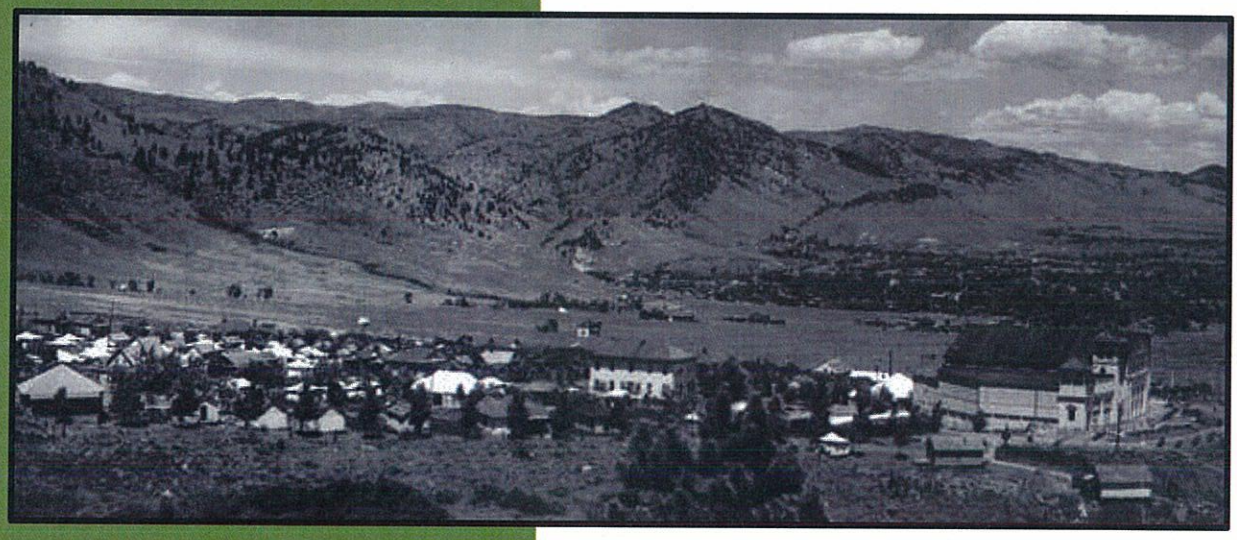
Landscape Guidelines



SUPPLEMENTAL GUIDELINES TO
THE CHAUTAUQUA DESIGN GUIDELINES
1989

CHAUTAUQUA
NATIONAL HISTORIC LANDMARK

Prepared by Mundus Bishop
Approved by Colorado Chautauqua Association
Board of Directors
January 23, 2012

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Acknowledgements

Colorado Chautauqua Association

Susan Connelly, Executive Director
Sandra Sage, Director of Operations
Jeff Medanich, Facilities and Preservation Manager
Steve Watkins, Facilities and Preservation Associate Manager

Board Members

Richard Foy
Michael Franson
Barbara Guthery
Deborah van den Honert
John Kenyon
Nancy Kornblum
Patty Limerick
Betsy Matteson
Bill Patterson
Richard Polk
Ed Sanders
Dominick Sekich
Phil Shull
Josh Taxman
Thomas Thorpe

Buildings and Grounds Committee

Ben Gilbert
Barbara Guthery
Kristin Lewis
Betsy Matteson
Lara Ramsey
Thomas Thorpe

City of Boulder Landmarks Board

Mark Gerwing
Kurt Norback
Elizabeth Payton
Lisa Podmajersky
John Spitzer

James Hewat, Staff Liaison

Consultants

Mundus Bishop
Landscape Architecure & Planning

Avocet Irrigation Design
Irrigation Planning & Design

Figure 1: The Colorado Chautauqua National Historic Landmark
Existing Condition Plan

The Colorado Chautauqua National Historic Landmark (Historic District)

Description

The Colorado Chautauqua National Historic Landmark (Historic District) is one of a few remaining chautauquas in the United States. It is the only site west of the Mississippi River that has been in continuous operation since its founding and to have survived with its original structures and grounds intact. The Historic District is an exceptional representation of the Chautauqua Movement and displays historic integrity of site, structures and setting.

The Historic District is known locally as simply "Chautauqua Park." It is a forty-acre parcel roughly in the shape of a triangle that extends south from Baseline Road. It adjoins the City of Boulder Open Space and Mountain Parks on two sides, but the open space and trails are not part of the Chautauqua Park. The "front" fourteen acres is operated by the City of Boulder Parks and Recreation Department as a city park. The City of Boulder's Open Space and Mountain Parks Department operates the Ranger Cottage, adjacent to the Chautauqua Meadow Trailhead and Chautauqua Meadow open space on the west side. On the Historic District's east side, Open Space and Mountain Parks Department operates the McClintock Enchanted Mesa area. The "back" twenty six acres of the historic buildings, roads and vegetation is under the stewardship of the Colorado Chautauqua Association (CCA).

All of the forty acres of land underlying Chautauqua Park is owned by the City of Boulder, along with the Auditorium, Dining Hall and Academic Hall. Since the founding of the Historic District in 1898, the CCA has leased the land and these buildings from the City through a series of twenty year leases. The CCA owns sixty of the ninety-nine cottages, the Community House, Missions House Lodge and Columbine Lodge. The other thirty-nine cottages are privately owned. Land for private cottages is subleased by the CCA to individuals.

Designations

The architectural and historical significance of the Historic District has been formally recognized by both its national and local designations. The period of significance is 1898 to 1930.

- The Colorado Chautauqua National Historic Landmark, designated February 10, 2006
- National Register of Historic Places, designated 1978
- City of Boulder Landmark Historic District, designated September 5, 1978

Purpose of the Landscape Guidelines

These Landscape Guidelines assist in managing change within the Historic District that recognizes it as a significant cultural landscape that has developed over the course of more than 100 years, and that continues to evolve to meet contemporary use.

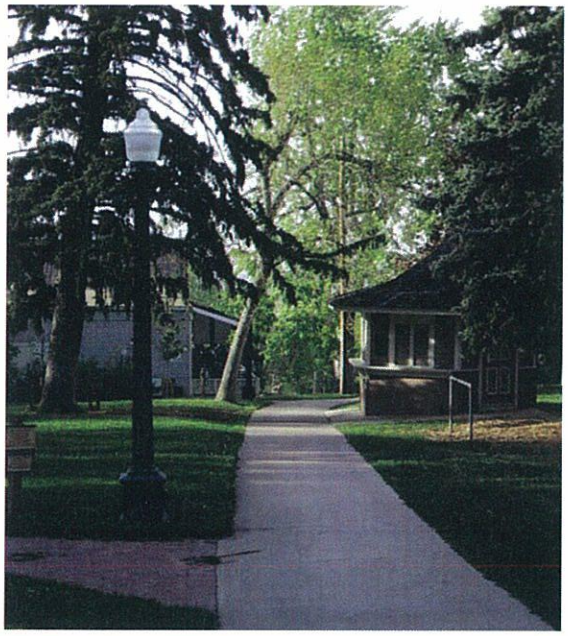
The purpose of the Landscape Guidelines is to promote good design for the site (hardscape, paving, etc.) and for plantings, and to encourage participation by all parties to meet this vision. These Landscape Guidelines provide guidance on materials, sustainable practices, methods for rehabilitation of historic features, and design of new improvements. The Landscape Guidelines focus on providing a vision, rather than a restrictive set of rules, for the compatible repair of site and plantings, and for the compatible design of new elements.

It is intended that all proposed modifications, and the review of those modifications, for site and landscape design will comply with these Landscape Guidelines. Existing conditions are not subject to these Guidelines unless an unsafe condition exists.

- These Guidelines promote the preservation and rehabilitation of those landscape features and patterns that contribute to the significance of the Historic District.

- These Guidelines incorporate ecologically based landscape planning as a means of improving the quality of the Historic District while reducing maintenance requirements and associated costs over time.

- These Guidelines are intended to advance the legacy of collaboration and sustainability unique to the Historic District. They are meant to inspire and provide direction for staff and residents.



- These Guidelines establish guiding principles for protection and preservation of existing vegetation; installation and maintenance of new plantings including street trees and cottage plantings; and modifications to the site.

- These Landscape Guidelines serve as a supplement to the 2004 Cultural Landscape Assessment and Plan, and as supplemental guidelines to the 1989 Chautauqua Design Guidelines.

The CCA staff is available for consultation as needed to assist in the review process, to explain a guideline, and/or to describe how guidelines relate to existing conditions. Applicants should consult with CCA staff regarding the application process.

Terminology

These Guidelines refer to preservation, rehabilitation and restoration regularly to describe treatment of the landscape. These terms are defined here as per the Secretary of Interior Standards. [1]

Preservation
This requires retaining the greatest amount of historic fabric, including the landscape's historic form, features, and details as they have evolved over time.

Rehabilitation
This acknowledges the need to alter or add to a cultural landscape to meet continuing or new uses while retaining the landscape's historic character.

Restoration
This allows for the depiction of a landscape at a particular time in its history by preserving materials from the period of significance and removing materials from other periods.

[1] adapted from the Secretary of Interior Standards for the Treatment of Historic Properties as amended and annotated 1995.

Related Documents

The following documents share key principles that support the Colorado Chautauqua National Historic Landmark as a nationally significant site. The principles are: design excellence; maintaining the Historic District as one of the region's premier recreational and cultural institutions; and preserving its structures, buildings and grounds.

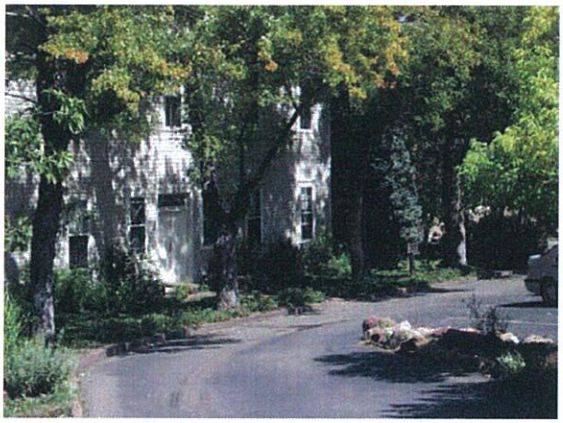
Chautauqua Design Guidelines (CDG)
City of Boulder Landmarks Board, Department of Community Planning and Development, 1989

These Guidelines were adopted in 1989 by the City of Boulder Landmark's Board to provide comprehensive recommendations for site and architectural improvements to "continue to preserve and enhance the Chautauqua Historic District." [2] These guidelines are used as the basis for decisions by the CCA and the City of Boulder Landmarks Board.

The Landscape Guidelines provided by this document are congruent with *The Chautauqua Design Guidelines* of 1989. However, conflicting guidance may occur between these two documents. Additional research since the completion of the 1989 guidelines has revealed that different materials and technologies are better suited to the character of the Historic District, including the following.

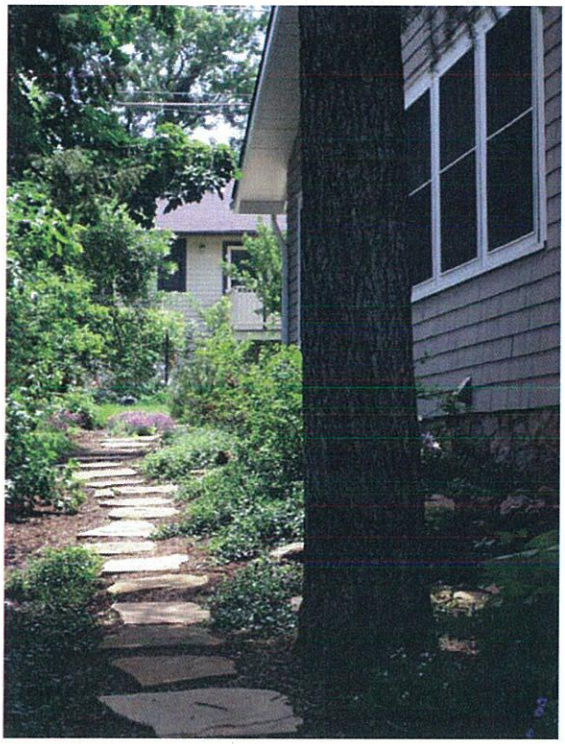
- Paving Materials: The *Chautauqua Design Guidelines* indicate that concrete is generally inappropriate for use as concrete paving and curb and gutter. Further research during the Cultural Landscape Assessment (CLA) determined that concrete is an utilitarian material that has been used on the site since the early 1900s.[3] The Landscape Guidelines recognize concrete paving as an appropriate material.

