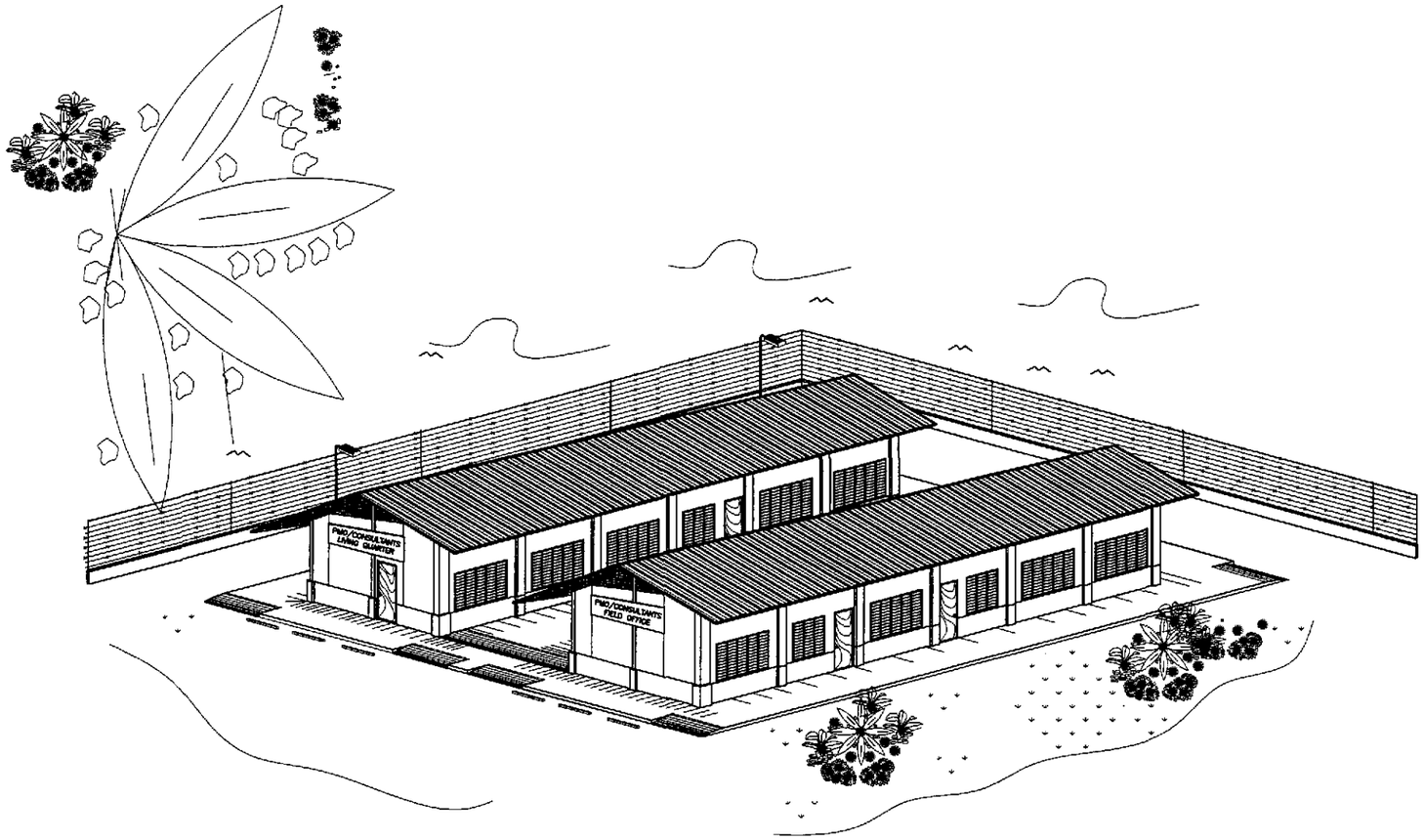
ENGR'S FIELD OFFICE & LIVING QUARTERS



P E R S P E C T I V E

GENERAL NOTES :

IT IS THE INTENTION OF THE DPWH THAT AFTER COMPLETION OF THE PROJECTS ALL PRE-FABRICATED METAL FIELD OFFICES WITH LABORATORY AND ENGINEER'S QUARTERS BUILDINGS BE DONATED TO THE NEAREST PUBLIC SCHOOL. THESE AFOREMENTIONED BUILDINGS SHOULD THEREFORE BE LOCATED WITHIN A PUBLIC SCHOOL COMPOUND OR ON A GOVERNMENT LOT THAT COULD BE EASILY ACQUIRED BY THE DEPARTMENT OF EDUCATION. FOR NEW SCHOOL SITE. IF NONE IS AVAILABLE, THEN THE PRE-FABRICATED METAL COMPONENTS SHALL BE DISMANTLED AFTER COMPLETION OF THE PROJECT FOR DONATION TO THE NEAREST PUBLIC SCHOOL AUTHORITIES OR TO THE LOCAL GOVERNMENT UNIT WHERE SAID PROJECT IS LOCATED.

ARIEL P. GONZALES
ENGINEER

PTR. NO. 5846340 P.R.C. NO. 53457
ISSUED ON 04/26/2002 T.I.N. 138-062-682
ISSUED AT SAN JUAN,M.M.

TABLE OF CONTENTS

ARCHITECTURAL :

FA-01 PERSPECTIVE
TABLE OF CONTENTS

02 ENGINEER'S FIELD OFFICE/LABORATORY
FLOOR PLAN
FRONT & REAR ELEV.
LEFT & RIGHT SIDE ELEV.
LONGITUDINAL & CROSS SECT.
REFLECTED CEILING PLAN

03 ENGINEER'S LIVING QUARTERS
FLOOR PLAN
FRONT & REAR ELEV.
LEFT & RIGHT SIDE ELEV.
LONGITUDINAL & CROSS SECT.
REFLECTED CEILING PLAN

04 ENGINEER'S FIELD OFFICE/LABORATORY
ROOF PLAN
DET. CROSS SECTION
SCHEDULE OF DOORS & WINDOWS

05 ENGINEER'S LIVING QUARTERS
ROOF PLAN
DET. CROSS SECTION
SCHEDULE OF DOORS & WINDOWS

STRUCTURAL :

FA-06 FOUNDATION PLAN,
R.C. RAMP DETAIL
DET. OF F-1, P-1, WF-1
DESIGN CRITERIA

07 ENGINEER'S FIELD OFFICE/LABORATORY
ELEV. OF STEEL STUD FRAMES
FRAMES SCHEMATIC DIAGRAMS

08 ENGINEER'S LIVING QUARTERS
ELEV. OF STEEL STUD FRAMES
FRAMES SCHEMATIC DIAGRAMS

09 ENGINEER'S FIELD OFFICE/LABORATORY
REAR AND LEFT SIDE ELEVATION OF
STEEL STUD FRAMES, AND
SCHEMATIC DIAGRAMS

10 ENGINEER'S LIVING QUARTERS
REAR AND LEFT SIDE ELEVATION OF
STEEL STUD FRAME, AND
SCHEMATIC DIAGRAMS

11 DETAIL CONNECTIONS,
DETAILS 1 TO 15

12 ROOF FRAMING PLAN
SCHEM.DIAGRAM (INT. WALLS)
PURLIN CONNCECTION
CROSS BRACING CONNECTION

ELECTRICAL :

FE-01 ENGINEER'S FIELD OFFICE/LABORATORY
LIGHTING LAYOUT
POWER LAYOUT
ELECT'L. SYMBOLS & GEN. NOTES

02 ENGINEER'S LIVING QUARTERS
LIGHTING LAYOUT
POWER LAYOUT
ELECT'L. SYMBOLS & GEN. NOTES

03 SCHEDULE OF LOADS
AND COMPUTATIONS
ELECT'L. RISER DIAGRAMS

PLUMBING :

FP-01 SEWER AND WATER LINE LAYOUT
ISOMETRIC DIAGRAM

02 SEPTIC TANK DETAILS

EXTERNAL :

FX-01 PLOT PLAN
ELEV - FENCE & GATE
FOUNDATION DETAIL

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE MUNICIPAL / CITY ENGINEER / BUILDING OFFICIAL

CITY / DISTRICT / MUNICIPALITY

LAND USE and ZONING

LINE and GRADE

ARCHITECTURAL

STRUCTURAL

SANITARY

ELECTRICAL

MECHANICAL

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY

KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEC YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	A. P. GONZALES
CHECKED	9/18/02	A. P. GONZALES
SUBMITTED	9/20/02	TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

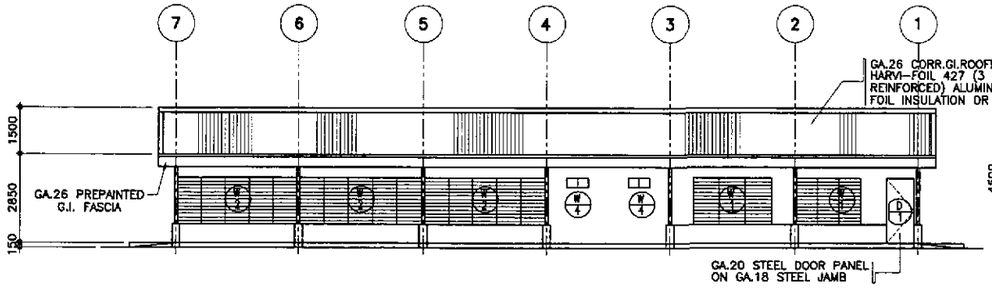
PJHL - PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	EMMANUEL P. CUNTAPAY	GILBERTO S. REYES	MANUEL M. BONDAN	SIMEON A. DATUMANDING
Project Director	Chief, Architectural Division	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

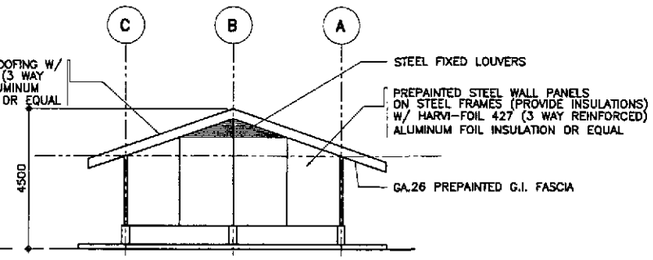
SCALE : NOT TO SCALE
FULL SIZE A1

SHEET CONTENTS :
ENGINEER'S FIELD OFFICE AND LIVING QUARTERS
PERSPECTIVE AND TABLE OF CONTENTS

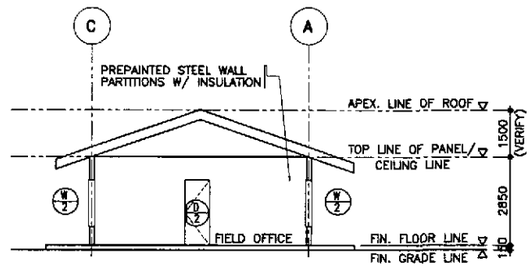
SHEET NO. : FA-01



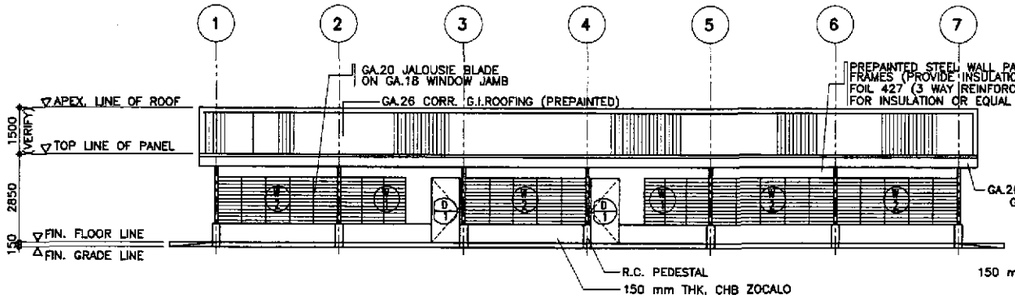
3 FA-02 REAR ELEVATION
SCALE 1:100



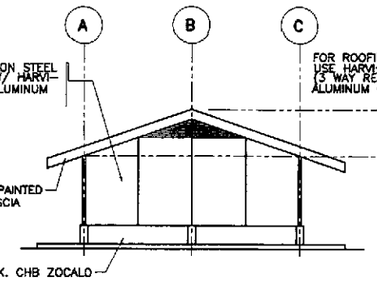
5 FA-02 LEFT SIDE ELEVATION
SCALE 1:100



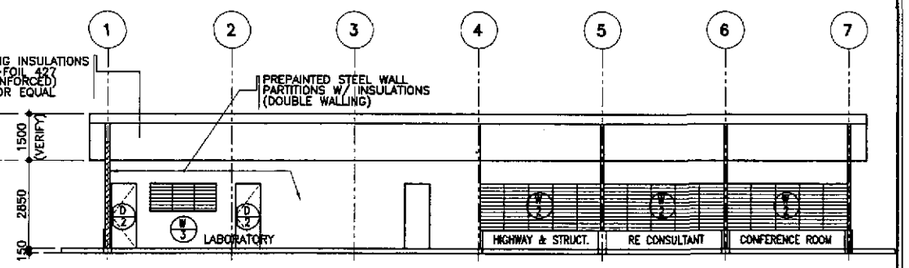
8 FA-02 CROSS SECTION
SCALE 1:100



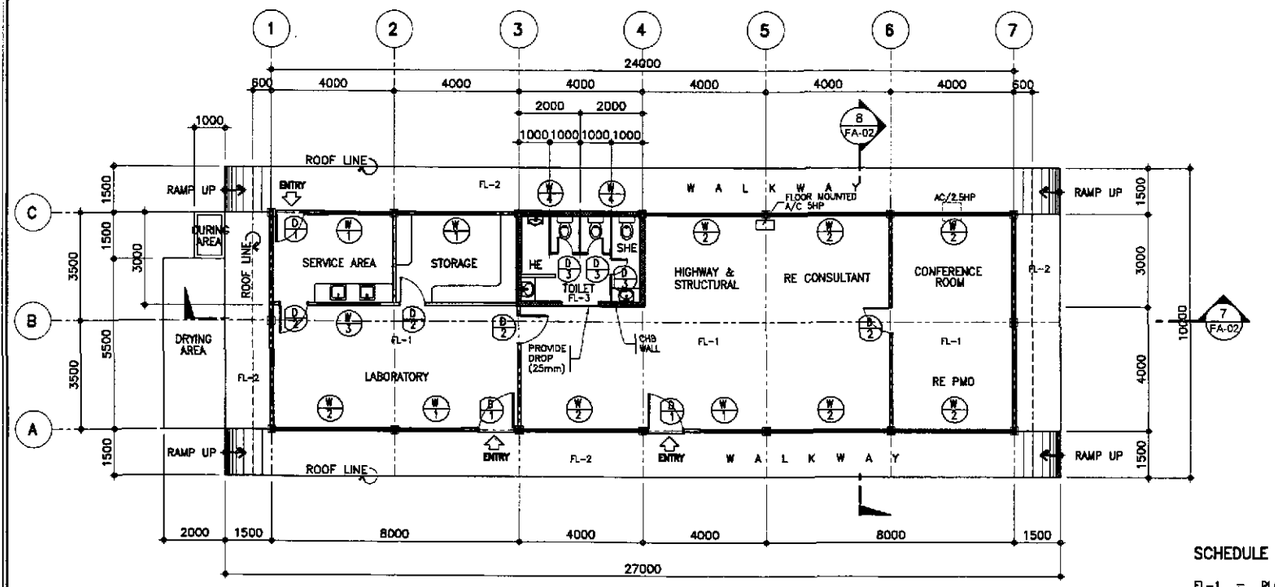
2 FA-02 FRONT ELEVATION
SCALE 1:100



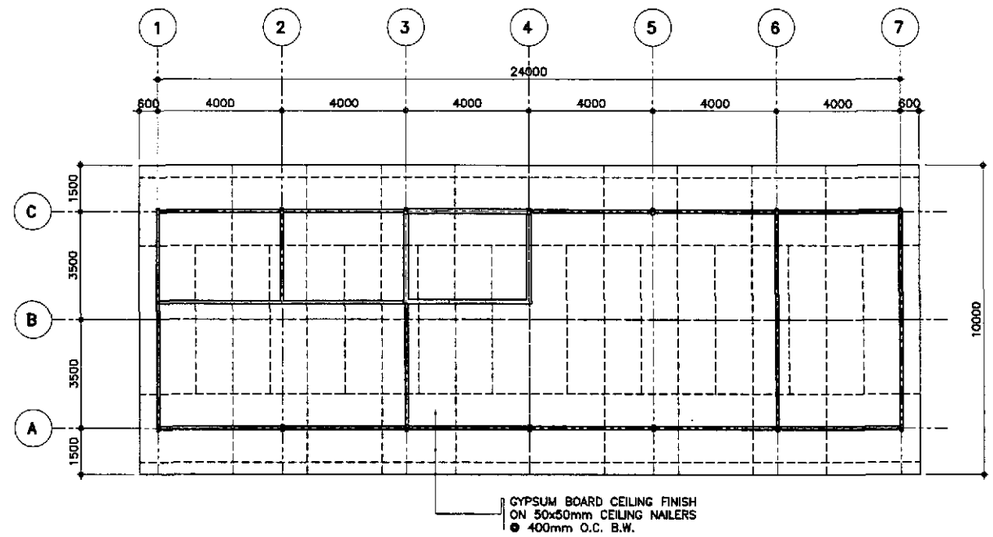
4 FA-02 RIGHT SIDE ELEVATION
SCALE 1:100



7 FA-02 LONGITUDINAL SECTION
SCALE 1:100



1 FA-02 FLOOR PLAN FOR ENGINEER'S FIELD OFFICE/LABORATORY
SCALE 1:100



6 FA-02 REFLECTED CEILING PLAN
SCALE 1:100

SCHEDULE OF FLOOR FINISHES

FL-1 = PLAIN CEMENT FLOOR FINISH
FL-2 = PLAIN CEMENT FLOOR FINISH WITH NON SKID CEMENT WITH GROOVE LINES
FL-3 = UNGLAZED TILE FINISH, 200x200mm

ABNEL P. GONZALES
ENGINEER
PTR. NO. 5846340 P.R.C. NO. 53457
ISSUED ON 04/26/2002 T.I.N. 138-062-582
ISSUED AT SAN JUAN,M.M.

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KATAHIRA & ENGINEERS INTERNATIONAL
YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	A. P. GONZALES
CHECKED	9/18/02	A. P. GONZALES
SUBMITTED	9/20/02	M. K. BUCHI TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

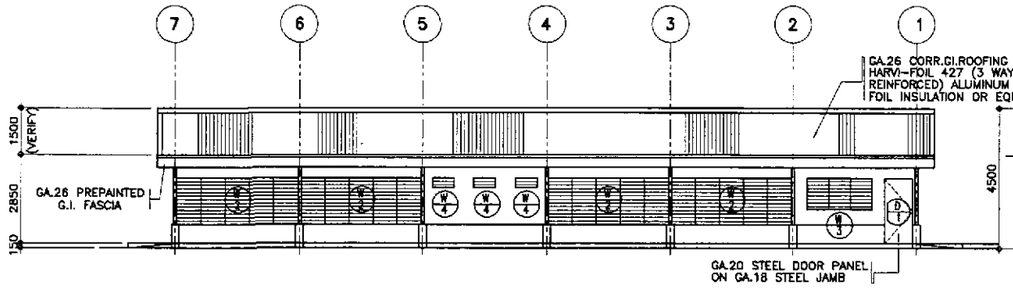
PJHL – PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	EMMANUEL P. CUNTAPAY	GILBERTO S. REYES	MANUEL M. BONDAN	SIMEON A. DATUMANONG
Project Director	Chief, Architectural Division	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

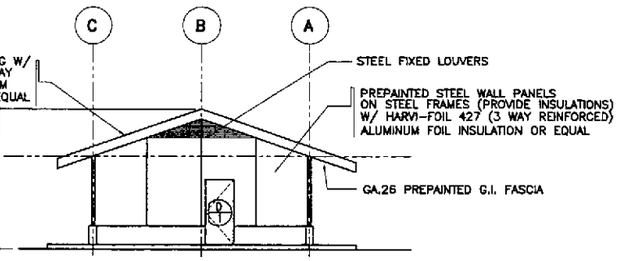
SCALE : AS SHOWN
FULL SIZE A1

SHEET CONTENTS :
ENGR'S FIELD OFFICE / LABORATORY
FLOOR PLAN, ELEVATIONS, CROSS-SECTIONS AND REFLECTED CEILING PLAN

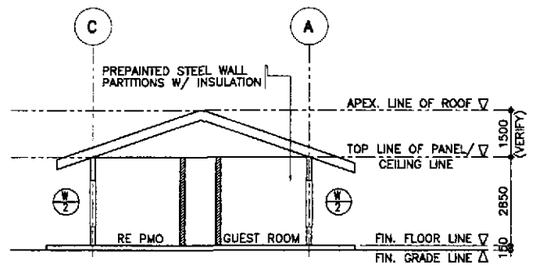
SHEET NO. : FA-02



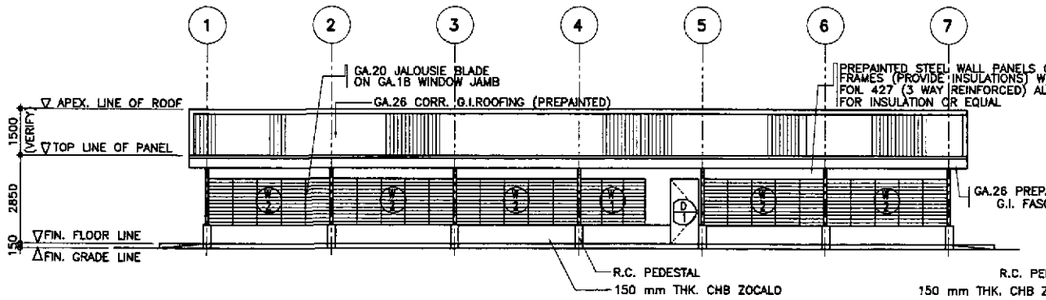
3 FA-03 REAR ELEVATION
SCALE 1:100



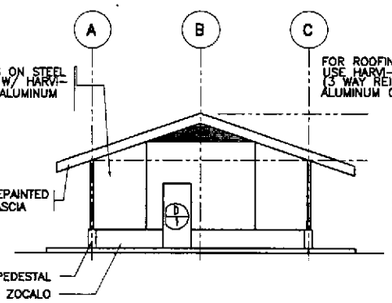
5 FA-03 LEFT SIDE ELEVATION
SCALE 1:100



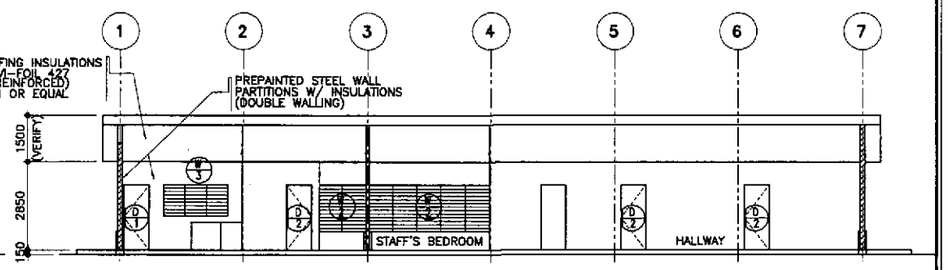
8 FA-03 CROSS SECTION
SCALE 1:100



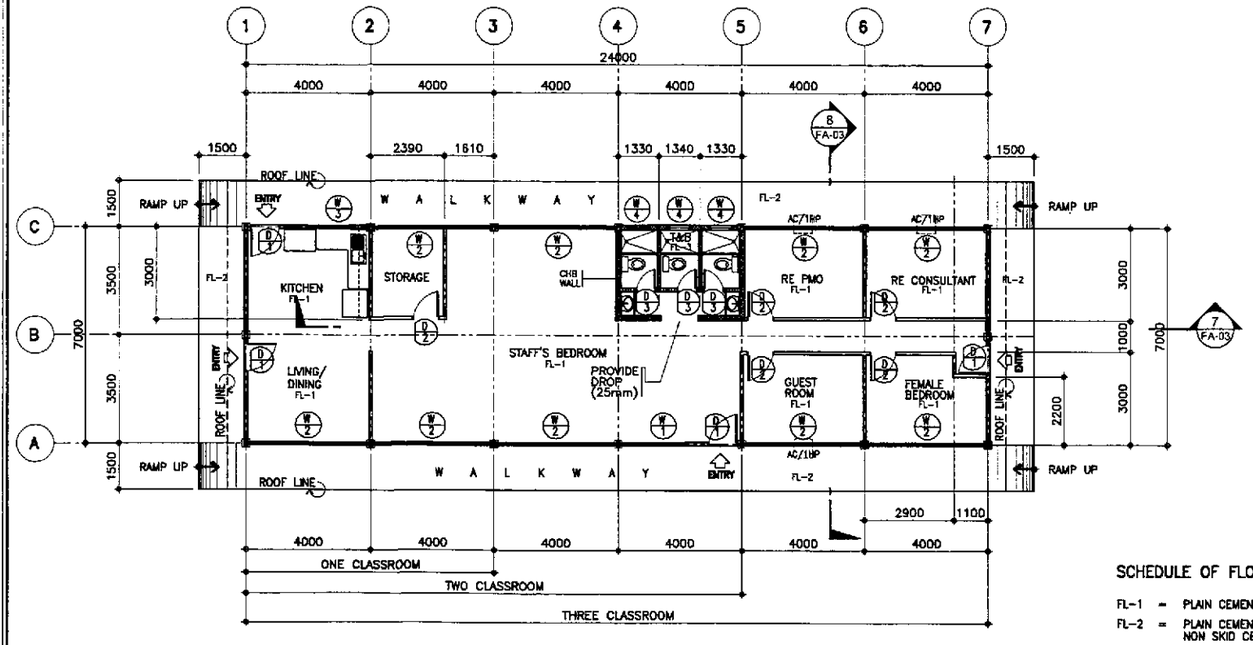
2 FA-03 FRONT ELEVATION
SCALE 1:100



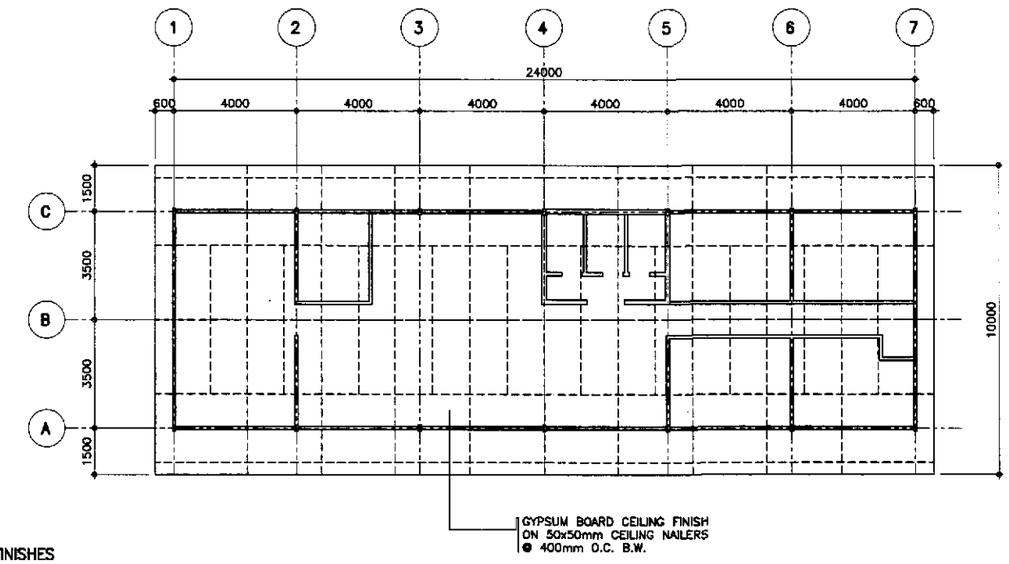
4 FA-03 RIGHT SIDE ELEVATION
SCALE 1:100



7 FA-03 LONGITUDINAL SECTION
SCALE 1:100



1 FA-03 FLOOR PLAN FOR ENGINEER'S LIVING QUARTER
SCALE 1:100



6 FA-03 REFLECTED CEILING PLAN
SCALE 1:100

SCHEDULE OF FLOOR FINISHES

FL-1 = PLAIN CEMENT FLOOR FINISH
FL-2 = PLAIN CEMENT FLOOR FINISH WITH NON SKID CEMENT WITH GROOVE LINES
FL-3 = UNGLAZED TILE FINISH, 200x200mm

ARNEL P. GONZALES
ENGINEER

PTR. NO. 5846340 P.R.C. NO. 53457
ISSUED ON 04/26/2002 T.I.N. 138-062-682
ISSUED AT SAN JUAN,M.M.

