



April 20, 2015

**ARCHITECTURAL REVIEW FINDINGS AND  
DECISION**  
**\*\* APPROVAL WITH CONDITIONS \*\***

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Case #: AR-15-02  
Project: Barker Cabinets Building Addition  
Location: [19355 SW 125th Ct](#) (Tax Lot 2S1 21DA 00600)  
Applicant: AJ Michaud, TS Gray Construction (503-692-4675) (TS Gray Job 1412)

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**I. INTRODUCTION**

The proposal is to construct a building addition of 13,083 square feet (sq ft) for warehousing on existing paved area to the southwest of the existing industrial building of 29,103 sq ft owned and occupied by Barker Cabinets, raising the total to 42,186 sq ft.

The site development area is limited to the southwest area of the subject property, Tax Lot 2S1 21DA 00600 (Lot 600). Lot 600 is north of SW Herman Road, fronts SW 125<sup>th</sup> Court to the east, and at the rear to the west abuts wetlands and a large unnamed pond, which is south of Rock Creek a.k.a. Cummins Creek.

The neighborhood/developer meeting was on January 22, 2015. Staff received no letters of comment from property owners within 1,000 ft of the subject property, including pursuant to Tualatin Development Code (TDC) 31.064(1) within any residential subdivisions platted through the City, during the comment period that ended March 17, 2015.

**II. CONDITIONS OF APPROVAL**

Based on the Findings and Conclusions presented, AR-15-02 is approved, subject to the following Architectural Review conditions:

- AR-1 Prior to obtaining a building permit, the applicant shall submit revised plans as three hard copy sets – plan size (24 x 36 inches), ledger (11 x 17 inches), and letter (8½ by 11 inches) – and an Adobe PDF for review and approval to the Planning Division with the following changes:
  - a. To meet the requirement of 73.160(4)(a), on and above grade electrical and mechanical equipment such as transformers, heat pumps and air conditioners shall be screened with sight obscuring fences, walls or landscaping.
    - The applicant shall revise the site plans as necessary to show consistently either all intended at grade and rooftop electrical and mechanical equipment and its screening, or, note that there will be no such equipment in need of screening.
  - b. To meet the requirement of 73.240(3), the minimum area requirement for landscaping shall be fifteen (15) percent of the total area to be developed, except within the Core Area Parking District, where the minimum area requirement for landscaping shall be 10 percent. When a dedication is granted on the subject property for a greenway or natural area, the

minimum area requirement for landscaping may be reduced by 2.5 percent from the minimum area requirement as determined through the AR process:

- The applicant shall revise the landscape plan to note that the landscaped area is at least fifteen (15) percent of Lot 600.

- c. To meet the requirement of 73.280, landscaped areas shall be irrigated with an automatic underground or drip irrigation system.
  - The applicant shall revise plans to illustrate or note provision of an automatic irrigation system.
- d. To meet the requirements of 73.360(1), a minimum of 25 square feet per parking stall shall be improved with landscape island areas which are protected from vehicles by curbs. These landscape areas shall be dispersed throughout the parking area [see 73.380(3)] – and (3), provide a minimum of one deciduous shade tree for every four (4) parking spaces to lessen the adverse impacts of glare from paved surfaces and to emphasize circulation patterns. Required shade trees shall be uniformly distributed throughout the parking lot. The trees shall meet the requirements of 73.360(7).
  - The applicant shall revise the landscape plan to note the total parking area landscaping square footage and illustrate parking area deciduous trees.
- e. To meet the requirement of 73.370(3), the minimum number of off-street Vanpool and Carpool parking for commercial, institutional, and industrial uses is, for 26 and greater spaces, 1 for each 25 spaces.
  - The applicant shall revise the site plans to indicate and provide two (2) C/V spaces at Building 3, preferably near an entrance or entrances most convenient for employees.
- f. To meet the requirement of 73.370(1)(x), required vanpool and carpool parking shall meet the 9-foot parking stall standards in Figure 73-1 and be identified with appropriate signage.
  - The applicant shall revise the site plans to note and provide signage, be it freestanding signs and/or pavement striping of “CARPOOL VANPOOL” or similar.
- g. To meet the requirement of 73.380(6), artificial lighting, which may be provided, shall be so deflected as not to shine or create glare in any residential planning district or on any adjacent dwelling, or any street right-of-way in such a manner as to impair the use of such way.
  - The applicant shall revise the elevations sheet and provide a light fixture cut sheet or sheets to demonstrate that the proposed wall-mounted lights on the east elevation of the building addition are shielded as full cut-off fixtures. The *Guidelines for Good Exterior Lighting Plans* (Attachment 104) is available as an implementation aid.

AR-2 To meet the requirement of 73.100(2), all building exterior improvements approved through the Architectural Review Process shall be continually maintained including necessary painting and repair so as to remain substantially similar to original approval through the Architectural Review Process, unless subsequently altered with Community Development Director approval, as a condition of approval.

AR-3 To meet the requirement of 73.100(1), all landscaping approved through architectural review (AR) shall be continually maintained, including necessary watering, weeding, pruning and

replacement, in a manner substantially similar to that originally approved by the AR decision, unless subsequently altered through AR.

AR-4 To meet the requirement of 73.290(1), where natural vegetation has been removed or damaged through grading in areas not affected by the landscaping requirements and that are not to be occupied by structures or other improvements, such areas shall be replanted.

AR-5 This development is required to comply with the noise standards of 63.051(1).

AR-6 Any signage proposed for the site shall be submitted separately for sign permits.

AR-7 The applicant shall comply with the incorporated Public Facilities Recommendation (PFR) of the Engineering Division.

Notes:

- The plan size (24 x 36 inches) and ledger (11 x 17 inches) plan sets must be folded, not rolled.
- The plan sets for the Planning Division must contain sheets relevant to AR conditions of approval while also not being a full building permit set. For example, because the Planning Division needs no erosion control or roof framing plan sheets, exclude them.
- Following Planning Division approval of revised plans and when the constructed site is ready, the applicant must contact the Planning Division for a site inspection in order to obtain a certificate of occupancy (CO). This inspection is separate from inspection(s) done by the Building Division. Staff recommends scheduling a Planning inspection at least five business days in advance of the desired inspection date.

### III. FINDINGS

Reviewing this application in terms of the Tualatin Development Code ([TDC](#)) and other ordinances, the following findings are relevant. All references are to sections in the TDC unless otherwise noted.

**A. Previous Land Use Actions:**

AR-95-54: Approved original site development.

**B. Other Permit Actions:**

Clean Water Services (CWS) Service Provider Letter (SPL) No. 14-002723, February 25, 2015.

**C. Planning Districts and Adjacent Land Uses:**

The subject property is located in the [General Manufacturing \(MG\) Planning District](#) where manufacturing, warehousing/distribution, wholesaling and other uses are permitted pursuant to TDC [61.020](#).

Adjacent planning districts and land uses clockwise are:

N: MG Pacific Truck Colors  
E: MG SW 125<sup>th</sup> Ct; Van Specialties  
S: MG Warco Products  
W: MG North to south: Large unnamed pond and significant wetlands; Pacific Sports Turf; TS Gray Construction

**D. Lot Sizes:**

**61.050(1) The minimum lot area shall be 20,000 square feet. 61.050(2) The minimum lot width shall be 100 feet. 61.050(3) The minimum average lot width at the building line shall be 100 feet. 61.050(4) The minimum lot width at the street shall be 100 feet. 61.050(5) For flag lots, the minimum lot width at the street shall be sufficient to comply with at least the minimum access requirements contained in Section 73.400(9) to (12). 61.050(6) The minimum lot width at the street shall be 50 feet on a cul-de-sac street.**

**31.060 “Definitions:”**

**“Lot Line, Rear.” A lot line which is opposite and most distant from the front lot line and, in the case of an irregular, triangular, or other-shaped lot, a line ten feet in length within the lot, parallel to and at a maximum distance from the front lot line. On a corner lot, the shortest lot line abutting adjacent property that is not a street shall be considered a rear lot line.**

**“Lot Width.” The horizontal distance between the side lot lines, ordinarily measured parallel to the front lot line, at the center of the lot, or, in the case of a corner lot, the horizontal distance between the front lot line and a side lot line.**

**“Lot Width, Average.” The sum of the length of the front lot line and the rear lot line divided by 2.**

The subject property is approximately 94,525 square feet (sq ft) or 2.17 acres, exceeding the minimum requirement of (1). Because previous Architectural Review AR-95-54 approved lot width and street frontage requirements and the applicant proposes no changes to lot widths, the requirements of (2)-(5) are not applicable.

**E. Setback Requirements:**

**61.060(1) Front yard. The minimum setback is 30 feet. When the front yard is across the street from a residential or Manufacturing Park (MP) District, a front yard setback of 50’ is required.**

**61.060(2) Side yard. The minimum setback is 0 to 50 feet, as determined through the Architectural Review process.**

**61.060(3) Rear yard. The minimum setback is 0 to 50 feet as determined through the Architectural Review process. When the rear yard is adjacent to a property line or across the street from a residential or Manufacturing Park (MP) district, a rear yard setback of 50 feet is required.**

**61.060(4) Corner lot yards. The minimum setback is the maximum setback prescribed for each yard for a sufficient distance from the street intersections and driveways to**

**provide adequate sight distance for vehicular and pedestrian traffic at intersections and driveways, as determined through the Architectural Review process.**

The proposed addition does not change the east front, north side, or west rear setbacks, and it decreases the side south setback to 10 ft, continuing to exceed the minimum requirement.

**61.060(5) The minimum parking and circulation area setback is 5 feet, except when a yard is adjacent to public streets or Residential or Manufacturing Park District, the minimum setback is 10 feet.**

Lot 600 does not adjoins a residential or MP Planning District. The site plans illustrate no edge of parking and circulation area closer than 5 ft to a property line, meeting the requirement.

**61.060(8) No fence shall be constructed within 10 feet of a public right-of-way.**

Because no existing fence is within 10 ft of a public right-of-way (ROW), and the site plans propose no fencing along SW 125<sup>th</sup> Court, the requirement is not applicable.

#### **F. Structure Height:**

**61.080(1) Except as provided in subsection (2), (3) or (4) of this Section, no structure within an MG District shall exceed a height of 60 feet and flagpoles which display the flag of the United States of America either alone or with the State of Oregon flag shall not exceed 100 feet above grade provided that the setbacks are not less than a distance equal to one and one-half times the flagpole height.**

The existing building is 24 ft, and the proposed addition continues this height, meeting the requirement.

#### **G. Site Planning:**

**73.050(1)(a) The proposed site development, including the site plan, architecture, landscaping and graphic design, conforms to the standards of this and other applicable City ordinances, insofar as the location, height, appearance, etc. of the proposed development are involved.**

This project has been reviewed based on TDC standards and other applicable general ordinances of the City of Tualatin. The proposed location, height, appearance, etc. of the development complies with the TDC and other applicable general ordinances as identified in this report, and with applicable conditions of approval will be in compliance.

**73.160 The following standards are minimum requirements for commercial, industrial, public and semi-public development and it is expected that development proposals shall meet or exceed these minimum requirements.**

**73.160(1) Pedestrian and Bicycle Circulation.**

**(b) For Industrial Uses:**

**(i) a concrete or asphalt paved pedestrian walkway shall be provided from the main building entrance to sidewalks in the public right-of-way and other on-site buildings and accessways. The walkway shall be a minimum of 5 feet in width.**

**(ii) walkways through parking areas, drive aisles and loading areas shall have a different appearance than the adjacent paved vehicular areas.**

(iii) accessways shall be provided as a connection between the development's walkway and bikeway circulation system and an adjacent bike lane.

(v) Outdoor Recreation Access Routes shall be provided between the development's walkway and bikeway circulation system and parks, bikeways and greenways where a bike or pedestrian path is designated.

(d) Accessways shall be a minimum of 8 feet wide and constructed in accordance with the Public Works Construction Code if they are public accessways, and if they are private accessways they shall be constructed of asphalt, concrete or a pervious surface such as pervious asphalt or concrete, pavers or grasscrete, but not gravel or woody material, and be ADA compliant, if applicable.

(e) Accessways to undeveloped parcels or undeveloped transit facilities need not be constructed at the time the subject property is developed. In such cases the applicant for development of a parcel adjacent to an undeveloped parcel shall enter into a written agreement with the City guaranteeing future performance by the applicant and any successors in interest of the property being developed to construct an accessway when the adjacent undeveloped parcel is developed. The agreement shall be subject to the City's review and approval.

(f) Where a bridge or culvert would be necessary to span a designated greenway or wetland to provide a connection to a bike or pedestrian path, the City may limit the number and location of accessways to reduce the impact on the greenway or wetland.

(g) Accessways shall be constructed, owned and maintained by the property owner.

### **31.060**

**Accessway.** A non-vehicular, paved pathway designed for pedestrian and bicycle use and providing convenient linkages between a development and adjacent residential and commercial properties and areas intended for public use such as schools, parks, and adjacent collector and arterial streets where transit stops or bike lanes are provided or designated. An accessway is not a sidewalk.

**Outdoor Recreational Access Route.** A pedestrian path that provides access to a recreation trail. These trails are on City-owned property, exclusive rights-of-way or easements, but are not necessarily located in a designated greenway. They are typically 1/4 mile or less in length.

**Walkway.** A pedestrian facility which provides a paved surface for pedestrian circulation within a development. A walkway may be shared with bicycles and may cross vehicle areas.

Because previous Architectural Review AR-95-54 approved the walkway connection with SW 125<sup>th</sup> Court, and the applicant proposes no changes to it, the requirements are not applicable.

**73.160(1)(c) Curb ramps shall be provided wherever a walkway or accessway crosses a curb.**

Because the requirements of 73.160(1)(b) do not apply, the requirement is not applicable.

### **73.160(3)**

**(a) Locate windows and provide lighting in a manner which enables tenants, employees and police to watch over pedestrian, parking and loading areas.**

**(b) In commercial, public and semi-public development and where possible in industrial development, locate windows and provide lighting in a manner which enables surveillance of interior activity from the public right-of-way.**

**(c) Locate, orient and select on-site lighting to facilitate surveillance of on-site activities from the public right-of-way.**

**(d) Provide an identification system which clearly locates buildings and their entries for patrons and emergency services.**

**(e) Shrubs in parking areas must not exceed 30 inches in height. Tree canopies must not extend below 8 feet measured from grade.**

The elevations sheet illustrates provision of storefront lighting and windows on the east side of the addition that faces into the loading and parking area and toward SW 125<sup>th</sup> Court, serving to meet the requirements of (a)-(b).

Regarding (d), because applicant proposes no changes to the existing address numerals, the requirement is not applicable.

With proper maintenance and pruning, the proposed landscaping will meet the requirement of (e).

**73.160(4)(a) On and above grade electrical and mechanical equipment such as transformers, heat pumps and air conditioners shall be screened with sight obscuring fences, walls or landscaping.**

Though the site plans proposes no on and above grade electrical and mechanical equipment, the applicant or successor might intend or later propose such equipment. For this reason, staff is applying a condition. The applicant needs to revise the site plans as necessary to note or show all intended at grade and rooftop electrical and mechanical equipment and its screening.

*Condition*

To meet the requirement of 73.160(4)(a), on and above grade electrical and mechanical equipment such as transformers, heat pumps and air conditioners shall be screened with sight obscuring fences, walls or landscaping.

- The applicant needs to revise the site plans as necessary to note or show all intended at grade and rooftop electrical and mechanical equipment and its screening.

**73.160(4)(b) Outdoor storage, excluding mixed solid waste and source separated recyclables storage areas listed under TDC 73.227, shall be screened with a sight obscuring fence, wall, berm or dense evergreen landscaping.**

Because the applicant proposes no outdoor storage, excluding mixed solid waste and source separated recyclables storage, the requirement is not applicable.

Note: Any such outdoor storage that the applicant, an owner, or a tenant might propose in the indefinite future would require compliance with the requirement, review such as Architectural Review, and approval by the Planning Division.

**61.075(1) Sound barrier construction shall be used to intercept all straight-line lateral paths of 450 feet or less between a residential property within a residential planning**

**district and any side edge of an overhead door or other doorway larger than 64 square feet, at a minimum height of eight feet above the floor elevation of the doorway.**

Because within the site development area there exists no straight-line lateral path of 450 or fewer ft between a residential property within a residential planning district and any side edge of an overhead door or other doorway larger than 64 sq ft – and the applicant proposes no such situation – the requirement is not applicable.

#### **H. Structure Design:**

##### **73.050(1)**

**(b) The proposed design of the development is compatible with the design of other developments in the same general vicinity.**

**(c) The location, design, size, color and materials of the exterior of all structures are compatible with the proposed development and appropriate to the design character of other developments in the same vicinity.**

The vicinity is the original building on Lot 600, zoned General Manufacturing (MG) Planning District, that dates from the mid 1990s and is flat-roofed and off-white with a teal band. The elevations (Sheet S4.1) show and note that the addition would appear similar to the original building.

The proposal meets the requirements.

**73.100(2) All building exterior improvements approved through the Architectural Review Process shall be continually maintained including necessary painting and repair so as to remain substantially similar to original approval through the Architectural Review Process, unless subsequently altered with Community Development Director approval.**

To meet the requirement of 73.100(2), all building exterior improvements approved through the Architectural Review Process shall be continually maintained including necessary painting and repair so as to remain substantially similar to original approval through the Architectural Review Process, unless subsequently altered with Community Development Director approval, as a condition of approval.

##### **73.220(1)**

**(a) Locate, orient and select on-site lighting to facilitate surveillance of on-site activities from the public right-of-way or other public areas.**

**(b) Provide an identification system, which clearly identifies and locates buildings and their entries.**

**(c) Shrubs in parking areas shall not exceed 30 inches in height, and tree canopies must not extend below 8 feet measured from grade, except for parking structures and underground parking where this provision shall not apply.**

Staff examined these requirements as part of 73.160(3).

#### **I. Mixed Solid Waste and Source Separated Recyclables Storage Areas:**

**73.227(2)(a)(i) The storage area requirement is based on the area encompassed by predominant use(s) of the building (e.g., residential, office, retail, wholesale/warehouse/manufacturing, educational/institutional or other) as well as the**

**area encompassed by other distinct uses. If a building has more than one use and that use occupies 20 percent or less of the gross leasable area (GLA) of the building, the GLA occupied by that use shall be counted toward the floor area of the predominant use(s). If a building has more than one use and that use occupies more than 20 percent of the GLA of the building, then the storage area requirement for the whole building shall be the sum of the area of each use.**

For the purpose of mixed solid waste and source separated recyclables storage area, the existing building and the proposed addition share the predominant use of “wholesale/warehouse/manufacturing.”

**73.227(2)(a)(ii) Storage areas for multiple uses on a single site may be combined and shared.**

The proposal does not involve this option.

**73.227(2)(a)(v) Commercial, industrial, public and semi-public developments shall provide a minimum storage area of 10 square feet plus:**

**office - 4 square feet/1000 square feet gross leasable area (GLA);**

**Retail - 10 square feet/1000 square feet GLA;**

**Wholesale/Warehouse/Manufacturing - 6 square feet/1000 square feet GLA; Educational and institutional - 4 square feet/1000 square feet GLA; and**

**other - 4 square feet/1000 square feet GLA.**

Though the addition is 13,083 sq ft, the applicant supplemented the application materials by e-mailing a one-page narrative letter on April 11 that explains, “The proposed addition to Barker Cabinets is strictly for warehouse equipment. Trash and recycling will remain at current levels with no increased demand on services. Occupancy inside the building will remain the same.”

For this reason and with the existing storage area, the requirement is not applicable.

**73.227(6)(a)**

**(iv) Exterior storage areas shall not be located within a required front yard setback or in a yard adjacent to a public or private street.**

**(v) Exterior storage areas shall be located in central and visible locations on the site to enhance security for users.**

**(vi) Exterior storage areas can be located in a parking area, if the proposed use provides parking spaces required through the Architectural Review process.**

**(vii) Storage areas shall be accessible for collection vehicles and located so that the storage area will not obstruct pedestrian or vehicle traffic movement on site or on public streets adjacent to the site. Storage areas shall be accessible for collection vehicles and located so that the storage area will not obstruct pedestrian or vehicle traffic movement on site or on public streets adjacent to the site.**

Because the requirement of 73.227(2)(a)(v) is not applicable, the requirements are not applicable.

**73.227(6)(b)**

**(iii) Exterior storage areas shall be enclosed by a sight obscuring fence or wall at least 6 feet in height. In multi-family, commercial, public and semi-public developments evergreen plants shall be placed around the enclosure walls, excluding the gate or entrance openings. Gate openings for haulers shall be a minimum of 10 feet wide and shall be capable of being secured in a closed and open position. A separate pedestrian**

**access shall also be provided in multi-family, commercial, public and semi-public developments.**

**(iv) Exterior storage areas shall have either a concrete or asphalt floor surface.**

Because the requirement of 73.227(2)(a)(v) is not applicable, the requirements are not applicable.

**73.227(6)(c)**

**(i) Access to storage areas can be limited for security reasons. However, the storage areas shall be accessible to users at convenient times of the day, and to hauler personnel on the day and approximate time they are scheduled to provide hauler service.**

**(ii) Storage areas shall be designed to be easily accessible to hauler trucks and equipment, considering paving, grade, gate clearance and vehicle access. A minimum of 10 feet horizontal clearance and 8 feet vertical clearance is required if the storage area is covered.**

**(iii) Storage areas shall be accessible to collection vehicles without requiring backing out of a driveway onto a public street. If only a single access point is available to the storage area, adequate turning radius shall be provided to allow vehicles to safely exit the site in a forward motion.**

Because the requirement of 73.227(2)(a)(v) is not applicable, the requirements are not applicable.

**J. Landscaping:**

**73.100(1) All landscaping approved through the Architectural Review Process shall be continually maintained, including necessary watering, weeding, pruning and replacement, in a manner substantially similar to that originally approved through the Architectural Review Process, unless subsequently altered with Community Development Director approval.**

The development will have landscaping to maintain. To meet the requirement of 73.100(1), all landscaping approved through the Architectural Review Process shall be continually maintained, including necessary watering, weeding, pruning and replacement, in a manner substantially similar to that originally approved through the Architectural Review Process, unless subsequently altered through the AR process.

**73.240(3) The minimum area requirement for landscaping for uses in CO, CR, CC, CG, ML and MG Planning Districts shall be fifteen (15) percent of the total area to be developed, except within the Core Area Parking District, where the minimum area requirement for landscaping shall be 10 percent. When a dedication is granted on the subject property for a greenway or natural area, the minimum area requirement for landscaping may be reduced by 2.5 percent from the minimum area requirement as determined through the AR process.**

Because the site development area isn't within the Core Area Parking District, and the applicant proposes no dedication for a greenway or natural area, the minimum area requirement for landscaping is 15%.

Because neither the cover nor landscape plan sheet notes the landscaping area, staff is unable to determine compliance and so is applying a condition.

*Condition*

To meet the requirement of 73.240(3), the minimum area requirement for landscaping shall be fifteen (15) percent of the total area to be developed, except within the Core Area Parking District, where the minimum area requirement for landscaping shall be 10 percent. When a dedication is granted on the subject property for a greenway or natural area, the minimum area requirement for landscaping may be reduced by 2.5 percent from the minimum area requirement as determined through the AR process:

- The applicant shall revise the landscape plan to note that the landscaped area is at least fifteen (15) percent of Lot 600.

**73.240(8) Developments not in a Low Density Residential (RL) or Manufacturing Park (MP) Planning district but which abut an RL or MP Planning District shall provide and perpetually maintain dense, evergreen landscaped buffers between allowed uses in the district and the adjacent Low Density Residential (RL) or Manufacturing Park (MP) Planning District as approved through the Architectural Review process.**

Because none of the site development area abuts an RL or MP Planning District, the requirement is not applicable.

**73.240(9) Yards adjacent to public streets, except as described in 73.240(7), shall be planted to lawn or live groundcover and trees and shrubs and shall be perpetually maintained in a manner providing a park-like character to the property as approved through the Architectural Review process.**

Because none of the site development area abuts or includes yards adjacent to public streets, the requirement is not applicable.

**73.240(10) Yards not adjacent to public streets or Low Density Residential (RL) or Manufacturing Park (MP) Planning Districts shall be planted with trees, shrubs, grass or other live groundcover, and maintained consistent with a landscape plan indicating areas of future expansion, as approved through the Architectural Review process.**

The landscape plan illustrates along the rear west and south side property lines retention of at least 5 ft of landscaping, meeting the requirement.

**73.240(11) Any required landscaped area shall be designed, constructed, installed, and maintained so that within three years the ground shall be covered by living grass or other plant materials. (The foliage crown of trees shall not be used to meet this requirement.) A maximum of 10% of the landscaped area may be covered with unvegetated areas of bark chips, rock or stone.**

The landscape plan illustrates that less than 10% of landscaped area is covered with unvegetated areas of bark chips, rock or stone, meeting the requirement.

