ON
THE PROJECT FOR CONSTRUCTING
BRIDGES ALONG RURAL ROADS
(PHASE I)
IN
THE REPUBLIC OF THE PHILIPPINES
DRAWING

JANUARY 1988

JAPAN INTERNATIONAL COOPERATION AGENCY



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BASIC DESIGN STUDY REPORT ON THE PROJECT FOR CONSTRUCTING BRIDGES ALONG RURAL ROADS (PHASE 1)

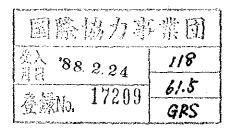
THE REPUBLIC OF THE PHILIPPINES

DRAWING



JANUARY 1988

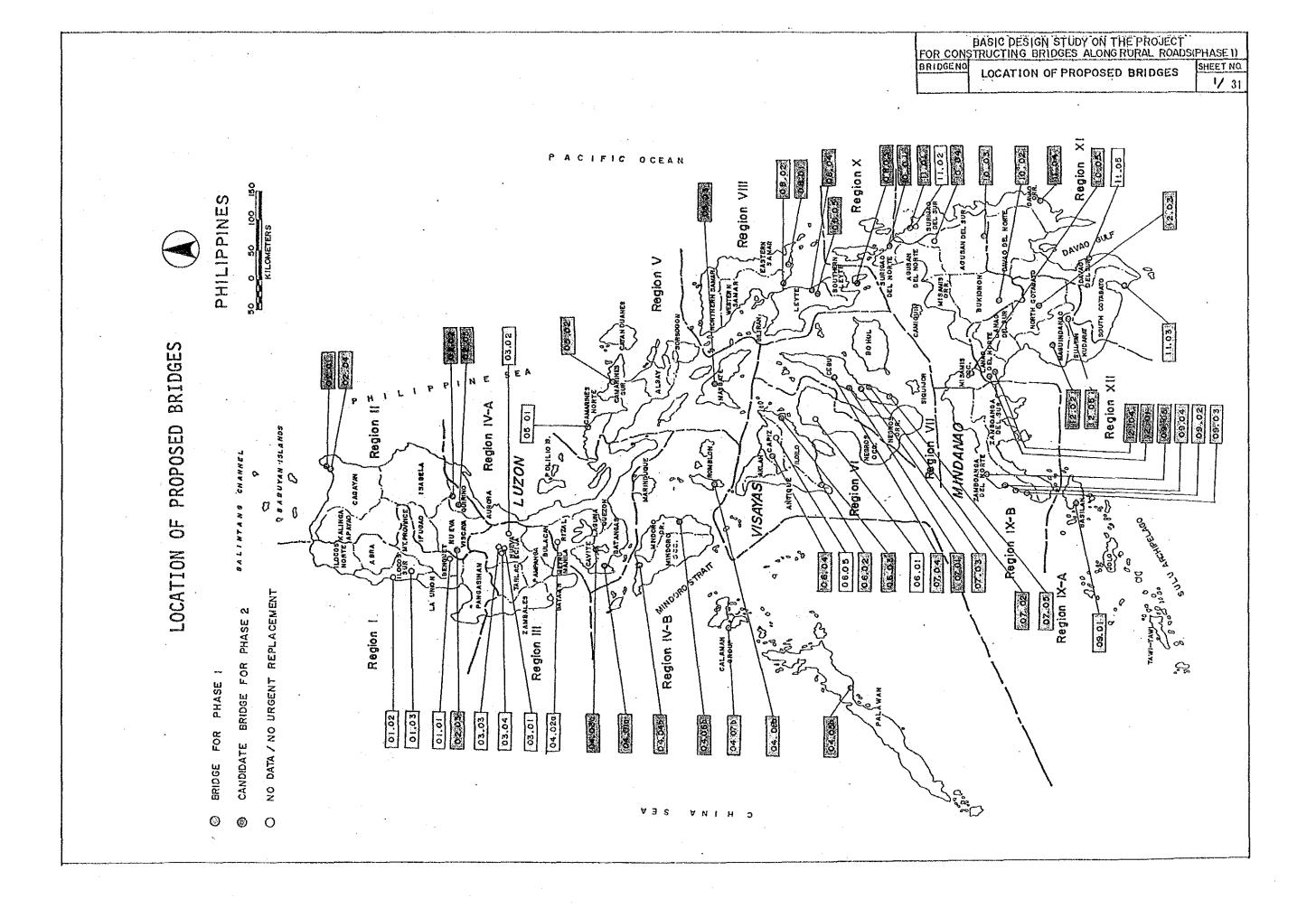
JAPAN INTERNATIONAL COOPERATION AGENCY



FOR	BASIC DESIGN STUDY ON THE PROJEC CONSTRUCTING BRIDGES ALONG RURAL ROA	DS (PHASEI)
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GENERAL	VIEW OF BRIDGES FOR PHASE I	evaluate patients; sections survives sections sections sections.	4~27	
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BASIC DESIGN STUDY ON THE PROJECT
FOR CONSTRUCTING BRIDGES ALONG RURAL ROADS (PHASE I)

BRIDGE NO.

NAME OF PROPOSED BRIDGES

2/31

NAME OF PROPOSED BRIDGES

NO	. BRIDGE NO	NAME OF BRIDGE	LOCATION	NO.	BRIDGE NO.	NAME OF BRIDGE	LOCATION
	01.01	ELLET BRIDGE	Km 327 1 500, GUREL-BOKOD-KABAYAN-BUGUIAS ROAD BOKOO-KABAYAN BOUNDARY, BENGOET	3 0	07.02	CAMPACAS BRIDGE	Km. 97+600 DALAGUETE-MANTALONGON ROAD DALAGUETE, ČEBU
;	2 01.02	BIMMILOG BRIDGE	Km. 376+658, NARVACAN, SULVEC PORT ROAD TUROO, NARVACAN, ILOCOS SUR	3 1	07.03	CAMPANGA BRIDGE	Km. 63+500, CARCAR-BARILI-MANYAYUPAN ROAD BARILI, CEBU
;	01.03	MALAYA BRIDGE	Km 376 + 570, TAGUDIN - CERVANTES ROAD CERVANTES, LOCOS SUR	32	07.04	CAMACHILES BRIDGE	Km. 49+800, TOLEDO-TABUELAN-SAN REMEGIO ROAD TALAVERA TOLEDO CITY
	4 02,01	STA. CRUZ BRIDGE	Km.640 + 747, DUGO -SAN VICENTE ROAD STA. ANA, CAGAYAN	3 3	07.05	LAGNASON BRIDGE	Km 115 + 200, ANATALIO BACALSO AVENUE LAGUNDE, OSLOB, CEBU
	5 02.02	GUHADATA BRIDGE	Km. 339 + 770, CORDON - DIFFUN - MADELLA -AURORA ROAD MANGARDINGAY, CABARROGUS, QUIRINO	34	08.01	PORAY BRIDGE	Km. 1043 → 798. JCT. BUENAVISYA - LAWA-AN ROAD Parina, Balangiga, E. Samar
	6 02,03	BAAN BRIDGE # 2	Km. 246 + 171, NUEVA VISCAYA - BENGUET ROAD BAAN, KAYAPA, NUEVA VIZCAYA	35	08.02	IBA BRIDGE	Km. 914+800, BASEY- MAGALLANES ROAD IBA, BASEY, SAMAR
	7 02.04	DIORA BRIDGE	Km. 634 + 195, DUGO - SAN VICENTE ROAD STA. ANA , CAGAYAN	36	08.03	HABAY BRIDGE	Km 1075 + 440, LILOAN - SAN FRANCISCO ROAD HABAY, SAN FRANCISCO, S. LEYTE
	8 02.05	DIDUYON BRIDGE	Km. 374 + 050, CORDON - DIFFUN-MADDELA -AURORA ROAD MADDELA, QUIRINO	37	08.04	TALISAYAN RIVER CROSSING	Km 66 + 440 LAPAZ - JAVIER - BITO ROAD TALISAYAN, JAVIER, LEYTE
	9 03.01	SEGUM BRIDGE	Km. 153 + 798, JCT. TABLANG-GABALDON-QUEZON BOUNDARY ROAD PINTO, GABALDON, NUEVA ECIJA	38	08.05	PINUCAWAN BRIDGE	MACON OTHE - RAIVAL - XMAL + BA MAIN MAIN MAIN MAIN MAIN MAIN MAIN MAI
1	0 03.02	CALABASA BRIDGE	Km. 157 + 269, JCT. TABLANG-GABALDON-QUEZON BOUNDARY ROAD CALABASA, GABALDON, NUEVA ECIJA	39	09.01	BATUNGAL BRIDGE	Km. 26+440, ISABELA - MALUSO ROAD Maluso, Basilan
1	03.03	MALINAO BRIDGE	Km. 165 + 631 JCT. TABLANG-GABALDON-QUEZON BOUNDARY ROAD MALINAO, GABALDON, NUEVA ECIJA	40	09.02	MANGOP BRIDGE	Km. 439 + 740, SINDANGAN - LILOY ROAD Zambcanga del Norte
1:	2 03.04	ASAN BRIDGE	Km. 1661 295, JCT. TABLANG-GABALDON - QUEZON BOUNDARY ROAD GABALDON, NUEVA ECIJA	41	09.03	CANAWAN BRIDGE	Km. 449 + 740, SINDANGAN - LILOY ROAD Zamboanga del Norte
13	3 04.010	BINAMBANG BRIDGE	km. 107 + 540, Balayan - Balibago - Calatagan Road Caloocan, Balayan; Batangas	42	09.04	PIANGON BRIDGE	Km. 337+380, DIPOLOG - SINDANGAN NATIONAL ROAD SINDANGAN, ZAMBOANGA DEL NORTE
. 14	04.020	MANGO BRIDGE	Km. 26+700, SAN MATEO - RODRIGUEZ (MONTALBAN) ROAD RODRIGUEZ, RIZAL	43	09.05	PATUNAN BRIDGE	Km. 375.+090,DIPOLOG~SINDANGAN ROAD MANUKAN, ZAMBOANGA DEL NORTE
13	5 04,03a	LEVISTE II BRIDGE	Km. 92 + 430, TALISAY - LAUREL - AGONCILLO ROAD LAUREL, BATANGAS	44	10.01	HAYANGABON I BRIDGE	Km. 1202 + 586, SURIGAO - DAVAO COASTAL ROAD HAYANGADON , CLAVER , SURIGAO DEL NORTE
1.0	6 04.04b	LUMANG BAYAN BRIDGE	Km. 341954, MAMBURAO-NORTH PUERTO BALERA ROAD ORELAN, ABRA DE ILOG, MINDORD OCCIDENTAL	45	10.02	NARADUGAO BRIDGE	Km. 1608+942, MARADIGAO - CAMP KIBARITAN ROAD KALILANGAN, BUKIDNON
. 17	7 04,05b	OLANGOAN BRIDGE	Km. 74+524, PUERTO PRINCESA NORTH ROAD CONCEPCION, PUERTO PRINCESA CITY, PALAWAN	46	10.03	MAUNDO BRIDGE	Km. 1386+957, PULANG LUPA-PATROCINTO ROAD STA. JOSEFA, AGUSAN GEL SUR
18	04.06b	BONGABON BRIDGE	Km. 122 + 720, CALAPAN SOUTH - BULALACAO - SAN JOSE ROAD BONGABON, ORIENTAL MINDORO	47	10.04	STA. IRENE BRIDGE	Km. 1202 + 110, BAYUGAN - KALAITAN - TANDAG ROAD STA IRENE, AGUSAN DEL SUR
. 15	04.07b	DIPULAO BRIDGE	Km. 2+706 CORON - BUSUANGA NATIONAL ROAD CORON, PALAWAN	46	10.05	MALUBOG BRIDGE	Km. 185+ 760, LABUYO - TANGUB - SILANGA ROAD BARANGAY 4, TANGUB CITY
. 20	04.085	COGON BRIDGE	Xm. 64+974, ODIONGAN (TULAY) - LOOC ROAD LOOC, ROMBLON	49	11.01	LAMBUNAO BRIDGE	Km.1267 + 027, SURIGAO SUR - DAVAO COASTAL ROAD LANUZA, SURIGAO DEL SUR
2	05.01	DAGUIT BRIDGE	Km. 312 + 848, MANILA SOUTH ROAD DAGUIT, LABO, CAMARINES HORTE	50	11.02	BALIBADON BRIDGE ## 3	Km. 1296 + 814, SURIGAO SUR - DAVAO COASTAL. ROAD BALIBAOON, CORTES, SURIGAO DEL SUR
22	05.02	PATITINAN BRIDGE	Km. 499+200, SAGNAY - TIWI-ALBAY BDRY. ROAD PATITIMAN, SAGANAY, CAMARINES SUR	51	11.03	CALABANIT BRIDGE	Km. 1716 + 083, DAVAO DEL SUR-SOUTH COTABATO COASTAL ROAD GLAN, SOUTH COTABATO
23	05.03	HARANGASAN I BRIDGE	Km.31+145, JCT. TAWAD - BALUD ROAD MILAGROS, MASBATE	52	11.04	MANAY BRIDGE	Km.1643+763, DAVAO ORIENTAL - SURIGAO DEL SUR NATIONAL ROAD Manay, Davao Oriental
. 24	06.01	TALUS BRIDGE	Km. 41150, MÜRCIA – DON SALVADOR – CALATRAVA ROAD MURCIA, NEGROS OCCIDENTAL	53	11.05	CULAMAN I BRIDGE	Km.1650 + 758, DAVAO DEL SUR-SQUTH COTABATO COASTAL ROADIMALALAG- DON MARCELINO-JOSE ABAD SANTOS SECTION), CULAMAIN, MALITA, DAMO DEL SUR
2	06.02	CATAAN BRIDGE	km. 65+930, TIOLAS - SINOGBUHAN ROAD SAN JOAQUIN, ROILO	54	12.01	PIKINIT BRIDGE	Km.136+936, DOBLESTON - TUKURAN ROAD CAROMATAN , LANAO DEL NORTE
20	06.03	IYANG BRIDGE	Km. 1091962, CONCEPCION - SAN DIONISIO NATIONAL ROAD CONCEPCION, ROALO	55	18.02	DURUGAO BRIDGE	Km. 216 + 498, AWANG-UPI-LEBEK ROAD DURUGAO, SOUTH UPI, MAGUINDANAO
27	06.04	GUINTAS BRIDGE	Km.106+500, TAPAZ – JAMINDAN ROAD JAMINDAN, CAPIZ	56	12.03	UPIAN BRIDGE	km. 239 + 002 , COTABATO - BUKIDNOH ROAD KIMADZIL , CARMEN, NORTH COTABATO
21	06.05	TUMALALUD BRIDGE	km.104+400, jct. national road - San Rafael Road Tumaialud, dumarao, capiz	57	12.04	DANGOLAAN BRIDGE	Km.133 + 983, DOBLESTON - TUKURAN ROAD CAROMATAN, LANAO DEL NORTE
29	07.01	BANBAN BRIDGE	Km.61 + 100, PINAMUNGAHAN - ALOGUINSAN - MANTALONGON ROAD PINAMUNGAMAN , CEBU	58	12.05	SAPAKAN BRIDGE	Km.211+530, DULAWAN - MARBEL ROAD SAPAKAN, MAGUINDANAO

