

# Children's Natural History Museum Concept Plan

Developed by:

Math Science Nucleus  
4074 Eggers Drive  
Fremont, California 94536



*John C. Fremont, first scientific study of fossils in the State of California*

## **ACKNOWLEDGEMENTS**

### **Executive Committee**

**Joyce Blueford, Ph.D.**  
**William Charles**  
**Phil Gordon**  
**Oscar Rosenbloom, J.D.**  
**Robert Wieckowski, J.D.**

### **Advisory Committee**

**Carol Arata**  
**Nader Ayad, GG**  
**Barbara Behrman**  
**Mark Bucciarelli, AIA**  
**Alvin Dockter**  
**Caryl Dockter**  
**Virginia Friedman**  
**Howard Friedman**  
**Lyla Fries**  
**David Garges**  
**Allan Gillette, Ph.D.**  
**Pat Gordon**  
**Kathy Keegan**  
**Susan LaBiste**  
**Michele Lien**  
**Ken Miller**  
**Fred Rohrer**  
**Abhijat Singh**  
**David Stronck, Ph.D.**  
**Ray Wong**

# **TABLE OF CONTENTS**

Chapter 1. Introduction .....	4
Executive Summary .....	4
Scientific Significance .....	5
Historical: Uncovering the Fossils in Irvington .....	7
Chapter 2. Strategic Approach .....	13
Chapter 3. Children's Natural History Museum, Today .....	18
Chapter 4. Vision and Benefits .....	22
Chapter 5. Strategic Framework and Planning Concepts .....	25
Chapter 6. Implementation .....	28

# CHAPTER 1. INTRODUCTION

## Executive Summary

The **Math Science Nucleus (MSN)** proposes to enter into agreement with the **City of Fremont (City)** to expand the **Children's Natural History Museum (CNHM)** presently located at 4074 Eggers Drive, Fremont.

The CHNM currently includes several collections of interest to the City, especially the **Wesley Gordon Fossil Collection** of Ice Age Fossils that were collected in the 1940's - 60's in the Irvington area. The museum also includes a **Nature Hall, Hall of Stars, Hall of Small Wonders, Tools of Early Humans, and the Mineral and Rock Hall.** MSN has many additional specimens of interest to school groups and the general public that are not currently displayed.

This concept plan presents a vision for an expanded CNHM that would

be mutually beneficial to both MSN and the City. MSN proposes to move the CNHM to the "old library" site in Central Park. This would create a corridor of learning, including **Tule Ponds at Tyson Lagoon** (owned by Alameda County Flood Control and Water Conservation District and managed by Math Science Nucleus), **Stivers Lagoon** (City of Fremont) and **Sabercat/Mammoth Creeks** (City of Fremont). These locations follow the trace of the **Hayward Fault**, which is of regional importance.

The expanded CNHM would be strategically located in Central Park and close to BART so schools in the San Francisco Bay area would have easy access. MSN would continue to work with schools to increase science and math education through field trips, teacher training workshops, and

curriculum development at CNHM. This would include field trips for school groups, public displays, and a depository of fossils found in the local region.

These attractions would elevate the City as a "**Destination City**," for schools and families since all the components in the corridor of learning are within walking distance of the Fremont BART station.

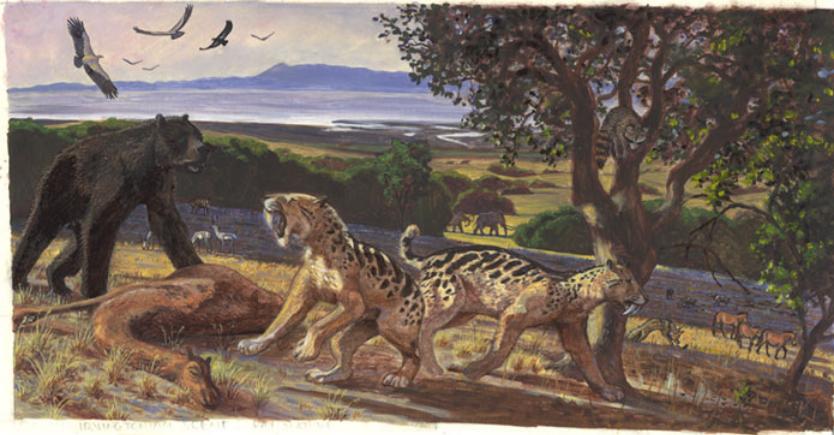


*Preserving photo history of  
Irvington Fossils*

## SCIENTIFIC AND HISTORICAL OVERVIEW

### Scientific Significance

In 1951 **Dr. Donald Savage**, a paleontologist from the University of California, Berkeley used fossils found at what is now the Irvington District in Fremont, to define the early Ice Age (Pleistocene). As a result of Dr. Savage's work, the **Irvingtonian North American Stage** was recognized as an internationally known slice of time, ranging from 0.3- to -1.8 million years ago. It refers to a time when mammoth fossils appear in great abundance alongside Sabertooth cats, short-faced cave bears, camelids, pronghorn antelope, and other extinct mammals. The La Brea Tar Pit in Los Angeles, a national historic site, reflects the late Pleistocene (**Rancholabrean North American Stage**), when the bison first appears.



### Evolution of Area (Ice Age to Present)

Almost 2 million years ago **Sabercat and Mammoth Creeks** were probably one large braided stream that meandered down an incised valley caused by newly forming mountains to the east. The surrounding stream was lush with native riparian plants like buckeyes, sycamores, oaks, tupelos, and bay laurel as well as

aquatic plants like tules and cattails. Large mammals like **mammoths, sabertooth cats, camels, horses, giant short-faced cave bear, and mastodons** ruled the area. This fauna first appeared around 1.8 million years ago and lasted until 300,000 years ago. The animals roamed on a savannah-like landscape that extended for miles

into what is the present San Francisco Bay and Pacific Ocean.

