

AVALANCHE MASTER PLAN



Adopted January 12, 2010

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EXECUTIVE SUMMARY: AVALANCHE MASTER PLAN

The process to develop a master plan for Avalanche was initiated on May 6, 2009. A sequence of thirteen public meetings was held to identify issues and propose and test ideas and perspectives associated with all aspects of the project.

Both the program objectives and the master plan were wholly shaped and conditioned by this process. Numerous iterations of both attest to the give and take of public discourse.

The plan in at least some respects is neither fully satisfying nor completely stable in its conclusions. For example, the great majority of public input favored the prohibition of snowmobile use in the park, yet the City Commission insisted on permitting such use. The entire question of preserving the site raised opinions from never cut even one tree to active management (meaning selective cutting) of the entire forest. People at some point in the process objected to benches, signage, toilets, shelters and accessibility measures, among many others.

The common theme, therefore, is not a plan that has secured overwhelming support and favor. The common theme is passion. People have a passion about Avalanche. They are passionately for or against something, and frequently both during the same meeting. This passion, however, ultimately is key to creating and maintaining this unique property in close quarters to the city center. It is and will remain a significant resource to the City.

The Master Plan proposes new and upgraded facilities on the fringes of the site. The well site property is proposed to be integrated into the park. A neighborhood-style park on the well site property provides recreation value to the immediate surrounding area and makes Avalanche more publically visible by creating a presence along Division Street. A new park center is proposed and could substantially contribute to program offerings. A new ice skating rink is proposed that could double as a skateboarding facility in warmer months. Trail improvement recommendations and additions are modest in their overall scope.

The least discussed, but perhaps most valuable recommendation is to have a comprehensive ecological baseline study undertaken for the site. Everyone knows something about Avalanche; no one truly comprehends the full character and complexity of its flora and fauna, or if it is truly as complex and rare as perceived. This objective knowledge would do more to influence decision-making for the future of this site than any other recommendations found herein.

The plans and proposals were scrutinized and debated for eight months. The Master Plan was adopted by the City Commission on January 12, 2010. The plan does establish direction for new development and sets limits where limits are most needed. In this respect, the plan can serve its purpose until more concise, objective and comprehensive knowledge, as noted above, can be utilized to enhance both understanding and decision-making.

INTRODUCTION

It was not until the late 1970s that the name Avalanche was used for the 300 acre site that is the subject of this plan. Known early on as MacIntyre's Hill and Barn Hill, and after its acquisition by the City as Avalanche Mountain Preserve and Avalanche Preserve, this site, from now forward in this report referred to simply as Avalanche, has been fodder for lumber mills and the subject of many attempts to define its value and purpose.

Despite its steep topography, the site was clear-cut in the late 1800s and early 1900s. The forest that now covers the majority of the site is still relatively young and immature. The brow of the hill rises 280 feet from its base. The sweeping views across the city and Lake Charlevoix from the top of the overlook, the top of the former ski hill, are spectacular.

Trails are laced throughout the site and are used for hiking, mountain biking, cross-country skiing, snowshoeing and snowmobiling. A disc golf course parallels portions of these trails. A small warming house is located adjacent to parking at the base of the former ski hill and to an ice skating rink. An archery range is located on the lower west-facing slope along Pleasant Valley Road.

The forest does have some exceptional qualities, despite its relative young age. Where moisture is more prevalent, beech and hemlock have grown to impressive size. The forest floor in spring is literally carpeted with wildflowers. The site is known to be a source of morel mushrooms. Old farm fields in the flats below the east-facing slope provide meadow and edge habitats for a greater diversity of flora and fauna.

For purposes of this master plan study, the City's well site property, located between Division Street and the north edge of the Avalanche site, will be analyzed and considered as part of the project area.

Avalanche is a unique and intriguing site. Its steep terrain, spectacular views, ecological characteristics, acreage and proximity to the center of Boyne City present a rare opportunity for the City, one it recognized at least 30 years ago. These unique characteristics have led in the past to many perspectives on how to develop and manage the site. This study begins by recognizing these varied perspectives and then builds toward a viable consensus for park development and management.

SUMMARY OF PLANS AND PROGRAMS PRIOR TO THIS PROCESS

The City of Boyne City agreed to lease from The Nature Conservancy property known as Avalanche Mountain on August 8, 1978. The City agreed to maintain the property "as a park and outdoor laboratory."

The first management plan was prepared by the City in 1979. The proposed management and use objectives stated in this plan are as follows:

1. Establish a scenic lookout at the top of the hill.
2. Develop a series of nature trails.
3. Develop another series of trails to be used in summer for horseback riding and in winter for cross-country skiing.
4. Construct a soccer field.
5. Develop a horse stable.
6. Reconstruct a municipal ski program.
7. Designate an area for snowmobiling.
8. Designate an area for sledding.

The next plan prepared for the site was a Forest Management Plan dated August 8, 1980. This plan called for actively managing Avalanche's forest cover for the development of "high quality northern hardwoods" and for wildlife habitat.

The 1989 Parks Plan, approved by the City Commission on August 15, 1989, established the following program for Avalanche:

1. Add small soccer field for junior league.
2. Addition of regulation size soccer field in area off Division Street, with possible assistance from Soccer League.
3. Add volleyball field with removable net and posts.
4. Widen ski trails to 12' for races.
5. Add softball field for girls and intermediate league.
6. Install lean-to type rest stations along trails.
7. Grooming machines for skating rinks and ski trails.
8. Rifle range, trap/skeet near archery area.
9. Fence archery and shooting area.
10. Install three hole golf course.
11. Hire full-time caretaker.
12. Add facilities and/or improve and enlarge present building.
13. Replace all faded signs regarding proper use of area.
14. Do repairs to warming house.
15. Provide 2 or 3 emergency access routes by grading, adding some gravel, etc. near warming house, at archery range, and near NW corner of old Ball homestead.
16. Contact area groups – Boy and Girl Scouts, 4-H, Nature Conservancy, etc. inviting them to use the facilities for activities and asking if they would be willing to donate time or funds to make improvements to building, etc. so that it can be made ready earlier than the City's budget alone will allow.
17. Survey property.
18. Continue tree plantings and other erosion control measures.
19. Paving of skating rink, and addition of separate hockey rink in location south east of present rink with separate locker room/warming house or enlarge existing building for use of hockey teams.

20. Pursue installation of rope tow or T-bar for winter use.
21. Toboggan run on back side (near archery area).
22. Better, brighter lighting for parking areas – plus improved landscaping around building, parking areas.
23. Development of Hockey League, Soccer League agreements with the City (similar to the Baseball League) to help with maintenance and improvements to those specific areas.
24. Develop a new entrance to the park from Division Street, close old entrance to vehicles (locked gate for emergency use only), and enlarge parking area near skating rinks.
25. Make access road to top of hill so that a picnic area can be developed.
26. Primitive camping areas for backpackers, cyclists, etc. designated – no camp fires allowed, fees to be charged. Overnight parking of fully contained RVs for a nightly fee was also discussed. Some concern expressed over what areas to be utilized as we feel it is important to leave as much of the area undeveloped and unspoiled as is feasible. (No fires in camping areas.)
27. Develop a plan for pruning, thinning of trees to keep the wooded areas in good condition.
28. Plant wildlife food plots to attract deer, etc. to area.

In 1998, letters from Richard Hitz of Richard E. Hitz Consulting & Design and Mary J. Whitmore, Executive Director of SEE-NORTH, suggest that discussion was taking place at the City's Parks and Recreation Committee level about establishing an environmental education program at Avalanche. Mr. Hitz's letter commended the City for "preserving the forest" but also noted that "recent efforts to promote harvesting of timber and the creation of snowmobile trails through the preserve contradict the management plan prepared by the City when it acquired the land." Ms. Whitmore noted that Avalanche is "the site of a significantly large, complex, varied, and beautiful forest." In addition to the quality of the forest, she also noted that "the open areas are...biologically and educationally important because they create an "edge effect" – more individual plants and animals and a greater diversity of species of plants and animals occur along edges of habitats." In summary she noted that "as a biologist... this is a very significant parcel, given its size, its location, and its natural features."

The Parks and Recreation Commission completed the next planning document in 2001 entitled "Avalanche Mountain Preserve Management Plan". The program developed as part of this plan is as follows:

1. Lighting – Formulate a plan for and improve lighting on the sledding hill.
2. Entry – Design attractive entryway to Preserve along Ann Street with landscape plan.
3. Funding – Develop means for City to help fund projects.
4. Site Plan – Create a site plan showing all elements of each goal and how they would fit in overall scheme of park.
5. Inventory of Natural Resources – The high school science classes will be requested to perform a resource inventory of the Preserve.

6. Signage – There is a mix of different types of signs throughout the park. One sign theme and type should be selected and permitted at the Preserve. This should apply to trail signs as well as entrance sign(s), directional signs, and information signs.
7. Information Packet – Interpretive materials in the form of a pamphlet will be drafted, published, and made available to all interested parties. The packet will include a history and description of the Preserve, map and sketch of trails and major features, Preserve rules and regulations, and a list of names and telephone numbers of the Stewardship Committee members.
8. Forest Management/Tree Management/Reforestation Program – The intent of the Parks and Recreation Commission is to leave the forest to replenish itself and allow the process of natural succession to take place.
9. Overlook and Stairs – The existing site is well used. As the stairs and deck age and continue to get use, they will need to be maintained. The overlook could use a picnic table or, at a minimum, additional benches. Money should be budgeted for continued maintenance of the site itself and the stairs leading up to the top.
10. Nature Trails/Cross Country Ski Trails – Maintain existing trails; develop additional hiking/nature trails throughout the Preserve; develop trails which would be used during the summer months as mountain biking or hiking trails and during the winter months as cross-country ski trails. Trails should be clearly marked (short term). These trails should be physically separated from the snowmobile trails.
11. Hockey Rink – Pave hockey rink and make this a multi use rink with use in the summer by roller bladers for roller hockey and increase the winter life of the ice for pick up hockey, etc. Maintain the existing ice hockey rink once Boyne Area Hockey relocates.
12. Warming House – At some point in the future, a new warming house has been identified as a need. This will be a large project which the City will have to take on as a complete project. Identified uses and activities within the building should be as follows:
 - a. Education programs
 - b. Welcome center
 - c. Locker rooms
 - d. Fireplace
 - e. Nature study
 - f. Equipment storage
 - g. Skate sharpening
 - h. Concession stand
 - i. Small meeting room
 - j. Cooperative effort for use by schools
 - k. Should contain large glass windows for viewing hill and rink
 - l. Should have tables in concession stand
 - m. Adequate restrooms
13. Snowmobile Trails – A separate trail designated solely for use by snowmobiles was implemented to provide a route through the Preserve to the lookout and down at the City and Lake Charlevoix. This is the only place within the Preserve that

snowmobiles are permitted. Maintain the existing snowmobile trail on the outer edge of the Preserve. Trails should be clearly marked. Try to acquire easements for trail to cross corner of private property for the southwest trail.

14. Sledding Hill – Maintain sledding hill in a safer manner. Saplings should be trimmed in the area immediately to the right of stairs for safe sledding for small children.
15. Archery – Continue with existing archery course on the west side of the Preserve.
16. Multi-Use Rink – Utilize the newly paved public rink for ice skating in winter and informal rollerblading/skateboarding in the summer.
17. Biking – Two types of biking have been designated as appropriate for the Preserve.
 - a. Mountain bike trail should be laid out on the perimeter of park where there is less foot traffic. First priority should be the eastern section of the trail; second priority should be southwest area. Try to acquire easements for trail to cross corner of private property for the southwest trail.
 - b. A BMX track was proposed and approved by the Commission for the area to the east of the existing parking area on the hill under the power lines. That track at this point has yet to be constructed.

In 2004, the City Commission adopted the “Boyne City Recreation Plan” on February 10th. This plan addressed recreation needs and issues on a community-wide basis. Relevant to Avalanche, it was noted that the restroom is not barrier free, no barrier free parking has been designated, and the summit viewing deck is not wheel chair accessible. The plan’s Action Program called for an update to Avalanche’s master plan, the development of ski and interpretive nature trails, and improvements to the community building.

It is apparent as evident in these plans and studies that the interests in the development of Avalanche have ebbed and flowed between passive and active uses, between active forest management and hands-off strategies, and between ambitious goals and limited resources to implement them.

SCOPE OF PROJECT

The scope of the Avalanche Master Plan includes physical improvement recommendations to the park, use and program recommendations, vehicular access recommendations, and recommendations for if and how the well site property can be incorporated as part of the park.

DESCRIPTION OF THE PLANNING PROCESS

The planning process for the Avalanche Master Plan has essentially been an exchange of ideas, perspectives, interests and concerns carried out between the City of Boyne City, the public-at-large and the consultant. At the staff level, the Department of Public Works

was actively involved throughout the process because of the proposed potential incorporation of the well site property, the presence of the water treatment facility on the park site, and issues regarding maintenance and maintenance access. The Police Department was consulted regarding their observations and records pertaining to snowmobile use and if such observations and records suggested significant conflicts or concerns. The public was involved through a series of ten public meetings. A steering committee established by the City provided guidance and oversight throughout the process.

The process began with a Steering Committee meeting on May 6, 2009. In preparation for this meeting and the work in general, the City had made available copies of earlier planning documents, lease agreements and deeds, and engineering reports pertaining to the well sites property included as part of this study. The Steering Committee presented a thorough overview of the history of the site, current uses, management and maintenance issues, and potential issues associated with different perspectives about how Avalanche should or should not be developed.

The first Public Input meeting, the first Parks and Recreation Commission meeting and the second Steering Committee meeting on July 27, 2009 focused on program objectives for Avalanche. The primary objectives were identified and agreed upon through the course of these three meetings, although refinements to the program objectives were made throughout the entire process.

At the second Public Input meeting on July 28, 2009, a preliminary proposed master plan was presented along with supporting graphic studies of inventory and analysis and vehicular access options. The specific details of how program objectives were to be addressed were identified. This phase of the process went through several iterations, culminating in a joint meeting of the Parks and Recreation and Planning Commissions on October 19, 2009. With modest refinements, both Commissions voted to recommend the proposed master plan to the City Commission for approval.

Despite public input that had consistently called for prohibiting snowmobile use within Avalanche, it was apparent that such a position was potentially unacceptable at the City Commission level. The staff made a decision to reach out to the public one more time in an attempt to solicit input from snowmobile users. This Public Input meeting, held on December 1, 2009, was attended by people who supported snowmobile use in Avalanche. The discussion was confrontational on several issues. It was clear that snowmobiles use was being used as an issue to expound on the rights of citizens, and that such rights only tangentially related to the development of sound guidelines for Avalanche. The meeting, in summary, gave impetus to the City Commission's cue that snowmobile use should be a permitted use.

Both the Parks and Recreation Commission and the Planning Commission revisited their recommendations to recommend the master plan for Avalanche for approval to the City Commission with the provision that snowmobile use would be prohibited. The Parks and Recreation Commission reaffirmed their earlier findings and voted to make no change in

their recommendation. The Planning Commission voted to modify its recommendation by stipulating that snowmobile use should be a permitted use.

On January 12, 2010, the City Commission voted to approve the Avalanche Master Plan with the provision that snowmobile use within the park shall be considered a permitted use.

DESCRIPTION OF THE WORK OF THE STEERING COMMITTEE AND THE PUBLIC INPUT PROCESS

The Steering Committee's primary function was to establish initial direction to the project as a whole, to establish priorities where and when it was clear that not all stated desires or preferences could be achieved, and to define preferences in the presence of conflicting input from the public.

The purpose of public input meetings was to define as broadly as possible the public's interest in and preferences for the project, to solicit specific comments about proposed objectives and plans, and to gain consensus of public opinion based upon a responsive relationship between public input and action taken.

The sequence of meetings held as part of the process and a brief summary of each meeting are itemized below. Full summaries of each meeting are included in the Appendix.

Steering Committee Meeting

May 6, 2009

This meeting raised almost all issues, options, and concerns that were eventually brought out in the public interaction process. The purpose was to identify for study and consideration such issues, options and concerns. The Committee made it clear that their initial comments were not to be construed as giving specific direction, but only to apprise the consultant of such information based on staff and community experience with the park.

Public Input Meeting

June 11, 2009

This initial public input meeting focused on the proposed program for Avalanche. An initial set of program objectives were prepared as a means to guide and stimulate discussion. It was made clear that the program for the park need not be limited to the prepared talking points. The input received was broad ranging and well detailed in its scope.

Parks and Recreation Commission Meeting

June 18, 2009

The proposed program as presented to the public was presented again here for further review and comment. The public was again able to participate. Changes to the program objectives were recommended by the Commission.

Steering Committee Meeting

July 27, 2009

This meeting was called to review changes to date to the program objectives and to prepare for the July 28th public input meeting. The issue of a more direct emergency access to the top of the overlook was discussed at length and the question of snowmobile use in the park was discussed, with proponents for and against such use.

Public Input Meeting

July 28, 2009

An Inventory/Analysis map, an Access Options map, a comparison of active and passive recreation across the country, and a preliminary master plan proposal were presented. The preliminary master plan was based on input received from the program objectives as refined through earlier meetings. The public input and associated discussion would be used to reinforce some aspects of the plan and reconsider others.

Parks and Recreation Committee

September 17, 2009

This meeting included a brief presentation of the materials presented at the July 28th public input meeting. Discussion focused on the low turn-out at that meeting and means to solicit more public participation.

Steering Committee Meeting

September 23, 2009

The committee concluded that other potential maintenance access routes were essentially as problematic as the current route. It was noted that the Wolverine electrical transmission line cannot be buried, but could potentially be relocated. It was recommended that the ice rink not exceed +/- 13,000 sq. ft. in size.

Public Input Meeting

September 29, 2009

This meeting was better attended than the July 28th meeting. All aspects of the park's program and proposed design were discussed.

Steering Committee Meeting

October 8, 2009

Taking into account the input received from the September 29th public input meeting, the committee gave direction to numerous items in terms of further research or proposed action.

Joint Meeting:

October 19, 2009

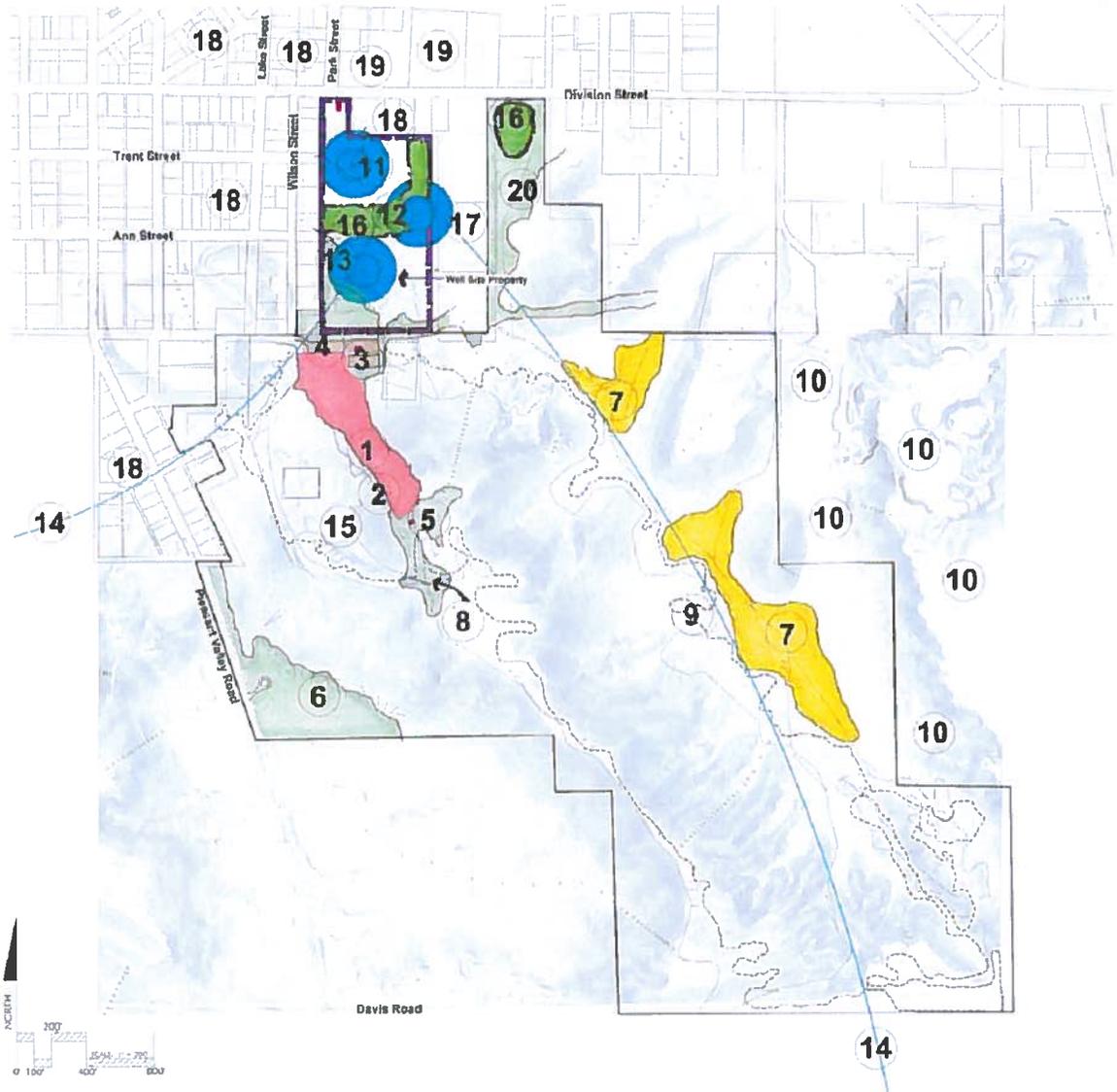
Planning Commission and Parks and Recreation Commission

Significant input was provided by both commissions, ultimately resulting in recommendations from both commissions to present the proposed master plan to the City Commission with revisions as discussed.

