

Land Due Diligence Checklist



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LAND DUE DILIGENCE CHECKLIST

- **BASIC LAND CHARACTERISTICS TO LOOK FOR WHEN LOOKING AT INFILL LOTS:**

- Topography – flat lot?



Explained

ideally, you're looking for as flat of a piece of land as possible. This will, for most designs, allow for the most cost-effective construction and will avoid retaining walls, deep piers, etc. A flat lot also ensures that (most likely) the entire piece of land can be developed rather than a portion of it.



Method

1. Eyeball the site in person or via google street view. This will identify any major issue.
2. TOPO survey (see below)

- Soil quality – any evidence of fill, gas tanks, wetlands, other challenges?



Explained

you want good quality soil to ensure as cost-effective of sitework as possible. That means you generally want to avoid having to excavate and haul out dirt, replacing dirt, doing deep piers or foundations, or having to build large retaining walls. Which means you want to avoid lots with fill on them. Environmental issues are another cause of concern, more commonly found on larger commercial parcels. Gas tanks, leaks, brownfields, etc should all be avoided and identified during due diligence. Lastly designated wetlands will impact ability to develop sites. There are ways to address wetlands and develop them but the process is complicated and costly.



Method

Soil testing, Wetlands survey, Phase I and II environmental studies (see below).
Note: wetlands survey and environmental studies likely won't apply to small infill lots.

- Access to utilities

- Sufficient utilities in the street? (Water, sewer, gas)
- Evidence of lateral connections from main to property?



Explained

You will need to connect your new building to the sewer and water mains (unless on septic and well). If you have to make new connections to the main in the road, it can get very expensive. Labor alone is costly, plus cost to repair/repave the street (possibly – depending on your county), plus new connection fees to the county/city. So ideally you already have water and sewer “laterals” running from the main in the road to the property. This happens when there was a structure previously built on your lot (or if you’re tearing down an existing structure). But before you check for laterals, you have to make sure that there are proper utilities in the street itself. Occasionally you’ll come across a deceptively cheap infill lot only to realize that it sits on a part of the street where utilities have not been extended to by the county. Usually extending utilities will be costly and be passed onto you, the developer.



Method

1. County utility maps to verify utilities in the street
2. A service like “Miss Utility” can physically locate and draw existing laterals to the property
3. Look for existing water meter bases in sidewalk for evidence of water lines
4. Can physically dig up the front of the lot to locate existing sewer laterals
5. ALTA surveys (see below)

• **ZONING (IF BUILDING BY RIGHT)**

- Zoning analysis

- o Can you build what you think you can build here?
- o Any zoning constraints that will prevent or limit development?



Explained

Before making offers we typically do a density study to see what can be built on the land “by right”. Once we have a contract, we verify that study. You want to ensure that what you thought you could build here can actually be built and there are no zoning constraints you didn’t catch in “pre-offer stage” that you missed. Zoning constraints can include onerous parking requirements, setback requirements, height limits, etc.



Method

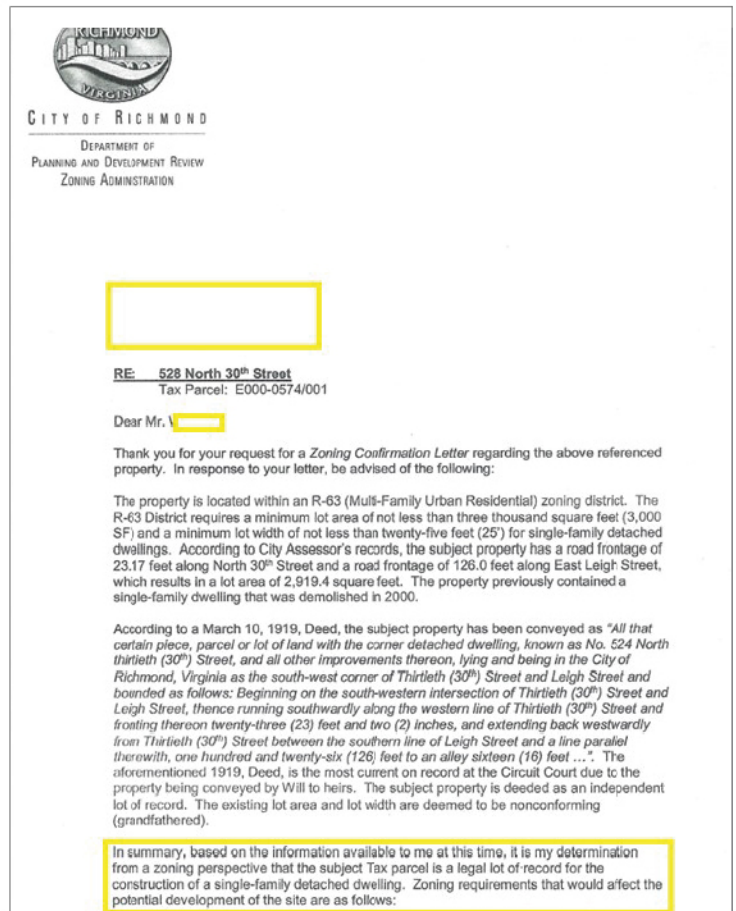
- o You can obtain a Zoning Confirmation Letter from the county (usually free and takes a few weeks) that will confirm that this piece of land is indeed zoned “x” and can be used to build “x”
- o An architect who is knowledgeable in local zoning codes can perform a full density study and map out a potential building on the site.



