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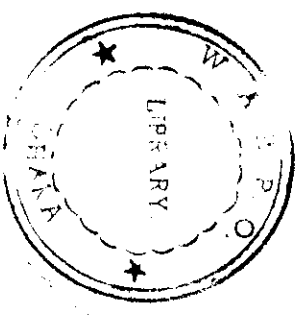
People's Republic of Bangladesh
Ministry of Irrigation, Water Development
and Flood Control

Flood Plan Coordination Organisation

**SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION**

Asian Development Bank
TA 1396 - BAN

FAP 9A



**DRAFT FINAL REPORT
Drawings - Volume 2A**

February 1992

Sir William Halcrow and Partners Ltd.
in association with

Halcrow Fox and Associates
Engineering & Planning Consultants Ltd.

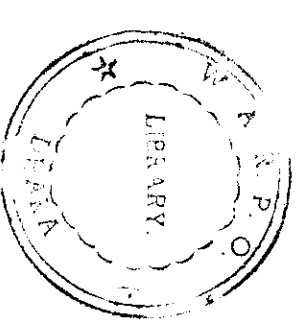
People's Republic of Bangladesh
Ministry of Irrigation, Water Development
and Flood Control

Flood Plan Coordination Organisation

**SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION**

Asian Development Bank
TA 1396 - BAN

FAP 9A



**DRAFT FINAL REPORT
Drawings - Volume 2A**

February 1992

A-5

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Sir William Halcrow and Partners Ltd.
in association with

Halcrow Fox and Associates
Engineering & Planning Consultants Ltd.

SECONDARY TOWNS INTEGRATED FLOOD PROTECTION

TA No 1396-BAN

DRAFT FINAL REPORT

VOLUME 2A - DRAWINGS

2.1	Flood Protection and Erosion at Khulna
2.2	Flood Protection and Erosion at Dinaipur
2.3	Flood Protection and Erosion at Kurigram
2.4	Flood Protection and Erosion at Panchagarh
2.5	Flood Protection and Erosion at Habiganj
2.6	Flood Protection and Erosion at Moulvi-Bazar
2.7.a	Bank Profile Khulna - Sheet 1
2.7.b	Bank Profile Khulna - Sheet 2
2.7.c	Bank Profile Khulna - Sheet 3
2.7.d	Bank Profile Khulna - Sheet 4
2.7.e	Bank Profile Khulna - Sheet 5
2.7.f	Bank Profile Khulna - Sheet 6
2.8	Bank Profile Dinaipur at Goshapur
2.9	Bank Profile Kurigram at Groyne No. 1
2.10.a	Existing Drainage System - Khulna Sheet 1
2.10.b	Existing Drainage System - Khulna Sheet 2
2.10.c	Existing Drainage System - Khulna Sheet 3
2.11	Existing Drainage System - Dinaipur
2.12	Existing Drainage System - Kurigram
2.13	Existing Drainage System - Habiganj
2.14.a	Flooding due to Rainfall at Khulna - Sheet 1
2.14.b	Flooding due to Rainfall at Khulna - Sheet 2
2.14.c	Flooding due to Rainfall at Khulna - Sheet 3
3.1	Proposed Strategy for Disposal of Urban Storm Drainage - Khulna
3.2.a	Proposed Surface Water Drainage System - Khulna Sheet 1
3.2.b	Proposed Surface Water Drainage System - Khulna Sheet 2
3.2.c	Proposed Surface Water Drainage System - Khulna Sheet 3
3.3	Proposed Surface Water Drainage System - Dinaipur
3.4	Proposed Surface Water Drainage System - Kurigram
3.5	Proposed Surface Water Drainage System - Panchagarh
3.6	Proposed Surface Water Drainage System - Habiganj
3.7	Proposed Surface Water Drainage System - Moulvi-Bazar

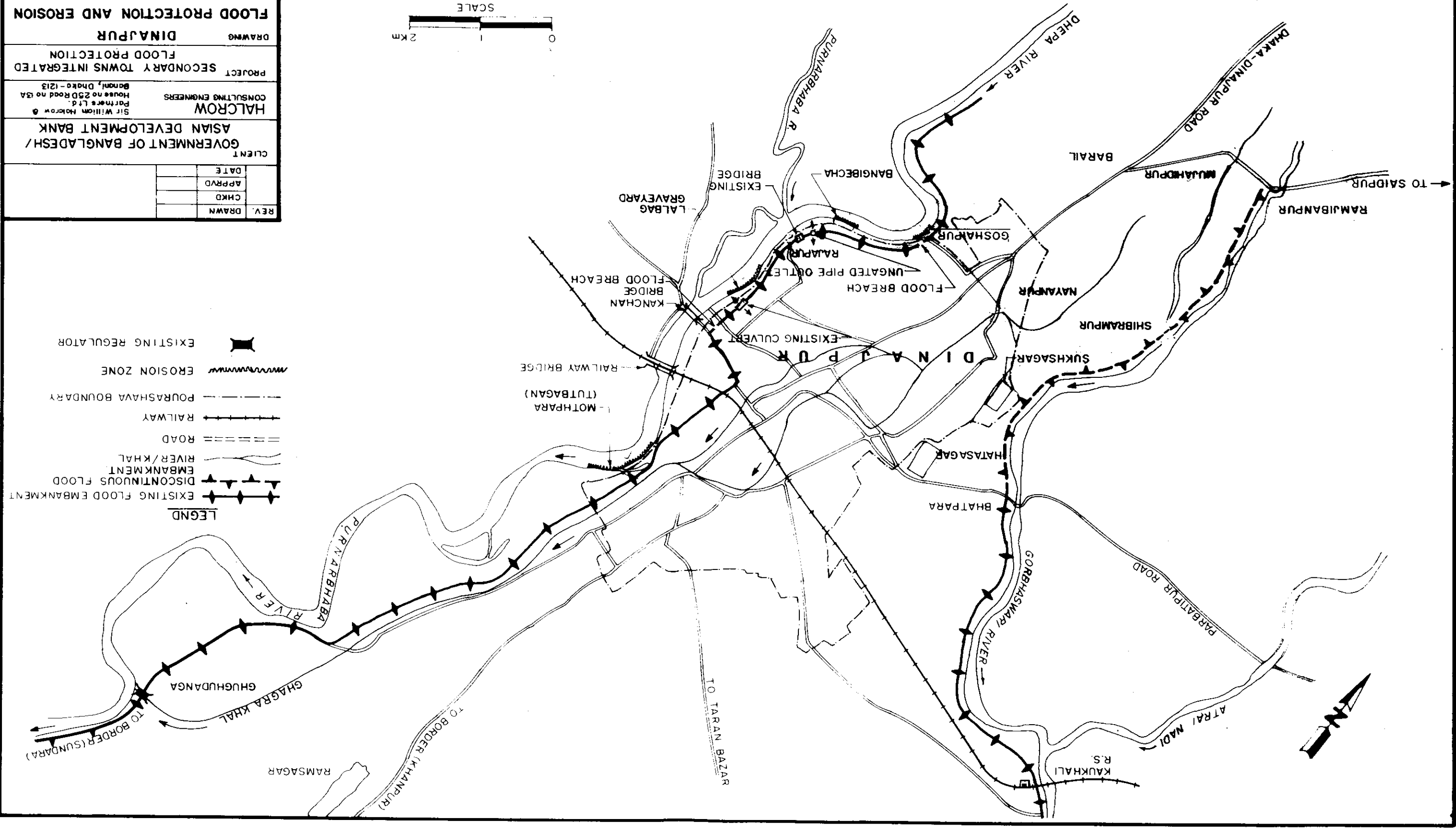
4.1.	Integrated Plan - Khulna
4.2.	Integrated Plan - Dinaipur
4.3.	Integrated Plan - Kurigram
4.4.	Integrated Plan - Panchagarh
4.5.	Integrated Plan - Habiganj
4.6.	Integrated Plan - Moulvi-Bazar

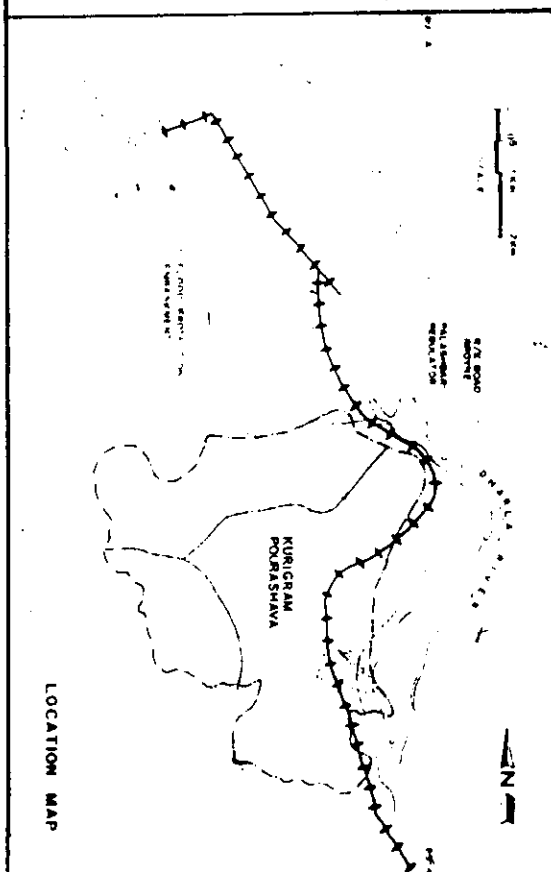
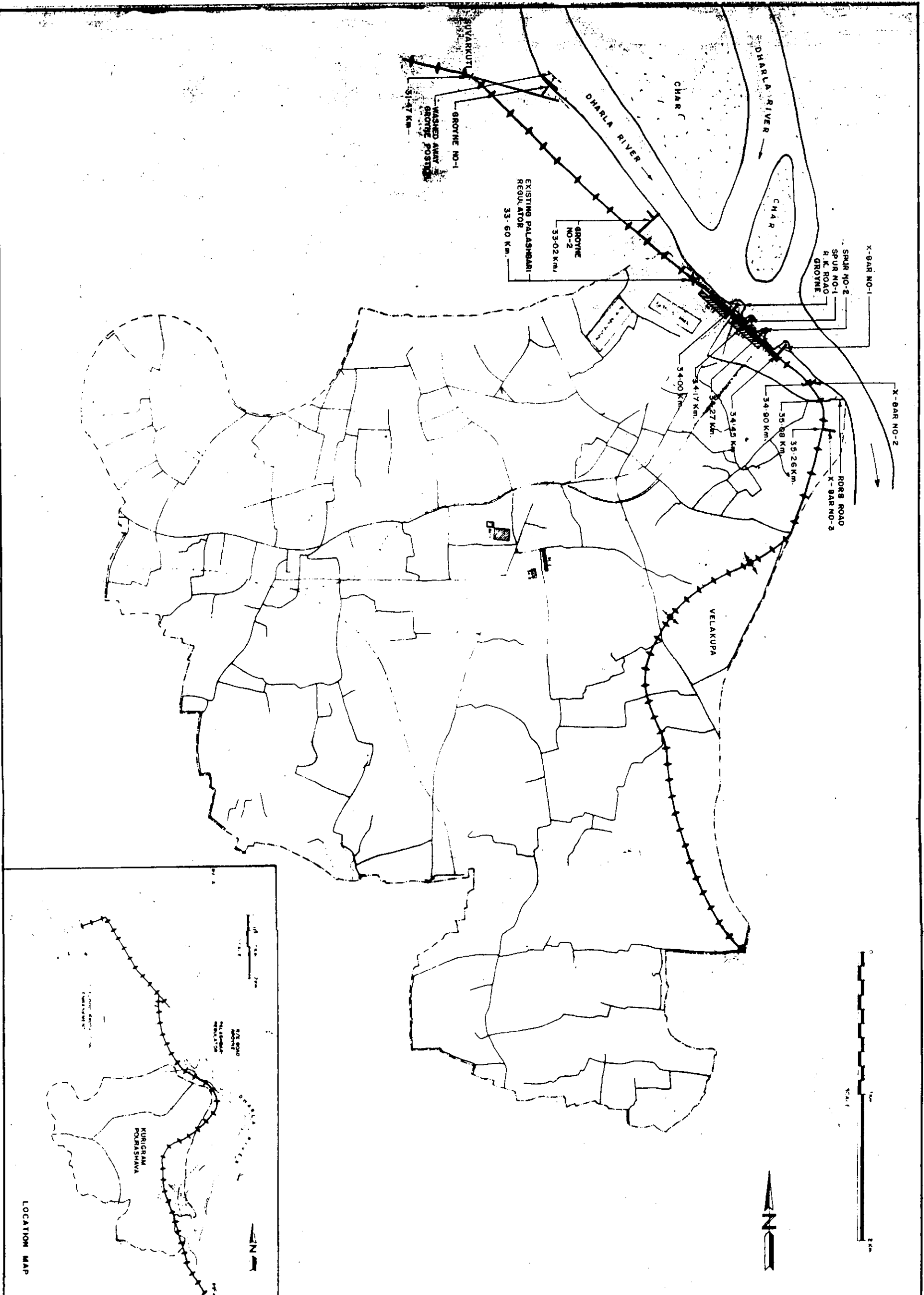
8.1.	Town Area and Environs (EIA) - Khulna
8.2.	Town Area and Environs (EIA) - Dinaipur
8.3.	Town Area and Environs (EIA) - Kurigram
8.4.	Town Area and Environs (EIA) - Panchagarh
8.5.	Town Area and Environs (EIA) - Habiganj
8.6.	Town Area and Environs (EIA) - Moulvi-Bazar

VOLUME 2B - DRAWINGS

Detailed drawings in support of those in Volume 2A

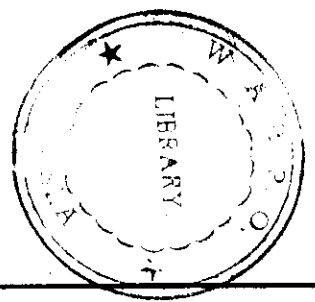
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	DRAWN	CHECKED	SCALE AS SHOWN DATE
	FLOOD PROTECTION AND EROSION		
	DINAJPUR		
	PROJECT SECONDARY TOWNS INTEGRATED FLOOD PROTECTION		
	HALCROW CONSULTING ENGINEERS Sir William Holtom & Partners Ltd. House no 25D Road no 15A Bomet, Dhaka-1213		
	CLIENT GOVERNMENT OF BANGLADESH / ASIAN DEVELOPMENT BANK		
REV.	DRAWN	CHKD	APPRVD
			DATE





LEGEND

- ROAD
- POURASHAVA BOUNDARY
- EXISTING FLOOD EMB.
- EROSION ZONE
- EXISTING REGULATOR
- UNGATED PIPE OUTLET
- SLUM/SCUTTER AREA



NOTES:

1. SURVEY OF POURASHAVA AREA BASED ON LAND USED PLAN KURIGRAM POURASHAVA, JOD 1988
2. LOCATION PLAN IS A COMPOSITE MAP BASED ON 1990. SPOT IMAGE MAP FOR THE LOCATION OF DHARLA RIVER AND MAPS FROM I, ABOVE FOR THE POURASHAVA BOUNDARY.

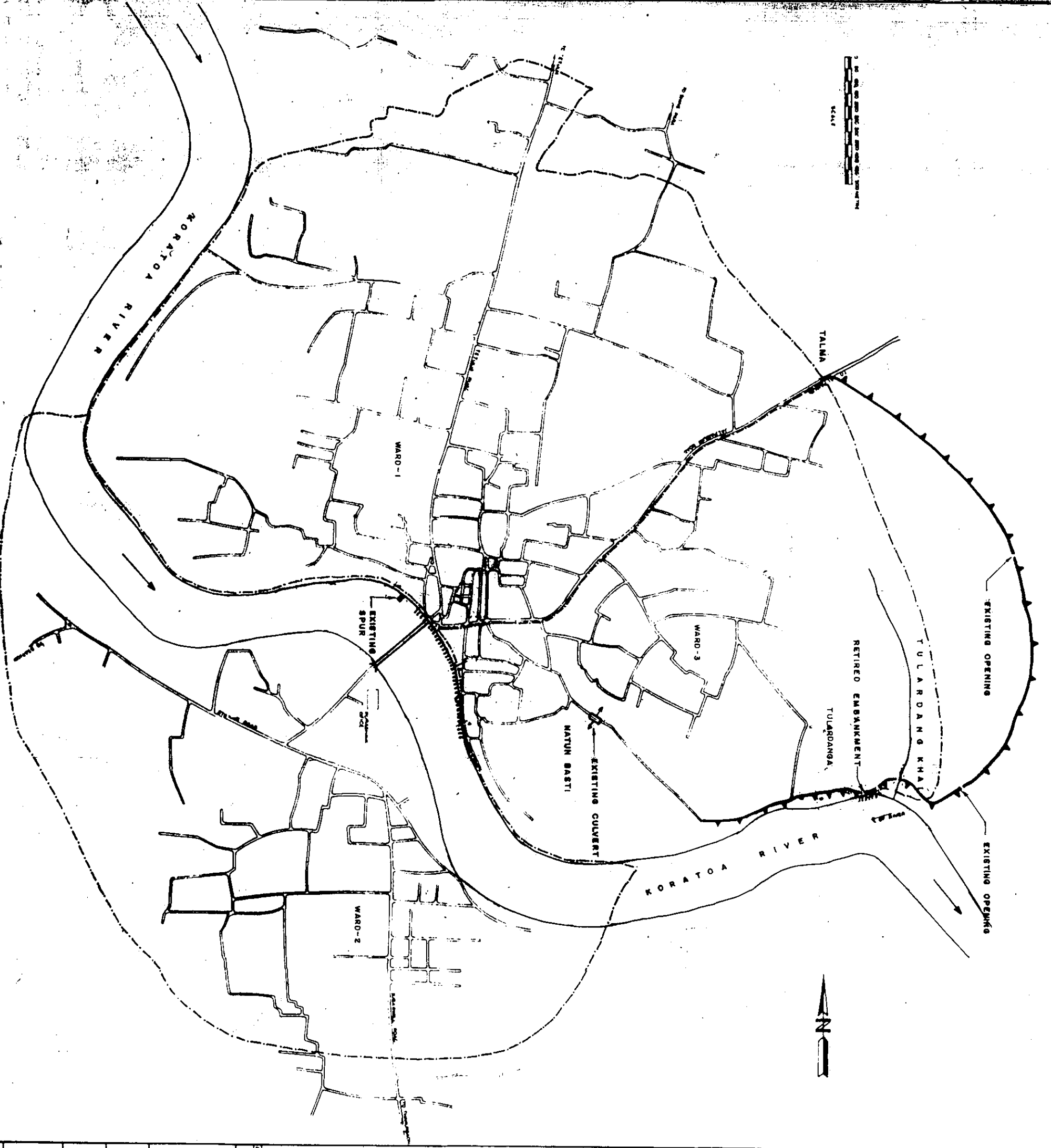
GOVERNMENT OF BANGLADESH
ASIAN DEVELOPMENT BANK

HALCROW

SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

KURIGRAM
FLOOD PROTECTION AND
EROSION

DRAWING 2-3



- LEGEND**
- POURASHAVA & WARD BOUNDARY
 - ROAD
 - RIVER
 - EROSION ZONE
 - EXISTING FLOOD EMBANKMENT
 - RETIRED FLOOD EMBANKMENT

