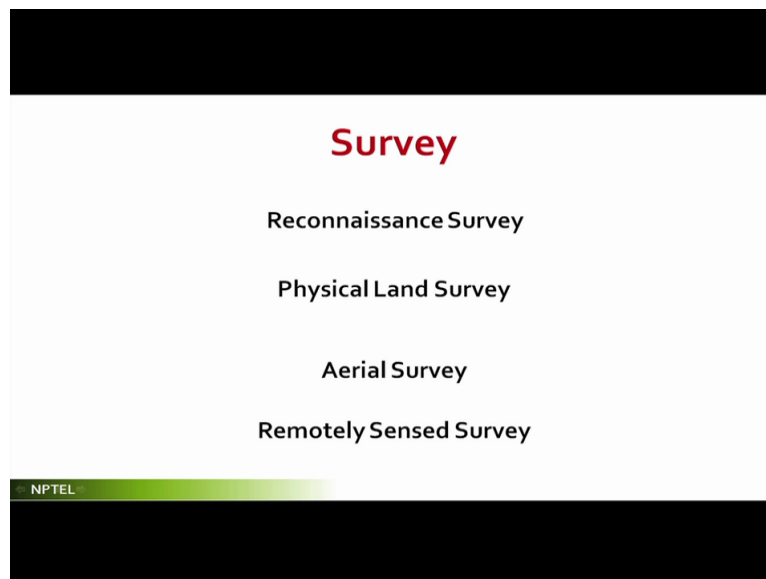


Course on Landscape Architecture and Site Planning-Basic Fundamentals
Professor Uttam Banerjee
Department of Architecture and Regional Planning
Indian Institute of Technology Kharagpur
Lecture 28
Module 6
Site Investigation, Analysis & Appraisal

Good morning, so we were discussing about survey techniques and the Reconnaissance that you have done, you have comprehended the whole project, made an impression of the site and its potential and constraints. Then you have a point at the surveyors skilled trained surveyors to do the physical land survey and gives you something called base map.

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There are other two surveyors which are also required but not for small scale landscape projects they are Aerial Survey and Remotely Sensed Survey. Aerial survey earlier what used to happen is the air flight used to fly at a low altitude and then the camera used to take shots from the top. The altitude was decided depending on what degree of detail that you needed and then they used to take different shots and they were then assembled one after another arranged and the designer used to comprehend the situations over there in the ground.

Usually the Aerial Survey is used for larger domain, landscape project interestingly is starts with your table top with a potted plants and ranges to a huge large area to the region. So for larger domain of landscape projects Aerial Survey was required. Nowadays Aerial Survey looks like you know what is best represented by the Google maps that you have seen Google

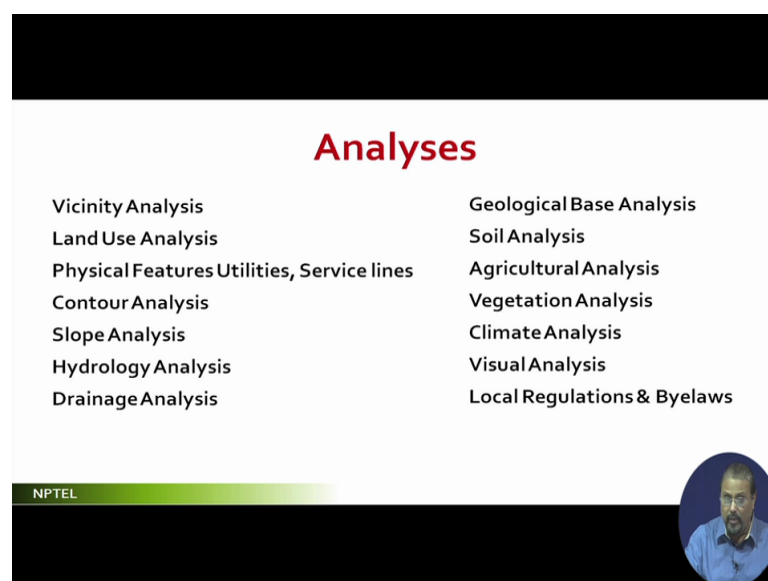
map is a true representation of the Aerial Survey and in the Google map you must have seen that if you scroll you go down and down and further down the height from the surface and your camera reduces and more details are seen and then you can comprehend better.