- Plantings: The *Chautauqua Design Guidelines* indicate that the cottages "are screened by the lush landscape of many varieties of trees and shrubs." Further research during the CLA determined that the landscape has generally become overgrown and foundation plantings in particular were not historic.



Chautauqua Park Historic District
Cultural Landscape Assessment and Plan (CLA)
Colorado Chautauqua Association
Mundus Bishop Design Inc., 2004

The CLA was commissioned by the CCA to provide an inventory and assessment of the Historic District's existing conditions, and to provide treatment recommendations. The CLA provides a strategic plan to guide the future efforts of the CCA Board and Staff, City of Boulder agencies, and the community to address contemporary needs while preserving and protecting the historic character.



With the development of the CLA, additional historical research related to the site was uncovered and a broader understanding of the Historic District's landscape characteristics were revealed. For example, the CLA revealed that concrete and gravel materials were historically used as pavements and edges, and that sandstone was originally only used in the historic sandstone gutters.[4]

In some instances, the recommendations in the CLA conflict with the current *Chautauqua Design Guidelines*. It is recommended that the current *Chautauqua Design Guidelines* and the *Cultural Landscape Assessment and Plan* both be used for reference in the review process.

[2] Chautauqua Design Guidelines, p.13

[3] Chautauqua Park Historic District Cultural Landscape Assessment and Plan, p.90-91

[4] Ibid, p.81

Historic Context

The Historic District is set in a magnificent natural setting and is home to summer and winter residents who reside in its historic cottages. It is one of Boulder's most significant landscapes flanked by Flagstaff and Chautauqua open spaces and has remained substantially intact since its inception.

The Historic District has a fairly park-like setting and landscaping and fencing has been used sparingly. This openness has greatly added to the 'camp' feeling of the site. Aside from the linear street trees, plantings have been fairly informal. The Bachelder Ranch apple orchard remained on-site for many years and remnant trees and seedlings are still found on the grounds.

The development, design and construction of the Historic District is documented by a series of six periods of development. Of the six periods, four are within the Historic District's period of significance. An in-depth description of these six periods occur on pages seven to twenty-seven of the CLA.

Pre-Chautauqua Park

Prior to 1898, the lands of the Historic District were known as the Bachelder Ranch and covered approximately seventy-five acres. The agricultural property consisted of a ranch house, a few outbuildings, apple orchards, fields of alfalfa, and a small reservoir at its southern edge that was fed by Bluebell Spring and supplied water to the ranch via a series of irrigation ditches.

1898 - The Beginning

Eighteen ninety-eight was an amazing year for the Historic District. The original 171 acres of which thirty-seven remain today as the Historic District, was purchased by the City of Boulder. Both of its major buildings - the Auditorium and Dining Hall, as well as a number of smaller structures were built. The Auditorium was prominently sited to serve as a visual icon in the naturalistic setting of indigenous grasses, large boulders and steep slopes. The Dining Hall was sited parallel to the future streets and at the end of the entry into the site. The first roads were graded to follow the platted east-west arrangement that still defines the Historic District today. As a seasonal camp, the original accommodations were tents on platforms for lodging, and for classrooms and meeting halls.

1899 to 1905 - Building a Community

In 1901 the Boulder Improvement Association employed W. W. Parce, a landscape architect from New York to complete a plan for the "Park", adopted by the city in 1904. The first cottages were built primarily along the edges of the road system and by 1905 more than sixty cottages provided shelter. The first '100 trees' were planted beginning in 1898 and continued for two more years resulting in the addition of three hundred trees. The tree plantings included Silver Maples, Cottonwoods and American Elms, some of which remain today.

1906 to 1918 – Expanding the Community

A commitment to enhancing the grounds was the focus after 1905. During this time, most of the significant spaces and structures were built - The Chautauqua Green, the Garden now known as the Centennial Garden, and the rustic shelter. The streets were formalized into the distinct road pattern that exists today. Additional cottages were built, replacing the majority of the earlier tents. A rustic naturalistic style was incorporated and included the first rustic stone walls. It is assumed that the distinctive stone gutters were installed during this period.

1919 to 1940 – Popularity, Stability and Decline

This period experienced a surge in attendance and many buildings and cottages were built and rebuilt to accommodate this peak. By 1919, the road patterns were well-established. The first streets were oiled in 1928. The Chautauqua Reservoir, originally a water supply for the Bachelder Ranch, was replaced in 1923 by the new Chautauqua Park reservoir. The site of the former reservoir remained without water until it was filled in 1941 to accommodate the impending new cottages known today as Boggess Circle.

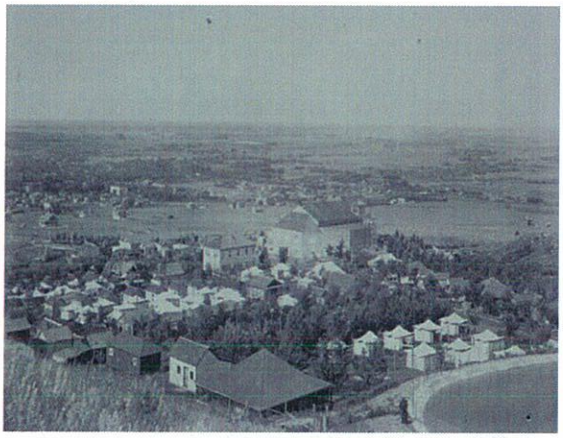
1941 to 1977 – Finding Chautauqua Park

Between the 1940s and 1960s, the Historic District remained relatively unchanged with the exception of the construction of Boggess Circle, which included a paved loop road and ten cottages. The grounds budgets disappeared, resulting in the eventual loss of the Garden except for the towering evergreens. Repair and infrastructure became the focus. The roads were paved with asphalt, three alleys were established and according to the CCA Bulletin, in 1948, the sandstone walk was laid along the eastern edge of Goldenrod Drive. The value of the Historic District was recognized by the community who stymied plans for demolition and focused efforts towards revitalization.

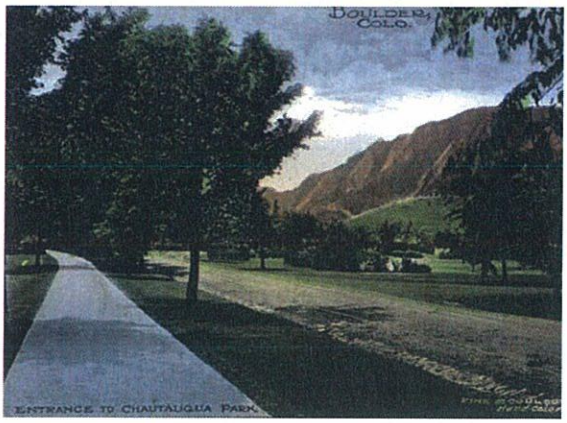
1977 – Present

Extensive modification of buildings and site features began in 1978. Most, such as repairs to buildings were sympathetic to the historic character. Others were mixed, such as the Ranger Cottage and parking lot along the west edge of the Chautauqua Green. New spaces and features including the 1993 Water-wise Garden that replaced the open space to the south of the Academic Hall. The children's play area was updated, and a new tennis court and an informal, gravel parking area were added. The Centennial Garden was rebuilt in 1998.

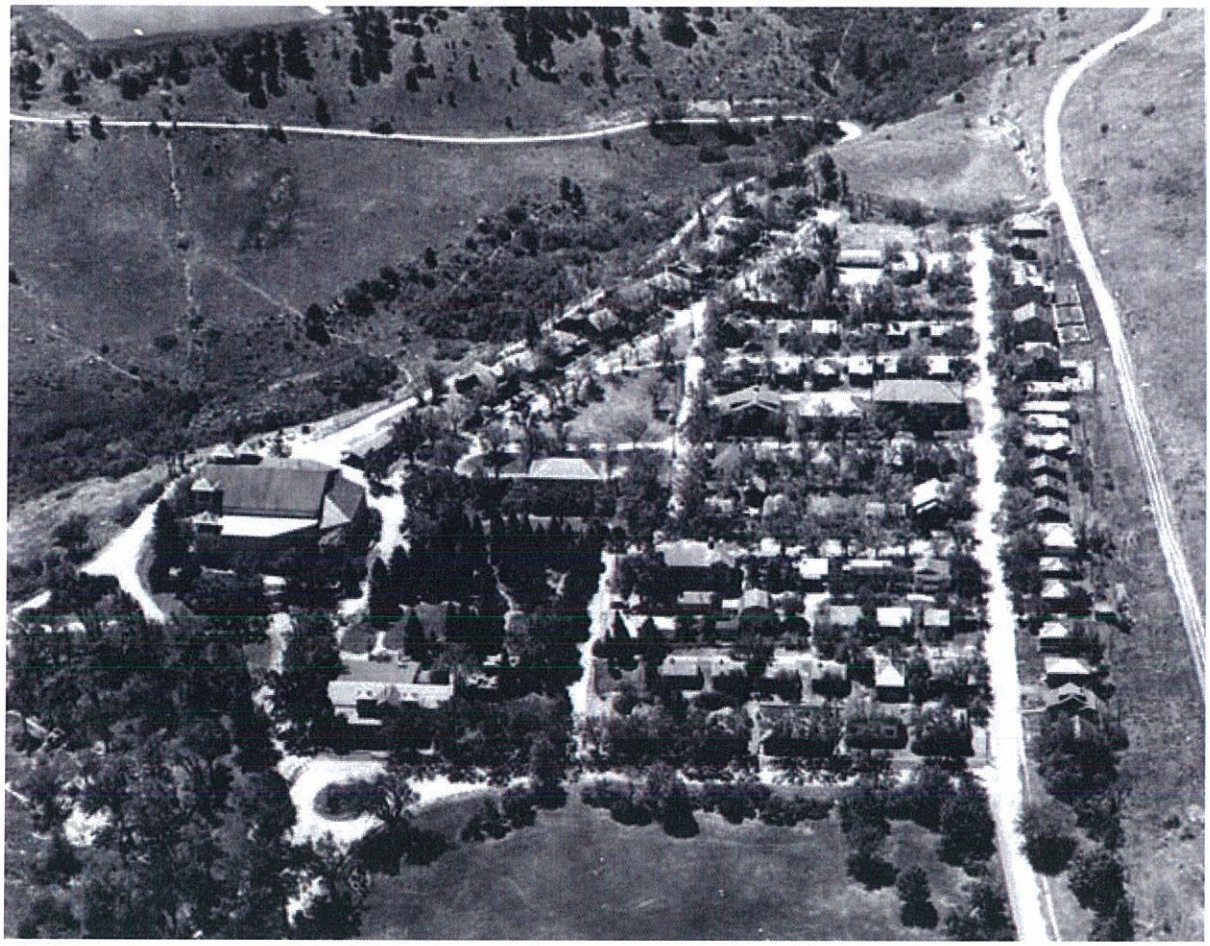
Goldenrod Drive, circa early 1900s



Chautauqua Park, circa 1900-1910



Sumac Drive, circa 1915



Colorado Chautauqua National Historic Landmark, 1948

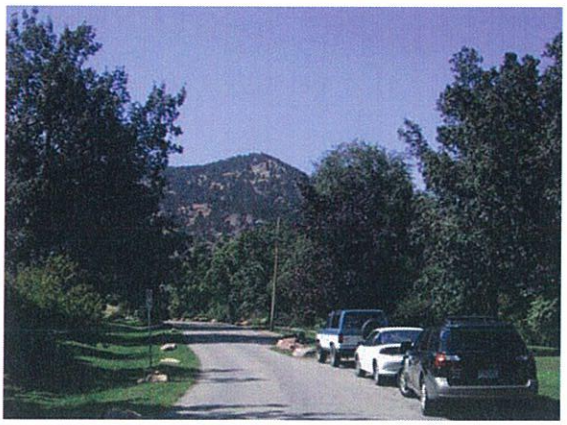
The Historic District is an exceptional and important site. The historic landscape and urban form provide a distinct character, and the topography, impressive views and stately trees offer an oasis of shade and refuge from the city. The *Chautauqua Design Guidelines* note the Historic District as "simple cottage architecture (set) in the park setting of Chautauqua combine to create a unique rural enclave on the edge of a dense urban grid."[5]

These Landscape Guidelines envision the Historic District as an architecturally, and historically significant public place for future generations to enjoy. The following guiding principles assist in achieving design excellence while preserving the historic character and addressing contemporary needs.

