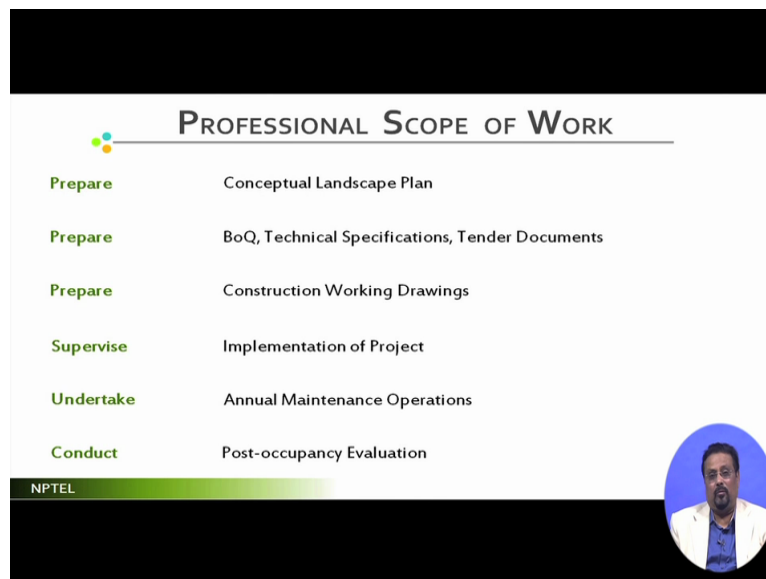


Course on Landscape Architecture and Site Planning-Basic Fundamentals
Professor Uttam Banerjee
Department of Architecture and Regional Planning
Indian Institute of Technology Kharagpur
Lecture 05
Module 1
Objective & Professional Scope of Landscape Design (Continued)


So I was explaining you have to take the professional scope of work very seriously because this particular kind of study like landscape it requires a very strong professional acumen, very strong professional involvement and a very strong professional culture. So what you do is when you get a client who is approaching you for a landscape plan to be done what you prepare is a conceptual landscape plan for him.

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| PROFESSIONAL SCOPE OF WORK | |
|----------------------------|---|
| Prepare | Conceptual Landscape Plan |
| Prepare | BoQ, Technical Specifications, Tender Documents |
| Prepare | Construction Working Drawings |
| Supervise | Implementation of Project |
| Undertake | Annual Maintenance Operations |
| Conduct | Post-occupancy Evaluation |

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So this conceptual landscape plan which will take care of anything that he is considering under his domain of this particular landscape. Once you prepare this then you prepare BoQ bill of quantities, technical specifications and tender documents. The BoQ the bill of quantities will have all the items or works broken into small small small items of works and then each item will have to be qualified and the quantity will be given certain in certain units and create a technical specification for that.

The technical specification is supposed to take care of that how to execute that item of work and what should be the quality level and how it should be checked in terms of quality. So technical specification also is very very important item, so first is the BoQ, the BoQ will have

all the quantities of work measured item wise along with the rates per unit and also the computer rate for that quantum of work that is what is BoQ.

And then there will be technical specification in which each item of work will be very clearly indicated how to do that and what should be the kind of quality. And then another thing is the tender documents, what happens is such landscape projects which you are preparing a BoQ and specification you have designed now it has to be executed as you dreamt of, once you get the approval of the client in terms of its total concept plan client says I agree, this is what exactly I will be approving and he approves you created the BoQ and technical specification then we have to look for somebody who is going to execute it.

We call them contractors contractors, constructors, executers, whatever we call it. Now such group is also a train group who would be reading your BoQ very categorically and they will understand every item of work. And you have to check their past records, past experiences and also the kind of works that they have done a value of the work that they have undertaken and then you are going to shortlist them.

So the tender documents which you are preparing will have a very brief drawing the brief drawing simply means that a construction drawing which will have lots of detail I will show you they will have lots of details that tender drawing will not have so many details. They will have some rudimentary dimensional things so that the tenderer he can estimate the level of works.

Because in the quantity you are giving a quantity in bulk, item wise ofcourse but in bulk and here he has to really see that whether the quantity that he is considering as a BoQ whether it is there in that particular work or not. But you do not have to give very detail in the tender drawings. Now that makes the tender document within which you will have also many other things like notice inviting tender, joint condition of contract, special condition of contracts and such things.

And all these contracts will have basically the agreement which you look binding this tenderer or the contractor who is assigned this particular job finally. And how to get the whole work done through him, so that your work is absolutely executed the way you wanted. There will be many other clauses which can be added in this GIC or special terms of condition STC, that is like you know whether you are going to put up an penalty clause for

the delay, whether you are going to give any incentive for early finish of the work all these are the (())(4:16) of this, maybe sometime we may discuss this at this moment I will skip it.

Then you prepare a construction drawing here I am saying that prepare a construction drawing, I said then you prepare in fact I will tell you the construction drawing is prepared parallelly, simultaneously. When the construction drawing is prepared almost full professionally I can tell you from my own experience that if you have finished your construction drawing to the level of accuracy defined or desired and then you estimate then there will be hardly any deviation from the estimated work, estimated as or estimate as you are giving the BoQ or the estimates that you are going to enquire at site.

So ideal thing is a good professional designer would design the whole thing, prepare the complete construction drawings then get the estimation done that estimation will be now filled in in terms of quantity in the BoQ and that BoQ will be now going in the tender, tender is going to estimate the amount of quantity and then finally when he is going to do the work he finds there is hardly any deviation.

