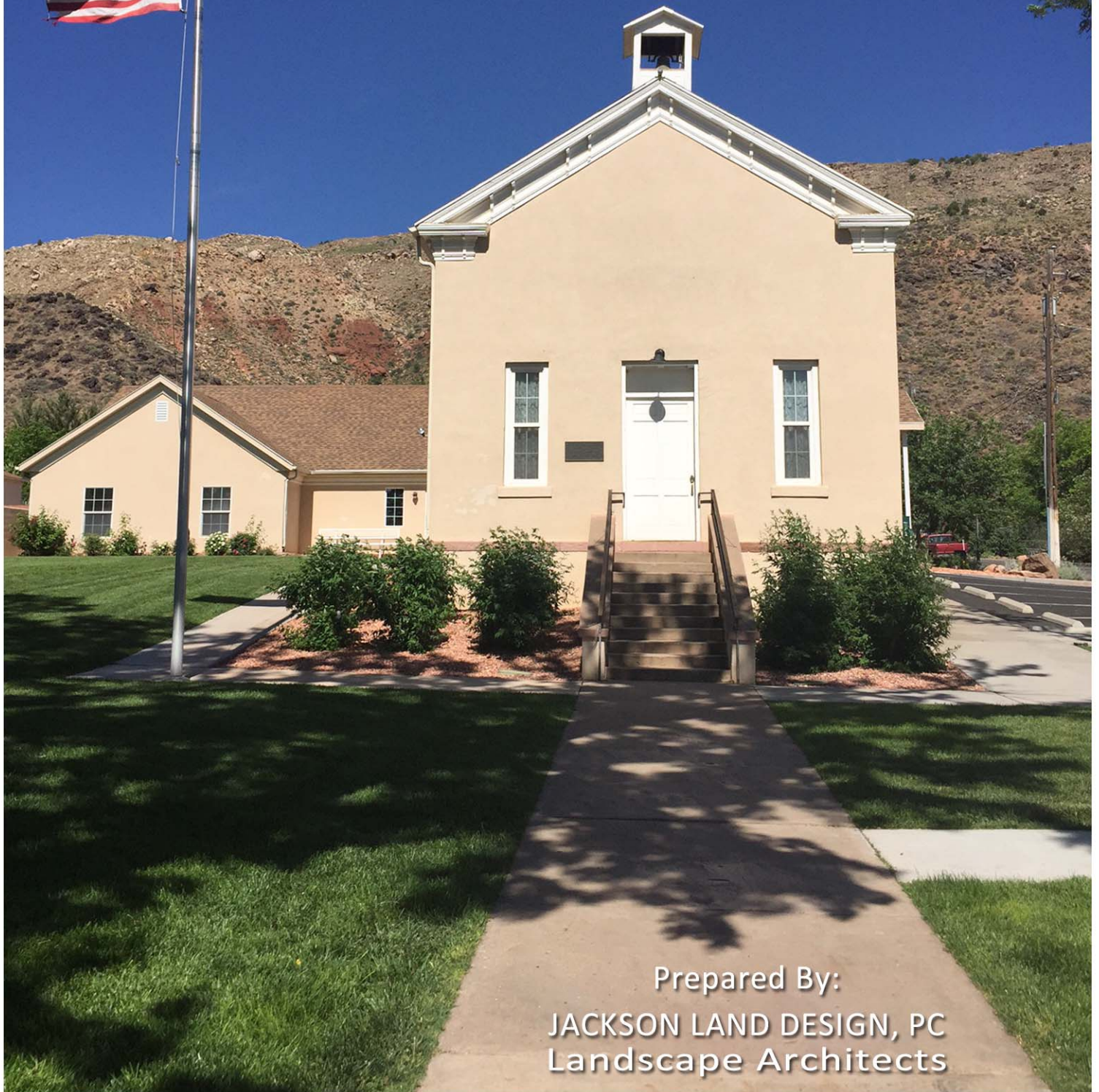


TOQUERVILLE CITY

Community Parks Master Plan

2016



Prepared By:
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Landscape Architects

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1.0 INTRODUCTION

1.1 Plan Description/Objectives

This Community Parks Master Development Plan (Plan) has been prepared by Jackson Land Design at the request and direction of Toquerville City, Utah (the City). Because Toquerville City is experiencing steady growth, the City understands the importance of developing a comprehensive master plan for a community-wide park system that satisfies the current and future recreation needs of its residents. It is the purpose of this Plan to provide a general guide to the City for making land use decisions pertaining to future park development, and to provide an outline of suggested park functions along with conceptual designs for three (3) sites included in the proposed community-wide park system. Cost estimates for these parks are also included in this Plan. The development of this Plan was based upon input from City Council, Citizens Park Committee, a review of the 2016 Water/Streets/Parks & Trails Impact Fee Facility Plan & Analysis created by ProValue Engineering, Inc., and an evaluation of existing parks and recreation facilities in Toquerville City as compared to standards for parks facilities set by the National Recreation and Parks Association (NRPA).

Park spaces and recreation facilities are integral components of community development. The location of a park or types of facilities within a park, can affect the type and direction of growth of surrounding areas. Furthermore, the physical attributes of a park can contribute positively to a community's aesthetics. It is also true that park facilities enhance the quality of life experienced by community residents by providing convenient recreational outlets, opportunities for community members to associate with one another, and an enhanced atmosphere contributed by pleasing green spaces.

Essential to the successful development of community park systems is the planning process. Typically, it is more expensive and time-consuming to retrofit a park facility to an existing community than if the park facility had been developed as an integral part of the planned community.

In addition to the difficulties associated with retrofitting an existing park or open space, it can be especially problematic if a city must *acquire* land for "after-the-fact" park construction. The quantity and quality of available property diminishes, even vanishes, over time due to the encroachment of growing communities upon available open space. Cities are often faced with the costly option of purchasing land back from developers when the need for a new park or recreation facility arises. Therefore, it is necessary to begin allocating property for park sites now.

This Plan will help Toquerville City successfully develop its park system to meet the current and future needs of its residents while helping to avoid the costly and time-consuming mistakes attributed to the lack of proper planning.

1.2 Background

Toquerville is a quiet and picturesque community located in Washington County, Utah, about 30 miles south of Cedar City and less than 20 miles north of St. George. It sits at approximately 3,394 feet above mean sea level in a wide valley with two converging drainages, Ash Creek and La Verkin Creek.

Ten miles to the northwest of Toquerville are the Pine Valley Mountains. State Highway 17 runs through the center of Toquerville, carrying tourists to Zion National Park, Grand Canyon, and Lake Powell every year. Other nearby popular recreational attractions include Quail Creek State Park, Sand Hollow State Park, Snow Canyon State Park, Cedar Breaks National Monument, and the Grand Staircase-Escalante National Monument.

The nearest large urban areas are Las Vegas, Nevada, and Salt Lake City, Utah, located approximately 130 miles to the southwest and approximately 300 miles to the north of Toquerville City, respectively.

The semi-arid climate of Washington County is characterized by low precipitation and low humidity. The summer season in the lower elevation areas, such as Toquerville, is typically hot and dry, with summer daytime temperatures exceeding 100 degrees F. The winter season is typically short and relatively mild with daytime temperatures in the upper 50s to low 60s (degrees F). The average annual precipitation ranges between 8 and 11 inches, with rainfall primarily occurring during two times of the year: winter and early spring.

Toquerville has good water available from springs about a mile above town for culinary and irrigation purposes. It has long been known for its agricultural economy (grapes, pomegranates, figs, alfalfa, and other crops).

Toquerville has grown steadily over the last decade, with a population estimated at 1,493 citizens as of July 2015 according to the United States Census Bureau.

Washington County, in which Toquerville lies, is one of the fastest growing areas in Utah and ranks in the top 50 fastest growing counties in the country in 2013, 2014, and 2015 according to information provided by the United States Census Bureau. In addition, nearby St. George, Utah, is ranked in the top 20 fastest growing metropolitan areas in the United States with an annual growth of 2.5%. Much of St. George's growth is spilling into nearby communities such as Toquerville, and it is expected that the growth of St. George and other Washington County communities will only continue.

It is fortuitous that Toquerville's town board at one time annexed five and one-half sections of land on its northern boundary, including Anderson Junction, in anticipation of continued growth.

2.0 EXISTING CONDITIONS

This chapter inventories existing park facilities within Toquerville City. Information was gathered during field investigation and through information supplied by City personnel. Park area and acreage were determined by reviewing City base map material provided by ProValue Engineering.

2.1 Inventory of Existing Facilities

Currently, there are three (3) recreational facilities which fall under the jurisdiction of the Parks and Recreation Department in Toquerville City (see **Map 2.1 Existing Facilities**). They are Toquerville City Center Park, Trail Ridge Park, and Almond Heights Park (undeveloped). The following is an inventory and evaluation of these facilities.

2.1.1 Toquerville City Center Park (see Toquerville City Center Park Map)

Located at 250 West Center Street, City Center Park is the City's main park where most community and neighborhood functions are held. This 10.32-acre park is bisected by Ash Creek. Currently, all of the active program elements are located on the northwest side of Ash Creek. A 300' (+/-) ball field with skinned infield anchors this park. Associated with the ball field is a 2-story restroom and concession building with a second floor scorer's room. The ball field has Musco brand sportsfield lighting. A combination of concrete and gravel pathways gives users access to two (2) spectator bleacher viewing areas. These pedestrian ways are not ADA compliant. The outfield grassed



area is also used for soccer. To the north east of the ball field is an existing full-court concrete basketball court. The basketball court is surrounded by lawn and some shade trees. To the south of the ball field is the park's main gathering area and pavilion. Incorporated into the pavilion's construction are both male and female restrooms. The large pavilion and restroom structure is approximately 2,100 square feet, and is filled with large picnic tables. Several barbecue grills are located adjacent to the pavilion. A drinking fountain and water hose give park users access to fresh drinking water. A large grassy area sits to the south of the pavilion and is surrounded by

large mature shade trees. An older fenced playground structure and swing set are located north of the pavilion area. Benches and small shade trees are located throughout the playground area. There are 2 storage sheds located in this area. A bridge that spans Ash Creek gives park users access to the natural, undeveloped east side of the park. A 46-stall asphalt parking lot services this area of the park.

At the park's southern edge is an existing grassed picnic area and horseshoe pits. There are two (2) concrete picnic table pads, and the grassed area is bordered completely by concrete mow curb. There are two (2) horseshoe pits, and existing shade and ornamental trees surround the area's perimeter. Parallel parking along Center Street is available in this area on a 12' wide gravel shoulder.

Adjacent Land Use – City Center Park is currently bordered on all sides by open space and agricultural land. To the north and east are some single family home neighborhoods. Ash Creek bisects the area and is dotted with large native cottonwood trees and willows. The adjacent landscape is mainly rocky and dry.

Park Evaluation - This park enjoys a heavy amount of use, and is in fairly good condition. However, many of the park areas are not ADA compliant. The bleacher areas at the ball field do not have accessible routes or surfacing. The slope leading to the concession and restroom building does not meet ADA



requirements. This area needs to be regraded and configured to achieve ADA compliance. Also, there are existing irrigation valve boxes and equipment in this area that should be relocated. The adjacent parking lot with its existing large shade trees could be reconfigured to allow more space to provide

concrete bleacher pads and ADA accessible routes. A small retaining wall will be required between the parking and bleacher area. It is recommended that incorporated into the retaining wall be a planter area to help soften and beautify the area. The existing basketball court receives very little use. The concrete surfacing is in very good shape. The City has received requests from its citizenry to provide pickle ball courts. Consideration should be given to converting the existing basketball court to pickle ball courts. The playground equipment is at the end of its life expectancy and should be replaced. In addition, the gravel

playground surfacing does not meet current guidelines and must be replaced. It is recommended that a new ADA compliant sidewalk and seating area with additional large shade trees be added to this area. The adjacent pavilion and restroom structure is in fairly good shape. This area is heavily used during certain community celebrations throughout the year. Additional and more convenient seating is needed for these events. The nearby slope that separates this area from Center Street could be reconfigured to accommodate an amphitheatre to hold approximately 200 users. It is recommended that a 5' wide raised planter area be provided to separate the amphitheatre from Center Street for aesthetic and safety purposes. This planter area could be planted with additional shade trees. The amphitheatre's stage house could also double as a second pavilion. The east side of the park is currently not developed, and is rocky and prone to flooding. If the park is to expand in to this area, a licensed engineer would need to determine the area's development potential. The existing picnic and horseshoe area at the park's southern entrance is in good condition. The area could be enhanced by adding a covered picnic shelter and additional landscaping. The safety of the existing parking in this area could be improved by paving and striping.

2.1.2 Trail Ridge Park (see Trail Ridge Park Map)

Located at 1210 S Arches Street in the Trail Ridge Estates Subdivision on the south end of the City is Trail Ridge Park. This 4.23-acre park parallels La Verkin Creek to the west. Currently, only about one-half of this park's total area is developed. Central to the park is a large asphalt parking lot that can accommodate parking for approximately 50 cars. A concrete half-court basketball court sits to the north of the parking lot. A large flat grassy area that encompasses nearly $\frac{3}{4}$ of an acre sits to the south of the parking lot and is used for soccer, other field sports and informal play. Running the length of the park along its western boundary is a 10' wide asphalt trail. A 9-hole Frisbee golf course is provided. Along the park's eastern boundary is a narrow steep slope. At the park's southeast corner is a storm water detention pond that is approximately 10' deep and encompasses about 9,000 square feet. A 36" pipe enters this pond from the east, and drains the nearby subdivision. Several concrete picnic table pads are provided, and some shade and ornamental trees are planted throughout the park in rock mulch planter areas.



Adjacent Land Use - Bordering the park's eastern and southern boundaries is a new subdivision currently under development. To the west is La Verkin Creek and beyond the creek is an established single family home subdivision.

Park Evaluation - This park is currently underdeveloped. It has tremendous potential to be a very popular park with its proximity to La Verkin Creek and the City's trail system. Stream access is difficult, but could be improved and enhanced with very little effort and expense. However, any improvements along the creek would have to be planned with the knowledge that they could be damaged or destroyed during periodic flooding and heavy stream flow. The large rock mulch planter areas could be softened and broken up with grass and additional plant material. Additional rock mulch types with contrasting size and



color could be added to help beautify these areas. Currently, this park does not have restrooms. A park of this size should have at a minimum two (2) unisex restrooms, and they should be centrally located. Also, a neighborhood park should have

a playground area that can accommodate ages 2 years to 12 years of age. This park should add a new playground structure that can accommodate this age range. Careful consideration should be given to the location of the playground structure to limit potential vehicle conflicts and visibility. The park's southern portion is currently undeveloped, and is being used to store rock and dirt piles. This should be cleaned up and removed to limit safety hazards and liability. This area should be developed and incorporated into the rest of the park. The steep slope along the park's eastern boundary could be beautified with tree planting and decorative rock mulch. The existing storm water pond should be beautified and incorporated into the design of the park. More turf areas would improve the interior of the park in addition to adding more large shade trees and landscaping.

