Ford Elementary

Location Map
Located in the Montbello neighborhood in North East Denver.

Deteriorated Asphalt

ECE @ 5750 sq.ft.

Intermediate Playground @ 11,000 sq.ft.

Grass Slope 50' x 325' 12% Slope @ 16,250 sq. ft.

Drainage Pan Under MC's

Modular Classrooms (2)

Parking: Poor Circulation

2 Modular Classrooms

Play Pit w/ 5% grade walk around pit

Asphalt

Grass Hill 12% Slope

Gravel Ball Field

Dirt Ball Field @ 84,650 sq.ft.

Dirt Ball Field Panorama: Main Door to Playground

Asphalt

Grass Hill 12% Slope

Gravel Ball Field

Pea Gravel Play Surface

Current Conditions
Total Land Area = @ 7 acres
Playground = @ 3.64 acres 52% of Total
Asphalt = .75 acres @21% of playground
Ball Field = 1.81 acres @ 49 % of playground
Play Pit = .26 acre @ 7% of playground
ECE = .14 acres @ 4 % of playground

Proposed Changes
Total Land Area = @ 7 acres
Playground = @ 3.64 acres 52% of Total
Asphalt = .52 acres @14% of playground
Ball Field = 1 acre @ 27 % of playground
Play Pits = .17 acre @ 5% of playground
ECE = .25 acres @ 7 % of playground
Program List

**Education**
- *E - Curriculum Elements*
  1. Ecosystems, Earth Materials, Designing Environmental Solutions, Weather
  2. Infiltration Gardens
  3. Natural Bioswale
  4. Boulder Fields
  5. Map of United States

**Art**
- *A - Art Elements*
  1. Weathering Plaza - Wind and Water planters and seating outdoor classroom plaza made with a sedimentation wall technique
  2. Water Course
  3. Sedimentation Retaining Wall made with concrete technique which looks like sedimentary rock
  4. Shade Structure
  5. Gateway
  6. Cast Concrete Alphabet/Texture Walk
  7. Fossil Dig sand box with cast in place fossils and shade tent

**Habitat**
- *E - Urban Ecosystem Gardens*
  1. Moist Meadow
  2. Evergreen Mountains montane species suitable for lower elevations
  3. Cottonwood Gallery riparian image with willow and cottonwoods
  4. Rain Garden
  5. Low Grow Low Mow Prairie
  6. Butterfly Habitat/Senses Garden
  7. Foothills Xeric

**Play**
- *P - Play*
  Play Pits (3)
  1. 60 x 40 swing pit
  2. 40 x 40 climbing wall and slides, pit set into slope
  3. 58 x 60 ECE
  4. 180 x 65 sand pit, equipment, swing and lawn area for ball games

**Recreation**
- *M - Multipurpose Recreation*
  1. Track
  2. Tether Ball
  3. Hopscotch
  4. Four Square
  5. Basketball
  6. Multipurpose Turf Field 1 acre minimum
  7. ECE Turf
Design Theme

Boulder Fields

Multipurpose Field

Weathering Courtyard

EARTH
MATERIAL
LEARN
CLIMB
PLAY
BALL
RUN
WIND
WEATHER
SCOUR
WATER
EROSION
First Phase: Design Development
By: Trish Taylor
Theme: Colorado-Rockies: Geology
Playing of the neighborhood name “Montbello”, meaning beautiful mountain. The program highlighted montane habitat gardens and geologic educational elements.

Second Phase: Design Development
By: Kim Reaves
Theme: Montbello: Prairie to Peaks
Placement of modular classrooms forced a readjustment of original design development. Program elements and design theme remains.

E1 - Designing Environmental Solutions - Bioswales
Bioswales are also apart of the ecosystem curriculum. These drainage systems show sustainable ways to deal with storm water runoff.

E2 - Sedimentation & Fossil Wall
The sedimentation wall is formed by layering colored concrete. It represents a geologic process commonly found in Colorado.

E3 - Earth Materials - Boulder Field
Boulders are natural and irresistible playgrounds. Different rocks from around Colorado are an expo of local earth materials.

E4 - Shade Structure
Metal and stone make up the texture of the shade structure which symbolizes subduction and the formation of the Rocky Mountains.

P1 - Play Pit
Age appropriate play equipment. Three intermediate play pits and one ECE. The equipment brings color and physical challenges.

P2 - Play Pit
Turf multipurpose field for soccer and other ball games. It is surrounded by a crusher fines track.

A - Sedimentation Wall
The sedimentation wall is formed by layering colored concrete. It represents a geologic process commonly found in Colorado.

G - Gateway
Inspired by Longs Peak keyhole.

M - Multipurpose Field
Turf multipurpose field for soccer and other ball games. It is surrounded by a crusher fines track.
Infiltration Gardens/Outdoor Classroom  
Where storm water and learning meet.

