

TURKEY

HATAY METROPOLITAN MUNICIPALITY

**HATAY WATER AND SEWERAGE
ADMINISTRATION (HATSU)**

**NON-TECHNICAL SUMMARY (NTS)
FOR
HATSU WATER AND SEWERAGE PROJECT IN
SAMANDAG AND ARSUZ DISTRICTS**

February 2018

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ACRONYMS AND ABBREVIATIONS

DD	Due Diligence
EBRD	European Bank for Reconstruction and Development
E&S	Environmental and Social
ESAP	Environmental and Social Action Plan
ESIA	Environmental and Social Impact Assessment
EU	European Union
EUR	Euro
HATSU	Hatay Water and Sewerage Administration
NTS	Non-Technical Summary
OHS	Occupational Health and Safety
O&M	Operation and Maintenance
PIP	Priority Investment Programme
SEP	Stakeholder Engagement Plan
WS	Water Supply
WSS	Water Supply and Sanitation
WW	Wastewater
WWTP	Wastewater Treatment Plant

1. PROJECT DESCRIPTION

1.1. Introduction – Scope of Investments

Hatay Metropolitan Municipality and Hatay Water and Sewerage Administration (HATSU) are planning to implement infrastructure projects in Hatay including 1) rehabilitation of the water supply system in the district of Samandag and 2) implementation of a sewerage system in the district of Arsuz. These projects will be supported by the European Bank of Reconstruction and Development (EBRD). The total project cost is estimated to be EUR 50 million, which comprises a loan from EBRD (EUR 40 million), a grant (EUR 5 million) and a City budget contribution (EUR 5 million).

1.2. Project Scope - Samandag

The project in Samandag will improve the water supply network in the most densely populated areas of the city. The map below indicates the scope of the project.