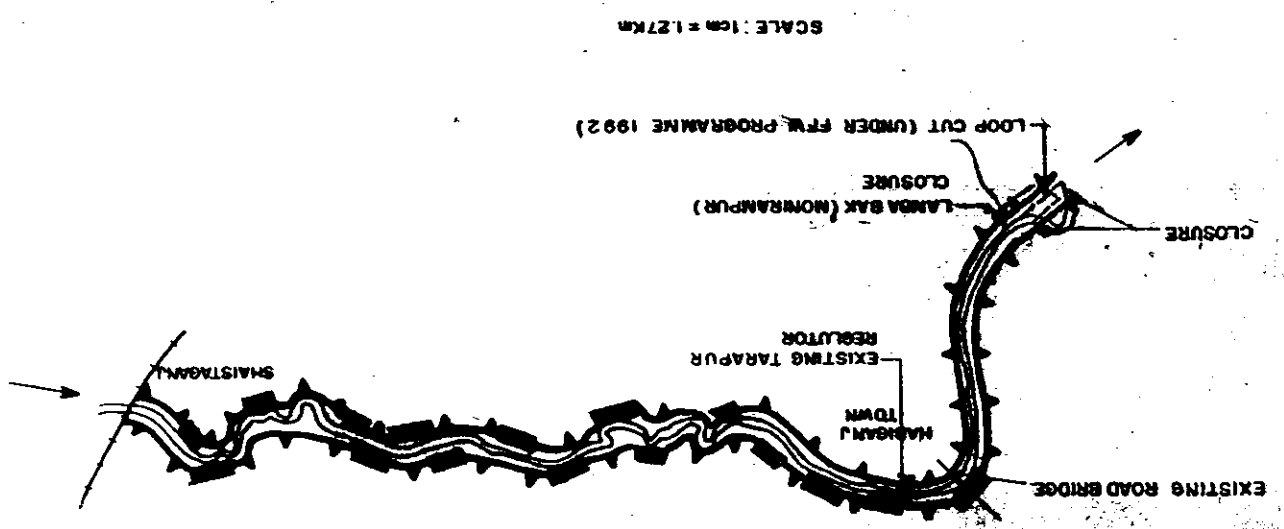
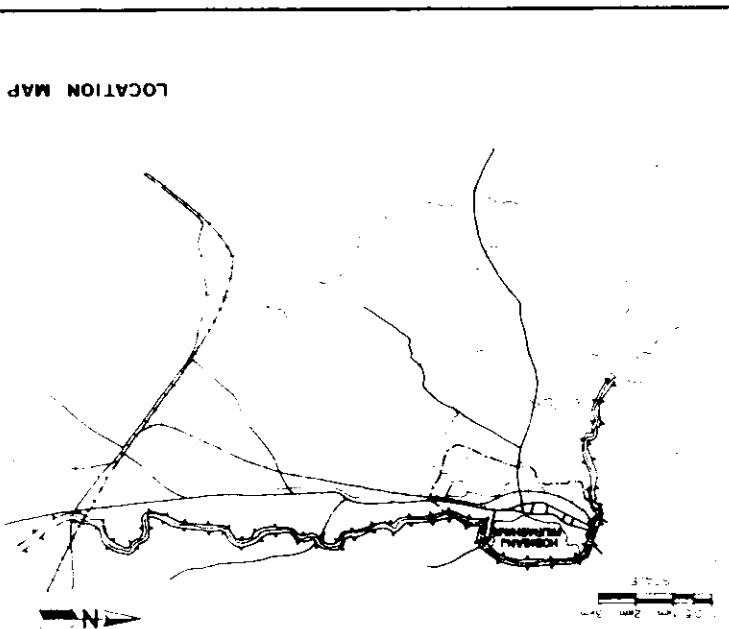
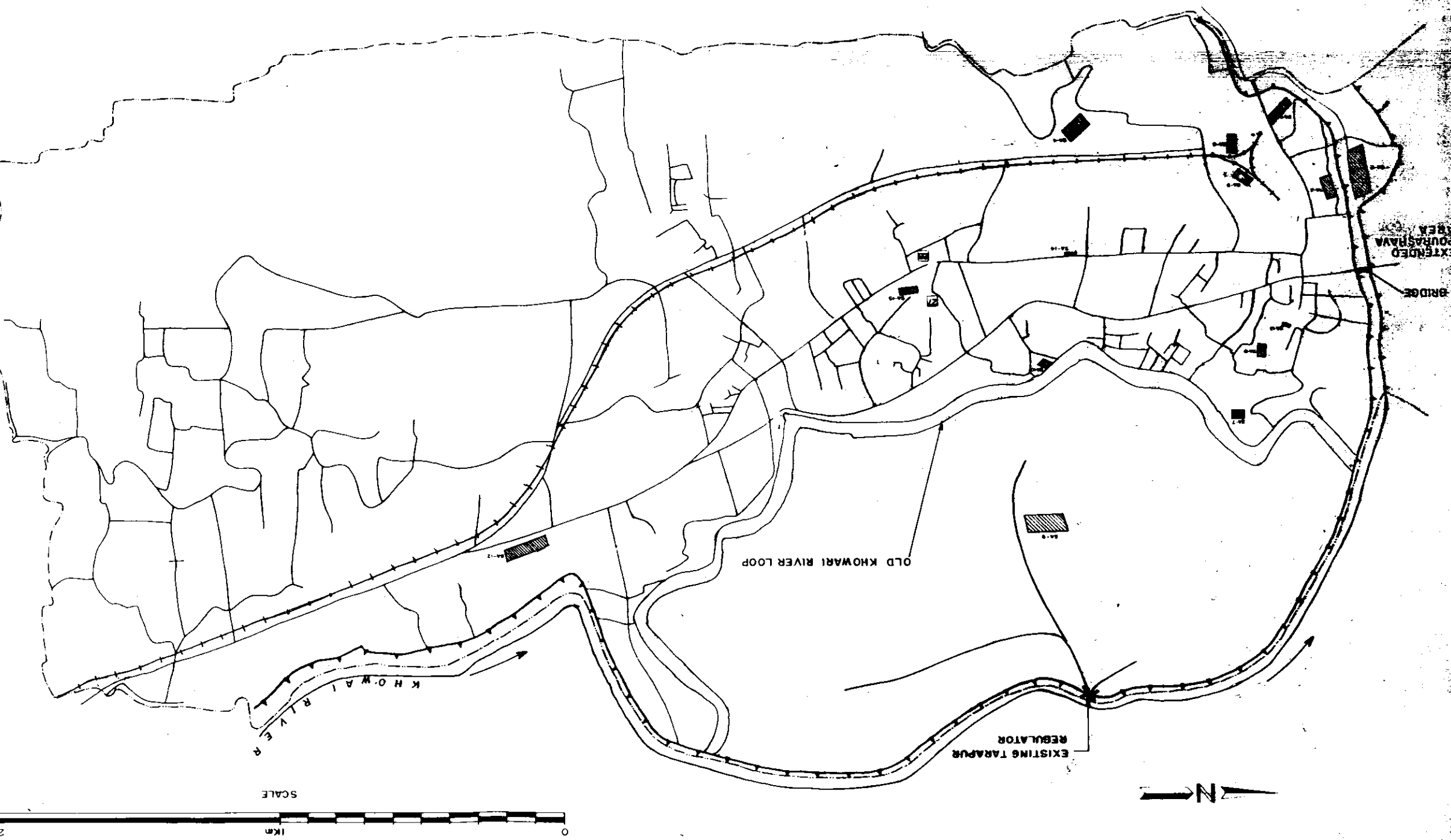
GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

HALCROW

SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

**PANCHAGARH
FLOOD PROTECTION AND
EROSION**

DRAWING NO. 2.4



DRAWING NO. 2.5

HABIGANJ FLOOD PROTECTION AND EROSION

SECONDARY TOWNS INTEGRATED FLOOD PROTECTION

HALCROW

GOVERNMENT OF BANGLADESH/ ASIAN DEVELOPMENT BANK

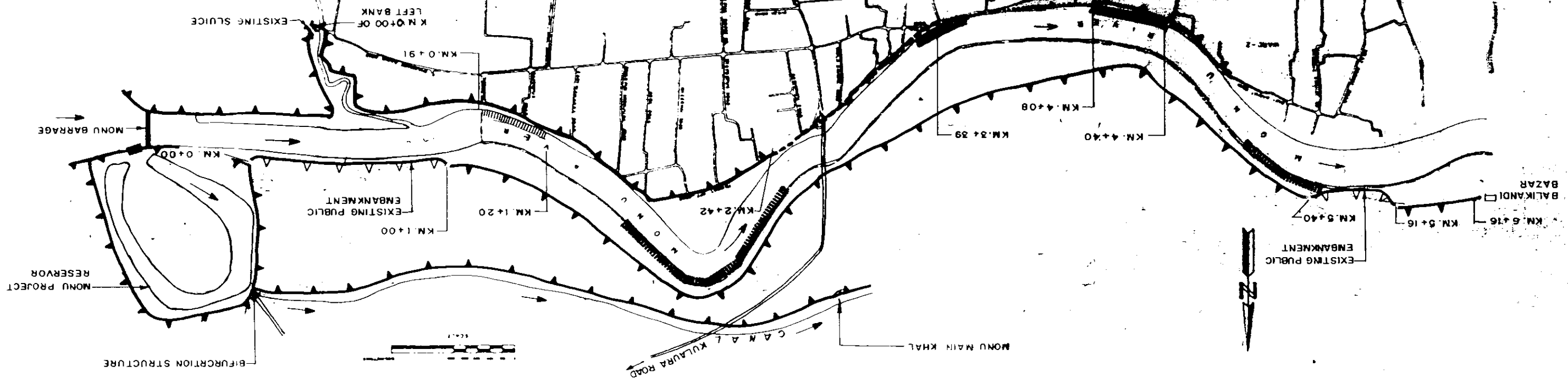
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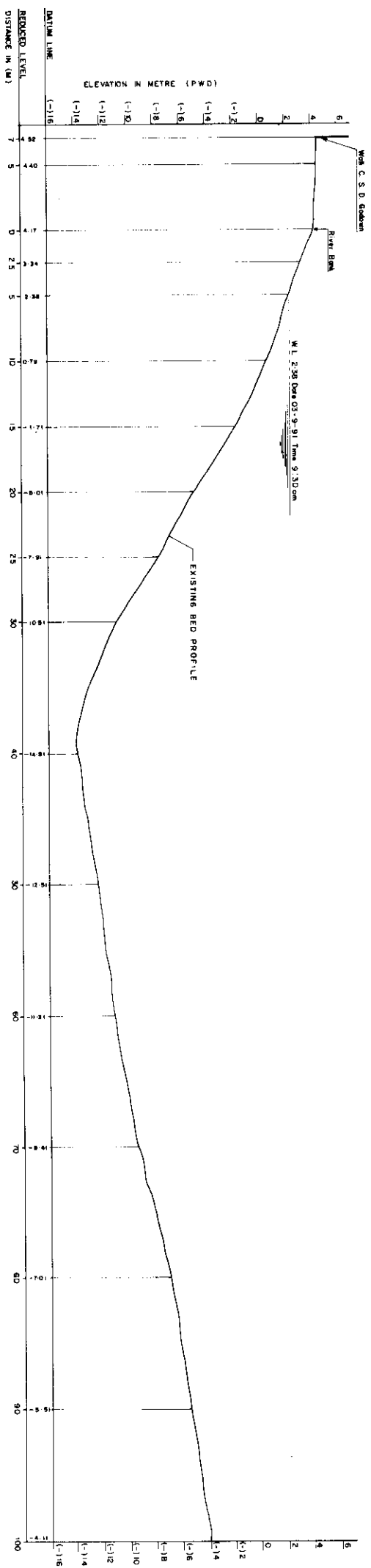
- EXISTING EMBANKMENT
- LOOP CUT
- EROSION ZONE
- SLUM/SQUATTER AREA

NOTES

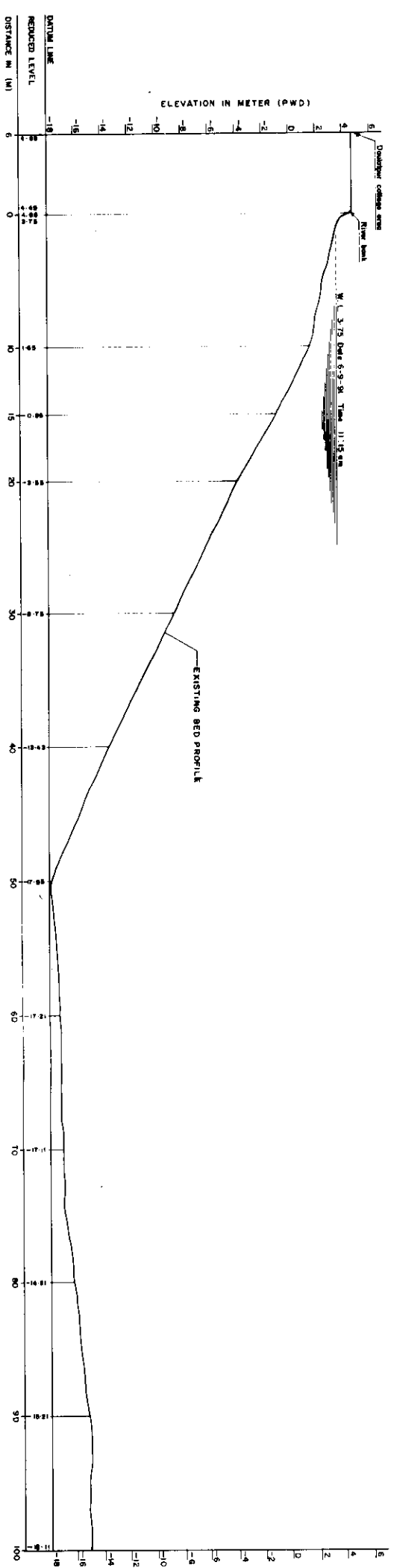
1. SURVEY OF POUASHAWA AREA BASED ON LAND USE PLAN HABIGANJ, POUASHAWA, UDD. 94M.

2. LOCATION MAP IS A COMPOSITE MAP BASED ON 1980 SPOT IMAGE MADE FOR THE KHOWA RIVER AND THE WADIA RIVER FOR POUASHAWA BOUNDARY. ADDITIONAL DETAIL IN THE AREA SHOWN DURING THE POUASHAWA WAS OBTAINED FROM A 1:50,000 SCALE 1978 MAPPING.





CROSS SECTION NO. 1 AT CSD GOODOWN



CROSS SECTION NO. 2 AT DAULATPUR COLLEGE

REV	NO.	DATE	BY	CHKD	DATE	BY
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CLIENT

GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

PROJECT

SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

DRAWING

KHULNA

CROSS SECTION OF BHARAB-RUPSA RIVER
SHEET NO. 1 OF 6

DRAWING NO.

2.7a

PROGRESSIVE SURVEY ORGANIZATION
(P.S.O.) P.O. Box 100, Dhaka

DATE

10/09/91

SCALE

1:200

DATE

10/09/91

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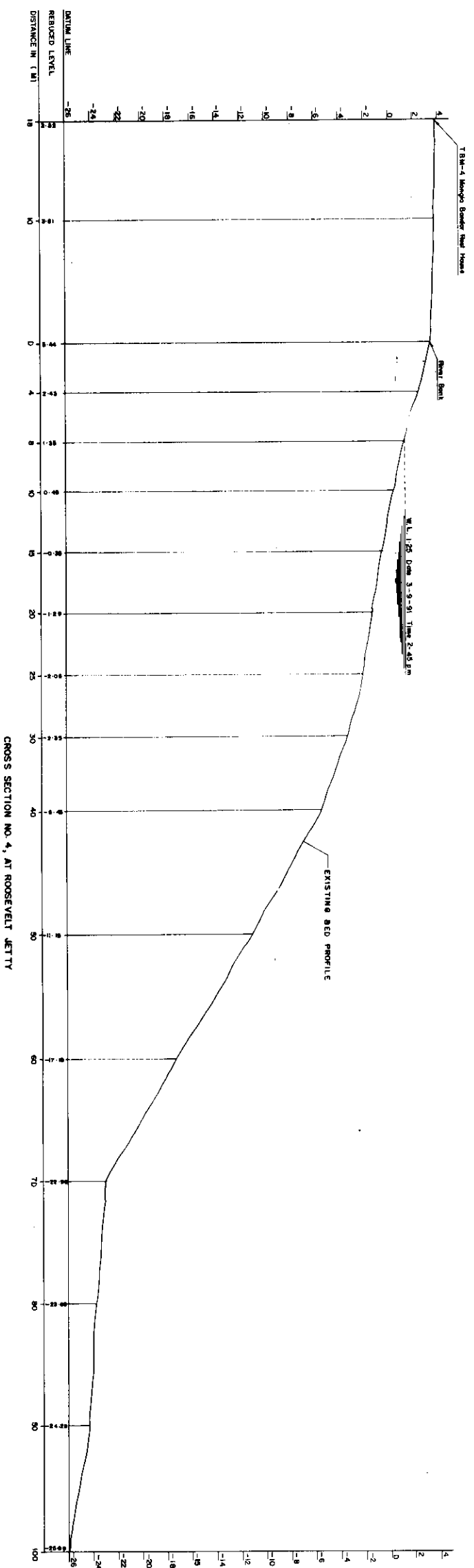
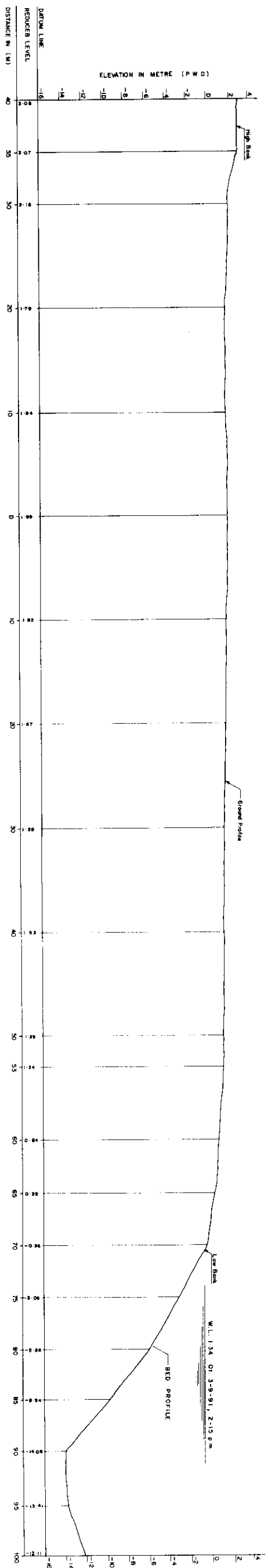
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REV.	DATE	BY	CHKD.	DATE
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CLIENT

GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

HALCROW

Office Address
House 250
Road 13A
Barisal, Bridge-1215

PROJECT

SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

DRAWING NO.

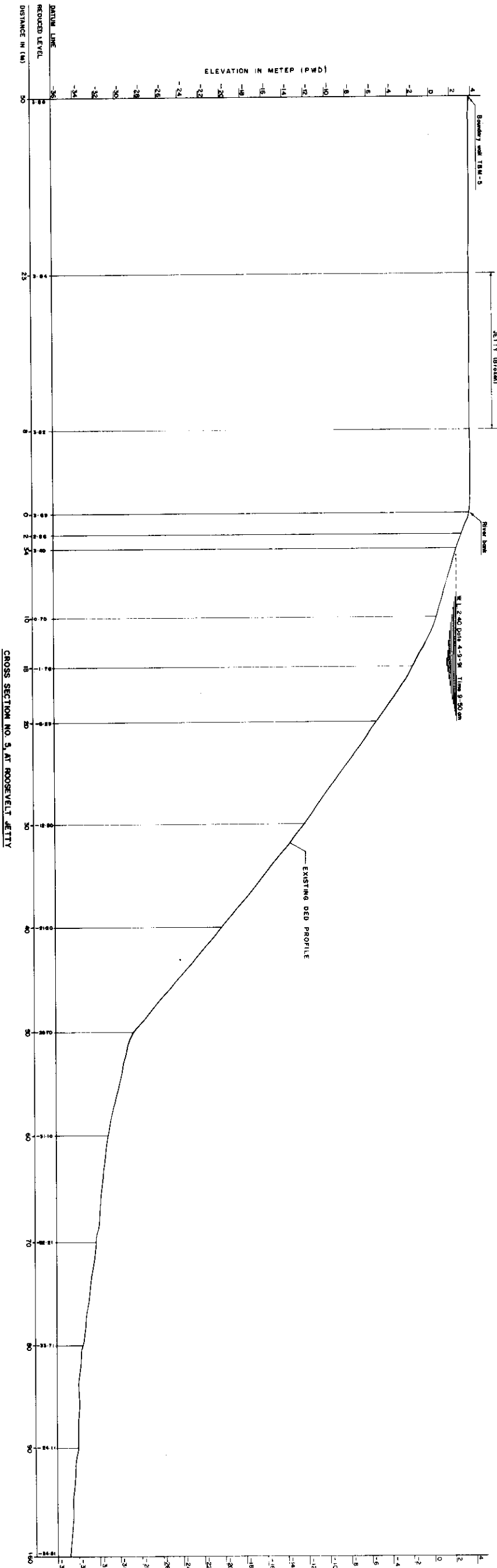
KHULNA

CROSS SECTION OF BHAIRAB-RUPSA RIVER

SHEET NO. 2 OF 6

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11/200	W.H.	W.H.
DATE	DATE	DATE
11/200	11/200	11/200

STEP: 2-7b

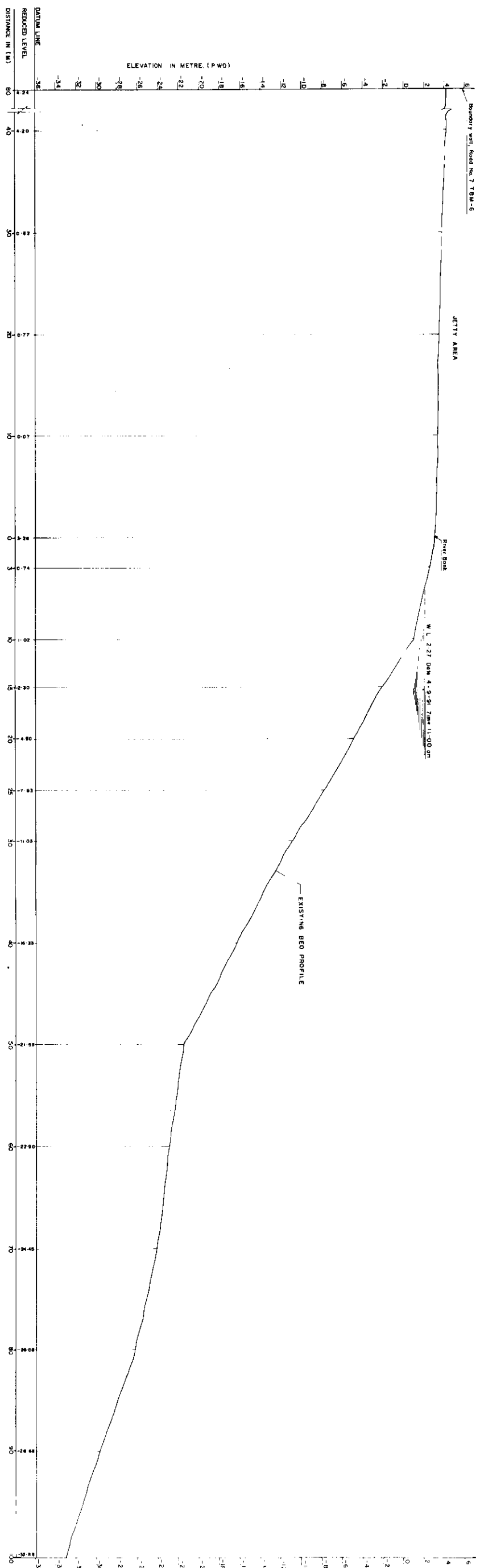


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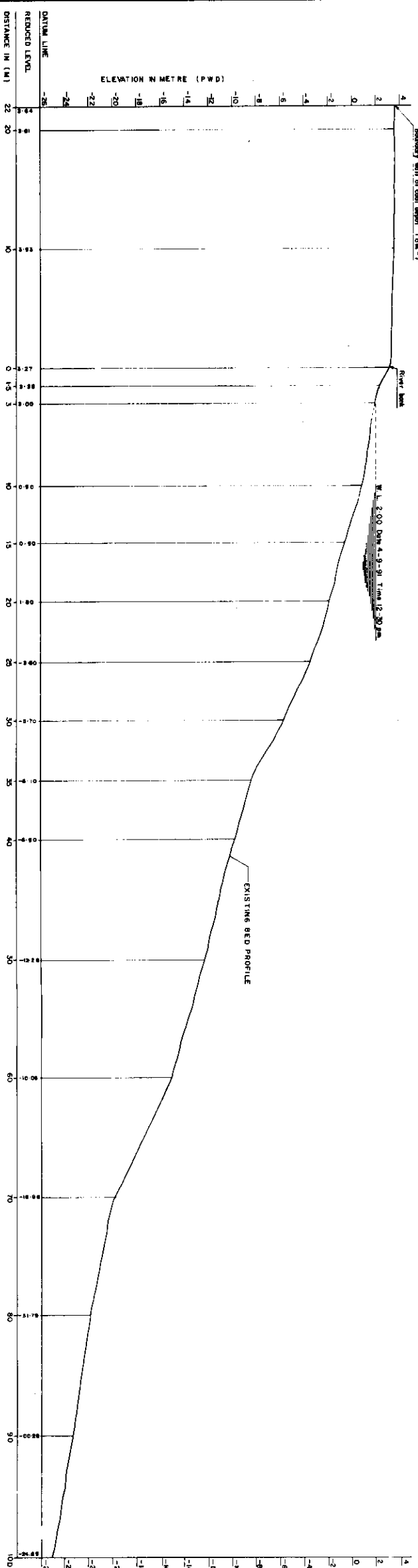
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CLIENT	GOVERNMENT OF BANGLADESH/ ASIAN DEVELOPMENT BANK
PROJECT	SECONDARY TOWNS INTEGRATED FLOOD PROTECTION
LOCATION	KHULNA
DRAWING NO.	CROSS SECTION OF BHARAB-RUPSA RIVER SHEET NO. 3 OF 6
STAFF	2-7c

