

Section 3 - Design

Preparation Strategy based on Exam Specifications

NOTES:

- This document does not constitute a complete listing of potential content or questions; it presents an approach for understanding Exam Specifications, thus what follows are
 - examples of potential content based on CLARB's Exam Specifications and prior exams
 - within a larger strategy for study
- While the LARE is divided into distinct sections (1-4) for ease of testing, the KSA's of The Competent Landscape Architect do not compartmentalize easily! Thus issues and concerns listed under a specific Exam Specification will likely appear in others.
Example: the issues of soils, slopes, vegetation, etc. are important in "Synthesize Site Opportunities and Constraints", but can be tested in other Section 3 Exam Specifications as well as in Sections 2 and 4.

RESOURCES:

CLARB website www.clarb.org

ASLA LARE Prep website www.asla.or/LAREPrep

Additional resources that may help include:

<https://www.clarb.org/Documents/Welfare-execsummary-public-v1.pdf>

LANDSCAPE ARCHITECTURE AND PUBLIC WELFARE study done by CLARB to define "welfare"

<http://www.sustainablesites.org/report/>

Sustainable Site Initiatives

How to study based on Exam Specifications

- a. For each Exam Specification, determine the knowledges, processes, issues, and common activities associated with it.
Prioritize! What does **The Competent Landscape Architect** know and do in a specific situation? For a specific issue?
- b. What are the potential hot topics
Major issues you expect to see tested on the exam based on HSW, current practice and prior exams. To aid in prioritizing the range of topics you come up with, what major HSW mistakes can be made?
- c. The emphasis should be on application—not mere rote learning.
This is the situation and you are asked to do X. Now what?
To do X, what needs to be addressed, determined, done before or after,...?

And finally,

- d. How does each separate Exam Specification relate others?
Example: How are the components of "Synthesize Site Opportunities and Constraints" important in "Refine Program" or "Analyzing Design Alternatives" or to the Exam Specifications in Section 4?

Current Exam Specifications for Section 3 (100 questions)

Content tested on the LARE

Concept Development (58%)

- Synthesize Site Opportunities and Constraints
- Refine Program
- Create Design Alternatives
- Analyze Design Alternatives
- Develop Concept Narrative
- Refine Conceptual Design(s)
- Prepare Conceptual Renderings

Design Development (42%)

- Develop Master Plan Documents (e.g. land-use, circulation, phasing plan, and guidelines)
- Perform Earthwork Analysis
- Refine the Preferred Design Alternative
- Develop Preliminary Site Plans, Sections, and Details
- Prepare Illustrative Graphics (e.g. perspectives, elevations, plans, sections)
- Investigate, Verify Availability, and Select Design Materials and Components

Analyze Exam Specifications—what do they mean?

Below are some examples and beginning ideas to get you started...

Synthesize Site Opportunities and Constraints

Identify and make decisions based upon physical, cultural, and legal attributes of the site *and its context*. Questions may be any of the four question formats.

Refine Program

The Program identifies the intended uses to be placed on the land as the site plan is created. This may include structures, active and passive use areas, circulation (many types), parking, utility areas, project infrastructure, etc. It may also include specific activities, goals or concerns as outlined in a question or its Exhibits. (No Reference Manual anymore; therefore, the Exhibits accompanying many of the questions will be important.) Consider the relationship of site to program and program elements to program elements.

Create Design Alternatives

Develop a concept or make a planning/design decision responding to specific site, program, etc. as given in the question and Exhibits. Or a proposed site plan or design is given, and the question must be answered by providing an alternative. Expect to use the drag-and-drop question format—no drawing. All four formats may be used.

IMPORTANT! If asked to provide alternatives, those alternatives must be different and they must both be reasonably feasible and competent. The Competent LA can create a range of acceptable options.

Analyze Design Alternatives

What are the potential ramifications of the option or concept?

What is wrong with this plan—check all that apply. (examples: Site plan may have the wrong number of accessible parking spaces and/or they may be in an unsafe and non-compliant location relative to the structure. Detention pond is in the wrong location or soil type.)

Develop Concept Narrative

Remember—Health, Safety, and Welfare! Competent Practice! Explain, in narrative form, the design intent and logic. Explain why decisions were made, why specific elements or activities were sited as they are, or perhaps why something was or should not be done.

Develop Master Plan Documents (e.g. land-use, circulation, phasing plan, and guidelines)

Develop Preliminary Site Plans, Sections, and Details

Since the exam is now interactive, no drawing is possible, so what can be asked? *Questions will address the decisions that will eventually result in documents.*

Expect drag-and-place and hot spot questions that evaluate which location or option is best. Multiple Choice and Multiple Response questions may ask which is best or which apply given this situation. What is wrong with this solution? What are the one or more correct reasons for doing this?

