E L E C T R I C I T Y G E N E R A T I N G A U T H O R I T Y O F T H A I L A N D

Supplemental Notice No. 3

Invitation to Bid No. TIEC-L-13

Supply and Construction of Transmission Lines 500 kV Chaiyaphum 2 - Nakhon Ratchasima 4 (from KM.68 to Nakhon Ratchasima 4) and 230 kV Nakhon Ratchasima 4 - Nakhon Ratchasima 3

Transmission System Improvement Project in Northeastern, Lower Northern, Central Regions and Bangkok Area to Enhance System Security

(TWO-ENVELOPE)

The attached Supplemental Notice shall be considered as part of the bidding documents No. TIEC-L-13.

As acknowledgement of receipt that all additions, deletions and revisions contained in this Supplemental Notice are incorporated into the above bidding documents, Bidder is requested to sign and return this acknowledgement via email address : pirada.s@egat.co.th within three (3) days from the date of the announcement of this Supplemental Notice on http://www4.egat.co.th/fprocurement/biddingeng.

The original acknowledgement which is manually signed in ink by a person or persons duly authorized shall be included in the proposal to be submitted on the bid opening date.

ELECTRICITY GENERATING AUTHORITY OF THAILAND

October 16, 2025

ACKNOWLEDGEMENT

This undersigned Bidder hereby certifies that the additions, deletions and revisions set forth in this Supplemental Notice to Invitation to Bid No. TIEC-L-13 are incorporated as part of the above bidding documents and will be fully included in any bids which he may submit.

Signed _____

Title _____

Company _____

Date _____

ELECTRICITY GENERATING AUTHORITY OF THAILAND

SUPPLEMENTAL NOTICE NO. 3

INVITATION TO BID NO. TIEC-L-13

SUPPLY AND CONSTRUCTION OF TRANSMISSION LINES
500 kV CHAIYAPHUM 2 - NAKHON RATCHASIMA 4
(FROM KM.68 TO NAKHON RATCHASIMA 4) AND
230 kV NAKHON RATCHASIMA 4 - NAKHON RATCHASIMA 3

TRANSMISSION SYSTEM IMPROVEMENT PROJECT IN NORTHEASTERN, LOWER NORTHERN, CENTRAL REGIONS AND BANGKOK AREA TO ENHANCE SYSTEM SECURITY

The following supplemental information is hereby given for the above described Invitation:

Volume I of V

Section A: Invitation to Bid

1. Postpone the price and technical proposals submission date from September 24, 2025 to ***November 3, 2025.***

Volume II of V

Drawings and Data

2. Replace Page I of Drawings and Data list with the revised ones with Rev.1 attached.

3. Replace the following Drawings as listed below with the revised ones attached.

   3.1 C01-045 CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQV3

   3.2 C01-046 CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQV9(3)

   3.3 C01-047 CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQV9(9)

   3.4 C01-048 CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQTR

   3.5 C01-049 CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQT20

3.6 C01-050 CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQT40

3.7 C01-051 CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQT60

3.8 C01-052 CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQT90

3.9 C21-025 TYPICAL FOUNDATION OUTLINE

Bid submitted must be in accordance with this Notice. Receipt of this Notice shall be acknowledged by the Bidder on the proposal included in the Bidding Documents in the space provided on page C5, Article C-4 Supplemental Notices.

ELECTRICITY GENERATING
AUTHORITY OF THAILAND

October 16 , 2025

ELECTRICITY GENERATING AUTHORITY OF THAILAND

(Revision 1)

Tentative Schedule for Invitation to Bid No. TIEC-L-13

Supply and Construction of Transmission Lines
500 kV Chaiyaphum 2 - Nakhon Ratchasima 4
(from KM.68 to Nakhon Ratchasima 4)
and 230 kV Nakhon Ratchasima 4 - Nakhon Ratchasima 3

Transmission System Improvement Project in Northeastern, Lower Northern, Central Regions and Bangkok Area to Enhance System Security

(Two-Envelope)

Process	Date	Time
Announcement	July 31, 2025	-
Bid selling period	July 31, 2025 to August 21, 2025	-
Technical and price proposal submission date	***November 3, 2025***	9:00 - 10:00 hrs.
Technical proposal opening date	***November 3, 2025***	10:00 hrs.

Remark : Technical proposals will be opened publicly at Bidding Room, 1st Floor, Tor 137 Building at EGAT's Head Office, Nonthaburi at 10:00 hrs.

Kommika Dhachalupat

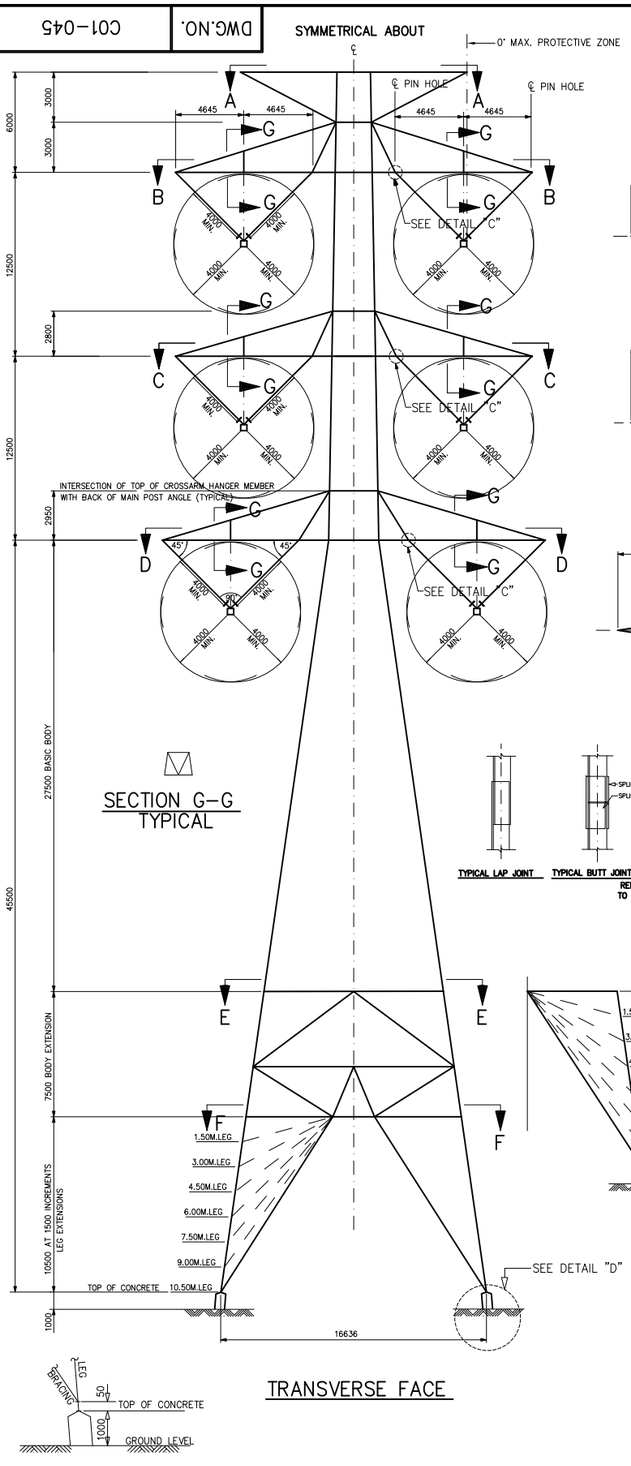
DRAWINGS AND DATA

The drawings and data listed below are made a part of the Contract Documents. Among all the drawings, some plan & profile drawings showing representative conditions along the transmission line are included. However, a complete set of plan & profile drawings are available for examination by the Bidders at the office of EGAT. The Contractor will be furnished a complete set of plan & profile drawings and additional drawings as may be required in the opinion of EGAT to complete the work after confirmation of Letter of Award of Contract.

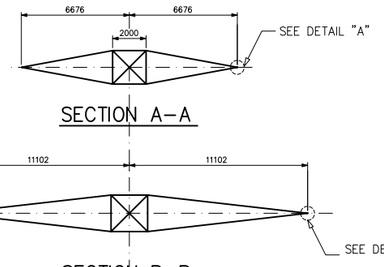
	DRAWING NO.	DESCRIPTION
1	E01-187	LOCATION MAP
2	E01-188	LOCATION MAP
3	-	CLIMATOLOGICAL DATA OBSERVED AT CHAIYAPHUM
4	-	CLIMATOLOGICAL DATA OBSERVED AT NAKHON RATCHASIMA
	KEY MAP, PLAN & PROFILE AND LINE TERMINATION FOR 500 kV CHAIYAPHUM 2 - NAKHON RATCHASIMA 4 (FROM KM.68 TO NAKHON RATCHASIMA 4)	
5	T01-001	KEY MAP (STA. 0+000.000 – STA. 14+800.000)
6	T01-006A	KEY MAP (STA. 7+840.145 – STA. 20+800.000)
7	T01-007	KEY MAP (STA. 14+800.000 – STA. 21+574.817(BK.) / STA. 0+000.355 (AH.))
8	T01-008	KEY MAP (STA. 21+574.817(BK.) / STA. 0+000.355 (AH.) – STA. 20+702.608(BK.) / STA. 0+000.000(AH.))
9	T01-009	KEY MAP (STA. 20+702.608(BK.) / STA. 0+000.000(AH.) – STA. 16+728.100(BK.) / STA. 0+123.091(AH.))
10	T01-010	KEY MAP (STA. 16+728.100(BK.) / STA. 0+123.091(AH.) – STA. 17+932.500(BK.) / STA. 0+000.000(AH.))
11	T01-011	KEY MAP (STA. 17+932.500(BK.) / STA. 0+000.000(AH.) – STA. 4+956.032 / T.O.S.)
12	T02-026A	PLAN & PROFILE (STA. 7+840.145 – STA. 8+800.000)
13	T02-027	PLAN & PROFILE (STA. 8+800.000 – STA. 11+800.000)
14	T02-028	PLAN & PROFILE (STA. 11+800.000 – STA. 14+800.000)
15	T02-029	PLAN & PROFILE (STA. 14+800.000 – STA. 17+800.000)
16	T02-030	PLAN & PROFILE (STA. 17+800.000 – STA. 20+800.000)
17	T02-031	PLAN & PROFILE (STA. 20+800.000 – STA. 21+574.817(BK.) / STA. 0+000.355 (AH.))
18	T02-032	PLAN & PROFILE (STA. 21+574.817(BK.) – STA. 0+000.355 (AH.) – STA. 2+800.000)
19	T02-033	PLAN & PROFILE (STA. 2+800.000 – STA. 5+800.000)
20	T02-034	PLAN & PROFILE (STA. 5+800.000 – STA. 8+800.000)
21	T02-035	PLAN & PROFILE (STA. 8+800.000 – STA. 11+800.000)
22	T02-036	PLAN & PROFILE (STA. 11+800.000 – STA. 14+800.000)
23	T02-037	PLAN & PROFILE (STA. 14+800.000 – STA. 17+800.000)
24	T02-038	PLAN & PROFILE (STA. 17+800.000 – STA. 20+702.608(BK.) / STA. 0+000.000(AH.))
25	T02-039	PLAN & PROFILE (STA. 20+702.608(BK.) / STA. 0+000.000(AH.) – STA. 2+800.000)
26	T02-040	PLAN & PROFILE (STA. 2+800.000 – STA. 5+800.000)
27	T02-041	PLAN & PROFILE (STA. 5+800.000 – STA. 8+800.000)
28	T02-042	PLAN & PROFILE (STA. 8+800.000 – STA. 11+800.000)
29	T02-043	PLAN & PROFILE (STA. 11+800.000 – STA. 14+800.000)

	DRAWING NO.	DESCRIPTION
30	T02-044	PLAN & PROFILE (STA. 14+800.000 – STA. 16+728.100(BK.) / STA. 0+123.091(AH.))
31	T02-045	PLAN & PROFILE (STA. 16+728.100(BK.) / STA. 0+123.091(AH.) – STA. 2+800.000)
32	T02-046	PLAN & PROFILE (STA. 2+800.000 – STA. 5+800.000)
33	T02-047	PLAN & PROFILE (STA. 5+800.000 – STA. 8+800.000)
34	T02-048	PLAN & PROFILE (STA. 8+800.000 – STA. 11+800.000)
35	T02-049	PLAN & PROFILE (STA. 11+800.000 – STA. 14+800.000)
36	T02-050	PLAN & PROFILE (STA. 14+800.000 – STA. 16+300.000)
37	T02-051	PLAN & PROFILE (STA. 16+300.000 – STA. 17+932.500(BK.) / STA. 0+000.000(AH.))
38	T02-052	PLAN & PROFILE (STA. 17+932.500(BK.) / STA. 0+000.000(AH.) - STA. 2+800.000)
39	T02-053	PLAN & PROFILE (STA. 2+800.000 – STA. 4+956.032 / T.O.S.)
40	T04-002	LINE TERMINATION AT NAKHON RATCHASIMA 4 SUBSTATION
		DETAILS OF WORK
41	T05-001	INTERFACING WORK AT KM68
	KEY MAP, PLAN & PROFILE AND LINE TERMINATION FOR 230 KV NAKHON RATCHASIMA 4 - NAKHON RATCHASIMA 3	
42	T01-001	KEY MAP (STA. 0+000.000 – T.O.S. – STA. 2+347.417 / T.O.S.)
43	T02-001	PLAN & PROFILE (STA. 0+000.000 – T.O.S . – STA. 2+347.417 / T.O.S.)
44	T04-003	LINE TERMINATION AT NAKHON RATCHASIMA 3 SUBSTATION
		TOWERS
45	C01-045	CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQV3
46	C01-046	CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQV9(3)
47	C01-047	CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQV9(9)
48	C01-048	CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQTR
49	C01-049	CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQT20
50	C01-050	CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQT40
51	C01-051	CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQT60
52	C01-052	CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQT90
53	C02-003	LOADING DIAGRAM TOWER TYPE DQV3
54	C02-004	LOADING DIAGRAM TOWER TYPE DQV3
55	C02-005	LOADING DIAGRAM TOWER TYPE DQV9
56	C02-006	LOADING DIAGRAM TOWER TYPE DQV9
57	C02-007	LOADING DIAGRAM TOWER TYPE DQT20
58	C02-008	LOADING DIAGRAM TOWER TYPE DQT20
59	C02-009	LOADING DIAGRAM TOWER TYPE DQT40
60	C02-010	LOADING DIAGRAM TOWER TYPE DQT40
61	C02-011	LOADING DIAGRAM TOWER TYPE DQT60
62	C02-012	LOADING DIAGRAM TOWER TYPE DQT60
63	C02-013	LOADING DIAGRAM TOWER TYPE DQT60

REV.	DWG.NO.
–	C01–045



SECTION G–G
TYPICAL

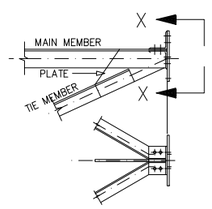


SECTION A–A

SECTION B–B

SECTION C–C

SECTION D–D



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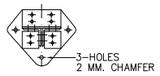
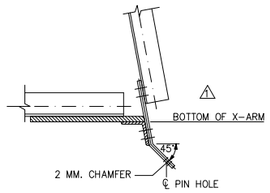


