## DIVISION 32 – EXTERIOR IMPROVEMENTS

### 32 00 00 Exterior Improvements

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### 320500 Common Work Results for Exterior Improvements

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Senior Walk ConstructionChert and other absorbent aggregates can have a deleterious effect on the surface of exterior concrete, particularly flatwork. When a contractor is asked to construct a senior walk sidewalk, the university intends to engrave the concrete surface at a later date, with names or other effects. Surface blemishes must be minimized. The intent of the monumental concrete specification is to provide adequate hardness for the engraving process to provide crisp, clean engravings and to provide a surface that is very durable over time, free from “pop-outs” and other defects.

(See Appendix A – UofA Planning Group Sr Dwg’s, you can also contact the planning group if you have additional questions)

Other specialty placed concrete – There may be occasions where concrete flatwork is desired to have a durable surface, free from future defects, but where we do not intend to engrave the surface. In these cases the sample specification below may be modified to reduce the ultimate strength. However, we should not reduce below 3500 psi.

MONUMENTAL CONCRETE

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Formwork, complete with required shoring, bracing and anchorage.
B. Control joints and expansion joints.
C. Concrete joints and expansion joints.
D. Cast-in-place concrete.
E. Work associated to Senior Walks.

1.2 RELATED WORK

A. Section 01 45 29 – Testing Laboratory Services.

1.3 SUBMITTALS

A. Concrete mix design and strength test results for each specified strength.

1.4 QUALITY ASSURANCE

A. Perform cast-in-place concrete work in accordance with ACI 301, unless specified otherwise in this Project Manual.
B. Keep copy of ACI 301-99 in field office for duration of project.
1.5 TESTING AGENCY

A. Field testing of the concrete mix will be performed by an independent testing laboratory in accordance with Sections 01 45 29. The testing agency will be 3rd party and not the responsibility of the contractor to pay for. However, the contractor shall notify the testing agency giving adequate time for inspection and testing.

B. Provide free access to work and cooperate with the appointed laboratory.

C. Tests of cement and aggregates may be performed to ensure conformance with requirements state herein.

1.6 REFERENCE STANDARDS

A. ACI-301-99, Specifications for Structural Concrete.

B. ACI Manual of Concrete Practice, Parts 1, 2, and 3.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Allowable Concrete Mix Temperatures: ACI 301 -99 Section 4.2.2.7.
   1. Cold Weather: Minimum 35 degrees F.
   2. Hot Weather: Maximum 95 degrees F.

B. Do not place concrete during rain, sleet, or snow unless protection is provided.

C. Keep accurate thermometer in area where work is proceeding.

PART 2 - PRODUCTS

2.1 CEMENT (ACI 301-99 Section 4.2).

A. Portland Cement: ASTM C150, Type 1.

B. Use one brand and type of cement throughout project unless otherwise specified.

2.2 ADMIXTURES (ACI 301-99 Section 4.2)

A. Add air-entraining agent as indicated in ACI 301-99 Section 4.2.1.4.

B. Use of accelerating admixtures such as salts, chemicals, or other foreign materials in cold weather will not be allowed. Use no other admixtures without prior approval of the Architect/Engineer.

C. Use of set – retarding admixtures during hot weather will not be allowed.

D. Limited use of Class F fly ash may be allowed with approval from owner.
2.3 STRENGTH (ACI 301-99 Section 1.7.4)
A. Provide concrete of following strength: Compressive strength (28 day): 5,500 psi, except where noted otherwise in the Contract Documents

2.4 AIR ENTRAINMENT (ACI 301-99 Section 4.2.1.4)
A. Add air-entraining agent to concrete mix for concrete work exposed to exterior.

2.5 SLUMP (ACI 301-99 Section 4.2.2.2)
A. Contractor shall provide slump cone and test slump for each load of concrete.
B. Minimum, slump for all concrete work: 3 inches.
C. Slump for consolidation by vibration: 4 inches maximum.
D. Slump for slabs and consolidation other than by vibration: 5 inches maximum.

2.6 PROPORTIONS
A. Selection of proportions for normal weight concrete: Method 1, Method 2, or Method 3, Contractor’s Option.
B. Fine aggregate shall conform to the requirements of ASTM Specification C-33, latest edition, and shall consist of clean, fresh water sand graded uniformly to conform to Paragraph 4 of the above referenced Specification C-33.
C. Coarse aggregate shall conform to the requirements of ASTM Specification C-33, latest edition, using standard grading size 1 -1/2” to No. 4 of washed gravel or crushed stone meeting requirements above and soundness requirements of ASTM C-33 modified to include item E below.
D. Water: Clean and free of injurious amounts of oil, acids, alkalis, organic materials, or other deleterious substances.
E. No aggregate that will adversely affect the surface of the concrete shall be allowed. Examples include chert or any aggregate that is water absorbent or chemically reactive may be included within the mix.

2.7 REINFORCING STEEL (ACI 301-99 Section 3)
A. Reinforcing Steel: 60 ksi yield grade; deformed billet steel bars, ASTM A615; plain finish.
B. Welded Steel Wire Fabric: plain type, ASTM A 185; in coiled rolls, plain finish, 6x6-W1.4 x W1.4 or 6x6 – W2.9 X W2.9 as shown on the Drawings.

2.8 ACCESSORIES
A. Premolded expansion joint fillers: ASTM D1751, ½ inch thick. Refer to ACI 301-99 Section 10.2.5.
2.9 CONCRETE MIX

A. Mix concrete in accordance with ASTM C94.

B. Mix concrete until there is a uniform distribution of the materials and the mass is homogeneous in consistency and colors. Continue mixing for at least 1-1/2 minutes after all the ingredients are in the mixer.

PART 3 - EXECUTION

3.1 GENERAL

A. Notify Architect/Engineer at least 24 hours before the planned time to pour concrete.

B. Inspection:

1. Ensure that excavation and formwork are completed and within the allowed tolerances.

2. Ensure that ice and excess water are removed, no frost is present, and that ground is not frozen.

3. Check that reinforcement is secured in place.

4. Verify that insulation, anchors, and other embedded items are secured in position.

C. Install concrete work in accordance with ACI 301-99 except as amended by this section.

3.2 FORMWORK (ACI 301-99 Section 2)

A. Obtain Architect/Engineer’s review for use of earth forms. When using earth forms, hand-trim sides and bottoms, and remove loose dirt prior to placing concrete.

B. Tolerances for Formed Services: (Comply with ACI 301-99 Section 2)

3.3 FORM SURFACES PREPARATION (ACI 301-99 Section 2)

A. Apply form release agent on formwork in accordance with manufacturer’s recommendations. Apply prior to placing reinforcing steel, anchoring devices and embedded parts. Do not apply form release agent where concrete surfaces will receive special finishes or applied coverings which are affected by agent.

3.4 FINISHING FORMED SURFACES

A. Formed Surfaces Finishes: Provide rough form finish (ACI 301-99 Section 2) at all surfaces not exposed to view. Provide smooth rubbed finished (ACI 301-99 Section 2) at all surfaces exposed to view.

3.5 REMOVAL OF FORMS (ACI 301-99 Section 2)

A. Do not remove forms, shores, and bracing until concrete has gained sufficient strength to carry its own weight, construction loads, and design loads which are liable to be imposed upon it. Verify strength of concrete by compressive test results.
3.6 PLACING REINFORCING

A. Reinforcing shall be unpainted and uncoated, free from rust or scale and shall be cleaned and straightened before being shaped and in position.

B. Position reinforcing accurately and tie securely.

C. Support foot reinforcing on support chairs or concrete grout at maximum 3 feet on center each way to insure proper depth from bottom.

D. Wire dowels to longitudinal bars and place top bars in perfect alignment by the use of wood templates placed 2 inches from the top of the form.

E. Support wire mesh on support chairs, or other approved means, at no greater than three feet on center way to hold reinforcing in the center of the slab or as shown on the drawings.
   1. Do not depend on lifting mesh as concrete is being poured.
   2. Lap sides and ends not less than one wire spacing in slabs on grade and not less than 12 inches in structural slabs.

