



COUNTRY GUIDE

CGU.0011.ITG.NWE.UK

Managing Development and Works in Proximity to Exolum Pipelines

Version 1.0

01/11/2022

Document Author:	SME Reviewer/Pre-Approver:	Approver:
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Date:11/10/2022	Date:18/10/2022	Date:31/10/2022

Changes since previous version

This new document supersedes a doc which was previously held within the "CLH-PS Archive" area of the Aconex document management system. Doc Ref is CLHPS-ALL-PIL-STD-0001 - Standard Requirements for Crossing or Working in Close Proximity to CLH-PS pipelines, Rev 02 dated 06/09/2018. This doc was never brought over into the Dolphin Webcon IMS, an old system which we ceased using in 2021.

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1. AIM

The aim of this guidance document is to provide an overview on how **Third Party Development** and **Work in Proximity** to an Exolum Pipeline asset shall be managed in line with rights conferred under the Energy Act 2013 and, more critically, UK regulatory Health, Safety and Environmental obligations placed on **Exolum** as a pipeline operator, and any **Third Parties** undertaking any work that may impact the safety of a pipeline as set out in the **Pipeline Safety Regulations (PSR) 1996**.

The guidance in this document is not exhaustive and nothing Exolum stipulates as part of this guidance shall exempt any Third Party from any obligation or responsibility, they may have for managing their works safely and in accordance with UK Law.

2. SCOPE

The Guidance in this document has been developed using Industry Good Practice adapted for use on Exolum Pipelines and associated assets. The Guidance shall be used by Exolum to help facilitate productive, safety-based conversations with any Third Party who may be seeking to undertake work in proximity to one of its pipeline assets.

The Guidance has been developed primarily for use on cross country pipelines as defined in PSR. However, it may also be used as a good practice guide for other pipeline assets where appropriate.

3. REFERENCE DOCUMENTATION

3.1. Internal References

Document Number	Document Title
PE.6061.ITG.PS	Management of Third-Party Works (Minor) Procedure
CPR.0006.INT.NWE.UK	RoW - Management of Infringements
PE.6043.ITG.PS	RoW - Management of Third Party Funded Pipeline Inspections
CGU.0002.INT.NWE.UK	Pipeline Demarcation

3.2. External References

Document Title
Energy Act 2013
Pipeline Safety Regulations 1996
Health and Safety at Work Act 1974
Construction Design and Management Regulations 2015
Management of Health & Safety at Work Regulations 1999
HSG 47 - Avoiding Danger from Underground Services
UKOPA Good Practice Guide 036 - Managing developments and works in the proximity of high-pressure pipelines
UKOPA Good Practice Guide 029 – Local Authority Planners information regarding On Shore Pipelines and Associated Installations
UKOPA Good Practice Guide 013 - Requirements for the Siting and Installation of Wind Turbines Installations in the Vicinity of Buried Pipelines
UKOPA Good Practice Guide 014 - Requirements for the Siting and Installation of Solar Photovoltaic (PV) Installations in the Vicinity of Buried Pipelines

4. DEFINITIONS

Acronym/Term	Definition
RoW	Rights of Way
TPES	Third-Party Enquiry System

5. ROLES AND RESPONSIBILITIES**5.1. Pipeline ROW Team**

- To ensure the safety, integrity of and access to EXOLUM Pipeline System assets beyond depot perimeters

5.2. Pipeline Protection Administrator (PPAdmin)

- To ensure timely response to all external communications
- To co-ordinate site visits when required
- To manage documentation and records relating to enquiry

5.3. Pipeline Technician (Line Tech)

- To attend site to ensure that the Third Party is aware of the location of Exolum PS assets and requirements relating to the proposed works
- To provide site visit report sheets and other relevant site-specific information to PPAdmin
- To oversee Third Party works on site to completion, ensuring documentation and requirements are met

5.4. Pipeline Protection Advisor (PPAdv)

- To lead on the liaison with Third Party for agreeing a Works Consent Order
- To manage Third Party to ensure Works Consent requirements are met in a timely manner
- To manage queries/issues from site

5.5. Pipeline Operations Manager (POM)

- To provide guidance and instruction to ROW Office where required
- To assist in escalating Non-Compliant Third Party works issues to legal where required
- To attend meetings/calls to discuss requirements in relation to non-compliant and major Third Party works where required
- To authorise Non-Compliant Works Consent Orders

5.6. Land Agent

- To manage web based Third Party enquiry service and communication with ROW office
- To provide rights in land and planning advice/guidance to Exolum PS
- To record Works Consent and affected land parcel on a Land Owner Database
- To produce monthly reports to meet Exolum PS requirements

5.7. Legal

- To provide advice and instruction where required
- To attend meetings/calls to discuss requirements in relation to non-compliant and major Third Party works where required

6. IMPLEMENTATION

6.1. Legal Obligations

6.1.1. Pipeline Safety Regulations 1996

In Great Britain, the **Pipelines Safety Regulations (PSR) 1996** sets out the requirements for planning, designing, constructing, operating, maintaining, decommissioning, and preventing damage to pipelines.

