Revitalizing the Yamuna

3 Protective Biodiversity zone

3 Biodiversity Parks

1 Public Zones

4 Signature Bridge

2 Public Recreational Zones

5 Riverside Promenade

by

R.G. GUPTA

CITY/POLICY PLANNER

APRIL 2010

1 Public Zones

DEVELOPMENT OF RIVER

Yamuna

Yamuna

FOUR PARTS

PART 1
TO INCREASE QUANTITY OF WATER

PART 2
TO CLEAN WATER TO IMPROVE ITS QUALITY

PART 3
TO DEVELOP INDRAPRASTHA PAURI
NEAR C. POWER STATION

PART 4
REVITALIZING THE YAMMUNA RIVER
FRONT PROPOSAL OF DDA (TOI)

RIVER YAMMUNA FROM WAZIRABAD TO JAITPUR

R.G. GUPTA; CITY/POLICY PLANNER; APRIL 2010

PERSPECTIVE PLAN OF WATER BY 2021 AD

Yamuna

PROBABLE QUANTITY

1	FROM GANGA	=	200 MGD
2	BY STORING WATER IN RIVER	=	800 MGD
3	ADDITIONAL WATER FROM HARYANA	=	150 MGD
4	RAINY WELL ETC	=	30 MGD
5	ON CHANNEL & OFF CHANNEL	=	150 MGD
6	GROUND WATER	=	200 MGD
7	WATER FROM 373 EXISTING PONDS IN DELHI	=	*

TOTAL = 1530 MGD + *

OBJECTIVES

1. INCREASE QUANTITY OF WATER TO A LARGE EXTENT, TO GET BLESSINGS OF LAKHS OF PEOPLE.
2. TO CLEAN WATER TO IMPROVE ITS QUALITY & ULTIMATELY HEALTH OF PUBLIC AT LARGE.
3. TO DEVELOP INDRAPRASTHA PAURI TO REVIVE GEETA NEAR C. POWER STATION.
4. TO DEVELOP BIODIVERSITY PARKS, SMALL & BIG LAKES TO HAVE CONTROLLED CLIMATE – PROPOSAL OF DDA

MAIN PARAMETRES

1	50 kmt. with half in north & the balance in the south of Wazirabad Barrage
2	1.5 kmt. to 3 kmt.
3	97 sq.kmt.
4	16.45 sq.kmt.
5	80.55 sq.kmt.
6	(i) Wazirabad barrage – 455mts.; (ii) ISBT road bridge- 552mts.; (iii) Old rail-cum-road bridge – 800mts.; (iv) Indraprastha barrage -552mts.; (v) Metro bridge ----; (vi) Nizamuddin railway bridge- 578mts.; (vii) Nizamuddin road bridge- 549mts.; (viii) Okhla weir- 791mts.; (ix) Okhla barrage - 554mts.

Yamuna

PART ONE

TO INCREASE QUANTITY OF WATER

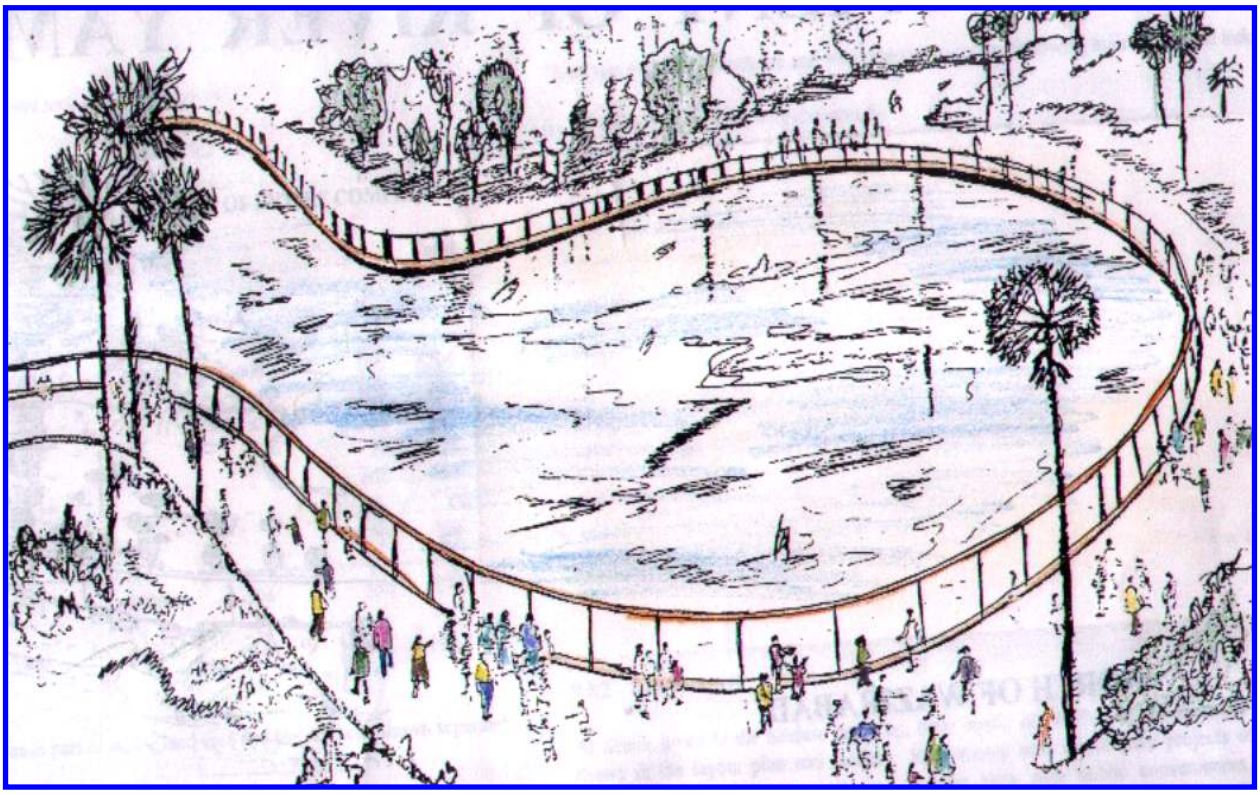
Yamuna

TO INCREASE THE QUANTITY OF WATER TO 1300 TIMES

AREA NORTH OF WAZIRABAD

R.G. GUPTA; CITY/POLICY PLANNER; APRIL 2010

VIEW OF LAKE



PRESENT POSITION

LENGTH IN THE NORTH OF WAZIRABAD BARRAGE IS 50% = 25 Kms

- Delhi-Haryana Boundary in the North
- LMB and RMB in East & West
- Wazirabad Barrage in the South
- No sewage drain fall in this part
- Jal Board control the water quantity and quality and is a main source of water

PROPOSAL

1. A barrage is proposed to be constructed about 8 km North of Wazirabad Barrage to control River Yamuna Water
2. Existing LMB & RMB be used as Eastern & Western boundary of the new water body/Lake
3. Entire area between left & right boundary of the lake will be full of water with depth between 4 to 5 M by dragging.
4. In the Northern boundary Expressway will be there.
5. Toward Eastern & Western side new highways are proposed as a boundary of the scheme.
6. This area would have more than 1300 times water, which can partly be used for surface water and ground water.
7. Ground water will be used for by the people of NCTD as well as U.P.
8. It is assumed that U.P. will handover this part of the land free of cost or on nominal price @ Rs. 1 per sq. yard

9. Left out portion will be used for (i) Recreational areas; (ii) Biodiversity parks; and (iii) some large green buildings

10. QUANTITY OF WATER AT PRESENT & AFTER THE PROPOSAL

10.1. Present Position

At present the quantity of water is in 1645 hect. with a depth between 1.5M to 2.0M. On this basis volume of water would be 1645 hect. x 1.75 M = 2. 88 X 10^5 Cubic Meter in the entire River Yamuna in the portion of NCTD.

10.2. Out of this 60 % i.e 1.73 lakh cubic metre is in the north of existing Wazirabad barrage and the balance in the south. This water quantum in the north is proposed to be increased to 2255 lakhs cubic meter.

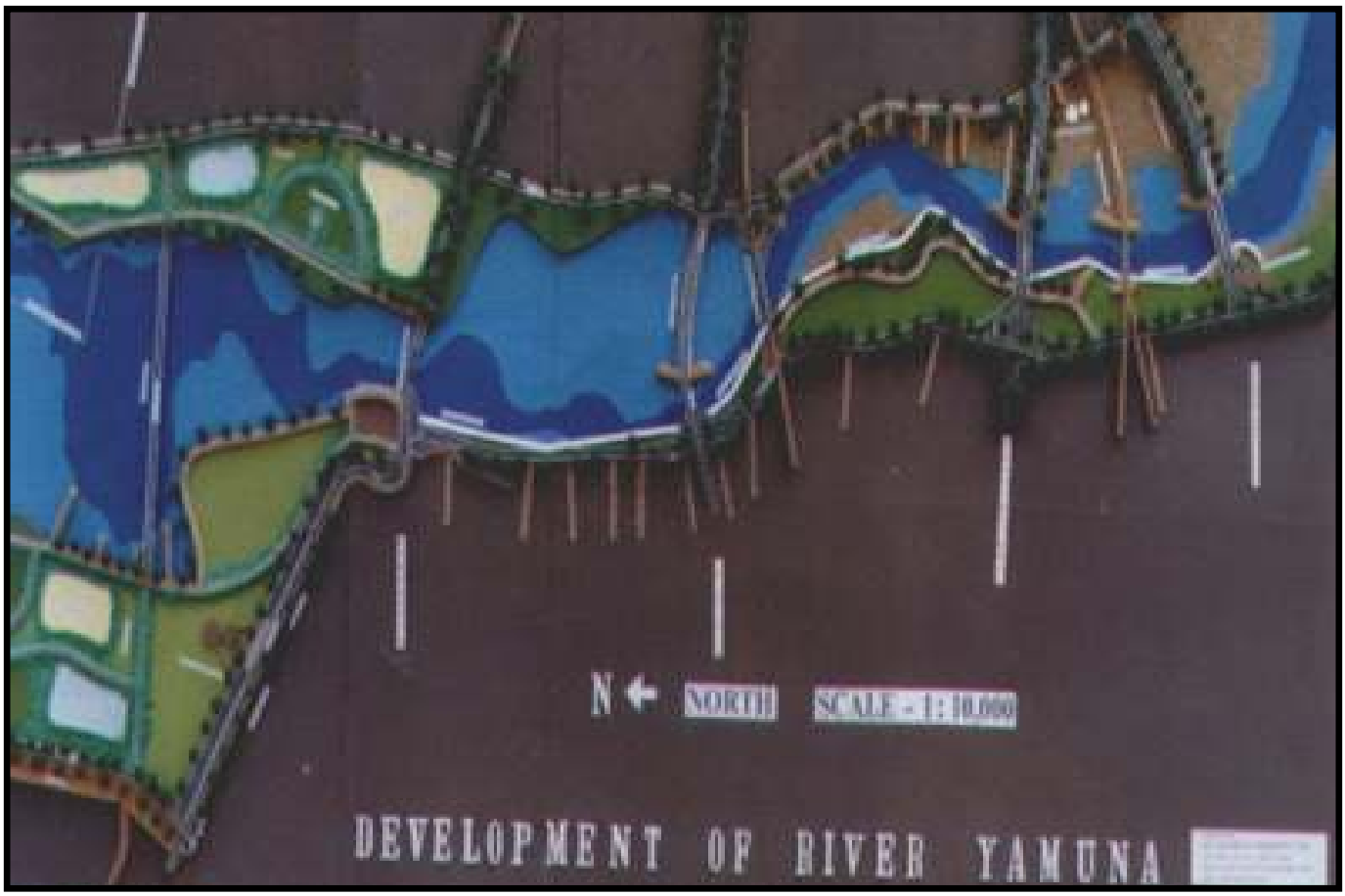
10.3. Area in the North of Wazirabad barrage is drastically changed by increasing the surface area of water and depth to an average of 4.5 M. Water quantum would be = 5012 hect.(surface area of the new lake) X4.5 M = 2255 lakhs cubic meter. 1300 times.

