



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BUREAU OF DESIGN
BRIDGES DIVISION
MANILA

PLAN FOR STANDARD BRIDGES CONSIDERING BRIDGE AESTHETICS

BOD SET NO. 2019-8 BrD

SUBMITTED:


BLESILDA S. RAMOS
OIC - CHIEF, BRIDGES DIVISION

DATE:

RECOMMENDING APPROVAL:


ARISTARCO M. DOROY
OFFICER-IN-CHARGE, BUREAU OF DESIGN

DATE: **DEC 19 2019**

APPROVED:


EMIL K. SADAIN, CESO I
UNDERSECRETARY FOR UPMO
OPERATION AND TECHNICAL SERVICES

DATE:

GENERAL NOTES:

1. UNLESS OTHERWISE INDICATED, ALL DIMENSIONS AND MEMBER SIZES ARE IN MILLIMETERS.
2. ALL EDGES OF PROPOSED PIER DESIGN AND COPING SHALL BE CHAMFERED AND SHALL HAVE MINIMUM DIMENSION OF 25mm UNLESS SHOWN OTHERWISE ON DRAWINGS.
3. THE FOLLOWING ARE THE RECOMMENDED LOCATION / SETTING OF PROPOSED PIER DESIGN WITHIN THESE PLANS:

(a) Pier Design 1 - Rural or Urbanized Areas

(b) Pier Design 2 - Urbanized Areas

(c) Pier Design 3 - Urbanized Areas

(d) Pier Design 4 - Rural or Urbanized Areas

(e) Pier Design 5 - Historical Areas (Neoclassical)

(f) Pier Design 6 - Rural or Urbanized Areas

(g) Pier Design 7 - Highly Urbanized Areas

(h) Pier Design 8 - Highly Urbanized Areas
4. OFF-FORM CONCRETE FINISHED, CONCRETE PROTECTION AND OTHER CEMENT FINISHES ARE HIGHLY RECOMMENDED FOR THE PROPOSED STRUCTURES WITHIN THESE PLANS. THE USE OF PAINT AND GRAFFITI ART ARE INADVISABLE.
5. ANY MODIFICATION IN THE DESIGN SHALL BE REVIEWED AND APPROVED BY AN ARCHITECT.
6. FOR THE STRUCTURAL INTEGRITY OF THE PROPOSED PIER DESIGN, ALL STRUCTURAL MATTERS SHALL BE DESIGNED BY A STRUCTURAL ENGINEER.

ABBREVIATIONS

- L_t

TOTAL BRIDGE LENGTH
- L_s

SPAN LENGTH
- W

PIER WIDTH
- D_t

TOP OF RAILING TO GIRDER SOFFIT
- D_g

TOP OF SIDEWALK TO GIRDER SOFFIT
- D_r

TOP OF RAILING TO TOP OF SIDEWALK
- H_p

PIER HEIGHT

• If pile cap is below natural grade line (NGL)

Hp = top of coping to NGL

• If pile cap is above natural grade line (NGL)

Hp = top of coping to bottom of column
- H_g

BOTTOM OF COPING TO NGL
- B_c

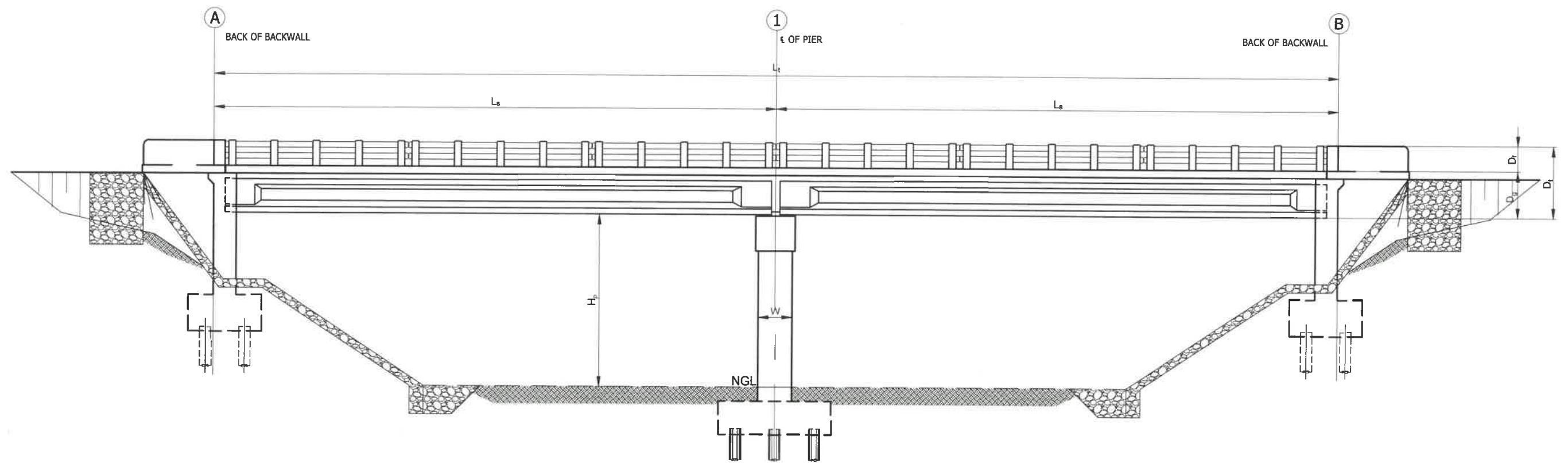
TOTAL COPING LENGTH
- Z

COPING DEPTH

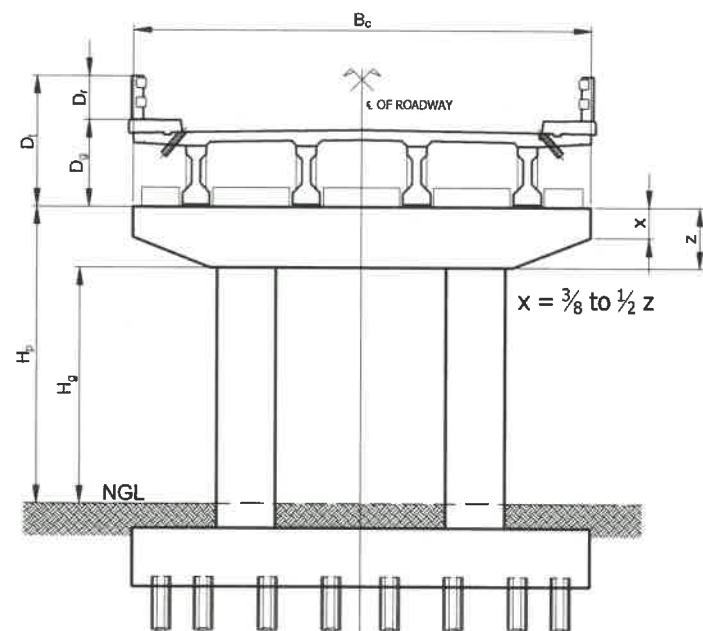
GENERAL INDEX OF DRAWING		
SHEET CONTENT	DRAWING NO.	
	SET NO.	SHEET NO.
BRIDGE PROPORTIONING	BOD 2019-8 BrD	
GENERAL ELEVATION, TRANVERSE SECTION (NOMENCLATURE) AND RECOMMENDED PROPORTION FOR PCDG BRIDGE		BA-1 - 1/1
RECOMMENDED PIER DESIGN		
PIER DESIGN 1		BA-2 - 1/8
PIER DESIGN 2		BA-2 - 2/8
PIER DESIGN 3		BA-2 - 3/8
PIER DESIGN 4		BA-2 - 4/8
PIER DESIGN 5		BA-2 - 5/8
PIER DESIGN 6		BA-2 - 6/8
PIER DESIGN 7		BA-2 - 7/8
PIER DESIGN 8		BA-2 - 8/8

REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN BRIDGES DIVISION BONIFACIO DRIVE PORT AREA, MANILA	SHEET TITLE: PLAN FOR STANDARD BRIDGES CONSIDERING BRIDGE AESTHETICS	SHEET CONTENTS: GENERAL INDEX OF DRAWING	DESIGNED: MARK ROBERT B. MANONGSONG CHECKED: MARIANO S. FLORES DRAWN: MARK ROBERT B. MANONGSONG	SUBMITTED: BLESILDA S. RAMOS OIC-CHIEF, BRIDGES DIVISION	RECOMMENDING APPROVAL: ARISTARCO M. DOROY OFFICER-IN-CHARGE, BUREAU OF DESIGN	APPROVED: EMIL K. SADAIN, CESO I UNDERSECRETARY FOR UPMO OPERATION AND TECHNICAL SERVICES	SET NO. BOD 2019-8 BrD	SHEET NO. 1 1
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BRIDGE PROPORTIONING



