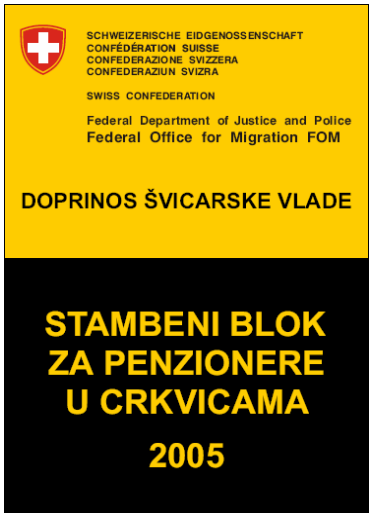
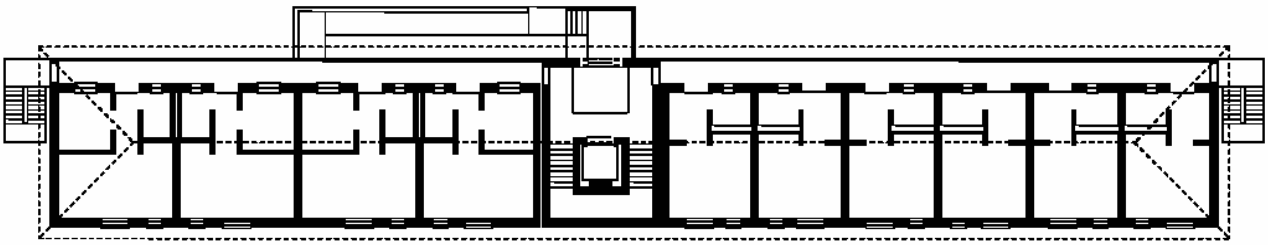
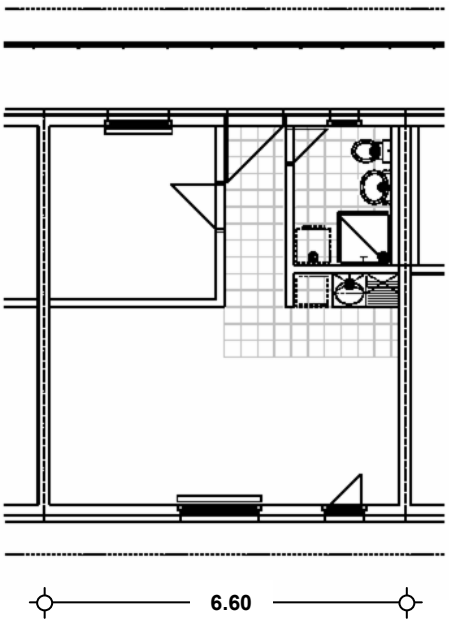
Type of Project:	**Housing – DuSoCC Durable Solutions for Collective Centre Residents**	Country:	**BiH – Bosnia-Herzegovina**
Approach:	**Social Housing**	Realisation - Year:	**2004/2005**
Project Name:	**Zenica (Crkvice) : Elderly People's Flats Block – Stambeni blok za penzionere u Crkvicama**	Version: **3**	Date: **06 December 2005**