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEC YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/20/02	A. P. GONZALES
CHECKED	9/20/02	A. P. GONZALES
SUBMITTED	9/20/02	M. K. WIGHT TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

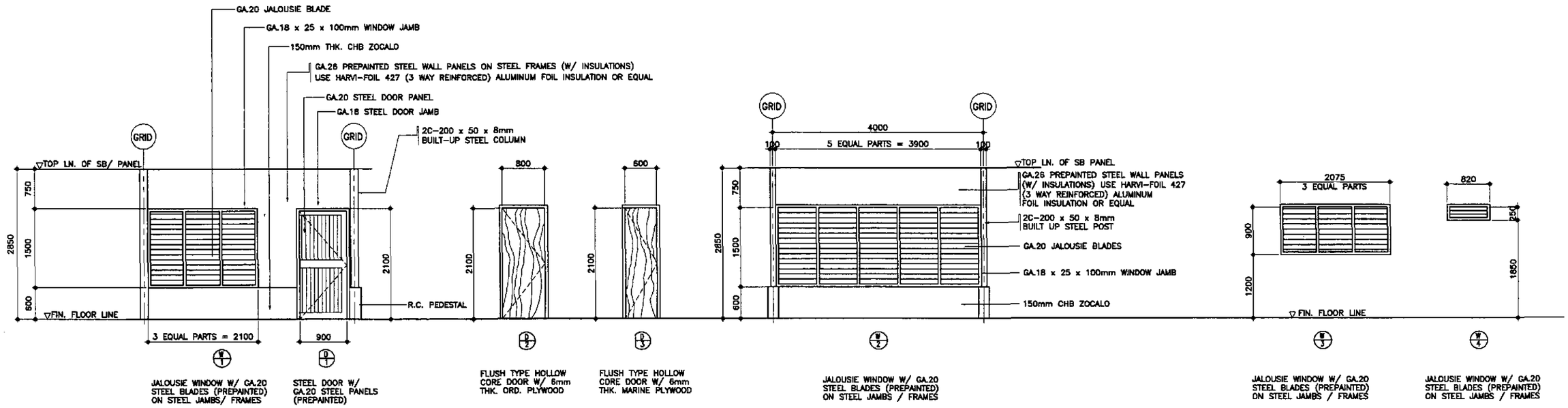
PJHL - PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	EMMANUEL P. CUNTAPAY	GILBERTO S. REYES	MANUEL M. BONOAN	SIMEON A. DATUMANONG
Project Director	Chief, Architectural Division	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

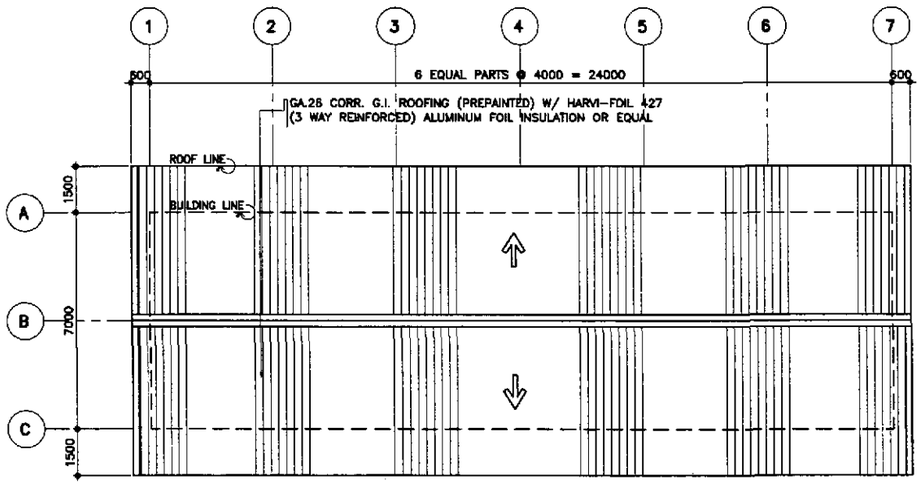
SCALE : AS SHOWN
FULL SIZE A1

SHEET CONTENTS :
ENGINEER'S LIVING QUARTERS
FLOOR PLAN, ELEVATIONS, CROSS-SECTION AND REFLECTED CEILING PLAN

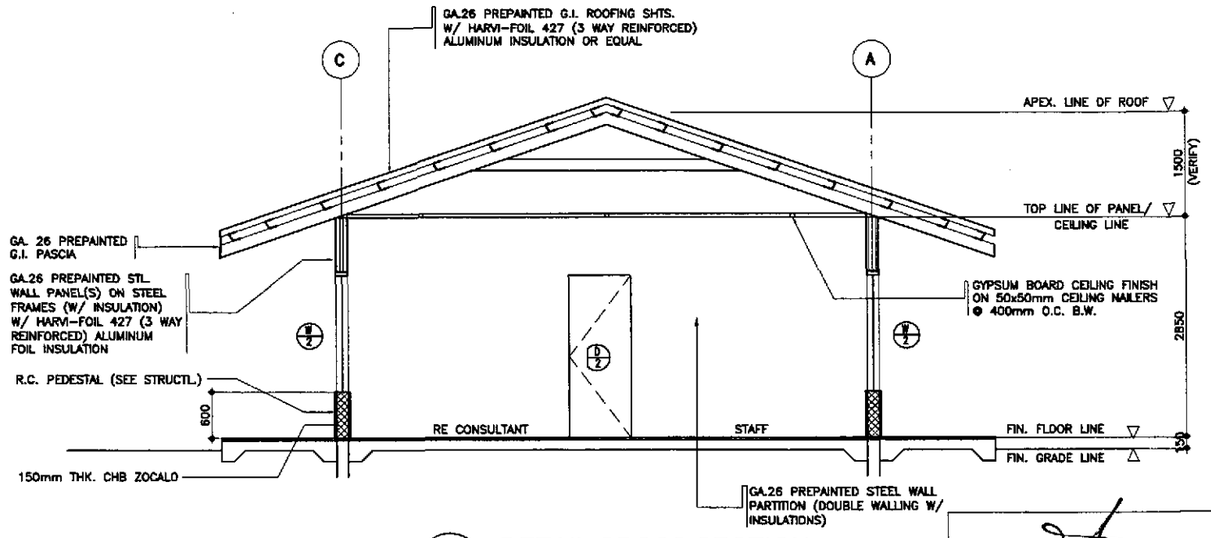
SHEET NO. : FA-03



3 FA-04 FOR ENGINEER'S FIELD OFFICE
SCHEDULE OF DOORS & WINDOWS
SCALE 1:40



1 FA-04 ROOF PLAN
SCALE 1:100



2 FA-04 DETAIL CROSS SECTION
SCALE 1:40

ARNEL P. GONZALES
ENGINEER
PTR. NO. 5848340 P.R.C. NO. 53457
ISSUED ON 04/26/2002 T.I.N. 138-062-682
ISSUED AT SAN JUAN,M.M.

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEC YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/10/02	A. P. GONZALES
CHECKED	9/18/02	P. GONZALES
SUBMITTED	9/20/02	M. KUCHI TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

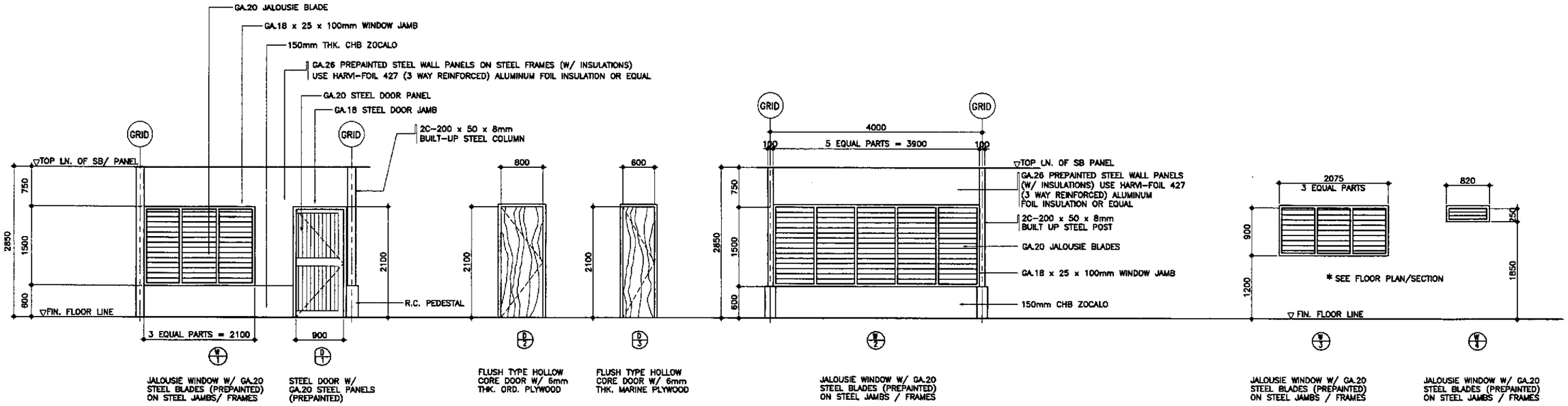
PJH - PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	EMMANUEL P. CUNTAPAY	GILBERTO S. REYES	MANUEL M. BONOAN	SIMEON A. DATUMANONG
Project Director	Chief, Architectural Division	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

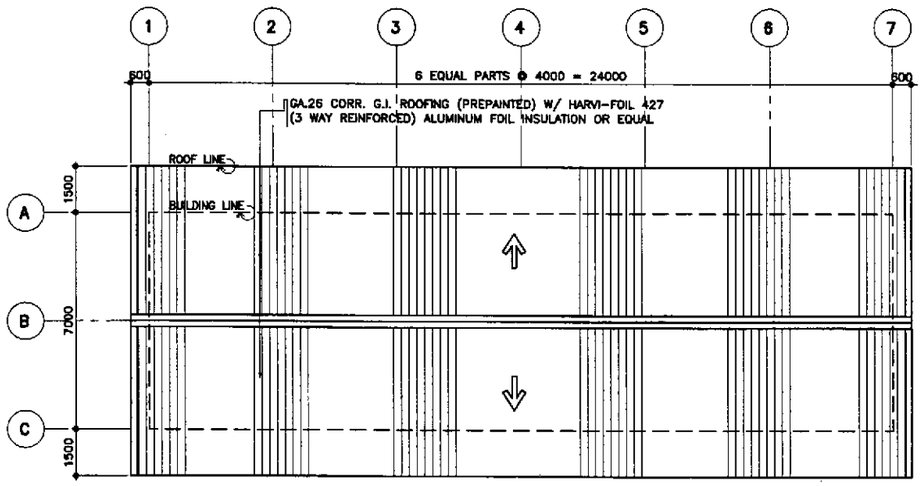
SCALE : AS SHOWN FULL SIZE A1

SHEET CONTENTS :
ENGR'S FIELD OFFICE / LABORATORY
ROOF PLAN, CROSS-SECTION AND SCHEDULE OF DOORS & WINDOWS

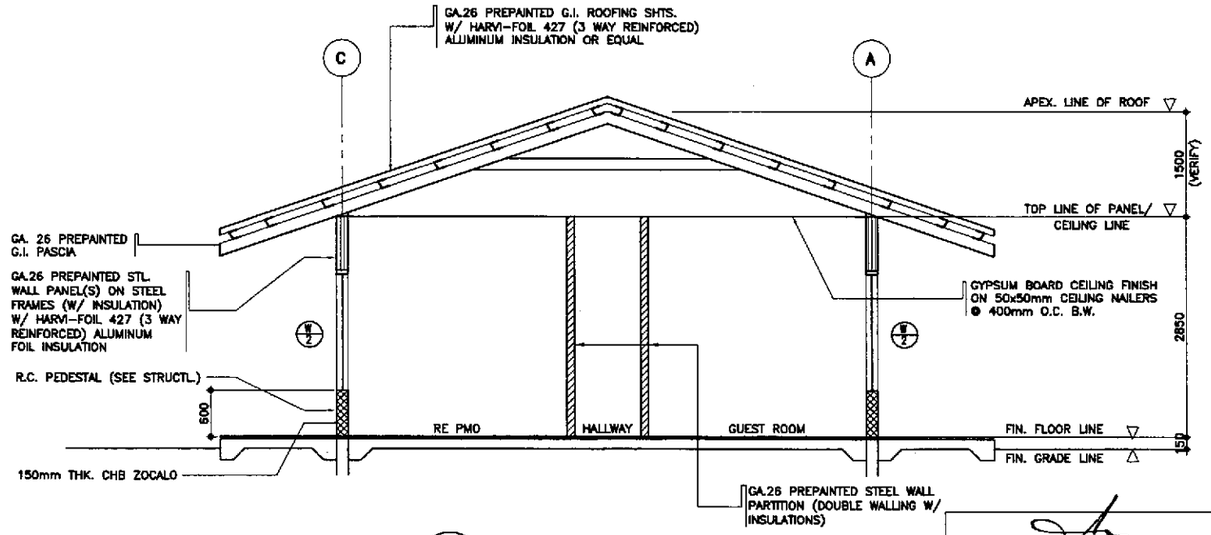
SHEET NO. : FA-04



3 / FA-05 — FOR ENGINEER'S LIVING QUARTERS
SCHEDULE OF DOORS & WINDOWS
SCALE 1:40



1 / FA-05 — ROOF PLAN
SCALE 1:100



2 / FA-05 — DETAIL CROSS SECTION
SCALE 1:40

ARNEL P. GONZALES
ENGINEER
PTR. NO. 5846340 P.R.C. NO. 53457
ISSUED ON 04/26/2002 T.I.N. 138-082-682
ISSUED AT SAN JUAN,M.M.

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEC YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	A. P. GONZALES
CHECKED	9/18/02	A. P. GONZALES
SUBMITTED	9/20/02	M. KURIHARA, TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

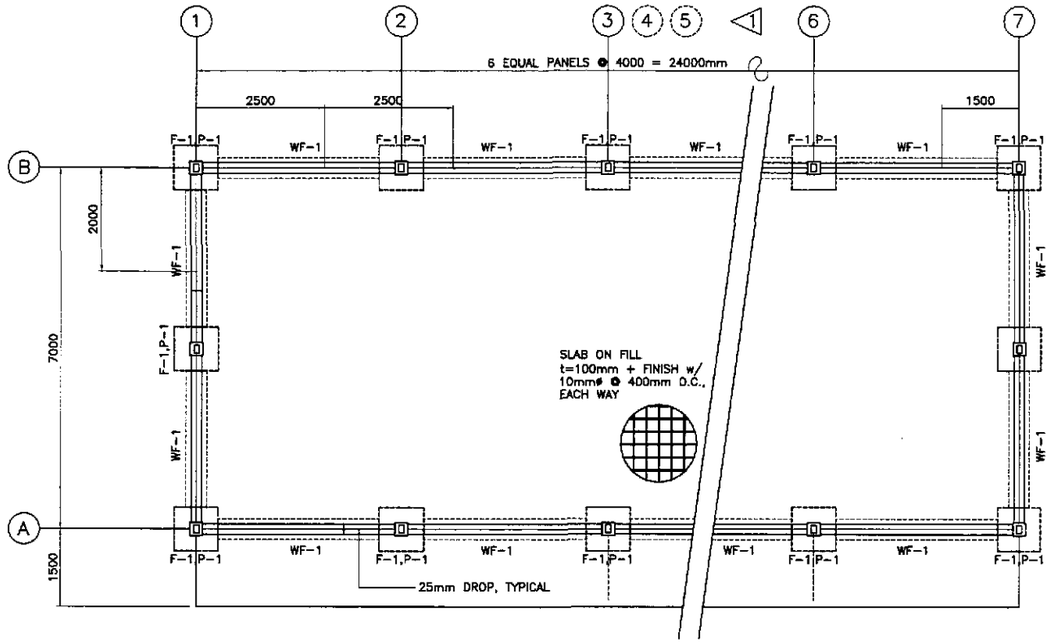
PJHL - PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	EMMANUEL P. CUNTAPAY	GILBERTO S. REYES	MANUEL M. BONGAN	SIMEON A. DATUMANONG
Project Director	Chief, Architectural Division	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

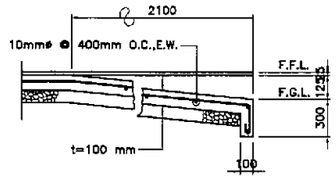
SCALE : AS SHOWN
FULL SIZE A1

SHEET CONTENTS :
ENGRINEER'S LIVING QUARTERS
ROOF PLAN, CROSS-SECTION AND SCHEDULE OF DOORS & WINDOWS

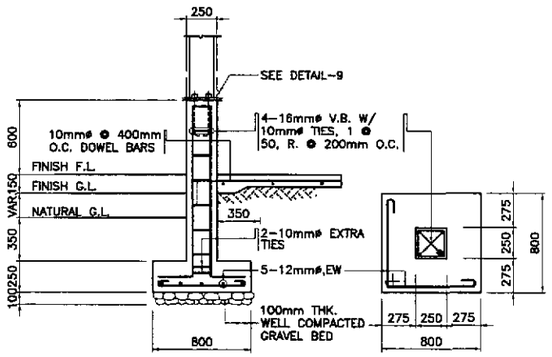
SHEET NO. : FA-05



1 FA-06 **FOUNDATION PLAN**
SCALE 1:25

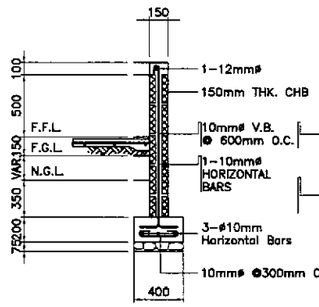


4 FA-06 **R.C. RAMP DETAIL**
SCALE 1:25

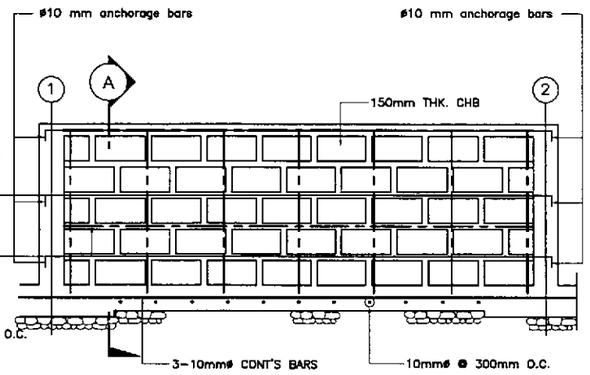


ELEVATION PLAN

2 FA-06 **F-1, P-1**
SCALE 1:25



SECTION A



TYP. ELEVATION

3 FA-06 **WF - 1**
SCALE 1:25

DESIGN CRITERIA :

I. LIVE LOAD

ROOF	0.58 KPa
OFFICE/LABORATORY	2.40 KPa

II. DEAD LOAD

CONCRETE	24 KN/m^3
STEEL	76.10 KN/m^3
CHB	2.73 KPa

III. WIND LOAD

$p = Ce\ Cq\ Qs\ I$

WHERE :

p = ACTUAL WIND PRESSURE
Ce = GUST FACTOR COEFFICIENT (EXPOSURE B=0.63)
Cq = PRESSURE COEFFICIENT
Qs = 1.50 KPa FOR ZONE 2&3, Qs=1.92 FOR ZONE 1
I = OCCUPANCY IMPORTANCE = 1.00

IV. ALLOWABLE STRESSES

1. CONCRETE (ALLOWABLE COMPRESSIBLE STRENGTH @ 28 DAYS)
   a.) FOR FOOTINGS AND PEDESTAL COLUMN
   fc' = 20.70 mpa fc = 9.31mpa
   b.) FOR SLAB ON FILL
   fc' = 17.26 mpa fc = 7.76mpa
2. REINFORCING STEEL BARS (STRUCTURAL GRADE 33 DEFORMED BARS)
   fy = 227.0 mpa fst = 124.02 mpa
3. STRUCTURAL LIGHT GAGE COLD FORMED STEEL
   STIFFENED LIGHT GAGE CHANNEL FOR RAFTERS, STUD & WALLS
   fs = 124.0 mpa (18,000 psi)
4. STRUCTURAL BUILT-UP STEEL PLATES (ASTM A-36)
   FOR STEEL BOX COLUMN
   fy = 248.0 mpa (36,000 psi)
5. WELDS
   USE E-60 XX ELECTRODES
   fv = 93.76 mpa
6. BOLTS (ASTM A-307)
   fv = 69 mpa fst = 96.60 mpa
7. CONCRETE MASONRY UNITS (NON-LOAD BEARING CHB)
   fm' = 3.41 mpa (500 psi)
8. ASSUMED ALLOWABLE SOIL BEARING CAPACITY OF 95.76 KPa (2,000 psf)

NOTES ON FOUNDATION :

1. IN CASE THE ACTUAL SOIL BEARING PRESSURE IS FOUND LESS THAN THE ASSUMED VALUE OF 95.76 KPa, NOTIFY THE DIRECTOR, BUREAU OF DESIGN FOR PROPER REVISION OF FOOTINGS.
2. NO FOOTINGS SHALL REST ON FILL.

MATERIAL SPECIFICATIONS :

1. FOR ROOFING SHEETS :
   0.6mm THICK (GA.26) PREPAINTED CORRUGATED G.I. ROOFING SHEET, LONG SPAN.
2. FOR WALLING SHEETS : USE ALUMINUM FOIL INSULATION HARVI-FOIL 427 (3-WAY REINFORCED OR EQUAL). DOUBLE WALL 0.6mm THICK (GA.26) HIGH TENSILE STEEL SHEET WALLING/ CLADDING W/ ALUMINUM FOIL FOR INSULATION. HARVI-FOIL 427 (3-WAY REINFORCED OR EQUAL). BASE STEEL WITH 550 MPa YIELD STRESS.
3. THE VERTICAL AND HORIZONTAL STUDS AND RAFTERS SHALL CONFORM WITH THE AMERICAN IRON AND STEEL INSTITUTE (AISI), SPECIFICATION OF LIGHT GAGE COLD-FORMED STEEL STRUCTURAL MEMBERS AS PER ASTM A246-LIGHT GAGE STRUCTURAL QUALITY FLAT ROLLED CARBON STEEL SHEET.
4. ALL METAL PARTS SHALL BE GIVEN TWO(2) COATS OF ANTI-CORROSIVE PAINT OF APPROVED QUALITY WITH A MINIMUM TOTAL THICKNESS OF 3mm. FINISHING PAINT SHALL BE 2-COATS OF GLOSS OF APPROVED QUALITY, WEATHER RESISTANT AND OF THE SAME COLOR AS THE PREPAINTED SHEETINGS. BASE OF SIDINGS AND DOOR AND WINDOW JAMBS SHALL BE GIVEN ANOTHER TWO COATS OF BROWN OR MAHOGANY COLORED ENAMEL PAINT.

NOTES :

1. ALL LOCATION OF ANCHOR BOLTS AND BOLT HOLES SHALL BE VERIFIED ON THE SITE PRIOR TO INSTALLATION / ASSEMBLY.
2. HOLES FOR ALL BOLTS SHALL BE 1.6mm LARGER IN DIAMETER THAN BOLTS. BOLTS SHALL BE FITTED WITH STANDARD NUTS AND WASHERS TO ENSURE TIGHT FIT.
3. THE STEEL MANUFACTURER / FABRICATOR / CONTRACTOR SHALL SUBMIT SHOP / FABRICATION DRAWINGS TO INCLUDE MATERIAL SCHEDULES, ASSEMBLY PROCEDURE, CONNECTIONS AND SPLICES AS PER APPROVED PLANS FOR REVIEW AND APPROVAL OF THE DIRECTOR, BUREAU OF DESIGN.

ARNEL P. GONZALES
ENGINEER

PTR. NO. 5848340 P.R.C. NO. 53457
ISSUED ON 04/25/2002 T.I.N. 138-062-682
ISSUED AT SAN JUAN,M.M.

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEC YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	A. P. GONZALES
CHECKED	9/18/02	A. P. GONZALES
SUBMITTED	9/20/02	M. CUCHIA TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

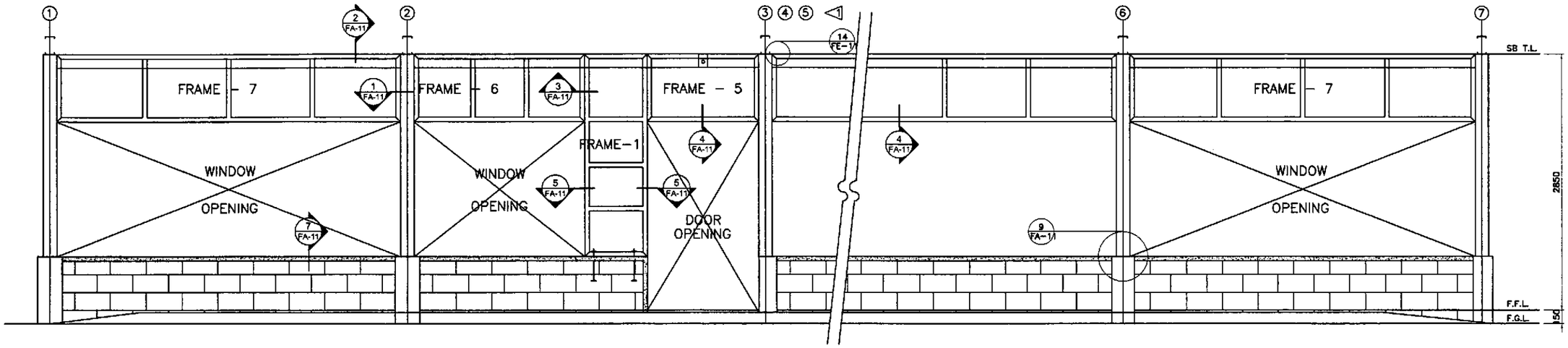
PJHL - PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	WILFREDO S. LOPEZ	GILBERTO S. REYES	MANUEL M. BONOAN	SIMEON A. DATUMANONG
Project Director	Chief, Structural Division	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

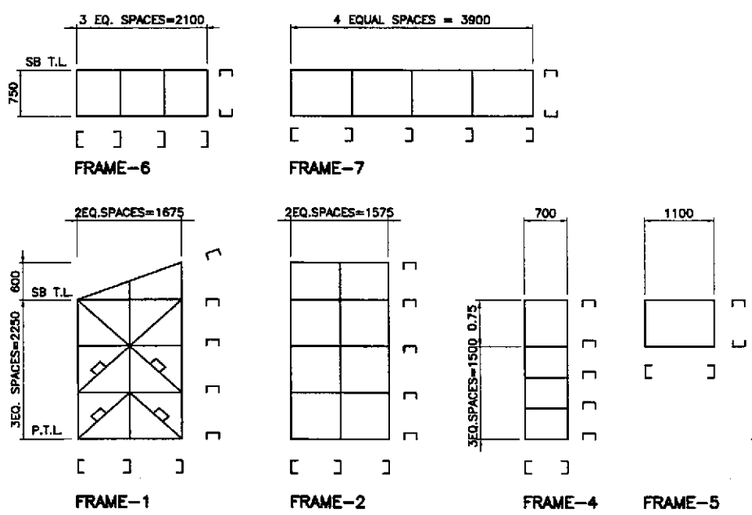
SCALE : AS SHOWN
FULL SIZE A1

SHEET CONTENTS :
ENGINEER'S FIELD OFFICE AND LIVING QUARTERS
FOUNDATION PLAN, R.C. RAMP, DETAILS OF F1, P-1 & WF1 AND DESIGN CRITERIA

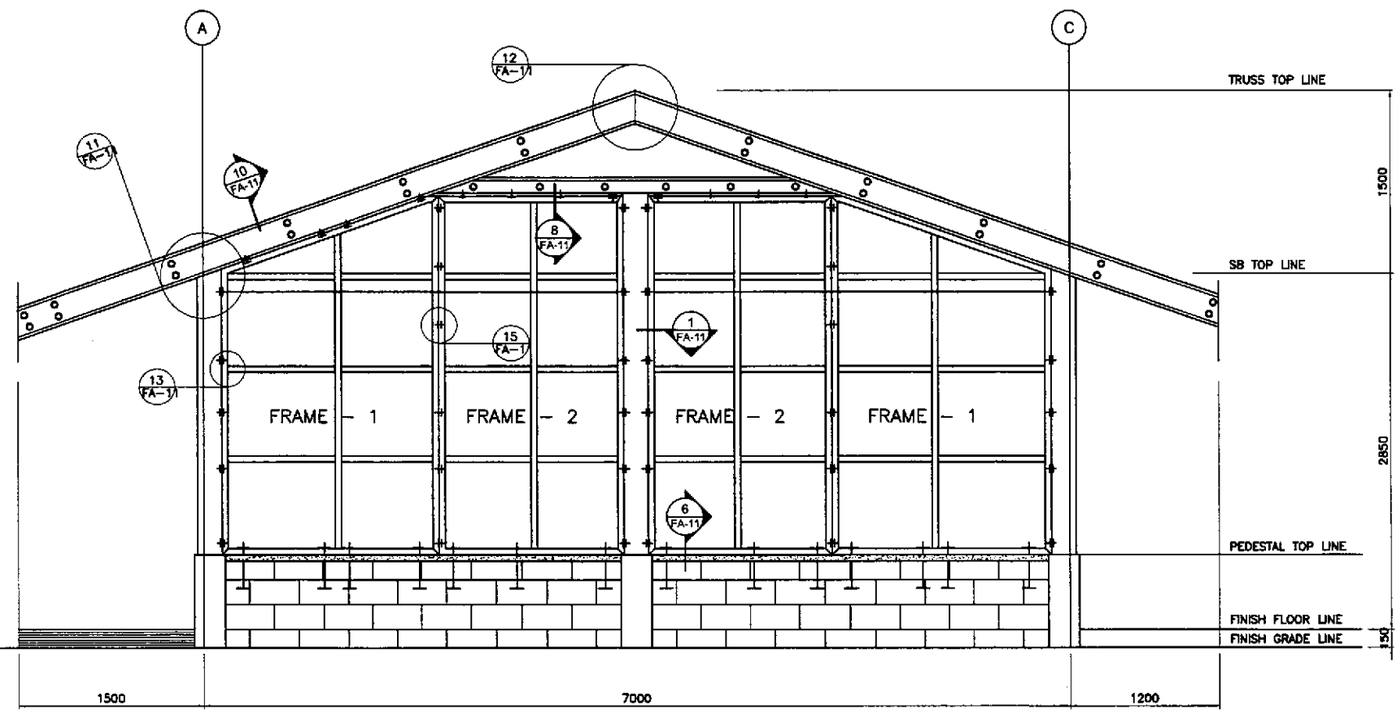
SHEET NO. : FA-06



2 FA-07 **FRONT ELEVATION**
SCALE 1:25



1 FA-07 **FRAMES SCHEMATIC DIAGRAMS**
SCALE 1:50



3 FA-07 **RIGHT SIDE ELEVATION**
SCALE 1:25

ARNEL P. GONZALES
ENGINEER
PTR. NO. 5846340 P.R.C. NO. 53457
ISSUED ON 04/26/2002 T.I.N. 138–082–682
ISSUED AT SAN JUAN,M.M.

