AB ORLEN LIETUVA

APPROVED BY:
Director of Quality, Labour Safety and Environmental Control
7 November 2025
Order No TV1(1.2-1)-2025-0408

OCCUPATIONAL HEALTH AND SAFETY PROCEDURE BDS-31 'EARTHWORKS'

I. GENERAL PROVISIONS

Purpose and Scope of Application

1. Occupational Safety and Health Procedure BDS-31 'Earthworks' (hereinafter, the Procedure) aims to set occupational health and safety (OHS) requirements applicable to earthworks performed in AB ORLEN Lietuva (hereinafter, the Company).

2. The Procedure shall apply to all employees of the Company and contractors (to the extent required by a relevant contract concluded with the Company) performing and controlling earthworks in the Company.

II. REFERENCES

3. This Procedure has been developed in line with effective revisions of the following documents:

3.1. Law of the Republic of Lithuania on Special Land Use Conditions;

3.2. Law of the Republic of Lithuania on Geodesy and Cartography;

3.3. Technical Regulation GKTR 1.01:2020 'Procedure for conducting geodetic surveys of topographic objects and preparation of topographic plans' approved by the Minister of Agriculture of the Republic of Lithuania;

3.4. Technical Regulation GKTR 2.01:2020 'Procedure for conducting geodetic surveys of engineering network objects and preparation of engineering network plans' approved by the Minister of Agriculture of the Republic of Lithuania;

3.5. Construction Technical Regulation STR 1.06.01:2016 'Construction. Supervision of Construction' approved by the Minister of Environment of the Republic of Lithuania;

3.6. Rules for Safe Operation of Electric Facilities approved by the Minister of Energy of the Republic of Lithuania;

3.7. Rules for Protection of Main Crude Oil Pipelines and Product Pipelines approved by the Minister of Energy of the Republic of Lithuania;

3.8. Rules for Operation of Main and Offshore Crude and Petroleum Product Pipelines approved by the Minister of Economy of the Republic of Lithuania;

3.9. PKN ORLEN S.A. Standard S5 – Safe execution of excavation work.

III. TERMS AND DEFINITIONS

4. Terms and definitions used herein:

Fall protection – means designed to prevent employees against falls into excavations, i.e. barriers, warning signs, covers, etc.

Protective systems against cave-ins – an entirety of means designed for protection of employees working in an excavation, in particular:

– Benching – the walls of the excavation are benched making either one or a group of horizontal benches (requirements for benching are specified in Annex 5 hereto);

– Shoring – special means, e.g. shields, supports, trench boxes, etc. designed to protect workers from cave-ins in a specific area of the trench where they are working;

– Sloping – forming a slope with a safe angle designed to protect employees against cave-in. Angle of the slope is selected depending on the soil type, local conditions and loads.

Type of soil – type determined according to the size of particles and characteristics of soil, in particular sand, loamy sand, loam, clay and backfill. Types of soils are described in Annex 6 hereto.

Access/exit means – means designed for safe access to and exit from excavation, in particular stairs, ladders, ramps, etc.

Daily check – daily check of an excavation in terms of occupational safety and health.

Engineering network – movable or immovable water, sewage, heat, gas, oil or other fuel or process pipeline, electricity-supply, energy and electronic communications network together with their supply sources and equipment, constructed up to the building/structure.

Engineering network plan – a document made of two parts. One part contains a spatial data set for engineering networks, underground and aboveground structures and/or other anthropogenic objects associated with the operation of the networks. It represents objects graphically and describes their characteristics. The other part contains a plan in which the objects of this spatial data set are represented at a certain scale using conventional symbols.

Failure – failure of underground utilities involving risk of loss of product, actual or potential injury of people, damage to property and/or environment.

Emergency works – immediate works carried out to restore the condition, process parameters and operational mode of engineering networks and to prevent damage to people, property and/or environment.

Location – process of locating (identifying) underground engineering networks, using the existing markers and/or special devices or other permitted techniques.

Marking – the process of marking the located underground engineering networks with special markers (examples of markers are provided in Annex 7 hereto).

Maintenance unit – organizational unit of the Company operating and/or maintaining underground engineering networks. List of units operating and/or maintaining underground engineering networks is provided in Annex 2 hereto.

Locate sheet – a document of established form confirming that the area subject to earthwork has been verified, engineering network has been located, marked with locate markers and shown in the sheet. Locate sheet specimen is provided Annex 1 to this Procedure.

