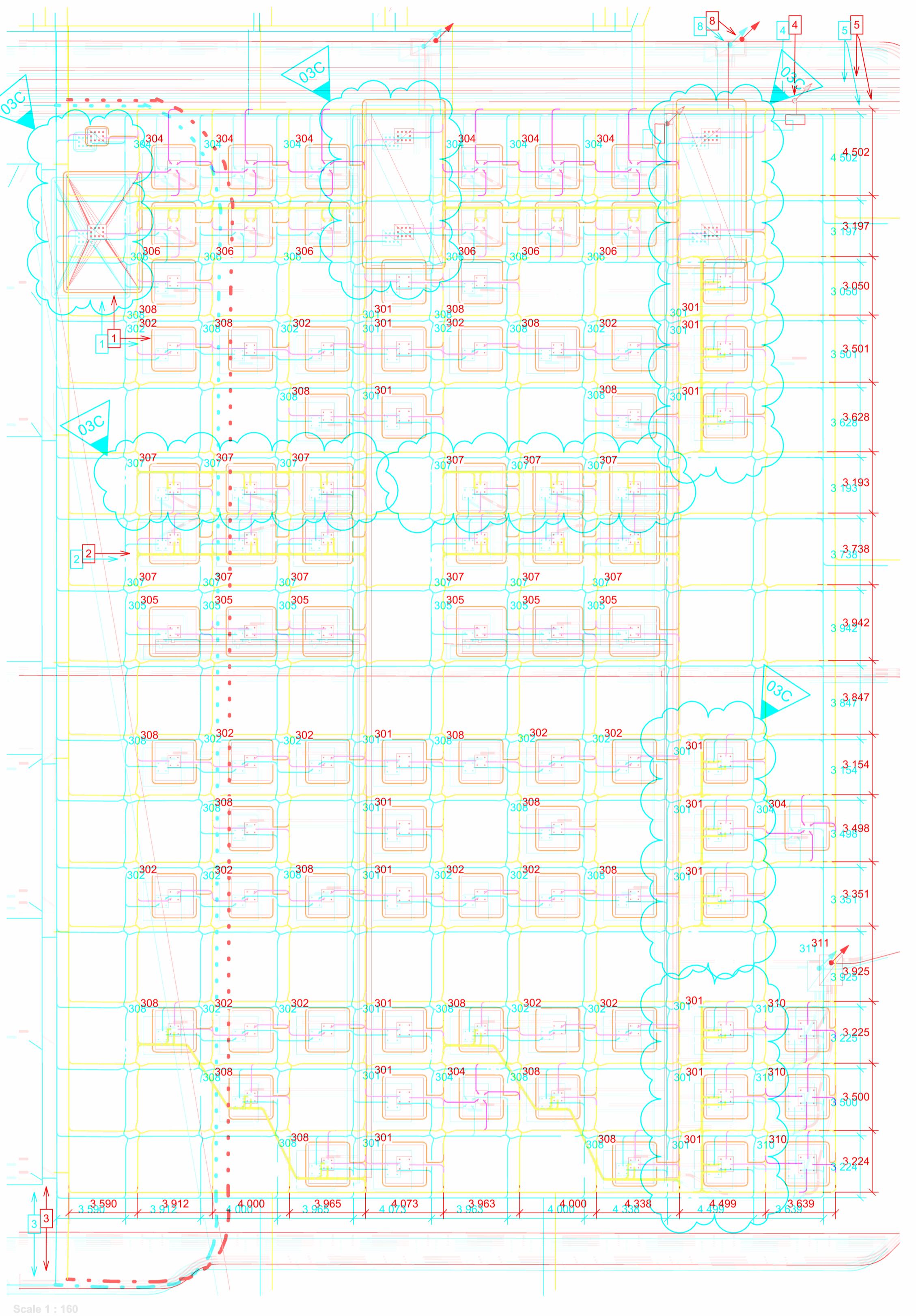
