



ISEC2076 ASSIGNMENT #1

Physical Security Assessment

Steylen, Lucas

Facility Details

Surveyor name: Lucas Steylen

Survey date: 09/11/2023 to 10/20/2023

Facility Name	Munden's Moving
Location	45 Lovett Lake Ct, Halifax, NS B3S 1B8
Business Opened	June 1 st 1984
Company Contact	Phone: +1 877-289-9120 Local Phone: 902-450-1323 Email: mundens@mundensmoving.com
Owner	Robert J Munden
Office Manager	Justin Munden
Vice President	Sheila Mont

Operating Hours:

	Opens:	Closes:
Weekdays	8 a.m.	5 p.m.
Weekends	Closed	Closed

Description of site:

Standalone building, located on the outer edge of Bayers Lake industrial park. 2 story concrete building with a very small parking lot and a loading area to the rear of the building. Building houses, a local independently owned storage and moving company called Munden's Moving.

Crime Evaluation

HRM Crime map of Bayers lake/Clayton Park September 20

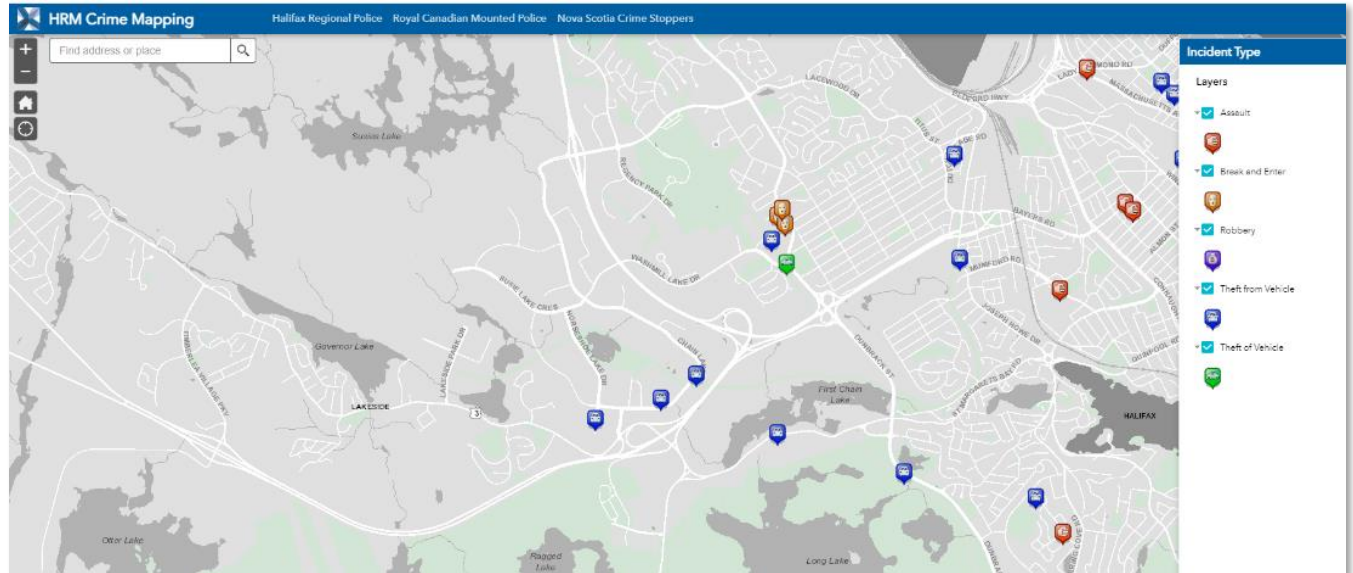


Figure 1

(arcgis.com, 2023)

