

Shared Use Trail Pilot Program: Tryon Park and Irondequoit Bay Park West



May 24, 2010

Monroe County, NY



Prepared for: Monroe County Department of Parks, Monroe County, NY
Prepared by: Environmental Design and Research



Shared Use Trail Pilot Program: Tryon Park and Irondequoit Bay Park West

MEETING OUTLINE

Project background

Ellison Area Master Plan Updates 2009

Review of site analysis

Review of recommendations

18 month Pilot Program:

Trail Assessment Criteria

Trail Assessment Process

Trail Assessment Results

Trail Monitoring Process

evaluate trail conditions every 3 months

Personnel/Methodology/Reporting

Upcoming:

New shared use trail design and construction for I Bay West

Questions & Comments



Master Plan Updates: Key Issues

- Access and Community Connectivity
- Conservation & Sustainability
- Active Living to Address Preventable Health Problems
- Green Infrastructure
- Shared Use of Trails
- Waterfront Use and Access
- Dog Parks

IRONDEQUOIT BAY PARK WEST:

FACILITIES

Improvements to entry signage and directional signage.
Improvement to surface conditions of existing roads.
Abatement of existing drainage and storm water management issues.
Possible new launch area for small boats at north end of park.
Establish an inland circuit of waterfront destinations for paddlers around Irondequoit Bay.

Possible utilization of old RR bed to provide trail corridor from Empire Blvd. into Irondequoit Bay Park West.
Possible pedestrian/bike crossing of Empire Blvd.

PROGRAMS

MANAGEMENT & MAINTENANCE:
Stream bank stabilization strategies along riverine draining to Irondequoit Bay.
Control of invasive species (possible utilization of community labor).
Sustainable trail practices for natural surface trails.

Establish monitoring program to record trail use patterns and problem areas.
Survey and delineate park boundaries.

TRYON PARK:

FACILITIES

Identify additional access, parking and trailhead opportunities for Tryon Park.
Investigate possible additional land acquisitions to expand Tryon Park.

New signage system:
entry signage
regulatory signage
interpretive signage
wayfinding signage

PROGRAMS
Open natural surface trails in Tryon Park to off-road cycling.

(Requires amendment to Monroe County parks law.)
Establish educational programs and workshops for safe and responsible riding.

MANAGEMENT & MAINTENANCE:
Create a detailed inventory of existing trails in Tryon Park.
Identify unsustainable or dangerous trails to be closed.
Identify opportunities to establish new sustainable shared-use trails.

Application of Sustainable Trails guidelines to control erosion and environmental impacts on existing trails.

Design and implement a Monitoring Plan to evaluate use and impacts to trail conditions and natural resources.

Establish a 36 month evaluation period to monitor impacts of policy changes.

Establish partnerships between Monroe County Parks Dept and community trail user groups for appropriate trail development and maintenance.

Survey and delineate park boundaries.



DEVIL'S COVE:

FACILITIES

Majority of public comments support the continuation of Devil's Cove as a boat access only facility.
Unique condition on Irondequoit Bay.

Land access, if eventually provided, can be walk-in trail access only from a small parking area off of Bay Road. Investigate potential access arrangements and/or property acquisitions.

PROGRAMS

MANAGEMENT & MAINTENANCE:
Monitor water quality issues in the Cove.
Environmental enhancements to increase habitat value.

IRONDEQUOIT BAY PARK EAST:

FACILITIES

Possible new access, parking, entry signage and trailhead at 1558 Empire Blvd.
Requires asbestos abatement, demolition and removal of existing houses, barn and out-buildings.

Provide additional park entry signage at Smith Road.
Provide surface repairs and improvements to park access road.

Provide signage with trail maps and interpretive information on natural and historical resources within the park.
Investigate the potential of additional parking spots along the park access road.

Possible future addition of playing fields on plateau in old nursery area.
In partnership with Town of Pentice and/or local sports groups.

(1985 Master Plan recommendation)
Inventory and protect horticulture resources of the Old Line Nursery.

Possible future construction of new multi-use building and enhanced waterfront recreation opportunities near the Quaker Hill.
Establish an inland circuit of waterfront destinations for paddlers around Irondequoit Bay.

PROGRAMS

MANAGEMENT & MAINTENANCE:
Stream bank stabilization strategies along riverine draining to Irondequoit Bay.
Control of invasive species (possible utilization of community labor).

Sustainable trail practices for natural surface trails.
Survey and delineate park boundaries.

ELLISON WETLANDS:

FACILITIES

Possible construction of new access, parking and car-top boat launch off of Empire Blvd.
Possible new parking and access on north side of Brownroot Blvd. at Landing Road.

Minor parking and access improvements on Old Brownroot Blvd.
Note: removal of the existing weir and installation of the Narrows Bridge is likely in 2020.

PROGRAMS
Emphasize ecological conservation and environmental education in this area.
Increased use of existing Monroe County Wetland Center. Additional nature-oriented programs and events.

MANAGEMENT & MAINTENANCE:
Stream bank stabilization strategies along Irondequoit Creek.
Control of invasive species (possible utilization of community labor).

Sustainable trail practices for natural surface trails (Old Rifle Range area).
Establish monitoring program to record trail use patterns and problem areas.

ELLISON PARK:

FACILITIES

Construction of dog park.
(to be funded by Dog Park Trust Fund)

Structure improvements to existing building:
(see spreadsheet)
Upgrades to Pavilion Lodge are a priority.

Provide landing areas for paddlers on Irondequoit Creek.
Identify potential areas along the creek for paddlers to disembark and utilize Ellison Park facilities. Strengthen connectivity between Ellison Park and Ellison Wetlands.

Improve trails from south entrance:
Possible enhancements of trail surfacing on high-use trails (Coyote Trail, etc.)

PROGRAMS

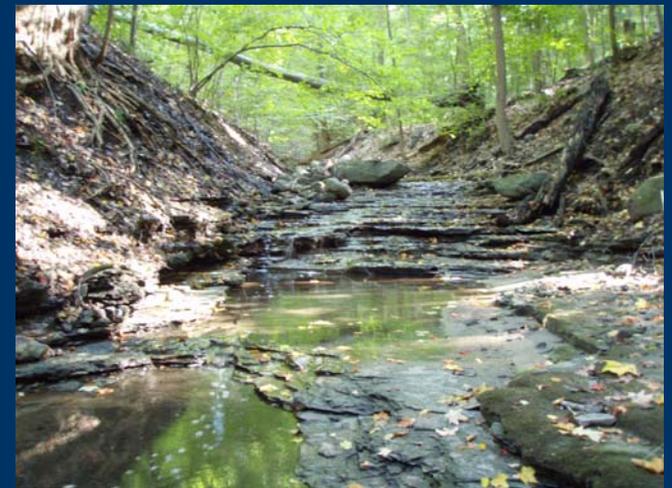
MANAGEMENT & MAINTENANCE:
Stream bank stabilization strategies along Irondequoit Creek.
Restoration of stream bank areas damaged by frequent dog use.
Control of invasive species.

Possible utilization of community labor.
Establish sustainable trail practices for natural surface trails.
Survey and delineate park boundaries.

- *Engineering
- *Education
- *Encouragement
- *Enforcement



I Bay West



Tryon Park



Prepared for: Monroe County Department of Parks, Monroe County, NY
Prepared by: Environmental Design and Research



Ellison Park Area Master Plan Updates

Key Issues

Access and Community Connectivity

Active Living to Address Preventable Health Problems

Green Infrastructure

Shared Use of Trails

Waterfront Use and Access

Dog Parks

Sustainability & Conservation



SITE INVENTORY AND ANALYSIS

Soils

Topography

Hydrology

Vegetation

Wildlife

Building
Inventory

Access and
Circulation

Historical
Resources

Demographics



Prepared for: Monroe County Department of Parks, Monroe County, NY
Prepared by: Environmental Design and Research



NATURAL RESOURCES: Soils Maps



Irondequoit Bay Park - West



Tryon Park



Prepared for: Monroe County Department of Parks, Monroe County, NY
Prepared by: Environmental Design and Research



