ENGLISH SUMMARY

Northern Tallinn city district

Plan to enhance fire safety

Contents

Colophon

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Introduction

EU PRISMA Project is and was a direct continuation to the EU MiSRaR project. The European Commission's Humanitarian Aid and Civil Protection General Directorate´s has funded the project "PRISMA" (*Promoting and Implementing Strategies for Risk Management and Assessment*), which main purpose is to promote and manage strategies for assessing and mitigating risks on local, regional and national level. This EU PRISMA Project has been made possible with contribution from the Civil Protection Financial Instrument from the European Union. In project took part five regions from four countries: the Northern Tallinn Administration as representative of the City of Tallinn, the South Holland South Safety Region (VRZHZ), Mirandela and Aveiro municipalities from Portugal and Stara Zagora region from Bulgaria.

In the framework of the EU PRISMA Project, the principles of the MiSRaR Project and of a completed handbook of MiSRaR or MiSRaR handbook as a result of the MiSRaR Project were tested in the practice. [Handbook, Handbook of the EU MiSRaR project "Mitigating Spatial Relevant Risks in European Regions and Towns" (2012); Käsiraamat või EL MiSRaR projekti käsiraamat „Ruumirelevantsete riskide leevendamine Euroopa piirkondades ja linnades" (2012)]

The EU PRISMA Project in Northern Tallinn was carried out and result or output of it „"Northern Tallinn city district plan to enhance fire safety (EU PRISMA Project Final Document)" („Põhja-Tallinna tuleohutuse suurendamise kava (EL PRISMA projekti lõppdokument)") was designed by the EU PRISMA Project Northern Tallinn working group or project team. This working group or project team was formed by the administrative ordinance by the Head of Northern Tallinn Administration from 13th of May 2013 No 2-1/109 "Formation of project team of international project "PRISMA – a fire safety risk assessment and the protection of the population" of the European Commission's Directorate General for humanitarian aid and civil protection" (See annex 4). The EU PRISMA Project was managed by three EU PRISMA Project managers. Technical and in content recording and composing of this current and mentioned Plan and EU PRISMA Project Final Document was provided by the last EU PRISMA Project manager Helmut Hallemaa. Plan has been adopted by the Head of the Northern Tallinn City Administration Karin Tammemägi.

As the result of project **the Project Final Document "Northern Tallinn city district plan to enhance fire safety (EU PRISMA Project Final Document)"** was worked out and designed. It contains and includes several different chapters, totally 9 (nine) – (1) declaration of principles – goals of the project and achieved results, (2) bases and methodology for the plan to enhance fire safety, 83) description of Northern Tallinn city district, (4) overview of partners, (5) risk assessment and risk analysis, (6) a summary overview of fire risks in other areas of Northern Tallinn city district (without domineiting woden-house dwellings), (7) capability assessment, (8) action plan or mitigation plan and (9 policy memorandum –, and also contents (structure),

introduction and summary and eight annexes. Final document in total is in Estonian but has also summary and summaries of each chapter in English.

This current Northern Tallinn city district plan to enhance fire safety (EL PRISMA Project Final Document) is a collective expert opinion in this area. Developed and offered planned and possible measures to enhance fire safety and for mitigation of fire risks in the Northern Tallinn city district shall be included into the concrete and specific development documents – development plan of Northern Tallinn city district, development plan of City of Tallinn, specific and sector development plans, overall spatial plan of Northern Tallinn city district and other development documents – and budgets. Just as important is that it is at the national level and by the State, primarily by the Estonian Rescue board and its North Rescue Centre through the respective development documents and budgets. This ensures that all planned and possible measures can be implemented and the realization of them. This is the ultimate goal of all the work.

1. Declaration of principles

In the period 2010-2012 seven partners in six EU Member States worked together in the so-called MiSRaR project (Mitigation Spatial Relevant Risks in European Regions and Towns). This project focused on knowledge exchange between local authorities on ways to reduce spatial planning risks. The exchanged lessons are defined in a joint handbook. Following on the MiSRaR project, the VRZHZ together with four European partners, launched a follow-up project to test the lessons learned in practice. This is the PRISMA project (Promoting and Implementing Strategies for Risk Management and Assessment). In this project, each of the international partners will develop a strategy for risk management for a specific risk in its own territory. The first objective of the project is to test the cross-sectoral implementation of the risk assessment and risk management (prevention) strategies as described in the brochures and handbook of the InterregIVC project MiSRaR (Mitigation Spatial Relevant Risks in European Regions and Towns). The partners will test these strategies on the following priority risks:

- rail transport of dangerous substances (VRZHZ)
- risks of dangerous substances in SEVESO industries and its road and rail transport (Aveiro)
- urban fires in the historic city centre (Mirandela)
- fires in the urban area with protected wooden houses (Tallinn)
- forest fires (SZREDA).

The second objective is to promote risk management and organize knowledge exchange between other local, regional and provincial governments and cross-sectoral risk management partners within the European Union (and associated states) on:

- the concepts, strategies, best practices and lessons learnt on risk assessment, risk management and the relation with disaster preparedness as described in the aforementioned handbook;
- the practical experiences with the implementation of the handbook as described under objective 1;
- the consequences of the 'EU staff working paper on Risk Assessment and Mapping Guidelines for Disaster Management' for local, regional and provincial governments and the possibilities for connecting national and decentralized risk assessment and risk management policies.

During the project each partners have:

- Built a risk management network
- Performed a risk assessment
- Performed a capability assessment
- Developed an implementation strategy

During the project partners have together:

- Organized 3 international congresses

- Developed and maintain a website
- Published newsletters and press releases

During the implementation of the project, partners supported each other and exchanged their experiences in four 'partner advice and counselling meetings. "A virtual office" was and is available to work together on the project like colleagues in "real life" The partners assisted each other and presented their findings at the end of three international conferences.

EU PrismA project expected and achieved results in Northern Tallinn city district have been and are:
All these aims and objectives put up and expected results by EU PrismA Project as on international level partner countries as in Northern Tallinn have been or shall be achieved.

In the first phase of the project and in realising of it there were formulated applied for, hoped and achieved expected results by project and by activities of this project. Tallinn hoped that the outcome of EU PrismA project will result in:

- Stronger cooperation between different interest groups and stakeholders
- Building up forms of cooperation for fire safety mitigation
- Building up cooperation network(s) for fire safety and fire safety mitigation, when needed and accepted by stakeholders and cooperation partners
- Inviting and involving in cooperation and in the work of built up cooperation form for fire safety and fire safety mitigation of all partners and stakeholders
- **Real practical outcomes (1) for inhabitants, like fire safety information** (real suggestions for inhabitants, printed materials, practical papers, handbook etc.)
- **Real practical outcomes (2): Zoning of territory** of Northern Tallinn according to fire risks and fire safety
- **Real practical outcomes (3):** fire risks and safety maps
- **Real practical outcomes (4): Implementation of fire safety in the General Spatial Plan of the district**
- **Real practical outcomes (5): Implementation of fire safety in the Development Plan of the district**

The overall wish is **to integrate fire safety as "normal every day activity" in development work, spatial planning and (re)construction.**

2. Bases and methodology

In the framework of the EU PRISMA Project, the principles of the MiSRaR Project and as a result of the MiSRaR Project a completed handbook of MiSRaR or MiSRaR handbook were tested in the practice. [Handbook, Handbook of the EU MiSRaR project "Mitigating Spatial Relevant Risks in European Regions and Towns" (2012); Käsiraamat või EL MiSRaR projekti käsiraamat „Ruumirelevantsete riskide leevendamine Euroopa piirkondades ja linnades" (2012)]

In the framework of the EU PRISMA Project, the principles of the MiSRaR Project and as a result of the MiSRaR Project a completed handbook of MiSRaR or MiSRaR handbook were tested in the practice. [Handbook, Handbook of the EU MiSRaR project "Mitigating Spatial Relevant Risks in European Regions and Towns" (2012); Käsiraamat või EL MiSRaR projekti käsiraamat „Ruumirelevantsete riskide leevendamine Euroopa piirkondades ja linnades" (2012)]

Used in the Northern Tallinn city district plan to enhance fire safety (EU PRISMA Project Final Document)" and in its chapter 3 " Description of Northern Tallinn city district ", including sub-chapter 3.3 " Description, characterization and assessment on fire safety of Northern Tallinn ", data and maps describing Tallinn and its Northern Tallinn city district, subdistricts and buildings and building structure, including wooden houses and wooden-house dwellings, come from Tallinn Urban Planning Department and its comprehensive planning division. Data and statistics on fire safety, on fire safety supervision, fires and other rescue events have got and been taken from statics, yearbooks, scripts and other materials of Estonian rescue Board and its North Rescue Centre. .

By founded and calculated the indicator of density of wooden houses in the evaluating wooden houses and wooden building's structure it has calculated as index of number of wooden hoses per one ha of area. On maps of density of wooden houses as unit of area are quadrates in 100 x 100 m/meters or then quadrates by 1 ha/hectare.

