



# **Celestial Defense: Call from the Cretaceous**

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## **General**

### ***Attraction Type***

Our attraction is a reinvention of an inverted launch coaster. We chose this attraction type because it allows us to tell the story in a more immersive way and to place guests at the center of the action, making the journey more exhilarating. This ride system specifically gives us the ability to enhance the guest experience by being able to rotate the guests to face the specific show scenes, allowing them to feel more immersed in each scene. This is done through omnicoaster technology built into the train and an inverted launch coaster ride system. The overhead track and ride system also allows us to develop complex show scenes through the use of physical sets, animatronics, and projections.

Our innovative technology for this attraction is the train splitting into two in the middle of the ride. This is done through a fast-track switch and sensors to ensure the trains can properly separate from one another. This is innovative because it combines already existing technology in the industry and combines these elements together to create an advanced technological system never before seen on a roller coaster, allowing for increased guest immersion, more detailed storytelling, and a ride system that truly puts guests in the action of the ride plot. Once the ride gets to the black hole launch, the trains are then separated using a split track and sensors to ensure that the trains can safely be sent down the two tracks. When the trains come together, it will be done the same way. We decided to do this to enhance the conflict of the story and make the guest experience more thrilling. The train split is done during our black hole portal scene when the vehicle is traveling through the mirror dimension portal to make it to the prehistoric Earth that is in danger. After the climax of the ride, the two trains are brought back together to finish out the remainder of the ride. We decided to incorporate the train separating into the experience to increase the thrill of the ride as well as to make guests want to come back to experience the side of the ride they didn't get to on their first go. Both of these scenes, the black hole portal as well as the prehistoric Earth, are going to be enhanced through lighting, movement, and animatronic effects to make the ride more immersive. Similar aspects will be integrated into the other show scenes of the ride as well.

### ***Attraction Synopsis***

Our attraction is a thrilling inverted launch coaster that allows guests to explore the depths of space. Guests are invited up to the Star People's main base, The Polaris, where they are to take a tour of the facilities while learning about the greatest achievements of the Star People. When they arrive at the base, a surprise transmission

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comes in, interrupting Sirius, the Star People leader, when introducing the guest to their cause. This transmission is from a prehistoric planet Earth needing the help of the Star People to save them from a large meteor. Guests then load into the vehicle, where they rush through the depths of outer space to get to a black hole that is used as a portal to enter the mirror dimension. In this portal, the train splits off into two different tandem tracks using sensors and a very quick track switch. The two trains now go through a meteor shower and then appear at the large meteor, where guests push a button on their lap bar to destroy the meteor and save the day.

The inverted launch coaster allows us to rotate each cart 360 degrees to direct the guests' attention to specific elements of our show scenes. In addition to this, the split track increases the re-rideability and thrill of our attraction, pushing guests into the story with a call-to-action.

### ***Attraction Story and Appeal to Guests***

Our attraction story is compelling to guests because it doesn't just tell a story; it throws guests right into the action, giving them a purpose and engaging them in the story. This call to action that is built into our story makes guests so much more invested in the ride and the experience they are having, giving them a more immersive and exciting experience. We begin this guest involvement as soon as they step into the queue, when guests are introduced to the Star People and told they will be given a tour of their main base. The curiosity as to what the Star People are and the excitement of the unknown of this tour is what thrills guests from the beginning. This is then taken even further on the attraction itself, when guests use our interactive element, a button on their lap bar.

We use this button to once again push guests into the action. In the story, Mira and Altair are the two Star People leading the guests on this unexpected mission. It is they who tell the guest to hit their buttons on the lap bar to activate the shooters on the vehicles, allowing the guest to be the ones to destroy the meteor, rather than just watching it happen.

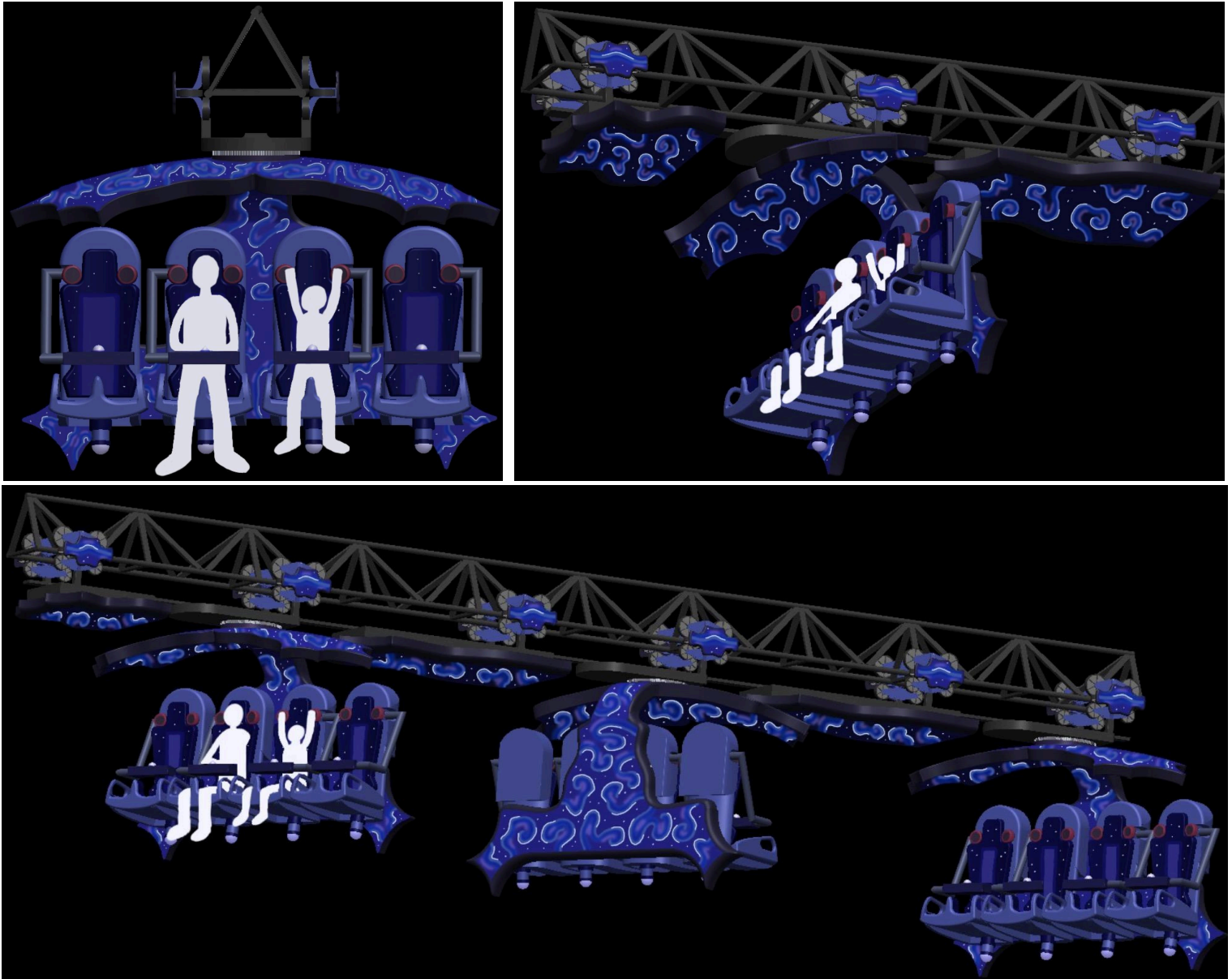
In addition to the call to action, our attraction also has a re-rideability to it because of our attraction having two different tracks towards the middle of our ride. When guests first board the ride, they board what they believe to be one long train. Once the vehicle gets to the black hole, guests are launched through it, and at the same time, the trains are separated and sent down two tracks where they will each go through their own show scenes in tandem. This separation is done to bring conflict to the story and heighten the guest's emotions. Guests in both tracks will be racing through a meteor shower in order to get to the large meteor in time. Each track has its own individual elements that make