In practice as per rule we generally allow at the most 10 percent deviation but I can tell you if the deviation is leased it speaks good about the designer, that whether they have taken seriously they have done it rightly and whether the quantity has been correctly done. Ofcourse there could be some kind of you know situations when because of some you know some disturbances whatever the quantity might vary a bit.

But it is always desirable or there is no really question if the deviation is within that 10 percent of the actual quantity that has been estimated, ok. Now the construction drawing is going to have every detail in it, every detail in terms of dimensions and they going to millimeters, so what happens is when the contractor or executor who is going to work basically they are going to give it to the labours and the labours are going to measure and then they are going to put the things in place exactly as per measurement.

So this construction drawing should not have any errors. In fact you know literally I will tell you if there are errors then there are opportunities for the contractor to deviate from what is there in the BoQ. Because he will all sight this error as an example that since the dimension is not there I made it so weak and since the dimension is not there we made it so small and the designer cannot do anything.

So ideal thing is that when you make the construction drawing you check all dimensions, before raising the construction drawing for the site it is always better that you double check. In fact professionally I find it is always visible that if you put somebody on the job who is going to check this and ultimately he checks the entire drawing and finds if there is some discrepancy, if there is an anomaly from one drawing to another because each project might have about 50, 60 drawings. So if such anomalies are removed it is always better, ok.

Then what you do is you take the supervision into your work, in the supervision what happens is you implement the project, in the implementation stage what happens is this is responsible contractor but you appoint a good supervisor and also as a designer you should also take some time out and periodically supervise the way the work is going on. Your supervisor is going to check everything at place, every day and periodically or occasionally if you go and make a random check then probably we will be able to identify there is any errors or there is any rectification that is to be done.

And then you undertake the annual maintenance operation, this is one particular area I always tell my landscape designer friends. That this is an area which is perpetual, what happens is once your commission the work landscape work you are preparing concept drawing, you are preparing the construction drawing, BoQ everything is fine. Then you leave it in the hand of the contractor and you get your fees.

If you take the supervision you get an additional fees, fine but how about taking the annual maintenance operation, generally for other equipments we say annual maintenance contract AMC, here I would say AMO annual maintenance operation that you take. Ofcourse you do require a very strong team of people who would be working on this and they will do the job.

Now after that, you conduct a post-occupancy evaluation, basically post-occupation evaluation you can always do it very methodically or you can also do very very superficially superficially is like you designed a park, park is executed people are using it and you go in as a user and keep an eye and ears open and see what people are reacting, how they are reacting, what is their opinion if they are saying good you feel good, if they said is wrong you do not feel good.

The thing is this post-occupation evaluation which is very you know rudimentary run is by yourself and your friends and your (())(9:14) but you can also have a very strong question

oriented study done you can meet people randomly and take their opinion as structure in your question that you can do.

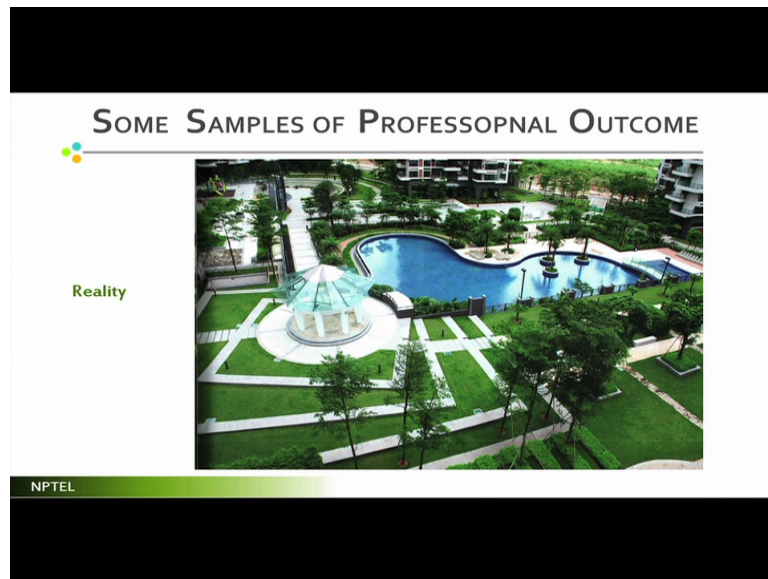
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Now let me show you some samples of professional outcome. Say the concept design, I will just show pictures and give you an idea that how things look like. See this is an example of a concept design in which the buildings, other areas and the entire landscapes are very well clearly mentioned, ok. This concept design will be reviewed by user, by the owner and then it may be a body, a committee of experts they will approve your concept design and your role will be to explain the free aspect of it.

In this particular concept design everything is graphically done, nothing has been annotated. What is annotation if you take, you know just take an arrow make an arrow and you write something and people get automatically you know dictated to this particular items, ok. That is another way and basically the annotated drawings are better whenever is being reviewed in your absence. If you are not there you do not have any opportunity of explanations, it should become self-explanatory, ok.

