



**SECTION 7.0 – COMMITMENTS LIST
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<p>Water Management</p> <p>KNOC is undertaking additional exploration activities for supplementary water source wells in proximity to the project area in the 2009/2010 winter drilling season and will conduct pump tests on these new locations. The results of the 2009/2010 winter exploration program will be provided to the regulators upon completion.</p>	<p>Vol. 1, Sec. 2.6</p>
<p>Waste Management</p> <p>Waste management at the site will comply with applicable waste management processes, procedures and guidelines including the Alberta <i>Environmental Protection and Enhancement Act (EPEA) Waste Control Regulation (AEP 1996d)</i>. Practices will include:</p> <ul style="list-style-type: none"> • classifying, measuring and controlling waste generation; • handling, storage, treatment and disposal; • tracking and reporting; • off-site disposal of dangerous oilfield waste and non dangerous oilfield wastes as appropriate; and • recycling, as appropriate. 	<p>Vol. 1, Sec. 2.7</p>
<p>Health, Safety and Environment</p> <p><u>Policies</u></p> <p>To support its commitments, KNOC's management endorses the following principles:</p> <ul style="list-style-type: none"> • KNOC will adhere to applicable health, safety, and environmental regulations and industry standards; • Employees and contractors who provide services to KNOC will be made aware of the company's Corporate Safety Policy and implement it; • KNOC will periodically assess its operations to identify health, safety and environmental risks; • KNOC will implement reasonable precautions and appropriate safeguards to minimize the risk of incidents; • KNOC will outline procedures to be followed during incidents; • KNOC will provide appropriate emergency response training for KNOC responders; and • KNOC will avoid doing business with those who demonstrate a lack of commitment to responsible health, safety and environmental management. <p><u>Environmental Management</u></p> <p>Environmental monitoring will be reviewed by KNOC personnel for compliance with any regulatory approval requirements. Audits will be carried out by KNOC during the life of the project for compliance with applicable regulations and the company's environmental management policies.</p> <p>Upon receipt of regulatory approval for the project, an environmental management system will be prepared.</p> <p><u>Health and Safety</u></p> <p>KNOC will maintain emergency equipment and staffing as required under Alberta Occupational Health and Safety requirements for isolated worksites.</p>	<p>Vol. 1, Sec. 2.8</p>

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<p><u>Emergency Response Plan</u></p> <p>KNOC is developing a site-specific emergency response plan as a part of the Initial Project. This plan will be amended to include the Expansion Project as required. This plan will address emergencies that could potentially be encountered based on hazards and risks specific to the project. This plan will interface with the Corporate Emergency Response Plan.</p>	<p>Vol. 1, Sec. 2.8</p>
<p>Conservation and Reclamation (C&R) Plan</p> <p>KNOC will prepare a conceptual reclamation plan for the project to based on the sequence of well pad decommissioning. The plan will include procedures for soil handling, revegetation, erosion control, weed management and reclamation monitoring.</p>	<p>Vol. 1, Sec. 3</p>
<p>Public Consultation</p> <p>KNOC will continue to consult with stakeholders and potentially affected Aboriginal communities during the regulatory review and approvals process and through the life of the Expansion Project.</p>	<p>Vol. 1, Sec. 4</p>
<p>Hydrogeology</p> <p>Mitigative strategies at the Central Processing Facility (CPF) will act to decrease the potential risk to shallow groundwater and to surface waterbodies. The following mitigative strategies will be used at the CPF:</p> <ul style="list-style-type: none"> • flowlines and storage tanks will be located above ground to facilitate leak detection; • storage tanks will be designed to meet or exceed ERCB Directive 55; • a comprehensive spill response plan; • a groundwater monitoring program; and • site construction over low permeability clayey soils. 	<p>Vol. 4, Sec. 6.6</p>
<p>Hydrology</p> <p>Many of the potential impacts of the project can be effectively mitigated using appropriate planning and water management techniques, particularly with respect to the type, sizing and construction of watercourse crossings. Natural drainage patterns will be maintained to minimize disruptions to surface flows.</p> <p><u>Overland Drainage</u></p> <p>The most common effect of development is the blockage of existing flow paths. This will be effectively mitigated by providing ditches and culverts at all defined surface channels, at all low points and at regular intervals through wetland areas to provide cross-drainage. Sediments generated will be prevented from entering watercourses by utilizing appropriate sediment control techniques.</p> <p>Ditches and culverts will be installed at all defined surface channels, all low points and at regular intervals through wetland areas to provide cross-drainage. Appropriate sediment control techniques will be used to prevent sediment from entering watercourses.</p> <p>Pads will be bermed and graded to drain towards an internal perimeter ditch to manage storm water runoff. Collected surface water will be tested to conform to environmental regulations and, if acceptable, will be discharged to the natural watercourse.</p>	<p>Vol. 2, Sec. 7.6</p>