VIEW X–X



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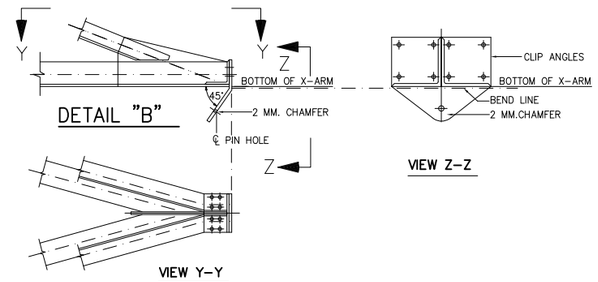


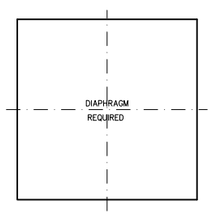
DETAIL "B"

VIEW Z–Z

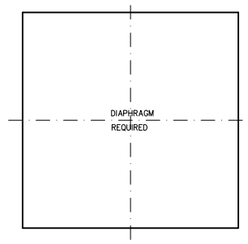
VIEW Y–Y

TRANSVERSE FACE

DETAIL "D"



SECTION E–E



SECTION F–F

LOADING CASES

I EXTREME TRANSVERSE WIND
ALL WIRES INTACT AT 27°C, FINAL WIRE TENSION. WITH A TRANSVERSE WIND OF 140 KG/M²
ACTING ON SHIELD WIRES, 115 KG/M² ON CONDUCTORS, 156 KG/M² ON TOWER AND INSULATORS. L.F.=1.15 (SEE NOTES B, D)

II EXTREME LONGITUDINAL WIND
ALL WIRES INTACT AT 27°C, FINAL WIRES TENSIONS. WITH A LONGITUDINAL WIND OF 156 KG/M²
ACTING ON TRANSVERSE FACES OF THE TOWER, NO WINDS ON WIRES. L.F.=1.15 (SEE NOTES B, D)

III EXTREME OBLIQUE WIND
ALL WIRES INTACT AT 27°C, FINAL WIRES TENSIONS WITH A TRANSVERSE WIND OF 140 KG/M²
ACTING ON SHIELD WIRES, 115 KG/M² ON CONDUCTORS, 156 KG/M² ON TOWER
AND INSULATOR, WIND BLOWING AT 75°, 60° AND 45° TO LINE. L.F.=1.15
(SEE NOTES A, B, D)

IV FAILURE CONTAINMENT
ALL WIRES INTACT AT 27°C FINAL WIRES TENSIONS. WITH A TRANSVERSE WIND OF 91 KG/M²
ON SHIELD WIRES, 76 KG/M² ON CONDUCTORS, 101.5 KG/M² ON TOWER AND INSULATOR, PLUS AN UNBALANCED LONGITUDINAL LOAD
APPLIED AT ANY ONE WIRE ATTACHMENT LOCATIONS EQUAL TO 100% IN THE TENSION IN THE SHIELD WIRE OR 70%
OF THE TENSION IN THE CONDUCTOR PHASE BUNDLE. (SEE NOTE E)

V STRINGING AND MAINTENANCE
ALL WIRES INTACT AT 4°C INITIAL WIRE TENSIONS. WITH A TRANSVERSE WIND OF 27.5 KG/M² ACTING ON SHIELD WIRES, 23 KG/M²
ON CONDUCTORS, 29.4 KG/M² ON TOWER AND INSULATORS. WITH AN ADDITIONAL VERTICAL LOAD AT ANT OR ALL OF THE WIRE ATTACHMENT
POINTS SIMULTANEOUSLY OF 1,000 KG. PLUS 33% OF THE SHIELD WIRE OR PHASE BUNDLE TENSION. AND WITH AN ADDITIONAL LONGITUDINAL
LOAD ANY ONE WIRE ATTACHMENT LOCATION SIMULATANEOUSLY OF 50% OF THE SHIELD WIRE OR PHASE BUNDLE TENSION. (SEE NOTES E, F)

VI HIGH INTENSITY
ALL WIRES INTACT AT 27°C, FINAL WIRE TENSIONS. PRESSURE OF 306.25 KG/M² ACTING ON TOWER AND INSULATORS WITH NO WIND ON
SHIELD WIRE OR CONDUCTORS. WIND BLOWING AT 90°, 75°, 60°, 45°, 0° TO LINE. (SEE NOTE B)

NOTES

A. FOR WIND AT ANGLE β° TO WIRES. WIND PRESSURE TO BE REDUCED BY $SIN^2.(\beta)$
B. WIND PRESSURE ON TOWER APPLIED ON 3.2 TIMES MOST EXPOSED FACE. FOR WIND AT AN ANGLE β° TO A FACE PRESSURE HAS BEEN ADDITIONALLY INCREASED BY $[\ 1+0.2 \times SIN^2\ (2\beta)]$;WIND LOAD IS ASSUMED IN THE DIRECTION OF THE WIND.
C. ALL ELEMENT OF TOWER ARE TO BE DESIGNED TO 0.92 CAPACITY.
D. L.F. DENOTED LOAD FACTOR APPLYING TO STATISTIC LOAD SUCH AS WIND LOADS.
E. FOR LOADING CASED IV. AND V THE ADDITIONAL LONGITUDINAL LOADS MAY BE ASSUMED TO ACT AT ANY ONE WIRE ATTACHMENT LOCATIONS.
F. LOCATIONS OF THE ADDITIONAL VERTICAL STRINGING LOADS SPECIFIED IN LOADING CASE V ARE INDEPENDENT OF THE LOCATIONS OF THE ADDITIONAL LONGITUDINAL STRINGING LOADS. APPLY ADDITIONAL LONGITUDINAL LOAD AT ANY ONE WIRE ATTACHMENT LOCATION.

GENERAL NOTES

1. CLEARANCE DIMENSIONS ARE MINIMUM FROM SURFACE OF STEEL (NOT FROM MEMBER GAGES OR WORKING LINES) TO THE NEAREST POINT ON THE CONDUCTOR OR CONDUCTOR HARDWARE.
2. ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
3. ALL DIMENSIONS ON TOWER ARE TO THE WORKING LINES EXCEPT AS OTHERWISE NOTED.
4. CONDUCTOR DATA : 1272 MCM, 42/7 ACSR/GA, WT=2.04 KG/M, DIA=33.91 MM, RATED BREAKING STRENGTH=14,050 KG. (4 SUB–CONDUCTORS PER PHASE BUNDLE)
5. SHIELD WIRE DATA : 7 NO.8 ALUMINUM–CLAD STEEL, WT=0.39 KG/M, DIA=9.78 MM, RATED BREAKING STRENGTH=7,227 KG. OR 3/8 INCH EHS CLASS A , WT=0.406 KG/M, DIA=9.14 MM, RATED BREAKING STRENGTH=6,985 KG.
6. TOWER SHALL BE DESIGNED FOR ONE OR BOTH CIRCUITS INSTALLED, FOR THE PURPOSES OF TOWER DESIGN, EACH CIRCUIT SHALL BE DEFINED AS THE THREE PHASE BUNDLES AND THE CORRESPONDING SHIELD WIRE VERTICALLY ADJACENT TO ONE ANOTHER ON ONE SIDE OF THE TOWER.
7. TOWER SHALL BE DESIGNED FOR MAINTENANCE LOADS (SAME AS HEAVY PHASE VERTICAL LOADS FROM CASE VI) APPLIED DIRECTLY ABOVE CONDUCTOR SUPPORT POINTS.
8. TOWERS ARE DESIGNED FOR USE OF ANY COMBINATION OF LEG EXTENSION HEIGHTS RESULTING IN A MAXIMUM DIFFERENTIAL OF LEG HEIGHT OF SIX METERS BETWEEN ADJACENT OR DIAGONALLY OPPOSITE LEGS.

TOWER APPLICATIONS

RULING SPAN = 440 M.
MAXIMUM WIND SPAN = 460 M. AT 0° AND 355 M. AT 3°
MAXIMUM WEIGHT SPAN = 690 M.
MAXIMUM DEVIATION ANGLE = 3°
DESIGN CRITERIA BASED ON RIGHT OF WAY = 60 M.
SHIELD WIRE ; 3/8" EHS CLASS A OR 7 NO.8 ALUMINUM–CLAD STEEL OR OPGW 36 CORES (13.5 MM. DIAMETER)
CONDUCTOR ; 4 x 1272 MCM. ACSR/GA

ISO 9001 TSE : 2015
CAD CENTER
DO NOT AMEND MANUALLY

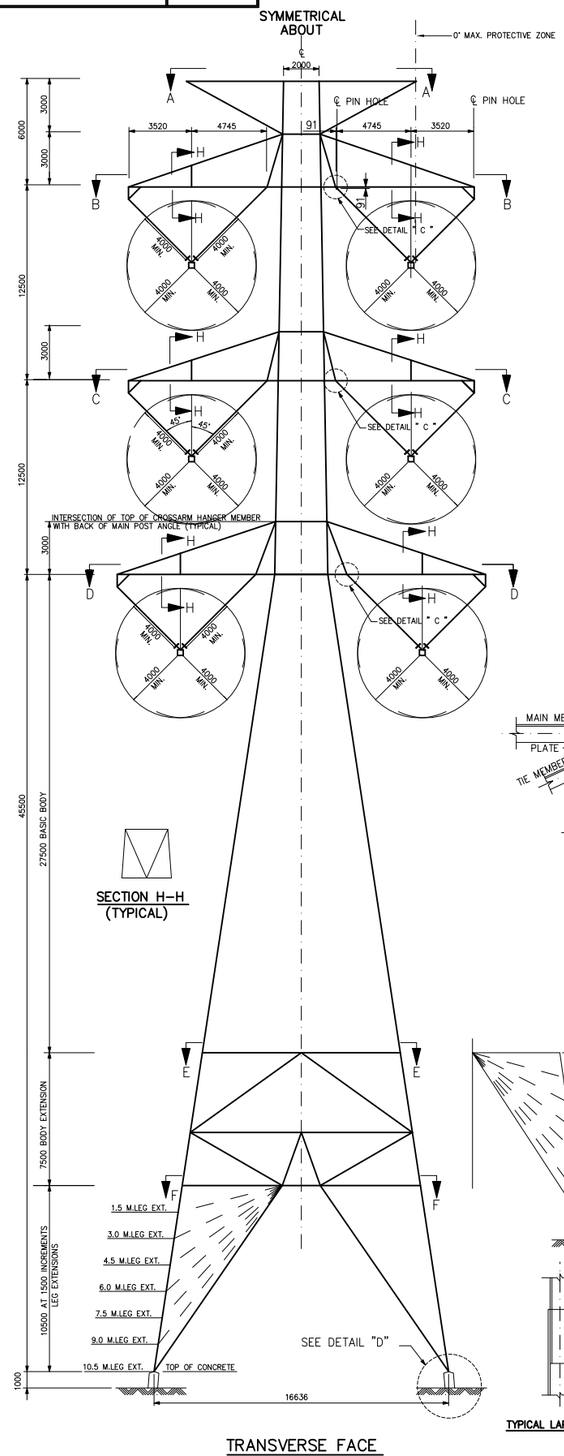
REV.NO.	JOB NO.	JOB DESCRIPTION	DRAWN	DESIGNED	VERIFIED	VALIDATED	RECOMMENDED	CONCURRED	APPROVED	DATE

ELECTRICITY GENERATING AUTHORITY OF THAILAND

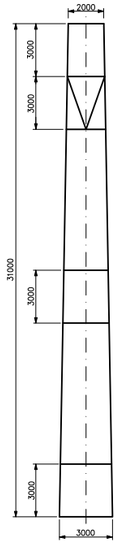
DRAWN ARKET	RECOMMENDED AND VALIDATED titiPONG CHIEF, TRANSMISSION LINE ENGINEERING DEPARTMENT	DRAWING NAME	500 kV TRANSMISSION LINE
DESIGNED P.sit	CONCURRED ASSISTANT DIRECTOR, TRANSMISSION SYSTEM ENGINEERING DIVISION	DESCRIPTION OF DETAIL DRAWING	CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQV3
VERIFIED Viwat.m	APPROVED Somrich DIRECTOR, TRANSMISSION SYSTEM ENGINEERING DIVISION DATE 24/04/2025	JOB NO.	REPLACING DWG.NO. / DWG.NO. C01–045 / REV. – –

bl499

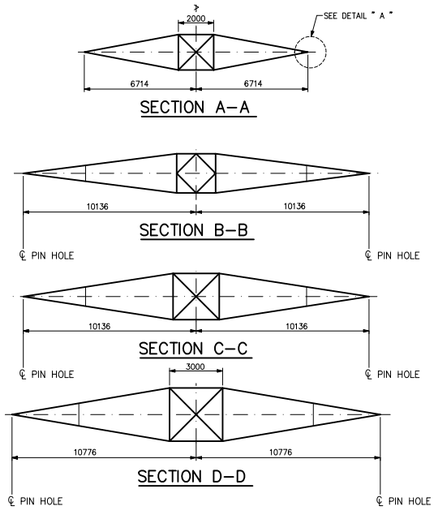
REV.	DWG.NO.
– –	C01–046

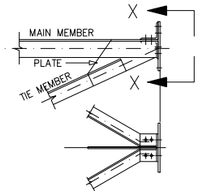


TRANSVERSE FACE

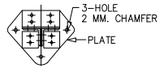


LONGITUDINAL FACE

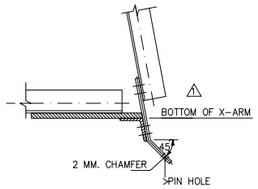




DETAIL "A"

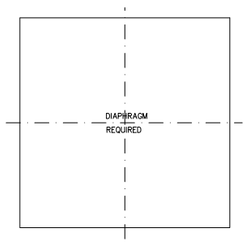


VIEW X–X

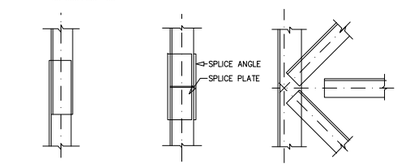


DETAIL "C"

SECTION E–E

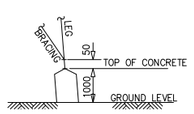


SECTION F–F



TYPICAL LAP JOINT TYPICAL BUTT JOINT TYPICAL JOINT

REDUCE JOINT ECCENTRICITY TO SMALLEST POSSIBLE VALUE



DETAIL "D"

LOADING CASES

I EXTREME TRANSVERSE WIND
ALL WIRES INTACT AT 27°C, FINAL WIRE TENSION. WITH A TRANSVERSE WIND OF 140 KG/M²
ACTING ON SHIELD WIRES, 115 KG/M² ON CONDUCTORS, 156 KG/M² ON TOWER AND INSULATORS. L.F.=1.15 (SEE NOTES B, D)

