

# From Playgrounds to Trails

*Designing parks that include everyone*



# Questions to be answered:

What is universal design?

What are some guiding principles for designing for everyone?

What are some common challenges in parks and trails?

How do I create universally accessible play areas?

What's the next step?

What are some examples of parks with universal design?



# What is Universal Design for Parks?

- Takes into consideration the needs of as many people as possible
- Creates seamless and inherently accessible places
- Avoids the need for adaptation or specialized design for specific groups
- Universal design makes things easier/better for everyone
- Universal design is inherently included in all new park development, retrofits, maintenance practices, programs and communication
- Protection of the natural environment should not be unnecessarily compromised by park development
- Universal design is the new way of doing business!!



# Why is Universal Design in Parks Important?

- Demand for the health, social and recreational benefits derived from parks and trails are universal.
- People with disabilities (approximately 15% of the population in BC), families with small children and the largest growing sector – active seniors - are all seeking ***inclusive recreation and leisure experiences.***
- These demographic groups present a unique opportunity and challenge for organizations managing and maintaining park assets.



# Parks for Whom? For Everyone.

## Needs to consider:

- Loss of sight
- Loss of hearing
- Difficulty reaching
- Loss of upper body extremity skills
- Inability to use lower extremities
- Reliance on mobility aids
- Difficulty handling items
- Difficulty bending
- Extreme size and weight
- Limitations of stamina
- Poor balance
- Incoordination
- Difficulty interpreting information
- ESL needs
- Families with strollers or small children
- Temporarily able-bodied



# 7 Principles of Universal Design

*NC State University - The Center for Universal Design*

- 1. Equitable use:** parks are accessible to all people
  - Provide the same means for all users, identical where possible, equivalent when not
  - Avoid segregating users
  - Make the site appealing to all people
  
- 2. Flexibility in use:** parks accommodate a wide range of individual preferences and abilities
  - Provide choice for users - environments, facilities and services
  - Provide adaptability to the user's abilities



# Principles of Universal Design

- 3. Simple and Intuitive:** Understanding the park layout and context should be easy, regardless of the user's experience, knowledge, language or skill

- Eliminate unnecessary complexity
- Accommodate a wide range of literacy and language skills



# Principles of Universal Design

4. **Perceptible Information:** information is communicated effectively to the user regardless of conditions or the user's sensory abilities.
  - Use different modes (pictorial, verbal, tactile) for presentation of information
  - Maximize legibility
5. **Tolerance for Error**
  - Provide warnings of hazards
  - The most used elements are the most accessible, hazardous elements are isolated or eliminated



# Principles of Universal Design

6. **Low physical effort:** the design can be used efficiently and comfortably with a minimum of fatigue.
  - Minimize sustained physical effort
  - Use reasonable operating forces
  
7. Size and space is provided for approach, reach, manipulation, regardless of user's body size, posture or mobility
  - Accommodate hand and grip size
  - Provide clear sightlines to important elements for all people
  - Eliminate barriers (steps, curbs, stairs)



# But universal design isn't possible everywhere...

## User Expectations



- Urban/rural areas- easy accessibility



- Natural settings- moderate accessibility



- Semi-primitive areas- difficult accessibility

- Primitive areas (undeveloped)-most difficult accessibility

- However, provide a diverse spectrum of activity and recreation setting opportunities so people may choose
- Access levels also depends on respecting site topography, ecology and the recreation experience



# Elements of Parks, Trails and Play Areas

## Standards, Best Practices and Pitfalls

1. Paths and Circulation
2. Picnic
3. Seating Areas
4. Washrooms
5. Parking
6. Camping
7. Docks and Water Access
8. Trails
9. Play Areas
10. Communication



# Standards

- Universal Access Standards. Capital Regional District.2004.
- California State Parks Accessibility Guidelines, Accessibility Section, Acquisition and Development Division, 2005.
- Universal Access to Outdoor Recreation: A Design Guide, 1993.
- Accessibility Guidebook for Outdoor Recreation and Trails. US Department of Agriculture, 2006.
- Design Guidelines for Accessible Outdoor Recreation Facilities. 1994. Parks Canada.
- Annex H, CAN/CSA-Z614 Children's Playspaces and Equipment Standards.
- The Building Access Handbook. British Columbia, 2007.
- [www.everyoneincluded.com](http://www.everyoneincluded.com)