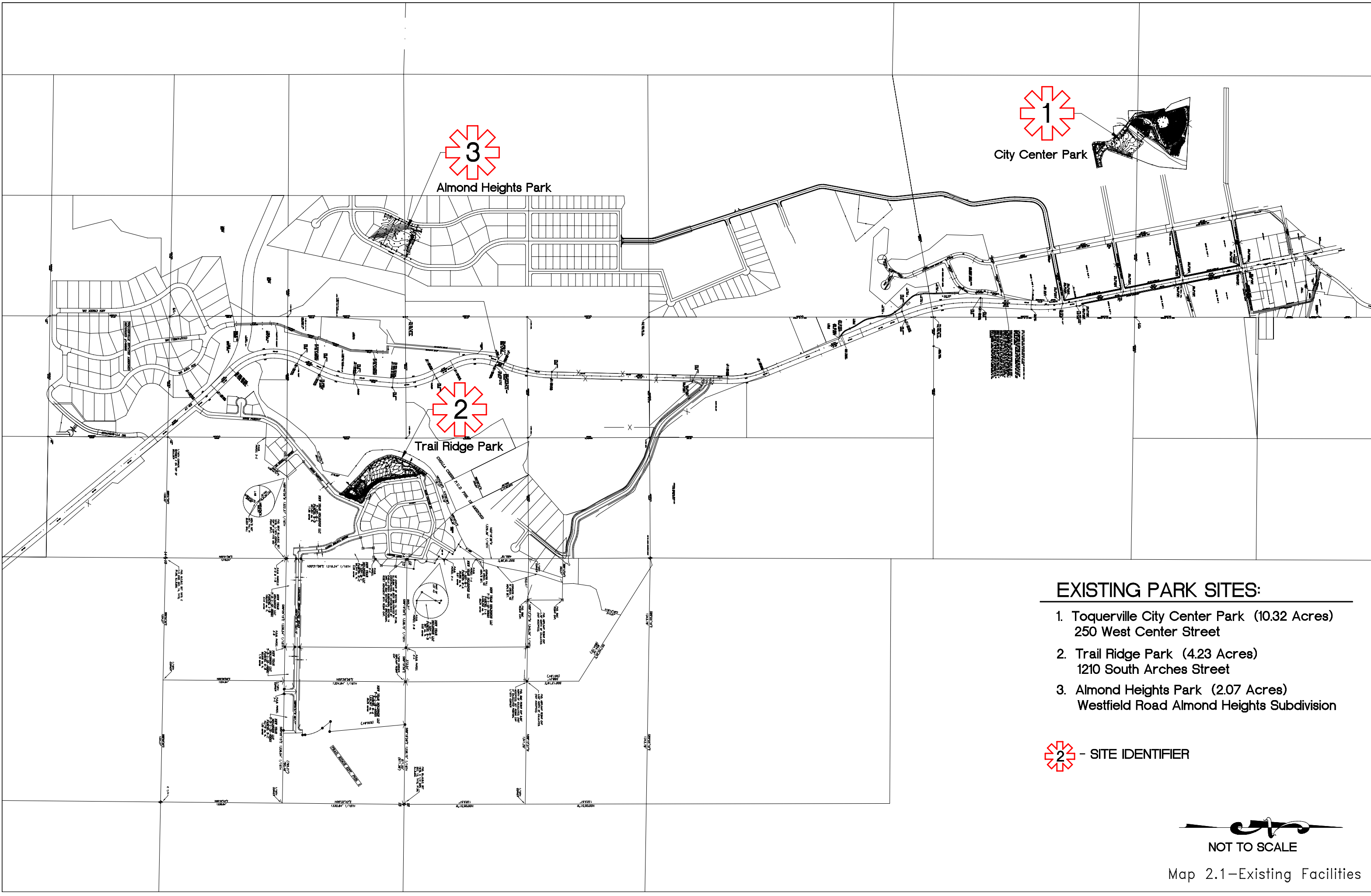
2.1.3 Almond Heights Park (see Almond Heights Park Map)

Located in the Almond Heights Subdivision on Westfield Road is Almond Heights Park. This is an undeveloped park, and encompasses 2.07 acres. With majestic views in all directions, this park's potential as a neighborhood park is tremendous. The majority of the park area is fairly flat with gentle slopes along the park's perimeter. Native sage and other plant material dot the park.

Adjacent Land Use – This park is surrounded on all four sides by a developing subdivision. This new development makes this an ideal location for a neighborhood park. To the east of the park is Ash Creek.

Park Evaluation - This park is currently open space with the intention to develop it into a neighborhood park. The interior of the park is fairly flat with the steepest slope being to the north and west. There is some exposed rock mainly in the park's southern portion. This is a good indicator of additional rock just below the surface. It is recommended that geotechnical underground studies be done of this site to identify any underground rock conditions that will impact park development. Also, it appears as if the City or others are beginning to haul in fill dirt material and are placing it in the central portion of the park. This could be a great strategy to raise the park's finish grade. Care should be taken by the City to ONLY allow clean fill material to be placed on site to avoid having the expense of hauling off dirty undesirable fill material later. A good stand of native plant material consisting of shrubs and grasses are located around the park's perimeter. Preserving some of this native plant material should be considered during the final design phase of his park.







TOQUERVILLE CITY PARK MAP

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EXISTING FENCE
- SECTION LINE
- 1" CONTOUR
- 5" CONTOUR
- EXISTING CONCRETE
- SECTION CORNER AS DESCRIBED
- SET PROVALUE ENGINEERING REBAR & CAP P.L.S. #4938769
- FOUND CENTERLINE MONUMENT AS DESCRIBED
- FOUND MONUMENT AS DESCRIBED
- RECORD BEARING OR DISTANCE
- TREE

PARK= 10.32 ACRES

NARRATIVE OF PARK INFORMATION

LOCATED IN ON WEST END OF CENTER STREET IN DOWNTOWN TOQUERVILLE.



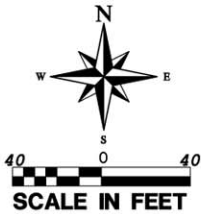
REVISIONS		DATE	BY
NO	DESCRIPTION		

PROVALUE ENGINEERING, INC.
Engineers - Land Surveyors - Land Planners
52 South 800 West, Suite 207 B
Hurricane City, Utah 84313
Phone: (435) 886-2338 Cell: 801-435-3070
Fax: (435) 886-2338



MAIN CITY PARK MAP FOR:
TOQUERVILLE CITY
LOCATED ON CENTER STREET

DATE: DEC. 11, 2014
SCALE: 1"=40'
JOB NO:
10-017
SHEET NO:
1 OF 1



TRAIL RIDGE PARK MAP

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EXISTING FENCE
- SECTION LINE
- 1' CONTOUR
- 5' CONTOUR
- EXISTING CONCRETE
- SECTION CORNER AS DESCRIBED
- SET PROVALUE ENGINEERING REBAR & CAP P.L.S. #4938769
- FOUND CENTERLINE MONUMENT AS DESCRIBED
- FOUND MONUMENT AS DESCRIBED
- RECORD BEARING OR DISTANCE
- TREE

PARK= 4.23 ACRES

NARRATIVE OF PARK INFORMATION

CURRENTLY THERE ARE 40 TREES.

11-017

PROVALUE ENGINEERING, INC.
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Hurricane City, Utah 84331
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TRAIL RIDGE PARK MAP FOR:
TOQUERVILLE CITY
LOCATED IN TRAIL RIDGE SUBDIVISION

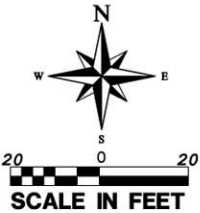
DATE: DEC. 11, 2014
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JOB NO.
10-017

SHEET NO.
1 OF 1

REVISIONS	
NO	DESCRIPTION

COMPUTED © 2014 PROVALUE ENGINEERING, INC.



ALMOND HEIGHTS PARK MAP

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EXISTING FENCE
- SECTION LINE
- 1' CONTOUR
- 5' CONTOUR
- EXISTING CONCRETE
- SECTION CORNER AS DESCRIBED
- SET PROVALUE ENGINEERING REBAR & CAP P.L.S. #4938769
- FOUND CENTERLINE MONUMENT AS DESCRIBED
- FOUND MONUMENT AS DESCRIBED
- RECORD BEARING OR DISTANCE
- TREE

PARK= 2.07 ACRES

NARRATIVE OF PARK INFORMATION

LOCATED IN ALMOND HEIGHTS SUBDIVISION

REVISIONS		DATE	BY
NO	DESCRIPTION		

PROVALUE ENGINEERING, INC.
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Hurricane City, Utah 84337
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ALMOND HEIGHTS PARK MAP FOR:
TOQUERVILLE CITY
LOCATED IN ALMOND HEIGHTS SUBDIVISION

DATE: DEC. 11, 2014
SCALE: 1"=20'
JOB NO.
10-017
SHEET NO.
1 OF 1

3.0 PARK PROGRAMMING

This section identifies national standards for the development of park facilities for communities as established by the NRPA. The NRPA has established these standards to help communities set guidelines for the types, size, proximity, and number of recreational facilities that should be provided for communities (see **Table 3.0**). These standards are national standards and are general in nature. The NRPA cautions communities that these standards are only guidelines, and it is up to the individual communities to adjust these standards to meet their individual recreational requirements. One such adjustment to consider is that Toquerville City is ideally located in close proximity to state parks, county parks, national parks, church facilities, and other communities with golf courses and sports complexes which all contribute to the recreational needs of the community. Based upon this, it might not be necessary for Toquerville City to provide these facilities in duplicate. In general, however, national standards are useful in developing recreation facility guidelines.

Table 3.0 - NRPA Standards for Facility Development

ACTIVITY/ FACILITY	RECOMMENDED SPACE REQUIREMENTS	RECOMMENDED SIZE AND DIMENSIONS	RECOMMENDED ORIENTATION	NO. OF UNITS PER POPULATION	SERVICE RADIUS	LOCATION NOTES
Badminton	1,620 sq. ft.	Singles - 17' x 44' doubles - 20' x 44' with 5' unobstructed area on all sides	Long axis north to south	1 per 5000	1/4 - 1/2 mile	Usually in school, recreation center, or church facility. Safe walking or biking
Basketball 1. Youth 2. High School 3. Collegiate	2400 - 3036 sq. ft. 5040 - 7280 sq. ft. 5600 - 7980 sq. ft.	46' - 50' x 84' 50' x 84' 50' x 94' with unobstructed space on all sides	Long axis north to south	1 per 5000	1/4 - 1/2 mile	Same as badminton. Outdoor courts in neighborhood and community parks, and in other park facilities.
Handball (3-4 wall)	800 sq. ft. for 4 wall, 1000 for 3 wall	20' x 40' - minimum of 10' to rear of 3 wall court. Minimum 20' over head clearance	Long axis north to south. Front wall at north end.	1 per 20,000	15 - 30 minute travel time	4 wall usually indoor as part of multi-purpose facility. 3 wall usually outdoors.
Tennis	Minimum of 7,200 sq. ft. single court. (2 acres for complex)	36' x 78' 12' clearance on both sides; 21' clearance on all sides	Long axis north to south	1 court per 2000	1/4 - 1/2 mile	Best in batteries of 2-4, located in neighborhood park adjacent to school.
Volleyball	Minimum of 4,000 sq. ft.	30' x 60'. Minimum 6' clearance on all sides	Long axis north to south	1 court per 5000	1/4 - 1/2 mile	Same as other court activities
Baseball 1. Official 2. Little League	3.0 - 3.85 A minimum 1.2 A minimum	Baselines - 90' Pitching distance - 60 1/2'. Foul lines - min. 320'. Center field-400+ Baselines - 60' Pitching distance - 60' Foul lines -200' Center field- 200'-250'	Locate home plate so pitcher is throwing across sun and batter not facing into it. Line from home plate through pitcher's mound run east-north- east.	1 per 5000 Lighted - 1 per 30,000	1/4 - 1/2 mile	Part of neighborhood complex. Lighted fields part of a community complex.
Field Hockey	Minimum 1.5A	180' x 300' with a minimum of 10' clearance on all sides.	Fall season- long axis northwest to southeast For longer periods, north to south	1 per 20,000	15 - 30 minute travel time	Usually part of sport complex or adjacent to high school.
Football	Minimum 1.5A	160' x 360' with a minimum of 10' clearance on all sides	Same as field hockey	1 per 20,000	15 - 30 minutes travel time	Same as field hockey
Soccer	1.7 to 2.1A	195' to 225' x 330' to 360' with a 10' minimum clearance on all sides.	Same as field hockey	1 per 10,000	1 - 2 miles	Number of units depends on popularity. Youth soccer on small fields adjacent to neighborhood parks.

ACTIVITY/ FACILITY	RECOMMENDED SPACE REQUIREMENTS	RECOMMENDED SIZE AND DIMENSIONS	RECOMMENDED ORIENTATION	NO. OF UNITS PER POPULATION	SERVICE RADIUS	LOCATION NOTES
Golf -Driving Range	13.5A for minimum of 25 tees	900' x 690' wide. Add 12' width for additional tee.	Long axis south-west-northeast with golfer driving toward northeast.	1 per 50,000	30 minutes travel time	Part of golf course complex. As a separate unit, may be privately operated.
1/4 Mile Running Track	4.3A	Overall width - 276' length - 600.02' Track width for 8 to 4 lanes is 32'	Long axis in sector from north to south to north-west-south-east with finish line at northerly end.	1 per 20,000	15 - 30 minute travel time	Usually part of high school, or in community sports complex e.g. soccer, football etc.
Softball	1.5 to 2.0A	Baselines - 60' Pitching distance - 46' min 40' -women. Fast pitch fields radius from plate -225' between foul lines. Slow pitch - 275' (men) 250' (women)	Same as baseball	1 per 5,000 (if also used for youth baseball)	1/4 - 1/2 mile	Slight difference in dimensions for 16" slow pitch. May also be used for baseball.
Multiple Recreation Court (basketball, volleyball, tennis)	9,840 sq. ft.	120' x 80'	Long axis of courts with primary use is north-south	1 per 10,000	1 - 2 miles	
Trails	N/A	Well defined head maximum of 10' width, maximum average grade 5% not to exceed 15%. Capacity rural trails-40 hikers/day/mile. Urban trails-90 hikers/day/mile.	N/A	1 system per region	N/A	
Archery Range	Minimum 30A	300' length x minimum 10' wide between targets. Roped clear space on sides of range minimum of 30', clear space behind targets minimum of 90' x 45' with bunker.	Archer facing north + or -45 degrees	1 per 50,000	30 minute travel time	Part of a regional / metro park complex.
Combination Skeet and Trap Field (8 station)	Minimum 30A	All walks and structures occur within an area approximately 130' wide by 115' deep. Minimum cleared area contained within two superimposed segments with 100 yard radii (4 acres). Shot-fail danger zone is contained within two super imposed segments with 300 yard radii (36 acres)	Center line of length runs northeast-southwest with shooter facing northeast.	1 per 50,000	30 minutes travel time	Part of a regional / metro park complex.
Golf 1. Par 3 (18-Hole) 2. 9-Hole standard 3. 18-Hole Standard	* 50-60A * Minimum 50A * Minimum 110A	* Average length-vary 600-2,700 yards * Average length- 2250 yards * Average length -6500 yards	Majority of holes on north-south axis.	 * 1/25,000 * 1/50,000	1/2 to 1 hour travel time	* 9-hole course can accommodate 350 people/day. * 18-hole course can accommodate 500-550- people a day. Course may be located in community or district park.
Swimming Pools	Varies on size of pool and amenities. Usually 1/2 to 2A site	<i>Teaching</i> - minimum of 25 yards x 45' even depth of 3 - 4 feet. <i>Competitive</i> -minimum of 25m x 16m. Minimum of 27 square feet of water surface per swimmer. Ratios of 2:1 deck - vs- water	None - although care must be taken in the locating of lifeguard stations in relation to afternoon sun.	1 per 20,000 (pools should accommodate 3 to 5% of total population at a time)	15 to 30 minute travel time	Pools for general community use should be planned for teaching, competitive, and recreational purposes with enough depth (3-4m) to accommodate 1m and 3m diving boards. Located in community park or school site.

