County of Los Alamos

1000 Central Avenue
Los Alamos, NM 87544

Agenda - Final

Board of Public Utilities

Cornell Wright, Chair; Steve Tobin, Vice-chair;
Stephen McLin, Eric Stromberg, and Charles Nakhleh, Members
Philo Shelton, Ex Officio Member
Steven Lynne, Ex Officio Member
Denise Derkacs, Council Liaison

Wednesday, August 17, 2022 **5:30 PM** **Zoom: https://us06web.zoom.us/j/86384634181**

REMOTE MEETING

Members of the public wishing to attend may participate and provide public comment via Zoom:

Webinar Link: https://us06web.zoom.us/j/86384634181 Webinar ID: 863 8463 4181
One tap mobile :
US: +17193594580,,86384634181# or +12532158782,,86384634181#
Telephone:
US: +1 719 359 4580 or +1 253 215 8782 or +1 346 248 7799 or +1 408 638 0968 or +1 669 444 9171 or +1 669 900 6833 or +1 309 205 3325 or +1 312 626 6799 or +1 386 347 5053 or +1 564 217 2000 or +1 646 876 9923 or +1 646 931 3860 or +1 301 715 8592

PUBLIC COMMENTS:
Please submit written comments to the Board at bpu@lacnm.us. Oral public comment is accepted during the two periods identified on the agenda and after initial board discussion on a business item, prior to accepting a main motion on an item. Comments should be limited to four minutes per person. Requests to make comments exceeding four minutes should be submitted to the Board in writing prior to the meeting. Individuals representing or making a combined statement for a large group may be allowed additional time at the discretion of the Board. Those making comments are encouraged to submit them in writing either during or after the meeting to be included in the minutes as attachments. Otherwise, oral comments will be summarized in the minutes.

1. CALL TO ORDER

2. PUBLIC COMMENT

This section of the agenda is reserved for comments from the public on Consent Agenda items or items that are not otherwise included in this agenda.

3. APPROVAL OF AGENDA

4. BOARD BUSINESS

4.A. Chair's Report

4.B. Board Member Reports

4.C. Utilities Manager's Report

4.D. County Manager's Report

4.E. Council Liaison's Report

4.F. Environmental Sustainability Board Liaison's Report

4.G. General Board Business

4.G.1 15883-22 Preview - Board of Public Utilities Annual Presentation to County Council

Pages 5 - 7

Presenters: Cornell Wright, Chair of the Board of Public Utilities

4.G.2. 16268-22 Board of Public Utilities Discussion of LARES Recommendations

Pages 8 - 17

Presenters: Cornell Wright, Chair of the Board of Public Utilities

4.H. Approval of Board Expenses

4.I. Preview of Upcoming Agenda Items

15881-22 Tickler File for the Next Three Months

Pages 18 - 23

Presenters: Board of Public Utilities

5. PUBLIC HEARING(S)

5.A. OR0953-22-a **Introduction of Incorporated County of Los Alamos Ordinance No. 721, An Ordinance Authorizing Amendment of Lease with Sprint Spectrum Realty Company, LLC, a Delaware Limited Liability Company, Successor-in-Interest to Alamosa Properties, L.P., a Texas Limited Partnership ("T-Mobile") for Replacement of Existing Antenna Collocation and Facilities at 280 North Mesa Road, Los Alamos.**

Pages 24 - 94

Presenters: James Alarid, Deputy Utilities Manager - Engineering

5.B. RE0505-22a Approval of Resolution 22-16 Authorization to Apply To Water Trust Board 2023 Cycle

Pages 95 - 99

Presenters: James Alarid, Deputy Utilities Manager - Engineering

6. CONSENT AGENDA

The following items are presented for Board approval under a single motion unless any item is withdrawn by a member for further Board consideration in the "Business" section of the agenda.

~ CONSENT MOTION ~

I move that the Board of Public Utilities approve the items on the Consent Agenda as presented and that the motions in the staff reports be included in the minutes for the record.
OR
I move that the Board of Public Utilities approve the items on the Consent Agenda as amended and that the motions contained in the staff reports, be included in the minutes for the record.

6.A. 15788-22 Approval of Board of Public Utilities Meeting Minutes

Pages 100 - 117

Presenters: Board of Public Utilities

7. BUSINESS

7.A. 16138-22 **Approval of the Water and Energy Conservation Plan**

Pages 118 - 194

Presenters: Abbey Hayward, Conservation Specialist

7.B. 16139-22a Approval of the Fifth Revised Network Integration Transmission Service Agreement (NITSA) and Fifth Revised Network Operating Agreement (NOA) between Los Alamos County and Public Service Company of New Mexico

Pages 195 - 266

Presenters: Jordan Garcia, Deputy Utilities Manager - Electric Production

8. STATUS REPORTS

16027-22 Status Reports

Pages 267 - 279

Presenters: Philo Shelton, Utilities Manager

9. PUBLIC COMMENT

This section of the agenda is reserved for comments from the public on any items.

10. ADJOURNMENT

If you are an individual with a disability who is in need of a reader, amplifier, qualified sign language interpreter, or any other form of auxiliary aid or service to attend or participate in the hearing or meeting, please contact Human Resources at 505-662-8040 as soon as possible.

Complete Board of Public Utilities agenda packets, past agendas, videos, legislation and minutes can be found online at https://losalamos.legistar.com. Learn more about the Board of Public Utilities at https://ladpu.com/BPU.

Agenda No.:	4.G.1
Index (Council Goals):	* 2022 Council Goal - Enhancing Communication; DPU FY2022 - 3.0 Be a Customer Service Oriented Organization that is Communicative, Efficient, and Transparent
Presenters:	Chair of the Board of Public Utilities Cornell Wright, Chair of the Board of Public Utilities
Legislative File:	**15883-22**

Title
Preview - Board of Public Utilities Annual Presentation to County Council

Body
On September 20, 2022, the Chair of the Board of Public Utilities is scheduled to give the annual Boards & Commissions presentation to Council. The agenda will be a presentation of 2022 DPU / BPU initiatives and actions. In preparation for the upcoming presentation, the Board should discuss possible topics. Chair Wright will prepare a draft presentation for BPU's review and consideration prior to the presentation to Council. The following DPU and BPU actions are suggested for inclusion:

2022 Focus Areas
* Review of FY 2022 Strategic Goals and Objectives
* IRP Update
* Los Alamos Wastewater storage and filtration projects to expand reclaimed water usage.
* Renew the profit transfer ordinance to support continued renewal and replacement of necessary infrastructure.
* There are significant cost pressures with bids and a need to refinance loans to cover these cost increases for water and sewer projects (It is anticipated to refinance the White Rock Water Resource Recovery Plant, but this needs to occur upon completion of the construction of the plant.)
* A review of utility rates

Attachments
A - Guidelines for the 2022 B&C Presentations
B - 2022 Schedule for B&C Presentations to Council

Guidelines for the 2022 B&C Presentations
County Council Work Sessions

- Each B&C presentation will usually be scheduled on Council's agenda during a work session. The Council work sessions are now "streamed" and are often held in White Rock at Fire Station #3 or via Zoom during the COVID-19 pandemic. You can check the County's web site (www.losalamosnm.us) or call the County Manager's Office at 663-1750 to verify the meeting location.

- Please limit your portion of the presentation to approximately 10-15 minutes. Council members will be allocated approximately 15 minutes to ask questions at the end of your presentation.

- See next page for a chart of dates and presentation assignments. Please notify Linda Matteson (linda.matteson@lacnm.us or 662-8086) or Barbara Lai (barbara.lai@lacnm.us) 663-3436) if you need to re-schedule your presentation date.

- Your Legistar Council Reports are due to be completed 12 working days prior to the Council Meeting. Notify Barbara Lai and Linda Matteson by email when the reports are completed.

- If you prepare a PowerPoint presentation, please provide an electronic copy of your material (10 days prior to the Council meeting) to Linda Matteson (linda.matteson@lacnm.us) and Jackie Salazar (Jacqueline.salazar@lacnm.us). Also, your B&C Staff Liaison will need to submit a LAC Information Management work order or contact the IM Service Desk at 662-8090 **at least 5 days** before the Council meeting to get your presentation loaded and ready for the meeting. (Please note that you're not required to prepare PowerPoint slides. You're encouraged to simply do an oral presentation – it's your choice whether to prepare slides or not.)

- In general, hard copies of presentations are not provided to Council (they use tablets to view agenda items) but if you want, you can bring extra copies for the media and members of the public.

- Your board or commission's current Work Plan will be provided to Council as an attachment to the agenda documentation. Feel free to reference it, if you'd like.

- For the 2022 presentations, Council is asking each Board Chair to generally report on the following topics for their board during their presentations:

    ◊ General overview of your current Work Plan
    ◊ Top 1-3 Priority Projects/Objectives for your board for the next twelve months
    ◊ Imposing challenges that your board foresees to achieving the priority items
    ◊ Ways Council can help

- As noted above, Council will be allowed time to ask questions after your presentation. This will provide an opportunity for Councilors to ask clarifying questions about the issues, activities, and projects of importance to your B&C.

2022 Schedule for B&C Presentations to Council

Month	Council Work Session Date	Board or Commission
January 2022	No work session scheduled for January (Reserved for strategic planning)	
February 2022	February 8, 2022	
March 2022	March 15, 2022	Historic Preservation Advisory Board,
April 2022	No Work Session scheduled for April (budget hearings)	
May 2022	May 17, 2022	Transportation Board, Environmental Sustainability Board,
June 2022	June 21, 2022	Parks and Recreation Board, Library Board,
July 2022	July 19, 2022	Planning and Zoning Commission; Community Development Advisory Board,
August 2022	August 23, 2022	Art in Public Places Board, County Heath Council
September 2022	September 20, 2022	Board of Public Utilities
October 2022	October 25, 2022	Personnel Board, Lodger's Tax Advisory Board
November 2022	No work session scheduled for November	
December 2022	No work session scheduled for Dec.	
January 2023	January 11, 2022	Tentatively reserved for strategic planning
February 2023	Date TBD	

Agenda No.:	4.G.2.
Index (Council Goals):	DPU FY2022 - 5.0 Achieve Environmental Sustainability; DPU FY2022 - 6.0 Develop and Strengthen Partnerships with Stakeholders; * 2022 Council Goal - N/A
Presenters:	Chair of the Board of Public Utilities Cornell Wright, Chair of the Board of Public Utilities
Legislative File:	**16268-22**

Title
Board of Public Utilities Discussion of LARES Recommendations

Recommended Action
To be discussed.

Body
Members will discuss their comments and determine a "median opinion" of the board and those recommendations will be forwarded to Council at a later date.

Alternatives
To be discussed.

Fiscal and Staff Impact
To be discussed.

Attachments
A - LARES Recommendations Spreadsheet

CC = County Council ECA = Electric Energy and Power Coordination Agreement - an agreement between BPU/DPU and LANL GHG = Green House Gases	**These three columns are intended to be a summary of the majority view of the BPU**		
General Recommendations (GR)	**Adopted**	**Considering**	**Do Not Plan to Consider Further Because…**
GR-1: Establish net-zero greenhouse gas emissions as a long-term goal for Los Alamos, both the community (exclusive of LANL) and its government.		?	
GR-2: Perform a comprehensive baseline greenhouse gas emissions study from which to set reduction targets (and other goals) and against which to measure progress.	Adopted by CC, funding allocated		Task for CC, not a task for DPU/BPU
GR-3: Create and adopt a strategic climate action plan for Los Alamos County which includes baseline data, greenhouse gas reduction targets, and climate mitigation strategies, to be utilized and updated regularly	Anticipate action plan will follow GR-2		Task for CC, not a task for DPU/BPU
GR-4: Create and fund a senior staff position (e.g., “sustainability coordinator”) to lead and coordinate the work of all County departments, including the Department of Public Utilities, to meet the County’s net-zero and other resiliency and sustainability goals	Adopted by CC, money allocated, in process		Task for CC, not a task for DPU/BPU

CC = County Council ECA = Electric Energy and Power Coordination Agreement - an agreement between BPU/DPU and LANL GHG = Green House Gases	**These three columns are intended to be a summary of the majority view of the BPU**		
General Recommendations (GR)	**Adopted**	**Considering**	**Do Not Plan to Consider Further Because…**
GR-5: Provide recurring funding to invest in and integrate the goal of net-zero greenhouse gas emissions and other sustainability practices into all County government operations, including modeling new green technologies for residents		X	
GR-6: Create an on-going body of (largely citizen) collaborative stakeholders to advise Council, Department and Board of Public Utilities, and other relevant County bodies on implementing the goals and strategies recommended in the climate action plan and monitor progress.			Task for CC, not a task for DPU/BPU
GR-7: Form a partnership with LANL and the Los Alamos Public Schools with the specific intention of collaboration on greenhouse gas reduction		X	
GR-8: Invest in consistent, ongoing community outreach and education promoting the reduction of our individual and collective greenhouse gas emissions, including an “Educational Specialist” position.	DPU/BPU currently is engaged in energy conservation education		The possible hiring of a n "Educational Specialist" is a task for CC

CC = County Council ECA = Electric Energy and Power Coordination Agreement - an agreement between BPU/DPU and LANL GHG = Green House Gases	**These three columns are intended to be a summary of the majority view of the BPU**		
General Recommendations (GR)	**Adopted**	**Considering**	**Do Not Plan to Consider Further Because…**
GR-9: Produce an annual climate action report to be presented to County Council and shared with the community.			Task for CC, not a task for DPU/BPU
Natural Gas Reduction (NGR)			
NG-1: Set a community goal to reduce natural gas use by at least 2% per year.		?	
NG-2: Encourage compact architectures in new construction			not a task for DPU/BPU
NG-3: Require new construction to have solar access, if feasible.			not a task for DPU/BPU
NG-4: Require new construction to derive a significant portion of its heating energy from the sun.			not a task for DPU/BPU
NG-5: Adopt the 2021 International Energy Conservation Codes (IECC) as the standard for new construction and guidelines for remodeling, and continue to adopt new IECCs as they are issued			not a task for DPU/BPU

CC = County Council ECA = Electric Energy and Power Coordination Agreement - an agreement between BPU/DPU and LANL GHG = Green House Gases	**These three columns are intended to be a summary of the majority view of the BPU**		
General Recommendations (GR)	**Adopted**	**Considering**	**Do Not Plan to Consider Further Because…**
NG-6: Set a cut-off date for new natural gas hook-ups and new electric resistance heating installations, effectively requiring electric heat pumps. Encourage substitution of heat pumps when gas-fired furnaces and boilers are replaced.		?	
NG-7: Encourage substitution of solar thermal, heat pump, tankless, or point-of-use water heaters when traditional hot water heaters are replaced.		X	
NG-8: Encourage substitution of electric induction ranges when traditional electric or natural gas ranges are replaced.		X	
NG-9: Discourage or prohibit pilot lights in new or replacement gas appliances		?	
NG-10: Include heating demand in electrical utility generation, transmission, and distribution supply planning.		X	
NG-11: Make energy audits and other relevant information available to property owners through County government.		?	
Electricity (E)			

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General Recommendations (GR)	**Adopted**	**Considering**	**Do Not Plan to Consider Further Because…**
E-1: Formalize the BPU/DPU and Los Alamos County Council goal to be a net-zero carbon electricity supplier by 2035.		?	
E-2: Develop a strategy that achieves LAC's net-zero carbon goals regardless of the nature of any future LAC/LANL power generation relationship.	New ECA agreement near completion; hence, currently not relevant		
E-3: Develop an “Intermittency Management Strategy'' including but not limited to demand management, curtailment of generation, and time-of-use metering.		?	

CC = County Council ECA = Electric Energy and Power Coordination Agreement - an agreement between BPU/DPU and LANL GHG = Green House Gases	**These three columns are intended to be a summary of the majority view of the BPU**		
General Recommendations (GR)	**Adopted**	**Considering**	**Do Not Plan to Consider Further Because…**
E-4: Implement the recommendations of the 2017 Integrated Resource Plan (IRP) and expected IRP recommendations in 2022.		X	
E-5: Investigate periodically the feasibility of restricting market purchases of electricity to carbon-free sources		?	?
E-6: Continue to pursue the feasibility of small modular reactor technologies.		X	
E-7: Study distributed (“rooftop”) electric generation and storage as potentially an integral part of LA’s power supply.		X	X

CC = County Council ECA = Electric Energy and Power Coordination Agreement - an agreement between BPU/DPU and LANL GHG = Green House Gases	**These three columns are intended to be a summary of the majority view of the BPU**		
General Recommendations (GR)	**Adopted**	**Considering**	**Do Not Plan to Consider Further Because…**
E-8: Initiate a pilot program to support the addition of residential storage batteries to homes with and without rooftop solar.		?	?
Transportation & Mobility (TM)			
TM-1: Increase and incentivize public transportation ridership.			not a task for DPU/BPU
TM-2: Improve bicycle and walking infrastructure to promote safe and convenient carbon-free transportation.			not a task for DPU/BPU
TM-3: Increase publicly accessible electric vehicle charging infrastructure.	X	?	
TM-4: Increase the number of electric vehicles in the County fleet by at least two per year, eventually making 100% of light duty (passenger cars and trucks) plug-in electric.		?	
TM-5: Revise and implement a County-wide “no idling” policy with shaded parking options.		?	
TM-6: Launch a municipal bike share program.			not a task for DPU/BPU

CC = County Council ECA = Electric Energy and Power Coordination Agreement - an agreement between BPU/DPU and LANL GHG = Green House Gases	**These three columns are intended to be a summary of the majority view of the BPU**		
General Recommendations (GR)	**Adopted**	**Considering**	**Do Not Plan to Consider Further Because…**
TM-7: Encourage private electric vehicle purchase and charging during non-peak hours		X	
TM-8: Increase the number of solar-powered flashing light crosswalks.			not a task for DPU/BPU
TM-9: Convert municipal small engines, lawn/garden equipment, and golf carts, to be fossil fuel free within ten years.		?	
Waste, Consumption & Natural Resources (WCNR)			
WCNR-1: Set a goal to eliminate municipal solid waste through reduction, reuse, recycling and composting (by e.g., 2035) following "Zero Waste" principles	X		
WCNR-2: Reduce consumption-associated greenhouse gas emissions through sustainable purchasing and consumption/disposal of food, goods, and services	X		

CC = County Council ECA = Electric Energy and Power Coordination Agreement - an agreement between BPU/DPU and LANL GHG = Green House Gases	**These three columns are intended to be a summary of the majority view of the BPU**		
General Recommendations (GR)	**Adopted**	**Considering**	**Do Not Plan to Consider Further Because…**
WCNR-3: Develop and adopt a comprehensive water conservation and watershed stewardship plan to maintain and enhance the quality and quantity of LAC's water supply	X		
WCNR-4: Develop and implement a plan to capture stormwater runoff and reduce contamination through green infrastructure approaches.		?	
WCNR-5: Manage natural and community landscapes for climate mitigation, resiliency, community, cultural and wildlife values, and carbon sequestration			not a task for DPU/BPU
Community Planning (CP)			
CP-1: Adopt a local overlay code that incorporates additional locally-specific greenhouse gas reduction provisions.			not a task for DPU/BPU
CP-2: Advocate for change or clarification of the NM Anti-Donation Clause to allow local governments to provide incentives for energy reduction projects.			not a task for DPU/BPU
CP-3: Educate property owners on potential energy-saving renovations to their buildings.		?	
CP-4: Strengthen the County's environmental purchasing policy.		?	
CP-5: Add commercial zoning within each area of town, such as each mesa and within White Rock.			not a task for DPU/BPU

Agenda No.:

Index (Council Goals):

Presenters: Board of Public Utilities

Legislative File: **15881-22**

Title
Tickler File for the Next Three Months

Attachments
A - BPU Tickler Sept-Nov 2022

County of Los Alamos

BPU Tickler

September - November 2022

Los Alamos, NM 87544
www.losalamosnm.us

File Number	Title	
Agenda Date: 09/07/2022		
15357-22	**Status Report**	**07 Business?**
	Department of Public Utilities Quarterly Report - FY22/Q4	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Philo Shelton, Utilities Manager and Catherine D'Anna, Public Relations Manager
15797-22	**Status Report**	**08 Status Reports**
	Quarterly Conservation Program Update	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Conservation Specialist Abbey Hayward
16093-22	**Briefing/Report (Dept, BCC) - No action requested**	**Presentation**
	Presentation on CFPP by Member Steve Tobin	
	Department Name: DPU	**Length of Presentation:** 30 min
	Drop Dead Date:	**Sponsors:** Vice Chair Board of Public Utilities Steve Tobin, Board - Commission or Committee Member
Agenda Date: 09/09/2022		
16150-22	**Briefing/Report (Dept,BCC) - Action Requested**	**Business**
	SPECIAL MEETING: Strategic Planning for the Department of Public Utilities (9/9/22 entered as a place holder. Last held 9/7/21)	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Philo Shelton
Agenda Date: 09/21/2022		
15824-22	**Briefing/Report (Dept,BCC) - Action Requested**	**06 Consent**
	Approval of Board of Public Utilities Meeting Minutes	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Board of Public Utilities
AGR0823-22a	**General Services Agreement**	**06 Consent**
	Approval of Services Agreement No. AGR__-____ with [vendor] in the amount of $[amount], plus Applicable Gross Receipts Tax, for On-Call Utility Systems Locate & Mark Services.	

