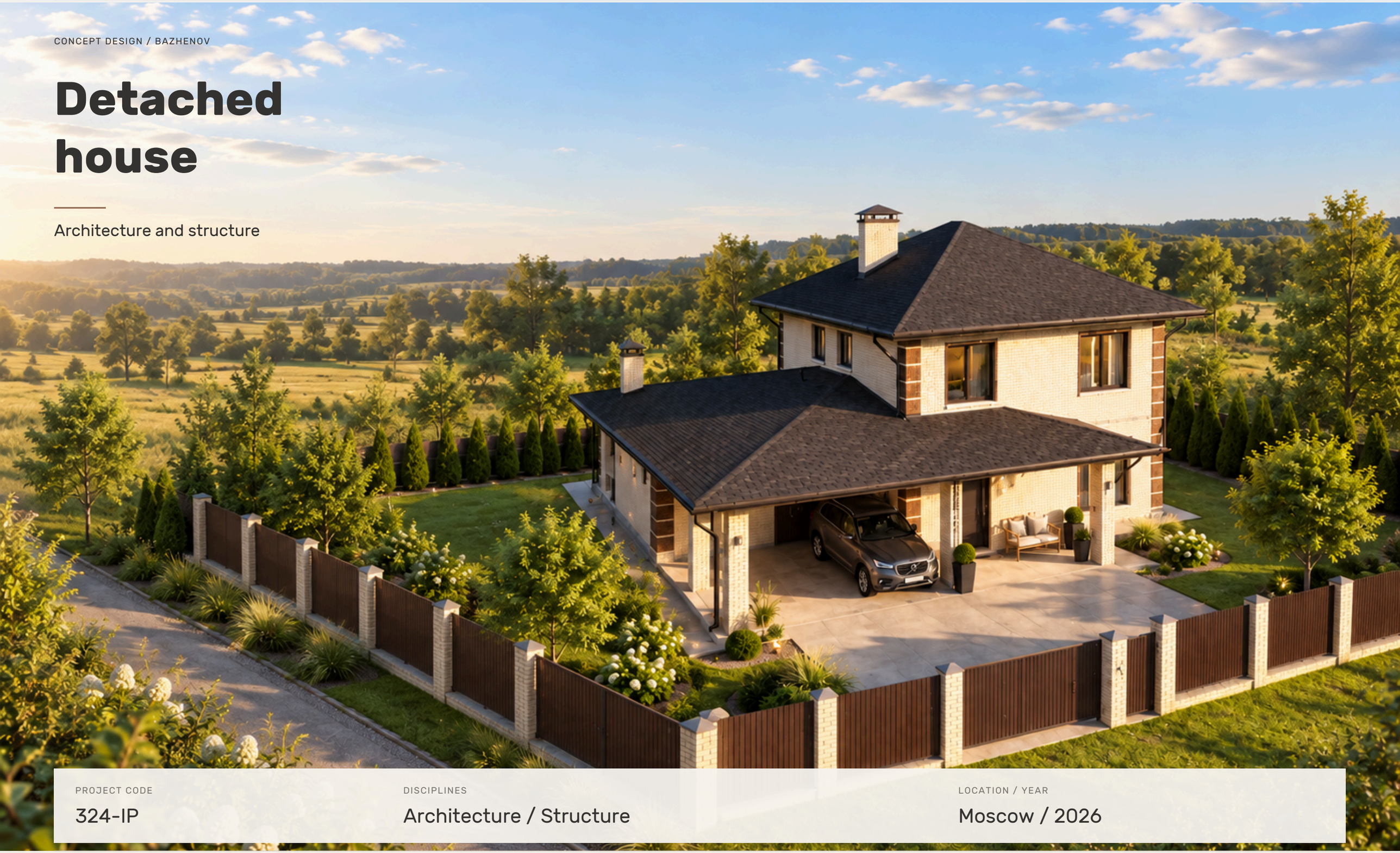
CONCEPT DESIGN / BAZHENOV

Detached house

Architecture and structure



PROJECT CODE	DISCIPLINES	LOCATION / YEAR
324-IP	Architecture / Structure	Moscow / 2026

Architectural visualisation

COUNTRY HOUSE CONSTRUCTION IN MOSCOW AND THE MOSCOW REGION



01 View 01



02 View 02



03 View 03

8 (800) 600-30-48

Toll-free within Russia

Completed house

COUNTRY HOUSE CONSTRUCTION IN MOSCOW AND THE MOSCOW REGION



01 Completed house / view 01



02 Completed house / view 02



03 Completed house / view 03

8 (800) 600-30-48

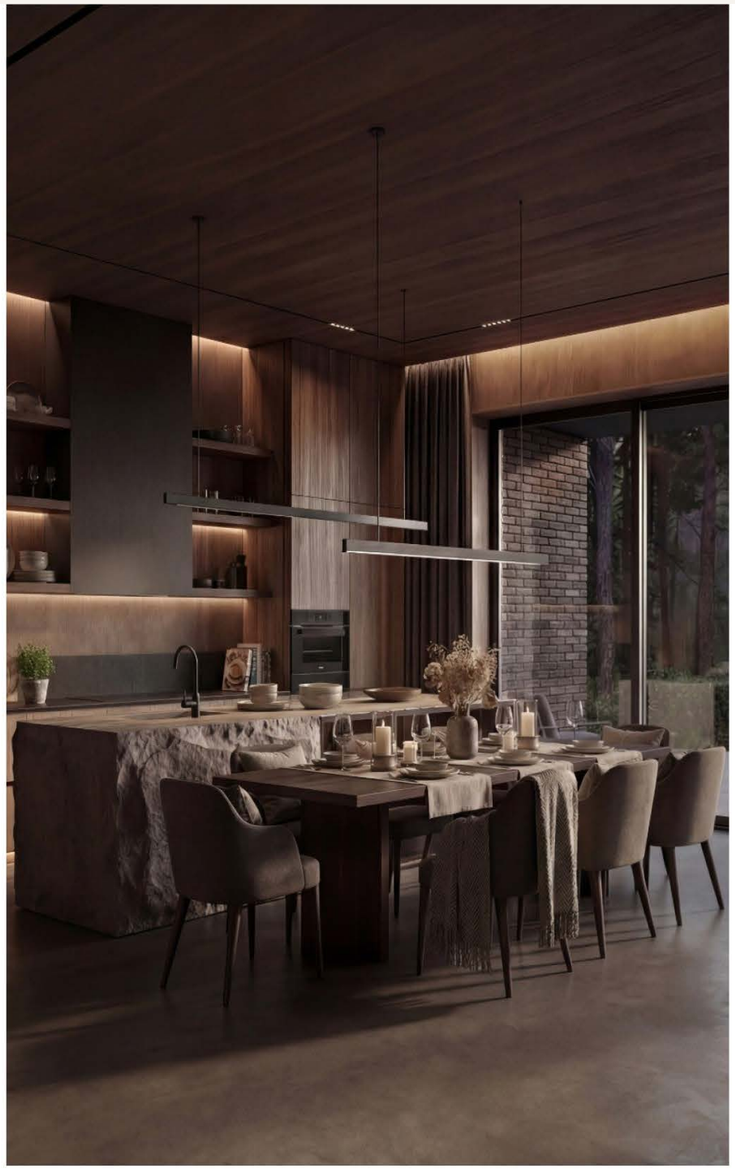
Toll-free within Russia

Interiors

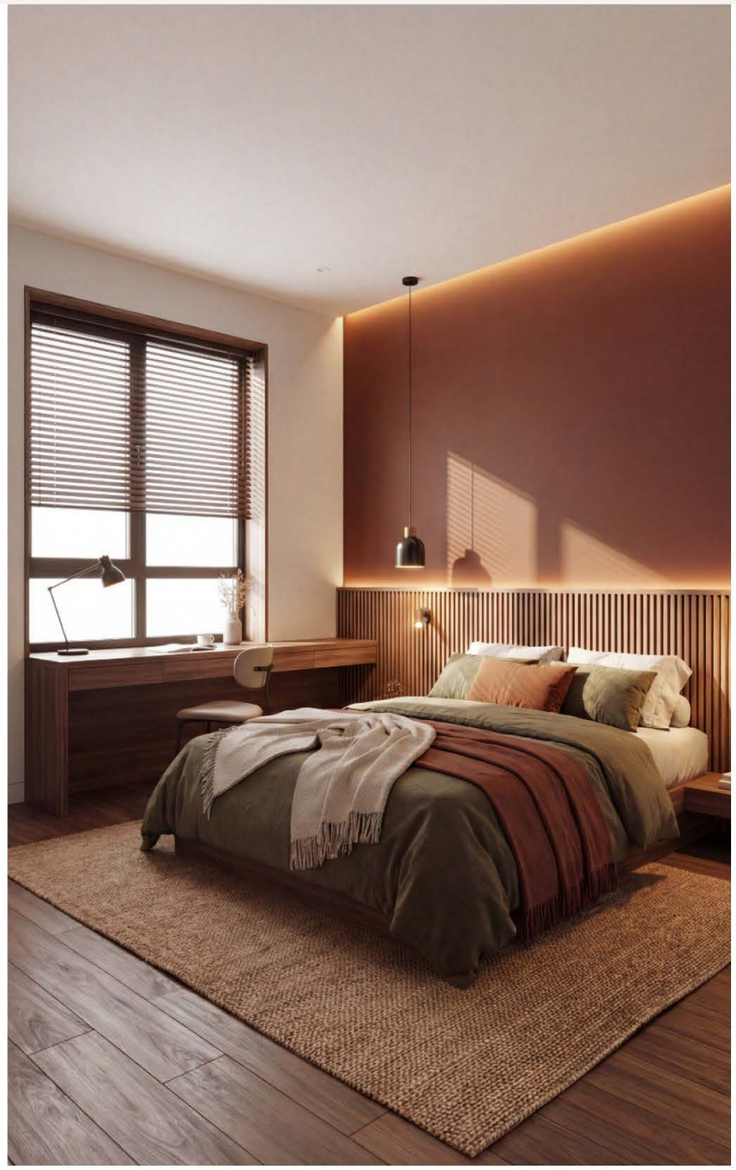
COUNTRY HOUSE CONSTRUCTION IN MOSCOW AND THE MOSCOW REGION



01 Bathroom



02 Kitchen / living room



03 Bedroom

8 (800) 600-30-48

Toll-free within Russia

CONCEPT DESIGN OF A DETACHED HOUSE

AR

Architectural design

324-IP-AR

MOSCOW / 2026

SECTION CONTENTS

11 sheets

FORM / LAYOUT / MATERIALS



Two storeys. Garage.
Porch, carport and terrace.

General notes

ARCHITECTURAL DESIGN

AR working drawing index

Sheet	Description	Notes
	Cover	
1	General notes	
2	Elevation 1-5	
3	Elevation A-Zh	
4	Elevation 5-1	
5	Elevation Zh-A	
6	Floor plan at ±0.000	
7	Floor plan at +3.270	
8	Window and door opening schedule	
9	Section 1-1	
10	Section 2-2	
11	Section 3-3	

Drawing set index

Reference	Description	Notes
	Architectural design	
	Structural design	

1. General notes

1.1. Section 324-IP-AR, "Concept design of a detached house", was prepared by specialists on the basis of the design brief.

1.2. Design data: the construction site is in climate region IB under SP 131.13330.2012, "Building climatology". The design temperature for the coldest five-day period is -35 °C.

1.3. Snow region V is adopted under SP 20.13330.2011, "Loads and actions", the updated edition of SNiP 0.07-85*. The snow load on 1 m² of horizontal ground surface is Sg = 3.2 kPa.

1.4. Wind region II is adopted under SP 20.13330.2011, "Loads and actions", the updated edition of SNiP 0.07-85*. The design wind pressure is Wo = 0.3 kPa.

1.5. The finished floor level of the ground floor is taken as the reference datum 0.000.

1.6. The working drawings have been prepared in accordance with the applicable codes, rules and standards.

2. Architectural design

2.1. The proposed building is a two-storey house with an open porch, a carport and a terrace. The total area is 322.01 m². Its rectangular plan allows efficient use of the site allocated for construction.

2.2. Dimensions between grid lines 1-5: 18.450 m; between grid lines A-Zh: 17.180 m. Room heights: ground floor, 2.920 m; upper floor, 3.000 m; garage, 3.000 m.

2.3. External doors: steel, to GOST 56926-2016. Internal doors: timber, to GOST 6629-88. Windows: reinforced PVC, to GOST 30674-99.

324-IP-AR Stage CD Sheet 1 Sheets

Concept design of a detached house

General notes

Drawn by	Signature	Date

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Elevation 1-5

ARCHITECTURAL DESIGN / ELEVATIONS



MATERIALS

Brickwork

Facing layer
120 mm

Roofing

Asphalt shingles

Glazing

PVC windows

324-IP / AR

Bazhenov

324-IP-AR	Stage CD	Sheet 2	Sheets		Drawn by		Signature		Date		
Concept design of a detached house											
Elevation 1-5											

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Elevation A-Zh

ARCHITECTURAL DESIGN / ELEVATIONS



MATERIALS

Brickwork

Facing layer
120 mm

Roofing

Asphalt shingles

Glazing

PVC windows

324-IP / AR

Bazhenov

324-IP-AR Stage CD Sheet 3 Sheets

Concept design of a detached house

Elevation A-Zh

Drawn by	Signature	Date

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Elevation 5-1

ARCHITECTURAL DESIGN / ELEVATIONS



MATERIALS

Brickwork

Facing layer
120 mm

Roofing

Asphalt shingles

Glazing

PVC windows

324-IP / AR

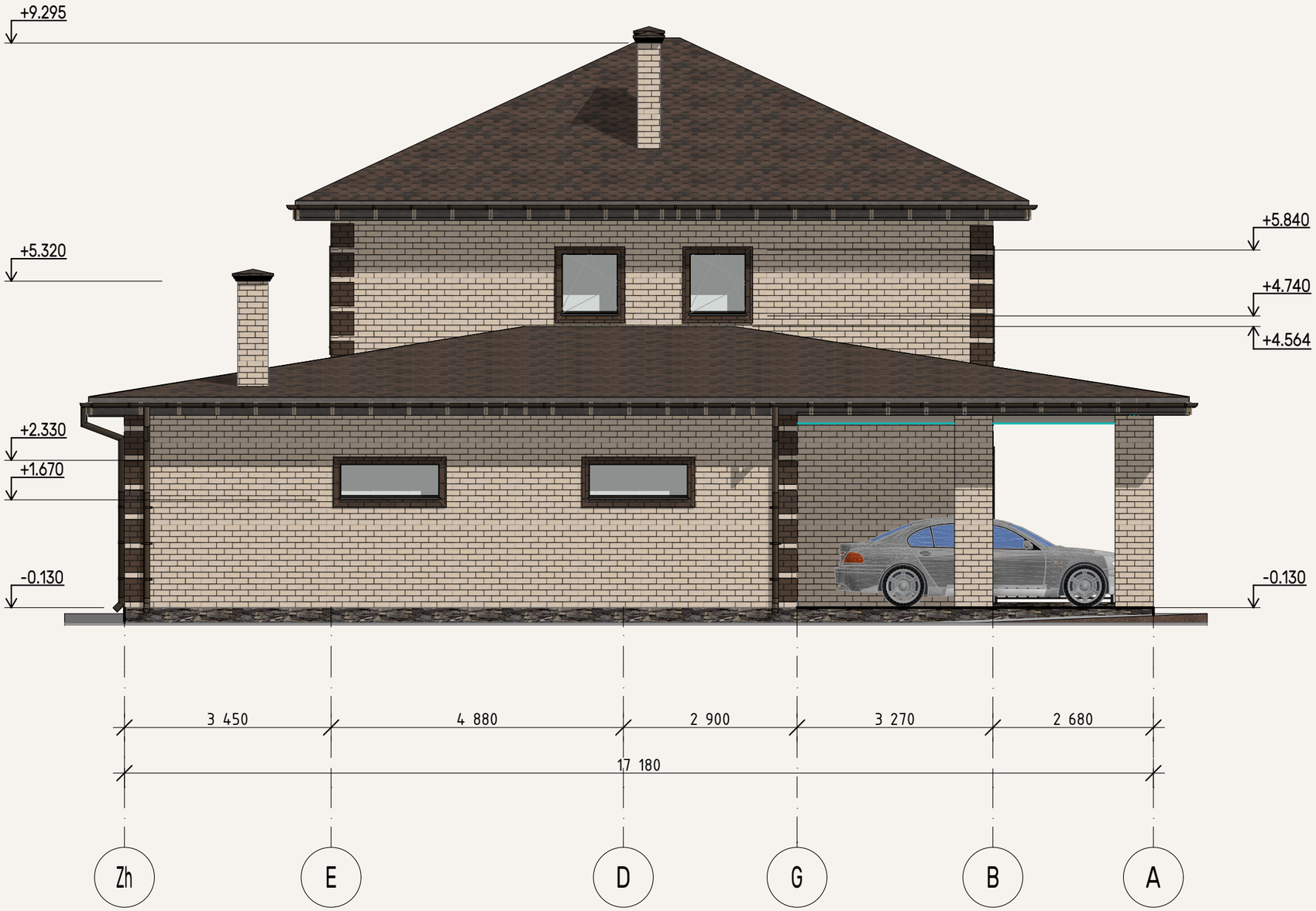
Bazhenov

324-IP-AR	Stage CD	Sheet 4	Sheets		Drawn by		Signature		Date		
Concept design of a detached house											
Elevation 5-1											