BASIC DESIGN STUDY ON THE PROJECT
FOR CONSTRUCTING BRIDGES ALONG RURAL ROADS (PHASE I)

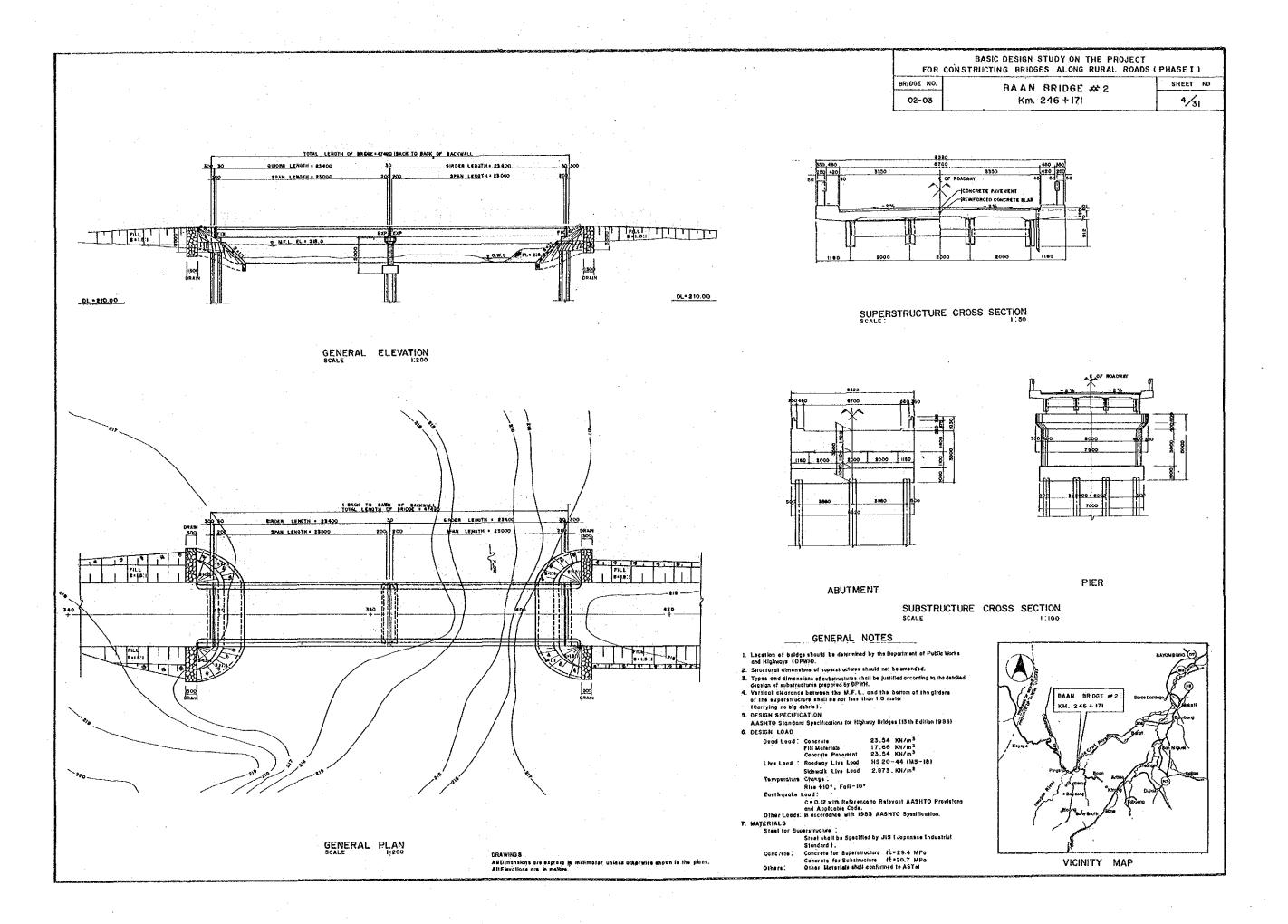
BRIDGE NO.

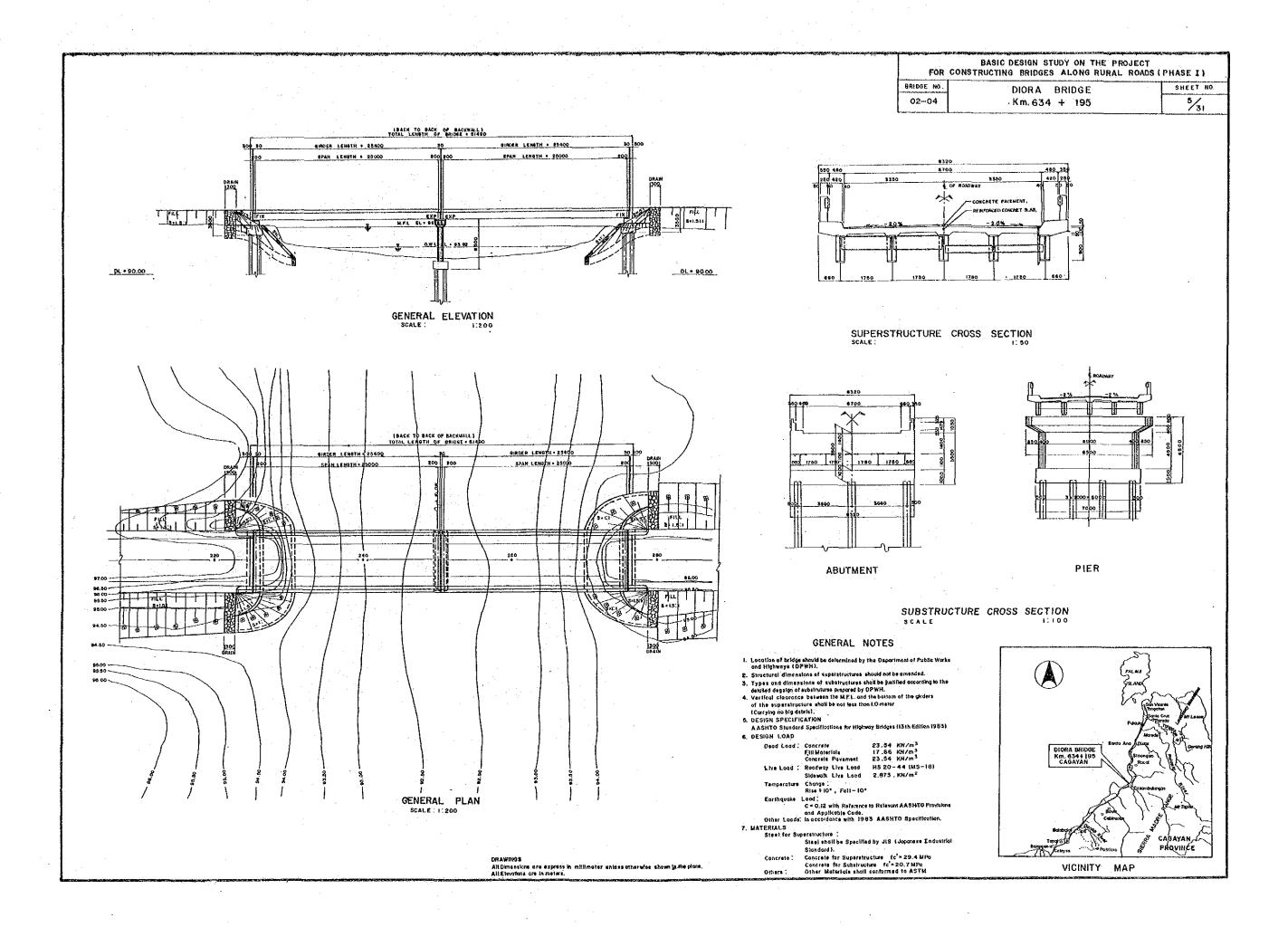
NAME OF BRIDGES FOR PHASE I

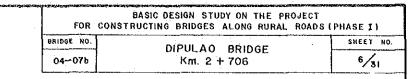
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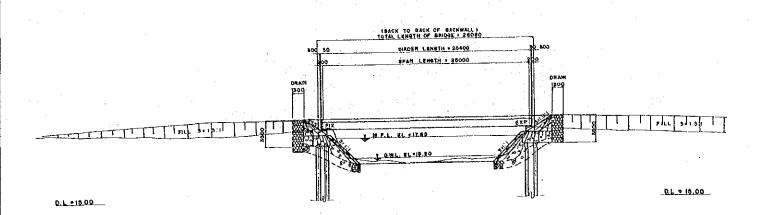
NAME OF BRIDGES FOR PHASE I

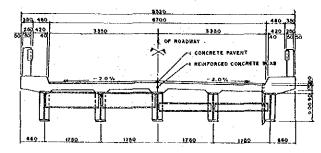
NO,	BRIDGE NO.	NAME OF BRIDGE	LOCATION	NO	BRIDGE NO.	NAME OF BRIDGE	LOCATION
ŀ	02.03	BAAN BRIDGE	Km.246+171, Nueva Vizcaya-Benguet Road Baan , Kayapa , Nueva Vizcaya	13	08.05	PINUCAWAN BRIDGE	Km.68 †280, La Paz - Javier - Bito Road Javier, Leyte
2	02.04	DIORA BRIDGE	Km. 634+195, Dugo-San Vicente Road Sto. Ana, Cogayan	14	09.01	BATUNGAL BRIDGE	Km. 26+440, Isabela — Maluso Road Maluso, Basilan
3	04.07b	DIPULAO BRIDGE	Km.2+706,Coron-Busuanga National Road Coron, Polawan	15	09.02	MANGOP BRIDGE	Km.439 †740, Sindangan – Liloy Road Zamboanga del Norte
4	04.08b	COGON BRIDGE	Km.64+974, Odiongan (Tuky) - Lacc Road Locc, Rombion	16	09.03	CANAWAN BRIDGE	Km. 449†740 , Sindangan – Liloy Road Zamboanga del Norte
5	05.02	PATITINAN BRIDGE	Km. 499 † 200, Sagnay - Tiwl - Atbay B Patitinan ;Saganay ,Camarines Sur	17	09.04	PIANGON BRIDGE	Km. 337+380, Dipolog-Sindangan National Road Sindangan , Zamboanga del Norte
6	06.02	CATAAN BRIDGE	Km.65+930,Tiolas-Sinogbuhan Road San Joaquin, Itolio	18	10.02	MARADUGAO BRIDGE	Km.1608 +942, Maradugao - Camp Kibaritan Road Kalilangan.
7	06.04	GUINTAS BRIDGE	Km.106+500, Tapaz — Jamindan Road Jamindan, Capiz	19	10.03	MAUNDO BRIDGE	Km.1386 †957, Pulang Lupa Patrocinto Road Sta. Josefa , Aguson del Sur
. 8	07.03	CAMPANGA BRIDGE	Km.63+500,Carcar-Barili-Mantayupan Road Barili,Cebu	20	10.04	STA TRENE BRIDGE	Km. 1282 † 110, Bayugan – Kalaitan – Tandag Road Sta. Irene , Agusan del Sur
9	07.04	CAMACHILES BRIDGE	Km. 49+800,Toledo-Tabuelan-San Remegio Road Talavera,Toleda City	21	10.05	MALUBOG BRIDGE	Km.185 † 760, Labuyo-Tangub-Silanga Raad Barangay 4, Tangub City
10	07.05	LAGNASON BRIDGE	Km.115 † 200, Anatolio Bacalso Avenus Lagunde,Oslob, Cebu	. 22	11.01	LAMBUNAO BRIDGE	Km.1267 + 027, Surigao Sur-Davao Coastal Road Lanuza, Surigao del Sur
11	08.01	PORAY BRIDGE	Km.1043 †798, Jct. Buenavista- Lawa-an Road Parina, Balangiga, Eastern Samar	23	11.03	CALABANIT BRIDGE	Km.1716 +083,Davao del Sur - South Cotabato Coastal Road,Glan,South Cotabato
12	08.02	IBA BRIDGE	Km.914 + 800, Basey - Magallanes Road Iba, Basey, Samar	24	12.03	UPIAN BRIDGE	Km. 239 † 002, Cotabato – Bukidnon Road Kimadzii, Carmen, North Cotabato



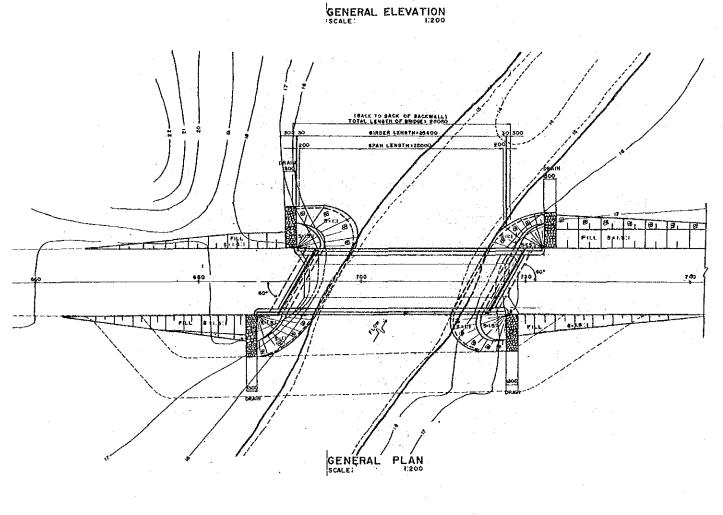


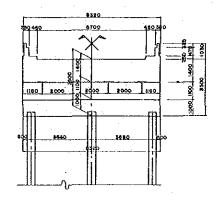






SUPERSTRUCTURE CROSS SECTION SCALE:





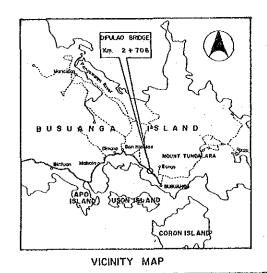
SUBSTRUCTURE CROSS SECTION SCALE: 1:000

- 1. Location of bridge should be defermined by the Department of Public Works and Highways (DPWH).
 2. Structural cimensions of superstructures should not be amended.
 3. Types and dimensions of substructures should not be prestiled according to the detailed design of substructures amount by DPWH.
 4. Vertical cleatance between the M.F.L. and the bottom of the grades of the superstructure shall be not less than 1.0 meter (Carrying no big debries).
 5. DESIGN SPECIFICATION

 AASHTO Standard Specifications for Highway Bridges (13th Edition 1983)
- 6. DESIGN LOAD
- | Deed Load | Concrete | 23.54 KH/m³ | 17.66 KH/m³ | 17.66
- Temperature Change:
 Riss 110°, Fall-N0°
 Earthquake Load:
 C=0.12 with Reference to Relevant AASHTO Provisions and Applicable Cade.
 Other Loads: in accordance with 1983 AASHTO Specification.
- Other Lowe.