The **Hayward and Calaveras Fault** systems slowly created the southern **Diablo Range**, which prevented the flow of water through this area and slowly choked a once mighty river. The land corridor was reduced. The climate was changed,

which altered the food chain. The local habitat could no longer support these animals. While the smaller animals thrived, many larger mammals became extinct. The remains of these creatures can still be found in the conglomerates, sandstones, and siltstones that once represented the river's sediment.

As humans inhabited the area maybe as early as 11,500 years ago, most of the larger mammals of the Ice Age were already extinct. The period around 4,000 years ago must have been a time of immigration throughout California. The early inhabitants (i.e., **Ohlones**) managed the land's

productivity through fire and traded with other tribes. The early Europeans and the later American settlers from the East are credited with the introduction of many non-native plants, plus over hunting of large mammals resulted in changing the landscape even more.

Some steep valleys and areas within Fremont have escaped development and represent a period of time about 300 years ago. These corridors preserved surviving animals from the **Pleistocene** such as tree frogs, pond turtles, mule deer, ground squirrels, wood rats, valley pocket gophers, cottontail rabbits, red foxes, badgers, striped skunks, and mountain lions. The

Sabercat Creek Corridor is one of these areas that have a present day environment for urban wildlife. But as the streams erode the rock the **Irvingtonian Gravel** is exposed, revealing fossils of the early Pleistocene. There are fossils that can still be uncovered in this area.



*Michael Semyonov found a large camelid scapula in 2008.*

## Historical: Uncovering the Fossils in Irvington

**Dr. Orlando Gordon Yates**, a dentist, discovered the first fossils in the Irvington District in 1868. This was the year of the 7.0 earthquake that devastated the East Bay. Dr. Yates could not determine what they were. He sent the fossils to the **Smithsonian Institute** in Washington D.C. and it was established that they were fossils of Ice Age origin.

In late 1870's the Washington-Mission San Jose Station was bustling with activity. As part of the **Central Pacific Railroad** of California, it was the last link of the **Transcontinental Railroad**. This area had vineyards and farm produce that supplied consumers wherever the railroad traveled. In 1884 the **Gallegos Winery** was built into a cliff created by movement on the Hayward Fault. In the 1906 San Francisco Earthquake, the brick winery collapsed, and the remnants where

the wine was stored can still be seen.

The town of **Irvington** was first established in 1884 just west of the railroad station. This area showed an explosion of homes and industry. **Gravel** was an important commodity and local sources were preferred. A rich gravel pit was found very close to the railroad, which would be important for helping lay railroad tracks and new roads.

When the **University of California, Berkeley** started their Paleontology Department in the early 1900's, they undoubtedly knew about fossils at this site, but the better preserved site of La Brea Tar Pits in Los Angeles took most of their attention.

It was not until the 1940's that **Drs. Charles Camp and Ruben A. Stirton** were approached by **Wes Gordon**, an amateur paleontologist

and teacher, looking for local fossil sites. Wes was the assistant superintendent for the fledgling **Hayward Area Recreation District (HARD)** and was trying to excite children about the wonders of science. Fossils seemed to pique their interest.

Dr. Stirton, who had found fossils at the Yates site in 1934,



Dr. Savage from UC Berkeley uncovering a 13-foot mammoth tusk.

recommended that Wes Gordon take the boys to this quarry in Irvington. When Wes went with his students the fossils were lying within plain sight and sparked an interest for years to come. The students would find the specimens and Dr. Stirton would pick up the fossils to study them at U.C. Berkeley. Under Dr. Stirton, Donald

Savage, as a graduate student, was given the task of looking at **vertebrate fossils** throughout the state, including the Irvington site. **Wes Gordon**, with his team of "Boy Paleontologists" would find fossils that represented the early Ice Age in California.

**Donald Savage** received his Ph.D. and was the first to define the site as the type section for the beginning of the Pleistocene in North America. Dr. Savage called it the **Irvingtonian Stage**, which is recognized today. If you find similar fauna anywhere in North America, they are called "**Irvingtonian**."



*Left to right: Wes Gordon, Les Kent, Dr. Stirton, Dr. Camp, and Phil Gordon*

## Wes Gordon and the Boy Paleontologists

**Wesley (Wes) Gordon Sr.**, was born in Michigan but as a teenager they moved to San Jose. In 1934 at the insistence of friends, Wes returned to school at San Jose State and moved to **Niles** (Fremont) as a student pastor. While in school he taught Drama at **Washington High School** in Centerville and established a creative writing group.

In the early 1940's Wes Gordon started a "**Rock Hound**" group for children in the Hayward area. In 1944, Wes took a group of school aged boys, including his three sons, on another one of these rock collecting trips. This time it was to a spot known to have fossils, a gravel pit in the town of Irvington. He entered with permission of the owner, **Mr. Freitas**. That day they found the complete lower jaw with the diagnostic teeth of Camelops, a mammal, ancestor to the modern camel.

Weekend excursions with the Rock Hounds became more focused on fossil hunting and natural history. When Mr. Freitas died in a conveyor belt accident, **Mr. Bell** purchased the quarry. Young students vied for the chance to become part of this elite group and go fossil hunting in what was referred to as the "**Bell Quarry**."

Involved students spent around 15 hours a week working on digging and preparing fossils they had collected. Most of the tens of thousands of fossils found were donated to the University of California Paleontology Museum because, as the boys code went, "What we find belongs to the public domain of science." Other fossils went into Wes' collection for teaching purposes.

