

XXI. WATER SUPPLY & SANITATION

Schemes providing water supply and sewerage facilities, Anti flood works and storm water drainage, desilting of nallahs and sewers in Delhi are included under this sector. The Delhi Jal Board of Govt. of Delhi is entrusted with the responsibility of production and distribution of water and treatment and disposal of sewage in Delhi. It provides water in bulk to NDMC and Cantonment Board for redistribution in their respective areas. Similarly the sewage is received in bulk from these two authorities for final, conveyance and disposal by Delhi Jal Board. In the areas under the jurisdiction of MCD, Delhi Jal Board is responsible for distribution of water and collection and disposal of sewage.

NDMC is implementing water supply & sewerage, Anti flood work and covering of Nallah Schemes in its area.

The agency wise financial position under this sector during the 9th Five Year Plan 1997-02 and approved outlay for 10th Plan (2002-2007) Annual plan approved outlay, R.E. 2002-03 and Approved outlay for Annual Plan 2003-04 is as given below :-

(Rs. In

lakh)

S. No.	Name of Agency	9 th Five Year Plan 1997-02		10 th F.Y.P 2002-07 Approved Outlay	Annual Plan 2002-03		Annual Plan 2003-04 Approved outlay
		Approved Outlay	Expr.		Approved Outlay	R.E.	
1.	Delhi Jal Board	238200.00	179608.28	365150.00	57087.00	61295.00	63000.00
2.	TYADB(DJB)	15000.00	9310.00	10000.00	2000.00	1900.00	2000.00
3.	NDMC	800.00	755.18	1000.00	125.00	125.00	125.00
4.	Urban Dev. Deptt.	---	15.00	450.00	75.00	30.00	75.00
	Total	254000.00	189688.46	376600.00	59287.00	63350.00	65200.00

DELHI JAL BOARD

Delhi Jal Board is responsible for production of water in Delhi and its distribution in the area under the control of Municipal Corporation of Delhi. The Board also supplies water in bulk to N.D.M.C. and Delhi Cantonment. Besides, the Board is responsible for collection, treatment and disposal of sewage in Delhi.

Although Delhi is situated on the banks of the river Yamuna, it is unable to draw water from the river as their entire flow is diverted into the Canals upstream of Tajewala for Uttar Pradesh and Haryana. To finalize Delhi's share in the Yamuna waters an MOU was signed on 12.5.1994 between the basin states of Haryana, Uttar Pradesh, Himachal, Rajasthan and Delhi. The allocation for Delhi has not been sufficient to meet the raw water requirements.

As such, Delhi shall have to take recourse to a number of schemes like recycling of waste water at Water Treatment Plants, optimization of water production, exploitation of ground water in the Flood Plains of the river Yamuna, rain water harvesting and conservation of water.

During 9th Five Year Plan and 10TH Five Year Plan, DJB had taken new initiatives to augment the supply of potable water in Delhi. Some of these steps and new steps to be taken during 2003-04 are described below:

Modernization of DJB: World Bank Study

- (i) To update and streamline the water supply system, the World Bank was approached and has agreed for a grant of 2.5 million U.,S. Dollars to fund the cost of preparation of Delhi Water Supply & Sewerage Project from the Project Preparation Facility . The consultant has been finalized and the work has commenced. The consultancy work involves institutional development and financial management, Water Supply & Sewage Rehabilitation etc. The consultant will replace the existing financial system with a computerized double entry system and train DJB staff for the same.

Raw Water Availability and Augmentation/Modernization of Water Treatment

- (ii) The installed capacity of water production at the end of the 7th five year plan (1985-90) was 437 MGD. During the year 1990-1991 and 1991 –1992 it was augmented to 469 MGD and 472 MGD respectively. By the end of the 8th five year plan i.e. 1992 – 97, water production was augmented to 580 MGD. During the 9th five-year plan period, the water treatment capacity was proposed to be

augmented to 945 MGD, but due to raw water constraints achievement upto the end of 9th Five Year Plan was only 650 MGD.

- (iii) For bringing raw water for Okhla Water Treatment plant from Western Yamuna Canal, it has been decided to lay 2000 mm dia water main in a length of 11 km from Wazirabad to Haiderpur .
- (iv) For the first time in the Board, 140 MGD water treatment plant at Sonia Vihar is being executed on Design, Build, Operate basis with state of the art technology. The work has been awarded. On commissioning, the operation & maintenance period will be 10 years. The work has three components:
 - 1. Const. of 3250 mm dia conduit from Murad Nagar to Sonia Vihar
 - 2. Const. of 140 MGD W.T.P. at Sonia Vihar.
 - 3. P/L/Jointing of Transmission mains from Water Treatment Plants to different areas of Delhi.

Raw water is to be drawn from the storage of Tehri Dam where 300 cusecs water has been reserved for Delhi. The work has been started and will be completed by December.2003.

- (v) Phase II (of 50 MGD), Haiderpur Plant was automated in the 9th five year plan at a cost of Rs. 9 crores in collaboration with D.O.E. & I.L. Kota and American Concern.
- (vi) Automation of Haiderpur Phase-1 shall be taken up in the Xth Plan. It is proposed to renovate Chandrawal Water Works – I who was constructed in 1934 with settling tanks. The renovation involves provision of Rapid gravity Sand Filters & Clarifiers etc.
- (vii) It is proposed to construct 100 Tubewells, along Right Marginal Embankment in Alipur Block in Palla/Burari areas. 30 Tubewells have already been commissioned and another 10 are awaiting electric connection. These are likely to be commissioned by March 2003 and yield about 15 MGD water. The work on remaining 60 tube wells is in progress, about 30-32 MGD water shall be available after commissioning all 100 Tubewells.

Strengthening of Distribution Network

- (viii) A comprehensive proposal has been prepared for purchase, Installation & Commissioning of bulk meters at water works and in the Distribution Wing to assess the production of water, distribution of water, leakage measurement & loss of water in the process of treatment etc.
- (ix) D.J.B. proposes to construct no. of U.G.R.s & Booster Pumping stations all over Delhi area for better distribution of water. For this purpose study was assigned to M/S TCE Consulting Engineers who have submitted their report.
- (x) Total length of water distribution lines has been increased from 7780 to 8322.15 kms. Additional lines are being laid during the year 2002-2003 and will be also laid during 2003-04.
- (xi) The water distribution system in Delhi is more than a century old. Since some of the mains are very old, replacement of water mains, particularly in the walled city area, has been taken up. In the 9th Plan period 797 kms of such mains were replaced in the 10th five year plan it is proposed to replace 1500 Kms of such lines.
- (xii) To provide drinking water in unauthorized colonies where piped water supply has not been provided, to supplement water supply in J.J. Cluster & Resettlement colonies, to serve areas of short supply existing at the tail end of distribution system and to check water borne diseases, the Delhi Jal Board is supplying water through tankers. At present about 1000 trucks/tankers which include departmental as well as hired ones have been deployed in different parts of the city. The number of departmental Mounted tankers/trailer tankers is about 600 and hired tankers is about 400 at present. The number of hired tankers is reduced from 400 to about 200 in winter season in a phased manner. On availability of water from Sonia Vihar W.T.P. which targeted for completion by December 2003, hired tankers will be reduced in a phased manner.

- (xiii) Piped water supply has been provided from 193 unauthorized colonies in March 1997 to 384 unauthorized colony upto the end of March 2002. Water has been provided in 557 colonies out of total 567-unauthorized/regularized colonies upto March 2002. Remaining 10 will be covered during 2003-04. Piped water supply is existing in all the 135 Urban villages and augmentation works have been/are being done to cope up with the growing population and falling ground water table. Piped water supply is existing in all the 44 Resettlement Colonies and augmentation works have been/are being done. 820 J.J. Clusters, have been covered with water supply and augmentation works are being done.

Water Conservation

- (xiv) It has been planned to recycle the wastewater generated at the existing plants. It is well known that in a conventional plant, about 8% water goes waste in filter back washing and clarifier waste. This wastewater will be utilized and raw water will be recovered by use of Gravity Thickeners and centrifuges etc. Raw water thus recovered will be mixed in the inlet of the existing plant and further treated in conventional plant. Estimates have already been approved for these plants. Prequalification of contractor/firms have been done. Tenders have already been invited for Haiderpur Plant in the first instance.
- (xv) To give additional water by reducing the seepage losses of canal, UP government has agreed to carry out study, through Roorkee University, of existing canal system .
- (xvi) As a part of World Bank Study, a complete analysis and break up of Unaccounted for Water (UFW) will be carried out. The study will also suggest the measures to reduce UFW.
- (xvii) As a part of DJB's strategy to educate people about the importance and need of Water Conservation, DJB will intensify its SAVE WATER campaign.

The proposed outlay for Annual Plan 2003-2004 has been kept abnormally higher than the average of 10th Five Year Plan, as Delhi Jal Board has to commission 140 MGD Water Treatment Plant at Sonia Vihar and for proper distribution of water infrastructure

like, trunk mains, peripheral mains, distribution mains and reservoirs etc. are to be provided . To meet the expenditure of these higher provision has been kept, however expenditure in the subsequent years will reduce.

WATER ARRANGEMENTS FOR ANNUAL PLAN 2003-04

The population of Delhi as per 2001 census was 137.83 lakh. The population of Delhi by the end of 10th five year plan is estimated to be 173.18 Lac.

The per capita rate of water supply, for working out the total requirement, was adopted as 70 GPCD at the production point, inclusive of all uses i.e. domestic, commercial, industrial and institutional while framing the 9th five year plan. The CPHEEO have published a new water supply manual and as per latest manual, water requirement for domestic purposes have been recommended as 150 lpcd + 15 % losses = 172 lpcd and considering demand for other uses total works out to 274 lpcd (60 gpcd), and are as under:-

i) Domestic	172 lpcd
ii) Industrial, commercial and community requirement based on 45000 lit.h.d Ipcd	47
iii) Fire protection based on 1% of the total demand	3 lpcd
iv) Floating population and special luse like hotels and embassies	52 lpcd
TOTAL DEMAND 274 lpcd (60 gpcd)	

Based on the above norms, the total water requirement for the 10th five year plan works out to 1050 MGD. Haryana Govt. has been requested to construct a parallel Lined channel from Munak to Haiderpur Water Treatment Plant in a length of 102 Km. .About 80 MGD water is expected to be saved in the new channel which is presently being lost. Out of these savings, and other means it is proposed to augment the water supply capacity by 300 MGD by the end of 10th five year plan by commissioning the following Water Treatment Plants and thus there shall be still a shortfall of 100 MGD which could be considered on the availability of raw water by augmentation of treatment capacity at Okhla, Dwarka.

i) Sonia Vihar WTP	140 MGD
ii) Dwarka' Papankalan	40 MGD
iii) Okhla WTP	20 MGD
iv) Recycling of waste water at Wazirabad, Chandrawal, Haiderpur & Bhagirathi	41 MGD
v) By commissioning New Ranneywells & Tubewells	39 MGD
Vi) Bawana Water Treatment Plant	20 MGD
TOTAL	300 MGD

DELHI'S SHARE IN YAMUNA WATER

Although Delhi is situated on the banks of the river Yamuna, it is unable to draw water from the river as the Govt. of U.P. & Haryana divert the entire flow into their canals upstream of Tajewala, except regeneration. To finalize Delhi's share in Yamuna Water the matter was taken by the Union Minister for Water Resources with the Chief Ministers of basin states viz.U.P. Haryana Rajasthan, Delhi & Himachal Pradesh.. This issue was discussed on several occasions and an MOU was signed on 12.5.94 for sharing of yamuna waters. Delhi's share of Yamuna waters was decided as under:-

Haryana	5.730 BCM
Uttar Pradesh	4.032 BCM
Rajasthan	1.119 BCM
Himachal Pradesh	0.378 BCM
Delhi	0.724 BCM
Total	11.983 BCM

The availability of raw water according to the above allocation shall be feasible after construction of storage dams in Upper reaches of the River Yamuna.

Pending construction of storage's in the Upper reaches of the river there is an interim seasonal allocation made as under: -

S.No.	States	July to Oct.	Nov. to Feb.	March to June	Total
1.	Haryana	4.107	0.686	0.937	5.730
2.	Uttar Pradesh	3.216	0.343	0.473	4.032
3.	Rajasthan	0.963	0.070	0.086	1.119
4.	Himachal Pradesh	0.190	0.108	0.080	0.378
5.	Delhi	0.580	0.068	0.076	0.724

LONG TERM MEASURES FOR SUPPLY OF RAW WATER

In its endeavor to get additional raw water, dialogue has been initiated with UP Govt. Study has been commissioned through Roorkee University to know the quantum of seepage losses in the existing canal system in UP and to propose the measures to save these losses. Delhi Jal Board intends to fund these schemes to get additional raw water thus saved.

Apart from above, Delhi Jal Board will share the cost of following storage dams in UP and Himachal Pradesh to get water allocation in lean period under Yamuna water accord.

1. KISHAU DAM

372 MGD (0.5 MAF) of raw water has been earmarked for Delhi's use in the storage of this dam. This dam is to be constructed on the river (TONS) in Uttar Pradesh (Now in Uttranchal). The Kishau Dam Project has been examined in CWC for broad technical and economic aspects and found techno-economically viable and recommended for consideration of Advisory Committee at an estimated cost of Rs.3566.23 crores (December 1998 price level). The Kishau Dam Project was taken up in 72nd meeting of Advisory Committee on Irrigation, Flood Control and Multipurpose Projects held on 18.01,2000. After discussion it was decided that consideration of the project be deferred for working out economic viability and apportionment project cost among irrigation, power and water supply components which is still under finalisation with Central Water Commission.

2. **RENUKA DAM**

275 MGD (0.37 MAF) of raw water has been earmarked for Delhi's use in the Renuka Dam project in Himachal Pradesh. The revised project report of this dam was again discussed in the 72nd meeting of the Advisory Committee on Irrigation Flood Control and Multi purpose Projects on 18.1.2000, where it was decided that Project of Renuka Dam is being approved by the Committee with condition that clearance of Ministry of Environment and Forest be obtained separately and sharing of cost between Govt. of NCT of Delhi and Govt. of Himachal Pradesh. The sharing of cost between two states have been finalized .Ministry of Environment and Forests have rejected the proposal on the ground that a portion of the land which will be submerged is a Wild Life Sanctuary and have advised to approach apex court for exemption as a special case in the interest of increasing drinking water demand of National Capital of India. Govt of NCT of Delhi is finalizing affidavit to be filed before Hon'ble Supreme Court of India.

