

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI

Original Application No. 310 / 2024 (SZ)

IN THE MATTER OF

I.H.Sekar,
No. 20, Dr. Nanjunda Rao Road,
Injambakkam, Chennai – 600 115.

..... Applicant

Versus

The Tamil Nadu Pollution Control Board,
Rep by it's the District Environmental Engineer,
1st floor, 6/1. Sree Jothi Valagam
Arumbakkam,
Chennai - 600 106.

And 4 others

..... Respondents

STATUS REPORT FILED BY THE 4TH RESPONDANT

THROUGH
M/s. GAUTAM S RAMAN
COUNSEL FOR 4TH RESPONDENTS

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Date at Chennai on this the 6TH day of February 2025



COUNSEL FOR THE 4TH RESPONDENTS

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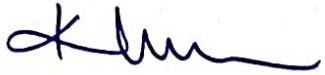
..... Applicant

Versus

1. The Tamil Nadu Pollution Control Board,
Rep by it's the District Environmental Engineer,
1st floor, 6/1. Sree Jothi Valagam
Arumbakkam,
Chennai - 600 106.
2. The Municipal Administration and Water Supply Department,
Rep by its Principal Secretary,
Secretariat, Chennai - 600 009.
3. The District Collector, Chennai District,
District Collectorate,
Singaravelan Maligai,
Chennai- 600 001
4. Chennai Metropolitan Water Supply & Sewerage Board,
Rep by its Managing Director,
No. 1 Pumping Station Road,
Chintadripet, Chennai- 600 002
5. VVV Construction Private Limited
Rep by its Managing Director
1074, Munuswamy Salai
KK Nagar,
Chennai- 600 078

..... Respondents


EXECUTIVE ENGINEER
CMWSSB
No. 1, Pumping Station Road,
Chintadripet, Chennai-600 002.


SUPERINTENDING ENGINEER (PROJECT)-III
CHENNAI METROPOLITAN WATER SUPPLY
AND SEWERAGE BOARD
No. 1, Pumping Station Road,
Chintadripet, Chennai-600 002.

REPORT FILED BY THE 4th RESPONDENT

I, K. Uma, D/o R. Kalia Perumal, aged about 56 years, presently working as Superintending Engineer (Project) - III, in Chennai Metropolitan Water Supply & Sewerage Board, having office at no. 1, Pumping Station Road, Chintadripet, Chennai- 600 002, do hereby solemnly affirm and sincerely state as follows:-

1. I am the Superintending Engineer (Project) - III, in Chennai Metropolitan Water Supply & Sewerage Board and representing for the 4th Respondent herein and as such I am well acquainted with the facts of the case from records.

2. I submit that, I deny all the averments made in the above Original Application No. 310 / 2024 (SZ), except those that are specifically admitted herein.

3. I submit that the Original Application is neither maintainable in law nor on facts and it is liable to be dismissed as devoid of merits.

4. I humbly submit that the Applicant herein has filed the above Original Application before this Hon'ble Tribunal inter alia seeking directions to remove an alleged illegal and unauthorized construction of a sewage collection well near a drinking water well and community hall (Red cross building) at survey no. 14, Dr. Nanjundarao Salai next Harichandra Street, Injambakkam Village,

5. I humbly submit that the Government of Tamil Nadu vide G.O (Ms) No.124, MAWS (MA2) Dept, dt. 09.09.2022 & revised estimate amount of Rs 196.97 Crore (AMRUT 2.0 and SINGARA CHENNAI 2.0) vide G.O (Ms)

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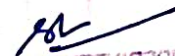
No.210, MA&WS (MC.I) Dept., dt 13.04.2023 had given Administrative Sanction for the work of **“Providing Comprehensive Underground sewerage Scheme to Injambakkam Division-194 (Old Division-196), Area-XV in the expanded Chennai City”**. The work was awarded to M/s.VVV Construction Private Limited in Consortium with M/s. Saravana Engineering works, Chennai on 17.08.2023 at a contract value of Rs.124.37 Crore for a contract period of 30 months and the work has commenced on 12.02.2024 and it is under progress.


6. Further I humbly submit that in the year 2017, CMWSS Board during the preparation of Detailed Project Report (DPR) for Providing Under Ground Sewerage Scheme to Injambakkam has identified portion of vacant land at Survey No.14/3, Injambakkam Village, Sholinganallur Circle for construction of Pumping station. In this regard CMWSS Board had sent application for alienation of land in favour of CMWSS Board to Collectorate, Kanchipuram. The details of vacant land identified as per Land and Revenue record are as follows.

Survey No.	Classification	Extent
14/3	Manthaiveli	1.41.0

North	14/3	Abundant
South	14/3	Cyclone Shelter
East	13	Road
West	14/3	Government Out Patient Hospital

In continuation, Public Advertisement and objection notice published by Kanchipuram collectorate on 24.08.2017 and no objection received from public on identified vacant land at Survey No.14/3, Injambakkam Village, Sholinganallur Circle for the construction of Pumping station. Hence Collector, Kanchipuram, recommended the proposal of land alienation to Government on 18.09.2017. Since Injambakkam Village, Sholinganallur


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has now been added to the Greater Chennai City limits, the land alienation process has been transferred to the Chennai Collectorate Jurisdiction. Further land alienation is under progress.

7. I humbly submit that the project envisages providing sewerage facilities comprising of Collection system (Network of sewers), Pumping stations, Pumping mains and House service connections. The contemplated sewerage system proposed to collect the sewage from the terminal chamber of the developments through House Service Sewers and discharged into collection system proposed in the streets and conveyed by gravity to the proposed Pumping station for onward disposal to sewage treatment plant. The proposed length of sewer network for Injambakkam is 67.175 km. To suit the topography and to avoid excessive depth of sewers, the contemplated sewerage scheme has been divided in to 14 sub zones with independent Collection System and Sewage Pumping Station / Lift Station to collect and pump the sewage to a downstream Terminal Pumping Station and subsequently to Sewage Treatment Plant located at Sholinganallur.

8. I humbly submit that the Sewage generated from the households in Injambakkam will be collected via street sewers, which in turn drain into the Sewage Pumping Station by gravity and the sewage will be immediately pumped to the existing Sewerage Treatment Plant at Sholinganallur. Furthermore, water tight RCC Screen well and Suction Well are being constructed at the survey no. 14, Dr. Nanjundarao Salai next to Harichandra Street, Injambakkam Village. The Screen well and Suction well has been designed for pumping of sewage round the clock to the STP much further away at Sholinganallur for treatment and there will be no storage of sewage. Hence, there will not be any issues related to Environment or Ecology.

9. I humbly submit that the Sewerage system will be designed based on the topography (ground level) to convey the sewage by gravity through self-cleansing velocity by following the design procedure of Central Public

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Health & Environmental Engineering Organisation. The selection of lowest ground level will help for gravitational flow of sewage with self-cleansing velocity, minimum depth of cuts for laying of pipelines & constructing machine holes which will further help for easy maintenance of the system. Considering above, the Terminal Pumping Station has been proposed at Dr. Nanjundarao Salai next to Harichandra Street to pump the sewage flow from Injambakkam and onward treatment to Sholinganallur STP.

10. I humbly submit that the screen well and suction well is of complete high grade RCC water proof structure with wall thickness of 30cm & 70cm respectively, Inner and Outer surface of walls of the structures are plastered painted with Bitumen coat and the bottom of the screen well and suction well is to be plugged with High grade RCC raft concrete of thickness of 35cm and 85 cm respectively. Since the proposed Screen well and Suction Well is constructed of leak proof RCC concrete, there will not be any leakage from the wells and the collected sewage is continuously pumped (24/7) to the STP at Sholinganallur. Hence there is no possibility of pollution of underground water.

11. Further I humbly submit that to maintain Air quality, the Odour control system will be installed in the proposed Terminal Pumping Station at survey no. 14, Dr. Nanjundarao Salai next to Harichandra Street, Injambakkam Village which will ensure hygienic condition to the public and there won't be any hindrance to the public. It is submitted that there are 342 No's of Pumping Stations in and around Chennai, and all of them are located in and around residential areas for the benefit and welfare of the residents. The ongoing project is meant for providing 4000 No's of House Service connection for providing sewerage facilities to the entire Injambakkam area.

12. Further I humbly submit that with regard to the averment in para 6, there is no violation and siting criteria for construction of sewage


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pumping Station under the Water (Prevention and Control of pollution) Act, 1974.

13. Further I humbly submit that the applicant has stated in para 7, that No Consent to Establish granted and referred Sec 25 of the **Water (Prevention and Control of pollution) Act, 1974** as follows.

“25. Restrictions on new outlets and new discharges.

(1) Subject to the provisions of this section, no person shall, without the previous consent of the State Board,—

(a) establish or take any steps to establish any industry, operation or process, or any treatment and disposal system or any extension or addition thereto, which is likely to discharge sewage or trade effluent into a stream or well or sewer or on land (such discharge being hereafter in this section referred to as discharge of sewage); or

(b) bring into use any new or altered outlet for the discharge of sewage; or

(c) begin to make any new discharge of sewage”

In this regard it is to be submitted that the Screen well and Suction well under construction has been designed for pumping sewage round the clock to the STP at Sholinganallur and they are not the treatment units as stated in the sec 25 of the Act . Hence, Consent to Establish is not mandate requirement for CMWSS Board for construction of Sewage Pumping Station under section 25 of the Water (Prevention and Control of Pollution) Act, 1974.

14. Further, I humbly submit that the applicant has stated in para 8, that the subject constructions are Illegal for this reason alone, and the


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CMWSSB is liable under section 45-A of the Water Act, 1974. In this regard it is to be submitted that the Construction of Screen well and Suction well does not require consent to establish and therefore it is not illegal under section 25 of the Water (Prevention and Control of Pollution) Act, 1974. Hence there is no liability for CMWSSB under Section 45-A of the Water Act, 1974.


15. Further I humbly submit that the applicant has stated in para 9 that,
“24. Prohibition on use of stream or well for disposal of polluting matter, etc.

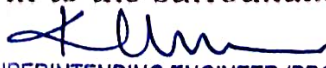
(1) Subject to the provisions of this section,

(a) no person shall knowingly cause or permit any poisonous, noxious or polluting matter determined in accordance with such standards as may be laid down by the State Board to enter (whether directly or indirectly) into any [stream or well or sewer or on land].”

In this regard it is to be submitted that, since CMWSS Board is only constructing Screen well and Suction well of RCC leak proof structure and it has been designed for pumping of sewage round the clock to the STP at Sholinganallur, there will not be any seepage in to the surrounding and hence construction of Screen well and Suction well is not prohibition under section 24 of the Water (Prevention and Control of Pollution) Act, 1974.

16. Further I humbly submit that the applicant has stated in para 10 that the construction and operation of the sewage collection well right next to a drinking water well will inevitably lead to the pollution of the drinking water well through the seepage of pollution from the sewage collection well. In this regard, it is to be submitted that CMWSS Board is only constructing Screen well and Suction well of RCC leak proof structure and it has been designed for pumping of sewage round the clock to the STP at Sholinganallur and there will not be any seepage in to the surrounding area


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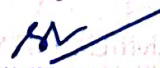
and hence construction of Screen well and Suction well is not prohibited under section 24 of the Water (Prevention and Control of Pollution) Act, 1974. Hence there is no liability for CMWSSB under Section 43 of the Water Act, 1974.

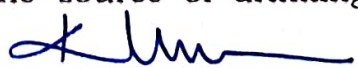
17. Further I humbly submit that the applicant has stated in para 11 & 12 that Rules **54 - Sanitation requirements (3) Sewerage (b) Septic Tanks (ii) of Tamil Nadu combined Development and Buildings 2019(TNCDB)** as follows,

“Location of the Septic Tanks and Subsurface Absorption System: A subsoil dispersion system should preferably not be closer than 18m from any source of drinking water, such as well, to mitigate the possibility of bacterial pollution of water supply”

In this regard, it is to be submitted that the concept of Septic Tanks with Subsurface Absorption system is entirely different from Screen and Suction well in pumping station constructed by CMWSS Board. The Screen and Suction well is of RCC leak proof structure and it is not provided with any Subsurface Absorption system. Moreover Septic tanks and subsurface absorption systems are provided for individual premises, whereas Sewage pumping stations with Screen and Suction wells are provided for collecting the sewage generated in a particular area and it will be pumped round the clock (24/7) to Sewage Treatment Plant (STP) available in nearby area for treatment. Hence, the contention raised by the Applicant is absolutely wrong and misconception.

18. Further, I humbly submit that CMWSS Board already implemented Comprehensive Water Supply Scheme to Injambakkam area and supplying potable water to the residents of Injambakkam through House Service connection. Hence the well at survey no. 14, Dr. Nanjundarao Salai next to Harichandra Street, Injambakkam Village is not the source of drinking water as stated by the applicant.


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19. Further, I humbly submit that by construction of Screen well and Suction well at survey no. 14, Dr. Nanjundarao Salai next to Harichandra Street, Injambakkam Village will ensure collection of sewage from households of Injambakkam area thereby preventing illegal discharge of sewage from the septic tank of households into storm water drains and water bodies which in turn prevent ground water pollution

With regard to averments in para 13, 14 & 15, considering the facts as stated above, it is submitted that

- i) Water is not supplied to the Injambakkam area through the well situated near to construction of screen well and suction well at survey no. 14, Dr. Nanjundarao Salai next to Harichandra Street, Injambakkam Village and water is supplied through the existing comprehensive water supply scheme.
- ii) The construction of screen well and suction well is not illegal as the construction does not require consent to establish. The screen well and suction well is of water tight RCC structure, there will not be any seepage in to the surrounding and hence ground water in the well and in the surrounding area will not be contaminated.
- iii) The existing well is not used for drinking water purpose and water supply to the residents of Injambakkam is made through comprehensive water supply scheme implemented and hence there are no violations of statutory obligation.

It is therefore humbly prayed that this Hon'ble Tribunal may be pleased to accept my report on behalf of the CMWSS Board and thus render justice


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Solemnly affirmed at
 Chennai on this the 6th day of
 February 2025 and signed his
 Name in my presence.

Before Me



ABSTRACT

Atal Mission for Rejuvenation and Urban Transformation 2.0 - Water Supply and Under Ground Sewerage Scheme projects of the Chennai Metropolitan Water Supply and Sewerage Board - Approved in the 3rd meeting of the State High Powered Steering Committee held on 27.06.2022- Administrative sanction for Rs.792.17 crore - accorded- orders- Issued.

Municipal Administration & Water Supply (MA2) Department

G.O.(Ms) No.124

Dated: 09.09.2022

திருவள்ளூர்வராண்டு, 2053

சபகிருது, ஆவணி மாதம் 24-ஆம் நாள்

Read:

1. G.O.(Ms) No.139, Municipal Administration and Water Supply Department, dated 29.12.2021.
2. Minutes of the 3rd meeting of the State High Powered Steering Committee (SHPS) of AMRUT 2.0 held on 27.06.2022.
3. From the Additional Chief Secretary / Chairman and Managing Director, Tamil Nadu Urban Finance and Infrastructure Development Corporation Limited, Letter.No. TUFIDCO/AMRUT2.0/490/AM(M)/ 2021-1, dated 08.07.2022 and 07.09.2022.

ORDER:

The Ministry of Housing and Urban Affairs, Government of India has launched its flagship programme, namely, "Atal Mission for Rejuvenation and Urban Transformation 2.0" (AMRUT 2.0) on 01.10.2021. The key components of the AMRUT 2.0 are (a) universal coverage of water supply; (b) sewerage, septage management and recycle / reuse of treated used water; and rejuvenation of water bodies (including urban wet land) and creation of green spaces.

2. Vide the Government Order first read above, administrative sanction for implementation of AMRUT 2.0 has been accorded and the State High Powered Steering Committee (SHPS) headed by the Chief Secretary to Government has been constituted for the approval of the Projects under the Mission.

3. In the letter third read above, the Mission Director, AMRUT 2.0 / the Additional Chief Secretary / Chairman and Managing Director, Tamil Nadu Urban Finance and Infrastructure Development Corporation Limited has stated that, on the approval of the State High Powered Steering Committee (SHPS) AMRUT 2.0 during 2nd meeting held on 08.03.2022, the APEX Committee of AMRUT 2.0 Government of India has approved the State Water Action Plan (SWAP) for Tranche-I for the FY 2021-22 at a cost of Rs. 5,424.22 crore (except PPP projects) out of which State High Powered Steering Committee has

already approved the projects worth Rs.869.47 crore as given in the table below:-

(Rs.in crore)

Sectors	Tentative Project Cost approved by SHPSC	Project Cost Approved by APEX Committee of GoI	Funding Pattern approved by APEX committee, GoI			Already sanctioned by SHPSC till its 2 nd meeting held on 08.03.2022	Yet be sanctioned (based on APEX committee (GoI) approval
			GoI share	GoTN Share	ULB Share		
(A)	(B)	(C) = (D+E+F)	(D)	(E)	(F)	(G)	(H) = (C-G)
Water Supply	4,907.77*	3,356.24	1,435.81	889.58	1,030.84	338.44	3,017.80
UGSS	1,987.21	1,904.22	487.23	617.79	799.18	531.03	1,373.19
Water Bodies	113.23	120.2	50.42	36.17	33.6	0	120.2
Green Spaces	32.83	43.56	17.21	9.1	17.24	0	43.56
Total	7,041.04	5,424.22	1,990.67	1,552.64	1,880.86	869.47	4,554.75

*PPP projects – CMWSSB Water Supply (2 Nos) – Rs.1,957.13 crore (Not considered by GoI)

4. The State High Powered Steering Committee during its 3rd meeting held on 27.06.2022 vide reference 2nd read above, among other things, has approved the following projects under Atal Mission for Rejuvenation and Urban Transformation 2.0.:-

i) Implementation of Under Ground Sewerage Scheme (UGSS) Projects:

Sl. No.	Tranche/Year	Description	Appraised project Cost (Rs.in crore)
1	Tranche-I (FY-2021-22)	Strengthening of existing pumping main from Tondairpet 'F' sewage pumping station to Kodungaiyur STP	101.58
2	Tranche-II (FY-2022-23)	UGSS- Injambakkam	184.11
3		UGSS-Uthandi	74.32
4		UGSS- Palavakkam, Kottivakkam and Neelankarai	386.16
		Total	746.17

ii) Implementation of water supply scheme for Semmenchery area in Chennai at an appraised project cost of Rs.46.00 crore under AMRUT 2.0 Tranche-I (FY-2021-22)

5. The Additional Chief Secretary / Chairman and Managing Director, Tamil Nadu Urban Finance and Infrastructure Development Corporation Limited

has accordingly requested the Government to accord Administrative sanction for the following projects:

I. Underground Sewerage Scheme (UGSS) Projects

i) The State High Powered Steering Committee in its 3rd meeting held on 27.06.2022 approved the following UGSS projects for Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB) at an appraised project cost of Rs. 101.58 crore under Atal Mission for Rejuvenation and Urban Transformation 2.0 Tranche-I-FY 2021-22 as detailed below:

(Rs in crore)							
Sl. No	Project Name	Proposed Project Cost	Appraised Project cost	GoI Share	GoTN Share	ULB Share	Proposed HSCs (Nos)
	Strengthening of existing pumping main from Tondalpet 'F' sewage pumping station to Kodungalyur STP.	103.69	101.58	25.40	30.47	45.71	1,000
	Total	103.69	101.58	25.40	30.47	45.71	1,000

ii) The State High Powered Steering Committee of Atal Mission for Rejuvenation and Urban Transformation 2.0 also approved a total of 3 UGSS projects of Chennai Metropolitan Water Supply and Sewerage Board at an appraised project cost of Rs. 644.59 crore (Government of India share - Rs.161.15 crore; GoTN Share - Rs.193.38 crore; and Chennai Metropolitan Water Supply and Sewerage Board /EAP Share-Rs.290.06 crore) under Atal Mission for Rejuvenation and Urban Transformation 2.0 Tranche-II-FY 2022-23 as given below:-

(Rs.in crore)

Sl. No	Project Name	Project cost proposed by ULBs	Appraised Project Cost	GOI Share	GoTN Share	CMWSSB / EAP Share	Proposed HSCs
1.	Providing Comprehensive Sewerage Scheme to Injambakkam	243.00	184.11	46.03	55.23	82.85	4,000
2.	Providing Comprehensive Sewerage Scheme to Uthandi	82.80	74.32	18.58	22.30	33.44	1,300
3.	Providing Comprehensive Sewerage Scheme to Palavakkam, Kottiyakkam and Neelankarai	481.90	386.16	96.54	115.85	173.77	12,776
	Total	807.70	644.59	161.15	193.38	290.06	18,076

II. Water Supply Project

The State High Powered Steering Committee has approved the water supply project proposed by the Chennai Metropolitan Water Supply and Sewerage Board at an appraised project cost of Rs. 46.00 crore under Atal

Mission for Rejuvenation and Urban Transformation 2.0 Tranche-I FY 2021-22
as given below:

(Rs.in crore)

Project Name	Proposed Project Cost	Appraised Project Cost	GoI Share	GoTN Share	ULB Share / External aid / MIDF	Proposed HSC (Nos.)
Providing Comprehensive Water Supply Scheme to Semmenchery	45.90	46.00	11.50	13.80	20.70	1,100
Total	45.90	46.00	11.50	13.80	20.70	1,100

6. The Government after careful examination of the proposal of the Additional Chief Secretary / Chairman and Managing Director, Tamil Nadu Urban Finance and Infrastructure Development Corporation Limited, have decided to accord administrative sanction for the implementation of one Water Supply and four UGSS projects of the Chennai Metropolitan Water Supply and Sewerage Board at an appraised project cost of Rs.792.17 crore (Rupees Seven hundred ninety two crore and seventeen lakh only) under Atal Mission for Rejuvenation and Urban Transformation 2.0 (Rs.147.58 crore under Tranche-I FY 2021-22 and Rs.644.59 crore under Tranche-II FY 2022-23) as detailed at para 5 above as approved by State High Powered Steering Committee during its 3rd meeting held on 27.06.2022 and order accordingly.