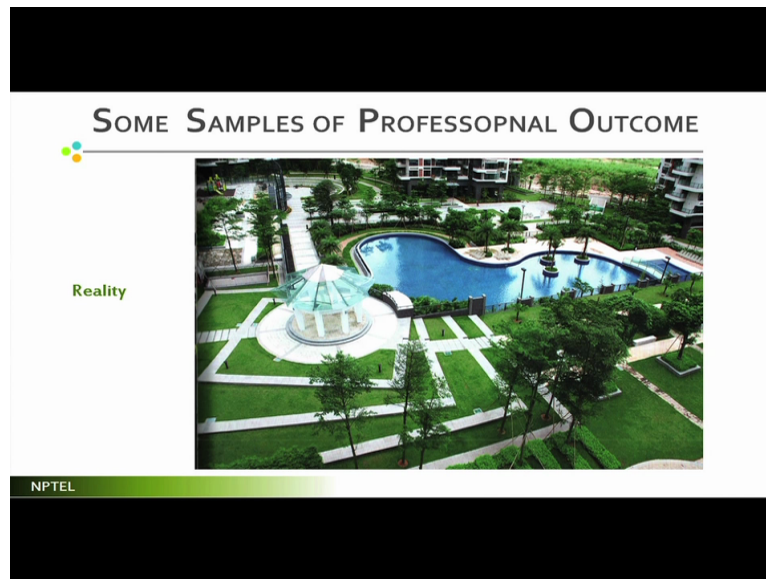
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So if the concept design is this I am just showing you two pictures one after other, the same concept design which has been given a shape in reality which looks like this.

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Now I will go back look at this, this is the concepts design looks something you have to understand what is likely to be in future and now if you see that this goes into the reality, this is what is the result of it.

It simply indicates that your concept design should have all the components, all the items which can be very clearly explained in the drawing itself because nobody has such strong visualization power that one can visualize exactly what is going to be in in reality, ok.

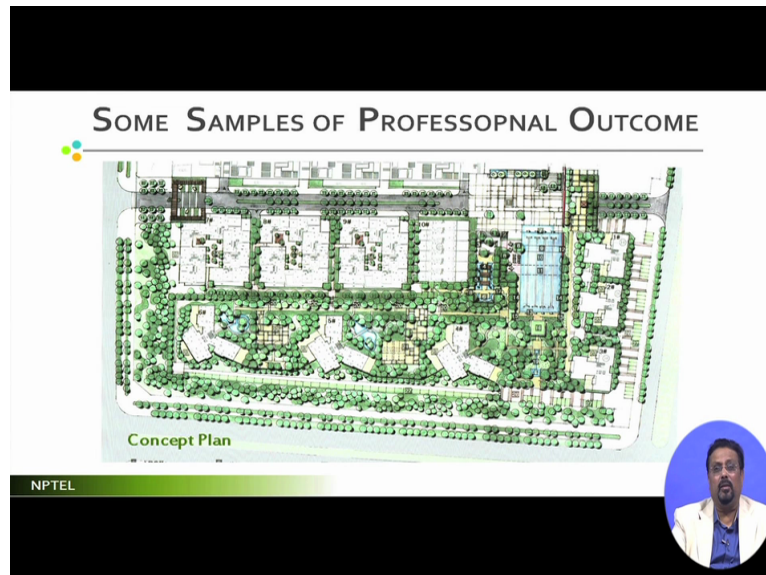
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Another example, concept look at the reality, this is what it is. Basically one group of experts that is a landscape designer means you and your team would be able to visualize this much better (11:45) best with whatever style or whatever techniques you use, I can assure you that you may not be able to create exactly the same kind of visualization in 3Ds also. But

however now it is with the help of computers and all the very advanced softwares we are trying to emulate exactly what it should be in the reality and with all these CGIs and all that we are being able to do it to a great extent. The idea is whether the client has understood, ok.

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Next next you look at this this is another concept plan, so basically what is there in the concept plan. It is at the ground level plan that we are preparing, so at that ground level slightly above you are showing that what are all these items, ok, specially the building elements, the parks, the trees.

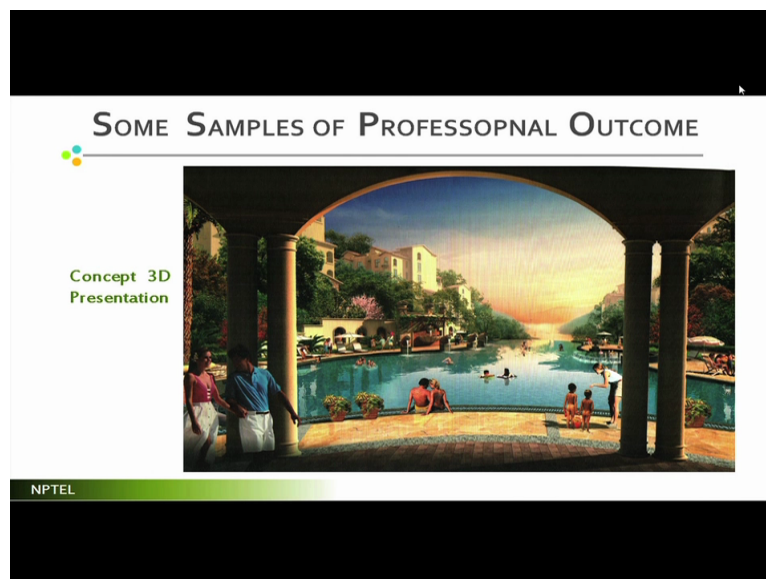
Now in the concept plan what happens is the location of trees or the positions of trees that you are seeing that is not exactly where it should be, it is only pictorially it should look good, pictorially it should look attractive but when it comes to the real drawing in such cases there will be a technique, there will be a grammar of putting all these plantations in a particular sequences I will discuss that later, ok.