# 1.0 Paths and Circulation

- Links to features
- Easiest and most direct connections
- Slope
- Cross slope
- Width
- Barriers
- Hazards



- Surfacing





- Edge protection
- Resting and passing areas
- Clear sitelines
- Clear wayfinding



# 2.0 Picnic Areas

- Path to tables
- Clear space
- Firm stable surface
- Knee clearance
- No barriers
- Accessible amenities
- Choice (location, sun/shade)



## 3.0 Seating Areas

- Path to bench
- Firm, level surface
- Back support and armrests
- Set back from paths
- Clear space available beside allowing for wheelchair/stroller parking



# 4.0 Washrooms

- Path to washroom building
- No barriers (door, threshold, steps)
- Easy to open door
- Stall door opens outwards
- Clear space inside
- Knee clearance
- Toilet/urinal height
- Grab bars
- Easy to operate handles/controls
- Amenities within reach/view
- Signage



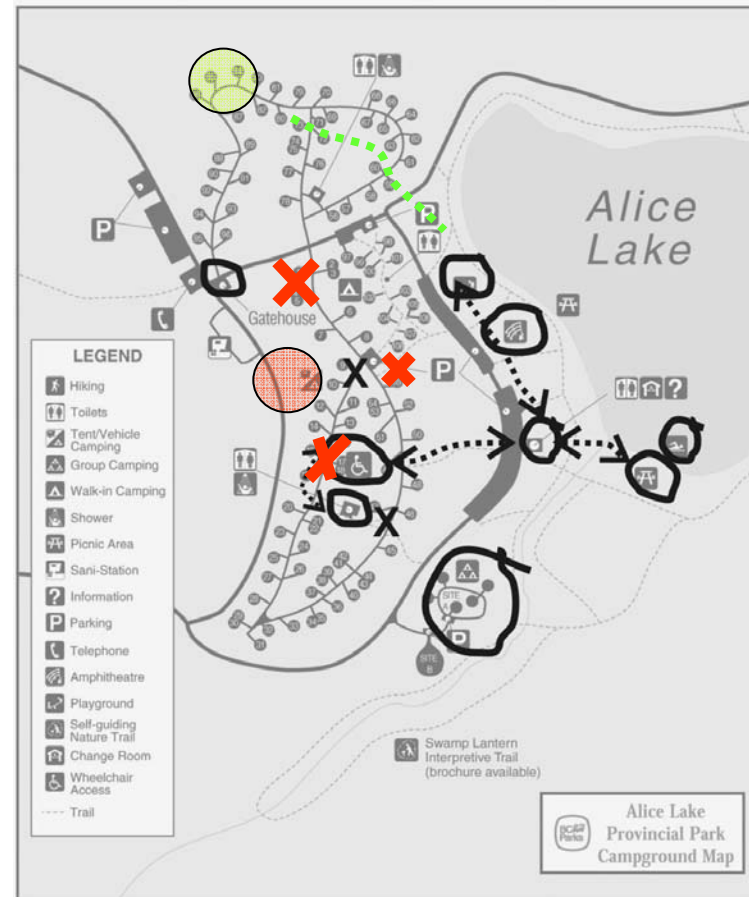
# 5.0 Parking

- Firm, level surface
- Located near path/entrance
- Designated, clearly marked wider spots
- Clear routes without directing users across traffic
- Accessible pay station
- No barriers