**73.260(1)(a) Deciduous shade and ornamental trees shall be a minimum one and one-half inch (1½") caliper measured six inches (6") above ground, balled and burlapped. Bare root trees will be accepted to plant during their dormant season. Trees shall be characteristically shaped specimens.**

The landscape plan illustrates and notes all additional deciduous trees at 1½-inch caliper, meeting the requirement.

**73.260(1)(b) Coniferous trees shall be a minimum five feet (5') in height above ground, balled and burlapped. Bare root trees will be acceptable to plant during their dormant season. Trees shall be well branched and characteristically shaped specimens.**

Because the proposal includes no such landscaping, the requirement is not applicable.

**73.260(1)(c) Shrubs. Evergreen and deciduous shrubs shall be at least one (1) to five (5) gallon size. Shrubs shall be characteristically branched. Side of shrub with best foliage shall be oriented to public view.**

The landscape plan illustrates and notes all additional shrubbery at 2 to 5 gallon size, meeting the requirement.

**73.260(1)(d) Groundcovers shall be fully rooted and shall be well branched or leafed. English ivy (*Hedera helix*) is considered a high maintenance material, which is detrimental to other landscape materials and buildings and is therefore prohibited.**

The landscape plan avoids English ivy, meeting the requirement.

**73.280 Landscaped areas shall be irrigated with an automatic underground or drip irrigation system.**

Because the site plans lack illustration or notation of an existing or extended automatic irrigation system, staff is unable to determine compliance and so is applying a condition.

*Condition*

To meet the requirement of 73.280, landscaped areas shall be irrigated with an automatic underground or drip irrigation system.

- The applicant shall revise plans to illustrate or note provision of automatic irrigation.

**73.290(1) Where natural vegetation has been removed or damaged through grading in areas not affected by the landscaping requirements and that are not to be occupied by structures or other improvements, such areas shall be replanted.**

Because staff cannot determine compliance until after approval of this AR, staff is applying a condition.

*Condition*

To meet the requirement of 73.290(1), where natural vegetation has been removed or damaged through grading in areas not affected by the landscaping requirements and that are not to be occupied by structures or other improvements, such areas shall be replanted.

**73.310(1) A minimum 5-foot-wide landscaped area must be located along all building perimeters, which are viewable by the general public from parking lots or the public right-of-way, excluding loading areas, bicycle parking areas and pedestrian egress/ingress locations. Pedestrian amenities such as landscaped plazas and arcades may be substituted for this requirement. This requirement shall not apply where the distance along a wall between two vehicle or pedestrian access openings (such as entry doors, garage doors, carports and pedestrian corridors) is less than 8 feet.**

The landscape plan and elevations illustrate 5-ft landscaping along the east side of the addition, excepting doors, meeting the requirement.

**73.310(2) Areas exclusively for pedestrian use that are developed with pavers, bricks, etc., and contain pedestrian amenities, such as benches, tables with umbrellas, children’s play areas, shade trees, canopies, etc., may be included as part of the site landscape area requirement.**

The applicant has chosen to exercise this option.

**73.310(3) All areas not occupied by buildings, parking spaces, driveways, drive aisles, pedestrian areas or undisturbed natural areas shall be landscaped.**

The landscape plan shows landscaping within all subareas of the site development area not occupied by buildings, parking spaces, driveways, drive aisles, pedestrian areas or undisturbed natural areas, meeting the requirement.

**73.340(1) A clear zone shall be provided for the driver at ends of on-site drive aisles and at driveway entrances, vertically between a maximum of 30 inches and a minimum of 8 feet as measured from the ground level, except for parking structures and underground parking, where this provision shall not apply.**

The site plan illustrates no vertical improvement or landscaping that encroaches upon the minimum vision clearance areas illustrated in [Figure 73-2](#) “Vision Clearance Area,” meeting the requirement.

**73.340(2) Perimeter site landscaping of at least 5 feet in width shall be provided in all off-street parking and vehicular circulation areas (including loading areas).**

**(a) The landscape area shall contain:**

- (i) Deciduous trees an average of not more than 30 feet on center. The trees shall meet the requirements of 73.360(7).**
- (ii) Plantings which reach a mature height of 30 inches in 3 years which provide screening of vehicular headlights year round.**
- (iii) Shrubs or ground cover, planted so as to achieve 90 percent coverage within three years.**

The landscape plan illustrates along the south side property line a 5-ft west side yard of landscaping including trees, shrubs, and groundcover, meeting the requirement.

### **73.360**

**(1) A minimum of 25 square feet per parking stall shall be improved with landscape island areas which are protected from vehicles by curbs. These landscape areas shall be dispersed throughout the parking area [see 73.380(3)].**

**(2) All landscaped island areas with trees shall be a minimum of 5 feet in width (60 inches from inside of curb to curb) and protected with curbing from surface runoff and damage by vehicles. Landscaped areas shall contain groundcover or shrubs and deciduous shade trees.**

**(3) Provide a minimum of one deciduous shade tree for every four (4) parking spaces to lessen the adverse impacts of glare from paved surfaces and to emphasize circulation patterns. Required shade trees shall be uniformly distributed throughout the parking lot. The trees shall meet the requirements of 73.360(7).**

**(4) Landscape islands shall be utilized at aisle ends to protect parked vehicles from moving vehicles and emphasize vehicular circulation patterns. Landscape island location requirements shall not apply to parking structures and underground parking.**

Based on the table on site plans:

<i>Attribute</i>		<i>Site Development Area</i>
<i>Parking Spaces Proposed</i>		37
<i>Landscape Island Area (sq ft)</i>	<i>Required</i>	37 x 25 = 925
	<i>Proposed</i>	unknown
<i>Trees</i>	<i>Required</i>	9
	<i>Proposed</i>	unknown

The proposal includes a partially reconfigured parking lot, and none of the cover, site, or landscape plan sheets indicates the landscaping square footage related to the requirement of (1) and number of deciduous trees related to the requirement of (3). For these reasons, staff is applying a condition.

To meet the requirements of 73.360(1), a minimum of 25 square feet per parking stall shall be improved with landscape island areas which are protected from vehicles by curbs. These landscape areas shall be dispersed throughout the parking area [see 73.380(3)] – and (3), provide a minimum of one deciduous shade tree for every four (4) parking spaces to lessen the adverse impacts of glare from paved surfaces and to emphasize circulation patterns. Required shade trees shall be uniformly distributed throughout the parking lot. The trees shall meet the requirements of 73.360(7).

- The applicant shall revise the landscape plan to note the total parking area landscaping square footage and illustrate parking area deciduous trees.

**73.360(6)(a) Except as in (b) [Central Design District] below, site access from the public street shall be defined with a landscape area not less than 5 feet in width on each side and extend 25 feet back from the property line for commercial, public, and semi-public development with 12 or more parking spaces and extend 30 feet back from the property line for industrial development.**

Because the site development area neither borders nor includes the Lot 600 driveway from SW 125<sup>th</sup> Court, the requirement is not applicable.

**73.360(7) Deciduous shade trees shall meet the following criteria:**

- (a) Reach a mature height of 30 feet or more**
- (b) Cast moderate to dense shade in summer**
- (c) Long lived, i.e., over 60 years**
- (d) Do well in an urban environment**
  - (i) Pollution tolerant**
  - (ii) Tolerant of direct and reflected heat**
- (e) Require little maintenance**
  - (i) Mechanically strong**

- (ii) Insect and disease resistant
- (iii) Require little pruning
- (f) Be resistant to drought conditions
- (g) Be barren of fruit production.

The landscape plan proposes a deciduous tree species that meets the requirements.

**74.765 All trees, plants or shrubs planted in the right-of-way of the City shall conform in species and location and in accordance with the street tree plan in Schedule A.**

Because the site development area neither borders nor includes the Lot 600 frontage along SW 125<sup>th</sup> Court ROW, the requirement is not applicable.

**K. Tree Preservation:**

**73.050(4) As part of Architectural Review, the property owner may apply for approval to cut trees in addition to those allowed in TDC 34.200. The granting or denial of a tree-cutting permit shall be based on the criteria in TDC 34.230.**

**34.230 The Community Development Director shall consider the following criteria when approving, approving with conditions, or denying a request to cut trees.**

**The Community Development Director may approve a request to cut a tree when the applicant can satisfactorily demonstrate that any of the following criteria are met:**

- (a) The tree is diseased, and
  - (i) The disease threatens the structural integrity of the tree; or
  - (ii) The disease permanently and severely diminishes the aesthetic value of the tree; or
  - (iii) The continued retention of the tree could result in other trees being infected with a disease that threatens either their structural integrity or aesthetic value.
- (b) The tree represents a hazard, which may include but not be limited to:
  - (i) The tree is in danger of falling;
  - (ii) Substantial portions of the tree are in danger of falling.
- (c) It is necessary to remove the tree to construct proposed improvements based on Architectural Review approval, building permit, or approval of a Subdivision or Partition Review.

Because the applicant proposes no tree removal from the site development area, the requirement is not applicable.

**73.250**

**(1) Trees and other plant materials to be retained shall be identified on the landscape plan and grading plan.**

**(2) During the construction process:**

- (a) The owner or the owner's agents shall provide above and below ground protection for existing trees and plant materials identified to remain.
- (b) Trees and plant materials identified for preservation shall be protected by chain link or other sturdy fencing placed around the tree at the drip line.

(c) If it is necessary to fence within the drip line, such fencing shall be specified by a qualified arborist as defined in 31.060.

(d) Neither top soil storage nor construction material storage shall be located within the drip line of trees designated to be preserved.

(e) Where site conditions make necessary a grading, building, paving, trenching, boring, digging, or other similar encroachment upon a preserved tree's drip line area, such grading, paving, trenching, boring, digging, or similar encroachment shall only be permitted under the direction of a qualified arborist. Such direction must assure that the health needs of trees within the preserved area can be met.

(f) Tree root ends shall not remain exposed.

(3) Landscaping under preserved trees shall be compatible with the retention and health of said tree.

(4) When it is necessary for a preserved tree to be removed in accordance with TDC 34.210 the landscaped area surrounding the tree or trees shall be maintained and replanted with trees that relate to the present landscape plan, or if there is no landscape plan, then trees that are complementary with existing, nearby landscape materials.

Because no trees exist within the site development area, the requirement is not applicable.

#### L. Grading:

**73.270(1) After completion of site grading, topsoil is to be restored to exposed cut and fill areas to provide a suitable base for seeding and planting.**

The landscape plan illustrates landscaping premised on this action, meeting the requirement.

**73270(4) Impervious surface drainage shall be directed away from pedestrian walkways, dwelling units, buildings, outdoor private and shared areas and landscape areas except where the landscape area is a water quality facility.**

The grading plan illustrates that storm drainage will be directed away from buildings, outdoor areas, and landscape areas, meeting the requirement.

#### M. Bicycle Parking, Off-Street Parking and Loading:

##### Bicycle Parking:

##### 73.370(2)(a):

Use	Bicycle Parking Requirement	Percentage of Bicycle Parking to Be Covered
<b>Industrial (i) Manufacturing</b>	<b>2, or 0.10 spaces per 1,000 gross sq. ft., whichever is greater</b>	<b>First 5 spaces or 30%, whichever is greater</b>
<b>Industrial (ii) Warehousing</b>	<b>2, or 0.10 spaces per 1,000 gross sq. ft., whichever is greater</b>	<b>First 5 spaces or 30%, whichever is greater</b>
<b>Industrial (iii) Wholesale establishment</b>	<b>2, or 0.50 spaces per 1,000 gross sq. ft., whichever is greater</b>	<b>First 5 spaces or 30%, whichever is greater</b>

AR-95-54 approved a bike parking rack that can accommodate at least two bikes. Though the addition is 13,083 sq ft, the applicant supplemented the application materials by e-mailing a one-page narrative letter on April 11 that explains, “The proposed addition to Barker Cabinets is strictly for warehouse equipment. ... Occupancy inside the building will remain the same. At the same occupancy bike and vehicle parking will also not incur increased demand.” For this reason and with the existing and partially reconfigured parking supply, the requirement is not applicable to the addition. The applicant proposes no change or removal to bike parking. For these reasons, the requirement is not applicable.

**73.370(1)**

**(n) Bicycle parking facilities shall either be lockable enclosures in which the bicycle is stored, or secure stationary racks, which accommodate a bicyclist’s lock securing the frame and both wheels.**

**(o) Each bicycle parking space shall be at least 6 feet long and 2 feet wide, and overhead clearance in covered areas shall be at least 7 feet, unless a lower height is approved through the Architectural Review process.**

**(r) Required bicycle parking shall be located in convenient, secure, and well lighted locations approved through the Architectural Review process.**

**(s) Bicycle parking facilities may be provided inside a building in suitable secure and accessible locations.**

**(u) Bicycle parking areas and facilities shall be identified with appropriate signing as specified in the *Manual on Uniform Traffic Control Devices (MUTCD)* (latest edition). At a minimum, bicycle parking signs shall be located at the main entrance and at the location of the bicycle parking facilities.**

Because previous Architectural Review AR-95-54 approved the bicycle parking at the main building entrance, and the applicant proposes no changes to it, the requirements are not applicable.

**Off-Street Vehicle Parking:**

**73.370**

**(1)(a) At the time of establishment of a new structure or use, or change in use, or change in use of an existing structure, within any planning district of the City, off-street parking spaces, off-street vanpool and carpool parking spaces for commercial, institutional and industrial uses, off-street bicycle parking, and off-street loading berths shall be as provided in this and following sections, unless greater requirements are otherwise established by the conditional use permit or the Architectural Review process, based upon clear findings that a greater number of spaces are necessary at that location for protection of public health, safety and welfare or that a lesser number of vehicle parking spaces will be sufficient to carry out the objectives of this section. In the Central Design District, the Design Guidelines of TDC 73.610 shall be considered. In case of conflicts between guidelines or objectives in TDC Chapter 73, the proposal shall provide a balance.**

**(2)(a):**

<b>Use</b>	<b>Minimum Motor Vehicle Parking Requirement</b>	<b>Maximum</b>
<b><u>Industrial (i) Manufacturing</u></b>	<b>1.60 spaces per 1,000 sq. ft. of gross floor area</b>	<b>None</b>
<b><u>Industrial (ii) Warehousing</u></b>	<b>0.30 spaces per 1,000 sq. ft. of gross floor area</b>	<b>Zone A: 0.4 spaces per 1,000 sq. ft. gross floor area Zone B: 0.5 spaces per 1,000 sq. ft. gross floor area</b>
<b><u>Industrial (iii) Wholesale establishment</u></b>	<b>3.00 spaces per 1,000 sq. ft. of gross floor area</b>	<b>None</b>

The site development area is within Zone B per [Figure 73-3](#) Parking Maximum Map.

AR-95-54 approved the existing 29,013 sq ft building with 47 parking spaces in slight excess of that required by applying the manufacturing rate to the whole building:  $(29,013 / 1,000) \times 1.6 = 46.4 \rightarrow 46$  spaces.

The addition of 13,083 sq ft displaces and lessens the total parking supply by 12 spaces from 50 to 37 spaces.

Though the addition is 13,083 sq ft, the applicant supplemented the application materials by e-mailing a one-page narrative letter on April 11 that explains, “The proposed addition to Barker Cabinets is strictly for warehouse equipment. ... Occupancy inside the building will remain the same. At the same occupancy bike and vehicle parking will also not incur increased demand.” For this reason and with the existing and partially reconfigured parking supply, the requirement is not applicable to the addition; however, the square footage of the original building would remain with 9 fewer spaces than the minimum required assuming a manufacturing rate applied to this whole square footage. The applicant needs to provide a tabulation of how the 29,013 sq ft is allocated between manufacturing and warehousing such that the proposed reduction to 37 spaces would be sufficient to meet the application of manufacturing and warehousing rates. For this reason, staff is applying a condition.

#### *Condition*

To meet the requirement of 73.370(2)(a) Industrial, the minimum required number of off-street parking spaces is 1.60 spaces per 1,000 sq ft of gross floor area of manufacturing and 0.30 spaces per 1,000 sq ft of warehousing.

- The applicant shall revise a plan sheet or sheets or provided documentation showing tabulation of how the 29,013 sq ft of the original building is allocated between manufacturing and warehousing such that the proposed reduction to 37 total spaces would be sufficient to meet the application of manufacturing and warehousing rates.

**73.370(3) The minimum number of off-street Vanpool and Carpool parking for commercial, institutional, and industrial uses is as follows:**

<u>Number of Required Parking Spaces</u>	<u>Number of Vanpool or Carpool Spaces</u>
0 to 10	1
10 to 25	2
26 and greater	1 for each 25 spaces

AR-95-54 approved two carpool/vanpool (C/V) spaces among the group of five spaces south of the main entrance at the southeast corner of the building. The present AR-15-02 site plans call out compact and handicap spaces, but not C/V spaces, leaving it unclear as to whether these spaces remain or will be retained and if the requirement is continued to be met. For this reason, staff is applying a condition. The applicant needs to revise the site plans to indicate and provide two (2) C/V spaces.

*Condition*

To meet the requirement of 73.370(3), the minimum number of off-street Vanpool and Carpool parking for commercial, institutional, and industrial uses is, for 26 and greater spaces, 1 for each 25 spaces.

- The applicant shall revise the site plans to indicate and provide two (2) C/V spaces.

**73.370(1)(x) Required vanpool and carpool parking shall meet the 9-foot parking stall standards in Figure 73-1 and be identified with appropriate signage.**

Because the site plans and other application materials lack information about C/V parking, staff cannot determine continued compliance and so is applying a condition. The applicant needs to revise the site plans to note signage, be it freestanding signs and/or pavement striping of “CARPOOL VANPOOL” or similar.

*Condition*

To meet the requirement of 73.370(1)(x), required vanpool and carpool parking shall meet the 9-foot parking stall standards in Figure 73-1 and be identified with appropriate signage.

- The applicant shall revise the site plans to note and provide signage, be it freestanding signs and/or pavement striping of “CARPOOL VANPOOL” or similar.

**73.380**

**(1) Off-street parking lot design shall comply with the dimensional standards set forth in Figure 73-1 of this section.**

**(2) Parking stalls for sub-compact vehicles shall not exceed 35 percent of the total parking stalls required by Section 73.370(2). Stalls in excess of the number required by TDC 73.370(2) can be sub-compact stalls.**

**(3) Off-street parking stalls shall not exceed eight continuous spaces in a row without a landscape separation.**

**(4) Areas used for standing or maneuvering of vehicles shall have paved asphalt or concrete surfaces maintained adequately for all-weather use and so drained as to avoid the flow of water across sidewalks.**

**(8) Service drives to off-street parking areas shall be designed and constructed to facilitate the flow of traffic, provide maximum safety of traffic access and egress, and maximum safety of pedestrians and vehicular traffic on the site.**

**(9) Parking bumpers or wheel stops or curbing shall be provided to prevent cars from encroaching on the street right-of-way, adjacent landscaped areas, or adjacent pedestrian walkways.**

**(11) On-site drive aisles without parking spaces, which provide access to parking areas with regular spaces or with a mix of regular and sub-compact spaces, shall have a minimum width of 22 feet for two-way traffic and 12 feet for one-way traffic. On-site drive aisles without parking spaces, which provide access to parking areas with only sub-compact spaces, shall have a minimum width of 20 feet for two-way traffic and 12 feet for one-way traffic.**

The proposal reconfigures the western area of parking, but does not affect any of the requirements except (2), making them not applicable. The applicant proposes two compact spaces in lieu of standard size spaces, which is approximately 4.3% of the total minimum supply of 46 spaces required through AR-95-54 and less than 35%, meeting the requirement.

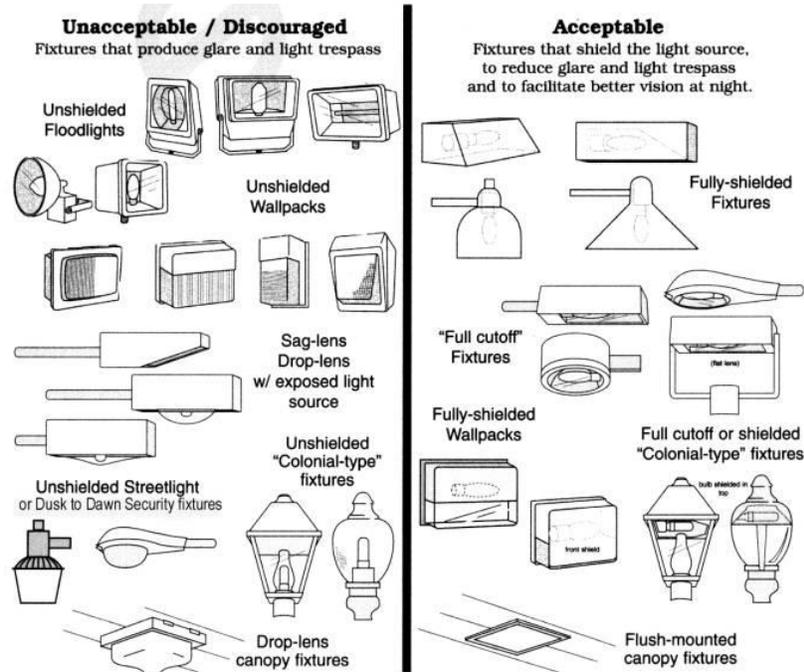
#### **N. Lighting:**

**73.160(3)(c) Locate, orient and select on-site lighting to facilitate surveillance of on-site activities from the public right-of-way without shining into public rights-of-way or fish and wildlife habitat areas.**

**73.380(6) Artificial lighting, which may be provided, shall be so deflected as not to shine or create glare in any residential planning district or on any adjacent dwelling, or any street right-of-way in such a manner as to impair the use of such way.**

The elevations (Sheet S4.1) illustrate three wall-mounted exterior light fixtures on the addition, of which two are on the east elevation facing SW 125<sup>th</sup> Court. (The other is on the south elevation.) The sheet and application materials lack information about whether the fixtures are full cut-off, meaning they likely are not shielded to be full cut-off and shine or create glare in SW Coho Court ROW.

For these reasons, the requirement is not met, and staff is applying a condition. Staff looks to the *Guidelines for Good Exterior Lighting Plans* (Attachment 104) to administer the exterior lighting standards, from which comes the diagram reproduced below. The applicant needs to replace any exterior light fixtures displaced by the scope of work with fixtures that are full cut-off.



**Condition**

To meet the requirement of 73.380(6), artificial lighting, which may be provided, shall be so deflected as not to shine or create glare in any residential planning district or on any adjacent dwelling, or any street right-of-way in such a manner as to impair the use of such way.

- The applicant shall revise the elevations sheet and provide a light fixture cut sheet or sheets to demonstrate that the proposed wall-mounted lights on the east elevation of the building addition are shielded as full cut-off fixtures. The *Guidelines for Good Exterior Lighting Plans* (Attachment 104) is available as an implementation aid.

**O. Loading Berths:**

**73.390**

(1) The minimum number of off-street loading berths for commercial, industrial, public and semi-public uses is as follows:

<u>Square Feet of Floor Area</u>	<u>Number of Berths</u>
Less than 5,000	0
5,000 - 25,000	1
25,000-60,000	2
60,000 and over	3

(2) Loading berths shall conform to the following minimum size specifications:

- (b) Industrial uses - 12' x 60'
- (c) Berths shall have an unobstructed height of 14'
- (d) Loading berths shall not use the public right-of-way as part of the required off-street loading area.

**(3) Required loading areas shall be screened from public view from public streets and adjacent properties by means of sight-obscuring landscaping, walls or other means, as approved through the Architectural Review process.**

The addition results in the building remaining within the range of 25,000 to 60,000 sq ft and so continuing to require two berths. The addition includes two sunken berths and one at-grade berth at the needed dimensions, for a total of three and exceeding the minimum requirement.

**P. Access:**

**73.400(9) Ingress and egress for industrial uses shall not be less than 36 feet for the first 50 feet from the right-of-way, and 24 feet thereafter (Applies to industrial uses with less than 250 required parking spaces).**

Because the site development area neither includes the only ingress and egress for Lot 600, which is from SW 125<sup>th</sup> Court, nor proposes to change it, the requirement is not applicable.

**Vision clearance requirements at the driveways and street intersection shall comply with the requirements of 73.400(13).**

The site plans illustration no intrusion into the vision clearance areas specified by TDC [Figure 73-2](#), meeting the requirement.

**Q. Environmental:**

**63.051(1) Except as otherwise provided in this section, all industrial development shall comply with the Oregon State Department of Environmental Quality standards relating to noise. From 9:00 p.m. to 7:00 a.m., a dBA reading from an industrial development, whether new or existing, shall not exceed an L-max of 60 dBA when measured from a noise sensitive property.**

Because staff cannot determine compliance until after approval of this AR, staff is applying a condition.