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the ride more thrilling, such as a barrel roll and other sharp turns and fast movement. In the story, once they have made it through the meteor shower, the trains can now be seen by one another when they get to the battle of the large meteor. After guests have used their buttons to activate the shooters, the trains are reconnected for the remainder of the ride. As previously stated, this split track gives our ride more re-rideability because guests who only get one side of the attraction will want to go back to experience the other side of the attraction, increasing our guest retention and differing the experience for each guest.

## Schematics and Models

### *Ride Vehicle*



### *Ride Restraint System*

This ride features individual upper-body and lap restraint systems under Class 5 according to ASTM F2291 Guidelines. This class of restraint is characterized by the following:

- ★ Restraint devices must be provided for each individual patron.

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- ★ The final latching position must be variable in relation to the patron.
- ★ The restraint must be automatically locked.
- ★ Only the operator may manually or automatically unlock the restraint.
- ★ External indication is required.
- ★ Manually or automatically opened and closed.
- ★ Redundancy is required.
- ★ A secondary restraint or fail-safe configuration is required.

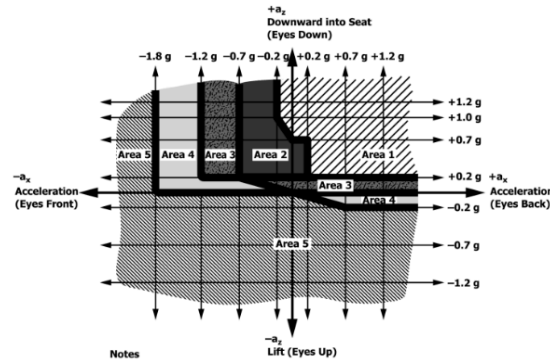
Although Class 5 states that an upper-body restraint is needed along with the lap bar, similar to modern rollercoasters, we use the automatic overhead lowering lap bar restraint to enhance the guest experience further while maintaining the safety and comfort of the rider. To do this, the attraction implements additional safety precautions. These include:

- ★ An increased seat depth to provide enhanced support of the rider's hips and reduce the potential for sliding during inversion
- ★ The incorporation of raised seat sides and hip bolsters to limit lateral (side-to-side) rider movement
- ★ An upward-curved seat base designed to maintain rider positioning against the backrest throughout the ride cycle
- ★ A backrest angle optimized to ensure continuous contact between the rider's torso and the seat
- ★ Minimized clearance between the rider and the lap bar to reduce excess movement within the restraint envelope
- ★ Ergonomic seat shaping is intended to align the rider's center of mass within the containment system

Overall, the seat geometry is designed to distribute applied forces across the rider's body, improving stability while enhancing the overall guest experience. Because of the seat geometry, our attraction will have a height requirement of 51 inches to ensure all riders will fit properly into the seats and restraints.

To determine the Class of restraint, we used the Restraint Determination Diagram from ASTM F2291 featuring gravitational accelerations in particular directions. Since our vehicle consists of a Class 5 restraint, the gravitational acceleration is within Area 5.

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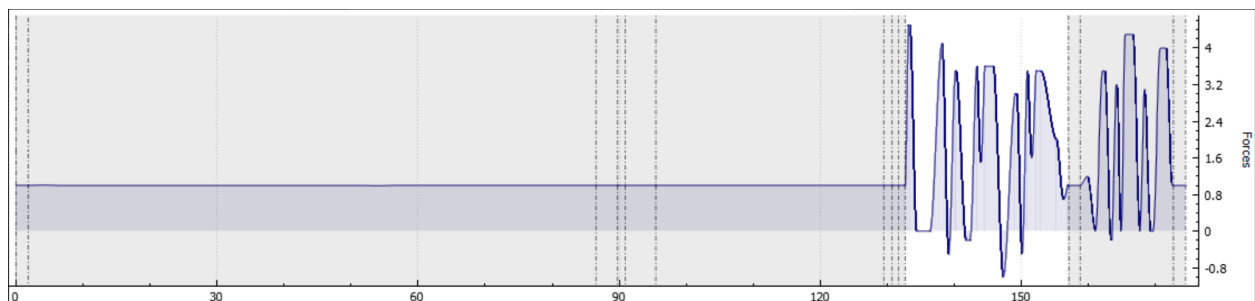
Notes  
 1) For cases on a boundary, the lower category may be chosen.  
 2) Data may be filtered at 1 Hz (only for application of this figure).  
 3) This diagram is intended for use with restraint systems where the patron begins the ride in the sitting or standing position (that is, spine nearly aligned with gravity).

FIG. X1.1 Restraint Determination Diagram—Measured Accelerations Filtered to 1 Hz

The gravitational acceleration along the x-axis was determined using data collected from a simplified NoLimits model in combination with assumed ride parameters to estimate the theoretical G-forces experienced by the rider. The approximate length of each ride section was determined by measuring the distance between strategically placed triggers within NoLimits. The maximum speed within each section was then used to calculate the corresponding G-forces, accounting for the highest potential forces experienced by the rider.