F. Provide 3 inches of concrete between reinforcing and the ground, unless detailed otherwise, where concrete is poured against the ground.

G. If, after the removal of forms, concrete surfaces are to be in contact with the ground or exposed to the weather:
   1. Bars larger than No.5: Protect with 2 inches of concrete.
   2. No. 5 bars and smaller: Protect with 1 1/2 inches of concrete.

H. Concrete covering for any reinforcing at surfaces not exposed directly to the ground or weather: Protect with 1 -1/2 inches of concrete.

3.7 PLACING CONCRETE

A. Convey concrete from mixer to final position by method which will prevent separation or loss of material.

B. Maximum height of concrete free fall; 60 inches.

C. Regulate rate of placement so concrete remains plastic and flows into position.

D. Deposit concrete in continuous operation until panel or section is completed.

E. Do not use concrete that has set and do not re-temper or use concrete that has been mixed for more than 1½ hours.

3.8 CONSOLIDATING CONCRETE:

A. Use mechanical vibrating equipment for consolidation.

B. Vertically insert and remove hand-held vibrators at points 18 inches to 30 inches apart, inserting to within 6 inches of bottom of freshly poured concrete.
C. Do not use vibrators to transport concrete forms.

D. Minimum vibrators frequencies: 6000 impulses per minute.

E. Vibrate concrete minimum amount required for consolidation.

F. Keep spare vibrator on hand during concrete placing operation.

G. Make sure the concrete is thoroughly worked around the reinforcing, the embedded items, and into corners of forms.

3.9 SLABS (ACI 301-99 Section 5)

A. Finish concrete slab surfaces in accordance with ACI 301-99 Section 5:
   1. Uniformly spread, screed, and float slabs. Do not use grate tampers or mesh rollers. Do not spread concrete by vibration.
   2. Senior Sidewalks that are intended to have engravings or other treatments shall be finished totally smooth. No brooming or other surface finishes are desired.

B. Sidewalks: Finish other than senior sidewalks in accordance with Section 32 13 76.

3.10 CURING

A. Cure Slabs: Use damp method as per ACI 301-99 Section 5.

B. Cure Walls above Grade: Use moisture-retaining covering as approved by Architect/Engineer in accordance with ACI 308.

3.11 WELDING (ACI 301-99 Section 3)

A. Welding Reinforcing Steel: Not allowed.

3.12 CONSTRUCTION JOINTS

A. Install construction joints in accordance with ACI 301-99 Section 5

B. Place expansion at 30 feet intervals and contraction joints at 15 feet (maximum) intervals. Where possible, make joints coincide with joints in adjacent concrete.

C. Fit joints with filler of required profiles. Recess ¼ inch below finished concrete surface.

3.13 INSERTS, EMBEDDED PARTS AND OPENINGS

A. Provide formed openings where required for pipes, conduits, sleeves and other work to be embedded in and passing through concrete members.

B. Coordinate work of other sections and cooperate with trade involved in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts. Any sleeve or object that extends above the horizontal surface of the concrete shall have the concrete shaped around
the object in such a way as to not hold any water. Surface finishing, fillers, covers, etc. shall be installed with a slight conical shape as to avoid any water collection or water holding.

3.14 REPAIR OF SURFACE DEFECTS (ACI 301-99 Section 5.3.7)
   
   A. Allow Architect/Engineer to inspect concrete surfaces immediately upon removal of forms.
   
   B. Modify or replace concrete not conforming to required lines, detail, and elevation.
   
   C. Repair or replace concrete not properly placed resulting in excessive honeycombing and other defects. Do not patch, repair, or replace exposed architectural concrete except upon express direction of Architect/Engineer.

3.15 FIELD QUALITY CONTROL
   
   A. Four (4) concrete test cylinders will be taken by the testing laboratory for every 40 cu. yds., or fraction thereof, of concrete placed. Not less than one (1) set of test cylinders shall be taken for each day’s pour.
   
   B. One (1) additional test cylinder will be taken during cold weather concreting and be cured on job site under same conditions as concrete it represents.
   
   C. One (1) slump test will be taken by the testing laboratory for each set of test cylinders taken and for each separate batch of concrete placed.
   
   D. Compression test cylinders: Test cylinders shall be cast on the project site by a representative of the testing laboratory.
      
      1. Make cylinders according to ASTM C31.
      
      2. Make additional sets of test cylinders for curing under job conditions:
         a. When it is needed to determine when to remove forms.
         b. When to put a structure into service.
         c. When temperature extremes are expected during the curing test period.
      
      
      4. Properly marked prepared test cylinders and fill out the card supplied by the testing laboratory with instructions on when to make test breaks and where to send the test results.
      
      5. Transport in a protected condition, each set of prepared and marked test cylinders to the designated testing laboratory for curing and testing as soon as the cylinders can be transported without damage.
   
      
      1. Cure cylinders in laboratory until time for testing.
      
      2. Test each set of cylinders at 7 days and 28 days after pouring.
      
      3. Tabulation of breakage schedule and action:
         
         Specified strength of 5,500 psi at 28 days
<table>
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<td>4200-6000 psi</td>
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<td></td>
<td>Over 6000 psi</td>
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<tr>
<td>28 day</td>
<td>Less than 6000 psi</td>
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</table>

4. For testing cylinders for specified compressive strength other than 6,000 psi, see the Architect/Engineer.

F. In Case of Low Compression Test Results:

1. Architect/Engineer will have right to order change in the mix design, costs to be borne by the contractor.

2. Architect/Engineer will have right to order core tests of the concrete in accordance with SCI C42, or load tests of the structure, the cost to be borne by the Contractor for either test.

3.16 PROTECTION OF COMPLETED WORK

A. During curing period, protect the concrete from damaging mechanical disturbances, water flow, loading, shock, and vibration.

END OF SECTION

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Flexible Paving Surface Treatments

Seal Coats

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Coal Tar Seal Coats
Coal Tar Seal Coats with Unvulcanized Rubber
Fuel-Resistant Sealers
Porous Flexible Paving
Asphalt Paving Joint Sealants

Rigid Paving

Concrete Paving
Exposed Aggregate Concrete Paving
Power-Compacted Concrete Paving
Prestressed Concrete Paving
Concrete Paving Surface Treatment
Plain Concrete Paving
Decorative Concrete Paving
Patterned Concrete Paving
Roller-Compacted Concrete Paving
Imprinted Concrete Paving
Stamped Concrete Paving
Pervious Concrete Paving
Concrete Paving Joint Sealants
Fuel-Resistant Concrete Paving Joint Sealants
Field-Molded Concrete Paving Joint Sealants
Compression Concrete Paving Joint Sealants

Unit Paving

Precast Concrete Unit Paving
Interlocking Precast Concrete Unit Paving
Precast Concrete Unit Paving Slabs
Porous Precast Concrete Unit Paving
Brick Unit Paving
Asphalt Unit Paving
Wood Paving
Recycled-Rubber Paving
Stone Paving
Porous Unit Paving

Aggregate Surfacing

Cinder Surfacing
Crushed Stone Surfacing

Curbs, Gutters, Sidewalks, and Driveways

Curbs and Gutters
Cast-In-Place Concrete Curbs and Gutters
Steel Faced Curbs
Precast Concrete Curbs and Gutters
Asphalt Curbs
Stone Curbs
Sidewalks
Driveways

Paving Specialties

Parking Bumpers
Metal Parking Bumpers
Plastic Parking Bumpers
321713.19 PrecastConcreteParkingBumpers
321713.23 RubberParkingBumpers
321713.26 WoodParkingBumpers
321716 SpeedBumps
321723 PavementMarkings
321723.13 PaintedPavementMarkings
321723.23 RaisedPavementMarkings
321723.33 PlasticPavementMarkings
321726 TactileWarningSurfacing
321743 PavementSnowMeltingSystems

