspect of communities within the GTA through an engineering means. The first part of this project requires each individual student to visit a different community and take field notes. I thought that a paintball community would be very fun for my peers to work with (in future ventures, should they occur), and I decided to approach this establishment first as it is one of the most conveniently located facilities for people based in our downtown campus to visit and is also "Canada's largest and best indoor paintball facility" according to your website. I also found it interesting that this facility offers 20 game modes and has an onsite shop; and I found the website for this facility the easiest to navigate.

### **2. Extract from: <https://www.sgtsplatters.com/indoor-paintball>**

**IF YOU'VE GOT THE GUTS, WE'VE GOT THE BALLS**  
**No One Knows Paintball Better Than Us!**

Sgt. Splatter's Toronto is Canada's largest and best indoor paintball facility ~ a 35,000 ft. 2 two-story urban war zone of buildings and abandoned vehicles in the heart of Toronto.  
Designed by a Hollywood set designer, it has the look and feel of your favorite action film or first-person-shooter game.

#### **Things we are proud to offer you**



##### **FRIENDLY STAFF**

We provide a fun and safe experience with a smile.  
Our family-like atmosphere has been keeping our customers returning since 1992.



##### **INCREDIBLE FACILITY**

Sgt. Splatters has been working tirelessly to constantly improve our field and keep the cleaned, largest paintball indoor in Toronto.



##### **SAFETY STANDARDS**

Safety is our number one priority at Sgt. Splatters. We have a strict set of rules and guidelines that we enforce to ensure a wonderful, safe experience.



##### **MULTIPLE EXPERIENCES**

You can select what type of game you want to play. We offer 20 different game scenarios. Choose your adventure.



### **3. Extract from: <https://www.sgtspatters.com/faq>**

#### **How long are we allowed to play?**

As a walk-on or reservations, you are allowed to play as much as you wish. The longer you play, more money we make on paintballs, lol! So play as long as you wish.

---

#### **Will we be playing by ourselves?**

If you are 10 players and have made a reservation with us, then you will be given private field time. If you do not have any reservation and are just walk-ons then will be mixed into a small group session with other players. You will be allowed to stay together on the same team as your friends, unless of course you prefer to be on opposite sides. The choice is yours.

---

#### **Can I bring and use my own equipment?**

Yes, but we will inspect your equipment to make sure it meets our safety standards:

All goggles must be full-face masks and be unaltered. There can be no cracks in the lenses at all. Paintball markers must be semi-automatic with a trigger guard. We do not allow full auto, double fire trigger systems (double triggers are ok), markers with ramping mode enabled, or burst mode. Any markers with full auto capability must be able to lock it down and not have the ability to quickly switch to full auto while on the field. If there is a question on if your marker can be used here, a Sgt. Splatters staff member will make it. The decision of Sgt. Splatters staff is final.

- Barrel socks are required on all paintball markers.
  - All CO2 or High Pressure tanks must be in test date. High-pressure fiber wrap tanks may not have any cracks or fraying and can't have any stickers, decals or other coverings on them.
  - We do not allow silencers; smoke grenades, paint mines or multiple paintball launchers.
  - Maximum velocity is 240 feet per second (FPS).
-

## 6. Field Notes taken at Sgt. Splatters during onsite visit on January 26, 2019

Ambrose Hines

Sat Jan 26  
~ 3:00PM

Notes: Chronological order

Neighborhood heading towards the location

- one lane road two ways
- empty no people
- warehouses
- 5 am only one was moving
- stairs relatively
- half filled but relatively large parking lot
- 60° of visibility no traffic

- Person I was supposed to talk to is later...
- I enter there appears to be a group of kids on their way out
- 3 vending machines
- lots of signs everywhere
- lower, hardly ~~any~~ walls
- Vending point
- bunch of tables
- found someone using a U of T, car seat as their paintball suit
- vending point
- bunch of houses
- = seems to be noisy