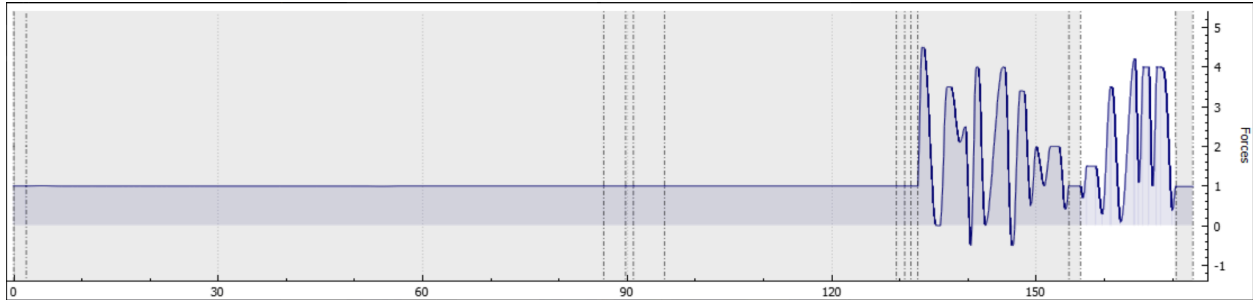
The distance and maximum speed of each section were used to estimate the time required to travel through that section. Certain portions of the ride include speed changes associated with these specific scenes. Additional ride elements, such as the barrel roll, were approximated using assumed values to account for the G-forces experienced during these segments.

The average speed over time was then used to determine the acceleration for each section. To calculate G-force, each acceleration value was divided by the acceleration due to gravity (32.2 ft/s<sup>2</sup>). The following graph illustrates the relationship between G-forces and the ride's time duration.



Track A: G-Force vs Time (seconds) - No Barrel Roll

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**Track B: G-Force vs Time (seconds) - Includes Barrel Roll**

Notice that the largest magnitude of G-force observed in the graphs reaches values on the order of 4.5 g. When compared to the ASTM F2291 Restraint Determination Diagram, these values fall within Area 5, which corresponds to the highest range of sustained accelerations. Additionally, the ride includes inversion elements, resulting in periods of negative acceleration in the z-direction, further increasing the potential for rider displacement. Due to the maximum magnitude of forces falling within Area 5, the restraint classification for this ride is Class 5.

### ***Vehicle Accessibility***

**Ride Access:** Alternate Access is available through a designated path at the ride entrance, where Guests using wheelchairs will encounter an elevator. Press the elevator intercom button for assistance from a ride operator. Riders will have to take several steps, on their own or with the assistance of a companion, and be capable of elevating themselves up into the seat. Please do not use the ride restraints for support while entering or exiting, as they will shift.

**Warning:** There are inherent risks in participating in any amusement attraction. If you choose to participate, you accept these risks and agree to do so responsibly. Read all important safety information prior to riding and obey all posted and verbal instructions. For your protection, each attraction is rated for its special features, including height, speed, direction, and dynamic forces. Restrictions for guests of larger size (height or weight) are posted at certain rides. Participate responsibly. You should be in good health to ride safely. You know your physical conditions and limitations; staff do not. If you suspect your health could be at risk, or you could aggravate any pre-existing condition, **DO NOT RIDE!**

**Sensory Experience Guide:** This attraction incorporates atmospheric fog, specialty lighting, and a range of visual effects to enhance the storytelling experience, including periods of minimal lighting and near-total darkness. The ride features sudden, dynamic movements that are directly tied to the narrative, including rotational motion within a

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range of 0 to 360 degrees, as well as pitch and yaw movements that simulate orientation changes. Guests will also encounter loud and immersive sound effects, including unexpected and startling noises, which contribute to the overall intensity and realism of the experience.

**Load-In/Load-Out:** The primary loading and unloading process for this attraction utilizes a continuously moving treadmill system, allowing guests to board and exit the inverted coaster vehicles in a smooth and efficient manner. This system is designed to maintain consistent ride throughput while providing a controlled boarding environment for guests.

To ensure accessibility for patrons using a wheelchair or ECV, an additional transfer loading station is incorporated separately from the moving platform. At this location, the ride vehicle is temporarily removed from the main flow and brought to a complete stop at a stationary platform to allow for a safe and controlled transfer. The transfer platform is elevated to align with the inverted coaster seating position and includes a clear floor space of a minimum of 30 by 48 inches in accordance with ADA standards. This stationary setup allows patrons to transfer directly from their mobility device into the ride seat.

Once the patron is seated, the lap-bar restraint is secured and verified by the operator. The patron's wheelchair or ECV is then transported to the designated unloading area. Upon completion of the ride cycle, the vehicle is directed to a similar stationary unloading platform where the patron exits using the same transfer process. This dual-loading approach maintains the efficiency of the continuous loading system while ensuring a safe, accessible, and inclusive experience for all guests.