Yamuna

PART TWO

TO CLEAN WATER TO IMPROVE ITS QUALITY

MAKE IT CLEAN WITH A NEW RCC CONVEYANCE SEWAGE SYSTEM STRUCTURE OPEN TO SKY WITH 2.5 M BASE, 2.5 M HIGH RCC WALLS



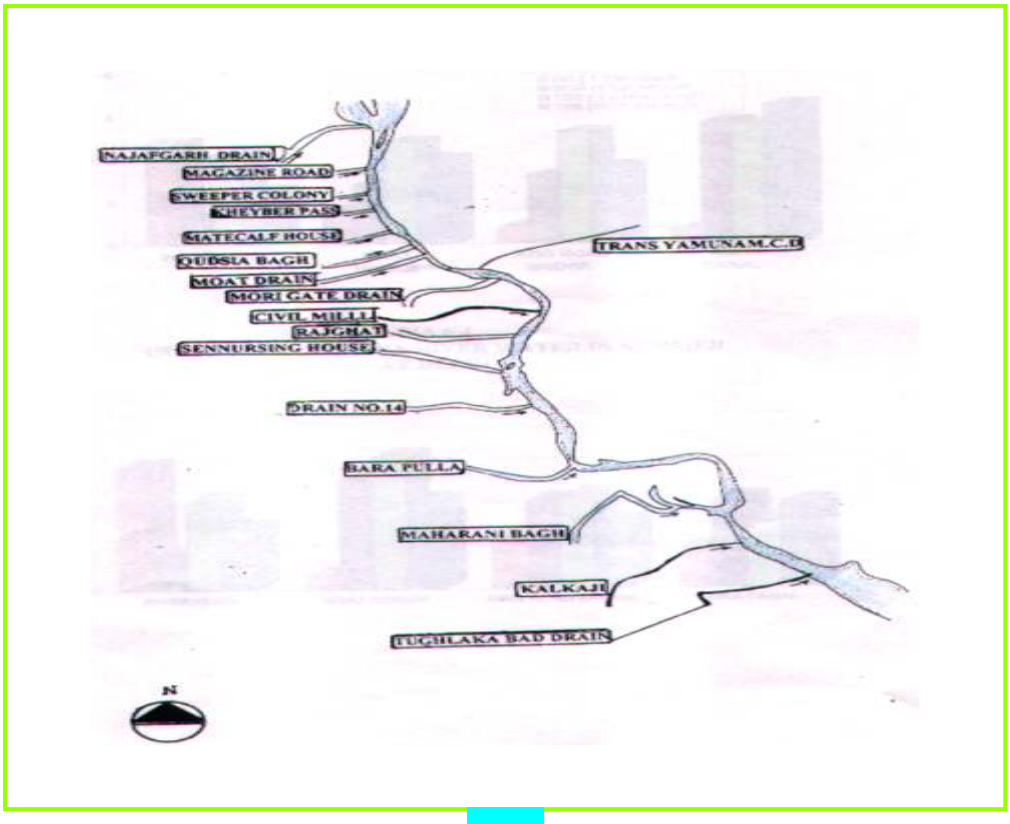
FROM WAZIRABAD TO JAITPUR

PRESENT POSITION

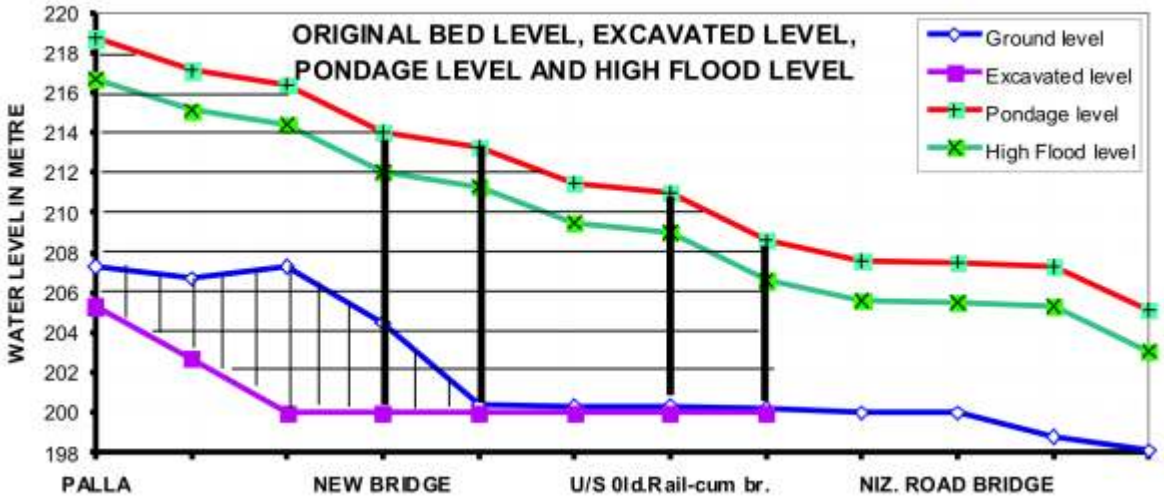
MAJOR DRAIN FALLING IN RIVER YAMUNA

1. No drain towards left marginal bund
2. From Wazirabad barrage to Tughalakabad there are 16 drains namely: (i) Najafgarh drain; (ii) Magazine road; (iii) Sweeper colony; (iv) Kheyber pass; (v) Matecalf house; (vi) Qudsia bagh; (vii) Moat drain; (viii) Mori gate drain; (ix) Civil Mill; (x) Rajghat; (xi) Sen Nursing Home; (xii) Drain no. 14; (xiii) Bara Pulla; (xiv) Maharani Bagh; (xv) Kalkaji; (xvi) Tughalakabad drain.

MAJOR DRAINS FALLING IN RIVER YAMUNA

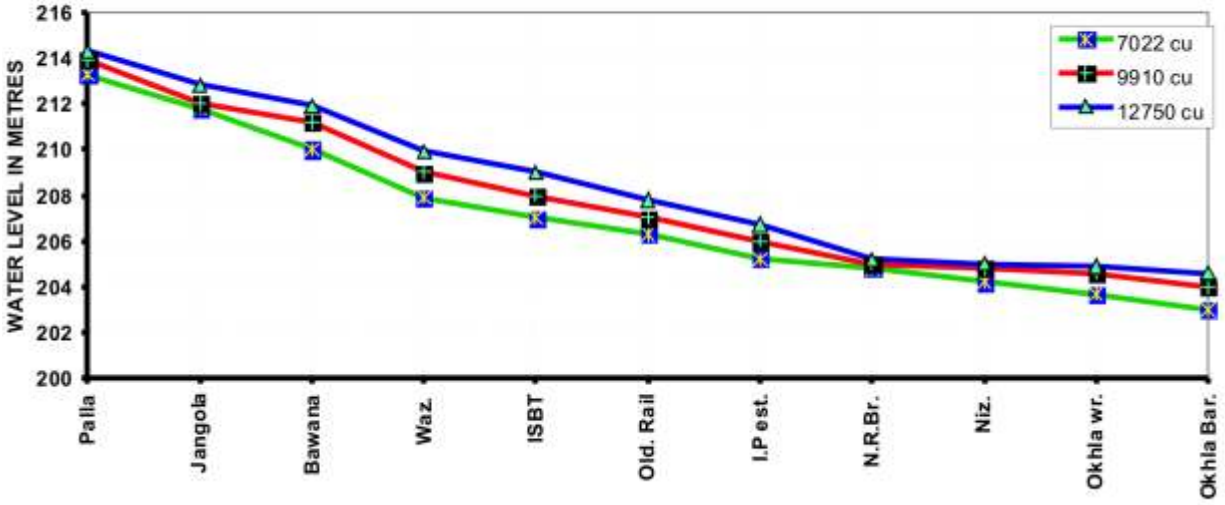


ORIGINAL BED LEVEL, EXCAVATED LEVEL, PONDAGE LEVEL AND HIGH FLOOD LEVEL



GROUND LEVEL, EMBANKMENT LEVEL AND HIGH FLOOD LEVEL

WATER LEVEL OBSERVED AT VARIOUS STRUCTURE IN DIFFERENT FLOWS



CU :CUMECS **SOURCE : CW&PRS-PUNE**

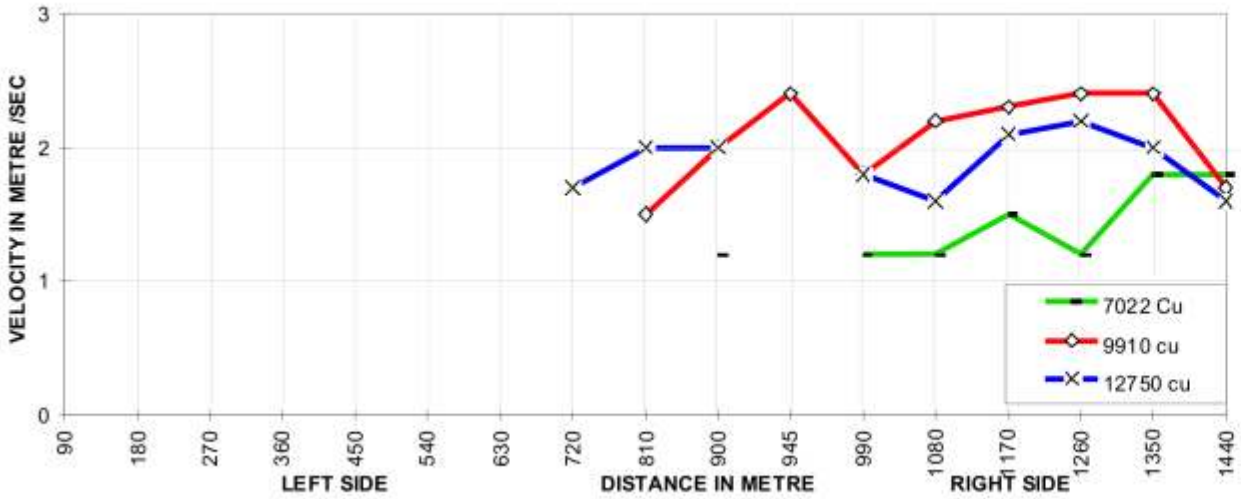
INFERENCES

i. **With the increase in flow of water, there is rise in the water level**

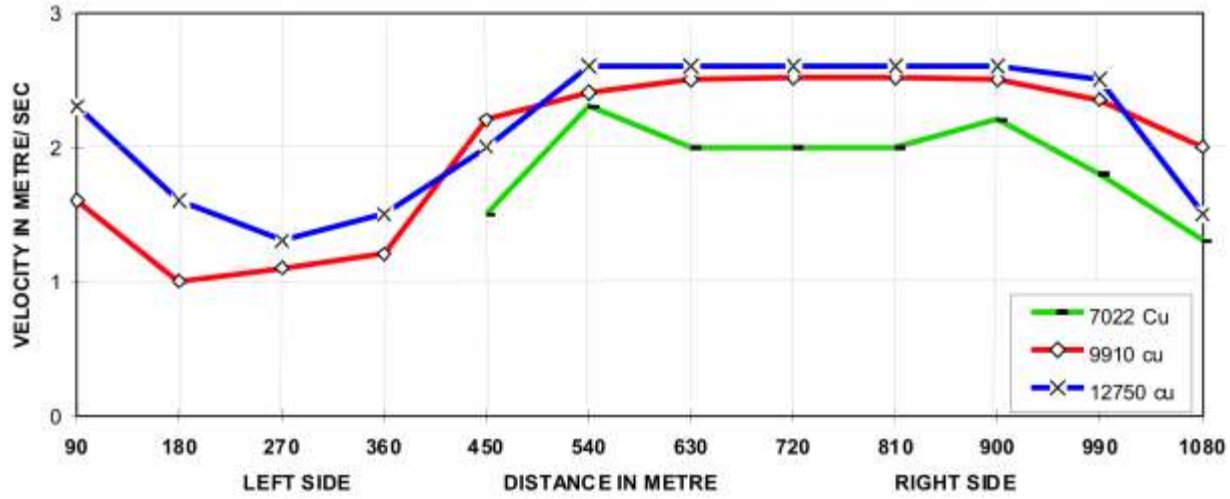
ii. **Maximum rise in water level is 2.25 m**

iii. **While designing a structure these level have to taken care of**

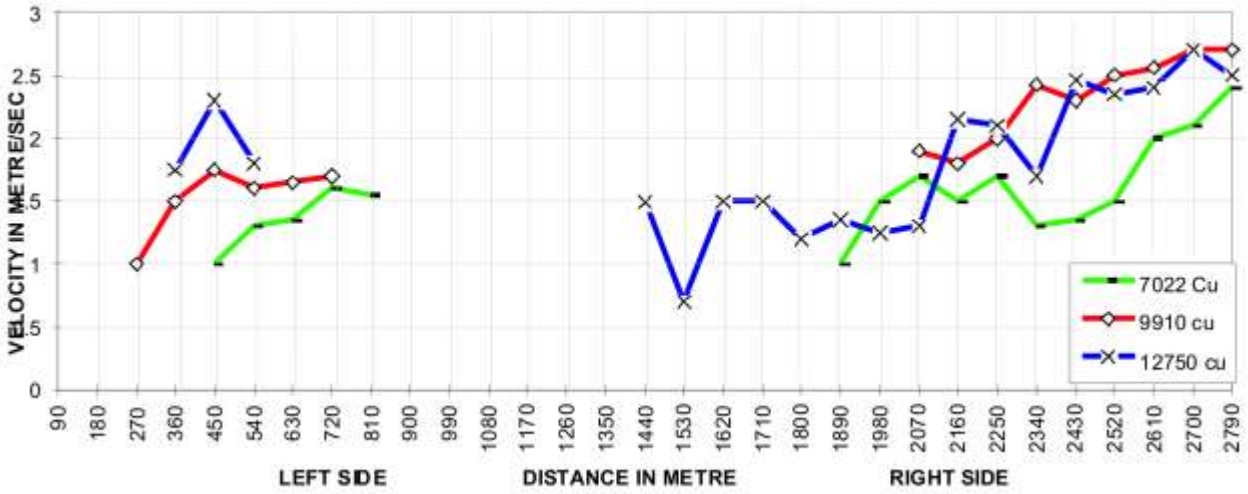
VELOCITIES AT 15.5 KM U/S OF WAZIRABAD BARRAGE