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This is this the concept drawing, I am just showing one more as a concept 3D presentation, ok. That means people will have some idea that what it is going to be once it is constructed. So this is also important in the concept plan preparation you try to prepare as far as practicable or as far as achievable 3D images, earlier what you in the absence of computer we used to do it with hand, we use to make 3 dimensional sketches and that is to make a good senses and people used to have 2, 3, 4 views. But now with the computer you can make multiple views the way you want, ok.

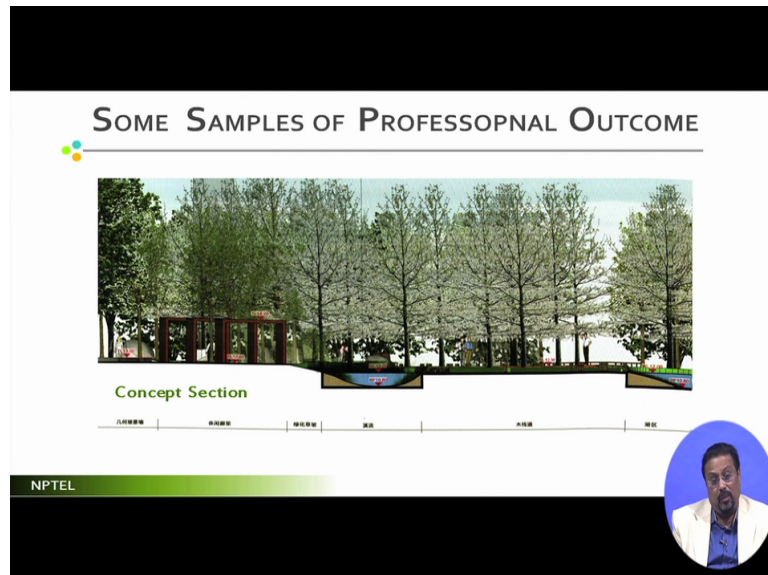
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Now the next one this is another it looks like almost like a sort of artist impression. So basically what happens is all these 3Ds we call that as artist impression why we call that as

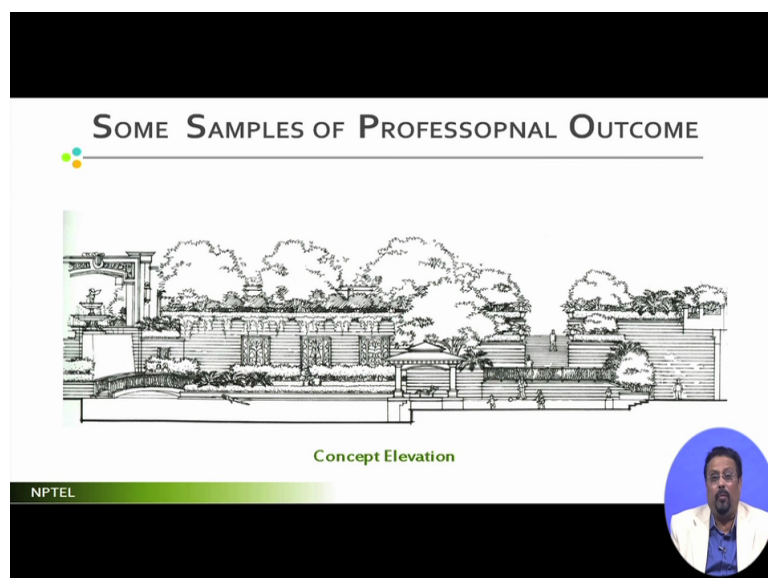
artist impression, the reason is this that hear the people gets idea what the artist is visualizing. So artist is visualizing what you are visualizing. Quite often the landscape architects are equally competent or may be better competent, more competent than even a visualizer, ok.

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Next this is the representation of a concept section, so what happens is in this the section has been drawn like a technical drawing, like is if I would say that this is the section line which has been drawn with all those pits and mounts and such other things and embankments and water body and rest of the things are you know emulation or image of trees and other, this also gives a clarity in the mind of the viewer. That means the owner when he see your section, he also makes it gets it very very clear, ok.

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Then comes concept elevation, look at this here the landscaping is a part of the building elements and as a building elements you know we just try to show trees and all these are all represented in. This may not be exactly to the (14:59) of the kind of tree that you are able to have. The trees will have different shapes and it is best if you could almost emulate what kind of tree is going to come and what is your profile.

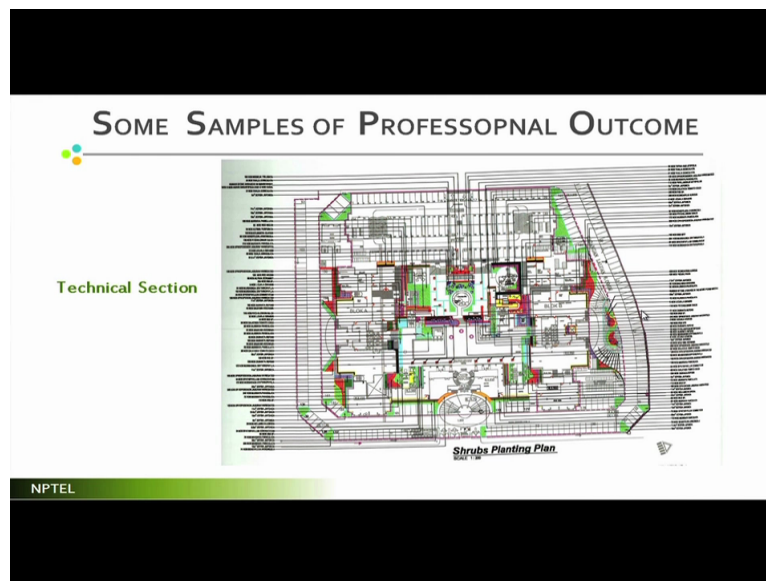
But this is how the concept elevation looks like, these are mind it semi technical drawing and these are very dimensional, they are not arbitrary, everything is dimensional.

