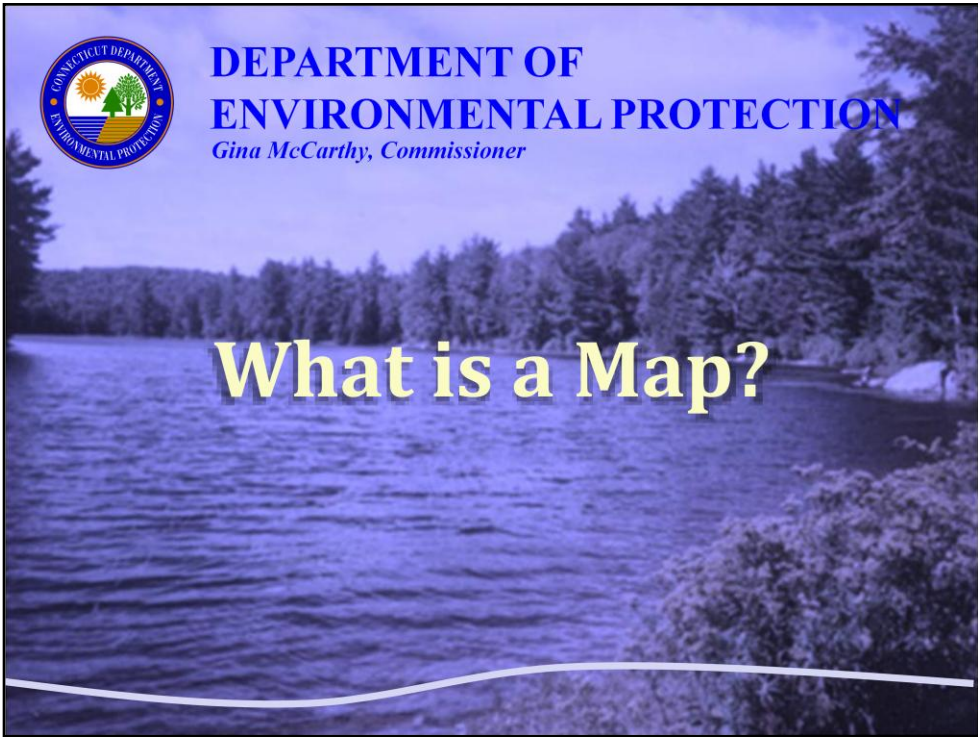




Title page



What is a map?

Definition of a Map:

1. It is a representation of the earth's surface, or some portion of it, that has a specific scale and theme.
2. Maps use symbols to represent and condense information and are always abstractions of reality.

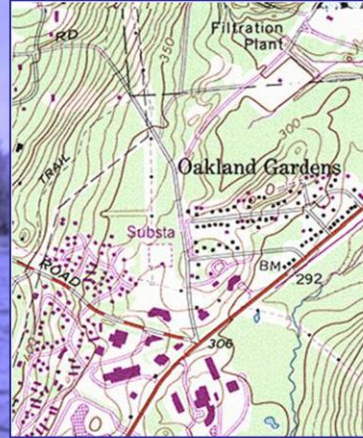


Images from: Google Earth and Live Search Maps @ <http://maps.live.com>

The map on the right is a traffic flow map of downtown Hartford. The primary features represented are major geographic features and the road network. The flow of traffic is represented by the color of the major transportation arteries which is indicated by the legend in the lower right hand corner.

Utility of Maps:

Maps are a critical tool in evaluating permit applications because they may, depending on the map type, provide site and watershed context, general environmental information, and the location of soil types.



Utility of maps.

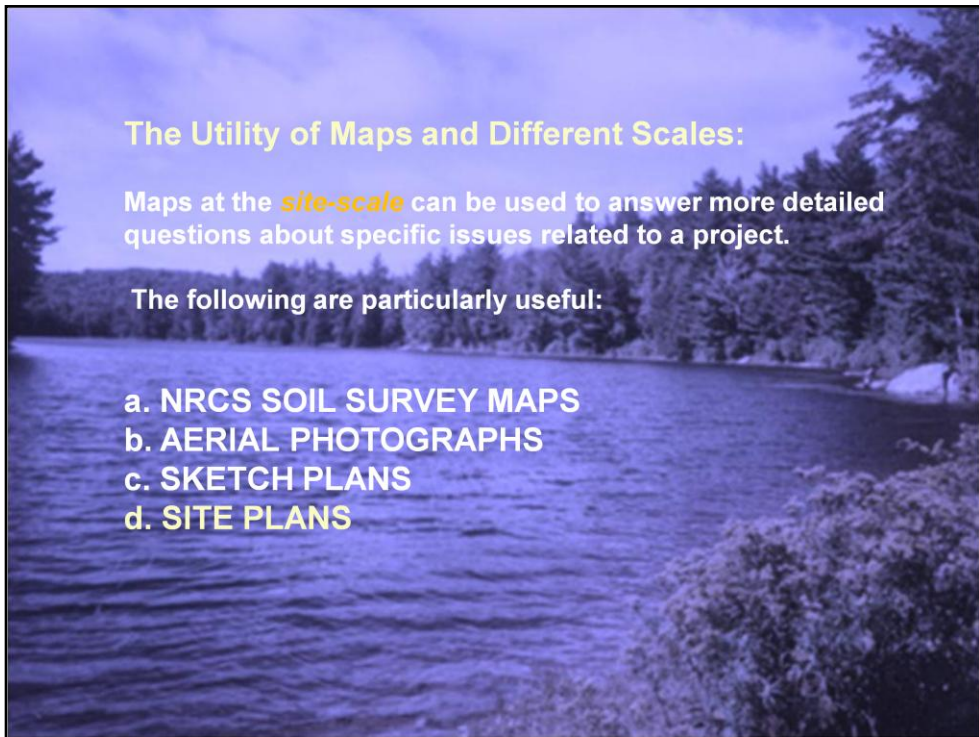


The Utility of Maps and Different Scales:

Maps at **community or regional scales** can provide general guidance for the Municipal Inland Wetlands Agency but may not address specific issues at the site-level. Examples of these maps include:

