

# Øresundsbro Konsortiet Railway Operations

Järnvägsnätbeskrivning  
Network Statement  
Netredegørelse

Train plan 2024  
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Document: Network Statement

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## Øresundsbro Konsortiet's Railway Network Statement 2024

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In accordance with Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area, as well as applicable Swedish and Danish railway legislation, Øresundsbro Konsortiet has produced this description of the railway network managed by Øresundsbro Konsortiet: coast to coast between Denmark and Sweden (Copenhagen Airport, Kastrup-Lernacken).

With the publication of the document, Øresundsbro Konsortiet thus fulfils the requirement for preparing and publishing a description of the rail network. The description sets out the conditions for traffic and principles for capacity allocation, applicant requirements, information on charges, and a description of the infrastructure for the period from 00:00, 2023-12-10 to 24:00, 2024-12-07.

Because the railway does not constitute a technical and commercial whole but is an integrated part of the Danish and Swedish national rail systems, an agreement was reached in April 2000 between Øresundsbro Konsortiet and Banedanmark and between Øresundsbro Konsortiet and Swedish Transport Administration concerning the coordination and delegation of responsibilities.

On behalf of Øresundsbro Konsortiet, Banedanmark and the Swedish Transport Administration undertake services such as rail operation, traffic management, traffic planning, capacity allocation, etc, on sections located in the respective Danish and Swedish technical interfaces and in the respective Danish and Swedish territories. In order to give the full picture, this network statement must be read together with the respective Banedanmark and Swedish Transport Administration network statements, where the application forms for capacity and detailed forms for capacity allocation, etc. are described.

Copenhagen, September 2022

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Head of the technical department

*This document is a translation of the Swedish prepared document. The Swedish document applies before this translation.*

## Table of contents

0.0	Revideringslogg .....	6
0.1	Abbreviations .....	7
0.2	Definitions .....	8
1.	General information .....	10
1.1	Introduction .....	10
1.1.1	Ownership .....	10
1.1.2	The operating organization of Øresundsbros Konsortiet .....	10
1.1.3	External parties .....	12
1.1.4	PÖLS .....	14
1.2	The purpose of the railway network statement .....	14
1.3	Legal framework .....	14
1.4	Legal status .....	14
1.4.1	General remarks .....	14
1.4.2	Liability .....	15
1.4.3	Appeals procedure .....	15
1.5	Structure .....	15
1.6	Duration and changes .....	16
1.7	Publishing .....	16
1.8	Contact information .....	16
1.9	Rail freight corridor .....	16
1.10	RailNetEurope – international cooperation between infrastructure managers ..	16
1.10.1	One Stop Shop (OSS) .....	16
1.10.2	RNE tools .....	16
2.	Access conditions .....	17
2.1	Introduction .....	17
2.2	General access requirements .....	17
2.2.1	Requirements for the application for a train path .....	17
2.2.2	Requirements for running traffic on Øresundsbros Konsortiet's network .....	17
2.2.3	Licence and safety certificate .....	17
2.2.4	Safety management system .....	18
2.2.5	Agreement on access to services, etc. ....	18
2.3	Other conditions .....	18
2.3.1	Safety regulation .....	18
2.3.2	Electrical Safety .....	18
2.4	Operational rules .....	18
2.4.1	Denmark .....	18
2.4.2	Sweden .....	20
2.5	Exceptional transports .....	20
2.6	Dangerous goods .....	20
2.7	Approval process for vehicles .....	20
2.7.1	Denmark .....	21
2.7.2	Sweden .....	21
2.7.3	Test run .....	21
2.8	Conditions for approval of safety personnel .....	22
3.	Infrastructure .....	23
3.1	Introduction .....	23
3.2	Extent of network .....	23
3.2.1	Limits .....	23
3.3	Network description .....	23
3.3.1	Geographic identification .....	23
3.3.2	Capabilities .....	23
3.3.3	Traffic control and communication systems .....	24
3.4	Traffic restrictions .....	25

3.4.1	Dangerous goods.....	25
3.4.2	Environmental restrictions .....	25
3.4.3	Tunnel restrictions.....	25
3.4.4	High wind speeds .....	25
3.5	Infrastructure accessibility .....	27
3.6	Maintenance and service facilities .....	27
4.	Capacity allocation.....	28
4.1	Introduction.....	28
4.1.1	Banedanmark and the Swedish Transport Administration's .....	28
	implementation of the task.....	28
4.1.2	Coordination of capacity allocation .....	29
4.2	Description of process.....	29
4.3	Schedule for path requests and allocation process .....	29
4.3.1	Schedule for working timetable .....	29
4.3.2	Ad-hoc allocation process .....	30
4.4	Allocation process.....	30
4.4.1	Coordination process.....	31
4.4.2	Dispute resolution process .....	31
4.4.3	Congested infrastructure .....	31
4.4.4	Capacity analysis.....	32
4.4.5	Capacity enhancement plan .....	32
4.5	Allocation of capacity for maintenance work and other track work .....	32
4.5.1	Definitions.....	34
4.5.2	Infrastructure work.....	34
4.5.3	Priority in planning work/track closures for infrastructure work.....	35
4.5.4	Notification deadlines .....	35
4.5.5	Use of the liquidity principle .....	37
4.5.6	Concept for interval shutdowns .....	37
4.5.7	Management by objectives.....	37
4.6	Non-usage / Cancellation rules .....	37
4.7	Exceptional transports and dangerous goods .....	37
4.7.1	Train path with exceptional transport .....	37
4.7.2	Train path with dangerous goods .....	38
4.8	Special measures in case of disruptions .....	38
4.8.1	Principles.....	38
4.8.2	Operational regulation.....	39
4.8.3	Foreseen problems .....	39
4.8.4	Unforeseen problems .....	39
4.9	Timetabling Redesign for Smart Capacity Management .....	40
4.9.1	Objectives of TTR.....	40
4.9.2	Description of the process.....	40
4.9.3	Implementation .....	41
4.10	Right of appeal .....	41
5.	Services .....	41
5.1	Introduction.....	41
5.1.1	Additional services.....	41
5.2	Minimum package of access services .....	41
5.3	Track access services .....	42
5.4	Additional services.....	42
5.4.1	Traction current.....	42
5.4.2	Ancillary services.....	42
6.	Charges.....	43
6.1	Essentials.....	43
6.1.1	Denmark.....	43
6.1.2	Sweden.....	43

6.2	Quality charges .....	43
6.2.1	Swedish part.....	43
6.2.2	Danish part.....	43
6.3	Charges for ancillary services .....	43
7.	Appendices.....	44

## 0.0 Revideringslogg

Network Statement Revisions in relation to previous versions			
<i>Date</i>	<i>Responsibility</i>	<i>Initials</i>	<i>Org. Signature</i>

## 0.1 Abbreviations

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BAP	Engineering works plan
BVF	Swedish Rail Administration's internal regulations
COTIF	Convention relative aux transports internationaux ferroviaires (Convention concerning International Carriage by Rail)
DcDK	Operations Centre Denmark
EC	European Parliament and of the Council
EEA	European Economic Area
ELS	Eldriftledning Syd (Grid Operations South)
EN	European Standard developed by CEN/CENELEC. Harmonised EN is part of European legislation.
ERFA	European Rail Freight Association
ERTMS	European Rail Traffic Management System
FTE	Forum Train Europe
GSM-R	Global System for Communication – Railway
OCK	Traction Current Monitoring Centre
OSS	One Stop Shop
RFC Kh	Regional Remote-Control Centre in Copenhagen
RNE	RailNetEurope
SCADA	Control, management and monitoring system
SI	Safety instruction
SP	Safety procedure of Øresundsbro Konsortiet
SR	Safety regulations, Danish traffic safety regulations
TC-ØSB	TrafikCenter, Lernacken (Traffic management for the road section of the link of Øresundsbro Konsortiet)
TDOK	Swedish Transport Administration's governing documents
TF	Traffic Safety Regulation (Railway facility of Øresundsbro Konsortiet)
TRAV	Traffic agreement/Access contract
TrV	Swedish Transport Administration, Swedish national infrastructure manager
TRV-TC M	Swedish Transport Administration's Traffic Control Centre Malmö
TSD	Technical Specifications for Operational Compatibility
TTJ	The Swedish Transport Administration's railway regulations
TTR	Timetabling Redesign for smart Capacity Management
UIC	International Railway Union

## 0.2 Definitions

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**Capacity allocation:** Allocation of infrastructure capacity.

**Charges:** Charges for the use of railway infrastructure and services provided in connection with the use of this shall be paid to Banedanmark and the Swedish Transport Administration as regulated in the Government Agreement between the Danish and Swedish governments.

**Infrastructure manager:** Whoever manages the railway infrastructure and operates installations belonging to the infrastructure, such as Øresundsbros Konsortiet, Banedanmark and the Swedish Transport Administration.

**Maximum axle load (STAX):** The maximum allowed pressure exerted by the weight of each wheelset of a railway vehicle on the track.

**Maximum permitted speed (STH):** The maximum speed that a train or other form of motion of a rail vehicle may be driven when all the criteria for the journey are met.

**Maximum profile:** The maximum dimensions a railway vehicle may have in order to be able to run on the rail network.

**Rail network:** Railway infrastructure managed by one and the same infrastructure manager.

**Railway infrastructure:** Regarding railway traffic, refers to track, signalling and safety installations, traffic management facilities, electrical supply devices for traffic and other fixed devices necessary for the holding, operation or use of the installations.

**Railway rolling stock:** Rolling stock that can be driven on rail tracks. The term includes, for example, track vehicles, rail-mounted work tools, large vehicles, small vehicles, traction vehicles, driving vehicles, locomotives, railcars, wagons, etc.

**Railway undertaking:** Anyone who, with the aid of a licence or special permit, provides tractive effort and runs railway traffic.

**Railway system:** Railway infrastructure and railway vehicles, as well as the operation and management of infrastructure and vehicles.

**Regional public transport authority:** The authority responsible for regional public transport according to the law (2010:1065) on public transport.

**Subsystem:** Part of the rail system.

**Traffic agreement (TRAV):** Agreement between Øresundsbros Konsortiet and a railway undertaking regarding conditions and requirements for traffic on Øresundsbros Konsortiet's rail network. The agreement is concluded with railway undertakings through Banedanmark and the Swedish Transport Administration on behalf of Øresundsbros Konsortiet.

**Traffic organiser:** Persons or legal bodies who have a public or commercial interest in applying for infrastructure capacity but who do not undertake rail transport themselves.

**Train path:** The infrastructure capacity, as stated in a timetable, needed to transport rail vehicles, except work vehicles, from one place to another over a given period.

**Train plan/timetable:** Plan on the use of railway infrastructure for a specified period. Plan indicating train journey designation, distance, times, and other required information concerning trains.

**UIC leaflet:** Standard issued by UIC, for example UIC 505 on the design of carriages.

**Øresundsbros Konsortiet's rail network:** The railway infrastructure, operated and managed by Øresundsbros Konsortiet, runs from Copenhagen's Kastrup Airport 12.854



km to Lernacken station 29.795 km (Swedish Transport Administration's measurement 281+810). The ownership border to SVEDAB is 29.137 km.

## **1. General information**

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### **1.1 Introduction**

This railway network statement has been prepared by Øresundsbros Konsortiet and is aimed at railway undertakings that wish to run traffic or operate on the Øresund link and, as appropriate, at Banedanmark and the Swedish Transport Administration, which are important suppliers of rail operations, traffic management, dealings with railway undertakings, and more. The railway network statement shall be updated regularly and comments on both content and presentation may be sent to [railway@oresundsbron.com](mailto:railway@oresundsbron.com).

#### **1.1.1 Ownership**

The Øresund Bridge is owned and operated by Øresundsbros Konsortiet, which in turn is jointly owned by A/S Øresund and Svensk-Danska Broföbindelsen AB (SVEDAB).

SVEDAB is owned by the Swedish State (Ministry of Enterprise and Innovation) while A/S Øresund is 100% owned by Sund and Bælt Holding A/S, which is owned by the Danish State (Ministry of Transport).

Øresundsbros Konsortiet's main responsibility is to own and operate the Øresund Bridge so that the loans that financed the construction and the initial operating period can be repaid.

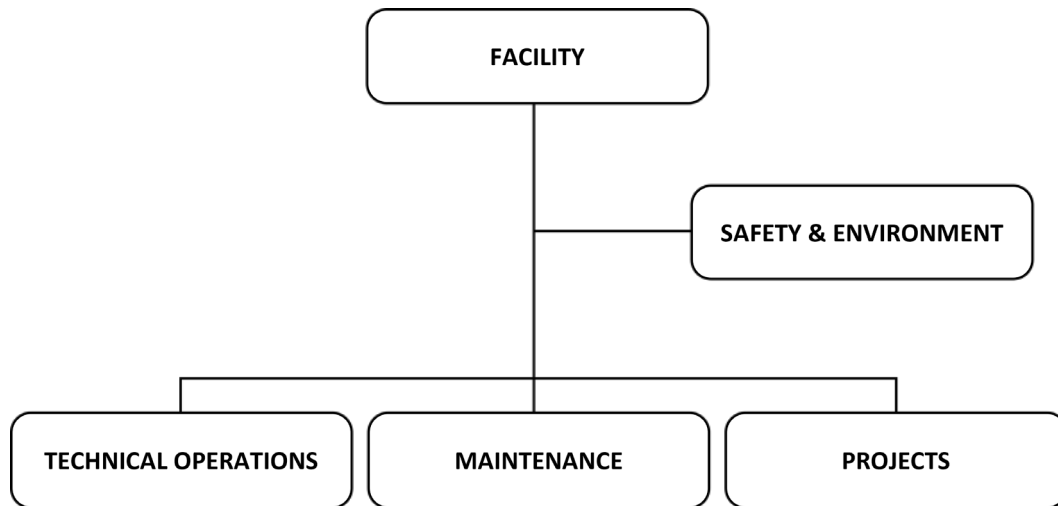
Øresundsbros Konsortiet has an independent board and management. The Board has eight members with SVEDAB AB and A/S Øresund each appointing four. The Board's work is led by a chairperson. Sweden and Denmark take it in turns to nominate the chair and vice-chair every two years. The day-to-day activities are led by a Chief Executive.

Øresundsbros Konsortiet's ownership is described in more detail in the Swedish-Danish Government Agreement of 1991 and in the Consortium Agreement concluded between SVEDAB AB and A/S Øresund.

#### **1.1.2 The operating organization of Øresundsbros Konsortiet**

##### **Øresundsbros Konsortiet in the Construction Unit**

Øresundsbros Konsortiet is approved as an infrastructure manager in relation to Danish and Swedish legislation. As an infrastructure manager, Øresundsbros Konsortiet is responsible for ensuring that the organization has a sound and efficient organization with a clear position of responsibility. The plant unit has a company's overall staff for Safety & Environment as well as three-line departments, Technical Operations, Maintenance and Projects.



### Construction assignments

To perform Maintenance and Investments cost-effectively, which results in the following:

- The Øresund Bridge is Safe and Accessible.
- Helps secure the repayment period of the Bridge.

### To be responsible for Railway Operations

#### Safety & Environment

The Safety & Environment staff is responsible for developing and ensuring that the business has an approved management system for railways and has coordination responsibility for safety management for railways. The staff function monitors safety and working environment as well as safety for road users. The staff function is also responsible for the railway-specific facility in relation to the emergency authorities.

Appendix 2.1 shows that Øresundsbros Konsortiet is responsible for coordinating the general traffic safety of the railway on the Copenhagen H - Malmö section. All relevant reference lines and areas of responsibility are set out in Appendices 2.1 and 2.2.

Coordination responsibility, regulated via Øresundsbros Konsortiet safety procedure 03 07-09 Coordination responsibility general traffic safety, obliges Øresundsbros Konsortiet to initiate and make necessary decisions so that all boundaries between own tasks and others' tasks - as far as traffic safety on the Øresund connection's railway - is clarified, and that follow-up is done by the parties involved.

The safety manager for railways at Øresundsbros Konsortiet monitors the railway safety and prepares the basis for necessary decisions to remedy any problems that may arise.

The established operating organization shall support and fulfill the safety objectives through the safety management function. The functional area also includes coordination of the safety-related activities on the railway.

The Chief Executive Officer (CEO) has the overall responsibility for the activities in all units and departments at Øresundsbros Konsortiet and thus also for railway safety.

## Technical Operations

Technical Operations is responsible for ensuring that reinvestments in the connection are carried out in a financially long-term and sound manner.

Responsible for agreements with Banedanmark and Trafikverket:

- Traffic management.
- Tape operation and power management.
- Signing of traffic agreements with railway companies on behalf of the Øresundsbro Konsortiet.
- Handling of capacity allocation.

The above operational tasks are mainly regulated via agreements and are submitted to Banedanmark in Denmark and Trafikverket in Sweden. The necessary 24-hour staffing functions are performed from the operations centers in Denmark and Sweden, respectively. Technical Operations is responsible for following up on this information.

## Maintenance

Maintenance is responsible for managing the Øresund Bridge so that it is safe and accessible. Management is sustainable, long-term, and cost-effective.

## Projects

Projects are responsible, among other things, for carrying out investment and reinvestment projects at the Øresund Bridge facility.

### 1.1.3 External parties

#### Traffic control and electric power management

Banedanmark and the Swedish Transport Administration are responsible for traffic control and electric power management, according to specific agreements.

