

CONSOLIDATED GUIDELINES IN FORCE ADOPTED BY THE STATE GROUNDWATER DEPT AS ON 28.1.11

CONSOLIDATED GUIDELINES 2011

(BASED ON THE GOVERNMENT ORDERS AND TECHNICAL CIRCULARS)

Existing consolidated, comprehensive technical Guidelines adhered by the PWD ,SG&SWRDC, Government of Tamil Nadu for evaluation of proposals on abstraction of groundwater for issuing the “Groundwater availability certificate / NOC / Groundwater clearance ” to the Firms / Industries / Organizations and Infrastructural projects and Transportation of groundwater other than domestic purposes in Tamilnadu

The Government of Tamilnadu approved the categorization of the Panchayat Union blocks in Tamilnadu as Over- Exploited, Critical, and Semi critical and safe blocks for ground water development as on January 2009. This categorization will be updated based on periodic assessment. (Ref: G.O. (Ms) No. 51 PW (R2) D Dated: 11.2.2004).

Also the Government of Tamil nadu enacted the Tamilnadu Groundwater (Development and Management) Act 2003 and published in the Government of Tamilnadu Gazette (Extraordinary) notification dated, March 2003. Pending establishment of Tamilnadu Groundwater Authority, the Govt. of Tamilnadu, instructed and empowered the CE/SG&SWRDC, Chennai 113 to issue “ Groundwater Availability Certificate / NOC / Groundwater clearance ” as per the existing rules in force and by adopting the correct ,scientific methodology to industries other than domestic uses by individuals.(Ref: Govt Lr.no 12260/R2/2006-1 Dated: 03.05.2006)

Based on the Govt of Tamilnadu orders and instructions, and other technical instructions issued then and there, the following consolidated revised instructions were hereby notified and ordered for issuance of Groundwater Availability Certificate to the Firms / Industries / Organizations and Infrastructural projects. These consolidated and comprehensive instructions are in force on 28. 01. 2010 and it will superseded all the instructions given earlier in this regard.

The systematic methodology for the issue of Groundwater Availability certificate is ordered in the following IX stages and all the S Es , E E s, and AD(G) s of the Groundwater wing should strictly adhered the same with immediate effect.

Stage 1:

Receipt of application from the Firms / Industries / Organisations and Infrastructural projects for awarding Groundwater Availability Certificate.

**A. Under Tamil nadu Groundwater (Development and Management) Act 2003.
(Pending establishment of Tamilnadu Groundwater Authority).**

The 4 sets of application addressed to the Chief Engineer, SG&SWRDC, Chennai and submitted to the concerned District EE, GW Division of the respective Jurisdiction directly for taking further action& also available in the web of the Department. The prescribed approved application format is enclosed in the Annexure.

1. 4 sets of Application for issuing Ground Water clearance will have to be addressed only to Chief Engineer, SG&SWRDC Chennai -113, one set for the AD(G) concerned for field survey and other two sets for the onward transmission to the SE / CE along with the field report.
2. Application will have to be accepted based on the categorization of blocks (as per the latest assessment).
3. Application will have to be sent to Superintending Engineer, concerned Ground Water Circle, and CE's office along with the technical report.
4. However the receipt of the application is to be informed to CE office in the monthly progress report in separate form.
5. No applications received by the CE's office directly with effect from 28.01.2011.

Stage 2

Eligibility:

Areas Eligible for issue of Groundwater Availability Certificate in Tamilnadu:

1. All the villages falling in the blocks come under the category of Safe and Semi critical vide G.O. (Ms) No. 51 PW (R2) D Dated: 11.2.2004 is eligible for the purpose of study, subject to satisfy all other technical norms as declared in different stages below. (Ref: G.O. (Ms) No. 51 PW (R2) D Dated: 11.2.2004)
2. No schemes should be formulated in over exploited and critical blocks, and in semi critical and safe blocks all the schemes should be formulated in consultation with State Ground and Surface Water Resources Data Centre of Water Resources Organisation in Public Works Department.(Ref: G.O. (Ms) No. 51 PW (R2) D Dated: 11.2.2004)
3. தமிழ் நாட்டின் முக்கிய நீர் ஆதாரங்களான காவிரி மற்றும் அதன் உபநதிகள் பெண்ணையாறு, பாலாறு, வைகை மற்றும் தாமிரபரணிகளிலிருந்து 5 கி.மீட்டர் தூரத்திற்குள் 30.03.1989ஆம் நாளிட்ட சுற்றுச்சூழல் மற்றும் வனத்துறை அரசாணை (நிலை) எண்.213இன் இணைப்பு 1இல் கண்டுள்ள 14வகையான தொழிற்சாலைகள் நிறுவப்பட அனுமதி அளித்தல் கூடாது". (பார்வை: அரசு ஆணை (1டி) எண் 223 சுற்றுப்புறம் & வனத் (சுக3) துறை நாள் 02.09.98.).

LIST OF HIGHLY POLLUTING INDUSTRIES

1. Distilleries
2. Tanneries, Sago, Sugar, Dairies and Glue
3. Fertilizer
4. Pulp & Paper (with digester)
5. Chemical units generating trade effluent containing such pollutants which may pollute air, water and land before treatment and those chemicals which may alter the environmental quality by under going physical, chemical and biological transformation.
6. Petroleum Refinery
7. Textile Dyeing Units
8. Steel Plant (Electroplating, heat treatment etc.)
9. Ceramics
10. Thermal Power Station
11. Basic Drug Manufacturing Units
12. Pesticide
13. Asbestos
14. Foundries

(Ref: ANNEXURE – I of G.O. Ms.No:213 E&F (EC-I) Dept. Dated: 30.3.89)

4. தற்போது சில தொழிற்சாலைகள் நீர் ஆதாரங்களிலிருந்து, நீரை பயன்படுத்தி தொழில் வளாகங்கள் ஏற்படுத்தப்படுகின்றன. நீரின் தன்மையை சரிவர பாதுகாக்கவும், நீர்வளம், மக்கள் வளம், உயிர்வாழ் இனங்களின் நலன் ஆகியவைகளைக் கருத்தில் கொண்டும், உயர்நீதிமன்றம் மற்றும் உச்சநீதிமன்றங்களின் தீர்ப்பின் அடிப்படையிலும், இலட்சக்கணக்கான மக்களின் நலனை கருத்தில் கொண்டு நீர் ஆதாரங்களின் தன்மையை பாதுகாக்கவும் அதே நேரத்தில் தொழில் வளர்ச்சி குன்றாமல் இருக்கவும் நீரை அதிக அளவில் மாசுபடுத்தும் தொழிற்சாலைகள் தொடங்கப்படுவதை வரன்முறைப்படுத்துவது பற்றி கொள்கையினை எடுத்துள்ளது.

மேலே கண்டுள்ள சூழ்நிலைகளின் அடிப்படையில் அரசாணை (நிலை) எண்.213 சுற்றுப்புறம் & வனத்துறை நாள் 30.03.1989ஐ சுற்று விரிவுபடுத்தி தீவிரமாக அமுல்படுத்த கீழ்க்கண்டவாறு ஆணையிடுகிறது.

- 1) அரசாணை (நிலை) எண்.213 சுற்றுப்புறம் & வனத்துறை 30.03.1989ஐ முழு அளவில் தீவிரமாக நடைமுறைப்படுத்தப்படல் வேண்டும்.
- 2) தமிழ்நாட்டில் முக்கிய நீர் ஆதாரங்களான காவிரி மற்றும் அதன் உபநதிகள் பெண்ணையாறு, பாலாறு, வைகை மற்றும் தாமிரபரணி ஆகிய நதிகளிலிருந்து 5 கி.மீ தூரத்திற்குள் நீரை அதிக அளவில் மாசுபடுத்தும் எந்த தொழிற்சாலையும் (சிவப்பு வகை) நிறுவப்பட அனுமதி அளித்தல் கூடாது.