Dangerous, hazardous environment – work environment that meets at least one of the following criteria:

- Oxygen concentration in the air is less than 19.5 or more than 23.5%%;
- Concentration of harmful substances exceeds prescribed exposure limits;
- Concentration of explosive substances is above 0 % of the lower explosive limit (LEL).

Earthwork – excavation and piling of earth in connection with an engineering operation or underground works performed using earthmoving machines (excavators, bulldozers, pneumatic hammers, wedge hammers, earth drilling equipment, etc.) or manual digging. If excavation is less than 0.5 m in depth, such work shall not be classified as earthwork.

Other terms used herein correspond to the definitions provided in the applicable version of the Company Procedure BDS-6E 'Issuing Hazardous Work E-Permits'.

IV. DUTIES AND RESPONSIBILITIES OF EMPLOYEES

5. Geodetic Engineer of Project Engineering Group of Investment Department shall:

5.1. According to the locate sheet presented by the Company organizational or contractor that will perform earthwork, prepare either hard or soft copies of excerpts from the engineering network plan, enter such networks in the locate sheet (column 'Name of IN and its marking in the plan') and sign the locate sheet;

5.2. Assign an appropriate number to the locate sheet and enter it in the register of locate sheets (the form of register is established by the Project Engineering Group);

5.3. Update the engineering network plan according to the provided documentation.

6. Work coordinator shall:

6.1. Inform the managers of maintenance units regarding location and marking of underground engineering networks specified in the locate sheet;

6.2. Inform the Head of Electrical and Automation Department regarding the checking of the entire land area subject to earthwork in order to identify, with the use of appropriate cable and depth finders, the cable lines not shown in the engineering network plan.

6.3. If engineering networks are located within the excavated area, first instruct the permit issuer to issue a permit for test pits;

6.4. For earthwork planned in the protection zone of main pipelines, which also contains engineering networks and any other engineering structures belonging to other owners (operators, managers), coordinate, in accordance with the procedure established in the applicable regulations [3.1, 3.6, 3.7], the earthwork with such owners (operators, managers) and participate in the process of marking by the other owners such underground networks.

6.5. After excavating test pits and making sure that all underground networks specified in the locate sheet have been located and marked, confirm this by signature in the locate sheet;

6.6. If any new engineering networks are detected, hand the copies of signed locate sheet and excerpt from engineering network plan with indicated places of such networks to the Geodetic Engineer of Project Engineering Group who signed the locate sheet and notify the manager of the maintenance unit about the new networks;

6.7. In case of need to excavate roads, organize their closure as prescribed by the Company OHS Procedure BDS-20 'Enclosures'; When repairing pipelines and closing roads beyond the Company's territory, coordinate the closure of the roads with their owners (operators), municipality, etc, as prescribed by applicable legal documents of the Republic of Lithuania;

6.8. Coordinate the execution of the works and exercise control over the course of works at the frequency of his choice, depending on the danger of the work performed;

6.9. If engineering networks of other owners not marked in the plan are found in the protection area of the main pipelines during the excavation works, duly inform the owners and coordinate with them further performance of the works;

6.10. Make sure that the newly installed networks are not backfilled until all geodetic information is prepared and submitted to the Project Engineering Group as required by the Regulations GKTR 1.01:2020 [3.3] and GKTR 2.01:2020 [3.4].

7. Manager of maintenance unit shall:

7.1. Mark the engineering networks specified in the locate sheet with locate markers;

7.2. Point the places of test pits to the work manager;

7.3. After test pitting, reconfirm the locate markers of the engineering network and sign the locate sheet;

7.4. Organize the geodetic measurements of newly detected engineering networks and submit measurements to Project Engineering Group Geodetic Engineer, who signed the locate sheet.

8. Head of Electrical and Automation Department shall:

8.1. Organize the checkup of the land area specified by the work coordinator in order to identify using appropriate cable networks and depth finders, the underground cable networks not shown in the engineering network plan;

8.2. If new cable networks are detected, organize their marking and point the places of test pitting to the work manager;

8.3. After test pitting, reconfirm the locate makers of the newly detected cable networks, specify them in the excerpt from the network plan, enter in the locate sheet (table section 'Name of newly detected cables and its marking in the plan' and sign it;

8.4. Sign the locate sheet confirming that the land area subject to earthwork has been checked.

9. **Permit issuer** must perform duties established in the Company OHS Procedure BDS-6E 'Issuing Hazardous Work E-Permits'.

