

# Maintenance plan, Husar real estate system

Lars Flygare, 2009-04-07

## Maintenance plan

### Overview

There are two difference types of maintenance:

Corrective maintenance:

Work necessary to bring a building to an acceptable standard, or work that must be initiated immediately for health, safety, security reasons; also work that may result in the rapid deterioration of the structure if not undertaken, for example, roof repairs after storm damage, graffiti removal or repairing broken glass.

Planned maintenance:

Work to prevent failure which recurs predictably within the life of a building, such as cleaning gutters or painting.

You need to draw up a maintenance plan for your buildings so you know when and how much money you have to spend over the years.

In my opinion you should do an eternity plan or at least a ten year plan.

The reason to do a long plan is that you can see how the costs are divide over the years like the example fig.1 below.

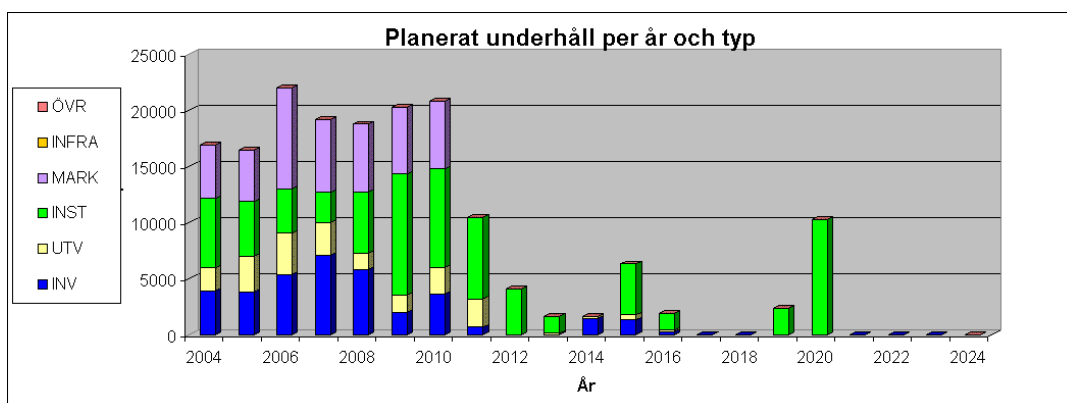


Fig 1.  
An example how the maintenance is divided over the years and in different types of maintenance.

Like the example above there is often a big difference between the years; therefore, you should move some of the measures from one year to another to even out the cost over the years.

If you have a well-laid maintenance plan you can reduce your corrective maintenance because you prevent future non budgeted costs.

### How to establish a maintenance plan

The first thing is to make an inventory of the different sections in the building.

The different section can be:

- Structure
- Roofing
- Building exterior
- Building interior
- Plumbing
- Electrical
- Grounds
- Furniture and equipment.

When you do the inventory you can use a checklist, below you can see an example.

To do an inventory of the building you must have the technical knowledge of the different part of the systems. It is unusual that one person has all the skills, therefore you

might have to engage consultants or specialists to do the inventory.

In my opinion it is very important to do a maintenance plan because of the difficulty to do a budget if you do not know the status of your buildings.

It is even the case that if you are going to buy a property you should do a maintenance plan so you know when and how much money it is going to cost you over the next years.

This effects the price at the purchase, as the more money you have to spend on the maintenance the less the price of the property should be.