NATURAL RESOURCES: Slope Maps



Irondequoit Bay Park - West

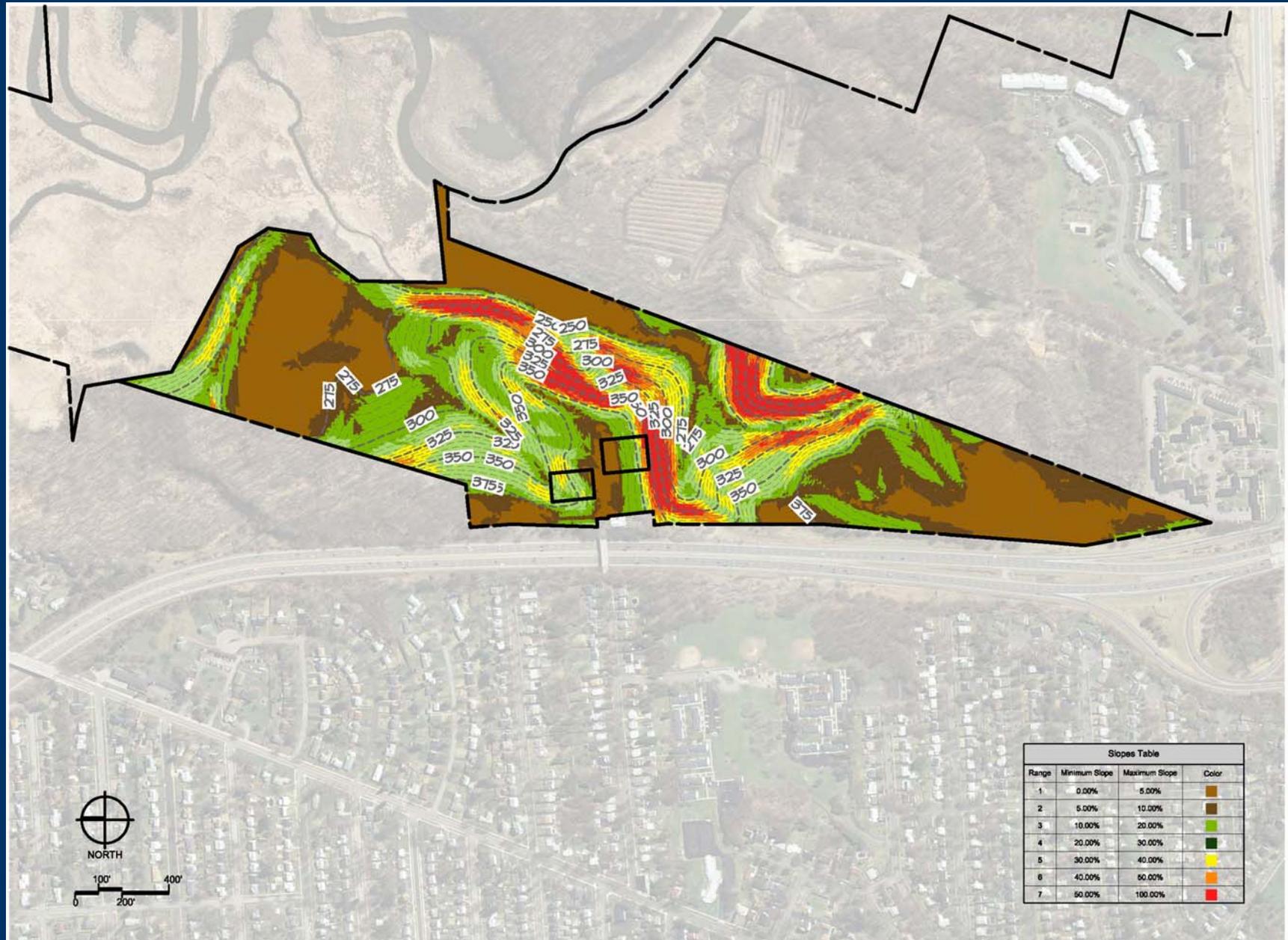


Prepared for: Monroe County Department of Parks, Monroe County, NY
Prepared by: Environmental Design and Research



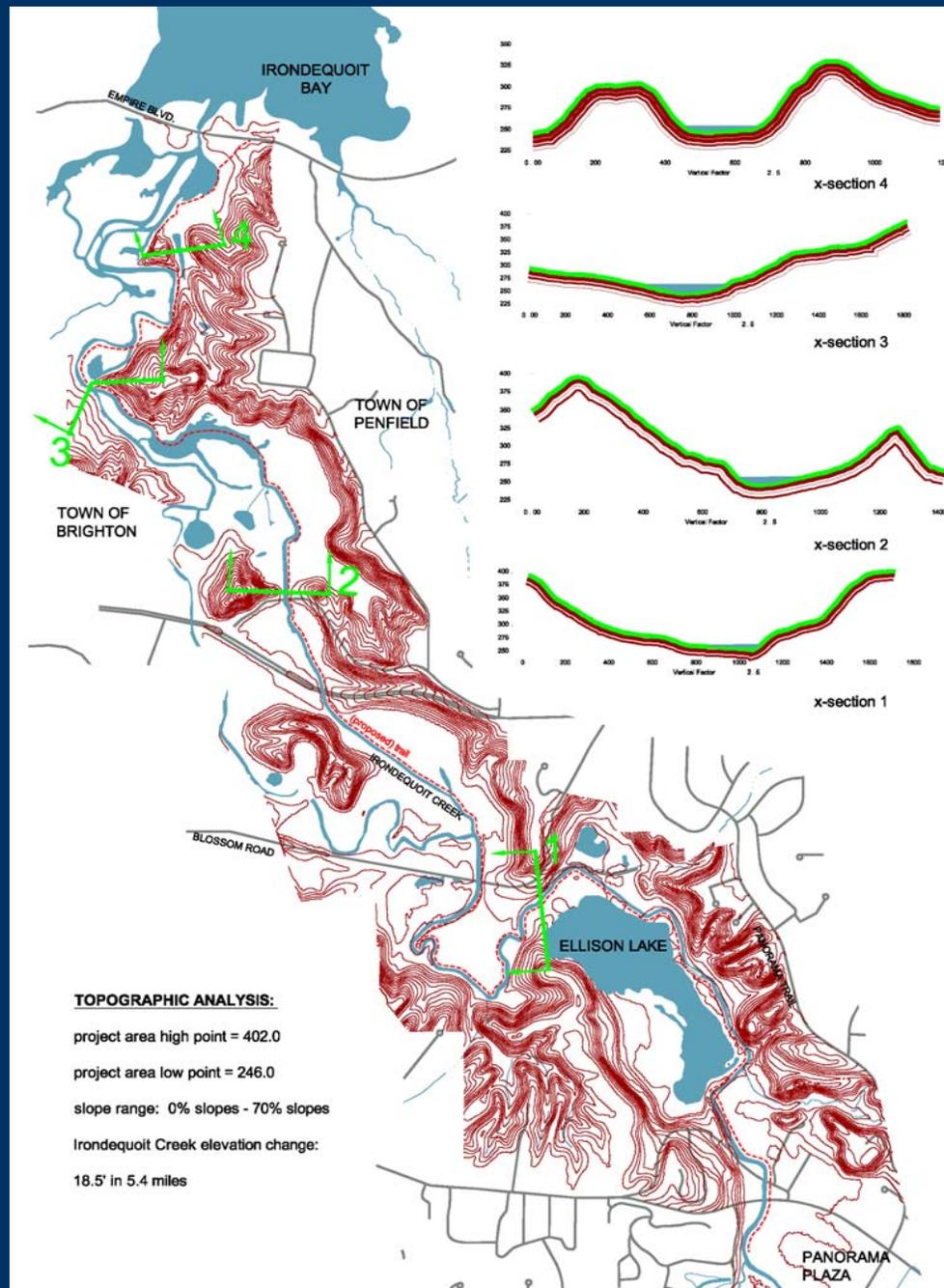
NATURAL RESOURCES: Slope Maps

Tryon Park



Prepared for: Monroe County Department of Parks, Monroe County, NY
Prepared by: Environmental Design and Research