II EXTREME LONGITUDINAL WIND
ALL WIRES INTACT AT 27°C, FINAL WIRES TENSIONS. WITH A LONGITUDINAL WIND OF 156 KG/M²
ACTING ON TRANSVERSE FACES OF THE TOWER, NO WINDS ON WIRES. L.F.=1.15 (SEE NOTES B, D)

III EXTREME OBLIQUE WIND
ALL WIRES INTACT AT 27°C, FINAL WIRES TENSIONS WITH A TRANSVERSE WIND OF 140 KG/M²
ACTING ON SHIELD WIRES, 115 KG/M² ON CONDUCTORS, 156 KG/M² ON TOWER
AND INSULATOR, WIND BLOWING AT 75°, 60° AND 45° TO LINE. L.F.=1.15
(SEE NOTES A, B, D)

IV FAILURE CONTAINMENT
ALL WIRES INTACT AT 27°C FINAL WIRES TENSIONS. WITH A TRANSVERSE WIND OF 91 KG/M²
ON SHIELD WIRES, 76 KG/M² ON CONDUCTORS, 101.5 KG/M² ON TOWER AND INSULATOR, PLUS AN UNBALANCED LONGITUDINAL LOAD
APPLIED AT ANY ONE WIRE ATTACHMENT LOCATIONS EQUAL TO 100% IN THE TENSION IN THE SHIELD WIRE OR 70%
OF THE TENSION IN THE CONDUCTOR PHASE BUNDLE. (SEE NOTE E)

V STRINGING AND MAINTENANCE
ALL WIRES INTACT AT 4°C INITIAL WIRE TENSIONS. WITH A TRANSVERSE WIND OF 27.5 KG/M² ACTING ON SHIELD WIRES, 23 KG/M²
ON CONDUCTORS, 29.4 KG/M² ON TOWER AND INSULATORS. WITH AN ADDITIONAL VERTICAL LOAD AT ANT OR ALL OF THE WIRE ATTACHMENT
POINTS SIMULTANEOUSLY OF 1,000 KG. PLUS 33% OF THE SHIELD WIRE OR PHASE BUNDLE TENSION. AND WITH AN ADDITIONAL LONGITUDINAL
LOAD ANY ONE WIRE ATTACHMENT LOCATION SIMULATANEOUSLY OF 50% OF THE SHIELD WIRE OR PHASE BUNDLE TENSION. (SEE NOTES E, F)

VI HIGH INTENSITY
ALL WIRES INTACT AT 27°C, FINAL WIRE TENSIONS. PRESSURE OF 306.25 KG/M² ACTING ON TOWER AND INSULATORS WITH NO WIND ON
SHIELD WIRE OR CONDUCTORS. WIND BLOWING AT 90°, 75°, 60°, 45°, 0° TO LINE. (SEE NOTE B)

NOTES

A. FOR WIND AT ANGLE β° TO WIRES. WIND PRESSURE TO BE REDUCED BY $SIN^2.(\beta)$
B. WIND PRESSURE ON TOWER APPLIED ON 3.2 TIMES MOST EXPOSED FACE. FOR WIND AT AN ANGLE β° TO A FACE PRESSURE HAS BEEN ADDITIONALLY INCREASED BY $[\ 1+0.2 \times SIN^2\ (2\beta)\ ]$;WIND LOAD IS ASSUMED IN THE DIRECTION OF THE WIND.
C. ALL ELEMENT OF TOWER ARE TO BE DESIGNED TO 0.92 CAPACITY.
D. L.F. DENOTED LOAD FACTOR APPLYING TO STATISTIC LOAD SUCH AS WIND LOADS.
E. FOR LOADING CASED IV. AND V THE ADDITIONAL LONGITUDINAL LOADS MAY BE ASSUMED TO ACT AT ANY ONE WIRE ATTACHMENT LOCATIONS.
F. LOCATIONS OF THE ADDITIONAL VERTICAL STRINGING LOADS SPECIFIED IN LOADING CASE V ARE INDEPENDENT OF THE LOCATIONS OF THE ADDITIONAL LONGITUDINAL STRINGING LOADS. APPLY ADDITIONAL LONGITUDINAL LOAD AT ANY ONE WIRE ATTACHMENT LOCATION.

GENERAL NOTES

1. CLEARANCE DIMENSIONS ARE MINIMUM FROM SURFACE OF STEEL (NOT FROM MEMBER GAGES OR WORKING LINES) TO THE NEAREST POINT ON THE CONDUCTOR OR CONDUCTOR HARDWARE.
2. ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
3. ALL DIMENSIONS ON TOWER ARE TO THE WORKING LINES EXCEPT AS OTHERWISE NOTED.
4. CONDUCTOR DATA : 1272 MCM, 42/7 ACSR/GA, WT=2.04 KG/M, DIA=33.91 MM, RATED BREAKING STRENGTH=14,050 KG. (4 SUB–CONDUCTORS PER PHASE BUNDLE)
5. SHIELD WIRE DATA : 7 NO.8 ALUMINUM–CLAD STEEL, WT=0.39 KG/M, DIA=9.78 MM, RATED BREAKING STRENGTH=7,227 KG. OR 3/8 INCH EHS CLASS A , WT=0.406 KG/M, DIA=9.14 MM, RATED BREAKING STRENGTH=6,985 KG.
6. TOWER SHALL BE DESIGNED FOR ONE OR BOTH CIRCUITS INSTALLED, FOR THE PURPOSES OF TOWER DESIGN, EACH CIRCUIT SHALL BE DEFINED AS THE THREE PHASE BUNDLES AND THE CORRESPONDING SHIELD WIRE VERTICALLY ADJACENT TO ONE ANOTHER ON ONE SIDE OF THE TOWER.
7. TOWER SHALL BE DESIGNED FOR MAINTENANCE LOADS (SAME AS HEAVY PHASE VERTICAL LOADS FROM CASE VI) APPLIED DIRECTLY ABOVE CONDUCTOR SUPPORT POINTS.
8. TOWERS ARE DESIGNED FOR USE OF ANY COMBINATION OF LEG EXTENSION HEIGHTS RESULTING IN A MAXIMUM DIFFERENTIAL OF LEG HEIGHT OF SIX METERS BETWEEN ADJACENT OR DIAGONALLY OPPOSITE LEGS.

TOWER APPLICATIONS

RULING SPAN = 440 M.
MAXIMUM WIND SPAN = 650 M. AT 0° AND 335 M. AT 9°
MAXIMUM WEIGHT SPAN = 1300 M.
MAXIMUM DEVIATION ANGLE = 9°
DESIGN CRITERIA BASED ON RIGHT OF WAY = 60 M.
SHIELD WIRE ;3/8" EHS CLASS A OR 7 NO.8 ALUMINUM–CLAD STEEL OR OPGW 36 CORES (13.5 MM. DIAMETER)
CONDUCTOR ; 4 x 1272 MCM. ACSR/GA

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DO NOT AMEND MANUALLY

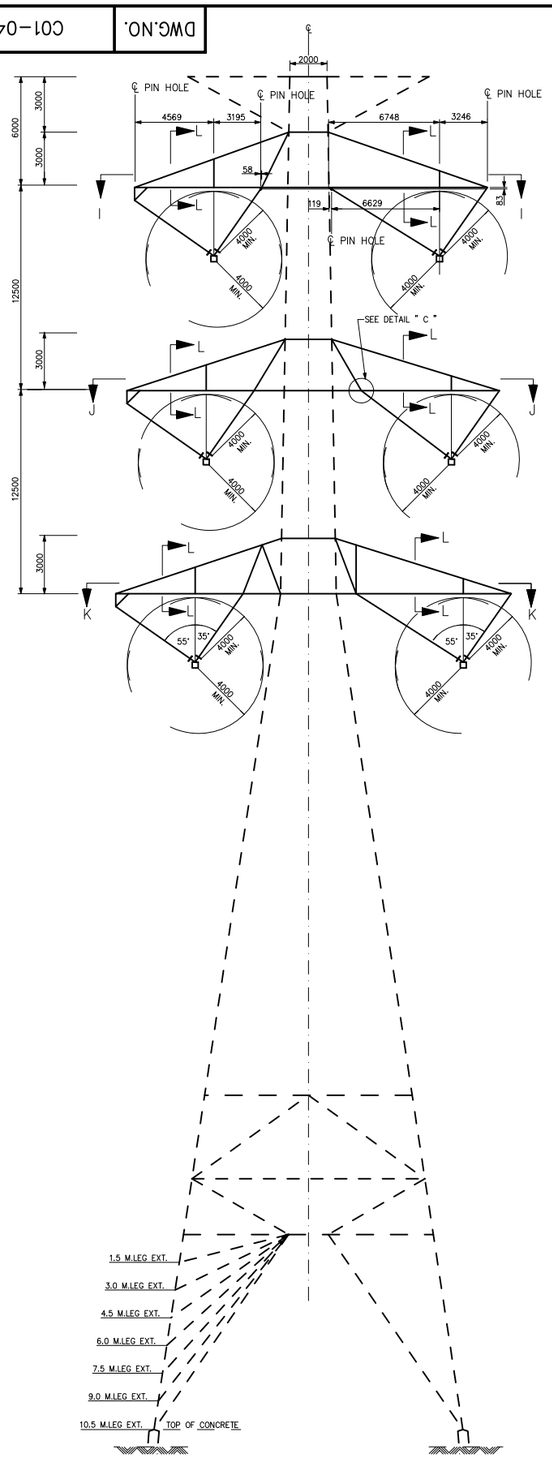
REV.NO.	JOB NO.	JOB DESCRIPTION	DRAWN	DESIGNED	VERIFIED	VALIDATED	RECOMMENDED	CONCURRED	APPROVED	DATE

ELECTRICITY GENERATING AUTHORITY OF THAILAND

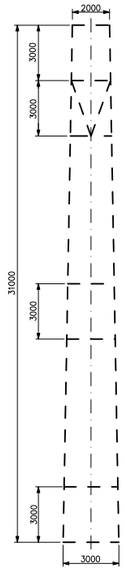
DRAWN ARKET	RECOMMENDED AND VALIDATED titiPONG CHIEF, TRANSMISSION LINE ENGINEERING DEPARTMENT	DRAWNG NAME	500 kV TRANSMISSION LINE
DESIGNED P.sit	CONCURRED ASSISTANT DIRECTOR, TRANSMISSION SYSTEM ENGINEERING DIVISION	DESCRIPTION OF DETAIL DRAWING	CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQV9(3)
VERIFIED Viwat.M	APPROVED DIRECTOR, TRANSMISSION SYSTEM ENGINEERING DIVISION DATE 24/04/2025	JOB NO.	REPLACING DWG.NO. / DWG.NO. C01–046 / REV. – –

bl506

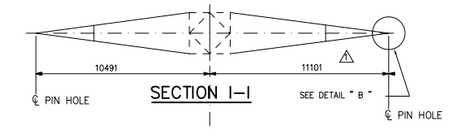
REV.	DWG.NO.
–	C01–047
–	



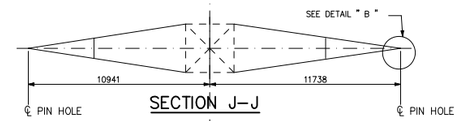
TRANSVERSE FACE



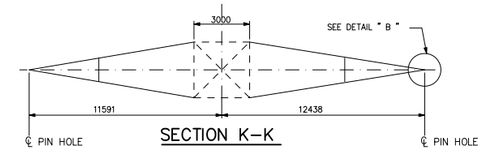
LONGITUDINAL FACE



SECTION I–I

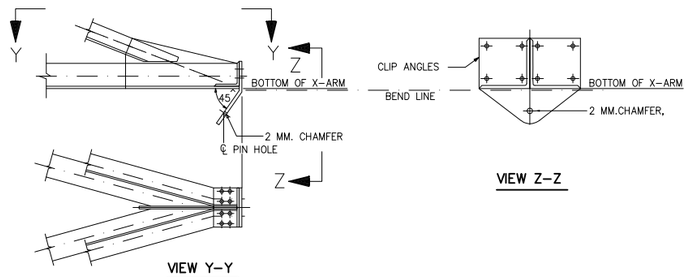


SECTION J–J



SECTION K–K

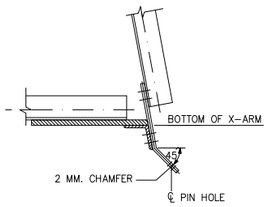
SECTION L–L
(TYPICAL)



VIEW Y–Y

VIEW Z–Z

DETAIL "B"



DETAIL "C"

NOTES

1. REFER TO DWG. NO. C01–011 FOR ADDITIONAL TOWER BODY DIMENSIONS AND INFORMATION AND NOTES.
2. 3 TO 9 DEGREE CONDUCTOR CROSSARMS (SHOWN AT LEFT) ARE TO BE INTERCHANGEABLE WITH 0 TO 3 DEGREE CROSSARMS SHOWN ON DWG. NO. C01–011 SHIELD WIRE CROSSARMS, TOWER BODY, BODY EXTENSION, AND LEG EXTENSIONS SHALL BE DESIGNED FOR THE MOST CRITICAL LOADS RESULTING FROM USE OF ANY SET OF ARMS. (AND AT ANY LINE ANGLE FROM 0 TO 9 DEGREES)