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And then another one, this is a section in which you will find that every element every elements are annotated, shown with the building elements and how the tree is going to be planted over there how the planter box is going to be all these are a part of it. So these are technical sections.

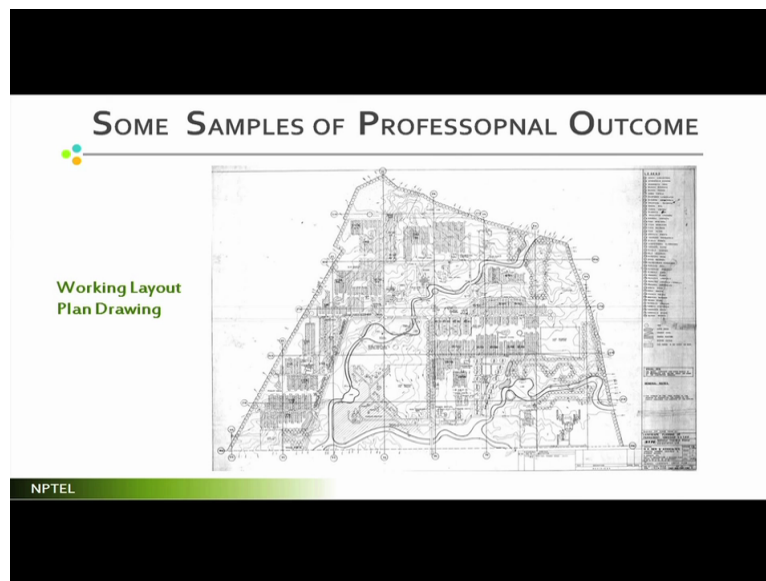
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Now see another technical section, look at this drawing, looks very cluttered very clumsy. Now this particular technical drawing has lot of annotations, mind it the thing is these annotation are very meaningful, very useful do not bother about the quality of the drawing entirely if it is totally cluttered, because each and every element unless told you will not be able to visualize.

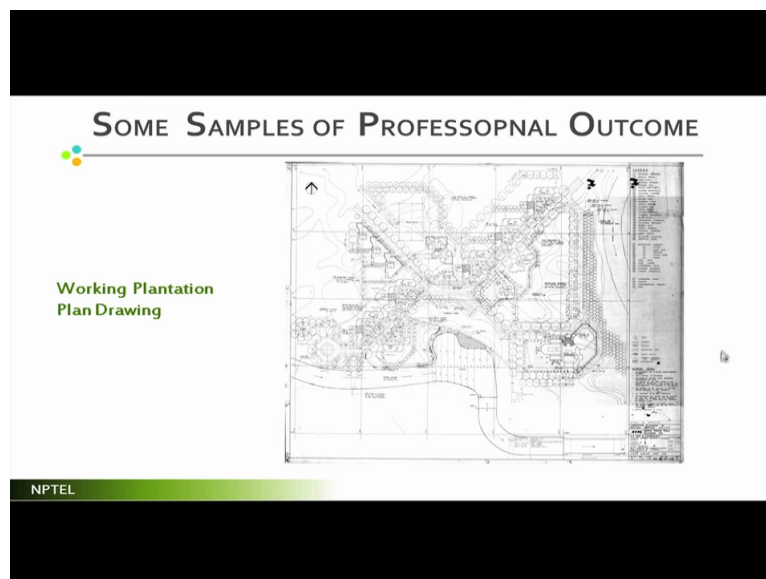
So this particular drawing is very very technical drawing in terms of plan, so I have shown you one plan earlier where there were no iterations, I am showing another plan where there are annotations, so not bother about the clutteredness of this what is most important is how much communicated elements are there, that means people know exactly what you are giving.

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Now here I am going to show you few of my own projects works, ok. Now this is one of the town shape landscape plans which I have prepared for Vindhyachal NTPC Township. Now this is a kind of drawing if you really look at the drawing it looks very very cluttered and looks like any other construction drawings and that is important. The thing is it should be here every location of the buildings are there and then the trees are also located not retail infact this is the brought layout plan and this for showing the plantation in all those areas it has almost generated nearly 30 drawings to show the plantation this is all on the places.

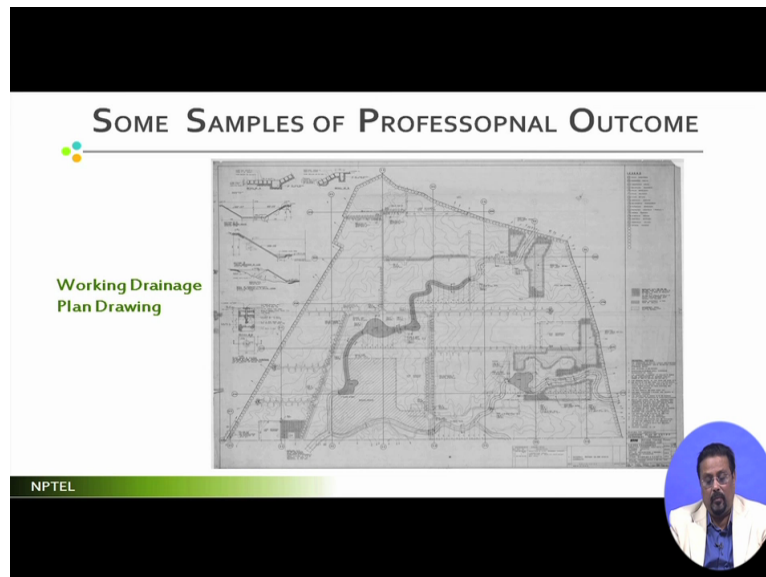
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Now this is another one, in the same project another one in the same Vindhyachal NTPCs domain it is Russian complex look at the drawing in which you can if you can make out there