Numerous fossil displays were developed by Wes and his students. One even got radio publicity in 1945 when a collection



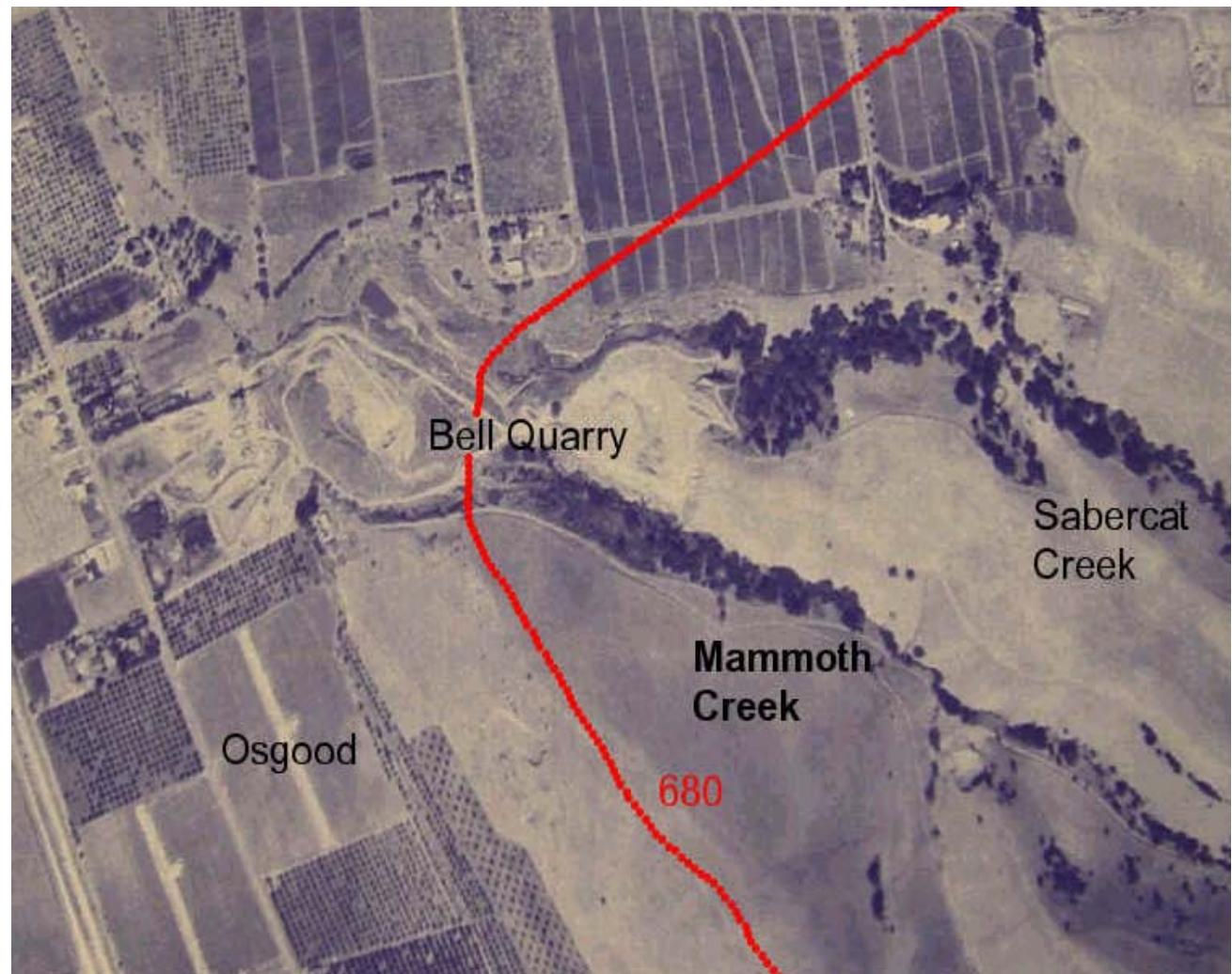
Boys in 1944



Wes Gordon showing students specimens in the 1970's.

of fossils was displayed in the window of the Capwell's store in Oakland. December of that same year, the "boys" were the subject of a story in **Life Magazine** with pictures of them working at the site. In the article the group was referred to as 'The Boy Paleontologists,' which in 1947 became the official club name, since many groups were calling themselves Rock Hounds.

With the large collection of fossils, shells, rocks, crabs, and minerals, Wes got together with the citizens of Hayward and started the call for a museum in Hayward to house the collection. Through the 1950's there were small displays at state fairs, storefronts and public areas, but the collection needed a permanent home to fulfill the Boy Paleontologists' credo set forth by their leader Wes. It wasn't until the **National Education Defense Act** in 1958 was implemented, that public outcry for a museum was so great that funds were obtained to open a school museum at **Martin**



1953 map of the area with the trace (red) of the 680 freeway which dissected the quarry.

**School** in San Lorenzo. Wes Gordon worked hard for the public display of these fossils for the enjoyment of learning of all children. The museum included the Irvington fossils and other Natural History specimens. After his death, the museum became the **Wesley Gordon Natural History Museum of Discovery** and moved to Bohannon School, San Lorenzo.

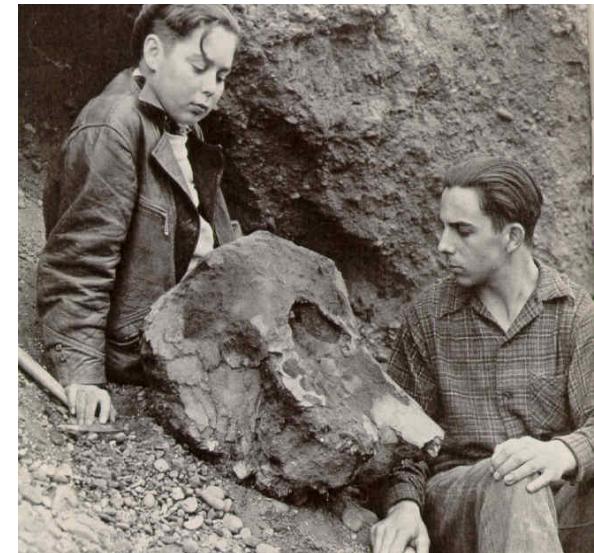
In 1990, the Museum space (now moved to Bohannon School, San Lorenzo) was needed for classrooms once again. The Collection was boxed and stored. In 1997, since the San Lorenzo School District decided the collection could not be revived in the foreseeable future and the

discretionary funds were needed elsewhere, they returned the collection to the **Wesley Gordon Family Trust**. **Phil Gordon** and **William Charles** (sons of Wesley Gordon), together with Phil's wife, Patricia, asked the Math Science Nucleus to partner with them to re-create the Discovery Museum.

