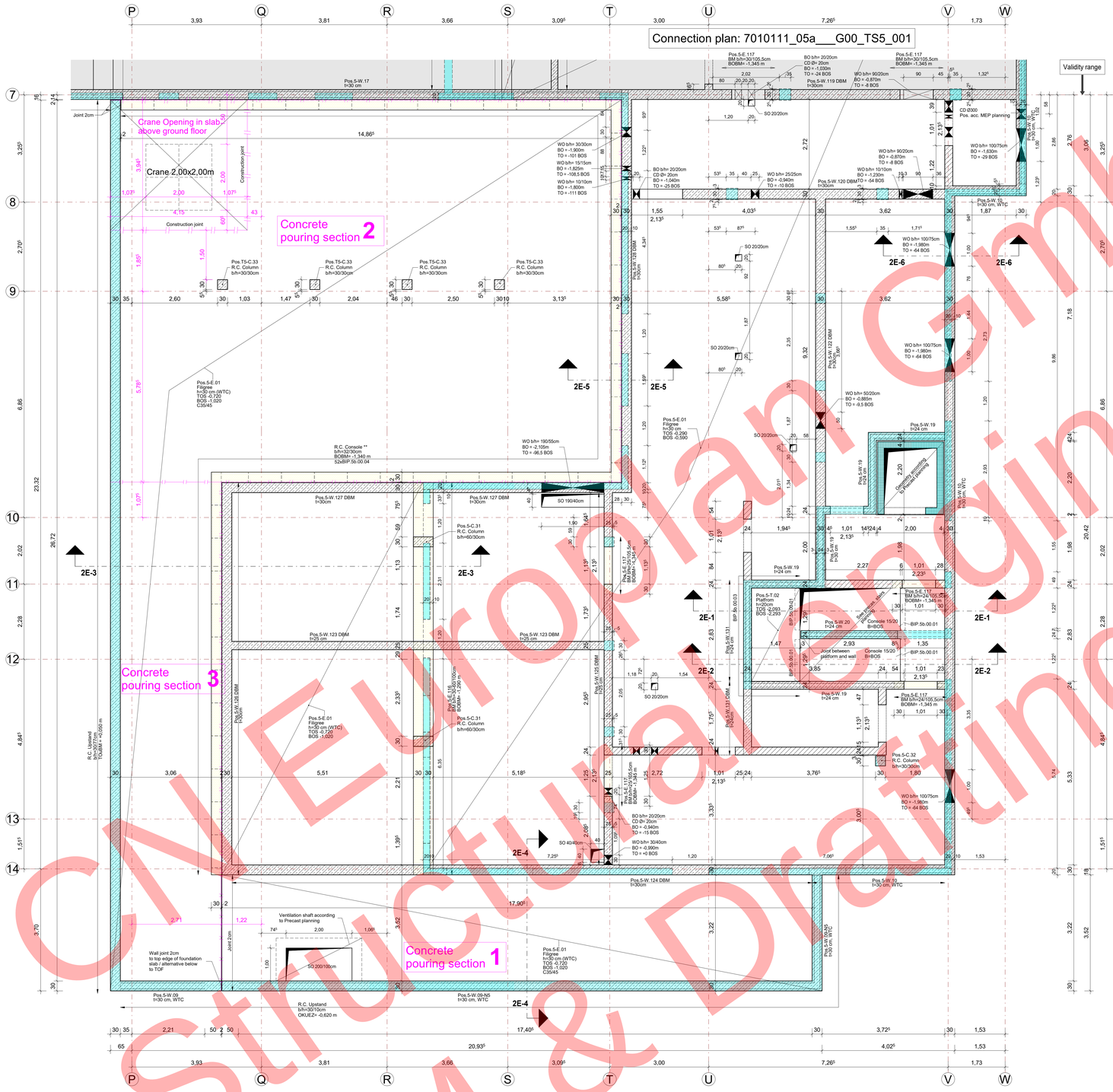
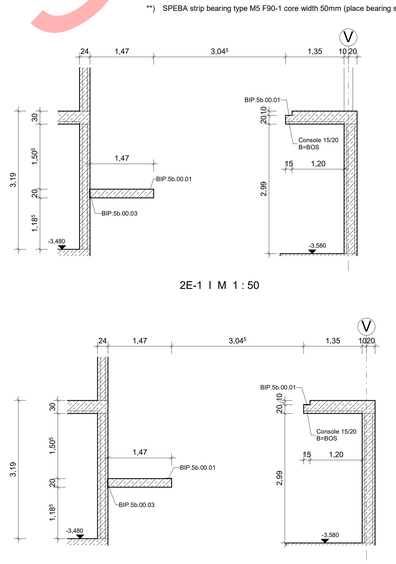
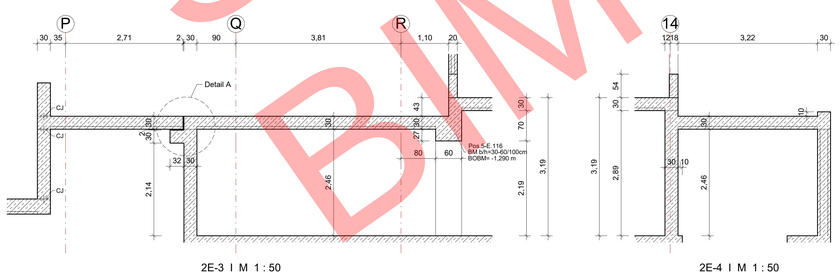
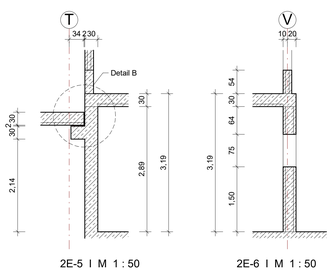
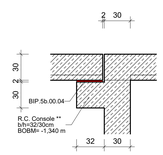
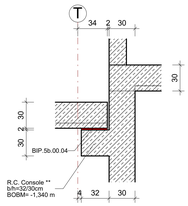