3.1 National Standards

The NRPA suggests that communities should have between 6.25 and 10 acres of developed parks and open space for every 1,000 residents. This planning team has evaluated Toquerville City and compared it with communities used by the NRPA to establish their 6.25 - 10:1000 standard. We have also evaluated the standard used by similar communities in Washington County and took into consideration the City's proximity to recreational facilities, state parks, and national parks. Based on this review, we feel the 6.25 - 10:1000 standard is more applicable to more urbanized areas than Toquerville City. Therefore, it is recommended that the standard of 4 acres of developed parks per 1000 residents is used. This standard was also recommended in the Toquerville Water/Streets/Parks & Trails Impact Fee Facility Plan & Analysis completed in April 2016 by ProValue Engineering (2016 IFFPA).

Currently, Toquerville City is providing 16.62 acres of developed park land to its total of 1,493 residents. That is approximately 11 acres to 1000 residents, more than the recommended standard of 4:1000. In fact, the current park acreage should serve up to 4,155 residents.

3.2 Standards Based on Population

The goal of this Plan is to not only plan for the current recreational needs of the City, but for the future needs as well—especially in regards to the recommended 4:1000 standard and NRPA guidelines. To accomplish this, estimated population projections must be calculated. These estimates are based upon current and potential future growth rates of Toquerville City.

Toquerville City has 1,493 residents according to the July 2015 population estimate conducted by the United States Census Bureau. During the years 2010 to 2015, the annual growth rate averaged around 1.7%, with a growth of 2.55% from 2013 to 2014 and a growth of 3.17% from 2014 to 2015 (see **Table 3.2.1**). According to the 2016 IFFPA, the State of Utah is predicting an annual growth rate of 3.87% for Toquerville City over the next 20 years.

Table 3.2.1 - Population Trends for Toquerville, Utah, from 2010 to 2015

Population Estimate (as of July 1)					
2010	2011	2012	2013	2014	2015
1,375	1,386	1,404	1,411	1,447	1,493

To understand this increase in population growth requires a look at county and state growth trends real and projected. Washington County, in which Toquerville lies, is one of the fastest growing areas in Utah and ranks in the top 50 fastest growing counties in the country in 2013, 2014, and 2015 according to information provided by the United States Census Bureau. In addition, nearby St. George, Utah, is ranked in the top 20 fastest growing metropolitan areas in the United States with an annual growth of 2.5%. Much of St. George's growth is spilling into

nearby communities such as Toquerville, and it is expected that the growth of St. George and other Washington County communities will only continue.

In February 2014, a briefing paper on Utah's population was prepared for the Utah legislature by the Office of Legislative Research and General Counsel. It reported that "despite a short lived slowdown in Utah's population growth due to the Great Recession, the state is still one of the fastest growing states in the nation and seems to be heading back to its historical annual average population growth of 2.2%." The report further stated that Utah's population growth continues to be centered along the Wasatch Front and in Washington County. "Projections indicate that this concentration of Utah's population will continue, with over half of the state's population growth between 2010 and 2030 occurring in Utah and Salt Lake counties, and 80% of the total growth in these two counties plus Washington, Davis, and Weber counties."

At this time, with 16.61 acres of developed park in the City, there is no need to increase the amount of acreage dedicated to parks and trails. Though it is important that the City considers how projected population growth for Toquerville and the surrounding areas will affect the need for additional parks in the future, it is likely that additional parks will not be needed for many years. Future projections of population size and the associated need for developed park acreage based on the recommended 4:1000 IFFPA standard are shown in **Table 3.2.2**.

Table 3.2.2 – Projected Population Growth and Recommended Park Acreage for Toquerville, Utah

YEAR	POPULATION	PARK ACREAGE NEEDED 4:1000 Standard
2015 Census	1,493	None
2020 (DEA* Estimate)	1,952	None
2030 (DEA Estimate)	2,783	None
2040 (DEA Estimate)	3,687	None
2050 (DEA Estimate)	4,688	18.75
2060 (DEA Estimate)	5,704	22.8

*Demographic Economics Analysis conducted by Utah Governor's Office of Management and Budget.

3.3 Park Classification

Standards for open space and recreation areas are helpful in establishing an initial estimate of land and facility types that a community should commit to recreation. The following classifications for parks, recreation areas, and open spaces are provided to identify the numerous types of recreational facilities that are required to meet the various demands for recreational facilities for Toquerville City. Using the NRPA's standards as a basis, five types of recreational facilities which allow for active and passive recreation are illustrated: 1) Regional Park, 2) Community Park, 3) Neighborhood Park, 4) Linear Park, and 5) Mini Park. The following is a description of each type of facility and discusses their minimum requirements.

Regional Park - This is the largest of the park types classified. It usually covers areas greater than 200 acres. The NRPA defines this park type as "areas of natural quality for nature oriented outdoor recreation, such as viewing, and studying nature, wildlife habitat, conservation, swimming, picnicking, hiking, fishing, boating, camping, and trail uses. This park type may include active play areas. Generally, 80% of the land is reserved for conservation and natural resource management, with less than 20% used for recreation development." This park type will not be considered specifically in this Plan. Toquerville City is ideally located in close proximity to Confluence Park, Quail Creek State Park, Sand Hollow State Park, Zion's National Park, and other state and national parks which fall under the description of this park type.

Community Park - This park type is generally between 20 to 50 acres in size, and services a wide range of recreational activities for the entire community. However, for the purposes of the Plan, the City will define a community park as encompassing between 5 acres to 50 acres. This park type should have easy access for the majority of the population, and should provide both passive and active types of recreation, with the emphasis on the latter. An example of this type of facility would be a soccer or sports complex that contains areas of passive recreation such as walking trails, covered picnic areas, and natural areas. The more passive activities should be programmed at the periphery of the park.

Neighborhood Park - This type of park should address the specific recreational needs of the nearby neighborhood it serves. The NRPA states that generally this park type encompasses between 5 to 10 acres. However, to meet the specific needs of Toquerville City and its development patterns, this park type will range in size from to 1-1/2 acres to 5 acres. Neighborhood parks remain the basic unit of the park system, and serve as the recreational and social focus of the neighborhood. The theme of this park type is informal active and passive recreation. They should be uninterrupted by non-residential roads and other physical barriers. Generally, they contain play structures for at least two age groups: toddlers and pre-teens. They provide covered picnic areas, shaded seating, and havens for quiet reflection, trails, and large informal open areas for

unorganized play activities. Their location should be within ½ to 1 mile of the community they serve.

Linear Park - Linear park types are generally transportation corridors for non-motorized modes of transportation such as walking or cycling. They are used to connect parks and other recreational facilities to neighborhoods, to the center of town, and to other neighboring communities. They are generally located in natural corridors such as along stream and river banks and along side washes. These natural corridors allow for passive and active recreation. Extreme care should be taken to ensure the safety and proper separation of these two types of recreation. In addition, extreme care should be taken to preserve and enhance these natural corridors during the construction of Linear Parks. Wetlands and natural habitat for wildlife should be left alone during the planning and developing of Linear Parks whenever possible. This park type can contain some of the most beautiful and fragile ecosystems. Since water is generally nearby or available during raining seasons, Linear Parks can provide for a diversity of wildlife and vegetation, and promote conservation and storm water management.

Mini Park - These parks are used to address limited, isolated or unique recreational needs, and are generally one acre or less in size. An example of this type of park would be a trail head or a historical marker.



Concept Image of the City Entrance Sign

4.0 DEMOGRAPHICS

Toquerville City when compared to the State of Utah as a whole has some unique demographic characteristics. For example, 2010 census studies of the area show that 20% of the City's population is 62 years or older. Statewide figures show that only 10.6% of the population is 62 years of age or older. The in-migration of retirees or "snow-birds" has played an important role in increasing the average age of the City's population and is consistent with many of the communities in Washington County.

However, the demographics for the City also show 25% of residents are 0 to 14 years of age, and the median age is 37. This shows that there is a need for parks and recreation facilities that appeal to a population with a strong youth base in its age structure.

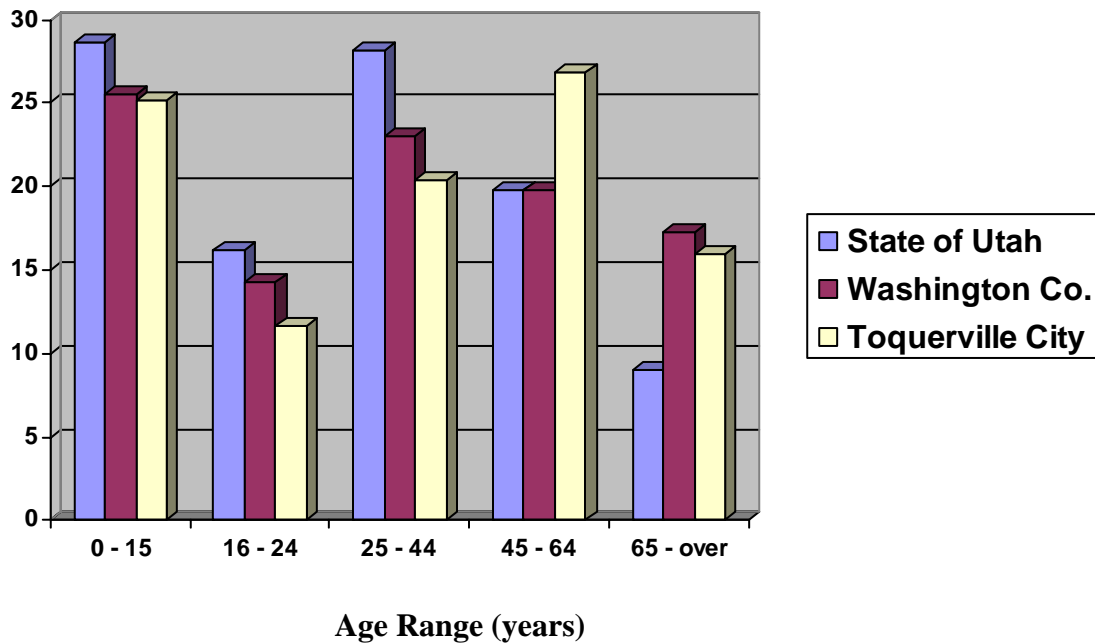
The next tables and figures show demographic data for Toquerville City with relevant comparisons to the populations of Washington County and Utah.

Table 4.0.1 – Toquerville City Age Demographics from 2010 Census

Subject	Number	Percent
Total population	1,370	100.0
Under 5 years	95	6.9
5 to 9 years	127	9.3
10 to 14 years	123	9.0
15 to 19 years	103	7.5
20 to 24 years	56	4.1
25 to 29 years	62	4.5
30 to 34 years	82	6.0
35 to 39 years	82	6.0
40 to 44 years	53	3.9
45 to 49 years	65	4.7
50 to 54 years	95	6.9
55 to 59 years	117	8.5
60 to 64 years	91	6.6
65 to 69 years	60	4.4
70 to 74 years	69	5.0
75 to 79 years	49	3.6
80 to 84 years	23	1.7
85 years and over	18	1.3
Median age (years)	37.3	(X)
16 years and over	1,007	73.5
18 years and over	963	70.3
21 years and over	908	66.3
62 years and over	276	20.1
65 years and over	219	16.0

Figure 4.0.1

**Age of Population by Percentage for:
State of Utah, Washington County, and Toquerville City**



Source: U.S. Census Bureau

Table 4.0.2 – Population by Decade for Utah, Washington County, and Toquerville City

POPULATION

Year	1960	1970	1980	1990	2000	2010	2015*
State of Utah	890,627	1,059,273	1,461,037	1,722,850	2,233,169	2,547,389	2,995,919
Washington Co.	10,271	13,669	26,065	48,560	91,104	125,010	155, 602
Toquerville City	197	185	277	488	910	1370	1493

*Last column of data is for five year span.

**Table 4.0.3 - % Population Change by Decade for Utah, Washington County,
and Toquerville City**

Decade	1960-1970	1970-1980	1980-1990	1990-2000	2000-2010	2010-2015*
State of Utah	18.9%	37.9%	17.9%	29.6%	14.1%	17.6%
Washington Co.	33.1%	90.7%	86.3%	87.6%	37.2%	24.4%
Toquerville City	-6.1%	49.7%	76.2%	86.5%	50.5%	8.9%

*Last column data is for five year span.

Economically the City has experienced rather steady growth which can be largely attributed to tourism and in-migration of retirees. An increase in service-oriented businesses which cater to the influx of tourists and retirees has also increased. The majority of employees in Washington County work in three primary employment sectors: trade, services, and government industries. Washington County School District is the largest employer in the county. Eating/drinking establishments and hotels & lodging services are the second largest employers, and are the employment sectors most closely related to tourism.

5.0 COMMUNITY PARKS MASTER PLAN

The goal of this Plan is to provide a model for applying a systematic approach to the planning for parks and recreation areas. This approach includes a level of service guidelines that are needs based, facilities driven, and land measured. The main reason Toquerville City is experiencing such tremendous growth is the quality of life it offers. It is up to responsible planners to ensure that through proper planning, this level of quality is maintained and enhanced. Planners must enlist a partnership with the community they serve. It is hoped that with the aid of this Plan, residents of Toquerville will adopt the basic principle that their entire community is a park and that all land uses should result in an environmentally harmonious park, recreation, and open space system.