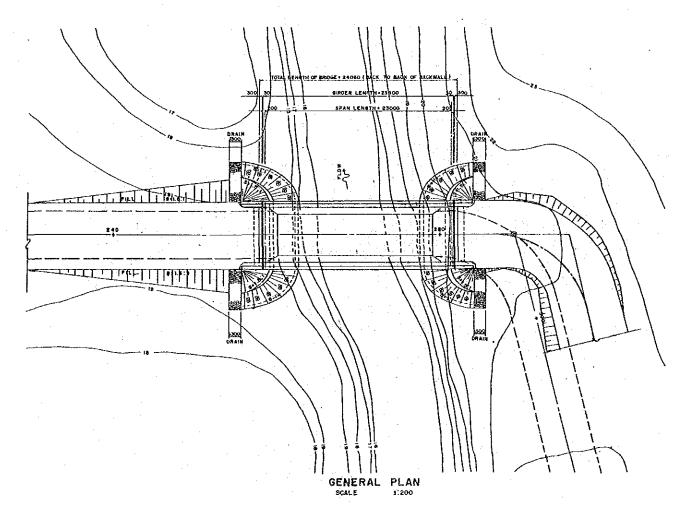
 7. MATERIALS
 Steel for Superstructure:
 Steel shall be Specified by dis (Japanese Industrial
 Standard).

 The for Superstructure of 1 = 29.4 MPa
- - Concrete for Superstructure fo¹=29.4 MPa Concrete for Substructure fo²=20.7 MPa Other Materials shall conformed to ASTIA



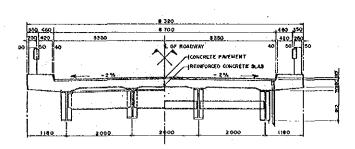
TOTAL LEWETH OF BROOF . 24040 (BACK TO BACK OF BACKWALL) GIRDER LENSTH - 23400 DL • 15.00 OL = (5.00

GENERAL ELEVATION

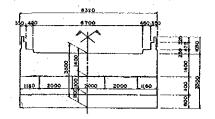


DRAWINGS
AT Dimensions are express in millimeter unbas otherwise shown in the plans.
AU Elevations are in meters.

PASIC DESIGN STUDY ON THE PROJECT
FOR CONSTRUCTING BRIDGES ALONG RURAL ROADS (PHASE I) BAIDGE NO. SHEET NO. COGON BRIDGE 04-08 b Km. 64 + 974 7/31



SUPERSTRUCTURE CROSS SECTION



SUBSTRUCTURE CROSS SECTION SCALE: E100

- Location of bridge should be determined by the Department of Public Works and Highways (DPWH).

- and Highways (OPWH).

 2. Structural dimensions of superstructures should not be amended.

 3. Types and dimensions of substructures shall be justified according to the detailed design of substructures prepared by DPWH.

 4. Vertical clearance between the M.F.L. and the bottom of the girders of the superstructure shall be not less than 1.0 meter.

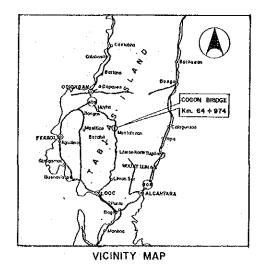
 (Corrying no big debits).

 5. DESIGN SPECIFICATION

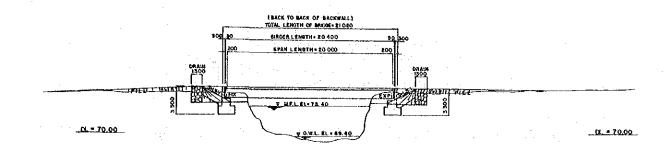
 AASHTO Standard Specifications for Highway Bridges (13 th Edition 1985).

- 6. DESIGN LOAD

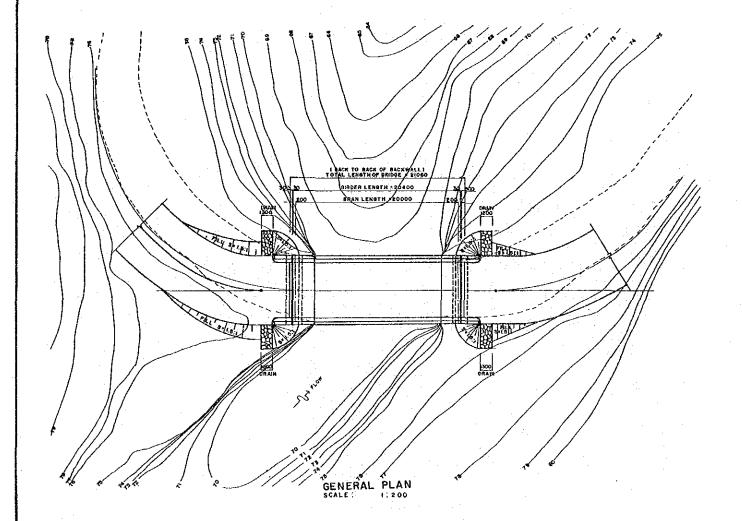
 Dead Load: Concrete: 25.54 kN/m²
 Fill Moterials 17.66 kN/m²
 Concrete Payement 25.54 kN/m²
 Live Load: Roadway Live Load 18.20-44 ll/s le)
 Sidewolk Live Load 2.873 kN/m²
 Temperohus Chonge:
 Rise 10°, Fall-10°
 Earthquake Load:
 C = 0.12 with Reference to Rejevant AASHTO Provisions and Applicable Cade
 Other Loads: In accordance with 1983 AASHTO Specification.
 7. MATERIALS
 Steel for Superstructure:
 Steel for Superstructure (c = 29.4 MPa Concrete: Concrete for Superstructure (c = 29.4 MPa Concrete: Other Materials shall conformed to ASTM.



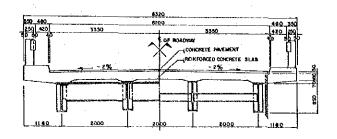
BASIC DESIGN STUDY ON THE PROJECT FOR CONSTRUCTING BRIDGES ALONG RURAL ROADS (PHASE I) BRIDGE NO. SHEET NO. PATITINAN BRIDGE 05-02 Km. 499+200 8/31



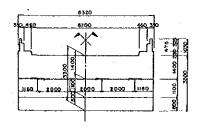
GENERAL ELEVATION



ORAWHOS
Affiliation are express in millimeter unless otherwise shows in the plans.
Al Elevations are in maters.



SUPERSTRUCTURE CROSS SECTION



SUBSTRUCTURE CROSS SECTION 1:100

GENERAL NOTES

- 1. Location of bridge should be determined by the Department of Public Works and Highways (DPWH).
 2. Structural dimensions of superstructures should not be amended.
 3. Types and dimensions of substructures should be justified occarding to the dealled design of substructures propored by DPWH.
 4. Vertical cleatones between the M.F.L. and the bottom of the girders of the superstructure shoil be not less than 1.0 paster (Corrysog no big debries).
 5. DESIGN SPECIFICATION
 6. ASHTO Standard Specifications for Highway Bridges (15th Edition 1963)
 6. DESIGN LOAD.

- 6. DESIGN LOAD

Temperature Change :
Rise +10°, Fail -10°

Earthquike Load:

C=0.12 with Reference to Relevant AASHTO Provisions and Applicable Code.

Other Loads: traccordance with 1983 AASHTO Specification.

Other Love...

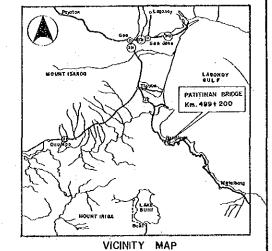
7. MATERIALS

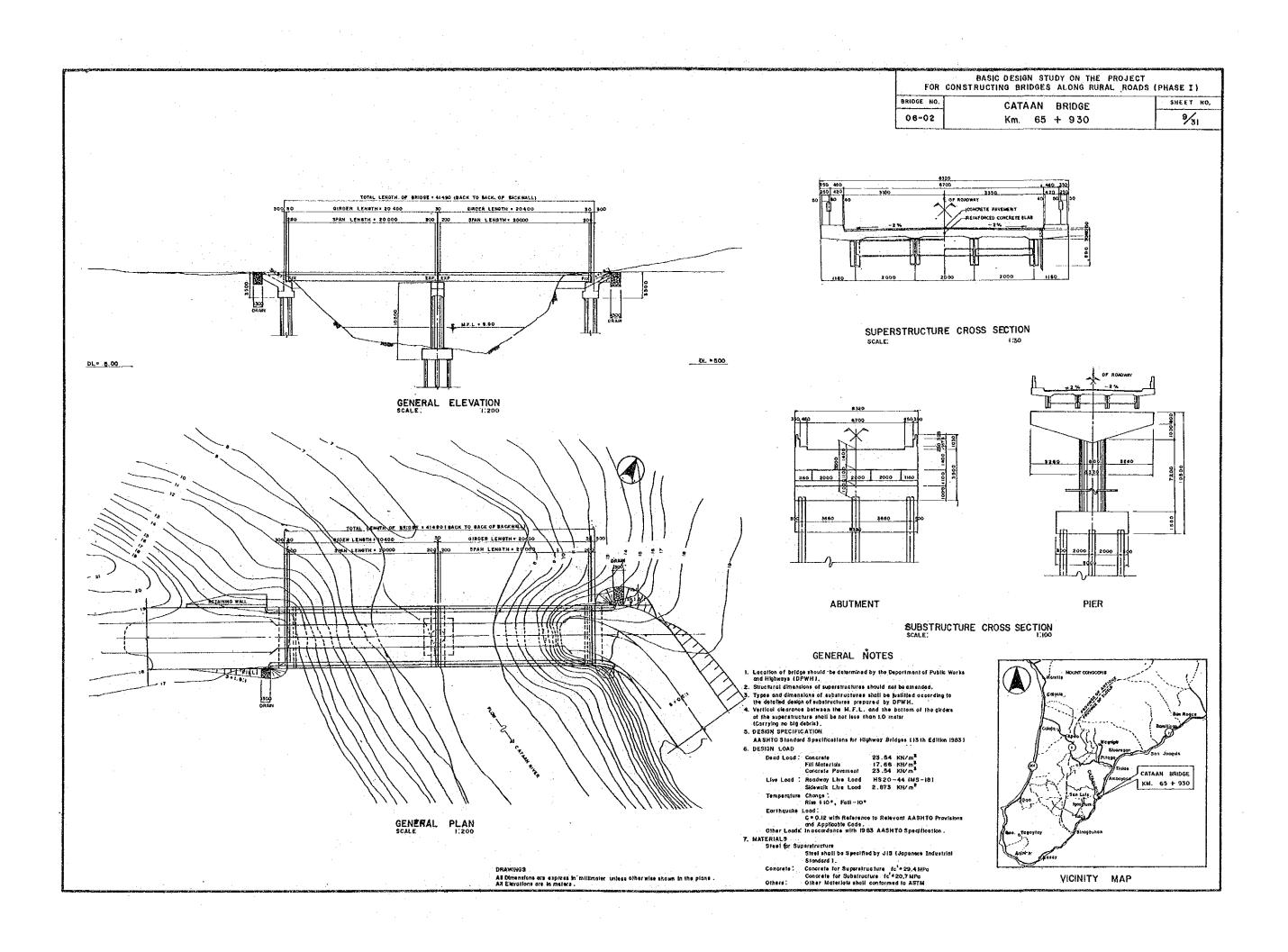
Steel for Superstructure:

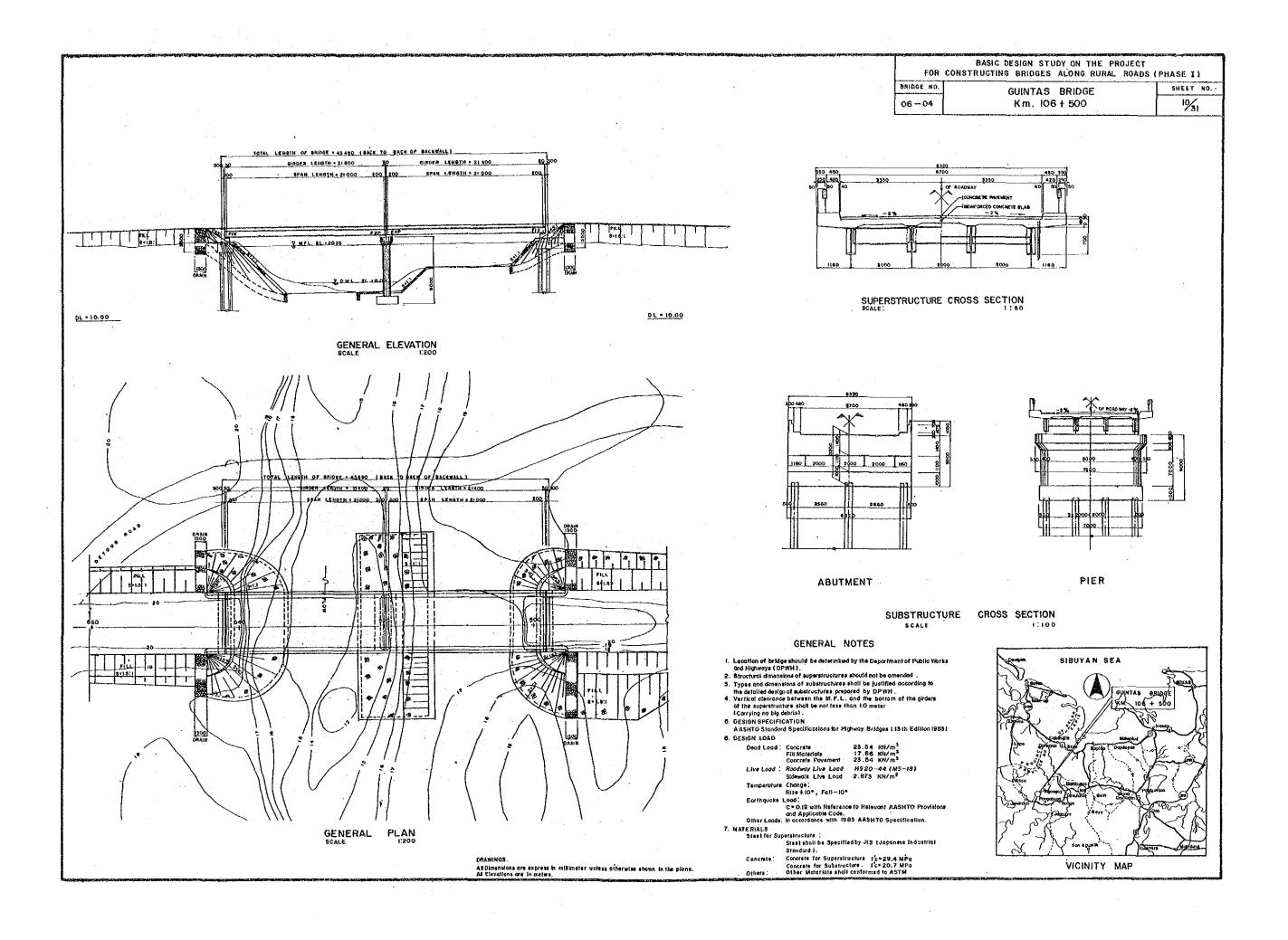
Steel shall be Speckled by JIS (Jopanese Industrial Standard).