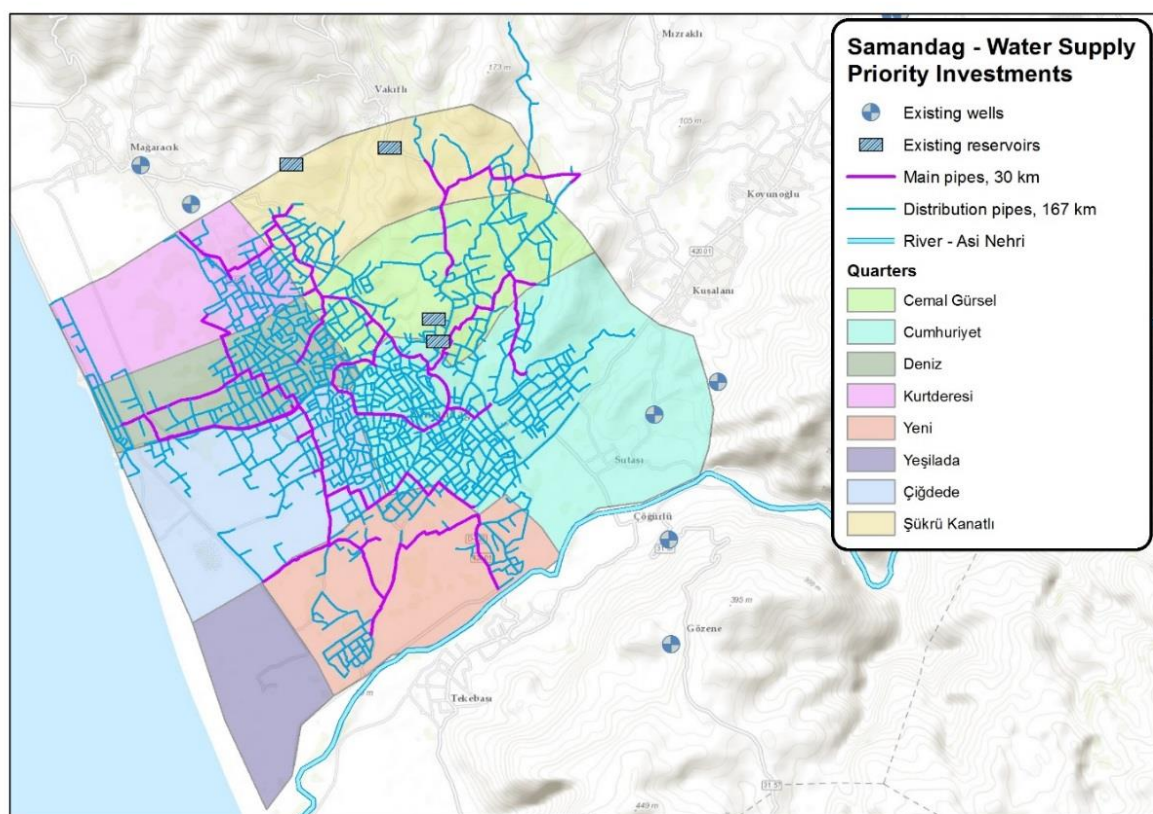


Figure 1: Scope of Samandag water supply project.

The project's aim is to reduce the physical losses of treated water, which is currently about 66% of the water production, and to supply uninterrupted and a high quality of water to the district. The project will thus include replacement of approximately 200 km water supply network pipes and construction of approximately 7,700 house connections.

The infrastructure will be operated and maintained by HATSU.

1.3. Project Scope - Arsuz

The project in Arsuz will establish a sewerage network in densely populated areas of the district with the aim to ensure proper collection and treatment of wastewater. The map below indicates the scope of the project.

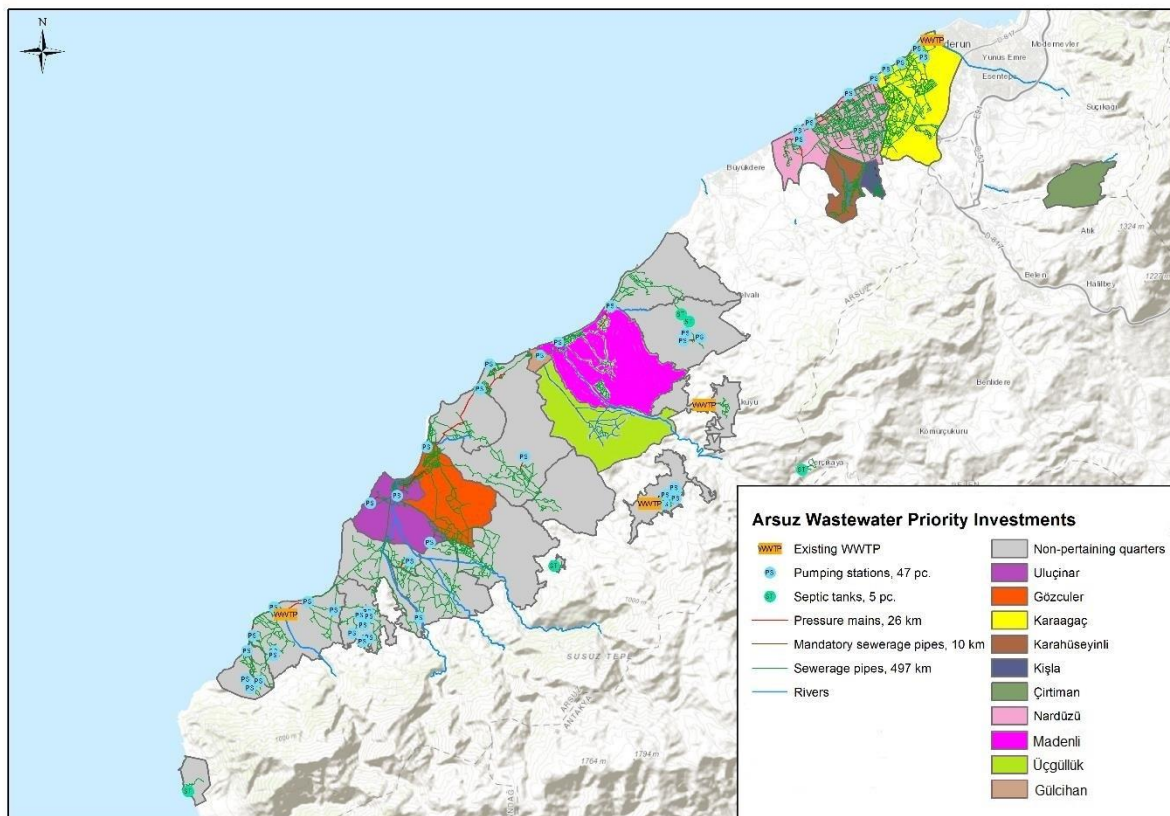


Figure 2: Scope of Arsuz wastewater project. Cirtiman quarter is part of the project scope but the layout of pipe network has not yet been defined.