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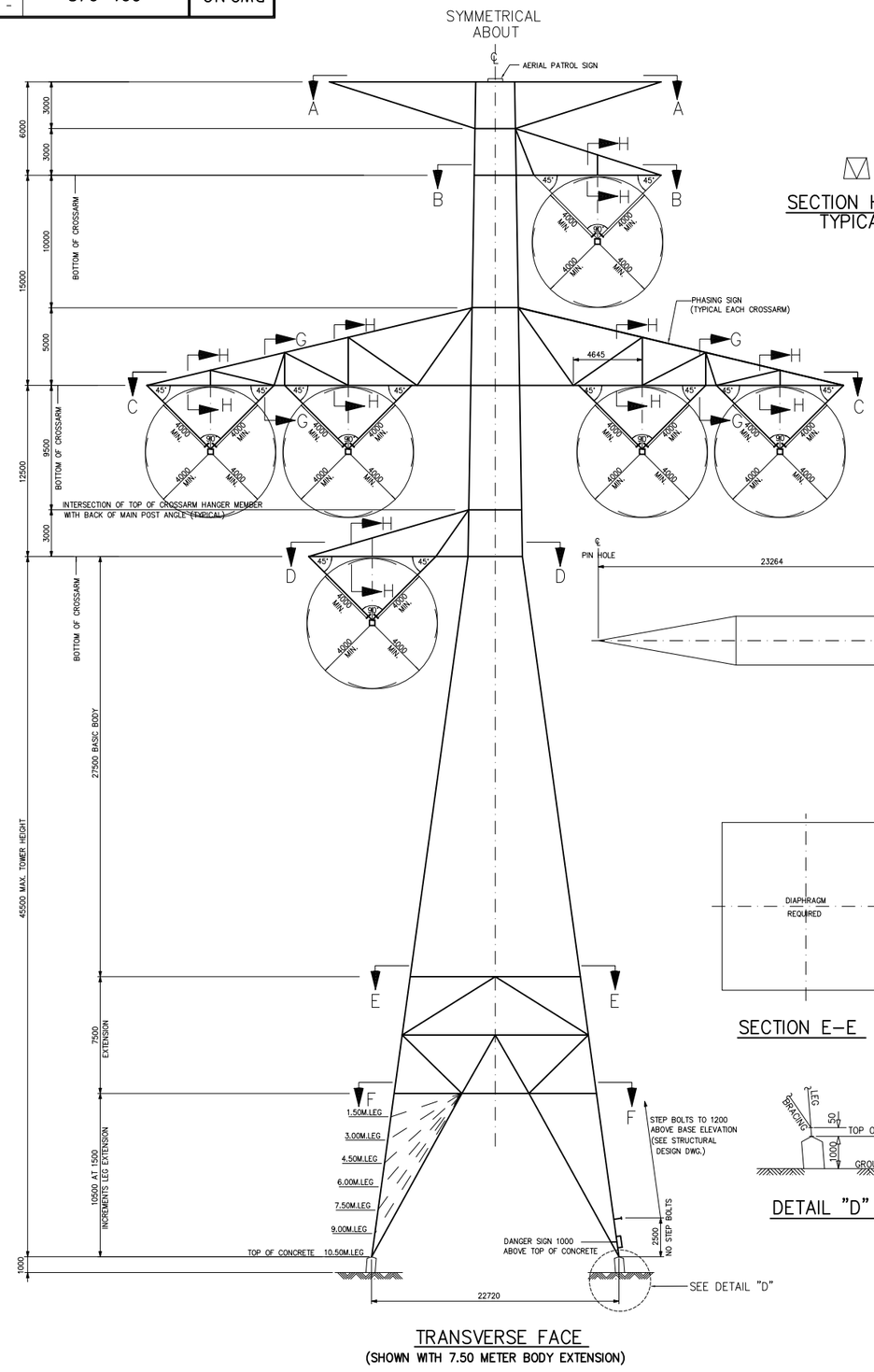
REV.NO.	JOB NO.	JOB DESCRIPTION	DRAWN	DESIGNED	VERIFIED	VALIDATED	RECOMMENDED	CONCURRED	APPROVED	DATE

ELECTRICITY GENERATING AUTHORITY OF THAILAND

DRAWN ARKET	RECOMMENDED AND VALIDATED LitiPONG CHIEF, TRANSMISSION LINE ENGINEERING DEPARTMENT	DRAWING NAME	500 kV TRANSMISSION LINE
DESIGNED P.sit	CONCURRED ASSISTANT DIRECTOR, TRANSMISSION SYSTEM ENGINEERING DIVISION	DESCRIPTION OF DETAIL DRAWING	CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQV9(9)
VERIFIED Viwat.M			
APPROVED Soparich DIRECTOR, TRANSMISSION SYSTEM ENGINEERING DIVISION	DATE 24/04/2025	JOB NO.	REPLACING DWG.NO. / DWG.NO. C01–047 / REV. – –

bl505

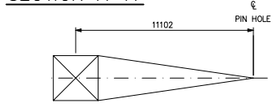
DWG.NO.	REV.
C01-048	–



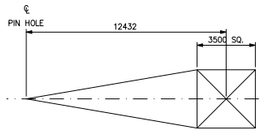
TRANSVERSE FACE
(SHOWN WITH 7.50 METER BODY EXTENSION)

SECTION A–A

SECTION H–H
TYPICAL



SECTION B–B



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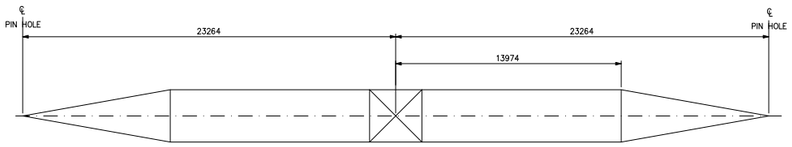
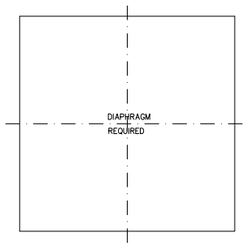


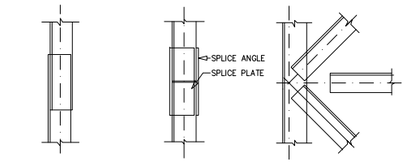
SECTION C–C

SECTION E–E



SECTION F–F

DETAIL "D"



TYPICAL LAP JOINT | TYPICAL BUTT JOINT | TYPICAL JOINT
REDUCE JOINT ECCENTRICITY TO SMALLEST POSSIBLE VALUE

LOADING CASES

I EXTREME TRANSVERSE WIND
ALL WIRES INTACT AT 27°C, FINAL WIRE TENSION. WITH A TRANSVERSE WIND OF 140 KG/M²
ACTING ON SHIELD WIRES, 115 KG/M² ON CONDUCTORS, 156 KG/M² ON TOWER AND INSULATORS. L.F.=1.15 (SEE NOTES B, D)

II EXTREME LONGITUDINAL WIND
ALL WIRES INTACT AT 27°C, FINAL WIRES TENSIONS. WITH A LONGITUDINAL WIND OF 156 KG/M²
ACTING ON TRANSVERSE FACES OF THE TOWER, NO WINDS ON WIRES. L.F.=1.15 (SEE NOTES B, D)

III EXTREME OBLIQUE WIND
ALL WIRES INTACT AT 27°C, FINAL WIRES TENSIONS WITH A TRANSVERSE WIND OF 140 KG/M²
ACTING ON SHIELD WIRES, 115 KG/M² ON CONDUCTORS, 156 KG/M² ON TOWER
AND INSULATOR, WIND BLOWING AT 75°, 60° AND 45° TO LINE. L.F.=1.15
(SEE NOTES A, B, D)

IV FAILURE CONTAINMENT
ALL WIRES INTACT AT 27°C FINAL WIRES TENSIONS. WITH A TRANSVERSE WIND OF 91 KG/M²
ON SHIELD WIRES, 76 KG/M² ON CONDUCTORS, 101.5 KG/M² ON TOWER AND INSULATOR, PLUS AN UNBALANCED LONGITUDINAL LOAD
APPLIED AT ANY ONE WIRE ATTACHMENT LOCATIONS EQUAL TO 100% IN THE TENSION IN THE SHIELD WIRE OR 70%
OF THE TENSION IN THE CONDUCTOR PHASE BUNDLE. (SEE NOTE E)

V STRINGING AND MAINTENANCE
ALL WIRES INTACT AT 4°C INITIAL WIRE TENSIONS. WITH A TRANSVERSE WIND OF 27.5 KG/M² ACTING ON SHIELD WIRES, 23 KG/M²
ON CONDUCTORS, 29.4 KG/M² ON TOWER AND INSULATORS. WITH AN ADDITIONAL VERTICAL LOAD AT ANT OR ALL OF THE WIRE ATTACHMENT
POINTS SIMULTANEOUSLY OF 1,000 KG. PLUS 33% OF THE SHIELD WIRE OR PHASE BUNDLE TENSION. AND WITH AN ADDITIONAL LONGITUDINAL
LOAD ANY ONE WIRE ATTACHMENT LOCATION SIMULATANEOUSLY OF 50% OF THE SHIELD WIRE OR PHASE BUNDLE TENSION. (SEE NOTES E, F)

VI HIGH INTENSITY
ALL WIRES INTACT AT 27°C, FINAL WIRE TENSIONS. PRESSURE OF 306.25 KG/M² ACTING ON TOWER AND INSULATORS WITH NO WIND ON
SHIELD WIRE OR CONDUCTORS. WIND BLOWING AT 90°, 75°, 60°, 45°, 0° TO LINE. (SEE NOTE B)

NOTES

A. FOR WIND AT ANGLE β° TO WIRES. WIND PRESSURE TO BE REDUCED BY $SIN^2.(\beta)$
B. WIND PRESSURE ON TOWER APPLIED ON 3.2 TIMES MOST EXPOSED FACE. FOR WIND AT AN ANGLE β° TO A FACE PRESSURE HAS BEEN ADDITIONALLY INCREASED BY $[\ 1+0.2 \times SIN^2\ (2\beta)\ ]$; WIND LOAD IS ASSUMED IN THE DIRECTION OF THE WIND.
C. ALL ELEMENT OF TOWER ARE TO BE DESIGNED TO 0.92 CAPACITY.
D. L.F. DENOTED LOAD FACTOR APPLYING TO STATISTIC LOAD SUCH AS WIND LOADS.
E. FOR LOADING CASED IV. AND V THE ADDITIONAL LONGITUDINAL LOADS MAY BE ASSUMED TO ACT AT ANY ONE WIRE ATTACHMENT LOCATIONS.
F. LOCATIONS OF THE ADDITIONAL VERTICAL STRINGING LOADS SPECIFIED IN LOADING CASE V ARE INDEPENDENT OF THE LOCATIONS OF THE ADDITIONAL LONGITUDINAL STRINGING LOADS. APPLY ADDITIONAL LONGITUDINAL LOAD AT ANY ONE WIRE ATTACHMENT LOCATION.

GENERAL NOTES

1. CLEARANCE DIMENSIONS ARE MINIMUM FROM SURFACE OF STEEL (NOT FROM MEMBER GAGES OR WORKING LINES) TO THE NEAREST POINT ON THE CONDUCTOR OR CONDUCTOR HARDWARE.
2. ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
3. ALL DIMENSIONS ON TOWER ARE TO THE WORKING LINES EXCEPT AS OTHERWISE NOTED.
4. CONDUCTOR DATA : 1272 MCM, 42/7 ACSR/GA, WT=2.04 KG/M, DIA=33.91 MM, RATED BREAKING STRENGTH=14,050 KG. (4 SUB-CONDUCTORS PER PHASE BUNDLE)
5. SHIELD WIRE DATA : 7 NO.8 ALUMINUM-CLAD STEEL, WT=0.39 KG/M, DIA=9.78 MM, RATED BREAKING STRENGTH=7,227 KG. OR 3\8 INCH EHS CLASS A , WT=0.406 KG/M, DIA=9.14 MM, RATED BREAKING STRENGTH=6,985 KG.
6. TOWER SHALL BE DESIGNED FOR ONE OR BOTH CIRCUITS INSTALLED, FOR THE PURPOSES OF TOWER DESIGN, EACH CIRCUIT SHALL BE DEFINED AS THE THREE PHASE BUNDLES AND THE CORRESPONDING SHIELD WIRE VERTICALLY ADJACENT TO ONE ANOTHER ON ONE SIDE OF THE TOWER.
7. TOWERS ARE DESIGNED FOR USE OF ANY COMBINATION OF LEG EXTENSION HEIGHTS RESULTING IN A MAXIMUM DIFFERENTIAL OF LEG HEIGHT OF SIX METERS BETWEEN ADJACENT OR DIAGONALLY OPPOSITE LEGS.

TOWER APPLICATIONS

RULING SPAN = 440 M.
MAXIMUM WIND SPAN = 460 M. AT 0° AND 355 M. AT 3°
MAXIMUM WEIGHT SPAN = 690 M.
MAXIMUM DEVIATION ANGLE = 3°
DESIGN CRITERIA BASED ON RIGHT OF WAY = 60 M.
SHIELD WIRE ;3/8" EHS CLASS A OR 7 NO.8 ALUMINUM-CLAD STEEL OR OPGW 36 CORES (13.5 MM. DIAMETER)
CONDUCTOR ; 4 x 1272 MCM. ACSR/GA

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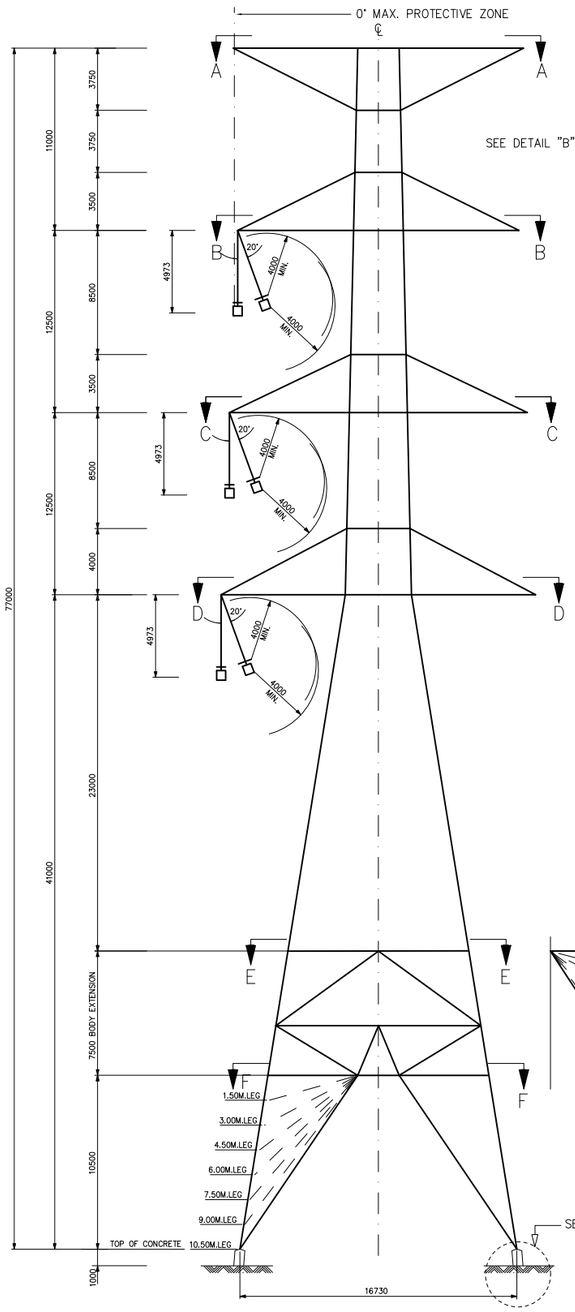
REV.NO.	JOB NO.	JOB DESCRIPTION	DRAWN	DESIGNED	VERIFIED	VALIDATED	RECOMMENDED	CONCURRED	APPROVED	DATE

ELECTRICITY GENERATING AUTHORITY OF THAILAND

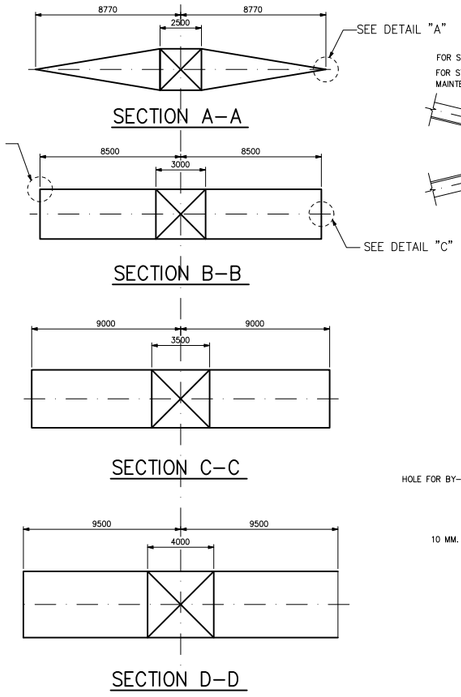
DRAWN ARKET	RECOMMENDED AND VALIDATED titiPONG CHIEF, TRANSMISSION LINE ENGINEERING DEPARTMENT	DRAWING NAME	500 kV TRANSMISSION LINE
DESIGNED P.sit	CONCURRED ASSISTANT DIRECTOR, TRANSMISSION SYSTEM ENGINEERING DIVISION	DESCRIPTION OF DETAIL DRAWING	CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQTR
VERIFIED Viwat.m			
APPROVED Somrich DIRECTOR, TRANSMISSION SYSTEM ENGINEERING DIVISION	DATE 24/04/2025	JOB NO.	REPLACING DWG.NO. / DWG.NO. C01-048 / REV. – –