*Condition*

The applicant shall make the site development comply with the noise limits of 63.051(1).

**Natural Resource Protection Overlay District (NRPO)**

**72.020(1) The designated significant natural resources are the Greenways and Natural Areas on Map 72-1, which shows the general location of the NRPO District. The general locations of Other Natural Areas are shown on the Recreation Resources Map (Figure 3-4) of the Parks and Recreation Master Plan.**

The AR application shows that Lot 600 is adjacent to NRPO and Significant Wetlands (Type W-37) along the west rear lot line pursuant to TDC Map 72-1 Natural Resources Protection Overlay District (NRPO) and Greenway Locations (Attachment 105) and Map 72-3: Significant Natural Resources (Attachment 107); however, pursuant to Map 72-2 Greenway Development Plan: Pedestrian and Bike Path Locations (Attachment 106), this greenway is not designated for path or trail improvement. Additionally, the west side of the site development area that

borders the NRPO does not disturb and provides a wetland buffer (“vegetated corridor”) pursuant to Clean Water Services (CWS) Service Provider Letter (SPL) No. 14-002723, which exceeds City NRPO standards. For these reasons, the requirement is not applicable.

**72.030 Greenways.**

**(1) Greenways can exhibit diverse characteristics. Those along the Tualatin River and Hedges, Nyberg and Saum Creeks can be natural in some sections and have pedestrian and bike paths in other sections. Greenways in built-up areas such as in subdivisions are typically landscaped with lawn and often include concrete pedestrian/bike paths.**

...

**(3) Creek Greenways (NRPO-GC).**

**(a) Except as provided in Subsections (bd), the NRPO-GC District shall have a width of 50 feet centered on the centerline of Hedges Creek from SW Ibach Street to the western boundary of the Wetlands Protection District and from the eastern boundary of the Wetlands Protection District to the Tualatin River, and centered on Nyberg Creek from SW Tonka Street to the Tualatin River.**

Because the requirement of 72.020(1) is not applicable, the requirement is not applicable.

**72.110 Easements for Pedestrian and Bicycle Access.**

**In any portion of the NRPO District, the City may, through the subdivision, partition, conditional use, architectural review, or other applicable development approval process, require that easements for pedestrian and bicycle access and maintenance uses be granted as a condition of approval when said easements are necessary to achieve the purposes of the Parks and Recreation Master Plan, Greenways Development Plan, or Bikeways Plan.**

Because the requirement of 72.020(1) is not applicable, the requirement is not applicable.

Note: The City requires no greenway dedication, easements or improvements with this AR application. Apart from any land use decision, the Parks and Recreation Division of the Community Services Department remains at liberty to negotiate with the master developer, applicant, owner, or successor to fund or obtain greenway improvements.

**R. Signs:**

TDC 73 does not address signs, and TDC 38 regulates signs. TDC 38.060 requires signage to have sign permits.

*Condition*

The applicant shall separately from this AR submit [sign permit](#) applications for any proposed signage.

**S. Time Limit on Approval:**

**73.056 Architectural Review approvals shall expire after two years unless:**

- (1) **A building, or grading permit submitted in conjunction with a building permit application, has been issued and substantial construction pursuant thereto has taken place and an inspection performed by a member of the Building Division; or**
- (2) **The Architectural Review (AR) applicant requests in writing an extension and the City approves it. If the Community Development Director and City Engineer or their designees approved the AR, then the Community Development Director and City Engineer shall decide upon the extension request. If the Architectural Review Board (ARB) approved the AR, then the ARB shall decide upon the extension request. The applicant shall provide notice of extension request to past recipients of the AR notice of application and post a sign pursuant to TDC 31.064. Before approving an extension, the deciding party shall find the request meets these criteria:**
  - (a) **The applicant submitted a written extension request prior to the original expiration date.**
  - (b) **There have been no significant changes in any conditions, ordinances, regulations or other standards of the City or applicable agencies that affect the previously approved project so as to warrant its resubmittal for AR.**
  - (c) **If the previously approved application included a special study, the applicant provided with the extension a status report that shows no significant changes on the site or within the vicinity of the site. A letter from a recognized professional also would satisfy this criterion if it states that conditions have not changed after the original approval and that no new study is warranted.**
  - (d) **If the AR applicant neglected site maintenance and allowed the site to become blighted, the deciding party shall factor this into its decision.**
  - (e) **The deciding party shall grant no more than a single one-year extension for an AR approval.**
  - (f) **If the Community Development Director and City Engineer or their designees are the deciding party, then they shall decide within thirty (30) days of receipt of the request. If the ARB is the deciding party, then the ARB shall decide within sixty (60) days of receipt of the request. If the deciding party fails to decide within the applicable time period, the decision shall default to approval.**

#### **IV. APPEAL**

The Architectural Review portion of this decision will be final after 14 calendar days on **May 4, 2015**, unless a written appeal is received by the **Community Development Department – Planning Division at 18880 Martinazzi Avenue, Tualatin, Oregon 97062 before 5:00 p.m., May 4, 2015**. **The appeal must be submitted on the City appeal form with all the information requested provided thereon and signed by the appellant.** The plans and appeal forms are available at the Tualatin Library and at the Community Development Department – Planning Division offices. Appeals of a staff Architectural Features decision are reviewed by the Architectural Review Board (ARB).

Submitted by:

A handwritten signature in blue ink that reads "Colin Cortes". The signature is written in a cursive, flowing style.

Colin Cortes, AICP, CNU-A  
Assistant Planner

Attachments:

101. Tax Map
102. Site Plans and Additional Application Materials
103. Agency Comments: CWS & TVF&R
104. *Guidelines for Good Exterior Lighting Plans*
105. Map 72-1: Natural Resources Protection Overlay District (NRPO) and Greenway Locations
106. Map 72-2: Greenway Development Plan: Pedestrian and Bike Path Locations
107. Map 72-3: Significant Natural Resources

file: AR-15-02

The Public Facilities Recommendation (PFR) complement to the AR starts on the next page.



*City of Tualatin*

## **CITY ENGINEER'S PUBLIC FACILITIES FINDINGS & RECOMMENDED DECISION**

**\*\* APPROVAL WITH CONDITIONS \*\***

**April 20, 2015**

The following are the Public Facilities findings for AR 15-02, Barker Cabinets. All references are to sections in the Tualatin Development Code (TDC) or Tualatin Municipal Code (TMC) unless otherwise noted.

**TDC 74.120 ...No work shall be undertaken on any public improvement until after the construction plans have been approved by the City Engineer and a Public Works Permit issued and the required fees paid.**

**TDC 74.140 (1) All the public improvements required under this chapter shall be completed and accepted by the City prior to issuance of a Certificate of Occupancy.**

### **TDC 74.330 Utility Easements**

- (1) Utility easements for water, sanitary sewer and storm drainage facilities, telephone, television cable, gas, electric lines and other public utilities shall be granted to the City.**
- (4) ...For both on-site and off-site easement areas, a utility easement shall be granted to the City; Building Permits shall not be issued for the development prior to acceptance of the easement by the City.**
- (5) The width of the public utility easement shall meet the requirements of the Public Works Construction Code.**

**TMC 4-1.010 This development is subject to all applicable building code requirements and all applicable building and development fees.**

### FINDINGS

These comments are a result of site investigation, developer comments, and review of the submitted plan sheets dated December 8, 2014.

1. Fire and Life Safety:

**TMC 4-2.010 (1) Every application for a building permit and accompanying plans shall be submitted to the Building Division for review of water used for fire protection, the approximate location and size of hydrants to be connected, and the provisions for access and egress for firefighting equipment. If upon such review it is determined that the fire protection facilities are not required or that they are adequately provided for in the plans, the Fire and Life Safety Reviewer shall recommend approval to the City Building Official.**

The submitted plans show one existing public fire hydrant on SW 125<sup>th</sup> Court and one private fire hydrant onsite. During the review of Building Permits the Building Official may determine that additional fire protection devices may be necessary upon recommendation of Tualatin Valley Fire & Rescue (TVF&R). The applicant will need to submit plans that comply with fire protection requirements as determined through the Building Division and Tualatin Valley Fire & Rescue (TVF&R).

Note: any new fire hydrants will be private onsite.

*Prior to issuance of a Building Permit:*

- *The applicant shall submit plans that comply with fire protection requirements as determined through the Building Division and Tualatin Valley Fire & Rescue (TVF&R).*

2. Transportation:

**TDC 11.610 Transportation Goals and Objectives (2) (e) For development applications, including, but not limited to subdivisions and architectural reviews, a LOS of at least D and E are encouraged for signalized and unsignalized intersections, respectively.**

**TDC 73.400 (5)...a sidewalk shall be constructed along all street frontage, prior to use or occupancy of the building or structure proposed for said property. The sidewalks required by this section shall be constructed to City standards,...**

**TDC 74.420 (6) All required street improvements shall include curbs, sidewalks, storm drainage, streetlights, street signs, street trees, and, where designated, bikeways and transit facilities.**

**TDC 74.660 Underground.**

**(1) All utility lines including, but not limited to, those required for gas, electric, communication, lighting and cable television services and related facilities shall be placed underground. Surface-mounted transformers, surface-mounted connection boxes and meter cabinets may be placed above ground. Temporary utility service facilities, high capacity electric and communication feeder lines, and utility transmission lines operating at 50,000 volts or above may be placed above ground. The applicant shall make all necessary arrangements with all utility companies to provide the underground services. The City reserves the right to approve the location of all surface-mounted transformers.**

**TDC 75.060 Existing Driveways and Street Intersections (2) The City Engineer may restrict existing driveways and street intersections to right-in and right-out by construction of raised median barriers or other means.**

**TDC 74.120 ...No work shall be undertaken on any public improvement until after the construction plans have been approved by the City Engineer and a Public Works Permit issued and the required fees paid.**

**TDC 74.140 (1) All the public improvements required under this chapter shall be completed and accepted by the City prior to issuance of a Certificate of Occupancy.**

SW 125<sup>th</sup> Court has approximately 60 feet of right-of-way is constructed in this vicinity with 4-foot planter strips with street trees and street lights, 6-foot curb tight sidewalks, and 40-feet of pavement. No changes are proposed for SW 125<sup>th</sup> Court and none are required. This requirement is met.

3. Access:

**73.400 Access**

- (2) **Owners of two or more uses, structures or parcels of land may agree to utilize jointly the same ingress and egress when the combined ingress and egress of both uses, structures, or parcels of land satisfies their combined requirements as designated in this code; provided that satisfactory legal evidence is presented to the City Attorney in the form of deeds, easements, leases or contracts to establish joint use.**
- (10) **Minimum access requirements for residential uses: (b) Ingress and egress for multi-family residential uses shall not be less than the following:...for 50-499 parking spaces a minimum of one 32-foot wide access or two 24-foot wide accesses are required.**
- (11) **Minimum Access Requirements for Commercial, Public and Semi-Public Uses. If 1-99 parking spaces are required, only one access is required. If 100-249 parking spaces are required, two accesses are required. Ingress and egress shall not be less than 32 feet wide for the first 50 feet from the right-of-way and 24 feet thereafter.**
- (12) **Minimum Access Requirements for Industrial Uses. If 1-250 parking spaces are required, only one access is required. Ingress and egress shall not be less than 36 feet wide for the first 50 feet from the right-of-way and 24 feet thereafter.**
- (14) **(a) Unless otherwise herein provided, maximum driveway widths shall not exceed 40 feet.**
- (15) **Distance between Driveways and Intersections. Distances listed shall be measured from the stop bar at the intersection. (a) At the intersection of collector or arterial streets, driveways shall be located a minimum of 150 feet from the intersection.**

The site has a 30-foot and a 40-foot wide existing accesses to SW 125<sup>th</sup> Court. No access changes are proposed and none are required. This requirement is met.

4. Water:

**TDC 74.610 (1) Water lines shall be installed to serve each property in accordance with the Public Works Construction Code. Water line construction plans shall be submitted to the City Engineer for review and approval prior to construction.**

**TMC 3-3.040 (2) For nonresidential uses, separate meters shall be provided for each structure.**

**TMC 3-3.120 (2) The owner of property to which City water is furnished for human consumption shall install in accordance with City standards an appropriate backflow prevention device on the premises where any of the following circumstances exist: (b) Where there is a fire protection service, and irrigation service or a nonresidential service connection which is two inches or larger in size;**

**TMC 3-3.120 (4) requires all irrigation systems to be installed with a double check valve assembly.**

**TDC74.610 (3) As set forth in TDC Chapter 12, Water Service, the City has three water service levels. All development applicants shall be required to connect the proposed development site to the service level in which the development site is located.**

This site has an existing water service. No changes are proposed and none are required. This requirement is met.

5. Sanitary Sewer:

**TDC 74.620 (1) Sanitary sewer lines shall be installed to serve each property in accordance with the Public Works Construction Code. Sanitary sewer construction plans and calculations shall be submitted to the City Engineer for review and approval prior to construction.**

**TDC 74.330 Utility Easements (1) Utility easements for water, sanitary sewer and storm drainage facilities, telephone, television cable, gas, electric lines and other public utilities shall be granted to the City.**

This site has an existing sanitary sewer service. No changes are proposed and none are required. This requirement is met.

6. Storm Drainage & Water Quality:

**TDC 74.630 Storm Drainage System**

- (1) Storm drainage lines shall be installed to serve each property in accordance with City standards. Storm drainage construction plans and calculations shall be submitted to the City Engineer for review and approval prior to construction.**
- (2) The storm drainage calculations shall confirm that adequate capacity exists to serve the site. The discharge from the development shall be analyzed in accordance with the City's Storm and Surface Water Regulations (TMC 3-5).**

**TDC 74.650 Water Quality, Storm Water Detention and Erosion Control**

- (2) On all other development applications, prior to issuance of any building permit, the applicant shall arrange to construct a permanent on-site water quality facility and storm water detention facility and submit a design and calculations indicating that the requirements of the Surface Water Management Ordinance will be met and obtain a Stormwater Connection Permit from Clean Water Services.**

- (3) For on-site private and regional non-residential public facilities, the applicant shall submit a stormwater facility agreement, which will include an operation and maintenance plan provided by the City, for the water quality facility for the City's review and approval. The applicant shall submit an erosion control plan prior to issuance of a Public Works Permit. No construction or disturbing of the site shall occur until the erosion control plan is approved by the City and the required measures are in place and approved by the City.**

**TMC 3-5-220 Criteria for Requiring On-Site Detention to be Constructed.**

- (1) There is an identified downstream deficiency, as defined in TMC 3-5.210, and detention rather than conveyance system enlargement is determined to be the more effective solution.**
- (2) There is an identified regional detention site within the boundary of the development.**

**TMC 3-5-330 Permit Required.** Except as provided in TMC 3-5.310, no person shall cause any change to improved or unimproved real property that will, or is likely to, increase the rate or quantity of run-off or pollution from the site without first obtaining a permit from the City and following the conditions of the permit.

**TMC 3-5-380 Criteria for Granting Exemptions to Construction of On-Site Water Quality Facilities.** A regional public facility may be constructed to serve private non-residential development provided:

- (1) The facility serves more than one lot; and**
- (2) All owners sign a stormwater facility agreement; and**
- (3) Treatment accommodates reasonable worst case impervious area for full build-out, stormwater equivalent to existing or proposed roof area is privately treated in LIDA facilities, and any detention occurs on each lot.**

The plans show a 25-foot wide vegetated corridor along the west side of the site. The vegetated corridor has been cleared of invasive plants and is need of replanting. The applicant will need to submit planting plans for the vegetated corridor, for review and approval.

The plans show an onsite proposed stormfilter catch basin to treat 33,051 square feet of area. This is greater than the disturbed area of 15,600 square feet and therefore acceptable. The applicant will need to submit final stormwater system plans, for review and approval.

The applicant has not submitted stormwater conveyance calculations. The applicant will need to submit stormwater conveyance calculations, for review and approval.

*Prior to the issuance of a Water Quality Permit:*

- *The applicant shall submit final stormwater system plans including planting plans for the vegetated corridor and stormwater conveyance calculations, for review and approval.*

7. Grading:

**TDC 74.640 (1) Development sites shall be graded to minimize the impact of storm water runoff onto adjacent properties and to allow adjacent properties to drain as they did before the new development. (2) A development applicant shall submit a grading plan showing that all lots in all portions of the development will be served by gravity drainage from the building crawl spaces; and that this development will not affect the drainage on adjacent properties. The City Engineer may require the applicant to remove all excess materials from the development site.**

The submitted plans appear to minimize the impact of stormwater runoff to adjacent properties and allow adjacent properties to drain as they did before the development. This requirement is met.

8. Erosion Control:

**TDC 74.650 (3) ..the applicant shall submit an erosion control plan prior to issuance of a Public Works Permit. No construction or disturbing of the site shall occur until the erosion control plan is approved by the City and the required measures are in place and approved by the City. In order to reduce the amount of sediment discharged into the public storm system, erosion control measures are required during construction. If the site is over 1 acre in size a NPDES Erosion Control Permit is required.**

If the development's disturbed area during construction is between 1 and 5 acres in size, a 1200-CN NPDES Erosion Control Permit is required. If it is over 5 acres, a 1200-C NPDES Erosion Control Permit is required. The proposed disturbed area of the development site is a total of approximately 0.19 acres. A NPDES Erosion Control Permit is not required.

A City of Tualatin erosion control permit is required if there is construction or disturbing of the site. The applicant has not obtained a City of Tualatin erosion control permit. The applicant will need to obtain a City of Tualatin erosion control permit.

*Prior to the issuance of a Building Permit:*

- *The applicant shall obtain a City of Tualatin erosion control permit.*

9. Stormwater Connection Permit:

**TDC 74.650 Water Quality, Storm Water Detention and Erosion Control (2) On all other development applications, prior to issuance of any building permit, the applicant shall arrange to construct a permanent on-site water quality facility and storm water detention facility and submit a design and calculations indicating that the requirements of the Surface Water Management Ordinance will be met and obtain a Stormwater Connection Permit from the Unified Sewerage Agency.**

The applicant has submitted a CWS Service Provider Letter (SPL) indicating that Sensitive Areas exist on-site. In the SPL the applicant has received an initial response indicating that their proposed development meets CWS requirements. CWS has submitted a Memorandum dated March 17, 2015, with review comments. CWS will indicate final approval of activities relating to wetlands & buffers after final permit plans are submitted prior to issuance of associated permits. Any vegetated corridor mitigation required in the SPL will need to be included in the Water Quality Permit. The applicant will need to submit final plans that comply with the Service Provider Letter and CWS Memorandum comments, for review and approval.

*Prior to the issuance of a Water Quality Permit:*

- *The applicant shall submit final plans that comply with the Service Provider Letter conditions and Clean Water Services Memorandum comments, for review and approval.*

## PUBLIC FACILITIES REQUIREMENTS

The following are the Public Facilities requirements for AR 15-02, Barker Cabinets:

### PRIOR TO ISSUANCE OF A WATER QUALITY PERMIT:

- PFR-1 The applicant shall submit final stormwater system plans including planting plans for the vegetated corridor and stormwater conveyance calculations, for review and approval.
- PFR-2 The applicant shall submit final plans that comply with the Service Provider Letter conditions and Clean Water Services Memorandum comments, for review and approval.

### PRIOR TO ISSUANCE OF A BUILDING PERMIT:

- PFR-3 The applicant shall submit plans that comply with fire protection requirements as determined through the Building Division and Tualatin Valley Fire & Rescue (TVF&R).
- PFR-4 The applicant shall obtain a City of Tualatin erosion control permit.

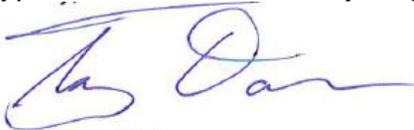
### PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY:

- PFR-5 The applicant shall complete all the public improvements and have them accepted by the City.

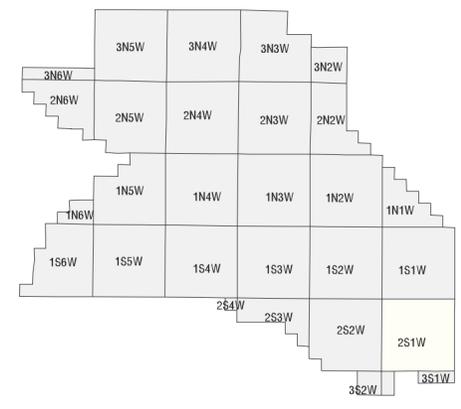
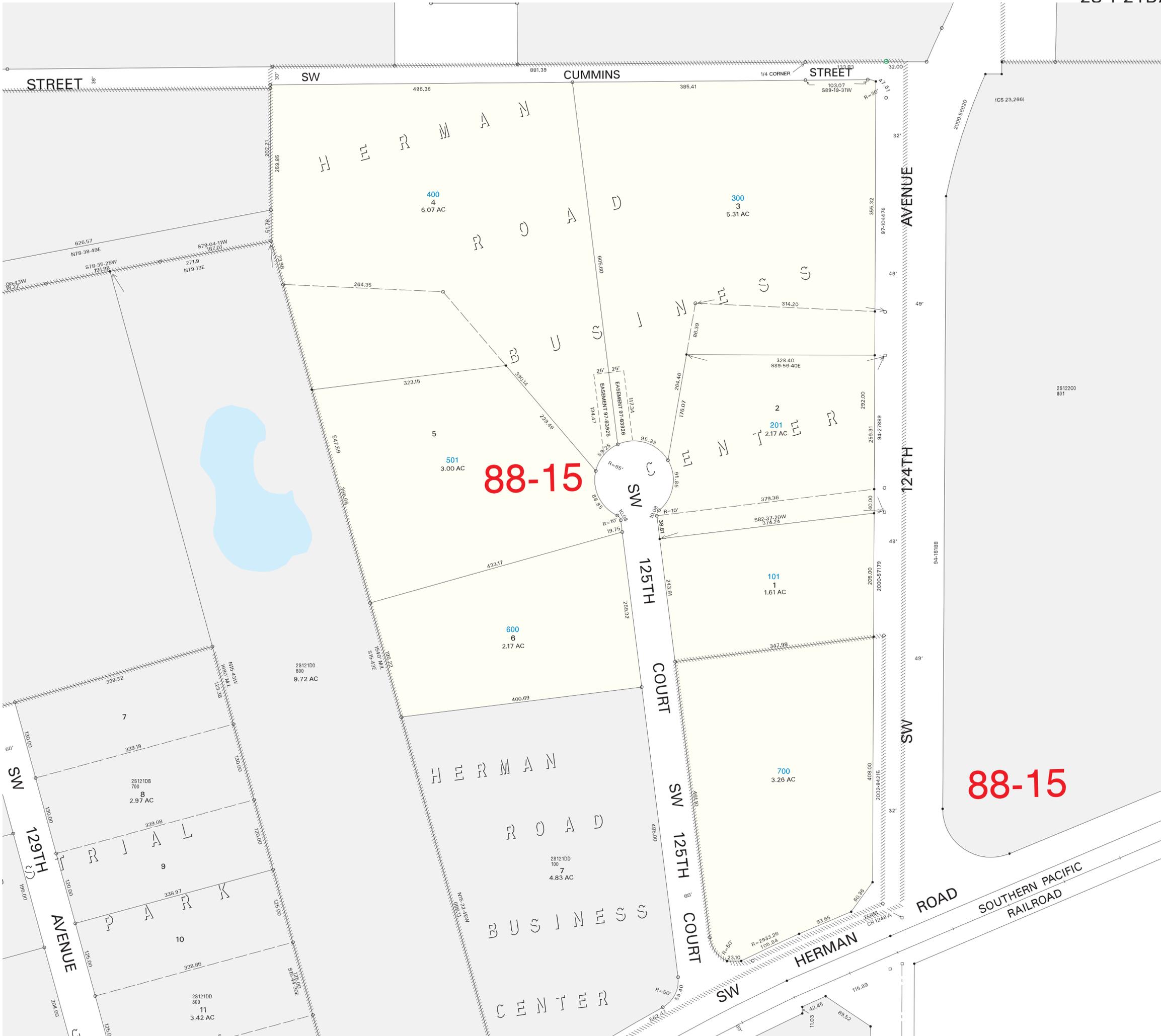
### APPEAL

The Public Facilities Review portion of this decision is final after the expiration of 14 calendar days from the date of this decision, unless a written appeal is received on or before 5:00 p.m., on May 4, 2015 by the Engineering Division at 18880 SW Martinazzi Avenue, Tualatin, Oregon 97062. The appeal must be signed by the appellant, contain the information required by TDC 31.078 on the City appeal form, and contain the \$135 appeal filing fee. The plans and appeal forms are available at the Tualatin Library and at the City offices. Public Facilities appeals are reviewed by City Council.