File Number	Title	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Jack Richardson, Deputy Utilities Manager - GWS Services
16028-22	**Status Report**	**08 Status Reports**
	Status Reports	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Philo Shelton, Utilities Manager
16151-22	**Briefing/Report (Dept,BCC) - Action Requested**	**Business**
	Approval of Department of Public Utilities Mission, Vision and Values, Strategic Goals and Objectives	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Philo Shelton
16260-22a	**Briefing/Report (Dept,BCC) - Action Requested**	**Business**
	Award of Bid No. IFB23-24 for the Purpose of Water Tank Piping Upgrades with [Name of Vendor] in the Amount of $[amount of contract], plus Applicable Gross Receipts Tax.	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** James Alarid
15885-22a	**Briefing/Report (Dept,BCC) - Action Requested**	**BUSINESS**
	Approval of Modification ## to the Electric Energy and Power Coordination Agreement (ECA) Between the Incorporated County of Los Alamos and the United States Department of Energy (DOE)	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Heather Garcia, Deputy Utilities Manager - Finance
16036-22	**Minutes**	**Consent**
	Approval of Board of Public Utilities Meeting Minutes	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Board of Public Utilities
15884-22	**Budget Item**	**Consent**
	Approval of Budget Carryovers from FY2022 to FY2023	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Heather Garcia, Deputy Utilities Manager - Finance
AGR0885-22	**General Services Agreement**	**Consent**
	Approval of Services Agreement No. AGR__-____ with [vendor] in the amount of $[amount], plus Applicable Gross Receipts Tax, for the Purpose of Security Fending at Hydroelectric Plants	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** James Alarid, Deputy Utilities Manager - Engineering
16045-22	**Calendar**	**General Board Business**

File Number	Title	
	Tickler File for the Next Three Months	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Board of Public Utilities
CO0648-22-b	**Code Ordinance**	**Public Hearing**
	Incorporated County of Los Alamos Code Ordinance No. 02-328; An Ordinance Amending Chapter 40, Article III, Sections 40-151, and 40-152 of the Code of the Incorporated County of Los Alamos Pertaining to Water Service Rates.	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Heather Garcia, Deputy Utilities Manager - Finance
RE0504-22	**Resolution**	**Public Hearing**
	Approval of Incorporated County of Los Alamos Resolution No. 21-23, a Resolution Removing Uncollectible Utility Accounts from the Incorporated County of Los Alamos Accounts Receivables List for - Fiscal Year 2016 & Fiscal Year 2017	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Heather Garcia, Deputy Utilities Manager - Finance

Agenda Date: 10/05/2022

16152-22	**Briefing/Report (Dept, BCC) - No action requested**	**PRESENTATION**
	Quarterly Update on Utility System - Gas Distribution System	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Jack Richardson
15798-22	**Status Report**	**Presentation or Status Rept**
	Department of Public Utilities Quarterly Report - FY22/Q4	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Philo Shelton, Utilities Manager and Catherine D'Anna, Public Relations Manager

Agenda Date: 10/19/2022

16029-22	**Minutes**	**06 Consent**
	Approval of Board of Public Utilities Meeting Minutes	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Board of Public Utilities
AGR0886-22a	**General Services Agreement**	**Business**
	Approval of Services Agreement No. AGR__-____ with [vendor] in the amount of $[amount], plus Applicable Gross Receipts Tax, for the Purpose of installing El Vado Fiber Optic Line	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** James Alarid, Deputy Utilities Manager - Engineering
AGR0887-22a	**General Services Agreement**	**Business**
	Approval of Services Agreement No. AGR__-____ with [vendor] in the amount of $[amount], plus Applicable Gross Receipts Tax, for the Purpose of Installation of Abiquiu Transformer	

File Number	Title	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** James Alarid, Deputy Utilities Manager - Engineering
16046-22	**Calendar**	**General Board Business**
	Tickler File for the Next Three Months	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Board of Public Utilities
16041-22	**Status Report**	**General Board Business**
	Status Reports	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Philo Shelton, Utilities Manager

Agenda Date: 11/02/2022

16153-22	**Briefing/Report (Dept, BCC) - No action requested**	**Business**
	Begin 2021 Board of Public Utilities Annual Self-evaluation	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Chair of the Board of Public Utilities Cornell Wright
16272-22	**Briefing/Report (Dept, BCC) - No action requested**	**PRESENTATION**
	UAMPS/NuScale Presentation (previous 11/17/21)	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Jordan Garcia, Deputy Utilities Manager - Electric Production
16273-22	**Briefing/Report (Dept,BCC) - Action Requested**	**PRESENTATION**
	Presentation of the 2022 Electric Reliability Plan	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Stephen Marez, Deputy Utilities Manager - Electric Distribution
16274-22	**Briefing/Report (Dept, BCC) - No action requested**	**PRESENTATION**
	Discussion on San Juan Replacement Energy Plan for the Current ECA Term (previous was 11/12/21)	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Jordan Garcia, Deputy Utilities Manager - Electric Production
16275-22	**Status Report**	**PRESENTATION**
	Department of Public Utilities Quarterly Report - FY23/Q1	
	Department Name: DPU	**Length of Presentation:**
	Drop Dead Date:	**Sponsors:** Philo Shelton, Utilities Manager and Catherine D'Anna, Public Relations Manager

File Number	Title

Agenda Date: 11/16/2022

16038-22 **Minutes** **Consent**

Approval of Board of Public Utilities Meeting Minutes

Department Name: DPU **Length of Presentation:**

Drop Dead Date: **Sponsors:** Board of Public Utilities

16042-22 **Status Report** **General Board Business**

Status Reports

Department Name: DPU **Length of Presentation:**

Drop Dead Date: **Sponsors:** Philo Shelton

16047-22 **Calendar** **General Board Business**

Tickler File for the Next Three Months

Department Name: DPU **Length of Presentation:**

Drop Dead Date: **Sponsors:** Board of Public Utilities

Agenda No.:	5.A.
Index (Council Goals):	* 2022 Council Goal - Enhancing Communication; * 2022 Council Goal - Improving Access to High Quality Broadband; * 2022 Council Goal - Investing in Infrastructure; DPU FY2022 - 2.0 Achieve and Maintain Excellence in Financial Performance; DPU FY2022 - 6.0 Develop and Strengthen Partnerships with Stakeholders
Presenters:	James Alarid, Deputy Utilities Manager - Engineering
Legislative File:	**OR0953-22-a**

Title
Introduction of Incorporated County of Los Alamos Ordinance No. 721, An Ordinance Authorizing Amendment of Lease with Sprint Spectrum Realty Company, LLC, a Delaware Limited Liability Company, Successor-in-Interest to Alamosa Properties, L.P., a Texas Limited Partnership ("T-Mobile") for Replacement of Existing Antenna Collocation and Facilities at 280 North Mesa Road, Los Alamos.

Recommended Action
I introduce without prejudice, Introduction of Incorporated County of Los Alamos Ordinance No. 721, An Ordinance Authorizing Amendment of Lease with Sprint Spectrum Realty Company, LLC, a Delaware Limited Liability Company, Successor-in-Interest to Alamosa Properties, L.P., a Texas Limited Partnership ("T-Mobile") for Replacement of Existing Antenna Collocation and Facilities at 280 North Mesa Road, Los Alamos.

..Utilities Manager's Recommendation
The Utilities Manager recommends that the Board of Public Utilities introduce this Ordinance.

Body
The Incorporated County of Los Alamos (the "**County**") and Sprint Spectrum Realty Company, LLC, a Delaware limited liability company, successor-in-interest to Alamosa Properties, L.P. a Texas limited partnership ("**T-Mobile**") are parties to that certain Lease for Antenna Collocation and Facilities Site dated March 5, 2002 (the "**Lease**" **Attachment B**) concerning a certain portion of the property located at 280 North Mesa Road, Los Alamos, New Mexico 87544 (the "**Mesa Water Tank**"). The primary use of the Mesa Water Tank is for potable water storage for the citizens of the County.

Specifically, the County, in its proprietary capacity under the Lease, currently leases to T-Mobile (i) vertical and horizontal space at 122-feet above-ground-level on the Mesa Water Tank, and (ii) 624 square feet of ground space adjacent to the Mesa Water Tank (collectively, the antenna space on the Mesa Water Tank and the ground space adjacent to the Mesa Water Tank comprise of the "**Premises**") for the installation and operation of T-Mobile's wireless

communication facility ("**Site**").

Under the Lease, T-Mobile is permitted to attach a total of six (6) antennas, not exceeding six (6) feet in length, to the Mesa Water Tank. T-Mobile is presently requesting to amend the Lease to be permitted to expand its antenna array by adding one (1) more antenna in its vertical space that may be up to eight feet (8') tall. They also seek permission to add fiber and powering cables that run up along the support structure of the Mesa Water Tank to connect the new antenna to its ground equipment. As a result, T-Mobile's site will occupy more space horizontally on the same 122-foot vertical level of the Mesa Water Tank.

At ground level, T-Mobile is proposing to (i) replace its two (2) existing cabinets with two (2) new ground cabinets, and (ii) install an emergency standby electrical propane generator and propane tank to power the Site in the event of a commercial power outage. All proposed ground modifications will be made within the existing 624 square feet of ground space, with no additional ground space required. Refer to **Attachment C** for the Lease Amendment and exhibits showing existing and proposed modifications to the attached array and site features.

If the County is willing to grant T-Mobile the valuable privileges of expanding its site as detailed above, then an amendment to the Lease is necessary. In such an amendment the County may wish to seek an increase in rent, in addition to amending other terms of the Lease. As the direction of the County's Legal Department, Telecom Law Firm has negotiated a proposed amendment to the Lease changes to the Lease that better balance the rights of the parties under the Lease. A summary of the current provisions and proposed changes are shown in **Attachment D**.

Alternatives

If the amendment is not approved, the lease is still in place, but the proposed improvements will not be allowed to be constructed.

Fiscal and Staff Impact

This amendment to the lease will increase the monthly rent by 225% for the remainder of the lease which expires on March 4, 2032, and the 3% annual escalation will remain in effect. In addition, T-Mobile will pay the County a one-time fee of $15,000 upon execution of the lease amendment to cover the cost of staff and contract attorney work performed preparing the amendment.

Attachments

A - Incorporated County of Los Alamos Ordinance No. 721
B - Existing Lease for Antenna Collocation and Facilities Site
C - Amendment No. 1 to Lease for Antenna Collocation and Facilities Site
D - Summary of Current & Proposed Revisions

INCORPORATED COUNTY OF LOS ALAMOS ORDINANCE NO. 721

AN ORDINANCE AUTHORIZING AMENDMENT OF LEASE WITH SPRINT SPECTRUM REALTY COMPANY, LLC, A DELAWARE LIMITED LIABILITY COMPANY, SUCCESSOR-IN-INTEREST TO ALAMOSA PROPERTIES, L.P. A TEXAS LIMITED PARTNERSHIP ("T-MOBILE") FOR REPLACEMENT OF EXISTING ANTENNA COLLOCATION AND FACILITIES AT 280 NORTH MESA ROAD, LOS ALAMOS

WHEREAS, the Incorporated County of Los Alamos ("County") entered into a Lease for Antenna Collocation and Facilities ("Lease") with Alamos Properties, L.P. ("Alamosa") on March 5, 2002, for the placement and use of certain wireless telecommunication equipment; and

WHEREAS, the leased space is located at 280 North Mesa Road, Los Alamos, New Mexico 87544 ("Property") and includes both ground equipment and certain antennas on County's North Mesa Water Tower ("Water Tower"); and

WHEREAS, Sprint Spectrum Realty Company, LLC ("Sprint") became a successor in interest of the Lease with Alamosa, and Sprint became a subsidiary of T-Mobile USA, Inc. (T-Mobile"); and

WHEREAS, on February 19, 2021, County received a request from Signal Point, a contractor for T-Mobile, to modify the existing Alamosa and Sprint ground and antenna equipment on the Property and Water Tower; and

WHEREAS, County has worked with Signal Point since that time to identify current ground and antenna equipment including the proposed additions and/or equipment replacements; and

WHEREAS, the Department of Public Utilities ("DPU") and other affected departments have reviewed the proposed plans and specifications as provided by T-Mobile and find that the proposed amendment is necessary for the further improvement of wireless telecommunication services within the County.

BE IT ORDAINED BY THE GOVERNING BODY OF THE INCORPORATED COUNTY OF LOS ALAMOS:

Section 1. The County Council finds that amendment of the Lease is necessary and will improve wireless telecommunication services in the County.

Section 2. The Utilities Manager is hereby authorized to take all action necessary to carry out the amendment of the Lease with T-Mobile.

Section 3. Severability. Should any section, paragraph, clause or provision of this Ordinance, for any reason, be held to be invalid or unenforceable, the invalidity or unenforceability of such section, paragraph, clause or provision shall not affect any of the remaining provisions of this ordinance.

Section 4. Effective Date. This Code Ordinance shall become effective thirty (30) days after publication of notice of its adoption.

Section 5. Repealer. All other ordinances or resolutions, or parts thereof, inconsistent herewith are hereby repealed only to the extent of such inconsistency. This repealer shall not be construed to revive any ordinance or resolution, or part thereof, heretofore repealed.

PASSED AND ADOPTED this ____ day of August 2022.

INCORPORATED COUNTY OF LOS ALAMOS

_____

Randall T. Ryti,
Council Chair

ATTEST:

_____

Naomi D. Maestas,
Los Alamos County Clerk

LEASE FOR ANTENNA COLLOCATION AND FACILITIES SITE

STATE OF NEW MEXICO §
§
COUNTY OF LOS ALAMOS §

This LEASE FOR ANTENNA COLLOCATION AND FACILITIES SITE (this "Lease") is entered into as of March 5, 2002, by and between the INCORPORATED COUNTY OF LOS ALAMOS, NEW MEXICO ("Landlord") and Alamosa Properties, L.P., A Texas limited partnership ("Tenant").

1. Definitions and Certain Basic Provisions

1.1 The following definitions and basic provisions apply to this Lease:

Facility: The water tank known as the North Mesa Water Tank and all related equipment located on that certain parcel of property shown on the attached **Exhibit "A,"** incorporated herein by reference, also referred to herein as the "**Land**," owned by Landlord.

Effective Date: March 5, 2002

Landlord's Address: Incorporated County of Los Alamos
Attn: Deputy County Administrator
P.O. Box 30
Los Alamos, New Mexico 87544

Lease Term: The 60-month period (the "**Primary Term**") commencing on the Effective Date. The term "**Lease Term**," as used herein, shall include all valid renewals or extensions of the term of this Lease unless the context clearly indicates to the contrary.

Lease Year: The first twelve (12) calendar months of the term of this Lease shall constitute the first Lease Year of this Lease. The second Lease Year and each succeeding Lease Year shall consist of the twelve (12) months immediately following the expiration of the immediately preceding Lease Year.

Other Communication Uses: Those uses described on the attached **Exhibit "E"**, incorporated herein by reference.

Permitted Use: Tenant shall use the Premises only for the purpose of installing, maintaining, repairing, replacing, removing and operating certain telecommunications equipment, which equipment is more particularly described in the attached **Exhibit "B"** ("**Tenant's Equipment**") and uses incidental thereto to provide telecommunications services, and for no other purpose.

Premises: The portion of the Land and the Facility hereby leased to Tenant, as shown on the attached **Exhibit "C"**, incorporated herein by reference, containing approximately Six Hundred Twenty-Four (624) square feet and space on the Facility at the One Hundred Twenty-two (122) foot level.

Rental: Payment of Rental shall commence on the Effective Date. For the Primary Term, Tenant shall pay rental in the amount of SIX THOUSAND and No/100 DOLLARS U.S. ($6,000 U.S.) per annum. Rental shall increase for any Renewal Term as provided in this Lease. Rental is payable in advance on the Effective Date and on or before the same day of each succeeding calendar year throughout the Lease Term. Rental for any partial year upon the termination of the Lease Term shall be prorated based on a 365-day year.

Security Deposit: No security deposit shall be required

Tenant's Address: Alamosa Properties, L.P.
P.O. Box 64840
Lubbock, Texas 79464-4840
Attn: Kelly Alderman, Leasing Administrator

With a Copy To: Steven A. Portnoy
Attorney at Law
14800 Quorum Drive, Suite 200
Dallas, Texas 75254

With Copy To: Citicorp USA, Inc.
Two Penns Way
Suite 200
New Castel, Delaware 19720
Attn: Bilal Aman

2. Lease of Premises

2.1. Landlord, in consideration of the Rental and other charges to be paid and the other covenants and agreements to be performed by Tenant, hereby demises and leases to Tenant, and Tenant hereby takes from Landlord, the Premises commencing on the Effective Date and ending on the last day of the Lease Term unless sooner terminated as herein provided. Tenant acknowledges and agrees that Tenant's use of the space on the Facility is non-exclusive. Tenant may install and maintain transmission and utility wires, cables, conduits and pipes on the Land necessary to carry out the Permitted Use, provided that Tenant obtain Landlord's prior written consent of the specific location of all such installations, such consent not to be unreasonably withheld.

2.2 Tenant shall have the right to extend this Lease for five (5) periods of five (5) years each (the "**Renewal Terms**") by giving written notice of renewal to Landlord at least ninety (90) days prior to the expiration of the then-current Lease Term. Each Renewal Term shall be on the same terms and conditions set forth in this Lease, except that upon the first anniversary of the Effective Date and upon each subsequent anniversary of the Effective Date during the Primary Term and during any Renewal Terms, rental payments for each year shall be increased by three percent (3%) over the annual rental payment for the immediately preceding year.

2.3 The Premises are delivered to Tenant and are being leased "AS IS" and "WITH ALL FAULTS," and Landlord makes no representation or warranty of any kind, expressed or implied, with respect to the condition of the Premises (including habitability, fitness or suitability for particular purpose of the Premises). TO THE MAXIMUM EXTENT

PERMITTED BY APPLICABLE LAW, LANDLORD HEREBY DISCLAIMS, AND TENANT WAIVES THE BENEFIT OF, ANY AND ALL IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF HABITABILITY, FITNESS OR SUITABILITY FOR TENANT'S PURPOSE. TENANT ACKNOWLEDGES THAT NEITHER LANDLORD NOR ANY AGENT OF LANDLORD HAS MADE ANY REPRESENTATION OR WARRANTY WITH RESPECT TO THE PREMISES OR WITH RESPECT TO THE SUITABILITY OF SAME FOR THE PURPOSE HEREIN INTENDED. BY OCCUPYING THE PREMISES, TENANT SHALL BE DEEMED TO HAVE ACCEPTED THE SAME AS SUITABLE FOR THE PURPOSE HEREIN INTENDED.

2.4. Tenant shall peaceably and quietly hold and enjoy the Premises for the Lease Term, without hindrance from Landlord or Landlord's successors or assigns, subject to the terms and conditions of this Lease including the performance by Tenant of all of the terms and conditions of this Lease to be performed by Tenant and including the payment of Rental and other amounts due hereunder.

2.5 This Lease shall be subject to any and all easements, rights-of-way, covenants, liens, conditions, restrictions, and outstanding mineral or royalty interests, if any, relating to the Premises, to the extent, and only to the extent, the same still may be in force and effect and either shown of record in the Office of the County Clerk of the county in which the Land is located, or apparent on the Land.

3. Rent and Security Deposit

3.1 In consideration of this Lease, Tenant promises and agrees to pay to Landlord at Landlord's Address stated or at such other address as Landlord may designate by notice in writing to Tenant, the Rental, without demand, deduction or set-off, for each month of the Lease Term.

3.2 If Tenant fails to pay to Landlord when due any installment of Rental or any other sum to be paid to Landlord that may become due hereunder, Landlord will incur additional expenses in an amount not readily ascertainable and that have not been elsewhere provided for between Landlord and Tenant. If Tenant fails to pay Landlord any installment of Rental within five (5) days after it is due or any other sum to be paid hereunder when due, Tenant will pay Landlord on demand a late charge of five percent (5%) thereof. Failure to pay such late charge upon demand shall be an event of default hereunder. Such late charge shall be in addition to all other rights and remedies available to Landlord hereunder or at law or in equity and shall not be construed as liquidated damages or limiting Landlord's remedies in any manner.

4. Early Termination

4.1 Tenant may terminate this Lease if (i) Tenant is unable to obtain or renew at an expense or within the time period acceptable to Tenant, in its discretion, any necessary license, permit, consent, or other approval to allow Tenant to use the Premises for the Permitted Use, or Tenant's Federal Communications Commission authorization to operate Tenant's Equipment is revoked, canceled, not renewed, or otherwise forfeited by Tenant; (ii) a title search, survey, geo-technical and/or environmental study and RF engineering analysis performed by Tenant at Tenant's sole expense within six (6) months after the Effective Date reveals defects or abnormalities which Tenant, in Tenant's sole discretion, determines would interfere with or prevent Tenant's intended use, provided that Tenant shall provide prior written notice to Landlord or Tenant's intent

to perform any such search or study and shall proceed with the search or study only after the written consent or Landlord, which consent shall not be unreasonably withheld or delayed and shall be deemed given if not withheld in writing with fifteen (15) days after receipt of notice from Tenant; (iii) any pre-existing communications facilities, or any communications facilities or other structures of any kind now or hereafter located on or in the vicinity of the Facility interfere with Tenant's Equipment and Tenant is unable to correct such interference through reasonably feasible means; or (iv) Tenant's equipment is totally or partially destroyed by fire or other casualty at any time so as, in Tenant's discretion, to cause Tenant's operation and use of the Premises to be infeasible for economic or other business reasons. Tenant shall give notice of the intended date of termination, which shall be at least thirty (30) days after the date of Tenant's written notice to Landlord, and shall continue to make its rental payments as due through the date of termination.

4.2 Tenant may immediately terminate this Lease by giving written notice to Landlord of Landlord's default hereunder, after notice and opportunity to cure as herein provided.

4.2.1 Landlord or Tenant may terminate this Lease without cause at any time upon providing one-year advance written notice to the other party of the notifying party's intent to terminate this Lease. Landlord's option under this Paragraph 4.2.1 to terminate this Lease shall not be exercised prior to the commencement of the 6th Lease Year and Tenant's option under this Paragraph 4.3. to terminate this Lease shall not be exercised prior to the commencement of the 3rd Lease Year.

4.3 Throughout the Lease Term, Landlord will not knowingly grant a lease to any other party for use of all or any part of the Facility if such use would adversely affect or interfere with Tenant's operation of Tenant's Equipment. Tenant's sole remedy for Landlord's breach of the foregoing obligation shall be Tenant's right to terminate this Lease upon thirty (30) days notice to Landlord if another user of the Facility causes interference with Tenant's operations that has not been corrected within thirty (30) days after notice to Landlord, or if new structures are built nearby that block or partially block Tenant's transmissions in a manner that significantly interferes with Tenant's operations.

4.4 If Tenant terminates this Lease for any reason, Landlord shall not be obligated to return, refund, or provide a credit for any portion of the Rental due or paid to Landlord prior to termination.

4.5 At or before the expiration or termination of this Lease for any reason, Tenant shall surrender to Landlord the Premises, remove Tenant's Equipment, and shall restore the Premises to substantially the same condition existing on the Effective Date, except for ordinary wear and tear, or as otherwise specifically requested in writing by Landlord. If Tenant fails to remove the Tenant Equipment, the Tenant Equipment shall be subject to disconnection, removal, and storage by Landlord. In such event, Tenant shall pay to Landlord upon written demand therefore, the disconnection, removal and storage costs and expenses incurred by or on behalf of Landlord. If after termination or expiration of this Lease Tenant's Equipment or any part thereof remains on the Premises, then Tenant shall be considered to occupy the Premises as a tenant at will and the provisions of Section 16 of this Lease will apply.

5. Use and Care of Premises

5.1 The Premises may be used only for the Permitted Use, and for no other purpose or purposes without the prior written consent of Landlord.

5.2 Tenant, at its sole cost, shall observe, perform, and comply with all laws, statutes, ordinances, rules, and regulations promulgated by any governmental agency and applicable to the Premises or the use thereof, including all applicable zoning ordinances, building codes and environmental laws. Tenant shall not occupy or use the Premises or permit any portion of the Premises to be occupied or used for any use or purpose that is unlawful in part or in whole, or deemed by Landlord to be disreputable in any manner or extra hazardous on account of fire. Tenant shall operate its business in a reputable manner.

5.3 Tenant shall take good care of the Premises and keep the Premises neat, clean and free from dirt, rubbish, insects, and pests at all times. Tenant shall arrange for the pick-up and removal of all trash and garbage at Tenant's expense. Tenant shall not operate an incinerator or burn trash or garbage on the Premises.

5.4 Tenant shall procure, at its sole expense, any permits or licenses required for Tenant's use of the Premises. Landlord will cooperate with Tenant, at Tenant's expense, in making application for and obtaining necessary licenses, permits and other necessary approvals that may be required for Tenant's Permitted Use; provided, however, that Landlord shall not be required to assume any liability, costs, expenses, or undertake any investigation or other similar activity.

5.5 None of Tenant's Equipment shall be installed on the Facility nor shall any construction commence on the Premises until Tenant has submitted its construction and installation plans and list of contractors and subcontractors to Landlord in writing and such plans and list have been approved in writing by Landlord, such approval not to be unreasonably withheld, delayed or conditioned. Tenant shall not alter the plans without the prior written approval of Landlord. Tenant shall be responsible for grounding all external and internal wiring and cabling installed by Tenant. Tenant shall obtain Landlord's prior written approval of such grounding plans. In the event any such plans are not approved or rejected by Landlord within fifteen (15) days of submittal by Tenant, the plans shall be deemed approved. Title to Tenant's Equipment shall be held by Tenant. Tenant's Equipment shall remain Tenant's personal property and no part of Tenant's Equipment shall be considered fixtures.

5.6. Tenant shall not cause electrical interference to Landlord or to any other tenant or user of the Project who is occupying or using a portion of the Land or the Facility as of the date Tenant proposes to lease the Premises from Landlord. At Landlord's request, Tenant shall perform an intermod and interference study at the Property and perform an interference evaluation. Tenant acknowledges that the Other Communication Uses will not, if properly and lawfully operated, interfere with Tenant's use, and that Tenant' use will not interfere with the Other Communication Uses.

5.7 Tenant shall not bring or permit to remain on the Premises any asbestos containing materials, petroleum, explosives, toxic materials, or substances defined as hazardous wastes, hazardous materials, or hazardous substances under any federal, State, or local law or regulation ("Hazardous Materials"), except ordinary products commonly used in connection with the Permitted Use and stored in the usual and lawful manner and

quantities. Tenant's violation of the foregoing prohibition shall constitute a material breach and default hereunder and Tenant shall indemnify, hold harmless and defend Landlord from and against any claims, damages, penalties, liabilities, and costs (including reasonable attorneys' fees and court costs) caused by or arising out of (i) a violation of the foregoing prohibition or (ii) the presence or any release of any Hazardous Materials on, under, or about the Premises during Tenant's occupancy or control of the Premises. Tenant shall clean up, remove, remedy and repair any soil or ground water contamination and damage caused by the presence and any release of any Hazardous Materials in, on, under, or about the Premises during Tenant's occupancy of the Premises in conformance with the requirements of applicable law. Tenant shall immediately give Landlord written notice of any suspected breach of this Section, upon learning of the presence or any release of any Hazardous Materials, and upon receiving any notices from governmental agencies pertaining to Hazardous Materials which that may affect the Premises. The obligations of Tenant hereunder shall survive the expiration or earlier termination, for any reason, of this Lease.