Public Input Meeting

December 1, 2009

This meeting was called because at least two City Commissions believed that people representative of snowmobile users had not been fully heard. This meeting, held after the Planning and Park and Recreation Commissions had already voted on forwarding the master plan to the City Commission, was to a certain degree acrimonious and



- 1 Existing sledging hill (former ski store)
- 2 Existing stepped access to Lake Charlevoix Overlook
- 3 Existing existing rim and warming house
- 4 Existing parking
- 5 Lake Charlevoix overtop
- 6 Existing archery range
- 7 Open meadows (former farm fields)
- 8 Existing trail systems
- 9 Adjacent quarry site
- 10 Well site # 1
- 11 Well site # 2
- 12 Well site # 3
- 13 10 Year Capture Area (water source for well sites)
- 14 Water System Reservoir
- 15 Wetland (approximate limits)
- 16 Multi-Family Dwelling Units
- 17 Single-Family Dwelling Units
- 18 Senior Care/Housing
- 19 Mixed (meadow and woodland) (reported high plant content in soils)
- 20

Avalanche
 Inventory / Analysis
 July 28, 2009

determined from such research. For purposes of this study, trail development and use will be considered passive recreation.

Managed versus Untouched Forest

There have been over the past 30 years numerous calls, and studies, to actively manage the forested hills of Avalanche. Such calls have been for health of the forest and fund-raising purposes, but most often for health. Such calls were again raised in the course of this process. The opposing view was also distinctly made: the forest should not be cut or managed in any way. It should be left untouched in perpetuity. People cited that Avalanche is a “preserve” and therefore should be completely left to natural evolution. There are, on the other hand, many reasons to manage a forest even if the ultimate goal is for the landscape to evolve as naturally as possible. Such reasons include eliminating exotic invasives, controlling disease, and encouraging climax forest development, to name but a few. The exception agreed upon by majority opinion was to allow clearing for maintaining views from the primary overlook. The final consensus of viewpoints stated during this process was to leave the forests untouched except as noted above.

Snowmobile Use Within The Park

The majority consensus throughout this process was to prohibit snowmobile use within Avalanche. Reasons cited included conflicts between trail users, lack of connectivity to larger trail systems, trespassing onto adjacent private properties, the disruptive effect of noise, and damage to off-trail areas. Snowmobilers, on the other hand, claimed their right to use public trails, cited police reports that showed little evidence of trespassing or other wrong-doing, and noted that the trails were originally cut back in the 1960s expressly for snowmobile use.

Some cross-country skiers claimed that snowmobiles posed a hazard to skiers; others saw no problem with sharing trails. Some skiers noted that trails packed down by snowmobiles were not suitable for cross-country skiing; others stated a preference for such packed-down trails. There are most likely truths in all of these positions.

The one point of agreement among snowmobilers and those opposed to snowmobiling is that snowmobile activity within the park is a relatively infrequent use and that such use will likely diminish over time as other local, longer trails are developed. It was with this understanding that snowmobile use was accepted as a permitted use within the park.

Vehicular Access Into Avalanche

The current means to get to Avalanche in a vehicle is via Lake and Wilson Streets. This route, while functional, is indirect and not highly visible, even with signage along Division Street. This route also funnels park visitors through a residential area.

The well site property affords the opportunity to give much higher visibility to an entrance to Avalanche because of its frontage on Division Street. Access through this site would not necessitate vehicles passing through a residential area.

The potential difficulties associated with access through the well site property are protection of the well sties themselves, existing wetlands, and steep topography that may make the climb up to the elevation of the current parking lot necessitate grades of 5% or greater, making winter use more difficult to manage.

Well site protection is addressed, at least in part, in a letter from the Michigan Department of Natural Resources (see Appendix C). This letter and subsequent discussions suggest a roadway could be permitted in close proximity to well sties as long as storm drainage appurtenances are not used within well site buffer zones.

The case for continuing to use Lake and Wilson Streets as the primary vehicular access route into Avalanche is that anticipated improvements to these streets including bike and pedestrian paths, lighting, signage and landscaping will be budgeted with funds other than those slated for improvements to Avalanche proper.

There is not a clear, definitive answer between these two possible routes. Both will be maintained as options to be further researched and developed when the City is prepared to take further action.

Emergency and Maintenance Access

The existing maintenance access to the water reservoir is highly eroded. It is a steep, difficult to improve route. It was repeatedly stated throughout the course of this process that an improved surface route up the north face, west of the cleared sledding hill, would reduce emergency response times to the overlook area by 15-20 minutes. Nonetheless, there was opposition to such an improved access. Reasons cited were potential cost, concern it would promote regular vehicular access, potentially dangerous use by skateboarders, and that any improved surface would increase impervious surface cover and erosion problems.

There is no reason to believe that an improved, stable, direct route to the overlook area, or more precisely the area behind the overlook, would increase vehicular access. A gate will solve this concern. The surface itself can be rough enough to not be a temptation to skateboarders. The surface can be designed to control erosion and remain stable with normal anticipated maintenance. The cost will be significant, but would pale in comparison to life put in jeopardy while waiting for emergency crews winding along trails for an additional 20 minutes.

Restroom at Top of Hill

There was interest expressed in providing a restroom somewhere near the overlook area. This would seem to be a reasonable suggestion since it is a long walk down from that point. Reasons opposing a restroom included that it would not be in keeping with a natural preserve, that people seem to do just fine without it now, and that maintenance would prove problematic.

There are shreds of truth in these viewpoints, but like so many of the issues about who can and how to use this park, the focus seems to favor the most fit and able. People who

spoke in favor of even modest accommodation beyond no accommodation at all were, in essence, overruled by people favoring a “wilderness-like” experience with little or no evidence of normal park accouterments. This viewpoint held sway in the final decisions reached during this process.

Benches and Sheltered Benches

Not unlike the arguments made about a restroom, benches along trails and small roofed benches, suggested as shelter during a rainstorm, for example, were the subject of angst and derision. Again, frequent users of the trails stated they had no reason to sit. Older adults, on the other hand, expressed a desire to walk the trails but with opportunities to stop and rest at regular intervals. It was finally decided to place a limited number of benches, rustic in character, along the main hiking trail. Roofed shelters were deleted from the proposed plan.

Signage

Many people expressed the viewpoint that wayfinding signage would be greatly beneficial to their use and enjoyment of Avalanche. Frequent users railed at the incorporation of signage, claiming it would despoil the pristine landscape and disrupt the experience of nature. To the uninitiated, the winding trails are confusing. To the frequent user, signs invite unwanted others. The City Commission made it clear in approving the plan that a well-designed and implemented wayfinding system was a condition of their approval.

In summary, many of the issues and opportunities that were brought to the forefront of discussion throughout the planning process were influenced by two basic perspectives. One is that of people who already use and are familiar with the site. They like it as it is and have, by frequent association, taken some ownership in the park. The other basic perspective is that taken by people who have not used the park or have not used it frequently. They seek greater accommodation for the uninitiated user and for users that seek more conventional park amenities. Both perspectives have merit and thus consensus has necessarily been tempered by compromise throughout this planning process.

PROGRAM OBJECTIVES

1. Preserve majority of site (+/- 90% of total acreage) in its natural state
 - Preserve wildlife habitat
 - Environmental education
 - Botany
 - Forest ecology
 - Maintain view corridors, open meadows and edge habitats
 - Explore potential of various management techniques

2. Develop active recreation opportunities over the portions of the site that have previously been impacted or areas that do not compromise preservation objectives
3. Extend trail system to provide reasonable access throughout park
 - Develop alternate loop trails including shorter loops
 - Explore means to provide more universal access to overlook
 - Provide, maintain, enhance emergency access as necessary
4. Trail-related uses include:
 - Hiking
 - Nature study and appreciation
 - Exercise and fitness
 - Cross-country skiing
 - Snowshoeing
 - Biking – mountain and BMX
 - Disc golf course
 - Relocate facilities that are not located within park boundaries or are too close to apartments
 - No expansion beyond existing course
 - Snowmobiling
5. Develop trail amenities to include:
 - Benches
 - Maintain waste receptacles year round
 - Provide pet waste clean-up stations
6. Overlooks
 - Maintain and enhance the view from the Lake Charlevoix overlook
 - Re-establish view corridors that have been lost
 - Consider development of scenic overlooks to southwest, south, east and northeast as desirable and feasible
 - Consider placement of telescope at Lake Charlevoix overlook
7. Maintain options for acquisition of adjacent properties
8. Active recreation development includes:
 - Sledding
 - Consider lighting for night use
 - Consider safety issues
 - Recreation ice skating (no artificial cooling); rink size of 13,000-17,000 square feet
 - Rink rollerblading and skateboarding
 - Archery

9. Study feasibility of access into the park from Division Street through well site property
 - Study feasibility of vehicular access
 - Pedestrian and bicycle access as a minimum
 - Incorporate 1910 Building as possible
10. Park access
 - Explore feasibility and desirability of additional vehicular and pedestrian access points
11. Develop wayfinding and information signage
12. Develop new warming house and park center suitable to accommodate:
 - Education programs
 - Welcome and information center
 - Fireplace
 - Nature study
 - Equipment storage
 - Skate sharpening
 - Concession stand and associated seating area
 - Small meeting room
 - Cooperative effort for use by schools
 - Should contain large glass windows for viewing hill and rink
 - Adequate accessible restrooms
13. Study feasibility and potential scope of neighborhood park-style amenities in association with currently developed areas and in area between Division Street and skate rink
14. Address “out lots”
15. Address erosion on north face of hill

MASTER PLAN DEVELOPMENT

Development of the master plan for this project began with discussion and meetings to determine interests, perspectives, concerns and opportunities. From these discussions and meetings, program objectives were written to guide development of the plan. From the program objectives, a series of design studies was prepared to explore how objectives, site conditions and context could be fitted together into a satisfying whole. The master plan addresses vehicular access options, park development as a whole, detailed development of the core area at the base of the former ski hill, and detailed development of the area immediately around the 1910 Building.

Vehicular Access Options

The two options for vehicular access are the route currently used along Lake and Wilson Streets and a route through the well site property.

- **Lake Street/Wilson Street Route**

These streets will be improved as part of the street improvement schedule already in place. Improvements will include curb and gutter, pavement upgrades, pedestrian sidewalks, bike lanes and landscaping. Wayfinding signage would also be enhanced as part of this park entry solution.

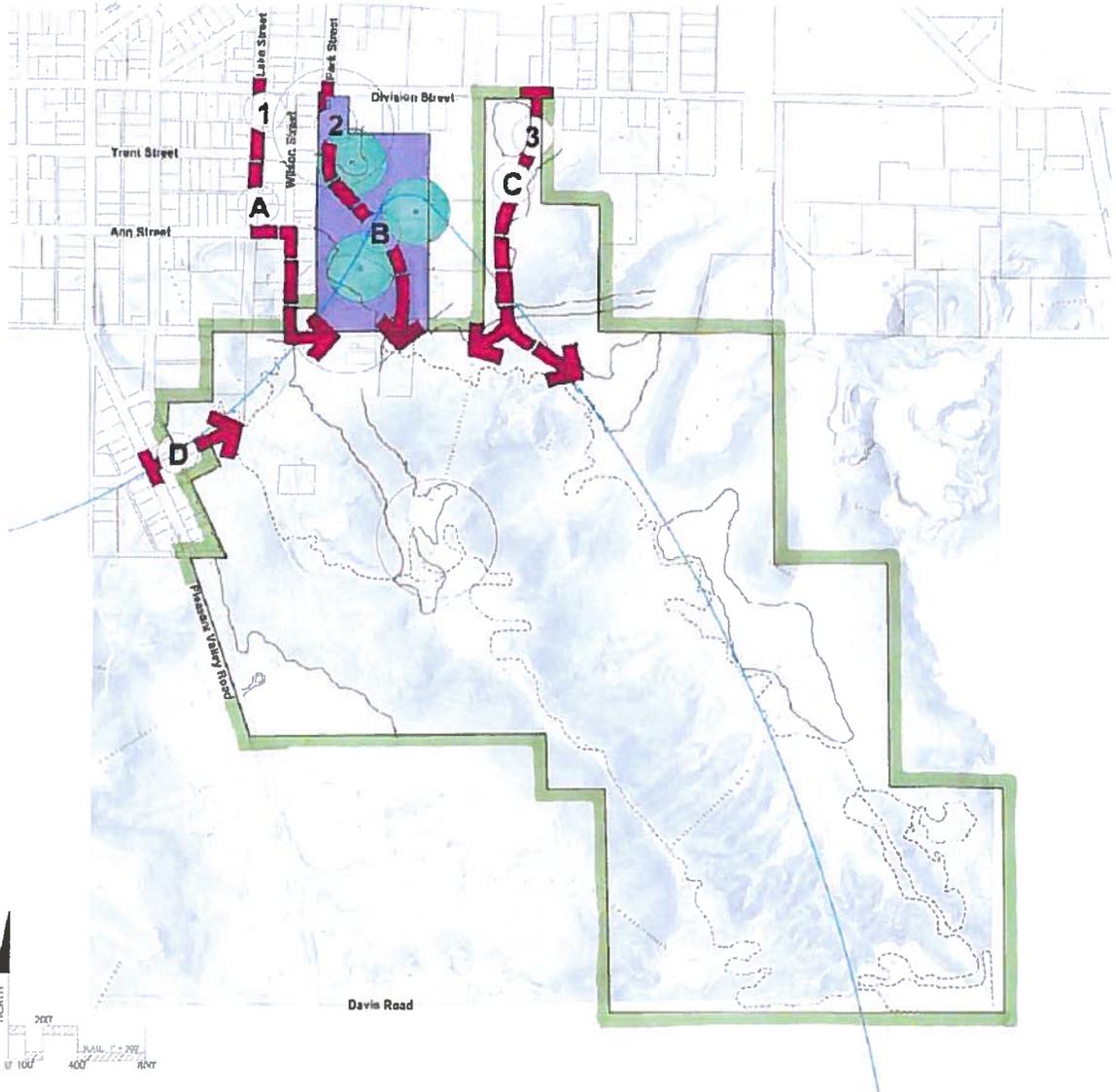
 - Advantages
 - Costs of improvements will not be borne by park development funds.
 - Gradients into park are suitable for winter maintenance.
 - Lake Street exposure at intersection with Division Street, with appropriate signage, offers some visibility to visitors.
 - Disadvantages
 - Park visitor traffic most pass through residential area.
 - Indirect route decreases park visibility, even with appropriate signage.

- **Well Site Property Route**

This route will begin at Division Street next to the 1910 Building. The most likely route will utilize the existing service road so to avoid further impacts to existing wetlands.

 - Advantages
 - Direct visibility of park at Division Street edge.
 - More park-like entry passing through natural area instead of residential area.
 - Incorporates 1910 Building into the initial image of the park.
 - Disadvantages
 - Limitations exist on the extent of road development through well site area.
 - Abrupt change in elevation in back third of site will potentially necessitate road grades of 5% or greater, gradients more difficult and costly to maintain during winter.
 - The cost of constructing this route will be directly attributable to park development funds.

Both routes are considered suitable options for purposes of the approved Master Plan.



Vehicular Access

1. **Lake Street - Existing Access using Lake and Wilson Streets**
This access functions adequately but does not provide park users with dispersed entry
2. **West Site Property**
This property includes the 1910 Building, 3 wet sites, and an existing wetland. Wetland crossings would be prohibitive. Use of existing service road potentially accessible to ADNR with maintenance. Elevation change across south end of property may necessitate 1-7% grades making maintenance during winter problematic.
3. **East Meadow**
Suitable as emergency and maintenance access route only

Pedestrian and Bicycle Access

- A. **Lake Street**
This route needs sidewalks and bike lanes to become fully desirable and functional. Direct link to downtown via Lake Street is desirable
- B. **West Site Property**
Multiple options for pedestrian and bicycle access. Downwalk through wetland could be interesting
- C. **East Meadow**
Fairly suitable access point for both pedestrians and bicycles
- D. **Pleasant Valley Road**
Suitable opportunity for pedestrian access. Parking potential for two vehicles

Avalanche

Access Options
January 2010

Core Area Development

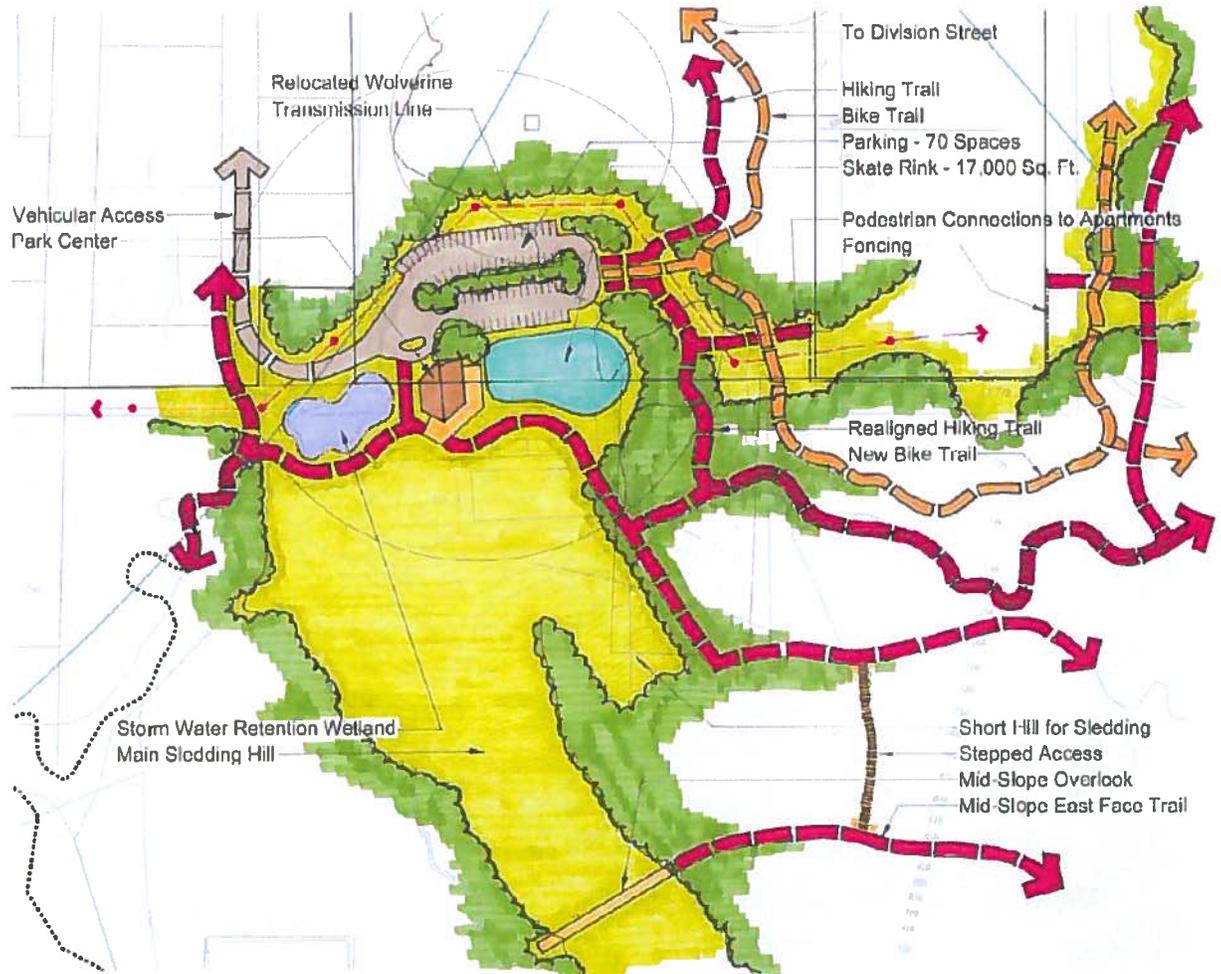
The Core Area is the relatively flat area currently occupied by the parking lot, ice rink, warming house and storage building. The principal proposed change to this area is to move proposed site elements to the north, thereby opening more of the bottom of the hill to green space and expanding the run-out area for sledding. In making this move northwards, proposed site elements straddle the park site proper and the well site property.