The project includes construction of a sewerage system, with more than 200 km of sewerage network pipelines, approximately 120 km of pipes and manholes for parcel connections, and construction of six pumping stations. The wastewater network will be a separate sewerage system since a storm water network and discharge system already exists in the project quarters.

The infrastructure will be operated and maintained by HATSU.

1.4. Project Timeline: Samandag and Arsuz

The project activities in Samandag and Arsuz districts are expected to start in 2018 and be completed in 2022.

2. BACKGROUND

2.1. Rationale of the Project

HATSU is responsible for water and wastewater services in 15 districts of Hatay, which has an officially registered population of around 1.6 million plus an estimated 500,000 unregistered Syrian refugees. Hatay has thus recently experienced significant population growth caused by the Syrian refugee influx given its close proximity to the border, which has stressed the already fragile infrastructure.

In **Samandag**, all or nearly all households are connected to the piped water supply. The water supply network was constructed in the 1970s and 1980s and is deteriorated. Due to the prevalent use of asbestos cement pipes in the network, partial replacement is not possible and the replacement of the entire system is proposed. Moreover, the system was not implemented with a proper engineering design and all additional connections were made without any design input. Operation and Maintenance (O&M) of such a network system is quite difficult, which leads to many customer complaints, which are expected to be reduced markedly with a new system. It is also expected that the O&M costs including the electricity cost will be reduced significantly.

In **Arsuz**, there is no wastewater collection. Construction of wastewater infrastructure facilities will ensure proper collection and treatment of wastewater in the densely populated parts of the district and the use of septic tanks in these areas will be minimized. This will benefit the protection of human health, prevention of environmental pollution and will be in compliance with provisions of relevant laws. The living standards of the inhabitants, including the Syrian refugees, will be improved. By the realization of the investment, the wastewater connection rate in the project area will be around 50% by 2018 and is estimated to reach 70% by 2022.

2.2. Legal Aspects and Compliance with Environmental and Social Laws

HATSU is responsible for undertaking wastewater collection and treatment in accordance with national environmental law and regulations. Further, HATSU undertakes water abstraction, treatment, and supply in accordance with national regulations. The company has the required permits or is in the process of obtaining these. For Samandağ wastewater treatment plant (WWTP) the environmental permit procedure will commence in April 2018 since handover to HATSU by the Contractor has recently been carried out in February 2018. The environmental permit for Iskenderun WWTP is valid up to 2022 and will be renewed following normal procedures. Since Üçgüllük WWTP is currently under preliminary design stage, there is no environmental permit procedure to be carried out at the moment.

The proposed project and associated facilities will achieve compliance with the EU Environmental Requirements, including applicable directives.

2.3. Current Environmental and Social Situation and Considerations

Environmental aspects

At present, there are few issues with the quality of the supplied water in Samandag as documented in water quality monitoring reports. However, any leak in the old and deteriorated drinking water supply network is a potential source of cross contamination, especially microbiological contaminants entering into the distribution system. Further, leaks will result in major water losses.

At present, there is no wastewater collection system in Arsuz, which is not adequate for a city the size of Arsuz. The extensive use of septic tanks in densely populated areas can lead to pollution of the groundwater as well as the drinking water network.

At present, the water supply systems and the disposal of wastewater do not live up to the internationally recognised EU compliance standards.

Social aspects

Hatay's population is officially around 1.6 million plus an estimated 500,000 unregistered Syrian refugees. The latter are mainly very low-income families, who tend to rent old houses on the outskirts of city/town centres. The population of Samandag is estimated to be around 51,000 (2016), which is expected to grow to a level of 100,000 in 2050. In Arsuz, the population of about 54,000 (2016) may grow to around 140-150,000 in 2050, depending on the immigration. Also, in Arsuz, future infrastructure must cater for additional 50,000 tourists during the summer period.

Water supply customers complain about frequent water cuts and there are also some complaints about the water quality. In Arsuz, there are many complaints about odour problems due to overflowing of cesspits, associated health risks including pollution of channels and streams. This situation also results in a lower income from tourism than would otherwise have been possible. There is a high demand for piped sewerage connections among households in the project area of Arsuz district and the indications are that nearly all families will be able to pay a connection fee and increased tariffs, if this is needed.