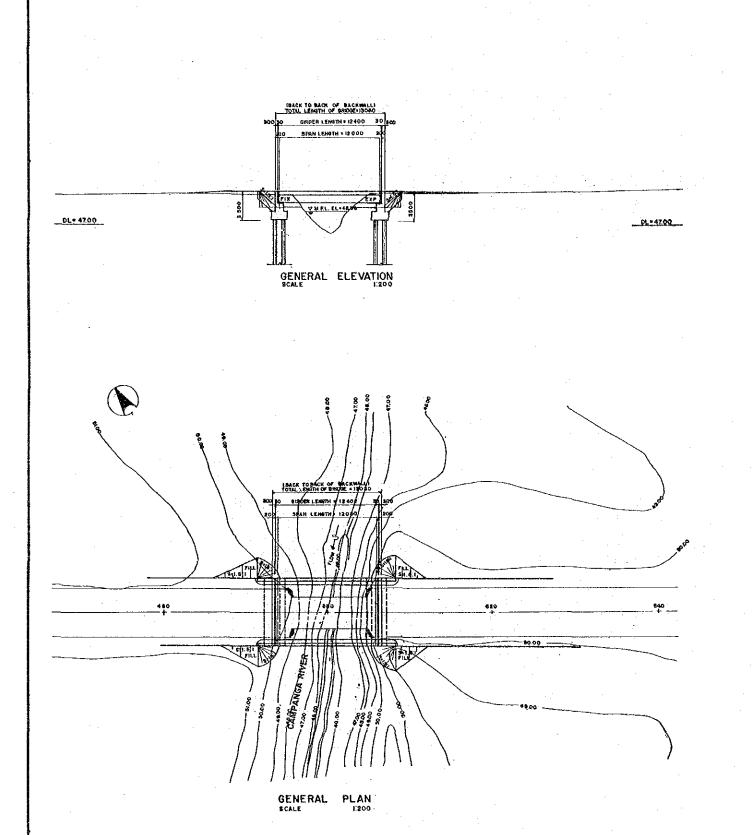
Steeles for Superstructure (c'=29.4 MPa

Concrete for Superetructure fo = 29.6 MPa Concrete for Superetructure fo = 20.7 MPa Other Materials shall conformed to ASTM

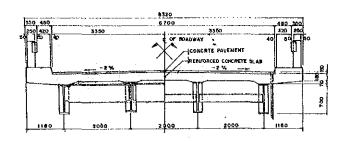




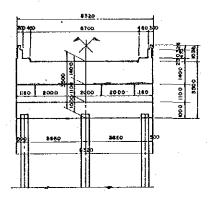




BASIC DESIGN STUDY ON THE PROJECT For constructing bridges along rural roads(Phase 1) BRIDGE NO. SHEET NO. CAMPANGA BRIDGE 07-03 Km. 63 + 500 11/31



SUPERSTRUCTURE CROSS SECTION



ABUTMENT

SUBSTRUCTURE CROSS SECTION SCALE

- I. Location of bridge should be determined by the Department of Public Works and Highways LDPWH I.

 2. Structural dimensions of superstructures should not be amended.

 3. Types and dimensions of substructures should not be amended.

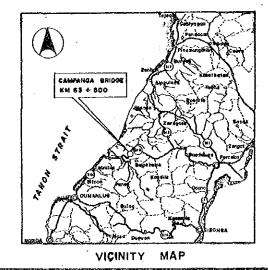
 4. Vertical clearance between the M.F.L. and the bottom of the girders of the superstructure shall be not less than 1.0 meter (Carrying nobilg debris).

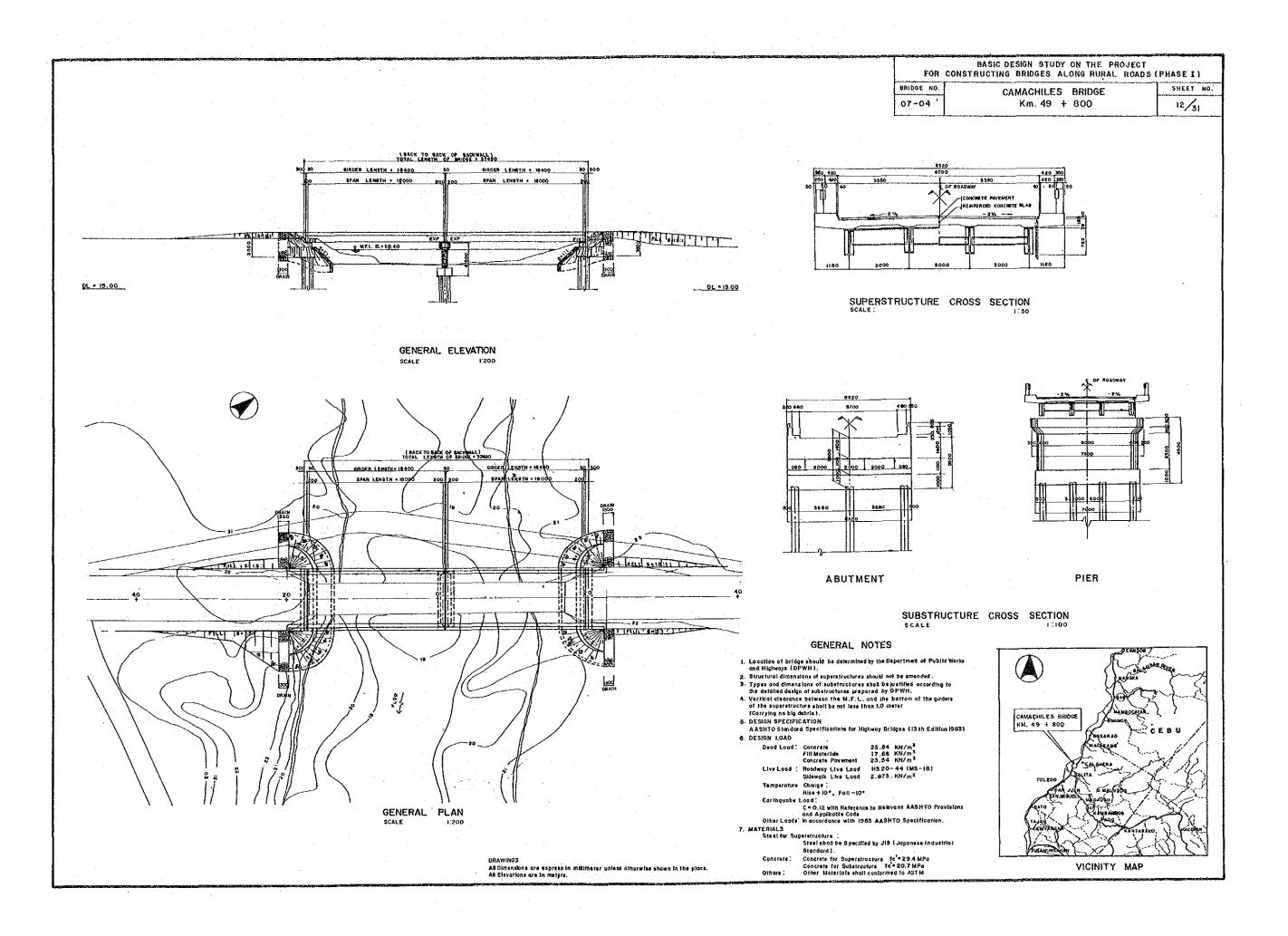
 5. DESIGN SPECIFICATION

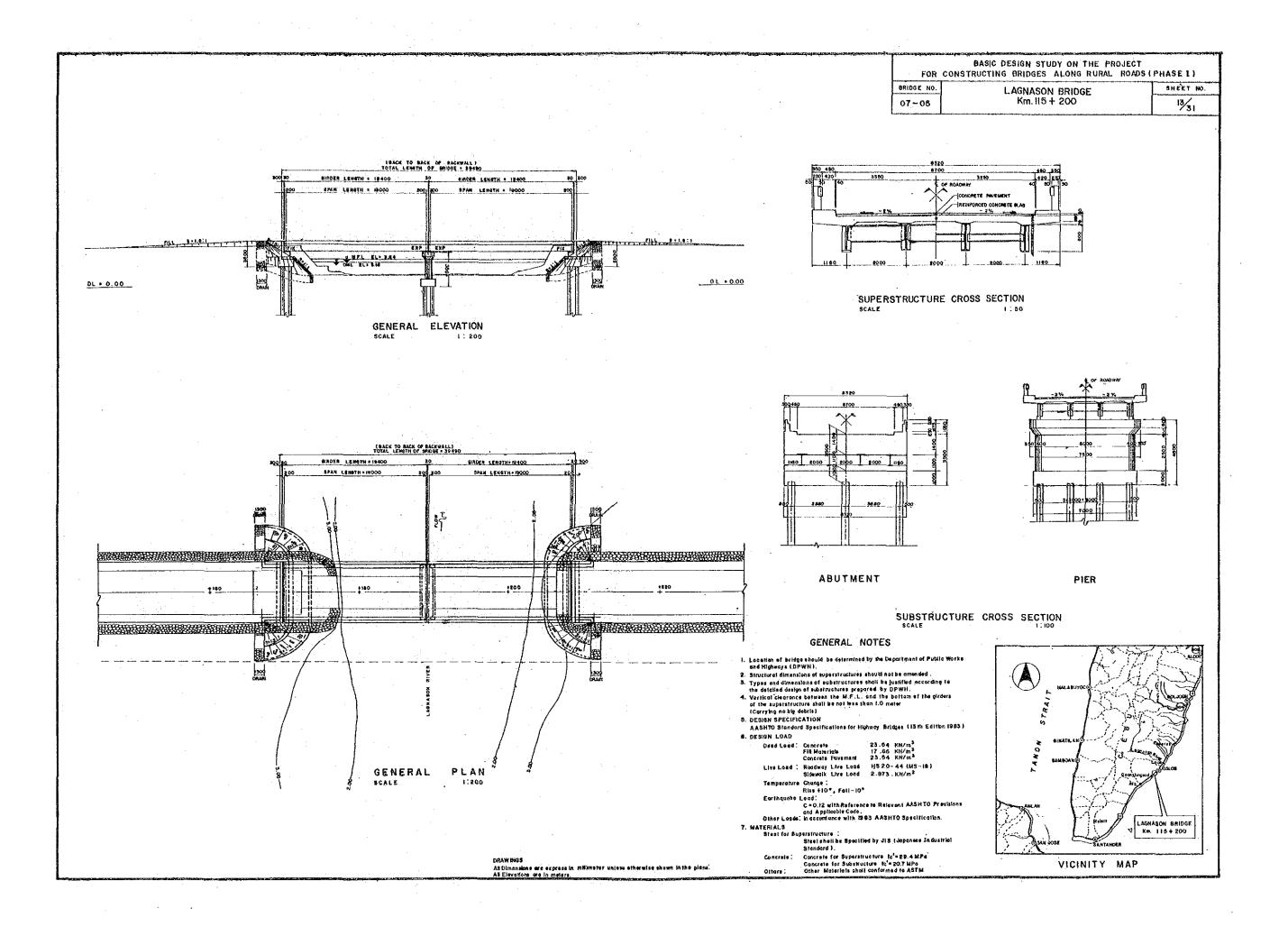
 A SHTO Standard Specifications for Highway Bridges (13 th Edition 1083).

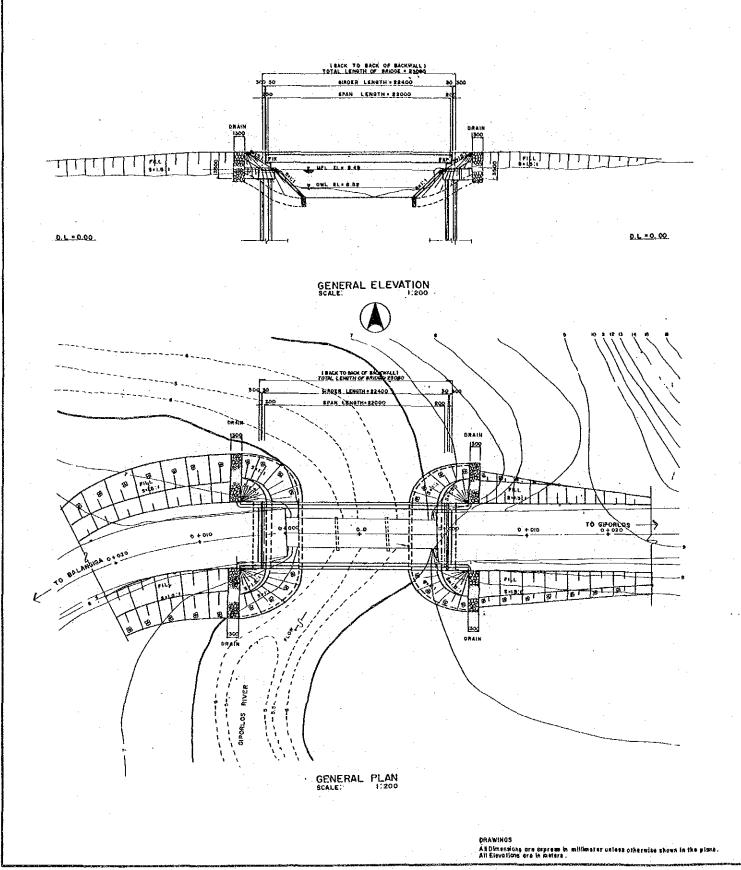
 6. DESIGN LOAD
- 6. DESIGN LOAD
 - Deed Lood: Concrete
 File Motoriols
 Concrete Pavement
 - Live Load : Roodway Live Load H5 20 44 (M5 18) Skiewalk Live Load 2.873 KN/m2