Banedanmark and the Swedish Transport Administration are accountable to Øresundsbro Konsortiet in performing the functions in the operations management centres Operations Centre Denmark (DcDK), the Swedish Transport Administration's Traffic Control Centre Malmö (TRV-TC M), and the Traction Current Monitoring Centre (OCK) according to specific requirements.

In connection with this, Banedanmark and the Swedish Transport Administration also have responsibilities such as "investigation guard" and accident investigators in the event of accidents and "near misses".

#### Electric power management

Through the railway operations agreement, Banedanmark has electric power responsibility in relation to Øresundsbro Konsortiet. The electric power management is thus responsible for the electrical engineering management of OCK and Eldriftledning Syd (ELS) for Øresundsbro Konsortiet's railway section.

#### Operation and maintenance of the railway

Operation and maintenance of the railway infrastructure is covered through agreements with operations and maintenance contractors. The task also includes a function as railway safety coordinator. Also included is coordination of the contractor requests for access to Øresundsbro Konsortiet's railway facility, handling of track shutdowns, cutting power to the catenary system, etc. In connection with this, railway safety personnel, SR managers and/or deputies are made available for the work of existing contractors in or adjacent to the railway facility.

**Maintenance of structures/tele**

Øresundsbros Konsortiet's Technical Operations Unit is responsible for the maintenance of the railway's related structural elements – first and foremost the tunnel, bridge and installations on the island of Peberholm. In addition, there are interface responsibilities relating to telecommunications transmission and power supply for railway engineering installations. In relation to the Danish Transport, Building & Housing Authority and the Swedish Transport Agency, the Railway Operations Unit carries system responsibility for rail-related safety communication. Safety communication is conducted with GSM-R, safety phones and emergency telephones.

**Technical monitoring**

Øresundsbros Konsortiet's Traffic Centre (TC-ØSB), manages and controls maintenance personnel access to the facilities. TC-ØSB monitors the technical systems that are connected to the P-monitoring system. Technical alarms and announcements are entrusted to operations and maintenance managers.

#### **1.1.4 PÖLS**

PÖLS stands for *Punktlighet i Öresundstrafiken genom Ledningarnas Samverkan* (Punctuality in Øresund traffic through Management Cooperation). PÖLS are the parties that are contracted to operate the Øresund fixed link, and must, 4-8 times a year, in cooperation with relevant parties, infrastructure managers, and railway undertakings, participate in handling all cross-functional issues, thus ensuring that rail transport can maintain a high standard of punctuality for both passenger and freight traffic over the Øresund link. The strategy for the PÖLS work is that PÖLS shall deal with the issues in which joint action is deemed to be successful. The overall goal is to ensure safe trains that run on time. Common objectives for quality work shall be established. The work is organised in a steering committee consisting of representatives from Øresundsbro Konsortiet, Banedanmark, the Swedish Transport Administration and the railway undertakings operating the Øresund fixed link, with the following tasks and mandate.

- Have overall responsibility for the punctuality of Øresund traffic.
- Monitor all punctuality activities in Øresund traffic.
- Formulate and set objectives.
- Are a decision-making body in matters relating to punctuality measures.
- Set up, if necessary, specific cross-functional working groups.
- Follow up on the impact of implemented activities.
- Representatives shall be the quorum for each organisation.
- Present monthly punctuality statistics for Øresund traffic.

### **1.2 The purpose of the railway network statement**

By presenting the conditions that apply to railway undertakings, the railway network statement assists those who intend to operate railway traffic to find the necessary information. This document presents information about Øresundsbro Konsortiet's rail network and it also contains information on basic conditions for operating on the rail network that Øresundsbro Konsortiet manages.

### **1.3 Legal framework**

The legal basis for this railway network statement as well as which EU regulations, laws and other national regulations that apply to railway transport across Øresund are the same as those that apply to connecting rail networks in Denmark and Sweden respectively. Existing legal instruments can therefore be found in the railway network statements of Banedanmark and the Swedish Transport Administration.

### **1.4 Legal status**

#### **1.4.1 General remarks**

The railway network statement has been prepared based on the legislation in force at the time of publication, with the associated administrative regulations. The railway network statement does not consider legislation that is being developed.

Railway undertakings expect the railway infrastructure to comply with the specifications set out in the railway network statement, and that Øresundsbro Konsortiet complies with the standards and procedures specified currently.

The railway network statement is a description of the rail network controlled by Øresundsbro Konsortiet and contains information about available infrastructure as well as information about the conditions for access to it. The railway network statement also contains information on procedures and criteria for the allocation of infrastructure capacity. Øresundsbro Konsortiet is responsible for the information in the railway network statement by law. A railway undertaking or applicant may refer to Transportstyrelsen (the

Swedish Transport Agency) as to whether the railway network statement has been established in accordance with current regulations. It is the responsibility of the reader to keep informed on updates to the contents of this document by taking note of the changes at Øresundsbro Konsortiet's [website](#).

Danish law applies to Danish territory, and the Danish Transport, Building and Housing Authority is the regulatory authority responsible for overseeing that the business meets the legal requirements. On Swedish territory, the Swedish Transport Agency exercises supervision under Swedish law and applicable regulations, statutes, etc. This also includes ensuring that the railway network statement meets the established requirements.

#### **1.4.2 Liability**

Øresundsbro Konsortiet disclaims responsibility for errors arising in connection with the production or printing of the railway network statement. Øresundsbro Konsortiet is also not responsible for the accuracy of information contained in this railway network statement submitted by other infrastructure managers.

Responsible authorities may decide on changes in information or legislation in relation to the information contained in this railway network statement. Øresundsbro Konsortiet reserves the right in general to revise the railway network statement or infrastructure condition for possible events that have not been foreseen.

#### **1.4.3 Appeals procedure**

For the Danish and Swedish territories, appeals concerning the railway network statement shall be submitted in writing to:

##### **Denmark:**

Jernbanenævnet/  
Danish Rail Regulatory Body  
Carsten Niebuhrs Gade 43  
DK-1577 København V  
Telephone: +45 41 78 03 86  
E-mail: [info@jernbanenaevnet.dk](mailto:info@jernbanenaevnet.dk)

##### **Sweden:**

Transportstyrelsen  
Väg- och järnvägsavdelningen  
Box 267  
SE-781 21 Borlänge  
Telephone: +46 (0) 771 503 503  
E-mail: [jarnvag@transportstyrelsen.se](mailto:jarnvag@transportstyrelsen.se)

### **1.5 Structure**

Øresundsbro Konsortiet has entered into an agreement with Banedanmark and the Swedish Transport Administration, which are members of RailNetEurope (RNE). Among other things, RNE works to ensure that infrastructure managers' network statements follow a common document structure. The purpose is to make the information more readily accessible to readers of several railway network statements.

According to the RNE document structure, the railway network statement is divided into the following sections.

- Section 01. General information
- Section 02. Access conditions
- Section 03. Infrastructure
- Section 04. Capacity allocation
- Section 05. Services
- Section 06. Charges

## **1.6 Duration and changes**

The information in this railway network statement applies to the period from 00:00, 10 December 2023 to 24:00, 7 December 2024.

The information is aimed at anyone who has a close interest in planning traffic flow during this train plan period. Necessary updates to this edition of the railway network statement shall be published in the form of change notifications on Øresundsbro Konsortiet's [website](#). However, change notices shall only be published if the information is urgent in nature. Change notices may relate to changes in the infrastructure that have not been foreseen at the time of publication of the document, or changes required as a result of changes in the applicable regulatory framework.

## **1.7 Publishing**

The railway network statement and any change notifications are published on Øresundsbro Konsortiet's [website](#). In accordance with Directive 2012/34/EU of the European Parliament and of the Council the document is published in Swedish and in English.

## **1.8 Contact information**

Contact information is available on Øresundsbro Konsortiet's [website](#).

## **1.9 Rail freight corridor**

According to EU regulation 913/2010 concerning a European rail network for competitive freight, a freight corridor has been established from Stockholm/Oslo via Malmö, Hamburg and Innsbruck to Palermo, Italy. It is known as the Scandinavian-Mediterranean Corridor. The conditions for operating the freight corridor are described in an annually updated Corridor Information Document (CID). For further information see [website](#).

## **1.10 RailNetEurope – international cooperation between infrastructure managers**

RailNetEurope is a cooperation between some 40 infrastructure managers with the purpose of facilitating and promoting international rail traffic. More information is available on RNE's [website](#).

### **1.10.1 One Stop Shop (OSS)**

Øresundsbro Konsortiet, Banedanmark and the Swedish Transport Administration cooperate with other European infrastructure managers to create a European infrastructure network. For all contact regarding OSS see either the Banedanmark or the Swedish Transport Administration railway network statement.

### **1.10.2 RNE tools**

Path Coordination System (PCS) is a web application for international train paths offered by RNE. The system also supports railway undertakings upon request for train paths. The Charging Information System (CIS) offers the calculation of charges for international train paths. Train Information System (TIS) shows current train path information for inter-national trains.

For more information: [pcs.rne.eu](https://pcs.rne.eu)  
[cis.rne.eu](https://cis.rne.eu)  
[tis.rne.eu](https://tis.rne.eu)



## 2. Access conditions

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### 2.1 Introduction

This section of the network statement describes terms and conditions for accessing the railway infrastructure that Øresundsbros Konsortiet manages.

### 2.2 General access requirements

Øresundsbros Konsortiet is infrastructure manager according to the Danish Railway Act no. 686 of 27 May 2015 and the Swedish Railway Act (2004:519), the Railway Regulations (2004:526) and regulations in force pursuant to these regulations. As infrastructure manager, Øresundsbros Konsortiet is responsible for granting railway undertakings permission to operate on the railway. In general, access to Øresundsbros Konsortiet's railway infrastructure is given to railway undertakings or activities that meet the requirements for operating rail traffic in Denmark and Sweden.

To operate on the rail network either a licence and a safety certificate or a special permit is required. An agreement with Øresundsbros Konsortiet is also required. In order to facilitate the process, railway undertakings need only contact Banedanmark and the Swedish Transport Administration, which, on behalf of Øresundsbros Konsortiet, sign the agreement.

#### 2.2.1 Requirements for the application for a train path

Requirements for application are set out in the network statement of Banedanmark and the Swedish Transport Administration. In both cases, by law, a permit is required, see section 2.2.3.

It is not an obstacle to railway undertakings for the application for allocation of a conditional timetable/path to not comply with the basic requirements at the point of application.

#### 2.2.2 Requirements for running traffic on Øresundsbros Konsortiet's network

The conditions that must be fulfilled for the right to run or organise traffic on the rail network are stated in the respective Danish and Swedish railways acts, as well as current executive orders, statutes and regulations applicable to them. For those undertakings that wish to run traffic on the Danish and Swedish rail infrastructure, there are different types of permits. Further details on this can be found in the respective Banedanmark and Swedish Transport Administration's railway network statements. The documents are available on the respective websites of [Banedanmark](#) and the [Swedish Transport Administration](#).

Advance notices can be submitted by Banedanmark and the Swedish Transport Administration. Conditional access to Øresundsbros Konsortiet's railway infrastructure can be issued to railway undertakings and others that meet the requirements for running rail traffic.

#### 2.2.3 Licence and safety certificate

In order to operate railway traffic, both licences and safety certificates valid in Denmark and Sweden are required. A licence issued in an EEA state or Switzerland is subject to the provision of insurance covering the Øresund railway.

The Swedish Transport Agency and the Danish Transport, Building and Housing Authority may grant Safety Certificate Part A and Part B for Swedish and Danish territory.

If the conditions for permission are no longer met or the licence holder fails to fulfil the obligations, the permit may be revoked by the Swedish Transport Agency and/or the Danish Transport, Building and Housing Authority. Further details of the terms and conditions can be found on the respective websites of the [Swedish Transport Agency](#) and Denmark's [Transport, Building and Housing Authority](#).

#### **2.2.4 Safety management system**

Railway undertakings must themselves have the safety provisions needed, in addition to legislation and regulations issued. The details included in these safety regulations are regulated by the respective Swedish Transport Agency and the Danish Transport, Building and Housing Authority regulatory frameworks.

#### **2.2.5 Agreement on access to services, etc.**

Øresundsbro Konsortiet has commissioned Banedanmark and the Swedish Transport Administration to sign agreements with railway undertakings regarding capacity allocation, access to services, etc.

### **2.3 Other conditions**

#### **2.3.1 Safety regulation**

Banedanmark Safety Regulation, SR 1975, applies to the Danish section of the section between 12.854 km and 18.235 km.

The Swedish Transport Administration Traffic Regulations (TTJ) (TDOK 2015:0309) apply to the Swedish part of the section between 18.235 km and 29.795 km (Swedish Transport Administration's measurement 281+810).

Øresundsbro Konsortiet's traffic safety regulation (TF) SP 7-06 applies to the entire section. TF describes the rules for crossing the border between the Danish part of the section and the Swedish part of the section. In addition, TF contains supplementary and stricter rules in relation to Banedanmark and the Swedish Transport Administration's rules for the entire Copenhagen Airport Kastrup – Lernacken section.

#### **2.3.2 Electrical Safety**

Øresundsbro Konsortiet's electrical safety regulations SP 4-02 Electrical Procedure applies to the entire Øresundsbro railway. Fjernbane Kørestrøm Instruktion (FKI) applies to the Danish section and TDOK 2014:0415 (BVF 1921) applies to the Swedish section.

### **2.4 Operational rules**

#### **2.4.1 Denmark**

The Danish timetable TKØ (Tjenstekøreplan Øst) and SIN (Safety Instructions) apply to the Danish part of the section between 12.854 km and 18.235 km. The line is described in TIB (Traffic Information on the Railway Section).

Temporary emergency speed restrictions are announced in "La". Late decided (urgent) jobs are announced in "Correction to La". The railway undertaking will receive information about this and shall ensure that the driver is notified before the journey begins:

Permissible types of vehicle movements when crossing the border between the Swedish and Danish systems are:

- Train: the maximum permissible speed is 180 km/h.
- Working vehicle: the maximum permissible speed is 40 km/h.

All radio communications shall be exchanged with the Regional Remote-Control Centre in Copenhagen (RFC Kh). GSM-R radio shall be used. The language of the radio communication must be Danish or Swedish. Danish names of railway objects are to be used in Danish systems. For safety communication, a special glossary has been developed for cross-border rail traffic. The dictionary is available on Øresundsbros Konsortiet's [website](#).

#### **2.4.2 Sweden**

The Swedish Timetable applies to the Swedish part of the section between 18.235 km and 29.795 km. The line is described in the Swedish Line Book.

Temporary speed restrictions are announced in "Körorder". The driver must retrieve driving orders from a terminal before the journey commences or alternatively in the manner specified by the Swedish Transport Administration.

Permissible types of vehicle movements when crossing the border between the Swedish and Danish systems are:

- Train: maximum permissible speed is 200 km/h.
- Shunting speed limit is 30 km/h.

All radio communications shall be exchanged with TRV-TC in Malmö. GSM-R radio shall be used. The language of the radio communication shall be Swedish or Danish and Swedish words for railway objects shall be used on the Swedish system section. A separate glossary for cross-border rail traffic has been produced for safety communications. The glossary is available on Øresundsbros Konsortiet's [website](#).

#### **2.5 Exceptional transports**

Exceptional transports are transports that exceed the norms specified in section 3 of this document. Transport permits for exceptional transports are issued by Banedanmark for the Danish part of Øresundsbros Konsortiet's railway and by the Swedish Transport Administration for the Swedish part.

#### **2.6 Dangerous goods**

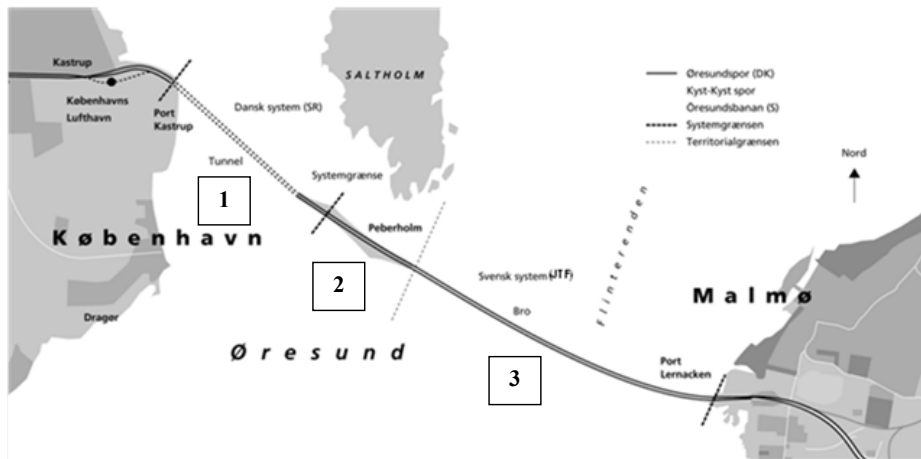
The responsibility for dangerous goods transported by train is on the sender, loader, unloader, recipient and carrier, as provided by COTIF, appendix RID. Particular attention shall be paid to the requirements of the Transport, Building and Housing Authority requirement BJ no. BJ 5-070.001-2017 (Provisions on the transport of explosives in the railway tunnels on Storebælt and Øresund) regarding the quantity limit for explosives in relation to the RID subclasses, 1.1, 1.2, 1.3, 1.5 or 1.6 to a maximum of 1 tonne. The railway undertaking is responsible for transport signage according to the current safety scheme, etc.

#### **2.7 Approval process for vehicles**

The railway undertaking that wishes to operate on Øresundsbros Konsortiet railway infrastructure shall only do so with rolling stock that meets the technical minimum requirements and is approved by the Danish and Swedish safety authorities.