1 GENERAL ELEVATION (NOMENCLATURE)
1 BA-1 SCALE 1:75

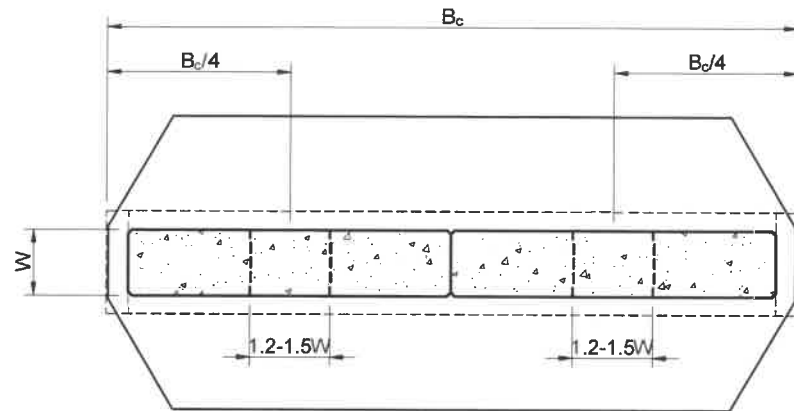


2 TRANSVERSE SECTION (NOMENCLATURE)
1 BA-1 SCALE 1:75

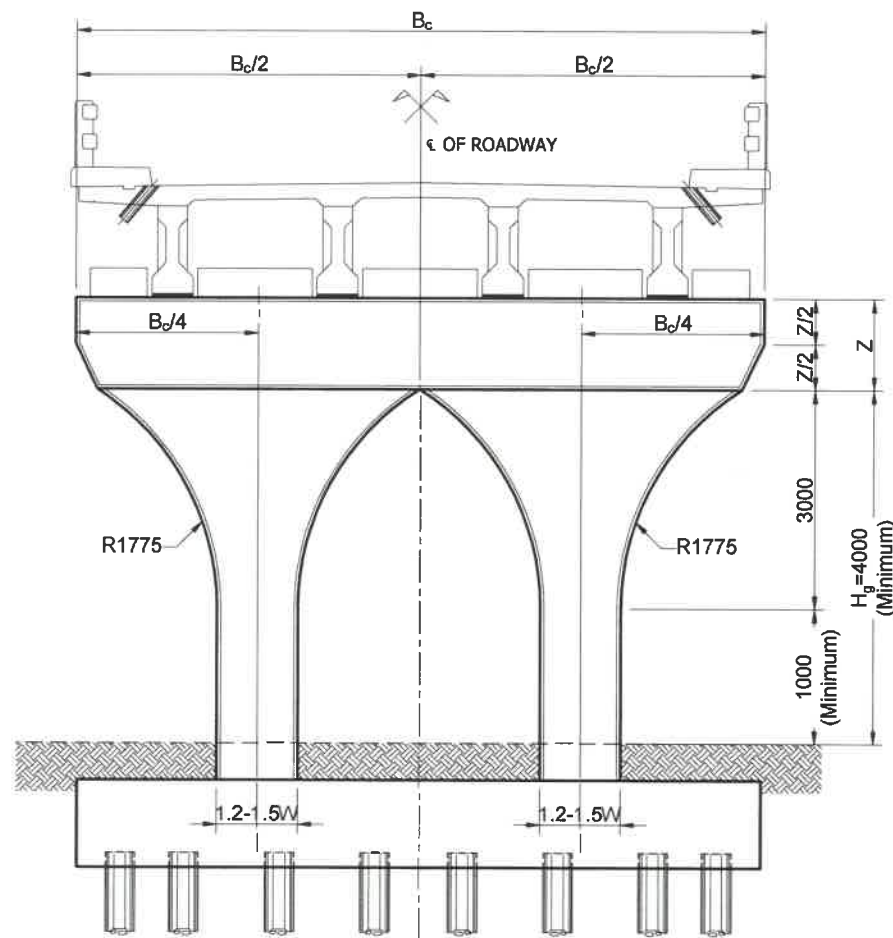
Recommended Proportion for Superstructure Depth (D_g),
Pier Width (W) and Span Length (L_s) for PCDG Bridge

Bridge Span Length (L _s) (m)		Superstructure Depth (D _g) (m)		Pier Width (W) (m)	
		Min.	Max.	Min.	Max.
PCDG	25.00	1.25	1.70	0.80	1.10
	30.00	1.50	2.00	1.00	1.30
	35.00	1.75	2.35	1.20	1.60
	40.00	2.00	2.70	1.30	1.80

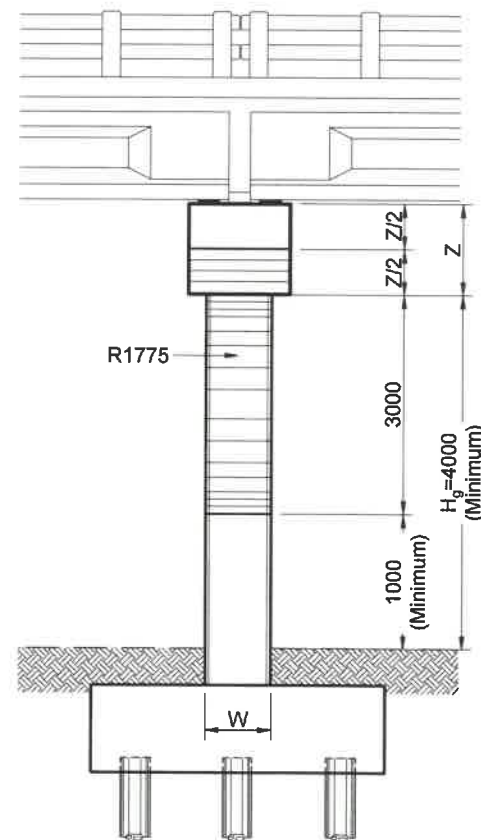
RECOMMENDED PIER DESIGN



PLAN



ELEVATION 1



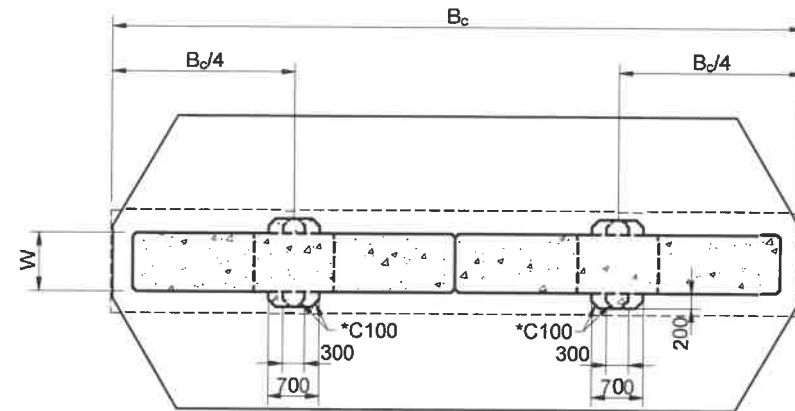
ELEVATION 2



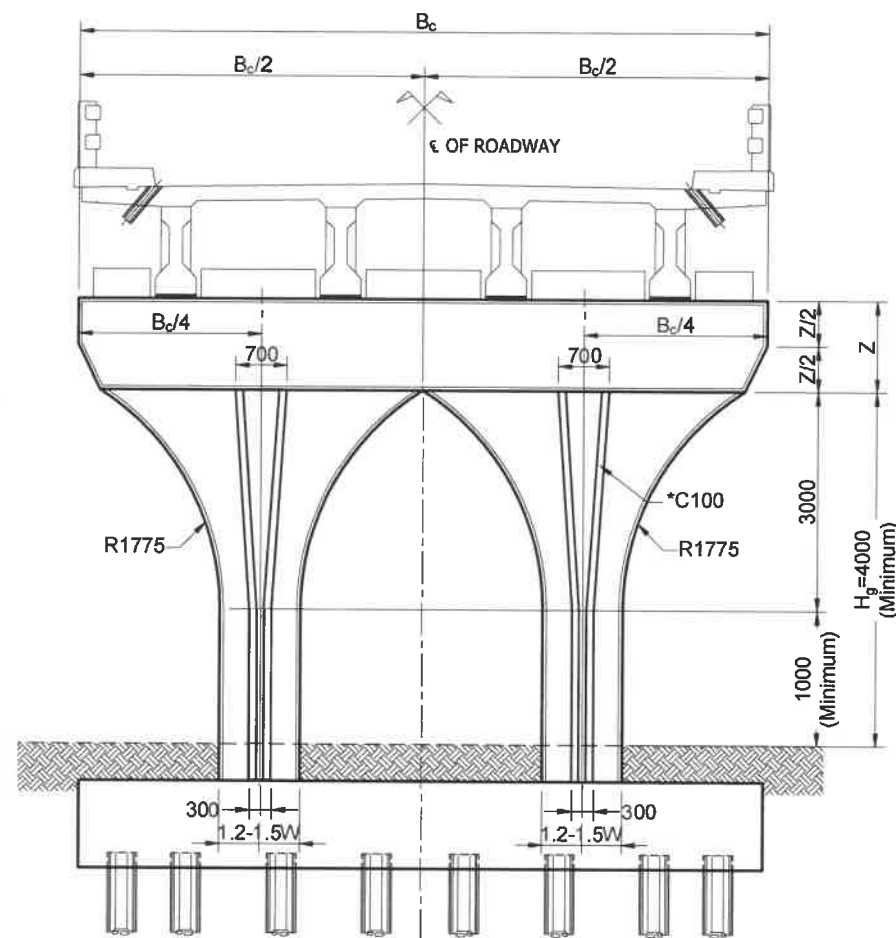
PERSPECTIVE

1 PIER DESIGN 1
1 BA-2 SCALE 1:50

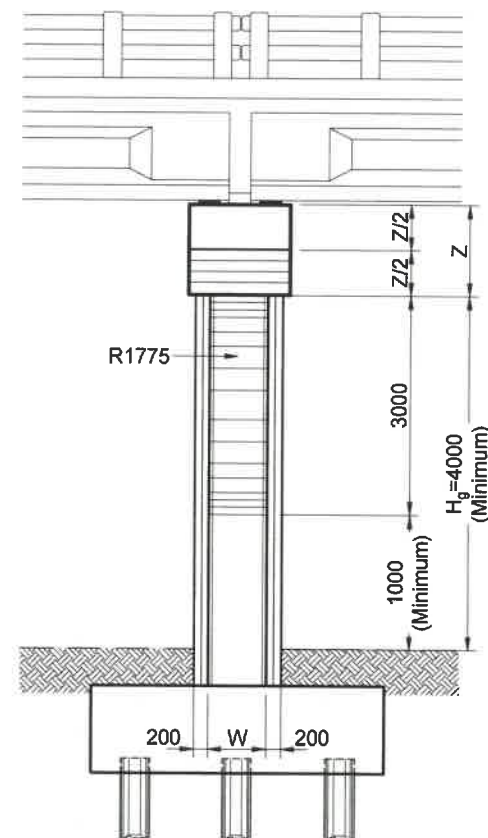
REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN BRIDGES DIVISION BONIFACIO DRIVE PORT AREA, MANILA	SHEET TITLE: RECOMMENDED PIER DESIGN	SHEET CONTENTS: PIER DESIGN 1	DESIGNED: MARK ROBERT S. MANONGSONG CHECKED: ANA KATRINA V. CARLOTA DRAWN: MARIANO S. FLORES MARK ROBERT S. MANONGSONG	SUBMITTED: <i>planned</i> BLESILDA S. RAMOS OIC-CHIEF, BRIDGES DIVISION	RECOMMENDING APPROVAL: SEE COVER SHEET ARISTARCO M. DOROY OFFICER-IN-CHARGE, BUREAU OF DESIGN	APPROVED: SEE COVER SHEET EMIL K. SADAIN, CESO I UNDERSECRETARY FOR UPMO OPERATION AND TECHNICAL SERVICES	SET NO. BOD 2019-8 BrD	SHEET NO. BA-2 1 8
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PLAN