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Elevation Zh-A

ARCHITECTURAL DESIGN / ELEVATIONS



MATERIALS

Brickwork

Facing layer
120 mm

Roofing

Asphalt shingles

Glazing

PVC windows

324-IP / AR

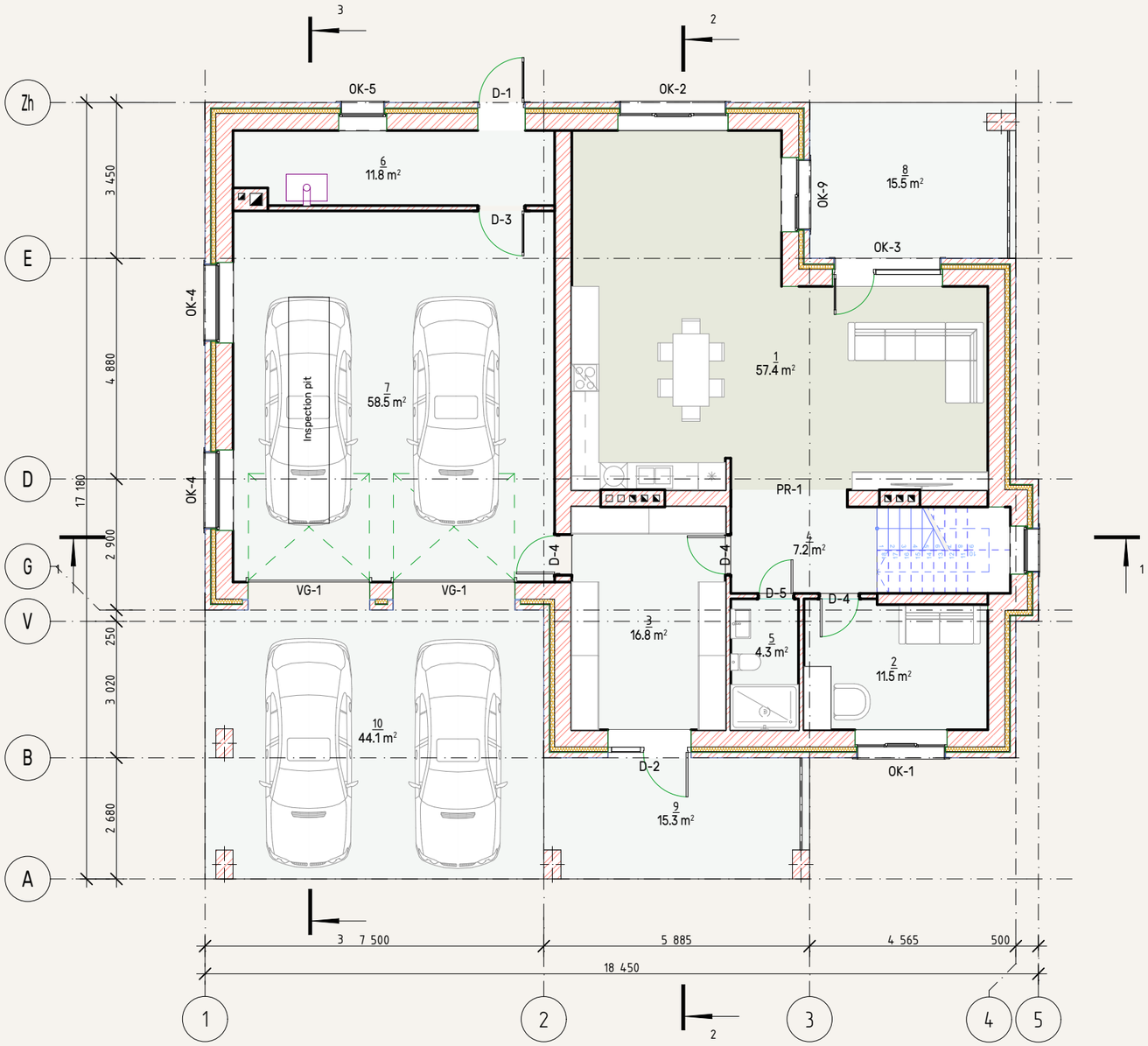
Bazhenov

324-IP-AR	Stage CD	Sheet 5	Sheets		Drawn by		Signature		Date		
Concept design of a detached house											
Elevation Zh-A											

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Floor plan at ±0.000

ARCHITECTURAL DESIGN / FLOOR PLANS



Ground-floor room schedule

No.	Description	Area, m²
1	Kitchen / living room	57.39
2	Study	11.48
3	Entrance hall	16.76
4	Hall	7.18
5	WC	4.35
6	Boiler room	11.82
7	Garage	58.46
8	Terrace	15.51
9	Porch	15.29
10	Carport	44.14

Total **242.38 m²**

Notes

1. Datum 0.000 is the ground-floor finished floor level.
2. Furniture and equipment layouts are indicative.
3. Door swing directions are indicative.
4. Room areas exclude the thickness of finish materials.
5. Confirm the finished floor level during installation.
6. For the window and door opening schedule, see sheet 8 of section AR.

324-IP-AR Stage CD Sheet 6 Sheets

Concept design of a detached house

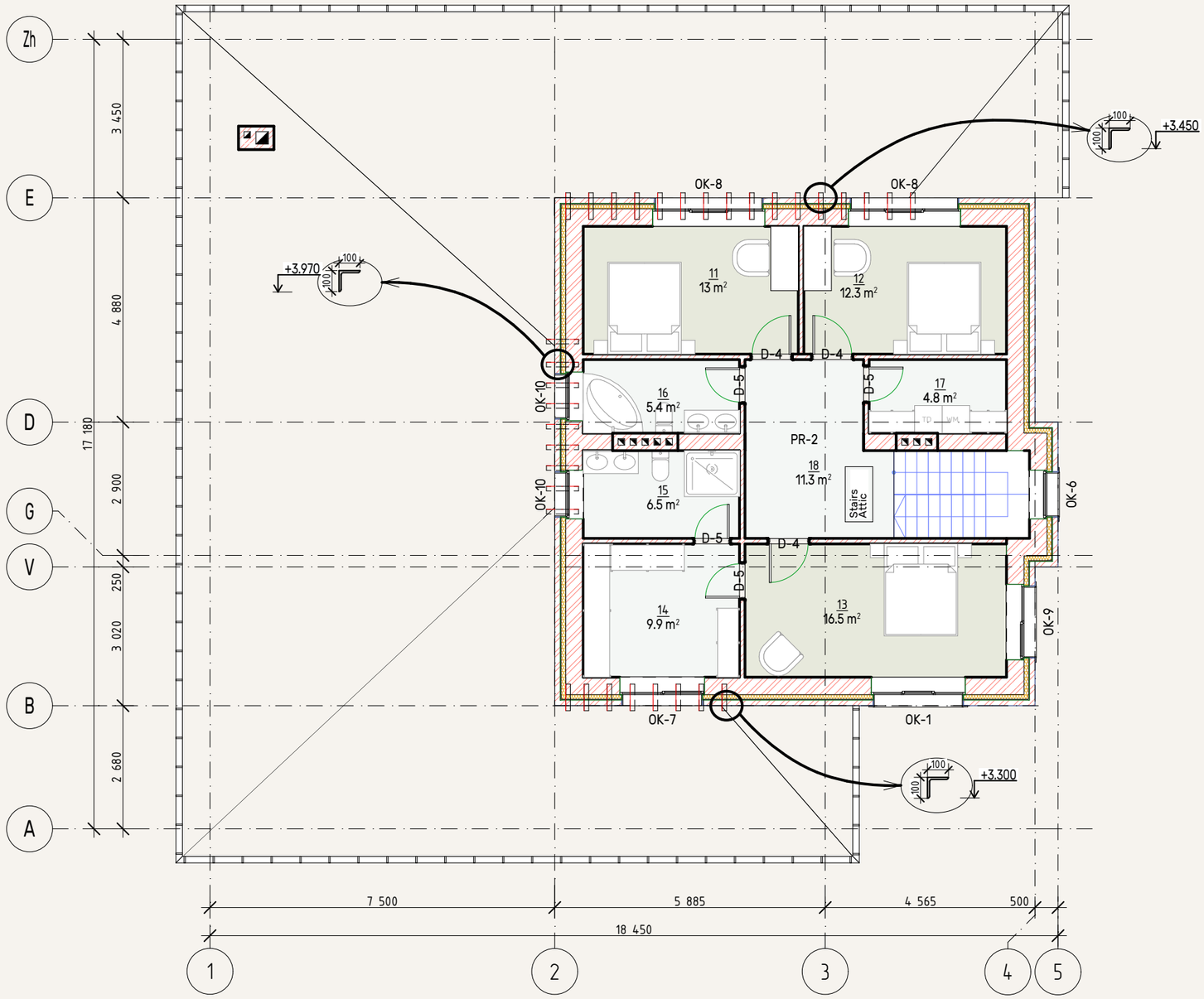
Floor plan at ±0.000

Drawn by	Signature	Date

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Floor plan at +3.270

ARCHITECTURAL DESIGN / FLOOR PLANS



Upper-floor room schedule

No.	Description	Area, m²
11	Bedroom	13.01
12	Bedroom	12.26
13	Bedroom	16.50
14	Dressing room	9.86
15	Bathroom	6.49
16	Bathroom	5.44
17	Laundry	4.78
18	Hall	11.30
Total		79.64 m²

UPPER FLOOR

3 bedrooms

Dressing room, two bathrooms, laundry and hall.

324-IP-AR Stage CD Sheet 7 Sheets

Concept design of a detached house

Floor plan at +3.270

Drawn by	Signature	Date

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Window and door opening schedule

ARCHITECTURAL DESIGN / SCHEDULES

Doors, openings and garage doors

Item	Reference	Description	Qty	Mass	Notes
External doors					
D-1	GOST R 56926-2016	Door DO 25-10	1		
D-2	GOST R 56926-2016	Door DO 21-18	1		
Internal doors					
D-3	GOST 6629-88	Door DG 21-10	1		
D-4	GOST 6629-88	Door DG 21-9	5		
D-5	GOST 6629-88	Door DG 21-8	5		
Openings					
PR-1		Opening 2580 × 2500	1		
PR-2		Opening 2580 × 2600	1		
Garage doors					
VG-1		Opening 2700 × 2400	2		

Windows

Item	Reference	Description	Qty	Mass	Notes
OK-1	GOST 30674-99	Window OP B2 2040 × 1740 (4M1-16Ar-K4)	2		
OK-2	GOST 30674-99	Window OP B2 2440 × 2500 (4M1-16Ar-K4)	1		
OK-3	GOST 30674-99	Window OP B2 2440 × 2500 (4M1-16Ar-K4)	1		
OK-4	GOST 30674-99	Window OP B2 1780 × 660 (4M1-16Ar-K4)	2		
OK-5	GOST 30674-99	Window OP B2 1060 × 1740 (4M1-16Ar-K4)	1		
OK-6	GOST 30674-99	Window OP B2 1060 × 3900 (4M1-16Ar-K4)	1		
OK-7	GOST 30674-99	Window OP B2 18400 × 1740 (4M1-16Ar-K4)	1		
OK-8	GOST 30674-99	Window OP B2 2440 × 1640 (4M1-16Ar-K4)	2		
OK-9	GOST 30674-99	Window OP B2 1640 × 1740 (4M1-16Ar-K4)	1		
OK-10	GOST 30674-99	Window OP B2 1060 × 1100 (4M1-16Ar-K4)	2		

324-IP-AR Stage CD Sheet 8 Sheets

Concept design of a detached house

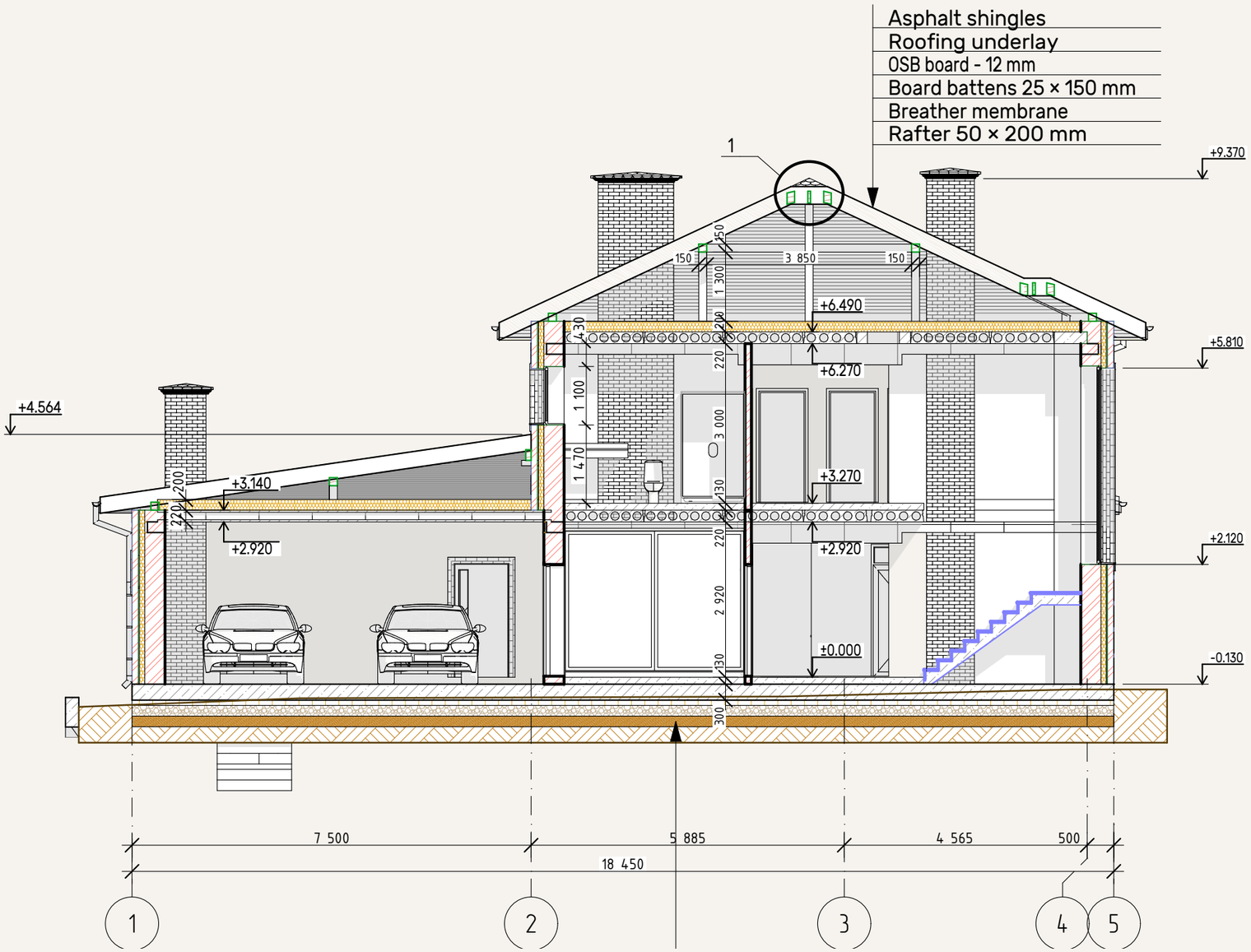
Window and door opening schedule

Drawn by	Signature	Date

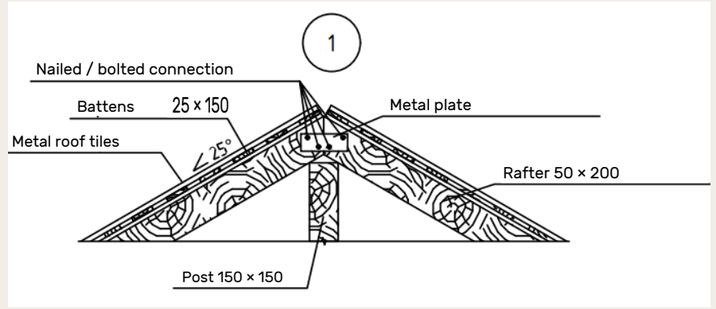
Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Section 1-1