The purpose of the requirement that vehicles shall meet the technical minimum requirements is based on the fact that the overriding objective of Øresundsbros Konsortiet is to provide a safe and reliable communication link between Denmark and Sweden, a link that is characterised by openness and simplicity. In order to achieve this overriding objective, the rolling stock that operates on the link must be so designed that it cannot cause damage or inconvenience to either Øresundsbros Konsortiet or the railway undertakings that operate on the link.

Øresundsbros Konsortiet is the infrastructure manager for the section between Kastrup (km 12.854) and Lernacken (km 29.795) according to Danish longitudinal measurement. It shall be noted that the infrastructure contains both Swedish and Danish technical infrastructure.



Area division:

1. Danish railway technical system part located in Denmark.
2. Swedish railway technical system part located in Denmark.
3. Swedish railway technical system part located in Sweden.

### 2.7.1 Denmark

Rolling stock such as locomotives, trains, passenger carriages, freight wagons, work vehicles must not be taken into service until the Danish Transport, Building and Housing Authority has issued an authorisation in accordance with the Danish Railway Act and Executive Order no. 653 of 8 May 2015 on the Approval of Railway Vehicles.

Information on procedures relating to authorisation for rolling stock can be found on the Transport, Building and Housing Authority [website](#).

Work equipment/tools, and other machinery, driven at a speed of less than 20 km/h, which are used in a track shut off for work (A-protection, track shut-off) must be authorised by Øresundsbro Konsortiet before the vehicle is put on the track.

### 2.7.2 Sweden

Rolling stock such as locomotives, trains, passenger carriages, freight wagons, work vehicles must not be taken into service until the Swedish Transport Agency has issued an approval for the subsystem in accordance with the Swedish Transport Agency regulations on approval of railway subsystems (TSFS 2010:116).

For a subsystem not covered by the EU Technical Specifications for Operational Compatibility (TSD), the approval process is handled by the Swedish Transport Agency. There are exceptions from the requirement for approval. The document governing vehicle approval can be found on the Swedish Transport Agency's [website](#).

Work equipment/tools, and other machinery, driven at a speed of less than 20 km/h, which are used in a track shut off for work (A-protection, track shut-off) must be authorised by Øresundsbro Konsortiet before the vehicle is put on the track.

### 2.7.3 Test run

Anyone wishing to conduct a test run must have a traffic agreement with Øresundsbro Konsortiet.

In order to conduct technical test runs on Øresundsbro Konsortiet's rail network located in Danish territory, it is required that the Danish Transport, Building and Housing Authority and the Swedish Transport Agency have issued temporary approval for a technical test

run. After this, Øresundsbros Konsortiet can approve a technical test run on the Danish section of the Øresund link. If the technical test run refers to a test of mobile ATC STM/STM emissions, a special dispensation shall be given from Øresundsbros Konsortiet's Traffic Safety Regulations (TF).

When applying for exemption from Øresundsbros Konsortiet's safety instructions, safety procedures and agreements, which do not require the approval of the safety authorities, the application shall be received by Øresundsbros Konsortiet no later than one week before the exemption shall be applied.

When applying for exemption from Øresundsbros Konsortiet's safety regulations that require approval from the safety authorities in Denmark and/or Sweden, the application must be submitted to Øresundsbros Konsortiet far enough in advance for Øresundsbros Konsortiet to carry out the permit process and thus also comply with the requirements in accordance with Commission Implementing Regulation (EU) No 402/2013 of 30 April 2013 on the common safety method for risk evaluation and assessment and repealing Regulation (EC) No 352/2009.

The application form is available on Øresundsbros Konsortiet's website and the application shall be sent to [railway@oresundsbron.com](mailto:railway@oresundsbron.com).

## **2.8 Conditions for approval of safety personnel**

Procedures for training personnel with duties relevant to safety are tried by the Danish Transport, Building and Housing Authority in Denmark and the Swedish Transport Agency. Øresundsbros Konsortiet has drawn up special rules for the personnel serving on passenger trains. Rules for staff training are set out in Øresundsbros Konsortiet's procedure for training and instruction ([SP 03 7-01](#)).

### 3. Infrastructure

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#### 3.1 Introduction

According to the Swedish Railway Act (2004:519), an infrastructure manager's description of the rail network that the manager controls shall include information on the accessible infrastructure. This part of the railway network statement describes Øresundsbros Konsortiet's accessible infrastructure in Sweden and Denmark. The infrastructure is not fully TSD INF compatible, but the TSD can be used as a reference to the appropriate extent.

#### 3.2 Extent of network

##### 3.2.1 Limits

Øresundsbros Konsortiet's railway section borders west to the Banedanmark administrative boundary at 12.854 km and east to the Swedish Transport Administration boundary at 29.795 km. The longitudinal measurement is a continuation of the length measurement of Banedanmark and it starts from Copenhagen Central Station.

#### 3.3 Network description

##### 3.3.1 Geographic identification

The railway section managed by Øresundsbros Konsortiet is located between Copenhagen Airport Kastrup (12.854 km) and the Swedish station (operating site) Lernacken (29.795 km or 281+810 in the TrV system).

The section is divided into a Danish part between Copenhagen Airport Kastrup and the system border (18.235 km) and a Swedish part between the system border and Lernacken. The system boundary is the boundary between the Swedish and Danish traffic management areas, catenary control, signalling systems and radio systems. The boundary between the different catenary systems is located at Lernacken. Summary drawings are given in appendices 5–13. The railway line is dual tracked in its entirety and is standard gauge 1435 mm. A tunnel/bridge crossover station Peberholm (Phm) is located at 19.140 km. Within the operating location there is no exchange of goods or passengers.

##### 3.3.2 Capabilities

###### 3.3.2.1 Loading gauge

The railway of Øresundsbros Konsortiet can be operated with vehicles that comply with loading gauge A, UIC GC, and P/C450, according to UIC 506 (see appendix 4).

###### 3.3.2.2 Weight limits

Maximum permitted axle load (STAX) is 22.5 tonnes at 200 km/h and 25.0 tonnes at 120 km/h.

The maximum permitted standard metric weight (STMV) is 8.3 tonne/m

The maximum permitted train weight is for 1 EG locomotive 2120 tonnes and for 2 EG locomotives 2600 tonnes.

The maximum permitted train weight for exceptional transports is 4000 tonnes.

###### 3.3.2.3 Line gradients

The maximum slope along the section is 15.6 permille. This incline is found on the slope in and out of the tunnel as well as towards the bridge from the tunnel. See the slope diagram in appendix 11.

###### 3.3.2.4 Line speeds

On the Swedish part between 18.235 km and 29.795 km, the maximum speed is 200 km/h. On the Danish part between 12.854 km and 18.235 km, the maximum speed is 180 km/h.



km/h. These speeds apply on the assumption that the journey meets the conditions of TF and SR and that the running dynamics of the vehicles comply with EN 14 363:2012 or UIC 518:2009.

#### **3.3.2.5 Maximum train length**

Normal train length in the Danish technical system section is 1050 m.

Normal train length in the Swedish technical system section is 1050 m.

The maximum authorised train length for exceptional transport is 1050 m.

#### **3.3.2.6 Power supply**

The catenary system is powered by AC 25 kV 50 Hz.

Catenary height is 5330 mm for a major part of the section.

#### **3.3.2.7 Rail and superstructure (wheel-rail interface)**

The track is built to UIC60 profile on 60 kg concrete sleepers with Fast clips fastenings.

Calculations of equivalent conicity shall be based on EN 15 302.

#### **3.3.2.8 Traffic capacity**

Capacity used is estimated at less than 60 % of available capacity per day and per two-hour period.

### **3.3.3 Traffic control and communication systems**

#### **3.3.3.1 Traffic control system**

The traffic is monitored and operated by central traffic controllers. The section between Copenhagen Airport Kastrup station (12.854 km) and the Danish system boundary (18.235 km) is monitored by the traffic management in the Regional Remote-Control Centre in Copenhagen (RFC Kh). The Swedish section between the system boundary and the station (operating site) Lernacken (29.795 km or 281+810 in the Swedish Transport Administration's system) is supervised by the Swedish Transport Administration's Traffic Control Centre in Malmö (TRV-TC M).

The section between Copenhagen Airport Kastrup Station and Peberholm Station is equipped with Danish line block and axle counter system. Peberholm station is equipped with Swedish signals. The section between Peberholm Station and the Lernacken operating site is equipped with Swedish line blocks and track circuits.

#### **3.3.3.2 Communication system**

The GSM-R radio system is used between 12.812 km and 29.795 km. System change between Danish and Swedish GSM-R takes place on the line between Tårnby and Copenhagen Airport Kastrup, which is outside Øresundsbro Konsortiet's infrastructure.

Additional features in addition to the general GSM system in use are call prioritisation, railway emergency call, group call, call train number and automatic call control.

#### **3.3.3.3 ATC Train Protection System**

The Swedish part of the section between 18.235 km and 29.795 km is equipped with Swedish ATC EBICAB 700. The Danish part of the section between 12.854 km and 18.235 km is equipped with Danish ATC ZUB 123. The vehicle must be equipped with both EBICAB 700 and ZUB 123 systems. The systems must be connected via an ATC-bus and a system selection panel. ATC systems must use software versions that can handle the automatic system override when the train crosses the system boundary. Both systems shall be active.



The Danish-Swedish ATC system change boundary also handles vehicles equipped with ETCS and STM, for Danish and Swedish ATC systems. This feature is a preparation for a change on the Danish and Swedish sides to the ERTMS signalling system. The STM switch zone is adjacent to the ATC system change boundary.

#### *3.3.3.4 Detection of hot box, dragging brakes, and derailment*

The Øresund link is protected by defect detectors for hot box, dragging brakes, and derailment from both sides of the link. Detectors are located partly on Banedanmark's infrastructure and partly on the Swedish Transport Administration's infrastructure. The detectors' location, performance and detection requirements are reported by the respective infrastructure managers. In order to cross the link, the rolling stock is required to comply with technical requirements for detection to be possible.

### **3.4 Traffic restrictions**

#### **3.4.1 Dangerous goods**

In general, when running freight trains with dangerous goods on the Danish section of the Øresund tunnel, there are no other trains allowed on the same track in the tunnel.

Freight trains carrying wagons loaded with goods bearing the RID Class 1 and RID sub-classes 1.5 or 1.6 must not be in the Øresund tunnel while there are other trains in the tunnel.

Wagons operating through the Øresund tunnel that are loaded with explosive goods class 1 may only be loaded with 1000 kg of explosive material per wagon.

#### **3.4.2 Environmental restrictions**

Unlimited diesel operation is not allowed on the section between Copenhagen Airport Kastrup and Lernacken. Special permission for driving diesel trains is required. It is a requirement that emissions from diesel trains meet Euro II and Euro III standards.

Further information can be obtained by contacting:

Øresundsbro Konsortiet  
Jernbanefdelingen  
Vester Søgade 10  
DK-1601 København V  
E-mail: [railway@oresundsbron.com](mailto:railway@oresundsbron.com)

#### **3.4.3 Tunnel restrictions**

There are certain restrictions on driving with diesel in the Øresund tunnel. In addition, passenger trains shall meet certain conditions. Authorisation for passenger carriage in tunnels shall be stated in the vehicle's "commissioning permit from the Transport, Building and Housing Authority."

For further information, see Øresundsbro Konsortiet's Traffic Safety Regulations (TF) and the traffic messages of Banedanmark SR, SIN.

#### **3.4.4 High wind speeds**

In connection with high wind speeds, restrictions on rail traffic may occur. The aim of the restrictions is to ensure that any evacuation/rescue effort shall be carried out according to plan, and to prevent parts of the load being blown from freight wagons.

The following restrictions apply to different wind speeds:



Level	Measured wind speed	Traffic restrictions		
		Freight trains	Other trains, electric traction	Other trains, diesel traction
1	Over 18 m/s actual <i>or</i> 12 m/s effective wind	None	None	None
2	Over 21 m/s actual <i>or</i> 15 m/s effective wind	Max 80 km/h	None	None
3	Over 24 m/s actual <i>or</i> 20 m/s effective wind	Traffic cancelled	None	None
4	Over 27 m/s actual wind		Traffic cancelled	Traffic cancelled

Weather conditions affecting rail traffic on the link, such as swaying catenary lines due to high winds, are notified by train drivers to RFC Kh/TRV-TC M. Decisions about restrictions are made in consultation between TRV-TC M and RFC Kh.

### 3.5 Infrastructure accessibility

Periodic maintenance is planned annually and is reported in a maintenance plan (see appendix 3.2). Periodic maintenance is performed at night as much as possible as this is when there is less traffic. In such work, single-track operation often occurs on all or parts of the facility. Speed reduction may also occur. Information on traffic restrictions in connection with periodic maintenance can be obtained from Øresundsbro Konsortiet. In case of emergency malfunction, parts of the infrastructure can be closed at short notice. Information about this is provided by RFC Kh and TRV-TC M.

### 3.6 Maintenance and service facilities

Railway undertakings are responsible for the transport of wrecked trains and equipment for the salvaging of derailed vehicles. The railway undertakings shall describe how they will use auxiliary trains or salvage equipment. Clearance is to be undertaken as soon as possible. If clearance does not occur, Øresundsbro Konsortiet (Banedanmark or the Swedish Transport Administration) can implement this, however the railway undertaking shall be liable for such an effort.

The nearest Swedish carriage shed is located in Malmö and the nearest Danish carriage shed is located in Copenhagen Airport Kastrup.

## 4. Capacity allocation

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### 4.1 Introduction

The following section describes the rules and processes for allocation of capacity on the Øresund link. In order to operate the link, it is required that railway undertakings have taken note of the network statements of Banedanmark and Swedish Transport Administration, which are available on the respective websites. Their statements also contain forms and detailed descriptions for each country's handling of allocation of capacity issues, etc.

#### 4.1.1 *Banedanmark and the Swedish Transport Administration's implementation of the task*

Because the railway does not constitute a technical and commercial whole but is, instead, an integrated part of the national rail systems, Øresundsbros Konsortiet has reached an agreement with Banedanmark for the Danish system part of the link and with the Swedish Transport Administration for the Swedish system part of the link. This agreement provides for the management of capacity allocation on the railway between Lernacken and Copenhagen Airport Kastrup on behalf of Øresundsbros Konsortiet. Øresundsbros Konsortiet is responsible for allocating capacity, while Banedanmark and the Swedish Transport Administration are contracted to allocate capacity on their respective sections of the railway. The task includes all the preparations required for the allocation of capacity.

Capacity allocation shall be in accordance with the overall objective of promoting safe, effective, and efficient rail traffic between Sweden and Denmark. Within the framework of this overall objective and the applicable legislation, Banedanmark and the Swedish Transport Administration shall ensure an appropriate balance between local/transit traffic, passenger/freight traffic and east/west traffic.

Capacity allocation shall be conducted in a competitively neutral and non-discriminatory manner within the framework of Danish and Swedish legislation on track capacity, and in compliance with any applicable legislation in force. Allocation shall be characterised by full transparency, objectivity, and neutrality.

When allocating capacity, Øresundsbros Konsortiet shall, at all times, comply with applicable regulations regarding safety, rolling stock, diesel traffic, dangerous goods and other aspects. It is Øresundsbros Konsortiet's responsibility to keep all parties informed continuously on the current regulations for rail traffic at Øresundsbros Konsortiet.

Capacity allocation shall take Øresundsbros Konsortiet's needs into account to continuously maintain the railway. It is Øresundsbros Konsortiet's responsibility to keep Banedanmark and the Swedish Transport Administration informed about Øresundsbros Konsortiet's planned maintenance activities.

As part of the allocation of capacity, Banedanmark and the Swedish Transport Administration are required to provide necessary information to the railway undertakings regarding, among other things, service schedule, TIB, LA instructions, timetable book and graphical timetable or documents that replace or complement these.

Banedanmark and the Swedish Transport Administration shall handle complaints and demands from railway undertakings attributable to capacity allocation on their respective sections of the railway. If Banedanmark and the Swedish Transport Administration and the railway undertakings do not succeed in resolving disputes through consultation, the matter shall be referred to Øresundsbros Konsortiet for a ruling.

#### **4.1.2 Coordination of capacity allocation**

With particular regard to the cross-border nature of the railway and the need to offer a technical and commercial whole, Banedanmark and the Swedish Transport Administration have undertaken to continuously coordinate their remit under this agreement with the other party. Banedanmark and the Swedish Transport Administration also acknowledge that their organisations shall work in all respects to facilitate effective coordination with the aim of creating efficient and appropriate rail transport across Øresund.

The obligation to identify coordination aspects is the responsibility of Banedanmark and the Swedish Transport Administration respectively, with Banedanmark as the overall coordinator responsible for ensuring that coordination is initiated and methodical and that coordination aspects are regularly monitored. The definition of coordination responsibility is as follows:

Øresundsbro Konsortiet has agreed with Banedanmark and the Swedish Transport Administration that Øresundsbro Konsortiet does not have overall coordination responsibility and that this is regulated by special agreements. Øresundsbro Konsortiet, however, is prepared to rule at any time on disagreements in matters relating to the commission-based relationship or on other matters for which Øresundsbro Konsortiet is responsible.

Banedanmark and the Swedish Transport Administration, by agreement, may represent Øresundsbro Konsortiet in the forum for coordinating international timetables (RNE).

