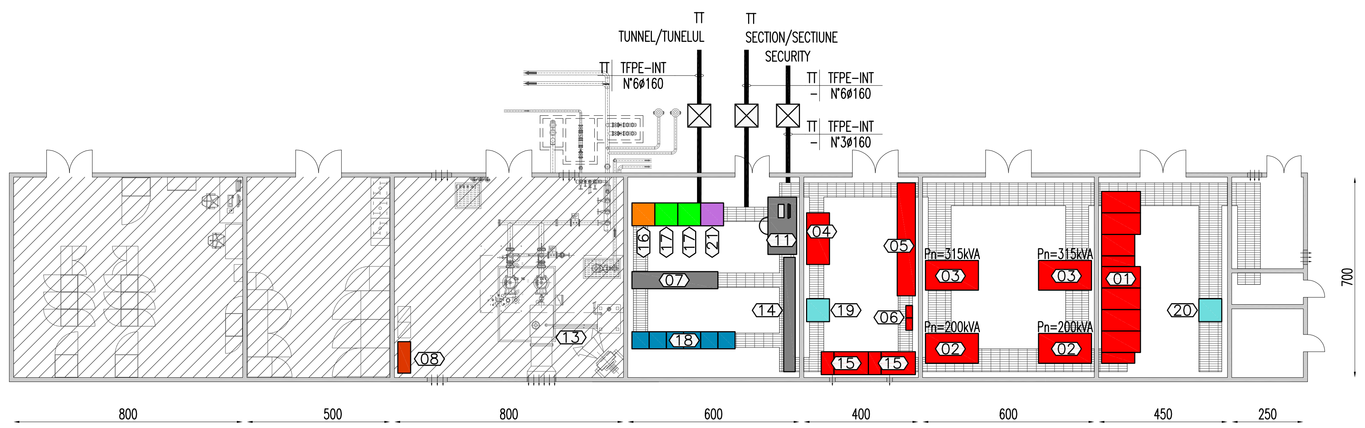
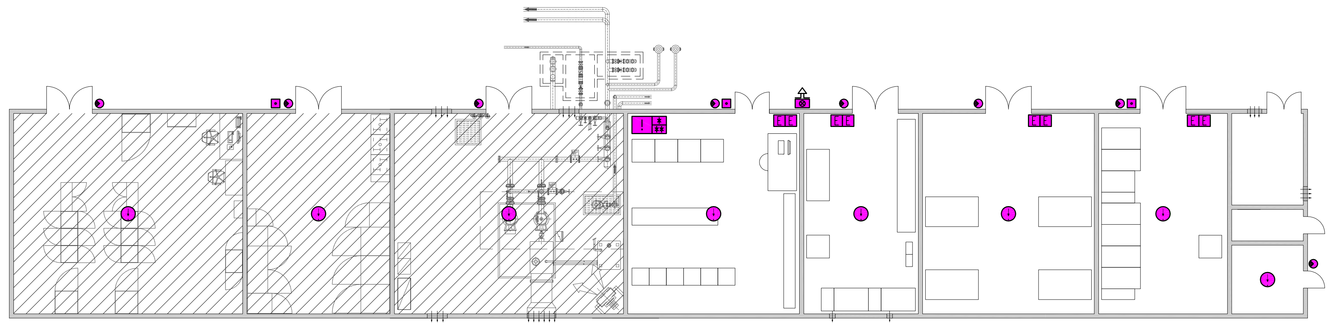
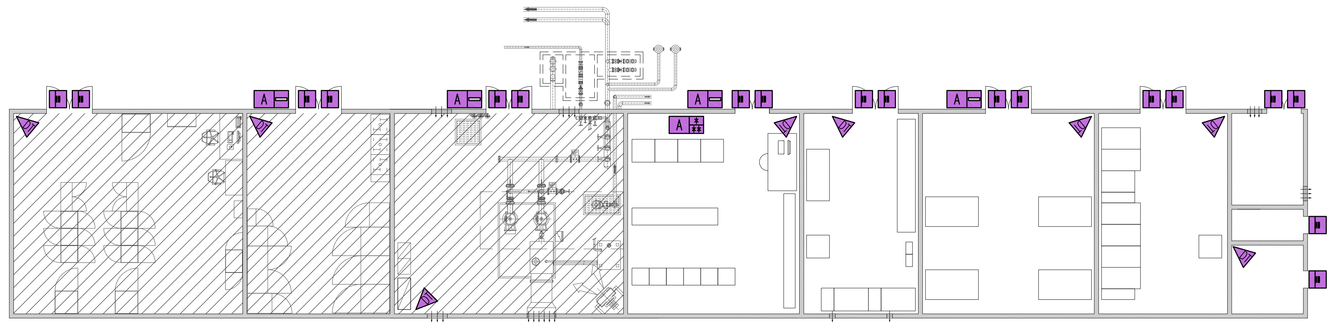
DISPOSAL OF ELECTRICAL EQUIPMENTS AND DUCTWORK/
DISPOZIȚIE ECHIPAMENTE ELECTRICE SI CONDUCTE