**Dr. Joyce Blueford**, a geologist, had the good fortune of meeting Wes in the 1980's. He taught her how to judge the rock and mineral exhibits at the Alameda County Fair. Wes felt strongly that Fremont should create a museum.

It is fitting that the fossils return to Fremont through the, Math Science Nucleus which Dr. Blueford founded in 1982.

*"Wes Gordon's contribution to Pleistocene fauna is significant. It was a labor of love that established the Irvingtonian fauna and provides an outstanding basis for Quaternary studies in the Bay Area. Wes Gordon's efforts recovered 58 faunal species that have been catalogued by .... U.C. Berkeley Paleontological Museum. Now the field trip participants plunged into the abandoned Bell Quarry to view the remains of this extraordinary fossil site. The group wandered through the now overgrown quarry rock piles and slipped into gullies to examine pebbles exposed in the streambeds. It was an exhilarating experience to share the same space that had been scavenged by inspired youths fifty years ago." Dan Day, 2005, Northern California Geological Society*



*Mammoth Skull from Irvington site*

## Rekindling of the Fossil Experience



*John C. Fremont*

It is appropriate that the Children's Natural History Museum highlight the Fremont fossils, because the

first published scientific interest about fossils in the State of California was by **John C. Fremont** during his military operations in Mexican California from 1843-44. Fremont was one of the first two Senators from California, serving from 1850 to 1851 and was also the first presidential candidate of the new Republican Party in 1856.

Staff from the Math Science Nucleus has been working with Phil Gordon and William Charles to set up the collection. Many volunteers from the community have assisted. The fossil collection has helped to bring in more school children to explain the importance of these fossils to the City of Fremont. Through the establishment of the Children's Natural History Museum,

many school children now know that Fremont is scientifically important Ice Age fossil site. A museum located in Central Park would increase the exposure of the citizens of Fremont to the rich history of this area. Coordination of the museum and the continued development of the **Sabercat Historic Park** will also increase a regional and national awareness of the City of Fremont.

This concept plan will explore a **cost-efficient way** to rekindle the legacy of the forgotten fossils in Fremont. This **partnership** of the City of Fremont and the Math Science Nucleus will be mutually beneficial and a source of pride for the citizens of Fremont.