7. This order issues with the concurrence of the Finance Department vide its U.O No. 42227/ Fin (MAWS)/2022, Dated:09.09.2022

//BY ORDER OF THE GOVERNOR //

SHIV DAS MEENA
ADDITIONAL CHIEF SECRETARY TO GOVERNMENT

To:

The Additional Chief Secretary /Chairman and Managing Director, Tamil Nadu Urban Finance and Infrastructure Development Corporation Limited, Chennai - 600 035.

The Managing Director , Chennai Metropolitan Water Supply and Sewerage Board , Chennai-600 028.

The Pay and Accounts Officer (East), Chennai-8. (6 copies)

The Accountant General (A&E), Chennai-18.

The Accountant General (Audit), Chennai-18.

Copy to :

The Private Secretary to the Additional Chief Secretary to Government, MA&WS Dept, Chennai-9.

The Finance (MAWS) Department, Chennai-9.

The Municipal Administration and Water Supply (OP II/MW) Department, Chennai-9.

//FORWARDED BY ORDER//

Shiv Das Meena
9/9/22
SECTION OFFICER



ABSTRACT

Singara Chennai 2.0 - Implementation of projects of Chennai Metropolitan Water Supply and Sewerage Board under Singara Chennai 2.0 - Administrative sanction - Accorded - Orders - Issued.

Municipal Administration & Water Supply (MC,I) Department

G.O (D) No.210

Dated 13.04.2023

சுபகிருது, பங்குனி - 30

திருவள்ளூர் ஆண்டு - 2054

Read:-

1. G.O. (Ms) No.74, Municipal Administration and Water Supply (MC1) Department, Dated 28.09.2021.
2. G.O (D) No.206, Municipal Administration and Water Supply Department, Dated 17.06.2022
3. From the Additional Chief Secretary / Chairman & Managing Director, Tamil Nadu Urban Finance and Infrastructure Development Corporation Limited, Letter No.TUFIDCO/Singara Chennai2.0/490/AM (M)/2021, Dated 14.03.2023.

ORDER

In the Government Order first read above, the Government have approved the Guidelines for implementation of "Singara Chennai 2.0", with an allocation of Rs.500 crore in the budget for the financial year 2021-2022. The scheme is being implemented by the Greater Chennai Corporation (GCC) and Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB) from the financial year 2021-2022 onwards. The Government have also constituted the Project Sanctioning and Monitoring Committee (PSMC) with the following members for sanctioning of projects under "Singara Chennai 2.0":

- | | |
|---|--------------------------|
| 1) Additional Chief Secretary / Principal Secretary / Secretary, Municipal Administration and Water Supply Department | - Chairperson / Chairman |
| 2) Additional Chief Secretary, Finance Department or his representative | - Member |
| 3) Commissioner, Greater Chennai Corporation | - Member |
| 4) Managing Director, Chennai Metropolitan Water Supply and Sewerage Board | - Member |
| 5) Chairman & Managing Director, Tamil Nadu Urban Finance Infrastructure Development Corporation Limited | - Convener |

2. In the Government Order second read above, the Government have also accorded sanction to release a sum of Rs.500 crore towards the Implementation of Singara Chennai 2.0 for the financial year 2022-23.

3. In the letter fifth read above, the Additional Chief Secretary / Chairman & Managing Director, Tamil Nadu Urban Finance and Infrastructure Development Corporation Limited has stated that in the Government Orders third and fourth read above, among others, Government have accorded administrative sanction for the implementation of four Under Ground Sewerage Scheme (UGSS) project of Chennai Metropolitan Water Supply and Sewerage Board at a total cost of Rs.715.86 crore (Government of India share - Rs.178.97 crore; Government of Tamil Nadu Share Rs.214.76 crore and Urban Local Bodies share - Rs.322.13 crore) under Atal Mission for Rejuvenation and Urban Transformation 2.0 and also stated that in the 6th State High Powered Steering Committee of AMRUT 2.0 has approved combined underground sewerage scheme to Jaladampettai at a cost of Rs.92.76 crore (Government of India share-Rs23.19 crore + Government of Tamil Nadu share - Rs.27.83 crore + Chennai Metropolitan Water Supply and Sewerage Board share - Rs.41.74 crore).

4. The Additional Chief Secretary / Chairman & Managing Director, Tamil Nadu Urban Finance and Infrastructure Development Corporation Limited has also stated that the 16th Project Sanctioning and Monitoring Committee of Singara Chennai 2.0 has approved the revised project cost of the above five Under Ground Sewerage Scheme (UGSS) projects of Chennai Metropolitan Water Supply and Sewerage Board. The funding pattern of the projects is as given below:

Project Name	Approved cost under AMRUT 2.0	(Rupees in crore)				Revised project cost	Excess cost incurred	Singara Chennai 2.0
		Government of India share (25%)	Government of Tamil Nadu share (30%)	Chennai Metropolitan Water Supply and Sewerage Board share	Chennai Metropolitan Water Supply and Sewerage Board - 45%			
(A)	(B)	(C)	(D)	(E)	(F)	(G=F-B)	(H=E+G)	
Providing Comprehensive Sewerage Scheme to Injambakkam	184.11	46.03	55.23	82.85	196.97	12.86	95.71	
Providing Comprehensive Sewerage Scheme to Uthandi	74.32	18.58	22.30	33.44	82.00	7.68	41.12	

Providing Comprehensive Sewerage Scheme to Palavakkam, Kottivakkam and Neelankara	386.16	96.54	115.85	16 173.77	418.20	32.04	205.81
Providing Comprehensive Underground Sewerage Schemes to Semmenchery	71.27	17.82	21.38	32.07	74.95	3.68	35.75
Providing Comprehensive Under Ground Sewerage Scheme to Jaladampettai	92.76	23.19	27.83	41.74			41.74
Total	808.62	202.16	242.59	363.87	772.12	56.26	420.13

5. While submitting the above proposal, the Managing Director, Chennai Metropolitan Water Supply and Sewerage Board has requested the Project Sanctioning and Monitoring Committee of Singara Chennai 2.0 to sanction the Chennai Metropolitan Water Supply and Sewerage Board share (45%) of Rs.420.13 crore under Singara Chennai 2.0 in the following funding pattern

Project Name	(Rupees in crore)						Total
	Singara Chennai 2.0	Singara Chennai 2.0 share				Total	
		Financial year					
	CMWSSB -45%	2022-23	2023-24	2024-25	2025-26		
(A)	(H=E+G)	I	J	K	L	M=I+J+K+L	
Providing Comprehensive Sewerage Scheme to Injambakkam	95.71		19.14	38.28	38.29	95.71	
Providing Comprehensive Sewerage Scheme to Uthandi	41.12	5	8.22	16.45	11.45	41.12	
Providing Comprehensive Sewerage Scheme to Palavakkam, Kottivakkam and Neelankarai	205.81		41.16	82.32	82.33	205.81	
Providing Comprehensive Underground Sewerage Schemes to Semmenchery	35.75	5	7.15	14.3	9.3	35.75	
Providing Comprehensive Under Ground Sewerage Scheme to Jaladampettai	41.74		8.35	16.7	16.69	41.74	
Total	420.13	10	84.02	168.05	158.06	420.13	

6. The Additional Chief Secretary / Chairman and Managing Director, Tamil Nadu Urban Finance and Infrastructure Development Corporation Limited, has also stated that after detailed deliberation, the Project Sanctioning and Monitoring Committee has approved the

above funding pattern for the above projects under Singara Chennai 2.0 towards Chennai Metropolitan Water Supply and Sewerage Board share, subject to the conditions specified in the appraisal report of respective projects and has requested the Government to accord administrative sanction for Rs.420.13 crore for part funding of the above five projects under Singara Chennai 2.0 towards Chennai Metropolitan Water Supply and Sewerage Board share as per the funding pattern mentioned in table-2 at para 5 above.

7. The Government after careful examination of the proposal of the Additional Chief Secretary / Chairman & Managing Director, Tamil Nadu Urban Finance and Infrastructure Development Corporation Limited hereby accord administrative sanction for providing a sum of Rs.420.13 crore (Rupees four hundred and twenty crore and thirteen lakh only) under Singara Chennai 2.0 as part funding for implementation of the various projects of Chennai Metropolitan Water Supply and Sewerage Board already sanctioned under AMRUT 2.0 as per the funding pattern mentioned in table-2 at para 5 above subject to the conditions specified in the appraisal reports of the respective projects.

8. This order issues with the concurrence of Finance Department vide its U.O No.10525/Finance (MAWS)/2023, Dated 11.04.2023.

// BY ORDER OF THE GOVERNOR //

SHIV DAS MEENA

ADDITIONAL CHIEF SECRETARY TO GOVERNMENT

To

The Chairman & Managing Director,
Tamil Nadu Urban Finance and Infrastructure Development Corporation Limited, Chennai - 600 035.

The Managing Director, Chennai Metropolitan Water Supply and Sewerage Board, Chennai - 600 002.

The Director of Municipal Administration, Chennai - 600 028.

The Principal Accountant General (A&E/(G&SSA),
Chennai - 600 009/18.

Copy to:

The Senior Personal Assistant to the Hon'ble Minister
(Municipal Administration), Chennai - 600 009

The Senior Private Secretary to the Additional Chief Secretary to Government, Municipal Administration & Water Supply Department, Chennai - 600 009.

The Finance (MAWS) Department, Chennai - 600 009.

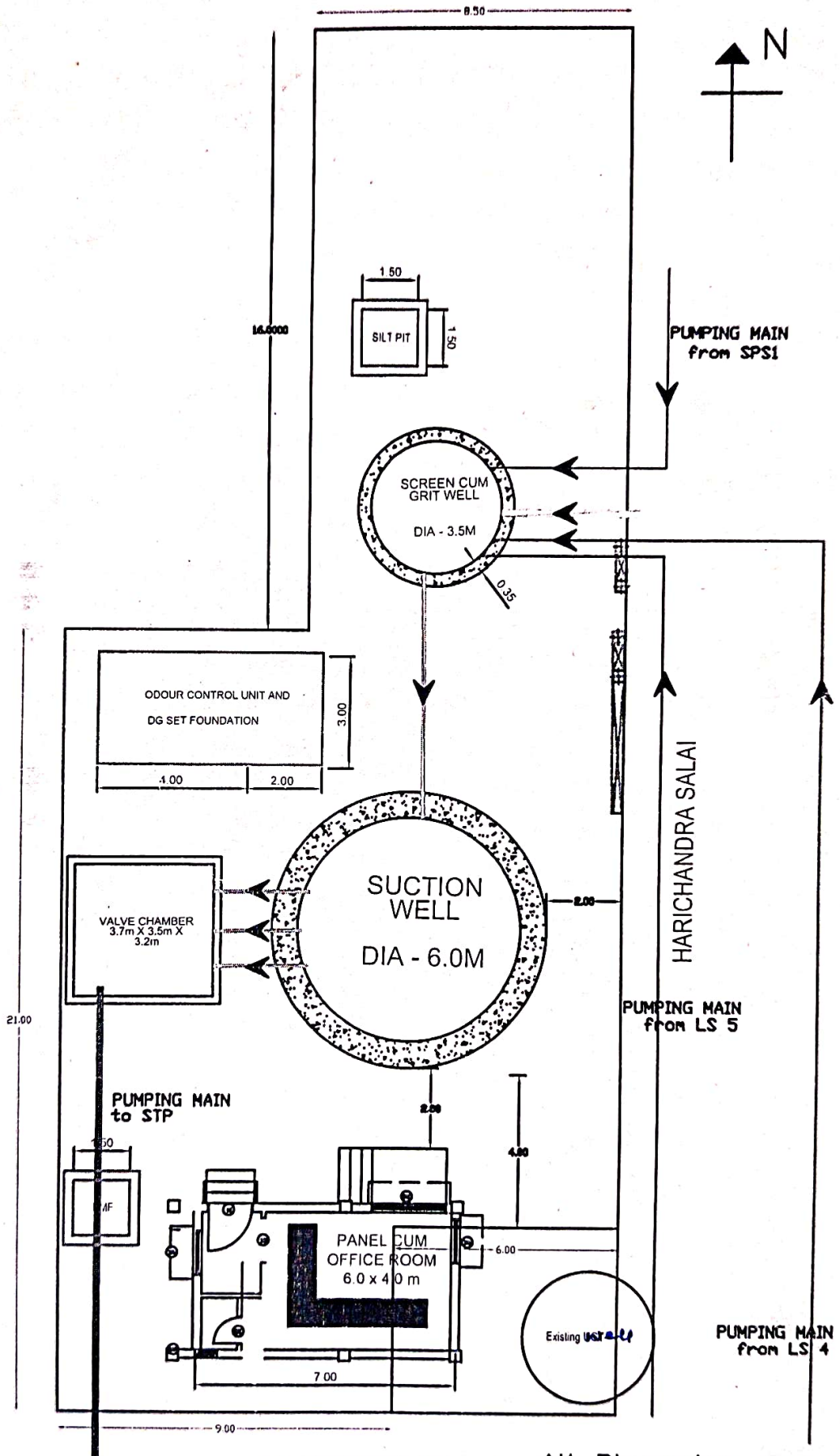
The Municipal Administration & Water Supply(MW/Budget/OP.II) Department, Chennai - 600 009.

Spare Copy / Stock File.

// Forwarded By Order //

தி. அனாசுபா
13/04/2023
SECTION OFFICER

CMWSSB- VVV CONSTRUCTION PRIVATE LIMITED
SPS 2-HARICHANDRA SALAI



Dr. NANJUNDA RAO ST All Dimension are
In Metres

CHENNAI METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD



⇒ WATER WELL

⇒ SUCTION WELL

⇒ SCREEN WELL

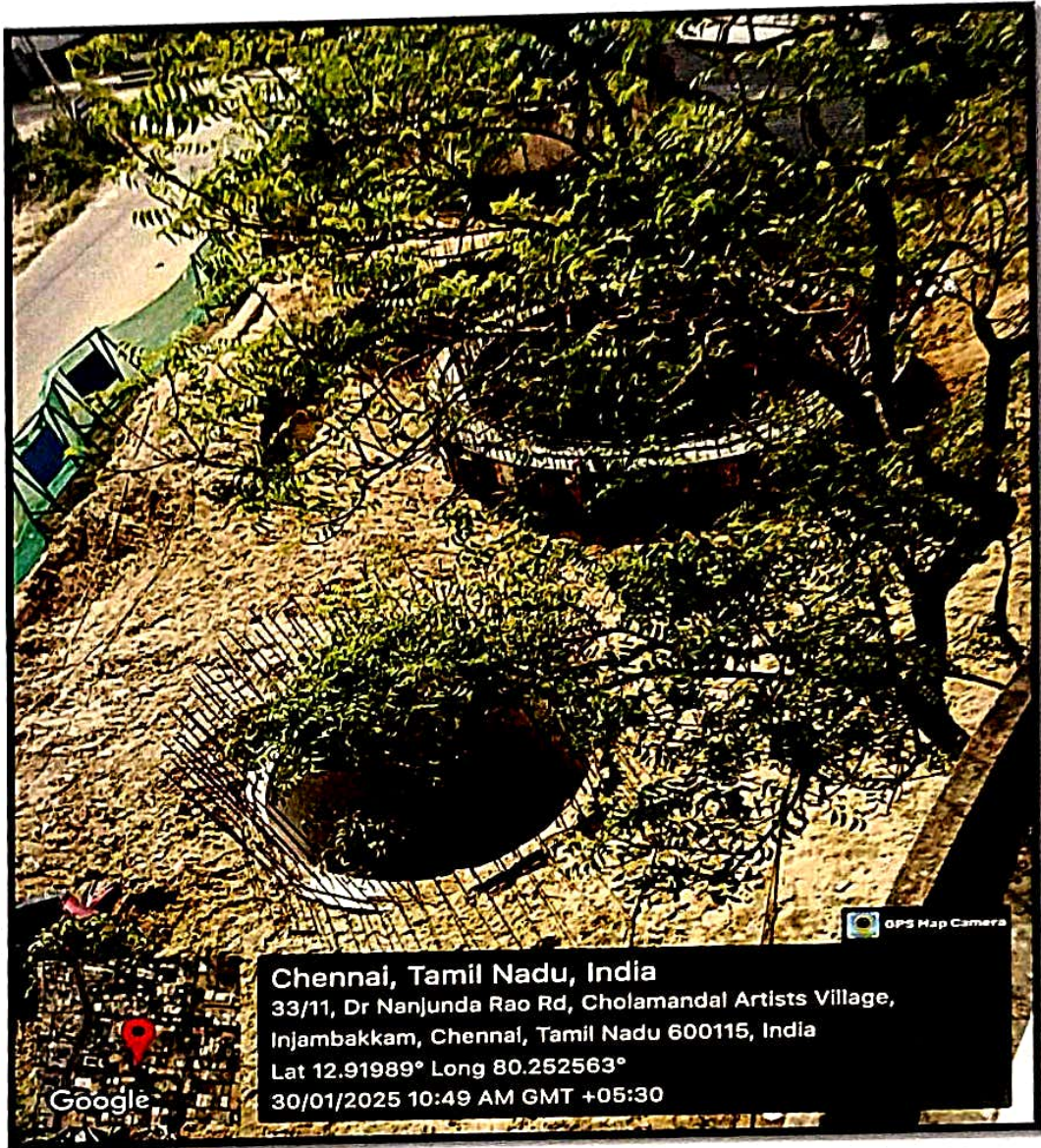
CHENNAI METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD



⇒ WATER WELL

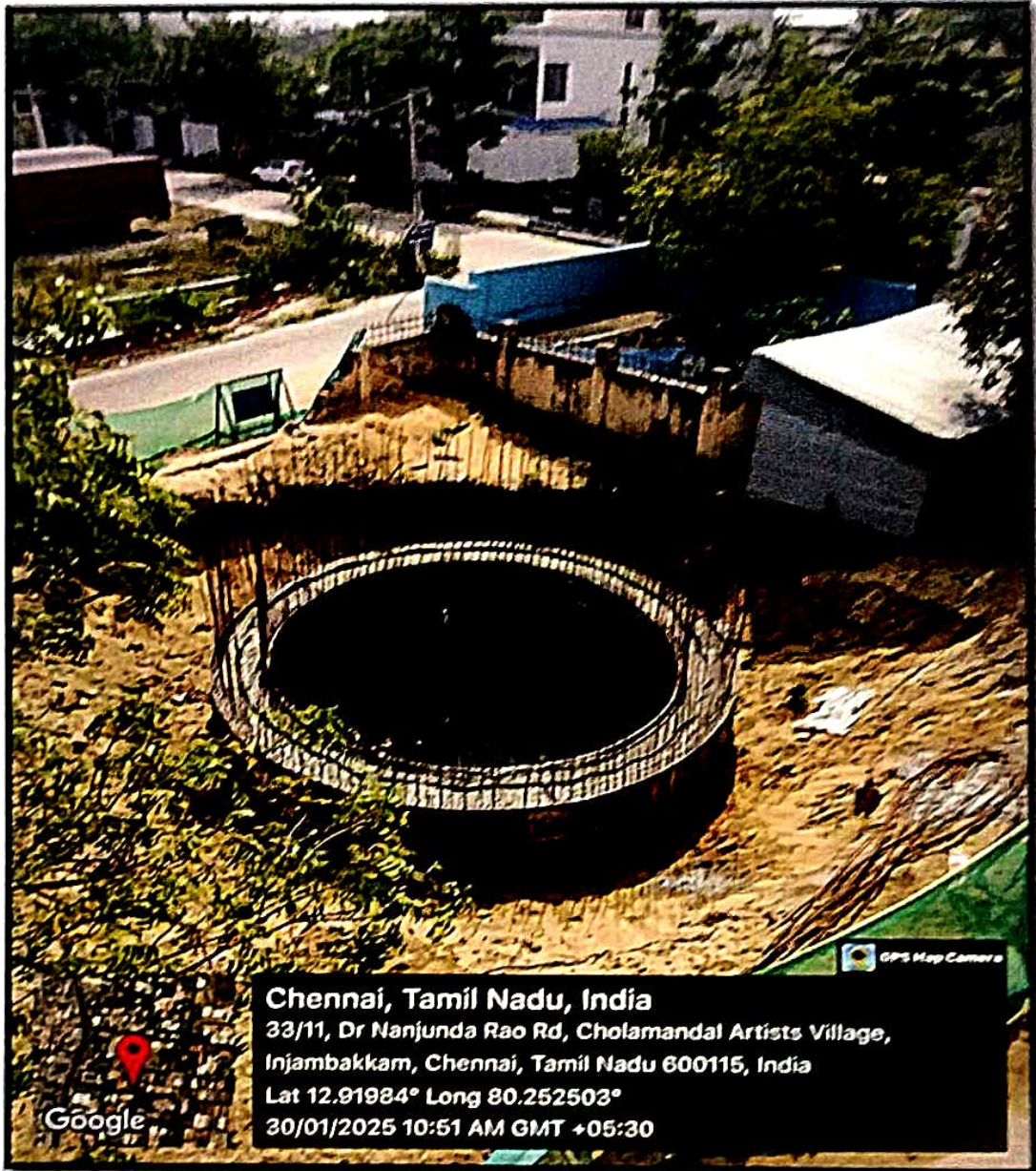
⇒ SUCTION WELL

CHENNAI METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD



Dr.Nanjunda Rao salai , Survey no.14/3

CHENNAI METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD



Dr.Nanjunda Rao salai , Survey no.14/3

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Last login : Sat, 1 Feb 2025 11:09:11

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Welcome Depot engineer 196,

- Quick Pay
- Bill Details
- Receipt archive
- Account summary
- ABJ Notice
- Invoice
- Add Number
- Delete Number
- Change password
- Edit profile
- Customer Support
- Complaints
- Complaint status
- Feed Back