It is also proposed that the Wolverine Electric Transmission Line be relocated to the north so as to not be so visually prevalent in this key area of the park.

The primary elements of proposed development in the Core Area of Avalanche can be itemized as follows:

- Park Center
 - Warming house
 - Education and nature study programs
 - Fireplace
 - Equipment storage
 - Skate sharpening
 - Concessions with seating area
 - Meeting room
 - Large windows for viewing hill and ice rink
 - Adequate accessible restrooms
 - Large viewing deck
- Skating Rink
 - Approximately 17,000 square feet (one standard ice hockey rink size)
 - Artificial cooling will not be allowed due to toxic nature of refrigerants and being within well sites groundwater capture area
 - Potentially suitable for skateboarding
- Main Sledding Hill
 - Former ski slope used as primary sledding hill
- Mid-Slope Overlook
 - Boardwalk spans entire width of cleared sledding hill
 - Limits run of sledders
 - Inhibits walking on upper slope and thereby reduces erosion potential
- Sledding Hill For Young Children
 - Cleared slope east of main hill
 - Shorter run, not as steep as main sledding hill
 - More suitable for younger children and families with young children
- Mid-Slope East Face Trail
 - Create new route along east face of main hill
 - Tie to mid-slope overlook
 - Creates alternate routes and shorter loops, especially with addition of stepped accesses
- Parking
 - Provide approximately 70 spaces

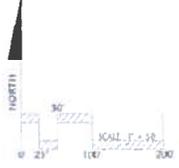
- Tie in hiking and bike trails; trailhead location
- Storm Water Retention Wetland
 - Collect storm water run-off from parking, park center, ice rink, and north face of hill
 - Reduce impacts of run-off on storm drainage system in Wilson Street
 - Create wetland amenity including habitat for flora and fauna



- Park Center**
- Winter house
 - Education and nature study programs
 - Fireplace
 - Equipment storage
 - Skis/snowboard storage
 - Concessions with seating area
 - Meeting room
 - Large window for viewing hill and ice rink
 - Adventure activities in winter months
 - Large viewing deck
- Skating Rink**
- 17,000 square feet - one standard hockey rink
 - 45% larger than existing rink
 - Prioritarily suitable for skateboarding/hollerblading
 - There are no consistent standards or criteria for number of users per square foot of ice surface

- Mid-Slope Overlook**
- Built along upper edge of cleared slope
 - Limit of main sledging hill
 - Deter walking on upper slope/reduce erosion
- Main Sledging Hill**
- Sledging Hill for Young Children**
- Shorter, less steep
 - More suitable for young children and families with young children
 - Provide handrail along edge of hill to facilitate climb up
- Mid-Slope East Face Trail**
- Create new route along east face of main hill
 - Tie to mid-slope overlook
 - Create loop with decision of new stepped access
- Parking**
- Could tie access from uphill side recovery

- Storm Water Retention Wetland**
- Collect stormwater run-off from slope above
 - Collect stormwater run-off from parking, skating rink and park center
 - Reduce erosion via storm sewer system along Wabon Street
 - Create wetland amenity including habitat for fish and birds



Avalanche

Master Plan-Core Area
January 2010

Division Street Edge Development

The well site property touches Division Street immediately to the west of the apartment complex. The park proper touches Division Street immediately to the east of the apartment complex. The park property situated east of the apartments has peaty soils that are unsuitable for intensive development. Pedestrian, bike, emergency and maintenance access are the only proposed uses for this area.

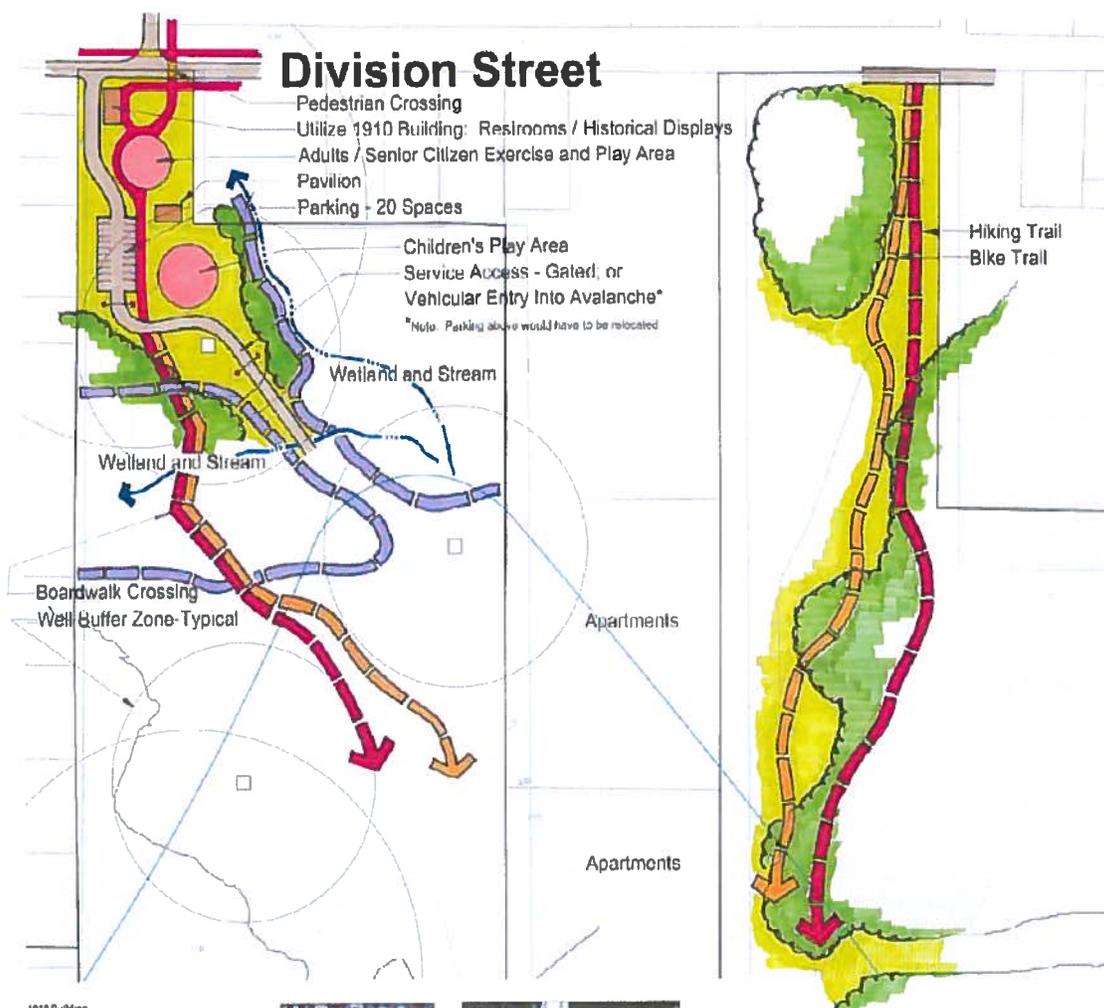
The well site property, most specifically the area immediately around the 1910 Building, is situated directly across Division Street from two adult care facilities. The neighborhoods to the north and west and the apartments to the east are homes to young children. A neighborhood-style park has the potential to provide recreation to these residential areas and, specifically, to older adults and young children.

With these populations in mind, it is proposed to develop two playgrounds, one for young children and one for adults, particularly older adults. This multi-generational park within the park could be used as a destination for residents living in the adult care facilities and an opportunity to observe and be around young children. Families could readily take advantage of such a park, with play and exercise equipment for young and old alike.

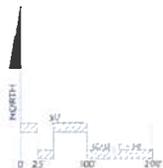
A pavilion for picnics and gatherings is proposed. The 1910 Building would be used to provide restrooms and could house historic displays appropriate to the building's history.

This small park could also serve as a trailhead for hikers and bikers. They could depart from the parking area by crossing the stream and wetland via boardwalk and head for the trail systems within Avalanche proper.

Finally, if this location is used as the primary vehicular entry into Avalanche in the future, the park-like setting of this neighborhood facility will establish a positive presence and introduction to the greater park.



- 1910 Building**
- Building restored as park amenity
 - Parcel use devoted to water system pump station
 - Restrooms added to serve park
 - Historic displays incorporated as appropriate
- Adult / Senior Exercise and Play Area**
- Equipment oriented to adult and senior adult capabilities and needs
 - Program such use with supervised care facilities or staff across Division Street
 - Promote interaction between young children and senior adults
 - Provide multi-generational family use



Avalanche

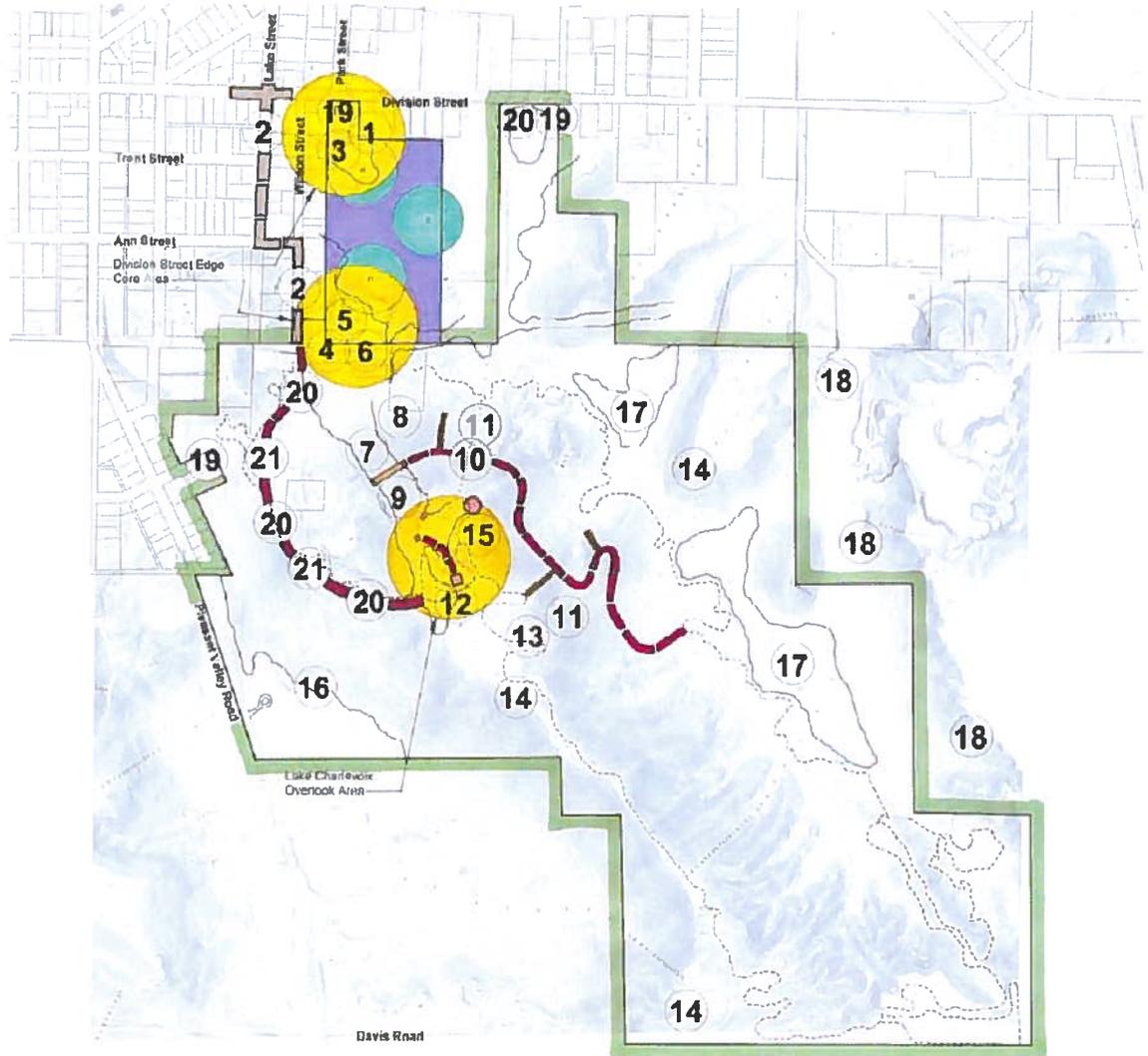
Master Plan-Division Street Edge
January 2010

Avalanche As A Whole

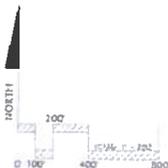
The access options describe best opportunities for vehicular access into the park. Core Area and Division Street Edge development areas describe the two areas of most intense physical change. For the rest of the 300 acre park, the primary objective is to do as little as possible. Preservation and conservation are the guiding objectives. And although there has been disagreement about what constitutes preservation and conservation, the extent of development over the great extent of Avalanche is – and should be – minimal, unobtrusive and conducive to accommodating the greatest cross-section of users without sacrificing the integrity of the park’s natural qualities. Proposed improvements can be itemized as follows:

- Mid-Slope East Face Trail
 - Creates a shorter loop
 - Can be connected to several existing trails via stepped accesses
 - Opens up views down across the east slope
- Emergency/Maintenance/Accessible Access
 - Construct a stable, vehicle-suitable route to the top of the hill along old routes cut west of the water treatment facility
 - Surface should not be conducive to skateboard use
 - As emergency access, this route cuts 15-20 minutes off response time to main overlook area
 - As maintenance and security patrol access, this is the most direct and logical route to the overlook area and to access the main trail along the ridge
 - This route can be used by authorized vehicles to carry people with physical limitations to a handicap-accessible parking pad discretely located 300-400 feet south of the upper deck at the Lake Charlevoix overlook. From this parking pad, an accessible trail can be developed to the upper deck at the overlook.
 - This route should not be used for general public access at any time or under any circumstances.
- Overlooks and Benches
 - Place rustic benches at 600-800 foot intervals.
 - Create new overlooks in areas indicated in plan.
- Archery Range
 - Maintain target array currently in use.
 - Add traditional target range.
- Disc Golf
 - Maintain disc golf course as currently exists.
 - Do not expand course beyond current 18 holes.
- Open Meadows
 - Actively maintain open meadows by annual or semi-annual mowing and by preventing encroachment by trees.
 - Meadows create edge habitat suitable for more diverse populations of flora and fauna.
- Quarry Site and Other Adjacent Properties
 - Consider all opportunities to acquire adjacent properties.
 - Such properties could serve as future buffers to the current park property, enable trail system extensions, and expand and enhance recreation opportunities.
- Out Lots

- Legally resolve all ownership issues of parcels located within the main boundary of the park.
- Wayfinding and Information Signage
 - Trail maps at key locations
 - Trail names, trail indicators, and direction (wayfinding)
 - Informational including geological history, botany, forest ecology, land use history, Native American history, physical facts and figures, etc.
 - Rules, regulations, limitations including walking on main slope
 - Signage should be discrete in its design, size and overall presence.
 - Design of signage should be in keeping with an area primarily devoted to preservation; wood construction preferred.
- Erosion on North Face of Hill
 - Mid-Slope Overlook should deter some walking on hill face.
 - Use matting to stabilize soil.
 - Use native plant materials.
- Ecological Baseline Study
 - Prepare a comprehensive inventory and analysis of the flora and fauna of Avalanche.
 - Use findings to develop education and awareness programs.
 - Use findings to better determine management strategies.
- Snowmobiles and Motorized Off-Road Vehicles
 - Snowmobiles are a permitted use.
 - No other motorized vehicles, except for maintenance, emergency and accessibility purposes, are allowed.



- 1. **Vehicular Entry Option 1 through West Side Property**
Utilize existing service road - See Division Street Edge enlargement
- 2. **Lake Street Gateway / Wilson Street Entry**
Improve both streets to include sidewalks, bike lanes, street trees and wayfinding signage
- 3. **Neighborhood Park**
See Division Street Edge enlargement
- 4. **Park Pavilion**
See Core Area enlargement
- 5. **Parking**
See Core Area enlargement
- 6. **Standing Rock**
See Core Area enlargement
- 7. **Main Staircase Hill**
See Core Area enlargement
- 8. **Stedding Hill for Younger Children**
See Core Area enlargement
- 9. **Mid-Slope Overlook**
See Core Area enlargement
- 10. **Mid-Slope East Face Trail**
New proposed trail alignment, along with Staged Accesses, create as food, alternate routes, etc.
- 11. **Staged Accesses**
Direct links between trails to create loops at all alternate routes
- 12. **Accessible Route To Lake Charleville Overlook**
Construct accessible parking pad as well as a path to upper overlook deck. Parking to be used by City re-alignment project in long-term with limited mobility to overlook on a scheduled basis
- 13. **Technical Bike Course**
- 14. **Overlooks**
Open up existing views as far as possible and desirable
- 15. **East Slope Woodland Overlook**
- 16. **Archery Range**
Add traditional target range
- 17. **Open Meadows**
Maintain as edge habitat for fauna and flora diversity
- 18. **Quarry Site / Adjacent Properties**
Always consider acquiring adjacent properties for purposes such as nature trail system extensions, and expanded or enhanced interpretive opportunity
- 19. **Pedestrian / Bicycle Access Points**
Add 2-3 parking spaces at Pleasant Valley Rd location
- 20. **Emergency / Maintenance Access**
- 21. **Stairwell Access To Handicap Parking Pad**



Avalanche

Master Plan: Full Site Overview
January 2010

CONCLUSION

The Avalanche Master Plan was approved by the City Commission on January 12, 2010.

Appendix A

**Avalanche Master Plan
Steering Committee Notes
May 6, 2009**

The following is a summary of questions and points raised at this meeting:

- Committee: How do we open up and encourage use without losing its rural, pristine character?
- Until a master plan is approved, ad hoc development tends to occur.
- User Groups tend to form and dissolve over time such as youth hockey, disc golf and trail biking.
- Vehicular access is a major question.
- Is the site a “preserve” or a “park”?
- Should selective thinning or other forest management practices be applied to the site?
- Consider access to park through well site property. This access point provides desirable visibility.
- Active recreation should probably be limited to existing parking area.
- A neighborhood-style park may be desirable in the area at the bottom of the former ski hill.
- Active forest management could be utilized to maintain views and create “Wow!” factor for future generations visiting the site.
- The 1910 Building could potentially be used for restrooms, historic interpretation center and a meeting room. Building will also probably be used to house a booster pump station.
- Some type of small pavilion might be desirable for gatherings, picnicking, etc.
- The existing structure behind the 1910 Building will be taken down.
- Winter sports to be encouraged and accommodated include ice skating, cross county skiing and snowshoeing.
- A new and improved warming house would potentially attract more winter sport use.
- A question was raised as to whether or not a warm-season skatepark was an appropriate use for Avalanche.
- Snowmobile use was discussed without any specific direction suggested.
- Archery is recommended to remain as a use at its current location.
- Horseback riding and pets within the park were discussed without any specific direction suggested.
- Erosion on face of hill is an ongoing problem.
- Trails are a primary feature of the site and are used for trail biking and walking.
- Sled hill safety is a concern. It was suggested to divide the hill face for families with young children and older sledders. It was also suggested that a barrier be established to limit length of sled runs.

- Questions were raised about locating a cell tower and wind turbines on the site.
- Potential contacts for further information:
 - Dan Adkison
 - Norm Schroeder
- Aspects of historical interest:
 - Fire watch
 - Old water reservoir
 - Former ski resort
 - Lumbering
- Trail benches are needed at regular intervals.



Mark Robinson & Associates P.A.
LANDSCAPE ARCHITECTURE/PLANNING

**Avalanche Park
Public Input Meeting
June 11, 2009**

The meeting was opened at 6:00 PM by Michael Cain, City Manager, who introduced the consultant, Mark Robinson. There were 27 people in attendance.

Mr. Robinson began by stating that the purpose of this meeting was to discuss program that will guide the planning process. Points of discussion were introduced via PowerPoint and a handout. Mr. Robinson emphasized that the discussion need not be limited to those points. He cited past studies and planning processes that led the consultant and the Avalanche steering committee to develop these initial points of discussion.

Preserve majority of site (+/- 90%) in its natural state.