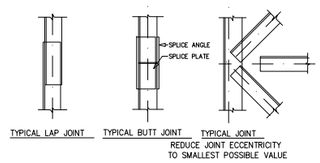
bl504

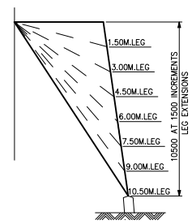
REV.		DWG.NO.
–	–	C01–049

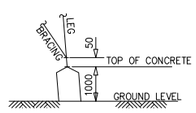


TRANSVERSE FACE









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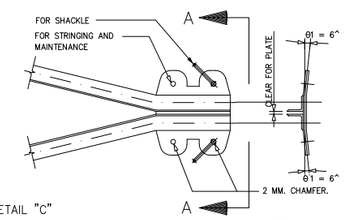
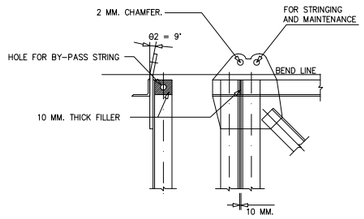


VIEW A–A

(TYPICAL)
DETAIL "A"



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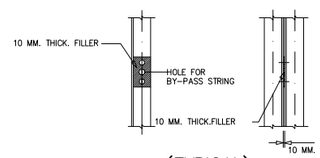

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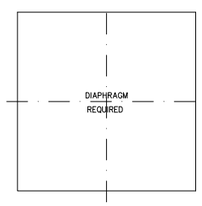
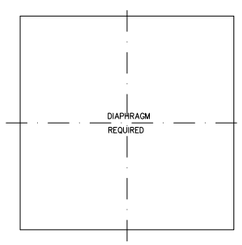


SECTION E–E



SECTION F–F

LOADING CASES

I EXTREME TRANSVERSE WIND

ALL WIRES INTACT AT 27°C, FINAL WIRE TENSION. WITH A TRANSVERSE WIND OF 140 KG/M²
ACTING ON SHIELD WIRES, 115 KG/M² ON CONDUCTORS, 156 KG/M² ON TOWER AND INSULATORS. L.F.=1.15 (SEE NOTES B, D)

II EXTREME LONGITUDINAL WIND

ALL WIRES INTACT AT 27°C, FINAL WIRES TENSIONS. WITH A LONGITUDINAL WIND OF 156 KG/M²
ACTING ON TRANSVERSE FACES OF THE TOWER, NO WINDS ON WIRES. L.F.=1.15 (SEE NOTES B, D)

III EXTREME OBLIQUE WIND

ALL WIRES INTACT AT 27°C, FINAL WIRES TENSIONS WITH A TRANSVERSE WIND OF 140 KG/M²
ACTING ON SHIELD WIRES, 115 KG/M² ON CONDUCTORS, 156 KG/M² ON TOWER
AND INSULATOR, WIND BLOWING AT 75°, 60° AND 45° TO LINE. L.F.=1.15
(SEE NOTES A, B, D)

IV FAILURE CONTAINMENT

ALL WIRES INTACT AT 27°C FINAL WIRES TENSIONS. WITH A TRANSVERSE WIND OF 91 KG/M²
ON SHIELD WIRES, 76 KG/M² ON CONDUCTORS, 101.5 KG/M² ON TOWER AND INSULATOR, PLUS AN UNBALANCED LONGITUDINAL LOAD
EQUAL TO 100% OF THE TENSION IN THE SHIELD WIRE OR CONDUCTOR PHASE BUNDLE. (SEE NOTE E)
OF THE TENSION IN THE CONDUCTOR PHASE BUNDLE. (SEE NOTE E)

V STRINGING AND MAINTENANCE

ALL WIRES INTACT AT 4°C INITIAL WIRE TENSIONS. WITH A TRANSVERSE WIND OF 27.5 KG/M² ACTING ON SHIELD WIRES, 23 KG/M²
ON CONDUCTORS, 29.4 KG/M² ON TOWER AND INSULATORS. WITH AN ADDITIONAL VERTICAL LOAD AT ANT OR ALL OF THE WIRE ATTACHMENT
POINTS OF EITHER ONE (BUT NOT BOTH) OF THE CIRCUITS. THE ADDITIONAL VERTICAL LOAD SHALL BE EQUAL TO 1,500 KG. PLUS 33% OF
THE SHIELD WIRE OR PHASE TENSION, SIMULTANEOUSLY, ADDITIONAL LONGITUDINAL LOADS SHALL BE APPLIED AT ANY OR ALL OF THE
WIRE ATTACHMENT POINTS OF THE SAME CIRCUIT EQUAL TO 100% OF THE SHIELD WIRE OR PHASE BUNDLE TENSION. (SEE NOTE F)

VI HIGH INTENSITY

ALL WIRES INTACT AT 27°C, FINAL WIRE TENSIONS. PRESSURE OF 306.25 KG/M² ACTING ON TOWER AND INSULATORS WITH NO WIND ON
SHIELD WIRE OR CONDUCTORS. WIND BLOWING AT 90°, 75°, 60°, 45°, 0° TO LINE. (SEE NOTE B)

VII UPLIFT LOADS

CROSSARM MEMBERS WILL BE DESIGNED TO WITHSTAND VERTICAL UPLIFT CLOADS EQUAL TO 100% OF THE DESIGN
WEIGHT SPAN ACTING ON ALL ATTACHMENT, IN EACH LOADING CASE.

NOTES

A. FOR WIND AT ANGLE β° TO WIRES. WIND PRESSURE TO BE REDUCED BY $SIN^2.(\beta)$
B. WIND PRESSURE ON TOWER APPLIED ON 3.2 TIMES MOST EXPOSED FACE. FOR WIND AT AN ANGLE ° TO A FACE PRESSURE HAS BEEN
ADDITIONALLY INCREASED BY $[\ 1+0.2 \times SIN^2\ (2\beta)\ ]$; WIND LOAD IS ASSUMED IN THE DIRECTION OF THE WIND.
C. ALL ELEMENT OF TOWER ARE TO BE DESIGNED TO 0.79 CAPACITY.
D. L.F. DENOTED LOAD FACTOR APPLYING TO STATISTIC LOAD SUCH AS WIND LOADS.
E. FOR LOADING CASED IV. AND V THE ADDITIONAL LONGITUDINAL A ND / OR VERTICAL LOADS MAY BE ASSUMED TO ACT AT ANY TWO WIRE
ATTACHMENT LOCATIONS SIMULTANEOUSLY IN THE CASE OF BOTH CURCUITS INSTALLED, IN THE CASE OF ONLY ONE CURCUIT
INSTALLED, APPLY THE ADDITIONAL LONGITUDINAL AND / OR VERTICAL LOAD AT ANY ONE WIRE ATTACHMENT LOCATION.
F. LOCATIONS OF THE ADDITIONAL VERTICAL STRINGING LOADS SPECIFIED IN LOADING CASE V ARE INDEPENDENT OF THE
LOCATIONS OF THE ADDITIONAL LONGITUDINAL STRINGING LOADS. APPLY ADDITIONAL LONGITUDINAL LOAD
AT ANY ONE WIRE ATTACHMENT LOCATION.

GENERAL NOTES

1. CLEARANCE DIMENSIONS ARE MINIMUM FROM SURFACE OF STEEL (NOT FROM MEMBER GAGES OR WORKING LINES)
TO THE NEAREST POINT ON THE CONDUCTOR OR CONDUCTOR HARDWARE.
2. ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
3. ALL DIMENSIONS ON TOWER ARE TO THE WORKING LINES EXCEPT AS OTHERWISE NOTED.
4. CONDUCTOR DATA : 1272 MCM, 42/7 ACSR/GA, WT=2.04 KG/M, DIA=33.91 MM, RATED BREAKING STRENGTH=14,050 KG.
(4 SUB–CONDUCTORS PER PHASE BUNDLE)
5. SHIELD WIRE DATA : 7 NO.8 ALUMINUM–CLAD STEEL, WT=0.39 KG/M, DIA=9.78 MM, RATED BREAKING STRENGTH=7,227 KG.
OR 3/8 INCH EHS CLASS A , WT=0.406 KG/M, DIA=9.14 MM, RATED BREAKING STRENGTH=6,985 KG.
6. TOWER SHALL BE DESIGNED FOR ONE OR BOTH CIRCUITS INSTALLED, FOR THE PURPOSES OF TOWER DESIGN, EACH CIRCUIT SHALL BE
DEFINED AS THE THREE PHASE BUNDLES AND THE CORRESPONDING SHIELD WIRE VERTICALLY ADJACENT TO ONE ANOTHER ON ONE SIDE
OF THE TOWER.
7. TOWERS ARE DESIGNED FOR USE OF ANY COMBINATION OF LEG EXTENSION HEIGHTS RESULTING IN A MAXIMUM DIFFERENTIAL OF LEG
HEIGHT OF SIX METERS BETWEEN ADJACENT OR DIAGONALLY OPPOSITE LEGS.

TOWER APPLICATIONS

RULING SPAN = 440 M.
MAXIMUM WIND SPAN = 460 M. AT 20°
MAXIMUM WEIGHT SPAN = 690 M.
MAXIMUM DEVIATION ANGLE = 20°
DESIGN CRITERIA BASED ON RIGHT OF WAY = 60 M.
SHIELD WIRE ; 3/8 EHS CLASS A OR 7 NO.8 ALUMINUM–CLAD STEEL OR OPGW 36 CORES (13.5 MM. DIAMETER)
CONDUCTOR ; 4 x 1272 MCM. ACSR/GA

ISO 9001 TSE : 2015
CAD CENTER
DO NOT AMEND MANUALLY

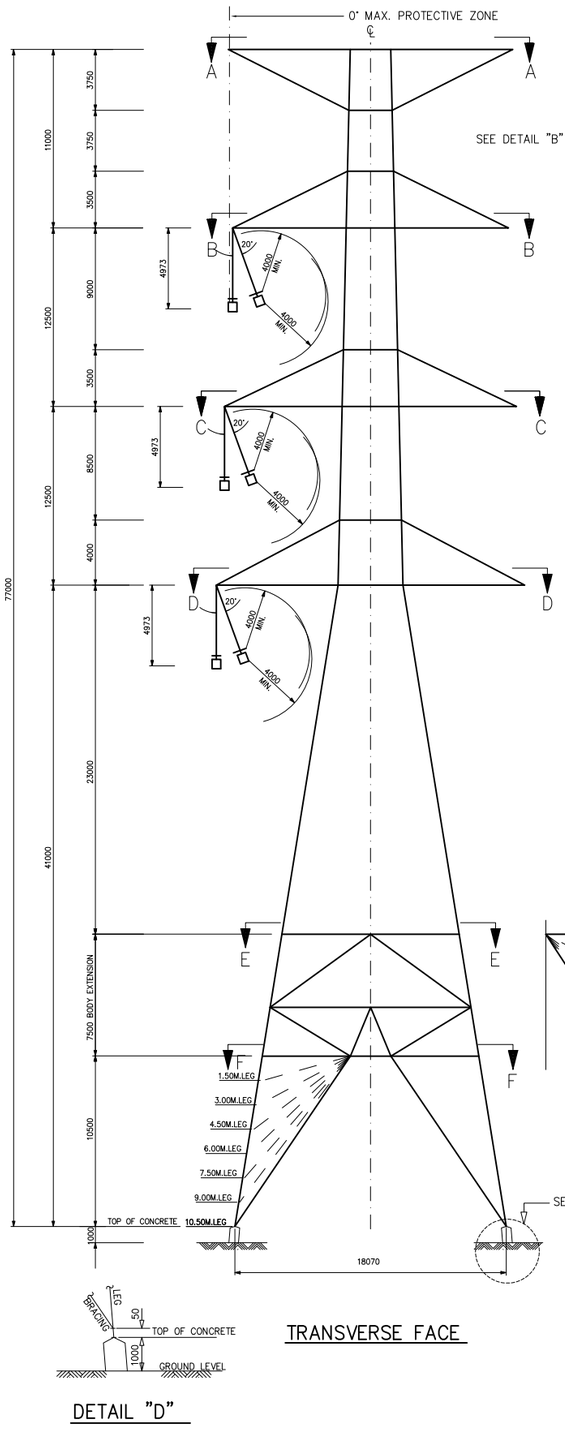
REV.NO.	JOB NO.	JOB DESCRIPTION	DRAWN	DESIGNED	VERIFIED	VALIDATED	RECOMMENDED	CONCURRED	APPROVED	DATE

ELECTRICITY GENERATING AUTHORITY OF THAILAND

DRAWN ARKET	RECOMMENDED AND VALIDATED Lit.PONG CHIEF, TRANSMISSION LINE ENGINEERING DEPARTMENT	DRAWING NAME	500 kV TRANSMISSION LINE
DESIGNED P.sit	CONCURRED ASSISTANT DIRECTOR, TRANSMISSION SYSTEM ENGINEERING DIVISION	DESCRIPTION OF DETAIL DRAWING	CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQT20
VERIFIED Viwat.m			
APPROVED Sopitch DIRECTOR, TRANSMISSION SYSTEM ENGINEERING DIVISION	DATE 24/04/2025	JOB NO.	REPLACING DWG.NO. / DWG.NO. C01–049 / REV. – –

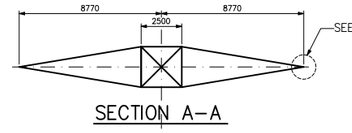
bl500

REV.	DWG.NO.
–	C01–050
–	



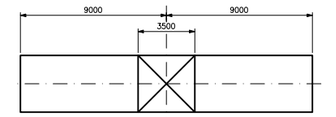
TRANSVERSE FACE

DETAIL "D"



SECTION A–A

SECTION B–B



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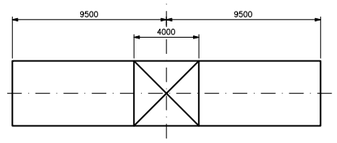
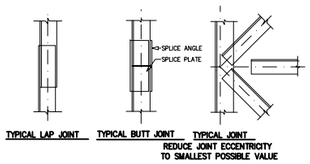
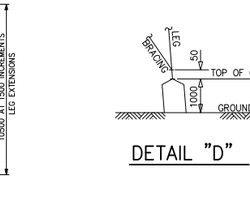


