

# Downtown Design Manual



*City of Camas, Washington*

*Adopted by Resolution No. 1136 on September 2, 2008*

# Downtown Design Manual

City of Camas, Washington

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## Credits and Acknowledgements

### Camas City Council

Paul Dennis, Mayor  
Greg Anderson  
Don Cheney  
Linda Dietzman  
Helen Gerde  
Scott Higgins  
Steve Hogan  
Melissa Smith

### Planning Commission

Bryan Beel  
Carol Collier  
Shelly Damore  
Mary Kufeldt-Antle, Vice Chair  
Tim Hein, Chair  
Troy Hull  
David Shepherd

### Downtown Vision Coalition

Design & Infrastructure Committee

### City Administration

Lloyd Halverson, City Administrator

### City Staff

Phil Bourquin, Community Development Director  
James Carothers, Engineering Manager  
Sarah Fox, Planner II  
James Hodges, Engineering Project Manager  
Jeff Englund, Engineering Technician

### Consultants

Christopher A. Baumann LA  
Daniel G. George LA, APA, ASCA

Planning Solutions, Inc.  
1601 Broadway  
Vancouver WA 98663  
360-750-9000  
psi@planningsolutionsinc.com

## A. How to Use this Document

The Downtown Design Manual has been developed by downtown business owners in conjunction with the City of Camas. This document provides general requirements geared towards businesses considering renovations, expansions, or new site development.

The following process is suggested:

1. Read this document and note requirements that may apply to your project. Be sure to review the Appendix section. All words included in the Definitions appendix have been underlined (and are noted as bold) within this manual. Example: **Definition**
2. Review and define your project, then re-read this document.
3. If you have questions, contact the City of Camas Planning Division (360) 817-1562 to review your project. City staff will be happy to discuss your project and how it relates to this Downtown Design Manual, as well as other City codes.

## B. Purpose

The Downtown Design Manual is intended to provide guidance for new development and redevelopment within the existing downtown core. This type of development is further expected to:

1. Achieve the goals and objectives of the City of Camas Comprehensive & Capital Facilities Plan;
2. Enhance livability, environmental quality and economic vitality with a mix of uses downtown;
3. Maximize efficient use of public facilities and services;
4. Create a safe, attractive, and convenient environment for a variety of uses including living, working, and recreating with retail businesses on the street level and housing/office units on upper levels;
5. Encourage economic development in the area by creating an environment that attracts a broad and diversified consumer base to the downtown core;
6. Encourage an economically viable atmosphere that will attract new business to the downtown core.
7. Encourage sustainable development practices.





### C. Applicability / General Requirements

1. The provisions of this section shall be applied to public spaces and private parcels located within the City of Camas downtown commercial zone. (Refer to Figure 1) The boundary is intended to include both sides of the street.
2. Private parcels shall be required to implement the improvements identified within this section for:
  - (a) all new uses;
  - (b) all **changes of use**;
  - (c) the expansion of any building or development as defined in Camas Municipal Code (“CMC”) Section 18.18.020(A) exceeding twenty percent of the existing floor or site area, or any one thousand square foot addition or increase in impervious coverage thereto, whichever is lesser.
3. The following activities are exempt from the requirements of this section.
  - (a) Routine or emergency repair or maintenance of public or private buildings, structures, landscaping or utilities;
  - (b) Interior remodeling.
4. If the requirements of the Downtown Design Manual conflict with other regulations, the more stringent of the two shall apply.
5. All work associated with the implementation of the Downtown Design Manual on private parcels shall be constructed and maintained by the land owner, unless otherwise noted.
6. All required improvements shall be subject to Design Review (CMC 18.19) prior to building permit issuance. In addition, projects may be subject to Site Plan Review (CMC 18.18) prior to building permit issuance. Project proponents are urged to contact the City of Camas for all required approval processes.
7. All work shall be completed in accordance with City of Camas Municipal Code.
8. Refer to Appendix B for a Required Elements Matrix.

Applicability Map

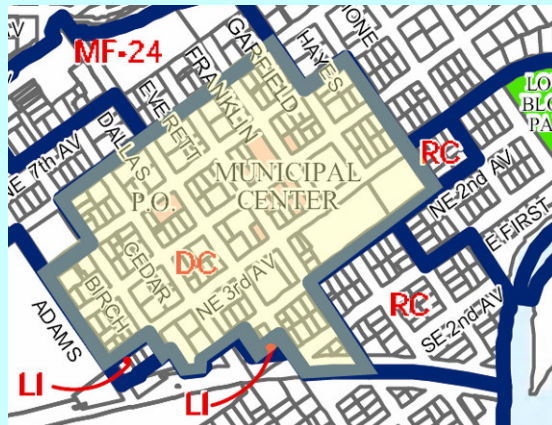


Figure 1

9. Standards, materials, finishes, and colors specified within this manual, and the attached appendices, may be substituted with other similar elements with review by the Design Review Committee and approval by the City of Camas decision maker.

## D. Streetscape Elements

The Downtown Design Manual is intended to provide a high degree of landscape amenities, tree lined streets, attractively landscaped frontages, screening of service areas, street furnishings, and pedestrian areas as part of a unified design.



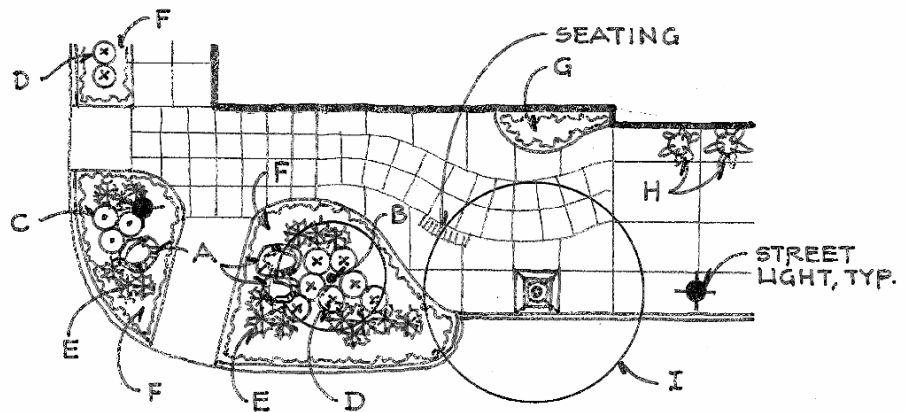
### 1. Planting Design

(a) On-site plantings that abut the public right of way shall provide multiple layers of plantings, including canopy trees, understory trees, shrubs and groundcover. Seasonal interest is encouraged to be enhanced through the use of plant materials that provide seasonal color, fragrance, and specimen plant materials. Refer to Figure 2 for a planting example.

(b) Landscape materials shall be installed per Appendix D. Landscaping should not exceed 30" high on corners.

(c) Hanging baskets shall be installed so that the bottom of the basket is a minimum of eight feet (8') above the finished grade.

(d) All plant materials shall meet or exceed specifications established by the American Association of Nurserymen for nursery stock, and be suitable for the climatic conditions encountered in Camas, Washington.