DESIGN	CHECKED	DATE	SEPT. '91
TRACED	SCALE	1:200	
DRAWING NO.	PROJECTIVE SURVEY ORGANIZATION	REV	
STAFF	2-7c		



CROSS SECTION NO. 6, AT ROOSEVELT JETTY



CROSS SECTION NO. 7, AT ROOSEVELT JETTY

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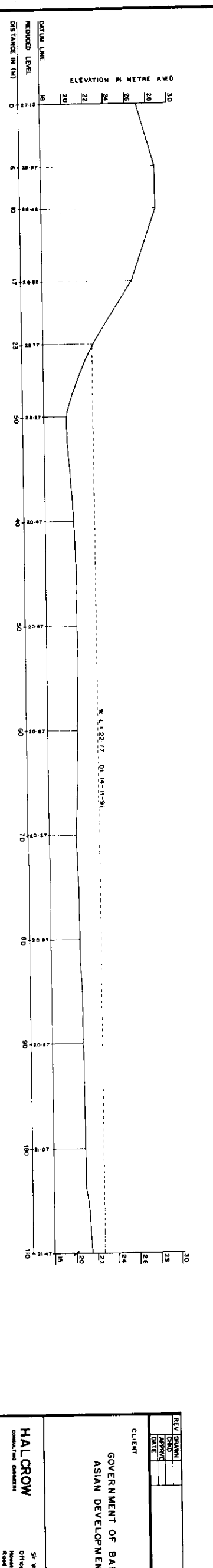
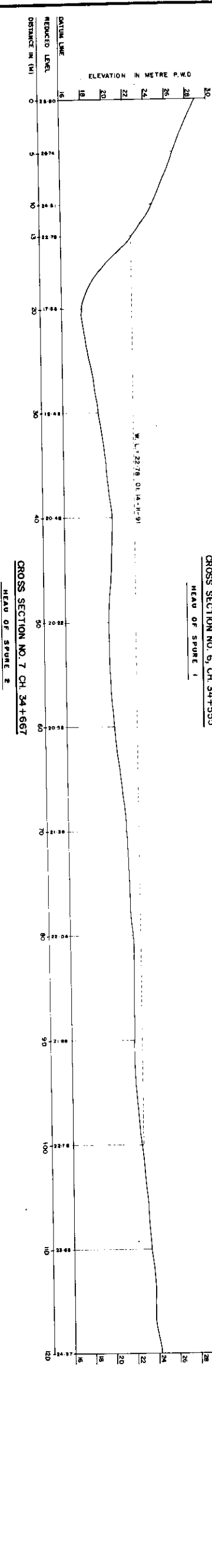
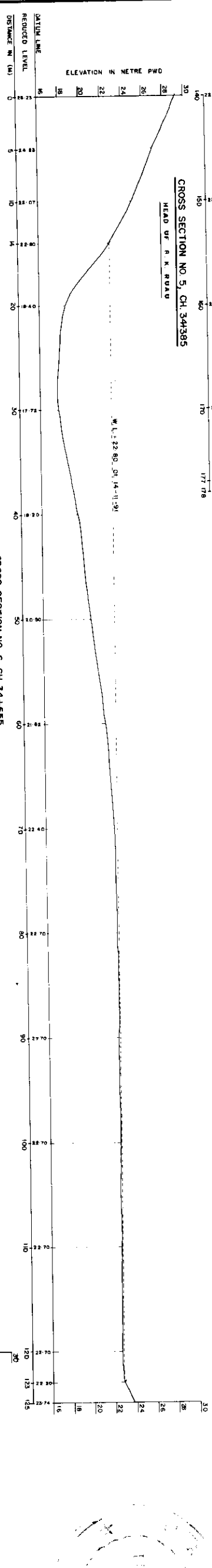
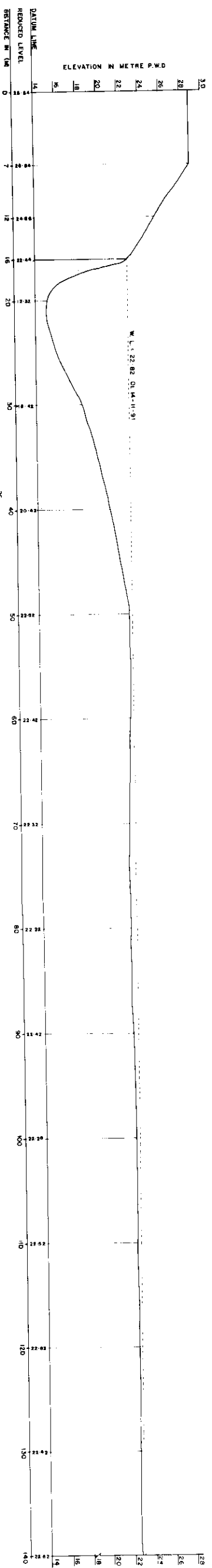
PROJECT: SECONDARY TOWNS INTEGRATED FLOOD PROTECTION

CLIENT: GOVERNMENT OF BANGLADESH/ ASIAN DEVELOPMENT BANK

DESIGNING: HALCROW

DRAWING NO: CROSS SECTION OF BHARAB-RUPSA RIVER SHEET NO. 4 OF 6

STIP: 2.7d



REV. DRAWN	CHECKED	DATE	BY
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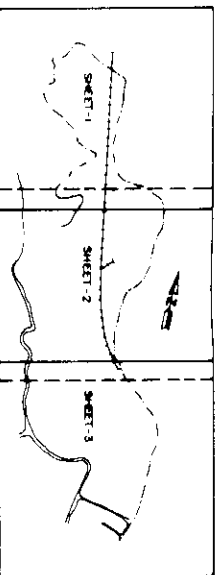
CLIENT
GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

PROJECT
SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

DRAWING
KURIGRAM
CROSS SECTION OF DHARLA RIVER
SHEET NO. 4 OF 5

DATE: 10/10/91
SCALE: 1:200
DATE: 10/10/91
STEP: 2-9

PROGRESSIVE SURVEY ORGANIZATION
P.O. Box 100, Dhaka-1213
Phone: 511713



SHEET LOCATION PLAN



SCALE



SHEET OVER LAP

LEGEND

- MAIN DRAIN AND DIRECTION OF FLOW
- SECONDARY DRAIN AND DIRECTION OF FLOW
- SECTION ON PUCCA/SEMI PUCCA
- SECTION ON DRAINS PREDOMINANTLY KATCHA
- DRAINAGE OUTFALL
- MUNICIPAL BOUNDARY
- CONTOUR M PWD
- SLUM/SQUATTER AREA
- ESTIMATED CATCHMENT BOUNDARY
- BIFURCATION OF DRAINS WHERE STORM OVERFLOWS PARTIALLY DIVERT TO ADJACENT CATCHMENT
- POLDER NUMBER
- EMBANKMENT

NOTES

- SURVEY PREPARED BY KHULNA MUNICIPALITY
- ONLY THE MORE IMPORTANT PRIMARY AND SECONDARY DRAINS ARE SHOWN ON THE DRAWING. TERTIARY DRAINS ARE OMITTED FOR CLARITY
- SLUM/SQUATTER AREAS TO BE RELOCATED
- SA-5, 10 & 20
- SLUM/SQUATTER AREAS IN UNICEF PROGRAMME
- SA-6 & 20

REV	DESCRIPTION	DATE
1	ISSUED FOR TENDERS	11/04/99
2	ISSUED FOR TENDERS	11/04/99

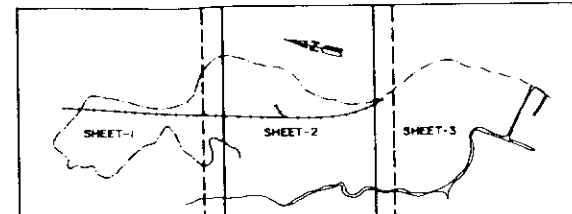
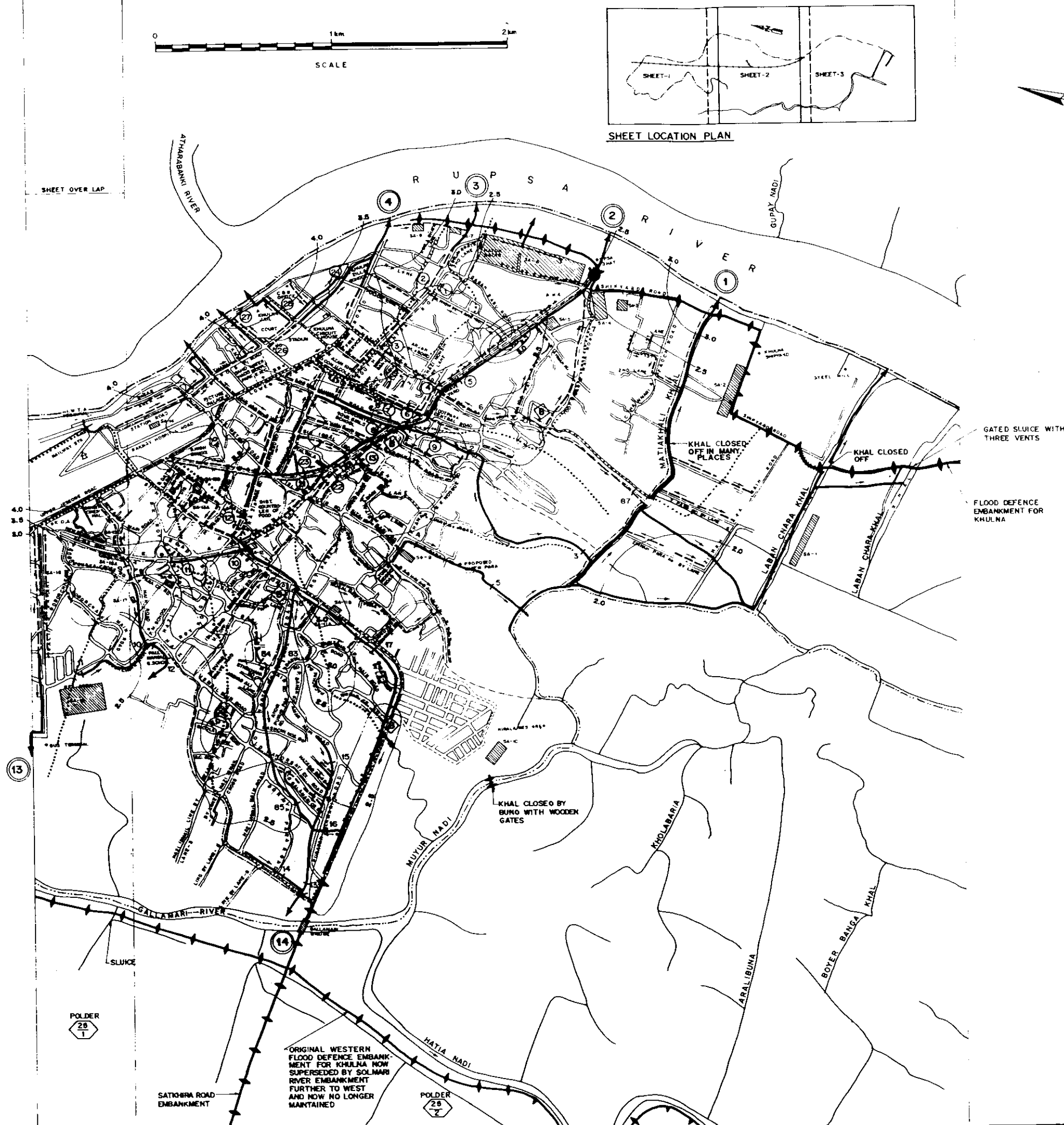
CLIENT
GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

PROJECT
SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

DRAWING
KHULNA

EXISTING DRAINAGE SYSTEM
SHEET NO. 1 OF 3

DRAWING NO. 2.10 d

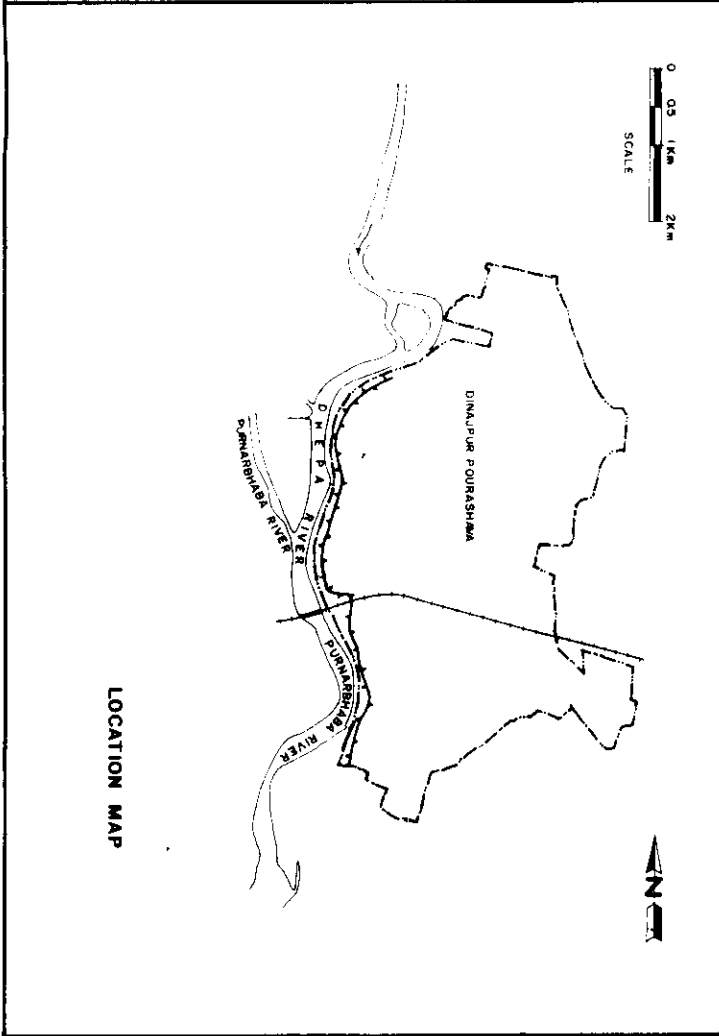
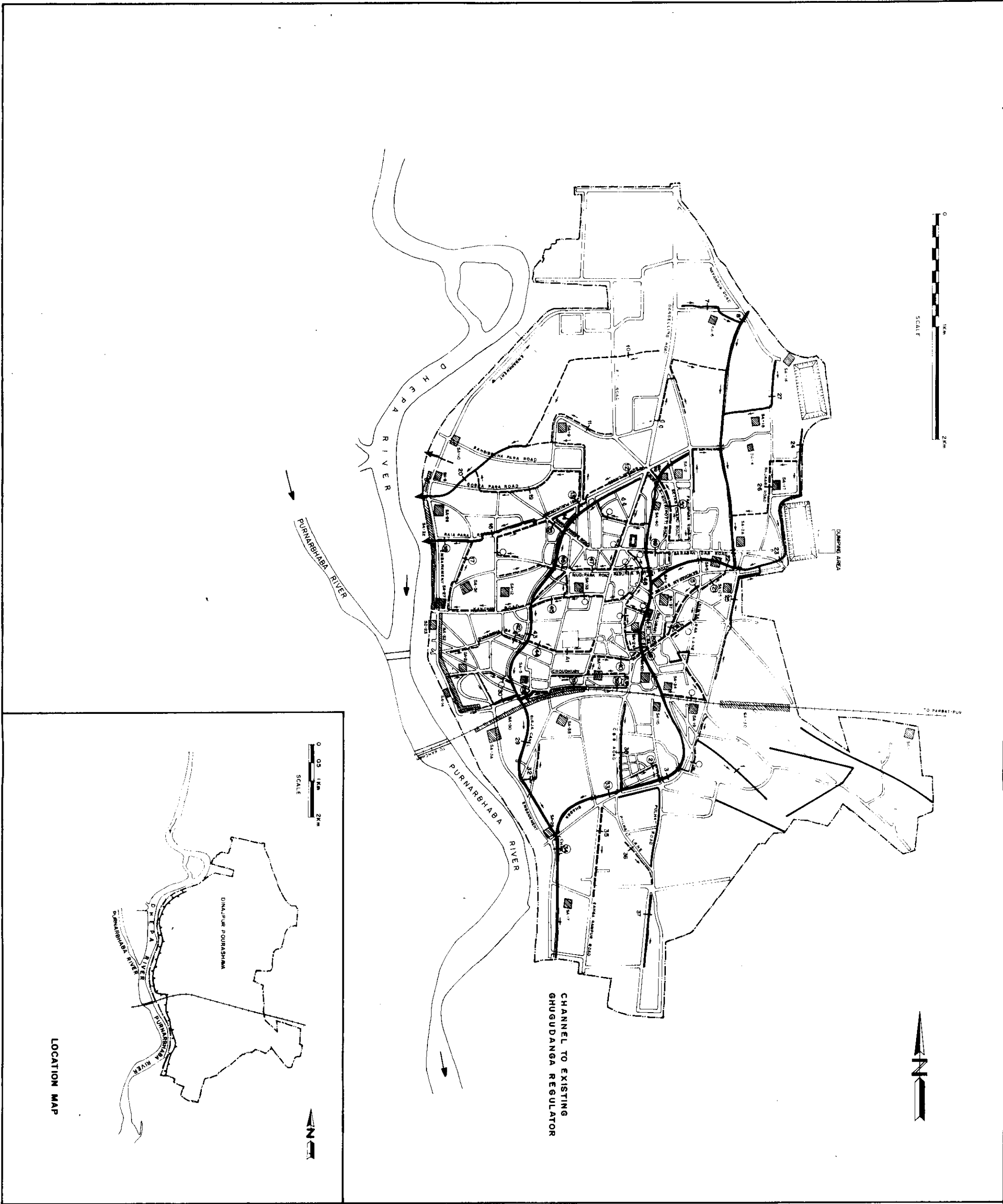


SHEET LOCATION PLAN

- LEGEND**
- MAIN DRAIN AND DIRECTION OF FLOW
 - - - SECONDARY DRAIN AND DIRECTION OF FLOW
 - ⑤ SECTION ON PUGCA/SEMI PUGCA
 - ③ SECTION ON DRAINS PREDOMINANTLY KATCHA
 - ④ DRAINAGE OUTFALL
 - MUNICIPAL BOUNDARY
 - 4 CONTOUR M PWD
 - ▨ SLUM/SQUATTER AREA SA-5
 - ESTIMATED CATCHMENT BOUNDARY
 - ⊕ BIFURCATION OF DRAINS WHERE STORM OVERFLOWS PARTIALLY DIVERT TO ADJACENT CATCHMENT
 - 28 1 POLDER NUMBER
 - EMBANKMENT
 - PUMPHOUSE FOR HANDLING DRAINAGE DISCHARGES AT TIMES OF HIGH TIDE

- NOTES**
1. SURVEY PREPARED BY KHULNA MUNICIPALITY
 2. ONLY THE MORE IMPORTANT PRIMARY AND SECONDARY DRAINS ARE SHOWN ON THE DRAWING. TERTIARY DRAINS ARE OMITTED FOR CLARITY.
 3. SLUM/SQUATTER AREAS TO BE RELOCATED SA-5, 13 & 25
 4. SLUM/SQUATTER AREAS IN UNICEF PROGRAMME SA-6 & 20

REV	DRAWN	CHECKED	APPROVED	DATE
CLIENT				
GOVERNMENT OF BANGLADESH/ ASIAN DEVELOPMENT BANK				
HALCROW			Sir William Halcrow & Partners Ltd. Office Address House 250 Road 13A Baran, Dhaka-1213	
PROJECT				
SECONDARY TOWNS INTEGRATED FLOOD PROTECTION				
DRAWING				
KHULNA EXISTING DRAINAGE SYSTEM SHEET NO. 3 OF 3				
DRAWN	CHECKED	APPROVED		
TRACED	SCALE AS SHOWN	DATE 11/08/1991		
DRAWING NO.				REV
2.10 c				



LEGEND

Legend symbols for drainage system components:

- MAIN DRAIN AND DIRECTION OF FLOW
- SECONDARY DRAIN AND DIRECTION OF FLOW
- MAIN DRAIN, PUCCA WITH SECTION
- MAIN DRAIN, KATCHA WITH SECTION
- SECONDARY DRAIN, PUCCA WITH SECTION
- SECONDARY DRAIN, KATCHA WITH SECTION
- SECONDARY DRAIN, PUCCA
- SLUM/SQUATTER AREA

NOTES

1. BASE MAP PREPARED BY DINAJPUR MUNICIPALITY
2. SLUM/SQUATTER AREAS TO BE RELOCATED
SA-20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 & 32
3. SLUM/SQUATTER AREAS IN UNICEF PROGRAMME
SA-33, 34, 35, 36, 37, 38, 39 & 40

CLIENT

GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

HALCROW

Sir William Holme & Partners Ltd
Office Address
House 27/3
Road 13/6
Bongra, Dhaka-128

PROJECT

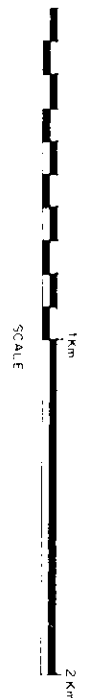
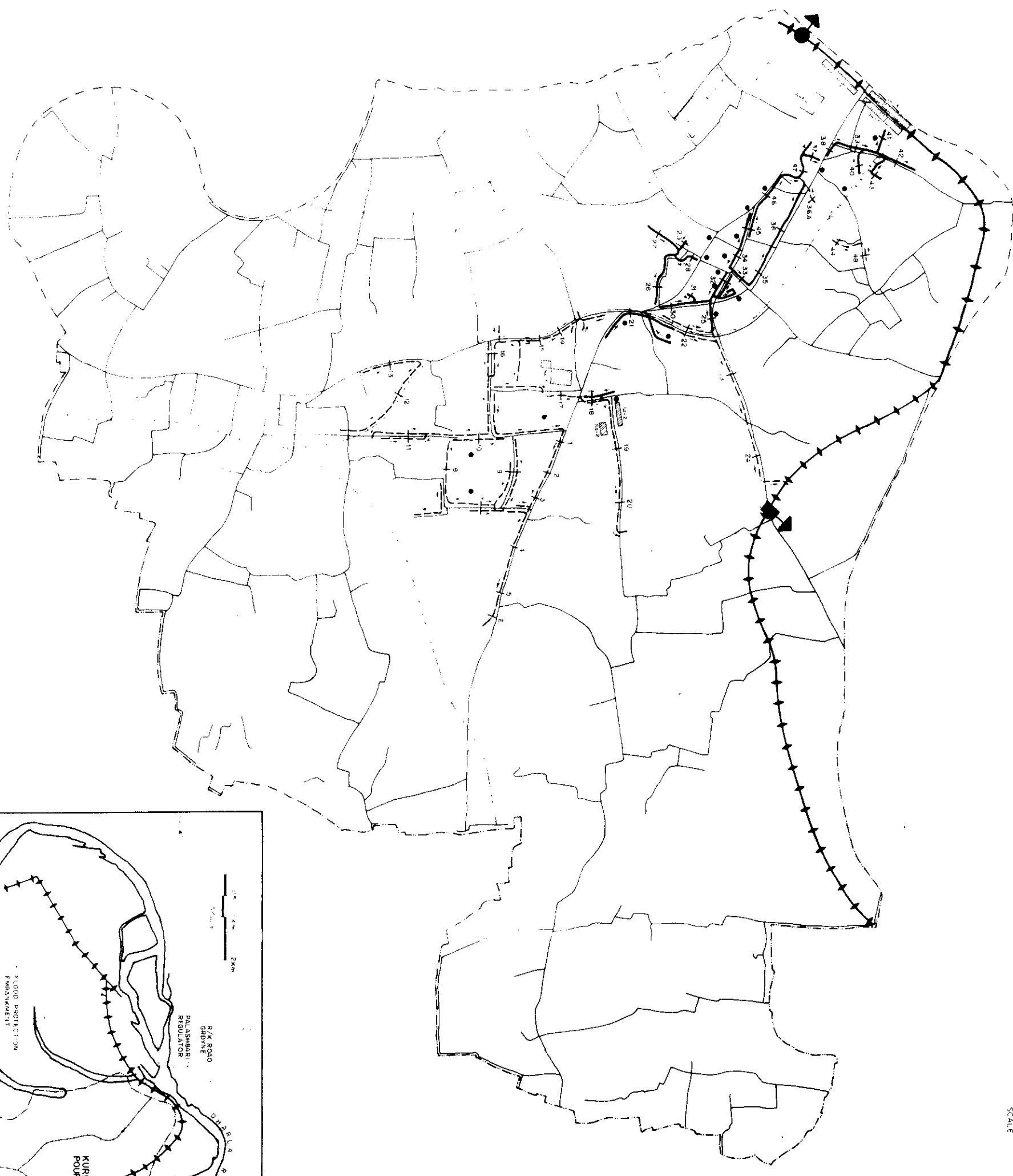
SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

DRAWING

DINAJPUR
EXISTING DRAINAGE SYSTEM

DRAWN	CHECKED	APPROVED
TRACED	SCALE AS SHOWN	DATE 13/08/1981
REV		

DRAWING No 2.11



- LEGEND**
- +— FLOOD DRAIN AND SECTION
 - +— KATCHA DRAIN AND SECTION
 - SLUM/SQUATTER AREA
 - ROAD
 - EMBANKMENT
 - POURASHAVA BOUNDARY
 - EXISTING REGULATOR
 - EXISTING UNGATED CULVERT

NOTES

1. SURVEY OF POURASHAVA AREA BASED ON LAND REVENUE RECORDS, GOVERNMENT OF BANGLADESH, 1988.

2. LOCATION PLAN IS A COMPOSITE MAP BASED ON 1990 SRTI MAP FOR THE LOCATION OF CHARLA RIVER AND MAPS FROM 1. ABOVE FOR THE POURASHAVA BOUNDARY.

