DESIGN CHECKLIST OF MAINTENANCE CONCERNS

CONCEPTUAL DESIGN (PRE-EMPTING TYPICAL SHORTCOMINGS)

- ☐ Who are the key stakeholders for this landscape (in the Administration, Faculty/Departments, Grounds, Shops, Student Life, Development, student representatives)?
- ☐ Have the key stakeholders and end-users been adequately engaged in programming conversations and design review? If not, seek to get them engaged.
- ☐ Has the team that will steward and maintain this landscape been involved in reviewing the design? If not, seek to get them engaged.
- ☐ Has outdoor programming of this site been developed and evaluated in relation to the distribution of outdoor program in the surrounding precinct?
- ☐ Will new landscape program be redundant with existing programming in other campus landscapes? Can new program be included that will complement the campus' suite of outdoor spaces, supporting new functions and addressing currently-unmet campus needs?
- ☐ Does the site design adequately accommodate anticipated pedestrian movements?
- ☐ Are the walkways sized appropriately for the anticipated pedestrian volume?
- ☐ How will bicyclists tend to use the proposed walkways? Is that acceptable?
- ☐ Does the design provide adequate bicycle storage? Is it distributed in locations where it is most desired?
- ☐ Is the paving layout adequate for anticipated service/emergency vehicles (loading and width)?
- ☐ Is the paving layout vulnerable to cut-corners, trampled plantings or damaged turf? Consider expanding paving and/or installing vertical features (curbs, bollards, posts-and-chains, walls, etc) for channeling pedestrian or vehicular movement.
- ☐ What is the approach to collecting trash and recycling for this site? If the project is a student housing precinct, you might consider a localized hub with dumpsters and large recycling bins rather than placing trash receptacles at building entrances (due to the volume of waste).
- ☐ What maintenance is required for the proposed site furniture? Does the maintenance team have the capacity for this additional maintenance?
- ☐ Are utility structures located out of planting areas or sufficiently deep to allow healthy vegetation?
- ☐ Is a phased planting installation (i.e. a successional planting approach) relevant to this project? If so, consider the budgetary mechanisms that will be required: How will payments be made and out of what budget(s)? Be sure to engage the right institutional stakeholders to plan for phased funding and oversight of all planting phases.

SITE PREPARATION

- ☐ Do the design documents provide adequate protection for key landscape assets such as soil and existing trees? E.g. Is required excavation and layback for subsurface utilities and structures accurately represented?
- ☐ For salvaged and stockpiled topsoil, do the project specifications provide appropriate limits on the storage of topsoil to prevent compaction and loss of structure?
- ☐ What is the plan for protecting soils retained in place during construction?
- ☐ Does the design call for adequate tree protection fencing? Is the fencing laid out to protect all the critical root zones of existing-to-remain trees? Will the type of proposed fencing provide an adequate barrier to keep out construction activity?
- ☐ Do project specifications provide appropriate conditions for any construction activities that must take place within the tree protection zone?
- ☐ Does the site preparation plan show adequate area for construction access, staging and materials storage?

SEASONAL NEEDS

- ☐ Does the landscape layout allow space up against buildings for staging window washing? Is there an accessible water supply for seasonal cleaning?
- ☐ Does the site design provide area for lowering lights and changing light bulbs (if the poles that are being used are hinged)?

For regions where snow removal and snow storage is a common problem:

- ☐ Are the paths wide enough for the actual snow plow equipment that will be used? Are there stairs or curbs that impair access? Or will the snow have to be removed specially using hand shovels, brooms and snow-blowers?
- ☐ Is the proposed pavement system vulnerable to damage from plow blades (for example, unit pavers on sand beds and aggregate bases are more prone to uneven settling and lippage, which in turn catch blades and get damaged) or snowmelt (e.g. deterioration of sedimentary stone, porous concrete, iron/steel through corrosive salts)?
- ☐ Does the design provide a logical area for snow storage? Is this area large enough?
- ☐ Does the site design include vertical markers to help snow plows navigate the field of white in a snow storm?

For regions where seasonal drought can be anticipated:

- ☐ Does the design provide a robust approach to establishment period watering? (This should be considered for all regions).
- ☐ Does the design provide a life-support system (irrigation or water supply) for plantings in a drought situation? This is particularly a concern for shallow green roof systems.
- ☐ What are the water requirements of the proposed plantings? Is the proposed palette comprised of drought tolerant species with deep root systems?

PLANTING DESIGN

- ☐ What are the horticultural deficiencies/limitations of the existing soil? What are the drainage properties of the existing soils and subsoils? Is there adequate healthy soil volume to support the proposed vegetation? Do the drawings and specifications address shortcomings with proposed amendments, bed prep and/or imported soil?
- ☐ If the existing soils are to be unaltered, is the proposed plant palette calibrated to the soil conditions?
- ☐ Is there a need for structural soil or other means to address planned or anticipated soil compaction?
- ☐ What microclimates will be created by the proposed design? How will shade cast by buildings affect the site at different times of year? How will reflected or radiated heat from the surrounding buildings contribute to localized hot-spots and a general heat island effect?
- ☐ Are the right plant combinations proposed in the right places? In other words, are the plantings calibrated to the microclimates?
- ☐ Is plant diversity for a site being considered as part of the diversity of the greater campus context?
- ☐ Is the plant palette one that is appropriate for the knowledge base, skill set and available labor to understand and manage?
- ☐ Is each plant given enough space to grow to maturity? Consider using dwarf woody shrubs and low groundcover and evergreen plants that can grow to their mature size without requiring pruning.
- ☐ Does the planting design provide for plant succession over time (for example, by providing a cover of "green mulches" or groundcovers that can be shaded out and disappear as surrounding woody plants achieve greater canopy cover)?
- ☐ Do proposed trees and shrubs work with fire/emergency access equipment?
- ☐ Do proposed trees and shrubs work with the position of lights and campus security cameras?
- ☐ What maintenance tasks (weekly, seasonal, annual or less frequent) will be required by the proposed plantings? Is there a need for invasive species management? Does the maintenance team have the capacity and horticultural skill to take on this additional maintenance?

- ☐ Will the proposed trees require limbing-up? Crown thinning?
- ☐ Will the proposed shrubs require form pruning? Periodic rejuvenation pruning?
- ☐ Will ornamental grasses and perennials need to be cut back or dead-headed in order to meet campus expectations for a manicured aesthetic?
- ☐ The range of acceptable levels of maintenance varies considerably from one community to another, so can interpretive signage or messaging help modify the expectations and aesthetics of the campus community?
- ☐ Are stormwater BMPs designed for ongoing maintenance including removal of sediment and vegetation management?
- ☐ Does the planting design complement the academic schedule and annual special events such as Commencement, Homecoming, and Reunion?

SPECIFICATIONS AND MAINTENANCE PLANS

- ☐ Do the drawings and specifications address phased planting (successional planting) strategies? Do they provide standards or guidance for any editing that may be required over time? Consider including a special specification section or maintenance plan to address this.
- ☐ Does the maintenance plan reflect the ability of the current labor force or is it calibrated to the proposed design? Actually, it should be both. The proposed design and its associated maintenance plan should reflect the maintenance and stewardship resources of the organization. Tailor the maintenance plan to the labor force in the same way as the site design needs to fit the site and respect institutional constraints.

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