Akelius					STATUSKONTROLL			
Fastighetsbeteckning: Kv Hägern					Utförd av: <u>Roger Ringbjer</u>			
Förvaltare Roger Ringbjer					Datum:			
Byggnadsår					Lägenhets adress		Residensgatan 4 A	
Ombyggnadsår					Hyresgäst		Omberg;Barbro	
Huvudnyckel: Ring före:					Infl.datum:		2004-05-01 00:00:00	
					Lägenhetsnummer		85621001 Tel. nr.	
					Status Funktion		1 = Funktionsoduglig 3 = Fullt funktionsduglig 2 = Delvis funktionell	
					Status Underhåll:		1 = Eftersatt uh 3 = Erf. uh utfört 2 = Delvis utfört uh	
Pos	Systemdel	Funktion	Underhåll	Pos.	Systemdel	Funktion	Underhåll	
1	Kök Anm			7	Badrum Anm			
1.1	Spis			7.1	WC stol			
1.2	Bänkskivor			7.2	Tvättställ			
1.3	Skåpluckor			7.3	Badkar			
1.4	Rad.vent			7.4	Dusch			
1.5	Kyl/Frys			7.5	Torkskåp			
1.6	Kakel			7.6	Kakel			
1.7	Blandare			7.7	Blandare			
1.8	Fläkt			7.8	Rad.ventil			
1.9	Vattenlås			7.9	Vattenlås			
1.10	Tapeter			7.10	Tapeter			
1.11	Fönster			7.11	Fönster			
1.12	Tak			7.12	Tak			
1.13	Golv			7.13	Golv			
2	Sovrum 1 Anm			8	WC stol Anm			
2.1	Rad.vent			8.1	WC-stol			
2.2	Tapeter			8.2	Tvättställ			
2.3	Fönster			8.3	Blandare			
2.4	Tak			8.4	Väggar			
2.5	Golv			8.5	Golv			
3	Sovrum 2 Anm			8.6	Tak			
3.1	Rad.vent			8.7	Vattenlås			
3.2	Tapeter			8.8	Rad.ventil			
3.3	Fönster			9	Klädkammare Anm			
3.4	Tak			9.1				
3.5	Golv			9.2				
4	Sovrum 3 Anm			9.3				
4.1	Rad.vent			9.4				
4.2	Tapeter			10	Balkong Anm			
4.3	Fönster			10.1				
4.4	Tak			10.2				
4.5	Golv			10.3				
5	Vardagsrum Anm			11	Generellt Anm			
5.1	Rad.vent			11.1	Brandvarnare			
5.2	Tapeter			11.2	Elsystem			
5.3	Fönster			11.3	VS-system			
5.4	Tak				Övrigt Anm			
5.5	Golv							
6	Hall Anm							
6.1	Rad.vent							
6.2	Tapeter							
6.3	Fönster							
6.4	Tak							
6.5	Golv							

After you have done the inventory you put the figures in a program or in excel.

If you set the date for next time for every measure you get an eternity plan, see the example below.

In that plan you must decide how long the technical lifetime is for each section or subject.

Now you have done a maintenance plan.

Byggnad	Lokal	Plan	Rum	Typ	BSAB	Besikt- ningsman	Tidpunkt för besiktning	Åtgärds- kod	Åtgärd i klartext	Mängd	Sort	Inter- vall	Kostnad i Kkr	Utför- ande år
K0105.000PP		PP3		INST	63			63.2.6	Bilvärmars Stolpe med styrning	40	st	30	326	2030
K0105.000PP		PP8		INST	63			63.2.6	Bilvärmars Stolpe med styrning	10	st	30	81,5	2029
K0105.000PP		PP7		INST	63			63.2.6	Bilvärmars Stolpe med styrning	5	st	30	40,75	2028
K0105.000PP		PP6		INST	63			63.2.6	Bilvärmars Stolpe med styrning	19	st	30	154,85	2030
K0105.000PP		PP4		INST	63			63.2.6	Bilvärmars Stolpe med styrning	127	st	30	1035,05	2027
K0105.000PP		PP2		INST	63			63.2.6	Bilvärmars Stolpe med styrning	28	st	30	228,2	2028
K0105.000PP		PP1		INST	63			63.2.6	Bilvärmars Stolpe med styrning	32	st	30	260,8	2029
K0105.000PP		PP5		INST	63			63.2.6	Bilvärmars Stolpe med styrning	23	st	30	187,45	2026
K0105.001		Fasad		UTV	34			34.3.1.1	Målning plåttak, bandtäckning	520	m <sup>2</sup>	30	156	2013
K0105.001		Plan 3		INV	37			37.2.1.1	Målning golv	284	m <sup>2</sup>	15	17,04	2015
K0105.001		Plan 2		INST	52			52.5.5.1	Byte av rörsystem, Spillvatten	376	m <sup>2</sup>	50	33,84	2015
K0105.001		Plan 1		INST	52			52.1.5.1	Byte av rörsystem, Tappvatten, ej våtrum	375	m <sup>2</sup>	40	22,5	2015
K0105.001		Plan 2		INST	52			52.1.5.1	Byte av rörsystem, Tappvatten, ej våtrum	375	m <sup>2</sup>	40	22,5	2015
K0105.001		Plan 1		INST	52			52.5.5.1	Byte av rörsystem, Spillvatten	375	m <sup>2</sup>	50	33,75	2015
K0105.001		Plan 1		INST	52			52.0.1.2	Byte av våtrumsinst. duschrum enkel	3	st	25	30	2015
K0105.001		Plan 5		INST	52			52.0.1.1	Byte av våtrumsinst., WC	4	st	25	40	2015
K0105.001		Plan 4		INST	52			52.5.5.1	Byte av rörsystem, Spillvatten	376	m <sup>2</sup>	50	33,84	2015
K0105.001		Plan 2		INST	52			52.0.1.1	Byte av våtrumsinst., WC	3	st	25	30	2015
K0105.001		Plan 5		INST	52			52.5.5.1	Byte av rörsystem, Spillvatten	376	m <sup>2</sup>	50	33,84	2015
K0105.001		Plan 1		INST	52			52.0.1.1	Byte av våtrumsinst., WC	2	st	25	20	2015
K0105.001		Plan 5		INST	63			63.1.3	Kontor m. Fbk-kanalisation	376	m <sup>2</sup>	30	321,48	2016
K0105.001		Plan 4		INST	63			63.1.3	Kontor m. Fbk-kanalisation	376	m <sup>2</sup>	30	321,48	2016
K0105.001		Plan 3		INST	63			63.1.3	Kontor m. Fbk-kanalisation	376	m <sup>2</sup>	30	321,48	2016
K0105.001		Plan 2		INST	63			63.1.3	Kontor m. Fbk-kanalisation	376	m <sup>2</sup>	30	321,48	2016
K0105.001		Plan 1		INST	63			63.1.7	Kasern, källarplan Elinst.	375	m <sup>2</sup>	30	120	2015
K0105.001		Plan 3		INST	52			52.0.1.1	Byte av våtrumsinst., WC	3	st	25	30	2015
K0105.001		Plan 4		INST	56			56.5.2	Byte av termostatventiler	30	st	20	12	2009
K0105.001		Plan 3		INST	52			52.1.5.1	Byte av rörsystem, Tappvatten, ej våtrum	376	m <sup>2</sup>	40	22,56	2015
K0105.001		Plan 5		INST	52			52.1.5.1	Byte av rörsystem, Tappvatten, ej våtrum	376	m <sup>2</sup>	40	22,56	2015
K0105.001		Plan 5		INST	84			84.2.1	Datoriserad styrcentral	1	st	20	50	2009
K0105.001		Plan 4		INST	84			84.2.1	Datoriserad styrcentral	1	st	20	50	2009
K0105.001		Plan 1		INST	84			84.2.1	Datoriserad styrcentral	1	st	20	50	2009
K0105.001		Plan 4		INST	57			57.5.5.4	Byte T aggregat 0-1000 m <sup>3</sup> /h	1	st	25	17	2020
K0105.001		Plan 4		INST	57			57.5.5.1	Byte F aggregat 0-1000 m <sup>3</sup> /h	1	st	25	17	2020
K0105.001		Plan 3		INST	52			52.5.5.1	Byte av rörsystem, Spillvatten	376	m <sup>2</sup>	50	33,84	2015
K0105.001		Plan 5		INST	56			56.5.2	Byte av termostatventiler	30	st	20	12	2009