## **Layout and Site Plan**

### **Section Descriptions**

<b>1</b>	<b>Station</b>	Section of track composed of three zones where riders load into and out of the attraction through a continuously moving station platform. During normal operation trains will not come to a complete stop. During normal operation, Zone 1 is where restraints are released and guests disembark, Zone 2 is where new riders are loaded into the attractions, and Zone 3 is used to stage the first of the two tandem trains until both loaded trains in Zone 3 and Zone 2 are ready for
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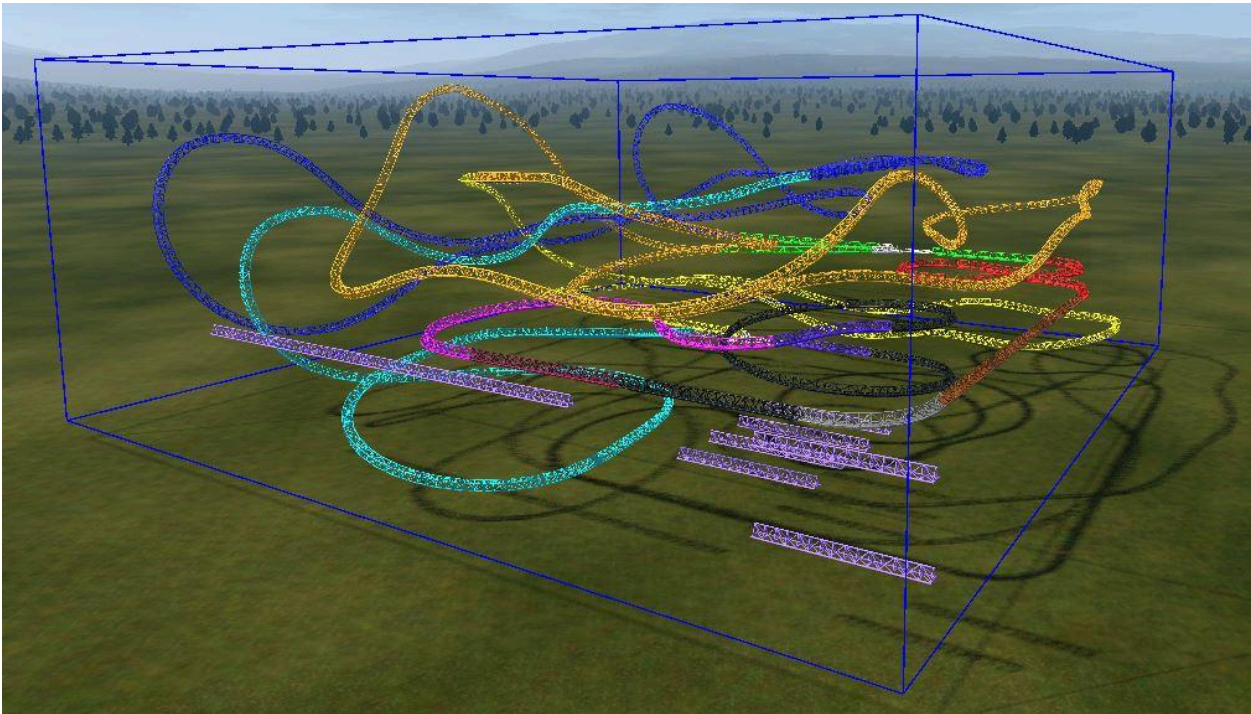
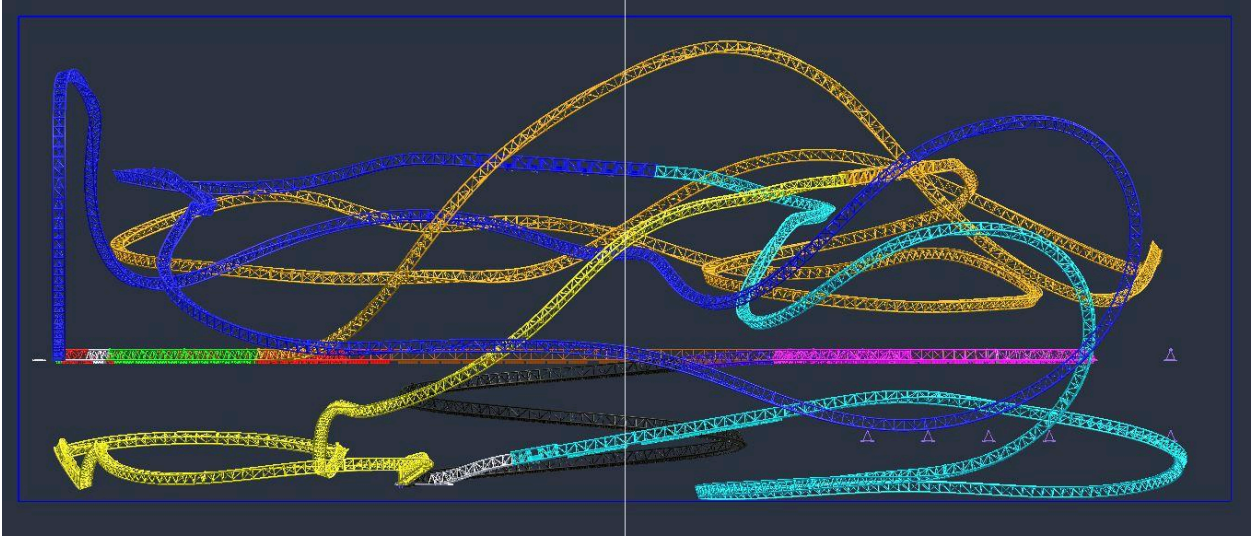
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		dispatch.
2	Pre Launch Block	Trains slowly navigate a dark ride section with a slow speed and ride vehicle rotations to advance the story
3	Launch 1 and Track Split	Trains are separately launched through a fast track switch to split vehicles into their respective ride courses
4a	Launch 2A	Following the fast track switch, trains are further accelerated into the high speed coaster section.
4b	Launch 2B	Following the fast track switch, trains are further accelerated into the high speed coaster section.
5a	Block Brake A	Trains traverse a high speed coaster section made up of dynamic movements such as inversions, quick turns, and moments of airtime inside the ride show building. Ride vehicles rotate during these moments to direct guest view to specific static set pieces.
5b	Block Brake B	Trains traverse a high speed coaster section made up of dynamic movements such as inversions, quick turns, and moments of airtime inside the ride show building. Ride vehicles rotate during these moments to direct guest view to specific static set pieces.
6a	Main Brake A	Trains navigate another, shorter, intense coaster section before slowing to merge with the other coaster section through another fast track switch
6b	Main Brake B	Trains navigate another, shorter, intense coaster section before slowing to merge with the other coaster section through another fast track switch
7	Sync Block 1	After both trains merge back onto a single track, trains will be spaced properly through the use of drive tires and proximity sensors in order to ensure they are properly distanced for the following show scene
8	Orbit Block	Trains navigate an upwards helix at a controlled speed, spaced to be directly across from one another, while the ride vehicles point towards the center of the helix for a show scene.
9	Sync Block 2	Trains are pulsed close to one another to recreate the illusion of a single train. The process is hidden from guests through strategic seat rotations and lighting.

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10	Dino Planet Block	Tandem trains navigate another show scene at a controlled speed, using vehicle rotations and set pieces to continue the ride story.
11	Waiting Block	The final show scene concludes the ride story through special effects. If there are stopped trains ahead, this area can serve as a holding position until the following block zones are clear.
12	Transfer Block	Section of track used to transfer ride vehicles on and off the main course to perform maintenance and inspections. Can also serve as a holding position for trains if the block zones ahead are occupied.
13	Staging Block	Area used to advance trains into the station zones at a proper interval and speed, can also serve as a holding position in the case of a station stop.
14	Storage Bays	Designated areas separated from the main layout where trains can be stored in order to perform maintenance procedures during annual inspections, downtime, and opening and closing procedures.