CLIENT

GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

HALCROW

Sir William Horrocks & Partners Ltd
100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

PROJECT

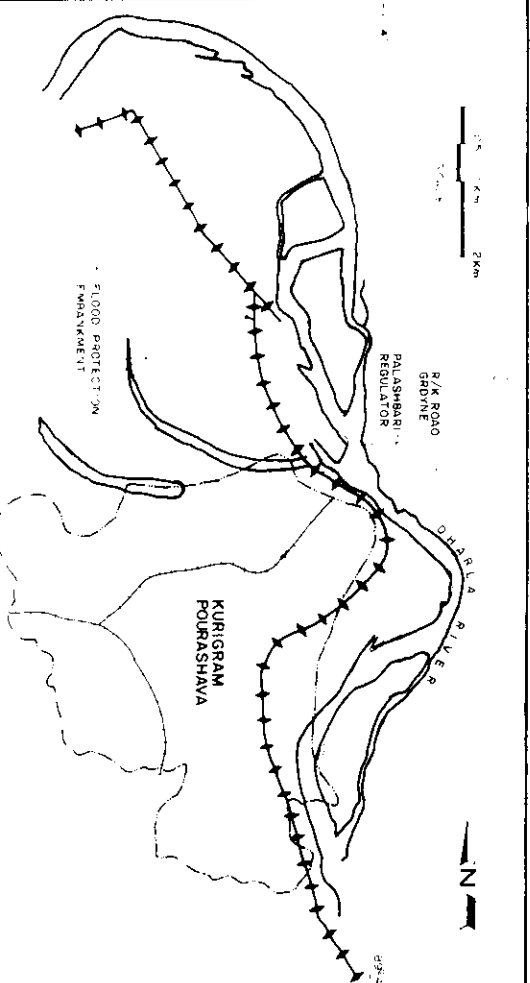
SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

DRAWING

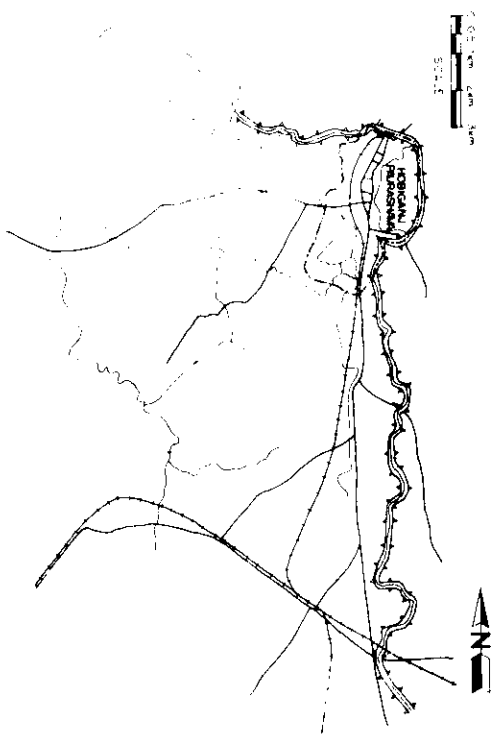
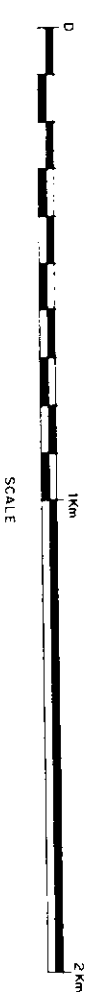
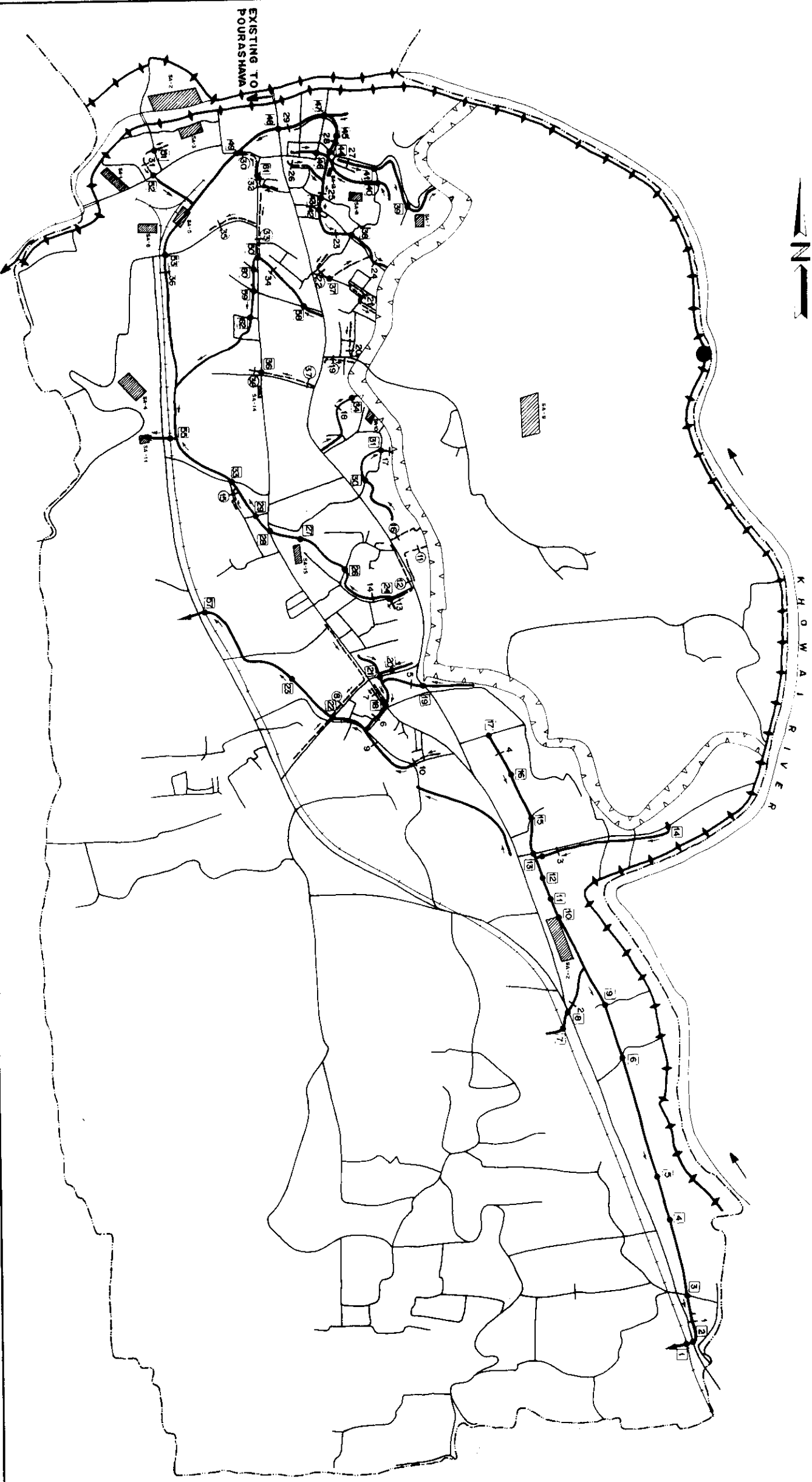
KURIGRAM
EXISTING DRAINAGE SYSTEM

DRAWING No

2. 12



LOCATION MAP



- LEGEND**
- MAIN DRAIN AND DIRECTION OF FLOW
 - SECONDARY DRAIN AND DIRECTION OF FLOW
 - MAIN DRAIN, KATCHA WITH SECTION
 - SECONDARY DRAIN, PUCCA WITH SECTION
 - SECONDARY DRAIN, KATCHA WITH SECTION
 - SECONDARY DRAIN, PUCCA (WITH SECTION)
 - FLOOD PROTECTION EMBANKMENT
 - DRAINAGE STRUCTURE
 - SLUM/SQUATTER AREA
 - EXISTING REGULATOR

NOTES

1. SURVEY OF POURASHVA AREA BASED ON LAND USE PLAN HABIGANJ POURASHVA, JOD, 1988.

2. LOCATION MAP IS A COMPOSITE MAP BASED ON 1990 SPOT IMAGE MAP FOR THE KHOWAI RIVER AND THE MAP IN 1, ABOVE FOR POURASHVA BOUNDARY. ADDITIONAL DETAIL IN THE AREA SURROUNDING THE POURASHVA WAS OBTAINED FROM 1:50000 SCALE SOB MAPPING.

PREPARED BY:
DATE: 10/04/91

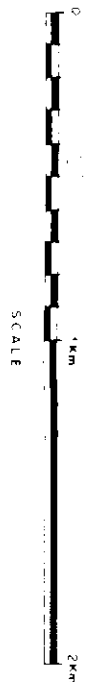
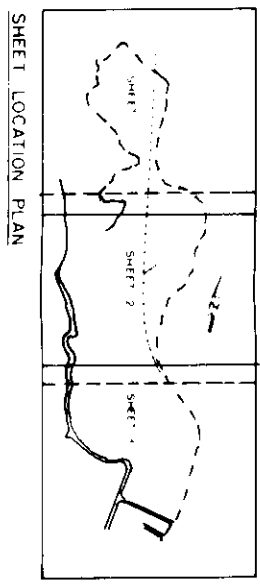
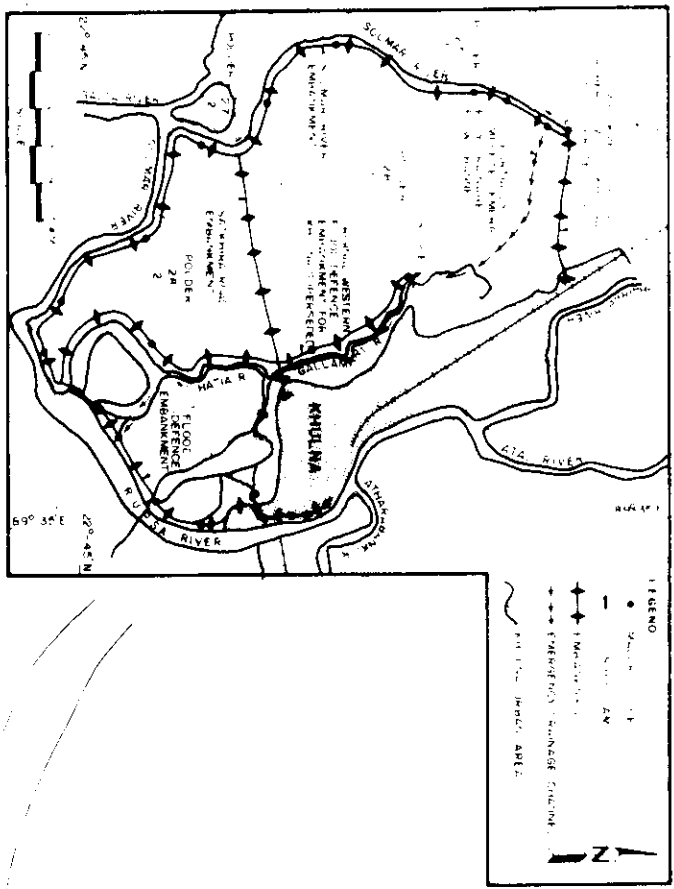
CLIENT:
GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

HALCROW
SIR WILSON HARRISON & PARTNERS LTD
27, ST. ANDREW'S
CHURCH LANE, LONDON, E.C. 4A, U.K.
TELEPHONE: 01-479 9600
FAX: 01-479 9601

PROJECT:
SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

DRAWING:
HABIGANJ
EXISTING DRAINAGE SYSTEM

DRAWN BY: [Signature]
CHECKED BY: [Signature]
SCALE: AS SHOWN
DATE: 11/04/91
REV: 1
DRAWING No 2.13



PARTIALLY COMPLETED
EMERGENCY FLOW CHANNEL
FROM SOLMARI RIVER
STUICE



INADEQUATE DRAINAGE
TOWARDS SOLMARI RIVER

ROAD ON EMBANKMENT
FORMING NORTHERN LIMIT
OF FLOOD PROTECTION TO
KHULNA CITY AND POLDER 28

NATURAL DRAINAGE TOWARDS
GALLAMARI RIVER



LEGEND

- MAIN DAM AND SHEET PILE ON T.W.
- SECONDARY DAM AND SHEET PILE ON T.W.
- SECTION ON PIERS/SEMI-PIERS
- SECTION ON DRAINS/PREDOMINANT KATCHA
- DRAINAGE OUTFALL
- MUNICIPAL BOUNDARY
- CONTROL M.L.W.
- SLOW/SQUATTER AREA
- ESTIMATED CATCHMENT BOUNDARY
- BIFURCATION OF DRAINS WHERE STORM OVERFLOWS PARTIALLY DIVERT TO ADJACENT CATCHMENT
- POLDER NUMBER
- EMBANKMENT
- DETAILED STUDY CATCHMENTS

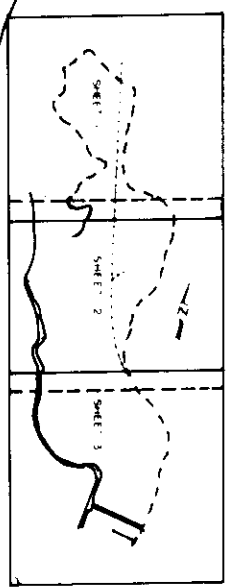
- UNPROTECTED AREAS (OR AREAS OF UNCERTAIN PROTECTION) BELOW HIGH TIDE LEVEL
- PROTECTED AREAS FLOODED AFTER HEAVY RAINFALL THROUGH COMBINATION OF BACK-UP FROM OUTFALLS TO TIDAL RUPSA RIVER AND INADEQUATE FALLS AND DIMENSIONS OF EXISTING DRAINS
- PROTECTED AREAS FLOODED AFTER HEAVY RAINFALL BECAUSE OF INADEQUATE FALLS AND DIMENSIONS OF EXISTING DRAINS
- PROTECTED LOW LYING AREAS FLOODED FROM TIME TO TIME EITHER BECAUSE OF BACK-UP FROM NON-TIDAL GALLAMARI RIVER OR INUNDATED DELIBERATELY FOR RICE CULTIVATION OR FISH CULTURE
- PROTECTED AREA (WITHIN POLDER 28 EMBANKMENTS) FLOODED AFTER HEAVY RAINFALL BECAUSE OF INADEQUATE DRAINAGE TOWARDS SOLMARI RIVER

CLIENT
GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

PROJECT
SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

DRAWING
KHULNA
FLOODING DUE TO RAINFALL
SHEET NO. 1 OF 3

DRAWING No. 2.140



DATE: 11/11/2011

SHEET LOCATION PLAN

Sheet 7 of 12

BHAIRAB RIVER

Circular concrete structure

Circular concrete structure

ATAI RIVER

α 1 ν ε α

SLUICE
BRIDGE

POLDER
28
1

SLURF

ORIGINAL WESTERN FLOOD DEFENCE
EMBANKMENT FOR KHULNA NOW
SUPERSEDED BY SOLMARI RIVER
EMBANKMENT FURTHER TO WEST AND
NOW NO LONGER MAINTAINED

LEGEND

MAIN : KANONI DIRECTOR OF PLCW

SECURITY TRAINING DIRECTIVE • CW

SECTION 2. PUCCA/SEMI PUCCA

SECTION 17, FRANKS & HELM/OMINARI & T
KATCHEA

DRAINAGE OUTFALL

MUNICIPAL PRIMARY

CONTOLUR M PWG

SLUM/ SQUATTER AREA

ESTIMATED CATCHMENT BOUNDARY

BIFURCATION OF DRAINS WHERE STORM
OVERFLOWS PARTIALLY DIVERT TO
ADJACENT CATCHMENT

POLDER NUMBER

EMBAKMENT

DETAILED STUDY CATCHMENT:

UNPROTECTED AREAS (OR AREAS
OF UNCERTAIN PROTECTION)
BELOW HIGH TIDE LEVEL

PROTECTED AREAS FLOODED
AFTER HEAVY RAINFALL
THROUGH COMBINATION OF BACK-
UP FROM OUT-FALLS TO TIDAL
RUPSA RIVER AND INADEQUATE
FALLS AND DIMENSIONS OF
EXISTING DRAINS.

PROJECTED AREAS FLOODED
AFTER HEAVY RAINFALL
BECAUSE OF INADEQUATE FALLS
AND DIMENSIONS OF EXISTING
DRAINS.

PROTECTED LOW LYING AREAS
FLOODED FROM TIME TO TIME
EITHER BECAUSE OF BACK-UP
FROM NON-TIDAL GALLAMARI
RIVER OR INUNDATED
DELIBERATELY FOR RICE
CULTIVATION OR FISH
CULTURE.

GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

HALCROW

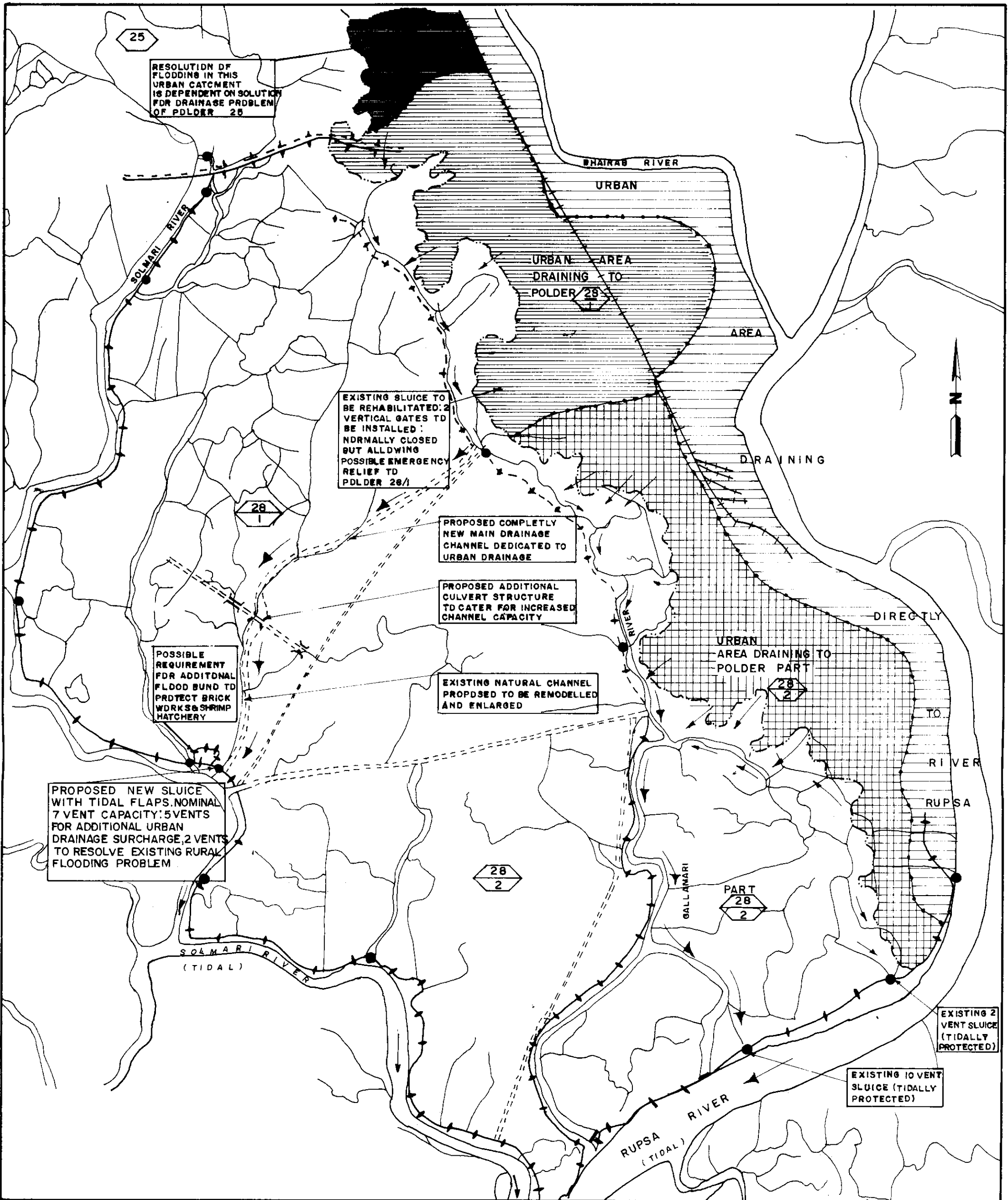
SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