The following comments were offered:

- There was consensus agreement that conservation of this site is a common goal.
- Mark Robinson cited email comments received from a citizen who would like to see a timber management program developed. For discussion purposes, the term 'preservation' was defined as "don't touch it" while 'conservation' was defined as "manage it".
- One citizen spoke in favor of timber management to preserve views.
- Another citizen stated he was cautious about timber management due to the steepness of the terrain.
- Avalanche is a preserve and thus, by definition of a preserve, should not be managed. The poplars which are taking over now won't be around in another 30 – 40 years; they are taking over now because the land was managed previously.
- Factual information regarding management practices should be acquired before making a decision regarding management. Some management can be good for wildlife.
- Dean Solomon, MSU Extension Agent, is a forester and could be a valuable resource.
- Perhaps an ecologist should be consulted instead of a forester. An ecologist would be less commercial-oriented.
- The non-dollar value of this property is far more important than any dollar value that could be stated when talking about potential harvesting of trees.
- Management for the health of the preserve is the key point.

Develop recreation opportunities over the portions of the site (+/- 10%) that have previously been impacted and that do not compromise preservation objectives.

The following comments were offered:

- Steer clear of the wetlands.
- General consensus that this 10% could potentially remain as impacted, non-passive use but the question was raised as to whether or not there was the need for that much use.
- Trail-based recreation is close to capacity. If more activity is desired, perhaps other activities should be pulled out.
- The question was raised as to whether a differentiation should be made between high impact areas such as parking versus those with low impact. Public access to Avalanche should not be limited.

Extend trail system to provide reasonable access throughout park.

The following comments were offered:

- The Parks & Recreation Commission decided several years ago that the eastern half of the park would not be developed.

Trail-related uses including hiking, nature study and appreciation, fitness, cross-country skiing, snowshoeing, biking, snowmobiling and horseback riding.

The following comments were offered:

- A citizen who is a frequent winter hiker and cross-country skier stated that snowmobile use is more frequent at night and therefore does not negatively impact other trail users. Horses, however, tear up a trail.
- A second citizen concurred with the belief that horseback riding in the park is detrimental to the trails. This citizen reported that the bike trail is used in the winter for snow shoeing so it is quite versatile.
- The Parks & Recreation Commission made the decision that no signage would be used to mark trails.
- The question was raised as to City policy regarding horseback riding in other city parks. A second question for consideration was if dog owners are required to clean up after their dogs, why horse owners are not required to do the same in public spaces.
- The bike trail received numerous positive comments. The trail was laid out properly and thus has little erosion problems. The trail has received honors and is well known throughout the larger biking community.
- One citizen suggested that horseback riding in the park might not be much of a problem due to little use.
- The thought was expressed that disc golfing has a negative impact on the park as that activity is not limited to the immediate trail.
- Snowmobiles have a negative impact in the areas of speeding, noise and smells. It has proved impossible to monitor snowmobile use.
- The question was raised as to whether hours for snowmobile use could be limited.

- One citizen suggested that snowmobiling be prohibited in the park as this is a natural area.
- The question of potential liability risks to the City regarding snowmobiling was posed.
- One citizen thought that the most complaints about snowmobiling came from surrounding property owners as snowmobilers cross private property both coming to and leaving from Avalanche Park.

Mark Robinson asked if out of all these park uses if there were things that could be done via the Master Plan to make any of these activities better or if, perhaps, new activities should be introduced. The following comments were made in response:

- Separate cross-county ski and snowshoe trails in the winter. An additional trail to provide a shorter loop would be desirable.
- The terrain dictates where/how to loop trails. Use of the eastern area of the property would likely be required to make a shorter cross-country loop.
- Perhaps a short loop could be created by utilizing the area east of the apartments.
- One problem is that people don't know how to find the loops that already exist.
- Why isn't signage provided?
- Boyne City doesn't have a parks and recreation manager in spite of its significant number of parks. Many details fall between the cracks because no one is looking specifically after these items.
- Stairs are a popular feature of the park but are not all that well designed or laid out. Improving this access would be a good idea.
- The overlook provides one of the finest views in all of northern Michigan but the access to that view is limited to those people who are physically fit. There ought to be some way to give people easier access to the top of that hill.
- The erosion problem on the face of the hill needs to be considered in this master plan. (Mark Robinson stated that this will be a program objective.)

Develop trail amenities

The following comments were offered:

- A covered structure toward the back of the property might be nice.
- Consider providing restroom facilities – even if only a port-a-potty – at the top of the hill.
- The bike path goes past the 1910 Building. Perhaps restrooms could go into that building if it were preserved.
- The old house foundation in an open field is dangerous and should be removed.
- Better maintenance would improve the hiking experience.
- Garbage cans were removed this winter. Without them the trails get trashy.
- It would be desirable to develop 1 – 2 additional trail access points, one perhaps at the archery end, with additional parking.
- Some parking off of Pleasant Valley Road exists but parking by the archery range would be dangerous.

- Review or consider the safety plan for emergency access. (Dan Akinson offered to inform Mark Robinson about this plan.)
- Provide rest stations which might be identified by trail names.
- Providing trail identity would improve safety concerns.

Mark Robinson mentioned the future possibility of expanding the park into the area of the present sand/gravel quarry if/when that land becomes available. The following comments were offered:

- Favorable for non-motorized use but Avalanche should never be developed for motorized use. Expanding the trail system further would be a good idea.
- This area might be perfect for an “adventure park” for mountain biking. Such a feature would attract people to the community.
- One citizen expressed the opinion that an “adventure park” would require intense management, wouldn’t pay for itself and would increase liability.
- It might be worth considering to put a skateboard park in Avalanche off of Division Street out by McDonalds.

Overlooks

Mark Robinson stated that with some judicious clearing of some trees, the view corridors can be maintained and even enhanced. He asked for feedback on that possibility as well as the suggestion of providing additional overlooks.

The following comments were offered:

- It’s too bad that some of these views have been compromised by tree growth.
- Limited management to preserve the views would be wise.
- Alternate overlooks have been considered positively in the past but these have never been acted upon.
- Perhaps an overlook part-way up would be a destination for sledders. This would help with safety issues as well as erosion.

Active recreation development includes sledding, ice hockey, recreation ice skating, rink rollerblading and skateboarding and archery.

The following comments were offered:

- It would be nice to provide lighting for night sledding.
- Lights are still on the poles around the hockey area. These could possibly be redirected onto the sledding hill.
- Light pollution is a negative. Any lighting additions should be sensitive to this.
- Perhaps lighting could be limited to certain nights. This would address concerns of different constituencies.
- Will the main parking lot continue to be used? If so, the light provided there helps night sledders. It seems unnecessary to have more light for sledders.
- Management adjustments could resolve all of these concerns.
- Archery range use goes in streaks.
- Rollerblading and/or a skate park belongs somewhere in Boyne City but the general thought was that Avalanche would not be the best choice of locations.

This activity should be in a more visible location; supervision would be required.

- Perhaps skateboarding and rollerblading should be taken off the list of developed activities.
- What about ice hockey? Should that come off the list? There was general consensus that recreational skating should be kept but not hockey.
- The size of the present ice rink needs to be 4-5 times larger to provide for both recreational skating and pick-up hockey games.
- One citizen expressed the opinion that Rotary Park seems ideally suited for an ice/hockey rink. Other citizens did not share this opinion due to size limitations.
- A request was made that the Master Plan Advisory Committee review the 90% passive use / 10% active use mandate and hold to this.

Develop no-leash dog exercise area

The following comments were offered:

- Avalanche already functions this way so this item can come off the list.
- A good trail amenity to add would be plastic bags and adequately placed garbage cans for disposal of animal waste.

Study feasibility of primary vehicular entry from Division Street at site of 1910 Building.

The following comments were offered:

- The goals of the 1910 Building Restoration Committee were outlined by members of this committee who expressed the desire for this building to be the gateway into Avalanche Park.
- In addition to the possible use of the 1910 Building as a gateway, as it is on the National Historic Register, historic artifacts could be displayed there so that the building itself is a destination. Avalanche trail maps could be provided there.
- There are possible security issues to consider regarding accessibility to this area.

Mark Robinson stated that this is a wonderful opportunity given that the current entrance route is less than ideal. Apart from possible security issues, there is a 100 foot radius around each well that cannot be built over. Also there is a wetland in that area that probably should be left untouched. In response to these remarks the following comments were offered:

- This would make a desirable entrance if the other issues could be resolved. Perhaps an engineering study of this area is necessary to ascertain the feasibility.
- A neighbor asked that drainage issues be resolved in this area as her yard is often flooded.
- A suggestion was made to include the 1910 Building in the park even if it can't be a vehicular entrance; make it a pedestrian entrance instead.

Develop vehicular access to vicinity of Lake Charlevoix overlook.

The following comments were offered:

- No cars! Provide accessibility as much as possible, but no cars.
- Senior Citizens are bussed up on occasion. Perhaps this could be a more regular, advertised opportunity.
- The only way to get a road up there would be to cross back and forth over trails. This would not be desirable.
- “There will come a day when I can’t walk up there and I will accept that”.
- Think outside the box – put in a chairlift.
- No! Too expensive and not attractive.
- The goal of getting more people up there is viable; if not a chairlift, explore a small trolley or advertised bus rides.
- Explore what is achievable realistically. The City can’t even get simple management issues and maintenance issues under control. It is inconceivable to think of having a paved road to maintain when the current parking lot isn’t even maintained well.
- Let’s find another word to use other than “fit” when we talk about accessibility issues; perhaps the word “infirm” would work.
- Universal access isn’t required everywhere.
- Perhaps intermediate access/overlooks using trails with switchbacks would make this more accessible to a greater number of people.
- There was general consensus to not provide general vehicular access to the top of the hill.

Develop wayfinding and information signage

The following comments were offered:

- There was general consensus that this would be a good idea.

Develop a new warming house and park center suitable to accommodate such things as education programs, a welcome and information center, locker rooms, a fireplace, nature study, equipment storage, skate sharpening, concession stand and associated seating area, small meeting room, cooperative effort for use by schools, large glass windows for viewing hill and rink, and adequate accessible restrooms.

The following comments were offered:

- There was general consensus to develop a year round facility of this type. It was stated that the 1910 Building would be too small to serve this purpose.

Maintain disc golf course

The following comments were offered:

- There was general consensus to keep the disc golf course as it is. It is well-used and doesn’t need any changes.
- Consider putting a limit on future development due to erosion/damage issues.
- Perhaps one or more of the holes closest to the apartments could be relocated to avoid some of the negatives that have been associated with this activity.

Develop one or more shelter structures

The following comments were offered:

- This is a good idea as a destination for a picnic, shelter from rain, etc.

Develop neighborhood park-style amenities in association with currently developed areas and in area between Division Street and skate rink

The following comments were offered:

- There is no need for a playground. Open areas are great for picnics and other casual family activities.
- There was general consensus that this could remain as a possibility for consideration.

Address “out lots”

Mark Robinson stated that some properties are still owned by Boyne Mountain and that this should be cleaned up. He then asked if there were any further general comments or questions to which the following comments were offered:

- Use open shelters; be aware of potential use by teenagers for less than desirable activities.
- A world class toboggan run would be an awesome addition. Avalanche could become the number one sledding destination in northern Michigan.
- Revisit the 90/10 passive/active use ratio. How does the National Park System label/rate these activities found in Avalanche?
- How about putting a telescope on the lookout?

This meeting was concluded at 8:30 PM.

- c. Barb Brooks (for further distribution as desired)
Michael Cain
Hugh Conklin
Susan Conklin
Michael Sheean

**MEETING OF
JUNE 18, 2009**

RECORD OF THE PROCEEDINGS OF THE **REGULAR BOYNE CITY
PARKS AND RECREATION COMMISSION MEETING HELD AT
6:00 P.M. IN THE WARMING HOUSE AT AVALANCHE PARK ON
THURSDAY, JUNE 18, 2009.**

CALL TO ORDER

Meeting was called to order by Chair Sheean at 6:03 p.m.

ROLL CALL

Present: Dan Adkison, Lou Awodey, Susan Conklin, Bill Kuhn, Paul
Nicholls, Mike Sheean, Marie Sheets and Carl Wehner
Absent: None

**MEETING
ATTENDANCE**

City Staff: City Manager Michael Cain, DPW Superintendent Andy
Kovolski, and Recording Secretary Pat Haver
Public Present: Three

**PARK INSPECTION
REPORTS**

Adkison reported that there is quite a bit of activity at Avalanche with
early morning walkers, and bike riders. Is there anyway the police
officers could start up their bike patrol and ride up around the disc golf
areas to assist with the drinking problems. Is it possible for temporary
signage to keep off of the face of the hill because of erosion? Conklin
asked about the trash can placement on the hill.

NEW BUSINESS

**Avalanche Master Plan
Update**

Mark Robinson, consultant was on hand to facilitate further discussion
for plans at Avalanche Park. A hand out (received and filed) from the
previous input sessions and meetings was passed around as the basis
for the discussion. Through a power point presentation, each item was
presented and discussed. Additional additions, deletions and changes
were made to the handout. A revised summary will be forwarded by
the consultant.

Park Signage

****MOTION**

Included in the agenda packets were possible designs for signage for all
of the city parks. After board discussion, Kuhn moved, Nicholls
seconded, PASSED UNANIMOUSLY a motion to approved rendering B
with the addition of the words Boyne City near the logo.

ADJOURNMENT

Nicholls moved, Conklin seconded, PASSED UNANIMOUSLY to
adjourn the June 18, 2009 meeting of the Parks & Recreation Board at
8:45 p.m.

Pat Haver, Acting Recording Secretary



**Avalanche Park
Parks & Recreation Commission Meeting
June 18, 2009**

Mark Robinson was invited to the Parks & Recreation Commission meeting to discuss program objectives for Avalanche Park. Mr. Robinson stated that the goal of the discussion was to review and adopt program objectives for Avalanche Park for recommendation to the Planning Commission and the City Commissioners. Points of discussion were introduced via PowerPoint and a handout.

OBJECTIVE # 1: Preserve majority of site (+/- 90%) in its natural state

- There was consensus to include this item as a program objective with the addition of the phrase “maintain view corridors” to subpoint 3.
- Discussion centered on the desire of obtaining input from a naturalist/ecologist and a forester regarding potential “management”. There was consensus that potential management would be appropriate only for the health of the preserve and/or to meet other stated objectives such as the preservation of view corridors. Potential financial profitability of such management should not be a consideration.

OBJECTIVE # 2: Develop recreation opportunities over the portions of the site (+/- 10%) that have previously been impacted and that do not compromise preservation objectives

- There was consensus to include this item as a program objective with the deletion of the phrase “+/- 10% of total acreage”.
- Discussion centered on which activities constitute active recreation and which constitute passive recreation. Mark Robinson will research these definitions and how they can be applied to this project.

OBJECTIVE # 3: Extend trail system to provide reasonable access throughout park

- There was consensus to include this item as a program objective with the deletion of subpoint 4, “Improve stepped access by constructing consistent riser/tread dimensions”.

OBJECTIVE # 4: Trail-related uses including hiking, nature study and appreciation, fitness, cross-country skiing, snowshoeing, and biking

Mark Robinson pointed out that horseback riding and snowmobiling were taken off the prior list of activities based on input received at the Public Input Meeting for Avalanche Park

which was held on June 11, 2009. He stated that the Parks & Recreation Commission could put those activities back on the list.

- There was consensus to include this item as a program objective, excluding horseback riding and snowmobiling. The Commission directed that the separate objective dealing with Disc Golf be included in Objective # 4 instead of listing it as a separate objective.
- There was consensus that Avalanche Park would support a non-motorized vehicle policy. The only exception to this policy would be in case of emergencies, maintenance and scheduled group access for people with limited mobility.

OBJECTIVE # 5: Develop trail amenities

- There was consensus to include this item as a program objective.

OBJECTIVE # 6: Overlooks

- There was consensus to include this item as a program objective with the addition of an additional subpoint supporting the re-establishment of view corridors that have been lost over the years.

OBJECTIVE # 7: Study potential for addition and development of adjacent quarry site

- There was consensus to include this item as a program objective.

OBJECTIVE # 8: Active recreation development includes sledding, recreation ice skating, rink rollerblading and skateboarding, archery and exploration of the development of a toboggan run

- There was consensus to include this item as a program objective.
- Discussion centered on safety and erosion issues relating to sledding. The Commission directed that these issues be explored during the Master Plan process.

OBJECTIVE # 9: Study feasibility of primary vehicular entry from Division Street at site of 1910 Building

- There was consensus to include this item as a program objective.

OBJECTIVE # 10: Park access

- There was consensus to include this item as a program objective.

OBJECTIVE # 11: Develop wayfinding and information signage

- There was consensus to include this item as a program objective.

OBJECTIVE # 12: Develop a new warming house and park center suitable to accommodate such things as education programs, a welcome and information center, locker rooms, a fireplace, nature study, equipment storage, skate sharpening, concession stand and associated seating area, small meeting room, cooperative effort for use by schools, large glass windows for viewing hill and rink, and adequate accessible restrooms

- There was consensus to include this item as a program objective with the deletion of subpoint 3, “Locker rooms”.

OBJECTIVE # 13: Maintain disc golf course

- There was consensus to delete this as a separate program objective and to include it as a subpoint of Objective # 4, “Trail-related uses”.

OBJECTIVE # 14: Develop one or more shelter structures

- There was consensus to delete this as a program objective.

OBJECTIVE # 15: Study feasibility and potential scope of neighborhood park-style amenities in association with currently developed areas and in area between Division Street and skate rink

- There was consensus to include this item as a program objective.

OBJECTIVE # 16: Address “out lots”

- There was consensus to include this item as a program objective.

OBJECTIVE # 17: Address erosion on north face of hill

- There was consensus to include this item as a program objective.

c. Barb Brooks
Michael Cain
Hugh Conklin
Susan Conklin
Pat Haver (for further distribution as desired)
Michael Sheean

**Avalanche Master Plan
Steering Committee Notes
July 27, 2009**

The following is a summary of discussion about plan and program development to date and in preparation for the 7/28 public input meeting:

- More information was provided by Scott McPherson to clarify site property boundaries.
- The need for a “quick way up” emergency access was discussed at length. It has been estimated that a direct route, more or less utilizing the old maintenance access, cuts 15 minutes off emergency response times to the overlook area at the top of the hill.
- Potential access off Division Street should be addressed as through the “well site property”, not “1910 Building”.
- A bike trail already exists on Wilson Street that can serve as bicycle access into the site.
- The opinion was stated, although not necessarily supported by all, that no motorized recreational vehicles, including snowmobiles, should be allowed in the park.

**Avalanche Public Meeting
July 28, 2009**

The ninety minute meeting began at 6:00 PM. There were sixteen people in the audience. Consultant Mark Robinson opened the meeting by stating that he would be presenting key points of the proposed master plan elements and he encouraged questions and comments throughout his presentation.

Point 1: Definitions of active versus passive recreation.

No matter how the current activities at Avalanche are described, the 90%/10% desired ratio of passive/active recreation is easily maintained. See attached documentation.

Point 2: Presentation of Inventory / Analysis Map

It was pointed out that a portion of the quarry site shown on this map is actually privately owned. This correction will be made.

Point 3: Presentation of Access Options Map

Point 4: Presentation of Master Plan Preliminary Proposal.

Referenced at this time was a list of the Avalanche Program Objectives (as approved by City Commissioners) and the Proposed Master Plan Components. This was posted on the wall during the meeting and also presented to participants in handout format. A copy of that handout is attached to these minutes.

Mr. Robinson stated that the Preliminary Master Plan does not propose to significantly change Avalanche Park but rather to protect it and to enhance it with a light touch.

The following comments and questions were generated by the audience in response to the presentation.

- Fire Department needs easy access to the park for emergencies.
- What about maintaining/restoring view corridors; will that be incorporated into the plan? *(Response: Yes, there will be a recommendation.)*
- Could the hiking trails be equipped as "heart" trails for enhanced cardiovascular exercise? *(Response: This could certainly be included in the plan if the City so desires.)*
- Will the skate rink /skate park be outdoors? *(Response: Yes, it is outdoors. With portable equipment it would be possible to use the same space for both purposes in different seasons of the year.)*
- Will the cross-country, hiking, and biking trails be mapped out or just included in the text? *(Response: The existing trails are mapped and shown on the plan, although the accuracy and consistency of the data sets is not flawless. The master plan proposes only one significant additional trail – the Mid-Slope East Face Trail. Given the limited accuracy of the available mapping, extensive trail planning/routing can only be conceptual and will be best performed in the field. The Master Plan will allow improvement of trail systems in reasonable ways to extend the use and enjoyment of the trails.)*
- Be careful to not have any new trail connections put a hiking trail onto a biking trail.
- A skate park was previously part of Avalanche Park. It did not work out. It was generally agreed that a skate park does not belong here.