Component		WTC concrete	Inspection class	Exposure classes						Moisture class	Concrete	Concrete cover	
				XC	XD	XS	XF	XA	XM			Design allowance deviation	Concrete cover
Roof slabs													
Roof slab 1) 4)	o	x	1	3						WF	C25/30	15	35
	u			1								10	25
Roof terraces 1) 4)	o	x	1	3						WF	C25/30	15	35
	u			1								10	25
Basement slab courtyard 2) 3) 6)	o	x	2	2	2			1		WA	C35/45	15	55
	u			3			1					15	35
Floor slabs													
Indoor 4)			1	1						WO	C25/30	10	25
Basement slab (unheated, built over)	o		1	1						WF	C25/30	10	25
	u			1								15	25
Basement slab (parking area, built over)	o		1	1						WA	C25/30	10	25
	u			3			1					15	35
Walls													
Indoor 4)			1	1						WO	C25/30	10	25
Facades 1)	i		1	1						WO	C25/30	10	25
	a			3								15	35
In contact with soil 8)		x	2	2				1		WF	C25/30	15	35
Basement, unheated			1	1						WO	C25/30	10	25
Underground car park 5)			1	3			1			WF	C25/30	15	35
Columns													
Indoor 9)			1	1						WO	C25/30	10	25
Facades 1) 9)	i		1	1						WO	C25/30	10	25
	a			3								15	35
Basement, unheated			1	1						WO	C25/30	10	25
Underground car park 5) 9)			1	3			1			WF	C25/30	10	35
Foundation elements 7)													
Slab, bottom 7)		x	1	2				1		WF	C30/37	15	35
Slab, basement area, top		x	1	1						WO	C30/37	15	25
Slab, parking area, top		x	2	3	1		1			WF	C30/37	15	55
Ramp 12)	o	x	2	4	3		2		1	WA	C35/45	15	55
	u			3								15	35
Other elements													
Balconies		x	1	4			1			WO	C25/30	15	40

Legende:
1) Insulated
2) Uninsulated
3) Ground cover at least 30 cm
4) Concrete cover for fire protection F90
5) with base protection
6) Use of de-icing salt possible
7) Clean layer
8) Frost-free
9) Different concrete cover possible due to fire protection requirements (see structural analysis of the column position)
10) Weather exposed
11) Surface protection

**) SPEBA strip bearing type M5 F90-1 core width 50mm (place bearing strip F90 on outer edge of bracket)

General structural notes:

- This plan is only valid in combination with the structural calculation and the execution plans of the architect!
- Any differences to the architect's or building services engineer's execution drawings must be submitted by the contractor to the site management for clarification before the start of construction.
  If necessary, the engineer must be informed.
- Type and quality of the concrete surfaces according to the architect's execution planning.
- Electrical conduit planning according to the architect's or MEP planning.
- Underground piping and lightning protection according to the planning of the MEP.
- Door and parapet heights are related to SSL.
- Built-in parts, e.g. for facade anchoring, elevators etc. and other requirements for the technical building equipment according to the technical project planning and their plans.
- The structural verification of formwork and scaffolding is carried out by the contractor. Increased stress on the slab formwork and scaffolding from intercepting structures must be taken into account. The formwork in these areas may only be stripped after sufficient load-bearing capacity of the overall construction.
- Necessary core drillings must be agreed with the structural engineer before work begins.
- Dimensions of rising reinforced concrete walls and columns that are not shown must be added to the formwork plan of the storey above.