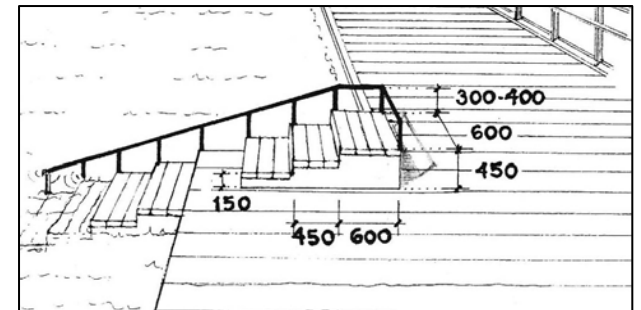
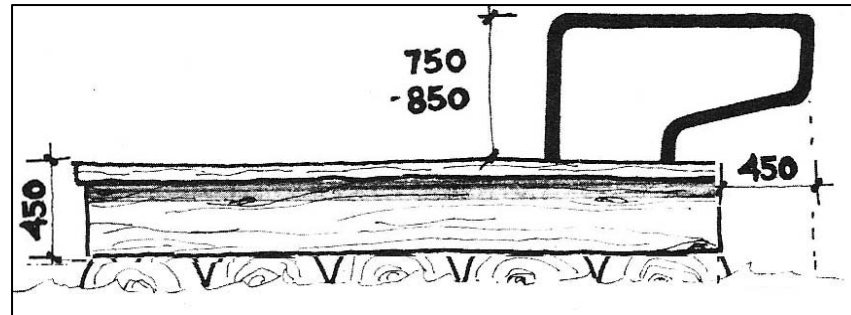
# 6.0 Camping

- Surface, slope, cross slope
- Accessible amenities
- No barriers/hazards
- Surfacing
- Paths and connections
- Near facilities and accessible amenities
- Reserved, but not “designated”



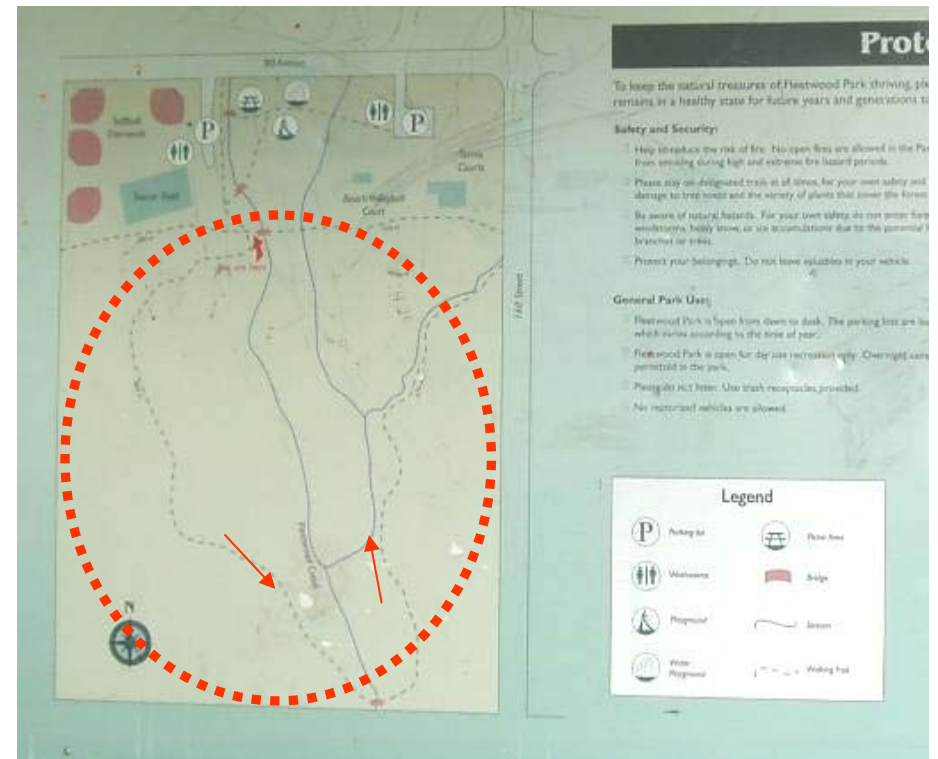
# 7.0 Docks/Water Access

- Examples of best practices



# 8.0 Trails

- Slope
- Cross slope
- Resting areas
- Surface
- Width
- Barriers/Hazards
- Edge condition
- Length
- Variety of experiences and challenges
- Provide information!