ARCHITECTURAL DESIGN / SECTIONS AND DETAILS



01 / RIDGE DETAIL



Floor build-up

Floor finish - 20 mm
Cement-sand screed with mesh - 60 mm
Penoplex insulation - 50 mm
Reinforced concrete slab - 300 mm
Penoplex insulation - 100 mm
Waterproofing
Compacted crushed stone - 200 mm
Compacted sand - 200 mm
Geotextile
Compacted soil

324-IP-AR Stage CD Sheet 9 Sheets

Concept design of a detached house

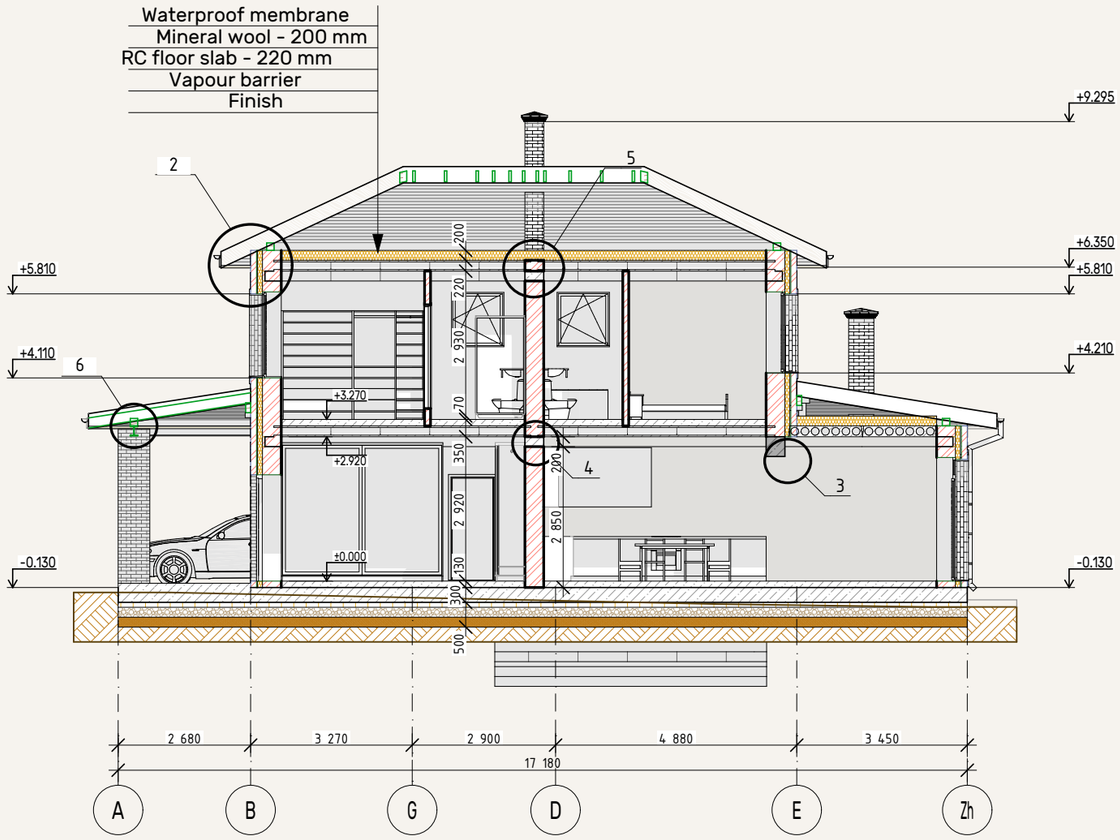
Section 1-1

Drawn by	Signature	Date

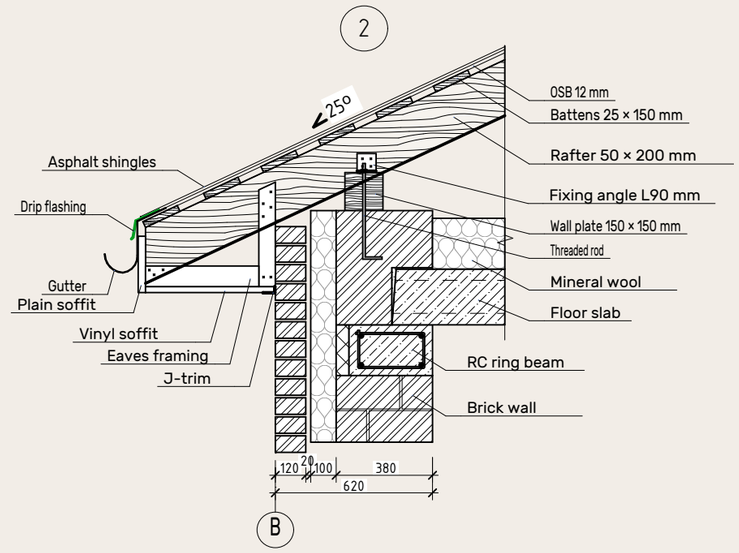
Rev.	Areas	Sheet	Doc. No.	Sign.	Date

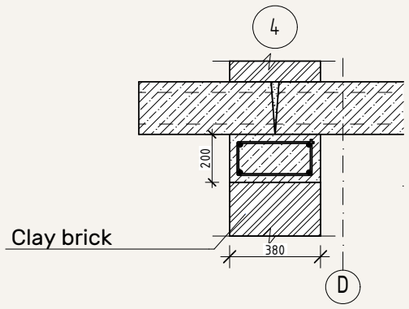
Section 2-2

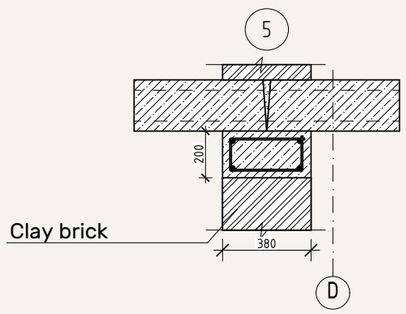
ARCHITECTURAL DESIGN / SECTIONS AND DETAILS

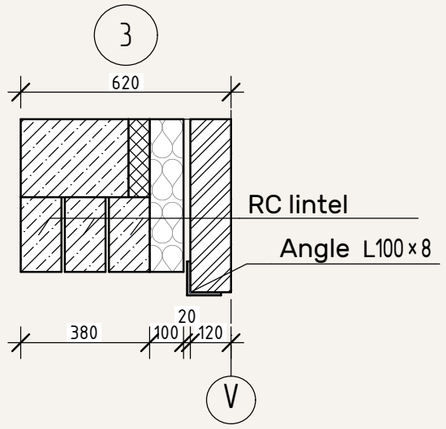


02 / EAVES DETAIL









324-IP-AR Stage CD Sheet 10 Sheets

Concept design of a detached house

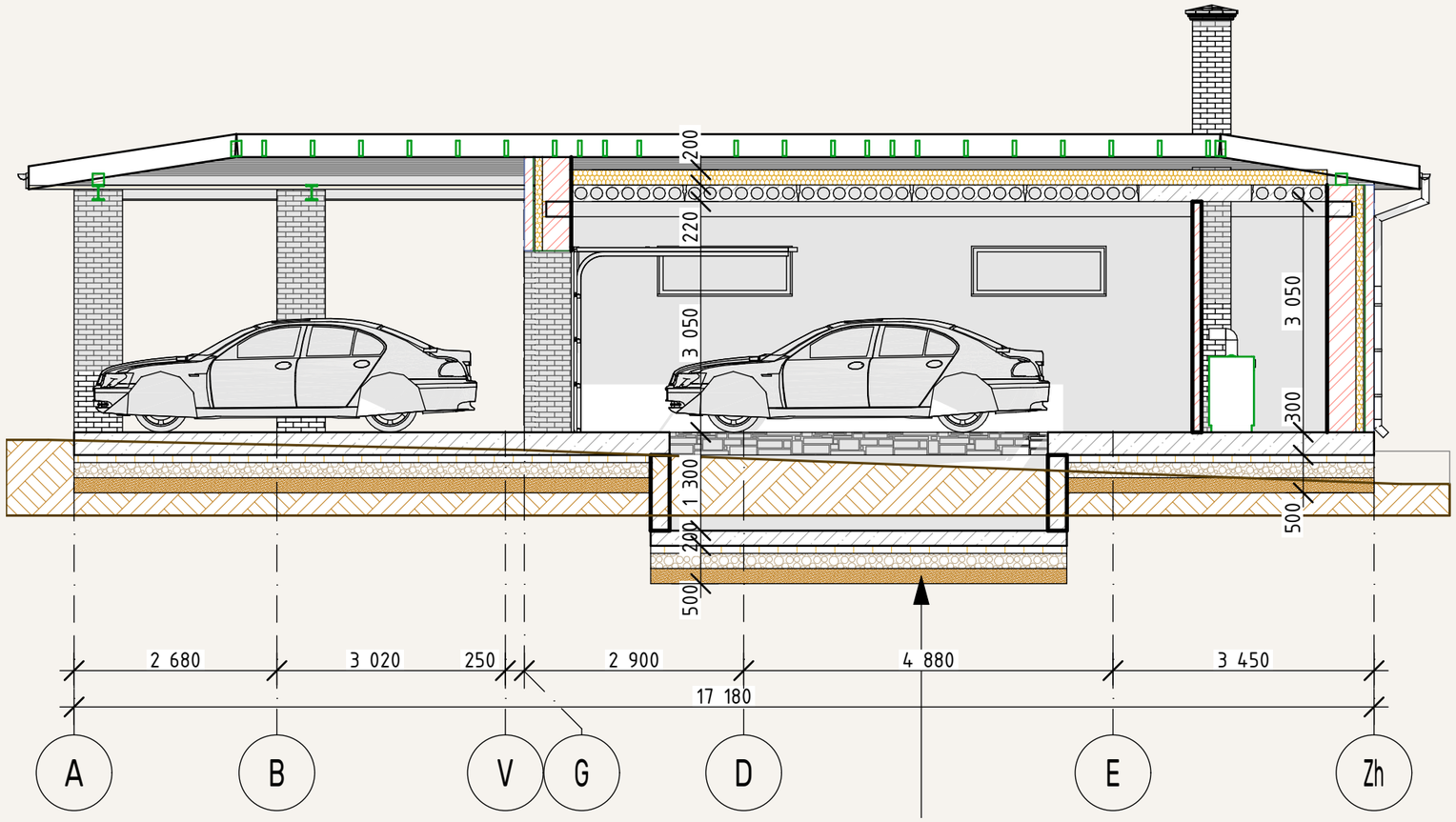
Section 2-2

Drawn by	Signature	Date

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Section 3-3

ARCHITECTURAL DESIGN / SECTIONS AND DETAILS



Floor build-up

Floor finish - 20 mm

Cement-sand screed with mesh - 60 mm

Penoplex insulation - 50 mm

Reinforced concrete slab - 300 mm

Penoplex insulation - 100 mm

Waterproofing

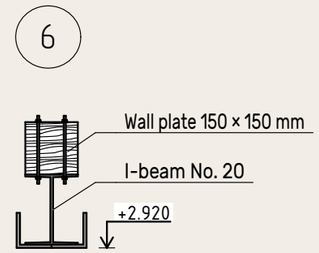
Compacted crushed stone - 200 mm

Compacted sand - 200 mm

Geotextile

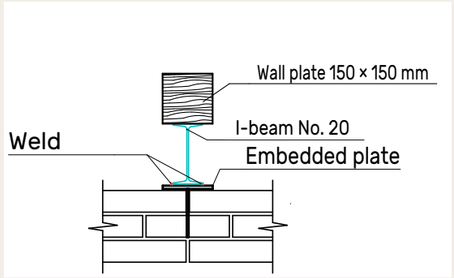
Compacted soil

06 / WALL PLATE BEARING

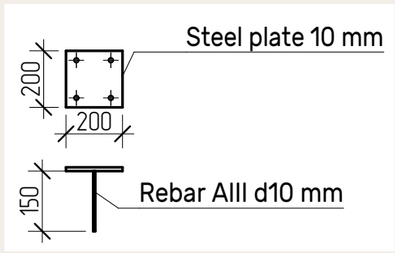


I-BEAM TO COLUMN CONNECTION

I-beam connection to ZD-1



EMBEDDED PLATE ZD-1



324-IP-AR Stage CD Sheet 11 Sheets

Concept design of a detached house

Section 3-3

Drawn by	Signature	Date

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

CONCEPT DESIGN OF A DETACHED HOUSE

KR

Structural design

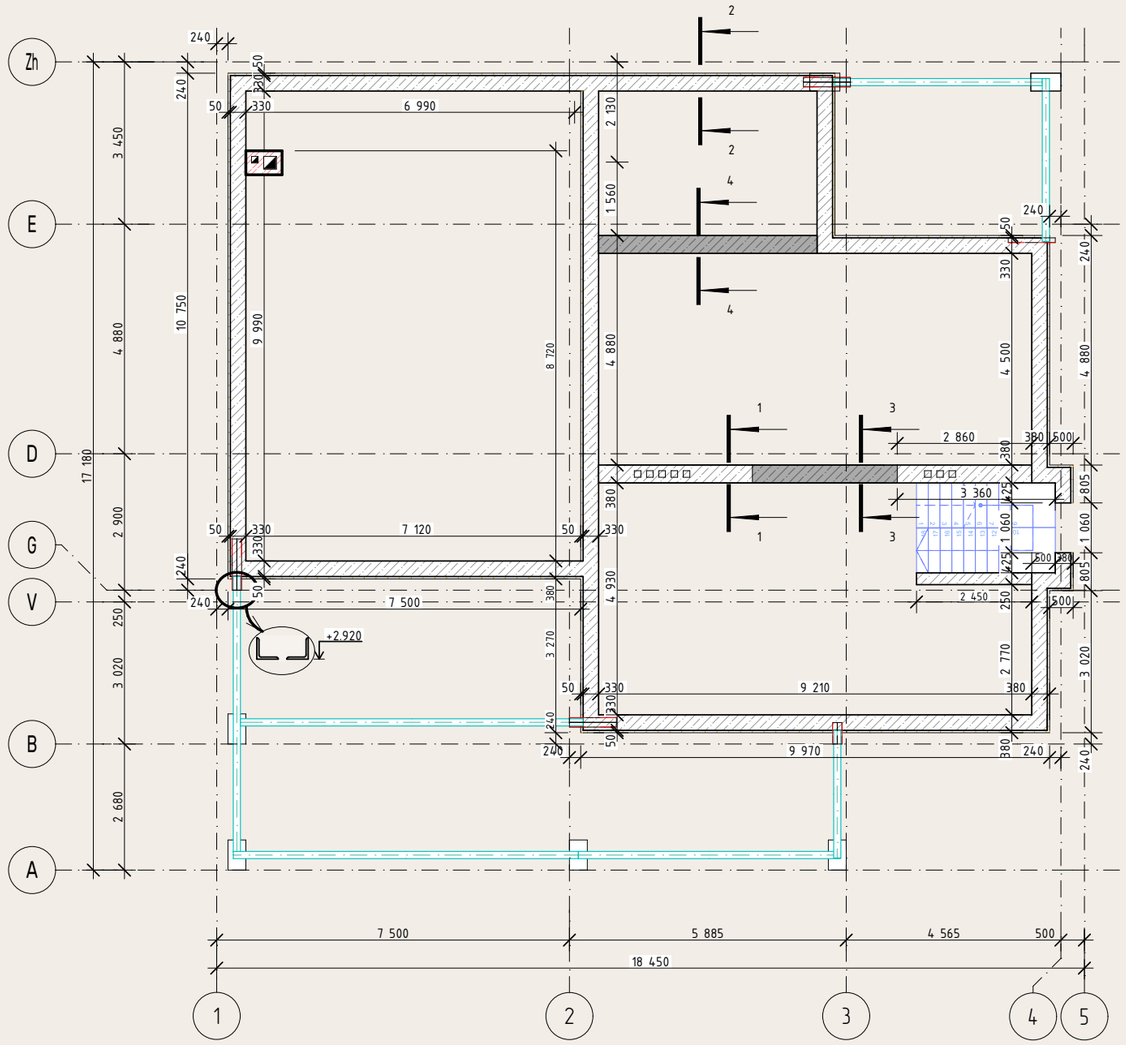
324-IP-KR

MOSCOW / 2026

SECTION CONTENTS

16 sheets

FOUNDATIONS / WALLS / FLOORS / ROOF



General notes

STRUCTURAL DESIGN

KR working drawing index

Sheet	Description	Notes
	KR cover	
1	General notes	
1.1	General notes (continued)	
2	Inspection pit ground beam plan	
3	Foundation slab plan	
4	Longitudinal reinforcement layout	
5	Transverse reinforcement layout	
6	Plinth masonry plan	
7	Masonry plan at +0.000	
8	Ring beam plan at +2.720	
9	Slab layout at +2.920	
10	Masonry plan at +3.270	
11	Ring beam plan at +6.070	
12	Slab layout at +6.270	
13	Roof plan	
14	Roof framing plan	
15	Ventilation duct masonry details	