SECTION D–D





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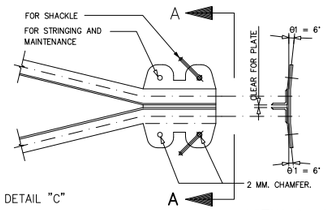
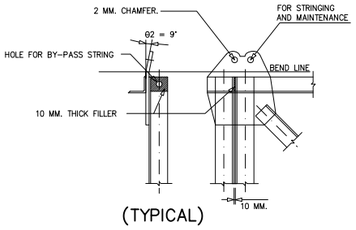


(TYPICAL)
DETAIL "A"

VIEW A–A



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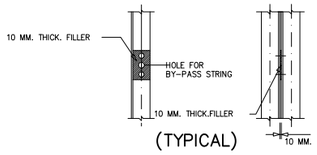

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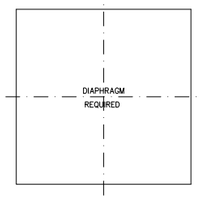
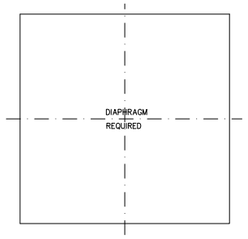


SECTION E–E



SECTION F–F

LOADING CASES

I EXTREME TRANSVERSE WIND

ALL WIRES INTACT AT 27°C, FINAL WIRE TENSION. WITH A TRANSVERSE WIND OF 140 KG/M²
ACTING ON SHIELD WIRES, 115 KG/M² ON CONDUCTORS, 156 KG/M² ON TOWER AND INSULATORS. L.F.=1.15 (SEE NOTES B, D)

II EXTREME LONGITUDINAL WIND

ALL WIRES INTACT AT 27°C, FINAL WIRES TENSIONS. WITH A LONGITUDINAL WIND OF 156 KG/M²
ACTING ON TRANSVERSE FACES OF THE TOWER, NO WINDS ON WIRES. L.F.=1.15 (SEE NOTES B, D)

III EXTREME OBLIQUE WIND

ALL WIRES INTACT AT 27°C, FINAL WIRES TENSIONS WITH A TRANSVERSE WIND OF 140 KG/M²
ACTING ON SHIELD WIRES, 115 KG/M² ON CONDUCTORS, 156 KG/M² ON TOWER
AND INSULATOR, WIND BLOWING AT 75°, 60° AND 45° TO LINE. L.F.=1.15
(SEE NOTES A, B, D)

IV FAILURE CONTAINMENT

ALL WIRES INTACT AT 27°C FINAL WIRES TENSIONS. WITH A TRANSVERSE WIND OF 91 KG/M²
ON SHIELD WIRES, 76 KG/M² ON CONDUCTORS, 101.5 KG/M² ON TOWER AND INSULATOR, PLUS AN UNBALANCED LONGITUDINAL LOADS
EQUAL TO 100% OF THE TENSION IN THE SHIELD WIRE OR CONDUCTOR PHASE BUNDLE. (SEE NOTE E)
OF THE TENSION IN THE CONDUCTOR PHASE BUNDLE. (SEE NOTE E)

V STRINGING AND MAINTENANCE

ALL WIRES INTACT AT 4°C INITIAL WIRE TENSIONS. WITH A TRANSVERSE WIND OF 27.5 KG/M² ACTING ON SHIELD WIRES, 23 KG/M²
ON CONDUCTORS, 29.4 KG/M² ON TOWER AND INSULATORS. WITH AN ADDITIONAL VERTICAL LOAD AT ANT OR ALL OF THE WIRE ATTACHMENT
POINTS OF EITHER ONE (BUT NOT BOTH) OF THE CIRCUITS. THE ADDITIONAL VERTICAL LOAD SHALL BE EQUAL TO 1,500 KG. PLUS 33% OF
THE SHIELD WIRE OR PHASE TENSION, SIMULTANEOUSLY, ADDITIONAL LONGITUDINAL LOADS SHALL BE APPLIED AT ANY OR ALL OF THE
WIRE ATTACHMENT POINTS OF THE SAME CIRCUIT EQUAL TO 100% OF THE SHIELD WIRE OR PHASE BUNDLE TENSION. (SEE NOTE F)

VI HIGH INTENSITY

ALL WIRES INTACT AT 27°C, FINAL WIRE TENSIONS. PRESSURE OF 306.25 KG/M² ACTING ON TOWER AND INSULATORS WITH NO WIND ON
SHIELD WIRE OR CONDUCTORS. WIND BLOWING AT 90°, 75°, 60°, 45°, 0° TO LINE. (SEE NOTE B)

VII UPLIFT LOADS

CROSSARM MEMBERS WILL BE DESIGNED TO WITHSTAND VERTICAL UPLIFT CLOADS EQUAL TO 100% OF THE DESIGN
WEIGHT SPAN ACTING ON ALL ATTACHMENT, IN EACH LOADING CASE.

NOTES

A. FOR WIND AT ANGLE β° TO WIRES. WIND PRESSURE TO BE REDUCED BY $\sin^2(\beta)$
B. WIND PRESSURE ON TOWER APPLIED ON 3.2 TIMES MOST EXPOSED FACE. FOR WIND AT AN ANGLE ° TO A FACE PRESSURE HAS BEEN
ADDITIONALLY INCREASED BY $[\ 1+0.2 \times \sin^2(2\beta)\ ]$;WIND LOAD IS ASSUMED IN THE DIRECTION OF THE WIND.
C. ALL ELEMENT OF TOWER ARE TO BE DESIGNED TO 0.79 CAPACITY.
D. L.F. DENOTED LOAD FACTOR APPLYING TO STATISTIC LOAD SUCH AS WIND LOADS.
E. FOR LOADING CASED IV. AND V THE ADDITIONAL LONGITUDINAL A ND / OR VERTICAL LOADS MAY BE ASSUMED TO ACT AT ANY TWO WIRE
ATTACHMENT LOCATIONS SIMULTANEOUSLY IN THE CASE OF BOTH CURCUITS INSTALLED, IN THE CASE OF ONLY ONE CURCUIT
INSTALLED, APPLY THE ADDITIONAL LONGITUDINAL AND / OR VERTICAL LOAD AT ANY ONE WIRE ATTACHMENT LOCATION.
F. LOCATIONS OF THE ADDITIONAL VERTICAL STRINGING LOADS SPECIFIED IN LOADING CASE V ARE INDEPENDENT OF THE
LOCATIONS OF THE ADDITIONAL LONGITUDINAL STRINGING LOADS. APPLY ADDITIONAL LONGITUDINAL LOAD
AT ANY ONE WIRE ATTACHMENT LOCATION.

GENERAL NOTES

1. CLEARANCE DIMENSIONS ARE MINIMUM FROM SURFACE OF STEEL (NOT FROM MEMBER GAGES OR WORKING LINES)
TO THE NEAREST POINT ON THE CONDUCTOR OR CONDUCTOR HARDWARE.
2. ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
3. ALL DIMENSIONS ON TOWER ARE TO THE WORKING LINES EXCEPT AS OTHERWISE NOTED.
4. CONDUCTOR DATA : 1272 MCM, 42/7 ACSR/GA, WT=2.04 KG/M, DIA=33.91 MM, RATED BREAKING STRENGTH=14,050 KG.
(4 SUB–CONDUCTORS PER PHASE BUNDLE)
5. SHIELD WIRE DATA : 7 NO.8 ALUMINUM–CLAD STEEL, WT=0.39 KG/M, DIA=9.78 MM, RATED BREAKING STRENGTH=7,227 KG.
OR 3/8 INCH EHS CLASS A , WT=0.406 KG/M, DIA=9.14 MM, RATED BREAKING STRENGTH=6,985 KG.
6. TOWER SHALL BE DESIGNED FOR ONE OR BOTH CIRCUITS INSTALLED, FOR THE PURPOSES OF TOWER DESIGN, EACH CIRCUIT SHALL BE
DEFINED AS THE THREE PHASE BUNDLES AND THE CORRESPONDING SHIELD WIRE VERTICALLY ADJACENT TO ONE ANOTHER ON ONE SIDE
OF THE TOWER.
7. TOWERS ARE DESIGNED FOR USE OF ANY COMBINATION OF LEG EXTENSION HEIGHTS RESULTING IN A MAXIMUM DIFFERENTIAL OF LEG
HEIGHT OF SIX METERS BETWEEN ADJACENT OR DIAGONALLY OPPOSITE LEGS.

TOWER APPLICATIONS

RULING SPAN = 440 M.
MAXIMUM WIND SPAN = 460 M. AT 40°
MAXIMUM WEIGHT SPAN = 690 M.
MAXIMUM DEVIATION ANGLE = 40°
DESIGN CRITERIA BASED ON RIGHT OF WAY = 60 M.
SHIELD WIRE ; 3/8 EHS CLASS A OR 7 NO.8 ALUMINUM–CLAD STEEL OR OPGW 36 CORES (13.5 MM. DIAMETER)
CONDUCTOR ; 4 x 1272 MCM. ACSR/GA

ISO 9001 TSE : 2015
CAD CENTER
DO NOT AMEND MANUALLY

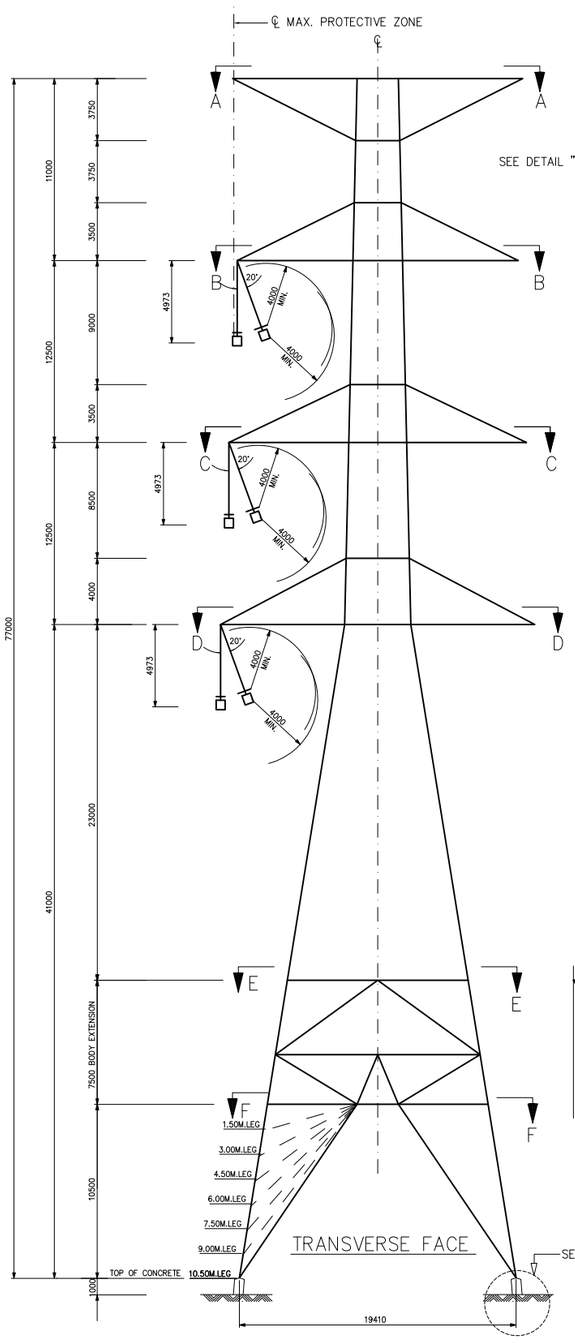
REV.NO.	JOB NO.	JOB DESCRIPTION	DRAWN	DESIGNED	VERIFIED	VALIDATED	RECOMMENDED	CONCURRED	APPROVED	DATE

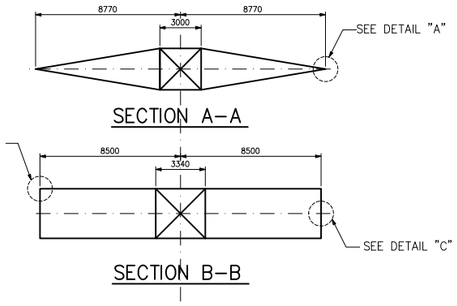
ELECTRICITY GENERATING AUTHORITY OF THAILAND

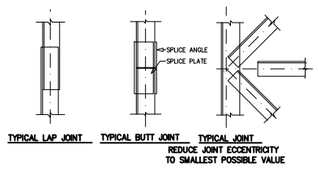
DRAWN ARKET	RECOMMENDED AND VALIDATED tiPONG– CHIEF, TRANSMISSION LINE ENGINEERING DEPARTMENT	DRAWING NAME	500 kV TRANSMISSION LINE
DESIGNED P.sit	CONCURRED ASSISTANT DIRECTOR, TRANSMISSION SYSTEM ENGINEERING DIVISION	DESCRIPTION OF DETAIL DRAWING	CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQT40
VERIFIED Viwat.m			
APPROVED DIRECTOR, TRANSMISSION SYSTEM ENGINEERING DIVISION DATE 24/04/2025		JOB NO.	REPLACING DWG.NO. / DWG.NO. C01–050 / REV. – –

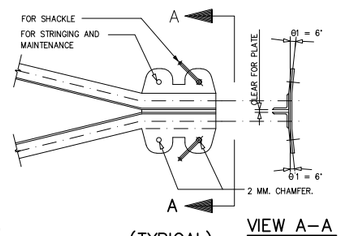
b1501

REV.	DWG.NO.
–	C01–051



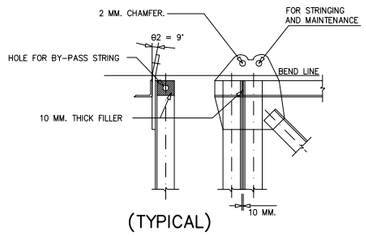






(TYPICAL)
DETAIL "A"

VIEW A–A



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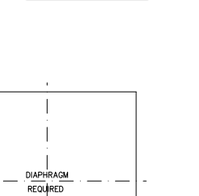
DETAIL "B"



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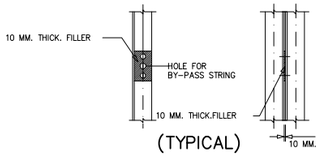

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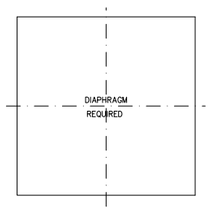
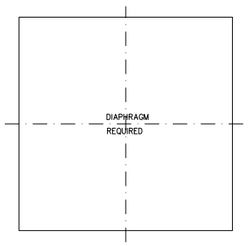
DETAIL "C"



SECTION E–E



SECTION F–F

LOADING CASES

I EXTREME TRANSVERSE WIND

ALL WIRES INTACT AT 27°C, FINAL WIRE TENSION. WITH A TRANSVERSE WIND OF 140 KG/M²
ACTING ON SHIELD WIRES, 115 KG/M² ON CONDUCTORS, 156 KG/M² ON TOWER AND INSULATORS. L.F.=1.15 (SEE NOTES B, D)

II EXTREME LONGITUDINAL WIND

ALL WIRES INTACT AT 27°C, FINAL WIRES TENSIONS. WITH A LONGITUDINAL WIND OF 156 KG/M²
ACTING ON TRANSVERSE FACES OF THE TOWER, NO WINDS ON WIRES. L.F.=1.15 (SEE NOTES B, D)