- a. USGS TOPO MAPS
- b. A WATERSHED MAP
- c. DEPT. OF INTERIOR NATIONAL WETLANDS INVENTORY MAP

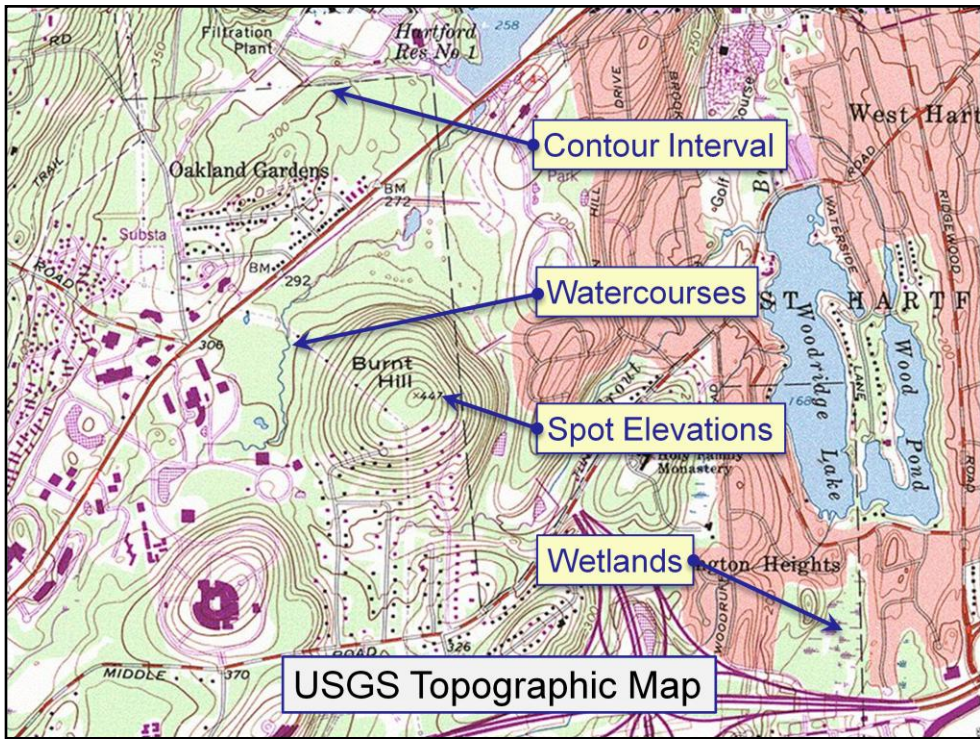
Maps at regional scales.



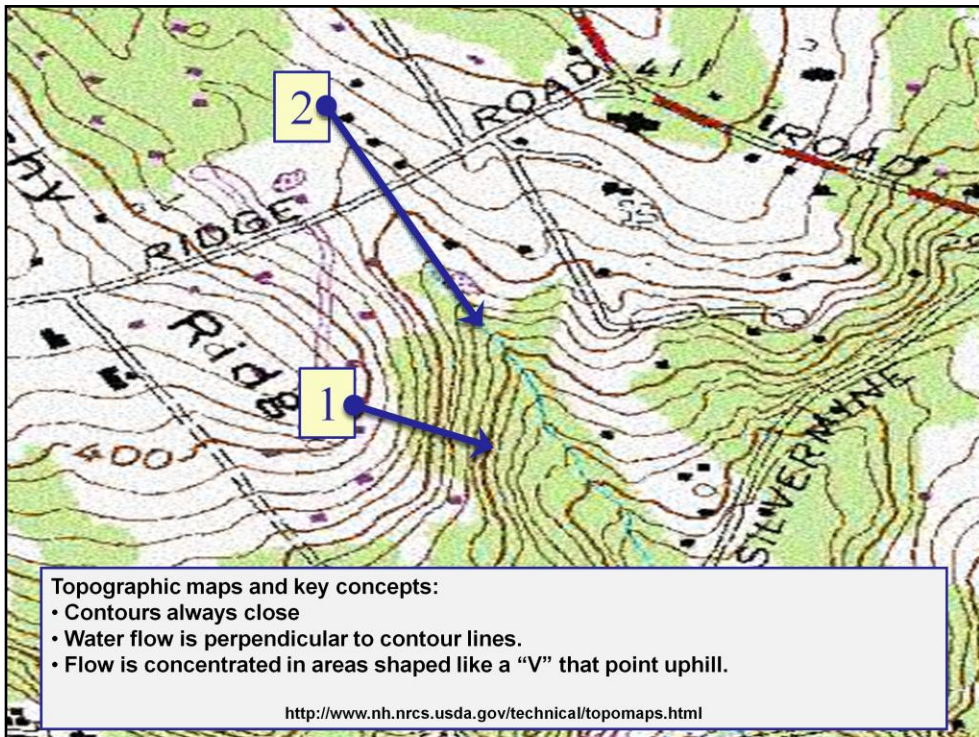
Aerial photographs are included in this list because they provide valuable site information when reviewing an inland wetlands application and conducting enforcement. They are often shown in conjunction with GIS (Geographic Information Systems) data. Maps typically have a specific scale while aerial photographs have uncorrected spatial errors or distortions.



Community-scale maps.



The United States Geological Survey (USGS) Topographic map is the most widely available map showing contours. This allows users to find slope, drainage, and watersheds. It also contains information about watercourses, wetlands, land cover and cultural information such as roads, buildings, and parks.



Some general concepts of topographic maps are presented here. Item one illustrates the direction of flow perpendicular to contours. Item 2 shows where flow gets concentrated in a “v” shaped area in the existing contours.

WATERSHED or DRAINAGE BASIN:

1. An area of land in which all of the surface water that falls on the land drains to a single outlet.
2. A single watershed can contain many smaller watersheds.
3. DEP Watershed Coordinators can assist Municipal Inland Wetlands Agencies.



The image shows a topographic map of a watershed. A dashed blue line outlines the boundary of the watershed, which follows the ridges and valleys of the terrain. The map features contour lines indicating elevation, with labels such as '1000' and '1200'. Several streams and brooks are shown as blue lines, flowing from the interior of the watershed towards the outfall point. The outfall point is marked with a red star. The map also includes labels for 'NIPMUN', 'SILTS FOREST', 'Lead Mine Hill', 'NEHEW POND FISH AND WILDLIFE AREA', 'Pond (Parent - Lead Mine Brook)', and 'Glen'. A scale bar at the bottom indicates distances in feet, ranging from 0 to 4000.

This map shows a watershed defined in the dashed blue line. The outfall point is the red star.



The National Wetlands Inventory Maps do not show the location of soils so they CAN NOT be used to determine Connecticut wetlands.

Because the maps were determined based on vegetation types they should be used only as reference information for habitat types. The National Wetlands Maps are available on the Internet at <http://www.fws.gov/nwi/> using Google Earth.



Site-scale maps.