ELEVATION 1



ELEVATION 2

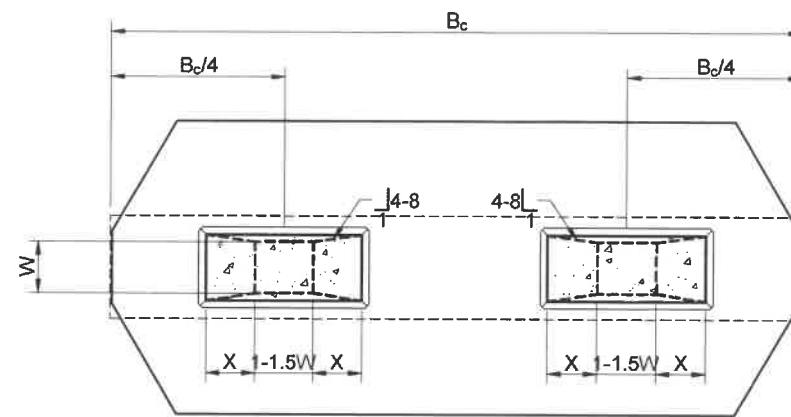


PERSPECTIVE

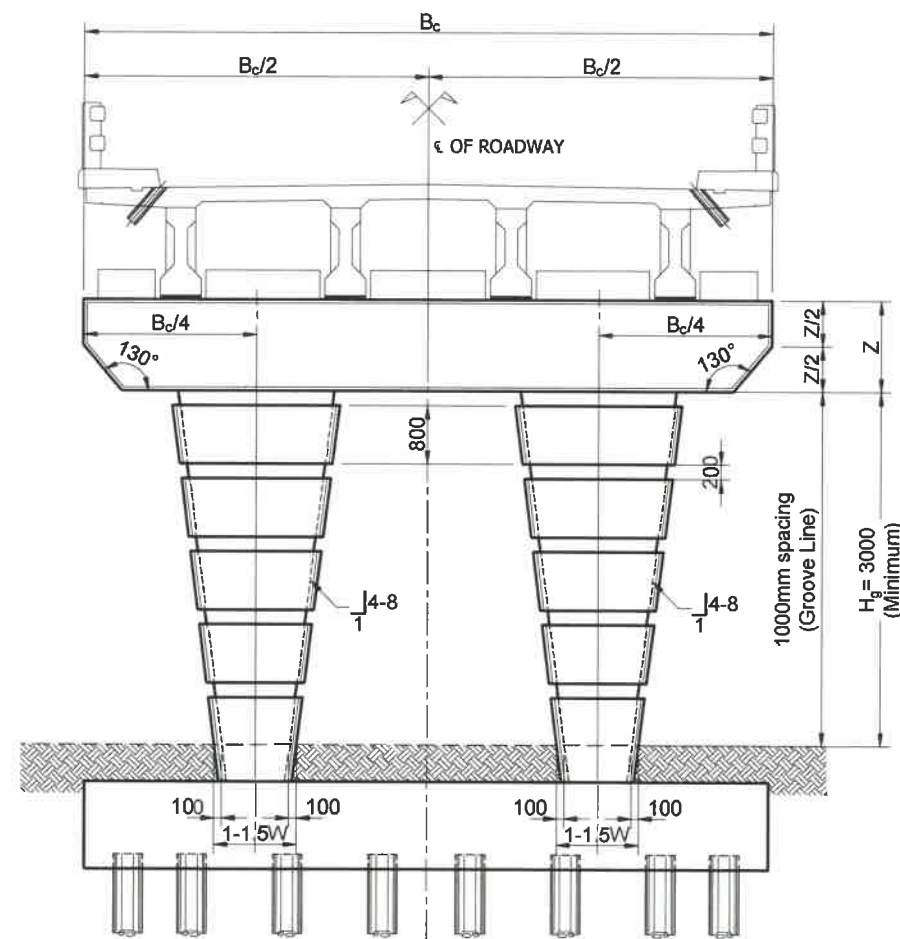
*C = Chamfer- 45° degree slope or angled corner

1 PIER DESIGN 2
2 BA-2 SCALE 1:50

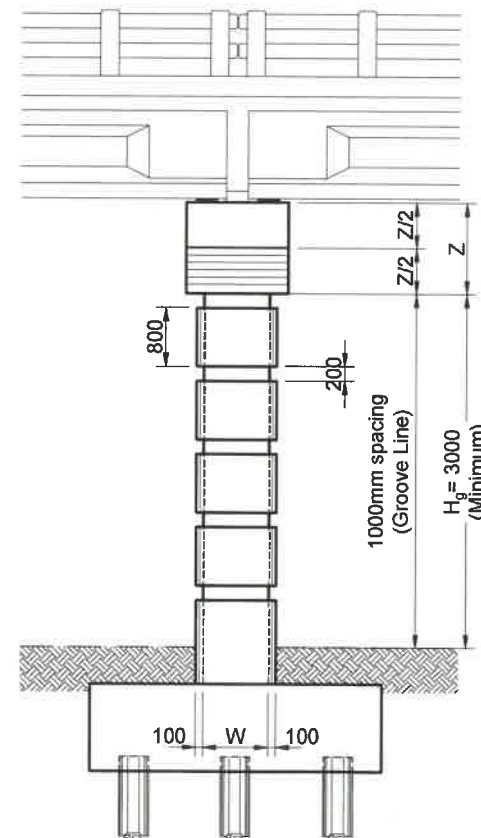
REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN BRIDGES DIVISION BONIFACIO DRIVE PORT ARSA, MANILA	SHEET TITLE: RECOMMENDED PIER DESIGN	SHEET CONTENTS: PIER DESIGN 2	DESIGNED: MARK ROBERT B. MANONGSONG CHECKED: MARIANO S. FLORES DRAWN: MARK ROBERT B. MANONGSONG	SUBMITTED: BLESILDA S. RAMOS OIC-CHIEF, BRIDGES DIVISION	RECOMMENDING APPROVAL: ARISTARCO M. DOROY OFFICER-IN-CHARGE, BUREAU OF DESIGN	APPROVED: EMIL K. SADAIN, CESO I UNDERSECRETARY FOR UPMO OPERATION AND TECHNICAL SERVICES	SET NO. BOD 2019-8 BrD	SHEET NO. BA-2 2 8
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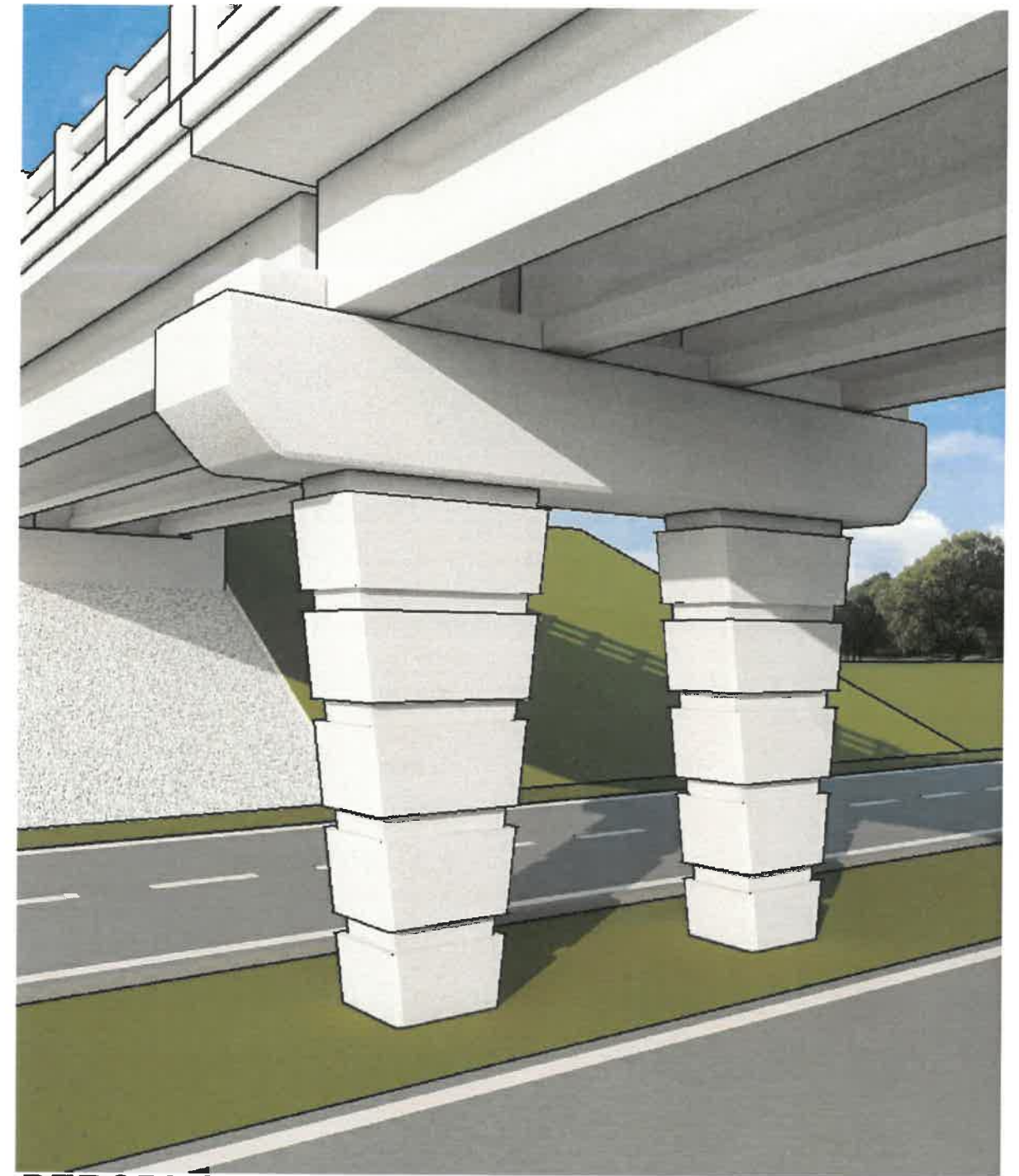
PLAN