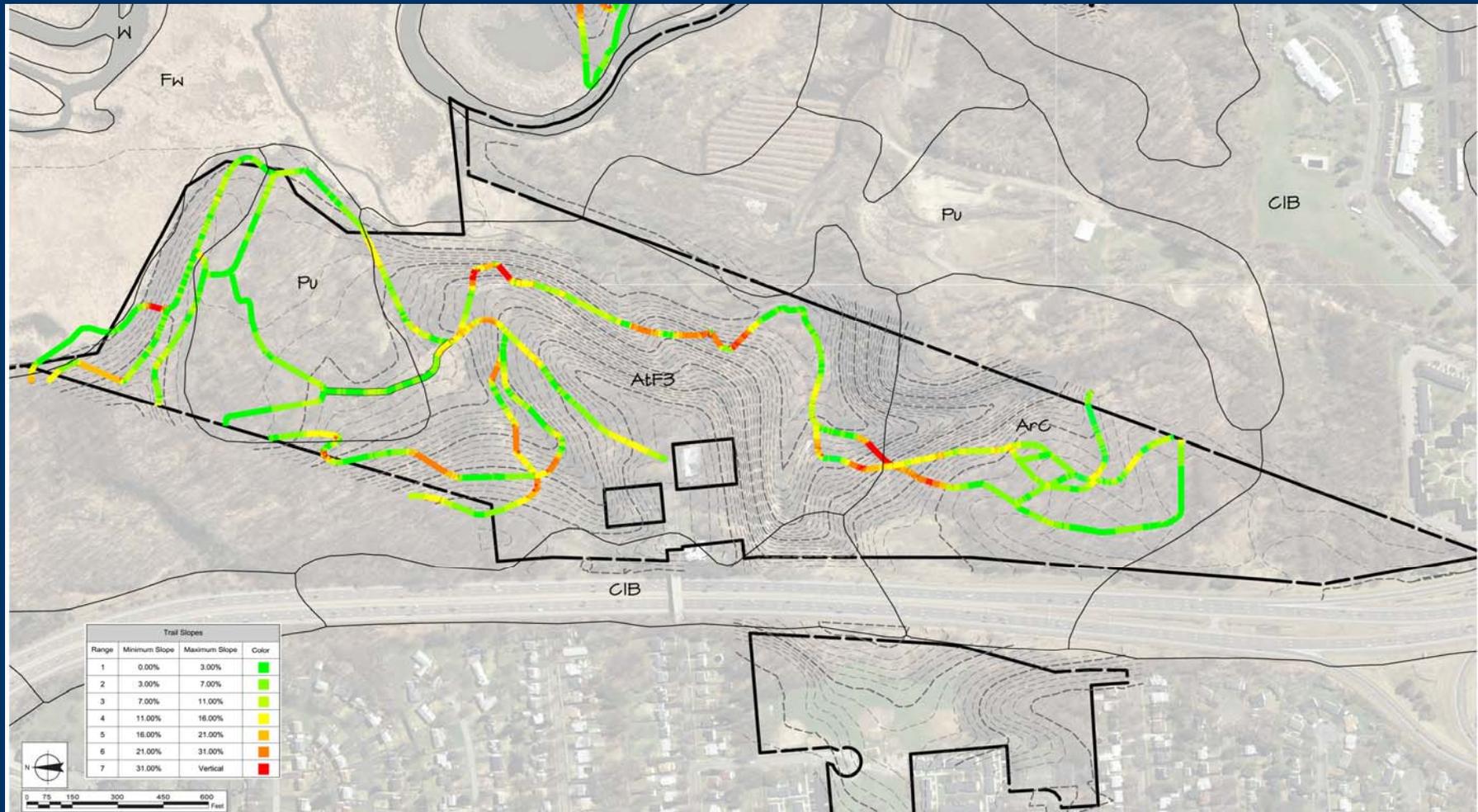




Prepared for: Monroe County Department of Parks, Monroe County, NY
 Prepared by: Environmental Design and Research



NATURAL RESOURCES: Tryon Trail Slope



Prepared for: Monroe County Department of Parks, Monroe County, NY
Prepared by: Environmental Design and Research



Parks Data:

- Ellison Park

area=440 acres / trails=5.2 miles / creek length=2.2 miles

- Ellison Wetlands

area=318 acres / trails=6.6 miles / creek length=1.8 miles

- Tryon Park

area= 83 acres / trails=2.6 miles

- Irondequoit Bay Park East

area=110 acres / trails=4.4 miles / bay shoreline=0.96 miles

- Irondequoit Bay Park West

area= 182 acres / trails=3.3 miles / bay shoreline=1.3 miles

- Devil's Cove

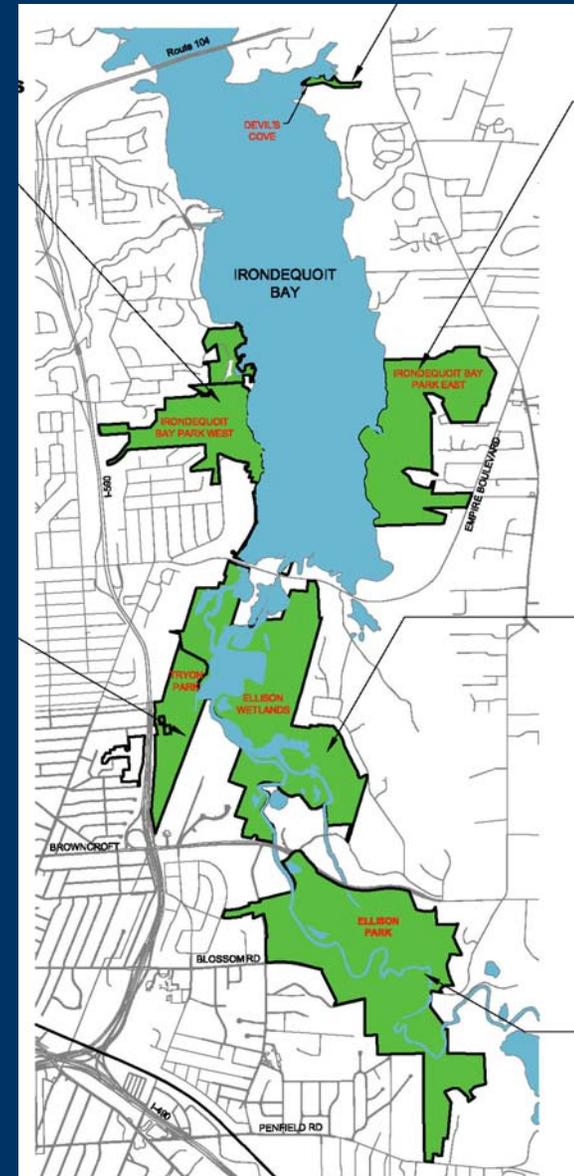
area= 6 acres

Total Area = 1139 acres

Total Trails = 22.1 miles

Total bay shoreline = 2.26 miles

Total creek length (main channel) = 4.0 miles



SITE INVENTORY AND ANALYSIS



Terra Viewer Aerial Imagery



Prepared for: Monroe County Department of Parks, Monroe County, NY
Prepared by: Environmental Design and Research



Possible Trail Connections



Prepared for: Monroe County Department of Parks, Monroe County, NY
Prepared by: Environmental Design and Research



Preliminary Recommendations



Tryon Park

FACILITIES

* Identify additional access, parking and trailhead opportunities for Tryon Park.

Investigate possible additional land acquisitions to expand Tryon Park.

New signage system:
entry signage
regulatory signage
interpretive signage
wayfinding signage

PROGRAMS

*Open natural surface trails in Tryon Park to off-road cycling.

Establish educational programs and workshops for safe and responsible riding.

MANAGEMENT & MAINTENANCE:

**Create a detailed inventory of existing trails in Tryon Park.
Identify unsustainable or dangerous trails to be closed.
Identify opportunities to establish new sustainable shared-use trails.

*Sustainable trail practices for natural surface trails.

Control of invasive species and habitat enhancements.

*Design and Implement a Monitoring Plan to evaluate use and impacts to trail conditions and natural resources.

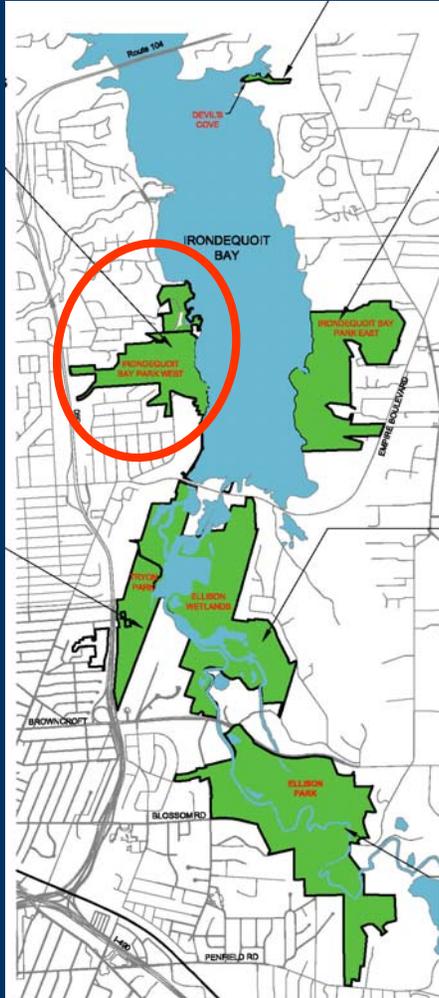
*Establish a 18 month evaluation period to monitor impacts of policy changes.

*Establish partnerships between Monroe County Parks Dept and community trail user groups for appropriate trail development and maintenance.

**Survey and delineate park boundaries



Preliminary Recommendations



Irondequoit Bay Park West

FACILITIES

Improvements to entry signage and directional signage.