10. Work manager shall:

10.1. Fill out the locate sheet, have such agreed by the work coordinator, and present it to the Company's Investment Department Project Engineering Group;

10.2. Submit the copy of the signed locate sheet and the excerpt from the engineering network plan to the permit issuer;

10.3. If the excavation site contains underground engineering networks, arrange for test pitting at the points specified by the manager of maintenance unit and/or Head of Electrical and Automation Department;

10.4. Inspect the excavations, nearby areas and protective systems against cave-ins as prescribed by Paragraph 70 hereof;

10.5. If earthwork gets as close as 3 meters from the location of engineering networks, allow further digging only in his personal presence;

10.6. Notify work coordinator about the planned backfilling of engineering networks;

10.7. In case of potential emergency, any doubt as to whether it is safe to continue work or not, detected new engineering network, unearthed explosives, archaeological and other finds, immediately suspend work and report to the permit issuer, work coordinator and Project Engineering Group;

10.8. Prepare a geodetic survey map of newly installed engineering networks in accordance with the requirements of GKTR 1.01:2020 [3.3] and GKTR 2.01:2020 [3.4] and submit it to the Project Engineering Group;

10.9. If any engineering networks not shown in the excerpt of the network plan provided in the locate sheet are detected during excavations, perform geodetic measurements of the unearthed part of detected network in accordance with GKTR 1.01:2020 [3.3] and GKTR 2.01:2020 [3.4] and present all geodetic information the Project Engineering Group.

V. MARKING OF ENGINEERING NETWORKS

11. Determined locations of engineering networks must be marked with special locate markers, as provided in Annex 7 hereto placed along an engineering network at the intervals of at least 10 meters.

12. Where an engineering network changes its direction, the markers must be placed at shorter intervals to show the change of direction.

13. In case of solid surface (concrete, asphalt), network may be marked with paint on the surface.

14. After removing the solid surface, engineering networks must be located again and marked with locate markers.

VI. REQUIREMENTS APPLICABLE DURING WORKS

Sketch of excavation and entries/exits

15. For any excavation with the depth over 4 m below the ground level, a sketch of the excavation shall be prepared defining its parameters (shape, slopes' inclination), entries/exits (e.g. stairs, ladders, ramps, etc.) and, depending on the type of soil, depth and width of excavation - slope reinforcement techniques.

16. Entries/exits (e.g. stairs, ladders, ramps, etc.) must be arranged if the depth of excavation is 1.25 m and more. If a ladder is applied for access/egress it must lean out at least 1m of the excavation and fixed appropriately to ensure stability.

17. Access/exit points must be arranged with maximum 20 m distance from each other.

Excavations next to existing engineering networks

18. If there are any underground networks in the excavation site, test pitting shall be performed manually in places indicated by the head of organizational unit in charge of engineering network or employee assigned by him/her. Where the depth of an underground network has been determined and is known, earthmoving machines are allowed to excavate not deeper than 1 meter above the network.

19. With the distance of 3 meters remaining to the underground network, further operation of earthmoving machines is allowed only in the presence and under the supervision of the

work manager, and where either horizontal or vertical distance to the network is 1 meter, only manual excavation is allowed in the presence of the earthwork work manager.

20. If during unearthing of engineering network concrete lumps, stones, rocks or other solid obstacles are detected that cannot be removed manually and, if removed with machinery, would pose the risk to damage the utilities, the work manager must immediately suspend earthwork and notify work coordinator and head of organizational unit in charge of respective engineering network. These persons together with work manager shall decide on the removal of the obstacle.

21. When making decision on the removal of obstacle:

21.1. Weight, dimensions, stability of obstacle, soil condition and distance to engineering network shall be taken into account;

21.2. Safe method to lift and remove the obstacle preventing any damage to engineering network (e.g. with lifting crane if obstacle can be safely rigged, with fork gripper, etc.) shall be provisioned.

22. In cable routes, wedge hammers and other impact machinery cannot be used closer than 5 m to the cables. Any heat sources used to de-freeze the soil in winter cannot get closer than 15 cm to the cables.

23. Unearthed underground networks must be protected against any mechanical damage (protected with covers, shields, etc.) Where the section of an unearthed pipeline is longer than 10 meters, it must be supported with pre-fabricated pads and air bags. Supports must be placed under the welds of pipelines or as close as possible to welds.