- There is a Hemlock grove in the approximate area of the proposed "saddle". Do not do anything that will negatively impact the Hemlocks. *(Response: We will certainly check this out. Under no circumstances will it be suggested that the Hemlocks be removed.)*
- What would be your first priority in implementing this plan? *(Response: The Mid-slope Observation Deck in order to begin to deal with the erosion problem.)*
- Did you look at the possibility of placing the children's sledding hill to the west instead of to the east of the main hill? *(Response: The placement as suggested is closer to the warming hut but the west side will be further studied as well.)*
- Did you consider a toboggan run? *(Response: We researched the possibility but are not recommending such a facility due to maintenance and management issues. A toboggan run is both cost and labor intensive and thus does not seem to be a good fit for Avalanche.)*
- Do you know anything about the life expectancy of the quarry? *(Response offered by Andy Kovolski: It is County-owned but there is no known knowledge about its life expectancy.)*
- What was the thought process for not allowing snowmobile use in the park? *(Response: The two most significant factors were the noise generated by snowmobiles which is not conducive to contemplative, passive recreation and the complaints of adjacent homeowners whose property snowmobilers frequently cross without permission in order to access Avalanche property. These were identified and confirmed through public input and by the Parks and Recreation Commission.)*
- Is there anything in the original lease agreement that would prohibit snowmobiling? *(Response: Not to the knowledge of the consultant and staff who have participated in the process to date.)*
- What is your time line for finishing this project? *(Response: The master planning process should be complete by early fall. There will be at least one more public meeting prior to initiating the approval process. Presently there is no money earmarked for projects at Avalanche.)*
- Would it be worthwhile to check with DNR concerning crossing through the wetlands on the well site as an alternative vehicular access point? *(Response from Andy Kovolski: This would be a logistically difficult, cost-prohibitive solution. Best to not go there.)*
- The proposed skating rink is approximately 50,000 square feet in size. It was pointed out that a standard hockey rink is 8,000 square feet.



Mark Robinson & Associates P.A.
LANDSCAPE ARCHITECTURE/PLANNING

MEMO

September 15, 2009

To: Avalanche Park Steering Committee

Copy: Parkview Apartments

From: Mark Robinson

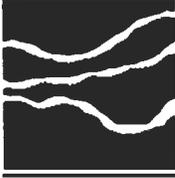
Re: Parkview Apartments Meeting

I was invited by and met with representatives of Parkview Apartments on Monday, September 14th to discuss potential issues related to the development of the Avalanche master plan. The back property line had been staked by a surveyor and it was very clear how and where people cross the apartment property while believing they are on city property. While we stood on this back portion of the apartment property, we witnessed at least two cars parking in the apartment parking area and their occupants entering the park. Another 6 - 8 people followed the footpaths through this site, again with all probable belief that they were on park property.

The gist of the reason for inviting me to this meeting was to discuss the possibility of exchanging maintenance/emergency access via the road serving the apartments, allowing or providing for public parking within the existing apartment parking, and adding the back portion of the apartment property to the Avalanche property for a payment-in-lieu-of-taxes agreement with the City. I stated that plans to date do not anticipate utilizing the apartment drive, that it is recognized that trespassing on private property is not acceptable and needs to be discouraged, and that maintenance/emergency access off of Division Street was potentially desirable but that utilization of a private road for such use was not actively being discussed.

I further stated that a tax issue discussion was definitely beyond my scope of work and had no direct bearing on my work for preparing a master plan for the park. I advised that such a discussion should be held with the City Manager. If the City sees fit to explore such arrangements and then directs me to study such options, I then could address them relative to master plan objectives.

This concludes a summary of our discussion.



Mark Robinson & Associates P.A.
LANDSCAPE ARCHITECTURE/PLANNING

MEMO

September 16, 2009

To: Dan Adkison

Copy: Avalanche Steering Committee

From: Mark Robinson

Re: Avalanche Entry Points and Trail

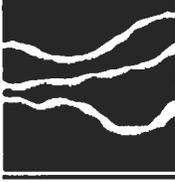
Per our discussion, you expressed interest in routing the main vehicular entry point through the well site property past the 1910 Building. I have been advised that the City should have a 100 ft. radius buffer around each well site and that such buffers should not be used for road construction. I ask that you discuss this matter directly with Dan Meads and determine if my understanding is correct.

Assuming that I am correct in this matter, a road potentially can be threaded between the buffer areas. This new route will cross an area that is certainly wetland. This will pose both permitting and construction challenges. The fact that access is already available into the park via another route will be weighted in any wetland impact submittal. I'm not suggesting such a hurdle is insurmountable, but it is a factor to consider.

The other issue associated with this route is the grade at the back of the site. The grade on a road needed to get up to the existing grade at the top will probably be between 5% and 10%.

The concern associated with such slopes is the ability to keep this road ice-free during winter use periods, particularly for group vans and buses. There is the possibility of cutting through the higher elevation to get to the lower elevation of the existing parking lot, or lowering the entire elevation in this area. Both scenarios suggest very major grading operations.

I appreciate your thoughts on these matters and look forward to exploring them more at our meeting on Monday, September 21st at 9:00 AM.



Mark Robinson & Associates P.A.
LANDSCAPE ARCHITECTURE/PLANNING

MEMO

September 16, 2009

To: Avalanche Steering Committee

From: Mark Robinson

Re: Snowmobile Use

Barb Brooks has brought to my attention that people who favor snowmobile use in the park have become aware of the program that calls for the prohibition of snowmobile use in the park. As you know, this item was discussed at length, included in the program at the recommendation of the steering committee, and approved at all levels including the City Commission.

Please consider the likely input we will receive at the next public input meeting favoring snowmobile use in the park and either confirm commitment to this program objective or suggest that we change it.

MEETING OF SEPTEMBER 17, 2009	RECORD OF THE PROCEEDINGS OF THE REGULAR BOYNE CITY PARKS AND RECREATION COMMISSION MEETING HELD AT 6:02 P.M. IN THE WARMING-HOUSE AT AVALANCHE ROTARY PARK ON THURSDAY, SEPTEMBER 17, 2009.
CALL TO ORDER	Meeting was called to order by Vice Chair Sheean Nicholls at 6:00 p.m.
ROLL CALL **MOTION	Present: Dan Adkison, Susan Conklin, Paul Nicholls, Marie Sheets, Bill Kuhn and Carl Wehner Absent: Mike Sheean, and Lou Awodey (arrived at 6:08) Adkison moved, Sheets seconded, PASSED UNANIMOUSLY to excuse the absence of Mike Sheean as he called in advance of the meeting.
MEETING ATTENDANCE PARK INSPECTION REPORTS OLD BUSINESS ADJOURNMENT **MOTION	City Staff: City Manager Michael Cain, DPW Superintendent Andy Kovolski, and Recording Secretary Barb Brooks Public Present: None Adkison reported the trails at Avalanche are in good shape and getting a lot of use. He also stated that he would be meeting with Mark Robinson to look at the wellhead protection in more detail and the possibility of the 1910 building site as a trailhead. Lastly he will be meeting Nancy Cunningham to look at the proposed nature walk a long the Boyne River. Avalanche Master Plan update - Discussion regarding how to get more people to attend the public input meeting on September 29 th at 6:00 p.m. Brooks stated signs will be posted at Avalanche and another by City Hall or the Chamber of Commerce and a press release will be submitted to the media. The general consensus of the board was to include in the press release some of the more controversial topics that could potentially be discussed. Recording secretary Brooks was contacted by someone interested in proposing an expansion of the disc golf at Avalanche but felt he was not prepared to present anything until possibly the October meeting. Adkison stated that there are a group of people interested in placing a mountain bike skills course area at Avalanche. Adkison moved, Conklin seconded, PASSED UNANIMOUSLY to adjourn the September 17, 2009 meeting of the Parks & Recreation Board at 7:10 p.m. <div style="text-align: right;"> <hr/> Barb Brooks, Recording Secretary </div>

**Avalanche Master Plan
Steering Committee Notes
September 23, 2009**

The following items summarize the points made in this meeting:

- Are other routes available for maintenance access such as from Davis Road?
(The general consensus was that potential alternate maintenance routes had the same problems associated with current access routes.)
- Avalanche is a good site for cross country skiing.
- The Wolverine electrical transmission line cannot be buried. It could potentially be relocated.
- The skate rink should not exceed +/- 13,000 square feet.
- The 1910 Building should be incorporated into a trailhead location with parking and restrooms within the building. A booster pump will likely be located within the building as well.
- The proposed new sled hill for families with and/or young children is supported. Steps are not recommended; a hand rail along the edge of the slope may be a worthwhile addition.

Avalanche Public Input Meeting September 29, 2009

The two hour meeting began at 6:00 PM. There were approximately 45 people in the audience, the majority of whom did not attend one of the previous two public input meetings. Consultant Mark Robinson opened the meeting by stating that he would be presenting key points of the proposed master plan elements and he encouraged questions and comments throughout his presentation.

The presentation began with a general orientation of the site by looking at an inventory analysis map, and then proceeded to a map outlining a study of options for vehicular access to the site. The options studied for vehicular access are:

- A. Lake Street Access. This is the present route into the park
- B. Well Site Property.
- C. East Meadow.

The following comments and questions were raised by the audience in response to a presentation of vehicular access options:

- Could there be a study of the facts via soil boring tests and finding out federal regulations before writing off Option B for vehicular access? *(In response, Andy Kovalski confirmed that the water table is exceedingly high through that property. Mark Robinson reported that Michael Cain has talked with DNR.)*
- Do you not favor Option B strictly because of the higher cost? *(Not only because of the higher cost but also for environmental reasons. There is a wetland running through this property, the grade becomes steep, and there is concern about protecting city wells.)*
- If Option B is not feasible for use as an access road, could parking be provided for hikers on that site? *(Yes. This is shown in the proposed plan; this is also a viable pedestrian access way.)*
- Option C site presents topographic challenges and has soft soils. DNR should not have as much an issue with a road going over peat as with a road going over a wetland.
- The owner of Parkview Apartments expressed interest in exchanging the right to use the apartment road as a primary park access in exchange for tax credit. *(Mark Robinson stated that his offer had been presented to the City and the City has expressed no interest in exploring this offer.)*

Following this discussion about access options, attention then focused on development objectives for the entire park. Program Objectives as earlier developed with public input and approved by the Parks & Recreation Commission were presented. The presentation of these objectives was interspersed with questions, comments, and general discussion. The Program Objectives as presented are as follows:

OBJECTIVE # 1

Preserve majority of site (+/- 90% of total acreage) in its natural state

- Preserve wildlife habitat
- Environmental education
 - Botany

- Forest ecology
- Maintain view corridors, open meadows and edge habitats
- Explore potential of various management techniques

OBJECTIVE # 2

Develop active recreation opportunities over the portions of the site that have previously been impacted or areas that do not compromise preservation objectives

OBJECTIVE # 3

Extend trail system to provide reasonable access throughout park

- Develop alternate loop trails including shorter loops
- Explore means to provide more universal access to overlook
- Provide, maintain, enhance emergency access as necessary

OBJECTIVE # 4

Trail-related uses include:

- Hiking
- Nature study and appreciation
- Exercise and fitness
- Cross-country skiing
- Snowshoeing
- Biking – mountain and BMX
- Disc golf course
 - Relocate facilities that are not located within park boundaries or are too close to apartments
 - No expansion beyond existing course

OBJECTIVE # 5

Develop trail amenities

- Covered rest stations
- Benches
- Maintain waste receptacles year round
- Provide pet waste clean-up stations
- Consider toilet facilities at top of hill

OBJECTIVE # 6

Overlooks

- Maintain and enhance the view from the Lake Charlevoix overlook
- Re-establish view corridors that have been lost
- Consider development of scenic overlooks to southwest, south, east and northeast as desirable and feasible
- Consider placement of telescope at Lake Charlevoix overlook

OBJECTIVE # 7

Study potential for addition and development of adjacent quarry site

OBJECTIVE # 8

Active recreation development includes:

- Sledding
 - Consider lighting for night use
 - Consider safety issues
- Recreation ice skating (no artificial cooling) – rink 4-5 times the size of existing facility
- Rink rollerblading and skateboarding
- Archery
- Explore development of toboggan run

OBJECTIVE # 9

Study feasibility of access into the park from Division Street at site of 1910 Building

- Study feasibility of vehicular access
- Pedestrian and bicycle access as a minimum
- Incorporate 1910 Building as possible

OBJECTIVE # 10

Park access

- Explore feasibility and desirability of additional vehicular and pedestrian access points

OBJECTIVE # 11

Develop wayfinding and information signage

OBJECTIVE # 12

Develop new warming house and park center suitable to accommodate:

- Education programs
- Welcome and information center
- Fireplace
- Nature study
- Equipment storage
- Skate sharpening
- Concession stand and associated seating area
- Small meeting room
- Cooperative effort for use by schools
- Should contain large glass windows for viewing hill and rink
- Adequate accessible restrooms

OBJECTIVE # 13

Study feasibility and potential scope of neighborhood park-style amenities in association with currently developed areas and in area between Division Street and skate rink

OBJECTIVE # 14

Address "out lots"

OBJECTIVE # 15

Address erosion on north face of hill

The following comments and questions were raised by the audience in response to the program objectives.

Regarding the suggested prohibition of motorized vehicles, including snowmobiles:

- Snowmobiles groom the trails by packing down snow.
- If snowmobiles are allowed, separate trails should be provided. There should be no snowmobiles on the hiking / skiing trails. *(Mark Robinson stated that following a site visit with and input from Dan Adkison, a 3.5 mile separate snowmobile trail is shown on the proposed plan. It is understood that this is not much of a ride for snowmobilers and it does negatively impact the serenity of a quiet winter walk for hikers and cross county skiers.)*
- Could we get a straw vote as to whether or not snowmobiles should be allowed? *(Based on the assumption that if snowmobiles were allowed, they would be required to stay on the trail provided, 2 members of the audience voted in favor of allowing snowmobile use; 26 members of the audience voted against snowmobile use in the park. The remaining members of the audience did not vote.)*
- Snowmobile use in the park is dangerous for hikers and cross country skiers.
- Snowmobiles are too noisy and too smelly. This is inappropriate for Avalanche.
- Could this proposed short snowmobile trail tie into a longer trail off the property? Promoting snowmobiling is good business. *(Mark Robinson responded that economically, it has been suggested by numerous parties that it would be more advantageous to provide a snowmobile trail from Boyne City to Boyne Falls.)*
- For tourism purposes, Avalanche is better suited for promoting BMX biking than for promoting snowmobiling.
- A neighboring landowner who raises cattle stated that some of the trails encroach on his land. Hiking is one thing, but snowmobiles are quite another. He would not allow a snowmobile trail to encroach on his property.
- How would a no snowmobile policy be enforced?
- People in attendance at this meeting seem similar-minded. Snowmobilers are under-represented, for example.
- Everyone is here for their own agenda. Why can't we make it good for everybody instead of eliminating a user group such as snowmobilers?
- The main problem with snowmobile use is not what happens in the park but rather the damage done to nearby private property which snowmobilers cross in route to the park.
- Avalanche is not a great snowmobile opportunity. Why take a nice, quiet place and ruin it by allowing snowmobile use? Why not promote it somewhere else in the general area?
- Snowmobiling is a big winter tourist draw.
- Perhaps for future planning options, we should not prevent snowmobiling at Avalanche now. Future property acquisition might allow for significant linkages to other snowmobile routes.

Regarding the objective for universal access and enhanced emergency access to the park, the following comments and questions were raised:

- Would there be any paving at the top of the hill? *(Yes, but only one or two parking spaces and access would be limited to emergency vehicles and limited access for the physically impaired.)*
- This seems to be in conflict with Objective # 1. *(The road bed is already there; run-off is already there. Stabilizing the access and redirecting run-off should be done as a means to improve the erosion problem.)*
- Are there figures on the requests for universal access? *(No.)*
- How many heart attacks have there been at the top of the hill? *(One, last year. If it were you or your family member, wouldn't be worth it? An improved access, it is estimated, would cut 15 minutes off emergency response time.)*
- Could an all terrain emergency vehicle be used?
- It is not good to be hiking and encounter an emergency or maintenance vehicle coming at you on the trail.
- Could a chair lift be considered? *(Already considered and ruled out.)*
- If we knew how much money was potentially available for this project, it would be easier to place a value on the various objectives
- Could an emergency access off Pleasant Valley Road work? *(Essentially no. That topography is even steeper.)*

Mark Robinson presented three conceptual proposals divided into three areas of study:

1. Division Street Edge.
2. Master Plan Core Area.
3. Conceptual Plan.

The following questions and comments were raised regarding the conceptual proposal for the Division Street Edge:

- Is renovation of the 1910 Building included in this proposal? *(Yes.)*
- The idea for playground equipment for senior citizens was well-received by many members of the audience.
- Saving the 1910 Building and providing park entry as shown in Option B is a good idea. This would serve as a gateway to the park and provide a good connection to the active area of the park.
- An adjacent property owner inquired whether a fence would be provided to screen the proposed Option B entry road. *(This would be a design consideration.)*
- The proposed location shown for the bike skills course is not as good as a location near the top of the hill (near the number 14s shown on the map) because the land is well-packed up there.
- The proposed location for the bike skills course is too accessible. It might encourage people who are not skilled riders to endanger themselves.
- A beginner skills course in this area may prove to be a good idea along with a more advanced course back in the park.

Mark Robinson then described various objectives of the proposed Master Plan Core Area as follows:

1. Limiting use of the north face of the hill to discourage erosion damage by providing a boardwalk at the mid-point

2. Providing a smaller sledding run for younger children
3. Providing a simple handrail along the west side of the bigger sledding slope to direct people to its use
4. Providing a retention/wetland pond to help manage run-off in a more environmentally sensitive manner
5. Requesting that Wolverine Power move the power line running through this portion of the park

It was noted that the size of the proposed ice rink had been reduced to 17,000 square feet and that the proposed toboggan run had been eliminated due to liability and maintenance concerns.

The following questions and comments were raised regarding the conceptual proposal for the Master Plan Core Area and the General Conceptual Plan:

- The cross-slope boardwalk is a good idea but should be as unobtrusive as possible.
- The proposed solution for moving the trails and adding a fence to mark the property line between the park and the apartment property is a good one.
- Don't put too much "stuff" in the park. For example, covered shelters are not necessary.
- Don't provide opportunities for graffiti and property destruction.
- Perhaps a service club or the public schools could be called upon to provide park maintenance.
- How simple were the structures proposed and how many are being proposed? *(6 are shown spaced about 2,000 feet apart. Construction is anticipated to be simple, perhaps rustic in character.)*
- Most people are out there for aerobic exercise and don't need a place to sit.
- Not all people are there for aerobic exercise. Less fit people might be more encouraged to come out if options for rest were provided.
- Perhaps 3 or 4 such structures would be more appropriate than 6.
- Benches should be natural such as flat rocks and fallen logs.
- All these things sound nice but we do not need to waste money.
- The master plan is simply a guideline in place to preserve the objectives. It can be used for grant writing purposes and by volunteer groups who want to sponsor a project.
- Disappointment was expressed that the ice rink will not be artificially cooled.
- Where the disc golf course joins the main trail, from hole number 10 on, there is a conflict between hiker use and golf use. This is potentially dangerous for hikers. Could these holes be moved?

There was also considerable discussion about signage as itemized below:

- New signage and some other suggestions are in conflict with Objective # 1.
- Improved signage is needed.
- Signs are aesthetically and environmentally offensive. Take all signs out of the park and offer maps.
- There are visitors and others who do not know that property. Signage is necessary to meet their needs.
- DNR signage system of small numbered signs should be used.

- Avalanche is a really unique eco-environment. Signage could be used to environmentally educate patrons of the park.
- DNR-type stations could work for interpretive signage.
- Signage naming trails is an important potential safety feature. This is used at Boyne Mountain, for example.
- Conflict could be avoided if there were paper maps provided and a large map provided at the base of the hill.

As the discussion drew to a conclusion, Mark Robinson asked three citizens to stay behind for additional clarification of points they had raised during the meeting. These included the following:

1. An adjacent property owner on whose property Avalanche trails encroach.
2. An advocate of snowmobile use on Avalanche property.
3. An advocate of disc golf who sees a need for changes to the course layout.

A fourth citizen also stayed after the meeting and requested that a dog park area be considered at Avalanche. Their input is reflected in this meeting summary.

**Avalanche Master Plan
Steering Committee Notes
October 8, 2009**

This meeting was held to review public input and establish direction based on that input. Comments are summarized as follows:

- Contact Brian Thurston of MDEQ out of Cadillac to discuss regulations pertaining to road construction across well site buffer areas.
- Contact Chuck Vondra to discuss snowmobile use in the park.
- Emergency access remains an unresolved need and concern. Options discussed included the use of various materials to stabilize the existing route formerly used by the ski operation, the possibility of combining multiple routes, and the use of 4-wheel drive vehicles with little or no route improvements.
- Handicap accessibility and associated materials for access to the overlook were discussed.
- The proposed restroom at the top of the hill should be deleted.
- Trail benches should be limited to 6 in number and be rustic in character.
- Signage should be minimal with kiosks located at entry points. Consider pamphlets integrated with GPS system references.
- Add parking for 2-3 cars at Pleasant Valley Road access point (not archery range).
- Objective to be included in written documentation: Always consider acquiring adjacent properties.
- Shorten new sledding hill for young children by approximately 50 feet.
- Written documentation should address need for ecological/environmental assessment of site and recommendations for appropriate management.