- A OPTIONAL BOULDERS
- B SMALL ACCENT TREE
- C LOW EVERGREEN SHRUBS
- D LOW OR MEDIUM EVERGREEN SHRUBS
- E PERENNIALS
- F ORNAMENTAL GRASSES AND/OR GROUND COVER
- G PLANTER POCKET WHERE PRACTICAL W/ ESPALIER & ANNUALS
- H FLOWER POTS
- I STREET TREE

Planting Design Example Figure 2

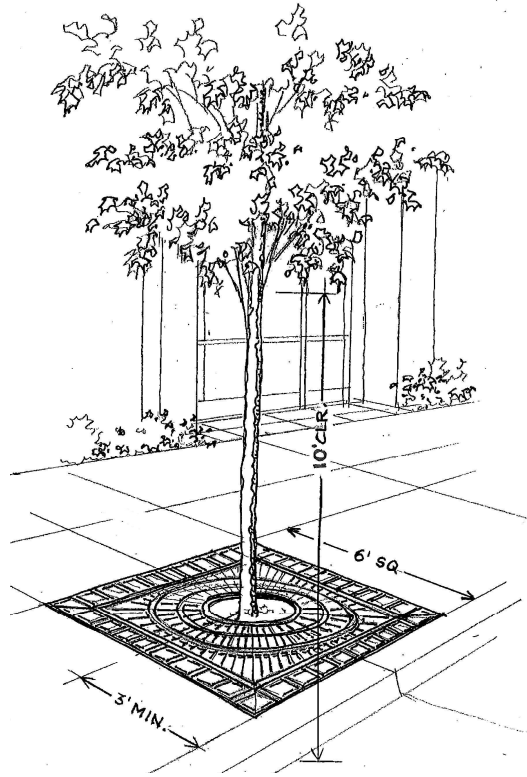
(e) A landscape maintenance plan per the American Association of Nurserymen's standards, and approved by the City of Camas, shall be recorded as a covenant on the project parcel for landscaping located on private property.

## 2. Irrigation Design

(a) All landscape plantings shall be irrigated with an automatic, underground irrigation system designed with water conservation in mind. Utilization of techniques such as separate water zones based on soil type, sun exposure, and plant water requirements are encouraged. Hanging baskets and individual planter pots may be hand watered. All irrigation materials located within the public right-of-way shall utilize the materials and construction techniques as listed in Appendix D and the City of Camas Design Standards Manual.

## 3. Street Trees

- (a) Trees selected for use as street trees shall be long-lived species possessing qualities suitable for an urban streetscape including branching characteristics, rooting characteristics, disease resistance, and non-fruiting. Street Trees shall be selected from Appendix "C" or the Camas Design Standard Manual (This manual is available online at <http://www.ci.camass.wa.us/pworks/engforms.htm>).
- (b) Street trees shall be a minimum of 2-inch caliper, fully branched, and staked at the time of planting.
- (c) Street Trees shall be maintained to provide eight feet of clearance area under the canopy at the sidewalk and 10 feet of clearance at the street, per Figure 3.
- (d) Street trees shall be planted on all street frontages at minimum 30 feet on-center spacing, as measured along the abutting curb.
- (e) Street trees shall be placed a minimum of two and one-half feet from the back of the curb as measured from the center of the tree, unless otherwise specified by the City of Camas decision maker, per Figure 3.
- (f) Street tree planters shall be covered with American with Disability ("ADA") accessible tree grates that are a minimum of six feet by six feet, street tree placement shall not impede pedestrian access and shall allow for a minimum six foot path of travel (the ADA accessible tree grates may be placed within the path of travel to meet these specifications).



Street Tree Placement  
Figure 3

- (g) A limited **tree grate** exception may be granted for instances where **street trees** must be placed in planter beds. Such planter beds must be at least twice the size of a standard **tree grate** tree planter, must be landscaped per this section, must be irrigated per this section, and must allow for a minimum six foot **path of travel**.
- (h) **Street trees** shall be irrigated per Appendix D.
- (i) **Street tree** planters, where allowed, shall include root barriers.

#### 4. **Hardscape** Elements

**Hardscape** Elements provide a high degree of pedestrian amenity that encourages outdoor social interaction, promotes a sense of place, and public security. The introduction of **hardscape** elements such as natural stone, sculpture, **water features**, **drinking fountains**, decorative sidewalks (e.g. **scored concrete**, colored concrete, pavers, etc.), **enhanced paving**, **accent lighting**, **site furnishings**, recreational facilities, and the like are strongly encouraged.



- (a) Furnishings
  - (1) Furnishings shall consist of benches, **drinking fountains**, trash receptacles, and bike racks. Furnishings shall be placed such as to not impede or constrict pedestrian movement or ADA Accessibility.
  - (2) Benches shall be placed within the public sidewalk, private parcels, pocket plazas and parks to encourage social interaction and extend the length of stay in the area. At a minimum one bench should be located on each side of a city block. Where opportunities exist to locate more than one bench, benches should be orientated toward each other to encourage social interaction.
  - (3) **Drinking fountains** shall be ADA accessible.
  - (4) Trash Receptacles shall be placed within the public sidewalk, pocket plaza, and parks to encourage public sanitation and a litter free environment. At a minimum one trash receptacle should be located on each side of a city block near the midpoint of the block. Uses that generate a high potential for immediately disposable trash such as take out restaurants are strongly encouraged (unless otherwise stated) to locate a trash receptacle within the **frontage** of their establishment.
  - (5) Bike racks shall be placed within the public sidewalk, pocket plaza, and parks to encourage multi modal transportation and pedestrian safety. At a minimum one



bike rack should be located on each side of a city block near the midpoint of the block. Uses that generate a high potential for bike parking such as arcades and movie theaters are strongly encouraged (unless otherwise stated) to locate a bike rack within the **frontage** of their establishment.

- (6) **Water features** are encouraged. Upon review by the Design Review Committee, and approval by the City of Camas decision maker, placement of a **water feature** may be in lieu of some (or all) of the required elements for a particular parcel. The Design Review Committee shall determine which streetscape elements may be substituted by the **water feature**.

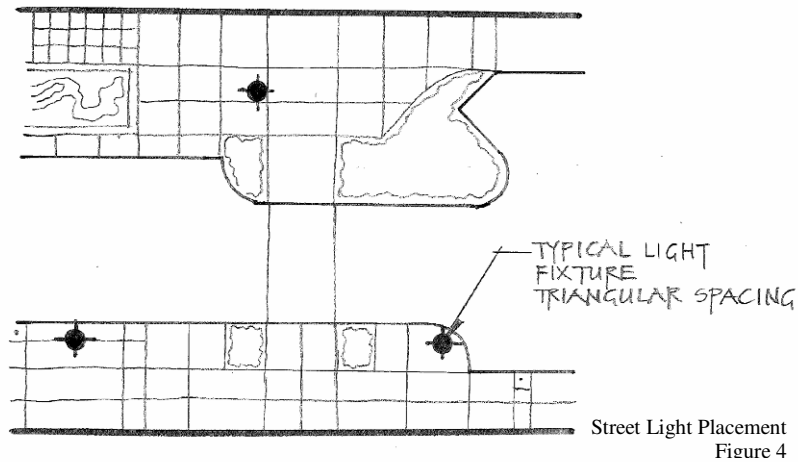


- (7) **Public art** is required to be provided at one percent of construction cost. Upon review by the Design Review Committee, and approval by the City of Camas decision maker, placement of a permanent **public art** display may be in lieu of some (or all) of the required elements for a particular parcel. The Design Review Committee shall determine which streetscape elements may be substituted by the **public art**.



(b) Street Lighting

- (1) Themed ornamental street lighting shall be located along the public right of way. Street lights shall be located utilizing a triangular spacing per Figure 4. The street light (with hanging plant bracket) shall be the City of Camas approved downtown street light.



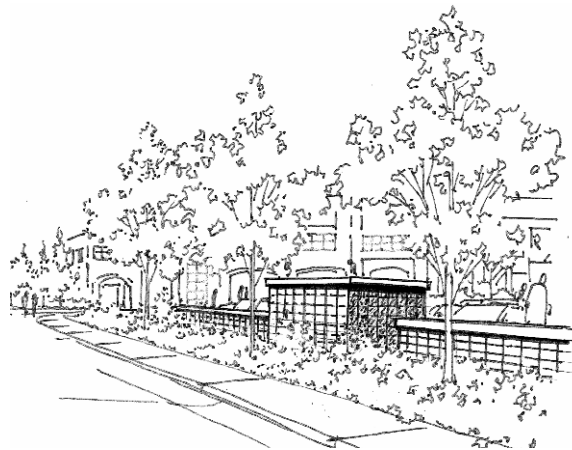
- (2) Every lot will not be required to place a streetlight. Street light spacing will dictate those lots required to place street lights. The City of Camas decision maker shall review and approve proposed street light spacing.

