During this tour, some important themes are: **Industrialization, Technological Advancements, Local Economy, Adaptive Reuse**

Tour Stop & General Info	**Primary K-4** What is a community?	**Middle 5-8** Individuals in a Community	**Secondary 9-12** Regional & Global Communities
#1 Main Parking Area Silo City is a campus of 4 grain elevators: American, Perot, Marine A, and Lake & Rail. They were purchased by Rick Smith for $40,000 each. Smith originally wanted to convert the site to an ethanol plant; that didn't work out, so it became the cultural center it is today. Swannie Jim lives at Silo City as the site manager. The Erie Canal was the main catalyst for Buffalo's becoming a major grain port. Buffalo became a gateway to the west, and a transshipment site where grain travelling in lake ships was transferred to canal barges. Grain was originally unloaded into the silos manually by dockworkers.	Welcome students to **Silo** City. Ask them what they see. Prompt them to point out forms of **transportation** (train tracks, boats). Let the students know that this used to be a busy site filled with workers. The **grain elevators** were built here because this spot is on the water, and Buffalo was an important port because of the Erie Canal. The **Erie Canal** was a human-made waterway that was built almost 200 years ago! It connected the **lake** and the ocean. Thanks to the **Canal**, people & **goods** could now go directly across New York **State** in only about 7 days! It was much cheaper, too.	Welcome to **Silo** City, once a busy industrial site packed with workers & activity. It fell mostly vacant, & then Rick Smith purchased the site. He turned it into a cultural center where people like us can come on tours to learn about Buffalo's past & see it up close. Prompt students to point out forms of transportation. Discuss how transportation helps us move goods around. **Erie Canal** - connected Great Lakes to Atlantic Ocean - cut down shipping time from weeks/months to about 7 days. Cut down cost from ~$100/ton to ~$10/ton. Erie Canal was a leading factor that transformed Buffalo into a thriving city. These **grain** silos were built here because Buffalo was an important port. In order to connect the Great Lakes to the Atlantic Ocean, the Erie Canal was built.Existing towns expanded and grew along the **canal**. The Erie Canal was the leading factor that helped Buffalo transform into a thriving city. Ships stopped in Buffalo before delivering goods to other places.	Welcome to **Silo** City, explain that this was once a busy industrial site, fell vacant, & eventually purchased by Rick Smith. Discuss forms of transportation and how **grain** would have been shipped from the Midwest to the Atlantic ocean, eventually over the Erie Canal. Buffalo became a major transshipment site, situated right at the juncture of the Great Lakes & the Erie Canal. Discuss the Erie **Canal** & its impact on grain shipment.

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#2 Outside of Marine A Near Kayak Launch Grain is a small, dry hard seed, often with an attached hull or fruit layer. Grain is harvested for both human and animal consumption. A grain crop is a grain-producing plant. After they're harvested, dry grains are more durable than other staple foods. Because of this, grains are well suited to industrial agriculture since they can be mechanically harvested, transported long distances, stored for long periods, and milled for flour/pressed for oil. Thus, there are major global markets for grains much more so than for other crops.	Explain that **grain** is a part of a plant, like a seed. Grain grows in the **Midwest**, the middle of our country, in **states** like Iowa, Illinois, Nebraska, & Kansas. The grain was harvested in the Midwest, then shipped to Buffalo, where we stored it until we were ready to use it. We stored it in these structures called **silos**, or tall towers shaped like cylinders/pop cans. What foods have grain in them? What did you eat for breakfast today? Bread, cereal, oatmeal, muffins, donuts, cake… Cheerios & Lucky Charms are both made in Buffalo, by a company called General Mills. Sometimes the air smells like Cheerios!	**Grain** is a **crop**; it's like the seed part of a plant. It grows in Midwestern states like Iowa, Illinois, Nebraska, & Kansas. Grain is harvested there & then shipped along the Great Lakes to Buffalo, where it is stored in **Silos** until it is ready to be used. Grain is ground into flour & made into a variety of goods. You probably ate grains for breakfast! It's used in cereals like Cheerios & Lucky Charms, which are both made in Buffalo by a company called General Mills. That's why sometimes the air smells like Cheerios.	**Grain** is a **crop**, the seed part of a plant. It grows in Midwestern states like Iowa, Illinois, Nebraska, & Kansas, where it is harvested & then shipped along the Great Lakes to Buffalo, where it is stored in **silos** until it is ready to be used. Explain how grain is ground into flour & used in a variety of foods. Explain General Mills's local production.