5.8 Landlord represents that it has not and shall not bring or permit to remain on the Premises any Hazardous Materials, except ordinary products commonly used in connection with Landlord's use of the Land and the Facility and stored in the usual and lawful manner and quantities.

6. Maintenance and Repair of Premises

6.1 Landlord shall have no obligation to repair or maintain the Premises and Landlord shall have no liability for any damages or injury arising out of any condition or occurrence causing a need for such repairs.

6.2 Tenant, at its sole cost and expense, shall repair or replace any damage or injury done to the Premises, the Land, or the Facility, or any part thereof, by Tenant or Tenant's agents, employees, invitees or visitors, including any damage occasioned by the installation, operation, maintenance or removal of Tenant's Equipment. If any repairs required to be made by Tenant hereunder are not made within thirty (30) days after written notice delivered to Tenant by Landlord, Landlord may, at its option, make such repairs without liability to Tenant for any loss or damage that may result by reason of such repairs, and Tenant shall pay to Landlord within five (5) days after demand as additional rental hereunder the cost of such repairs plus twenty percent (20%) of the amount thereof to cover overhead.

6.3 Tenant shall maintain the Premises in good, tenantable, and sightly condition. Tenant shall properly maintain any landscaping relating to the Premises reasonably required by Landlord to assure a sightly condition of the Land and the Facility.

6.4 Tenant shall inform Landlord of any and all requirement for marking and lighting, including any lighting automated alarm system, required by the Federal Communications Commission ("FCC"), the Federal Aviation Administration ("FAA"), or any other governmental entity with jurisdiction, as a result of Tenant Facilities and shall, at Landlord's option, install the same at Tenant's expense, or pay Landlord's expenses of installing same. Tenant shall be responsible for assuring compliance with all such requirements. If lighting requirements apply and a lighting automatic system has been installed by Landlord, Landlord shall allow Tenant to bridge-in to the system to permit a parallel alarm or to install a second alarm, at Landlord's option.

7. Leasehold Improvements / Alterations

7.1 Except as contemplated in **Exhibit "C"**, Tenant shall not make or permit to be made any alterations, additions or improvements to the Premises or paint, install lighting or decorations, or install any signs, window or door lettering or advertising media of any type on or about the Premises without the prior written consent of Landlord. Upon Landlord's written request, at the termination of this Lease Tenant shall restore those portions of the Premises that Tenant altered, added to or improved to the condition in which they existed on the Effective Date. Tenant's Equipment and all furniture, movable trade fixtures and equipment installed in the Premises by Tenant may be removed by Tenant at the termination of this Lease if Tenant so elects, and shall be so removed if required by Landlord, or if not so removed shall, at the option of Landlord, become the property of Landlord without compensation to Tenant. In the event of any such removal, Tenant shall, at its expense, repair and restore to the condition in which it existed on the Effective Date any portion of the Land or Facility that is damaged by such removal.

7.2 All construction work done by Tenant on or in the Premises shall be performed in a good and workmanlike manner, in compliance with all governmental requirements. Tenant agrees to indemnify Landlord and hold Landlord harmless against any loss, liability or damage resulting from such work, and Tenant shall, if requested by Landlord, furnish a bond or other security satisfactory to Landlord against any such loss, liability or damage.

7.3 Tenant will not permit any mechanic's lien or other liens to be placed upon the Premises, the Land or the Facility, or any portion thereof, caused by or resulting from any work performed, materials furnished or obligation incurred by or at the request of Tenant, and in the case of the filing of any such lien, Tenant will immediately pay, obtain the release of, or bond around same. If any lien is not removed (or bonded around) within thirty (30) days, Landlord shall have the right and privilege at Landlord's option of paying the same or any portion thereof without inquiry as to the validity thereof, and any amounts so paid, including expenses and interest, shall be so much additional rent hereunder due from Tenant to Landlord and shall be repaid to Landlord (together with interest at the lesser of the rate of eighteen percent (18%) per annum or the maximum rate permitted by law from the date paid by Landlord) within ten (10) days after Tenant's receipt of a statement from Landlord therefor.

7.4 If Tenant's Equipment causes any measurable adverse interference with Other Communication Uses, then Tenant shall cause the elimination of such interference in a prompt and timely manner. If such measurable adverse interference by Tenant's Equipment with Other Communication Uses cannot be eliminated within a reasonable length of time, but not to exceed forty-eight hours after notice thereof, Tenant shall cause the interference to cease except for brief tests necessary for the elimination of the interference.

8. Access

8.1 Except as otherwise provided herein, Tenant and Tenant's employees, agents, and contractors shall have access to the Premises 24 hours per day, 7 days a week for the purpose of carrying out the Permitted Use. Landlord may fence and lock the Property, or any portion thereof. If Landlord chooses to fence and lock that portion of the property that includes Tenant's equipment building on the ground, Landlord shall provide to Tenant the key or other information necessary to allow Tenant entry. Notwithstanding

anything herein to the contrary, Tenant shall not be entitled in any circumstance to unattended access to the water tower and the cabling, antenna, and other Tenant equipment located in or on the water tower. To access Tenant equipment in or on the water tower, Tenant shall notify the County Department of Public Utilities and request attended access to the water tower. Tenant must provide as much advance notice to Landlord as reasonably possible. For each such access to the water tower that occurs outside regular County utility business hours (7:30 a.m. to 4:00 p.m. on business days, excluding county holidays), Tenant shall pay, immediately upon demand by the County, the cost incurred by the County for providing an attendant. The County estimates that the cost of attended access will be approximately $120.

Landlord reserves the right to require Tenant to provide the name, address, and background information on each and every employee, agent, or representative of Tenant that will access the Premises. Landlord further reserves the right to restrict access by one or more of Tenant's employees, agents, or representatives, or to refuse access to the Premises at any time Landlord deems necessary or desirable, in Landlord's sole discretion, for security purposes.

8.2 Landlord shall have the right to enter upon the Premises at any time in the event of an emergency and at any reasonable time for any reasonable purpose, including without limitation, inspecting same.

9. Utilities

9.1. Landlord makes no representation with regard to utility services available to the Premises. Tenant shall pay promptly and before delinquency all charges for electricity, water, gas, telephone service, sewerage service, and other utilities furnished to the Premises and shall pay promptly any maintenance charges therefore. Such payments shall be made directly to the provider of the utility service. Utilities shall be separately metered.

9.2 Tenant, at Tenant's sole cost, shall install, maintain and repair all wiring, conduits, facilities, equipment (including meters or submeters) and cabling necessary to connect the Premises or Tenant's Equipment to the utility service providers and connections.

9.3 If **Exhibit "D"** is attached to this Lease, Landlord hereby grants Tenant a non-exclusive easement (the "Easement") as described on Exhibit "D" for the purposes of installation, operation, maintenance, repair, replacement and removal of all wiring, conduits, facilities, equipment and cabling necessary to connect Tenant's Equipment or the Premises to utility services, provided that Tenant's use of the Easement does not interfere with use of the Easement by Landlord or others using the Easement at the time of Tenant's installation of the wiring, conduits, facilities, equipment or cabling. Landlord reserves the right to cross the Easement and use and grant the use of other easements in, under, on, over, through and across, the Easement to others for any uses or purposes, except that no such other grants shall permit or allow unreasonable interference with the Easement herein granted to Tenant. Landlord shall have the right, at Landlord's expense, to relocate the Easement to Tenant, provided such new location shall not materially and adversely interfere with Tenant's operations within the Premises. The Easement shall be for a term commencing on the Effective Date of this Lease and shall automatically terminate on the expiration or earlier termination of this Lease. Provided, however, that Tenant agrees in such event to execute and deliver to Landlord,

its successors or assigns, a termination of easement, duly executed and acknowledged by Tenant, on the request of Landlord.

9.4 Landlord shall not be liable for any interruption or failure in utility services arising from any cause whatsoever other than Landlord's gross negligence or intentional misconduct, nor shall any such interruption or failure be construed as an eviction of Tenant or work an abatement of rent, nor relieve Tenant from fulfillment of any covenant or agreement hereof, nor render Landlord liable in any respect for damages to either person, property or business.

10. Indemnity and Public Liability Insurance

10.1 FROM AND AFTER THE EFFECTIVE DATE, LANDLORD SHALL NOT BE LIABLE OR RESPONSIBLE TO TENANT FOR ANY LOSS OR DAMAGE TO ANY PROPERTY OR PERSON OCCASIONED BY THEFT, ACT OF GOD, PUBLIC ENEMY, INJUNCTION, RIOT, STRIKE, INSURRECTION, WAR, COURT ORDER, REQUISITION OR ORDER OF GOVERNMENTAL BODY OR AUTHORITY OR ANY SIMILAR MATTER OR BY THE PREMISES BEING OUT OF REPAIR OR BY DEFECT IN OR FAILURE OF EQUIPMENT, PIPES, OR WIRING, OR BROKEN GLASS, OR BY GAS, WATER, STEAM, ELECTRICITY OR OIL LEAKING, ESCAPING, OR FLOWING INTO THE PREMISES. LANDLORD SHALL NOT BE LIABLE TO TENANT, OR TO TENANT'S AGENTS, SERVANTS, EMPLOYEES, CUSTOMERS, CONTRACTORS OR INVITEES AND TENANT SHALL INDEMNIFY, DEFEND, AND HOLD LANDLORD, LANDLORD'S COUNCIL MEMBERS, EMPLOYEES, OFFICERS, AND CONTRACTORS HARMLESS FROM AND AGAINST ANY AND ALL FINES, SUITS, CLAIMS, DEMANDS, LOSSES, LIABILITIES, ACTIONS, AND COSTS (INCLUDING COURT COSTS AND ATTORNEYS' FEES) ARISING FROM (I) ANY INJURY TO PERSON OR DAMAGE TO PROPERTY CAUSED BY ANY ACT, OMISSION, OR NEGLECT OF TENANT, TENANT'S AGENTS, SERVANTS, EMPLOYEES, CUSTOMERS OR INVITEES, (II) TENANT'S USE OF THE PREMISES OR THE CONDUCT OF TENANT'S BUSINESS, (III) ANY ACTIVITY, WORK, OR THING DONE, PERMITTED OR SUFFERED BY TENANT IN OR ABOUT THE LAND AND THE FACILITY, (IV) ANY BREACH OR DEFAULT IN THE PERFORMANCE OF ANY OBLIGATION ON TENANT'S PART TO BE PERFORMED UNDER THE TERMS OF THIS LEASE, OR (V) THE DESIGN OR CONSTRUCTION OF TENANT'S EQUIPMENT OR ANY OTHER IMPROVEMENTS CONSTRUCTED ON THE PREMISES, EXCEPT TO THE EXTENT CAUSED BY THE NEGLIGENT ACTS OR WILLFUL MISCONDUCT OF LANDLORD, LANDLORD'S OFFICERS OR EMPLOYEES.

10.2 Tenant shall, at Tenant's expense, maintain a policy or policies of comprehensive general liability insurance with limits of not less than $1,000,000 with respect to bodily injury or death to any number of persons in any one accident or occurrence, nor less than $1,000,000 with respect to property damage in any one accident or occurrence, throughout the Lease Term. Landlord may reasonably increase the minimum limits for the policy or policies of comprehensive general liability insurance maintained by Tenant on the 5th anniversary date of this Lease and every 5th anniversary date thereafter by giving Tenant at least thirty (30) days written notice prior to the anniversary date on which the increase would be effective.

10.3 Tenant shall, at Tenant's expense, maintain a policy or policies of "All Risk" property insurance that insures Tenant's Equipment for its full replacement cost.

10.4 Tenant shall, at Tenant's expense, maintain a policy or policies of excess/umbrella insurance with limits of not less than $2,000,000.

10.5 All policies of insurance that Tenant is required to maintain hereunder shall be issued by and binding upon solvent insurance companies licensed to do business in New Mexico, shall name Landlord as an additional insured, and shall contain a provision to the effect that Landlord, although named as an insured, shall nevertheless be entitled to recovery under said policy for any loss occasioned to Landlord, its servants, agents, and employees by reason of the acts, omission, and/or negligence of Tenant. Prior to entering upon the Premises, Tenant shall furnish to Landlord either (i) a copy of Tenant's insurance policies or (ii) evidence of insurance verifying Tenant's compliance with the insurance coverage requirements of this Article 10 and indicating the exclusions from coverage, if any. Any insurance company providing insurance required hereunder shall notify Landlord at least thirty (30) days prior to cancellation or material change of any such insurance. All insurance required by this Article 10 shall be primary and noncontributing with any insurance that may be carried by Landlord.

10.6. Tenant hereby waives any cause of action it might have against Landlord as a result of any loss or damage that is required to be insured against by Tenant under this Lease. Tenant agrees that it will obtain from its insurance carrier endorsements to all applicable policies waiving the carrier's rights of recovery under subrogation or otherwise against the other party.

11. Eminent Domain

11.1 If all or a portion of the Premises is taken for any public or quasi-public use under any law, ordinance or regulation or by right of eminent domain or by private purchase in lieu thereof, this Lease shall terminate and the rent shall abate during the unexpired portion of this Lease, effective on the date physical possession is taken by the condemning authority.

11.2 All compensation awarded for any taking (or the proceeds of private sale in lieu thereof) of the Premises shall be the property of Landlord, and Tenant hereby assigns Tenant's interest in any such award to Landlord; provided, however, Landlord shall have no interest in any award made to Tenant for loss of business or for the taking of Tenant's Equipment and Tenant's other property if a separate award for such items is made to Tenant.

12. Casualty

12.1 If substantially all of the Facility is destroyed by fire, tornado or other casualty or if the Premises or the Facility is so damaged that rebuilding or repairs cannot, in the reasonable judgment of Landlord, be completed within one hundred eighty (180) days after the date of such damage, Landlord may at its option terminate this Lease, in which event, this Lease shall terminate effective as of the date of such damage. If the Premises or the Facility is damaged by fire, tornado or other casualty covered by Landlord's insurance, if any, but only to such extent that rebuilding or repairs can, in the reasonable judgment of Landlord, be completed within one hundred eighty (180) days after the date of such damage, or if the damage is more serious but Landlord does not elect to terminate this Lease, in either such event Landlord shall within one hundred twenty (120) days after the date of such damage commence actions to rebuild or repair the Premises and/or the Facility and shall proceed with reasonable diligence to restore

same to substantially the same condition in which it was immediately prior to the happening of the casualty, except that Landlord shall not be required to rebuild, repair or replace any part of Tenant's Equipment or other equipment, fixtures and improvements that may have been placed by Tenant or other tenants within the Premises or the Project. Landlord shall allow Tenant a diminution of Rental during the time the Premises are unfit for the purposes herein intended, which diminution shall be based upon the diminished usefulness of the Premises to Tenant. Any insurance that may be carried by Landlord or Tenant against loss or damage to the Premises or to the Facility shall be for the sole benefit of the party carrying such insurance and under its sole control.

13. Assignment and Subletting

13.1. Tenant shall not assign or in any manner transfer this Lease or any estate or interest therein, or sublet the Premises or any part thereof, or grant any license, concession, or other right to occupy any portion of the Premises without the prior written consent of Landlord; provided, however, that Tenant may assign its rights and delegate its duties hereunder to any individual or firm, corporation, partnership, association, trust or other entity which, whether directly or indirectly, controls, is controlled by, or is under common control with Tenant or to a person or entity that obtains control of Tenant during the term of this Lease. For the purposes of this Paragraph 13.1, the term "control" shall mean the ownership, directly or indirectly, of the power to direct or cause the direction of the management and policies of an entity, or the power to veto major policy decisions of any such entity, whether through the ownership of voting securities, by contract or otherwise. In no event may Tenant sublet all or any part of its interest in the Premises.

13.2 Consent by Landlord to any assignment or subletting shall not operate as a waiver of Landlord's rights as to any subsequent assignment or subletting. Notwithstanding any assignment or subletting, Tenant shall at all times remain fully responsible and liable for the payment of the rental herein specified and for compliance with all of Tenant's other obligations under this Lease.

13.3 Landlord shall have the right to transfer and assign, in whole or in part, all of Landlord's rights and obligations hereunder and in the Premises, and in such event and upon assumption by the transferee of Landlord's obligations under this Lease (any such transferee to have the benefit of, and be subject to, the provisions of this Lease), no further liability or obligation shall thereafter accrue against Landlord hereunder, and Tenant agrees to look solely to such successor in interest of Landlord for performance of such obligations.

13.4 Tenant may mortgage, pledge or otherwise encumber Tenant's leasehold interest in the Premises, but in no event shall Tenant mortgage, pledge or otherwise encumber Landlord's interest in the Premises, the Facility, the Land, or any improvements thereon. Tenant hereby represents that it intends to enter into or has entered into certain financial arrangements with Citicorp USA, Inc., whose address for purposes of notice is Citicorp USA, Inc., Two Penns Way, Suite 200, New Castel, Delaware 19720, Attn: Bilal Aman, as administrative agent and collateral agent for itself and various other lenders (collectively, the "Lenders"), and, in connection with such financing arrangements, the Lenders will take a security interest in Tenant's Equipment and the products and proceeds thereof (collectively, the "Collateral") to be installed on the property which is the subject of this Lease. Landlord hereby consents to the installation of the Collateral, disclaims any interest in the Collateral, and represents that the Collateral shall be exempt from execution, foreclosure, sale, levy, attachments or distress. Landlord's

representations in this Paragraph 13.4 shall inure to the benefit of Tenant, the Lenders and any replacement or refinancing lenders, their successors and assigns.

Landlord further acknowledges that Landlord shall provide notice to any Lender of which Landlord has been advised in writing at least 30 days before the occurrence of an event of default, of any demand for cure issued by Landlord and the Lender shall have the right to cure any default of Tenant within the applicable cure period provided for in this Lease, and may, by assuming all of Tenant's obligations under this Lease and providing written notice of same to Landlord, be substituted as Tenant hereunder. Nothing contained herein shall be deemed or construed to obligate any Lender or any replacement or refinancing lender to take any action under this Lease or to perform or discharge any indebtedness, liability, obligations or duty of Tenant hereunder unless such Lender has assumed Tenant's obligations under this Lease as provided above.

14. Taxes and Assessments

14.1 Tenant shall be liable for all taxes levied against Tenant's Equipment and any other improvements, personal property or trade fixtures placed by Tenant on the Premises, all taxes levied or assessed on Tenant's leasehold interest in the Premises, and any other levies, assessments, fees, or business or other taxes of any kind levied or accruing because of Tenant's occupancy of the Premises or on the business or income of Tenant generated from the Premises. Tenant shall pay the same directly to the tax assessing authority prior to delinquency.

14.2 Upon Landlord's request and following Tenant's failure to pay such taxes, levies, assessments or fees prior to delinquency, Tenant shall pay to Landlord additional monthly installments of Rental in an amount sufficient to pay all taxes and assessments that are Tenant's obligation and that accrue during the then current Lease Year.

15. Default by Tenant and Remedies

15.1 The following events shall be deemed to be events of default by Tenant under this Lease:

a. Tenant fails to pay any installment of Rental or any other sum payable by Tenant under this Lease within five (5) days after it is due.

b. Tenant fails to comply with any other term, provision or covenant of this Lease within fifteen (15) days after written notice thereof to Tenant; provided, however, that if the nature of Tenant's obligation is of such a nature that it cannot reasonably be cured within said fifteen-day period, Tenant shall not be deemed in default so long as Tenant commences curing such failure within said fifteen-day period and diligently prosecutes same to completion. Notwithstanding the foregoing, in no event shall the time within which Tenant may cure a failure to timely correct interference with Other Communication Uses exceed fifteen (15) days and Landlord shall not be required to provide notice of interference with Other Communication Uses more than once in any 12-month period.

c. Tenant or any guarantor of Tenant's obligation hereunder becomes insolvent, or makes any transfer in fraud of creditors, or makes an assignment for the benefit of creditors.

d. Tenant or any guarantor of Tenant's obligations hereunder files a petition under any section or chapter of any applicable federal or state bankruptcy or insolvency law, or is adjudged bankrupt or insolvent in proceedings filed against Tenant or such guarantor.

e. A receiver or trustee is appointed for all or substantially all of the assets of Tenant or any guarantor of Tenant's obligations hereunder.

f. Tenant does or permits to be done anything that creates a lien upon the Premises and the lien is not removed or bonded around within thirty (30) days after written notice thereof from Landlord to Tenant.

15.2 Upon the occurrence of any event of default specified in this Lease, Landlord shall have the option to pursue any and all remedies that Landlord then may have hereunder or at law or in equity, including, without limitation, any one or more of the following, in each case, without any further notice or demand whatsoever:

a. Terminate this Lease, in which event Tenant shall immediately surrender the Premises to Landlord, and if Tenant fails to do so, Landlord may, without prejudice to any other remedy that Landlord may have for possession or arrearage in rent, enter upon and take possession of the Premises by any lawful means, including by picking or changing locks if necessary, and lock out, expel or remove Tenant and any other person who may be occupying the Premises or any part thereof, without being liable for prosecution or any claim for damages therefor. Tenant agrees to pay to Landlord on demand the amount of all loss and damage that Landlord may suffer by reason of such termination, whether through inability to relet the Premises on satisfactory terms or otherwise.

b. Enter upon and take possession of the Premises by any lawful means, including by picking or changing locks if necessary, and lock out, expel or remove Tenant and any other person who may be occupying the Premises or any part thereof without being liable for prosecution or any claim for damages therefor, and if Landlord so elects, relet all or any part of the Premises on such terms as Landlord shall deem advisable and receive the rent therefor, and Tenant agrees to pay to Landlord on demand any deficiency that may arise by reason of such reletting for the remainder of the Lease Term or any extension thereof (if the event of default occurs during such extension term). Tenant shall be liable immediately to Landlord for all costs Landlord incurs in repossessing and reletting the Premises, including, without limitation, brokers' commissions, reasonable attorneys' fees incurred in connection with the reletting or in connection with Tenant's default hereunder, expenses of repairing, altering, and remodeling the Premises required by the reletting and like costs. In no event shall Tenant be entitled to receive any excess in the rental received by Landlord following a reletting over the amounts owed by Tenant to Landlord hereunder.

c. Make such payments, and/or take such action (including entering the Premises by picking or changing locks if necessary, without being liable for prosecution or any claim for damages therefor), and pay or perform whatever Tenant is obligated to do under the terms of this Lease. Tenant

agrees to reimburse Landlord on demand for any expenses that Landlord may incur in thus effecting compliance with Tenant's obligations under this Lease (including reasonable attorneys' fees), and Tenant further agrees that Landlord shall not be liable for any damages resulting to Tenant from such action.

15.3 No re-entry or taking possession of the Premises by Landlord shall be construed as an election on its part to terminate this Lease, unless a written notice of such intention be given to Tenant. Notwithstanding any such reletting or re-entry or taking possession, Landlord may at any time thereafter elect to terminate this Lease for a previous default. Pursuit of any of the foregoing remedies shall not preclude pursuit of any of the other remedies herein provided or any other remedies provided by law, nor shall pursuit of any remedy herein provided constitute a forfeiture or waiver of any rent due to Landlord hereunder or of any damages accruing to Landlord by reason of the violation of any of the terms, provisions, and covenants herein contained. Landlord's acceptance of rent following an event of default hereunder shall not be construed as Landlord's waiver of such event of default. No waiver by Landlord of any violation or breach of any of the terms, provisions and covenants herein contained shall be deemed or construed to constitute a waiver of any other violation or default. No payment by Tenant or receipt by Landlord of any amount less than the amounts due by Tenant hereunder shall be deemed to be other than on account of the amounts due by Tenant hereunder, nor shall any endorsement or statement on any check or document accompanying any payment be deemed an accord and satisfaction.

15.4 In the event of termination for an event of default, Landlord shall not have any obligation to relet or attempt to relet the Premises, or any portion thereof, or to collect rental after reletting; and in the event of reletting, Landlord may relet the whole or any portion of the Premises for any period, to any tenant, and for any use and purpose.

