

Site Analysis (LaGro) – notes from the book

Part I

1) **Natural & cultural resources** (inventory at community level)

- a) Wetlands & buffers
- b) Floodways & floodplains
- c) Moderate & steep slopes
- d) Groundwater resources & aquifer recharge areas
- e) Woodlands
- f) Productive farmland
- g) Significant wildlife habitats
- h) Historic elements
- i) Scenic views from public roads

2) **Sustainable development**

- a) Increase use of renewable energy & resources
- b) Reduce solid waste and conserve energy & natural resources
- c) Prevent pollution and improve personal & community health

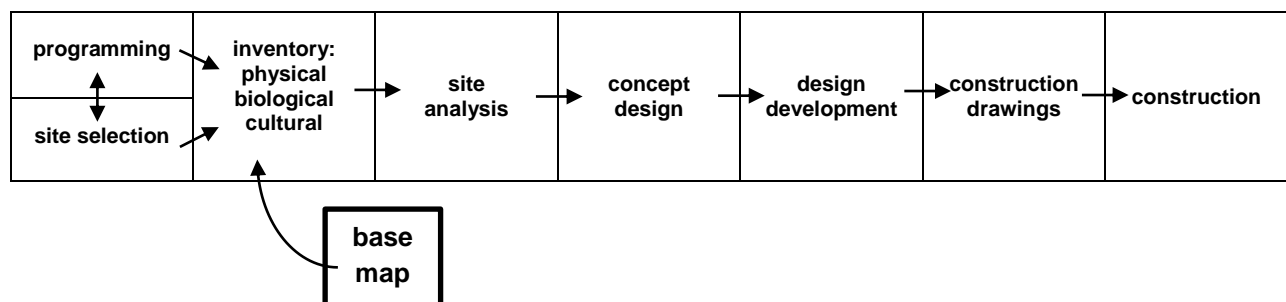
3) **Smart growth planning goals**

- a) Foster distinctive attractive communities with a strong sense of place
- b) Preserve open space, farmland, natural beauty and critical environmental areas
- c) Strengthen and direct development towards existing communities
- d) Mix land uses
- e) Foster compact building design
- f) Create a range of housing opportunities & choices
- g) Create walkable neighborhoods
- h) Provide a variety of transportation choices

4) **Smart growth process goals**

- a) Make development decisions predictable, fair and cost effective
- b) Encourage community stakeholder collaboration in development decisions
 - i) LEED = Leadership in Energy and Environmental Design – a rating system and voluntary guidelines for improving sustainability in the built environment

5) **Programming** – defines the project's objectives and functional requirements, including the proposed activities, areas allocated for each activity, and the function or spatial relationship among those activities



Part II

- 1) Grayfield – a previously developed site that has minor and relatively easily mitigated environmental contamination – strip malls, regional malls, low density shopping centers
- 2) **Programming** – is typically expressed in terms of quality and quantity of spaces needed to meet anticipated future needs (can occur over a range of spatial scales)
- 3) **The Programmer** – may be outside LA, Arch, Planning culture as they tend to have greater bias towards particular solutions.
 - a) Communicates the proposed process to all involved

- b) Does not lock in preconceived solutions
- c) Reconciles subcomponent needs with overall organizational goals and resources
- 4) **Goal setting** – clarify quality level expectations
 - a) Initiate the project
 - i) Develop the project mission and objectives
 - ii) Determine the project's operational and physical requirements
 - iii) Document and present the program to the client
 - b) User needs and preferences
 - i) Elected officials (political)
 - ii) Appointed
 - iii) Facility operators
 - iv) Funding managers and analysts
 - v) Public works and maintenance staff
 - vi) Citizen groups

Part III

1) **Site Inventory & Analysis**

- a) Proposed site use (project program)
- b) Existing on and off site conditions (site data)
- c) Requirements for permitting & approvals
- d) Costs of data collection & analysis

2) **Site inventory – physical**

- a) Legal – property line, easements, setback, (subdivision maps)
- b) Topography – elevations, contours, high and low spots, slope, aspect
- c) Vegetation – wooded, isolated trees, species, dbh
- d) Soils/geology – geotech reports, pH, permeability, erosion
- e) Hydrology – surface water, wetlands, flood areas
- f) Utilities – type, size, facilities
- g) Structures – buildings, etc
- h) Circulation – streets, r/w, curb & gutter, parking
- i) Climate – temp, rain, humidity, wind, solar

3) **Site inventory – biological**

- a) Ecological communities – exotic & native species, wetlands, habitat fragmentation
- b) Trees
- c) Wildlife