24. If during excavations any non-located underground networks, explosives, archaeological finds are detected, work must be immediately suspended and reported to the organizational unit that initiated the earthwork and the Project Engineering Group.

Earthwork in vehicle traffic areas

25. If earthwork is performed in traffic areas, appropriate traffic signs must be installed as required by the Traffic Rules of the Republic of Lithuania.

26. Employees working in traffic areas are required to wear signal vests or reflective work clothing.

Lifting of loads

27. It is prohibited to stand under the loads lifted by earthmoving machines or other lifting equipment.

28. Soil is loaded to dump trucks from rear or lateral side.

29. It is prohibited for drivers or other persons to stay in driver cab without a roof when truck is loaded by an excavator or crane.

Dangerous, hazardous environment

30. For entry to excavations with a height exceeding 1.5 meters, permit issuer must, prior to issuing a permit, evaluate materials/substances present in the excavation, determine the required air samples, sampling points and intervals, inform air tester about mandatory PPE and organize workplace air sampling in accordance with OHS Procedure BDS-12 'Use of Portable Gas Analyzers'.

31. Excavations deeper than 2 meters or places where dangerous or hazardous environment can occur require a permit for work in confined space issued in accordance with the OHS Procedure BDS-6/2 'Work in Confined Space'.

32. If workplace air may chance during excavations (e.g., in case of damaged pipeline with oil products that can start leaking any time), permit must set a requirement to perform continuous air monitoring using a gas analyzer signaling any deviations from fixed values.

Water accumulation

33. Employees are not allowed to work in excavations with accumulated or accumulating water, unless adequate precautions have been taken to protect employees against the hazards posed by water accumulation.

34. The precautions necessary to protect employees from accumulated water vary with each situation but must always include at least one of the below measures:

34.1. One or several pumps for controlling the level of accumulating water;
34.2. Installation of special support or shield systems;
34.3. Use of a safety harness and lifeline.
35. If excavation work interrupts the natural drainage of surface water, diversion ditches, dikes, or other suitable means shall be used to prevent surface water from entering the excavation and to provide adequate drainage of the area adjacent to the excavation.
36. Draining operations next to buildings and other structures are prohibited.

Stability of adjacent structures

37. Where the stability of adjoining buildings or other structures is endangered by excavation operations, appropriate support systems such as shoring, bracing, or underpinning must be provided to ensure the stability of such structures.
38. Excavation under roadways, pavings and associated structures are prohibited unless adequate precautions have been taken to protect employees against the risk of fall of such structures.

Hazard of falling or rolling soil and other objects

39. All objects on the excavation edge that could pose a hazard by falling or rolling into excavations must be removed or properly secured.
40. Stones, loose rocks and soil posing danger to employees must be removed from bank slopes or appropriate precautions must be installed to prevent such materials from rolling down.
41. It is prohibited to place soil, other materials and tools within 1 meter from the excavation's edge.
42. If excavated soil is placed close to a trench due to obstructions such as fences, buildings or trees, appropriate soil support system and barriers such as toeboards or geomembranes must be used to prevent the soil falling into the excavation.

Fall protection

43. For excavations (trenches) wider than 0.8 meter it is required to install at least 1-meter-wide catwalks with protective handrails.
44. Appropriate protections or barriers restricting physical access to danger zones must be installed around excavations close to passenger and/or vehicle traffic areas.
45. Wells, test pits and similar excavations are closed with covers, shields or fenced.
46. All temporary pits, wells and shafts must be immediately backfilled after completing soil exploration or similar activities.

Use of vehicles near excavations

47. Construction machinery and vehicles may park, operate or move around excavations (pits, trenches, ditches, etc.) at a safe distance specified in the construction project.
48. Recommended minimum distance between the excavation edge and the nearest construction machinery (its base) or vehicle is determined based on Table 1. Mass or load and construction machinery or vehicle must be considered when determining a distance.

Table 1

Excavation depth, m	Soil			
	Sand	Loamy sand	Loam	Clay
	Distance between excavation edge and the nearest machinery (its base), m			
1.0	1.5	1.25	1.00	1.00
2.0	3.0	2.40	2.00	1.50
3.0	4.0	3.60	3.25	1.75
4.0	5.0	4.40	4.00	3.00
5.0	6.0	5.30	4.75	3.50

49. Appropriate protections must be provided to avoid accidental overrunning of construction machinery or vehicles into excavation, e.g., a slope inclined away from excavation, supports on the edge of excavation, etc.