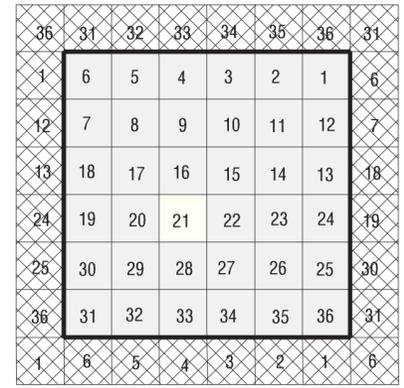
Typed on behalf of the City Engineer,



Tony Doran, EIT  
Engineering Associate



**WASHINGTON COUNTY OREGON**  
 NE 1/4 SE 1/4 SECTION 21 T2S R1W W.M.  
 SCALE 1" = 100'



FOR ADDITIONAL MAPS VISIT OUR WEBSITE AT  
[www.co.washington.or.us](http://www.co.washington.or.us)

BB	BA	AB	AA
BC	BD	AC	AD
CB	CA	DB	DA
CC	CD	DC	DD

**SECTION 21**

Cancelled Taxlots For: 2S121DA  
 500,100,200,700-A1,701,201-A1,300-A1,

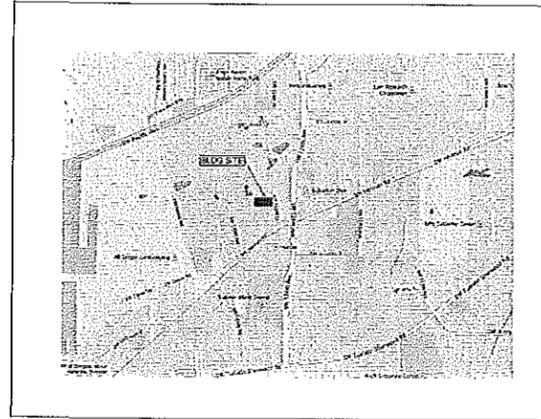


PLOT DATE: July 16, 2013  
**FOR ASSESSMENT PURPOSES ONLY - DO NOT RELY ON FOR OTHER USE**

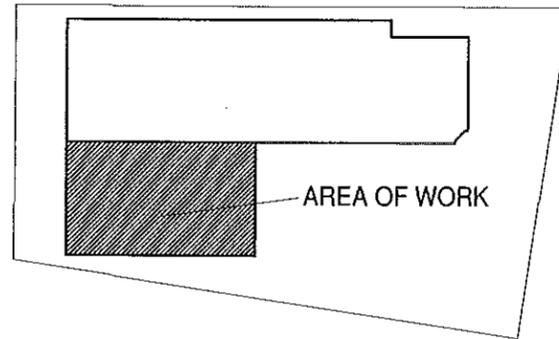
*Map areas delineated by either gray shading or a cross-hatched pattern are for reference only and may not indicate the most current property boundaries. Please consult the appropriate map for the most current information.*

# BARKER CABINETS ADDTION

19355 SW 125TH CT  
 TUALATIN, OR 97062  
 TAX LOT: 2S121DA00600



VICINITY MAP



SITE MAP

## BUILDING CODE DATA

BASED ON 2010 OREGON STRUCTURAL SPECIALTY CODE

GENERAL CODE ANALYSIS  
 CONSTRUCTION TYPE: III-B  
 SINGLE STORY

ALLOWABLE AREA =  $A_a = 17500 + (17500 \times 3) = 70,000$  SF

FIRE PROTECTION: FULLY SPRINKLERED

OCCUPANCY: S-1

EXISTING BUILDING AREA: 29,104 SF

BUILDING AREA ADD: 13,083 SF

SECTION 503: NO HEIGHT MODIFICATIONS PROPOSED  
 SECTION 506: NO AREA MODIFICATIONS PROPOSED  
 SECTION 706: EACH PORTION OF A BUILDING SEPARATED BY ONE  
 OR MORE FIRE WALLS SHALL BE CONSIDERED A SEPARATE BUILDING.  
 PROPOSED NEW 13,083 SF IS SEPARATED FROM EXISTING BUILDING  
 BY 6½" THICK CONCRETE WALL (3-HR PROTECTION)

## TEAM MEMBERS

### CONTRACTOR

TS GRAY CONSTRUCTION  
 PO BOX 1000  
 SHERWOOD, OR 97140  
 PH: 503-692-4675  
 FAX: 503-692-9292  
 CONTACT: AJ MICHAUD 503-793-8011

### CIVIL ENGINEER

SISUL ENGINEERING  
 375 PORTLAND AVE  
 GLADSTONE, OR 97027  
 PH: 503-657-0188  
 FAX: 503-657-5779  
 CONTACT: TOM SISUL

### STRUCTURAL EENGINEGGER

HAYDEN CONSULTING ENGINEERS  
 12480 SW 68TH AVE  
 TIGARD, OR 97223  
 PH: 503-968-9994  
 FAX: 503-968-8444  
 CONTACT: DARRON HAYDEN

## INDEX OF DRAWINGS

T1.0 TITLE SHEET & CODE ANALYSIS  
 A1.0 SITE PLAN  
 L1.0 LANDSCAPING PLAN

### CIVIL

1 STORM DRAIN PLAN  
 2 DETAILS

### STRUCTURAL

S1.0 GENERAL NOTES & SCHEDULE  
 S2.0 FOUNDATION PLAN  
 S3.0 ROOF FRAMING PLAN  
 S4.0 WALL PANEL ELEVATIONS  
 S4.1 EXTERIOR ELEVATIONS & SECTION  
 S5.0 FOUNDATION & CONCRETE DETAILS  
 S6.0 ROOF FRAMING DETAILS

### DEFERRED SUBMITTALS

(SEE STRUCT FOR ADDITIONAL DEF. SUBMITTALS)

### MECHANICAL

ELECTRICAL & LIGHTING

FIRE SPRINKLERS

REVISIONS BY

Barker Cabinets

TITLE SHEET

SHEET CONTENT

PO BOX 1000  
 SHERWOOD, OR 97140  
 PH: 503-692-4675  
 FAX: 503-692-9292  
 COB# 198759



DATE 12/8/14

SCALE NTS

DRAWN AJM

JOB 1412

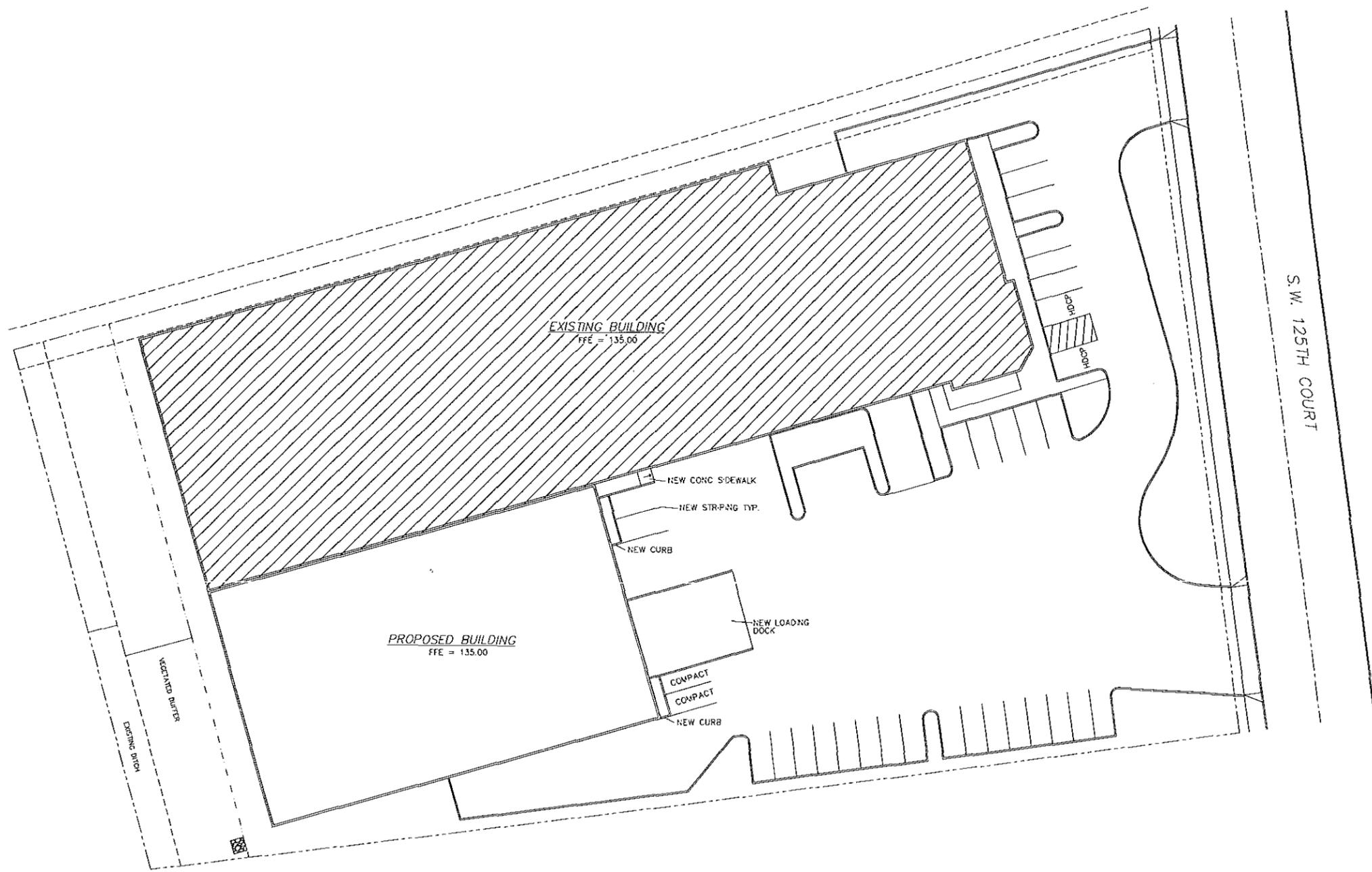
SHEET

T1.0

CITY OF TUALATIN  
 RECEIVED

FEB 10 2015

COMMUNITY DEVELOPMENT  
 PLANNING DIVISION



REVISIONS	BY

**Barker Cabinets**

SHEET CONTENT  
**SITE PLAN**

PO BOX 1000  
SHERWOOD, OR 97140  
PH: 503-692-4675  
FAX: 503-692-9292  
CCB# 198759



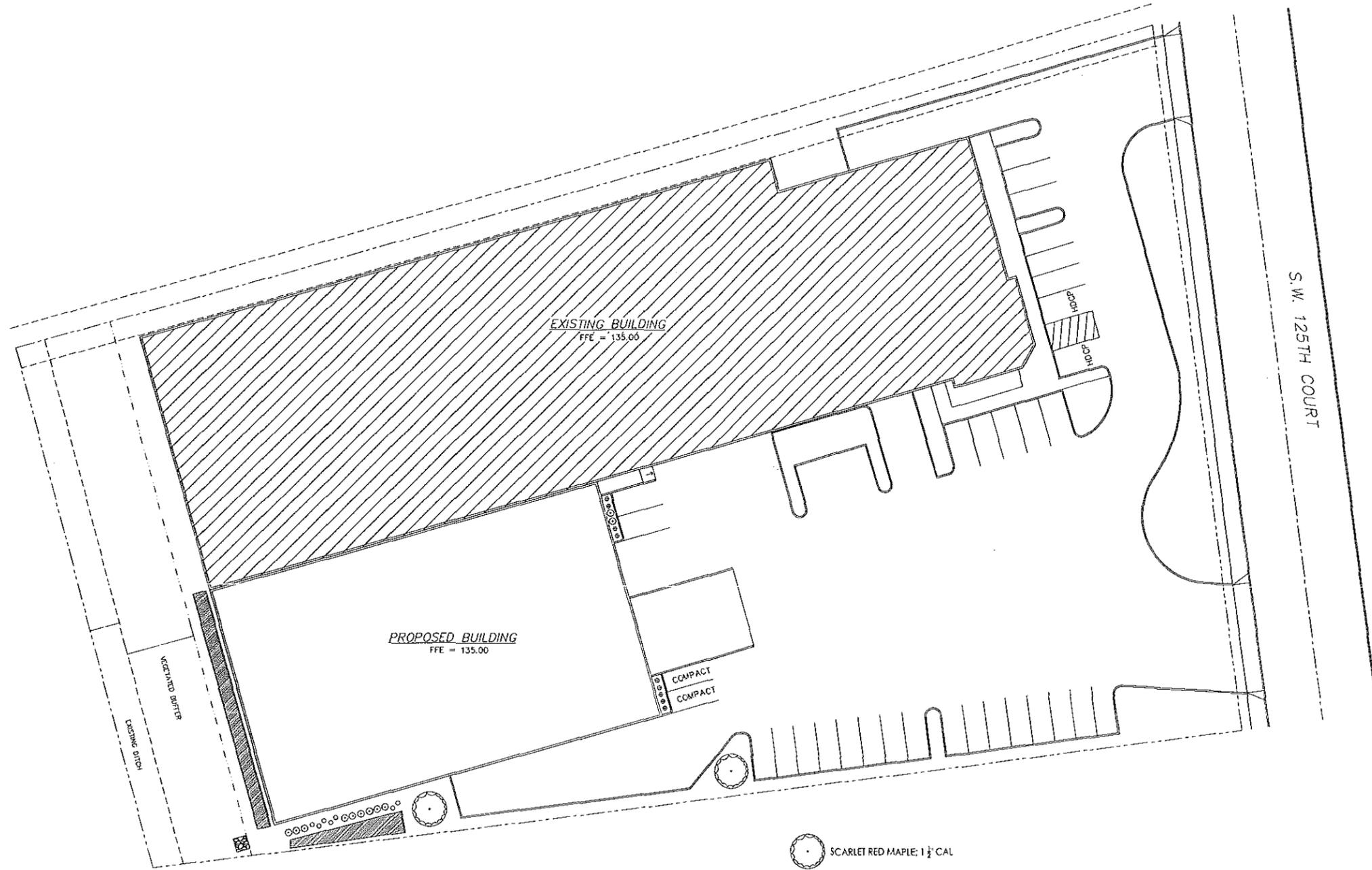
DATE 12/8/14

SCALE 1"=20'

DRAWN AJM

JOB 1412

SHEET  
**A1.0**



- SCARLET RED MAPLE: 1 1/2' CAL
- DRAWF HEAVENLY BAMBOO: 2 GAL
- PURPUREUM PHORMIUM TENAX: 5 GAL
- EVERGREEN HUCKLEBERRY: 5 GAL
- ▨ KINN/KINNICK: 18" O.C.: 1 GAL

REVISIONS	BY

<b>Barker Cabinets</b>
<b>LANDSCAPING PLAN</b>
SHEET CONTENT
PO BOX 1000 SHERWOOD, OR 97140 PH: 503-692-4675 FAX: 503-692-9292 CONSTRUCTION CCB# 198759
DATE 12/8/14
SCALE 1"=20'
DRAWN AJM
JOB 1412
SHEET <b>L1.0</b>





**GENERAL NOTES:**

**DESIGN STANDARDS:** 2014 OREGON STRUCTURAL SPECIALTY CODE

**DESIGN CRITERIA:**

- DESIGN GRAVITY LOADS, UNLESS NOTED OTHERWISE:
  - ROOF LIVE LOADS
  - CONSTRUCTION LOADS: 20 PSF
  - ROOF SNOW LOAD CRITERIA
  - GROUND SNOW LOAD: 20 PSF
  - EMERGENCY FACTOR: 1.0
  - THERMAL FACTOR: 1.0
  - SNOW WIND RESISTANCE FACTOR: 1.0
  - FLAT ROOF SNOW LOAD: 25 PSF
- WIND CRITERIA:
  - WIND SPEED: 120 MPH
  - EXPOSURE: B
  - RISK CATEGORY: II
  - INTERNAL PRESSURE COEFFICIENT: +/- 0.015
- SEismic CRITERIA:
  - SS: 0.944
  - SI: 0.417
  - STE CLASS: D
  - SN: 0.727
  - S01: 0.440
  - ANALYSIS PROCEDURE: LINEAR STATIC
  - SEISMIC DESIGN CATEGORY: D
  - BASIC SEISMIC FORCE RESISTING SYSTEM: I
  - INTERMEDIATE CONCRETE SHEAR WALLS: E
  - F=4

**GENERAL:**

- THESE STRUCTURAL NOTES ARE A SUPPLEMENT TO THE SPECIFICATIONS.
- SPECIFICATIONS AND CODES REFERENCED IN THESE NOTES ARE THE VERSIONS MOST RECENTLY ADOPTED BY THE PERMITTING AUTHORITY.
- FIELD VERIFY DIMENSIONS AND ELEVATIONS RELATIVE TO THE EXISTING STRUCTURE PRIOR TO FABRICATION OF MATERIALS.
- FOR FEATURES OF CONSTRUCTION NOT FULLY SHOWN, PROVIDE THE SAME TYPE AND CHARACTER AS SHOWN FOR SIMILAR CONDITIONS, SUBJECT TO REVIEW BY THE ARCHITECT OR STRUCTURAL ENGINEER OF RECORD.
- APPLY, PLACE, ERECT, OR INSTALL ALL PRODUCTS AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- ABSOLUTELY PROTECT STRUCTURE AND ALL STRUCTURAL COMPONENTS AGAINST WIND, LATERAL BATH, AND SEISMIC FORCES UNTIL THE PERMANENT LATERAL FORCE RESISTING SYSTEMS HAVE BEEN INSTALLED.

**DEFERRED SUBMITTALS:**

- SUBMIT DESIGN DOCUMENTS SEALED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OREGON FOR THE FOLLOWING ITEMS WHERE NOT SPECIFICALLY DETAILED HEREIN:
  - STEEL JOISTS AND JOIST BRACING
- SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER PRIOR TO FABRICATION AND CONSTRUCTION REGARDING ALL STRUCTURAL ITEMS INCLUDING THE FOLLOWING:
  - REINFORCING STEEL
  - STRUCTURAL STEEL
  - CONCRETE WALL DESIGNS
  - PRE-FABRICATED STEEL JOISTS AND GIRDERS
  - EXPOSED STEEL ITEMS
- IF SHOP DRAWINGS DEPART FROM, OR ADD TO THE DESIGN OF THE STRUCTURAL DRAWINGS, THEY SHALL BE CLEARLY IDENTIFIED. ANY CHANGES TO THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER AND ARE SUBJECT TO REVIEW AND ACCEPTANCE BY THE ENGINEER.
- THE CONTRACTOR SHALL COORDINATE SEISMIC RESTRAINTS OF ELECTRICAL EQUIPMENT, MECHANICAL PLUMBING, FIRE SPROKLER, PIPING, ETC., AND ASSOCIATED PERMITS WITH THE STRUCTURE. ALL CONSTRUCTION TO STRUCTURE SHALL CONFORM TO THE 2014 OBC AND SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE OF OREGON AND SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER PRIOR TO FABRICATION.

**FOUNDATIONS:**

- FOUNDATION CRITERIA:
  - ALLOWABLE SOIL BEARING PRESSURE: 1,500 PSF
  - FROST DEPTH: 18 INCHES
  - COEFFICIENT OF FRICTION: 0.35
- PLACE FOOTINGS ON FIRM, UNDISTURBED NATIVE SOIL.
- LOCATE BOTTOM OF FOOTINGS BELOW MINIMUM FROST DEPTH UNLESS OTHERWISE NOTED.
- PROTECT PLACEMENT OF CONCRETE FROM ALL EXPOSED SOIL FROM FOOTING EXCAVATION.
- STEP BOTTOM OF FOOTINGS AT ELEVATION CHANGES AT A SLOPE OF 1 VERTICAL TO 2 HORIZONTAL WITH A MAXIMUM VERTICAL STEP OF 2'-0"

**CAST-IN-PLACE CONCRETE:**

- ALL CONCRETE WORK SHALL CONFORM TO ACI 308.
- PREPARE MIXES FOR EACH TYPE OF CONCRETE:
  - PROPORTION MIXES BY EITHER LABORATORY TEST BATCH OR FIELD BATCHES BY THE METHOD. LONG MATERIALS TO BE EMPLOYED ON THE WORK FOR EACH CLASS OF CONCRETE TESTED, AS SPECIFIED IN ACI 308.
  - CEMENTED PORTLAND SHALL BE FURNISHED FOR EACH PROPORTION MIX FOR EACH TYPE OF WORK OF THIS SECTION.
  - CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGNS, ALONG WITH TEST DATA AS REQUIRED, A MAXIMUM OF (3) WEEKS PRIOR TO PLACING CONCRETE.
- AGGREGATES:
  - AGGREGATE SHALL BE IN ACCORDANCE WITH ASTM C 29 AND WATER-REDUCING ADJUVANTS SHALL CONFORM TO ASTM 494. USED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MAY BE INCORPORATED IN CONCRETE DESIGN MIXES.
  - AN AIR-ENTRAINING AGENT CONFORMING TO ASTM C 29 SHALL BE USED IN CONCRETE MIXES FOR EITHER HORIZONTAL OR VERTICAL SURFACES EXPOSED TO WEATHER. THE AMOUNT OF AIR-ENTRAINING AGENT SHALL BE 5% - 7% BY VOLUME.
  - FLY ASH SHALL CONFORM TO ASTM C 618 AND SHALL BE LIMITED TO A MAXIMUM OF 15% BY WEIGHT.
- USE PORTLAND CEMENT TYPE I OR II, CONFORM WITH ASTM C 150. SUPPLY FROM ONE (1) SOURCE.
- AGGREGATES SHALL CONFORM WITH ASTM C 33 AND BE THOROUGHLY CLEANED AND WASHED PRIOR TO USE.
- CONCRETE STRENGTHS SHALL BE VERIFIED BY STANDARD 28-DAY COMPRESSIVE TESTS PER ASTM C 39, AND SHALL BE AS FOLLOWS:
  - FOOTINGS:  $f_c = 3,000$  PSI AT 28 DAYS (DESIGNED FOR 2,500 PSI)
  - SLABS:  $f_c = 4,000$  PSI AT 28 DAYS
  - WALLS:  $f_c = 4,000$  PSI AT 28 DAYS
- MAXIMUM SLUMP FOR CONCRETE SHALL BE 4" PLUS OR MINUS 1".
- SAMPLES FOR STRENGTH TESTS OF EACH CLASS OF CONCRETE PLACED EACH DAY SHALL BE TAKEN NO LESS THAN ONCE PER DAY, OR NO LESS THAN ONCE PER EACH 1150 C.Y. OF CONCRETE, OR NO LESS THAN ONCE PER EACH (15,000) SQUARE FEET OF SURFACE AREA FOR SLABS OR WALLS.
- NO WATER SHALL BE ADDED TO THE CONCRETE OTHER THAN THAT PROVIDED BY THE MIXER OR APPROVED BY THE ENGINEER OF RECORD.
- SUBJECT TO FINISH, COULTS, AND OTHER EXPOSED ITEMS NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO POURING.
- CONDUITS EMBEDDED IN SLABS SHALL NOT BE LARGER THAN (1/3) OF THE SLAB THICKNESS AND SHALL NOT BE SPACED CLOSER THAN (5) DIAMETERS ON CENTER.
- PROVIDE 1" CHAMFERS ON ALL EXPOSED CONCRETE EDGES UNLESS NOTED OTHERWISE.

**CONCRETE REINFORCING STEEL:**

- REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 GRADE 60, UNLESS NOTED OTHERWISE.
- REINFORCING STEEL TO BE WELDED SHALL CONFORM TO ASTM A702.
- REINFORCING STEEL SHALL BE DETAIL AS ACCORDANCE WITH THE LATEST EDITION OF THE ACI 318 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT".
- REINFORCING STEEL SHALL HAVE THE FOLLOWING PROTECTIVE CLEARANCES:
  - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO WEATHER:
    - ALL REINFORCING STEEL: 3"
    - CONCRETE EXPOSED TO WEATHER: 1 1/2"
    - REBAR WITH OR WITHIN WALLS AND SMALLER: 1 1/2"
    - REBAR TO JOINTS: 2"
  - CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH WEATHER:
    - SLAB WALLS AND JOISTS: 1 1/2"
    - #11 BAR AND SMALLER: 1 1/2"
    - #14 BAR AND #14 BAR: 1 1/2"
  - BEAMS AND COLUMNS:
    - PRIMARY REINFORCEMENT: 1 1/2"
    - TEEL STRIPS AND SPALLS: 1 1/2"

- UNLESS NOTED OTHERWISE ALL REINFORCEMENT LAP SPICES SHALL BE AS FOLLOWS:
 

BAR SIZE	SPICE (FOR 90 DEGREE)	SPICE (FOR 45 DEGREE)
#3	24"	17"
#4	32"	23"
#5	39"	31"
#6	47"	37"

- THESE REINFORCING STEEL SHALL BE UNCOATED REINFORCING STEEL WITH NORMAL WEIGHT CONCRETE. CLEAR SPACING BETWEEN BARS NOT LESS THAN (1) BAR DIAMETERS AND CLEAR COVER NOT LESS THAN (1) BAR DIAMETER. FOR UNWEIGHTED CONCRETE OR REDUCED SPACING, COVER, MINIMUM LENGTHS BY (3).
- FOR TOP BARS (BARS WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW THE BARS) MINIMUM LENGTHS BY (3).