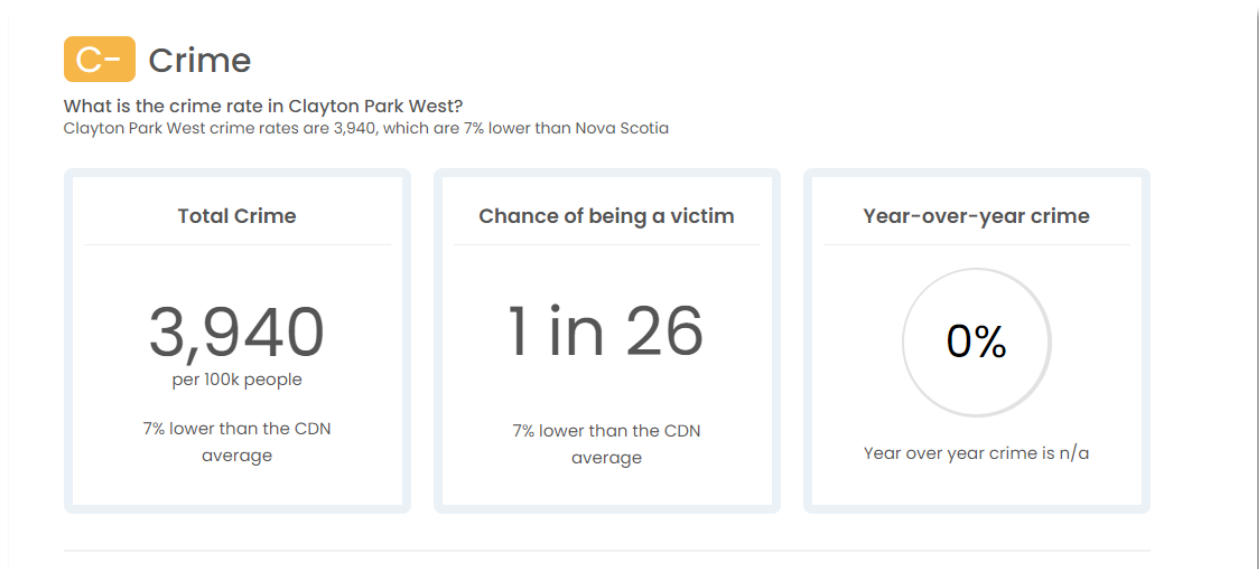


Figure 2

(Areavibes, 2023)