Drawing set index

Reference	Description	Notes
	Architectural design	
	Structural design	

1.1. Section 324-IP-KR, "Concept design of a detached house", was prepared by specialists on the basis of the design brief in accordance with:
- Urban Planning Code of the Russian Federation (29 December 2004, No. 190-FZ);
- Federal Law No. 123-FZ of 22 July 2008, "Technical regulations on fire safety requirements";
- Federal Law No. 384-FZ of 30 December 2009, "Technical regulations on the safety of buildings and structures";
- SP 20.13330.2011, "SNiP 2.01.07-85* Loads and actions";
- SP 22.13330.2011, "SNiP 2.02.01-83* Foundations of buildings and structures";
- SP 28.13330.2010, "SNiP 2.03.11-85 Protection of building structures against corrosion";
- SP 42.13330.2011, "SNiP 2.07.01-89* Urban planning. Planning and development of urban and rural settlements";
- SNiP 23-01-99*, "Building climatology";
- SP 50.13330.2010, "SNiP 23-02-2003 Thermal protection of buildings";
- SP 51.13330.2011, "SNiP 23-02-2003 Protection against noise";
- SP 52.13330.2011, "SNiP 23-05-95* Natural and artificial lighting";
- SP 62.13330.2011, "SNiP 42-01-2002 Gas distribution systems";
- GOST 27751-88, "Reliability of building structures and foundations. Basic design principles";
- SP 1.13130.2009, "Fire protection systems. Escape routes and exits";
- SP 4.13130.2009, "Fire protection systems. Limiting fire spread in protected facilities. Requirements for space planning and structural solutions";
- SP 7.13130.2009, "Heating, ventilation and air conditioning. Fire safety requirements";
- SanPiN 2.12.2645-2010, "Sanitary and epidemiological requirements for living conditions in residential buildings and premises".

1.2. Design data: the construction site is in climate region 1B under SP 131.13330.2012, "Building climatology". The design temperature for the coldest five-day period is -35 °C.

1.3. Snow region V is adopted under SP 20.13330.2011, "Loads and actions", the updated edition of SNiP 0.07-85*. The snow load on 1 m² of horizontal ground surface is Sg = 3.2 kPa.

1.4. Wind region II is adopted under SP 20.13330.2011, "Loads and actions", the updated edition of SNiP 0.07-85*. The design wind pressure is Wo = 0.30 kPa.

1.5. The finished floor level of the ground floor is taken as the reference datum 0.000.

1.6. The working drawings have been prepared in accordance with the applicable codes, rules and standards.

2. Fire resistance rating under the "Technical regulations on fire safety requirements": I.

3. Building responsibility level: II.

4. Functional fire hazard class: F 1.4.

5. Structural fire hazard class: C0.

6. External walls: 380 mm double-height perforated brickwork, with insulation and a 120 mm facing layer of single-height hollow bricks. Internal walls: 380 mm double-height perforated brickwork. An unheated attic is provided. Roof covering: asphalt shingles. Partitions: 120 mm brickwork. Windows and external-wall doors: custom-made PVC units.

7. Provide a 1.0 m wide concrete apron around the external walls, laid on a crushed-stone base and sloping away from the building; paving slabs may be used as an alternative surface finish.

8. The working documentation is prepared for construction in summer conditions.

9. Formwork for cast-in-situ foundations and cast-in-situ sections shall comply with GOST R 52085-2003.

10. Carry out earthworks, ground preparation and foundations in accordance with SNiP 3.02.01-87, "Earthworks, bases and foundations", and SP 50-101-2004, "Design and construction of bases and foundations of buildings and structures".

11. Construction and installation work shall comply with: SNiP 12-01-2004, "Construction organisation"; SNiP 3.02.01-87, "Earthworks, bases and foundations"; SNiP 3.03.01-87, "Load-bearing and enclosing structures"; SNiP 3.04.03-85, "Protection of building structures and facilities against corrosion"; SNiP 12-03-2001, "Occupational safety in construction. Part 1. General requirements"; and SNiP 12-04-2002, "Occupational safety in construction. Part 2. Construction operations".

12. Treat timber rafter members with preservative and fire retardant in accordance with SNiP II-25-80, "Timber structures", GOST 28815-96 and TU 400-1-185-79.

324-IP-KR Stage CD Sheet 1 Sheets

Concept design of a detached house

General notes

Drawn by	Signature	Date

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

General notes (continued)

STRUCTURAL DESIGN

Timber structures and material protection

13. Protect timber members in contact with masonry against decay by separating them with two layers of Hydroizol waterproofing.

14. Apply two coats of GF-021 to metal members in accordance with GOST 25129-82.

15. Use softwood at natural moisture content to GOST 9463-88 for rafters, rafter extensions and battens.

16. Connect rafter members using plates, notched joints, splice plates, bolts and cramps.

17. Locate batten joints over rafters.

Construction notes

18. Use sections of 50 × 50, 25 × 150, 50 × 150, 150 × 150 and 50 × 200 mm for all rafters, ties, posts, rafter extensions and fascia boards.

19. Counter-batten section: 50 × 50 mm.

20. Batten section: 25 × 150 mm.

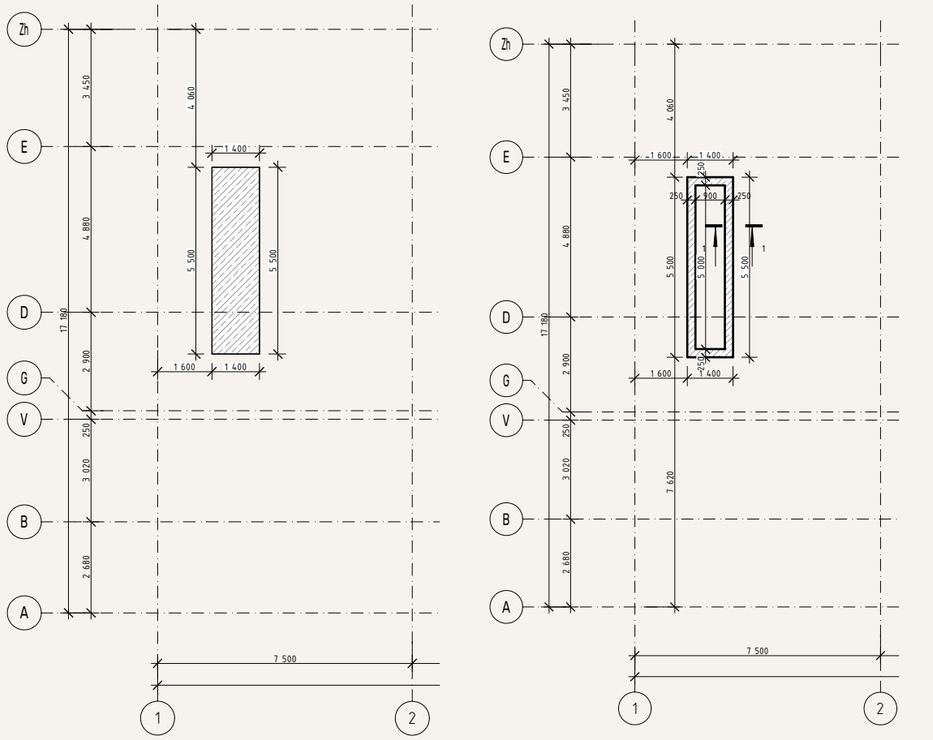
21. ATTENTION: do not close the eaves with solid boarding. Use perforated soffit panels to provide ventilation to the insulation.

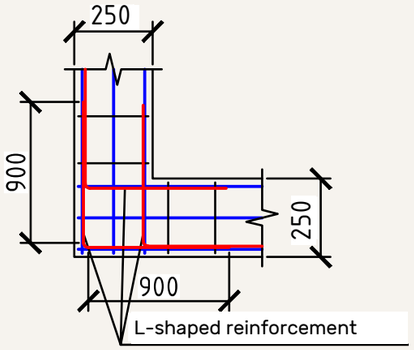
22. Recheck all construction material quantities before work begins.

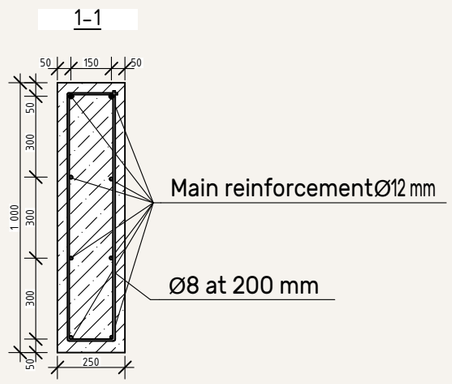
Inspection pit ground beam plan

STRUCTURAL DESIGN / FOUNDATIONS

INSPECTION PIT SLAB AND GROUND BEAM







Inspection pit foundation slab materials

Item	Reference	Description	Qty	Mass	Notes
	GOST 7473-2010	Concrete B25, F75, W4	1.54		m³

Foundation slab longitudinal reinforcement materials

Item	Reference	Description	Qty	Mass	Notes
1	GOST 5781-82*	Ø12 A400, L=lin. m	72.90	0.888	64.74
2	GOST 5781-82*	Ø8 A400, L=1385	12	0.547	9.09

Transverse reinforcement materials

Item	Reference	Description	Qty	Mass	Notes
1	GOST 5781-82*	Ø12 A400, L=lin. m	75.6	0.888	67.13
2	GOST 5781-82*	Ø8 A400, L=1385	40	0.547	30.30
3	GOST 5781-82*	Ø8 A400, L=1000	8	0.395	3.16

Ground beam Rm materials

Item	Reference	Description	Qty	Mass	Notes
Materials					
	GOST 26633-2012	Concrete B25 W4, F100, m³	3.20		
1	GOST 5781-82*	Ø12 A400, L=lin. m	102.4	0.888	90.9
2	GOST 5781-82*	Ø8 A400, L=2100	43	0.395	35.7

Steel quantities

Embedded items / A-III (A400) / GOST 5781-82*

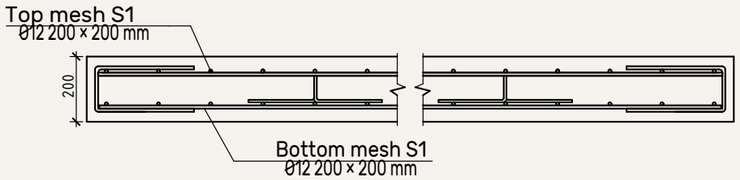
Member mark	Ø8	Ø12	Total	Overall
Rebar Rm	39.39	131.87	171.26	174.42

Steel quantities

Embedded items / A-III (A400) / GOST 5781-82*

Member mark	Ø8	Ø12	Total	Overall
Rebar Rm	35.70	90.93	126.63	126.63

Inspection pit foundation slab section



324-IP-KR Stage CD Sheet 2 Sheets

Concept design of a detached house

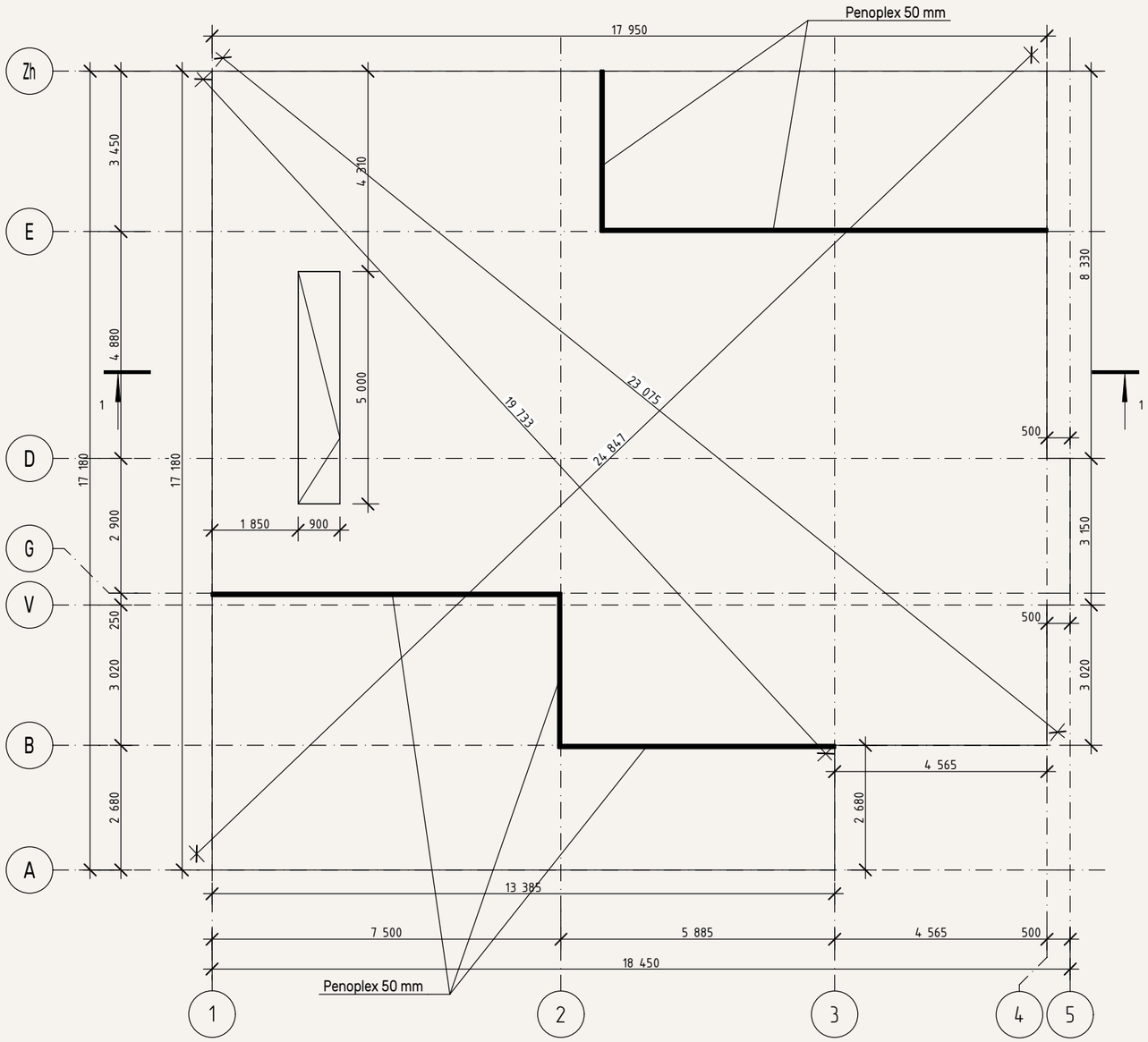
Inspection pit ground beam plan

Drawn by	Signature	Date

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Foundation slab plan

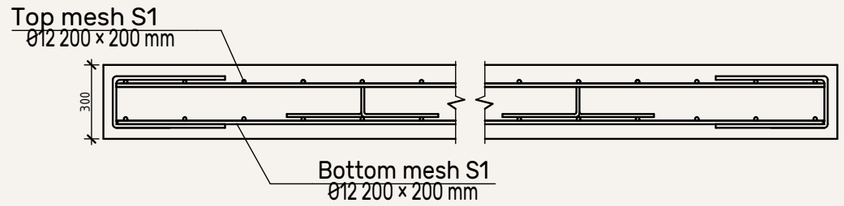
STRUCTURAL DESIGN / FOUNDATIONS



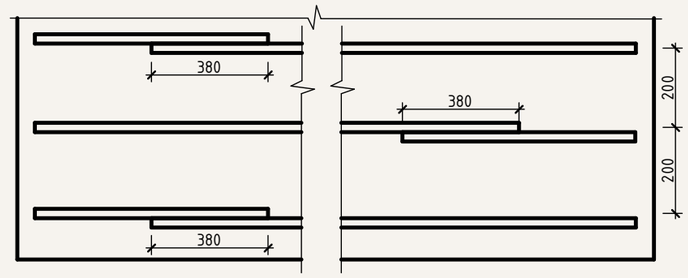
Foundation slab material schedule

Item	Reference	Description	Qty	Mass	Notes
	GOST 7473-2010	Concrete B25, F75, W4	89.32		m³