Cost

Zoning confirmation letters from your county should be free. If you need to pay an adada architect to perform a basic zoning study and it’s a new relationship, make sure you shop around. Cost here

should never exceed more than \$1/ft for the final building and you should target a smaller figure. When we work with architects who have already done other projects for us, they don’t charge us for this work because it’s implied they’ll get the project if we close on the land and move forward.



Zoning Confirmation Letter Example

- **ZONING (IF REZONING)**

- Start by meeting with county officials and/or zoning consultant
- Launch process from there: prelim drawings, application, neighbor engagement, etc.



Explained

There is a much longer process involved here if you plan to rezone or upzone the land. This also assumes that your contract allows for a longer due diligence phase in order to perform this rezoning. The process and actions you should take will also vary depending on what you're choosing to pursue and requirements of your local county.



Cost

Will vary widely based on your plans.

- **TITLE**

- Clean title?
- Easements?
 - Even if no recorded easements, are there utilities crossing the property?



Explained

Title search will reveal any liens on the property which have to be paid off prior to sale. It will also reveal other potential issues such as deed restrictions which may prevent development and easements which can also prevent development.



Method

- Once you have a contract, you will send that contract to your attorney or title company to perform a title search.
- We usually have the title work sent over from our attorney to our surveyor so that the surveyor can map any easements on the site. Sometimes an easement won't prevent development if it's located in a non-vital portion of the buildable lot. You want to see it visually.
 - It's also a great idea to visually eye-ball the site to see if any overhead utilities are running through it. They won't always show up as an easement but can still create problems for you when attempting to develop the site.
 - Lastly county utility maps will show any public utilities running through your site. This is important because, again, they won't always show up as an easement but may require you to re-route them at your own expense.



Cost

A title search will cost you a few hundred bucks. County utility maps should be available for free.

• **SURVEY**

- Basic: send title work to surveyor so they can mark any easements.
- ALTA: “American Land Title Association”. For commercial deals only.
- Topo Survey – usually for commercial deals or those with challenging topo.



Explained

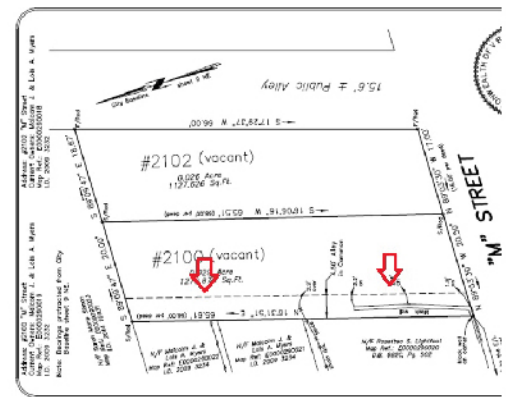
It’s always a great idea to have a full survey done prior to closing on lots. As explained above, you want a full picture of true lot dimensions, any existing easements or other obstacles to development. A residential survey can typically be done in 2-3 weeks and shouldn’t cost much.