#### **4.2 Description of process**

The application for train path shall be addressed to either Banedanmark or the Swedish Transport Administration. Banedanmark and the Swedish Transport Administration receive and register the application for a train path. Applications that are submitted to Øresundsbro Konsortiet shall be forwarded as soon as possible and no later than within two working days to Banedanmark and the Swedish Transport Administration or other infrastructure managers that may be affected. Banedanmark and the Swedish Transport Administration provide Øresundsbro Konsortiet with continuous information on applications and timetable proposals presented during the train scheduling process.

An applicant is assigned capacity with a regard to the applicant running rail traffic as well as the operation and maintenance of the infrastructure. Allocation takes place every year based on specific capacity applications. Rail work equates to a capacity application from a railway undertaking or applicant.

In addition, capacity is allocated for occasional traffic on an ad hoc basis.

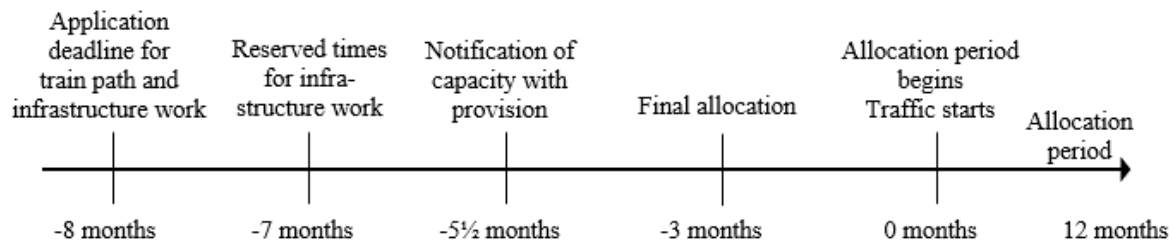
Railway undertakings applying for capacity shall use the common European planning system Path Coordination System (PCS), formerly known as Pathfinder. More about this can be found on the RailNetEurope [website](#).

#### **4.3 Schedule for path requests and allocation process**

The allocation process is performed in accordance with the respective Banedanmark and Swedish Transport Administration network statements.

##### **4.3.1 Schedule for working timetable**

Allocation of capacity on Øresundsbro Konsortiet's infrastructure follows the procedure described below with the stated deadlines:



Based on applications that arrive 8 months before the allocation period begins, Banedanmark/the Swedish Transport Administration (Øresundsbro Konsortiet) shall decide on the allocation of paths.

Øresundsbro Konsortiet announces its overall need for work-related shutdowns. Total shutdowns of less than 56 hours are applied for eight months before the capacity allocation period starts for infrastructure work, subject to the incoming capacity applications.

Banedanmark/the Swedish Transport Administration (Øresundsbro Konsortiet) assign conditions/provisions at least 5½ months before the allocation period begins.

The final capacity allocation is announced no later than 3 months before the allocation period commences.

#### 4.3.2 *Ad-hoc allocation process*

Applications for access services and other track work that are submitted after the "date of application for access services, international" are handled in an ad hoc allocation process. However, ad hoc applications are handled differently depending on when they arrive in relation to the various process steps.

#### 4.4 **Allocation process**

At the closing date for application for access services, internationally and nationally, the allocation process for the one-year train plan begins with Banedanmark and the Swedish Transport Administration presenting a Proposal for train plan. The Proposal for train plan forms the basis for the RailNetEurope (RNE) process steps taken to determine border crossing times for international traffic. A timetable technical conference in collaboration with RNE is held each year, after which applicants receive the Proposal for train plan, which includes capacity allocation as well as border crossing times for international traffic. After this, a comment and coordination period for the cross-border traffic's border crossing times begins and runs until the beginning of August. The border crossing times are decided in consultation between Banedanmark and the Swedish Transport Administration after coordination between the infrastructure managers. The decision period includes a two-week period for the decision to be notified to the applicants for coordination of all border crossings. RNE's decision forms the basis for the continued national allocation process.

When the Proposal for train plan is being prepared, Banedanmark and/or the Swedish Transport Administration may contact the applicants for working meetings as part of the process of drafting the proposal. When the Proposal for train plan has been sent to the applicants concerned, they have a month to comment on the proposal. If the comments include the need for changes, the process step coordination is initiated, which is described below. If the comments do not contain any need for changes, the train plan can be finalised. In the Proposal for train plan, Banedanmark and/or the Swedish Transport

Administration report on how the planning of the railway works looks and what measures are proposed for access services that conflict with the work of the railways. See appendix 3.1 for timetable.

Øresundsbros Konsortiet establishes the train plan for Øresundsbros Konsortiet's rail network at the same time as Banedanmark and the Swedish Transport Administration decide on the train plan/timetable for their respective railway facilities.

#### **4.4.1 Coordination process**

Coordination aims to balance the needs of the applicants and Øresundsbros Konsortiet's needs for time to maintain the infrastructure, in order to establish a train plan without conflicts of interest. During the coordination Banedanmark and/or the Swedish Transport Administration can contact the applicants or invite them to coordination meetings. If a conflict of interest does not appear to be able to be resolved, applicants may request conflict resolution at a given time within the coordination. If there are no conflicts of interest, this process step is not undertaken. If a potential conflict of interest is resolved in this process step, the train plan can be determined. See appendix 3.1 for timetable.

#### **4.4.2 Dispute resolution process**

If a conflict of interest does not appear to be resolved during the coordination process, the applicants affected by the conflict of interest may request a conflict resolution at a specified time that applies to all conflict resolution. When requesting conflict resolution, the applicant is, at the same time, to submit to Banedanmark or the Swedish Transport Administration a description of the conflict of interest, an impact assessment concerning the production of the access service and a justification for why the solutions proposed in the coordination are not acceptable. Along with a request for conflict resolution, applicants may also submit new proposals for solutions to the conflict of interest. After the requested conflict resolution, Øresundsbros Konsortiet calls the parties involved to a conflict resolution council where Øresundsbros Konsortiet reports on which solution has been chosen and which options have been discarded and the reasons for this. If the applicants do not accept the solution as reported, coordination continues. If there are no conflicts of interest, this process is not carried out. If a potential conflict of interest is resolved in this process, the train plan can be finalised.

#### **4.4.3 Congested infrastructure**

If there are still conflicts of interest that remain unresolved after coordination, Øresundsbros Konsortiet shall declare the affected part of the infrastructure to be congested. Øresundsbros Konsortiet notifies the applicant of the decision and publishes it on its [website](#). The decision shall contain information on the part of the infrastructure affected by a conflict of interest, during what times, the parties concerned, whether conflict resolution has occurred, and the reason why the conflict of interest could not be resolved. The decision that a track is declared congested allows Øresundsbros Konsortiet to unilaterally settle the conflict of interest by applying priority criteria for allocating capacity to applicants affected by the conflict of interest. If the track is declared congested, a capacity analysis and a capacity enhancement plan is to be prepared.

In the allocation process for the 2024 train plan, as regards Swedish territory, Øresundsbros Konsortiet does not intend to take advantage of the possibility of giving preference to those paying an additional fee on a congested part of the infrastructure. For Danish territory, this is a matter for the Transport, Building and Housing Authority to decide. If there will be a significant capacity shortage on part of the infrastructure, Øresundsbros Konsortiet can report that this part of the infrastructure is congested before the coordination begins. So far, Øresundsbros Konsortiet has not declared that any part of the track is congested due to an apparent significant capacity shortage. If a conflict of



interest between train paths and other track work leads to a track being congested, Øresundsbros Konsortiet shall allocate capacity for the track work where it is deemed to be most favourable to traffic and for the implementation of the track work to be possible. In such cases, the allocation of capacity shall be justified in writing and the proposed solution, such as diversion of trains, shall be presented to the applicant. Øresundsbros Konsortiet may, however, choose to postpone track work to another time period or train plan in instances where the consequences for traffic as a result of a conflict of interest are deemed to be of such a nature.

#### **4.4.4 Capacity analysis**

No later than six months after the infrastructure has been declared congested, Øresundsbros Konsortiet shall publish a capacity analysis on Øresundsbros Konsortiet's [website](#).

The capacity analysis shall be carried out based on the congested infrastructure decision.

The capacity analysis states:

- the cause of the congestion
- proposal for ways to fix the congested infrastructure
- proposal for action in the short term (up to one year) and long term (up to three years).

#### **4.4.5 Capacity enhancement plan**

Within six months after a capacity analysis under section 4.4.4, Øresundsbros Konsortiet publishes a capacity enhancement plan on Øresundsbros Konsortiet's [website](#). The plan is drawn up after consultation with those using the congested infrastructure and indicates:

- the cause of congestion
- probable future traffic development
- obstacles to infrastructure development
- options and costs for capacity enhancement.

The capacity enhancement plan also includes a cost-benefit analysis of possible actions, an indication of the actions the infrastructure manager intends to take based on this analysis and a timetable for this work. The timetable reported in the capacity enhancement plan extends up to a maximum of three years. Measures analysed and proposed in the capacity enhancement plan may include, for example, infrastructure measures, timetable adjustments or measures related to the railway undertakings' vehicles and freight wagons. If there is an established capacity enhancement plan for the congested infrastructure and this plan is in the process of being implemented, no new capacity analysis or capacity enhancement plan is prepared.

### **4.5 Allocation of capacity for maintenance work and other track work**

Planned major track work will have been the subject of consultation prior to the publication of the railway network statement, and this type of track work forms part of the requirements for, for example, accessibility and speed on the track in the allocation process. All capacity-related applications must be adapted to the planned major track work found in the engineering works plan (BAP) (see appendix 3.2). This could, for example, mean that an applicant applies for a traffic diversion path for planned major track work performed on a track with single track operation. In order to reduce traffic impact, Øresundsbros Konsortiet can, without affecting the total time required for the track work, bring forward or postpone the starting time specified in BAP. In order to select the



works to be included in the railway network statement, Øresundsbros Konsortiet uses the following model for the criteria for planned major track works.

Class	Type of rail work	Shown in
1	Øresundsbros Konsortiet's requirement for planned <i>major track work</i> involving capacity reduction is given under this heading.  "Major" track work involving closed track for extended periods of time.	<i>Railway Network Statement</i>
2	Track work of a continuous nature that must be implemented to manage the infrastructure.	Øresundsbros Konsortiet's proposal for times according to appendix 3.1-2, alternatively Railway network statement 4.5.2 Infrastructure work.
3	Minor work with traffic impact.	In collaboration with Banedanmark, Swedish Transport Administration.
4	Emergency repairs	Remedial work occurs as needed in consultation with the Danish and Swedish traffic management function.

#### 4.5.1 Definitions

**Infrastructure work:** Any work that may affect railway undertakings' traffic flow or reduce the available capacity.

**Infrastructure data:** The data necessary for railway undertakings to design transport requests for Banedanmark and the Swedish Transport Administration (Øresundsbros Konsortiet) capacity planning.

**Train-free intervals:** Shutdown of tracks in the period when two trains pass. Train-free interval shutdowns do not affect punctuality and do not result in amendments to the timetable. The purpose of the train-free interval shutdown is to ensure access to the track in short periods of time with a minimum of pre-planning of work.

**Track shutdowns:** (Excluding shutdowns that incorporate system and interval shutdowns.) Shutdowns that are caused by corrective actions in the timetable. Adjustment of trains may occur. The purpose of suspending the track is to secure access to the track for necessary infrastructure work, where trains will be affected.

**System shutdowns:** System shutdowns are shutdowns of tracks typically in the evening and at night during, but not limited to, the period from 22:00 to 05:00, which allows for minor infrastructure work to be planned and implemented as far as possible without traffic impact in relation to agreed hubs in the timetable. That is, so that the timetable can be maintained at the hubs, but not necessarily at stations in between.

#### 4.5.2 Infrastructure work

Øresundsbros Konsortiet plans and implements the work within Øresundsbros Konsortiet's current railway network statement. It is the responsibility of Banedanmark and the Swedish Transport Administration, on behalf of Øresundsbros Konsortiet, to notify the railway undertaking of planned infrastructure work. In the event of extensive traffic disruption that coincides with planned infrastructure work, Banedanmark and the Swedish Transport Administration shall invite Øresundsbros Konsortiet for a discussion on traffic flow. Øresundsbros Konsortiet is then prepared to postpone or call off the infrastructure work. Banedanmark and the Swedish Transport Administration cannot postpone or call off infrastructure work without Øresundsbros Konsortiet's acceptance.

#### **4.5.3 Priority in planning work/track closures for infrastructure work**

When planning infrastructure work, it can often happen that reliability/robustness has to be balanced against available capacity. It has been agreed between Øresundsbros Konsortiet through Banedanmark with the railway undertakings to prioritise the reliability of infrastructure work and planning. Reliability includes both that notification deadlines in the planning process are complied with, so that passengers and freight customers can get reliable information about which trains will run and so on, and that the actual infrastructure work is planned to be robust in performance, with high punctuality and start-up and completion of infrastructure work according to the agreed upon time.

#### **4.5.4 Notification deadlines**

Banedanmark and the Swedish Transport Administration give notice to railway undertakings about infrastructure work. The below mentioned notification deadlines apply to the planning of infrastructure work involving exclusive infrastructure work comprising system and interval shutdowns. System and interval shutdowns require no notification from Banedanmark and the Swedish Transport Administration to the railway undertakings. Additional definition of system and interval shutdowns can be found in the section "Definitions" above.

Banedanmark and the Swedish Transport Administration are not required to report infrastructure work to repair faults and deficiencies. Faults are defined in this context as situations where the event originates from a technical fault, accident, or damage, as well as special weather and natural conditions that cause (or may cause) malfunctions and/or safety consequences.

As a result of standards-based inspection, so-called monthly notifications are issued that shall be remedied within 3 months of notification. Such infrastructure work is exempt from N-4 months' notice, even if the length of the infrastructure work provides for this notice. Infrastructure work will instead be planned through dialogue between the interested parties.

Notification deadlines are set out in the table below:

	Notification X-12 months. <sup>*1</sup>	Notification X-4 months. <sup>*1</sup>
<b>Media</b>	Railway network statement	LA-letter, BUP/BAP
<b>Infrastructure work with a duration of &gt;56 consecutive hours</b>	For all infrastructure work provide: 1. TIB/BAP/BUP no. 2. Demarcation station/operational location with reversed signals. <sup>*3</sup> 3. Approx. duration (number of days). 4. If the infrastructure work is in a holiday period or on a public holiday. <sup>*3</sup> 5. Start beginning/middle/end of summer vacation. 6. Overall shutdown configuration (closes one or more tracks total shutdown, etc.).	For all infrastructure work provide: 1. Exact location. 2. Exact date of start and end. 3. Exact time of start and end. 4. Finally, traffic consequences (driveability) with respect to infrastructure works.
<b>Infrastructure work with a duration ≤56 consecutive hours, but not part of system and interval shutdowns</b>	No information is provided.	For all infrastructure work state: 1. Exact location 2. Exact date of start and end 3. Exact time of start and end 4. Finally, traffic consequences (driveability) with respect to infrastructure works.
<b>System shutdowns</b>	No information is provided.	No information is provided.
<b>Train-free intervals</b>	No information is provided.	No information is provided.

All dates are counted from the first day of the week when the infrastructure work begins. One week is defined as starting Monday at 00:01.

<sup>\*1</sup>X denotes the date of the timetable's start (Sunday after the second Saturday in December)

<sup>\*2</sup>N denotes the date of the first day of the week when the infrastructure work starts (Monday 00:01 continuous).

<sup>\*3</sup>The public holiday and summer period shall be defined in collaboration with Banedanmark, the Swedish Transport Administration and railway undertakings.

Øresundsbro Konsortiet shall notify Banedanmark and the Swedish Transport Administration about the status of project work or otherwise provide information about the status of major infrastructure work covered by X-12 and N-4 months' work. Banedanmark and the Swedish Transport Administration shall notify railway companies about the needs of Øresundsbro Konsortiet for times on tracks for infrastructure work.

When infrastructure work is notified to railway undertakings in relation to the above table, the railway undertaking does not have the right of disposition to timetable locations for the scheduled work period, even though the railway undertaking has been allocated the paths in the path allocation for the timetable period.

In the case where the railway undertakings have a request which requires implementation in the current timetable period, Øresundsbro Konsortiet is, on principle, open to such a request.

The planning is carried out in close cooperation between Banedanmark, the Swedish Transport Administration, railway undertakings and Øresundsbro Konsortiet with regard

to traffic impact. Infrastructure projects in response to the railway undertaking shall be notified by Banedanmark and Swedish Transport Administration to other railway undertakings affected by the work, according to notice periods in the table above. Separate agreements are entered into for every infrastructure work.

#### **4.5.5 Use of the liquidity principle**

In order to optimise the planning and use of the shutdown track, notified shutdowns at X-12 months are liquid up to N-4 months. Øresundsbros Konsortiet therefore has the option to "exchange" a notified shutdown to an alternative track shutdown. This can only be done if the following is calculated by X-12 months.

- Total service for end customer (passenger and freight customers), defined as the number of paths that are not unsafe.
- Financially: that overall impact on the railway undertaking does not increase. (Planning costs will not be included in the overall financial impact.)

When the liquidity principle is used, the railway undertakings are obliged to present the "business case", where the original budgeted track shutdown coheres with the desired change. The liquidity principle is not a general planning principle but can be used on occasions when reprioritisations of projects are necessary.

#### **4.5.6 Concept for interval shutdowns**

The timetable has taken account of the planning of interval shutdowns. Interval shutdowns are shutdowns of tracks during evening and night hours, i.e., typically (but not limited to) the hours of 22:00 – 05:00, which allows for minor infrastructure work to be planned and to be carried out as far as possible without affecting traffic according to agree upon hubs in the timetable. This is achieved by adding amendments to the timetable that absorb any delays from the infrastructure work before arrival at the defined hub.