4) **Site inventory – cultural**

- a) Prior use / current use, ownership
- b) Land use regulation
 - i) Federal and State – costal, pollution, ADA
 - ii) Local
 - (1) housing, transportation, utilities, economic development, natural and cultural resources
 - (2) zoning
 - (a) land use regulation
 - (i) planned unit development (PUD)
 - (ii) planned development districts (PDD)
 - (iii) mixed use
 - (3) subdivision ordinance
 - (a) minimum size for parcel
 - (b) curb cuts, street access
 - (c) building setbacks
 - (4) legal constraints

- (a) zoning classification – permitted use and densities
- (b) easements, covenants, deed restrictions
- (c) government agencies with jurisdiction over property (overlay)
- (d) building placement requirements – setbacks
- (e) building height restrictions, FAR (floor area restriction), footprint restrictions
- (f) allowable building area (%)
- (g) parking and driveway requirements
- (h) minimum open space requirements
- (i) recreation and environmental requirements
- (j) stormwater and erosion control requirements
- (k) landscape requirements
- (l) special permits, regs, variance design review, hearings, EIR requirements
- (5) property value
 - (a) can be restricted via the purchase of development rights coupled with conservation easements to keep land undeveloped for a limited or defined period of time
 - (b) conservation easements – typically held by a non-profit
 - (c) development of amenities
- (6) public infrastructure – circulation and utilities
- (7) building and neighborhood character
 - (a) height, width, setback, proportions of openings, horizontal rhythms, roof form, materials, color, sidewalk, signage
- (8) historic resources
- (9) sensory perception
 - (a) visibility
 - (b) visual quality – subjective and objective
 - (c) noise and odors – airports, freeways, rendering plants

Site Analysis

- 1) **Program + existing conditions** - Site suitability
 - a) constraints and opportunities
- 2) **Carrying capacity** – brute force to overcome difficulties vs letting some sites remain undeveloped
 - a) \$ vs \$, What is more valuable?
- 3) **Suitability analysis** – the process of determining the fitness or appropriateness of a given tract of land for specified use
 - a) A location that is suitable for a particular land use is one that can accommodate the proposed development with the minimum amount of imports or resources
 - b) Is spatially explicit and program dependent
 - i) Single attribute analysis – setbacks or buffers
 - ii) Multiple attribute analysis – scoring the resource
 - c) May allow land to be developed in accordance with the constraints and opportunities provided by the land itself
 - i) Floodplain = sports field
 - ii) Landfill = botanic garden

Part IV

Design & Implementation

- 1) **Concept** = vision
- 2) **Context sensitive** - design with nature, cultural, places for people
 - a) responsive to:
 - i) sun/wind

- ii) lot size/shape
 - iii) transportation systems proximity
 - iv) vegetation/topo/natural features
 - v) vistas/views/cultural landmarks
 - vi) building scale/character
- 3) Design determinants**
- a) Program and preferences
 - b) On-site form
 - c) Off-site form
 - d) Design theory
- 4) Creativity and conceptual design**
- a) Problem solving – variables, reconcile conflicting values
 - b) Maneuver around constraints
- 5) Conceptual design process**
- a) Project program
 - b) Community goals
 - c) Site suitability
- using KSA, design theory, graphic communication, professional ethics to create a number of concepts for the client
- 6) Concept plan**
- a) Components
 - i) Natural infrastructure and open space – water, forest, etc
 - ii) Develop open space – parks, plazas, recreation
 - iii) Building envelopes or pods – single family, apartments, townhome
 - iv) Circulation systems – public, auto, bicycle, pedestrian
 - v) Views
 - vi) Utility easements (maybe)
- 7) Design development**
- a) Sustainability and livability – smart growth
 - b) Design theory – culturally influenced, unity, order, balance
 - c) Open space
 - i) conservation of nature
 - ii) hard – plaza, promenade, courtyard
 - iii) soft – lawn, garden, park
 - d) Circulation
 - i) Pedestrian – separation, accessibility, capacity, connectivity
 - ii) Bicycle – class I, II, III
 - iii) Vehicle – circulation and parking
 - e) Buildings
 - i) Architectural design, use, articulation, siting
- 8) Project implementation** – skillful site planning and architectural design can yield significant social, economic, and environmental benefits. It is not anymore expensive to build than a poorly designed project.
- 9) Quality by design**
- a) Reclaiming the built environment for pedestrians
 - b) Restoration and redevelopment – urban infill
 - c) Stormwater management – using pervious pavement and biofiltration to reduce runoff and improve water quality
 - d) Erosion control
 - e) Sediment control
- 10) Construction documentation** – a legally binding agreement, drawings, specifications (ideas to reality)

11) Contract Administration – project management

12) Permitting and Approvals

- a) Development controls – public investment, regulations (zoning), incentives & disincentives (tax), land use plan
- b) Governmental (political)
- c) Sub-division ordinance, building codes, unified development codes (not building code)
- d) Review boards, hearings, EIR