United States Department of Agriculture
NRCS Natural Resources
Conservation Service

WEB SOIL SURVEY

<http://websoilsurvey.nrcs.usda.gov/>

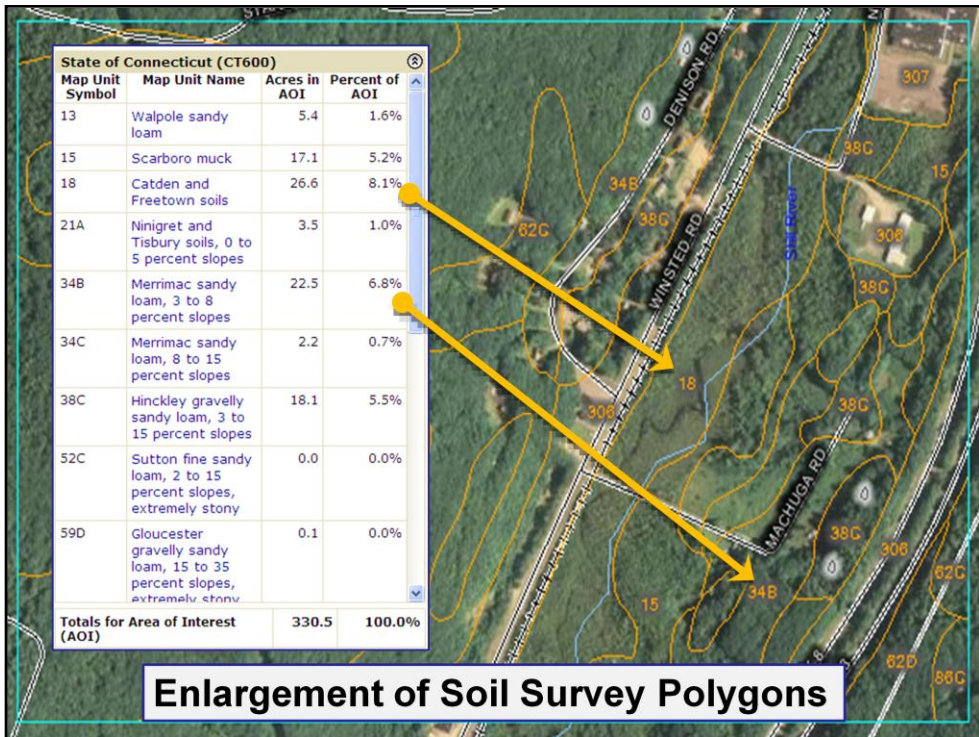
- This Web site allows online viewing of soil survey maps and reports.
- The site utilizes the most recent, modern soil survey information.
- The new soil survey information unifies the separate county soil surveys into a single Web-based “seamless” statewide product.
- Copies of the published county soil survey reports dated prior to July 2005 **are no longer the official soil survey** information and should only be used as a historical reference.

Soils information from the Natural Resource Conservation Service (NRCS) is now published exclusively on the Internet. County soil survey reports published prior to July, 2005 should not be used except for historical purposes only.

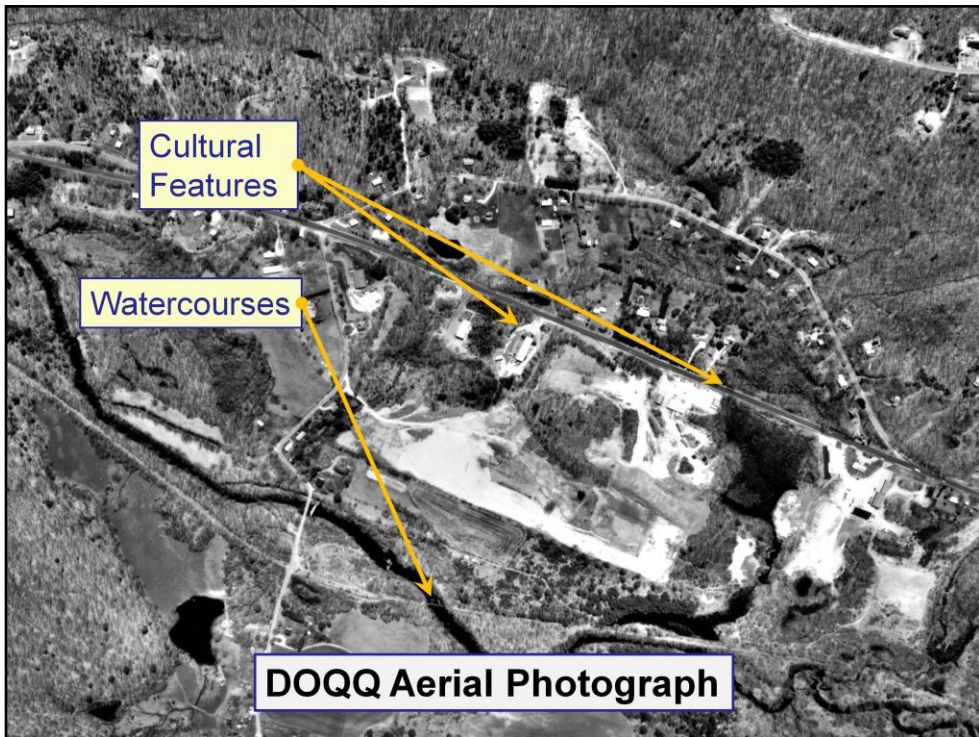


Found at <http://websoilsurvey.nrcs.usda.gov/app/>

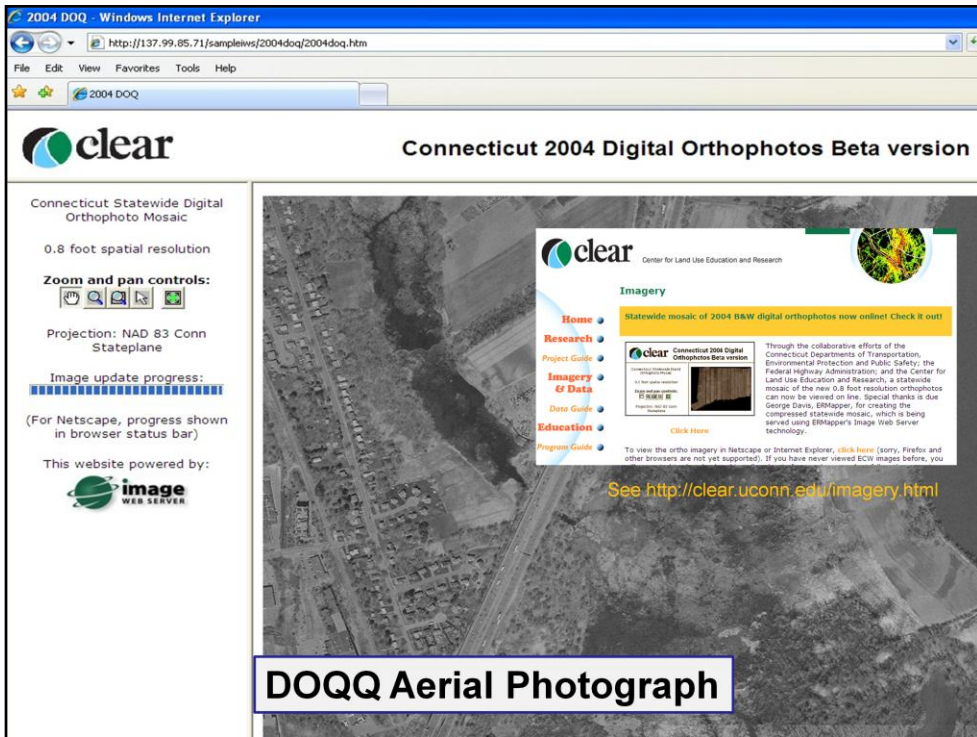
Step 1 in finding web-based soils information. Select the green button.