321800 AthleticandRecreationalSurfacing
321813 SyntheticGrassSurfacing
321816 SyntheticResilientSurfacing
321816.13 PlaygroundProtectiveSurfacing
321823 AthleticSurfacing
321823.13 BaseballFieldSurfacing
321823.16 NaturalBaseballFieldSurfacing
321823.19 SyntheticBaseballFieldSurfacing
321823.23 FieldSportSurfacing
321823.26 NaturalFieldSportSurfacing
321823.29 SyntheticFieldSportSurfacing
321823.33 RunningTrackSurfacing
321823.36 NaturalRunningTrackSurfacing
321823.39 SyntheticRunningTrackSurfacing
321823.43 RecreationalCourtSurfacing
321823.53 TennisCourtSurfacing
321823.56 NaturalTennisCourtSurfacing
321823.59 SyntheticTennisCourtSurfacing

32 3000 SiteImprovements
323100 FencesandGates
323111 GateOperators
323113 ChainLinkFencesandGates
323113.23 RecreationalCourtFencesandGates
323113.26 TennisCourtFencesandGates
323113.29 TennisCourtWindBreaker
323113.33 ChainLink Backstops
323113.53 High-SecurityChainLink FencesandGates
323116 WeldedWireFencesandGates
323117 ExpandedMetal FencesandGates
323119 DecorativeMetal FencesandGates
323123 PlasticFencesandGates
323126 WireFencesandGates
323129 WoodFencesandGates
323132 CompositeFencesandGates
323153 CattleGuards

323200 RetainingWalls
323213 Cast-in-PlaceConcreteRetainingWalls
323216 Precast ConcreteRetainingWalls
323219 UnitMasonry RetainingWalls
323223 Segmental RetainingWalls
323223.13 SegmentalConcreteUnitMasonryRetainingWalls
323223.16 ManufacturedModularWalls
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<td>32329</td>
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<td>Reinforced Soil Retaining Walls</td>
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<td>Gabion Retaining Walls</td>
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<td>32324</td>
<td>Soldier-Beam Retaining Walls</td>
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<td>Stone Retaining Walls</td>
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<td>Site Bicycle Racks</td>
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<td>Site Bicycle Lockers</td>
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<tr>
<td>323323</td>
<td>Site Trash &amp; Litter Receptacles</td>
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<tr>
<td>323333</td>
<td>Site Manufactured Planters</td>
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<td>323343</td>
<td>Site Seating &amp; Tables</td>
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<td>323343.53</td>
<td>Site Tables</td>
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See Appendix B – Campus Landscape Standards & Appendix C – Campus Furnishings Standards

CONSULTANT DESIGN GUIDELINE


<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>323400</td>
<td>Fabricated Bridges</td>
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<tr>
<td>323413</td>
<td>Fabricated Pedestrian Bridges</td>
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<tr>
<td>323423</td>
<td>Fabricated Roadway Bridges</td>
</tr>
<tr>
<td>323433</td>
<td>Fabricated Railway Bridges</td>
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<td>Screening Devices</td>
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<td>Screens and Louvers</td>
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<td>Sound Barriers</td>
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<td>Manufactured Site Specialties</td>
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<td>323913</td>
<td>Manufactured Metal Bollards</td>
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<tr>
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<td>Wetlands</td>
</tr>
<tr>
<td>327100</td>
<td>Constructed Wetlands</td>
</tr>
<tr>
<td>327200</td>
<td>Wetlands Restoration</td>
</tr>
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</table>
Prior to preparation of design development drawings, Facilities Management will review irrigation system. Review will allow the cost of an irrigation system to become a part of the preliminary cost estimate.

INCLUDE IN CONTRACT DOCUMENTS

Design irrigation systems to be fully operational. Install control wiring in PVC schedule 40 conduit. The sprinkler system considered shall be equal to Rainbird series shrub head and Hunter rotary heads. All water lines shall be PVC schedule 40. Sized main and lateral lines, all quick couplers, automatic drain valves, shrub risers, manual drain valves, back flow preventers, water meters and other equipment necessary to provide a complete system shall be included. Indicate all required items, location and size on the drawings.

A separate meter and backflow prevention is required for irrigation system.
Submit schematic landscaping, planting, and irrigation plans for review and approval by Facilities Management. Landscape plans shall bear the seal of a Landscape Architect registered in the State of Arkansas according to Arkansas State Board of Landscape Architects.

EXECUTION

REMOVAL OF EXISTING TREES

Removal. Dig trees, as noted on construction plans, with firm natural balls of diameter not less than 10 inches wide for each caliper inch (24 inch minimum), and of sufficient depth to include the fibrous and feeding roots. Wrap trees with burlap according to American National Nursery Standards and place each tree in a Star Basket. Trees will not be accepted if ball is cracked or broken during transportation. The contractor shall replace the damaged tree at their expense. See the following site for detail instructions: http://planning.uark.edu/campus_planning/content/guide%20appendix%20b.pdf.

Delivery. The contractor is responsible for delivering the trees to the Agriculture Experimental Farm and coordinating delivery time with Facilities Management Grounds Shop at 575-6161.

END SECTION
CONSULTANT DESIGN GUIDELINE

Coordinate earthwork design with Facilities Management Planning Group.

INCLUDE IN THE CONSTRUCTION DOCUMENTS

Top soil shall be fertile, well drained of uniform quality, free of foreign materials, oil or chemicals, rocks, sticks, noxious weeds or grasses (Bermuda grass, Nut grass, Bind weed, Johnson grass, and Kudzu), and must be approved by Facilities Management and/or consulting landscape architect before being placed.

Top soil must be approved by Facilities Management and/or consulting landscape architect.

EXECUTION

Remove all construction debris and construction materials from the site before final grading is started.

Backfill all areas for planting of shrubs and/or ground cover with a grass-free top soil to a depth of 12".

Till lawn areas to a depth of 6", hand rake, and leave in friable condition. Dig a ditch 1'0" wide by 1'0" deep by 30'0" long to determine the conditions of the soil prior to finish grading.

Submit soil test of proposed topsoil verifying amounts of nitrogen, potassium and phosphorus to Facilities Management. Sections of the grounds shall be sampled before soil is placed; location of this sampling to be determined by the landscape architect. Dig a ditch of 1'0" wide by 1'6" deep by 20'0" long to determine the condition of the soil.
Bring all areas to a finished grade (hand-raked surface) not to exceed 1" below all walks and/or doorways of buildings. The finished grade shall be in physical condition for landscape planting.

END SECTION

<table>
<thead>
<tr>
<th>329200 Turf and Grasses</th>
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<td>329216 Plugging</td>
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<td>329219.13 Mechanical Seeding</td>
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<td>329219.16 Hydraulic Seeding</td>
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<td>329323 Plants and Bulbs</td>
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<td>329343 Trees</td>
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<td>329433 Planters</td>
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<td>329446 Tree Grids</td>
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<td>329623 Plant and Bulb Transplanting</td>
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<tr>
<td>329633 Shrub Transplanting</td>
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<tr>
<td>329643 Tree Transplanting</td>
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</table>
1. concrete to be 5500psi
2. reinforcing to consist of #4 bar at 2'-0" o.c. each way, 2" from bottom of slab
3. concrete mix to have maximum 3/4" aggregate
4. compressive strength of concrete test cylinders to be taken by contractor at his expense on day of pour
5. walk to have a minimum curing time of 90 days prior to sandblasting
6. 4" dia. PVC schedule 40 sleeve at 30'-0" o.c.
7. saw-cut control joints at 15'-0" o.c. to be cut within 24 hrs. of pour
8. expansion joints at 30'-0" o.c.
9. walk surface to have slick trowel finish
10. contractor to "press" top 1/2" of wet concrete so that aggregate material is 1/2" below top of walk
11. "S" stamp to be embossed by contractor at all sleeve locations, each side