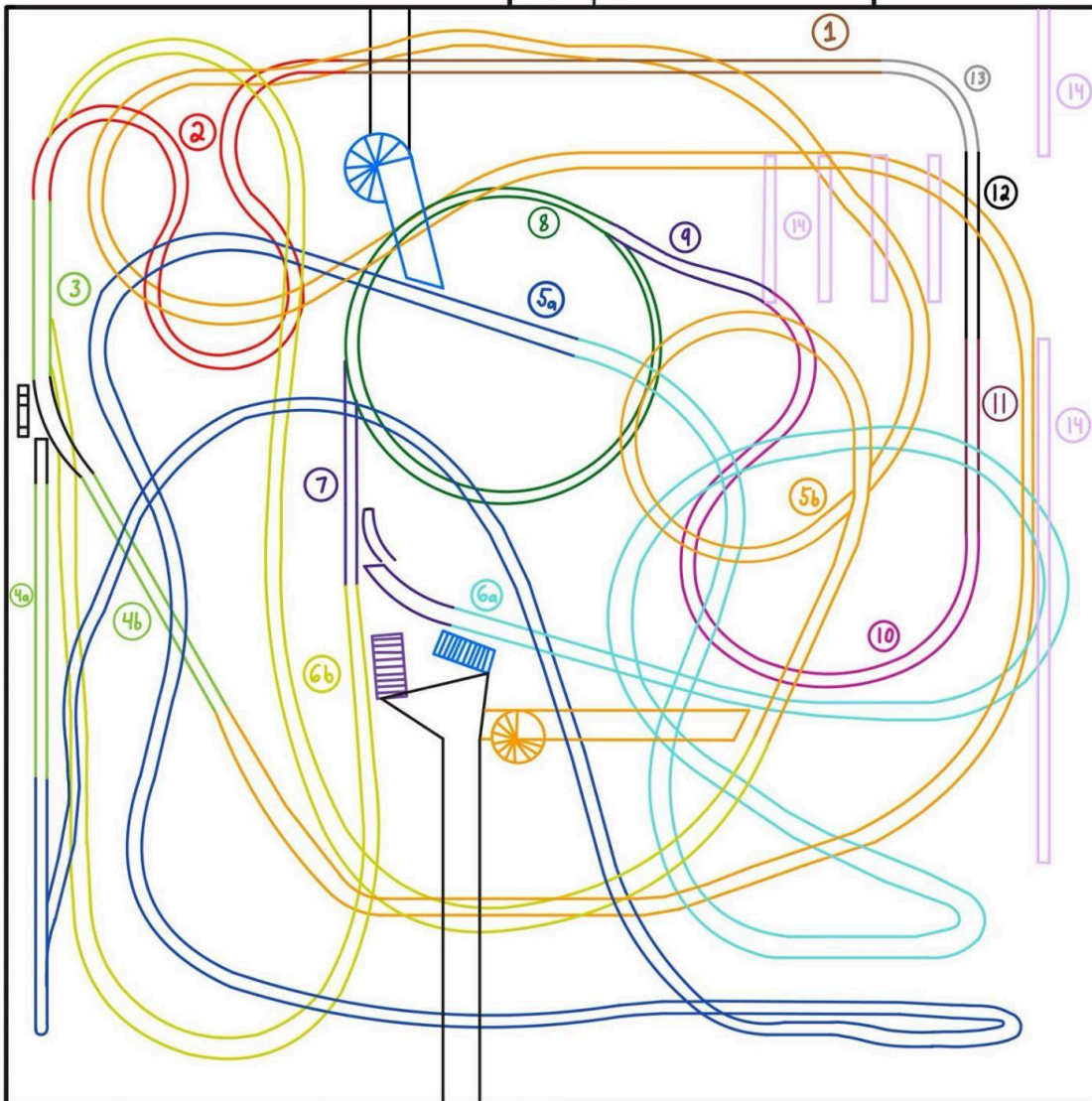
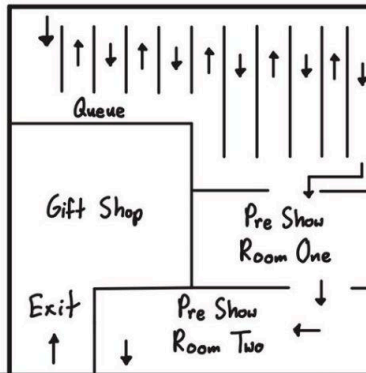
**3D Concepts of Site Plan**



## Master Site Plan

### Legend

- |                             |                       |
|-----------------------------|-----------------------|
| 1- Load / Unload Station    | 7- Sync Block 1       |
| 2- Pre-Launch Block         | 8- Orbit Block        |
| 3- Launch 1 and Split Track | 9- Sync Block 2       |
| 4a- Launch 2A               | 10- Dino Planet Block |
| 4b- Launch 2B               | 11- Waiting Block     |
| 5a- Block Brake A           | 12- Transfer Block    |
| 5b- Block Brake B           | 13- Staging Block     |
| 6a- Main Brake A            | 14- Storage Bays      |
| 6b- Main Brake B            |                       |



### ***Emergency Evacuation Considerations***

Control points (drive tires and friction brakes) at all block zone locations are equipped with a catwalk and railing that spans the entire width of the train, with extra length on either end for consideration of variations in train parking position in relation to the control points. Catwalks with a drop-off are equipped with retractable railings at the front and rear to ensure proper fall protection. Elevated catwalks are equipped with staircases to ensure safe and efficient removal of riders from control points in the case of rider evacuations from these areas.

- Special Note: The Orbit Block is equipped with a retractable railing and catwalk in order to preserve sight lines during the ride. In the event of an evacuation from this location, the catwalk and railing are folded up through the use of hydraulics (power supplied is not connected to ride power) underneath riders, where they can then be safely evacuated.

All indoor sections of the attraction and queue line are equipped with emergency lights to ensure park personnel and guest safety during evacuations.

The attraction is to have a power box at the ride location at all times in order to release the vehicle's hydraulic restraint system when needed during emergency evacuations.

In the event a ride vehicle needs to be evacuated from a non-control point location, such as a valley in between two ride elements, collapsible mobile stairs with an attached platform are to be used to evacuate riders from these less accessible locations. Guests can then be escorted on designated paths in the show building to emergency exits at various locations around the perimeter of the ground floor of the ride show building.

## **Technical Integration**

### ***Innovative Technology***

During dark ride portions of the attraction, two roller coaster trains will navigate the track in tandem, appearing to guests as one large train. The position of the two trains will be controlled by numerous proximity sensors and drive tires to ensure they maintain a safe yet close distance. During the main launch sequence, the two trains will be separated through the use of linear synchronous motors and a fast track switch. The two trains will then navigate two separate track layouts before rejoining again near the end of the experience, utilizing the same drive tire and train monitoring system to strategically place trains in relation to one another for the final show scenes.