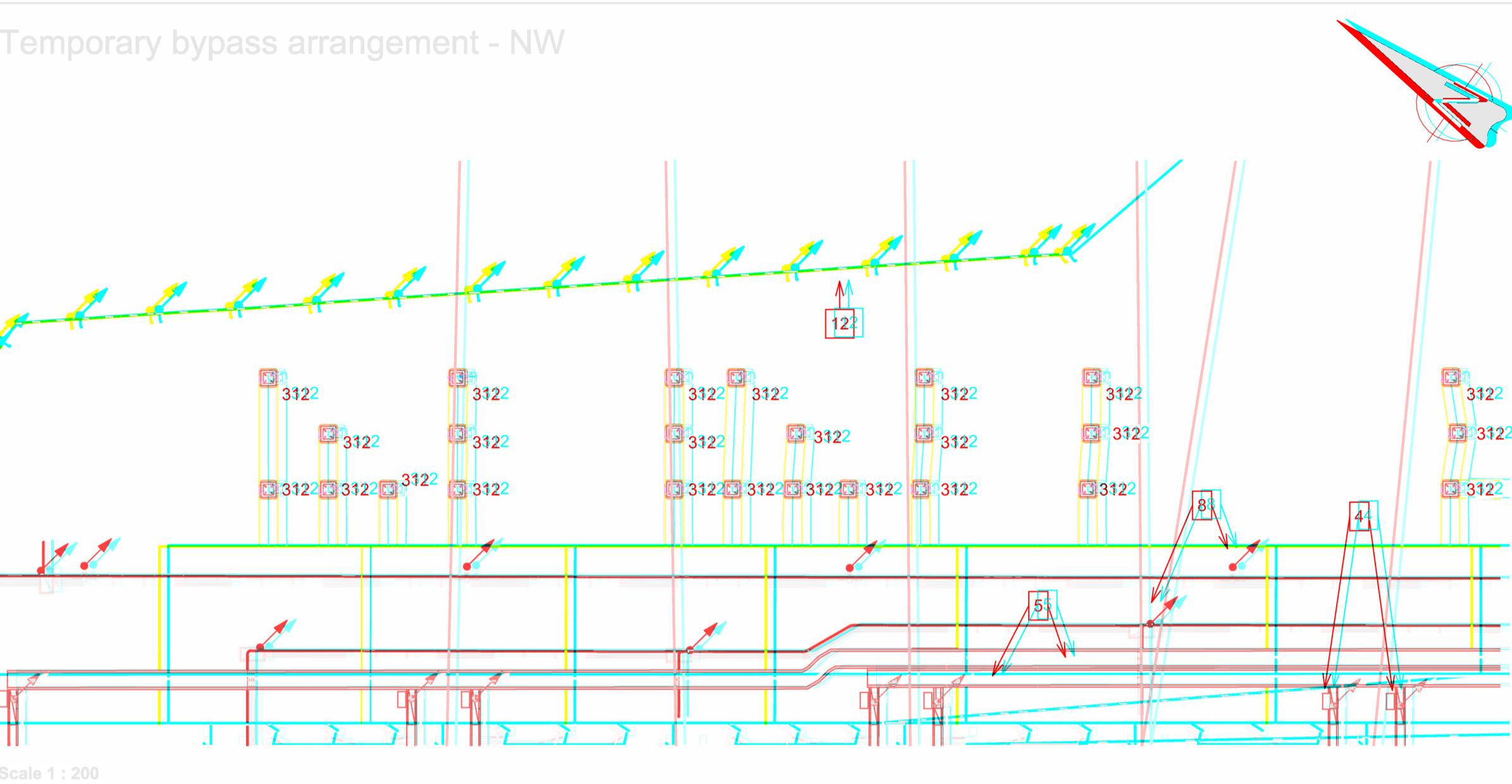