Notes on concrete structure

- Support lengths of hidden beam ≥25cm, unless otherwise specified.
- The size of the concreting sections and the design of the construction joints are to be specifications of the waterproofing planner or at the contractor's discretion
- All construction joints that may be required, e.g. between beams and ceilings, beams and beams or foundations and bases are to be executed at least rough in accordance with BS 8102:2022.

Notes on waterproof structures

- All reinforced concrete structures in contact with the ground must be constructed using the watertight construction method.
  Concrete and reinforced concrete work in accordance with BS EN 1992, watertight construction in accordance with BS 8102:2022.
- All base and external wall openings must be watertight.
- All construction joints must be secured against pressing water in accordance with the waterproof designer
- The watertightness of the double cavity walls must be ensured in accordance with the waterproof designer

Notes on the foundation

- Foundations must be constructed with at least 5 cm lean concrete C8/10 and PE foil. Insulation must be arranged in accordance with the energy-saving certificate.
- All foundations must be frost-free and laid on natural ground.

Legende

- Cast-in-place reinforced concrete
- Semi-prefabricated (representation only schematic)
- Non-load-bearing concrete
- Rising reinforced concrete components
- Rising masonry walls
- Beam
- Changes to previous revision
- In clarification / comments
- Lean concrete
- Masonry
- Slab opening
- Wall opening
- Struct. slab offset bottom
- Struct. slab offset top
- Precast concrete
- Abschalelement mit Fugenglbech Sohle/Sohle
- Unterzugversprung

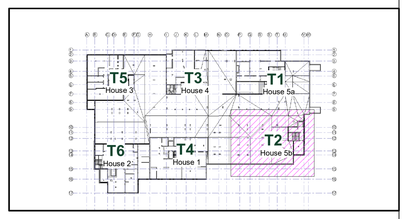
BO	Beam opening	SJ	Slab joint
WO	Wall opening	WJ	Wall joint
WR	Wall Recess	ISO	e.g.
SO	Slab opening	n.b.	Non-load bearing
SR	Slab Recess	hBM	hidden beam
BM	Beam	DBM	deep beam
HBT	Rebend connection e.g. Halfen HBT	bl	bearing length
TOuBM	Top of Upstand Beam		
SO	Slab opening		

Punching Rods in accordance with rebar planning

The planning of the prefabricated stairs, balconies and parapets is carried out by the manufacturer according to the architect's plans.

The technical processing of WTC components, including the planning and detailing of all necessary joints and their system-compatible sealing in accordance with the requirements, is the responsibility of the manufacturer.
The information on concrete grades and exposure classes must be checked with the waterproofing planner.

All heights refer to zero level, unless otherwise stated.
All dimensions are rough construction dimensions unless otherwise stated.



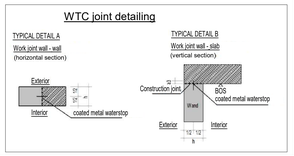
TO FFL GF = ± 0.00 = +16,00 m over ASL

Rev	Date	Description	Produced
00	04.01.22	First issue	PTT
01	25.02.22	Equated with certified copy of the architect dated 26/01/2022	PTT

Built in parts ground floor - House 5b (part 2/6)

BIP-Nr	Designation	Amount
BIP.5b.00.01	Schock Tronsole Typ F-V1-L1300	4
BIP.5b.00.04	SPEBA-Streifenlager Typ M5 F90-1	52
BIP.5b.00.03	Halfen HBT 150-5-B15	5,770 m

WTC joint detailing



Construction project:	Sketch
Client	
General design (SPS)	
MEP design	
Structural Design	
Permitting design SP 1-4	
Plan type: **Formwork Plan** **Slab over ground floor, house 5b (part2/6)**	Short name: **FW - GF**

Region	Project number	–	Building number	–	Plan type	Floor	–	Designer	Specialty	Service phase	–	Plan number	–	Revision	–	Status

CNL Europlan GmbH
Structural Engineering
BIM & Drafting Services