Service Details			
Name	THE MANAGING DIRECTOR C.M.W.S.S.D.	Consumer No	09218007284
Region	09-KANCHEEPURAM	Old Consumer Nos	No records found.
Circle	401-South2	Phase	3
Section	218-ENJAMBAKKAM	Load	11 KW
Distribution	007-M.K.ROAD, E.KUPPAM, CHURCH ROAD	Tariff	LC2A
Number	284	Meter Number	4033048
Address	METRO WATER ENJAMBAKKAM DR.NANJUNDARAO SALAI CHENNAI-600115	SD available(Rs.)	45696
Service Status	LIVE	SD Refund/Adj(Rs.)	
PAN	Not Linked	Service Category	
		MCD available (Rs.)	2500
		MCD Refund (Rs.)	0

Slab Rate			
From Unit	To Unit	Rate (Rs.)	Max.Unit
1	Above	8.55	999999

- ASD Additional Security Deposit
- SD Security Deposit
- BPSC Belated payment surcharge
- CC charges Current Consumption Charges
- PMC Previous Month Consumption
- MCD Meter Caution Deposit

Min Chrg: 0 Fixed cost: 214/KW Welding chrg: 15 % of CC
 Belated payment surcharge 0 E.Tax: 5 % of (CC+PF penalty+welding chrg+fixed cost)

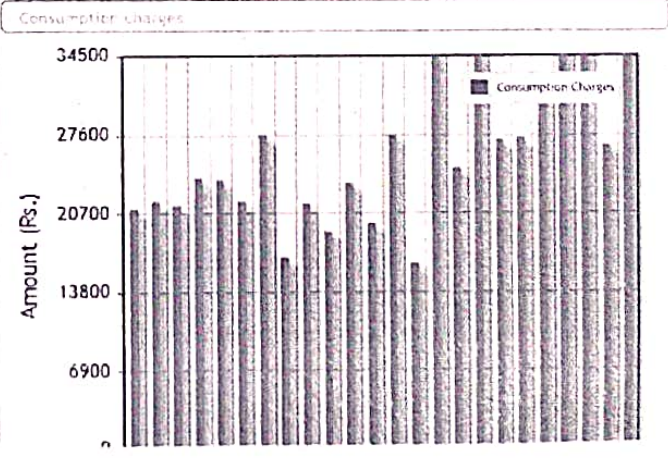
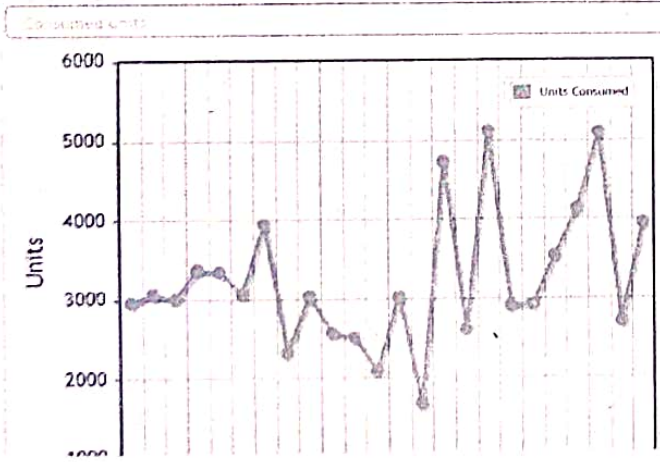
Tariff Change Details

Previous Tariff	Current Tariff	Tariff Change Date	Check Reading (kWH)	Check Reading (kVAH)
LC2A		30-09-2007	18961	

Meter Change Details

Meter No	Meter Make	Meter Type	Multiplication Factor	Initial Reading	Final Reading	Initial KVAH	Final KVAH	MeterInt Date	MeterFin Date	Reason
TE206147	SECURE	Static Electronic Meter With MD recording Facility	1	0	1767	0	0	11-08-2014	11-08-2014	Normal
4033048	GENUS	Static Electronic Meter With MD recording Facility	1	0	0	0	0	16-11-2016	16-11-2016	Defective

Electricity Consumption



भारतीय मानक

द्रवों के संग्रहण के लिये कंक्रीट संरचनाएँ — रीति संहिता

भाग 1 सामान्य अपेक्षाएँ

(पहला पुनरीक्षण)

Indian Standard

CONCRETE STRUCTURES FOR STORAGE OF
LIQUIDS — CODE OF PRACTICE

PART 1 GENERAL REQUIREMENTS

(*First Revision*)

ICS 23.020.01; 19.080.40

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BHADUR SHAH ZAFAR MARG
NEW DELHI 110002

June 2009

Price Group 7

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Cement and Concrete Sectional Committee had been approved by the Civil Engineering Division Council.

This standard was first published in 1965. The present revision has been taken up with a view to keeping abreast with the rapid development in the field of construction technology and concrete design and also to bring further modifications in the light of experience gained while applying the earlier version of this standard and the amendment issued.

The design and construction methods in reinforced concrete and prestressed concrete structures for the storage of liquids are influenced by the prevailing construction practices, the physical properties of the materials and the climatic condition. To lay down uniform requirements of structures for the storage of liquids giving due consideration to the above mentioned factors, this standard has been published in four parts, the other parts in the series are:

(Part 2) : 2009 Reinforced concrete structures

(Part 3) : 1967 Prestressed concrete structures

(Part 4) : 1967 Design table

While the common methods of design and construction have been covered in this standard, for design of structures of special forms or in unusual circumstances, special literature may be referred to or in such cases special systems of design and construction may be permitted on production of satisfactory evidence regarding their adequacy and safety by analysis or test or by both.

In this standard it has been assumed that the design of liquid retaining structures, whether of plain, reinforced or prestressed concrete is entrusted to a qualified engineer and that the execution of the work is carried out under the direction of a qualified and experienced supervisor.

The concrete used in liquid retaining structures should have low permeability. This is important not only for its direct effect on leakage but also because it is one of the main factors influencing durability; resistance to leaching, chemical attack, erosion, abrasion and frost damage; and the protection from corrosion of embedded steel. The standard, therefore, incorporates provisions in design and construction to take care of this aspect.

The requirements of IS 456 : 2000 'Code of practice for plain and reinforced concrete (*fourth revision*)' and IS 1343 : 1980 'Code of practice for prestressed concrete (*first revision*)', in so far as they apply, shall be deemed to form part of this standard except where otherwise laid down in this standard. For a good design and construction of structure, use of dense concrete, adequate concrete cover, good detailing practices, control of cracking, good quality assurance measures in line with IS 456 and good construction practices particularly in relation to construction joints should be ensured.

This revision incorporates a number of important modifications and changes, the most important of them being:

- a) Scope has been clarified further by mentioning exclusion of dams, pipes, pipelines, lined structures and damp-proofing of basements,
- b) A clause on exposure condition has been added,
- c) Provisions for concrete have been modified in line with IS 456 : 2000 with minimum grade of concrete as M20 for plain cement concrete, M30 for reinforced concrete and M40 for prestressed concrete (*see also Note 2 under Table 1*),
- d) The maximum cement content has been modified from the earlier requirement of 530 kg/m³ to 400 kg/m³,
- e) A clause on durability has been added giving due reference to IS 456 in place of earlier clause on protection against corrosion,
- f) Provisions on control of cracking have been modified,

(Continued on third cover)

CONCRETE STRUCTURES FOR STORAGE OF LIQUIDS — CODE OF PRACTICE

PART 1 GENERAL REQUIREMENTS

(First Revision)

1 SCOPE

1.1 This standard (Part 1) lays down general requirements for the design and construction of plain, reinforced or prestressed concrete structures, intended for storage of liquids, mainly water.

The requirements applicable specifically to reinforced concrete and prestressed concrete liquid retaining structures are covered in IS 3370 (Part 2), and IS 3370 (Part 3) respectively.

1.2 This standard does not cover the requirements for concrete structures for storage of hot liquids and liquids of low viscosity and high penetrating power like petrol, diesel, oil, etc. This standard also does not cover dams, pipes, pipelines, lined structures and damp-proofing of basements. Special problems of shrinkage arising in the storage of non-aqueous liquids and the measures necessary where chemical attack is possible are also not dealt with. The recommendations, however, may generally be applicable to the storage at normal temperatures of aqueous liquids and solutions which have no detrimental action on concrete and steel or where sufficient precautions are taken to ensure protection of concrete and steel from damage due to action of such liquids as in the case of sewage.

1.3 The criteria for design of RCC staging for overhead water tanks are given in IS 11682.

2 REFERENCES

The standards listed in Annex A contain provisions, which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards as given in Annex A.

3 MATERIALS

3.1 The requirements for materials shall be governed by IS 456 and IS 1343 for reinforced concrete and prestressed concrete members respectively, with the following additional requirements.

3.1.1 Porous Aggregates

Under no circumstances shall the use of porous aggregates, such as slag, crushed over burnt brick or tile, bloated clay aggregates and sintered flyash aggregates, be allowed for parts of structure either in contact with the liquids on any face or enclosing the space above the liquid.

3.2 Jointing Materials

Joint fillers, joint sealing compounds, and water bars shall conform to the requirements of relevant Indian Standards. Other jointing materials such as polyurethane and silicone based sealants may also be used provided there are satisfactory data on their suitability. The jointing materials used shall not have any adverse effect on the quality of liquid to be stored.

4 EXPOSURE CONDITION

For the purpose of this standard, parts of the structure retaining the liquid or enclosing the space above the liquid shall be considered as subject to 'severe' condition as per IS 456. In case of members exposed to 'very severe' or 'extreme' conditions, the relevant provisions of IS 456 shall apply.

5 CONCRETE

Provisions given in IS 456 and IS 1343 for concrete shall apply for reinforced concrete and prestressed members respectively subject to the following further requirements:

- a) The concrete shall conform to Table 1.
- b) The cement content not including flyash and ground granulated blast furnace slag in excess of 400 kg/m³ should not be used unless special consideration has been given in design to the increased risk of cracking due to drying shrinkage in thin sections, or to early thermal cracking and to increased risk of damage due to alkali silica reactions.

6 DURABILITY

6.1 The provisions for durability shall generally be

Table 1 Minimum Cement Content, Maximum Water-Cement Ratio and Minimum Grade of Concrete

[Foreword, and Clause 5(a)]

Sl No.	Concrete	Minimum Cement Content kg/m ³	Maximum Free Water Cement Ratio	Minimum Grade of Concrete
(1)	(2)	(3)	(4)	(5)
i)	Plain concrete	250	0.50	M20
ii)	Reinforced concrete	320	0.45	M30
iii)	Prestressed concrete	360	0.40	M40

NOTES

1 Cement content prescribed in this table is irrespective of the grades of cement and it is inclusive of additions mentioned in 5.2 of IS 456. The additions such as flyash or ground granulated blast furnace slag may be taken into account in the concrete composition with respect to the cement content and water cement ratio if the suitability is established and as long as the maximum amounts taken into account do not exceed the limit of pozzolana and slag specified in IS 1489 (Part 1) and IS 455 respectively.

2 For small capacity tanks up to 50 m³ at locations where there is difficulty in providing M30 grade concrete, the minimum grade of concrete may be taken as M25. However, this exception shall not apply in coastal areas.

followed as specified in IS 456 for plain and reinforced concrete structures, and as per IS 1343 for prestressed concrete structures unless specified otherwise in this standard.

6.2 Nominal Cover to Reinforcement

6.2.1 The minimum nominal cover to all reinforcement shall be as per IS 456 for relevant exposure conditions.

7 SITE CONDITIONS

7.1 The following conditions of the site in relation to the functional and structural requirements of the liquid retaining (storage) structure materially influence the methods of design and the cost of the structure:

- Physical characteristics of soil in which the liquid retaining structure may be partly or wholly enclosed and also the physical and geological features of the supporting foundations,
- Chemical properties of the soil and of the ground water, and
- Extent of floatation at the site.

7.2 In making the choice of the site and in the preparation of the design, the factors mentioned in 7.1 should be taken into account generally as indicated below:

- Earth Pressure** — Allowance should be made for the effects of any adverse soil pressure on

walls, according to the compaction and/or surcharge of the soil and the condition of the structure during construction and in service. No relief should be given for beneficial soil pressure effects on the walls of containment structure in the container full condition.

- Floatation** — If in the siting of a liquid retaining structure, water-logged ground cannot be avoided, the danger of the external water pressure shall be carefully guarded against by the following:

- Designing the structure to resist such pressure under empty or partially-empty conditions and taking precautions to prevent floating and ensuring stable equilibrium under all conditions of internal and external loads. The stability of the structure should be checked against uplift using a factor of safety of 1.2. The individual members shall be designed for stresses due to uplift forces.
- Providing effective drainage to reduce the level of external water as far as local conditions permit.
- Providing relief valves discharging into the liquid retaining structure when the external pressure exceeds the internal pressure; this arrangement is feasible only in cases when the liquid retaining structure is not required for the storage of liquids which should not be contaminated.
- Designing both internal and external faces of the walls and floor as water retaining faces, where the walls and floors of the liquid retaining structure are submerged in water or water bearing soils.
- Considering in the design, the possibility of sudden change in ground water table or sudden accumulation of water around.

- Stability** — The equilibrium and safety of structure and parts of it against sliding and overturning, especially when the structure is founded on a side of long or sloping ground, shall also be checked.

- Settlement and Subsidence** — Geological faults, mining, earthquakes, existence of subsoils of varying bearing capacities may give rise to movement or subsidence of supporting strata which may result in serious cracking of structure. Special considerations should be given in the preparation of the design, to the possible effect of subsidence or movement of the foundation strata for example, subdivision

of the structure into smaller compartments and provision of joints to outlet pipes and other fittings. Joints in structures in mining subsidence areas will need special consideration to provide for extra movement.

- e) *Injurious Soils* — Chemical analysis of the soil and ground water is essential in cases where injurious soils are expected to exist, as concrete structure may suffer severe damage in contact with such soils. Where concrete is likely to be exposed to sulphate attack, requirements specified in IS 456 shall be followed. An isolating coat of bituminous or other suitable materials may improve the protective measure.

8 CAUSES AND CONTROL OF CRACKING

8.1 Causes

8.1.1 Effects of Applied Loads

Direct or flexural tension in concrete arising from applied external service loads, from temperature gradients due to solar radiation, or from the containment of liquids at temperatures above ambient, may cause cracking in the concrete.

8.1.2 Temperature and Moisture Effects

Changes in the temperature of the concrete and reinforcement and in the moisture content of the concrete cause dimensional changes which, if resisted internally or externally may crack the concrete. The distribution and width of such cracks may be controlled by reinforcement, together with the provision of the movement joints. Heat is evolved as cement hydrates, and the temperature will rise for a day or more after casting and then fall towards ambient. Cracking usually occurs at this time, while the concrete is still weak. Subsequent lower ambient temperature and loss of moisture when the concrete is mature will open these cracks although the loss of moisture at the surface under external drying conditions is usually low. A structure built in the summer but not filled or an external structure standing empty will usually be subjected to greater drops in temperature than the same structure filled.

8.2 Methods of Control

8.2.1 Plain concrete liquid retaining structures or members may be designed by allowing direct tension in plain concrete, the permissible tensile stress for M20 and M25 concrete being 1.2 N/mm^2 and 1.3 N/mm^2 for direct tension and 1.7 N/mm^2 and 1.8 N/mm^2 for flexural tension respectively. However, nominal reinforcement in accordance with the requirements given in IS 456 shall be provided for plain concrete structural members.

8.2.2 The most important factor affecting drying shrinkage is the amount of water per unit of concrete. Water can be reduced by use of both plasticizing admixtures and by using minimum amount of cement consistent with quality. The concrete mix should have the largest practical coarse aggregates as this will reduce the cement content.

8.2.3 In cases where structures under construction are exposed to high wind, high temperature and low humidity, adequate measures during the initial stages of construction shall be taken for protection from surface drying, such as covering the concrete surface by polyethylene or tarpaulin sheets.

8.2.4 Cracking may be controlled by avoiding or reducing the gradient of steep changes in temperature and moisture of especially the early age concrete. Type of shuttering, deshuttering procedure and curing method may affect the changes in temperature and moisture. Curing shall be done for a period of not less than 14 days.

8.2.5 The risk of cracking due to overall temperature and shrinkage effects may be minimized by limiting the changes in moisture content in concrete and temperature to which the structure as a whole is subjected. Tanks can remain wet. It will be advantageous if, during construction of such reservoirs, thin sections below final water level are kept damp.

8.2.6 The risk of cracking can also be minimized by reducing the restraints on the free expansion or contraction of the structure. With long walls or slabs founded at or below ground level, restraints can be minimized by the provision of a sliding layer.

8.2.7 Structures may be provided with movement joints if effective and economic means cannot otherwise be taken to avoid unacceptable cracking.

8.2.8 Whenever development of cracks or overstressing of the concrete in tension cannot be avoided, the concrete section should be suitably strengthened. In making the calculations either for ascertaining the expected expansion or contraction or for strengthening the concrete section, the coefficient of expansion of concrete shall be in accordance with the provisions given in IS 456.

8.2.9 Cracking of concrete can be to some extent controlled by slow filling of the tank first time. The rate of filling shall not be more than 1 m per 24 h.

8.2.10 Correct placing of reinforcement bars, use of deformed bars, bars closely spaced and use of small size bars lead to diffused distribution of cracks, and hence are preferred practices.

9 STABILITY OF THE STRUCTURE

Stability of the structure against overturning and sliding shall be as given in IS 456.

A structure subjected to underground water pressure shall be designed to resist floatation as given in 7.2(b).

10 JOINTS

10.1 Joints shall be categorized as follows:

a) *Movement Joints* — A movement joint is intended to accommodate relative movement between adjoining parts of a structure, special provisions being made to maintain the water-tightness of the joint. In elevated structures where restraint is small, movement joints may not be required. There are three categories of movement joints:

1) *Contraction joint* — A movement joint with a deliberate discontinuity but no initial gap between the concrete on either side of the joint, the joint being intended to accommodate contraction of the concrete (see Fig. 1).

A distinction should be made between a complete contraction joint (see Fig. 1A) and a partial contraction joint (see Fig. 1B). While the complete contraction joints are not restrained to movement and are intended to accommodate only contraction of the concrete, the partial contraction joints provide some restraint but are intended to accommodate some contraction of concrete. In complete contraction joints both concrete and

reinforcing steel are interrupted and in partial contraction joints only the concrete is interrupted, the reinforcing steel running through. A water bar shall be provided either centrally in a wall (see Fig. 1A) or on the soffit of a floor. To cater for shear across the face a shear key may be provided. In a partial contraction joint, a water bar may be provided, if necessary, preferably centrally in a wall or on the soffit of a floor. These figures show some of the typical joints and other available joint details may also be used.

2) *Expansion joint* — A movement joint which has no restraint to movement and is intended to accommodate either expansion or contraction of the concrete. This has complete discontinuity in both reinforcement and concrete (see Fig. 2). An expansion type water bar shall be provided either centrally in a wall (see Fig. 2A) or on the soffit of a floor. A centre-bulb water bar may be used in walls.

In general, such a joint requires the provision of an initial gap between the adjoining parts of a structure which by closing or opening accommodates the expansion or contraction of the structure. Design of the joint so as to incorporate sliding surface, is not, however, precluded and may some times be advantageous.

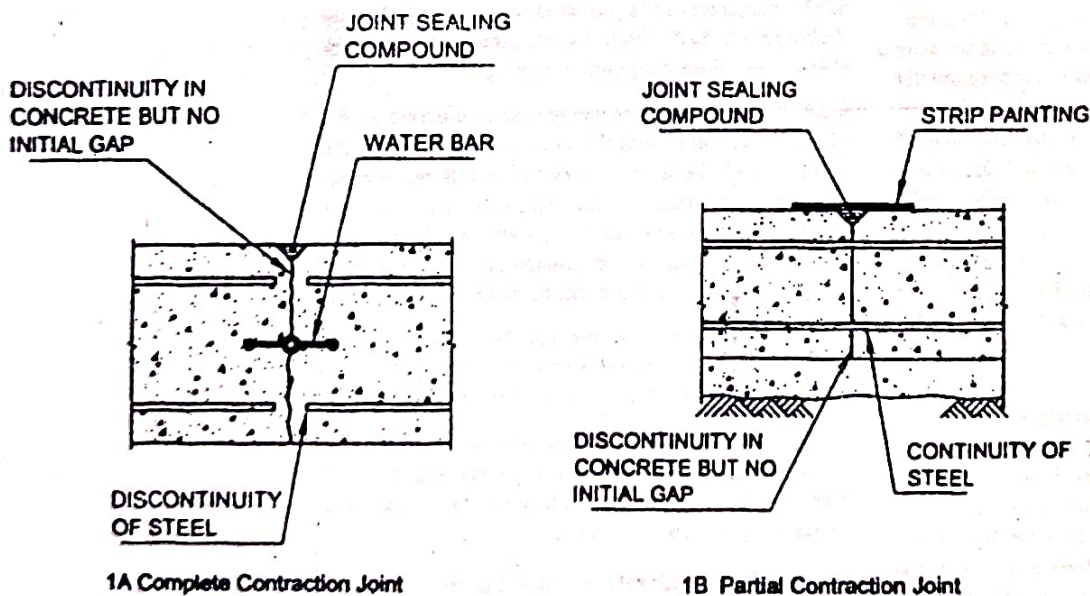


FIG. 1 TYPICAL CONTRACTION JOINTS

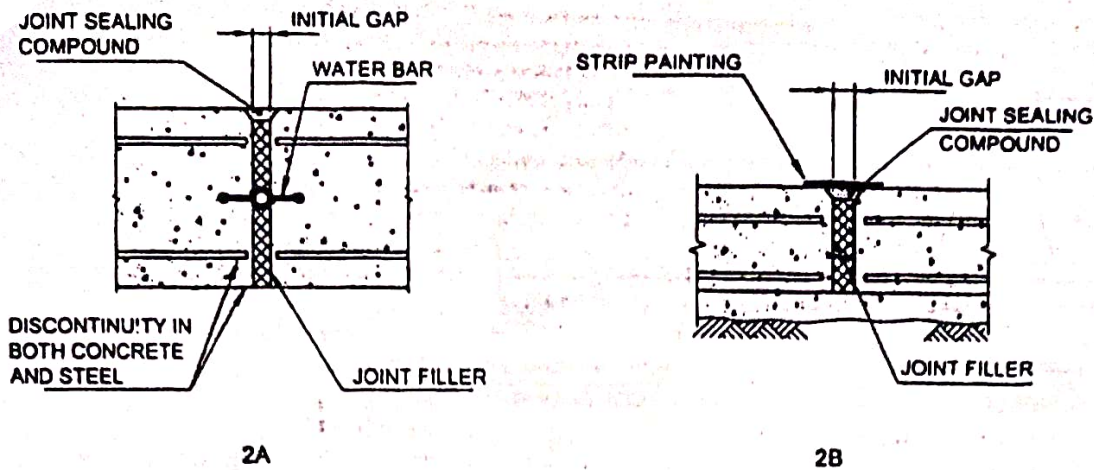


FIG. 2 TYPICAL EXPANSION JOINTS

3) *Sliding joint* — A movement joint which allows two structural members to slide relative to one another with minimal restraint. This has complete discontinuity in both reinforcement and concrete at which special provision is made to facilitate relative movement in the place of the joint.