This slide is an enlargement of the output of soil polygons from the web-based server.



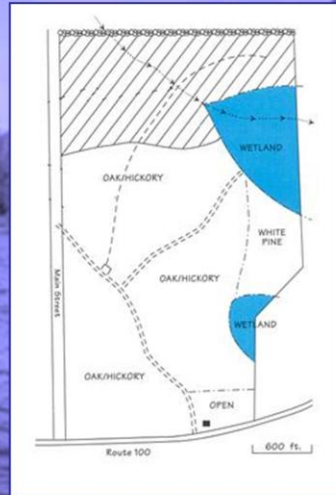
The Digital Ortho Quarter Quad (DOQQ) is the most widely available aerial photography. The image was taken when leaves are off trees by an airplane. The image is made of pixel, or little rectangles less than 1' foot. The image uses a grey scale to represent areas on the ground. Dark areas tend to be water, shadows or evergreens. Light areas are sand or concrete. The image is corrected for an exact position on earth. GIS polygons are often displayed on top of this sort image



A 2004 DOQQ image for the entire state of Connecticut is available through your browser at <http://clear.uconn.edu/imagery.html>. This is a very useful tool for enforcement.

Sketch Plan:

This is a sketch plan of a site. Often Municipal Inland Wetlands Agencies will see this sort of plan for smaller projects. In this case, a sketch plan was used in a small forest harvesting project.



A sketch plan.

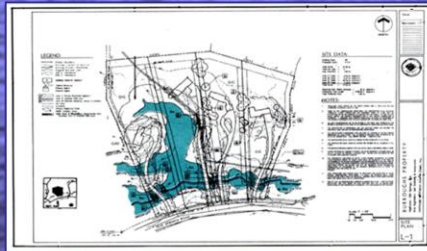


What is a site plan?

A **SITE PLAN** is a series of maps and plans that show how a proposed development will be created.

It is made up of three major parts:

1. Map(s) showing existing conditions that includes existing contours, utilities, and soils.
2. Plans showing proposed site developments such as buildings and roads.
3. Plans showing site engineering such as proposed grading, sanitary sewers, road and stormwater drainage improvements.



The three parts of a site plan.



The professionals involved in the design and planning of a site plan.

To find existing topography and locations of boundaries, utilities, and other critical site information, a land surveyor will use the following methods:

- Fly **AERIAL PHOTOGRAMMETRY**

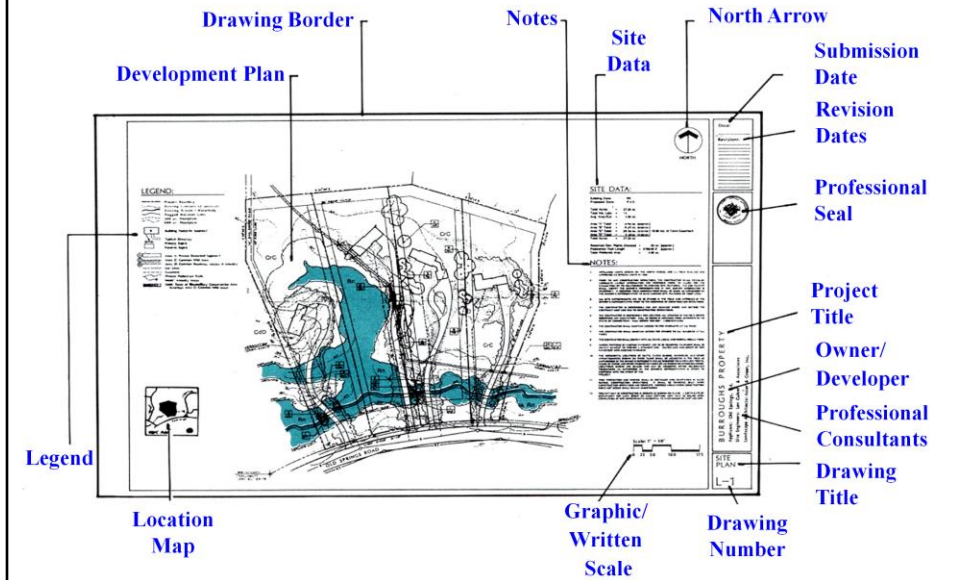
- Conduct a **FIELD SURVEY**



- Obtain **TOPOGRAPHIC MAPS** from the municipality

These three methods are used by the land surveyor to find existing topography and site conditions in a spatial explicit fashion.

Reviewing a Site Plan: Understanding the Components



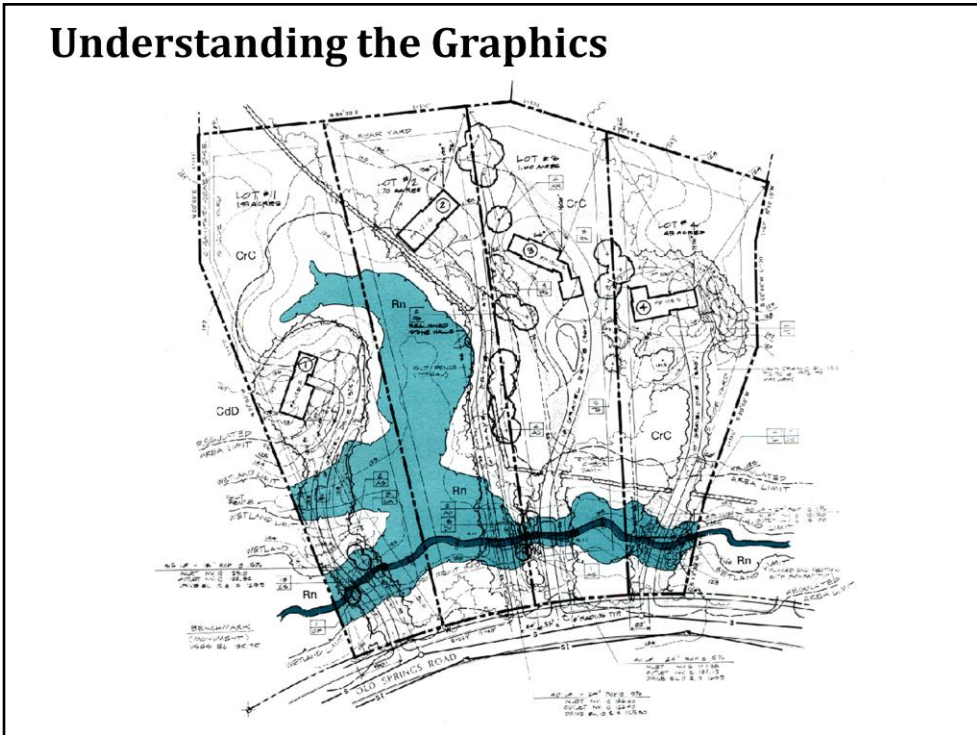
These are the graphic elements and critical components used in a site plan sheet. They are intended to provide the map user with the scale, orientation, history, details of the proposed development, and name of professional(s) that have stamped the proposed layout and designs. Note: There may be several different sheets associated with a site plan. On each plan, the direction of the north arrow and scale may vary depending on the type of sheet.