Employee protection in excavations

50. Before earthwork, appropriate systems protecting against cave-ins and ensuring the safety of workers must be provided.

51. Digging of wells, pits and trenches with vertical sideslopes without any protection systems in place is allowed if they do not exceed the following depths:

- 1.00 m – for sand and gravel banks;
- 1.25 m – for loamy sand and loam;
- 1.50 m – for clay;
- 2.00 m – for highly compact clay soils.

52. People are prohibited to stay inside excavations or trenches when they are being excavated by earthmoving machinery.

53. Digging of excavations with slopes (without any supports installed) extending above the groundwater level (including capillary fringes) or in artificially drained soil is allowed when the excavation depth and slope steepness (slope height-width ratio) correspond to data provided in Table 2. Slope steepness selection sample is provided in Annex 4 hereto.

Table 2

Soil	Steepness (slope height and width ratio) when excavation depth is not more than:		
	1.5 m	3 m	5 m
Uncompacted backfill	1:0.67	1:1	1:1.25
Sand and gravel	1:0.5	1:1	1:1
Loamy sand	1:0.25	1:0.67	1:0.85
Loam	1:0	1:0.5	1:0.75
Clay	1:0	1:0.25	1:0.5

54. Employees are prohibited to work on slopes or benches if there are other employees working at the lower levels of excavation, except for case when those working at lower levels are properly protected.

55. NOTE. If excavation has different types of soil layers, slope steepness is selected considering the least stable (weakest) layer.

56. When sloping and benching is not possible, appropriate support systems must be applied to ensure the safety of employees.

57. Supporting systems that best ensure the safety of workers and are most appropriate for the performed work are selected.

58. It is allowed to use only safety systems that are specifically designed for this purpose or designed by a qualified engineer and manufactured for specific activities.

59. Selected support systems must be cable of carrying the imposed loads.

60. All support systems are installed, operated and selected in accordance with the manufacturer's requirements or other documents.

61. All sideslopes must be protected against cave-ins. Exception is made to trenching, i.e. when the ends of support system elements are open, workers must work at a safe distance from such open ends. Open ends are enclosed with a red signal tape to warn workers of danger.

62. The top part of support system must lean out at least 15 cm over the excavation edge.

63. Materials and equipment used as part of the support system should be free of any defects.

64. If excavation and support system inspection find that materials and equipment used for protection against cave-ins are damaged, earthwork supervision manager must ensure that materials are replaced, and equipment is repaired.

65. Repaired equipment must be checked by a civil engineer with appropriate qualification.

66. Support systems are installed immediately after the excavation works. It is prohibited to leave unsupported excavations even when no works are performed.

67. Additional safety measures must be provided prior to temporary removal of separate reinforcing elements, i.e. installing additional structural elements for supporting structures.

68. Reinforcing elements are first removed at the bottom by going upwards and backfilling the excavation. Elements are disengaged slowly in search for possible defects of the support system or for cave-in symptoms.

69. Excavations are immediately backfilled after removing the support system.

Inspections

70. If workers have to enter excavations deeper than 2 meters, work manager must, prior to work and where needed during a shift, perform daily inspections of excavations, area around excavations and protection systems against cave-ins and complete an Earthwork Daily Inspection Report (Annex 3 hereto). Inspections during shifts are performed after rainfall or in the presence of any other risks.

71. When inspection determines any potential hazards, workers are not allowed to enter the excavation until appropriate OHS measures are implemented. Additional safeguards are required in case of unfavorable weather conditions (heavy or long-lasting rain, strong wind in excess of 10 m/s, etc.) or, where appropriate, work must be stopped.

Emergency works

72. In case of engineering network failure at night, on weekends and public holidays, emergency earthwork may be performed without the duly executed locate sheet and excerpt of engineering network plan provided that the emergency is reported by e-mail to the manager of organizational unit where such failure has occurred and the manager of maintenance unit. In case of main pipeline accidents, it shall be notified to the shift superior (in Būtingė) who shall enter the notification in the shift logbook and, following the mandatory notification chart, report the accident to responsible persons. In case of fire water supply line failure, this must be also reported to the Dispatcher of Mažeikiai Fire and Rescue Board for Protection of Facilities (phone 3004).

73. Emergency work shall be carried out in the presence of the manager of maintenance unit or an employee appointed by him, who must locate the engineering networks as precise as possible as well as indicate the excavation method (mechanized, manual).