To ensure that HATSU's piped water supply and wastewater services are affordable to all poor and vulnerable groups, including refugees, HATSU will coordinate with local governors and other institutions to identify and implement additional measures.

3. PROCESS OF ENVIRONMENTAL AND SOCIAL ASSESSMENT

3.1. The Environmental and Social Assessment Carried Out

As part of the project preparation, an environmental and social Due Diligence (ESDD) has been carried out by external experts in accordance with Turkish and International standards. This has included:

- An Environmental & Social Audit of the corporate management practices, existing facilities and operations of HATSU.
- An Environmental & Social Assessment of future potential environmental and social impacts of the project components.
- Development of an Environmental and Social Action Plan which HATSU will follow during the project implementation and afterwards.
- Preparation of a Plan for the engagement of stakeholders

The ESDD has been prepared based on the design of the project components, visual inspections on the ground and discussions with local residents and other stakeholders.

3.2. Public Consultations, Disclosure and Grievance Management

This document, the Non-Technical Summary (NTS), will serve to inform the population about the nature of the proposed project. Before the start of the construction and rehabilitation works, HATSU will provide further information to citizens in the project areas of Samandag and Arsuz districts, while more general information will be made available to the public in Hatay province. There will also be a public consultation process before the start of the construction and rehabilitation works. This will include several meetings in the project areas.

For the purposes of this project, HATSU will establish a specific grievance mechanism for any concerns and complaints to be handled in a systematic way. HATSU will distribute further information about this grievance mechanism and will also explain the mechanism during the mentioned consultation meetings.

A Stakeholder Engagement Plan (SEP) has been developed and HATSU is making this available to stakeholders in the project areas and to the wider public in Hatay province. The overall objective of this Plan is to define the stakeholder engagement, public information disclosure and consultation process. It highlights the way in which HATSU plans to communicate with people and other stakeholder groups who may be affected by or interested in HATSU's project construction and operations phase activities. The end goal is to build a trusting relationship with people who live in the project areas and other interested stakeholders based on a transparent and timely supply of information and an open dialogue. The Stakeholder Engagement Plan and the process defined therein are a means to this end. It also includes description of a grievance mechanism for stakeholders and the public to raise any concerns, and to provide feedback and comments about HATSU's operations and how those complaints / comments will be handled.

During the construction and rehabilitation activities, all communication on grievances from the public will be channelled through HATSU's district representatives. They will handle all water and wastewater related complaints and other complaints that may arise during the construction works such as noise, dust, traffic problems, access to schools or businesses, problems for disabled and elderly people and working conditions for workers of the contractors.

4. ENVIRONMENTAL AND SOCIAL BENEFITS, ADVERSE IMPACTS AND MITIGATION MEASURES

4.1. Benefits

The following are the main social benefits of the project. In Samandag, the residents can rely on a safer water supply for the foreseeable future with a significant reduction in water supply cuts and an improved water quality. This will in turn have an impact on health issues caused by water and sanitation related diseases. In Arsuz, the residents will benefit from an improved physical environment and an improved management of wastewater disposal. This will in turn have an impact on health issues caused by water and sanitation related diseases. Further, it is expected that the improved wastewater collection will have a positive impact on the tourism potential in the coastal area and thus on local income during the summer.

There will not be any involuntary resettlement caused by the project and not any acquisition of private land for the project. In the unlikely event that, during the finalisation of project design, the situation changes, much effort will be put into making agreements with private land owners to voluntarily sell the required land.

The construction of the proposed project will be located in urban areas and will not directly impact on areas of biodiversity significance, and it is not expected to lead to any increase in the abstraction of

water. Conversely, due to the reduction of water losses and non-revenue water (NRW), the projects are expected to reduce the abstraction.

The main environmental benefit of the proposed project is linked to the investments in Arsuz as it will mitigate the problem with no wastewater collection and treatment. This will significantly reduce the discharge of wastewater from leaching septic tanks or to the river. The project will alleviate the problem of pollution of the groundwater which is the main drinking water source.