3. **LAKHWAR VYASIDAM**

This dam is to be constructed on the River Yamuna in UP and will provide 0.33 BCM storage and 420 MW power. The Govt. of Utter Pradesh has submitted an updated estimate amounting to Rs. 1446 crores in April 1998 to Central Water Commission for Techno economic clearance.

Govt. of Utter Pradesh has to send compliance of the comments of cost aspect and compliance to the comments of CEA.

The following table indicate the plant-wise position of existing water treatment capacity and proposed capacity at the end of 10th F.Y. Plan:-

Figures in million gallon daily (MGD)

S. No.	Plants	Existing capacity at the end of 9th F.Y. Plan	Proposed Cap. at the end of 10 th Plan 2002-07	Annual Plan Targets 2003-2004
1.	Chandrawal Water Works No.I & II	90	90	90
2.	Wazirabad I, II, III	120	120	120
3.	Haiderpur	200	200	200
4.	Bhagirathi Plant	100	100	100
5.	140 MGD Plant at Sonia Vihar	-	140	140
6.	Dwarka / Papankalan	-	40	---
7.	20 MGD WTP at Bawana	-	20	20
8.	40 MGD WTP at Nangloi	40	40	40
9.	Addl. 40 MGD WTP at Okhla	-	20	---
10.	Recycling wastewater at Wazirabad, Chandrawal, Haiderpur & Bhagirathi	-	41	10
11.	Plant for Iron content removal from Rainy wells water at Okhla.	12	12	12
12.	Rainy wells & Tube wells	69	87	93
13.	By optimization of W.T.P.	19	40	40
	TOTAL	650	950	865

The scheme-wise details for Annual Plan 2003-04 are given below :-

A. WATER SUPPLY SCHEME

1. Providing Water Supply in unauthorized Colonies (Rs.3400.00 lakh)

To save the people from Water borne diseases, Delhi Jal Board in 1998 decided to provide drinking water supply to these colonies through tube-wells, or deep bore hand pumps and through trucks and tankers.

Piped water supply exists in 384 unauthorized colonies. To provide drinking water in the remaining unauthorized colonies where piped water supply does not exist, besides departmental tankers additional mounted tankers and trucks have to be hired and the average fleet strength during the year to provide drinking water is above 1000.

50 Nos. tube wells will be installed in unauthorized colonies in 2003-04 subject to availability of potable ground water and permissions from Central Ground Water Authority, land and electrified area. Also 100 nos. deep bore hand pumps are proposed to be installed during 2003-04.

Replacement of departmental vehicles of over 15 years age is also needed and new trailer tankers are required to be added. With the increase in cost of P.O.L. and maintenance expenses of vehicles a provision to meet out the expenditure has been made in the Annual Plan 2003-04.

An outlay of Rs.3400.00 lakh is approved for Annual Plan 2003-04.

2. Replacement of old distribution system and Strengthening of trunk transmission and net work. Rs.6000.00 lakh)

For equitable distribution of water, underground reservoirs and booster pumping stations are being constructed in phases. 23 such UGR & BPS has already been completed.

For further improvements, consultants have been engaged who have carried out the study of transmission system in whole of Delhi. As per draft final report, underground reservoir capacity of 170 million gallon is required to be constructed. These will be constructed at 50 different locations. This will include strengthening of existing transmission system also. Fifty percent of this scheme is proposed to be carried out with the loan from World Bank.

A. The following works will be taken up:

1. Purchase of 75,000 water meters (domestic) for the year 2003-2004.
2. Peripheral Mains
 - i. Supply of PSC/HS pipes 900 mm for transmission main from Bhairon Road to Barapulla Nalla
 - ii. L/J 150 to 600 mm dia water main at Malviya Nagar Progress of the work is 79.5%.
 - iii. L/J 700-900 mm dia water main at Malviya Nagar
 - iv. Supply of 900-700-600 mm dia PSC pipes and specials for distribution main at Malviya Nagar.
 - v. Dismantling of water main (inlet/outlet) from existing oHT at Malviya Nagar.
 - vi. Supply of sluice valve/Air valves for distribution main at Malviya Nagar i/c RR charges
 - vii. P/L/J 900 mm dia PSC/HS Bhairon Road toNH-24
3. Replacement of old worn out pumps and motors at water pumping stations.
The work on the following UGR/BPS is in progress
 - I Srinivasपुरi
 - Ii Munirka
 - Iii Jagatपुरi
 - Iv Kishangarh
 - V Baljeet Nagar
 - Vi Rohini sec xi
 - Vii Malviya Nagar

The work on following UGR/BPS will be taken up during 2003-04

- i. Underground reservoir-cum-booster pumping station at Burari.
- ii. Underground reservoir-cum-booster pumping station at Jahangirपुरi.
- iii. Strengthening of Trunk Transmission Network.
- iv. Underground reservoir-cum-booster pumping station at Kirti Nagar
- v. Underground reservoir-cum-booster pumping station at Palam
- vi. Underground reservoir-cum-booster pumping station at Ramlila Ground

- vii. Underground reservoir-cum-booster pumping station at Bengali Market
 - viii. Underground reservoir-cum-booster pumping station at Greater Kailash
 - ix. Underground reservoir-cum-booster pumping station at Okhla Sewage Plant (new)
 - x. Underground reservoir-cum-booster pumping station at Chhattarpur
 - xi. Underground reservoir-cum-booster pumping station at Transport Nagar
 - xii. Underground reservoir-cum-booster pumping station at Jal Vihar
 - xiii. Underground reservoir-cum-booster pumping station at Appollo
 - xiv. Underground reservoir-cum-booster pumping station at Vasant Kunj
 - xv. MBR at Kailash
 - xvi. Underground reservoir-cum-booster pumping station at Sant Nagar
- Also Transmission mains for South Delhi are also to be taken up for execution.

2 A proposal to replace 150 Kms. of old/damaged pipes and to scrub and clean 85 Kms. of pipelines during 2002-03 and to replace 150 Kms of old/damaged pipes in 2003-04 in various parts of Delhi has been finalized. Upto March 2002, 605 Kms of pipe line has been replaced and the works are to be taken in the following area.

- i. Mehrauli Zone
- ii. Central Zone
- iii. South Zone
- iv. Shahdara Zone(North)
- v. Shahdara Zone(South)
- vi. Civil Lines Zone
- vii. Rohini Zone
- viii. Karol Bagh Zone
- ix. West Zone
- x. Najafgarh Zone
- xi. S.P. & City Zone
- xii. RWS (North)

An outlay of Rs.6000.00 lakh is approved for Annual plan 2003-04.

3. Improvement of existing water works (Rs.1300.00 lakh)

Recycling plants totaling 41 MGD are proposed to be constructed at four existing plants namely Wazirabad, Haiderpur, Bhagirathi and Chandrawal. Process waste water will be collected and further treated to required standards. Process of tendering etc has been taken up. There is a proposal to renovate filters and coagulation system at Chandrawal.

A. The following works are proposed to be taken up during Annual Plan 2003-04

1. 150Kms and 150Kms new water main is proposed to be laid for improving water supply.
2. Construction of about 40 nos. small under ground reservoirs and booster pumping stations at various places to rationalize water pressures.
3. Renovation and increasing the capacity of pumps and motors at various booster pumping stations.
4. 10 MGD Recycling waste water treatment plant at Wazirabad..
5. Renovation of Chandrawal water works No.1.
6. Conversions of 6.6 kV electric supply system to 11 kV supply system.
7. Rehabilitation of clear water at Haiderpur, Phase I.
8. Replacement of Chlorination units at water treatment plants.
9. Renovation old defective clarifiers.
10. Replacement of rotating assembly of pumps.
11. Providing and installation of meters.
12. Procurement of spares.
13. Construction of Boundary wall.
14. Renovation of penstock gates at reservoirs and biofilters.
15. Replacement / topping of filter media at water treatment plants.
16. Renovation of treatment section at Bhagirathi Water Treatment Plant.
17. Replacement of old switch gears, Transformers, Pumps, Compressors etc. at water treatment plants.

An outlay of Rs.1300.00 lakh is approved for Annual Plan 2003-04.

4. Ranney wells and Tube wells (Rs.1000.00 lakh)

- (i) 200 new tubewells are proposed to be provided in 2002-03 and 200 in 2003-04 subject to the feasibility and grant of permission from Central Ground Water Board.
- (ii) Work of boring of 60 Nos. additional tube wells in Burari and Palla area including construction of UGR/BPS, rising mains and pump sets etc., (complete work) are in progress.
- (iii) Replacement of old pumping equipment i/c motors, starters, chlorinators etc.
- (iv) Construction of 12 mL capacity UGR & BPS in front of Ranney Well A-5
- (v) P/L/J 900 mm main from Palla to Narela
- (vi) P/L 100-500 mm dia CI water main from tubewell in Iradat Nagar to 1000 mm dia clear water main at Narela Road
- (vii) Procurement of Gramsabha Land near Ranney Well A-3 at Jhingola
- (viii) Installation of power grid in front of Ranney Well A-3 payment to be made to DVB

An outlay of Rs.1000.00 lakh is approved for Annual Plan 2003-04.

5. Staff Quarters & Office Accommodation (Rs.255.00 lakh)

- (i) Construction of new revenue collection centers and renovation of old staff quarters and office buildings and pump houses.
- (ii) Const. of Lab Building at Wazirabad.
- (iii) Const. of Addl. Staff Quarters at Varun Niketan.
- (iv) The old quarters in dilapidated condition shall be replaced with new multistoreyed quarters at Chandrawal Water Works No.1.
- (v) It is proposed to construct an office complex to Chief Engineer and SE's of Chandrawal Water Works No.1 as the present office is inadequate.
- (vi) Type V quarters shall be constructed at Jal Vihar to accommodate senior staff.
- (vii) About 4000 quarters are presently available for about 25000 employees. Additional staff quarters shall be constructed to accommodate more employees.
- (viii) There is a proposal to construct 'Jal Suvidha Kendras' for distribution of bottled water throughout Delhi

- (ix) Improvement of the office building of EE(W)C -III and construction of additional rooms OHT Ashok Vihar. Cost Rs.15 lac.
- (x) Construction of Office building at Andrews Ganj. Cost Rs.66.56 lac.

An outlay of Rs.255.00lakh is approved for Annual Plan 2003-04.

6. Laying of water mains in regularized/unauthorized colonies (Rs.500.00 lakh)

For providing water supply in regularized/unauthorized colonies, where Development charges as per revised policy are to be deposited by the beneficiaries and for works of augmentation of water supply to these colonies. Achievements under this head are dependent on the public response to deposit the development charges. 1071 unauthorized colonies which are under the consideration of Central Govt. for regularization will have to be provided water supply in phased manner. New water mains are proposed to be laid in the left out portions of the colonies.

An outlay of Rs.500.00 lakh is approved for Annual Plan 2003-04.

7. Raw Water arrangement for additional needs including alternative arrangement of raw water for Haiderpur Treatment Plant.(Rs.10000.00 lakh)

- i. For making raw water arrangements for Sonia Vihar Water Treatment Plant a 3250 mm conduit is being laid from Murad Nagar to Sonia Vihar which is likely to be revised to Rs. 11000 lacs. The work is being executed by M/s. NBCC through UP Jal Nigam.
- ii. The water table in NCT of Delhi has gone down considerably with the result the quality of water has deteriorated and the discharge has reduced. To recharge ground water table, water-harvesting projects have been taken up in the area of various installations of Delhi Jal Board. Besides this M/s. INTECH is preparing the detailed project report for storage of floodwater in Jahagirpuri Marshy ground, Balashwa and Najafgarh Drain.
- iii. On the request of Delhi Govt., Govt. of Haryana has agreed to construct a parallel line channel from Munak to Haiderpur Water Treatment Plant at a

total cost of Rs. 38018 lacs. The process for land acquisition has been started by Haryana Irrigation Department. The work is likely to complete in next three years. Haryana Govt. has requested DJB to make this amount available in next three years. The seepage losses in the lined channel to the extent of 80 MGD will be saved. Against these saving, water treatment plant at Dwarka, Okhla and Bawana are to be constructed/being constructed.

- iv. DJB shall be required to pay the proportionate cost towards the construction of Tehri Dam, Renuka Dam, Kishau Dam and Lakhwar Vyasi Dam. The detail of share cost proportionally to be paid is given here as under:

(Cost. in crores)

S.No.	Name of the Dam	Total Project cost	Share cost payable by DJB
1.	Tehri Dam	--	65
2.	Renuka Dam	1224.64	1058.64
3.	Kishau Dam	3566.23	Not yet finalized
4.	Lakhwar Vyasi Dam	1446.00	Not yet finalized

Discussions at various stages are in progress and during the plan period DJB shall have to deposit the share cost which is to be decided by CWC

- v. MoU for supply of 200 cusec of raw water for Bhagirathi Water Treatment Plant is under finalization with UP Govt., although water is being supplied since 1983. In terms of draft M.O.U. rates of water are to be revised every five years. Therefore, DJB has to release about Rs.18 crores for this. In addition, for maintenance of the existing conduit @ Rs. 140 lacs per year is payable. Accordingly, total provision of Rs. 2500 lacs is required under this head.
- vi. An estimate amounting to Rs.29 crores towards augmentation of Upper Ganga Canal from Haridwar to Murad Nagar for carrying additional 300 cusec of raw water from Tehri Dam have been received from UP Irrigation Department.
- vii. UP Govt. has been requested for additional raw water for which UP Govt. is getting a study conducted at Roorkee University to reduce seepage losses in the existing canal system in UP. Thereafter, payments will have to be made to

UP govt. for the improvements. In lieu UP Govt. will give additional raw water.

- viii. Providing & laying 2000mm dia raw water main from Haiderpur WTP to Wazirabad WTP, the scheme includes construction of intake works, out fall structures, river training works, raw water pumping stations including pumps & allied works.