Prepare Conceptual Renderings

Prepare Illustrative Graphics (e.g. perspectives, elevations, plans, sections)

Questions will likely involve evaluation as to the best situation to use X type of graphic, which example is most appropriate to communicate specific information, etc. Common graphic conventions may be expected. On a given plan, where is the best place to cut a section so that X, Y, and Z are communicated? What is / is not necessary to include on a specific type of document?

Perform Earthwork Analysis

While the precise calculations re grading and stormwater quantity are more likely to be found in Section 4, how does grading and drainage impact the earlier phases of a project that are tested in Section 3. What does The Competent LA consider when synthesizing site analysis information? When exploring alternative site planning and design concepts?

Important! The LARE does not separate out all tasks, knowledges, and processes into neat separate compartments. Like in the office, consideration of the ramifications of early decisions is vital to the success of a project.

This Exam Specification tests conceptual understanding that is necessary, for example, for locating an amphitheater and sports fields in a park. The Competent LA, early in the process, has an understanding of optimal (or least adequate/most efficient/least costly) slopes for a variety of uses, and can develop and evaluate reasonable alternatives. The Competent LA understands the ramifications for construction, erosion, etc.—even without construction document level grading or other computations.

Investigate, Verify Availability, and Select Design Materials and Components

In this situation, what is the best choice of material? What is the process to determine X?

While Materials and Components may sound like they belong in Section 4, remember that much of the decision-making is done in early design phases.

HOT TOPICS!

Some issues, situations, problems consistently been addressed in the LARE vignettes or multiple choice options. The following examples have been identified as important to Landscape Architecture practice, but what else is important? What is about them that is important for HSW? How can the *In*competent LA make a mess of it?

What can be asked in a national exam?

Codes and ordinances are vital to practice, but since these are specific to municipalities, too detailed to memorize, etc., focus on concepts of how and when to use them, what has precedent over others, etc. (For example, does The Competent LA have the entire ADAAG memorized? No. But what are some key concepts?) Exhibits may give any specific criteria needed (just like looking up codes and zoning in the office), and The Competent LA can then apply them to a specific situation.

Similarly, candidates cannot remember all the details of theories but should know some of the highlights and major concerns. Plant communities, landscape ecology, and other place specific issues—what are the basic issues and concerns that The Competent LA working in a new jurisdiction would consider without detailed knowledge of the region?

Section 3 consistently addressed issues have included:

Circulation

- Pedestrian-vehicular conflicts
- Visibility (sight triangles, optimize or block views)
- Adequate drop-offs and stacking lanes
- Adequate and appropriate turning radii, maneuverability, ingress/egress

Grading and stormwater management

- Placement of swales and holding ponds conceptually (no calculations for Section 3, but how do these affect site synthesis, concept development, concept evaluation, choice of materials?)
- Relation of site characteristics to stormwater (soils for percolation or holding, grassing and maintenance of holding areas, etc.)

Conceptual siting of elements and functions based on analysis and synthesis of appropriate slopes, soils, etc, like how to use soil profiles (characteristics) and underlying geologic information, existing vegetation, etc. (See below)

Accessibility

Precise dimensions and requirements will probably not be tested. (But 8.33% maximum for an accessible slope is something necessary from site analysis to construction detailing of a ramp.) Overall logic and sensitivity is expected, such as do not route chair users into and through vehicular traffic. Accessible routes cannot go on excessively steep slopes.

User needs (children, elderly, etc.) and conflicts (loud recreation or night uses next to housing)

Interpreting and communicating information (maps, drawings ,consultants' assessments, etc.) What do they mean to your work, how do you communicate your intent most effectively?)

Expect more and more questions that deal with Sustainability (low impact design, water quality and quantity, smart growth)

Buffers and setbacks (sensitive environmental areas , adhere to code and zoning standards, separate uses and design elements, visual, noise,...)

PRIORITIZING! A good test of knowledge and decision-making is to give a situation or question in which there is no one right answer. Does The Competent LA a) remove trees or b) place the site entrance appropriately in relation to existing adjacent circulation? Or which trees would be best to save, which more reasonable to lose?

What does The Competent Landscape Architect need to know?

The following are *examples* of knowledge, processes, major issues, and frequent tasks—along with some of The Competent LA's assessments.

What is important in practice? (Think of going into a new jurisdiction where you don't have experience with local codes, ecosystems, etc.)

How can these be tested in or through each of the Exam Specifications?

How could the *In*competent LA mess up HSW? Basic understanding of practice?

Topography, Slopes, Elevation

Generally, how can you characterize slopes and what do those slopes mean to siting, material choices? What are the ramifications of doing X on these slopes, soils, etc.?

steep - greater than 15%

- slab construction is not cost effective
- negative environmental impact of grading for roads, large structures, etc
- aspect may be an issue

moderate, - 8 - 15%

- not good for recreational uses such as ball fields
- parking presents a problem at higher range (Open the door into an ascending steep slope and it may get stuck, stormwater may accumulate in curbed parking spaces, etc., so orientation as well as placement of parking may be important)
- slab construction is difficult, but slopes are good for split-level or terraced structures
- unpaved trails may erode, and loose surface materials like mulch may wash away

gradual - 5 – 8%

- minimal grading for many uses
- minimal construction costs
- will require accessible ramps

minimal slopes – 3 - 5%

- minimal environmental impact for grading roads, slab construction, etc.
- minimal construction costs
- does not require extensive ramping to meet ADAAG

very slight slopes --3 % or less

- good for sports fields
- may have drainage problems

Key concerns include:

- high and low points
- ridges and valleys
- drainage and overland flow patterns (watersheds, swales, etc.)
- viewsheds / visibility blocked or maintained

What else? Think of common situations.