#### **4.5.7 Management by objectives**

Øresundsbros Konsortiet continuously measures the utilisation rate of infrastructure work and aims to use these times as efficiently as possible. Therefore, Øresundsbros Konsortiet has set up Key Performance Indicators (KPI) in agreement with its maintenance contractors.

### **4.6 Non-usage / Cancellation rules**

If allocated capacity following allocation is not used, Banedanmark and the Swedish Transport Administration are to be informed immediately that the capacity is therefore available for other use. Applicants assigned capacity but not utilising it to the extent required shall, at Banedanmark and the Swedish Transport Administration's request, relinquish the capacity. However, this does not apply if the lack of utilisation is due to non-economic factors and is beyond the control of the capacity holder. These rules ensure that the track is used in practice. If allocated capacity has not been used, this may be considered in a subsequent allocation of train paths.

### **4.7 Exceptional transports and dangerous goods**

#### **4.7.1 Train path with exceptional transport**

Application for train paths for exceptional transport is made according to Banedanmark and the Swedish Transport Administration's requirements. The decision on the conditions of transport shall be attached to the train path application. Based on this application, Banedanmark and the Swedish Transport Administration decide on the capacity for an exceptional transport. The decision usually contains a requirement for a call-off order within a certain period of time before the exceptional transport can be carried out. The

train path for exceptional transport is determined in the allocation process in accordance with the conditions of transport.

#### **4.7.2 Train path with dangerous goods**

If the train path includes dangerous goods, this must be notified when applying for the train path. Dangerous goods transports must be reported to Banedanmark and the Swedish Transport Administration.

### **4.8 Special measures in case of disruptions**

#### **4.8.1 Principles**

Operational guidelines are issued for each train plan. Capacity allocation for unforeseen events, such as railway accidents or other damage to the infrastructure, is decided on a case-by-case basis by Banedanmark, the Swedish Transport Administration and Øresundsbros Konsortiet. To minimise the consequences and promptly restore the capacity of a damaged track section, there are special procedures for accident management.

In case of accident or breakdown, rescue will come from the Danish and Swedish rescue services. Øresundsbros Konsortiet is responsible for clearance and the railway undertaking is responsible for salvage. It is the responsibility of railway undertakings to demonstrate to Banedanmark, the Swedish Transport Administration (Øresundsbros Konsortiet) the resources required for salvage, or to conclude a salvage agreement with another party before re-commencement of traffic.

#### **4.8.2 Operational regulation**

Trains departing and running according to their timetable are prioritised according to their schedule. The reason for this rule is that punctual trains will not be disrupted by trains that are delayed or premature in relation to their timetables. Exceptions can be made to this rule as follows. If the consequences of a disruption would be particularly difficult for some trains, an applicant may submit a request that such trains are given priority over other (punctual) trains with the same applicant. Applicants may also agree with each other that certain punctual trains may be assigned lower priority than individual particularly important trains of another applicant. Such agreements shall be reported in writing to Banedanmark and the Swedish Transport Administration (Øresundsbros Konsortiet), which decides on capacity allocation. A request for changed operational priority shall indicate which trains are considered to be particularly sensitive to disruption and the reasons for this (e.g., traffic information, connecting transport, tight vehicle circulation). It must also state which trains the applicant is prepared to give priority to. The request must be submitted to Banedanmark and the Swedish Transport Administration (Øresundsbros Konsortiet) in connection with the application for services. This is because the applicant's request will be taken into account when the guidelines for prioritisation of traffic management are received. Exceptions to the rule of priority for punctual trains can be made if there are special reasons, such as more difficult traffic disruptions, agreed deviations from the timetable or if the traffic situation clearly dictates otherwise. In cases where the rule would lead to unreasonable consequences for traffic, it shall not be applied. Banedanmark and the Swedish Transport Administration (Øresundsbros Konsortiet) always aim to eliminate traffic disruptions in the smoothest way possible and to restore traffic to the scheduled timetable.

#### **4.8.3 Foreseen problems**

Banedanmark and the Swedish Transport Administration (Øresundsbros Konsortiet) shall, before each autumn and winter, prepare contingency plans in consultation with the parties concerned and, in these plans, describe which measures will be planned.

#### **4.8.4 Unforeseen problems**

##### **4.8.4.1 Clearance and emergency situations**

A railway undertaking is obligated to provide such resources as the infrastructure manager considers most appropriate for restoring the conditions to normal in clearance and emergency situations. This is at the request of the infrastructure manager and in accordance with the parties' agreement. The process of clearing rolling stock and towing of wrecked vehicles within as well as to and from the accident site is conducted by Øresundsbros Konsortiet, or those appointed by Øresundsbros Konsortiet. The accident site is defined as the area limited by the nearest non-affected stations on either side of the accident site to the fixed boundaries that Øresundsbros Konsortiet is responsible for. In the case of vehicle damage, railway undertakings have the right to deal with the clearance of their own vehicles as well as property, upon approval of Øresundsbros Konsortiet. If an agreement cannot be reached, Øresundsbros Konsortiet undertakes the clearance of the railway undertaking's vehicles and property at their expense.

Before the clearance begins, the railway undertaking shall earth its vehicle and ensure that the necessary measures are taken. If the railway undertaking uses a different model of pantograph or vehicle other than those described in the Swedish Transport Administration's Railway network statement 2024, Appendix 2 A, information is to be provided prior to the train's departure. Before clearance, Øresundsbros Konsortiet reserves the right to disassemble the railway undertaking's pantograph. In emergency situations, Øresundsbros Konsortiet may remove the pantograph using the methods that the situation requires. Øresundsbros Konsortiet is not responsible for damage to the pantographs. If the railway undertaking's vehicle or its pantograph type is not found in the above-mentioned



network statement appendix, or otherwise differs from the descriptions given, the railway undertaking is to immediately ensure that its own personnel arrive at the scene of the accident at the request of Banedanmark and/or the Swedish Transport Administration (Øresundsbros Konsortiet). In such cases, such personnel are to perform the earthing work, tying down or disassembly of the pantograph.

#### *4.8.4.2 Salvage*

After clearance has been completed, the railway undertaking will attend to the recovery of its own vehicle from the site designated by Banedanmark, the Swedish Transport Administration or Øresundsbros Konsortiet. To minimise traffic disruption, it is important that this happens quickly. If salvaging does not take place within a reasonable time, Øresundsbros Konsortiet shall recover the railway undertaking's vehicles and property on behalf of the railway undertaking. Øresundsbros Konsortiet and the railway undertaking can reach agreement that salvaging can begin before clearance has been completed.

#### *4.8.4.3 Accident management*

Procedures for handling, notifying and collaboration in case of incidents, accidents and disruptions involving accident hazards in rail traffic can be found in Øresundsbros Konsortiet's Safety Instructions, SI 7-02 Accident Management. The safety instruction is available on Øresundsbros Konsortiet's [website](#).

An insert card is a technical description of a railway vehicle intended for rescue service. In connection with the application for a declaration of compatibility/compliance, upon request, technical information about the vehicle shall be submitted to the infrastructure manager as a basis for the insert card.

## **4.9 Timetabling Redesign for Smart Capacity Management**

### ***4.9.1 Objectives of TTR***

RailNetEurope (RNE) and Forum Train Europe (FTE), supported by the European Rail Freight Association (ERFA) are working on the so-called Time Tabling Redesign for Smart Capacity Management (TTR). The objective of TTR is improve the utilization of the existing capacity. This is to be performed through more long-term planning of reliable timetables, by which the need for cancellation of paths can be minimized. Another objective of TTR is to comply with all transport needs on the railway market and to increase the competitiveness of railway transports. It must e.g., be far simpler to book paths through digital platforms. TTR consists of many components, including a particular improved planning of the distribution of infrastructure capacity, including temporary capacity restrictions and the introduction of new capacity allocation processes. For the passenger transport it will mean that the final timetable will be available earlier than it is the case today. Moreover, it will be possible for passengers to purchase tickets earlier and on a more reliable basis compared to the conditions of today. For the freight transport TTR will mean more and better possibilities of booking different types of capacity products than it is the case today. It will e.g., be possible to apply for capacity on a short-term basis ensuring the Network Statement 2023 Page 43/60 quality, despite the product concerned. Thus, more flexibility and better possibilities for complying with needs of final customer can be obtained. Detailed information on the project can be found on RNE's website and on FTE's website TTR is planned to be fully implemented for K25 if it is supported by the European and national legal framework.

### ***4.9.2 Description of the process***



For a description of the TTR processes, reference is made to RNE's website

#### **4.9.3 Implementation**

##### **TTR Pilot project**

Prior to TTR a cooperation has been established between Norway, Sweden, and Denmark on a Scandinavian pilot project. At the moment, the Scandinavian TTR pilot project works on the so-called capacity strategy which forms the first important step towards the long planning horizon provided by TTR in order to be able to form more reliable timetables. Banedanmark will take contact to various partners, including Railway Undertakings, terminals, and the Ministry of Transport for obtaining feedback regarding the capacity strategy.

#### **4.10 Right of appeal**

As described above, anyone who is dissatisfied with the decision shall contact Banedanmark and/or Swedish Transport Administration respectively in the first instance.

Appeals shall also be sent to:

Øresundsbro Konsortiet  
Jernbanedrift  
Vester Søgade 10  
DK-1601 København V

Or by email to: [railway@oresundsbron.com](mailto:railway@oresundsbron.com)

## **5. Services**

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### **5.1 Introduction**

The infrastructure manager must provide a minimum package of services and track access services to the railway undertakings that gain access to the railway infrastructure. In addition, the infrastructure manager may choose to provide certain additional services and ancillary services.

#### **5.1.1 Additional services**

##### **Traction current**

Øresundsbro Konsortiet provides CO2 neutral Green electric power for train operation. Banedanmark collects charges for electricity consumption on behalf of Øresundsbro Konsortiet.

### **5.2 Minimum package of access services**

The services to be provided are:

- Handling of infrastructure capacity applications.
- Permission to utilise the capacity granted.
- Use of switches and transitions in train tracks.
- Traffic management including signalling systems, traffic monitoring, train dispatching, and transmission and provision of information about train movements.
- All other information that may be required to implement or operate the rail traffic for which capacity has been allocated.

Øresundsbro Konsortiet has reached an agreement with Banedanmark and the Swedish Transport Administration to handle applications for infrastructure capacity and to provide

traffic management for Øresundsbros Konsortiet's railway. The above listed services are provided within the Banedanmark and Swedish Transport Administration remits.

### **5.3 Track access services**

The track access services described shall be provided to railway undertakings in a non-discriminatory manner. The following are classified as track access services.

- Power supply equipment for traction current, where there is access to such.
- Train refuelling facilities.
- Passenger stations, including buildings and other facilities.
- Freight terminals.
- Marshalling yards.

Of these services, only the power supply equipment for traction current to trains is available on Øresundsbros Konsortiet's railway. For other rail access services, please refer to Banedanmark and the Swedish Transport Administration.

### **5.4 Additional services**

#### **5.4.1 Traction current**

Øresundsbros Konsortiet provides electric power for train operation. Banedanmark collects charges for electricity consumption on behalf of Øresundsbros Konsortiet.

#### **5.4.2 Ancillary services**

Øresundsbros Konsortiet can provide ancillary services in the form of assistance for railway personnel in the case of exceptional transport, such as the need for the reset of the axle counter system when transporting vehicles with a wheel diameter less than 300 mm, shutdown of track when moving FOMUL (fixed objects between the survey section and the loading gauge boundaries) for transport with excess load and the like. Please refer to section 6.3 Charges for ancillary services.

## **6. Charges**

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### **6.1 Essentials**

Charges for traffic are set out in the Swedish-Danish Government Agreement of 1991. This determines that Øresundsbros Konsortiet receives a fixed index-linked fee per year from Banedanmark and the Swedish Transport Administration.

Changes in railway charges can thus only be made by governments through the Danish Ministry of Transport and the Swedish Transport Administration.

For diesel trains, Øresundsbros Konsortiet can require an additional diesel charge. The fee is justified by the extra pollution caused by diesel operations in the Øresund tunnel.

#### **6.1.1 Denmark**

The collection authority for charges on the Danish side of the Øresund link is Banedanmark. For more information on payment terms, etc., see the railway network statement of Banedanmark, available at [www.bane.dk](http://www.bane.dk).

#### **6.1.2 Sweden**

The collection authority for charges on the Swedish side of the Øresund link is the Swedish Transport Administration. For more information on payment terms, etc., see the Swedish Transport Administration's railway network statement, available at [www.trafikverket.se](http://www.trafikverket.se).

### **6.2 Quality charges**

#### **6.2.1 Swedish part**

On the Swedish part of the Øresund link, the Swedish Transport Administration's quality charge system applies, which in practice means that no fees are charged for the section that is on Swedish territory, 23.6 km – 29.1 km.

#### **6.2.2 Danish part**

On the Danish state track sections, a form of quality charge, "performance scheme", has been introduced. The Danish government has exempted Øresundsbros Konsortiet from this system and has exempted Øresundsbros Konsortiet from entering quality charge agreements because it does not add value. Contracted quality of delivery on the Øresund link does not apply to any delays or other disruptions due to the cross-border nature of the railways and related technical organisational implications.

### **6.3 Charges for ancillary services**

Charges for the services Øresundsbros Konsortiet provides are based on the cost price of providing the service. The cost price is the sum of all costs, both direct and indirect, for the provision of a service. For the services in question, the requirement for full cost coverage applies. Payment for extra services is preceded by a separate agreement with the railway undertaking.

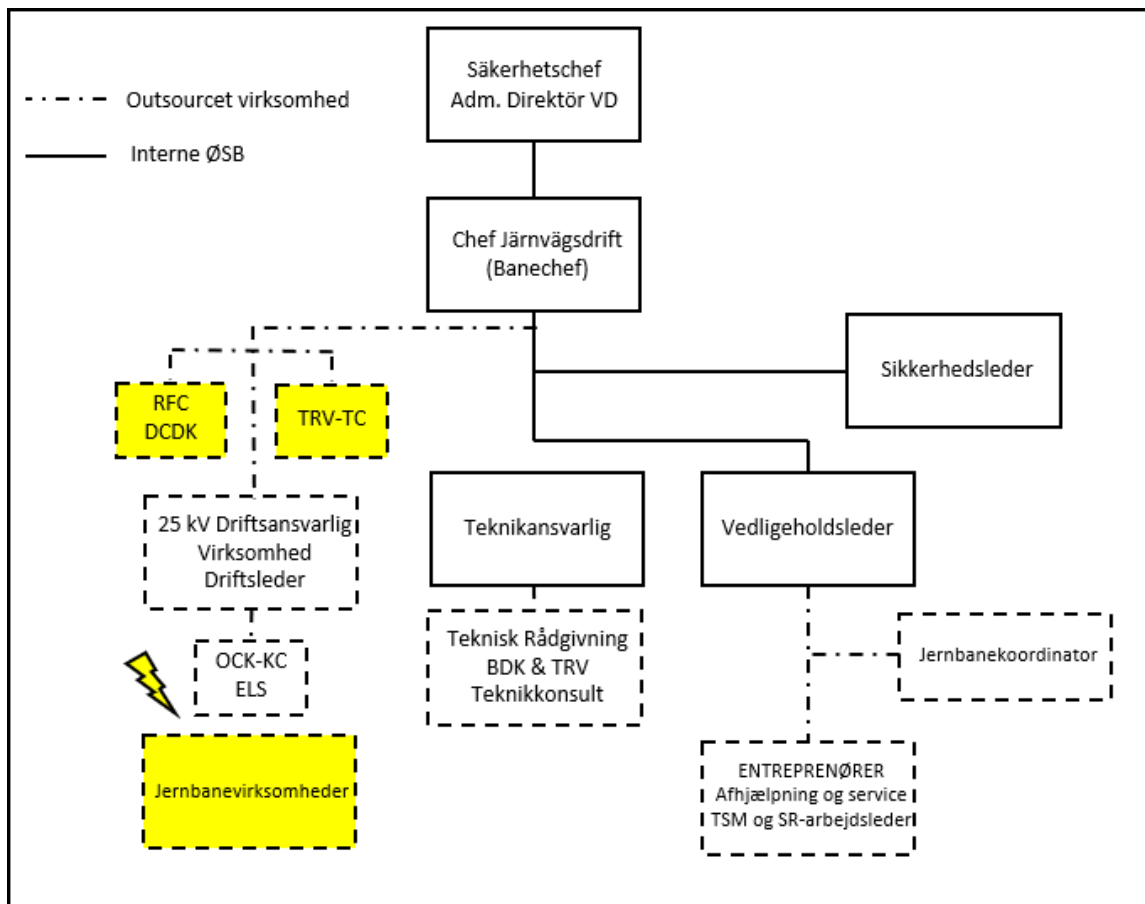
## 7. Appendices

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1. Safety organisation in relation to rail safety
- 2.1 Terms of responsibility in relation to Øresundsbro Konsortiet
- 2.2 Function description, Overall coordination responsibility for the Øresund link
- 3.1 Timetable for train plan work
- 3.2 Engineering works plan (BAP)
4. Loading gauges
5. Catenary system and alignment. R5G00/R5G-2840
6. Radio system R5G00/R5G-2841
7. Interlocking system and ATC CRWY64-1A0006
8. Track System and Point Heating R5G00/R5G-2843
9. High voltage system R5G00/R5G-2844
10. Tunnel ventilation system R5G00/R5G-2845
11. Line plan Infrastructure description Rev X
12. Overview track plan Rev 2005-11-29
13. Overview drawing, drawing number: 3532-100 Rev 1