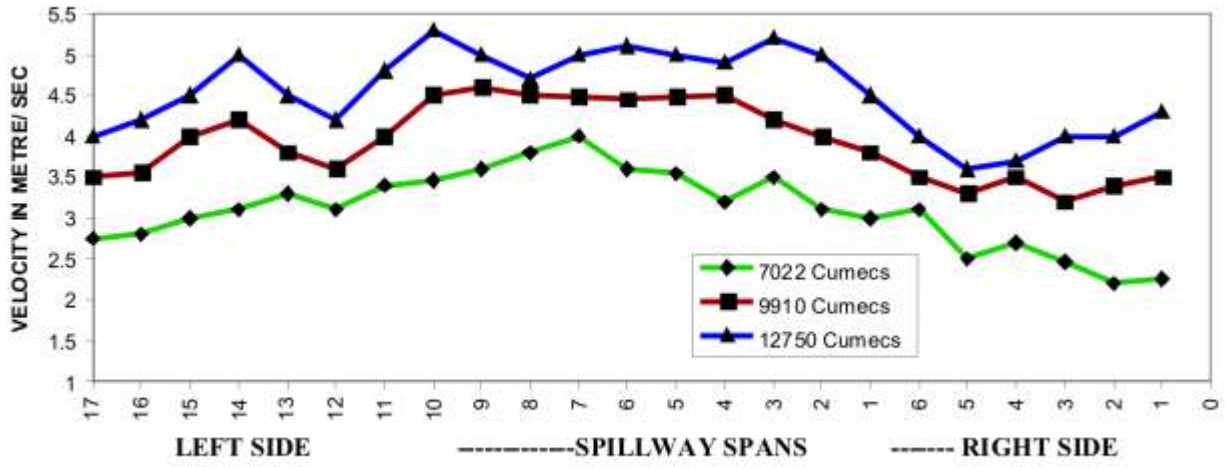
VELOCITIES AT 11.5 KM U/S OF WAZIRABAD BARRAGE



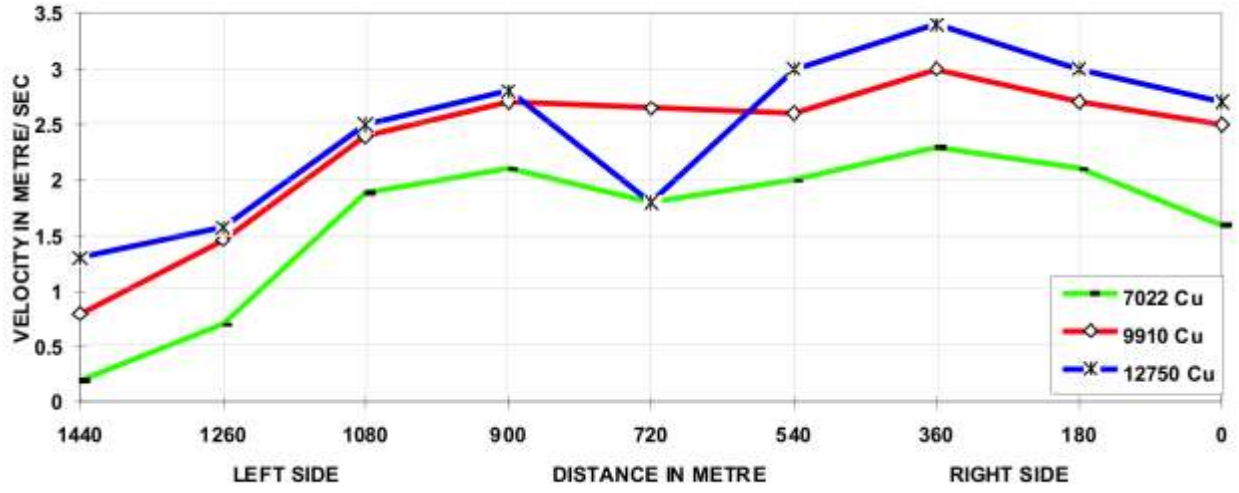
VELOCITIES AT 6.5 KM U/S OF WAZIRABAD BARRAGE



