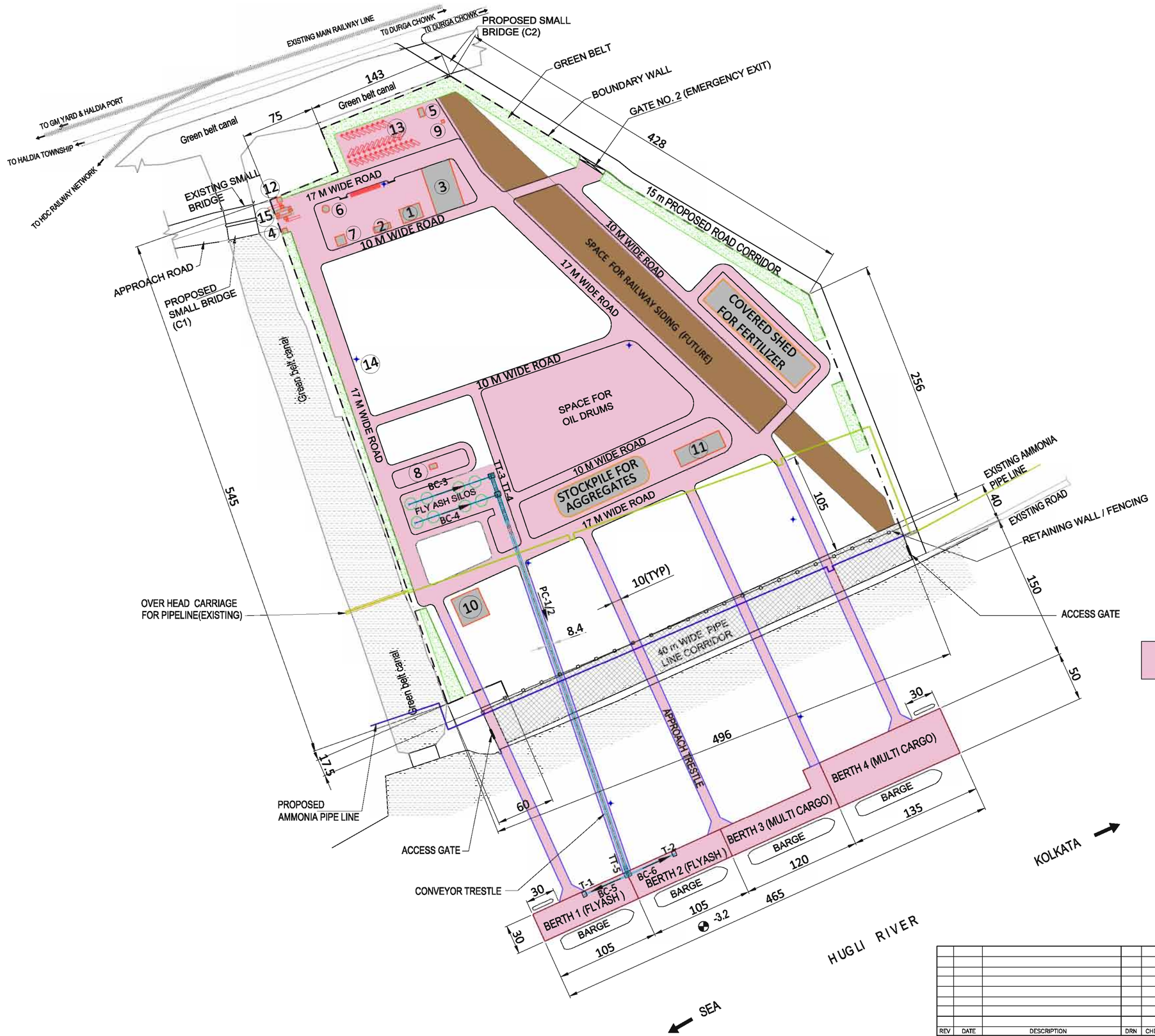


PHASE 1A DEVELOPMENT

LEGEND:

S.NO.	DESCRIPTION
1	TERMINAL ADMINISTRATION BUILDING
2	WORKER'S AMENITY BUILDING
3	FUEL BUNKER
4	SECURITY OFFICE
5	SEWAGE TREATMENT PLANT
6	OVERHEAD WATER TANK
7	UNDERGROUND RESERVOIR
8	RIO (REMOTE INPUT OUT PUT)/ COMPRESSOR ROOM FOR ASH HANDLING
9	WASTE COLLECTION CENTER
10	SETTLING POND
11	ELECTRICAL SUB STATION
12	WEIGH BRIDGE CONTROL ROOM
13	VEHICLE PARKING AREA
14	HIGHMAST LIGHTING TOWERS
15	GATE HOUSE COMPLEX

N

LEGEND:

SYMBOL	DESCRIPTION
TT	TRANSFER TOWER
T	TOWER
BC	BELT CONVEYORS
PC	PIPE CONVEYORS

PHASE - 1A

NOTES:

1. ALL DIMENSIONS ARE IN METER
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM
3. PROPOSED AMMONIA PIPE LINE IS TAKEN FROM DWG. NO. 85091-LAY-LD-001,REV1, PROPOSED MODIFICATION OF PIPING LAYOUT FOR 16" & 4" AMMONIA PIPE LINE

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, PMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; PMC PROJECTS (INDIA) PRIVATE LIMITED "from vision to reality..."; HR Wallingford "Working with water"

	NAME	SIGN	DATE
DRN	SKN		25-02-2016
CHD	HM/SKA		25-02-2016
APD	S DHAR		25-02-2016

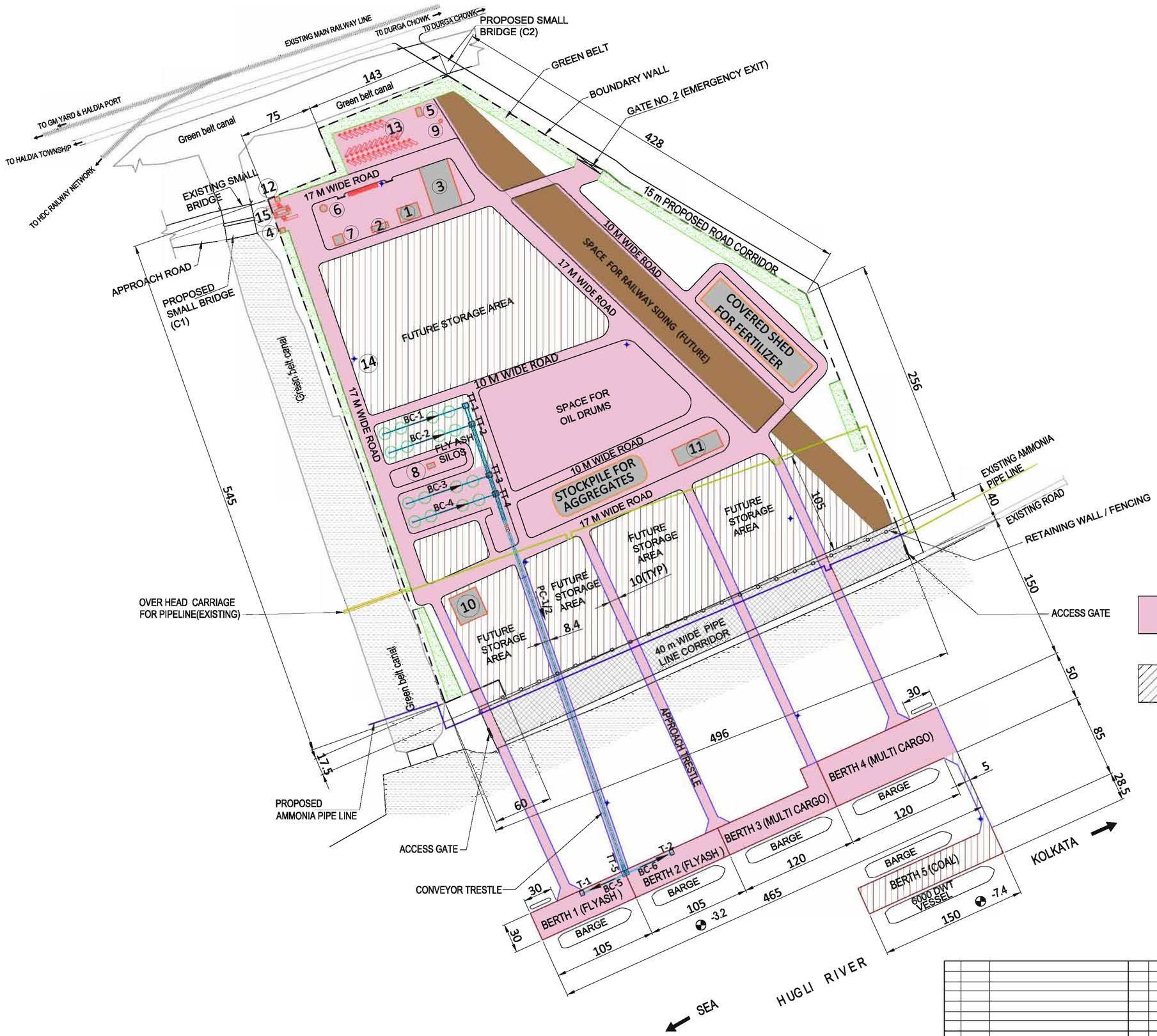
TITLE: IWT TERMINAL AT HALDIA- LAYOUT PLAN OF TERMINAL FACILITIES AT HALDIA

JOB. NO. I-525

DRG. NO. HT-1001 (SH- 1 OF 2)

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE - 1:2000 | Size : A1 | REV. 0



LEGEND:

S.NO.	DESCRIPTION
1	TERMINAL ADMINISTRATION BUILDING
2	WORKER'S AMENITY BUILDING
3	FUEL BUNKER
4	SECURITY OFFICE
5	SEWAGE TREATMENT PLANT
6	OVERHEAD WATER TANK
7	UNDERGROUND RESERVOIR
8	RIO (REMOTE INPUT OUT PUT)/ COMPRESSOR ROOM FOR ASH HANDLING
9	WASTE COLLECTION CENTER
10	SETTLING POND
11	ELECTRICAL SUB STATION
12	WEIGH BRIDGE CONTROL ROOM
13	VEHICLE PARKING AREA
14	HIGHMAST LIGHTING TOWERS
15	GATE HOUSE COMPLEX

LEGEND:

SYMBOL	DESCRIPTION
TT	TRANSFER TOWER
T	TOWER
BC	BELT CONVEYORS
PC	PIPE CONVEYORS

PHASE - 1A

PHASE - 1B

NOTES:

1. ALL DIMENSIONS ARE IN METER
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM
3. PHASE 1-B DETAILS ARE PROVIDED ONLY FOR INFORMATION. THE CONTRACTOR HAS TO DEVELOP THE TERMINAL WITH A PROVISION TO HAVE PHASE 1-B DEVELOPMENT IN FUTURE

PHASE 1B DEVELOPMENT

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, DMS PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; DMS PROJECTS (INDIA) PRIVATE LIMITED from vision to reality...; HR Wallingford

	NAME	SIGN	DATE
DRN	SKN		25-02-2016
CHD	HM/SKA		25-02-2016
APD	S DHAR		25-02-2016

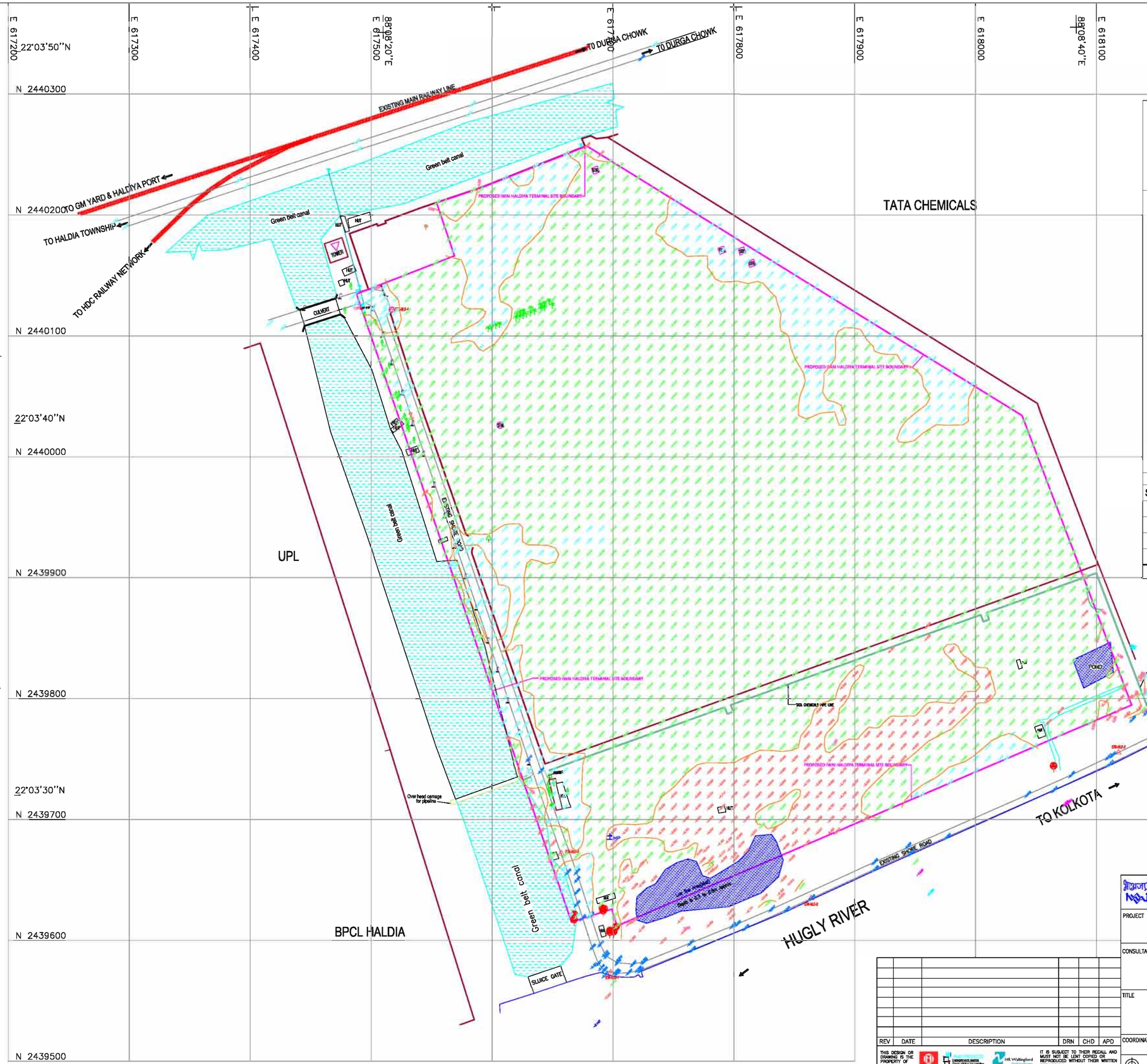
TITLE: IWT TERMINAL AT HALDIA- LAYOUT PLAN OF TERMINAL FACILITIES AT HALDIA

JOB. NO. I-525

DRG. NO. HT-1001 (SH- 2 OF 2)

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE - 1:2000 | Size : A1 | REV. 0



NOTE

1. Drawing Height in metres and decimetres, reduced to Chart Datum
2. All dimensions, Co-ordinates, elevations are in metres and decemetres.
3. All Co-Ordinaates are in WGS 1984 grid system
4. Difference between Mean Sea Level (MSL) & Chart Datum (CD) is 3.23m.

LEGEND

- ROAD EDGE
- COMPOUND WALL
- CANAL
- ELECTRIC JUNCTION BOX
- ELECTRIC POWER LINE
- HP — HAND PUMP
- LAMP POST
- PIPE MARKER
- RAILWAY TRACK
- STN-HLD-1 — REFERENCE SURVEY POINT
- TF — TRANSFORMER
- COCONUT TREE/MANGO TREE/BANIYAN TREE/PALM TREE & etc.
- GROUND LEVEL

HORIZONTAL CONTROL STATION

Station No.	Northing	Easting	R.L	Remarks
HLD-1	2439573.5616	617698.1898	9.198	ON SECURITY CABIN FDN
HLD-2	2439634.9229	617863.8190	9.119	ON ROAD
HLD-3	2439672.0100	617657.2278	8.218	ON ROAD
HLD-4	2440121.5280	617517.4944	10.690	ON ROAD

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, PMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; PMC PROJECTS (INDIA) PRIVATE LIMITED "from vision to reality..."; HR Wallingford "Working with water"

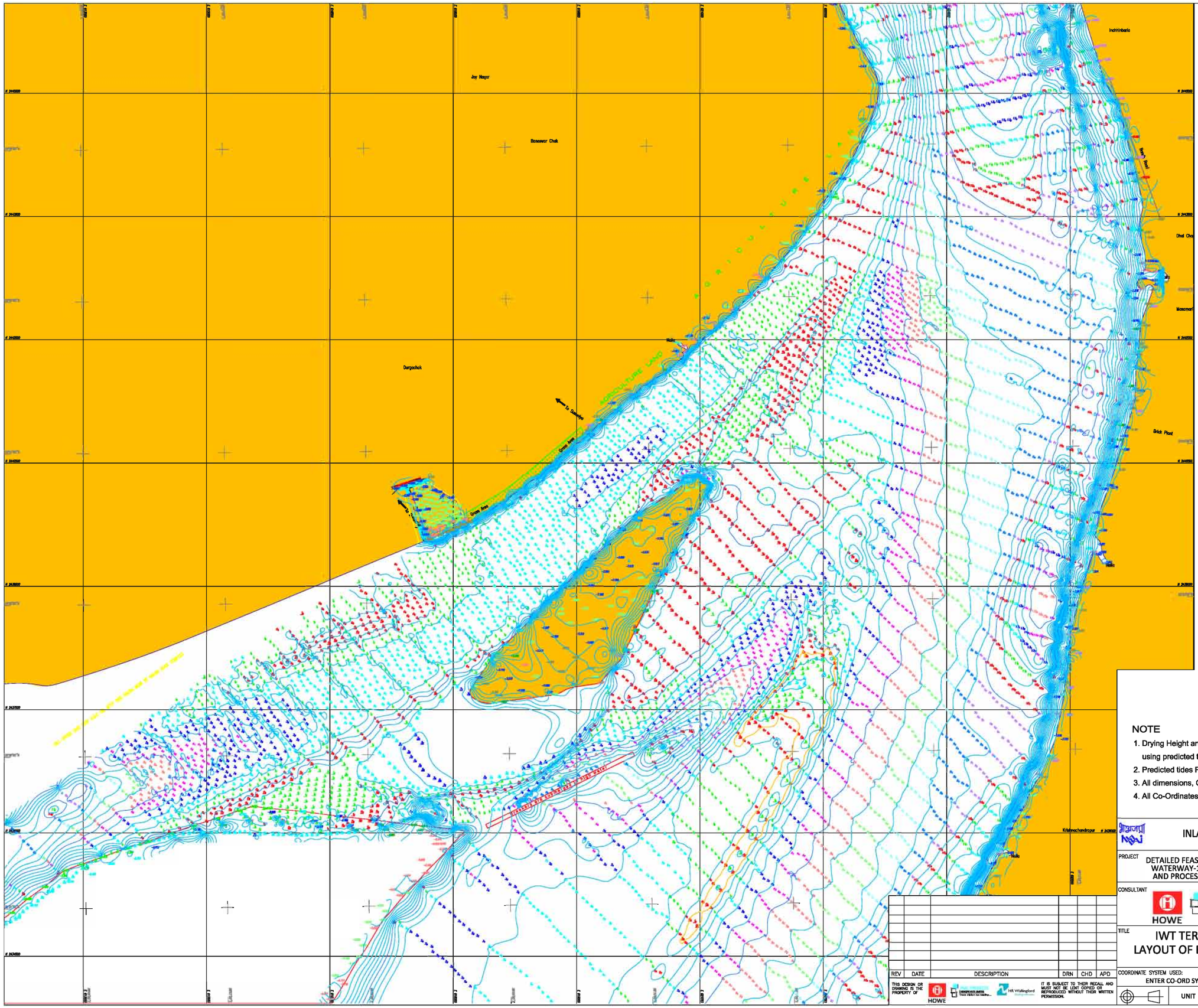
	NAME	SIGN	DATE
DRN	SKN		25-02-2016
CHD	HM/SKA		25-02-2016
APD	S DHAR		25-02-2016

TITLE: IWT TERMINAL AT HALDIA
LAYOUT OF TOPOGRAPHY SURVEY

JOB. NO. I-525 | DRG. NO. HT-1002

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE - 1:1600 | Size : A1 | REV. 0



N

LEGEND

N 2438800	UTM Grid Line & Text
	Colour coded heights in metres and decimetres above Chart Datum at 1m intervals
	Colour coded drying depths in metres and decimetres below Chart Datum at 1m intervals
	Minor contour shown at 1m intervals.
	Major contour shown at 1m intervals.

Geodetic parameters

Horizontal Coordinate System	:	WGS84
Geodetic Datum / Spheroid	:	WGS84
Semi-Major Axis (a) (meters)	:	6 378 137.000m
Semi-Minor Axis	:	6 356 752.314m
Inverse Flattening	:	298.2572
Projection	:	Universal Transverse Mercator
Longitude of Origin (CM)	:	87° E (Zone 45)
Latitude of Origin	:	0° N (Equator)
Hemisphere	:	North
False Easting	:	500 000 m
False Northing	:	0 m
Scale Factor at CM	:	0.9996
Units	:	Metres

NOTE

1. Drying Height and Depths in metres and decimetres, reduced to Chart Datum using predicted tide at Haldia stn.
2. Predicted tides Provided by IWAI.
3. All dimensions, Co-ordinates, elevations are in metres and decimetres.
4. All Co-Ordinates are in WGS 1984 grid system & Height & Depth are in Chart Datum.