பிறவகை தொழிற்சாலைகளான ஆரஞ்சு மற்றும் பச்சை தொழிற்சாலைகளுக்கு நீர் ஆதாரங்களிலிருந்து நீரை எடுப்பதற்கு அனுமதி வழங்குவதற்கு முன்னரும், புதிய தொழில் வளாகங்கள் ஏற்படுத்துவதற்கு முன்னரும் முறையே பொதுப்பணித்துறை தொழில்துறை மற்றும் பிற்துறைகள் சுற்றுச்சூழல் மற்றும் வனத்துறையை கலந்து ஆலோசிக்கப்படல் வேண்டும். இனி வரும் காலங்களில் புதியதாக தொடங்கவிருக்கும் தொழிற்சாலைகளுக்கு இந்த நடைமுறை பொருந்தும்.

(பார்வை: அரசு ஆணை நிலை எண்.127 சுற்றுப்புறம் & வனத் (சுக 3) துறை நாள் 08.05.98.)

LIST OF HIGHLY POLLUTING INDUSTRIES

- A. 1. Distilleries 2. Tanneries, Sago, Sugar, Dairies and Glue 3. Fertilizer 4. Pulp & Paper (with digester) 5. Chemical units generating trade effluent containing such pollutants which may pollute air, water and land before treatment and those chemicals which may alter the environmental quality by undergoing physical, chemical and biological transformation. 6. Petroleum Refinery 7. Textile Dyeing Units 8. Steel Plant (Electroplating, heat treatment etc.) 9. Ceramics 10. Thermal Power Station 11. Basic Drug Manufacturing Units 12. Pesticide 13. Asbestos 14. Foundries. (Ref: ANNEXURE – I of G.O. Ms.No:213 E&F (EC-I) Dept. Dated: 30.3.89)

Other industries in Ultra red, Red Orange and Green categories are notified in the G.O Ms.No. 213 E&F (EC-1) Dept dated 30.3.89.

B. The other industries other than mentioned above are comes under this category, and the details are available in the: **ANNEXURE – I of G.O. Ms.No:213 E&F (EC-I) Dept. Dated: 30.3.89)**

5. In coastal area ,proposal for extraction of groundwater with in 10 Km from the coast such applications are to be rejected out rightly as there is an imminent danger of sea water ingress into the land happening surely and rapidly in the coastal area leading towards the energized drawal structure when once such a drawal structure is permitted for pumping of ground water in large quantities as requested by the Firms/Industries / Organisations for their usage. Obviously, such a proposition simply can not be entertained by paying such a costly price of damaging our invaluable resources of land and water in the coastal area perennially.

Now, the question here is how far from the sea coast we must prohibit the establishment of such Ground Water development by any Firm/Industry/Organisation for its running. To find out the answer or to have a feedback for the decision, we have to turn towards the past history of such similar cases of ground water drawals carried out in the coastal region. In those cases, we have one prominent out - standing example of relentless ground water drawal made in Minjur and Panchatti areas which ultimately resulted in the untoward incidence of sea-water intrusion into the land to an unexpected all-time high distance of 16 KM.

Therefore, in order to be very practical and reasonable, the border-line or the line of separation of zones is hereby safely fixed at a perpendicular distance of 10 KM from the sea-coast beyond which only any Ground Water drawal proposal should be considered for processing for award and all other ground water development proposals falling within the 10 KM range from the sea-coast should be rejected at the outset.

Henceforth, the above stipulation should be strictly adhered to in all the cases of ground water drawal proposals processing without any lapse or deviation whatsoever.

(Ref: CHIEF ENGINEER'S CIRCULAR No. CE -5/2010/DD (G) / Dated 02.07.2010)

6. The blocks fall under Palar basin Rules, the following areas are not eligible for abstraction of Groundwater.

The purpose and objective of this regulatory instrument is to arrest unhealthy trend in the exploitation of groundwater along the river course. The palar basin rules, as amended recently in Government order M.S.1766 PWD dt.31.10.88 stipulates as follows.

1. The distance rule (i.e. distance between wells and river banks) shall be 200 meters and this distance has to be computed from the banks of the River.
2. Only those survey fields which come within the prohibited distance of 200 meters (and not the entire village) be subjected to Palar basin Rules.
3. The fields abutting spring heads or channels which were earlier in existence but now dried up should not be subject to the rules.

Ref: Government order M.S.1766 PWD dt.31.10.88

4. The collectors of North Arcot (Presently Vellore & Thiruvannamalai) and Chengalpattu (Presently Kancheepuram) are authorized to decide to which of these spring heads / channels have become defunct.

7. The Extraction point falls within 50 meters from the canal are not eligible for abstraction of Groundwater.

The applications which will fulfill the above conditions are only eligible for processing under Stage 3.

Stage 3:**Documents to be submitted by the applicant.**

In addition to the prescribed application which was forwarded from the Chief Engineer office, the following documents to be obtained from the applicants by the field officers, the Assistant Director (G) of the respective revenue District for processing the application. They are,

List of Documents to be enclosed along with the Application to obtain Groundwater Clearance Certificate.

1. Attested copy of registered land ownership document in the name of applicant (or) lease agreement for a minimum period of 10 years in the name of applicant.
2. The latest encumbrance certificate showing the name of applicant for ascertaining the ownership of the area. or lease
3. FMB Sketch
4. Not to scale topo sketch showing the location of wells and the industry.
5. Chitta & Adangal copy.
6. Copy of EB card.
7. The distance between the proposed well for groundwater extraction and nearest wells and the depth of the wells to be certified by Revenue Inspector of concerned village.
8. The distance between the well proposed for extraction and nearest surface water body such as tank, canal, Stream River etc. to be certified by Revenue Inspector of concerned area.
9. The distance between the well proposed for extraction and the bank of Palar River (Palar basin Rules) to be certified by Revenue Inspector of concerned area.
10. "No objection Certificate" from the concerned Village Panchayat for the proposed quantity of ground water extraction and transportation of groundwater if any.

Stage 4:**Processing of Application Forms.**

1. The application must full fill all the conditions laid down in Stage No.2 (Eligibility criteria) for processing the same. Until otherwise it is returned immediately within 15 days.
2. The land in which the drawal wells have been proposed by an industry/organization for issue of Ground Water Availability Certificate for drawal of Ground Water should either be the own property of the owner / proprietor of the industry/organization registered in his name or a leased property taken on lease by the owner/proprietor of the industry/organization in his name and duly and properly registered, with the left over lease period on the day of receipt of

application from the industry/organization for issue of Ground Water availability certificate afresh or for renewal of the certificate being more than 5 years. Other than these two types of land and well ownership, no other mode of accessibility or permissibility of land and well will entail the owner/proprietor of the industry/organization to claim for issue of Ground Water Availability Certificate to his industry/organization.(Ref: CHIEF ENGINEER'S CIRCULAR No. CE 1/2010/DD (G) / Dated 25.01.2010)

3. On receipt of documents from the applicants, the spacing certified by the Revenue Inspector and the eligibility criteria are to be verified by the field officers on record.

(The spacing certificate furnished by the Revenue Inspector is meant only for processing the applications and concerned Asst Director (Geology) and Executive Engineer should ascertain in the field and this is to be certified in the report.)

4. Minimum spacing to be adopted between

| | | | |
|-----|--------------------------------------|---|--------|
| 1. | Two dug wells | : | 150m |
| 2. | Two shallow tube wells | : | 175m |
| 3. | Two filter points | : | 175m |
| 4. | Two dug cum bore wells | : | 175m |
| 5. | Two medium tube wells | : | 600m |
| 6. | Two deep tube wells | : | 600m |
| 7. | Medium tube well and deep tube well | : | 600m |
| 8. | Shallow tube well & Medium tube well | : | 387.5m |
| 9. | Dug well and Shallow tube well | : | 162.5m |
| 10. | Dug well and Medium tube well | : | 375m |
| 11. | Dug well and Deep tube well | : | 375m |

Note: Spacing norms not applicable for domestic wells.