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KATAHIRA & ENGINEERS INTERNATIONAL
YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	A.P. GONZALES
CHECKED	9/18/02	A.P. GONZALES
SUBMITTED	9/20/02	M. KUCHI (TEAM LEADER)

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

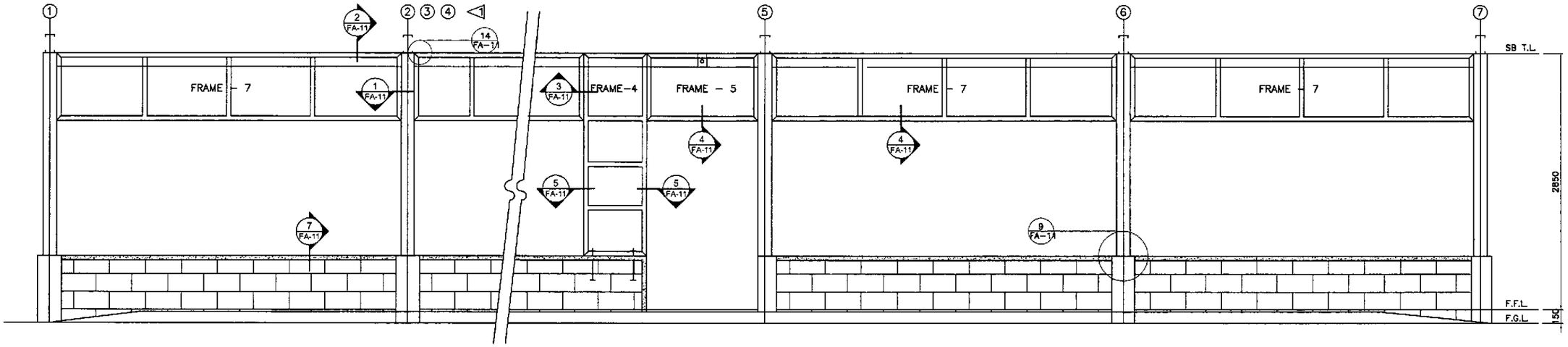
PJHL – PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	WILFREDO S. LOPEZ	GILBERTO S. REYES	MANUEL M. BONOAN	SIMEON A. DATUMANONG
Project Director	Chief, Structural Division	DIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

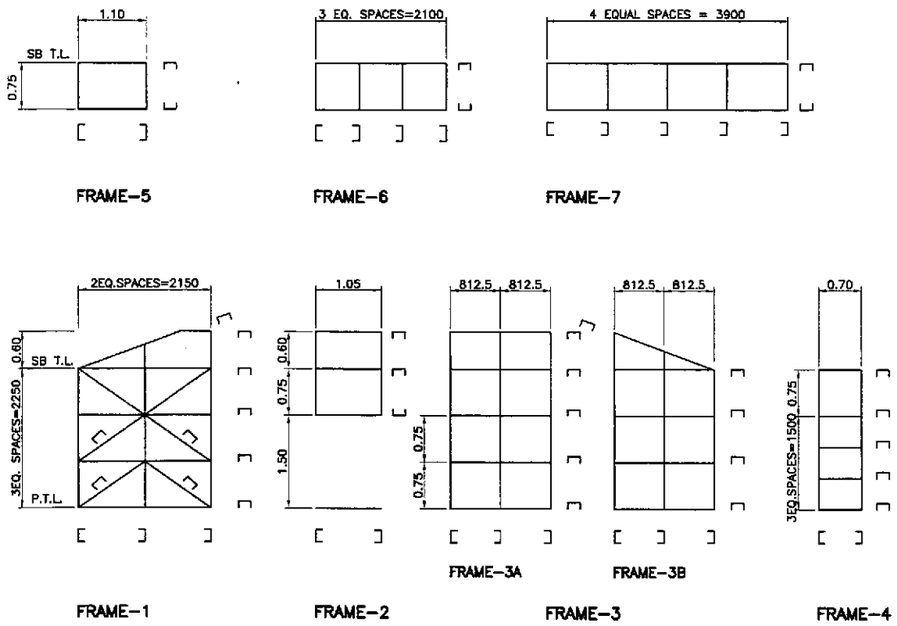
SCALE : AS SHOWN FULL SIZE A1

SHEET CONTENTS :
ENGR'S FIELD OFFICE / LABORATORY
FRONT AND RIGHT SIDE ELEVATION OF STEEL STUD FRAMES & SCHEMATIC DIAGRAM

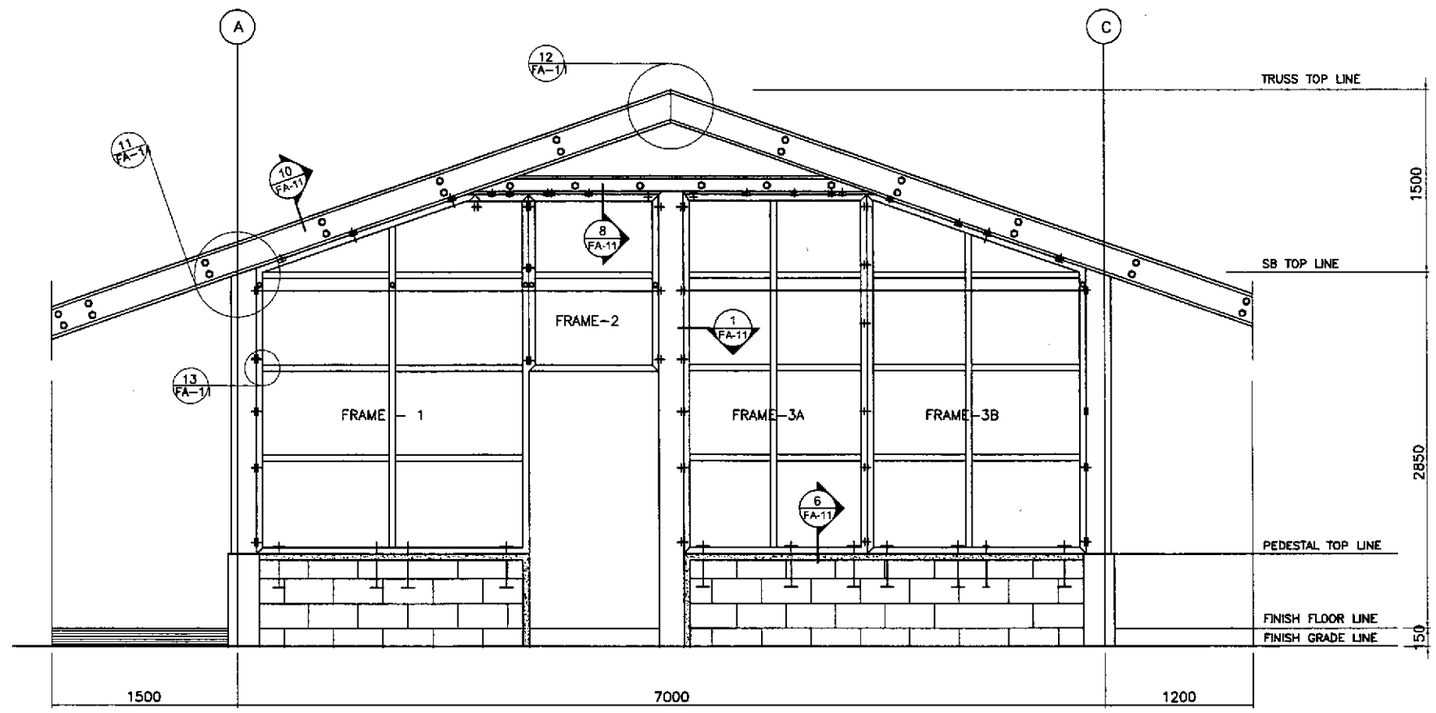
SHEET NO. : FA-07



2 FA-08 **FRONT ELEVATION**
SCALE 1:25



1 FA-08 **FRAMES SCHEMATIC DIAGRAMS**
SCALE 1:50



3 FA-08 **RIGHT SIDE ELEVATION**
SCALE 1:25

ABNEL P. GONZALES
ENGINEER

PTR. NO. 5846340 P.R.C. NO. 53457
ISSUED ON 04/28/2002 T.I.N. 138–062–682
ISSUED AT SAN JUAN,M.M.

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEC YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	P. GONZALES
CHECKED	9/18/02	P. GONZALES
SUBMITTED	9/20/02	TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

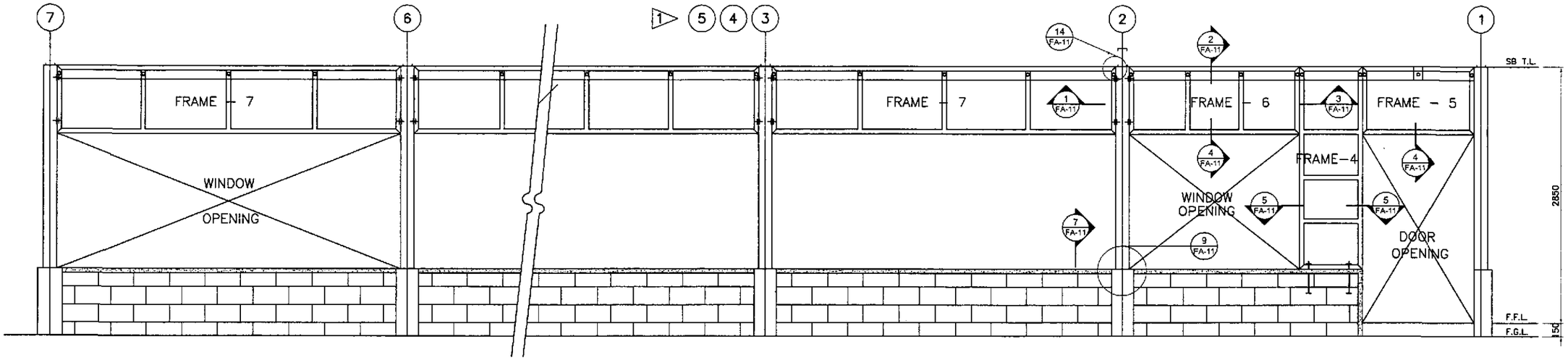
FUHL – PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	WILFREDO S. LOPEZ	GILBERTO S. REYES	MANUEL M. BONOAN	SIMEON A. DATUMANONG
Project Director	Chief, Structural Division	DIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

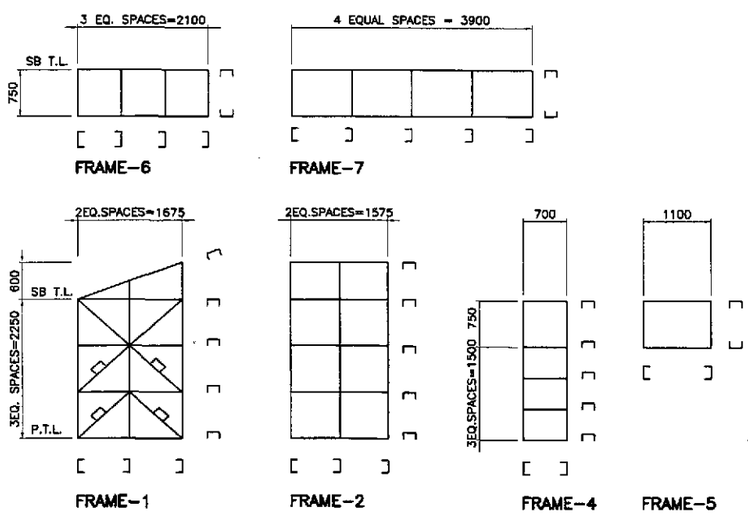
SCALE : AS SHOWN FULL SIZE A1

SHEET CONTENTS :
ENGINEER'S LIVING QUARTERS
FRONT AND RIGHT SIDE ELEVATION OF STEEL STUD FRAMES & SCHEMATIC DIAGRAM

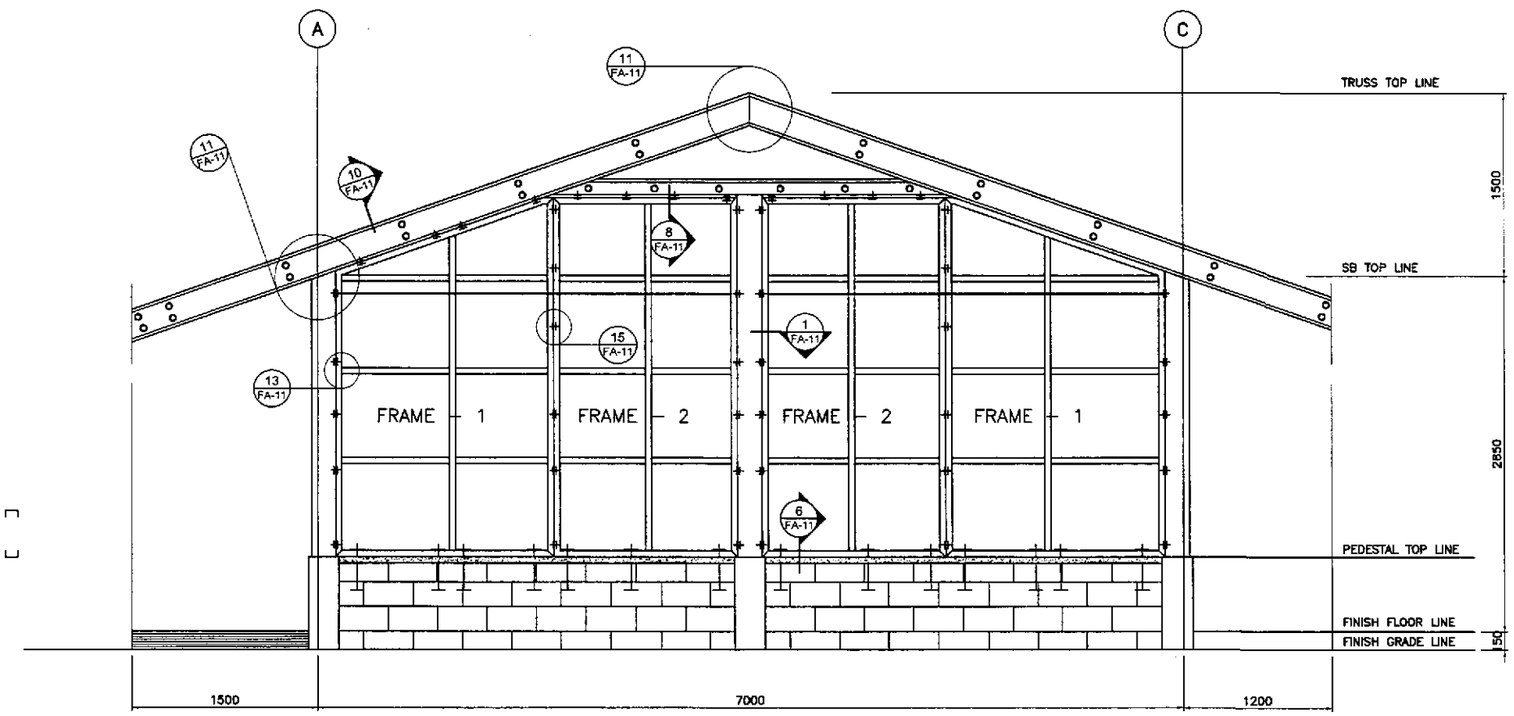
SHEET NO. : FA-08



2 FA-09 REAR ELEVATION
SCALE 1:25



1 FA-09 FRAMES SCHEMATIC DIAGRAMS
SCALE 1:50



3 FA-09 LEFT SIDE ELEVATION
SCALE 1:25

ARIEL P. GONZALES
ENGINEER
PTR. NO. 5846340 P.R.C. NO. 53457
ISSUED ON 04/26/2002 T.I.N. 138–062–682
ISSUED AT SAN JUAN,M.M.

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEC YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/10/02	A. P. GONZALES
CHECKED	9/12/02	A. P. GONZALES
SUBMITTED	9/20/02	K. HIGUCHI TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

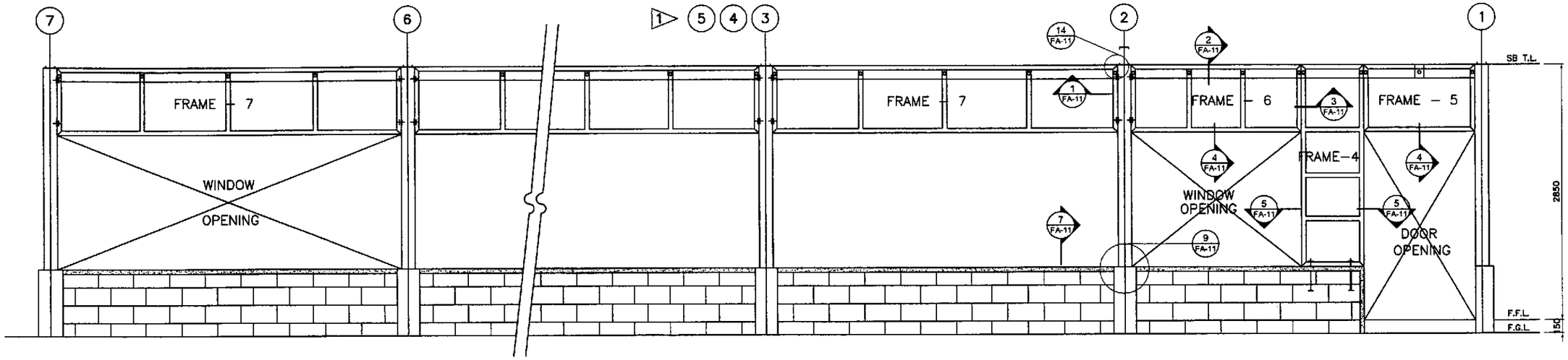
PJHL – PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	WILFREDO S. LOPEZ	GILBERTO S. REYES	MANUEL M. BONOAN	SIMEON A. DATUMANONG
Project Director	Chief, Structural Division	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

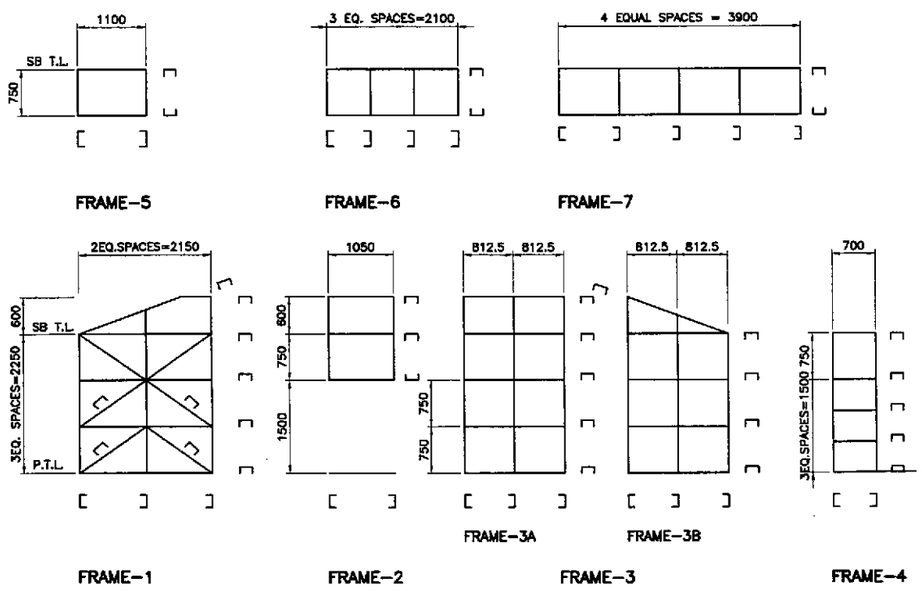
SCALE : AS SHOWN
FULL SIZE A1

SHEET CONTENTS :
ENGR'S FIELD OFFICE / LABORATORY
REAR AND LEFT SIDE ELEVATION OF STEEL STUD FRAMES & SCHEMATIC DIAGRAM

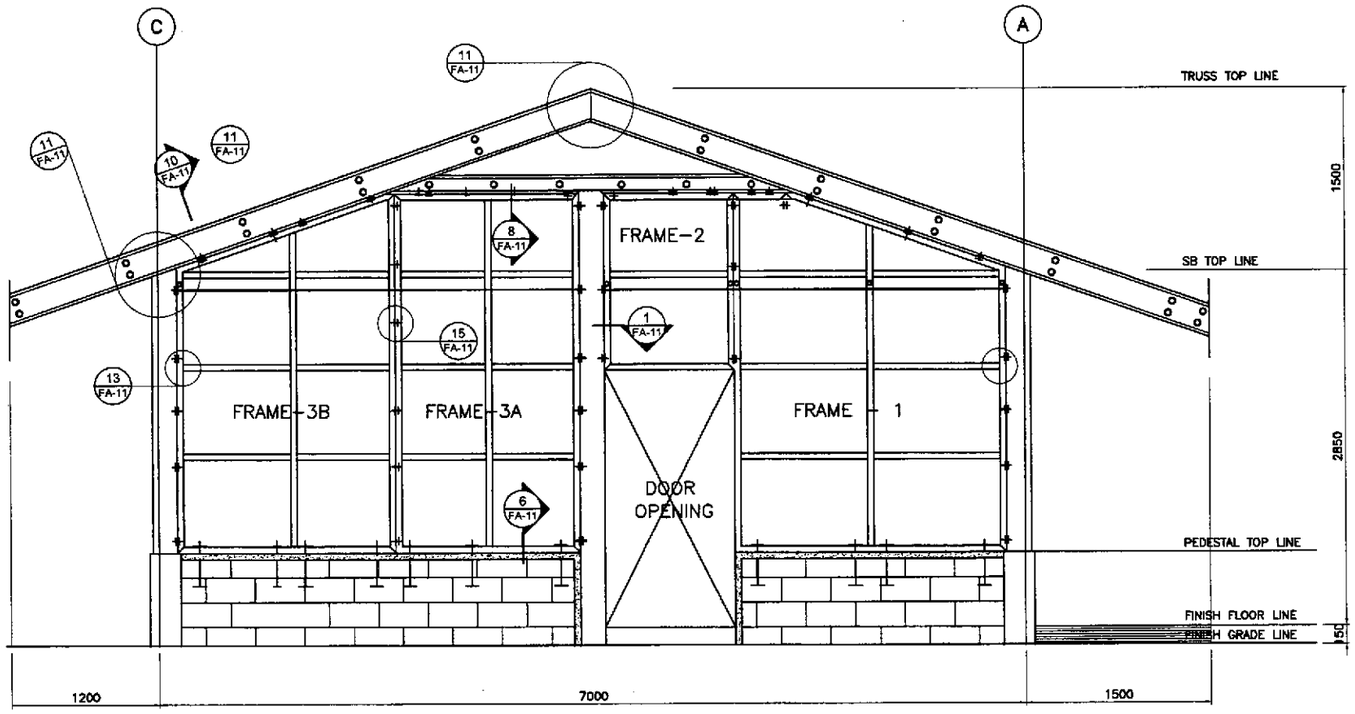
SHEET NO. : FA-09



2 FA-10 **REAR ELEVATION**
SCALE 1:25



1 FA-10 **FRAMES SCHEMATIC DIAGRAMS**
SCALE 1:50



3 FA-10 **LEFT SIDE ELEVATION**
SCALE 1:25

ARNEL P. GONZALES
ENGINEER
PTR. NO. 5846340 P.R.C. NO. 53457
ISSUED ON 04/25/2002 T.I.N. 138-062-682
ISSUED AT SAN JUAN,M.M.

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEC YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	A. P. GONZALES
CHECKED	9/18/02	A. P. GONZALES
SUBMITTED	9/20/02	TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

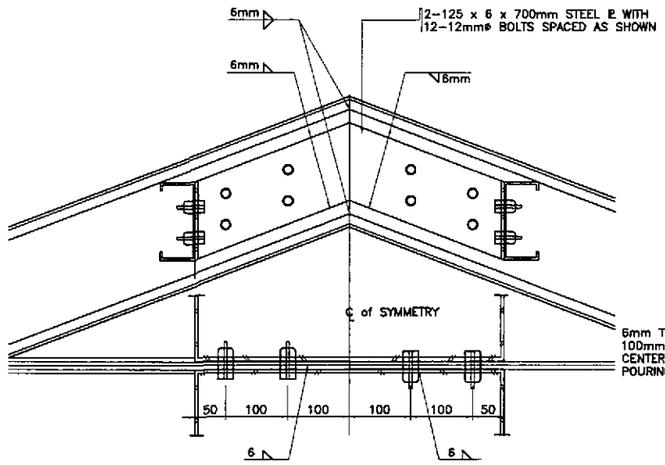
PJHL – PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	WILFREDO S. LOPEZ	GILBERTO S. REYES	MANUEL M. BONOAN	SIMEON A. DATUMANONG
Project Director	Chief, Structural Division	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

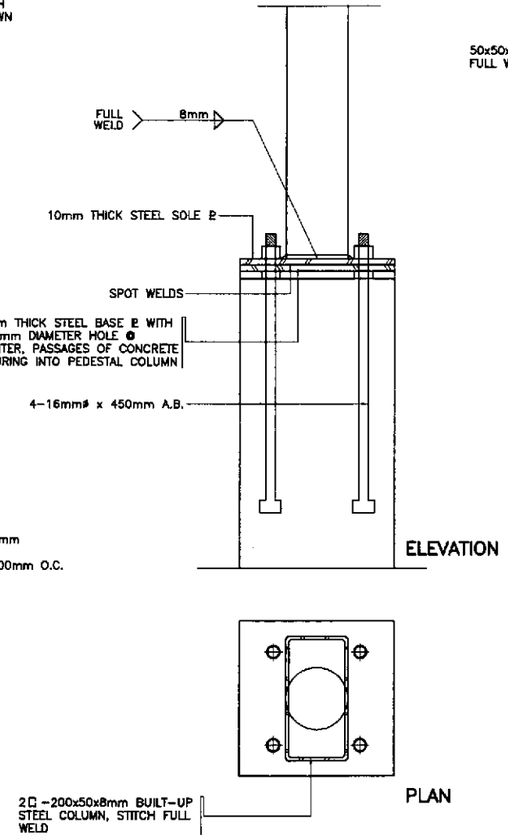
SCALE : AS SHOWN FULL SIZE A1

SHEET CONTENTS :
ENGINEER'S LIVING QUARTERS
REAR AND LEFT SIDE ELEVATION OF STEEL STUD FRAMES & SCHEMATIC DIAGRAMS

SHEET NO. : FA-10

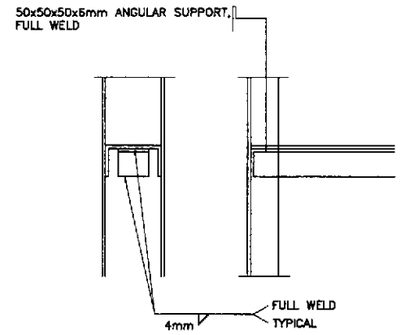


3 FA-11 DETAIL - 12
SCALE 1:5



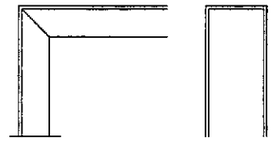
NOTES :

1. ALL VERTICAL AND HORIZONTAL STUDS SHALL BE 100x50x2mm UNSTIFFENED FLANGED UNLESS OTHERWISE SPECIFIED.
2. HORIZONTAL STUDS MUST BE INSERTED TO AND WELDED IN THE VERTICAL STUDS UNLESS OTHERWISE SPECIFIED.
3. REVISION IN THE ATTACHMENT/ CONNECTIONS THAT WILL IMPROVE DESIGN MAYBE DONE W/ PRIOR APPROVAL OF FABRICATION DRAWINGS.