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<p><u>Watercourse Crossings</u></p> <p>Road crossings and pipeline crossings will be installed per the requirements of Alberta Environment's <i>Code of Practice for Watercourse Crossings</i> (AENV 2001b) and <i>Code of Practice for Pipelines and Telecommunications Lines Crossing a Water Body</i> (AENV 2001a), respectively.</p> <p>Crossing locations that are stable and that avoid steep crossing approaches will be selected where possible. Erosion and sediment control techniques will be implemented at the time of construction. These techniques will include bank stabilization and right-of-way (ROW) revegetation as soon as practical following construction.</p> <p>Culvert structures will be long enough to ensure that road grading operations do not result in the deposition of road gravel into the channel. Similarly, bridges will be equipped with side rails high enough to contain road gravel on the surface and prevent it from being graded into the channel.</p> <p><u>Monitoring</u></p> <p>The monitoring program will consist of the following:</p> <ul style="list-style-type: none"> • routine monitoring of road crossings to ensure that culverts are not blocked by ice, sediment, debris or beaver dams; • in wetland/muskeg areas, water levels on both sides of the road should be routinely monitored to ensure that ponding, indicating drainage obstruction, does not occur or that mitigative measures can be implemented; • pipeline crossings should be monitored after spring break-up and after high flow events to ensure that banks are stable and not eroding; • monitor streamflows at representative locations to document post-development flows in the potentially affected channels; and • monitor the stability of the watercourses. 	<p>Vol. 2, Sec. 7.6</p>
<p>Water Quality</p> <p><u>Construction Activities</u></p> <p>During construction, appropriate technologies and best management practices will be used to minimize erosion and sediment loadings to streams. These include the following:</p> <ul style="list-style-type: none"> • the selection of pipeline and road routes will be based on minimizing area disturbance by maximizing the use of existing corridors, minimizing habitat disruption, minimizing watercourse crossings and balancing costs versus mitigation; • the use of common corridors for both pipelines and roads; • the minimization of site disturbance by using existing disturbed/cleared sites for the project facilities wherever possible; • a 100 m buffer zone is applied to waterbodies; • the design and installation of pipeline and road crossings will be in accordance with AENV's <i>Codes of Practice for Pipelines and Telecommunications Line Crossing a Water Body</i> (2001a) and <i>Code of Practice for Watercourse Crossings</i> (2001b) under the <i>Water Act</i>. The pipeline crossings will be above ground. Water quality will be monitored during construction of watercourse crossings; 	<p>Vol. 4, Sec. 8.6</p>