Community Information and Demographics

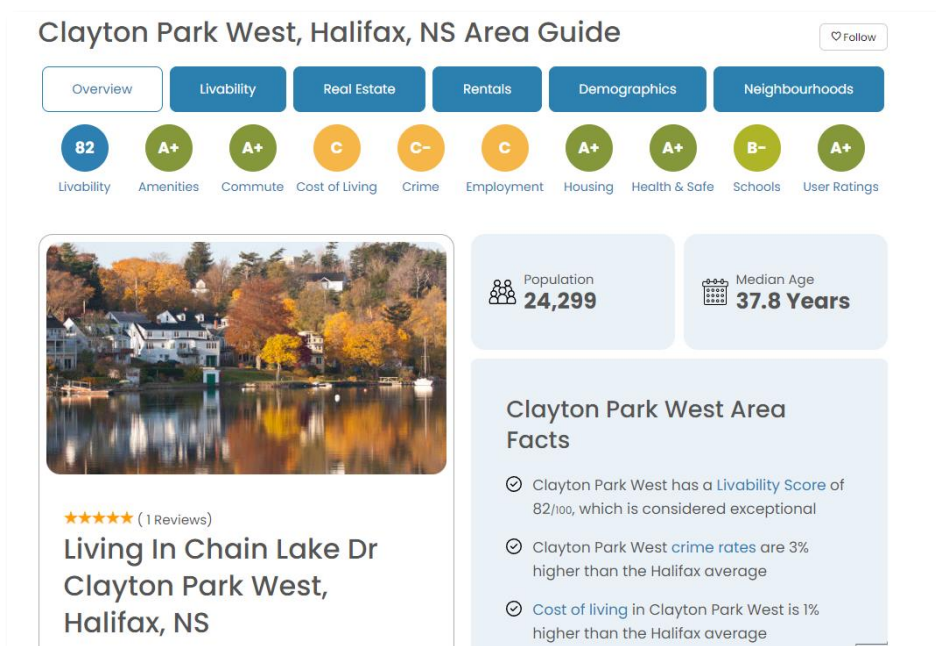


Figure 3

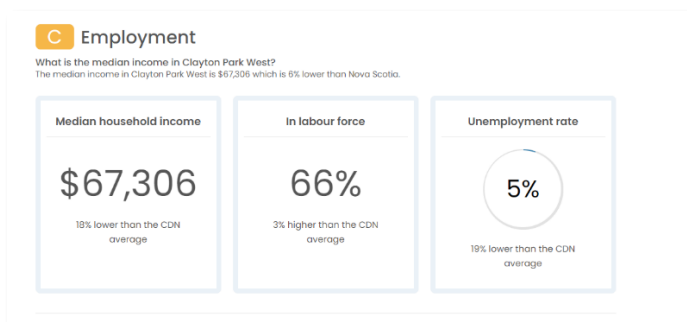


Figure 4

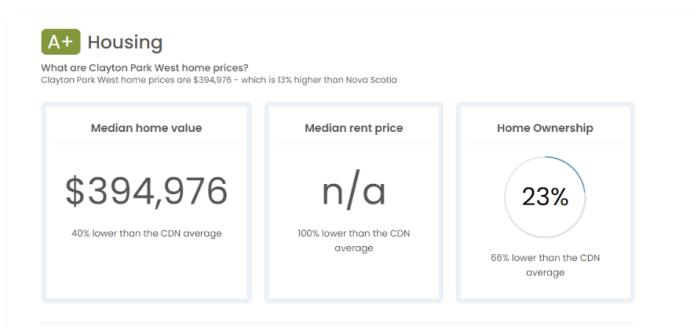


Figure 5

(Areavibes, 2023)

This site is on the outer edge of Bayers Lake Industrial/Business Park. The park is mostly comprised of small, medium, and large businesses including retail stores, grocery stores, banks, restaurants, and independently owned businesses. However, in this specific area of the park it is mostly smaller businesses. The surrounding areas of the business park contain quite a few large apartment buildings and single-family dwellings. The average age of the surrounding areas is 37.8 years, and the average household income is \$67,000. The unemployment rate is 5% which is 19% lower than the Canadian average. The average rent for a 1-bedroom apartment is \$1,770 and a 2-bedroom apartment is \$2,085.

The crime rate in the park itself is low and while the crime rates are slightly higher in the surrounding community to the north and east of the park, they are still 7% lower than the Canadian average.

The park is very pedestrian friendly and is often very busy and sees a lot of traffic. This business is on the outer edge of the park, for the most part separated from the restaurants, entertainment, and retail stores. Because of that there tends to be much less traffic and little to no pedestrians in this section of the park.

I also found a Facebook post as seen in Figure 6, from the owner Robert Munden posted on September 26, 2022, pictured in Figure 6, asking people to keep an eye out for one of Munden moving's trailers that was stolen from the site the night prior. This might be a hint that they need some security upgrades.



Figure 6 (Munden, 2022)

Aerial View of the site



Figure 7 (Google, 2023)

As seen in Figure 7, the red dots and arrows show security cameras and their estimated range and view. They clearly seem to have been placed at points of interest with the blue rectangles marking the loading and unloading zones. With one of the other two cameras viewing the private driveway to the back park lot and loading zone and the other one viewing the front door. The purple line indicates steep natural barriers, with the front one indicating a steep but small incline from the main road up to the property. And the back one indicates a steep cliff like drop off from the back road down to the loading area. The green dot indicates a “No Parking” and “Private Property” sign.

Day Time Survey

My first survey of the property was done during hours of operation on September 25, 2023, from 3:00 to 4:30. A hand full of things were noticed throughout the hour and a half. The road that leads up and behind the building had a higher level of traffic than I would have expected. I would equate it to a heavier suburban level traffic, but I was expecting next to nothing. The main road in front of the building had much heavier traffic but still not considered dense. In terms of foot traffic, in the hour and a half 1 person entered the building and 4 people left the building 2 of those people left in company vehicles and 2 in pedestrian vehicles. In the parking lot there were 5 work vans, 2 work trucks and 3 pedestrian vehicles, in addition there was 1 work van and 2 more work trucks in the back parking lot.

After Hours Survey

My after-hour survey of the property was done on October 13, 2023, from 8:15 to 9:30. It was observed that all but one of the current security cameras utilized by the business did have a functioning light source lighting the area in which the camera was viewing. The camera viewing the loading zone appeared to have a light above it that was not functioning. This most likely means that the business is not checking the cameras on a regular basis and is unaware that the lighting above this camera is not functioning. The traffic on the main road was very slow with 1 or 2 cars driving by occasionally, and there was zero traffic observed on the side road behind the building. The parking lot after hours contained 4 company vans and 1 large company truck parked on the loading and unloading docks respectfully.