In the analysis of the data presented in this Plan, existing parks within the City are heavily used, and heavily worn. To improve the quality of the park and experience of the user, this design team recommends renovating two existing parks. These parks include; 1. Toquerville City Center Park and 2. Trail Ridge Park. The third park in the City's system is the Almond Heights Park. This park is undeveloped and should be designed as a neighborhood park to accommodate current and future residents of the developing Almond Heights Subdivision.

This section will provide the City specific direction in terms of proposed facility development for the three parks listed above. Within the following proposed park designs and renovations, a diverse range of recreational facilities have been provided. These plans are conceptual. They are to be used as a guideline for future park development and are intended only to convey the basic character of the proposed parks.

5.1 Toquerville City Center Park

Location - The existing Toquerville City Center Park is located at 250 West Center Street approximately ½ mile off of SR-17 and the center of town.

Program – This plan looks at preserving many of the existing park elements on the west side of Ash Creek, but improving vehicular and pedestrian circulation. Also, key to this plan is illustrating conceptually ADA accessible routes and spectator seating at the existing ball field and concession area. Two new bleacher pad areas with shade covers are shown. To accommodate the space required for the new bleacher pads the existing parking lot and drive aisle will need to be modified. Fortunately, the drive aisle is wider than code requires, and can be reduced to create the needed space for the concrete bleacher pad, retaining planter wall, and new ADA sidewalks. The existing full-court basketball court can be renovated to create two (2) regulation pickle ball courts. A new perimeter sidewalk will connect the pickle ball courts to the parking lot and ball field, and will create a nice loop trail for walking. Picnic pads, or exercise stations can be located along this looped walking path. The old playground equipment and gravel surfacing need to be replaced. Benches and additional shade trees are shown to beautify the area. The large existing pavilion will remain as is. A new flag court that can accommodate three (3) flags is shown and located central to the existing pavilion. The main design element in this area is a new amphitheatre and stage house that is built in to the existing slope. The stage house when not being used for community events can double as a large open air picnic pavilion. To separate the users at the amphitheatre a 5' wide raised planter is shown at the top of the slope adjacent to Center Street. This planter is large enough to plant shade trees to beautify and provide shade during hot summer months. On the east side of the park, south of Ash Creek is a large undeveloped area that could accommodate a large community center, parking lot, and park elements such as a half-court basketball, pavilion, looped walking trails and picnic areas. Grass, trees and planter areas are shown to beautify the area. At the existing horse shoe pit area a new pavilion is shown to provide a nice secluded area for visitors to gather out of the sun. The existing gravel parking area is improved by adding a formal paved and striped area for safer parking opportunities. Additional large shade and ornamental trees are shown to enhance the area. A new 5' wide sidewalk is shown that connects this area with the rest of the park (see **Toquerville City Center Park Conceptual Master Plan**).

5.2 Trail Ridge Park

Location – This park is located at 1210 S Arches Street in the Trail Ridge Estates subdivision on the south end of the City.

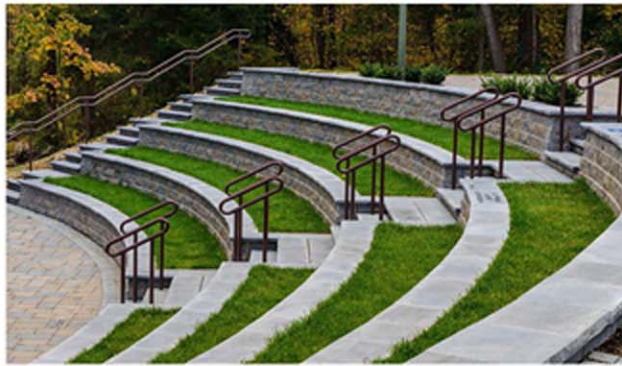
Program - This park's classification is a Neighborhood Park. It will service communities east of SR-17 and future neighborhoods which are master planned for this area. This park will undoubtedly be used by the entire population of Toquerville City

due to the planned amenities and access to La Verkin Creek. Currently, this park's main function is for youth soccer, basketball, and Frisbee golf. A 10' wide asphalt trail borders the park's western edge. The City would like to enlarge the existing soccer field and add a new large pavilion. This will require that the southern portion of this trail be realigned and moved to the west. By realigning the trail it will also create enough space for a needed dog park. The fenced dog park includes a looped walking path, benches, picnic tables, drinking fountain for humans and dogs, grass and shade trees, and a small covered pavilion. A double dog entrance gate is shown for user safety. The nearby existing storm water detention pond is shown with proposed decorative rock mulch and landscaping to beautify this area. The steep slope along Zions Parkway and Arches Street should be beautified using two contrasting types of rock mulch with added tree and shrub plantings. The existing parking lot is large enough for the proposed park amenities and will remain as is. Between the asphalt trail and La Verkin Creek it is proposed that regrading and selective vegetation clearing occur to provide improved stream access with added benches and picnic areas. Careful planning in this area needs to occur due to the threat of flooding and high water flows during certain times of the year. A new restroom and multi-age playground structure are illustrated to complete the design of this park (see **Trail Ridge Park Conceptual Master Plan**).

5.3 Almond Heights Park

Location - Located in the Almond Heights Subdivision on Westfield Road is this 2.07-acre future neighborhood park.

Program - Currently, this park is undeveloped open space. This presents a blank canvas to create a neighborhood park that will serve current and future residents of this developing area. The panoramic views in all directions from this park are stunning. Opportunities for park users to gain the best possible vantage of these views should drive the layout of this park. The proposed attached concept identifies an ideal location for a curved arbor that is perched on the highest portion of the site. Connecting the arbor to the rest of the park is a looped walking trail that will meet all ADA requirements. Picnic tables and benches are located along the looped walking trail. Most of the park elements are located in the center of the site due to desired native vegetation, and exposed rock around the site's perimeter. Park construction costs will be less by limiting development in these areas. Plus, the rock and native vegetation are an attractive amenity that should be preserved. Central to the park is a large pavilion which can be used for community and family gatherings. Adjacent to the pavilion is a playground that should be able to accommodate a diverse range of ages and abilities. Also, in this area is a restroom that should tie in architecturally with the neighboring homes. The size illustrated is large enough to accommodate two unisex restrooms. The 20-stall parking lot is the recommended size for a neighborhood park of this acreage. A large open grass area that is fairly flat is shown to allow for informal play and games such as badminton, volleyball, and Frisbee, etc. Additional tree and shrub plantings with decorative boulders and rock mulch are planned to beautify and complete the design of this park (see **Almond Heights Park Conceptual Master Plan**).

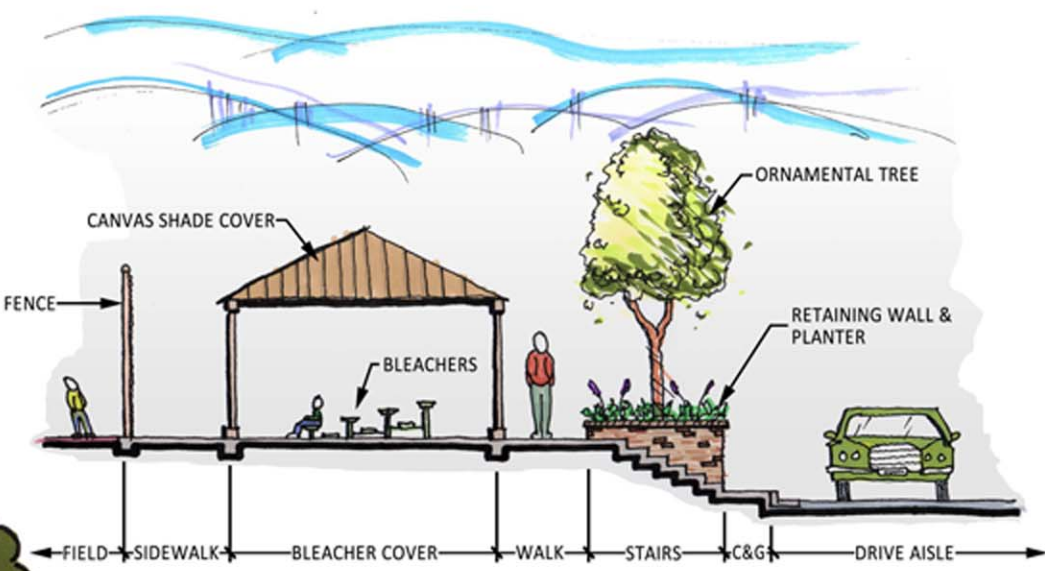


Amphitheater - CONCEPT IMAGE

TOQUERVILLE CITY PARK

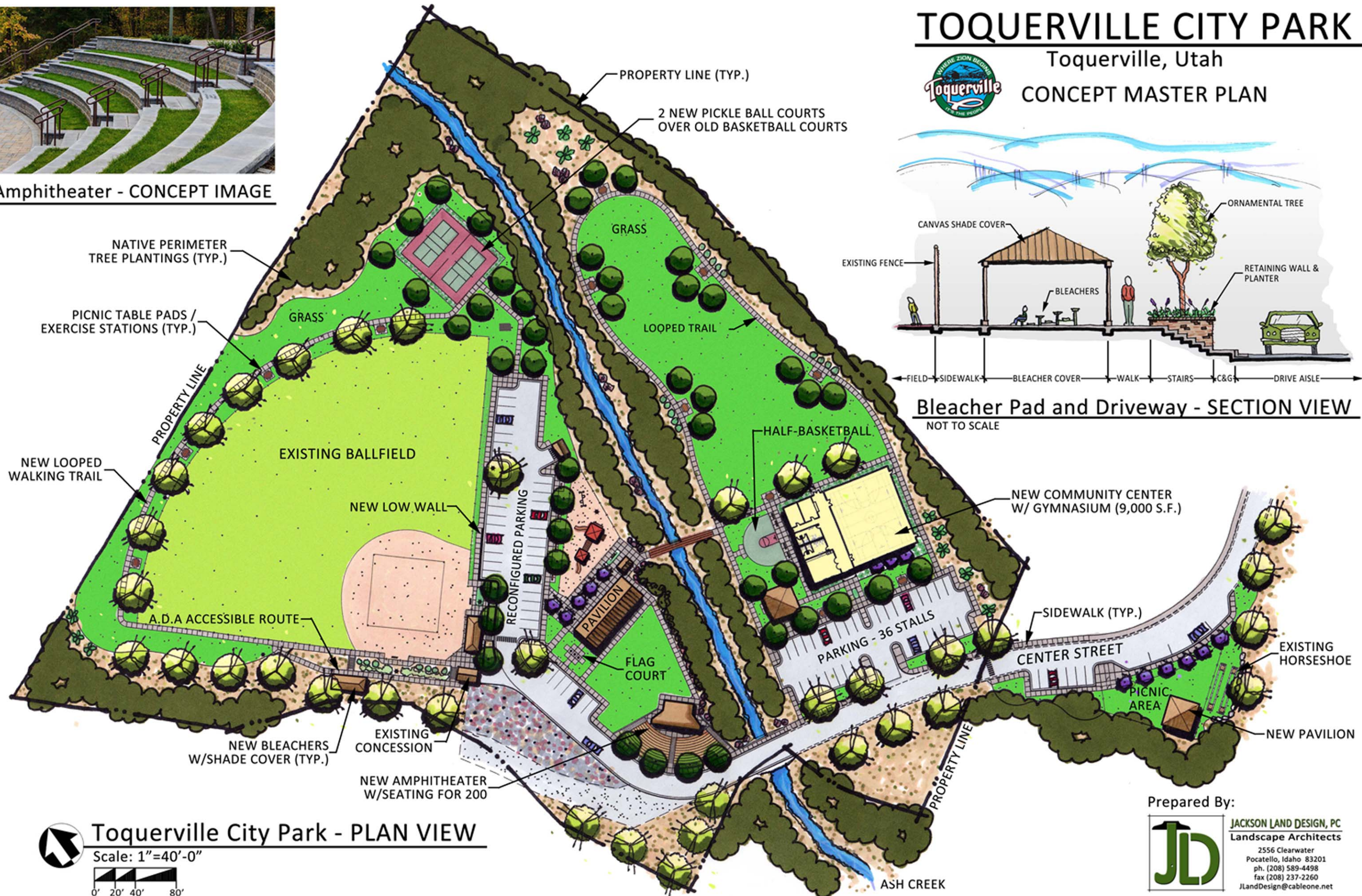
Toquerville, Utah

CONCEPT MASTER PLAN



Bleacher Pad and Driveway - SECTION VIEW

NOT TO SCALE



Toquerville City Park - PLAN VIEW

Scale: 1"=40'-0"



Prepared By:



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TRAIL RIDGE PARK

Toquerville, Utah
CONCEPT MASTER PLAN



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Trail Ridge Park - PLAN VIEW

Scale: 1"=30'-0"

ALMOND HEIGHTS PARK

Toquerville, Utah



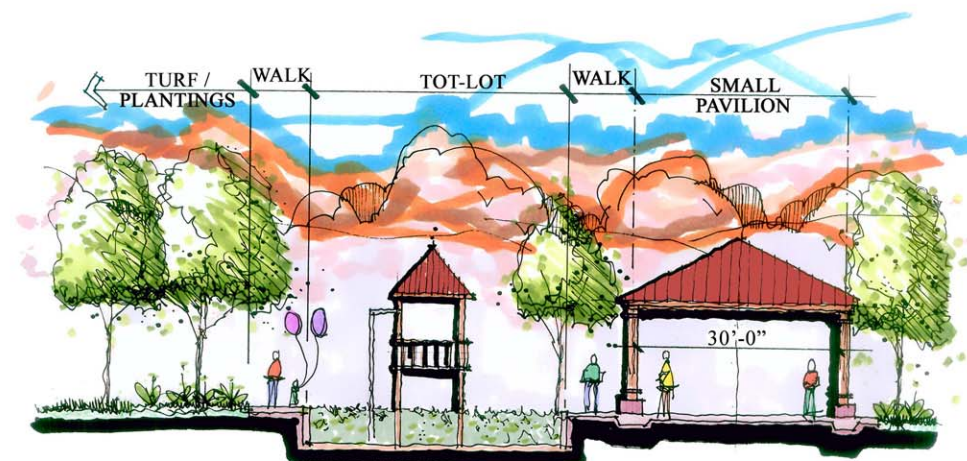
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Section View at Playground

Not to Scale



Playground



Arbor Structure



Restroom



Pavilion

Concept Images:



Almond Heights Park - Plan View

Scale: 1"=20'-0"



6.0. FINANCIAL PLAN

6.1 Introduction

This section outlines cost estimates for the parks illustrated in this document, and suggests financial avenues Toquerville City can pursue in terms of possible local, state, and federal funding for the implementation of the Plan. The following cost projections are estimates ONLY, and do not include design or environmental mitigation costs. The cost estimates developed for each park include landscaping, irrigation, utility services, amenities, and infrastructure.