Brought in chapter 6 „Fire risks in other areas of Northern Tallinn city district (without domineiting woden-house dwellings): A summary overview " toodud assessments, data, tables and maps of hazard territories or zones of catastrophe risky enterprises, Seveso companies (categories A and B) and highly hazardous enterprises have been taken from **assessment work or material „Risk analysis of emergancy situation of Tallinn THORA 2013" („Tallinna hädaolukorra riskianalüüs THORA 2013").** Composing of this risk analysis was managered by a working group of composing and processing of crisis regulation documents of the Tallinn crisis commission founded by Tallinn City Government at head of deputy mayor of Tallinn Kalle Klandorf. This risk analysis has been adopted by the administrative ordinance of the mayor of Tallinn from the 8th of January 2014 no PO-1/5 "Adoption of " Risk analysis of emergancy situation of traffic tonnel of the Ülemiste traffic junction and viaduct 2013" and "Risk analysis of emergancy situation of Tallinn THORA 2013"".

All Used substantive materials and references have brought in annex 7 „Used substantive materials and references“. Rescue and fire safety legislation and other relevant legislative acts have brought in annex 3 „ Rescue and fire safety legislation“.

Stakeholder Assessment (Koostööpartnerite ülevaade)

Stakeholder assessment (Koostööpartnerite ülevaade) is important part of EU PRISMA project, while cooperation of all parties and cooperation partners has an important role in risk management and mitigation of risks. Cooperation is key.

Separately and in detail has been characterized main and key partners of stakeholders group of risk mitigation and risk management and in fire safety work in Northern Tallinn city district and their responsibilities and areas of responce in this work and activities.

Potential cooperation partners by their role in fire risk mitigation and fire risk management and in fire safety work could be divided and are divided and brought in different and approximately independent groups (in present case in Northern Tallinn these are brought by five different groups and correspondently by five different chapters or sub-chapters on from 4.2 up to 4.6 in current Northern Tallinn city district plan to enhance fire safety (EU PRISMA Project Final Document)).

Risk Assessment and Risk Analysis (Riskide hindamine ja riskianalüüs)

Phases or stages of Risk Assessment (Riskide hindamine)

By <u>Risk Assessment (Riskide hindamisel)</u> was passed through three phases or stages.
Risk Assessment (Riskide hindamine) comprises /comprised or contains / contained three phases, three stages:

1) **Risk identification (Riski väljaselgitamine, riski identifitseerimine ehk riskituvastus);**
2) **Risk analysis (Riskianalüüs);**
3) **Risk evaluation (Riskihinnang).**

Risk identification (Riskide väljaselgitamine ehk riskide identifitseerimine ehk riskituvastus)

Risk identification (Riskide väljaselgitamine ehk riskide identifitseerimine ehk riskituvastus) contains identification and finding out of risks. Part of it is also mapping of risks and describing of them in form of and by data, tables, diagrams and maps.

Risk analysis (Riskianalüüs)

By the law of emergency situation adopted by Estonian Parliament Riigikogu on 15th June 2009 municipalities haven't obligation for making risk analysis and there is missing the guide for municipality of composing of risk analysis. Adopted on the base of subsection 7 of § 6 of the "Law of emergency situation" by the regulation of the Minister of Internal Affairs from the 18th February, 2010 "Guide for the composing of the risk analysis of the emergency situation" is only one official guide for the composing of the risk analysis.

Follow from this there has been originated from the general principles of this guide, stages of composing of the analytical part of risk analysis and annexes of guide by drawing of the EU PRISMA Project Northern Tallinn risk analysis of fire risks.
Parts of the risk analysis are **mapping of risks and risk maps.**

Risk evaluation (Riskihinnang)

The methodology for the risk assessment and risk analysis and risk matrixes of fire risk was worked out by the EU PRISMA Project Northern Tallinn working group or project team formed by the administrative ordinance by the Head of Northern Tallinn Administration from 13th of May 2013 No 2-1/109 "Formation of project team of international project "PRISMA – a fire safety risk assessment and the protection of the population" of the European Commission's Directorate General for humanitarian aid and civil protection" (See annex 4).

As the example and conceptual base for working out of methodology for processing risk assessment and risk analysis in the EU PRISMA project and for fire risk analysis and risk matrixes was assessment work or material „Risk analysis of emergancy situation of Tallinn THORA 2013" („Tallinna hädaolukorra riskianalüüs THORA 2013").

The evaluation of probability of the fire risk occurrence

The evaluation of probability of the fire risk occurrence is based on methodology as described in following table 2.1

Table 2.1 Evaluation of probability of the fire risk occurrence

Probability of the fire risk occurrence	Probability level	Criteria of probability occurrence
Very high	5	Probability occurrence over 80%, could take place within days or weeks
High	4	Probability occurrence over 50%, could take place within weeks or months
Medium	3	Probability occurrence over 10%, could take place within months
Small	2	Probability occurrence over 1%, could take place within year
Very small	1	Probability occurrence below 1%, could take place within years

* Evaluation of the probability of the fire risk occurrence is based on the statistics of Rescue Board that deals the causes of fires in North-Tallinn district in years of 2011-2013 (See chapter 3.3 tables 3.3.7 until 3.3.9).

The evaluation of probability of the fire risk occurrence

The evaluation of probability of the fire risk occurrence is based on methodology as described in following table 2.1

Table 2.2 Evaluation of the consequences of fire risks

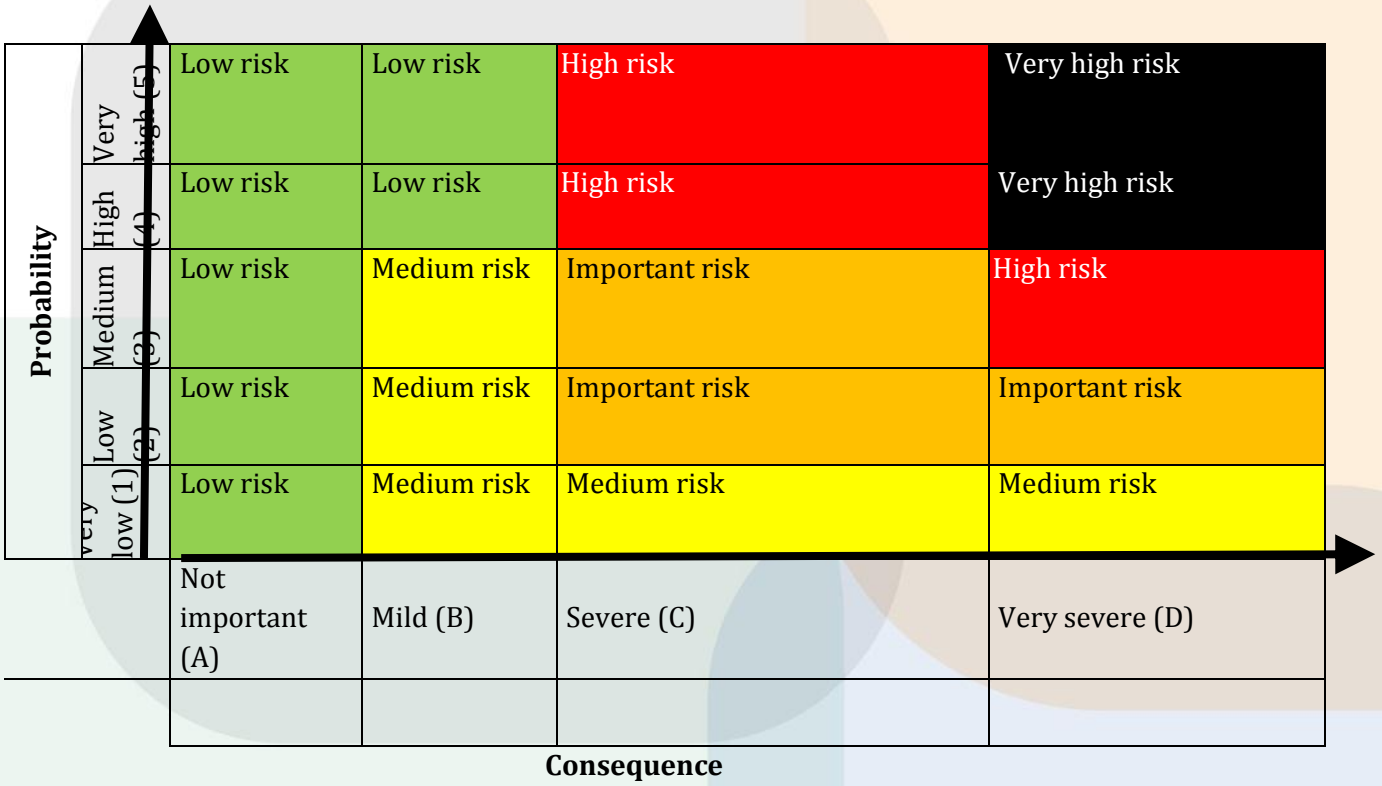
Level of risk	Consequence	Area or field of the consequence	Description of consequence/criteria
A	Not important	Life and health of people	**Some people have mild injuries.**
		Asset	**None or minimal damages to asset.**
		Environment	**No direct damage to environment.**
		Vital service	**Short interruptions in operation of vital services. No direct damage.**
B	Mild	Life and health of people	**Many people have injured who need hospitalisation.**
		Asset	**~ 10 000 euro.**
		Environment	**Local contamination without negative affect to environment.**
		Vital service	**Until 6 hours lasting interruption of vital services.**

