

Ref. No.	<b>Appendix 2.1</b> <b>Project Demarcation Document regarding the Project of Muiderberg District Heating</b> <b>X: Responsible within the interface</b> <b>(X): Participant in the performance: The role is stated in the text</b>  <b>Rev 01 03/03.2026</b>	Lot A	Lot B	Lot C	Lot D	Lot E	Lot G	Lot H	Project Owner	Other actors
<b>Interconnection &amp; Distribution</b>										
ID1	The interface between Lot A and Lot B consists of the heat exchangers between WKO & TEO and the heat pump. Lot B shall dimension and supply the heat exchangers. The placement and connection of the heat exchangers shall be coordinated with Lot A and the Project Owner (PO). Lot A shall connect the heat pump to the heat exchanger.	X	(X)						(X)	
ID2	The interface between Lot A and Lot C is defined as the bottom-mounted valves located on the external side of the storage tank. Lot C deliver and mount the valves.	(X)		X						
ID3	The interface between Lot A and Lot D consists of the pumps and valves located inside the technical building. Lot D shall supply and install the building entry. Lot A shall connect the pumps and valves to the building entry inside the technical building. The Project Owner (PO) shall determine the location of the building entry.	X			X				(X)	
ID4	The interface between Lot H and the connections to Lot A and Lot B shall be coordinated by Lot A and the Project Owner (PO). Lot B shall provide the necessary information (including dimensions, schedule, and location) to both Lot A and Lot H.	X	(X)					X	(X)	
<b>Aquifer Thermal Energy Storage &amp; Lake Water Extraction</b>										
ATES1	The interface between Lot A and Lot B consists of the heat exchangers between WKO & TEO and the heat pump. Lot B shall design and supply the heat exchangers. The placement and connection of the heat exchangers shall be coordinated with Lot A and the Project Owner (PO). Lot A shall connect the heat pump to the heat exchanger.	(X)	X						(X)	
<b>Tank Thermal Energy Storage</b>										
TTES1	<b>Hydraulic connection of the tank</b> The scope of Lot C ends at the diffusers pipes equipped with ball valves and blind flanges, positioned downward close to the bottom of the tank. Lot A is responsible for supplying and installing the piping between the tank and the remainder of the heating system. Lot H should coordinate the space management in the building.	X		(X)				(X)	(X)	
TTES2	<b>Overflow water</b> Lot C will supply and install an overflow pipe, which will terminate at the bottom of the tank. Lot A will be responsible for connecting this pipe in such a way that the overflow water is properly collected and subsequently treated in compliance with the applicable regulations. <i>It should be noted that the overflow water is subject to specific requirements, including a high pH level (more information on the water quality can be provided if needed).</i>	X		(X)				(X)	(X)	
TTES3	<b>Interface between the building roof &amp; the top of the tank (including rainwater management)</b> Since the tank will be built before the building, Lot H will be responsible for managing the interface between the upper section of the tank and the building roof. Particular care must be taken to ensure that the tank's metal cladding is well integrated, not damaged, and waterproof in order to prevent any water ingress into the tank insulation and to avoid any corrosion of the cladding.  Furthermore, as no gutter is installed at the top of the tank, rainwater will naturally run down its exterior surfaces. Lot H will therefore be responsible for managing all rainwater falling on both the tank area and the building roof.			(X)				X	(X)	
TTES4	<b>Accessibility of the tank top</b> Access to the top of the tank is required, as instrumentation, manholes, and pressure/vacuum valves will be installed in this area. Lot C is responsible for installing all tank-related instrumentation as well as providing a platform on the tank top to ensure safe and reliable access for operation and maintenance.  A ladder will be installed by Lot H to ensure access to the platform on top of the tank. Coordination between Lot H and Lot C is required to confirm the correct positioning of the ladder.			(X)				X	(X)	
TTES5	<b>Structure of the building &amp; tank</b> Lot H should keep in mind that the building must have its own independent structural system, completely separate from the tank. The tank must not be subjected to any mechanical loads from the building.			(X)				X		