An outlay of Rs.10000.00 lakh is approved for Annual Plan 2003-04.

8. Rural Water Supply (General) Rural Water Supply (Rs.360.00 lakh)

Delhi Jal Board has been providing potable drinking water to all the 219 rural villages. However these villages are extending vertically as well as horizontally thereby creating additional demand of water every year. Under the special component plan, all the 413 Harijan Basties have also been covered. Under this scheme water supply is also provided to land less laborers (House sites) allotted by Delhi Administration and to extended abadies under MNP. Under 20 Point Program, out of 57 such colonies 20 nos. have been provided with water supply and the remaining are being provided. Water supply is also being provided to extended Lal Dora of the villages. Provision has been made for improving, stabilizing and strengthening the rural water supply distribution system besides providing more filtered water in Kanjawala and Najafgarh Blocks where ground water is increasingly becoming saline.

To overcome the problem of low voltage at tubewells, voltage stabilizer and transformers are proposed to be provided, presently, tubewells provided in rural areas have been drilled to about 50-60 meters depth. It is seen that the yield of these tubewells is declining. There is need to explore the possibility of deeper tubewells. In case of success in establishing a dependable source of water at that depth it will substantially meet the needs of rural area. Small underground reservoir and booster pumping stations are being constructed to rationalize and improve water pressure.

An outlay of Rs.360.00 lakh is approved for Annual Plan 2003-04.

9. Rural Water Supply under Basic Minimum Services/PMGY (Rs.235.00 lakh)

All the 219 rural villages within the jurisdiction of MCD have already been covered with the potable water supply. However these villages are extending vertically as well as horizontally thereby creating additional demand of water every year. Under the special component plan, all the 413 Harijan basties have also been covered. During summer months, the villages located at the tail end of the distribution system face scarcity of water. To meet the shortage of water in these rural villages, water supply is further supplemented through tankers and sintex tanks mounted on truck. To overcome the problem of low voltage at tube wells, voltage stabilizer are proposed to be provided. Previously, tube wells provided in rural areas had been drilled to about 50-60 meters depth. It is seen that the yield of these tube wells is declining. There is need to explore the possibility of deeper tube wells. In case of success in establishing a dependable source of water at that depth, it will substantially meet the needs of rural area.

An outlay of Rs.235.00 lakh is approved for Annual Plan 2003-04.

10. Distribution Mains and Reservoir for 2nd 100 MGD WTP at Haiderpur and peripheral mains for Dwarka (Rs.650.00 lakh)

The following works are to be completed in the year 2002-03 and 2003-04:

- i) P/L, CI/MS peripheral waters main for reservoir CT-I Dwarka, Phase-I (Rs.7.75 crores). 60% work has already been completed and balance 40% works shall be completed by March 2003.
- ii) P/L peripheral CI pipe line from CT-1 Dwarka Phase II (costing rs.4.96 Lac) 60% work has been completed and balance 40% work will be completed.
- iii) Construction of steel bridge - There are 4 bridges to be completed to pass the water main over the nallas. Costing Rs.10.5 Lac. The work has been awarded and is in progress and likely to be completed.
- iv) P/L/J 900-200 mm dia peripheral water main for built up area in the command of reservoir CT-2 at Dwarka Phase-II. Cost Rs. 421 Lac.

- v) P/L/J 900-250 mm dia peripheral water main for built up area in the command of reservoir CT-2 at Dwarka Phase-I . Cost Rs.263 Lac..

NEW WORK

Construction of UGR/BPS at Mohan Garden, Janakpuri, Avantika, Pitampura, Mayapuri and Bijwasan.

An outlay of Rs.650.00 lakh is approved for Annual Plan 2003-04.

11. Const. of 140 MGD Water Treatment Plant at Sonia Vihar and distribution mains and reservoirs. (Rs.13500.00 lakh).

The work of construction of 140 MGD WTP at Sonia Vihar with O&M period have been allotted and is in progress The cost of construction of plant including civil & E&M installation is Rs 188.80 crore and the annual operation cost of Ist year is Rs. 7.76 crores further to be increased every year on the basis of indices given in the contract.

The work of distribution mains for Trans Yamuna Area` Phase-I from this plant have also been awarded to M/S L & T at a cost of Rs 111.28 crores and targeted for completion by May 2003. The work of transmission mains for Phase-II has also been awarded. The whole scheme is proposed to be completed by September 2003.

An outlay of Rs.13500.00 lakh is approved for Annual Plan 2003-04.

12. Const of 40 MGD Water Treatment Plant at Nangloi_(Rs.20.00 lakh)

A 40-MGD WTP at Nangloi has been completed and commissioned. However, the plant is presently treating only 25 MGD raw water due to raw water constraints for which the matter is pending in the Hon'ble Supreme Court of India.

Construction of staff quarters and works of resectioning of effluent drain and construction of sump for recycling of clarifier/filterback wash and const. of UGR/BPS at Ujwa/Daulatpur are to be taken up.

An outlay of Rs.20.00 Lakh is approved for Annual Plan 2003-04.

13. Const. of 20 MGD Water Treatment Plant at Bawana (Rs.200.00 lakh)

A 20-MGD, WTP at Bawana is being constructed at a cost of Rs 1391 lac.

Major components of the work are as under:

1. Const. of Raw Water Pump House at Bawana..
2. Const. of Staff Quarters at Bawana Treatment Plant (Tenders invited)
3. Shifting of off take point for withdrawal of raw water from WJC.
4. Peripheral services for the 32 villages which comes in the command of 20 MGD water treatment plant at Bawana are to be laid . Besides shifting 1300 mm dia existing water mains.
5. P/L 600 mm dia PSC water main from Karala to Kirari Village for Prem Nagar Group of Colonies (costing Rs.180 lac). The work has been awarded and likely to be completed.
6. P/L CI pipe net work for Horticulture development work at Bawana. The work is in progress and likely to be completed.
7. Rain water harvesting system at 20 MGD WTP at Bawana. Work is in progress and likely to be completed.
8. Providing/fixing sluice valve and air valves in 100 mm dia clear water main from Bawana WTP (Rs.2.5 lacs)

The following works are to be taken up in 2003.-4

1. Construction of staff quarters at Bawana WTP (Rs.75 lac)
2. Construction of raw water pump house - Balance work (Rs.70 lac)
3. Construction of UGR & BPS of 7.1 MG capacity at Bawana WTP including 800-900mm dia feeding main from Alipur to Bawana (Rs.3200 lacs.)

An outlay of Rs.200.00 lakh is approved for Annual Plan 2003-04.

**14. Interlinking of conveyance mains system from various plants.
(Rs.20.00 lakh)**

For providing linkages between the conveyance main from various treatment plants it is proposed to lay water mains and make no. of interconnections.

An outlay of Rs.20.00 lakh is approved for Annual Plan 2003-04.

**15. Hydraulic Mapping & Study of Water Supply System & UFW
(Rs.20.00 lakh)**

To strengthen the leak detection cell by providing new specialized instruments in place of old and obsolete existing equipment, two vehicles and inter communication sets for stepping up activities of leak detection cell.

An outlay of Rs.20.00 lakh is approved for Annual Plan 2003-04.

16. Public Participation and Awareness for Conservation of Water (Rs.120.00 lakh)

In view of the shortage of water being faced in Delhi, there is a need to educate the public and create awareness about conservation of this precious commodity. For this purpose publicity is proposed to be carried out through various audiovisual media like Television, Radio and Press advertisement and holding seminars etc.

An outlay of Rs 300.00 lakh has been approved for 2002-03 and Rs. 200.00 lakh in RBE 2002-2003.

An outlay of Rs.120.00 lakh is approved for Annual Plan 2003-04.

17. Large Scale Testing of Water Samples Including Water Supply to the weaker section. (Rs.20.00 lakh)

The Delhi Water Board is presently having 6 well-equipped and modern laboratories having facilities to test physical, chemical and bacteriological parameters and are lifting on an average 300 samples per day. Besides this, samples are also being lifted by Junior Engineers of the DJB who have been provided with 'Test Kits' to determine on the spot presence of residual chlorine in drinking water. It is proposed to purchase mobile laboratories as well as equipments to detect heavy metals and pesticides etc. It is also proposed to intensify lifting of water samples and test about 500 samples a day to ensure water quality.

An outlay of Rs.20.00 lakh is approved for Annual Plan 2003-04.

18. Const. of 60 MGD WTP at Dwarka. (Rs.100.00 lakh)

For Dwarka sub city it is proposed to construct 100 MGD water treatment plant. Since, presently the availability of raw water for this plant would be only 40 MGD after the completion of parallel lined channel (Which is being done by Haryana Irrigation Department). Simultaneous action is proposed to be taken for this scheme so that completion of plant matches with availability of raw water in the year 2006. Actual construction of the plant is proposed to be taken in the year 2004 to be completed in two years.

A block estimate amounting to Rs.6400 lacs has been prepared for this work. An outlay of Rs.100.00 lakh is approved for Annual Plan 2003-04.

19. Const. of Addl. 20 MGD Water Treatment Plant at Okhla (Rs.50.00 lakh)

The treatment plant is also to be taken up out of raw water savings with the construction of parallel lined channel. Scheme amounting to Rs. 137 crores for 40 mgd plant has been approved by DJB, but it is proposed to construct only 20 mgd plant due to constraints of raw water. The scheme is yet to be cleared by CPHEEO technically. The

scheme will be taken up in such a way that its completion matches with the availability of raw water and is proposed to be taken up at site in the year 2004 and completed by 2006.

An outlay of Rs.50.00 lakh is approved for Annual Plan 2003-04.

20. Captive power plants at water treatment plants / installations. (Rs.200.00 lakh)

DJB is maintaining more than 400 under ground reservoir and booster pumping station and is planning to provide diesel-generating sets where problem of low voltage/electric failure is chronic.

An outlay of Rs.200.00 lakh is approved for Annual Plan 2003-04.

21. Grant in aid for augmentation of water supply for Urban Villages (Rs.250.00 lakh)

Delhi Jal Board is providing water supply in all the 135 urban villages. These villages are expanding vertically and also commercialization is taking place which causes extra burden on the water supply system. For improvement and strengthening of water supply system in these villages, more tube wells, deep bore hand pumps, laying of water mains and construction of under ground reservoir, booster pumping station are being done and augmentation of water supply in Mehrauli Town Ship.

An outlay of Rs.250.00 lakh is approved for Annual Plan 2003-04.

22. Grant in Aid for Augmentation of water supply in resettlement colonies (Rs.400.00 lakh).

Delhi Jal Board is providing water in all the 44-resettlement colonies.

These colonies are expanding vertically as well as horizontally. For augmentation of water supply system in resettlement colonies more tubewells, underground tank, booster pumping station, deep bore hand pumps and water mains are to be provided. The following works are to be taken up during Annual Plan:

- 1, Construction of allied works for Mangolpuri (Rs.8.25 lac)
2. Construction of 3 lac gallongs capacity UGR a Sultan puri (Rs.22.01 lac)

An outlay of Rs.400.00 lakh is approved for Annual Plan 2003-04 for further replacement, providing DBHP and new lines.

23. Water Supply under EAP funding (Rs.450.00 lakh)

Delhi Jal Board has recently awarded project preparation study with the help of World Bank. The consultants will identify the projects to be carried out in next four years, for which loan will be sought from World Bank. The projects in the water section will be related to unaccounted for water rationalization of distribution of water rehabilitation of existing water works and rising mains. Construction of new underground reservoirs and booster pumping station are proposed to be done through World Bank.

An outlay of Rs.450.00 lakh is approved for Annual Plan 2003-04 are to be given by Secretary DJB

24. Grant in aid for augmentation of water supply for JJ cluster (Rs.750.00 lakh)

The water supply services in JJ Clusters were handed over to the then Delhi Water Supply & Sewage Disposal Undertaking now Delhi Jal Board in June 1992. Water supply services are being provided in these clusters.

Population in these clusters is increasing day by day. Re-allocation of many JJ cluster is being done. Besides maintenance of existing water supply system to meet the increasing demand, Delhi Jal Board is carrying out augmentation works like providing addl. Tube wells, deep bore hand pumps and public water hydrants in these clusters and is also supplying water through departmental as well as additional tankers on hire. Purchase of additional trailer tankers is also proposed to be made

With the increase in cost of P.O.L and maintenance expenses of vehicles a provision accordingly has been made in Annual Plan 2003-04.

An outlay of Rs.750.00 lakh is approved for Annual Plan 2003-04.

25. TRANS YAMUNA AREA DEVELOPMENT BOARD (Rs.1300.00 lakh)

For rationalization of distribution system in Trans Yamuna Area, it is proposed to construct UGR/BPS at 13 nos. of places in Trans Yamuna Area out of these works, is in progress at 5 locations, rest will be taken in new plan period and proposed to be completed by year 2006. The work at following places will be completed by the end of year 2003.

- 1 Gazipur
- 2 Mandawali Fazalpur
- 3 Nand Nagri
- 4 Shastri Park
- 5 Surajmal Vihar

The following works are to be taken up during 2003-04

- A. Replacement of old waters mains & laying of new water mains in Shahdara area.
- B P/L/J 900x700 mm dia water mains from Jagatpuri BPS to booster up the pressure in E-9, E-10 & E-11 Master Plan Sub Zones.
- C UGR/BPS at
 - i Kondli Gharoli
 - ii Kanti Nagar
 - iii Nand Nagri II
 - iv Chitra Vihar
 - v Bhagirathi ww
 - vi Sonia Vihar ww

An outlay of Rs.1300.00 is approved for Annual Plan 2003-04.