C	Severe	Life and health of people	**Some fatalities or severly injured persons who need hospitalisation.**
		Asset	**~ 100 000 euro.**
		Environment	**Contamination of environment that have severe consequences.**
		Vital service	**Until 24 hours lasting interruption of vital services.**
D	Very severe	Life and health of people	**Over 5 fatalities. Tens of people have severely injured who need immidient hospitalisation.**
		Asset	**Over 100 000 euro.**
		Environment	**Contamination of environment that have very severe consequences.**
		Vital service	**Over 24 hours lasting interruption of vital services.**

Risk matrix

The fire risk will have the class of risk depending of the probability occurrence and the level of difficulty of the consequence. During the evaluation of risks and during risk assessment there will be given the class of risk to all fire risks and the risks will be presented in risk matrix. The construction of risk matrix and the location of risk classes is show in figure 2.1. Also there will be evaluated the priority of the fire risks which are presented in the tables of priorities of fire risks.

Figure 2.1 Construction of matrix of evaluation of fire risks



Capability Assessment (Võimekuse hindamine)

A Capability Assessment handles the identification and description of preventive measures and measures for the mitigation of consequences and fire risks, the analysis of the expediency feasibility of the measures (cost benefit analysis), including economic or political reasons and argumentations and opportunities for the application feasibility of the measures.

The output and result of the Capability Assessment is finding out and describing of the measures enhancing safety and preventing and mitigating of risks and consequences of risks, analysis of the feasibility of the measures or cost benefit analysis (CBA) (meetmete otstarbekuse või kulukuse-tulususe ehk kulude-tulude analüüsimine (CBA)) and analysis of possibilities for implementing of measures.

Capability has been taken as an ability and competence to realize and carry out or perform measures enhancing safety, preventing risks and mitigating risks and consequences of risks.

Capability Assessment (Võimekuse hindamise) phases or stages

By Capability Assessment (Võimekuse hindamisel) was passed through three phases or stages.

Capability Assessment (Võimekuse hindamine) comprises /comprised or contains / contained three phases, three stages:

1) **Capability identification (Võimekuse väljaselgitamine ehk võimekuse identifitseerimine ehk võimekuse tuvastus)**
2) **Capability analysis and cost-benefit analysis (CBA) (Võimekuse analüüs ning meetmete otstarbekuse analüüsimine)**
3) **Capability evaluation (Võimekuse hinnang)**

Capability identification (Võimekuse väljaselgitamine ehk võimekuse identifitseerimine ehk võimekuse tuvastus)

Capability Assessment and its first stage **Capability identification (Võimekuse väljaselgitamine, võimekuse identifitseerimine ehk võimekuse tuvastus)** shall be made by cooperation partners of risk mitigation and risk management and in fire safety work. Stakeholder assessment (Koostööpartnerite ülevaade) has brought in chapter 4 of current plan and EU PRISMA project final document.

The most significant and important and also in decisive and key role in risk mitigation and management and in all safety work are main and key partners of stakeholders group. By main and key partners of stakeholders group was made and shall be brought more detailed and elaborated capability assessment. There waa´originated from responsibilities and areas of responsibilities of main and key partners in this work and activities in it.

Potential cooperation partners can be divided by their role in fire risk mitigation and fire risk management and in fire safety work in Northern Tallinn city district could and brought in five different and approximately independent groups (they are brought by five different chapters or subchapters as chapters 4.2 until 4.6): So, it was also tried to make and pass capability assessment and assessment of capabilities by bigger groups of cooperation partners, seeking and planning measures and groups of measures which can be realized in cooperative and common work and which influence and output is bigger and stronger.

Capability analysis and analysis of the feasibility of the measures or the cost-benefit analysis (CBA) (Võimekuse analüüs ning meetmete otstarbekuse analüüs või meetmete kulukuse-tulususe ehk kulude-tulude analüüs ja hinnang)

Analysis of the feasibility of the measures or the cost-benefit analysis (CBA) (Võimekuse analüüs ning meetmete otstarbekuse analüüs või meetmete kulukuse-tulususe ehk kulude-tulude analüüs ja hinnang) has been carried out and is given by risks mitigation and management scenarios and strategies and corresponding to them different groups of measures. It will be done after Capability evaluation (Võimekuse hinnang) and as result of it working out and proposing the scenarios and strategies enhancing safety and mitigating and management of risks.

Capability evaluation (Võimekuse hinnang)

On the basis of the results of the risk assessment and risk analysis (riskide hindamine and riskianalüüs) and capability assessment (võimekuse hindamine) and as the part of the capability assessment shall be formulated and offered out the **different scenarios and strategies to enhance fire safety and for mitigation and management of fire risks.**

To these scenarios and strategies are directly corresponding groups of measures to enhance (fire) safety and for mitigation of (fire) risks.

During the capability evaluation and as a part of it shall be given and brought a brief description and brief substantive analysis of all the scenarios and strategies.

Mitigation Plan (Riskide leevendamise ja haldamise tegevuskava)

Term "Mitigation (Leevendamine)"

Mitigation is an English word that is not easily translated for each language and is not used in a uniform manner. Within the MiSRaR and PRISMA projects mitigation is defined as "risk reduction by reducing the probability and/or impact of a hazard and/or the vulnerability of the society." In other words, mitigation includes all forms of risk reduction for the various elements of the concept of risk. In the experience of the partners the distinction between risk and crisis management is not absolute. Preparation measures for specific risks (anticipation), such as spatial planning to ensure access for emergency services or evacuation possibilities, can also be interpreted as preventive effect reduction or vulnerability reduction.

Mitigation Plan (Riskide leevendamise ja haldamise tegevuskava)

The most important outcome of risk mitigation and management, in this case the most important outcome of EU PRISMA Project is **working out of the action plan for risk mitigation and risk management (Mitigation Plan).** A final result of this is mitigation and management of risks, in this case mitigation and management of fire risks in Northern Tallinn. **The main content and part of action plan for risk mitigation and risk management (Mitigation Plan) are measures.** Planned and possible measures shall be grouped into groups of measures for risks mitigation.

Planned and possible measures for mitigation of risks shall be included into the concrete and specific development documents and budgets. Then it will be brought out and will also be granted the exact financial cost for each concrete investment, object, work and activity of moment of the Ordinance.

Policy Memorandum (Poliitika memorandum)

The Policy Memorandum (Poliitika memorandum) as final outcome of all other works and assessments and strategy to realization and implementing designed measures and plans was done during project period by local project team and by involving experts from North Rescue Centre of Estonian State Rescue Board, Tallinn City Departments and others. This is as general summary of Northern Tallinn city district plan to enhance fire safety and shows ways to realize designed plan to enhance fire safety and for mitigation of fire risks.

The Policy Memorandum (Poliitika memorandum) include and contain subparts as followed and plan following activities:

1) List of potential capabilities
2) A draft CBA.
3) Recommendations for further CBA research.
4) Proposals regarding measures for political evaluation.
5) Lobby and advocacy.
6) Monitoring and enforcement.

In current case, in EU PRISMA Project and its Northern Tallinn city district project and project final document, proposals regarding measures for political evaluation have made and carried through legislative initiatives and proposals on municipal level, on level of City of Tallinn for Tallinn City Government and Tallinn City Council, on Estonian national and state level, for Parlament of Estonia Riigikogu and ministries and on European level for European Comission and European Parliament.

3. Description of Northern Tallinn city district

Northern Tallinn is one of the most diverse city districts both architecturally, historically and socially. One of the oldest settlements of Tallinn is situated here – Kalamaja with 1 to 2-storey wooden houses, Pelgulinn with more modern wooden buildings and areas of multi-storey houses. And comparably different from others subdistrict Pelgurand which was established in the fifties of previous century. Being mostly located on a peninsula, North Tallinn has a big development potential. At the same time there are many industrial enterprises, ports and railway transport establishments.
Northern Tallinn is the most marine or pelagian city district of capital – here is 20 km of sea boarder and 11 harbours and large beach areas at the head of Stroomi beach. Northern Tallinn has very colorful ethnical structure - here live representatives of 68 nationalities –, very different and unique subdistricts – from oldest suburb of Tallinn up to industrial areas of last century. Northern Tallinn is one of the most rapidly developing city district of the capital of Estonia. On the 1st of August 2014 there live 58 683 inhabitants in Northern Tallinn.