DRAWING

KHULNA

FLOODING DUE TO RAINFALL
SHEET NO. 2 OF 3

DRAWING NO 2.14.b



LEGEND

- EXISTING MAIN DRAIN REQUIRING IMPROVEMENT
- EXISTING SECONDARY DRAIN REQUIRING IMPROVEMENT IN SOME SECTIONS
- EXISTING MAIN DRAIN TO BE REMODELLED (ENLARGED ONLY)
- Pucco
- Kutcha
- OR UPGRADED
- Semi-Pucco To Pucco
- Kutcha To Pucco
- SUPPLEMENTARY/TOTALLY NEW DRAIN
- Pucco
- Kutcha
- NATURAL DRAINAGE OUTLET
- DRAINAGE OUTFALL WITH TIDAL FLAP
- DRAINAGE OUTFALL WITH PUMP
- MUNICIPAL BOUNDARY
- CONTOUR M. PWD
- FOLDER NUMBER
- EMBANKMENT
- DRAINAGE CATCHMENTS WHERE IMPROVEMENT WORKS ARE PROVIDED UNDER PROJECT
- ESTIMATED CATCHMENT BOUNDARY
- CATCHMENT AREA WHERE IMPROVEMENT WORKS ARE NOT PROVIDED UNDER PROJECT

CLIENT

GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

HALCROW

CONSULTING ENGINEERS
Office Address
House 200
Bongsh, Dhaka-1215

PROJECT

SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

DRAWING

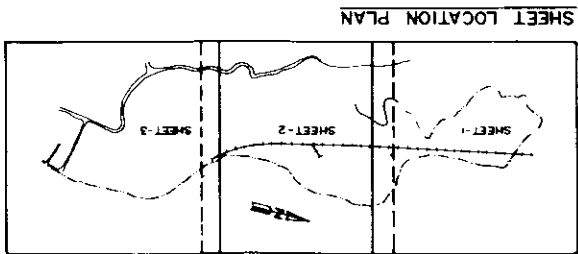
KHULNA
PROPOSED NEW SURFACE WATER
DRAINAGE SYSTEM
SHEET NO. 1 OF 3

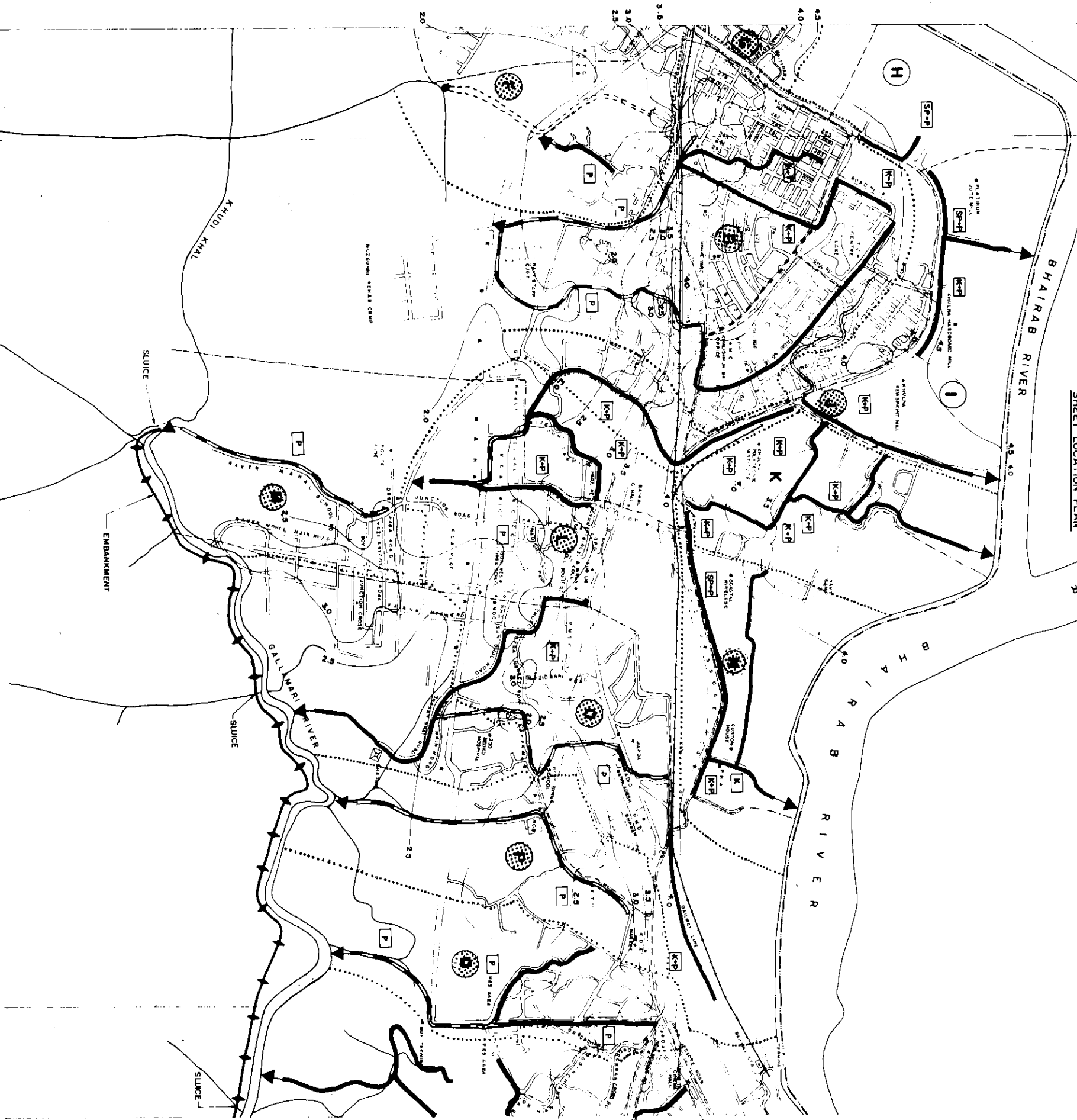
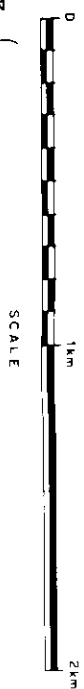
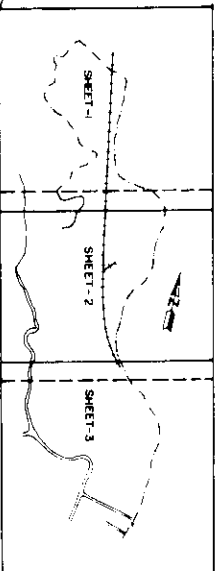
APPROVED:

SCALE: AS SHOWN

DATE: 11/04/1998

DRAWING NO. 3.2.0

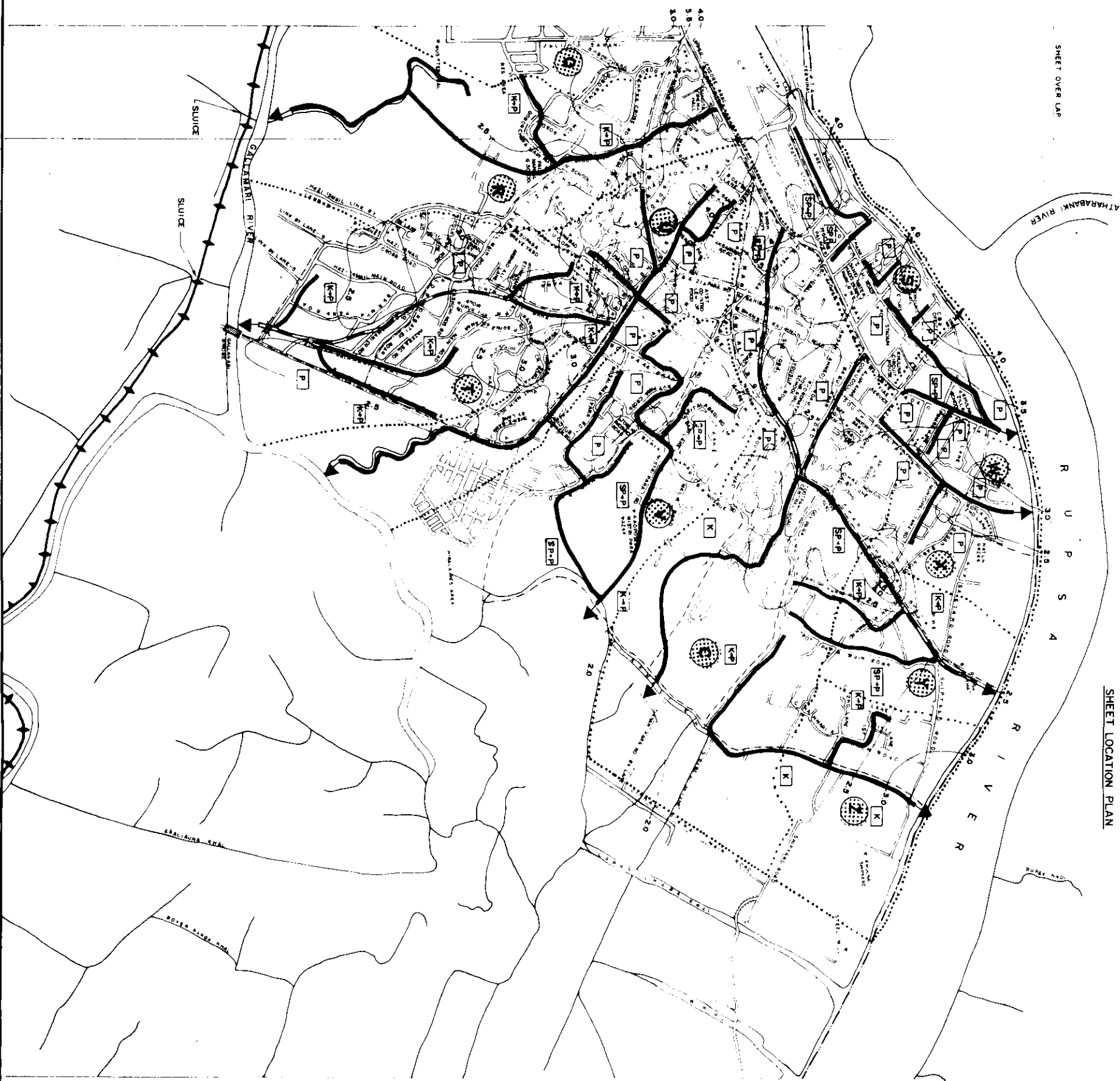
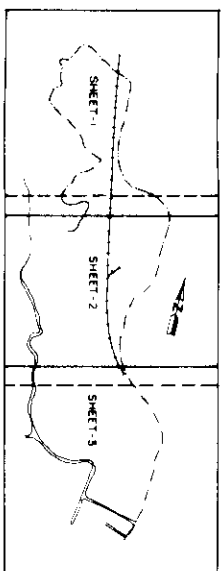




LEGEND

- EXISTING MAIN DRAIN REQUIRING NO IMPROVEMENT
- P/SP Pucco To Semi-Pucco
- K Kutcho
- EXISTING SECONDARY DRAIN REQUIRING IMPROVEMENT IN SOME SECTIONS
- P/SP Pucco / Semi-Pucco
- K Kutcho
- P Pucco
- K Kutcho
- OR UPGRADED
- Sp-a-p Semi-Pucco To Pucco
- K-a-p Kutcho To Pucco
- SUPPLEMENTARY TOTALLY NEW DRAIN
- P Pucco
- K Kutcho
- NATURAL DRAINAGE OUTLET
- DRAINAGE OUTFALL WITH TIDAL FLAP
- ORANAGE OUTFALL WITH PUMP
- MUNICIPAL BOUNDARY
- CONTOUR M. P.W.D
- POUNDER NUMBER
- EMBANKMENT
- DRAINAGE CATCHMENTS WHERE IMPROVEMENTS ARE PROVIDED UNDER PROJECT
- ESTIMATED CATCHMENT BOUNDARY
- CATCHMENT AREA WHERE IMPROVEMENT WORKS ARE NOT PROVIDED UNDER PROJECT

REV	DATE	BY	CHKD
1	11/08/99	AS	AS
CLIENT			
GOVERNMENT OF BANGLADESH/ ASIAN DEVELOPMENT BANK			
PROJECT			
SECONDARY TOWNS INTEGRATED FLOOD PROTECTION			
DRAWING			
KHULNA PROPOSED NEW SURFACE WATER DRAINAGE SYSTEM			
SHEET NO. 2 OF 3			
DRAWN	CHECKED	APPROVED	DATE
AS	AS	AS	11/08/99
DRAWING NO. 3.2b			



LEGEND

- EXISTING MAIN DRAIN REQUIRING NO IMPROVEMENT
- P/Sp Pucco To Semi-Pucco
- K Kutcha
- EXISTING SECONDARY DRAIN REQUIRING IMPROVEMENT IN SOME SECTIONS
- P/Sp Pucco / Semi-Pucco
- K Kutcha
- EXISTING MAIN DRAIN TO BE REMODELLED (ENLARGED ONLY)
- P Pucco
- K Kutcha
- OR UPGRADED
- Sp-P Semi-Pucco To Pucco
- K-P Kutcha To Pucco
- SUPPLEMENTARY TOTALLY NEW DRAIN
- P Pucco
- K Kutcha
- NATURAL DRAINAGE OUTLET
- DRAINAGE OUTFALL WITH TIDAL FLAP
- DRAINAGE OUTFALL WITH PUMP
- MUNICIPAL BOUNDARY
- 4.0 CONTOUR W PWD
- 13 POLDER NUMBER
- EMBANKMENT
- DRAINAGE CATCHMENTS WHERE IMPROVEMENT WORKS ARE PROVIDED UNDER PROJECT
- ESTIMATED CATCHMENT BOUNDARY
- H CATCHMENT AREA WHERE IMPROVEMENT WORKS ARE NOT PROVIDED UNDER PROJECT

REV

DATE

CLIENT

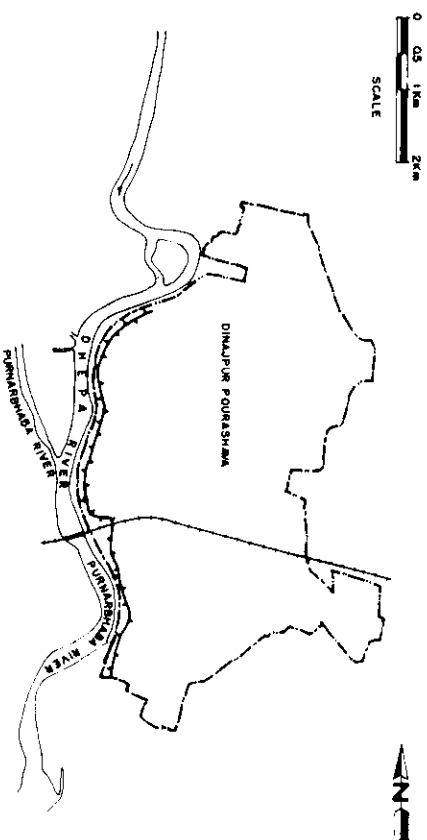
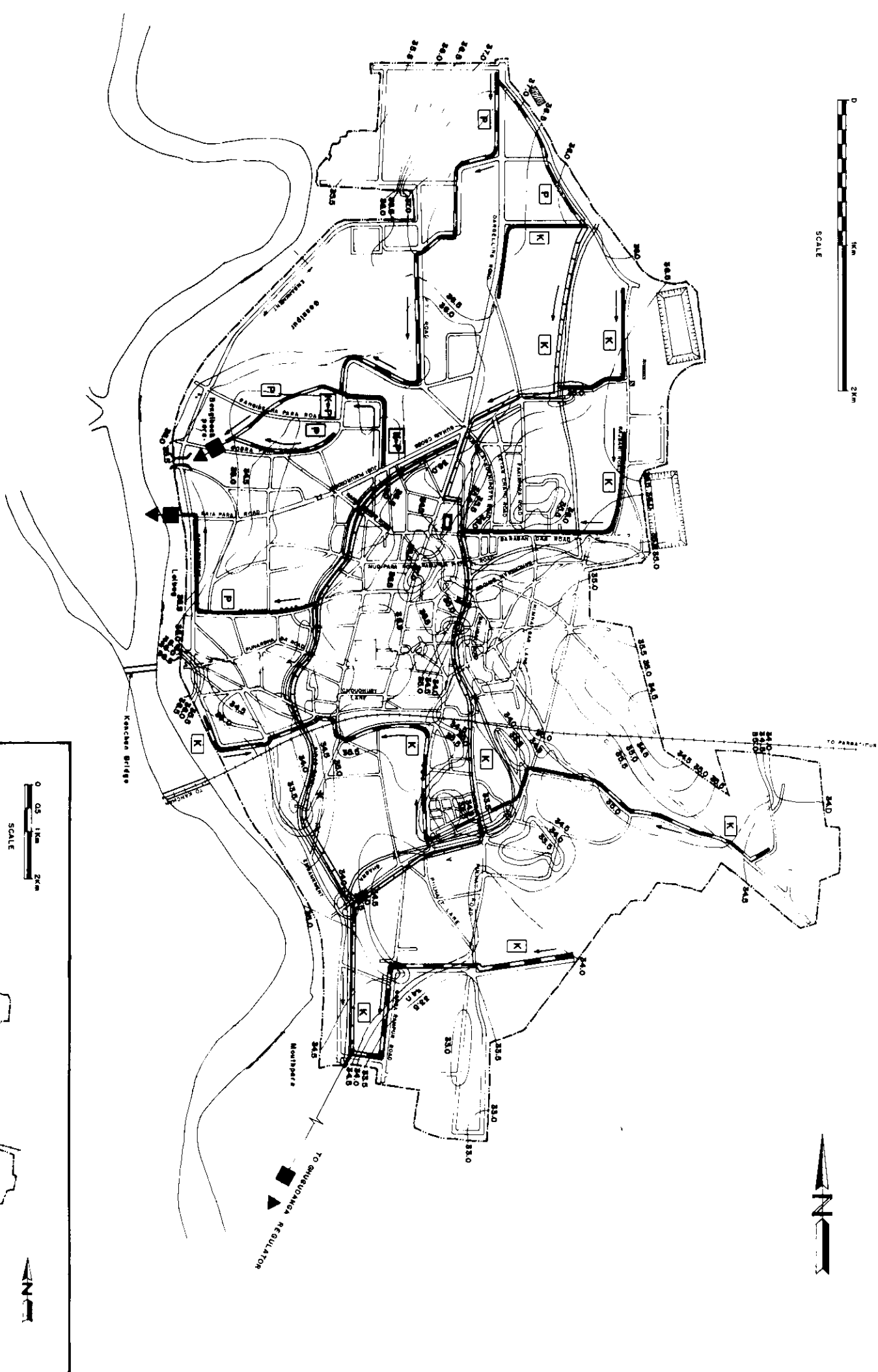
GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

HALCROW
S/- William Halcrow & Partners Ltd
Office Address
House 250
Road 13A
Bhuvan, Dhaka-1215

PROJECT
SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

DRAWING
KHULNA
PROPOSED NEW SURFACE WATER
DRAINAGE SYSTEM
SHEET NO. 3 OF 3

DRAWING NO. 3.2 c



LOCATION MAP

- LEGEND**
- EXISTING MAIN DRAIN REQUIRING NO IMPROVEMENT
 - P/SF Pucco To Sami-Pucco
 - K Kutchha
 - EXISTING SECONDARY DRAIN REQUIRING IMPROVEMENT IN SOME SECTIONS
 - P/SP Pucco / Sami-Pucco
 - K Kutchha
 - EXISTING MAIN DRAIN TO BE REMODELLED (ENLARGED ONLY)
 - P Pucco
 - K Kutchha
 - OR UPGRADED
 - SP-P Sami-Pucco To Pucco
 - K-P Kutchha To Pucco
 - SUPPLEMENTARY/TOTALY NEW DRAIN
 - P Pucco
 - K Kutchha
 - NATURAL DRAINAGE OUTLET
 - DRAINAGE DUTFALL WITH GATED OUTLET
 - DRAINAGE DUTFALL WITH PUMP
 - MUNICIPAL BOUNDARY
 - CONTOUR M. PWD
 - PROPOSED REGULATOR
 - EMBANKMENT

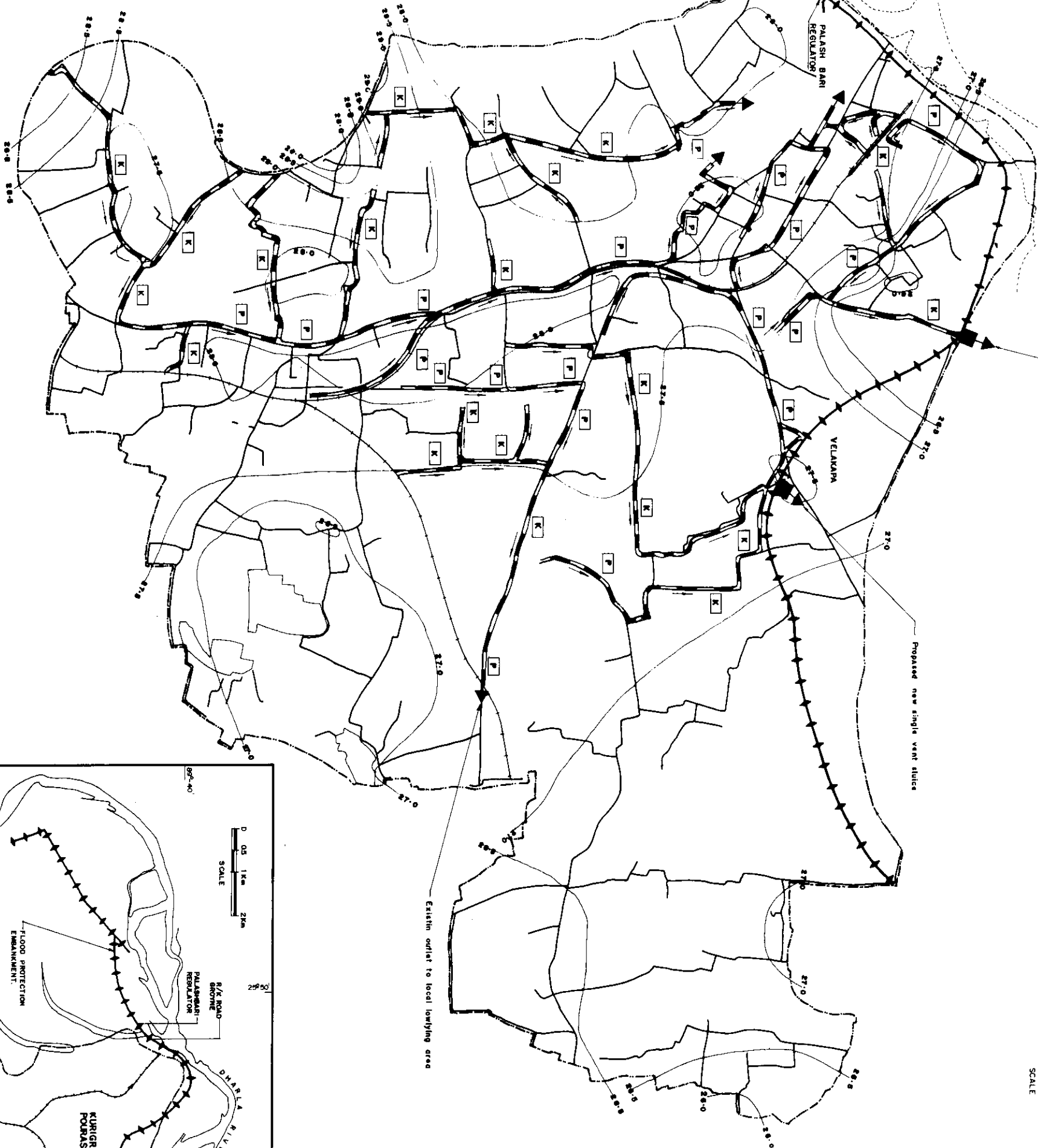
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OHARLA RIVER