- Live Load : Room...
 Sizeralk Live Load ...
 Temperatury Change : Rise tio", Fall-10"
 Earthquake Load: C-0.12 with Reference to Retayant AASHTO Provisions and Applicable Code.
 Other Loads: In accordance with 1983 AASHTO Specification.
 7. MATERIALS
 Steel for Superstructure :
 Sheel shall be Specified by JIS (Japanese Industrial Stondard).
 Concrete : Concrete for Superstructure of 28.4 MPa Concrete for Superstructure of 20.7 MPa
 Others : Other Materials shall conformed to ASTM

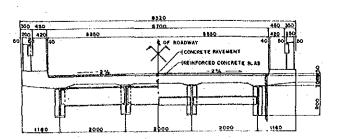




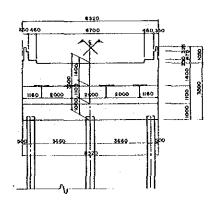




BASIC DESIGN STUDY ON THE PROJECT FOR CONSTRUCTING BRIDGES ALONG RURAL ROADS (PHASE I) BRIDGE NO. SHEET NO. PORAY BRIDGE 08-01 Km. 1043 + 798 14/31



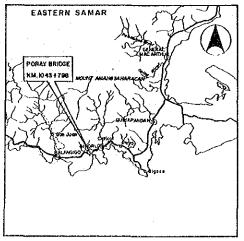
SUPERSTRUCTURE CROSS SECTION SCALE: 1:50



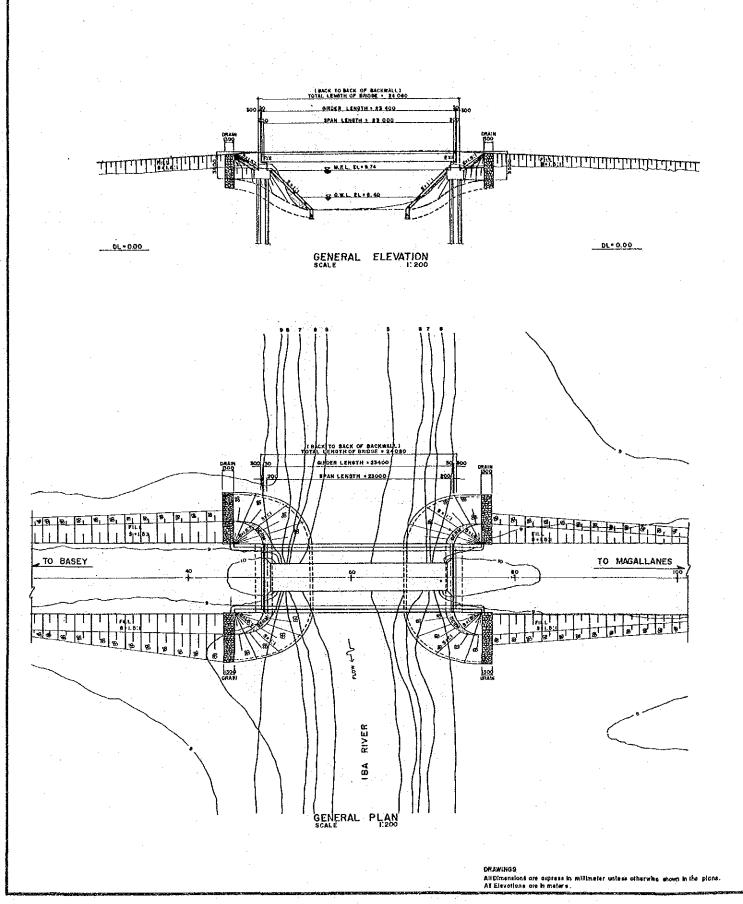
SUBSTRUCTURE CROSS SECTION

GENERAL NOTES

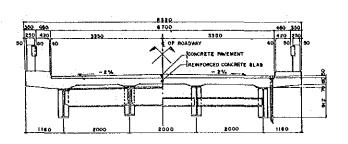
- 1. Location of bridge should be determined by the Department of Public Works and Highways (DPWH).
 2. Structural dimensions of superstructures should not be amended.
 3. Types and dimensions of substructures should be justified according to the detailed design of substructures prepared by DPWH.
 4. Vertical claurence between the N.F.L. and the bottom of the graders of the superstructures abail be not less than 1.0 mater (Carrying he big debrie).
 5. DESIGN SPECIFICATION
 ASSITO Standard Secritivations for bibliographics (19th Edition 1993).
- AASINTO Standard Specifications for Highway Bridges (13th Edition 1983)
 6. DESIGN LOAD



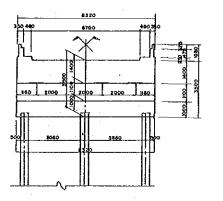
VICINITY MAP



BASIC DESIGN STUDY ON THE PROJECT FOR CONSTRUCTING BRIDGES ALONG RURAL ROADS (PHASE I) BRIDGE NO. SHEET NO. 18 A BRIDGE 15/31 08-02 Km. 914 + 800



SUPERSTRUCTURE CROSS SECTION SCALE:



SUBSTRUCTURE CROSS SECTION

GENERAL NOTES

- 1. Location of bridge should be determined by the Department of Public Works and Nighways (DPWH).
 2. Structural dimensions of superstructures should not be amended.
 3. Types and dimensions of substructures shall be justified according to the dotalled design of substructures prepared by DPWH.
 4. Vertical clearance between the M.F.L. and the bottom of the girders of the superstructure shall be not less than 1.0 mater (Carrying no big debries).
 5. DESIGN SPECIFICATION
 AASHTO Standard Specifications for Highway Bridges (13 th Edition 1983).

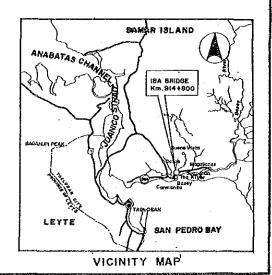
 DESIGN 1.060

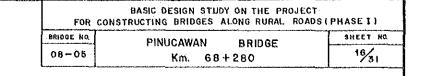
- 6. DESIGN LOAD

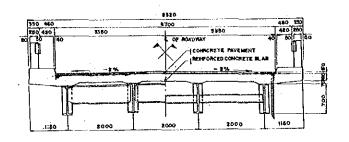
| Dead Load | Concrete | 23.54 KN/m³ | FIR Materials | 17.66 KN/m³ | Concrete Pavement | 23.54 KN/m³ |

Live Load : Roadway Live Load HS20-44 (MS-18)
Sidewalk Live Load 2.873 KH/Is²

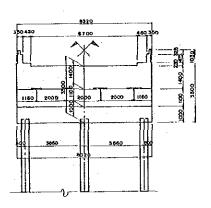
Live Load: Rocardy,
Sidewalk Live Load a...
Temperature Change:
Rise +10*, Fall - 10*
Earthquake Load:
C = 0.12 with Reference to Relevant AA SHTO Provisions and Applicable Code.
Other Loads: in accordance with 1983 AASHTO Specification.
7. MATERIALS
Steel for Superstructure:
Sizes shall be Specified by JIS (Japanese Industrial Standard).
Concrete: Concrete for Superstructure 10*=29.4 MPa Concrete for Substructure 10*=29.4 MPa Others: Other Materials shall conformed to ASTM







SUPERSTRUCTURE CROSS SECTION 1:50



SUBSTRUCTURE CROSS SECTION 1:100

- I. Location of bridge should be determined by the Department of Public Works and Highways (OPWH).

 2. Structural dimensions of superstructures should not be amended.

 3. Types and dimensions of substructures should be justified according to the detailed design of substructures prepared by DPWH.

 4. Vertical clearance between the M.F.L. and the bottom of the girders of the superstructure should be not less than 1.0 meter (Carrying no big debrie).

 5. DESION SPECIFICATION

 AASHTO Standard Specifications for Highway Bridges (13th Edition 1983)

 6. DESION LOAD

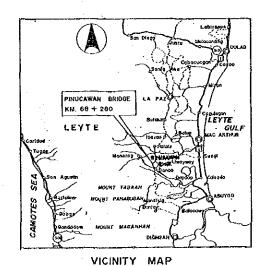
 Dead Load: Concrete

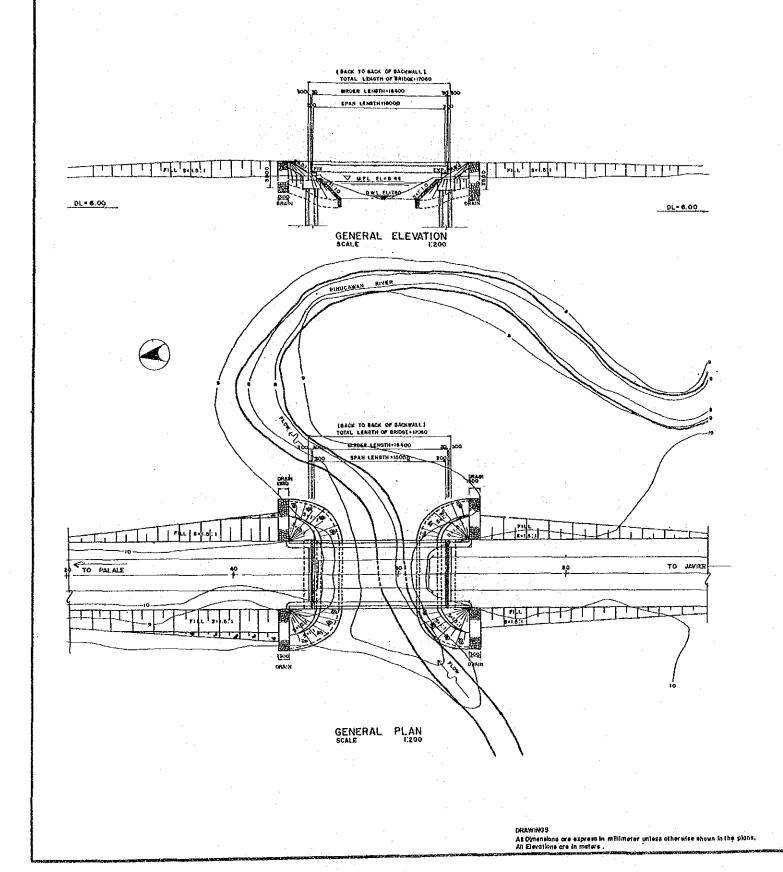
 23.54 KN/m³

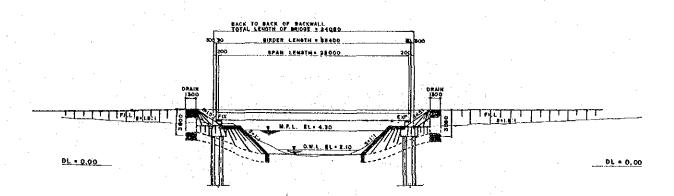
- ESIGN LOAD

 Deed Load : Concrete 25.54 KN/m³
 Fili Materials 17.66 Klf/m³
 Concrete Pavement 25.54 KN/m³
 Live Load : Roodway Live Load HS 20-44 (HS-IB)
 Sidwalk Live Load 2.673 KN/m²
- Temperature Change:
 Rise + 10°, Fall 10°

 Earthquake Load:
 C = 012 with Reference to Relevant AASHTO Previsions and Applicable Code.
 Other Loads: In accordance with 1983 AASHTO Specification.



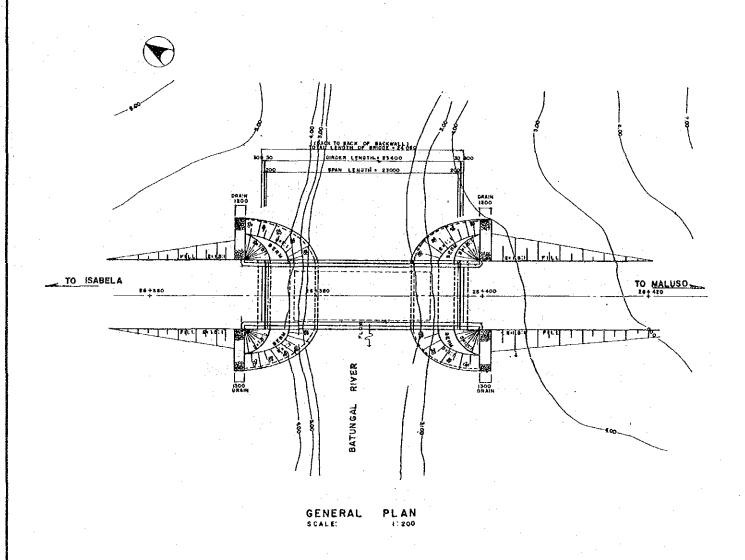




1:200

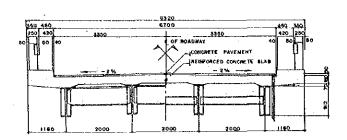
GENERAL ELEVATION

SCALE:

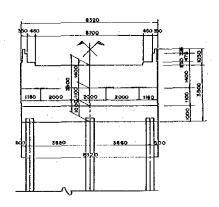


DRAWINGS
AUDimensions are express in milienter unless otherwise shown in the pisns
Au Empolions are in meters.

BASIC DESIGN STUDY ON THE PROJECT FOR CONSTRUCTING BRIDGES ALONG RURAL ROADS (PHASE I) BRIDGE NO. SHEET NO. BATUNGAL BRIDGE 09-01 17/31 Km. 26+440



SUPERSTRUCTURE CROSS SECTION



SUBSTRUCTURE CROSS SECTION

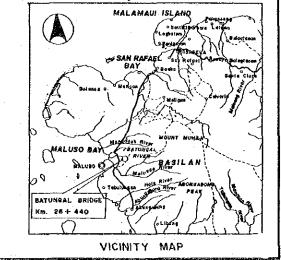
- 1. Location of pridge should be determined by the Deportment of Public Works and Highways (DPHH).
 2. Structural dimensions of superstructures should not be emended.
 3. Types and dimensions of substructures should be justified according to the detailed design of substructures prepared by DPWH.
 4. Varilous clearance behinden the M.F.L. and the bottom of the girders of the superstructure shall be not less than 1.0 meter (Carrying no big details)
 5. DESIGN SPECIFICATION
 A ASHTO Standard Specifications for Highway Bridges (15 th Edition 1983)
 6. DESIGN LOAD.

