

32 00 00 Exterior Improvements

32 01 00 Operations and Maintenance of Exterior Improvements

- .1 Existing plant material to be retained, including plants that may be affected by construction activities both within and outside the actual project limits, shall meet the protection and maintenance requirements specified in this section. Such plant and root systems shall be protected from damage, compaction and contamination resulting from construction.
- .2 All deciduous trees within the work zone shall be protected with wood plank tree protection. Maintain tree protection during construction period. Remove only when risk of
- .3 Tree protection shall be 28 x 89 mm wood planks, minimum 1500 mm long, secured with two bands of metal strapping. Place wood planks around base of trunk at 150 mm maximum on center to provide full protection from impact and abrasion. Do not puncture or damage bark with wood planks or fasteners. Arrange wood planks around branches and other irregularities to provide protection without damaging tree.
- .4 Prevent damage to trees and shrubs in lawn areas or planting beds that are to remain by erecting a snow fence barrier to provide a continuous barricade between designated plant materials and the work area prior to construction. Place snow fence at dripline of trees unless inadequate to provide a 1.5 m buffer zone between the fence and limit of construction. Dripline is defined as ground surface directly beneath tips of outermost branches, at least 3 m radius from the tree trunk or larger as directed by the

placed within dripline of tree to provide a buffer zone of up to 1.5 m, but in no case less than 1 m from the outer circumference of the trunk.
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32 32 00 Retaining Walls of people and

- .1 Walls serve a variety of functions such as controlling the movement of people and vehicles, defining edges, and screening bicycles and cars. The design of walls should complement the setting and be appropriate for the intended use.
- .2 Poured-in-place concrete is the preferred material. Other materials are subject to University approval.
- .3 Exposed edges shall be rounded or chamfered to prevent chipping and damage from maintenance equipment. Sharp edges and corners shall be avoided.
- .4 Finish and detailing should be compatible with the predominant precedent in the vicinity, and should be durable, attractive, and low maintenance. Seat wall should be minimum 400 mm wide in cross section. The standard concrete finish shall to pr8e01et2.00000912 0 612 792 r

- .2 Bicycle rack should allow the frame and one wheel to be locked to the rack with a high security, U-shaped shackle lock if both wheels are left on the bicycle.
- .3 Bicycle rack shall be bolted to pavement. Placement of racks should allow for parking perpendicular to the rack on both sides. A minimum clearance of 2 m between parked bicycles is required for snow removal.
- .4 Racks should be catalogue item rather than custom made. The preferred product is the Ring Rack by Bikeup Bicycle Parking Systems Inc.

See Appendix A - 32 33 23 Trash Receptacle

- .1 Trash receptacles should be located at major activity centres and along major routes. The location of individual units should not be visually intrusive.
- .2 Receptacle unit should be durable, vandal resistant, attractive in design with easy to remove liner and protection of contents from rain and weather.
- .3 Trash receptacle shall be production item, Victor Stanley model S-42 with S-2 spun steel dome, powder coat finish RAL 7024 graphite grey semi-gloss. Anchor to concrete using tamper-proof hardware.

See Appendix B/C/D - 32 33 43 Benches

- .1 Benches should be conveniently located in areas of frequent use. A variety of seating arrangements for different social patterns and for choices in sun and shade should be provided. Seating arrangements can also help define a space.
- .2 Bench should be catalogue item rather than custom made. The design should be comfortable, durable, attractive, and low maintenance.
- .3 Freestanding bench shall have back with no arm rests. The base plate shall be anchored to a concrete pad or footing with tamper-proof hardware.
- .4 Where the bench is built-in such as a seat wall, refer to Cast-in- Place Concrete Planter and Seat Walls, for requirements.
- .5 Free-standing bench shall be Victory Stanley model NRB-6, 6 ft. length, surface mount base, powder coat finish RAL 7024 graphite grey semi-gloss.

32 39 00 Manufactured Site Specialties

- .1 Rigid and collapsible bollards are used to prevent access by unauthorized vehicles to walkways and fire lanes, but do not interfere with pedestrians. A special tool allows the collapsible bollard to be lowered to the ground, remaining attached to a hinge, and then replaced in the upright position.
- .2 Bollards shall be Maxiforce 1 collapsible style bollard Model MF and rigid type bollard Model MF, supplied by G. Reale Enterprises, Inc., 3444 Marshall Road, Drexel Hill, PA

19026, Tel. 610-623-2611. Standard dimensions of extruded steel tubing are 6 in. x 3 in., above ground height is 32 in. Bollards shall have powder coat finish, RAL 7024 graphite grey semi-specifications.

32 91 00 Planting Preparation

- .1 Subgrade preparation is required under all areas designated to receive landscaping as shown on drawings.
- .2 Subgrade should be free of rocks, weeds, roots, and other debris. Foreign material shall not be buried beneath areas to be landscaped.
- .3 Completed subgrade should be even and have positive drainage. Subgrade should be scarified to a minimum 100 mm (4 in.) depth. Subgrade shall be approved by project manager before topsoil placement begins.
- .4 Topsoil mixture shall be 3 parts Grade 1 topsoil, 1-part sterilized mushroom compost, 1-part peat moss. Mixture should avoid being excessively wet and should be free of weeds, roots, rocks, and other debris.
- .5 Place topsoil in dry weather, on dry unfrozen grade to obtain minimum depth after settlement of 100 mm (4 in.) or depth specified in planting details. Allow settling to occur

- .2 Sod should be watered after installation to penetrate 300 cm (6 in.) into soil. Sod should be watered daily except in periods of intense heat or drought when frequency should be increased.
- .3 Contractor is responsible for first two cuttings of sod. The first cutting should be approximately 10-14 days after installation when sod is firmly established. Cutting should be on the highest level of the mower.
- .4 Project manager should be present for inspection at all stages of sodding.

32 93 00 Plants

- .1 Tree planters for a single specimen in paved areas shall have a minimum inside dimension of 3.05 m (10 ft.). The minimum clearance from adjacent paving and structures (e.g., steps, curbs, walls, fences, and buildings) shall be 3.05 m (10 ft.) or 50% of the average mature spread for trees, and 900 mm (3 ft.) or 50% of the average mature spread for shrubs,

- .1 Tree grate finish, slot openings and detailing should enable barrier-free accessibility.
- .2 Top of tree grate shall be level with adjacent pavement. A minimum clearance of 100 mm (4 in.) is required between the bottom of the tree grate and the finish grade of soil in the tree pit.
- .3 Tree grate shall be precast concrete, Type TG1 (circular) and Type TG3 (square), by Alpha Precast, sandblasted finish. Tree grate size shall be 121.9 cm (4 ft.) minimum diameter or square, center hole shall be 45.7 cm (18 in.) diameter.