III EXTREME OBLIQUE WIND

ALL WIRES INTACT AT 27°C, FINAL WIRES TENSIONS WITH A TRANSVERSE WIND OF 140 KG/M²
ACTING ON SHIELD WIRES, 115 KG/M² ON CONDUCTORS, 156 KG/M² ON TOWER
AND INSULATOR, WIND BLOWING AT 75°, 60° AND 45° TO LINE. L.F.=1.15
(SEE NOTES A, B, D)

IV FAILURE CONTAINMENT

ALL WIRES INTACT AT 27°C FINAL WIRES TENSIONS. WITH A TRANSVERSE WIND OF 91 KG/M²
ON SHIELD WIRES, 76 KG/M² ON CONDUCTORS, 101.5 KG/M² ON TOWER AND INSULATOR, PLUS AN UNBALANCED LONGITUDINAL LOADS
EQUAL TO 100% OF THE TENSION IN THE SHIELD WIRE OR CONDUCTOR PHASE BUNDLE. (SEE NOTE E)
OF THE TENSION IN THE CONDUCTOR PHASE BUNDLE. (SEE NOTE E)

V STRINGING AND MAINTENANCE

ALL WIRES INTACT AT 4°C INITIAL WIRE TENSIONS. WITH A TRANSVERSE WIND OF 27.5 KG/M² ACTING ON SHIELD WIRES, 23 KG/M²
ON CONDUCTORS, 29.4 KG/M² ON TOWER AND INSULATORS. WITH AN ADDITIONAL VERTICAL LOAD AT ANT OR ALL OF THE WIRE ATTACHMENT
POINTS OF EITHER ONE (BUT NOT BOTH) OF THE CIRCUITS. THE ADDITIONAL VERTICAL LOAD SHALL BE EQUAL TO 1,500 KG. PLUS 33% OF
THE SHIELD WIRE OR PHASE TENSION, SIMULTANEOUSLY, ADDITIONAL LONGITUDINAL LOADS SHALL BE APPLIED AT ANY OR ALL OF THE
WIRE ATTACHMENT POINTS OF THE SAME CIRCUIT EQUAL TO 100% OF THE SHIELD WIRE OR PHASE BUNDLE TENSION. (SEE NOTE F)

VI HIGH INTENSITY

ALL WIRES INTACT AT 27°C, FINAL WIRE TENSIONS. PRESSURE OF 306.25 KG/M² ACTING ON TOWER AND INSULATORS WITH NO WIND ON
SHIELD WIRE OR CONDUCTORS. WIND BLOWING AT 90°, 75°, 60°, 45°, 0° TO LINE. (SEE NOTE B)

VII UPLIFT LOADS

CROSSARM MEMBERS WILL BE DESIGNED TO WITHSTAND VERTICAL UPLIFT CLOADS EQUAL TO 100% OF THE DESIGN
WEIGHT SPAN ACTING ON ALL ATTACHMENT, IN EACH LOADING CASE.

NOTES

A. FOR WIND AT ANGLE β° TO WIRES. WIND PRESSURE TO BE REDUCED BY $SIN^2.(\beta)$
B. WIND PRESSURE ON TOWER APPLIED ON 3.2 TIMES MOST EXPOSED FACE. FOR WIND AT AN ANGLE β° TO A FACE PRESSURE HAS BEEN ADDITIONALLY INCREASED BY $[\ 1+0.2 \times SIN^2\ (2\beta)]$;WIND LOAD IS ASSUMED IN THE DIRECTION OF THE WIND.
C. ALL ELEMENT OF TOWER ARE TO BE DESIGNED TO 0.79 CAPACITY.
D. L.F. DENOTED LOAD FACTOR APPLYING TO STATISTIC LOAD SUCH AS WIND LOADS.
E. FOR LOADING CASED IV. AND V THE ADDITIONAL LONGITUDINAL A ND / OR VERTICAL LOADS MAY BE ASSUMED TO ACT AT ANY TWO WIRE ATTACHMENT LOCATIONS SIMULTANEOUSLY IN THE CASE OF BOTH CURCUITS INSTALLED, IN THE CASE OF ONLY ONE CURCUIT INSTALLED, APPLY THE ADDITIONAL LONGITUDINAL AND / OR VERTICAL LOAD AT ANY ONE WIRE ATTACHMENT LOCATION.
F. LOCATIONS OF THE ADDITIONAL VERTICAL STRINGING LOADS SPECIFIED IN LOADING CASE V ARE INDEPENDENT OF THE LOCATIONS OF THE ADDITIONAL LONGITUDINAL STRINGING LOADS. APPLY ADDITIONAL LONGITUDINAL LOAD AT ANY ONE WIRE ATTACHMENT LOCATION.

GENERAL NOTES

1. CLEARANCE DIMENSIONS ARE MINIMUM FROM SURFACE OF STEEL (NOT FROM MEMBER GAGES OR WORKING LINES) TO THE NEAREST POINT ON THE CONDUCTOR OR CONDUCTOR HARDWARE.
2. ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
3. ALL DIMENSIONS ON TOWER ARE TO THE WORKING LINES EXCEPT AS OTHERWISE NOTED.
4. CONDUCTOR DATA : 1272 MCM, 42/7 ACSR/GA, WT=2.04 KG/M, DIA=33.91 MM, RATED BREAKING STRENGTH=14,050 KG. (4 SUB–CONDUCTORS PER PHASE BUNDLE)
5. SHIELD WIRE DATA : 7 NO.8 ALUMINUM–CLAD STEEL, WT=0.39 KG/M, DIA=9.78 MM, RATED BREAKING STRENGTH=7,227 KG. OR 3/8 INCH EHS CLASS A , WT=0.406 KG/M, DIA=9.14 MM, RATED BREAKING STRENGTH=6,985 KG.
6. TOWER SHALL BE DESIGNED FOR ONE OR BOTH CIRCUITS INSTALLED, FOR THE PURPOSES OF TOWER DESIGN, EACH CIRCUIT SHALL BE DEFINED AS THE THREE PHASE BUNDLES AND THE CORRESPONDING SHIELD WIRE VERTICALLY ADJACENT TO ONE ANOTHER ON ONE SIDE OF THE TOWER.
7. TOWERS ARE DESIGNED FOR USE OF ANY COMBINATION OF LEG EXTENSION HEIGHTS RESULTING IN A MAXIMUM DIFFERENTIAL OF LEG HEIGHT OF SIX METERS BETWEEN ADJACENT OR DIAGONALLY OPPOSITE LEGS.

TOWER APPLICATIONS

RULING SPAN = 440 M.
MAXIMUM WIND SPAN = 460 M. AT 60°
MAXIMUM WEIGHT SPAN = 690 M.
MAXIMUM DEVIATION ANGLE = 60°
DESIGN CRITERIA BASED ON RIGHT OF WAY = 60 M.
SHIELD WIRE ; 3/8 EHS CLASS A 7 NO.8 ALUMINUM–CLAD STEEL OR OPGW 36 CORES (13.5 MM. DIAMETER)
CONDUCTOR ; 4 x 1272 MCM. ACSR/GA

ISO 9001 TSE : 2015
CAD CENTER
DO NOT AMEND MANUALLY

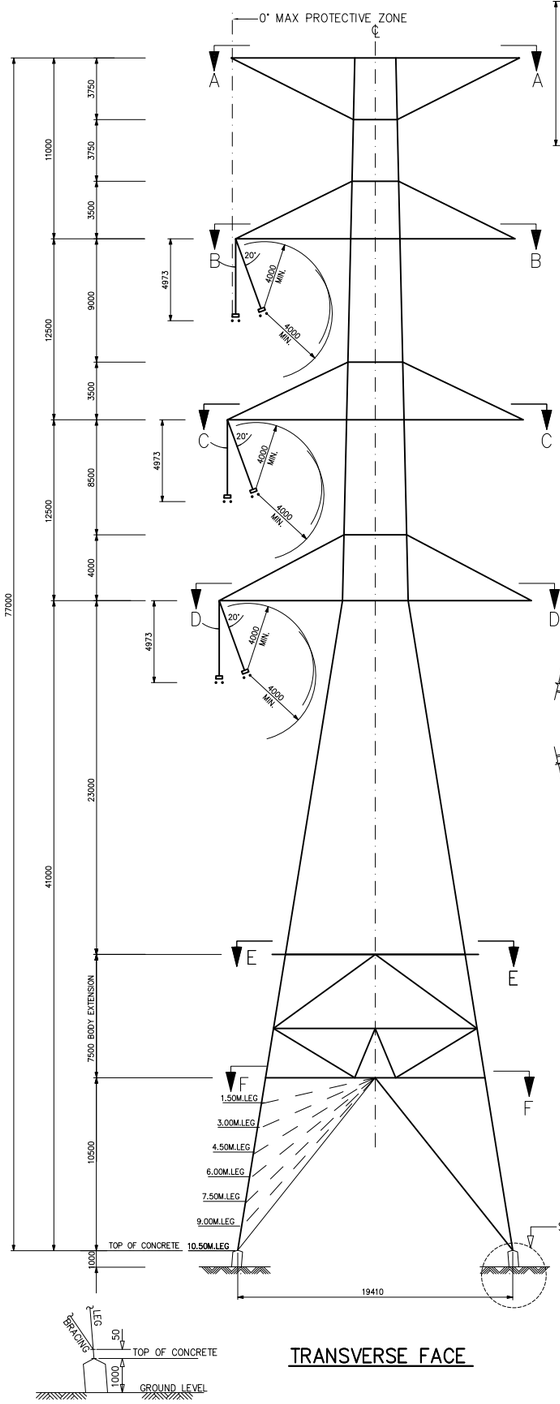
REV.NO.	JOB NO.	JOB DESCRIPTION	DRAWN	DESIGNED	VERIFIED	VALIDATED	RECOMMENDED	CONCURRED	APPROVED	DATE

ELECTRICITY GENERATING AUTHORITY OF THAILAND

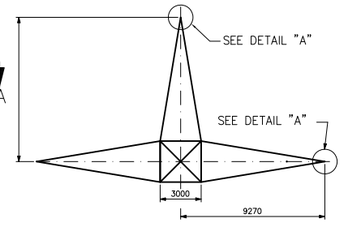
DRAWN ARKET	RECOMMENDED AND VALIDATED LitiPONG CHIEF, TRANSMISSION LINE ENGINEERING DEPARTMENT	DRAWING NAME	500 kV TRANSMISSION LINE
DESIGNED P.sit	CONCURRED ASSISTANT DIRECTOR, TRANSMISSION SYSTEM ENGINEERING DIVISION	DESCRIPTION OF DETAIL DRAWING	CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQT60
VERIFIED Viwat.m			
APPROVED DIRECTOR, TRANSMISSION SYSTEM ENGINEERING DIVISION	DATE 24/04/2025	JOB NO.	REPLACING DWG.NO. / DWG.NO. C01–051 / REV. – –

bl502

REV.	DWG.NO.
-	C01-052



TRANSVERSE FACE



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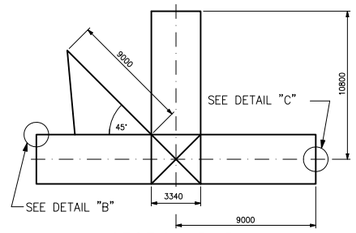

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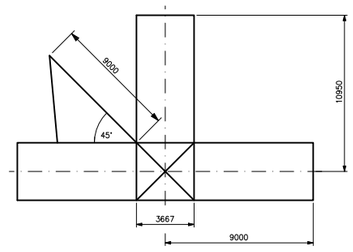

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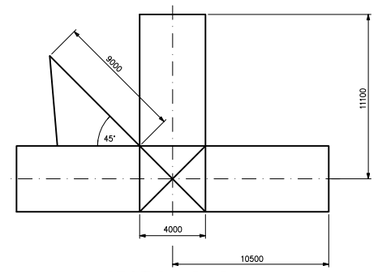

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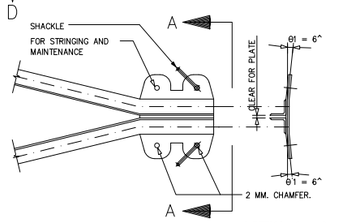
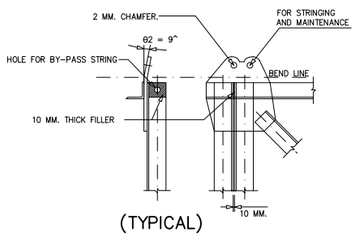


(TYPICAL)
VIEW A–A
DETAIL "A"



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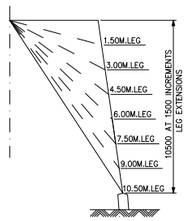

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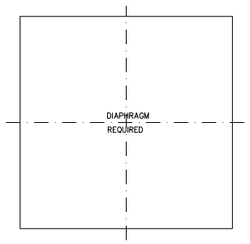
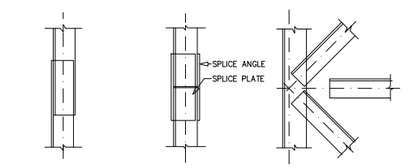
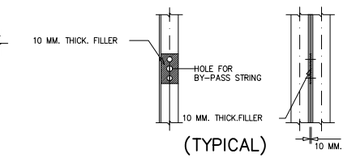


SECTION F–F

DETAIL "D"



TYPICAL LAP JOINT TYPICAL BUTT JOINT TYPICAL JOINT
REDUCE JOINT ECCENTRICITY TO SMALLEST POSSIBLE VALUE



(TYPICAL)
DETAIL "C"

LOADING CASES

I EXTREME TRANSVERSE WIND

ALL WIRES INTACT AT 27°C, FINAL WIRE TENSION. WITH A TRANSVERSE WIND OF 140 KG/M²
ACTING ON SHIELD WIRES, 115 KG/M² ON CONDUCTORS, 156 KG/M² ON TOWER AND INSULATORS. L.F.=1.15 (SEE NOTES B, D)

II EXTREME LONGITUDINAL WIND

ALL WIRES INTACT AT 27°C, FINAL WIRES TENSIONS. WITH A LONGITUDINAL WIND OF 156 KG/M²
ACTING ON TRANSVERSE FACES OF THE TOWER, NO WINDS ON WIRES. L.F.=1.15 (SEE NOTES B, D)

III EXTREME OBLIQUE WIND

ALL WIRES INTACT AT 27°C, FINAL WIRES TENSIONS WITH A TRANSVERSE WIND OF 140 KG/M²
ACTING ON SHIELD WIRES, 115 KG/M² ON CONDUCTORS, 156 KG/M² ON TOWER
AND INSULATOR, WIND BLOWING AT 75°, 60° AND 45° TO LINE. L.F.=1.15
(SEE NOTES A, B, D)

IV FAILURE CONTAINMENT

ALL WIRES INTACT AT 27°C FINAL WIRES TENSIONS. WITH A TRANSVERSE WIND OF 91 KG/M²
ON SHIELD WIRES, 76 KG/M² ON CONDUCTORS, 101.5 KG/M² ON TOWER AND INSULATOR, PLUS AN UNBALANCED LONGITUDINAL LOADS
EQUAL TO 100% OF THE TENSION IN THE SHIELD WIRE OR CONDUCTOR PHASE BUNDLE. (SEE NOTE E)
OF THE TENSION IN THE CONDUCTOR PHASE BUNDLE. (SEE NOTE E)

V STRINGING AND MAINTENANCE

ALL WIRES INTACT AT 4°C INITIAL WIRE TENSIONS. WITH A TRANSVERSE WIND OF 27.5 KG/M² ACTING ON SHIELD WIRES, 23 KG/M²
ON CONDUCTORS, 29.4 KG/M² ON TOWER AND INSULATORS. WITH AN ADDITIONAL VERTICAL LOAD AT ANT OR ALL OF THE WIRE ATTACHMENT
POINTS OF EITHER ONE (BUT NOT BOTH) OF THE CIRCUITS. THE ADDITIONAL VERTICAL LOAD SHALL BE EQUAL TO 1,500 KG. PLUS 33% OF
THE SHIELD WIRE OR PHASE TENSION, SIMULTANEOUSLY, ADDITIONAL LONGITUDINAL LOADS SHALL BE APPLIED AT ANY OR ALL OF THE
WIRE ATTACHMENT POINTS OF THE SAME CIRCUIT EQUAL TO 100% OF THE SHIELD WIRE OR PHASE BUNDLE TENSION. (SEE NOTE F)

VI HIGH INTENSITY

ALL WIRES INTACT AT 27°C, FINAL WIRE TENSIONS. PRESSURE OF 306.25 KG/M² ACTING ON TOWER AND INSULATORS WITH NO WIND ON
SHIELD WIRE OR CONDUCTORS. WIND BLOWING AT 90, 75, 60, 45, 0 TO LINE. (SEE NOTE B)

VII UPLIFT LOADS

CROSSARM MEMBERS WILL BE DESIGNED TO WITHSTAND VERTICAL UPLIFT CLOADS EQUAL TO 100% OF THE DESIGN
WEIGHT SPAN ACTING ON ALL ATTACHMENT, IN EACH LOADING CASE.