ELEVATION 1



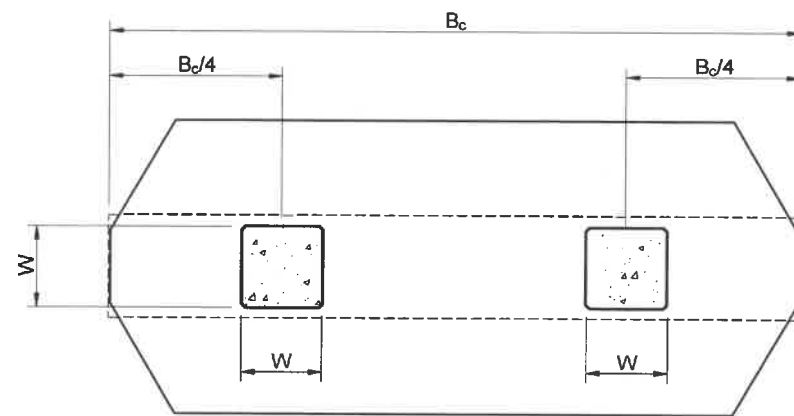
ELEVATION 2



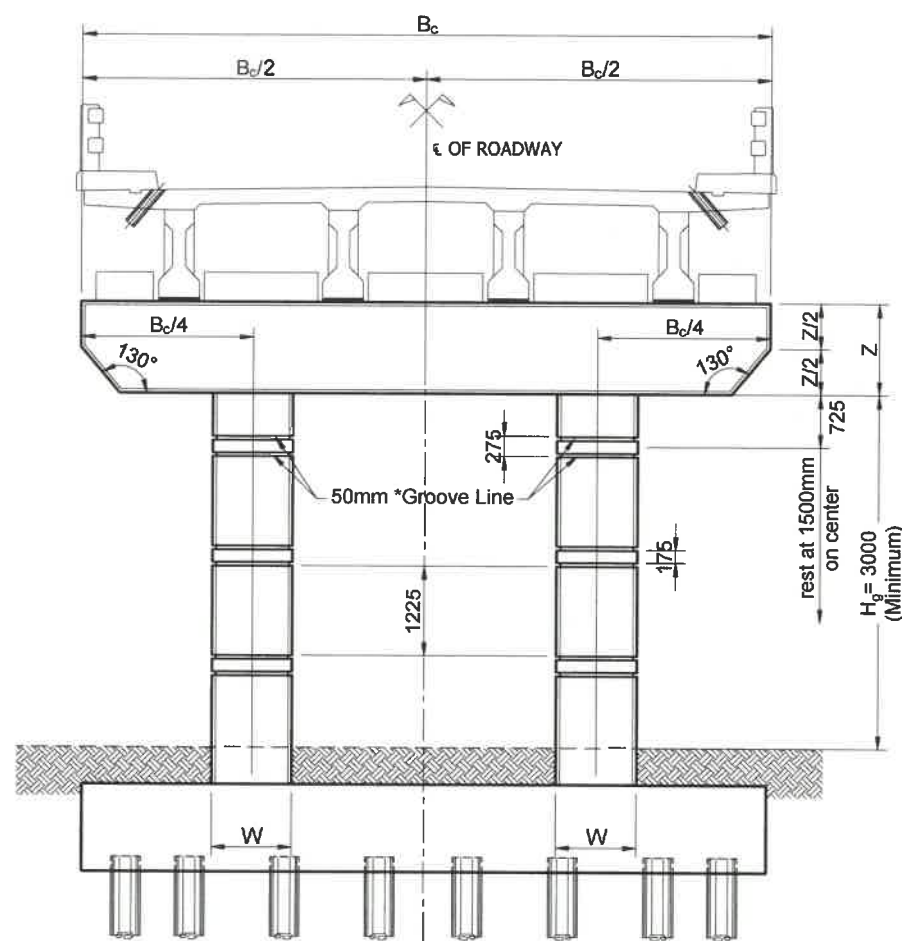
PERSPECTIVE

1 PIER DESIGN 3
3 BA-2 SCALE 1:50

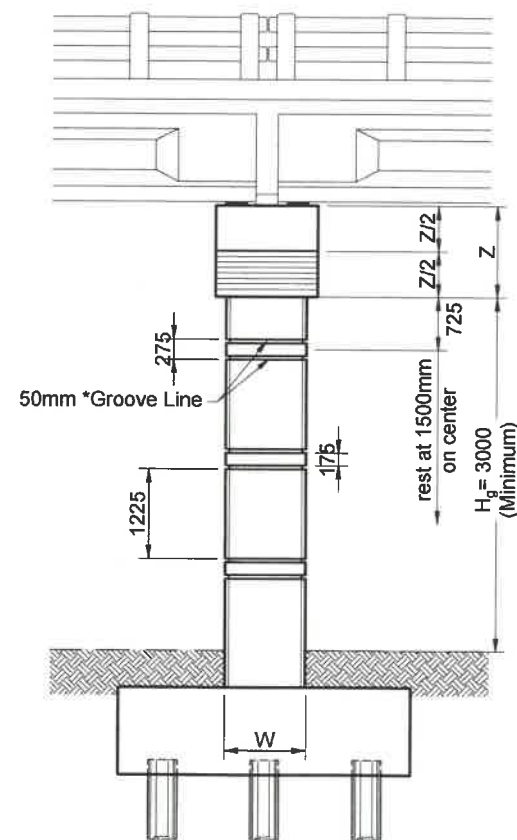
REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN BRIDGES DIVISION BONIFACIO DRIVE PORT AREA, MANILA	SHEET TITLE: RECOMMENDED PIER DESIGN	SHEET CONTENTS: PIER DESIGN 3	DESIGNED: MARK ROBERT B. MANONGSONG CHECKED: MARIANO S. FLORES DRAWN: MARK ROBERT B. MANONGSONG	SUBMITTED: BLESILDA S. RAMOS OIC-CHIEF, BRIDGES DIVISION	RECOMMENDING APPROVAL: SEE COVER SHEET ARISTARCO M. DOROY OFFICER-IN-CHARGE, BUREAU OF DESIGN	APPROVED: SEE COVER SHEET EMIL K. SADAIN, CESO I UNDERSECRETARY FOR UPMO OPERATION AND TECHNICAL SERVICES	SET NO. BOD 2019-8 BrD	SHEET NO. BA-2 3 8
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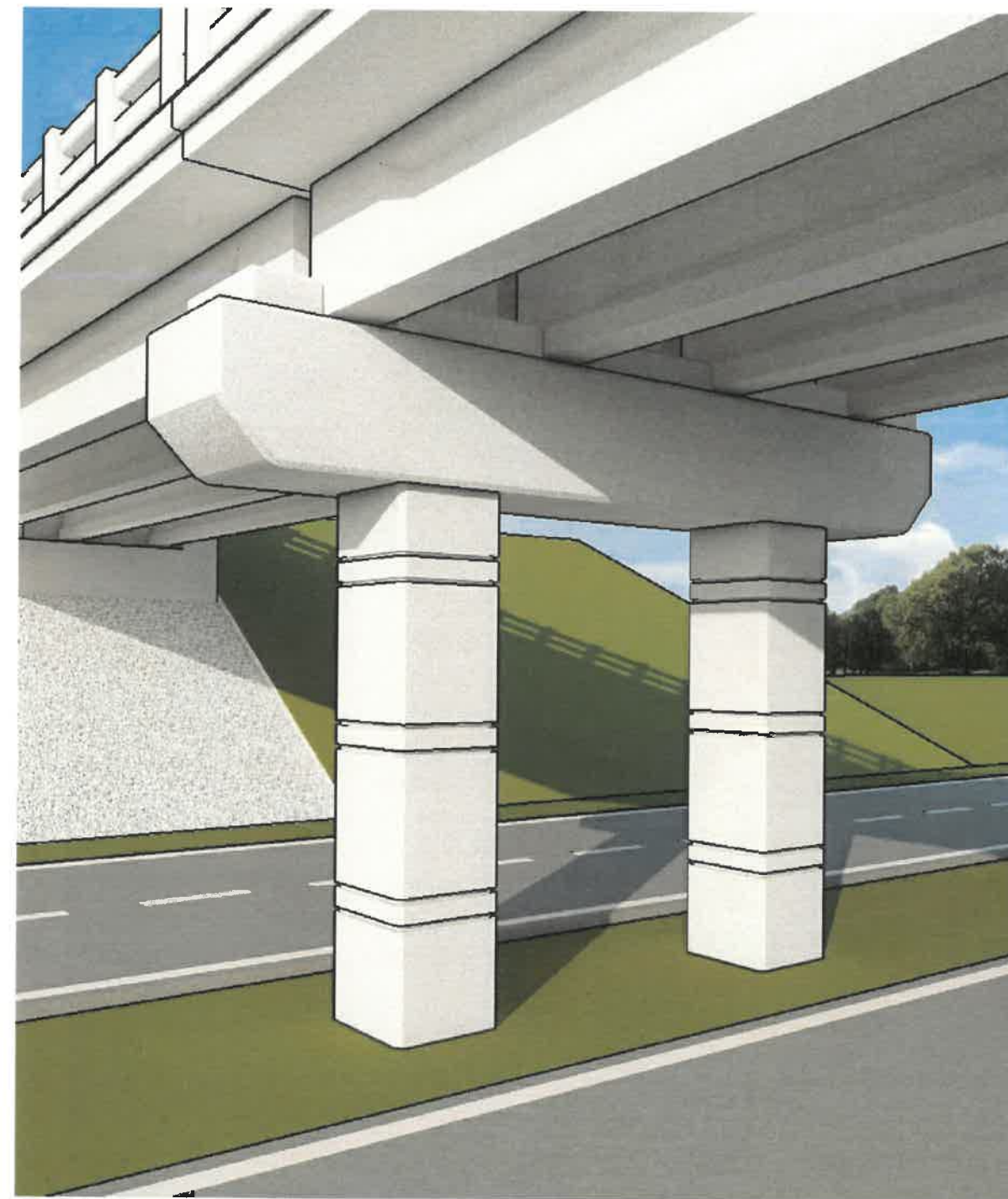
PLAN