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, DMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; DMC PROJECTS (INDIA) PRIVATE LIMITED from vision to reality...; HR Wallingford Working with water

	NAME	SIGN	DATE
DRN	SKN		25-02-2016
CHD	HM/SKA		25-02-2016
APD	S DHAR		25-02-2016

TITLE: IWT TERMINAL AT HALDIA
LAYOUT OF BATHYMETRY SURVEY

JOB. NO. I-525 | DRG. NO. HT-1003

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE - 1:22000 | Size : A1 | REV. 0

CO-ORDINATE IN UTM		
BOREHOLE MARKED	EASTING	NORTHING
BH1	617591.00	2440210.60
BH2	617689.20	2440109.00
BH3	617768.80	2440029.40
BH4	617918.00	2440052.30
BH5	617655.00	2439854.70
BH6	618021.00	2439930.60
BH7	617755.60	2439699.20
BH8	618029.00	2439827.00
BH9	617783.00	2439536.00
BH10	618099.00	2439684.00
BH11	617903.00	2439495.00
BH12	618042.00	2439566.00

N

LEGEND:

PROPOSED TERMINAL

PROPOSED BOREHOLE

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, PMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; PMC PROJECTS (INDIA) PRIVATE LIMITED from vision to reality...; HR Wallingford

	NAME	SIGN	DATE
DRN	SKN		25-02-2016
CHD	HM/SKA		25-02-2016
APD	S DHAR		25-02-2016

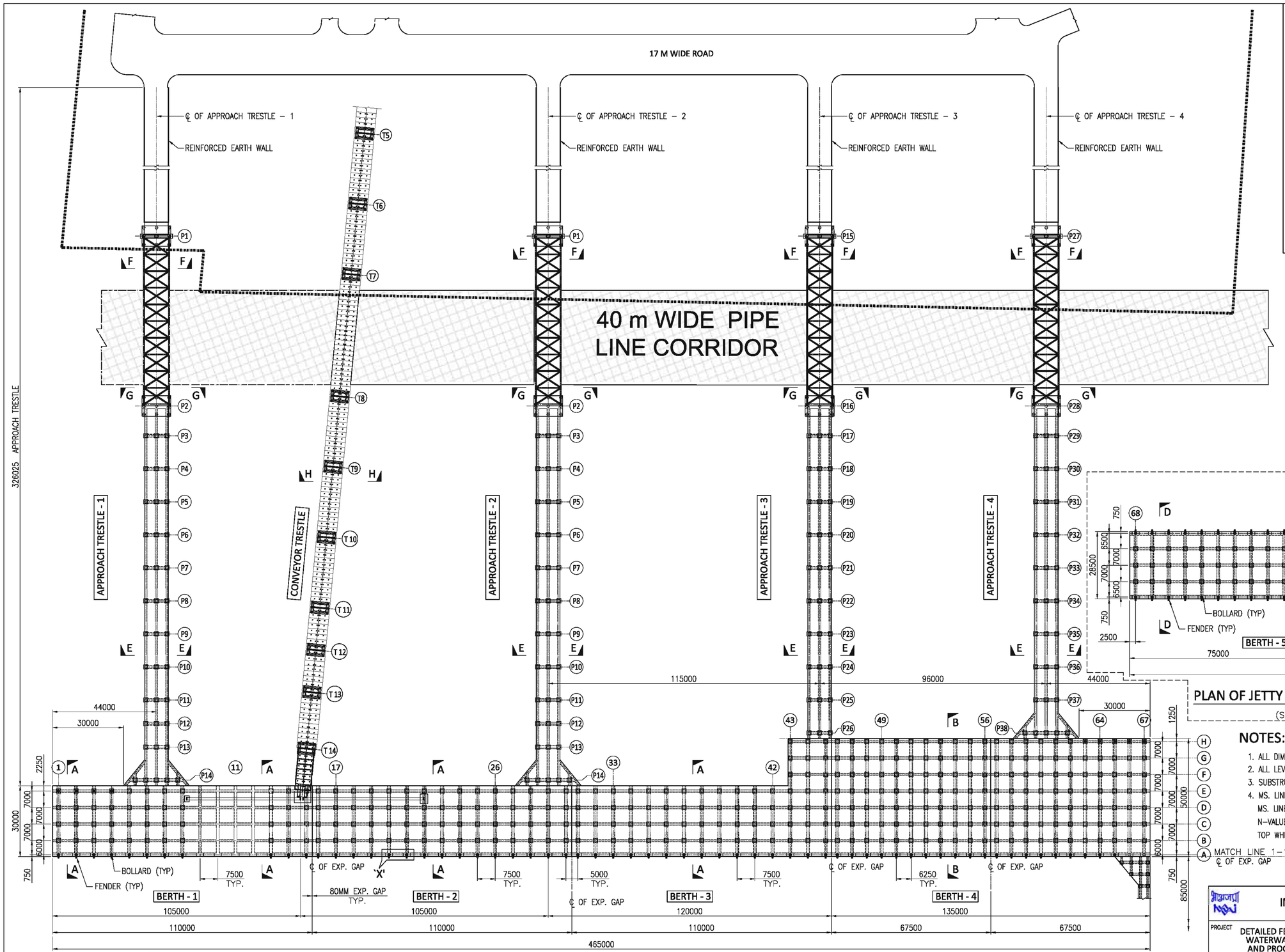
TITLE: IWT TERMINAL AT HALDIA
LOCATION PLAN OF BOREHOLES

JOB. NO. I-525

DRG. NO. HT-1004

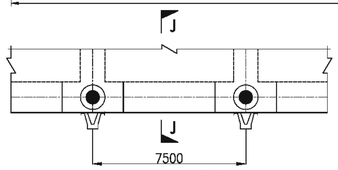
COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE - 1:2000 | Size : A1 | REV. 0

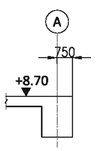


NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM
3. SUBSTRUCTURE SHOULD BE AVOIDED IN '40m. PIPELINE CORRIDOR'
4. MS. LINER NOT SHOWN IN THE DRAWING FOR CLARITY.
   MS. LINER FOR PILES SHOULD BE PROVIED UP TO 35m OR DEPTH WHERE SPT N–VALUE GREATER THAN OR EQUAL TO TEN (10) IN INCREASING ORDER FROM TOP WHICHEVER IS MORE.



DETAIL - `X'
(SCALE 1:150)



SECTION J-J
(SCALE 1:150)

PLAN OF JETTY & APPROACH TRESTLE
(SCALE 1:800)

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, PMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; PMC PROJECTS (INDIA) PRIVATE LIMITED "from vision to reality..."; HR Wallingford

	NAME	SIGN	DATE
DRN	SKN/HY		25–02–2016
CHD	AKK/PKM		25–02–2016
APD	S DHAR		25–02–2016

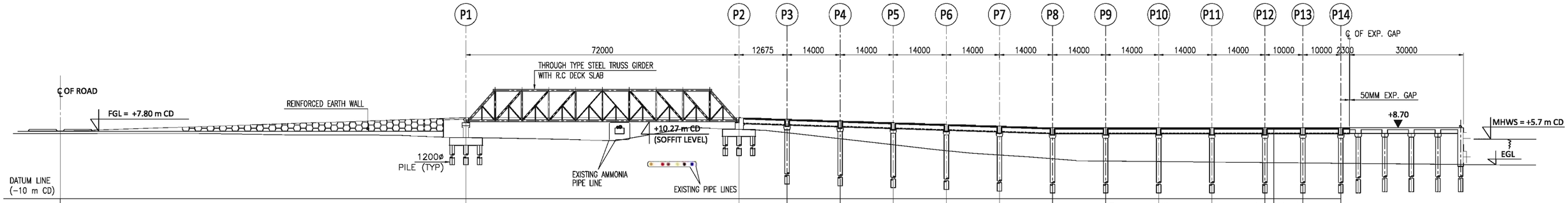
TITLE: IWT TERMINAL AT HALDIA
GENERAL ARRANGEMENT OF JETTY, APPROACH TRESTLE & CONVEYOR GALLERY

JOB. NO. I-525

DRG. NO. HT-1005 (SH.1 OF 8)

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

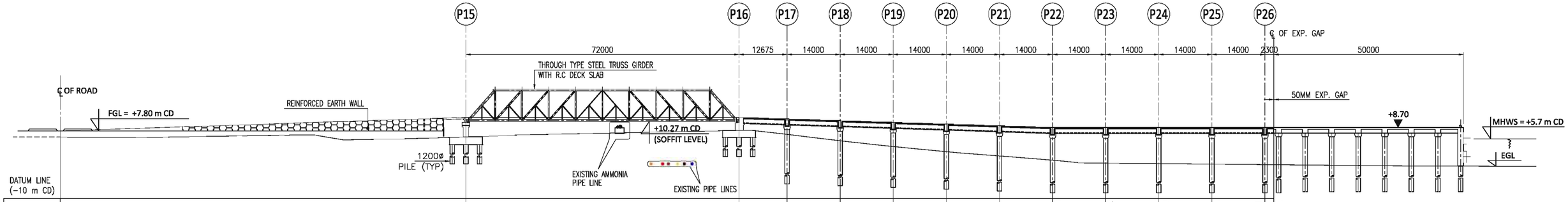
UNIT | SCALE - AS SHOWN | Size : A1 | REV. 0



DATUM LINE (−10 m CD)																	
EXISTING G.L (IN m CD)	7.173	6.084	8.283	7.389	5.817	4.222	2.662	1.521	0.523	−0.069	−0.205	−0.341	−0.477	−0.500	−0.574	−0.671	
CHAINAGE (IN m CD)	0.00	106.936	178.936	191.611	205.611	219.611	233.611	247.611	261.611	275.611	289.611	303.611	317.611	319.936	327.611	337.611	

LONGITUDINAL ELEVATION OF APPROACH TRESTLE - 1 & 2

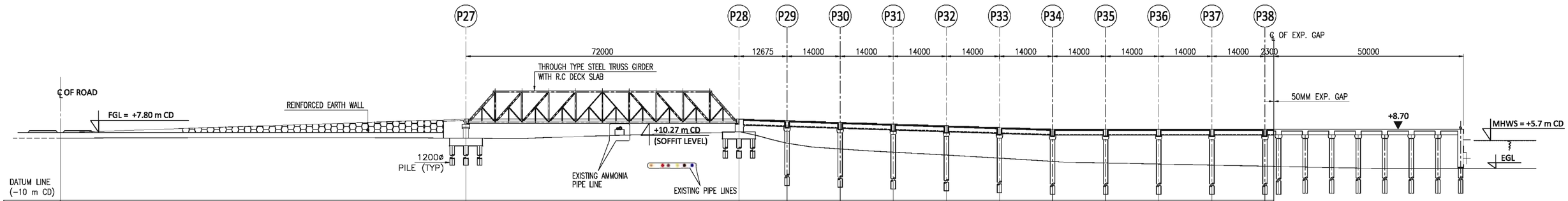
(SCALE 1:500)



DATUM LINE (−10 m CD)													
EXISTING G.L (IN m CD)	6.191	6.233	7.939	6.891	5.211	3.689	2.335	1.212	−0.086	−0.664	−0.800	−0.935	−1.071	−1.093
CHAINAGE (IN m CD)	0.00	106.936	178.936	191.611	205.611	219.611	233.611	247.611	261.611	275.611	289.611	303.611	317.611	319.936

LONGITUDINAL ELEVATION OF APPROACH TRESTLE - 3

(SCALE 1:500)



DATUM LINE (−10 m CD)													
EXISTING G.L (IN m CD)	6.353	6.321	7.990	4.992	3.483	2.626	1.870	0.989	−0.210	−0.213	−0.494	−0.775	−1.057	−1.104
CHAINAGE (IN m CD)	0.00	106.936	178.936	191.611	205.611	219.611	233.611	247.611	261.611	275.611	289.611	303.611	317.611	319.936

LONGITUDINAL ELEVATION OF APPROACH TRESTLE - 4

(SCALE 1:500)

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM
3. MINIMUM VERTICAL CLEARANCE ABOVE AMMONIA PIPE SHOULD BE 800mm.
4. ALL OTHER NOTES REFER TO DRAWING NO. HT−1005, SHEET−1

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, INDIAREADY LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; INDIAREADY LIMITED from vision to reality...; HR Wallingford

	NAME	SIGN	DATE
DRN	SKN/HY		01−03−2016
CHD	AKK/PKM		01−03−2016
APD	S DHAR		01−03−2016

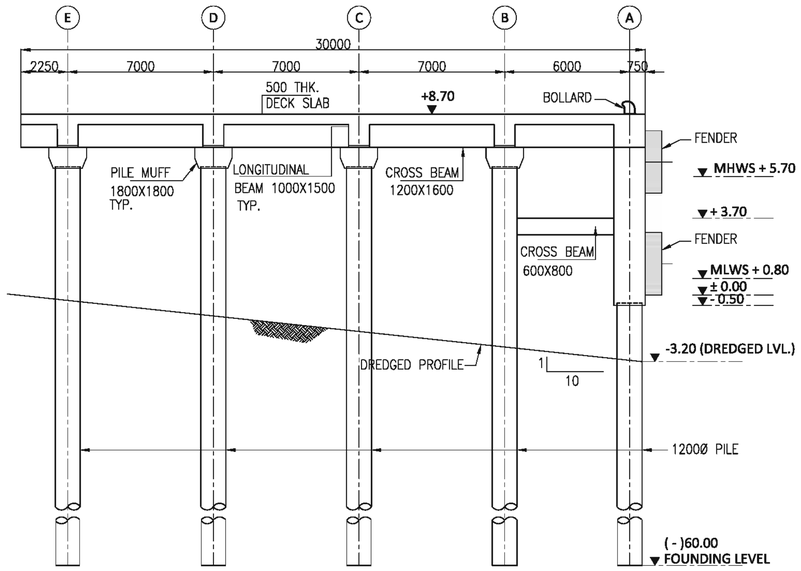
TITLE: IWT TERMINAL AT HALDIA
GENERAL ARRANGEMENT OF JETTY,
APPROACH TRESTLE & CONVEYOR GALLERY

JOB. NO. I-525

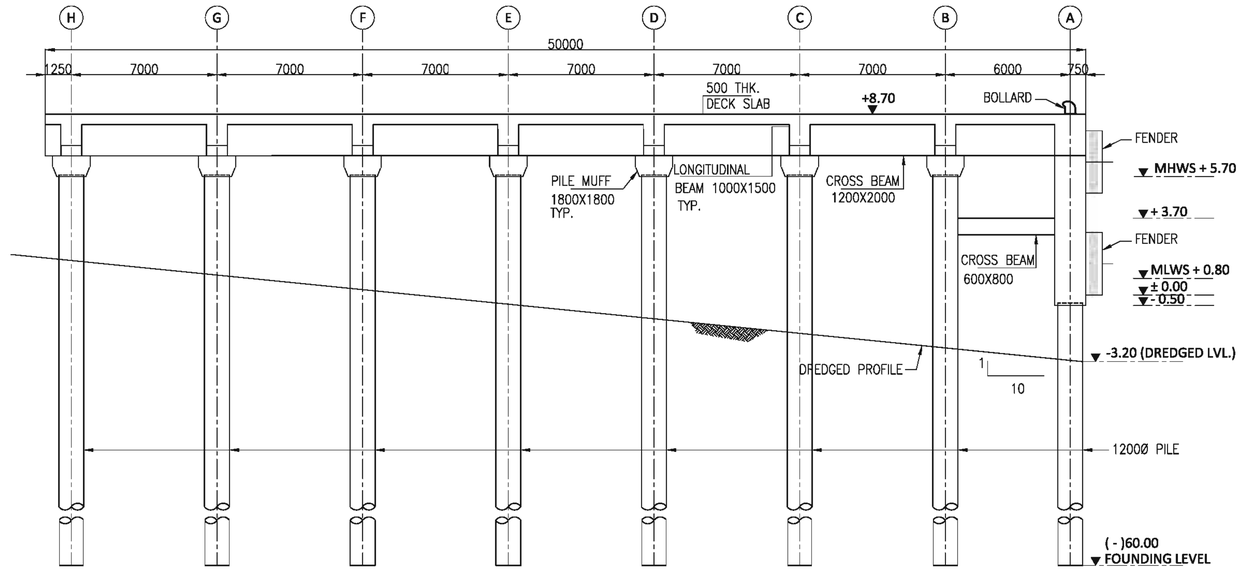
DRG. NO. HT-1005 (SH.2 OF 8)

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

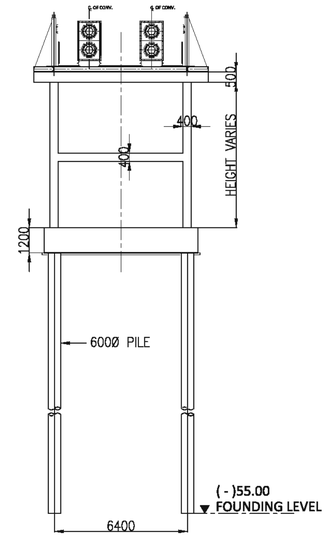
UNIT	SCALE - AS SHOWN	Size : A1	REV. 0



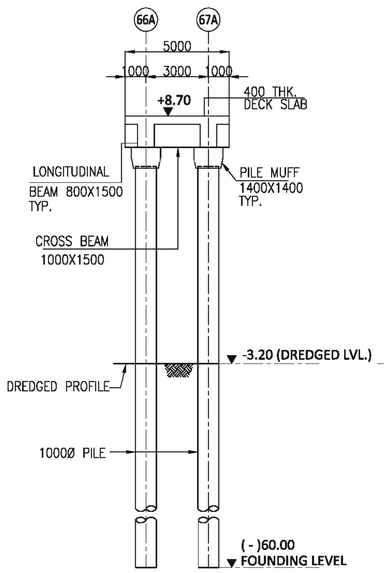
SECTION A-A
(SCALE 1:150)



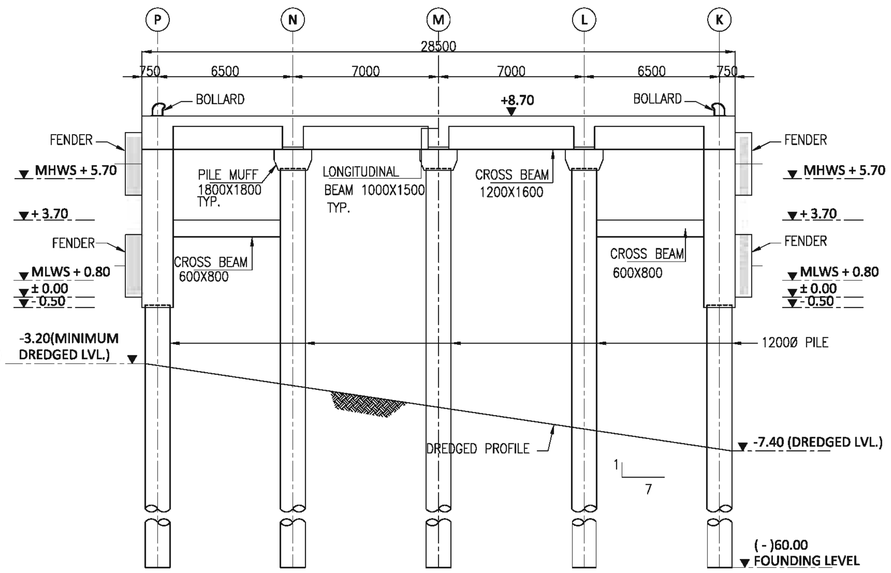
SECTION B-B
(SCALE 1:150)



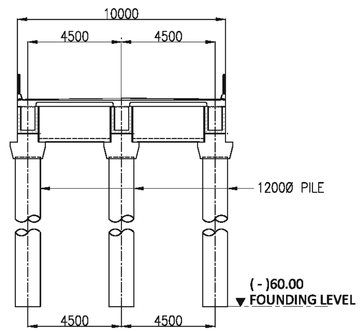
SECTION H-H
(SCALE 1:150)



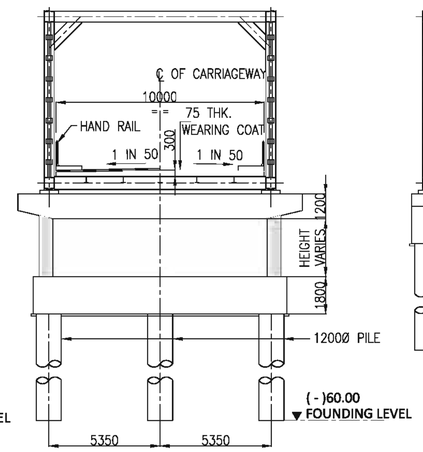
SECTION C-C
(SCALE 1:150)



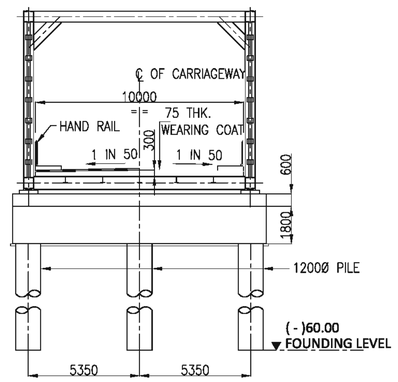
SECTION D-D
(SCALE 1:150)



SECTION E-E
(SCALE 1:150)



SECTION F-F
(SCALE 1:150)



SECTION G-G
(SCALE 1:150)

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS.
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM.
3. ALL FOUNDING LEVELS ARE TENTATIVE. ACTUAL FOUNDING LEVEL MAY VARY AS PER THE ACTUAL SOIL CONDITION AT SITE.
4. ALL OTHER NOTES REFER TO DRAWING NO. HT-1005, SHEET-1.

