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ENGINEERING TECHNICAL NOTE NO. NM-4

SUBJECT: ENG – Planning and Design of Livestock Well Pumping Plants (PS-533)

Purpose: To provide the planning and design spreadsheet and reference material to field staff.

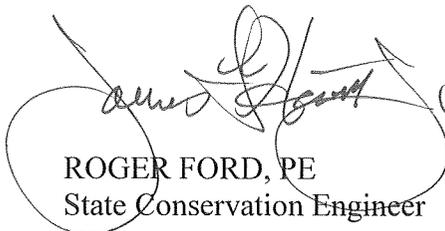
Effective Date: Effective upon receipt.

Filing Instructions: File as needed, Technical Note is also maintained on NRCS New Mexico Technical Resources web page <http://www.nm.nrcs.usda.gov/technical/tech-notes/eng.html> and NM Engineering Sharepoint <https://nrcs.sc.egov.usda.gov/west/nm/engineering/default.aspx>.

Explanation: The Watt Estimator for Solar-Powered Water Pump Systems Spreadsheet attached to and filed with this technical note shall be used to plan, design, and contract for PS-533, Livestock Well Pumping Plants.

There have been several methods used to plan and contract for solar powered pumping plants. These methods are not providing consistent results. Therefore, NRCS in New Mexico will use the “Watt Estimator for Solar-Powered Water Pump Systems Spreadsheet” and is adopting “Design of Small Photovoltaic (PV) Solar Powered Water Pump Systems” (Technical Note No. 28, October 2010). Technical Note 28 was developed for NRCS in Oregon with assistance from the WNTSC.

Technical Note 28 is an excellent reference on solar power systems and provides several design examples. Planning for livestock well pumping plants will use the design process in Chapter 7 and the examples in Appendix C. For practice checkout, vendor provided installation requirements can be compared to the section on structural support and foundations (Chapter 4). Solar Insolation Values for Oregon have been removed from Appendix D and replaced with values for New Mexico.

 *for Acting Roger Ford*
ROGER FORD, PE
State Conservation Engineer

Attachment: (Design of Small Photovoltaic (PV) Solar Powered Water Pump Systems, Technical Note 28, Portland, Oregon, October 2010 – Revised for New Mexico, February 2012)