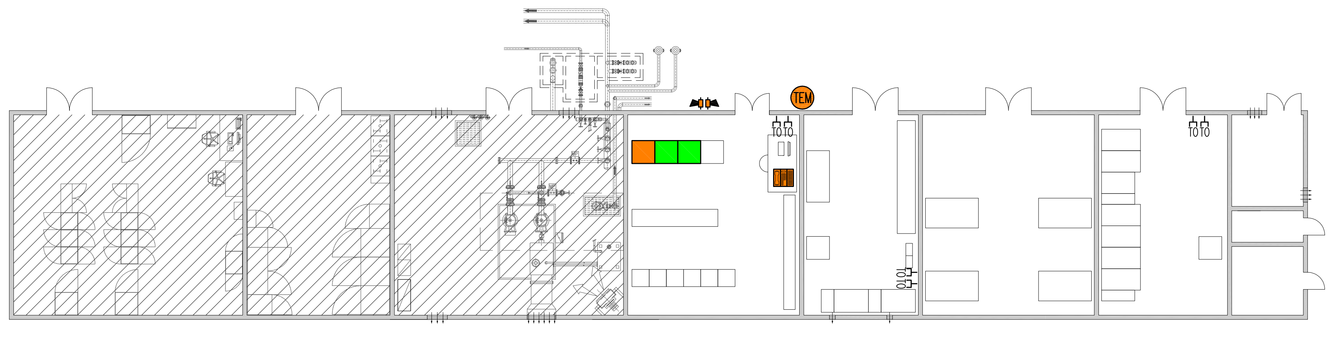
DISPOSAL OF FIRE DETECTION SYSTEM/
DISPOZIȚIE DE SISTEMUL SE DETECTIE INCENDIU



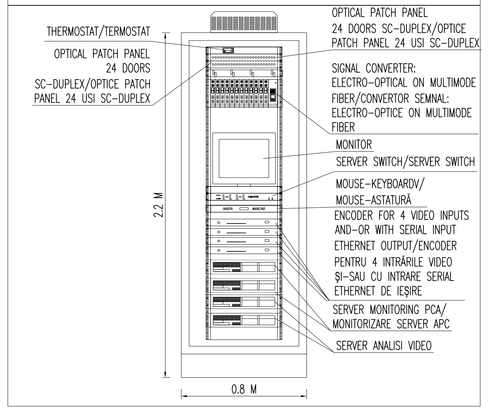
DISPOSAL OF ANTINTRUSION AND ACCESS CONTROL SYSTEMS/
DISPOZIȚIE DE SISTEMUL DE EFRACTIE SI CONTROL ACCES



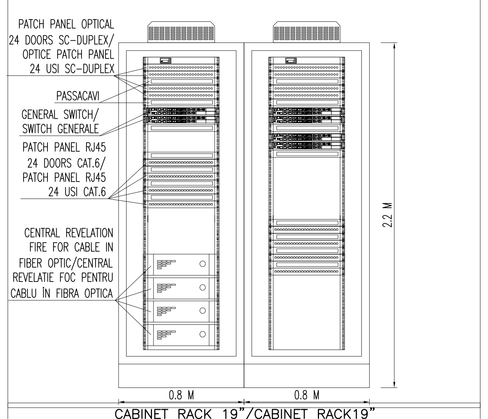
DISPOSAL OF EMERGENCY DATA NETWORK,EMERGENCY TELEPHONE AND SOUND DIFFUSION SYSTEMS/
DISPOZIȚIE DE SISTEMUL DE RETEA DE DATE DE URGENTA, TELEFON DE URGENTA SI DIFUZARE DE SUNET