**CONCRETE ACCESSORIES:**

- NON-SHRINK GROUT:
  - NON-SHRINK GROUT SHALL BE A FLEXIBLE COMPOUND CONSISTING OF NON-METALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICIZING AGENTS.
  - NON-SHRINK GROUT SHALL BE CAPABLE OF DEVELOPING A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI IN 48 HOURS AND 4,000 PSI IN 28 DAYS.
  - NON-SHRINK GROUT SHALL BE USED AND APPLIED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- WELDED REINFORCING STEEL SHALL BE AUTOMATICALLY WELDED WITH THE MANUFACTURER'S STANDARD EQUIPMENT IN STRICT ACCORDANCE WITH THEIR RECOMMENDATIONS.

**STRUCTURAL STEEL:**

- DESIGN, FABRICATION, AND ERECTION SHALL BE IN ACCORDANCE WITH THE AISC SPECIFICATION FOR DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
- STRUCTURAL STEEL SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:
  - HOLLOW STRUCTURAL SECTIONS (HSS): ASTM A500, GRADE "B" (F<sub>y</sub> 45) IS
  - PIPE RANGES: ASTM A575, GRADE 50
  - CHANNELS, PLATES, ANGLES: ASTM A36
  - BOLTS: ASTM A325N
  - ANCHOR BOLTS: ASTM F1554, GRADE 55
  - WELDED JOINTS: ASTM A36
- ALL EXPOSED STEEL BELOW FINISH GRADE TO BE COATED WITH ALUMINUM PAINT PRIOR TO ERECTING.
- ALL WELDS PERFORMED SHALL CONFORM TO THE AWS STANDARDS FOR FCA-GAS WELDING IN BUILDING CONSTRUCTION AND SHALL BE 3/16" MINIMUM UNLESS NOTED OTHERWISE.
- WELDS SHALL BE MADE USING E70XX ELECTRODES.
- WELDING SHALL BE DONE BY AWS CERTIFIED WELDERS.
- FIELD WELDED WELDING PROCEDURES ARE TO BE USED, UNLESS AWS QUALIFICATIONS IS SUBMITTED TO THE ARCHITECT/ENGINEER PRIOR TO FABRICATION.

**STEEL JOISTS AND GIRDERS:**

- DESIGN OF STEEL JOISTS AND GIRDERS ARE BASED ON THE STEEL JOIST DESIGN SPECIFICATION, LOAD TABLES, AND WEIGHT TABLES.
- STEEL JOISTS AND GIRDERS ARE TO BE MANUFACTURED BY MANUFACTURER APPROVED EQUALLY.
- DESIGN STEEL JOISTS, GIRDERS, AND BRACING FOR THE SPECIFIED WIND LOADS INDICATED ON THE DRAWINGS WITH A MAXIMUM SLIP OF 5 PPM IN ADDITION TO OTHER DESIGN FORCES.
- PROVIDE BRACING IN ACCORDANCE WITH THE AISC SPECIFICATIONS.
- CONTRACTOR IS TO PROVIDE SPANNER AND MECHANICAL LIFT LOADS. THE ADDITIONAL TRUSSES AND SECONDARY FRAMING FOR THE MECHANICAL AND SPANNER LIFTING IS TO BE BY OTHERS.
- UNLESS INDICATED OTHERWISE THE JOIST BRACING IS TO PROVIDE FOR (2) KIP POINT LOADS AT ADJACENT PANEL POINTS IN ADDITION TO OTHER DESIGN LOADS.

**FRAMING LUMBER:**

- SKYLIGHT DESIGN IS BASED ON THE LATEST EDITION OF THE NATIONAL DESIGN SPECIFICATION.
- SKYLIGHT SHALL CONFORM TO WEST COAST LUMBER INSPECTION BOARD OR WESTERN WOOD PRODUCTS ASSOCIATION GRADING RULES.
- LUMBER SPECIES & GRADES:
  - INTERIOR NON-BEARING WALL STUDS: DF 5.0D GRADE
  - JOISTS (2x MEMBERS): DF NO. 2
  - FLOORING, PLUMB, BRACING: DF 5.0D GRADE
- ALL LUMBER IN PERMANENT CONTACT WITH CONCRETE OR EXPOSED TO WEATHER SHALL BE PRESSURE-TREATED UNLESS AN APPROVED BARRIER IS PROVIDED.
- MAXIMUM MOISTURE CONTENT: 15%

**PLYWOOD SHEATHING:**

- PLYWOOD PANELS SHALL CONFORM TO THE REQUIREMENTS OF THIS PROJECT AND PER APPLICABLE STANDARDS FOR CONSTRUCTION AND EXISTING PLYWOOD OR APA PERFORMANCE STANDARDS.
- UNLESS NOTED OTHERWISE FLOOR AND FLOOR SHEATHING PANELS SHALL BE APA RATED SHEATHING, EXPOSURE 1, OF THE THICKNESS AND SPAN RATING SHOWN ON THE DRAWINGS.
- UNLESS NOTED OTHERWISE WALL SHEATHING PANELS SHALL BE APA RATED SHEATHING, EXPOSURE 1, WITH A SPAN RATING OF 240.
- PLYWOOD INSTALLATION SHALL BE IN ACCORDANCE WITH APA RECOMMENDATIONS.
- ALLOW 1/8" SPACING AT PANEL ENDS AND EDGES, UNLESS OTHERWISE RECOMMENDED BY THE PANEL MANUFACTURER.
- FLOOR SHEATHING SHALL BE INSTALLED WITH FACE GRAIN PERPENDICULAR TO SUPPORTS, EXCEPT AS INDICATED ON THE DRAWINGS.
- DISSECTION OF ORIENTED STRAND BOARD (OSB) FOR PLYWOOD IS ACCEPTABLE IF THE OSB:
  - CONFORMS WITH APA PERFORMANCE STANDARDS FOR WOOD-BASED STRUCTURAL PANELS PER U.S. AND UNITED STATES PRODUCT STANDARDS PER 2012.
  - IS MANUFACTURED WITH EXTENSION GULF.
  - HAS A LOAD SPAN RATING EQUAL TO PLYWOOD SHEATHING SPECIFIED ON THE DRAWINGS.
  - BEARS THE APA TRADEMARK.
- PROVIDE PRESSURE-TREATED PLYWOOD WHERE INDICATED ON DRAWINGS. CONFORM TO APA STANDARD C-1, MOISTURE RESISTANT WITH WAFE.
- PROTECT FLOOR SHEATHING FROM EXTREME WEATHER CONDITIONS.

**CONNECTIONS AND FASTENERS:**

- FRAMING ACCESSORIES AND STRUCTURAL FASTENERS SHALL BE THE SIZE AND TYPE SHOWN ON THE DRAWINGS. ALL DIMENSIONS SHALL BE SHOWN BY DIMENSION LINE OR AN ENGINEER APPROVED EQUAL.
- HANGERS NOT SHOWN SHALL BE DIMENSIONED BY THE SIZE RECOMMENDED FOR MEMBER.
- ALL HANGERS AND FASTENERS IN CONTACT WITH PRESSURE-TREATED LUMBER SHALL BE DIMENSIONED HANGERS OR STAINLESS STEEL.
- FRAMING CONNECTIONS SHALL HAVE ALL THE NAIL HOLES FILLED AS SPECIFIED BY THE CONNECTION MANUFACTURER, UNLESS NOTED OTHERWISE.
- ALL NAILS SHOWN ON THE DRAWINGS SHALL BE COMMON NAILS UNLESS NOTED OTHERWISE.
- TYPICAL NAILING CONNECTIONS SHALL BE PER TABLE 22C.4.3.1 UNLESS NOTED OTHERWISE ON THE DRAWINGS.

**STRUCTURAL OBSERVATION:**

STRUCTURAL OBSERVATION IN ACCORDANCE WITH SECTION 1710 OF THE INTERNATIONAL BUILDING CODE SHALL BE PERFORMED BY HAYDEN CONSULTING ENGINEERS, INC. IN THE FOLLOWING SEQUENCE:

THE GENERAL CONTRACTOR SHALL CONTACT THE STRUCTURAL ENGINEER OF RECORD FIVE (5) WORKING DAYS PRIOR TO COMPLETION OF THE STAGE INDICATED BELOW TO COORDINATE THE DATE OF OBSERVATION OF:

- FOUNDATIONS:
  - PRIOR TO CONCRETE POUR, & FOLLOWING PLACEMENT OF REINFORCING.
- CONCRETE WALL FASTENERS:
  - PRIOR TO CONCRETE POUR, & FOLLOWING PLACEMENT OF REINFORCING.
- ROOF FRAMING:
  - AFTER ROOF DRAIN PAVEMENT IS LAID, PRIOR TO ROOFING BEING INSTALLED & AFTER INSTALLATION OF WALL TIES.

TYPES OF WORK	SPECIAL INSPECTION PROGRAM		
	PERIODIC	CONTINUOUS	COMPLETION
CONCRETE:			
PLACEMENT OF REINFORCING STEEL	X		
CAST-IN-PLACE ANCHOR BOLTS	X		
CONCRETE TEST SPECIMENS		X	
CONCRETE PLACEMENT		X	
STEEL:			
VERIFICATION OF STRUCTURAL ELEMENTS	X		
COMPLETE AND PARTIAL PENETRATION GROOVE WELDS	X		
BULLET WELDS LESS THAN OR EQUAL TO 3/4"	X		
POST-INSTALLED ANCHORS:			
ULTIMATE 270 EPOXY	X		PER ESR-3187

**SPECIAL INSPECTION PROGRAM NOTES:**

- PROVIDE SPECIAL INSPECTION, SPECIAL TESTING, REPORTING AND COMPLIANCE PROCEDURES ACCORDING TO CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE WITH THE 2010 OREGON STRUCTURAL SPECIALTY CODE.
- SPECIAL INSPECTOR QUALIFICATIONS: DEMONSTRATE COMPLIANCE TO THE SATISFACTION OF THE BUILDING OFFICIAL FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION IN QUESTION.
- PRIOR TO THE BEGINNING OF CONSTRUCTION, REVIEW THE SPECIAL INSPECTION REQUIREMENTS WITH THE ARCHITECT, ENGINEER, BUILDING OFFICIAL, GENERAL CONTRACTOR AND SPECIAL INSPECTORS.
- DUTIES OF THE SPECIAL INSPECTOR INCLUDE, BUT ARE NOT LIMITED TO:
  - OBSERVE THE WORK FOR CONFORMANCE WITH THE APPROVED PERMIT DRAWINGS AND SPECIFICATIONS, REPORT DISCREPANCIES TO THE IMMEDIATE ATTENTION OF THE GENERAL CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, THE ENGINEER AND TO THE BUILDING OFFICIAL.
  - FURNISH INSPECTION REPORTS FOR EACH INSPECTION TO THE BUILDING OFFICIAL, ARCHITECT, ENGINEER, GENERAL CONTRACTOR AND OWNER IN A TIMELY MANNER.
  - SUBMIT A FINAL REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS INSPECTED, AND WHETHER THE WORK IS IN COMPLIANCE WITH THE APPROVED PERMIT DRAWINGS AND SPECIFICATIONS.
- DUTIES OF THE GENERAL CONTRACTOR INCLUDE, BUT ARE NOT LIMITED TO:
  - NOTIFY SPECIAL INSPECTOR THAT WORK IS READY FOR INSPECTION AT LEAST 24 HOURS BEFORE THE INSPECTION IS REQUIRED.
  - MAINTAIN ACCESS TO WORK REQUIRING SPECIAL INSPECTION UNTIL IT HAS BEEN OBSERVED AND INDICATED TO BE IN CONFORMANCE BY THE SPECIAL INSPECTOR AND APPROVED BY THE BUILDING OFFICIAL.
  - PROVIDE THE SPECIAL INSPECTOR WITH ACCESS TO APPROVED PERMIT DRAWINGS AND SPECIFICATIONS AT THE JOB SITE.
  - MAINTAIN JOB-SITE COPIES OF ALL REPORTS SUBMITTED BY THE SPECIAL INSPECTOR.
- DEFINITIONS:
  - COMPLIANCE INSPECTION: THE SPECIAL INSPECTOR IS OBSERVING THE WORK REQUIRING SPECIAL INSPECTION AT ALL TIMES.
  - PERIODIC INSPECTION: THE SPECIAL INSPECTOR IS ON-SITE AS REQUIRED TO CONFIRM THAT THE WORK REQUIRING SPECIAL INSPECTION IS IN CONFORMANCE.



**HAYDEN**  
 Consulting Engineers  
 STRUCTURAL ENGINEERING  
 12480 SW 58th Ave., Tigard, Oregon 97223  
 Phone: (503) 669-9977 Fax: (503) 768-9444  
 WWW.HAYDEN-ENGINEERS.COM

**PROJECT:**  
 Building Addition  
 Barker Cabinets  
 19355 SW 125th Ct  
 Tualatin, OR 97062

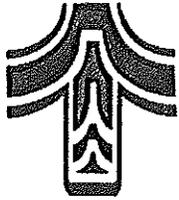
SHEET CONTENT  
**GENERAL NOTES & SCHEDULES**

JOB No. 14358  
 DRAWN BY: DLM  
 CHECKED BY: CMW/DH  
 DATE: 02.04.2015

REVISIONS:  
 SHEET S1.0 OF 7







# City of Tualatin

www.tualatinoregon.gov

CITY OF TUALATIN  
RECEIVED

FEB 10 2015

COMMUNITY DEVELOPMENT  
PLANNING DIVISION

## APPLICATION FOR ARCHITECTURAL REVIEW

<b>Direct Communication to:</b>			
Name: AS MICHAUD		Title: PROJECT MANAGER	
Company Name: TS GRAY CONSTRUCTION			
Current address: PO BOX 1000			
City: SHERWOOD		State: OR	ZIP Code: 97140
Phone: 503-692-4675	Fax: 503-692-9292	Email: a.michaud@tsgrayconstruction.com	
<b>Applicant</b>			
Name: AS MICHAUD		Company Name: TS GRAY CONSTRUCTION	
Address:			
City:	State:		ZIP Code:
Phone:	Fax:	Email:	
Applicant's Signature: <i>AS Michaud</i>		Date: 2/2/15	
<b>Property Owner</b>			
Name: BRUCE BARKER			
Address: 19355 SW 125TH CT			
City: TUALATIN		State: OR	ZIP Code: 97062
Phone: 503-476-1060	Fax:	Email:	
Property Owner's Signature: <i>BL Barker</i>		Date: 2/2/15	
<b>(Note: Letter of authorization is required if not signed by owner)</b>			
<b>Architect</b>			
Name: HAYDEN CONSULTING ENGINEERS			
Address: 12480 SW 68TH AVE			
City: TIGARD		State: OR	ZIP Code: 97223
Phone: 503-968-9994	Fax:	Email:	
<b>Landscape Architect</b>			
Name:			
Address:			
City:	State:		ZIP Code:
Phone:	Fax:	Email:	
<b>Engineer</b>			
Name: HAYDEN CONSULTING ENGINEERS			
Address:			
City:	State:		ZIP Code:
Phone:	Fax:	Email:	
<b>Project</b>			
Project Title: BARKER CABINET EXPANSION			
Address: 19355 SW 125TH CT			
City: TUALATIN		State: OR	ZIP Code: 97062
Brief Project Description: 14,000 SF ADD TO TILT-UP BUILDING			
Proposed Use: STORAGE			

Value of Improvements: \$682,424

AS THE PERSON RESPONSIBLE FOR THIS APPLICATION, I HEREBY ACKNOWLEDGE THAT I HAVE READ THIS APPLICATION AND STATE THAT THE INFORMATION ABOVE, ON THE FACT SHEET, AND THE SURROUNDING PERTY OWNER MAILING LIST IS CORRECT. I AGREE TO COMPLY WITH ALL APPLICABLE CITY AND COUNTY ORDINANCES AND STATE LAWS REGARDING BUILDING CONSTRUCTION AND LAND USE.

Applicant's Signature: *AS McLeod* Date: 2/2/15

Office Use		
Case No: AR-15-02	Date Received: 2/10/15	Received by: <i>[Signature]</i>
Fee: Complete Review (\$115-\$5040): \$2410.00	Receipt No: 125086	
Application Complete as of:	ARB hearing date (if applicable):	
Posting Verification: ✓	6 copies of drawings (folded)	
1 reproducible 8 1/2" X 11" vicinity map	1 reproducible 8 1/2" X 11" site, grading, LS, Public Facilities plan	
Neighborhood/Developer meeting materials		

CITY OF TUALATIN FACT SHEET

General

Proposed use: <b>WAREHOUSE STORAGE</b>			
Site area:	2.2	acres	Building footprint: 28665 + 14000
Development area:		acres	Paved area: 31,044
	94,452	Sq. ft.	Development area coverage: %

Parking

Spaces required (see TDC 73.400) (example: warehouse @ 0.3/1000 GFA) 42665 @ 0.3 /1000 GFA = 12.8 _____ @ _____ /1000 GFA = _____ _____ @ _____ /1000 GFA = _____ Total parking required: 13 spaces Handicapped accessible = 2 Van pool = $\phi$ Compact = (max. 35% allowed) = $\phi$ Loading berths = 2	Spaces provided: Total parking provided: 29 spaces Standard = 27 Handicapped accessible = 2 Van pool = $\phi$ Compact = 2 Loading berths = 2
--	--

Bicycles

Covered spaces required: 4	Covered spaces provided: 4
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Landscaping

Landscaping required: _____ % of dvpt. area Square feet	Landscaping provided: 19.9 % of dvpt. area 18,610 Square feet
Landscaped parking island area required: _____ %	Landscaped parking island area provided: 1.9 % 3,114 SF

Trash and recycling facility

Minimum standard method: _____ square feet
Other method: _____ square feet

For commercial/industrial projects only

Total building area:	sq. ft.	2 <sup>nd</sup> floor:	sq. ft.
Main floor: 42,665	sq. ft.	3 <sup>rd</sup> floor:	sq. ft.
Mezzanine:	sq. ft.	4 <sup>th</sup> floor:	sq. ft.

For residential projects only

Number of buildings:	Total sq. ft. of buildings:	sq. ft.
Building stories:		

Architectural Review Checklist for Commercial, Industrial & Public - Page 11

GENERAL INFORMATION	
Site Address:	19355 SW 125 <sup>TH</sup> CT
Assessor's Map and Tax Lot #:	2S121DA00600
Planning District:	
Parcel Size:	94,452 SF
Property Owner:	BARKER PROPERTIES - BRUCE BARKER
Applicant:	TS GRAY CONSTRUCTION
Proposed Use:	STORAGE

ARCHITECTURAL REVIEW DETAILS	
<input type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Industrial	
Number of parking spaces:	46 CURRENTLY 29 PROPOSED
Square footage of building(s):	28,665 SF + 14,000 SF
Square footage of landscaping:	21,724 SF
Square footage of paving:	31,044 SF
Proposed density (for residential):	

**For City Personnel to complete:**

Staff contact person:



Clean Water Services File Number

14-002723

### Sensitive Area Pre-Screening Site Assessment

1. Jurisdiction: CITY OF TUALATIN

2. Property Information (example 1S234AB01400)

Tax lot ID(s): 2S121DA00600

Site Address: 19355 SW 125TH CT

City, State, Zip: TUALATIN, OR 97062

Nearest Cross Street: IAS + HERMAN

3. Owner Information

Name: BRUCE BARKER

Company: BARKER CABINETS

Address: 19355 SW 125TH CT

City, State, Zip: TUALATIN, OR 97062

Phone/Fax: \_\_\_\_\_

E-Mail: \_\_\_\_\_

4. Development Activity (check all that apply)

- Addition to Single Family Residence (rooms, deck, garage)
- Lot Line Adjustment       Minor Land Partition
- Residential Condominium       Commercial Condominium
- Residential Subdivision       Commercial Subdivision
- Single Lot Commercial       Multi Lot Commercial

Other 14,000 SF ADD TO BLDG OVER EXISTING PARKING LOT

5. Applicant Information

Name: AS MICHAUD

Company: TS GRAY CONSTRUCTION

Address: PO BOX 1000

City, State, Zip: SHERWOOD, OR 97140

Phone/Fax: 503-692-4675 / 503-692-9292

E-Mail: aj@rgpi.net

6. Will the project involve any off-site work?  Yes  No  Unknown

Location and description of off-site work \_\_\_\_\_

7. Additional comments or information that may be needed to understand your project \_\_\_\_\_

This application does NOT replace Grading and Erosion Control Permits, Connection Permits, Building Permits, Site Development Permits, DEQ 1200-C Permit or other permits as issued by the Department of Environmental Quality, Department of State Lands and/or Department of the Army COE. All required permits and approvals must be obtained and completed under applicable local, state, and federal law.

By signing this form, the Owner or Owner's authorized agent or representative, acknowledges and agrees that employees of Clean Water Services have authority to enter the project site at all reasonable times for the purpose of inspecting project site conditions and gathering information related to the project site. I certify that I am familiar with the information contained in this document, and to the best of my knowledge and belief, this information is true, complete, and accurate.

Print/Type Name AS MICHAUD

Print/Type Title PROJ MNGR

Signature \_\_\_\_\_

Date 9/30/14

#### FOR DISTRICT USE ONLY

- Sensitive areas potentially exist on site or within 200' of the site. THE APPLICANT MUST PERFORM A SITE ASSESSMENT PRIOR TO ISSUANCE OF A SERVICE PROVIDER LETTER. If Sensitive Areas exist on the site or within 200 feet on adjacent properties, a Natural Resources Assessment Report may also be required.
- Based on review of the submitted materials and best available information Sensitive areas do not appear to exist on site or within 200' of the site. This Sensitive Area Pre-Screening Site Assessment does NOT eliminate the need to evaluate and protect water quality sensitive areas if they are subsequently discovered. This document will serve as your Service Provider letter as required by Resolution and Order 07-20, Section 3.02.1. All required permits and approvals must be obtained and completed under applicable local, State, and federal law.
- Based on review of the submitted materials and best available information the above referenced project will not significantly impact the existing or potentially sensitive area(s) found near the site. This Sensitive Area Pre-Screening Site Assessment does NOT eliminate the need to evaluate and protect additional water quality sensitive areas if they are subsequently discovered. This document will serve as your Service Provider letter as required by Resolution and Order 07-20, Section 3.02.1. All required permits and approvals must be obtained and completed under applicable local, state and federal law.
- This Service Provider Letter is not valid unless \_\_\_\_\_ CWS approved site plan(s) are attached.
- The proposed activity does not meet the definition of development or the lot was platted after 9/9/95 ORS 92.040(2). NO SITE ASSESSMENT OR SERVICE PROVIDER LETTER IS REQUIRED.