*Front cover photo: Øresund Bridge 2021 Photo: Øresundsbron*

## Säkerhetsorganisation i förhållande till järnvägssäkerheten



Figur: Säkerhetsorganisation i förhållande till järnvägssäkerheten

## Ansvarsmässigt förhållande i Öresundsbro Konsortiet

	Ansvarsmässigt förhållande	Utförande- mässigt ansvar	Koordinerings- & kontrollansvar	Övergripande ansvar, t.ex. godkännande av ändringar och dispens
1	Övergripande ansvar för säkerheten i verksamheten.	SL	CJ	VD
2	Ansvar för att personal med säkerhetsmässiga uppgifter uppfyller de utbildningsmässiga kraven.	TA + UL	SL	CJ
3	Ansvar för trafikstyrningen.	*	SL	CJ
4	Ansvar för att de nödvändiga regler, normer och vägledningar m.m. som är av betydelse för säkerheten föreligger.	SL+TA	CJ	CJ
5	Ansvar för tillsyn över att säkerhetsbestämmelserna efterlevs.	CJ+UL	SL	CJ
6	Ansvar för den systematiska och statistiska överblicken över säkerhetsmässiga händelser.	SL	CJ	CJ
7	Ansvar för att det endast används säkerhetsgodkänt rullande materiel.	**	UL	CJ
8	Ansvar för det säkerhetsmässiga underhållet av det av järnvägsinfrastrukturförvaltaren använda rullande materielen.	□	□	□
9	Ansvar för att det endast används säkerhetsgodkända delsystem i järnvägsinfrastrukturen.	TA+UL	SL	CJ
10	Ansvar för det säkerhetsmässiga underhållet av järnvägsinfrastrukturen.	TA	SL-UL	CJ
11	Ansvar för att det föreligger skriftliga avtal med leverantörer vidrörande uppgifter med säkerhetsmässigt innehåll.	CJ+UL	SL-TA	CJ
12	Ansvar för att det föreligger skriftliga avtal med andra järnvägsinfrastrukturförvaltare, som entydigt avgränsar och fastlägger ansvaret för de säkerhetsmässiga förhållandena för angränsande järnvägsinfrastrukturförvaltare.	CJ	CJ	CJ
13	Ansvar för undersökning och uppföljning av säkerhetsmässiga händelser.	SL	CJ	CJ
14	Ansvar för genomförande och uppföljning på revisioner.	SL	CJ	CJ

Figur 2. Ansvarsfördelningen vidrörande säkerhetsmässiga förhållande i Järnvägsavdelningen. Den anförda numreringen knyter sig an till Öresundsbro Konsortiets säkerhetscertifikat till infrastrukturförvaltare.

### Använda symboler:

- \*: Det utförandemässiga ansvaret ligger hos Banedanmark och Trafikverket, med särskilt avtal.
- : Konsortiet har inte, och räknar inte med att anskaffa, eget materiel.

### Använda förkortningar:

- VD: Den verkställande direktören i Öresundsbro Konsortiet
- CJ: Chef Järnvägsdrift (Banchefen) i Öresundsbro Konsortiet (Järnvägsdriftsledning)
- SL: Säkerhetsledaren i Öresundsbro Konsortiet (Järnvägsdriftsledning)
- TA: Teknikansvarig i Öresundsbro Konsortiet (Järnvägsdriftsledning)
- UL: Underhållsledaren i Öresundsbro Konsortiet (Järnvägsdriftsledning)

## Funktionsbeskrivning Övergripande koordineringsansvar för Öresundsförbindelsen

Uppgift	Ansvarig Köpenhamn- Kastrup	Ansvarig Malmö- Lernacken	Ansvarig Kust - Kust	Koordinations- ansvarig Köpenhamn-Malmö	Ansvar är reglerat via ØSB:
Övergripande förvaltning	BDK	TRV	ØSB/VD	-	Huvudavtal om förvaltning med BDK & TRV, april 2000
Trafikstyrning	BDK	TRV	ØSB/CJ	BDK	Avtal om trafikstyrning med BDK & TRV
Bandriftledning	BDK	TRV Trafik	ØSB/CJ	TRV	Avtal om bandriftledning med BDK & TRV
Kapacitetstilldelning	BDK	TRV Trafik	ØSB/CJ	BDK	Avtal om kapacitetstilldelning med BDK & TRV
Adm. trafikeringsavtal	BDK	TRV	ØSB/CJ	BDK	Avtal om kapacitetstilldelning med BDK samt avtal om mellanhavande med trafikutövare med TRV
Adm. banavgifter	BDK	TRV	ØSB/CJ	BDK	Avtal om kapacitetstilldelning med BDK samt avtal om mellanhavande med trafikutövare med TRV
Adm. förbrukningsavgifter	BDK	TRV	ØSB/CJ	ØSB	Avtal om kapacitetstilldelning med BDK samt avtal om mellanhavande med trafikutövare med TRV

### Förkortningsförklaring

ØSB: Öresundsbro Konsortiet  
 VD: Verkställande direktör/Administrerande direktör  
 TRV: Trafikverket  
 LOC: Lernacken Operation Center  
 BDK: Banedanmark  
 CJ: Chef Järnvägsdriftsledning

## Appendix 3.1

### Tidsplan för tågplanearbetet (sammanställning)

Tidsplan för Tågplanearbetet 2024 (2023-12-10 - 2024-12-07) ØSB kapitel 4.3.1.

- 2023-04-11: Datum för ansökan om tillträdestjänster, internationellt och nationellt.
- 2023-06-12 – 2023-06-15: RNE tidtabellstekniska konferens.
- 2023-07-03: Förslag till tågplan inkl. gränspassagetider för internationell trafik. Förslaget skickas till berörda och publiceras på Banedanmarks webbplats (<http://www.bane.dk>) respektive Trafikverket webbplats (<http://www.trafikverket.se>)
- 2023-07-04 -2023-08-04: Synpunkt och samordningsperiod för internationella gränspassagetider.
- 2023-08-21: Delgivning av beslutade gränspassagetider.
- 2023-10-16: Förslag till tågplan/köreplanen 2024 och beslutade gränspassagetider skickas till berörda och publiceras på Banedanmarks webbplats ( <http://www.bane.dk> ) respektive Trafikverket webbplats ( <http://www.trafikverket.se> )
- 2023-10-17: Första dag för ad-hoc ansökning tågplan 2024
- 2023-12-10 kl. 00.01: Tågplan 2024 börjar gälla (trafikstart).

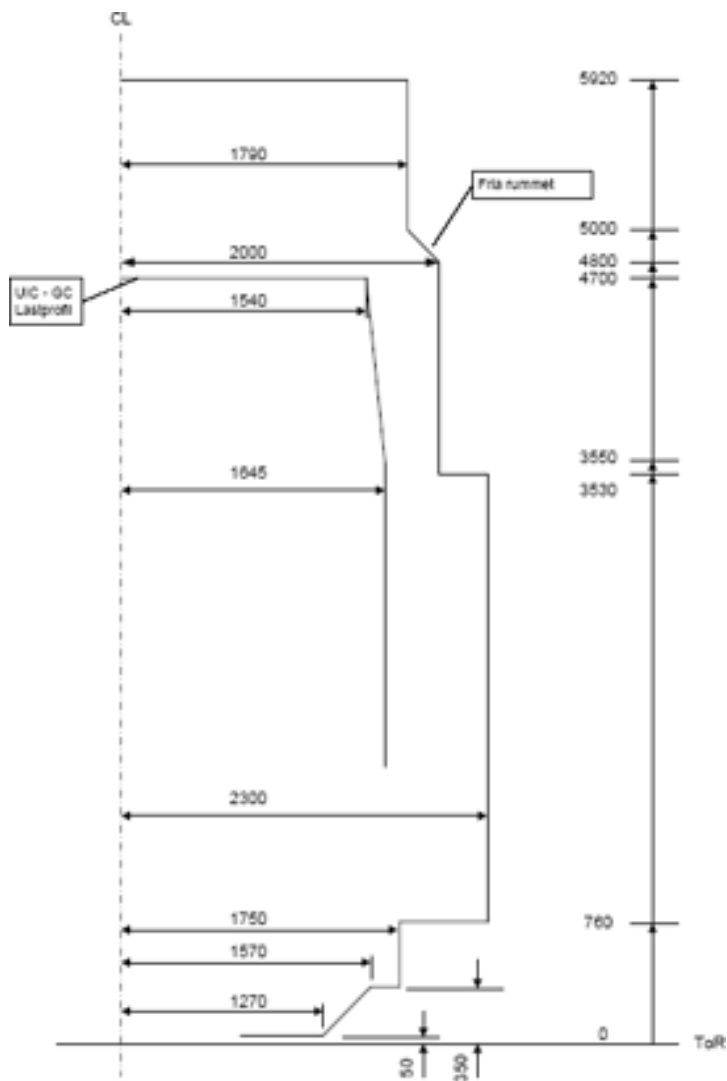
\* Källhänvisning: [https://rne.eu/wp-content/uploads/2023-TT2024-1.0\\_RFC-1.pdf](https://rne.eu/wp-content/uploads/2023-TT2024-1.0_RFC-1.pdf)



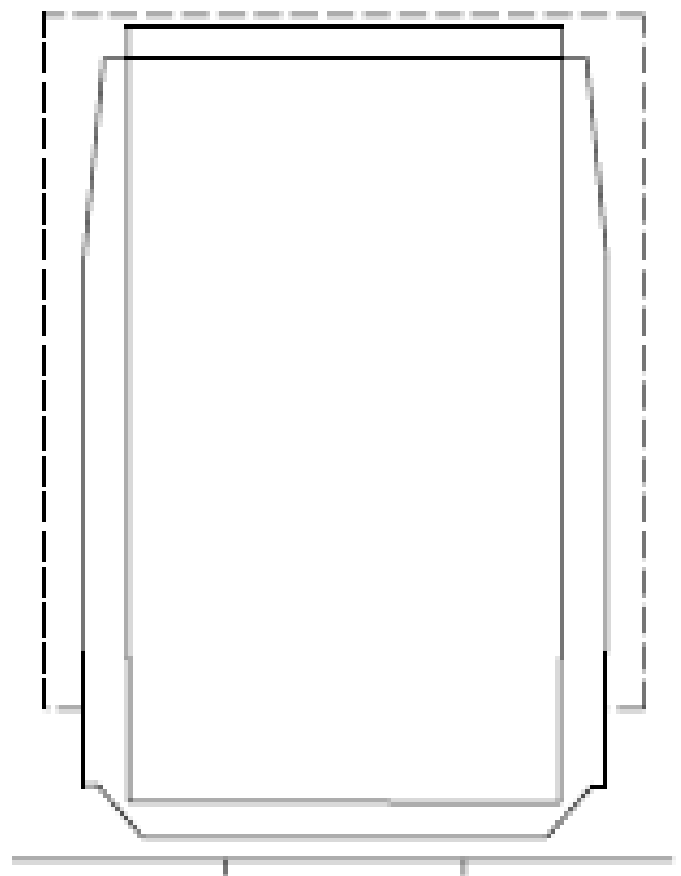


## Appendix 4

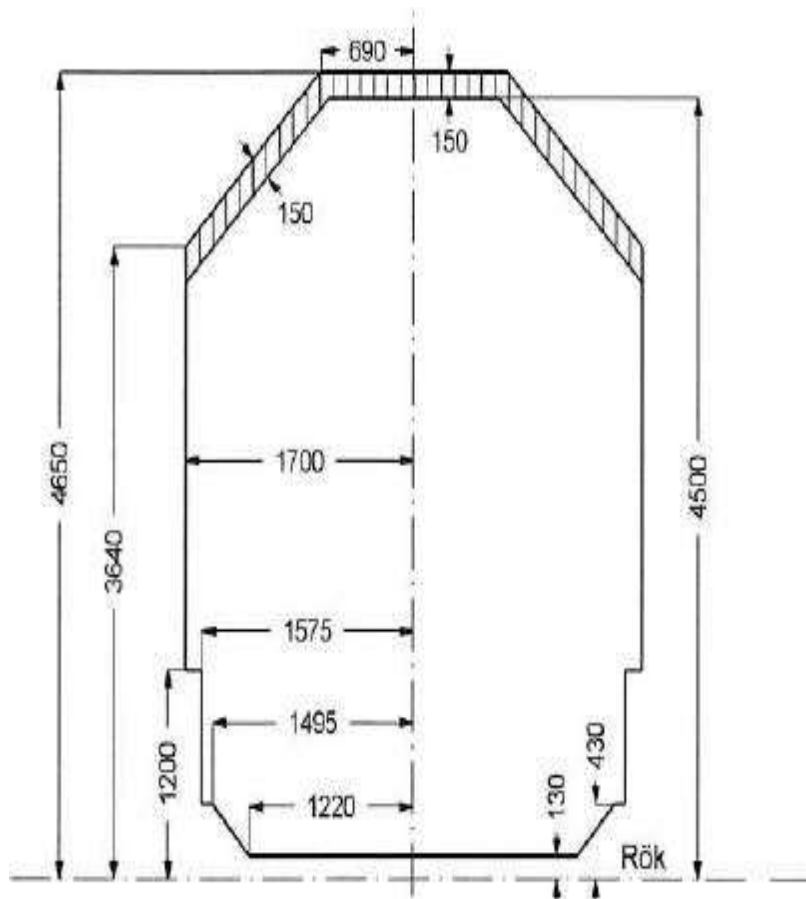
Nedanstående lastprofiler kan tillåtas på Öresundsförbindelsen km 12.854 - 29.795 båda spåren samt samtliga transversaler.



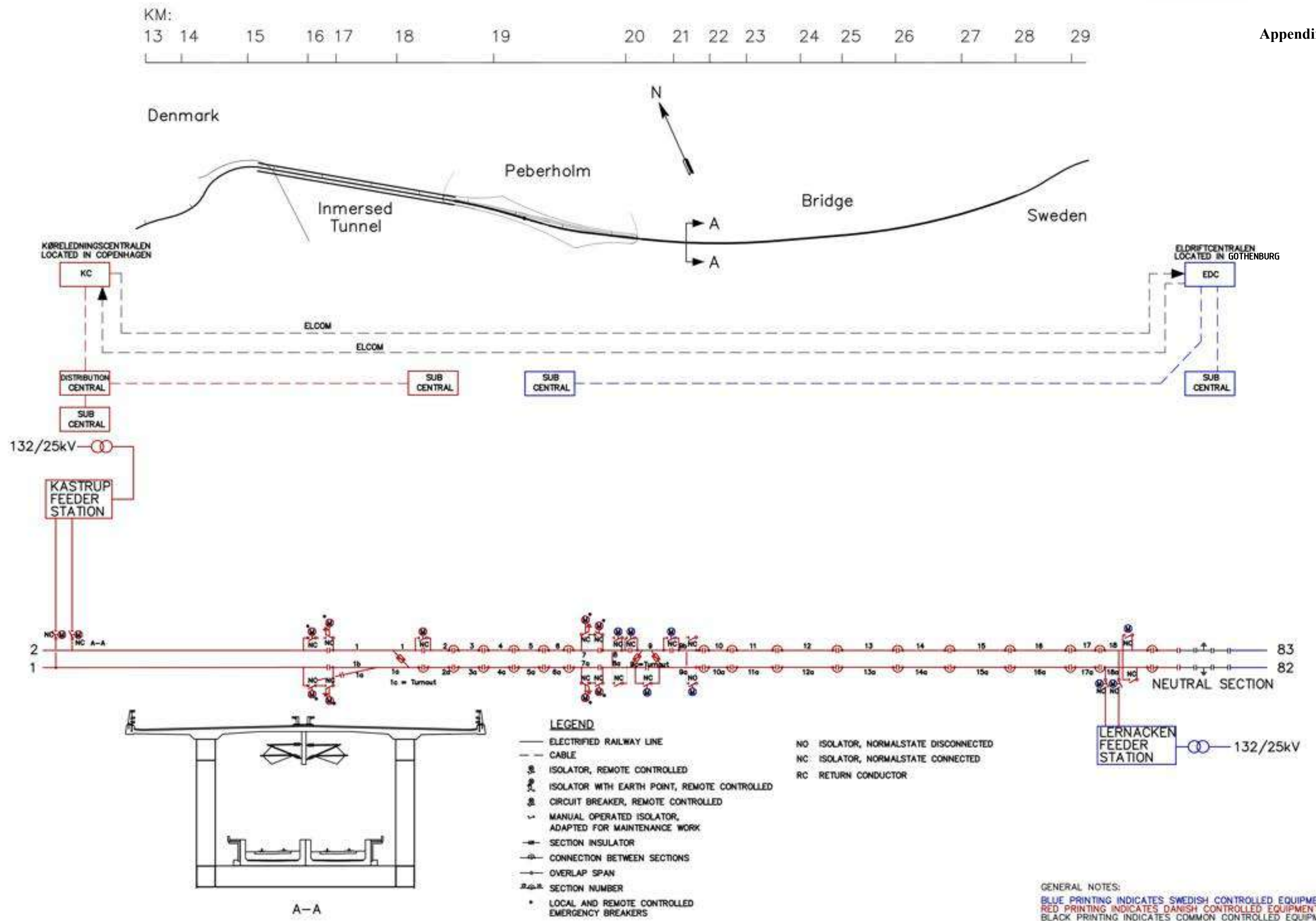
UIC lastprofil GC = "Gabarit C", där gabarit är lastprofil på franska. UIC GC = 3.15 m x 4.65 m, toppen svagt inskränkt, toppbredd 2.91 m, statiska mått.