15.5 Landlord shall not be deemed to be in default in the performance of any obligation required to be performed by Landlord hereunder unless and until Landlord has failed to perform such obligation within thirty (30) days after written notice by Tenant to Landlord specifying wherein Landlord has failed to perform such obligation; provided, however, that if the nature of Landlord's obligation is such that more than thirty (30) days are required for Landlord's performance, then Landlord shall not be deemed to be in default if Landlord shall commence such performance within such thirty-day period and thereafter diligently prosecute the same to completion. Unless and until Landlord fails to so cure any default after such notice, Tenant shall not have any remedy or cause of action by reason thereof. Tenant hereby waives any right Tenant may have to assert a lien upon any of Landlord's property or upon any rental due to Landlord.

15.6 In the event that Landlord shall have taken possession of the Premises pursuant to the authority herein granted, then Landlord shall have the right to keep in place and use all of the improvements, furniture, fixtures, and equipment at the Premises, including that which is owned or leased to Tenant, at all times prior to any foreclosure thereon by Landlord or repossession thereof by a lessor thereof or third party having a lien thereon. Landlord shall also have the right to remove from the Premises (without the necessity of obtaining a distress warrant, writ of sequestration or other legal process) all or any portion of such furniture, fixtures, equipment, and other property located thereon and place same in storage at any premises within the county in which the Premises are located; and in such event, Tenant shall be liable to Landlord for costs incurred by Landlord in connection with such removal and storage and shall indemnify and hold

Landlord harmless form all loss, damage, cost, expense and liability in connection with such removal and storage. Landlord shall also have the right to relinquish possession of all or any portion of such furniture, fixtures, equipment, and other property to any person ("Claimant") claiming to be entitled to possession thereof who presents to Landlord a copy of any instrument represented to Landlord by Claimant to have been executed by Tenant (or any predecessor of Tenant) granting Claimant the right under various circumstances to take possession of such furniture, fixtures, equipment, or other property, without the necessity on the part of Landlord to inquire into the authenticity of said instrument's copy of Tenant's or Tenant's predecessor's signature thereon and without the necessity of Landlord's making any nature of investigation or inquiry as to the validity of the factual or legal basis upon which Claimant purports to act; and Tenant agrees to indemnify and hold Landlord harmless from all cost, expense, loss, damage and liability incident to Landlord's relinquishment of possession of all or any portion of such furniture, fixtures, equipment, or other property to Claimant. The rights of Landlord herein stated shall be in addition to any and all other rights which Landlord has or may hereafter have at law or in equity; and Tenant stipulates and agrees that the rights herein granted Landlord are commercially reasonable.

16. Holding Over

16.1 If Tenant remains in possession of the Premises after the expiration of this Lease and without the execution of a new lease, it shall be deemed to be occupying the Premises as a tenant at will at a rental equal to the Rental herein provided plus three hundred percent (300%) of such amount calculated on a daily basis and otherwise subject to all the conditions, provisions, and obligations of this Lease insofar as the same are applicable to a tenancy at will.

17. Notices

17.1 Wherever any notice is required or permitted hereunder, such notice shall be in writing. Any notice or document required or permitted to be delivered hereunder shall be deemed to be delivered whether actually received or not when deposited in the United States mail, postage prepaid, certified mail, return receipt requested, addressed to the parties hereto at the respective addresses set out in Section 1.1, or at such other addresses as they have hereafter specified by written notice.

17.2 If and when included within the term "Tenant" as used in this instrument there are more than one person, firm or corporation, all shall arrange among themselves for their joint execution of such notices specifying some individual at some specific address for the receipt of notices and payments to Tenant. All parties included within the term "Tenant" shall be bound by notices and payments given in accordance with the provisions of this Article to the same effect as if each had received such notice or payment.

18. Miscellaneous

18.1 Nothing contained in this Lease shall be deemed or construed by the parties hereto, nor by any third party, as creating the relationship of principal and agent or of partnership or of joint venture between the parties hereto, it being understood and agreed that neither the method of computation of Rental, nor any other provisions contained herein, nor any acts of the parties hereto, shall be deemed to create any relationship between the parties hereto other than the relationship of Landlord and

Tenant. Whenever herein the singular number is used, the same shall include the plural, and words of any gender shall include each other gender.

18.2 Except as expressly set forth in this Lease, Landlord shall not be required to make any expenditure, incur any obligation, or incur any liability of any kind whatsoever in connection with this Lease or the financing, ownership, construction, maintenance, operation, or repair of the Premises.

18.3 The captions used herein are for convenience only and do not limit or amplify the provisions hereof.

18.4 One or more waivers of any covenant, term or condition of this Lease by either party shall not be construed as a waiver of a subsequent breach of the same covenant, term or condition. The consent or approval by either party shall not be construed as a waiver of a subsequent breach of the same covenant, term or condition. The consent or approval by either party to any act of the other party requiring such consent or approval shall not be deemed to waive or render unnecessary consent to or approval of any subsequent similar act.

18.5 Whenever a period of time is herein prescribed for action to be taken by either party hereto, such party shall not be liable or responsible for and there shall be excluded from the computation of any such period of time, any delays due to strikes, riots, acts of God, shortages of labor or materials, war, governmental laws, regulations or restrictions or any other causes of any kind whatsoever which are beyond the reasonable control of such party. This provision shall not excuse or extend the time for payment of any monetary obligation of Tenant to Landlord. At any time when there is outstanding a mortgage, deed of trust or similar security instrument covering Landlord's interest in the Premises, and Tenant is given written notice thereof, including the address of the holder of the indebtedness secured thereby, Tenant may not exercise any remedies for default by Landlord hereunder unless and until the holder of the indebtedness secured by such mortgage, deed of trust or similar security instrument shall have received written notice of such default and a reasonable time for curing such default shall thereafter have elapsed.

18.6 This Lease and the exhibits attached hereto contain the entire agreement between the parties, and no agreement shall be effective to change, modify or terminate this Lease in whole or in part unless such agreement is in writing and duly signed by the party against whom enforcement of such change, modification or termination is sought.

18.7 Tenant warrants that it has had no dealing with any broker or agent in connection with the negotiation or execution of this Lease. If any agent or broker shall make a claim for a commission or fee as a result of the actions or alleged actions of Tenant, Tenant shall be responsible for payment thereof and hereby indemnifies and holds Landlord harmless from such claim for commission or fees.

18.8 If any clause or provision of this Lease is illegal, invalid or unenforceable under present or future laws effective during the Lease Term, then and in that event, it is the intention of the parties hereto that the remainder of this Lease shall not be affected thereby, and it is also the intention of the parties to this Lease that in lieu of each clause or provision of this Lease that is illegal, invalid or unenforceable, there be added as a part of this Lease a clause or provision as similar in terms to such illegal, invalid or

unenforceable clause or provision as may be possible in order to make such clause or provision legal, valid and enforceable.

18.9 Tenant warrants that it has the full right, power and authority to enter into this Lease and to carry out Tenant's obligations under this Lease, and the person signing this Lease on behalf of Tenant has been duly authorized by Tenant to execute this Lease.

18.10 The terms, provisions and covenants contained in this Lease shall inure to the benefit of and be binding upon the parties hereto and their respective heirs, successors in interest and legal representatives except as otherwise herein expressly provided.

18.11 Notwithstanding anything contained in this Lease to the contrary, Landlord does not warrant or represent that the Premises contains any particular number of square feet, and the Rental specified in this Lease shall not vary based upon the actual number of square feet contained in the Premises.

18.12 The submission of this Lease to Tenant for examination does not constitute an offer, reservation or option in favor of Tenant, and Tenant shall have no rights with respect to this Lease or the Premises unless and until Landlord shall execute a copy of this Lease and deliver the same to Tenant.

18.13 Nothing herein expressed or implied is intended, or shall be construed, to confer upon or give to any person or entity, other than the parties hereto, any right or remedy under or by reason of this Lease.

18.14 This Lease shall be construed and enforced in accordance with the laws of the State of New Mexico. Venue shall be in the First Judicial District of New Mexico in Los Alamos County.

Executed on the dates set forth below to be effective on the Effective Date.

LANDLORD:

INCORPORATED COUNTY OF LOS ALAMOS,
an incorporated county of the State of New Mexico

Date: March 5, 2002

By: Mary M. McInerny
Mary M. McInerny
County Administrator

Approved as to form:

Pamela S. Bacon
County Attorney

Approved: BOARD OF PUBLIC UTILITIES

By: D. Christopher Ortega
Name: D. Christopher Ortega
Title: Utilities Manager

TENANT:

Alamosa Properties, L.P,
Texas limited partnership

Date:_____

By: _____
Name: Charles B. Sherwood
Title: Director of Site Development

STATE OF NEW MEXICO)
: ss
COUNTY OF LOS ALAMOS)

The foregoing instrument was acknowledged before me this 5th day of March, 2002 by Mary M. McInerny, County Administrator for the Incorporated County of Los Alamos.

_____
NOTARY PUBLIC

My Commission Expires:

11-17-03

STATE OF Missouri)
: ss
COUNTY OF Jackson)

On this 28 day of March, 2002, before me, personally appeared _____ me known to be the identical person who executed in the name of the maker thereof to the within and foregoing instrument and acknowledged to me that he/she executed the same as his/her free and voluntary act and deed, in the capacity and for the uses and purposes set forth therein.

Given under my hand and seal the day and year first written above.

_____
NOTARY PUBLIC IN AND FOR
THE STATE OF Missouri

My Commission Expires:

June 30, 2002

STEPHANIE L. LYLE
Notary Public - Notary Seal
State of Missouri
Jackson County
My Commission Expires June 30, 2002

List of Exhibits:

Exhibit A - Land

Exhibit B - Tenant's Equipment

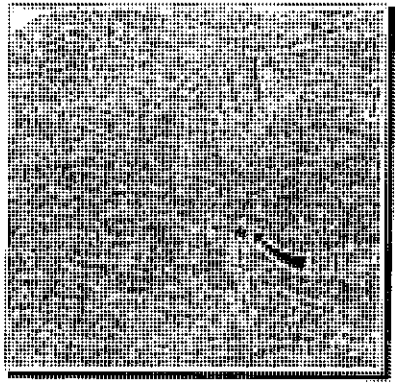
Exhibit C - Premises

Exhibit D - Non-exclusive Easement

Exhibit E – Other Communication Uses (This exhibit describes the communication uses existing at the Facility as of the Effective Date and other anticipated communications frequencies and uses with which Tenant's Equipment must not interfere.)

Exhibit A

ALAMOSA PCS
NORTH MESA WT
LOS ALAMOS, NEW MEXICO
SF-25/EP03AL504



VICINITY MAP
N.T.S.

RF Data

SITE ID	SF-25	CONTACT PERSON	KEITH WRIGHT (806) 463-7490
SITE NAME:	NORTH MESA		
CASCADE NO.	EP03AL504		
ADDRESS	NORTH MESA WATER TANK LOS ALAMOS, NEW MEXICO		
NAD 27 LAT:		NAD 27 LONG:	
NAD 83 LAT:	35.89664 N	NAD 83 LONG.	106.29508 W

MORPHOLOGY	SUBURBAN	STRUCTURE TYPE	WATER TOWER
ASML (FT)=		ASML (M)=	0.0
AGL (FT)=	170.0	AGL (M)=	51.8

	ALPHA	BETA	GAMMA	
ANTENNA CL	112'	112'	112'	
RS SEPARATION	6	6	6	
AZIMUTH TRUE NORTH	0	100	250	DECLINATION 11
COMPASS AZIMUTH (MAG)	11	111	261	
ANTENNA TYPE	EMS-RV60-18-020P	(EMS-RV33-20-000PL4)	EMS-RV33-20-000PL4)	
No. OF ANTENNAS	2	2	2	
HORIZONTAL BW				
VERTICAL BW				
GAIN (dBi)				

ESTIMATED FROM AVAILABLE INFORMATION
FIELD VERIFY COAX CABLE TYPE BEFORE CONSTRUCTION

TILT ANGLE			
ELECTRICAL	2	0	0
MECHANICAL	0	4	-1
No. OF CARRIERS	1	1	1

TRANSMISSION

MAIN CABLE	FLC158-50-001	FLC158-50-001	FLC158-50-001
LENGTH (FT)	132	132	132
CABLE LOSS (dB)	1.93	1.93	1.93
1/2" JUMPER	FLC12-50-001	FLC12-50-001	FLC12-50-001
LENGTH (FT)	6	6	6
CABLE LOSS (dB)	0.61	0.61	0.61
BOTTOM JUMPER	FLC12-50-001	FLC12-50-001	FLC12-50-001
LENGTH (FT)	8	8	8
CABLE LOSS (dB)	0.67	0.67	0.48
TOTAL LOSS (dB)	3.21	3.21	3.21

NOTES:

ALL ANTENNAS TO BE FURNISHED WITH DOWN TILT BRACKETS.
CONTRACTOR TO COORDINATE REQUIRED MECHANICAL DOWN TILT FOR EACH ANTENNA WITH RF ENGINEER
ANTENNA AND COAX O.F.C.I.

ANTENNA CENTERLINE HEIGHT IS IN REFERENCE TO ELEVATION 0.0'. ANTENNA HEIGHTS ARE SHOWN ON TOWER/MONOPOLE ELEVATION SHEET

ANTENNA AZIMUTHS (VERIFY IN FIELD)

SEE COAX CABLE CHART FOR CABLE DIAMETERS

CHECK WITH RF ENGINEER FOR THE LATEST ANTENNA TYPE AND AZIMUTH

CONTRACTOR SHALL VERIFY ANTENNA TYPE AND AZIMUTH WITH CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION

DATE ISSUED _____

ACCEPTED BY:
ALAMOSA
RF ENGINEERING _____

ALAMOSA
SITE DEVELOPMENT: _____

LEGAL DESCRIPTION

PROPERTY DESCRIPTION

TRACT G NORTH MESA NO 1, SHEET F.C.H.-4-5-6 LYING WITHIN SECTION 10 T19N, R6E, NMPM, LOS ALAMOS COUNTY, NEW MEXICO

LEASE AREA DESCRIPTION

ALL THAT PART OF TRACT G NORTH MESA NO 1, U.S. ATOMIC ENERGY COMMISSION SHEET F.C.H.-4-5-6 LYING WITHIN SECTION 10, T19N, R6E, NMPM, LOS ALAMOS COUNTY, NEW MEXICO WHICH PART MAY BE MORE PARTICULARLY DESCRIBED AS FOLLOWS
COMMENCING AT A POINT WHICH LIES S75°25'35"E, 442.38 FEET FROM THE NORTHWESTERLY CORNER OF SAID TRACT G,
THENCE N44°25'10"E, 37.39 FEET;
THENCE S35°01'19"E, 32.00 FEET;
THENCE S41°46'32"W, 12.00 FEET;
THENCE N62°10'28"W, 33.40 FEET TO THE POINT OF COMMENCEMENT, CONTAINING 0.014 ACRES, MORE OR LESS

GENERAL NOTES

1. THE GENERAL CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE: FURNISHING ALL MATERIALS, EQUIPMENT, LABOR, AND ANYTHING ELSE DEEMED NECESSARY TO COMPLETE INSTALLATIONS AS DESCRIBED HEREIN
2. PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTORS INVOLVED SHALL VISIT THE JOB SITE AND FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE PROPOSED PROJECT, WITH THE CONSTRUCTION AND CONTRACT DOCUMENTS, FIELD CONDITIONS AND CONFIRM THAT THE PROJECT MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY ERRORS, OMISSIONS, OR DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER.
3. THE GENERAL CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION PRIOR TO STARTING CONSTRUCTION ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
4. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
5. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO MANUFACTURER'S / VENDOR'S SPECIFICATIONS UNLESS OTHERWISE NOTED OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
6. ALL WORK PERFORMED ON PROJECT AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY BEARING ON THE PERFORMANCE OF THE WORK. ALL ELECTRICAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL, STATE JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS
7. GENERAL CONTRACTOR SHALL PROVIDE AT THE PROJECT SITE A FULL SET OF CONSTRUCTION DOCUMENTS UPDATED WITH THE LATEST REVISIONS AND ADDENDA OR CLARIFICATIONS FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT
8. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT IN FIELD. DETAILS INCLUDED HEREIN ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB CONDITIONS OR SITUATIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE SCOPE OF WORK.
9. CONTRACTOR SHALL PERFORM HIGH QUALITY PROFESSIONAL WORK. JOIN MATERIALS TO UNIFORM ACCURATE FITS SO THEY MEET WITH NEAT, STRAIGHT LINES, FREE OF SHEARS OR OVERLAPS AND ALL EXPOSED MATERIALS APPROPRIATELY LEVEL, PLUMB AND AT ACCURATE RIGHT ANGLES OR FLUSH WITH ADJOINING MATERIALS. WORK OF EACH TRADE SHALL MEET ALL NATIONAL STANDARDS PUBLISHED BY THAT TRADE
10. DRAWINGS, NOTES AND SPECIFICATIONS ARE COMPLIMENTARY. WHAT IS CALLED FOR BY ANY WILL BE BINDING AS IF CALLED FOR BY ALL. WORK SHOWN OR REFERRED TO ON ANY DRAWING SHALL BE PROVIDED AS THOUGH SHOWN ON ALL RELATED DRAWINGS
11. PROTECT ALL EXISTING EQUIPMENT, MATERIALS, AND FEATURES DURING CONSTRUCTION. CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY AT NO ADDITIONAL COST TO ALAMOSA PCS
12. CONTRACTOR SHALL SEE TO IT THAT GENERAL WORK AREA IS KEPT CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY
13. THE ARCHITECTS/ENGINEERS HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. CONTRACTORS BIDDING THE JOB ARE NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS. THE BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE ARCHITECT/ENGINEER OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL ASSUME THE LESSER OR EXTENSIVE WORK, UNLESS DIRECTED OTHERWISE.
14. CONTRACTOR MUST PERFORM WORK DURING OWNER'S PREFERRED HOURS

GENERAL NOTES

1. ADA COMPLIANCE. PCS FACILITY IS NOT STAFFED AND NOT NORMALLY OCCUPIED.

UTILITY INFORMATION

COORDINATE POWER SERVICE WITH LOS ALAMOS COUNTY UTILITIES PH. (505) 662-8130

COORDINATE TELEPHONE SERVICE WITH QWEST COMMUNICATIONS PH. (505) 245-6694.

PROJECT SUMMARY

- INSTALLATION OF BASE TRANSMISSION STATION (BTS) EQUIPMENT ON A RAISED STEEL PLATFORM
- INSTALLATION OF 3 ANTENNA ARRAYS (2 ANTENNAS IN EACH ARRAY MOUNTED ON EXISTING WATER TANK
- GPS INSTALLED ON & ABOVE EQUIPMENT CABINET.
- POWER FROM EXISTING SERVICES

PROJECT INFORMATION

SITE ADDRESS: 280 NORTH MESA ROAD
LOS ALAMOS, NM 87544

ZONING PROCESS: (1) SPECIAL USE PERMIT
(2) SITE PLAN
(3) VARIANCE FOR HEIGHT

AREA OF CONSTRUCTION (SQ FT): 624 SQ FT.

OCCUPANCY CLASSIFICATION: U (UNMANNED OUTDOOR TELECOMMUNICATIONS FACILITY)

PROJECT DIRECTORY

OWNER: LOS ALAMOS COUNTY
LOS ALAMOS, NEW MEXICO 87544

CONTACT: FRED BRUEGGEMAN
(505) 662 8080

APPLICANT: ALAMOSA PCS
TIMBERLANDS BUILDING
4000 W. TOMAHAWK CREEK PARKWAY
114th STREET, SUITE 210
LEAWOOD, KS 66206

CONTACT: BOB CECIL (913) 253-7644

AGENT: TELECOMM ACQUISITION GROUP
1918 LOGAN ST.
DENVER, CO 80203
(303) 832-6097

CONTACT: SUSAN CUNNINGHAM (720) 985-8424

ENGINEER: TOWNER ENGINEERING SERVICES, INC.
8205 SPAIN NE, SUITE 205
ALBUQUERQUE, NEW MEXICO 87109
(505) 828-1930

CONTACT: JOE TOWNER, P.E. (505) 620-9183

DRAWINGS

No.	DATE	REVISIONS	BY	CHKR APVNS
5	9/27/01	ADDED LANDSCAPING PLAN	BC	BC
4	9/7/01	ADDED LANDSCAPE & FENCE NOTE	JT	JT
3	8/27/01	REISSUED FOR COISTRUCTION	JG	JT
2	5/1/01	INCORPORATED L.A. CO. COMMENTS	JG	JT
1	4/26/01	ISSUED FOR CON[illegible]	JG	JT
0	10/1/01	REVISED ANTENNAS, [illegible]	JG	BC

ENGINEERS SEAL

JOE TOWNER NEW MEXICO 10592 REGISTERED PROFESSIONAL ENGINEER 10-15-01

TES
TOWNER ENGINEERING SERVICES, INC.
8205 SPAIN N.E. SUITE [illegible]
ALBUQUERQUE, NM 8[illegible]
PHONE: (505) 828-[illegible]
FAX: (505) 828-1[illegible]

ALAMOSA
PERSONAL COMMUNICATIONS SERVICE

SITE INFORMATION

NORTH MESA WATER TANK
280 N MESA ROAD
LOS ALAMOS, NEW MEXICO 87544
SF-25/EP03AL504

DESIGN TYPE

OUTDOOR EQUIPMENT
& EXISTING WATER TANK
MOUNTED ANTENNAS

SHEET TITLE

TITLE SHEET

SHEET NUMBER: T-1 /REV: 6

Attachment B

Exhibit B

Sprint

Sprint PCS

5601 Office Boulevard N.E., Suite 500
Albuquerque, NM 87109
Voice 505 938 5800
Fax 505 938 5801

March 1, 2002

To whom it may concern;

The following is a list of specifications of the proposed Nortel Metrocell installation for North Mesa Water Tank in Los Alamos, New Mexico.

Operating Frequencies:	Tx:	1946.25 MHz
	Rx:	1866.25 MHz
FCC Call Sign:	KNLH 599	

Metrocell Physical Specifications:

Dimensions:	114" W x 72" H x 30" D
Digital Enclosure:	42" W x 72" H x 30" D
Radio Enclosure:	42" W x 72" H x 30" D
Battery Enclosure:	30" W x 72" H x 30" D
Weight:	As configured: approx 4800 lbs.
Power:	240/120 Vac, single phase, 60Hz, 200A service

Power and Phone Cabinet (PPC) Physical Specifications:

Dimensions:	48" W x 48" H x 12" D
Weight:	approx 150 lbs.