ELEVATION 1



ELEVATION 2



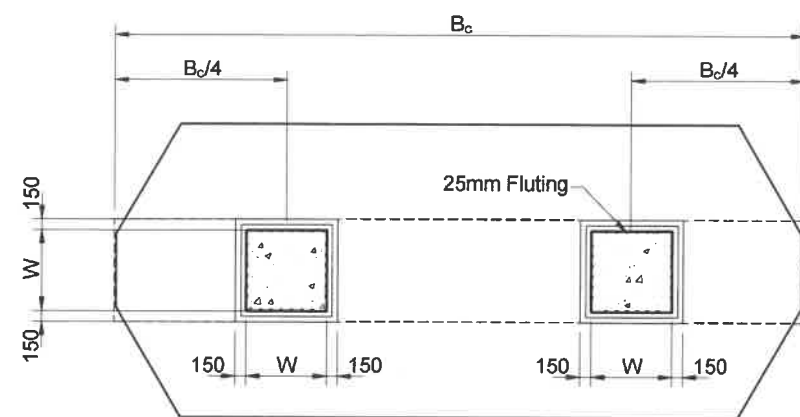
PERSPECTIVE

*Groove - a long, narrow, hollow space cut into a surface

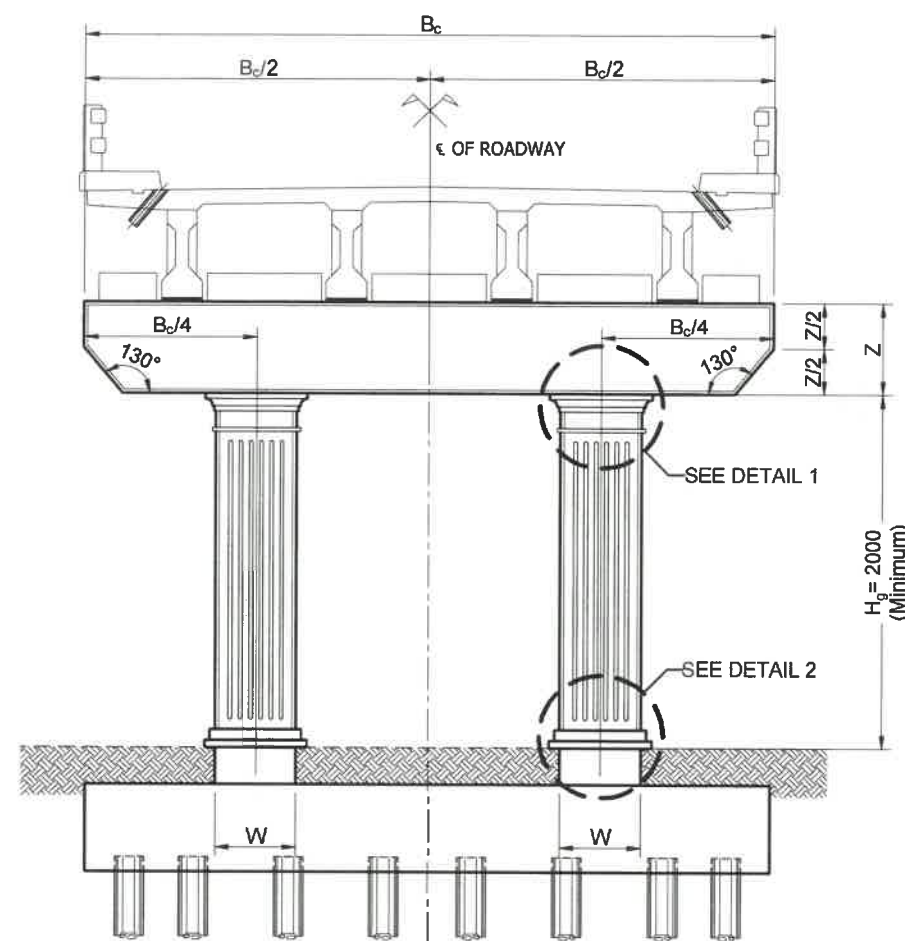
1
4 BA-2 SCALE 1:50

PIER DESIGN 4

REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN BRIDGES DIVISION BONIFACIO DRIVE PORT AREA, MANILA	SHEET TITLE: RECOMMENDED PIER DESIGN	SHEET CONTENTS: PIER DESIGN 4	DESIGNED: MARK ROBERT B. MANONGSONG CHECKED: MARIANO S. FLORES DRAWN: MARK ROBERT B. MANONGSONG	SUBMITTED: BLESILDA S. RAMOS OIC-CHIEF, BRIDGES DIVISION	RECOMMENDING APPROVAL: ARISTARCO M. DOROY OFFICER-IN-CHARGE, BUREAU OF DESIGN	APPROVED: EMIL K. SADAIN, CESO I UNDERSECRETARY FOR UPMO OPERATION AND TECHNICAL SERVICES	SET NO. BOD 2019-8 BrD	SHEET NO. BA-2 4 8
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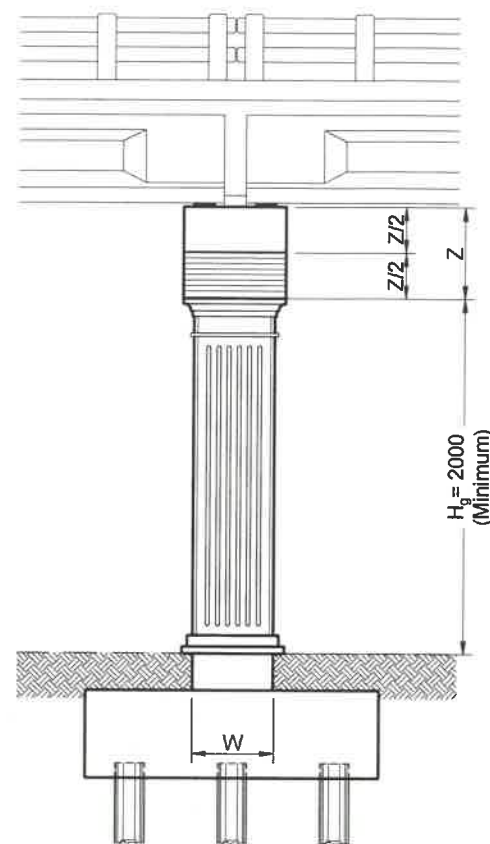
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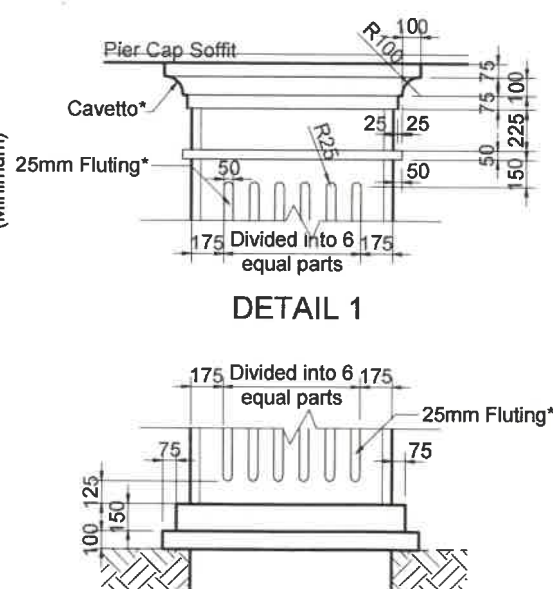
ELEVATION 1

*Cavetto - concave molding with a profile approximately a quarter-circle, quarter-ellipse, or similar curve.