The shallow tube well / filter point is up to 100m.Bgl

The medium tube well is classified as the depth from 100m to 250m Bgl.

The deep tube well is classified as the depth having more than 250m Bgl..

Ref: G.O. Ms. No.281 Public Works Department Dated 03.04.1996.

Ref: Chief Engineer Lr.No.G10 / 201 / Vol.8 / 92 dated 29.05.1992.to the Registrar of Coop. Societies Madras – 600 010.

5. The blocks fall under Palar basin Rules, the following areas are not eligible for abstraction of Groundwater. The purpose and objective of this regulatory instrument is to arrest unhealthy trend in the exploitation of groundwater along the river course. The palar basin rules, as amended recently in Government order M.S.1766 PWD dt.31.10.88 stipulates as follows.

- 1.) The distance rule (i.e. distance between wells and river banks) shall be 200 meters and this distance has to be computed from the banks of the River.
- 2.) Only those survey fields which come within the prohibited distance of 200 meters (and not the entire village) be subjected to Palar basin Rules.
- 3.) The fields abutting spring heads or channels which were earlier in existence but now dried up should not be subject to the rules. Ref: Government order M.S.1766 PWD dt.31.10.88
6. No groundwater availability survey to be carried out in the hamlets, village area or any other habitations which will adversely affect the drinking water sources of the people, which leads to local agitations.
7. The ownership of the well, spacing between the adjacent wells and distance to river, canal etc. if any available nearby have to be ascertained(on record) by the Asst. Director, Geo.Sub.Divn and verified by the Executive Engineer, Ground Water Division before giving instructions to the applicant for remittance of fee for aquifer performance test. Before collecting the fees for aquifer performance test, documents relating to ownership of the wells like chitta adangal, FM sketch etc. (as stated in stage 3) are to be verified by Asst. Director, (Geology) Ground Water Sub-divn and Executive Engineer, Groundwater Division and the applications fulfill all the eligibility criteria, then the applicant to be informed for the remittance of fees. (Service charges). Ref: C.E Lr.No.G8 / MISC/2006 dt.14.07.2006.

Stage -5

Collections of Service Charges.

If all the conditions are fulfilled as in stages 1 to 4 the service charges may be remitted by the applicant as below.

Service charges of Rs.1,500/- (Rupees one thousand and five hundred only) per day conducting one pumping test for issue of water availability certificate with stipulated spacing condition of 150m between two wells and 200m away from the river bed.

If the pumping and recovery observation hours exceed 24 hours, an additional amount of Rs.1,500/- may be collected for every subsequent day. Most of the pump test involves more than 24 hours, including reconnaissance for 3 hours, Verification of distances on spacing norms for 4 hours pumping test duration and thereafter observation of recuperation of Groundwater there off. Hence the Department required collecting at least minimum of 2 days charges from the applicant and the maximum depends on the yield and quantum of requirement. Besides, the party has to provide the transport and lifting service for conducting the pump sets. Also it is to be ensured that on no account, the stipulated spacing condition of 150m between two wells is violated. Further, the pumping well should be stipulated at least

200 meters away from the river bed. Ref: G.O. Ms. No.281 Public Works Department Dated 03.04.1996.

Stage – 6

Conducting Pumping Test and Preparation of Report.

1. The eligibility of the area for the pumping test is to thoroughly verify with the 6 conditions mentioned in stage 2. If it is not fulfill the condition, the pump test need not be conducted and the rejection report to be intimated at once.

2. Before making the hydrological survey in the study area, the spacing norm to be verified thoroughly in the field with reference to pumping well / river beds / canal/ tanks and other structures mentioned in stage 2 – Eligibility.

3. The spacing norms are as follows.

| | | | |
|-----|--------------------------------------|---|--------|
| 1. | Two dug wells | : | 150m |
| 2. | Two shallow tube wells | : | 175m |
| 3. | Two filter points | : | 175m |
| 4. | Two dug cum bore wells | : | 175m |
| 5. | Two medium tube wells | : | 600m |
| 6. | Two deep tube wells | : | 600m |
| 7. | Medium tube well and deep tube well | : | 600m |
| 8. | Shallow tube well & Medium tube well | : | 387.5m |
| 9. | Dug well and Shallow tube well | : | 162.5m |
| 10. | Dug well and Medium tube well | : | 375m |
| 11. | Dug well and Deep tube well | : | 375m |

The distance between the extraction points of TWAD / Local bodies such as wells, bore wells, Galleries and the referred applicants drawal point is to be measured and the data of already in extraction to be incorporated in report. Note:Spacing norms not applicable for domestic wells.

4. For Palar basin areas the spacing norms are as follows:

a. The distance rule (i.e. distance between wells and river banks) shall be 200 meters and this distance has to be computed from the banks of the River.

b. Only those survey fields which come within the prohibited distance of 200 meters (and not the entire village) be subjected to Palar basin Rules.

c. The fields abutting spring heads or channels which were earlier in existence but now dried up should not be subject to the rules.(Ref: Government order M.S.1766 PWD dt.31.10.88).

In some case the AD(G) of GW sub Division / the Executive Engineers of Ground Water Divisions while they come across cases non-compliance of spacing norms for drawal well proposed by an industry/organization, they simply obtain a No Objection Certificate from the third party whose well is within the objectionable distance, to the effect that this third party has no objection for the industry/organization to draw water from its own well for its own use which well is situated within the spacing norms violation range to his well.

This is quite absurd as the spacing norms stipulation is prescribed only to weed out the wells from drawal which are in violation of this stipulation just to ensure the sustainability of Ground Water by way of avoiding the formation of closely spaced wells whose bulbs of influence caused intersect one another. Therefore, this concern behind the stipulation spacing norms for drawal wells should be borne in mind by the Executive Engineers of Ground Water Divisions and dispense with the practice of obtaining such a "NOC" in this issue. (Ref: CHIEF ENGINEER'S CIRCULAR No. CE 1/2010/DD (G) / Dated 25.01.2010).

5. While conducting aquifer performance test, if equilibrium condition is attained by obtaining 3-5 consistent reading the test should be continued up to three hours from the equilibrium condition.

6. If equilibrium condition is not obtained, the test should be continued till the well attains maximum draw down.

7. Recovery up to 95% of the total draw down should be observed.

8. The long duration pump test must be conducted as possible with relevancy of nature of the terrain and hydro geological conditions.

9. "While preparation of reports" the following guidelines in succeeding paras is to be scrupulously followed without any lapse.

10. In order to allow sufficient time for recuperation the maximum allowable total hours of drawal per day should be restricted to 8 hours at any cost.

11. This calculation is baseless and devoid of all merits because without 100% recuperation within at least the same number hours as that of pumping done, one cannot hope that the condition of equilibrium will prolong any longer.

In a simple way it may be understood that the number of hours of recommended drawal and the number of hours taken for 100% recovery of entire draw down of Ground Water level due to the drawal should not exceed 24 hours.

Moreover, it may be noted here, that even if equilibrium is reached, the pump test should necessarily be conducted as usual for long duration as done in other cases where the condition of equilibrium is not reached at all, and also the observation of recovery of draw down should be continued till 100% recovery is reached or 24 hours have passed for both drawal and recovery whichever is earlier and then only the allowable drawal of Ground Water per day should be recommended based on the results of long duration pumping and observation of recovery of draw down.

12. Instead, if the recovery is $\geq 95\%$ and $< 100\%$ within the said 24 hours, then only 90% or less of the average yield per day should be recommended for drawal. Similarly, for $\geq 90\%$ and $< 95\%$ only 83% or less and for $\geq 85\%$ and $< 90\%$ only 75% or less of the average yield per day should be recommended. But, for any other percentage of recovery which is less than 85% within the said 24 hours, no recommendation should be made for drawal in the case of a bore well and the bore well may be dropped from consideration for recommendation for drawal of water and some other bore well with better yield than this one may be taken for consideration. However, dug wells with the recovery percentage up to 75% may be considered for drawal. That is, if the recovery in a dug well is $\geq 75\%$ $< 85\%$ within the said 24 hours, then only 65% or less of the average yield per day should be recommended for drawal. But, a dug well with less than 75% recovery should be dropped from consideration for recommendation for drawal and some other dug well with a better yield should be selected for consideration.