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<ul style="list-style-type: none"> • the use of appropriate sediment control techniques, such as silt fences, during construction of roads, drainage ditches and pipelines to minimize sediment runoff; • the use of appropriate stabilization techniques during soil stockpiling to minimize deposition from wind and water erosion; and • all drilling waste will be disposed of in accordance with <i>ERCB Directive 58: Oilfield Waste Management Requirements for the Upstream Petroleum Industry</i> (ERCB 2008) and <i>Directive 50: Drilling Waste Management</i> (ERCB 2001). <p><u>Surface Runoff</u></p> <p>Mitigation measures that will be implemented to minimize the effects of runoff from these facilities include:</p> <ul style="list-style-type: none"> • all well pads will be surrounded by a berm. Contaminated runoff will be collected and recycled at the CPF; • constructing and vegetating roadside ditches to collect and contain local road runoff; and • installing bridges, culverts at drainage lows, wetlands and watercourse crossings. <p>The type of pipeline or road crossings will be selected during detailed design and based on applicable practice. The project will include the temporary alteration of surface runoff through the incorporation of surface runoff impoundments. The ditches will be designed to ensure that the natural drainage patterns are maintained and to avoid ponding of water along roads.</p> <p><u>Monitoring</u></p> <p>Specific aspects of the monitoring program will include:</p> <ul style="list-style-type: none"> • water quality observation/testing in the storm water collection pond; • water quality observation in the streams during road crossings and pipeline installation; • background water quality monitoring will be conducted in the waterbodies where discharge of treated water from storm water collection ponds can occur; and • seasonal monitoring of streams in the project area based on watershed principles to ensure the surface water quality leaving the area satisfies the applicable guidelines and to track potential trends in the water quality over time. <p>The surface water quality monitoring program will be coordinated with the hydrological and aquatics monitoring networks to ensure that the suite of data available will be comprehensive enough to support water management planning.</p>	<p>Vol. 4, Sec. 8.6</p>

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<p>Fisheries and Aquatic Resources</p> <p>The project will require three new road crossings: one over Sunday Creek and two over unnamed tributaries. All crossed watercourses are designated as a Class C streams by AENV (2007). The restricted activity period (RAP) for the construction of the crossings is from 16 April to 15 July (AENV 2006).</p> <p>Culverts will be used for the road crossings over the unnamed creek. A clear span bridge or an open bottom culvert will be used for the Sunday Creek crossing. All crossings will be designed in accordance with the <i>Code of Practice for Watercourse Crossings</i> (AENV 2001b). During the installation of the road crossing structures, best management practices specified by Alberta Transportation (2009), the <i>Code of Practice for Watercourse Crossings</i> (AENV 2001b), and the federal <i>Fisheries Act</i> will be followed. Best management practices will include:</p> <ul style="list-style-type: none"> • construction of the road crossings outside of the RAP; • use of isolation techniques during instream work (AENV 2001b); • all single-span bridges can be installed at any time without isolation of the watercourse; • design and construct bridges large enough so that bridge abutments are above active channel and no instream construction is required; • design bridges with low side barriers to minimize gravel entering stream during road maintenance; • installation of culverts of appropriate diameter and length to ensure fish passage, minimize hydraulic constriction during high flows and to ensure that road grading does not result in deposition of road gravel in to channel; • installation and maintenance of appropriate erosion control measures such as silt fences around riparian disturbance areas and ROW until disturbed natural vegetation (e.g., muskeg) is returned or becomes re-established by seeding; • habitat compensation if or as required by Fisheries and Oceans Canada (DFO) through the <i>Fisheries Act</i> authorization process associated with the crossings; and • implementation of post-construction monitoring programs. <p>The following mitigation measures will be implemented to minimize potential impacts to aquatic resources:</p> <ul style="list-style-type: none"> • siting temporary construction laydown area, well pads, and associated infrastructure 100 m from streams and lakes; • construction of the road crossings outside of the restricted activity period; • use of isolation techniques during installation of watercourse crossings (AENV 2001b); • all single-span bridges can be installed at any time without isolation of the watercourse; • design and construct bridges large enough so that bridge abutments are above active channel and no instream construction is required; 	<p>Vol. 2, Sec. 9.6</p>