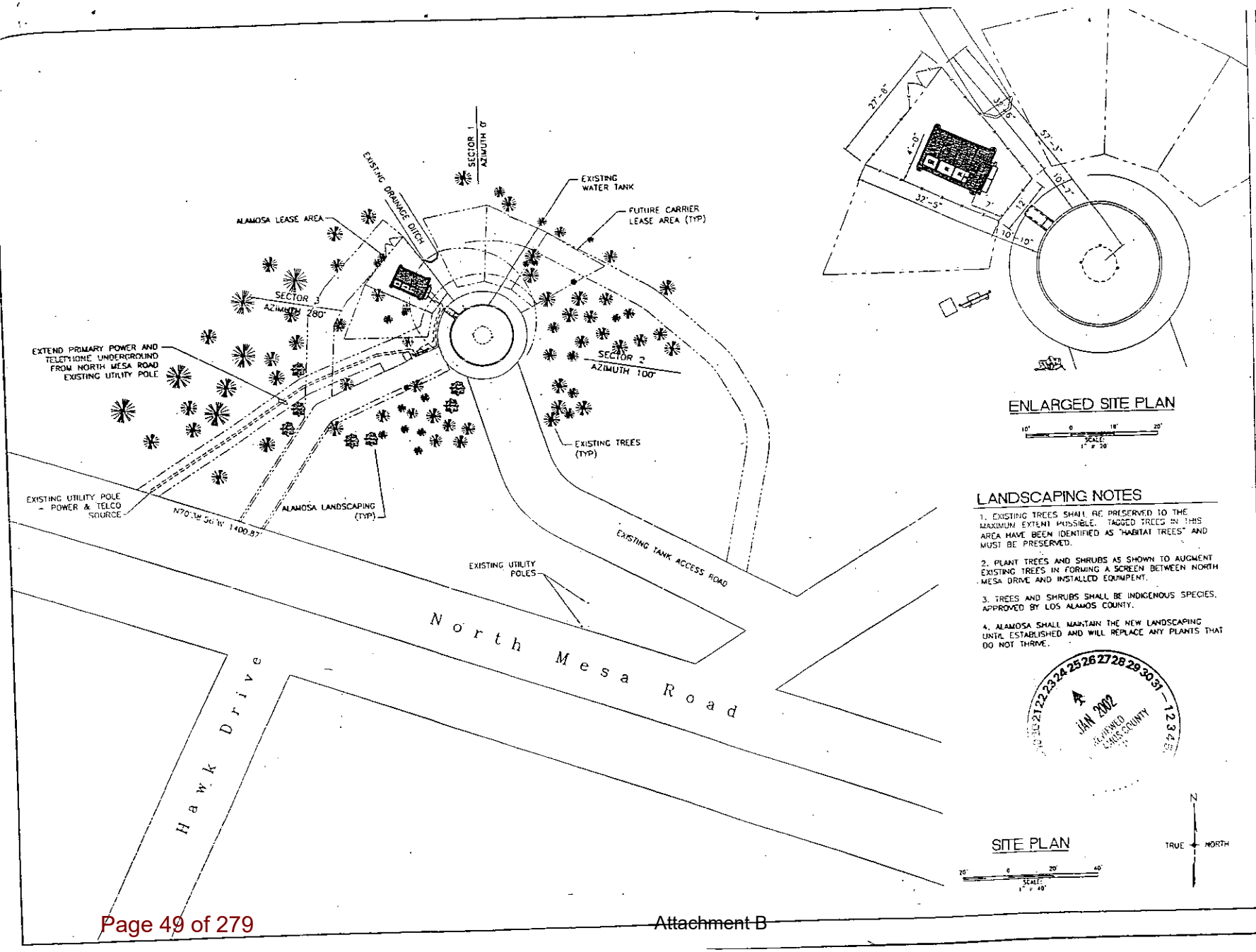
Antennas:

Model Numbers:	2 each EMS RV90-18-02DP
Dimensions:	8" W x 72" H x 2.75" D each
Weight	23 lbs each
Model Numbers	4 each EMS RV33-20-00DPL4
Dimensions:	12" W x 60" H x 7" D each
Weight	27 lbs each

Coaxial Cable:

CommScope CellReach	7/8" diameter.
	132 ft per run x 6 runs

Ben Thurmond
RF Engineer
Alamosa PCS



ENLARGED SITE PLAN

SCALE: 1" = 20'

LANDSCAPING NOTES

1. EXISTING TREES SHALL BE PRESERVED TO THE MAXIMUM EXTENT POSSIBLE. TAGGED TREES IN THIS AREA HAVE BEEN IDENTIFIED AS "HABITAT TREES" AND MUST BE PRESERVED.
2. PLANT TREES AND SHRUBS AS SHOWN TO AUGMENT EXISTING TREES IN FORMING A SCREEN BETWEEN NORTH MESA DRIVE AND INSTALLED EQUIPMENT.
3. TREES AND SHRUBS SHALL BE INDIGENOUS SPECIES, APPROVED BY LOS ALAMOS COUNTY.
4. ALAMOSA SHALL MAINTAIN THE NEW LANDSCAPING UNTIL ESTABLISHED AND WILL REPLACE ANY PLANTS THAT DO NOT THRIVE.

SITE PLAN

SCALE: 1" = 40'

TRUE NORTH

Exhibit C

No.	DATE	REVISIONS	BY	CHKD
1	9/7/01	ADDED LANDSCAPE & FENCE NOTES	JG	JT
2	9/27/01	REISSUED FOR CONSTRUCTION	JG	JT
3	8/1/01	INCORPORATED L.A. CO. COMMENTS	JG	JT
4	8/31/01	REISSUED FOR CONSTRUCTION	JG	JT
5	08/1/01	FOR REVIEW	JG	JT

ENGINEERS SEAL

JOE TOWNER NEW MEXICO 10582 REGISTERED PROFESSIONAL ENGINEER 9-7-01

TES
TOWNER ENGINEERING SERVICES, INC.
8205 SPAIN N.E. SUITE #205
ALBUQUERQUE, NM 87109
PHONE: (505) 828-1930
FAX: (505) 828-1967

ALAMOSA PERSONAL COMMUNICATIONS SERVICE

SITE INFORMATION

NORTH MESA WATER TANK
280 N MESA ROAD
LOS ALAMOS, NEW MEXICO 87455

SF-25/EP03AL504

DESIGN TYPE

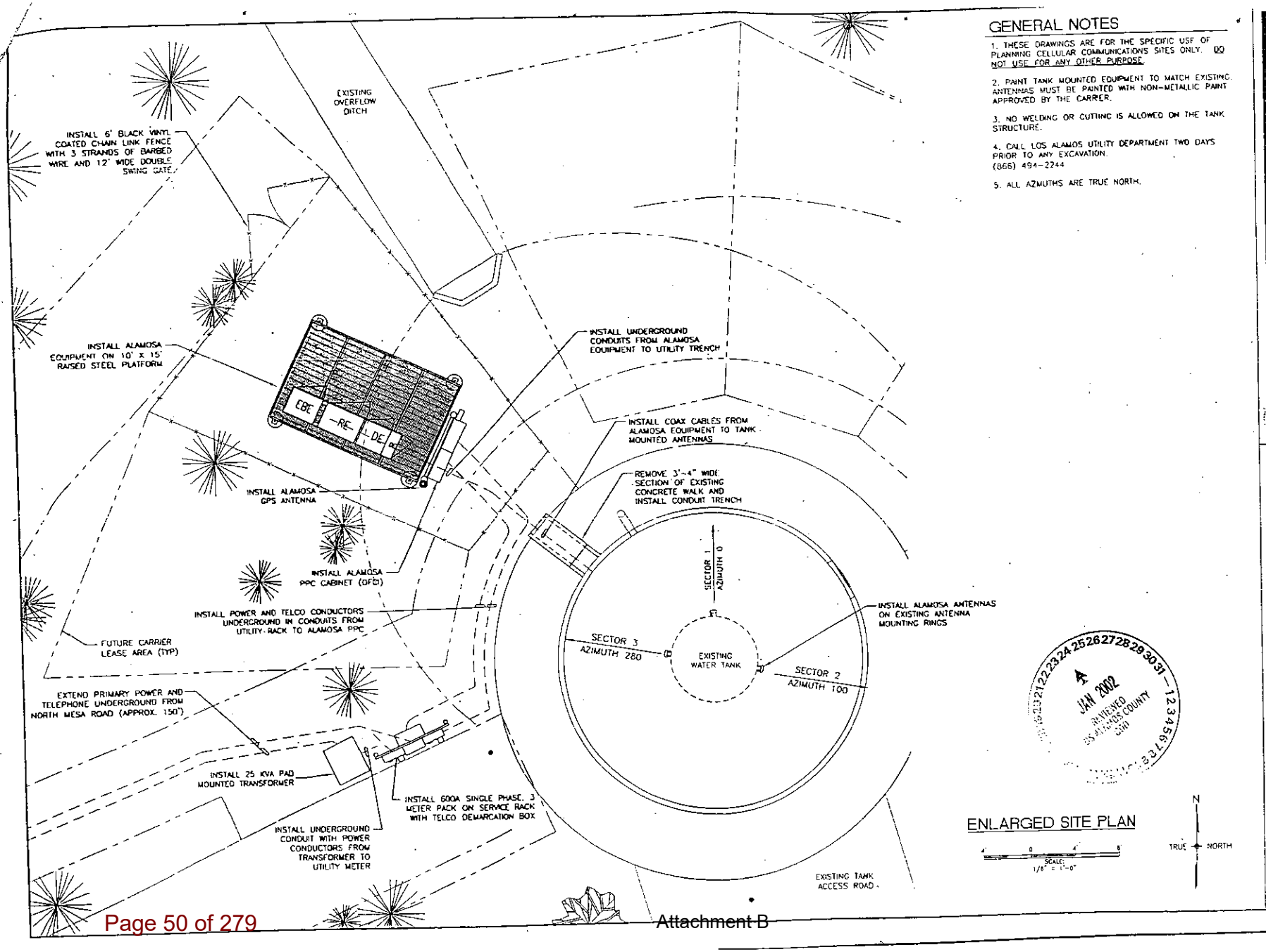
OUTDOOR EQUIPMENT & EXISTING WATER TANK MOUNTED ANTENNAS

SHEET TITLE

SITE PLAN

SHEET NUMBER

G-1



GENERAL NOTES

1. THESE DRAWINGS ARE FOR THE SPECIFIC USE OF PLANNING CELLULAR COMMUNICATIONS SITES ONLY. DO NOT USE FOR ANY OTHER PURPOSE.
2. PAINT TANK MOUNTED EQUIPMENT TO MATCH EXISTING. ANTENNAS MUST BE PAINTED WITH NON-METALLIC PAINT APPROVED BY THE CARRIER.
3. NO WELDING OR CUTTING IS ALLOWED ON THE TANK STRUCTURE.
4. CALL LOS ALAMOS UTILITY DEPARTMENT TWO DAYS PRIOR TO ANY EXCAVATION. (866) 494-2244
5. ALL AZIMUTHS ARE TRUE NORTH.

ENLARGED SITE PLAN

No.	DATE	REVISIONS	BY	CHKD	APVLS
2	9/1/01	ADDED LANDSCAPE & FENCE NOTES	JG	JT	BC
1	8/27/01	REISSUED FOR CONSTRUCTION	JG	JT	BC
1	8/1/01	INCORPORATED L.A. CO. COMMENTS	JG	JT	BC
1	6/29/01	FOR CONSTRUCTION	JG	JT	BC
0	06/13/01	FOR REVIEW	JG	JT	BC

ENGINEER'S SEAL

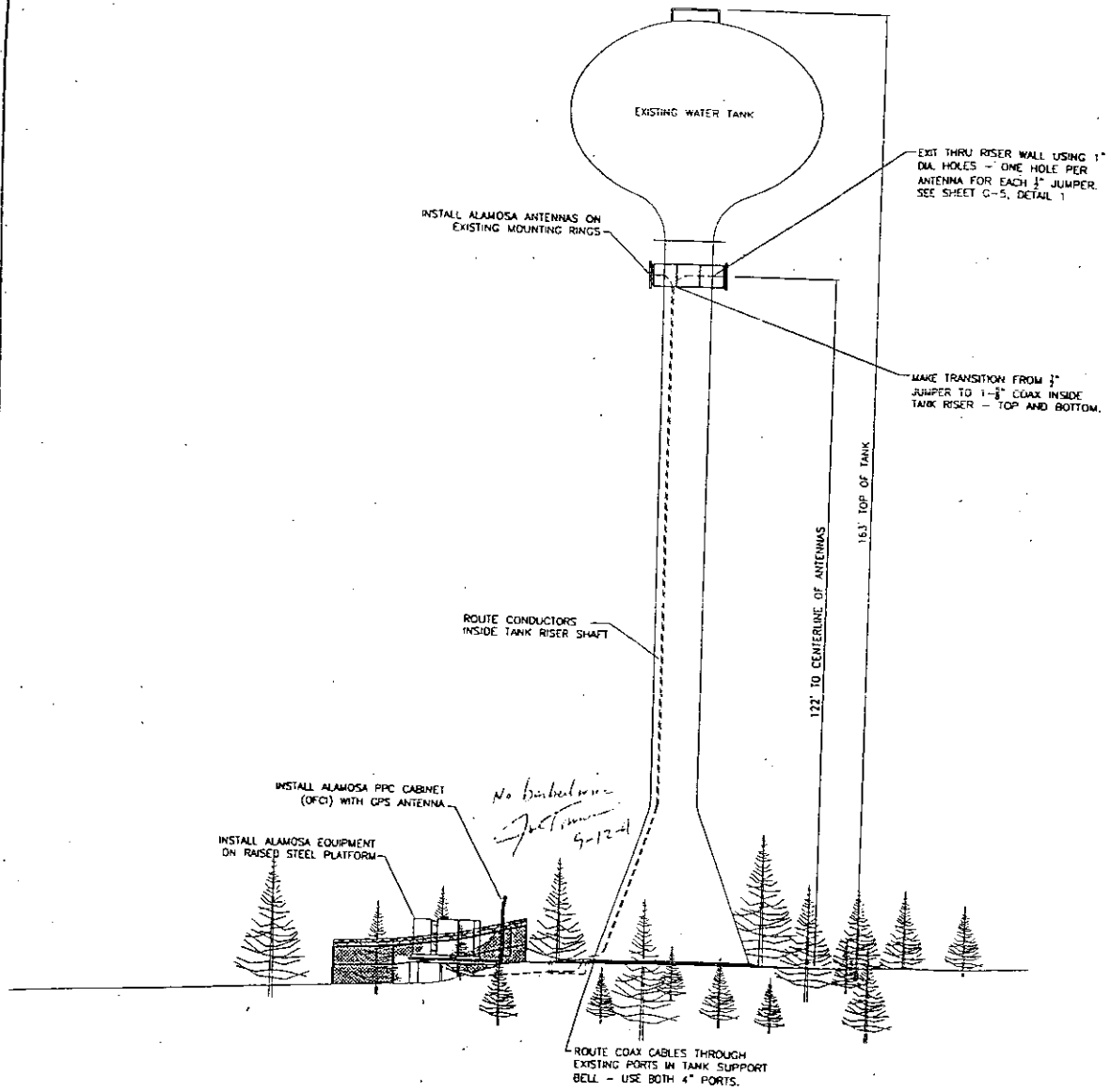
JOE TOWNER NEW MEXICO 10552 REGISTERED PROFESSIONAL ENGINEER 4-7-01

TES
TOWNER ENGINEERING SERVICES, INC.
8205 SPAIN N.E. SUITE #205
ALBUQUERQUE, NM 87109
PHONE: (505) 828-1930
FAX: (505) 828-1957

ALAMOSA PERSONAL COMMUNICATIONS SERVICE

JAN 2002 REVIEWED BY LOS ALAMOS COUNTY CDD

SITE INFORMATION
NORTH MESA WATER TANK 280 N MESA ROAD LOS ALAMOS, NEW MEXICO 87544
SE-25/EP03AL504
DESIGN TYPE
OUTDOOR EQUIPMENT & EXISTING WATER TANK MOUNTED ANTENNAS
SHEET TITLE
ENLARGED SITE PLAN
SHEET NUMBER: G-2



SOUTHWEST ELEVATION

SCALE: 1" = 20'

6	10/9/01	ISSUED FOR REVIEW	JG JT BC
5	8/1/01	INCORPORATED COMMENTS	JG JT BC
4	6/25/01	ISSUED FOR CONSTRUCTION	JG JT BC
3	8/27/01	REISSUED FOR CONSTRUCTION	JG JT BC
2	5/7/01	ADDED LANDSCAPE & FENCE NOTE	JG JT BC

ENGINEERS SEAL

JOE TOWNER NEW MEXICO 13602 REGISTERED PROFESSIONAL ENGINEER 6-7-01

TES
TOWNER ENGINEERING SERVICES, INC.
8205 SPAIN N.E. SUITE #205
ALBUQUERQUE, NM 87109
PHONE: (505) 828-[illegible]0
FAX: (505) 828-[illegible]

ALAMOSA PERSONAL COMMUNICATIONS SERVICE

SITE INFORMATION

NORTH MESA WATER TANK
280 N MESA ROAD
LOS ALAMOS, NEW MEXICO 87455

SF-25/EP03AL504

DESIGN TYPE

OUTDOOR EQUIPMENT & EXISTING WATER TANK MOUNTED ANTENNAS

SHEET TITLE

ELEVATION

SHEET NUMBER	REV.
G-3	4

A JAN 2002 REVIEWED LOS ALAMOS COUNTY CDD

FENCING PER ASTM F-567, SWING GATES PER ASTM F- 900)

POST 4", CORNER, END OR PULL POST 3" NOMINAL (2.875" O.D.) SCHEDULE 40 PIPE 5.79 LBS/LIN FOOT FOR GATE WIDTHS UP THRU ... FT OR 12 FEET FOR DOUBLE SWING GATE PER ASTM-F1083

POST: 2 1/2" (2.375" OD) SCHEDULE 40 PIPE, 3.65 LBS/LIN FOOT PER ASTM-F1083.

GATE FRAME: 1 1/2" (1.875" OD) PIPE, 2.72 LBS/LIN FOOT PER ASTM-F1083.

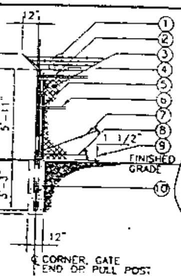
TOP RAIL & BRACE RAIL: 1 1/2" (1.875" OD) PIPE, 2.72 LBS/LIN FOOT PER ASTM-F1083.

FABRIC: 9 GA CORE WIRE SIZE 2" MESH, BLACK VINYL COATED, CONFORMING TO ASTM-A392.

6. TIE WIRE: MINIMUM 11 GA GALVANIZED STEEL AT POSTS AND RAILS A SINGLE WRAP OF FABRIC TIE AND AT TENSION WIRE BY HOG RINGS SPACED MAX. 24" INTERVALS.
7. TENSION WIRE: 7 GA. GALVANIZED STEEL.
8. BARBED WIRE: DOUBLE STRAND 12-1/2" O.D. TWISTED WIRE TO MATCH WITH FABRIC 14 GA, 4 PT. BARBS SPACED ON APPROXIMATELY 5" CENTERS.
9. GATE LATCH: 1 3/8" O.D. PLUNGER ROD W/ MUSHROOM TYPE CATCH AND LOCK, KEYED ALIKE FOR ALL SITES IN A GIVEN MTA.
10. LOCAL ORDINANCE OF BARBED WIRE PERMIT REQUIREMENT SHALL BE COMPLIED IF REQUIRED.
11. HEIGHT = 6' VERTICAL + 1' BARBED WIRE VERTICAL DIMENSION.

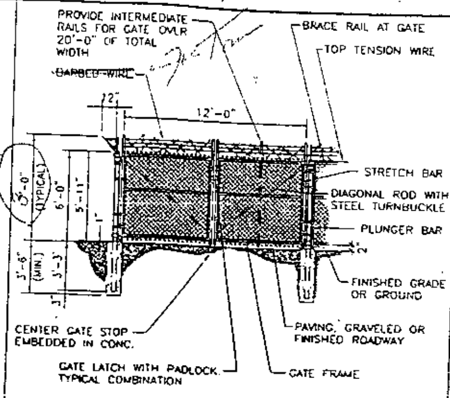
TYPICAL WOVEN WIRE FENCE NOTES N.T.S. 1

(1) ~~BARBED WIRE~~
(2) TOP BRACE RAIL
(3) FENCE FABRIC
(4) GATE POSTS, CORNER, END OR PULL POSTS
(5) STRETCHER BAR POST BRACE: ø1 5/8".
(6) EA CORNER EA. WAY. (WHERE REQUIRED)
(7) DIAGONAL ROD WITH STEEL TURNBUCKLE
(8) BOTTOM TENSION WIRE
(9) 1 1/2" MAX. CLEARANCE FROM GRADE
(10) 12"ø (2000 PSI) CONC. FOOTING TYPICAL

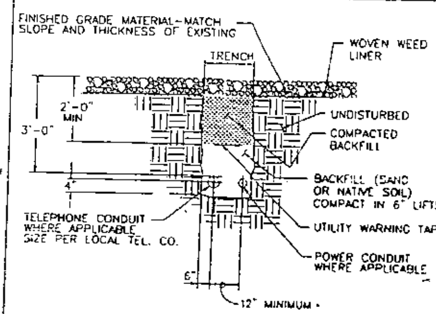


NOTE:
1. POST & FENCE PIPE SIZES ARE FENCE INDUSTRY STANDARDS. ALL PIPE TO BE GALV. (HOT-DIP, ASTM A120 GRADE "A" STEEL). CROSS BRACE ALL POSTS EXCEPT INTERMEDIATES.

CHAIN LINK FENCE DETAIL N.T.S. 2

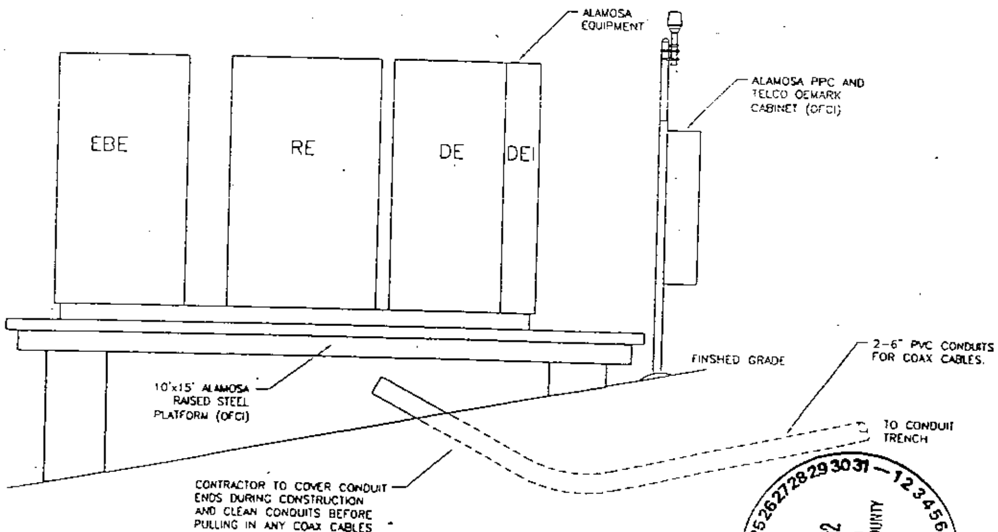


CHAIN LINK SWING GATE DETAIL N.T.S. 3



• SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS

TYPICAL UTILITY TRENCH DETAIL N.T.S. 4

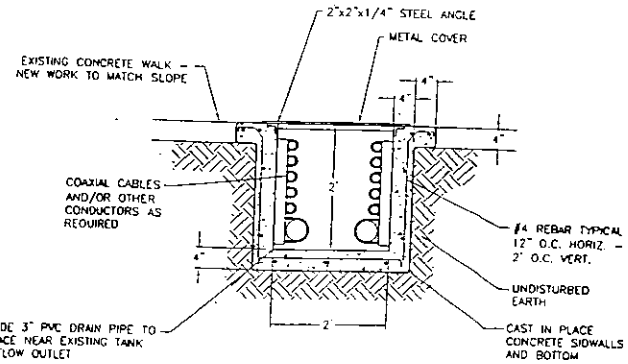


JAN 2002

CONDUIT DETAIL N.T.S. 5

GRAVEL BASE WITHIN LEASE AREA NOTES:

- PROVIDE FILL MATERIAL OR CUT SUBGRADE TO 6" BELOW PROPOSED GRADE IN LEASE AREA.
- COMPACT SUBGRADE TO 95 % MAXIMUM DENSITY PER ASTM D 1557 IN 6" LIFTS MAXIMUM
- REPLACE/COMPACT WITH 4" OF GRAVEL, TOPPED WITH 2" OF CRUSHED 3/4" LIMESTONE (NO FINES).

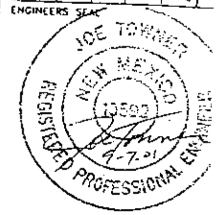


NOTE:
PROVIDE 3" PVC DRAIN PIPE TO SURFACE NEAR EXISTING TANK OVERFLOW OUTLET

CONDUIT TRENCH DETAIL N.T.S. 6

4	9/7/01	ADDED LANDSCAPE & FENCE NOTE	JG	JT	BC
3	8/27/01	REISSUED FOR CONSTRUCTION	JG	JT	BC
2	8/1/01	INCORPORATED ... COMMENTS	JG	JT	BC
1	6/29/01	ISSUED FOR ...N	JG	JT	BC

ENGINEERS SEAL



TES
TOWNER ENGINEERING SERVICES, I...
8205 SPAIN N.E. SUITE #20...
ALBUQUERQUE, NM 87109
PHONE: (505) 828-...
FAX: (505) 828-...