Skate

Hillary

Andrea Alvar

2nd floor  
Mtn View

give me, a business card of the person  
I spoke to

### Tan

#### Answers

- sign in
- go to front desk
- pay, get all gear - keeping in background
- put cascade on road
- safety rules
- send on field
  - one referee - explains - 8 - 10 min
  - W - 15 goes referee changes
  - 15 private car choose game
  - another staying area
  - benches upstairs - no foul lines here
  - party rooms
  - only one entrance and exit
  - special deal with pizza company, discounted price
- store is locked?
- can we go
- can we full auto - doesn't match website

Indonesian New Year

No resonance with a smile

- white pants

- lots of dust on the ground

Playing a game

- running

- running around holding batons

- when caught raise hand

- ~~black~~ white one appears to be  
repeating

- another group of children appear

- ~~black~~ hands

- when caught were scratch signs

- covered everywhere

- white hands

- lots of paintings on the walls / second  
floor

- only one

- cars race to cool down, don't know  
how to warm up, but it is pretty  
warm even in the winter

- children in sets walking around

- a lot of people talking about them

- shoes are exposed or carefully

- if shoes are that fast, will try to get

- hold a point

- yelling as instructions to let people in

- some players wear different  
head pieces to stand out

- saw people making jokes with children

- when adjusting their mask

- children playing in their equipment

- 4 wheel stroller, all appear very appropriate  
and friendly

- 2nd floor  
benches  
are usually  
present back  
- second  
floor  
was better  
than

- 1st

Anders Åkerblad

*After pictures taken tour of factory  
and new interview*

Initial Questions to Ask? Bob at 3 o'clock:

Returning Customer? Register me!

• लिंग का विवरण (Anatomical details of sex)

Rely for large group to individual? Age spread

Preferred regime modes?

1. What do you do? Official title? (No more than 10 words)

Any comments regarding faulty equipment etc.  
regarding my bodily harm

100% *P. luteum* + 0% *P. luteum*

How do you measure food hygiene? Using water soluble paint, they check how often they clean? How many times a day? Do they wash their hands before and after work? Do they wear gloves when preparing food?

- someone care behavior don't know who they were doing

Andreas Alvar

more holds paintballs  $\rightarrow$  greater fed  
gas tank preserves paintball w/o noise

PL Goal priority for customer experience

- people want fair game, people not getting shot  
    - more of shooters, people have fun  $\rightarrow$
- $\rightarrow$  they want voluntary customers

# of fields? What kind of people would prefer outdoor to indoor paintballing and vice versa.

- one big field
- other locations

During course of a game, what do you do if someone has a panic attack?

- referee highly trained, watching players
- pause game

If the ship sinks

- arrested by sergeant splatters

Deciding criterion for 10 year old minimum age.

- not from that point age, low impact that they do not do
- no insurance for anybody under 10

## **7. Transcript of Recorded Conversation**

A: Andreas

B: Bob

All of the "ums" were removed from the conversation because we both said a lot and it ruined the sentence flow. Gaps in conversation were removed, and sentences were slightly touched up so the reader has a better understanding of the conversation, but errors in grammar that were unfixed in the interview remain unfixed here.

### **START OF RECORDING**

A: Could you please state your official job title and description?

B: Okay, so I'm a facility operation manager here, and so I look at the marketing side of the place, hiring people, scheduling, training everyone, and also on the proshop side of the things I do cashier for that. So basically everything that the place needs, I basically control it and manage it. Yup so yeah that's basically it.

A: So what's the largest amount of people you can have -

B: (interrupts) So the maximum amount of people we can have on the field is about 120. That's the max, but a decent average game that we would have is a 50 player game.

A: So, like right now, how many people would you say are on the -

B: (interrupts) On the field, about 30.

A: So, at 120 would it start feeling cramped a bit?

B: This is like the biggest field in Ontario, so there's two storied, so it will look a little bit crowded, but we have had that game. The maximum we have had is 120 people at a time, so that's why I said 120. Never had more than that, but we can have those kinds of games going on.