Map Legend

EXISTING		PROPOSED
	PROPERTY LINE	SAME
	SETBACK LINE	SAME
	R.O.W./EASEMENT	SAME
	BENCH MARK	N/A
	TEST PIT	N/A
N/A	POTABLE WELL	
N/A	SEPTIC SYSTEM	
	INTERMITTENT WATERCOURSES	N/A
	WETLANDS	N/A
	STREAM	N/A
	STONE WALL	
	CONTOUR LINE	
	SAN. SEWER	
	STORM SEWER	
	ELECTRIC LINE	
	WATER LINE	
	HYDRANT	
	UTILITY POLE	
	MANHOLE	
	CATCH BASIN	
N/A	FLARED END	
N/A	SPLASH PAD	
N/A	SILT FENCING	
	TREES AND SHRUBS	
	EDGE OF WOODS	

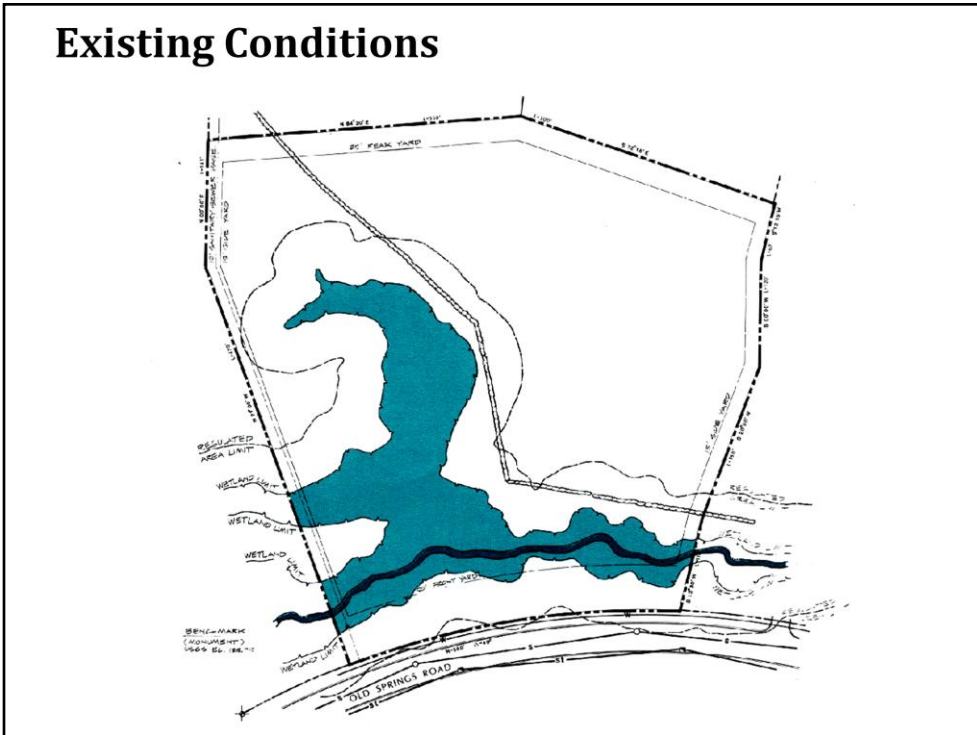
A map legend has common graphic elements and symbols found on all sheets though some minor variation may exist depending on the engineering firm. The actual symbols will vary depending on the type sheet and the information displayed.

Understanding the Graphics



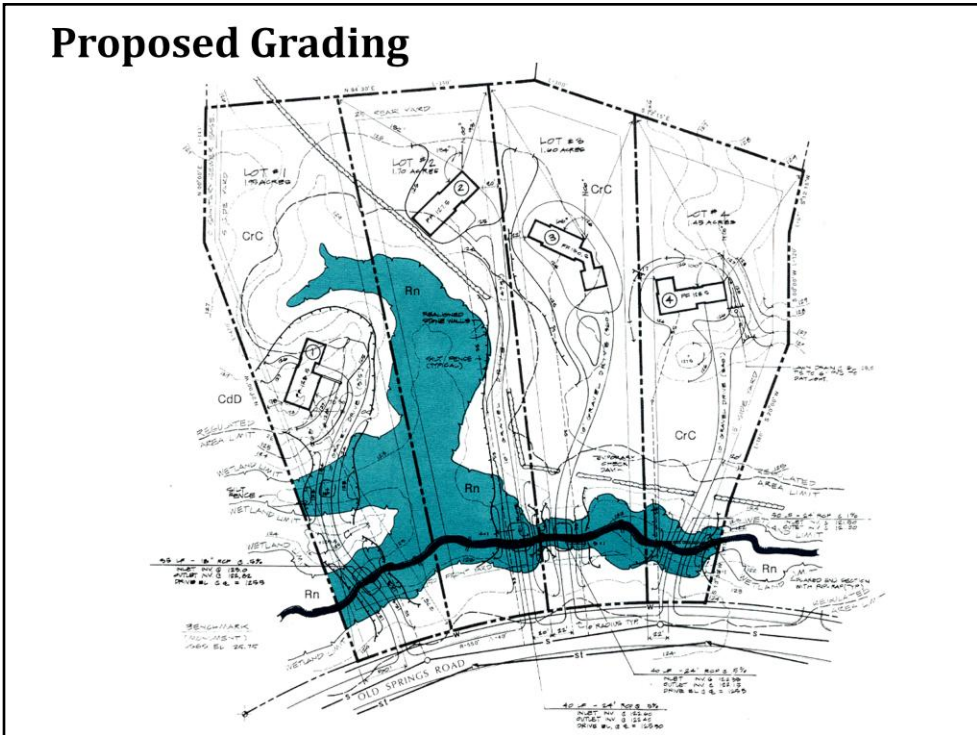
These are all the existing conditions and proposed site improvements put on one sheet. A good plan will use a line hierarchy and graphic devices such as color or line type to distinguish the most important elements of each sheet.