3 B. SEWERAGE AND DRAINAGE SCHEMES

1. The Delhi Water Board is responsible for providing sewerage facilities in the areas under the command of MCD. In the areas under the command of NDMC Cantonment Board and DDA Development areas, internal, peripheral and outfall sewers are provided by the respective agencies. However, the Board provides trunk sewers and sewage treatment plants for the entire area of Delhi. It is also carrying out ongoing works of storm water drainage and certain anti flood works, which are now the responsibility of the MCD/ Irrigation & Flood Control Deptt. The Board has constructed sewage treatment plants at Okhla, Keshopur, Coronation Pillar, Kondli, Rithala, Vasant Kunj, Yamuna Vihar, Ghitorni, Narela, Pappan Kalan, Najafgarh, Delhi gate nallah, Sen Nursing Home nallah, Rohini, Nilothi, Mehrauli etc. Oxidation ponds have also been made at Timarpur.
2. Delhi is not only a metropolitan city but also National Capital. It must have a proper sewerage system for collection, pumping, treatment and disposal of domestic effluent to check environmental pollution. Supply of drinking water is being augmented to meet the increasing demand due to rise in population. It is therefore necessary that sewerage facilities also keep pace with the water supply arrangements.
3. **WATER SUPPLY:-**

During the IX th five year plan period , the water supply was proposed to be augmented to 945 MGD from 580 MGD , but due to raw water constraints the achievement is 650 MGD.

4. **TASK FORCE ON WASTE WATER:-**

The Task Force under the Chairmanship of Shri Vivek Rae, then Secretary, Govt. of NCT of Delhi had estimated in 2000 that the total waste water generation as 610 MGD out of which 480 MGD was from the water supplied by the DJB and 130 MGD from the ground water being extracted by individuals, private organizations, institutions etc. through tube-wells, hand pumps etc. This includes

industrial effluents as well which were than estimated to be of the order of 50 MGD.

5. The CPHEEO have published a new water supply manual & as per the latest manual, water requirement for domestic purposes have been recommended @ 150 litre per capita per day + 15% losses = 172 lpcd and considering demand for other uses total works out to 274 lpcd (60 gpcd), they are as under:-

- | | | |
|----|--|-----------|
| a) | Domestic----- | 172 lpcd. |
| b) | Industrial, commercial and community requirement ----- | 47 lpcd. |
| c) | Fire protection based on 1% of the total demand---- | 3 lpcd. |
| d) | Floating population and special use like hotel & embassies ----- | 52 lpcd. |

The total demand 274 lpcd (60 gpcd).

Based on the above norms, the total water requirement for the X th five year plan works out to 1050 MGD. It is planned to augment the water supply to 950 MGD by the end of Xth Plan. Balance requirement of about 100 MGD is expected to be met from private sources of extracting the ground water.

6. **WASTE WATER**:-

Deducting 15% losses & around 80% of the balance water supplied, the estimated wastewater generation would be around 760 MGD.

7. DJB have entrusted in Dec 2001 a study on measurement of discharge flowing in 17 major drains out falling into river Yamuna. The results based on measurements for the period from April to June 2001, have indicated that total wastewater flowing through Delhi is about 800 MGD.

8. **S.T.P. CAPACITY**:- The DJB had entrusted a study on the upgradation of sewerage system of NCT of Delhi to cater to the requirements in 2006 and 2011. As per their draft final report treatment capacity of 726.4 MGD will be required by 2006 and 803.4 MGD will be required by 2011. The DJB plans to create an additional capacity of 233 MGD by 2005, thus augmenting the treatment capacity to 745.4 MGD.

8. The plant-wise sewerage treatment capacity's as targeted for the X plan & achievement till March 2002 & targets for 2003-04 are given as under:-

(All the figures are cumulative & in MGD)

S.NO	Plant's	10 th Plan 2002-07 target	Ach.upto March 2002	Annual proposal 2003-04	Plan
1	2	3	4	6	
1.	Okhla	170	140	140	
2.	Keshopur	72	72	72	
3.	Coronation Pillar	50	40	40	
4.	Rithala	110	80	80	
5.	Kondli (Ph.I,II,III&IV)	90	45	45	
6.	Yamuna Vihar(Ph.I&II)	45	10	20	
7.	Vasant Kunj	5	5	5	
8.	Ghitorni	5	5	5	
9.	Pappankalan	40	20	20	
10.	Narela	40	10	10	
11.	Najafgarh	5	5	5	
12.	Mehrauli	5	--	5	
13.	Delhi Gate Nalla	2.2	2.2	2.2	
14.	Dr. Sen Nursing Home Nalla	2.2	2.2	2.2	
15.	Rohini	35	--	15	
16.	Timarpur	6	6	6	
17.	Nilothi	40	40	40	
18.	Burapulla Nalla	20	--	--	
19.	Delhi Cantonment	8	--	-	
Total		750.4	482.4	512.4	

10. The targeted capacity of STPs were 512.4 MGD in Annual Plan 2002-2003 against which the achievement till March-2002 was 482.4 MGD. It is likely to go up to 512.4 MGD by end of March 2003.
11. The existing plants have been designed to achieve BOD of 20 mg/l and TSS of 30 mg/l in treated effluent. There is no facility of Coliform reduction. As per component at S.No.(VI) of the Action Plan described in para 6 above, new plants are required to be designed for achieving BOD of 10 mg/l and TSS of 15 mg/l in the treated effluent

12. UNAUTHORIZED/REGULARIZED COLONIES:-

All the 567 colonies are targeted to be provided with sewerage facilities. Out of these sewer lines had been laid in 427 colonies upto March-2002 and sewer lines are likely to be laid in other 40 colonies during 2002-03

13. Regarding Urban Villages there was a proposal to complete sewer lines in all the 135 Urban Villages. 93 Urban Villages have been seweraged so far. Sewer lines are likely to be laid in another 3 villages during 2002-03. Sewerage facilities in all the remaining Urbanized villages are to be provided in a phased manner except where it is not technically feasible to lay sewer lines.
14. Similarly, out of 44 Resettlement Colonies, sewer lines have been laid in 40 Colonies upto March-2002. Sewer lines in remaining 4 colonies are likely to be completed in 2002-03.
15. In addition to construction of new STPs, it is proposed to upgrade the existing STPs to the parameters (BOD 10 mg/l & SS of 15 mg/l laid down by DPCC, extend sewerage facilities in remaining unauthorized/regularized colonies, Urban Villages, Rural Villages, Resettlement Colonies subject to technical feasibility and availability of water, Replacement of unauthorized sewers, laying of new Trunk Sewers, construction of new sewage pumping stations, desilting and rehabilitation of Trunk Sewers, trapping of the storm water drains to prevent flow of untreated waste water to river Yamuna etc in compliance to the directions of the Hon'ble Supreme Court and as per commitments made by in an affidavit filed by the Chief

Secretary GNCTD in the Hon'ble Supreme Court. It is also proposed to utilize the bio-gas generated on various STPs for production of power. However, this activity is proposed to be entrusted to Private Enterprises on build in and operate basis.

16. WORLD BANK STUDY:-

To update and streamline the water supply & sewerage system, the World Bank was approached and has agreed for a grant of 2.5 million U.S. Dollars to fund the cost of preparation of Delhi Water Supply & Sewerage Project. The Delhi Jal Board has invited proposals from the consultants for the same. The consultant has been finalized and the work has already commenced. The consultancy work involves institutional development and financial management, Water Supply & Sewerage Rehabilitation etc. Their scope of work also includes finalisation of schemes to be taken up during in next four years.

17. YAMUNA ACTION PLAN-II (YAP-II)

As a centrally sponsored scheme of YAP-I D.J.B had taken up & completed 2.2 MGD STPs each at Delhi Gate Nalla and Dr. Sen Nursing Home Nalla. In extended phase of YAP-I & II MLD UV disinfection facility was set up at Dr. Sen Nursing Home STP.

JBIC has now agreed for another phase of Yamuna Action Plan (YAP-II). Out of this funds allocated to Delhi are Rs.375 crores. Following works of DJB are included in the scheme:-

1. Rehabilitation of Ring Road Trunk Sewer.
2. Rehabilitation/replacement of Bala Road Trunk Sewer – Rs.12 Crores.
3. Laying of Noth of Wazirabad Trunk Sewer – Rs.49 crores.
4. Renovation of 72 MGD Keshopur STP – Rs.92 crores
5. Construction of 30 MGD Okhla STP – Rs.70 Crores.

In addition studies for use of treated effluent for irrigation, horticulture & industrial uses & ground water recharge, STP on Najafgarh drain, decentralized STPs,

Nalla STP etc. are also to be taken under YAP-II. The estimated cost of these works is Rs.275 crores.

1. TRUNK SEWERS (Rs.5000.00 lakh)

A provision of Rs.5000.00 Lacs has been made in the annual plan 2003 – 2004 for rehabilitation of existing trunk sewers & laying of new trunk sewers. Details are as under

(a) Desilting & Rehabilitation of existing Trunk Sewers :

The existing sewerage conveyance system is a large network of branch, peripheral and trunk sewers of around 5600 Kms. in length.

There are 28 main trunk sewers with sizes ranging from 700mm dia to 2400mm dia with a total length of about 130 KM. The balance length of the sewerage conveyance system comprises the peripheral sewers and internal sewers of smaller sizes.

The trunk sewers have been laid over the years at different stages,. Some of these trunk sewers are as old as 40-60 years, where as other trunk sewers are comparatively younger. The condition of the trunk sewers especially the older ones, has deteriorated as a result of silting and settlements. The level of siltation in these sewers varies between 30-70%.

Rapid urbanization in Delhi has further compounded the pressure on the sewerage system, besides the constraints being experienced in maintenance of these trunk sewers due to widening of carriage way of a number of roads due to which large trunk sewers have come under the main carriage way. This phenomenon has accelerated the degradation of sewer lines.

In view of the above to give relief to local areas substantial quantity of the sewage, which is otherwise required to be conveyed to the respective STPs, is discharged into the open drains. It is estimated that about 91 K.Ms. of Trunk Sewers need desilting and rehabilitation including repair of settlement. Some of the important sewers in this category are Ring Road Trunk Sewer, Indian Express Sewer, Sita Ram Bazar Sewer,

University Trunk Sewer, North Trunk Sewer, Harsh Vihar – Haider Puri Sewer, West Delhi Sewer, Outfall sewer from Q Point to Kilokari SPS, Sewer along Arbindo Marg, Cross Connection No. 2,3 & 4, Karol Bagh Sewer, Bela Road Sewer. To minimize flow of sewerage in storm water drains and pollution of river Yamuna, an Action Plan has been prepared for desilting and rehabilitation of Trunk Sewers at an estimated cost of Rs. 275 Crores to be implemented by Sept-2003. Repair of settlements of Ring Road Trunk Sewer, UTS, rehabilitation of Karol Bagh Sewer have already been taken up.

Rehabilitation of Ring Road Trunk Sewer and Bela Road Trunk sewer are included under the YAP-II.

(b) New Trunk Sewers :

New Trunk Sewers are also required to be laid to extend sewerage facilities to new areas (Unauthorized/Regularized Colonies, Urban Villages etc.) and cope up the increased waste water generation due to increase in population and water supply. Some of these are Dabri Trunk Sewer, Sagar Pur Trunk Sewer, Trunk Sewer along Wazirabad Road in East Delhi, East Punjabi Bagh, Jail Road Trunk Sewer, Uttam Nagar Trunk Sewer, Najafgarh Trunk Sewer etc. Provision has also been made for procurement of suction – cum-jetting Machines and Super Suckers etc. for maintaining the Trunk Sewers silt free. Trunk sewer along Wazirabad Road in East Delhi is included under YAP-II.

List of major schemes/ works is given below at ANNEXURE1.

TRUNK SEWERS

Annexure- I

S NO.	NAME OF WORK/SCHEMES
1	P/L & Jointing 500-600-700mm Peripheral Sewer line in Ghonda Maujpur Complex Shd.
2	P/L/J 1400-1800mm & peripheral Sewer line on Brahm puri Road
3	P/L Pheripheral Sewer in Norht West of Wazirabad Shd.
4	Desilting of T/S No.5 Shd.
5	Desilting of T/S No.4 Shd.
6	-do- 1600-2100mm dia T/sewer from Jhilmil Colony to Jagriti SPS.

7	Rehabilitation of 1600mm & S/L near Preet Vihar P/H Shd.
8	P/L 1600mm dia Loop line from T/sewer near East End Enclave Shd.
9	P/L 900-1000mm dia peripheral Sewer in Babar Pur, Nathu Colony, Jyoti Coly. Shd
10	Repair to T/S in Trans Yamuna Area
11	Allied works : i) CCTV inspection with pen rotated camera of trunk sewer from Dilshad Garden SPS to Sunder Lal Charitable Hospital, Shd. ii) Raising of buried manholes of T/sewer on Brahmampuri road, Shd
12	P/L/J peripheral sewer in Ram Nagar, Krishna Nagar Group of colony, Shd.
13	-do- 300-1200mm dia peripheral sewer on Gamri road, Shd.
14	-do- 1200mm dia peripheral sewer from Gamri road to Ghonda-I SPS
15	L/J 1600mm dia NP3 RCC T/S along Mathura Road, thermal Power Plant to Sarita Vihar.
16	P/L 900mm dia Sewer Line from Sheikh Sarai to Madangir.
17	Restoration of settled sewer at Ravi dass Marg.
18	P/L Relieving sewer parallel to Aurobindo Marg South Zone.
19	P/L 1100/1200 mm dia NP3 RCC Pipe sewer line from Ring Road to Sewa Nagar Cental Zone.
20	Construction of RCC Boundary Wall along Gravity Duct from Kilokari SPS to Okhla STP.
21	Rehabilitation of 66" (1650 mm) dia old brick barrel from Q Point to Kilokari SPS (DJB Reach) and 1200mm dia cross -connection No. 4 from 66" dia brick barrel to Railway Bridge Nizamuddin
22	P/L 600mm – 1600 mm dia NP3 pipe from B Avenue road Sarojini Nagar to B-Block Sewa Nagar.
23	P/L Common Sewer fro shanty moholla Raj Garh(part) & chand moholla (part) Shd.
24	CCTV Inspection of Peripheral Sewer from Ganesh Nager to Coffee Home
25	Desilting of 1000-1200-1400mm dia Peripheral Sewer main in Geeta Coly, Shd
26	-do- 450-600-800-1000mm dia Peripheral Sewer in Ganesh Nager to Coffee Home
27	Shifting of Trapping of Geeta Colony Drain in 1400mm dia peripheral Sewer in Block No.5 Geeta Colony
28	Allied of Payments made of Previous year
29	CC TV Jhilmil Coly to Jagriti SPS