- o For larger, commercial lots there are also ALTA and TOPO (topographical) surveys. It’s common to only order these once you’ve closed land and are ready to greenlight your architect and civil engineers to create plans.

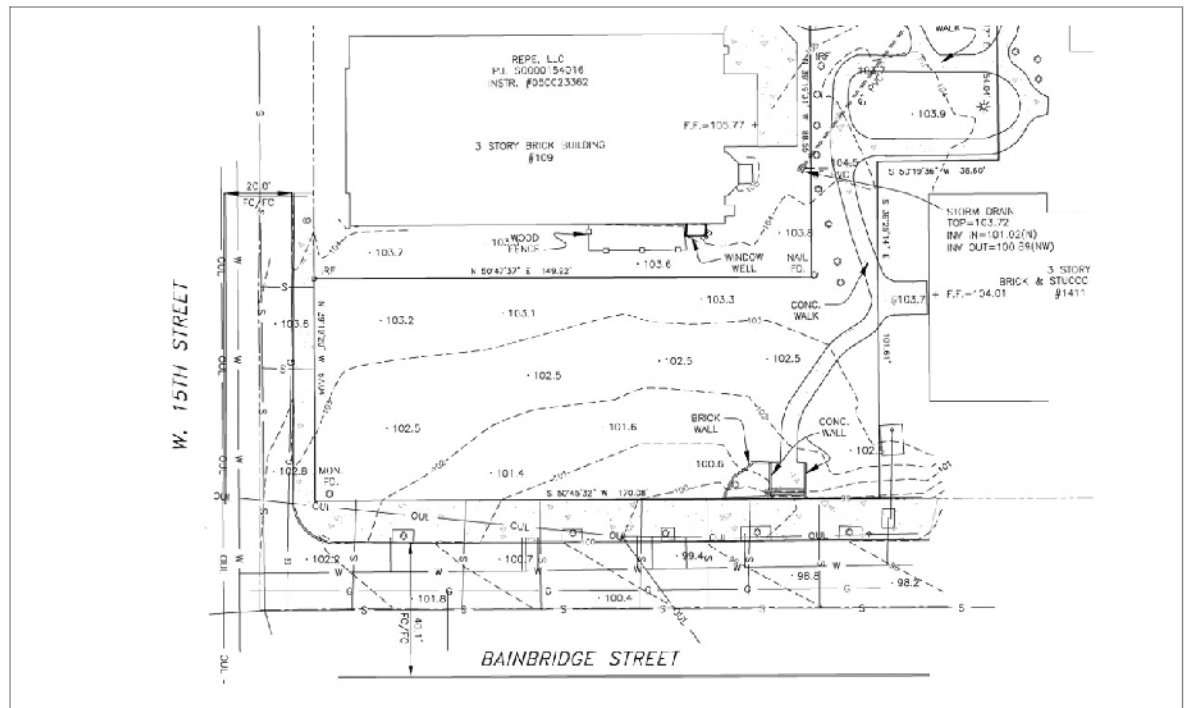


Cost

Survey costs will vary widely depending on the size of the lot. For small residential infill projects, expect to pay \$300-\$500 for a basic survey and \$1k+ for topo/utility survey. ALTA surveys will cost north of \$3k and can potentially be a lot higher for larger parcels.



Survey with Easement Example



Survey - TOPO Example

• **UTILITIES**

- **Residential Infill:**

- o Visually inspect the property for water/gas meter bases. Indicates existing lines.
- o If you're demolishing an existing house, there is likely a water line and sewer lateral running. Camera it.



Explained

see "Access to Utilities" section above

- **Commercial Deals or Raw Land Dev:**

- o Pull up county utility maps to assess what's currently in the street(s).
- o ALTA should also show all existing utilities at street, connections and on-site utility.



Explained

see "Access to Utilities" section above

- **Stormwater retention requirements? Mostly applies in larger commercial developments but check with a civil engineer and your architect.**



Explained

Every locality will have different rules surrounding new development and storm water retention. Minimum size lot subject to these requirements and minimum size of land disturbance subject to these requirements will all vary. A good local architect can advise you on whether these requirements will affect your project. This is where due diligence is critical because stormwater retention will add potentially significant costs to your project!



Cost

ALTA cost is outlined above. Costs of actual stormwater retention work will vary but can be significant!