The control of risks arising from third party damage to pipelines is addressed by Regulations 15 and 16 of PSR.

Regulation 15 states: **“No person shall cause such damage to a pipeline as may give rise to a danger to persons.”** Within ‘A guide to the Pipelines Safety Regulations 1996’. Paragraph 70, Reg 15, provides additional guidance on this point as follows: “It is important that the location of onshore pipelines, and in particular underground pipelines, is considered when carrying out building, excavation or dumping or other such work, as such activities may either cause damage to pipelines or deny access to them for maintenance purposes.

Regulation 15 therefore places a duty on anyone wishing to carry out work which may affect an Exolum pipeline.

Regulation 16 places additional duties on pipeline operators (such as Exolum) and states: **“For the purpose of ensuring that no damage is caused to a pipeline, the operator shall take such steps to inform persons of its existence and whereabouts as are reasonable”.**

Exolum complies with this duty in a number of ways but principally via regular stakeholder communications, installing pipeline demarcation along the route of the pipeline, and by allowing stakeholders to submit buried apparatus enquiries.

Developers or anyone else carrying out work in proximity to a pipeline require the pipeline operator’s agreement and/or consent prior to starting work.

Note, this is required regardless of whether planning permission is required or not. The granting of planning permission does not remove the obligation for the developer to actively engage in dialogue with the pipeline operator and Local Authorities should make the developer aware of this.

Pipeline operators will, where requested, provide pipeline location information, and hold discussions with the developer regarding pipeline safety in relation to the proposed works. For more information on the Pipelines Safety Regulations 1996 refer to the HSE Guidance document L82, refer to: ([A guide to the Pipelines Safety Regulations 1996 \(hse.gov.uk\)](https://www.hse.gov.uk/l82/))

6.1.2. Construction (Design and Management) Regulations 2015

The **Construction (Design and Management) Regulations 2015** (“CDM Regs”) cover the management of health, safety and welfare when carrying out any construction projects both domestically and commercially.

A key duty under the CDM Regs is that which belongs to the Client.

It is incumbent on the Client to ensure that all of their work is risk assessed (Refer to Management Regs below), designed and implemented safely.

Clients are organisations or individuals for whom a construction project is carried out.

This includes Domestic clients who have construction work carried out on their own home or other properties whether for profit or not.

More information on CDM can be found in the HSE Legal Series Document L153, refer to: ([Managing health and safety in construction. Construction \(Design and Management\) Regulations 2015. Guidance on regulations L153 \(hse.gov.uk\)](https://www.hse.gov.uk/l153/)).

For the purpose of this guidance note, anyone wishing to undertake work in proximity to an Exolum pipeline would be regarded as a “Client” under the CDM Regs and should ensure they are fully aware of their duties.

6.1.3. The Management of Health and Safety at Work Regulations 1999

The **Management of Health and Safety at Work Regulations 1999** (the Management Regs) is a significant regulation for managing health and safety in the UK.

A key requirement of the Management Regs is the requirement to have a “suitable and sufficient assessment of the risks for managing the health and safety of all those who may be affected by the work.”

This is a duty which falls to those involved in planning and executing the work. The risk assessment should cover not only those directly involved in the work, but also third parties including members of the public, or other third parties such as Exolum. For more information on the Management of Health and Safety at Work Regulations 1999 refer to the HSE Approved Code of Practice & Guidance document L21 refer to: ([Management of health and safety at work Management of Health and Safety at Work Regulations 1999 Approved Code of Practice and Guidance L21 \(hse.gov.uk\)](https://www.hse.gov.uk/l21/)).

6.1.4. HSG47 Avoiding Danger from Underground Services

Health and Safety Guidance document 47 (**HSG47 Avoiding Danger from Underground Services**), is a key piece of guidance produced by the HSE that focuses on the potential dangers of working near underground services and gives advice on how to reduce the risks. It deals principally with risks to health and safety rather than damage to services. However, precautions taken which reduce risks to people’s health and safety will generally also reduce the risk of damage to services, which can directly or indirectly pose a risk to people’s health and safety. For more information on HSG 47 refer to: ([Avoiding danger from underground services HSG47 \(hse.gov.uk\)](https://www.hse.gov.uk/hsg47/)).

Exolum recommends that any party, whether a private individual or contractor, planning to carry out work in the vicinity of one of its pipelines should be fully conversant with this document.

NOTE: A Breach of any of these, and any other, Legal Obligations set out in this section 6.1 could result in a criminal offence being committed and in criminal prosecution.

6.2. Work in Proximity of a Pipeline

6.2.1. General Development

In accordance with its legal rights and its obligations under the Pipeline Safety Regulations, Exolum does not generally permit any work within the zone of protection any of its pipelines, or associated assets, that may impact its ability to safely Operate or Maintain or Access them.

NOTE: this includes any kind of activity, installation, or other work such as the increasing or reducing of ground cover.