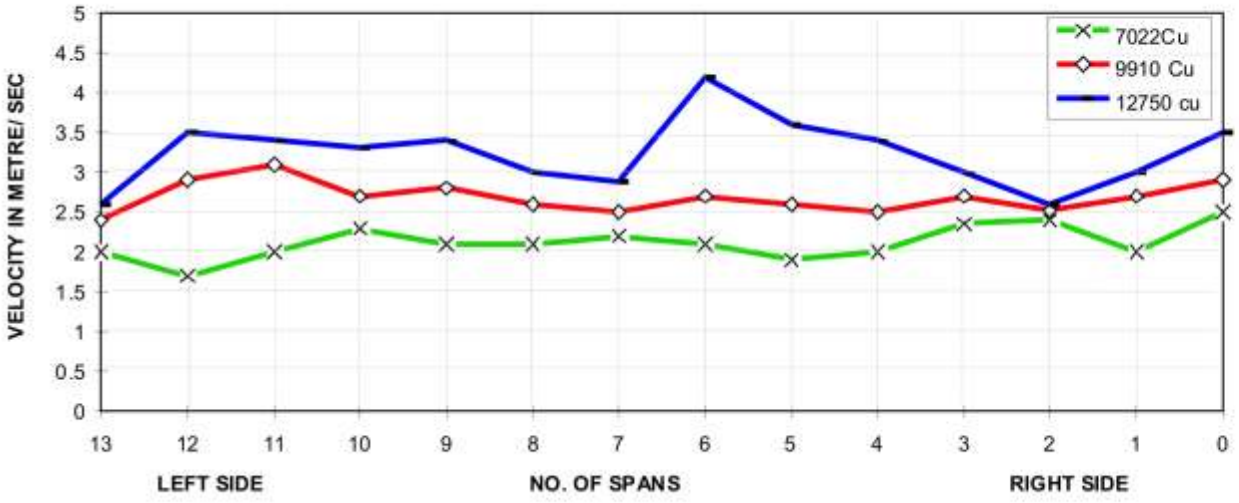
VELOCITIES AT WAZIRABAD BARRAGE



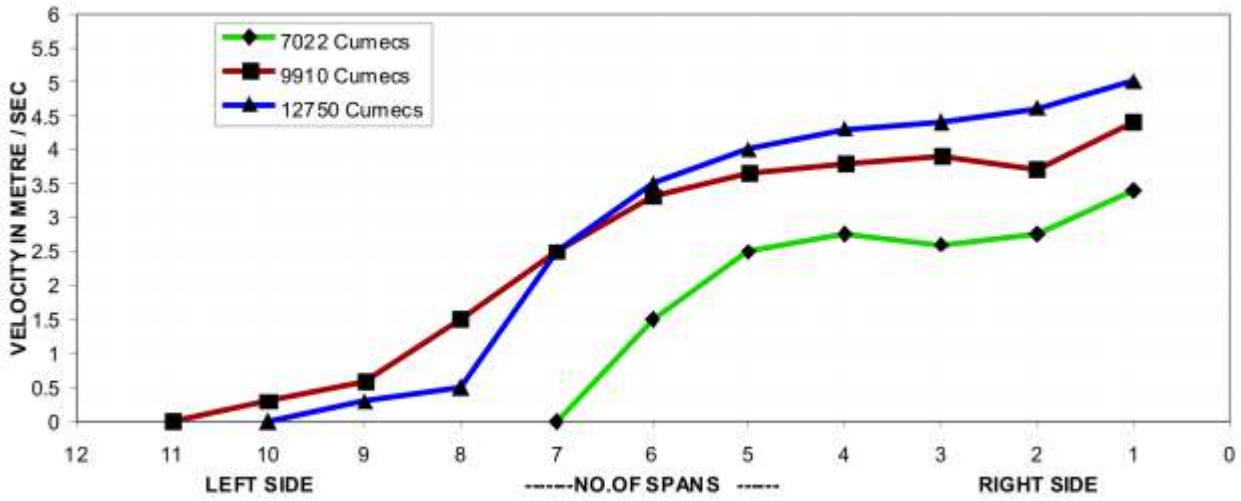
VELOCITIES AT 2.5 KM D/S OF WAZIRABAD



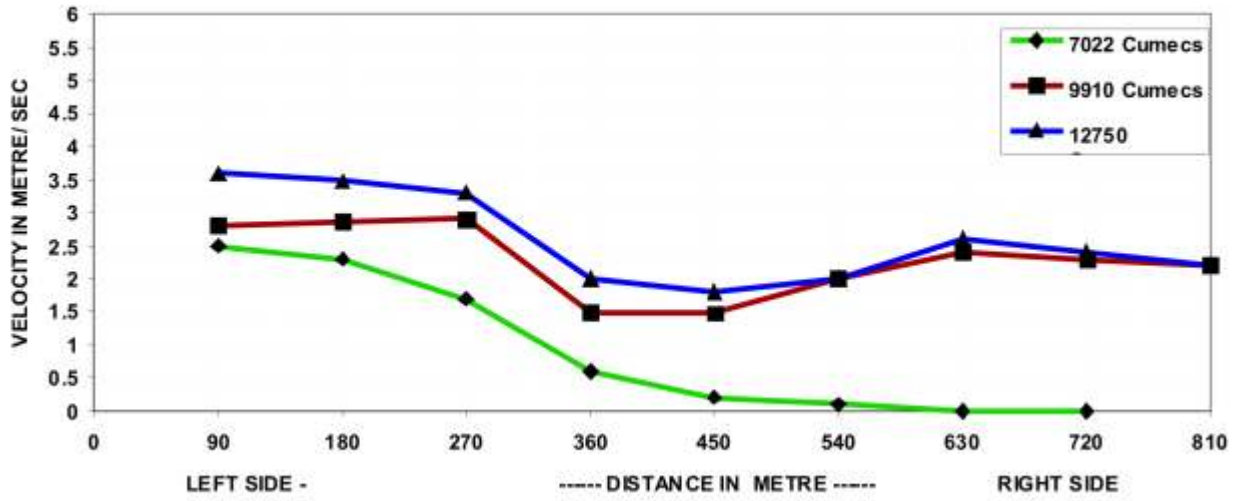
VELOCITIES AT I.S.B.T BRIDGE



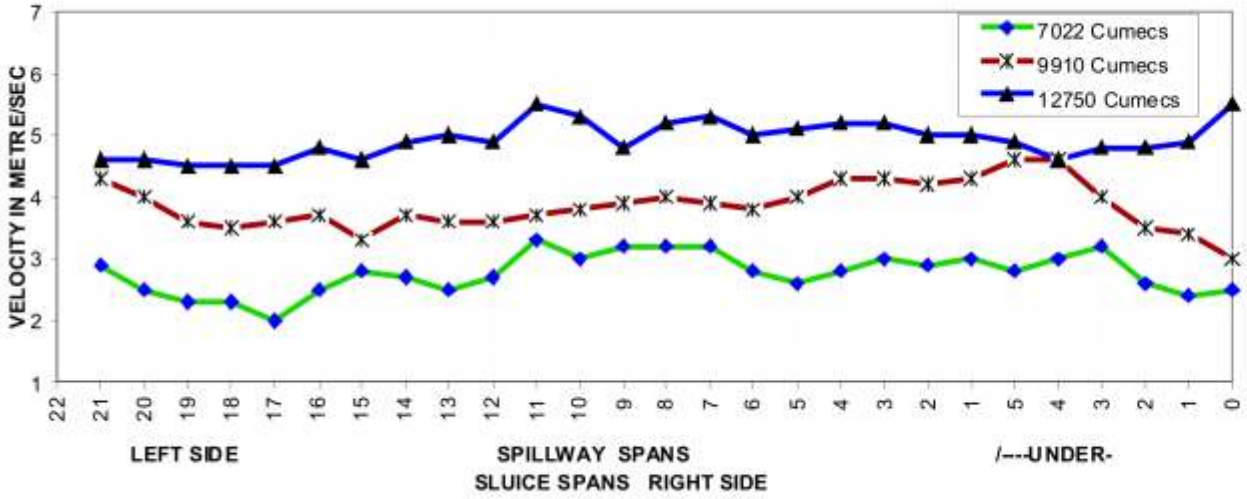
VELOCITIES AT OLD RAIL-CUM-ROAD BRIDGE



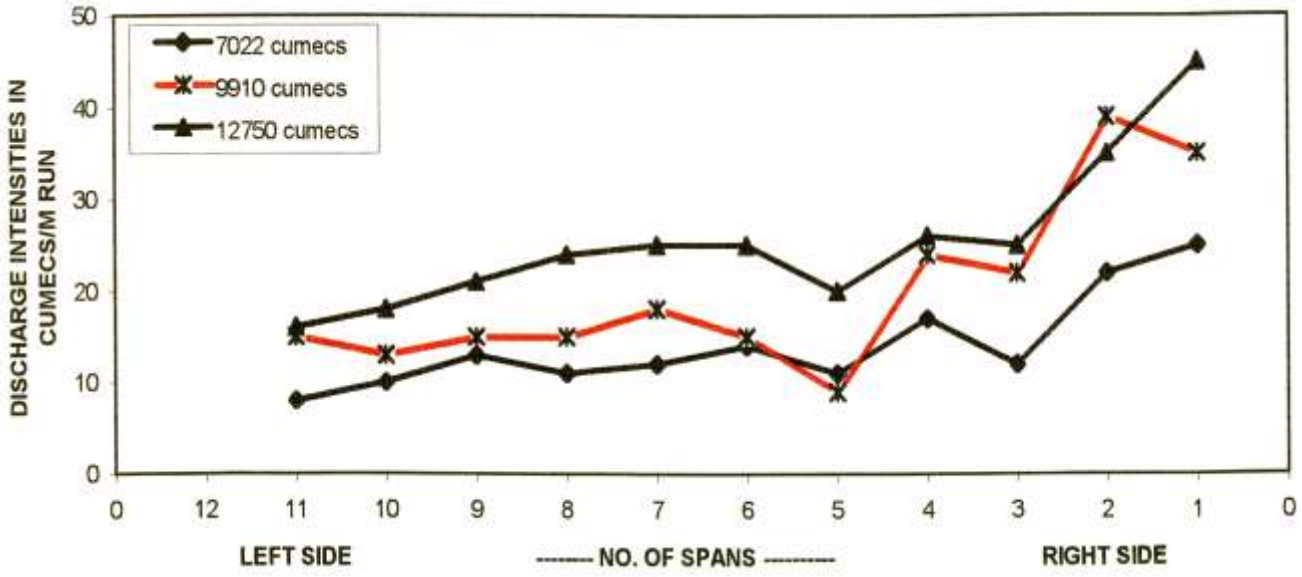
VELOCITIES AT 2.1 KM D/S OF OLD RAIL-CUM-ROAD BRIDGE



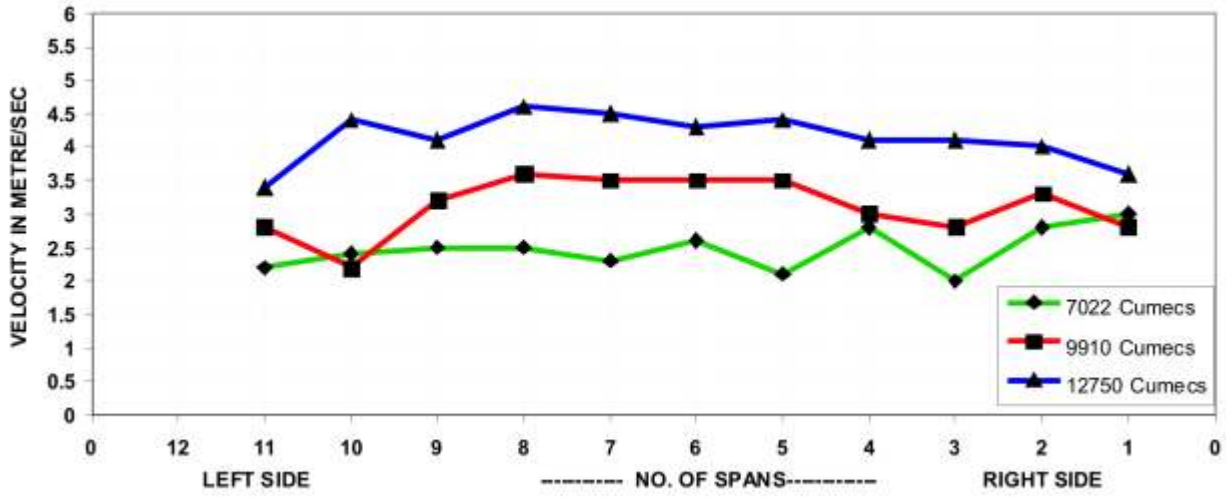
VELOCITIES AT INDRAPRASTHA BARRAGE



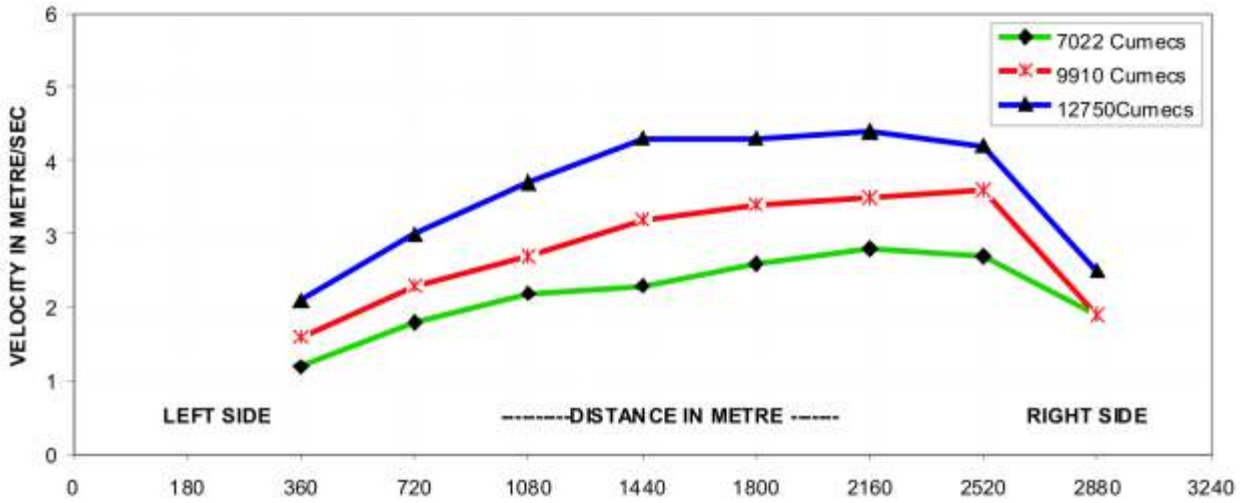
VELOCITIES AT NIZAMUDDIN RAILWAY BRIDGE



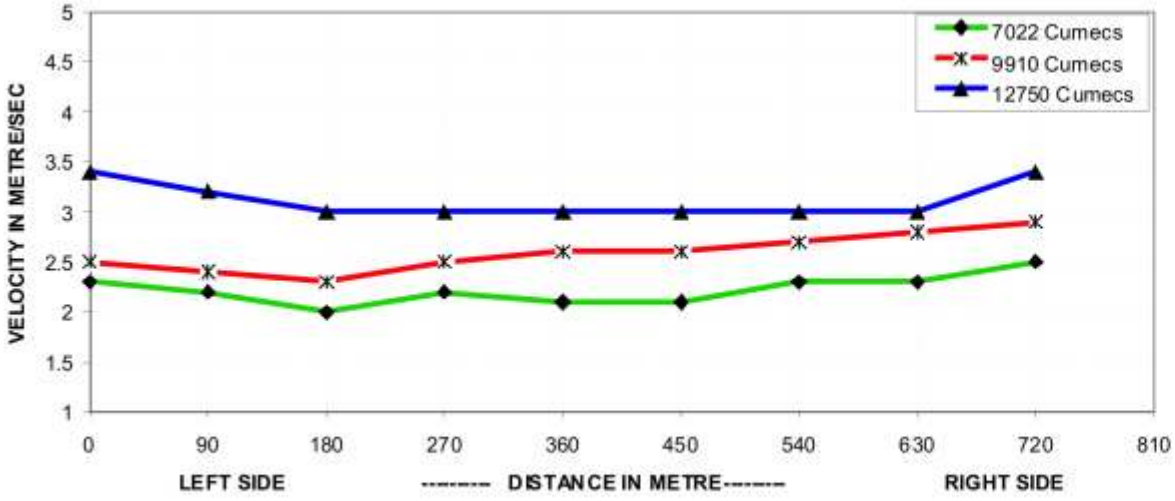
VELOCITIES AT NIZAMUDDIN ROAD BRIDGE



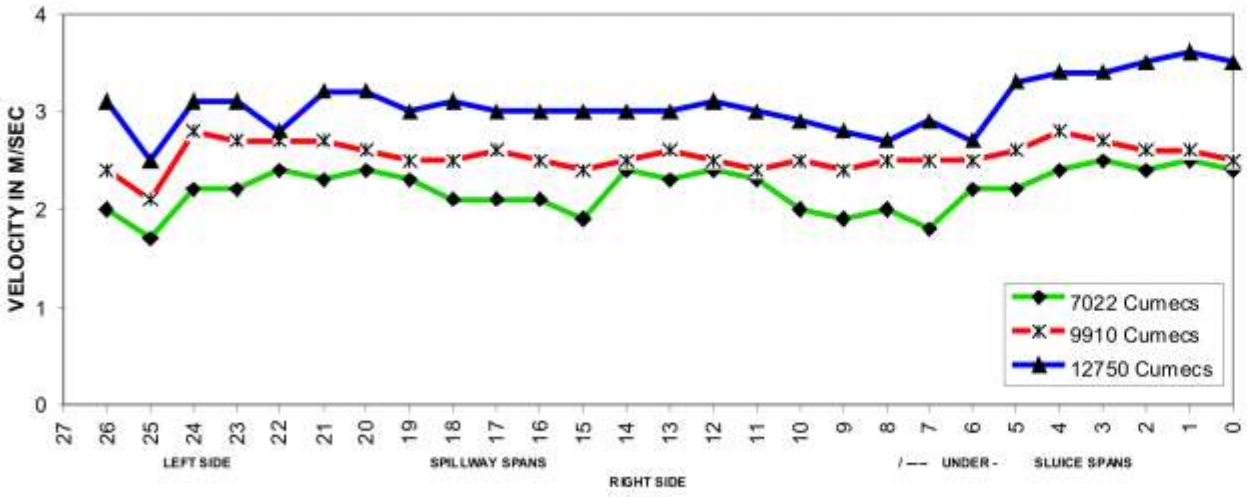
VELOCITIES AT 2.1 KM D/S OF NIZAMUDDIN ROAD BRIDGE