6.2 Summary of Park Development Costs

The cost estimates are preliminary and are for planning purposes only. As designs are finalized, more precise cost estimates can be generated.

6.2.1 Toquerville City Center Park

Cost estimates for Toquerville City Center Park are shown in **Table 6.2.1**.
Cost estimates are preliminary and do not include land acquisition.

6.2.2 Trail Ridge Park

Cost estimates for Trail Ridge Park are shown in **Table 6.2.2**.
Cost estimates are preliminary, and are for planning purposes only.

6.2.3 Almond Heights Park

Cost estimates for the Almond Heights Park are shown in **Table 6.2.3**.
Costs estimates are preliminary, and are for planning purposes only.

**Table 6.2.1
Toquerville City Center Park**

NO.	ITEM	QTY	UNIT	\$ UNIT	TOTAL
1.	Site Work - Grading (rough to finish - complete) - complete	7	AC	\$7,500	\$52,500.00
2.	Site utilities (water, sewer, power)	1	LUMP	\$50,000	\$50,000.00
3.	Reconfigured parking lot (asphalt, curb & gutter, etc.)	1	Lump	\$50,000	\$50,000.00
4.	New 40-stall parking lot (asphalt, curb & gutter, etc.)	1	Lump`	\$50,000.00	\$50,000.00
5.	Pickle ball courts	2	Each	\$10,000	\$20,000.00
6.	Bleachers (5 risers X 25')	2	Each	\$7,000.00	\$14,000.00
7.	Bleacher shade covers	2	Each	\$5,000	\$10,000.00
8.	Retaining wall and raised planter	250	LF	\$65.00	\$16,250.00
9.	Stairs	1	LUMP	\$5,000	\$7,500.00
10.	Concrete paving, sidewalks, patios etc.	20,000	SF	\$5.00	\$100,000.00
11.	New playground structure & surfacing	1	LUMP	\$50,000	\$50,000.00
12.	Flag Court	1	LUMP	\$1,500	\$1,500.00
13.	Amphitheatre, stage house & raised planter walls	5,000	SF	\$50.00	\$250,000.00
14.	Community Center	9,000	SF	\$120.00	\$1,080,000.00
15.	Half-basketball court	1	LUMP	\$10,000	\$10,000.00
16.	Pavilions	2	Each	\$40,000	\$80,000.00
17.	Landscaping, turf & irrigation	1	Lump	\$300,000.00	\$300,000.00
18.	Site furnishings, benches, fountains, tables, etc.	1	Lump	\$15,000.00	\$15,000.00
					\$2,156,750.00

**Table 6.2.2
Trail Ridge Park**

NO.	ITEM	QTY	UNIT	\$ UNIT	TOTAL
1.	Site Work - Grading (rough to finish - complete) - complete	3.5	AC	\$7,500	\$26,250.00
2.	Storm Sewer System- Complete	1	LUMP	\$15,000.00	\$15,000.00
3.	Concrete Flat Work	6,500	SF	\$5.00	\$32,500.00
4.	Asphalt Trail Realignment – 10’ Wide	500	SY	\$25.00	\$12,500.00
5.	Sanitary Sewer System- Complete	1	LUMP	\$20,000.00	\$20,000.00
6.	Culinary Water System- Complete	1	LUMP	\$15,000.00	\$15,000.00
7.	Site Electrical – Complete	1	LUMP	\$25,000.00	\$25,000.00
8.	Pavilion 40’ x 40’	1	Each	\$40,000	\$40,000.00
9.	Pavilion 20’ x 20’	4	Each	\$20,000	\$20,000.00
10.	Pedestrian Bridge	1	Each	\$25,000	\$25,000.00
11.	Picnic Tables	10	Each	\$800.00	\$8,000.00
12.	Benches	10	Each	\$600.00	\$6,000.00
13.	Play Ground Equipment	1	Each	\$50,000	\$50,000.00
14.	Full-Basketball Court	1	Each	\$20,000	\$20,000.00
15.	Pickle Ball Court	2	Each	\$20,000	\$40,000.00
16.	Restroom	1	Each	\$75,000	\$75,000.00
17.	New Stairs at Arches Street	1	LUMP	\$10,000	\$10,000.00
18.	Dog Park Fence	725	LF	\$12.50	\$9,062.50
19.	Landscaping - Allowance	1	LUMP	\$100,000	\$100,000.00
20.	Irrigation - Allowance	1	LUMP	\$75,000.00	\$75,000.00
TOTAL ESTIMATE					\$624,312.50

**Table 6.2.3
Almond Heights Park**

NO.	ITEM	QTY	UNIT	\$ UNIT	TOTAL
1.	Site Work - Grading (rough to finish - complete) - complete	2.0	AC	\$10,000	\$20,000.00
2.	20-stall parking lot (asphalt, curb & gutter)	1	Lump`	\$30,000	\$30,000.00
3.	Storm Sewer System- Complete	1	LUMP	\$15,000	\$15,000.00
4.	Culinary Water System- Complete	1	LUMP	\$15,000	\$15,000.00
5.	Site Electrical – Complete	1	LUMP	\$25,000	\$25,000.00
6.	Concrete Flat Work	12,000	SF	\$5.00	\$60,000.00
7.	Pavilion 40' x 40'	1	Each	\$40,000	\$40,000.00
8.	Arbor Structure	1	LUMP	\$15,000	\$15,000.00
9.	Picnic Tables	10	Each	\$800.00	\$8,000.00
10.	Benches	10	Each	\$600.00	\$6,000.00
11.	Play Ground Equipment	1	Each	\$50,000	\$50,000.00
12.	Half-Basketball Court	1	Each	\$10,000	\$10,000.00
13.	Restroom	1	Each	\$75,000	\$75,000.00
14.	Park Sign	1	Each	\$10,000	\$10,000.00
15.	Landscaping - Allowance	1	LUMP	\$75,000	\$75,000.00
16.	Irrigation - Allowance	1	LUMP	\$50,000	\$50,000.00
TOTAL ESTIMATE					\$504,000.00

6.3 Local Funding Sources

6.3.1 Impact Fee Study

The City has contracted with ProValue Engineering, Hurricane City, Utah to prepare the City's Impact Fee Facility Plan & Analysis, April 1, 2016 (2016 IFFPA). The 2016 IFFPA determined the Park Impact Fee per Residential User is \$2,210.00, and the Trail Impact Fee per Residential User is \$2,165. The 2016 IFFPA can be viewed at the Toquerville City Offices. For this and future Plans to be successful the City must continue charging developers a park and trail impact fee. It is recommended that a re-evaluation of park impact fees occur every five years and if justifiable, the amount adjusted. Also, besides cash, another method of payment of impact fees is the trading of land or "Land in Lieu." The costs of the land donated to the City for the building on new parks could be applied to owed park impact fees. With land costs in the City beginning to sky rocket, this method of payment may be more advantageous than cash depending on the location of the development and park need in that area. Impact Fees are set based on the level of service being supplied by the City.

6.3.2 Bond Election

Bond elections are methods that City's can pursue to enlist the help of the community to approve special assessments for funding specific voter-approved capital improvement projects, such as the implementation of this Plan. In 1996, the City of St. George passed a successful Park Bond allocating \$18 million for the construction and implementation of new parks. St. George aggressively campaigned and educated the public on exactly what the Bond would provide and exactly what the tax burden would be. Through efforts of their aggressive campaign, the community overwhelmingly approved the Bond by an almost 70% approval vote. With strong educational campaigning, General Obligation Bonds are a realistic option to pursue for funding the needed parks and recreational facilities identified in this Plan.

6.3.3 User Fees

User's fees for "reserveable" park facilities such as covered pavilions, barbecue areas, pickle ball courts, etc., are a viable option cities can employ to help build and maintain park facilities. These fees should be minimal and are not a great revenue generator.

6.4 State and Federal Grants

State and Federal agencies offer a variety of funds that are available to qualifying agencies for the implementation of certain types of facilities if they are within the mission of the granting entity. These sources are most often granted with specific requirements that the applicant must meet. In addition, funds are limited and the competition for these resources is steep. However, communities that have a clear and direct parks master plan increase their odds in the competition for these funding resources.

6.4.1 State Grants

The State of Utah State Division of Parks and Recreation Department of Natural Resources offers four types of grants for the building of new trails and the preservation of waterways. These include: Recreation Trails, Off-Highway Vehicle (OHV) Trails, Non-Motorized Trails, and Riverway Enhancement. In general, no grants are given for less than \$5,000 and rarely exceed \$100,000. Each project requires at least a 50% match by the applicant. More information is available on the State's website at: www.stateparks.utah.gov/parks/trails.

Another funding avenue is the Land and Water Conservation Fund Outdoor Recreation Grant Program (LWCF Program). It is one of the most successful and far-reaching pieces of conservation and recreation legislation in America's history. The LWCF Program provides matching grants to assist in the acquisition and development of quality, high priority outdoor recreation facilities. Grants were made for acquisition of real property for outdoor recreation use and development for a broad range of outdoor recreation facilities; including but not limited to sports and play fields, picnic facilities, playgrounds, tennis courts, swimming pools, and camping areas.

According to the National Parks Service website (<http://www.nps.gov/lwcf/>) "in the 2006 Fiscal Year the Department of the Interior appropriations bill (P.L. 109-55) appropriated \$27,994,976 for LWCF State Grants after two-across-the-board reductions. The allocation for each State and Territory is determined by formula based on law."

6.4.2 Federal Grants

The United States Department of Transportation (DOT), Federal Highway Administration provides funding through the highway trust fund, with 80% participation by the Federal Government when a project is adopted. Eligibility for Congestion Mitigation and Air Quality Improvement Program and the Surface Transportation Program funds are awarded to those projects including construction of pedestrian walkways and bicycle transportation facilities and non-construction projects related to safe bicycle use. The Transportation Manual identifies the following requirements for qualification:

- "Construction of a pedestrian walkway and a bicycle transportation facility are deemed to be highway projects. Hence the Federal share is 80%."
- "Pedestrian walkways and bicycle transportation facilities to be constructed under the provisions of 23 U.S.C.217 must be included in long range plans developed by MPOs and States."
- "No motorized vehicles should be allowed on any trails or pedestrian walkways, except as necessary for maintenance purposes and possibly by snowmobiles and motorized wheel chairs."

- “Bicycle projects must be principally for transportation rather than recreational purposes.”
- Additional information may be obtained from the Office of Environment and Planning, or see the U.S. Department of Transportation Federal Highway Administration’s website at: www.fhwa.dot.gov/environment/cmaqpgs/.

6.4.3 Federal Lands Highway Program

The following information was taken from the Federal Highway Administration (FHWA) website regarding FHWA programs which benefit recreation and trails.

“Pedestrian and bicycle projects are eligible for all Surface Transportation Program (STP) funds. The STP provides more than \$6 billion annually to the States through a formula apportionment. Ten percent must be used for Transportation Enhancement (TE) Activities. TE funds provide about two-thirds of the Federal-aid highway funding for pedestrian and bicycle projects and programs. TE funds may be used for project construction and related activities, but not for routine maintenance. TE projects must relate to surface transportation, but many TE projects benefit recreation.

Three of the 12 TE categories specifically benefit pedestrians, bicyclists, and trails:

- Pedestrian and bicycle facilities (which may include sidewalks, bicycle parking, bicycles on buses, and pedestrian and bicycle transportation facilities, including shared use paths),
- Pedestrian and bicycle safety and education activities, and
- Preservation of abandoned railway corridors (also known as rail-trails or rails-to-trails).

Since 1992, more than 20,000 TE projects have been selected for funding, totaling about \$6 billion. More than half of the TE funds have been used for pedestrian and/or bicycle facilities and related projects. About one-third to one-half of these projects are shared use paths or trail-related, including more than 1,000 rail-trail projects.

Each state has its own application and selection process for the TE program. Generally, project sponsors must submit proposals to the State Department of Transportation (DOT). Each state has a State Transportation Enhancement Program Manager to assist project sponsors (see www.enhancements.org/statecontacts_TE.asp). Many states give extra credit to projects that benefit two or more of the eligible TE activities (including items such as [scenic or historic easements](#), [landscaping and scenic beautification](#), [historic preservation](#), [environmental mitigation](#), and [transportation museums](#)).”

7.0 PARK CONSTRUCTION STANDARDS

This section contains guidelines for facilities, sites, furnishings, equipment, and systems to be included in Toquerville City park projects. These guidelines represent the minimum acceptable standards and are not intended to be used as Technical Specifications. When converting the information into specifications, the consultant shall be responsible for expanding or clarifying the information into standard CSI-based format, three part specifications. All consultants preparing plans for Toquerville City must be licensed in the State of Utah, and qualified to prepare park construction drawings and specifications. All plans and specifications **MUST** comply with ALL City, State and Federal Codes, including ADA guidelines. In case of conflict, the most stringent Codes apply.

7.1 Construction Details and Descriptions

7.1.1 Hardscape Paving

- Asphalt Paving for Parking Lots & Roadways: Heavy Duty, Light Duty
- Asphalt Paving for Trails:
- Concrete Paving: Sidewalks, Sport Courts
- Concrete Edging: Mow Curb, Playground Curb

7.1.2 Sewer System Design

Note: ALL Storm and Sanitary Sewer Equipment and Appurtances must meet City of Toquerville and State Codes and Standards.