Proposed new single vent sluice

Proposed new single vent sluice

Existing outlet to local lowlying area



LEGEND

- EXISTING MAIN DRAIN REQUIRING NO IMPROVEMENT
- P/S/P Pucca To Semi-Pucca
- K Kucha
- EXISTING SECONDARY DRAIN REQUIRING IMPROVEMENT IN SOME SECTIONS
- P/S/P Pucca / Semi-Pucca
- K Kucha
- EXISTING MAIN DRAIN TO BE REMODELLED (ENLARGED ONLY)
- P Pucca
- K Kucha
- OR UPGRADED
- S/P P Semi-Pucca To Pucca
- K/P K Kucha To Pucca
- SUPPLEMENTARY / TOTALLY NEW DRAIN
- P Pucca
- K Kucha
- NATURAL DRAINAGE OUTLET
- DRAINAGE OUTFALL WITH SLIDE GATED ON THE RIVER SIDE
- DRAINAGE OUTFALL WITH PUMP
- MUNICIPAL BOUNDARY
- 26' CONTOUR M. P.W.D
- DRAINAGE REGULATOR
- EMBANKMENT

NOTES

- SURVEY OF POURASHAVA AREA BASED ON LAND USED PLAN KURIGRAM POURASHAVA, UDD 1988
- LOCATION PLAN IS A COMPOSITE MAP BASED ON 1990 SPOT IMAGE MAP FOR THE LOCATION OF OHARLA RIVER AND MAPS FROM 1, ABOVE FOR THE POURASHAVA BOUNDARY

REV	DESCRIPTION	DATE
1	DRAINAGE	
2	REVISION	

CLIENT
GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

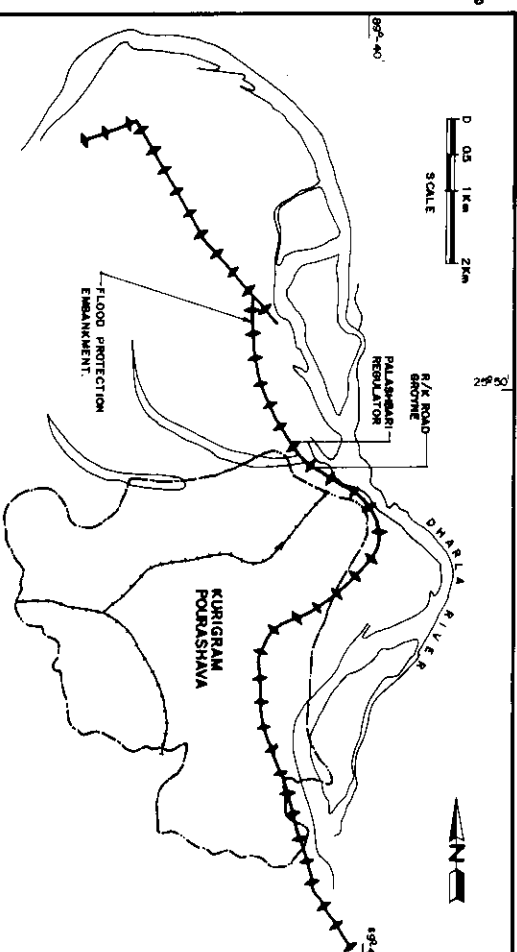
HALCROW
CONSULTING ENGINEERS
20, Wilson Road,
Dhaka 1000
Bangladesh, Dhaka-1215

PROJECT
SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

DRAWING
KURIGRAM
PROPOSED NEW SURFACE WATER
DRAINAGE SYSTEM

DRAWN:	CHECKED:	APPROVED:
TRACED:	SCALE: AS SHOWN	DATE: 12/04/98
DRAWING NO.	3.4	REV

LOCATION MAP



LEGEND

- EXISTING SECONDARY DRAIN REQUIRING IMPROVEMENT IN SOME SECTIONS
- EXISTING MAIN DRAIN TO BE REMODELLED (ONLY)
- Pucca / Semi - Pucca
- Kutcha
- EXISTING MAIN DRAIN TO BE REMODELLED (ONLY)
- Pucca
- Kutcha
- OR UPGRADED
- SP=K
- Semi - Pucca To Pucca
- Kutcha To Pucca
- SUPPLEMENTARY / TOTALLY NEW DRAIN
- Pucca
- Kutcha
- NATURAL DRAINAGE OUTLET
- DRAINAGE OUTFALL WITH GATED OUTLET
- MUNICIPAL BOUNDARY
- CONTOUR M. PWD
- EMBANKMENT
- PROPOSED REGULATOR
- DRAINAGE AREA DEVELOPMENT UNDER DUTCH ASSISTANCE

3.5

REV

DRAWING NO

TRACED

CHECKED

APPROVED

DATE 21/08/1991

SCALE AS SHOWN

PROJECT

SECONDARY TOWNS INTEGRATED FLOOD PROTECTION

PANCHAGARH

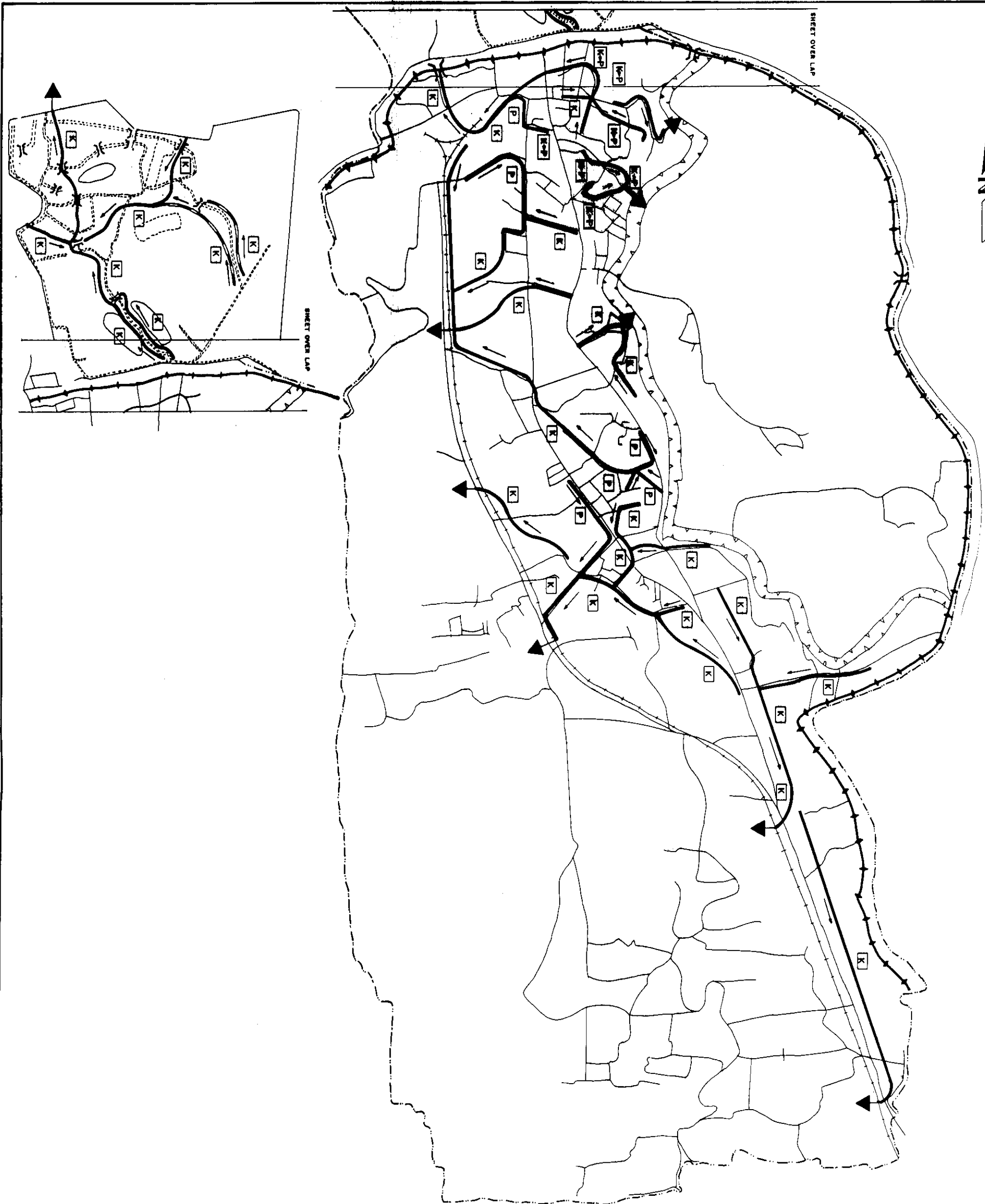
PROPOSED NEW SURFACE WATER DRAINAGE SYSTEM

HALCROW

GOVERNMENT OF BANGLADESH / ASIAN DEVELOPMENT BANK

CLIENT





LEGEND

- EXISTING MAIN DRAIN TO BE REMODELLED (ENLARGED ONLY)
- P Pucca
- K Kutchha
- ADDITIONAL / TOTALLY NEW ORAIN
- P Pucca
- K Kutchha
- NATURAL DRAINAGE OUTLET
- MUNICIPAL BOUNDARY
- PROPOSED DRAINAGE SLUICE
- EMBANKMENT

REV	DATE	DESCRIPTION
1	10/10/2010	ISSUED FOR TENDERS
2	15/10/2010	REVISED

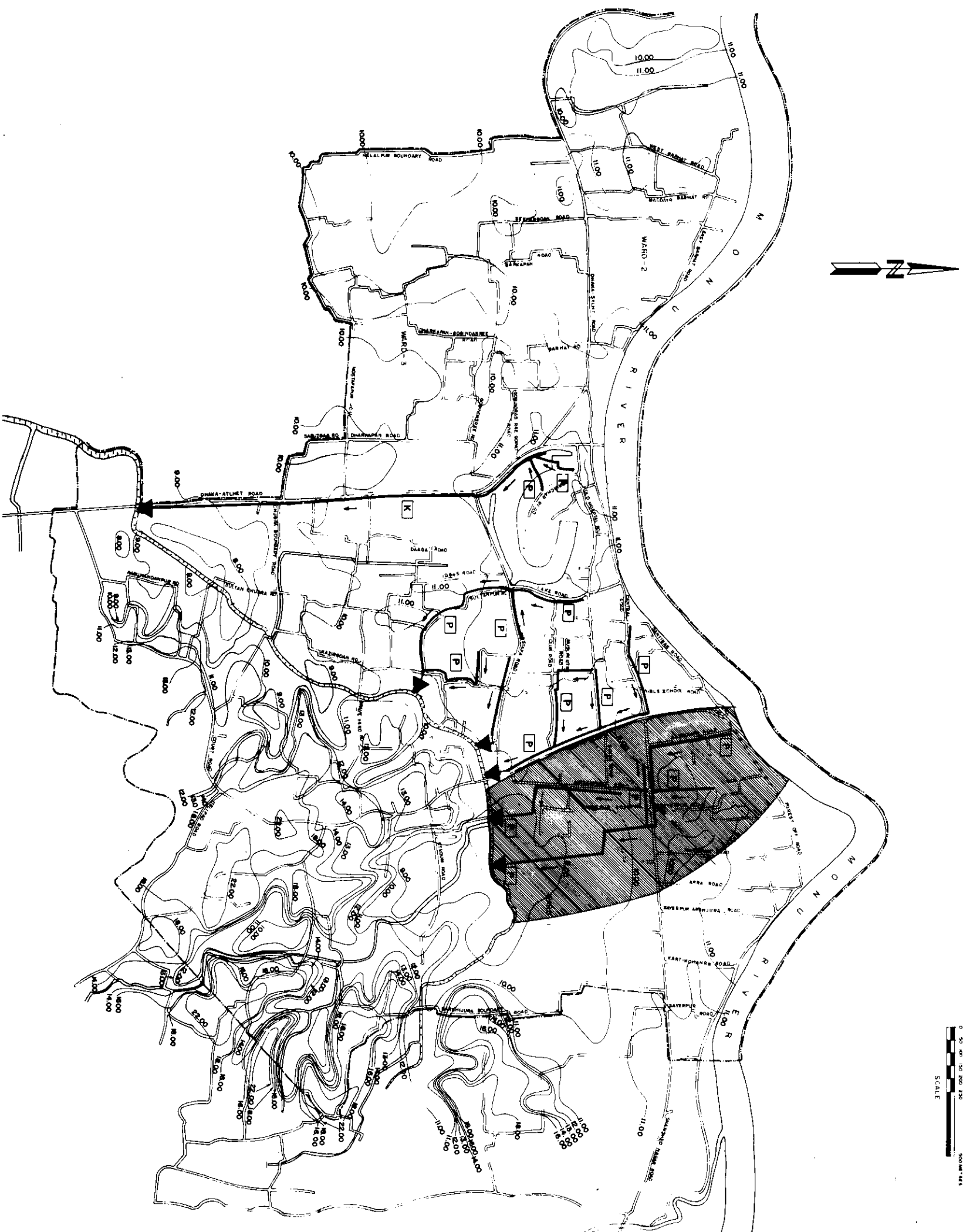
CLIENT
GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

HALCROW
Office Address
House 220
Road 13A
Dhaka 1213

PROJECT
SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

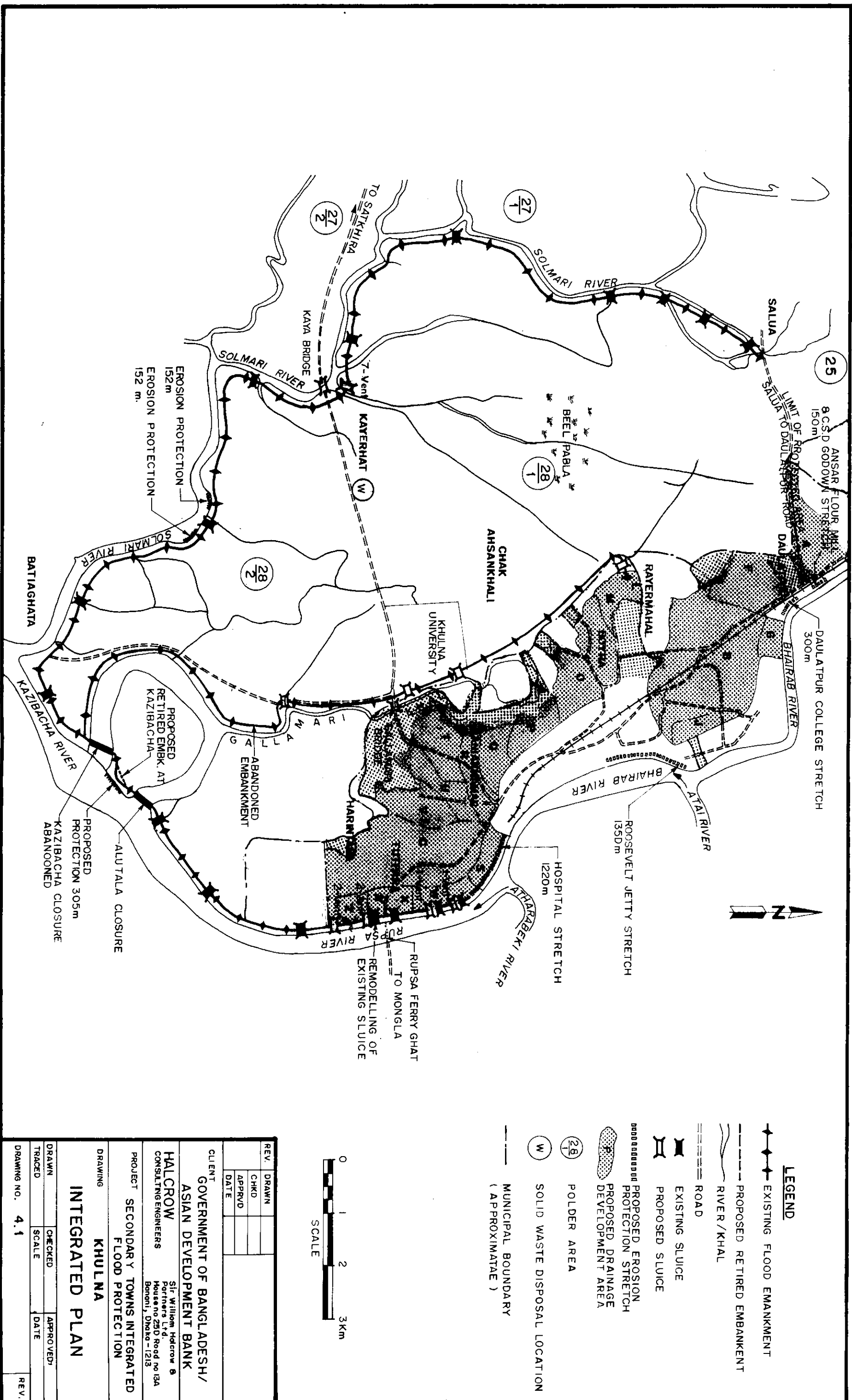
DRAINAGE
HABIGANJ
PROPOSED NEW SURFACE WATER
DRAINAGE SYSTEM

DRAWN	CHECKED	APPROVED
TRACED	SCALE: AS SHOWN	DATE
DRAWING NO.	3.6	REV



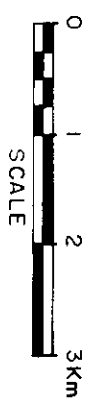
- LEGEND**
- EXISTING MAIN DRAIN TO BE REMODELLED (ENLARGED ONLY)
 - P Piece
 - K Katcha
 - NATURAL DUTLET
 - MUNICIPAL BOUNDARY
 - CONTOUR M. PWD
 - DRAINAGE AREA DEVELOPMENT UNDER DUTCH ASSISTANCE
 - EMBANKMENT

NEW DRAIN	EXISTING DRAIN	EXISTING DRAIN TO BE REMODELLED (ENLARGED ONLY)
DATE	DATE	DATE
CLIENT	GOVERNMENT OF BANGLADESH/ ASIAN DEVELOPMENT BANK	
PROJECT	MOULVIBAZAR PROPOSED NEW SURFACE WATER DRAINAGE SYSTEM	
DESIGNED BY	Sir William Hollister & Partners Ltd Office Address House 220 Road 13A Dhaka, Dhaka 1213	
CHECKED BY	DATE	DATE
SCALE	3.7	REV

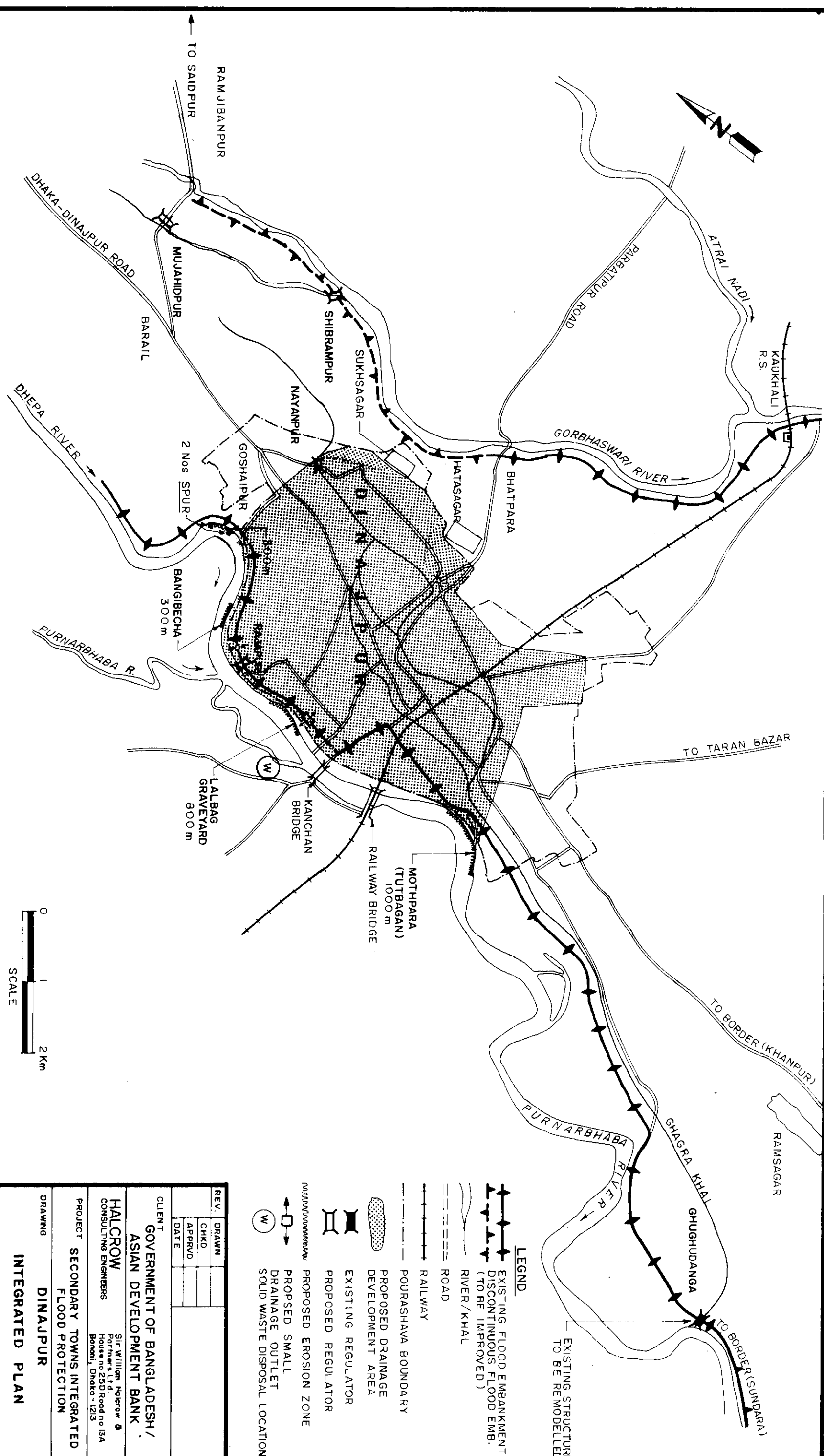


LEGEND

- EXISTING FLOOD EMBANKMENT
- PROPOSED RETIRED EMBANKMENT
- RIVER/KHAL
- ROAD
- EXISTING SLUICE
- PROPOSED SLUICE
- PROPOSED EROSION PROTECTION STRETCH
- PROPOSED DRAINAGE DEVELOPMENT AREA
- POLDER AREA
- SOLID WASTE DISPOSAL LOCATION (APPROXIMATE)
- MUNICIPAL BOUNDARY (APPROXIMATE)