This comprehension which was given earlier by the Aerial Survey, in this survey what happens is you know if there is an object which is obstructing the visibility of another object at the base level, lower level of that then that particular detail is lost. In the land survey every elements position is taken. So if the site is not too very large then it is better that you try to comprehend the whole site with respect to your personal Reconnaissance and then helped with or supported with the Physical Land Survey.

Remotely Sensed and other one where the satellite is trying to take image of the larger area is just like an example let me tell you if I am thinking about the landscaping of a say a river estuary river estuary, suppose I have been given a project where I am supposed to plan for the landscaping of that estuarial zone that estuary zone if I try to go there physically ofcourse I would but I cannot probably access many of those points which are very threatening or dangerous for my safety.

So I will not be able to see everything, the Remotely Sensed will give me the area and their adjoining portions, Aerial Survey will give more pictorial details and then Physical Survey which will be done through with an GPS and that data will come to us. So for standard normal landscape project we should fall back on Reconnaissance followed by Physical Land Survey. So you have done the survey and recorded every element.


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Analyses

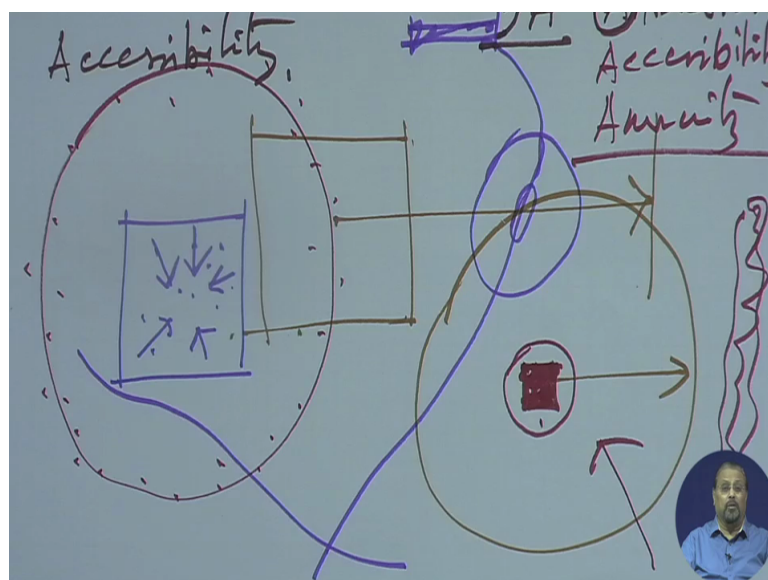
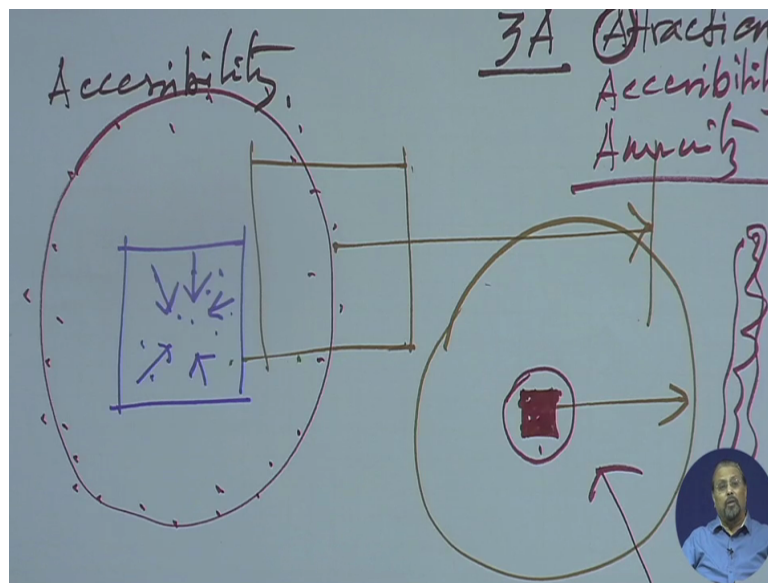
Vicinity Analysis	Geological Base Analysis
Land Use Analysis	Soil Analysis
Physical Features Utilities, Service lines	Agricultural Analysis
Contour Analysis	Vegetation Analysis
Slope Analysis	Climate Analysis
Hydrology Analysis	Visual Analysis
Drainage Analysis	Local Regulations & Byelaws