# Husar

In Akelius we have a computerized system for handling our properties, it is called Husar.

The program is based on a base system and different additional modules, the main base system contains:

- Product Index with features that make it possible to manage file information.
- Client with features that make it possible to manage customer information.
- Contracts Register with features that make it possible to manage contracts.

The following features are included in the base system:

- Billing the tenants
- Requirements and interest charges
- Transfer to accounting
- Price changes
- Accounts receivable

The following additional modules are available:

- Interior maintenance
- Exterior maintenance
- Maintenance fund linked to the apartment
- Maintenance fund linked to the tenant
- Fault report
- Service order
- Miscellaneous billing
- Sales system
- Marketing system
- Internet publishing
- Internet tenants pages
- Complaints
- Document access
- E-invoice
- Integration module that handles connections to the economy, debt collection companies, external systems for billing of heat, water and electricity.

Mobile applications are available:

- Husar info
- Mobile inspection
- Mobile inspection
- Mobile fault report
- Mobile service orders

## **Interior maintenance**

By using a navigator in the system you can search through the hierarchy from the property down to the space. By clicking the space you can get a description of the entities that exist in space and see their status.

## **Exterior maintenance**

This is built around the same object structure as the interior maintenance. One, or / several maintenance measures attached to objects that may be of different types (Stairwells, Boiler installations, land, etc.). The functionality of the external maintenance is the same as for other objects.

## **Service orders / inspection**

The maintenance module is the base for service orders and inspection modules. Actions initiated in these modules affect the course status of the maintenance.

## **Mass registration**

Some maintenance work is done simultaneously for several apartments. In order to simplify the registration it is possible to do a mass update in husar maintenance.

## **Reports and documents**

The husar maintenance has a large number of reports and documents that users of the system can take out. There is also a link to the husar analysis which is a database that is used to produce statistics / reports in Excel.

## **Drawing management**

The system supports management of drawings and documents.