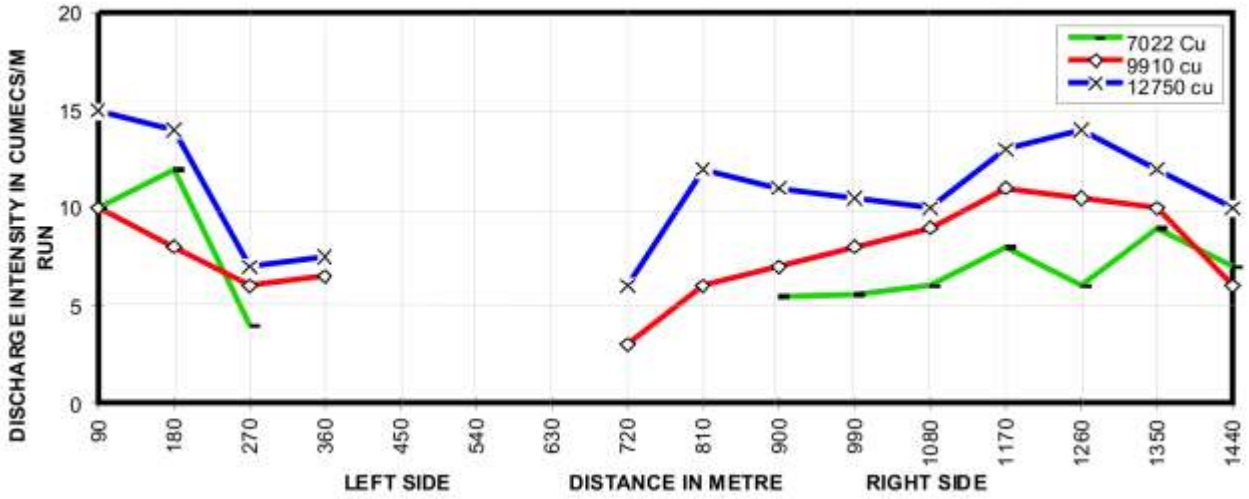
VELOCITES AT OKHLA WEIR



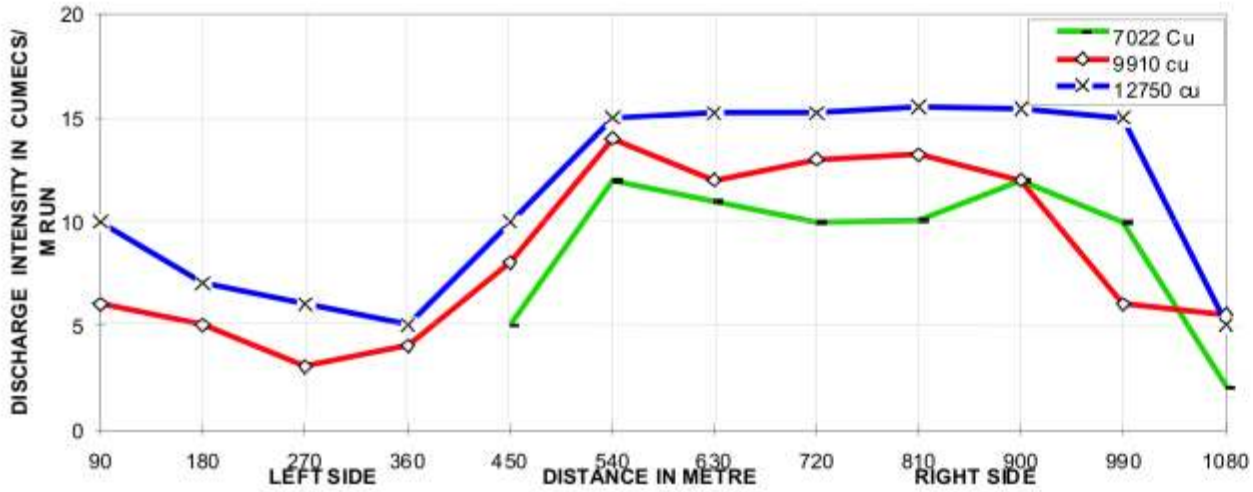
VELOCITIES AT OKHLA BARRAGE



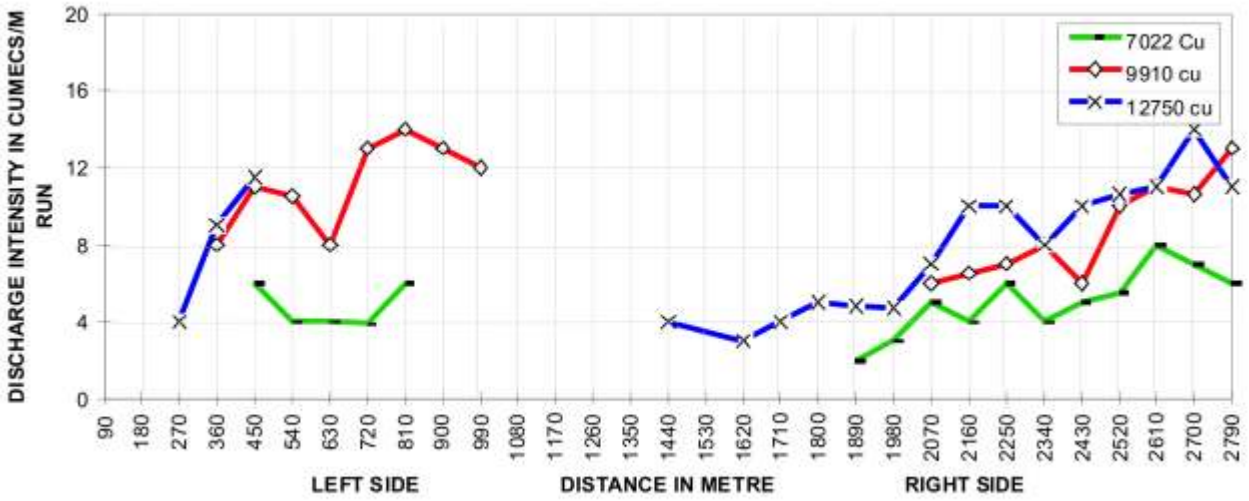
DISCHARGE INTENSITIES AT 15.5 KM U/S OF WAZIRABAD BARRAGE



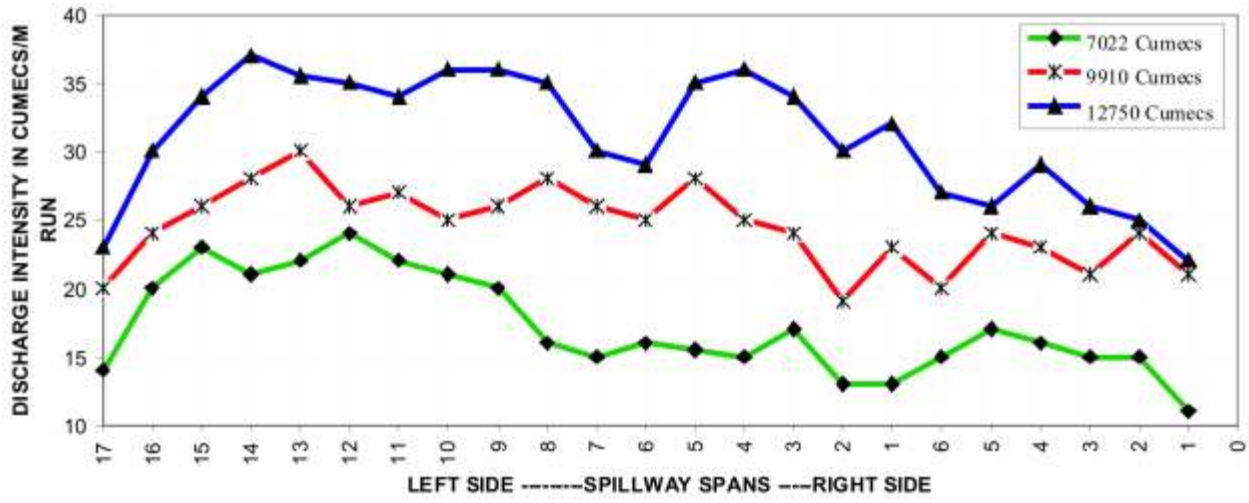
DISCHARGE INTENSITIES AT 11.5 KM U/S OF WAZIRABAD BARRAGE



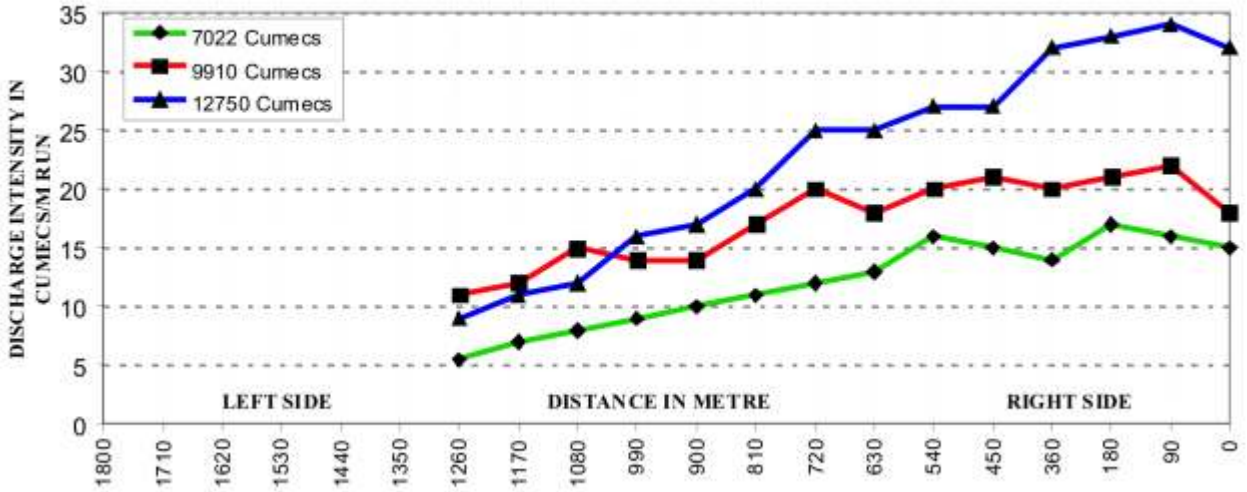
DISCHARGE INTENSITIES AT 6.5 KM U/S OF WAZIRABAD BARRAGE



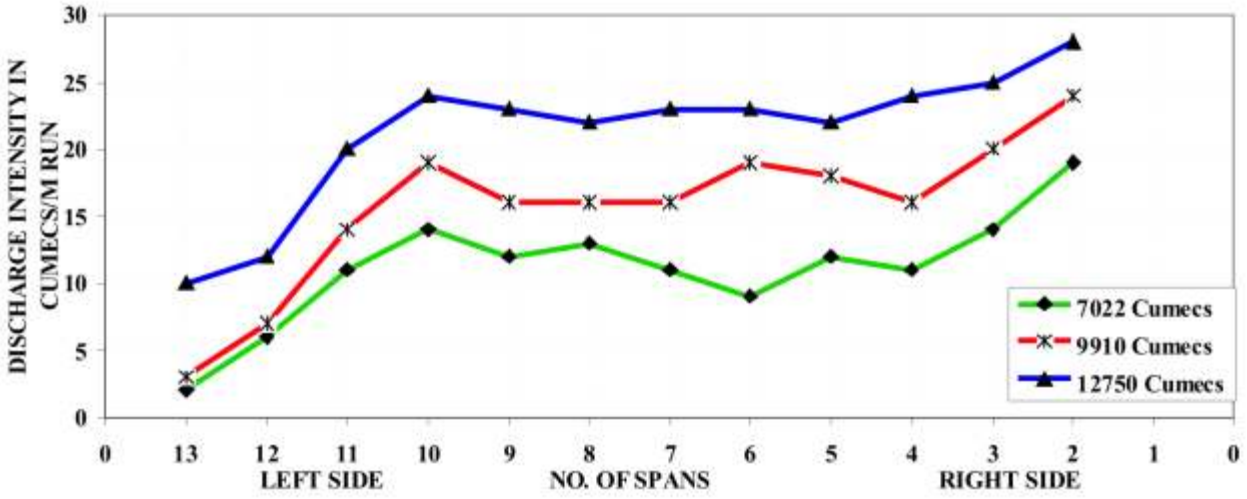
DISCHARGE INTENSITIES AT WAZIRABAD BARRAGE



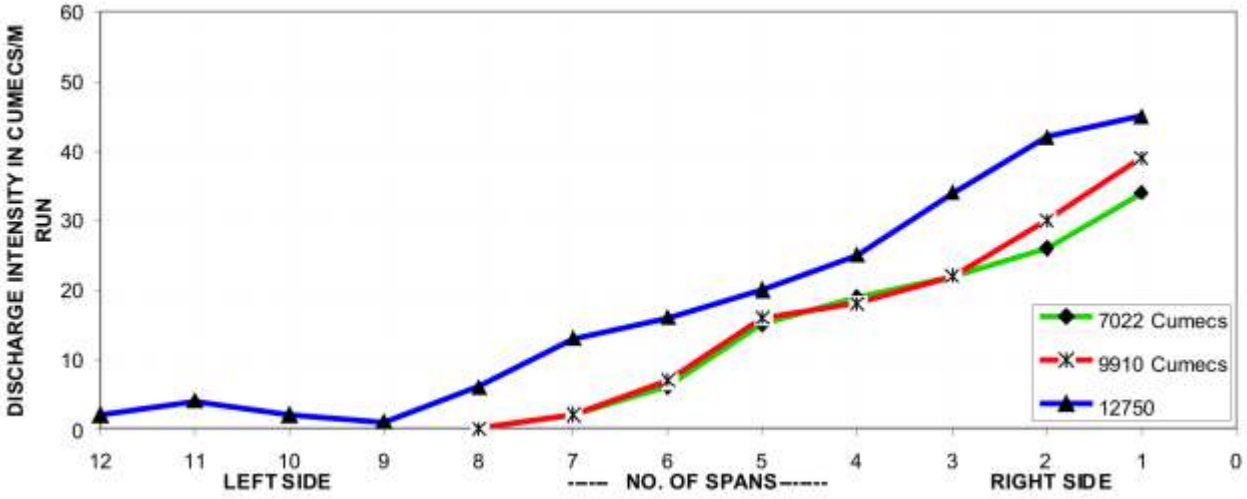
DISCHARGE INTENSITIES AT 2.5 KM D/S OF WAZIRABAD BARRAGE



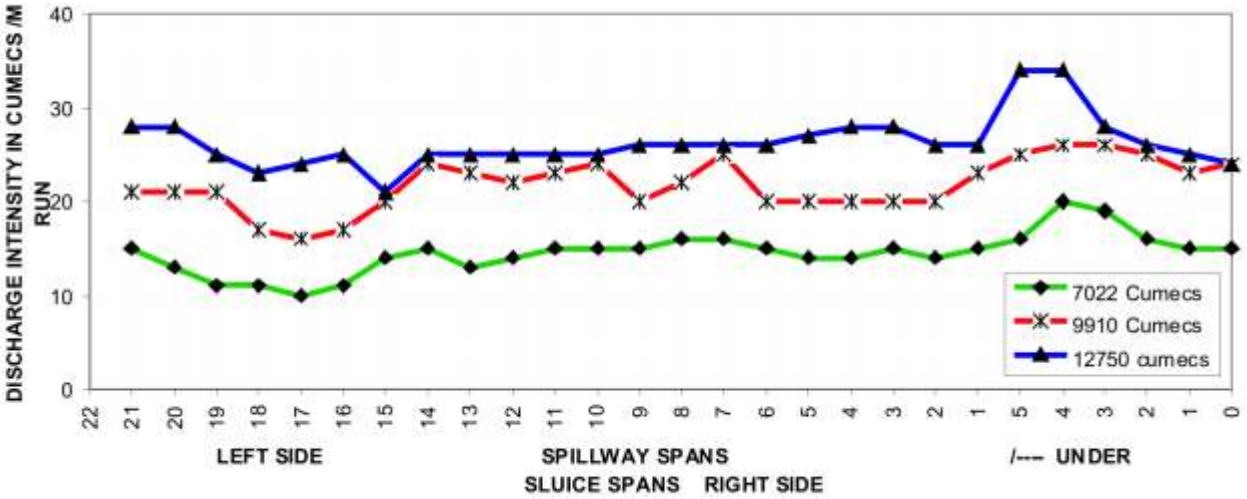
DISCHARGE INTENSITIES AT I.S.B.T. BRIDGE