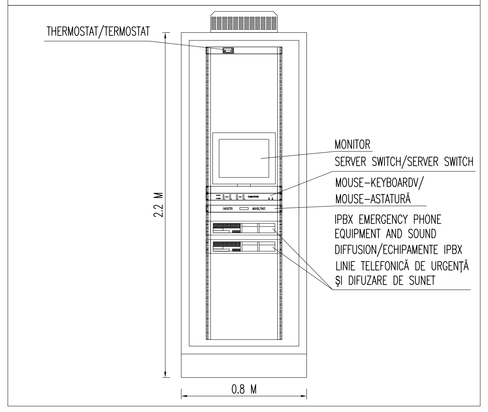
CABINET RACK 19"/CABINET RACK19"
WITH SECURITY EQUIPMENTS/CU ECHIPAMENTE DE SECURITATE



CABINET RACK 19"/CABINET RACK19"
OPTICAL–COPPER PATCH AND DATA NETWORK EQUIPMENT/
PATCH OPTICE–CUPRU ȘI ECHIPAMENTE DE REȚEA DE DATE



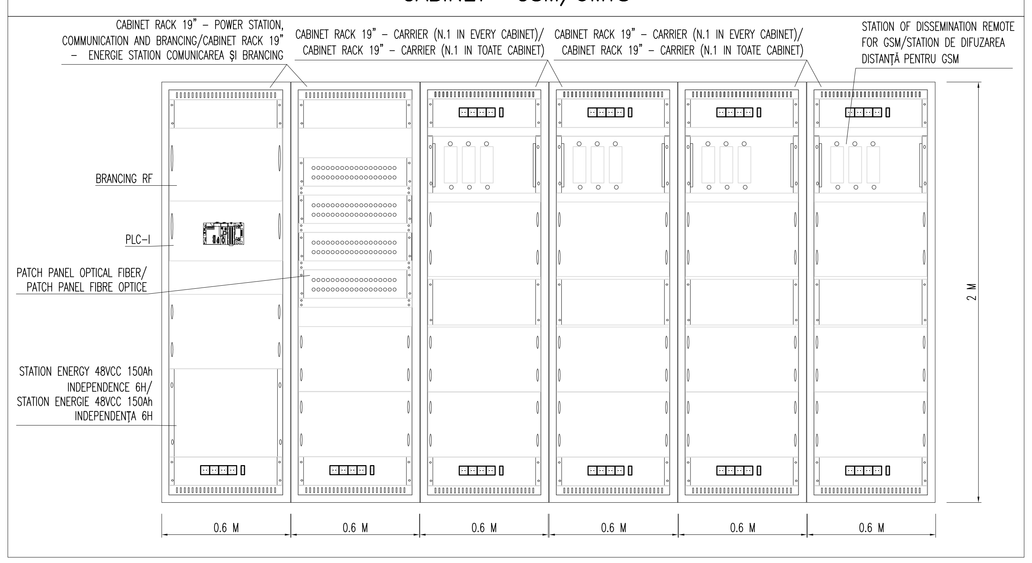
CABINET RACK 19"/CABINET RACK19"
IPBX EMERGENCY PHONE EQUIPMENT AND SOUND DIFFUSION/
ECHIPAMENTE IPBX LINIE TELEFONICĂ DE URGENȚĂ ȘI DIFUZARE DE SUNET



COLORS LEGEND/COLOR CHEIE

	LIGHT DRIVING FORSE SYSTEM/SISTEMUL DE LUMINA FORTA MOTRICE(LFM)
	SUPERVISION SYSTEM/SISTEMUL DE SUPERVEGHERE (LFM)
	EMERGENCY TELEPHONE AND SOUN DIFFUSION SYSTEM/SISTEME DE TELEFON DE URGENTA SI DUFUZARE DE SUNET (TEM_DS)
	INTRUSION, ACCESS CONTROL AND VIDEO SURVEILLANCE SYSTEMS/ SISTEMUL DE EFRACTIE, CONTROL ACCES SI SUPERVEGHERE
	FIRE DETECTION SYSTEM/SISTEMUL DE DETECTIE INCENDIU
	GSM/UMTS RADIO SYSTEM/SISTEMUL DE RADIO GSM/UMTS
	FIRE PROTECTION SYSTEM/SISTEMUL DE INCENDIU
	VENTILATION SYSTEM/SISTEMUL DE VENTILATIE
	EMERGENCY DATA NETWORK SYSTEM/SISTEMUL DE RETEA DE DATE DE URGENTA