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Now it leads to the analysis. Here I am putting a list of series of analysis, I have given all together I did not animate them because you should have a very clear idea the first shot that how many such analysis is possible. But the question is for a landscape project do you have to do all these procedurally you should, why you should because if you try to find out the actual potentials and constraints of that particular landscape project site and then measure it, in the perspective of various items that you are trying to bring within or various function you are trying to bring within, then all these analysis is going to help you.

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Let me first read out each one of them and give you a very brief idea first, then I will show you how it is to be handled. A landscape project which you are assigned with, look at this again a conceptual sketch. Suppose this is your landscape project site, if you remember that

when I was talking about the behavioral issues in which the peoples perception is aided by the sensation let us say visual sense where standing at this particular point where you are likely to see something which is at a far distance.

You remember in my design principles when I was talking about foreground and background, standing at this particular point somebody is trying to view something which is far away beyond your site. You remember the examples I have shown during the discussion on Spanish garden when I was showing Alhambra or Generalife that means from that particular point you look around and Alhambras windows were designed deliberately for the users to see the landscape around that means you are never limited in terms of all your experiences limited by this boundary.

Since you are not limited by this boundary then what happens is you are going to see everything that is around, now everything that is around if I try to draw a smaller picture this is my site, one would look around whether clockwise or anticlockwise, one would definitely look around and try to see what all are there beyond your site. But at this point you are not focusing at your site let us be very clear, your analysis this analysis the (()) (6:50) analysis there you are not focusing at your site.

Basically you are trying to find out everything else beyond your site, why you do it, let us say the vicinity basically if this is a landscape project site you need to have more information about some more things to help this landscape project site survive or sustain what is that, one is accessibility. In this I think it will be appropriate if I discuss a little more on another aspects of our overall planning, landscape planning.

This is the concept of 3A, for any landscape project site if somebody is creating a landscape project for you and you are the benefiter of that, you would like to go and experience this particular landscape first of all you have to be attractive to this that attraction will be offered by the intrinsic characteristics of that particular landscape project site.

So the first A that comes is attraction first A, image that you have heard about the landscape project which is here whatever distance it is from your home and you got attracted to it, it may be the information through media, it may be information from your friend, it may be information from some books, it may be information from somebody who just maintain mention for just publicity whatever the attraction has drawn your attention to this, then the

next step the next A in this 3A concept is the accessibility. This is why I shifted from this accessibility here now.

This accessibility means if you are attracted to this particular landscape site then you must have adequate access to this particular landscape project, that access may be air access, that access may be through water water channels, that access may be through roads through any means you should have access to this. Once you have the access and you have come to experience this if it is only few hours or few moments of experience it is fine but if suppose this is holding you there and it is expected that you will be spending a day or two or week or a month.

In this particular landscape project site for your own own benefit then I have to also think about something more beyond accessibility and that is an amenity. So what you have here is the 3A concept for landscape project which must have an attraction value who can create you the designer who will create the attraction value to this and then attraction value you have created, people are attracted but they have to reach here. So you have to provide accessibility and now you have to analyze, this is where the vicinity come I will explain further.

So accessibility has to come, after you have come within your site and then you are experiencing it at that point I have to give you some amenity basic amenities, that amenity is of what kind if it is for a short duration stay then it should be some rest rules, some sitting areas, somewhere you can also take refuge increment, weather, some shelter, some comfort, some convenience within that and if you have come here to stay for overnight than I have to give you a room, safe shelter with other facilities may be non-landscape.