Zenica – Residential Block : Social Flats for Elderly

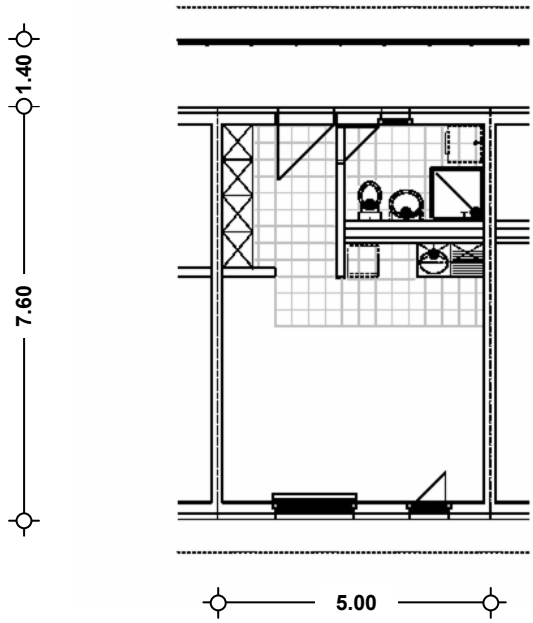




floor plan 63.50 m x 9.00 m



50 m² standard flat layout



38 m² standard flat layout




Context – Situation in BiH in general – Collective centre situation in Zenica

Ten years after the war ended, Bosnia-Herzegovina remains confronted with the problem of displaced persons (DPs). While the pace of returns has increased in recent years, many DPs continue to reside in Collective Centres (CCs) where they await durable solutions of their housing problems. These CCs provide, for the most part, only the most basic accommodation. Many are converted facilities such as former school-houses, closed hotels, barracks or housing containers.

A disproportionately high percentage of the collective centre caseload in Zenica were elderly people, couples or single persons, without family support. Another group of especially vulnerable individuals were female headed families, some of them residing in Zenica CCs as well. Most of these vulnerable CC residents were living in very poor conditions for years. Their prospects for a reintegration into a normal life were deteriorating day by day due to the long-term stay in CC and their precarious personal situation. They had no real chances for a successful return to their place of origin. A local integration was indicated.

Housing, the main objective of the DuSoCC Programme

The main objective of the “Durable Solutions for Collective Centre Residents” (DuSoCC) programme, a SHA secondment at UNHCR Sarajevo is to provide durable housing solutions for CC residents: creation of decent accommodation by reconstruction or rehabilitation of destroyed or damaged private houses (mostly in rural area) and social apartments (in urban area).

Approach – Social housing : Residential block – 30 social flats for elderly collective centre residents

Construction of a three-storey residential block; 30 small flats (18 one-room flats at 38 m² & 12 two-rooms flats at 50 m²) at public owned building land situated in downtown Zenica.

Preconditions for this approach

1. A commitment of the municipality to make a suitable plot of developed building land available was indispensable. On the occasion of a meeting with the mayor of Zenica Zakir Pašalić and the minister for social affairs and displaced persons of the Zenica-Doboj canton Alija Gogić held on 27 June 2001 we learnt that the local authorities have been willing and able to contribute to a solution of the problem. The municipality agreed to make a plot of developed building land available in exchange for 20% of the planned social flats (i.e. 6 of 30 flats) for its own purpose.

2. An intergovernmental agreement had to be signed between Switzerland and Bosnia-Herzegovina, stipulating the BiH authorities' commitment to finance all running costs, their commitment to keep the institution in operation and a guarantee of free access for everybody regardless of his ethnical or religious background.

Beneficiary selection procedure

The selection of the beneficiaries had been done in close cooperation with UNHCR and the local authorities (municipality & canton).

Beneficiary selection criteria	
One of the following criteria has to be met – The beneficiary has to be:	All the following criteria have to be met – The beneficiary has to be:
● elderly ● single without family support	● collective centre resident ● without major financial means ● without major regular support ● without support for housing from third parties

Implementation – Partners

Implementation schedule:
- General Construction Contract signed on 28 May 2004
- Handing-over on 21 February 2005

Direct implementation by DuSoCC programme management without implementing partner

- Project:
  DuSoCC Head Office Sarajevo (René Edward Knupfer)
- Detailed project & site supervision:
  "FORMA" d.o.o. Zenica, projektovanje, inženjering i trgovina
  BiH-72000 Zenica FBiH, Ušće 6
  direktor Sabina Hodžić d.i.a.
- Contractor:
  "GEOSONDA" d.o.o. Zenica, preduzeće za geološke i specijalne građevinske radove
  BiH-72000 Zenica FBiH, Masarykova 66a
  direktor Boris Pejčinović, dipl.ing. / project manager Nevenka Vidaković