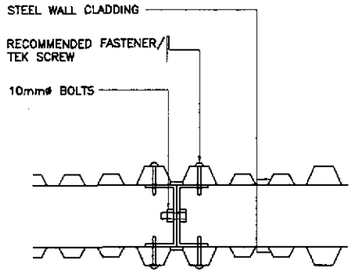
SECTION ELEVATION

10 FA-11 DETAIL - 13
SCALE 1:5

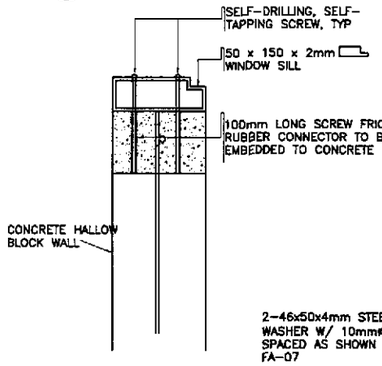


ELEVATION SECTION

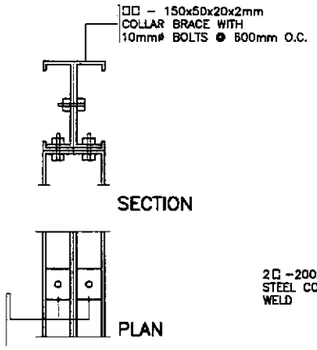
13 FA-11 DETAIL - 14
SCALE 1:5



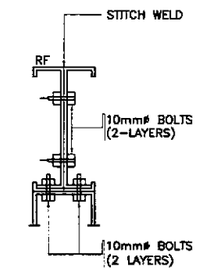
15 FA-11 DETAIL - 15
SCALE 1:5



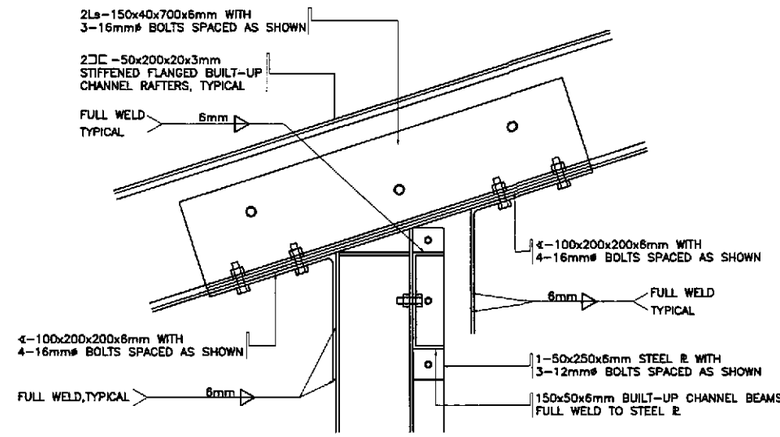
2 FA-11 DETAIL - 7
SCALE 1:5



5 FA-11 DETAIL - 8
SCALE 1:5

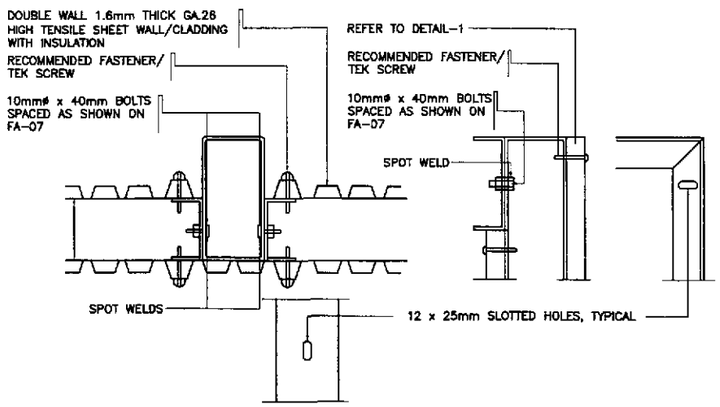


7 FA-11 DETAIL - 9
SCALE 1:5



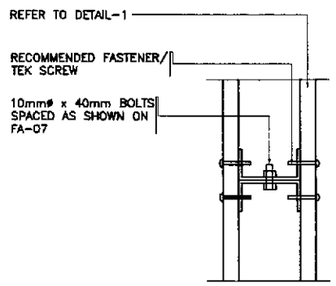
9 FA-11 DETAIL - 10
SCALE 1:5

12 FA-11 DETAIL - 11
SCALE 1:5

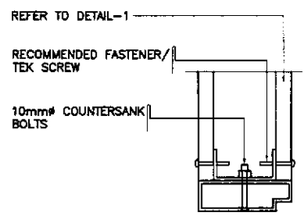


1 FA-11 DETAIL - 1
SCALE 1:5

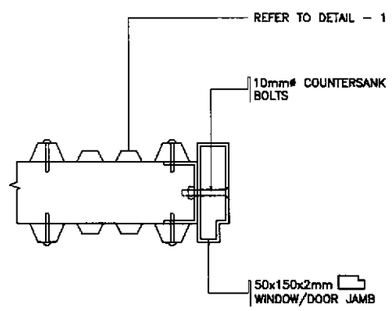
4 FA-11 DETAIL - 2
SCALE 1:5



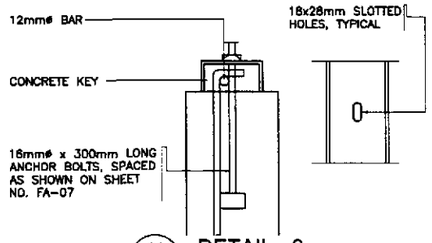
6 FA-11 DETAIL - 3
SCALE 1:5



8 FA-11 DETAIL - 4
SCALE 1:5



11 FA-11 DETAIL - 5
SCALE 1:5



14 FA-11 DETAIL - 6
SCALE 1:5

ARNEL P. GONZALES
ENGINEER

PTR. NO. 5846340 P.R.C. NO. 53457
ISSUED ON 04/26/2002 T.I.N. 138-062-682
ISSUED AT SAN JUAN,M.M.

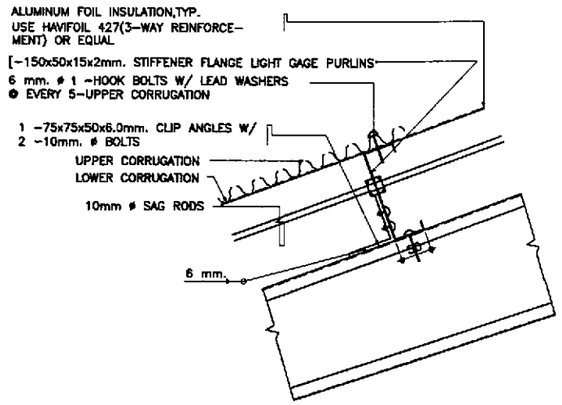
JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEO YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	A. P. GONZALES
CHECKED	9/18/02	A. P. GONZALES
SUBMITTED	9/20/02	M. KUCHI TEAM LEADER

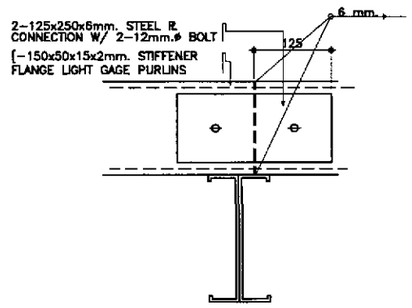
REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

PJHL - PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	WILFREDO S. LOPEZ	GILBERTO S. REYES	MANUEL M. BONDAN	SIMEON A. DATUMANONG
Project Director	Chief, Structural Division	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) PLARIDEL BYPASS - CONTRACT PACKAGE I	AS SHOWN FULL SIZE A1	ENGINEER'S FIELD OFFICE AND LIVING QUARTERS DETAILS OF CONNECTIONS DETAIL 1 TO 15	FA-11

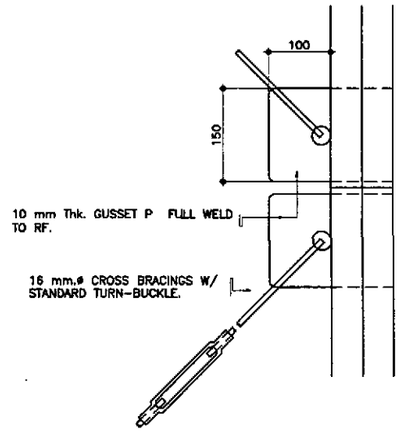


ELEVATION

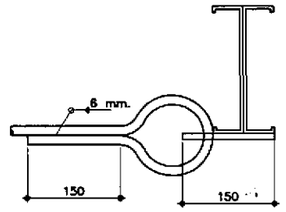


SECTION , SPLICE CONNECTION

2 FA-12 PURLIN CONNECTION
SCALE 1:5

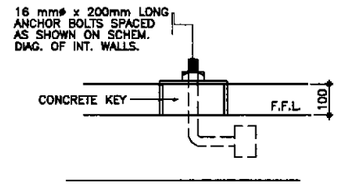


P L A N

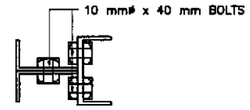


SECTION

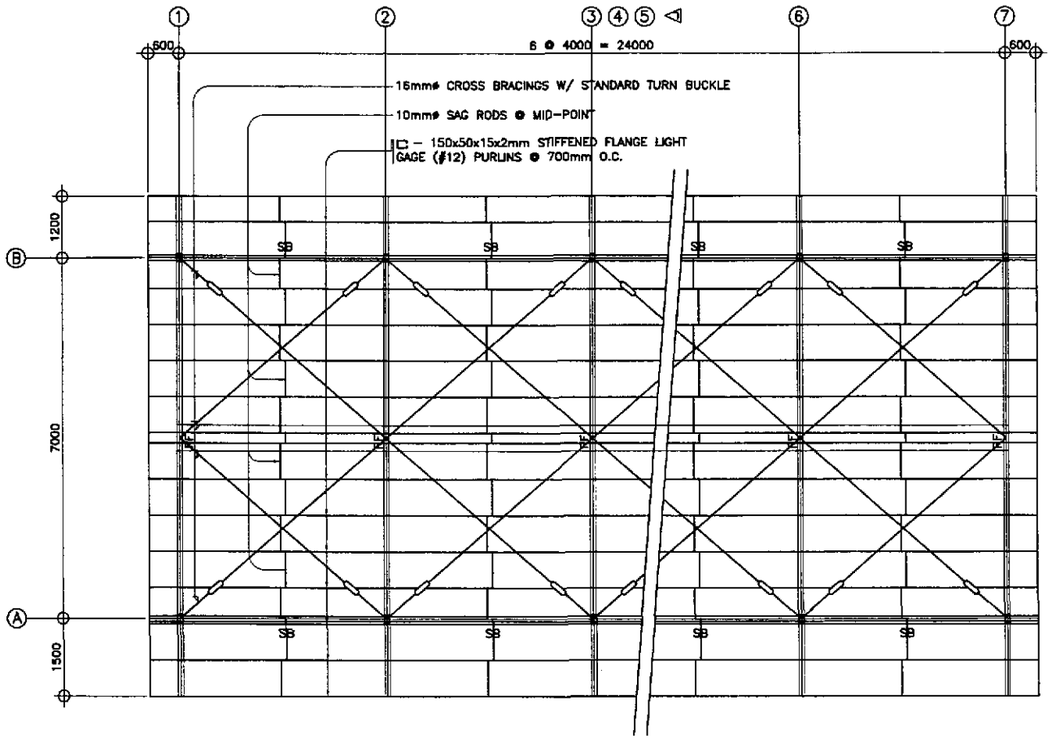
4 FA-12 CROSS-BRACING CONNECTION
SCALE 1:5



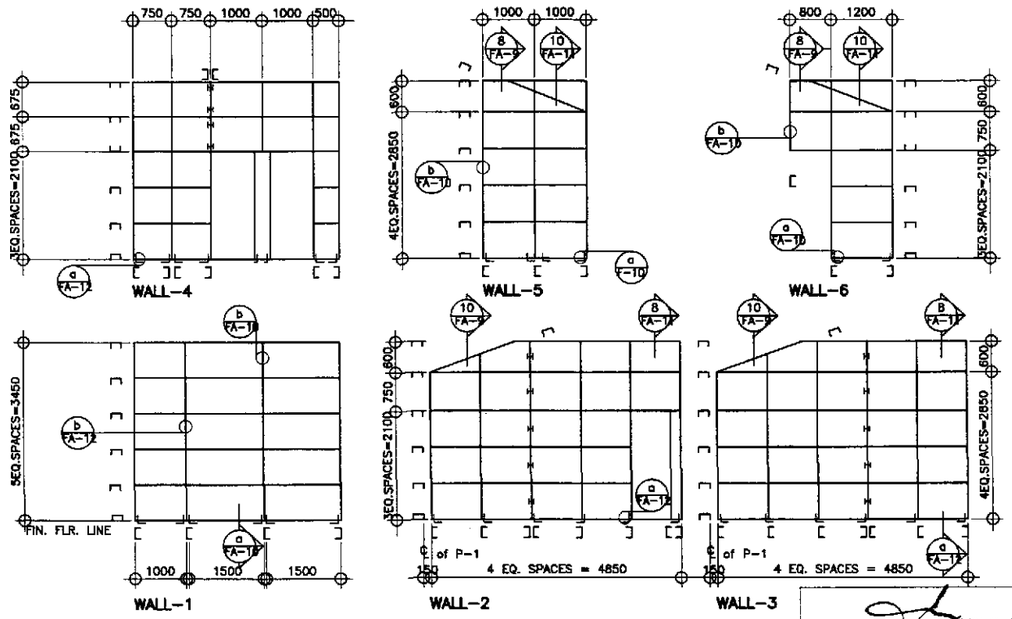
5 FA-12 DETAIL - a
SCALE 1:5



6 FA-12 DETAIL - b
SCALE 1:5



1 FA-12 ROOF FRAMING PLAN
SCALE 1:60



3 FA-12 SCHEMATIC DIAGRAMS OF INTERIOR WALLS
SCALE 1:60

ARNEL P. GONZALES
ENGINEER
PTR. NO. 5848340 P.R.C. NO. 53457
ISSUED ON 04/25/2002 T.I.N. 138-062-682
ISSUED AT SAN JUAN,M.M.

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEC YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	4/11/07	A. P. GONZALES
CHECKED	4/11/07	A. P. GONZALES
SUBMITTED	4/11/07	M. KOCHI TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

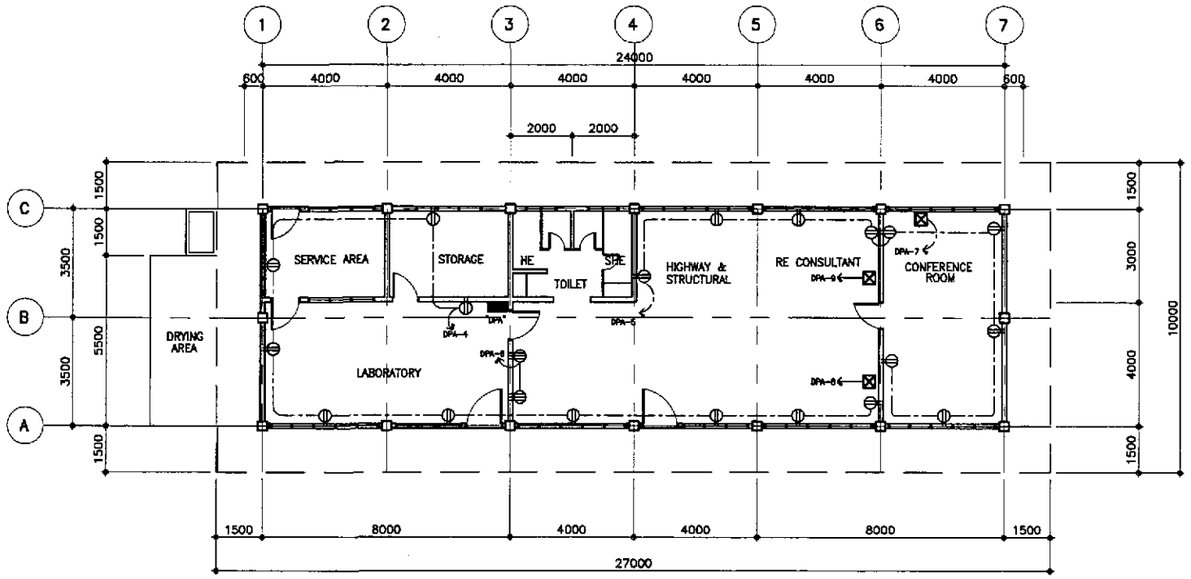
PJHL - PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO Project Director	WILFREDO S. LOPEZ Chief, Structural Division	GILBERTO S. REYES OIC, Director IV	MANUEL M. BONOAN Undersecretary	SIMEON A. DATUMANONG Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

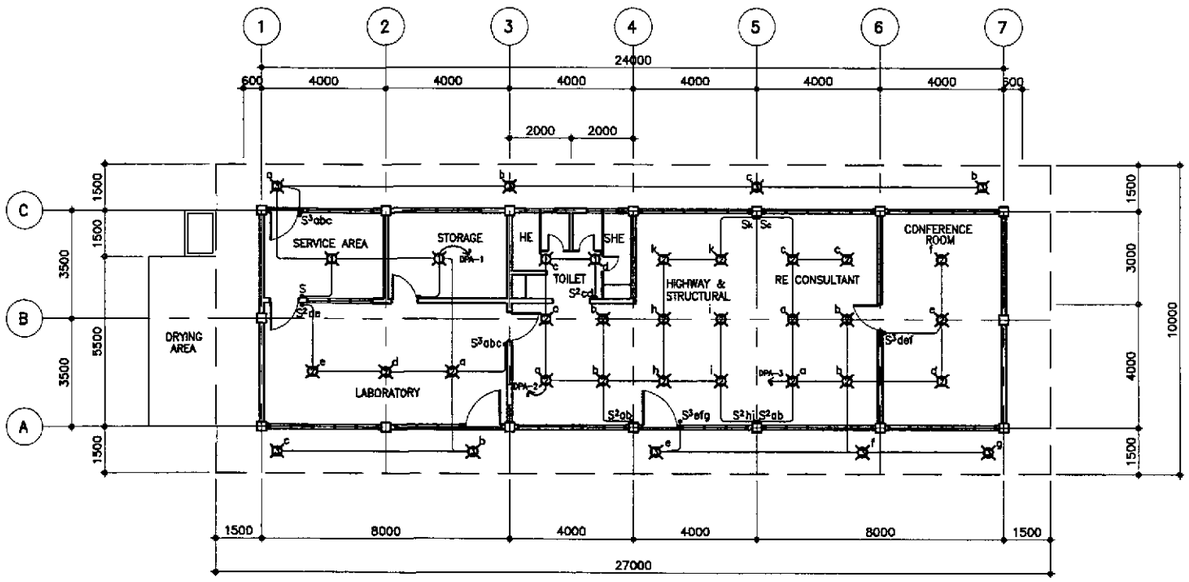
SCALE : AS SHOWN FULL SIZE A1

SHEET CONTENTS :
ENGINEER'S FIELD OFFICE AND LIVING QUARTERS
ROOF FRAMING PLAN, SCHEMATIC DIAGRAM PURLIN CONN. & CROSS-BRACING CONN.

SHEET NO. : FA-12



2 FE-01 POWER LAYOUT OF THE ENGINEER'S FIELD OFFICE / LABORATORY
SCALE 1:100



2 FE-01 LIGHTING LAYOUT OF THE ENGINEER'S FIELD OFFICE / LABORATORY
SCALE 1:100

GENERAL NOTES:

1. ALL ELECTRICAL WORKS SHALL BE DONE IN STRICT COMPLIANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHIL. ELECT. CODE, EXISTING APPLICABLE ORDINANCES, RULES AND REGULATIONS OF THE LOCAL GOVERNMENT AND THE REQUIREMENTS OF THE POWER COMPANY.
2. THE TYPE OF POWER SERVICE TO USED SHALL BE SINGLE-PHASE 2-WIRE, 240 VOLTS, 60Hz, AC.
3. ALL WIRINGS SHALL BE INSTALLED IN STANDARD GALVANIZED RIGID STEEL CONDUIT, RUN EMBEDDED INSIDE THE CONCRETE AND HOLLOW BLOCK STRUCTURES, SLABS, COLUMNS, WALLS PARTITIONS AND/OR RUN BETWEEN DOUBLE WALL WOODED PARTITIONS OR INSIDE THE CEILING SPACES.
4. ALL LIGHTING CIRCUIT HOMERUNS AND CONVENIENCE OUTLETS SHALL BE WIRED WITH NOT LESS THAN 3.5mm IN SIZE.
5. THE MINIMUM SIZES OF WIRE AND CONDUIT TO BE USED SHALL BE 2.0mm² AND 15mm NOMINAL DIAMETER, RESPECTIVELY.
6. ALL NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT SHALL BE PROPERLY GROUNDED IN ACCORDANCE WITH THE PROVISIONS OF ARTICLE IV OF THE PHIL. ELECT. CODE, PART I, LATEST EDITION.
7. WHENEVER REQUIRED AND NECESSARY, PULL BOXES OF PROPER SIZES SHALL BE INSTALLED AT CONVENIENT AND INCONSPICUOUS LOCATIONS, ALTHOUGH SUCH BOXES ARE NOT SHOWN ON THE PLAN IS NOR MENTIONED IN THE SPECIFICATIONS.
8. ALL WALL OUTLETS SHALL BE INSTALLED AT THE FOLLOWING HEIGHT ABOVE THE FINISHED FLOOD LEVEL, UNLESS OTHERWISE NOTED.
   A. WALL SWITCHES .....1200 mm
   B. CONVENIENCE OUTLETS .....300 mm
   C. AIR CONDITIONING OUTLETS ....AT CONVENIENT HEIGHT NEAR THE EQUIPMENT
9. STANDARD TYPE OF ACCESSORIES, SPLICING DEVICES, TERMINATORS AND OTHER APPURTENANCES FOR THE ENTIRE ELECTRICAL INSTALLATION SHALL BE USED.
10. ALL MATERIALS TO BE USED SHALL BE BRAND NEW AND OF THE APPROVED TYPE FOR THE LOCATION AND PURPOSE.
11. THE CONTRACTOR SHALL VERIFY AND ORIENT THE ACTUAL LOCATION OF THE SERVICE ENTRANCE FOR CONNECTION TO POWER COMPANY SERVICE POINT.
12. ALL ELECTRICAL WORKS SHALL BE DONE UNDER THE STRICT SUPERVISION OF A DULY REGISTERED ELECTRICAL ENGINEER.

NOTE:

ALL FLUORESCENT LIGHTING FIXTURES SHALL BE EQUIPPED WITH A HIGH POWER FACTOR PRE-HEAT WITH STARTER TYPE BALLAST, COMPLETE WITH ALL NECESSARY ACCESSORIES, WIRED AND READY FOR SERVICE USED.

ELECTRICAL SYMBOLS:

- CEILING LIGHT; REFER TO SCHEDULE OF LIGHTING FIXTURES AND LAMPS
- ELECTRICAL RISER
- S — ONE-WAY WALL SWITCH, 15A, 250V
- S^2 — 2 ONE-WAY WALL SWITCHES ON ONE-GANG PLATE, 15A, 250V
- S^3 — 3 ONE-WAY WALL SWITCHES ON ONE-GANG PLATE, 15A, 250V
- DUPLEX CONVENIENCE OUTLET, GROUNDING TYPE, 20A, 250V
- HEAVY DUTY CONVENIENCE OUTLETS, SINGLE-GROUNDING TYPE, 30A, 250V
- AIR CONDITIONING OUTLET GROUNDING TYPE WITH AUTOMATIC CIRCUIT BREAKER IN ONE ENCLOSURE
- ENCLOSED AUTOMATIC CIRCUIT BREAKER (ACB) 70AT, 100AF, 2P, 240V
- DISTRIBUTION PANEL BOARD
- PULL BOX OR JUNCTION BOX
- (m) ELECTRIC SERVICE METER
- PROPOSED SERVICE ENTRANCE WITH CAP
- CONCEALED OR EMBEDED CONDUIT RUN
- UNDERGROUND OR UNDER FLOOR CONDUIT RUN
- CIRCUIT HOMERUN TO PANEL BOARD

ERNESTO M. ANTIOQUIA
ENGINEER

PTR. NO. 7403664 P.E.E. NO. 2913
ISSUED ON 01/02/2002 ISSUED AT CABUYAO, LAGUNA
T.I.N. 109-382-379

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEO YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/18/02	E.M. ANTIOQUIA
CHECKED	9/18/02	ANTIOQUIA
SUBMITTED	09/20/02	TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

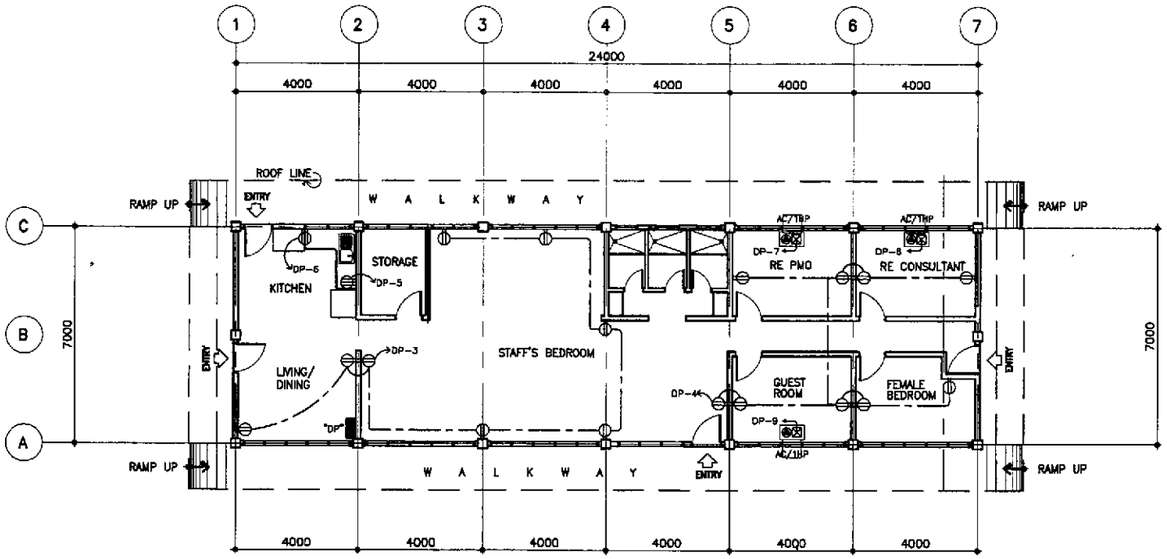
PJHL – PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Aprroved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	FE M. BARRIENTOS	GILBERTO S. REYES	MANUEL M. BONOAN	SIMEON A. DATUMANONG
Project Director	Chief, Mechanical-Elect'l Div.	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

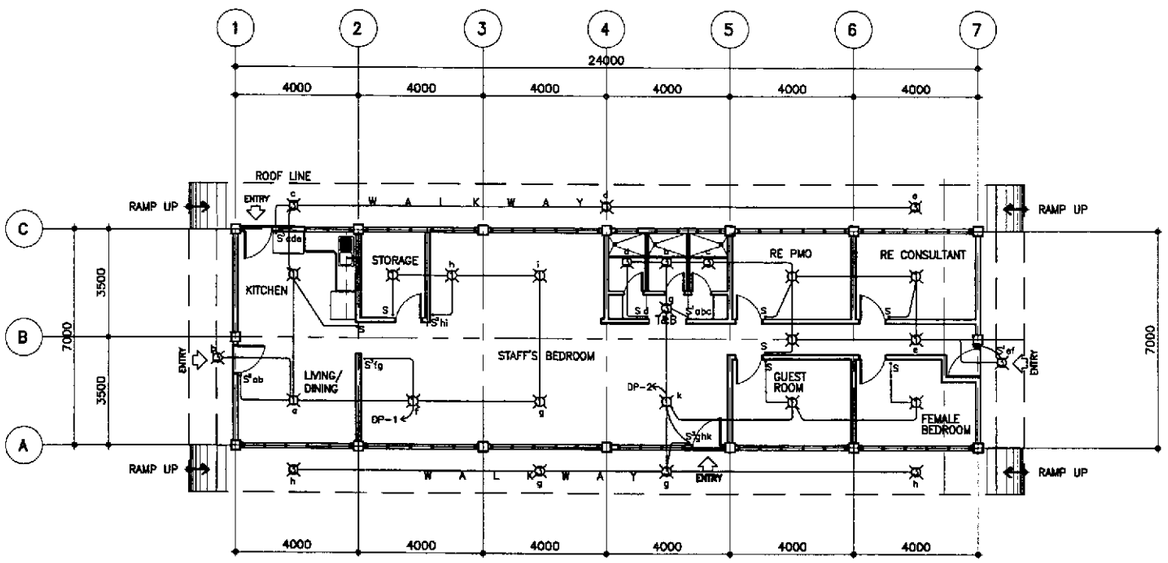
SCALE : AS SHOWN FULL SIZE A1

SHEET CONTENTS :
ENGR'S FIELD OFFICE / LABORATORY
LIGHTING LAYOUT, POWER LAYOUT
ELECTRICAL SYMBOLS & GENERAL NOTES

SHEET NO. : FE-01



2 FE-02 POWER LAYOUT FOR ENGINEER'S LIVING QUARTER
SCALE 1:100



1 FE-02 LIGHTING LAYOUT FOR ENGINEER'S LIVING QUARTER
SCALE 1:100

GENERAL NOTES:

1. ALL ELECTRICAL WORKS SHALL BE DONE IN STRICT COMPLIANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHIL. ELECT. CODE, EXISTING APPLICABLE ORDINANCES, RULES AND REGULATIONS OF THE LOCAL GOVERNMENT AND THE REQUIREMENTS OF THE POWER COMPANY.
2. THE TYPE OF POWER SERVICE TO USED SHALL BE SINGLE-PHASE 2-WIRE, 240 VOLTS, 60Hz, AC.
3. ALL WIRINGS SHALL BE INSTALLED IN STANDARD GALVANIZED RIGID STEEL CONDUIT, RUN EMBEDDED INSIDE THE CONCRETE AND HOLLOW BLOCK STRUCTURES, SLABS, COLUMNS, WALLS PARTITIONS AND/OR RUN BETWEEN DOUBLE WALL WOODED PARTITIONS OR INSIDE THE CEILING SPACES.
4. ALL LIGHTING CIRCUIT HOMERUNS AND CONVENIENCE OUTLETS SHALL BE WIRED WITH NOT LESS THAN 3.5mm IN SIZE.
5. THE MINIMUM SIZES OF WIRE AND CONDUIT TO BE USED SHALL BE 2.0mm² AND 15mm NOMINAL DIAMETER, RESPECTIVELY.
6. ALL NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT SHALL BE PROPERLY GROUNDED IN ACCORDANCE WITH THE PROVISIONS OF ARTICLE IV OF THE PHIL. ELECT. CODE, PART I, LATEST EDITION.
7. WHENEVER REQUIRED AND NECESSARY, PULL BOXES OF PROPER SIZES SHALL BE INSTALLED AT CONVENIENT AND INCONSPICUOUS LOCATIONS, ALTHOUGH SUCH BOXES ARE NOT SHOWN ON THE PLAN IS NOR MENTIONED IN THE SPECIFICATIONS.
8. ALL WALL OUTLETS SHALL BE INSTALLED AT THE FOLLOWING HEIGHT ABOVE THE FINISHED FLOOD LEVEL, UNLESS OTHERWISE NOTED.
   A. WALL SWITCHES .....1200 mm
   B. CONVENIENCE OUTLETS .....300 mm
   C. AIR CONDITIONING OUTLETS ....AT CONVENIENT HEIGHT NEAR THE EQUIPMENT
9. STANDARD TYPE OF ACCESSORIES, SPLICING DEVICES, TERMINATORS AND OTHER APPURTENANCES FOR THE ENTIRE ELECTRICAL INSTALLATION SHALL BE USED.
10. ALL MATERIALS TO BE USED SHALL BE BRAND NEW AND OF THE APPROVED TYPE FOR THE LOCATION AND PURPOSE.
11. THE CONTRACTOR SHALL VERIFY AND ORIENT THE ACTUAL LOCATION OF THE SERVICE ENTRANCE FOR CONNECTION TO POWER COMPANY SERVICE POINT.
12. ALL ELECTRICAL WORKS SHALL BE DONE UNDER THE STRICT SUPERVISION OF A DULY REGISTERED ELECTRICAL ENGINEER.