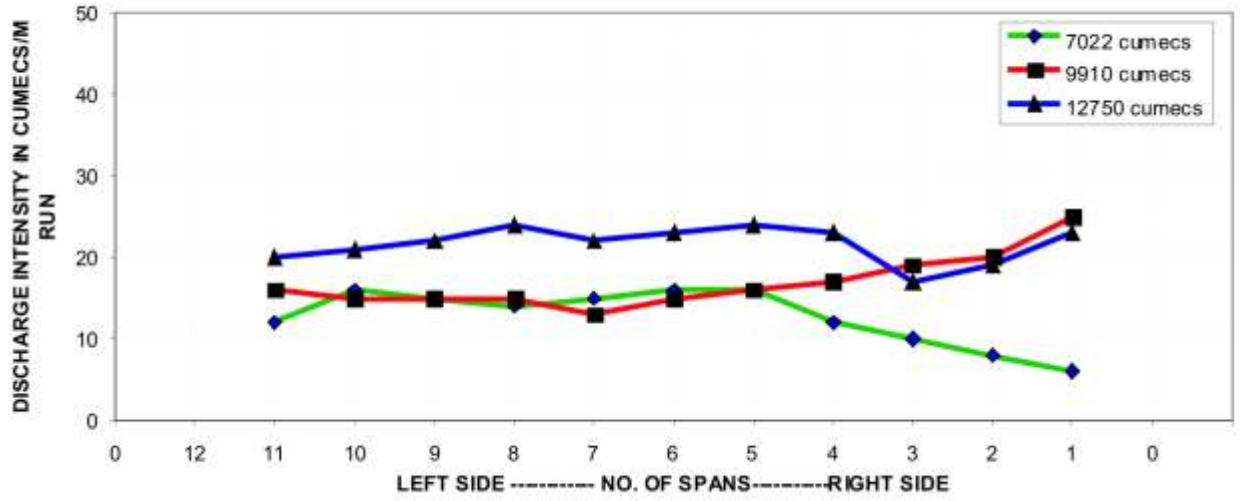
DISCHARGE INTENSITIES AT OLD RAIL-CUM-ROAD BRIDGE



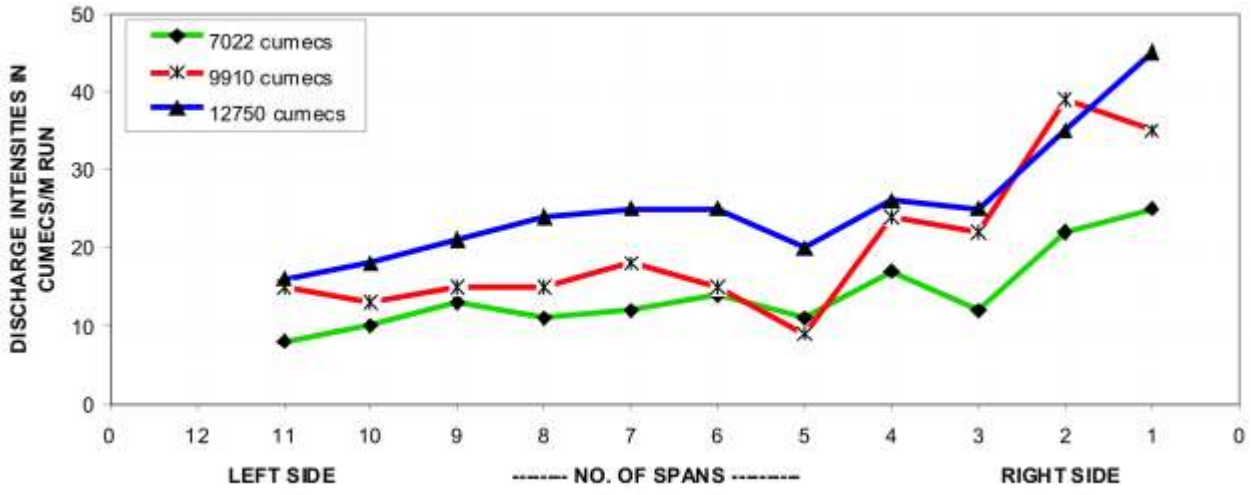
DISCHARGE INTENSITIES AT INDRAPRASTHA BARRAGE



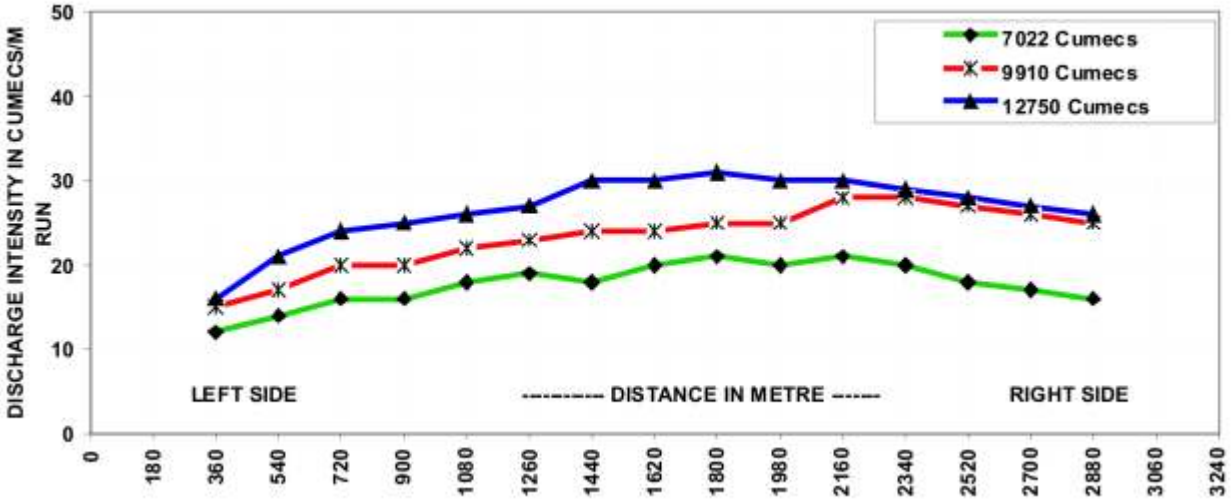
DISCHARGE INTENSITIES AT NIZAMUDDIN RAILWAY BRIDGE



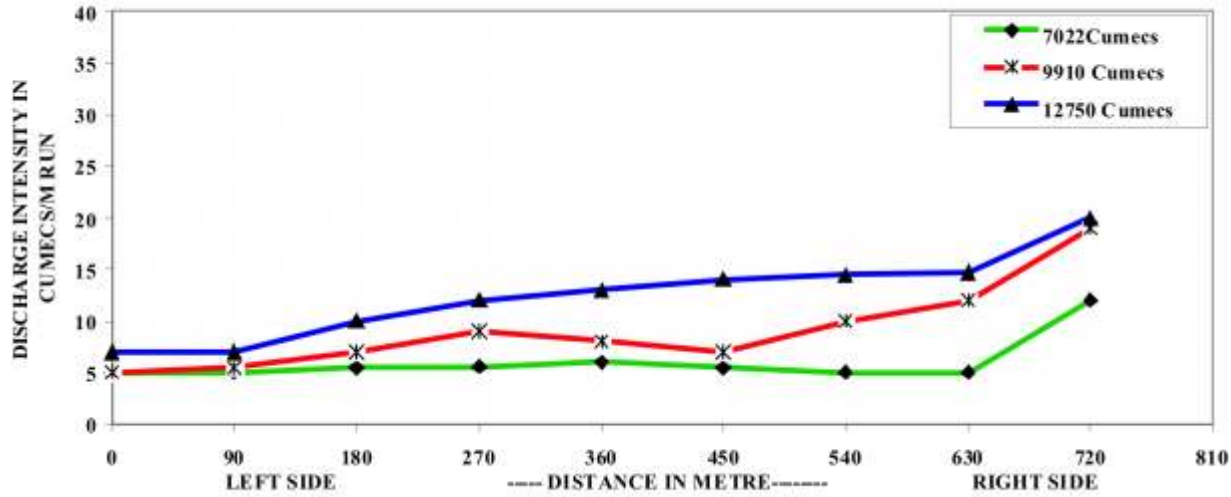
DISCHARGE INTENSITIES AT NIZAMUDDIN ROAD BRIDGE



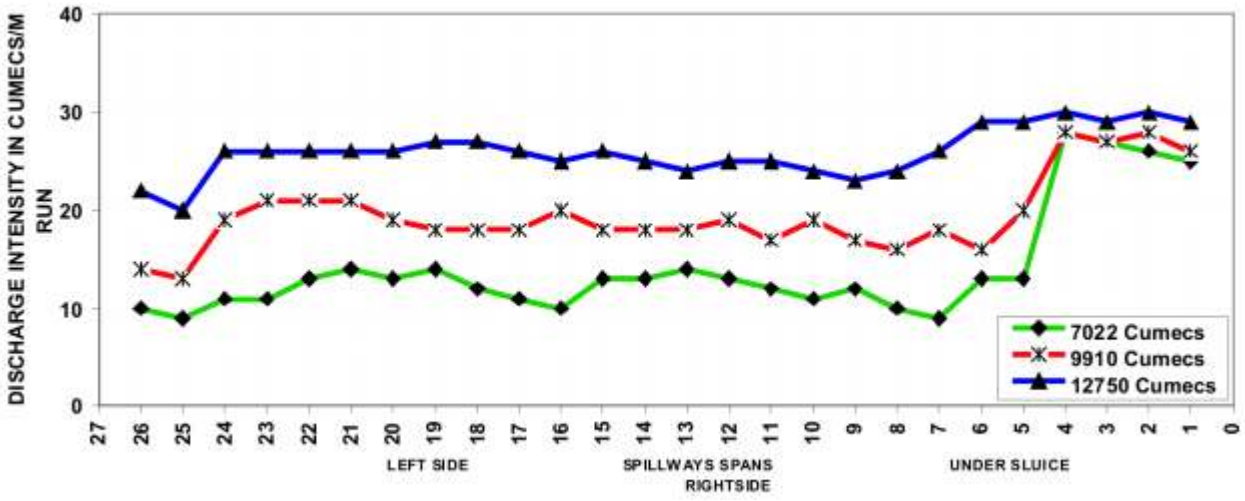
DISCHARGE INTENSITIES AT 2.1 KM D/S OF NIZAMUDDIN ROAD BRIDGE



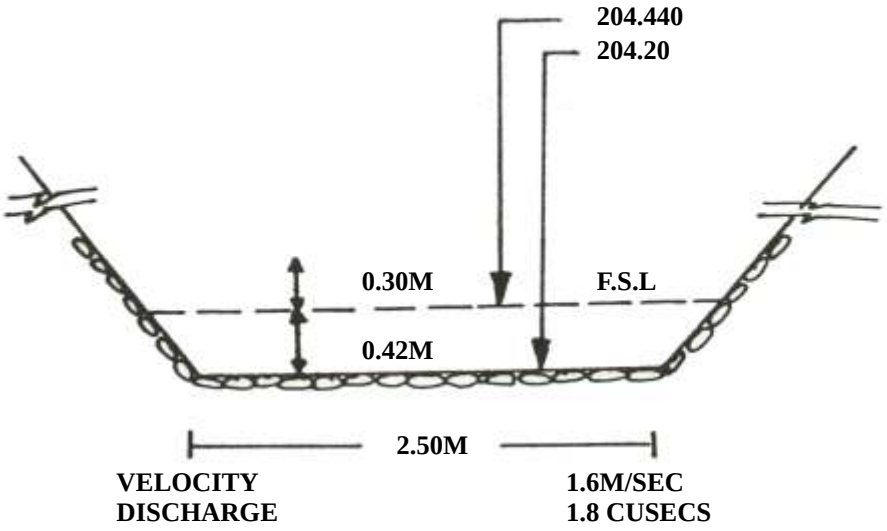
DISCHARGE INTENSITIES AT OKHLA WEIR



DISCHARGE INTENSITIES AT OKHLA BARRAGE

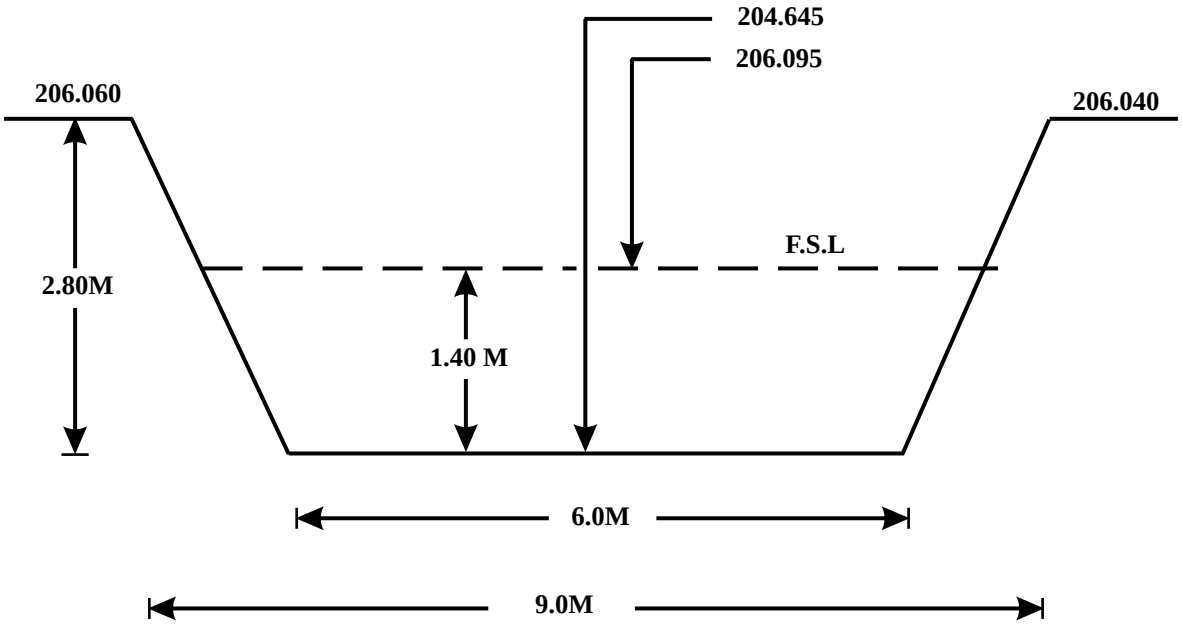


KHYBER PASS DRAIN



SECTION FROM R.D. 1290 TO OUT FALL

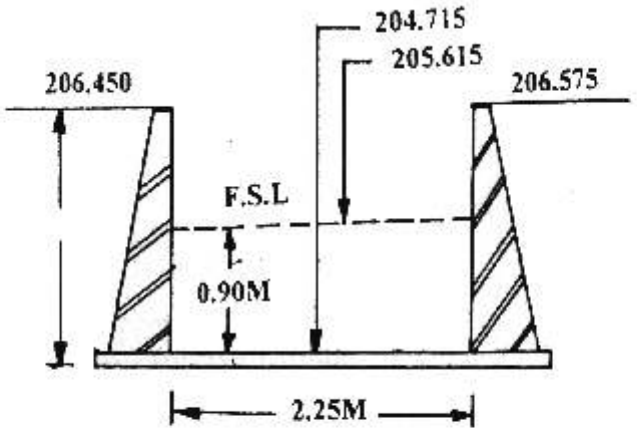
QUDSIA BAGH DRAIN



VELOCITY – 1.45M/SEC

DISCHARGE – 13.5CUSECS

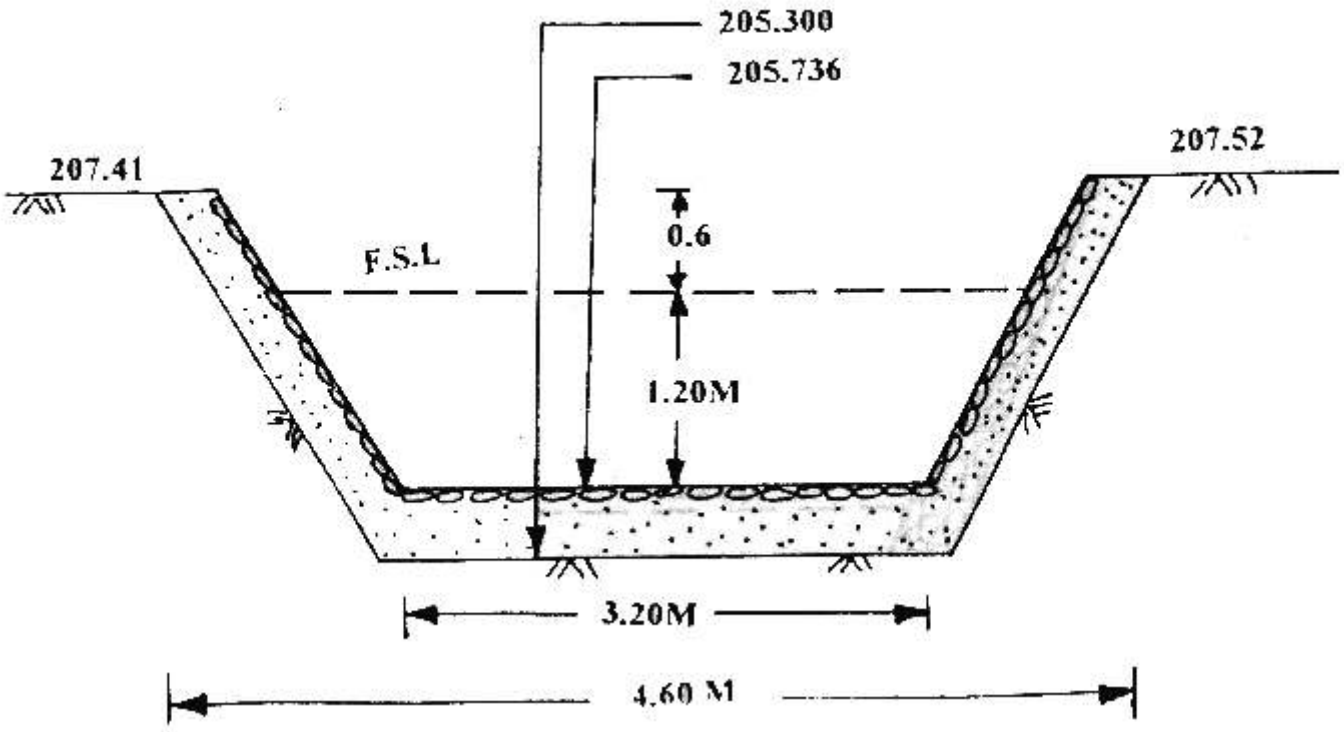
METCALF HOUSE DRAIN



VELOCITY - 1.33M/SEC
DISCHARGE - 2.861CUSECS

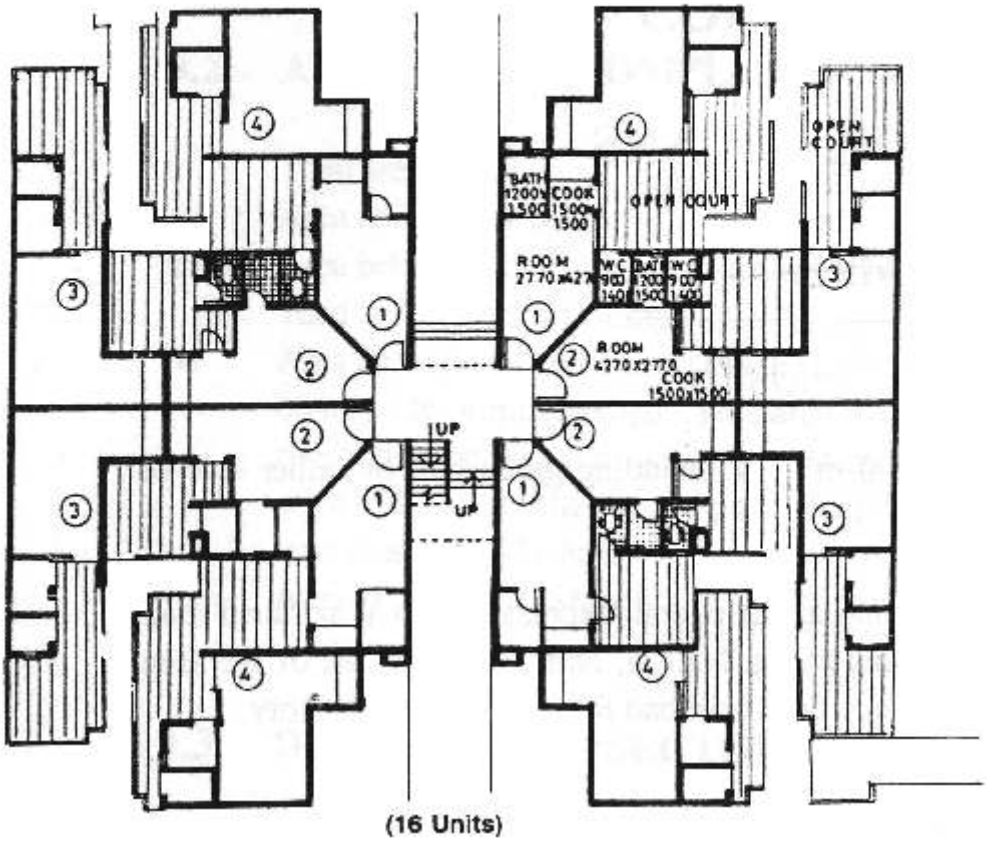
X SECTION AT OUTFALL INTO RIVER YAMUNA THROUGH A GATED REGULATER

MORI GATE DRAIN



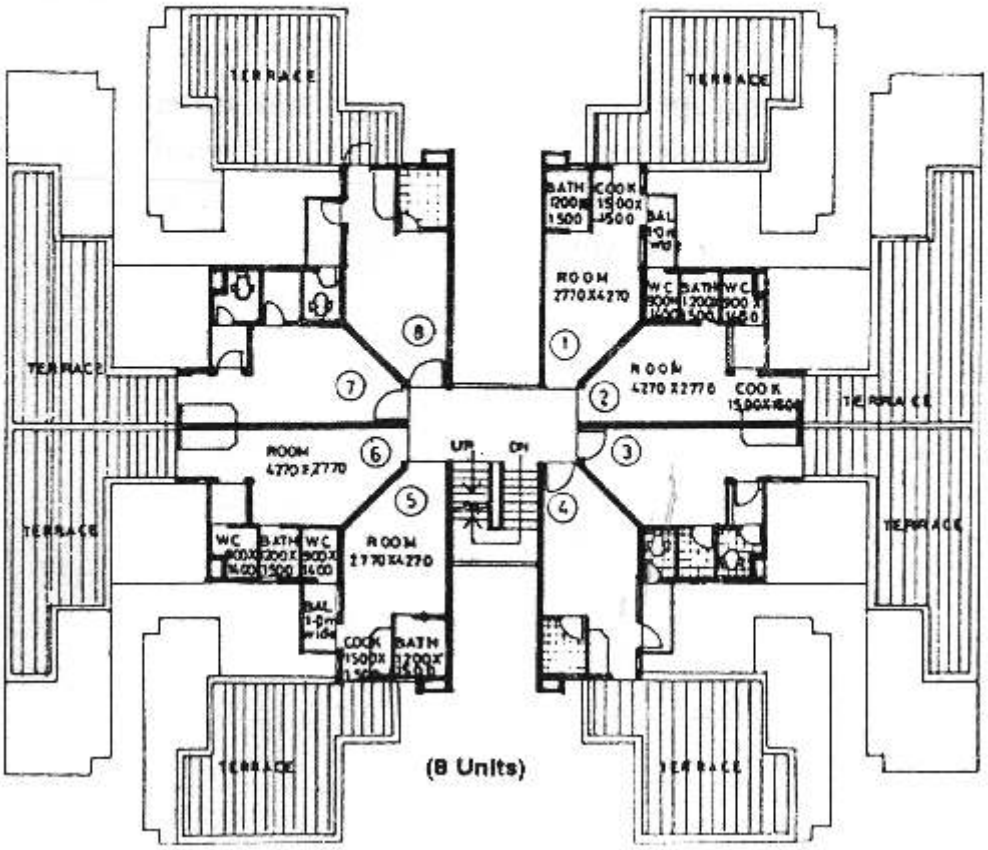
MAP NO. 1

GROUND FLOOR PLAN



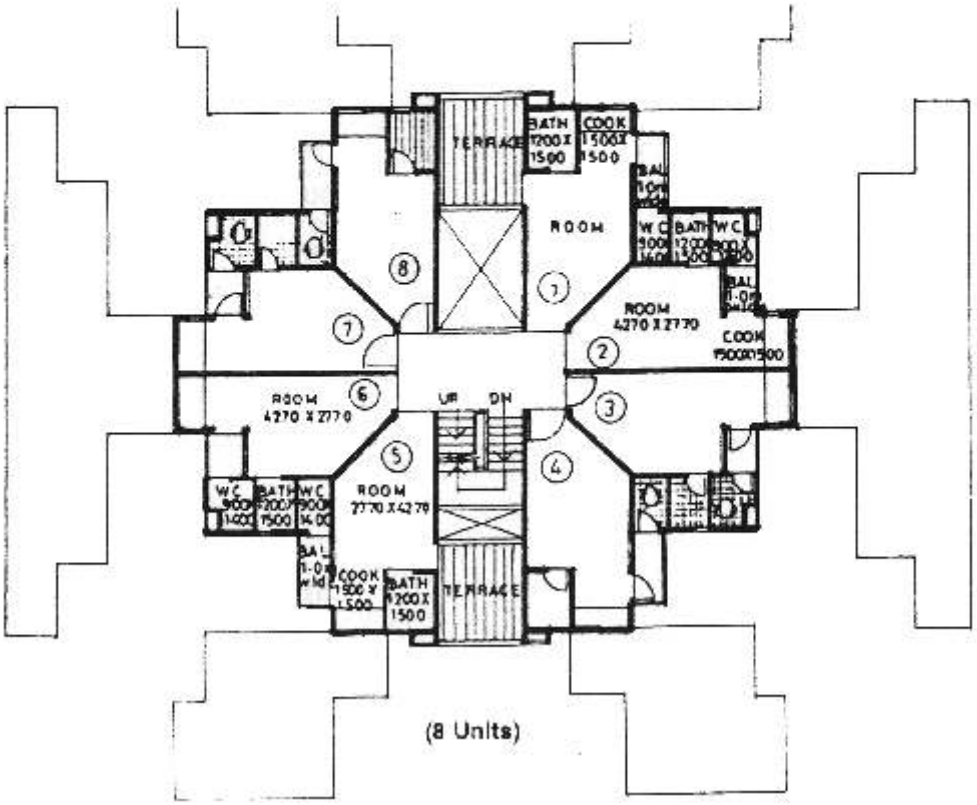
MAP NO. 2

FIRST FLOOR PLAN



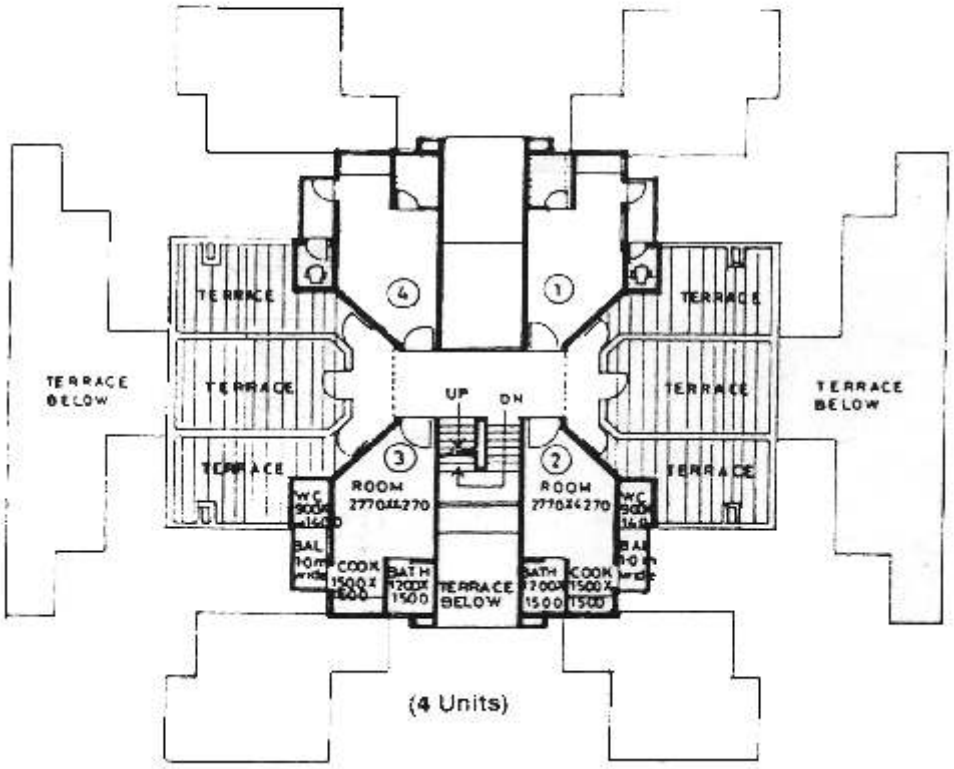
MAP NO. 3

SECOND FLOOR PLAN



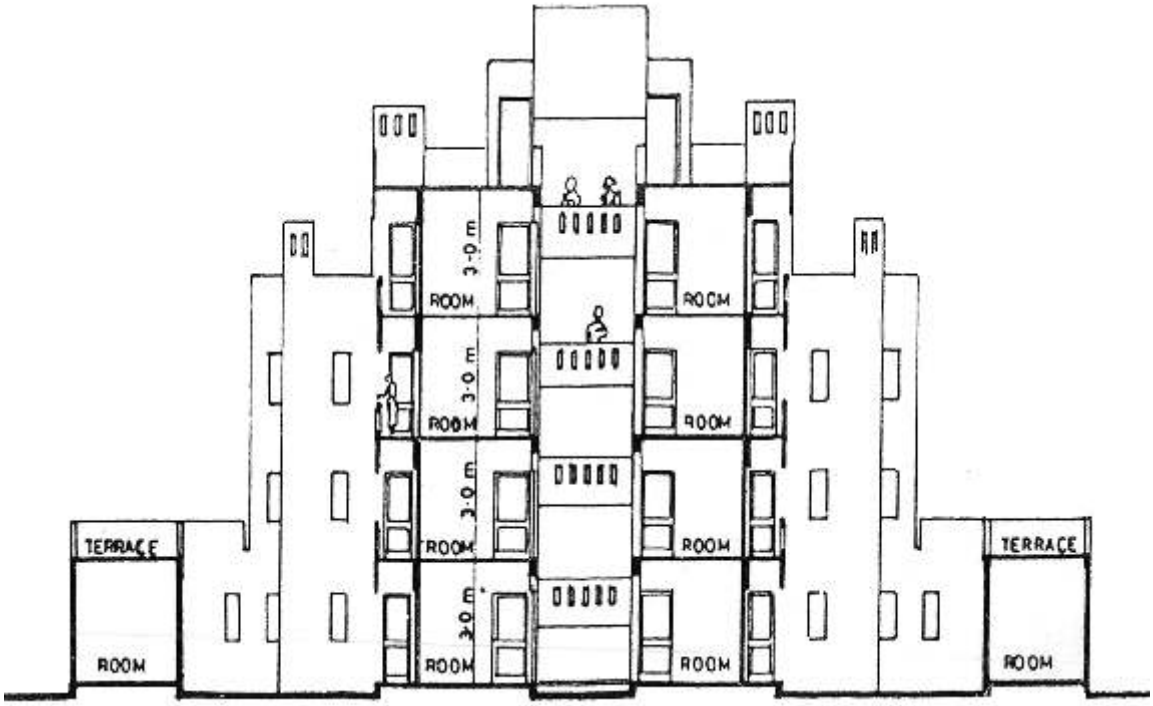
MAP NO. 4

THIRD FLOOR PLAN



MAP NO. 5

A TYPICAL CROSS SECTION



PROPOSAL

- Construct a conveyance sewer of 18 km in length from Wazirabad barrage to somewhere in the South of Nizammudin bridge / Maharani Bagh
- This conveyance sewer will be of RCC with a base of 2.5 M and height 3 M on either side of the base. This will be open to sky and structurally will take the load of entire sewerage
- Sewage drains will fall into it and the entire affluent will go to 300 MGD sewage treatment plant to be constructed in the South of Nizammudin bridge/Maharani Bagh