So the example I have given you that I said during discussion of this, the client has come to you with the proposition of building one tourist resort which is in an area remote area and the remote area where there should be amenities given, internal accessibility given and also accessibilities their liking the other places to your particular site, ok. That resort you are designing think about it, access is there you have given the amenities what is now important is how do you make attractive then your design skill start furnishing, ok.

So this 3A concept which I have mentioned over here this is going to give you the idea about the landscape project. So when you are giving accessibility there what happens is in terms of (visibi) in terms of vicinity you check few things. Attraction value of this particular site from outside fine, but there could be that standing over there you have an attraction value added

not because of the things which are within but things which are far away, think about it this way, listen to this example very carefully and try to visualize it.

I have given you a resort site internally I have done tried my level best to give you all comfort and nice environment but from here you can see the Kanchenjunga hill range Himalayan range from any other site you may not be able to see that well but from here you can see, mind it this has earned the attraction value to the tourist would come here to see this Kanchenjunga range, that is how the attraction value comes in gets added.

So sometimes the attraction value is intrinsically created or sometime passively created, this attraction like say create this with all facilities, all amenities and then come here we will look around you will find that the attraction value got raised, may be a place that I have selected where I am going to do the landscaping for that particular area and landscaping has to be done in such a manner that I should be able to exploit the visibility of a lake which is down the hill, imagine that situation that on a hilltop or may be at a higher altitude I have secured a plot, property which I want to make it as a landscape project and there if you come from there you can see a wonderful lake at the foot hill, lake is not a part of your site, passively you are exploiting the benefits of the visibility of the lake and your site is now going to be landscape with an added value because of the lake or the other example added value because of the hill range mountainous range or may be the added value because of the forest.

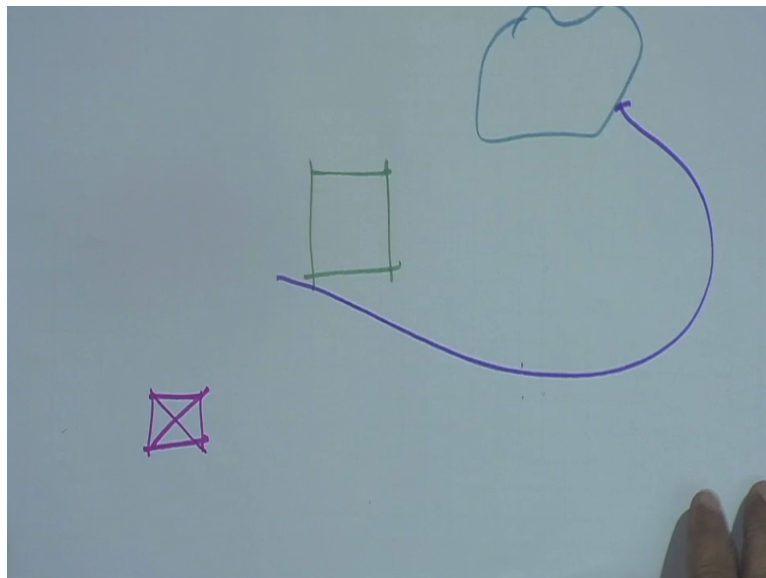
So this is how when you look at it you try to understand that your whole analysis is now focused. In this let me also clarify one more point if I try to summarize this, if this is your project site then there would be some elements which you are going to put because you have that domain this is your domain and which will be converging all your attentions within the site, that means you are seeing it within that means from this corner to the rest, this corner to the rest, this corner to the rest, this point to the rest that means it is converging in terms of its attraction and additionally by virtue of his position elevation, location, visibility and all others you are taking the passive value added because of the other elements which are not in your control.