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, PMC PROJECTS (INDIA)PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; PMC PROJECTS (INDIA)PRIVATE LIMITED from vision to reality...; HR Wallingford Working with water

	NAME	SIGN	DATE
DRN	SKN/HY		01-03-2016
CHD	AKK/PKM		01-03-2016
APD	S DHAR		01-03-2016

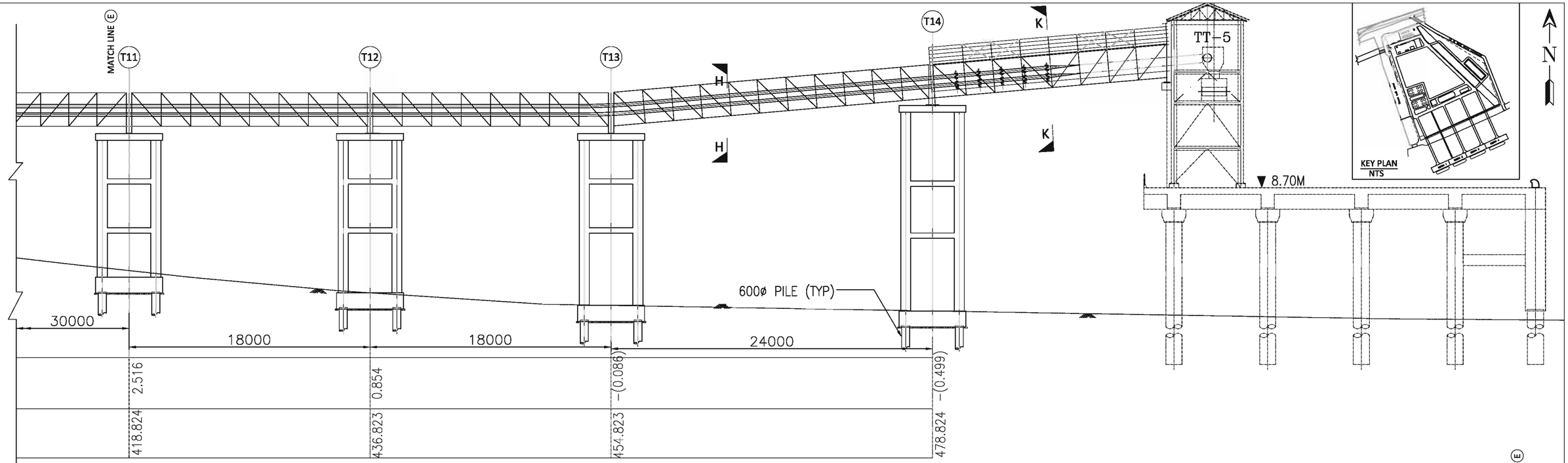
TITLE: IWT TERMINAL AT HALDIA
GENERAL ARRANGEMENT OF JETTY, APPROACH TRESTLE & CONVEYOR GALLERY

JOB. NO. I-525

DRG. NO. HT-1005 (SH.3 OF 8)

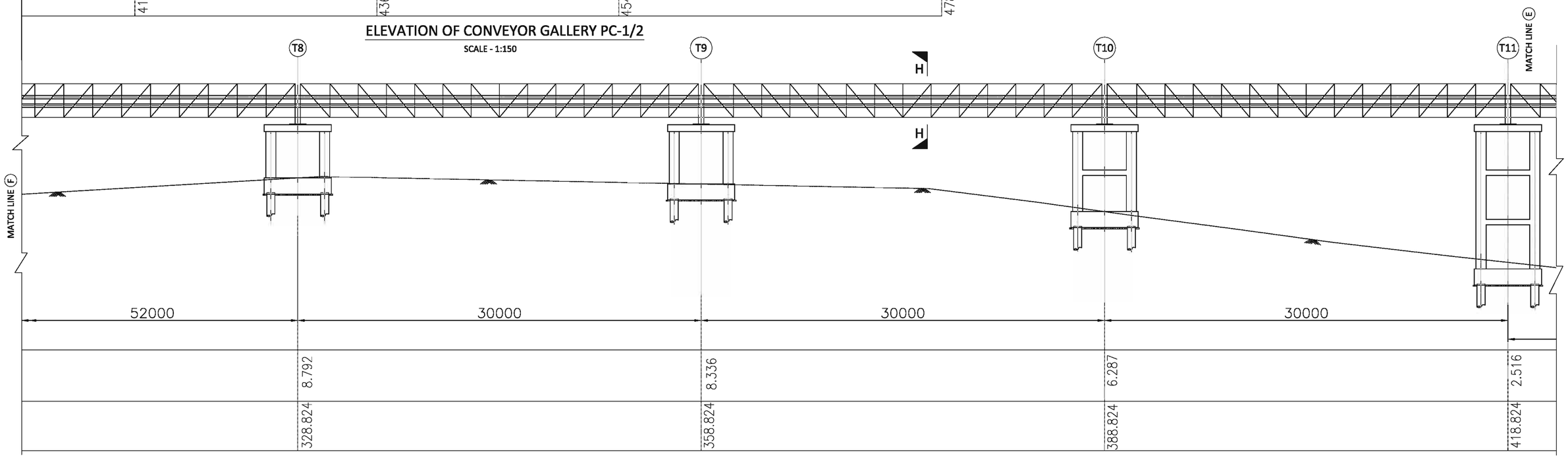
COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT	SCALE - AS SHOWN	Size : A1	REV. 0



ELEVATION OF CONVEYOR GALLERY PC-1/2

SCALE - 1:150



ELEVATION OF CONVEYOR GALLERY PC-1/2

SCALE - 1:150

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM
3. PILE SHOULD BE AVOIDED AT UNDER GROUND PIPE LOCATIONS

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, PMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; PMC PROJECTS (INDIA) PRIVATE LIMITED "from vision to reality..."; HR Wallingford "Working with water"

	NAME	SIGN	DATE
DRN	SKN/HY		25-02-2016
CHD	AKK/PKM		25-02-2016
APD	S DHAR		25-02-2016

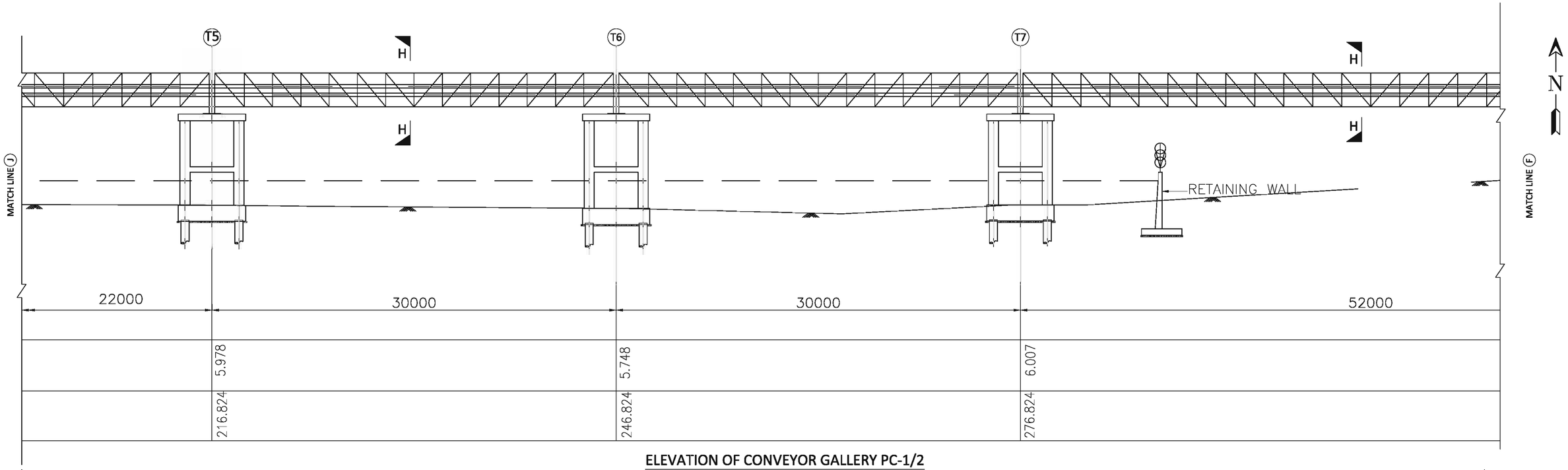
TITLE: IWT TERMINAL AT HALDIA - GENERAL ARRANGEMENT OF JETTY AND APPROACH TRESTLE & CONVEYOR GALLERY

JOB. NO. I-525

DRG. NO. HT-1005 (SH- 4 OF 8)

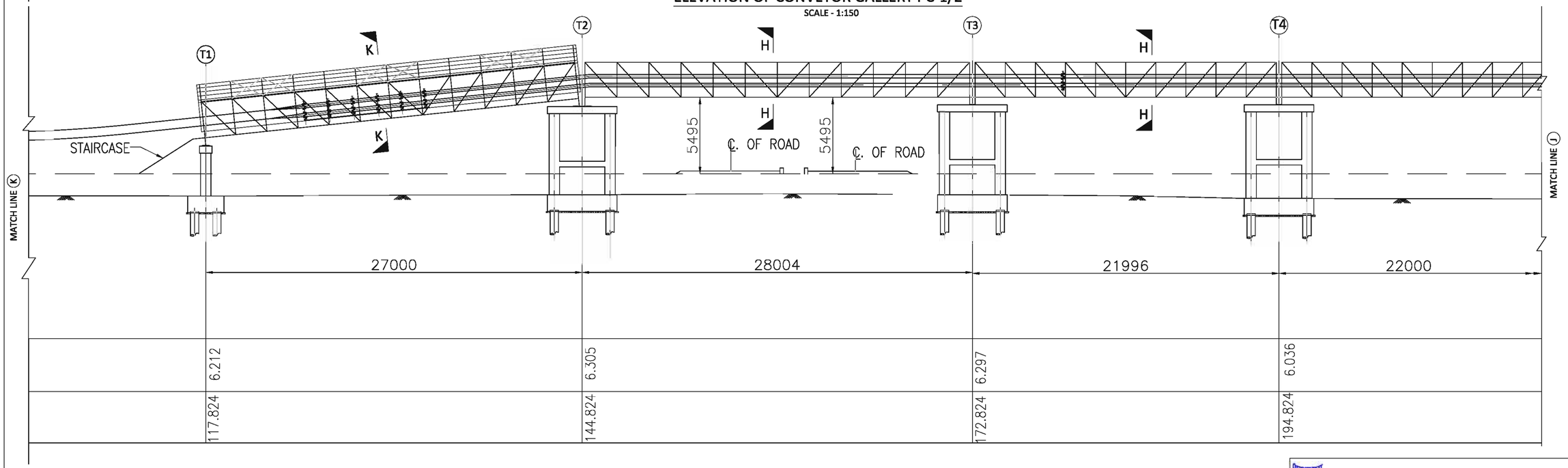
COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE - AS SHOWN | Size : A1 | REV. 0



ELEVATION OF CONVEYOR GALLERY PC-1/2

SCALE - 1:150



ELEVATION OF CONVEYOR GALLERY PC-1/2

SCALE - 1:150

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM
3. PILE SHOULD BE AVOIDED AT UNDER GROUND PIPE LOCATIONS

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, PMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; PMC PROJECTS (INDIA) PRIVATE LIMITED "from vision to reality..."; HR Wallingford "Working with water"

	NAME	SIGN	DATE
DRN	SKN/HY		25-02-2016
CHD	AKK/PKM		25-02-2016
APD	S DHAR		25-02-2016

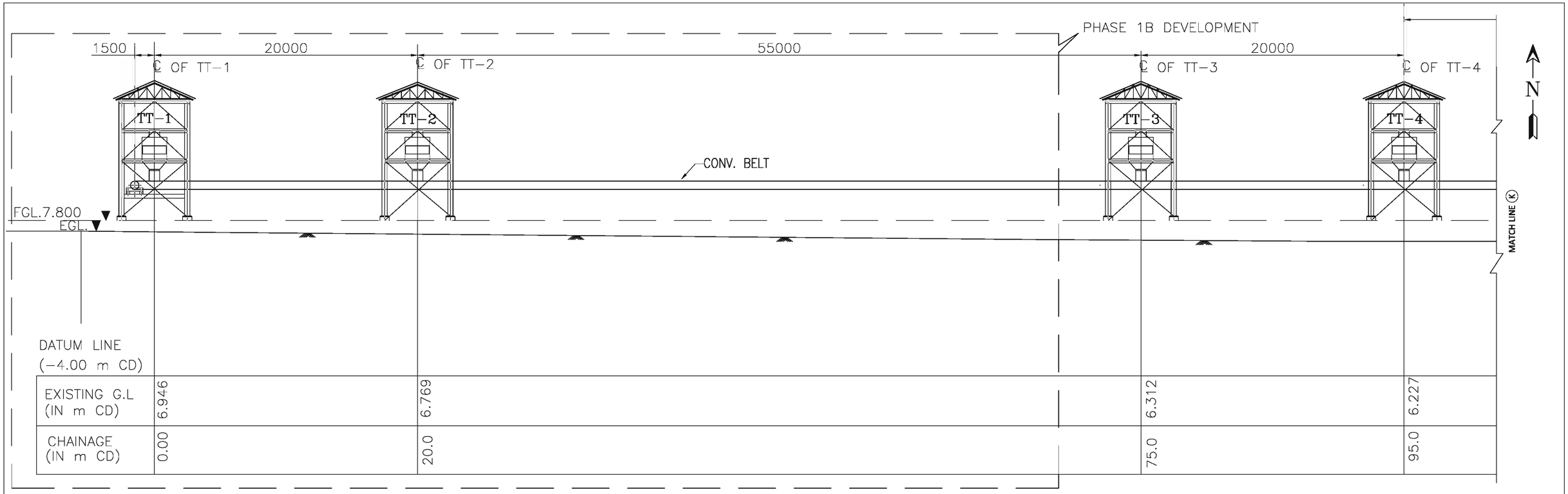
TITLE: IWT TERMINAL AT HALDIA - GENERAL ARRANGEMENT OF JETTY AND APPROACH TRESTLE & CONVEYOR GALLERY

JOB. NO. I-525

DRG. NO. HT-1005 (SH- 5 OF 8)

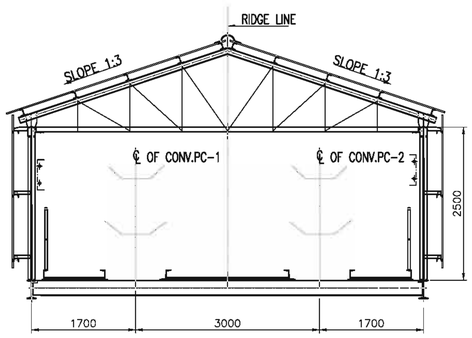
COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE - AS SHOWN | Size : A1 | REV. 0



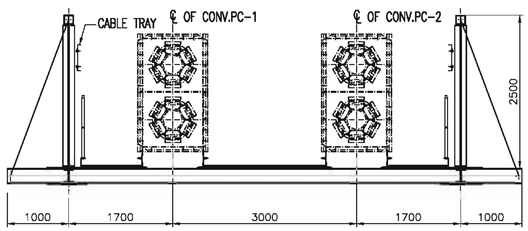
ELEVATION OF CONVEYOR GALLERY PC-1/2

SACLE -1:150



SECTION K-K

SCALE - 1:50



SECTION H-H

SCALE - 1:50

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM
3. PILE SHOULD BE AVOIDED AT UNDER GROUND PIPE LOCATIONS

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, RMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; RMC PROJECTS (INDIA) PRIVATE LIMITED from vision to reality...; HR Wallingford

	NAME	SIGN	DATE
DRN	SKN/HY		25-02-2016
CHD	AKK/PKM		25-02-2016
APD	S DHAR		25-02-2016

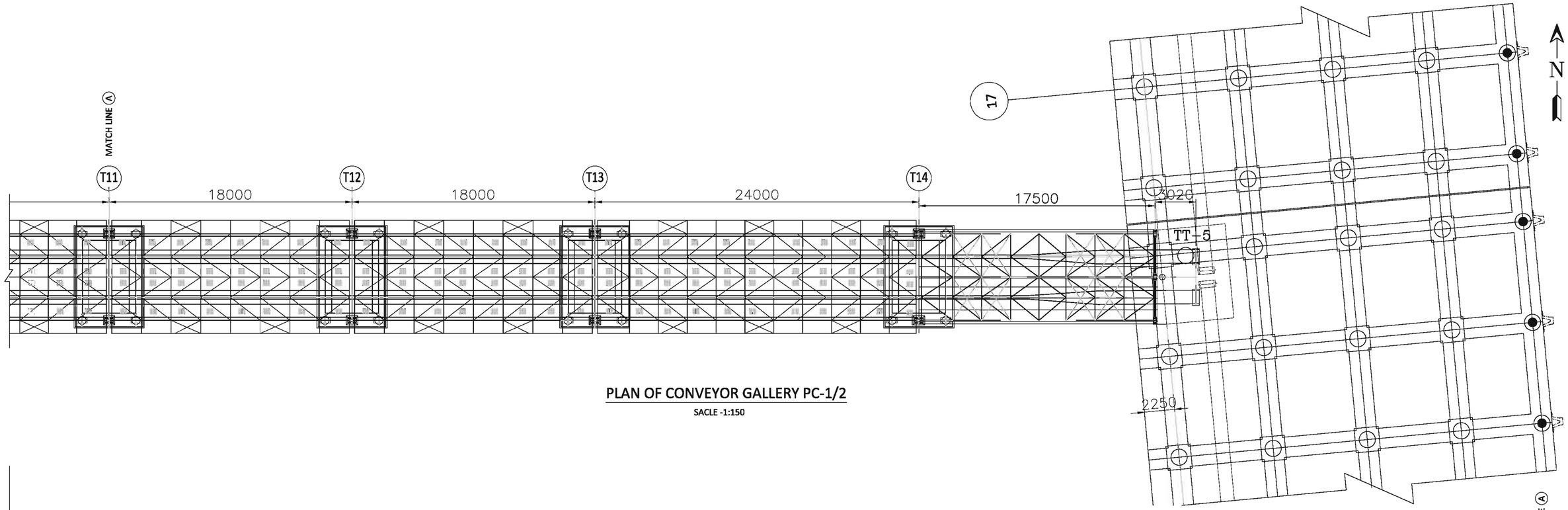
TITLE: IWT TERMINAL AT HALDIA - GENERAL ARRANGEMENT OF JETTY AND APPROACH TRESTLE & CONVEYOR GALLERY

JOB. NO. I-525

DRG. NO. HT-1005 (SH- 6 OF 8)

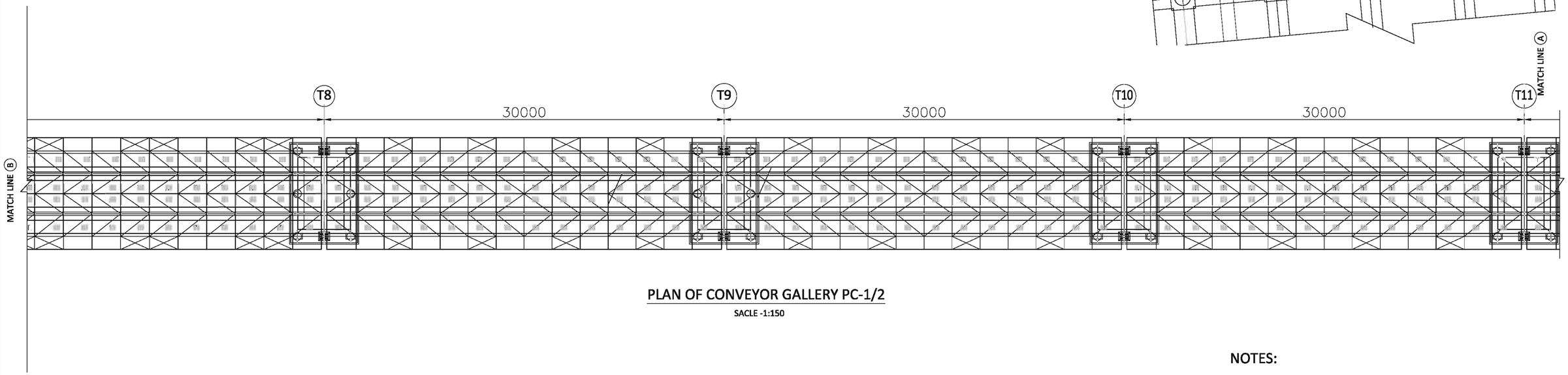
COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE - AS SHOWN | Size : A1 | REV. 0



PLAN OF CONVEYOR GALLERY PC-1/2

SACLE -1:150



PLAN OF CONVEYOR GALLERY PC-1/2

SACLE -1:150

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM
3. PILE SHOULD BE AVOIDED AT UNDER GROUND PIPE LOCATIONS

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, PMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; PMC PROJECTS (INDIA) PRIVATE LIMITED from vision to reality...; HR Wallingford

	NAME	SIGN	DATE
DRN	SKN/HY		25-02-2016
CHD	AKK/PKM		25-02-2016
APD	S DHAR		25-02-2016

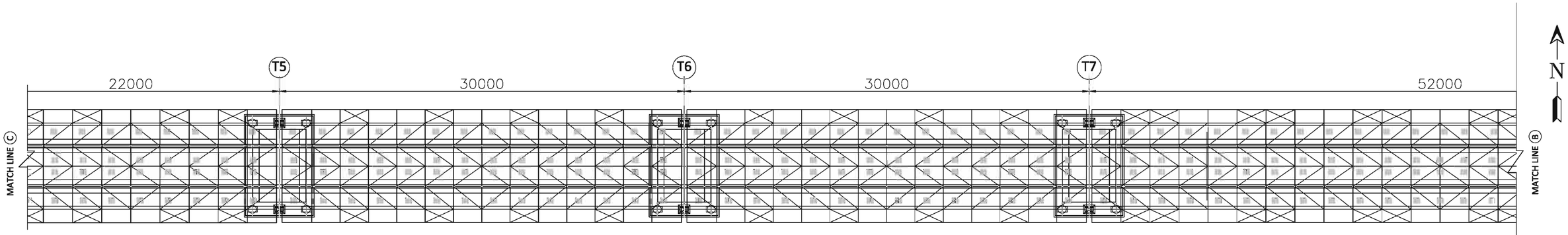
TITLE: IWT TERMINAL AT HALDIA - GENERAL ARRANGEMENT OF JETTY AND APPROACH TRESTLE & CONVEYOR GALLERY

JOB. NO. I-525

DRG. NO. HT-1005 (SH-7 OF 8)

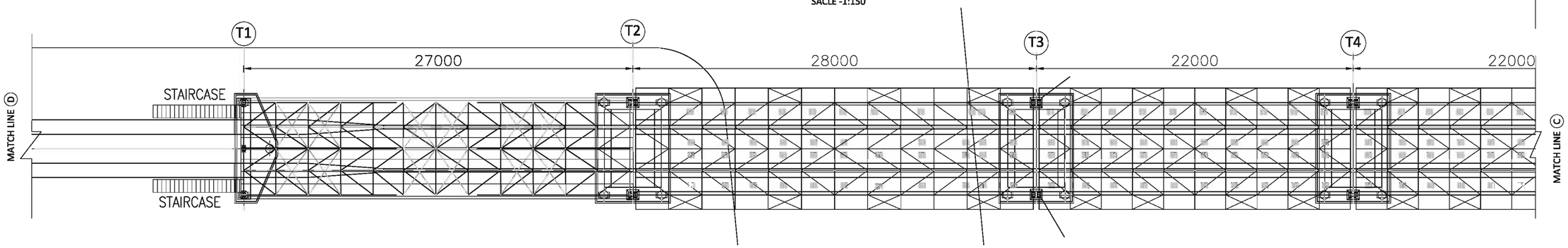
COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE - AS SHOWN | Size : A1 | REV. 0