4.2. Adverse Impacts and Mitigation Measures

The main negative environmental impacts are temporary and short-term impacts during the construction phase associated with new constructions, rehabilitation of pipelines and renovation of buildings and civil structures. The construction related impacts are of limited duration and will be mitigated through standard methods and procedures of good housekeeping and good engineering practice.

Impacts During Construction Phase

Groundwater and surface water

Groundwater and surface water may be impacted through unintentional spill or discharge oil and fuel from construction equipment during the construction period. Considering the size of the proposed investments, the negative impact on the groundwater and surface water in project districts in connection with construction is considered to be minor. Mitigation measures including the following will apply: Fuelling and change of oil on equipment should only take place on solid surface. Any waste oils or other hazardous waste should all be accumulated in a covered storage site protected against rain and wind. Waste oils or other hazardous liquid waste have to be delivered, on a contractual basis, to specific locations licensed to store and transport waste oils and chemical substances. Potential risk areas, including storage, parking, and vehicle and equipment washing areas should be located away from the water courses and drainage paths.

Air quality

The negative impact on the air quality in project districts due to the implementation of the investments will be limited. However, especially residents living close to the construction site are likely to experience a negative impact during excavation work. During the construction phase, there will be emissions of gaseous air pollutants and soot from machinery and vehicles. Dust emissions will result from construction activities on-site, in particular earthworks, loading and unloading, and transportation of construction materials and waste from construction sites. The dispersion of the dust emissions, gaseous air pollutants and black carbon will depend on the locality. Dust emission is considered to have the main negative impact on the air quality during construction. In relatively open areas with low-rise buildings and considerable air interchange due to the wind, the emitted pollutants will disperse faster than in relatively closed-off areas or streets with higher buildings and less wind.

The impacts are reversible and possible to mitigate through the following mitigation measures: Preparation of a Dust Management Plan, including traffic routes and presentation of dust control measures to be used on-site. Controls on loose materials when transporting and storing, especially excavated materials. Covering loads entering and leaving the site. Minimising movement of construction traffic around the site and maintaining appropriate speed limits. Using hard surface haul routes and effective cleaning of haul routes. Areas to be paved as soon as possible. Use of water as dust suppressant where applicable, including periodic spraying of water during transfer of excavated materials. Regular street sweeping / cleaning of access roads to the site.

Emissions from vehicles and machinery used for construction and transportation of construction materials and waste can be greatly reduced through control and mitigation measures. The following mitigation measures will be used: Use of equipment, construction machinery and transport vehicles

during the construction period that comply with emission requirements, standards, and specifications of manufacturers in relation to exhaust gas emissions. Use of diesel particulate filters on diesel engines, including construction machinery, compressors, and generators. Regular inspection and adjustment of fuel systems to minimise exhaust emissions to be carried out in due time. Visual inspection of exhaust gases from construction machinery and vehicles. Establishing a documented maintenance programme for construction machinery used on sites.

Noise

During the construction phase, there will be noise from the use of construction machinery, equipment and vehicles during excavation as well as transportation of material to and from the sites. Noise from construction activities and transportation are local impacts, which will be periodical for the period of construction at the specific site and possible to mitigate.

The following mitigation measures will be used: A schedule (hours during the day) of construction activities, acknowledging daytime and night time noise limits. Construction should be normally limited to daytime during weekdays. Weekends and night time construction activities should be kept to a minimum. Minimize noise intrusive impacts during most noise sensitive hours. Organise the construction traffic and access points to construction sites and select truck routes that limit the frequency of passage through sensitive areas. Schedule truck loading, unloading, and hauling operations so as to minimize noise impact near noise sensitive locations and surrounding communities. Configure the construction site in a manner that keeps noisier equipment and activities as far as possible from noise sensitive locations and nearby buildings and reduce the amount of equipment operating in critical areas close to noise sensitive receptors. Orient plant and equipment known to emit noise strongly in a direction away from noise sensitive receptors. Use of acoustic enclosures for diesel generators and noisy equipment. Minimize the use of noisy impact devices.

Waste

The potential impacts related to waste are primarily related to the handling and disposal of hazardous materials such as asbestos pipes and waste oil as well as waste generated by personnel. Contractors will be required to establish a Waste Management Plan. The location of asbestos cement pipes in the networks will be mapped. If asbestos-related risks are identified (e.g. removal of old asbestos pipes), procedures for safe handling, removal and disposal of asbestos-containing materials will be followed to avoid exposure risk.