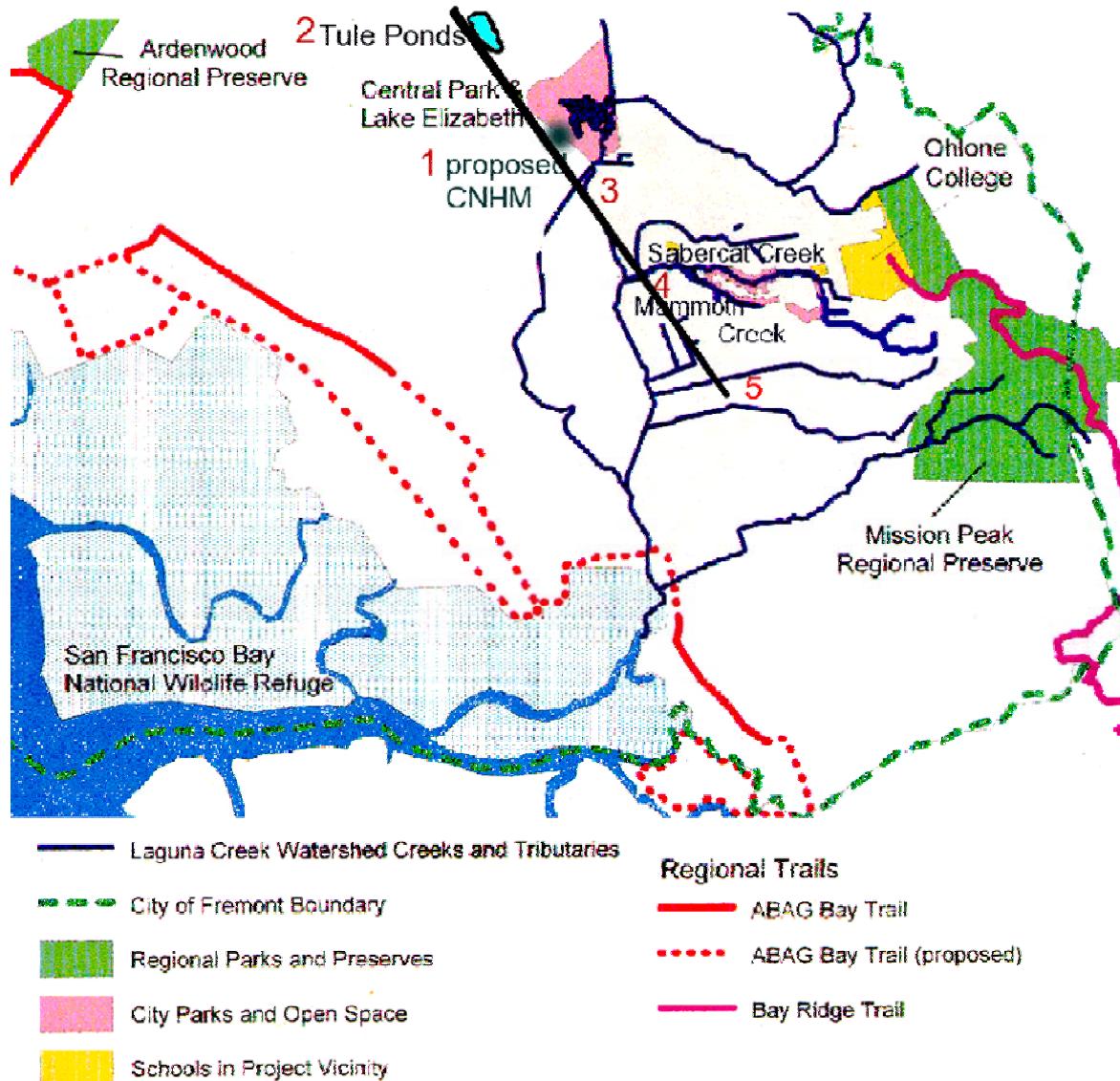
## CHAPTER 2. STRATEGIC APPROACH

This Concept Plan is a strategic plan of action for the Fremont community. It outlines a vision for the future and the action steps needed to arrive at a world class facility that will bring pride to this educated community in the heart of Silicon Valley.

The strategic approach helps define how the City of Fremont and the Math Science Nucleus can accomplish these goals. This partnership can provide services to the Fremont community and the San Francisco Bay region, while being financially astute.

The City of Fremont will provide the building and physical amenities while the Math Science Nucleus will provide the exhibits, programming, maintenance, and staffing.

This plan also looks at how the Children's Natural History Museum (1) can bridge other areas, like **Tule Ponds at Tyson Lagoon** (2), **Stivers Lagoon** (3), and **Sabercat/Mammoth Creeks** (4), to make Fremont a destination city



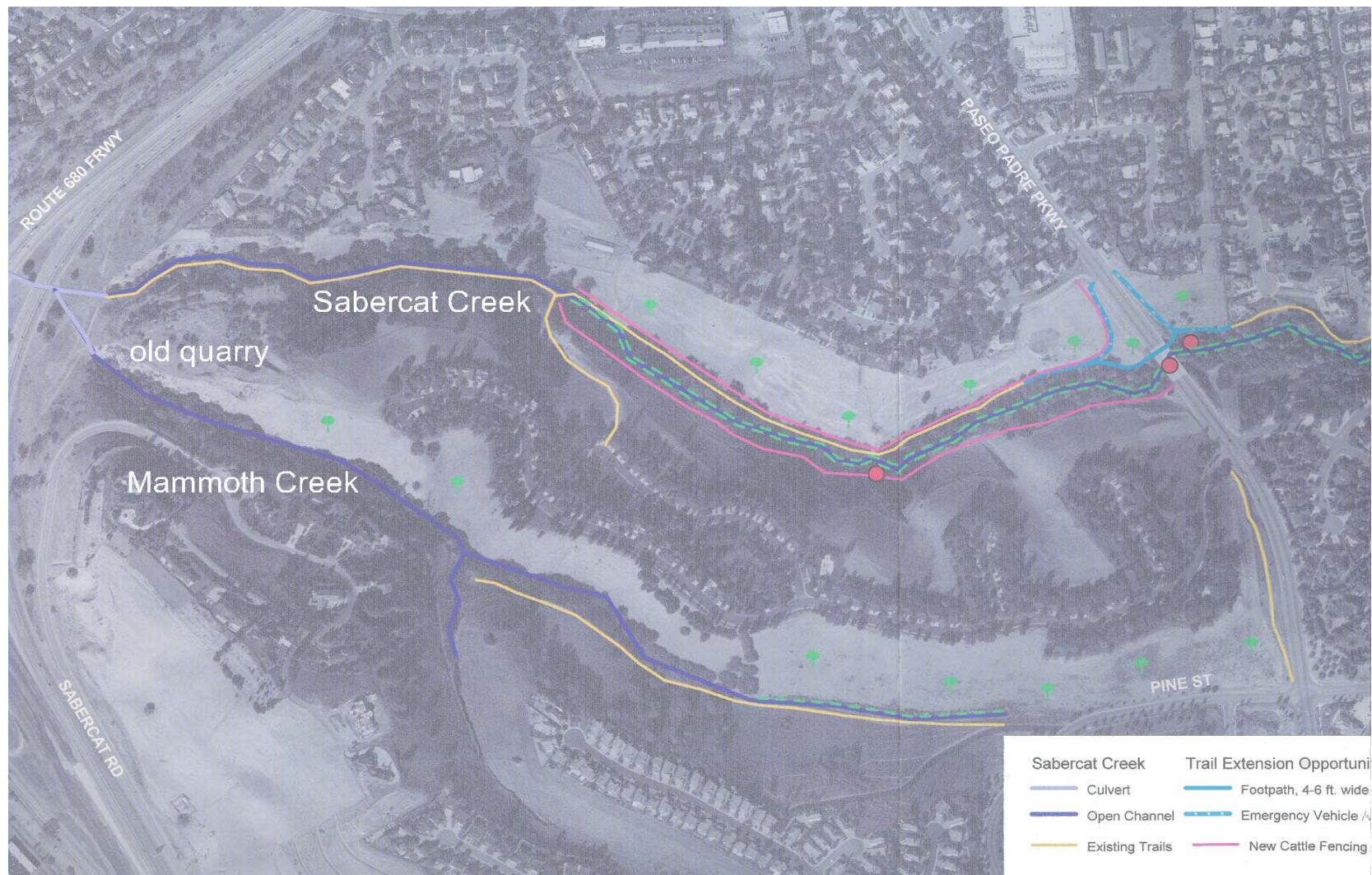
for science and environmental education. This educational corridor also outlines the trace of the Hayward Fault (5) and presents a rare opportunity to see features of the effects of earthquakes in an urban setting.