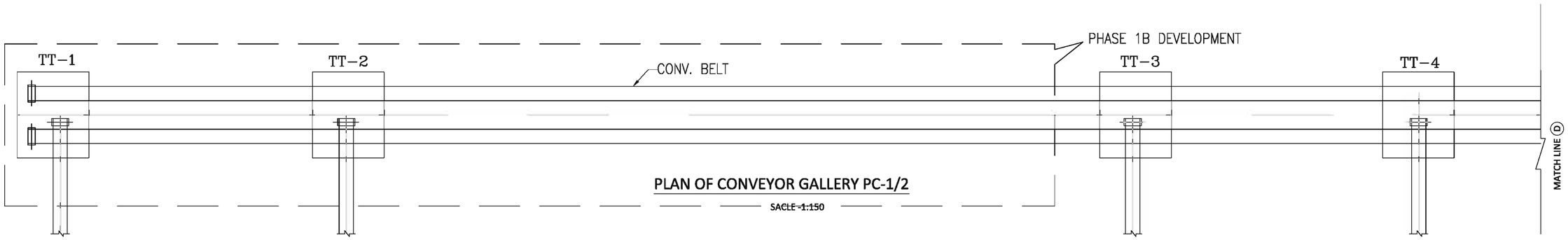
PLAN OF CONVEYOR GALLERY PC-1/2

SACLE -1:150



PLAN OF CONVEYOR GALLERY PC-1/2

SACLE -1:150



PLAN OF CONVEYOR GALLERY PC-1/2

SACLE -1:150

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM
3. PILE SHOULD BE AVOIDED AT UNDER GROUND PIPE LOCATIONS

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, PMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; PMC PROJECTS (INDIA) PRIVATE LIMITED "from vision to reality..."; HR Wallingford "Working with water"

	NAME	SIGN	DATE
DRN	SKN/HY		25-02-2016
CHD	AKK/PKM		25-02-2016
APD	S DHAR		25-02-2016

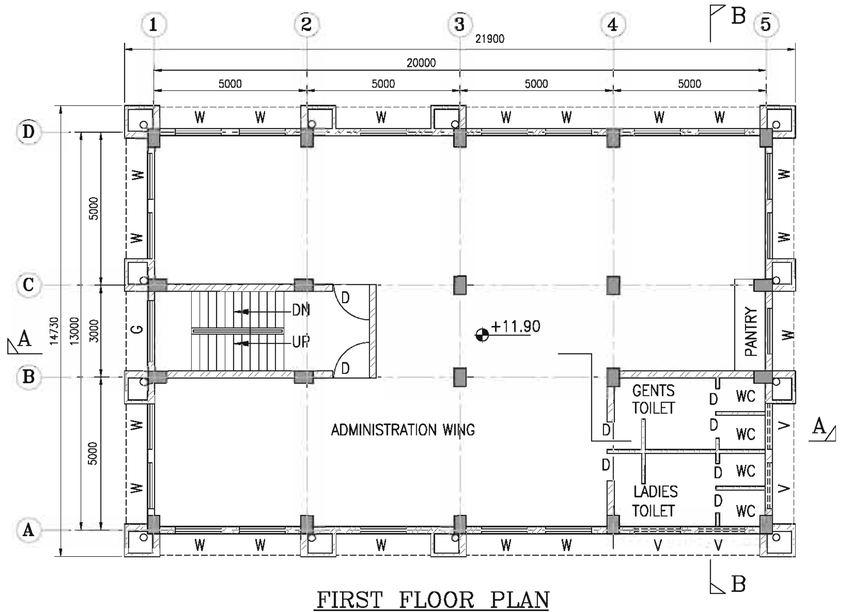
TITLE: IWT TERMINAL AT HALDIA - GENERAL ARRANGEMENT OF JETTY AND APPROACH TRESTLE & CONVEYOR GALLERY

JOB. NO. I-525

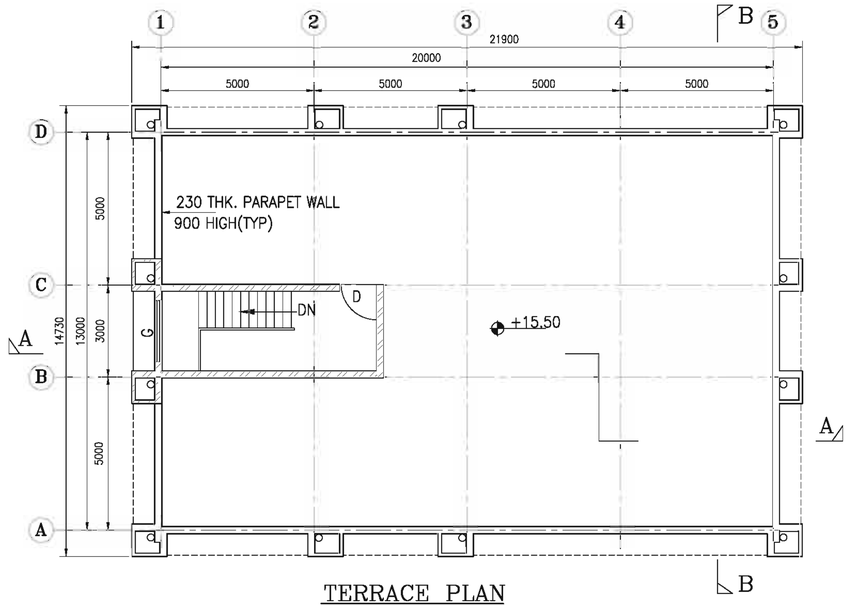
DRG. NO. HT-1005 (SH- 8 OF 8)

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

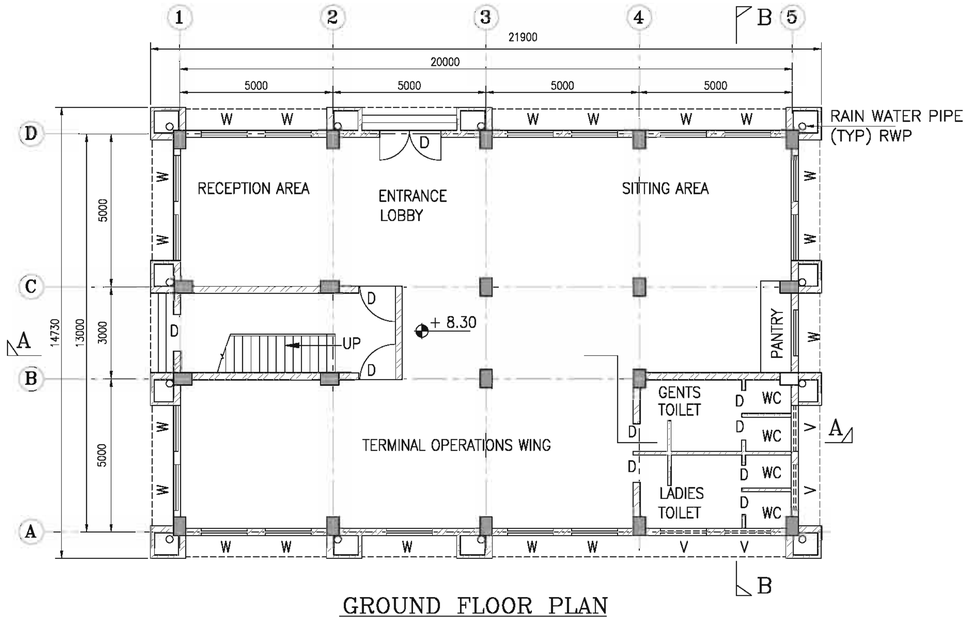
UNIT | SCALE - AS SHOWN | Size : A1 | REV. 0



FIRST FLOOR PLAN



TERRACE PLAN



GROUND FLOOR PLAN

SCHEDULE		
S.NO:	TYPE	DESCRIPTION
1.	D	DOOR
2.	W	WINDOW
3.	V	VENTILATOR
4.	G	GLASS WINDOW
5.	WC	WATER CLOSET

E.G.L.–EXISTING GROUND LEVEL
F.F.L.–FINISH FLOOR LEVEL

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, DMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; DMC PROJECTS (INDIA) PRIVATE LIMITED from vision to reality...; HR Wallingford

	NAME	SIGN	DATE
DRN	SKN		25-02-2016
CHD	HM/SKA		25-02-2016
APD	S DHAR		25-02-2016

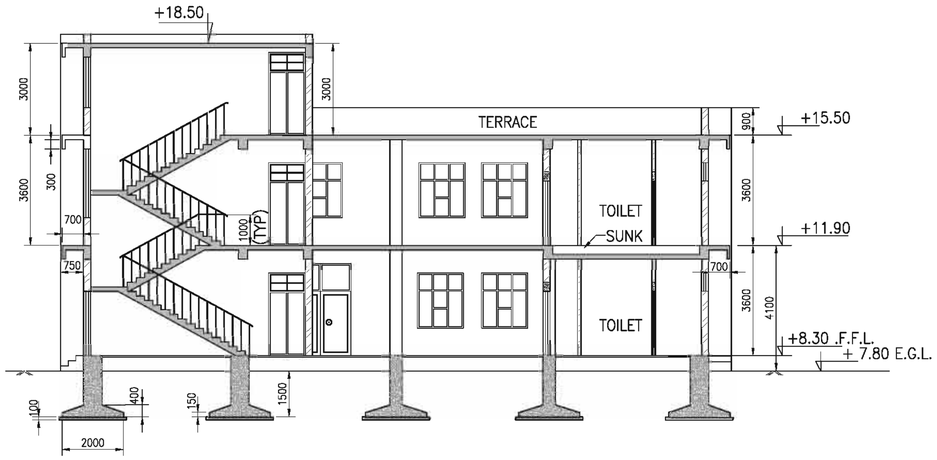
TITLE: IWT TERMINAL AT HALDIA
GENERAL ARRANGEMENT OF ADMINISTRATION BUILDING

JOB. NO. I-525

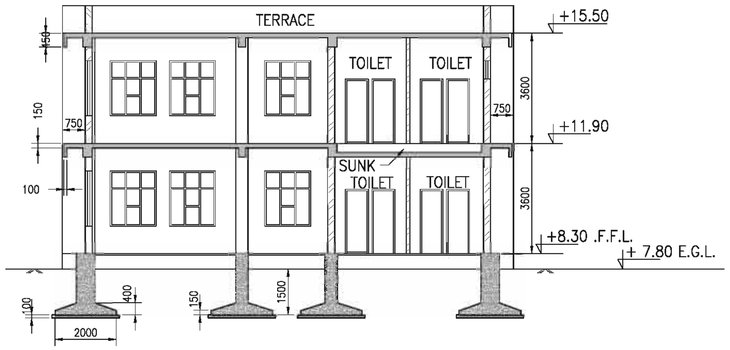
DRG. NO. HT-1006 (SH- 1 OF 2)

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

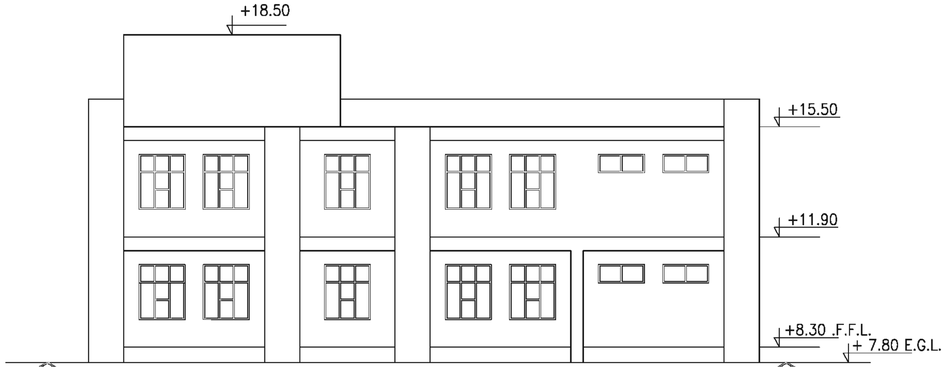
UNIT | SCALE - 1:100 | Size : A1 | REV. 0



SECTION A–A



SECTION B–B



FRONT ELEVATION

REAR ELEVATION

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, DMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; DMC PROJECTS (INDIA) PRIVATE LIMITED, From vision to reality...; HR Wallingford, Working with water

	NAME	SIGN	DATE
DRN	SKN		25–02–2016
CHD	HM/SKA		25–02–2016
APD	S DHAR		25–02–2016

TITLE: IWT TERMINAL AT HALDIA

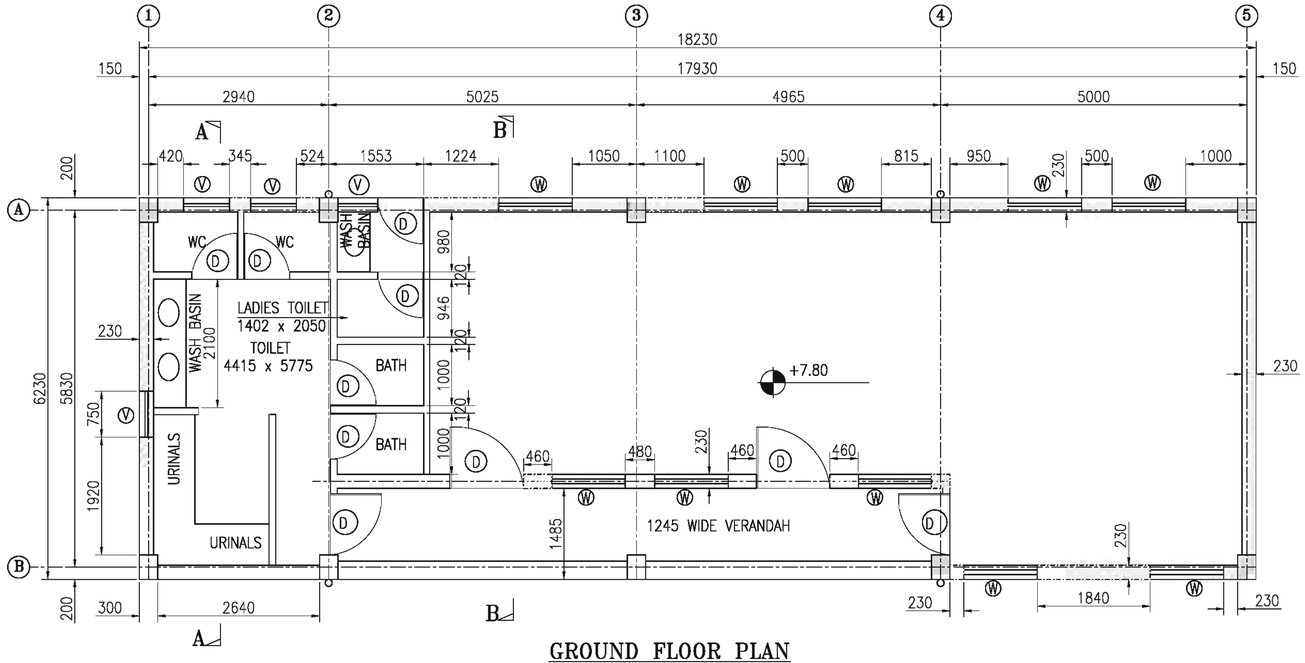
GENERAL ARRANGEMENT OF ADMINISTRATION BUILDING

JOB. NO. I-525

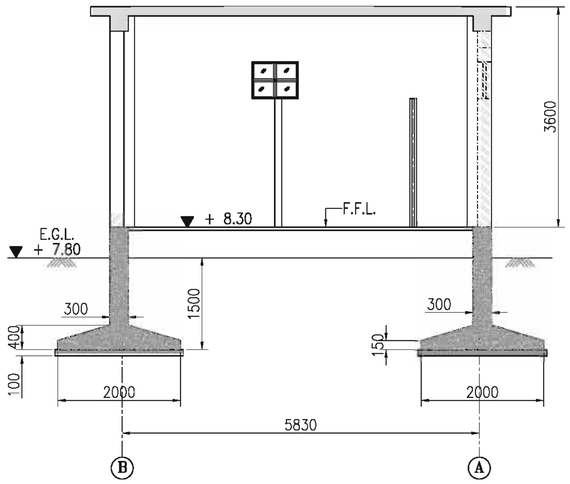
DRG. NO. HT-1006 (SH- 2 OF 2)

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

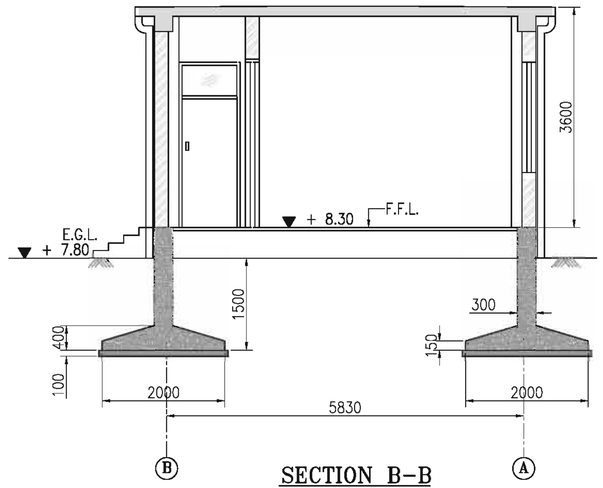
UNIT	SCALE - 1:100	Size : A1	REV. 0



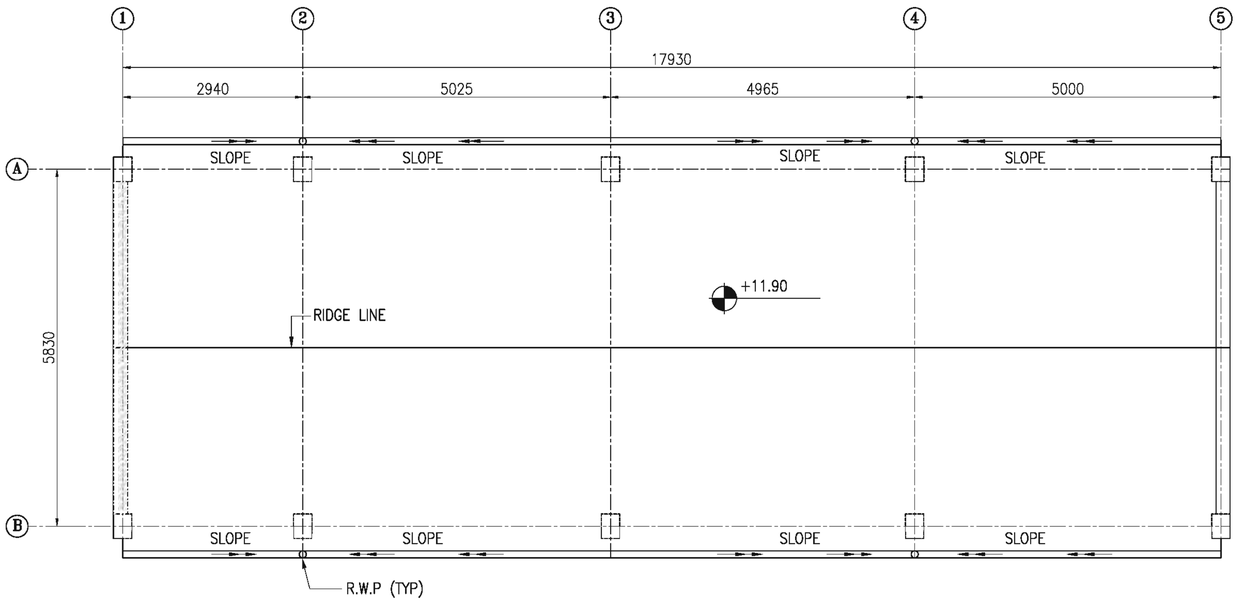
GROUND FLOOR PLAN



SECTION A–A



SECTION B–B



ROOF PLAN

SCHEDULE		
S.NO:	TYPE	DESCRIPTION
1.	D	DOOR
2.	W	WINDOW
3.	V	VENTILATOR
4.	WC	WATER CLOSET

E.G.L.–EXISTING GROUND LEVEL
F.F.L.–FINISH FLOOR LEVEL

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, PMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; PMC PROJECTS (INDIA) PRIVATE LIMITED "from vision to reality..."; HR Wallingford "Working with water"

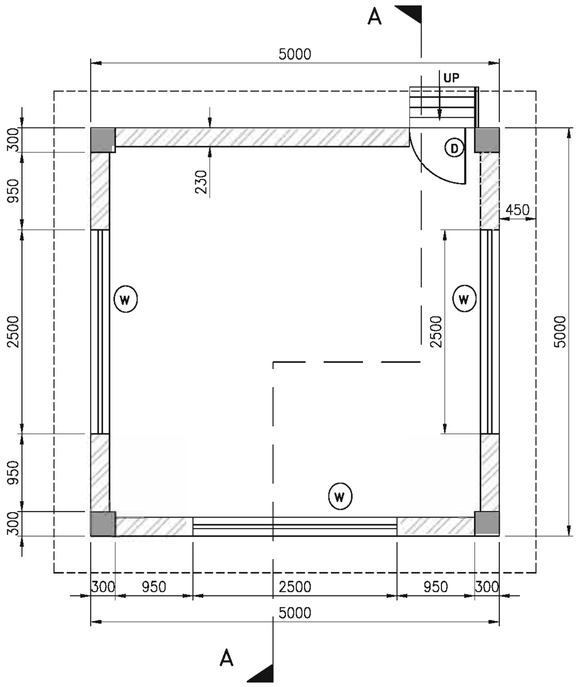
	NAME	SIGN	DATE
DRN	SKN		25–02–2016
CHD	HM/SKA		25–02–2016
APD	S DHAR		25–02–2016