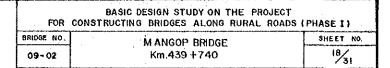
- 6 DESIGN LOAD
 - | Dode Load: | Concreta | 23.84 | KN/m² | 17.66 | KN/m² | 17.66 | KN/m² | 17.66 | KN/m² | 17.66 | KN/m² | 18.00 | 1.00 | 1.00 | 18.00 | 1.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 18.00 | 23.64 KN/m² 17.66 KN/m² 25.64 KN/m²

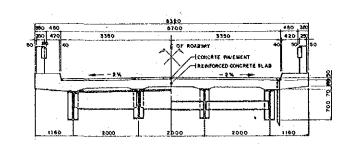
 - Temperature Change: Fall-10°
 Rise+10°, Fall-10°
 Earthquake Load:
 C=0.12 with Reference to Relevant AASHTO Provisions and Applicable Code
 Other Loads: In accordance with 1983 AASHTO Specification

- Other Loads: In accordance with 1983 AASHTO Specification

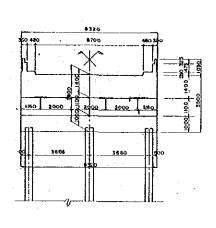
 7. MATERIALS
 Steel for Superstructure
 Steel for Superstructure
 Steel shall be Specified by JIS (Jopaneso Industrial
 Standers).
 Concrete for Superstructure 1c1 29,4 MPa
 Concrete for Substructure 1c2 20,7 MPa
 Others: Other Materials shall conformed to ASTM

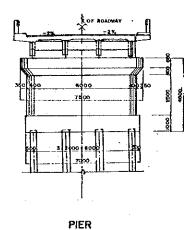






SUPERSTRUCTURE CROSS SECTION SCALE 1:80





SINDANGAN BAY MANGOF BRIDGE Km. 439 + 740

ABUTMENT

SUBSTRUCTURE GROSS SECTION FIND

GENERAL NOTES

- Location of bridge should be determined by the Department of Public Works and Highways (DPWH).
 Structural dimensions of superstructures should not be emended.

- Structural amensions of superstructures should not be extended.
 Types and dimensions of substructures should not be extended to the detailed design of substructures prepared by DPWH.
 Vertical clearance between the M.F.L. and the bottom of the girders of the superstructure shall be not tess than 1.0 mater (Corrying no big debris).
 DESIGN SPECIFICATION
 AASHTO Standard Specifications for Highway Bridges (15th Edition 1983)
 DESIGN LOAD.

- S. DESIGN LOAD

VICINITY MAP

** Rise + 10*, Fall - 10*

Earthqueke Load:

C = 0.12 with Reference to Relevant AASHTO Provisions and Applicable Code.

Other Loads: In accordance with 1983 AASHTO Specification

7. MATERIALS

Steel for Superstructure:

Steel for Superstructure

Steel shell be Specified by x88 (Jopanese Industrial Standard).

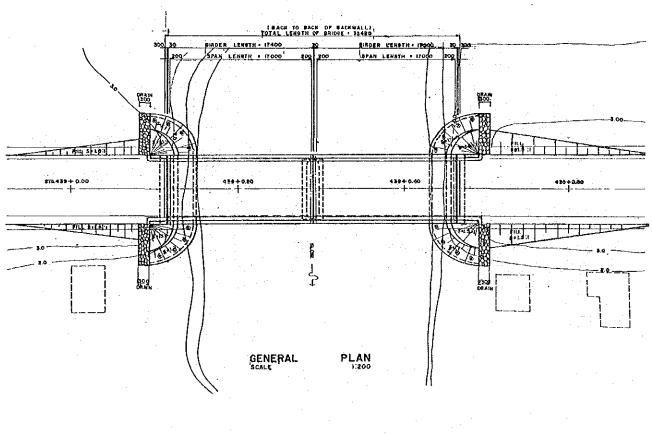
Concrete Concrete for Superstructure ic's 29-4 MPa

Concrete for Substructure it's 20.7 MPa

Others:
Other Materials shall conformed to ASTM

DRAWINGS AR Directions are express in millimeter unless alberwise shown in the plans.

PL - 0.00

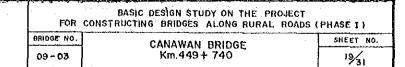


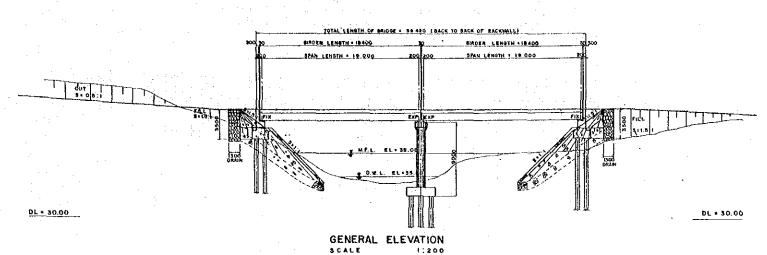
TOTAL LEHOTH TO PARTY TENDO

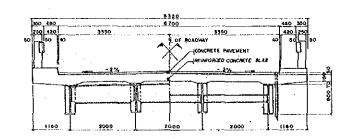
GENERAL ELEVATION

GROED LEMETH STADE

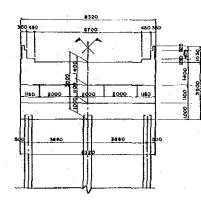
SIRDER LESSTH . 17400

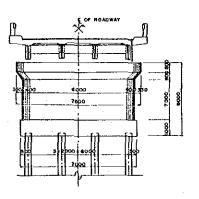






SUPERSTRUCTURE CROSS SECTION 1:50





ABUTMENT

PIER

SUBSTRUCTURE CROSS SECTION 1:100

GENERAL NOTES

- 1. Location of bridge should be deformined by the Deportment of Public Works and Righways (DPWH).
 2. Structural dimensions of superstructures should not be amended.
 3. Types and dimensions of substructures shall be usilifed according to the destined design of substructures proposed by DPWH.
 4. Vertical cleatance between the M.F.L. and the bottom of the girders of the superstructure shall be not less than 1.0 mater (Cerrying no big debries).
 5. DESIGN SPECIFICATION

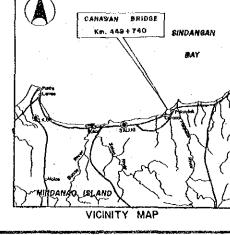
 ANSHTO Standard Specifications for Highway Bridges (13th Edition 1983).
 6. DESIGN LOAD.

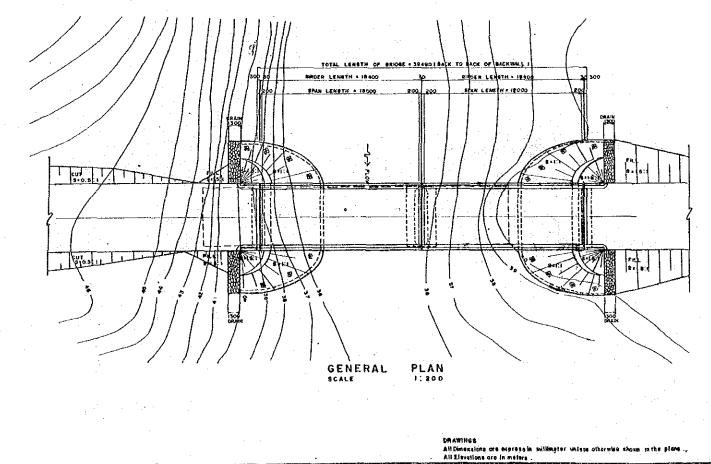
DESIGN LOAD		
Dead Load:	Concrete Fill Materials Concrete Pavement	23.54 KN/m 17.66 KN/m 23.54 KH/m
Live Load :	Readway Live Load Sidewalk Live Load	HS20-44 (MS-IB) 2.673 KN/m

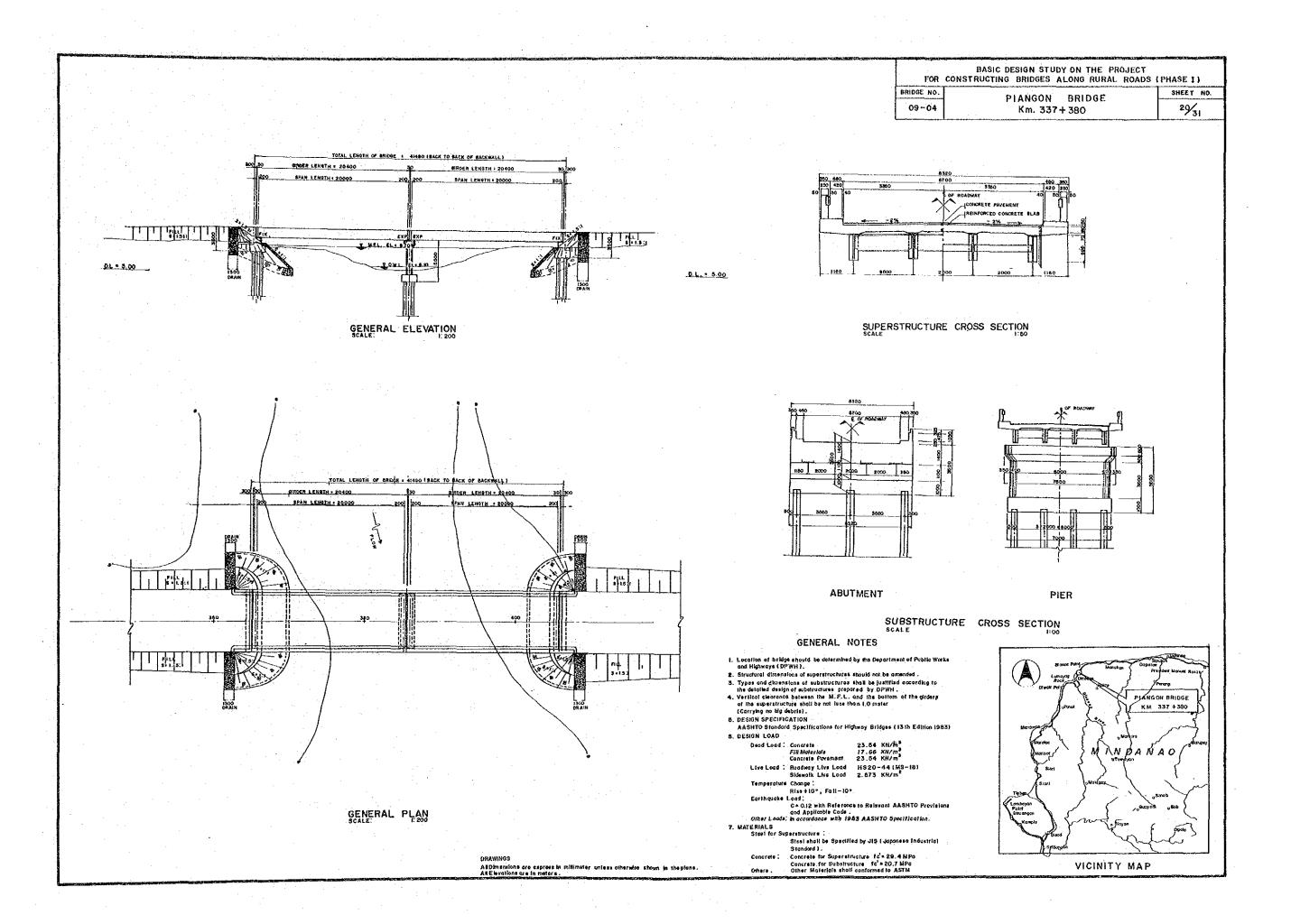
Temperature Change:
Riss+10°, Fell-10°
Earthquake Load:
C=0.12 with Reference to Relevant AASHTO Provisions and Applicable Code.
Other Loads: in accordance with 1983 AASHTO Specification.

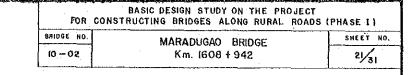
Other Loads: In accordance

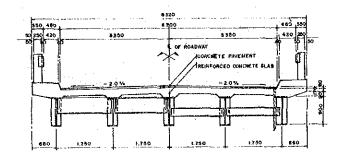
7. MATERIAL 8
Steel for Superstructure
Steel shall be Specified by JIS (Japanese Industrie)
Steel shall be Specified by JIS (Japanese Industrie)
Standard).
Concrete: Concrete for Superstructure fo' = 29.4 MPa
Concrete for Substructure fo' = 20.7 MPa
Others: Other Materials shall confirmed to ASTM



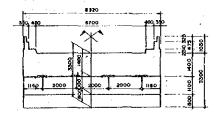








SUPERSTRUCTURE CROSS SECTION SCALE 130



SUBSTRUCTURE CROSS SECTION SCALE

- Location of bridge should be determined by the Department of Public Works and Highways IDPWH?

- and Highways LDPWH 1.

 Structural dimensions of superstructures should not be amended.

 Types and dimensions of substructures should be justified according to the detailed design of substructures prepared by DPWH.

 Verifold learnages between the M.F.L. and the bottom of the girders of the superstructure should be not less than 1.0 meter (Carrying no big debris).

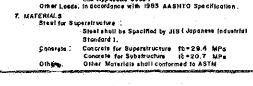
 DESIGH SPECIFICATION

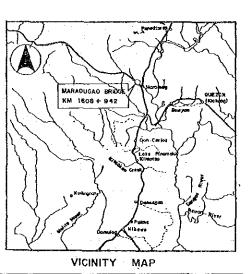
 ASSITO Shandord Specifications for Highway Bridges (12th Edition 1983).

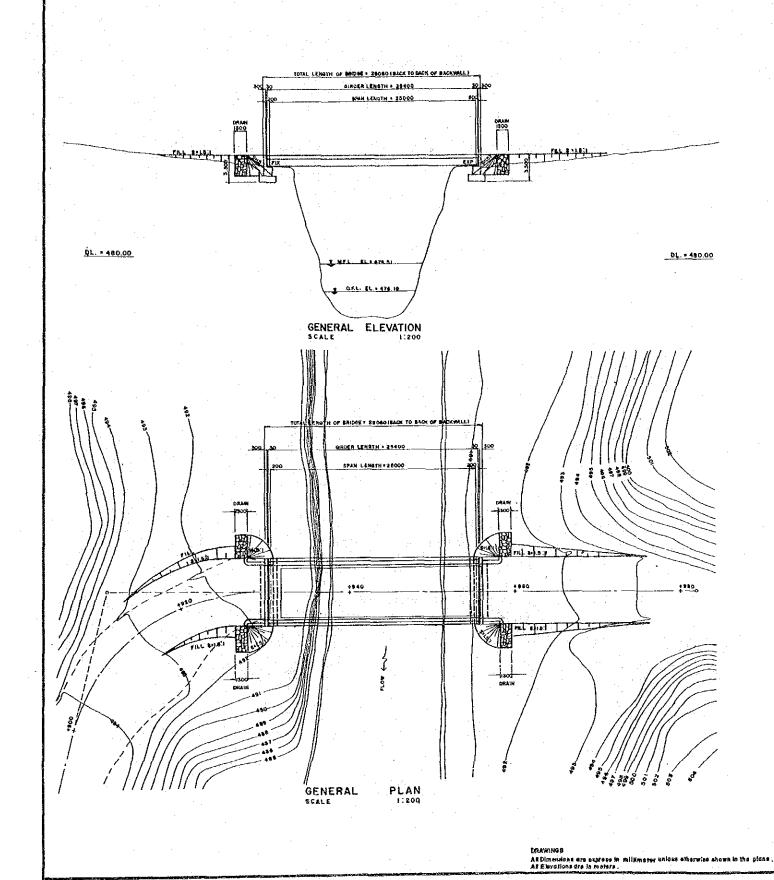
 DESIGH LOAD

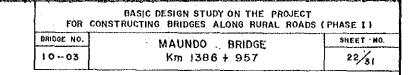
- 8. DESIGN LOAD

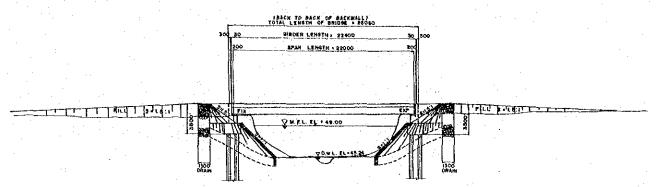
 - Temperature Change:
 Rise | 10 * | Fall 10 *
- Earthquake Loud;
 C = 0.12 with Reference to Relevant AASKTO Provisions and Applicable Code.
 Other Leeds, in accordance with 1983 AASHTO Specification.