Underground Storm Water Detention System Example



Water Utility Map Example

• **GEOTECH**



Explained

Quality of soil is important. So prior to closing you will want to do at least some level of soil testing to make sure that this piece of land can be built on. Soil testing will test for presence of unsuitable fill which may need to be excavated (this is costly) or require deep foundation. It'll test for presence of ground water below surface and other soil conditions which can significantly drive up your budget.



Method

Take the GIS screenshot of the lot or the survey and roughly draw the location of the structure you plan to place. Send that to a soil engineer. They will send you a proposal to do a certain # of test borings around the foundation. Prior to closing we typically only do a few test borings, since you're typically charged per boring. After closing we may elect to perform additional testing to satisfy our structural engineer.



Cost

The cost will depend on the depth of the boring. For typical residential infill that's 2-3 stories, you should expect to pay about \$300-\$450 per boring with hand-augers. For deeper borings where a machine is required, cost per boring will be higher.

Z
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Evolve Development LLC
[Redacted]

Attn: Mr. Danil Kleyman
[Redacted]

Regarding: Geotechnical Engineering Study -- Proposed New House
806 N 21st Street
Richmond, Virginia 23223

Dear Mr. Kleyman:

Zannino Engineering, Inc. is pleased to present the results of our geotechnical engineering study for the above referenced project. We understand that the proposed construction will consist of a house supported by a combination of continuous spread footings and pier footings. We understand that the proposed building will consist of a 2-story duplex at the front and a semi-connected 3-story, six-unit apartment in the rear.

We visited the site on December 13, 2016 to perform the field portion of our study. The proposed house is located towards the front of the property. At the time of the investigation, the site was covered in short grass. The front of the site sloped steeply uphill, then leveled out. Overall, the topography of the buildable area was relatively level. Three hand auger borings were performed to depths of 5 and 7 feet near the front, middle and rear of the proposed house. The soils appeared consistent between the three borings, and there was no obvious indication that the soil encountered was fill. The soils at nominal bearing depths of 18 to 30 inches are a clayey, fine to coarse grained SAND (SC) of Low Shrink-Swell potential based on laboratory tests. These soils possess maximum allowable soil bearing capacity of 2,500 pounds per square foot from the depths of 18 to 30 inches.

Given the soil and terrain conditions of this site, we recommend the following for this project:	
Minimum continuous footing depth (to bottom of footing):	18" below finish grade
Minimum continuous footing width:	18"
Minimum continuous concrete thickness:	9" without steel 10" with steel
(Optional) reinforcing steel (continuous footings):	2 # 4 bars continuous
Minimum pier footings width:	24"
Minimum pier footings thickness:	12"
Minimum soil bearing:	2,000 p.s.f.

Soil Report Example

• **PHASE I (COMMERCIAL PARCELS ONLY)**



Explained

Phase I environmental study looks for existence of “Recognized Environment Conditions”. These are potential past or present site contamination issues. Examples may include old or current leaks from underground oil storage tanks, past or current issues arising from laundromats. If you are applying funding to purchase commercial land or funding to build on commercial land, your lender will likely require you to provide a clear Phase I assessment. There will also be situations where this is required on larger residential parcels that either once had a commercial use or were adjacent to commercial uses.



Method

There are environmental professionals in your town that specialize in these studies. Phase I studies typically only involve research. They do not involve actual soil testing. An EP will conduct research into current and historical uses of the property, search DEQ (Department of Environmental Quality) records and other databases for potential red flags. They will also review historical aerial photos, fire insurance maps, and make a site visit to the property. If this research does not reveal any potential risks, you are done. If potential risks are revealed, you will need to also perform Phase II study (see below).



Cost

\$2k-\$4k

• **PHASE II (ONLY IF REQUIRED BY PHASE I)**



Explained

If Phase I study indicates that Phase II study is required, then soil engineers will physically test the soil. possible.



Method

Environmental Professionals (Eps) will collect groundwater, soil, and/or soil vapor samples from the subsurface to analyze for contamination. If contamination is found, the study will make recommendations either for remediating the contamination so that the site can be developed or will (in an unlikely scenario) state that development of the site is not.



Cost

Costs here will vary widely depending on the scope and complexity of the study required. Expect to pay a bare minimum of \$5k-\$7k all the way into six figures for larger sites.