TITLE: IWT TERMINAL AT HALDIA
GENERAL ARRANGEMENT OF WORKER'S AMENITY BUILDING

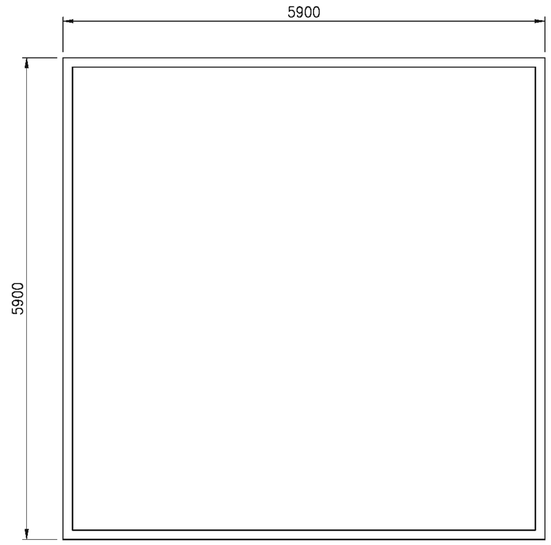
JOB. NO. I-525 | DRG. NO. HT-1007

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

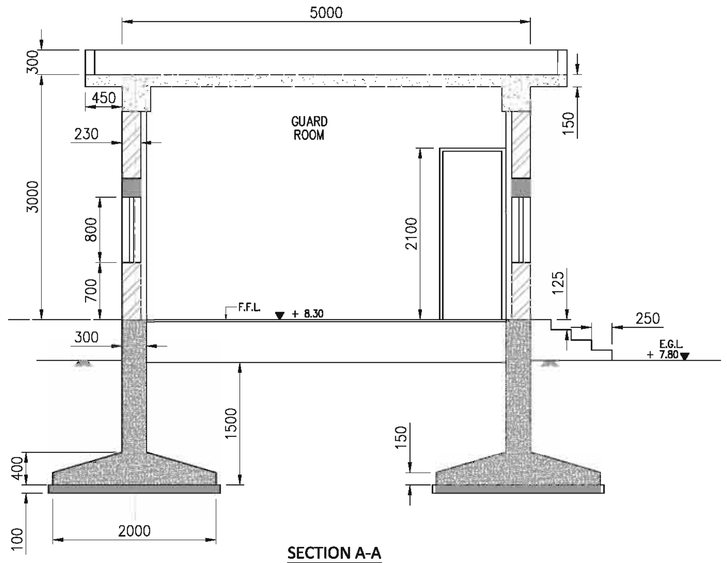
UNIT | SCALE - 1:50 | Size : A1 | REV. 0



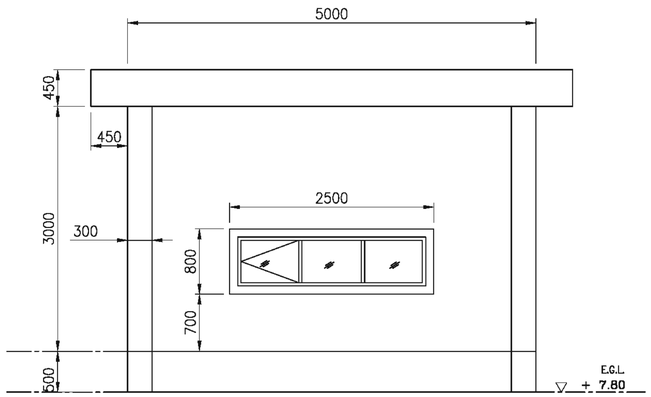
GROUND FLOOR PLAN



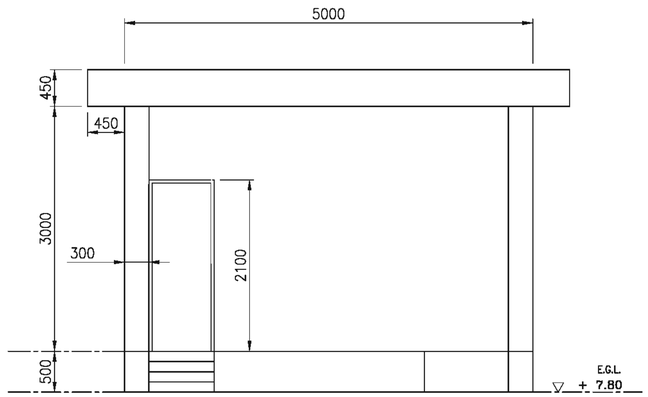
TERRACE PLAN



SECTION A-A



FRONT ELEVATION



REAR ELEVATION

SCHEDULE		
S.NO:	TYPE	DESCRIPTION
1.	D	DOOR
2.	W	WINDOW

E.G.L.–EXISTING GROUND LEVEL
F.F.L.–FINISH FLOOR LEVEL

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, BMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; BMC PROJECTS (INDIA) PRIVATE LIMITED from vision to reality...; HR Wallingford

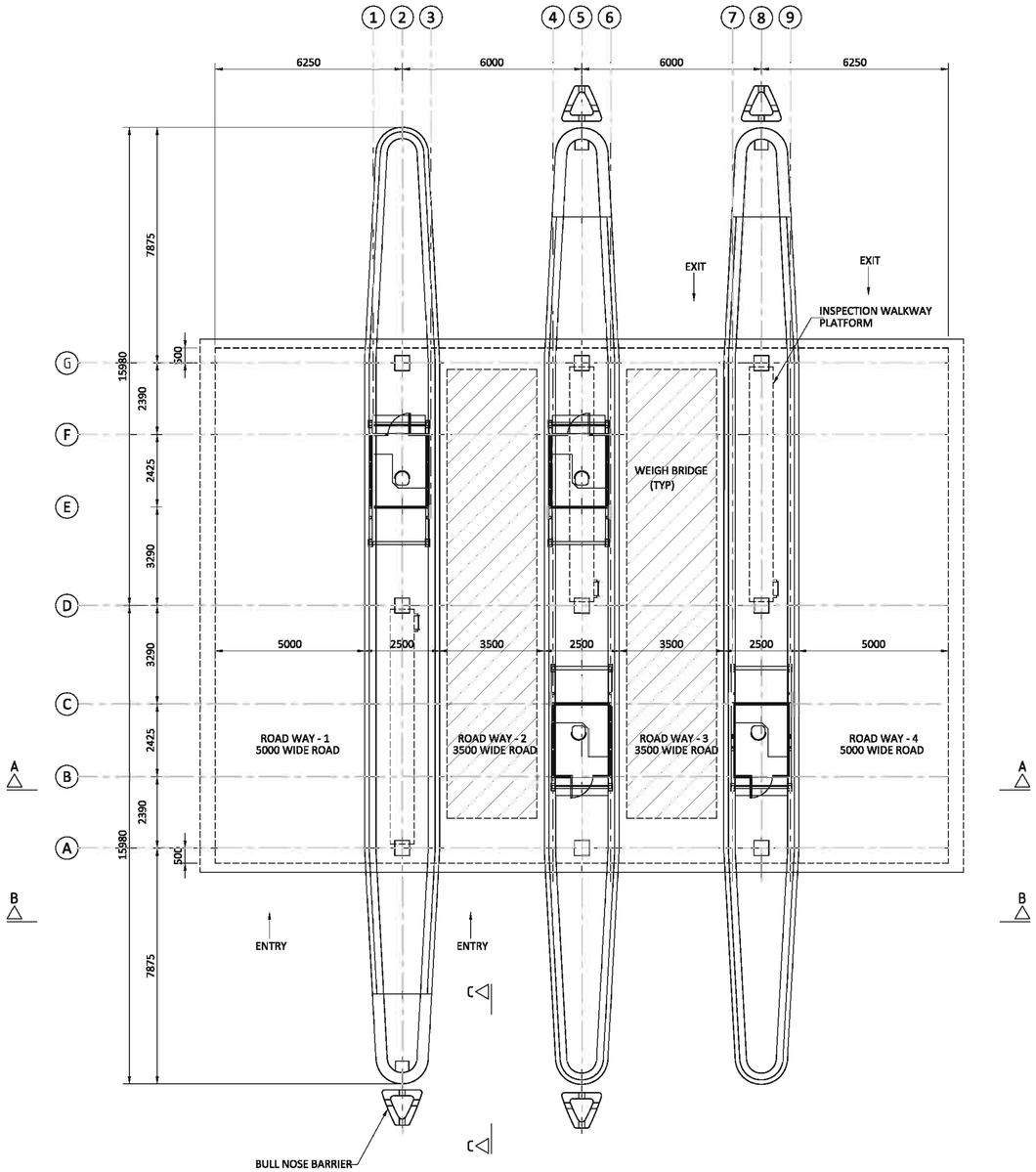
	NAME	SIGN	DATE
DRN	SKN		25-02-2016
CHD	HM/SKA		25-02-2016
APD	S DHAR		25-02-2016

TITLE: IWT TERMINAL AT HALDIA-TYPICAL LAYOUT AND ELEVATION OF SECURITY OFFICE & WEIGH BRIDGE CONTROL ROOM

JOB. NO. I-525 | DRG. NO. HT-1008

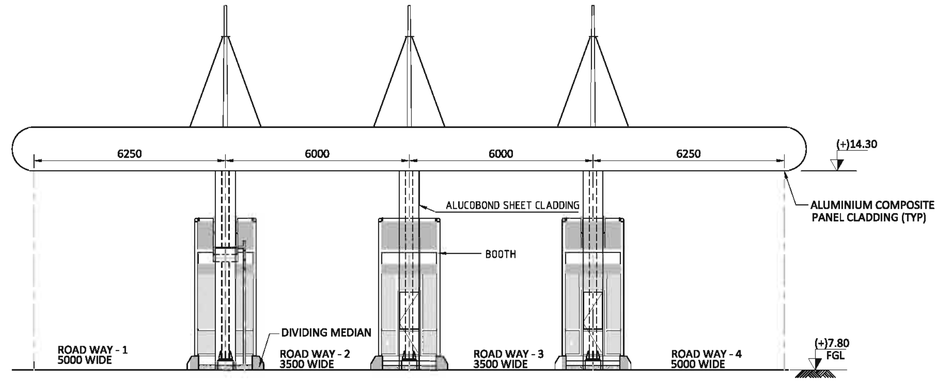
COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE - 1:75 | Size : A1 | REV. 0



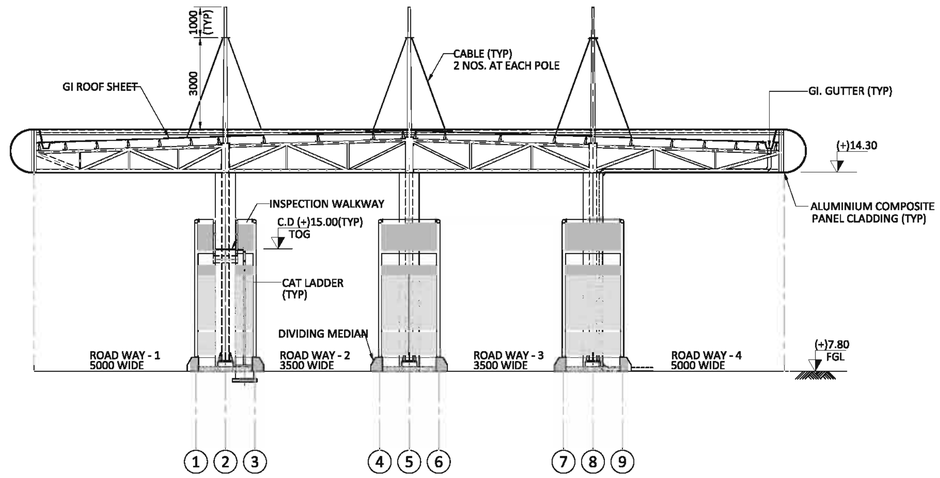
GATE COMPLEX ENTRY & EXIT PLAN

(SCALE 1:100)



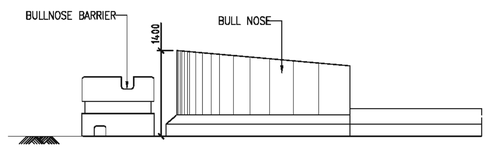
VIEW B-B

(SCALE 1:100)



SECTION A-A

(SCALE 1:100)



VIEW C-C

(SCALE 1:50)

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, PMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; PMC PROJECTS (INDIA) PRIVATE LIMITED from vision to reality...; HR Wallingford

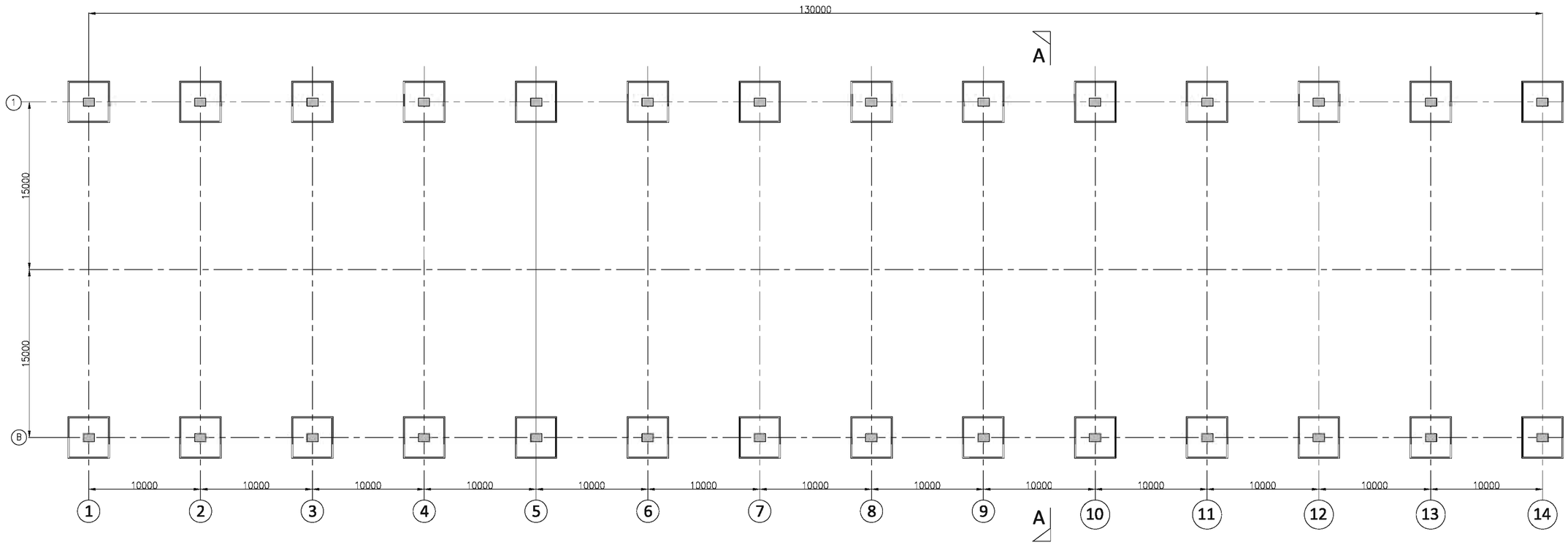
	NAME	SIGN	DATE
DRN	SKN		25-02-2016
CHD	HM/SKA		25-02-2016
APD	S DHAR		25-02-2016

TITLE: IWT TERMINAL AT HALDIA
GENERAL ARRANGEMENT OF GATE COMPLEX

JOB. NO. I-525 | DRG. NO. HT-1009

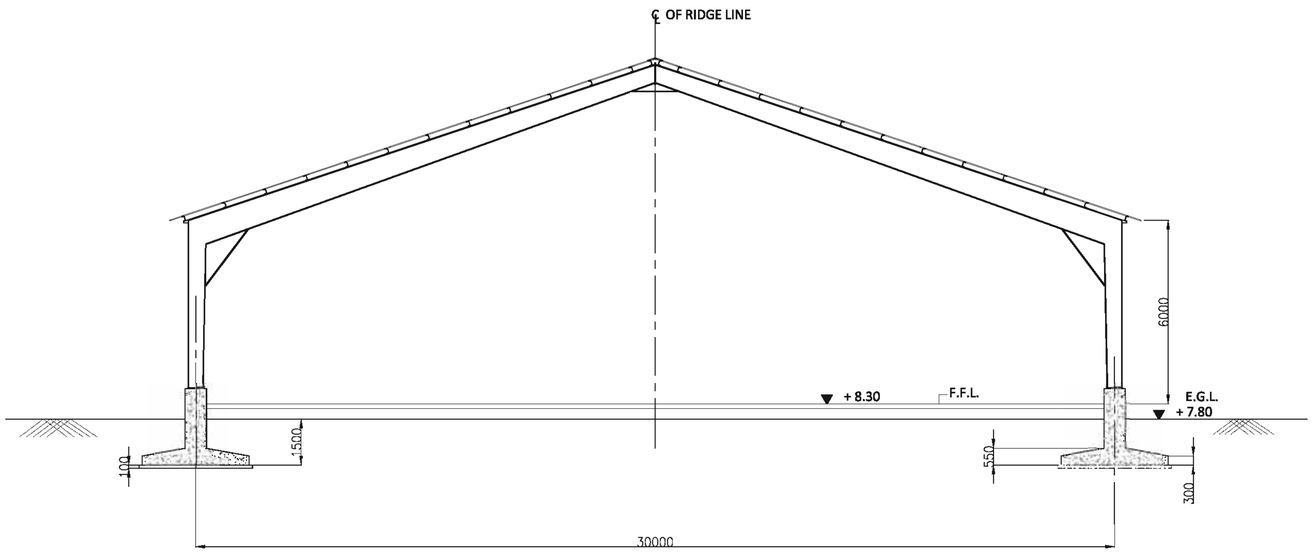
COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE - AS SHOWN | Size : A1 | REV. 0



LAYOUT OF SHED

SCALE 1:200



SECTION A-A

SCALE 1:100

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, BMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; BMC PROJECTS (INDIA) PRIVATE LIMITED from vision to reality...; HR Wallingford

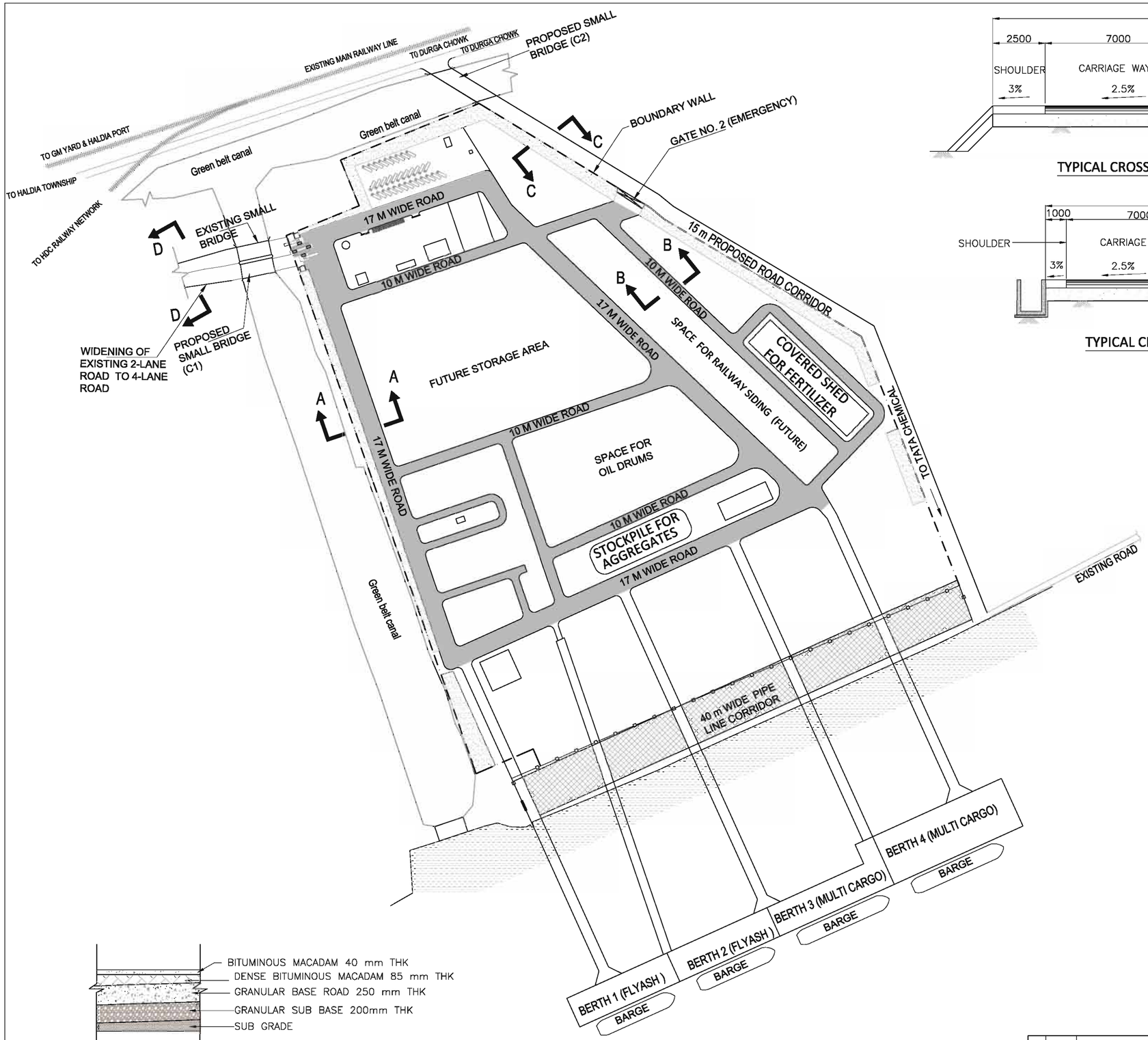
	NAME	SIGN	DATE
DRN	SKN		25-02-2016
CHD	HM/SKA		25-02-2016
APD	S DHAR		25-02-2016

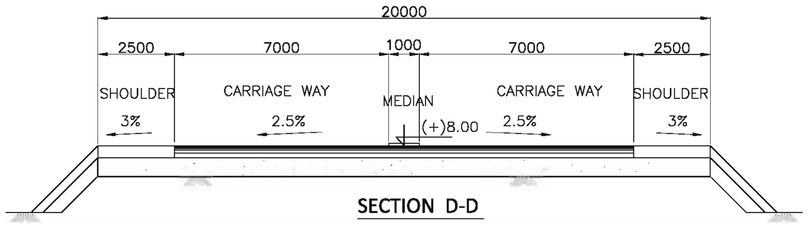
TITLE: IWT TERMINAL AT HALDIA
GENERAL ARRANGEMENT OF COVERED STORAGE SHED

JOB. NO. I-525 | DRG. NO. HT-1010

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE - AS SHOWN | Size : A1 | REV. 0