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TTES6	<b>Inerting station</b> The inerting station is included within the scope of Lot C, along with its installation inside the building and the associated connections. Close coordination between Lot A, Lot H and Lot C is required to identify a suitable location within the building for the inerting station - comprising, in the case of a nitrogen-cushion system, a buffer tank, air compressor, nitrogen generator, and related equipment (or equivalent equipment if a steam-cushion system is selected) - and to ensure that a nitrogen line can be safely and correctly routed between the tank and the inerting station.  It should be noted that the nitrogen system does not require any special ventilation within the hydraulic building. However, it does require proper drainage for the condensate produced beneath the inerting station (particularly from the compressor and buffer tanks). This condensate management solution must be considered and provided by Lot H.	(X)		X				(X)	(X)	
TTES7	<b>Tank water filling and water quality</b> The tank and the piping connected to it will be filled with treated water by Lot A, in coordination with Lot C (at least regarding planning aspects and required water properties). Lot H should also be kept in the loop.  The tank can be filled from the bottom, either via the lower diffuser pipe (if accessible) or by connecting a steel pipe (or equivalent) to the drainpipe. During filling, it is important that the overflow pipe remains free of water to allow air to escape during filling. At the same time, the manhole must be closed to prevent particles from entering the tank. Filling also requires the installation of a non-return valve (temporarily installed), whether the filling is done through the diffuser at the bottom of the tank or the drainpipe. Finally, it may be advisable to install a meter to accurately measure the amount of water sent to the tank. This allows you to check that the filling flow rate is as expected and does not exceed the treatment capacity of the softener.  <i>The water must meet specific requirements in terms of pH, chemical composition, and particle content, which will be defined in the Lot A technical specification.</i>	X		(X)				(X)	(X)	
TTES8	<b>Electrical interfaces</b> Lot C must collect and terminate all cables from the various tank sensors in an electrical cabinet (supplied and installed under Lot C's scope). This cabinet can be located either adjacent to the tank (outside the cladding), or integrated within the insulation layer, depending on the final design. The sensor cables must be routed in a cable tray running vertically through the insulation to ensure proper protection and accessibility. Lot A is responsible for connecting the cables from this cabinet to the SCADA system. Lot H should also be kept in the loop.	X		(X)				(X)	(X)	
TTES9	<b>Tank foundations, concrete slab &amp; asphalt powder</b> Lot H is responsible for the design and construction of the foundations and the concrete slab for the tank. The foundations must be designed in accordance with the tank's technical characteristics, applicable local regulations, and the requirements of EN 14015. The tank slab shall comply with the flatness tolerances specified in EN 14015. The slab diameter will be defined by Lot C. The design must also take into account potential ground settlement (sinking) resulting from the tank load; this settlement behaviour shall be monitored and taken into account by Lot C.  Lot C shall provide all necessary documentation and data related to the tank characteristics to enable Lot H to design the foundations and slab correctly. This includes, but is not limited to the static load, wind & seismic resistance calculation notes, and anchoring requirements.  If tank anchoring is required, Lot C shall design and supply the anchors in accordance with EN 14015. Lot H is responsible for drilling the holes in the slab for the anchor rods and installing the anchors.  Additionally, Lot C shall apply an asphalt powder layer to the top surface of the concrete slab to ensure that the steel structure of the tank does not come into direct contact with the concrete.			(X)				X	(X)	
TTES10	<b>Earth connection</b> The tank should be designed for possible lightning discharge and connected to one or more earth connections			X				(X)	(X)	
<b>Technical Building &amp; Building Installations</b>										
TB1	<b>Water supply (external):</b> The waterworks will establish a water supply to the technical building, including a meter arrangement with a stopcock in the technical building. Lot H must coordinate with the waterworks regarding water supply, connection and location thereof.							X	X	X

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TB2	<b>Water installation (internal):</b> Lot A establishes water supply from connection in the technical building to all taps in the building and possibly incl. emergency shower incl. water heating. Hot water production based on district heating. Final location of taps must be approved by PO.	X						(X)	(X)	