- From this new structure filth /sewage will flow into newly constructed sewage treatment plant/plants in the south of Nizamuddin bridge; treat it and then treated water into river Yamuna.
- After treatment of the sewage, the cleaned water will flow into the river Yamuna and filth may be used for manure etc.

Yamuna

PART THREE

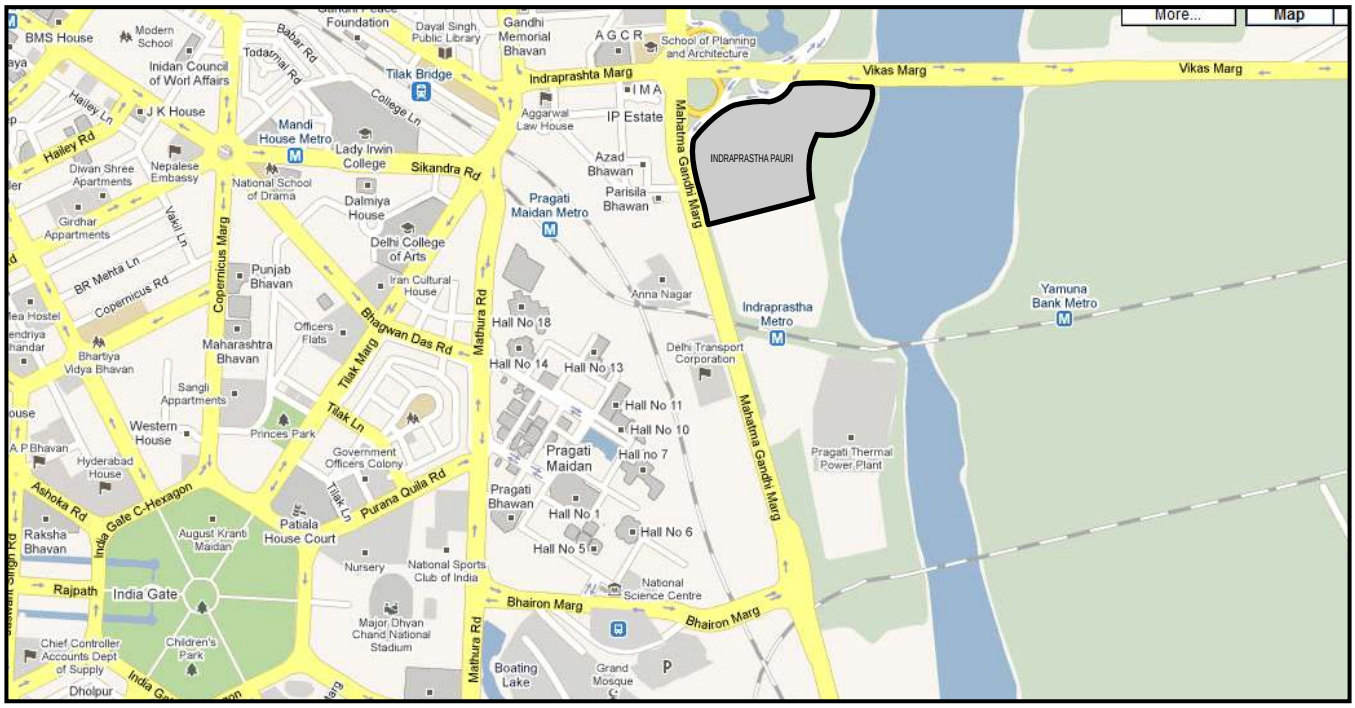
TO DEVELOP INDRAPRASTHA PAURI NEAR C. POWER STATION

R.G. GUPTA; CITY/POLICY PLANNER; APRIL 2010

DEVELOPMENT

OF

INDRAPRASTHA PAURI



LOCATION

This is in the South of ITO Bridge; In the East of River Water; In the North of C. Power station and In the West of Mahatma Gandhi Marg(Ring wall)

AREA

100 hect.

INDRAPRASTHA PAURI

1. Two types; both paid one of Rs. 5 per head and second of Rs. 50 per head. The amount would be used for the maintenance of the complex
2. One water treatment plant
3. Levels of these ghats would be such that the entire area remains dry
4. One statue of Lord Shiva and one museum of River Yamuna
5. Public conveyances 20 in nos. separate of males and females and equal no. of changing rooms
6. Many platforms for yoga etc.

OTHER FACILITIES

Thick shady trees / dense plantation along the boundaries with facilities of:

- One Aqua / theme park
- One recreational club
- One children park
- 3 to 4 restaurants with single storey buildings with full facilities
- Adequate parking for different type of vehicles

FINANCIAL PLANNING

- A seed capital loan of Rs 5 crore by the Govt. to the Registered Authority at no interest for the first five years; 6% for the next five years and 9% after ten years.
- Entire system of governance will be done by the Registered Authority with some surplus to be generated and not vice versa.

Yamuna

PART FOUR

REVITALIZING THE YAMMUNA RIVER FRONT PROPOSAL OF DDA (TOI)

R.G. GUPTA; CITY/POLICY PLANNER; APRIL 2010

1 Public zone (Eastern Bank)