CABINET GSM/UMTS



EQUIPMENTS LEGEND/LEGENDA ECHIPAMENTE

01	MEDIUM VOLTAGE/MEDIA TENSIUNE Q_MT
02	TRANSFORMER MT/BT 20kV/1kV
03	TRANSFORMER MT/BT 20kV/0.4kV
04	SAFE AREA PANEL/CADRU DE ZONA SIGURA (QdP)
05	LOW VOLTAGE PANEL/CADRU DE JOASA TENSIUNE (Q_BT)
06	POWER FACTOR CORRECTION/CADRU DE FACTOR Q_RIF
07	CABINET FOR SYSTEM GSM–R, SDH, SPVI,
08	FIRE PUMPS PANEL/CADRU POMPELE DE INCENDIU(Q_AI)
09	INDOOR UNIT OF AIR CONDITIONING CEILING/UNITATEA INTERIOARĂ DIN PLAFONUL CLIMATIZARE
10	OUTER UNIT OF AIR CONDITIONING/UNITATEA EXTERIOARĂ DE CLIMATIZARE
11	OPERATOR'S STATION/STAȚIE DE OPERATORUL
12	OPENING FOR VENTILATION/DESCHIDERE PENTRU VENTILATIE
13	ELECTRIC HEATER FAN/FAN TERMO–ELECTRICE
14	EQUIPMENTS STSI AND CABLE CABINET/ECHIPAMENTE STSI SI CABINET CABLU
15	UPS
16	CABINET RACK 19" EQUIPMENTS IPBX EMERGENCY TELEPHONE AND SOUND DIFFUSION/CABINET RACK 19" ECHIPAMENTE IPBX TELEFON DE URGENTA SI DIFUZARE DE SUNET
17	CABINET RACK 19" OPTICAL CONVERTER–COPPER AND DATA NETWORK EQUIPMENTS/CABINET RACK 19" CONVERTOR OPTICE–CUPRU SI ECHIPAMENTE RETEA DATA
18	CABINET RACK 19" WITH RADIO UMTS/GSM EQUIPMENTS CABINET RACK 19" CU RADIO UMTS/GSM ECHIPAMENTE
19	CABINET RACK 19" WITH FRONT–END LFM EQUIPMENTS CABINET RACK 19" CU ECHIPAMENTE FRONT–END LFM
20	CABINET RACK 19" WITH AUTOMATION EQUIPMENTS Q_MT CABINET RACK 19" CU ECHIPAMENTE AUTOMATIZAR Q_MT
21	CABINET RACK 19" WITH SECURITY EQUIPMENTS CABINET RACK 19" CU ECHIPAMENTE DE SECURITATE

SYMBOLS LEGEND/LEGENDA SIMBOLURI
SPECIAL SYSTEMS IN CABIN/SISTEME SPECIALE IN CABINA

	WELL WITH CONCRETE MANHOLE/BINE CU CAMINE CONCRETE 1000x1000 MM
	TELECOMMUNICATIONS SYSTEM SOCKET TYPE RJ45/PRIZA SISTEMUL DE TELECOMUNICAȚII TIP RJ45
	SENSOR DETECTION SMOKE POINT/PUNCTUL SENZOR DE DETECTARE A FUMULUI
	OPTICAL REPEATER OUT DOOR DETECTOR FOR LOCAL/REPEATER OPTICAL OUT DOOR DETECTOR DE LOCALE
	MANUAL FIRE ALARM BUTTON/MANUAL DE ALARMĂ DE INCENDIU BUTTON
	PORTABLE FIRE EXTINGUISHER/EXTINCTOR PORTABIL
	LOCAL TECHNICAL FIRE DETECTION UNIT–BYPASS–NICHE/CENTRAL TEHNIC LOCAL DE DETECTARE A INCENDIILOR–BYPASS–DE NISA
	OUTDOOR SIREN/SIREN EXTERIOARE
A	ON/OFF ALARM POINT WITH BADGE/PUNCTUL ACTIVAREA– OPRITAL ALARMĂ CU BADGE
A	ACCESS CONTROL AND INTRUSION DETECTION UNIT/CENTRAL DE CONTROLUL ACCES SI DE DETECTIE A INTRUZIUNILOR
	DUAL TECHNOLOGY DETECTORS/DETECTOARE DUAL TEHNOLOGIE
	STATE DOOR DETECTOR/DETECTOR STAT UȘĂ
	SPEAKER HORN WITH POWER/DIFUZOR HORN CU PUTERE P=30 W
	CONSOLE DESK (PHONE EMERGENCY)/BIROU CONSOLĂ (EMERGENCY PHONE)
TEM	TELEPHONE COLUMN TEM_DS/COLOANA DE TELEFON TEM_DS