Main Switchyard



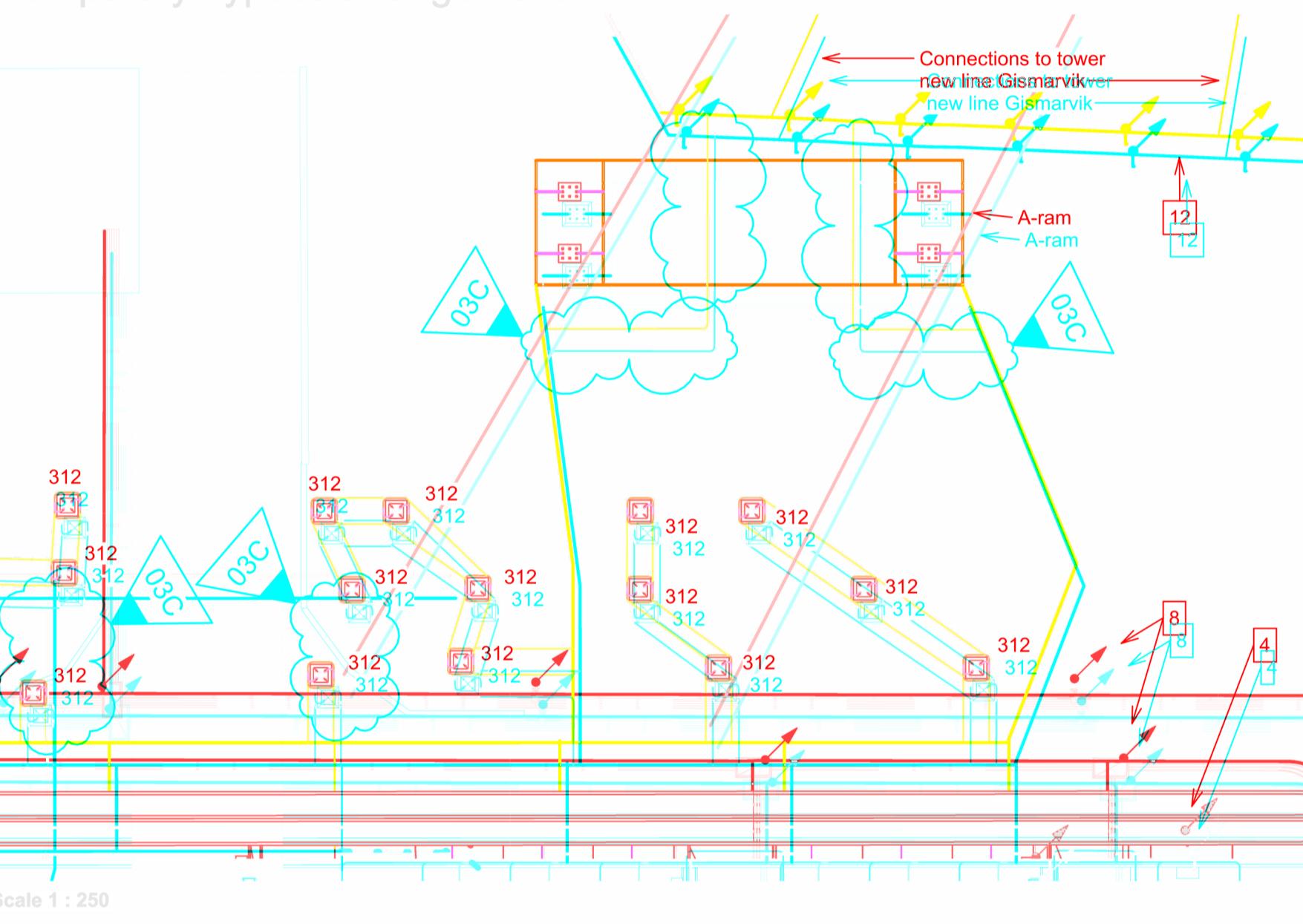
Temporary bypass arrangement - NW



NOTES

- All larger metal parts with length > 2 m or area > 1 m², shall have potential equalization to nearby earthing wire, with at least 1x25 mm² insulated Y/G CU, even if not specified in this drawing.
- All buried earth conductors shall be laid in 0–16 mm crushed aggregate, with a minimum of 50 mm below and above. The aggregate must be protected against washout.
- Earthing conductors should not be laid with sharp bends. Minimum 200 mm bending radius.
- All mesh grid and other interconnections, are to be connected using C-type connectors or appropriate cable lugs. C-type connectors shall be crimped at least twice using supplier-approved tools, or else in accordance with the tool manufacturer's instructions. Cable lugs shall match conductor type and size, and be crimped per supplier's recommendations.
- 1. Switchyard foundation earth is placed surrounding foundations foot or close below foot, with risers to above mesh grid. Mesh grid earth shall be installed at depth 0.3–0.7 m. All lead risers from mesh grid to the above foundation top steel support are fastened with minimum two acid-resistant saddles, with length of riser at least 0.4 m above foundation top.
- 2. The short circuit interconnections is to be installed at same level as/and connected to the Earth Grid, with risers connected to designated earth points on foundation top steel support, before new connections are extended to the top equipment earthing switch/lance.
- 3. The existing earthing system shall remain unchanged, except for new connections to the switchyard earthing grid and interconnections at the new fences. Any existing earth conductors encountered during excavation shall be repaired.
- 4. All Field cabinet shall be earthed with at least 1x70 mm² insulated Y&G CU riser from the below cable duct earthing conductor.
- 5. Cable ducts shall have a centered 1x120 mm² uninsulated CU wire. All earthing conductors ends terminations shall be terminated connected to the nearby ring or mesh grid. Cable trenches shall have 1x120 mm² uninsulated CU.
- 8. Within the electrical system, all junction boxes metal lids and metal bases of lighting poles shall be connected to the nearby cable trench wire or other earth electrode wire, using minimum 1x25 mm² insulated Y/G CU.
- 12. A 1x120 mm² uninsulated CU ring earth conductor shall be laid 0.5–1 m from the new fence and buried at 0.3 m depth. Where burial is not possible, it shall be clamped to the **mountain or the fence inner side**. Every end pole and every second pole shall be connected to the ring with 1x120 mm² CU risers, fixed as low as possible on the poles inner side. The new conductor must connect to the existing fence earth at fence terminations.