5. Screening Standards

Screening shall be utilized to obscure views of service, parking, and trash collection areas from view from the public right-of-way.

(a) General

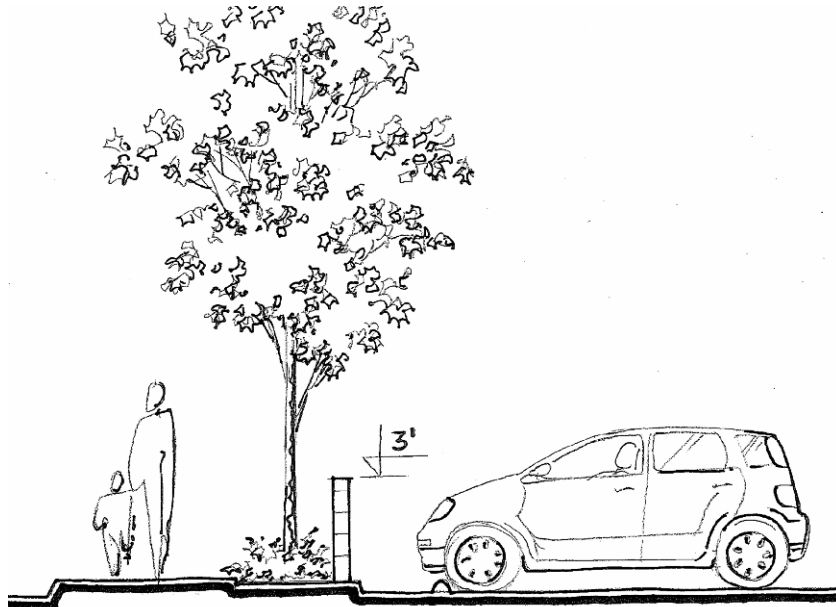
- (1) Sight-obscuring evergreen vegetation, screen walls, or fences may be erected within the setback area of a private parcel.
- (2) Screening shall not be placed within the public right-of-way.



- (b) Parking lots abutting the public right-of-way

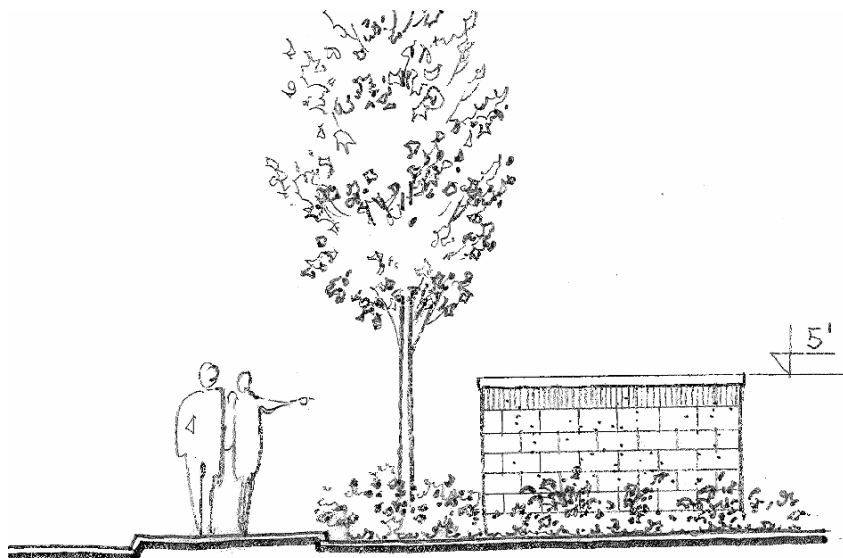


- (1) Shall be screened by a wall or fence three feet in height within a planting strip.



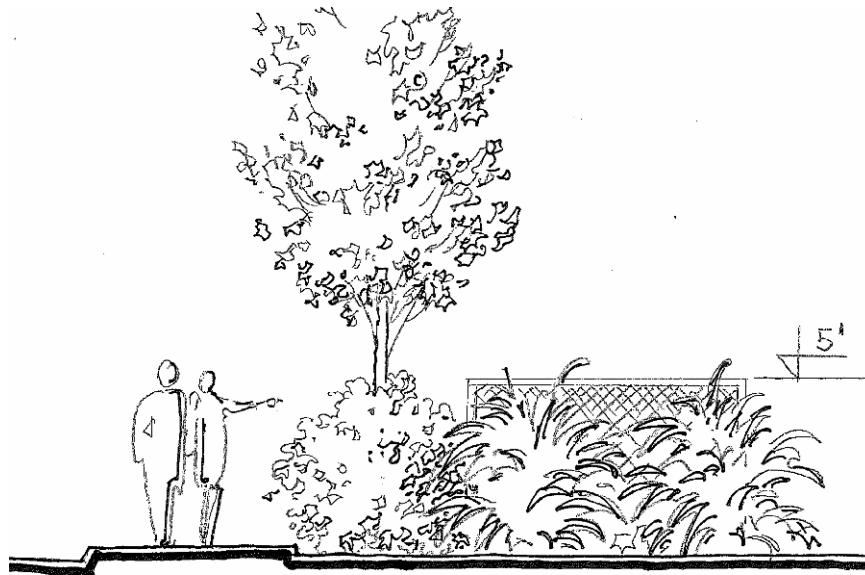
Parking Screen - Figure 5

- (2) Where sufficient room exists, small to medium size trees shall be planted twenty feet on center.
  - (3) The screen shall be placed so as to obscure the view of the parking area from the public right of way.
- (c) Service / trash collection areas abutting the public right-of-way
- (1) Shall be screened by a wall or fence five feet in height within a planting strip.



Service Screening with Landscape and Wall - Figure 6

- (2) Where sufficient room exists, small to medium size trees shall be planted twenty feet on center.



Service Screening with Landscape and Fence - Figure 7

- (3) Gates providing access to these areas shall be constructed of 100% opaque solid materials.

(d) Screen Materials

- (1) The height of any wall, fence, or hedge shall not interfere with safe lines of sight as determined by the City of Camas decision maker.
- (2) Barbed wire, razor wire, chain link, and vinyl fencing are prohibited.
- (3) Fences and walls shall be constructed of enduring materials such as wood, masonry, and concrete.
- (4) Walls and fences shall be 100% opaque.
- (5) Wall or fence screens shall provide visual interest through the use of varied building materials, textures, reliefs, architectural details, etc.
- (6) To avoid a solid or blank appearance, 20% of the face of walls and fences shall utilize varying materials, colors, and other textures.
- (7) Screening that utilizes plant materials shall incorporate plant materials capable of reaching 100% solid **evergreen** screen within three years of planting.

## 6. Pedestrian and Parking Lot Surfaces

### (a) Pedestrian Surfaces

- (1) Pedestrian surfaces *outside* of the right-of-way (private property) shall be constructed of an all weather continuous surface such as asphalt, concrete, colored concrete, pavers, etc. Granular materials such as gravel may be approved by the City of Camas decision maker.
- (2) Pedestrian surfaces within the public right-of-way shall be concrete per the City of Camas standard sidewalk, unless otherwise reviewed by the Design Review Committee and approved by the City of Camas decision maker.

### (b) Parking Lot Surfaces

- (1) Parking lot surfaces shall be constructed of an all weather continuous surface (e.g. asphalt, concrete, permeable paving, bricks, interlocking pavers). Gravel and dirt surfaces are not permitted.

### (c) ADA Accessibility

- (1) Notwithstanding any section of the design standards, applicable provisions of the American with Disabilities Act (ADA) shall at all times be implemented within the area. ADA design standards shall be subject to review and approval by the Building Official and City of Camas decision maker.