A typical application is between wall and floor in some cylindrical tank designs (see Fig. 3).

b) *Construction Joints* — A joint in the concrete introduced for convenience in construction at which special measures are taken to achieve subsequent continuity without provision for further relative movement, is called a construction joint.

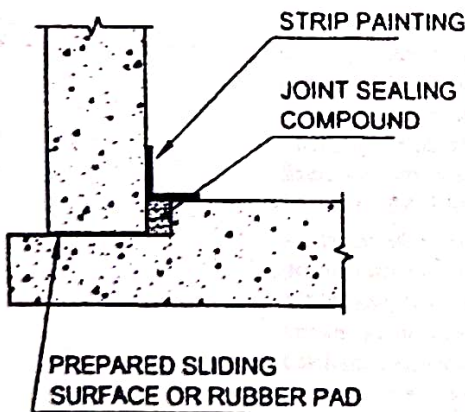


FIG. 3 TYPICAL SLIDING JOINTS

The position of construction joints should be specified by the designer. Full structural continuity is assumed in design at the construction joint and should be realized in practice. If necessary, construction joints should be grouted.

The concrete at joints should be bonded properly. The surface of the earlier pour should be roughened to increase the bond strength and to provide aggregate interlock. This may be best carried out by applying a surface retarder immediately after concreting the earlier pour. For vertical surfaces, the surface retarder should be applied to the formwork. The laitance is removed by applying a jet of water. If the joint surface is not roughened before the concrete is hardened; in that case, the laitance should be removed by sand blasting or by a scabber. The joint surface should be cleaned and dampened for at least six hours prior to placing new concrete. It is not desirable to apply layer of mortar over the old surface.

c) *Temporary Open Joints* — A gap temporarily left between the concrete of adjoining parts of a structure which after a suitable interval and before the structure is put into use, is filled with concrete either completely (see Fig. 4A) or as provided below, with the inclusion of suitable jointing materials (see Fig. 4B). In the former case the width of the gap should be sufficient to allow the sides to be prepared before filling.

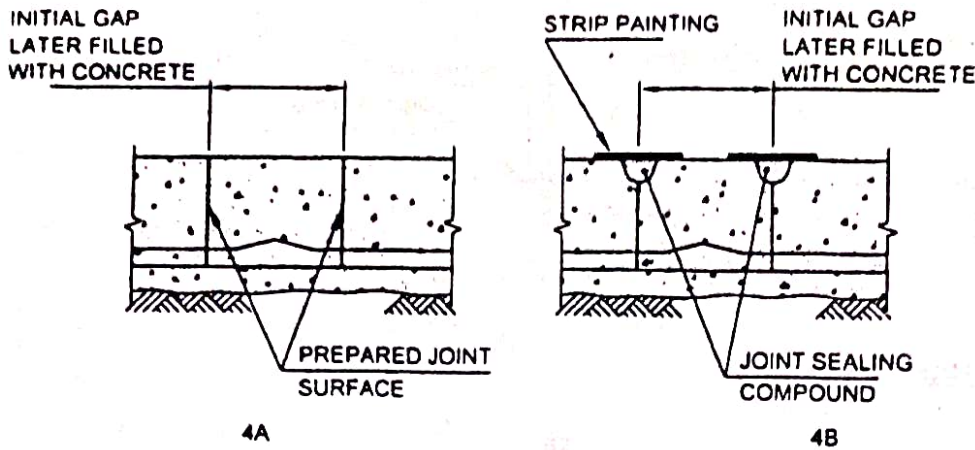


FIG. 4 TYPICAL TEMPORARY OPEN JOINTS

Where measures are taken for example, by the inclusion of suitable jointing materials to maintain the water tightness of the concrete subsequent to the filling of joint, this type of joints may be regarded as being equivalent to a contraction (partial or complete) as defined above.

10.2 Design and Detailing of Joints

Design of a movement joint should aim at following desirable properties for its efficient functioning:

- a) The joint should accommodate repeated movement of the structure without loss of water tightness.
- b) The design should provide for exclusion of grit and debris which would prevent the closing of the joint.
- c) The material used in the construction of movement joints should have the following properties:
 - 1) It should not suffer permanent distortion or extrusion and should not be displaced by fluid pressure.
 - 2) It should not slump unduly in hot weather or become brittle in cold weather.
 - 3) It should be insoluble and durable and should not be affected by exposure to light or by evaporation of solvent or plasticizers.
 - 4) In special cases, the materials should be non-toxic, taintless or resistant to chemical and biological action as may be specified.

Congestion of reinforcement should be avoided during detailing. Various methods such as choosing the

diameter and grade of steel carefully and bundling of reinforcement, if required, are available.

10.3 Spacing of Movement Joints

The provision of movement joints and their spacing are dependent on the design philosophy adopted, that is, whether to allow for or restrain shrinkage and thermal contraction in walls and slabs. At one extreme, the designer may exercise control by providing a substantial amount of reinforcement in the form of small diameter bars at close spacing with no movement joints. At the other extreme, the designer may provide closely spaced movement joints in conjunction with a moderate proportion of reinforcement. Between these extremes, control may be exercised by varying the reinforcement and joint spacing, an increase in spacing being compensated for by an increase in the proportion of reinforcement required.

The three main options for the designer are summarized in Table 2 as follows:

- a) *In Option 1 (Design for Full Restraint)* — No contraction joints are provided within the area designed for continuity; and crack widths and spacing are controlled by reinforcement. Construction joints become part of the crack pattern and have similar crack widths.
- b) *In Option 2 (Design for Partial Restraint)* — Cracking is controlled by the reinforcement, but the joint spacing is such that some of the daily and seasonal movements in the mature slab or structural member are accommodated at the joints, so reducing the amount of movement to be accommodated at the cracks between the joints.
- c) *In Option 3 (Design for Freedom of Movement)*

Table 2 Design Option for Control of Thermal Contraction and Restrained Shrinkage
(Clause 10.3)

Option	Type of Construction and Method of Control	Movement Joint Spacing	Steel Ratio (see Note 2)	Comments
(1)	(2)	(3)	(4)	(5)
1	Continuous: for full restraint	No joints, but expansion joints at wide spacings may be desirable in walls and roofs that are not protected from solar heat gain or where the contained liquid is subjected to a substantial temperature range	Minimum of ρ_{cr}	Use small size bars at close spacing to avoid high steel ratios well in excess of ρ_{cr}
2	Semi-continuous for partial restraint	a) Complete joints: ≤ 1.5 m b) Alternate partial and complete joints (by interpolation) ≤ 11.25 m c) Partial joints: ≤ 7.5 m	Minimum of ρ_{cr}	Use small size bars but less steel than in Option 1
3	Close movement joint spacing: for freedom of movement	a) Complete joints, in metres $\leq 4.8 + \frac{w}{\epsilon}$ b) Alternate partial and complete joints, in metres: $\leq 0.5 s_{min} + 2.4 + \frac{w}{\epsilon}$ c) Partial joints: $\leq s_{min} + \frac{w}{\epsilon}$	$2/3 \rho_{cr}$	Restrict the joint spacing for Options 3 (b) and 3(c)

NOTES

1 References should be made to Annex A and Annex B of IS 3370 (Part 2) for the description of the symbols used in this table and for calculating ρ_{cr} , s_{min} and ϵ .

2 In Options 1 and 2, the steel ratio will generally exceed ρ_{cr} to restrict the crack widths to acceptable values. In Option 3, the steel ratio of $2/3 \rho_{cr}$ will be adequate.

— Cracking is controlled by proximity of the joints, with a moderate amount of reinforcement provided, sufficient to transmit movement at any cracked section to the adjacent movement joints. Significant cracking between the adjacent movement joints should not occur.

The options given in Table 2 are considered in terms of horizontal movement, but vertical movement in walls should also be considered. Two cases are as follows:

- 1) It is possible for horizontal cracks to occur at any free-standing vertical end because of the change in horizontal restraint with respect to height. For bays of any height the vertical strain arising from this warping effect may be taken as approximately half the horizontal strain, and the vertical steel ratio should not be less than the critical ratio, ρ_{cr} .
- 2) The vertical restraint exerted on a newly cast bay at a vertical construction joint may be assumed to develop at the depth of 2.4 m from the free top surface. Thus design for freedom of movement (Option 3) may be used for vertical reinforcement in the top 2.4 m of a lift. The design for partial restraint (Option 2) is appropriate for vertical steel below this depth.

The choice of design imposes a discipline on construction. It is desirable to achieve minimum restraint to early thermal contraction of the immature concrete in walls and slabs even though the finished structure may be designed for full continuity. Cracks arising from thermal contraction in a roof supported on columns may be minimized or even prevented if the roof slab is not tied rigidly to the walls during constructions.

10.4 Making of Joints

Joints shall generally be made according to the broad principles discussed in 10.4.1 to 10.4.3.

10.4.1 Construction Joints

Joints are a common source of weakness and, therefore, it is desirable to avoid them. If this is not possible, their number shall be minimized. Concreting shall be carried out continuously up to construction joints, the position and arrangement of which shall be indicated by the designer.

Construction joints shall be placed at accessible locations to permit cleaning out of laitance, cement slurry and unsound concrete, in order to create rough/uneven surface. It is recommended to clean out laitance and cement slurry by using wire brush on the surface of joint immediately after initial setting of concrete and to clean out the same immediately thereafter. The

prepared surface should be in a clean saturated surface dry condition when fresh concrete is placed, against it.

In the case of construction joints at locations where the previous pour has been cast against shuttering the recommended method of obtaining a rough surface for the previously poured concrete is to expose the aggregate with a high pressure water jet or any other appropriate means.

Fresh concrete should be thoroughly vibrated near construction joints so that mortar from the new concrete flows between large aggregates and develop proper bond with old concrete.

Where high shear resistance is required at the construction joints, shear keys may be provided.

Sprayed curing membranes and release agents should be thoroughly removed from joint surfaces.

10.4.2 Movement Joints

These require the incorporation of special materials in order to maintain water tightness whilst accommodating relative movement between the sides of the joint (see 10.5).

Movement joints, particularly those in floor and roof, also require protection against the entry of debris which may interfere with the closing of the joints.

10.4.2.1 Contraction joints

The joints face of the first-cast concrete should be finished against a stopping-off board, or vertical end shutter, which, in the case of a partial contraction joint, should be notched to pass the reinforcement.

Steps should be taken to prevent any appreciable adhesion between the new and the old concrete.

The joint should be suitably treated with water stops and joint sealing compounds so as to maintain water tightness during movement of the joint and prevention of debris entering the joints (see Fig. 5 and 10.5).

10.4.2.2 Expansion joints

These require the provision of an initial gap between the concrete faces on the two sides of the joints and this can be conveniently done by the use of materials discussed in 10.5. The initial width of this gap should be specified by the engineer and should be sufficient to accommodate freely the maximum expansion of the

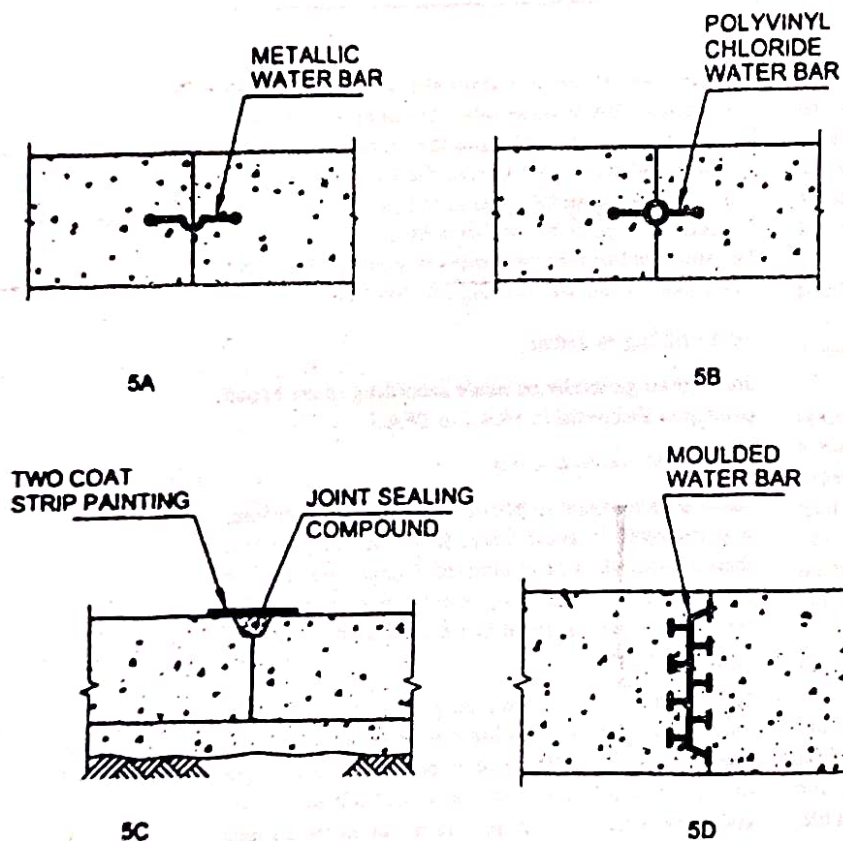


FIG. 5 TYPICAL DETAILS SHOWING USE OF JOINTING MATERIALS IN MOVEMENT JOINTS (CONTRACTION TYPE)

structure. In determining jointing materials due consideration should be given to the requirements of the initial width. These will normally require the maintenance of a certain minimum width of gap during maximum expansion of the structure. The joint should be suitably treated so as to maintain water-tightness during movement of the joint (see Fig. 6).

10.4.2.3 Sliding joints

The two concrete faces of a sliding joint should be plane and smooth.

Care should be taken by the use of a rigid screening board or other suitable means to make the top of the lower concrete as flat as possible. This surface can usefully be improved by finishing with a steel float and rubbing down with carborundum.

Bond between the concrete of the two components should be prevented by painting or by inserting building paper or other suitable material.

The joint should be suitably treated so as to maintain water-tightness during movement of the joint.

10.4.3 Temporary Open Joints

The concrete on both sides of the joints should be finished against stopping off boards.

In order to minimize the extent of subsequent movements due to shrinkage the joint should be left open until shortly before the reservoir is put into service and then filled in with concrete or mortar of specified properties. Where possible, the joint should be filled when the temperature is low.

Immediately before filling the gap, the joint faces should be thoroughly cleaned and prepared in the same way as for construction joints (see 10.4.1).

Where it is intended to treat this type of joint as equivalent to a contraction joint for the purpose of this standard, the joint should be suitably sealed so as to maintain water tightness during subsequent movement of the joint.

NOTE — Figure 1 to Fig. 6 given in this standard are only diagrammatic and are intended merely to illustrate the definitions and principles given in the standard and need not be treated as preferred designs.

10.5 Jointing Materials

Jointing materials normally used are classified as follows:

- a) Joint fillers,
- b) Water bars, and
- c) Joint sealing compounds (including primers where required).

10.5.1 Joint Fillers

Joint fillers are usually compressible sheet or strip materials used as spacers. They are fixed to the face of the first placed concrete and against which the second placed concrete is cast.

Joint fillers, may themselves function as water-tight expansion joints. These may be used as support for an effective joint sealing compound in floor and roof joints. But they can only be relied upon as spacers to provide the gap in an expansion joint, the gap being bridged by a water bar (see Fig. 6).

10.5.2 Water Bars

Water bars are preformed strips of impermeable material which are wholly or partially embedded in the concrete during construction so as to span across the joint and provide a permanent water-tight seal during the whole range of joint movement. For example, water bars may be strips with a central longitudinal corrugation (see Fig. 5A and Fig. 6A), Z-shaped strips (see Fig. 6B) and a central longitudinal hollow tube (see Fig. 5B and Fig. 6C) with thin walls with stiff wings of about 150 mm width. The material used for the water bars are metal sheet, natural or synthetic rubbers and plastics such as polyvinyl chloride (PVC). Galvanized iron sheets may also be used with the specific permission of the engineer-in-charge provided the liquids stored or the atmosphere around the liquid retaining structure is not excessively corrosive, for example, sewage. While selecting the materials for water bars, the possible corrosion aspects may be kept in mind.

Natural and synthetic rubbers and plastics have very considerable advantage in handling, splicing and in making intersections. Wherever use of water bar is stipulated, sufficient thickness of concrete members should be provided so as to ensure proper placing and compaction of concrete adjacent to water bar in order to achieve adequate structural strength.

With all water bars, it is important to ensure proper compaction of the concrete. The bar should have such shape and width that the water path through the concrete round the bar should not be unduly short.

The holes, sometimes provided on the wings of water bars to increase bond, shorten the water path and may be disadvantageous. The water bar should either be placed centrally in the thickness of the wall or its distance from either face of the wall should not be less than half the width of the bar. The full concrete cover to all reinforcement should be maintained.

The strip water bars at present available in the newer materials need to be passed through the end shutter of

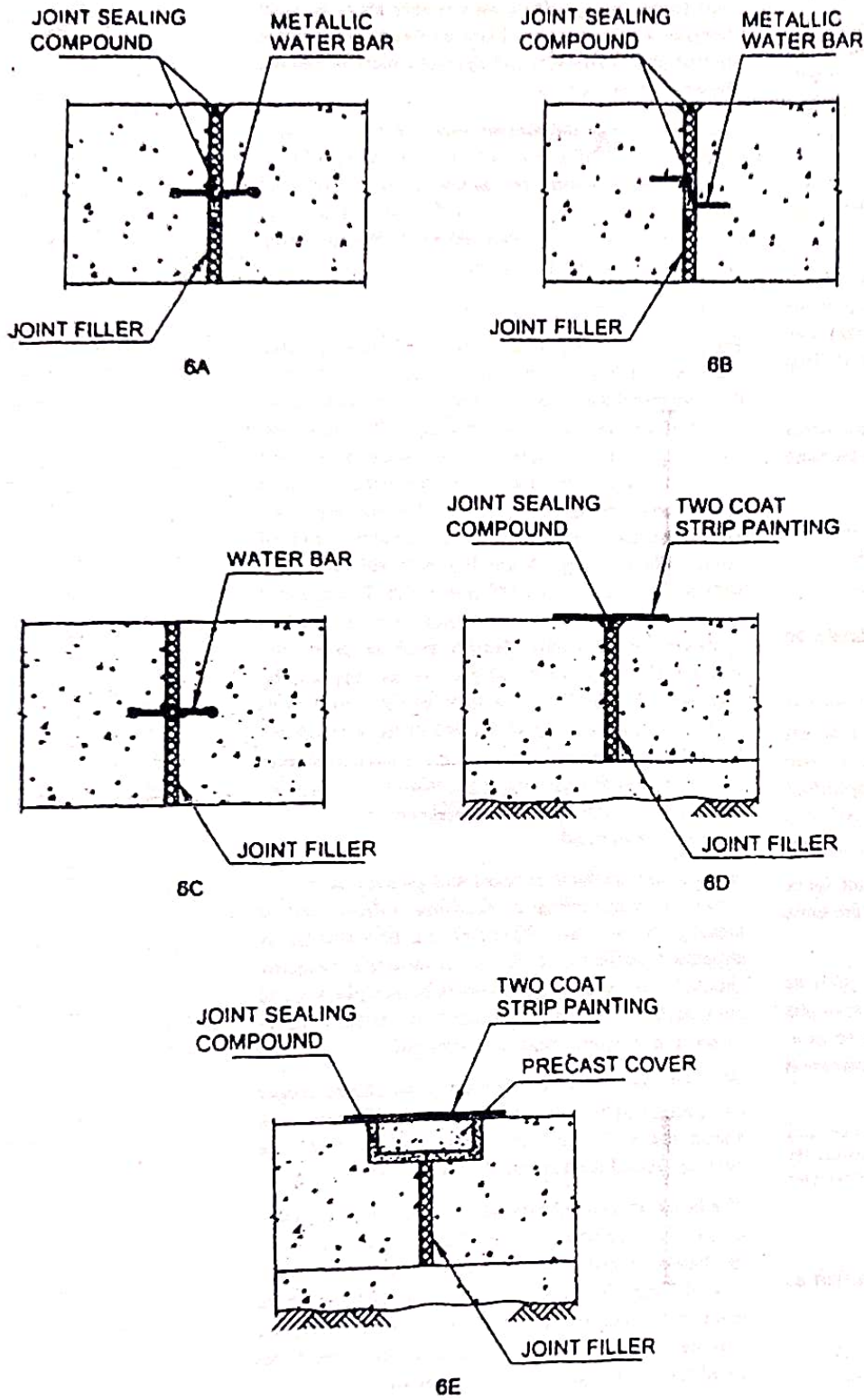


FIG. 6 TYPICAL DETAILS SHOWING USE OF JOINTING MATERIALS IN MOVEMENT JOINTS (EXPANSION TYPE)

the first-placed concrete. It can be appreciated, however, that the use of newer materials makes possible a variety of shapes or sections. Some of these designs, for example, those with several projections (see Fig. 5D), would not need to be passed through the end shutter and by occupying a bigger proportion of the thickness of the joint would also lengthen the shortest alternative water path through the concrete.