As a general rule **only perpendicular crossing points, i.e., road, Rail, Utility, etc, are accepted forms of development within the Pipeline Zone of Protection** and only when they are unavoidable and where adequate safety mitigations can be implemented to protect the pipeline. Services and utilities are expected to be grouped to pass **below** Exolum pipelines at a common location.

Refer to notes under CDM Regulations in section 6.1.2. More information relating to typical utility crossings in Appendix 02 attached.

When considering the requirement for the development of land affecting one of its pipeline assets Exolum will required the Client (as defined in section 6.1.2 above) to ensure that the work is designed and constructed such that safe access and egress to the pipeline can be maintained at all times. This includes following completion of the work. This is to ensure minimum of disruption to subsequent landowners/occupiers.

NOTE: in the event of a loss of containment, or other emergency, Exolum will mobilise all necessary resources to the site of any emergency with minimum notice. This has the potential to cause major disruption to anyone in close proximity to the incident for a sustained period of time. As such safe design is essential as set out in 4.1.2 to minimise risk to those affected.

6.2.2. Agricultural Work

With the exclusion of fencing, ditching and any other intrusive works, Exolum does not generally need to be notified about any routine agricultural work on the surface of the land i.e., shallow cultivation or care of livestock unless there are known issues related to shallow or exposed pipelines on the land. Landowners and occupiers should note however that this statement in no way exempts them from any liabilities resulting from any of their undertakings and if there is any doubt the landowner should contact Exolum for free guidance and arrangement of supervision before commencing work.

NOTE: For the avoidance of doubt the following agricultural activities are not classed as routine agricultural operations: deep cultivation, fencing, ditching, drainage operations, sub-soiling, mole ploughing, maintenance of tracks and any other intrusive works.

6.2.3. Pipeline Zone of Protection

Exolum maintains a **minimum zone of protection of 6m** (3m either side of the pipeline or associated asset) around the pipeline. Inside this zone of protection, no form of development or installation work is deemed acceptable due to concerns relating to pipeline safety and safe access for the purpose of maintenance and repair.

Any work within the zone of protection that must be agreed in advance with Exolum and shall be covered by a formal **Works Consent Order** agreement. This document should contain details of all agreed work including any works and mitigations necessary to keep the pipelines and associated assets safe.

NOTE: it will be the responsibility of the Client (as defined in paragraph 4.1.2 above), and the Client's Principal Contractor (Employer), to manage the safety of those involved in the work.

Other works outside of the Pipeline Zone of Protection may also be subject to agreement. Such work includes but are not limited to:

- Significant building developments.
- Change of use, e.g., barn conversion to dwelling.
- Piling or 3D seismic survey work.
- Use of explosives.
- Demolition.
- Mining/excavations.
- Installation of Wind Turbines (see UKOPA Good Practice Guide 0132).
- Installation of Solar Photovoltaic Installations (see UKOPA Good Practice Guide 0143).
- Installation of High Voltage Cables and / or apparatus (11KV and greater).

6.2.4. Works Consent and Oversight

No works, including but not limited to fencing, ditching and the planning of any heavy vegetation planting, or any other work that materially affects access to, or protection of, a pipeline (e.g., the raising or lowering of ground levels) are allowed within the zone of protection without prior consultation and written consent from the Exolum.

In addition, to ensure the safety and integrity of its assets Exolum also requires certain works **within the zone of protection to be overseen by a Representative of Exolum.**

Details of such oversight, including any onsite supervision necessary to protect the pipeline, shall be discussed and agreed as part of the Works Consent process.

Exolum reserves the right to charge for any reasonable sums to cover the cost of entering into the Works Consent and for the oversight of any subsequent works, including any legal, technical, or engineering services, necessary to accommodate any work safely.

NOTE: Normally the first 3 days of oversight (7.5 hrs/day) is free and thereafter a charge shall be made for assisting in completion of any works. Due to the requirement for reviewing Risk Assessments and Method Statements (RAMS) related to any work, and to ensure the availability of a representative, a standard minimum 10 days' notice will be required for attendance to oversee any work in proximity to the pipeline.

6.2.5. Emergency Incident

In the event of a leak or other incident the following actions should be taken by a third party:

- Remove all personnel from the immediate vicinity.
- Remove all sources of ignition for at least 20 metres upwind and 50 metres downwind of any leak. This should include stopping engines, prohibiting smoking, extinguishing all naked flames, and preventing the switching of electrical apparatus.
- Call **999** and inform the Police and Fire Brigade.
- Contact the Exolum emergency contact number (**0118 971 2021**).
- Prevent the approach of traffic and the general public.
- Do not attempt to seal any leaks.
- Do not attempt to extinguish any flames if the leak has ignited.
- Assist in safeguarding persons and property as necessary, or as directed by the Police, Fire Brigade or Exolum Representative who may be on site.