So when you are analyzing I would suggest that do not be blind to the surroundings, do not be blind ton your limits rather you will have two sets of analysis done, one set is with respect to the site and within and this with respect to the site and outward, ok. Now this is how the whole thing is, so if now I come back to the vicinity analysis what basically you are doing is we are trying to find out that why this particular site how it is connected by roads let us say

this site is connected by road from here and this road is connected with a state highway, this state highway is connected with another urban center and this urban center I have a railway station, from this urban center little far away I have an air strip and that air strip is connected to this urban center.

So automatically your vicinity analysis is now bringing in many factors which are not within your site. Let me correct my this particular site is connected by a road, the road which is connected by a state highway, state highway which is passing through another city or urban center, and the urban center which has an airport that means this site is connected with the airport, it may not be directly connected but this is the route, this is how you have to analyze this is one, I am saying in terms of accessibility, in terms of other things.

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But another example let me give you this is slightly different from what I said just now, you have a project site landscape project site not your design because this is you are now in the analysis stage. So you did not decide what is going to come within but you have to also compare that whether this particular site whatever you do is it under threat in of competition, how is it.

Suppose I give you additional information that you have this site which you are developing but there is another site already existing and functioning in operation then you are threatened in terms of competition that you have this particular site whatever best you have to do which should be drawing more attention of the people outer people than this one then only your this one will be surviving, sustaining otherwise people already know this they are going there you

have to do rather try extra hard to attract these people as well, there are two options in this, in the whole planning and this is what comes in the analysis stage only that is why I am saying here you will not take time off to decide going to the site if you learned that there is another resort here nearby.

People do come here then you will first try to find out what is the strength of this particular resort by which or what is the attraction value of this particular resort for which people are coming, number 1 this is the market demand analysis basically. So the vicinity analysis when you are doing basically you are doing this, you will decide that ok this particular site I have to design and this is already designed by somebody which has a strong attraction value, you have to design better than this so that attraction now gets deviated towards your site.

People were coming to this now it is deviated towards your site otherwise your site will probably have to fend for users that you can do with publicity and all that but I am saying with respect to landscaping how it is to be done. So either you make it better than this or there is another option, I think it is wiser option, you design when you publicize you also mention about this that if you come to my project site then within about half a kilometer or 1 kilometer or 2 kilometer there is another project site which you can visit what happens now is the user who is now trying to know about your this particular site also knows now that if he comes to your site than about 2 kilometer away there is another site which is also adding to the value his tourism trip here.

So he comes here takes a tour here and then comes back this is how the whole tourism circuit is designed, any other factors like an example if suppose you find out that this is my landscape site or rather your landscape site you because you are viewing it from your end, this is your landscape site, this is another landscape site and far away there is a water body which may not be visible from this particular site, may not be but you are now trying to develop a link or trying to see if there is a link during analysis you are doing that you are trying to find out is there any link between this particular water body and here, one is direct visual link another is the physical link, can is there any way.

Suppose I say yes there is a road which is going like this and ultimately connecting to this, in your analysis you are going to record it very categorically in that vicinity analysis itself, you are going to record it that this is the site which has a road, which is linking this water retention dam though not visible from here because of many other impediments in between

this is the distance up to which one can go and in your whole planning of this you can start thinking about exploiting this because of its proximity.

If suppose this is another option, another way of looking at it, if suppose you are at a higher elevation compare to this and you have the advantage of seeing this then there are two things now work, one is that you can have a physical connectivity with this while going from here to here or else visual connectivity to this double benefit that you get.

So what happens is whenever you are doing the vicinity analysis you try to view it in such prospective that how you are connecting visually these two, that is how the vicinity analysis probably is one of the very (strongest analy) strong analysis which you have to do. So I will summarize this later on I will show you some of these slides to show how people generally represent.

You know there is a process of doing it, I think it will be better that if I tell you the process how how we are proceeding with this analysis and then I come back to individual analysis, but the vicinity analysis is different from the rest of the analysis that I have listed over here. Since it is different from the other analysis because all of the analysis are within the site, corresponding to the site, limited to the site though influenced by the others but the vicinity analysis and analysis of the surroundings baring the site, leaving the site that is why I have discussed about it, ok.