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In order to give the illusion that the two tandem coaster trains are separating, a fast track switch will be used during the main launch sequence. As the two trains approach the first section of the launch track, the control system will check that the track switch is in position to receive the first train through sensors at both ends of the track switch and at the end and beginning of the prior and following track sections, respectively. Once the control system has verified that the track switch is in place, the first train is propelled through one side of the track switch. Immediately following the two ends of the track switch is a friction brake placed before the second section of launch track that can be used to fully stop the train if it were to not clear the following tall element and prevent it from rolling back into the track switch. Once the computer system launches the first train through the track switch and the train passes over a sensor at the end of the friction brake, the control system will register the track switch as cleared, and the friction brake will close. Only once the control system has registered the track switch as clear and the friction brake as closed can the track switch move into the other position. If the control system does not register both conditions as satisfied, the track switch will not move and the second train will stop on the first section of the launch track. Once the track switch has moved into position and the corresponding sensors on the track switch, prior track section, and following track sections register the track switch as in place and ready to receive the next train, the control system will propel the second train over the track switch, following the same process as the first train.

The ride system combines a high-speed suspended roller coaster with linear synchronous motor technology to achieve quick accelerations and dynamic motions with omnimover seat rotations and interactive elements during the ride experience to create an intense and thrilling roller coaster experience with a highly themed, story-driven experience.

## **Operational Feasibility**

### ***Attraction Capacity***

- 10 trains with 3 cars per train. Riders are arranged 4 across in a single row for a total of 12 riders per train.
- Only 8 of the 10 trains will be used during normal operation. Two trains will remain in storage for annual maintenance and to ensure 8 trains are available for operation at all times.
- Two trains are dispatched from the station at a minimum of every 45 seconds for an hourly capacity of 1920 riders per hour

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Dispatch Interval (seconds)	Pairs of Trains per Hour	Riders per Hour
45	80	1920
50	72	1728
55	65	1560
60	60	1440
65	55	1320

***Environmental Impact***

Our project incorporates advanced technologies that create an immersive experience, but this comes with many environmental considerations. Many of these considerations include energy consumption, material use, waste production, water usage, emissions, and noise pollution. To minimize these effects, we implement several mitigation strategies.

**Energy Consumption:** The inverted and Omnicaster systems require substantial amounts of energy to operate, as they enable precise vehicle movement, rotation, and responsiveness. To reduce energy consumption, we will use high-efficiency motors, regenerative braking where possible, gravity sections to reduce motor use, and programmable ride controls that optimize power usage. The overall attraction will also utilize LED lighting, advanced HVAC management, and feasible renewable energy sources like solar power to offset electricity demands.

**Material Sustainability:** Material sustainability is a key consideration in the design and operation of this attraction. Ride vehicles, track systems, and themed environments will be constructed using durable, eco-friendly, and recycled materials wherever possible to reduce overall resource consumption. In addition, sustainable construction practices will be implemented to minimize waste during the building process, and a comprehensive recycling program will be established to responsibly manage discarded materials from both construction and ongoing operations.

**Waste Management:** This will be an important component in minimizing environmental impact. A well-structured waste reduction strategy will incorporate recycling stations, composting systems for organic materials, and initiatives to limit the use of single-use

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plastics in both maintenance and guest areas. In addition, there will be appropriate and sustainable disposal practices that will be implemented for hazardous and electronic waste generated through ride operations.

**Water Conservation:** Water conservation is not a primary consideration for this ride system, as the inverted coaster and Omnicoaster technologies rely on electrical and mechanical components rather than water-based systems. As a result, water usage is minimal and limited to routine maintenance activities.

**Emissions:** Emissions generated from ride operations, maintenance activities, and material transportation can contribute to air pollution and increased carbon output. To reduce this impact, low-emission transportation methods will be utilized when possible, and materials will be sourced locally to limit emissions associated with shipping. Additionally, ride vehicles will be maintained using energy-efficient motor systems to minimize overall power consumption.

**Noise Pollution:** Noise pollution is a consideration due to the operation of mechanical components within the Omnicoaster system, the inverted coaster's wheel and track interactions, and the movement of animatronic elements. Mechanical systems such as motors, drive mechanisms, and moving assemblies are the primary sources of sound, while coaster track interactions contribute additional rolling and vibration noise. To reduce excessive noise, sound-dampening materials will be incorporated where it is appropriate, and the selection of mechanical components will be enclosed to limit sound propagation. Additionally, the ride layout will also be designed to help contain noise within the attraction.

### ***Maintenance and Upkeep***

**Safety Inspections:** Every day before the park opens, maintenance crews ensure everything is in operating order before opening the ride. This includes a track walk to check for any issues or signs of fatigue in the track and supports. Once all of this has been completed, multiple empty runs of the ride will be completed to ensure the ride is safe and functioning correctly. In addition to these daily inspections, there will also be weekly detailed examinations and monthly comprehensive reviews of safety mechanisms. Additionally, the ride vehicle will undergo annual inspections in which it is fully disassembled, and each component is carefully evaluated for signs of wear and fatigue. Components that meet performance standards will be reinstalled, while any parts that do not will be replaced before the vehicle is reassembled and returned to operation. Lastly, an annual safety audit with external agencies will also be done to

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receive unbiased feedback on the park's adherence to safety standards. If a safety issue arises, the ride will be promptly shut down, and depending on the nature of the concern, the area will be cordoned off until all issues have been addressed.