When calling the Exolum emergency number, as much information as possible should be provided including but not limited to:

- Location Details – e.g., OS Reference, Site Address, Street Name.
- Details of Incident – e.g. Is there a leak, what is the Rate of any leak (fast, Slow, other?), Is there a fire, Have the emergency services been contacted and are the emergency services at site.
- Are there any specific threats to **People**, the **Environment** or **Property/Infrastructure** in the immediate vicinity – e.g., Members of the public, Schools, Hospitals, Sheltered Accommodation, Watercourses, Road or footpaths, Railways, Buildings, Animals/Livestock, etc.

6.2.6. Temporary Plant Crossings

To facilitate the safe implementation of work in proximity of a pipeline it may be necessary to install temporary plant/vehicle crossing points.

Details of typical crossing points can be provided by Exolum on request. However, it shall be noted that the adequate design and construction of any element of any construction works, temporary or otherwise, shall be the responsibility of the Client and the Client's Designer (Refer to notes under CDM Regulations in section 6.1.2 above). For additional information on the **Typical** Design of Temporary, and Permanent, Vehicular Crossing points refer to **Appendix 1**.

NOTE: when designing temp crossing the pipeline should be sectioned off with substantial fencing and fitted with warning signs to prevent encroachment and or storage of materials during any site activities.

6.2.7. Pipeline Damage

If during the course of any work the pipeline gets damaged the Third Party should inform Exolum without delay. The HSE Guidance note L82 states that failure to notify such damage (even if it has been caused accidentally) may constitute a breach of the Health and Safety at Work Act 1974. This is because dents and gouges in a pipe may cause it to fail at a later time with potentially catastrophic consequences. Once reported a representative of Exolum will attend the site and inspect the damage and decide on the action required.

6.2.8. Insurances

Damage to a Pipeline asset could result in loss of life and/or major impacts on the environment which could lead to criminal and civil prosecution and claims up to and in excess of £10m per event. Those carrying out work in proximity to an Exolum asset shall ensure sufficient insurance to cover such eventualities. Proof of insurance forms part of the requirement for the **Works Consent** process.

6.2.9. Unconsented Work (Infringements)

Any un-consented works discovered within the Pipeline Zone of Protection found to be in contravention of Exolum's Legal Rights may be subject to legal action and could result in removal.

NOTE: Exolum will seek to recover the full cost of any such legal action and resulting removal work from the Third Party or Landowner responsible.

6.3. Pipeline Asset Location Enquiries

6.3.1. Line Search Before You Dig

To enable all Third Parties to enquire about the location of its buried assets Exolum subscribes to an online location enquiry tool called www.LineSearchBeforeUdig.co.uk (LSBUD). All enquiries relating to any proposed work within proximity of an Exolum Pipeline asset shall be subject to a LSBUD online enquiry.

Those who do not have access to the Internet can undertake these enquiries via Exolum's Land Agent by calling 08450 701245 Mon to Fri 08:45 to 17:15.

Confirmation on whether an LSBUD enquiry is positive (affected) or negative (not affected) is provided following the completion of the online search. If the status of the search is "affected" the Third Party needs to follow the instructions provided by LSBUD and issue a plan and a description of the works using the details provided.

On receipt of this a follow up letter/email setting out how to proceed will be issued within 2 working days.

The unique reference number provided in the follow up correspondence should be used in all subsequent enquiries relating to each specific enquiry.

6.3.2. Pipeline Route Demarcation

IMPORTANT NOTE: Pipelines are way-marked at certain points along their entire route using ground and aerial marker posts (Refer to **Appendix 4** for typical examples).

Where pipeline markers are installed, it must not be assumed that the pipeline(s) run directly from marker to marker or that the markers are installed directly above the pipeline and associated assets. It is essential that before any work commences an Exolum Representative attends site to mark out the actual route of any Pipeline Assets. The approximate route of the pipeline will be marked out using Cable Avoidance Tools (CAT). However, CAT scans only give approximate location data and therefore it may be necessary to excavate trial holes to locate and identify actual horizontal and vertical alignment details necessary for detailed planning and design purpose.

NOTE: All costs associated with the oversight of trial holes will be to the account of the Third Party promoting the work.

6.4. Works in the Highway (Adopted Land)

Where a pipeline asset falls within the within a boundary of any adopted land or public highway, then these works will generally fall within the requirements of the New Roads and Street Works Act 1991(NRSA) and as such do not require a signed Works Consent Form. However, such works are still subject to the same Safety Obligations set out in Section 6.1 and therefore Exolum should be consulted on any work or material changes within the highway that may affect its assets

6.5. Pipeline Diversions

Where a Third Party seeks to have a diversion (the lowering or re-alignment of an existing pipeline) to accommodate any proposed works such arrangements will only be made if the:

- Work does not impact the safe and efficient operation of the pipeline.
- Third Party agrees to fund the work, along with planning costs, and the costs of any other requisite consents, in full and in advance, and.
- The Third Party provides the new land rights to enable the diversion or re-alignment to take place. Exolum will also require rights to enter onto that land to inspect or repair the pipeline periodically.

7. REVIEW

This guide shall be reviewed 5 yearly or following an incident or awareness of changes to internal or external statutory requirements, policy, procedure, or guidance.