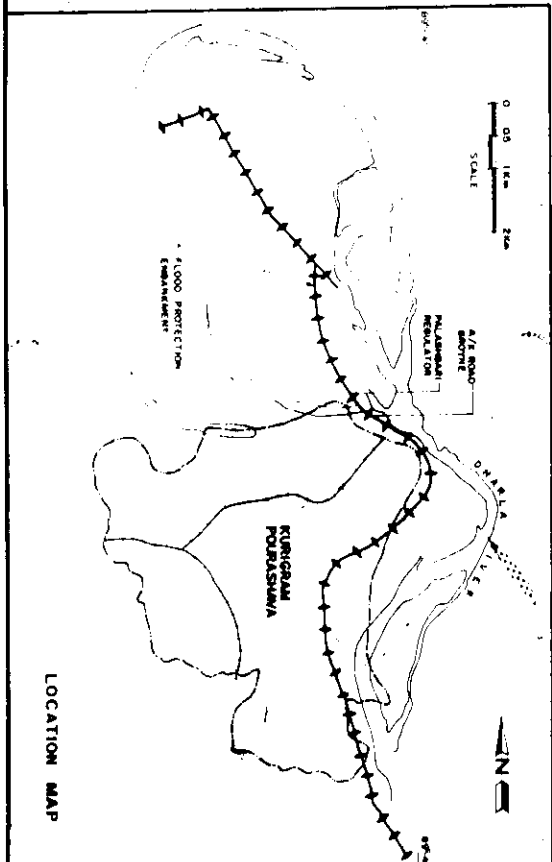
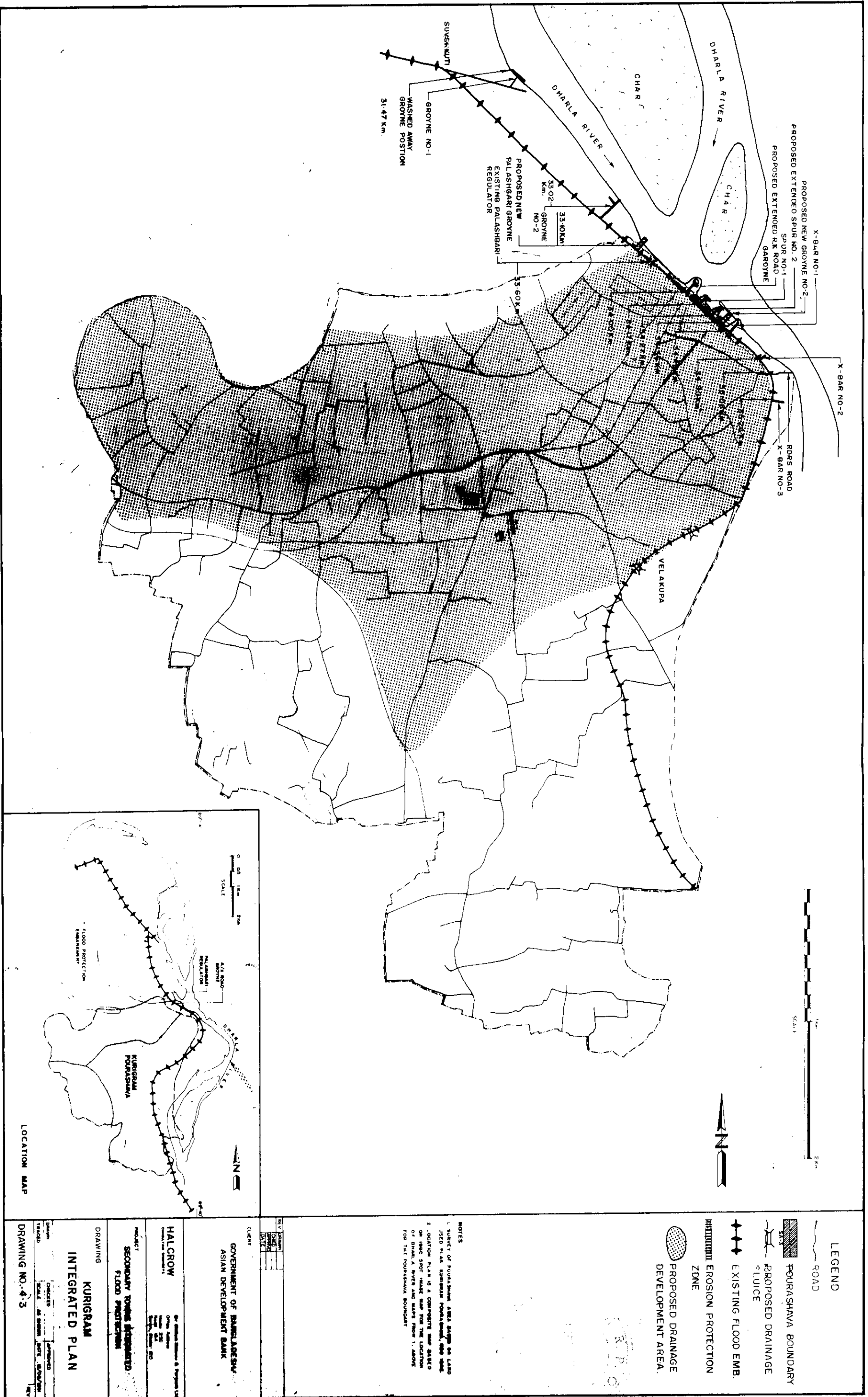


REV.	DRAWN	CHKD	APPRVD	DATE
CLIENT				
GOVERNMENT OF BANGLADESH/ ASIAN DEVELOPMENT BANK				
HALCROW				
CONSULTING ENGINEERS				
Sri. William Halcrow & Partners Ltd. House No 250 Road no 13A Dhaka, Dhaka-1215				
PROJECT				
SECONDARY TOWNS INTEGRATED FLOOD PROTECTION				
DRAWING				
KHULNA				
INTEGRATED PLAN				
DRAWN	CHECKED	APPROVED	DATE	REV.
TRACED	SCALE			
DRAWING NO. 4.1				



- LEGND**
- EXISTING FLOOD EMBANKMENT
 - DISCONTINUOUS FLOOD EMB. (TO BE IMPROVED)
 - RIVER / KHAL
 - ROAD
 - RAILWAY
 - POURASHAVA BOUNDARY
 - PROPOSED DRAINAGE DEVELOPMENT AREA
 - EXISTING REGULATOR
 - PROPOSED REGULATOR
 - PROPOSED EROSION ZONE
 - PROPOSED SMALL DRAINAGE OUTLET
 - SOLID WASTE DISPOSAL LOCATION

REV.	DRAWN	
	CHKD	
	APPRVD	
	DATE	
CLIENT		
GOVERNMENT OF BANGLADESH /		
ASIAN DEVELOPMENT BANK		
PROJECT		
SECONDARY TOWNS INTEGRATED		
FLOOD PROTECTION		
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INTEGRATED PLAN		
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DRAWING NO. 4.2		REV



LEGEND

- ROAD
- POURASHAVA BOUNDARY
- PROPOSED DRAINAGE SLUICE
- EXISTING FLOOD EMB.
- MINIMUM EROSION PROTECTION ZONE
- PROPOSED DRAINAGE DEVELOPMENT AREA

NOTES

1. SURVEY OF POURASHAVA AREA BASED ON LAND USED PLAN, RAJSHAH POUASHAVA, 1980.

2. LOCATION PLAN IS A COMPOSITE MAP BASED ON 1:50,000 SCALE MAP FOR THE LOCATION OF DHAKA RIVER AND MAPS FROM 1:50,000 FOR THE POUASHAVA BOUNDARY.

CLIENT

GOVERNMENT OF BANGLADESH
ASIAN DEVELOPMENT BANK

PROJECT

HALCROW
SECONDARY TOWNS INTEGRATED FLOOD PROTECTION

DRAWING

KURIGRAM
INTEGRATED PLAN

DRAWING NO. 4-3



LEGEND	
POURASHAVA B WARD	BOUNDARY
ROAD	RIVER
PROPOSED EROSION PROTECTION ZONE	PROPOSED RETIRED FLOOD EMBANKMENT
PROPOSED SLUICE	PROPOSED SMALL DRAINAGE OUTLET
PROPOSED DRAINAGE DEVELOPMENT AREA	SOLID WASTE DISPOSAL LOCATION
DRAINAGE DEVELOPMENT AREA FUNDED UNDER DUTCH ASSISTANCE	DRAINAGE AREA STUDIED UNDER DUTCH ASSISTANCE

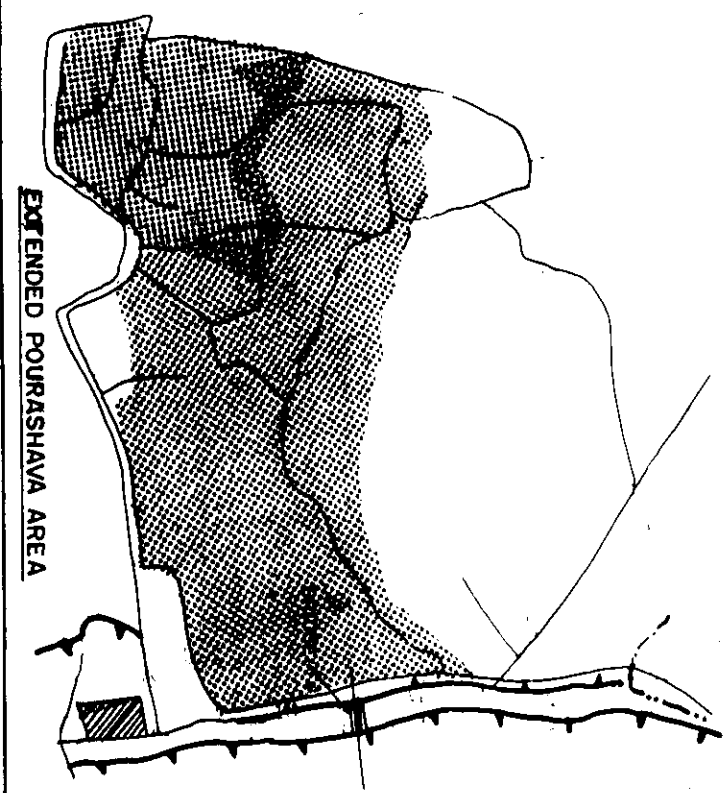
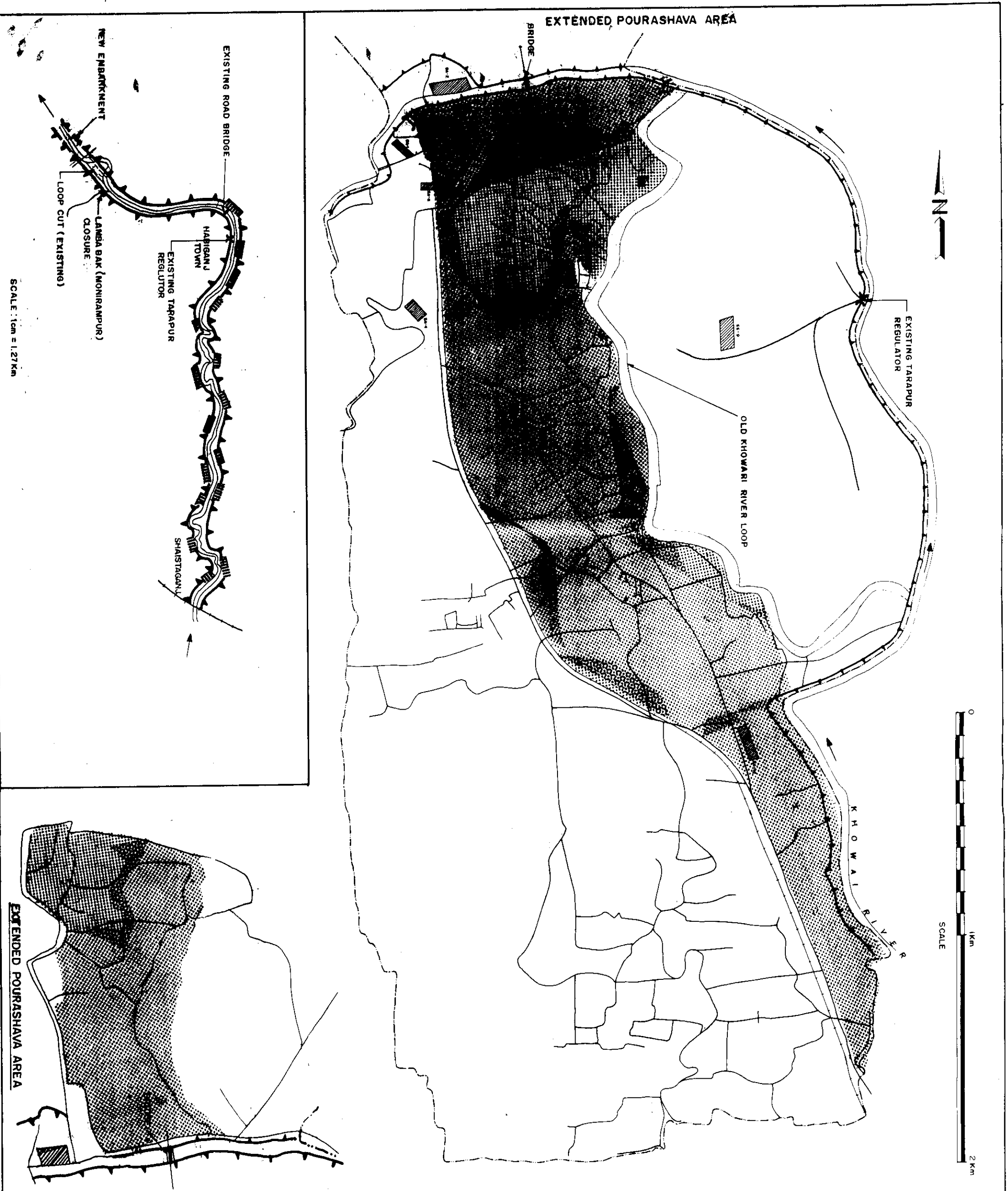
CLIENT	
GOVERNMENT OF BANGLADESH/ ASIAN DEVELOPMENT BANK	

PROJECT	
HALCROW SECONDARY TOWNS INTEGRATED FLOOD PROTECTION	

DRAWING	
PANCHAGARH INTEGRATED PLAN	

DATE	SCALE	DATE	DATE
21/04/2021	1:10,000	21/04/2021	21/04/2021

DRAWING No 4.4



LEGEND

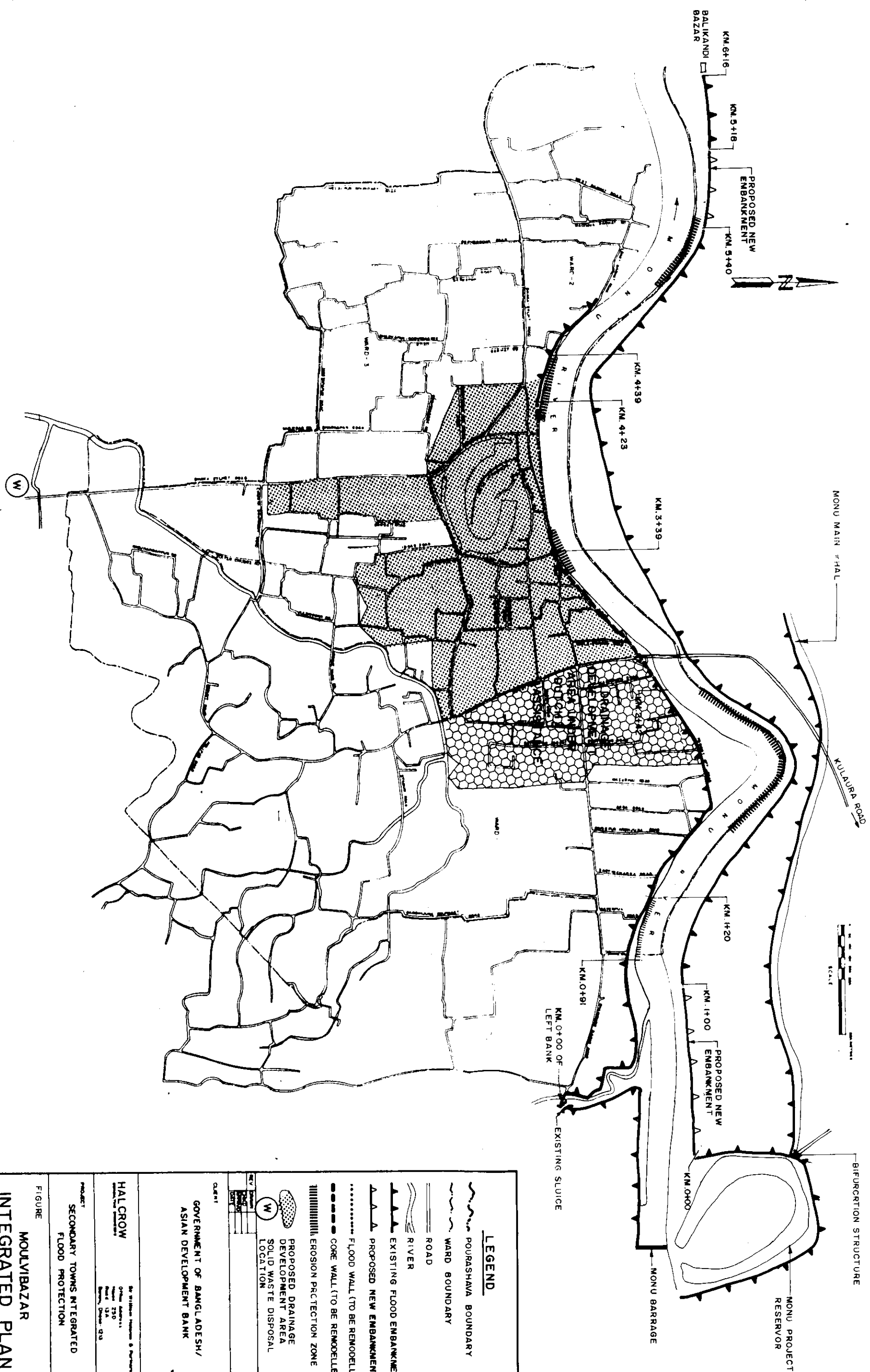
- EXISTING EMBANKMENT
- NEW EMBANKMENT
- PROPOSED EROSION PROTECTION ZONE
- PROPOSED SLUICE
- PROPOSED DRAINAGE SLUICE
- PROPOSED DRAINAGE DEVELOPMENT AREA
- SOLID WASTE DISPOSAL LOCATION

NOTES

1. SURVEY OF POURASHAVA AREA BASED ON LAND USE PLAN HABIGANJ POURASHAVA, UDD, 1986

2. LOCATION MAP IS A COMPOSITE MAP BASED ON 1980 SPOT IMAGE MAP FOR THE KHOWARI RIVER AND THE MAP IN 1 ABOVE FOR POURASHAVA BOUNDARY. ADDITIONAL DETAIL IN THE AREA SURROUNDING THE POURASHAVA WAS OBTAINED FROM 1:50000 SCALE SOB MAPPING

CLIENT	GOVERNMENT OF BANGLADESH/ ASIAN DEVELOPMENT BANK
PROJECT	SECONDARY TOWNS INTEGRATED FLOOD PROTECTION
DRAWING	HABIGANJ INTEGRATED PLAN
DESIGNED BY	HALCROW
CHECKED BY	HALCROW
APPROVED BY	HALCROW
DATE	10/08/99
SCALE	AS SHOWN
DRAWING NO.	4-5



LEGEND

- POURASHAWA BOUNDARY
- WARD BOUNDARY
- ROAD
- RIVER
- EXISTING FLOOD EMBANKMENT
- PROPOSED NEW EMBANKMENT
- FLOOD WALL (TO BE REMODELLED)
- CORE WALL (TO BE REMODELLED)
- EROSION PROTECTION ZONE
- PROPOSED DRAINAGE DEVELOPMENT AREA
- SOLID WASTE DISPOSAL LOCATION

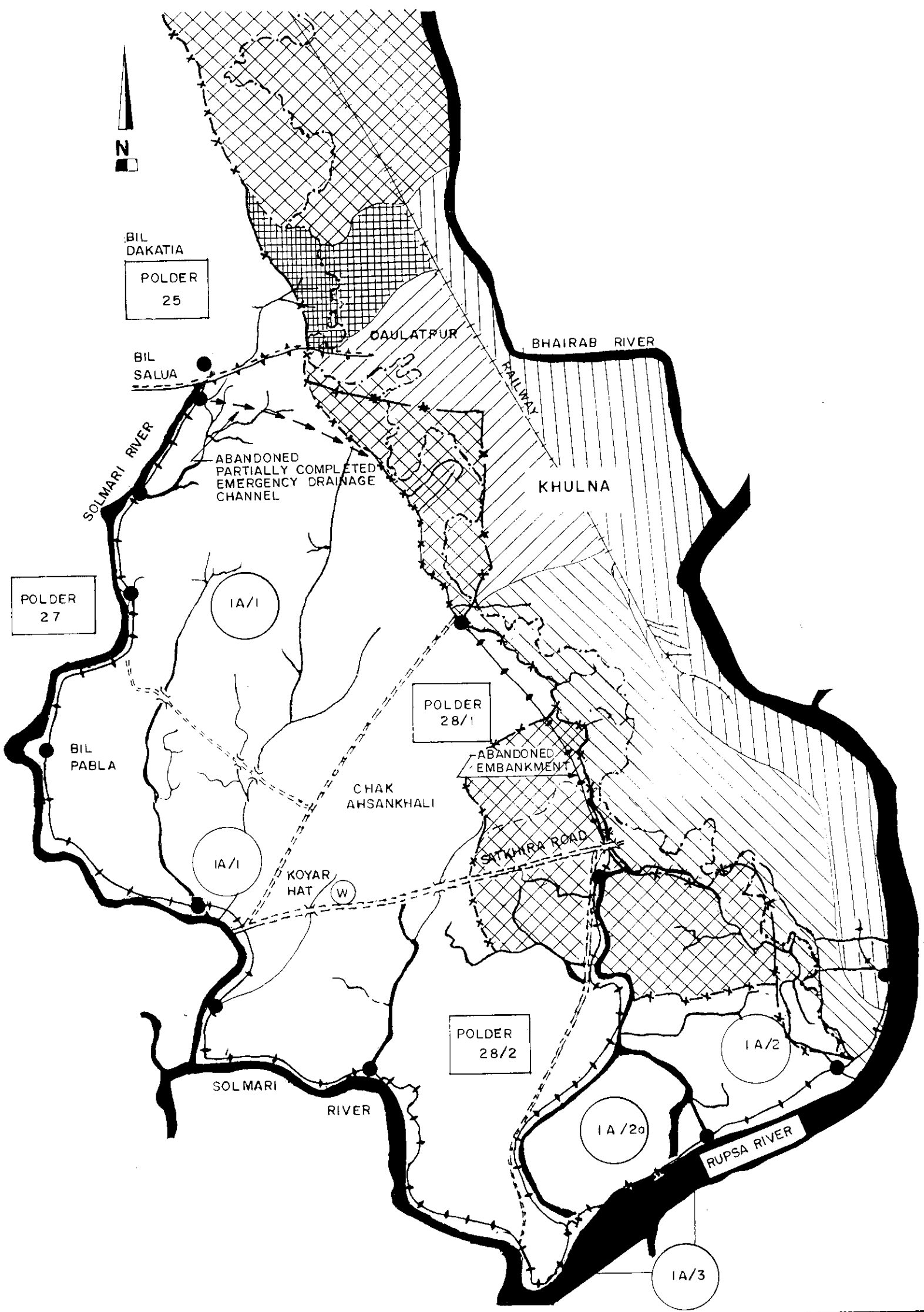
GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