There are nine comparably individual and especial subdistricts in frames of Northern Tallinn city district. Northern Tallinn itself is one of the eight city districts in boarders of City of Tallinn. (See table 3.1.1 and figures 3.1.2 and 3.1.3) In chapter or sub-chapter 3.2 has been characterized the most distinctive part, the areas and subdistricts of Northern Tallinn with wooden-houses and wooden-house dwellings and wooden-houses and wooden buildings itself.

- In and as annex 8 to this current Northern Tallinn plan to enhance fire safety and EU PRISMA projekt final document has brought **photo-album "Wooden houses in the Nothern Tallinn city district: photo album – EU PRISMA Project monitoring observation (March 2014)"** and slide show on photos and …
- … and as **description of situation** (buildings, houses, wooden houses, several types, fire falls, abandoned houses, problems, specific problems etc.).
- These photos and photo-album "Wooden houses in the Nothern Tallinn city district in March 2014" are also **as valuable monitoring material.**

The additional description and assessment on fire safety of Northern Tallinn has brought in chapter or sub-chapter 3.3. The district has a high occurrence of fires, though the numbers have been decreasing the last few years. The absolute number of fatalities due to fires is highest in the Northern Tallinn city district, even though the district has fewer inhabitants than most other districts.
In chapters or subchapters 3.4 and 3.5 we have listed hazardous enterprises and catastrophe risky enterprises (Seveso companies) and other operating industrial enterprises. In chapter or subchapter 3.6 there is described and characterized protected areas and areas with other legal land use limits. In In chapter or subchapter 3.7 there are characterized and made summarized expert evaluation of operational services, including rescue service, this on base of used materials.

4. Overview of partners

Cooperation partners of risk mitigation and risk management and in fire safety work in Northern Tallinn city district

In the PRISMA project cooperation is key. Internationally, but also locally. Each of the five PRISMA partners has created a local network for its own specific risk. Cooperation and networking with or operation of the corresponding network(s) is the key or most important in whole work of the fire safety and in the mitigation and management of the fire risks.

In the case of the EU PRISMA project in Northern Tallinn it held and holds a supporting council as a local group where belongs members from the Northern-Tallinn city district administration, Tallinn City Office, Tallinn Municipal Engineering Services Department, Estonian Rescue Board. Also the Tallinn Urban Planning Department and Tallinn Municipal Police Department (MUPO) shall be and must to be invited and connected to this group. Then with involving potential cooperation partners these institutions, boards and departments form **a Northern Tallinn City District local stakeholders group in fire safety work and in mitigation of fire risks.** These institutions, boards and departments itself are and form as a main and key partners of this stakeholders group.

Potential cooperation partners by their role in fire risk mitigation and fire risk management and in fire safety work in Northern Tallinn city district could be divided and are divided and brought in five different and approximately independent groups (they are brought by five different chapters or subchapters as chapters 4.2 until 4.6):
(1) public sector organisations and departments – organisations and departments under management of the City of Tallinn;
(2) public sector organisations and departments – organisations and departments under management of national government and state institutions;
(3) citizen organisations, important cooperation partners in fire safety work – 3) associations in the field of fire safety, 4) flat or apartment associations, 5) community development societies;
(4) other civil society organisations – 6) associations in the field of social care and of the social connections, 7) non-profit organizations (NPO-s) in the field of architecture and economy), 8) non-profit organizations (NPO-s) in other the field sand areas;
(5) other institutions, bodies and organisations – 9) educational institutions, 10) companies in the field of fire safety, 11) companies in the field of economy connected to the fire safety, 12) other authorities and companies, 13), the media and the press.

4.1 Main and key partners of stakeholders group of risk mitigation and risk management and in fire safety work in Northern Tallinn city district

In the case of the EU PRISMA project in Northern Tallinn it held and holds a supporting council as a local group where belongs members from the Northern-Tallinn city district administration, Tallinn City Office, Tallinn Municipal Engineering Services Department, Estonian Rescue Board. Also the Tallinn Urban Planning Department and Tallinn Municipal Police Department (MUPO) shall be and must to be invited and connected to this group. Then with involving potential cooperation partners these institutions, boards and departments form **a Northern Tallinn City District local stakeholders group in fire safety work and in mitigation of fire risks.** These institutions, boards and departments itself are and form as a main and key partners of this stakeholders group.

Northern Tallinn city district administration is responsible for:
The Northern Tallinn Administration is responsible for organizing and solving different subjects that are under their administration including spatial planning and safety issues. The district is led by the city district head.

Northern Tallinn Administration, Division of the Economy of the City is responsible for:

- Engaged planning activities in local areas.
- Coordination different housing project documentation.
- Interacts with apartment associations and property owners, organizes information seminars for them on various topics.
- Dealing with abandoned houses.

Tallinn Urban Planning Department is responsible for:

- developing a common strategy for the city's development, planning and infrastructure;
- organising geological, sociological and other research, measuring and surveys to ascertain the condition and development needs of the city and its surrounding areas and preparing the city's development trends on the basis thereof;
- planning favourable social and economic conditions for additional creation of the city's artificial environment and sustainable development;
- organising the preparation and processing of comprehensive, detailed and thematic plans;
- organising the preparation of the plans and development plans required for outlining the city's development trends and inspecting their implementation in planning activities;

- organising the city's landscaping, design elements and information systems and planning their sustainable development;
- coordinating plans for the sustainable development of the city's energy economy and public water supply and sewerage system;
- organising planning, design and construction activities and making border proposals upon determination of land required for servicing buildings;
- review, expert analysis and approval of building projects;
- exercising construction supervision and organising receipt of buildings;
- organising the planning of the city's road network;
- maintaining the registers, register cards and databases required for the performance of land, construction, planning and other main tasks of the board;
- organising the processing of applications for construction, usage, demolition, individual design permits and other special permits arising from the board's principal activities;
- maintaining the archive of construction designs, detailed plans, comprehensive plans, geodesy and cartography and files that have passed the land reform.

Tallinn Municipal Engineering Services Department is responsible for:

- The risks identification, which could lead to an emergency in the North district.
- The risks analysis - the potential consequences of the original event, and clarification of the probability and consequence assessment, impact on critical services, risk class determination, and preparation of a risk matrix.
- Preventive and mitigating the consequences of the development of measures
- Vital services organization – public water and wastewater, including ensuring the firefighting water.

Tallinn Municipal Police Department (MUPO) is responsible for:

- Exercising supervision over the performance of the rules adopted by the Tallinn City Council and conducting misdemeanor proceedings in the case such rules are breached.
- As authorized by the Tallinn City Government, exercising supervision over adherence to laws and processing misdemeanors.
- Guarding the property in the ownership or possession of the City of Tallinn.
- Participating in guaranteeing public order in the institutions and at the public events of the City of Tallinn.
- Maintaining the Misdemeanor Register of Tallinn and other registers and databases required for the performance of the board's tasks.
- Preventing the misdemeanors that belong to its area of competency.

Tallinn City Office is responsible for:

- International projects part in Tallinn City Office is responsible for EU projects in city of Tallinn departments (14) and districts (8).
- Tallinn City Council has regulated the participation in the EU projects. The order provides how the foreign project have to be initiated, implemented and audited in Tallinn by all the city institutions (incl. departments, sub-departments, districts, etc. which budget is related with the city budget). The order clearly defines all definitions which are in use and have relation with foreign project *(e.g. foreign project, foreign funding, lead partner, project holder, project leader, project team, co-financing, bridge financing scheme, in-kind contribution, etc.).* It stipulates all necessary steps which are compulsory during the project life-time.
- The international projects part provides help for city institutions in all steps, monitors projects and if necessary helps with audits and documentation procedures.
- The Tallinn City Office and its international projects part keep a Foreign Project Database where all city projects are represented. It gives an overview about projects in city institutions, budgets, project durations and statistics.

Estonian Rescue Board is responsible for:

The Estonian Rescue Board is a government institution under the jurisdiction of the Ministry of the Interior, which has the leading role in planning preparedness for emergencies and the operational management of Regional Rescue Centres. It is also responsible for the development and implementation of national rescue policies. Responsible for Northern Tallinn area is North Rescue Centre of Estonian Rescue Board.

There are five main areas of activity for the Estonian Rescue Service:

- **Rescue Works**
- **National fire safety supervision**
- **Crisis management**
- **Emergency prevention**
- **Explosive ordnance disposal**

5. Risk assessment and risk analysis

5.1 Risk identification (Riski väljaselgitamine, riski identifitseerimine ehk riskituvastus)

Risk type: fire safety, rescue.
Risk area: Northern Tallinn City District.
Priority risk area or risk area for concentrated EU PRISMA project work: Northern Tallinn City District areas with wooden-house dwellings. [Chapter 5 and Sub-Chapters 5.1 – 5.4]
Other risk areas: hazardous enterprises and catastrophe risky enterprises (Seveso companies), other operating industrial enterprises, factories of very high fire risk, effected surrounding zones of these enterprises, Paljassaare NATURA 2000 birds protected territory, Northern Tallinn city district areas with houses of other type of dwellings.
Vulnerabilities: habitants, abandoned houses, local authority, city district administration (economy, environment), factories, Paljassaare NATURA 2000 birds protected territory.
Risk frequency / probability for habitants/: **mainly low (2), by three risks probability is very low (1) and by two risks medium (3) and for one risk probability is high (4).**
Risk effects: more knowledgeable habitants, less risk behaviour, followed fire safety regulations.