7.1.3 Planting Details

7.1.4 Irrigation Details

7.1.5 Park Furnishings and Amenities Description

- Drinking Fountain:
- Basketball Goal:
- Prefabricated Pavilions and Shade Structures:
- Playground Equipment:
- Picnic Tables, Benches and Bleachers:
- Trash Receptacles
- Site Architecture
- Signage

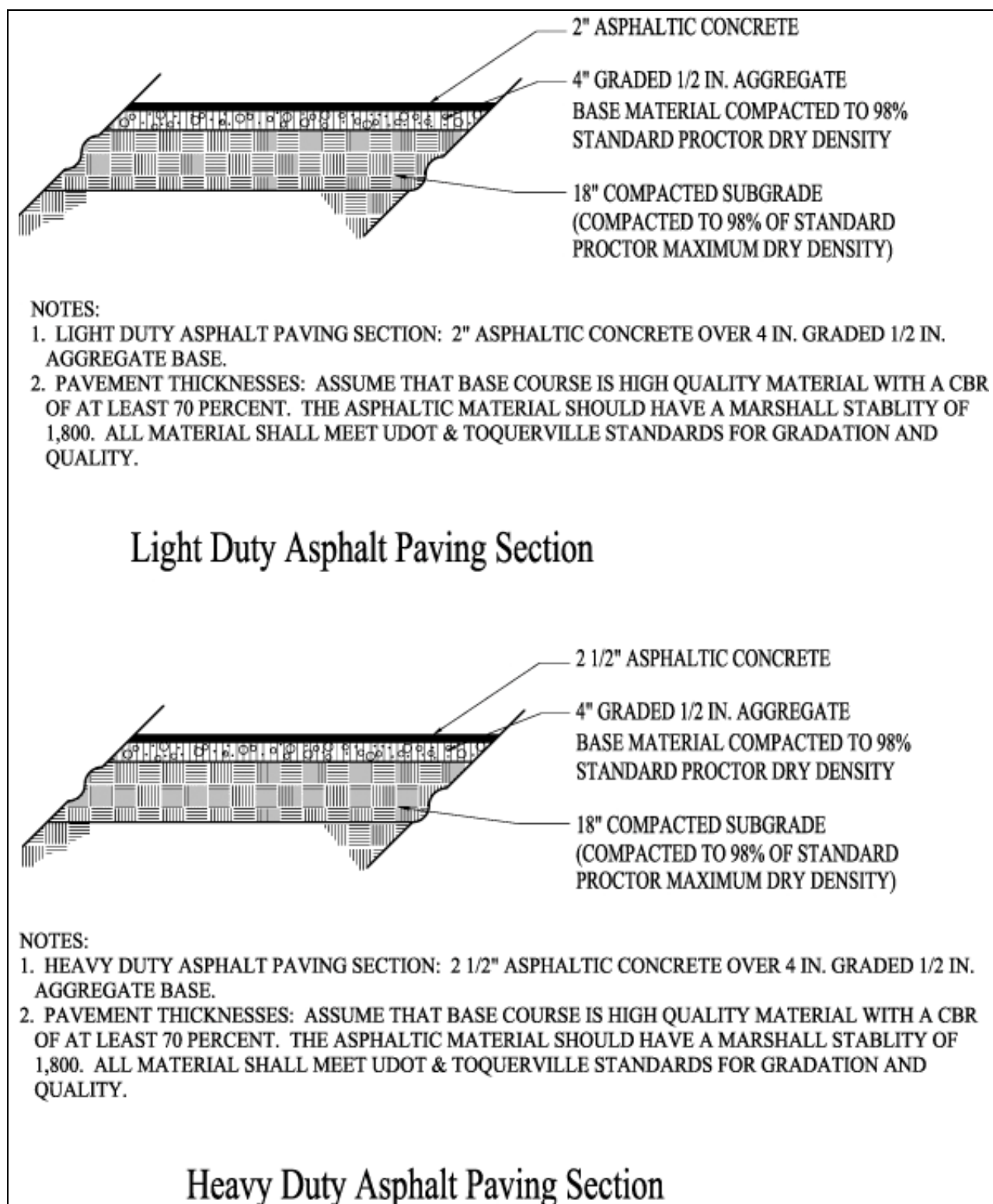


Figure 1, 7.1.1: Asphalt Paving for Parking Lots & Roadways: Heavy Duty, and Light

Duty Paving Section Details

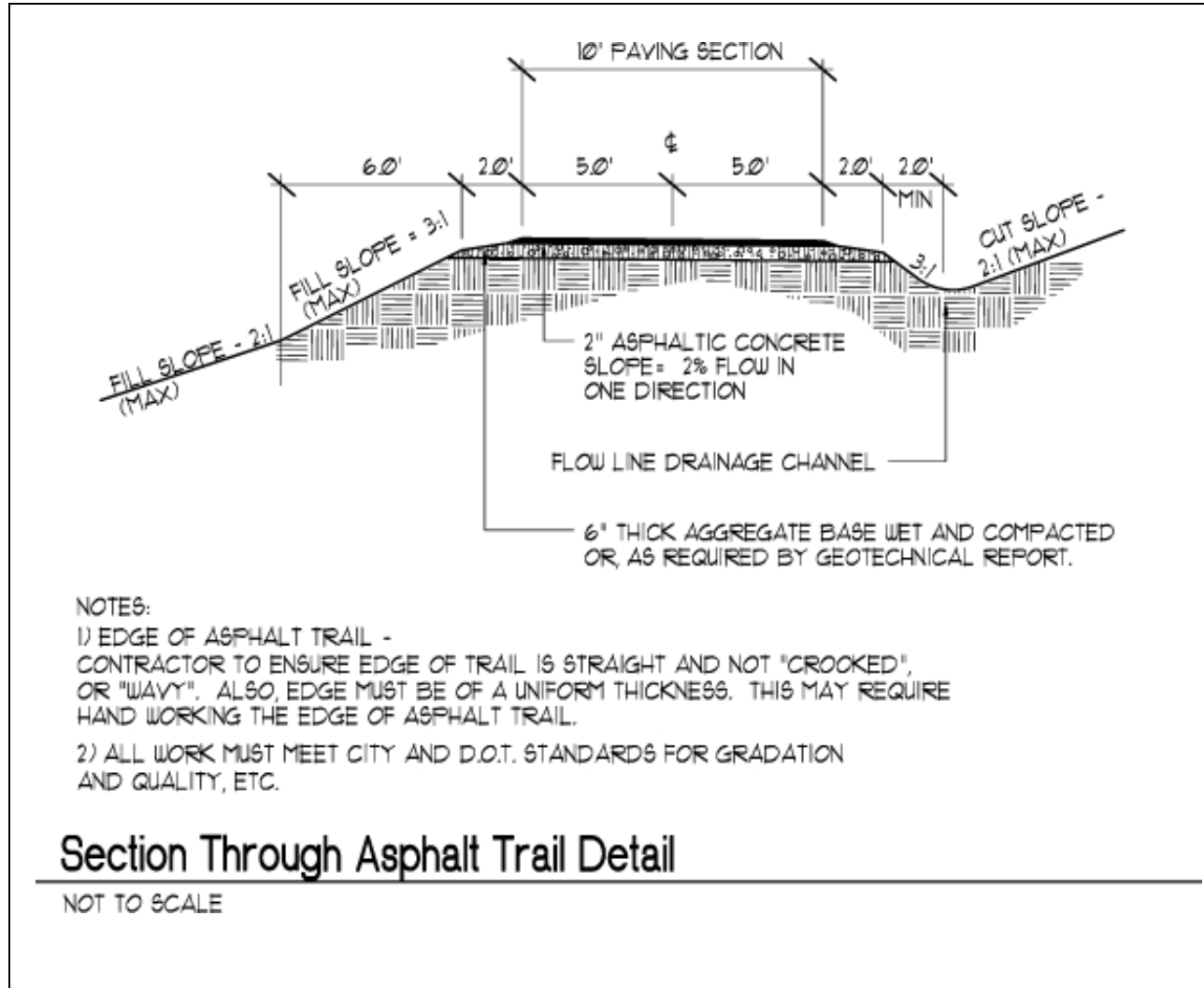


Figure 2, 7.1.1: Section through Asphalt Trail Detail

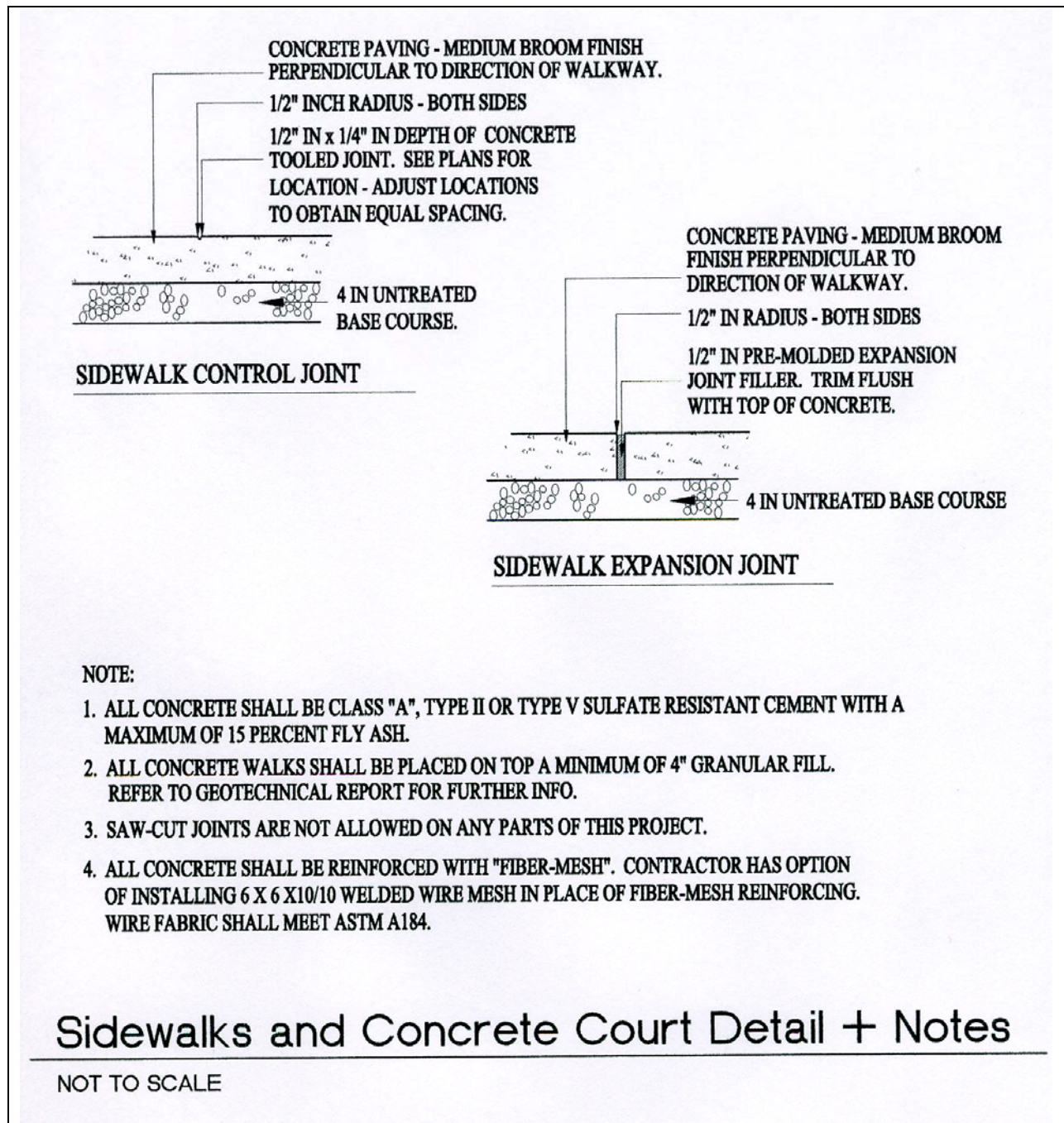
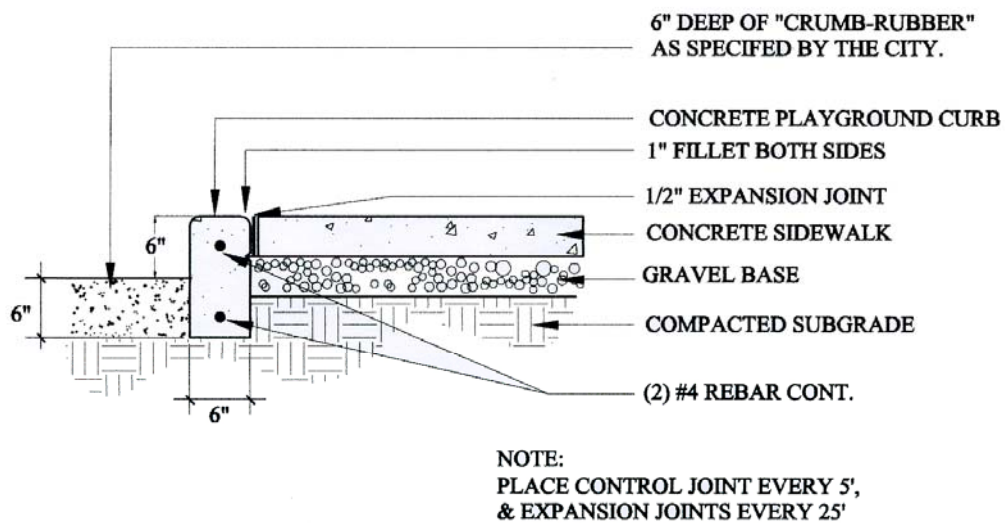


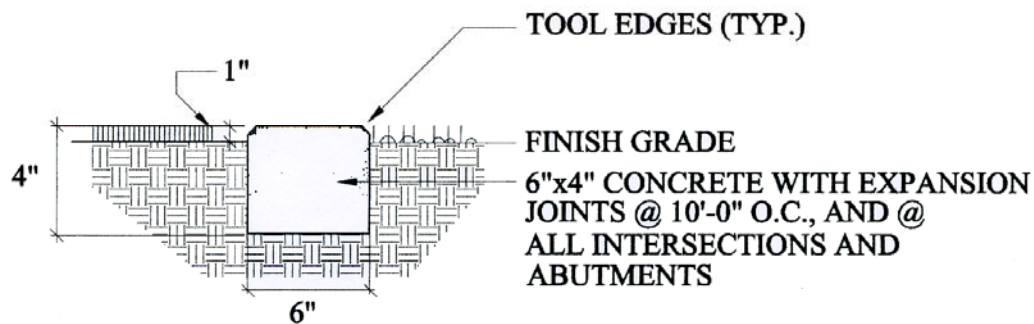
Figure 3, 7.1.1: Concrete Sidewalks and Concrete Sport Court Details and Notes



Playground Curb

NOT TO SCALE

Note: Contractors may use a 4" X 6" extruded Mow Curb with a "Concrete Mix". The Concrete mix must be of a "commercial grade", and contain sand and pea gravel.