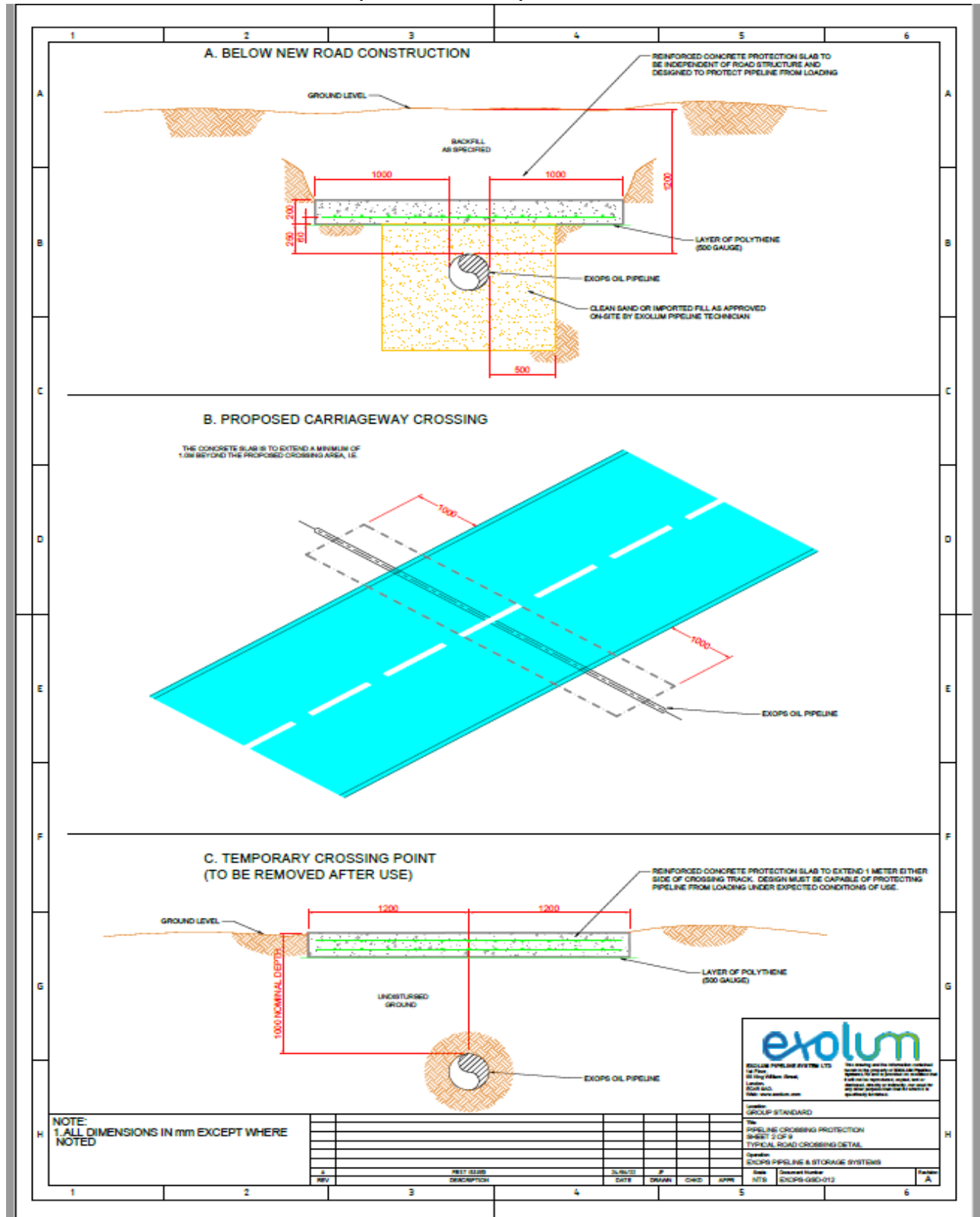
8. APPENDICES

- 8.1. Appendix 1 - Vehicular Crossings (Typical Details)**
- 8.2. Appendix 2 - Utility Crossings (Typical Details)**
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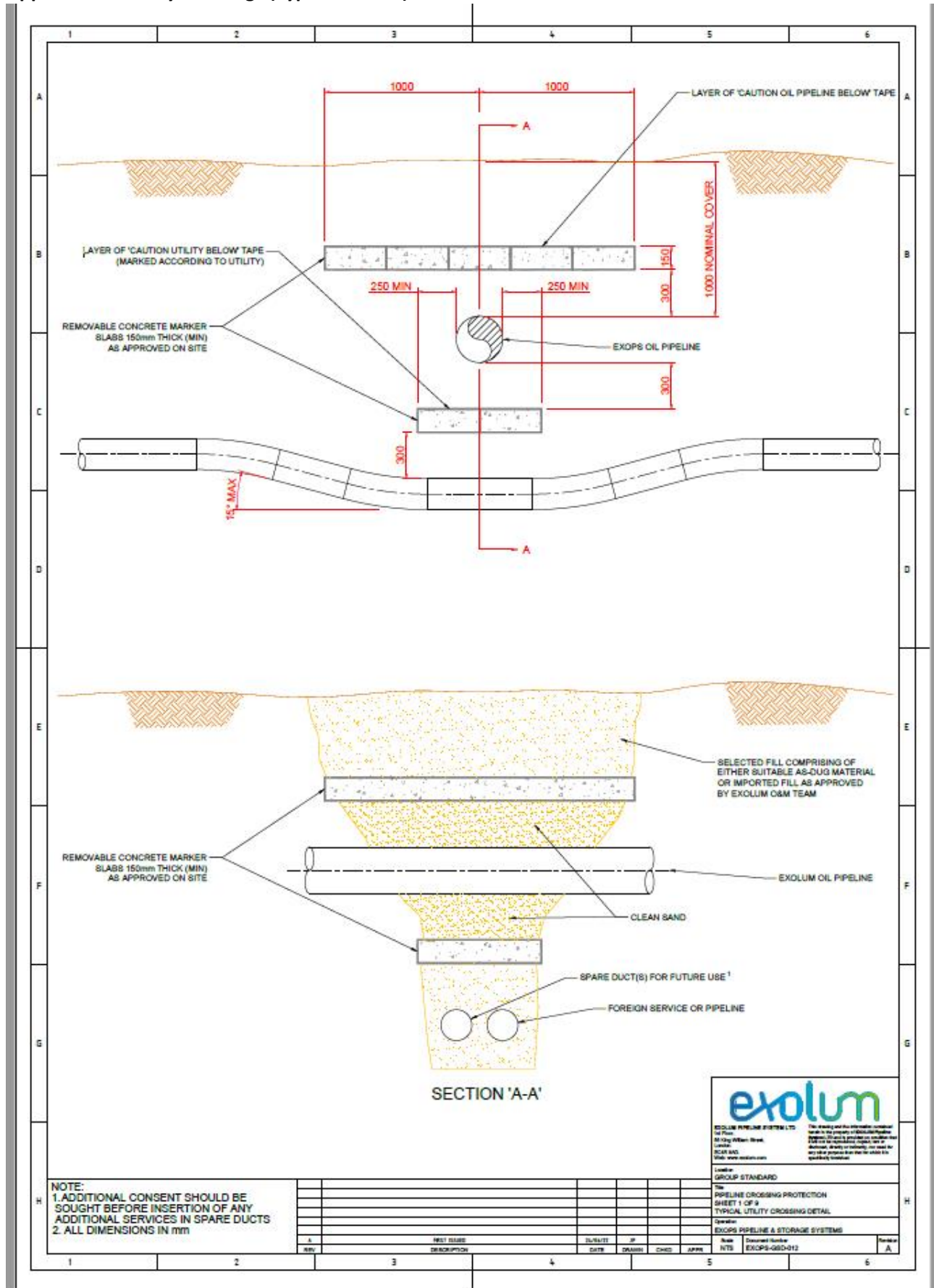
9. REVISION HISTORY

Version No	Summary of Revision	By	Date
1.0	This new document supersedes a doc which was previously held within the "CLH-PS Archive" area of the Aconex document management system. Doc Ref is CLHPS-ALL-PIL-STD-0001 - Standard Requirements for Crossing or Working in Close Proximity to CLH-PS pipelines, Rev 02 dated 06/09/2018. This doc was never brought over into the Dolphin Webcon IMS, an old system which we ceased using in 2021.	Paul Lewis	11/10/2022