Section 1-1



Reinforcement lap arrangement within cast-in-situ foundation



Note: stagger reinforcement lap joints.

1. Carry out concrete work to SP 70.13330.2012, "Load-bearing and enclosing structures", and the work execution plan. Carry out formwork to GOST R 52085-2003, "Formwork", and the work execution plan.
2. Weld metal members to GOST 5264-80* using E42 electrodes to GOST 9767-75*.
3. Read this sheet with sheets 3 and 4 of section KR.

324-IP-KR Stage CD Sheet 3 Sheets

Concept design of a detached house

Foundation slab plan

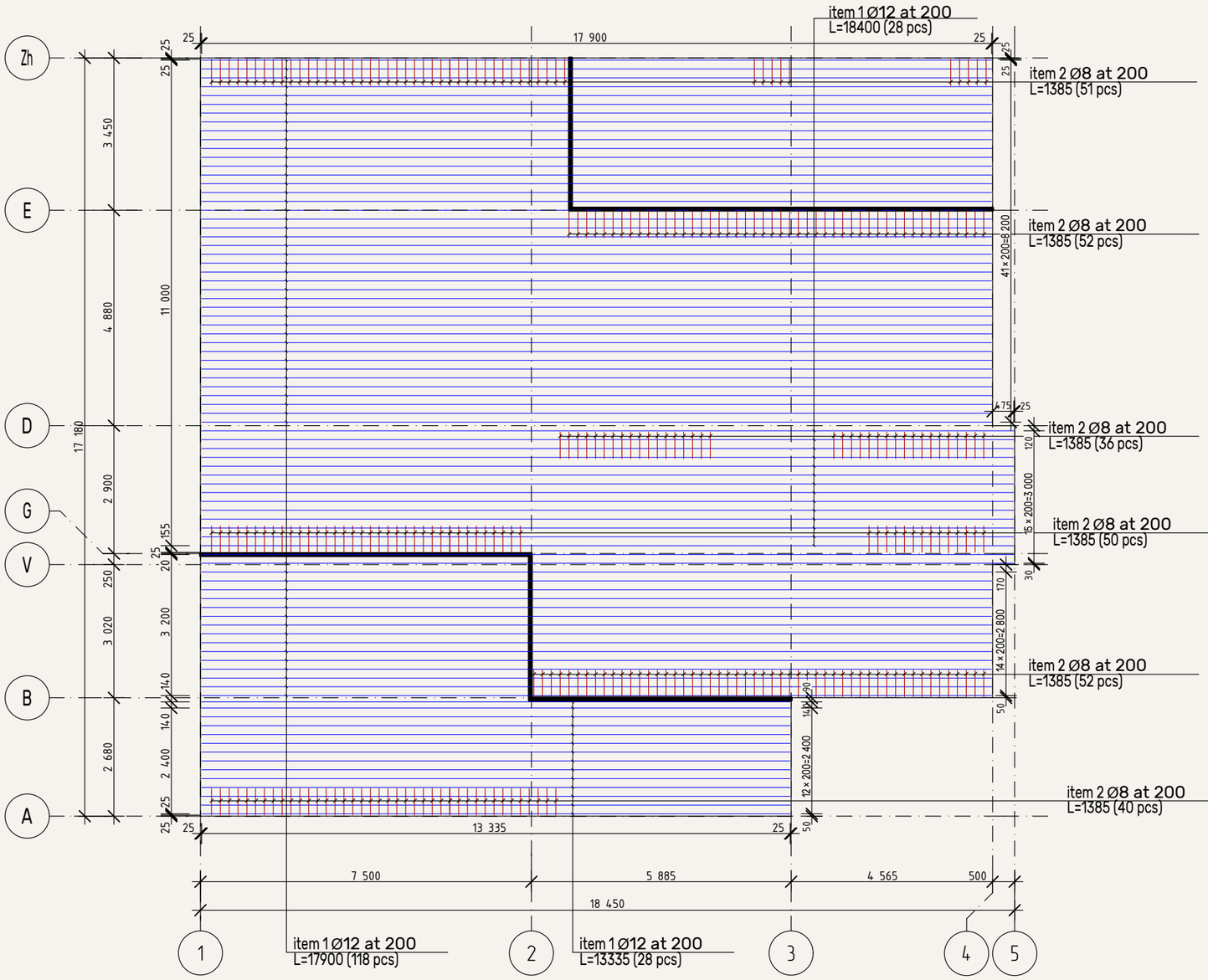
Drawn by	Signature	Date

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

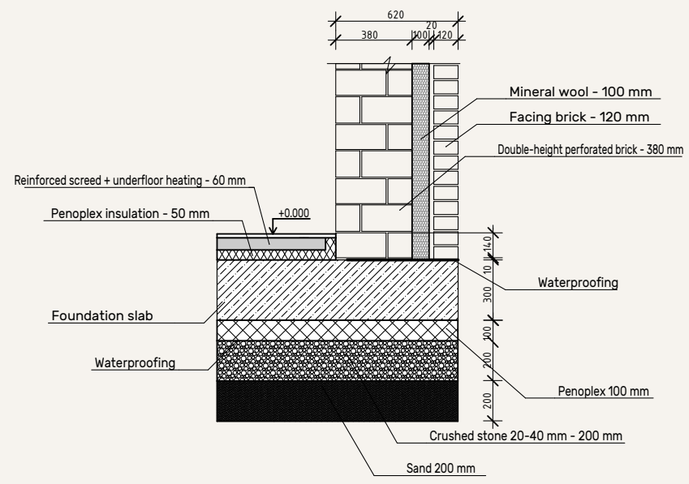
Longitudinal reinforcement layout

STRUCTURAL DESIGN / FOUNDATION SLAB REINFORCEMENT

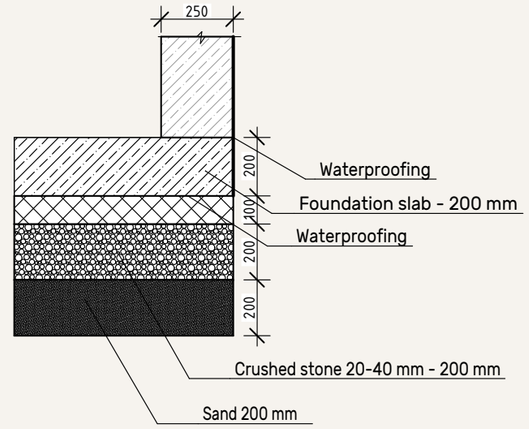
Foundation slab: bottom and top longitudinal reinforcement layout



FOUNDATION / EXTERNAL WALL



INSPECTION PIT FOUNDATION SLAB



324-IP-KR Stage CD Sheet 4 Sheets

Concept design of a detached house

Longitudinal reinforcement layout

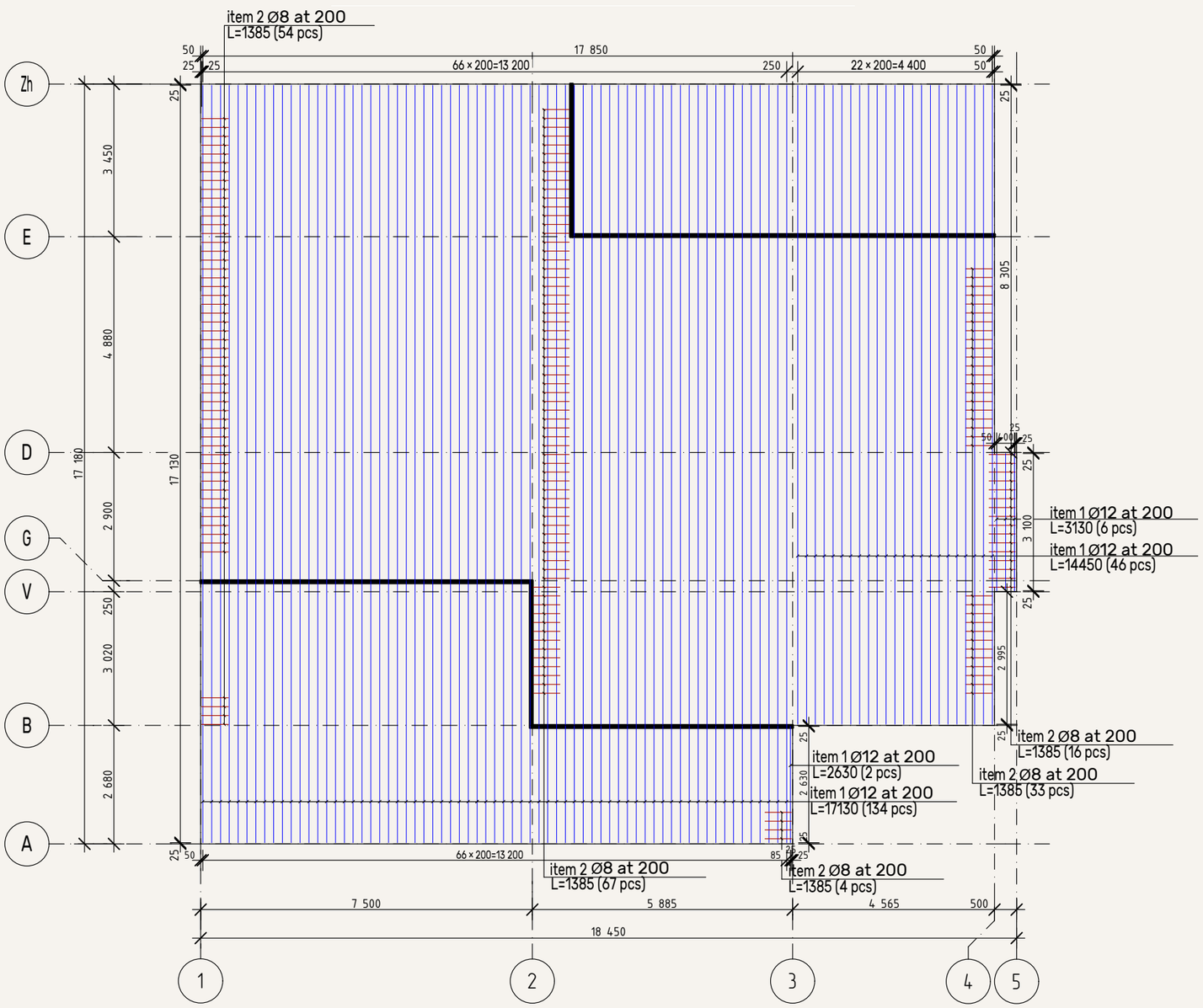
Drawn by	Signature	Date

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Transverse reinforcement layout

STRUCTURAL DESIGN / FOUNDATION SLAB REINFORCEMENT

Foundation slab: bottom and top transverse reinforcement layout



Longitudinal reinforcement / materials

Item	Reference	Description	Qty	Mass	Notes
1	GOST 5781-82*	Ø12 A400, L=lin. m	3000.78	0.888	2664.69
2	GOST 5781-82*	Ø8 A400, L=1385	281	0.547	212.88

Transverse reinforcement / materials

Item	Reference	Description	Qty	Mass	Notes
1	GOST 5781-82*	Ø12 A400, L=lin. m	2984.2	0.888	2649.93
2	GOST 5781-82*	Ø8 A400, L=1385	174	0.547	131.82
3	GOST 5781-82*	Ø8 A400, L=1000	297	0.395	117.32

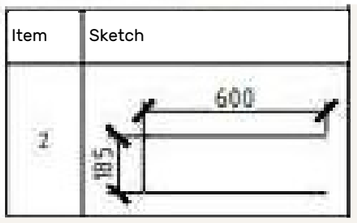
Steel quantities

Embedded items / A-III (A400) / GOST 5781-82*

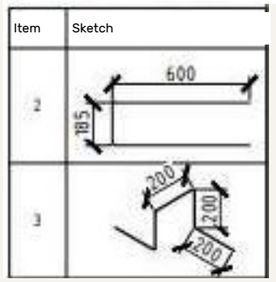
Member mark	Ø8	Ø12	Total	Overall
Rebar Rm	344.71	5314.63	5659.33	5776.65