74. When emergency work continues during regular working hours, a locate sheet and excerpt of engineering network plan must be prepared.

75. In case of an accident on the main pipeline, any required work is allowed without any prior notification to the landowners. Where excavation is to be done within the protection area of engineering networks or other engineering structures belonging to other owners (operators, managers), the requirements set forth in the Rules for Operation of Main and Offshore Crude and Petroleum Product Pipelines [3.8] shall be complied with.

Marking of backfilled engineering networks

76. Backfilled new and existing engineering networks are marked by conventional signs appropriate for the type of particular network.

77. When laying underground cables, they are marked and protected as required by the Safety Rules for Operation of Power Facilities [3.6.]. Marking and protection methods must be agreed with the Company Electrical and Automation Department or Power House Response Section.

78. Newly installed gas and oil product pipelines must be marked with a yellow signal tape laid 0.3 m below the ground surface in parallel to each pipeline.

VII. EMERGENCY PROCEDURES

79. Depending on hazards that may occur in excavation, before the start of work, the work manager must draft a worker rescue plan, prepare the required rescue equipment and appoint a sufficient number of standby employees that could retrieve the workers from the excavation in case of accident. The work manager must discuss the rescue plan with the workers.

80. Each worker entering excavations in excess of 2 meters is required to wear safety harness and have a signal/rescue rope. One end of the signal/rescue rope is attached to the safety harness on the employee's back, other end – to a fixed support outside the excavation. If several workers work within the same level of excavation, one signal/rescue rope is sufficient to rescue a worker when needed. In such case, one end of the rope must be next to the workers, the other end is attached to a fixed support outside the excavation.

81. Workers must immediately terminate all activities and evacuate from excavation in cases of fire, emergency, accident or any other hazard, emergency alarm or activated gas analyzer (if any used).

82. All incidents must be immediately reported by the workers, work managers work supervisors and work coordinators to the Company's dispatcher by phone number 3333 (for fixed-line calls) or +370 443 9333 (for any calls) and the staff of the unit where the works were carried out. If works are performed in the Būtingė Terminal or Mažeikiai–Būtingė and Būtingė – SPM buoy pipeline sections, all incidents must be immediately reported by the workers, work managers and work supervisors to the Terminal Operations Group shift supervisor by phone number +370 443 93459.

83. In case of any earthwork incident, the earthwork permit ceases to be valid and all its counterparts are transferred to the respective incident investigation committee

VIII. EMPLOYEE TRAINING

84. Permit issuers, work coordinators and work managers must be trained and certified in accordance with the requirements of Company OHS procedure BDS-6E 'Issuing Hazardous Work E-Permits'.

85. Contractor's workers must be indoctrinated on the requirements established herein in accordance with the contractor's procedures.

IX. FINAL PROVISIONS

86. Responsibility for periodic review and updating of this Procedure, if needed, shall lie with Director of Quality, Labour Safety and Environmental Control of the Company.

X. ANNEXES

Annex 1. Locate sheet (form)
Annex 2. List of units operating/maintaining engineering networks
Annex 3. Earthwork daily inspection report (form)
Annex 4. Selection of the slope of excavation – example.
Annex 5. Benching requirements
Annex 6. Soil types
Annex 7. Sample locate markers
Annex 8. Plan of territories assigned to organizational units

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Prepared by
Occupational Safety Regulation Manager
Egidijus Luomanas

(Form)
LOCATE SHEET NO_____

Name of work executor (Company's org. unit or contractor) _____

Worksite _____

Work description _____

Work manager _____
(Job title, name, surname, signature, phone No. date)

AGREED WITH
Work Coordinator _____
(Job title, name, surname, signature, phone No. date)

All engineering networks listed in this sheet must be located by test pitting.

Engineering networks (hereinafter – EN) located in the area subject to earthwork (data from the engineering network plan (hereinafter – the plan))					
Name of EN and its marking in the plan	Name of maintenance unit	EN located and marked onsite (approved by manager of maintenance unit)			
		Full name	Job title	Date	Signature
Job title, full name, signature, phone of Project Engineering Group employee who specified EN:					

Newly located cables (not marked in the plan)				
Name of newly located cables and its marking in the plan	Cable located and marked onsite (approved by Head of Electrical and Automation Department)			
	Full name	Job title	Date	Signature
I hereby confirm and that the entire land area subject to earthwork has been checked using cable and depth finders: Head of Electrical and Automation Department _____ (full name, signature, date)				
Test pitting has been done, all EN indicated in this sheet have been located and marked onsite: Work Coordinator _____ (position, full name, signature, date)				