30	Trapping of Dilshad Garden Drain 100mm dia leading to Dilshad Garden SPS
31	Strengthening of gravity retaining works i/c earth filling on sites and repairing damaged RCC slabs on entire length from Kilokari P/Stn. To Okhla STP. On all the three nos., ducts.
32	P/F vent pipes on gravity ducts.
33	Improvement of filter chamber i/c strengthening of existing arrangement.
34	Replacement of Penstock gates with all accessories at different points on gravity ducts.
35	L/J 1600mm dia NP3 RCC T/S along Mathura Road, thermal Power Plant to Sarita Vihar.
36	Desilting of trunk sewer line 1200-1400 mm dia from VM College to Karkar Dooma Chowk in AC-43, Shadara South.
37	Pending liabilities for completed works
38	For future maintenance of trunk sewer in Shahdara.
39	Rectification of settled sewer line between C-12 Pump House & STP at Yamuna Vihar.
40	Miscellaneous works in Shahdara.
41	Rectification of main settled sewer line of MIG Flats, East of Loni Road in Shahdara (N)
42	Repair/Rehabilitation of 900-1050 mm dia trunk sewer in 65 Block, New Rohtak Road opposite Gurudwara Road, Kishan Ganj Railway Colony.
43	Repair of 1600 mm dia trunk sewer inside Haiderpuri SPS.
44	Rehabilitation of 1600 mm dia trunk sewer from Harsh Vihar to Haiderpuri SPS.
45	Rehabilitation of 1200 mm dia trunk sewer in Ashok Vihar from WJC to Bharat Nagar SPS.
46	P/L 1000 mm dia T/S from Wazirpur JJR to Bharat Nagar SPS.
47	L/J 900 mm dia loop sewer line to replace settled sewer in front of Ram Singh & BW-Block Shalimar Bagh.
48	Restoration of sewerage system near Pitam Pura SPS.
49	L/J 900 mm dia loop sewer line to replace settle sewer in front of BA Block on Gyan Shakti Mandir Road, Shalimar Bagh.
50	Restoration of Uts under NG Drain near DRDO Complex.
51	Desilting of NTs from Bharat Nagar to Patel Chest.
52	Repair to settled sewer near Model Town P/H.
53	P/L outfall sewer of Subhadara Colony.
54	Laying of left out portion of Bharat Nagar trunk sewer.
55	P/L peripheral sewer at Zonal Road Narela.

56	L/J 1600 mm dia NP3 class RCC pipes for Twin Trunk Sewer from Najafgarh Drain outer Ring Road to Sayyad Nangloi SPS.
57	L/J loop line of 1000 mm dia settled sewer line from up-stream side manhole trolley to D-1/621 Janak Puri.
58	L/J loop line of 1000 mm dia settled sewer line from H. No. B-1/505 Janak Puri to B-1/621.
59	L/J 900-1200 mm dia T/S Najafgarh and adjoining area socket mechanical desilting devices.
60	Rehabilitation of 66" dia brick barrel T/S along Najafgarh Road.
61	P/L/J peripheral sewer line at Najafgarh and its adjoining area phase-II.
62	P/L 900-1000-1100 mm dia T/S in Najafgarh and adjoining area by trench less technology.
63	P/L/J 500-1800 mm dia T/S in Sagar Pur Group of Colonies.
64	P/L/J 300-700-1000-1200 mm dia T/S on Dabri Road.
65	P/L/J peripheral sewer in Palam Village, Raj Nagar & Puran Nagar.
66	Appointment of consultants for rehabilitation of T/S 1600 mm dia from Harsh Vihar to Haiderpuri Pumping Station.
67	P/L 500-600-1200 mm dia T/S in Bela Road by Trench less Technology.
68	P/L 500 mm dia outfall sewer for Subhadara Colony by Trench less Technology.
69	Strengthening of gravity retaining works i/c earth filling on sites and repairing damaged RCC slabs on entire length from Kilokari P/Stn. To Okhla STP. On all the three nos., ducts.
70	P/F vent pipes on gravity ducts.
71	Improvement of filter chamber i/c strengthening of existing arrangement.
72	Replacement of Penstock gates with all accessories at different points on gravity ducts.
73	P/L 900 mm dia sewer line from Sheikh Sarai to Madangir

An outlay of rs.5000.00 lakh is approved for annual plan 2003-04.

**2. SEWAGE TREATMENT PLANTS AND ANCILLIARY WORKS :
(Rs.12000.00 lakh)**

A provision of Rs.12000.00 lacs has been made in the Annual Plan 2003-04. Out of which Rs.500.00 lacs is for scheme under YAP-II. 30 MGD STP at Okhla is to be constructed under YAP-II.

The treatment capacity of various treatment plants including oxidation ponds as on 31.03.2002 was 482.4 MGD. A capacity of 512.4 MGD is likely to be achieved by 2002-2003.

New STPs :

M/s TCE Consulting Engineers Ltd. have been entrusted with the study of up gradation of sewerage system for Delhi. The consultant have draft final report, according to which a sewage treatment capacity of 803.4MGD would be required by the year 2011.

The DJB plans to augment sewage treatment capacity from 482.4 MGD (March-2002) to 745.4 MGD & complete required ancillary works by 2005. Tenders for construction of 45 MGD STP at Kondli and 20 MGD STP at Yamuna Vihar have already been invited & works are likely to begin at the beginning of 2003-04. 30 MGD STP AT Okhla is to be taken up under YAP-II & work is to be awarded by May 2003.

Ancillary Works :

With the setting up of the new sewage treatment plants of additional capacity of 214 MGD, additional Pumping Stations at various places will also be required to be set up as per the reports of the consultant. Some of the Pumping Stations proposed to be set up are at Chilla (80 MGD), Yamuna Vihar (90 MGD) and Pahari Dhiraj (21.5 MGD) and Karol Bagh (36 MGD).

There are 3 Nos. of Gravity Ducts leading to Okhla STP from Kilokri/Ring Road Pumping Station. One of the Gravity Ducts does not function in full capacity. It is planned to take improvement works and also fencing to avoid encroachment of land.

List of major schemes/ works is given below at ANNEXURE – II.

ANNEXURE - II

B. SEWAGE TREATMENT PLANT/S.P.S. i/c RISING MAINS	
1.	Supply, erection, ommissioning of 6 Nos. Raw Sewage P/Sets in replacement of existing pumps at 20 mgd plant Keshopur.
2.	40 MGD Nilothi STP
3.	Uttam Nagar SPS
4.	Nangloi Sayyed part-A SPS
5.	Nangloi Sayyed part-B SPS
6.	Providing/fixing of wear plates of FST No. 2 at 20 MGD
7.	Supply, installation, commissioning of pumpset for 12 pump at Keshopur.
8.	Supply ,installation, commissioning of Gear Boxes at Aeration plant at STP Keshopur.
9.	Supply ,installation ,commissioning of filling points of effluent of 40 MGD plant at Keshopur.
10.	Balance payment at Zafrabad SPS
11.	Balance payment at Ramnagar SPS.
12.	Balance payment at Yamuna Vihar Phase-I STP
13.	Erection of E & M equipment and commissioning of Ghondha –II SPS.
14.	Erection of E & M equipment and commissioning of Brahmpuri SPS.
15.	Construction of Digestor and Gas holder and other works at Phase-I , Phase-II, Sub Head 'B' at Coronation plant.
16.	Supply and fixing of the New Centre Mechanism S-40 for P.S.T./F.S.T. No. 2 at STP Rithala.
17.	P/F of new gas holder dome for gas holder No. 1 at STP Rithala
18.	Supply and fixing of 40 HP Gear Box for Aeration plant at STP Rithala .
19.	P/F of new drip trap of all Digesters and gas holders at STP Rithala.
20.	Supply and fixing of New Gear Box for PST/FST part-A at STP Rithala.
21.	S/F of S.S spindle and gear box of part-A STP Rithala.
22.	S/F of flow meter on open channel at STP Rithala.
23.	P/F of Buffer plate for all PST and Aeration plants at STP Rithala.

24.	Supply and installation of Bar Screen at open main channel at part-A of STP Rithala.
25.	Supply of 40 HP and 75 HP Aerator gear box for STP Rithala.
26.	Supply/installation of 25 HP filterate pump at pump house at STP Rithala.
27.	SPS Dakshin Puri
28.	SPS Mehraulli
29.	Payment to DVB/BSES for for Dakshin Puri SPS for Electric Connection
30.	Balance Payment of Sarita Vihar SPS
31.	Tughlakabad SPS
32.	STP Mehraulli
33.	Replacement of Pumps at NBPH
34.	Installation of Vertical Pumps at Andrews Ganj
35.	Replacement of 16 MGD Pump set at Andrews Ganj
36.	40 MGD stp Rithala Phase II
37.	10 MGD STP at Narela
38.	3 MGD SPS Rampur
39.	11 MGD SPS Nangloi
40.	Balance works and payments of Kondli STP
41.	For execution of left out works of Kondli STP 25 MGD Ph. II
42.	Construction of new 45 MGD STP at Kondli
43.	Construction of 80 MGD STP at Chilla
44.	Construction of 25 MGD STP at Yamuna Vihar
45.	Construction of new SPS at Yamuna Vihar
46.	Construction of effluent P/House at Yamuna Vihar
47.	Construction of 10 MGD STP at Yamuna Vihar
48.	Tree/Shrub Plantation at STPs/SPSs
49.	Providing and Fixing of Tree Guards at Various STPs/SPSs
50.	Developing Irrigation systems and construction of water bodies at various STPs
51.	Development of Green Houses at various STPs.
52.	Automation of 37 MGD plant at Okhla
53.	Construction of Diesel Gen-Set rooms at various plants.
54.	Making drinking water arrangement and drainage disposal arrangement at

	various plants.
55.	Construction of additional accommodation at various sites.
56.	Horticulture pipeline network for developing greenery at various sites of STPs/SPSs
57.	Modification /Alteration of P/sets and other equipment at various STPs / SPSs
58.	Strengthening of RCC structures where seepage/cracks have developed.
59.	Desilting of various sump sites / bar screen chamber at various SPSs.
60.	Renovation of Bar Screens at N. STP/30 MGD.
61.	Renovation of the Detritor at N.STP Okhla
62.	Renovation of PST at N. STP Okhla.
63.	P/F OF Pumps at Raw Sludge P/H.
64.	Renovation of Aeration Unit at 30 MGD & 37 MGD Plant.
65.	Renovation of the Return Sludge p/h at 30 MGD.
66.	Renovation of FST at N. STP Okhla.
67.	Renovation of CI Mains at STP Okhla.
68.	Renovation of Grit Removing Mechanism at 45 MGD Okhla.
69.	Renovation of FSTs at 45 MGD and 37 MGD Okhla.
70.	Renovation of the main suction valve line 14" at 45 MGD.
71.	Renovation of various gas holders at STP Okhla.
72.	P/F of Raw sludge and Return sludge pumps at 37 MGD Okhla.
73.	Renovation of PSTs at 37 MGD and 45 MGD Okhla.
74.	Renovation of various compressor sets, Moisture traps and OCBs at Gas Booster STP Okhla.
75.	Renovation of various H.T. panels and L/T panels at Okhla
76.	Renovation of C.I. valves ,FST,PST and Digestors at 30 MGD Okhla
77.	Constn. Of Addl. 10MGD STP, Yamuna Vihar
78.	Contn. Of 10 MGD STP Kondli Shd. Ph.III
79.	Constn. Of Boundary Wall at Yamuna Vihar, Ph.II
80.	P/L 1000mm dia MS pipe for connecting the incoming main of Ph.I & Ph.II STP at Yamuna Vihar.
81.	Constn. 25 MGD STP Kondli(Balance Works) Ph-II
82.	Refabrication of digestors & gas holders ,10 MGD STP Kondli

83	P/L 1000 mm dia rising main from Ghonda-II SPS to Yamuna Vihar STP.
84	Constn. of Brahampuri SPS, Shahdara.
85	45MGD(204.3 MLD) Sewage Treatment Plant at Kondli and 80 MGD(363MLD) pumping Stations at Chilla Regulator i/c Rising Mains and other related associated/allied appurtenant works on Design, Build & Operate basis in TransYamuna region, Delhi.
86	25MGD(113.5MLD) Sewage Treatment Plant, 50 MGD(227MLD) Sewage & 90 MGD(408.6MLD) Effluent pumping Stations i/c Rising Mains and other related associated /allied appurtenant works on Design, Build & Operate basis at Yamuna Vihar Delhi.
87	Instalation of Tubewell at Brahampuri SPS, P/F Pen stock gate in overflow line at Ghonda-SPS, Constn. of RCC chamber i/c repair of rising main emanating from SPS
88	P/L 1000mm dia CI rising main from Jagriti SPS to 25 MGD STP Kondli.
89	P/L 400 mm dia R/Main for SPS C-Block, Viviek Vihar.
90	P/L/J CI Main from V.M. College to T-5 Ram Vihar.
91	P/L CI rising main from 2142 Janta Flats, Pump House to peripheral sewer near Green Field School.
92	Miscellaneous maintenance works in Shahdara
93	Construction of 5 MGD STP at Mehrauli including boundry wall and consultancy charges.
94	P/L 900mm dia outfall sewer for Mehrauli.
95	Const. Of B/Wall for Mehrauli STP.
96	Const. Of 12.5 MGD SPS at Mehrauli.
97	Const. Of 14.0 MGD SPS at Khanpur Deoli Road, Dakshinpuri
98	Supply of 800mm dia H.S. pipes for laying of R/main from Tuglakabad SPS to G.B. Pant Polytechnic.
99	L/J 800mm dia PSC/HS pipes from Tughlakabad SPS to Gravity Duct, G.B.Pant Politechnic.
100	Construction of 21.3 MGD SPS at Tughlakabad. R.R. Charges
101	Const. Of 16MGD STP at Okhla.