Avalanche Master Plan

Phone Discussion: Police Officer Kevin Spate

October 2009

The purpose of this discussion was to understand more fully interactions between snowmobile users and other users and what, if any, problems have been observed. Officer Spate's comments were as follows:

- He received many compliments for performing patrols of the site during the winter season.
- Most people are well-behaved; there are some snowmobile riders who do not follow riding regulations.
- The current trail sizes and configurations are awkward for use by walkers and snowmobilers. This causes irritation to both user groups, most often walkers.

**MEETING OF
OCTOBER 19, 2009**

**RECORD OF THE PROCEEDINGS OF THE JOINT BOYNE CITY
PARKS AND RECREATION COMMISSION AND PLANNING
COMMISSION MEETING HELD AT 5:00 P.M. IN THE CITY HALL
AUDITORIUM ON MONDAY, OCTOBER 19, 2009.**

CALL TO ORDER

Meeting was called to order by Planning Commission Chair Neidhamer at 5:00 p.m.

ROLL CALL

Present: Dan Adkison, Susan Conklin, Paul Nicholls, Carl Wehner, Mike Sheean, Marie Sheets (arrived at 5:03, and Lou Awodey (arrived at 5:02)
Absent: Bill Kuhn

**MEETING
ATTENDANCE**

City Officials/Staff: City Manager Michael Cain, DPW Superintendent Andy Kovolski, Planning Director Scott McPherson, Recording Secretary Barb Brooks, Recording Secretary Pat Haver, Main Street Manager Hugh Conklin and Planning Commissioners Jerry Douglas, Chris Frasz, Norm Gardner, Tom Neidhamer, and Joe St. Dennis

Public Present: Eleven (11)

**APPROVAL OF
MINUTES
MOTION

Conklin moved, Wehner seconded, PASSED UNANIMOUSLY, a motion to approve the September 17, 2009 minutes as corrected and the September 29, 2009 Avalanche Master Plan Public Input meeting as presented.

CITIZENS COMMENTS

None

**JOINT BOARD
BUSINESS**

Avalanche Master Plan

Consultant Mark Robinson from mark Robinson and Associates facilitated the joint meeting of the boards and went through a program – proposal comparisons 15 objectives handout (received and filed). In depth discussion from the boards regarding the hiking and biking trails, the vehicular entrances established and proposed, the use of motorized recreational vehicles, erosion control on the existing sledding hill with a boardwalk at the mid point, establishment of a smaller “kiddie” sledding hill, emergency vehicle and handicap accessibility route to the overlook, placement of the skating rink, warming house, parking lots, and the possible incorporation of the 1910 building and City well site area for an entrance point, with a family play area, senior citizen park along with a proposed pavilion. Discussion about the boundary of the property use for a possible separate snowmobile trail was heard; however, at prior meetings the adjacent property owners have expressed problems with trespassing, walkers and cross country skiers have expressed concerns about safety on a shared trail and by a show of hands, the majority of the attendees voted overwhelmingly against snowmobile use and a separated

trail so consideration of this was eliminated. Main Street Manager Conklin asked if the Parks and Recreation board thought this proposed plan will be able to guide them in future decisions regarding activities and uses that may come forward. The general consensus of the board was that the plan will be a helpful tool but as uses and trends change, judgment calls will still have to be made and proposals thoroughly reviewed.

****MOTION**

Nicholls moved, Wehner seconded, PASSED UNANIMOUSLY a motion to recommend to the City Commission that motorized recreation vehicles be prohibited at Avalanche with the exception of authorized emergency and maintenance vehicles and authorized scheduled tours for those less than able to reach the top without vehicle assistance.

****MOTION**

Wehner moved, Conklin seconded, PASSED UNANIMOUSLY a motion to recommend to the City Commission adoption of the proposed Avalanche Master Plan presented by Mark Robinson with the addition of the motion above prohibiting any unauthorized recreational vehicles.

NEXT MEETING

November 12, 2009 at 7:00 p.m. at City Hall.

**ADJOURNMENT
MOTION

Conklin moved, Adkison seconded, PASSED UNANIMOUSLY to adjourn the September 17, 2009 joint meeting of the Parks & Recreation Board and Planning Commission at 8:35 p.m.

Barb Brooks, Recording Secretary

Avalanche Park
Presentation to the Planning Commission and Parks and Recreation Commission
October 19, 2009
5:00 p.m.

Attendance:

Planning Commission: Adkison, Douglas, Frasz, Gardner, Neidhamer, St. Denis

Parks and Recreation Commission: Adkison, Awodey, Conklin, Nicholls, Sheean, Sheets

Staff: Brooks, Cain, Haver, Kovalski

Public: 10 individuals

Mark Robinson referenced the proposed master plan, highlighting program objectives as developed by the Avalanche Steering Committee and as approved by the Parks & Recreation Commission. He invited comments and questions throughout his presentation. The following comments and questions were generated in response.

- There is a 50 ft. +/- section of the proposed access road to the overlook that exceeds 24-26%. I would like to see some engineering research done to determine the possibility of accessing the overlook in this way. (Nicholls)
- Snowmobiles ruin cross-country trails. Adjacent landowners have legitimate, documented complaints about snowmobile use. (Wehner)
- Would prohibition of snowmobile use cut off access to trail systems? When you have 45 out of 50 people in a public meeting saying “no snowmobiles”, that should persuade the city commissioners as to how to vote. (Frasz)
- I’m an avid snowmobiler. I do not want snowmobiles up there. Everyone with whom I talk wants Avalanche to be a non-motorized park. (Nicholls)
- We have to weigh things against the common good. The greater good is served by not having motorized vehicles in this park. That is one thing that makes this park unique. It is important for our parks to be different from one another and not be generic. (Douglas)
- When snowmobile use was first permitted at Avalanche, there was talk of developing a separate trail. This never happened. There was supposed to be a trail to East Jordan and a trail linking Boyne City and Boyne Falls. Snowmobilers might want their use to continue to be allowed so that future trail linkage might exist and thus Avalanche might become a destination. I suggested an exterior trail to keep the noise out of the center of the park. I can see both ways (snowmobile use allowed and snowmobile use banned). (Adkison)
- If that section is not appropriate for an elementary bike skills course, could there be a foot trail? Looping a trail in that area would be great. (Wehner)
- What would the advantage be of offering a pedestrian entrance with a couple of parking spots on Pleasant Valley Road (not the same as the archery range site but rather at #19 on the map)? (Wehner) (Answer from Cain: such a trail already exists.)
- Providing parking at the archery range makes sense but no trails that encourage people to walk toward the archery range. (Wehner)

- Why do we continue to ignore the accessible area between 19 and 20 on the map? It's a second growth woods. (Awodey) (Answer from Adkison: part of that area is in use for the bike trail now.)
- The boardwalk solution to address erosion on the main slope is a wonderful idea, one I proposed to the Parks and Recreation Commission years ago. I totally support this. The top half of the hill could be designated as a wildflower preserve.
- Mr. Gardner asked for clarification of disc golfing location.
- The proposed adult-senior citizen exercise area is an amazing idea! It's cool that Boyne City might be a leader in this effort. Have you involved any of the seniors from the neighborhood in a discussion of this idea? (Frasz)
- Has there been discussion about location of emergency phones? (Frasz)
- North Country Trail System uses a # system for cell phone emergency use. Perhaps this would be a model for Avalanche. (Wehner)
- A nature interpretive center would be appropriate here. (Awodey) (In response, Mark Robinson stated that the language would be "beefed up" to include this in Objective # 12.)
- Will this master plan study include a priority schedule? Will a maintenance plan be provided? Will there be an environmental management plan? (H. Conklin)

At this point the Planning Commission asked for clarification of the recommendation options. Scott McPherson explained the options and stated that the goal would be to have the plan before the City Commission in November or December. Mark Robinson stated that if both commissions voted to move forward with this plan tonight, the plan would be graphically enhanced and an executive summary prepared prior to the presentation to the City Commissioners. The commissions decided to move toward an informal vote for approval following further discussion.

- I would like a new trail for snowmobile use along the exterior of the park to allow snowmobile use within the park *if/when* a route connecting Boyne City to either East Jordan or Boyne Falls is built. (Adkison)
- If these two boards would prefer, they could ask for input from the city commissioners before they voted to approve this proposed plan. (Cain)
- Our responsibility is to make recommendations to the City Commission. I do not want snowmobiles on the same trails as hikers and cross-country skiers. Could we consider a methodology that would prohibit use now but allow it if and when there was a trail to connect to? (Wehner)
- I agree. Let's add appropriate qualifiers such as "if there were no other viable options. . .". This plan should consider the least possible impact on the park. (Douglas)
- When the park was established, non-motorized vehicles were not allowed. Is this stated in this plan? (Awodey)
- I have posted a 'No Trespassing' sign on my property. This does not stop any snowmobilers. I am pessimistic about the value of just posting signs saying that snowmobiles are prohibited. (Citizen/property owner on a corner of Avalanche)

In discussing the possibility of banning motorized vehicles at Avalanche, it was clarified that it is understood that authorized emergency or maintenance vehicles would be allowed. Additionally, the authorized opportunities for universal access would be allowed on a limited basis.

At this time an informal vote was taken. This vote is summarized below.

	Planning Commission		Parks & Recreation Commission	
	Yes	No	Yes	No
Option 1: No motorized recreation vehicles will be allowed.	6	0	7	0
Option 2: Motorized recreation vehicles will be allowed.	0	6	0	7
Option 3: No motorized recreation vehicles will be allowed but a boundary trail would be supported as an option for future link to a trail system.	2	4	2	5

Following this informal vote, a motion for the Parks and Recreation Commission was made by Nicholls and seconded by Wehner to have “no motorized recreation vehicles other than authorized vehicles” in Avalanche Park. The motion passed by a vote of 7 in favor and 0 opposed. A motion was made by Wehner and seconded by S. Conklin to “recommend the adoption of the proposed master plan for Avalanche Park with the addition of a policy of non-motorized use”. The motion passed by a vote of 7 in favor and 0 opposed.

Additional discussion preceded a vote of the Planning Commission.

- Does this master plan give you (the two boards) the structure you need to say no to groups that come to Parks and Recreation Commission with their ideas for activities/changes at Avalanche?(H. Conklin)
 - Not completely but it give us a big guideline. (Wehner)
 - It gives us a much better tool than we have ever had. (Sheean)
 - Yes, I agree. Let’s not ignore this plan as we have done with other plans in the past. Let’s respect this one and move forward with it. (Awodey)
 - (Douglas to H. Conklin) Did you have concerns about this plan that we should be aware of? (H. Conklin: “No, not at all.”)
- Is there adequate space between the proposed new parking lots and the houses on Wilson Street? (St. Denis)
- There seem to be red flags raised regarding the proposed optional entrance through the well site. (Frasz)

A motion was made by Douglas and seconded by Gardner to “recommend this plan to the City Commission with the condition that there be no unauthorized recreational vehicles allowed in the park. The motion passed by a vote of 6 in favor and 0 opposed.

Press Release
November 16, 2009

As an extra effort to make sure that everyone in the community who wishes to be heard regarding the Avalanche Master Plan, the City of Boyne City will hold the fourth, and probably last, Master Plan Public Input meeting. The meeting will be held on Tuesday, December 1st at 6:00 p.m. at the Boyne City City Hall. All persons interested in the future development and uses of Avalanche Park are encouraged to attend and share their views at this added meeting. Even if you have attended prior input meetings and shared your thoughts, you are encouraged to come again as new ideas may have evolved since then or may even come out of the evening's discussion. Topics scheduled be discussed will include use of any type of motorized vehicles (such as snowmobiles), paved or improved emergency access routes, potential expansion of trails, and anything else that is brought up at the meeting. Persons unable to attend may submit their comments in writing to the Boyne City Hall 9319 N. Lake St.) or via email to bbrooks@boynecity.com until Monday, December 7th.

**Avalanche Park
Public Meeting
December 1, 2009
6:00 P.M.**

Attendance:

There were approximately 35 people in attendance including staff and committee members. Approximately 6-10 had not attended previous meetings.

Mark Robinson opened the meeting by stating that the primary purpose of this additional public input meeting was to receive additional input on the issue of motorized vs. non-motorized (primarily snowmobile) use, and to a lesser extent, the proposed enhanced access to the top of the hill. He briefly highlighted various elements of the proposed master plan before opening the meeting to questions and comments which are summarized below.

- The Avalanche property was given by Mr. Kirchner for use by everybody in the city. The trail was originally set up for children. There is no reason why different user groups can't get along. Every activity has the potential for liability for the City. Why can't there be a dedicated trail for just snowmobile use? *(Response: The transfer agreement makes no requirement about use or users to be served other than the prohibition of downhill skiing. Many people at previous meetings, and this one, made sound arguments why snowmobiling and other uses are incompatible. The question of liability has never been a factor in public meetings or in steering committee discussions. The question of could there be a dedicated snowmobile trail is a significant reason why this meeting was called.)*
- Who is on the Steering Committee? Why weren't there any snowmobilers on the committee? *(Response: Some committee members are avid snowmobilers.)*
- The Steering Committee never made a statement against snowmobiling. This came out of the public meeting response and then was supported by The Parks & Recreation Commission and the Planning Commission.
- The original trail was cut in 1963. This is primarily for kids, not adults. You are blackballing every kid who might want to snowmobile. *(Response: There have been no statements made at any previous meetings to this affect.)*
- The original purpose of the trail was to go via snowmobile from one side of town to another. That's good for businesses, particularly the gas station and restaurants.
- Who will make the final decision regarding this issue? *(Response: City Commissioners)*
- What is the policy now? (Michael Cain responded that there is a designated trail for snowmobile use now.)
- The biggest problem with snowmobiles is not what happens inside the park but rather from the perspective of nearby property owners. *(Response: This has been noted as a problem, not necessarily the biggest one.)*
- Scott McKenzie stated that the feedback he has indicates that a snowmobile trail would only be a small loop but there is support for allowing use for the sake of the children. He would be in favor of allowing the status quo until the time when a trail system is designated.

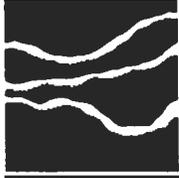
- This system already exists! People don't know about it because the City has refused to pay for signage. (Note: the signage referred to in this comment had to do with another snowmobile trail, not the Avalanche trail.) *(Response: The question of signage was discussed at previous meetings, with many people favoring very limited use of signage.)*
- As a community, we need to come together to make this larger scale trail system happen.
- Avalanche is for the kids, not the adult rider.
- Any problems with adjacent property owners are an enforcement issue.
- Taking away snowmobiling is regressive, not progressive. I do not own a snowmobile but I believe in the right to snowmobile at Avalanche. We do well business-wise in the summer but we have to promote all winter activities to help our businesses in the winter.
- Mark Robinson clarified that the Steering Committee did not dictate the recommendation to prohibit snowmobile use within the park. Public input has substantially called for the prohibition of snowmobile use within the park.
- Support was voiced for a non-motorized policy. Avalanche is a preserve. That means that not everything is appropriate for its use. Quiet is valuable; this is unique and distinctive. When you open something up to everyone for everything, it waters it down. There are two opposite things being stated to support snowmobile use. If this is just for children, keep in mind that children need constant supervision, and this doesn't fit with the argument that snowmobile encouragement will increase business.
- Chuck Vondra stated that Young State Park is available for non-motorized use. Snowmobiling isn't overly used at Avalanche. We are making too big an issue out of this because in reality, there is relatively little snowmobile use there.
- A philosophical view is trying to take away something from others. *(Response: The effort on the part of all involved has been, and is, on promoting uses for the greatest number of users that can coexist without significant compromise and that do not detract from the environmental and experiential qualities of the park.)*
- Problems are enforcement issues. There were no reported accidents last year. *(Note: Police report very few incidents of any kind were reported during the 2008-09 winter season.)*
- Mark Robinson clarified that there is not a coalition or group organized against snowmobiling. In fact, a study was made as part of the master plan process as a response to stated user conflicts to cut a new, dedicated snowmobile trail. Ultimately, the elected officials will make the policy decision.
- I would like to not have snowmobiles but I don't want to ban any user group. Mixed use does water down one's experience, so I would be in favor of a dedicated use trail because we are looking at improving Avalanche for everyone.
- Possibly we are making much too much out of this issue. Snowmobile use is actually quite light at Avalanche. We should work on funding a trail system into this town.

Mark Robinson asked for opinions on adding a new dedicated snowmobile trail to which the following comments were made:

- Wait to develop a new trail after there is something to connect to; this is just for the kids, the 14 year olds who go up there every afternoon after school.
- Snowmobiling and cross country skiing are not compatible due to compaction issues. *(Note: See opposite opinion from another skier below.)*
- There is merit for the idea of separate use trails.
- Dan Adkison stated that it would not take too much effort to separate the existing trails into specific use trails.
- Walkers ruin the ski trails as much as anything else.
- A cross country skier expressed a positive opinion of skiing on trails “groomed” by snowmobiles.
- Better signage would alleviate some of the problem.
- This is not legally a preserve in spite of the sign stating that it is.
- Snowmobiling is a non-issue as far as this master plan is concerned. Let’s leave it as it is.
- Mark Robinson stated that research to further determine how and if to separate trail uses and how to provide adequate signage might be beneficial.

At this point the discussion returned to general topics, no longer focusing on the incorporation of a new dedicated snowmobile trail.

- Is there any money to do anything now? If not, then this is all a moot point. *(Response: The master plan will be used to seek grant funding and guide decision making.)*
- There is plenty of potential grant money for snowmobile trails.
- This is a master plan study only. After adoption it can be used to apply for funding.
- Chuck Vondra asked how the comments from this meeting will affect the decision-making process to which Mark Robinson stated that it would be appropriate to go back to the Parks & Recreation Commission and the Planning Commission but that he would seek the direction of the City Manager.
- I would hate to have the energy of this park changed by increased use of snowmobiles. There are few quiet spots left.
- We snowmobilers don’t want to lose what we already have.
- Let’s look to develop alternate routes that might direct snowmobile use elsewhere.
- Could snowmobile use be offered on certain days only?



Mark Robinson & Associates P.A.
LANDSCAPE ARCHITECTURE/PLANNING

MEMO

December 16, 2009

To: Parks and Recreation Board; Michael Cain; Barb Brooks

From: Mark Robinson

Re: Trail Use Compatibility at Avalanche

Initial research into compatibility issues between snowmobilers and cross-country skiers suggests the following:

- A one-way cross-country ski trail should be a minimum of 4 feet wide; 7 feet wide for two-way.
- Cross-country ski trails can be either groomed or not groomed. Skiers' preferences primarily depend on skill levels and on their intent to either ski for exercise and recreation or to explore winter landscapes in relatively untouched conditions.
- A one-way snowmobile trail should be a minimum 8 feet wide (10 feet preferred); a two-way trail should be a minimum 10 feet wide (14 feet preferred).
- Conflicts between snowmobilers and cross-country skiers are a common problem. The most frequently cited conflicts are noise and the difference in speed.
- Multi-use trails are not uncommon. Heavily used multi-use trails should be 12-14 feet wide. Multi-use trails reduce extent of trail construction and reduce management and maintenance costs.
- Signage for multi-use trails is critical including proper etiquette and speed limits for snowmobilers where appropriate.
- Where room is available, separate trails are a positive solution. (Avalanche is probably not big enough to truly eliminate issues of noise, even if trails are separated.)
- Numerous trail systems across the country alternate days between snowmobile and cross-country skiing use. (Avalanche, for example, could designate snowmobile use allowed on certain days while not prohibiting cross-country ski use on those days. This would provide fair notification to both user groups and provide for definite "quiet use" days.)

**MEETING OF
DECEMBER 16, 2009**

**RECORD OF THE PROCEEDINGS OF THE REGULAR BOYNE CITY
PARKS AND RECREATION COMMISSION MEETING HELD AT
7:00 P.M. IN THE CITY HALL AUDITORIUM ON WEDNESDAY,
DECEMBER 16, 2009.**

CALL TO ORDER

Meeting was called to order by Chair Sheean at 5:30 p.m.