*Fluting - a regular series of (vertical) concave grooves or convex ridges



ELEVATION 2



DETAIL 1

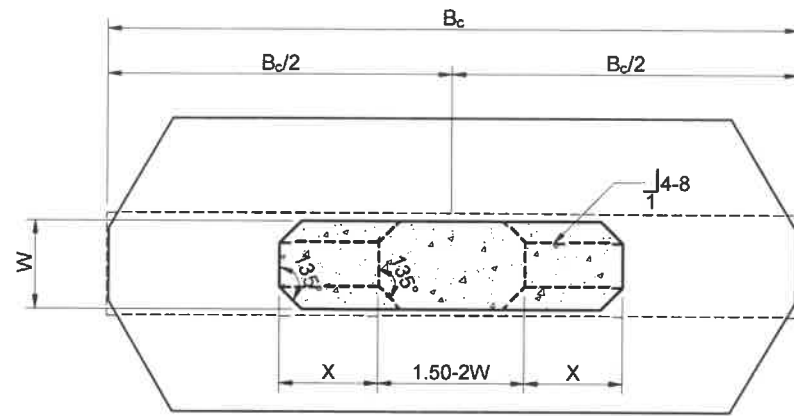
DETAIL 2



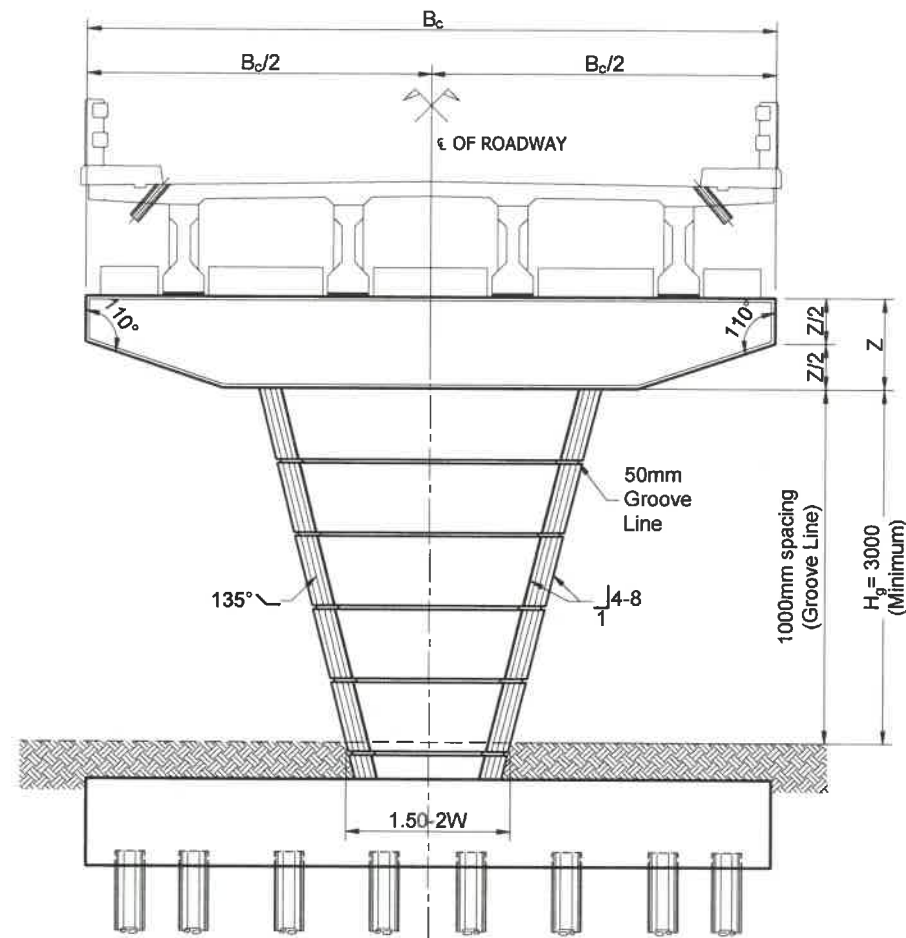
PERSPECTIVE

1 PIER DESIGN 5
5 BA-2 SCALE 1:50

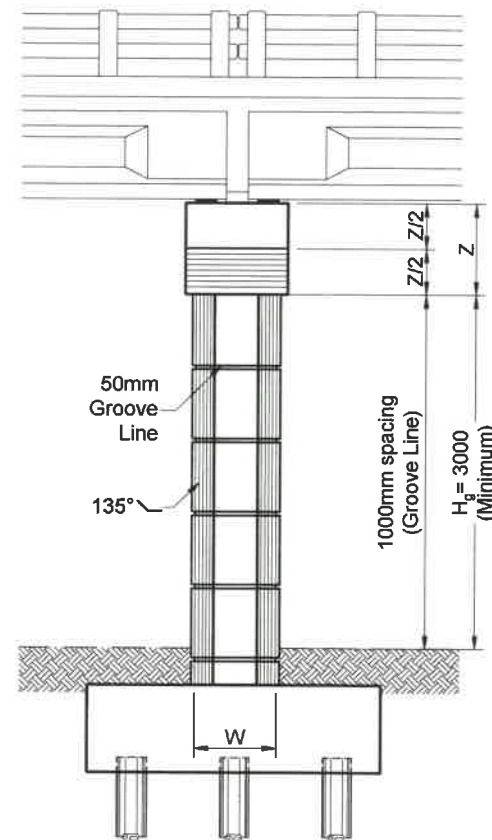
REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN BRIDGES DIVISION BONIFACIO DRIVE PORT AREA, MANILA	SHEET TITLE: RECOMMENDED PIER DESIGN	SHEET CONTENTS: PIER DESIGN 5	DESIGNED: MARK ROBERT B. MANONGSONG CHECKED: MARIANO S. FLORES DRAWN: MARK ROBERT B. MANONGSONG	SUBMITTED: BLESILDA S. RAMOS OIC-CHIEF, BRIDGES DIVISION	RECOMMENDING APPROVAL: ARISTARCO M. DOROY OFFICER-IN-CHARGE, BUREAU OF DESIGN	APPROVED: EMIL K. SADAIN, CESO I UNDERSECRETARY FOR UPMO OPERATION AND TECHNICAL SERVICES	SET NO. BOD 2019-8 BrD	SHEET NO. BA-2 5 8
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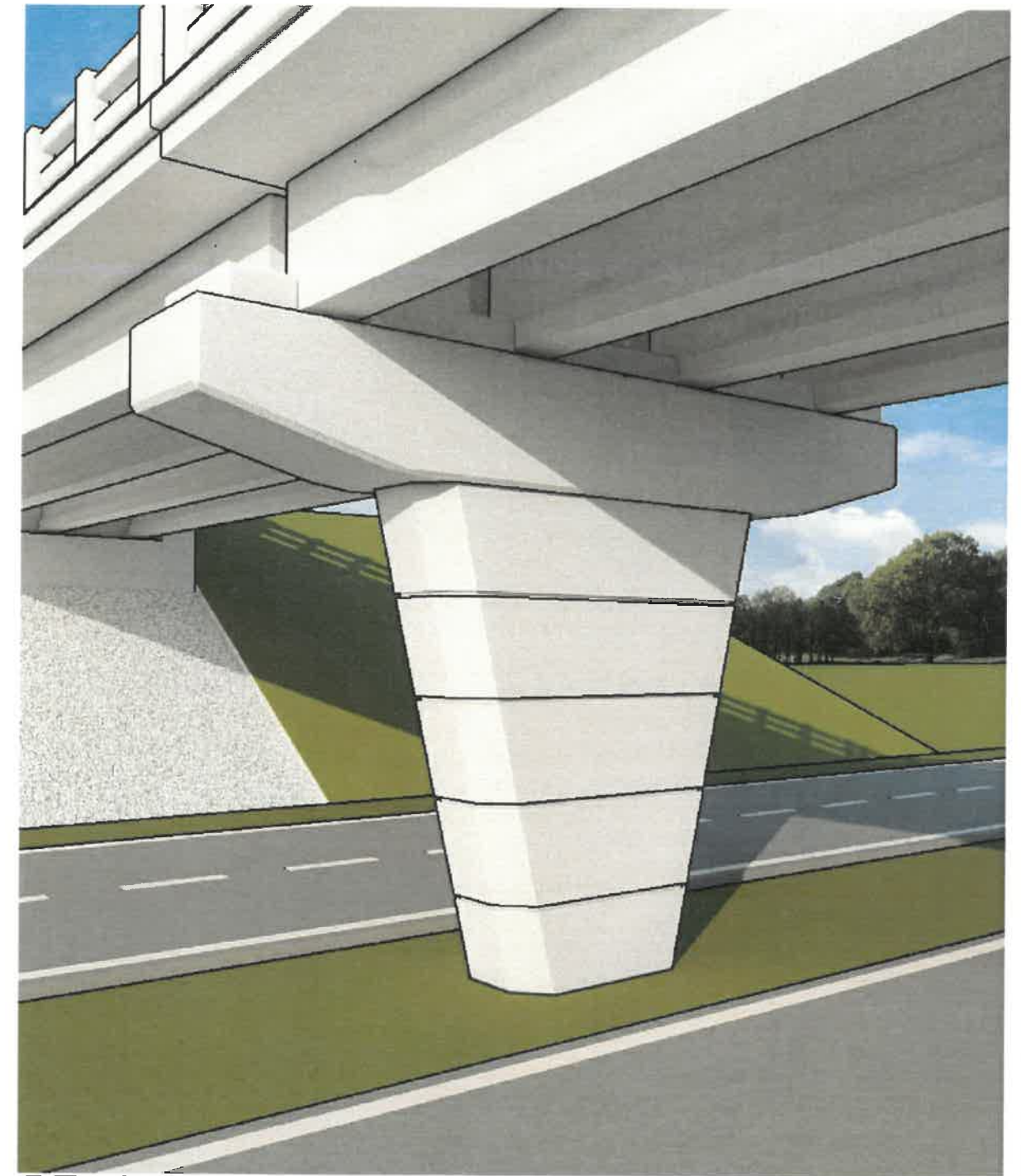
PLAN