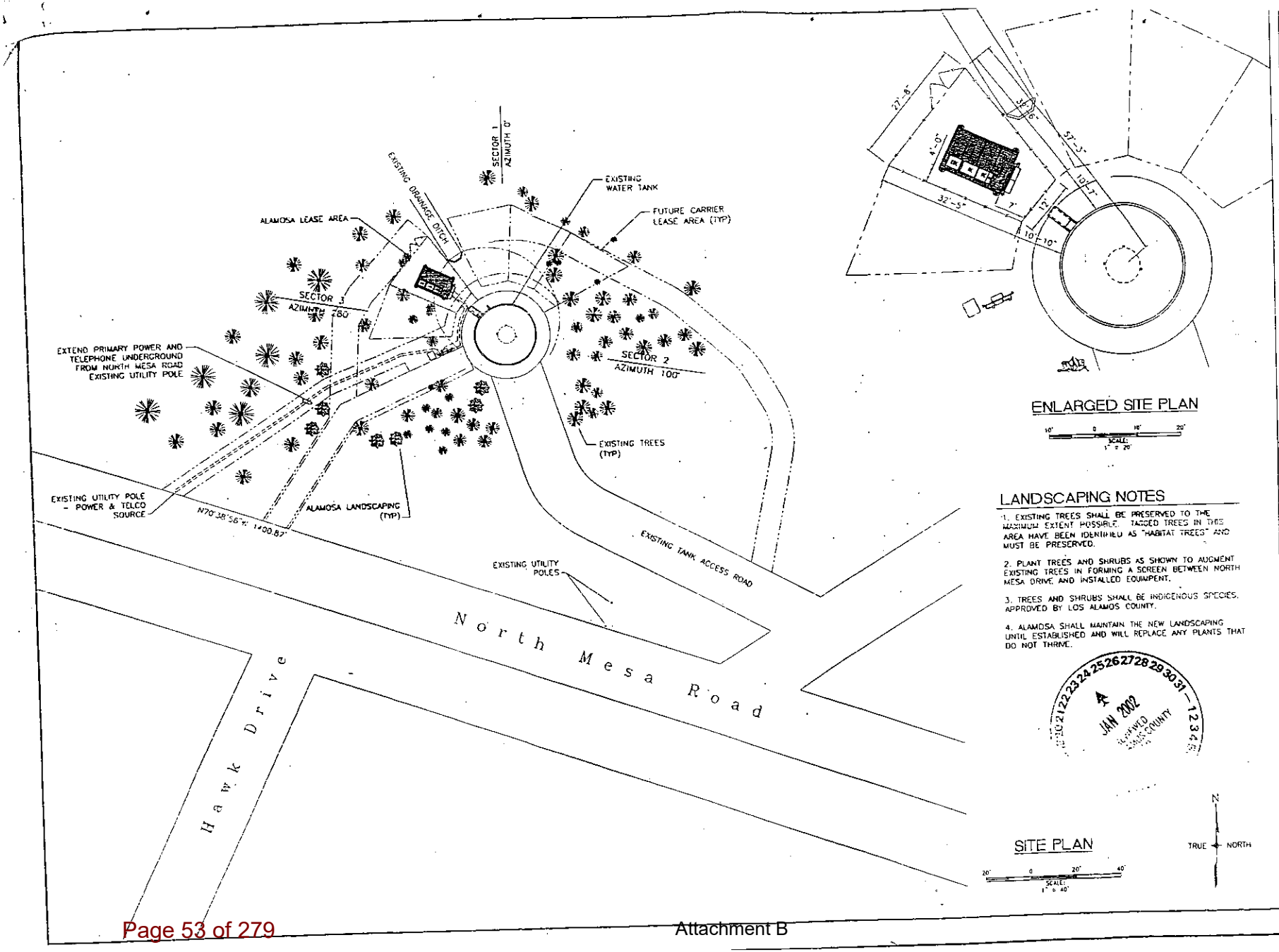
ALAMOSA PERSONAL COMMUNICATIONS S...

SITE INFORMATION
NORTH MESA WATER TANK
280 N MESA ROAD
LOS ALAMOS, NEW MEXICO 874...
SF-25/EP03AL504

DESIGN TYPE
OUTDOOR EQUIPMENT & EXISTING WATER TAN... MOUNTED ANTENNAS

SHEET TITLE
STRUCTURAL DETAILS

SHEET NUMBER
G-4



LANDSCAPING NOTES

1. EXISTING TREES SHALL BE PRESERVED TO THE MAXIMUM EXTENT POSSIBLE. TAGGED TREES IN THIS AREA HAVE BEEN IDENTIFIED AS "HABITAT TREES" AND MUST BE PRESERVED.
2. PLANT TREES AND SHRUBS AS SHOWN TO AUGMENT EXISTING TREES IN FORMING A SCREEN BETWEEN NORTH MESA DRIVE AND INSTALLED EQUIPMENT.
3. TREES AND SHRUBS SHALL BE INDIGENOUS SPECIES, APPROVED BY LOS ALAMOS COUNTY.
4. ALAMOSA SHALL MAINTAIN THE NEW LANDSCAPING UNTIL ESTABLISHED AND WILL REPLACE ANY PLANTS THAT DO NOT THRIVE.

JAN 2002

Exhibit D

No.	DATE	REVISIONS	BY	CHKD
0	10/	FOR CONSTRUCTION	JG	BC
1	11/	90% REVIEW	JG	BC
2	6/1/01	INCORPORATED L.A. CO. COMMENTS	JG	BC
3	8/22/01	REISSUED FOR CONSTRUCTION	JG	BC
4	9/7/01	ADDED LANDSCAPE & FENCE NOTES	JG	BC

ENGINEERS SEAL

JOE TOWNER NEW MEXICO 10592 REGISTERED PROFESSIONAL ENGINEER 9-7-01

TES
TOWNER ENGINEERING SERVICES, INC.
8205 SPAIN N.E. SUITE #205
ALBUQUERQUE, NM 87109
PHONE: (505) 828-1930
FAX: (505) 828-1967

ALAMOSA PERSONAL COMMUNICATIONS SERVICE

SITE INFORMATION

NORTH MESA WATER TANK
280 N MESA ROAD
LOS ALAMOS, NEW MEXICO 87455

SF-25/EP03AL504

DESIGN TYPE

OUTDOOR EQUIPMENT & EXISTING WATER TANK MOUNTED ANTENNAS

SHEET TITLE

SITE PLAN

SHEET NUMBER

G-1

EXHIBIT E – OTHER COMMUNICATION USES

1. Los Alamos County will be attaching County communications equipment to the tower in addition to the carrier equipment. The equipment location and heights will be determined by Los Alamos County.

L

STEVEN A. PORTNOY
ATTORNEY AND COUNSELOR AT LAW
14800 QUORUM DRIVE - SUITE 200
DALLAS, TEXAS 75240

(972) 308-8510 FAX (972) 308-8515

FACSIMILE COVER LETTER

IMPORTANT/CONFIDENTIAL: This message is intended only for the use of the individual or entity to which it is addressed. This message contains information from the law firm of Steven A. Portnoy which may be privileged, confidential and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately at our telephone number (972) 308-8510. We will be happy to arrange for the return of this message to us via the United States Postal Service at no cost to you.

DATE: 11/9/01

TOTAL NUMBER OF PAGES INCLUDING THIS COVER PAGE: 1

TO: Susan Cunningham

FAX NO. 720-294-1423

North Mesa water Tank
RE: SF 25. Lease for Antenna collocation and Facilities Site

MESSAGE: Above Lease is loyally acceptable for execution by Alamosa Properties, L.P., a Texas limited partnership. Please fill in Citicorp USA, Inc. info/address on page 12 of Lease.

Steve Portnoy

FIRST AMENDMENT TO
LEASE FOR ANTENNA COLLOCATION AND FACILITIES SITE

This First Amendment to Lease for Antenna Collocation and Facilities Site (this "**First Amendment**") is entered into as of the date last signed below (the "**Effective Date**") is by and between the **Incorporated County of Los Alamos**, an incorporated county of the State of New Mexico (the "**Landlord**"), and **Sprint Spectrum Realty Company, LLC** (formerly a limited partnership), a Delaware limited liability company, successor in interest to **Alamosa Properties, L.P.**, a Texas limited partnership ("**Tenant**").

BACKGROUND

WHEREAS, the Landlord, in its proprietary capacity as an incorporated county of the State of New Mexico, owns or controls that certain real property commonly known as 280 North Mesa Road, Los Alamos, New Mexico 87544 (the "**Property**"); and

WHEREAS, the Property's primary use is for the installation and operations of a water tank known as the North Mesa Water Tank ("**Facility**"); and

WHEREAS, Landlord and Tenant entered into that certain Lease for Antenna Collocation and Facilities Site dated March 5, 2002 (the "**Lease**") pursuant to which Tenant has the right to install, operate, and maintain its wireless communication equipment at the Facility; and

WHEREAS, the final 5-year term of the Lease expires on March 1, 2032, and remains unmodified by this First Amendment; and

WHEREAS, Landlord and Tenant desire to amend the Lease to allow for additional equipment to be installed at the Facility on the terms and conditions in this First Amendment.

NOW, THEREFORE, for good, valuable, and sufficient consideration received and acknowledged by the parties, Landlord and Tenant agree as follows:

AGREEMENT

1. PERMITTED USE; PREMISES; RECITALS AND DEFINED TERMS

1.1. Permitted Use and Premises

Only the following titled and unnumbered subsections of Section 1.1 of the Lease are hereby deleted in its entirety and replaced by the following:

"**Permitted Use**. Tenant may use the Premises to construct, install, operate, maintain, remove and repair antennas, radios and any associated utility or equipment boxes, battery backup, back-up natural gas generator, transmitters, receivers, amplifiers, and ancillary equipment used for radio or other wireless communication (voice, data or otherwise) transmission and/or reception, which includes without limitation the means, devices and apparatus used to attach or mount equipment to the Facility, and any ancillary equipment such as wiring, cabling, conduits, pipes, fiber, power feeds or similar appurtenances, any ground based equipment or power pedestals required for the operation of equipment, all in the locations and configurations more particularly described in **Exhibit B-1** attached hereto and incorporated herein ("**Tenant's Equipment**") to transmit and receive wireless communications signals operated in compliance with all applicable laws (the "**Permitted Use**") but for no other purpose

whatsoever. Tenant does not have a right to modify or install any equipment that is not listed in Exhibit A-1 without the prior written approval of Council of Incorporated County of Los Alamos created by the Los Alamos County Charter ("**County Council**"), which approval may be withheld for any or no reason in the County Council's sole discretion. Notwithstanding the foregoing, without City Council consent, Tenant may perform maintenance, repairs, like-kind or similar replacements of Equipment (so long as such replacements do not increase the loading on the Facility) and may make modifications within the interior of any shelters or within the ground space. All Tenant's Equipment attached or mounted to the Facility will be painted to match the Facility.

Premises.

(a) Subject to the terms and conditions in this Lease, Landlord in its proprietary capacity as the Property owner, leases to Tenant vertical and horizonal space on the Facility at 122-feet above-ground-level for the attachment of seven antennas, each not exceeding eight (8) feet in length ("**Antenna Space**") and exactly 624 square feet of ground space on the Property ("**Ground Space**"), both as depicted in **Exhibit C-1** attached hereto and incorporated herein (Ground Space and Antenna Space collectively as the "**Premises**") for the Permitted Use only and for no other purpose whatsoever without County Council's prior written consent, which may be withheld for any or no reason in the County Council's sole and absolute discretion.

(b) Except as may be specifically and explicitly provided otherwise in this Lease, Landlord makes no warranties or representations whatsoever about the fitness or suitability of the Facility, Property, Premises or Easement (as defined in Section 9.3 of the Lease) for Tenant's Permitted Use."

1.2. Recitals and Defined Terms.

(a) The Parties acknowledge the accuracy of the foregoing recitals in this First Amendment.

(b) Any capitalized terms not defined in this First Amendment shall have the meanings ascribed to them in the Lease.

2. RENTAL AND ANNUAL ESCALATOR

2.1 Rental. Notwithstanding anything contained in the Lease to the contrary, commencing on the first day of the first month following the full execution of this First Amendment, Tenant shall pay monthly rent to Landlord in the amount of ONE THOUSAND NINE HUNDRED FIFTY-ONE and 13/100 DOLLARS ($1,951.13) (the "**Rental**") on or before the first calendar day of each month, in advance, without any prior demand, setoff, deduction or counterclaim for any reason. The initial Rental payment shall be due within forty-five (45) days from the full execution of this First Amendment.

2.2 Annual Escalator. Section 2.2 of the Lease is hereby amended by deleting and replacing the last sentence of the provision as follows:

"Each Renewal Term shall be on the same terms and conditions set forth in this Lease, except that upon the first anniversary of the Effective Date and upon each subsequent anniversary of the Effective Date during the Primary Term and during any Renewal Terms, any rental payments for each year commencing on the March 5, 2023, and on each anniversary of March 5 thereafter, shall be automatically increased by the greater of: (i) three percent (3%) or (ii)

the increase in percentage in annual the Consumer Price Index for All Urban Consumers (CPI-U) published by the United States Bureau of Labor in the immediately preceding October annual CPI-U report."

3. **PROPRIETARY CAPACITY ACKNOWLEDGEMENT.** Landlord and Tenant expressly acknowledge and agree that Landlord enters this First Amendment solely in its proprietary capacity as the owner of the Property and not in its capacity as a regulatory agency. Tenant acknowledges and agrees that any federal or state laws applicable to Landlord in its regulatory capacity will not be applicable to Landlord in its proprietary capacity and Tenant will not seek to have such laws applied to Landlord or any approval, disapproval, act or failure to act in connection with this First Amendment.

4. **ADMINISTRATIVE FEE.** Within sixty (60) days after the parties fully execute this Amendment, Tenant shall pay to Landlord a nonrefundable one-time administrative fee equal to FIFTEEN THOUSAND and 00/100 DOLLARS ($15,000.00) (the "**Administrative Fee**") to cover Landlord's costs to review and execute this Amendment. The Administrative Fee shall not be any offset to any Rental owed under this First Amendment and is fully earned, non-refundable by Landlord upon the full execution of this First Amendment.

5. **EARLY TERMINATION FEE.** If Tenant elects to terminate the Lease, as amended, pursuant to Section 4.2.1. of the Lease, Tenant shall include with its termination notice a lump sum payable to Landlord equal to the then-current Rental multiplied by either twelve (12) or the number of months remaining in the then-current five (5) year term, whichever is less (the "**Early Termination Fee**").

6. **REMOVAL AND RESTORATION**

Section 4.5 of the Lease is hereby deleted in its entirety and replaced by the following:

"**4.5**
(a) Tenant's right to possess and use the Premises shall automatically terminate upon the earlier of the natural expiration or the termination of this Lease. Upon the natural expiration or the termination of this Lease, Tenant, in its sole cost and expense, shall: (i) cause the immediate cessation of all its radio transmissions from the Premises; (ii) remove all Tenant's Equipment, footings, foundations, utilities, wiring, conduits and all other personal property installed by Tenant or for the benefit of Tenant; (iii) repair any damage to the Premises caused by such removal and return the Premises to the condition which existed on the Effective Date, reasonable wear and tear and damage beyond the control or without the fault or neglect of Tenant excepted; and (iv) if Tenant previously recorded a memorandum of agreement for this Lease, record and deliver a quitclaim deed or other legally-sufficient document satisfactory to Landlord to terminate Tenant's rights in the Property in favor of Landlord.

(b) Tenant shall be deemed to occupy the Premises as a tenant-at-will until and unless Tenant complies with all requirements in Section 4.5(a)."

7. **BACK-UP GENERATOR**

(a) Tenant shall replace any landscape features damaged or displaced by the construction, installation, operation, and maintenance of the back-up propane generator ("**Generator**") and any other work performed by the Tenant or at the Tenant's direction. If any trees are damaged or displaced, the Tenant shall hire and pay for a licensed arborist to select and plant

replacement landscaping in an appropriate location for the species. Any replacement tree must be substantially the same size as the damaged tree. Upon completion of installation of such landscaping or trees, Landlord shall be solely responsible for the maintenance and care thereof and shall be solely responsible for any repair necessitated by any damage or destruction that occurs thereto through no fault of Tenant.

(b) If Tenant is required by the jurisdiction to submit an acoustic analysis to obtain entitlements for the Generator, such acoustic analysis will be prepared and certified by an engineer licensed by the State of New Mexico and will demonstrate compliance with the jurisdiction's noise regulations pursuant to Los Alamos County Code ("**LACC**") Sections 18-71 through 18-79. The acoustic analysis must also include an analysis of the manufacturers' specifications for all noise-emitting equipment and a depiction of the proposed equipment relative to all adjacent property lines. Tenant agrees to provide Landlord with a copy of said acoustic analysis prior to the installation of the Generator. If the jurisdiction does not require an acoustic analysis, Tenant will submit to Landlord documentation from the equipment manufacturer(s) that the ambient noise emitted from the Generator will not exceed the applicable noise limits of LACC Sections 18-71 through 18-79.

(c) Tenant agrees that the Generator will only run during emergency power outages or routine maintenance.

(d) Tenant's and its employees', invitees', agents' or independent contractors' use of the Premises shall be in compliance with all federal, State and local laws, rules and ordinances, including environmental laws, applicable to Tenant's installation, operation, use and removal of the Generator on the Property. Tenant shall indemnify, defend, and hold harmless the Landlord for any damages, losses, liabilities, claims, or costs and expenses (including reasonable attorney's fees) arising from Tenant's and its employees', invitees', agents' or independent contractors' operation and use of the Generator.

8. MODIFICATION TO TENANT'S EQUIPMENT OR PREMISES

Section 7.1 of the Lease is hereby deleted in its entirety and replaced by the following:

"**7.1**
(a) Except for like-kind modifications of Equipment described under Section 1.1 "Permitted Uses" and modifications to Tenant's ground Equipment, Tenant may not commence any construction or installation activities on the Property without County Council's prior written approval in the form of a fully executed amendment signed by both parties to this Lease with revised and approved engineering plans, if applicable, that show all Tenant's Equipment and other improvements to be built, modified, or altered.

(b) Tenant shall submit to Landlord its written request for approval together with: (i) complete engineering plans that depict all existing and proposed Tenant's Equipment above-ground and below-ground, all specifications of existing and proposed Tenant's Equipment; and all existing and proposed penetrations on or to the Facility; and (ii) a structural analysis report assessing the structural load of the proposed improvements, prepared and signed by a structural engineer licensed in the State of New Mexico, all submittals in a form reasonably acceptable to Landlord.

(c) Tenant's installation, operation, modification, or removal activities shall comply with the County's repair and maintenance standards for the Facility as further described on **Exhibit F**, which is attached hereto and incorporated herein.

(d) Within sixty (60) days after Tenant completes any approved construction, installation or other work on the Property subject to the requirements of Section 7.1(a), Tenant shall furnish Landlord with as-built site engineering plans that depict: (i) all Tenant's Equipment above-ground and below-ground; (ii) all specifications of Tenant's Equipment; (iii) all penetrations on or to the Facility; and (iv) any other improvements in the then-current location and configuration. Tenant shall also provide such as-built site plans in a native or portable document format.

(e) If any of Tenant's installation, operation, modification, alternation, or removal activities cause damage to the Facility, Tenant will be responsible for the cost of repairs to the Facility."

9. **COMPLIANCE WITH RADIO FREQUENCY STANDARDS. Tenant represents and warrants that** Tenant, throughout the Term of Lease, as amended, will be solely responsible for compliance with any and all of the Federal Communications Commission's ("FCC's") radio frequency ("RF") emissions standards and exposure limits as may now or at any time hereafter be in effect that relate to Tenant's Equipment.

10. **HOLDOVER TERM**

Section 16 of the Lease is hereby amended by adding the following new Section 16.2:

"**16.2**
Tenant will have no right or privilege whatsoever to use or occupy the Premises in any manner or for any purpose after this Lease expires or terminates. In the event that Tenant occupies the Premises as a tenant-at-will, either Landlord or Tenant may terminate such month-to-month tenancy on thirty (30) days' written notice for any or no reason. All holdover Rental due under this Section 16 shall be subject to the annual increase adjustments of three percent (3%) over the holdover Rental immediately in effect prior to the annual anniversary of the tenancy-at-will."

11. **NOTICES**

Section 17 of the Lease is hereby deleted in its entirety and replaced by the following:

"**17. Notices**
(a) Except as may be specifically provided otherwise in this Lease, all notices, demands or other correspondence required to be given in connection with or pursuant to this Lease must be written and delivered through (1) an established national courier service that maintains delivery records and confirmations; (2) hand delivery; or (3) certified or registered U.S. Mail with prepaid postage and return receipt requested, and addressed as follows:

TO LANDLORD:	Incorporated County of Los Alamos Attn: Deputy County Manager 1000 Central Avenue, Suite 350 Los Alamos, New Mexico 87544
With a required copy to:	Incorporated County of Los Alamos County Attorney's Office 1000 Central Avenue, Suite 340 Los Alamos, New Mexico 87544
TO TENANT:	Sprint Property Services Sprint Site ID: EP03AL504-A/NM01105A Mailstop KSOPHD0101-Z2650 6220 Sprint Parkway Overland Park, KS 66251-2650 With a mandatory copy to: Sprint Law Department Attn.: Real Estate Attorney Sprint Site ID: EP03AL504-A/NM01105A Mailstop KSOPHD0101-Z2020 6220 Sprint Parkway Overland Park, KS 66251-2020

(b) Any copies required to be given constitute an administrative step for the parties' convenience and not actual notice.

(c) All notices, demands or other correspondence in connection with this Lease will be deemed effective upon receipt or refusal by recipient.

(d) The parties may change the notice addresses above from time-to-time through written notice to the addresses above."

12. MISCELLANEOUS

12.1 This First Amendment has been jointly negotiated and, although formulated at the outset by counsel for Landlord, this First Amendment has been reviewed by counsel for Tenant, and each such counsel has participated in the preparation of the final Lease. The language used in this First Amendment shall be construed as a whole according to its fair meaning and not strictly for or against any party, and it is agreed that no provision hereof shall be construed against any party hereto by virtue of the activities of that party or such party's attorneys.

12.2 The parties warrant and represent to each other that the person who executes this First Amendment on their behalf has the full power and authority to enter this First Amendment, and that any approvals or authorizations necessary to enter this First Amendment have been obtained. This First Amendment contains the entire agreement and understanding between the parties as to the subject matter concerned in this First

Amendment, and this First Amendment supersedes all prior or contemporaneous agreements, commitments, conditions, discussions, instruments, offers, promises and/or proposals between or among Landlord and Tenant in connection with the Premises, whether oral or written.

12.3 In the event of any conflicts between the terms and provisions of the Lease and this First Amendment, the terms and provisions in this First Amendment will control.

12.4 The parties intend and agree that this First Amendment will extend to and bind the parties' respective heirs, personal representatives, successors, and assigns.

12.5 No employees, officers, elected or appointed officials, volunteers, or contractors of either party shall be personally liable for any default or liability under this First Amendment.

12.6 Time is of the essence is in this First Amendment.

12.7 Tenant shall comply with all federal, State, and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any court of administrative bodies or tribunals applicable to Tenant's performance of this First Amendment.

12.8 Attorneys' fees are not available under this First Amendment and all parties must bear their own costs except as otherwise provided for in this First Amendment.

12.9 Tenant acknowledges that Landlord is a public entity under the laws of the State of New Mexico. Furthermore, the parties acknowledge that the Lease and this First Amendment may be a public record that Landlord must publicly disclose under (1) NM Stat. § 14-2-4 et seq. (1978) and (2) any other applicable Law that may require Landlord to disclose public records.

12.10 Any claim by Tenant against Landlord hereunder will be subject to the applicable provisions in NM Stat. § 41-4-1 through 41-4-30. Neither Landlord nor County Council, commissioners, elected or appointed officers or officials, administrators, directors, managers, employees, attorneys, agents or volunteers will be personally liable to Tenant in the event of any default or breach of Landlord, or for any amount which may become due to Tenant or its successor-in-interest, or for any obligations directly or indirectly incurred under this First Amendment.

12.11 For the purposes of this First Amendment, the words "shall" and "will" are mandatory, and "may" is permissive.

IN WITNESS WHEREOF, the parties have dully executed this Amendment on the latter date of the signature below.

LANDLORD	**TENANT**
Incorporated County of Los Alamos, an incorporated county of the State of New Mexico	Sprint Spectrum Realty Company, LLC, a Delaware limited liability company
By:_____	By: _____
Steve Lynne	[*signor name*]
Its: Incorporated County of Los Alamos Manager	Its: _____
Date: _____	Date: _____

APPROVED AS TO FORM

By: _____

J. Alvin Leaphart, IV
County Attorney

Date: _____

LANDLORD ACKNOWLEDGMENT

STATE OF NEW MEXICO)
)ss.
COUNTY OF LOS ALAMOS)

This instrument was acknowledged before me on the _____ day of _____, 2022 by _____[*Landlord-signor name*] as _____[*Landlord-signor position*] at a New Mexico.