Furniture for all 30 flats (complete set comprising bed with mattress, table, 2 chairs, cupboard, shelf) - brand new 1st class quality furniture from local production
donated by:
Flüchtlingshilfe Langen Zenica – Pomoć izbjeglicama Langen u suradnji sa : pax christi fhl-ze@bih.net.ba
Georg Schiel, project coordinator

Goal/Results – Target groups

Goal: Durable Solution for Zenica CC residents – Local integration of elderly & other vulnerable persons –
- Reduction of the collective centre population
- Support to vulnerable elderly people

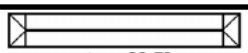
The project targeted 45 - 55 elderly, mostly single persons residing in Zenica collective centres unable to return to their place of origin. They had to be able to live without custody and requested for local integration.

Funding

The "Elderly People's Flats Block" in Zenica was an exclusively Swiss funded project, complementary to the DuSoCC programme 1999-2004, implemented by SHA Secondment at UNHCR Sarajevo.

Total costs BAM 837'240 (= EUR 428'074 – UN operational rate of exchange effective 1 February 2005), funded by Federal Office for Migration FOM (Switzerland).

Relevant figures

block : areas, volumes & costs		Zenica - stambeni blok za penzionere u Crkvicama					
level		surface area A [m²]		height h [m¹]		volume Vol [m³]	
roof	 ∠ α = 22.5°	9.00 x 4.50 x 2	81.00	1.86 / 3	0.62	50.22	
		(63.50 - 4.50 - 4.50) x 9.00	490.50	1.86 / 2	0.93	456.17	
		63.50 x 9.00	571.50		0.30	171.45	**677.84**
3rd floor	(without access balconies)	(63.50 x 9.00) - (26.45 x 1.40) - (30.05 x 1.40)	492.40		2.80		**1'378.72**
2nd floor	(without access balconies)	(63.50 x 9.00) - (26.45 x 1.40) - (30.05 x 1.40)	492.40		2.80		**1'378.72**
1st floor	(without access balconies)	(63.50 x 9.00) - (26.45 x 1.40) - (30.05 x 1.40)	492.40		2.80		**1'378.72**
basement		63.50 x 9.00	571.50		3.10		**1'771.65**
total volume of the block [m³]							**6'585.65**
total space in the block : basement & 1st+2nd+3rd floor, without roof space [m²]			2'048.70				
total height of the block [m¹]					13.66		
costs total	**as on 21 February 2005 (date of last payment)**				**total**	**BAM**	**837'240**
		=> UN operational rate of exchange effective 01-Feb-2005 : BAM 1.49621 = EUR 0.765				**=> EUR**	**428'074**
costs per m³	**as on 21 February 2005 (date of last payment)**				**per m³**	**BAM**	**127**
		=> UN operational rate of exchange effective 01-Feb-2005 : BAM 1.49621 = EUR 0.765				**=> EUR**	**65**

flats : space & costs									Zenica - stambeni blok za penzionere u Crkvicama		
flat type	number of flats per floor #		floors #		total #	floorspace per flat m² gross	m² net	= % of gross	total floorspace flats m² gross	m² net	costs per m² (flat) gross EUR	m² (flat) net EUR	housing unit (flat) EUR
50 m²	4	x	3	=	12	50.16	40.53	= 80.8 %	601.92	486.36	333	414	16'698
38 m²	6	x	3	=	18	38.00	30.41	= 80.0 %	684.00	547.38			12'650
total	10	x	3	=	30				1'285.92	1'033.74	**block costs total EUR**		**428'074**

Problems – Constraints

An unexpected technical problem occurred at the very beginning of the implementation phase: during the excavation works we detected a huge layer of old construction waste. Consequence of which were substantial additional costs for excavation and foundation works.

Lessons learnt

- What was useful in the approach?
  The direct implementation by DuSoCC programme management without implementing partner.
- What should be done differently next time?
  Nothing – we're very satisfied with the result we achieved in Zenica-Crkvice.