Reviewed by Laurie Harris

Date 10/09/14

## Service Provider Letter

**This form and the attached conditions will serve as your Service Provider Letter in accordance with Clean Water Services Design and Construction Standards (R&O 07-20).**

**Jurisdiction:** City of Tualatin **Review Type:** Allowed Use  
**Site Address / Location:** 19355 SW 125th CT **SPL Issue Date:** February 25, 2015  
Tualatin, OR 97062 **SPL Expiration Date:** February 24, 2017

**Applicant Information:**

Name AJ Michaud  
 Company TS GRAY CONSTRUCTION  
 Address PO BOX 1000  
 Phone/Fax (503) 692-4675  
 E-mail: ajmichaud@tsgrayconstruction.net

**Owner Information:**

Name Bob Gray  
 Company BARKER PROPERTIES LLC  
 Address 19355 SW 125TH CT  
TUALATIN OR 97062  
 Phone/Fax (503) 476-1060  
 E-mail: \_\_\_\_\_

**Tax lot ID**

2S121DA00600

**Development Activity**

Redevelopment – 13,086 sq. ft. addition to replace a portion of the existing parking lot

**Pre-Development Site Conditions:**

Sensitive Area Present:  On-Site  Off-Site  
 Vegetated Corridor Width: 25  
 Vegetated Corridor Condition: Degraded

**Post Development Site Conditions:**

Sensitive Area Present:  On-Site  Off-Site  
 Vegetated Corridor Width: 25

**Enhancement of Remaining Vegetated Corridor Required:**

**Square Footage to be enhanced:** 5,167

**Encroachments into Pre-Development Vegetated Corridor:**

Type and location of Encroachment: Storm drain outfall (replacement mitigation not required per section 3.05.5.c) Square Footage: 25

**Mitigation Requirements:**

Type/Location None Sq. Ft./Ratio/Cost 0

Conditions Attached  Development Figures Attached ( 3 )  Planting Plan Attached  Geotech Report Required

**This Service Provider Letter does NOT eliminate the need to evaluate and protect water quality sensitive areas if they are subsequently discovered on your property.**

**In order to comply with Clean Water Services water quality protection requirements the project must comply with the following conditions:**

1. No structures, development, construction activities, gardens, lawns, application of chemicals, uncontained areas of hazardous materials as defined by Oregon Department of Environmental Quality, pet wastes, dumping of materials of any kind, or other activities shall be permitted within the sensitive area or Vegetated Corridor which may negatively impact water quality, except those allowed in R&O 07-20, Chapter 3.
2. Prior to any site clearing, grading or construction the Vegetated Corridor and water quality sensitive areas shall be surveyed, staked, and temporarily fenced per approved plan. During construction the Vegetated Corridor shall remain fenced and undisturbed except as allowed by R&O 07-20, Section 3.06.1 and per approved plans.
3. If there is any activity within the Sensitive Area, the applicant shall gain authorization for the project from the Oregon Department of State Lands (DSL) and US Army Corps of Engineers (USACE). The applicant shall provide Clean Water Services or its designee (appropriate city) with copies of all DSL and USACE project authorization permits.
4. An approved Oregon Department of Forestry Notification is required for one or more trees harvested for sale, trade, or barter, on any non-federal lands within the State of Oregon.
5. **Prior to ground disturbance an Erosion Control Permit is required from City of Tualatin. Appropriate Best Management Practices (BMP's) for Erosion Control, in accordance with Clean Water Services' Erosion Prevention and Sediment Control Planning and Design Manual, shall be used prior to, during, and following earth disturbing activities.**
6. **Prior to construction, a Stormwater Connection Permit from Clean Water Services or its designee is required pursuant to Ordinance 27, Section 4.B.**
7. Activities located within the 100-year floodplain shall comply with R&O 07-20, Section 5.10.
8. Removal of native, woody vegetation shall be limited to the greatest extent practicable.
9. If applicable, the water quality swale and detention pond shall be planted with Clean Water Services approved native species, and designed to blend into the natural surroundings.
10. **Should final development plans differ significantly from those submitted for review by Clean Water Services, the applicant shall provide updated drawings, and if necessary, obtain a revised Service Provider Letter.**

**SPECIAL CONDITIONS**

11. **For Vegetated Corridors up to 50 feet wide, the applicant shall enhance the entire Vegetated Corridor to meet or exceed good corridor condition as defined in R&O 07-20, Section 3.14.2, Table 3-3.**
12. Prior to any site clearing, grading or construction, the applicant shall provide Clean Water Services with a Vegetated Corridor enhancement/restoration plan. Enhancement/restoration of the Vegetated Corridor shall be provided in accordance with R&O 07-20, Appendix A, and shall include planting specifications for all Vegetated Corridor, including any cleared areas larger than 25 square feet in Vegetated Corridor rated ""good.""
13. Prior to installation of plant materials, all invasive vegetation within the Vegetated Corridor shall be removed per methods described in Clean Water Services' Integrated Pest Management Guide, 2012. During removal of invasive vegetation care shall be taken to minimize impacts to existing native tree and shrub species.
14. Clean Water Services shall be notified 72 hours prior to the start and completion of enhancement/restoration activities. Enhancement/restoration activities shall comply with the guidelines provided in Landscape Requirements (R&O 07-20, Appendix A).
15. Maintenance and monitoring requirements shall comply with R&O 07-20, Section 2.11.2. If at any time during the warranty period the landscaping falls below the 80% survival level, the owner shall reinstall all deficient planting at the next appropriate planting opportunity and the two year maintenance period shall begin again from the date of replanting.

16. Performance assurances for the Vegetated Corridor shall comply with R&O 07-20, Section 2.06.2, Table 2-1 and Section 2.10, Table 2-2.
17. Clean Water Services shall require an easement over the Vegetated Corridor conveying storm and surface water management to Clean Water Services that would prevent the owner of the Vegetated Corridor from activities and uses inconsistent with the purpose of the corridor and any easements therein.

#### **FINAL PLANS**

18. **Final construction plans shall include landscape plans.** In the details section of the plans, a description of the methods for removal and control of exotic species, location, distribution, condition and size of plantings, existing plants and trees to be preserved, and installation methods for plant materials is required. Plantings shall be tagged for dormant season identification and shall remain on plant material after planting for monitoring purposes.
19. A Maintenance Plan shall be included on final plans including methods, responsible party contact information, and dates (minimum two times per year, by June 1 and September 30).
20. Final construction plans shall clearly depict the location and dimensions of the sensitive area and the Vegetated Corridor (indicating good, marginal, or degraded condition). Sensitive area boundaries shall be marked in the field.
21. Protection of the Vegetated Corridors and associated sensitive areas shall be provided by the installation of permanent fencing and signage between the development and the outer limits of the Vegetated Corridors. Fencing and signage details to be included on final construction plans.

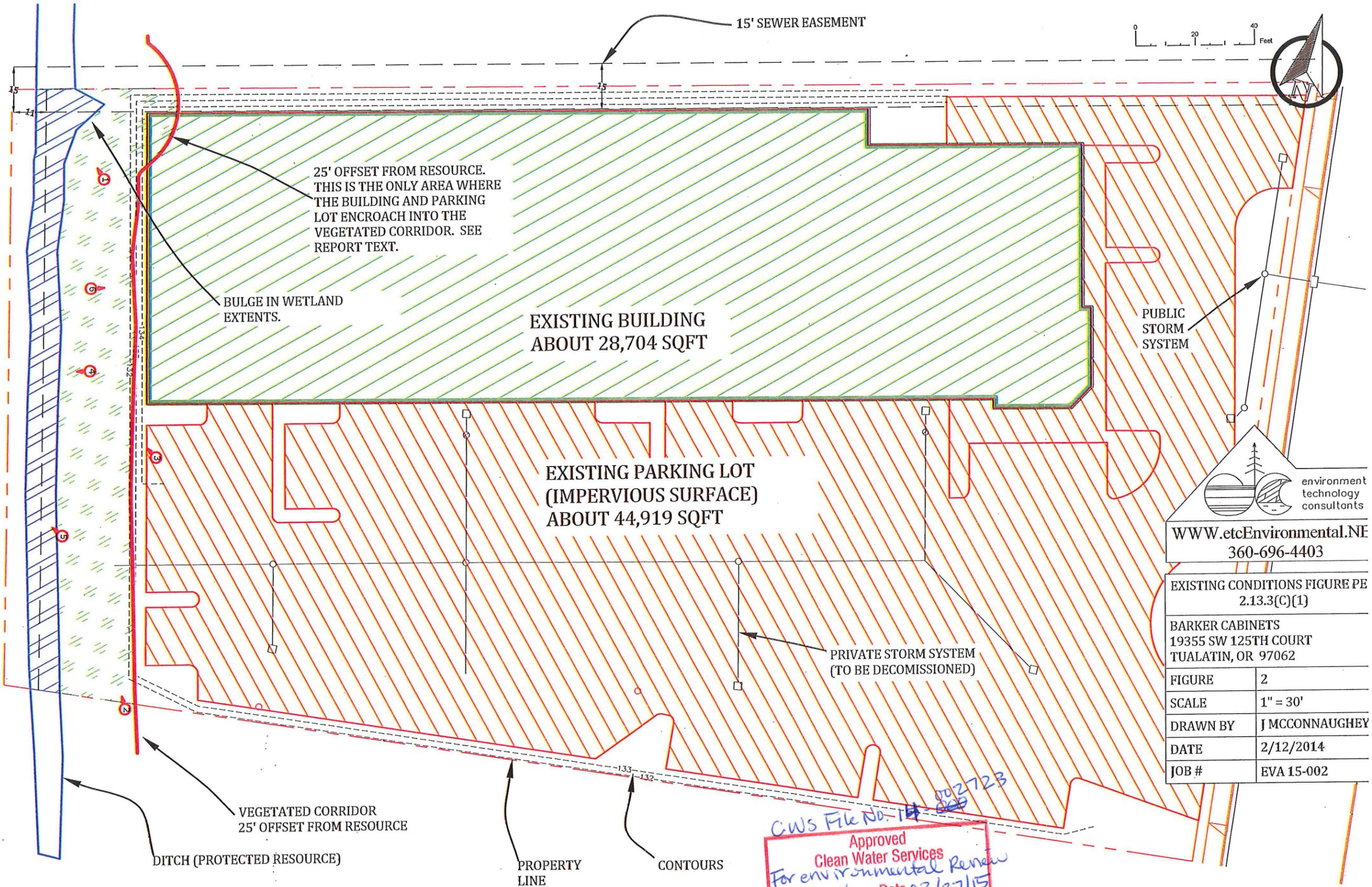
**This Service Provider Letter is not valid unless CWS-approved site plan is attached.**

**Please call (503) 681-3639 with any questions.**



**Laurie Harris  
Environmental Plan Review**

**Attachments ( 7 )**



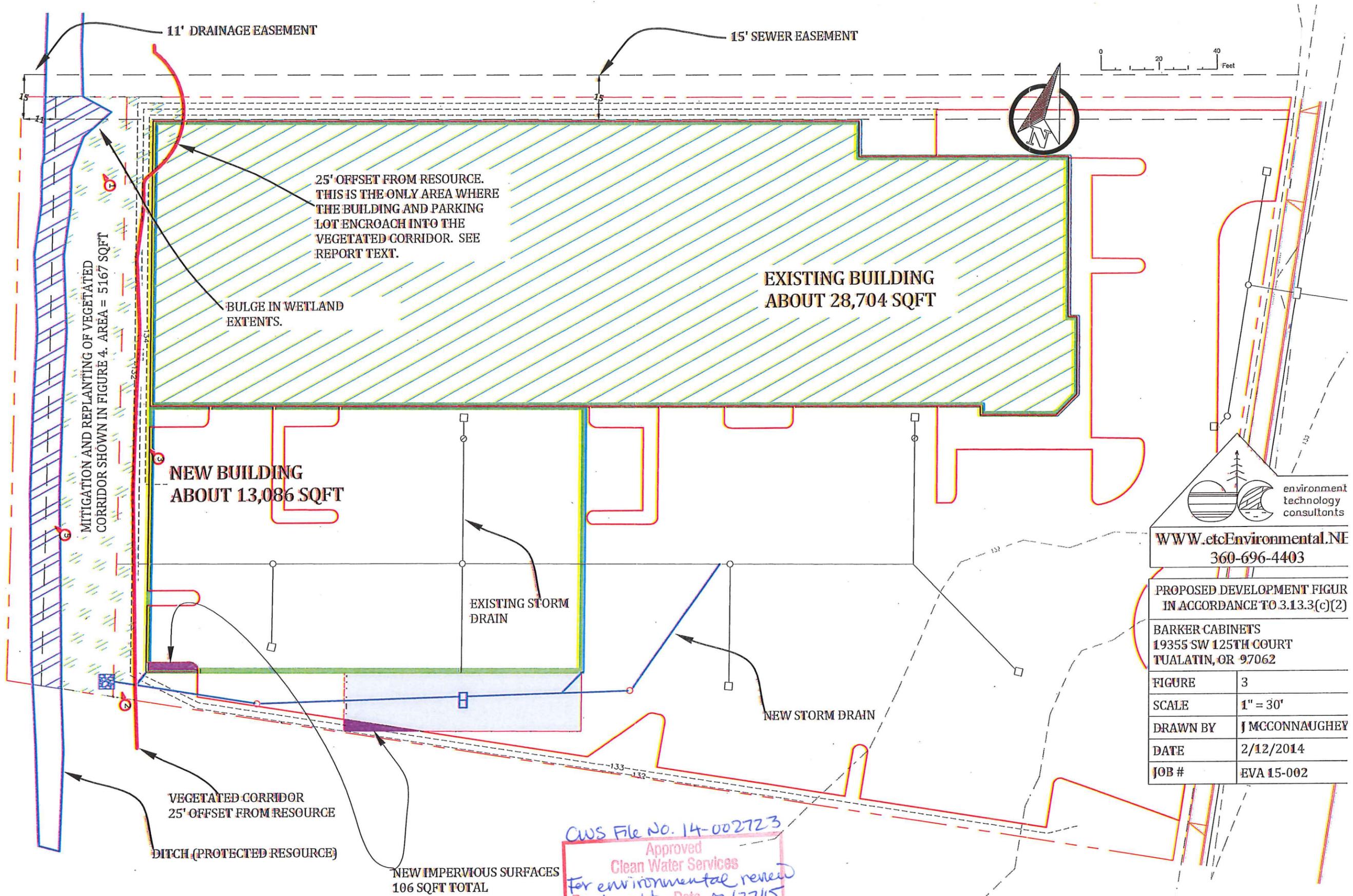
WWW.etcEnvironmental.NE  
360-696-4403

EXISTING CONDITIONS FIGURE PE 2.13.3(C)(1)

BARKER CABINETS  
19355 SW 125TH COURT  
TUALATIN, OR 97062

FIGURE	2
SCALE	1" = 30'
DRAWN BY	J MCCONNAUGHEY
DATE	2/12/2014
JOB #	EVA 15-002

CWS File No. 14-02723  
Approved  
Clean Water Services  
For environmental Renew  
By Lmt Date 02/27/15  
SPL Attachment 1 of 7



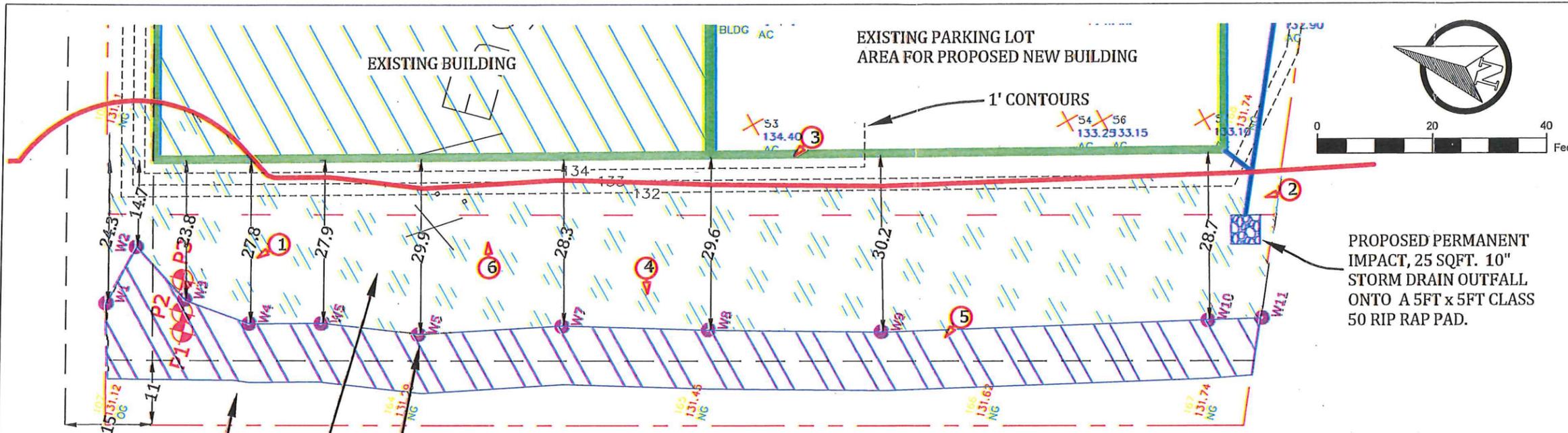
WWW.etcEnvironmental.NE  
360-696-4403

PROPOSED DEVELOPMENT FIGUR  
IN ACCORDANCE TO 3.13.3(c)(2)

BARKER CABINETS  
19355 SW 125TH COURT  
TUALATIN, OR 97062

FIGURE	3
SCALE	1" = 30'
DRAWN BY	J MCCONNAUGHEY
DATE	2/12/2014
JOB #	EVA 15-002

CWS File No. 14-002723  
Approved  
Clean Water Services  
For environmental review  
By Lmt Date 02/27/15  
SPL Attachment 2 of 7



environmental  
technology  
consultants

WWW.etcEnvironmental.NE  
360-696-4403

FINAL CONDITIONS SITE PLAN PER  
3.13.3(c)(3), SHOWING VEGETATED  
CORRIDOR REVEGETATION PLAN

BARKER CABINETS  
19355 SW 125TH COURT  
TUALATIN, OR 97062

FIGURE	4
SCALE	1" = 20'
DRAWN BY	J MCCONNAUGHEY
DATE	2/12/2014
JOB #	EVA 15-002

PROPOSED PERMANENT  
IMPACT, 25 SQFT. 10"  
STORM DRAIN OUTFALL  
ONTO A 5FT x 5FT CLASS  
50 RIP RAP PAD.

SEWER LINE  
EASEMENT 15'

DRAINAGE  
EASEMENT 11"

WETLAND  
2,113 SQFT  
R3UB3

25' WIDE VEGETATED  
CORRIDOR  
5,167 SQFT'



WETLAND DATA  
SAMPLING POINT  
SEE APPENDIX B



WETLAND BOUNDARY FLAG  
AND DISTANCE TO NEAREST  
BUILDING OR OTHER  
IMPERVIOUS SURFACE



PHOTO  
LOCATION AND  
DIRECTION

## RESEEDING

THE VEGETATED AREA NEEDS TO BE RESEEDED AS SOON AS POSSIBLE. ETC RECOMMENDS RESEEDING AND TREETING THE AREA AS FOLLOWS. SUNMARK SEED MIXES ARE SPECIFIED ALTHOUGH THESE CAN BE REPLACED WITH SIMILAR SEED MIXES FROM OTHER COMPANIES IF DESIRED.

FOR THE WETTER AREAS (3' STRIP ALONG THE DITCH) SEED WITH 0.5 POUNDS OF SUNMARK "NATIVE MIX - PHYTOREMEDIATION"

FOR THE REMAINING AREAS SEED WITH 6 POUNDS OF SUNMARK MEADOW MIX COMBINED WITH 1.5 POUNDS OF WOODLANDS MIX.

ALL BARE AREAS SHOULD BE COVERED FOR EROSION CONTROL. 600 LBS OF SUNMARK "PERMAMATRIX" ARE RECOMMENDED. SUBSTITUTE EROSION CONTROL COVERS INCLUDE 2" OF HAY, OR 2" MULCH.

## REPLANTING

THE VEGETATED CORRIDOR NEEDS TO BE REPLANTED PER R&O 07-20 APPENDIX "A". AN ANNOTATED COPY OF APPENDIX "A" IS ATTACHED AS REFERENCE.

THE REQUIRED PLANTING DENSITY IS DEFINED IN APPENDIX "A" PARAGRAPH 2.3.c. FOR A VEGETATED CORRIDOR OF 5,167 SQFT PARAGRAPH 2.3.c REQUIRES THAT 48 TREES AND 241 SHRUBS BE PLANTED. THERE ARE PRESENTLY 10 WESTERN RED CEDAR TREES ABOUT 10 TO 12 INCH DIAMETER IN THE CORRIDOR ALREADY, AND SO WE HAVE REDUCED THE REQUIRED PLANTING BY THAT NUMBER.

ADJUSTED PLANTING REQUIREMENT PER APPENDIX "A" 2.3.c:

~~4238~~ TREES  
~~258~~ 241 SHRUBS

APPROXIMATELY 333 SQFT OF THE CORRIDOR CLOSEST TO THE DITCH ARE WET OR RIPARIAN CONDITIONS AND SHOULD BE PLANTED USING PLANTS FROM THE RIPARIAN FOREST (RF) PORTION OF TABLE A-1. THE REMAINING 4,837 SQFT SHOULD BE PLANTED AS AN UPLAND FOREST PER THE UPLAND FOREST (UF) PORTION OF TABLE A-1.

ETC'S RECOMMENDED SPECIES AND NUMBERS FOR PLANTING CAN BE FOUND IN MARGINS OF THE ABOVE MENTIONED TABLES. SUBSTITUTIONS ARE ALLOWED DEPENDING ON AVAILABILITY.

IN ADDITION ETC RECOMMENDS PLANTING 50 BLACK TWIN BERRY LIVE STAKES AND 50 WILLOW LIVE STAKES AS THESE PROVIDE RELATIVELY INEXPENSIVE ASSURANCE THAT ACCEPTABLE SURVIVAL NUMBERS WILL BE MET.

A TEMPORARY IRRIGATION SYSTEM IS REQUIRED.

CWS File No. 14-002723  
Approved  
Clean Water Services  
For environmental review  
By LMH Date 02/27/15  
SPL Attachment 3 of 7

**SUGGESTED PLANT COMMUNITIES FOR REVEGETATION  
FOR WETTER AREAS WITHIN ABOUT 3 FEET OF DITCH EDGE**

*live stake*

Plant Communities	Minimum Species Composition	Plant Category	Water Requirements	Light Requirements	Minimum Rooting Size	Minimum Plant Height	Spacing Format
<b>Shrub / Scrub Wetland (SS)</b>							
Pacific willow ( <i>Salix lasiandra</i> )	<del>50</del>	Tree	Wet	Sun	Live stake	3'	Single
Sitka willow ( <i>Salix sitchensis</i> )		Tree	Moist	Sun	1 gal	3'	Cluster
Douglas hawthorne ( <i>Crataegus douglasii</i> )		Tree	Moist	Part	2 gal	2'	Cluster
Pacific Crabapple ( <i>Malus fusca</i> )		Tree	Moist	Part	2 gal	2'	Cluster
Scouler willow ( <i>Salix scouleriana</i> )	50	Shrub	Moist	Sun	<del>1 gal</del>	3'	Cluster
Red-osier dogwood ( <i>Cornus sericea</i> )		Shrub	Wet	Part	1 gal	2'	Cluster
Clustered rose ( <i>Rosa pisocarpa</i> )		Shrub	Wet	Part	1 gal	1.5'	Cluster
Douglas's spiraea ( <i>Spiraea douglasii</i> )		Shrub	Wet	Sun	1 gal	1.5'	Cluster
Nodding beggartick ( <i>Bidens cernua</i> )		Herb	Wet	Sun	1 gal	1.5'	Cluster
Spreading rush ( <i>Juncus patens</i> )		Herb	Moist	Part	plugs	6"	Mass
Western manna-grass ( <i>Glyceria occidentalis</i> )		Grass	Wet	Sun	seed	na	Mass
<b>Emergent Marsh (EM)</b>							
Nodding beggarstick ( <i>Bidens cernua</i> )		Herb	Moist	Sun	1 gal	1.5'	Cluster
Hardstem bulrush ( <i>Scirpus acutus</i> )		Herb	Wet	Sun	plugs	1.5'	Cluster
Small-fruited bulrush ( <i>Scirpus microcarpus</i> )		Herb	Wet	Sun	plugs	6"	Mass
Creeping spike rush ( <i>Eleocharis palustris</i> )		Herb	Wet	Sun	seed, plugs	4"	Mass
Wapato ( <i>Sagittaria latifolia</i> )		Herb	Wet	Sun	bulbs	na	Cluster
American water plantain ( <i>Alisma plantago-</i>		Herb	Wet	Sun	bulbs	na	Cluster
Soft stemmed bulrush ( <i>Scirpus tabernaemontani</i> )		Herb	Wet	Sun	plugs	1.5'	Cluster
American brooklime ( <i>Veronica americana</i> )		Herb	Wet	Sun	plugs	na	Cluster
Marsh speedwell ( <i>Veronica scutellata</i> )		Herb	Wet	Sun	plugs	na	Cluster
American sloughgrass ( <i>Beckmannia</i> )		Grass	Wet	Sun	seed, plugs	na	Mass
Western manna-grass ( <i>Glyceria occidentalis</i> )		Grass	Wet	Sun	seed	na	Mass

CWS File NO. 14-002723  
 Approved  
 Clean Water Services  
 For environmental review  
 By LMT Date 02/27/15  
 SPL Attachment 4 of 7