## E. Architectural Standards

### 1. Site Planning

- (a) New construction shall orient the main public entrance toward the public right of way.
- (b) Parking areas shall be located to the rear or side of the structure. Parking shall not occupy more than 10% of the project **frontage** along the public right of way. Corner lots may be allowed additional **frontage** parking (on the **minor side street**) with additional screening per review by the Design Review Committee and approval by the City of Camas decision maker. Where possible parking areas shall be accessed from an alley, buildings should be located to provide a continuous colonnade along the public right of way. Parking requirements can be found within Title 18 CMC.



- (c) Feature areas should be incorporated to provide outdoor use areas such as sidewalk dining, sidewalk merchandising, courtyards, nooks, balconies, alcoves or terraces.
- (d) Sufficient space shall be provided for refuse storage (and required screening) outside of the public right-of-way.
- (e) The intent of these standards is not to move existing buildings.
- (f) Downspouts shall not direct water across sidewalks.

## 2. Signage

- (a) Signage shall be per the City of Camas Sign Ordinance.

## 3. Building Façade

- (a) Building elevations visible from the public right of way should be designed to provide architectural interest and individual character.



Example of rain protection

- (b) **Glazing** fronting the street shall be utilized on a minimum of 40%, to a maximum of 80% of the ground floor elevation abutting the public right of way. Components of Energy Smart Design should be considered where **glazing** is utilized.
- (c) **Rain protection** attached to buildings shall be provided along the public right of way consisting of a five foot width minimum cover along 90% of the building facade. The building may not cantilever into the public right-of-way to achieve **rain protection**. **Rain protection** may take the form of a canopy projection, recessed entry, overhead balcony, or combination thereof.

- (d) Architectural detailing should be utilized to provide visual interest and individual character. Elevations abutting the public right of way should incorporate a high degree of architectural detailing including but not limited to the use of relief panels, **cornice** work, window trim, balconies, overlooks, nooks, alcoves, shade panels, **rain protection**, finish textures, multiple color palettes, and staggered wall sections. Detailing shall be compatible with the existing and surrounding downtown area.



Example of detailing

- (e) Building Materials shall be selected for their enduring qualities. Recycled or renewable materials should be utilized where practical. Preferred materials include natural stone, masonry, wood, architectural grade metal, architectural grade composite materials, concrete, precast concrete products, and stucco.
- (f) Materials specifically prohibited include vinyl siding and exposed plywood products. This shall not be interpreted to preclude laminated doors or the use of plywood in soffits. Materials shall be compatible with the existing and surrounding downtown area.
- (g) Roof mounted equipment shall be screened from view from the street by providing a **parapet** or cornice at least equal in height to the equipment, and by painting the equipment to match the roof. For flat roofs the **parapet** shall surround the perimeter of the building. Screening shall be compatible with rooflines and materials so that the roof lines are harmonious.
- (h) Building colors shall be chosen to be compatible with neighboring structures, and natural or earth-tone colors shall predominate.



## Appendix A – Definitions

- Accent lighting: controlled and focused light used to accent exterior elements or architectural details.
- Canopy trees: a species of tree which normally bears crown foliage no lower than eight feet above ground level upon maturity.
- Change in Use: change in the activity or purpose for which land or premises, or a building thereon is designed, arranged, or intended, or for which it is occupied or maintained, rented or leased as determined by the City of Camas Community Development Director.
- Cornice: any prominent, continuous, horizontally projecting feature surmounting a wall or other construction.
- Covenant: an agreement, usually formal, between two or more persons to do or not do something specified.
- Deciduous: trees that drop all or most of their leaves in winter.
- Drinking fountain: a public structure to provide drinking water.
- Enhanced paving: any permeable or impermeable decorative pavement material intended for pedestrian or vehicular use. Examples of enhanced pavement include brick or stone pavers, grass paver, exposed aggregate concrete, and stamped pavement.
- Evergreen: trees that keep all or most of their leaves or needles year-round.
- Fragrance: the state or quality of having a pleasant odor.
- Frontage: that portion of a parcel of property which abuts a dedicated public street or highway, or private road or driveway approved by the City of Camas decision maker.
- Glazing: windows or transparent material on a building façade.
- Groundcover: natural plants of species which normally reach a height of less than two feet upon maturity, installed in such a manner so as to form a continuous cover over the ground.
- Hardscape: Elements added to a natural landscape, such as paving stones, paving, walkways, irrigation systems, roads, retaining walls, sculpture, street amenities, fountains, and other mechanical features.
- Landscaping located on private property: landscape materials located and/or installed by the property owner.
- Minor side street: Local streets providing direct access to abutting land and access to the higher level arterials. They offer the lowest level of mobility and usually contain no bus routes. Service to through traffic movement usually is deliberately discouraged.
- Parapet: a low screen wall at the edge of a balcony or roof.
- Path of travel: a continuous, unobstructed way of pedestrian passage by means of which an area may be approached, entered, and exited, and which connects the area to an entrance to a facility or other nearby areas.
- Public art: works of art in any media that has been planned and executed with the specific intention of being sited or staged in the public domain, outdoors and



accessible to all. Examples of public art could be water features, ornamental street furniture, statues, historic wall plaques, and murals.

- Rain protection: device or architectural detail designed to provide relief from inclement weather
- Seasonal color: the use of blooming annuals, flowering perennials, and tree/shrubs, and foliage color to accent landscape design with an ever-changing display of color.
- Scored concrete: A concrete sidewalk that is etched in a pattern (typically 30” square).
- Shrubs (bushes): woody plants of relatively low height, having several stems arising from the base, and lacking a single trunk.
- Site furnishings: man-made articles (such as benches and trash receptacles) that are needed in public spaces to service the needs of the public, or that assist in the safe and orderly management and use of the space.
- Specimen plants: Specimen plants are plants grown by themselves in a lawn or garden for ornamental effect, rather than being massed with others as are bedding plants or edging plants. Specimen plants can thus serve as focal points in landscape design. An example of a specimen plant is a flowering tree that has a prominent spot reserved for it on a lawn.
- Street tree: Any tree planted or maintained within the public easement. All new replacements will be selected from Appendix “C” or the Camas Design Standard Manual.
- Tree grate: coverings for tree wells designed to provide visual accent, ADA walkable surfaces, and space for water and air infiltration. See appendix D.
- Understory trees: small tree such as dogwood and holly, which rarely grow tall, and grow in the shade of a larger tree’s canopy.
- Water feature: a landscape focal point with either still or moving water; may include fountains, waterspouts, waterfalls, formal or informal ponds, bogs, or container water gardens.

## Appendix B – Required Elements Matrix

| Design Feature   | Required Elements   | Encouraged Elements  |
|--|---|--|
| Landscape  | Street trees @ 30' o.c. minimum   | Seasonal color   |
|  | Multiple layers of plantings  | Fragrance  |
|  | Canopy trees  | Fall color   |
|  | Understory trees  | Specimen plants  |
|  | Shrubs  |  |
|  | Groundcover   |  |
|  | Individual character  |  |
|  | Maintenance plan covenant   |  |
|  | Irrigation  |  |
| Hardscape  | ADA Accessible tree grates <sup>1</sup>   | Benches  |
|  | Street lighting <sup>2</sup>  | Trash receptacle   |
|  | Public art (1% of construction cost)  | Bike racks   |
|  |   | Drinking fountains   |
|  |   | Water Feature  |
|  |   |  |
| Screening<br>(parking lots)                            | 3' wall or fence in landscape strip   |  |
|  | Visual interest – no blank walls  |  |
|  | Medium size trees 20' o.c. minimum <sup>3</sup>   |  |
| Screening<br>(service / trash<br>collection areas)     | 5' wall or fence in landscape strip   |  |
|  | Visual interest – no blank walls  |  |
|  | Medium size trees 20' o.c. minimum <sup>4</sup>   |  |
|  | 100% solid opaque gates   |  |
| Private<br>Pedestrian &<br>Parking Surfaces            | All weather concrete or asphalt   | Pavers, Colored Concrete   |
|  | ADA accessibility   |  |
|  | Minimum 4' pedestrian path of travel  |  |
| Pedestrian<br>Surfaces w/in<br>Public Right-of-<br>Way | ADA accessibility   | Meandering sidewalks with<br>special concrete scoring<br>patterns  |
|  | Decorative sidewalk (e.g. <u>scored concrete</u> , colored concrete, pavers, etc.)      |  |
|  | Minimum 6' pedestrian path of travel  |  |
| Architectural /<br>Site Planning                       | 10 % maximum parking abutting the<br>project frontage along the public way <sup>5</sup> | Parking accessed from alley  |
|  | Main entrance oriented towards public<br>way  | Building located to form<br>continuous colonnade along<br>frontage |