1. Preserve the 'camp' feeling of the grounds

The combination of open spaces between buildings, and consistent building setbacks creates a united campus setting or 'camp' aesthetic that was an original expression of the Chautauqua movement. The lack of distinct or individual properties is one of the site's important characteristics, especially as expressed in the front yards.

The *Chautauqua Design Guidelines* describe the notion of 'camp' as the Historic District having "no fences that delineate individual properties, and in the same way, planted landscape material is unrelated to property lines. This creates the effect of a summer camp with small closely spaced buildings placed along narrow pedestrian lanes."[6]



These Landscape Guidelines provide additional guidance on retaining the integrity of the "Camp" feeling.

[5] Chautauqua Design Guidelines, p.5

[6] Ibid, p.6

Chautauqua Park postcard. Photo courtesy of Leland Rucker and Billie Gutgsell.

2. Maintain consistent landscape character

The Historic District has a significant urban forest consisting of trees and plantings that contribute to the historic character. Landscape improvements "should be part of an overall park design, a collection of buildings rather than individual properties."[7]

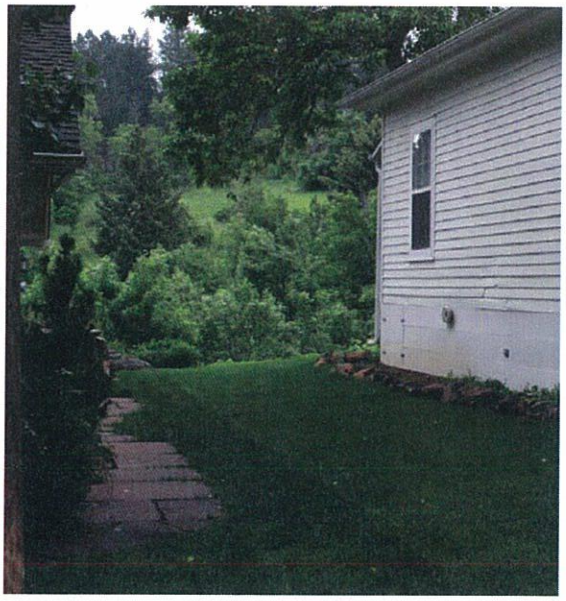
Historically, street trees were planted in a linear pattern along Kinnikinic Road, Goldenrod Drive, Morning Glory Drive, and Clematis Drive. They were typically planted away from the road edge at a regular pattern and spacing. The strong pattern has diminished over time. These Landscape Guidelines provide guidance on restoring this historic street tree pattern (Figure 9 - Comprehensive Tree Plan).

Individual cottage landscapes generally retain their consistent historic character. However, in some instances, inappropriately placed plantings and the use of unsuitable hardscape materials have diminished the unified character. These Landscape Guidelines provide guidance on designing plantings and site improvements that respect the historic character, allow for individual expression, and serve contemporary uses.

3. Minimize obstruction of views

Views towards and from the Historic District and, in particular, the Auditorium were once very prominent from Boulder and adjacent communities. The growth of the surrounding areas, and the maturation of the urban forest have diminished that relationship. Views into the Historic District are now limited to an overview from higher elevations and glimpses of the Auditorium.

These Landscape Guidelines provide guidance on protecting the prominent views into, and from the Historic District, including those to the City of Boulder Open Space lands.



4. Utilize sustainable technologies and materials

CCA has laid the groundwork for improving the site through sustainable means. In 2008, a "Comprehensive Environmental Sustainability Plan for the Colorado Chautauqua" was completed by Architectural Energy Corporation. Recommendations include improving outdoor water use through improved irrigation methods and the use of stormwater management techniques.

These Landscape Guidelines provide additional guidance on sustainable technologies and methods to improve the maintenance of the grounds, allowing for maintenance to be accomplished in a manner that is compatible with the Historic District, and that respects its historic character.

[7] Gardens and Grounds Landscape Statement 2007.

Organization

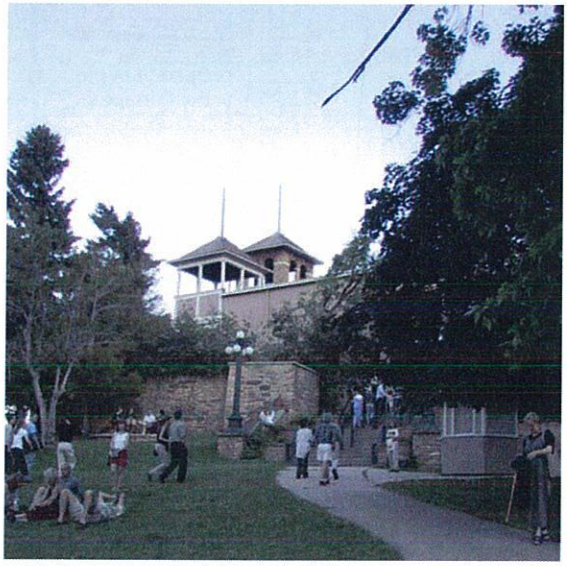
The Landscape Guidelines are organized into two sections: General Landscape Guidelines and guidelines specific to defined Landscape Zones within the Historic District.

The General Landscape Guidelines include guidance on the following:

a. Views and Viewsheds
b. Urban Form
c. Sustainable Technologies
d. Materials

The Landscape Zones (Figure 3) are organized by their similarity in function, character and composition.

a. Streetscapes
b. Alleys
c. Cottage Landscapes
d. Public Landscapes



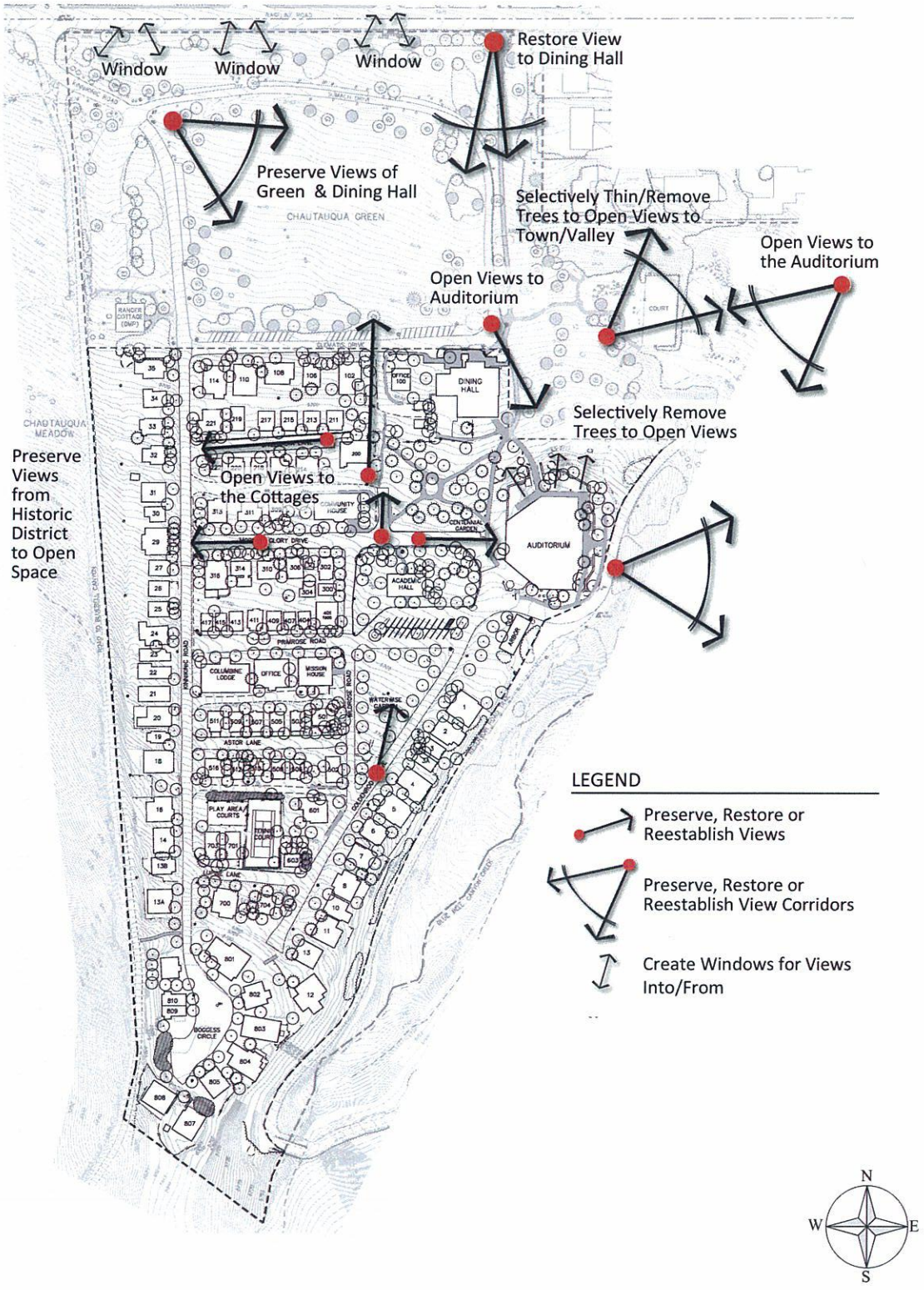


Figure 2: Views and Viewsheds

General Landscape Guidelines

General Landscape Guidelines apply to the entire Historic District and are used to evaluate all proposed site and landscape improvements and modifications.

a. Views and Viewsheds

Important views have been interrupted and architectural icons have been inadvertently screened by maturing and inappropriately placed plant material diminishing the character of the landscape. Views of the Auditorium have been particularly impacted by volunteer plantings and the maturation of plant material. Views to several important outdoor spaces have been compromised. See the Viewshed Diagram (Figure 2) for specific views that should be re-established. Refer to the CLA for additional information.[8]

- Preserve and restore historic views to significant spaces, cottages and architectural icons.
- Preserve the character of significant public landscapes by locating new plant material so as to not obstruct significant views or vistas.
- Selectively thin and prune overgrown vegetation; remove vegetation that blocks significant views into or from the Historic District.
- Preserve views from the Historic District including those towards Boulder and towards the City of Boulder Open Spaces.
- Continue to selectively thin overgrown vegetation along Baseline Road to open up views into the Chautauqua Green. Create 'windows' in the Green by clearing vegetation in select locations.

b. Urban Form

The CLA describes the Historic District's urban form as an "urban, rectilinear arrangement of roads and buildings imposed upon a sloping foothills environment."[9] The tree plantings generally reflect the urban form pattern of the roads and cottages, and assist in defining the site's urban form.

- Preserve and restore historic street patterns that contribute to the Historic District's composition and spatial organization.
- Replace missing street trees to reestablish the historic street tree patterns. As mature trees decline, replace with new trees of the same species or in-kind with similar form, habit and character.
- Remove trees in inappropriate locations such as those that obstruct views towards cottages.
- Reinforce the distinction between alleys and streets with hardscape materials using asphalt for roads, and gravel or similar material for alleys.
- Reestablish the historic road and cross sections for Clematis Drive, Kinnikinic Road and Goldenrod Drive. Re-build walks and gutters along the historic road alignments. Refer to the CLA for additional guidance.

[8] Chautauqua Park Historic District Cultural Landscape Assessment and Plan, p. 95 to 101.

[9] Chautauqua Design Guidelines, p.35

c. Sustainable Technologies

The Historic District strives to become the 'Greenest National Landmark' by encouraging the use of appropriate technologies that do not compromise the character of the historic structures, buildings and landscapes.