**SENIOR WALK**

construction detail – longitudinal section
TOP VIEW

1/2" depth hand-tooled score joint

6" concrete walk / 5500psi #4 rebar 2'-0" o.c. each way

compacted subgrade @ 95% proctor density

6" gravel base compacted @ 105% proctor density

finish grade

7'-0"

SENIOR WALK

construction detail – cross section
CAMPUS LANDSCAPE STANDARDS

b1 - handrails & guardrails
b13 - light footings
b18 - bike rack footing & spacing
b20 - trash can footings
b22 - paving
b30 - drain inlets
b31 - plantings
Notes:
1. all welds to be continuous and ground flush and smooth
2. all steel components to be painted with Benjamin Moore D1M alkyd semi-gloss "Bronztone"
HANDRAIL A (decorative posts) - Classic

CAD file available for download at http://planning.uark.edu
Notes:
1. all welds to be continuous and ground flush and smooth
2. all steel components to be painted with Benjamin Moore D1M alkyl semi-gloss "Bronzestone"

GUARDRAIL A (decorative posts) - Classic
CAD file available for download at http://planning.uark.edu

GUARDRAIL A

typical assembly

5' maximum spacing between posts
GUARDRAIL A (decorative posts) - Classic

CAD file available for download at http://planning.uark.edu

- Lamb's tongue steel part no. 44268, bronze part no. 4531
- 1"x1/2" C-channel
- Handrail molding - 20' length steel part no. 44299, bronze part no. 4631
- 3/4"x3/8" flat
- 40" starting post steel part no. 3274, bronze part no. 131
- Square-hole collar steel part no. 369, bronze part no. 269
- 1"x1" stainless steel tube
Notes:
1. all welds to be continuous and ground flush and smooth
2. all steel components to be painted with Benjamin Moore D1M alkyd semi-gloss "Bronzestone"

HANDRAIL B (plain posts) - Classic

CAD file available for download at http://planning.uark.edu
HANDRAIL B (plain posts) - Classic

CAD file available for download at http://planning.uark.edu

- lamb's tongue
  steel part no. 44295

- handrail molding — 20' length
  steel part no. 44204

- 1"x1/2" c-channel

- 1"x1" tube

HANDRAIL B

part numbers
Notes:
1. all welds to be continuous and ground
   flush and smooth
2. all steel components to be painted with
   Benjamin Moore D1M alkyd semi-gloss "Bronzette"
GUARDRAIL B (plain posts) - Classic

CAD file available for download at http://planning.uark.edu
HANDRAIL - Contemporary

Notes:
1. all parts to be continuous and ground flush and smooth
2. all steel components to be painted with Benjamin Moore DM-999 semi-gloss Bronztone

CAD file available for download at http://planning.uark.edu
HANDRAIL - Contemporary

CAD file available for download at http://planning.uark.edu

1 1/2" O.D. tube

1 1/2" x 3/4" flat

HANDRAIL

parts
GUARDRAIL - Contemporary

Notes:
1. All poles to be continuous and ground flush and smooth.
2. All steel components to be painted with Benjamin Moore "Dry Semi-Gloss Bronz tone".

Typical assembly:

- 1'-0" x 4" x 3'-2"
- 3'-6"
- 4'-3/8" o.c.
- 5" maximum spacing between posts

CAD file available for download at http://planning.uark.edu
PEDESTRIAN LIGHT - Classic

CAD file available for download at http://planning.uark.edu

classic standard post & luminaire by Spring City
face access door away from sidewalk
finish grade
16" dia. sonotube base
bolts supplied by mfr.
(4) #4 rebar attach to anchor bolts
compacted subgrade 95% standard proctor density
12" dia. bolt pattern

PEDESTRIAN LIGHT
footing detail
PEDESTRIAN LIGHT - Classic alternate

CAD file available for download at http://planning.uark.edu

PEDESTRIAN LIGHT
footing detail
PEDESTRIAN LIGHT - Contemporary

CAD file available for download at http://planning.uark.edu

contemporary standard post & luminaire by Bega

finish grade

14" dia. sonotube base

bolts supplied by mfr.

compacted subgrade 95% standard proctor density

8.5" min./10" max. dia bolt pattern
PARKING & SERVICE AREA LIGHT

CAD file available for download at http://planning.uark.edu

- parking & service area standard post & luminaire by Bega
- finish grade
- 14" dia. sonotube base
- bolts supplied by mfr.
- compacted subgrade 95% standard proctor density
- 8.5" min./10" max. dia bolt pattern

PARKING & SERVICE AREA LIGHT
footing detail
PARKING & SERVICE AREA LIGHT

- parking & service area standard post & luminaire by Dega
- bolts supplied by mfr.
- 14" dia. sonotube base
- (4) #4 rebar tied 12" o.c. attach to anchor bolts
- compacted subgrade 95% standard practor density
- 8.5" min./10" max. dia bolt pattern

PARKING & SERVICE AREA LIGHT
footing detail

CAD file available for download at http://planning.uark.edu
IN-GROUND MOUNT BIKE RACK

CAD file available for download at http://planning.uark.edu

BIKE RACK
footing detail - inground
IN-GROUND MOUNT BIKE RACK

CAD file available for download at http://planning.uark.edu
TRASH CAN - Classic

CAD file available for download at http://planning.uark.edu

classic standard trash can by Landscape Forms

finish grade

6" concrete base

2'-2"
TRASH CAN - Contemporary

CAD file available for download at http://planning.uark.edu

contemporary standard trash can by Landscape Forms

finish grade

6" concrete base

TRASH CAN
footing detail
ASPHALT PAVER WALK

CAD file available for download at http://planning.uark.edu

ASPHALT PAVERS
construction detail - over compacted earth - cross section
(two edge options)
ASPHALT PAVER WALK

CAD file available for download at http://planning.uark.edu

4" concrete slab / 3500psi
6x6=W1.4xW1.4 waf centered in slab

asphalt paver by Hanover
3" depth, set vertically

asphalt paver by Hanover
1 1/4" to 3" depth as needed

2" weep
10"-0" o.c.

1 1/2" compacted sand setting bed min.

compacted subgrade
@ 95% proctor density

3/8" x 8" steel edging

4" gravel base
compacted @ 105% proctor density

crushed stone
16" tapered steel stoke at 30" o.c. max.

finish grade

concrete footing

width varies

border pavers w/ mortared joints

hand tight pavers, sand swept

running bond pattern to be perpendicular to edge

WITH PAVER EDGING

WITH STEEL EDGING

ASPHALT PAVERS
construction detail - over concrete slab - cross section
(two edge options)
LANDSCAPE STANDARDS

SENIOR WALK

CAD file available for download at http://planning.uark.edu

1/2" depth hand-tooled score joint

6"

Compacted subgrade @ 95% proctor density

6" concrete walk / 5500 psi
#4 rebar 2'-0" o.c. each way

6" gravel base compacted @ 105% proctor density

Finish grade

7'-0"

SENIOR WALK

construction detail - cross section
Notes:
1. concrete to be 5500psi
2. reinforcing to consist of #4 bar at 2'-0" o.c. each way, 2" from bottom of slab
3. concrete mix to have maximum 3/4" aggregate
4. compressive strength of concrete test cylinders to be taken by contractor at his expense on day of pour
5. walk to have a minimum curing time of 90 days prior to sandblasting
6. 4" dia. PVC schedule 40 sleeve at 30'-0" o.c.
7. saw-cut control joints at 15'-0" o.c. to be cut within 24 hrs. of pour
8. expansion joints at 30'-0" o.c.
9. walk surface to have slick trowel finish
10. contractor to "press" top 1/2" of wet concrete so that aggregate material is 1/2" below top of walk
11. "S" stamp to be embossed by contractor at all sleeve locations, each side

SENIOR WALK

construction detail - longitudinal section
4-inch CONCRETE WALK

Notes:
1. 4" dia. PVC schedule 40 sleeve at 30'-0" o.c. (as required by owner)
2. saw-cut control joints at 15'-0" o.c.
3. expansion joint at 30'-0" o.c.
4. walk surface to have light broom finish
5. "S" stamp to be embossed by contractor at all sleeve locations, each side
4-inch CONCRETE WALK