TABLE A-1  
SUGGESTED PLANT COMMUNITIES FOR REVEGETATION  
FOR WETTER AREAS WITHIN ABOUT 3 FEET OF DITCH EDGE

Plant Communities	ETC Recommended number	Plant Category	Water Requirements	Light Requirements	Minimum Rooting Size	Minimum Plant Height	Spacing Format
<b>Riparian Forest (RF)</b>							
Red alder ( <i>Alnus rubra</i> )	84	Tree	Moist	Sun	1 gal	3'	Single
Western red cedar ( <i>Thuja plicata</i> )		Tree	Moist	Shade	2 gal	2'	Single
Red elderberry ( <i>Sambucus racemosa</i> )		Shrub	Moist	Part	1 gal	1.5'	Single
Black twinberry ( <i>Lonicera involucrata</i> )	50	Shrub	Moist	Part	Live stake	1.5'	Single
Red-osier dogwood ( <i>Cornus stoniferia</i> )		Shrub	Wet	Part	1 gal	2'	Cluster
Indian plum ( <i>Oemleris cerasiformis</i> )		Shrub	Moist	Shade	2 gal	2'	Cluster
Swamp rose ( <i>Rosa pisocarpa</i> )		Shrub	Moist	Part	1 gal	1.5'	Cluster
Pacific ninebark ( <i>Pysocarpus capitatus</i> )	16	Shrub	Moist	Shade	1 gal	2'	Single
Snowberry ( <i>Symphoricarpos albus</i> )		Shrub	Dry	Part	1 gal	1.5'	Cluster
Salmonberry ( <i>Rubus spectabilis</i> )		Shrub	Moist	Shade	1 gal	1.5'	Cluster
Maidenhair fern ( <i>Adiatum aleuticum</i> )		Herb	Moist	Shade	4"	na	Cluster
Lady fern ( <i>Athyrium filix-femina</i> )		Herb	Moist	Shade	1 gal	na	Cluster
Skunk cabbage ( <i>Lysichiton americanum</i> )		Herb	Wet	Shade	bulbs	na	Cluster
False lily-of-the-valley ( <i>Maianthemum dilatatum</i> )		Herb	Moist	Shade	bulbs, 4"	na	Cluster
Candy flower ( <i>Claytonia sibirica</i> )		Herb	Moist	Shade	4"	na	Cluster
Miners lettuce ( <i>Montia perfoliata</i> )		Herb	Moist	Shade	4"	na	Cluster
Stream violet ( <i>Viola glabella</i> )		Herb	Moist	Shade	4"	na	Cluster
Youth-on-age ( <i>Tolmiea menziesii</i> )		Herb	Moist	Shade	4"	na	Cluster
Insideout flower ( <i>Vancouveria hexandra</i> )		Herb	Moist	Shade	4"	na	Cluster
Dewey's sedge ( <i>Carex deweyana</i> )		Herb	Dry	Shade	plugs, 4"	4"	Mass
Hair bentgrass ( <i>Agrostis scabra</i> )		Grass	Moist	Part	seed	na	Mass
Spike bentgrass ( <i>Agrostis exarata</i> )		Grass	Moist	Part	seed	na	Mass
Tall manna-grass ( <i>Glyceria elata</i> )		Grass	Moist	Part	seed	na	Mass

CWS File No. 14-002723

Approved  
 Clean Water Services  
 For environmental review  
 By LMK Date 02/27/15

SPZ Attachment 5 of 7

**SUGGESTED PLANT COMMUNITIES FOR REVEGETATION  
FOR DRYER AREAS ABOVE DITCH WETTED ZONE**

Plant Communities	ETC Recommended numbers	Plant Category	Water Requirement	Light Requirements	Minimum Rooting Size	Minimum Plant Height	Spacing Format
<b>Upland Forest (UF)</b>							
Red alder ( <i>Alnus rubra</i> )		Tree	Moist	Sun	1 gal	3'	Single
Big leaf maple ( <i>Acer macrophyllum</i> )	10	Tree	Dry	Sun	2gal	3'	Single
Douglas Fir ( <i>Pseudotsuga menziesii</i> )		Tree	Dry	Sun	2gal	3'	Single
Grand fir ( <i>Abies grandis</i> )		Tree	Dry	Sun	2 gal	2'	Single
Pacific yew ( <i>Taxus brevifolia</i> )		Tree	Moist	Shade	2 gal	2'	Single
Cascara ( <i>Rhamnus purshiana</i> )		Tree	Dry	Part	2 gal	2'	Single
Pacific dogwood ( <i>Cornus nuttallii</i> )	18	Tree	Moist	Shade	1 gal	2'	Single
Bitter cherry ( <i>Prunus emarginata</i> )		Tree	Moist	Part	2 gal	2'	Single
Vine Maple ( <i>Acer circinatum</i> )		Tree	Moist	Part	2 gal	2'	Single
Oceanspray ( <i>Holodiscus discolor</i> )	50	Shrub	Dry	Sun	1 gal	1.5'	Single
Red elderberry ( <i>Sambucus racemosa</i> )		Shrub	Moist	Part	1 gal	1.5'	Single
Red flowering currant ( <i>Ribes sanguineum</i> )	50	Shrub	Dry	Sun	1 gal	1.5'	Cluster
Cascade Oregon grape ( <i>Mahonia nervosa</i> )		Shrub	Moist	Part	1 gal	4"	Cluster
Tall Oregon grape ( <i>Mahonia aquifolium</i> )	41	Shrub	Dry	Sun	1 gal	6"	Single
Red huckleberry ( <i>Vaccinium parvifolium</i> )		Shrub	Moist	Shade	1 gal	1.5'	Cluster
Thimbleberry ( <i>Rubus pariflorus</i> )		Shrub	Moist	Shade	1 gal	1.5'	Cluster
Snowberry ( <i>symphoricarpos albus</i> )	50	Shrub	Dry	Part	1 gal	1.5'	Cluster
Baldhip Rose ( <i>Rosa gymnocarpa</i> )		Shrub	Dry	Part	1 gal	1.5'	Cluster
Serviceberry ( <i>Almelanchier alnifolia</i> )	50	Shrub	Dry	Part	2 gal	2'	Single
Sword fern ( <i>Polystichum munitum</i> )		Shrub	Moist	Shade	2 gal	na	Cluster
Deer fern ( <i>Blechnum spicant</i> )		Herb	Moist	Shade	1 gal	na	Cluster
Orange honeysuckle ( <i>Lonicera ciliosa</i> )		Herb	Moist	Shade	2 gal	na	Single
Salal ( <i>Gaultheria shallon</i> )		Herb	Moist	Part	1 gal	4"	Cluster
Wood strawberry ( <i>Fragaria vesca</i> )		Herb	Moist	Shade	4"	na	Cluster
Western trillium ( <i>Trillium ovatum</i> )		Herb	Moist	Shade	4"	na	Cluster
Five-stemmed mitrewort ( <i>Mitella pentandra</i> )		Herb	Moist	Shade	1 gal	na	Cluster
Red columbine ( <i>Aquilegia formosa</i> )		Herb	Dry	Part	4"	na	Cluster
False solomon's seal ( <i>Smilacina racemosa</i> )		Herb	Moist	Shade	4"	na	Cluster
Native California brome ( <i>Bromus carinatus</i> )		Grass	Dry	Sun	seed	na	Mass
Blue Wildrye ( <i>Elymus glaucus</i> )		Grass	Dry	Part	seed	na	Mass

CWS File No. 14-002723

Approved  
Clean Water Services  
For environmental review  
By LMH Date 02/27/15

SPZ Attachment 6 of 7

**SUGGESTED PLANT COMMUNITIES FOR REVEGETATION  
FOR DRYER AREAS ABOVE DITCH WETTED ZONE**

Plant Communities	ETC recommended number	Plant Category	Water Requirements	Light Requirements	Minimum Rooting Size	Minimum Plant Height	Spacing Format
<b>Oak Woodland / Savanna (OW)</b>							
Oregon white oak ( <i>Quercus garryana</i> )	10	Tree	Dry	Sun	2 gal	2'	Single
Snowberry ( <i>Symphoricarpos albus</i> )		Shrub	Dry	Part	1 gal	1.5'	Cluster
Serviceberry ( <i>Almelanchier alnifolia</i> )		Shrub	Dry	Part	1 gal	2'	Single
Oceanspray ( <i>Holodiscus discolor</i> )		Shrub	Dry	Sun	1 gal	1.5'	Cluster
Training blackberry ( <i>Rubus ursinus</i> )		Shrub	Dry	Sun	1 gal	1.5'	Cluster
Cascade Oregon grape ( <i>Mahonia nervosa</i> )		Herb	Moist	Part	1 gal	4"	Cluster
Blue wild-rye ( <i>Elymus glaucus</i> )		Grass	Dry	Part	seed	na	Mass
Native California brome ( <i>Bromus carinatus</i> )		Grass	Dry	Sun	seed	na	Mass
<b>Ash Forested Wetland (FW)</b>							
Oregon Ash ( <i>Fraxinus latifolia</i> )		Tree	Moist	Part	2 gal	3'	Single
Pacific Ninebark ( <i>Physocarpus capitatus</i> )		Shrub	Moist	Shade	2 gal	2'	Single
Red-osier dogwood ( <i>Cornus sericea</i> )		Shrub	Wet	Part	1 gal	2'	Cluster
Snowberry ( <i>Symphoricarpus albus</i> )		Shrub	Dry	Part	1gal	1.5'	Cluster
Slough sedge ( <i>Carex obnupta</i> )		Herb	Moist	Part	plugs	6"	Mass
Candy flower ( <i>Claytonia sibirica</i> )		Herb	Moist	Shade	4"	na	Cluster
Streambank springbeauty ( <i>Montia parvifolia</i> )		Herb	Moist	Shade	4"	na	Cluster
Dewey's sedge ( <i>Carex deweyana</i> )		Herb	Dry	Shade	plugs	4"	Mass
Small fruited bulrush ( <i>Scirpus microcarpus</i> )		Herb	Wet	Sun	plugs	4"	Mass
Tall mannagrass ( <i>Glyceria elata</i> )		Grass	Moist	Shade	seed	na	Mass

CWS File No. 14-002723  
 Approved  
 Clean Water Services  
 For environmental review  
 By kmh Date 02/27/15  
 SPL Attachment 7 of 7

# SITE VICINITY MAP





February 5<sup>th</sup>, 2014

RE: Legal Description for the Subject Property

Dear Property Owner/Neighborhood Representative:

Description on the deed is as follows:

Herman Road Business Center Lot 6

Regards,

A handwritten signature in black ink, appearing to read "AJ Michaud".

AJ Michaud  
TS Gray Construction  
503-692-4675



10295 SW Ridder Road, Wilsonville, OR 97070  
O: 503.570.0626 F: 503.982.9307 republicservices.com

AJ Michaud  
Project Manager  
TS GRAY Construction  
PO Box 1000  
Sherwood, OR 97140

Re: Barker Building Expansion

Dear AJ;

Thank you, for sending us your site plans for this building expansion in Tualatin.

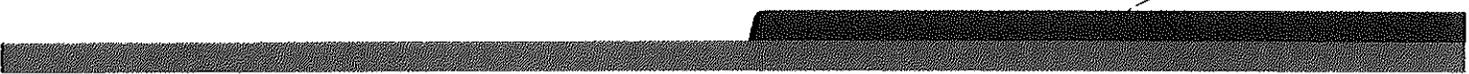
My Company: Republic Services of Clackamas & Washington Counties has the franchise agreement to service this area with the City of Tualatin. We provide complete commercial waste removal and recycling services as needed on a weekly basis for this location.

I do not see where this building expansion will affect or disrupt our capabilities of servicing this site like we currently are.

Thank you AJ, for your help and concerns for our services prior to this project being developed.

Sincerely,

Frank J. Lonergan  
Operations Manager  
Republic Services Inc.



## Colin Cortes

---

**From:** AJ Michaud [ajmichaud@tsgrayconstruction.com]  
**Sent:** Saturday, April 11, 2015 9:08 AM  
**To:** Colin Cortes  
**Subject:** Barker Cabinets  
**Attachments:** Barker Use Narrative.pdf

Colin,

Please see attached.

Thank you,



AJ Michaud  
Project Manager  
PO Box 1000 Sherwood, OR 97140  
Ph 503.692.4675 Cell 503.793.8011  
[www.tsgrayconstruction.com](http://www.tsgrayconstruction.com)



March 26<sup>th</sup>, 2015

Colin Cortes  
City of Tualatin  
18880 SW Martinazzi Ave  
Tualatin OR 97062

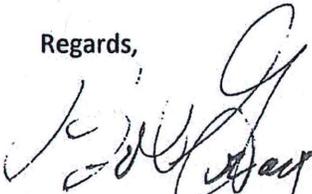
**RE: Architectural Review Application for Proposed Addition to Barker Cabinets Building**

Dear Mr. Cortes,

The proposed addition to Barker Cabinets is strictly for warehouse equipment. Trash and recycling will remain at current levels with no increased demand on services. Occupancy inside the building will remain the same. At the same occupancy bike and vehicle parking will also not incur increased demand.

For these reasons we feel the expansion project is exempt to the requirements of Tualatin Development Code (TDC) 73.227(2)(a)(v) and 73.370(2)(a) Industrial.

Regards,



Bob Gray - Applicant  
TS Gray Construction



Bruce Barker - Owner  
Barker Cabinets

CITY OF TUALATIN  
RECEIVED

APR 13 2015

COMMUNITY DEVELOPMENT  
PLANNING DIVISION

MAR 19 2015

COMMUNITY DEVELOPMENT  
PLANNING DIVISION

**MEMORANDUM**

**Date:** March 17, 2015  
**To:** Colin Cortes, Assistant Planner, City of Tualatin  
**From:** Jackie Sue Humphreys, Clean Water Services (the District)  
**Subject:** Barker Cabinets Building Addition, AR-15-02, 2S121DA00600

Please include the following comments when writing your conditions of approval:

**PRIOR TO ANY WORK ON THE SITE**

A Clean Water Services (the District) Storm Water Connection Permit Authorization must be obtained. Application for the District's Permit Authorization must be in accordance with the requirements of the Design and Construction Standards, Resolution and Order No. 07-20, (or current R&O in effect at time of Engineering plan submittal), and is to include:

- a. Detailed plans prepared in accordance with Chapter 2, Section 2.04.2.b-1.
- b. Detailed grading and erosion control plan. An Erosion Control Permit will be required. Area of Disturbance must be clearly identified on submitted construction plans.
- c. Detailed plans showing the development having direct access by gravity to public storm and sanitary sewer.
- d. Provisions for water quality in accordance with the requirements of the above named design standards. Water Quality is required for all new development and redevelopment areas per R&O 07-20, Section 4.05.5, Table 4-1. Access shall be provided for maintenance of facility per R&O 07-20, Section 4.02.4.
- e. If use of an existing, offsite or regional Water Quality Facility is proposed, it must be clearly identified on plans, showing its location, condition, capacity to treat this site and, any additional improvements and/or upgrades that may be needed to utilize that facility.

- f. If private lot LIDA systems proposed, must comply with the current CWS Design and Construction Standards. A private maintenance agreement, for the proposed private lot LIDA systems, needs to be provided to the City for review and acceptance.
- g. Show all existing and proposed easements on plans. Any required storm sewer, sanitary sewer, and water quality related easements must be granted to the City.
- h. Application may require additional permitting and plan review from the District's Source Control Program. For any questions or additional information, please contact Source Control at (503) 681-5175.
- i. Site contains a "Sensitive Area." Applicant shall comply with the conditions as set forth in the Service Provider Letter No. 14-002723, dated February 25, 2015.
- j. Clean Water Services shall require an easement over the Vegetated Corridor conveying storm and surface water management to Clean Water Services that would prevent the owner of the Vegetated Corridor from activities and uses inconsistent with the purpose of the corridor and any easements therein.
- k. Detailed plans showing the sensitive area and corridor delineated, along with restoration and enhancement of the corridor.
- l. Any proposed offsite construction activities will require an update or amendment to the current Service Provider Letter for this project.

## CONCLUSION

This Land Use Review does not constitute the District's approval of storm or sanitary sewer compliance to the NPDES permit held by the District. The District, prior to issuance of any connection permits, must approve final construction plans and drainage calculations.



March 19, 2015

Colin Cortes - Associate Planner  
City of Tualatin  
18880 SW Martinazzi Road  
Tualatin, Oregon 97062

**Re: AR 15-02, Barker Cabinets**

Dear Colin,

Thank you for the opportunity to review the proposed site plan surrounding the above named development project. Tualatin Valley Fire & Rescue endorses this proposal predicated on the following criteria and conditions of approval:

### **FIRE APPARATUS ACCESS:**

1. **FIRE APPARATUS ACCESS ROAD EXCEPTION FOR AUTOMATIC SPRINKLER PROTECTION:** When buildings are completely protected with an approved automatic fire sprinkler system, the requirements for fire apparatus access may be modified as approved by the fire code official. (OFC 503.1.1) **Fire Apparatus access is acceptable.**
2. **PAINTED CURBS:** Where required, fire apparatus access roadway curbs shall be painted red (or as approved) and marked "NO PARKING FIRE LANE" at 25 foot intervals. Lettering shall have a stroke of not less than one inch wide by six inches high. Lettering shall be white on red background (or as approved). (OFC 503.3) **Stripe the curbs along the south side of the proposed building addition.**

### **FIREFIGHTING WATER SUPPLIES:**

3. **COMMERCIAL BUILDINGS – REQUIRED FIRE FLOW:** The minimum fire flow and flow duration for buildings other than one- and two-family dwellings shall be determined in accordance with residual pressure (OFC Appendix B Table B105.2). The required fire flow for a building shall not exceed the available GPM in the water delivery system at 20 psi.  
**Note:** Appendix B, Section B106, Limiting Fire-Flow is also enforced, save and except for the following:
  - In areas where the water system is already developed, the maximum needed fire flow shall be either 3,000 GPM or the available flow in the system at 20 psi, whichever is greater.
  - In new developed areas, the maximum needed fire flow shall be 3,000 GPM at 20 psi.
  - Tualatin Valley Fire & Rescue does not adopt Occupancy Hazards Modifiers in section B105.4-B105.4.1
4. **FIRE FLOW WATER AVAILABILITY:** Applicants shall provide documentation of a fire hydrant flow test or flow test modeling of water availability from the local water purveyor if the project includes a new structure or increase in the floor area of an existing structure. Tests shall be conducted from a fire hydrant within 400 feet for commercial projects, or 600 feet for residential development. Flow tests will be accepted if they

were performed within 5 years as long as no adverse modifications have been made to the supply system. Water availability information may not be required to be submitted for every project. (OFC Appendix B)

5. **UTILITY IDENTIFICATION:** Rooms containing controls to fire suppression and detection equipment shall be identified as "Fire Control Room." Signage shall have letters with a minimum of 4 inches high with a minimum stroke width of 1/2 inch, and be plainly legible, and contrast with its background. (OFC 509.1)

If you have questions or need further clarification, please feel free to contact me at (503) 649-8577.

Sincerely,



Ty Darby  
Deputy Fire Marshal II

Cc: File

# GUIDELINES FOR GOOD EXTERIOR LIGHTING PLANS

Prepared by: The Dark Sky Society (<http://www.darksksociety.org/>) 2009

These guidelines have been developed in consultation with lighting professionals (with experience in developing good lighting plans) to aid communities wishing to control light pollution and preserve the night sky.

**Outdoor lighting should be carefully designed with regard to placement, intensity, timing, duration, and color. Good lighting will:**

- **Promote Safety**

“More light” is not necessarily “better”. If not designed and installed correctly, unsafe glare can result, reducing the effect of lighting which can contribute to accidents and hinder visibility. Lighting that is too bright interferes with the eye's ability to adapt to darker areas.

- **Save Money**

Adhering to professionally recommended light levels provides adequate illumination. Shielded fixtures with efficient light bulbs are more cost-effective because they use less energy by directing the light toward the ground. See this website for cost comparisons: <http://www.netacc.net/~poulsen/lightcost.html>

- **Conserve Natural Resources**

Inappropriate or excessive lighting wastes our limited natural resources and pollutes the air and water by unnecessarily burning our limited supply of fossil fuels.

- **Be Better Neighbors**

Excessive or misdirected lighting can intrude on the privacy of others when light or glare trespasses over property lines.

- **Retain Community's Character and Reduce Skyglow**

Our clear view of the dark starry night sky is a resource to be preserved and protected. Stray and excessive lighting contributes to "light pollution", clutter, and unnatural "sky glow".

- **Protect Ecology of Flora and Fauna**

Research studies indicate that artificial night lighting disrupts the migrating, feeding, and breeding habits of many wildlife species, as well as growth patterns of trees. See references in [The Ecological Consequences of Artificial Night Lighting](#).

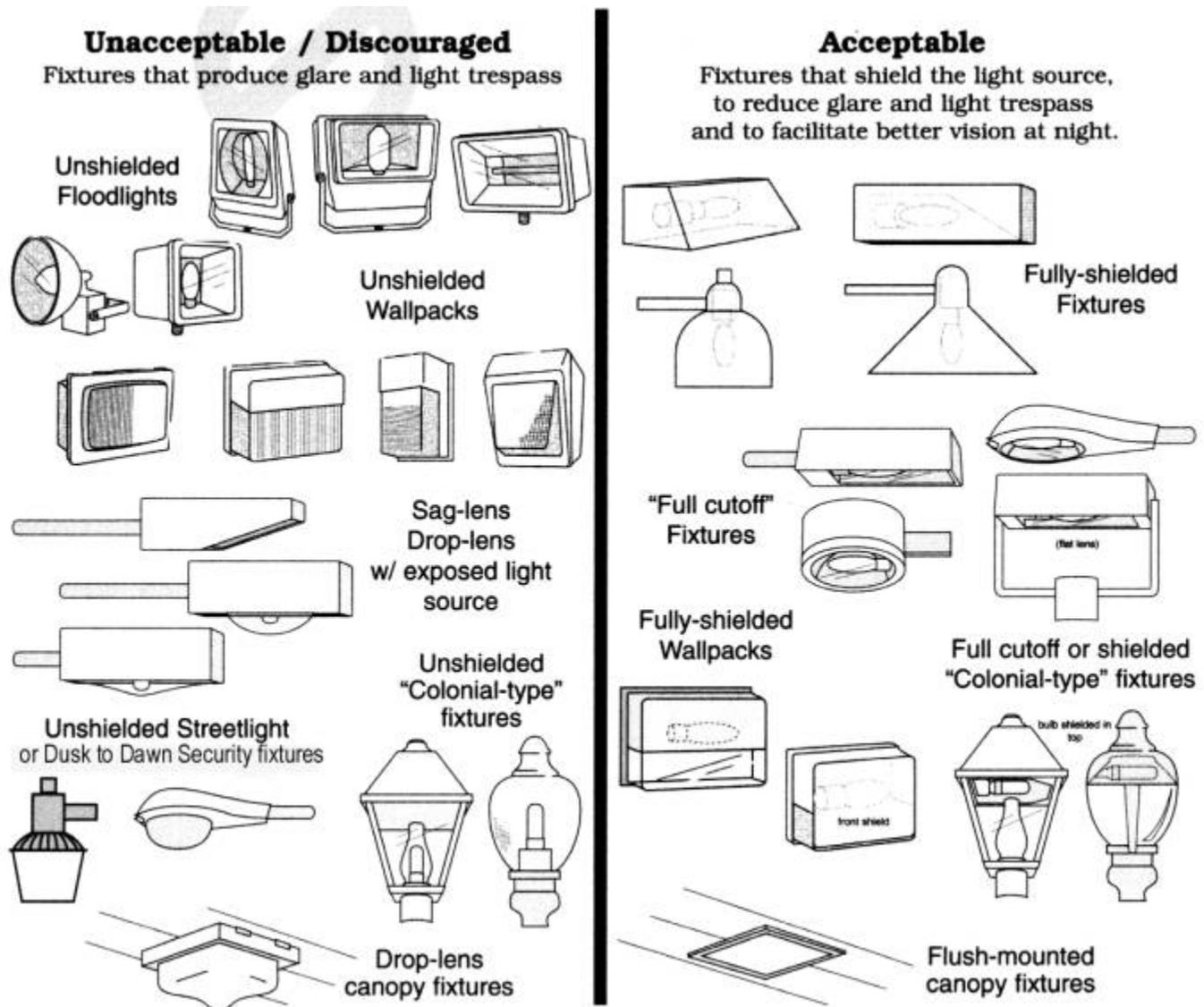
- **Reduce Health Risks**

Light at night not only disrupts your sleep but also interferes with your circadian rhythms. Recent research indicates that intrusive lighting may reduce the production of melatonin, a beneficial hormone, and a resulting raise in the rates of breast and other cancers.

- Included:**
1. **Diagrams of Acceptable/Unacceptable Lighting Fixtures**
  2. **How to Develop an Acceptable Lighting Plan**
  3. **Definitions of Full Cut Off, Shielded, and RLM sign lighting Fixtures**
  4. **Lighting Plan Submissions**
  5. **Recommended Illumination Levels for various tasks**

## UNSHIELDED FIXTURES

## Full Cutoff and Fully Shielded Fixtures



Diagrams courtesy of Bob Crelin

\*\*\*\*\* Ask your local electrical suppliers for "full-cut off" or "fully shielded" light fixtures. Once you have selected fixtures which are compatible with your architecture and community, contact the manufacturer's representative to see a sample of the fixture(s) and to ask for a free lighting plan. If you have a CAD file, the plan can be easily provided in a short period of time. \*\*\*\*\*

Most lighting manufacturers have Application Departments which will execute free lighting plans to meet local lighting codes.