NOTE:

ALL FLUORESCENT LIGHTING FIXTURES SHALL BE EQUIPPED WITH A HIGH POWER FACTOR PRE-HEAT WITH STARTER TYPE BALLAST, COMPLETE WITH ALL NECESSARY ACCESSORIES, WIRED AND READY FOR SERVICE USED.

ELECTRICAL SYMBOLS:

- CEILING LIGHT; REFER TO SCHEDULE OF LIGHTING FIXTURES AND LAMPS
- ELECTRICAL RISER
- S — ONE-WAY WALL SWITCH, 15A, 250V
- S² — 2 ONE-WAY WALL SWITCHES ON ONE-GANG PLATE, 15A, 250V
- S³ — 3 ONE-WAY WALL SWITCHES ON ONE-GANG PLATE, 15A, 250V
- DUPLEX CONVENIENCE OUTLET, GROUNDING TYPE, 20A, 250V
- HEAVY DUTY CONVENIENCE OUTLETS, SINGLE-GROUNDING TYPE, 30A, 250V
- AIR CONDITIONING OUTLET GROUNDING TYPE WITH AUTOMATIC CIRCUIT BREAKER IN ONE ENCLOSURE
- ENCLOSED AUTOMATIC CIRCUIT BREAKER (ACB) 70AT, 100AF, 2P, 240V
- DISTRIBUTION PANEL BOARD
- PULL BOX OR JUNCTION BOX
- ELECTRIC SERVICE METER
- PROPOSED SERVICE ENTRANCE WITH CAP
- CONCEALED OR EMBEDED CONDUIT RUN
- UNDERGROUND OR UNDER FLOOR CONDUIT RUN
- CIRCUIT HOMERUN TO PANEL BOARD

ERNESTO M. ANTIOQUIA
ENGINEER

PTR. NO. 7403584 P.E.E. NO. 2913
ISSUED ON 01/02/2002 ISSUED AT CABUYAO, LAGUNA
T.I.N. 109-362-379

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEC YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/20/02	E.M. ANTIOQUIA
CHECKED	9/20/02	E.M. ANTIOQUIA
SUBMITTED	9/20/02	TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

PJHL - PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	FE M. BARRIENTOS	GILBERTO S. REYES	MANUEL M. BONOAN	SIMEON A. DATUMANONG
Project Director	Chief, Mechanical-Elect'l Div.	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

SCALE : AS SHOWN FULL SIZE A1

SHEET CONTENTS :
ENGINEER'S LIVING QUARTERS
LIGHTING LAYOUT, POWER LAYOUT
ELECTRICAL SYMBOLS & GENERAL NOTES

SHEET NO. : FE-02

SCHEDULE OF LOADS AND COMPUTATIONS

PANELBOARD "DP" — MAIN A.C.B. : 100AF,2P, 250V 100 AT, 18 KAIC W/SOLID NEUTRAL

CRT. NO.	LOAD DESCRIPTION	VA	RATING OF BRANCH BREAKER VOLTS	AF	P	AT	SIZE OF HOMERUN WIRES IN CONDUIT
1	LIGHT OUTLETS	455	220	50	2	15	2-3.5mm TW²in 15mmøC
2	LIGHT OUTLETS	640	220	50	2	15	2-3.5mm TW²in 15mmøC
3	CONVENIENCE OUTLET	1440	220	50	2	20	2-3.5mm TW²in 15mmøC
4	CONVENIENCE OUTLET	1620	220	50	2	20	2-3.5mm TW²in 15mmøC
5	REFRIGERATOR	500	220	50	2	20	2-3.5mm TW²+ 1-20mm² TW(G) IN 15mmøC
6	ELECTRIC STOVE	3000	220	50	2	30	2-5.5mm² THW+1-3.5mm² TW(G) IN 20mmøC
7	1hp,1ϕ WDO,TYPE ACU	1980	220	50	2	30	2-5.5mm² THW+1-3.5mm² TW(G) IN 20mmøC
8	1hp,1ϕ WDO,TYPE ACU	1980	220	50	2	30	2-5.5mm² THW+1-3.5mm² TW(G) IN 20mmøC
9	1hp,1ϕ WDO,TYPE ACU	1980	220	50	2	30	2-5.5mm² THW+1-3.5mm² TW(G) IN 20mmøC
10	SPARE	1500	220	50	2	20	–
11	SPARE	1500	220	50	2	20	–
12	SPARE	1500	220	50	2	20	–
	TOTAL	18,095					

I_V @ 90% D.F. = $\frac{18095}{220}$ (0.90)+0.25(8)= 76.03 Amps

I_B= $\frac{18095}{220}$ (0.90)+1.5(8)= 86.03 Amps

MAIN ACB: 100AF,2P,250 V,100AT,15KAIC

USE : 2-38mm² THW + 1-14mm² TW(G) IN 40mmø RSC

SCHEDULE OF LIGHTING FIXTURES & LAMPS

SYMBOLS	DESCRIPTION	MOUNTING & INSTALLATION
1	ONE (1) 40 WATTS, 220V, FLUORESCENT LIGHTING FIXTURES, BOX TYPE	SURFACE CEILING MOUNTED
2	ONE (2) 40 WATTS, 220V, FLUORESCENT LIGHTING FIXTURES, BOX TYPE	SURFACE CEILING MOUNTED
3	ONE (1)-SL-18 LAMP WITH HEXLESS TYPE, MEDIUM BASE PORCELAIN RECEPTACLE	SURFACE CEILING MOUNTED

NOTE:
ALL FLUORESCENT LIGHTING FIXTURES SHALL BE EQUIPPED WITH A HIGH POWER FACTOR PRE-HEAT WITH STARTER TYPE BALLAS, COMPLETE WITH ALL NECESSARY ACCESSORIES, WIRED AND READY FOR USE.

ENGINEER'S LIVING QUARTERS

SCHEDULE OF LOADS AND COMPUTATIONS

PANELBOARD "DPA" — MAIN A.C.B. : 225AF,2P, 250V 200 AT, 18 KAIC W/SOLID NEUTRAL

CRT. NO.	LOAD DESCRIPTION	VA	RATING OF BRANCH BREAKER VOLTS	AF	P	AT	SIZE OF HOMERUN WIRES IN CONDUIT
1	LIGHT OUTLETS	590	220	50	2	15	2-3.5mm TW²in 15mmøC
2	LIGHT OUTLETS	1210	220	50	2	15	2-3.5mm TW²in 15mmøC
3	LIGHT OUTLETS	1065	220	50	2	15	2-3.5mm TW²in 15mmøC
4	CONVENIENCE OUTLETS	1800	220	50	2	20	2-3.5mm TW²+ 1-2.0mm² TW(G) IN 15mmøC
5	CONVENIENCE OUTLETS	1620	220	50	2	20	2-3.5mm TW²+ 1-2.0mm² TW(G) IN 15mmøC
6	PHOTOCOPY MACHINE /HEAVY DUTY CO.	2500	220	50	2	20	2-3.5mm TW²+ 1-2.0mm² TW(G) IN 15mmøC
7	3TR,1ø,SPLIT TYPE ACU	6930	220	100	2	70	2-8mm² THW + 1-5.5mm² TW(G) IN 25mmøC
8	3TR,1ø,SPLIT TYPE ACU	6930	220	100	2	70	2-8mm² THW + 1-5.5mm² TW(G) IN 25mmøC
9	3TR,1ø,SPLIT TYPE ACU	6930	220	100	2	70	2-8mm² THW + 1-5.5mm² TW(G) IN 25mmøC
10	SPARE	5000	220	100	2	70	
11	SPARE FOR PERIMETER LIGHTS	1500	220	50	2	30	2-5.5mm² THW + 1-3.5mm² TW(G) IN 25mmøC
12	SPARE	1500	220	50	2	20	–
	TOTAL	37,575					

I_V @ 95% D.F. = $\frac{37575(0.95)}{220}$ +0.25(23)= 168 Amps

USE : 2-100mm² THW + 1-30mm² TW IN 50mmø RSC

I_B=162.25567+1.5(23)=196.75 Amps.

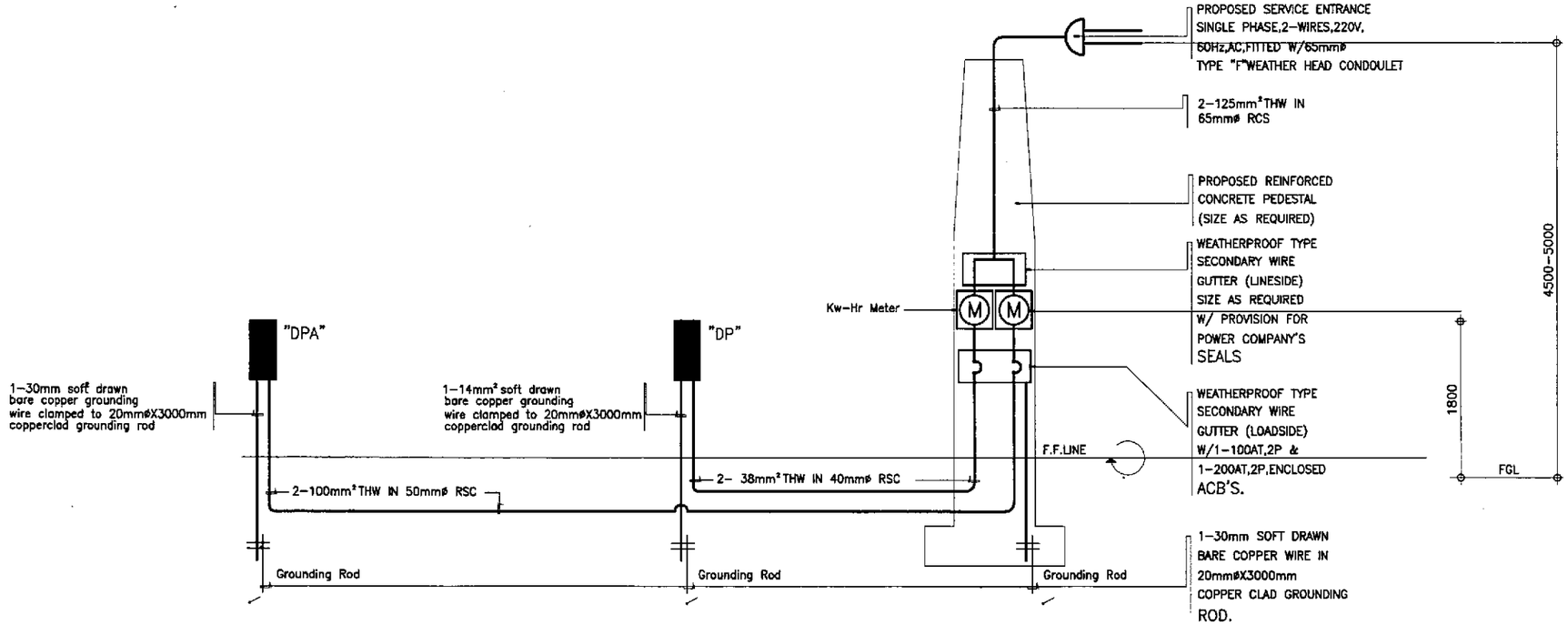
MAIN ACB: 225AF,2P,250 V,200AT,18 KAIC

SCHEDULE OF LIGHTING FIXTURES & LAMPS

SYMBOLS	DESCRIPTION	MOUNTING & INSTALLATION
1	ONE (1) 40 WATTS, 220V, FLUORESCENT LIGHTING FIXTURES, BOX TYPE	SURFACE CEILING MOUNTED
2	ONE (2) 40 WATTS, 220V, FLUORESCENT LIGHTING FIXTURES, BOX TYPE	SURFACE CEILING MOUNTED
3	ONE (1)-SL-18 LAMP WITH HEXLESS TYPE, MEDIUM BASE PORCELAIN RECEPTACLE	SURFACE CEILING MOUNTED

NOTE:
ALL FLUORESCENT LIGHTING FIXTURES SHALL BE EQUIPPED WITH A HIGH POWER FACTOR PRE-HEAT WITH STARTER TYPE BALLAS, COMPLETE WITH ALL NECESSARY ACCESSORIES, WIRED AND READY FOR USE.

ENGINEER'S FIELD OFFICE/LABORATORY



COMPUTATION FOR REQUIRED SIZE OF MAIN SERVICE ENTRANCE FEEDER:

I_T= $\frac{VA"DPA"+VA"AP"}{220}$ @ 85% DF + 0.25(I)

I_T= $\frac{37575+18095}{220}$ (0.85)+0.25(23)

I_T= 220.83 Amps.

USE : 2-125 mm² THW IN 65 mmø RSC

1 / FE-03 ELECTRICAL RISER DIAGRAMS
NOT TO SCALE

ERNESTO M. ANTIOQUIA
ENGINEER

PTR. NO. 7403664 P.E.E. NO. 2913
ISSUED ON 01/02/2002 ISSUED AT CABUYAO, LAGUNA
T.I.N. 109-382-379

JICA — JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL — YEC YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	E.M. ANTIOQUIA
CHECKED	9/18/02	E.M. ANTIOQUIA
SUBMITTED	9/20/02	TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

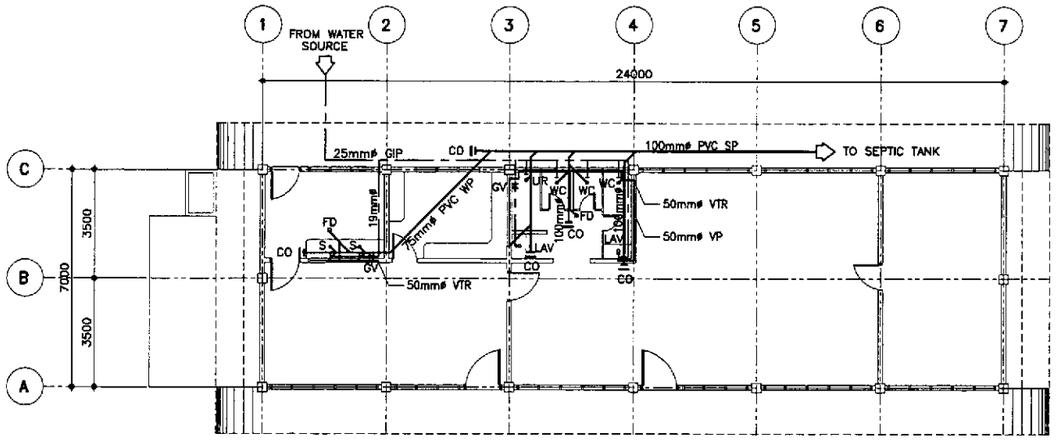
PJHL - PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	FE M. BARRIENTOS	GILBERTO S. REYES	MANUEL M. BONOAN	SIMEON A. DATUMANONG
Project Director	Chief, Mechanical-Elect'l Div.	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

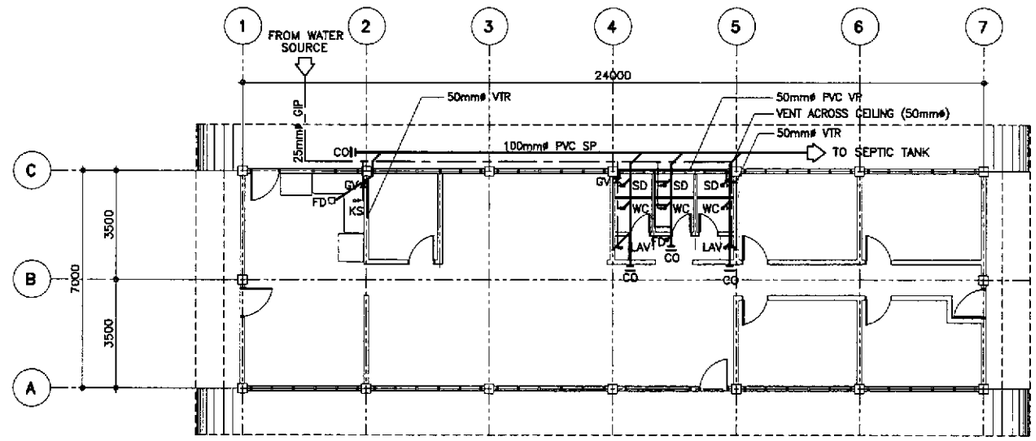
SCALE : AS SHOWN — FULL SIZE A1

SHEET CONTENTS : ENGINEER'S FIELD OFFICE AND LIVING QUARTERS
SCHEDULE OF LOADS AND COMPUTATIONS
ELECTRICAL RISER DIAGRAM

SHEET NO. : FE-03



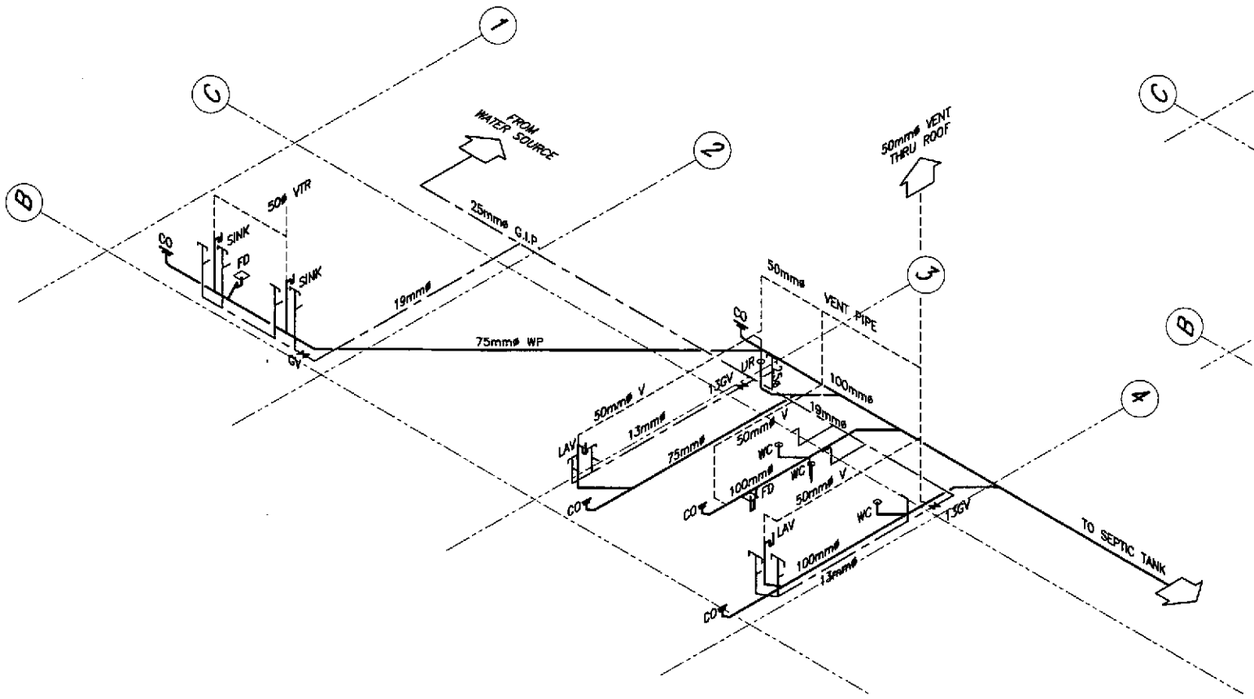
1 FP-01 ENGINEER'S FIELD OFFICE
SEWER AND WATER LINE LAYOUT
SCALE 1:100



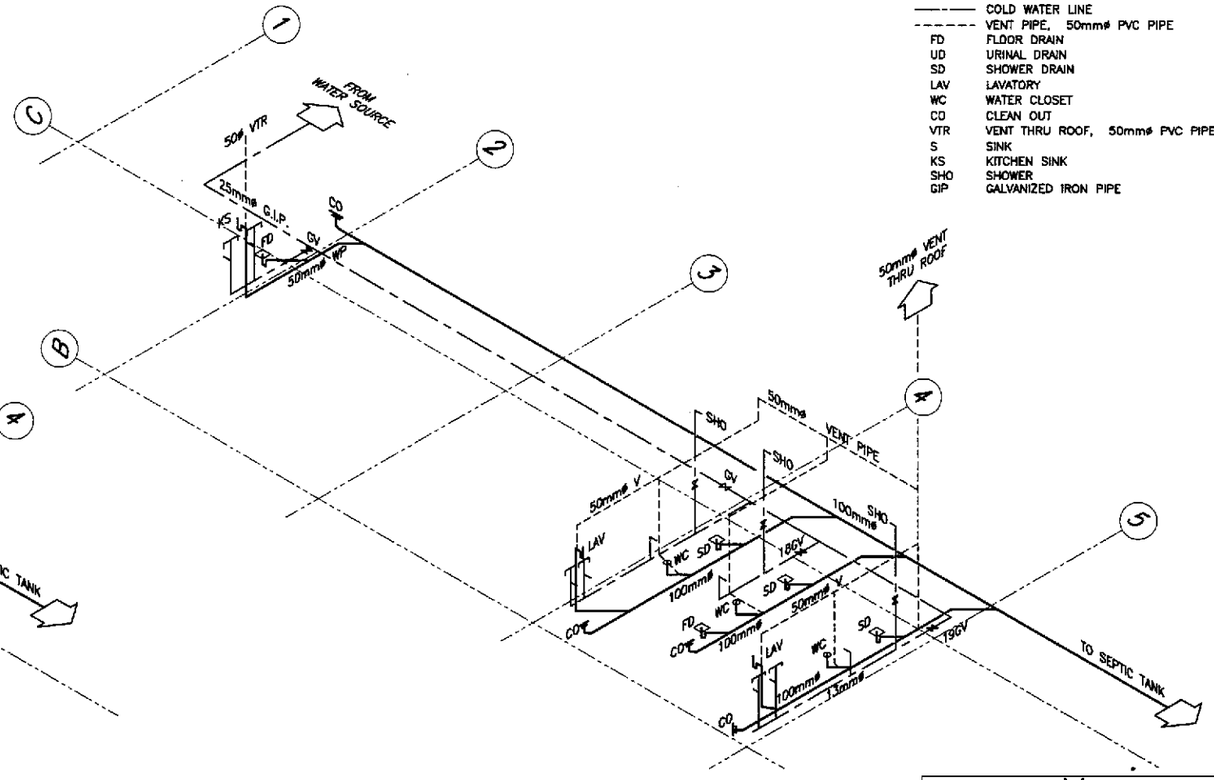
2 FP-01 ENGINEER'S LIVING QUARTER
SEWER AND WATER LINE LAYOUT
SCALE 1:100

LEGEND :

———	SEWER LINE
—·—·—	COLD WATER LINE
- - - - -	VENT PIPE, 50mmø PVC PIPE
FD	FLOOR DRAIN
UD	URINAL DRAIN
SD	SHOWER DRAIN
LAV	LAVATORY
WC	WATER CLOSET
CO	CLEAN OUT
VTR	VENT THRU ROOF, 50mmø PVC PIPE
S	SINK
KS	KITCHEN SINK
SHO	SHOWER
GIP	GALVANIZED IRON PIPE



3 FP-01 (SHOWING SEWER AND WATER LINE)
ISOMETRIC DIAGRAM
SCALE 1:50



4 FP-01 (SHOWING SEWER AND WATER LINE)
ISOMETRIC DIAGRAM
SCALE 1:50

AUGUSTO DE LA CRUZ MARIA
SANITARY ENGINEER

PTR. NO. 0083138 P.R.C. NO. 0000695
ISSUED ON 03/26/2002 T.I.N. 119-878-225
ISSUED AT SAN MATEO, RIZAL

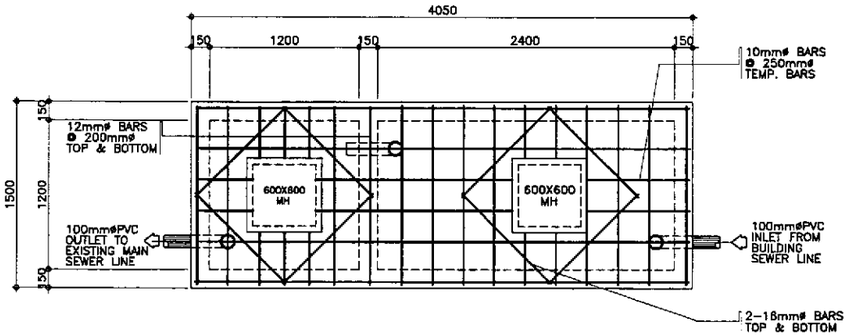
JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEC YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	F. SIX MARIA
CHECKED	9/18/02	F. SIX MARIA
SUBMITTED	9/20/02	TEAM LEADER

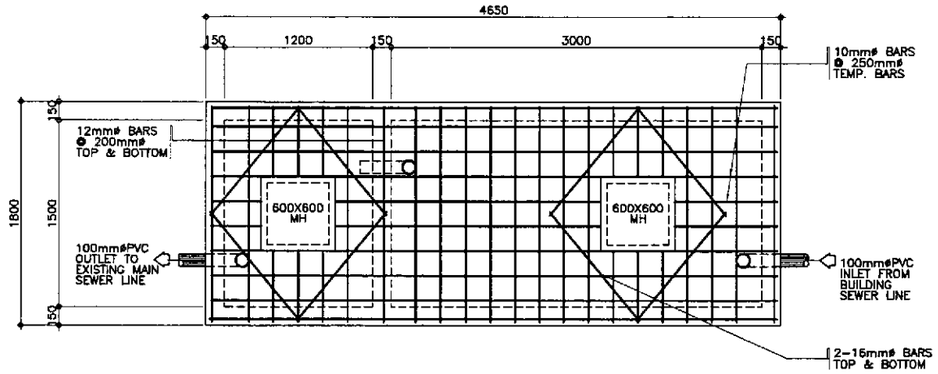
REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

PJHL – PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	EMMANUEL P. CUNTAPAY	GILBERTO S. REYES	MANUEL M. BONOAN	SIMEON A. DATUMANONG
Project Director	Chief, Architectural Division	OIC, Director IV	Undersecretary	Secretary

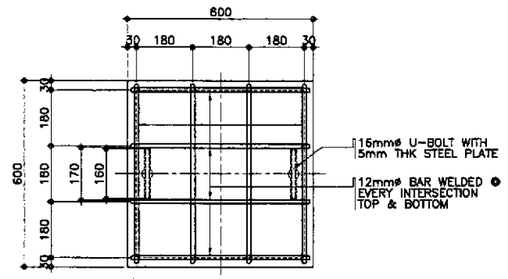
PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) PLARIDEL BYPASS - CONTRACT PACKAGE I	AS SHOWN FULL SIZE A1	ENGINEER'S FIELD OFFICE AND LIVING QUARTERS SEWER AND WATER LINE LAYOUT AND ISOMETRIC DIAGRAM	FP-01



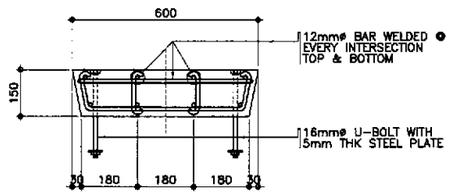
1A FP-02 PLAN SCALE 1:20



1C FP-02 PLAN SCALE 1:20

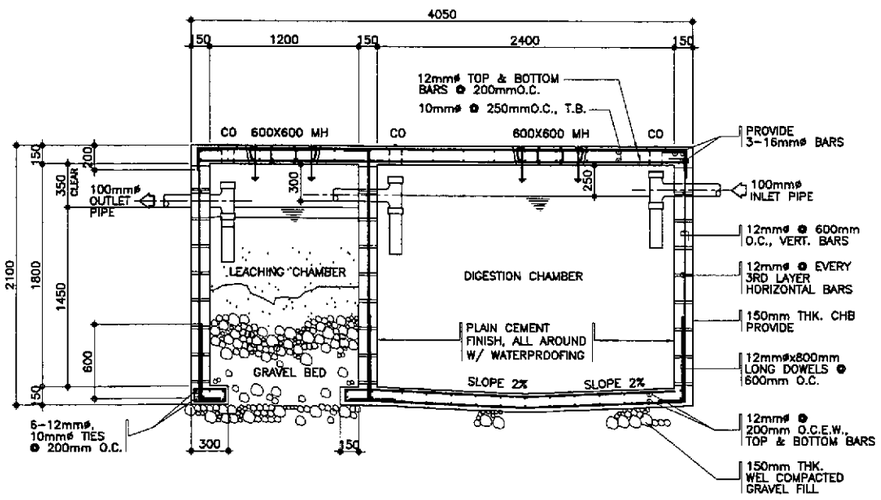


2A FP-02 PLAN SCALE 1:20



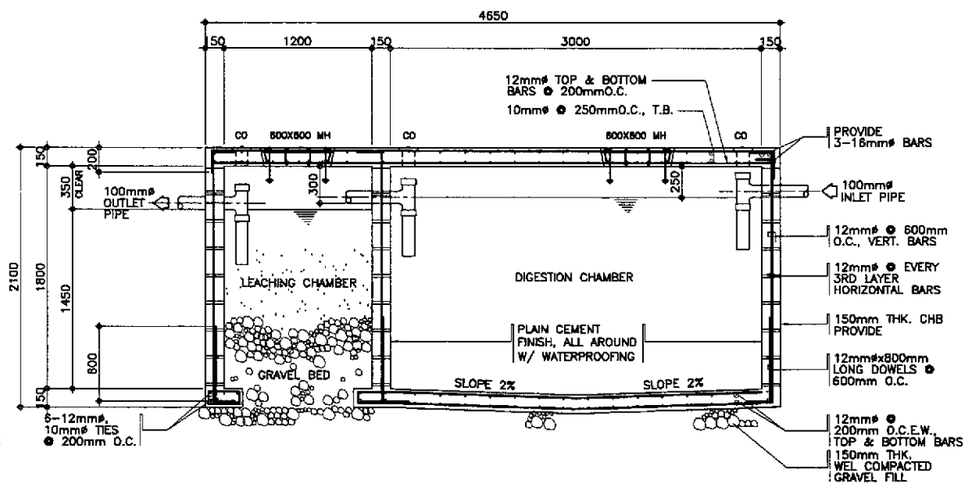
2B FP-02 SECTION SCALE 1:20

2 FP-02 CONCRETE COVER DETAIL SCALE AS SHOWN



1B FP-02 SECTION SCALE 1:20

ENGINEER'S FIELD OFFICE



1D FP-02 SECTION SCALE 1:20

ENGINEER'S LIVING QUARTER

GENERAL NOTES:

1. ALL PLUMBING WORKS INCLUDED HEREIN EXECUTED ACCORDING TO THE PROVISIONS AND REQUIREMENTS OF THE PHILIPPINE NATIONAL PLUMBING CODE.
2. SOIL AND WASTE PIPE LINE SHALL BE PVC, SIZE AS IN DRAWING.
3. ALL WATER LINES SHALL BE G.I. PIPE SCHEDULE 40 AND SIZE OF PIPES TO THE FIXTURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
4. PROVIDE 2% SLOPE FOR HOUSE AND SEWER LINES.
5. ALL G.I. PIPES AND FITTINGS BURRIED UNDERGROUND SHALL BE LEAD COATED OR TAR COATED.
6. VENT THRU ROOF PIPE SHALL BE AT LEAST 0.30m ABOVE ROOF.
7. ALL DOWNSPOUTS SHALL BE PVC PIPES 75mmø (3") UNLESS OTHERWISE SPECIFIED.