Notes:

1. 4” dia. PVC schedule 40 sleeve at 30’-0” o.c. (as required by owner)
2. saw-cut control joints at 15’-0” o.c.
3. expansion joint at 30’-0” o.c.
4. walk surface to have light broom finish
5. “S” stamp to be embossed by contractor at all sleeve locations, each side

4” CONCRETE WALK at EXISTING WALK
construction detail – longitudinal section
CRUSHED STONE WALK

CAD file available for download at http://planning.uark.edu

construction detail – cross section
(two edge options)
Notes:
1. consult engineer for structural details

CAD file available for download at http://planning.uark.edu

DRAIN INLET

TOP VIEW

catch basin frame and grate by Neenah; model number R-2504 with Type C grate (or approved equal)

finished grade
imported topsoil

1'-10 3/4"

2 1/2" exp. anchor each side

2'-0"

4'-0" min.

undisturbed or compacted subgrade

DRAIN INLET IN LAWN

construction detail – cross section
TREE
planting detail

- Position guys at height of second branch
- Guying tape
- 2"x2" wood stake, typ. provide 3 stakes per tree
- See planting plan
- Finish grade
- Undisturbed or compacted subgrade
- Geotextile soil separator
- Lightweight CMU
- 3 X rootball diameter

- Set rootflare 3" above finish grade
- Remove container or burlap & wire from top 1/3 of rootball
- Backfill material to be 1/3 imported topsoil, 1/3 sand, 1/3 "Back to Earth"
- 6" perforated PVC sch 40 w/cap
- Wrap bottom end w/geotextile fabric, 4'-0" length as required by owner
- Slotted HDPE drain (no sock) as required by owner
- Drainage gravel
- 5% slope to drain

CAD file available for download at http://planning.uark.edu
Notes:

1. planting bed to be completely over-excavated & filled w/ planting mixture

2. before laying planting mixture, scarify subgrade in the direction of slope for positive drainage

3. all labels to be removed

keep mulch away from base of plant

container depth or 6" min., whichever is greater

6" min. below all plants

steel edging as required by owner (see detail)

planting mixture to be 1/3 imported soil, 1/3 sand, 1/3 "Back to Earth"

undisturbed subgrade

remove container & prune any circling roots

PLANTING BED
planting detail
STEEL EDGING

CAD file available for download at http://planning.uark.edu

1/4" x 5" steel edging

16" tapered steel stake at 32" o.c. max.

finish grade
CAMPUS FURNISHINGS STANDARDS

a1 - benches & tables
a5 - bike racks
a7 - bollards
a10 - cafe furniture
a13 - handrails & guardrails
a14 - lights
a21 - trash & recycling cans
a25 - emergency phones
a27 - pavers
a29 - crushed stone
**BENCH - Classic**

**Monarch Teak Bench**

*5ft Bench*

- **Item No.**: 4612
- **Weight**: 65 lbs
- **Dimensions**: 59.5L x 28W x 37.5H
- **Color**: natural teak

*6ft Bench*

- **Item No.**: 4613
- **Weight**: 70 lbs
- **Dimensions**: 71.5L x 28W x 37.5H
- **Color**: natural teak

*8ft Bench*

- **Item No.**: 4614
- **Weight**: 94 lbs
- **Dimensions**: 95.5L x 28W x 37.5H
- **Color**: natural teak

**Anchoring Brackets**

- **Item No.**: 1001 - 6in Below-grade Steel
- **Item No.**: 1005 - 3in On-grade Brass

**MANUFACTURER/SUPPLIER**

Country Casual
7601 Rickenbacker Drive
Gaithersburg, MD 20879

Phone 301.926.9195 / 800.289.8325
Fax 301.926.9198

sales@countrycasual.com
www.countrycasual.com
# FURNISHINGS STANDARDS

## BENCH - Contemporary

### Wellspring Teak Bench

#### 4ft Teak Bench

<table>
<thead>
<tr>
<th>Item</th>
<th>48in Wellspring bench, without center arm</th>
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<tr>
<td>Dimensions</td>
<td>48L x 25W x 34H</td>
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<tr>
<td>Seat Height</td>
<td>17.5</td>
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<tr>
<td>Color</td>
<td>natural teak</td>
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#### 6ft Teak Bench

<table>
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<tr>
<th>Item</th>
<th>72in Wellspring bench, without intermediate arms</th>
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<tbody>
<tr>
<td>Weight</td>
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<tr>
<td>Dimensions</td>
<td>72L x 28W x 34H</td>
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<tr>
<td>Seat Height</td>
<td>17.5</td>
</tr>
<tr>
<td>Color</td>
<td>natural teak</td>
</tr>
</tbody>
</table>

### Anchoring Brackets

| Item | stainless steel surface mounting kit |

## MANUFACTURER/SUPPLIER

Landscape Forms, Inc.
431 Lawndale Avenue
Kalamazoo, MI 49048  
Regional Sales Office, Dallas, TX  
Phone 214.343.1145 / 888.667.1145  
Fax 214.340.6769  
specify@landscapeforms.com  
www.landscapeforms.com
**COFFEE TABLE - Classic**

**Avignon™ Teak Coffee Table**

<table>
<thead>
<tr>
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<th>789875</th>
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<tr>
<td>Weight</td>
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<tr>
<td>Dimensions</td>
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<td>Color</td>
<td>natural teak</td>
</tr>
</tbody>
</table>

**MANUFACTURER/SUPPLIER**

Smith and Hawken Trade  
4 Hamilton Landing, Suite 100  
Novato, CA 94949

Phone 800.423.0117  
Fax 800.630.7161

trade@smithandhawken.com  
www.smithandhawkentrade.com
FURNISHINGS STANDARDS

PICNIC TABLE - Classic/Contemporary

Larchmont Picnic Table

Item No. #4859
Weight 115 lbs
Dimensions 71L x 63.5W x 28H
Color natural teak

MANUFACTURER/SUPPLIER

Country Casual
7601 Rickenbacker Drive
Gaithersburg, MD 20879

Phone 301.926.9195 / 800.289.8325
Fax 301.926.9198

sales@countrycasual.com
www.countrycasual.com
BIKE BOLLARD - Classic/Contemporary

Bollard CycLoops - embedment mount

Item No. 2172-E-C
Material Steel
Dimensions 4.5dia x 36H
Color RAL 7037 “dusty grey” powder coat

MANUFACTURER/SUPPLIER

Columbia Cascade Company
TimberForm Site Furnishings Division
1975 SW Fifth Avenue
Portland, OR 97201-5293

Phone 503.223.1157
Fax 503.223.4530

hq@timberform.com
www.timberform.com
BIKE RACK - Classic/Contemporary

Welle Series U Rack - inground - 1 loop

Item No. WSH3602-IG-P  
Material Steel  
Dimensions 2.375dia x 18.25W x 46H  
Color RAL 7037 “dusty grey” powder coat

Welle Series U Rack - surface mount - 3 loops

Item No. WSH3606-SF-P  
Material Steel  
Dimensions 54L x 18W x 36H  
Color RAL 7037 “dusty grey” powder coat

Welle Series U Rack - surface mount - 4 loops

Item No. WSH3608-SF-P  
Material Steel  
Dimensions 78L x 18W x 36H  
Color RAL 7037 “dusty grey” powder coat

Welle Series U Rack - surface mount - 5 loops

Item No. WSH3610-SF-P  
Material Steel  
Dimensions 102L x 18W x 36H  
Color RAL 7037 “dusty grey” powder coat

MANUFACTURER/SUPPLIER

Palmer Group  
1072 Folsom Street #328  
San Francisco, CA 94103

Phone  415.333.6428 / 888.764.2453  
Fax  415.333.2032  
www.bikeparking.com
### BOLLARD - Classic