- Consider incorporating stormwater gardens as a means of capturing excess stormwater to reduce runoff and mitigate erosion issues. See the Best Management Practices section for further detail.
- Consider incorporating bioswales as a means to slow stormwater and encourage water to percolate into the soil.
- Plant trees on the south and west sides of cottages, and at the corners between cottages and community buildings for passive solar cooling. See Typology A-1 Kinnikinic Road.
- Strongly encourage the planting of native and drought resistant species to reduce irrigation needs. See the Appendices Section A - Irrigation System and Turf Practices for detailed information on irrigation practices.
- As the development of sustainable technologies advances, new materials and practices will occur. Review the use of specific materials and practices on a case-by-case basis.
- Consider the use of geothermal energy, locating lines in lawn areas large enough to accommodate the lines, and where there is not a disruption to significant vegetation or historic features.

d. Materials

Refer to the *Chautauqua Design Guidelines* for selection of appropriate materials as indicated in the Public Improvements Section on Pages 13 to 14.

- See page 5 of these Guidelines for the use of concrete for sidewalks and curb and gutter.
- Avoid using landscape materials such as decorative color dyed mulch, bark mulch or large boulders. Encourage the use of smaller chipped mulch that has horticultural value.
- The use of low water-requiring plant material is strongly encouraged. A suggested plant materials list is available from CCA staff upon request.

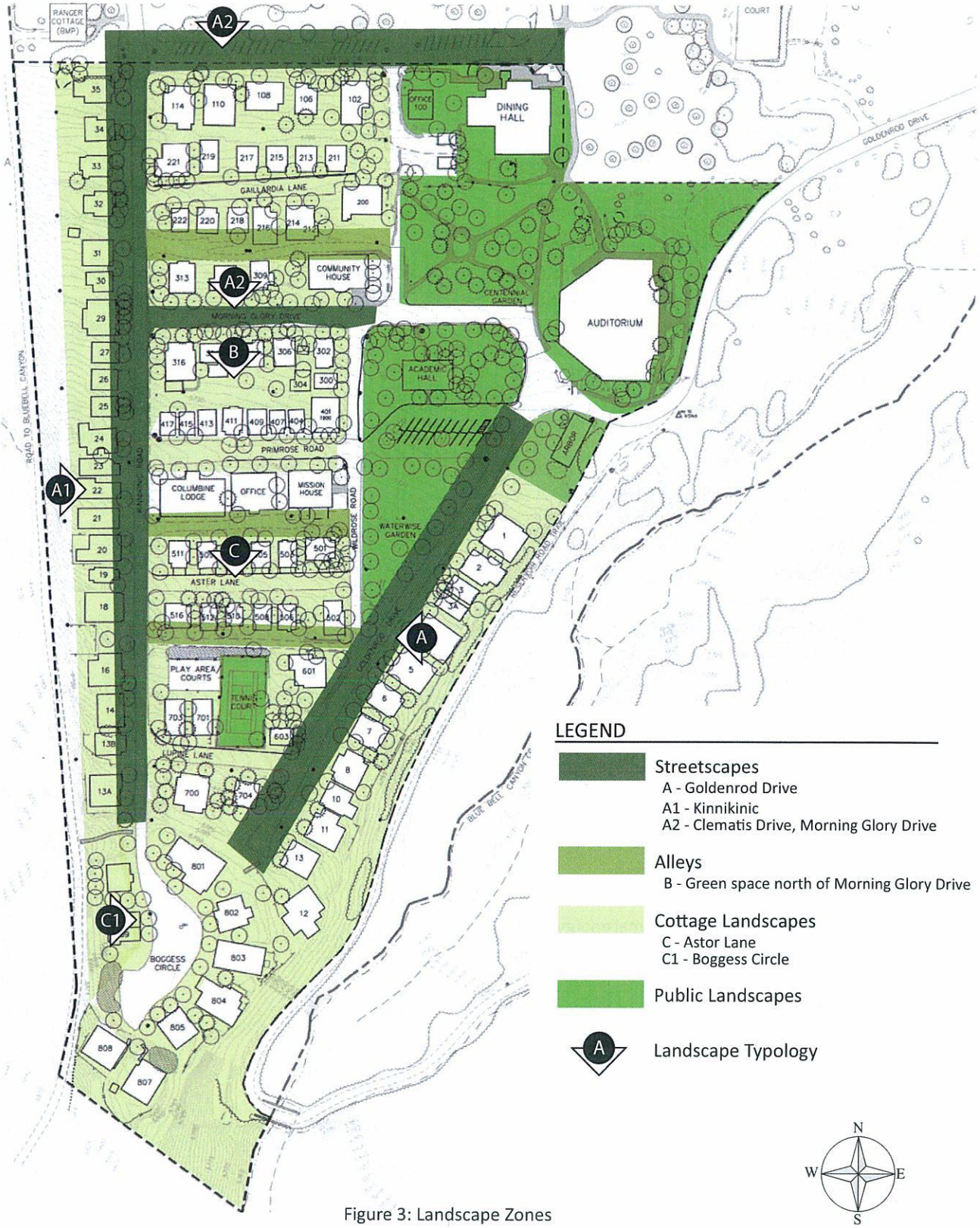


Figure 3: Landscape Zones

Landscape Zones

The Landscape Zones are organized by landscape typologies, which are areas that share similar characteristics, to guide future plantings and landscape features.

The following landscape terms are used to describe typical components of these typologies.

- Street Trees: typically deciduous trees that reach a height of forty (40) feet, and a canopy of at least forty (40) feet.
- Foundation Plantings: typically evergreen or woody species less than three (3) feet in height.
- Low Plantings: groundcovers or perennials less than twelve (12) inches in height.
- Cottage Perennial Garden: typically an informal combination of annual and perennial plantings, including native drought-tolerant plants, that provide a variety of color and fragrance in a small setting.

The Landscape Zones are as follows.

- Streetscapes
- Alleys
- Cottage Landscapes
- Public Landscapes

Refer to pages 22 to 32 for further detail, describing the Landscape Zones.

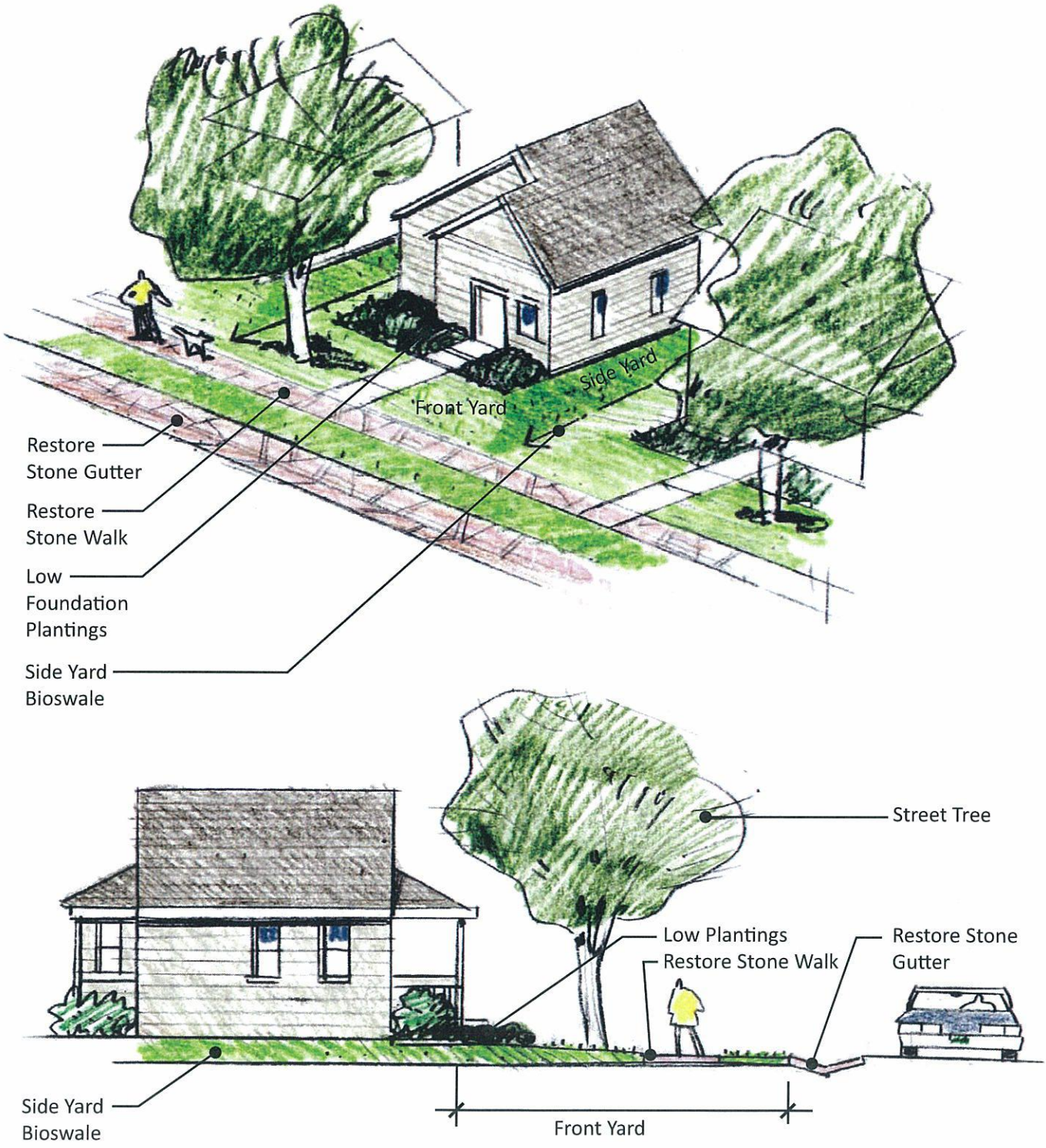


Figure 4
Typology A - Goldenrod Drive

a. Streetscapes

The Historic District is an urban, rectilinear arrangement of roads and buildings, defined by two primary north south streets—Goldenrod Drive and Kinnikinic Road. The main east west roads are Clematis Drive and Morning Glory Drive. These roads comprise the streetscapes, and share the following characteristics.

The front yards of the streetscapes are generously sized in comparison to the neighborhood streets and alleys. The front yard is the area between the street edge, and the front facade of the cottage or building. The front yards often have a tree lawn, and in some cases, a detached walk.

The streetscape typologies are:

- Typology A - Goldenrod Drive
- Typology A1 - Kinnikinic Road
- Typology A2 - Clematis and Morning Glory Drives

Typology A - Goldenrod Drive:

Goldenrod Drive is a unique streetscape with a detached stone walk, and a stone gutter that extends most of its length. The street retains its historic character, which includes a consistent tree lawn and a tree pattern reminiscent of the original composition.

- Encourage the use of low plantings or turf in the front yard including the tree lawn.
- Allow street trees to be planted in the historic linear tree pattern.
- Encourage planting trees to replace current driveways to re-establish the historic linear tree pattern.

Typology A - Goldenrod Drive, continued:

- Allow low foundation plantings at the front edge of the cottage to retain the view of the cottage from the street.
- Avoid planting within eighteen (18) inches of foundations to keep water and/or irrigation away from the foundation. Slope grade away from the foundation to ensure positive drainage.
- Restore the historic stone walk and historic stone gutter.
- Allow bioswales in side yards, set back from the front facade and towards the rear of cottage (See Stormwater Management).
- Encourage partial bury of the overhead lines along Goldenrod Drive to allow tree plantings to form a strong linear tree pattern.
- Encourage consistent plantings between cottages within the front yard to maintain a consistent character.
- Retain the existing setbacks between cottages. Encourage plantings between cottages rather than fencing.