Occupational Health and Safety (OHS)

The contractors will be required to follow HATSU's OHS procedures when working on HATSU's sites and OHS requirements will be incorporated in tender materials and contracts. Work sites where contractors and sub-contracted staff are engaged will be subject of internal OHS audits and inspections.

The Tender document will require the contractors to establish a Health and Safety Plan / Site Safety Plan including procedures, reporting, and incident investigation and corrective action. The contract document will require the contractors to develop site safety procedures and ensure they are present on site with easy access for all employees, including employees of sub-contractors.

OHS audits will be arranged during construction and prior to commissioning of project facilities.

Prior to construction location of asbestos cement pipes in networks will be mapped. If major asbestos-related risks are identified (e.g. removal of old asbestos pipes), procedures for safe handling, removal and disposal of asbestos-containing materials to avoid exposure risk will be developed. This would include development of a manual and training in the correct handling of asbestos pipes when doing repair or maintenance work and development of instructions and provide appropriate personnel protective equipment for conduct of such work.

Contractors will also implement measures related to H&S (confined spaces and work in trenches) and will develop good practice safety procedures for such works and ensure own staff and contractors follow these procedures.

Traffic Management

Constructions sites on and adjacent to roadways are cordoned off with a site perimeter and safety signs to establish a work zone and separate workers from traffic. In case of larger construction work, the streets may be closed off partly or entirely in coordination with the Transport Department. The contractors will prepare and implement traffic management plans. Where necessary, alternative traffic routes will be planned in consultation with the Transport Department and directional signs to indicate traffic directions will be used around the construction area.

Community Safety

To safeguard the public from hazards during construction, HATSU undertakes regular auditing of contractors' work in the construction areas. Contractors must take precautions to prevent the entry of citizens or third parties into the excavation area. Warning signs will be installed at excavation work and open excavation areas will be closed off with barriers and lightened warning signs put up. Roads will be reinstated following construction activities.

Cultural Heritage

Hatay is a cultural centre where many civilizations, cultures, beliefs meet and coexist. There are important sacred sites belonging to Jewish, Muslim and Christian beliefs and the sacred places belonging to these religions are still used and visited by believers. No known cultural heritage sites will be affected by the construction work. In case some cultural heritage items are found during construction, e.g. during excavation, a chance find procedure will require the Contractor to stop works and notify the Museum Directorate under the Ministry of Culture and Tourism.

Impacts During Operation and Maintenance

Groundwater and surface water

The key impacts on the water environment are related to unintentional spills, unintentional or emergency release of wastewater to the environment, or discharge of hazardous chemicals including oil from the workshop and the general maintenance activities during operation. An emergency response plan, including responsibilities, procedures, communication, training, and resources in case of emergency release of wastewater to the environment will be developed and incorporate in HATSU's Environmental Risk Plan.

Air Quality

During operation and normal maintenance, the only direct impact to the air quality in the area of influence will be air emissions from operating the excavator and vehicles and this impact is considered to be negligible. Although negligible, in order to further minimise the impacts, surfaces will be wet to minimise airborne dust and particles and in case usage of trucks is required, speed limits will be enforced in related areas.

Odours

HATSU will conduct a study of odour issues at Iskenderun and Samandağ WWTPs to identify solutions for currently not existing but probable odour problems and prepare an odour mitigation plan. Odour monitoring results will be assessed, and if odour nuisance and complaints take place and continue, further control measures will be identified and implemented.

Noise

It is assessed that during operation there will be no noise impact to the external environment. Regular maintenance of equipment will be carried out for minimising the noise levels which might result from possible failures or breakdowns.

5. MANAGEMENT AND MONITORING OF IMPACTS

An Environmental and Social Action Plan (ESAP) which includes environmental and social management and monitoring measures has been prepared for the implementation of the project and for improvement of HATSU's operations. The ESAP, which will be implemented by HATSU during the project implementation and afterwards, addresses:

- Environmental issues
- Social issues
- Labour and working conditions
- Resource efficiency and pollution prevention control
- Health and safety related to the project
- Any land acquisition or resettlement issues
- Biodiversity and natural resources
- Cultural heritage
- Information to and information of the public

6. CONTACT DETAILS

For further information about the project, the following can be contacted:

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