Existing Conditions



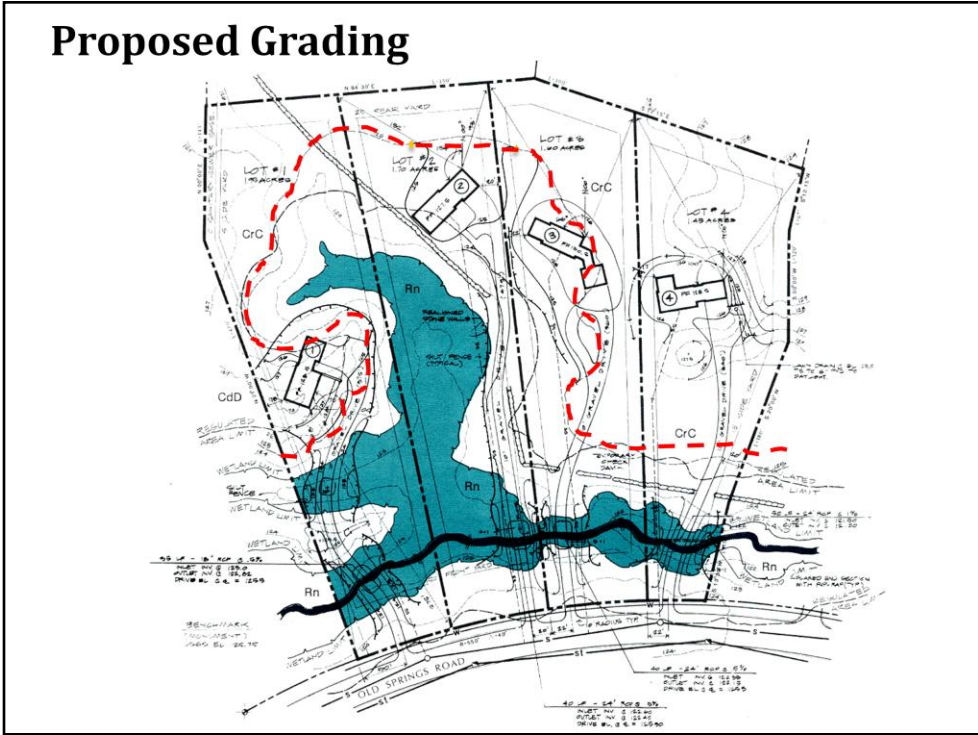
The map shows a surveyed boundary, road position and regulatory boundaries such as setbacks and upland review areas.

Proposed Grading



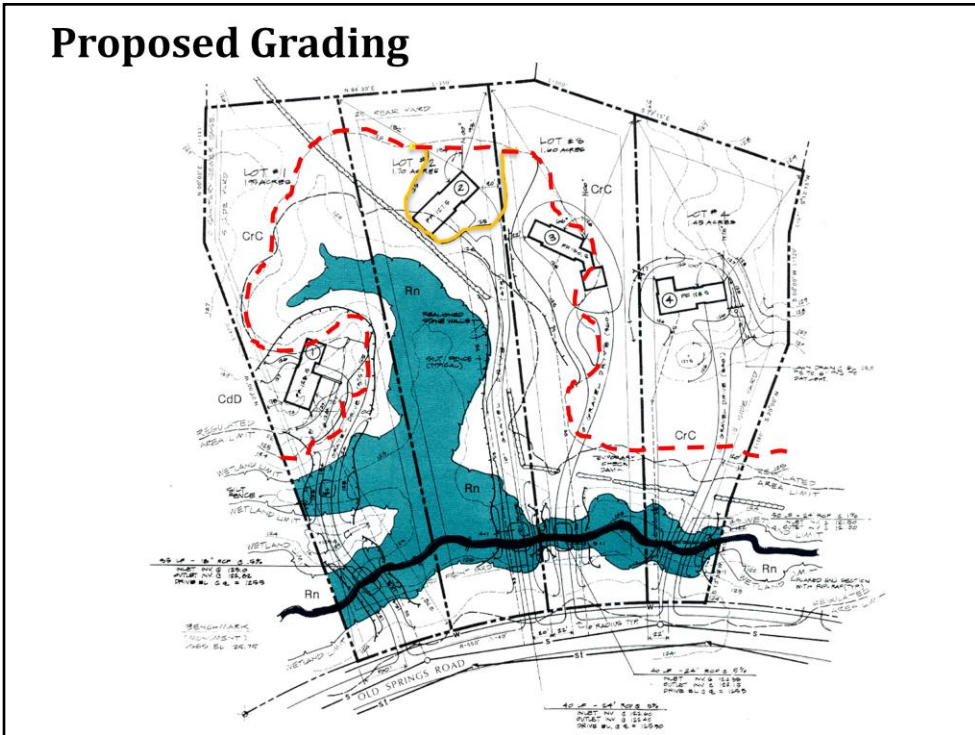
Proposed grading maps show changes in the elevation of the surface of the ground. Site grading can improve drainage around structures, protect property and allow certain site elements to be built safely.

Proposed Grading



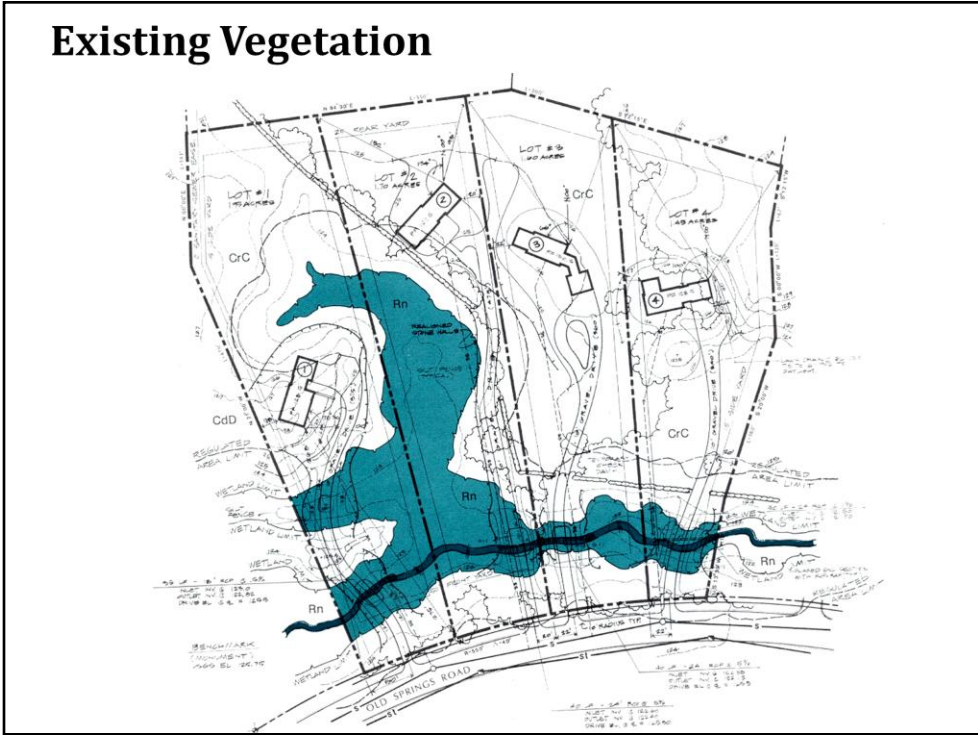
A single existing contour is shown in red.