ELEVATION 1



ELEVATION 2



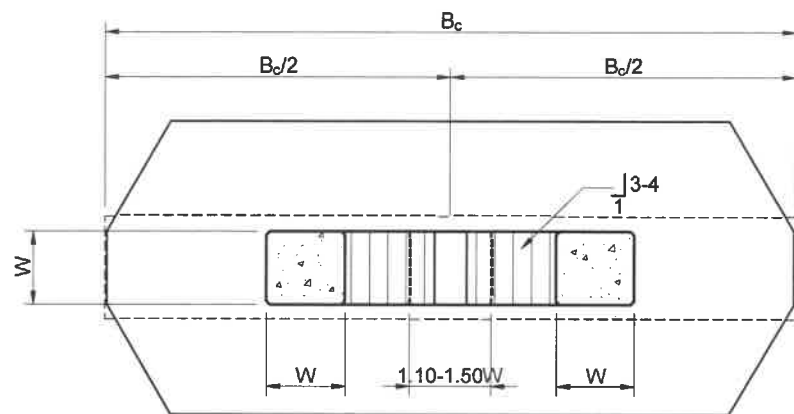
PERSPECTIVE

*Groove - a long, narrow, hollow space cut into a surface

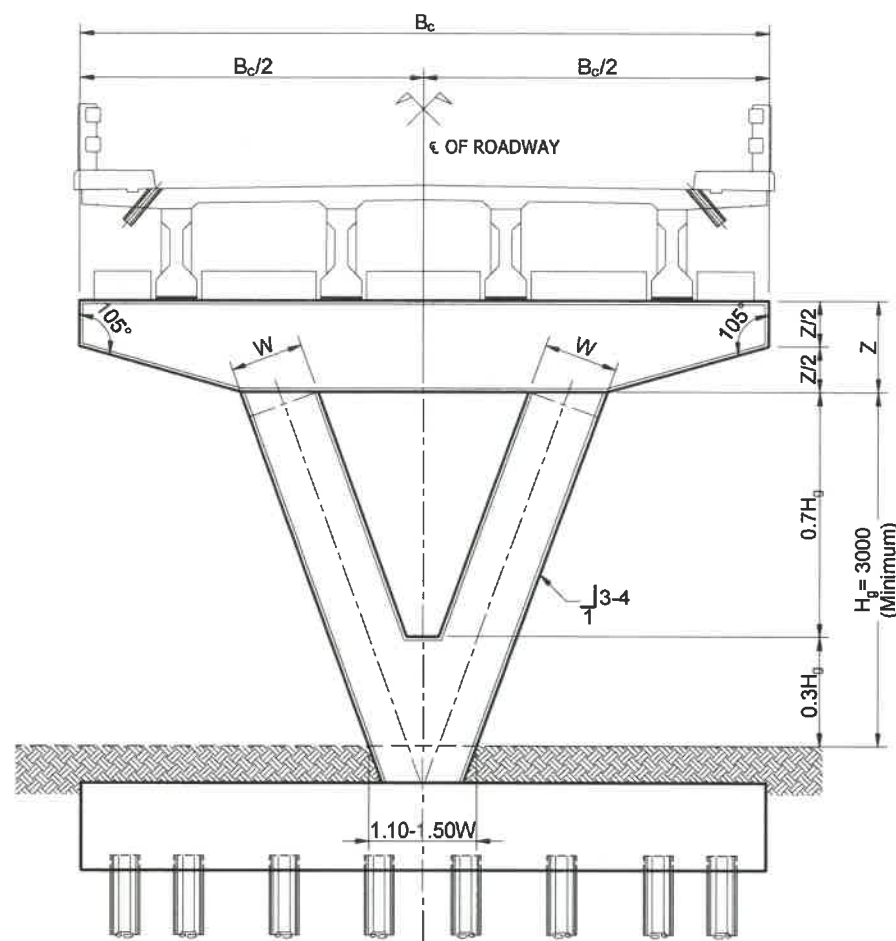
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6 BA-2 SCALE 1:50

PIER DESIGN 6

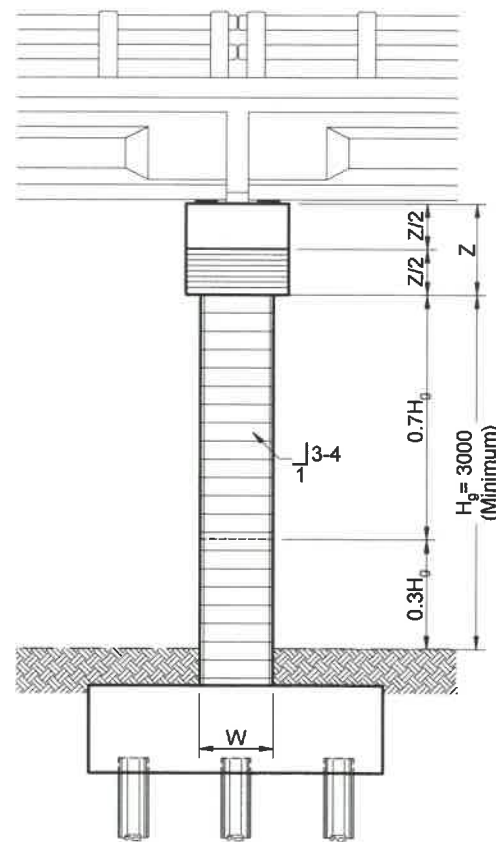
REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN BRIDGES DIVISION BONIFACIO DRIVE PORT AREA, MANILA	SHEET TITLE: RECOMMENDED PIER DESIGN	SHEET CONTENTS: PIER DESIGN 6	DESIGNED: MARK ROBERT M. MANONGSONG CHECKER: MARIANO S. FLORES DRAWN: MARK ROBERT M. MANONGSONG	SUBMITTED: BLESILDA S. RAMOS OIC-CHIEF, BRIDGES DIVISION	RECOMMENDING APPROVAL: ARISTARCO M. DOROY OFFICER-IN-CHARGE, BUREAU OF DESIGN	APPROVED: EMIL K. SADAIN, CESO I UNDERSECRETARY FOR UPMO OPERATION AND TECHNICAL SERVICES	SET NO. BOD 2019-8 BrD	SHEET NO. BA-2 6 8
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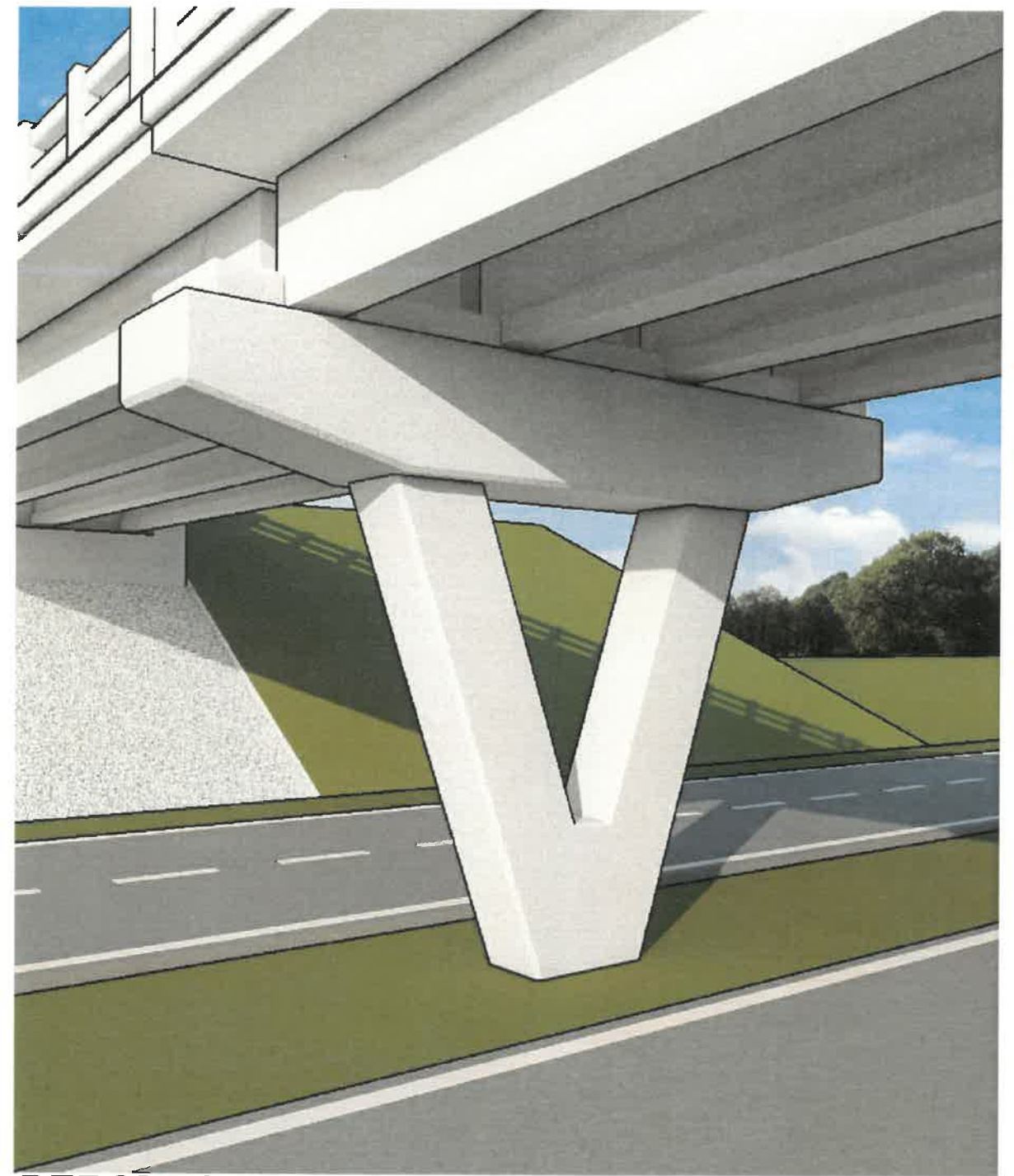
PLAN