10.5.3 Joint Sealing Compounds

Joint sealing compounds are impermeable ductile materials which are required to provide a water-tight seal by adhesion to the concrete throughout the range of joint movements. The commonly used materials are based on asphalt, bitumen, or coal tar pitch with or without fillers, such as limestone or slate dust, asbestos fibre, chopped hemp, rubber or other suitable material. These are usually applied after construction or just before the reservoir is put into service by pouring in the hot or cold state, by trowelling or gunning or as performed strips ironed into position. These may also be applied during construction such as by packing round the corrugation of a water bar. A primer is often used to assist adhesion and some local drying of the concrete surface with the help of a blow lamp is advisable. The length of the shortest water path through the concrete should be extended by suitably painting the surface at the concrete on either side of the joint.

The main difficulties experienced with this class of material are in obtaining permanent adhesion to the concrete during movement of the joint whilst at the same time ensuring that the material does not slump or is not extruded from the joint.

In floor joints, the sealing compound is usually applied in a chase formed in the surface of the concrete along the line of the joint (see Fig. 6A). The actual minimum width will depend on the known characteristics of the material. In the case of an expansion joint, the lower part of the joint is occupied by a joint filler (see Fig. 6D). This type of joint is generally quite successful since retention of the material is assisted by gravity and, in many cases, sealing can be delayed until just before the reservoir is put into service so that the amount of joint opening subsequently to be accommodated is quite small. The chase should not be too narrow too deep to hinder complete filling and the length of the shortest water path through the concrete on either side of the joint. Here, again a wider joint demands a smaller percentage distortion in the material.

An arrangement incorporating a cover slab, similar to that shown in Fig. 6E, may be advantageous in reducing dependence on the adhesion of the sealing compound in direct tension.

11 CONSTRUCTION

11.1 Unless otherwise specified in this standard, the provisions of IS 456 and IS 1343 shall apply to the construction of reinforced concrete and prestressed concrete liquid retaining structures, respectively.

11.2 Joints

Joints shall be constructed in accordance with requirements of 10.

11.3 Construction of Floors

11.3.1 Floors Founded on the Ground

11.3.1.1 Where walls or floors are founded on the ground, a layer of lean concrete not less than 75 mm thick shall be placed over the ground. In normal circumstances this flat layer of concrete may be weaker than that used in other parts of the structure, but not weaker than M15 as specified in IS 456. Where, however injurious soils or aggressive ground water are expected, the concrete should not be weaker than M 20 as specified in IS 456, and if necessary sulphate resisting or other special cement should be used.

11.3.1.2 Following a layer of lean concrete, the floor shall be cast in a single layer. A separating layer of polyethylene sheet of mass 1 kg/m² should be provided in between the floor slab and the layer of lean concrete.

11.4 Construction of Walls

11.4.1 The height of any lift should be as large as possible. It is desirable to place the concrete to full height of the member in one go. Thorough compaction by vibration shall be ensured.

11.4.2 All vertical joints should extend the full height of the wall in unbroken alignment.

11.5 Surface Finish to Prestressed Concrete Cylindrical Tanks

The circumferential prestressing wires of a cylindrical tank should be covered with a protective coat, which may be pneumatic mortar, having a thickness that will provide a minimum cover of 40 mm over the wires.

11.6 Formwork

11.6.1 Removal of Formwork

The requirements shall conform to IS 456.

11.6.2 Bolts passing completely through liquid retaining slabs for the purpose of securing and aligning the form work should not be used unless effective precautions are taken to ensure water-tightness after removal.

11.7 Lining of Tanks

The type of liquid to be stored should be considered in relation to the possibility of corrosion of the steel or attack on the concrete. Provision of an impermeable protective lining should be considered for resistance to the effects of corrosive liquids. Certain natural waters exhibit corrosive characteristics and in such cases it is important to obtain a dense impermeable concrete and with a higher cement content. An increased cover to the steel is also desirable. Use of sulphate resisting Portland cement, Portland pozzolana cement, or Portland slag cement may in certain cases be advantageous.

12 TEST OF STRUCTURE

12.1 In addition to the structural test of structures as given in IS 456, tanks shall also be tested for water-tightness at full supply level as described in 12.1.1 and 12.1.2. In addition, the roofs of tanks should be tested in accordance with 12.1.3.

12.1.1 The tanks shall be filled with water and after the expiry of seven days after the filling, the level of the surface of the water shall be recorded. The level of the water shall be recorded again at subsequent intervals of 24 hours over a period of seven days. The total drop in surface level over a period of seven days shall be taken as an indication of the water-tightness of the tank. The actual permissible nature of this drop in the surface level shall be decided by taking into account whether the tanks are open or closed and the corresponding effect it has on evaporation losses and/or on account of rainfall. However, underground tanks whose top is covered may be deemed to be water-tight if the total drop in the surface level over a period of seven days does not exceed 20 mm.

In case of tanks whose external faces are exposed such as elevated tanks, the requirements of the tests shall be deemed to be satisfied if the external faces show no signs of leakage and remain apparently dry over the period of observation of seven days after allowing a seven day period for absorption after filling.

12.1.2 If the structure does not satisfy the conditions of test, and the daily drop in water level is decreasing, the period of test may be extended for further seven days and if specified limit is then reached, the structure may be considered as satisfactory.

12.1.3 The roofs of liquid-retaining structures should be water-tight and should be tested on completion by flooding the roof with water to a minimum depth of 25 mm for 24 h or longer, if so specified. Where it is impracticable, because of roof slopes or otherwise, to contain a 25 mm depth of water, the roof should have continuous water applied by a hose or sprinkler system to provide a sheet flow of water over the entire area of the roof for not less than 6 h. In either case the roof should be considered satisfactory if no leaks or damp patches show on the soffit. Should the structure not satisfy either of these tests then after the completion of the remedial work it should be retested in accordance with this clause. The roof insulation and covering if any, should be completed as soon as possible after satisfactory testing.

13 LIGHTNING PROTECTION

The liquid retaining structures shall be protected against lightning in accordance with IS 2309.

14 VENTILATION

The minimum required ventilation shall be ensured.

ANNEX A

(Clause 2)

LIST OF REFERRED INDIAN STANDARDS

IS No.	Title	IS No.	Title
455 : 1989	Specification for Portland slag cement (fourth revision)	2309 : 1989	Code of practice for the protection of buildings and allied structures against lightning
456 : 2000	Code of practice for plain and reinforced concrete (fourth revision)	3370 (Part 2) : 2009	Code of practice for concrete structures for storage of liquids: Part 2 Reinforced concrete structures (first revision)
5343 : 1980	Code of practice of prestressed concrete (first revision)	11682 : 1985	Criteria for design of RCC staging for overhead water tanks
1489 (Part 1) : 1991	Specification for Portland pozzolana cement: Part 1 Fly ash based (third revision)		

THE WATER (PREVENTION AND CONTROL OF POLLUTION) ACT, 1974

ARRANGEMENT OF SECTIONS

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THE WATER (PREVENTION AND CONTROL OF POLLUTION) ACT, 1974

ACT NO. 6 OF 1974

[23rd March, 1974.]

An Act to provide for the prevention and control of water pollution and the maintaining or restoring of wholesomeness of water, for the establishment, with a view to carrying out the purposes aforesaid, of Boards for the prevention and control of water pollution, for conferring on and assigning to such Boards powers and functions relating thereto and for matters connected therewith.

WHEREAS it is expedient to provide for the prevention and control of water pollution and the maintaining or restoring of wholesomeness of water, for the establishment, with a view to carrying out the purposes aforesaid, of Boards for the prevention and control of water pollution and for conferring on and assigning to such Boards powers and functions relating thereto;

AND WHEREAS Parliament has no power to make laws for the States with respect to any of the matters aforesaid except as provided in articles 249 and 250 of the Constitution;

AND WHEREAS in pursuance of clause (1) of article 252 of the Constitution resolutions have been passed by all the Houses of the Legislatures of the States of Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Rajasthan, Tripura and West Bengal to the effect that the matters aforesaid should be regulated in those States by Parliament by law.

BE it enacted by Parliament in the Twenty-fifth Year of the Republic of India as follows:—

CHAPTER I

PRELIMINARY

1. Short title, application and commencement.—(1) This Act may be called the Water (Prevention and Control of Pollution) Act, 1974.

(2) It applies in the first instance to the whole of the States of Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Rajasthan, Tripura and West Bengal and the Union territories; and it shall apply to such other State which adopts this Act by resolution passed in that behalf under clause (1) of article 252 of the Constitution.

(3) It shall come into force, at once in the States of Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Rajasthan, Tripura and West Bengal and in the Union territories, and in any other State which adopts this Act under clause (1) of article 252 of the Constitution on the date of such adoption and any reference in this Act to the commencement of this Act shall, in relation to any State or Union territory, mean the date on which this Act comes into force in such State or Union territory.

2. Definitions.—In this Act, unless the context otherwise requires,—

(a) “Board” means the Central Board or a State Board;

¹[(b) “Central Board” means the Central Pollution Control Board constituted under section 3;]

(c) “member” means a member of a Board and includes the chairman thereof;

²[(d) “occupier”, in relation to any factory or premises, means the person who has control over the affairs of the factory or the premises, and includes, in relation to any substance, the person in possession of the substance;]

1. Subs. by Act 53 of 1988, s. 2, for clause (b) (w.e.f. 29-9-1988).

2. Subs. by s. 2, *ibid.*, for clause (d) (w.e.f. 29-9-1988).

¹[(*dd*) "outlet" includes any conduit pipe or channel, open or closed, carrying sewage or trade effluent or any other holding arrangement which causes, or is likely to cause, pollution;]

(*e*) "pollution" means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms;

(*f*) "prescribed" means prescribed by rules made under this Act by the Central Government or, as the case may be, the State Government;

(*g*) "sewage effluent" means effluent from any sewerage system or sewage disposal works and includes sullage from open drains;

¹[(*gg*) "sewer" means any conduit pipe or channel, open or closed, carrying sewage or trade effluent;]

²[(*h*) "State Board" means a State Pollution Control Board constituted under section 4;]

(*i*) "State Government" in relation to a Union territory means the Administrator thereof appointed under article 239 of the Constitution;

(*j*) "stream" includes—

(*i*) river;

(*ii*) water course (whether flowing or for the time being dry);

(*iii*) inland water (whether natural or artificial);

(*iv*) sub-terranean waters;

(*v*) sea or tidal waters to such extent or, as the case may be, to such point as the State Government may, by notification in the Official Gazette, specify in this behalf;

(*k*) "trade effluent" includes any liquid, gaseous or solid substance which is discharged from any premises used for carrying on any ³[industry, operation or process, or treatment and disposal system], other than domestic sewage.

CHAPTER II

THE CENTRAL AND STATE BOARDS FOR PREVENTION AND CONTROL OF WATER POLLUTION

3. Constitution of Central Boards.—(1) The Central Government shall, with effect from such date (being a date not later than six months of the commencement of this Act in the States of Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Rajasthan, Tripura and West Bengal and in the Union territories) as it may, by notification in the Official Gazette, appoint, constitute a Central Board to be called the ⁴[Central Pollution Control Board] to exercise the powers conferred on and perform the functions assigned to that Board under this Act.

(2) The Central Board shall consist of the following members, namely:—

(*a*) a full-time chairman, being a person having special knowledge or practical experience in respect of ⁵[matters relating to environmental protection] or a person having knowledge and experience in administering institutions dealing with the matters aforesaid, to be nominated by the Central Government;

1. Ins. by Act 44 of 1978, s. 2 (w.e.f. 12-12-1978).

2. Subs. by Act 53 of 1988, s. 2, for clause (*h*) (w.e.f. 29-9-1988).

3. Subs. by s. 2, *ibid.*, for "trade or industry" (w.e.f. 29-9-1988).

4. Subs. by s. 3, *ibid.*, for "Central Board for the Prevention and Control of Water Pollution" (w.e.f. 29-9-1988).

5. Subs. by Act 44 of 1978, s. 3, for "matters relating to the use and conservation of water resources or the prevention and control of water pollution" (w.e.f. 12-12-1978).

(b) ¹[such number of officials, not exceeding five,] to be nominated by the Central Government to represent that Government;

(c) such number of persons, not exceeding five, to be nominated by the Central Government, from amongst the members of the State Boards, of whom not exceeding two shall be from those referred to in clause (c) of sub-section (2) of section 4;

(d) ²[such number of non-officials, not exceeding three,] to be nominated by the Central Government, to represent the interests of agriculture, fishery or industry or trade or any other interest which, in the opinion of the Central Government, ought to be represented;

(e) two persons to represent the companies or corporations owned, controlled or managed by the Central Government, to be nominated by that Government;

³(f) a full-time member-secretary, possessing qualifications, knowledge and experience of scientific, engineering or management aspects of pollution control, to be appointed by the Central Government.]

(3) The Central Board shall be a body corporate with the name aforesaid having perpetual succession and a common seal with power, subject to the provisions of this Act, to acquire, hold and dispose of property and to contract, and may, by the aforesaid name, sue or be sued.

4. Constitution of State Board.—(1) The State Government shall, with effect from such date ⁴*** as it may, by notification in the Official Gazette, appoint, constitute a ⁵[State Pollution Control Board], under such name as may be specified in the notification, to exercise the powers conferred on and perform the functions assigned to that Board under this Act.

(2) A State Board shall consist of the following members, namely:—

(a) a ⁶*** chairman, being a person having special knowledge or practical experience in respect of ⁷[matters relating to environmental protection] or a person having knowledge and experience in administering institutions dealing with the matters aforesaid, to be nominated by the State Government:

⁸[Provided that the chairman may be either whole-time or part-time as the State Government may think fit;]

(b) ⁹[such number of officials, not exceeding five,] to be nominated by the State Government to represent that Government;

(c) ¹⁰[such number of persons, not exceeding five,] to be nominated by the State Government from amongst the members of the local authorities functioning within the State;

(d) ¹¹[such number of non-officials, not exceeding three,] to be nominated by the State Government to represent the interests of agriculture, fishery or industry or trade or any other interest which, in the opinion of the State Government, ought to be represented;

(e) two persons to represent the companies or corporations owned, controlled or managed by the State Government, to be nominated by that Government;

1. Subs. by Act 44 of 1978, s. 3, for "five officials" (w.e.f. 12-12-1978).

2. Subs. by s. 3, *ibid.*, for "three non-officials" (w.e.f. 12-12-1978).

3. Subs. by Act 53 of 1988, s. 3, for clause (f) (w.e.f. 29-9-1988).

4. The brackets and words "(being a date not later than six months of the commencement of the Act in the State)" omitted by Act 44 of 1978, s. 4 (w.e.f. 12-12-1978).

5. Subs. by Act 53 of 1988, s. 4, for "State Board" (w.e.f. 29-9-1988).

6. The word "full-time" omitted by Act 44 of 1978, s. 4 (w.e.f. 12-12-1978).

7. Subs. by s. 4, *ibid.*, for certain words (w.e.f. 12-12-1978).

8. The proviso ins. by s. 4, *ibid.* (w.e.f. 12-12-1978).

9. Subs. by s. 4, *ibid.*, for "five officials" (w.e.f. 12-12-1978).

10. Subs. by s. 4, *ibid.*, for "five persons" (w.e.f. 12-12-1978).

11. Subs. by s. 4, *ibid.*, for "three non-officials" (w.e.f. 12-12-1978).

¹[(f) a full-time member-secretary, possessing qualifications, knowledge and experience of scientific, engineering or management aspects of pollution control, to be appointed by the State Government.]

(3) Every State Board shall be a body corporate with the name specified by the State Government in the notification under sub-section (1), having perpetual succession and a common seal with power, subject to the provisions of this Act, to acquire, hold and dispose of property and to contract, and may, by the said name, sue or be sued.

(4) Notwithstanding anything contained in this section, no State Board shall be constituted for a Union territory and in relation to a Union territory, the Central Board shall exercise the powers and perform the functions of a State Board for that Union territory:

Provided that in relation to any Union territory the Central Board may delegate all or any of its powers and functions under this sub-section to such person or body of persons as the Central Government may specify.

5. Terms and conditions of service of members.—(1) Save as otherwise provided by or under this Act, a member of a Board, other than a member-secretary, shall hold office for a term of three years from the date of his nomination:

Provided that a member shall, notwithstanding the expiration of his term, continue to hold office until his successor enters upon his office.

²[(2) The term of office of a member of a Board nominated under clause (b) or clause (e) of sub-section (2) of section 3 or clause (b) or clause (e) of sub-section (2) of section 4 shall come to an end as soon as he ceases to hold the office under the Central Government or the State Government or, as the case may be, the company or corporation owned, controlled or managed by the Central Government or the State Government, by virtue of which he was nominated.]

(3) The Central Government or, as the case may be, the State Government may, if it thinks fit, remove any member of a Board before the expiry of his term of office, after giving him a reasonable opportunity of showing cause against the same.

(4) A member of a Board, other than the member-secretary, may at any time resign his office by writing under his hand addressed—

(a) in the case of the chairman to the Central Government or, as the case may be, the State Government; and

(b) in any other case, to the chairman of the Board,

and the seat of the chairman or such other member shall thereupon become vacant.

(5) A member of a Board, other than the member-secretary, shall be deemed to have vacated his seat if he is absent without reason, sufficient in the opinion of the Board, from three consecutive meetings of the Board,³ [or where he is nominated under clause (c) or clause (e) of sub-section (2) of section 3 or under clause (c) or clause (e) of sub-section (2) of section 4, if he ceases to be a member of the State Board or of the local authority or, as the case may be, of the company or corporation owned, controlled or managed by the Central Government or the State Government and such vacation of seat shall, in either case, take effect from such date as the Central Government or, as the case may be, the State Government may, by notification in the Official Gazette, specify].

(6) A casual vacancy in a Board shall be filled by a fresh nomination and the person nominated to fill the vacancy shall hold office only for the remainder of the term for which the member in whose place he was nominated.

(7) A member of a Board⁴ [shall be eligible for renomination].

1. Subs. by Act 53 of 1988, s. 4, for clause (f) (w.e.f. 29-9-1988).

2. Subs. by Act 44 of 1978, s. 5, for sub-section (2) (w.e.f. 12-12-1978).

3. Subs. by s. 5, *ibid.*, for certain words, brackets, letters and figures (w.e.f. 12-12-1978).

4. Subs. by Act 53 of 1988, s. 5, for "shall not be eligible for renomination for more than two terms" (w.e.f. 29-9-1988).

(8) The other terms and conditions of service of a member of a Board, other than the chairman and member-secretary, shall be such as may be prescribed.

(9) The other terms and conditions of service of the chairman shall be such as may be prescribed.

6. Disqualifications.—(1) No person shall be a member of a Board, who—

(a) is, or at any time has been adjudged insolvent or has suspended payment of his debts or has compounded with his creditors, or

(b) is of unsound mind and stands so declared by a competent court, or

(c) is, or has been, convicted of an offence which, in the opinion of the Central Government or, as the case may be, of the State Government, involves moral turpitude, or

(d) is, or at any time has been, convicted of an offence under this Act, or

(e) has directly or indirectly by himself or by any partner, any share or interest in any firm or company carrying on the business of manufacture, sale or hire of machinery, plant, equipment, apparatus or fittings for the treatment of sewage or trade effluents, or

(f) is a director or a secretary, manager or other salaried officer or employee of any company or firm having any contract with the Board, or with the Government constituting the Board, or with a local authority in the State, or with a company or corporation owned, controlled or managed by the Government, for the carrying out of sewerage schemes or for the installation of plants for the treatment of sewage or trade effluents, or

(g) has so abused, in the opinion of the Central Government or as the case may be, of the State Government, his position as a member, as to render his continuance on the Board detrimental to the interest of the general public.

(2) No order of removal shall be made by the Central Government or the State Government, as the case may be, under this section unless the member concerned has been given a reasonable opportunity of showing cause against the same.

(3) Notwithstanding anything contained in sub-sections (1) and (7) of section 5, a member who has been removed under this section shall not be eligible for renomination as a member.

7. Vacation of seats by members.—If a member of a Board becomes subject to any of the disqualifications specified in section 6, his seat shall become vacant.

8. Meetings of Board.—A Board shall meet at least once in every three months and shall observe such rules of procedure in regard to the transaction of business at its meetings as may be prescribed:

Provided that if, in the opinion of the chairman, any business of an urgent nature is to be transacted, he may convene a meeting of the Board at such time as he thinks fit for the aforesaid purpose.

9. Constitution of committees.—(1) A Board may constitute as many committees consisting wholly of members or wholly of other persons or partly of members and partly of other persons, and for such purpose or purposes as it may think fit.

(2) A committee constituted under this section shall meet at such time and at such place, and shall observe such rules of procedure in regard to the transaction of business at its meetings, as may be prescribed.

(3) The members of a committee (other than the members of the Board) shall be paid such fees and allowances, for attending its meetings and for attending to any other work of the Board as may be prescribed.

10. Temporary association of persons with Board for particular purposes.—(1) A Board may associate with itself in such manner, and for such purposes, as may be prescribed any person whose assistance or advice it may desire to obtain in performing any of its functions under this Act.

(2) A person associated with the Board under sub-section (1) for any purpose shall have a right to take part in the discussions of the Board relevant to that purpose, but shall not have a right to vote at a meeting of the Board, and shall not be a member for any other purpose.