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<ul style="list-style-type: none"> • design bridges with low side barriers to minimize gravel entering stream during road maintenance; • installation of culverts of appropriate diameter and length; • installation and maintenance of appropriate erosion control measures such as silt fences around riparian disturbance areas and ROWs until disturbed natural vegetation (e.g., muskeg) is returned or become re-established by seeding; • use of best practices for erosion control during construction; • storage and replacement of muskeg to riparian areas after completion of stream crossings or re-seeding with natural vegetation; • maintenance of erosion control measures around the well pads for the life of the project; and • restricting access to the project area. <p><u>Monitoring</u></p> <p>KNOC will use qualified environmental inspectors during the construction phase and implement a post-construction monitoring program. This program will include inspection and maintenance of erosion control measures around the well pads and stream crossings.</p>	<p>Vol. 2, Sec. 9.6</p>
<p>Soil</p> <p>To the extent possible, the project development will attempt to utilize previously disturbed areas for development. The Expansion Project will share a common CPF with the Initial Project. The use of existing development and the shared infrastructure locations reduces the overall project footprint. Linear developments (i.e., roads, pipelines, and transmission lines) will be constructed within single ROWs in an effort to minimize the overall project footprint.</p> <p>Details of soil mitigation and monitoring are provided in the C&R Plan (Vol. 1, Sec. 3.0).</p>	<p>Vol. 4, Sec. 10.6</p>
<p>Vegetation</p> <p><u>Project Design and Construction</u></p> <p>The project layout has been designed to minimize impacts to vegetation and wetland resources. Typical construction methods will also be used to reduce impacts during construction activities. These include such actions as slope stabilization, ditching and runoff control, and installation of culverts where appropriate to help mitigate the alteration of localized surface flow in wetlands and prevent water impoundment.</p> <p><u>Road Dust</u></p> <p>Road watering will be used in high traffic areas during dry conditions to help reduce the dust load and increase visibility along access roads as part of safe work practices.</p> <p><u>Rare Plant Species</u></p> <p>During pre-disturbance assessments, rare plant surveys will be conducted to identify species and locations. As rare plant populations are observed, they will be noted on the constraint map to allow the project design team to modify the placement of facilities, if possible. Where impacts are unavoidable, several options to preserve these species may be examined, including transplanting, collection of seed to plant in new areas, and/or monitoring nearby areas (within the same population) to determine if the rare plant population remains stable following development.</p>	<p>Vol. 2, Sec. 11.6</p>

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<p><u>Weed Spread</u></p> <p>An Integrated Weed Management Program will be implemented, and control measures undertaken when required on a site and species specific basis. Control measures would be restricted to those species considered to be problematic (noxious and restricted weed species). Mitigation measures will include washing all land clearing and reclamation vehicles/equipment prior to entering the site in order to prevent the spread of non-native species and their propagules. Weed control would include mowing, picking, prompt re-establishment of native plant cover species, and/or use of herbicides by certified applicators.</p> <p><u>Monitoring</u></p> <p>A vegetation monitoring program will be developed as part of the detailed C&R plan (Vol. 1, Sec. 3.0).</p>	<p>Vol. 2, Sec. 11.6</p>
<p>Wildlife</p> <p>The following strategies for mitigation will be used to reduce impacts on wildlife species as a result of project activities:</p> <ul style="list-style-type: none"> • existing linear corridors will be followed to the extent practical in the development of main access roads and pipeline ROWs in order to reduce vegetation clearing and habitat fragmentation effects; • linear corridor widths for access to well pads and other low use facilities will be minimized as much as possible; • during project construction, wildlife crossing of linear developments will be facilitated by the provision of breaks and crossing points in pipe strings and open ditches; • wildlife crossings under above ground pipelines will be provided by maintaining a minimum clearance of 1.8 m under pipelines to the extent that terrain conditions will allow. Where elevating pipelines or use of terrain depressions is not feasible, crossing structures over pipelines will be considered; • speed limits will be in the range of 50 to 80 km/hr or less along access roads within the Terrestrial Local Study Area (TLSA); • prior to clearing, construction of sites in upland habitats and in areas identified as suitable black bear denning habitat will be surveyed to ensure active den sites are not disturbed. This is particularly important from October to May while bears are denning; • dust control measures will be implemented on access roads as needed; • to reduce lines of sight and discourage off-road travel on cleared seismic and pipeline ROWs, doglegs will be developed and slash berms placed where cleared corridors intersect main access roads, wherever possible; • vegetation clearing will not occur during the migratory bird nesting and rearing period, generally from April to August, consistent with regulatory expectations; • vegetation clearing and construction activities will be suspended if an occupied denning site or a raptor nest is encountered, pending consultation with Fish and Wildlife officials. This is particularly important for species such as fisher and owls that will den and nest during the late winter period; 	<p>Vol. 2, Sec. 12.6</p>