Proposed Grading



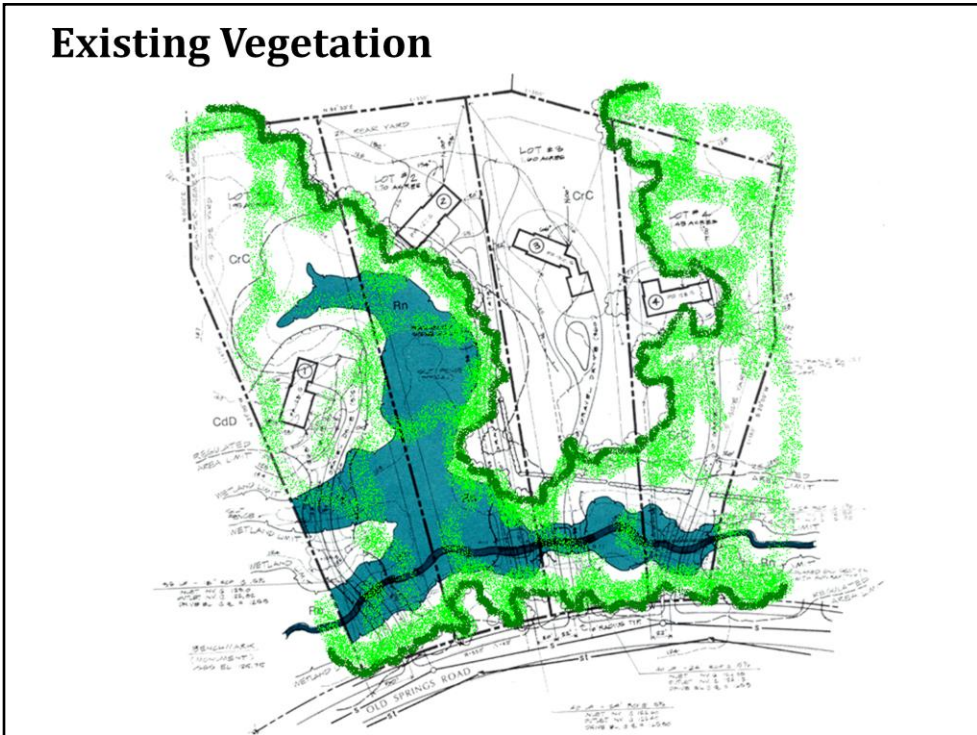
The proposed house pad for lot #2 is shown with proposed contours drawn with an orange line. This line represents an area of fill used to provide a level site for the home. Fill may affect local drainage patterns.

Existing Vegetation



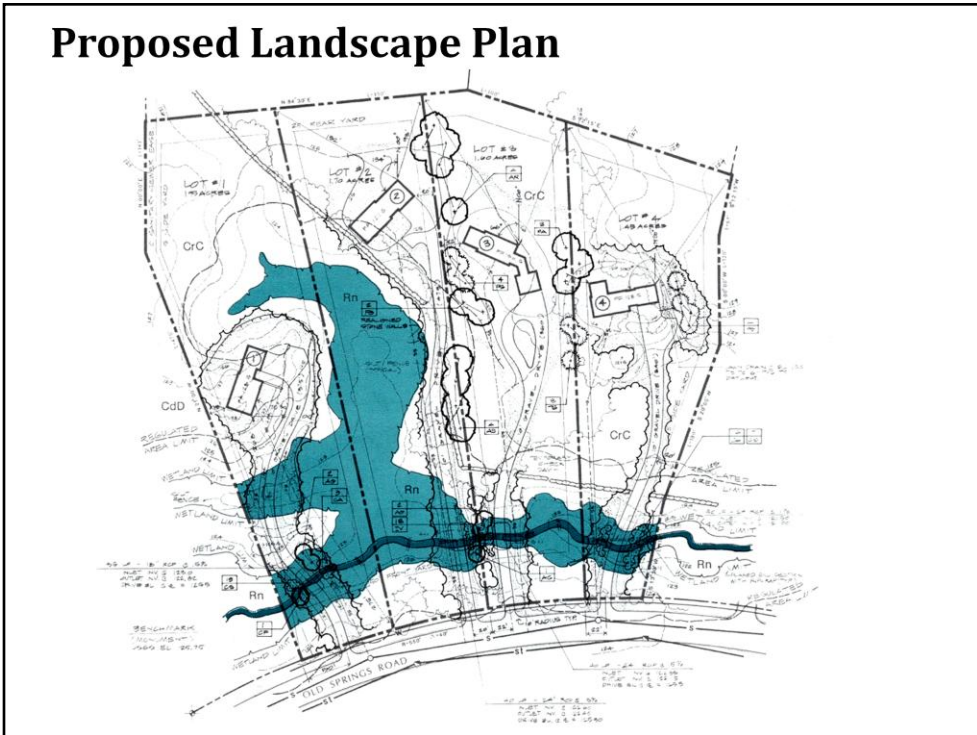
Scalloped line shows the current edge of the vegetation.