Comprises the ghats including Kudesia ghat. Here, amenities for ghats to be improved along with laying foundation of flower garden and parking spot.

2 Recreational zone (Eastern Bank)

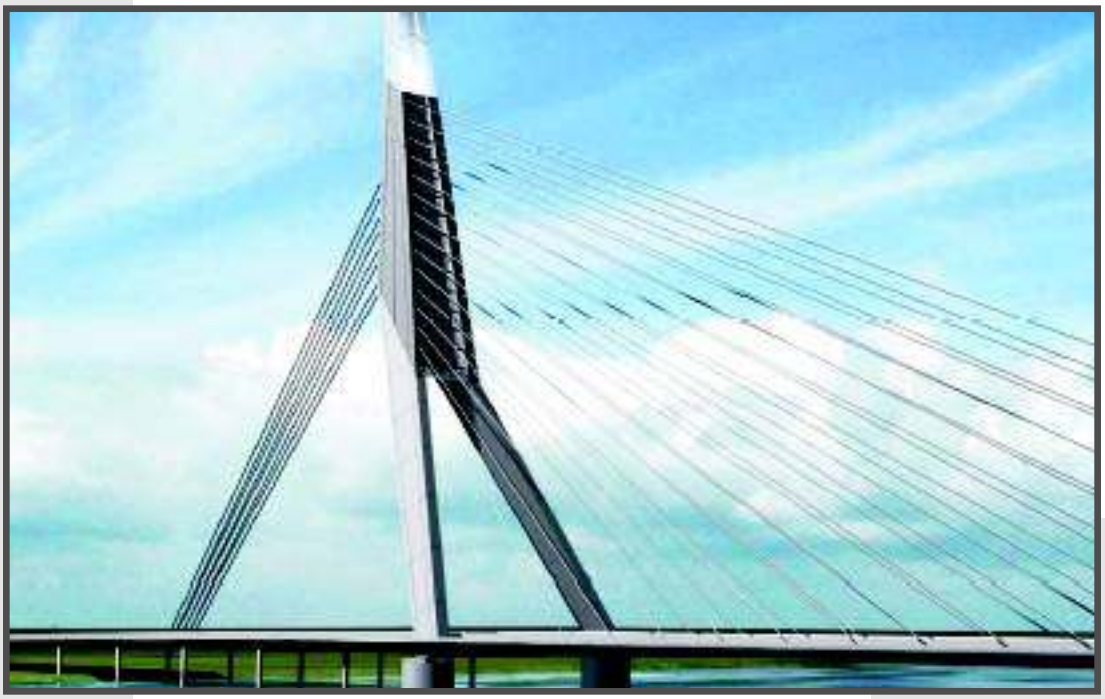
Will have the riverfront walk bisecting through the area. dotted by kiosks, greenways, playground, nursery and wetland like lakes.

3 BIODIVERSITY PARK (Western Bank)

Falls in the protective core zone of the concept plans, where substantial pockets of undistrubed land would be developed as a biodiversity park.

4 SIGNATURE BRIDGE (Western Bank)

The only other concrete structure to come up after the 'O' zonal plan was passed banning any concretization of the riverbed



5 RIVERSIDE PROMENADE (Western Bank)

Seen as an introduction to the river, it will be geared towards providing a green driveway to the citizens of Delhi.

6

DDA plans to develop green zones on both riverbanks with the area divided into a core, transitional and buffer zones.

7

Core zone will have two biodiversity parks with pockets of undistrubed land open to the public only in an educational capacity.

8

Transitional zone will have recreational facilities with playgrounds, theme parks and open spaces available

9

Buffer zone will fall between core and transitional zones.

10

A riverfront walk, complete with kiosks, green stretches and seating for public will run through the three zones

11

Development is to start on ISBT-ITO stretch on the western bank within a month. Ghats will be upgraded, greenerly will be developed along with a parking spot and wetland-like lakes will be built. Deadline for the entire project is five years.

THANK YOU

R.G.GUPTA

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Ex. Sr. .P. Secy. JC PPV (Joint Parliament Committee on Protection of Plant Varieties & Farmer's Rights) in Parliament.

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