Risk mapping and risk maps

Results of risk mapping and risk maps as about basic situation as on fire safety situation in Northern Tallinn and in Northern Tallinn city district areas with wooden-house dwellings are shown and brought by diagrams, maps and data in chapter 3. Description of Northern Tallinn city district and its subchapters 3.1 Subdistricts of Northern Tallinn city district and description of subdistricts, 3.2 Subdistricts of Northern Tallinn city district with wooden-houses, 3.3 Description, characterization and assessment on fire safety of Northern Tallinn, 3.4 Hazardous enterprises and catastrophe risky enterprises (Seveso companies), 3.5 Other operating industrial enterprises, 3.6 Protected areas and areas with other legal land use limits and 3.7 Operational Services.

5.2 Risk analysis (Riskianalüüs)

Result: The risk analysis has resulted in the assigning or taking of the Northern Tallinn city district areas with wooden-house dwellings as a "Priority Fire Risk Area".
Results: Main problems or Fire risks / fire hazards have been defined or divided into 3 or 4 fire risk groups or categories.
For each fire risks / fire hazards group or category following main causes and risks have been defined: for the first fire hazards / fire risks group or category five (5), for the second group or category six (6) and for the third group or category five (6) fire risks.

Risk analyses / Risk maps or Risk mapping

Fire risks / fire hazards groups or categories in Northern Tallinn city district areas with wooden-house dwellings are [4]:

1. **Fire risks / fire hazards related to building, renovating and repairing houses**
2. **Fire risks / fire hazards related to exploitation of buildings and houses**
3. **Fire risks / fire hazards outside buildings and houses**
4. **Fire risks / fire hazards in other areas (areas without wooden-house dwellings)[+]**

Fire risks / fire hazards related to constructing, renovating and repairing buildings in Northern Tallinn city district areas with wooden-house dwellings are [5]:

(1) Using heating systems non-complying to fire safety regulations
(2) Using electrical wires non-complying to safety regulations
(3) Using materials non-complying to fire safety regulations when constructing, renovating or repairing buildings
(4) Flammable small-buildings
(5) Gas leakages from gas systems or gas pipelines

Fire risks / fire hazards related to exploitation of buildings in Northern Tallinn city district areas with wooden-house dwellings are [6]:

(1) Overheating of heating device
(2) Using unmaintained heating-systems, including central heating-systems
(3) Melting frozen water pipeline
(4) Using non-functional chimneys and flues
(5) Negligence of using fire
(6) Making or using fire in abandoned buildings

Fire risks / fire hazards outside buildings and houses are [6]:

(1) Making open fire outside of the buildings or grassfire
(2) Arson
(3) Fire or explosion of dangerous substances in Seveso or in other dangerous companies
(4) Fire in warehouses or in industrial buildings
(5) Fire or explosion of vehicle carrying dangerous goods
(6) Fire or explosion of cargo train carrying dangerous goods

When to summarize this part of risk assessment by prior risk indicating and passing risk analysis and risk mapping phase or stage of risk assessment there have been indicated, mapped and pointed out totally seventeen [17] following different fire risks in Northern Tallinn city district and it's areas with wooden-house dwellings:

(1) Using heating systems non-complying to fire safety regulations
(2) Using electrical wires non-complying to safety regulations
(3) Using materials non-complying to fire safety regulations when constructing, renovating or repairing buildings
(4) Flammable small-buildings
(5) Gas leakages from gas systems or gas pipelines
(6) Overheating of heating device
(7) Using unmaintained heating-systems, including central heating-systems
(8) Melting frozen water pipeline
(9) Using non-functional chimneys and flues
(10) Negligence of using fire
(11) Making or using fire in abandoned buildings
(12) Making open fire outside of the buildings or grassfire
(13) Arson
(14) Fire or explosion of dangerous substances in Seveso or in other dangerous companies
(15) Fire in warehouses or in industrial buildings
(16) Fire or explosion of vehicle carrying dangerous goods
(17) Fire or explosion of cargo train carrying dangerous goods

5.3 Risk evaluation (Riskihinnang)

For each type of fire risks / fire hazards in Northern Tallinn city district areas with wooden-house dwellings have been done:

- **Types of fire risks / fire hazards have been named and possible starting occasions and consequences have been defined and described for fires possibly could be happened by them by each fire hazard / fire risk type in all groups (See tables 5.1.1, 5.2.1 and 5.3.1 accordingly in subchapters 5.1, 5.2 and 5.3)**
- **Evaluation of probability of fires possibly could be happened by different fire hazard / fire risk [five classes or levels] (See tables 5.1.2, 5.2.2 and 5.3.3 accordingly in subchapters 5.1, 5.2 and 5.3)**
- **Evaluation of consequences of fires possibly could be happened by different fire risks / fire hazards: for life and health of people, vital services, environment, property [five classes or levels] (See tables 5.1.3, 5.2.3 and 5.3.3 accordingly in subchapters 5.1, 5.2 and 5.3)**
- **Assessment of risk stage / degree / class for different fire risks / fire hazards and ordering of risks / hazards (See tables 5.1.4, 5.2.4 and 5.3.4 accordingly in subchapters 5.1, 5.2 and 5.3)**

- **Designed and worked out measures preventing fires possibly could be happened by different fire risks / fire hazards and measures mitigation consequenses of these possible fires (See tables 5.1.5, 5.2.5 and 5.3.5 accordingly in subchapters 5.1, 5.2 and 5.3)**

Results of risk assessment and risk analysis of fire risks / fire hazards in Northern Tallinn city district areas with wooden-house dwellings are and were brought by follows:

- **Risk matrixes of fire risks for each group or category of fire hazards / risks (probability and consequences of fire risks)**
- **Summarized risk matrix or a summary risk matrix in Northern Tallinn areas with wooden-house dwellings (probability and consequences of fire risks)**
- **Priority table of fire risks for each group or category of fire hazards / risks (prioroties of fire risks)**
- **Summarized priority table or a summary priority table of fire risks in Northern Tallinn areas with wooden-house dwellings (prioroties of fire risks)**

The results of the risk evaluation of fire risks in the Northern Tallinn subdistricts and areas with wooden-house dwellings bring summarized risk matrix or a summary risk matrix (see figure 5.4.1 “Final summary matrix of fire risks in Northern Tallinn areas with wooden-house dwellings" in subchapter 5.4 "A summary assessment of fire risks in Northern Tallinn city district areas with wooden-house dwellings" of this current chapter), and the matrixes by the various groups of fire risks (see figures 5.1.6, 5.2.6 and 5.3.6 accordingly in subchapters 5.1, 5.2 and 5.3 of this current chapter).

As a result of the risk evaluation **the fire risks in the Northern Tallinn subdistricts and areas with wooden-house dwellings are ranked in order of priority or priorities [17]** (see table 5.4.2 “Fire risks and a summary priority table of fire risks in Northern Tallinn areas with wooden-house dwellings" in chapter or subchapter 5.4 "A summary assessment of fire risks in Northern Tallinn city district areas with wooden-house dwellings"):

1) Negligence of using fire
2) Gas leakages from gas systems or gas pipelines
3) Making or using fire in abandoned buildings
4) Overheating of heating device
5) Using heating systems non-complying to fire safety regulations
6) Using electrical wires non-complying to safety regulations
7) Using non-functional chimneys and flues
8) Using materials non-complying to fire safety regulations when constructing or renovating or repairing buildings
9) Using unmaintained heating-systems, including central heating-systems

10) Making open fire outside of the buildings or grassfire
11) Fire in warehouses or in industrial buildings
12) Melting frozen water pipeline
13) Arson
14) Fire or explosion of dangerous substances in Seveso or in other dangerous companies
15) Fire or explosion of vehicle carrying dangerous goods
16) Fire or explosion of cargo train carrying dangerous goods
17) Flammable small-buildings

Fire risks are also ranked in order of priority or priorities by the various groups of fire risks (see tables 5.1.7, 5.2.7 and 5.3.7 accordingly in subchapters 5.1, 5.2 and 5.3 of this current chapter).