This corridor can help visitors and school children learn about the environment, Ice Age fossils, and earthquakes while celebrating a unique geologic and environmental setting of Fremont.

There are two major areas to be addressed in this concept plan. One involves moving the existing Children's Natural History Museum from Centerville to a location that can accommodate more people and have better access to public transportation. The target site is part of the old library in Central Park. This move would not only provide the community with a museum that celebrates the scientific contribution of Fremont, but would make it a destination city for many school field trips within the reach of BART.



*Western portion of Bell's Quarry today, 680 Freeway is to the right*



*Eastern portion of the historic Bell Quarry today. 680 Freeway would be to the left.*

The second area is the development of a Historic Park in the **5-Corners Open Space** area between **Sabercat and Mammoth Creeks**. This is the site of the Bell Quarry. Presently it is divided by the 680 Freeway into two segments. The eastern portion of the Quarry encompasses Sabercat and Mammoth Creeks. The quarry portion was recently purchased by the City of Fremont for the purpose of making this an historic park. The western portion contains only Sabercat Creek, because when the highway was built, they merged the two creeks into a conduit under 680. The western portion may serve as a conduit to the Irvington BART station if a bicycle/pedestrian bridge could be erected over 680. This needs to be considered because the contemporaneous development and establishment of a National Historic site will give the CNHM more prominence.

### **The Hayward Fault**

The Hayward Fault is a major fault of concern in the East Bay. It has

been considered the most dangerous area for a possible major seismic event. The last major quake in this area was on October 21, 1868, with a magnitude of 7.0, which ripped almost a continuous shear of about 6 feet from Milpitas to Oakland. It may be coincidental, but it was in 1868 when the first fossils were found at this site.

The Hayward Fault connects this

**"Corridor of Education,"** which extends from the Fremont BART Station to the proposed Irvington BART Station. In 2003-04 MSN was involved in the Fremont **Earthquake Exhibit** that attracted over 23,000 people to visit a trench of the fault. It was a joint effort with the **U.S. Geological Survey** and the City of Fremont. The proposed site of CNHM would be in a building close to the actual trench.



*View of Hayward Fault Trench*

## Tule Ponds at Tyson Lagoon

Math Science Nucleus manages **Tule Ponds at Tyson Lagoon Wetland Center** under contract from Alameda County Flood Control and Water Conservation District. We offer free field trips to 100 schools in Alameda County including 40 of them from Fremont. Since Tule Ponds is about 100 feet from the Fremont BART Station and AC Transit, many schools use public transportation. We also



*Tyson Lagoon*

provide community service and service learning opportunities for local high schools. More information on the flora and fauna can be found online (<http://www.msnucleus.org/watersheds/tule/tule.html>).

The development of CNHM would allow schools to spend an entire day learning about the environment and fossils in the Fremont area because they would be in walking distance of BART. This would help the schools tremendously, since transportation is the most expensive part of field trips. Having two destination spots would be welcomed by the education community in the San Francisco Bay area.

## Stivers Lagoon

The City of Fremont's **Clean Water Program under Environmental Services** provides free field trips to over 50 schools in Fremont. The original concept and trails were designed by MSN. These classes could also take advantage of the

CNHM since it is within walking distance of the Stivers Lagoon.

A self-guided tour is available online, so school groups can take advantage of this beautiful outdoor environment. MSN was also involved with the restoration project using students from Irvington High School. The materials that were developed can be found online (<http://msnucleus.org/watersheds/stivers/stivergen.html>).

## Sabercat and Mammoth Creeks

These two perennial creeks are part of the Laguna Creek Watershed. MSN has been involved in several restoration projects within this watershed which includes Mission Creek, Irvington Creek, Stivers Lagoon, Duck Island, and Mud Slough. All of this material is available online (<http://www.msnucleus.org/watersheds/index.html>).

## CHAPTER 3. THE CHILDREN'S NATURAL HISTORY MUSEUM - TODAY

The **Math Science Nucleus** has served the public since 1982 as a leader in **science curriculum development**. The Children's Natural History Museum started developing in 2004 with the addition of materials from the San Lorenzo School District and the Wesley Gordon Family Trust. Today we have about 5000 square feet devoted to the display with another 2000 square feet of classroom space. We have several halls as described below.

### WES GORDON FOSSIL HALL

This exhibit features fossils discovered by **Wes Gordon**, a teacher and leader of the **Boy Paleontologists**. Specimens were provided by the Gordon Family of Hayward. The collection not only includes fossils, but it records their discovery through diaries, Life Magazine photographs, radio shows, and news clippings over 60 years

**Irvington Fossils.** This fossil collection was excavated in the 1940's-60's in a quarry located in Irvington (Fremont) by a group of young boys. The collection of fossils included mammoths, sabertooth cats, giant cave bears, dire wolves, camels, western horses, sloths, and pronghorn antelopes.

**Bones.** Visitors can take a look at the modern vertebrates including fish, birds, mammals, fish, and amphibians and modern skulls to compare with fossil group.

**Environments through Time.** Displays show what organisms looked like in the Paleozoic, Mesozoic, and Cenozoic.



*Original mural by Laura Cunningham can be seen in the Wes Gordon Fossil Hall*

**Boy Paleontologists Room.** The young boys who uncovered the largest collection of ice age fossils in the San Francisco Bay area spent over 365 days working in rough terrain and finding an unmatched collection of Pleistocene fossils. Their hats, hammers, and other pieces of equipment are on display.