Perimeter





	: Outer Perimeter Fence
	: Inner Perimeter Fence
	: Access Controlled Gate
	: New Driveway for Neighbour Business



Figure 8

(Google, 2023)



Figure 9

Vulnerability: while there are decent natural barriers especially along the backside of the building as well as a no parking and private property sign on the rear driveway shown in Figure 9. There is a lack of secure fencing around the perimeter to control access to the front parking lot and more importantly the back parking lot and loading area. There is nothing stopping vehicles from accessing the rear parking lot from the front or pedestrians from the rear.

Solutions: **Perimeter Fencing**

Security fence lining the property from the surrounding roads. This will mean that the closest neighboring building will have to have a new driveway put in indicated by the grey rectangle. To be in accordance with CPTED the fence should stand at 8 feet tall and contain 3 strands of barbed wire along the top. These suggestions are drawn out in Figure 8

Inner Fence

I think because of the loading and unloading zone at the rear of the building, it would be beneficial to implement the layered protection model. This is to ensure that access is only given to the proper individuals within the business. Ideally this area would be one way in and one way out.

Access Controlled gate

Both fences will have access-controlled gates that will grant or deny access, monitor, and log everyone who comes and goes. To ensure that the right people have the right access to the right places.

Landscape



Figure 10



Figure 11



Figure 13



Figure 12

The building has decent natural barriers, especially from the rear of the building. As you can see in Figure 13 and 14 there is a steep almost cliff like drop off from the road to the back parking lot/loading area. The vegetation is quite unkept and messy, this ideally should be cleaned out and replaced by a hedge trimmed to 36 inches to adhere to CPTED Landscaping recommendations. There is also a very small but steep incline from the sidewalk up to the front door and parking lot with a line of trees where the incline levels out to enforce a natural property line as seen in Figure 10. The property has very good and clear visibility for the front and the sides of the building seen in Figure 11. With no unnecessary nooks or crannies or shrubbery that blocks visibility.

Vulnerability: lack of clear vegetation barrier to the rear of the building. This is not super necessary because this step is mainly to reinforce the subconscious natural barrier and this already exists with the steep drop off from the upper street but should still be considered.

Solution: A hedge should be planted around the rear and the west side of the building and should be trimmed and maintained at 36 inches from the ground. If the step is taken to implement the outer fence mentioned above, then this step will not be necessary. The business should however have a vegetation/landscape planting and maintenance program.

Traffic



Figure 14 “Highlighted Roads Surrounding Business”

(Google, 2023)

Being on the outer edge of the industrial park, this area gets far less traffic than other businesses in Bayers Lake. The main road in front of the business has a steady flow of regular traffic but certainly not dense. Anywhere around 2 – 15 cars per minute go by in one direction

or the other. The side street that runs up and behind the building has much less traffic but still has what I would consider a residential level of traffic, maybe 1 car every 5 to 7 minutes. In addition, the road that runs directly behind the building to the loading and unloading area is marked with a “NO PARKING” and “PRIVATE PROPERTY” sign, however the google street view car has images driving through the road so it is unclear of how strict this rule is. In terms of pedestrian foot traffic, there is essentially none as on the main road there are bike lanes but no sidewalks.

Surveillance

Surveillance is a design principle primarily focused on monitoring potential intruders. Consequently, the main objective of a surveillance approach is to enhance observation, even though it can inadvertently function as an access control strategy by deterring intruders due to an elevated perception of risk.



Figure 15
(Google, 2023)

Vulnerability: while the site does have decent surveillance, there are many blind spots. The entire front side of the building facing the main street is completely out of view of any camera. In Figure 15 above, the red lines show the estimated field of view of the existing cameras.

Solution: to increase the visibility of the security system, suggestions for new camera placement have been added to Figure 15 above. The green arrows show the estimated field of view for the new cameras. Signs should be added throughout the property to notify potential intruders and increase the perception of risk. For all cameras to maintain effectiveness during the night there must be proper lighting in each area under surveillance. The CCTV footage should be regularly monitored to ensure all cameras are working properly, the lighting is still proper, and footage is being saved and archived and is able to be retrieved if necessary.