1 FP-02 SEPTIC TANK DETAILS SCALE AS SHOWN

AUSTINO A. A. MARIA
SANITARY ENGINEER

PTR. NO. 0083138 P.R.C. NO. 0000695
ISSUED ON 03/26/2002 T.I.N. 119-878-225
ISSUED AT SAN MATEO, RIZAL

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEC YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	F. SIA MARIA
CHECKED	9/18/02	F. SIA MARIA
SUBMITTED	9/20/02	TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

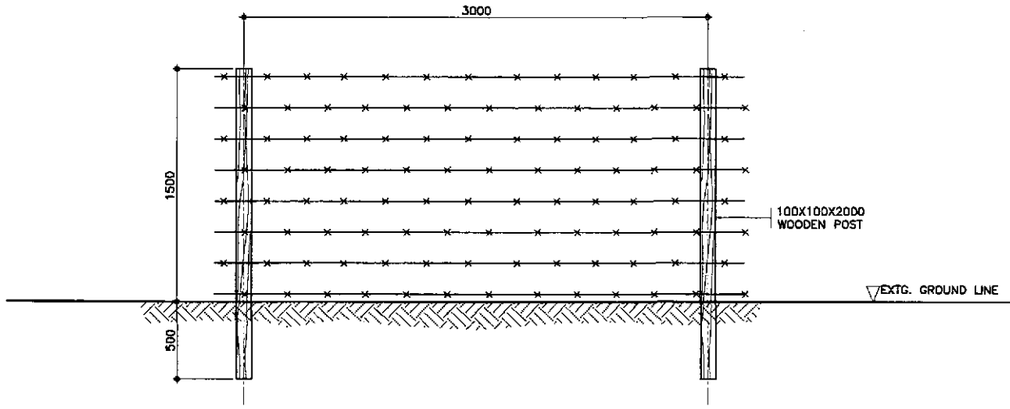
PJHL – PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Aprroved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	EMMANUEL P. CUNTAPAY	GILBERTO S. REYES	MANUEL M. BONDAN	SIMEON A. DATUMANONG
Project Director	Chief, Architectural Division	DIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

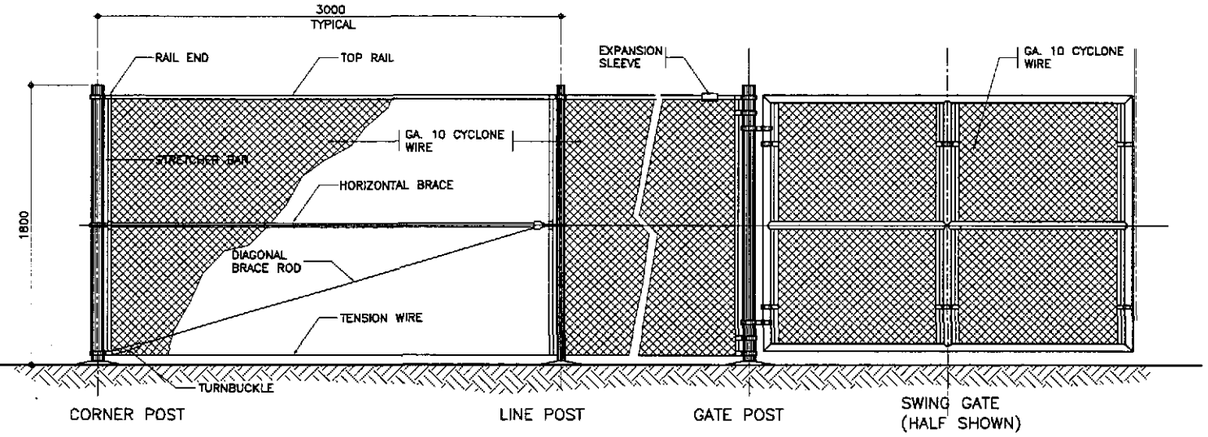
SCALE : AS SHOWN FULL SIZE A1

SHEET CONTENTS :
ENGINEER'S FIELD OFFICE AND LIVING QUARTERS
SEPTIC TANK DETAILS

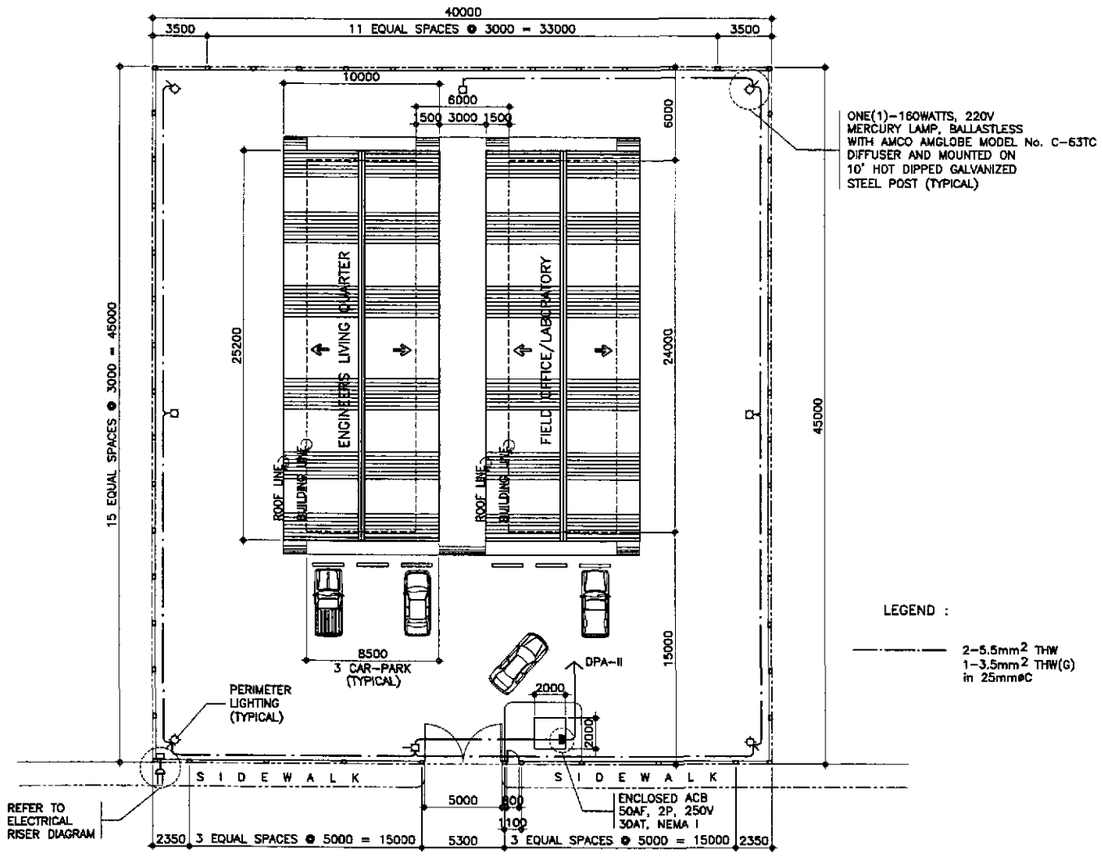
SHEET NO. : FP-02



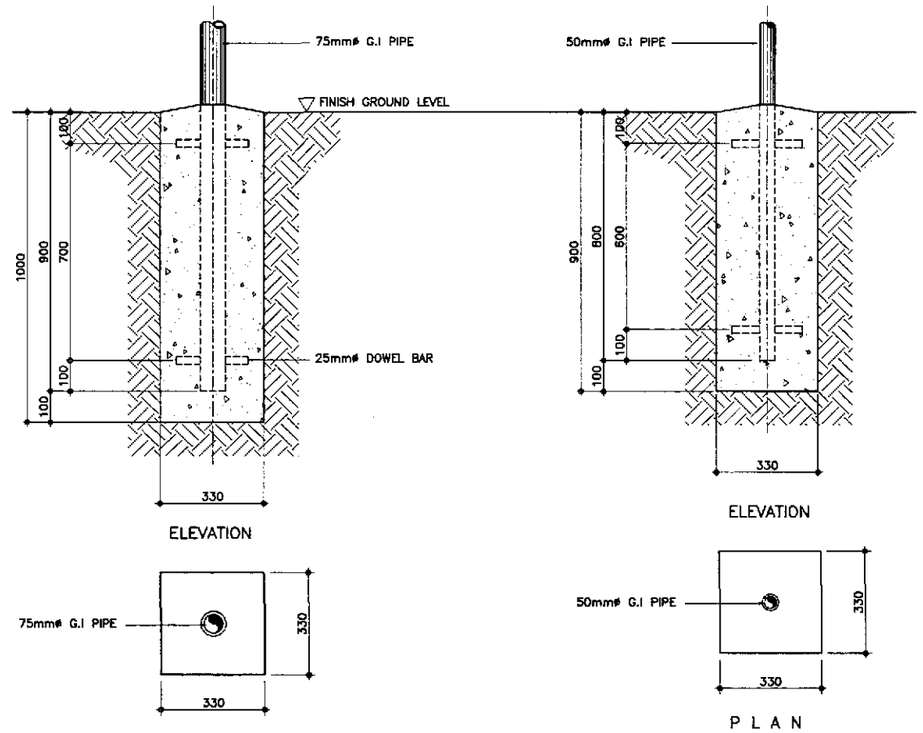
3 FX-01 TYPICAL ELEVATION FENCE (REAR & SIDE)
SCALE 1:20



2 FX-01 TYPICAL ELEVATION - FENCE AND GATE
SCALE 1:20



1 FX-01 PLOT PLAN
SCALE 1:200



4 FX-01 TYPICAL FOUNDATION DETAIL
SCALE 1:10

ARNEL P. GONZALES
ENGINEER

PTR. NO. 5846340 P.R.C. NO. 53457
ISSUED ON 04/26/2002 T.I.N. 136-082-882
ISSUED AT SAN JUAN,M.M.

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEO YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	A. P. GONZALES
CHECKED	9/18/02	A. P. GONZALES
SUBMITTED	9/20/02	K. SUGIOKA TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

PJHL - PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approved)
DANILO C. TRAJANO	EMMANUEL P. CUNTAPAY	GILBERTO S. REYES	MANUEL M. BONDAN	SIMEON A. DATUMANONG
Project Director	Chief, Architectural Division	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

SCALE :
AS SHOWN
FULL SIZE A1

SHEET CONTENTS :
ENGINEER'S FIELD OFFICE AND LIVING QUARTERS
PLOT PLAN, ELEVATION OF FENCE & GATE
TYPICAL FOUNDATION DETAILS

SHEET NO. :
FX-01

OTHERS

LEGEND :

- CEP — EXISTING CONCRETE ELECTRIC POST
- WEP — EXISTING WOODEN ELECTRIC POST
- WEP W/ TRANSF. — EXISTING WOODEN ELECTRIC POST WITH TRANSFORMER
- WEP (NC) — EXISTING WOODEN ELECTRIC POST NO CABLE
- TP — EXISTING TEMPORARY POST

INTERSECTION A-1
STA. 34+413.581 – BYPASS
STA. 0+000.000 – ACCESS ROAD-1
N=1641842.423
E=488680.471

INTERSECTION C-1L
STA. 34+546.882 – BYPASS
STA. 0+000.000 – RD. CROSSING
N=1641954.765
E=488745.102

INTERSECTION C-1R
STA. 34+541.177 – BYPASS
STA. 0+000.000 – RD. CROSSING
N=1641966.748
E=488786.419

INTERSECTION A-2
STA. 34+804.257 – BYPASS
STA. 1+000.000 – RD. CROSSING
N=1642199.802
E=488662.897

MATCH LINE — STA. 34+700

MATCH LINE — STA. 35+400

ROADLOT-5 (8.0M; A=1,590)
ROADLOT-7 (8.0M; A=1,
ROADLOT-9 (8.0M; A=1,
ROADLOT-12 (8.0M; A=990)
ROADLOT-14 (8.0M; A=843)
ROADLOT-16 (8.0M; A=718)
ROADLOT-18 (8.0M; A=620)
ROADLOT-21 (8.0M; A=540)
ROADLOT-10 (8.0M; A=1,590)
ROADLOT-23 (8.0M; A=977)

KM 35

	DATE	SIGNATURE
DESIGNED	9/16/02	ALACIO
CHECKED	9/18/02	S. GOSE
SUBMITTED	9/20/02	TEAM LEADER

JICA — JAPAN INTERNATIONAL COOPERATION AGENCY

KEI KATAHIRA & ENGINEERS INTERNATIONAL — YOC YACHIYO ENGINEERING CO., LTD.

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

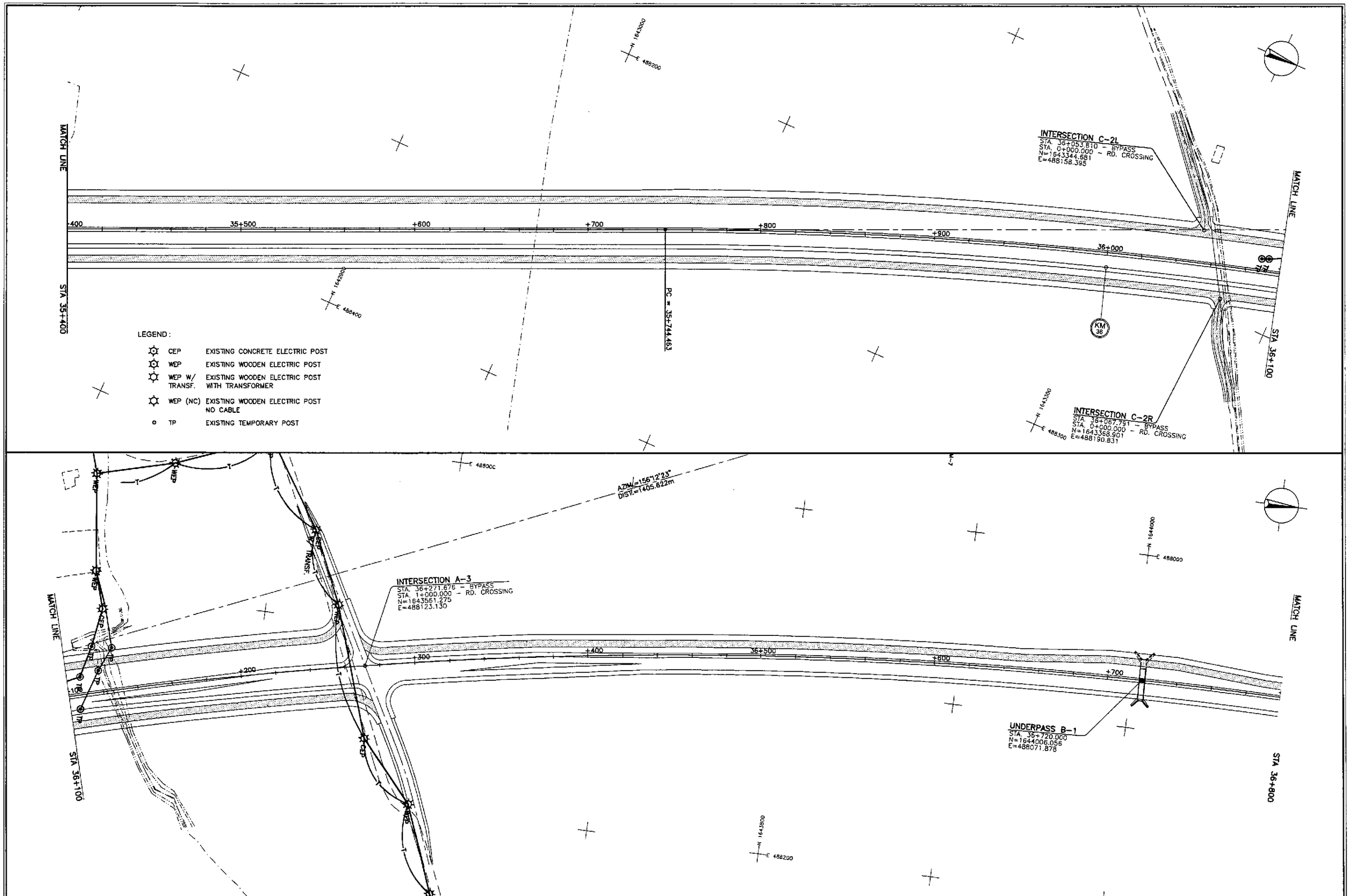
P.H. – PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	JOSEFINA M. ALAGAR	GILBERTO S. REYES	MANUEL M. BONDAN	SIMEON A. DATUMANONG
Project Director	Chief, Highways Division	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

SCALE : 1:1000 — FULL SIZE A1

SHEET CONTENTS :
UTILITY RELOCATION REFERENCE LAYOUT PLAN
ALONG BYPASS
STA. 34+100 - STA. 35+400

SHEET NO. : OE-01



JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KATAHIRA & ENGINEERS INTERNATIONAL
YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	ADAGIO
CHECKED	9/18/02	DOSE
SUBMITTED	9/20/02	TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

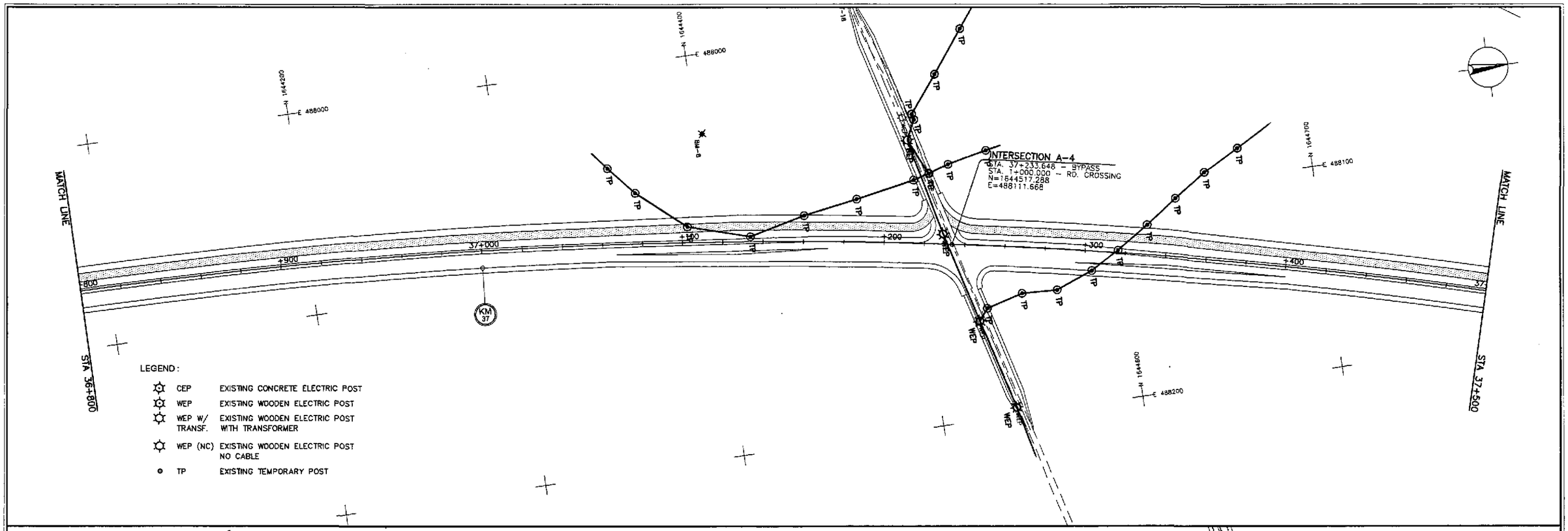
PJHL - PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	JOSEFINA M. ALAGAR	GILBERTO S. REYES	MANUEL M. BONOAN	SIMEON A. DATUMANONG
Project Director	Chief, Highways Division	OIC, Director IV	Undersecretary	Secretary

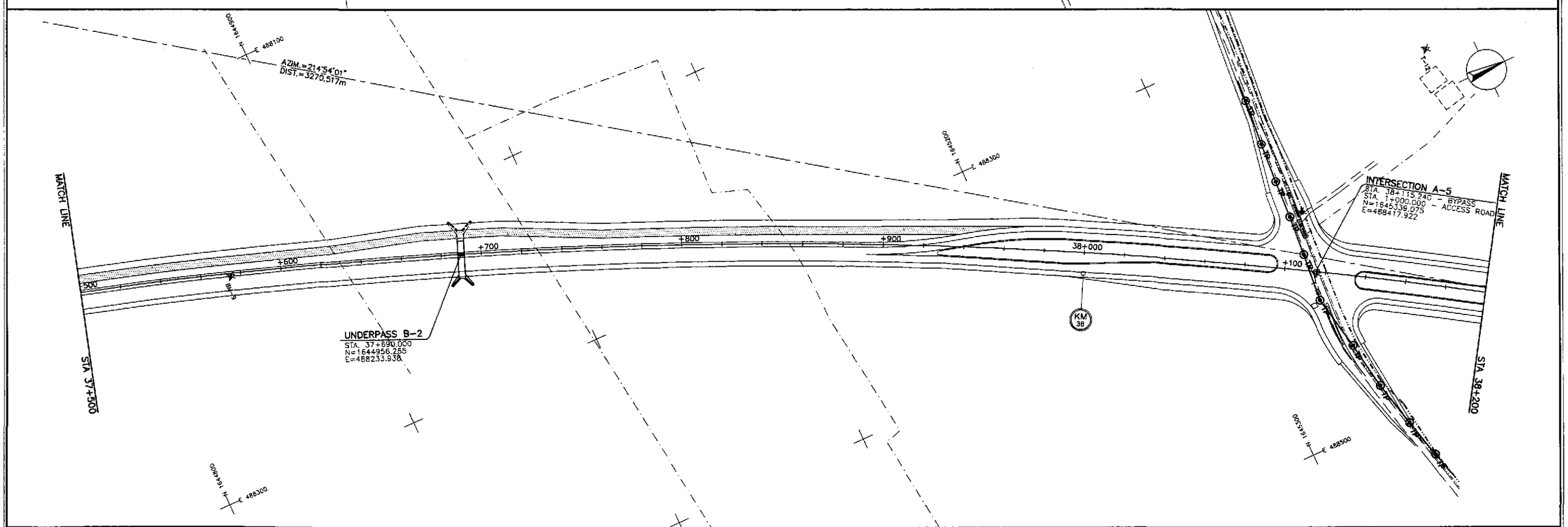
PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

SCALE : 1:1000 FULL SIZE A1

SHEET CONTENTS :
UTILITY RELOCATION REFERENCE LAYOUT PLAN
ALONG BYPASS
STA. 35+400 - STA. 36+800

SHEET NO. : OE-02





JICA
JAPAN INTERNATIONAL COOPERATION AGENCY

KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEC YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	N. ACACIO
CHECKED	9/18/02	S. GOSE
SUBMITTED	9/20/02	M. KIKUCHI, TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

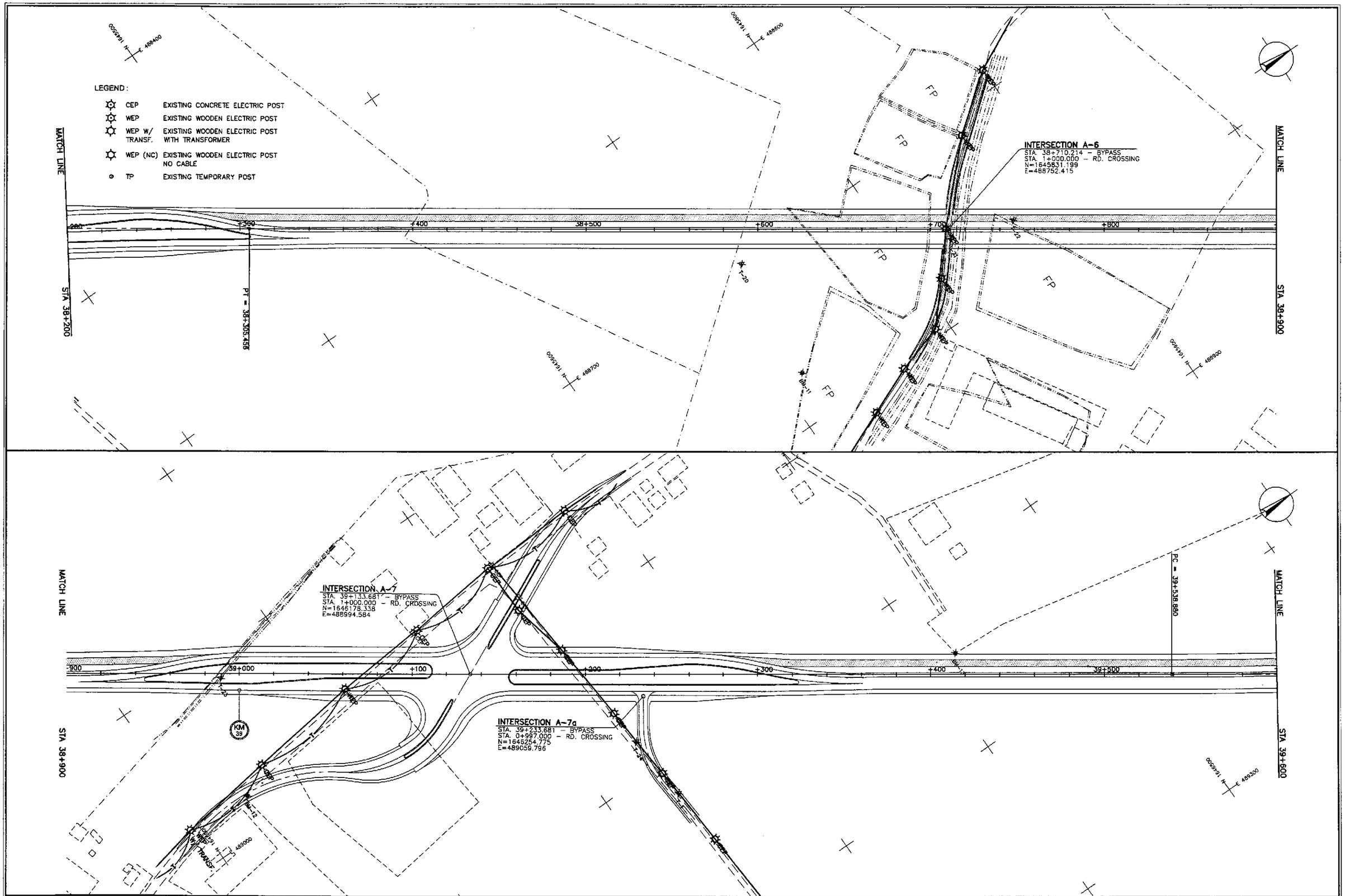
PJHL - PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	JOSEFINA M. ALAGAR	GILBERTO S. REYES	MANUEL M. BONOAN	SIMEON A. DATUMANONG
Project Director	Chief, Highways Division	DIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

SCALE : 1:1000 FULL SIZE A1

SHEET CONTENTS :
UTILITY RELOCATION REFERENCE LAYOUT PLAN
ALONG BYPASS
STA. 36+800 - STA. 38+200

SHEET NO. : OE-03



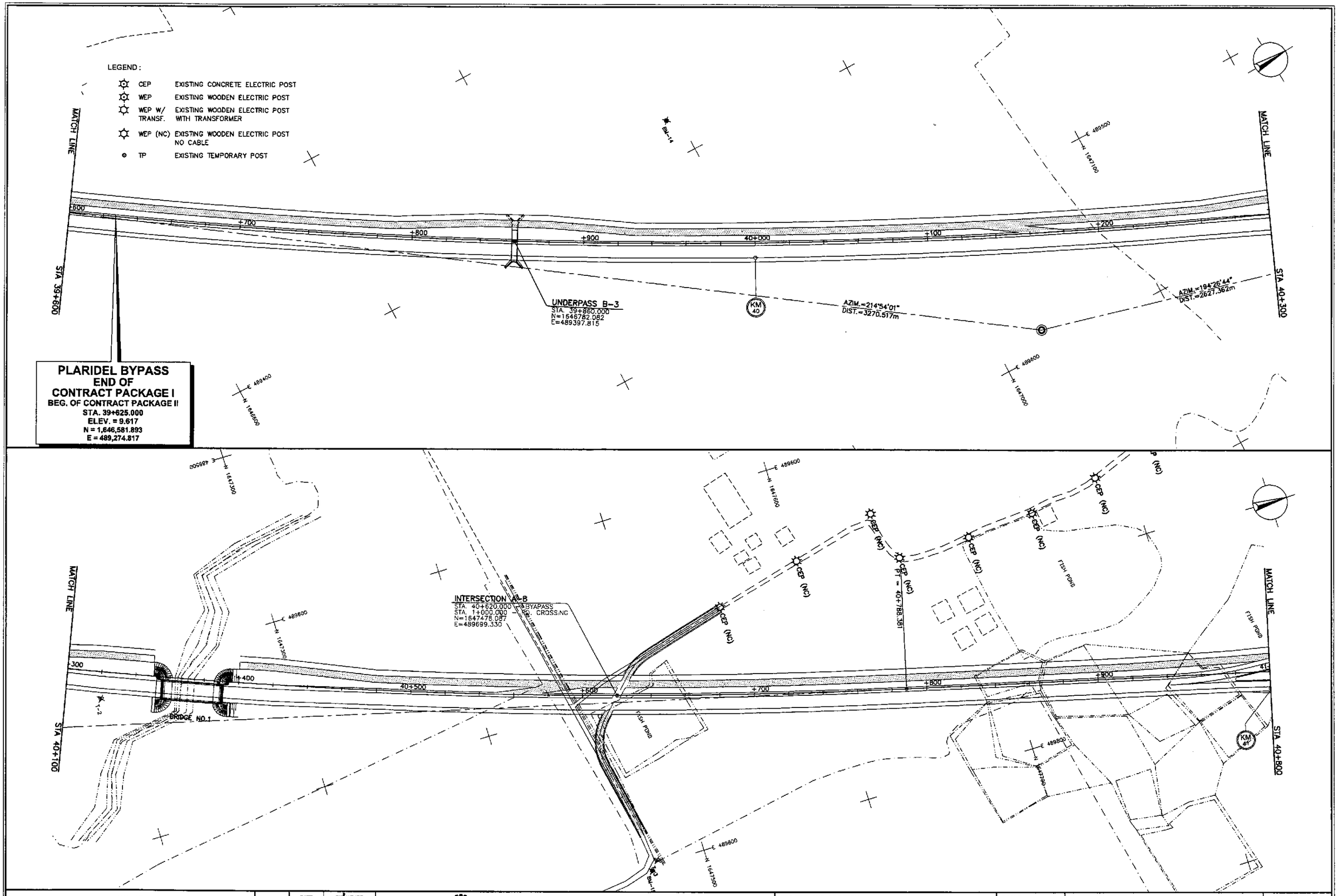
JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KATAHIRA & ENGINEERS INTERNATIONAL
YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	ACACIO
CHECKED	9/18/02	S. CASE
SUBMITTED	9/20/02	TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