indicator cable ducts/cablu indicator

A B–C / D E

A – LEGEND NETWORKS / LEGENDA REȚELE

MT	MEDIUM TENSION / MEDIE TENSIUNE
BT	LOW TENSION / JOASĂ TENSIUNE
IE	OUTDOOR LIGHTING / ILUMINAT EXTERIOR
IL	TUNNEL LIGHTING / ILUMINAT TUNELURI
TT	TELECOMMUNICATIONS SYSTEMS / SISTEME DE TELECOMUNICAȚII
R	RESERVE / REZERVĂ

B – LEGEND TYPE / CHEIE DE TIP

TFPE	FLEXIBLE TUBE POLYETHYLENE / FURTUN POLIETILENA
CAP	FULL STAINLESS STEEL CHANNEL WITH COVER / CANAL FULL INOX CU INTENTIE
CAF	EMPTY STAINLESS STEEL CHANNEL WITH COVER / CANAL GOL INOX CU INTENTIE
CAZSP	FULL CHANNEL STEEL GALVANIZED SENZIMIR WITH COVER / OTEL U FULL ZINCATE SENZIMIR CU INTENTIE
CAZSF	HOLE CHANNEL GALVANIZED SENZIMIR / HOLE CHANNEL ZINCATE SENZIMIR
TAI	STAINLESS STEEL TUBE / TUB INOX

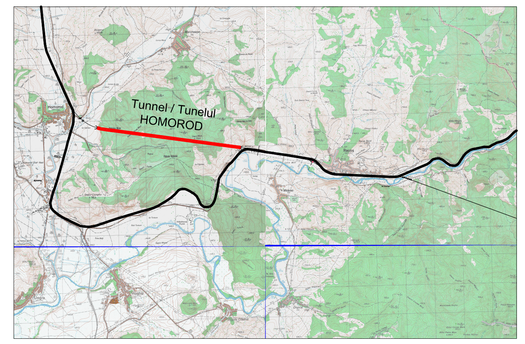
C – LEGEND PLACEMENT / CHEIE DE INSTALARE

INT	UNDERGROUND / SUBTERANE
SPS	MOUNT VIEW / MOUNT VEDEREA
CUN	WITHIN BURROWS OR UNDER TECHNICIAN FLOOR / ÎN CADRUL BURROWS TEHNICIAN PODEA SAU SUB

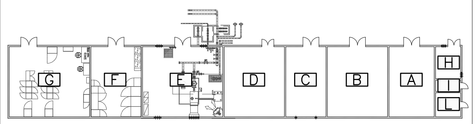
D – SEPTA NUMEBER / NUMĂRUL SEPTURI

E – NUMBERS AND DIMENSIONS (mm) / NUMĂRUL DIMENSIUNI (mm)

GENERAL PLAN / PLANUL GENERAL



CABIN LOCAL LEGEND/LEGENDA LOCAL CABINA



A	MV LOCAL/LOCAL MT
B	TRANSFORMERS LOCAL/LOCAL TRANSFORMATOARE
C	LV LOCAL/LOCAL JT
D	TELECOMMUNICATIONS LOCAL/LOCAL TELECOMUNICAȚII
E	PREVENTION FIRE LOCAL/LOCAL LA FOC
F	CONTROL EQUIPMENTS LOCAL/LOCALE DE CONTROL ECHIPAMENTE
G	EQUIPMENTS LOCAL/LOCAL ECHIPAMENTE
H	PROVIDER ENTITY LOCAL/LOCALE ENTITATEA FORNITOR
I	MEASURES LOCAL/LOCALE MĂSURI
L	WAREHOUSE LOCAL/LOCAL DEPOZIT