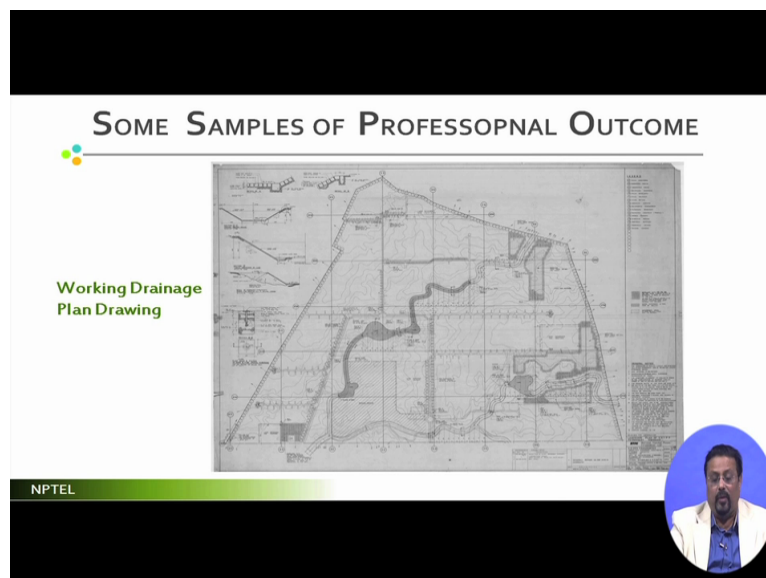
are plantations here, there are houses here, there are roads, there are grids, given dimensions and everything is dimensioned. This is how the working drawing is or construction drawing is, it must have all the trees names and its numberings here and the dimension so that there is no mistaken creating this.

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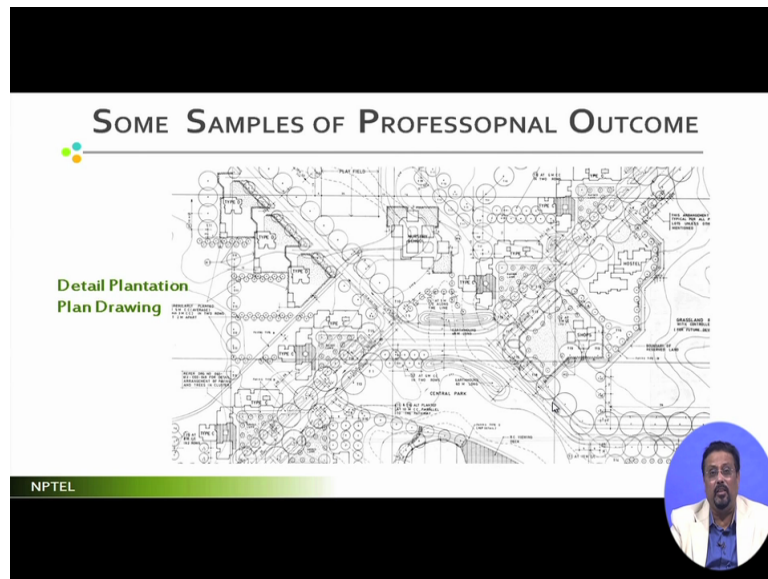
I will show you another one look at this.

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Let me show you one more in detail, ya this particular drawing which has the same township where the drawing is having only the canal location shown absolutely with dimensions and some idea of the plantations.

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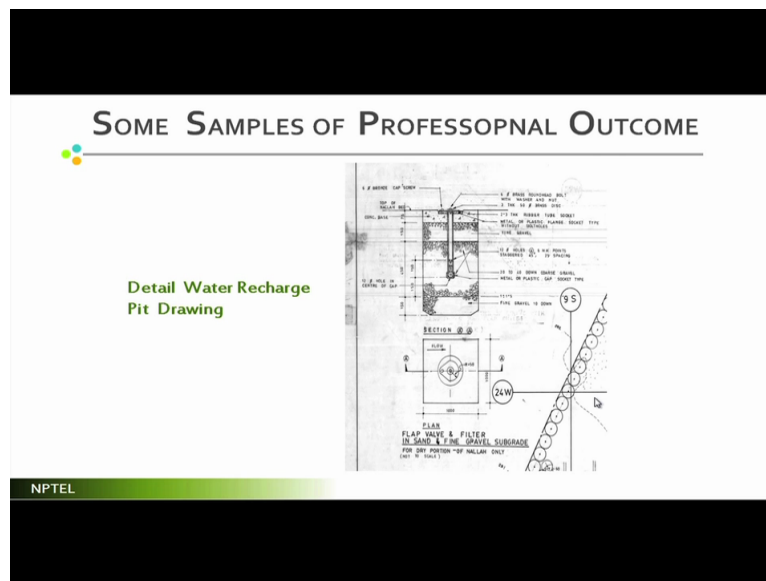
And this is another detail plantation drawing.