Improvement to surface conditions of existing roads.

Abatement of existing drainage and storm water management issues.

Possible new launch area for small boats at north end of park.

Establish a linked circuit of waterfront destinations for paddlers around Irondequoit Bay.

Possible utilization of old RR bed to provide trail corridor from Empire Blvd. into Irondequoit Bay Park West

Possible pedestrian/bike crossing of empire Blvd.

*Identify opportunities for a sustainable shared use trail circuit

PROGRAMS

Consider re-naming the park to establish unique identity and increase public recognition.

MANAGEMENT & MAINTENANCE:

Streambank stabilization strategies along ravines draining to Irondequoit Bay.

Control of invasive species (possible utilization of community labor)

Sustainable trail practices for natural surface trails.

Control of invasive species and habitat enhancements.

*Establish monitoring program to record trail use patterns and problem areas.

**Survey and delineate park boundaries



Prepared for: Monroe County Department of Parks, Monroe County, NY
Prepared by: Environmental Design and Research



Number	Park	Category	Recommendation	Description	Priority	Time Frame	Issues Addressed	Partners	Notes
1	Tryon Park	Facilities	Access and Parking Improvements	In coordination with Monroe County Department of Environmental Services, identify additional access, parking, and trailhead opportunities.	High	Short-term	Access/Connectivity, Healthy Living, Shared Use of Trails, Sustainability	County, ORC community, trail users	Figure N identifies one potential location for improved access, parking and a trailhead from the north side of Tryon Park Road near the old treatment building.
2	Tryon Park	Facilities	Biking-Hiking Interface	Address the biking-hiking interface by placing bicycle racks at appropriate locations.	Med	Short-term	Access/Connectivity, Healthy Living, Shared Use of Trails, Sustainability	County, ORC community, trail users	An effort that could be used to encourage trail riding in appropriate locations, and to discourage riding in inappropriate locations.
3	Tryon Park	Facilities	Tryon Park Expansion	Investigate possible additional land acquisitions to expand Tryon Park.	Med	Long-term	Access/Connectivity, Healthy Living, Shared Use of Trails, Sustainability	County	
4	Tryon Park	Facilities	New Signage System	Develop a new signage system that includes entry signage, regulatory signage, interpretive signage, and wayfinding signage.	High	Mid-term	Access/Connectivity, Healthy Living, Shared Use of Trails, Sustainability	County	
5	Tryon Park	Facilities	Upgrade Road/Trail	Improve and upgrade the condition of the deteriorating paved road by removing the pavement and reverting it back to a trail.	High	Mid-term	Healthy Living, Shared Use of Trails, Sustainability	County	
6	Tryon Park	Programs	Off-Road Cycling	Open natural surface trails in Tryon Park to off-road cycling.	High	Short-term	Access/Connectivity, Healthy Living, Shared Use of Trails, Sustainability	County Parks	
7	Tryon Park	Programs	Off-Road Cycling Workshops	Establish educational programs and workshops to encourage safe and responsible off-road cycling. Apply lessons learned from the successful shared-use trails in the area and the region.	High	Mid-term	Healthy Living, Shared Use of Trails, Sustainability	County, ORC community	
8	Tryon Park	Management & Maintenance	Evaluation Period	Establish an 18-month evaluation period to monitor impacts of policy changes on park use, facilities, and users.	High	Short-term	Healthy Living, Shared Use of Trails, Sustainability	County, trail users	
9	Tryon Park	Management & Maintenance	Develop Partnerships	Develop partnerships between the Monroe County Parks Department and community trail user groups for appropriate trail development and maintenance.	Med	Short-term	Healthy Living, Shared Use of Trails, Sustainability	County, trail users	Some partnerships already exist, but there are additional opportunities for more partnerships.
10	Tryon Park	Management & Maintenance	Ecological Enhancements	Enhance small disturbed area in clearing where deteriorating paved trail terminates in the center of the park. One possibility would be to maintain this as an open area with native herbaceous plant species and shrub plantings.	Low	Mid-term	Green Infrastructure, Sustainability	County	This area is located in an important transition zone between the successional and mature forest but, has a higher percentage of invasive species and lacks the natural ecological balance that provides optimal habitat.
11	Tryon Park	Management & Maintenance	Stream Restoration	There are opportunities for stream restoration in the lower areas of the primary stream corridor that flows through the park, especially on the lower reaches before the confluence with Irondequoit Creek.	Med	Mid-term	Green Infrastructure, Sustainability	County	This reach is entrenched and eroding due to the urban watershed creating "flashy" storm events.

Ellison Park Area Master Plan Updates
Recommendations for Tryon Park



Number	Park	Category	Recommendation	Description	Priority	Time Frame	Issues Addressed	Partners	Notes
1	All Parks	Management & Maintenance	Invasive Species Control	Continue efforts to control invasive species in the parks. Could involve community labor and/or partnerships with community groups.	Med	Ongoing	Green Infrastructure, Sustainability	County, volunteer groups	The control method for invasive species removal depends on the plant. When a species requires hand removal (such as garlic mustard), community labor would be effective.
2	All Parks	Management & Maintenance	Park Boundaries	Survey and delineate park boundaries.	High	Short-term	Access/Connectivity	County	
3	All Parks	Management & Maintenance	Sustainable Trail Practices	Establish sustainable trail practices for natural surface trails. Designate "wet weather trails" that have gravel surfaces and low slope angles that can tolerate more use under wet conditions.	High	Short-term	Access/Connectivity, Sustainability, Shared Use of Trails	County, trail users	Trails are much more easily damaged when subjected to significant use during wet conditions. During wet periods, confining high impact uses to trails with a gravel surface and low alignment angle will reduce damage. Indicate wet trails on County park maps, post weather advisories online, use educational signage, and ask users to stay on wet weather trails.
4	All Parks	Management & Maintenance	Inventory of Existing Trails	Complete a thorough inventory and analysis of existing park trails using GPS technology. Identify trail corridors and locate problem areas that are unsustainable (e.g. badly eroded, poorly drained) or dangerous.	High	Mid-term	Access/Connectivity, Sustainability, Shared Use of Trails	County, ORC community, hiking community	Mapping of existing trails does not exist for some parks, and needs to be updated for others. Identify new opportunities to establish new sustainable shared-use trails where appropriate.
5	All Parks	Management & Maintenance	Trail Monitoring Program	Establish trail monitoring program to record trail use patterns and problem areas.	High	Mid-term	Access/Connectivity, Healthy Living, Green Infrastructure, Shared Use of Trails, Sustainability	County, trail users	
6	All Parks (except Ellison Park)	Management & Maintenance	Park Maps	Develop illustrative, informative park maps to inform users of available facilities and to delineate park boundaries. Make maps available on County website.	High	Short-term	Access/Connectivity, Healthy Living	County	Update Park Maps as needed. Public comment indicated that more information is desired about park facilities and boundaries.
7	All Parks	Management & Maintenance	Utilize Internet, Social Networking and Web Tools	Expand use of the Parks Department website; post park rules, hours, trail etiquette, park information, facilities information. Identify shared-use trails. Post and update trail conditions and user advisories.	High	Short-term	Access/Connectivity, Healthy Living, Shared Use of Trails, Sustainability, Waterfront Use & Access, Dog Parks	County, trail users	Consider the possibility of a partnership with the Monroe County Library System. Park advisories or event information could be circulated through a "print and post" email that is posted by library staff on a Park Bulletin Board at each library.
8	All Parks with Waterfront Access	Facilities	Waterfront Paddling Destinations	Establish a linked circuit of waterfront destinations for paddlers around Irondequoit Bay.	High	Short-term	Healthy Living, Waterfront Use & Access, Sustainability	County, Paddling community	Existing public landing spots around the bay would benefit from better signage. New landing spots could be developed. A map of landing spots and associated facilities (restrooms, picnic areas) would better inform park users of the opportunities.