TB3	<b>Monitoring of building installations:</b> Lot H establishes monitoring of building installations with, among other things, fire alarm (if applicable), door contacts, operation of eyewash (if applicable) and emergency shower (if applicable). Alarms are handled in SCADA (Lot A). Lot H must provide information to Lot A regarding necessary signals and installations.	X						X		(X)
TB4	<b>Datanet (external):</b> PO brings forward a network cable (fiber), which PO terminates with a switch in the switch room. The location of the switch is coordinated with Lot A. Lot A provides power supply for the switch (Full network access incl. UPS). Lot A connects to this switch. The interface for the data network is the connector in the switch. Responsibility for data communication into the connector lies with Lot A, who connects the data cable.	X						(X)	(X)	
TB5	<b>Datanet (internal):</b> Lot A shall be responsible for ensuring that the data cable from the switch located in the electrical switchgear room is routed to all network outlets specified within the Technical Building (Lot H). The final positioning of all network outlets shall be subject to approval by the Project Owner (PO).	X						(X)	(X)	
TB6	<b>Grounding and potential equalization:</b> Lot H are responsible for the establishment and testing of the potential equalization rail, including the grounding system for the complete installation, comprising the ring earth, to which Lots A, B, and C shall connect. Lots A, B, and C shall be responsible for the potential equalization, connection, and testing related to their respective scopes of work. The interface is defined as the potential equalization rail located in the electrical switchgear room. Lots A, B, and C shall provide all necessary information required for the dimensioning of the grounding system.	(X)	(X)	(X)				X		
TB7	<b>Access Roads, Paved Areas and Terrain</b> Lot H shall establish all internal roads, both temporary and permanent, as well as paved areas and terrain works within the site boundary. The Project Owner (PO) shall establish the access road leading up to the site (construction zone). Lot H shall establish the temporary construction site area required for the installation of site huts and facilities. Lots A, B, and C shall provide Lot H with all necessary information regarding the required area for the temporary construction site, temporary access roads, and temporary paved areas.	(X)	(X)	(X)				X	X	
TB8	<b>Sewer and Drainage Installations Inside the Building</b> Lot H shall, at its own cost and responsibility, carry out all sewer and drainage installations inside the building, including any required safety measures related to potential NH <sub>3</sub> (ammonia) release. The placement of floor drains shall be determined based on the machine layout drawings provided by Lot A.	(X)						X		
TB9	<b>Sewer Connection:</b>							X		
TB10	<b>Rainwater:</b> The discharge of rainwater shall be handled by Lot H.							X	(X)	
TB11	<b>Fire Safety and Emergency Preparedness:</b> Lot H shall be responsible for ensuring that the overall fire protection of the building complies with all applicable regulations. Lots A, B, and C shall be responsible for the fire protection of all penetrations, including the provision of the required documentation.	X	(X)	(X)				X		
TB12	<b>Lighting and Electrical Outlets:</b> Lot H shall carry out the building electrical installations, including lighting outlets and light switching in all rooms. Lot H shall supply the lighting fixtures for all rooms, as agreed with Lot A. Lot A shall install the lighting fixtures in the heat pump room, taking the machine layout into account. Lot H shall install the lighting fixtures in all other rooms.	(X)						X		

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TB13	<b>Noise:</b> Lots A and C shall provide information to Lot H regarding the noise levels of machine components, ventilation systems, and other relevant equipment, enabling Lot H to design the necessary noise-mitigation measures to ensure compliance with the applicable regulatory noise limits. Lot H shall execute the building constructions and shall be responsible for ensuring that the building's noise-attenuation performance complies with all applicable regulations.	(X)		(X)				X		