PJHL – PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	JOSEFINA M. ALAGAR	GILBERTO S. REYES	MANUEL M. BONDAN	SIMEON A. DATUMANONG
Project Director	Chief, Highways Division	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) PLARIDEL BYPASS - CONTRACT PACKAGE I	1:1000 FULL SIZE A1	UTILITY RELOCATION REFERENCE LAYOUT PLAN ALONG BYPASS STA. 38+200 - STA. 39+600	OE-04



JICA JAPAN INTERNATIONAL COOPERATION AGENCY		DATE	SIGNATURE	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS				PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	SCALE :	SHEET CONTENTS :	SHEET NO. :
KEI KATAHIRA & ENGINEERS INTERNATIONAL / YEO YACHIYO ENGINEERING CO., LTD.	DESIGNED	9/16/02	J. ACACIO	PJHL – PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY		1:1000	UTILITY RELOCATION REFERENCE LAYOUT PLAN ALONG BYPASS STA. 39+600 - STA. 39+625	OE-05
	CHECKED	9/12/02	S. GOSE	Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)	PLARIDEL BYPASS - CONTRACT PACKAGE I		
	SUBMITTED	9/20/02	M. BUENA TEAM LEADER	DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES OIC, Director IV	MANUEL M. BONDAN Undersecretary	SIMEON A. DATUMANONG Secretary		FULL SIZE A1	

GENERAL MANUFACTURING INFORMATION

FOR GALVANIZED, PAINTED, AND PAINT-OVER-GALVANIZED POLES:

IA STEEL SPECIFICATIONS	MIN. YIELD	A.S.T.M. SPEC
PLATE ≤ 1 1/4"	65 KSI	A-572 MODIFIED
PLATE > 1 1/4"	60 KSI	A-572 MOD., A-633 MOD., A-871, OR A-633 GR. E
BOLTS ≤ 5/8"	92 KSI	A-449
BOLTS ≥ 3/4"≤ 2 1/2"	109 KSI	A-354 GRADE B.C. MOD.
BOLTS > 2 1/2"	99 KSI	A-354 GRADE B.C. MOD.
NUTS ≤ 5/8"	------	A-563 GRADE C
NUTS ≥ 3/4"	------	A-563 GRADE DH
NUTS (ANCHOR BOLTS)	------	A-563 GRADE DH
NUTS (SLIPJOINT JACKING NUTS)	------	A-563 GRADE C3
ANCHOR BOLTS	75 KSI	A-615 GRADE 75 (MOD.)
STEEL SHAPES	36 KSI	A-36
PIPES	36 KSI	A-36, A-53 GRADE B, A-106 GRADE B, OR A-501
STAINLESS STEEL SHAPES	30 KSI	TYPE 304
BOLTS 1/2" DIA. (REM. COVER PL'S)	------	A-307
NON-STRUCTURAL	36 KSI	A-36

FOR GALVANIZED, PAINTED, AND PAINT-OVER-GALVANIZED POLES:

IB STEEL SPECIFICATIONS	MIN. YIELD	A.S.T.M. SPEC
PLATE ≤ 3/4"	65 KSI	A-871
PLATE > 3/4"	60 KSI	A-871
BOLTS < 5/8"	92 KSI	A-449
BOLTS 5/8"	92 KSI	A-352 TYPE 3
BOLTS ≥ 3/4" ≤ 2 1/2"	109 KSI	A-354 GRADE B.C. MOD.
BOLTS > 2 1/2"	99 KSI	A-354 GRADE B.C. MOD.
NUTS < 5/8"	------	A-563 GRADE C
NUTS ≥ 5/8"	------	A-563 GRADE C3
NUTS (ANCHOR BOLTS)	------	A-563 GRADE DH
NUTS (SLIPJOINT JACKING NUTS)	------	A-563 GRADE C3
ANCHOR BOLTS	75 KSI	A-615 GRADE 75 (MOD.)
STEEL SHAPES	50 KSI	A-588 OR EQUIVALENT
PIPES	46 KSI	A-588 OR EQUIVALENT
STAINLESS STEEL SHAPES	30 KSI	TYPE 304
NON-STRUCTURAL	30 KSI	A-588

2. ALL PLATES TO HAVE A CHARPY V-NOTCH IMPACT VALUE OF 15 FT-LBS. MINIMUM AT -20 DEGREES F PER HEAT LOT TEST (UNLESS OTHERWISE NOTED).

3. PROVIDE PLASTIC PLATE IN ALL TAPPED HOLES AND NUTS WELDED TO THE STUCTURE.

4. TO FACILITATE MANUFACTURING, LINE STRUCTURE TYPES WITH SIMILAR LINE DEFLECTION ANGLES ARE SOMETIMES GROUPED USING A COMMON LINE ANGLE FOR HARDWARE ATTACHEMNT ORIENTATION.

5. ARM LENGTHS WHEN APPLICABLE ARE FROM FACE TO ARM BRACKET TO END OF ARM SHAFT. HOLE QUANTITIES FORARM CONNECTIONS ARE "PER SIDE" UNLESS OTHERWISE NOTED.

6. SHOP TO MAINTAIN A 4 1/2" MINIMUM CLEARANCE FROM THE CENTERLINE OF ANY HOLES THROUGH THE POLE TOTHE LINE OF THE NEAREST WELDED PART INORDER TOPROVIDE ADEQUATE CLEARANCE FOR CUSTOMER MOUNTED ATTACHMENTS. EXCEPTION FOR STANDARD LD ARMS WITH 1 1/5" ø HOLES. SHOP TO MAINTAIN 6" OF CLEARANCE.

7. LINE DISTANCES FOR ALL BOLT HOLES ARE SHOWN ON THE DRAWINGS. THESE DISTANCES ARE VALID FOR PUNCHED OR DRILLED HOLES EXCEPT FOR PUNCHED HOLES IN ONE-INCH THICK PLATE. FOR PUNCHED 1-1/8" HOLES IN ONE-INCH PLATE, THE EDGE DISTANCE MUST BE INCREASED FROM 1-7/16" TO 1-9/16".

8. UNLESS OTHERWISE NOTED ON DRAWING, ALL THRU-PIPE TO HAVE A 3/8" MINIMUM OR1" MAXIMUM PROTRUSION FROM FACE OF SHAFT.

9. LONGSEAM ORIENTATION:

   A. 12 SIDED SHAPES WITH SINGLE LONGSEAM POINT 9 AND DOUBLE LONGSEAM POINTS 3 AND 9.

   B. 8 SIDED SHAPES WITH SINGLE LONGSEAM POINT 4 AND DOUBLE LONGSEAM POINTS 4 AND 8.

   C. 16 SIDED SHAPES WITH SINGLE LONGSEAM POINT 12 AND DOUBLE LONGSEAM POINTS 4 AND 12.

   D. 4 SIDED SHAPES WITH SINGLE LONGSEAM POINT 4.

   TYPICAL LONGSEAM ORIENTATION SHALL BE AS STATED ABOVE. ADJUSTMENTS TO THIS ORIENTATION MAY BE MADE LONGSEAMS WILL NOT BE INTERSECTED BY THROUGH PLATE TYPE HARDWARE NOR WILL THEY BE IMMEDIATELY ADJACENT TO THE EDGES OF LARGE DOUBLERS OR WRAP AROUND ARM CONNECTIONS. ALSO, LONGSEAMS OF SINGLE LONGSEAM TUBES MAY BE ORIENTED TO TAKE ADVANTAGE OF THEIR NATURAL CURVATURE FOR CAMBERED POLES AND CURVE ARMS.

10. UNLESS OTHERWISE STATED ON THE DRAWINGS, MARK STRUCTURES WITH THE FOLLOWING INFORMATION AS SHOWN BELOW:

   A. MARK POLES ON FACE 5-6 AT 5'-0" ABOVE GROUNDLINE OR BASE PLATE:
   FOR ALL POLES EXCEPT LD POLES - MARK POLE NUMBER ONLY WITH 2" WELD BEAD. EG. 12
   FOR LD POLES - PROVIDE A NAMEPLATE 1/4" X 4" X 4" (MIN. SIZE) EG.
   STAMP TO CLASS, POLE LENGTH, AND POLE NUMBER WITH 1/2" HIGH LETTERS
   NOTE: ERECTION DRAWINGS TO SHOW ACTUAL EXAMPLE OF SPECIAL INFORMATION

   LD 7
   100'
   12

   B. MARK STRUCTURE NUMBER ON BOTTOM OF BASE PLATE OR BEARING PLATE WITH A 2" WELD OR CONTRASTING PAINT STICK COLOR.

   C. MARK ARM LETTER ON INSIDE OF ARM BRACKET WITH 2" WELD BEAD, INDIVIDUAL NUMBER OPTIONAL, TO BE MARKED WITH WELD OR CONTRASTING PAINT STICK.

   D. MARK CROSSARMS WITH ASSEMBLY NUMBER WITH 2" WELD BEAD OR 1/2" HIGH STAMPED LETTERS.

   E. MARK STRUCTURE NUMBER ON FACE 5-6, 8" ABOVE AND BELOW EACH SLIPJOINT OR FLANGE PLATE WITH 2" WELD BEAD.

   F. MARK FABRICATED SHIPLOOSE ITEMS WITH PIECE MARKOR ASSEMBLY NUMBER USING 2" WELD BEAD OR 1/2" HIGH STAMPED LETTERS.

   G. MARK ASSEMBLY NUMBER ON CROSSBRACING WITH 2" WELD BEAD OR 1/2" HIGH STAMPED NUMBERS.

   H. MARK CENTER OF GRAVITY OF ALL ASSEMBLIES WITH 3/4" SPOT OF WELD ALONG LONGSEAM.

   I. CUSTOMER NOTE: INDIVIDUAL MARK IS FOR FABRICATOR TRACKING ONLY.

   FACE 5-6 PERTAINS TO POLY-ROUND AND POLY 12 POLES. USE FACE 3-4 FOR OCTAGONAL POLES AND FACE 7-8 FOR POLY 16 POLES.

ASSEMBLY AND ERECTION INFORMATION

1. CUSTOMER SHALL VERIFY THE FIT OF THEIR EQUIPMENT (INSULATORS, GUY WIRES, ETC.) TO ATTACHMENT PROVIDED.

2. WHEN APPLICABLE, ALL STRUCTURE ARMS SHALL BE DAMPED AT ERECTION TIME, DAMPING MAYBE ACCOMPLISHED BY STRINGING, HANGING INSULATORS OR WEIGHTS, OR TYING ARMS OFF TO THE STRUCTURE AT ATTACHMENT POINTS.

3. BOLT AND NUT TORQUE INFORMATION:
   THE NUTS ON ALL CONNECTION BOLTS SHOULD BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING RECOMMENDATIONS:

   A. AS A MINIMUM, ALL NUTS SHOULD BE INSTALLED SNUG TIGHT. "SNUG TIGHT" IS DEFINED AS THE TIGHTNESS ATTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF A MAN USING AN ORDINARY SPUD WRENCH. SOME BOLTED CONNECTIONS WILL REUIRE ADDITIONAL TIGHTENING OF THE NUTS.

   B. ALL SHORT ARM CONNECTION BOLTS (L < 8") AND ALL FLANGE CONNECTION BOLTS SHOULD BE TENSIONED TO 70% OF THEIR TENSILE STRENGTH AS RECOMMENDED IN SECTION 5 OF THE LATEST EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION. THE TURN-OFF-NUT TIGHTENING METHOD IS CONSIDERED TO BE THE MOST PRACTICAL METHOD FOR ACHIEVING THESE BOLT TENSIONS. THE FOLLOWING TABLE PROVIDES THE AISC RECOMMENDED NUT ROTATIONS FOR THESE TYPES OF BOLTED CONNECTIONS: (FOR USE WITH ASTM A-354 BC OR A-325 BOLTS)

BOLT DIA.	RECOMMENDED TENSION	BOLT LENGTH		
		1/3 NUT TURN	1/2 NUT TURN	2/3 NUT TURN
1"	52 KIPS	0"-4"	4"-8"	8"-12"
1 1/2"	123 KIPS	0"-6"	6"-12"	12"-18"

   NOTE: NUTS MUST BE BROUGHT TO SNUG TIGHT CONDITION

   C. NUTS FOR 2 1/4" DIAMETER ANCHOR BOLTS (ASTM A-615 GRADE 75) SHOULD BE TURNED 1/6 TURN BEYOND SNUG TIGHT.

   D. LONG ARM CONNECTION BOLTS (L > 8") SHOULD NOT BE TENSIONED BEYOND A SNUG TIGHT CONDITION.

   E. CROSSBRACE U-BOLT NUTS SHOULD BE TORQUED PER THE THE FOLLOWING:

U-BOLT DIA.	3" WIDE U-BOLT PLATE THK.	TORQUE (LUBRICATED)
5/8"	3/8"	75 FT-LBS
5/8"	1/2"	100 FT-LBS
3/4"	3/4"	150 FT-LBS
7/8"	1"	200 FT-LBS
1"	1 1/4"	250 FT-LBS

4. FOR FIELD ASSEMBLY OF MULTISECTION POLES, STRUCTURE MEMBERS OF ADJACENT SECTIONS MUST BE ALIGNED.

SPECIAL NOTE

THE SUPPLIER OF STEEL POLE / TOWER SHALL SUBMIT FABRICATION DRAWINGS FOR THE APPROVAL OF THE ENGINEER AND OF TRANSCO.

ROY ANTHONY C. LUNA
ENGINEER

PTR. NO. 2860381 P.R.C. NO. 73109
ISSUED ON 01/03/2002 ISSUED AT QUEZON CITY
T.I.N. 184-025-640

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEC YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	R. A. LUNA
CHECKED	9/18/02	R. A. LUNA
SUBMITTED	9/20/02	TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

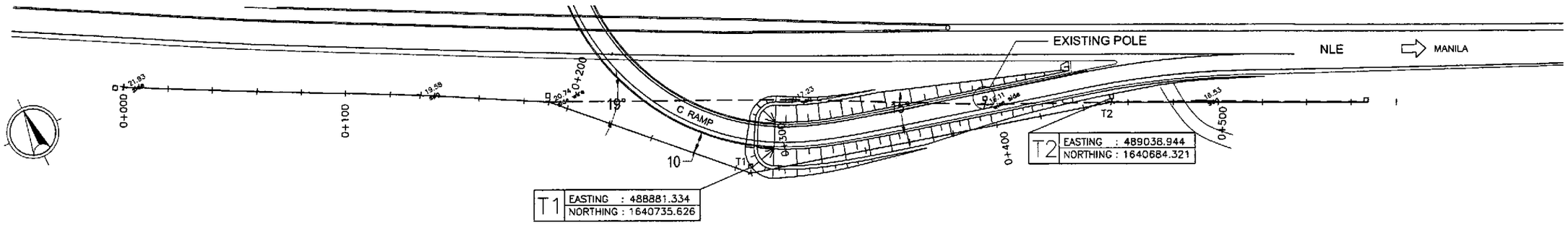
PJHL - PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	JOSEFINA M. ALAGAR	GILBERTO S. REYES	MANUEL M. BONOAN	SIMEON A. DATUMANONG
Project Director	Chief, Highways Division	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

SCALE : FULL SIZE A1

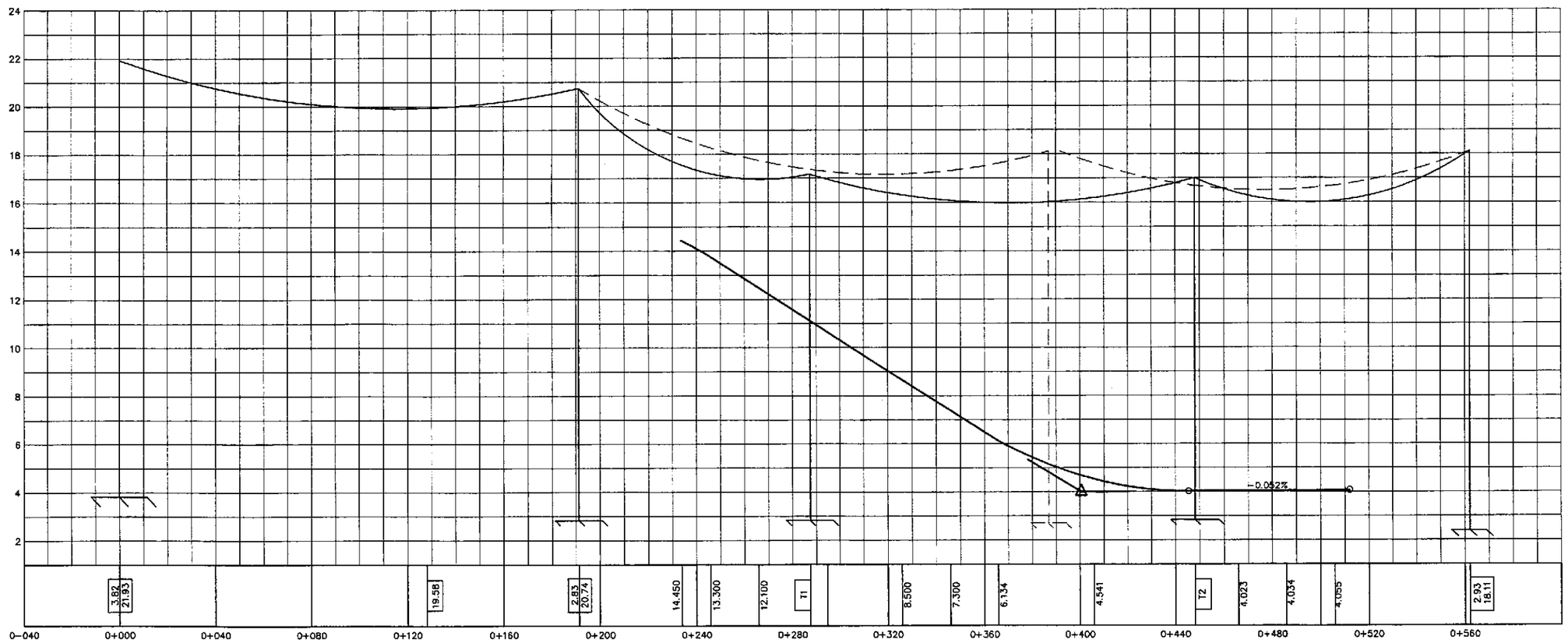
SHEET CONTENTS :
POWER TRANSMISSION LINE RELOCATION / INSTALLATION
GENERAL MANUFACTURING INFORMATION
ASSEMBLY AND ERECTION INFORMATION
SPECIAL NOTE

SHEET NO. : OT-01



1 / B-01 PLAN

SCALE 1:2000



2 / B-02 PROFILE

SCALE HOR. 1:2000
VER. 1.200

POLE RELOCATION

- INVOLVES REALIGNMENT OF EXISTING TRANSMISSION LINE
- TWO (2) STEEL POLES SHALL BE PROVIDED
- ROAD / RAMP RIGHT-OF-WAY TO BE UTILIZED

ROY ANTHONY C. LUNA
ENGINEER

PTR. NO. 2860381 P.R.C. NO. 73109
ISSUED ON 01/03/2002 ISSUED AT QUEZON CITY
T.I.N. 184-025-640

JICA

KATAHIRA & ENGINEERS INTERNATIONAL
YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	R. A. LUNA
CHECKED	9/18/02	R. A. LUNA
SUBMITTED	9/20/02	TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

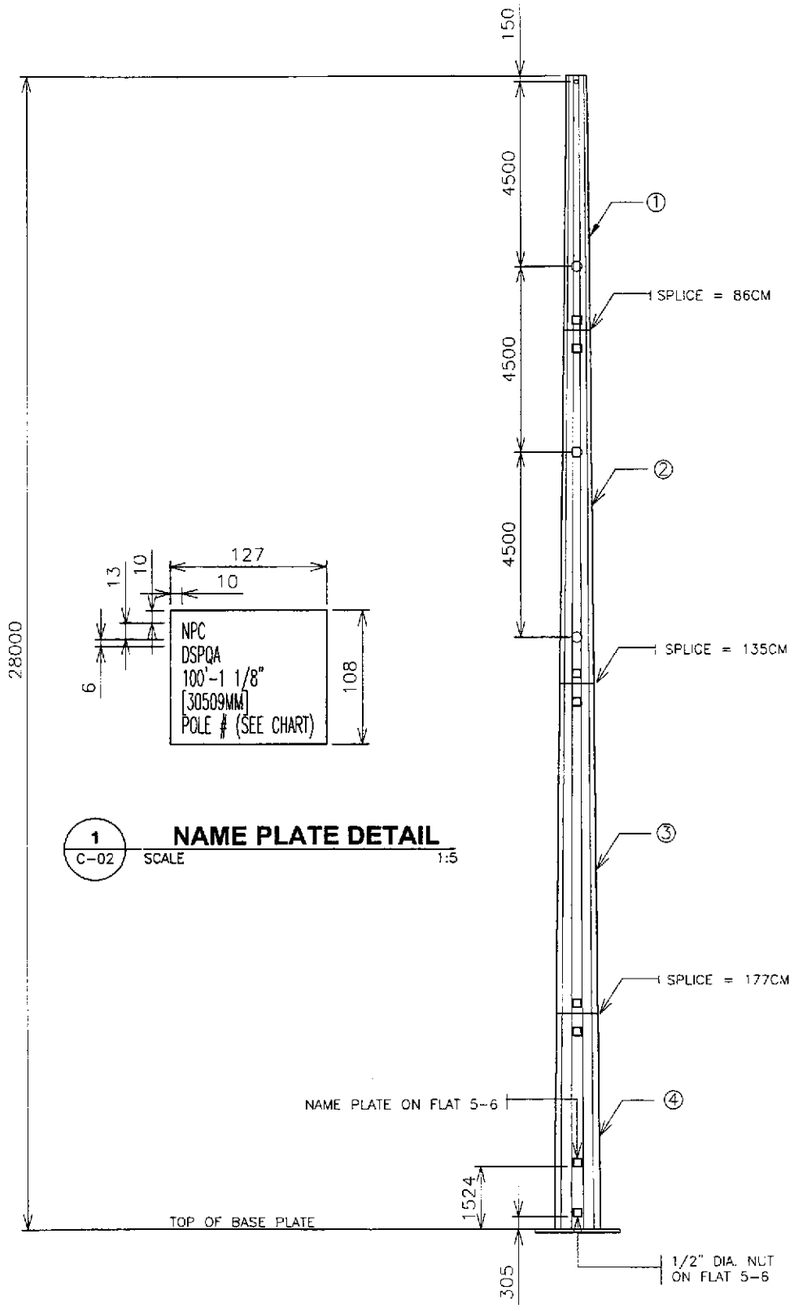
PJHL - PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	WILFREDO S. LOPEZ	GILBERTO S. REYES	MANUEL M. BONDAN	SIMEON A. DATUMANONG
Project Director	Chief, Structural Division	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
DETAILED DESIGN ENGINEERING ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY
PLARIDEL BYPASS - CONTRACT PACKAGE I

SCALE : AS SHOWN

SHEET CONTENTS :
POWER TRANSMISSION LINE RELOCATION / INSTALLATION
POLE RELOCATION PLAN AND PROFILE

SHEET NO. : OT-02

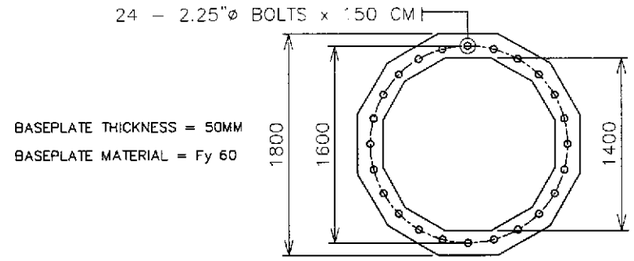


1 C-02 NAME PLATE DETAIL

SCALE 1:5

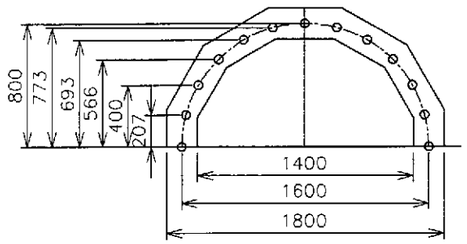
2 C-02 POLE GENERAL DIMENSIONS

SCALE 1:150



3A C-02 BASEPLATE DETAIL

SCALE 1:50



3B C-02 BASE PLATE GENERAL DIMENSIONS

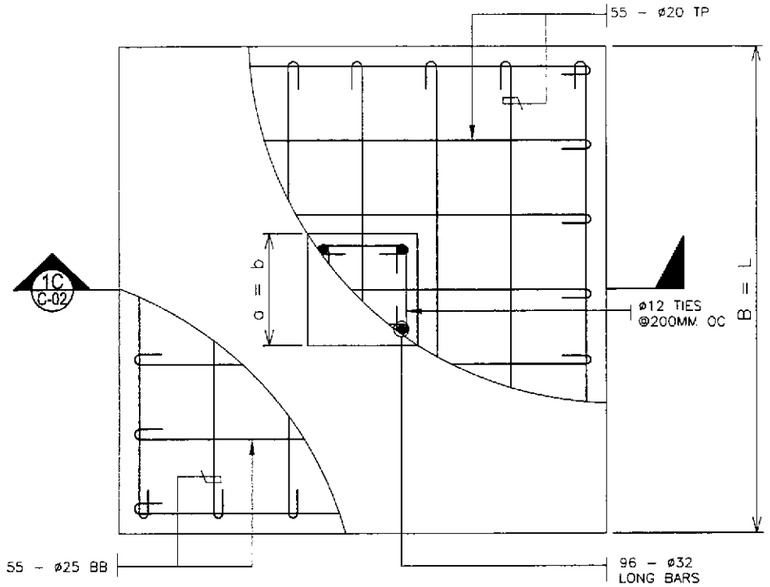
SCALE 1:40

SECTION INFORMATION					
ITEM ID	LENGTH (M)	BASE OD (MM)	THK (MM)	MT'L	WEIGHT (N)
1	7	588.5	6	S-55	4532.6
2	9	911.8	9	S-55	14136.6
3	9	1209.4	12	S-55	26476.4
4	6.983	1400.0	12	S-55	25862.3

3C C-02 SECTION INFORMATION

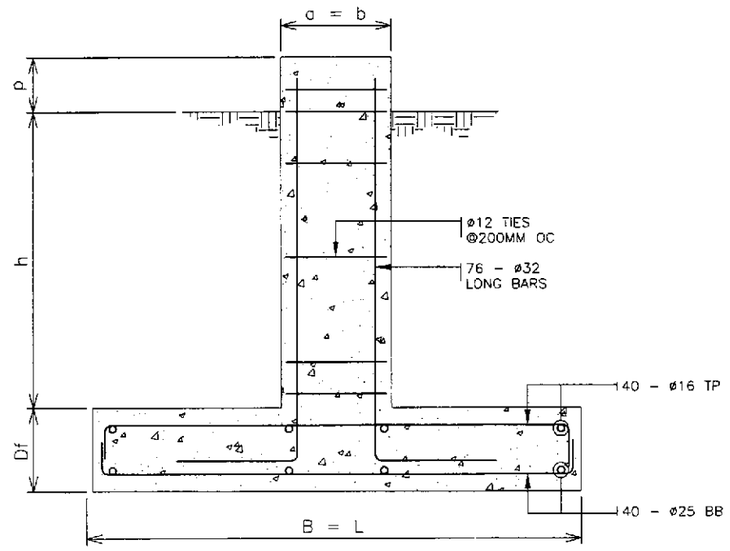
NOT TO SCALE

3 C-02 BASEPLATE INFORMATION



4A C-02 PLAN

NOT TO SCALE



L (M)	B (M)	a (M)	b (M)	Df (M)	h (M)	p (M)
6.0	6.0	2.0	2.0	0.70	2.0	0.30

4B C-02 SECTION

NOT TO SCALE

4 C-02 FOOTING DETAIL

NOT TO SCALE

ROY ANTHONY C. LUNA
ENGINEER

PTR. NO. 2860381 P.R.C. NO. 73109
ISSUED ON 01/03/2002 ISSUED AT QUEZON CITY
T.I.N. 184-025-640

THE SUPPLIER OF STEEL POLE / TOWER SHALL SUBMIT FABRICATION DRAWINGS FOR THE APPROVAL OF THE ENGINEER AND OF TRANSCO.