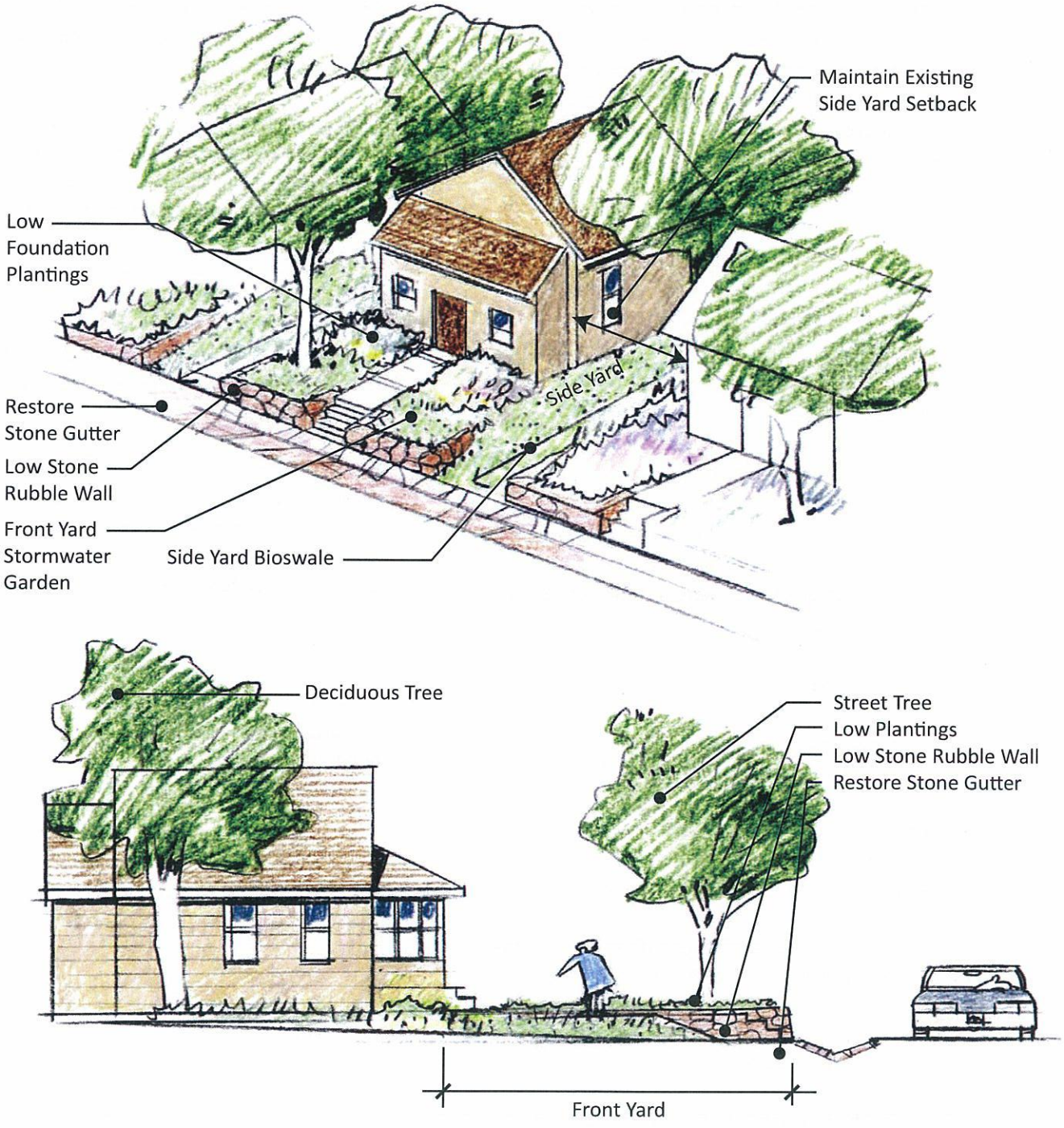


Figure 5
Typology A1 - Kinnikinic Road

Typology A1 - Kinnikinic Road:

Kinnikinic Road is the main north south road that follows the steep topography of the Historic District. Its original consistent form has diminished slightly, largely due to various approaches to address its change in elevation, the addition of driveways, and the use of inconsistent materials for walls and walks in front yards.

- Encourage the use of plantings or turf in the front yard.
- Allow low foundation plantings at the front edge of the cottage to retain the view towards the cottage from the street.
- Retain the existing setbacks from the street edge, and between cottages. Encourage plantings between cottages rather than fencing.
- Avoid planting within eighteen (18) inches of foundations to keep water and/or irrigation away from the foundation. Slope grade away from the foundation to ensure positive drainage.
- Allow street trees within the first ten feet of the front yard, as measured from the street edge. This will provide a consistent tree pattern along Kinnikinic similar to the historic condition.
- Allow low stone rubble retaining walls in front yards to assist with managing the steep gradient of the road.
- Allow stormwater gardens in the front yard. Encourage low plantings in these gardens to retain the view of the cottage open to the street.
- Allow large deciduous tree plantings at the corners of the cottages, and between cottages at the backyards to allow for passive solar cooling.

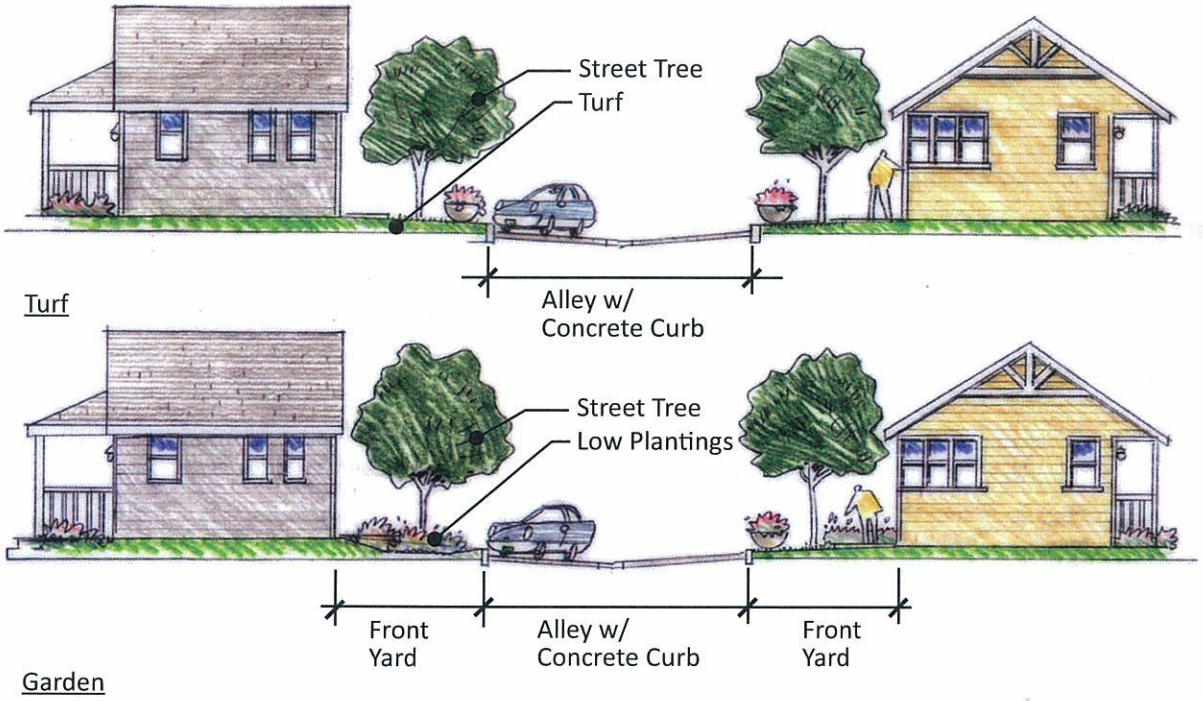
Typology A1 - Kinnikinic Road, continued:

- Restore the historic stone gutter.
- Allow ornamental trees in the backyards in locations that do not obstruct views to the foothills.

Typology A2 - Clematis and Morning Glory Drive:

Morning Glory and Clematis Drives are the main east west access roads. Clematis Drive aligns with the south edge of the Chautauqua Green and provides parking for the Green. Morning Glory connects Kinnikinic Road with Goldenrod Drive.

- Encourage the use of low plantings or turf in the front yard.
- Allow low foundation plantings at the front edge of the cottage to retain the view towards the cottage from the street.
- Retain existing setbacks between cottages and encourage plantings between cottages rather than fencing (Figure 8).
- Avoid planting within eighteen (18) inches of foundations to keep water and/or irrigation away from the foundation. Slope grade away from the foundation to ensure positive drainage.
- Allow street trees within the first ten (10) feet of the front yard, as measured from the street edge.
- Reconstruct a narrow walk on the south side of Clematis Drive. To respect the original street patterning, the walk should be detached and separated from the road with a narrow tree lawn. Allow sandstone or concrete walks. Avoid the use of colored or stamped concrete.



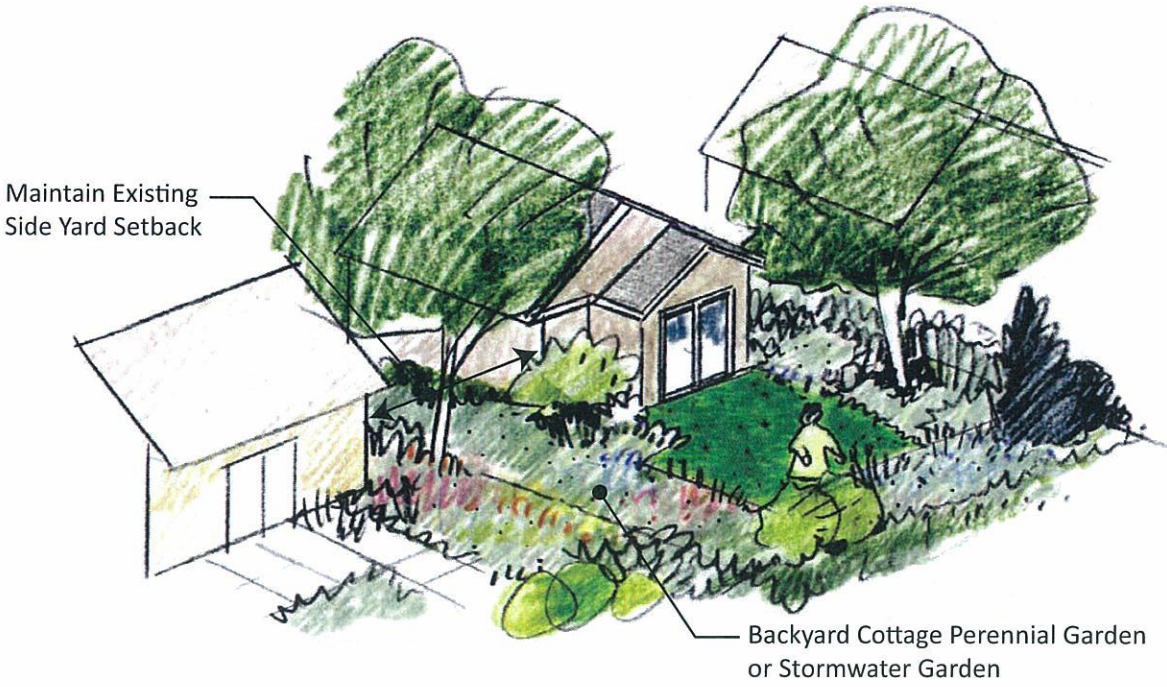


Figure 6
Typology B - Alleys

b. Alleys

The alleys were established early in the Historic District's development, and have evolved to provide access and parking. The alleys have been widened over time, and are generally fifteen (15) to eighteen (18) feet wide. The CLA recommends an edge to the pavement surface to define a consistent size in alley width and setback between cottages and the alley.

- Retain narrow alley width to preserve the historic urban form.
- Reduce the height of the alley crown to allow for better drainage.
- Allow street trees to provide shade in front yards.
- Allow perennial cottage gardens or stormwater gardens in front, side and backyards (Figure 6).
- Allow low plantings in front yards to retain the view of the cottage from the street.
- Allow concrete curb.
- Allow gravel paving in the alley.
- Allow low plantings or turf in the side yard setback between cottages.