Temporary bypass arrangement - NE



Schedule of foundations

Item	Description
301	300 kV Main Busbar Support Insulator / 300 kV Main Busbar Support Insulator & Earth Switch
302*	300 kV Post Insulator
304*	300 kV Capacitive Voltage Transformer
305	300 kV Circuit Breaker
306*	300 kV Current Transformer
307	300 kV Disconnector with Earth Switch
308	300 kV Disconnector without Earth Switch (Pantograph)
309*	300 kV Resistive Capacitive Voltage Transformer
310	300 kV Stations Service Voltage Transformer
311	Breaker Cabinet for SSVT
311*	300 kV Post Insulator (temporary connection)

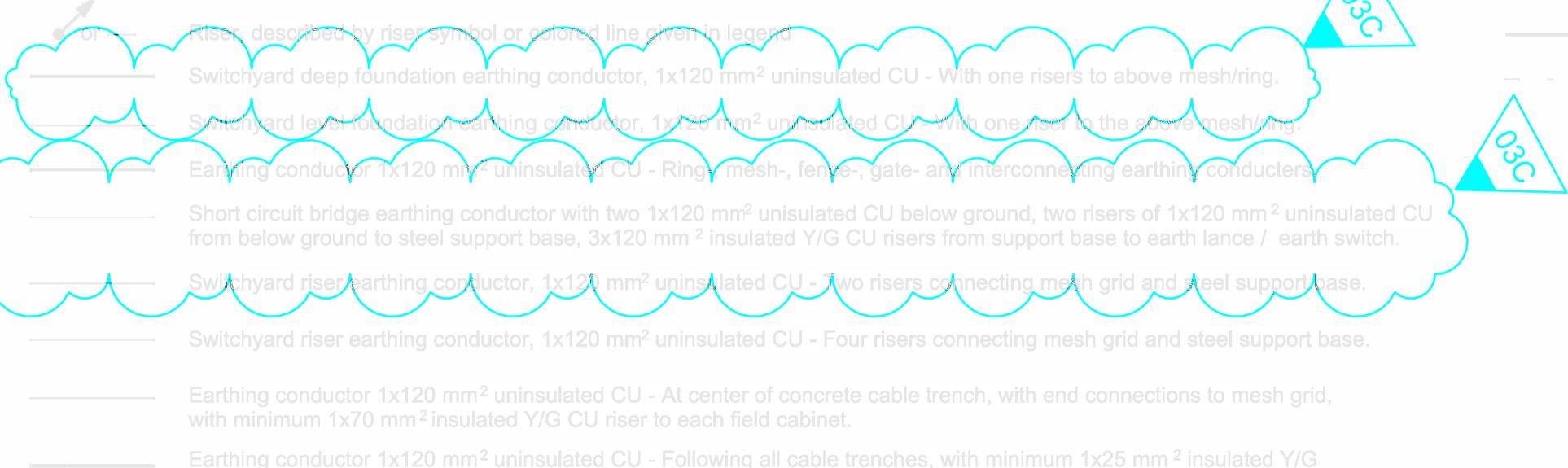
* Foundation types marked with * has diagonal brace connection points on their metal base, others have centered brace connection points.