| <b>Design Feature</b>                         | <b>Required Elements</b>  | <b>Encouraged Elements</b>                                     |
|---|---|--|
| Architectural /<br>Site Planning<br>continued | 40% minimum to a maximum of 80% glazing of the ground floor elevation abutting the public way | Feature areas such as courtyards, sidewalk merchandising, etc. |
|   | 5' wide rain protection attached to building along 90% of frontage <sup>6</sup>               | Retail or restaurants on street level.                         |
|   | Roof mounted equipment screening via parapet or cornice                                       | Office and residential units on upper floors.                  |
|   | Architectural detailing compatible with the existing downtown area                            |  |
|   | Architectural materials compatible with the existing downtown area                            |  |
|   | Natural – Compatible Colors   | Energy Smart design  |

<sup>1</sup> Limited Exceptions (D.3.i).

<sup>2</sup> Dependent on approved light spacing (D.4.b.2).

<sup>3</sup> Where sufficient room exist (D.5.b.2).

<sup>4</sup> Where sufficient room exist (D.5.c.2).

<sup>5</sup> Corner lots may be allowed additional frontage parking (on the minor side street) with additional screening per review and approval (E.1.b).

<sup>6</sup> The building may not cantilever into the public right-of-way to achieve rain protection (E.3.c).

## Appendix C – Street Trees

This short list of trees is commonly found within the downtown commercial core of the city. An expanded list of approved street trees is located within the *Camas Design Standard Manual* (<http://www.ci.camas.wa.us/pworks/engforms.htm>).

### Minimum 4' Planting Strip Width

| Common Name:     | Scientific Name:              | Cultivar:   | Height<br>(in FT) | Width<br>(in FT) |
|------------------|-------------------------------|-------------|-------------------|------------------|
| Raywood Ash      | <i>Fraxinus oxycarpa</i>      | Raywood     | 40                | 28               |
| Leprechaun Ash   | <i>Fraxinus pennsylvanica</i> | Johnson     | 18                | 16               |
| Capital Pear     | <i>Pyrus calleryana</i>       | Capital     | 35                | 12               |
| Chanticleer Pear | <i>Pyrus calleryana</i>       | Chanticleer | 40                | 15               |
| Redspire Pear    | <i>Pyrus calleryana</i>       | Redspire    | 35                | 25               |

### Minimum 6' Planting Strip Width

(\*Refer to 4' tree list for additional trees for use under power lines)

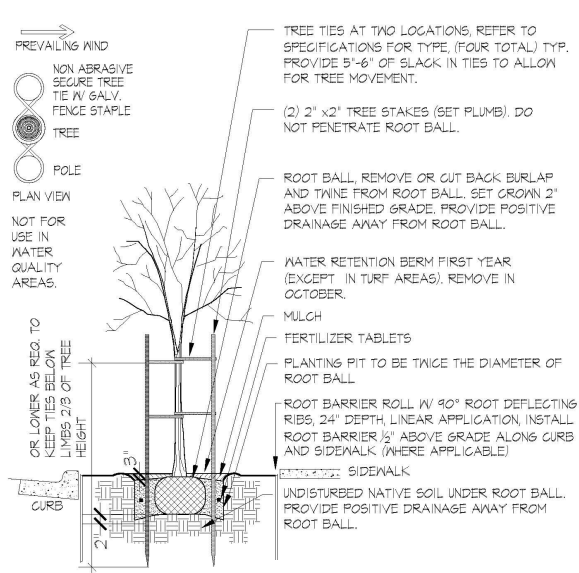
| Common Name:           | Scientific Name:              | Cultivar:     | Height<br>(in FT) | Width<br>(in FT) |
|------------------------|-------------------------------|---------------|-------------------|------------------|
| Columnar Norway Maple  | <i>Acer platanoides</i>       | Columnar      | 35                | 15               |
| European Hornbeam      | <i>Carpinus betulus</i>       | Fastigiata    | 35                | 25               |
| Marshall Ash           | <i>Fraxinus pennsylvanica</i> | Marshall      | 50                | 40               |
| Summit Ash             | <i>Fraxinus pennsylvanica</i> | Summit        | 45                | 25               |
| Aristocrat Pear        | <i>Pyrus calleryana</i>       | Aristocrat    | 40                | 28               |
| Greenspire Linden      | <i>Tilia cordata</i>          | Greenspire    | 40                | 30               |
| Sterling Silver Linden | <i>Tilia tomentosa</i>        | Sterling      | 45                | 35               |
| Wireless Zelkova       | <i>Zelkova serrata</i>        | Schmidtlow    | 25                | 35               |
| Village Green Zelkova  | <i>Zelkova serrata</i>        | Village Green | 40                | 38               |

### Minimum 8' Planting Strip Width

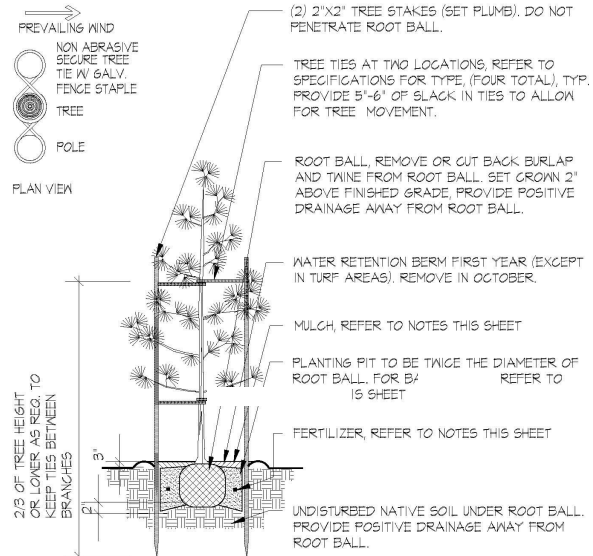
(\*Refer to 4' tree list for additional trees for use under power lines)

| Common Name:        | Scientific Name:        | Cultivar:     | Height<br>(in FT) | Width<br>(in FT) |
|---------------------|-------------------------|---------------|-------------------|------------------|
| Crimson King Maple  | <i>Acer platanoides</i> | Crimson King  | 40                | 35               |
| Emerald Queen Maple | <i>Acer platanoides</i> | Emerald Queen | 50                | 40               |
| Summershade Maple   | <i>Acer platanoides</i> | Summershade   | 42                | 40               |
| Green Vase Zelkova  | <i>Zelkova serrata</i>  | Green Vase    | 50                | 40               |

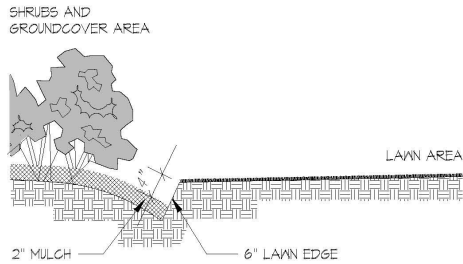
## Appendix D – Planting & Irrigation Details