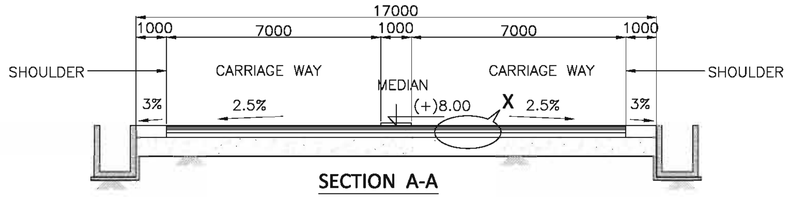




SECTION D-D

TYPICAL CROSS SECTION OF 20 m WIDE ROAD

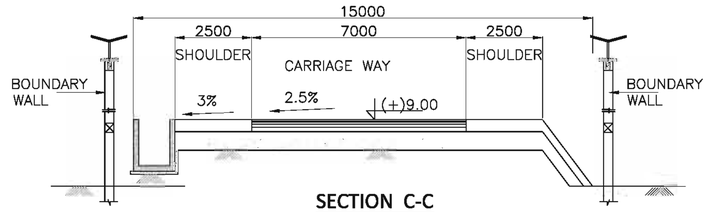
SCALE–1:100



SECTION A-A

TYPICAL CROSS SECTION OF 17 m WIDE ROAD

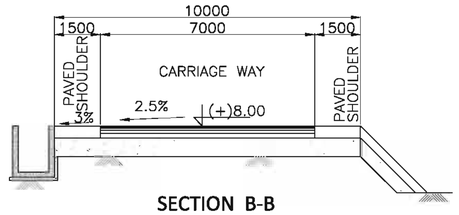
SCALE–1:100



SECTION C-C

TYPICAL CROSS SECTION OF 15 m WIDE ROAD CORRIDOR

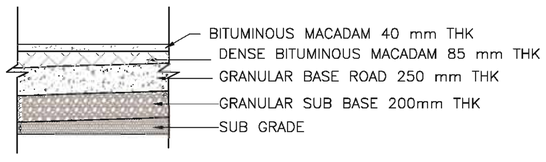
SCALE–1:100



SECTION B-B

TYPICAL CROSS SECTION OF 10 m WIDE ROAD

SCALE–1:100



TYPICAL PAVEMENT DETAIL -X

NTS

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETER
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM
3. THE LEVELS OF APPROACH ROAD & 'PROPOSED 15 m WIDE ROAD CORRIDOR' TO TATA CHEMICAL ARE INDICATIVE. THE LEVELS SHOULD BE PROVIDED INLINE WITH THE LEVELS OF THE EXISTING ROADS

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, PMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; PMC PROJECTS (INDIA) PRIVATE LIMITED from vision to reality...; HR Wallingford

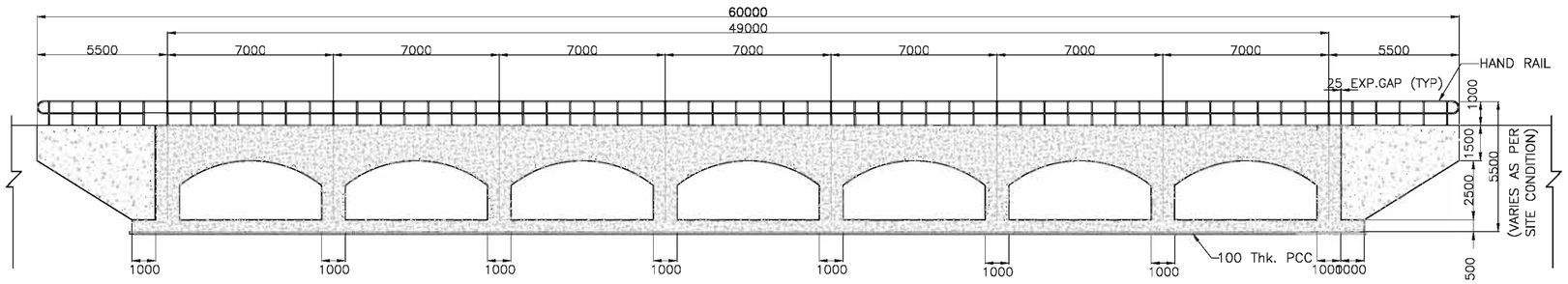
	NAME	SIGN	DATE
DRN	SKN		25–02–2016
CHD	HM/SKA		25–02–2016
APD	S DHAR		25–02–2016

TITLE: IWT TERMINAL AT HALDIA
DETAILS OF ROADS

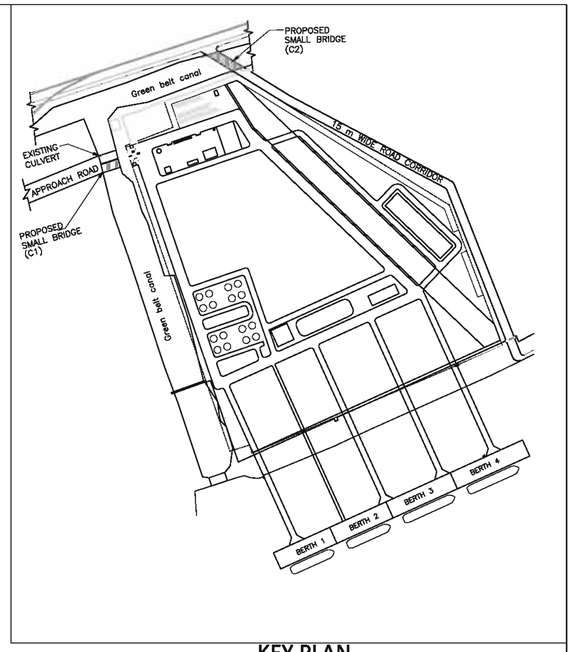
JOB. NO. I-525 | DRG. NO. HT-1011

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT	SCALE - 1:2000	Size : A1	REV. 0

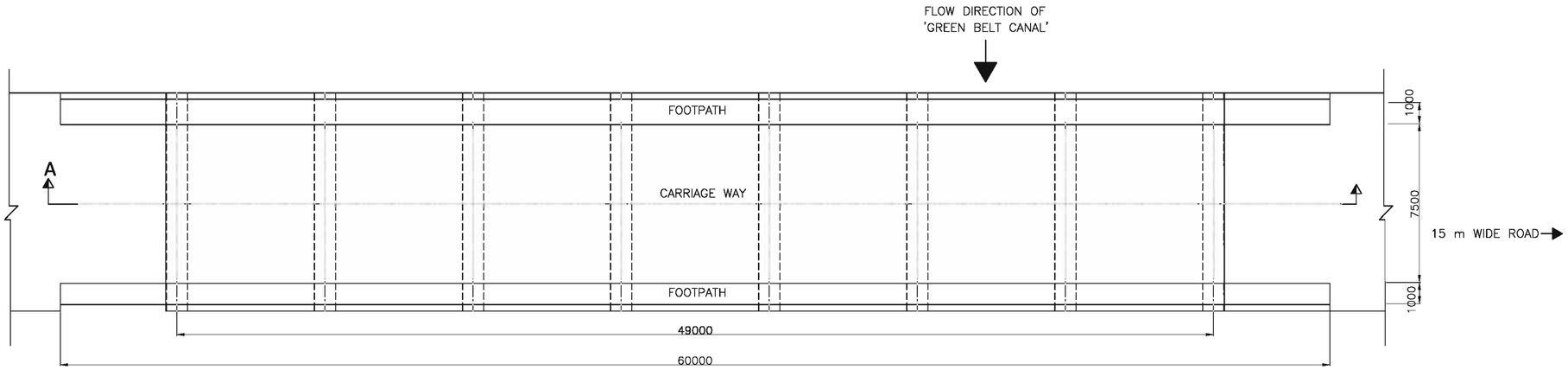


SECTION A-A



KEY PLAN

NTS



PLAN FOR

PROPOSED SMALL BRIDGE 'C2'

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS
2. ALL LEVELS ARE IN METERS WITH & ARE RESPECT TO CHART DATUM
3. THE DIMENSIONS OF THE PROPOSED CULVERT (C2) HAS TO BE CONSIDERED BASED ON THE ACTUAL DIMENSIONS OF 'GREEN BELT CANAL'

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, DMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; DMC PROJECTS (INDIA) PRIVATE LIMITED from vision to reality...; HR Wallingford

	NAME	SIGN	DATE
DRN	SKN		25-02-2016
CHD	HM/SKA		25-02-2016
APD	S DHAR		25-02-2016

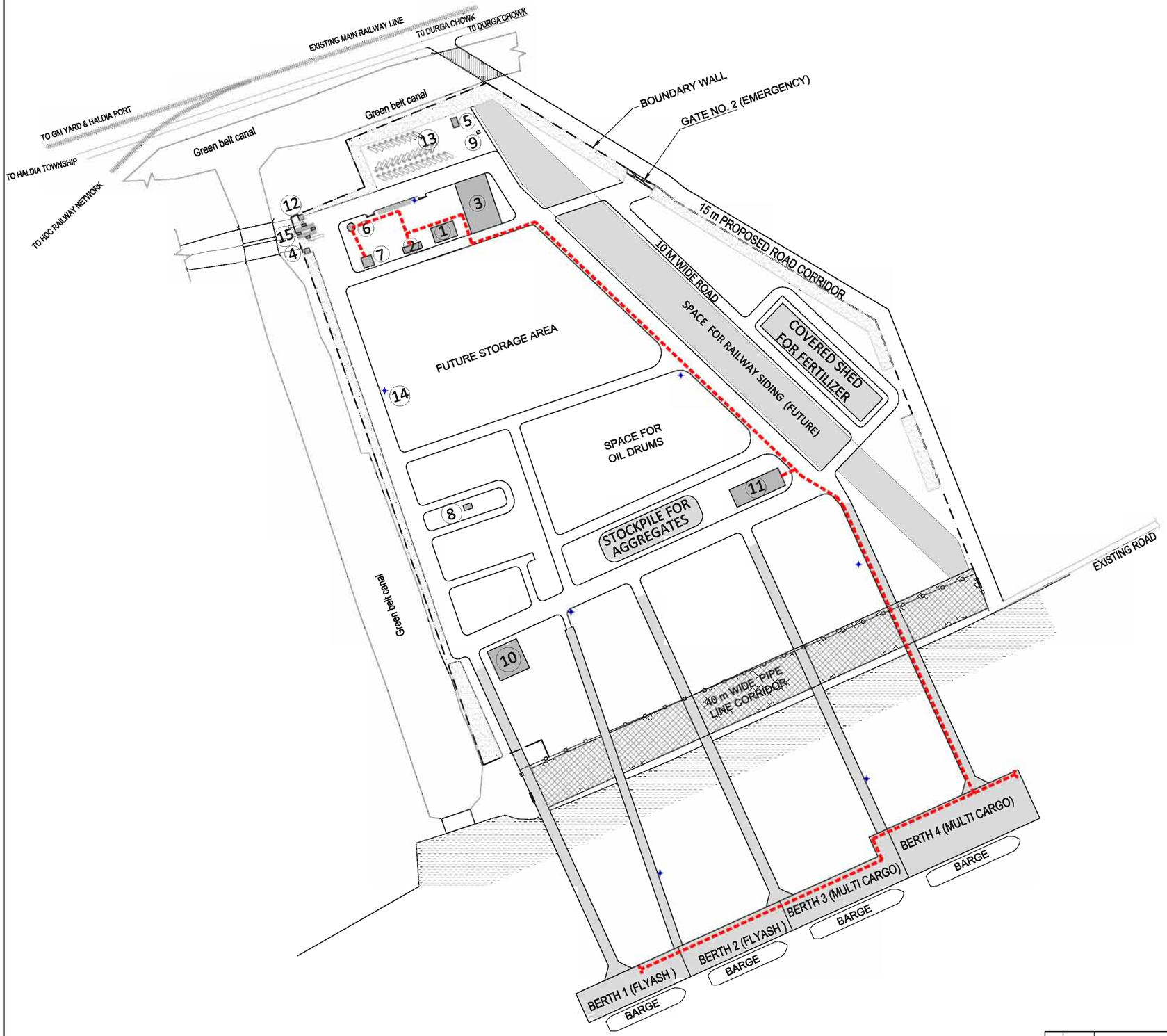
TITLE: IWT TERMINAL AT HALDIA - PLAN AND CROSS SECTION OF SMALL BRIDGE OVER 'GREEN BELT CANAL'

JOB. NO. I-525

DRG. NO. HT-1012

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE - 1:125 | Size : A1 | REV. 0



LEGEND:

S.NO.	DESCRIPTION
1	TERMINAL ADMINISTRATION BUILDING
2	WORKER'S AMENITY BUILDING
3	FUEL BUNKER
4	SECURITY OFFICE
5	SEWAGE TREATMENT PLANT
6	OVERHEAD WATER TANK
7	UNDERGROUND RESERVOIR
8	RIO (REMOTE INPUT OUT PUT)/ COMPRESSOR ROOM FOR ASH HANDLING
9	WASTE COLLECTION CENTER
10	SETTLING POND
11	ELECTRICAL SUB STATION
12	WEIGH BRIDGE CONTROL ROOM
13	VEHICLE PARKING AREA
14	HIGHMAST LIGHTING TOWERS
15	GATE HOUSE COMPLEX

N

LEGEND:

POTABLE WATER PIPE LINE

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, DMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; DMC PROJECTS (INDIA) PRIVATE LIMITED from vision to reality...; HR Wallingford

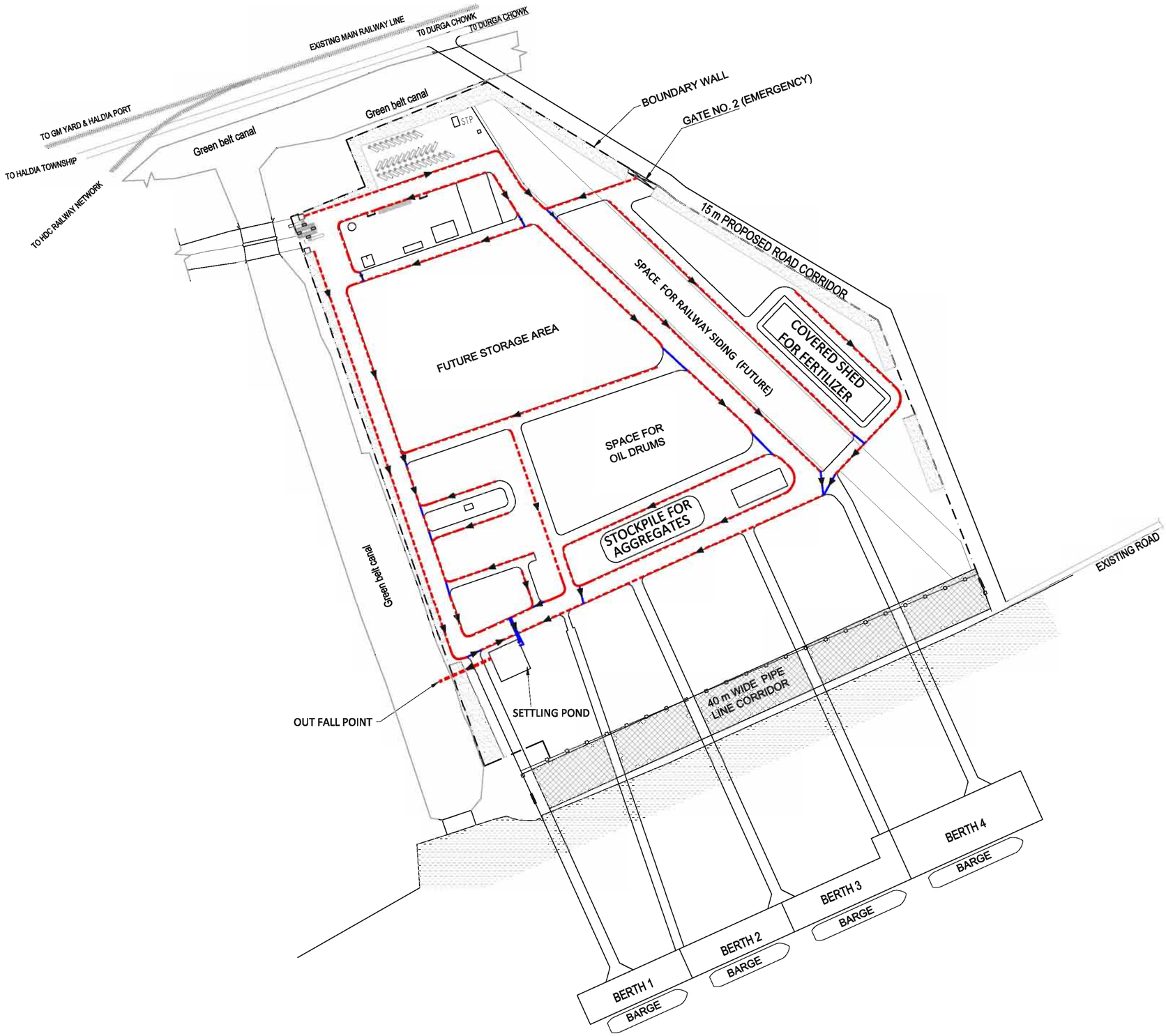
	NAME	SIGN	DATE
DRN	SKN		25-02-2016
CHD	HM/SKA		25-02-2016
APD	S DHAR		25-02-2016

TITLE: IWT TERMINAL AT HALDIA
SCHEMATIC LAYOUT OF WATER SUPPLY SYSTEM

JOB. NO. I-525 | DRG. NO. HT-1013

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE - 1:2000 | Size : A1 | REV. 0



N

LEGEND:

- COVERED RCC DRAIN
- PIPE / CULVERT

NOTES:

1. PIPE DRAINS / CULVERT TO BE CONSIDERED AT ROAD CROSSING

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, PMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; PMC PROJECTS (INDIA) PRIVATE LIMITED from vision to reality...; HR Wallingford

	NAME	SIGN	DATE
DRN	SKN		25-02-2016
CHD	HM/SKA		25-02-2016
APD	S DHAR		25-02-2016

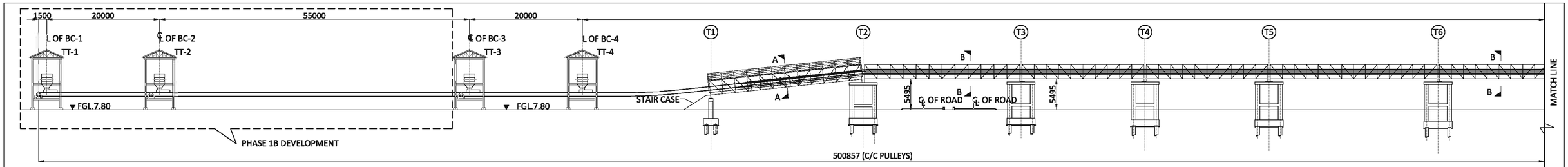
TITLE: IWT TERMINAL AT HALDIA
LAYOUT OF STORM WATER DRAINAGE

JOB. NO. I-525

DRG. NO. HT-1014

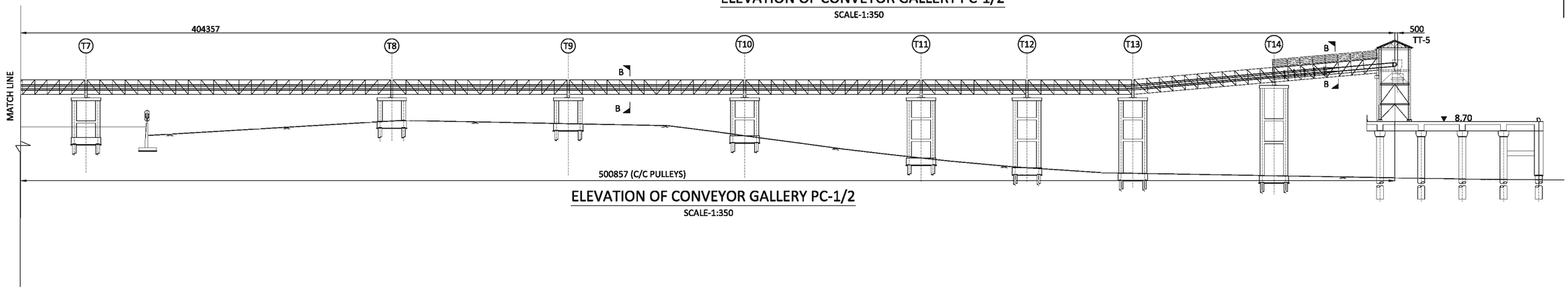
COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE - 1:2000 | Size : A1 | REV. 0



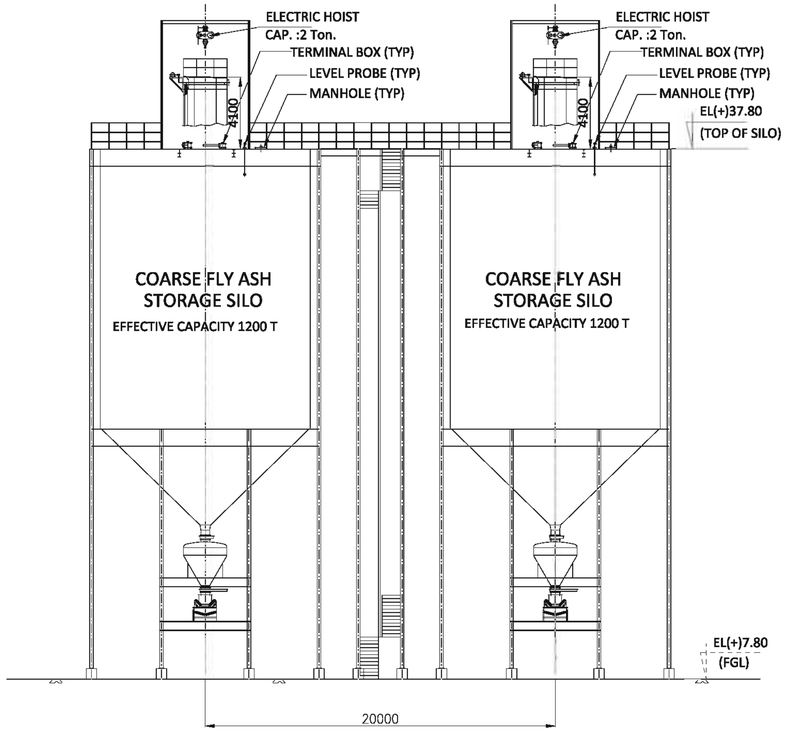
ELEVATION OF CONVEYOR GALLERY PC-1/2

SCALE-1:350



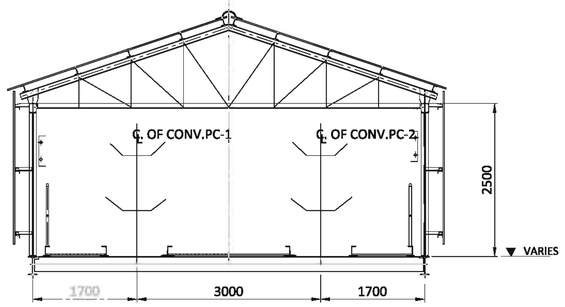
ELEVATION OF CONVEYOR GALLERY PC-1/2

SCALE-1:350



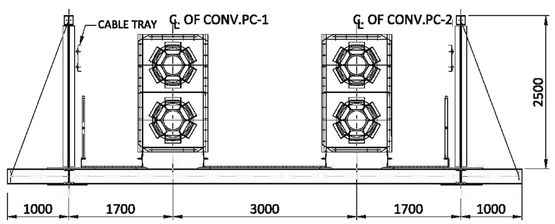
GENERAL ARRANGEMENT OF FLY ASH SILOS

SCALE-1:175



SECTION A-A

SCALE-1:50



SECTION B-B

SCALE-1:50

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM
3. PILE SHOULD BE AVOIDED AT UNDER GROUND PIPE LOCATIONS

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, DMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; DMC PROJECTS (INDIA) PRIVATE LIMITED from vision to reality...; HR Wallingford