13. As any pump test conducted during the rainy season or just after the rainy season will result in boosted allowable yield per day which yield can not be realized during peak summer time, no pump test should be done during the three months of rainy season, namely, October, November and December and also during the immediate succeeding month of January in a year. However, the pump test may be carried out reliably during the balance eight months period that is from February up to September of a year. (Note: The season of monsoon period southwest and north east to be ascertained and confirmed by the field officers.)

14. As per the earlier instructions, the pump test for issuing the ground water clearance is to be conducted only in the months of Feb to September, during the non monsoon period.

If the water column is less than 10 meters and there is non attaining of equilibrium in the water level during pump test in the month of February, 50% of the actual pumping quantity for eligible hours is to be recommended, in the month of March, it is 60 %, in the month of April, it is 70 % , in the month of May, it is 80%, in the month of June, it is 90 % of the actual pumping quantity for eligible hours is to be recommended for clearance.

In the month of July and August, the last months of the post monsoon period, 100 % of the actual pumping quantity for eligible hours is to be recommended for clearance.

If the water column is more than 10 meters and the well attains equilibrium in the water level during pump test, 100% of the actual pumping quantity for eligible hours is to be recommended for clearance.

(Note: The season of monsoon period southwest and North east to be ascertained and confirmed by the field officers.)

15. The Executive Engineers instead of recommending for longer hours of pumping than 8 hours from the limited acceptable drawal wells selected from the original list of wells furnished by the industry/organization for conducting the pump test for issuing Ground Water Availability Certificate, should ask the industry/organization to furnish further more drawal wells for consideration for recommendation for drawal by way of drilling/digging further number of bore wells/dug wells respectively so as to see that the recommended hours of pumping in an individual well does not exceed 8 hours at any cost while accommodating the Ground Water requirement of the industry/organization as sought for by it. (Ref: CHIEF ENGINEER'S CIRCULAR No. CE 1/2010/DD (G) / Dated 25.01.2010).

16. If the firm/industry / organisation has either have already obtained the EB connection for free power supply or have applied for the EB connection for free power supply for the Electric

Motor pump set for the well, then it has to furnish an undertaking to the Chief Engineer, PWD, WRO, SG & SWRDC, Tharamani, Chennai – 600 113 that in the event of the award of Ground Water Availability Certificate for drawal of ground water for that well for its usage, the firm/industry/organisation agrees to change the type of EB connection for the Electric Motor pump-set for the well from the present free power supply category under Agricultural purposes to the charged power supply category under commercial purposes.

These details as obtained in the above prescribed format accompanied with the above mentioned documents of the Xerox copy of the EB card maintained for the Electric Motor pump-set for the well and the undertaking obtained from the firm/industry/organisation in original should be sent to this office for each and everyone of the proposed drawal wells in which pump-test has been conducted and drawal of Ground Water recommended, by the concerned Executive Engineer, Ground Water Division while he forwards the feasibility report for award of ground water availability certificate to the firm/industry/organization. (Ref: CHIEF ENGINEER'S CIRCULAR. No. CE-3 /2010/ DD (G)/ dt.5.4.2010)

17. If the quantity of drawal is more than 50,000 LPD, the field officers must take the technical opinion of the Superintending Engineer of Groundwater circle in all stages by consultation or by inspections. In that cases the DD (G) of the groundwater circles must submit a technical note on that case through their SE's .Even they can fix the programme with field officers accordingly for presence during pumping test study. But by this way, delay in submission of report will not be allowed and it is time bound one.

18. Before making recommendations in the report, total quantity of ground water to be extracted for the eight months (the non monsoon period , ie LPD x30 days x 8 months) is to be arrived and necessary certificate to be submitted along with the report stating that ,due to the extraction of ground water as recommended for eight months ,(before the monsoon commences) will not affect the present water users of the area.

19. The pump test report should be covered all the following items. If any of them is not applicable, the reason may be explained.

Report.

a) The first page of the report should be the “abstract of the feasibility report” and the details are as follows:-

1. Name of the applicant :
2. Name of the village/block/dist. (well location) :
3. Category of the block(as per the latest assessment). :
4. Name of the river basin :
5. Location of the well :
6. Survey No. with sub-divn :
7. Lat & Long of the well :
8. Referred structure (dug / bore well) :
9. No. of structures involved :
10. Depth of the well (from MP) :
11. Diameter of the well :
12. Distance from the nearest Wells :
13. Distance to nearby surface water sources if any available :
14. Static water level from measuring point :
15. Height and description of the Measuring Point :
16. Date of the Aquifer PumpingTest :
17. Duration of the Aquifer PumpingTest :
18. If equilibrium attained : Yes or No.
19. Duration of the recovery :
20. Residual draw down in m. :
21. Draw down in m. :
22. Recovery in m. :
23. % of recovery on water column. :
23. Discharge in lpm. :
24. Transmissivity (in m^2/day) :
25. Permeability (in m^3/day) :
26. Specific capacity lpm.per m.of draw down :
27. Safe yield in lpm. :

28. Recommended quantity in lpd. :

b) The report should contain the following topics.

- i. Introduction
- ii. Location
- iii. Physiography
- iv. Hydrogeology
- v. Lithology
- vi. a) Requested total quantity of groundwater by the applicant in LPD
 - b) Quantity of water required for industrial purpose (LPD)
 - c) Quantity of water required for domestic purpose.
 - d) Q whether the requirement is for water based industry.
 - e) Type of industry
 - f) Chemical component of the discharged water after the use.
- vii. Aquifer performance test
- viii. Hydro geological calculation
- ix. Recommendation
- x. Conclusion
- xi. Required maps
- xii. Annexures.

c) List of Annexures.

Xii Ownership proof with FM sketch, chitta, adangal copy

xiii Location sketch (Not to scale)

xiv. Aquifer tests data & Report.

xv. Draw down curve

xvi Recovery curve

xviii Any other relevant data to be enclosed.

Ref: Lr. No. G8 / MISC / 2006 dated 14 .07.2006.

d) List of documents (as in stage 3) to be enclosed.

1. Attested copy of registered land ownership document in the name of applicant (or) lease agreement for a minimum period of 10 years in the name of applicant.
2. The latest encumbrance certificate showing the name of applicant for ascertaining the ownership of the area.
3. FMB Sketch

4. Not to scale topo sketch showing the location of wells and the industry.
5. Chitta & Adangal copy.
6. Copy of EB card.
7. The distance between the proposed well for groundwater extraction and nearest wells and the depth of the wells to be certified by Revenue Inspector of concerned village.
8. The distance between the well proposed for extraction and nearest surface water body such as tank, canal, Stream River etc. to be certified by Revenue Inspector of concerned area.
9. The distance between the well proposed for extraction and the bank of Palar River (Palar basin Rules) to be certified by Revenue Inspector of concerned area.
10. "No objection Certificate" from the concerned Village Panchayat for the proposed quantity of ground water extraction and transportation of groundwater if any.

(Ref: Lr. No. G8 / MISC / 2006 dated 14 .07.2006.)

18. The distance between the wells & to the tank .river, water bodies is to be measured and certified only by departmental officers. The certificate issued by the revenue authorities is only for the purpose of scrutiny of application that is to avoid the collection of service charges from the applicants whose structure not having prescribed distance criteria.
19. Conducting aquifer performance test by the Ad (G) Geological sub division and submit the report in hard copy and soft copy to Executive Engineer, GWD, as per the format with in a week's time.
20. Certificates are to be furnished by concerned Executive Engineer , Groundwater Division on
 - a. Ownership of land of the applicant,
 - b. Spacing between the wells,
 - c. Spacing under Palar basin Rules,
 - d. Spacing under Environmental G.O regarding spacing from selected rivers,
 - e. Spacing from the Sea Coast,
 - f. Applicants category on electrical energy consumptions,
 - g. certificate on Rainwater Harvesting Structure in the premises of extraction well.