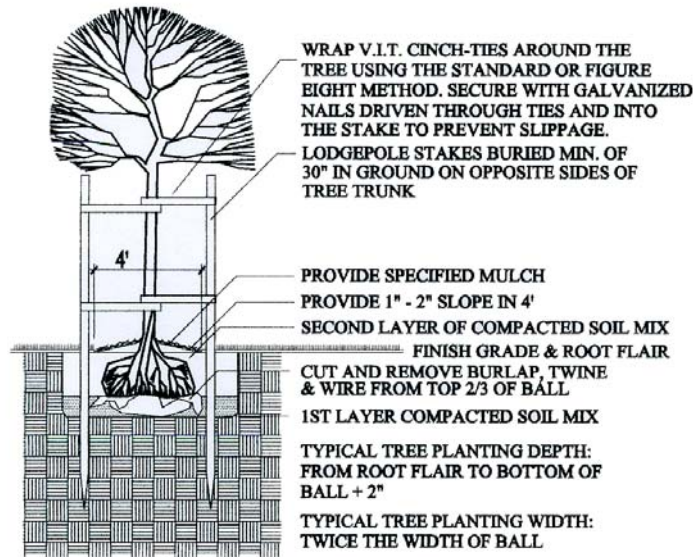


Concrete Mow Curb

NOT TO SCALE

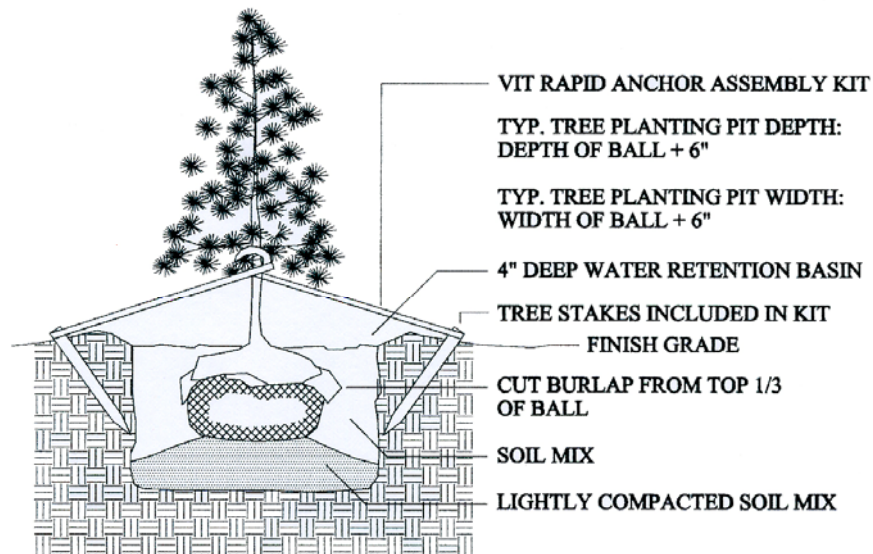
Figure 4, 7.1.1: Concrete Playground and Concrete Mow Curb Details

NOTE: Landscape Contractor is responsible for amending ALL SHRUB and FLOWER beds with a mixture of MULCH and TURFUS or equal. MULCH amendment to be equal to 3H-LANDSCAPE MULCH, or KELLOGG. Ratio shall be 15% mulch, and 5% TURFUS. All TREE PITs shall be amended with the same mixture as specified. Submit samples to OWNER for Approval.



Deciduous Tree Planting Detail

NOT TO SCALE



Conifer Tree Planting Detail

NOT TO SCALE

Figure 1, 7.1.3: Deciduous Tree and Conifer Tree Planting Details

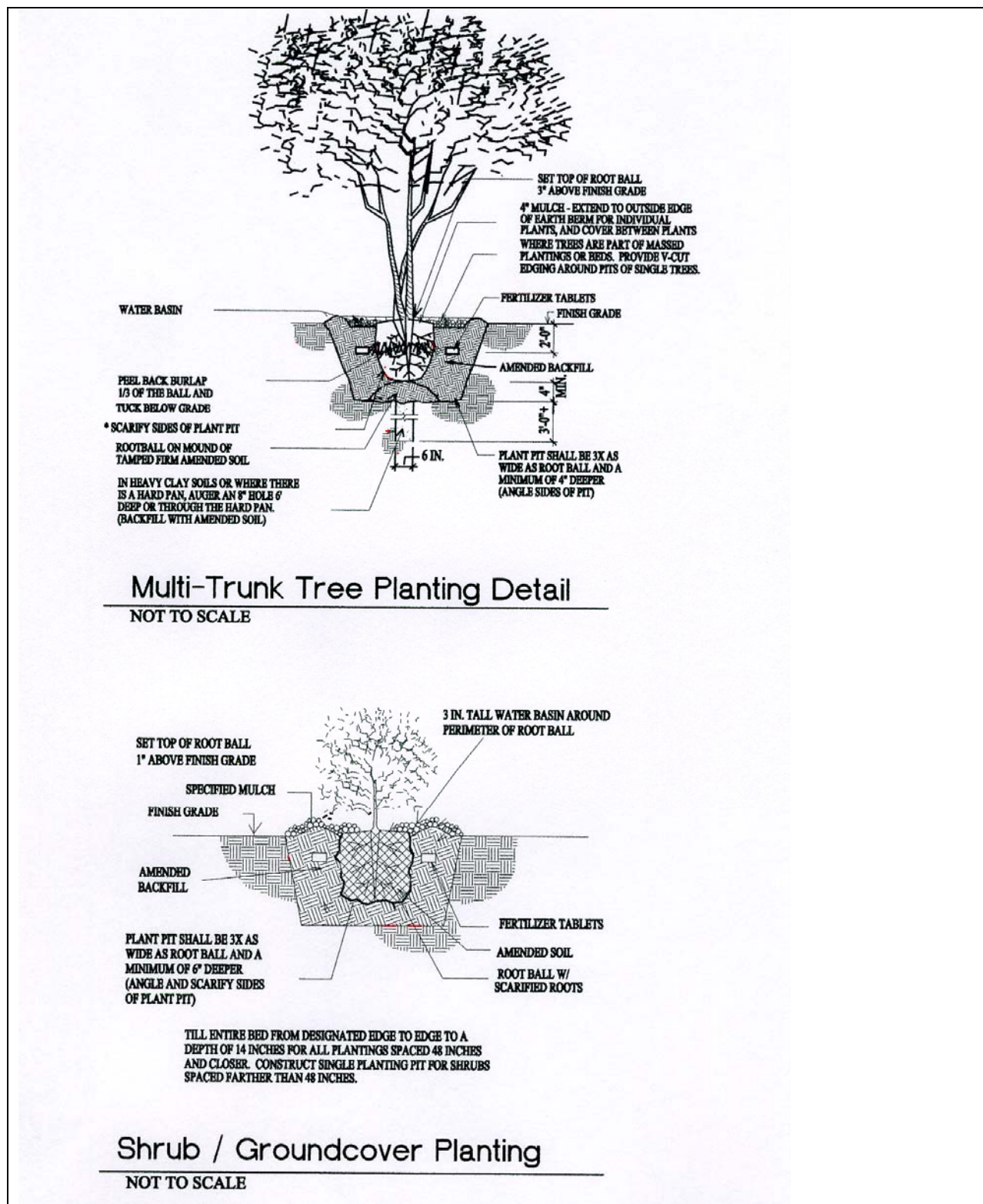
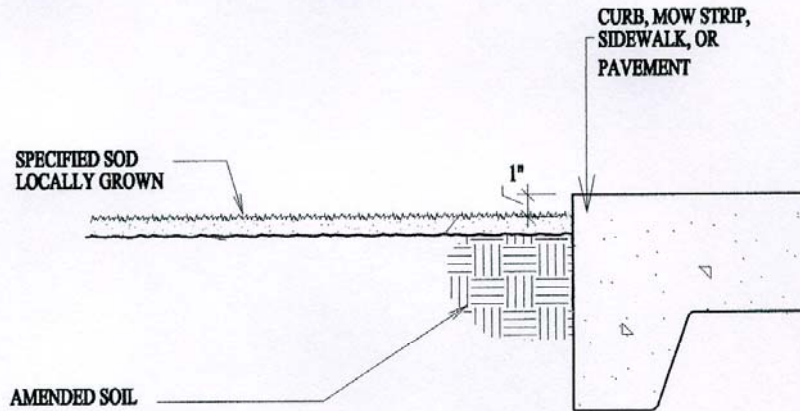


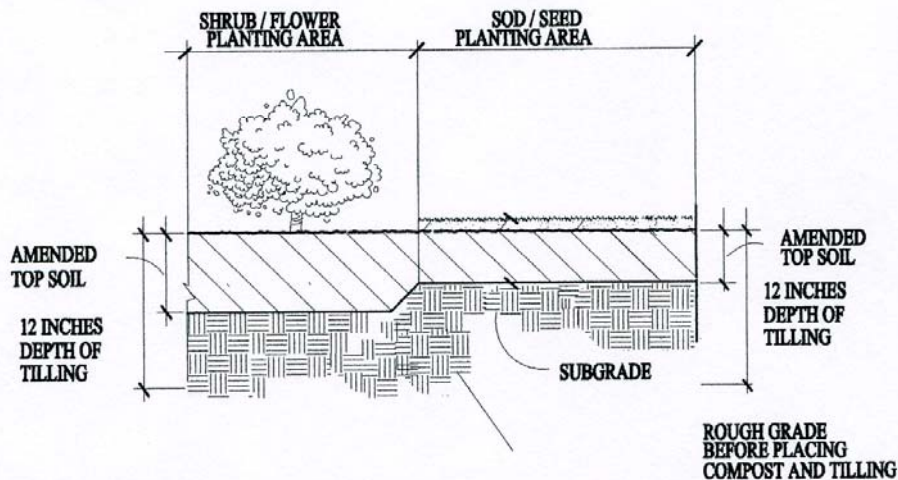
Figure 2, 7.1.3: Multi-Trunk and Shrub and Groundcover Planting Details

Landscape Contractor is responsible for supplying CLEAN top soil in ALL planter and turf areas. Top soil to be AMENDED with mulch equivalent to KELLOGG, or PAY DIRT at a ratio of 15% by volume. Also, ALL SHRUB and FLOWER beds shall be amended additionally with TURFUS or equal. Ratio shall be 15% mulch, and 5% TURFUS. All TREE PITTS shall be amended with the same mixture as specified. Submit samples to Landscape Architect for Approval.



Sod Placement on Edge of Mow Curb or Pavement.
NOT TO SCALE

Landscape Contractor is responsible for supplying CLEAN top soil in ALL planter and turf areas. Top soil to be AMENDED with mulch equivalent to KELLOGG, or PAY DIRT at a ratio of 15% by volume. Also, ALL SHRUB and FLOWER beds shall be amended additionally with TURFUS or equal. Ratio shall be 15% mulch, and 5% TURFUS. All TREE PITTS shall be amended with the same mixture as specified. Submit samples to Landscape Architect for Approval.

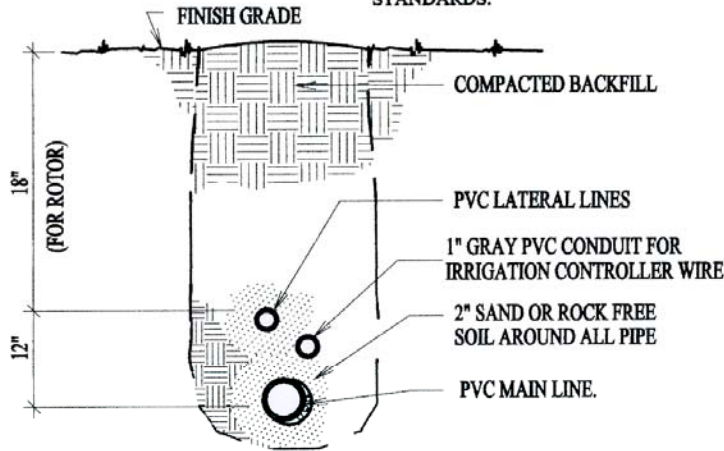


Topsoil Preparation Detail
NOT TO SCALE

Figure 3, 7.1.3: Sod Placement and Topsoil Preparation Details

NOTE:
USE PVC SCHEDULE 80 PIPE
PASSING UNDERNEATH ALL
CONCRETE AND ASPHALT PAVED
AREAS!

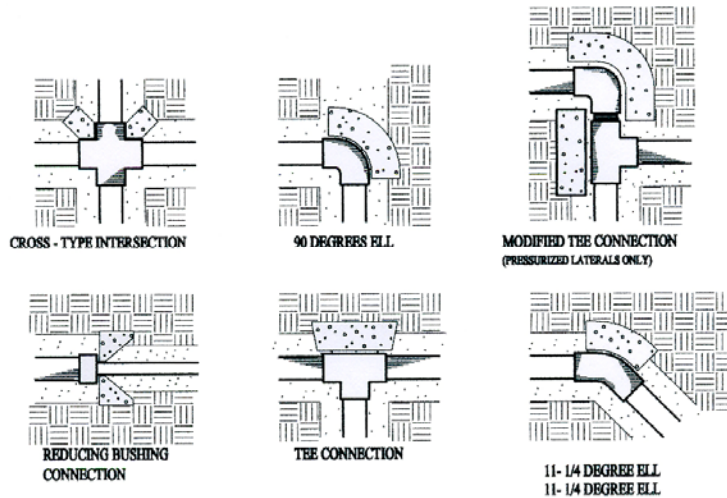
NOTE: NO ELECTRICAL LINES SHALL
SHARE TRENCHES WITH IRRIGATION OR
CULINARY WATER LINES. ELECTRICAL
LINES MUST HAVE 5' OF HORIZONTAL
SEPARATION FROM ANY WATER LINES
IN ACCORDANCE WITH HURRICANE CITY
STANDARDS.



DO NOT ALLOW IRRIGATION PIPE TO CROSS OR TANGLE WITH EACH OTHER.

Section Through Irrigation Piping Trench

NOT TO SCALE



300 PSI CLASS A CONCRETE. MINIMUM 12" THICKNESS IN ALL DIRECTIONS POURED INTO
VIRGIN EARTH OR COMPACTED BACKFILL. INSTALL ON ALL PRESSURIZED MAINLINES AND
LATERAL LINES 3 INCHES AND LARGER. DO NOT ENCASE PIPE UNDER ANY CIRCUMSTANCES

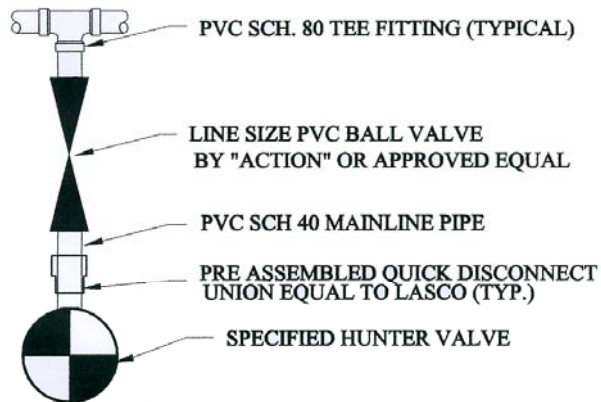
WRAP ALL FITTINGS WITH POLYETHYLENE WRAP BEFORE PLACING CONCRETE

Thrust Block Installation

NOT TO SCALE

Figure 1, 7.1.4: Section through Irrigation Piping Trench and Thrust Block Details

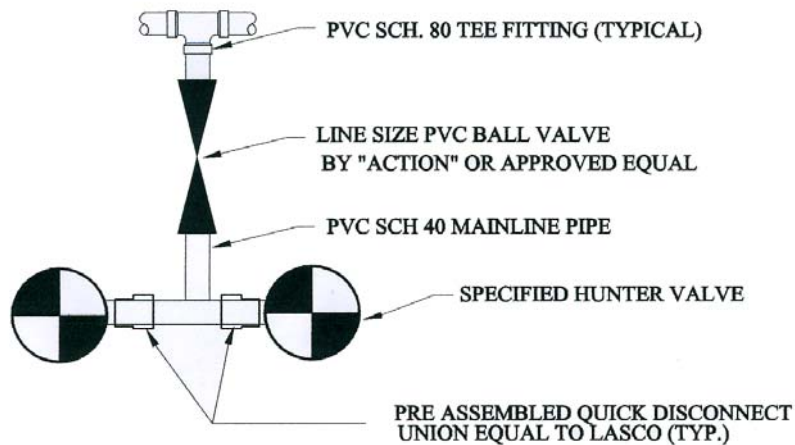
NOTE: USE CARSON "JUMBO" SIZE VALVE BOXES ONLY!