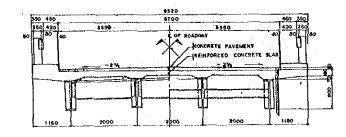




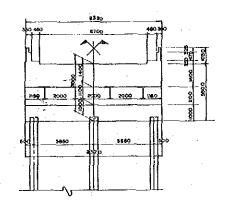
1:200

SCALE

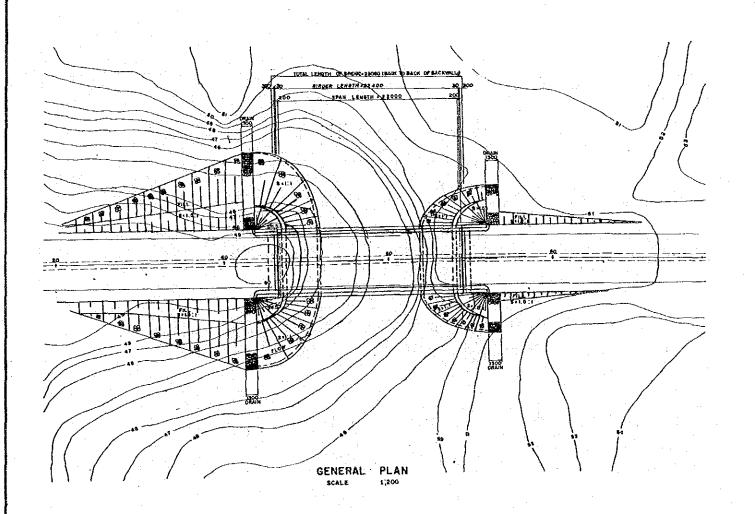
DL • 40.00 GENERAL ELEVATION DL= 40.00



SUPERSTRUCTURE CROSS SECTION 150



SUBSTRUCTURE CROSS SECTION



DRAWINGS
All Dimensions are express to millimeter unless otherwise shown in the pions.
All Elevations are in indiers.

GENERAL NOTES

- 1. Location of bridge should be determined by the Department of Public Works and Highways (DP WH).
 2. Structural dimensions of superstructures should not be amended.
 3. Types and dimensions of substructures should be justified according to the detailed design of substructures prepared by DPWH.
 4. Vertical clearance between the M.F.L. and the bottom of the girders of the superstructure shall be not less than 1.0 meter (Corrying no big debris).
 5. DESIGN SPECIFICATION
 A SENTO Standard Specifications for Natural Pridade (18th Edition 1985).
- A ASHTO Stondard Specifications for Highway Bridges (18th Edition 1983)
- 6. DESIGN LOAD | Dead Load : Concrete | 23.54 NeVm | Fin Materials | 17.68 NeVm | 17.68 NeVm | 23.54 NeVm | 23.54 NeVm | 23.54 Nevm | 18.20-44 (NS-18) | 18.48 Nevm | 18.20-44 (NS-18) | 18.20 Nevm | 18.20 Nev

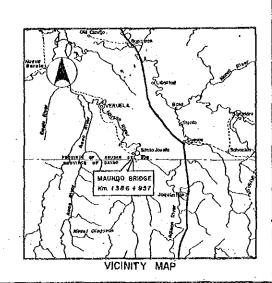
Temperature Charge;

Earthquake Load;

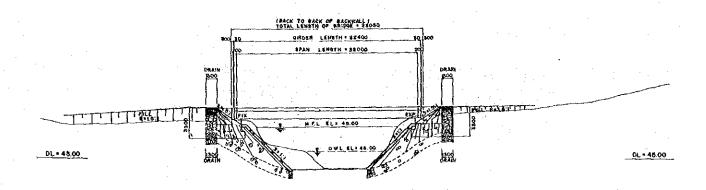
E=0.12 with Reference to Relevant AASHTO Previsions and Applicable Code.

Other Loads: In accordance with 1983 AASHTO Specification.

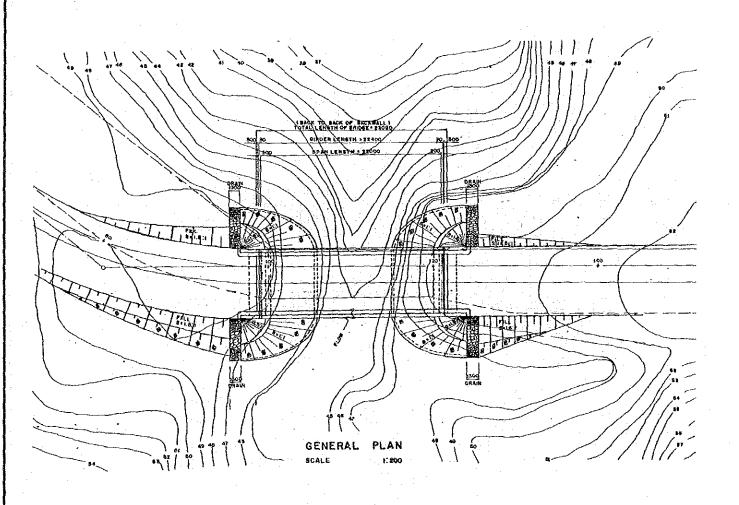
Other Lecture
7. MATERIALS
Steel for Superstructure
Steel shall be Specified by JIS (Jopanese Industrial Standard)
Concrete for Superstructure 10=29.4 MPa
Concrete for Substructure 15=20.7 MPa
Other Materials shall conformed to ASTM



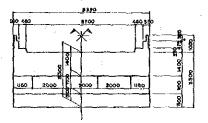
BASIC DESIGN STUDY ON THE PROJECT FOR CONSTRUCTING BRIDGES ALONG RURAL ROADS (PHASE 1) BRIDGE NO. SHEET NO. STA. IRENE BRIDGE 23/31 Km. 1282+110



GENERAL ELEVATION SCALE



SUPERSTRUCTURE CROSS SECTION SCALE:



SUBSTRUCTURE CROSS SECTION

GENERAL NOTES

- 1. Location of bridge should be esterplined by the Department of Public Works, and Highways (DPWH).
 2. Structural dimensions of superstructures should not be emanded.
 3. Types and dimensions of substructures and be justified according to the satulated dealer of substructures prepared by DPWH.
 4. Vertical clearence between the M. F.L. and the bottom of the greater of the superstructures shall be not true than 100 mater (Corrying no big debris).
 3. Departs appropriation.

- 8. OESIAN SPECIFICATION
 AASHTO Standard Specifications for Highway Bridges (15th Edkian 1983)
- 6. DESKIN LOAD

Dep d Load : Concrete 23.84 KN/m³
Fill Materials 17.66 KN/m³
Concrete Povement 23.54 KN/m⁶

Live Load : Roodway Live Load HS20-44 (MS-18)
Sidewook Live Load 2.873 kN/m²

Temperature Change: Riss +10°, fall - 10°

Rise 4:0°, Foil—10°
Earthquoks Load:

C=0.12 with Reference to Relevant AASHTO Provisions and Applicable Code.

Other Loads: In accordance with 1983 AASHTO Specification.

Uther Loses in accordance man low Americals

Shell for Superstructure:

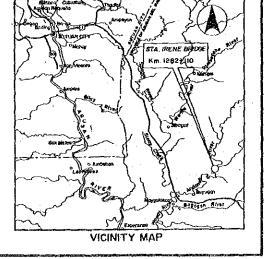
Steel for Superstructure:

Steel for Superstructure fc=20.4 MPa

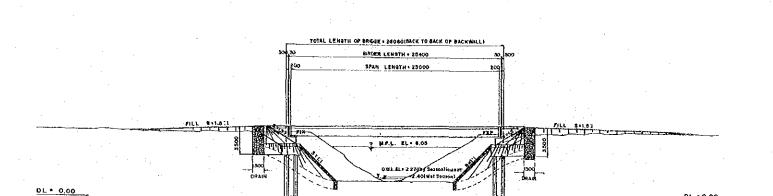
Concrete for Superstructure fc=20.4 MPa

Others:

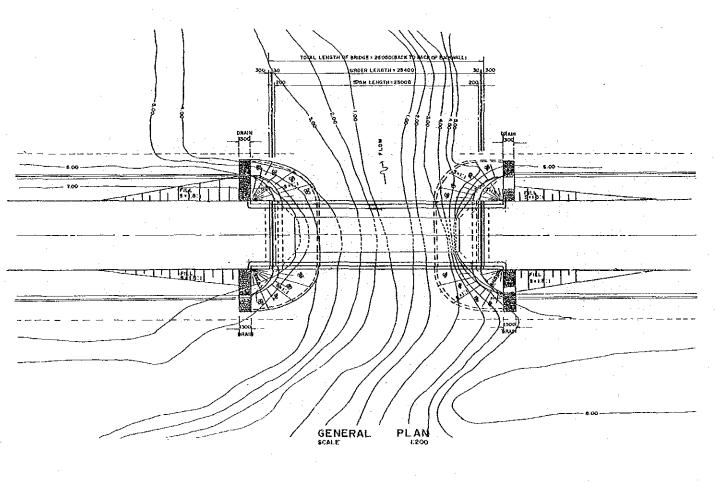
Other Materials shall conformed to \$51M



DRAWINGS
All Dimensions are appress in millimeter unless otherwise shown in the plane.
All Elevations are in matery.



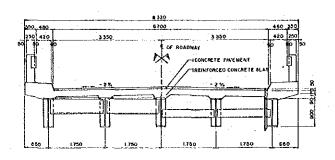
GENERAL ELEVATION



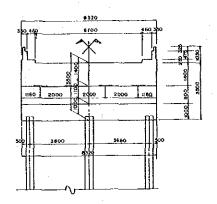
DRAWINGS

BASIC DESIGN STUDY ON THE PROJECT FOR CONSTRUCTING BRIDGES ALONG RURAL ROADS (PHASE I) BRIDGE NO. SHEET NO. 24/31

MALUBOG BRIDGE 10 - 05Km. 185+760



SUPERSTRUCTURE CROSS SECTION SCALE 1:50



SUBSTRUCTURE CROSS SECTION

GENERAL NOTES

- Location of bridgs should be determined by the Department of Public Works and Highways (DPWH).
- on d Highways (DPWH).

 3. Structural dimensions of superstructures should not be amended.

 3. Types and dimensions of substructures shall be justified according to the desciled degign of substructures proposed by OPWH.

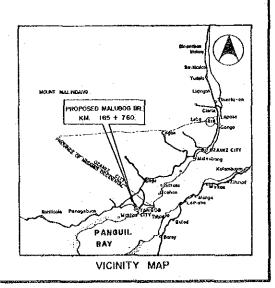
 4. Versical clearance between the MFL and the bottom of the girders of the superstructure shall be not task than 1.0 major in Corrying no big debits 1.

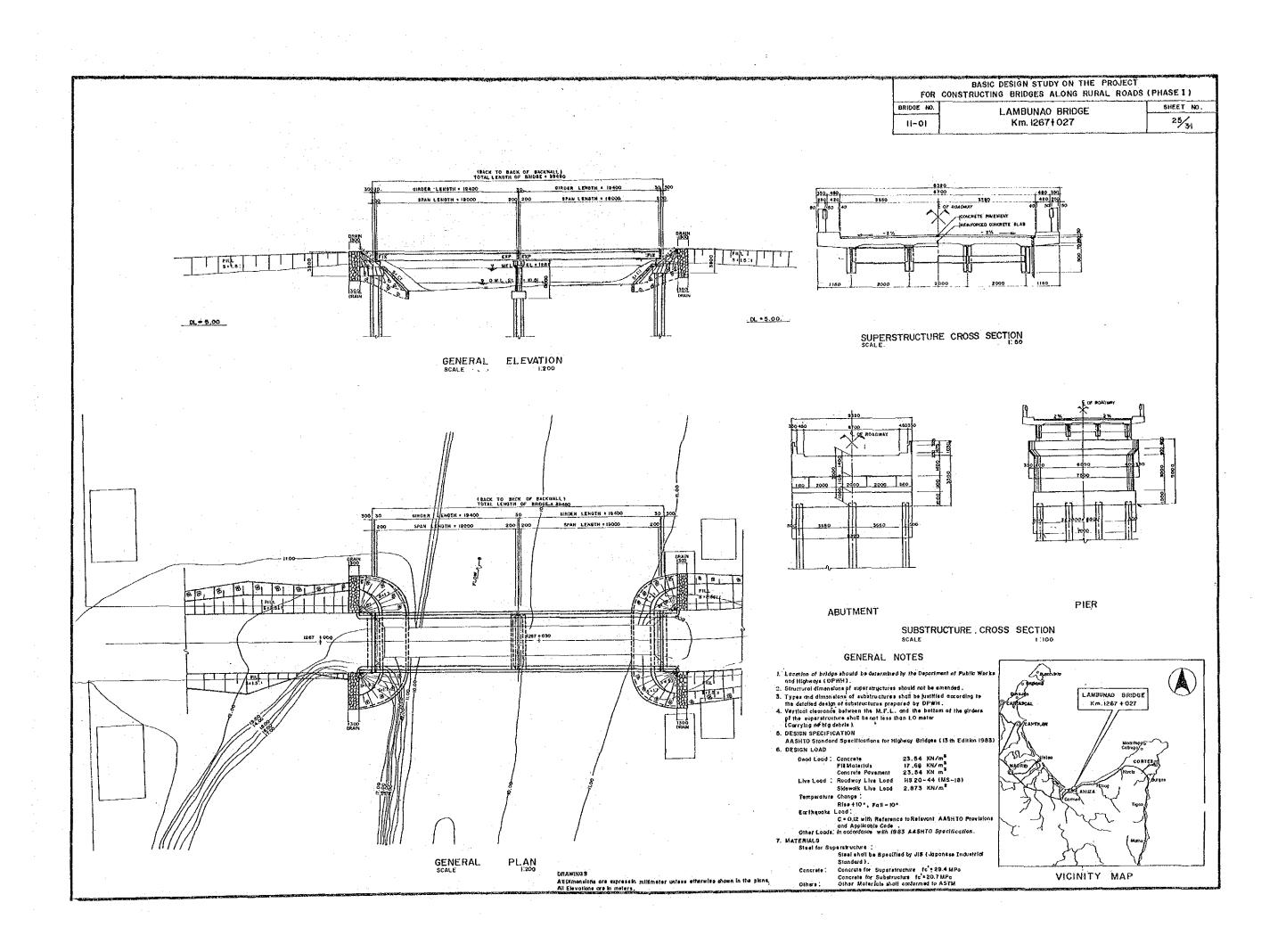
 5. DE SIGN SPECIFICATION AASHTO Standard Specifications for Highway Bridges (13th Edition 1983)