Number	Park	Category	Recommendation	Description	Priority	Time Frame	Issues Addressed	Partners	Notes
1	Irondequoit Bay Park West	Facilities	Signage Improvements	Make improvements to entry signage and directional signage.	Med	Short-term	Access/Connectivity	County	
2	Irondequoit Bay Park West	Facilities	Road Improvements	Make improvements to surface conditions of existing roads.	Med	Mid-term	Access/Connectivity, Healthy Living, Sustainability	County	
3	Irondequoit Bay Park West	Facilities	Stormwater Management	Abatement of existing drainage problems and address stormwater management issues.	High	Mid-term	Access/Connectivity, Healthy Living, Green Infrastructure, Sustainability	County	Existing drainage ways within the park may require bank and channel stabilization to reduce erosion and sedimentation.
4	Irondequoit Bay Park West	Facilities	Shared-Use Bicycle Trail	Establish shared-use trail in Irondequoit Bay Park West that is suitable for intermediate cyclists.	High	Mid-term	Access/Connectivity, Healthy Living, Shared Use of Trails, Sustainability	County, ORC community	Design and construct according to sustainable trail guidelines. A new shared use trail would provide a test case for building and monitoring a new trail, in tandem with monitoring Tryon Park's existing trails.
5	Irondequoit Bay Park West	Facilities	Paddler access	Provide landing point for paddlers at Irondequoit Bay Park West, on narrow waterfront portion of park, halfway between main park and Empire Boulevard.	Med	Short-term	Access/Connectivity, Healthy Living, Waterfront Use & Access, Sustainability	County, Paddling community	Excellent access point for paddlers. Broad, flat grassy area with easy water access. Consider picnic tables or a shelter.
6	Irondequoit Bay Park West	Facilities	New Trail Connection	Utilize old railroad bed to provide waterfront trail corridor from Empire Boulevard into the park. Would provide connection from parkland on south side of Empire Boulevard (Ellison Wetlands and Tryon Park).	Med	Long-term	Access/Connectivity, Healthy Living, Waterfront Use & Access, Shared Use of Trails, Sustainability	County	Could be part of an interesting shared use trail system. Requires safe crossing of Empire Boulevard.
7	Irondequoit Bay Park West	Facilities	Pedestrian Crossing of Empire Boulevard	Develop a safe pedestrian and bicycle crossing of Empire Boulevard.	High	Long-term	Access/Connectivity, Healthy Living, Waterfront Use & Access, Shared Use of Trails, Sustainability	County, NYSDOT, Town	Crossing has been proposed in other relevant planning studies. Requires traffic study, gap analysis, and crossing facility design.
8	Irondequoit Bay Park West	Programs	New Park Name	Consider re-naming the park to establish unique identity and increase public recognition.	Med	Short-term	Access/Connectivity	County	In coordination with updated park maps.
9	Irondequoit Bay Park West	Management & Maintenance	Stream Bank Stabilization	Stream bank stabilization strategies along ravines draining to Irondequoit Bay. There are several opportunities for stream restoration in the upper drainage basin in the western portion of the park.	Low	Mid-term	Green Infrastructure, Sustainability	County	Investigate best management practices (BMPs) and consider both soil bioengineering and engineered solutions. Several stream reaches are entrenched and eroding due to the suburban/urban watershed creating "flashy" storm events.

Ellison Park Area Master Plan Updates
Recommendations for Irondequoit Bay Park West



TRYON PARK: Entrance Road and Parking Lot



Prepared for: Monroe County Department of Parks, Monroe County, NY
Prepared by: Environmental Design and Research





Prepared for: Monroe County Department of Parks, Monroe County, NY
Prepared by: Environmental Design and Research

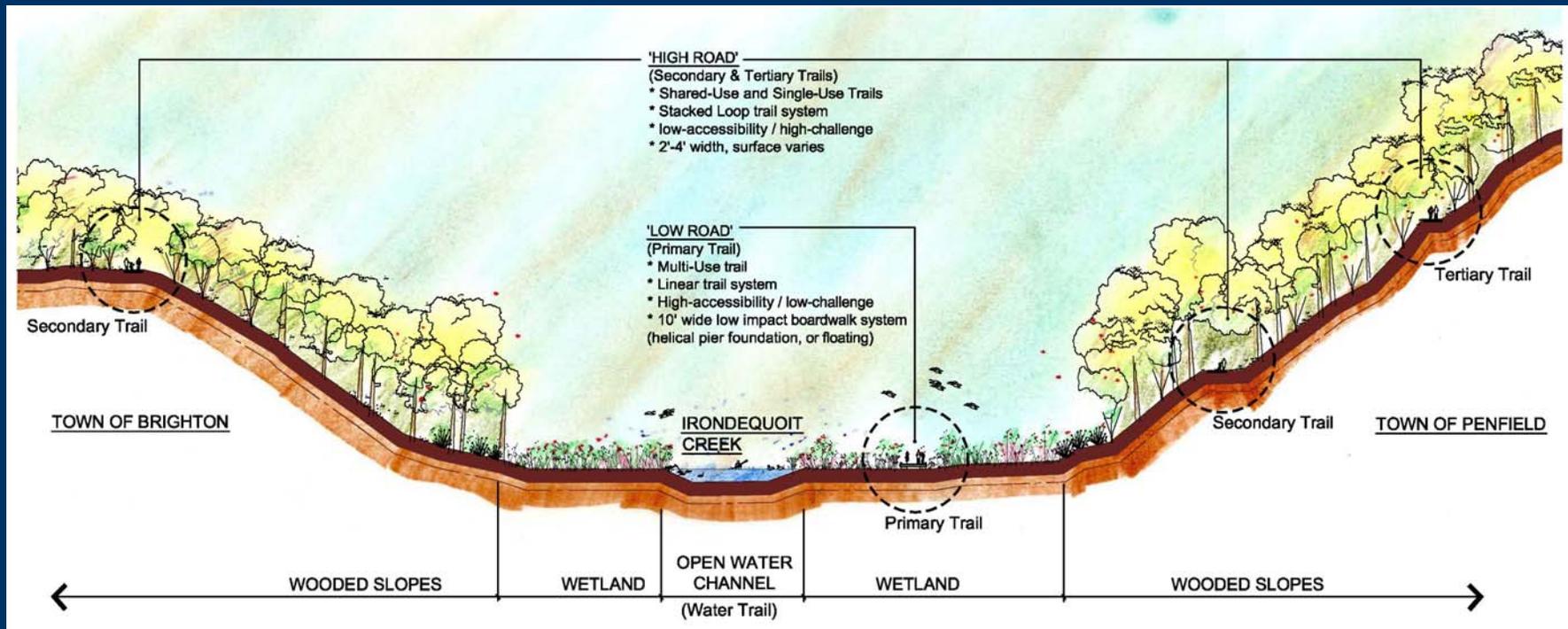


1- Trail position – categorized as one of three types:

valley bottom,

ridge top, or

mid-slope.



TRAIL ASSESMENT CRITERIA



Prepared for: Monroe County Department of Parks, Monroe County, NY
Prepared by: Environmental Design and Research



2- Tread surface material:

Natural surface/ packed earth

Gravel

Asphalt

Woodchip

Other

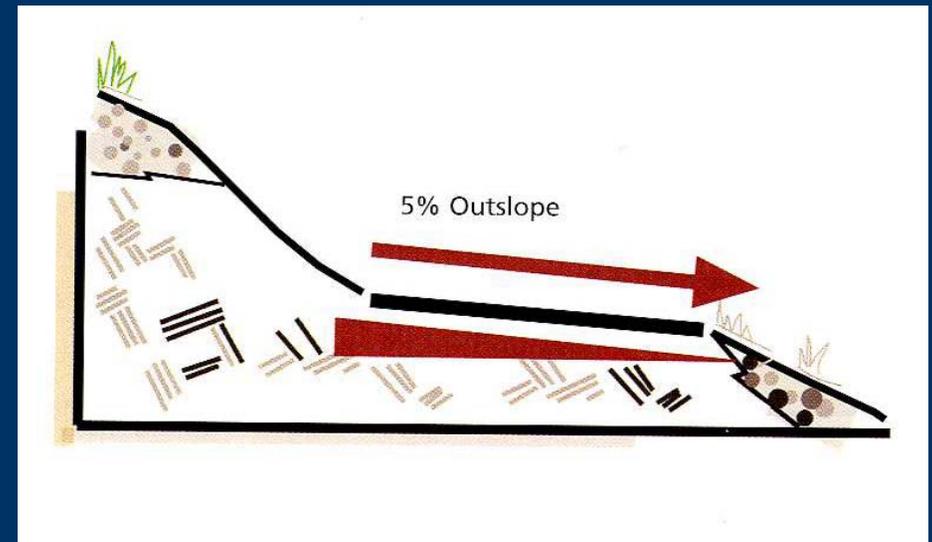


3- Tread cross-section

Out-slope

In-slope

Neutral



TRAIL ASSESSMENT CRITERIA



Prepared for: Monroe County Department of Parks, Monroe County, NY
Prepared by: Environmental Design and Research



4- Tread grade – percent slope of the trail at the sample point :

0-4%

5-10%

1-15%

16-20%

21-25%

> 25%

5- Trail Slope alignment angle- orientation of the trail (0-90°) to the prevailing grade of the landform. A low slope alignment angle trail is oriented up- and down-slope, a high slope alignment angle trail is oriented along the contour.