¹[(3) A person associated with the Board under sub-section (1) for any purpose shall be paid such fees and allowances, for attending its meetings and for attending to any other work of the Board, as may be prescribed.]

11. Vacancy in Board not to invalidate acts or proceedings.—No act or proceeding of a Board or any committee thereof shall be called in question on the ground merely of the existence of any vacancy in, or any defect in the constitution of, the Board or such committee, as the case may be.

²[11A. Delegation of powers to Chairman.—The Chairman of a Board shall exercise such powers and perform such duties as may be prescribed or as may, from time to time, be delegated to him by the Board.]

12. Member-secretary and officers and other employees of Board.—(1) The terms and conditions of service of the member-secretary shall be such as may be prescribed.

(2) The member-secretary shall exercise such powers and perform such duties as may be prescribed or as may, from time to time, be delegated to him by the Board or its chairman.

(3) Subject to such rules as may be made by the Central Government or, as the case may be, the State Government in this behalf, a Board may appoint such officers and employees as it considers necessary for the efficient performance of its functions ^{3***}.

⁴[(3A) The method of recruitment and the terms and conditions of service (including the scales of pay) of the officers (other than the member-secretary) and other employees of the Central Board or a State Board shall be such as may be determined by regulations made by the Central Board or, as the case may be, by the State Board:

Provided that no regulation made under this sub-section shall take effect unless,—

(a) in the case of a regulation made by the Central Board, it is approved by the Central Government; and

(b) in the case of a regulation made by a State Board, it is approved by the State Government.]

⁵[(3B) The Board may, by general or special order, and subject to such conditions and limitations, if any, as may be specified in the order delegate to any officer of the Board such of its powers and functions under this Act as it may deem necessary.]

(4) Subject to such conditions as may be prescribed, a Board may from time to time appoint any qualified person to be a consulting engineer to the Board and pay him such salaries and allowances and subject him to such other terms and conditions of service as it thinks fit.

CHAPTER III

JOINT BOARDS

13. Constitution of Joint Board.—(1) Notwithstanding anything contained in this Act, an agreement may be entered into—

(a) by two or more Governments of contiguous States, or

(b) by the Central Government (in respect of one or more Union territories) and one or more Governments of States contiguous to such Union territory or Union territories,

1. Ins. by Act 44 of 1978, s. 6 (w.e.f. 12-12-1978).

2. Ins. by s. 7, *ibid.* (w.e.f. 12-12-1978).

3. Certain words omitted by s. 8, *ibid.* (w.e.f. 12-12-1978).

4. Ins. by s. 8, *ibid.* (w.e.f. 12-12-1978).

5. Ins. by Act 53 of 1988, s. 6 (w.e.f. 29-9-1988).

to be in force for such period and to be subject to renewal for such further period, if any, as may be specified in the agreement to provide for the constitution of a Joint Board,—

(i) in a case referred to in clause (a), for all the participating States, and

(ii) in a case referred to in clause (b), for the participating Union territory or Union territories and the State or States.

(2) An agreement under this section may—

(a) provide, in a case referred to in clause (a) of sub-section (1), for the apportionment between the participating States and in a case referred to in clause (b) of that sub-section, for the apportionments between the Central Government and the participating State Government or State Governments, of the expenditure in connection with the Joint Board;

(b) determine, in a case referred to in clause (a) of sub-section (1), which of the participating State Governments and in a case referred to in clause (b) of that sub-section, whether the Central Government or the participating State Government (if there are more than one participating State, also which of the participating State Governments) shall exercise and perform the several powers and functions of the State Government under this Act and the references in this Act to the State Government shall be construed accordingly;

(c) provide for consultation, in a case referred to in clause (a) of sub-section (1), between the participating State Governments and in a case referred to in clause (b) of that sub-section, between the Central Government and the participating State Government or State Governments either generally or with reference to particular matters arising under this Act;

(d) make such incidental and ancillary provisions, not inconsistent with this Act, as may be deemed necessary or expedient for giving effect to the agreement.

(3) An agreement under this section shall be published, in a case referred to in clause (a) of sub-section (1), in the Official Gazette of the participating States and in a case referred to in clause (b) of that sub-section, in the Official Gazette of the participating Union territory or Union territories and participating State or States.

14. Composition of Joint Boards.—(1) A Joint Board constituted in pursuance of an agreement entered into under clause (a) of sub-section (1) of section 13 shall consist of the following members, namely:—

(a) a full-time chairman, being a person having special knowledge or practical experience in respect of ¹[matters relating to environmental protection] or a person having knowledge and experience in administering institutions dealing with the matters aforesaid, to be nominated by the Central Government;

(b) two officials from each of the participating States to be nominated by the concerned participating State Government to represent that Government;

(c) one person to be nominated by each of the participating State Governments from amongst the members of the local authorities functioning within the State concerned;

(d) one non-official to be nominated by each of the participating State Governments to represent the interests of agriculture, fishery or industry or trade in the State concerned or any other interest which, in the opinion of the participating State Government, is to be represented;

(e) two persons to be nominated by the Central Government to represent the companies or corporations owned, controlled or managed by the participating State Governments;

²[(f) a full-time member-secretary, possessing qualifications, knowledge and experience of scientific, engineering or management aspects of pollution control, to be appointed by the Central Government.]

1. Subs. by Act 44 of 1978, s. 9, for certain words (w.e.f. 12-12-1978).

2. Subs. by Act 53 of 1988, s. 7, for clause (f) (w.e.f. 29-9-1988).

(2) A Joint Board constituted in pursuance of an agreement entered into under clause (b) of sub-section (1) of section 13 shall consist of the following members, namely:—

(a) a full-time chairman, being a person having special knowledge or practical experience in respect of ¹[matters relating to environmental protection] or a person having knowledge and experience in administering institutions dealing with the matters aforesaid, to be nominated by the Central Government;

(b) two officials to be nominated by the Central Government from the participating Union territory or each of the participating Union territories, as the case may be, and two officials to be nominated, from the participating State or each of the participating States, as the case may be, by the concerned participating State Government;

(c) one person to be nominated by the Central Government from amongst the members of the local authorities functioning within the participating Union territory or each of the participating Union territories, as the case may be, and one person to be nominated, from amongst the members of the local authorities functioning within the participating State or each of the participating States, as the case may be, by the concerned participating State Government;

(d) one non-official to be nominated by the Central Government and one person to be nominated by the participating State Government or State Governments to represent the interests of agriculture, fishery or industry or trade in the Union territory or in each of the Union territories or the State or in each of the States, as the case may be, or any other interest which in the opinion of the Central Government or, as the case may be, of the State Government is to be represented;

(e) two persons to be nominated by the Central Government to represent the companies or corporations owned, controlled or managed by the Central Government and situate in the participating Union territory or territories and two persons to be nominated by the Central Government to represent the companies or corporations owned, controlled or managed by the participating State Governments;

²[(f) a full-time member-secretary, possessing qualifications, knowledge and experience of scientific, engineering or management aspects of pollution control, to be appointed by the Central Government.]

(3) When a Joint Board is constituted in pursuance of an agreement under clause (b) of sub-section (1) of section 13, the provisions of sub-section (4) of section 4 shall cease to apply in relation to the Union territory for which the Joint Board is constituted.

(4) Subject to the provisions of sub-section (3), the provisions of sub-section (3) of section 4 and sections 5 to 12 (inclusive) shall apply in relation to the Joint Board and its member-secretary as they apply in relation to a State Board and its member-secretary.

(5) Any reference in this Act to the State Board shall, unless the context otherwise requires, be construed as including a Joint Board.

15. Special provision relating to giving of directions.—Notwithstanding anything contained in this Act where any Joint Board is constituted under section 13,—

(a) the Government of the State for which the Joint Board is constituted shall be competent to give any direction under this Act only in cases where such direction relates to a matter within the exclusive territorial jurisdiction of the State;

(b) the Central Government alone shall be competent to give any direction under this Act where such direction relates to a matter within the territorial jurisdiction of two or more States or pertaining to a Union territory.

1. Subs. by Act 44 of 1978, s. 9, for certain words (w.e.f. 12-12-1978).

2. Subs. by Act 53 of 1988, s. 7, for clause (f) (w.e.f. 29-9-1988).

CHAPTER IV

POWERS AND FUNCTIONS OF BOARDS

16. Functions of Central Board.—(1) Subject to the provisions of this Act, the main function of the Central Board shall be to promote cleanliness of streams and wells in different areas of the States.

(2) In particular and without prejudice to the generality of the foregoing function, the Central Board may perform all or any of the following functions, namely:—

(a) advise the Central Government on any matter concerning the prevention and control of water pollution;

(b) co-ordinate the activities of the State Boards and resolve disputes among them;

(c) provide technical assistance and guidance to the State Boards, carry out and sponsor investigations and research relating to problems of water pollution and prevention, control or abatement of water pollution;

(d) plan and organise the training of persons engaged or to be engaged in programmes for the prevention, control or abatement of water pollution on such terms and conditions as the Central Board may specify;

(e) organise through mass media a comprehensive programme regarding the prevention and control of water pollution;

¹[(ee) perform such of the functions of any State Board as may be specified in an order made under sub-section (2) of section 18;]

(f) collect, compile and publish technical and statistical data relating to water pollution and the measures devised for its effective prevention and control and prepare manuals, codes or guides relating to treatment and disposal of sewage and trade effluents and disseminate information connected therewith;

(g) lay down, modify or annul, in consultation with the State Government concerned, the standards for a stream or well:

Provided that different standards may be laid down for the same stream or well or for different streams or wells, having regard to the quality of water, flow characteristics of the stream or well and the nature of the use of the water in such stream or well or streams or wells;

(h) plan and cause to be executed a nation-wide programme for the prevention, control or abatement of water pollution;

(i) perform such other functions as may be prescribed.

(3) The Board may establish or recognise a laboratory or laboratories to enable the Board to perform its functions under this section efficiently including the analysis of samples of water from any stream or well or of samples of any sewage or trade effluents.

17. Functions of State Board.—(1) Subject to the provisions of this Act, the functions of a State Board shall be—

(a) to plan a comprehensive programme for the prevention, control or abatement of pollution of streams and wells in the State and to secure the execution thereof;

(b) to advise the State Government on any matter concerning the prevention, control or abatement of water pollution;

(c) to collect and disseminate information relating to water pollution and the prevention, control or abatement thereof;

¹ Ins. by Act 53 of 1988, s. 8 (w.e.f. 29-9-1988).

(d) to encourage, conduct and participate investigations and research relating to problems of water pollution and prevention, control or abatement of water pollution;

(e) to collaborate with the Central Board in organising the training of persons engaged or to be engaged in programmes relating, to prevention, control or abatement of water pollution and to organise mass education programmes relating thereto;

(f) to inspect sewage or trade effluents, works and plants for the treatment of sewage and trade effluents and to review plans, specifications or other data relating to plants set up for the treatment of water, works for the purification thereof and the system for the disposal of sewage or trade effluents or in connection with the grant of any consent as required by this Act;

(g) to lay down, modify or annul effluent standards for the sewage and trade effluents and for the quality of receiving waters (not being water in an inter-State stream) resulting from the discharge of effluents and to classify waters of the State;

(h) to evolve economical and reliable methods of treatment of sewage and trade effluents, having regard to the peculiar conditions of soils, climate and water resources of different regions and more especially the prevailing flow characteristics of water in streams and wells which render it impossible to attain even the minimum degree of dilution;

(i) to evolve methods of utilisation of sewage and suitable trade effluents in agriculture;

(j) to evolve efficient methods of disposal of sewage and trade effluents on land, as are necessary on account of the predominant conditions of scant stream flows that do not provide for major part of the year the minimum degree of dilution;

(k) to lay down standards of treatment of sewage and trade effluents to be discharged into any particular stream taking into account the minimum fair weather dilution available in that stream and the tolerance limits of pollution permissible in the water of the stream, after the discharge of such effluents;

(l) to make, vary or revoke any order—

(i) for the prevention, control or abatement of discharges of waste into streams or wells;

(ii) requiring any person concerned to construct new systems for the disposal of sewage and trade effluents or to modify, alter or extend any such existing system or to adopt such remedial measures as are necessary to prevent, control or abate water pollution;

(m) to lay down effluent standards to be complied with by persons while causing discharge of sewage or sullage or both and to lay down, modify or annul effluent standards for the sewage and trade effluents;

(n) to advise the State Government with respect to the location of any industry the carrying on of which is likely to pollute a stream or well;

(o) to perform such other functions as may be prescribed or as may, from time to time, be entrusted to it by the Central Board or the State Government.

(2) The Board may establish or recognise a laboratory or laboratories to enable the Board to perform its functions under this section efficiently, including the analysis of samples of water from any stream or well or of samples of any sewage or trade effluents.

18. Powers to give directions.—¹[(1)] In the performance of its functions under this Act—

(a) the Central Board shall be bound by such directions in writing as the Central Government may give to it; and

(b) every State Board shall be bound by such directions in writing as the Central Board or the State Government may give to it:

¹ S. 18 renumbered as sub-section (1) thereof by Act 53 of 1988, s. 9 (w.e.f. 29-9-1988).

Provided that where a direction given by the State Government is inconsistent with the direction given by the Central Board, the matter shall be referred to the Central Government for its decision.

¹[(2) Where the Central Government is of the opinion that any State Board has defaulted in complying with any directions given by the Central Board under sub-section (1) and as a result of such default a grave emergency has arisen and it is necessary or expedient so to do in the public interest, it may, by order, direct the Central Board to perform any of the functions of the State Board in relation to such area, for such period and for such purposes, as may be specified in the order.

(3) Where the Central Board performs any of the functions of the State Board in pursuance of a direction under sub-section (2), the expenses, if any, incurred by the Central Board with respect to the performance of such functions may, if the State Board is empowered to recover such expenses, be recovered by the Central Board with interest (at such reasonable rate as the Central Government may, by order, fix) from the date when a demand for such expenses is made until it is paid from the person or persons concerned as arrears of land revenue or of public demand.

(4) For the removal of doubts, it is hereby declared that any directions to perform the functions of any State Board given under sub-section (2) in respect of any area would not preclude the State Board from performing such functions in any other area in the State or any of its other functions in that area.]

CHAPTER V

PREVENTION AND CONTROL OF WATER POLLUTION

19. Power of State Government to restrict the application of the Act to certain areas.—(1) Notwithstanding anything contained in this Act, if the State Government, after consultation with, or on the recommendation of, the State Board, is of opinion that the provisions of this Act need not apply to the entire State, it may, by notification in the Official Gazette, restrict the application of this Act to such area or areas as may be declared therein as water pollution, prevention and control area or areas and thereupon the provisions of this Act shall apply only to such area or areas.

(2) Each water pollution, prevention and control area may be declared either by reference to a map or by reference to the line of any watershed or the boundary of any district or partly by one method and partly by another.

(3) The State Government may, by notification in the Official Gazette,—

(a) alter any water pollution, prevention and control area whether by way of extension or reduction; or

(b) define a new water pollution, prevention and control area in which may be merged one or more water pollution, prevention and control areas, or any part or parts thereof.

20. Power to obtain information.—(1) For the purpose of enabling a State Board to perform the functions conferred on it by or under this Act, the State Board or any officer empowered by it in that behalf, may make surveys of any area and gauge and keep records of the flow or volume and other characteristics of any stream or well in such area, and may take steps for the measurement and recording of the rainfall in such area or any part thereof and for the installation and maintenance for those purposes of gauges or other apparatus and works connected therewith, and carry out stream surveys and may take such other steps as may be necessary in order to obtain any information required for the purposes aforesaid.

(2) A State Board may give directions requiring any person who in its opinion is abstracting water from any such stream or well in the area in quantities which are substantial in relation to the flow or volume of that stream well or is discharging sewage or trade effluent into any such stream or well, to give such information as to the abstraction or the discharge at such times and in such form as may be specified in the directions.

1. Ins. by Act 53 of 1988, s. 9 (w.e.f. 29-9-1988).

(3) Without prejudice to the provisions of sub-section (2), a State Board may, with a view to preventing or controlling pollution of water, give directions requiring any person in charge of any establishment where any ¹[industry, operation or process, or treatment and disposal system] is carried on, to furnish to it information regarding the construction, installation or operation of such establishment or of any disposal system or of any extension or addition thereto in such establishment and such other particulars as may be prescribed.

21. Power to take samples of effluents and procedure to be followed in connection therewith.—(1) A State Board or any officer empowered by it in this behalf shall have power to take for the purpose of analysis samples of water from any stream or well or samples of any sewage or trade effluent which is passing from any plant or vessel or from or over any place into any such stream or well.

(2) The result of any analysis of a sample of any sewage or trade effluent taken under sub-section (1) shall not be admissible in evidence in any legal proceeding unless the provisions of sub-sections (3), (4) and (5) are complied with.

(3) Subject to the provisions of sub-sections (4) and (5), when a sample (composite or otherwise as may be warranted by the process used) of any sewage or trade effluent is taken for analysis under sub-section (1), the person taking the sample shall—

(a) serve on the person in charge of, or having control over, the plant or vessel or in occupation of the place (which person is hereinafter referred to as the occupier) or any agent of such occupier, a notice, then and there in such form as may be prescribed of his intention to have it so analysed;

(b) in the presence of the occupier or his agent, divide the sample into two parts;

(c) cause each part to be placed in a container which shall be marked and sealed and shall also be signed both by the person taking the sample and the occupier or his agent;

(d) send one container forthwith,—

(i) in a case where such sample is taken from any area situated in a Union territory, to the laboratory established or recognised by the Central Board under section 16; and

(ii) in any other case, to the laboratory established or recognised by the State Board under section 17;

(e) on the request of the occupier or his agent, send the second container,—

(i) in a case where such sample is taken from any area situated in a Union territory, to the laboratory established or specified under sub-section (1) of section 51; and

(ii) in any other case, to the laboratory established or specified under sub-section (1) of section 52.

²[(4) When a sample of any sewage or trade effluent is taken for analysis under sub-section (1) and the person taking the sample serves on the occupier or his agent, a notice under clause (a) of sub-section (3) and the occupier or his agent wilfully absents himself, then,—

(a) the sample so taken shall be placed in a container which shall be marked and sealed and shall also be signed by the person taking the sample and the same shall be sent forthwith by such person for analysis to the laboratory referred to in sub-clause (i) or sub-clause (ii), as the case may be, of clause (e) of sub-section (3) and such person shall inform the Government analyst appointed under sub-section (1) or sub-section (2), as the case may be, of section 53, in writing about the wilful absence of the occupier or his agent; and

(b) the cost incurred in getting such sample analysed shall be payable by the occupier or his agent and in case of default of such payment, the same shall be recoverable from the occupier or his agent, as the case may be, as an arrear of land revenue or of public demand;

1. Subs. by Act 53 of 1988, s. 10, for "industry or trade" (w.e.f. 29-9-1988).

2. Subs. by Act 44 of 1978, s. 10, for sub-section (4) (w.e.f. 12-12-1978).

Provided that no such recovery shall be made unless the occupier or, as the case may be, his agent has been given a reasonable opportunity of being heard in the matter.]

(5) When a sample of any sewage or trade effluent is taken for analysis under sub-section (1) and the person taking the sample serves on the occupier or his agent a notice under clause (a) of sub-section (3) and the occupier or his agent who is present at the time of taking the sample does not make a request for dividing the sample into two parts as provided in clause (b) of sub-section (3), then, the sample so taken shall be placed in a container which shall be marked and sealed and shall also be signed by the person taking the sample and the same shall be sent forthwith by such person for analysis to the laboratory referred to in sub-clause (i) or sub-clause (ii), as the case may be, of clause (d) of sub-section (3).

22. Reports of the result of analysis on samples taken under section 21.—(1) Where a sample of any sewage or trade effluent has been sent for analysis to the laboratory established or recognised by the Central Board or, as the case may be, the State Board, the concerned Board analyst appointed under sub-section (3) of section 53 shall analyse the sample and submit a report in the prescribed form of the result of such analysis in triplicate to the Central Board or the State Board, as the case may be.

(2) On receipt of the report under sub-section (1), one copy of the report shall be sent by the Central Board or the State Board, as the case may be, to the occupier or his agent referred to in section 21, another copy shall be preserved for production before the court in case any legal proceedings are taken against him and the other copy shall be kept by the concerned Board.

(3) Where a sample has been sent for analysis under clause (e) of sub-section (3) or sub-section (4) of section 21 to any laboratory mentioned therein, the Government analyst referred to in that sub-section shall analyse the sample and submit a report in the prescribed form of the result of the analysis in triplicate to the Central Board or, as the case may be, the State Board which shall comply with the provisions of sub-section (2).

(4) If there is any inconsistency or discrepancy between, or variation in the results of, the analysis carried out by the laboratory established or recognised by the Central Board or the State Board, as the case may be, and that of the laboratory established or specified under section 51 or section 52, as the case may be, the report of the latter shall prevail.

(5) Any cost incurred in getting any sample analysed at the request of the occupier or his agent shall be payable by such occupier or his agent and in case of default the same shall be recoverable from him as arrears of land revenue or of public demand.

23. Power of entry and inspection.—(1) Subject to the provisions of this section, any person empowered by a State Board in this behalf shall have a right at any time to enter, with such assistance as he considers necessary, any place—

(a) for the purpose of performing any of the functions of the Board entrusted to him;

(b) for the purpose of determining whether and if so in what manner, any such functions are to be performed or whether any provisions of this Act or the rules made thereunder of any notice, order, direction or authorisation served, made, given, or granted under this Act is being or has been complied with;

(c) for the purpose of examining any plant, record, register, document or any other material object or for conducting a search of any place in which he has reason to believe that an offence under this Act or the rules made thereunder has been or is being or is about to be committed and for seizing any such plant, record, register, document or other material object, if he has reason to believe that it may furnish evidence of the commission of an offence punishable under this Act or the rules made thereunder:

Provided that the right to enter under this sub-section for the inspection of a well shall be exercised only at reasonable hours in a case where such well is situated in any premises used for residential purposes and the water thereof is used exclusively for domestic purposes.