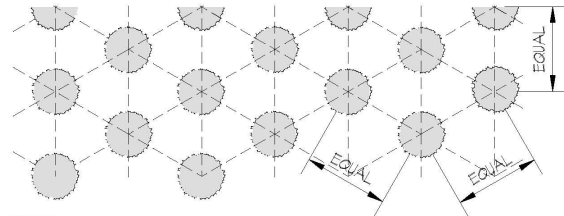
**A B & B Tree Planting Detail**  
Not To Scale SECTION / PLAN VIEW



**B B & B Tree Planting Detail: Evergreen under 8' Height**  
Not To Scale SECTION / PLAN VIEW

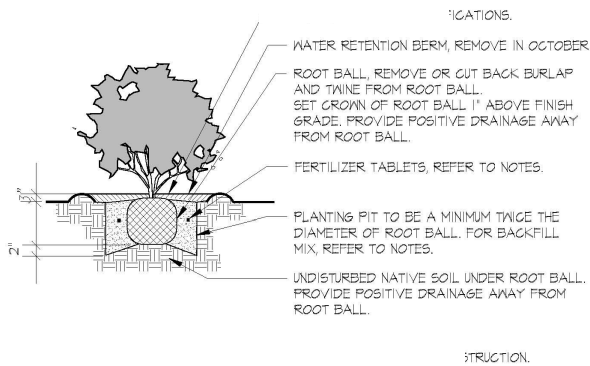


**C Lawn Edge Detail**  
Not To Scale SECTION



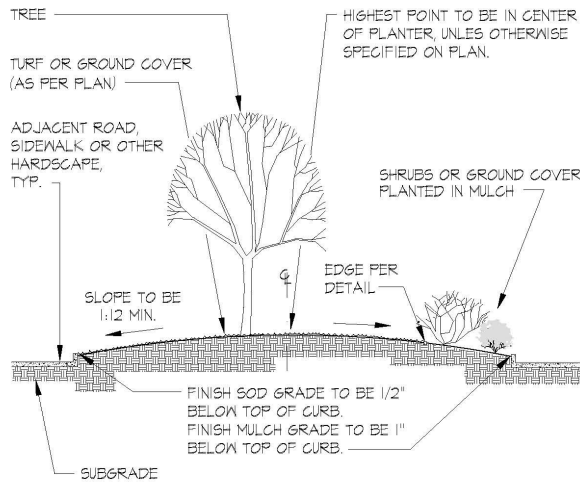
NOTES:  
ALL GROUND COVER SHALL BE PLANTED AT EQUAL TRIANGULAR SPACING AS SPECIFIED IN PLANTING LEGEND.  
GROUND COVER TO BE LOCATED ONE HALF OF SPECIFIED SPACING DISTANCE FROM ANY HARD SURFACE, UNLESS OTHERWISE SPECIFIED.

**D Ground Cover Planting Detail**  
Not To Scale PLAN VIEW



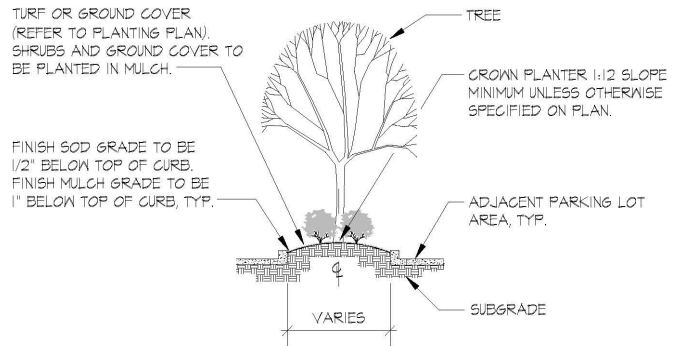
**E B & B Shrub Planting Detail**  
Not To Scale SECTION

All details shown are for reference only and are intended to be used as a general guide. Specific projects will require details specific to that project.



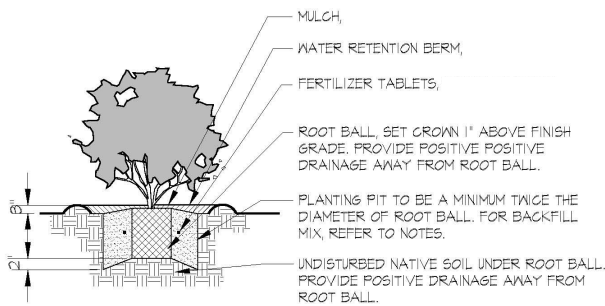
**F Typical Curbed Planter Area**  
Not To Scale

SECTION A-A



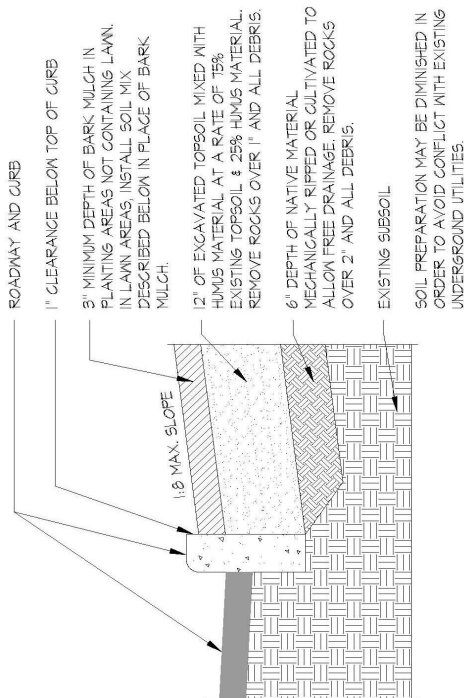
**G Typical Parking Finger Planter Area**  
Not To Scale

SECTION B-B



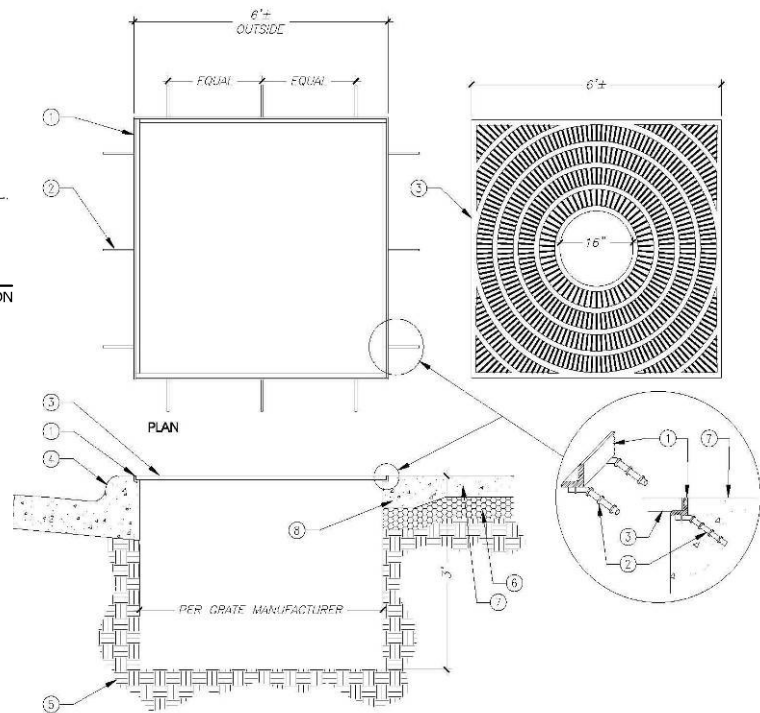
**H Container Ground Cover Planting Detail**  
Not To Scale

SECTION



**I Soil Section of Curb within Planting Strips & Finger Islands**  
Not To Scale

SECTION



NOTES:

- ① 1" X 1" X 1/4" L STEEL FRAME
- ② #3 REBAR, WELD TO FRAME
- ③ 3/4" THICK TREE GRATE, CAST IN 2 PIECES, NO OPENINGS GREATER THAN 3/8", 16" DIA. CENTER OPENING
- ④ CURB AND GUTTER, REFER TO CIVIL PLANS

- ⑤ COMPACTED SUBGRADE, REFER TO CIVIL PLANS FOR % COMPACTION
- ⑥ LAYER OF 3/4" MINUS GRAVEL, REFER TO CIVIL PLANS
- ⑦ 4" CONCRETE SIDEWALK, SEE ENGINEERING DRAWINGS
- ⑧ THICKENED EDGE (6"X6")

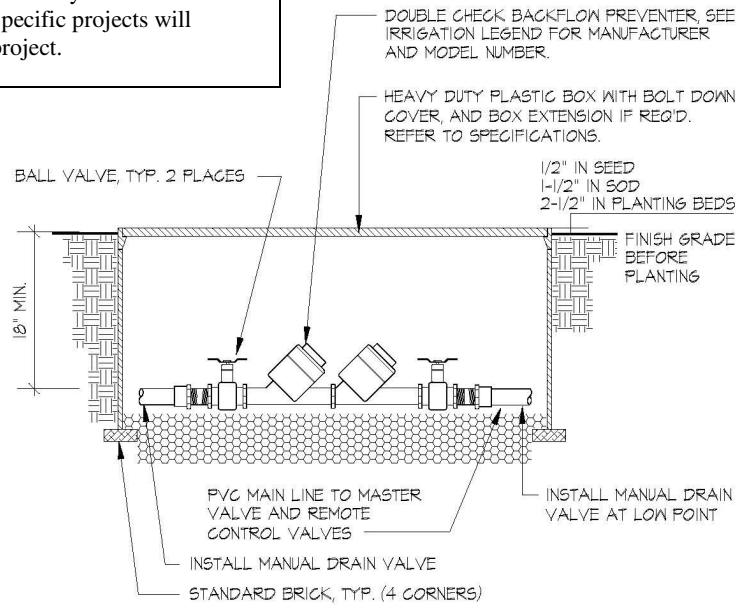
REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

**J Tree Well & Tree Grate Detail**  
Not To Scale

SECTION / PLAN VIEW



All details shown are for reference only and are intended to be used as a general guide. Specific projects will require details specific to that project.



NOTES:

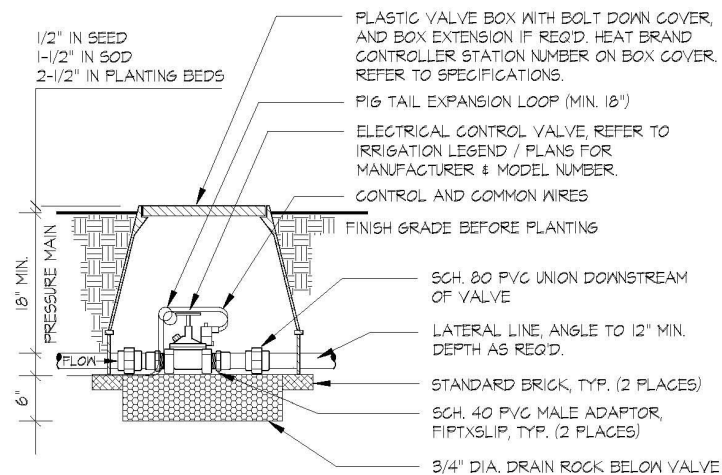
1. EQUIPMENT TO BE INSTALLED A MINIMUM OF 24" FROM ANY STRUCTURE OR HARDSCAPING.
2. USE TEFLON TAPE ON ALL THREADED FITTINGS.

**Backflow Preventer Detail (2" & Smaller)**

Not To Scale

DOUBLE CHECK

## SECTION



NOTES:

1. INSTALL VALVES A MINIMUM OF 12" FROM STRUCTURES OR HARDSCAPING.
2. INSTALL VALVES IN PLANTING BEDS WHEREVER POSSIBLE.
3. PLACE VALVE BOX AT RIGHT ANGLES TO STRUCTURES OR HARDSCAPING.
4. INSTALL VALVE BOX SO THAT TOP OF VALVE BOX IS FLUSH WITH ADJACENT HARDSCAPING.
5. PLACE 3/4" DIA. DRAIN ROCK PRIOR TO INSTALLATION OF VALVE BOX.
6. USE TEFLON TAPE ON ALL THREADED FITTINGS.

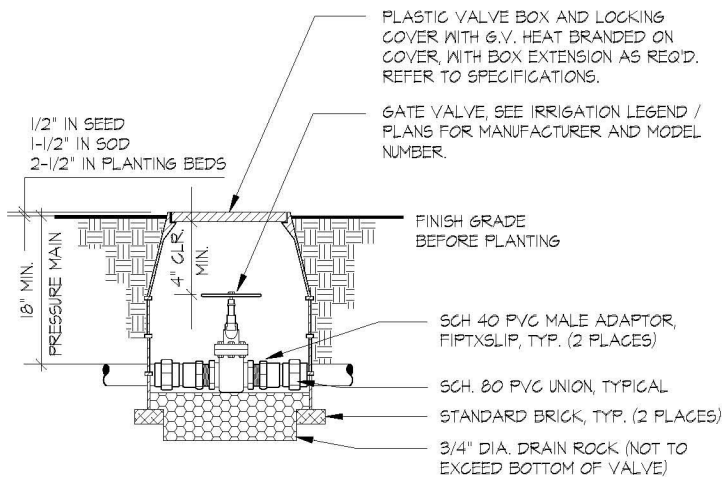
**B Electric Control Valve Detail: 3" & Smaller**  
Not To Scale

Not To Scale

## SECTION

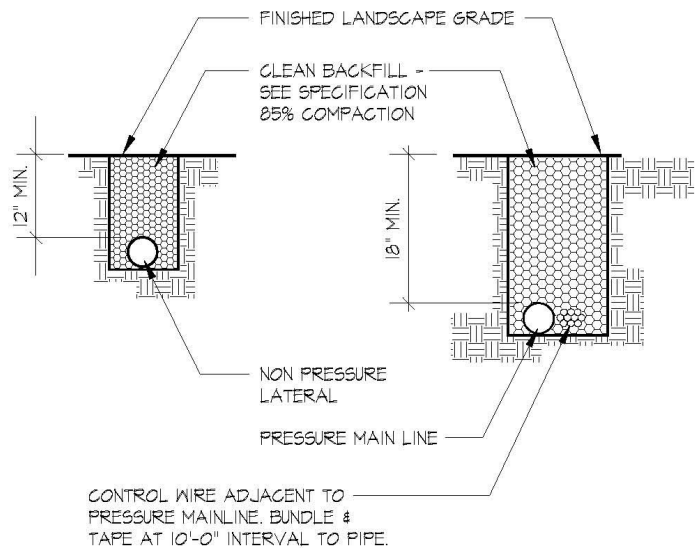


All details shown are for reference only and are intended to be used as a general guide. Specific projects will require details specific to that project.



NOTES:

1. INSTALL GATE VALVES A MINIMUM OF 12" FROM STRUCTURES OR HARDSCAPING.
2. INSTALL GATE VALVES IN PLANTING BEDS WHEREVER POSSIBLE.
3. INSTALL VALVE BOX SO THAT TOP OF VALVE BOX IS FLUSH WITH ADJACENT HARDSCAPING.
4. USE TEFLON TAPE ON ALL THREADED FITTINGS.
5. PLACE 3/4" DIA. DRAIN ROCK PRIOR TO INSTALLATION OF VALVE BOX.