Slope Alignment Angle	Degradation Potential	Trail Profile
0-22° 	Very High – erosion from water draining along tread and muddiness from water trapped on treads	
23-45° 	High – draining water will be difficult in most places	
46-67° 	Low – easy to drain water while still changing elevation	
68-90° 	Very Low - easy to drain water but trail can't change elevation very fast	

TRAIL ASSESMENT CRITERIA



Prepared for: Monroe County Department of Parks, Monroe County, NY
 Prepared by: Environmental Design and Research



In addition to sample points at 100' intervals, record GPS position and geo-tag photos of the following conditions wherever they occur along established trail corridors:

1-Any **constructed features** including steps, retaining walls, drainage features (water bars, etc.), and ditch or stream crossings.

2-Significant **exposed rock**

3-Significant **exposed tree roots**

4-**Erosion**. Caused by water

5-**Soil displacement**. Caused by trail use

6-**Muddy or poorly drained areas**

7-**Trail widening** (where visitors are moving off of the established trail centerline, usually to avoid an undesirable condition.)





Maggie Brooks
County Executive

Tryon Park



Prepared for: Monroe County Department of Parks, Monroe County, NY
Prepared by: Environmental Design and Research



OBJECTID	Trail Position	Tread Surface Material	Tread Cross Section	Tread Grade	Problem Area	Trail Slope Alignment Angle	Comments	Photo Numbers	Date Collected	Park
339	Ridge Top	Gravel	Out Slope	0-4%	No Problem	0-22	Start of Trail	0314 Facing E; 0315 Facing W	9/14/2009	Tryon
340	Ridge Top	Woodchip	Neutral	16-20%	No Problem	0-22		0316 Facing E; 0317 Facing W	9/14/2009	Tryon
341	Ridge Top	Woodchip	Neutral	0-4%	No Problem	23-45		0318 Facing N; 0319 Facing S	9/14/2009	Tryon
342	Ridge Top	Woodchip	Neutral	16-20%	No Problem	46-67		0320 Facing N; 0321 Facing S	9/14/2009	Tryon
343	Ridge Top	Natural surface/ Packed earth	Neutral	16-20%	No Problem	23-45		0322 Facing N; 0323 Facing S	9/14/2009	Tryon
344	Ridge Top	Natural surface/ Packed earth	Neutral	5-10%	No Problem	23-45		0324 Facing N; 0325 Facing S	9/14/2009	Tryon
345	Ridge Top	Natural surface/ Packed earth	Neutral	0-4%	Constructed Features	23-45	Building Foundation	0326 Facing N; 0327 Facing S	9/14/2009	Tryon
346	Ridge Top	Natural surface/ Packed earth	Neutral	5-10%	No Problem	68-90		0328 Facing N; 0329 Facing S	9/14/2009	Tryon
347	Ridge Top	Natural surface/ Packed earth	Out Slope	5-10%	Constructed Features	0-22		0330 Facing E; 0331 Facing W	9/14/2009	Tryon
348	Ridge Top	Natural surface/ Packed earth	Out Slope	>25%	Exposed Tree Roots	23-45		0332 Facing E; 0333 Facing W	9/14/2009	Tryon
349	Mid-Slope	Natural surface/ Packed earth	Out Slope	>25%	Exposed Tree Roots	0-22		0334 Facing S; 0335 Facing W	9/14/2009	Tryon
350	Mid-Slope	Natural surface/ Packed earth	Out Slope	>25%	Exposed Tree Roots	0-22		0336 Facing S; 0337 Facing N	9/14/2009	Tryon
351	Mid-Slope	Natural surface/ Packed earth	Out Slope	0-4%	No Problem	0-22		0338 Facing S; 0339 Facing N	9/14/2009	Tryon
352	Mid-Slope	Natural surface/ Packed earth	Out Slope	>25%	No Problem	23-45		0340 Facing S; 0341 Facing N	9/14/2009	Tryon
353	Mid-Slope	Natural surface/ Packed earth	Neutral	11-15%	Trail Widening	0-22	SideTrail	0342 Facing W; 0343 Facing W	9/14/2009	Tryon
354	Mid-Slope	Natural surface/ Packed earth	Out Slope	5-10%	No Problem	0-22		0344 Facing S; 0345 Facing N	9/14/2009	Tryon
355	Mid-Slope	Natural surface/ Packed earth	Out Slope	5-10%	No Problem	0-22		0346 Facing S; 0347 Facing N	9/14/2009	Tryon
356	Mid-Slope	Natural surface/ Packed earth	Out Slope	11-15%	No Problem	0-22		0348 Facing S; 0349 Facing N	9/14/2009	Tryon
357	Mid-Slope	Natural surface/ Packed earth	Out Slope	>25%	Trail Widening	0-22	Side Trails	0350 F S; 0351 F N; Side Trails 0352 F W; 0353F E	9/14/2009	Tryon
358	Mid-Slope	Natural surface/ Packed earth	Out Slope	16-20%	No Problem	0-22		0354 Facing W; 0355 Facing E	9/14/2009	Tryon
359	Mid-Slope	Natural surface/ Packed earth	Out Slope	>25%	No Problem	0-22		0356 Facing W; 0357 Facing E	9/14/2009	Tryon
360	Mid-Slope	Natural surface/ Packed earth	Neutral	0-4%	No Problem	0-22		0358 Facing W; 0359 Facing E	9/14/2009	Tryon
361	Mid-Slope	Natural surface/ Packed earth	Neutral	0-4%	No Problem	0-22		0360 Facing W; 0361 Facing E	9/14/2009	Tryon
362	Mid-Slope	Natural surface/ Packed earth	Neutral	21-25%	No Problem	0-22		0362 Facing W; 0363 Facing E	9/14/2009	Tryon
363	Ridge Top	Natural surface/ Packed earth	Neutral	21-25%	Constructed Features	0-22		0364 Facing N; 0365 Facing S	9/14/2009	Tryon
364	Valley Bottom	Natural surface/ Packed earth	Neutral	0-4%	No Problem	0-22	Start Of Trail	0366 Facing E; 0367 Facing W	9/14/2009	Tryon
365	Valley Bottom	Gravel	Neutral	11-15%	No Problem	0-22		0368 Facing E; 0369 Facing W	9/14/2009	Tryon
366	Valley Bottom	Natural surface/ Packed earth	Neutral	0-4%	No Problem	0-22		0370 Facing E; 0371 Facing W	9/14/2009	Tryon
367	Valley Bottom	Natural surface/ Packed earth	Neutral	0-4%	No Problem	0-22		0372 Facing E; 0373 Facing W	9/14/2009	Tryon
368	Valley Bottom	Natural surface/ Packed earth	Out Slope	5-10%	Muddy or Poorly Drained Areas	0-22		0374 Facing S; 0375 Facing N	9/14/2009	Tryon
369	Valley Bottom	Natural surface/ Packed earth	Neutral	0-4%	Exposed Tree Roots	0-22		0376 Facing E; 0377 Facing W	9/14/2009	Tryon
370	Valley Bottom	Natural surface/ Packed earth	Neutral	0-4%	No Problem	0-22		0378 Facing E; 0379 Facing W	9/14/2009	Tryon
371	Valley Bottom	Natural surface/ Packed earth	Neutral	0-4%	Trail Widening	0-22		0380 Facing E; 0381 Facing W	9/14/2009	Tryon
372	Valley Bottom	Natural surface/ Packed earth	Neutral	5-10%	No Problem	0-22		0382 Facing N; 0383 Facing S	9/14/2009	Tryon
373	Valley Bottom	Natural surface/ Packed earth	Neutral	0-4%	No Problem	0-22		0384 Facing N; 0385 Facing S	9/14/2009	Tryon
374	Valley Bottom	Natural surface/ Packed earth	Neutral	5-10%	No Problem	0-22		0386 Facing E; 0387 Facing W	9/14/2009	Tryon
375	Valley Bottom	Natural surface/ Packed earth	Neutral	0-4%	No Problem	0-22		0388 Facing N; 0389 Facing S	9/14/2009	Tryon
376	Valley Bottom	Natural surface/ Packed earth	Neutral	0-4%	No Problem	0-22		0390 Facing N; 0391 Facing S	9/14/2009	Tryon
377	Valley Bottom	Natural surface/ Packed earth	Neutral	0-4%	Trail Widening	0-22		0392 Facing N; 0393 Facing S	9/14/2009	Tryon
378	Valley Bottom	Natural surface/ Packed earth	Neutral	0-4%	No Problem	0-22		0394 Facing N; 0395 Facing S	9/15/2009	Tryon
379	Valley Bottom	Natural surface/ Packed earth	Neutral	0-4%	No Problem	0-22		0396 Facing N; 0397 Facing S	9/15/2009	Tryon
380	Valley Bottom	Natural surface/ Packed earth	Neutral	0-4%	No Problem	0-22		0398 Facing W; 0399 Facing S	9/15/2009	Tryon
381	Valley Bottom	Natural surface/ Packed earth	Neutral	0-4%	No Problem	0-22		0400 Facing W; 0401 Facing E	9/15/2009	Tryon