(2) The provisions of ¹[the Code of Criminal Procedure, 1973 (2 of 1974)], or, in relation to the State of Jammu and Kashmir, the provisions of any corresponding law in force in that State, shall, so far as may be, apply to any search or seizure under this section as they apply to any search or seizure made under the authority of a warrant issued under ²[section 94] of the said Code, or, as the case may be, under the corresponding provisions of the said law.

Explanation.—For the purposes of this section, “place” includes vessel.

24. Prohibition on use of stream or well for disposal of polluting matter, etc.—(1) Subject to the provisions of this section,—

(a) no person shall knowingly cause or permit any poisonous, noxious or polluting matter determined in accordance with such standards as may be laid down by the State Board to enter (whether directly or indirectly) into any ³[stream or well or sewer or on land]; or

(b) no person shall knowingly cause or permit to enter into any stream any other matter which may tend, either directly or in combination with similar matters, to impede the proper flow of the water of the stream in a manner leading or likely to lead to a substantial aggravation of pollution due to other causes or of its consequences.

(2) A person shall not be guilty of an offence under sub-section (1), by reason only of having done or caused to be done any of the following acts, namely:—

(a) constructing, improving or maintaining in or across or on the bank or bed of any stream any building, bridge, weir, dam, sluice, dock, pier, drain or sewer or other permanent works which he has a right to construct, improve or maintain;

(b) depositing any materials on the bank or in the bed of any stream for the purpose of reclaiming land or for supporting, repairing or protecting the bank or bed of such stream provided such materials are not capable of polluting such stream;

(c) putting into any stream any sand or gravel or other natural deposit which has flowed from or been deposited by the current of such stream;

(d) causing or permitting, with the consent of the State Board, the deposit accumulated in a well, pond or reservoir to enter into any stream.

(3) The State Government may, after consultation with, or on the recommendation of, the State Board, exempt, by notification in the Official Gazette, any person from the operation of sub-section (1) subject to such conditions, if any, as may be specified in the notification and any condition so specified may by a like notification be altered, varied or amended.

25. Restrictions on new outlets and new discharges.—⁴[(1) Subject to the provisions of this section, no person shall, without the previous consent of the State Board,—

(a) establish or take any steps to establish any industry, operation or process, or any treatment and disposal system or any extension or addition thereto, which is likely to discharge sewage or trade effluent into a stream or well or sewer or on land (such discharge being hereafter in this section referred to as discharge of sewage); or

(b) bring into use any new or altered outlet for the discharge of sewage; or

(c) begin to make any new discharge of sewage:

Provided that a person in the process of taking any steps to establish any industry, operation or process immediately before the commencement of the Water (Prevention and Control of Pollution) Amendment Act, 1988 (53 of 1988), for which no consent was necessary prior to such commencement,

1. Subs. by Act 44 of 1978, s. 11, for “the Code of Criminal Procedure, 1898 (5 of 1898)” (w.e.f. 12-12-1978).

2. Subs. by s. 11, *ibid.*, for “section 98” (w.e.f. 12-12-1978).

3. Subs. by Act 53 of 1988, s. 11, for “stream or well” (w.e.f. 29-9-1988).

4. Subs. by s. 12, *ibid.*, for sub-sections (1) and (2) (w.e.f. 29-9-1988).

may continue to do so for a period of three months from such commencement or, if he has made an application for such consent, within the said period of three months, till the disposal of such application.

(2) An application for consent of the State Board under sub-section (1) shall be made in such form, contain such particulars and shall be accompanied by such fees as may be prescribed.]

(3) The State Board may make such inquiry as it may deem fit in respect of the application for consent referred to in sub-section (1) and in making any such inquiry shall follow such procedure as may be prescribed.

¹[(4) The State Board may—

(a) grant its consent referred to in sub-section (1), subject to such conditions as it may impose, being—

(i) in cases referred to in clauses (a) and (b) of sub-section (1) of section 25, conditions as to the point of discharge of sewage or as to the use of that outlet or any other outlet for discharge of sewage;

(ii) in the case of a new discharge, conditions as to the nature and composition, temperature, volume or rate of discharge of the effluent from the land or premises from which the discharge or new discharge is to be made; and

(iii) that the consent will be valid only for such period as may be specified in the order,

and any such conditions imposed shall be binding on any person establishing or taking any steps to establish any industry, operation or process, or treatment and disposal system of extension or addition thereto, or using the new or altered outlet, or discharging the effluent from the land or premises aforesaid; or

(b) refuse such consent for reasons to be recorded in writing.

(5) Where, without the consent of the State Board, any industry, operation or process, or any treatment and disposal system or any extension or addition thereto, is established, or any steps for such establishment have been taken or a new or altered outlet is brought into use for the discharge of sewage or a new discharge of sewage is made, the State Board may serve on the person who has established or taken steps to establish any industry, operation or process, or any treatment and disposal system or any extension or addition thereto, or using the outlet, or making the discharge, as the case may be, a notice imposing any such conditions as it might have imposed on an application for its consent in respect of such establishment, such outlet or discharge.

(6) Every State Board shall maintain a register containing particulars of the conditions imposed under this section and so much of the register as relates to any outlet, or to any effluent, from any land or premises shall be open to inspection at all reasonable hours by any person interested in, or affected by such outlet, land or premises, as the case may be, or by any person authorised by him in this behalf and the conditions so contained in such register shall be conclusive proof that the consent was granted subject to such conditions.]

(7) The consent referred to in sub-section (1) shall, unless given or refused earlier, be deemed to have been given unconditionally on the expiry of a period of four months of the making of an application in this behalf complete in all respects to the State Board.

(8) For the purposes of this section and sections 27 and 30,—

(a) the expression “new or altered outlet” means any outlet which is wholly or partly constructed on or after the commencement of this Act or which (whether so constructed or not) is substantially altered after such commencement;

(b) the expression “new discharge” means a discharge which is not, as respects to nature and composition, temperature, volume, and rate of discharge of the effluent substantially a continuation of a discharge made within the preceding twelve months (whether by the same or a different outlet), so

1. Subs. by Act 53 of 1988, s. 12, for sub-sections (4), (5) and (6) (w.e.f. 29-9-1988).

however that a discharge which is in other respects a continuation of previous discharge made as aforesaid shall not be deemed to be a new discharge by reason of any reduction of the temperature or volume or rate of discharge of the effluent as compared with the previous discharge.

26. Provision regarding existing discharge of sewage or trade effluent.—Where immediately before the commencement of this Act any person was discharging any sewage or trade effluent into a ¹[stream or well or sewer or on land], the provisions of section 25 shall, so far as may be, apply in relation to such person as they apply in relation to the person referred to in that section subject to the modification that the application for consent to be made under sub-section (2) of that section ²[shall be made on or before such date as may be specified by the State Government by notification in this behalf in the Official Gazette].

27. Refusal or withdrawal of consent by State Board.—³[(1) A State Board shall not grant its consent under sub-section (4) of section 25 for the establishment of any industry, operation or process, or treatment and disposal system or extension or addition thereto, or to the bringing into use of a new or altered outlet unless the industry, operation or process, or treatment and disposal system or extension or addition thereto, or the outlet is so established as to comply with any conditions imposed by the Board to enable it to exercise its right to take samples of the effluent.]

⁴[(2) A State Board may from time to time review—

⁵[(a) any condition imposed under section 25 or section 26 and may serve on the person to whom a consent under section 25 or section 26 is granted a notice making any reasonable variation of or revoking any such condition;]

(b) the refusal of any consent referred to in sub-section (1) of section 25 or section 26 or the grant of such consent without any condition, and may make such orders as it deemed fit.]

(3) Any condition imposed under section 25 or section 26 shall be subject to any variation made under sub-section (2) and shall continue in force until revoked under that sub-section.

28. Appeals.—(1) Any person aggrieved by an order made by the State Board under section 25, section 26 or section 27 may, within thirty days from the date on which the order is communicated to him, prefer an appeal to such authority (hereinafter referred to as the appellate authority) as the State Government may think fit to constitute:

Provided that the appellate authority may entertain the appeal after the expiry of the said period of thirty days if such authority is satisfied that the appellant was prevented by sufficient cause from filing the appeal in time.

⁶[(2) An appellate authority shall consist of a single person or three persons, as the State Government may think fit, to be appointed by that Government.]

(3) The form and manner in which an appeal may be preferred under sub-section (1), the fees payable for such appeal and the procedure to be followed by the appellate authority shall be such as may be prescribed.

(4) On receipt of an appeal preferred under sub-section (1), the appellate authority shall, after giving the appellant and the State Board an opportunity of being heard, dispose of the appeal as expeditiously as possible.

1. Subs. by Act 44 of 1978, s. 13, for "stream or well" (w.e.f. 12-12-1978).

2. Subs. by s. 13, *ibid.*, for certain words (w.e.f. 12-12-1978).

3. Subs. by Act 53 of 1988, s. 13, for sub-section (1) (w.e.f. 29-9-1988).

4. Subs. by Act 44 of 1978, s. 14, for sub-section (2) (w.e.f. 12-12-1978).

5. Subs. by Act 53 of 1988, s. 13, for clause (a) (w.e.f. 29-9-1988).

6. Subs. by Act 44 of 1978, s. 15, for sub-section (2) (w.e.f. 12-12-1978).

(5) If the appellate authority determines that any condition imposed, or the variation of any condition, as the case may be, was unreasonable, then,—

(a) where the appeal is in respect of the unreasonableness of any condition imposed, such authority may direct either that the condition shall be treated as annulled or that there shall be substituted for it such condition as appears to it to be reasonable;

(b) where the appeal is in respect of the unreasonableness of any variation of a condition, such authority may direct either that the condition shall be treated as continuing in force unvaried or that it shall be varied in such manner as appears to it to be reasonable.

29. Revision.—(1) The State Government may at any time either of its own motion or on an application made to it in this behalf, call for the records of any case where an order has been made by the State Board under section 25, section 26 or section 27 for the purpose of satisfying itself as to the legality or propriety of any such order and may pass such order in relation thereto as it may think it:

Provided that the State Government shall not pass any order under this sub-section without affording the State Board and the person who may be affected by such order a reasonable opportunity of being heard in the matter.

(2) The State Government shall not revise any order made under section 25, section 26 or section 27 where an appeal against that order lies to the appellate authority, but has not been preferred or where an appeal has been preferred such appeal is pending before the appellate authority.

30. Power of State Board to carry out certain works.—¹[(1) Where under this Act, any conditions have been imposed on any person while granting consent under section 25 or section 26 and such conditions require such person to execute any work in connection therewith and such work has not been executed within such time as may be specified in this behalf, the State Board may serve on the person concerned a notice requiring him within such time (not being less than thirty days) as may be specified in the notice to execute the work specified therein.]

(2) If the person concerned fails to execute the work as required in the notice referred to in sub-section (1), then, after the expiration of the time specified in the said notice, the State Board may itself execute or cause to be executed such work.

(3) All expenses incurred by the State Board for the execution of the aforesaid work, together with interest, at such rate as the State Government may, by order, fix, from the date when a demand for the expenses is made until it is paid, may be recovered by that Board from the person concerned, as arrears of land revenue, or of public demand.

31. Furnishing of information to State Board and other agencies in certain cases.—²[(1) If at any place where any industry, operation or process, or any treatment and disposal system or any extension or addition thereto is being carried on, due to accident or other unforeseen act or event, any poisonous, noxious or polluting matter is being discharged, or is likely to be discharged into a stream or well or sewer or on land and, as a result of such discharge, the water in any stream or well is being polluted, or is likely to be polluted, then the person in charge of such place shall forthwith intimate the occurrence of such accident, act or event to the State Board and such other authorities or agencies as may be prescribed.]

(2) Where any local authority operates any sewerage system or sewage works, the provisions of sub-section (1) shall apply to such local authority as they apply in relation to the person in charge of the place where any industry or trade is being carried on.

1. Subs. by Act 53 of 1988, s. 14, for sub-section (1) (w.e.f. 29-9-1988).

2. Subs. by s. 15, *ibid.*, for sub-section (1) (w.e.f. 29-9-1988).

32. Emergency measures in case of pollution of stream or well.—¹(1) Where it appears to the State Board that any poisonous, noxious or polluting matter is present in ¹[any stream or well or on land by reason of the discharge of such matter in such stream or well or on such land] or has entered into that stream or well due to any accident or other unforeseen act or event, and if the Board is of opinion that it is necessary or expedient to take immediate action, it may for reasons to be recorded in writing, carry out such operations as it may consider necessary for all or any of the following purposes, that is to say,—

(a) removing that matter from the ²[stream or well or on land] and disposing of it in such manner as the Board considers appropriate;

(b) remedying or mitigating any pollution caused by its presence in the stream or well;

(c) issuing orders immediately restraining or prohibiting the person concerned from discharging any poisonous, noxious or polluting matter ³[into the stream or well or on land], or from making insanitary use of the stream or well.

(2) The power conferred by sub-section (1) does not include the power to construct any works other than works of a temporary character which are removed on or before the completion of the operations.

33. Power of Board to make application to courts for restraining apprehended pollution of water in streams or wells.—⁴(1) Where it is apprehended by a Board that the water in any stream or well is likely to be polluted by reason of the disposal or likely disposal of any matter in such stream or well or in any sewer or on any land, or otherwise, the Board may make an application to a court, not inferior to that of a Metropolitan Magistrate or a Judicial Magistrate of the first class, for restraining the person who is likely to cause such pollution from so causing.]

(2) On receipt of an application under sub-section (1) the court may make such order as it deems fit.

(3) Where under sub-section (2) the court makes an order restraining any person from polluting the water in any stream or well, it may in that order—

(i) direct the person who is likely to cause or has caused the pollution of the water in the stream or well, to desist from taking such action as is likely to cause pollution or, as the case may be, to remove from such stream or well, such matter, and

(ii) authorise the Board, if the direction under clause (i) (being a direction for the removal of any matter from such stream or well) is not complied with by the person to whom such direction is issued, to undertake the removal and disposal of the matter in such manner as may be specified by the court.

(4) All expenses incurred by the Board in removing any matter in pursuance of the authorisation under clause (ii) of sub-section (3) or in the disposal of any such matter may be defrayed out of any money obtained by the Board from such disposal and any balance outstanding shall be recoverable from the person concerned as arrears of land revenue or of public demand.

⁵[33A. Power to give directions.—Notwithstanding anything contained in any other law, but subject to the provisions of this Act, and to any directions that the Central Government may give in this behalf, a Board may, in the exercise of its powers and performance of its functions under this Act, issue any directions in writing to any person, officer or authority, and such person, officer or authority shall be bound to comply with such directions.

Explanation.—For the avoidance of doubts, it is hereby declared that the power to issue directions under this section includes the power to direct—

(a) the closure, prohibition or regulation of any industry, operation or process; or

(b) the stoppage or regulation of supply of electricity, water or any other service.]

1. Subs. by Act 53 of 1988, s. 16, for "any stream or well" (w.e.f. 29-9-1988).

2. Subs. by s. 16, *ibid.*, for "stream or well" (w.e.f. 29-9-1988).

3. Subs. by s. 16, *ibid.*, for "into the stream or well" (w.e.f. 29-9-1988).

4. Subs. by s. 17, *ibid.*, for sub-section (1) (w.e.f. 29-9-1988).

5. Ins. by s. 18, *ibid.* (w.e.f. 29-9-1988).

CHAPTER VI

FUNDS, ACCOUNTS AND AUDIT

34. Contributions by Central Government.—The Central Government may, after due appropriation made by Parliament by law in this behalf, make in each financial year such contributions to the Central Board as it may think necessary to enable the Board to perform its functions under this Act.

35. Contributions by State Government.—The State Government may, after due appropriation made by the Legislature of the State by law in this behalf, make in each financial year such contributions to the State Board as it may think necessary to enable that Board to perform its functions under this Act.

36. Fund of Central Board.—(1) The Central Board shall have its own fund, and all sums which may, from time to time, be paid to it by the Central Government and all other receipts (by way of gifts, grants, donations, benefactions ¹[, fees] or otherwise) of that Board shall be carried to the fund of the Board and all payments by the Board shall be made therefrom.

(2) The Central Board may expend such sums as it thinks fit for performing its functions under this Act, ¹[and, where any law for the time being in force relating to the prevention, control or abatement of air pollution provides for the performance of any function under such law by the Central Board, also for performing its functions under such law] and such sums shall be treated as expenditure payable out of the fund of the Board.

37. Fund of State Board.—(1) The State Board shall have its own fund, and the sums which may, from time to time, be paid to it by the State Government and all other receipts (by way of gifts, grants, donations, benefactions ²[, fees] or otherwise) of that Board shall be carried to the fund of the Board and all payments by the Board shall be made therefrom.

(2) The State Board may expend such sums as it thinks fit for performing its functions under this Act, ²[and, where any law for the time being in force relating to the prevention, control or abatement of air pollution provides for the performance of any function under such law by the State Board, also for performing its functions under such law] and such sums shall be treated as expenditure payable out of the fund of that Board.

³[**37A. Borrowing powers of Board.**—A Board may, with the consent of, or in accordance with, the terms of any general or special authority given to it by the Central Government or, as the case may be, the State Government, borrow money from any source by way of loans or issue of bonds, debentures or such other instruments, as it may deem fit, for the performance of all or any of its functions under this Act.]

38. Budget.—The Central Board or, as the case may be, the State Board shall, during each financial year, prepare, in such form and at such time as may be prescribed, a budget in respect of the financial year next ensuing showing the estimated receipt and expenditure, and copies thereof shall be forwarded to the Central Government or, as the case may be, the State Government.

⁴[**39. Annual report.**—(1) The Central Board shall, during each financial year, prepare, in such form as may be prescribed, an annual report giving full account of its activities under this Act during the previous financial year and copies thereof shall be forwarded to the Central Government within four months from the last date of the previous financial year and that Government shall cause every such report to be laid before both Houses of Parliament within nine months from the last date of the previous financial year.

(2) Every State Board shall, during each financial year, prepare, in such form as may be prescribed, an annual report giving full account of its activities under this Act during the previous financial year and copies thereof shall be forwarded to the State Government within four months from the last date of the previous financial year and that Government shall cause every such report to be laid before the State Legislature within a period of nine months from the last date of the previous financial year.]

1. Ins. by Act 44 of 1978, s. 16 (w.e.f. 12-12-1978).

2. Ins. by s. 17, *ibid.* (w.e.f. 12-12-1978).

3. Ins. by Act 53 of 1988, s. 19 (w.e.f. 29-9-1988).

4. Subs. by s. 20, *ibid.*, for section 39 (w.e.f. 29-9-1988).

40. Accounts and audit.—(1) Every Board shall maintain proper accounts and other relevant records and prepare an annual statement of accounts in such form as may be prescribed by the Central Government or, as the case may be, the State Government.

(2) The accounts of the Board shall be audited by an auditor duly qualified to act as an auditor of companies under section 226 of the Companies Act, 1956 (1 of 1956).

(3) The said auditor shall be appointed by the Central Government or, as the case may be, the State Government on the advice of the Comptroller and Auditor General of India.

(4) Every auditor appointed to audit the accounts of the Board under this Act shall have the right to demand the production of books, accounts, connected vouchers and other documents and papers and to inspect any of the offices of the Board.

(5) Every such auditor shall send a copy of his report together with an audited copy of the accounts to the Central Government or, as the case may be, the State Government.

(6) The Central Government shall, as soon as may be after the receipt of the audit report under sub-section (5), cause the same to be laid before both Houses of Parliament.

(7) The State Government shall, as soon as may be after the receipt of the audit report under sub-section (5), cause the same to be laid before the State Legislature.

CHAPTER VII

PENALTIES AND PROCEDURE

[41. Failure to comply with directions under sub-section (2) or sub-section (3) of section 20, or orders issued under clause (c) of sub-section (1) of section 32 or directions issued under sub-section (2) of section 33 or section 33A.—(1) Whoever fails to comply with the direction given under sub-section (2) or sub-section (3) of section 20 within such time as may be specified in the direction shall, on conviction, be punishable with imprisonment for a term which may extend to three months or with fine which may extend to ten thousand rupees or with both and in case the failure continues, with an additional fine which may extend to five thousand rupees for every day during which such failure continues after the conviction for the first such failure.

(2) Whoever fails to comply with any order issued under clause (c) of sub-section (1) of section 32 or any direction issued by a court under sub-section (2) of section 33 or any direction issued under section 33A shall, in respect of each such failure and on conviction, be punishable with imprisonment for a term which shall not be less than one year and six months but which may extend to six years and with fine, and in case the failure continues, with an additional fine which may extend to five thousand rupees for every day during which such failure continues after the conviction for the first such failure.

(3) If the failure referred to in sub-section (2) continues beyond a period of one year after the date of conviction, the offender shall, on conviction, be punishable with imprisonment for a term which shall not be less than two years but which may extend to seven years and with fine.]

42. Penalty for certain acts.—(1) Whoever—

(a) destroys, pulls down, removes, injures or defaces any pillar, post or stake fixed in the ground or any notice or other matter put up, inscribed or placed, by or under the authority of the Board, or

(b) obstructs any person acting under the orders or directions of the Board from exercising his powers and performing his functions under this Act, or

(c) damages any works or property belonging to the Board, or

(d) fails to furnish to any officer or other employee of the Board any information required by him for the purpose of this Act, or

(e) fails to intimate the occurrence of any accident or other unforeseen act or event under section 31 to the Board and other authorities or agencies as required by that section, or

1. Subs. by Act 53 of 1988, s. 21, for section 41 (w.e.f. 29-9-1988).

(f) in giving any information which he is required to give under this Act, knowingly or wilfully makes a statement which is false in any material particular, or

(g) for the purpose of obtaining any consent under section 25 or section 26, knowingly or wilfully makes a statement which is false in any material particular,

shall be punishable with imprisonment for a term which may extend to three months or with fine which may extend to ¹[ten thousand rupees] or with both.