Stage – 7

Scrutiny of the Report:

1. The Executive Engineer, PWD, Groundwater Division send the field investigation report with in a week time to Superintending Engineer of concerned circle
2. The Superintending Engineer is to scrutinize the report and send the remarks on this report to CE's office with in 10 days on receipt of the report. The Superintending Engineer should countersign in the recommendation in the Annexure C1 and submit to CE'S office for taking a final decision on this report.
3. The report in hard copy & soft copy should reach the Chief Engineer, SG&SWDC within 2 weeks time from the date of conducting aquifer performance test.
4. The Executive Engineer, GWD and the Superintending Engineer / Deputy Director, Ground Water Circle, have to inspect the site whenever and wherever it is necessary.

Stage – 8

Decision on field report at CE's office:

A. Applications received under Tamil Nadu Groundwater (Development and Management) Act 2003. (Pending establishment of Tamilnadu Groundwater Authority).

Processing of the pump test report and analyzing the field data, by comparing with the entire basin area, present extraction condition of the block area, previous NOC details , W.U.C clearances and after arriving the present % of extraction, hydro geological parameters of the entire river basin area, and also considering the entire hydrological condition of the area at Chief Engineer's office and communicate the approval letter , or otherwise to the individuals with a copy to SE , EE , AD (G) concerned for further action.

If the proposed drawal is 1 MGD and above, the proposal should be placed before the Water Utilization Committee for consideration and clearance, vide G.O Ms.No.700 PW(WR2) Department dated 18.10.96. The approval for a period of 3 years may be communicate to the individuals with a copy to SE,EE, AD(G) concerned for further action.

While awarding the Ground Water Availability Certificate to the firm/industry/organisation by this office after the firm has entered into the required agreement with the concerned Executive Engineer, Ground Water Division for drawal of Ground Water from the well/wells, this Chief Engineer's Office would address the concerned Superintending Engineer, TNEB of the District's EB Circle by marking a copy of the Ground Water Availability Certificate awarded to the firm/industry/organisation and enclosing the Xerox copies of all the EB cards maintained, if there are any, for each and everyone of the drawal wells and also all the

undertakings obtained , if there are any, for each and everyone of the drawal wells for taking necessary action at his end. However, in any case, the concerned Superintending Engineer, TNEB of the District's EB Circle would be marked a copy of the Ground Water Availability Certificate awarded to the firm/industry/organization and would be recommended for taking necessary action at his end as found suitable for the case.

Stage – 9

Post Approval Action Plan:

1. If the proposal is approved either by the CE/SG&SWRDC the Executive Engineer, Groundwater Division has to enter an agreement with the applicant as enclosed herewith.
2. The agreement to be sent to the Chief Engineer PWD after fulfilling the condition that, all the applicants should handed over one bore well for observation of water level purposes to the Groundwater PWD.
3. Whenever a firm / industry / organisation is awarded either anew or as renewal heavy drawal of ground water by this department in the form of Ground Water Availability Certificate, then right from the month of award of such drawal to the firm / industry / organisation, water level has to be taken and recorded every month by observing it in the premises where ground water is actually drawn by such firm / industry / organisation for its usage and also water samples are also to be taken twice in a year during pre-monsoon and post-monsoon periods from the same open well / borewell from which water level is observed and water quality tests have to be carried out and recorded.

Based on the monthly water level observations so made, from the completion of second year of permission onwards, for every year the average water level in a continuous twelve months time which includes one pre-monsoon and one post-monsoon periods has to be arrived and this average water level figure has to be compared with the corresponding average water level figure so arrived for the initial year of drawal as allowed by this department and the discrepancy has to be noted down. If the discrepancy so noted down displays a ground water level decline of 10 metres or more, then it clearly points out that the ground water table in that locality and nearby area is lowering down to alarming levels. In such a situation, the Ground Water Availability Certificate / NOC / Groundwater clearance awarded to the firm / industry / organisation has to be revised accordingly. Therefore, in such a case, a detailed report in this regard has to be sent by the concerned Executive Engineer, Ground Water Division to the Chief Engineer's office through the concerned Superintending Engineer, Ground Water Circle for issue of necessary revised Ground Water Availability Certificate from this office to the firm / industry / organisation with scaling down of the drawal level so as to maintain the sustainability of ground water in that area and around.

4. Further, whenever a firm / industry / organisation applies for renewal of the Ground Water Availability Certificate issued to it earlier by this Department, which is

drawing 10,00,000 or more litres of ground water per day as allowed by this department previously, the concerned Executive Engineer, Ground Water Division should furnish the entire monthly Ground Water level observations and the bi-yearly water –quality observations recorded by him for the past three years to the Chief Engineer's office for scrutiny for taking necessary action (Ref: CHIEF ENGINEER'S CIRCULAR.No.CE 2/2010/DD (G) / Dated 19.03.2010).

5. While awarding the Ground Water Availability Certificate to the firm/industry/organisation by this office after the firm has entered into the required agreement with the concerned Executive Engineer, Ground Water Division for drawal of Ground Water from the well/wells, this Chief Engineer's Office would address the concerned Superintending Engineer, TNEB of the District's EB Circle by marking a copy of the Ground Water Availability Certificate awarded to the firm/industry/organisation and enclosing the Xerox copies of all the EB cards maintained, if there are any, for each and everyone of the drawal wells and also all the undertakings obtained, if there are any, for each and everyone of the drawal wells for taking necessary action at his end. However, in any case, the concerned Superintending Engineer, TNEB of the District's EB Circle would be marked a copy of the Ground Water Availability Certificate awarded to the firm/industry/organization and would be recommended for taking necessary action at his end as found suitable for the case. (Ref: CHIEF ENGINEER'S Circular. No. CE-3 /2010/ DD(G)/ dt.5.4.2010)

6. It is a known fact that some of the firms/industries/organisations which apply to this Ground Water Department and obtain the Ground Water Availability Certificate valid for three years so as to apply to the Tamil Nadu Pollution Control Board and obtain its 'No Objection Certificate' to establish their firms/industries/organisations in the beginning, do not turn up afterwards to this Ground Water Wing to renew the validity of the Ground Water Availability Certificate issued to them even after its expiry after three years. However, these firms/industries/organisations are obtaining the renewal of the "No Objection Certificate" every year from the Tamil Nadu Pollution Control Board even after the expiry of the validity of Ground Water Availability Certificate originally issued to them by this Ground Water Wing, by conveniently suppressing this fact from the Tamil Nadu Pollution Control Board while applying for renewal of its "No Objection Certificate" to them, and running their business/industry/activity surreptitiously.

Therefore, in order to put a check to the unauthorised tapping of Ground Water being carried on by these firms/industries/organisations without a proper renewal of the Ground Water drawal validity of the Certificate and set them back on the right track of applying to this Ground Water Wing for renewal of the Ground Water Availability Certificate on expiry of its validity after three years, the Executive Engineers of all Ground Water Divisions of the Ground Water Department are instructed to send a periodical report hereafter by 10th of every month in the following format in this regard directly to this office for further action with a copy marked to their respective Ground Water Circle, commencing from the forthcoming month.

| Sl.No | Name and Address of the firm/industry/organisation which has not so far renewed the validity of the Ground Water Availability Certificate on its expiry for which the Ground Water Availability Certificate has been issued by the Ground Water Department | Chief Engineer's office Letter.No and Date in which such a Ground Water availability Certificate or the renewal of its validity has been issued which is not alive as on date in respect of its validity period. | Date on which the validity of the Ground Water Availability Certificate or its latest renewal got expired | The Circle/Zone and the Division, Region of the Tamil Nadu Pollution Control Board under which the firm/industry/organisation falls | Remarks |
|-------|--|--|---|---|---------|
| | | | | | |

Every month, on receipt of all such periodical reports from all the Ground Water Divisions of the respective Ground Water Circle, the concerned Assistant Geologist at Chief Engineer's office of State Ground and Surface Water Resources Data Centre, Chennai should verify the lists of all such unrenewed firms/industries/organisations furnished by all the Divisions in a consolidated way with the register maintained by him in this regard and with the relevant files in which Ground Water Availability Certificate/Renewal was accorded for each one of these firms/industries/organisations and send a letter addressed to the Member Secretary, Tamil Nadu Pollution Central Board, Guindy, Chennai - 32 communicating him the confirmed list of firms/industries/organisations which are yet to renew their Ground Water Availability Certificates or their expired renewals, if any and requesting him to stop issuing any further

renewal of No objection certificate of the Tamil Nadu Pollution Control Board to all of them until and otherwise a communication on the accordance of renewal of the Ground Water

Availability Certificate to them is received by him from this office, with copy marked to all the concerned District Environmental Engineers for information and necessary action.