# 9.0 Play Areas

## Simple Site Improvements

1. Site circulation
2. Access into play boxes
3. Fall surfacing
4. Inclusive play equipment (CSA, Annex H)
5. Seating and picnic areas
6. Sensory components



# 9.1 Site Circulation



**TO:** Connect play areas and seating with paths with accessible surfacing



**Within:** Most play happens between equipment



Provide access from sidewalks or roads



## 9.2 Access to play areas



# 9.3 Fall Surfacing



Rubber Tile



Pour in Place Rubber



Engineered Wood Fibre



Engineered Carpet



Engineered Recycled Rubber



# 9.4 Inclusive Equipment - examples



# 9.5 Accessible Seating Areas



# 9.6 Sensory Components



# 10.0 Parks Communication – web info

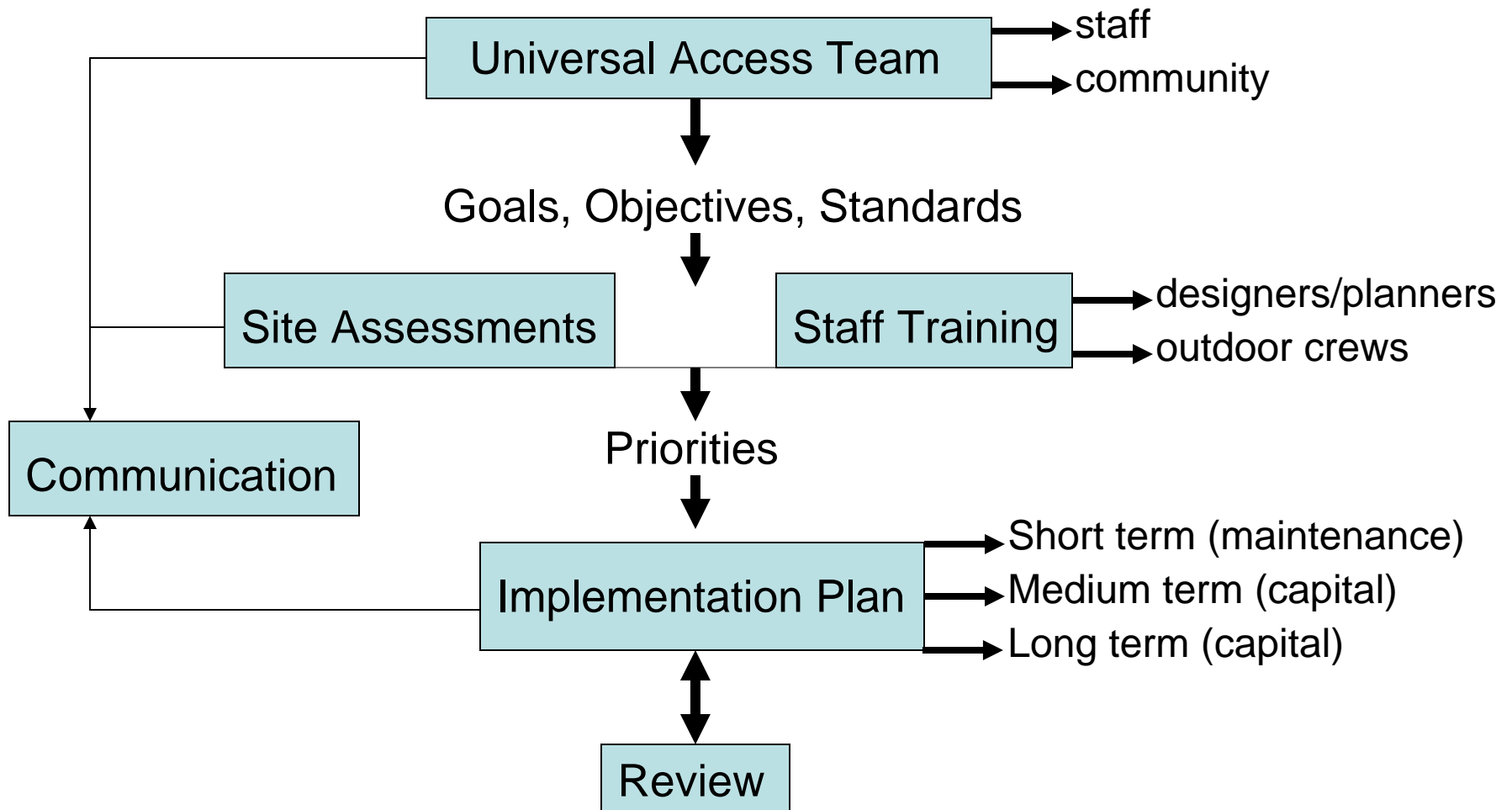
- Provide integrated detailed information