## MINERALS AND ROCKS HALL



Take a journey through the Rock Cycle and see how the elements combine to form some of the world's most beautiful minerals. Compare igneous, sedimentary, and metamorphic rocks. The minerals are divided into their chemical species. We have many more specimens in the collection that are not displayed. Several people have also inquired about donating specimens, but currently we do not have enough display space.

## TOOLS OF EARLY HUMANS

This exhibit has some of the tools of California Indians including spears, arrowheads, fishing weights, and mortars and pestles. These tools are made of local rocks and helped the Indians to survive in California for thousands of years. View a replica of a tule boat, the transportation of choice on waterways of the local Indians. Many of these specimens were collected by Wes Gordon and are real artifacts of Indians from California. This collection ties into the Tule hut we have at Tule Ponds at Tyson Lagoon.



## HALL OF SMALL WONDERS



Look through various microscopes and see microscopic creatures including diatoms, foraminifers, and radiolarians that become fossils. These aquatic creatures have fascinating structures that are visible only under a microscope. Also view different sands from around the world that microfossils. There is also a display of microscopes used in education since the 1930's.

## HALL OF STARS



This hall features the Miller Stardome (donated by Kenneth Miller of Fremont) where you can view the nighttime sky. The dome is like a large umbrella that encapsulates up to 25 students. The projector actually helps the instructor trace the constellations. The "Walk through Time" Exhibit donated by the Foundation for Global Community is on display. View information on how the Earth formed from stars to life on Earth.

## NATURE HALL

This exhibit includes specimens of birds, fox, rabbits, bears, mice, bats, and more. Common water birds are also on display. These specimens help us understand the food chain and how it may be an important factor in the extinction of organisms. Many of these specimens are from the DeYoung Museum in San Francisco before it was an art museum, and are over 100 years old. This exhibit also ties into Tule Ponds at Tyson Lagoon.

We also have a display on fossils from the Fairmead Landfill from Madera County. This provides the museum visitor with a view of other Ice Age Fossils within the state. MSN has developed a relationship with Madera County and the San Joaquin Paleontological Society to help clean the tens of thousands of fossils they have uncovered. High school students help clean specimens.



## **PROGRAMMING**

MSN provides science field trips to schools for \$150-\$175 for 1.5 hours. Since the establishment of CNHM we have conducted over 150 classes per year. We also get schools from San Mateo, Santa Clara, and Contra Costa Counties that come to our facility.

Popular summer camps include week-long adventures for K-6 students. Topics include Space Camp, Human Body, Physics, Geology, and Fossils. We have camps not only at MSN but also at Tule Ponds at Tyson Lagoon.

Birthday parties also are conducted during the weekends. These are two-hour presentations that are educational and fun. We started them with the completion of the CNHM.

## **STAFF**

Currently MSN has 3 paid staff members who do a variety of tasks, from conducting classes to administration. We hire high school students to help and have many that volunteer as Teacher Assistants help clean fossils. We also have volunteers to help with the museum. Dr. Blueford has been donating her time, uses the funds to mainly pay rent for the building.

## **FISCAL**

Since 2000 our annual revenue is about \$250,000. Salaries range from \$10 to \$20 per hour. Our expenditures usually equal our revenue, but some years we have a net balance which we put into our reserve fund, which is now about \$200,000.

## **MUSEUM SHOP AND ONLINE CATALOG**

Currently the Museum shop and online store bring in over \$50,000 revenue. We are proposing to bring the shop to the new site, which we project would bring in more capital because of the location. We provide not only materials like fossils and rocks, but low-cost science material that is difficult to find elsewhere.

## CHAPTER 4. VISION AND BENEFITS

The Children's Natural History Museum would be a **regional educational center** that showcases the importance of the Irvingtonian Fossils in Fremont.

The displays would be interactive and would reflect the learning skills needed to prepare our children them for an enlightened world of science. It would integrate scientific and environmental principles, viewed from local perspective.

Many of the specimens and displays that we presently have could easily be made into exhibits that celebrate Fremont's history.

### MUSEUM THAT CELEBRATES REGIONAL HISTORY

**Paleontological** – Focus will be on Pleistocene Fossils and the geological evolution of the San Francisco Bay area. Other fossils found in the area will uncover the changing San Francisco Bay landscape.

**Natural History** - The current displays visitors will be able to visualize the animals that lived in this area during the Ice Age and those that are still extant (living today). Exhibits will explore how large mammals become extinct and allow visitors to see how the Earth and its diversity of life have changed through time. Global warming since the Ice Age will also be explored

**Native American Origins** – The artifacts of Native Americans in this region will help bring visitors to the local setting of the Tri City area and give them a perspective of whether their arrival could have caused the extinction of large mammals. CNHM can also help preserve some of the other Ohlone history through replica's (i.e., Tule Hut) that were built in this area so generations can have access this diminishing piece of our history.



*Exhibit in Channel Island museum showing viewers how the fossils were found*

## **REGIONAL EDUCATIONAL CENTER**

Southern Alameda County does not have a place for teachers to participate in real science. The proposed staff for the CNHM will be a mix of educators and scientists. This will allow the museum to not only capture educational funds but scientific grants for the center. It can provide the innovation that science education so badly needs in this country.

### **Field Trips for Schools**

The current location of CNHM has shown that quality field trips can draw not only local schools but also those to 45 minutes away. The new location would increase school field trip participation and, if designed correctly, could accommodate more than one class at a time, which the current facility cannot.

### **Teacher Workshops**

Working with school districts, especially Fremont Unified School District, this location can provide a series of workshops that teachers need in science education. Grants can be developed to help our teachers provide the quality content so missing in our school curriculum.

### **Community Awareness**

CNHM can provide public lectures, attracting some of the local talent in the area. Math Science Nucleus had a bimonthly series at American High in the 1980's which attracted many community members. The present location is too small for lecture series. We do a lecture series funded by LAM Research at the Main Library and we normally get 150-200 people in attendance.