ELEVATION 1



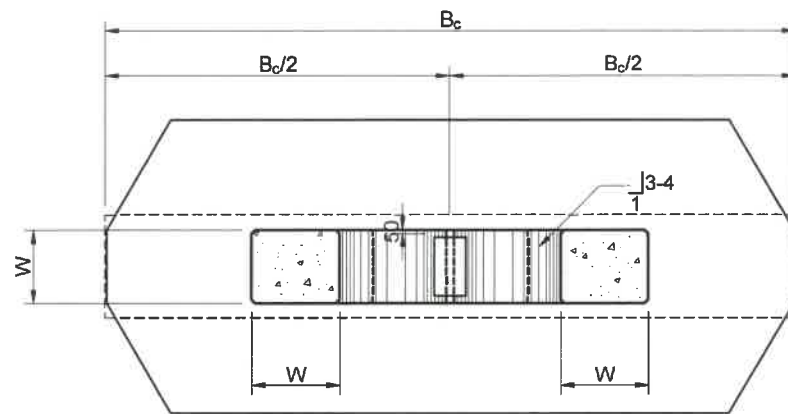
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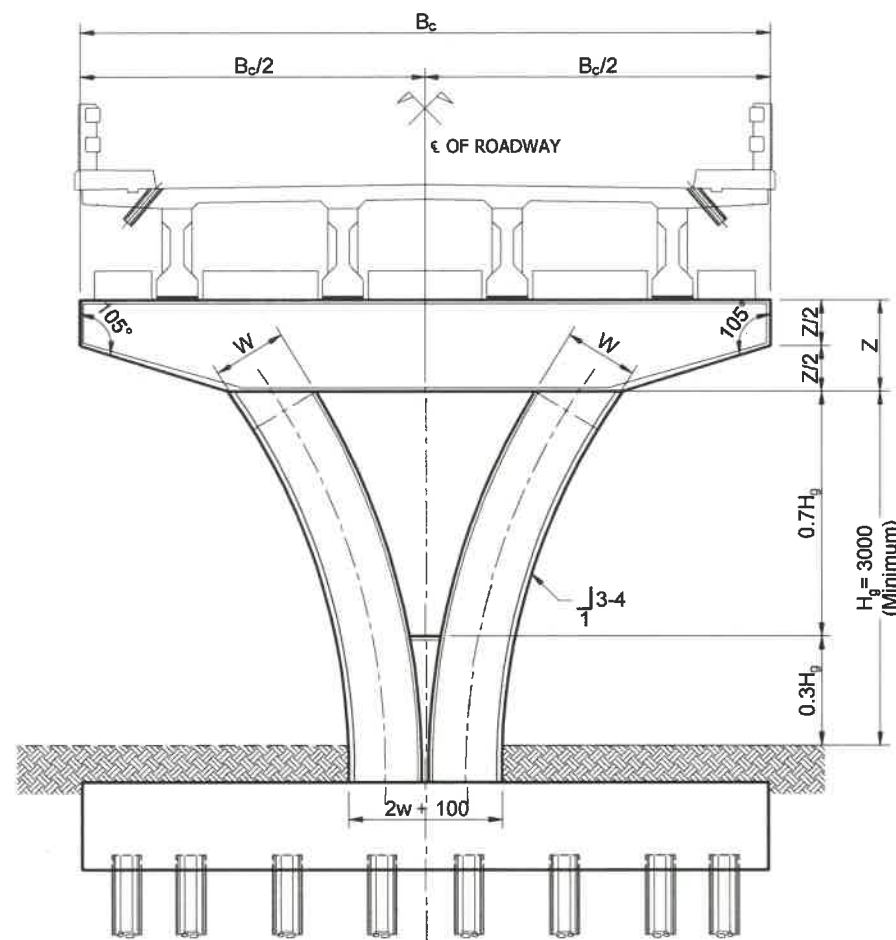
PERSPECTIVE

1 PIER DESIGN 7
7 BA-2 SCALE 1:50

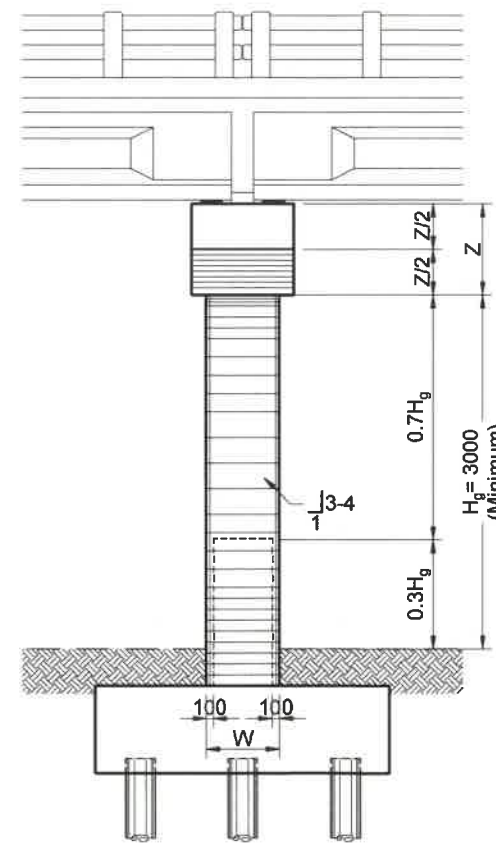
REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN BRIDGES DIVISION BONFACIO DRIVE PORT AREA, MANILA	SHEET TITLE: RECOMMENDED PIER DESIGN	SHEET CONTENTS: PIER DESIGN 7	DESIGNED: MARK ROBERT B. MANONGSONG CHECKED: MARIANO S. FLORES DRAWN: MARK ROBERT B. MANONGSONG APPROVED: ANA PATRINA C. CARLOTA	SUBMITTED: BLESILDA S. RAMOS OIC-CHIEF, BRIDGES DIVISION	RECOMMENDING APPROVAL: ARISTARCO M. DOROY OFFICER-IN-CHARGE, BUREAU OF DESIGN DEC 19 2019	APPROVED: EMIL K. SADAIN, CESO I UNDERSECRETARY FOR UPMO OPERATION AND TECHNICAL SERVICES	SET NO. BOD 2019-8 BrD	SHEET NO. BA-2 7/8
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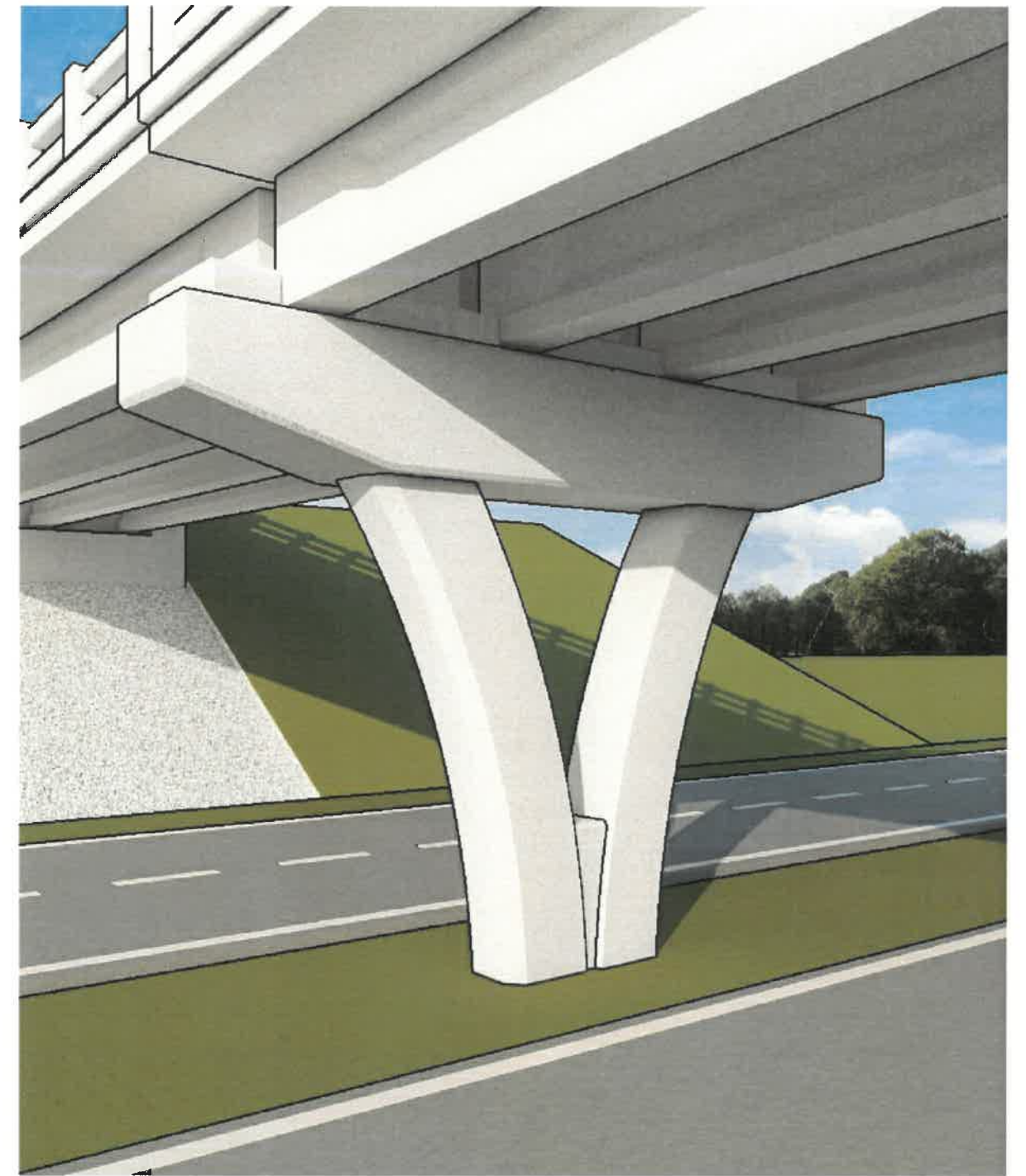
PLAN



ELEVATION 1



ELEVATION 2



PERSPECTIVE

1 PIER DESIGN 8
8 BA-2 SCALE 1:50

REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN BRIDGES DIVISION BONIFACIO DRIVE PORT AREA, MANILA	SHEET TITLE: RECOMMENDED PIER DESIGN	SHEET CONTENTS: PIER DESIGN 8	DESIGNED: MARK ROBERT B. MANONGSONG CHECKED: ANA KATHING C. CARLOTA DRAWN: MARIANO S. FLORES MARK ROBERT B. MANONGSONG	SUBMITTED: BLANER BLESILDA S. RAMOS OIC-CHIEF, BRIDGES DIVISION	RECOMMENDING APPROVAL: SEE COVER SHEET ARISTARCO M. DOROY OFFICER-IN-CHARGE, BUREAU OF DESIGN	APPROVED: SEE COVER SHEET EMIL K. SADAIN, CESO I UNDERSECRETARY FOR UPMO OPERATION AND TECHNICAL SERVICES	SET NO. BOD 2019-8 BrD	SHEET NO. BA-2 8 8
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