Building



Figure 16



Figure 17



Figure 18 “View of reflective windows on front of building”

The building is in great shape and the property and landscaping is clean and well-kept except for the shrubs along the back of the building. There are no signs of graffiti or property destruction of any kind.

The front southwest corner of the building has upper and lower-level reflective windows, which is good to increase the perception of risk that someone might be watching from inside the building. However, as you can see in Figure 16 and 17 above, there are no windows at all on the right (west) side or the rear (north) side of the building.

Vulnerability: No passive security opportunities on the right and rear side of the building due to a lack of windows.

Solution: install reflective windows on the rear and right side of the building or add some sort of casual surveillance opportunities to increase passive surveillance and to increase the preserved risk for a potential intruder.

Vulnerability: weak entrance and door. The entire entrance way is glass, and the door is unreinforced and has no access control.

Solution: the main door should be replaced with a heavy-duty reinforced door equipped with access control such as a pin pad or swipe card that will also log who comes and goes.

Alarm System

A medium security system should incorporate an advanced intrusion alarm system that when triggered announces to a staffed remote location. In addition, all vital areas should be equipped with alarms capable of detecting the presence of an intruder, and any attempt to tamper with the alarm system should cause the alarm to be triggered. There should also be the use of an unarmed security officer with the means for basic communication to off-site agencies. On-site security staff are to continuously monitor the alarm.

Lighting

Lighting should be considered for impeding and for assessing. When determining the optimal placement for security lighting, it's essential to consider that the correct positioning can prevent security personnel from being outlined. It is suitable to install high-intensity glare lighting in a way that illuminates the isolation zone outside the protected area, especially in a high-security setting. Furthermore, interior spaces can be lit up to support the use of advanced digital CCTV systems, resulting in cost savings by reducing the need for expensive low-light cameras, even when considering energy-efficient LED lights.

Building Lighting



Figure 19



Figure 20



Figure 22



Figure 21

Overall, the property is well lit, and three of the four existing cameras have adequate lighting, at the front of the building, the east side and the unloading dock as seen in Figure 19, 20 and 21 above. However, I would suggest that the existing lighting be updated to more powerful flood lights. Also, in Figure 21 the red

circle is one of the security cameras and the blue circle is the burnt-out light directly above the loading dock. Other than the obvious burnt-out light, the only part of the building lacking good lighting is the South-East corner, pictured in Figure 22 above. This corner also contains the private driveway to the loading dock. Some lighting could also be added to increase the light levels in the north half of the front parking lot.

Street Lighting



Figure 23



Figure 24



Figure 25



Figure 26

As shown in Figure 23 and Figure 24 above, the side road that runs up and behind the building has decent street lighting at the start of the road but the lighting stops once the road goes past the building and doesn't start again until the road hits another business about 250 meters down the road. The main road

shown in Figure 25 and Figure 26, has adequate lighting for the entire stretch of road visible from the building.

Vulnerability: Above the loading dock at the rear of the building there is a camera that is inadequately lit due to a burnt-out light positioned elevated and adjacent to the camera. This is shown in Figure 21.

Solution: the light should be replaced and to ensure that this doesn't happen again the camera should be monitored daily to ensure that lighting remains adequate.

Vulnerability: the south-east corner of the building, the private driveway to the back of the building and the north half of the front parking lot are all not adequately lit for the suggested security cameras.

Solution: new lights should be added to the property/building to light the highlighted areas in Figure 27 below, that are currently not lit adequately. In addition, all current lighting should be replaced with more powerful flood lights, as the current lighting is not as strong as it could be.