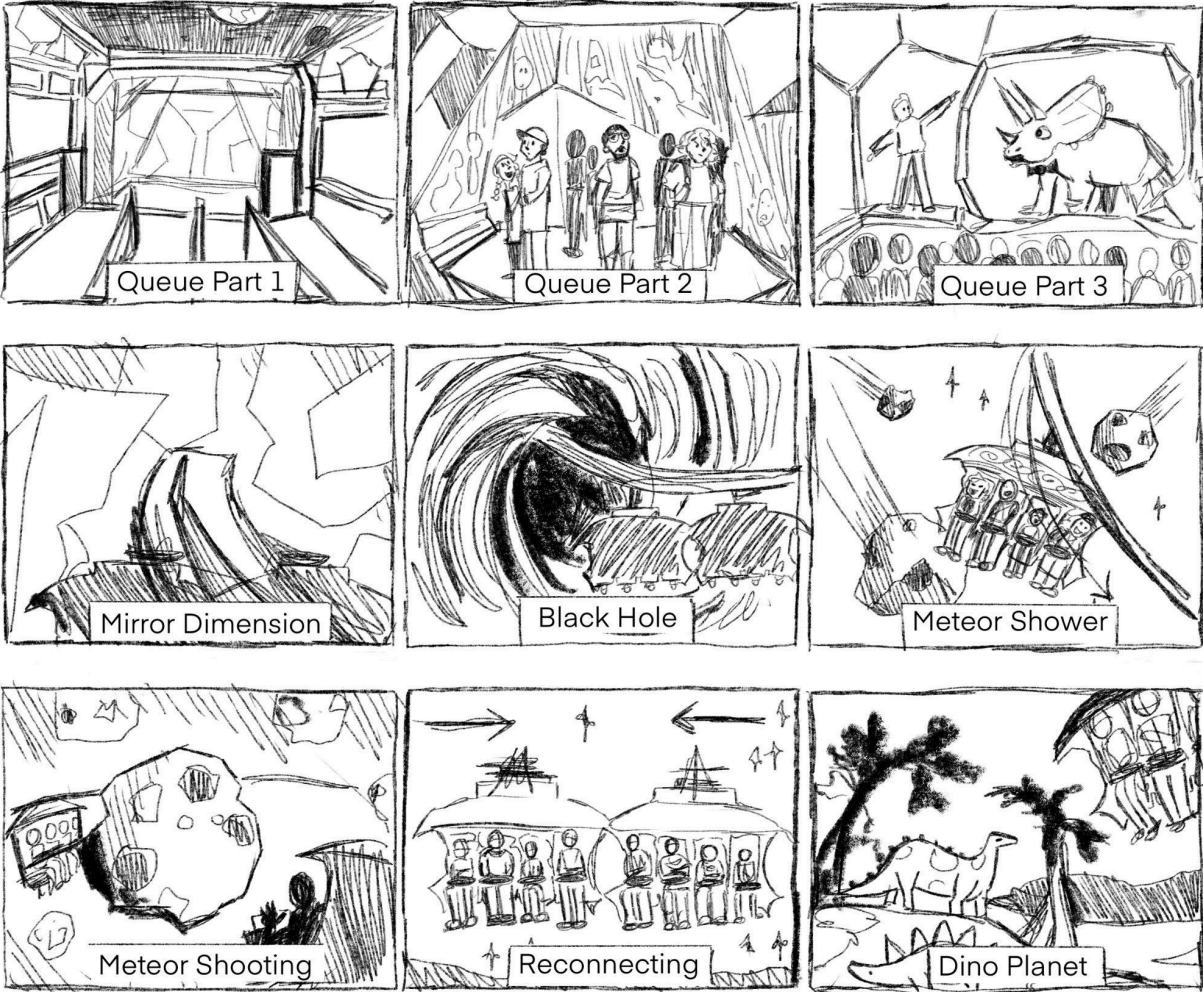
**Staff and Guest Communication:** All park staff will undergo thorough training in safety procedures and emergency responses. Additionally, the staff is trained on weather emergency procedures to ensure a coordinated and efficient response. Staff should be well-prepared to protect guests and themselves in the case of any emergency.

The staff of the ride and park will keep guests informed about potential weather issues and safety instructions through announcements, signage, and digital platforms.

The staff will undergo routine drills and first aid training; these drills and refreshers help reinforce the knowledge and skills needed for effective emergency response.

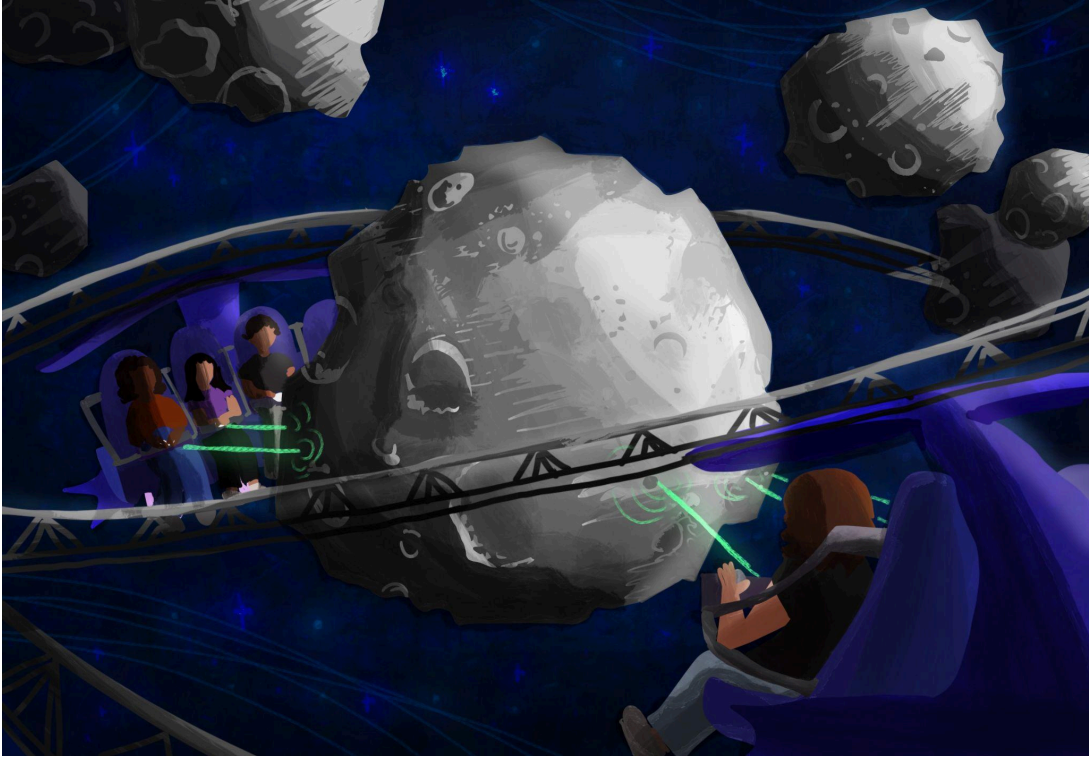
Staff should at all times have access to clear communication channels to be in contact with park operations in the event of any emergency that occurs either within the park or on the ride.

# Concept Drawings



Storyboard of all show scenes

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*Drawn-out scene of destroying the meteor, climax of the attraction*



*Drawn out scene of Altair and Mira taking guests to the Earth planet*

## **Attraction Story**

### ***Attraction Overview***

Guests begin as visitors touring the Star People's space station, Polaris, where they learn about the organization's role in protecting the cosmos, until an unexpected distress signal interrupts the experience. The call comes from Mayor Cera, a Triceratops on a prehistoric Earth, requesting urgent help to stop an asteroid heading towards Earth. Suddenly, as part of the mission, the guests board a high-tech vehicle with Sirius and his generals to travel across space and time to reach Earth. Along the way, they are forced through a black hole that splits their vehicle, sending riders on separate paths through chaotic meteor showers. Despite the obstacle, guests work together to destroy the asteroid just in time, successfully saving the dinosaurs from extinction. With the mission complete, the Star People guide guests through the prehistoric Earth they helped save, allowing them to witness the world before returning safely to Polaris.