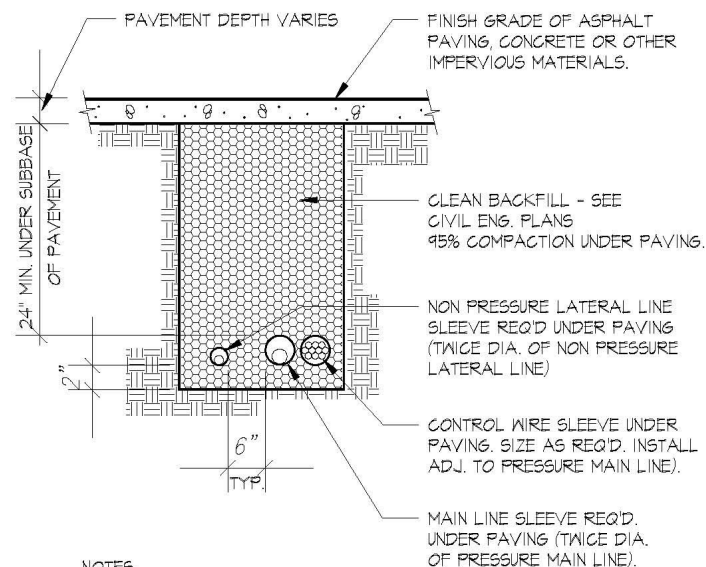
CONTROL WIRE ADJACENT TO PRESSURE MAINLINE. BUNDLE & TAPE AT 10'-0" INTERVAL TO PIPE.

### F Gate Valve Detail: Threaded Ends (3" & Smaller)

Not To Scale SECTION

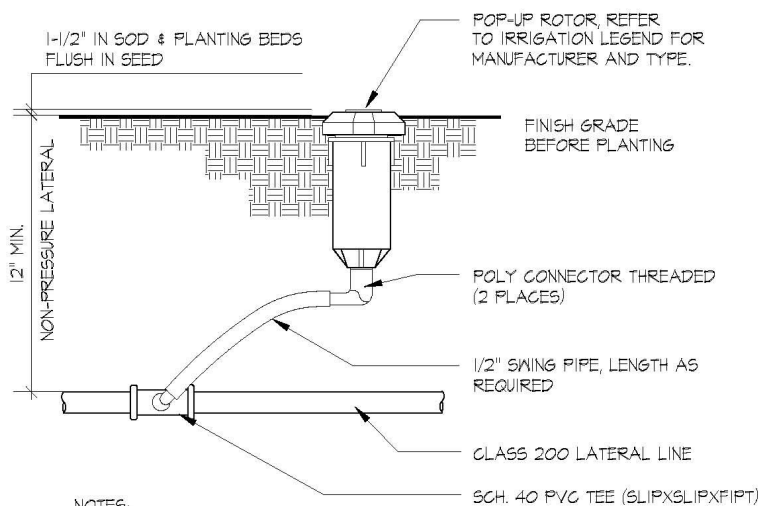
### G Pipe Trenching Detail (w/in Landscape Areas)

Not To Scale SECTION



NOTES:

1. ALL SLEEVES TO BE SCH. 40 PVC.
2. EXTEND ALL SLEEVES 12" BEYOND EDGE OF HARDSCAPING AT BOTH ENDS, CAP ENDS AND FLAG LOCATIONS.



NOTES:

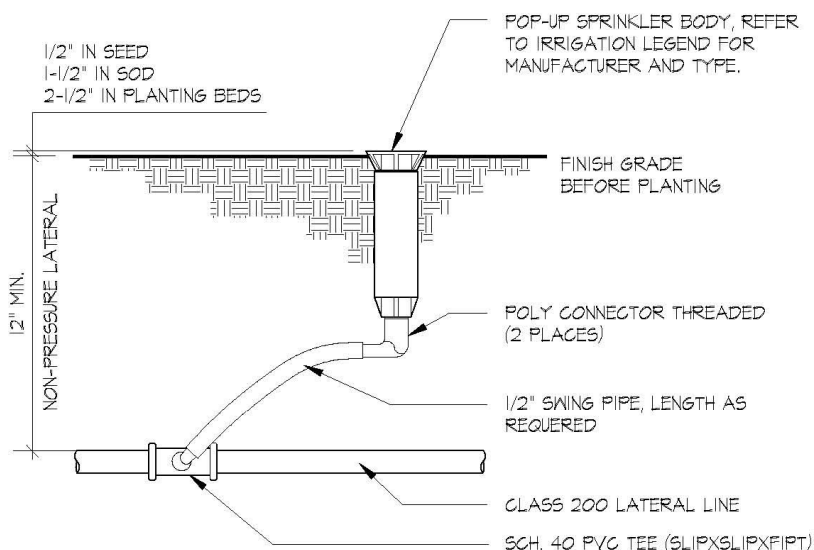
1. LOCATE HEAD 2" FROM WALKS, CURBS, HARDSCAPING, MOW STRIPS, HEADER BOARDS, AND THE EDGE OF LAWN AREAS.
2. LOCATE HEAD 12" FROM STRUCTURES.

### # Pipe Trenching Under Pavement Detail

Not To Scale SECTION

### H Pop-Up Rotor Detail

Not To Scale SECTION



All details shown are for reference only and are intended to be used as a general guide. Specific projects will require details specific to that

#### NOTES:

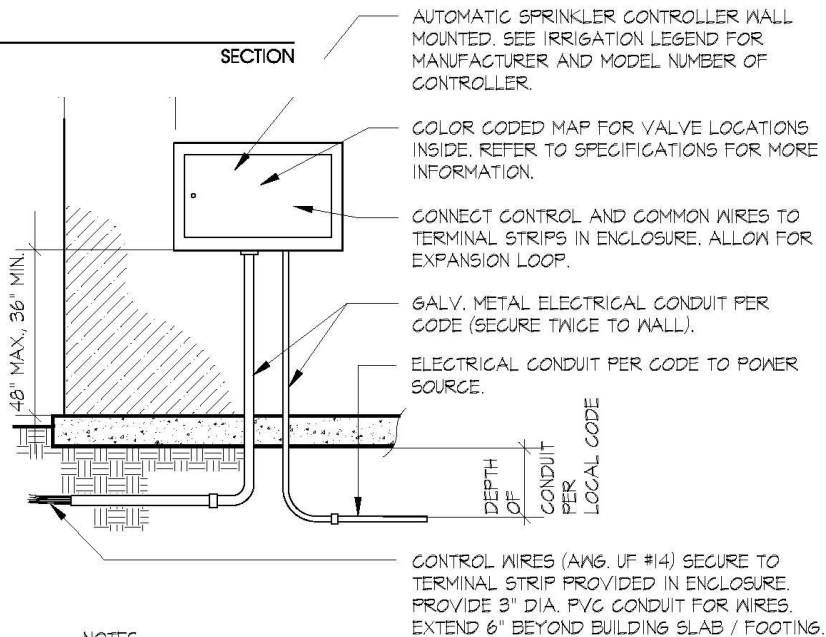
1. LOCATE HEAD 2" FROM WALKS, CURBS, HARDSCAPING, MOW STRIPS, HEADER BOARDS, AND THE EDGES OF LAWN AREAS.
2. LOCATE STREAM SPRAY / BUBBLERS 6" FROM ALL STRUCTURES, AND SPRAY HEADS 12" FROM ALL STRUCTURES, BUT 6" FROM ALL STRUCTURES IN GROUND COVER AREAS.



### Pop-Up Spray Detail

Not To Scale

SECTION



#### NOTES:

1. COMMON WIRE TO BE WHITE AND CONTROL WIRE TO BE RED IN COLOR. BUNDLE AND TAPE WIRING AT INTERVALS OF 10' O.C.
2. NO SPLICES TO BE MADE BETWEEN CONTROLLER AND REMOTE VALVE UNDER 500 LINEAR FEET.
3. PAINT CONTROLLER AND CONDUIT SUPPLY LINE TO MATCH BUILDING EXTERIOR COLOR.



### Automatic Controller Detail (Wall Mounted)

Not To Scale

SECTION