Purpose:
The infiltration garden will also serve as an outdoor classroom for Ford Elementary students. Here, students can engage with the curriculum "Designing Environmental Solutions" and "Ecosystems". The infiltration garden is intended to bring awareness of the water cycle and how water moves through Ford. Water will move from roof tops and hard surfaces into the drain pan which will spill into the planted gardens.

Curriculum:
Ecosystems
The infiltration gardens are to show how Playas in Colorado's eastern plains are well suited for ephemeral water conditions. Sedges and rushes will serve as the primary vegetation for the gardens. Like playas, which are seasonal wetlands, the infiltration gardens will have more moisture in the spring and be dry by the summer. Sedges and rushes native to these conditions will be planted in each garden and aid in the infiltration and filtering of stormwater as it moves through the site.

Water Cycle
In the floor of the outdoor classroom will be the engraving of the water cycle into the concrete. Through an artistic mixed method of using concrete finishes, imprinting and setting decorative elements, a diagram of the water cycle will show students how a single drop of water moves through the different phases of the cycle.

Designing Environmental Solutions
Bioswales and infiltration gardens show how simple design changes can make a big difference in stormwater quality and quantity. The infiltration garden is designed so water quality and quantity measurements can be easily taken before and after the gardens. The result will show the difference simple environmental filtration gardens can make on stormwater quality.

ECE- Early Childhood Learning  
Young minds and active learning.

For the early childhood area the overall curriculum is "Learning Myself" and the "Senses". However, elements fit in with the overall design theme of the Learning Landscape by incorporating fossils and a dinosaur dig.

Senses Garden
Part of the ECE curriculum is understanding yourself and the five senses. In the sense garden students can explore sight, smell, touch and feel. Different plants give the students the opportunity to touch and see different textures, smell a variety of fragrances and taste edible plants. A variety of herbs and vegetables can be grown in this area. Exploration is encouraged through an edged crusher fine trail which weaves throughout.

The garden is also used to attract birds, butterflies and other urban wildlife. Carefully selected trees, flowering shrubs and edible plants bring in critters that share our urban spaces. Attracting urban wildlife to the garden gives students the opportunity to explore the concept of community and life cycles beyond human centered ones.

Art in the Garden
Painted butterfly boxes "Senses" markers made of plasma cut steel
Weathering Plaza
Learning erosional processes.

Design Detail

Gateway and Shade Structure:

Longs Peak Keyhole
Off of 53rd. is the community gateway. It is designed to symbolize Longs Peak Keyhole. It has a natural stone veneer foundation. Incorporated into the stone veneer of the entry walk is a steel framing ornamental tree and leads to the “Ologenic” shade structure.

Process sketches for gateway design.

Weather Station

Weather monitoring stations are an excellent way for students to learn about climate and weather. They offer a unique opportunity for students to collect and analyze data. Many times the installation of units are subsidized by the National Science Foundation or local news channels. It is an opportunity for students to record data that becomes part of a larger data network.

Wind as Art

Wind is an erosional force that is harder to understand. It is hard to see. We feel it on our skin but do not always understand how it pushes air or carries grit. Kinetic sculptures move easily in the wind. In that regard students can see there is always air movement through the medium of art.

Rivers

Recycled blue aggregate is incorporated into the plaza concrete. It is revealed through a sandblasting technique which will resemble a river system. Through different artistic concrete finishes a mountain range, continental divide and rivers are revealed on the concrete surface.

Water/River = Erosion

An effective erosional process is the act of water moving over the earth’s surface. In the plaza an irrigation quick coupler allows for one of two educational opportunities to occur. A permanent stream/erosion demonstration bed or a portable one. Different agencies and conservation groups have the resources to demonstrate erosional processes. A portable table that shares the effects of water erosion on a stream. A natural looking quick coupler in the plaza will give easy access for hook-up to the trailer. Students then see water move sand as if it were a river moving a stream channel.

Ologeny is the act of building mountains, erosion is how they decompose. Rivers are one mechanism for moving tons of earth’s materials to the oceans and gulfs surrounding the United States. In the plaza the concrete “rivers” are named for major Western rivers. Along the mountain range is the Continental Divide to demonstrate how rivers on the Eastern side flow to the Mississippi and down to the Gulf of Mexico. Rivers on the Western side of the divide are named for those rivers which flow towards the Pacific.

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Ologenic Shade Structure:

Ologeny is the act of mountain forming. The shade structure is the peak of the playground. It has the act of uplift to show how the Rocky Mountains were formed. After walking through the “ três ” peaks users find an acid stained stamped compass rose. The spiritual heart of the gateway, passing under the shade structure and coming to a point of perspective at the compass rose.

The materiality of the shade structure and gateway are the same. A stone veneered base on each support post is supposed to be representative of natural stone found in the Rocky Mountains. Nothing escapes the natural weathering process. It sits on a concrete slab which is textured and colored to look like stone as well.

Materiality

Textured concrete in a “natural” stone finish.

Custom metal guard rail along the playpit ramp will be an artistic element expressing the Montbello theme.

Natural stone at the base of posts. The shade structure at Red Rock Canyon Open Space is a precedent for the design.