TB14	<b>Ventilation:</b> Mechanical ventilation with heat recovery for the heat pump room, the electrical switchgear room, and the high-voltage/transformer room ( including all associated sound attenuation, connections, and control functions required for the removal of excess heat, as well as compliance with the requirements of the Nederlandse Arbeidsinspectie (including, but not limited to, emergency ventilation and detection equipment) shall be included within the scope of Lot A. Ventilation for all other rooms shall be provided by Lot H.	X						X		
TB15	<b>Openings, Recesses, and Conduits:</b> Lot A and Lot C shall carry out all required core drilling, openings, and recesses for its own penetrations, including subsequent closing and finishing works of the building. These activities shall be coordinated with Lot H.	X		X				(X)		
TB16	<b>Chimney from Gas Boiler:</b> The placement and construction of the chimney from the gas boiler shall be determined by Lot H and shall be coordinated with Lot A.	(X)						X		
<b>Electrical Installation &amp; SRO System</b>										
ES1	<b>TTES: Power Supply, Signal Interface, and Cabling Responsibilities:</b> Lot A shall carry out all power supply works for the TTES (400 V and signal exchange). Lot C must collect and terminate all cables from the various tank sensors in an electrical cabinet (supplied and installed under Lot C's scope). This cabinet can be located either adjacent to the tank (outside the cladding), or integrated within the insulation layer, depending on the final design. The sensor cables must be routed in a cable tray running vertically through the insulation to ensure proper protection and accessibility. Lot A shall establish the connection from the terminal box to the electrical switchboard in the technical building. Lot A shall integrate the signals from the storage tank into the SCADA system. Lot A shall install the conduits leading to the storage tank. The terminal block inside the terminal box shall constitute the interface point.	X		(X)						
ES2	<b>Signal Handling from the Local Grid Operator (Liander):</b> Lot A shall be responsible for processing all signals received from the local electrical grid operator (Liander). The interface point shall be the switch established by Lot A.	X								(X)
ES3	<b>Signal Handling from the District Heating Network (Lot D):</b> Lot A shall be responsible for processing all signals received from the district heating network (Lot D). The interface point shall be the switch established by Lot A.	X			X					

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<b>Main Supply &amp; Main Connection (Electricity &amp; Gas)</b>										
EG1	<b>Power Supply Cables (external):</b> The power supply cables, including protective earth, shall be routed by the Project Owner (PO) to the transformer room of the technical building. The cables shall be connected by Lot A to a switching assembly supplied under Lot A's contract. The interface point shall be the end of the power supply cable.	X						(X)	X	(X)
EG2	<b>Power Supply Cable (internal):</b> The power supply cable from the switching assembly shall be routed by Lot A to the transformer room of the technical building and shall be connected by Lot A to the main switchboard, which is supplied under Lot A's scope. The interface point shall be the end of the power supply cable. The routing and placement of electrical cables and switchboards shall be coordinated with Lot H.	X						(X)		
EG3	<b>Gas Supply Cables:</b> The gas supply cables shall be routed by the Project Owner (PO) and terminated in a small external box. The connection to the gas supply shall be carried out by Lot A. The interface point shall be the safety valve located inside the box	X						(X)	X	(X)
<b>Authority Processing</b>										
AP1	<b>Permits, Including Building Permits:</b> The Project Owner (PO) shall submit the applications for all required permits, including the building permit. Lots A, B, C and H shall comply with all conditions and requirements set forth in the permits received.	(X)	(X)	(X)				(X)	X	(X)
AP2	<b>Fire and Emergency Response:</b> Lot H shall be responsible for the regulatory process and the subsequent approval of the complete heating central by the competent authorities.							X	(X)	(X)
AP3	<b>Documentation Regarding the Construction Project:</b> The Project Owner (PO) are responsible for collecting and submitting all documentation required under the building permit and the fire safety strategy in order to obtain the occupancy permit from the municipality. The PO shall ensure coordination with the municipality and with the PO's own activities and the other lots within the building.	(X)	(X)	(X)				(X)	X	(X)
<b>Construction Site</b>										