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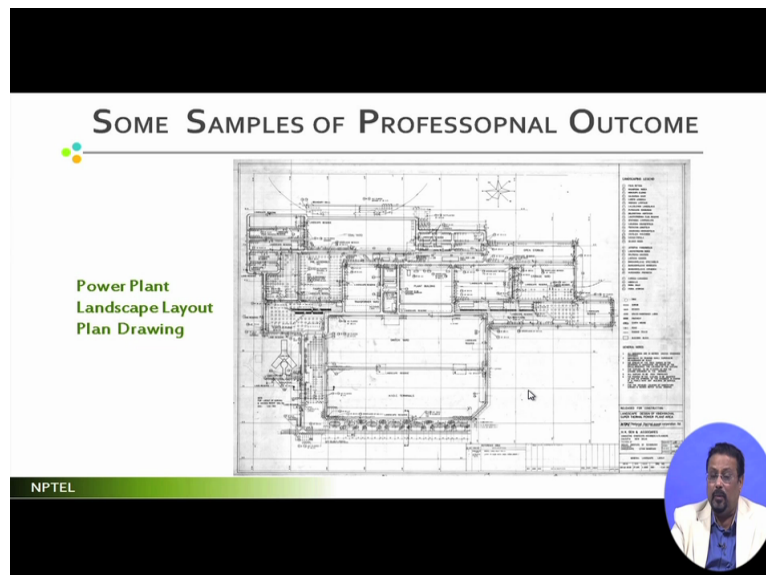
And this is the embankments, the canals are there, the canal embankment that means this particular working drawings are as good as rather same as any other engineering drawings. So never consider that your landscape plan is nothing but a colorful pattern making game, no.

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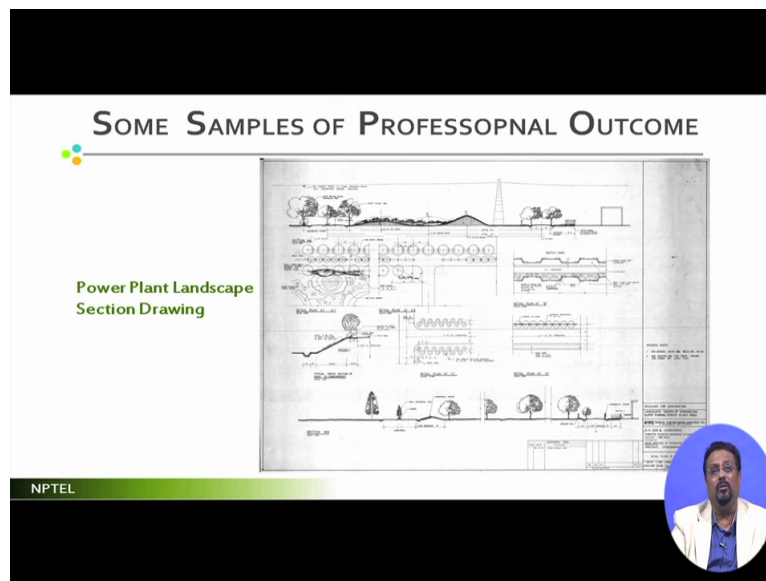
One more look at this it is a recharge pit, that means on the canal in the bed I will discuss this when I will be talking about the drainage plan later that there are recharge pits where in case there is a access of water that should be allowed to go in or in case there is a ground water here that should be allowed to come up, so that is the recharge pit we have.

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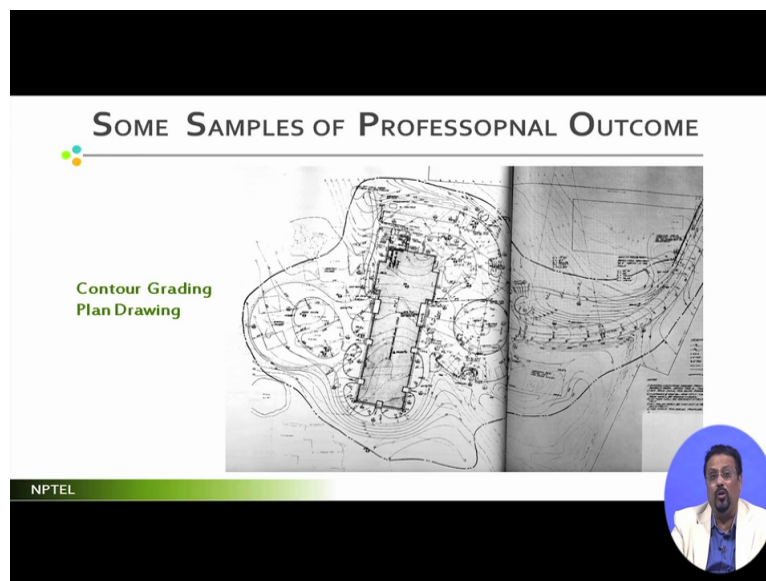
And look at this one, this is the NTPCs Vindhyachals power plant, it has a it has nearly say 15 drawings to indicate the total landscape plans I am just showing you one layout plan in which their everything is shown the mounts, the plants and every other aspects are shown.

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The sections the landscape sections, which has the mount size, slopes, location of plans their positions and the sections.