Existing Vegetation



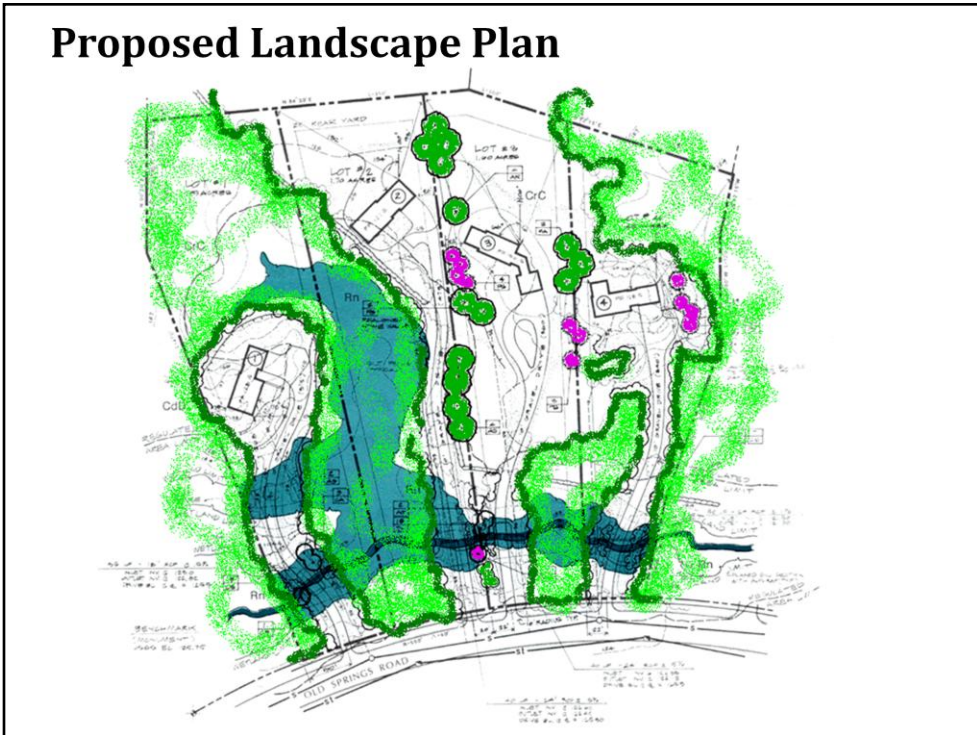
Existing vegetation is delineated with color.

Proposed Landscape Plan



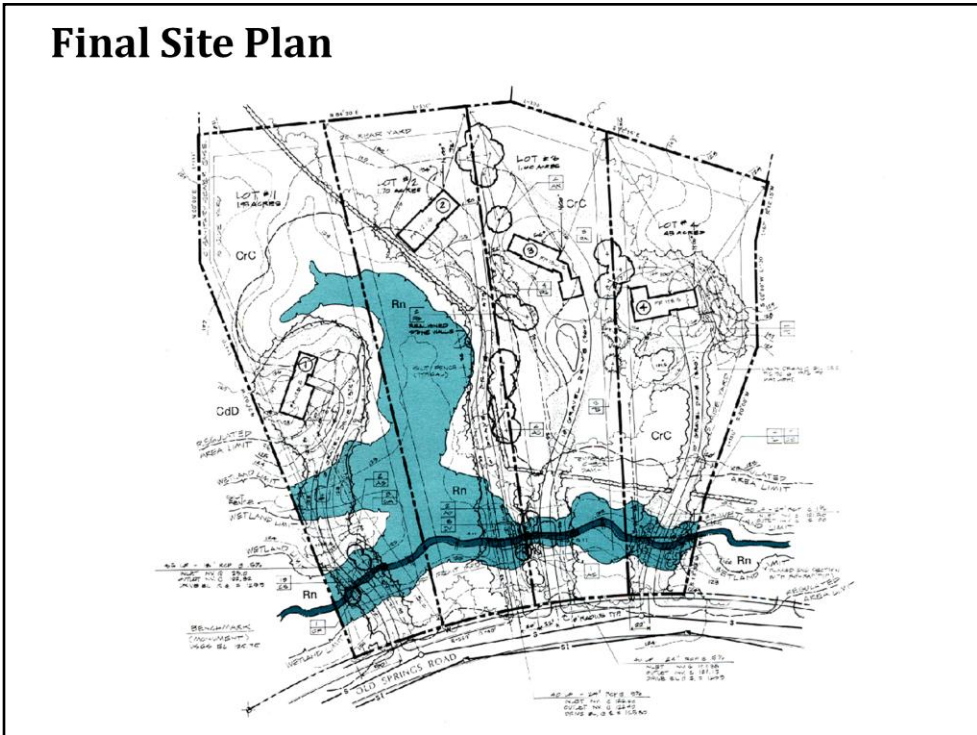
The proposed landscape plan shows how existing trees will be cleared. New plantings enhance aesthetics, environmental function and screen undesirable features surrounding each home.

Proposed Landscape Plan

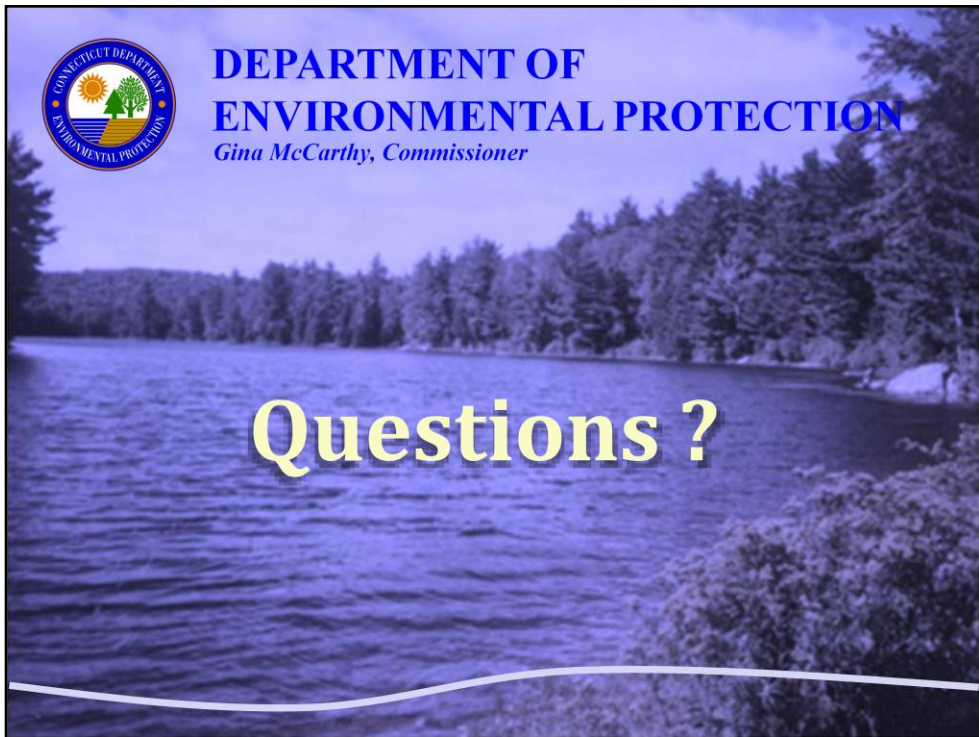


The proposed landscape plan is highlighted with additional color for visibility.

Final Site Plan



Remember, the final site plan can be graphically complicated. A user can make it easier to differentiate between key plan elements by using a hi-lighter type pen or colored pencils.



Questions ?