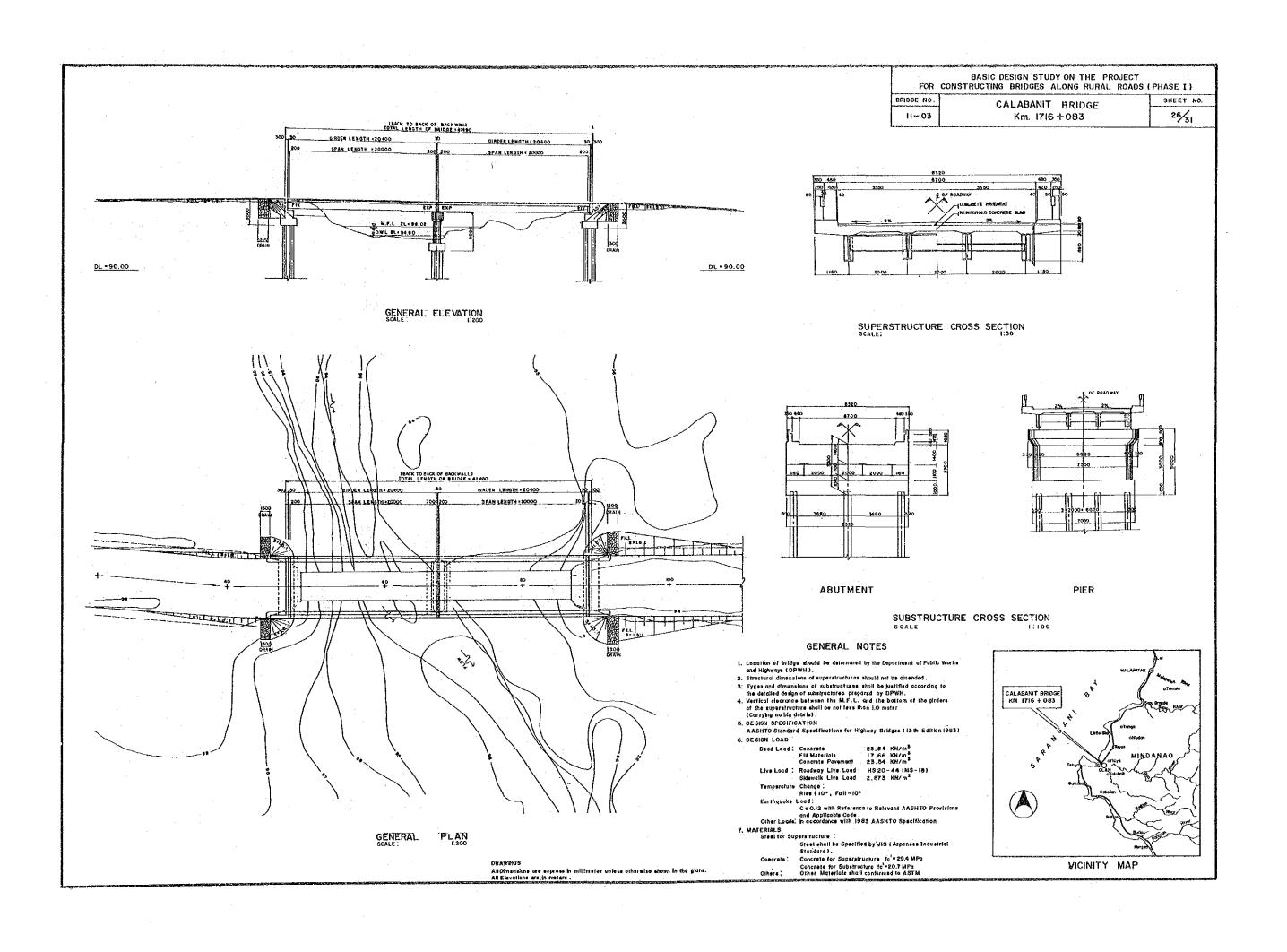
DL • 0.00

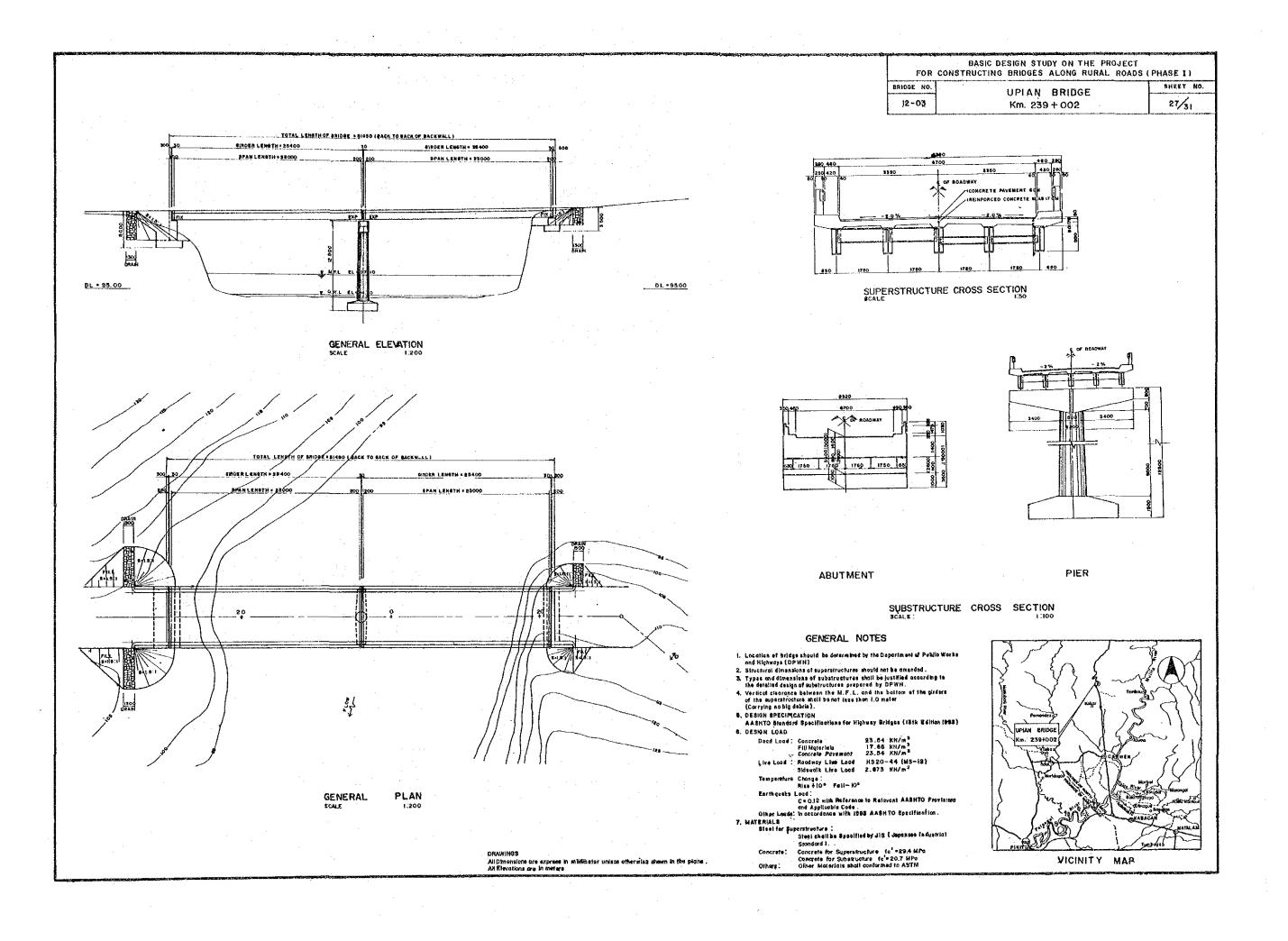
- 6. DESIGN LOAD
 - | Dead Lead | Concrete | 23.54 KN/m³ | FILI Materials | 17.65 KN/m³ | Concrete Parament | 23.54 KN/m³ | Concrete Parament | Concrete Par
- Temperature Change : Court Relations Change : Change : Rise +10°; Fall 10°
 Earthquake Load:
 C=0.12 with Reference to Relations AASHTO Provisions and Applicable Code.
 Other Loads: In accordance with 1983 AASHTO Specification

- Other Looks: In over7. MATERIALS
 Steel for Superstructure:
 Steel shall be Specified by US (Joponese Industrial Standard).
 Cencrats: Concrete for Superstructure for 29.4 MPa
 Concrete for Superstructure for 20.7 MPa
 Others: Other Materials shall conformed to ASTM



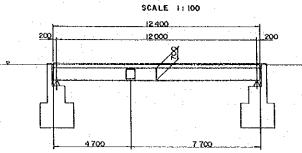




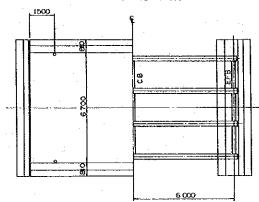


BASIC STRUCTUAL PLAN OF BRIDGES

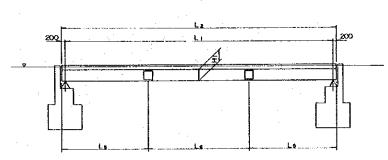
GENERAL ELEVATION (SPAN L=12m)



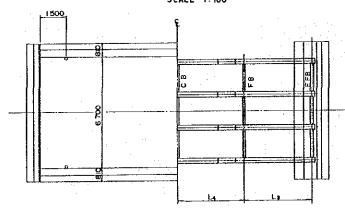
GENERAL PLAN (SPAN L= 12 m)
SCALE 1:100



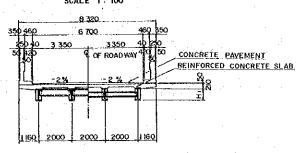
GENERAL ELEVATION (SPAN L-16.17.18.19.20.21.22.23m)
SCALE 1: 100



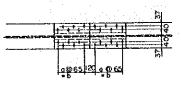
GENERAL PLAN (SPAN L. + 16.17.18.19.20.21.22.23 m)
SCALE 1: 100



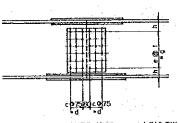
SUPERSTRUCTURE CROSS SECTION SCALE 1: 100



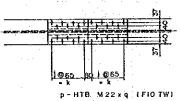
JOINT OF GIRDER (SMA 50) SCALE 1:20



#-HT8 | M22 x m | (FIOTW)



n - HTB, M 22 x 0 (FIOTW)



9 9

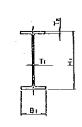
Dimension of Girder

						1											,	.—		
GIRDER SIZE	0	ь	С	d	e	f	9	h	1.	k	Q	m	n	٥	P	9	r		1	u
H - 700	5	325	2	150	5	90	450	125	6	390	24	90	36	75	28	95	10	12	12	16
H - 792	5	325	2	150	6	90	540	126	5	325	24	85	42	75	24	90	10	12	12	16
H - 800	6	390	2	150	6	90	540	130	6	390	28	90	42	75	28	100	10	14	14	19
H - 890	5	325	3	225	8	80	640	125	6	390	24	65	72	75	28	95	10	12	12	16
H ~ 900	6	390	3	225	.8	80	640	130	7	455	28	95	72	75	32	105	12	14	14	22
H - 912	8	520	3	225	8	80	640	136	9	585	36	115	72	80	40	120	14	19	19	25

Cross Beam Spacing

and the second					and the second second	
SPAN (Li)	Lz	La	L4	Ls	La	Hı.
16 000	16 400	4000	4000	5 0 0 0	6000	7 00
17000	17 400	4000	4500	5 000	7000	7 00
18000	18 400	4 500	4500	5 300	7400	7 92
19 000	19 4 0 0	4.500	5 000	5 500	8000	800
20 0 00	20 400	5 00 0	5 000	6 0 0 0	8 000	8 90
21000	21 400	5000	5500	6 500	8 000	900
22 000	22 400	5 5 0 0	5 500	6 600	8 400	9 00
23 000	23 400	5 5 0 0	.6000	7 500	8000	912

SECTION OF MAIN GIRDER (SMA 50)
SCALE 1:20



SPAN	Hı	Bı	Tı	T ₂
12 m]) .
16 m	700	300	1.3	24
17 m				
18 m	792	300	14	22
19 m	800	300	14	26
20 m	890	299	15	23
21 m		300	16	28
22 m	900	300	' '	ļ
23 m	912	302	18	34

BASIC DESIGN STUDY ON THE PROJECT
FOR CONSTRUCTING BRIDGES ALONG RURAL ROADS (PHASE I)
E NO. SHEET NO.

28/31

BASIC STRUCTUAL PLAN OF BRIDGES

Quantity of Steel Member

Ordinar	y Steel	Weathering Steel					
Bridge t	lo Name	Bridge N	o Name				
02.03	Baan Bridge	02.04	Diora Bridge				
06.04	Guintas Bridge	04.07ბ	Diputas Bridge				
08.05	Pinueowonon Bridga	о́4.08Ъ	Cogen Bridge				
10.02	Maradugas Bridge	05.02	Potitinan Bridge				
10.03	Moundo Bridge	06.02	Cataon Bridge				
10 04	Sto. Irone Bridge	07 03	Campanga Bridg				
12.03	Upian Bridge	07.04	Comachiles Brid				
		07.05	Lagnason Bridg				
		08.01	Poray Bridge				
		08.02	tto Bridge				
		09.01	Bolungai Bridge				
		09.02	Mongop Bridge				
		09.03	Conowan Bridge				
		09.04	Piangon Bridge				
		10.05	Malubog Bridge				

11.01 Lambungo Bridge 11.03 Calabanit Bridge