Detail schedules

Detail schedule

Item	Sketch
2	

Detail schedule

Item	Sketch
2	
3	

324-IP-KR Stage CD Sheet 5 Sheets

Concept design of a detached house

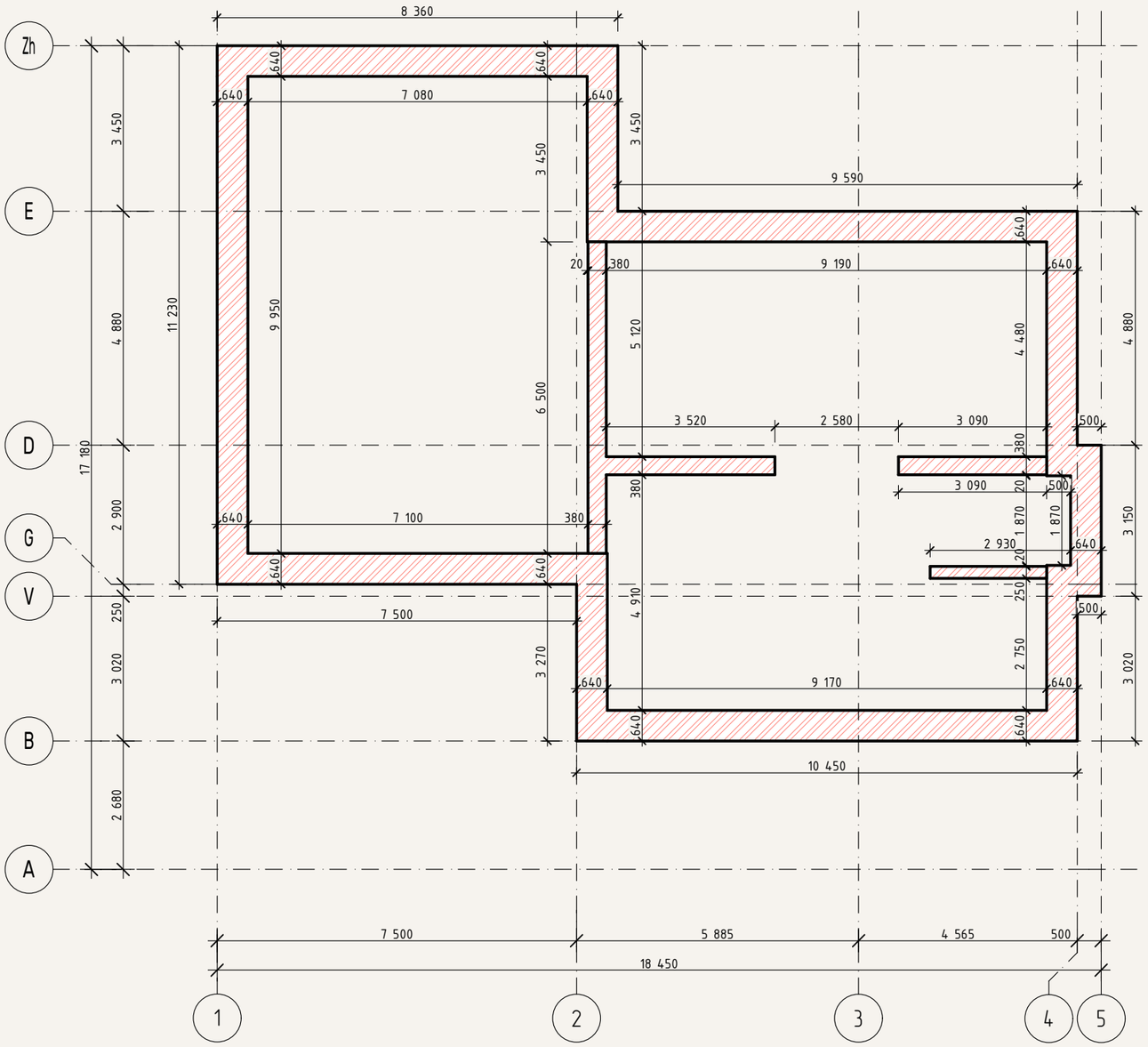
Transverse reinforcement layout

Drawn by	Signature	Date

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Brick plinth plan

STRUCTURAL DESIGN / PLINTH MASONRY



Plinth material schedule

Item	Reference	Description	Qty	Mass	Notes
1	GOST 28013-98	Cement-sand mortar M150 Pk2	0.96		m³
2	GOST 7473-2010	Brick 1NF/150/2.0/50	6.25		m³

MATERIALS

Brick plinth

Cement-sand mortar M150 Pk2

Brick 1NF/150/2.0/50

324-IP-KR Stage CD Sheet 6 Sheets

Concept design of a detached house

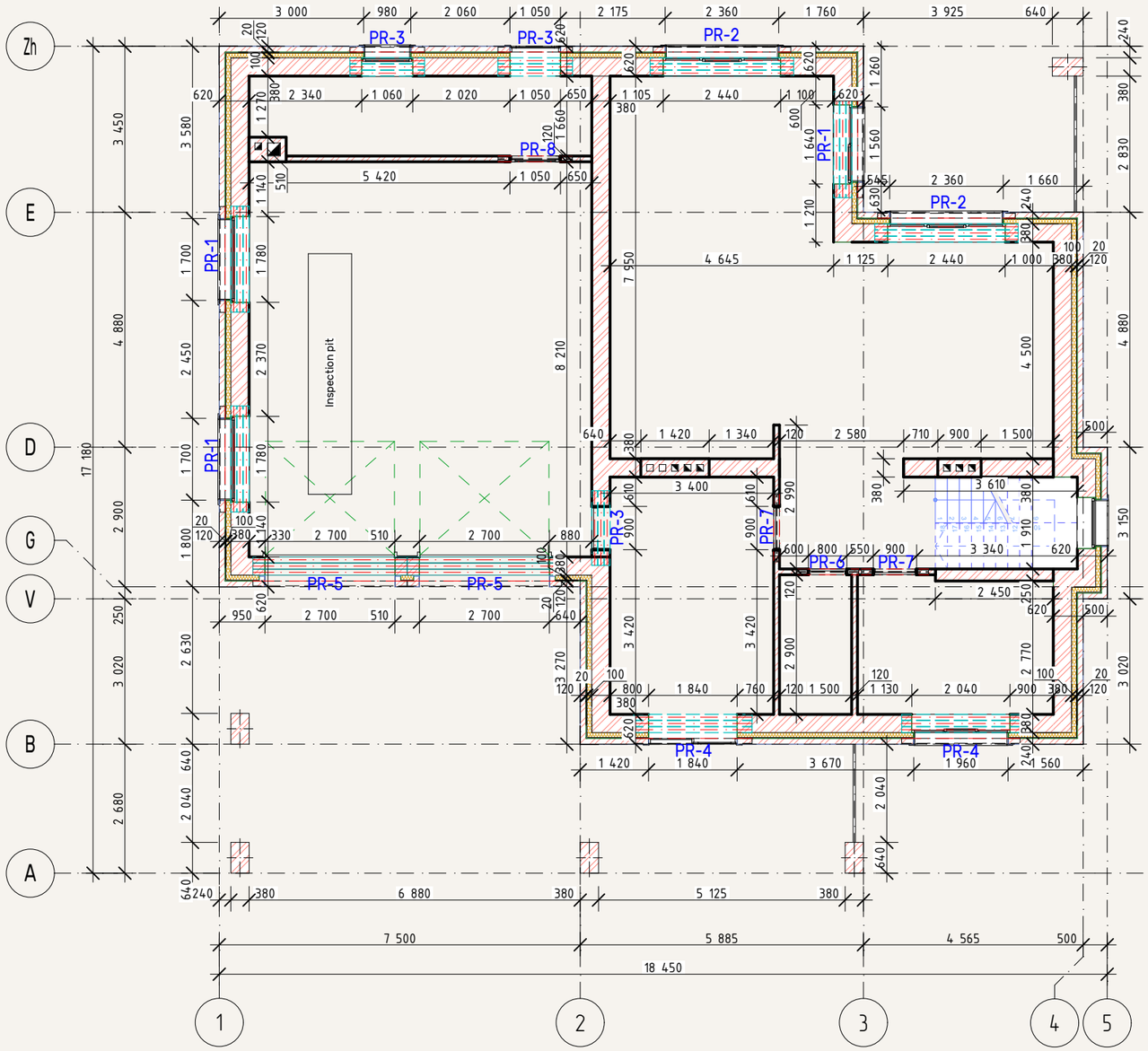
Brick plinth plan

Drawn by	Signature	Date

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Masonry plan at +0.000

STRUCTURAL DESIGN / MASONRY AND LINTELS



Lintel schedule

Item	Description	Qty
PR-1	2PB 22-3P	9
PR-1	Angle 100 × 100 mm l=2200 mm	3
PR-2	3PB -30-8P	6
PR-2	Angle 100 × 100 mm l=2860 mm	2
PR-3	3PB 16-37P	9
PR-3	Angle 100 × 100 mm l=1550 mm	2
PR-4	3PB 25-8P	6
PR-4	Angle 100 × 100 mm l=2460 mm	2
PR-5	3PB 32-8P	6
PR-5	Angle 100 × 100 mm l=3200 mm	2
PR-6	Angle 50 × 50 mm l=1300 mm	2
PR-7	Angle 50 × 50 mm l=1400 mm	4
PR-8	Angle 50 × 50 mm l=1550 mm	2

324-IP-KR Stage CD Sheet 7 Sheets

Concept design of a detached house

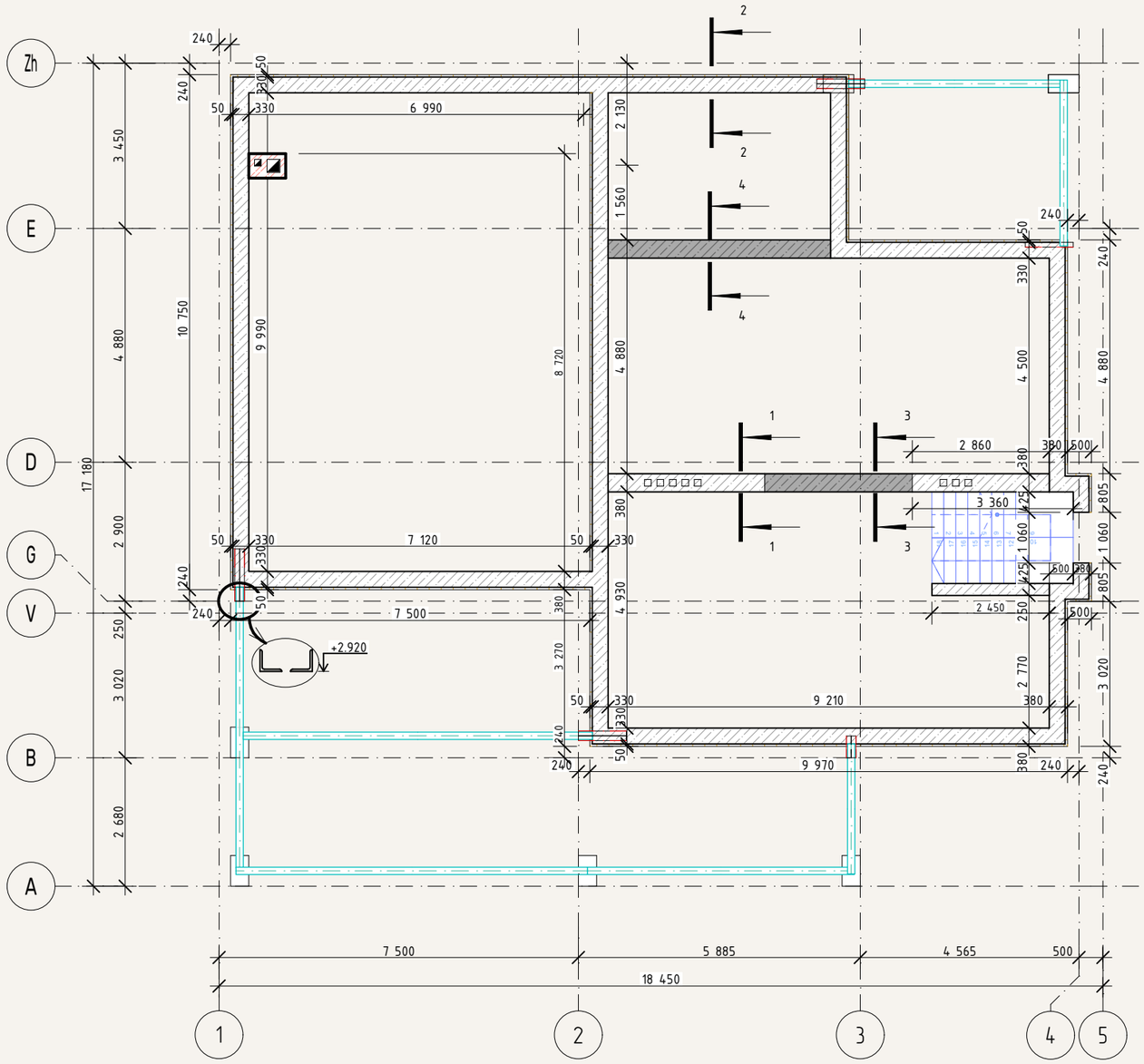
Masonry plan at +0.000

Drawn by	Signature	Date

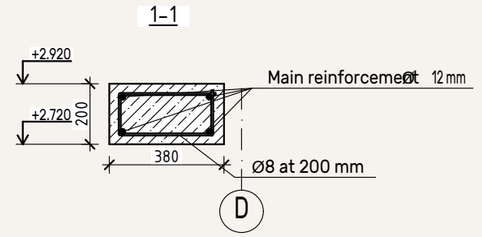
Rev.	Areas	Sheet	Doc. No.	Sign.	Date

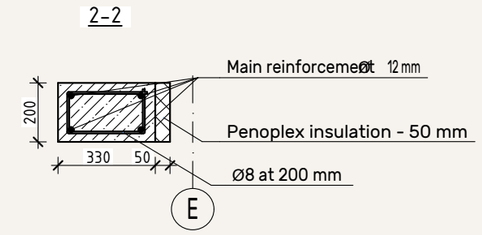
Ring beam plan at +2.720

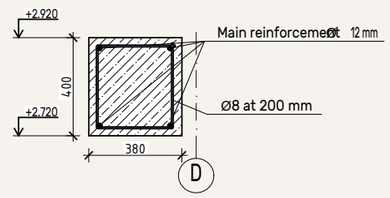
STRUCTURAL DESIGN / RC RING BEAM

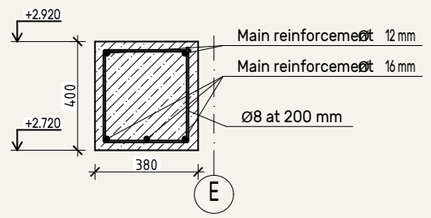


Ring beam sections









324-IP-KR Stage CD Sheet 8 Sheets

Concept design of a detached house

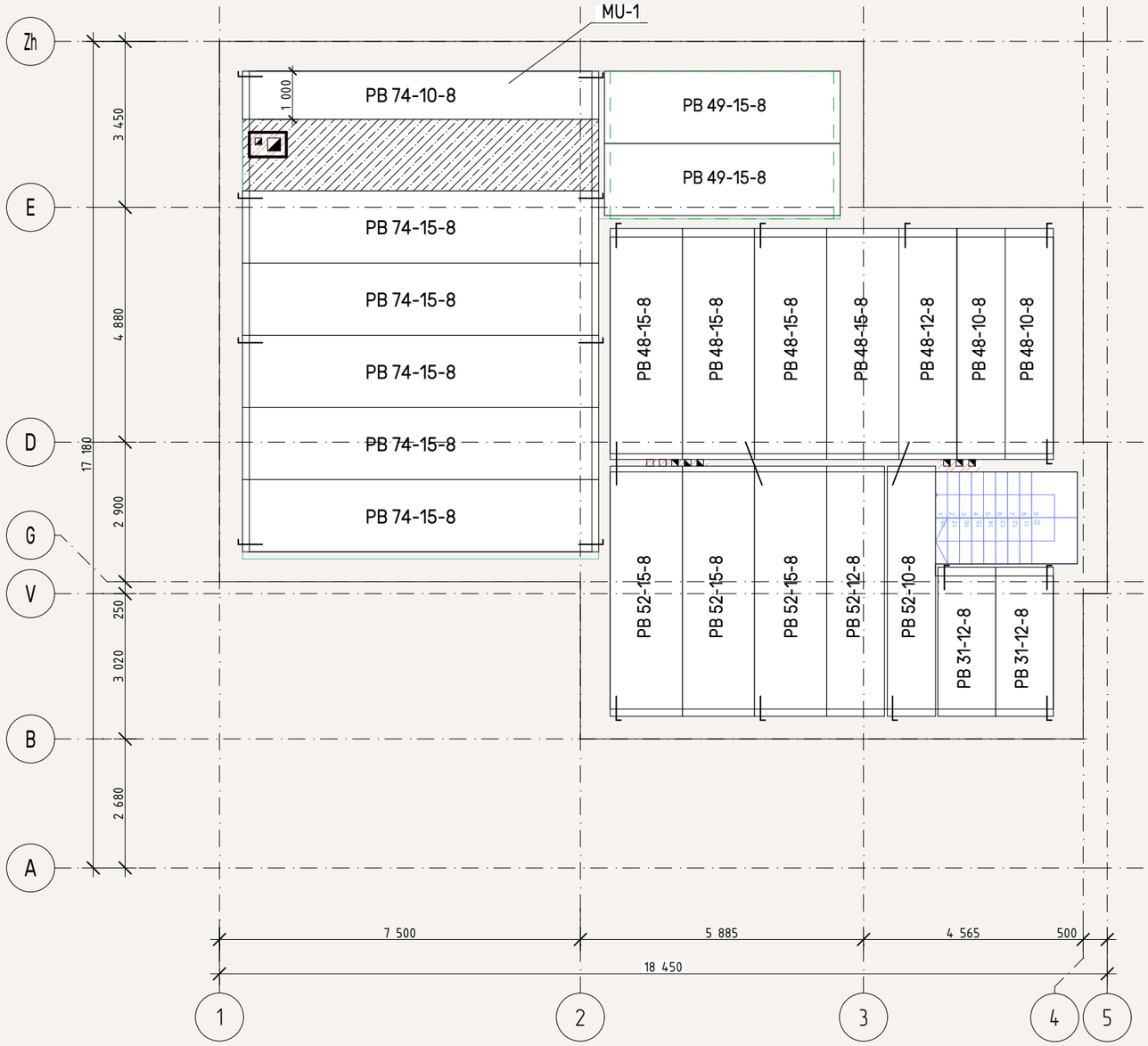
Ring beam plan at +2.720

Drawn by	Signature	Date

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Slab layout at +2.920

STRUCTURAL DESIGN / FLOOR SLABS

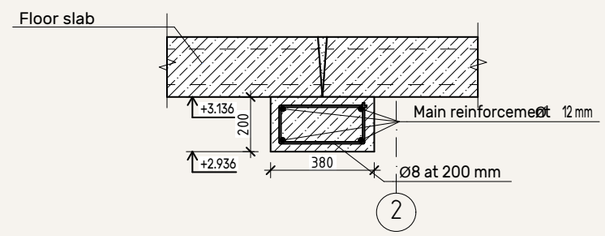


Slab schedule

Item	Depth	Width	Length	Qty
PB 31-12-8	220	1 200	3 100	2
PB 48-10-8	220	1 000	4 800	2
PB 48-12-8	220	1 200	4 800	1
PB 48-15-8	220	1 500	4 800	4
PB 49-15-8	220	1 500	4 900	2
PB 52-10-8	220	1 000	5 200	1
PB 52-12-8	220	1 200	5 200	1
PB 52-15-8	220	1 500	5 200	3
PB 74-10-8	220	1 000	7 400	1
PB 74-15-8	220	1 500	7 400	5