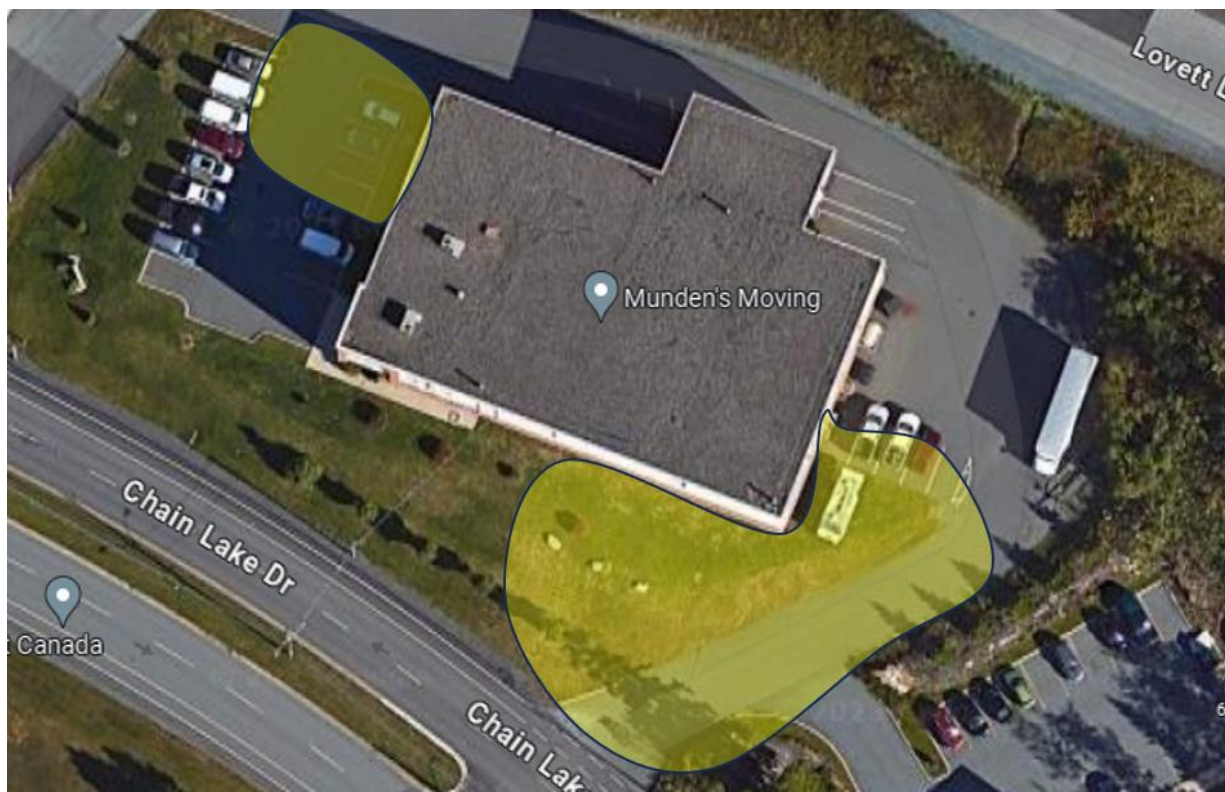


Figure 27

Communications

Security communication systems facilitate rapid information gathering, decision-making, and action taking. Equipment such as security Intercoms, Emergency call stations, Ring-Down intercoms, Two-way radio, Pagers, or Wireless Headsets can be used to create a network of communication between security staff.

There is also the additional option to communicate a partnership with local law enforcement. Bringing authorities into the picture early on is beneficial for establishing a connection. After ensuring their cooperation, it is advisable to involve them in contingency planning to address the designated threat in the design, and if feasible, arrange collaborative training sessions and exercises. While this is an important step that can be considered, typically cooperation with local law enforcement is usually only recommended for High-Level Security but can still be considered.

Layered Protection Model

The design of the layered protection model must always be kept in mind. The idea of a layered protection model is an approach that involves implementing multiple layers of security measures to protect an organization's assets, systems, and data. The idea is to create a series of barriers and safeguards so that if one layer is breached, there are additional layers to prevent or mitigate the damage. If protection is layered it ensures diversity and redundancy are applied whenever and wherever possible.

The first and outer most level would be the applied Perimeter Security. This would be however the perimeter of the property is secured. This will most likely be secure fences and access-controlled gates. To adhere to CPTED strategies these fences should be between 6 and 8 feet with 3 strands of barbed wire running across the top.

The next level would be building access control. Making sure there is secure monitored access into the building, access control systems, intrusion detection, security guards. any system in place that is designed to regulate, control or log entries in or out of the building.

On top of the first two levels, Inner security zones would be the next level of layered protection. This would be an area that is only accessible to authorized individuals who have for example undergone the necessary security screening and are appropriately escorted when required. This is designed to control access among staff or personnel with proper access to get inside the building but not necessarily certain areas within the building itself.

References

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