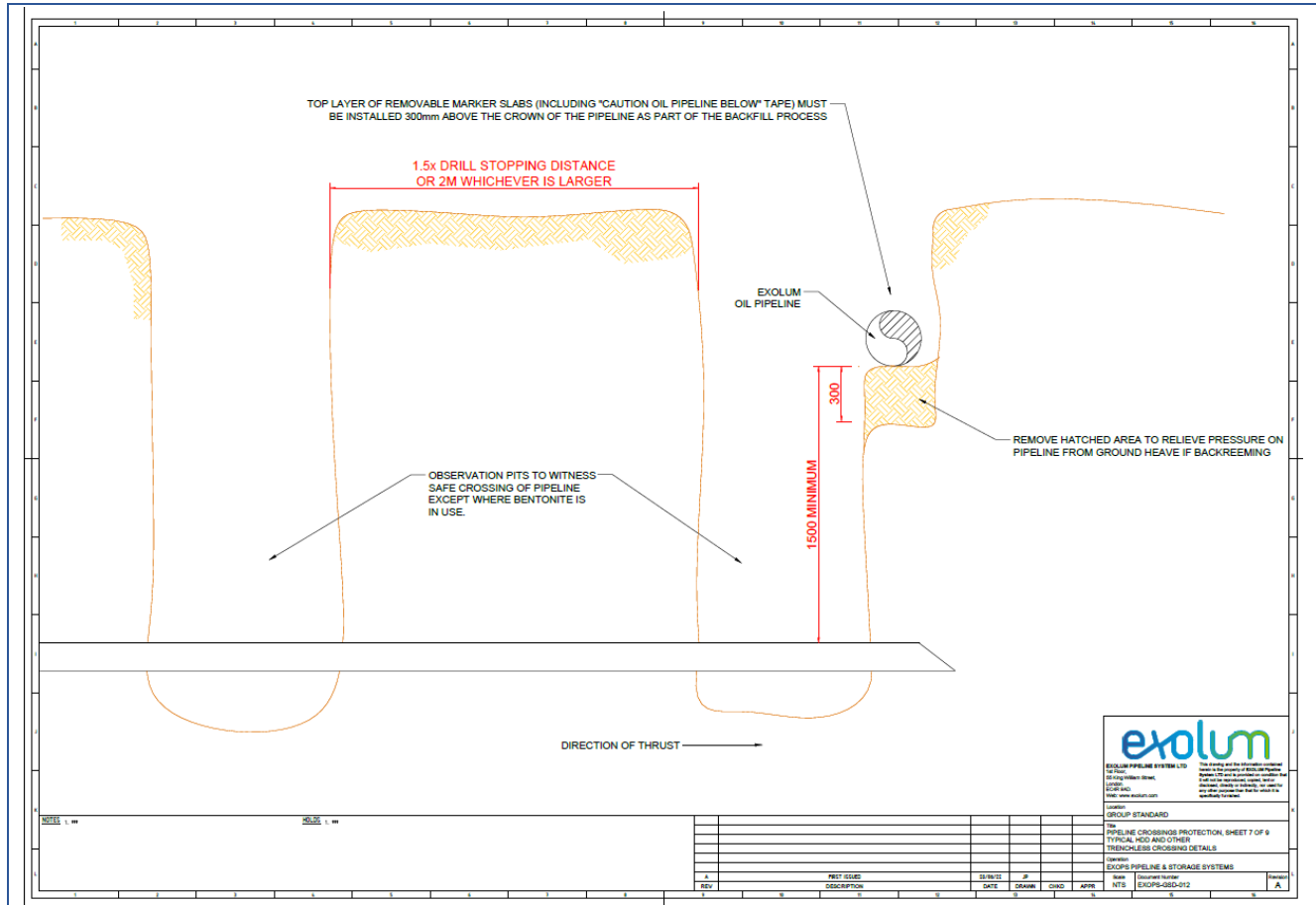
APPENDIX 1 - VEHICULAR CROSSINGS (TYPICAL DETAILS)



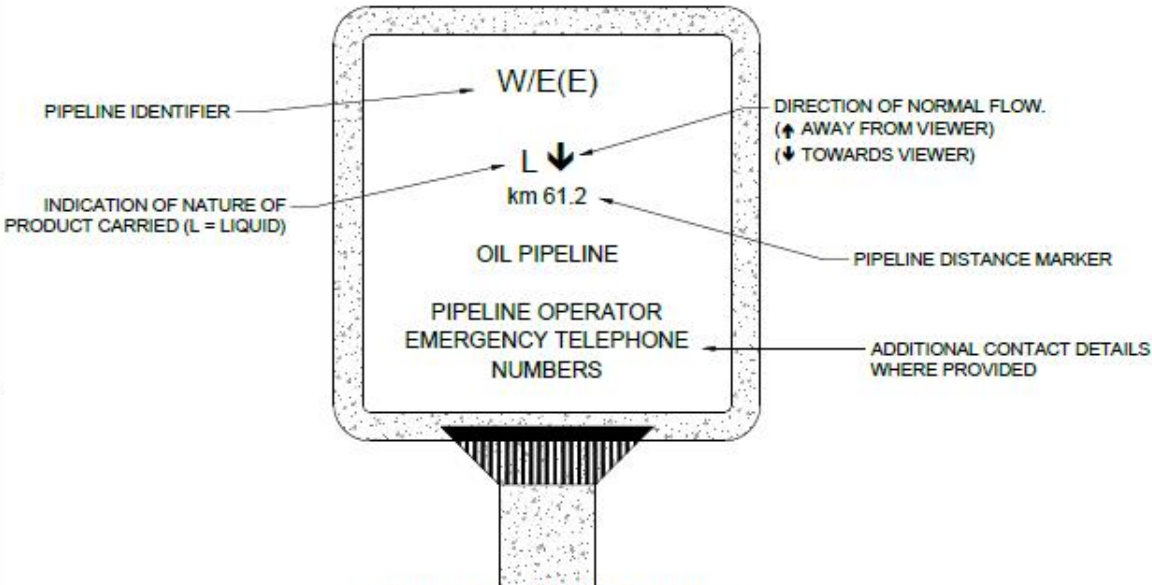
Appendix 2 - Utility Crossings (Typical Details)



Appendix 3 - Utility Crossings (HDD + Trenchless)



Appendix 4 - Pipeline Marker Posts (Typical Details)