Kombiprofil P/C 450 (2.60 m x 4.83 m)



**Lastprofil A** har en bredd på 3,40 meter och 4,65 m höjd, men en avsmalning på höjden (max bredd till 3,64 m höjd) vilket gör att lastutrymmet blir dåligt utnyttjat. Detta beror på att det tillgängliga utrymmet under till exempel äldre vägbroar är kraftigt avsmalnande uppåt. Klass A är sedan länge standard i Sverige.

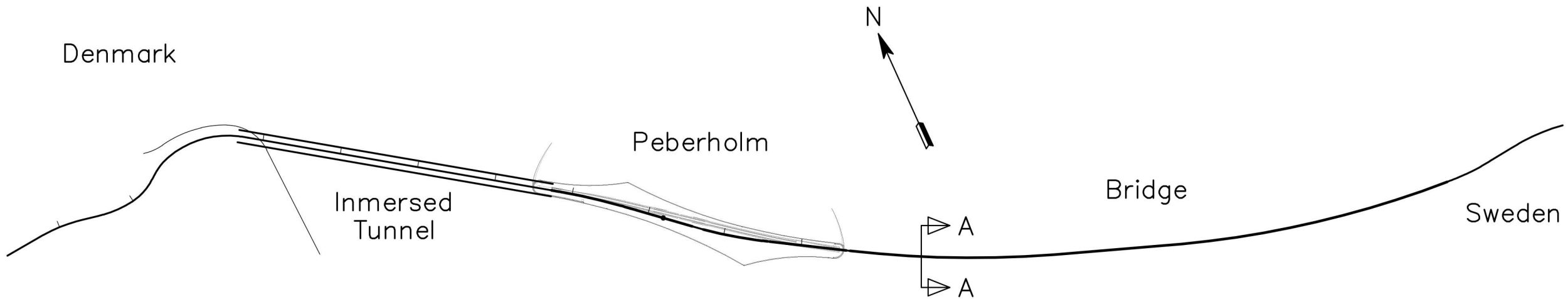


Rev.	Description	Drawn	Designed	Checked	Approved	Date
X	New Drawing Railway Operation	AFRY-VGA	AFRY-AGU	AJL	AJL	2020-08-05

Coast-to-Coast, Railway  
 Catenary System  
 Plan drawing  
 Catenary System and Alignment

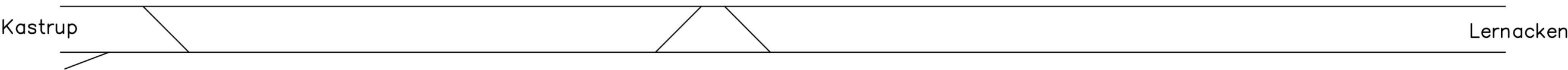
As Built Original Size A3

Sheet no.	Drawing no.	Rev.
	CRWY61-1A0001	X



Swedish GSM-R

Radio coverage between DK GSM-R SE GSM-R system change is performed between Tårnby and Kastrup with special safety regulations.



- LEGEND:
- GSM-R INDICATES COVERING AREA OF SWEDISH RADIO SYSTEM GSM-R
  - MSR-3 INDICATES COVERING AREA OF DANISH RADIO SYSTEM MSR-3
  - ◀ RADIO SWITCH

- GENERAL NOTES:
- BLUE PRINTING INDICATES SWEDISH CONTROLLED EQUIPMENT
  - RED PRINTING INDICATES DANISH CONTROLLED EQUIPMENT
  - BLACK PRINTING INDICATES COMMON CONTROLLED EQUIPMENT

	Rev.	Description	Drawn	Designed	Checked	Approved	Date	Coast-to-Coast, Railway Radio System Plan drawing Radio System	As Built Original Size A3		
									Sheet no.	Drawing no.	Rev.
	X	New Drawing Railway Operation	AFRY-VGA	AFRY-AGU	AJL	AJL	2020-08-05			CRWY5D-1A0003	X



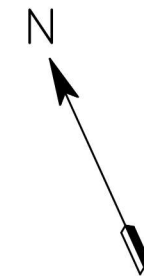
KM: 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29

Denmark

Peberholm

Bridge

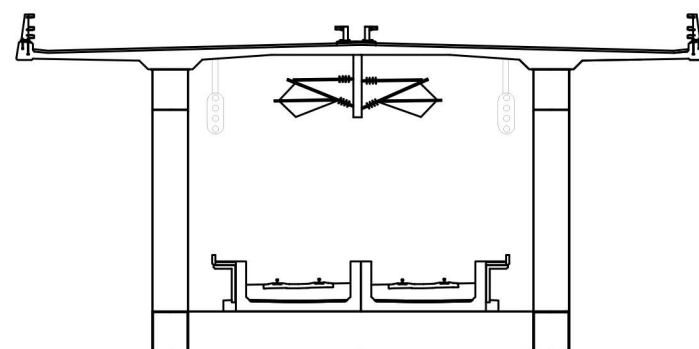
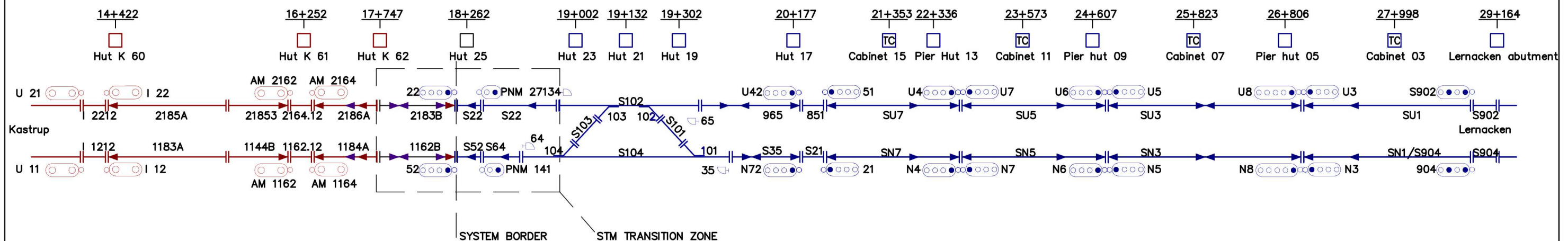
Sweden



Inmersed  
Tunnel

A

A



A-A

#### LEGEND:

- SN5 TRACK CIRCUIT IDENTIFICATION
- MAIN SIGNAL 5 ASPECT
- MAIN SIGNAL 2 ASPECT
- SHUNTING SIGNAL
- TRACK CIRCUIT JOINT
- BALIS
- EQUIPMENT ROOM
- BALIS WITH LOOP

#### Appendix 7

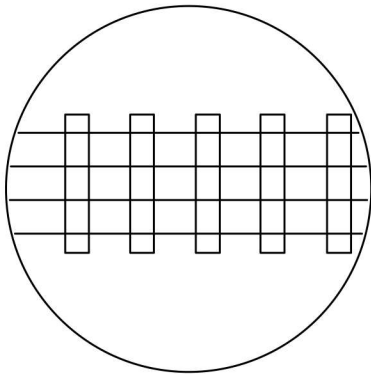
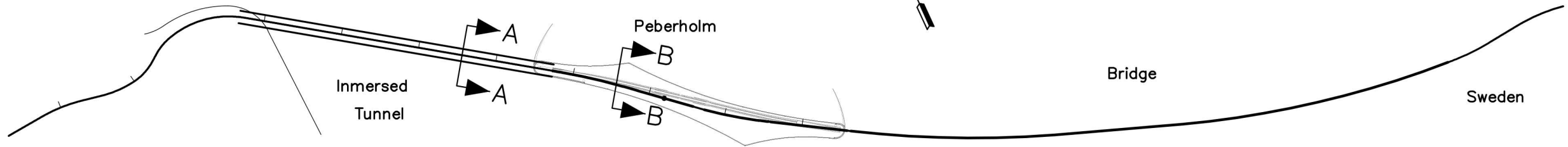
#### GENERAL NOTES:

BLUE PRINTING INDICATES SWEDISH CONTROLLED EQUIPMENT  
RED PRINTING INDICATES DANISH CONTROLLED EQUIPMENT  
BLACK PRINTING INDICATES COMMON CONTROLLED EQUIPMENT

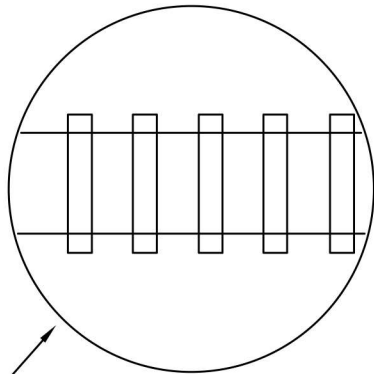
	Rev.	Description	Drawn	Designed	Checked	Approved	Date	Coast-to-Coast, Railway Interlocking System Plan drawing Interlocking System and ATC	As Built Original Size A3		
									Sheet no.	Drawing no.	Rev.
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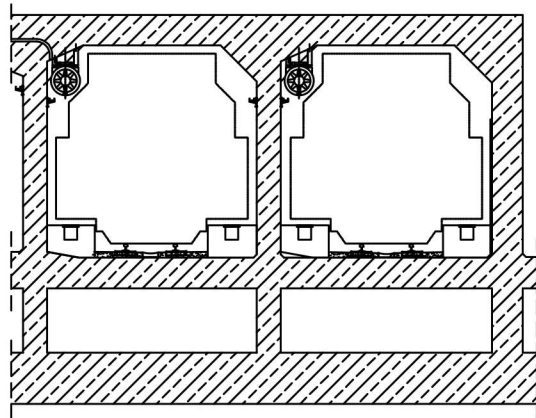
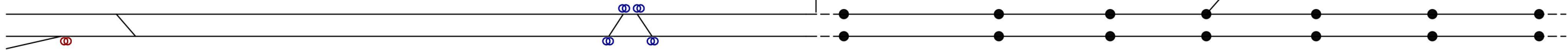
Denmark



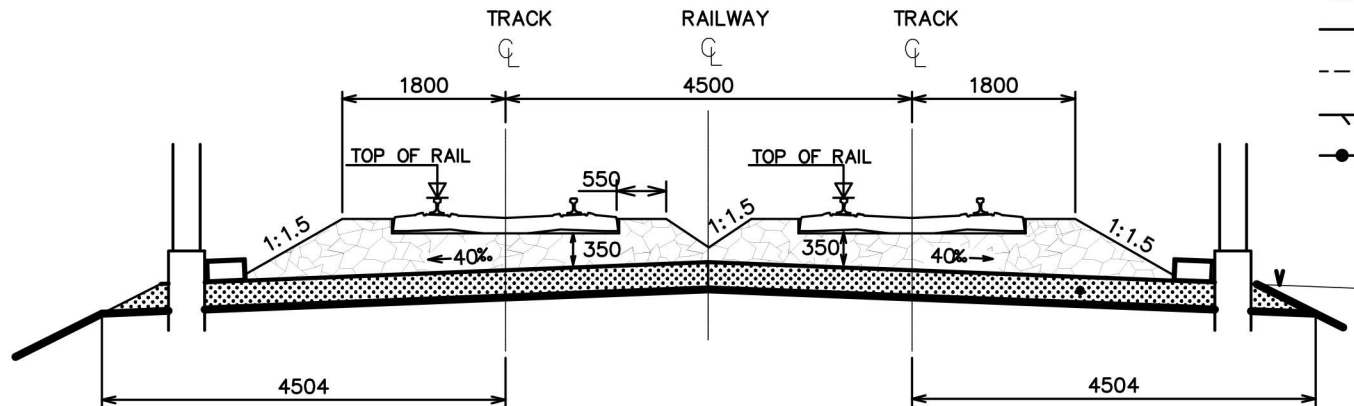
DETAIL OF EXPANSION JOINT WITH BUILDING CONSTRUCTIONS



DETAIL OF EXPANSION JOINT



SECTION A-A



SECTION B-B

- LEGEND:
- ⊗ TRANSFORMER FOR POINT HEATING OF TURNOUTS
  - TRACK
  - - - TRACK WITH GUIDING CONSTRUCTIONS
  - ↘ TURNOUT
  - EXPANSION JOINT

GENERAL NOTES:  
BLUE PRINTING INDICATES SWEDISH CONTROLLED EQUIPMENT  
RED PRINTING INDICATES DANISH CONTROLLED EQUIPMENT  
BLACK PRINTING INDICATES COMMON CONTROLLED EQUIPMENT

	Rev.	Description	Drawn	Designed	Checked	Approved	Date	Coast-to-Coast, Railway Track System and Alignment Plan drawing Track System and Point Heating	As Built Original Size A3		
									Sheet no.	Drawing no.	Rev.
	X	New Drawing Railway Operation	AFRY-VGA	AFRY-AGU	AJL	AJL	2020-08-05			CRWY70-1A0006	X



Denmark



Peberholm

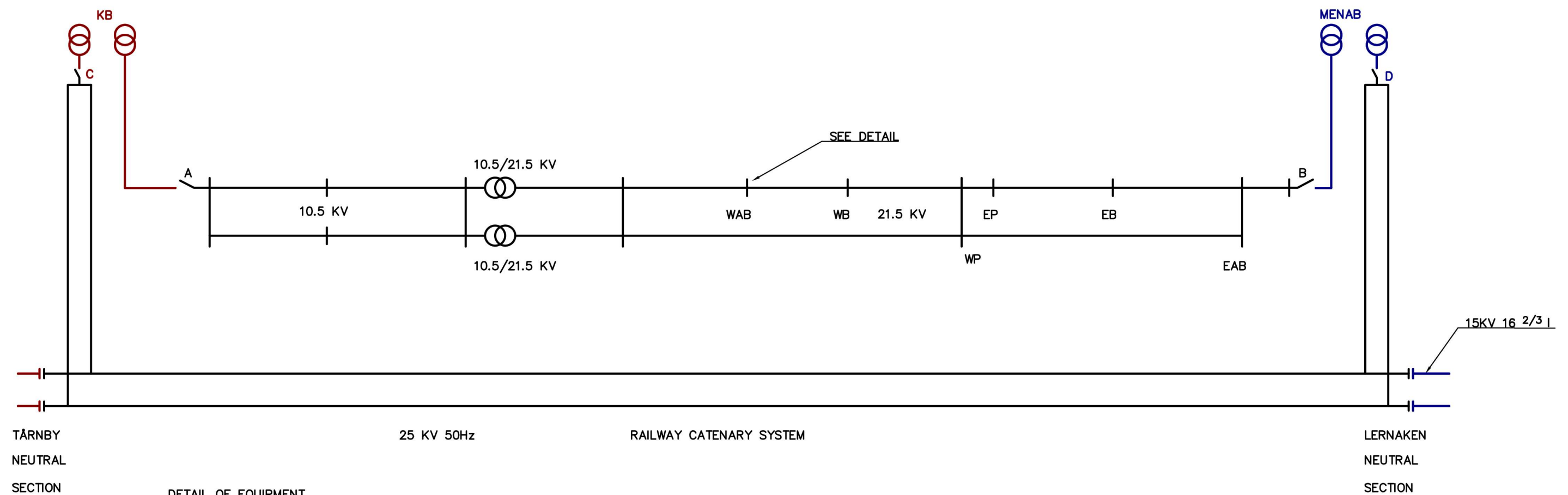
Bridge

Sweden

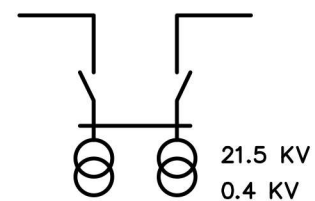
Inmersed  
Tunnel

NOTE:  
THE SWITCHES A AND B ARE MUTUALLY  
INTERLOCKED I.E. SWITCH A CANNOT CLOSE  
WHEN SWITCH B IS CLOSED AND VICE VERSA.  
THE SAME KIND OF INTERLOCKING  
IS BETWEEN THE SWITCHES C AND D.  
THE INTERLOCKING IS A SEPARATE SYSTEM  
INDEPENDENT OF THE SCADA SYSTEM.  
WAB WESTERN ABUTMENT  
WB WESTERN BRIDGE  
WP WESTERN PYLON  
EB EASTERN BRIDGE  
EAB EASTERN ABUTMENT