NOTES:
- PARTITIONS REI120
- LOCAL HIGH NET H = 3 M
- THE LINKS BETWEEN THE VARIOUS CABIN EQUIPMENT WILL BE REALIZED THROUGH FLOOR BURROWS RUN AT 200 MM FROM THE WALLS AND COVERED WITH CHECKERED PLATE 8 MM THICK
- IN THE WALLS CROSSINGS,THE FEATURE REI 120 WILL BE GUARANTEED BY FIRE BARRIERS
- ALL BURROWS HAVE A DEPTH' OF 800 MM ABOVE THE FLOOR
- CONDUCTORS FOR ELECTRICAL SYSTEMS OF DIFFERENT CATEGORY (MT, BT, SP), INSIDE OF THE BURROWS, WILL BE NECESSARY SEGREGATED BY SEPARATORS

NOTE:
- PERETI DESPARTITORI REI120
- LOCAL HIGH NET H = 3 M
- LEGĂTURI ÎNTRE DIVERSE ECHIPAMENTE SE VA FACE PRIN PODEA MÂNĂ BURROWS PORNEȘTE DE LA 200 MM DE PE PEREȚI ȘI ACOPERITE CU PLACĂ DE 8 MM GROSIME ÎN CAROURI
- PUNCTELOR DE TRECERE A PEREȚILOR 120 VA BENEFICIA DE "REI SĂ FIE GARANTATĂ DE BARIERELE FOC
- TOATE SĂ AIBĂ O ADÂNCIME BURROWS "DE 800 MM DEASUPRA PODELEI
- CONDUCTORI DE SISTEME ELECTRICE DIN CATEGORIA DIFERITE (MT, BT, SP), ÎN INTERIORUL VIZUINI, VA FI NECESARĂ SEPARATOARE SEGREGATE

Indice Index	Data Date	Modificare Modification/Revision	Proiectant Designer	Aprobat Consultant Approved Consultant	Aprobat CFR Approved CFR
D					
C					
B					
A					

GUVERNUL ROMANIEI
ROMANIAN GOVERNMENT

PROIECT FINANȚAT DE UNIUNEA EUROPEANĂ
EUROPEAN UNION FINANCED PROJECT

C.N.C.F. "C.F.R." - S.A.

CLIENT / CLIENT

ITALFERR GRUPPO FERROVIE DELLO STATO Joint Venture Asador · Scott Wilson · OBERMEYER PLANEN + BERATEN GmbH · TECNIC Consulting Engineers

CONSULTANT / CONSULTANT

			Data Date	Semnătură Signature
Aprobat Approved	Șef proiect Project manager	R. Liuzza		
Aprobat Approved	Coordonator Secțiune 1 Section 1 Coordinator	C. Gambelli		
Verificat Checked	Tunel Expert Tunnel Expert	C. Gambelli		
Întocmit Elaborated	Proiectant Designer	P. Amodio		

SUBCONSULTANT / SUBCONSULTANT

Aprobat Approved	Responsabil Subconsultant Subconsultant Responsible			
Întocmit Elaborated	Proiectant Designer			

Reabilitarea liniei de cale ferata Brașov - Simeria, parte componentă a coridorului IV Pan European, pentru circulația trenurilor cu viteza maximă de 160 km/h.
Sectiune 1 Brasov - Sighisoara

Rehabilitation of the railway line Brașov - Simeria, component Part of the IV Pan-European Corridor, for the trains circulation with maximum speed of 160 km/h.
Section 1 Brasov - Sighisoara

Proiect/Project 2004/RO/16/P/PA/003

Faza / Phase: P.Th. / T.D.

Denumire desen / Drawing Title : **TUNNEL/TUNELUL HOMOROD**
RACOS SIDE/INSPRE RACOS
Radiocommunicaţion systems/Sisteme radio
Layout technological local radiocommunication and security system/Lay-out locale tehnologice Sisteme radio si de securitate

Codificare / Codification System

Scara / Scale	LOT	Nr. / No
varie		

E A 5 1 0 1 C 1 2 L X T S 2 0 7 4 0 0 2 0