Evaluation

Joint Evaluation-SHA/UNHCR of DuSoCC programme to BiH, 21 - 30 April 2002
Heinrich Gloor, Consultant, SHA/SDC, Berne & Melesse Tegegne, EESS/DOS, Geneva
EESS Mission Report 02/09

For further information

Recommended contacts:	René Edward Knupfer, SHA Secondee at UNHCR Vladikavkaz
Recommended institutions:	SHA Berne, Specialised Group for Construction (Heinrich Gloor)
Recommended books/reports:	DuSoCC Briefing Kit (CD, 31 December 2004 release)
Relevant other projects (links):	similar SDC-HA/SHA projects in Serbia-Montenegro

Annex:

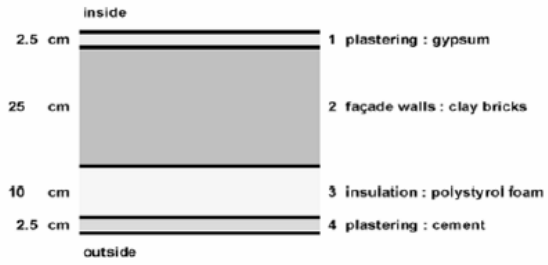
- **Façade insulation – U-coefficient calculation see page: 5**
- **Project preparation & implementation procedures flowchart see pages: 6/7**

Façade insulation

U-coefficient calculation — **Zenica - stambeni blok za penzionere u Crkvicama**

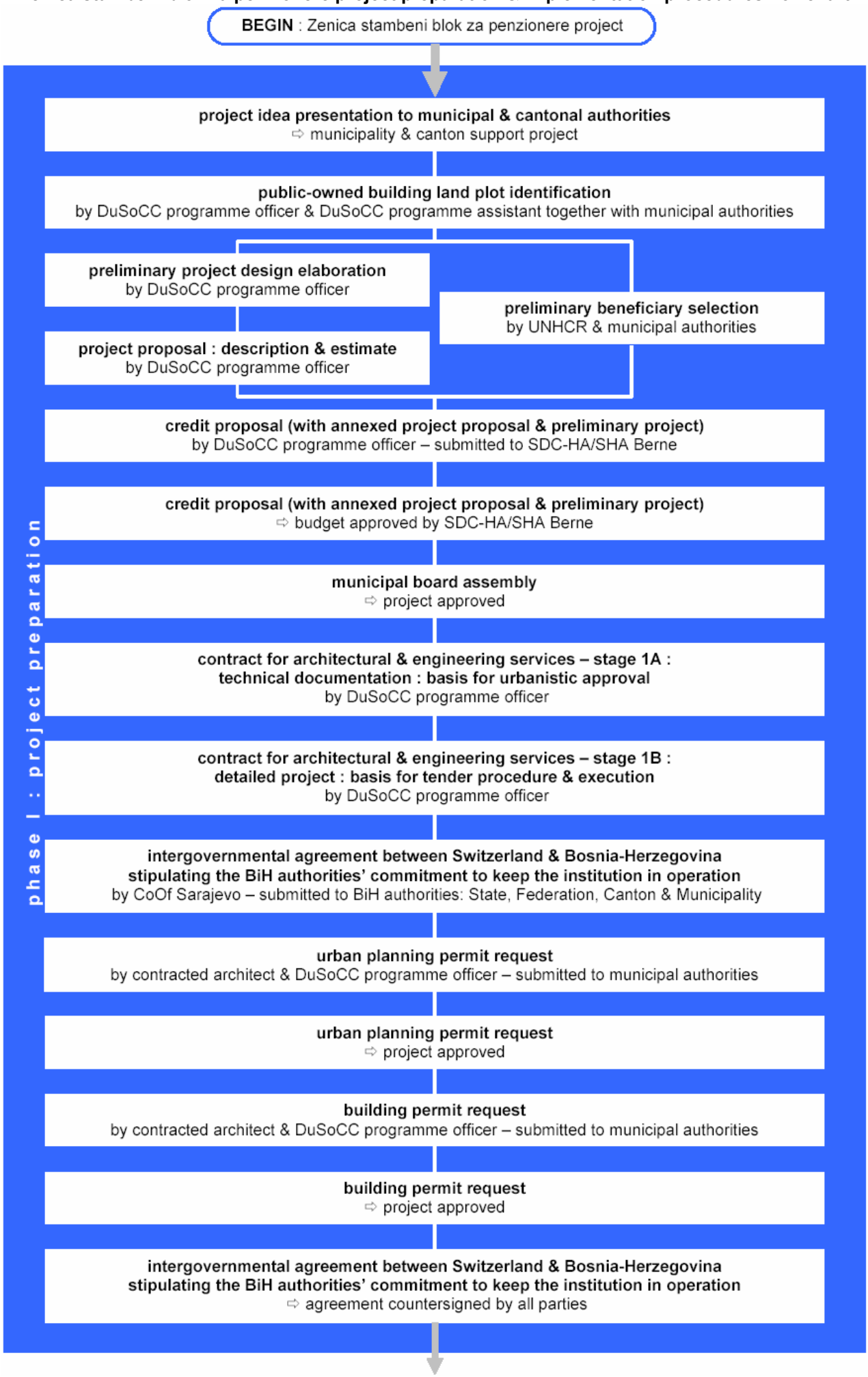
thermal transmission coefficient (U-coefficient) $U = \dfrac{1}{\frac{1}{h_i} + \frac{d_1}{\lambda_1} + \frac{d_2}{\lambda_2} + \frac{d_3}{\lambda_3} + \frac{d_4}{\lambda_4} + \frac{1}{h_o}}$ W/(m²•K) ≤ 0.3 W/(m²•K)