In this connection, it may also be noted that for any firm/industry/organisation which has originally got awarded the Ground Water Availability Certificate or the renewal when the block in which the industry had proposed to draw or was drawing the Ground Water respectively for its use was either in the safe or semi-critical category originally when the certificate or its renewal was awarded to it and subsequently got classified under critical or over-exploited category, there is no bar for considering the renewal application for the Ground Water Availability Certificate to it and carrying out all the routine formalities and awarding the Renewal Certificate on the Ground Water Availability to it as new schemes only should not be developed in the critical and over-exploited blocks as per the G.O.(Ms).No.51 PW(R2)D dt.11.2.2004, but the existing schemes are permitted to run as it is without any further expansions or what-so-ever.(Ref: CHIEF ENGINEER'S Circular. No. CE-4 /2010/ DD (G) dated.17.05.2010)

The above procedures in all the 9 stages have to be adhered strictly to issue the Groundwater Availability Certificate.

The following lists of annexures are to be given by the Executive Engineer / Groundwater Division along with the report.

Annexure – D1

**WATER RESOURCES DEPARTMENT
State Ground and Surface Water Resources Data Center
Tharamani , Chennai – 113.**

(Certificates to be furnished by the Executive Engineer / Groundwater Division & the Assistant Director (Geology) after verification in the field.)

Certificate on Ownership of land

I, Thiru. -----, applicant for M\S-----====for the groundwater drawal located in the T.S. No. ----- / S.F. No. ----- of village , Block----- , District, who has applied for groundwater clearance with documents, is verified by me and certified that he is having the right of ownership and eligible for the establishment of said industry.(Vide CE / SG & SWRDC's consolidated guidelines 2011)

Place:
Date:

Executive Engineer PWD
Groundwater Division

Annexure – D2

WATER RESOURCES DEPARTMENT
State Ground and Surface Water Resources Data Center
Tharamani , Chennai – 113.

(Certificates to be furnished by the Executive Engineer / Groundwater Division & the Assistant Director (Geology) after verification in the field.)

Certificate on Spacing between wells

Certified that the spacing between the Applicant Thiru. -----'s proposed pumping well, located in T.S.No.-----/ S.F. No. ----- of village -----, Block -----, District-----and the adjacent / surrounding,

1. First well's (in S.F No.) depth is -----m and the spacing is----- m,
2. Second well's (in S.F No.) depth is -----m and the spacing is----- m,
3. Third well's (in S.F No.) depth is ----- m and the spacing is----- m,
4. Fourth well's (in S.F No.) depth is -----m and the spacing is----- m,
5. Fifth well's (in S.F No.) depth is -----m and the spacing is----- m,
6. Sixth well's (in S.F No.) depth is -----m and the spacing is----- m,

Place:
Date:

Executive Engineer PWD
Groundwater Division

Annexure – D3

WATER RESOURCES DEPARTMENT
State Ground and Surface Water Resources Data Center
Tharamani , Chennai – 113.

(Certificates to be furnished by the Executive Engineer / Groundwater Division & the Assistant Director (Geology) after verification in the field.)

Certificate on Spacing between proposed pumping wells and Palar bank.

(vide G.O (Ms) No.1766 PWD dated 31.10.1988)

Certified that the spacing between the Applicant Thiru. -----'s proposed pumping well, located in T.S.No.-----/ S.F. No. ----- of village -----, Block -----, District-----and the Palar River Bank is above 200m vide above cited G.O. / does not fall in the Palar River basin.

And

Certified that the Applicant Thiru. -----'s proposed pumping well, located in T.S.No.-----/ S.F. No. ----- of village -----, Block -----, District----- does not fall with in the vicinity of 250 m from any public drinking water sources.

Place:
Date:

Executive Engineer PWD
Groundwater Division

Annexure – D4

WATER RESOURCES DEPARTMENT
State Ground and Surface Water Resources Data Center
Tharamani , Chennai – 113.

(Certificates to be furnished by the Executive Engineer / Groundwater Division & the Assistant Director (Geology) after verification in the field.)

Certificate on Spacing between proposed pumping wells and Selected River banks.

(Vide G.O (1D) No.223 Environment & Forest (S3) Department dated 02.09.1998)

(Applicable only to the 14 types of industries cited in Annexure of G.O (Ms) No.213, for Cauvery and its tributaries, Pennaiyaru, Palar, Vaigai & Thamiraparani Rivers

Certified that the spacing between the Applicant Thiru. -----'s proposed pumping well, located in T.S.No.-----/ S.F. No. ----- of village -----, Block -----, District-----and the ----- River Bank is -----Km away from the River -----vide above cited G.O. / does not applicable since Cauvery and its tributaries, Pennaiyaru, Palar, Vaigai & Thamiraparani Rivers is far away (more than 5 Kms) from the investigation area.

Place:
Date:

Executive Engineer PWD
Groundwater Division

Annexure – D5

WATER RESOURCES DEPARTMENT
State Ground and Surface Water Resources Data Center
Tharamani , Chennai – 113.

(Certificates to be furnished by the Executive Engineer / Groundwater Division & the Assistant Director (Geology) after verification in the field.)

Certificate on Spacing from the Sea coast.

Certified that the spacing between the Applicant Thiru. -----'s proposed pumping well, located in T.S.No.-----/ S.F. No. ----- of village -----, Block -----, District-----and the sea coast is ----- km away / above 10 Km away from the coast.

(Note: If the distance exceeds 10 km, exact distance need not be mentioned)

Place:
Date:

Executive Engineer PWD
Groundwater Division

Annexure – D6

WATER RESOURCES DEPARTMENT
State Ground and Surface Water Resources Data Center
Tharamani , Chennai – 113.

(Certificates to be furnished by the Executive Engineer / Groundwater Division & the Assistant Director (Geology) after verification in the field.)

Certificate on category on electrical energy

I, Thiru. -----, applicant for M\S-----====for the groundwater drawal located in the T.S. No. ----- / S.F. No. ----- of village , Block----- , District, who has applied for groundwater clearance and his wells / borewell was inspected and certified that the electricity connection obtained by the applicant is under the category of Agriculture purpose / Commercial Purposes.

Place:
Date:

Executive Engineer PWD
Groundwater Division

Annexure – D7

**WATER RESOURCES DEPARTMENT
State Ground and Surface Water Resources Data Center
Tharamani , Chennai – 113.**

**(Certificates to be furnished by the Executive Engineer / Groundwater Division & the
Assistant Director (Geology) after verification in the field.)**

Certificate on Rainwater Harvesting Structures

Certified that Thiru. -----, applicant for M\S-----====for the
groundwater drawal located in the T.S. No. ----- / S.F. No. ----- of
village , Block----- , District, to whom the Groundwater Clearance was issued
executed the Rain Water Harvesting Structure, as specified by the Department.