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A					A																								
B					B																								
C	EXOLUM AERIAL MARKER POST EXOLUM MARKER STILE				C																								
D	 TYPICAL EXOLUM MARKER POST																												
E	IMPORTANT Marker posts only denote the presence of our pipelines and are not necessarily positioned directly above the pipeline. More than one pipeline may be present due to missing marker posts. Never presume that the pipeline runs in a straight line between the marker posts as there could either be a bend or the posts may have been moved without our knowledge.																												
F	DO NOT PRESUME ANYTHING; TELEPHONE OUR AGENTS AND WE WILL SEND SOMEONE TO VERIFY EXACTLY WHERE THE PIPELINE IS SITUATED.																												
G	NOTE: 1. ALL DIMENSIONS IN mm EXCEPT WHERE NOTED <table border="1"> <tr> <td colspan="2">Location</td> <td colspan="2">GROUP STANDARD</td> </tr> <tr> <td colspan="2">Title</td> <td colspan="2">PIPELINE CROSSING PROTECTION</td> </tr> <tr> <td colspan="2">SHEET 5 OF 5</td> <td colspan="2">TYPICAL MARKER POST</td> </tr> <tr> <td colspan="2">Operation</td> <td colspan="2">EXOPS PIPELINE & STORAGE SYSTEMS</td> </tr> <tr> <td>Drawn</td> <td>Checked</td> <td>Reviewed</td> <td>Approved</td> </tr> <tr> <td>NTS</td> <td>EXOPS-000-013</td> <td></td> <td></td> </tr> </table>					Location		GROUP STANDARD		Title		PIPELINE CROSSING PROTECTION		SHEET 5 OF 5		TYPICAL MARKER POST		Operation		EXOPS PIPELINE & STORAGE SYSTEMS		Drawn	Checked	Reviewed	Approved	NTS	EXOPS-000-013		
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Appendix 5 - Tree and Vegetation Planting (Typical Details)

TREE PLANTING

It is EXOLUM policy not to allow the planting of trees, or any part thereof, within an area falling within 3m of the outside edge of an EXOLUM pipeline.

Where permission for the planting of Shrubs, Bushes or Hedges is given it is done so at the request of the Third Party, subsequently all liability as a result of such activities shall be accountable thereto.

Where a Hedge is deemed necessary, either for the purpose of screening or boundary delineation, such Hedges shall be planted/installed between 60° to 90° perpendicular to the pipeline below.

Due to root propagation of various types of tree the following guide has been adopted to provide an indication of safe minimum planting distances for each species listed.

Distance in Meters from the outside edge of an EXOLUM Pipeline			
0-1.5	1.5-3.0	3.0-6.0	OVER 6.0
Ground cover including arable land, pasture crops, grass, heathers and Ling.	Alder Alder Buckthorn Birch Bird Cherry Blackthorn Box Buckthorn Crab Apple Currants Dogwood Elder Field Maple Gorse Grey Willow Guelder Rose Hawthorn Hazel Holly Juniper Privet Roses Rowan Swallow Spindle Whitebeam Wild Pear Wild Service Tree Wayfaring Tree Yew	Ash Beech Sycamore Cherry Lime Hornbeam Aspen Sweet Chestnut Walnut Horse Chestnut Conifers Such As: ☐ Pines ☐ Firs ☐ Spruces ☐ Larches ☐ Cypressess ☐ Hemlock	Oaks Poplars (apart from Aspens) Large Willow Species Elms

Planting details will be supplied at the same time Works consent form is applied for.

	
EXOLUM PIPELINE SYSTEMS LTD 1st Floor, 25 King William Street, London, EC4A 3DF, UK Web: www.exolum.com	
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Location: GROUP STANDARD	
Title: PIPELINE CROSSING PROTECTION SHEET 8 OF 8 GUIDANCE ON TREE AND VEGETATION PLANTING WITHIN THE ZONE OF PROTECTION	
Operator: EXOPS PIPELINE & STORAGE SYSTEMS	
Scale: N.T.S.	Document Number: EXOPS-060-012
Revision: A	Date:

PLAN

FENCELINE

FENCE POST

FENCE PANEL WIDTH

FENCE TO CROSS PIPELINE AS CLOSE TO PERPENDICULAR AS POSSIBLE

EXOLUM HIGH PRESSURE FUEL PIPELINE

NOTES: 1. TYPICAL PLAN ON FENCE CROSSING SINGLE PIPELINE. (MULTIPLE PIPELINES CAN BE PRESENT) NOTE: POST HOLES MUST BE AGREED ON SITE WITH EXOLUM.

ELEVATION

North Arrow

exolum

EXOLUM PIPELINE SYSTEMS LTD
15000 Highway 10 West,
Edmonton, Alberta T6E 6K4
Canada
Phone: 780-441-1111
Email: info@exolum.com

Location: GROUP STANDARD

Title: PIPELINE CROSSINGS PROTECTION SHEETS & TYPICAL FENCE CROSSING

Project: EXOLUM PIPELINE & STORAGE SYSTEMS

Drawn: NTS

Check: EXOLUM-000-012

REV	DESCRIPTION	DATE	BY	CHKD	APPD
A					

Appendix 7 - Trench Excavations (Typical Details)