LIST OF UNITS OPERATING/MAINTAINING ENGINEERING NETWORKS

Name of engineering network	Unit responsible for operation/maintenance
Crude Oil Refinery	
Power cable lines	Maintenance Department Electrical and Automation Department Power Plant Response Section Control and Security Department Electronic Security Group
Telecommunication networks	Information Technology Department Desktop Support Group Control and Security Department Electronic Security Group
Electrochemical protection system grounding and cable lines	Maintenance Department
Main potable water piping	Operations Subdivision No. 3, Pressurized Air, Nitrogen and Water Supply Section
Local potable water piping in the territory of a process unit	Org. unit with earthworks performed in its territory
Fire water and sewage piping	Waste Water Treatment Shop
Local fire water and sewage piping in the territory of a process unit	Org. unit with earthworks performed in its territory
River water supply piping	Power Plant, Chemical Water Treatment Unit
Main crude oil pipeline and product pipeline, also telecommunication networks in the vicinity thereof	Pipelines and Terminal Operations Subdivision Maintenance Department
Process piping	Org. unit with earthworks performed in its territory
Pipelines and Terminal Operations Subdivision	
Power cable lines	Maintenance Department Electrical and Automation Department
Main crude oil pipeline and product pipeline, also telecommunication networks, process piping, fire and potable water piping, sewage and drain piping, electrochemical protection system grounding and power lines in the vicinity thereof	Pipelines and Terminal Operations Subdivision Maintenance Department

(Sample form)
EARTHWORK DAILY INSPECTION REPORT

Date _____ Time _____ Earthworks Permit No._____

Worksite _____

Area of excavation _____ Depth_____ Width_____

Checklist for key safety requirements

Means for safe access/exit: ladders_____ stairs_____ slopes _____

Are access/exit points arranged every 20 m? 20___

Any water accumulated in work area? 20___

If the depth of excavation is over 2 m, has permit for works in confined spaced been obtained? 20___

Is the dangerous area properly enclosed? 20___

Is lighting available at nighttime? 20___

Check of soil stability

Soil type: _____ Protection systems against cave-ins: _____

Slope height and width ratio (when sloping or benching): _____

Any changes of conditions, failures of reinforcements or other unforeseen events:

_____

_____

_____

_____

Completed by _____
(Earthwork manager's full name, job position, signature)

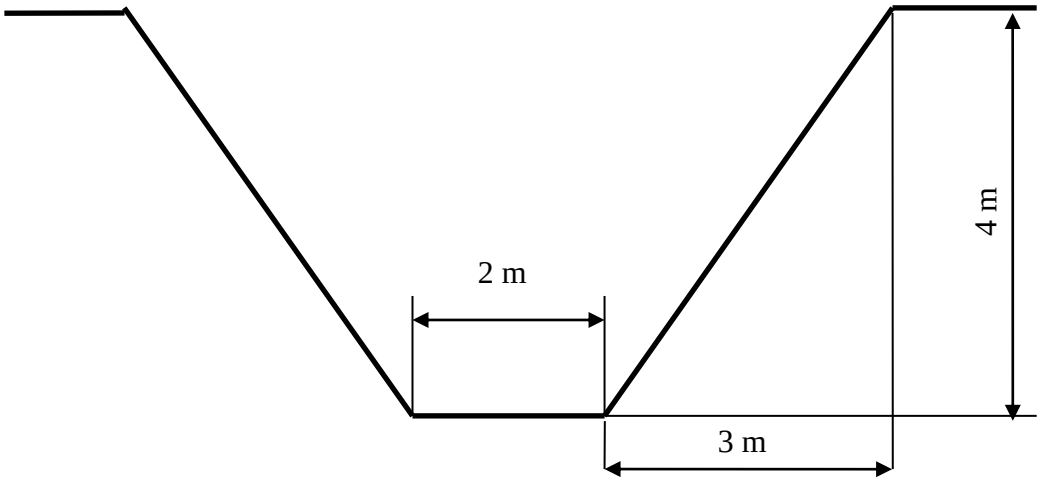
Selection of the Slope of Excavation - Example