	NAME	SIGN	DATE
DRN	SKN		25-02-2016
CHD	AKK/PKM		25-02-2016
APD	S DHAR		25-02-2016

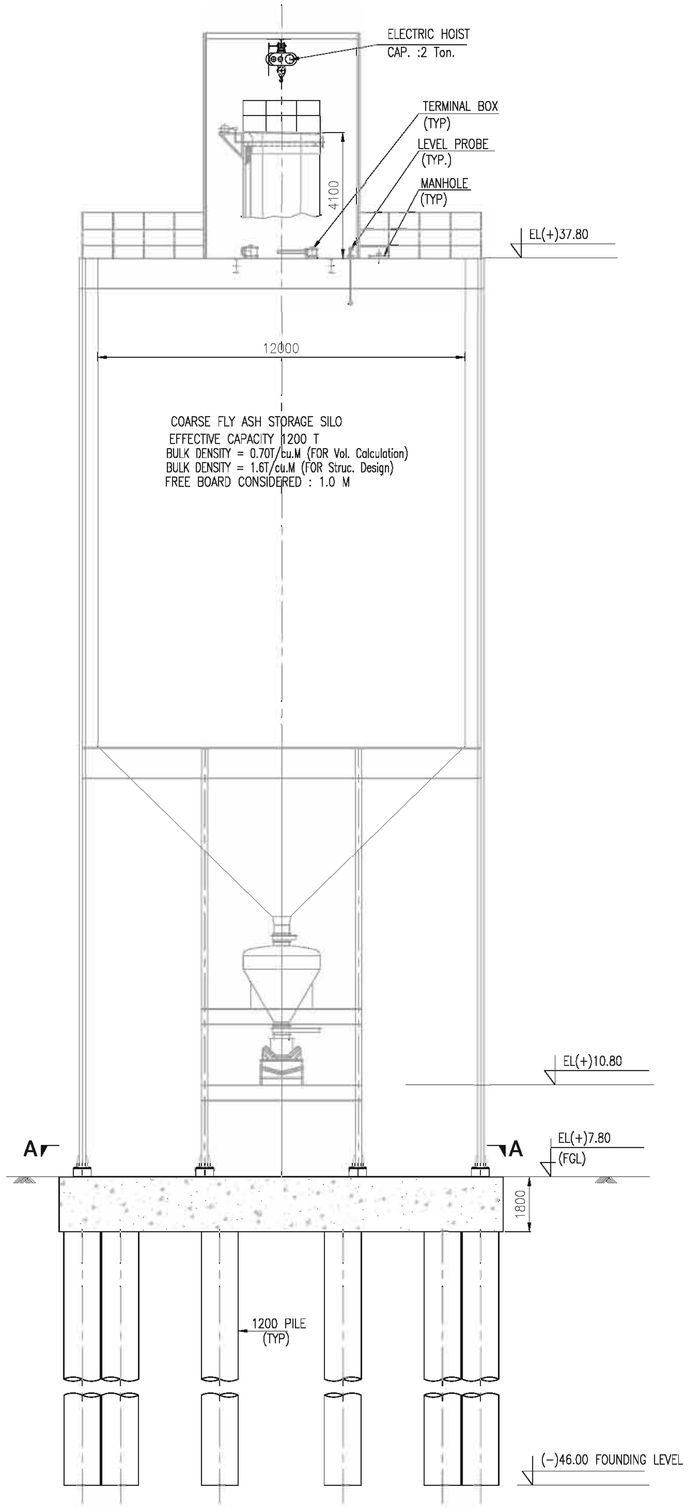
TITLE: IWT TERMINAL AT HALDIA - GENERAL ARRANGEMENT OF FLY ASH SILO &PROFILE OF PIPE CONVEYOR PC-1/PC-2

JOB. NO. I-525

DRG. NO. HT-1015 (SH- 1 OF 2)

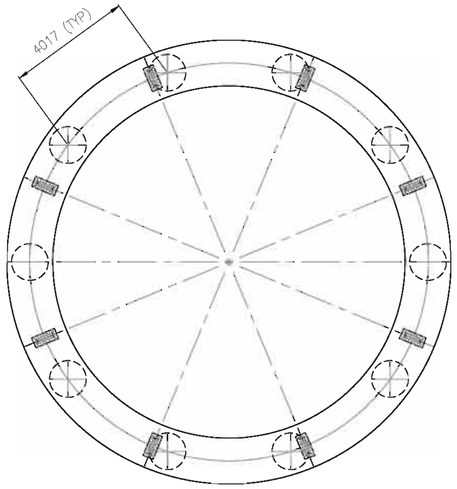
COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE - AS SHOWN | Size : A1 | REV. 0



ELEVATION

SCALE– 1:100



PLAN A-A

SCALE– 1:100

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, DMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; DMC PROJECTS (INDIA) PRIVATE LIMITED – From vision to reality...; HR Wallingford – Working with water

	NAME	SIGN	DATE
DRN	SKN		25–02–2016
CHD	AKK/PKM		25–02–2016
APD	S DHAR		25–02–2016

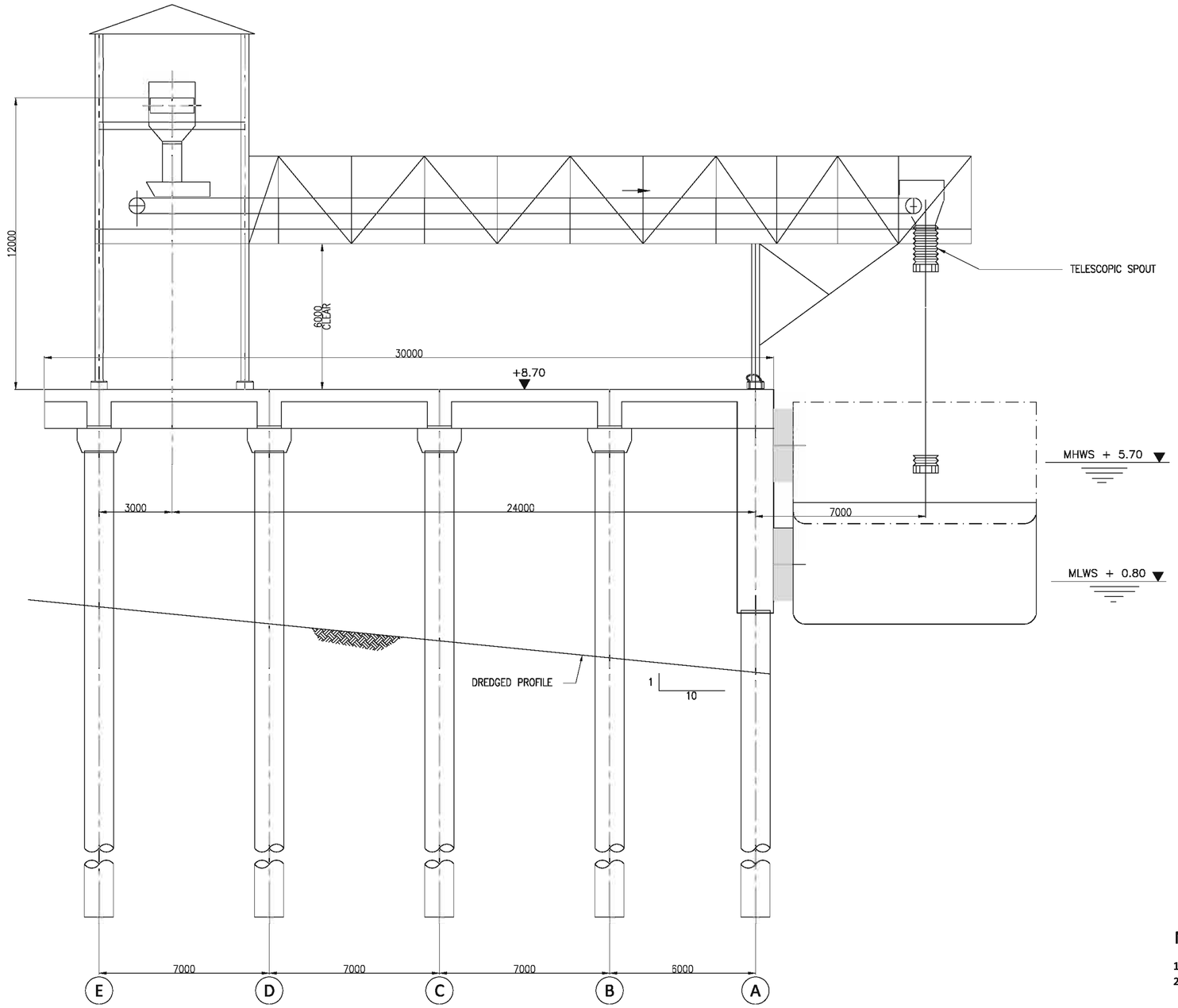
TITLE: IWT TERMINAL AT HALDIA - GENERAL ARRANGEMENT OF FLY ASH SILO &PROFILE OF PIPE CONVEYOR PC-1/PC-2

JOB. NO. I-525

DRG. NO. HT-1015 (SH- 2 OF 2)

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT	SCALE - AS SHOWN	Size : A1	REV. 0



NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, PMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; PMC PROJECTS (INDIA) PRIVATE LIMITED from vision to reality...; HR Wallingford

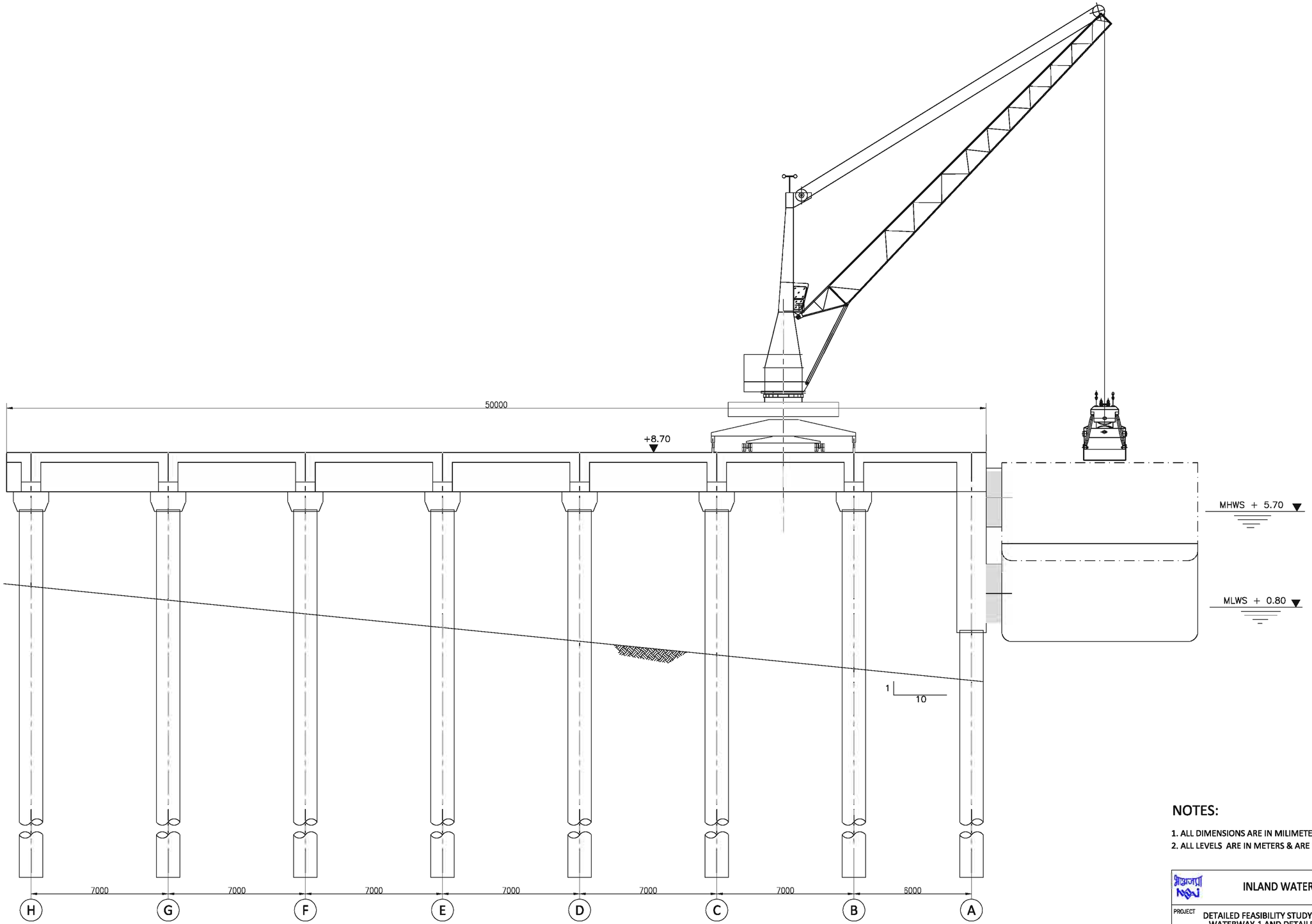
	NAME	SIGN	DATE
DRN	SKN		25-02-2016
CHD	HM/SKA		25-02-2016
APD	S DHAR		25-02-2016

TITLE: IWT TERMINAL AT HALDIA
CROSS SECTION OF FIXED TYPE BARGE LOADER

JOB. NO. I-525 | DRG. NO. HT-1016

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE - 1:100 | Size : A1 | REV. 0



NOTES:

1. ALL DIMENSIONS ARE IN MILIMETERS
2. ALL LEVELS ARE IN METERS & ARE WITH RESPECT TO CHART DATUM

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, DMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; DMC PROJECTS (INDIA) PRIVATE LIMITED from vision to reality...; HR Wallingford

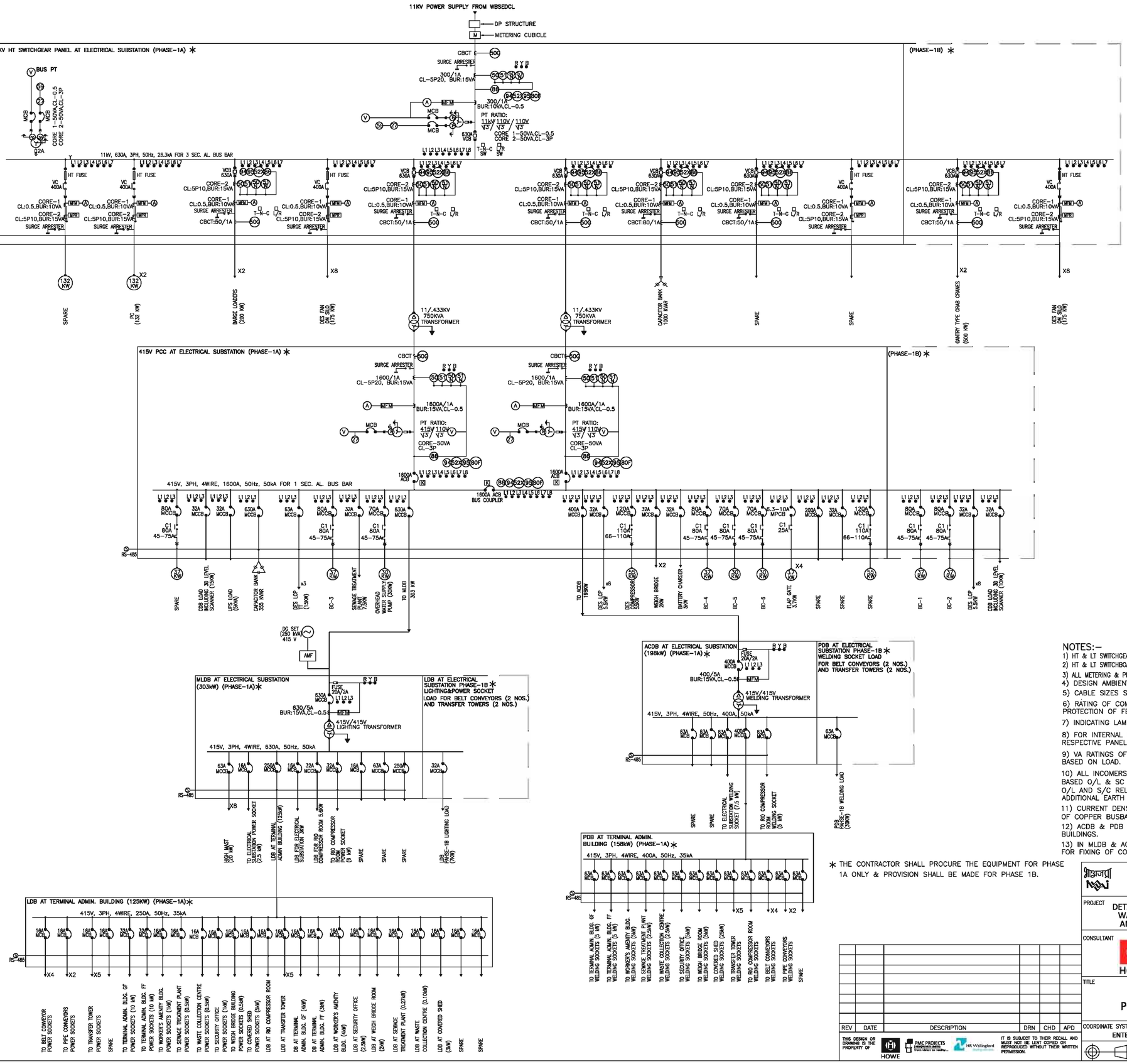
	NAME	SIGN	DATE
DRN	SKN		25-02-2016
CHD	HM/SKA		25-02-2016
APD	S DHAR		25-02-2016

TITLE: IWT TERMINAL AT HALDIA
CROSS SECTION OF MOBILE HARBOUR CRANE

JOB. NO. I-525 | DRG. NO. HT-1017

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE - 1:100 | Size : A1 | REV. 0



SYMBOL	DESCRIPTION
	OVERLOAD RELAY
	FUSE
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
	MOULDED CASE CIRCUIT BREAKER
	INDICATION
	AIR CIRCUIT BREAKER
	SURGE ARRESTER
CBCT	CORE BALANCE CURRENT TRANSFORMER
27	UNDER VOLTAGE RELAY
50	INSTANTANEOUS OVER CURRENT RELAY
50N	INSTANTANEOUS EARTH FAULT RELAY
51	IDMT OVER CURRENT RELAY
51N	IDMT EARTH FAULT RELAY
59	OVER VOLTAGE RELAY
86A	TRIP CIRCUIT SUP. RELAY
86B	LOCK OUT RELAY
94	ANTI PUMPING RELAY
50N	INSTANTANEOUS GROUND FAULT RELAY
80F	DC FAIL RELAY
L1	BREAKER ON RED
L2	BREAKER OFF GREEN
L3	BREAKER TRIP AMBER
L4	SPRING CHARGED RED
L5	TRIP CIRCUIT HEALTHY
L6	BREAKER IN TEST POSITION
L7	BREAKER IN SERVICE POSITION
L8	DC FAIL
52X	BREAKER CONTACT MULTIPLIER RELAY
TNC	TRIP NEUTRAL CLOSE SWITCH
L/R	LOCAL/REMOTE SELECTOR SWITCH
V	VOLTMETER
A	AMMETER
MFM	MULTI FUNCTION METER
	VACUUM CIRCUIT BREAKER
X	ELECTRICAL & MECHANICAL INTERLOCK
	CONTACTOR
AMF	AUTO MAINS FAILURE WITH CHANGEOVER SWITCH
PCC	POWER CONTROL CENTER
MLDB	MAIN LIGHTING DISTRIBUTION BOARD
ACDB	AC DISTRIBUTION BOARD
LDB	LIGHTING DISTRIBUTION BOARD
PDB	POWER DISTRIBUTION BOARD
CDB	CONTROL DISTRIBUTION BOARD
WBSEDCL	WEST BENGAL STATE ELECTRICITY DISTRIBUTION COMPANY LIMITED
PC	PIPE CONVEYOR

NOTES:–

1) HT & LT SWITCHGEAR PANEL SHALL BE SUITABLE FOR FUTURE EXPANSION ON BOTH SIDES.
2) HT & LT SWITCHBOARD AT LEAST 20% SPARE FEEDERS OF EACH TYPE AND RATING SHALL BE PROVIDED.
3) ALL METERING & PROTECTION SHALL BE PROVIDED AS PER SPECIFICATION.
4) DESIGN AMBIENT TEMPERATURE: 45°C.
5) CABLE SIZES SHALL BE AS PER APPROVED CALCULATIONS.
6) RATING OF COMPONENTS SHALL BE SELECTED BY THE SUPPLIER TO ENSURE PROTECTION OF FEEDERS AS PER TYPE–2 COORDINATION OF IS 13947.
7) INDICATING LAMPS SHALL BE IN THE FORM OF CLUSTER LED.
8) FOR INTERNAL ILLUMINATION OF PANELS FITTINGS SHALL BE CONTROLLED BY THE RESPECTIVE PANEL DOOR SWITCH.
9) VA RATINGS OF CTs & PTs ARE INDICATIVE ONLY, VENDOR HAS TO CHECK THE SAME BASED ON LOAD.
10) ALL INCOMERS AND OUTGOINGS 125A AND ABOVE SHALL HAVE MICROPROCESSOR BASED O/L & SC RELEASES AND BELOW 125A SHALL HAVE THERMAL MAGNETIC BASED O/L AND S/C RELEASES. HOWEVER WELDING FEEDER SHALL BE PROVIDED WITH AN ADDITIONAL EARTH FAULT.
11) CURRENT DENSITY OF ALL ALUMINIUM BUSBAR SHALL NOT EXCEED 1.0/SQ.MM AND OF COPPER BUSBAR SHALL NOT EXCEED 1.25 A/SQ.MM.
12) ACDB & PDB SHALL FED POWER TO THE WELDING SOCKETS OF RESPECITVE BUILDINGS.
13) IN MLDB & ACDB SPACE FOR 32A & 63A MCCB RESPECTIVELY SHALL BE PROVIDED FOR FIXING OF COMPONENTS DURING PHASE–1B.