102	onsultancy work for STP, Okhla.
103	P/L /J 1100 mm dia NP3 RCC Pipes, Ghitorni STP to Jamali Kamali Park, mehrauli. Reach I Reach II Reach III
104	Augmenting Capacity of STP at Okhla by 30 MGD
105	Supply of 1200mm dia PSC pipes from Sarita Vihar to Okhla.
106	L/J 1200mm dia raising main from Sarita Vihar to Okhla STP.
107	Const. Of 33 MGD SPS at Sarita Vihar.
108	Const. Of Boundry wall at 33 MGD SPS Sarita Vihar.
109	Replacement of R/Main at Kilokari SPS.
110	Construction of 20 MGD STP at Barapulla Nallah.
111	Const. Of 40 MGD STP at Rithala
112	Const. Of 15 MGD STP at Rohini
113	Engineering consultancy work for const. Of 15 MGD STP Rohini
114	Payment of R/O compensation of Rithala land
115	Const. Of uprooting of existing 20 MGD STP at Coronation Pillar Sub Head – A – Phase – I
116	Addl. 45 MLD (10 MGD) STP at Coronation Pillar, Sub Head – A – Phase – II
117	Const. Of uprating existing 20 MGD STP at Coronation Pillar – SH-B-Phase-I
118	Add. 10 MGD STP at Coronation Pillar SH-B, Phase II
119	Const. Of 10 MGD STP at Coronation Pillar Phase III
120	Stone masonry boundary wall at DJB land Coronation Pillar
121	Const. Of 10 MGD STP at Narela
122	Const. Of stone boundary wall at Nilothi STP (Balance Work)
123	Const. Of 40 MGD STP at Nilothi
124	Consultancy services Nilothi STP
125	Engg. Consultancy services for Pappan Kalan STP
126	Const. Of 20 MGD STP at Pappan Kalan
127	Const. Of 5 MGD STP at Najafgarh
128	Const. Of stone masonry boundary wall at 20 MGD STP at Pappan Kalan
129	Augmentation of STP at Pappan Kalan by 20 MGD

130	Const. Of stone masonry boundary wall along un-approachable DJB land at Coronation Pillar Phase – II
131	L/J 400 mm dia C.I R/Main from Rampura SPS at Bharat Nagar SPS including cost of C.I. Pipes
132	Const. Of 3 MGD SPS at Rampura
133	Const. Of 4.27 MGD at Adarsh Nagar
134	Const. Of 40 MGD (Av) SPS at Nangloi Sayyed
135	P/L/J 1200mm dia R/main from Nangloi Sayyed SPS to Nilothi STP
136	Const. Of 12.5 MGD SPS at Najafgarh
137	Const. Of 3 MGD SPS at Punjabi Bagh
138	Const. Of 12.5 MGD SPS at Jeevan Park
139	P/L 1200mm twin R/Main of I&F effluent chemical near Nilothi STP
140	Implementation of DPR of Rithala Zone including augmentation of conveyance system and construction of 30 MGD/25 MGD and 55 MGD resp. at Karol Bagh Zone, Anand Vihar and Rithala including rising main upto Rithala STP.
141	Const. Of 30 MGD STP at Rithala Phase III
142	Const. Of 10 MGD STP at Rohini Phase II.
143	Pending liabilities for completed works

In addition various small works relating to E & M are also to be carried out in City & Karol Bagh zone, Central zone & South zone.

An outlay of Rs.12000.00 lakh is approved for Annual Plan 2003-04.

3. RESIDENTIAL ACCOMMODATION, STORES, LAB , GO DOWN ,ETC. (Rs.300.00 lakh)

A provision of Rs. 300.00 lakh has been made in the Annual Plan 2003-2004 under this head.

Many staff quarters are quite old and require rehabilitation and renovation besides construction of new offices, go-downs, stores & laboratories at Okhla, Keshopur Kilokari, and Coronation Pillar.

List of major schemes/ works is given below at ANNEXURE – III

ANNEXURE - III

C. RESIDENTIAL ACCOMMODATION	
1.	Rewiring of staff quarters at Model Town
2.	Electrification of staff quarters at Jal Vihar
3.	Purchase of Electrical goods at Varun Kunj
4.	Repairing of Panel and Motor of P/House at Varun Kunj
5.	Purchase of 25 Sq. mm cable for street light at STP Rithala
6.	Improvement of lighting arrangement at Kondli staff quarters
7.	Improvement of P/sets for water supply to staff quarters
8.	Installation of stand-bye sewage p/sets at Kondli staff quarters.
9.	Replacement of RCC Roofs floors old quarters attached to SDW
10.	Replacement of doors, windows and grills in the new staff quarters.
11.	Modification of kitchens, bathrooms including replacement of slabs w/cs and pipes.
12.	Rain water harvesting on the left out buildings of staff quarters.
13.	Strengthening of boundary wall at various sites of quarters/complex.
14.	Construction of additional rooms in TYPE V quarters for servants.
15.	Construction of parks at various sites of the staff quarters.
16.	Constn. of office building for EE(C)DR.IX at Zafrabad SPS
17.	-do- for EE(C)DR.XI at Zafrabad SPS.
18.	For miscellaneous work in trans Yamuna Area.
19.	Reconstruction of Divisional Office at Andha Mugal near Subzi Mandi in S.P.Z.
20.	Construction of Zonal Building at Motia Khan Store and related Small Works (for improvement) in S.P.Z.
21.	Repair / Reconst. Of Boundary Wall Store of Viveka Nand puri, K.B.Z.
22.	Madangir JJR, DDA Flats & RPS Colony
23.	Dakshinpuri & Madangir Vill., Dakshinpuri Extn.
24.	Const. Of Store at Khanpur W.No. 61
25.	Raising of Boundary wall of Ex-Engr(C) Dr. XV Office.
26.	Const. Of Staff Quarters at Model Town
27.	Const. Of Office Building for EE (C) Dr. II/XIV

28	Extn. Of EE (C) Office Building at Udyog Nagar
29	Const. Of store at Mangol Puri.
30	Const. Of B/ Wall & Development of store area at Behari Colony store at Shahdara
31	Pending liabilities for completed works

An outlay of Rs.300.00 lakh is approved for Annual Plan 2003-04.

4. STORM WATER DRAINAGE & ANTI FLOOD WORKS : (Rs.100.00 lakh)

In the 9th Five Year Plan the work of construction of major drains was with the Delhi Jal Board. But the works of storm water drains have been transferred to MCD (General Wing).

However the continued work/balance work and SW Drains of Model Town and Adarsh Nagar are to be carried out by the DJB for which a provision has been made in the Annual Plan 2003-2004.

List of major schemes/ works is given below at ANNEXURE – IV

ANNEXURE - IV

D. STORM WATER DRAINAGE & ANTI FLOOD WORKS	
1.	Remodelling of Barapulla Drain (Balance work payment etc. (EOT, Security etc.)
2.	Construction of storm water drain for Adarash Nagar group of colonies.
3.	Liabilities for completed works

An outlay of Rs.100.00 lakh is approved for Annual Plan 2003-04.

5. RENOVATION OF EXISTING PLANTS AND PUMPING STATIONS (Rs.300.00 lakh)

Sewage Treatment Plants at Keshopur (12, 20 & 40 mgd), Okhla Old (30 + 12 + 45 + 37 MGD), Kondli (10 MGD), Coronation Pillar (10 + 20 MGD), Rithala (40 MGD) are quiet old. Similarly, the Sewage Pumping Stations at Kilokri, Ring Road, Keshopur, Haiderpuri, Jagriti and Preet Vihar, etc. are quiet old and require renovation. The

buildings of these Sewage Pumping Stations and Sewage Treatment Plants as well as their staff quarters are very old and require renovation and refurbishment. These are to be taken up in 10th Five Year Plan. Renovation of Keshopur STP is to be taken up under YAP-II & work is likely to be awarded by May 2003.

List of major schemes/ works is given below at ANNEXURE – V
ANNEXURE - V

E. RENOVATION OF EXISTING PLANTS	
1.	Repair /Replacement of Header Line at 20 MGD P/House at Keshopur
2.	Repair /Replacement of Sluice Valves
3.	Renovation of Pump Sets of Raw /Return P/H at 20/40 MGD P/H
4.	Callibration of Relays and servicing of H.T. panel Yamuna Vihar STP
5.	Renovation of Biop-Filter Arms At 10 MGD NSTP Corronation Pillar
6.	Improvement of Power factor at various SPS under SE(SDW)II
7.	Renovation of Bar Screen at Haiderpuri SPS
8.	Renovation of Protection System at Rithala SPS Avantika
9.	Modification of 11 K.V. H.T. Panel at Rithala S.P.S.
10	Renovation of L.T.Panel Board at Haiderpuri SPS
11.	Renovation of L.T. Panel Board at Bharat Nagar SPS
12.	Renovation /Modifiaction of H.O.T. Crane at Haiderpuri/Avantika/Bharat Nagar SPS
13.	Purchase of Rotating Assembly for Bharat nagar / Avantika SPS
14.	Purchase of Impeller set at 5 MGD p/set at Avantika
15.	Renovation of Bridge for PST No. 2 & 3 at Rithala STP
16.	Renovation of H.T Panel protection system at Rohini sector 17 SPS
17.	Renovation of Gear Box at part A at Rithala STP
18.	Renovation of Pumps for Raw Sludge P/H at STP Rithala
19.	Renovation of Gear Box for Aeration Plant at STP Rithala
20.	Renovation of filterate p/ump No. 3 & 4 at STP Rithala
21	Renovation of V.Notch and Wear Plate for PST and FStat STP Rithala
22.	Renovation of Drip Traps for Digester and Gas Holder at STP Rithala
23.	Renovation of Pumps at NBPH
24	Renovation of H.T. Panels at AGPS

25.	Renovation of Aerators at VPKS,SPP
26.	Renovation of Pumps at Batla House P/H
27.	Renovation of Equipment of Well ponds
28.	Renovation of FST and Electrical equipment at Vasant Kunj STP
29.	Renovation of Electrical Pumps at Nigam Bodh
30.	Miscellaneous Works
31.	Renovation of Bar Screen and gates at Ring Road P/St.
32.	Renovation of H.T. panels at R.R.P.S.
33.	Renovation of 4 nos. pumps at Kilokari with Misc. works
34.	Renovation of Gates at Kilokari
35.	Misc. works viz. Installation of transformers
36.	Renovation of FST/PST at Kondli STP Ph. I
37.	Renovation of FST/PST at Kondli Ph. II
38.	Renovation of Bar Screens at various STPs/SPSs
39.	Renovation of H.T./LT Panels at STP/SPS
40.	Renovation of Power factor capacitors at STP/SPS
41.	Road work i/c WBM and Premixing at different sites of STPs/SPSs
42.	Improvement of Roofs i/c re-grading mud phaska and RCC and ACC works in the different buildings at STPs/SPSs.
43.	Rainwater harvesting on the left-out portions of plant buildings and preventive maintenance of existing system of harvesting.
44.	Construction and improvement of DJB land at various sites of STPs/SPSs
45.	Construction of additional rooms for stores and sitting arrangement i/c improvement of labs at various plants.
46.	Construction of parks at various plants and development of open sites.
47.	S/I and Commissioning of Motors at various pump units at 30.37, 45, 12 MGD Okhla
48.	S/I and Commissioning Valves, Penstock Gates and Header at 30 MGD Okhla
49.	S/I /C of various safety devices ,drip traps at Digestors ,Gas Booster at STP Okhla
50.	Renovation of Mukherji Nagar SPS
51.	Renovation of old SPS Adarsh Nagar

52	Renovation of 12/20/40 MGD STP at Keshopur
53	Repair of cracks in wall and column of 20 MGD SPS at Keshopur including consultancy.

An outlay of Rs.300.00 lakh is approved for Annual Plan 2003-04.

**6. LAYING OF INTERNAL SEWERS IN UNAUTHORIZED/
REGULARIZED COLONIES (BRANCH SEWERS)(Rs.2260.00 lakh)**

The sewerage services as per present policy are not being provided in unauthorized colonies and JJ Clusters. The present status of sewerage services in unauthorized/regularized colonies, are as under:

Out of 567 unauthorized/regularized colonies water supply system exists in 548 colonies and sewer lines have been laid in 427 colonies upto March-2002 and sewer lines likely to be laid in other 25 Colonies during 2002-2003. DJB has taken up a programme for laying of sewer lines in these colonies in a phased manner and the programme is likely to be completed by March 2005.

List of major schemes/ works is given below at ANNEXURE – VI

ANNEXURE - VI

F. LAYING OF INTERNAL SEWERS IN UNAUTHORISED/ REGULARISED COLONIES (BRANCH SEWERS)	
1	P/L internal sewer in Jagjit Nagar
2	-do- in E&F Block, Pandav Nagar.
3	-do- peripheral sewer in Hanuman Marg, Shd.
4	-do- in West Azad Nagar
5	-do- in West Kanti Nagar
6	P/L internal sewer in Ganwari Extn., Harkesh Ngr., Zafrabad & Chauhan Bangar
7	-do- in Shastri Park, Near Seelampur, Shd.
8	-do- Kanti Nagar Extn.

9	P/L internal sewer in Ganwari Extn., Harkesh Ngr., Zafrabad & Chauhan Bangar
10	-do- in Shastri Park, Near Seelampur, Shd.
11	-do- in Kartar Nagar.
12	-do- in Ambedkar Basti, Shd.
13	-do- in Durgapuri Extn. & Nathu Colony
14	-do- in Mohan puri, Kachi colony, Maujpur Extn. Vijay Col., Adarsh Mohalla, Maujpur Complex, Shd.
15	- in C&D block, Bhajanpura, Shd.
16	do- in K-block, North Ghonda.
17	-do- in Subhash Mohalla group of colonies.
18	-do- in Ghonda Extn., part of Maujpur Extn. Part of Gurudwara Mohalla, Ashok Mohalla and Ambedkar basti in Maujpur Ph.II
19	-do- in Vijay Mohalla, Bunjra Mohalla, Subhash Mohalla, Chauhan Bangar(East) Zafrabad
20	-do- in Vijay Park(Vijay Colony)Part.II, Complex
21.	-do- in Anand Mohalla, Jain Mohalla, Gian Nagar, Shd.
22.	-do- in Raghubarpura-II, Anand Mohalla & West Seelampur, Shd.
23	-do- in Ajit Nagar, Kapoor Basti, Subhash Mohalla in North Gandhi Nagar, Shd.
24	-do- in Naveen Shd. Group of colonies.
25	-do- in Kabir Nagar & North Chhaju Pura
26	-do- in (M-Block, Seelampur, Outfall J&H block, Jai Parkash Nagar, Gali No.3 & 7 to 12 H Block, Jai Parkash Nagar.
27	-do- in Uldhanpur, Dwarka Pura, Gorakh Park, West Babapur, Left out portions.
28	-do in West Jyoti Nagar
29	-do- in Noor-E-Elahi
30	-do- on Mandoli road & Super Bazar road up to 350mm dia peripherl sewer line in Ashok Nagar Shahdara.
31	-do- along 52 cusec drain & gali No.1 of Bhagwanpur Khera & School gali and Branch gali No.1 of Ram Nagar, Shd.
32	P/L internal sewer in gali No.1A, D,C & J block, Gali No.1 to 8, L-block, Jai Prakash Nagar, Gamri Extn. & Harkesh Nagar, Arvind Nagar, Vijay colony, Maujpur, Sanjay Mohalla and Subhash Mohalla(left out portions).