5.4 A summary assessment of fire risks in Northern Tallinn city district areas with wooden-house dwellings

Figure 5.4.1 Final summary matrix of fire risks in Northern Tallinn areas with wooden-house dwellings

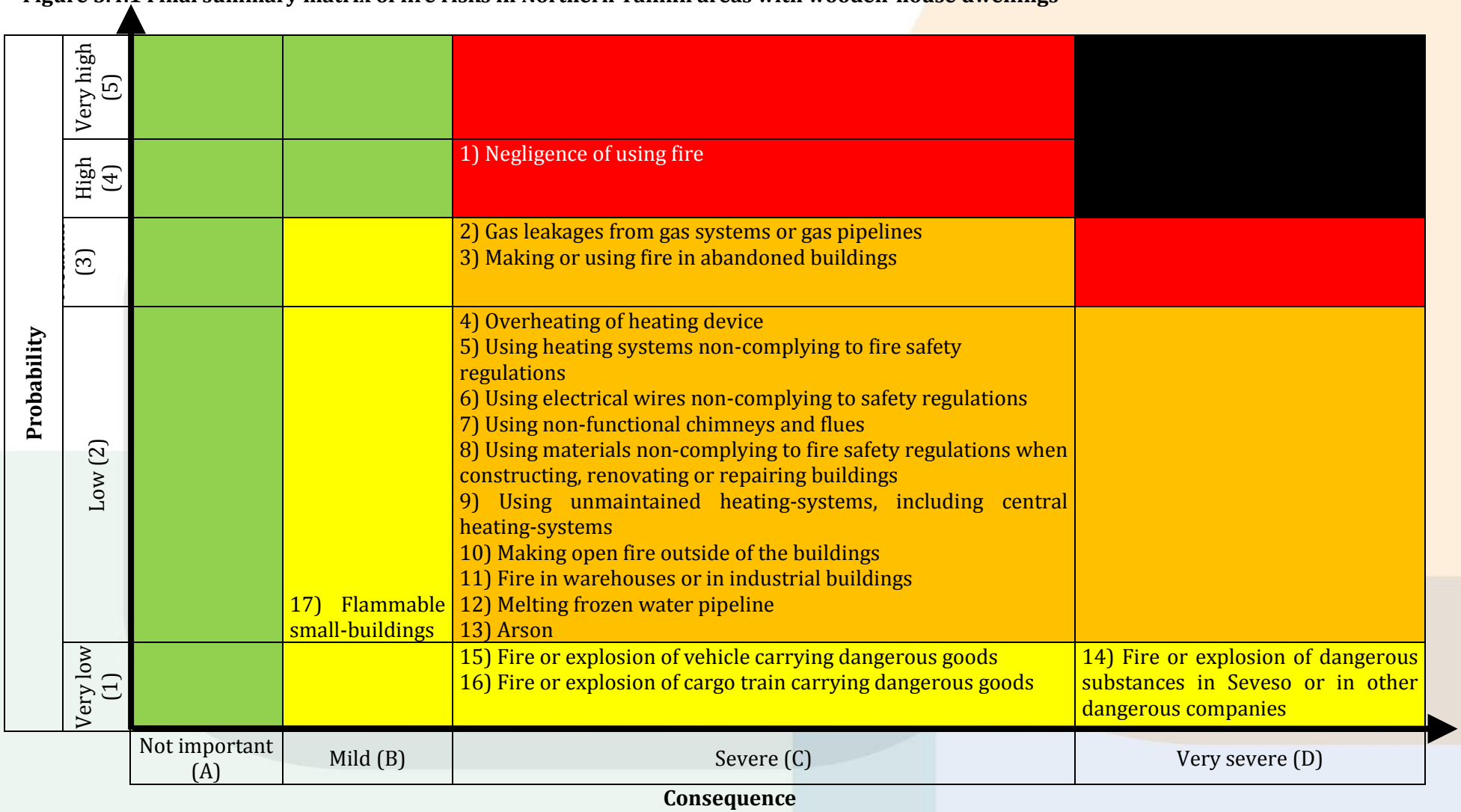


Table 5.4.2 Fire risks and a summary priority table of fire risks in Northern Tallinn areas with wooden-house dwellings

PRIORITY OF RISK	NAME OF FIRE RISK	CONSEQUENCES OF FIRE RISK
HIGH	**1) Negligence of using fire**	SEVERE
IMPORTANT	**2) Gas leakages from gas systems or gas pipelines**	SEVERE
	3) Making or using fire in abandoned buildings	SEVERE
	4) Overheating of heating device	SEVERE
	5) Using heating systems non-complying to fire safety regulations	SEVERE
	6) Using electrical wires non-complying to safety regulations	SEVERE
	7) Using non-functional chimneys and flues	SEVERE
	8) Using materials non-complying to fire safety regulations when constructing, renovating or repairing buildings	SEVERE
	9) Using unmaintained heating-systems, including central heating-systems	SEVERE
	10) Making open fire outside of the buildings	SEVERE
	11) Fire in warehouses or in industrial buildings	SEVERE
	12) Melting frozen water pipeline	SEVERE
	13) Arson	SEVERE
MEDIUM	**14) Fire or explosion of dangerous substances in Seveso or in other dangerous companies**	VERY SEVERE
	15) Fire or explosion of vehicle carrying dangerous goods	SEVERE
	16) Fire or explosion of cargo train carrying dangerous goods	SEVERE
	17) Flammable small-buildings	MILD

6. Fire risks in other areas of Northern Tallinn city district

In addition to areas with wooden-house dwellings in the Northern Tallinn city district a big part of the territory is without domineiting woden-house dwellings, living areas and other regions without domineiting woden-house dwellings. In the living areas without domineiting woden-house dwellings are generally the same fire risks as those described and assessed in Chapter 5 of this plan or EU PRISMA Project final document. õppdokumendi or plan described in tulekahuriskid, and appreciated. At the same time, the probability of realization of fire risks and occurrence of fires is significantly less and the potential consequences milder and their character is also different.

In addition to areas with wooden-house dwellings and living areas without domineiting woden-house dwellings the Northern Tallinn city district is famous and well-known by its big industry areas. Here in Northern Tallinn are located two catastrophe risky enterprises, Seveso companies, some hazardous enterprises and other companies handling dangerous chemicals and other industrial and stock or store buildings. Of Seveso companies of A-category is one – Dekoil LLC – and of B-category also one company or enterprise – BLRT Transiit (Transit) LLC. Shall be brought sources of risks, threats, hazards and risks, consequences of accidents and the radiuses of hazard territories or hazard zones and maps (figures) of hazard territories or zones of catastrophe risky enterprises, Seveso companies (categories A and B) and highly hazardous enterprises – Elme Messer Gaas (Gas) Ltd, Paljassaare Kalatööstuse (Fishery) Ltd Esva, Ltd Tallinna Vesi (Tallinn Water) disposal plant and Baltimark LLC –, located in the Northern Tallinn city district.

Assessment of capability of risk mitigation and risk management and providing fire safety work and enhancement of fire safety in Northern Tallinn city district

A Capability Assessment in this case, in the EU PRISMA Project and connection to the project in Tallinn and Northern Tallinn handles the identification and description of preventive measures and measures for the mitigation of consequences and fire risks, the analysis of the expediency feasibility of the measures (cost benefit analysis), including economic or political reasons and argumentations and opportunities for the application feasibility of the measures.

The output and result of the Capability Assessment is finding out and describing of the measures enhancing fire safety and preventing and mitigating of fire risks and consequences of possible fires and fire risks in Northern Tallinn city district, analysis of the feasibility of the measures or cost benefit analysis (CBA) (meetmete otstarbekuse või kulukuse-tulususe ehk kulude-tulude analüüsimine (CBA)) and analysis of possibilities for implementing of measures.

Capability has been taken as an ability and competence to realize and carry out or perform measures enhancing fire safety, preventing risks and mitigating risks and consequences of risks and in this case it is ability to enter concrete steps and make concrete activities for enhancing fire safety and mitigating fire risks in Northern Tallinn city district.

Capability identification (Võimekuse väljaselgitamine, võimekuse identifitseerimine ehk võimekuse tuvastus)

Capability Assessment and its first stage **Capability identification (Võimekuse väljaselgitamine, võimekuse identifitseerimine ehk võimekuse tuvastus)** was made by cooperation partners of risk mitigation and risk management and in fire safety work in Northern Tallinn city district and has brought in subchapter 7.1 of current chapter. Stakeholder assessment (Koostööpartnerite ülevaade) has brought in chapter 4 of current plan and EU PRISMA project final document.

The most significant and important and also in decisive and key role in risk mitigation and management and in fire safety work are main and key partners of stakeholders group. By main and key partners of stakeholders group was made and shall be brought more detailed and elaborated capability assessment. There waa´originated from responsibilities and areas of responsibilities of main and key partners in this work and activities in it.

Potential cooperation partners can be divided by their role in fire risk mitigation and fire risk management and in fire safety work in Northern Tallinn city district could and brought in five different and approximately independent groups (they are brought by five different chapters or subchapters as chapters 4.2 until 4.6): So, it was also tried to make and pass capability assessment and assessment of capabilities by bigger groups of cooperation partners, seeking and planning measures and groups of measures which can be realized in cooperative and common work and which influence and output is bigger and stronger.

Capability analysis and analysis of the feasibility of the measures or the cost-benefit analysis (CBA) (Võimekuse analüüs ning meetmete otstarbekuse analüüs või meetmete kulukuse-tulususe ehk kulude-tulude analüüs ja hinnang)

Analysis of the feasibility of the measures or the cost-benefit analysis (CBA) (kulukuse-tulususe ehk kulude-tulude analüüs) has been carried out and is given by the Northern Tallinn city district fire risks mitigation and management scenarios and strategies and corresponding to them different groups of measures.