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<ul style="list-style-type: none"> • KNOC will actively participate in reclamation research activities as promoted by the Alberta Caribou Committee to identify potential actions that would restore caribou habitat within the TLSA; • KNOC will participate in regional land use planning initiatives; • transmission lines will be constructed using standard construction methods that will reduce impacts to raptors; • a no firearms/no hunting policy will be implemented for project personnel, including contractors, both on-site and while traveling to and from project facilities; • all food wastes will be stored inside a fenced areas to prevent access by wildlife, and then trucked off-site for disposal; • a riparian buffer zone of 100 m around all lakes and stream courses will be implemented, to the extent possible. Where stream crossings occur, bridges or culverts will be installed to minimize impacts to riparian zones, in accordance with best management practices specified by Alberta Transportation (AT) (2009) and the <i>Code of Practice for Watercourse Crossings</i> (AENV 2001b); • habitat enhancement measures will be considered, as appropriate, for wildlife within the TLSA; • all project personnel will undergo wildlife protection education to ensure food wastes are not made available for wildlife consumption and vehicle conflicts are minimized to reduce the potential for harm to both humans and wildlife; • progressive reclamation of project disturbance will achieve near equivalent pre-disturbance habitat capability for wildlife; and • reclamation plans include measures to reduce access to the project area and to, re-establish vegetation and wildlife communities within the TLSA. <p><u>Monitoring</u></p> <p>As part of its mitigation measures, KNOC will consider undertaking habitat enhancement measures (e.g. nest boxes), as appropriate, to increase opportunities for wildlife habitat use within areas surrounding the development.</p> <p>A wildlife monitoring program will be developed to assess the effectiveness of mitigation and enhancement measures, where applicable, and to monitor the abundance and distribution of species of concern within the TLSA. The monitoring program will specifically address the success of wildlife movement across above ground pipelines. As well, a caribou monitoring program will be developed to determine if changes occur in caribou habitat use within the TLSA. Monitoring programs will be developed in consultation with stakeholders, regulators, and other regional developers to ensure opportunities for collaboration and data sharing are provided that will improve monitoring effectiveness.</p> <p><u>Regional Initiatives</u></p> <p>KNOC will continue to support the establishment of wildlife management objectives and strategies, including access and habitat thresholds for priority resource species through participation in regional monitoring initiatives.</p> <p>In coordination with the Alberta Caribou Committee, KNOC will participate in regional initiatives to look at alternative ways of discouraging access within caribou habitats.</p>	<p style="text-align: center;">Vol. 2, Sec. 12.6</p>

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<p>Land and Resource Use</p> <p>The project will be developed in compliance with applicable land use policies, plans and regulations for the RMWB.</p> <p>KNOC will coordinate activities with all dispositions holders prior to construction and post-construction.</p> <p>Mitigation strategies that will be employed include the utilization of existing access roads, trails clearing and cutlines, where possible, to minimize new disturbance to the area. Additionally, where applicable, well pad sites will be progressively reclaimed after use.</p> <p>The project will implement mitigation measures to prevent commercial timber loss, or compensate the affected forestry tenure holder, where necessary in accordance with provincial standards.</p> <p>KNOC is committed to preparing an access control plan. KNOC will control access to the area through signage and rollback (the placement of slash back on the periphery of cleared ROW and the placement of debris or rocks directly on the ROW). Rollback at critical intersections of the project ROW with potential trapper trails will need to be identified at the time of ROW clearing and subsequently kept open to allow for trapper access.</p> <p>KNOC will, where necessary, participate in regional awareness or educational initiatives that advocate the safe and appropriate use of the backcountry.</p>	<p>Vol. 2, Sec. 14.6</p>
<p>Historical Resources</p> <p>Any future development in the lease area will require project specific historical resources consideration and be granted clearance through Alberta Culture and Community Spirit (ACCS) under the <i>Historical Resources Act</i>.</p>	<p>Vol. 2, Sec. 15.6</p>
<p>Traditional Land Use and Traditional Ecological Knowledge</p> <p>KNOC will minimize the amount of land required for the project, and will develop an access management plan, which considers the interests and concerns of Aboriginal communities and traditional land users.</p> <p>KNOC will make their employees, contractors, sub-contractors, and other individuals working on their project, aware of the importance of cultural sites, such as Wasassi, and encourage them to respect the community's wishes regarding the use of the sites.</p> <p>KNOC has a Community Investment Strategy. One priority of the strategy is to support cultural retention. Therefore, KNOC will work with potentially affected Aboriginal communities to identify appropriate initiatives, which KNOC may fund, to support cultural retention, which could include TLU activities.</p> <p>KNOC will also continue to engage and consult with potentially effected Aboriginal communities. Discussions about potential and actual effects on TLU are expected to occur. KNOC will also discuss mitigation measures and implement those measures, which will help to manage environmental effects and improve project planning.</p>	<p>Vol. 2, Sec. 16.6</p>