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I am just showing you one representative plan for contour evaluation, if suppose any area which has been if the landscaping is being done around this particular building the contour has been evaluated, contour has been graded, so it is a contour grading plan. So basically what lab in is your construction drawing will have multiple such things.

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SOME SAMPLES OF PROFESSIONAL OUTCOME

Ultimate Outcomes

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So ultimate outcome whenever you are planning it can be ranging from such kind of large housing areas to a clubs and such country homes it can be to the level of parks, it can be to the level of greens urban greens, it can be to the level of small extension housing area greens and even to the interior. So all together basically what happens is if you follow the same items as I said for the scope of work you will find that this will be very very ideal.

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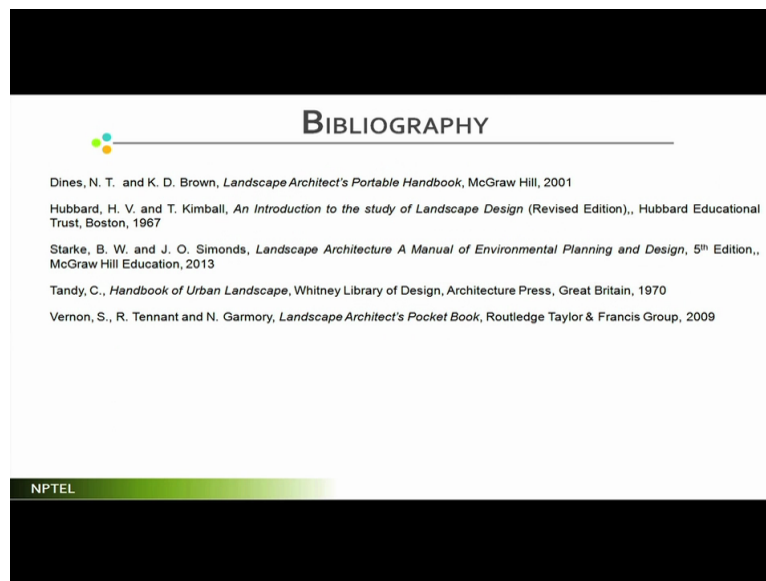
GLOSSARY

| | |
|--------------------------------|---|
| Arboriculture | The science of growing and caring for ornamental trees |
| Built environment | It is the part of the world we live in, subjected to human intervention for human activity, which was endowed by nature |
| Ecology | The study of life in relation to its environment |
| Floriculture | The study of growing, marketing, and arranging flowers and foliage plants |
| Horticulture | Horticulture derives from the Latin <i>hortus</i> . It meant a 'garden' space, in contrast to an 'agricultural' space |
| Horticulture | The intensive cultivation of garden (<i>hortus</i> "garden", <i>cultura</i> "cultivation"). |
| Horticulture | The science and practice of growing, processing, and marketing fruits, nuts, vegetables, and ornamental plants |
| Hortus | <i>Hortus</i> is the Latin word for garden |
| Hortus conclusus | <i>Hortus conclusus</i> is the Latin for enclosed garden |
| Landscape | The large tract of land, usually extending to a horizon line, as seen from a specific point of view |
| Microclimate | A small area with a climate differing from that of the surrounding area because of factors such as exposure, elevation, and sheltering structures |
| Olericulture | The science and practice of growing vegetables |
| Ornamental horticulture | The branch of horticulture that deals with the cultivation of plants for their aesthetic value |

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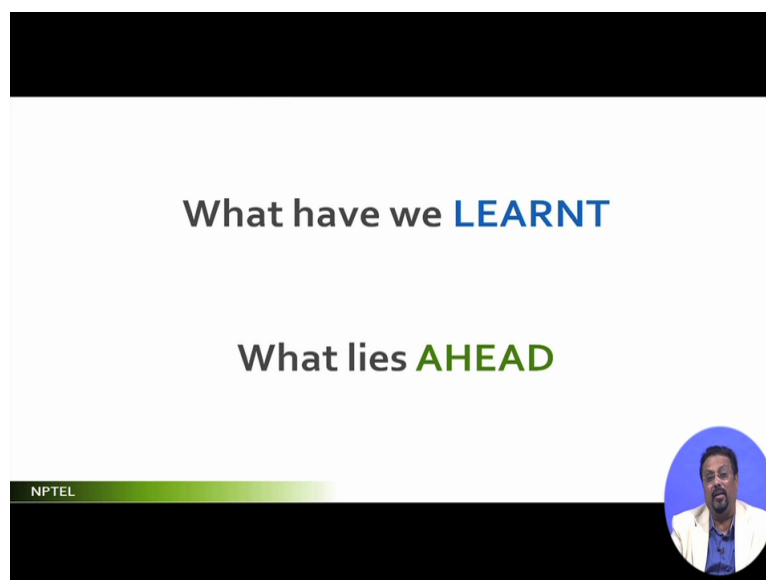
Now I am putting two slides here, one for the glossary this you will go through this glossary generally is covering all the items that has been covered within this lecture.

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And also a brief bibliography so idea is this particular set of lectures is supported with this glossary and bibliography it is not enroll, there will be many other items so every sequential lectures as soon as one particular aspects will be discussed, there will be a set of bibliography and a set of glossary of terminology. So that at by the end you will have a full set of glossary and full set of full set of bibliography.

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So here what we have learnt is all about the categories of landscapes to the scope of work and what lies ahead is the history we will be discussing in the next set of lectures, the history of architecture, thank you thank you for listening.