

# I. Lot Plan Considerations

The best way to begin is to have a look the site with an *Ecosteader's* perspective. This means first envisioning how the existing nature-made landscape can be used to inspire and be integrated into the whole. The human user wanting to create a habitat or dwelling space can benefit – or even improve! – a landscape as a whole when approaching it with an attitude of helpful symbiosis. *Symbiosis* is an interesting concept; as a human it basically means being conscious of how existing creatures' space might be infringed upon by any new human-created structures. The time to spend studying an existing landscape should be at least one year: seasonality will make your inventory that much more robust and considerate of the existing ecosystem's participants.

Rather than using noisy, loud machines and bulldozing the terrain to make way for the nuances of a drawing by some architect who has never seen the property, it's a far better to approach to go in from the very beginning with an ecologically-inclined perspective. This means planning the outdoor living space as it will be used *first*, and working backwards, maintaining flexibility with details toward the indoor living plans.

When starting with this approach, it's usually a good idea to take a sketch of what features are naturally present on the land: variety of <sup>1</sup>native shrubs, trees, plants, flowers, rocks, slope and elevation (water flow is very important) and general compass directions for solar and shade areas.

It's a bit overzealous to say from the outset that we shouldn't disturb anything on our shared soil; rather, a re-arrangement of existing plants can often be a good compromise to clearing enough area to work with. If you're not sure about what kind of plant something is, there are several online resources and apps, web forums, and other tools that can help you identify what something is. If that fails, your local garden or horticultural society is always a great option.

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1 Don't go too crazy on the 'native' vs non-native plant assessment. Nature is wild, and constantly changing: birds, foragers, and water all transport seeds great distances, and a plant will take root wherever it can be happy. If a plant has found a home on some of the shared soil you want to build on, is being used by a variety of insects (especially pollinators) or animals, and isn't too aggressive, it does not necessarily need to be eradicated.

A great place to begin is with a well-detailed **Lot Plan** that makes note of the following features:

## A. Plantings

- **Native plants** -- identify and decide whether/how to preserve; usually it's a good idea to keep some native plants for soil and erosion concerns. Native plants also require less watering because they are naturally "in tune" with the local climate. It's OK to move plants to another place on the lot, if that means they'll have more room to breathe and grow.
- Additional plants / landscaping -- Take a gander at your local nursery and find the plants that speak to you. Aesthetic appeal is only part of the picture.
- Make note and remember that existing and future plantings will set the stage for the immediate outdoor climate, which has a direct effect on the indoor climate -- which direction gets the most morning sun? The most afternoon sun?
- Watering and drainage direction for existing and future plantings?

## B. Geology

- Slopes, drainage, erosion concerns?
- Elevation changes? These can be very usefully used for watershed...[Fernhill Wetlands Project](#) for a local example.
- Soil type

## C. Orientation

### 1. Solar orientation

- Maximize winter sun -- do mature planting affect or change this?
- Minimize summer heat -- do mature plantings affect or change this?
- Solar panels + access
- Green roofing?

### 2. Wind

### 3. Views and future developments

### 4. Other (Feng Shui, meditation space, etc)

## **D. Utilities**

- On or off the "Grid" power (box + access to box) & power storage
- Water hookups from the street or city? From a well? Haul in water for a tank?
- Sewer, septic or cesspool?
- Natural gas
- Wood storage, if any fireplace
- Geothermal resources, if any

## **E. Outdoor Living and Storage Areas**

- Compost pile/bin -- proximity to garden? proximity to house?
- Garden and Garden tool storage
- Trash and recycling storage -- what's the proximity to kitchen? Do you have to go out through snow to take out the trash?
- Outdoor entertaining space -- deck / patio / firepit / etc.
- Storage for outdoor / garden tools
- Electrical outlets
- Areas vulnerable to wildlife (deer, birds, squirrels, etc) -- are they welcome, or unwanted?
- Lighting for outdoor living areas
- Automobile storage
- Automobile charging station (electric vehicles)
- Recreational equipment storage
- Fencing or borders for privacy + paths
- Postal Mail service (USPS, etc)

## **F. Indoor Living / Dwelling**

At this stage, it's best to just have a general size and shape with the main utility access points noted; details of the indoor space -- except for, perhaps, windows, should not be outlined on the lot plan

1. Square footage
2. Style of dwelling
3. Access + flow
4. Common mistakes in design
  - no easy access from automobile parking -> kitchen
  - no easy access from back yard or play area -> bathroom (for children or guests)

- laundry area located where noise disrupts living space
- windows above tub/shower -- the nooks + crannies of window design can accelerate the production of mold + rot

## II. Foundation Plan Considerations

A **Foundation Plan** shows how the structure will be attached to the earth; specifically how the footers, foundation, and sill all fit together. In general, the foundation will sit upon a footer which has been carefully engineered for a specific site. The footer is a vital and essential aspect of construction that helps distribute the weight of the structure over a large enough area of ground such that pockets of settling don't occur.

### A. Footings

Building *footings*, sometimes called **footers**, help a structure establish proper posture. These are, quite literally, the pressure points of load-bearing weight. Just as yoga teachers stress proper footing for posture and alignment of the spine (and thus the skeleton), so too can properly-engineered footers strengthen and lengthen the durability of a building, helping it stand up better to the elements and time.

#### 1. Things that can disturb footings:

- Geological events
  - earthquakes
  - erosion or landslides
- Geological conditions
  - sinkholes
  - lack of bedrock
  - high water tables
  - proximity to a body of water
  - proximity to a flood plain
- Atmospheric events
  - tornadoes
  - hurricanes
  - high-wind or annual blizzard conditions
- Atmospheric conditions
  - drastic changes in climate between winter and summer, causing the earth itself to expand and contract abnormally

- high-humidity environments
- Soil conditions
  - the presence of organic material in the soil which will eventually rot. For example: building on a site that has an extensive root system underneath is not ideal. The roots will eventually die and rot, which may create a "cave-in" situation underneath the ground. Extra care should be taken to place footings where the earth is solid.
  - soil that is extremely weak or loamy
  - recently-moved earth -- this soil has not had time to settle and compact, and placing weight upon loose soil will eventually cause it to cave
- Other
  - proximity to railroads or freeways which emit vibrations in the earth, wearing down footers and foundations more quickly

## B. Utilities Mapping

Another consideration to make before getting too attached to a footer / foundation plan is the “guts” of the building. Depending on the type of foundation, these can be very labor-intensive and costly to repair or re-route, once a foundation is set:

- drains
- sewer/septic
- water
- gas lines
- electric
- phone and data networking cables
- radiant heating systems

Many European homes are designed with a “utility” room that functions as the central control for the various engineering features of a home, and it’s often placed in the central part of the structure. By now, you should have a pretty good idea for how the outside space will be used from the inside; and it’s time to start planning the building itself.