Place:
Date:

Executive Engineer PWD
Groundwater Division

Annexure - Criteria for calculating the recommendation quantity on the basis of groundwater development in the blocks from the quantity of puming test results of the individual wells.

| I.If Safe Blocks, | | |
|--|--|--|
| 104 | If the block development is less than 50 % : | Full quantity (100%) recommended by the officers may be considered. |
| 105 | If the block development is between 50 % and 55% : | 95% of the quantity only to be considered for clearance on the recommended quantity (based on safe yield) by the field officers. |
| 106 | If the block development is between 56 % 60% : | 90% of the quantity only to be considered for clearance on the recommended quantity (based on safe yield) by the field officers. |
| 107 | If the block development is between 61 % to 65% : | 85% of the quantity only to be considered for clearance on the recommended quantity (based on safe yield) by the field officers. |
| 108 | If the block development is between 66 % to 69 % : | 80% of the quantity only to be considered for clearance on the recommended quantity (based on safe yield) by the field officers |
| II.If Semi Critical Blocks | | |
| 109 | If the block development is 70 % to 74 % : | 70% of the quantity only to be considered for clearance on the recommended quantity (based on safe yield) by the field officers |
| 110 | If the block development is 75 % to 80% : | 60% of the quantity only to be considered for clearance on the recommended quantity (based on safe yield) by the field officers |
| 111 | If the block development is 81 % to 85% : | 50% of the quantity only to be considered for clearance on the recommended quantity (based on safe yield) by the field officers |
| 112 | If the block development is 86 to 90 % : | 40% of the quantity only to be considered for clearance on the recommended quantity (based on safe yield) by the field officers |
| III. If the Blocks are Critical & Over Exploited they are totally banned. | | |
| | | |

ANNEXURE - III C1

Check list to be furnished by the Superintending Engineer, Groundwater circle,PWD

| | | Furnished | | Remarks |
|---|---|-----------|----|---------|
| | | Yes | No | |
| 1 | (i) Name of applicant | | | |
| | (ii) Age | | | |
| | (iii) Father's/Husband's Name | | | |
| | (iv) Complete address | | | |
| 2 | (i) Name of owner of land from where well is proposed to be constructed or used (if the applicant himself is not the owner) | | | |
| | (ii) Address | | | |
| 3 | (i) Place of groundwater extraction | | | |
| | T.S: | | | |
| | R.S.No | | | |
| | Village/Town/Division | | | |
| | Taluk | | | |
| | Block | | | |
| | District | | | |
| | (ii) Place of Utilisation. | | | |
| | T.S: | | | |
| | R.S.No | | | |
| | Village/Town/Division | | | |
| | Taluk | | | |
| | Block | | | |
| | District | | | |
| 4 | Purpose for which water is to be extracted or used: | | | |
| | Industry/Construction/Irrigation/Agriculture Horticulture/Commercial/Infrastructures | | | |
| | Other uses | | | |
| 5 | Required quantity of water. | | | |
| | (i) Surfacewater | | | |
| | (ii) Groundwater. | | | |
| 6 | Status of well proposed for extraction: Existing / Proposed | | | |

| | | | | | |
|---|---|--|--|--|--|
| 7 | Details of existing well if any: | | | | |
| | (f) Type of well: Dugwell/Dug-cum-borewell/ Borewell/Openwell/Tube well. | | | | |
| | (a) Diameter of well in (m) | | | | |
| | (b) Depth of well in (m) | | | | |
| | (c) In the case of dug-cum-bore well give details of both open and bore well) | | | | |
| | (d) Recuperation hours. | | | | |
| | (e) Rock type : Hard rock /Sedimentary /Alluvium (Can be left blank if not known to applicant) | | | | |
| 8 | Whether well is located in | | | | |
| | Ayacut / Non ayacut area | | | | |
| 9 | Command area of well in Acres/Hectares | | | | |
| 10 | Crops grown : Type / Area. | | | | |
| | I crop | | | | |
| | II crop | | | | |
| | III crop | | | | |
| 11 | Details of pumps proposed/Installed | | | | |
| | (a) Type of pump :Centrifugal/Turbine/Submersible/jet/Compressors/ others | | | | |
| | (b) Horse Power (HP) | | | | |
| 12 | Hours of pumping per day | | | | |
| 13 | Nearest well distance in metre | | | | |
| | from the proposed extraction well | | | | |
| 14 | Nearest stream, river ,tank in metre | | | | |
| | from the proposed extraction well | | | | |
| 15 | No of any other wells in the location: | | | | |
| 16 | Categorization of block Over Exploited/Critical/Semicritical/ safe.(Can be left blank if not known to applicant.) | | | | |
| 17 | <u>DECLARATION</u> | | | | |
| | I, hereby declare that the above particulars are true to the best of my knowledge. | | | | |
| Part II - List of Documents to be enclosed along with the Application for Groundwater Clearance Certificate. | | | | | |
| 18 | Attested copy of registered land ownership document in the name of applicant (or) lease agreement for a minimum period of 10 years in the name of applicant. | | | | |
| 19 | FMB Sketch | | | | |
| 20 | Not to scale topo sketch showing the location of wells and the industry. | | | | |

| | | | | | |
|----|--|--|--|--|--|
| 21 | Chitta & Adangal copy. | | | | |
| 22 | Copy of EB card. | | | | |
| 23 | The distance between the proposed well for groundwater extraction and nearest well and the depth of the wells to be certified Revenue Inspector. | | | | |
| 24 | The distance between the well proposed for extraction and nearest surface water body such as tank, canal, Stream River etc. to be certified Revenue Inspector | | | | |
| 25 | The distance between the well proposed for extraction and the bank of Palar River (Palar basin Rules) to be certified Revenue Inspector. | | | | |
| 26 | "No objection Certificate" from the concerned Village Panchayat for the proposed quantity of ground water extraction and transportation of groundwater if any. | | | | |
| | Note: | | | | |
| | <i>Court fee stamp for the value of Re.1/- shall be affixed on each application.</i> | | | | |
| | Volumes II - Part III Processing of Report. | | | | |
| 27 | Name of the applicant | | | | |
| 28 | Name of the village/block/dist. (well location) | | | | |
| 29 | Category of the block(as per the latest assessment). | | | | |
| 30 | Name of the river basin | | | | |
| 31 | Location of the well | | | | |
| 32 | Survey No. with sub-divn | | | | |
| 33 | Lat & Long of the well | | | | |
| 34 | Referred structure (dug / bore well) | | | | |
| 35 | No. of structures involved | | | | |
| 36 | Depth of the well(from MP) | | | | |
| 37 | Diameter of the well | | | | |
| 38 | Distance from the nearest Wells | | | | |
| 39 | Distance to nearby surface water sources if any available | | | | |
| 40 | Static water level from measuring point | | | | |
| 41 | Height and description of the Measuring Point | | | | |
| 42 | Date of the Aquifer Pumping Test | | | | |
| 43 | Duration of the Aquifer Pumping Test | | | | |
| 44 | If equilibrium attained : Yes / No | | | | |
| 45 | Duration of the recovery | | | | |
| 46 | Residual draw down in m. | | | | |
| 47 | Draw down in m. | | | | |
| 48 | Recovery in m. | | | | |