ARKANSAS STATE PARKS 2002 ACCESSIBILITY GUIDE TO FACILITIES		Guide to Accessibility Symbols																		
		<p><b>A</b>— ACCESSIBLE: Facility is barrier free or has minor barriers which can usually be overcome with little difficulty.</p> <p><b>R</b>— REASONABLY ACCESSIBLE: Facility has barriers, making access difficult; however, with assistance barriers can usually be overcome.</p> <p><b>I</b>— INACCESSIBLE: Facility has barriers which are difficult or impossible to overcome even with assistance.</p>																		
PARK or MUSEUM		Visitor Info. Center	Picnic Sites	Campsites	Bathhouse	Restroom	Pavilion	Amphitheater	Restaurant	Snack Bar	Store	Laundry	Marina	Boat Dock	Fishing Pier	Trails	Pool	Beach	Lodge Rooms	Cabins
Arkansas Museum of Natural Resources	A	A				A				A	A					A				
Arkansas Post Museum	A					A														
Beaver Lake						A										I				
Bull Shoals/White River	A	A	A	A	I	A	R			A				R	A					
Cane Creek	A	A	A	A	A	A									A	I				
Conway Cemetery (no facilities)																				
Cossatot River		A	A			A										I				
Crater of Diamonds	A	A	A	A	A				A	A	A				A	A				



# The Next Step - Process for Change

Ad-hoc Accessibility → Universal Access Plan



# Site assessments

Park Name

PATHS	A	B	Comments/Photo no.
			Write in location (ie. connection to lookout)
			Yes/ No / N/A
<b>Width</b>			
Is the path at least 920 mm wide?			
If path is less than 920 mm are passing spaces provided every 60-90 m?			
If path is 810 mm wide, is it for a maximum distance of 800 mm?			
<b>Slope</b>			
Is the slope of the path less than 10%?			
If the slope is greater than 8.3% (1:12), is it for a maximum distance of 9 m before there is a resting area?			
If the slope is greater than 5%, is it for a maximum distance of 15 m before there is a resting area?			
<b>Cross Slope</b>			
Is the cross slope equal or less than 3%? (noticeable)			
<b>Surface</b>			
Is the path surface firm and stable (ie. narrow bike tires would not make ruts)?			
<b>Resting Areas</b>			
Are resting areas provided 1500 mm X the width of the path?			
<b>Barriers/Hazards</b>			
Is path free of hazards and barriers?			
If the path drops 75 mm down from edge of path, is edge protection provided?			
If drop from path exceeds 800 mm is a railing provided? (Fig 36)			
<b>Evaluation</b>			<b>Rating Scale</b>
How important is this feature to the park?			1 low importance; 2 moderate importance; 3 high importance
What is the estimated cost to upgrade this feature to universal access?			1 low cost (maintenance); 2 moderate cost (short term capital); 3 high cost (long term capital)



# The Design Process

- **Project initiation and research**
  - Priorities and must haves
- **Site analysis**
  - Site challenges/topography
- **Program development**
  - Who are all the users?
- **Conceptual design**
  - How can we incorporate as many “layers” of use as possible?
- **Path analysis**
  - How does the site circulation work for all people?
- **Design detailing**
  - How can we enhance features to be more inclusive?
- **Post occupancy evaluation**
  - Can everyone use this site? Where did we go wrong?
- **Maintenance**
  - How to ensure continued full access for all users?





**SGolden + Associates**

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site planning and universal design

[www.sgoldenandassociates.com](http://www.sgoldenandassociates.com)  
[shiragolden@telus.net](mailto:shiragolden@telus.net)