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#3 Inside Ground Level of Marine A - Close End The silos are constructed in a circular, cylindrical shape, with interstitial spaces in between that were also used for grain storage. The circular shape was used since it has smooth edges and no corners for grain to get caught in. Buffalo's grain industry fell into decline for several reasons, including the rise of railroad & automobile use rather than water travel to transport goods, as well as the opening of the St. Lawrence Seaway in Canada, which diverted traffic from the Erie Canal. Buffalo has the largest collection of grain elevators in the world (13 still standing) – which makes us an important cultural/architectural destination.	What shape are these **silos**? What other kinds of containers can you think of that are the same shape? The silos are like large pop cans/oatmeal containers/etc. These huge silos were completely filled with **grain** for a very long time. It took many workers to move the grain into & out of the silos. However, Buffalo went through a time when many of its businesses closed down. Many of the silos stopped being used, and the workers lost their jobs. The silos stayed empty for a long time.	These **silos** are in the shape of **cylinders** – why do you think that shape was chosen? Why not a rectangular or square shape? What other containers also use a cylindrical shape? These silos were in active use for many years. The silo we're standing in & all the other around here were completely filled with **grain**, and many employees worked here to keep the grain storage, use, and shipment moving smoothly. Do we still use water to transport goods today? As the use of automobiles and airplanes grew, the use of water fell, and Buffalo's grain silos started to fall into disuse. Even though they're not all in use, Buffalo has preserved some of its **grain elevators** – today, we have the largest collection of grain elevators in the world!	Discuss the reasoning behind using a cylindrical shape for the **silos**, and compare other industrial/commercial containers that also use a cylindrical shape. Explain the use and activity at the silos at the height of Buffalo's **grain** industry. Explain some of the reasons for the decline in Buffalo's grain industry, including the rise of railroads & automobiles rather than water the transport goods, and the opening of the **St. Lawrence Seaway**. Though most of them are no longer in use, Buffalo's grain elevators are still very important to our city because it's the largest collection of grain elevators in the world.

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#4 Inside Ground Level of Marine A - Far End Just outside the far end of Marine A, there is an open 'pit' where trains would have dumped grain into a subterranean hopper. Once you're inside Marine A, you can see the subterranean hopper (now filled with water) and explain using the existing structures how grain would have been scooped our of the hopper by a grain elevator up to the top of the elevator, to then be dropped into the silos. Today, this grain elevator is a vibrant cultural space – Torn Space Theatre performs multi-media plays in this space, Just Buffalo Literary Center hosts poetry readings here, and artists are commissioned to install pieces here.	Using the subterranean and the elevator, describe to students how **grain** would have been transported from trains into the **silos**. Have you come to this space before with your family? You can! They put on plays, poetry readings, music performances, and festivals here! People from all over the world come to Silo City to see the grain elevators and to enjoy this space.	Using the subterranean and the elevator, describe to students how **grain** would have been transported from trains into the **silos**. Have you come here before with your family or friends? There are tours, parties, concerts, festivals, weddings, plays, poetry readings, and more! Today, people come from all over New York, the United States, and even the world to visit the Silos! This space is constantly changing with new art installations being added and removed. It's never the same space from one visit to the next!	Using the subterranean and the elevator, describe to students how **grain** would have been transported from trains into the **silos**. Have you come here before with your family or friends? There are tours, parties, concerts, festivals, weddings, plays, poetry readings, and more! Today, people come from all over New York, the United States, and even the world to visit the Silos! This space is constantly changing with new art installations being added and removed. It's never the same space from one visit to the next

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#5 Grass Lot Between Perot & American The grain silos are made using a process called slip-form continuous pour construction. A mold or form is built out of wood, then slowly raised inch by inch, hour by hour as the concrete is continuously poured & hardens. This innovation mean that entire complexes of silos could be built in days. (gravel)	The **silos** you see here today are made out of **concrete**. But a long time ago, silos used to be made out of wood! This was bad, because the wood caught fire very easily & many **grain** silos burned down. Eventually we switched to only building silos in concrete, since it is much sturdier and resistant to fire. The silos are made using a process called "**slip form continuous pour construction**." What in the world does that mean? Imagine if you could squish PlayDoh through a tube. It would come out the other end shaped like the tube. These silos are built in the same way, except they're hollow (empty on the inside) and of course much larger!	The **silos** you see here today are made out of concrete. But a long time ago, they were made out of wood! But the wood caught fire very easily & many **grain** silos burned down. Eventually we switched to only building silos in concrete, since it is much sturdier & resistant to fire. Silos are made using a process called "**slip form continuous pour construction."** Imagine squishing PlayDoh through a tube. It would come out the other end shaped like the tube. These silos are built in the same way, except they're hollow and of course much larger! As the concrete is poured into the "tube," or mold, it immediately starts to harden and set. This way you don't need a mold as tall as the silos - instead, a shorter mold is used that is moved up a few inches at a time as the concrete is poured & hardens.	**Silos** today are made of concrete. At first, silos were made out of wood! But wood catches fire very easily & many **grain** silos burned down. Eventually engineers began to build silos in concrete, which is sturdier & resistant to fire. Silos are made using a process called "**slip form continuous pour construction."** Imagine squishing PlayDoh through a tube – it comes out the other end shaped like the tube. Silos are built in the same way, except they're hollow & of course much larger! As the concrete is poured into the "tube," or mold, it starts to harden & set. The mold is moved up a few inches at a time as the concrete is poured & hardens – that way you don't need a mold as tall as the silos.