ROLL CALL

Present: Dan Adkison, Paul Nicholls, Marie Sheets, Carl Wehner,
Susan Conklin, Mike Sheean, and Lou Awodey

Absent: Bill Kuhn

**MEETING
ATTENDANCE**

City Staff: City Manager Michael Cain, DPW Superintendent Andy
Kovolski, Main Street Manager Hugh Conklin, and Recording
Secretary Barb Brooks

Public Present: Three and (Avalanche Master Plan consultant Mark
Robinson)

**APPROVAL OF
MINUTES
MOTION

Conklin moved, Wehner seconded, **PASSED UNANIMOUSLY**, a
motion to approve the November 12, 2009 meeting minutes as
presented

**REQUEST FOR A
MEMORIAL BENCH
AT AVALANCHE**

Request from Maureen Crinnion and the family of Terrence Brochu to
place a memorial bench in memory of Terry who recently passed away.
Ms. Crinnion indicated that Terry helped build the steps that currently
lead to the top of Avalanche and enjoyed spending time there with his
children.

****MOTION**

Adkison moved, Nicholls seconded, **PASSED UNANIMOUSLY** to
allow Ms. Crinnion and the Brochu family to place a bench at
Avalanche and to work out the details with staff.

OLD BUSINESS

**Avalanche Master Plan
Recommendation
Reconsideration**

Consultant Mark Robinson gave an overview of the December 1 public
input meeting and referred to his memo (received and filed) regarding
his findings for Trail Use Compatibility. Adkison added that he didn't
realize the history and that the trail that is currently used was cut back
in the early 1960's specifically by citizens for the use of snowmobiling
and at some time snowmobiling became banned and then allowed
again in the early 90's.

Other items discussed were:

- The hostility and personal attacks from some of the people
representing the snowmobilers at the meeting may have
intimidated other people into not speaking.

- It was brought up that if you look at all of the public meetings collectively, there is still overwhelming support to prohibit snowmobile use.
- If kids make up the majority of riders on Avalanche, they are also the least experienced riders when it comes to dealing with a potential hazard.
- What if other motorized vehicles (ATVs) request to be an allowed use at Avalanche? They are destructive (comment - every use is somewhat destructive)
- Snowmobile use does affect other uses due to trail conditions
- The allowance of snowmobiles on Avalanche when recommended was supposed to be subject to a yearly review.
- Maybe the focus should be on improving enforcement and leave things as is now that the City has use of a snowmobile.
- The board's job is to represent its citizens and the majority of the citizens who came forward to with comments were in favor of prohibiting snowmobile use, so that is what the recommendation from the board should be.

Public Comment

- Hugh Conklin asked if there has been any consideration to collecting firm data as to how much use and/or potential conflict there really is. He stated that he has skied several times this year and not come across any other skiers or snowmobilers during the times he has been there.

Adkison moved to recommend that snowmobiling be an allowed use at Avalanche as it is currently. There was no second to the motion.

The majority of the board decided that no action was necessary; they stand by their motion that was made at the October 19 joint meeting with the Planning Commission. There was no motion to overturn or rescind the October 19th motion.

Wehner moved, Adkison seconded, PASSED UNANIMOUSLY to adjourn the December 16th meeting of the Parks and Recreation board at 8:56 p.m.

Barb Brooks, Recording Secretary

**JANUARY 12, 2010
REGULAR MEETING**

CALL TO ORDER

**Avalanche Master Plan
Adoption**

RECORD OF THE PROCEEDINGS OF THE REGULAR BOYNE CITY COMMISSION MEETING DULY CALLED AND HELD AT BOYNE CITY HALL, 319 NORTH LAKE STREET, ON TUESDAY, JANUARY 12, 2010

Mayor Chuck Vondra called the meeting to order at 7:00 p.m. followed by the Pledge of Allegiance.

Present: Mayor Chuck Vondra, Mayor Pro-Tem Adkison, Commissioners Ron Grunch, Mike Cummings and Laura Sansom

Absent: None

Staff: Michael Cain, Randy Howard, Andy Kovolski, Dan Meads, Barb Brooks, Scott McPherson, Dennis Amesbury, Hugh Conklin and Cindy Grice

Others: There were eighteen citizens in attendance including representative of the Petoskey News Review and Boynenews.com

Review and consideration of the recommendations and background materials regarding the Avalanche Master Plan

City Manager Cain discussed the recommendations and background materials regarding the adoption of a Master Plan for Avalanche Park. The process has been ongoing for several months through the efforts of Mark Robinson & Associates, which was contracted to undertake this process. A listing of the Master Plan elements was presented, Both the Parks and Recreation Board and the Planning Commission recommend adoption of the Master Plan as presented with one difference and that is snowmobiles. Parks and Rec recommend that snowmobiles not be allowed in the park while the Planning Commission is recommending that they continue to be allowed as they currently are.

Mark Robinson discussed the elements of the plan. The plan is to maintain and preserve the property. Primary development is also planned from the existing parking lot to the north and also around the building was discussed.

Citizens Comments: John Betz said he has been a snowmobiler for 40 years, logging around 1500 to 2000 miles per year and he is adamantly against snowmobiles at Avalanche. It is pointless to have them in the Park. It could be dangerous for walkers, people on snowshoes and skiers. Lynn Murray, Jersey Street said the access is limited to pedestrian traffic to the viewing area. Do you always need city approval for access? Most plans are geared towards people in good health and handicapped accessibility is not being taken into consideration.

Mark Robinson said that issue was discussed at length. A one-spot

parking pad with a handicapped accessible trail is planned. People can ask for assistance from the city.

Dennis Amesbury said he knows of people who do use the trails for snowmobiling and they can be used by everybody.

George Ellwanger said there is plenty of room unless there is a problem.

Gretchen Crum said she agrees.

Staff Comments: Police Chief Howard said there is quite a few people who do use that trail, no carless or reckless driving complaints recently and he thinks a separate trail should be in place.

Board Deliberation: Commissioner Cummings said youths have something to do there. We can take it away if it is abused, and as long as the trail is properly marked, he agrees. Commissioner Sansom said she personally doesn't like snowmobiles, but at the same time, doesn't want to deny people their freedoms. If the use stays, it might help to have a time where the park is closed after a certain time in the evening, and possibly limit snowmobiling to certain days of the week. A quiet time could be designated. Young children should be accompanied by an adult. A common ground can be worked out. Commissioner Grunch said he has also had feedback on establishing hours for the park. Will the use trails be marked in the plan? Mr. Robinson said yes, not overbearing, but clear signage. Mayor Pro-Tem Adkison said he spent lots of hours working at the park when the hockey team had their ice rink there. People used the park late at night, also. Mayor Vondra said his opinion is to have the use remain the same. We need to work on getting a snowmobile trail into town.

Commissioners also discussed the size of the proposed ice rink.

2010-01-003

Moved by Vondra

Second by Adkison

To approve the recommendations for the Avalanche Master Plan and also include the existing use of snowmobiles

Ayes: 5

Nays: 0

Absent: 0

Motion carried

Moved by Mayor Vondra, seconded by Commissioner Grunch to adjourn the regular City Commission meeting of Tuesday, January 12, 2010 at 8:40 p.m.

MOTION

ADJOURNMENT

Cindy Grice
City Clerk/Treasurer

Chuck Vondra
Mayor

**Avalanche Master Plan
Written Comments Received Regarding Proposed Plan**

6/5/09 Tom Niedhamer

I believe that Avalanche can and should be under a timber management program. Mature trees could be cut with minimal damage or impact to the property. It would make the forest healthier. I think the city could realize \$30,000-\$50,000 on the first cutting and put that money toward park improvements. At the least, the city should get the opinion of a professional forester. If appropriate, please pass along.

6/11/09 Tom Erickson

- Would like to see a rustic all-purpose building that could be used for meetings, family gatherings, and warming house. Something cozy, maybe with a fireplace.
- Would like to see the plan developed in “bite-size” pieces to make it easier to take advantage of funding opportunities.
- Understands the vehicle access would provide opportunities for people less than able to make the current trek to the top, but has concerns that too many cars would take away from the quiet, rustic part of Avalanche which is part of the main attraction.

6/11/09 Jeff Wellman

I've used the trails at Avalanche for 25 years during summer and winter. Hate to see much development of any kind but there is certainly enough room for hockey, etc. My main concern is maintenance of the trails which is almost non-existent currently. There are several trees down across the running trails and have been for some time. Then there are some very dangerous areas in the cross country ski loop which have never been addressed. For instance, some of the down hill slopes make a 90 degree turn at the bottom and if you don't make the turn you will run full steam into a large fallen tree. At a minimum breaking both legs or worse. I would be happy to point these areas out again, or even take care of them myself with the city's permission. A chain saw and 30 minutes of labor could all a lot of needed safety to the trails. Thanks for helping.

6/11/09 Ami Dionne

We are avid users of the park, generally hiking and some mountain bike riding. I also enjoy running the loop in the summer because it provides a cooler, shaded pathway. An improvement that I would like to see is some type of filler (Afton stone, gravel, even dirt) added to the area descending down through the woods to the open fields. Last summer I struck a root while running and took quite a serious fall. Although I was watching carefully, when the sun peaks through the trees it creates shadows and is difficult to see the many roots that stick up.

6/11/09 Randy Calcaterra

Unfortunately, I will not be able to attend tonight's meeting on Avalanche Park, however please accept my thoughts in writing. Avalanche Park is a fantastic and well used asset that our community and surrounding areas has use of. Both my family and I use the park tremendously 12 months a year. The additions and

accesses that have been made are fantastic. I am completely in favor of continuing the parks momentum, and planning for the future. One thing I would like to make note of however, is the frequency in which I have noticed young 18-24 year olds (98% of whom are there for the disk golf course) either before or after they are done on the course - doing donuts, fishtails, or dragging out of parking lot at high speeds in their vehicles. With all of the dogs, kids and people who use the park via this parking lot, this needs to be addressed. I now always make sure I park furthest west, (away from the disk golf course) and always hustle my kids and animals to the car to avoid this situation. The amount the disk golf course is used is great, however due to a number of factors I would like to see an increased police patrol in that area to eliminate dangerous driving and any other unlawful behavior, and make it very clear that this areas is a key concern for patrols. Doing so I think would quickly address this issue before an accident occurs. Thank you for all you do for the park and the town. Please feel free to consider me for other park related concerns/committees. I would be glad to participate.

09/25/09 Lorraine Manary

Is there a preliminary plan? Where can it be viewed? I'd like to see 'street signs' on the hiking paths and bike paths so once you are up there you know where you are going. I always walk the same path for fear of getting lost.

10/20/09 Henry Erber

Below is a list of names of people who are on the committee for the Avalanche Master Plan. These people have made the suggestion to eliminate snowmobiles from using Avalanche Park. In order to assure that snowmobiles continue to have the ability to use the park these people must be contacted and told the desire remains. There have been several public hearings on the plan with little to no support for snowmobiles. Susan Conklin, Michael Cain, Scott McPherson, Barb Brooks, Dan Meads, Andy Kavolski, Mark Robinson. I don't snowmobile but if this is of concern to you...act now.

11/16/09 Todd Wright

I see that the next meeting on the Avalanche master plan is scheduled for December 1st. Unfortunately that is also the date for the Evangeline Twp. Joint ZBA, Planning commission, Township Board planning session, so I will be unable to attend. I believe that the direction the plan is going is very positive for the park, but was wondering if the paved access road is still under consideration? Also, has any consideration been given to the name of the park? Currently we refer to it in the City literature as "Avalanche Preserve Recreation Area". To the literalist, the words "preserve" and "recreation area" seem to be somewhat in conflict. The current and planned uses for this area seem to be much more in line with the definition of a "recreation area" than a "preserve", and perhaps this should be reflected in the official name of the area.

12/03/09 Jessica Dotzlaf

I am adamantly opposed to motorized recreational vehicles on the trails – ANY of them!!! There are so many dog people that walk dogs back there, and families with young children, and elderly couples that walk, it is hard enough in the winter tie to stay out of the snowmobiles way!! In my experience, a VERY SMALL number of people who use snowmobiles obey the speed limits and watch for others. More than

once I have had to grab my dogs and jump off the trail to get out of someone's way. I think allowing any motorized vehicles back there only increases the risk of an injury!!! Not to mention the fumes that come from some of them – they do bother people!!

I think that expanding / adding a park down by the 1910 building is a great idea.

Where would you move the ice rink / warming house?

Appendix B

Avalanche Park Active and Passive Recreation Descriptions

Most definitions of active and passive recreation refer to the physical facility or infrastructure that is needed to accommodate recreational activity. There are exceptions to this type of definition such as that used in the Georgia Statewide Comprehensive Outdoor Recreation Plan that defines activities such as mountain biking as *active* recreation performed on *low infrastructure* sites. The Georgia plan defines passive recreation as activities that do not result in increased aerobic rates. Such a definition is not, however, the most common definition of active/passive recreation and was likely not the intended definition when transfer agreements for Avalanche were written.

The more likely, and typical, definitions of passive recreation are as follows:

1. A passive recreation area is generally an undeveloped space or environmentally sensitive area that requires minimal development. Entities such as a parks department may maintain passive recreation areas for the health and well-being of the public and for the preservation of wildlife and the environment. The quality of the environment and "naturalness" of an area is the focus of the recreational experience in a passive recreation area.

Passive recreation may be defined as a non-motorized activity that:

- Offers constructive, restorative, and pleasurable human benefits and fosters appreciation and understanding of open space and its purpose
- Is compatible with other passive recreation uses
- Does not significantly impact natural, cultural, scientific, or agricultural values
- Requires only minimal visitor facilities and services directly related to safety and minimizes passive recreation impacts.

- *U. S. Legal, Inc.*

2. Passive recreation refers to recreational activities that do not require prepared facilities like sports fields or pavilions. Passive recreational activities place minimal stress on a site's resources; as a result, they can provide ecosystem service benefits and are highly compatible with natural resource protection.

- *Maryland Department of the Environment*

3. Unlike active recreation, passive recreation requires a minimum of facilities or equipment; it generally occurs in a natural setting and does not consume resources. Such activities as walking, hiking, and bird-watching are considered passive recreation.

- *Cumberland (Rhode Island) Comprehensive Plan*

Under such definitions, active recreation constitutes between 1.7% and 2% of the site's total acreage.

If trails were defined as active infrastructure, the acreage devoted to active recreation would fall between 4% and 5% of the total site acreage.

PASSIVE RECREATION DEFINITIONS FOR DISCUSSION

Excerpt from the 2001 City of Durango Open Space Master Plan

Open Space is usually distinguished from active recreation facilities (parks, ball fields) in that recreational use of Open Space is passive, such as hiking, running, bicycling and horseback riding – usually on trails. Recreational facilities in open space areas are typically limited to trails and supporting picnic areas, interpretive facilities, restrooms, and parking lots.

Thoughts on Passive Recreation provided by Chuck Flink

Definition of “passive” has been debated for years everywhere. The classic definition of “recreation” is “refreshment of the spirit and strength after toil, and diversion, play or amusement.” Then you throw in such clarifying terms as where it occurs (indoors versus outdoors), intensity of activity, experience of the activity. Then we use terms like “active” versus “passive.” Normally the debate about passive versus active recreation is centered of the following issues:

- 1) **Type of Activity:** Passive recreation is sometimes referred to anything that does not involve an organized activity, such as baseball, volleyball, basketball, soccer, etc., and usually requires a structured landscape such as a field or building to host the activity. Some folks like to lump into the category recreation activity that “individuals” participate in. But this gets tricky when it comes to things like watchable wildlife, picnicking or even organized races, such as Father’s Day runs. Some of these passive activities produce lots of impact on the environment, even though they are not technically organized or occur on a structured facility.
- 2) **Impact to the Environment:** Some folks like to say that passive recreation should be limited to those activities that tread lightly on the land and make little impact on the natural resources. But in my opinion, this is a different subject and does not represent passive recreation at all. The whole issue of what is consumptive or non-consumptive is interesting. The impact to the environment varies by the intensity of use. I don’t think you can make a strong argument that the ball field is more of an impact than the walking trail through the woods. The question is what impact to what environment is being measured.
- 3) **Energy Expended:** I have heard arguments that passive recreation is limited to activities that don’t expend much energy. Slower paced activities are passive, where those that get the heart rate up are active. This is where the term “low impact” versus “high impact” comes from. In this case the impact is to the human body.
- 4) **Location of Activities:** Some will say that passive recreation occurs in tranquil, peaceful and solitary environments, whereas active recreation occurs in more human influenced environments.

Great Outdoors, Colorado

Low-Impact (Passive) Recreation: recreational use such as walking, running, hiking, environmental education, interpretive signage, fishing, and, in certain circumstances, bicycling.

High-Impact (Active) Recreation: recreational uses such as motorized recreational use (e.g. snowmobiles, dirt bikes, etc.), paved running tracks, ball fields, playgrounds, golf courses, etc.

Jefferson County, Colorado

Active Recreation: recreation that involves playing fields and team participation such as baseball, soccer, lacrosse, etc.

Passive Recreation: recreation without fields, more generally trail-based hiking, mountain biking, horseback riding, wildlife viewing, picnicking, etc.

City of Boulder, Colorado

In the City of Boulder charter, passive recreation is described as one of the purposes of Open Space with six activities listed as examples: hiking, photography or nature studies, and, if specifically designated, bicycling, horseback riding or fishing. However, the charter does not provide an actual definition of passive recreation, nor a comprehensive list of what activities are appropriate for Boulder's Open Space and Mountain Parks. In the past, recreational activities have been evaluated and managed on a case-by-case basis.

Hennepin County, Minnesota

Passive recreation refers to non-consumptive uses such as wildlife observation, walking, biking, and canoeing. In the HLD restoration plan, the goal of providing passive recreational uses is to ensure the least impact on the wetland ecosystem.

U.S. Legal Inc.

Passive recreation may be defined as a non-motorized activity that:

- Offers constructive, restorative, and pleasurable human benefits and fosters appreciation and understanding of open space and its purpose.
- Is compatible with other passive recreation uses.
- Does not significantly impact natural, cultural, scientific, or agricultural values.
- Requires only minimal visitor facilities and services directly related to safety and minimizes passive recreation impacts.

Brevard County, Florida

Passive recreation means recreational uses where very minimum alteration of vegetation, topography or other native feature is necessary for the enjoyment of the site amenities. Activities which are considered passive include, but are not limited to hiking, bicycling, nature observation, camping, picnicking, non-motorized recreation and sports, and archaeological or historic preservation.

Appendix C



JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
CADILLAC DISTRICT OFFICE



STEVEN E. CHESTER
DIRECTOR

September 11, 2009

Mr. Dan Meads, Water Superintendent
City of Boyne City
319 N. Lake Street
Boyne City, Michigan 49712

WSSN: 00800

Dear Mr. Meads:

SUBJECT: Standard Well Isolation Area and Requirements

On September 9, 2009, I met with you to conduct a surveillance visit of the City of Boyne City's (City) water supply. During our discussions, you had asked a few questions regarding the Standard Well Isolation Area requirements with respect to sewers. I have summarized the items we discussed on this topic for your clarification and use.

The Michigan Safe Drinking Water Act (SDWA) defines the required standard isolation required for Type I Community Water Supplies in Rule 808. Specifically, Rule 808 (a) defines the standard isolation area as an area measured with a radius of 200 feet in all directions from the well. Rule 810 requires that the supplier of water of a Type I public water supply own the approved standard isolation area. For the City this would be an area measured with a radius of 200 feet in all directions from the well for the City's South Wellfield and an area measured with a radius of 100 feet in all directions from the well(s) in the North Wellfield. Rule 811 prohibits any storm or sanitary sewer from being installed in the standard isolation area. In summary the City must retain ownership of the entire standard isolation area and ensure no sewers are installed in said isolation area.

If you should have any questions or concerns with this letter, please contact me.

Sincerely,

Brian E. Thurston, P.E.
District Engineer
Water Bureau
231-676-4483

Enclosure

cc w/enc: Mr. Michael Cain, City Manager
Northwest Michigan Community Health Agency (Charlevoix Co.)

ADMINISTRATIVE RULES
Promulgated Under the Michigan Safe Drinking Water Act
PART 8. GROUNDWATER SOURCES

R 325.10801 Purpose.

Rule 801. The purpose of this part is to establish certain requirements and objectives for the isolation and construction of wells which shall be met by public water supplies to provide a continuous, adequate quantity of water meeting the state drinking water standards.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10802 Applicability; approval of deviation from minimum standards and requirements.

Rule 802. (1) The provisions of this part apply to wells used to supply groundwater for a public water supply. These rules are minimum standards and requirements which shall be considered by the department in the issuance of permits or approvals for waterworks systems.

(2) Deviations from the minimum standards and requirements prescribed by this part may be approved by the department upon a showing by an owner of a public water supply that a deviation will not adversely affect the public health. Deviations from this part shall be by permit condition for type I or type II public water supplies, and in writing by the department for type III public water supplies.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10804 Type III public water supplies; applicability of other rules.