NOTE: INSTALL ONLY WHERE 2 VALVE COMBINATION IS NOT PRACTICAL!

Single Valve Manifold

NOT TO SCALE

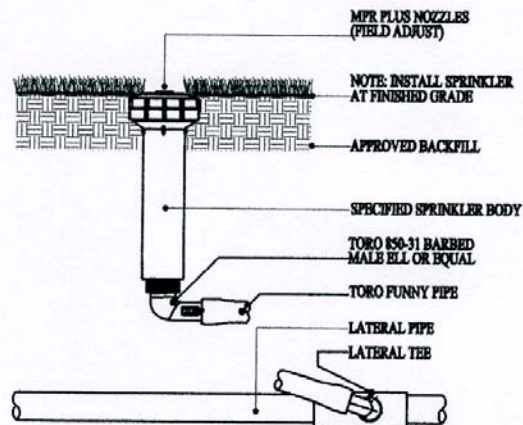


NOTE: INSTALL 2 VALVE COMBINATION WHERE POSSIBLE!

Double Valve Manifold Combination

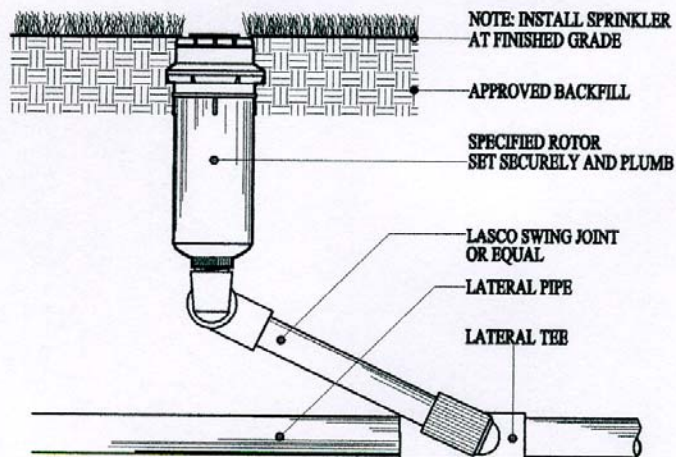
NOT TO SCALE

Figure 2, 7.1.4: Single Valve Manifold and Double Valve Manifold Details



Fixed Spray Sprinkler w/Funny Pipe

NOT TO SCALE

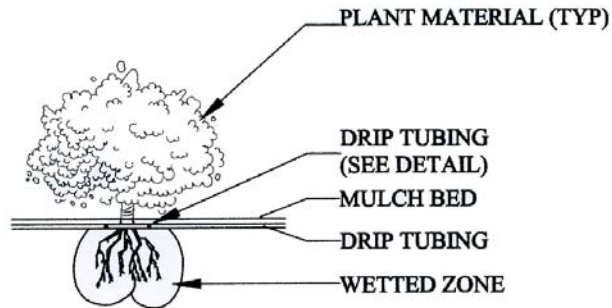


NOTE: USE "LASCO" SWING JOINT ASSEMBLY WITH TEE ON ALL TURF ROTORS (OR EQUAL).

Turf Rotor with Swing Joint Assembly

NOT TO SCALE

Figure 3, 7.1.4: Fixed Spray and Turf Rotor with Swing Joint Assembly Details

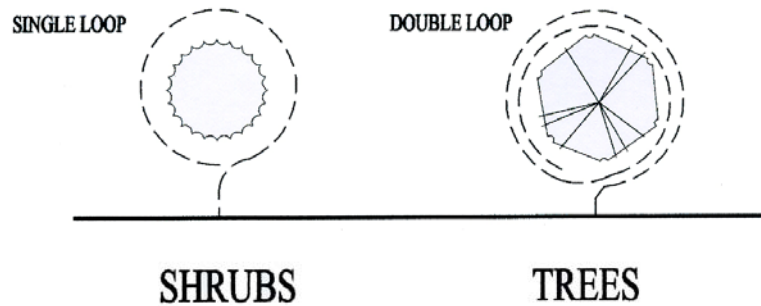


NOTE:
PLACE EMISSION DEVICES SUCH THAT
HARMFUL SALTS ARE PUSHED OUT AND
AWAY FROM THE PLANT ROOT ZONE.

Emitter Spacing Detail

LEGEND

- NETAFIM DRIP TUBING W/ INLINE EMITTERS
WITH ROOT GUARD, 1.0 GPH AT 12" O.C.
- NETAFIM 3/4" SOLID DRIP TUBING

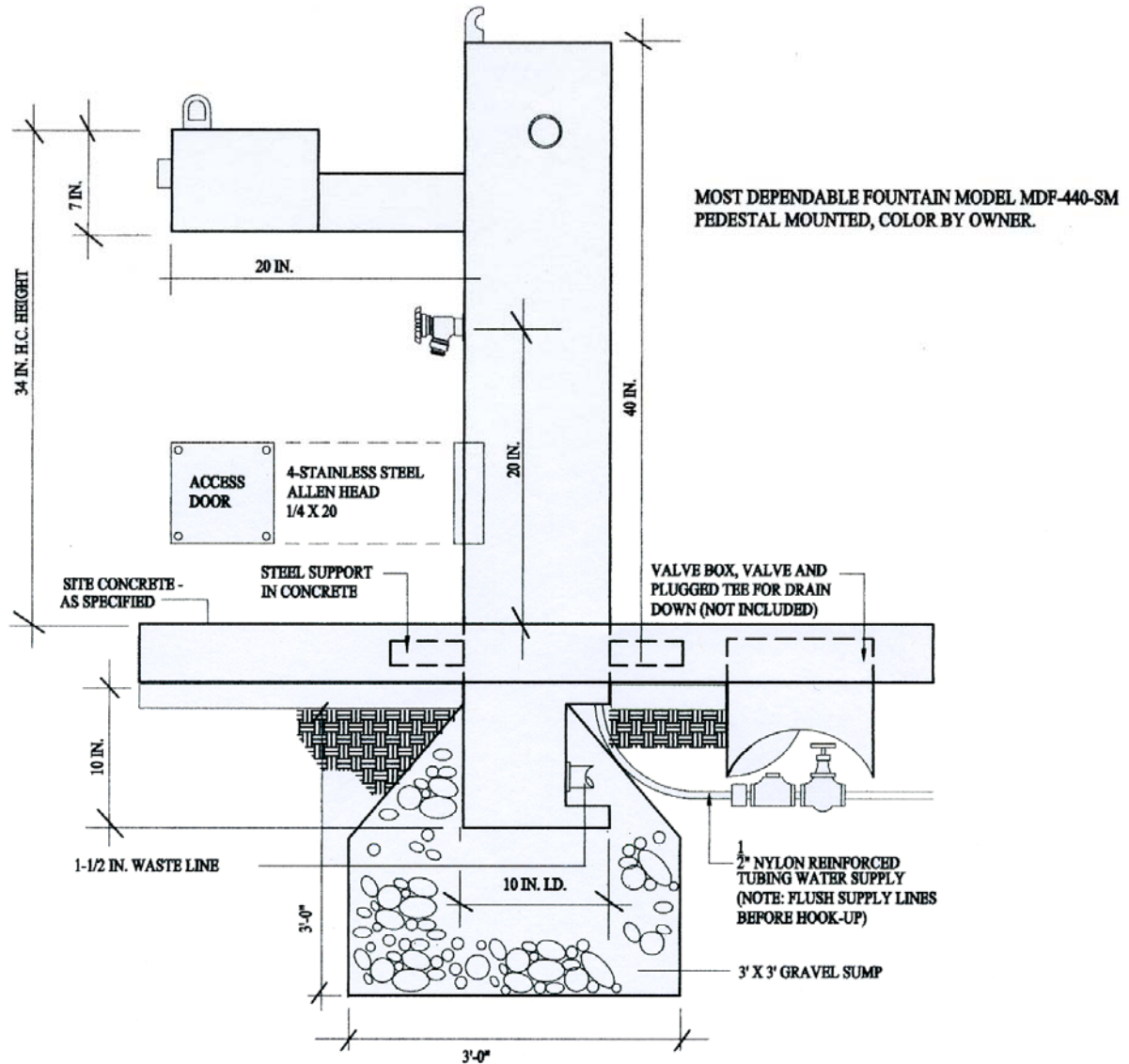


Emitter Detail for Tree + Shrubs

Drip Irrigation Details

NOT TO SCALE

Figure 4, 7.1.4: Drip Irrigation Details



NOTES:

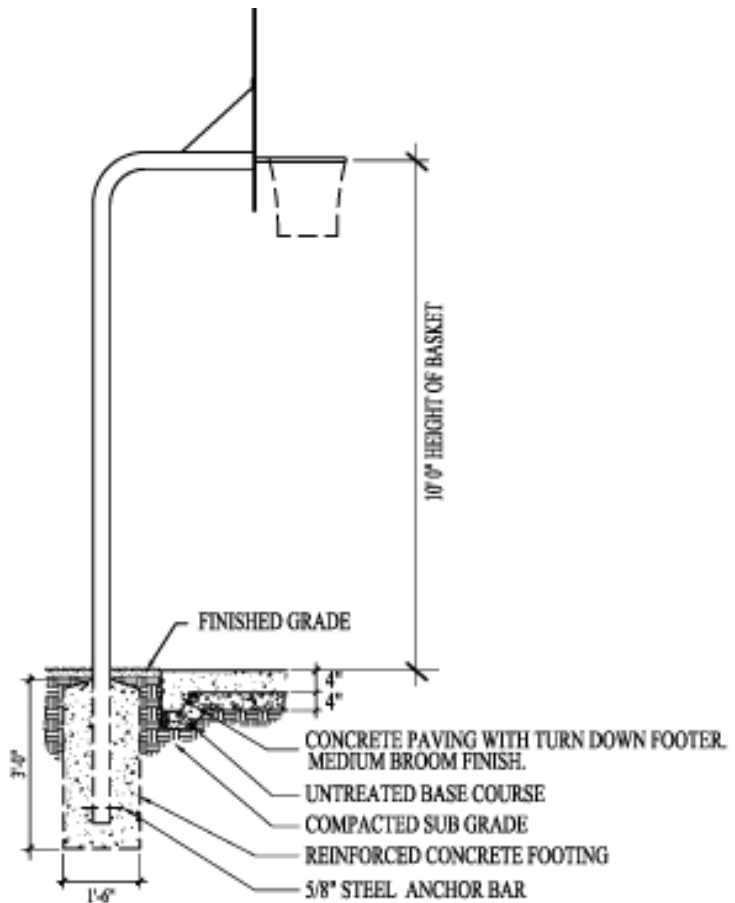
1. MEETS ADA REGULATIONS.
2. INSTALL ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
3. RECOMMENDED RUNNING WATER SUPPLY LINE IN PVC CONDUIT, FROM PEDESTAL TO UNATTACHED VALVE BOX, FOR FUTURE ACCESSIBILITY & MAINTENANCE.
4. PROVIDE OPTIONAL HOSE BIBB, UNATTACHED VALVE BOX AND CUT OFF VALVE WITH LOW POINT DRAIN.

Site Drinking Fountain Detail

Figure 1, 7.1.5: Drinking Fountain Detail

COMPLETE BASKET BALL STANDARD
COMPLETE SET INCLUDING, GALV. STEEL POST,
COATED FAN BACKBOARD, DOUBLE RIM GOAL
AND NYLON NET.

NOTE: SPECIAL ATTENTION SHALL
BE GIVEN DURING CONCRETE
PLACING AND CURING. PROPER
SLUMP SHALL BE MAINTAINED TO
MINIMIZE EXCESSIVE CRACKING
OR SHRINKAGE. ALL CONCRETE
PLACEMENT AND CURING SHALL
BE IN ACCORDANCE WITH
AMERICAN CONCRETE INSTITUTE
AND APPLICABLE CITY
STANDARDS. ALL CONCRETE
WORK SHALL BE CLASS "A" TYPE II
OR TYPE V SULFATE RESISTANT
CEMENT WITH A MAXIMUM OF 15
PERCENT FLY ASH.



Basketball Court Paving and Standard Detail

Not To Scale

Figure 2, 7.1.5: Basketball Goal Detail

7.1.5 Park Furnishings and Amenities Description

Note: All equipment and Furnishings MUST be approved by the City!

1. Prefabricated Pavilions and Shade Structures:

All prefabricated pavilions and shade structures are to be of the highest commercial quality and equal to Icon Shelters & Pavilions, website, www.iconshelters.com, or Polygon Pavilions, website, www.polygon.net.

2. Playground Equipment:

All prefabricated playground equipment is to be commercial quality, and constructed of steel and PVC. Absolutely NO wood structures are allowed. Playground equipment must meet or exceed ALL State and Federal requirements. Set up and installation must be done by a certified installer, and meet all safety guidelines etc.

3. Picnic Tables, Benches and Bleachers:

All picnic tables and benches are to be commercial quality and constructed of steel with a PVC coating. Benches are to be installed according to manufacturer's recommendations. Bleachers may be constructed of either aluminum or steel, and must be commercial quality. All steel bleachers must be powder or PVC coated.

4. Trash Receptacles:

All Trash Receptacles must be commercial quality steel with a PVC or powder coating. Pre-cast concrete trash receptacles are also allowed.

5. Site Architecture:

Site Architecture should fit in with nearby neighborhoods in material selections and aesthetics. All plans must be prepared by a Utah licensed professional, and must pass all local, state and federal codes. Final plans must be approved by the City prior to Bid.

6. Signage:

All parks must have a park sign with the name of the park and City of Toquerville clearly marked. The sign must fit in aesthetically with the surroundings, and final design must be approved by the City.

8.0 REFERENCES

ProValue Engineering, April 2016, City of Toquerville, Water/Streets/Parks & Trails Impact Fee Facility Plan & Analysis.

US Census Bureau (www.census.gov).

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