Capability evaluation (Võimekuse hinnang)

Chapter or sub-chapter 7.2 brings worked and offered out on the basis of the results of the risk assessment and risk analysis (riskide hindamine and riskianalüüs) and capability assessment (võimekuse hindamine) and as the part of the capability assessment out the different scenarios and strategies to enhance fire safety and for mitigation and management of fire risks. In this case, in the Northern Tallinn there are ten (10) of those.

To these ten different scenarios and strategies to enhance fire safety and for mitigation and management of fire risks come out and stated and described during capability assessment in Northern Tallinn are directly corresponding ten groups of measures to enhance fire safety and for mitigation of fire risks of Northern Tallinn fixed and brought in chapter 8.1.

In the sub-chapter 7.2 of this present chapter has given and brought a brief description and brief substantive analysis of all the scenarios and strategies to enhance fire safety and for mitigation and management of fire risks in the Northern Tallinn city district.

Capability analysis and analysis of the feasibility of the measures or the cost-benefit analysis (CBA) (Võimekuse analüüs ning meetmete otstarbekuse analüüs või meetmete kulukuse-tulususe ehk kulude-tulude analüüs ja hinnang)

Analysis of the feasibility of the measures or the cost-benefit analysis (CBA) (kulukuse-tulususe ehk kulude-tulude analüüs) has been carried out and is given by the Northern Tallinn city district fire risks mitigation and management scenarios and strategies and corresponding to them different groups of measures. By each scenario and strategy and corresponding to it group of measures in the cost-benefit analysis (CBA) (kulukuse-tulususe ehk kulude-tulude analüüs) is bringing on costs and benefits and on base of them is giving a summary cost-benefit analysis and assessment (CBA) (kulukuse-tulususe kokkuvõttev analüüs ja hinnang)

7.2 Different fire risk mitigation and management scenarios and strategies

On the basis of the results of the risk assessment and risk analysis (riskide hindamine and riskianalüüs) and capability assessment (võimekuse hindamine) and as the part of the capability assessment is worked and offered out the different scenarios and strategies to enhance fire safety and for mitigation and management of fire risks. In this case, in the Northern Tallinn there are ten (10) of those.

Fire risk mitigation and management scenarios and strategies in Northern Tallinn city district are [10]:

1. **Planning scenario or spatial planning scenario.**
2. **Projecting or designing scenario.**
3. **Development or related to the development plans scenario.**
4. **Based on training preventive work scenario.**
5. **Based on counselling and guidance preventive work scenario.**
6. **Based on informing preventive work scenario.**
7. **Cooperation scenario.**
8. **Scenario of strengthening legislation or legislative scenario.**
9. **Social safety scenario or scenario for improving social situation.**
10. **Scenario for integrating and integration of fire safety and this work "in the normal life and usual daily routine".**

To these ten different scenarios and strategies to enhance fire safety and for mitigation and management of fire risks come out and stated and described during capability assessment in Northern Tallinn are directly corresponding ten groups of measures to enhance fire safety and for mitigation of fire risks of Northern Tallinn fixed and brought in chapter 8.1.

In this present sub-chapter is given and brought a brief description and brief substantive analysis of all the scenarios and strategies to enhance fire safety and for mitigation and management of fire risks in the Northern Tallinn city district.

Analysis of the feasibility of the measures or the cost-benefit analysis (CBA) (kulukuse-tulususe ehk kulude-tulude analüüs) has been carried out and is given by the Northern Tallinn city district fire risks mitigation and management scenarios and strategies and corresponding to them different groups of measures. By each scenario and strategy and corresponding to it group of measures is bringing on in cost-benefit analysis (CBA) (kulukuse-tulususe ehk kulude-tulude analüüs) costs and benefit and on base of them is giving a summary cost-benefit analysis and assessment (CBA) (kulukuse-tulususe kokkuvõttev analüüs ja hinnang).

Due to fact that Northern Tallinn city district is at moment and was during EU PRISMA Project realisation and designing project final document under spatial planning phase or in stage of drawing up a new overall plan for city district, it is important to take into consideration the possible fire risks in the earliest stage when planning new housing projects and industries.

Members of the EU PRISMA Project Northern Tallinn working group have consensus and working group has official statement that fire safety has to be written down officially in Northern Tallinn city district's overall spatial plan.

There are many risk mitigation strategies that can reduce damage from hazards. Building construction should meet applicable building codes that include requirements for fire protection and life safety.

One important part of the prevention is also public education, it is necessary to expand strategies to educate the public on the essential steps for and the benefits of reducing and mitigating fire risks.

It is vital to:

- Promote public knowledge and understanding of fire prevention at homes
- Increase responsibility for private landowners to address the problem of abandoned wooden-houses and in solving of this problem

8. Action plan or mitigation plan

Northern Tallinn city district action plan to enhance fire safety and for mitigation of fire risks

In this, one of the main chapters of the Northern Tallinn city district plan to enhance fire safety (EU PRISMA Project Final Document), have brought project outcomes and results and planned and possible measures to enhance fire safety and for mitigation of fire risks (hereinafter Measures to enhance fire safety and for mitigation of fire risks) in Northern Tallinn city district.

In chapter 8.1 have been fixed and it brings ten groups of the Measures to enhance fire safety and for mitigation of fire risks in Northern Tallinn. They are directly corresponding to ten different fire risk mitigation and management scenarios and strategies, came out by Capability Assessment in Northern Tallinn city district.
In chapter 8.2 we listed all EU PRISMA project outcomes and results and planned and possible measures to enhance fire safety and for mitigation of fire risks in Northern Tallinn.

For the implementation of the proposed measures funds and human resources are needed.
Planned and possible measures to enhance fire safety and for mitigation of fire risks in the Northern Tallinn city district shall be included into the concrete and specific development documents – development plan of Northern Tallinn city district, development plan of City of Tallinn, specific and sector development plans, overall spatial plan of Northern Tallinn city district and other development documents – and budgets. Then it will be brought out and will also be granted the exact financial cost for each concrete investment, object, work and activity of moment of the Ordinance.

Northern Tallinn is one of the eight city districts of City of Tallinn. It is not an independent municipality, local government unit. The realisation of the investments and objects of the fire safety plan shall take place through the opportunities and budget of City of Tallinn and through the opportunities and budget of State Rescue Board and state. So the process of budgeting of the required investments and objects is also more complicated and time-consuming.

Key is cooperation on fire safety between institutions and organisations. Very imoprtant and the most sustainable are prevention methods and measures on how to mitigate fire risks. All existing, traditional and popular public events must be used for notification and raising awareness about fire risks of inhabitants. New coming and starting events as Northern Tallinn day of public health and other specialised days etc. must also be used for such purpose.

8.1 Groups of the EU PRISMA project outcomes and results and planned and possible measures to enhance fire safety and for mitigation of fire risks

The Groups of outcomes and results of the EU PRISMA project and planned and possible measures to enhance fire safety and for mitigation of fire risks are:

1. **Planning measures or the measures related to the spatial planning (spatial planning, overall plan, detail or part plans).**
2. **Project or design measures or the measures relating to the design (design, projects).**
3. **Development measures and measures realted to the development plans.**
4. **Preventive measures (1): Training measures (a program and for sure target group).**
5. **Preventive measures (2): Counselling and guidance measures (the personal counselling, guidance and solving of fire safety problems).**
6. **Preventive measures (3): Information measures (events and media campaigns).**
7. **Cooperation measures (cooperation, the forms of cooperation, cooperation by the use of existing forms of cooperation, etc.).**
8. **Legislative measures (legislative initiatives and proposals).**
9. **Social measures or measures to improve the social situation (general activities and practice).**
10. **Integration of fire safety and this work "in the normal life and usual daily routine."**

9. Policy memorandum

The Policy Memorandum (Poliitika memorandum) as final outcome of all other works and assessments and strategy to realization and implementing designed measures and plans was done during project period by local project team and by involving experts from North Rescue Centre of Estonian State Rescue Board, Tallinn City Departments and others. This is as general summary of Northern Tallinn city district plan to enhance fire safety and shows ways to realize designed plan to enhance fire safety and for mitigation of fire risks.