* THE CONTRACTOR SHALL PROCURE THE EQUIPMENT FOR PHASE 1A ONLY & PROVISION SHALL BE MADE FOR PHASE 1B.

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, PMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; PMC PROJECTS (INDIA) PRIVATE LIMITED from vision to reality...; HR Wallingford

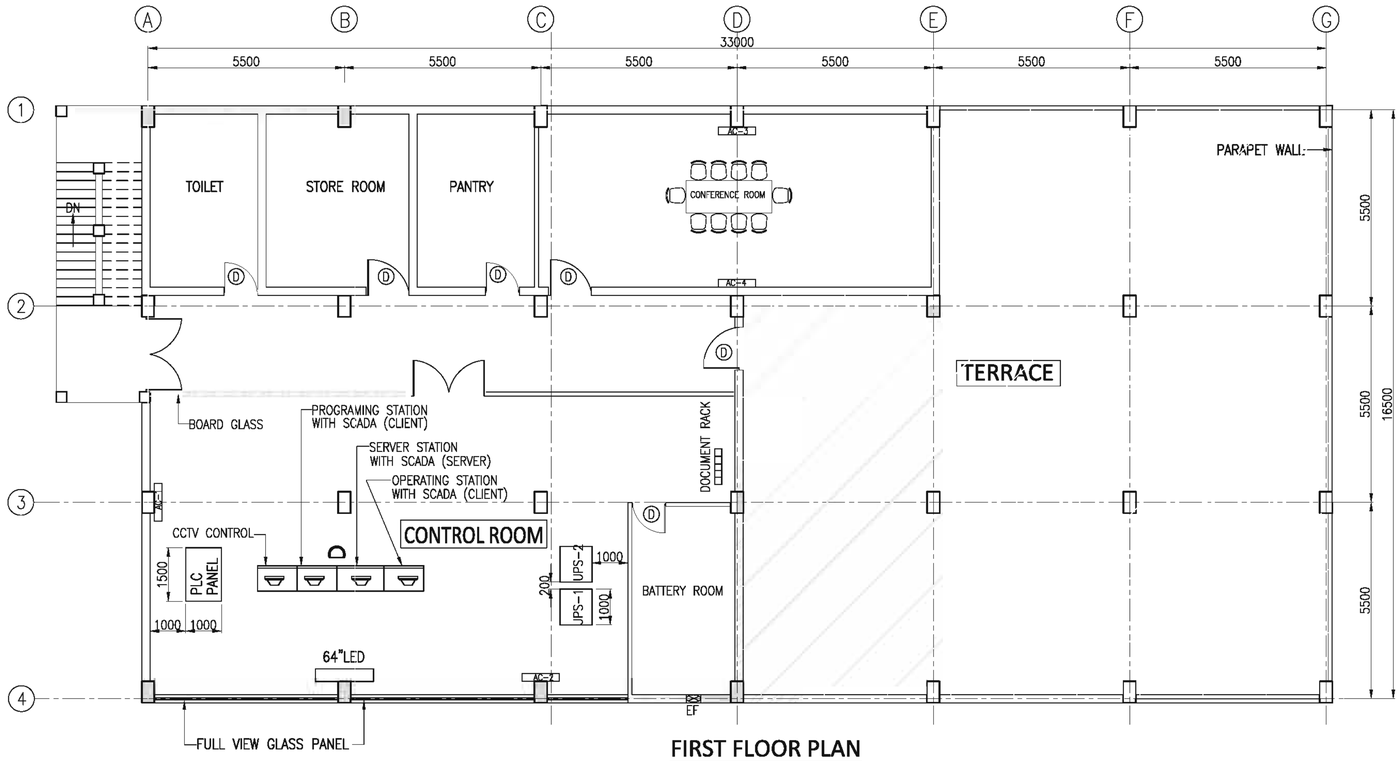
	NAME	SIGN	DATE
DRN	VS		25–02–2016
CHD	SS		25–02–2016
APD	SD		25–02–2016

TITLE: IWT TERMINAL AT HALDIA POWER SINGLE LINE DIAGRAM

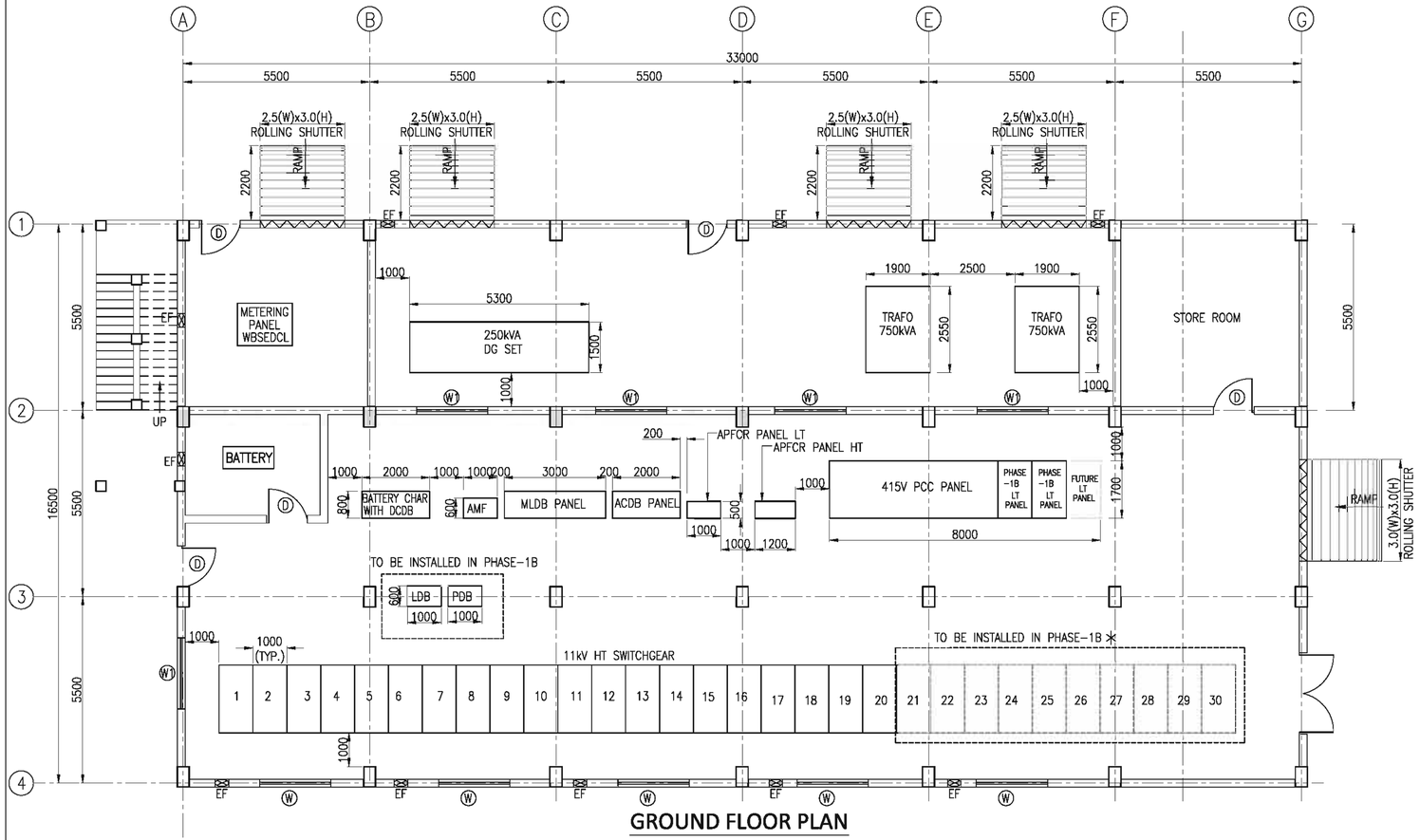
JOB. NO. I-525 | DRG. NO. HT-1019

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT	SCALE-NTS	Size : A1	REV. 0



FIRST FLOOR PLAN



GROUND FLOOR PLAN

LEGEND :-

- (W) WINDOW (OPENABLE)
- (W) FIXED GLASS WINDOW
- EXHAUST FAN
- (D) DOOR

NOTE :-

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE NOTED.

* THE CONTRACTOR SHALL PROCURE THE EQUIPMENT FOR PHASE 1A ONLY & PROVISION SHALL BE MADE FOR PHASE 1B.

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, DMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; DMC PROJECTS (INDIA) PRIVATE LIMITED from vision to reality...; HR Wallingford

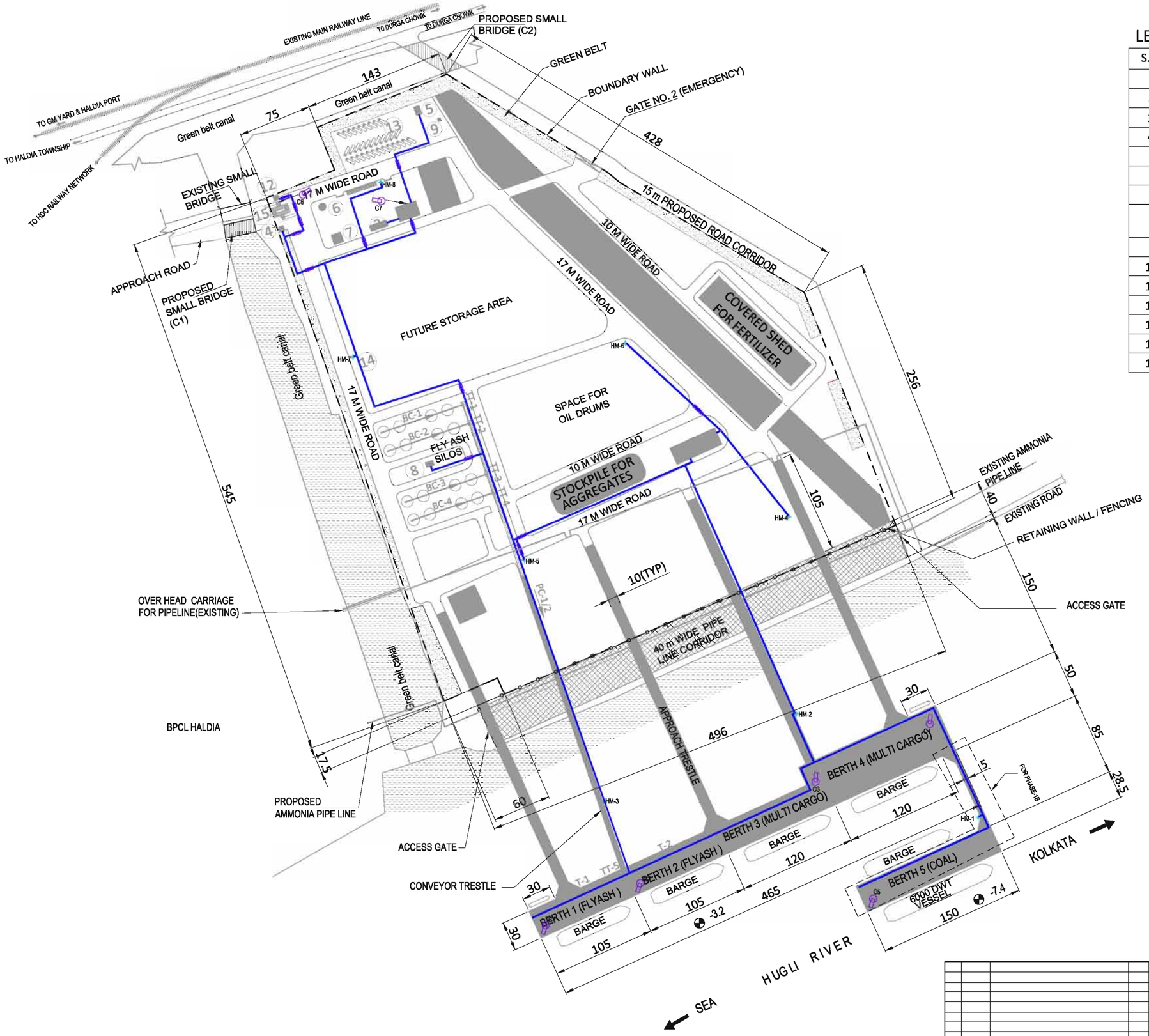
	NAME	SIGN	DATE
DRN	VS		25-02-2016
CHD	SS		25-02-2016
APD	SD		25-02-2016

TITLE: IWT TERMINAL AT HALDIA
SUBSTATION EQUIPMENT LAYOUT

JOB. NO. I-525 | DRG. NO. HT-1020

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE-1:100 | Size : A1 | REV. 0



LEGEND:

S.NO.	DESCRIPTION
1	TERMINAL ADMINISTRATION BUILDING
2	WORKER'S AMENITY BUILDING
3	FUEL BUNKER
4	SECURITY OFFICE
5	SEWAGE TREATMENT PLANT
6	OVERHEAD WATER TANK
7	UNDERGROUND RESERVOIR
8	RIO (REMOTE INPUT OUT PUT)/ COMPRESSOR ROOM FOR ASH HANDLING
9	WASTE COLLECTION CENTER
10	SETTLING POND
11	ELECTRICAL SUB STATION
12	WEIGH BRIDGE CONTROL ROOM
13	VEHICLE PARKING AREA
14	HIGHMAST LIGHTING TOWERS
15	GATE HOUSE COMPLEX

LEGEND:

SYMBOL	DESCRIPTION
TT	TRANSFER TOWER
T	TOWER
BC	BELT CONVEYORS
PC	PIPE CONVEYORS
	HUME PIPE FOR CABLE ROAD CROSSING
	RCC CABLE TRENCH 1.0X1.0 m
	CCTV CAMERA
	HIGHMAST(HM)

NOTES:

1. ALL DIMENSIONS ARE IN METER

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, PMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; PMC PROJECTS (INDIA) PRIVATE LIMITED "from vision to reality..."; HR Wallingford "Working with water"

	NAME	SIGN	DATE
DRN	VS		25-02-2016
CHD	SS		25-02-2016
APD	SD		25-02-2016

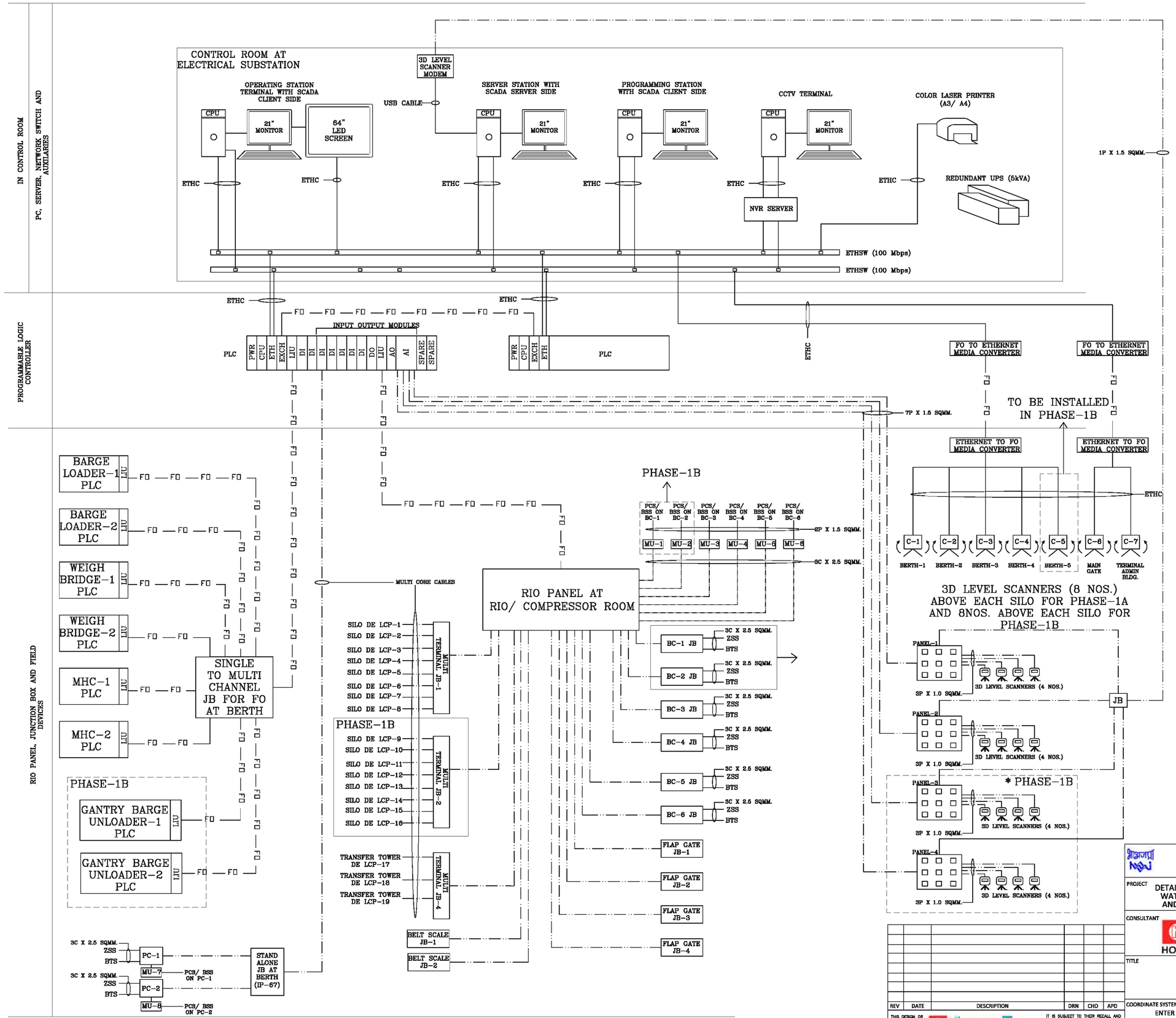
TITLE: IWT TERMINAL AT HALDIA
HIGH MAST & CABLE LAYOUT

JOB. NO. I-525

DRG. NO. HT-1021

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | Size : A1 | REV.



LEGEND

MU	MASTER UNIT
PCS	PULL CORD SWITCH
BSS	BELT SWAY SWITCH
UPS	UNINTERRUPTED POWER SUPPLY
JB	JUNCTION BOX
ETHSW	ETHERNET SWITCH
PLC	PROGRAMMABLE LOGIC CONTROLLER
PWR	PLC POWER SUPPLY
CPU	PLC CENTRAL PROCESSING UNIT
EXCH	PLC MEMORY EXCHANGE WITH REDUNDANT PLC
ETH	PLC ETHERNET MODULE
DI	PLC DIGITAL INPUT MODULES
DO	PLC DIGITAL OUTPUT MODULE
SPARE	PLC SPARE I/O BASE
LIU	LIGHT INTERFACE UNIT
CPU	CENTRAL PROCESSING UNIT
DE LCP	DUST EXTRACTION LOCAL CONTROL PANEL
MHC	MOBILE HARBOR CRANE
BC	BELT CONVEYOR
RIO	REMOTE INPUT OUTPUT
PC	PIPE CONVEYOR
BTS	BELT TAKE UP SWITCH
ZSS	ZERO SPEED SWITCH

CABLE LEGEND

- FO — FIBRE OPTIC
- ETHERNET CABLE (Cat 5e)
- MULTICORE/ MULTIPAIR CABLES
- PAN TILT ZOOM CLOSED CIRCUIT TELEVISION CAMERAS

NOTE:-

1. NUMBER OF INPUT/ OUTPUTS FOR RIO PANEL AND PLC PANEL SHALL BE CONSIDERED WITH 20% SPARE,
2. ALL DUST EXTRACTION LOCAL CONTROL PANEL (DE LCP) SHALL BE LOCATED ON THE FIELD IN RESPECTIVE LOCATIONS NEAR DUST EXTARCTION SYSTEM. THESE PANELS WILL BE CONNECTED TO THE RIO PANEL VIA MULTICORE CABLES.
3. NUMBER OF INPUTS/ OUTPUTS FOR PHASE-1B SHALL BE CONSIDERED IN THE RESPECTIVE PHASE-1B WITH 20% SPARE CAPACITY

* THE CONTRACTOR SHALL PROCURE THE EQUIPMENT FOR PHASE 1A ONLY & PROVISION SHALL BE MADE FOR PHASE 1B.

REV	DATE	DESCRIPTION	DRN	CHD	APD

THIS DESIGN OR DRAWING IS THE PROPERTY OF HOWE, DMC PROJECTS (INDIA) PRIVATE LIMITED, HR Wallingford. IT IS SUBJECT TO THEIR RECALL AND MUST NOT BE LENT COPIED OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

INLAND WATERWAYS AUTHORITY OF INDIA

PROJECT: DETAILED FEASIBILITY STUDY FOR CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1 AND DETAILED ENGINEERING FOR ITS ANCILLARY WORKS AND PROCESS BETWEEN HALDIA TO ALLAHABAD (JAL VIKAS PROJECT)

CONSULTANT: HOWE; DMC PROJECTS (INDIA) PRIVATE LIMITED, from vision to reality...; HR Wallingford

	NAME	SIGN	DATE
DRN	AM		25-02-2016
CHD	SS		25-02-2016
APD	SD		25-02-2016

TITLE: IWT TERMINAL AT HALDIA CONTROL ARCHITECTURE

JOB. NO. I-525

DRG. NO. HT-1022

COORDINATE SYSTEM USED: ENTER CO-ORD SYSTEM HERE

UNIT | SCALE-NTS | Size: A1 | REV. 0