Rule 804. Suppliers of water of type III public water supplies shall comply with the applicable provisions of rules of the department promulgated pursuant to Act No. 294 of the Public Acts of 1965, as amended, being §§325.221 to 325.240 of the Michigan Compiled Laws, and entitled "Part 1. Well Construction Code," being R 325.1601 to R 325.1676 of the Michigan Administrative Code, except where specific requirements for type III public water supplies prescribed by this part are more restrictive.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10805 Retroactivity of rules; significant changes or major repairs made to existing well; utilization of well not in compliance with this part.

Rule 805. (1) This part is not retroactive for individual well installations constructed before the effective date of these rules except:

(a) When water quality from the well does not meet the state drinking water standards.

(b) Upon a determination by the department that continued use of a well represents a health hazard, or

(c) When a well is found to be in violation of previous rules of the department which were in effect at the time of construction.

(2) Significant changes or major repairs made to an existing well after the effective date of these rules shall conform to the provisions of this part. Those changes shall include, but are not necessarily limited to, replacing the casing, modifying the depth of a well, installing new pumping equipment of a different type or of higher capacity, or modifying the pump setting. In general, a significant change or major repair shall be considered to have occurred if the pumping capacity is increased above the original capacity as a result of the work. A significant change or major repair shall not include routine maintenance or incidental repairs.

(3) A supplier of water proposing to utilize water from a well or well field not in compliance with this part may be required to provide continuous treatment of the water in a manner acceptable to the department and shall obtain written approval from the department before utilizing that well or well field as part of a public water supply.

(4) A supplier of water employing a complete treatment system to treat a groundwater source may be granted special consideration by the department for the location and construction of wells used as a raw water source prior to treatment.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

ADMINISTRATIVE RULES
Promulgated Under the Michigan Safe Drinking Water Act

R 325.10806 Change in classification of public water supply.

Rule 806. Requirements or criteria prescribed by this part for the various types of public water supplies shall be based on the facilities which the public water supply is intended to serve. If the volume of water used or the type of facilities or number of units served by a public water supply changes in such a way as to cause a change in the classification of a public water supply, the supplier of water shall meet requirements applicable to the new classification.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10807 Location of well.

Rule 807. A well shall be located with due consideration given to the extent of the property, the contour of the land, elevation of the site, the depth to the water table, other geological characteristics, local groundwater conditions, and other factors necessary to provide a safe and reliable public water supply. A well shall meet all of the following requirements:

(a) Located so the well and its surrounding area is controlled and protected from potential sources of contamination.

(b) Adequate in size, design, and development for the intended use.

(c) Constructed to maintain existing natural protection against contamination of water-bearing formations and to prevent all known sources of contamination from entering the well.

(d) Protected against the entry of surface water.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10808 Standard isolation area generally.

Rule 808. The standard isolation areas from any existing or potential sources of contamination, including, but not limited to, storm and sanitary sewers, pipelines, septic tanks, drain fields, dry wells, cesspools, seepage pits, leaching beds, barnyards, or any surface water, other area or facility from which contamination of the groundwater may occur, are established for public water supplies as follows:

(a) For type I and type IIa public water supplies, the standard isolation area is an area measured with a radius of 200 feet in all directions from the well.

(b) For type IIb and type III water supplies, the standard isolation area is an area measured with a radius of 75 feet in all directions from the well.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10809 Standard isolation area; modification; approval.

Rule 809. (1) Modifications of the standard isolation area, if any, shall be determined for a site based on a study of hydrogeological conditions provided to the department by a supplier of water pursuant to R 325.10813 and R 325.10814.

(2) The department may require an increase or approve a decrease in the standard isolation area of a well.

(3) Approval of the isolation area shall be obtained from the department before construction of a production well used for drinking or household purposes as part of a public water supply.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10810 Standard isolation area for type I public water supplies; ownership or control.

Rule 810. (1) A supplier of water of a type I public water supply shall be required to own the approved isolation area except as provided by subrule (2) to prevent use of the property which could result in contamination of the public water supply.

(2) If a supplier of water of a type I public water supply adequately demonstrates to the department that ownership of the isolation area is not possible, adequate control of the isolation area shall be required. Adequate control may be a long-term lease or easement including provisions to prevent use of the isolation area which could result in contamination of the well.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10811 Sewers within approved isolation area.

Rule 811. (1) A storm or sanitary sewer shall not be located within the approved isolation area of a well for a type I or type IIa public water supply.

ADMINISTRATIVE RULES
Promulgated Under the Michigan Safe Drinking Water Act

(2) A buried sewer, located within the approved isolation area for a type IIb or type III public water supply, shall be constructed with materials and joints as approved in writing by the department.
History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10812 Location of wells with respect to major sources of contamination.

Rule 812. Wells serving type I and type IIa public water supplies shall be located a minimum distance of 2,000 feet, and wells serving type IIb and type III public water supplies shall be located a minimum distance of 800 feet, from known major sources of contamination, including, but not limited to, large-scale waste disposal sites, land application of sanitary wastewater or sludges, sanitary landfills, and chemical or waste chemical storage or disposal facilities. Based on hydrogeological studies, the department may require an increase or approve a decrease in the 2,000-foot distance for type I or type IIa public water supplies or the 800-foot distance for type IIb or type III public water supplies.
History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10813 Study of hydrogeological conditions by supplier of water of type I and type IIa public water supplies.

Rule 813. (1) A supplier of water of a type I or type IIa public water supply shall prepare a study of hydrogeological conditions for determination of an isolation area and the acceptability of a proposed location of a well. The study shall be provided to the department and approval obtained.

(2) Previous studies of hydrogeological conditions shall be considered by the department in determining the scope of or need for a study required by this rule.

(3) A study of hydrogeological conditions shall mean investigations and a compilation and evaluation of data necessary to determine the isolation area, acceptability of a well location and construction, and the availability of water at that location. The study of hydrogeological conditions may include the following:

- (a) The type of public water supply.
- (b) The proposed well capacity.
- (c) The proposed well depth and well construction features.
- (d) Identification of geological formations, including the thickness and characteristics of the aquifer, the number and thicknesses of protective layers, and if deemed necessary by the department, the areal extent of the protective formations.
- (e) Location of the well relative to sources of contamination.
- (f) Susceptibility of the area to flooding.
- (g) Depth to the water table from the established ground surface.
- (h) Proximity of the well to surface water.
- (i) A yield test of the well in accordance with R 325.10830.
- (j) Water quality analyses.

(4) The scope of the hydrogeological study may vary depending upon the capacity of the proposed well in relation to the aquifer capacity, the need for a modification of a standard isolation area, or other factors; and may include additional determinations required by the department, such as the general aquifer characteristics and interference relative to other wells in proximity to the well site.
History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10814 Studies of suppliers of water of type IIb and type III public water supplies.

Rule 814. If a modification of the standard isolation area is requested by a supplier of water of a type IIb or type III public water supply, the supplier shall submit to the department and obtain approval for a study of hydrogeological conditions consistent with the capacity of the well and the capacity of the aquifer.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10815 Procedures for department approval of a proposed well for type I and type II public water supplies.

Rule 815. (1) In reviewing the location and acceptability of a proposed well for a type I or type II public water supply, the department shall determine whether the following procedures have been followed by a supplier of water:

- (a) Approval has been obtained from the department for each proposed land parcel on which a test well is to be located.

ADMINISTRATIVE RULES
Promulgated Under the Michigan Safe Drinking Water Act

(b) For type I public water supplies, ownership or adequate control as required by R 325.10810 or an option for ownership or adequate control of the required isolation area has been secured.

(c) Where required, a study of hydrogeological conditions has been approved by the department.

(d) Satisfactory yield tests have been completed on the test well or the well capacity has been established to the satisfaction of the department.

(e) Water quality analyses show results meeting the state drinking water standards.

(2) When the department finds that a proposed well, its location, and its construction features meet the requirements of this part, the department shall authorize construction of a production well or conversion of a test well to a production well.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10816 Location of well in area subject to flooding.

Rule 816. (1) A well shall not be located in an area subject to flooding unless the well is protected as approved in writing by the department. The ground surface immediately adjacent to a well casing shall be graded so that surface water is diverted away from the casing. Surface flooding shall not be allowed closer than 25 feet from the well.

(2) The top of a well casing, any other opening into the well casing, well appurtenances, and controls shall be not less than 2 feet above the greater of the following:

(a) One hundred-year flood elevation.

(b) The maximum recorded flood elevation.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10817 Top of well casing; elevation.

Rule 817. The top of a well casing shall terminate not less than 12 inches above the established ground surface, or the floor of a pump room, well room, or well house. In addition, for type IIb and type III public water supplies the top of a well casing may terminate not less than 12 inches above the floor of an approved basement offset.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10818 Minimum well casing depth.

Rule 818. Casings for all wells serving public water supplies shall extend not less than 25 feet below the established ground surface.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10819 Well casing in rock formation.

Rule 819. (1) In an area where a well is to be developed in fractured, jointed, or cavernous rock, the well shall not be approved as a production well unless all of the following conditions exist:

(a) Adequate protective material above the aquifer.

(b) No evidence of aquifer contamination.

(c) No direct flow from surface or near surface sources to the rock aquifer.

(2) The department may also approve a well developed in fractured, jointed, or cavernous rock based on special well construction features and a hydrogeologic study.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10820 Water suction lines.

Rule 820. (1) A casing shall not be used as a suction line unless protected by a permanent outer casing.

(2) For type I and type IIa public water supplies, a buried water suction line extending outside the well casing is prohibited.

(3) For type IIb and type III public water supplies, a buried water suction line extending outside the well may be used if protected in a manner approved by the department.

(4) Any buried pump discharge line shall be under positive pressure at all times.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

ADMINISTRATIVE RULES
Promulgated Under the Michigan Safe Drinking Water Act

R 325.10821 Casing materials.

Rule 821. All casings used for wells serving a public water supply shall be of materials approved in writing by the department.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10822 Grouting.

Rule 822. All wells that serve public water supplies shall be grouted by a method approved by the department to obtain a tight bond between the well casing and the undisturbed natural earth formations, thus preventing the entrance of any surface water or near surface contaminants to the groundwater source.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC; 1991 MR 11, Eff. Nov. 22, 1991.

R 325.10823 Flowing artesian wells; well construction.

Rule 823. In areas where flowing artesian wells are commonly encountered, the well construction methods proposed by a supplier of water to protect a flowing artesian aquifer and confining strata shall be submitted to the department by the supplier of water and approval obtained prior to the start of construction.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10824 Flowing artesian wells; flow control.

Rule 824. For flowing artesian wells, a direct connection between a discharge pipe for flow control and a sewer or other source of contamination is prohibited.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10825 Elevation of discharge from well casing; location of connection to well casing.

Rule 825. (1) For type I and type IIa public water supplies, a discharge from a well casing at an elevation less than 12 inches above the established ground surface is prohibited, except where an installation with an approved pitless adapter is permitted by the department.

(2) For type IIb and type III public water supplies, a connection to a well casing may be at least 12 inches above the floor of an approved basement offset, pump room, or well room, or the requirements of subrule (1) shall be met.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10826 Construction and location of room housing pumping equipment or room housing top of well casing.

Rule 826. (1) For type I and type IIa public water supplies, a room housing pumping equipment or a room housing the top of a well casing, where used, shall be constructed above the established ground surface allowing access to the pump for maintenance or repair.

(2) For type IIb and type III public water supplies, a room housing pumping equipment may be located below the established ground surface if it is located in, or attached to, an approved basement or is drained to the ground surface by gravity.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10827 Tall pipe or pump suction pipe; termination.

Rule 827. In screened wells, the bottom of a tall pipe or pump suction pipe shall terminate not less than 5 feet above the top of the screen.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10828 Casing vents; sampling tap; relief valves.

Rule 828. (1) Casing vents shall be:

(a) Provided on all wells and constructed to prevent the entrance of contaminants into the well.

(b) Extended to the outside atmosphere above the roof level if toxic or flammable gases are present.

(2) Provisions shall be made for collection of water samples by installation of a proper sampling tap in a convenient location as close to each well as possible.

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(3) Air-vacuum relief valves, where used, shall be constructed to prevent entrance of contaminants into the well.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10829 Well appurtenances; type I public water supplies.

Rule 829. (1) The following is required of each well serving type I public water supplies:

(a) Each well shall be equipped with a meter or other acceptable means to measure the volume of water produced.

(b) Each well shall be provided with an electrical outlet energized with the pump motor, chemical injection taps, and space necessary for the addition of chemicals so that treatment equipment can be readily connected to the well discharge line in the event the department requires chemical treatment to protect the public health.

(c) Each well shall be equipped to allow pumping to waste without interrupting normal service in the distribution system.

(d) Each well shall be equipped with a means to measure the water level.

(2) Subdivisions (a) and (b) of subrule (1) do not apply to individual wells which are a part of a multiple well field serving a type I public water supply if the multiple well field is equipped in accordance with the provisions of subdivisions (a) and (b) or where a well is a raw water source for a treatment system when the treatment system is equipped with a meter or other acceptable means to measure the volume of water produced.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10830 Yield or performance testing requirements.

Rule 830. (1) Each well constructed to serve a public water supply shall be tested for yield or performance, by a method approved by the department, after installation of a production well and prior to use of a well to supply water to a waterworks system.

(2) For type I and type IIa public water supplies, yield tests or performance tests shall be performed on the test well or production well. The tests may be required to:

(a) Determine the adequacy of well depth and development.

(b) Secure water samples for quality analyses.

(c) Determine well capacity and production on a long-term basis.

(d) Determine drawdown.

(e) Select permanent pumping equipment.

(f) Evaluate well efficiency.

(g) Assure proper utilization and protection of groundwater aquifers.

(3) For type IIb and type III public water supplies, yield tests or performance tests of wells shall demonstrate that water can be safely withdrawn from an aquifer in sufficient quantity to provide water for drinking and household purposes and of a quality meeting the state drinking water standards.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

R 325.10831 New or reconditioned well; disinfection; water samples.

Rule 831. (1) A new or reconditioned well or pump installation or well facility which is opened for maintenance or inspection shall be pumped to waste until the water is as clear as reasonably possible. Thereafter, the well and pumping equipment shall be properly disinfected.

(2) Before placing a new or reconditioned well or a well facility which is opened for maintenance or inspection into service, not less than 2 consecutive water samples for bacteriological analyses shall be collected from the installation and each analysis shall not indicate the presence of coliform. Analyses for other contaminants may be required by the department.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC; 1991 MR 11, Eff. Nov. 22, 1991.

R 325.10832 Abandoned wells.

Rule 832. An abandoned well shall be properly filled and sealed to prevent it from becoming a hazard or serving as a channel for contamination of the groundwater or the escape of subterranean gas.

History: 1954 ACS 94, Eff. Jan. 12, 1978; 1979 AC.

Appendix D

**Avalanche Master Plan
Core Area Component
Cost Estimate**

Proposed Item	Quantity	Unit Price	Item Total
Park Center	2,500 SF	\$120/SF	\$300,000
Park Center Deck	3,200 SF	\$30/SF	96,000
Ice Rink	17,000 SF	\$1.50/SF	25,500
Retention Wetland	1	Lump Sum	50,000
Family Sled Hill - Clearing	0.84 acres	\$6,000/AC.	5,040
Family Sled Hill - Railing	320 LF	\$50/LF	16,000
Family Sled Hill - Stabilization	1	Lump Sum	5,000
Mid-Slope Boardwalk - 220' x 8'	1,760 SF	\$30/SF	52,800
New Stepped Access - 4' wide	180 steps	\$60/EA.	10,800
New Stepped Access Railing	240 LF	\$50/LF	12,000
Parking - Asphalt Paved*	40,150 SF	\$2/SF	80,300
Curb and Gutter	1,500 LF	\$12/LF	18,000
Fencing at Apartments	580 LF	\$25/LF	14,500
Slope Stabilization	1	Lump Sum	5,000
Tree Cutting for Views	1	Lump Sum	15,000
Trail Connections/Extensions	800 LF	\$30/LF	24,000
Storm Water Management	1	Lump Sum	35,000
Grading	1	Lump Sum	100,000
Erosion Control	1	Lump Sum	25,000
Relocate Power Line	1	Lump Sum	100,000
Miscellaneous Clearing	1.3 acres	\$5,000/AC.	6,500
Lighting - Parking and Ice Rink	1	Lump Sum	150,000
Signage	1	Lump Sum	10,000
Water and Sewer Services	1	Lump Sum	10,000
Plantings	1	Lump Sum	25,000
Turf Establishment - Misc.	1	Lump Sum	5,000
Sub-Total:			\$1,196,440
Design/Construction Documentation Fees - Park Center			39,600
Design/Construction Documentation Fees - General**			63,800
Contractor Overhead and Profit - 10% of Outsourced Items			105,800
Contingency - 5%			59,800
Total Estimated Construction Cost:			\$1,465,440

* Gravel surfacing would reduce this number by approximately one-half.

**Note: Work items excluded are: New Stepped Access and Railing, Clearing for Views, Trail Connections/Extensions, Relocate Power Line

**Avalanche Master Plan
 Division Street Edge - Boardwalk and Trail Between Neighborhood Park and Core Area
 Cost Estimate**

Proposed Item	Quantity	Unit Price	Item Total
Boardwalk Over Wetland, 340 LF	2,720 SF	\$40/SF	\$108,800
Trails	820 LF	\$30/LF	24,600
Sub-Total:			\$133,400
Design/Construction Documentation			13,340
Contractor Overhead and Profit - 10%			13,340
Contingency - 5%			6,670
Total Estimated Construction Cost:			\$166,750

**Avalanche Master Plan
 Division Street Edge - East Entrance Component
 Cost Estimate**

Proposed Item	Quantity	Unit Price	Item Total
Youth Trail Bike Technical Course	1	Lump Sum	\$10,000
Pedestrian/Maintenance Trail	1,300 LF	\$30/LF	39,000
Access Apron	1	Lump Sum	2,000
Sub-Total:			\$51,000
Contingency - 5%			2,550
Total Estimated Construction Cost:			\$53,550

**Avalanche Master Plan
Division Street Edge - West Entrance and Neighborhood Park Components
Cost Estimate**

Proposed Item	Quantity	Unit Price	Item Total
Adult/Senior Citizen Exercise and Play Area	1	Lump Sum	\$60,000
Children's Play Area	1	Lump Sum	60,000
1910 Building - Restrooms/Historic Displays	200 SF	\$150/SF	30,000
Pavilion - 24' x 40'	960 SF	\$40/SF	38,400
Walkways - Paved, Accessible, 400 LF	2,400 SF	\$3.50/SF	8,400
Pedestrian Crossing at Division Street	1	Lump Sum	3,500
Parking and Vehicular Access - Asphalt Paved*	11,500 SF	\$2/SF	23,000
Curb and Gutter	680 LF	\$12/LF	8,160
Security Gate	1	Lump Sum	5,000
Water/Sewer Service	1	Lump Sum	2,000
Grading	1	Lump Sum	5,000
Erosion Control	1	Lump Sum	2,000
Signage	1	Lump Sum	2,000
Plantings	1	Lump Sum	7,500
Turf Establishment	1	Lump Sum	4,000
Sub-Total:			\$258,960
Design/Construction Documentation			25,900
Contractor Overhead and Profit - 10%			25,900
Contingency - 5%			12,950
Total Estimated Construction Cost:			\$323,710

*Gravel surfacing would reduce this number by approximately one-half.

**Avalanche Master Plan
Full Site (Excluding Individual Components Addressed Separately)
Cost Estimate**

Proposed Item	Quantity	Unit Price	Item Total
New Trail Development	2,300 LF	\$40/LF	\$69,000
Stabilize Maintenance/Emergency Access Route	2,000 LF	\$85/LF	170,000
New Stepped Accesses	260 Steps	\$60/EA.	15,600
New Stepped Accesses - Railings	400 LF	\$50/LF	20,000
Trail Bike Technical Course	1	Lump Sum	15,000
Handicap Parking Pad	400 SF	\$3.50/SF	1,400
Accessible Walk - Pad to Overlook, 300 LF	1,800 SF	\$3.50/SF	6,300
Pleasant Valley Entry with Two Parking Spaces	1	Lump Sum	5,000
Rustic Overlooks	3	\$3,000/EA.	9,000
Meadow Clearing	1	Lump Sum	10,000
Grading	1	Lump Sum	5,000
Signage	1	Lump Sum	10,000
Tree Cutting for Views	1	Lump Sum	5,000
Rustic Benches	6	\$400/EA.	2,400
Sub-Total:			\$343,700
Design/Construction Documentation*			15,000
Contractor Overhead and Profit - 10%*			17,770
Contingency - 5%			17,185
Total Estimated Construction Cost:			\$393,655

* These items primarily apply to the Maintenance/Emergency Access Route and to handicap accessibility items.