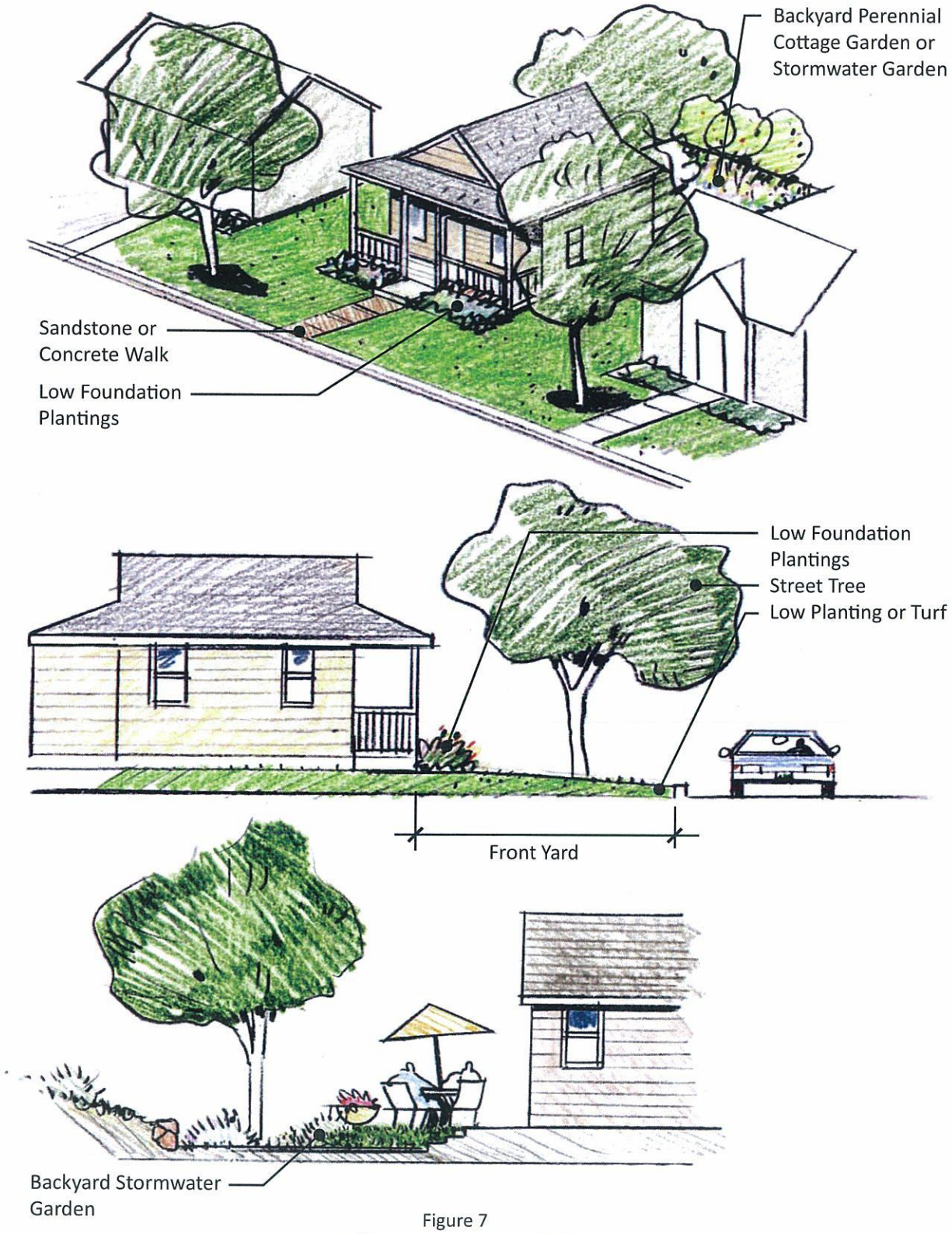


Figure 7
Typology C - Cottage Landscapes

c. Cottage Landscapes

Cottage landscapes are comprised of the streetscape and the front, side and backyards. They have a fairly uniform fifteen (15) foot setback from the street. The roads that define cottage landscapes are Gallardia Lane, Primrose Road, Aster Lane, Lupine Lane and Wildrose Road.

The "camp-like feel" of the Historic District is readily apparent in the cottage landscapes. However, the addition of driveways and large vegetation at the front of the cottages has diminished the original consistent landscape character.

The cottage landscape typologies are:

- Typology C - Cottage Landscapes
- Typology C1 - Boggess Circle

Typology C - Cottage Landscapes:

- Allow low plantings or turf in the front yard to allow for views to the cottage.
- Allow low foundation plantings at the front edge of the cottage to retain the view of the cottage from the street.
- Allow street trees in the front yard (Figure 9).
- Allow ornamental trees, stormwater gardens and cottage perennial gardens in the backyard (Figures 6 and 7).
- Avoid planting within eighteen (18) inches of foundations to keep water and/or irrigation away from the foundation. Slope grade away from the foundation to ensure positive drainage.

Typology C - Cottage Landscapes, continued:

- Allow bioswales in the side yard. Encourage placing roof drains to the back of the cottages to irrigate the bioswales.
- Allow sandstone or concrete walks. Avoid using colored or stamped concrete.
- Allow sandstone or concrete curb.
- Retain the existing side yard setbacks between cottages. Encourage plantings between cottages rather than fencing.

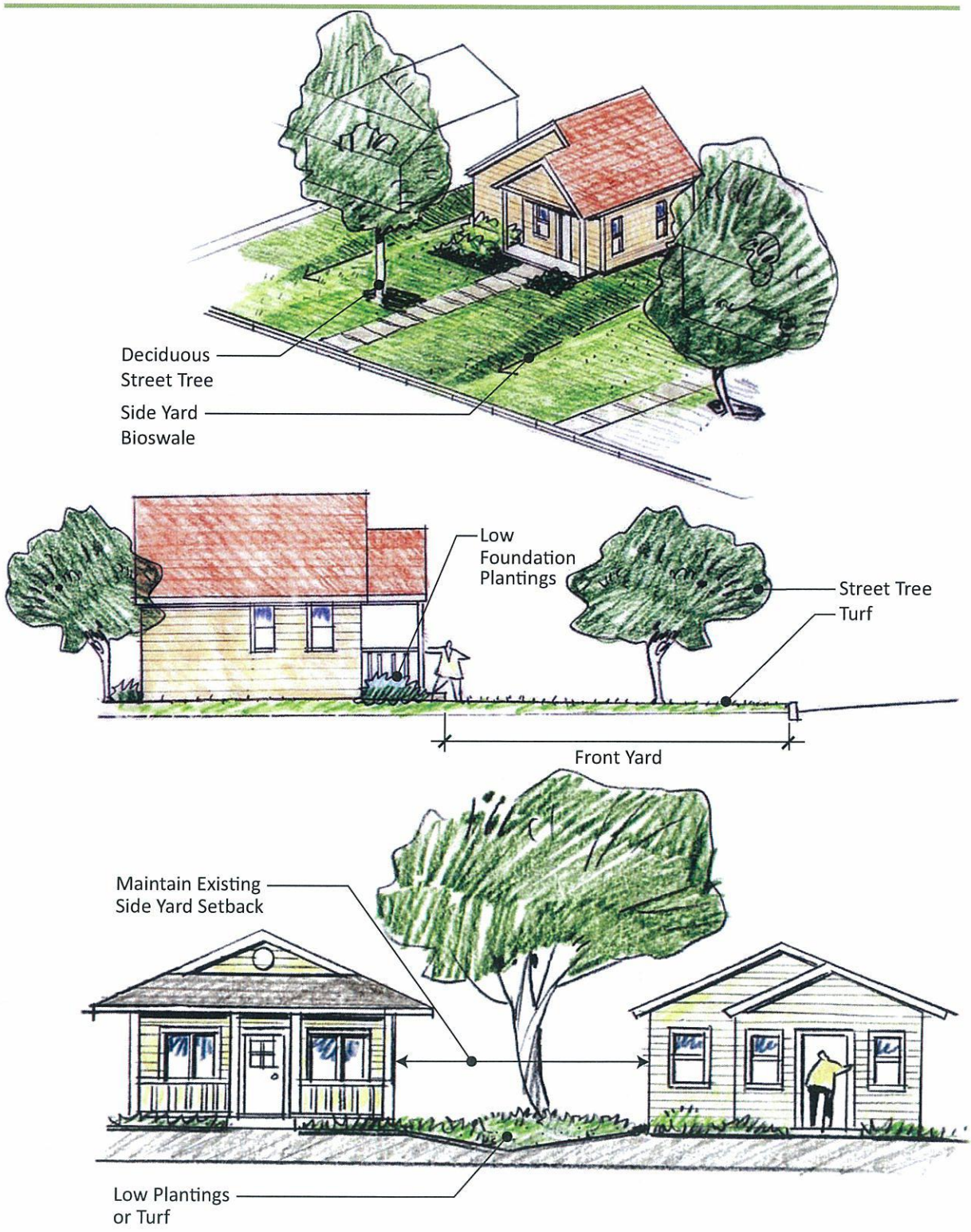


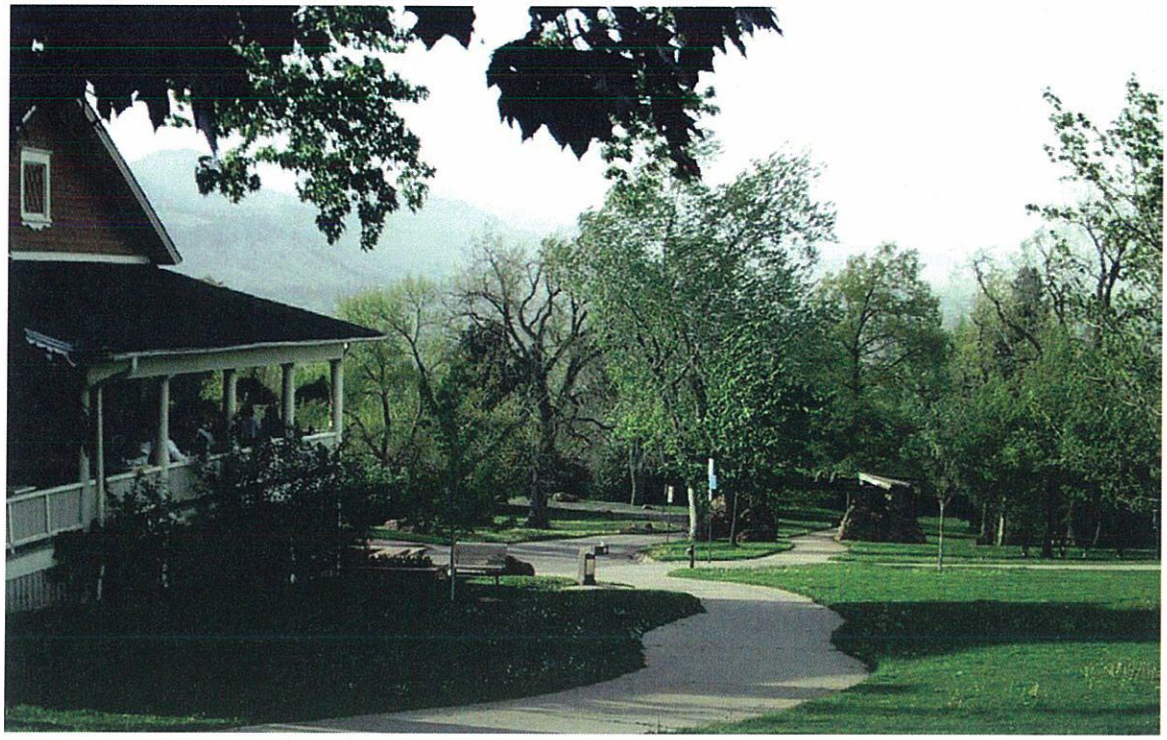
Figure 8
Typology C1-Boggess Circle

Typology C1 - Boggess Circle:

Boggess Circle differs slightly from the other streets as it has deeper front yards and more space between cottages.

- Allow low plantings or turf in the front yard.
- Allow street trees in the front yard.
- Allow ornamental trees and cottage perennial gardens in back yards (Figure 6).
- Avoid planting within eighteen (18) inches of foundations to keep water and/or irrigation away from the foundation. Slope grade away from the foundation to ensure positive drainage.
- Allow low foundation plantings at the front edge of the cottage to retain the view of the cottage from the street.
- Allow sandstone or concrete curbing at the street.
- Allow stormwater gardens in the side yard and in the backyards (Figure 7).
- Retain the existing side yard setbacks between cottages. Encourage plantings between cottages rather than fencing (Figure 8).

Waterwise Garden



Dining Hall

d. Public Landscapes

A number of significant public spaces contribute to the Historic District including the Academic Hall, Waterwise Garden, Dining Hall, Centennial Garden, Auditorium, Community House, Maintenance/Picnic Pavilion, Upper Tennis Court, Chautauqua Green, Ranger Cottage and trailheads for Boulder County Open Space. Refer to the CLA for additional information.