LEGEND:  
 TRANSFORMER  
 HV EQUIPMENT  
 HV SWITCH REMOTE CONTROLLED  
 NEUTRAL SECTION



DETAIL OF EQUIPMENT



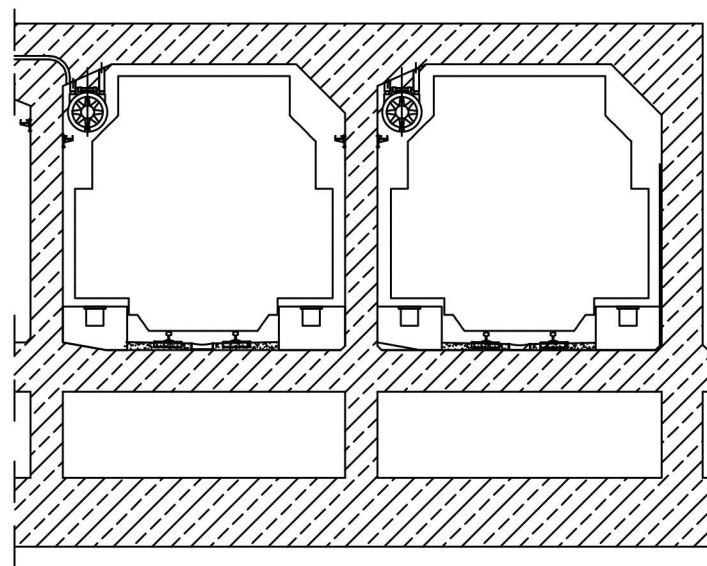
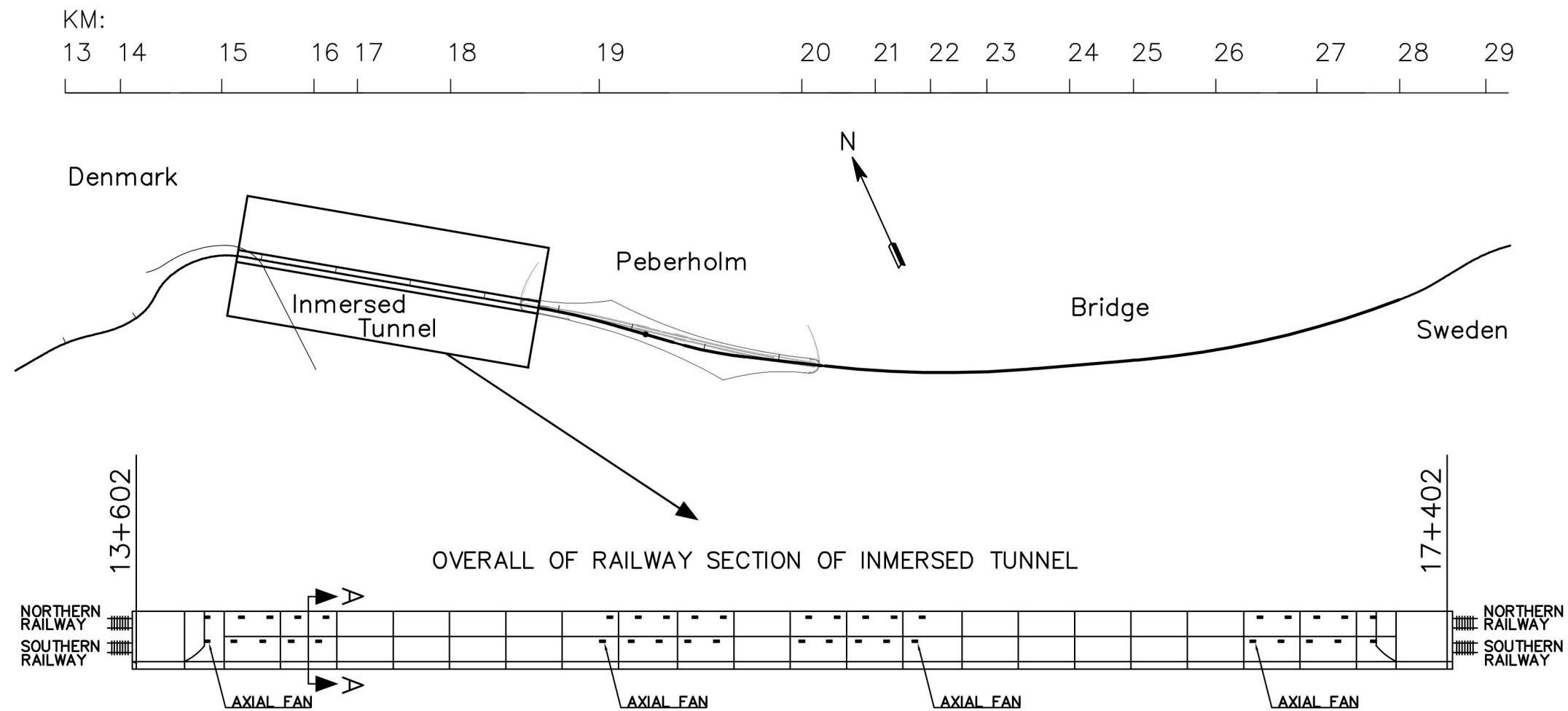
NO'S OF TRANSFORMERS  
MAY VARY

## Appendix 9

GENERAL NOTES:  
BLUE PRINTING INDICATES SWEDISH CONTROLLED EQUIPMENT  
RED PRINTING INDICATES DANISH CONTROLLED EQUIPMENT  
BLACK PRINTING INDICATES COMMON CONTROLLED EQUIPMENT

	Rev.	Description	Drawn	Designed	Checked	Approved	Date	Coast-to-Coast, Railway High Voltage Power Distribution System Plan drawing High Voltage System	As Built Original Size A3		
									Sheet no.	Drawing no.	Rev.
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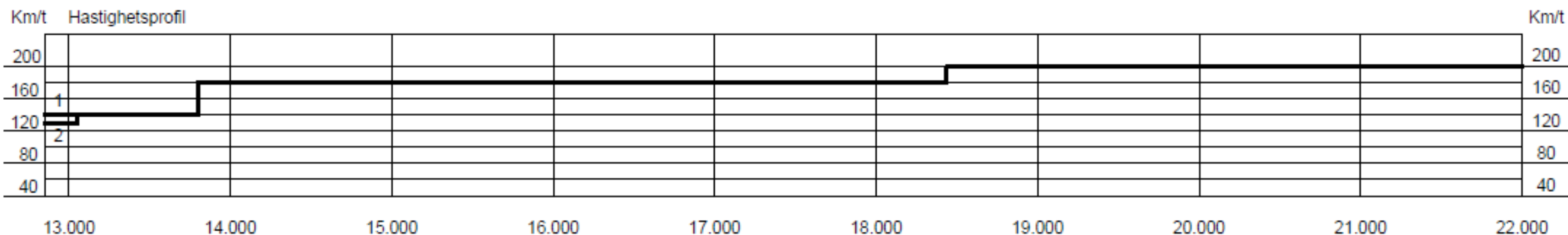


SECTION A-A

GENERAL NOTES:

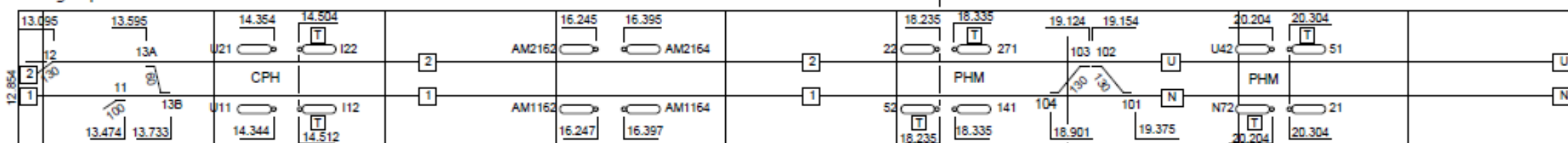
BLUE PRINTING INDICATES SWEDISH CONTROLLED EQUIPMENT  
RED PRINTING INDICATES DANISH CONTROLLED EQUIPMENT  
BLACK PRINTING INDICATES COMMON CONTROLLED EQUIPMENT

	Rev.	Description	Drawn	Designed	Checked	Approved	Date	Tunnel, Common HVAC System Plan drawing Tunnel Ventilation System	As Built Original Size A3		
									Sheet no.	Drawing no.	Rev.
	X	New Drawing Railway Operation	AFRY-VGA	AFRY-AGU	AJL	AJL	2020-08-05			TCOM34-1A0009	X

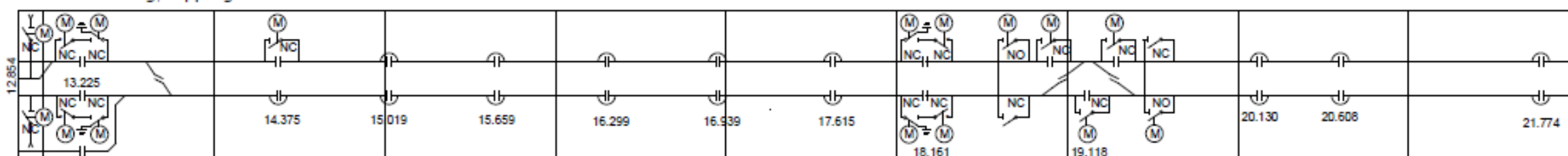


Dansk - svensk systemgräns

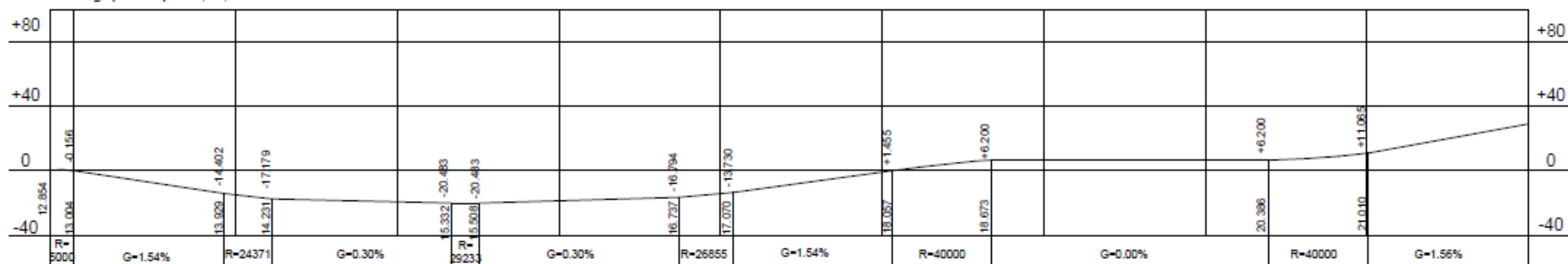
### Signalplan



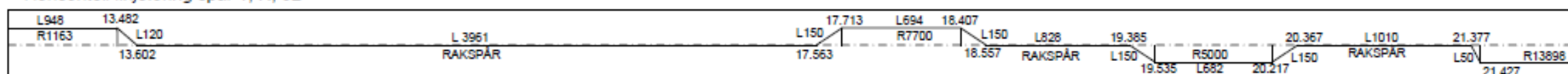
### Kontaktledning, kopplingsschema



### Längdprofil spår 1, N, 92



### Horisontell linjeföring spår 1, N, 92



Ritningen är endast avsedd som bilaga till infrastrukturregistret. Den får inte användas som underlag för underhåll eller andra arbeten i järnvägsanläggningen.

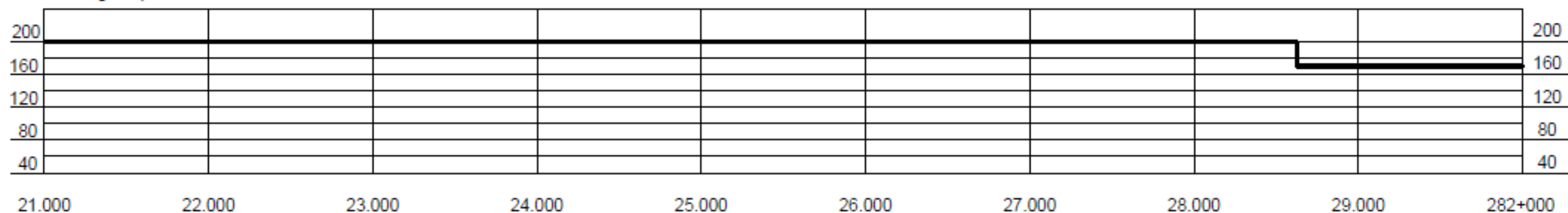
Ver.	Uppgjord	Kontrollerad	Godkänd	Datum
1	LaE	MLu	RSu	2002-11-30
2	LaE	MLu	RSu	2005-10-10
3	LaE			2009-05-31

Skala  
Längd 1:25000  
Höjd 1:2500

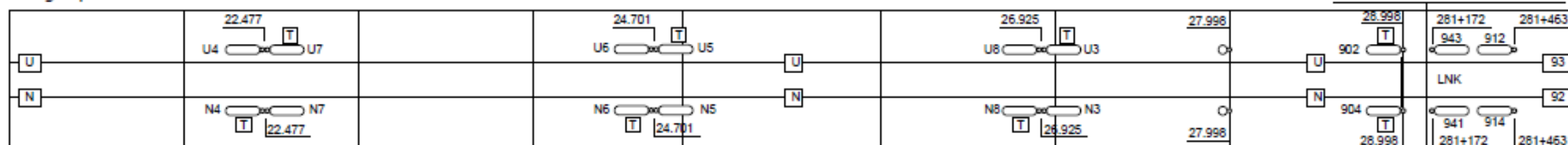


Infrastrukturregister Kasturp - Lemacken  
Appendix 11 Linjeplan, Sida 1(3)

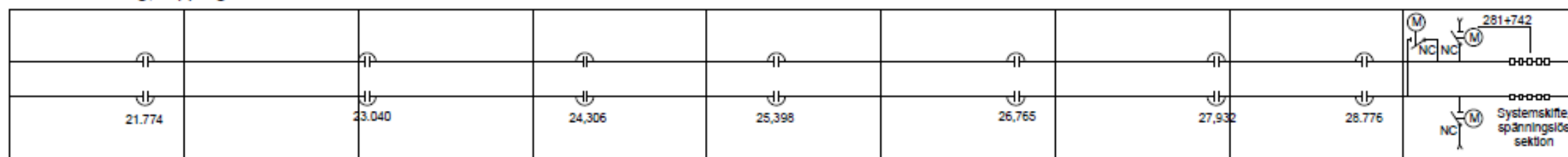
Km/t Hastighetsprofil



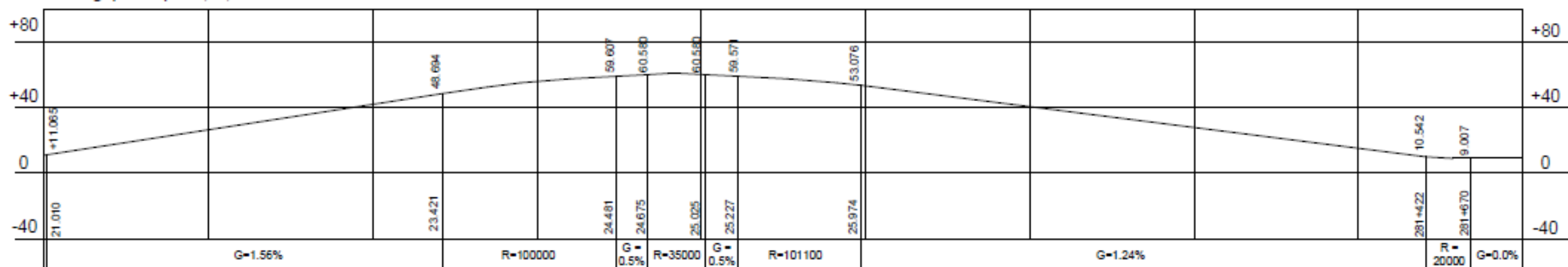
Signalplan



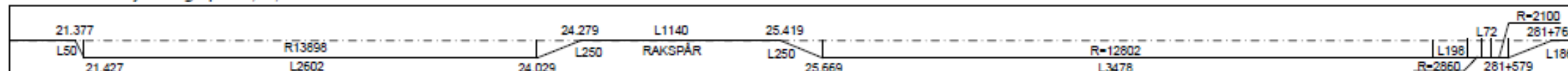
Kontaktledning, kopplingsschema



Längdprofil spår 1, N, 92



Horisontell linjeföring spår 1, N, 92



Ritningen är endast avsedd som bilaga till infrastrukturregistret. Den får inte användas som underlag för underhåll eller andra arbeten i järnvägsanläggningen.

Ver.	Uppgjord	Kontrollerad	Godkänd	Datum
1	LaE	MLu	RSu	2002-11-30
2	LaE	MLu	RSu	2005-10-10
3	LaE			2009-05-31

Skala  
Längd 1:25000  
Höjd 1:2500



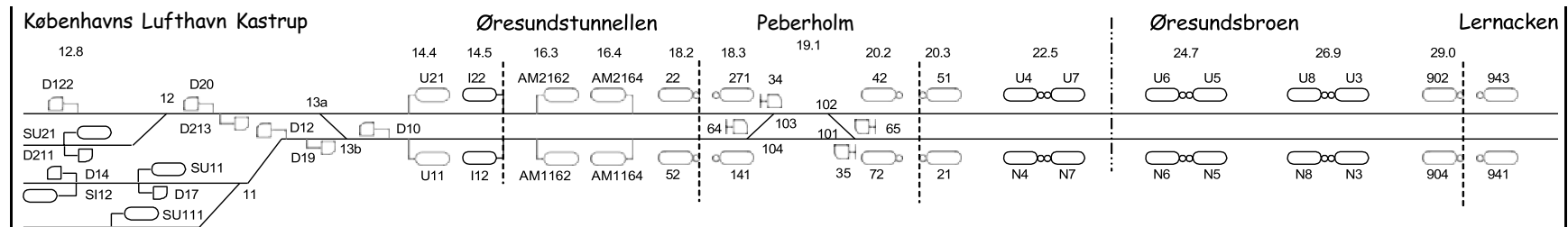
Infrastrukturregister Kastrup - Lemacken

Appendix 11 Linjeplan, Sida 2(3)



# Öresundsförbindelsen

Översiktlig spår- signalplan Kust till Kust



ÖSB: Rolf Sundqvist  
Rev 0  
Daterad 2005-11-29