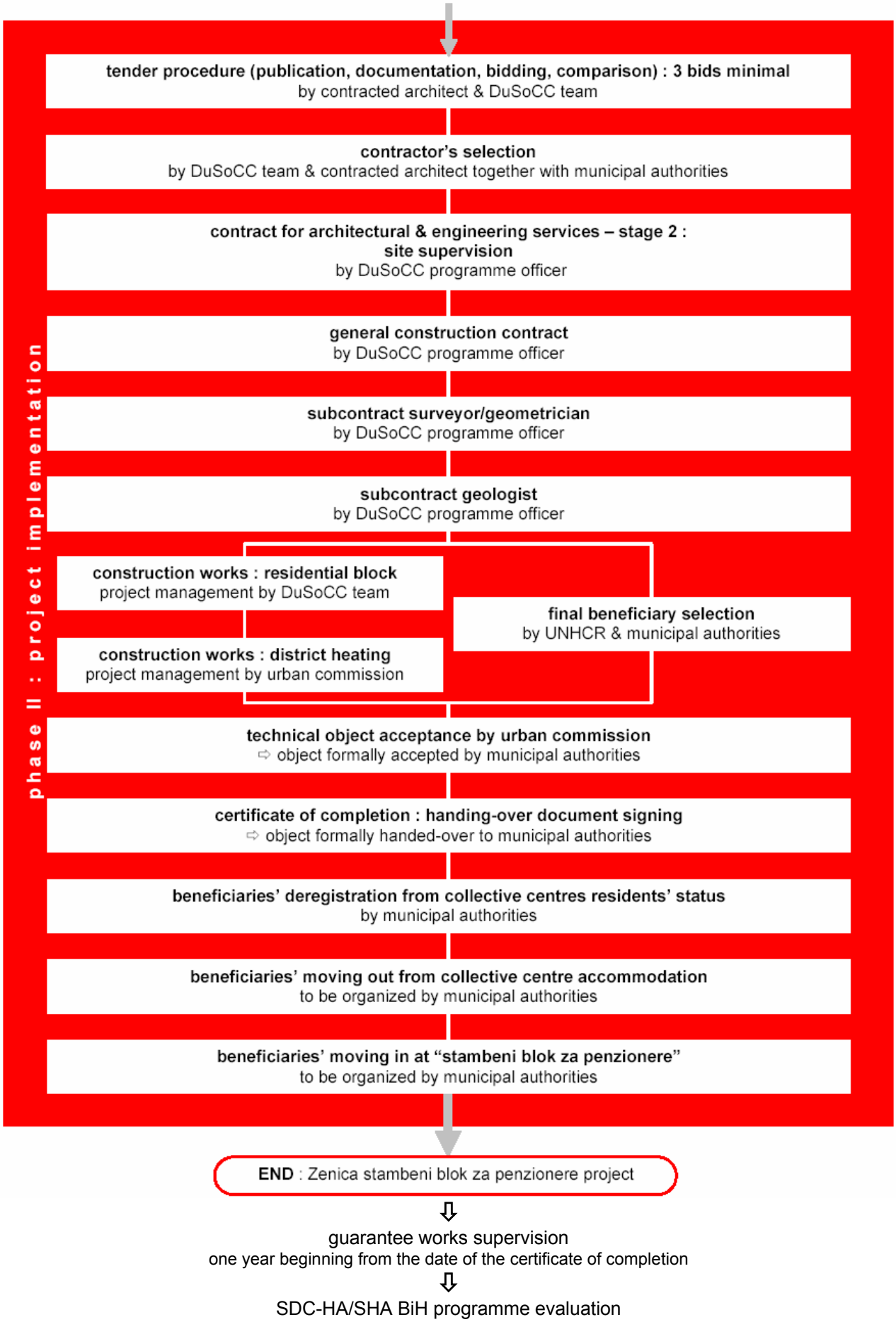
heat transfer coefficient inside h_i
heat transfer coefficient outside h_o
thermal conductivity $\lambda_1 \dots \lambda_4$
layer dimension $d_1 \dots d_4$