- Rehabilitate public landscapes to reflect their historic patterns, forms, materials and character.
- Allow new pedestrian walks that follow historic circulation patterns.
- Provide improved pedestrian access to public destinations and provide logical and clear circulation patterns.
- Preserve and restore historic walks in the public landscapes.
- Restore and rehabilitate historic views and view corridors to and from public landscapes (Figure 2).
- Re-establish the physical and visual connection between the Dining Hall and the Auditorium following historic patterns.[10]
- Restore visual connections between the public garden spaces and the community buildings adjacent to them.
- Simplify plantings to highlight the architecture of the community buildings.
- Preserve and protect existing mature trees for as long as possible. As mature plantings are lost, plant new trees of the same or similar species to reflect the original form and habit.
- Allow new plantings and plant materials that are compatible with the Historic District's historic character.
- Allow new planting beds that reflect those that existed historically in shape and size.
- As mature plantings are lost, re-plant with the same or compatible species to reflect the historic planting pattern.
- Selectively remove overgrown trees, especially those located adjacent to community buildings. If removal is not desired, do not replace trees in their locations when they die.
- Utilize sustainable technologies and materials that do not conflict with the historic character.
- Allow a stormwater park at the south end of Waterwise Garden (Figures 11 & 12) and the north edge of the Centennial Garden (Figure 11). See Stormwater Management.
- Protect and preserve existing fieldstone and rubble walls.
- Do not use stamped or colored concrete.
- Use materials that are compatible with the historic character and that have a precedent on the site.

[10] Chautauqua Park Historic District Cultural Landscape Assessment and Plan, p. 68.

Figure 9: Comprehensive Tree Plan

Comprehensive Tree Plan

The Comprehensive Tree Plan will guide the CCA Board and Staff, City Staff and Landmarks Board in their efforts to re-establish the street tree plantings.

The Historic District has a significant and diverse urban forest. In places, maturing and inappropriately placed plant material has diminished the historic character of the site. Important views have been interrupted and architectural icons have been inadvertently screened. Views of the Auditorium have been particularly impacted by volunteer plantings and the maturation of planted material.

The strong linear tree planting patterns that once existed along the roads have eroded over time. Trees have been lost and not replaced. Newer plantings have sometimes been replanted in locations that disrupt the original linear street tree planting pattern.

Landscaping for individual cottages has generally retained its "camp" character. There are a few instances where landscaping of front yards has obscured important historic views of cottages and obscured the view of the cottage from the public street.

- The historic patterning of the existing significant trees and tree groves should be preserved. As significant trees are lost, new trees should be planted of the same or similar species of the same form and habit.
- Preserve and plant tree species that are historically or horticulturally significant.
- Re-establish the original linear rows of trees that historically occurred along Wildrose Road and Morning Glory Drive. Over time, remove existing trees that disrupt this original pattern.
- Plant trees that are a minimum two and a half inches in caliper size.
- Refer to the Preferred Planting Materials List (Appendix B) for recommended tree species.

Figure 10 : Tree Removal and Replacement Plan

Tree Removal and Replacement Plan

The Tree Removal and Replacement Plan is a reference tool that recommends the removal of trees over a period of time to re-establish the historic tree patterns that create the "camp" feel of the Historic District. Over time, tree alignments have been modified and for restoration to occur tree removal will be necessary. Trees that are recommended to be removed as part of the Comprehensive Tree Plan are illustrated in the Tree Removal Plan (Figure 10).

Some trees have survived for nearly one hundred years and all trees have been carefully inventoried. All trees shall be assessed on longevity, health and safety. Guidelines for removal, restoration and replacement include:

- Remove trees to restore the visual connections towards and away from the Auditorium and Dining Hall. These connections have primarily been lost due to the planting of trees directly adjacent to the buildings.

- Remove the trees to re-establish the historic tree patterns on Clematis Drive, Kinnikinic Road and Goldenrod Drive. Remove understory trees with canopies less than twenty-five feet to restore the original consistent pattern.

- Remove trees that are inappropriate species or inappropriately located with regard to the historic character of the Historic District.

- Remove large evergreens at the front of cottages where they block views into and from the cottage.

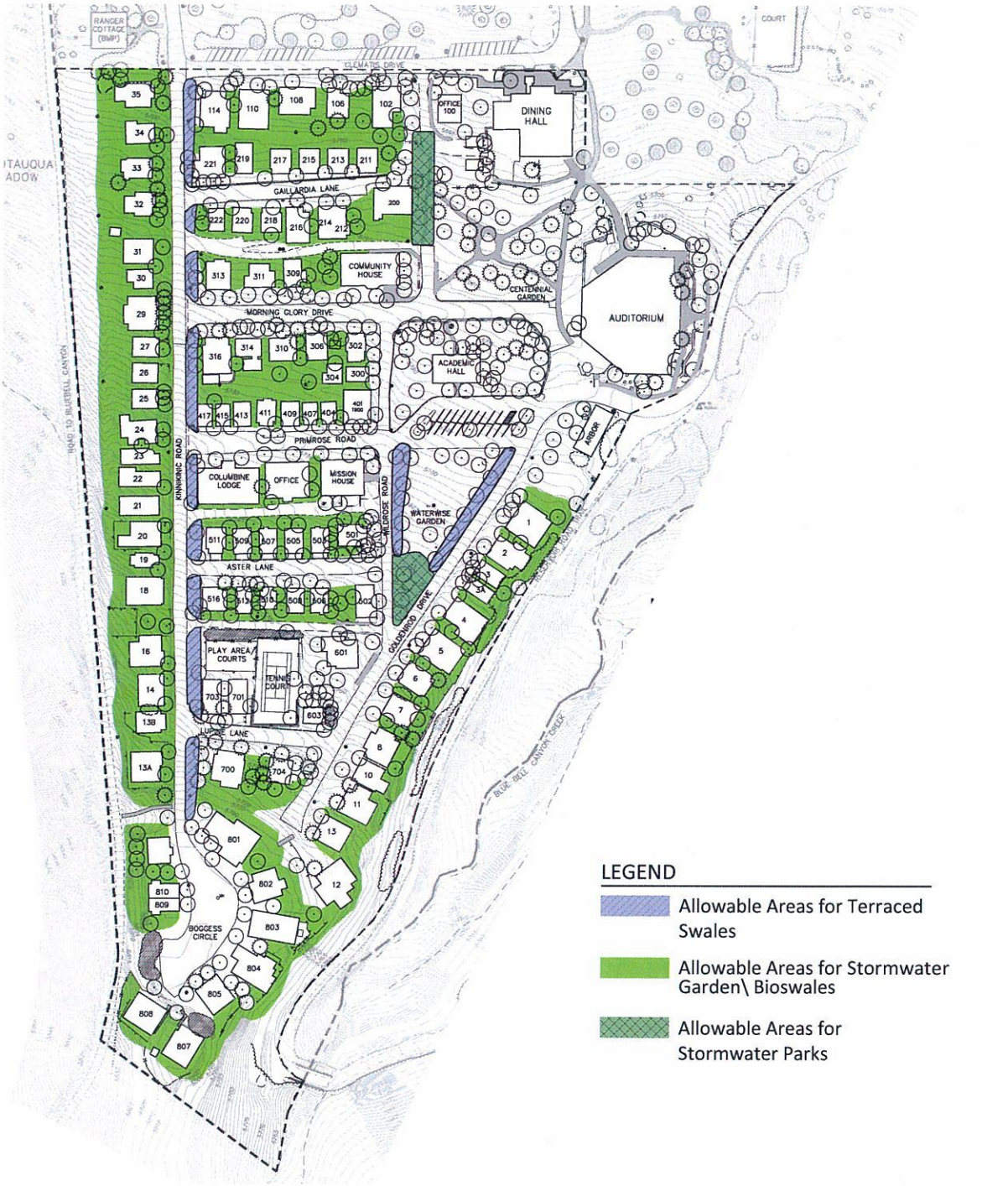


Figure 11: Stormwater Management Plan

A primary goal of the CCA is to establish the Historic District as the "greenest National Historic Landmark" in the country. Incorporating best management practices for stormwater management, turf management, water conservation, and a more efficient irrigation system, will assist CCA with achieving this recognition.

This section provides guidelines for integrating stormwater management best practices with the protection of the Historic District's historic character. See Appendices for information on best practices for turf management and water conservation.

Stormwater Management

Stormwater management on the site's steep hillside provides challenges and opportunities for the management of stormwater. Features such as stormwater gardens, stormwater parks and swales are recommended. Descriptions of the appropriate application of these features are provided in the Landscape Zone typologies.

The CCA commissioned a Comprehensive Environmental Sustainability Plan in 2008 that recommended strategies to reduce site erosion and capture the prescribed water quality capture volume through the Stormwater Management Plan. The Stormwater Management Plan recommends locating stormwater techniques in a manner that is not disruptive to the landscape and makes the best sense topographically through the following methods:

- Stormwater Garden- Roof runoff from cottages is directed to a shallow depression where it is infiltrated into the soil (Figure 7). The size of each individual stormwater garden should not exceed the size of the cottage roof according to Colorado State Law.
- Stormwater Park - Regrade select areas and create a series of terraces that allow for infiltration of stormwater and is planted with native or hardy species of shrubs and perennials that tolerate the variable conditions of temporary saturation and dry periods. For instance, the Waterwise Garden has an established vegetative edge with large trees. A stormwater park in this area would include a slightly depressed area on the south end to allow for percolation and two small channels or swales would weave along the western edge to allow for plantings, minimize disturbance to the planting edges and a maintain a useful park space in the center of the Garden (Figure 12).
- Terraced Swale or Bioswale - regrade areas to create a depression to allow for infiltration and plant with native or hardy species that will tolerate variable wet/dry conditions.

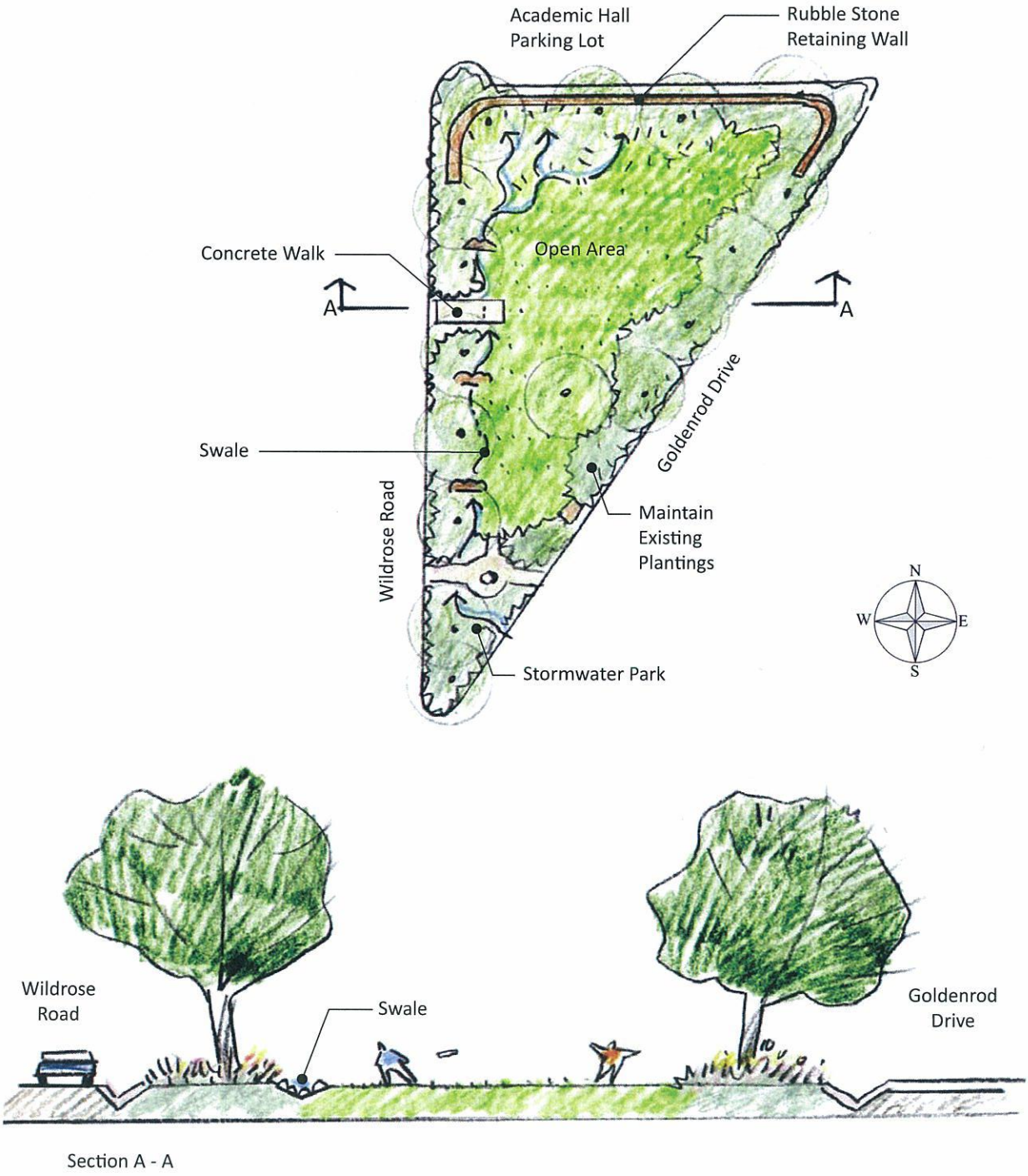


Figure 12 : Stormwater Park at Waterwise Garden

CHAUTAUQUA

Appendix

Appendix A
Irrigation System and Turf Practices

Irrigation System

The Comprehensive Environmental Sustainability Plan recommends CCA reduce outdoor water use to enhance the existing irrigation system through equipment upgrades and system monitoring to reduce water use. The Center for ReSource Conservation completed a comprehensive water audit in 2008.