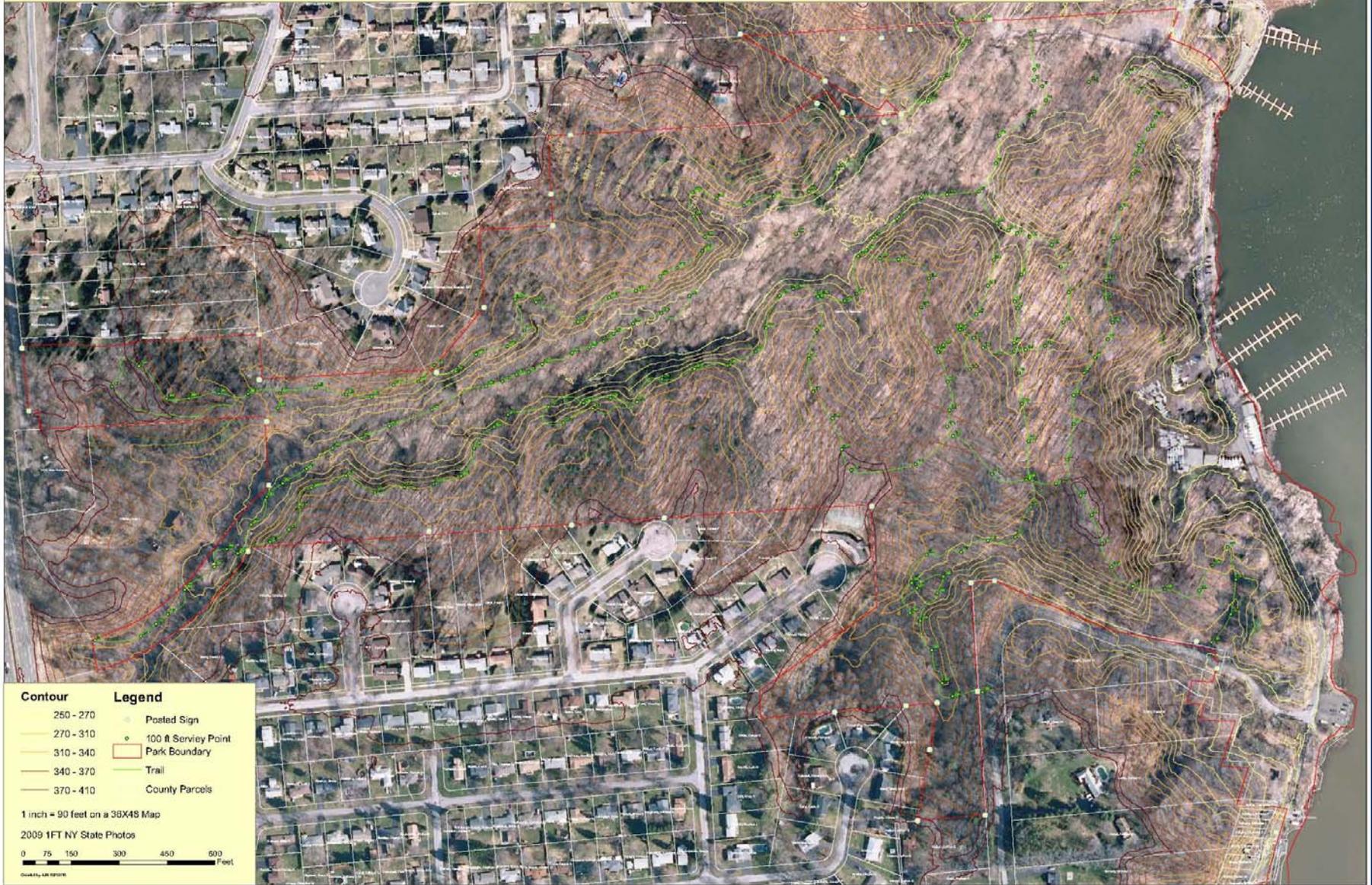
Prepared for: Monroe County Department of Parks, Monroe County, NY
Prepared by: Environmental Design and Research





Maggie Brooks
County Executive

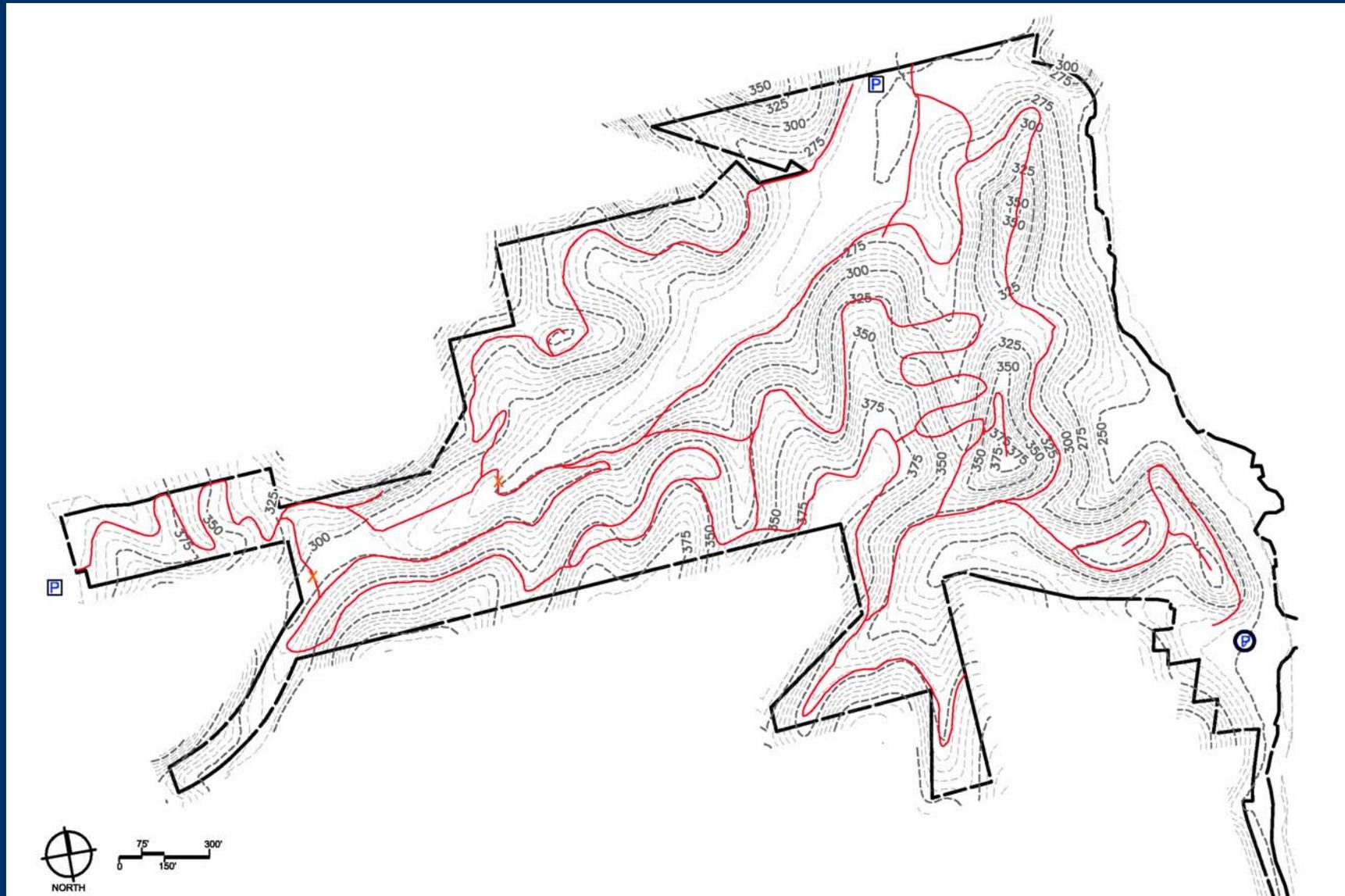
Irondequoit Bay West



Prepared for: Monroe County Department of Parks, Monroe County, NY
Prepared by: Environmental Design and Research