References

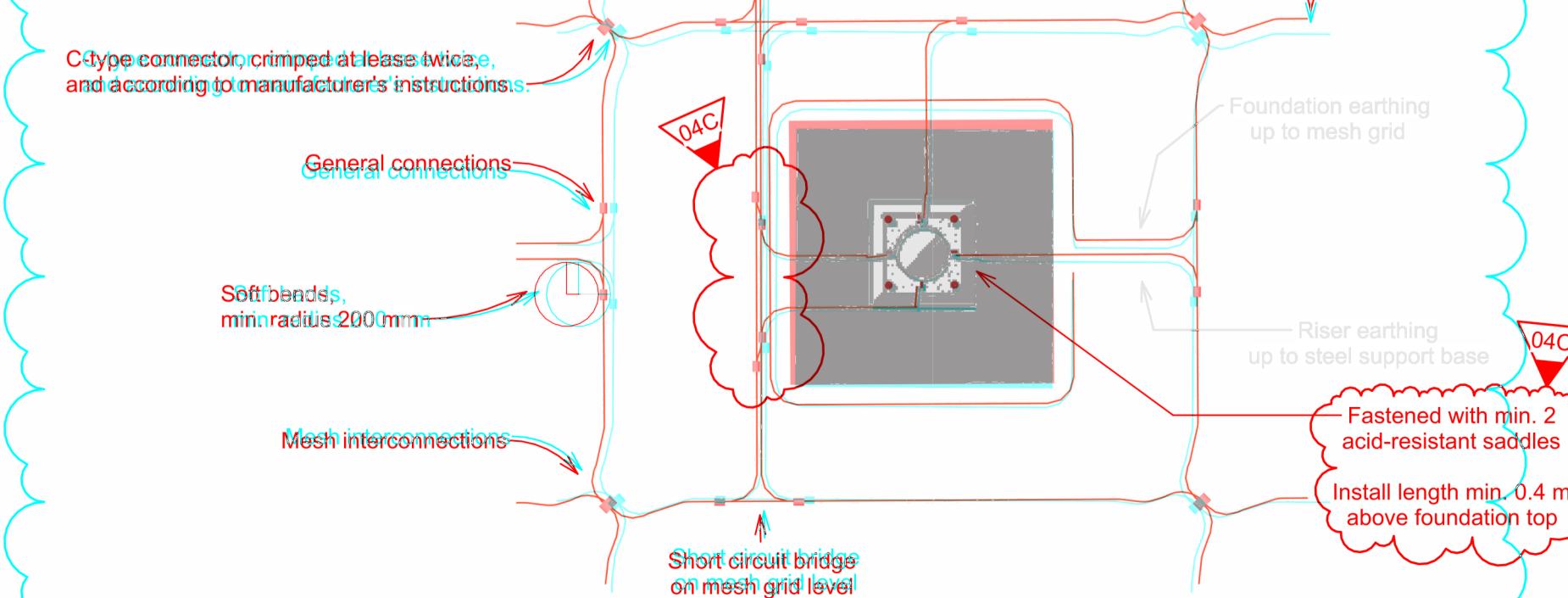
- SDOK-47-51 - General Technical Specifications for Earthing in Substations
- SDOK-47-52 - Special Technical Specifications for Earthing in Substations
- 10323-SWE-BLA-E-SP-0005 BLA - Bläfelli koblingsstation - Technical specification Earthing in substation
- SDOK-63-20 - Principle Drawing, Cable Routing and Grounding in ControlSystems
- SDOK-119-14 - Principle for substation site construction
- 10323-SWE-BLA-E-XX-0001 03B 300 kV switchgear Plan view
- A1137-HMV-XX-BLA-RP-E-001 BLA 300 kV - Substation Earthing Report

Classified as restricted information under the Norwegian Energy Act § 9-3 and the Emergency Preparedness Regulation (bfe) § 6-2. Exempted from public disclosure according to the Freedom of Information Act. (OffentHeglelova)

Legend



Connection Details



04C Updated after SN comments	OscJac	PSS	OscJac	2025-07-02
020 Configuration checked and correct project situation	Obscured	TAR	Obscured	2025-05-09
021 Checked for review	Obscured	PSS	Obscured	2025-05-11
Reason for issue/Description	Prepared	Checked (STN)	Approved	ad min. 077
Project / Central no. 10323-CTR007037				
Title BLA 300 kV Substation Earthing Plan for Switchyard installations				As Indicated
Client Statnett	ELE Contractor EHV ENGINEERING	ELE Consultant Norconsult		Coordinate system EUREF89 NTM6
Classification Statnett Sensitive (K3)	Project no. supplier	Project no. supplier		System of heights NN2000
Replaces document A1137-HMV-XX-BLA-RP-E-001	Document no.			Discipline responsible Checker
				Executive Author
				Format A1
				Sheet