



Republic of the Philippines
OFFICE OF THE SECRETARY
Elliptical Road, Diliman
1100 Quezon City

MEMORANDUM ORDER

No. 24
Series of 2021

SUBJECT: GENERAL GUIDELINES ON THE OPERATION AND MAINTENANCE OF TRUCK-MOUNTED WATER WELL DRILLING RIG AND GEO-RESISTIVITY METER IN SUPPORT TO GROUNDWATER DEVELOPMENT FOR IRRIGATION

I. COVERAGE


These Guidelines shall cover the operation and maintenance of Water Well Drilling Rig in support to Groundwater Water Development for Irrigation under the Department of Agriculture (DA). This equipment will facilitate the smooth implementation of Small-Scale Irrigation Projects (SSIPs) such as Solar-powered Irrigation System (SPIS), Solar-Powered Fertigation System (SPFS), and Shallow Tubewell (STW) that are being implemented under the National Banner Programs of the DA.

II. GENERAL POLICY GUIDELINES

The implementation of SSIPs is one of the top priorities of the DA. In the absence of surface water source, the development of groundwater for irrigation purposes through SPIS or STW in suitable areas is necessary. This groundwater development however requires appropriate drilling. To ensure sustainable development of groundwater for irrigation purposes, the DA will provide drilling rig and geo-resistivity meter. But prior to drilling, conduct of geo-resistivity survey is necessary to determine the depth at which the groundwater potential is at maximum.

The capacity of DA-Regional Field Offices (RFOs) through their Regional Agricultural Engineering Division (RAED) will be enhanced to ensure proper operation and maintenance of these drilling machine and geo-resistivity meter.

The BSWM shall provide the over-all direction on the planning and development of groundwater for SSIPs. The DA-RFOs shall undertake the groundwater development through assessment, proper drilling and pumping tests of proposed wells within their respective regions.


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III. IMPLEMENTATION

Roles and Responsibilities of Implementing Agencies

A. The BSWM shall:

1. Provide one (1) truck-mounted water well drilling rig & support equipment (drilling machine, well testing equipment, geo-resistivity meter and other water well drilling accessories) to DA-RFOs CAR, I, III, VII, and XI;
2. Conduct hands-on trainings on water well drilling and development and conduct of geo-resistivity survey including data processing and interpretation;
3. Provide technical support and assistance to the DA-RFOs relative to the operation of the drilling rig and geo-resistivity instruments;
4. Assist the DA-RFO in securing license to drill and other legal documents from concerned government agencies in support to drilling operation;
5. Monitor and document the status of drilling rig operation as well as the overall sustainability of the machine;
6. Consolidate and assess periodic reports of DA-RFOs relative to generation of production wells for submission to DA; and
7. Conduct periodic review/ assessment on the performance and utilization of truck-mounted water drilling rig and geo-resistivity meter.

B. The RFO shall:

1. Be responsible in the operation and maintenance (O&M) of the drilling rigs and geo-resistivity survey equipment including the acquisition of license to drill and other legal documents from concerned government agencies;
2. Provide funds necessary for the O&M of the machine including skilled operator and support staff and all the required supplies and materials;
3. Prepare annual target for the utilization of the equipment to ensure its maximum benefits. The target beneficiaries may either be an individual or group of farmers with rainfed production areas that would contribute to the overall production goal of the DA. This drilling service of the DA-RFO is a full grant to the qualified beneficiaries; however, the operation, utilization and maintenance of their production wells would be their counterparts;
4. Monitor the operation of the drilled wells to ensure their sustainable utilization and benefits.
5. Ensure security and proper care and maintenance of all components of the machine. In case of damage of any parts of the machine, the **DA-RFO** is responsible for the repair and replacement of parts;
6. Assist the farmer-beneficiaries of drilling operation in securing legal documents from NWRB such as drilling permit and water right permit;
7. Record monthly/seasonal report on the status of drilling operation in terms of production wells completed;
8. Provide vehicle for use in the drilling operation for the mobility of drilling team; and

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9. Submit periodic reports to BSWM regarding the utilization of drilling rig for consolidation, assessment and submission to DA.

IV. SPECIFIC GUIDELINES FOR DRILLING RIG

Truck-Mounted Drilling Rig – is an equipment that used for water well exploration in areas with indicative potential for drilling of production wells for irrigation of agricultural crops and other related uses.

Geo-resistivity meter – is the machine used to determine the different resistivity of substrata materials by application of electric current to ground surface. Resistivity values of different substrata materials determine whether the aquifer has potential for development.

1. Coverage area
 - Rainfed areas that are recipients of proposed SPIS and STW
2. Qualified beneficiaries
 - Individual, group of 3-5 farmers and farmer-associations that are recipients of proposed SPIS, SPFS or STW.
3. Mandatory Requirements
 - Proposed site must have sustainable water source (groundwater);
 - Available report on the result and interpretation of geo-resistivity survey conducted by BSWM, RFOs and private company; and
 - Permit to drill must be properly secured from NWRB prior to actual drilling.
4. Composition of Drilling Rig Operator from RFOs
 - The RFOs shall assign at least three (3) staff who will operate and maintain the drilling machine. These are the following but not limited to:
 - One (1) Driver Operator- to drive and operate the drilling equipment.
 - One (1) Skilled Technical Staff - to characterize soil profile from borehole, prepare well design and conduct other activities relative to the well construction and development.
 - One (1) Utility- to assist in the installation of well casing and other related drilling activities.
5. Testing and Commissioning
 - Testing and commissioning of drilled water source must be conducted by technical staff from RFOs. The recipient shall be involved in the testing and adjustments to be conducted; and
 - Pumping test report must be properly prepared and interpreted by technical staff from RFOs.

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V. OPERATION AND MAINTENANCE COST

The DA-RFOs shall allocate funds for the operation and maintenance of the drilling machine including the payment of fees for the acquisition of license to drill and permits from concerned government agencies in support of drilling operations. The O&M cost includes the salary of hired personnel, fuel, transportation expenses and various supplies and materials for well drilling construction and development. The annual estimates for this O&M is attached as Annex I.

VI. SUPPLEMENTAL GUIDELINES

1. The DA-RFOs are hereby authorized to formulate detailed supplemental guidelines to address peculiar situations of a region or to clarify further those indicated in the Memorandum Order. A copy of all regional issuance for supplemental guidelines shall be officially furnished to the BSWM and Banner Programs Secretariat within seven (7) working days from the date of its release.
2. The BSWM Director may authorize the DA-RFOs to adopt and implement other modalities or schemes in the utilization of drilling rig.

VII. RESOLUTION OF ISSUES UNDER THIS IMPLEMENTING GUIDELINES

All issues and concerns pertaining to these operation and maintenance guidelines shall be forwarded to the Office of the BSWM Director for appropriate and immediate action.

VIII. EFFECTIVITY

This General Guidelines shall take effect immediately and shall repeal all issuances inconsistent herewith.

Done this 25th day of March 2021

WILLIAM D. DAR, PhD.
Secretary
Department of Agriculture

DEPARTMENT OF AGRICULTURE

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