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How basically you work out, I will come back to this list. In the Appraisal see after you have done the survey then you have done the analysis, in the analysis you have tried to see each

and every aspects that I have listed I will go detail into it. Each analysis must result into an Appraisal each analysis I do not know how many analysis I think 14 or 15 analysis I have listed over here, each of the analysis must have analysis Appraisal.

What is an Appraisal Appraisal is basically Inferences from your analysis inferences which will result into a creation of a Criteria set of Criteria each analysis mind it and each Criteria or a set of Criteria will result into creating a Check List to do or not to do, so dos and do nots will come here. So inferences which will be resulting into the design Criteria and that which will come to a set of Check Lists and the Check list which finally you are trying to adopt in your design and then you are deciding that whether you have complied with it or not.

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Appraisal Template

Common Legend	Inference	Design Criteria	Check List	Compliance Level
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Specific Legend				

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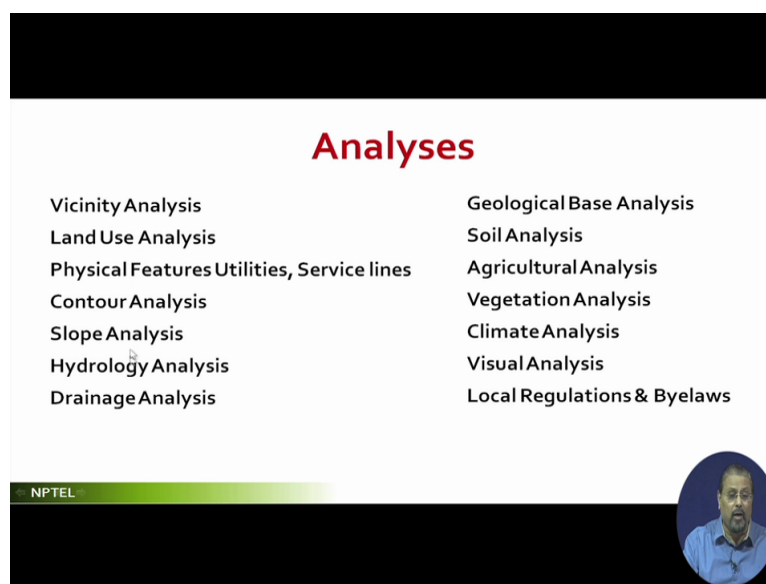
That brings to a kind of table which is like this I am just holding this particular picture for a little wild, ok just to indicate this picture is a borrowed picture because I found this is one of the best pictures for which you know clarifies many of the ideas in terms of various factors, ok.

So what you do is create an Appraisal Template in the Appraisal Template is nothing but a kind of drawing sheet as if a base drawing sheet in which we have the site and the site where all information related to the site and there other in Appraisal items are listed over here. Look at this particular table very carefully, this site here see mind it this particular line of the site profile is arbitrary is hypothetical it is not real hypothetical I have just taken this hypothetical site just to give you analysis idea.

This site diagram must have common legends because there will be multiple such analysis for multiple analysis atleast one set of legends which will have the information, which are common to everything in terms of like say contour lines, existing contour lines, proposed contour lines or say the thing is site boundary line any other. So common legends will be there water body, existing water body, the river hedges everything.

So there will be set of common legends which will be existing in or present in all the analysis Appraisal Templates, Appraisal formats and there will be some specific legends this specific legends will be with respect to the kind of analysis that you are doing let me go back.

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For example in that particular template you remember if suppose you are doing Land Use Analysis, the site diagram, the roads, the location of trees if it is there as a part of the base map or the contour lines they will all be common.

So that will remain as the specifics sorry not specific common and for Land Use there will be a set of again legends which will be specific to the Land Use that will not be repeated in others so each of these analysis will have its own specific set of legends.