Slab schedule

Item	Depth	Area	Volume
Mineral wool	200	90.45	18.09
MU-1	220	11.03	2.43



324-IP-KR Stage CD Sheet 9 Sheets

Concept design of a detached house

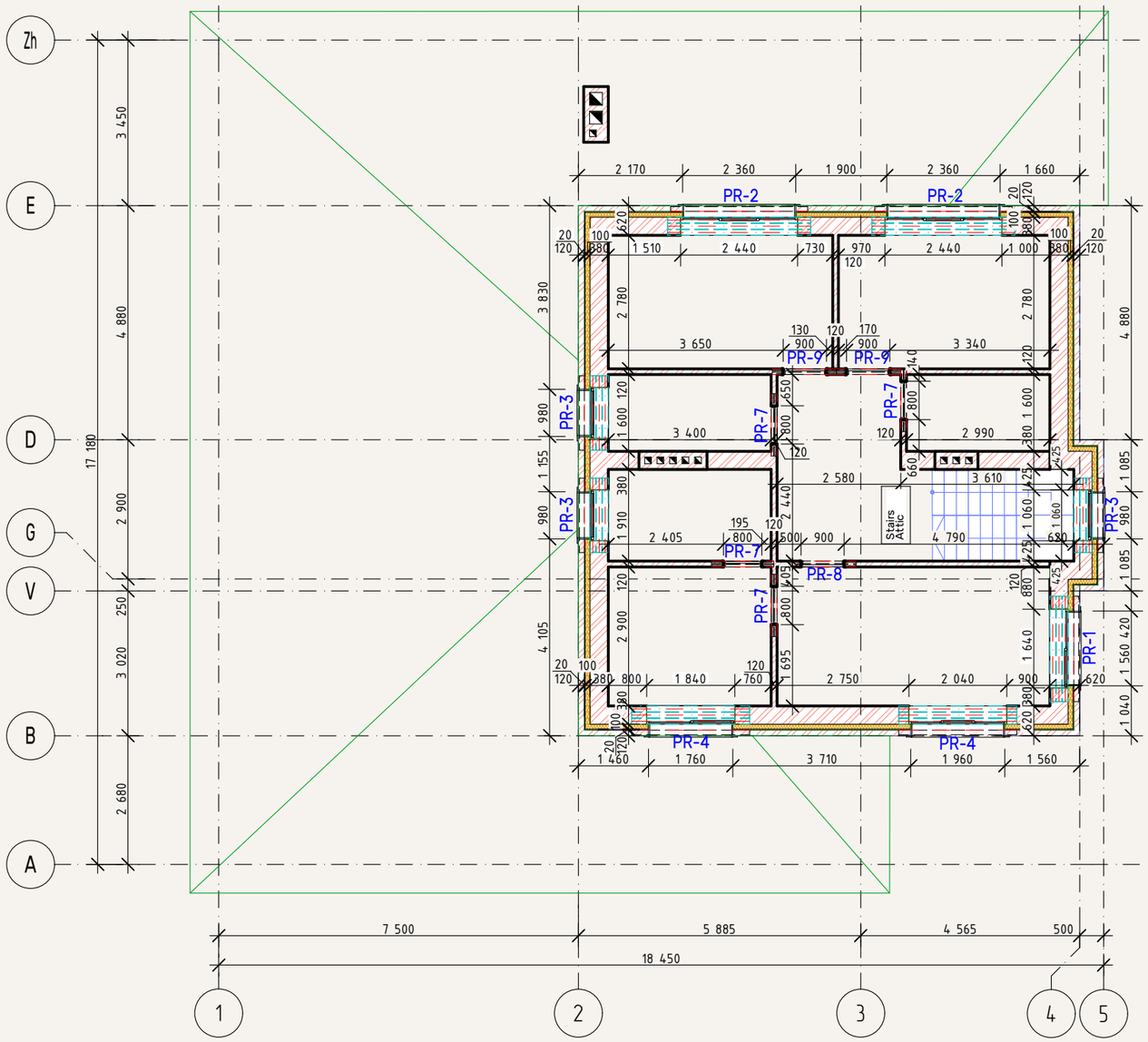
Slab layout at +2.920

Drawn by	Signature	Date

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Masonry plan at +3.270

STRUCTURAL DESIGN / MASONRY AND LINTELS



Lintel schedule

Item	Description	Qty
PR-1	2PB 22-3P	3
PR-1	Angle 100 × 100 mm l=2200 mm	1
PR-2	3PB 30-8P	6
PR-2	Angle 100 × 100 mm l=2860 mm	2
PR-3	3PB 16-37P	9
PR-3	Angle 100 × 100 mm l=1550 mm	3
PR-4	3PB 25-8P	6
PR-4	Angle 100 × 100 mm l=2460 mm	2
PR-7	Angle 50 × 50 mm l=1300 mm	8
PR-8	Angle 50 × 50 mm l=1400 mm	2
PR-9	Angle 50 × 50 mm l=1340 mm	4

324-IP-KR Stage CD Sheet 10 Sheets

Concept design of a detached house

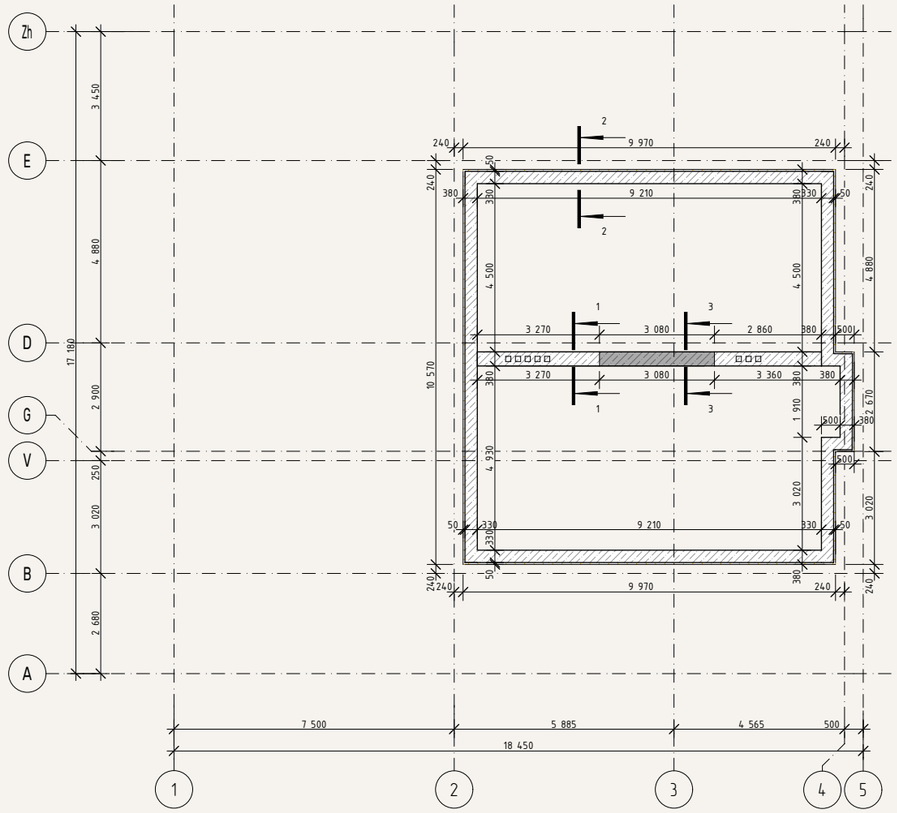
Masonry plan at +3.270

Drawn by	Signature	Date

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Ring beam plan at +6.070

STRUCTURAL DESIGN / RC RING BEAM



Ring beam material schedule

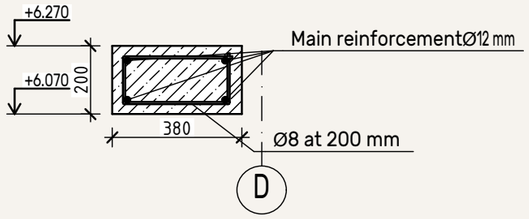
Item	Reference	Description	Qty	Mass	Notes
Materials					
	GOST 26633-2012	Concrete B25 W4, F100, m³	3.2		
	GOST 5781-82*	Ø12 A400, L=lin. m	199.1	0.888	176.80
	GOST 5781-82*	Ø8 A400, L=lin. m	160	0.395	63.20
	Penoplex catalogue	Penoplex 50 insulation, m²	8.42		

Steel quantities

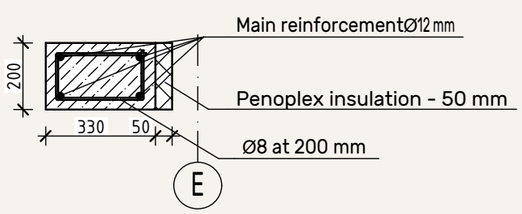
Embedded items / A-III (A400) / GOST 5781-82*

Member mark	Ø8	Ø12	Total	Overall
Rebar Rm	63.20	176.8	240.00	240.00

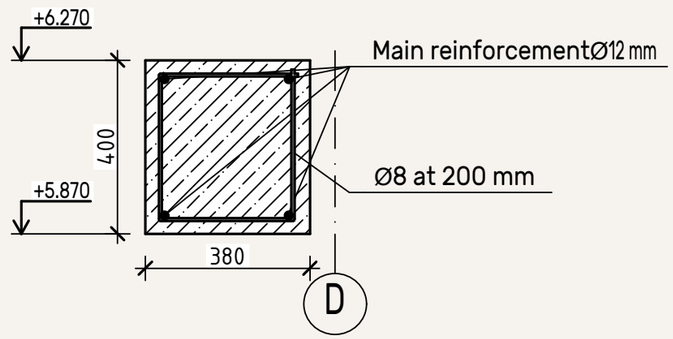
1-1



2-2



3-3



324-IP-KR Stage CD Sheet 11 Sheets

Concept design of a detached house

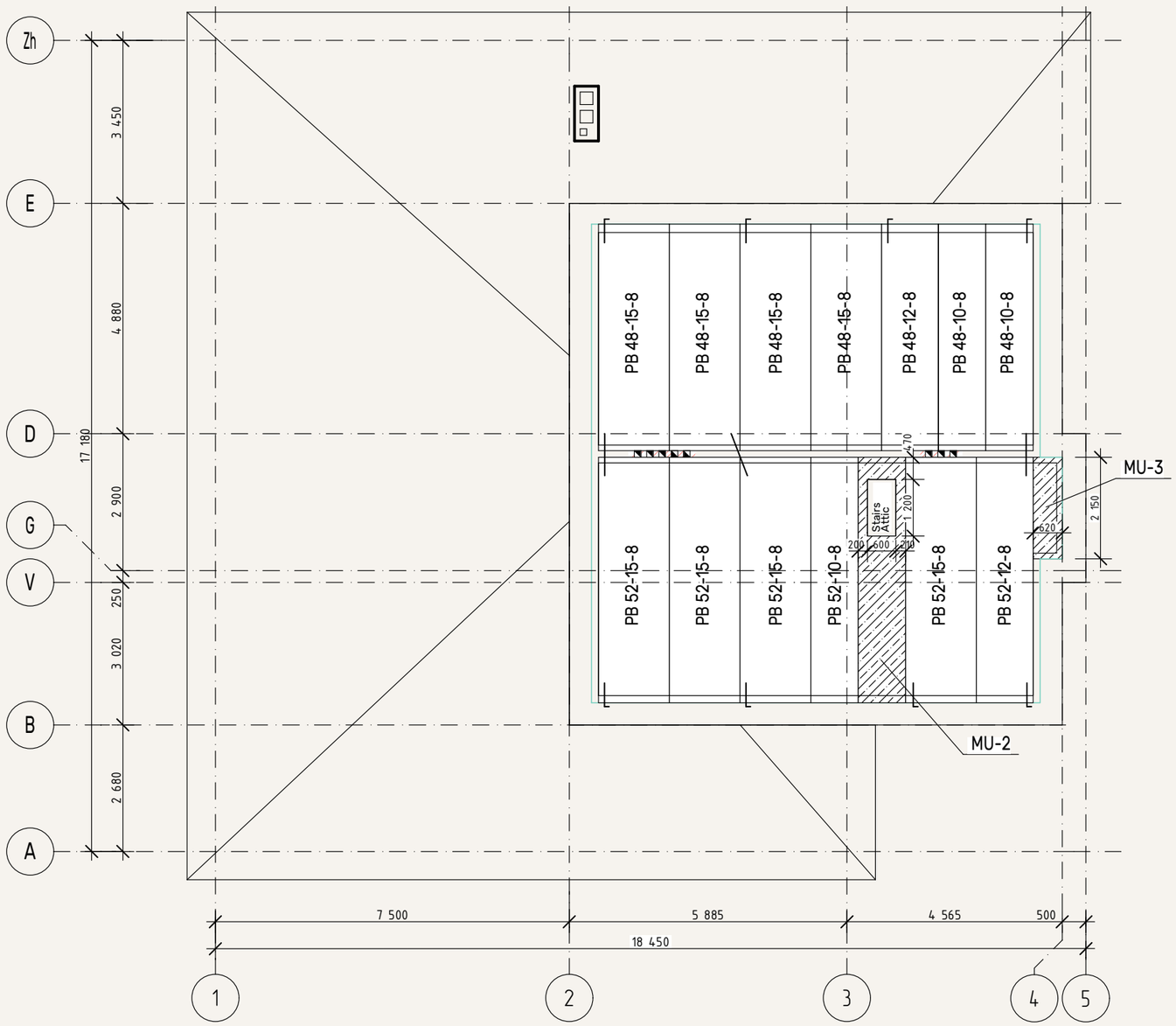
Ring beam plan at +6.070

Drawn by	Signature	Date

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Slab layout at +6.270

STRUCTURAL DESIGN / FLOOR SLABS

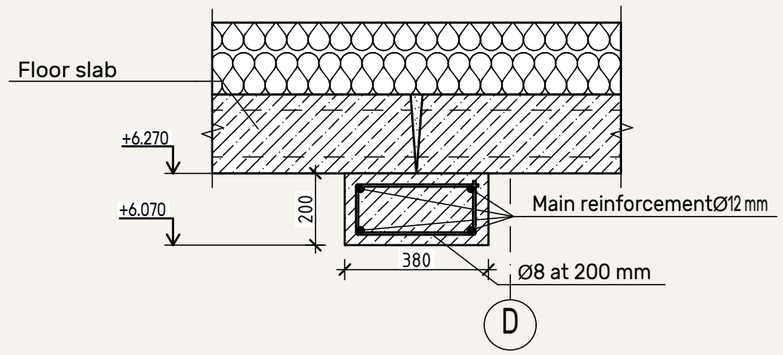


Slab schedule 01 copy 1

Item	Depth	Width	Length	Qty
PB 48-10-8	220	1 000	4 800	2
PB 48-12-8	220	1 200	4 800	1
PB 48-15-8	220	1 500	4 800	4
PB 52-10-8	220	1 000	5 200	1
PB 52-12-8	220	1 200	5 200	1
PB 52-15-8	220	1 500	5 200	4