As part of the work for these landscape guidelines, Avocet Irrigation Design conducted an assessment of the existing irrigation system.

The currently automated irrigation sections consist of five water connections, ranging from 1/2" diameter to 3/4" diameter, controlled by CCA. A sixth, 1-1/2" diameter water connection, is shared with City of Boulder through a single tap in the vicinity of the Auditorium. Pressures measured at the backflow preventors range from 40 PSI at higher elevations to a high of 50 PSI at lower elevations. Pressures measured at the heads under operational conditions ranged from 25 PSI at Centennial Garden to a low of 20 PSI within Waterwise Garden. Each tap's controller has recently been updated with Weathermatic "smart" ET controllers, including a weather monitor to measure site evapotranspiration.

Equipment and materials vary widely. Pop-up spray heads, impact rotors, gear driven rotors and rotary nozzles currently irrigate the turf. Drip irrigation utilizing micro-sprays and pop-up spray heads irrigate beds. Valves manufactured by Rain Bird and Irritrol are present on site. Piping consisted PVC mainlines and polyethylene laterals.

Future irrigation methods to improve the system's efficiency and assist with CCA's goal for water conservation includes the following recommendations:

- Improve system efficiency and operation to reduce water demand.
- Ensure that the irrigation system is operating at peak performance.
- Clean nozzles and raise heads so as not to be locked by turf grass. Straighten heads, etc. to raise the system's overall efficiency. Having the system at its peak performance will reduce overwatering as individual zones may no longer be needed to account for the head(s) that are underperforming as compared to others on the same zone.
- Pressure test existing irrigation mainlines to address inherit leaks.
- Expand use of drip or micro-irrigation within shrub beds as the application of water is at a very high efficiency, perhaps as high as 90-95% of the water applied is available for plant use.

Irrigation System, continued:

- Replace traditional spray head nozzles with high efficiency rotary nozzles. The low application rates of these nozzles save approximately 10-20% by reducing run-off and applying water more evenly throughout a particular zone. Hunter MP Rotator nozzles are examples of a rotary nozzle.
- Conduct an irrigation audit every five years.
- Replace old impact rotors with more efficient gear drive rotors or rotary nozzles for additional water savings. Examples of gear drive rotors include Hunter I-20 and I-25 plus Rainbird 5505 and 7005.
- Implement flow sensors and/or master valves to provide controllers with real time information regarding flows.
- Install spray heads and rotors with internal check valves.
- Equip pop-up spray heads with pop-up risers of a four inch minimum height.
- Provide proper and adequate maintenance and operation of the irrigation system. While seeming a basic task, this is key to obtaining water savings.
- Perform regular maintenance tasks such as bi-weekly irrigation system checks after the turf has been mowed to visually determine if all heads are properly working and adjusted.
- Visually inspect the site to see if any wet and/or dry spots exist so that controller schedules can be adjusted and determine if turf is disrupting irrigation head spray patterns.
- Adjust basic system operations to meet actual site conditions such as irrigating during the cooler, calmer night hours.
- Utilize the controller's cycle/soak feature to apply water in several intervals versus all at once during an irrigation sequence to minimize run-off, especially on sloping sites.
- Monitor systems flow readings.

Turf Practices

Turf management and practices shall be in compliance with the Green Industries of Colorado (GreenCO) Turf Management Best Management Practices.

Appendix B
Irrigation Water Budget

WATER BUDGET

PROJECT NAME:	The Colorado Chautauqua					SUBMITTED BY	Avocet Irrig Design	DATE:	15-Sep-2009
DESCRIPTION	IRRIGATED ACRES	MONTH	HISTORICAL ET	PLANT COEFFICIENT	PLANT WATER REQUIREMENT	SYSTEM EFFICIENCY (%)	TOTAL WATER REQUIREMENTS (IN.)	WEEKLY WATER REQUIREMENTS (IN.)	MONTHLY WATER REQUIREMENTS (GAL.)
PLANT TYPE:	4.70	APRIL	1.8	0.8	1.44	55%	2.62	0.61	332,336
BLUEGRASS		MAY	5.2	0.8	4.16	55%	7.56	1.76	960,081
(High Usage)		JUNE	6.6	0.8	5.28	55%	9.60	2.23	1,218,565
		JULY	7.1	0.8	5.68	55%	10.33	2.40	1,310,880
		AUGUST	6.2	0.8	4.96	55%	9.02	2.10	1,144,712
		SEPTEMBER	4.5	0.8	3.60	55%	6.55	1.52	830,840
		OCTOBER	1.8	0.8	1.44	55%	2.62	0.61	332,336
			33.2		26.56	TOTAL	48.29	TOTAL GAL/YR	6,129,751
	3							ACRE FEET/YR.	18.81
	12.9								
DATE:									

NOTE:

Plant water requirements are determined utilizing 100% system efficiencie
Actual system efficiencies are specific to each systems design, operating pressure and will increase application rates.
Approximate values Good/Excellent: Drip irrigation - 90% Rotor irrigation - 70% Spray head irrigation: 55% Irrigation Association Standards

Appendix C
Prohibited Plant Materials List

Refer to the Colorado Department of Agriculture state of noxious weed list and prohibited ornamental plant list, and the Colorado Native Plant Society's list of species to avoid when landscaping. This list is of additional prohibited plant materials. These Landscape Guidelines recommend eradicating any existing prohibited species where possible.

SPECIES TO ERADICATE IMMEDIATELY

PERENNIALS

Common Name	Botanic Name
Baby's breath	Gypsophila paniculata
Bouncing bet, soapwort	Saponaria officinalis
Chicory	Cichorium intybus
Chinese clematis	Clematis orientalis
Common yarrow	Achillea millefolium
Cypress spurge	Euphorbia cyparissias
Dame's rocket	Hesperis matronalis
Mayweed chamomile	Anthemis cotula
Mediterranean sage	Salvia aethiopis
Mullein	Verbascum thapsus
Myrtle spurge	Euphorbia myrsinites
Ox-eye daisy	Leucanthemum vulgare
Purple loosestrife	Lythrum
Scentless chamomile	Anthemis arvensis
St. John's wort	Hypericum perforatum
Sulphur cinquefoil	Potentilla recta
Sweet clover	Melilotus alba
Sweet clover	Melilotus officianalis
Tansy	Tanacetum vulgare
Teasel	Dipsacus fullonum
Yellow Toadflax	Linaria vulgaris

TREES

Common Name	Botanic Name
Box Elder	Acer negundo
Myrtle spurge	Euphorbia myrsinites
Russian Olive	Elaeagnus angustifolia
Salt cedar, Tamarisk	Tamarisk ramosissima
Tree of Heaven	Ailanthus altissima

* Source: City of Boulder & Colorado State University Extension

** This is an evolving list and is subject to change

SPECIES TO AVOID PLANTING

PERENNIALS

Common Name	Botanic Name
Baby's breath	Gypsophila paniculata
Bouncing bet, soapwort	Saponaria officinalis
Chicory	Cichorium intybus
Chinese clematis	Clematis orientalis
Common yarrow	Achillea millefolium
Cypress spurge	Euphorbia cyparissias
Dame's rocket	Hesperis matronalis
Mayweed chamomile	Anthemis cotula
Mediterranean sage	Salvia aethiopis
Mullein	Verbascum thapsus
Myrtle spurge	Euphorbia myrsinites
Ox-eye daisy	Leucanthemum vulgare
Perennial sweet pea	Lathyrus latifolius
Purple loosestrife	Lythrum
Scentless chamomile	Anthemis arvensis
St. John's wort	Hypericum perforatum
Sulphur cinquefoil	Potentilla recta
Sweet clover	Melilotus alba
Sweet clover	Melilotus officianalis
Tansy	Tanacetum vulgare
Teasel	Dipsacus fullonum
Yellow Toadflax	Linaria vulgaris

SHRUBS

Common Name	Botanic Name
Buckthorn	Rhamnus frangula
Scotch Broom	Cytisus scoparius
Wayfaring tree	Viburnum lantana

TREES

Common Name	Botanic Name
Box Elder	Acer negundo
Sugar Maple	Acer saccharum
Green Ash	Fraxinus pennsylavanica
Myrtle spurge	Euphorbia myrsinites
Russian Olive	Elaeagnus angustifolia
Salt cedar, Tamarisk	Tamarisk ramosissima
Tree of Heaven	Ailanthus altissima

* Source: City of Boulder & Colorado State University Extension

Appendix D
Suggested Resources

Books

Cretti, John L. Colorado Gardener's Guide. Nashville, TN: Cool Springs Press, 1998.

Denver Water. Xeriscape Plant Guide: 100 Water-Wise Plants for Gardens and Landscapes. Golden, CO: Fulcrum Publishing, 1998.

Dolecek, Kelly. Month-to-Month Gardening, Colorado. Englewood,CO: Four Sisters Publishing, Inc., 1998.

Ellefson, Connie Lockhart and David Winger. Xeriscape Colorado: The Complete Guide. 2004.

Garnsey, Georgia. Colorado's Great Gardens: Plains, Mountains & Plateaus. 1998.

Henrich, James E. Durable Plants for the Garden. Golden, CO: Fulcrum Publishing, 2009.

Knopf, Jim. The Xeriscape Flower Gardener: A Waterwise Guide for the rocky Mountain Region. Boulder,CO: Johnson Publishing, 1991.

Quinn, Marilyn, Peter Eckert, and Mary Gerty. High Altitude Western Gardening. Layton, Utah: Gibbs Smith, 2007.

Tannehill, Celia and James Klett. Best Perennials for the Rocky Mountains and High Plains. Ft.Collins, CO: Colorado State University, 2002.

Websites

City of Boulder	*www.bouldercolorado.gov*
Colorado Gardening	*www.coloradogardening.com*
Denver Botanic Gardens	*www.botanicgardens.org*
GreenCO	*www.greenco.org*
Colorado Native Plant Society	*www.conps.org*
Plant Select	*www.plantselect.org*
PlantTalk Colorado	*www.ext.colostate.edu*
Xeriscape Colorado, Inc!	*www.xeriscape.org*

Nurseries

Gem O' The Field - 303-823-5776, stocks many Boulder natives, sets up a booth at Boulder's Farmer's Market

Harlequin's Gardens - 303-939-9403, 4795 N. 26th Street, Boulder

Left Hand Valley Nursery - 303-772-0200, 4795 N. 26th Street, Longmont

Sturtz & Copeland Florists and Greenhouses - 303-442-6663, 2851 Valmont Road, Boulder

The Tree Farm - 303-652-2961, 11868 Mineral Road, Longmont

Appendix E
Boulder Wildfire Mitigation

Colorado Chautauqua Association is developing a Wildfire Mitigation Protocol that will be available on our website, www.chautauqua.com, in the Spring of 2012.

CHAUTAUQUA
NATIONAL HISTORIC LANDMARK

MUNDUS BISHOP