33	P/L internal sewer in Basti BhikamSingh and Vishwas Nagar Extn.
34	P/L sewer in Naveen Shahdara, Harikishan Nagar, Kuldeep Nagar, etc.
35	P/L internal sewer in left out portion of C-4 Block & C-block, Bhajanpura, Yamuna Vihar.
36	-do- E-block, Pandav Nagar, left out portions.
37	-do- Modern Shahdara, Sri Ram Nagar & Kumayun Square(left out portions)
38	-do- in East Old Seelampur
39	P/L missing link in Lalita Park, Ramesh Park D-Block, Laxmi Nagar, J&K Block, M-Block, Gaurav Park, Ramdass Nagar, & Mangal Bazar.
40	Imp. Of S/System by constructing of Addl. M/H Lalita Park, Mangal Bazar, M-Block.
41	Imp. Of S/System by constructing of addl. M/H in Aram Park, New Lahore Shashtri Nagar, S.N. Park, Rani Garden.
42	Desilting of peri. S/L in Lalita Park, M-Block P.D. Vihar of PNB Colony
43	Imp. Of S/System in ward No. 77 AC-42 Shd.
44	Replacement of S.W. Pipe by 250mm dia S/Line in R-Block J&K Pkt. Dilshad Garden.
45	Making I/Connection of 300mm dia for making S/System functional in B-Block Dilshad Garden.
46	Making I/Connection of 250mm dia Const. Of Addl. Man Hole in Vishwas Nagar
47	P/L 300mm dia for making S/System functional in Gali No. 4, Vikas Nagar.
48	Imp. Of S/System in Bahubali Surajmal Vihar & Yojana Vihar.
49	Desilting of S/L at Narwana Road Mandawali 600mm to 1100 mm dia.
50	Imp. Of peri. S/Line of societies in Mayur Vihar Phase-I
51	Imp. Of S/System by laying of 950mm dia sewer in B-Block Vivek Vihar Phase-II, AC-44 Shd. (S)
52	P/L missing link sewer line in Acharya Niketan, Shashi Garden, AC-38
53	Improvement of sewerage system in Kabool Nagar in Shahdara (N) Zone.
54	Replacement of old sewer line near D.C.P. Office welcome Seelampur
55	P/L internal sewer line part of Bhagwanpur Khera, Ram Nagar Group of Colony.
56	P/L Defective/Leftout sewerline in B-2 & B-3 Block in Yamuna Vihar.

57	Miscellaneous maintenance works in Shahdara.
58	Improvement of sewer system at G-Block Kalkaji Central Zone
59	Improvement of sewer system at Kalkaji Extension Block No. 9, 10 Ward No. 12
60	Improvement of sewer system at B-Block Kalkaji Central Zone
61	Improvement of dr. sys. In Katra Deena Beg in Ward No. 111 City Zone
62	Improvement of dr. sys. In from Frash Khana to Rod Gran, W.No. 111 City Zone
63	Improvement of dr. sys. In from Katra Bala Mal to Chawri Bazar, W.No. 11, City Zone
64	Improvement of dr. sys. In Bari Bara Dari, Ward No. 111, City Zone
65	Imp. Of dr. sys. In Katra Guffur Baux, Mohalla Niyarain, W.No. 11 City Zone
66	Imp. of dr. sys. Of Khari Baoli Foot Path Barrel, Ward No. 111, City Zone
67	Imp. of dr. sys. of Katra Badiyan Barick Barrel, Ward No. 111, City Zone
68	Imp. of dr. sys. from Fire Station to Filmistan at Rani Jhansi Road
69	Imp. of dr. sys. on Chamelian Road
70	Imp. of dr. sys. at Naya Bans Main Road
71	Imp. of dr. sys. at Sadar Nala Road
72	Imp. of dr. sys. in Laxmi Narain Mandir, Ahata Kidara
73	Imp. of dr. sys. in Nai Masjid (Al-Quresh), Ahata Kidara
74	Imp. of dr. sys. in Gali Jharsya (Jharsanya), Gali No. 11, Sadar Bazar
75	P/L sewer line in W/R colony, Nehru Nagar and part of Baljeet Nagar, K.B. Zone C-70 including R.R. Charges
76	P/L 900 mm dia across Rail crossing Prem Nagar at Rama Road
77	P/L peripheral sewer line of Prem Nagar at Rama Road i/c R.C. Charges
78	Replacement of sewer line of 100 Qtrs. Main sewer line near Daryai nalla from 11A block to Vishnu Mandir Marg in C-68, K.B. Zone/
79	Replacement of sewer line at Minilitary Road, Bapa Nagar C-68, K.B. Zone
80	Replacement of sewer line from D.B. Gutpa Road to Khazoor Road at Joshi Road in C-68, K.B. Zone
81	Replacement of sewer line in DTC Colony (part) C-66 K.B. Zone
82	Replacement of sewer line from Prushe Hali to Gurudwara in Ranjeet Nagar
83	Replacement of sewer in LIG flats in Parsad Nagar C-66, K.B. Zone
84	Improvement of sewer system in X, Y and Z block, Loha Mandi

85	Improvement of sewerage system between Toda Pur and Inder Puri, C-67, K.B. Zone
86	Replacement of sewer line at Pump House Road, C-66, New Rajender Nagar
87	R/change old brick barrel Main Bazar Pahar Ganj Ward Number 108, S.P. Zone
88	R/change of old brick barrel in Mohalla Nihariyan Ward Number 107, S.P. Zone
89	R/change of old sewers in Gali Lamb Ward No. 107, S.P. Zone (Shatara Glai)
90	R/change old damaged sewer lines in Gali No. 3 to 10
91	R/change of old damaged sewer lines at Fasil Road Ward No. 107, S.P. Zone
92	R/change Old damaged sewer lines in Begchi Ram Chander (all small street (balance) in Ward No. 108, S.P. Zone
93	Rani Jhansi Road, S.P. Zone
94	Replacement of sewer line at Gaushala Road, SPZ
95	Replacement of sewer line at East Park Road upto Rohtak Road, S.P. Zone
96	Replacement of sewer line in Doordarshan
97	Replacement of sewer line in Jhandewalan
98	Replacement of sewer line in Mank Pura, S.P. Zone
99	Replacement of sewer line in Nabi Karim, Amar Puri Chinot Basti
100	Replacement of sewer line in Ram Nagar
101	Replacement Improvement of S/Sytem at Green park
102	Repl. & Imp. of S/System at Green Park Extn.
103	Repl. & Imp. of S/System at Himapupur Village
104	Repl. & Imp. of S/System at Bhikaji Cama P. Arjun Nagar
105	Repl. & Imp. of S/System at DDA Flats Munirka
106	Repl. & Imp. of S/System at Chirag Delhi Village
107	Repl. & Imp. of S/System at Hauzrani Village
108	Repl. & Imp. of S/System at Savitri Nagar Adhchair Vill.
109	Imp. of S/System in H Block D,E & F Block Daskhimpuri
110	Imp. of S/System in J-II, H-II, A-II Madangir
111	Imp. of S/S in Khanpur Village
112	P/L S/L in Madangir DDA Flats
113	P/L S/L in RPS Colony
114	Repl. of S/System of A & C Block Tigri

115	Repl. of S/S of D Block Tigri
116	Imp. of S/Line of E & F Block Tigri
117	Repl. of S/System of B, H Block Tigri
118	Imp. & Repl. of existing 100/150mm dia S/L Sec. III R.K. Puram
119	Imp. & Repl. of existing 100/150mm dia S/L Sec. II. R.K. Puram
120	Imp. & Repl. of existing S/S in Munirka Village
121	Imp. & Repl. of existing S/S in Vasant Kunj Village
122	Imp. & Repl. of existing S/S by rainsing & tracing of M/H in Vasant Vihar
123	Imp. & Repl. of S/L in Village Katwaria Sarai
124	Imp. & Repl. of S/L in Lado Sarai
125	Imp. & Repl. of S/L in Ber Sarai
126	Imp. & Repl. of S/L in Mehrauli Village
127	Imp./Repl. of existing 150/250mm dia S/S at E.F.G.H. & I Block of Nanakpura
128	Imp./Repl. of existing 150mm dia into 250mm dia at Sector-I,V, VI, VII, VIII, IX & XII at R.K. Puram
129	Repl./Imp. of S/System in Gr. Kailash Park – I
130	Repl./Imp. of S/System in East of Kailash (C,D,EF, & G Blocks)
131	Imp. of S/S in Kailash Colony / Kailash Hills
132	Imp./Repl. of S/S in Zamroodpur & Shapurjat Vill.
133	Repl. / Imp. of S/L in Saket
134	Imp. of S/System in Gautam Nagar
135	Repl./Imp. of S/S in Hauz Khas
136	Imp. / Recd. Of S/S in Malviya Nagar
137	Imp. / Repl. of S/System in Masjid Modh, Jai Sarai Kalu Sarai/ Begampur Village
138	Repl. of S/Line at Nehru Place area
139	Augmentation of S/Lines at Swami Nagar W. No. 12
140	P/L 600mm dia S/Line from Chittli Qabar to Turkman Gate, Delhi.
141	P/L Internal Sewer in Khanpur Extn. And Bara Mohalla
142	P/L Internal Sewer in Krishna Park.
143	Improvement of outfall sewer of Nehru Nagar C-6, Central Zone.
144	P/L internal sewer in Nangloi Extn. (West) and Dharma Colony in Nangloi group of colonies

145	P/L sewerage system in Yadav Nagar unauthorized/regularized colony
146	P/L sewerage system in Rajendra Park, Ratan Park, Tyagi Colony and Friends Enclave Part-2
147	Addl. Outfall/relief sewer line for Wazirpur JJR
148	Replacing existing 6" dia sewer in Kamla Nagar
149	Replacing 6" dia sewer in Roop Nagar
150	Replacing 6" dia sewer in Timar Pur
151	P/L 450mm dia outfall sewer for Indra Vikas Colony
152	P/L internal sewer in Village Narela.
153	P/L internal sewer in Swatantra Nagar in Narela Mandi Extn. (Part) in Narela Zone
154	P/L T/Sewer for Uttam Nagar group of colonies.
155	Improvement of sewerage system in Rajouri Garden Extn.
156	Improvement of sewerage system in Rajouri Garden
160	P/L sewerage system in Mohan Garden and Rama Park in Uttam Nagar Group of Colonies.
161	P/L internal sewerage system in Kiran Garden and Gulab Bagh.
162	Improvements of sewerage system in Shivaji Park.
163	P/L peripheral sewer in Jeevan Park
164	Improvement of sewerage system in Tilak Nagar
165	P/L 250mm dia internal sewer line in landless colony of village Bindapur
166	P/L/J internal sewer line in Dharampura, Roshanpura in Najafgarh.
167	P/L/J internal sewer in Palam group of colonies.
168	Liabilities for completed works
169	Trapping of sewage of Budh Vihar and carrying it by 300 mm dia CI rising main upto existing peripheral sewer at Poonth Kalan
170	Trapping of drains into SPS
171	Maintenance of various trappings

An outlay of Rs.2260.00 lakh is approved for Annual Plan 2003-04.

7. NON-CONVENTIONAL SOURCE OF ENERGY (UTILIZATION OF GAS AT VARIOUS PLANTS) : (Rs. 40.00 lakh)

Vaish committee has recommended for utilization of Bio-Gas at various Sewage Treatment Plants for generation of electricity which can be utilized for operating the STPs. It is proposed to appoint Consultant to prepare feasibility on the subject. Thereafter, the Bio-Gas engines for generation of electricity at various Plants would be taken up. The tenders for appointing Consultant have been invited and the same is under scrutiny. It is proposed to award the schemes of power generation on build, own & operate basis. The DJB will also explore the possibility of utilization of Bio gas produced at our various treatment plant for captive power generation which would result into generation of Revenue from such power plant by way of sale of Bio gas and viz-a-viz purchase of electricity from the DVB.

An outlay of Rs.40.00 lakh is approved for Annual Plan 2003-04.

8. GIA FOR SEWERAGE FACILITIES IN URBAN VILLAGES (Rs.500.00 lakh)

There are 135 urban villages and water supply exists in all of them. Sewer lines have been laid in 93 urban villages. Sewer lines in 3 more villages are likely to be laid by March-2003. It is not technically feasible to lay sewer lines in 32 Urban villages and laying of sewer lines in the remaining 10 urban villages is being implemented by DJB in a phased manner by March 2004. In case of village where it is not technically feasible to lay sewer lines, decentralized system such as Mini STPs, bio-digesters are proposed to be provided .

List of major schemes/ works is enclosed at ANNEXURE – VII

ANNEXURE – VII

GRANT-IN-AID URBAN VILLAGE	
1	P/L sewer line in Ganwari Village.
2	-do- in Tahirpur Village
3	-do- in Saboli & Mandoli Village,Shd.
4	-do- in Seelampur, Babarpur, Gazipur & Majupur Villages.
5	-do- in gali No.2,4 & 5 of Kaithwara Shahdara and Usmanpur Shahdara.