**Brunel**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>BRU 523</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Cast Iron</td>
</tr>
<tr>
<td>Dimensions</td>
<td>100cm dia x 1160cm H</td>
</tr>
<tr>
<td>Color</td>
<td>Primed</td>
</tr>
</tbody>
</table>

**Brunel - removable**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>BRU 523 + SOCK LC hinged removable socket (included)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Cast Iron</td>
</tr>
<tr>
<td>Dimensions</td>
<td>100cm dia x 885cm H</td>
</tr>
<tr>
<td>Color</td>
<td>Primed</td>
</tr>
</tbody>
</table>

### MANUFACTURER

Furnitubes International  
Meridian House  
Royal Hill  
Greenwich  
London, SE 10 8RT  

Phone  011 44.020.8378.3200  
Fax     011 44.020.8378.3250  

www.furnitubes.com
FURNISHINGS STANDARDS

BOLLARD - Classic

Gunner

Item No.       GUN 503
Material       Cast Iron
Dimensions     165cm dia x 1050cm H
Color          Primed

Gunner Security*

Item No.       GUN 503 SC
Material       Cast Iron bollard / Steel insert
Dimensions     165cm dia x 1370cm H
Color          Primed

*anti-ram raid version

MANUFACTURER

Furnitubes International
Meridian House
Royal Hill
Greenwich
London, SE 10 8RT

Phone          011 44.020.8378.3200
Fax            011 44.020.8378.3250

www.furnitubes.com
TRAFFIC BOLLARD - Contemporary

TrafficGuard® Round Post Lock

Item No. RPL 3
Material Steel
Dimensions 3.5dia x 36H (above ground)
Color RAL 7037 “dusty grey” powder coat

TrafficGuard® Accessories

High Shear Security Lock Pins

2.6 times the shear capacity of stock pins
Recommended if a higher level of security is needed

Reflective End Marker Labels

Increases the visibility of bollards in low light situations

Removable Bollard Storage Rack

Size 2, 4, or 6 units
Material Hot dipped, galvanized finish

MANUFACTURER

TrafficGuard® Direct LLC
PO Box 201
Geneva, IL 60134-9946

Phone 877.727.7347
Fax 800.814.7194

http://trafficguard.net
FURNISHINGS STANDARDS

CAFE FURNITURE - Classic

Bistro Collection Chairs & Tables

Metal Folding Chairs - steel frame & painted Beechwood slats

Item No. 5001 “Classique” chair
Color 02 Cedar Green

Metal Folding Chairs - steel frame & steel slats

Item No. 0101 “Square” chair
Color 02 Cedar Green

Metal Folding Tables - steel frame & top

Item Nos. 0245 24in Round Solid Top table
0237 30in Round Solid Top table / without parasol hole
0233 30in Round Solid Top table / with parasol hole
0230 24in Round Perforated Top “Floreal” table
0234 30in Round Perforated Top “Floreal” table
6041 46Lx30W Rectangular Solid Top table
Color 02 Cedar Green

MANUFACTURER

Fermob Outdoor Lounge
Parc Actival
01140 Thoissey, FRANCE

info@fermob.com
www.fermob.com

DISTRIBUTOR

UpCountry
1389 Weber Industrial Drive
Cumming, GA 30041

Phone 770.888.9606
Fax 770.205.0182

gardens@upcountry.biz
www.upcountry.biz
CAFE FURNITURE - Contemporary

Parc Centre Chairs & Tables

Metal Chairs - steel frame with powdercoat finish

Item: Parc Centre Chair, without arms
Color: Titanium (Panguard II® polyester powdercoat)

Metal Tables - steel frame & top with powdercoat finish

Item: 24in Round table, freestanding
      30in Round table, freestanding
Color: Titanium (Panguard II® polyester powdercoat)

MANUFACTURER

Landscape Forms, Inc.
431 Lawndale Avenue
Kalamazoo, MI  49048

Regional Sales Office, Dallas, TX
Phone  214.343.1145 / 888.667.1145
Fax    214.340.6769

specify@landscapeforms.com
www.landscapeforms.com
CAFE UMBRELLA - Classic

Umbrella & Base

Royal Cafe & Bistro Wood Umbrella

<table>
<thead>
<tr>
<th>Item</th>
<th>6ft Octagonal Asian Hardwood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Hardwood pole / Suncrylic Solution-Dyed Acrylic fabric</td>
</tr>
<tr>
<td>Dimensions</td>
<td>72dia x 92H</td>
</tr>
<tr>
<td>Wood Finish</td>
<td>Dark Wood Premium Finish</td>
</tr>
<tr>
<td>Fabric Color</td>
<td>White</td>
</tr>
</tbody>
</table>

Tuscany Umbrella Base

<table>
<thead>
<tr>
<th>Item No.</th>
<th>MB35X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>50 lbs</td>
</tr>
<tr>
<td>Material</td>
<td>Cast Iron</td>
</tr>
<tr>
<td>Dimensions</td>
<td>23dia</td>
</tr>
<tr>
<td>Color</td>
<td>Hammered Bronze powder coat</td>
</tr>
<tr>
<td>Neck Size</td>
<td>TT (Thru-Table) - fits 1.5dia poles</td>
</tr>
</tbody>
</table>

DISTRIBUTOR

Patio Experts, LLC
14252 Culver Drive, # 641
Irvine, CA 92604

Phone  714.842.4759 / 800.593.6612
Fax     714.842.0939

info@patioexperts.com
www.outdoorpatioumbrellas.com / www.patioexperts.com
HANDRAIL/GUARDRAIL - Classic

Traditional Railing Components*

Steel components

<table>
<thead>
<tr>
<th>Part Nos.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4429</td>
<td>handrail moulding - 20ft length</td>
</tr>
<tr>
<td>4429S</td>
<td>straight lamb’s tongue</td>
</tr>
<tr>
<td>4429B</td>
<td>bevel lamb’s tongue</td>
</tr>
<tr>
<td>331</td>
<td>36in starting post</td>
</tr>
<tr>
<td>331L</td>
<td>40in starting post</td>
</tr>
<tr>
<td>329</td>
<td>36in spindle</td>
</tr>
<tr>
<td>330</td>
<td>36in spindle</td>
</tr>
<tr>
<td>329L</td>
<td>42in spindle</td>
</tr>
<tr>
<td>330L</td>
<td>42in spindle</td>
</tr>
<tr>
<td>369</td>
<td>square hole base</td>
</tr>
<tr>
<td></td>
<td>others as needed (finials, corners, etc.)</td>
</tr>
</tbody>
</table>

Bronze components

<table>
<thead>
<tr>
<th>Part Nos.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4531</td>
<td>handrail moulding - 20ft length</td>
</tr>
<tr>
<td>4537</td>
<td>handrail moulding for bending</td>
</tr>
<tr>
<td>4531S</td>
<td>straight lamb’s tongue</td>
</tr>
<tr>
<td>4531B</td>
<td>bevel lamb’s tongue</td>
</tr>
<tr>
<td>131</td>
<td>40in starting post</td>
</tr>
<tr>
<td>129</td>
<td>36in spindle</td>
</tr>
<tr>
<td>130</td>
<td>36in spindle</td>
</tr>
<tr>
<td>129L</td>
<td>42in spindle</td>
</tr>
<tr>
<td>130L</td>
<td>42in spindle</td>
</tr>
<tr>
<td>269</td>
<td>square hole base</td>
</tr>
<tr>
<td></td>
<td>others as needed (finials, corners, etc.)</td>
</tr>
</tbody>
</table>

MANUFACTURER/SUPPLIER

Julius Blum & Co. Inc.
PO Box 816
Carlstadt, NJ 07072

Phone 201.438.4600
Fax 201.438.6003

www.juliusblum.com

*see Campus Landscape Standards for fabrication information
### PEDESTRIAN LIGHT - Classic

**Spring City post & luminaire**

**“Newburyport” Lamp Post**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>IPSNBP-16-12-TN3.5/3-323/1NW-LR-BG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Cast Iron</td>
</tr>
<tr>
<td>Dimensions</td>
<td>16dia x 144H</td>
</tr>
<tr>
<td>Color</td>
<td>Bottle Green</td>
</tr>
</tbody>
</table>