(2) Where for the grant of a consent in pursuance of the provisions of section 25 or section 26 the use of meter or gauge or other measure or monitoring device is required and such device is used for the purposes of those provisions, any person who knowingly or wilfully alters or interferes with that device so as to prevent it from monitoring or measuring correctly shall be punishable with imprisonment for a term which may extend to three months or with fine which may extend to ¹[ten thousand rupees] or with both.

43. Penalty for contravention of provisions of section 24.—Whoever contravenes the provisions of section 24 shall be punishable with imprisonment for a term which shall not be less than ²[one year and six months] but which may extend to six years and with fine.

44. Penalty for contravention of section 25 or section 26.—Whoever contravenes the provisions of section 25 or section 26 shall be punishable with imprisonment for a term which shall not be less than ²[one year and six months] but which may extend to six years and with fine.

45. Enhanced penalty after previous conviction.—If any person who has been convicted of any offence under section 24 or section 25 or section 26 is again found guilty of an offence involving a contravention of the same provision, he shall, on the second and on every subsequent conviction, be punishable with imprisonment for a term which shall not be less than ³[two years] but which may extend to seven years and with fine:

Provided that for the purpose of this section no cognizance shall be taken of any conviction made more than two years before the commission of the offence which is being punished.

⁴[45A. **Penalty for contravention of certain provisions of the Act.**—Whoever contravenes any of the provisions of this Act or fails to comply with any order or direction given under this Act, for which no penalty has been elsewhere provided in this Act, shall be punishable with imprisonment which may extend to three months or with fine which may extend to ten thousand rupees or with both, and in the case of a continuing contravention or failure, with an additional fine which may extend to five thousand rupees for every day during which such contravention or failure continues after conviction for the first such contravention or failure.]

46. Publication of names of offenders.—If any person convicted of an offence under this Act commits a like offence afterwards it shall be lawful for the court before which the second or subsequent conviction takes place to cause the offender's name and place of residence, the offence and the penalty imposed to be published at the offender's expense in such newspapers or in such other manner as the court may direct and the expenses of such publication shall be deemed to be part of the cost attending the conviction and shall be recoverable in the same manner as a fine.

47. Offences by companies.—(1) Where an offence under this Act has been committed by a company, every person who at the time the offence was committed was in charge of, and was responsible to the company for the conduct of, the business of the company, as well as the company, shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly:

Provided that nothing contained in this sub-section shall render any such person liable to any punishment provided in this Act if he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.

1. Subs. by Act 53 of 1988, s. 22, for "one thousand rupees" (w.e.f. 29-9-1988).

2. Subs. by s. 23, *ibid.*, for "six months" (w.e.f. 29-9-1988).

3. Subs. by s. 24, *ibid.*, for "one year" (w.e.f. 29-9-1988).

4. Ins. by s. 25, *ibid.* (w.e.f. 29-9-1988).

(2) Notwithstanding anything contained in sub-section (1), where, an offence under this Act has been committed by a company and it is proved that the offence has been committed with the consent or connivance of, or is attributable to any neglect on the part of, any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

Explanation.—For the purposes of this section,—

(a) "company" means any body corporate, and includes a firm or other association of individuals; and

(b) "director" in relation to a firm means a partner in the firm.

48. Offences by Government Departments.—Where an offence under this Act has been committed by any Department of Government, the Head of the Department shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly:

Provided that nothing contained in this section shall render such Head of the Department liable to any punishment if he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.

49. Cognizance of offences.—¹[(1) No court shall take cognizance of any offence under this Act except on a complaint made by—

(a) a Board or any officer authorised in this behalf by it; or

(b) any person who has given notice of not less than sixty days, in the manner prescribed, of the alleged offence and of his intention to make a complaint, to the Board or officer authorised as aforesaid,

and no court inferior to that of a Metropolitan Magistrate or a Judicial Magistrate of the first class shall try any offence punishable under this Act.]

²[(2) Where a complaint has been made under clause (b) of sub-section (1), the Board shall, on demand by such person, make available the relevant reports in its possession to that person:

Provided that the Board may refuse to make any such report available to such person if the same is, in its opinion, against the public interest.]

³[(3) Notwithstanding anything contained in ⁴[section 29 of the Code of Criminal Procedure, 1973 (2 of 1974)], it shall be lawful for any ⁵[Judicial Magistrate of the first class or for any Metropolitan Magistrate] to pass a sentence of imprisonment for a term exceeding two years or of fine exceeding two thousand rupees on any person convicted of an offence punishable under this Act.

50. Members, officers and servants of Board to be public servants.—All members, officers and servants of a Board when acting or purporting to act in pursuance of any of the provisions of this Act and the rules made thereunder shall be deemed to be public servants within the meaning of section 21 of the Indian Penal Code (45 of 1860).

CHAPTER VIII

MISCELLANEOUS

51. Central Water Laboratory.—(1) The Central Government may, by notification in the Official Gazette,—

(a) establish a Central Water Laboratory; or

1. Subs. by Act 53 of 1988, s. 26, for sub-section (1) (w.e.f. 29-9-1988).

2. Ins. by s. 26, *ibid.* (w.e.f. 29-9-1988).

3. Sub-section (2) renumbered as sub-section (3) thereof by s. 26, *ibid.* (w.e.f. 29-9-1988).

4. Subs. by Act 44 of 1978, s. 19, for "section 32 of the Code of Criminal Procedure, 1898 (5 of 1898)" (w.e.f. 12-12-1978).

5. Subs. by s. 19, *ibid.*, for "Magistrate of the first class or for any Presidency Magistrate" (w.e.f. 12-12-1978).

(b) specify any laboratory or institute as a Central Water Laboratory, to carry out the functions entrusted to the Central Water Laboratory under this Act.

(2) The Central Government may, after consultation with the Central Board, make rules prescribing—

(a) the functions of the Central Water Laboratory;

(b) the procedure for the submission to the said laboratory of samples of water or of sewage or trade effluent for analysis or tests, the form of the laboratory's report thereunder and the fees payable in respect of such report;

(c) such other matters as may be necessary or expedient to enable that laboratory to carry out its functions.

52. State Water Laboratory.—(1) The State Government may, by notification in the Official Gazette,—

(a) establish a State Water Laboratory; or

(b) specify any laboratory or institute as a State Water Laboratory, to carry out the functions entrusted to the State Water Laboratory under this Act.

(2) The State Government may, after consultation with the State Board, make rules prescribing—

(a) the functions of the State Water Laboratory;

(b) the procedure for the submission to the said laboratory of samples of water or of sewage or trade effluent for analysis or tests, the form of the laboratory's report thereon and the fees payable in respect of such report;

(c) such other matters as may be necessary or expedient to enable that laboratory to carry out its functions.

53. Analysts.—(1) The Central Government may, by notification in the Official Gazette, appoint such persons as it thinks fit and having the prescribed qualifications to be Government analysts for the purpose of analysis of samples of water or of sewage or trade effluent sent for analysis to any laboratory established or specified under sub-section (1) of section 51.

(2) The State Government may, by notification in the Official Gazette, appoint such persons as it thinks fit and having the prescribed qualifications to be Government analysts for the purpose of analysis of samples of water or of sewage or trade effluent sent for analysis to any laboratory established or specified under sub-section (1) of section 52.

(3) Without prejudice to the provisions of sub-section (3) of section 12, the Central Board or, as the case may be, the State Board may, by notification in the Official Gazette, and with the approval of the Central Government or the State Government, as the case may be, appoint such persons as it thinks fit and having the prescribed qualifications to be Board analysts for the purpose of analysis of samples of water or of sewage or trade effluent sent for analysis to any laboratory established or recognised under section 16, or, as the case may be, under section 17.

54. Reports of analysts.—Any document purporting to be a report signed by a Government analyst or, as the case may be, a Board analyst may be used as evidence of the facts stated therein in any proceeding under this Act.

55. Local authorities to assist.—All local authorities shall render such help and assistance and furnish such information to the Board as it may require for the discharge of its functions, and shall make available to the Board for inspection and examination such records, maps, plans and other documents as may be necessary for the discharge of its functions.

56. Compulsory acquisition of land for the State Board.—Any land required by a State Board for the efficient performance of its functions under this Act shall be deemed to be needed for a public purpose and such land shall be acquired for the State Board under the provisions of the Land Acquisition Act, 1894 (1 of 1894), or under any other corresponding law for the time being in force.

57. Returns and reports.—The Central Board shall furnish to the Central Government, and a State Board shall furnish to the State Government and to the Central Board such reports, returns, statistics, accounts and other information with respect to its fund or activities as that Government, or, as the case may be, the Central Board may, from time to time, require.

58. Bar of jurisdiction.—No civil court shall have jurisdiction to entertain any suit or proceeding in respect of any matter which an appellate authority constituted under this Act is empowered by or under this Act to determine, and no injunction shall be granted by any court or other authority in respect of any action taken or to be taken in pursuance of any power conferred by or under this Act.

59. Protection of action taken in good faith.—No suit or other legal proceedings shall lie against the Government or any officer of Government or any member or officer of a Board in respect of anything which is in good faith done or intended to be done in pursuance of this Act or the rules made thereunder.

60. Overriding effect.—The provisions of this Act shall have effect notwithstanding anything inconsistent therewith contained in any enactment other than this Act.

61. Power of Central Government to supersede the Central Board and Joint Boards.—(1) If at any time the Central Government is of opinion—

(a) that the Central Board or any Joint Board has persistently made default in the performance of the functions imposed on it by or under this Act; or

(b) that circumstances exist which render it necessary in the public interest so to do,

the Central Government may, by notification in the Official Gazette, supersede the Central Board or such Joint Board, as the case may be, for such period, not exceeding one year, as may be specified in the notification:

Provided that before issuing a notification under this sub-section for the reasons mentioned in clause (a), the Central Government shall give a reasonable opportunity to the Central Board or such Joint Board, as the case may be, to show cause why it should not be superseded and shall consider the explanations and objections, if any, of the Central Board or such Joint Board, as the case may be.

(2) Upon the publication of a notification under sub-section (1) superseding the Central Board or any Joint Board,—

(a) all the members shall, as from the date of supersession vacate their offices as such;

(b) all the powers, functions and duties which may, by or under this Act, be exercised, performed or discharged by the Central Board or such Joint Board shall, until the Central Board or the Joint Board, as the case may be, is reconstituted under sub-section (3) be exercised, performed or discharged by such person or persons as the Central Government may direct;

(c) all property owned or controlled by the Central Board or such Joint Board shall, until the Central Board or the Joint Board, as the case may be, is reconstituted under sub-section (3) vest in the Central Government.

(3) On the expiration of the period of supersession specified in the notification issued under sub-section (1), the Central Government may—

(a) extend the period of supersession for such further term, not exceeding six months, as it may consider necessary; or

(b) reconstitute the Central Board or the Joint Board, as the case may be, by fresh nomination or appointment, as the case may be, and in such case any person who vacated his office under clause (a) of sub-section (2) shall not be deemed disqualified for nomination or appointment:

Provided that the Central Government may at any time before the expiration of the period of supersession, whether originally specified under sub-section (1) or as extended under this sub-section, take action under clause (b) of this sub-section.

62. Power of State Government to supersede State Board.—(1) If at any time the State Government is of opinion—

(a) that the State Board has persistently made default in the performance of the functions imposed on it by or under this Act; or

(b) that circumstances exist which render it necessary in the public interest so to do,

the State Government may, by notification in the Official Gazette, supersede the State Board for such period, not exceeding one year, as may be specified in the notification:

Provided that before issuing a notification under this sub-section for the reasons mentioned in clause (a), the State Government shall give a reasonable opportunity to the State Board to show cause why it should not be superseded and shall consider the explanations and objections, if any, of the State Board.

(2) Upon the publication of a notification under sub-section (1) superseding the State Board, the provisions of sub-sections (2) and (3) of section 61 shall apply in relation to the supersession of the State Board as they apply in relation to the supersession of the Central Board or a Joint Board by the Central Government.

63. Power of Central Government to make rules.—(1) The Central Government may, simultaneously with the constitution of the Central Board, make rules in respect of the matters specified in sub-section (2):

Provided that when the Central Board has been constituted, no such rule shall be made, varied, amended or repealed without consulting the Board.

(2) In particular, and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely:—

(a) the terms and conditions of service of the members (other than the chairman and member-secretary) of the Central Board under sub-section (8) of section 5;

(b) the intervals and the time and place at which meetings of the Central Board or of any committee thereof constituted under this Act, shall be held and the procedure to be followed at such meetings, including the quorum necessary for the transaction of business under section 8, and under sub-section (2) of section 9;

(c) the fees and allowances to be paid to such members of a committee of the Central Board as are not members of the Board under sub-section (3) of section 9;

¹[(d) the manner in which and the purposes for which persons may be associated with the Central Board under sub-section (1) of section 10 and the fees and allowances payable to such persons;]

(e) the terms and conditions of service of the chairman and the member-secretary of the Central Board under sub-section (9) of section 5 and under sub-section (1) of section 12;

(f) conditions subject to which a person may be appointed as a consulting engineer to the Central Board under sub-section (4) of section 12;

(g) the powers and duties to be exercised and performed by the chairman and the member-secretary of the Central Board;

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(j) the form of the report of the Central Board analyst under sub-section (1) of section 22;

(k) the form of the report of the Government analyst under sub-section (3) of section 22;

1. Subs. by Act 44 of 1978, s. 20, for clause (d) (w.e.f. 12-12-1978).

2. Clauses (h) and (i) omitted by s. 20, *ibid.* (w.e.f. 12-12-1978).

¹[(l) the form in which and the time within which the budget of the Central Board may be prepared and forwarded to the Central Government under section 38;

(ll) the form in which the annual report of the Central Board may be prepared under section 39;]

(m) the form in which the accounts of the Central Board may be maintained under section 40;

²[(mm) the manner in which notice of intention to make a complaint shall be given to the Central Board or officer authorised by it under section 49;]

(n) any other matter relating to the Central Board, including the powers and functions of that Board in relation to Union territories;

(o) any other matter which has to be, or may be, prescribed.

(3) Every rule made by the Central Government under this Act shall be laid, as soon as may be after it is made, before each House of Parliament while it is in session for a total period of thirty days which may be comprised in one session or in two or more successive sessions, and if, ³[before the expiry of the session immediately following the session or the successive sessions aforesaid], both Houses agree in making any modification in the rule or both Houses agree that the rule should not be made, the rule shall thereafter have effect only in such modified form or be of no effect, as the case may be; so, however, that any such modification or annulment shall be without prejudice to the validity of anything previously done under that rule.

64. Power of State Government to make rules.—(1) The State Government may, simultaneously with the constitution of the State Board, make rules to carry out the purposes of this Act in respect of matters not falling within the purview of section 63:

Provided that when the State Board has been constituted, no such rule shall be made, varied, amended or repealed without consulting that Board.

(2) In particular, and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely:—

(a) the terms and conditions of service of the members (other than the chairman and the member-secretary) of the State Board under sub-section (8) of section 5;

(b) the time and place of meetings of the State Board or of any committee of that Board constituted under this Act and the procedure to be followed at such meeting, including the quorum necessary for the transaction of business under section 8 and under sub-section (2) of section 9;

(c) the fees and allowances to be paid to such members of a committee of the State Board as are not members of the Board under sub-section (3) of section 9;

(d) the manner in which and the purposes for which persons may be associated with the State Board under sub-section (1) of section 10 ⁴[and the fees and allowances payable to such persons];

(e) the terms and conditions of service of the chairman and the member-secretary of the State Board under sub-section (9) of section 5 and under sub-section (1) of section 12;

(f) the conditions subject to which a person may be appointed as a consulting engineer to the State Board under sub-section (4) of section 12;

(g) the powers and duties to be exercised and discharged by the chairman and the member-secretary of the State Board;

(h) the form of the notice referred to in section 21;

(i) the form of the report of the State Board analyst under sub-section (1) of section 22;

1. Subs. by Act 53 of 1988, s. 27, for clause (l) (w.e.f. 29-9-1988).

2. Ins. by s. 27, *ibid.* (w.e.f. 29-9-1988).

3. Subs. by Act 44 of 1978, s. 20, for certain words (w.e.f. 12-12-1978).

4. Ins. by s. 21, *ibid.* (w.e.f. 12-12-1978).

(j) the form of the report of the Government analyst under sub-section (3) of section 22;

(k) the form of application for the consent of the State Board under sub-section (2) of section 25, and the particulars it may contain;

(l) the manner in which inquiry under sub-section (3) of section 25 may be made in respect of an application for obtaining consent of the State Board and the matters to be taken into account in granting or refusing such consent;

(m) the form and manner in which appeals may be filed, the fees payable in respect of such appeals and the procedure to be followed by the appellate authority in disposing of the appeals under sub-section (3) of section 23;

¹[(n) the form in which and the time within which the budget of the State Board may be prepared and forwarded to the State Government under section 38;

(nm) the form in which the annual report of the State Board may be prepared under section 39;]

(o) the form in which the accounts of the State Board may be maintained under sub-section (1) of section 40;

²[(oo) the manner in which notice of intention to make a complaint shall be given to the State Board or officer authorised by it under section 49;]

(p) any other matter which has to be, or may be, prescribed.

1. Subs. by Act 53 of 1988, s. 28, for clause (n) (w.e.f. 29-9-1988).

2. Ins. by s. 28, *ibid.* (w.e.f. 29-9-1988).

- (c) For requirements regarding planning, designing and installation, etc. of lifts and escalators, reference shall be made to the NBC Part 8 'Building Services Section 5 Installation of Lifts and Escalators'.

54. Sanitation requirements

- (1) **General.**— (a) There should be at least one water tap and arrangement for drain in the vicinity of each water closet or group of water closets in all the buildings.
- (b) Each family dwelling unit shall have at least one water closet and one kitchen sink. A bath or shower shall also be installed to meet the basic requirements of sanitation and personal hygiene.
- (c) All other structures for human occupancy shall have adequate sanitary facilities, but in no case less than one WC and one other fixture for cleaning purposes.
- (d) All materials, fittings and sanitary appliances shall conform to the National Building Code.
- (2) **Sanitary fittings.**—
- (a) **For Residences.**— (i) Dwellings with individual conveniences shall have at least the following fitments:
- (a) One bath room provided with a tap and a floor trap;
 - (b) One WC with flushing apparatus with an ablution tap
 - (c) One tap with a floor trap or a sink in kitchen or wash place.
- (ii) Where only one WC is provided in a dwelling, the bath and WC desirably be separated accommodated
- (iii) Dwellings without individual conveniences shall have the following fitments:
- (a) One water tap with flow trap desirably in each tenement
 - (b) One WC with flushing apparatus and an ablution tap for every two tenements
 - (c) One bath with water tap and flow trap for every two tenements.
- (b) **For Buildings Other than Residences.**— The requirements for fitments for sanitation in the case of buildings other than residences shall be in accordance with the Tables given in the Annexure - X. Provided further that the respective toilets or sanitary arrangements shall be kept open for the ladies and children in restaurants, petrol pumps & hotels.
- (3) **Sewerage.**— (a) Taking into account the site conditions, land and building uses, and nature of wastes within the site, outlet connection (i.e. the availability of

sewers or other outlets, sub-soil conditions etc.), sewage and waste water collection and disposal system for a building or a group of buildings or for a layout shall be designed and it shall conforming to National Building Code.

(b) Septic Tanks

- (i) Where a septic tank is used for sewage disposal, the location, design and construction of the septic tank shall conform to requirements of the National Building Code and as per provisions in G.O.Ms. No 106, MAWS Dept., dated 01.09.2014 (operative guidelines for septage management for local bodies)
- (ii) Location of the Septic Tanks and Subsurface Absorption System: A sub-soil dispersion system should preferably not be closer than 18m from any source of drinking water, such as well, to mitigate the possibility of bacterial pollution of water supply.
- (iii) Requirements.—
 - (a) Dimensions of septic tanks – Septic tanks shall have a minimum width of 75 cm, a minimum depth of 1m below the water level and a minimum liquid capacity of 1 cu.m. The length of tanks shall be 2 to 4 times the width;
 - (b) Septic tanks may be constructed of brickwork, stone masonry, concrete or other suitable materials as approved by the Authority;
 - (c) Under no circumstances shall effluent from a septic tank be allowed into an open channel, drain or water body without adequate treatment;
 - (d) The minimum nominal diameter of the pipe shall be 10cm. Further, at junctions of pipes in manholes, direction of flow from a branch connection shall not make an angle exceeding 45 degrees with the direction of flow in the main pipe;
 - (e) The gradients of land drains, under-drainage as well as the bottom of dispersion trenches and soak ways shall be between 1:300 and 1:400;
 - (f) Every septic tank shall be provided with ventilating pipe of at least 5 cm diameter. The top of the pipe shall be provided with a suitable cage of mosquito-proof wire mesh. The ventilating pipe shall extend to a height which would cause no smell nuisance to any building in the area. Generally, the ventilating pipe may extend to a height of about 2m, when the septic tank is at least 15m away from the nearest building and to a height of 2m above the top of the building when it is located closer than 15m.

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI

Original Application No. 310 / 2024 (SZ)

IN THE MATTER OF

I.H.Sekar,
No. 20, Dr. Nanjunda Rao Road,
Injambakkam, Chennai - 600 115.

..... Applicant

Versus

The Tamil Nadu Pollution Control Board,
Rep by it's the District Environmental Engineer,
1st floor, 6/1. Sree Jothi Valagam
Arumbakkam,
Chennai - 600 106.

And 4 others

..... Respondents

STATUS REPORT FILED BY THE 4TH RESPONDANT

THROUGH
M/s. GAUTAM S RAMAN
COUNSEL FOR 4TH RESPONDENTS