6	-do- in Garhi Mandu
7	P/L internal sewer in Chota Hasanpur
8	Making outfall connection, raising of manhole and commissioning of internal sewer in Gazipur Village.
9	-do- in Patparganj Village.
10	Imp. Of S/System in Kotla Village, AC-37.
11	Raising of ManHole in Khichri Pur Village
12	For future unforeseen maintenance works in Trans Yamuna Area.
13	Replacement of S/L in Toda Pur C-67 KBZ
14	Replacement of S/L in Dush Ghera Village C-67 KBZ
15	Replacement of S/L in Naraina Village C-67 KBZ
16	Madangir JJR, DDA Flats & RPS Colony
17	Dakshinpuri & Madangir Village Dakshinpuri Extn.
18	Providing/Laying Internal sewer in Vill. Jasola, Central Zone.
19	Liabilities for completed works

An outlay of Rs.500.00 lakh is approved for Annual Plan 2003-04.

**9. GIA FOR SEWERAGE FACILITIES IN RESETTLEMENT COLONIES
(Rs.200.00 lakh)**

There are 44 Resettlement colonies in Delhi and water supply exists in all of them. Sewer lines have been laid in 40 Colonies upto March-2002. Sewers are to be laid in the remaining 4 colonies in a phased manner by March 2004.

List of major schemes/ works is enclosed at ANNEXURE – VIII

ANNEXURE - VIII

H. GRANT-IN-AID RESETTLEMENT COLONY	
1	P/L internal sewer line in front of Toilet block in block No.11,12,13,16,18,19,20 & 21, in Kalyanpuri, RSC,Shd.
2	-do- 250mm dia sewer line in Block No.1-6, 8,28-30(leftout gali) and extra block 30 & 35,in RSC, Trilokpuri/Himmatpuri,Shd
3	-do- in extended portion of Trilokpuri RSC. P/L sewer line in Kondli/Trilokpuri,Shd.

4	-do- including Common Sewer & Constn. of Syphon system in Seelampur,Ph.I & II.
5	P/L missing links in old & new Seemapuri RSC, Shd.
6	P/L Temporary outfall connection from Gokalpuri, RSC
7	P/L i/s line in Sundar Nagri,RSC
8	P/L Internal sewer line in New Kondli RSC.
9	P/L 250mm dia S/L in Extra Block No. 31, Trilok Puri AC-37.
10	Imp. Of sewer ManHole in Kalyanpuri & Khichripur RSC.
11	Raising & Repairing of berried manholes of Peripheral sewer line at Nand Nagri (RSC) Shahdara (S) N.Division
12	Raising & Repairing of berried manholes in B-Block Nand Nagri Shd. (N) Zone.
13	Raising & Repairing of berried manholes in E-Block Nand Nagri Shd. (N) Zone.
14	Miscellaneous maintenance Works in Shahdara
15	Repl. Of Sewer Line in Braham Puri near13 A Block in C-68, K.B.Z.
16	Madangir JJR
17	Dakshinpuri & Dakshinpuri Ext.
18	Pending liabilities for completed works.

An outlay of Rs.200.00 lakh is approved for Annual Plan 2003-04.

10. TRANS YAMUNA DEVELOPMENT AREA BOARD (TYDAB) (Rs.700.00 lakh)

Govt. of NCT of Delhi vide notification dated 4.3.94 constituted trans yamuna area development Board to monitor the progress of work in Trans Yamuna Area. For execution of development works. The works are taken up with the approval of the TYADB.

List of major schemes/ works is enclosed at ANNEXURE – IX

TRANS YAMUNA DEVELOPMENT BOARD	
1	Remodelling of Radheypuri drain, Part-II
2	P/L internal sewer line in Brahampuri
3	-do- in Brahampuri 'X' block
4	Remodelling of Radheypuri drain Balance work,part III.
5	-do- in Gautampuri
6	P/L internal sewer in Jai Prakash Ngr.
7	-do- in Arvind Nagar
8	-do- in Kaithwara Extn., Bhagat Singh Colony & Jagjiwan Ngr.
9	Remodelling of Balbir Nagar Drain, Part-I
10	-do- Part-II
11	P/L int. sewer in Rohtash Ngr., West Rohtash Ngr., Rohtash Nagar Extn. & Part of Kabool Nagar
12	-do- in Balbir Ngr. & part of Balbir Nagar Extn., Shd.
13	-do- in Balbir Ngr. & Balbir Ngr. Extn. & part of Shivaji Park.
14	-do- in Sri Ram Nagar, Shd.
15	-do- in Durgapuri & Jagjiwan Ngr.
16	-do- in Raghubarpura-I, Mohalla Ram Nagar, Part of Chand Mohalla & Extn. & part of Raghubarpura-II of North Gandhi Nagar, Shd.
17	P/L int. sewer in Rajgarh, Rajgarh Extn., Chand Mohala, Rajgarh Extn.I & II in North Gandhi Nagar.
18	-do- in Dharampura, Shd.
19	-do- in Kailash Nagar, Shd.
20	-do- in part of Shanti Mohalla & Chand Mohalla
21	P/L int. sewer line in Chhaju par & East Babar pur
22	-do- in Jyoti Colony
23	-do- in West Babar pur
24	-do- in Partap Pura & Gorakh Park
25	L/J 500mm dia CI R/Main from Ghonda reach 500 P/H to R.I. Providing 500mm dia CI Pump fro Ghonda Reach 500 P/H to R/Y & Supply of CI specials.

26	Remodeling of Gokul pur drain
27	Allied Works
28	P/L 450-500mm dia sewer in Babarpur, Nathu Nagar, Shd.
29	P/L internal sewer in Bhajanpura Block- A&B.
30	P/L internal sewer in Jyoti Nagar.
31	P/L/J 450-600-700-800-900mm & Peripheral Sewer line on Ch. Fateh Singh Road
32	Constn. of 27.10 MGD SPS at Ghonda II near Ghonda Chowk
33	Balance work of Constn. of 12.4 MGD SPS at Ghonda
34	P/L common sewer for Shanti Mohalla, Rajgarh(part) and Chand Mohalla(part),Shd.
35	P/L internal sewer in Ghonda Village, Ghonda Chauhan Bangar
36	P/L internal sewer in Vijay Mohalla, Subhash Mohalla, Bajrang Mohalla (Part) & Zafrabad (part) in Maujpur Complex II
37	P/L internal sewer in Vijay Park (Vijay Colony) Part, Maujpur Complex
38	P/L internal sewer in Anand Mohalla, Jain Mohalla, Gian Nagar.
39	P/L internal sewer in Vijay Colony, Shahdara.
40	P/L internal sewer in Village Jhilmil, Tahirpur & Ambedkar Basti
41	P/L internal sewer in East Gorakh Park

An outlay of Rs.700.00 lakh is approved for Annual Plan 2003-04.

N . D . M . C

Converting of Nallah & Anti Flood Works

The Drainage system of New Delhi Municipal Council's 42.78 Sq. meter area is managed through 14 segments/systems divided with respect to the catchment area of each system and trunk drainage from system in each case carry the rain water discharge and all of sewer line through auxiliary drains up to the out fall through five outlets in MCD area for final disposal to the River Yamuna. The passing criteria for drainage system in New Delhi Municipal Council area is based on the recommendation contained in Reddy Committee's Report approved by the Govt. of India and quite substantial amount to this

(upto 80%) and drainage have been augmented/covered. Therefore, a systematic programme to desilt augmentation and improvement the SWD drains in New Delhi Municipal Council area is required to be taken up for which area pocket have been identified and are being taken up as detailed below: -

1. Augmenting the capacity of SWD System No. 1&6 to 11 and covering thereof. (Rs.25.00 lakh)

During the year 2003-04, the work of rainwater harvesting at Chanakya Puri shall be completed and the work at D I - D II, Satya Sadan, Golf Link and Khushak Nallah shall be taken up. The work of eco-friendly environment at nallah between AIIMS and behind Nauroji Nagar shall be taken up.

An outlay of Rs.25.00 lacs is approved for Annual Plan 2003-04.

2. Augmenting the capacity and Improvement to road side drains in NDMC area. (Rs.35.00 lakh)

During the year 2003-04, the work at Sarojini Nagar, Moti Bagh, round about of Chanakya Puri, outer circle from Connaught Place to Tolstoy Marg and improvement to road side drain with changing of old SWD pipes filled with silt in phases in NDMC area shall be taken up.

An outlay of Rs. 35.00 lacs is approved for the Annual Plan 2003-04.

3. Improvement to drainage system in NDMC Colonies (Rs.40.00 lakh)

The work of improvement to drainage system in Sector I, II, III and IV DIZ area, Sarojini Nagar, Netaji Nagar, Laxmi Bai Nagar shall be taken up during the year 2003-04.

An outlay of Rs. 40.00 lacs is approved for Annual Plan 2003-04.

4. Technical Repair and Desilting of SWD System in NDMC area (Rs.25.00 lakh)

Desilting and cleaning of (system No. 1 & 6 to 11) in NDMC area, and restoration of barrel between Q-Point to Dayal Singh College at Lodhi Road shall be taken up during the year 2003-04.

An outlay of Rs. 25.00 lacs is approved for Annual Plan 2003-04.

URBAN DEVELOPMENT DEPARTMENT

1. SETTING UP OF WATER MISSION AND USE OF NEW TECHNOLOGIES FOR CONSERVATION HARVESTING AND RECYCLING OF WATER (Rs.25.00 LAKHS).

(i). Although Delhi is situated on the banks of river Yamuna the availability of potables water is insufficient to meet growing requirements of Delhi. Delhi's water share is based on an agreement entered to in 1993 amongst the five basin States of Delhi, Haryana, Himachal Pradesh, Rajasthan and Uttar Pradesh.

Based on the present population the water requirement of Delhi is 800 MGD (million gallons per day). Against this the total water supply from all sources is 650 MGD. A water Treatment Plant at Sonia Vihar is scheduled to be completed by December 2003 and would increase the Water treatment Capacity by 140 MGD.

(ii). To augment the water supply the U.P.govt. have been approached for release of additional water from the Upper Ganga Canal by savings in situated through relining and re-furbishing of the existing line channel. The Govt. of Delhi is also working in consultation with the Govt. of Himachal Pradesh to get Renuka Dam Project cleared by the Govt. of India. So and to ensure additional raw water supply for Delhi. Besides this the Lakhvar Vyasi and Khesau Dam Projects are also under consideration of the Govt. of Delhi for bridging the gap between demand and supply of water.

(iii). Thus over the next 5-6 years, no addition in water availability is envisaged. This leaves water harvesting and water conservation as the only options for increasing the

water supply. This is why the Govt. of Delhi has been attaching importance to water harvesting and water conservation measures.

Rainfall in Delhi is approximately 670.5mm per year. The ground level is depleting due to over utilisation in some areas, thereby affecting the whole of Delhi, there is an urgent need for rainwater harvesting and promoting water conservation in a big way.

(iv). The local bodies have been asked to adopt water harvesting through storage of rainwater run off. In Delhi rainwater harvesting structures have been made mandatory for new buildings having area above 100 sq. metres by amending the Building Bye-Laws. It has also been made mandatory for all non-residential buildings having discharge of 10,000 litres per day to incorporate a wastewater recycling system. The recycled wastewater can be used for horticultural purpose.

(v). Since water harvesting and water conservation appear to be the only option to bridge the gap between demand and supply, Govt.of Delhi propose to give incentives/grants to Institutes/agencies/NGOs/RWAs for adopting the above measures, conducting research studies adopting new technologies for conservation of water and so on.

(vi). Technical Assistance-Delhi Jal Board has been identified as the nodal agency to impart all technical assistance needed for water harvesting structures in consultation with Central Ground Water Board.

(vii). Besides this, the Govt.of Delhi also proposes to publicise the importance of water conservation, arrange for wide publicity through pamphlets and electronic media campaigns. School/college students are proposed to be enlisted for inculcating and spreading the message of water conservation. Incentives may also be given to the best achiever in the zone.

(viii). (a) Grant will be given to Institutes/agencies/and incentive to house-owners for adopting water harvesting measures and or incentives will be given for conducting research studies in the field of water harvesting and water conservation.

In the first phase the RWAs of South and South-West Districts, being the worst affected areas, would be taken up. Interested RWA with design plan duly approved by

CGWA will apply to concerned zonal officer of DJB. The applications so received would be examined by a Committee comprising of officers from U.D.Dept., Finance Dept., C.M.Office, Delhi Jal Board and CGWB (Officer-incharge Delhi Unit) under Member (WS), DJB. The Committee shall also undertake site inspection for ascertaining the feasibility/applicability of the scheme.

The financial assistance in the shape of grant to be given to the RWA, would be the 50% of the total cost of the project subject to a maximum of Rs.50000/-. The financial assistance would be given to the RWAs only after the completion of the project and to the satisfaction of the committee. The rainwater harvesting structures so constructed would be maintained by the respective RWAs. The RWAs before getting the financial assistance would have to enter into an agreement with the Govt. that the proper maintenance would be ensured by them at all time. If at any stage any RWA is found wanting in this, other benefits would not be provided to them by the Government.

(b) Financial incentives to best achiever in the field of water conservation from amongst school children of class VI onwards may be worked out at various levels depending upon the coverage e.g. zone-wise, Distt.-wise and state-wise.

(c) Funds can also be utilised for publicity including the conduct of seminars, workshops, distribution of pamphlets, press advertisements etc.

To achieve the above targets/objectives, the scope of the plan schemes should be suitably enlarged.

An amount of Rs.25.00 lakhs is approved for the Annual Plan 2003-2004.

2. Yamuna River Authority (Rs. 25.00 lakh)

It is proposed to set up a Yamuna River Authority which could take care of development of river beds, reduce pollution in Yamuna, develop river banks as tourist spots etc. The draft legislation on Yamuna River Authority is yet to be prepared. It has been decided that a Consultant may be appointed preferable from CWC or WAPCOS whose terms and conditions may be finalised.

An outlay of Rs. 25.00 lacs has been approved for the implementation/ formulation of the scheme for Annual Plan 2003-04.

3. Reformative Restructuring of DJB (Rs. 25.00 lakh)

It is proposed to undertake reformative restructuring of DJB so that it could function as financially viable, technically sound and can meet the requirements of population of Delhi in a befitting manner.

An outlay of Rs.25.00 lacs is approved for Annual Plan 2003-04.