NOTES

A. FOR WIND AT ANGLE β° TO WIRES. WIND PRESSURE TO BE REDUCED BY $\sin^2(\beta)$
B. WIND PRESSURE ON TOWER APPLIED ON 3.2 TIMES MOST EXPOSED FACE. FOR WIND AT AN ANGLE β° TO A FACE PRESSURE HAS BEEN ADDITIONALLY INCREASED BY $[\ 1+0.2 \times \sin^2(2\beta)\ ]$;WIND LOAD IS ASSUMED IN THE DIRECTION OF THE WIND.
C. ALL ELEMENT OF TOWER ARE TO BE DESIGNED TO 0.79 CAPACITY.
D. L.F. DENOTED LOAD FACTOR APPLYING TO STATISTIC LOAD SUCH AS WIND LOADS.
E. FOR LOADING CASED IV. AND V THE ADDITIONAL LONGITUDINAL A ND / OR VERTICAL LOADS MAY BE ASSUMED TO ACT AT ANY TWO WIRE ATTACHMENT LOCATIONS SIMULTANEOUSLY IN THE CASE OF BOTH CURCUITS INSTALLED, IN THE CASE OF ONLY ONE CURCUIT INSTALLED, APPLY THE ADDITIONAL LONGITUDINAL AND / OR VERTICAL LOAD AT ANY ONE WIRE ATTACHMENT LOCATION.
F. LOCATIONS OF THE ADDITIONAL VERTICAL STRINGING LOADS SPECIFIED IN LOADING CASE V ARE INDEPENDENT OF THE LOCATIONS OF THE ADDITIONAL LONGITUDINAL STRINGING LOADS. APPLY ADDITIONAL LONGITUDINAL LOAD AT ANY ONE WIRE ATTACHMENT LOCATION.

GENERAL NOTES

1. CLEARANCE DIMENSIONS ARE MINIMUM FROM SURFACE OF STEEL (NOT FROM MEMBER GAGES OR WORKING LINES) TO THE NEAREST POINT ON THE CONDUCTOR OR CONDUCTOR HARDWARE.
2. ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
3. ALL DIMENSIONS ON TOWER ARE TO THE WORKING LINES EXCEPT AS OTHERWISE NOTED.
4. CONDUCTOR DATA : 1272 MCM, 42/7 ACSR/GA, WT=2.04 KG/M, DIA=33.91 MM, RATED BREAKING STRENGTH=14,050 KG. (4 SUB-CONDUCTORS PER PHASE BUNDLE)
5. SHIELD WIRE DATA : 7 NO.8 ALUMINUM-CLAD STEEL, WT=0.39 KG/M, DIA=9.78 MM, RATED BREAKING STRENGTH=7,227 KG. OR 3/8 INCH EHS CLASS A , WT=0.406 KG/M, DIA=9.14 MM, RATED BREAKING STRENGTH=6,985 KG.
6. TOWER SHALL BE DESIGNED FOR ONE OR BOTH CIRCUITS INSTALLED, FOR THE PURPOSES OF TOWER DESIGN, EACH CIRCUIT SHALL BE DEFINED AS THE THREE PHASE BUNDLES AND THE CORRESPONDING SHIELD WIRE VERTICALLY ADJACENT TO ONE ANOTHER ON ONE SIDE OF THE TOWER.
7. TOWERS ARE DESIGNED FOR USE OF ANY COMBINATION OF LEG EXTENSION HEIGHTS RESULTING IN A MAXIMUM DIFFERENTIAL OF LEG HEIGHT OF SIX METERS BETWEEN ADJACENT OR DIAGONALLY OPPOSITE LEGS.

TOWER APPLICATIONS

RULING SPAN = 440 M.
MAXIMUM WIND SPAN = 460 M. AT 90°
MAXIMUM WEIGHT SPAN = 690 M.
MAXIMUM DEVIATION ANGLE = 90°
DESIGN CRITERIA BASED ON RIGHT OF WAY = 60 M.
SHIELD WIRE ; 3/8 EHS CLASS A OR 7 NO.8 ALUMINUM-CLAD STEEL OR OPGW 24 CORES (10.5 MM. DIAMETER)
CONDUCTOR ; 4 x 1272 MCM. ACSR/GA

ISO 9001 TSE : 2015
CAD CENTER
DO NOT AMEND MANUALLY

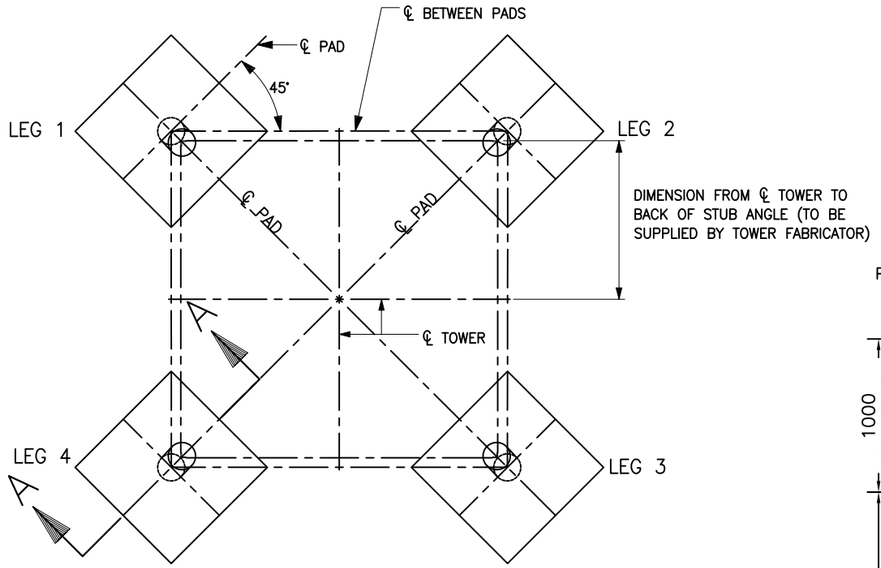
REV.NO.	JOB NO.	JOB DESCRIPTION	DRAWN	DESIGNED	VERIFIED	VALIDATED	RECOMMENDED	CONCURRED	APPROVED	DATE

ELECTRICITY GENERATING AUTHORITY OF THAILAND

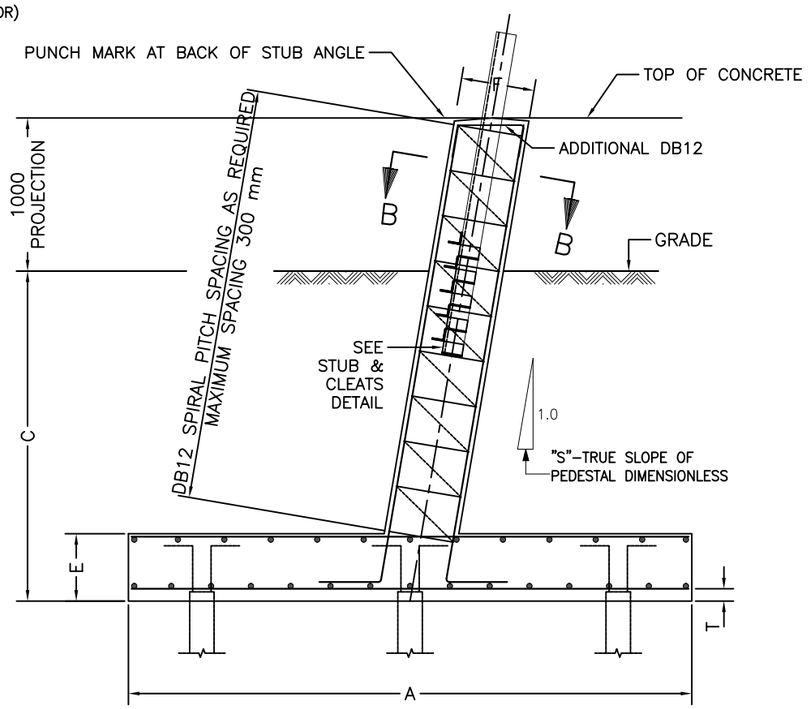
DRAWN ARKET	RECOMMENDED AND VALIDATED Litipong	DRAWING NAME	500 kV TRANSMISSION LINE
DESIGNED P.sit	CHIEF, TRANSMISSION LINE ENGINEERING DEPARTMENT	DESCRIPTION OF DETAIL DRAWING	CONFIGURATION AND DESIGN CRITERIA TOWER TYPE DQT90
VERIFIED Viwat.m	CONCURRED		
APPROVED Sorarich	ASSISTANT DIRECTOR, TRANSMISSION SYSTEM ENGINEERING DIVISION	JOB NO.	REPLACING DWG.NO. / DWG.NO. C01-052 / REV. - -
DIRECTOR, TRANSMISSION SYSTEM ENGINEERING DIVISION	DATE 24/04/2025		

bl503

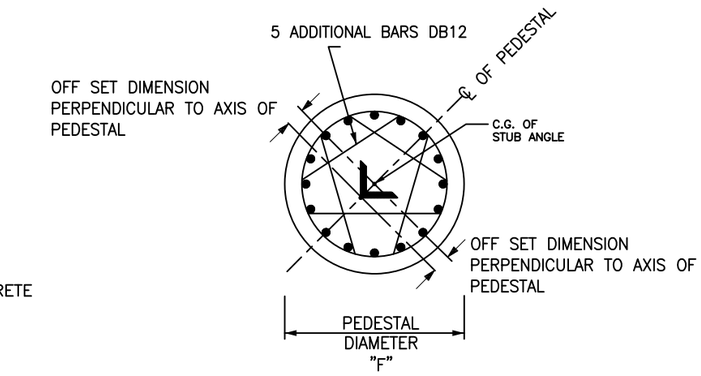
DWG.NO.	REV.
C21-025	1
	–



ORIENTATION OF FOUNDATION
(NOT TO SCALE)



SECTION A–A
(NOT TO SCALE)



SECTION B–B
(NOT TO SCALE)

STUB & CLEATS DETAIL
(NOT TO SCALE)

MINIMUM DIMENSIONS		
ITEM	PAD TYPE	PILE TYPE
A	3000	2400
F	800	800
C	3000	1250
E	600	800
T	75	200

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS EXCEPT AS NOTED.
2. ALL REINFORCING BARS SHALL BE DEFORMED BARS CONFORMING TO THAI STANDARD FOR STEEL BARS FOR REINFORCED CONCRETE TIS–24–2559 GRADE SD–40.
3. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 210 kg/cm² AT 28 DAYS (CYLINDER TEST).
4. REINFORCING TIE WIRES SHALL BE 16 GAGE (1.58 mm) MINIMUM.
5. FOUNDATIONS SHALL BE PLACED ON UNDISTURBED SOIL. BOTTOMS OF ALL FOUNDATION SHALL BE LEVEL.
6. STUB ANGLES SHALL BE SET TO TRUE POSITION USING STUB ANGLE SETTING TEMPLATE.
7. CONCRETE COVER OVER REINFORCING SHALL BE 50 mm EXCEPT AS SPECIFIED.
8. REINFORCEMENT SHALL BE SET AND MAINTAINED WITHIN 26 mm OF THE CENTER–TO–CENTER SPACING INDICATED.
9. PILES SHALL BE PROVIDED IF REQUIRED. NUMBER AND LENGTH OF PILE SHALL BE DESIGNED BY THE CONTRACTOR.
10. MATERIAL AND CONSTRUCTION SHALL BE AS SPECIFIED IN LATEST EDITION OF SPECIFICATION NO. L–500 kV.
11. STUB OF TOWER SHALL BE THE SAME LENGTH FOR PILE FOUNDATION AND CAN BE SAME OR DIFFERENT LENGTH FOR PAD FOUNDATION . THE MINIMUM LENGTH = 1300 mm.

ISO 9001 TSE : 2015
CAD CENTER
DO NOT AMEND MANUALLY

REV.NO.	JOB NO.	JOB DESCRIPTION	DRAWN	DESIGNED	VERIFIED	VALIDATED	RECOMMENDED	CONCURRED	APPROVED	DATE
01	–	REVISED OF STUB LENGTH DETAIL IN NOTES 11 AND MINIMUM THICKNESS OF PAD,MINIMUM PILE WIDTH	–	–	–	–	–	–	–	03/10/2025

ELECTRICITY GENERATING AUTHORITY OF THAILAND

DRAWN .....
DESIGNED P.Sit
VERIFIED Visa.t.m
APPROVED Somrich
DIRECTOR, TRANSMISSION SYSTEM ENGINEERING DIVISION

RECOMMENDED AND VALIDATED Litipong
CHIEF, TRANSMISSION LINE ENGINEERING DEPARTMENT
CONCURRED
ASSISTANT DIRECTOR, TRANSMISSION SYSTEM ENGINEERING DIVISION
DATE 03/10/2025

DRAWING NAME 500 kV TRANSMISSION LINE
DESCRIPTION TYPICAL FOUNDATION OUTLINE

JOB NO.	REPLACING DWG.NO.	DWG.NO.	REV.
–	–	C21–025	1