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL
YOO YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	R. A. LUNA
CHECKED	9/18/02	R. A. LUNA
SUBMITTED	9/20/02	TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

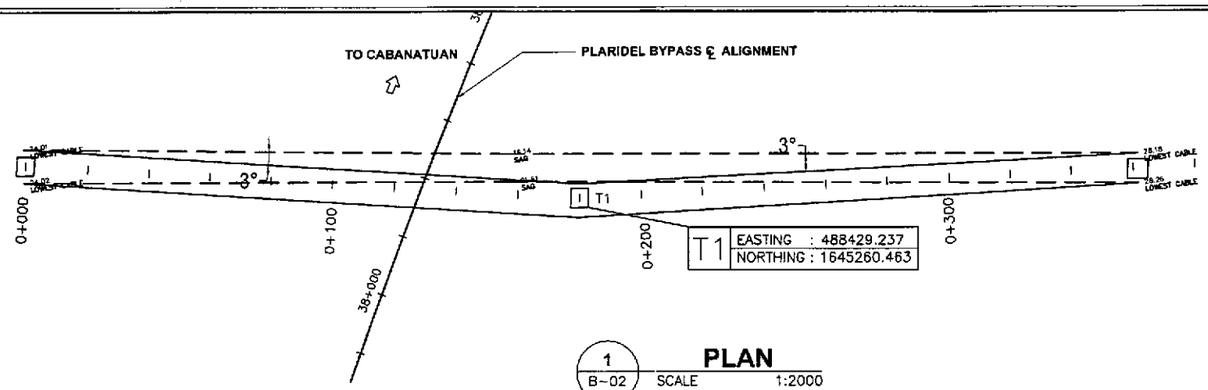
PJHL - PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	JOSEFINA M. ALAGAR	GILBERTO S. REYES	MANUEL M. BONDAN	SIMEON A. DATUMANONG
Project Director	Chief, Highways Division	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

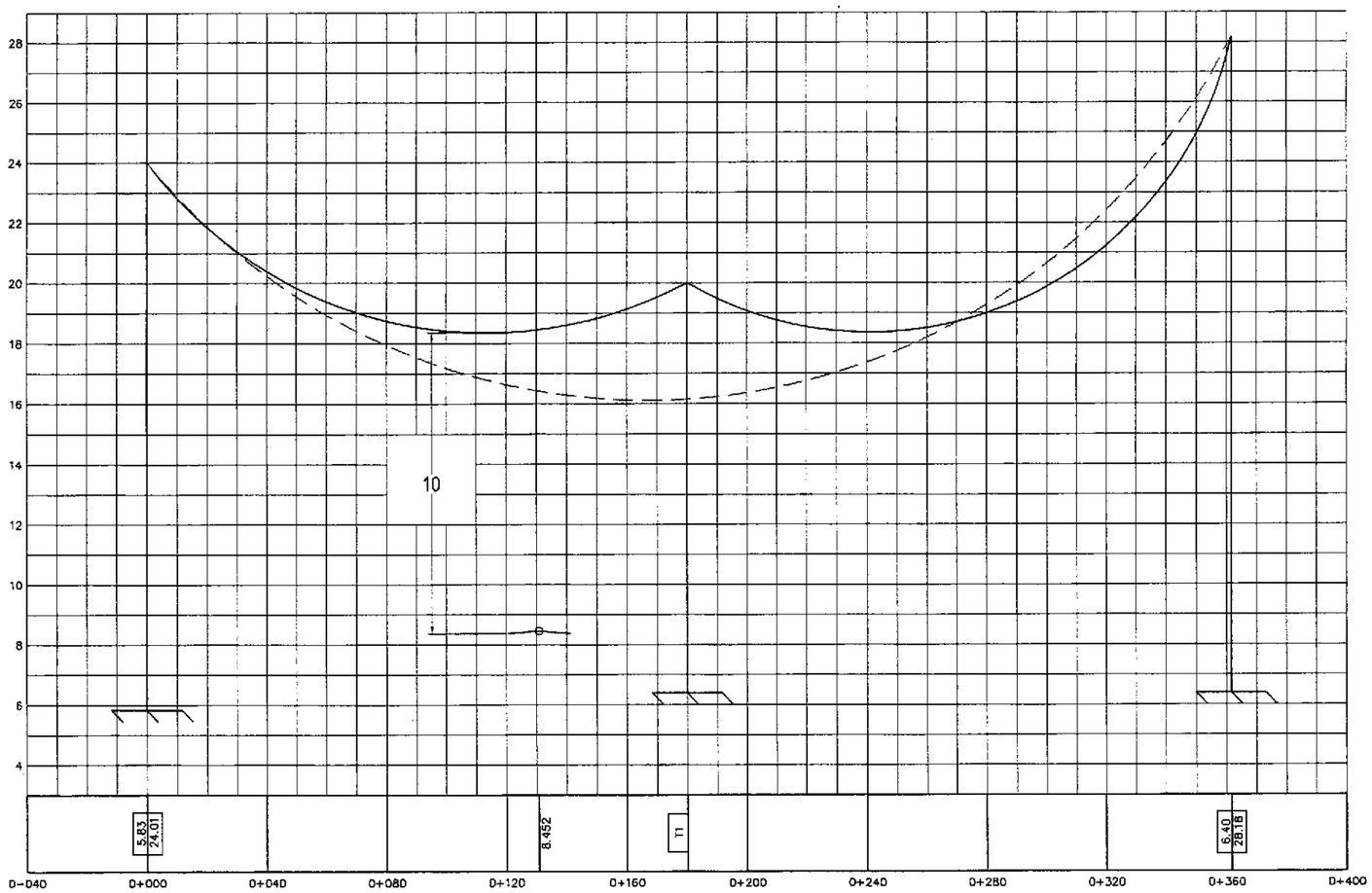
SCALE : 1:100 FULL SIZE A1

SHEET CONTENTS :
POWER TRANSMISSION LINE RELOCATION / INSTALLATION
POLE GENERAL DIMENSIONS AND FOUNDATION DETAIL

SHEET NO. : OT-03



1 / B-02 **PLAN**
SCALE 1:2000



2 / B-02 **PROFILE**
SCALE HOR.1:2000
VER. 1:200

TOWER ADDITION

◉ INVOLVES PROVIDING AN ADDITIONAL (INTERMEDIATE) STEEL TOWER TO INCREASE VERTICAL CLEARANCE AND MINIMIZE SHUTDOWN PERIOD

ROY ANTHONY C. LUNA
ENGINEER

PTR. NO. 2860381 P.R.C. NO. 73109
ISSUED ON 01/03/2002 ISSUED AT QUEZON CITY
T.I.N. 184-025-640

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEC YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	R. A. LUNA
CHECKED	9/18/02	R. A. LUNA
SUBMITTED	9/20/02	TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

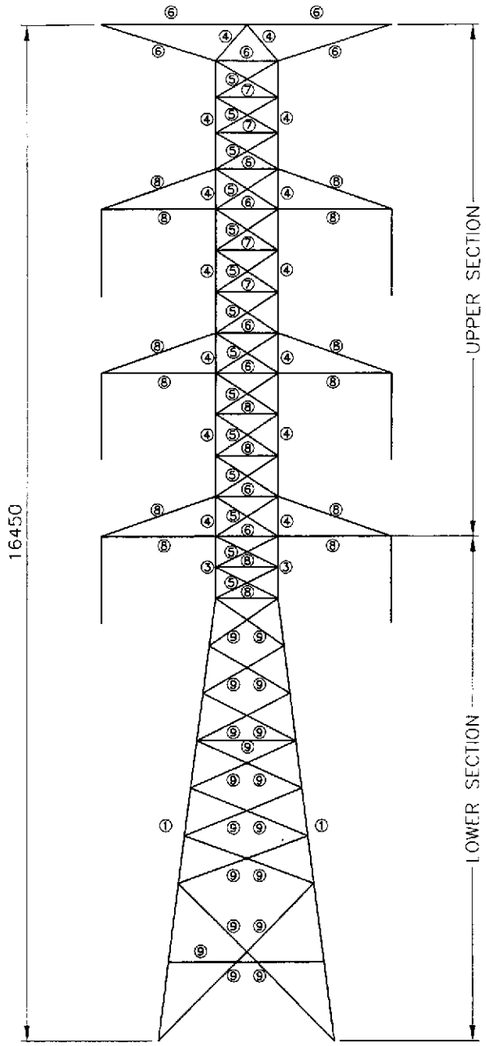
PJHL - PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	WILFREDO C. LOPEZ	GILBERTO S. REYES	MANUEL M. BONDAN	SIMEON A. DATUMANONG
Project Director	Chief, Structural Division	OIC, Director IV	Undersecretary	Secretary

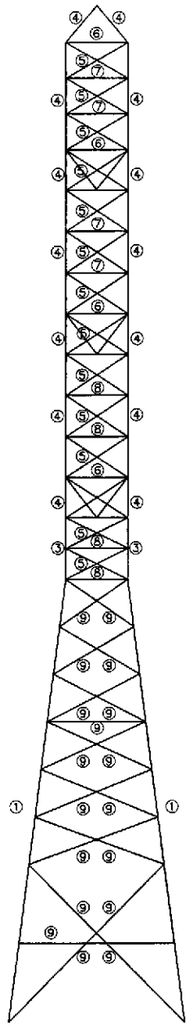
PROJECT AND LOCATION :
DETAILED DESIGN ENGINEERING ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY
PLARIDEL BYPASS - CONTRACT PACKAGE I

SCALE : AS SHOWN

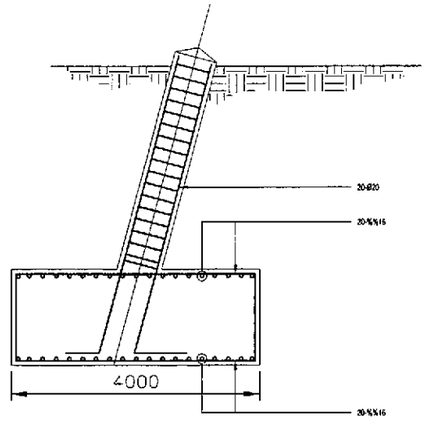
SHEET CONTENTS :
POWER TRANSMISSION LINE RELOCATION / INSTALLATION
TOWER PLAN AND PROFILE

SHEET NO. : OT-04

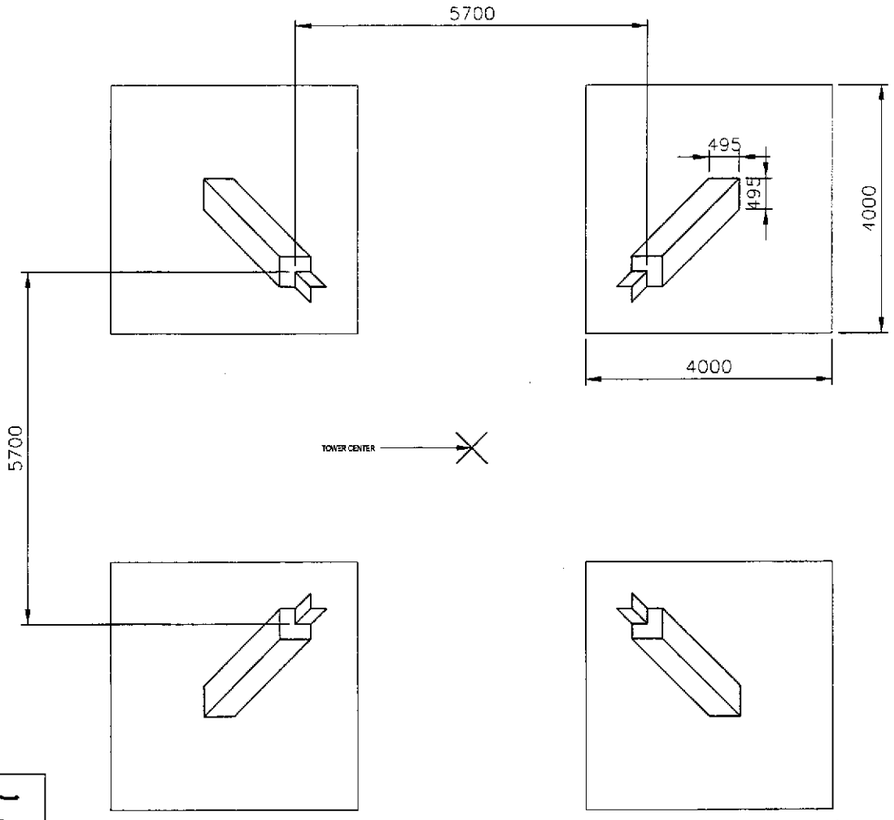




1 C-03 **TOWER GENERAL DIMENSIONS**
SCALE 1:100



2 C-03 **COLUMN FOOTING REINF. DETAILS**
SCALE 1:100



3 C-02 **TOWER FOUNDATION PLAN**
SCALE 1:100

THE SUPPLIER OF STEEL POLE / TOWER SHALL SUBMIT FABRICATION DRAWINGS FOR THE APPROVAL OF THE ENGINEER AND OF TRANSCO.

ROY ANTHONY C. LUNA
ENGINEER

PTR. NO. 2860381 P.R.C. NO. 73109
ISSUED ON 01/03/2002 ISSUED AT QUEZON CITY
T.I.N. 184-025-640

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEC YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	R. A. LUNA
CHECKED	9/18/02	R. A. LUNA
SUBMITTED	9/20/02	TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

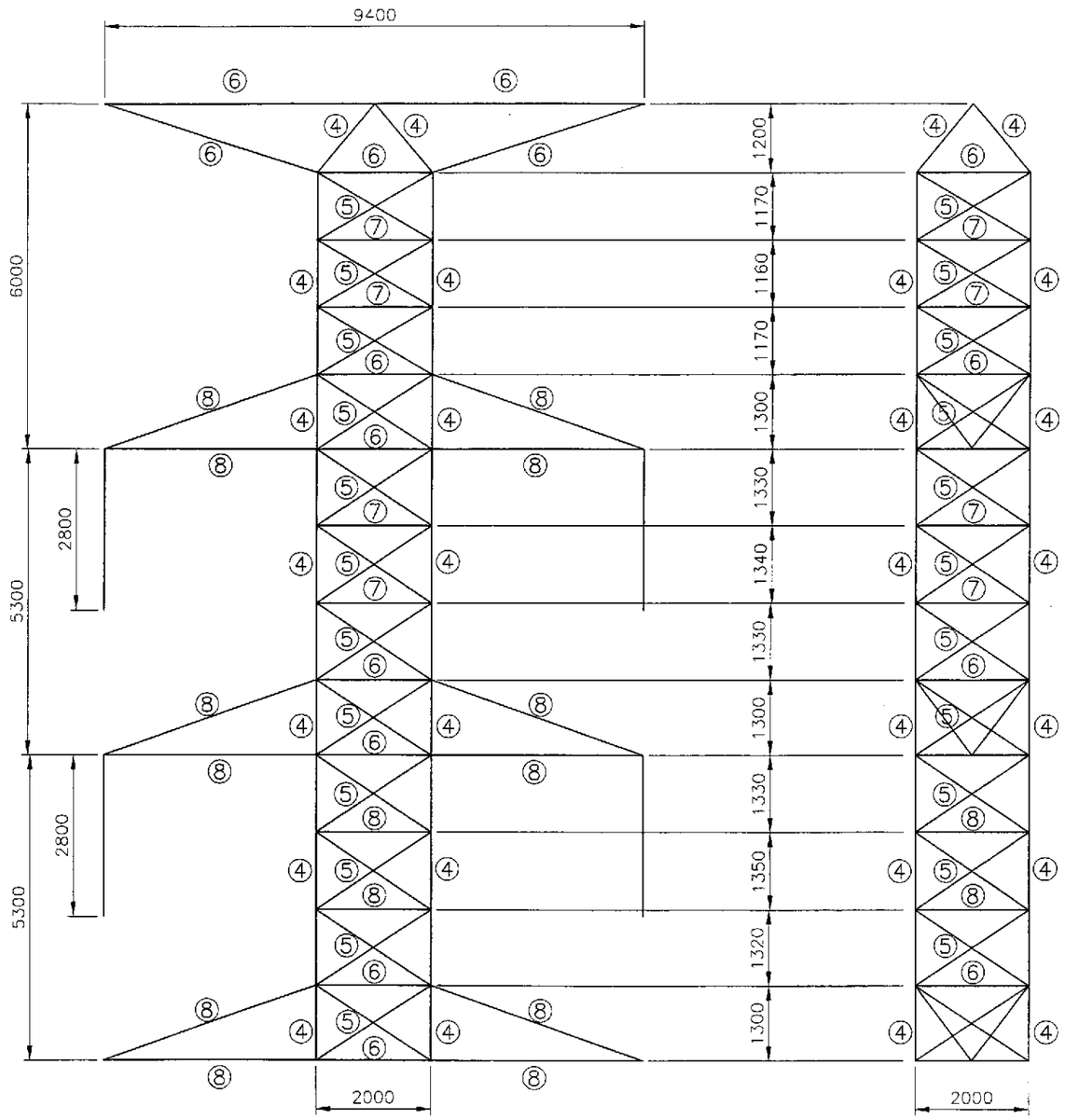
PJHL – PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	JOSEFINA M. ALAGAR	GILBERTO S. REYES	MANUEL M. BONOAN	SIMEON A. DATUMANONG
Project Director	Chief, Highways Division	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

SCALE : 1:100 FULL SIZE A1

SHEET CONTENTS :
POWER TRANSMISSION LINE RELOCATION / INSTALLATION
TOWER GENERAL DIMENSIONS
COLUMN FOOTING REINF. DETAILS
TOWER FOUNDATION PLAN

SHEET NO. : OT-05



1 / C-04 **TOWER GENERAL DIMENSIONS**
SCALE 1:100

GROUP LABEL	SECTION PROPERTY	MATERIAL TYPE	TYPE	BOLTS NO.	NO. OF ROWS
1	13 x 13 x 1.0 CM	A572-50	A394-D	20	2
2	12 x 12 x 1.0 CM	A572-50	A394-D	20	2
3	12 x 12 x 1.0 CM	A572-50	A394-D	20	2
4	12 x 12 x 1.0 CM	A572-50	A394-D	18	2
5	6.5 x 6.5 x 0.6 CM	A36	A394-D	4	1
6	7.0 x 7.0 x 0.6 CM	A36	A394-D	4	1
7	5.0 x 5.0 x 0.5 CM	A36	A394-D	4	1
8	7.5 x 7.5 x 0.6 CM	A572-50	A394-D	4	1
9	7.5 x 7.5 x 0.5 CM	A572-50	A394-D	4	1

2 / C-04 **SECTION PROPERTIES**
SCALE 1:100

ROY ANTHONY C. LUNA
ENGINEER

PTR. NO. 2860381 P.R.C. NO. 73109
ISSUED ON 01/03/2002 ISSUED AT QUEZON CITY
T.I.N. 184-025-640

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KATAHIRA & ENGINEERS INTERNATIONAL
YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	R. A. LUNA
CHECKED	9/18/02	R. A. LUNA
SUBMITTED	9/20/02	TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

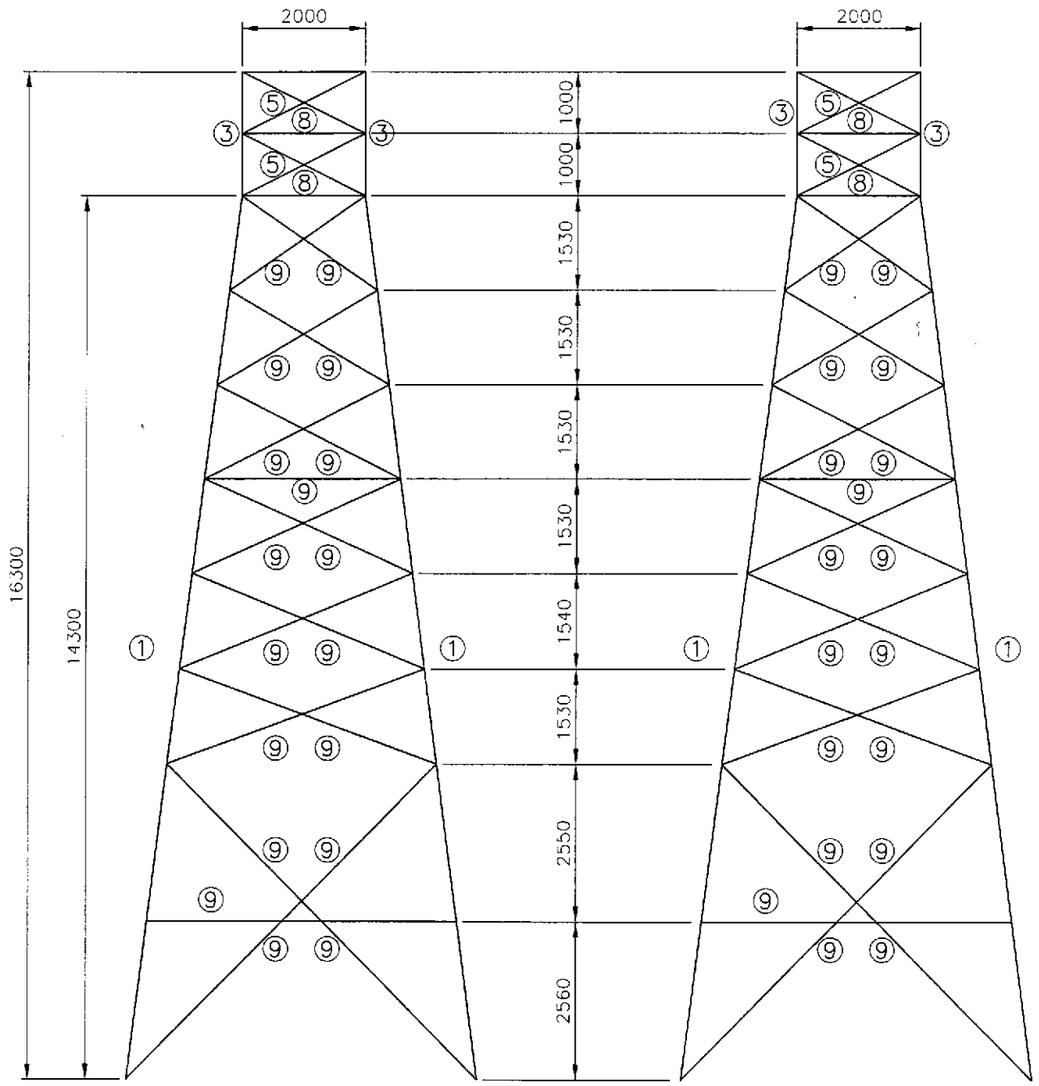
PJHL – PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	JOSEFINA M. ALAGAR	GILBERTO S. REYES	MANUEL M. BONOAN	SIMEON A. DATUMANONG
Project Director	Chief, Highways Division	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

SCALE : 1:100 FULL SIZE A1

SHEET CONTENTS :
POWER TRANSMISSION LINE RELOCATION / INSTALLATION
TOWER GENERAL DIMENSIONS
(UPPER SECTION)

SHEET NO. : OT-06



1 / C-05 **TOWER GENERAL DIMENSIONS**

SCALE 1:100

GROUP LABEL	SECTION PROPERTY	MATERIAL TYPE	TYPE	BOLTS NO.	NO. OF ROWS
1	13 x 13 x 1.0 CM	A572-50	A394-D	20	2
2	12 x 12 x 1.0 CM	A572-50	A394-D	20	2
3	12 x 12 x 1.0 CM	A572-50	A394-D	20	2
4	12 x 12 x 1.0 CM	A572-50	A394-D	18	2
5	6.5 x 6.5 x 0.6 CM	A36	A394-D	4	1
6	7.0 x 7.0 x 0.6 CM	A36	A394-D	4	1
7	5.0 x 5.0 x 0.5 CM	A36	A394-D	4	1
8	7.5 x 7.5 x 0.6 CM	A572-50	A394-D	4	1
9	7.5 x 7.5 x 0.5 CM	A572-50	A394-D	4	1

1 / C-05 **SECTION PROPERTIES**

SCALE 1:100

ROY ANTHONY C. LUNA
ENGINEER

PTR. NO. 2860381 P.R.C. NO. 73109
ISSUED ON 01/03/2002 ISSUED AT QUEZON CITY
T.I.N. 184-025-640

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KEI KATAHIRA & ENGINEERS INTERNATIONAL
yec YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/10/02	R. A. LUNA
CHECKED	9/12/02	R. A. LUNA
SUBMITTED	9/20/02	TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

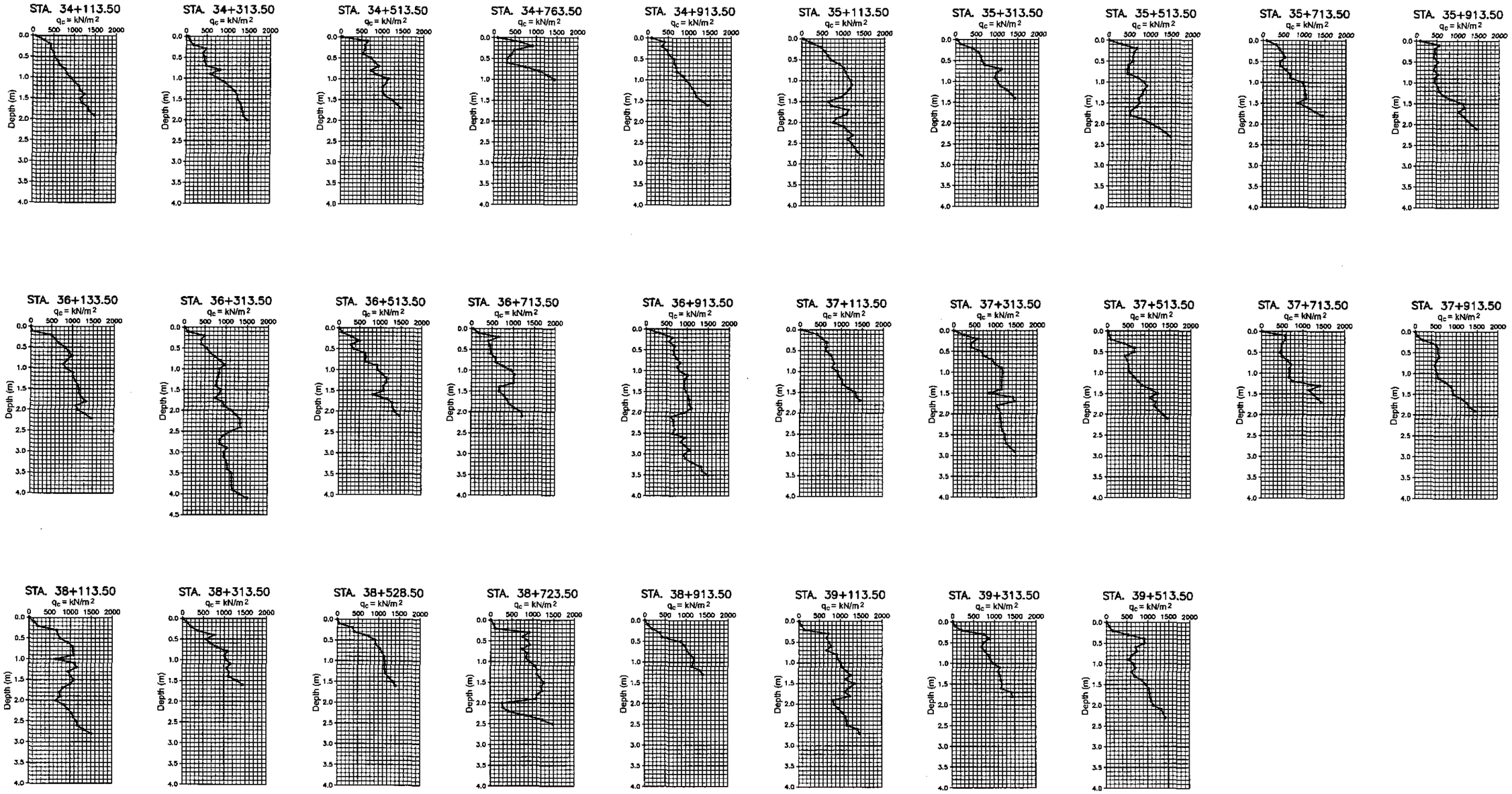
PJHL – PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO	JOSEFINA M. ALAGAR	GILBERTO S. REYES	MANUEL M. BONOAN	SIMEON A. DATUMANONG
Project Director	Chief, Highways Division	OIC, Director IV	Undersecretary	Secretary

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)
PLARIDEL BYPASS - CONTRACT PACKAGE I

SCALE : 1:100 FULL SIZE A1

SHEET CONTENTS :
POWER TRANSMISSION LINE RELOCATION / INSTALLATION
TOWER GENERAL DIMENSIONS
(LOWER SECTION)

SHEET NO. : OT-07



1 / DC-01 GEOTECHNICAL SURVEY - PORTABLE CONE PENETRATION TEST (CPT)

NOT TO SCALE

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY

KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEC YACHIYO ENGINEERING CO., LTD.

	DATE	SIGNATURE
DESIGNED	9/16/02	S. Dose / S. DOSE
CHECKED	9/18/02	S. Dose / S. DOSE
SUBMITTED	9/20/02	M. Fujiwara / M. FUJIWARA, TEAM LEADER

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

PJHL – PMO	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for Signature)	Approved By: (See cover sheet for Signature/Approval)
DANILO C. TRAJANO, Project Director	JOSEFINA M. ALAGAR, Chief, Highways Division	GILBERTO S. REYES, OIC, Director IV	MANUEL M. BONDAN, Undersecretary	SIMEON A. DATUMANONG, Secretary

PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) PLARIDEL BYPASS - CONTRACT PACKAGE I	NOT TO SCALE FULL SIZE A1	PORTABLE CONE PENETRATION TEST (CPT) PROFILE ALONG BYPASS STA. 34+113.50 - STA. 39+513.50	OC-01