### ***Attraction Plot***

Guests enter the attraction through the first walking queue. This queue is the Earth base and museum of the Star People, showcasing the previous missions and accomplishments of the Star People to the humans on Earth. Guests are greeted by Capella, the museum curator, as they walk past the different artifacts from old missions. Capella then lets guests know that they are to be escorted into a large space elevator, where they will be transported up into space to go into the Star People's main base, The Polaris.

When in this transportation device, guests are introduced to Betelgeuse, the Star People's scientist and planner, who explains who they are and what they have accomplished for the galaxies. The Star People are the organization that keeps the cosmos safe by receiving calls from planets and saving them. On the ride upwards, guests are shown different videos of previous missions to clue them in on who the Star People really are. Once they have arrived at The Polaris, guests are then escorted into a preshow room. When guests come into the Polaris, they are introduced to Sirius, the Star People's leader, who welcomes them and thanks them for coming to visit today. While talking to the guests, a transmission interrupts Sirius, which is unexpected because the Star People have not had a new mission in decades, hence the opening up of their base. This call is coming from a prehistoric planet Earth from another dimension, where Mayor Cera, a Triceratops, is calling the Star People to help save her home planet from a large meteor that could destroy it. Sirius accepts the mission and, not wanting to ruin the guest tour experience, sends them to enter the loading station, where they will enter their ride vehicle.

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Once guests have entered their ride vehicle, Mira and Altair, Sirius's two main generals, are introduced to guests and explain that they will be moving quickly through our galaxy to reach a black hole at the far end. With this, they begin the journey to reach prehistoric Earth in time to save the dinosaurs from extinction. The vehicles move and weave through outer space until they reach the black hole. When they arrive, Mira and Altair tell the guests that they are about to go through this black hole in order to reach the mirror dimension Earth in time to save the dinosaurs. The vehicle launches into the black hole, causing the train to split into two. Both pieces of the train appear on the other side of the black hole in a meteor shower, and the other train is nowhere to be found.

While each train moves through its respective meteor showers, they both finally appear at Earth. Each piece of the train is circling the large meteor, when Altair and Mira tell guests to hit the button in front of their lap. This button activates the shooters of the vehicle, destroying the large meteor and saving the dinosaurs. Once the meteor has been destroyed, the vehicle is finally able to reconnect, and Betelgeuse radios in and congratulates the guests on helping save the prehistoric planet Earth. Altair and Mira then decide to try to salvage the guests' tour by taking them to the Earth planet to see the dinosaurs that they just helped save. Guests are then thanked by Mayor Cera, Kent, a Kentrosaurus, Don, an Iguanadon, and Mo, a Mosasaurus, who even gives the guests a little splash while they fly above. Sirius then radios in and lets the guest know that they should be heading back to the Polaris and that the Mira and Altair have found a safer way to get back. Guests are brought to the unload station, where they exit back into the Earth museum.

### ***Attraction Characters***

#### ★ **Sirius**

- Leader of the Star People. Greets guests when they first reach the Polaris, and is in charge of all of the other characters.

#### ★ **Betelgeuse**

- Assistant and second hand to Sirius. He is the scientist/mathematician for the Star People, making new equipment and ensuring that all missions are done safely.

#### ★ **Capella**

- Curator of the Star People museum on Earth. She works closely with Betelgeuse to coordinate guest experiences because she wants to start bringing awareness to what the Star People do.

#### ★ **Mira**

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- General of the Star People. She reports directly to Sirius and works alongside Altair. She is the common sense voice of the pair of generals, and she reins Altair in.
- ★ **Altair**
  - General of the Star People. He reports directly to Sirius and works with Mira. He tends to be more impulsive and do things on missions that aren't the smartest.
- ★ **Mayor Cera**
  - The mayor of the dinosaurs on their planet, Earth. She is beloved by all of her people and ensures that they are always safe.
- ★ **Kent**
  - A Kentrosaurus who is friends with Mayor Cera and welcomes guests when they visit Earth.
- ★ **Mo**
  - A Mosasaurus that is friends with Mayor Cera and welcomes guests when they visit Earth. He even splashes the guest with water on their way out of Earth.
- ★ **Don**
  - An Iguanodon who is friends with Mayor Cera and welcomes guests when they visit Earth.

### ***Attraction Elements***

#### Track A

- Dark/Show Section (Pre Launch Sequence)
- LSM Launch
- Fast Track Switch
- LSM Launch (Rolling)
- Immelman
- Dive Loop
- Block Brake
- Dive Loop
- Helix (Upwards)
- Block Brake
- Fast Track Switch
- Dark/Show Section (Orbit Sequence)
- Dark/Show Section (Dino Planet)
- Dark/Show Section (Final Portal)

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### Track B


- Dark/Show Scene (Pre Launch Sequence)
- LSM Launch
- Fast Track Switch
- LSM Launch (Rolling)
- Zero G Roll (Variant)
- Descending Barrel Roll
- Helix (Upwards)
- Block Brake
- Block Brake
- Fast Track Switch
- Dark/Show Section (Orbit Scene)
- Dark/Show Section (Dino Planet)
- Dark/Show Section (Final Portal)

## **Guest Immersion**

### ***Integration with Other Projects***

With our attraction, we would integrate the story with both merchandising and educational elements to extend the guest experience beyond the ride itself. We would develop a range of merchandise, including plush toys, action figures, board games, apparel, and collectible trinkets inspired by the Star People and the dinosaurs featured in the attraction. Plush toys and action figures would represent the main characters and be offered in various sizes, with the potential for blind-box collectibility to encourage engagement. Each figure would include a brief description of the character's role, duties, and personality to help guests form a stronger connection with the story. Building on the narrative of the Star People's missions, we would create a themed board game that allows guests to experience the challenges of protecting the cosmos. We would also design apparel such as Star People-inspired uniforms, dinosaur-themed accessories like plush hats, and graphic t-shirts that reflect both the space and prehistoric themes of the ride. Additionally, we would offer smaller items such as keychains, pins, and miniature replicas of the Star People's space station, the galaxy, planets, and the dinosaurs as memorable keepsakes for the guests. Lastly, we believe it would be beneficial to incorporate an educational component. We would create storybooks that follow the Star People's missions while integrating real scientific concepts about space and planets, allowing guests to learn while engaging with the story. All of this merchandise would be available in a post-ride store designed as an extension of the Star People museum on Earth, where they are returned after visiting the prehistoric version of Earth.

## **Works Cited**

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