See this website for links to manufacturers:

<http://www.darksky.org/mc/page.do?sitePageId=56422&orgId=idsa>

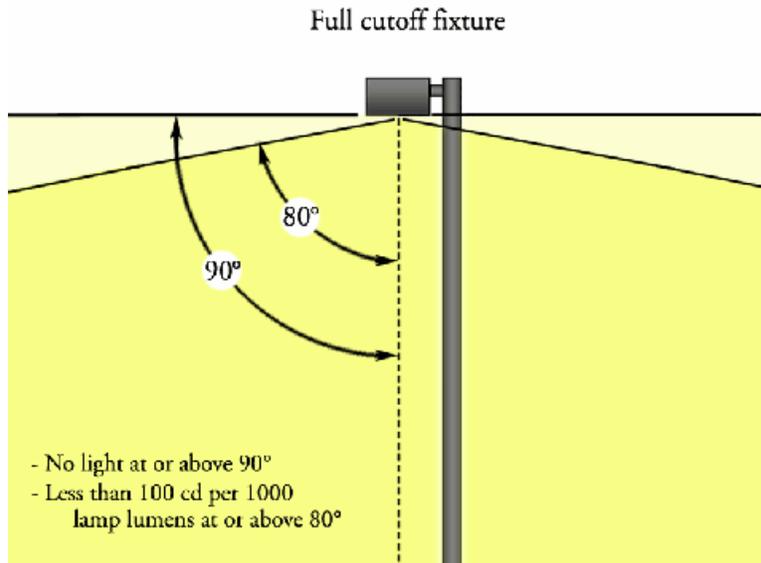
Sample of Web retailers:

[www.starrynightlights.com](http://www.starrynightlights.com) and [www.greenearthlighting.com](http://www.greenearthlighting.com)

## How to Develop an Acceptable Lighting Plan

1. Identify where as well as when lighting is needed. Confine and minimize lighting to the extent necessary to meet safety purposes. Plans should define the areas for which illumination is planned. Itemizing each area (e.g. parking lot, doorways, walkways, signage, foliage) with the anticipated hours of use. Commercial outdoor lighting should be used for safe pedestrian passage and property identification, and lit during active business hours and shut off afterward.
2. Direct light downward by choosing the correct type of light fixtures. (See Appendix 3). Specify IES (Illuminating Engineering Society) "Full Cut Off" designated or "fully shielded" fixtures, so that no light is emitted above the lowest light emitting part of the fixture. Top mounted sign lighting is recommended with "RLM" (dish) type shields, and aimed so that the light falls entirely on the sign and is positioned so that the light source (bulb) is not visible from any point off the property or into the roadway to reduce glare. For each one square foot of sign, usually no more than 200 lumens is necessary for good visibility.
3. Select the correct light source (bulb type). Compact fluorescent (2300K) or High Pressure Sodium is recommended unless the light is motion sensor activated, in which case incandescent or the instant start compact fluorescent bulbs can be used. Metal Halide (due to its higher costs, energy use, impact on the environment, and greater contribution to "sky glow") is discouraged, as well as light sources rated over 3000 Kelvin; and outdated Mercury Vapor bulbs are prohibited.
4. Utilize "shut off" controls such as sensors, timers, motion detectors, etc. Automatic controls turn off lights when not needed. All lights should be extinguished no later than one half hour after the close of business. Additional motion sensor activated lighting can be used for emergency access. Avoid "dusk-to-dawn" sensors without a middle of the night shut off control. Lights alone will not serve to "protect" property and are a poor "security" device. Examine other means of protecting property and to discourage criminal activity. Let your local police know that you have a "lights out" policy so that they can investigate if they see lights or activity after hours.
5. Limit the height of fixtures. Locate fixtures no closer to the property line than four times the mounting height of the fixture, and not to exceed the height of adjacent structures. (Exceptions may be made for larger parking areas, commercial zones adjacent to highways, or for fixtures with greater cut off shielding behind the pole mount in commercial zones.)
6. Limit light crossing property lines, i.e. "light trespass". Limit light to spill across the property lines. Light levels at the property line should not exceed 0.1 footcandles (fc) adjacent to business properties, and 0.05 fc at residential property boundaries. Utility leased floodlight fixtures mounted on public utility poles in the public right-of-way should not be used.
7. Use the correct amount of light. Light levels and uniformity ratios should not exceed recommended values, per IESNA RP-33 or 20. (See Appendix 5, Recommended Illumination Levels for various tasks.) "Lumen cap" recommendations for areas to be illuminated are as follows: commercial properties in non-urban commercial zones = 25,000 lumens per acre; for projects in residential and LBO zones = 10,000 lumens per acre. For residential properties: for suburban: 50,000 lumens per acre cap, and in urban areas: 100,000.
8. Ask for Assistance Your Planning Department and local lighting sales representatives can assist you in obtaining the necessary information for good lighting. For large projects over 15,000 lumens: greater energy conservation and control of light pollution, light trespass and glare, may be achieved with the help of a professional lighting designer with "dark sky" lighting plan experience.
9. A post installation inspection should be conducted to check for compliance. Substitutions by electricians and contractors are common and should not be accepted. Final Approved Site Plans will not allow additional exterior fixtures or substitutes without reviews.
10. Design interior lighting so that it does not illuminate the outdoors. Provide interior lighting photometrics for the building's perimeter areas, demonstrating that the interior lighting falls substantially within the building and not through the windows. After closing, interior lighting that extends outdoors needs to be extinguished by the use of shut off timers.

## Definition of Acceptable Fixtures: "Full Cut Off", "Fully Shielded", and RLM shield.



- "Full Cut Off" fixtures are independently certified by the manufacturers, and do not allow light to be emitted above the fixture and the fixture reduces glare by limiting the light output to less than 10% at and below 10 degrees below the horizontal.
- If the manufacturer is unable to provide the "cut off" characteristics for a fixture (also called a "luminaire"), the following definition needs to be met, which can usually be determined by a visual inspection:

"Fully Shielded": a fixture constructed and installed in such a manner that all light emitted by it, either directly from the lamp (bulb) or a diffusing element, or indirectly by reflection or refraction from any part of the fixture, is projected below the horizontal. This can be determined by a "field test" or a visual assessment of an operating sample.

- Manufacturers and their representatives can provide photographs of light fixtures as "cut sheets" as well as literature confirming the independently tested "cut off" characteristics of their products. These IES files may be assessed for compliance in a computer program: <http://www.3dop.com/index1.html>
- Photometric layouts for different heights, light sources, and wattages, are also available as "IES" files, upon request or through manufacturers' websites.
- Fixtures must be installed properly, so that the bottom of the fixture is level with the ground. Exceptions are often given for sign lighting which requires vertical lighting:



"RLM" sign lighting shield:

# Lighting Plan Submissions

The following information needs to be provided to your municipality's review board which will enable them to evaluate the Site Plan for proper exterior lighting:

The Lighting Plan should be depicted on a site plan, indicating the location of each current and proposed outdoor lighting fixture with projected hours of use. This plan will need to be stamped and certified by a licensed professional, such as an architect or engineer. Many lighting manufacturers can provide free photometric layouts on prepared site plans, to conform to your local requirements.

- (1) The lighting plan should include a KEY to the proposed lighting that provides the following information:
  - Type and number of luminaire equipment (fixtures), including the "cut off characteristics", indicating manufacturer and model number(s).
  - Lamp source type (bulb type, i.e. high pressure sodium), lumen output, and wattage.
  - Mounting height with distance noted to the nearest property line for each luminaire.
  - Types of timing devices used to control the hours set for illumination, as well as the proposed hours when each fixture will be operated.
  - Total Lumens for each fixture, and total square footage of areas to be illuminated. For projects that are in commercial zones, the lumens per net acre to be lit, need not exceed 25,000 lumens. For projects in residential or LBO zones: 10,000 lumens.
  - For all plans of more than three fixtures: A Calculation Summary indicating footcandle levels on the lighting plan, noting the maximum, average and minimum, as well as the uniformity ratio of maximum to minimum, and average to minimum levels\*.
- (2) Lighting manufacturer-supplied specifications ("cut sheets") that include photographs of the fixtures, indicating the certified "cut off characteristics" of the fixture.
- (3) Footcandle Distribution, plotting the light levels in footcandles on the ground, at the designated mounting heights for the proposed fixtures. Maximum illuminance levels should be expressed in footcandle measurements on a grid of the site showing footcandle readings in every five or ten-foot square. The grid shall include light contributions from all sources (i.e. pole mounted, wall mounted, sign, and street lights.) Show footcandle renderings five feet beyond the property lines.\*
- (4) If requested by the reviewing agency, a statement from a lighting professional that a plan, other than that set forth, is needed to meet the intent of these standards.
- (5) An environmental impact statement may be required as to the impact of the exterior lighting proposed on flora, fauna, and the night sky. Location of species sensitive to light at night or the proximity to nature preserves or astronomical observatories or "Dark Sky Parks", needs to be indicated.
- (6) On the Approved Plan it should be noted that no substitutions, additions, or changes may be made without prior approval by the governing authority.

\* This information can be obtained from the manufacturer, your lighting supplier, or the manufacturer's representative.

# Recommended Illumination Levels for various tasks\*

## I. Table of Limits of Illumination, measured in footcandles (fc) at ground level unless noted:

<u>Task Area</u>	<u>Avg.</u>	<u>Not to exceed:</u>
1. Active Building Entrance Approach	2.0 fc 0.2 fc	5 fc
2. Gas Station Approach		2 fc
3. Gas Station Pump Area		avg: 5 fc
4. Gas Station Service Area		avg: 3 fc
5. Sidewalks	0.2 fc	5 fc
6. Surface of signs		2 fc

## II. Average/Minimum/Uniformity Ratio Limits for Parking Lots:

### I. Public Parking Lots -- not to exceed:

<u>Average</u>	<u>Minimum</u>	<u>Uniformity Ratio (Max to Min/Avg to Min)</u>
0.8	0.2	20:1 / 4:1

### II. Private Parking Lots -- not to exceed:

<u>Average</u>	<u>Minimum</u>	<u>Uniformity Ratio (Max to Min / Avg to Min)</u>
0.5	0.13	20:1 / 4:1

OR:

III. If illuminance grid lighting plans cannot be reviewed or if fixtures do not provide photometrics and bulbs are under 2000 lumens, use these guidelines:

1. Pole shall be no greater in height than four times the distance to the property line.
2. Maximum Lumen Levels for different fixture heights:

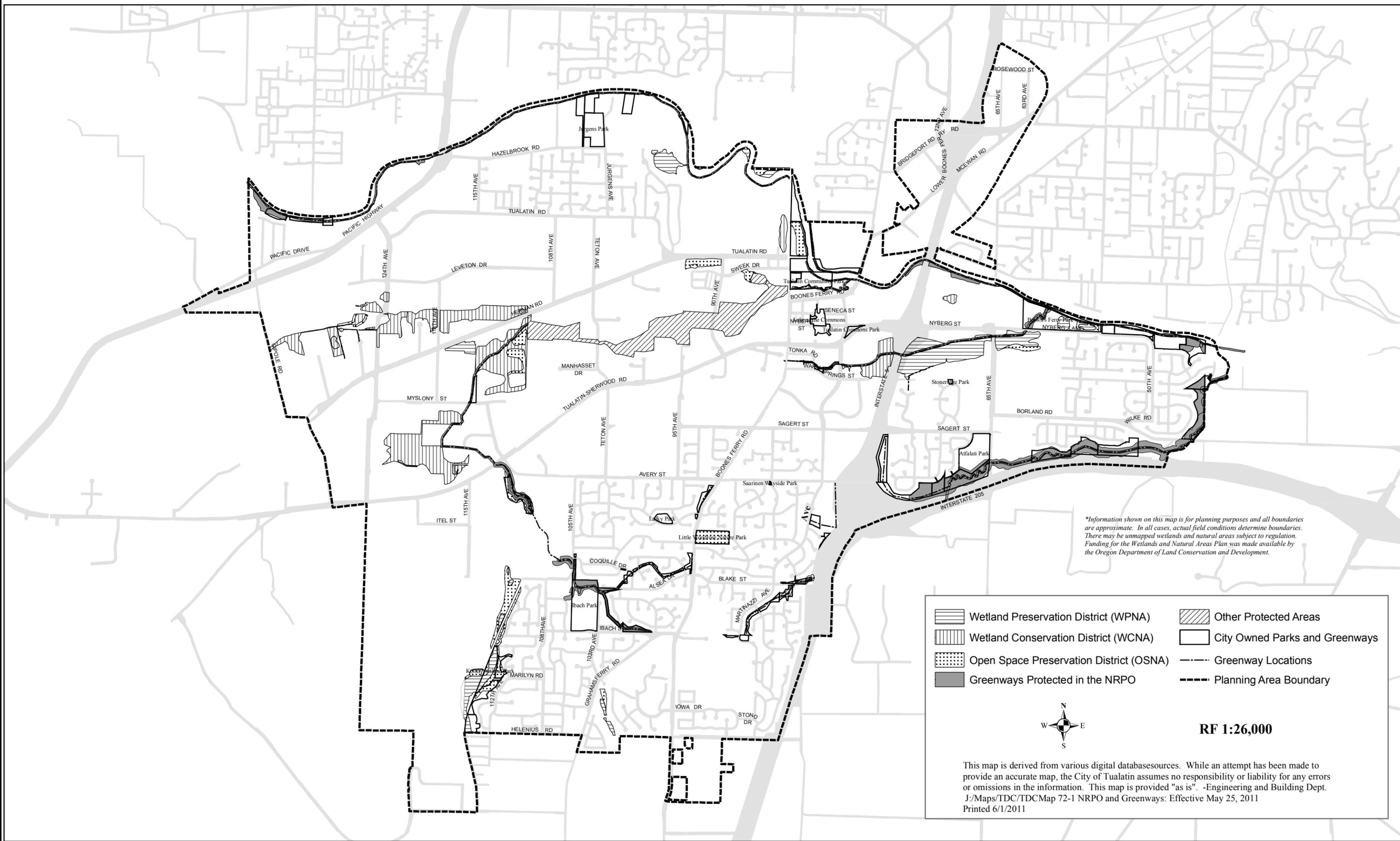
<u>Mounting Height (Feet)</u>	<u>Recommended Lumen Maximums</u>
6	500 - 1000 lumens
8	600 - 1,600 lumens
10	1,000 - 2,000 lumens
12	1,600 - 2,400 lumens

**FOOTCANDLE:** ("FC") – Is the basic unit of illuminance (the amount of light falling on a surface). Footcandle measurement is taken with a hand held light meter. One footcandle is equivalent to the illuminance produced on one square foot of surface area by a source of one candle at a distance of one foot. Horizontal footcandles measure the illumination striking a horizontal plane. Footcandle values can be measured directly with certain handheld incident light meters.

**LUMEN** – A unit used to measure the actual amount of light that is produced by a bulb. The lumen quantifies the amount of light energy produced by a lamp at the lamp, not by the energy input, which is indicated by the "wattage". For example, a 75-watt incandescent lamp can produce 1000 lumens while a 70-watt high-pressure sodium lamp produces 6000 lumens. Lumen output is listed by the manufacturer on the packaging.

\* IES, Recommended Practices, (RP-33-99): Lighting for Exterior Environments; and (RP-20): Parking Lots. The Illuminating Engineering Society of North America (IES or IESNA), is an organization that establishes updated standards and illumination guidelines for the lighting industry.  
<http://www.iesna.org/shop/item-detail.cfm?ID=RP-33-99&storeid=1>  
<http://www.iesna.org/shop/item-detail.cfm?ID=RP-20-98&storeid=1>

# Map 72-1: Natural Resources Protection Overlay District (NRPO) and Greenway Locations



*\*Information shown on this map is for planning purposes and all boundaries are approximate. In all cases, actual field conditions determine boundaries. There may be unmapped wetlands and natural areas subject to regulation. Funding for the Wetlands and Natural Areas Plan was made available by the Oregon Department of Land Conservation and Development.*

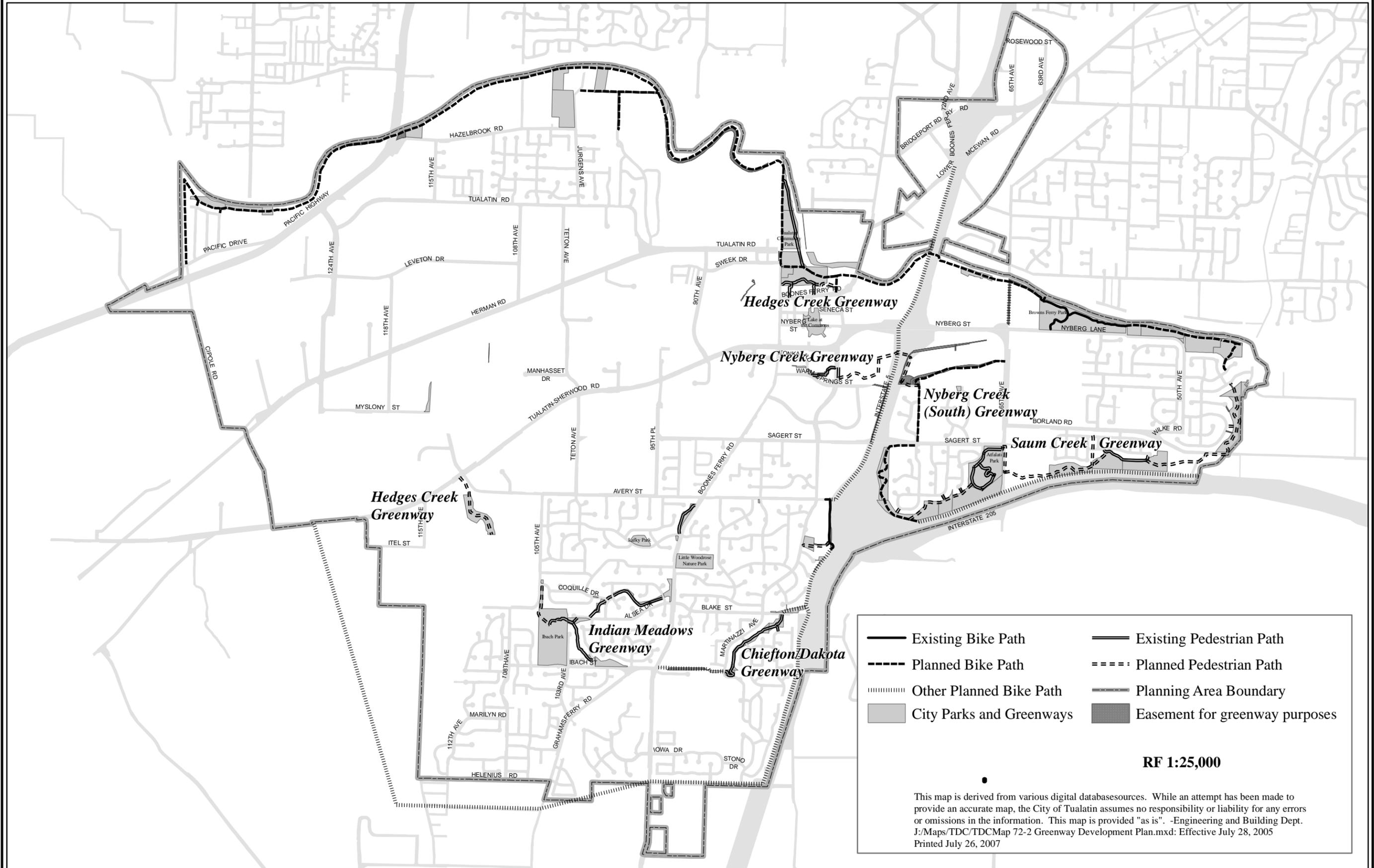
- |  |   |  |                                |
|--|---|--|--------------------------------|
|  | Wetland Preservation District (WPNA)    |  | Other Protected Areas          |
|  | Wetland Conservation District (WCNA)    |  | City Owned Parks and Greenways |
|  | Open Space Preservation District (OSNA) |  | Greenway Locations             |
|  | Greenways Protected in the NRPO         |  | Planning Area Boundary         |



**RF 1:26,000**

This map is derived from various digital databasesources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -Engineering and Building Dept.  
 J:/Maps/TDC/TDCMap 72-1 NRPO and Greenways: Effective May 25, 2011  
 Printed 6/1/2011

# Map 72-2: Greenway Development Plan Pedestrian and Bike Path Locations

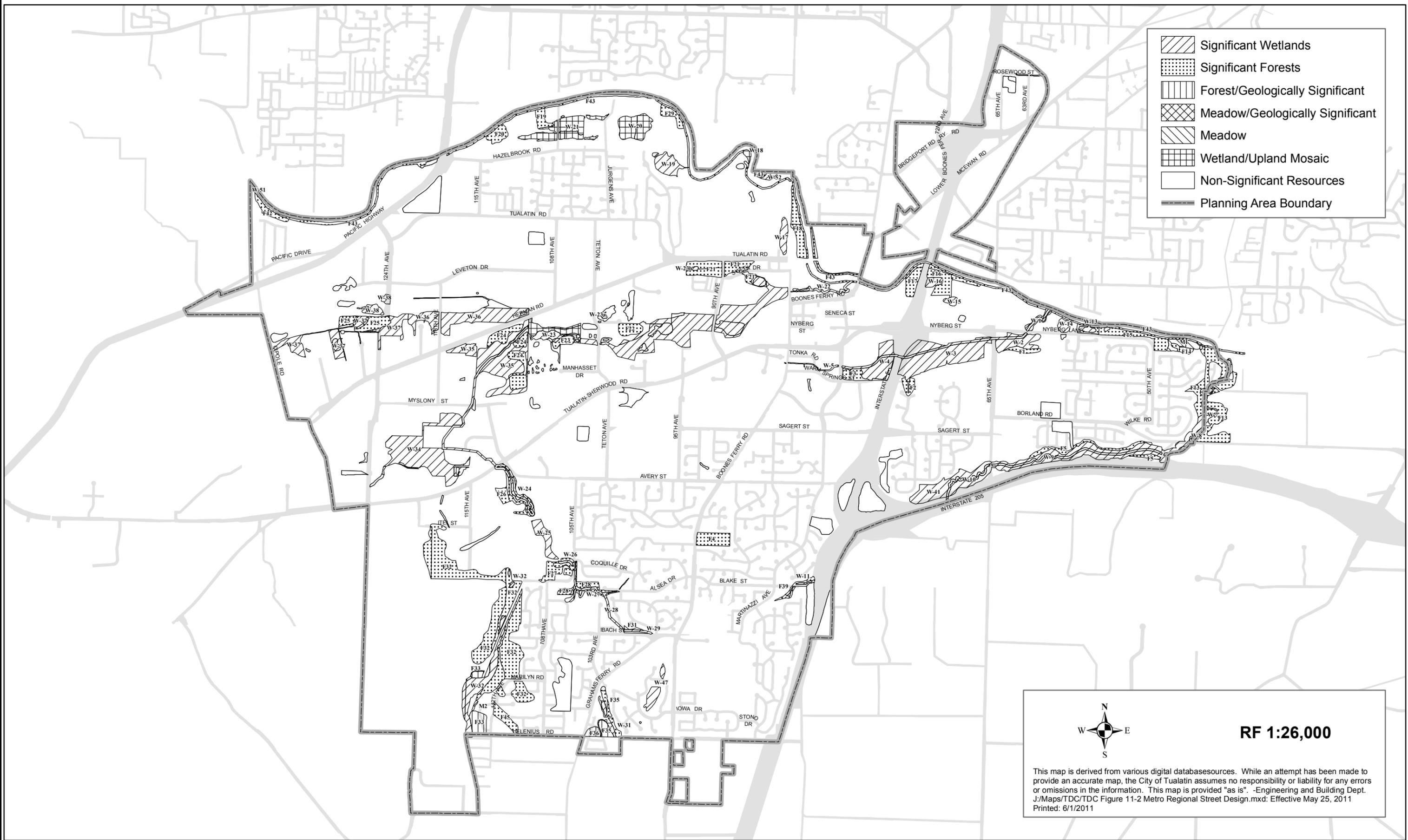


	Existing Bike Path		Existing Pedestrian Path
	Planned Bike Path		Planned Pedestrian Path
	Other Planned Bike Path		Planning Area Boundary
	City Parks and Greenways		Easement for greenway purposes

**RF 1:25,000**

This map is derived from various digital databasesources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -Engineering and Building Dept. J:/Maps/TDC/TDCMap 72-2 Greenway Development Plan.mxd: Effective July 28, 2005 Printed July 26, 2007

# Map 72-3: Significant Natural Resources



- Significant Wetlands
- Significant Forests
- Forest/Geologically Significant
- Meadow/Geologically Significant
- Meadow
- Wetland/Upland Mosaic
- Non-Significant Resources
- Planning Area Boundary



**RF 1:26,000**

This map is derived from various digital databasesources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -Engineering and Building Dept. J:/Maps/TDC/TDC Figure 11-2 Metro Regional Street Design.mxd: Effective May 25, 2011 Printed: 6/1/2011