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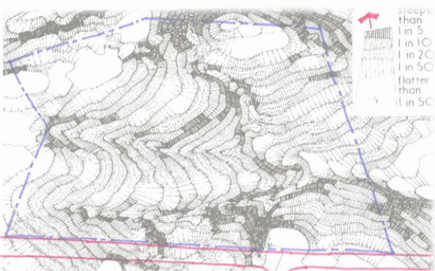
Appraisal

Inferences
Criteria
Check Lists
Compliance

NPTEL




Appraisal Template



Common Legend	Inference	Design Criteria	Check List	Compliance Level
	••	••	••	••
	••	••	••	••
	••	••	••	••
Specific Legend				

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So if I now go to that then what will happen is you will see that common legends will remain common for everything, all the sheets and the specific legends will be corresponding to the analysis that you are doing. After that when you are for that specific analysis that you are doing in that you will have a set of inferences drawn based on the information that you have got.

For Land Use you will get the information about the Land Use whether it is residential, commercial open lands, grazing lands, hills, water bodies, forest, reserve forest, natural forest, industry anything all those will become specific legends and for the specific legends you will have also some inferences drawn because we are analyzing the whole thing, the result of the analysis will be listed in the inference.

See mind it I have made the columns which are very narrow actually it will not be narrow it will make pretty wide I just tried to show you here one after another. If you have a common legend which is depicting all the drawings then you will have the specific legends which will be corresponding to that analysis and then if you have for that analysis which will be resulting to a set of inferences, this inferences you can write in the form of descriptive notations like say you are writing a sentence you are writing a small paragraph but whatever you write it should be best depicting what you are inferences, so not try to economize on your words, number of letters, number of words or number of sentences when you are writing inferences.

Because see what happens is this process is a very methodical one, if you the designer is analyzing this a site and then trying to make analysis Appraisal report through this template and then ultimately you do not get analysis opportunity to plan but somebody else will be assigned to plan he should be able to get all information in terms of inferences as you have analyzed because you are also researcher analyst, you have analyzed your inference should be so discretely critically coined and written so that whoever does not even interacting with you should be able to infer what you have written over here, this is the idea very very important.

Once the set of inference that you have done for each each of the inference for each of the inference you will develop a design set of design criteria, the design criteria that you will be developing that criteria will now become design set of design criteria, which then will result into a set of Check List which you have to use just a minute, yes each design set of design criteria then the Check List Check List means design criteria is going to say what kind of design parameters you are going to use, what kinds of standards you likely to use, what details you are likely to use, all these finally will result into a set of Check List dos and do nots this has to be done, this has to be done, this has to be done, this has to be done, this should not be done, this one should not be done, and this one should be modified, this one should be interpreted and then modified.

You know so there will be a set of Check List, then after that you are going through the design process once you have finished your design process designing then you go for Compliance check, you see that this Check List how much have you complied. So compliance level basically is a representation of how much of this Check List thing as guided

by the Check List you could correspond to or attain or achieve, this process is so (()) (29:53) methodical that if you do it you will find there is no chance of making mistakes.

What happens is we the designers generally think that every information that you have got in your head and then we are intellectual enough to retrieve it whenever necessary and ultimately designed, why should we fall back on your memory, why cannot we recorded over here and why do you expect that the thing that you have inferred is going to be design by you, the whole process is a big team work.

Now if I see with respect to our large landscape project, you cannot do it alone there will be somebody who will go for Reconnaissance survey possible that if possible you are going if not somebody else will do the Reconnaissance survey and then after that you will see that inference has been drawn by survey has been done by somebody else, the survey detail has come to your table and you have created the inferences and also walked out the design criteria if not left it at this particular level another expert takes it up and he sets the design criteria along with the design criteria he may also set the Check List and along with the Check List then now it goes to the designer and the designer checks how much he could attain or conform to the Check List by compliance so it is a team work by which it goes.

So if you really look at the whole process of this particular design you will see it is not you know it is not a very simple task, it is a systemic task in which everything has been analyzed well, inferred well, discretely stated and then the design criteria formulated and the Check List created for checking how much you have you could attain and all, is that clear, fine. In the next discussion I will go into the further detail of this, thank you.