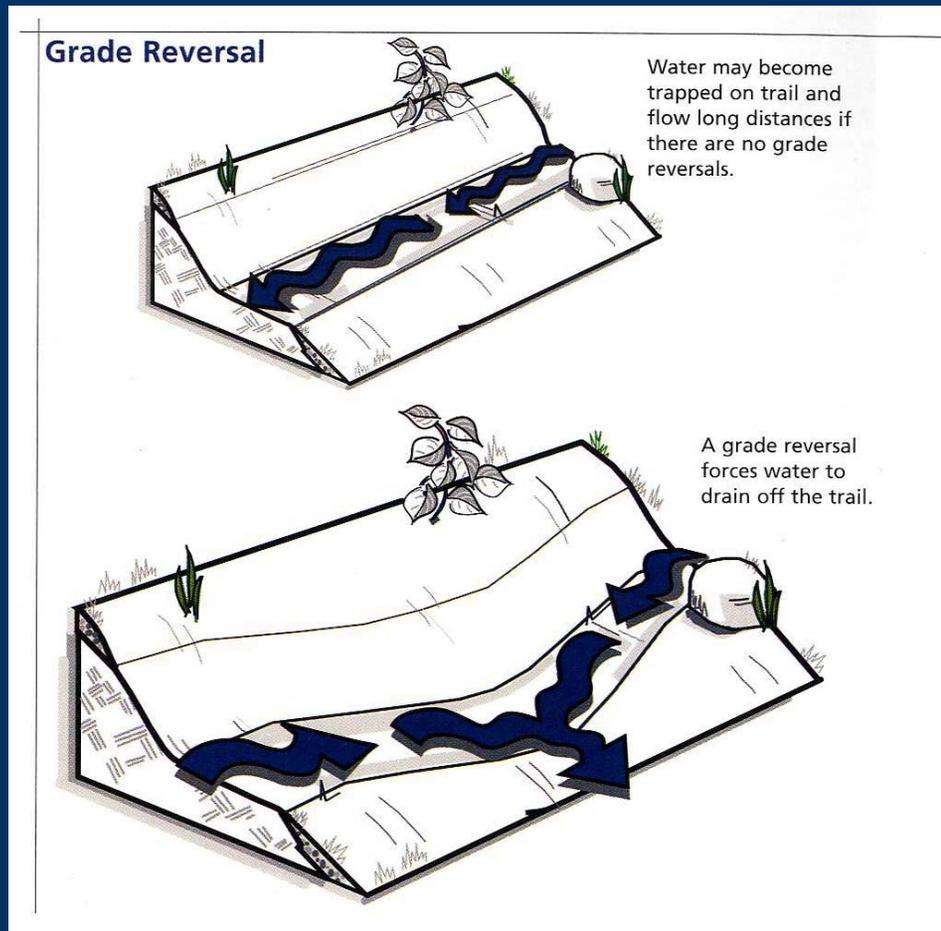
IRONDEQUOIT BAY PARK WEST - Trail Detail



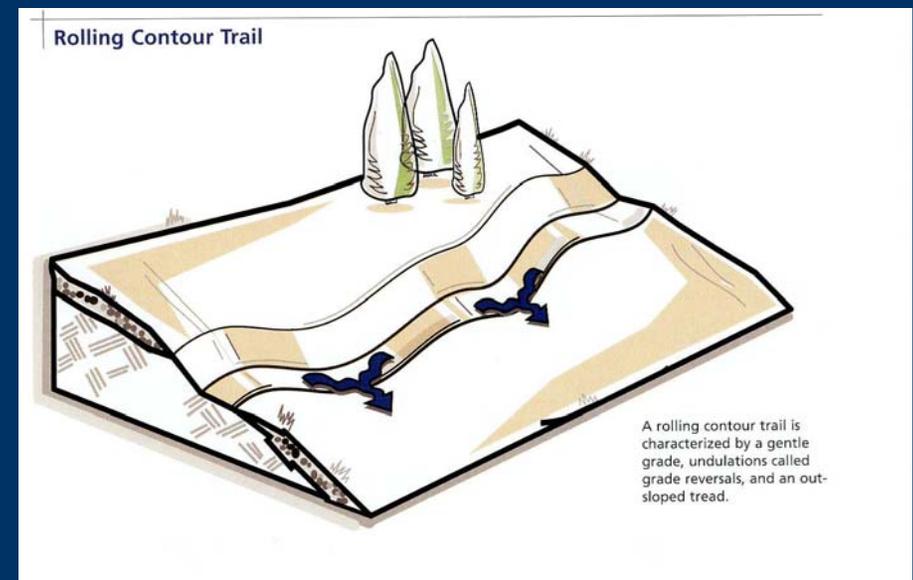
Prepared for: Monroe County Department of Parks, Monroe County, NY
Prepared by: Environmental Design and Research



Sustainable trail practices for natural surface trails.



- Keep average grades at 10% or less. .
- Out slope trail for drainage if the soils are stable and the slope is <math>< 50\%</math>.
- Use climbing turns if the slope is 8% or less.
- Use switchbacks to gain elevation on steeper slopes.
- Use rolling dips, and grade reversals where practical.
- Use a full bench cut not a partial bench.



IMBA



Prepared for: Monroe County Department of Parks, Monroe County, NY
Prepared by: Environmental Design and Research



KEY ISSUES: Sustainability

Objective: sustainability & maintainability

- * Monroe County Green Building Initiative
- * United States Green Building Council (USGBC)
Leadership in Energy and Environmental Design (LEED)

Sustainable Sites

Community Connectivity

Alternative Transportation

Pedestrian connections

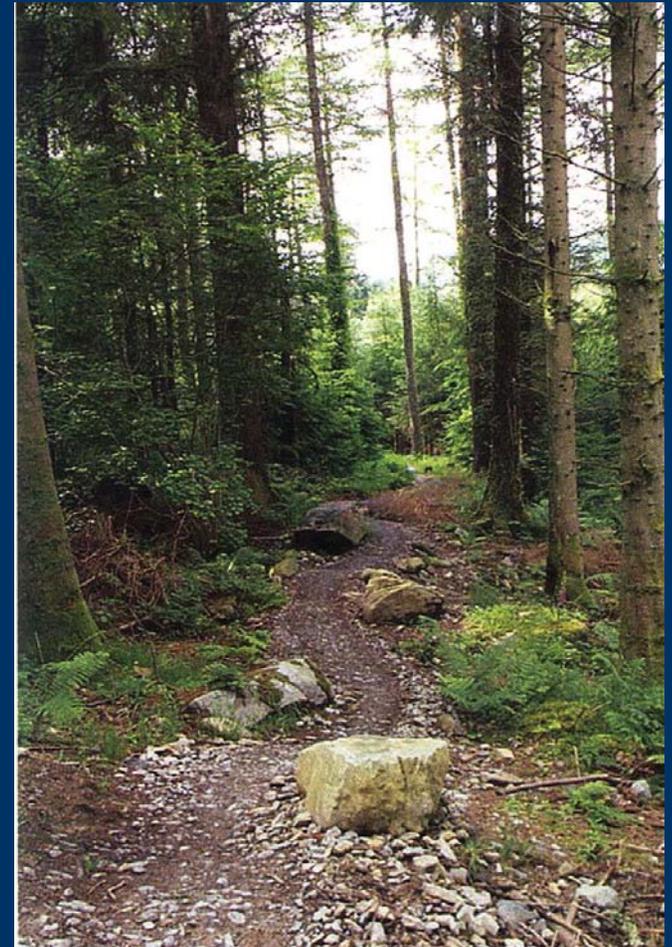
Protection and restoration of natural habitats

Materials re-use

Recycled materials

Regional materials

Rapidly Renewable Materials



IMBA photo

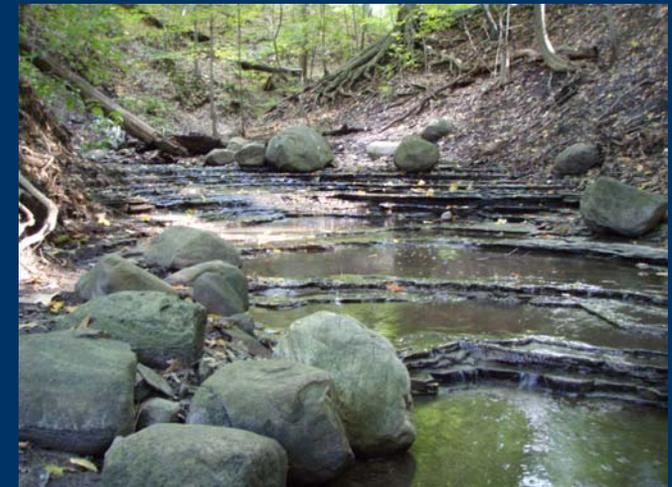
Sustainable Trail Design



Questions & Comments



I Bay West



Tryon Park