**“Savannah Genie” Luminaire**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>ALMSVH-YSDP-BG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Cast Aluminum</td>
</tr>
<tr>
<td>Dimensions</td>
<td>19.125oct x 39.125H</td>
</tr>
<tr>
<td>Color</td>
<td>Bottle Green</td>
</tr>
</tbody>
</table>

**Globe**

- Seeded Acrylic

**Optical System (by Clear Energy Services)**

- Lamp: CF 70W quad GX24q-6 / 841 (GE item no. 48868)
- Ballast: 120V - 277V Universal Voltage Electronic Ballast (GE item no. 47506)

### MANUFACTURER

- Spring City Electrical Mfg. Co.
  - Hall & Main Streets
  - PO Drawer 19
  - Spring City, PA 19475
  - Phone 610.948.4000
  - Fax 610.948.5577
  - www.springcity.com

### OPTICAL SYSTEM

- Clear Energy Services
  - 438 E Millsap Road
  - Suite 203
  - Fayetteville, AR 72703
  - Phone 479.695.1976
  - Fax 479.527.8831

---

*see Campus Landscape Standards for footing detail*
PEDESTRIAN LIGHT - Classic alternate*

Spring City post & luminaire

“Pasadena” Lamp Post

Item No. IPSPAS-9-9.5-TN2.875/3-323/1NW-BG
Material Cast Iron
Dimensions 9L x 9W x 114H
Color Bottle Green

“William and Mary” Luminaire

Item No. ALMWMS-YSDP-BG
Material Cast Aluminum
Dimensions 16.625oct x 34H
Color Bottle Green
Globe Seeded Acrylic

Optical System (by Clear Energy Services)

Lamp CF 70W quad GX24q-6 / 841 (GE item no. 48868)
Ballast 120V - 277V Universal Voltage Electronic Ballast (GE item no. 47506)

MANUFACTURER
Spring City Electrical Mfg. Co.
Hall & Main Streets
PO Drawer 19
Spring City, PA 19475
Phone 610.948.4000
Fax 610.948.5577
www.springcity.com

OPTICAL SYSTEM
Clear Energy Services
438 E Millsap Road
Suite 203
Fayetteville, AR 72703
Phone 479.695.1976
Fax 479.527.8831

*see Campus Landscape Standards for footing detail
**PEDESTRIAN LIGHT - Contemporary**

**BEGA pole & luminaire**

**Pole 1308HR**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>1308HR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Aluminum</td>
</tr>
<tr>
<td>Dimensions</td>
<td>5dia x 164H</td>
</tr>
<tr>
<td>Color</td>
<td>BEGA Black</td>
</tr>
</tbody>
</table>

**Luminaire 8223P Modified**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>8223P modified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Aluminum</td>
</tr>
<tr>
<td>Dimensions</td>
<td>31.5dia x 29.25H</td>
</tr>
<tr>
<td>Color</td>
<td>BEGA Black</td>
</tr>
<tr>
<td>Globe</td>
<td>White Plastic Diffuser</td>
</tr>
<tr>
<td>Lamp</td>
<td>CF 120W triple 4p / 841</td>
</tr>
<tr>
<td>Ballast</td>
<td>120V - 277V Universal Voltage Electronic Ballast</td>
</tr>
</tbody>
</table>

**MANUFACTURER**

BEGA/US
1000 Bega Way
Carpinteria, CA 93013

Phone 805.664.0533
Fax 805.566.9474

www.bega-us.com

*see Campus Landscape Standards for footing detail*
PARKING & SERVICE AREA LIGHT - Classic/Contemporary

BEGA pole & luminaire

Pole 1908HR

Item No. 1908HR  
Material Aluminum  
Dimensions 5dia x 323.25H  
Color BEGA Black

Luminaire 8145MH - single

Item No. 8145MH  
Material Aluminum  
Dimensions 20L x 9W x 4H  
Color BEGA Black  
Globe Tempered Clear Glass  
Lamp MH 150W T6 G12  
Ballast 120V/277V Dual Voltage Metal Halide Ballast

Luminaire 8146MH - double

Item No. 8146MH  
Material Aluminum  
Dimensions 38.5L x 9W x 4H  
Color BEGA Black  
Globe Tempered Clear Glass  
Lamp MH 150W T6 G12  
Ballast 120V/277V Dual Voltage Metal Halide Ballast (2)

MANUFACTURER

BEGA/US  
1000 Bega Way  
Carpinteria, CA 93013  
Phone 805.664.0533  
Fax 805.566.9474  
www.bega-us.com

*see Campus Landscape Standards for footing detail
WALL-MOUNTED LIGHT - Contemporary

BEGA wall-mounted luminaire

Luminaire 7475MH

Item No. 7475MH  
Material Cast Aluminum  
Dimensions 18.75L x 9W x 4.5H  
Color BEGA Black  

Globe Tempered Clear Glass  
Lamp MH 70W T6 G12  
Ballast 120V/277V Dual Voltage Metal Halide Ballast

MANUFACTURER

BEGA/US  
1000 Bega Way  
Carpinteria, CA 93013

Phone 805.664.0533  
Fax 805.566.9474

www.bega-us.com
WALL-PACK LIGHT - Classic/Contemporary

GeoMatrixx™ Series

GXMW Series Medium Architectural WallPack

Item No.    GX M W 57 HFL L GA 8
Material    Cast Aluminum
Dimensions  13L x 12W x 6.5H
Color       Galvanite

Globe       Tempered Clear Glass
Lamp        CF 57W
Ballast     120V - 277V Universal Voltage Electronic Ballast
Mounting    12ft max height

Mounting Box

Item No.    GMSBOX

Photo Control

Item No.    P105A (button)

MANUFACTURER

ExceLine
2345 Vauxhall Road
Union, NJ 07083

Phone 800.334.2212
Fax 908.964.0968

www.exceline.com
## LIGHTED BOLLARD - Classic/Contemporary

### Horizontal louver bollard

**Horizontal louver bollard - 180° light distribution**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>8136P-BLK bollard + 895A anchorage for 8136 (included)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Extruded Aluminum</td>
</tr>
<tr>
<td>Dimensions</td>
<td>5.5dia x 39.375H</td>
</tr>
<tr>
<td>Color</td>
<td>BEGA Black</td>
</tr>
<tr>
<td>Globe</td>
<td>hand-blown 3-ply opal diffuser</td>
</tr>
<tr>
<td>Lamp</td>
<td>CF 13W quad 4p</td>
</tr>
<tr>
<td>Ballast</td>
<td>120V - 277V Universal Voltage Electronic Ballast</td>
</tr>
</tbody>
</table>

**Horizontal louver bollard - 360° light distribution**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>8429P-BLK bollard + 895A anchorage for 8429 (included)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Extruded Aluminum</td>
</tr>
<tr>
<td>Dimensions</td>
<td>5.5dia x 39.375H</td>
</tr>
<tr>
<td>Color</td>
<td>BEGA Black</td>
</tr>
<tr>
<td>Globe</td>
<td>hand-blown 3-ply opal diffuser</td>
</tr>
<tr>
<td>Lamp</td>
<td>CF 13W quad 4p</td>
</tr>
<tr>
<td>Ballast</td>
<td>120V - 277V Universal Voltage Electronic Ballast</td>
</tr>
</tbody>
</table>

### MANUFACTURER

BEGA/US  
1000 Bega Way  
Carpinteria, CA 93013

Phone 805.664.0533  
Fax 805.566.9474

www.bega-us.com

---

<table>
<thead>
<tr>
<th>lamp type</th>
<th>shape</th>
<th>color index</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF 120W triple 4p / 841</td>
<td>wattage</td>
<td>base</td>
</tr>
</tbody>
</table>
TRASH CAN - Classic