Soils

Prior exams have often tested on how to use soil profiles and underlying geologic information. Consider the soil characteristics plus proposed use, slope, water patterns, etc. Potential situations and issues include:

- siting structures - soils with adequate load bearing capacity are needed for building foundations
- use and soil characteristics - sandy soils are prone to erosion
- steep slopes may require mitigation in addition to careful siting of activities and structures
- depth to bedrock, especially for foundations
- restricts or aids siting of elements, such as recreation facilities need good drainage
- water table impacts on siting and grading
- impacts on different types of plants (not species but xeric to mesic, or placement of multi-purpose lawn spaces on mushy soil vs well-drained)

Vegetation

Although there is no detailed planting design on the exam, conceptual design using plants may be. What site characteristics are important in site synthesis? Evaluating a proposed planting concept?

How do other issues like water, soils and topo relate to vegetation?

Examples:

- hydrozone—indicate specific plants or masses that are or should be xeric, mesic, or hydric.
- grading under a large tree's drip line is damaging.

How does vegetation play a role in various design and construction phases as indicated in the Exam Specifications?

Examples:

- protecting vegetation in synthesis and conceptual design. And in more detail...
- prioritize which needs more protection – mature trees or small brushy clumps?
- vegetation for screening or directing views
- microclimate modification

Microclimate

Identify opportunities and constraints / evaluate / site program elements / revise a proposed plan...

- solar patterns - morning and afternoon sun / shade
- aspect as it relates to siting camping facilities, seating areas, etc
- prevailing winds impact location and orientation of buildings as well as placement of vegetation
- minimizing or optimizing heat gain (may need to respond to larger climatic situation explained in the Exhibits, as in hot/humid region vs cold climate)

Views – to, from, and within the site

- safety such as sight triangles at intersections, curves in roads, entries
- character of vegetation (canopy vs full to the ground, evergreen, etc.)
- setbacks and buffers for incompatible uses, optimizing views to other elements
- screen undesirable views, parking lots, incompatible uses, such as roadways adjacent to residential uses. (Screen how? Topo, plants, orientation of path or road,...)
- minimize visual impact OR optimize views when site planning

Context

- site, evaluate or mitigate adjacent land uses relative to compatibility or incompatibility
- not just physical—consider codes, cultural, laws,...
- density—how does it affect planning and design?
- watersheds—how do they impact those upstream and downstream? (While Ethics and Law may be covered in Section 1, The Competent LA agrees with Wendell Berry: “Do unto those downstream as you would have those upstream do unto you.”)

Utilities

- how might utilities impact site planning, planting, detailed design? (Siting of structures, appropriate recognition of easements, visual screening yet provide access for service...)
- the usual suspects, plus sustainability newcomers, like solar access for solar panels

Circulation

- impact on and of existing, adjacent and off-site circulation routes
- transit routes can affect placement of program elements
- intersections relative to driveway access/egress
- CONFLICTS! Pedestrians, different modes, ...
- capacities of roadways (such as arterial vs local feeders—which one do you put your housing development's entrance on?)

User

How do characteristics of users as well as specific goals or needs as stated in the question or Exhibits impact decisions?

- What are some major social theories, movements, etc.? CPTED (Crime Prevention Through Environmental Design), placement of seating to promote interaction vs to provide privacy
- Demographics (such as elderly needs vs children, how do differences in users impact decisions,..)
- Relationship of user to other site issues (such as how vehicular circulation helps determine where not to put play areas)

Wildlife

- Protection of habitat
- Legal setbacks and regulations (such as eagle nest protection. Don't memorize the measurements— get the concept of what they mean to making decisions and where they enter into the overall process.)
- management decisions may impact Analysis of Design Alternatives.)
- connectivity (Landscape Ecology is too big to file in one's head, but what are other major points that LA's need to be able to pull up fast?)

Special ,Historic or Cultural Features

- protect or enhance
- sense of place to be maintained
- symbolic relationships, meaningful interventions

Consultant Input

A consultant or a report tells you X. So what?

Program proximity or adjacency

- retail and residential land uses require proximity but not always adjacency
- retail and customer parking need to be adjacent, but accessible parking should be closest to building or facility entries
- deliveries and trash storage should be separated or buffered from nearby human uses,
- are relationships some more important than others? Does The Competent LA prioritize or create hierarchies? (Given the choice, should rest rooms be nearer ball fields or trails?)