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#6 Inside Ground Level of American Hoppers, or funnels, utilized gravity to fill 100 lb. bags of flour. The rollers on the floor would have supported a conveyor belt that would be used to carry the grain being emptied from the hoppers. The American elevator was built for the American Malting Co. in 1906. It was the first in Buffalo to be built of reinforced concrete, and thought to be the first in the U.S. built using continuous pour slip form construction. Working in the silos was very dangerous. As you can see there was nothing to protect the workers from the quickly-moving machinery	Point out & name the hoppers and rollers. Explain how these would have been used to help move grain around inside of the **silos**. Silos are like big cans used to store grain. They were filled from the top & emptied from the bottom. Explain that working in these silos used to be very dangerous. Look at how close we can get to these machines today. Now imagine if they were moving quickly to transport grain. Workers could get badly injured. If students ask about graffiti, let them know that because this site was vacant for a long time, it was often broken into & vandalized. Today, with more activity happening here, it is broken into less.	Point out & name the hoppers and rollers. Explain how these would have been used to help move **grain** around inside of the **silos**. Explain how silos use gravity as a primary engineering component – silos are filled from the top & emptied by gravity from the bottom. Explain how dangerous it would have been for workers here. If students ask about graffiti, let them know that because this site was vacant for a long time, it was often broken into & vandalized. Today, with more activity happening here, it is broken into less.	Point out & name the hoppers and rollers. Explain how these would have been used to help move **grain** around inside of the **silos**. Explain how silos use gravity as a primary engineering component – silos are filled from the top & emptied by gravity from the bottom. Discuss with students some of the dangers of working in the silos, as well as how working conditions during the Industrial Era were much different from what we know today. If students ask about graffiti, let them know that because this site was vacant for a long time, it was often broken into & vandalized. Today, with more activity happening here, it is broken into less.

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#7 Wharf Joseph Dart (1799-1879), a Buffalo merchant who invented the grain elevator with the help of machinist Robert Dunbar. Grain coming to Buffalo was originally unloaded by dock workers who carried bushels of grain from the cargo's hold to the top of the silo. Dart developed a conveyor belt system, marking a turning point from manual to mechanized labor. While ships were unloaded by Dart's elevator, workers called scoopers were still needed to go into the ship's cargo hold to shovel and sweep all of the grain onto the conveyor belt. The marine towers could be moved along a track, making it easier to unload the boats. Bushel = 60 lbs.	Name the Buffalo River, & explain that boats used to (& still do today!) travel along here to the grain elevators, which would unload them. The boats used to be unloaded by hand. Workers would climb into the boats, fill big barrels on their backs with grain, & then climb out of the boat & all the way up to the top of the **silos** to dump the grain in. They did this over & over again for hours! A Buffalonian named Joseph Dart wanted to make things easier & faster for the workers, so he invented the grain elevator, which was like a **conveyor belt** that scooped the grain out of the boats & dumped it into the silos. Thanks to the grain elevator, boats could be unloaded in just a couple of hours, rather than a couple of days! Point out & describe how the marine legs could be moved to help unload the boats.	Point out the Buffalo River. Explain how **grain** used to be unloaded manually into the **silos**. The technological development of the **grain elevator**, invented by Buffalonian Joseph Dart, contributed to Buffalo becoming a leading grain **port** in the US. Unloading the boats manually used to take a week or longer, while the invention of the grain elevators, a **conveyor** belt system, cut that time down to several days. Point out & describe how the marine legs could be moved to help unload the boats.	Point out the Buffalo River, & explain how **grain** used to be unloaded manually by into the **silos**. Explain Dart's grain elevator, invented here in Buffalo in 1842. The first grain elevator was built by the Erie Basin Marina - there's a plaque there today you can see next time you visit. Point out & describe how the marine legs could be moved to help unload the boats.

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#8 Inside Ground Level of Perot Point out the art on the walls, & explain that Rick Smith is happy to have the silos filled with art as long as it can be removed. That's why these photos, pasted to the walls, are so worn. They're not meant to last forever, and will probably be replaced by other art pieces someday. Grain was also brought to this site by train. Train cars were unloaded by gravity – the grain dropped into a subterranean hopper, where it would be scooped from by the grain elevator. Explain too that while the silos were filled with stairways, most workers used a "man lift" – which can be easily imagined/described using the conveyor belt here.	Point out grain elevator **conveyor belt** to help students visualize what it looked like & how it worked. Point out the art on the walls. Explain that Rick Smith is really open to having art put up in the **silos**, but that it must always be removable - nothing can be permanent. That's why these pieces look worn down & faded. They're not meant to last forever.	See left.	See left.

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#9 Lot Next to Lake & Rail These grain elevators are so important to preserve because they have had a profound influence on the development of modern architecture. The complete lack or exterior ornamentation was in stark contrast to most building being constructed at the time. Leading Modern architects were inspired by Buffalo's grain elevators – Form Follows Function & Less is More. Le Corbusier, 1923: "Thus we have the American grain elevators & factories, the magnificent first fruits of a new age. The American engineers overwhelm with their calculations our expiring architecture."	People from all over the world have come to Buffalo to study how the **silos** were built.	Architects from all over the world have been influenced by the construction & style of Buffalo's **grain elevators**.	Architects worldwide have been influenced by the construction & style of Buffalo's **grain** elevators. They're even said to have been a major influence on modernist architecture, which emphasizes form over function.