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<p>Socio-Economics</p> <p><u>Regional and Local Economy</u></p> <p>Measures that can be implemented by KNOC to ensure that the 15% procurement and employment within the LSA and RSA is achieved could include:</p> <ul style="list-style-type: none"> • stating in the Engineering, Procurement and Construction (EPC) bid and award documents that the selected EPC and all subcontracted businesses will be expected to support and comply with KNOC socio-economic objective by giving preference to qualified local and local Aboriginal businesses in fulfilling the construction and operations phase contract and service work packages; • breaking the contract and service work packages down into sizes that local and regional businesses have the capacity to undertake; • setting aside small work packages for local and regional Aboriginal and non Aboriginal businesses; and • preferential direct hire of qualified local and regional Aboriginal and non Aboriginal labour. <p><u>Fire and Emergency Services</u></p> <p>During the construction and operation phases of the project, KNOC will minimize any additional demand created during the construction phase on fire and emergency services in the RSA by the following:</p> <ul style="list-style-type: none"> • an ambulance or dedicated vehicle will be available at the work site and near the construction and operation camps in accordance with Alberta’s occupational health and safety guidelines; • arrangements for air medi-vac service will be in place to transport construction or operations workers with life threatening injuries or illnesses to the nearest appropriate medical centre; • trained medical personnel, equipment and supplies will be available at the construction and operation camps in accordance with Alberta’s occupational health and safety guidelines; • fire fighting equipment and workers with fire fighting training will be available at both the worksite and camp during the construction and operations phases of the project; • given that KNOC’s proposed project is within the fire protection area, KNOC will work with the Alberta Sustainable Resources Development (SRD) office in Lac La Biche, to ensure that both construction and operation camps are fire smart and will inform the office about the construction plans and schedules for the construction and operation camps; • KNOC will follow Alberta Occupational Health and Safety requirements for isolated worksites. Within the construction and operation camps there will be emergency response plans in place and full compliance with applicable fire and emergency regulations; and • KNOC will send a copy of their emergency preparedness plan for review and approval to the Regional Emergency Preparedness Department (REPD) of Alberta Health in Fort McMurray and will engage the REPD during accidents and coordinate with them. 	<p>Vol. 2, Sec. 17.1</p>

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<p><u>Housing and Utilities</u></p> <p>KNOC will build a construction and operations camp near the project. Utility services will be provided as follows:</p> <ul style="list-style-type: none"> • Potable water will be trucked to the site from a water source in either Lac La Biche or the Regional Municipality of Wood Buffalo (RMWB); • Wastewater will be trucked to a treatment plant in either Lac La Biche or the RMWB; and • Solid waste will be kept in animal proof containers and then will be trucked from the site to an appropriate landfill in either Lac La Biche or the RMWB. <p><u>Traffic</u></p> <ul style="list-style-type: none"> • Use of Highway 881 to reduce additional traffic on Highway 63. • Proper use of safe highway driving standards. • Provide Pilot Trucks when transporting oversized loads to and from the project site. • Enforcement of posted speed limits on local industry roads and Highway 881. • Post traffic signs near Conklin. • Fly in/fly out plan for workforce rotation and associated bussing between airport/airstrip and camp. 	<p>Vol. 2, Sec. 17.1</p>