## NATIONAL HISTORIC AREA

The area of the original Bell Quarry needs to be established as a **National Historic Site** through an application from the City of Fremont. The site qualifies and will give status to CNHM if the connection is made contemporaneously. This will allow other funding sources that would not otherwise be available.

## BENEFITS TO CITY OF FREMONT

- A regional learning center that is unique in the San Francisco Bay area would make Fremont a “Destination City.” The closeness to BART makes it easy to get to and the short walk to the area would be ideal for school groups who want to take an inexpensive field trip.
- CNHM would provide an educational recreational outing for the family that might want to rent picnic areas.
- CNHM reflects the educational level of the Fremont population and provides children with another type of activity that our community is seeking.
- Rentals of the Teen Center could increase during the weekday, as small seminars from corporations may want to use the facility.
- CNHM could provide high school community service and service learning opportunities as well as provide jobs.
- CNHM would act as a repository and catalog, preserve, and store the fossils that are found in the Fremont area .
- Math Science Nucleus would generate its own operating capital and administrative structure for CNHM that would make it an asset for the City of Fremont with little outflow of funds.

## CHAPTER 5. STRATEGIC FRAMEWORK AND PLANNING CONCEPTS

This section organizes actions and policies to form the vision into a strategy which is a set of actions, policies, and programs designed to achieve a specific goal.

Primary strategy seeks to use the Children's National History Museum as a regional learning center and a regional destination for enjoying cultural and historic resources.

### A. Developing the Old Library Strategy

The Old Library (Currently used by the Friends of the Library) is an excellent location for a regional museum. Half of the structure was already refitted as a Teen Center. The other half has not been refurbished and needs to be assessed for cost, which could range from \$250,000 to \$1,000,000.00

However, the Math Science Nucleus is willing to look at other city-owned properties.

### B. Design Strategy

The design would preserve and build on the unique paleontological, archeological, and seismic setting of Fremont.

The design would assess how to use the space to best display the materials already managed by the Math Science Nucleus.



*Front of old library, present teen center is attached to this structure to the right*

This would include new landscaping and installation of signs, to emphasize a comfortable pedestrian atmosphere that includes family outings.

### C. Transportation and Circulation Strategy

The intent is to improve access and circulation in and around the proposed CNHM, looking at the impact to parking and using the existing parking structures.

The location is within walking distance of the Fremont BART station and many AC Transit lines. TVA from Santa Clara county also has non-stop bus service to the Fremont BART station.

Parking would use existing structures that now service the Teen Center. Extra parking could be at the site of the old City Hall where the parking structures are intact and rarely used.



*Area in front of the proposed site and trace of Hayward Fault in red. The knoll in the top of the photo shows extra parking that could be used.*

### D. Marketing and Communications Strategy

The marketing and communication strategy recognizes the importance of communication between all partners including the community, the City Council, and the recreation community. The strategy also encourages coordination of ongoing and special events in the park. This would include scheduling events when area rental may be low to try to encourage rentals.

## **E. Funding Strategy**

Short and long term planning is important.

A 5-year plan needs to be developed taking on the strength and financial stability of the MSN to forge a coherent financial plan with many sources of funding.

Grants strategy should be coordinated between all the eventual partners.

## **F. Coordination Strategy**

Developing plans to help the City of Fremont maintain and monitoring areas including Sabercat Creek and Mammoth Creek.

Use of community volunteers to become part of the success of the CNHM.

Coordination of tasks will help to save money while providing more services.



*Monitoring at Stivers Lagoon with High School Students*

## **CHAPTER 6. IMPLEMENTATION**

A strategy to create a regional education corridor through the City of Fremont requires building a partnership, not only with the Math Science Nucleus but also securing other partners with a similar goal.

### **Build on What We Have**

- Historically the Irvington Fossils has been documented as of national significance. Geologically and environmentally the proposed area is an urban wetland that shows classic features of the Hayward Fault.
- A proven record of the Math Science Nucleus to provide scientific expertise in paleontology, geology, biology, and hydrology within the City of Fremont.
- Math Science Nucleus has coordinated more community service and service opportunities for high school students than any other scientific agency.
- The restoration and education management of Tule Ponds at Tyson Lagoon by the Math Science Nucleus over the last 10 years in coordination with Alameda County Flood Control and Water Conservation District
- The Math Science Nucleus has already created a model for the CNHM that has increased revenue for its organization. Displays and models are already available and can be modified to a new facility.
- MSN has a 30 year relationship with local school districts, providing educational services to both students and teachers.
- A Museum Shop that is been in operation for 20 years and an online store that has been available for 10 years.
- City of Fremont has vacant buildings that could be used to house the collection. The preferred site at Central Park has amenities like parking and proximity to mass transit.

- Build on the grant making ability of both the City of Fremont as a government entity and the Math Science Nucleus as a non profit 510(c) 3.

### **Implementation Strategies**

- Establish a mutually beneficial agreement with the City of Fremont and MSN.
- Consult with possible partners to develop a working committee that would be responsible for development, funding, and maintenance.

Contact other City of Fremont non profits and educational institutions that may have an interest in museum (i.e. Museum of Local History, Ohlone College, Fremont Unified School District).

Contact outside agencies like the U.S. Geological Survey, Alameda County Public Works, BART, ABAG, Seismic Safety Commission, who have worked with the Math Science Nucleus before in this area (i.e., Tule Ponds, Fremont Earthquake Exhibit) who may be interested in becoming a partner.

- Develop 5-year business strategy.
- MSN would work with City of Fremont to apply for National Historic Site Status.
- Develop a plan with the City of Fremont to establish what building would be appropriate and to establish costs.
- Develop a list of priorities for funding proposals.
- Hold meetings to inform the community of this expanded resource.
- Write and submit proposals that will make CNHM successful.