			h [W/(m²•K)]	d [m]	λ [W/(m•K)]	1/h d/λ	U [W/(m²•K)]
heat transfer coefficient inside		h_i	8			0.125	
internal walls plastering (gypsum)		d_1		0.025		0.071	
	thermal conductivity	λ_1			0.350		
façade wall, monolithic (clay bricks)		d_2		0.250		0.309	
	thermal conductivity	λ_2			0.810		
façade heat insulation (polystyrol foam)		d_3		0.100		2.500	
	thermal conductivity	λ_3			0.040		
external walls plastering (cement)		d_4		0.025		0.018	
	thermal conductivity	λ_4			1.400		
heat transfer coefficient outside		h_o	25			0.040	
total d & (1/h or d/λ)				0.400		3.063	
thermal transmission coefficient (U-coefficient)		U					0.33 ≈ 0.3

Zenica stambeni blok za penzionere project preparation & implementation procedures flowchart




phase II : project implementation
tender procedure (publication, documentation, bidding, comparison) : 3 bids minimal
by contracted architect & DuSoCC team
contractor's selection
by DuSoCC team & contracted architect together with municipal authorities
contract for architectural & engineering services – stage 2 :
site supervision
by DuSoCC programme officer
general construction contract
by DuSoCC programme officer
subcontract surveyor/geometrician
by DuSoCC programme officer
subcontract geologist
by DuSoCC programme officer
construction works : residential block
project management by DuSoCC team
construction works : district heating
project management by urban commission
final beneficiary selection
by UNHCR & municipal authorities
technical object acceptance by urban commission
⇨ object formally accepted by municipal authorities
certificate of completion : handing-over document signing
⇨ object formally handed-over to municipal authorities
beneficiaries' deregistration from collective centres residents' status
by municipal authorities
beneficiaries' moving out from collective centre accommodation
to be organized by municipal authorities
beneficiaries' moving in at "stambeni blok za penzionere"
to be organized by municipal authorities
END : Zenica stambeni blok za penzionere project
⇩
guarantee works supervision
one year beginning from the date of the certificate of completion
⇩
SDC-HA/SHA BiH programme evaluation