Attic floor insulation schedule

Item	Depth	Area	Volume
Mineral wool	200	97.44	19.49
MU-2	220	5.25	1.16
MU-3	220	1.33	0.29



324-IP-KR Stage CD Sheet 12 Sheets

Concept design of a detached house

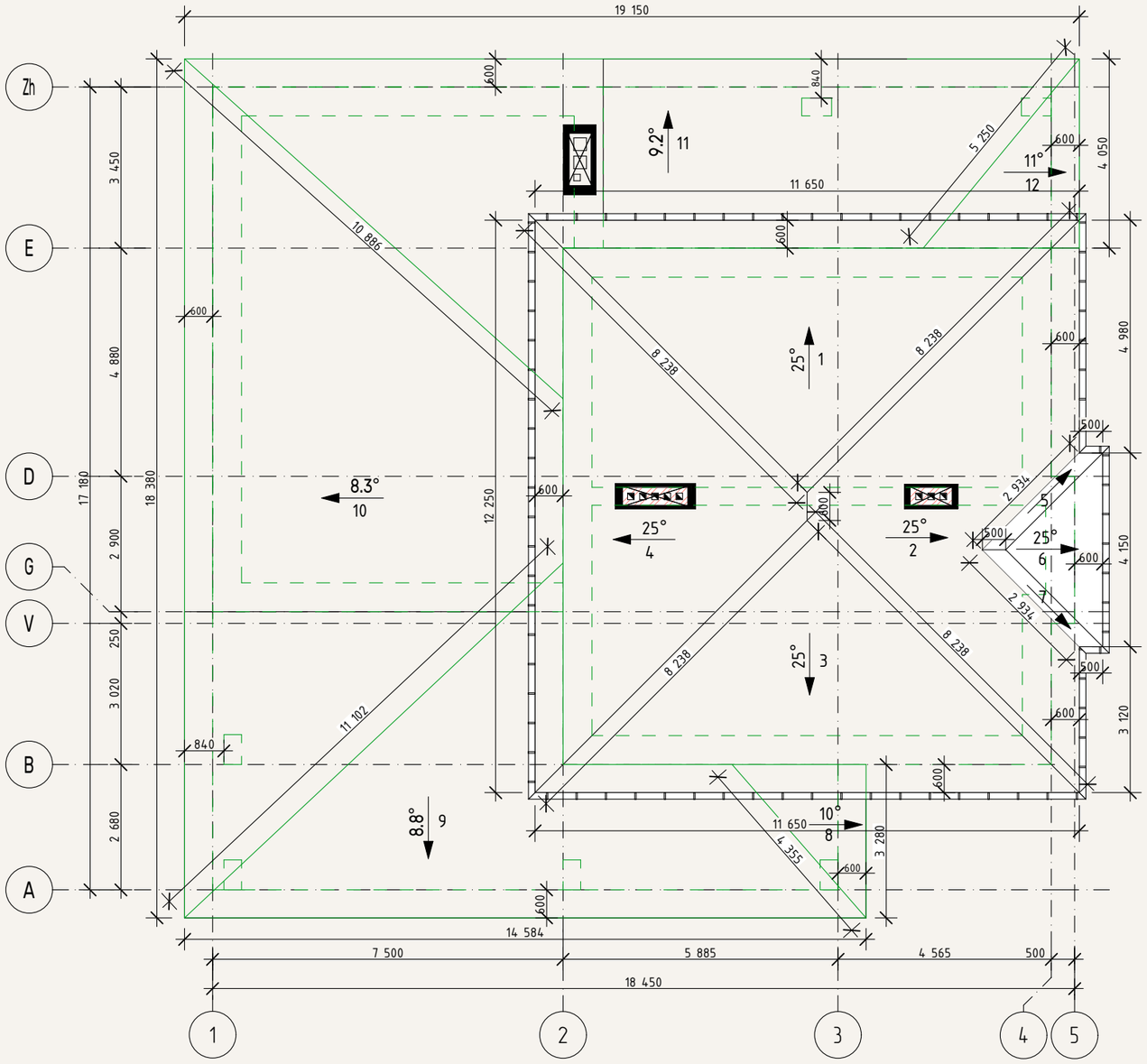
Slab layout at +6.270

Drawn by	Signature	Date

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Roof plan

STRUCTURAL DESIGN / ROOF

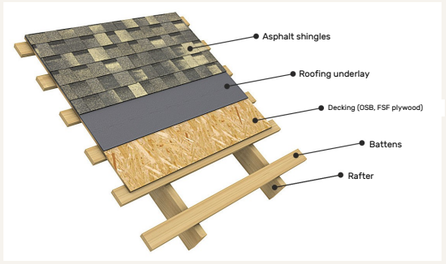


Roof area schedule

Roof plane	Pitch	Area, m²
1	25°	37.44
2	25°	36.54
3	25°	37.44
4	25°	41.29
5	25°	1.14
6	25°	4.75
7	25°	1.14
8	10°	4.77
9	9°	47.88
10	8°	89.61
11	9°	68.32
12	11°	6.89

Total 377.21 m²

Roof build-up



324-IP-KR Stage CD Sheet 13 Sheets

Concept design of a detached house

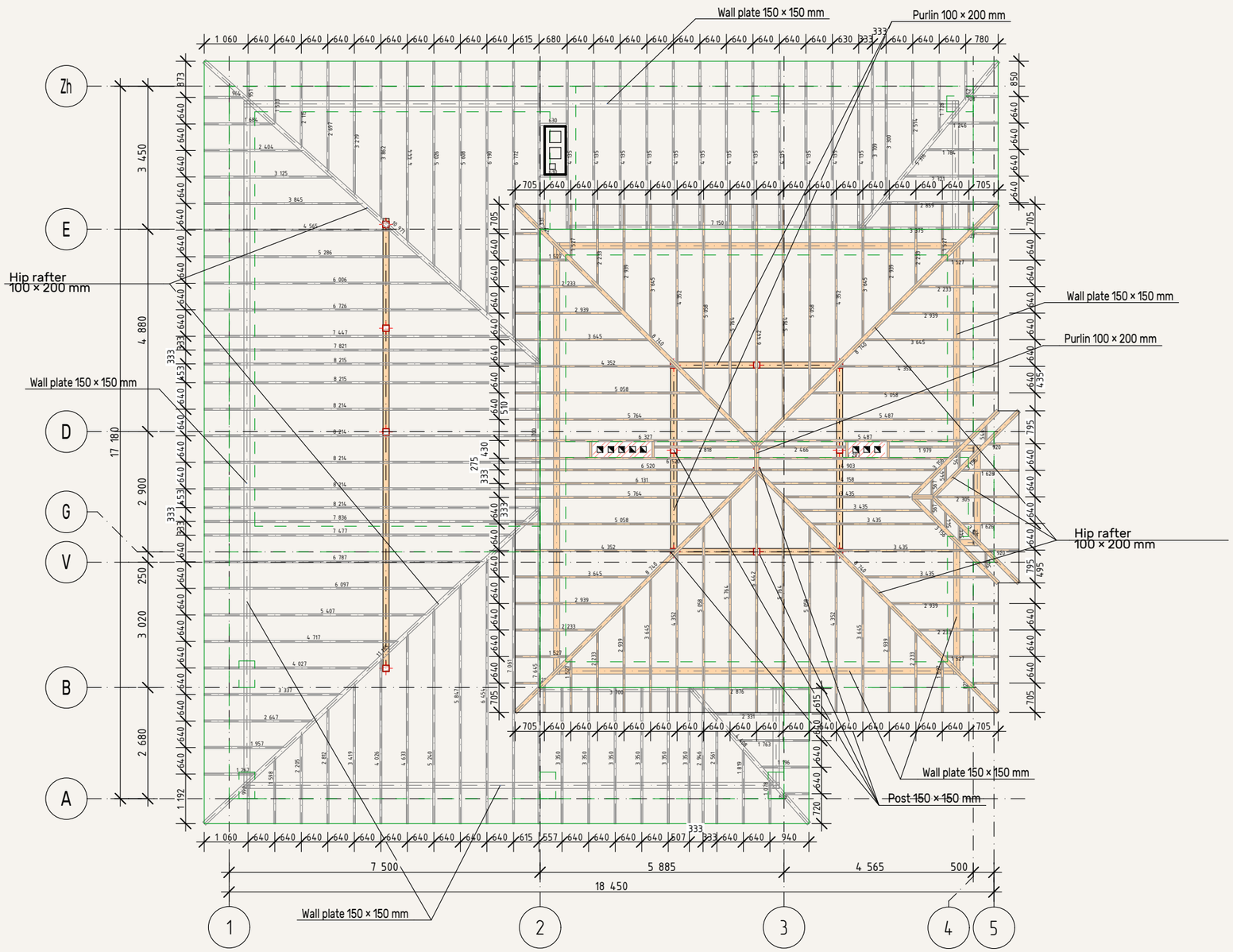
Roof plan

Drawn by	Signature	Date

Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Roof framing plan

STRUCTURAL DESIGN / TIMBER STRUCTURES



Roof framing member schedule

Description	Qty
Hip rafter 100 × 200 mm	12
Sole plate 100 × 200 mm	5
Wall plate 150 × 150 mm	12
Purlin 100 × 200 mm	2
Strut 50 × 200 mm	4
Post 150 × 150 mm	28
Rafter 50 × 200 mm	188

Construction notes

1. Use softwood of at least grade 2 to GOST 8486-86 for load-bearing roof members, with a moisture content not exceeding 20%. Annual growth rings shall be no wider than 5 mm, with at least 20% latewood. For rafter boards subject to edgewise bending or tension, pith is not permitted in the outer tension zone, within 0.15 of the section depth.
2. Protect roof timber in contact with brickwork against decay using two layers of roofing felt. Timber members shall not be fully enclosed within brickwork.
3. For fire and biological protection, apply a 10% solution of the combined-action treatment PBB-255 to GOST 237877-79. Apply by brush or spray in 2-3 coats, with total uptake of at least 60 kg/m³. Treatment shall provide low flammability, verified by a sample mass loss of no more than 25% when tested to GOST 16363-98. A specialist organisation shall carry out the treatment in compliance with safety requirements for toxic chemicals and determine the retreatment interval for roof members. Apply the coating after the structures are installed in their design positions and the roof covering is complete.
4. Confirm nail quantities on site.
5. Batten spacing: 200 mm.

324-IP-KR Stage CD Sheet 14 Sheets

Concept design of a detached house

Roof framing plan

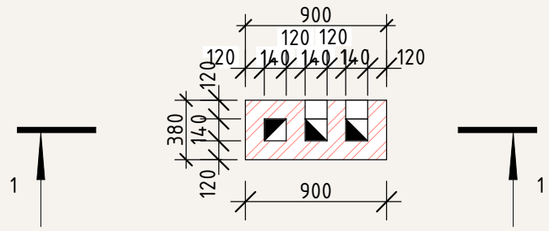
Drawn by	Signature	Date

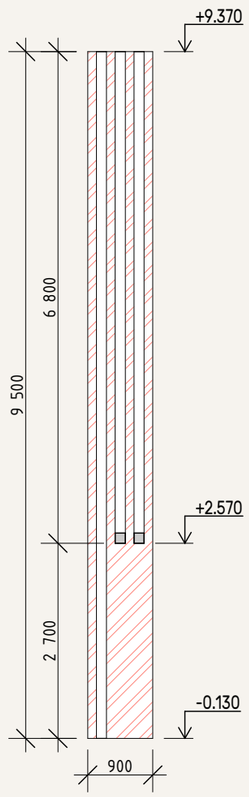
Rev.	Areas	Sheet	Doc. No.	Sign.	Date

Ventilation duct masonry details

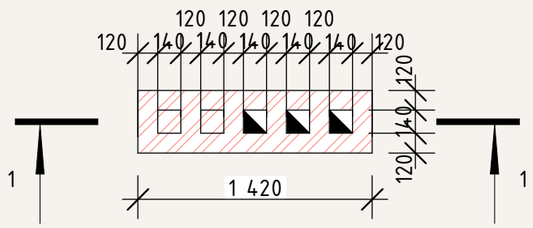
STRUCTURAL DESIGN / VENTILATION DUCTS

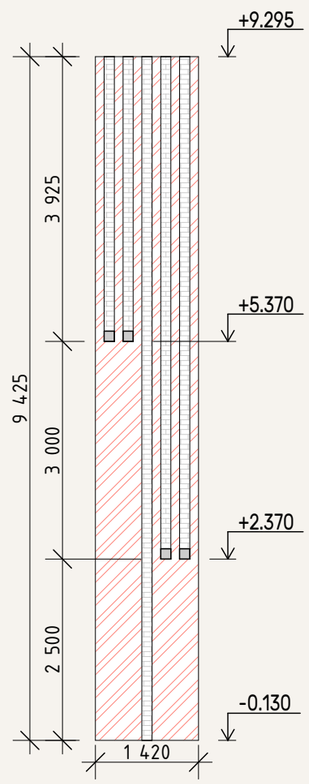
Ventilation duct 1



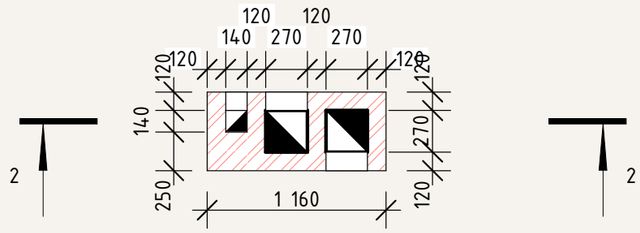


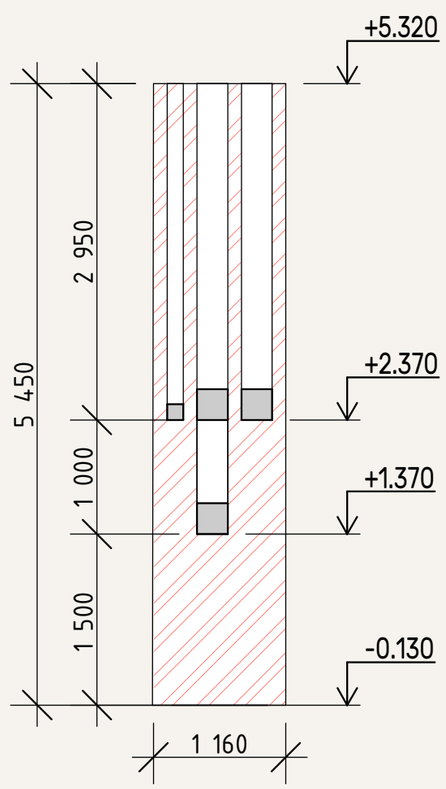
Ventilation duct 2





Ventilation duct 3





324-IP-KR Stage CD Sheet 15 Sheets

Concept design of a detached house

Ventilation duct masonry details

Drawn by	Signature	Date

Rev.	Areas	Sheet	Doc. No.	Sign.	Date