Chase Park™ Litter Receptacle with polyethylene liner - top opening

Item: Chase Park Litter Receptacle
Material: Cast Iron base / Cast Aluminum body / Spun Aluminum lid
Dimensions: 24dia x 39H
Capacity: 40 gallons
Color: Stone (Panguard II® polyester powdercoat)

MANUFACTURER

Landscape Forms, Inc.
431 Lawndale Avenue
Kalamazoo, MI 49048

Regional Sales Office, Dallas, TX
Phone  214.343.1145 / 888.667.1145
Fax  214.340.6769

specify@landscapeforms.com
www.landscapeforms.com

*see Campus Landscape Standards for footing detail
RECYCLING CAN - Classic

Chase Park™ Recycling Receptacle with polyethylene liner - top opening

Item: Chase Park Recycling Receptacle with 5” diameter opening in top (for aluminum cans or plastic bottles)
Material: Cast Iron base / Cast Aluminum body / Spun Aluminum lid
Dimensions: 24dia x 39H
Capacity: 40 gallons
Color: Ivy (Panguard II® polyester powdercoat)

MANUFACTURER

Landscape Forms, Inc.
431 Lawndale Avenue
Kalamazoo, MI  49048

Regional Sales Office, Dallas, TX
Phone  214.343.1145 / 888.667.1145
Fax  214.340.6769

specify@landscapeforms.com
www.landscapeforms.com

*see Campus Landscape Standards for footing detail
FURNISHINGS STANDARDS

TRASH CAN - Contemporary

Petoskey Litter Receptacle with polyethylene liner

Item: Petoskey Litter Receptacle  
Material: Cold-rolled Steel body / Spun Steel lid  
Dimensions: 20dia x 42H  
Capacity: 30 gallons  
Color: Stone (Panguard II© polyester powdercoat)

MANUFACTURER

Landscape Forms, Inc.  
431 Lawndale Avenue  
Kalamazoo, MI 49048

Regional Sales Office, Dallas, TX  
Phone: 214.343.1145 / 888.667.1145  
Fax: 214.340.6769

specify@landscapeforms.com  
www.landscapeforms.com

*see Campus Landscape Standards for footing detail
RECYCLING CAN - Contemporary

Petoskey Recycling Receptacle with polyethylene liner

<table>
<thead>
<tr>
<th>Item</th>
<th>Petoskey Recycling Receptacle with 5” diameter opening (for aluminum cans or plastic bottles); or newspaper slit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Cold-rolled Steel body / Spun Steel lid</td>
</tr>
<tr>
<td>Dimensions</td>
<td>20dia x 42H</td>
</tr>
<tr>
<td>Capacity</td>
<td>30 gallons</td>
</tr>
<tr>
<td>Color</td>
<td>Ivy (Panguard II® polyester powdercoat)</td>
</tr>
</tbody>
</table>

MANUFACTURER

Landscape Forms, Inc.
431 Lawndale Avenue
Kalamazoo, MI  49048

Regional Sales Office, Dallas, TX
Phone  214.343.1145 / 888.667.1145
Fax  214.340.6769

specify@landscapeforms.com
www.landscapeforms.com

*see Campus Landscape Standards for footing detail
EMERGENCY PHONE - Classic/Contemporary

CB 1-s Pedestal Interactive Voice Communication Unit

Item No.        CB 1-s pedestal + FP 1 faceplate (included)
Material        Steel body / Stainless Steel faceplate
Dimensions      12.75dia x 108H
Color           Safety Blue

Text             “Emergency”
Text color       Reflective White

Lamp             MH 70W
Ballast         120V

Optional Features to include:

Cellular communication
70W MH area light
Photocell for area light
Step-down power transformer (as needed)

MANUFACTURER

Code Blue Corp.
92 E 64th Street
Holland, MI 49423

Phone   800.205.7186  
Fax       616.392.8391

info@codeblue.com
www.codeblue.com
EMERGENCY PHONE - Classic/Contemporary

CB 8 Wall-Mounted Interactive Voice Communication Unit

Item No. CB 8 wall-mounted unit + FP 1 faceplate (included)
Material Steel body / Stainless Steel faceplate
Dimensions 14L x 12.75W x 25.75H
Color Safety Blue

Text “Emergency”
Text color Reflective White

Optional Features to include:

- Cellular communication
- Beacon/strobe kit
- Step-down power transformer (as needed)

Remote Mount Combination Blue Beacon/Strobe Kit

Item Remote Mount Combination Blue Beacon/Strobe Kit
Material Steel body / Polycarbonate refractor

MANUFACTURER

Code Blue Corp.
92 E 64th Street
Holland, MI 49423

Phone 800.205.7186
Fax 616.392.8391

info@codeblue.com
www.codeblue.com
### ASPHALT PAVERS - Classic/Contemporary

**Commercial Asphalt Block**

#### 6” x 12” Commercial Asphalt Block

<table>
<thead>
<tr>
<th>Item</th>
<th>6” x 12” commercial asphalt block</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Type 3 Asphalt cement, ASTM D-312</td>
</tr>
<tr>
<td>Dimensions</td>
<td>12L x 6W x (1 1/4” to 3”)H, thickness dependent upon application</td>
</tr>
<tr>
<td>Finish</td>
<td>Ground Finish or Tudor Finish, dependent upon application</td>
</tr>
<tr>
<td>Color</td>
<td>Matrix #10</td>
</tr>
</tbody>
</table>

#### 5” x 12” Commercial Asphalt Block

<table>
<thead>
<tr>
<th>Item</th>
<th>5” x 12” commercial asphalt block</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Type 3 Asphalt cement, ASTM D-312</td>
</tr>
<tr>
<td>Dimensions</td>
<td>12L x 6W x (1 1/4” to 3”)H</td>
</tr>
<tr>
<td>Finish</td>
<td>Ground Finish or Tudor Finish, dependent upon application</td>
</tr>
<tr>
<td>Color</td>
<td>Matrix #10</td>
</tr>
</tbody>
</table>

**MANUFACTURER**

Hanover Architectural Products  
240 Bender Road  
Hanover, PA 17331

Phone 717.637.0500  
Fax 717.637.7145

www.hanoverpavers.com

*see Campus Landscape Standards for installation details*
**TRUNCATED DOME PAVERS - Classic/Contemporary**

**Detectable Warning Paver**

**12” x 12” Detectable Warning Paver**

<table>
<thead>
<tr>
<th>Item</th>
<th>12” x 12” detectable warning paver</th>
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</thead>
<tbody>
<tr>
<td>Material</td>
<td>concrete, ASTM C936, ASTM C67</td>
</tr>
<tr>
<td>Dimensions</td>
<td>11.75L x 11.75W x (1 1/4” to 4”)H, thickness dependent upon application</td>
</tr>
<tr>
<td>Finish</td>
<td>Tudor Finish</td>
</tr>
<tr>
<td>Color</td>
<td>Charcoal</td>
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</tbody>
</table>

**24” x 24” Detectable Warning Paver**

<table>
<thead>
<tr>
<th>Item</th>
<th>24” x 24” detectable warning paver</th>
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</thead>
<tbody>
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<td>Material</td>
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<tr>
<td>Dimensions</td>
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<tr>
<td>Finish</td>
<td>Tudor Finish</td>
</tr>
<tr>
<td>Color</td>
<td>Charcoal</td>
</tr>
</tbody>
</table>

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Hanover, PA 17331

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Fax 717.637.7145  

www.hanoverpavers.com
CRUSHED STONE - Classic/Contemporary

Crushed Stone Gravel

<table>
<thead>
<tr>
<th>Item</th>
<th>Syenite “Screenings”</th>
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</thead>
<tbody>
<tr>
<td>Material</td>
<td>Syenite</td>
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<td>Size</td>
<td>Screenings</td>
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</tbody>
</table>

MANUFACTURER

Granite Mountain Quarries, Inc.
1010 Shamburger Lane
Little Rock, AR 72201

Phone 501.490.1535
Fax 501.490.1852

*see Campus Landscape Standards for installation detail