HALCROW
CONSULTANTS
230
124
1213

PROJECT
SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

FIGURE
MOULVIBAZAR
INTEGRATED PLAN

DESIGN	DESIGNED	APPROVED
TRACED	SCALE	DATE
DRAWING NO	4.6	

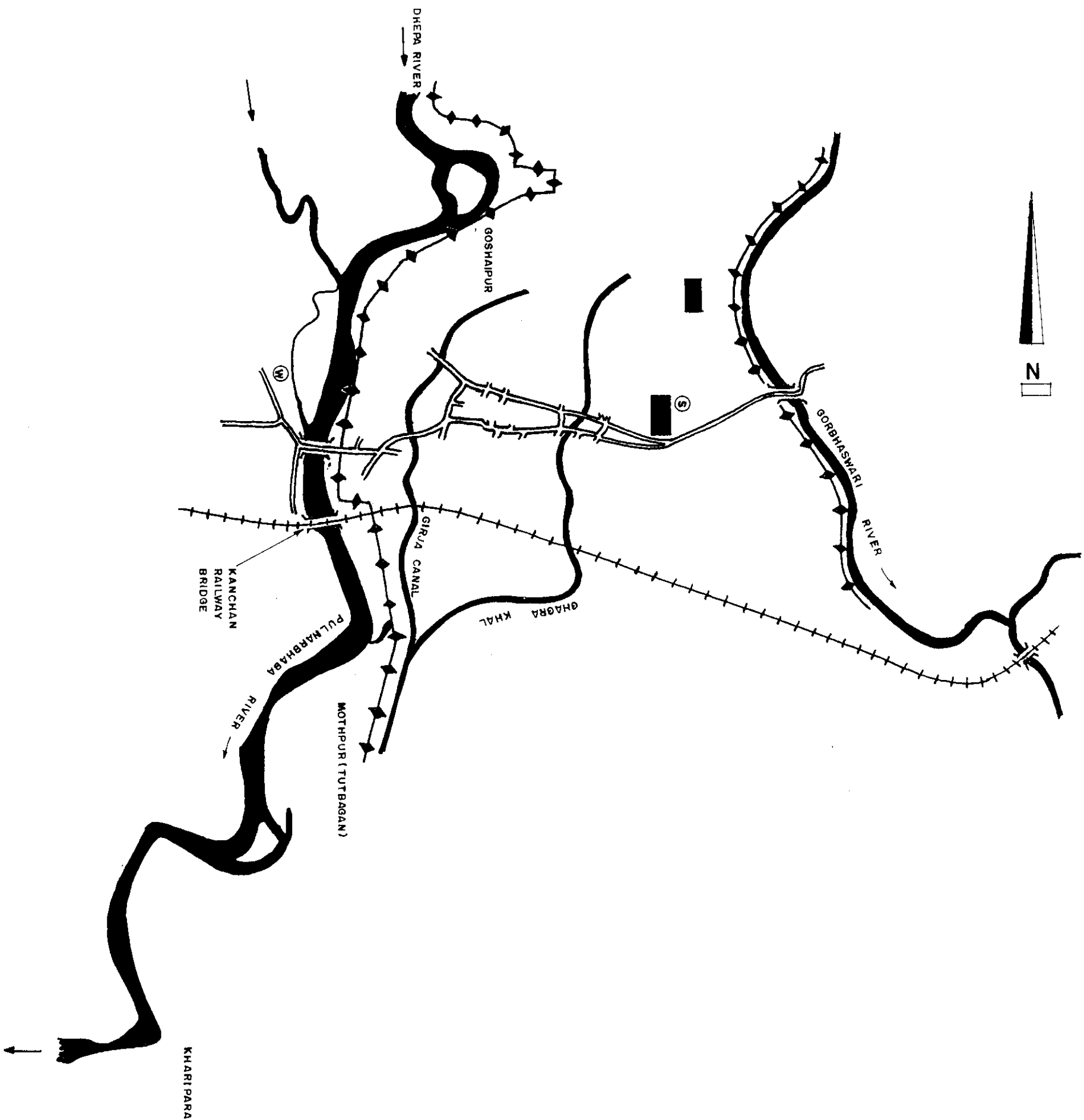


- LEGEND**
- MAJOR SLUICE
 - EXISTING FLOOD EMBANKMENT
 - == ROAD EMBANKMENT
 - x- MUNICIPAL BOUNDARY
 - APPROX URBAN AREA
 - ⊙ SOLID WASTE DISPOSAL SITE
 - ⊙ AREA DRAINING TO RUPSA RIVER
 - ⊙ AREA DRAINING TO POLDER 25
 - ⊙ AREA DRAINING TO POLDER 28/1
 - ⊙ AREA DRAINING TO POLDER 28/2
 - ⊙ PROPOSED FUTURE EXTENSION TO KHULNA
 - ⊙ IMPACT AREA

NOTES

MAP PRODUCED FROM AERIAL PHOTOGRAPHY, SATELLITE IMAGERY, AND MAPS PROVIDED BY KHULNA CITY CORPORATION AND BWDB

CLIENT		GOVERNMENT OF BANGLADESH/ ASIAN DEVELOPMENT BANK	
PROJECT		SECONDARY TOWNS INTEGRATED FLOOD PROTECTION	
DRAWING		KHULNA: TOWN AREA AND ENVIRONS	
DESIGNED	CHECKED	APPROVED	REV
DRAWING NO. 8.1	SCALE	DATE	



- LEGEND**
- +---+--- EXISTING FLOOD EMBANKMENT
 - PRESENT NIGHT SOIL DISPOSAL SITE
 - ⊗ SUGGESTED NEW SOLID WASTE DISPOSAL SITE
 - FISH PONDS (SURROUNDED BY EMBANKMENTS)

NOTES

FREE HAND
DRAWING MADE FROM
ORDNANCE SURVEY MAPS
AND AERIAL PHOTOGRAPHY
APPROXIMATE
SCALE : 1 : 50,000

CLIENT
GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

HALCROW
Office Address
House 75C,
Road 13A,
Dhaka, Dhaka-1215

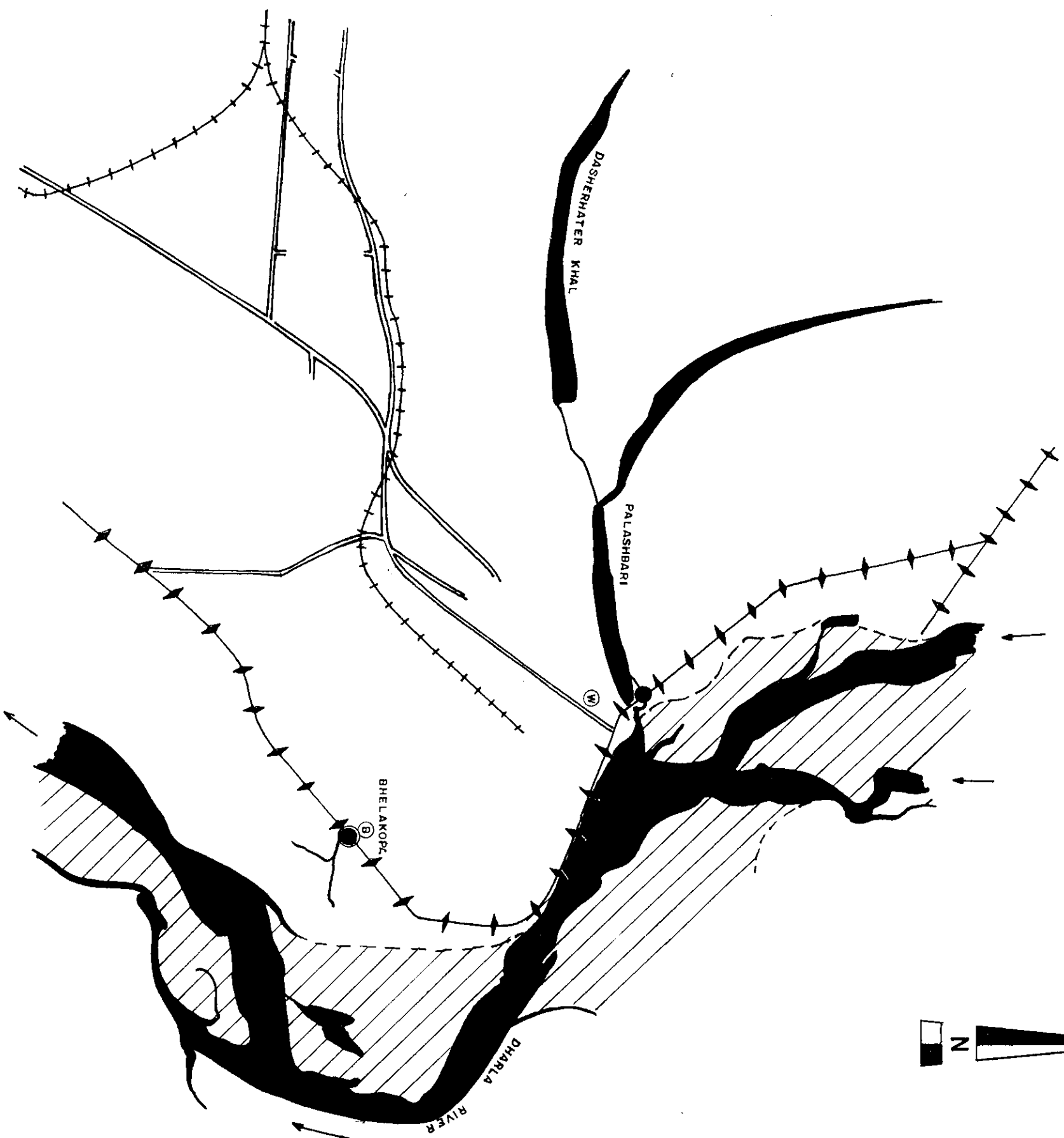
PROJECT
SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

DRAWING
DINAIPUR:
TOWN AREA AND ENVIRONS
(EIA)

DRAWING NO. 8.2

LEGEND

- EXISTING
- MAIN ROAD
- MOBILE SANDY RIVER CHAR
- EXISTING REGULATOR
- PROPOSED IMPROVED REGULATOR
- PROPOSED NEW WASTE DISPOSAL SITE



NOTES

FREE HAND MAP PRODUCED
FROM 1:50,000 AERIAL
PHOTOGRAPH AND 1989
SATELLITE

CLIENT
GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

HALCROW
Office Address
House 256
Road 13A
Dhaka, Dhaka-1213

PROJECT
SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

DRAWING
KURIGRAM
TOWN AREA AND ENVIRONS
(EIA)

DRAWN	CHECKED	APPROVED	REV
DATE	SCALE	DATE	
DRAWING NO. 8.3			



LEGEND

- POURASHAVA & WARD BOUNDARY
- == ROAD
- ||||| EROSION ZONE
- ▲▲▲ EXISTING FLOOD EMBANKMENT
- ▲▲▲ RETIRED FLOOD EMBANKMENT
- (W) PROPOSED SOLID WASTE DISPOSAL SITE
- (A) ABATTOIR
- (G) GRAVEYARD
- ||||| SANDY CHAR

GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

HALCROW
SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

FIGURE PANCHAGARH
TOWN AND ENVIRONS
(EIA)

DRAWING NO. 8.4

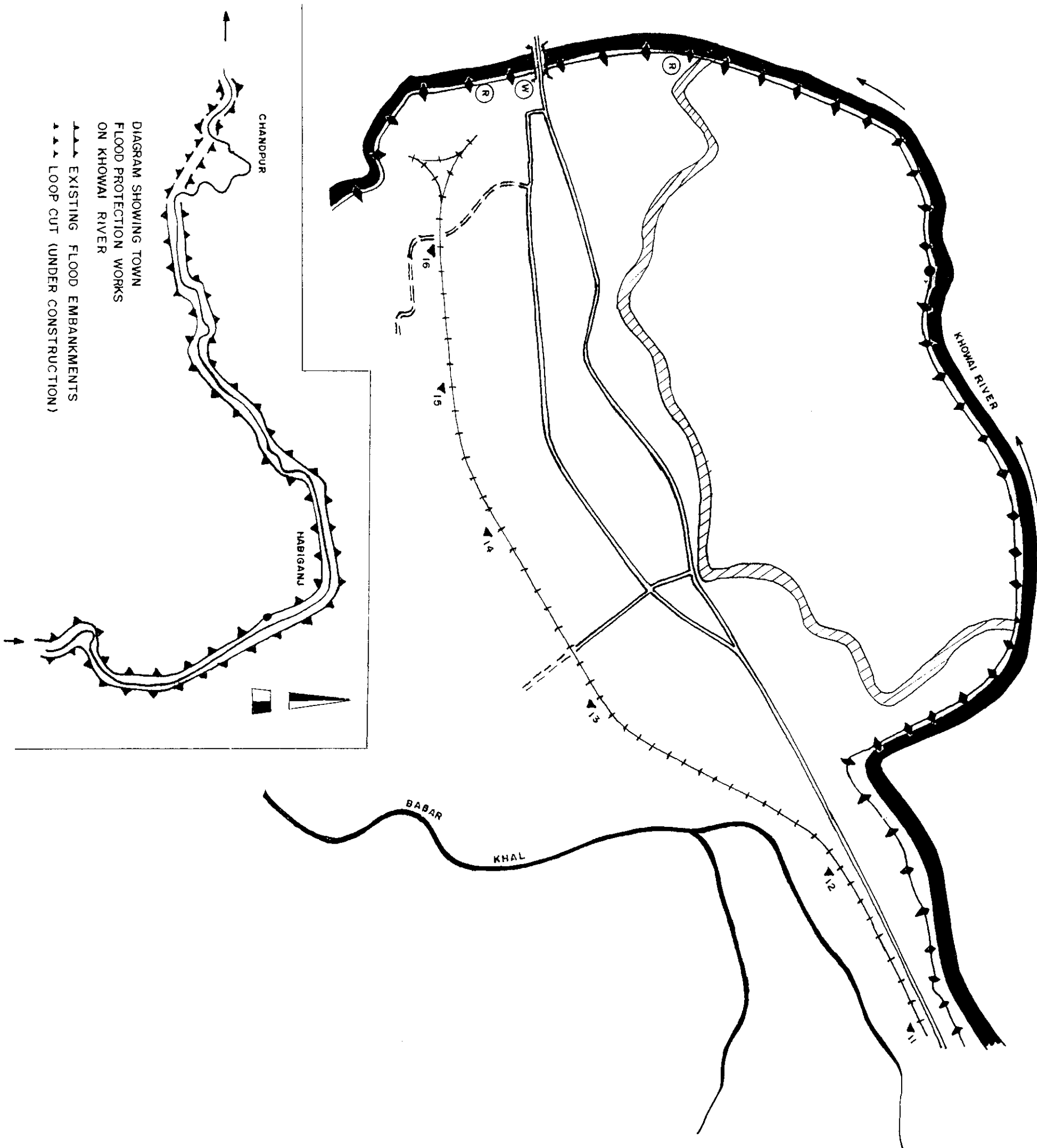


DIAGRAM SHOWING TOWN
FLOOD PROTECTION WORKS
ON KHOWAI RIVER

▲▲▲ EXISTING FLOOD EMBANKMENTS
▲▲▲ LOOP CUT (UNDER CONSTRUCTION)

LEGEND

- ▲ EXISTING FLOOD EMBANKMENT
- EXISTING REGULATOR
- ▲ DRAINAGE CULVERTS THROUGH RAILWAY EMBANKMENT (NUMBERED)
- ▨ OLD KHOWAI RIVER CHANNEL
- ⊙ PROPOSED NEW SOLID WASTE DISPOSAL SITE
- ⊙ PROPOSED NEW DRAINAGE REGULATORS
- == MAIN SURFACED ROAD
- == MAIN KATCHA ROAD

NOTES

1. MAIN MAP BASED ON FLOOD PROTECTION DRAWING, INTERIM REPORT

2. INSERT TRACED FROM SATELLITE IMAGERY (1989)

REV	DATE	DESCRIPTION
1		
2		
3		

CLIENT
GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

HALCROW
CONSULTING ENGINEERS

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Room 236
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Bongor, Dhaka-1215

PROJECT
SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

DRAWING HABIGANJ:
TOWN AND ENVIRONS
(EIA)

DRAWN	CHECKED	APPROVED
TRACED	SCALE	DATE

DRAWING NO. 8.5

LEGEND

- (M) PROPOSED AREA FOR SOLID WASTE DISPOSAL
- (A) ALTERNATIVE SITE
- ROAD
- SAND CHAR
- EXISTING FLOOD EMBANKMENT
- PROPOSED FLOOD EMBANKMENT
- FLOOD WALL (TO BE RECONSTRUCTED)
- CORE WALL (TO BE RECONSTRUCTED)
- EROSION PROTECTION ZONE
- EXISTING SLUICE

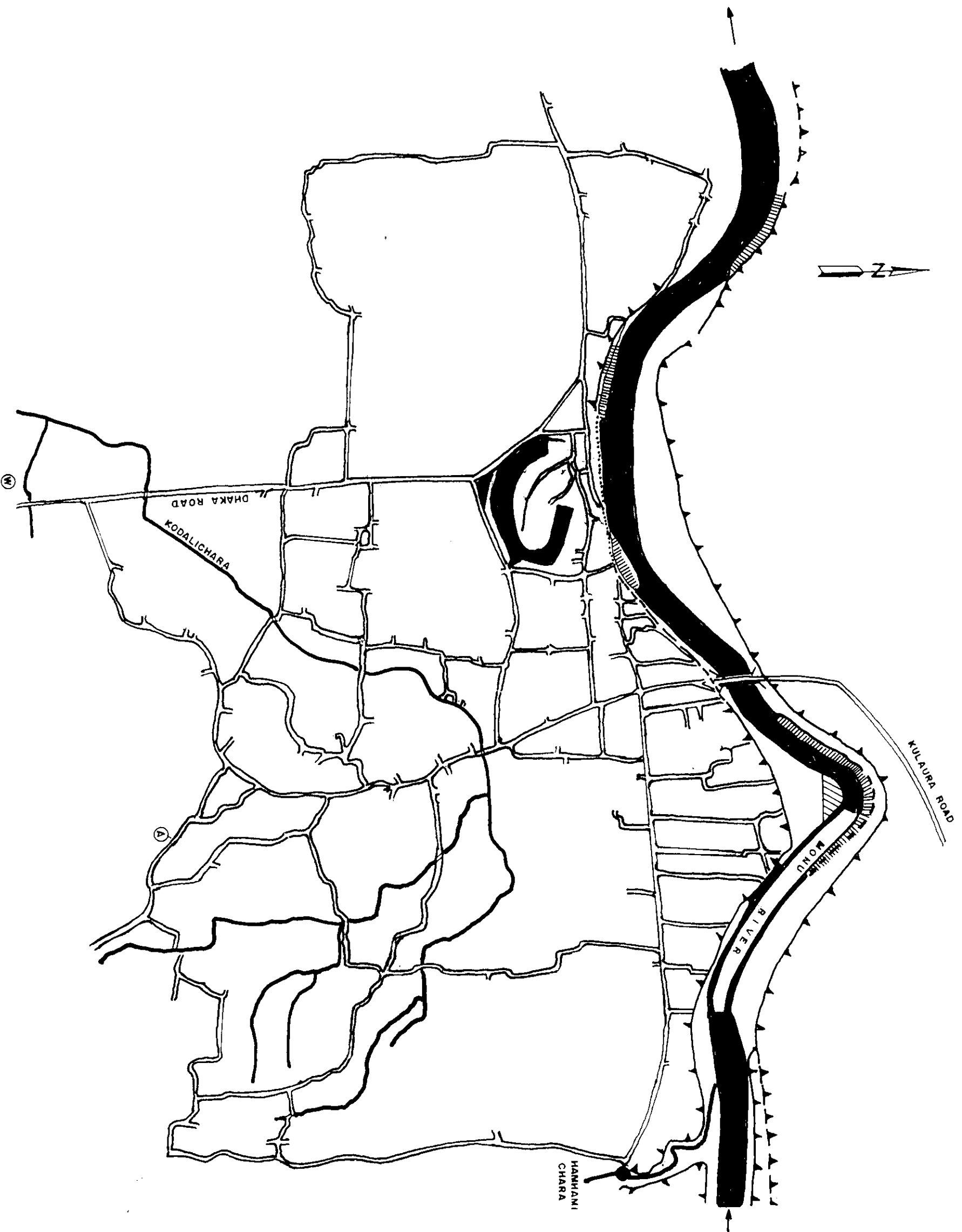


FIGURE MOULVIBAZAR TOWN AND ENVIRONS (EIA)

DRAWING NO 8.6

GOVERNMENT OF BANGLADESH/
ASIAN DEVELOPMENT BANK

PROJECT
SECONDARY TOWNS INTEGRATED
FLOOD PROTECTION

HALCROW
Sd/- Mr. M. R. M. & Partners Ltd.
Dhaka, Bangladesh
Scale: 1:25,000
Date: 10/10/05

DATE: 10/10/05
SCALE: 1:25,000
DATE: 10/10/05
REV: 1



b.
Ae
e
s.