CS1	<b>Construction Site Layout and Operation:</b> The construction site layout, operation, and safety coordination shall be carried out in accordance with the V&G Plan (Veiligheids- en Gezondheidsplan). It shall be assumed that Lot H will establish the temporary paved construction site roads and arrange the areas for material storage and site huts for Lots A, B, and C. It shall further be assumed that this responsibility will be handed over to Lot A at an appropriate stage, when Lot H withdraws from the construction site.	X						X		
CS2	<b>Safety Coordination:</b> Safety coordination shall be carried out in accordance with the V&G Plan (Veiligheids- en Gezondheidsplan). It shall be assumed that this responsibility will be transferred to Lot A at an appropriate stage, when Lot H withdraws from the construction site.	X						X		
CS3	<b>Connection of Electricity, Water and Sewage:</b> Lot H shall establish a common connection point for electricity, water, and sewage for the site hut area and shall bear all associated costs. It shall be assumed that this responsibility will be transferred to Lot A at an appropriate stage, when Lot H withdraws from the construction site.	X						X		
CS4	<b>Site Huts and Welfare Facilities:</b> Lot H shall establish the temporary construction site area for all contractors. It shall be assumed that this responsibility will be transferred to Lot A at an appropriate stage, when Lot H withdraws from the construction site. All contractors shall establish their own site hut areas and welfare facilities in accordance with the instructions provided by Lot H in cooperation with the Project Owner (PO). All contractors shall connect their respective site hut areas to electricity, water, and sewage, including sub-meters, as instructed by Lot H in cooperation with the PO. The PO shall pay for the consumption of electricity and water for the site hut areas and welfare facilities, based on the readings from the sub-meters for each contractor. All Lots shall perform meter readings on a monthly basis and submit the readings to the PO no later than the 5th day of each month.	X	X	X	X			X	X	

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CS5	<b>Meeting Facilities:</b> Lot A shall establish meeting facilities consisting of a meeting room for up to 10 persons, a toilet, and a kitchenette equipped with a sink and refrigerator, and shall connect these facilities to the internet, electricity, water, and sewage systems. Sub-meters shall be installed for electricity and water. The meeting facilities shall be made available for all meetings requested by the Project Owner (PO) and the PO's advisor(s). The meeting facilities shall remain locked when not in use. Keys providing access shall be made available to Lots A, B, and C, as well as to the PO. Lot A shall be responsible for arranging this. The PO shall pay for the consumption of internet, electricity, and water.	X	(X)	(X)				(X)		
CS6	<b>Construction Power and Construction Site Lighting:</b> Lot H shall establish and maintain the construction power supply and construction site lighting, both indoors and outdoors, including any sub-distribution boards required for Lots A, B, and C. The Project Owner (PO) shall bear all associated costs. Lots A, B, and C shall indicate the required connection points and load demands. It shall be assumed that this responsibility will be transferred to Lot A at an appropriate stage, when Lot H withdraws from the construction site.	X	(X)	(X)				(X)		
CS7	<b>Construction Site Sign:</b> Lot H shall establish the mandatory common construction site sign, subject to alignment with the Project Owner (PO). Lots A, B, and C shall coordinate and settle their respective share of the cost for the common construction site sign with Lot H. Lots A, B, and C shall provide all necessary information and logos for the sign to Lot H. It shall be assumed that this responsibility will be transferred to Lot A at an appropriate stage, when Lot H withdraws from the construction site.	X	(X)	(X)	(X)		(X)	(X)		
CS8	<b>Waste Sorting and Disposal:</b> Lot A shall establish the designated area for waste containers. All waste generated by all contractors shall be sorted in accordance with the instructions provided by the Municipality. Lot A shall contact the Municipality during the establishment of the construction site to obtain an overview of the required number of containers and waste fractions. All costs for containers and emptying related to the works included in Lot A shall be borne by Lot A. All other contractors shall provide the necessary number of containers to ensure proper sorting and disposal of waste generated by their respective works. All associated costs, including containers and emptying, shall be borne by each respective contractor. Lot A shall indicate the container placement area for the other contractors.	X	(X)	(X)				(X)		(X)