Task

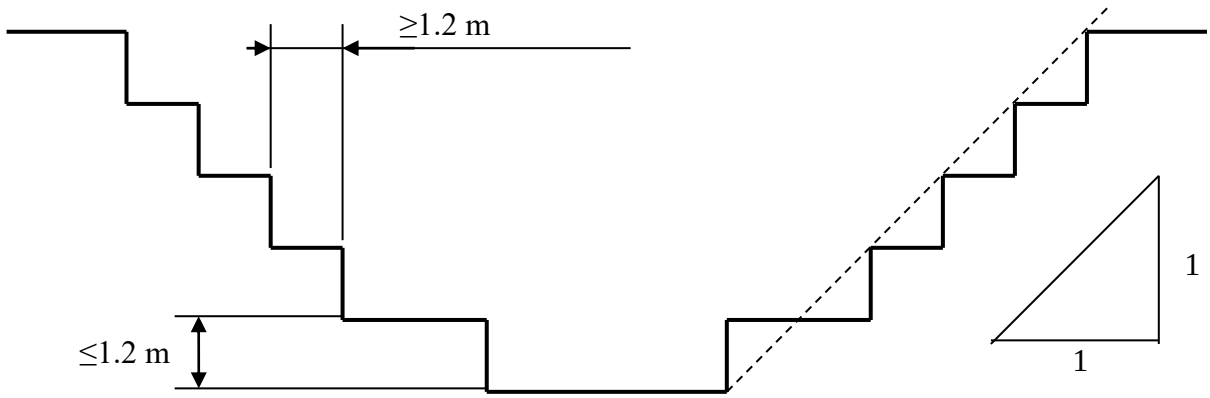
To dig 4 m deep and 2 m wide trench.

Slope selection

Determine the type of soil. In this case, loam is taken as example.
According to Table 2, excavation slope steepness (height and width ratio) must be 1:0.75.
When excavation is 4 m deep, height and width ratio will be 4:3, i.e.
$4 \times (1:0.75) = (4 \times 1) : (4 \times 0.75) = 4 : 3$



Requirements for benching



This is an example of benching when slope height and width ratio is 1:1.
The following requirements shall be met when benching:
The benches are made only in stable soils, e.g. loam, clay and alike.
Bench inclination angle (in dotted line) is selected according to Table 2 of this Procedure.
Maximum height of each bench is 1.2 m.
Each bench should be at least 1.2 m wide.

Types of soil

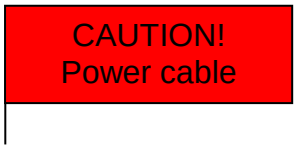
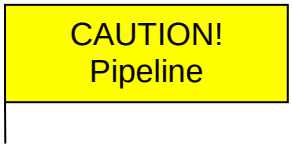
Sand is coarse soil where more than 60 % of its weight consists of particles larger than 0.06 mm (0.06 mm<d<2 mm) but smaller than two millimeters. Sand soils are free of any dust or clay particles.

Loamy sand is a multi-granular soil where up to 10 % of its total weight consists of clay fraction particles (0.002 mm<d<0.06 mm). It is impossible to roll a 15mm-thick soil bar out of moist loamy sand as it would crumble.

Loam is a multi-granular soil where from 12 % to 28 % of its total weight consists of clay fraction particles (0.002 mm<d<0.06 mm) and sand particle (0.06 mm<d<2 mm) content is from 40 % to 60 %. It is possible to roll a 15mm-thick soil bar out of moist loam as it does not crumble.

Clay is a fine-grained plastic soil, where more than 40 % of its total weight consists of particles smaller than 0.06 mm and larger than 0.002 mm (0.002 mm<d<0.06 mm).

Sample locate markers

Name of engineering network	Engineering network marker (flag)
Underground power cable line	
Underground telecommunication system and optic cables	
Underground piping	

Markers must be 30 cm long and 15 cm wide with stems at least 75 cm long, suitable to stick into the soil or place on solid surface.

Plan of territories assigned to organizational units

Organizational unit	Designation of the assigned territory according to the layout of territories of Public Company ORLEN Lietuva
Operations Subdivision No 1	T1a
	T2
Operations Subdivision No 2	T3
Operations Subdivision No 3	T5
	T6
	T7
	T7a
	T7b
Petroleum Product Loading Shop	T8a
	T8b
	T8c, T8d
Power House	T9
Waste Water Treatment Shop	T12
QA/QC Center	T14
Central Warehouse	T16
Environmental Department	T22
Control and Security Department	T18
Pipelines and Terminal Operations Subdivision	T23
Mechanical Department	T19, T24, T26, T27
Maintenance Department	T28