List of potential capabilities

Potential capabilities are bound up with and come into being by implementing of perspective and possible measures. More important and with the biggest and biggest sustainable influence in this list are following:

1) New overall plan or comprehensive plan of the Northern Tallinn city district and feeding and fixing of fire safety and risk mitigation needs and measures in it.
2) New development plan or master plan of the Northern Tallinn city district and feeding and fixing of fire safety and risk mitigation needs and measures in it.
3) Development plan or master plan of the City of Tallinn
4) Different state development plans in fire safety and for mitigation of fire risks.
5) Development plans in different spheres.
6) Densifying of cooperation and starting of possible cooperation forms in sphere of fire safety and risk mitigation.
7) Improvement of social situation, because several causes of fire hazards and fire risks are directly related to social problems and all.in and general bad social situation of people.
8) Feeding and fixing of planned and possible measures enhancing fare safety and mitigating of fire risks worked out and proposed in Northern Tallinn plan to enhance fire safety (EU PRISMA Project Final Document) in concrete development documents of municipality, City of Tallinn and Northern Tallinn.
9) Just the same important is feeding and fixing of planned and possible measures enhancing fare safety and mitigating of fire risks worked out and proposed in Northern Tallinn plan to enhance fire safety (EU PRISMA Project Final Document) in state development documents on state or national level, especially in development documents of Estonian Rescue Board and its North Rescue Centre.

A draft CBA

In recent years there has been an increased focus on sustainable development. For development to be sustainable it must integrate environmental stewardship, economic development and the well-being of people, not just for today but for generations to come.

There are numerous costs associated with fires. These include:

- Fire fighting
- Post-fire clean-up

• Replacement of destroyed or damaged equipment
• Treatment of fire victims that do not die
• Societal losses due to fire victims that die.

The cost of extinguishment, sanitation, treatment of injuries and possible deaths should be included in the costs of fires.
Indeed one of the major benefits of the use of a high level of fire safety is the avoidance of fires, reduction in the size of fires that occur and reduction in injuries and loss of lives.

Recommendations for further CBA research
By this current Northern Tallinn city district plan to enhance fire safety (EU PRISMA Project Final Document) is being as a collective expert opinion in this area. Developed and offered planned and possible measures to enhance fire safety and for mitigation of fire risks in the Northern Tallinn city district shall be included into the concrete and specific development documents. For it or in this process must come before cost-benefit analyses or CBA researches (kulukuse-tulususe ehk kulude-tulude analüüsid ja uuringud) for each concrete case in real that time.
For budgeting of all measures must also come before their additional cost-benefit analysis (CBA)).
While in this current plan and EU PRISMA project final document are proposed also possible measures to then before their making and coming for real and fixing in development documents and covering by budgets are needed additional cost-benefit analyses (CBA) of these measures.

Proposals regarding measures for political evaluation
Proposals regarding measures for political evaluation have made and carried through legislative initiatives and proposals on municipal level, on level of City of Tallinn for Tallinn City Government and Tallinn City Council, on Estonian national and state level, for Parlament of Estonia Riigikogu and ministries and on European level for European Comission and European Parliament.

Proposals regarding measures for political evaluation
Proposals regarding measures for political evaluation have made and carried through legislative initiatives and proposals on municipal level, on level of City of Tallinn for Tallinn City Government and Tallinn City Council, on Estonian national and state level, for Parlament of Estonia Riigikogu and ministries and on European level for European Comission and European Parliament.

Legislative initiatives and proposals on municipal level, on level of City of Tallinn

There have been brought legislative initiatives and proposals on municipal level, on level of City of Tallinn for Tallinn City Government and Tallinn City Council, totally 11.

Legislative initiatives and proposals on Estonian national and state level

There have been brought legislative initiatives and proposals on Estonian national and state level, for Parlament of Estonia Riigikogu and ministries, totally also 11.

Legislative initiatives and proposals on European level

Legislative initiatives and proposals on European level for European Comission and European Parliament have been worked out by project and during the realization and work of the EU PRISMA Project together by all project partners, international project team managered by the lead partner Safety Region South-Holland South, VRZHZ. VRZHZ also designed, recorded and wrote down these recommendations and proposals on European level for European Comission and European Parliamant. These recommendations and proposals are parts of the EU PRISMA Project Final Document and Final Report in all to European Comisson.

Legislative initiatives and proposals on European level for European Comission and European Parliament are coming and have been taken from this EU PRISMA Project Final Document and Final Report in all to European Comisson.

Lobby and advocacy

Lobby and advocacy for realization of proposals and recommendations and planned and possible measures to enhance fire safety and for mitigation of fire risks worked out, designed and recorded in the Northern Tallinn plan to enhance fire safety (EU PRISMA Project final document) can and must run in frame of legislation and rules by City of Tallinn and Estonian state institutions and organizations and by using of all existing possibilities and ways.

Northern Tallinn city district, also in close cooperation and together with City of Tallinn, will continue advocacy work on safe environment and safe behavior of people.

Advocacy work will be done with collaboration with Estonian Rescue Board and their guidelines and all other involved and interested institutions and organizations.

Monitoring and enforcement

Northern Tallinn city district and City of Tallinn can and will have more demands on landlords who have abandoned their houses and therefore caused bad and dangerous conditions. Abandoned hoses must dissapear from city space and milleu! They must be cleared away and removed or these areas, territories must to modernisate and build up by development activities. Big need for development, aim and goal is to development on and build up so called Kopli lines (nn Kopli liinide) area as an area of City of Tallinn with state-of-art and modern city space, environment and infrastructure, by developer. It expects the appropriation of all this area by

City of Tallinn, Tallinn City Council, Tallinn City Government and Tallinn City Property Department.

This current Northern Tallinn city district plan to enhance fire safety (EL PRISMA Project Final Document) is a collective expert opinion in this area. Developed and offered planned and possible measures to enhance fire safety and for mitigation of fire risks in the Northern Tallinn city district shall be included into the concrete and specific development documents – development plan of Northern Tallinn city district, development plan of City of Tallinn, specific and sector development plans, overall spatial plan of Northern Tallinn city district and other development documents – and budgets. Just as important is that it is at the national level and by the State, primarily by the Estonian Rescue board and its North Rescue Centre through the respective development documents and budgets. This ensures that all planned and possible measures can be implemented and the realization of them. This is the ultimate goal of all the work.

Summary

EU PRISMA Project is and was a direct continuation to the EU MiSRaR project.

The project "PRISMA" (*Promoting and Implementing Strategies for Risk Management and Assessment*) has funded by the European Commission's Humanitarian Aid and Civil Protection General Directorate´s. Main purpose of this project was and is to promote and manage strategies for assessing and mitigating risks on local, regional and national level. This EU PRISMA Project has been made possible with contribution from the Civil Protection Financial Instrument from the European Union. In project took part five regions from four countries: the Northern Tallinn Administration as representative of the City of Tallinn, the South Holland South Safety Region (VRZHZ), Mirandela and Aveiro municipalities from Portugal and Stara Zagora region from Bulgaria.

In the framework of the EU PRISMA Project, the principles of the MiSRaR Project and of a completed handbook of MiSRaR or MiSRaR handbook as a result of the MiSRaR Project were
As a result of the Project was made from nine chapters, As a result, the project ready for the nine chapters and a table of contents, introduction, summary and eight annexes **consisting the Project Final Document "Northern Tallinn city district plan to enhancement fire safety (EL PRISMA Project Final Document)".** It has also a Summary in English.

This current Northern Tallinn city district plan to enhance fire safety (EL PRISMA Project Final Document) is a collective expert opinion in this area. Developed and offered planned and possible measures to enhance fire safety and for mitigation of fire risks in the Northern Tallinn city district shall be included into the concrete and specific development documents – development plan of Northern Tallinn city district, development plan of City of Tallinn, specific and sector development plans, overall spatial plan of Northern Tallinn city district and other development documents – and budgets. Just as important is that it is at the national level and by the State, primarily by the Estonian Rescue board and its North Rescue Centre through the respective development documents and budgets. This ensures that all planned and possible measures can be implemented and the realization of them. This is the ultimate goal of all the work.

Index of annexes

In English

1. Northern Tallinn city district Plan to enhance fire safety (EU PRISMA Project Final Document), list of tables
2. Northern Tallinn city district Plan to enhance fire safety (EU PRISMA Project Final Document), list of figures

In Estonian (see Estonian document)

3. Rescue and fire safety legislation
4. The administrative ordinance by the Head of Northern Tallinn Administration from 13th of May 2013 No 2-1/109 "Formation of project team of international project "PRISMA – a fire safety risk assessment and the protection of the population" of the European Commission's Directorate General for humanitarian aid and civil protection"
5. The condition of firewalls of the Northern Tallinn city district: expert review – The letter by the North Rescue Center of State Recue Board from 14th of June 2014 No 7.2-2.1/5836-2
6. The condition of firewalls of the Northern Tallinn city district: expert review, photo table – The letter by the North Rescue Center of State Recue Board from 14th of June 2014 No 7.2-2.1/5836-2, annex
7. Used substantive materials and references
8. Wooden houses in the Northern Tallinn city district: photo album – EU PRISMA Project monitoring observation (March 2014)

Annex 1.
Lists of tables

Annex 2.
List of figures

Partners of PRISMA

Safety Region South-Holland South
The Netherlands

Municipality of Tallinn
Estonia

Stara Zagora Regional Development Agency
Bulgaria

Municipality of Mirandela
Portugal

Municipality of Aveiro
Portugal

This project has been made possible with contribution from the Civil Protection Financial Instrument from the European Union