A: Have there been any incidents regarding faulty equipment that resulted in bodily harm recently?

B: Nothing on the equipment side. Nothing from our side.

A: But there have just been delinquents that just don't follow the rules right?

B: Absolutely.

A: So what do you do -

B: So, we've never had incidents where we've had to call 911, but there have been instances where people got shot like just close to their sensitive parts like eyes, if they take your mask off and got shot and just close by the eyes yeah. You shouldn't be doing that and he did that and he got shot. Not supposed to. So thank God they were safe, but it wasn't a good move.

A: Do you only use water soluble paint here?

B: Yeah, and environment friendly- eco friendly

A: So, does that mean you clean the field, like wash it -

B: (interrupts) So what happens in the field is, weekly basis we do scrape the buildings and the walls, but we have sand on the floor out there so changing that sand is every 2 to 3 years. Depends on how quickly it gets muddy outside, because it goes a little damp after a few years because you've been using it for so much long, there's a lot of people going out there breathing and all that so we do that same change when we do sand change we power wash the place, so the whole place is power washed.

A: So when you were talking about scraping -

B: (interrupts) Scraping we have scrapers. Hand scrapers. We use hand scrapers and there's a bunch of people that get outside pick a couple of buildings, scrape them.

A: Are there usually more private parties or individual -

B: (interrupts) We're kinda both. Weekends is more of a reservation basis, but we always take walk ins 7 days a week, so it's a mixture of both.

A: So if it's like a private party and they request the entire thing.

B: Uh no. We don't do that unless you have more than 50 people but what happens is since every game is anywhere from 8 to 10 minutes, we rotate, so if we have a party going on they play for 10 minutes, they come out and take a break and while they're taking a break our walk ons go in and play, and we switch.

A: Do you have a lot of regulars here?

B: We do. We do have a lot of regulars that do come in and play.

A: So do you have something more like professional games or like hardcore games?

B: We don't do special games for them. There's certain days like Sundays we have better pricing going on for them, so they come in on Sundays, Sunday afternoon, evenings, its more of professionals that come in to play.

A: What would your main goal be, in terms of customer experience. Like when the customers come out, how do you want them to feel, or what are you hoping -

B: (interrupts) So I can't really answer for them, everyone is different. There's people that love the game out there, there's people that are not meant for getting shot, so we kinda find a mixture of emotions. But mostly, I would say people have fun. But like I said, there's people that don't like getting shot or maybe they came across a close shot or anything like that. That might end up

being a little setback for them, but yeah usually we want them to be happy just cause we want them to come back and have fun again.

A: So is there just this one field here.

B: Yeah well Sgt. Splatters is just one big field. We don't have any other fields. We do own different locations, but ... Sgt. Splatters has parent companies.

A: You were talking earlier about people getting a close shot which might set them back or something like that so what would you do if like in the middle of a game someone has a panic attack?

B: Since there's a referee, he's looking over what's going on on the field. They're highly trained, they know what they're doing out there, and they have their eyes out there watching the players, and if anything happens he's going to blow the whistle, we're going to pause the game, and if someone needs attention we're going to pull him out, and make sure they're being taken care of.

A: What made you decide that 10 years old would be the minimum age?

B: The thing is, it's not us that said the age, it's government rules that regular paintballing has to be for people, I mean customers over 10 years and older. There is low impact paintballing for 8 to 10 year olds which we do not do, but there's places that do outside. But minimum age is 10. Also, our insurance does not cover anyone under 10, just in case something happens.

A: So this shop, is it part of the facility or is it like the pizza place, which is a deal -

B: No, no, this is owned by Sgt. Splatters.

A: Yeah that does appear to be everything that I've asked for. I'm probably just going to stand around and observe some people is that alright?

B: Yeah take your time.

A: Is it alright to take a picture of you?

B: Yeah that's fine.

A: Because they also want proof of that sort of thing...

END OF RECORDING