| | | | | | |
|----|--|---|---|--|--|
| 49 | % of recovery on water column. | : | | | |
| 50 | Discharge in lpm. | | | | |
| 51 | Transmissivity (in m ² /day) | | | | |
| 52 | Permeability (in m ³ /day) | : | | | |
| 53 | Specific capacity: (lpm.per m.of draw down) | : | | | |
| 54 | Safe yield (in lpm) | | | | |
| 55 | Recommended quantity in lpd. | | : | | |
| | b) The report should contain the following topics. | | | | |
| 56 | Introduction | | | | |
| 57 | Location | | | | |
| 58 | Physiography | | | | |
| 59 | Hydrogeology | | | | |
| 60 | Lithology | | | | |
| 61 | Requested total quantity of groundwater by the applicant in LPD | | | | |
| 62 | Quantity of water required for industrial purpose (LPD) | | | | |
| 63 | Quantity of water required for domestic purpose. | | | | |
| 64 | Q whether the requirement is for water based industry. | | | | |
| 65 | Type of industry | | | | |
| 66 | Chemical component of the discharged water after the use. | | | | |
| 67 | Aquifer performance test | | | | |
| 68 | Hydro geological calculation | | | | |
| 69 | Recommendation | | | | |
| 70 | Conclusion | | | | |
| 71 | Required maps | | | | |
| | Annexures. | | | | |
| | c) List of Annexures. | | | | |
| 72 | Ownership proof with FM sketch, chitta, adangal copy | | | | |
| 73 | Location sketch (Not to scale) | | | | |
| 74 | Aquifer tests data & Report. | | | | |
| 75 | Draw down curve | | | | |
| 76 | Recovery curve | | | | |
| 77 | Any other relevant data to be enclosed. | | | | |
| | d) List of documents (as in stage 3) to be enclosed. | | | | |
| 78 | Attested copy of registered land ownership document in the name of applicant (or) lease agreement for a minimum period of 10 years in the name of applicant. | | | | |

| | | | | | |
|----|---|--|--|--|--|
| 79 | The latest encumbrance certificate showing the name of applicant for ascertaining the ownership of the area. | | | | |
| 80 | FMB Sketch | | | | |
| 81 | Not to scale topo sketch showing the location of wells and the industry. | | | | |
| 82 | Chitta & Adangal copy. | | | | |
| 83 | Copy of EB card. | | | | |
| 84 | The distance between the proposed well for groundwater extraction and nearest wells and the depth of the wells to be certified by Revenue Inspector of concerned village. | | | | |
| 85 | The distance between the well proposed for extraction and nearest surface water body such as tank, canal, Stream River etc. to be certified by Revenue Inspector of concerned area. | | | | |
| 86 | The distance between the well proposed for extraction and the bank of Palar River (Palar basin Rules) to be certified by Revenue Inspector of concerned area. | | | | |
| 87 | “No objection Certificate” from the concerned Village Panchayat for the proposed quantity of ground water extraction and transportation of groundwater if any. | | | | |
| 88 | The distance between the wells & to the tank .river, water bodies is to be measured and certified only by departmental officers. The certificate issued by the revenue authorities is only for the purpose of scrutiny of application that is to avoid the collection of service charges from the applicants whose structure not having prescribed distance criteria. | | | | |
| 89 | Nearest Rain Fall station and RF in mm | | | | |
| 90 | Representative control well and the trends | | | | |
| | Part IV Existing Extraction in applicant block area.(All in Mld) | | | | |
| 91 | Extraction by the Drinking Purpose by local bodies | | | | |
| 92 | Extraction by the Drinking Purpose by TWAD etc. | | | | |
| 93 | Extraction by the Industries. | | | | |
| 94 | Extraction by the Drinking Purpose by TWAD etc. by transportation | | | | |
| 95 | Extraction by infrastructure purposes. | | | | |
| 96 | Recommended to WUC | | | | |
| 97 | Total Quantity already issued by TNPWD. | | | | |
| 98 | Total Quantity already issued by CGWB. | | | | |
| 99 | Total Quantity already issued by Other Agencies. | | | | |

| | | | | | |
|---|--|--|--|--|--|
| 100 | Total Quantity of Surface water already issued by WUC. | | | | |
| 101 | Total Quantity of Surface water recommended/ Under perusal by WUC. | | | | |
| 102 | Any Others / Total quantity eligible for wells | | | | |
| 103 | Total Quantity recommended based on the block development. | | | | |
| Superintending Engineer / Groundwater Circle | | | | | |

For arriving the quantity based on the pumping tests, the following factor has to be strictly adhered while issuing the Ground water Availability Certificate.

- Eight hours of pumping quantity (average yield) only to be considered for arriving the quantity, even though the actual pump test was carried out for more than 8 hours.
- Only the average yield quantity arrived from the actual pumping tests to be considered for the recommendation purposes not the safe yield values arrived in the pump test reports, since this department issuing ground water availability certificate based on the pump tests actually conducted.

Even though the safe yield mentioned in the C1 form of the CG2011, it is clarified that the safe yield is indicated for taking the average yield i.e average of actual quantity measured by the field officers during the pump test.

- For arriving the final quantity for the recommendation of issuing of groundwater clearance in the report C1, C2 it is clearly/strictly instructed that the assumption quantity, perception quantity, projected quantity by adding of artificial recharge methods(Rainwater Harvesting) for calculation, assessment based on the rainfall pattern etc., should not be considered at any cost. In addition to that it is clearly informed, only average yield i.e average of actual quantity measured by the field officers during the pump test to be considered for recommendation purposes. Since the ground water clearance is always subjected to RTI, High Court and Supreme Court cases etc., proper care should be taken by the officer concerned, who is fully responsible for the recommendation, to avoid further litigations in this regard.

The Superintending Engineer, of Ground Water Circle are requested send the recommendation letter with C1 & C2 is soft copy also to this office by e- mail.

Form 1

| | | | |
|----------------|--|-------------|--|
| Clients Name : | | Block : | |
| Village : | | District : | |
| Latitude : | | Longitude : | |
| Well No : | | Survey No : | |
| | | | |
| 1 | Well Type | = | |
| 2 | Stage of development in Block in % | = | |
| 3 | Total Depth of well | = | |
| 4 | Average Discharge/ACTUAL MEASUREMENT | = | |
| 5 | Pre test Water level | = | |
| 6 | Post test Water level | = | |
| 7 | Water level at the end of recuperation test | = | |
| 8 | Duration of recuperation test | = | |
| 9 | Is equilibrium attained | = | |
| 10 | Month of Pump test | = | |
| | | | |
| 11 | Water column available (Pre-test) | = | |
| 12 | % of Recovery with in 24 Hours | = | |
| I | YIELD BASED ON RECOUPERATION | = | |
| 1 | 100% if the recovery is more than 100% | 0 | |
| 2 | 90% if the recovery is between 96% to 100% | 0 | |
| 3 | 83% if the recovery is between 91% to 95% | 0 | |
| 4 | 75% if the recovery is between 86% to 90% | 0 | |
| 5 | 65% if the recovery is between 76% to 85% | 0 | |
| II | IF DUG WELL / WITH LESS THAN 10 M WATER COLOUM/ YIELD BASED ON MONTH OF PUMP TEST | = | |
| 1 | February (50%) | 0 | |
| 2 | March (60%) | 0 | |
| 3 | April (70%) | 0 | |
| 4 | May (80%) | 0 | |
| 5 | June (90%) | 0 | |
| 6 | July to September (100%) | 0 | |
| 7 | October to January (0%) | 0 | |
| III | YIELD BASED ON % OF GW DEVELOPMENT OF BLOCK | = | |
| 1 | 100% if development is Less than 50% | 0 | |
| 2 | 95% if development is Between 51% and 55% | 0 | |
| 3 | 90% if development is Between 56% and 60% | 0 | |
| 4 | 85% if development is Between 61% and 65% | 0 | |
| 5 | 80% if development is Between 66% and 70% | 0 | |
| 6 | 70% if development is Between 71% and 75% | 0 | |
| 7 | 60% if development is Between 76% and 80% | 0 | |
| 8 | 50% if development is Between 81% and 85% | 0 | |
| 9 | 40% if development is Between 86% and 90% | 0 | |
| IV | ACCEPTED YIELD | = | |
| V | RECOMMENDED QUANTITY PER DAY | = | |

Clients Name

| Well No. | Well Type | Survey No. | Village | Latitute | Longitude | Quantity computed based on recouperation and month of pump test (lpd) | Quantity computed based on percentage of Development (lpd) | Recommended Quantity (lpd) |
|----------|-----------|------------|---------|----------|-----------|---|--|----------------------------|
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | | | | | | |
| 12 | | | | | | | | |
| 13 | | | | | | | | |
| 14 | | | | | | | | |
| | | | | | | | | |

CHIEF ENGINEER/SG&SWRDC