_____
Notary Public

TENANT ACKNOWLEDGMENT

State of _____)

County of _____)

On _____ before me,
_____,
(insert name and title of the officer)

personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of New Mexico that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)

EXHIBIT B-1

APPROVED TENANT'S EQUIPMENT

Construction drawings sheet number T-1 through sheet number T-2, and sheet number C-2.2 through sheet number G-3 are attached as Exhibit B-1 on the following page depicting approved Tenant's Equipment.

T··Mobile·

SIGNAL POINT

T-MOBILE SITE NUMBER: NM01105 - EP03AL504
T-MOBILE SITE NAME: EP03AL504 SPRINT RETAIN
T-MOBILE PROJECT: SPRINT RETAIN
RFDS VERSION: 1

SITE ADDRESS: 280 N MESA RD
LOS ALAMOS, NM 87455
COUNTY: LOS ALAMOS
SITE TYPE: WATER TOWER

T-MOBILE SPRINT RETAIN SITE CONFIGURATION: 67D5997DB_2XAIR+1OP (GSM ONLY)

SITE INFORMATION

SITE ADDRESS:	280 N MESA RD LOS ALAMOS, NM 87455
COUNTY:	LOS ALAMOS
AREA OF CONSTRUCTION:	EXISTING WATER TANK
LATITUDE:	35.89664
LONGITUDE:	-106.29508
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	TBD
JURISDICTION:	LOS ALAMOS COUNTY
CARRIER/APPLICANT:	T-MOBILE 4830 PAN AMERICAN FREEWAY, SUITE A ALBUQUERQUE, NM 87109

CONTACTS

A&E FIRM:	TELECAD WIRELESS SITE DESIGN 1961 NORTHPOINT BLVD, SUITE 130 HIXSON, TN 37343 PHONE: 423-843-9500
PROPERTY OWNER:	COUNTY OF LOS ALAMOS 1000 CENTRAL AVE. SUITE 130 LOS ALAMOS, NM 87544
TELEPHONE COMPANY:	CENTURYLINK
POWER COMPANY:	LACU PHONE: 505-662-8333

APPROVALS

PROPERTY OWNER OR REP. DATE

LAND USE PLANNER DATE

OPERATIONS DATE

RF ENGINEER DATE

ZONING AND REAL ESTATE DATE

CONSTRUCTION MANAGER DATE

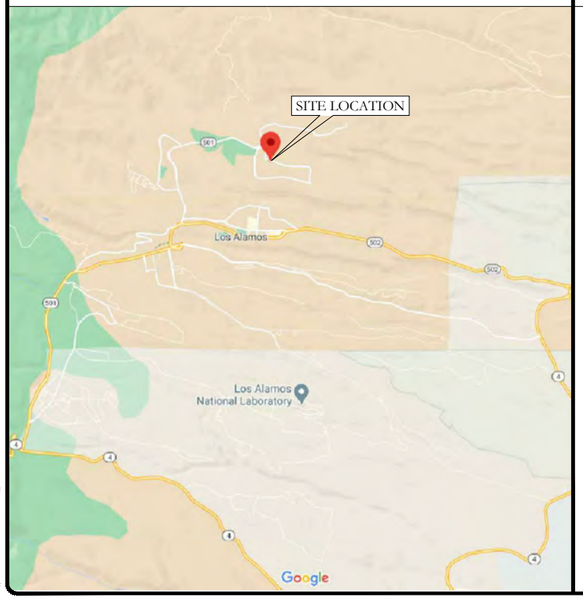
DRAWING INDEX

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

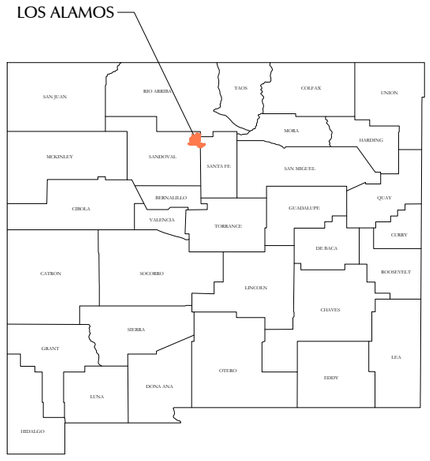
CALL NEW MEXICO ONE CALL
(800) 321-2537
CALL 3 WORKING DAYS
BEFORE YOU DIG!

811

LOCATION MAP



COUNTY MAP



PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

TOWER SCOPE OF WORK:
- REMOVE (3) ANTENNAS
- REMOVE (12) RRUS
- INSTALL (6) ANTENNA POLE MOUNTS
- INSTALL (6) ANTENNAS
- INSTALL (6) RRUS
- INSTALL (2) ERICSSON 6X24 4AWG HYBRID CABLES
- INSTALL NEW CUSTOM ANTENNA MOUNTS

GROUND SCOPE OF WORK:
- REMOVE (2) EQUIPMENT CABINETS
- INSTALL (1) 35KW GENERAC PROPANE GENERATOR
- INSTALL (1) 4'X10' CONCRETE PAD FOR GENERATOR
- INSTALL (1) 250 GALLON PROPANE TANK
- INSTALL (1) 200AMP AUTOMATIC TRANSFER SWITCH
- INSTALL (1) ERICSSON 6160 CABINET
- INSTALL (1) ERICSSON B160 CABINET
- INSTALL (3) ERICSSON 6X12 HCS HYBRID CABLES

APPLICABLE CODES

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING	2015 INTERNATIONAL BUILDING CODE
MECHANICAL	2015 UNIFORM MECHANICAL CODE
ELECTRICAL	2017 NATIONAL ELECTRICAL CODE
PLUMBING	2015 UNIFORM PLUMBING CODE
FIRE	2015 NATIONAL FIRE PROTECTION ASSOCIATION
ENERGY	2018 NEW MEXICO ENERGY CONSERVATION CODE
FUEL GAS	2015 INTERNATIONAL FUEL GAS CODE

Attachment C

T··Mobile·
4830 PAN AMERICAN FREEWAY, SUITE A
ALBUQUERQUE, NM 87109

TeleCAD Wireless
1961 NORTHPOINT BLVD, SUITE 130
HIXSON, TN 37343
PH: 423-843-9500 / FAX: 423-843-9509

T-MOBILE SITE NUMBER:
NM01105 - EP03AL504

280 N MESA RD
LOS ALAMOS, NM 87455

EXISTING WATER TOWER

ISSUED FOR:

REV.	DATE	DRWN.	DESCRIPTION	QA.
A	3-12-21	JAF	PRELIMINARY REVIEW	DS
B	4-6-21	DLS	GENERATOR ADDITION	DS
0	4-20-21	JEU	ISSUED FOR PERMITTING	DS
1	4-30-21	DLS	REVISIONS CORRECTED	DS
2	10-27-21	DLS	REVISED RFDS	DS
3	02-09-22	DLS	PROPANE GENERATOR	DS
4	03-01-22	DLS	ADDRESS CORRECTION	DS

FLOYD D. WHITE
NEW MEXICO
24787
PROFESSIONAL ENGINEER
03/01/22

SHEET TITLE:
TITLE PAGE

SHEET NUMBER: T-1

REVISION: 4

1. THE CONTRACTOR SHALL SUPERVISE AND DIRECT ALL WORK, USING HIS BEST SKILL AND ATTENTION. HE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES AND SEQUENCES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

2. THE CONTRACTOR SHALL VISIT THE JOB SITE TO REVIEW THE SCOPE OF WORK AND EXISTING JOB SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO MECHANICAL, ELECTRICAL SERVICE, AND OVERALL COORDINATION.

3. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO SUBMITTING HIS BID. ANY DISCREPANCIES CONFLICTS OR OMISSIONS, ETC, SHALL BE REPORTED TO T-MOBILE BEFORE PROCEEDING WITH THE WORK.

4. THE CONTRACTOR SHALL PROTECT ALL AREAS FROM DAMAGE WHICH MAY OCCUR DURING CONSTRUCTION. ANY DAMAGE TO NEW AND EXISTING CONSTRUCTION, STRUCTURE, OR EQUIPMENT, SHALL BE IMMEDIATELY REPAIRED OR REPLACED TO THE SATISFACTION OF THE TENANT OR BUILDING OWNER, OR OWNER'S REPRESENTATIVE, AT THE EXPENSE OF THE CONTRACTOR.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR, AND SHALL REPLACE OR REMEDY, ANY FAULTY, IMPROPER, OR INFERIOR MATERIALS OR WORKMANSHIP OR ANY DAMAGE WHICH SHALL APPEAR WITHIN ONE YEAR AFTER THE COMPLETION AND ACCEPTANCE OF THE WORK UNDER THIS CONTRACT.

6. THE CONTRACTOR SHALL REMOVE ALL RUBBISH AND WASTE MATERIALS ON A REGULAR BASIS, AND SHALL EXERCISE STRICT CONTROL OVER JOB CLEANING THROUGHOUT CONSTRUCTION, INCLUDING FINAL CLEAN-UP UPON COMPLETION OF WORK. ALL AREAS ARE TO BE LEFT IN A BROOM CLEAN CONDITION AT THE END OF EACH DAY.

7. THE CONTRACTOR SHALL SAFEGUARD THE OWNER'S PROPERTY DURING CONSTRUCTION AND SHALL REPLACE ANY DAMAGED PROPERTY OF THE OWNER TO ORIGINAL CONDITION OR BETTER.

8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES, WHETHER SHOWN HEREON OR NOT, AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSES FOR REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED IN CONJUNCTION WITH THE EXECUTION OF WORK.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE SITE WHILE THE JOB IS IN PROGRESS AND UNTIL THE JOB IS COMPLETED PER CHAPTER 44 OF THE U.B.C.

10. THE CONTRACTOR DURING CONSTRUCTION SHALL PROVIDE TEMPORARY WATER, POWER, AND TOILET FACILITIES AS REQUIRED BY THE CITY OR GOVERNING AGENCY.

11. ALL CONSTRUCTION WORK SHALL CONFORM TO THE U.B.C. AND ALL OTHER GOVERNING CODES, ALONG WITH THE GOVERNING RESTRICTIVE CODES.

12. THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL COMPLY WITH ALL LOCAL CODE REGULATIONS AND STATE DEPARTMENT OF INDUSTRIAL REGULATIONS AND DIVISION OF INDUSTRIAL SAFETY (OSHA) REQUIREMENTS. REFER TO THE CODES SECTION OF THIS SHEET.

13. THE CONTRACTOR SHALL OBTAIN AND PAY FOR PERMITS, LICENSES AND INSPECTIONS NECESSARY FOR PERFORMANCE OF THE WORK AND INCLUDE THOSE IN THE COST OF THE WORK TO THE OWNER.

14. FIGURED DIMENSIONS HAVE PRECEDENCE OVER DRAWING SCALE, AND DETAIL DRAWINGS HAVE PRECEDENCE OVER SMALL SCALE DRAWINGS. CHECK ACCURACY OF ALL DIMENSIONS IN THE FIELD. UNLESS SPECIFICALLY NOTED, DO NOT FABRICATE ANY MATERIALS OFF-SITE, OR DO ANY CONSTRUCTION UNTIL THE ACCURACY OF DRAWING DIMENSIONS HAS BEEN VERIFIED AGAINST ACTUAL FIELD DIMENSIONS.

15. CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY CONFLICTS OR DISCREPANCIES WITHIN THE CONTRACT DOCUMENTS WITH THE CONTRACT DOCUMENTS AND THE FIELD CONDITIONS PRIOR TO EXECUTING THE WORK IN QUESTION.

16. CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IF DETAILS ARE CONSIDERED UNSOUND, UNSAFE, NOT WATERPROOF, OR NOT WITHIN CUSTOMARY TRADE PRACTICE. IF WORK IS PERFORMED, IT WILL BE ASSUMED THAT THERE IS NO OBJECTION TO THE DETAIL. DETAILS ARE INTENDED TO SHOW THE END RESULT OF THE DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB CONDITIONS, AND SHALL BE INCLUDED AS PART OF THE WORK.

17. EXISTING ELEVATIONS AND LOCATIONS TO BE JOINED SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION. IF THEY DIFFER FROM THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT SO THAT MODIFICATIONS CAN BE MADE BEFORE PROCEEDING WITH THE WORK.

18. ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED CONSTRUCTION STANDARDS. IF THE CONTRACTOR HAS QUESTIONS REGARDING THEIR EXACT MEANING, THE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.

19. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS OR OTHER SUPPORT FOR ALL OTHER ITEMS REQUIRING THE SAME.

20. CITY APPROVED PLANS SHALL BE KEPT IN A PLAN BOX AND SHALL NOT BE USED BY WORKMEN. ALL CONSTRUCTION SETS SHALL REFLECT SAME INFORMATION. THE CONTRACTOR SHALL ALSO MAINTAIN IN GOOD CONDITION, ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA AND CHANGE ORDERS ON THE PREMISE AT ALL TIMES. THESE ARE TO BE UNDER THE CARE OF THE JOB SUPERINTENDENT.

21. ALL CONDUIT AND CABLE RUNS ARE DRAWN DIAGRAMATICALLY. CONTRACTOR SHALL RUN CONDUITS AND CABLES IN THE BEST POSSIBLE ROUTE, FOLLOWING THE DRAWINGS AS TO SUPPORT AND EQUIPMENT.

22. SCAN ALL T-MOBILE ASSET ITEMS TO SITE WHILE IN CONSTRUCTION.

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TeleCAD Wireless
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PH: 423-843-9500 / FAX: 423-843-9509

T-MOBILE SITE NUMBER:
NM01105 - EP03AL504

280 N MESA RD
LOS ALAMOS, NM 87455

EXISTING WATER TOWER

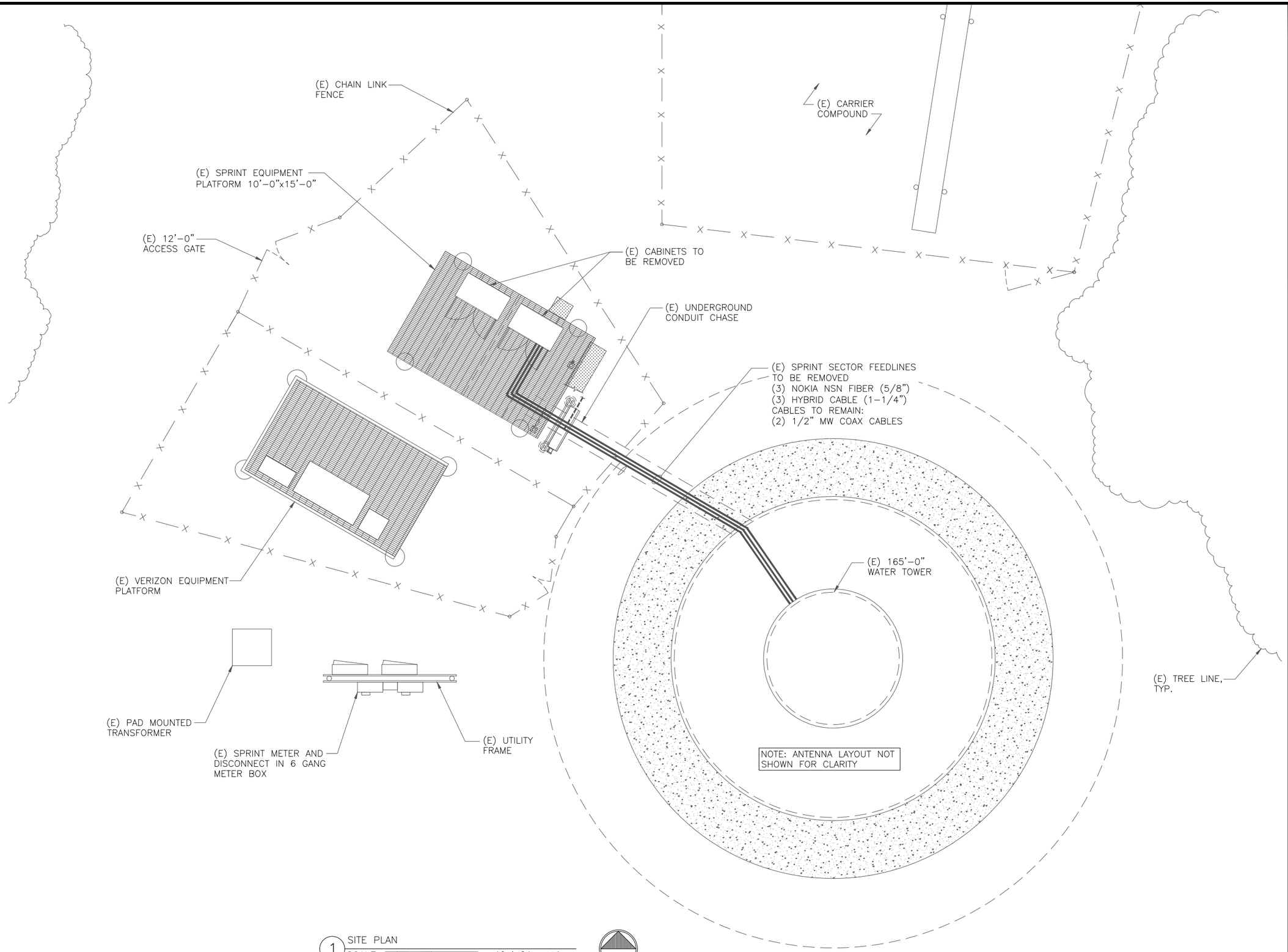
ISSUED FOR:

REV.	DATE	DRWN.	DESCRIPTION	QA.
A	3-12-21	JAF	PRELIMINARY REVIEW	DS
B	4-6-21	DLS	GENERATOR ADDITION	DS
0	4-20-21	JEU	ISSUED FOR PERMITTING	DS
1	4-30-21	DLS	REVISIONS CORRECTED	DS
2	10-27-21	DLS	REVISED RFDS	DS
3	02-09-22	DLS	PROPANE GENERATOR	DS
4	03-01-22	DLS	ADDRESS CORRECTION	DS

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER: T-2

REVISION: 4



1 SITE PLAN
SCALE: 4' 3' 2' 1' 0 4' 1/4"=1'-0" (FULL SIZE) 1/8"=1'-0" (11x17)

N

Attachment C

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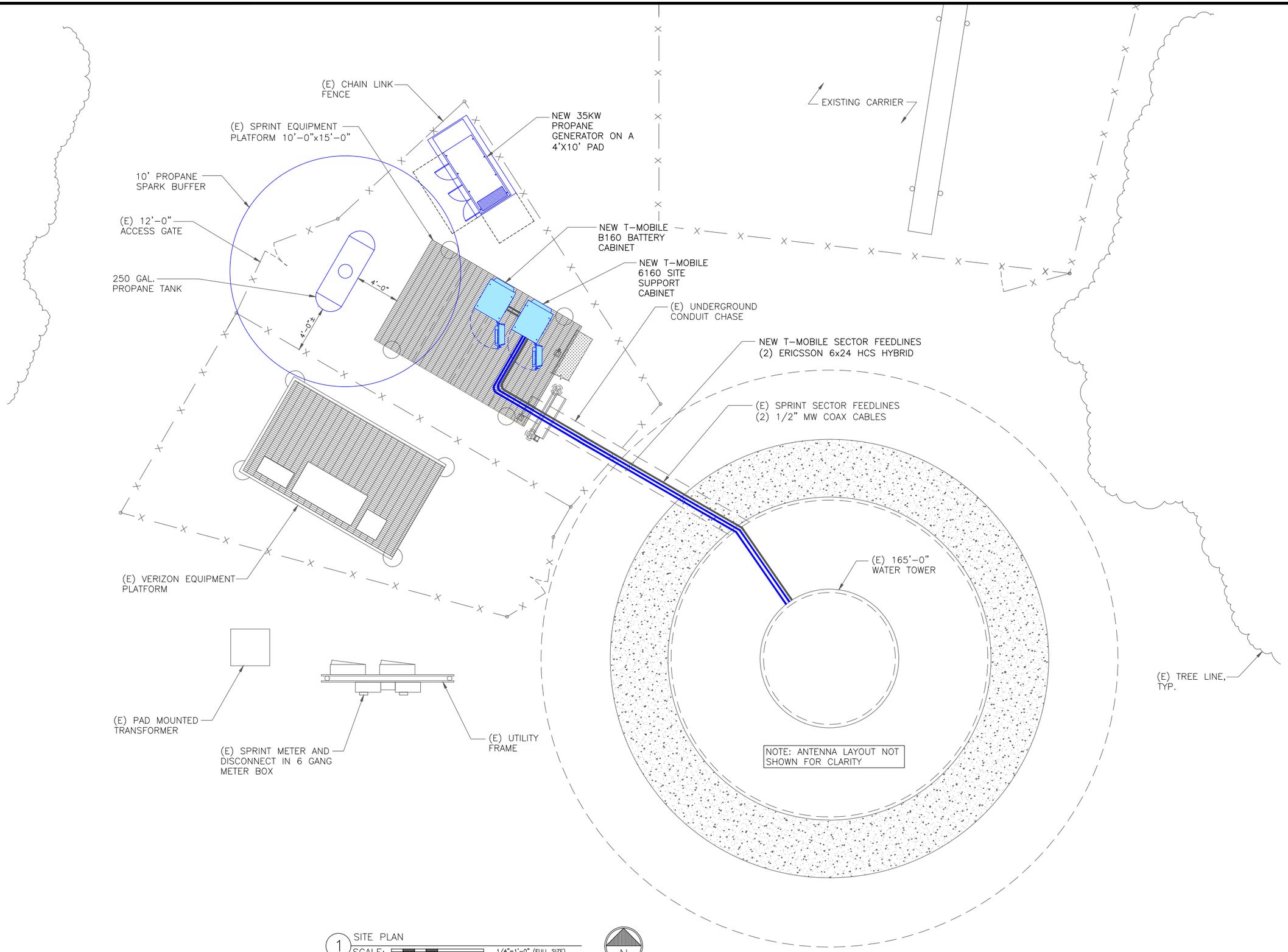
FLOYD D. WHITE
NEW MEXICO
24787
PROFESSIONAL ENGINEER
03/01/22

SHEET TITLE:
OVERALL EXISTING SITE PLAN

SHEET NUMBER: C-1.1

REVISION: 4



1 SITE PLAN
SCALE: 4' 3' 2' 1' 0 4' 1/4"=1'-0" (FULL SIZE) 1/8"=1'-0" (11x17)

N

Attachment C

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SHEET TITLE:
OVERALL FINAL SITE PLAN

SHEET NUMBER: C-1.1A

REVISION: 4

CONTRACTOR NOTE:

CONTRACTOR TO LOCATE AND REMOVE THE FOLLOWING EQUIPMENT:
(E) SPRINT RBS CABINET
(E) SPRINT BBS CABINET

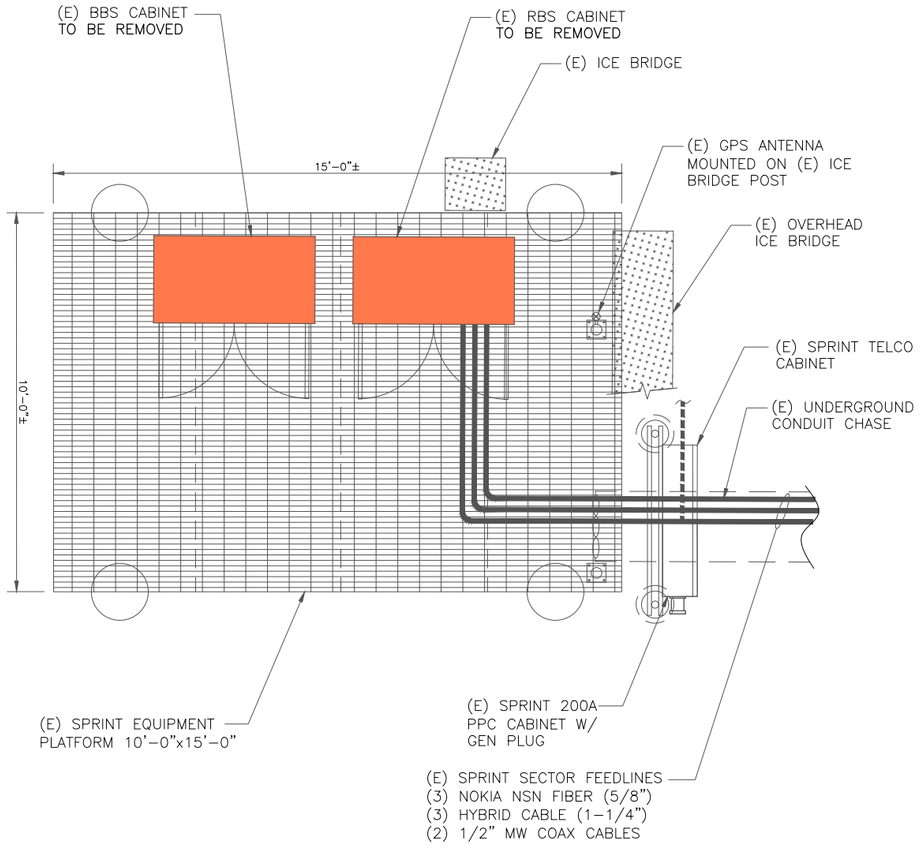
(E) SPRINT EQUIPMENT TO REMAIN:
(E) SPRINT SECTOR FEEDLINES

EQUIPMENT LEGEND:
EXISTING
TO BE RELOCATED/ REMOVED
NEW

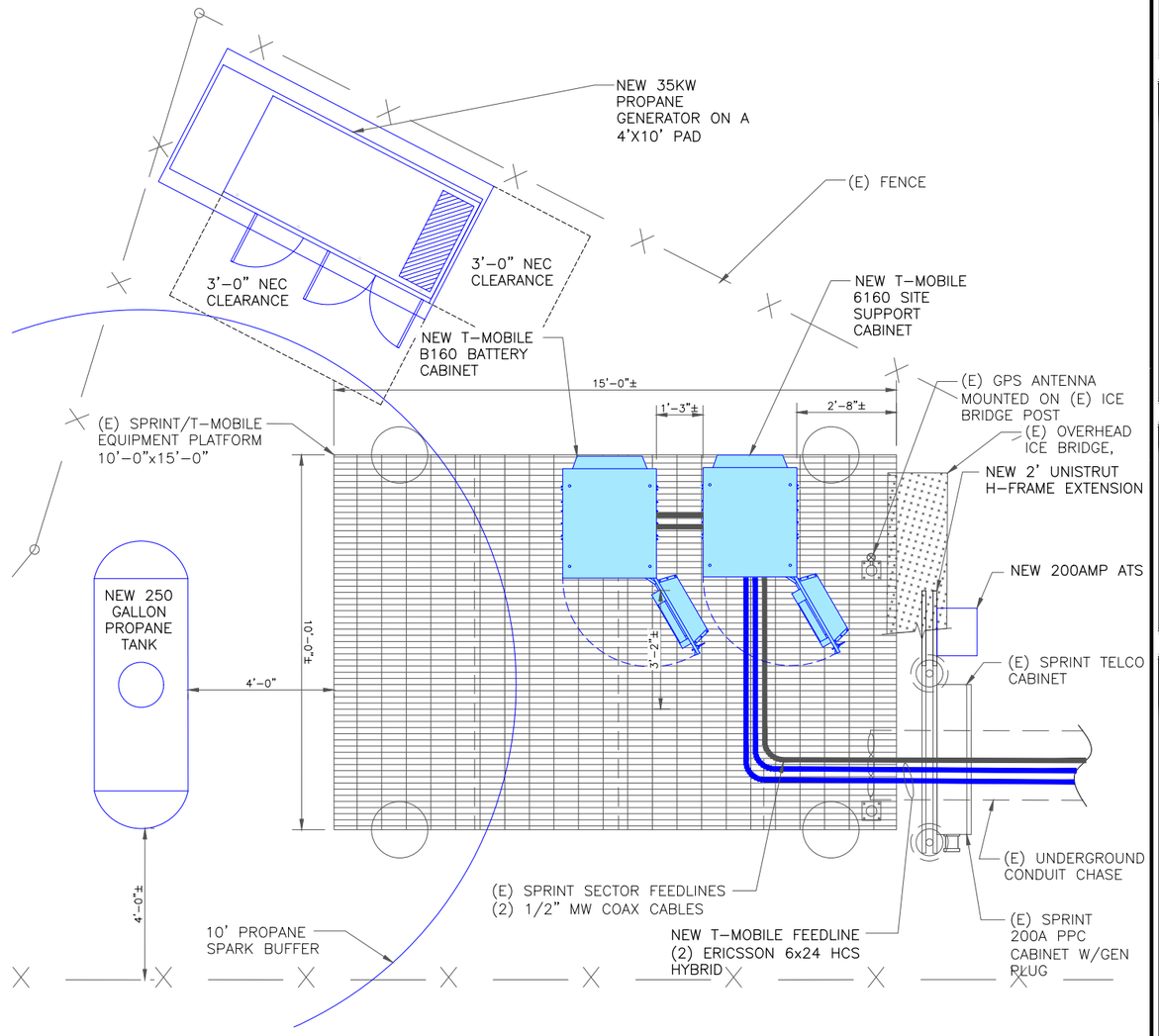
CONTRACTOR NOTE:

CONTRACTOR TO COORDINATE WITH T–MOBILE CONSTRUCTION MANAGER FOR EXACT EQUIPMENT CONFIGURATION AND LOCATION INSIDE EQUIPMENT CABINET(S).

PROPOSED RAN EQUIPMENT:
(1) 6160 CABINET
(1) B160 BATTERY CABINET
(2) BB 6648 UNITS
(1) BB 6630
(1) DUG20 UNIT



1 EXISTING EQUIPMENT PLAN
SCALE: 2' 1' 0 2' 1/2"=1'–0" (FULL SIZE) 1/4"=1'–0" (11x17)



2 FINAL EQUIPMENT PLAN
SCALE: 2' 1' 0 2' 1/2"=1'–0" (FULL SIZE) 1/4"=1'–0" (11x17)

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280 N MESA RD
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03/01/22

SHEET TITLE:
EXISTING & FINAL EQUIPMENT PLANS

SHEET NUMBER: C-1.2

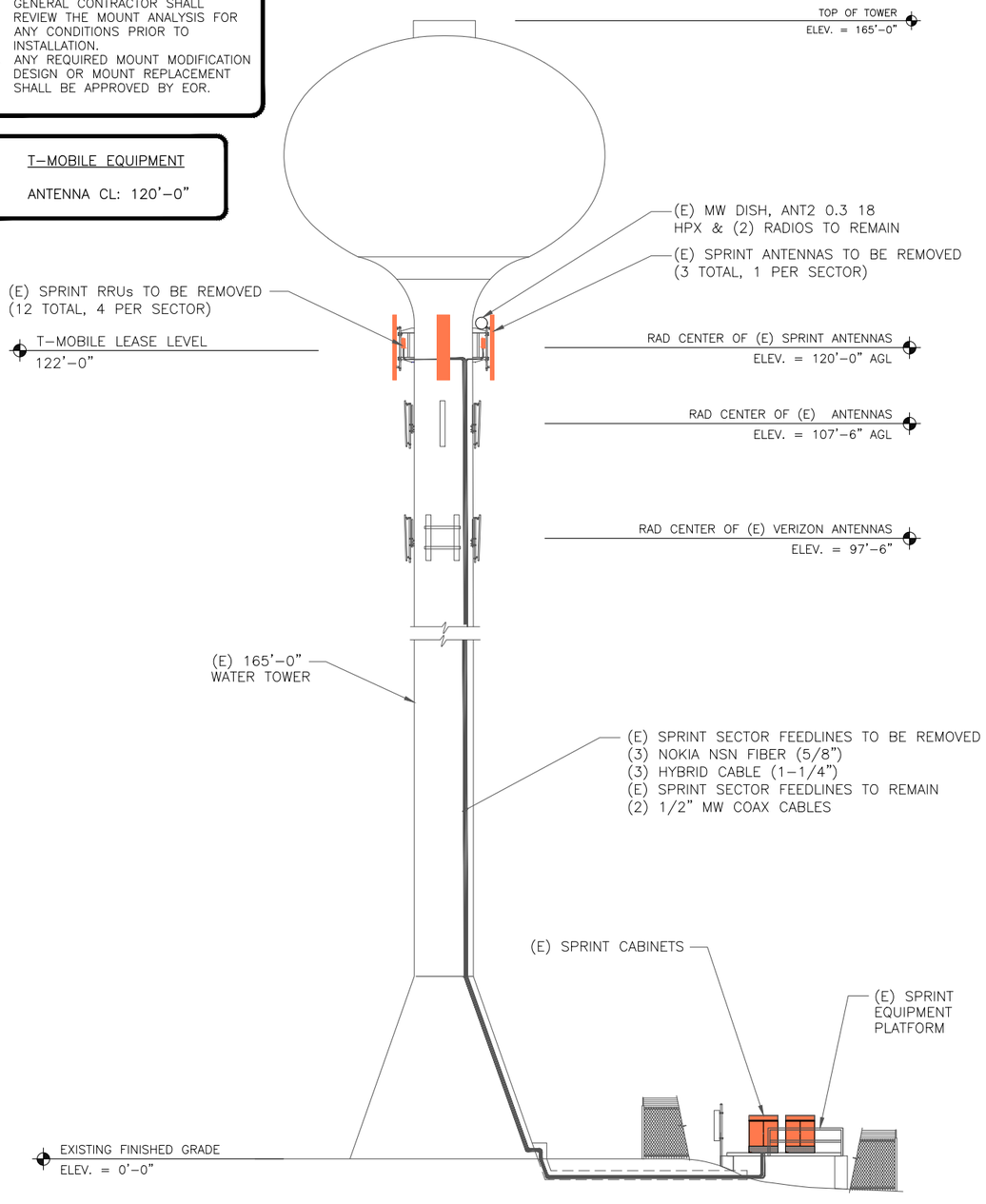
REVISION: 4

MOUNT ANALYSIS NOTES:

1. THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING MOUNT ANALYSIS.
2. CONSTRUCTION MANAGER / GENERAL CONTRACTOR SHALL REVIEW THE MOUNT ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
3. ANY REQUIRED MOUNT MODIFICATION DESIGN OR MOUNT REPLACEMENT SHALL BE APPROVED BY EOR.

T–MOBILE EQUIPMENT

ANTENNA CL: 120'–0"

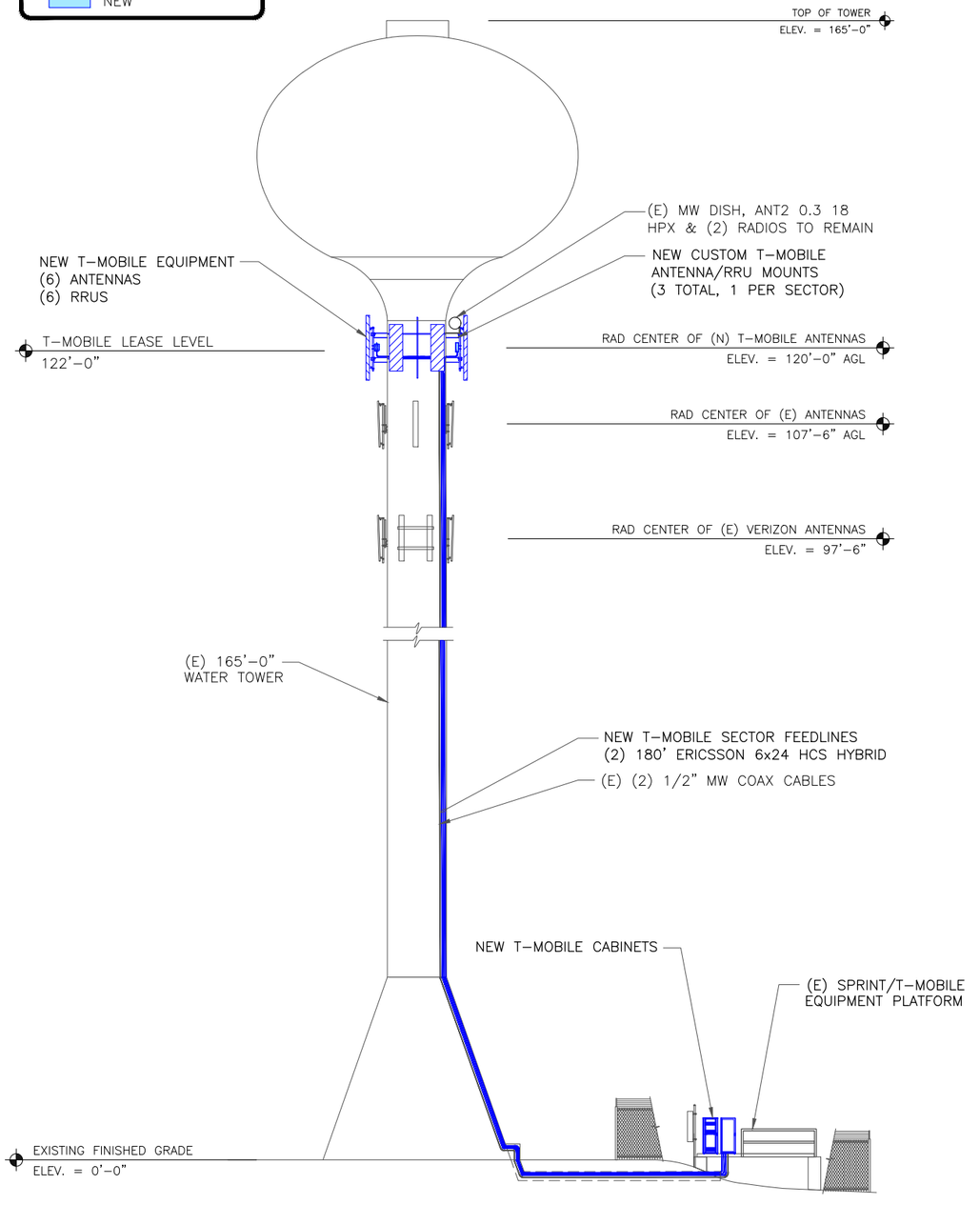


2 EXISTING ELEVATION
SCALE: NOT TO SCALE

EQUIPMENT LEGEND:

- EXISTING
- TO BE RELOCATED/ REMOVED
- NEW

ANTENNA HEIGHTS AND LAYOUT
PER T–MOBILE RFDS
NM01105A_SPRINT
RETAIN_1_2021–08–24



2 FINAL ELEVATION
SCALE: NOT TO SCALE

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SHEET TITLE:
FINAL TOWER ELEVATION

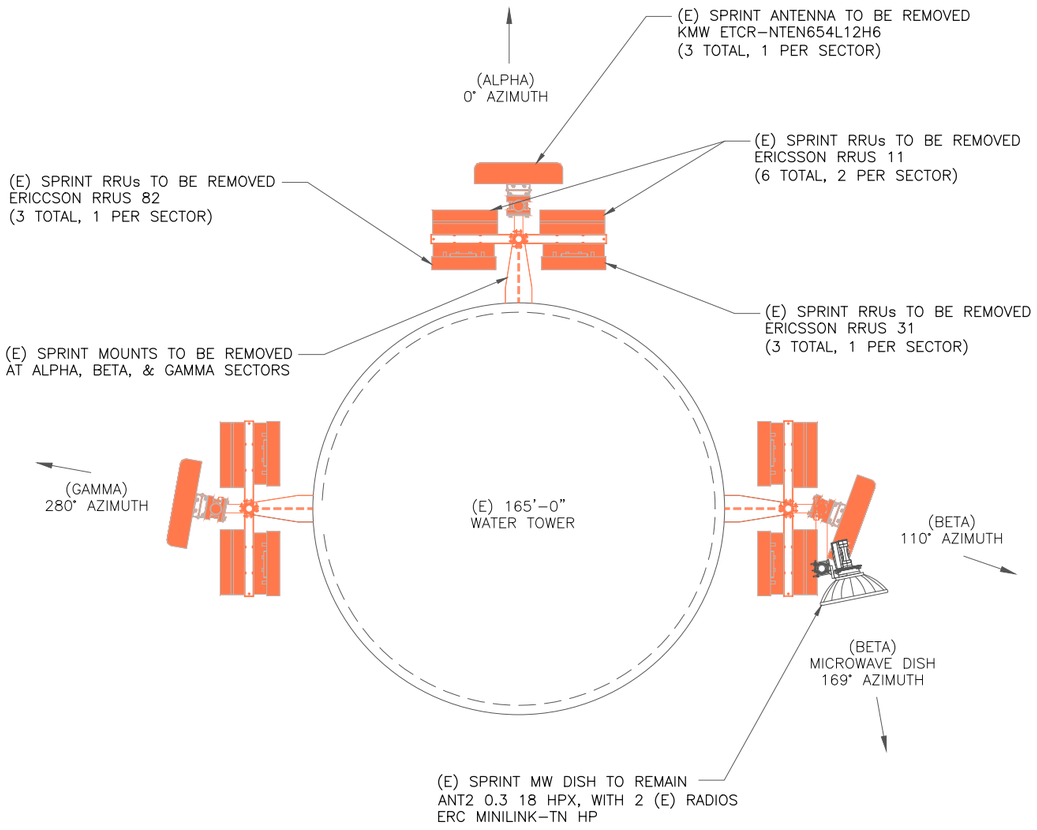
SHEET NUMBER: C-2

REVISION: 4

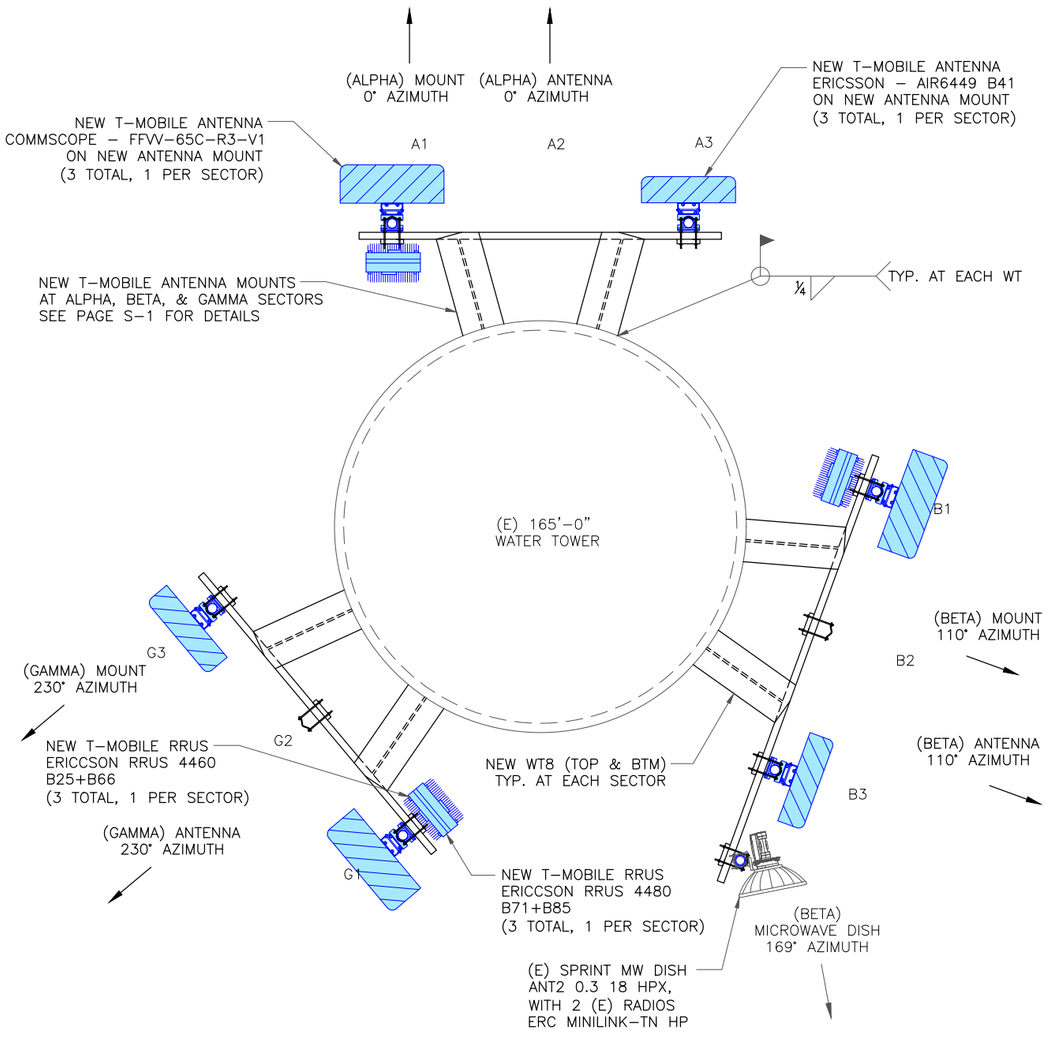
EQUIPMENT LEGEND:

- EXISTING
- TO BE RELOCATED/ REMOVED
- NEW

ANTENNA HEIGHTS AND LAYOUT PER T–MOBILE RFDS NM01105A_SPRINT RETAIN_1_2021–08–24



1 EXISTING ANTENNA PLAN ALPHA SECTOR
SCALE: NOT TO SCALE



2 FINAL ANTENNA PLAN BETA SECTOR
SCALE: NOT TO SCALE

MOUNT ANALYSIS NOTES:

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03/01/22

SHEET TITLE:
EXISTING AND FINAL ANTENNA PLANS

SHEET NUMBER: C-2.1

REVISION: 4

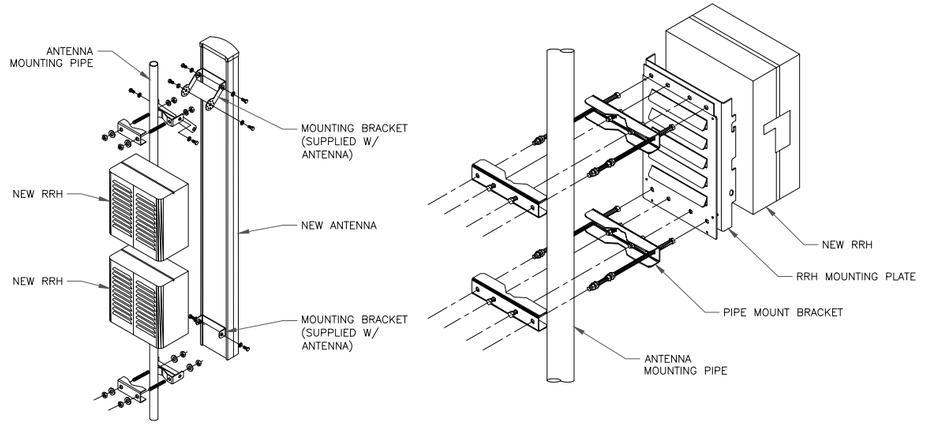
ANTENNA SCHEDULE

SECTOR	POS.	TECHNOLOGY	RAD CENTER	AZIMUTH	ANTENNA MANUFACTURER	ANTENNA MODEL	MECH. TILT	ELECT. TILT	TOWER MOUNTED EQUIPMENT	FEEDLINE TYPE
ALPHA	A1	L600/L700/L1900/ L2100/N600/G1900	120'-0"	0°	COMMSCOPE	FFVV-65C-R3-V1	0°	0°	(1) ERICSSON – RADIO 4480 B71 B85, (1) ERICSSON – RADIO 4460 B25 B66	(2) HYBRID TRUNK 6/24 4AWG
ALPHA	A2	--	--	--	--	--	--	--	--	--
ALPHA	A3	L2500 N2500	120'-0"	0°	ERICSSON	AIR 6449 B41	0°	0°	--	--
BETA	B1	L600/L700/L1900/ L2100/N600/G1900	120'-0"	110°	COMMSCOPE	FFVV-65C-R3-V1	0°	0°	(1) ERICSSON – RADIO 4480 B71 B85, (1) ERICSSON – RADIO 4460 B25 B66	--
BETA	B2	--	--	--	--	--	--	--	--	--
BETA	B3	L2500 N2500	120'-0"	110°	ERICSSON	AIR 6449 B41	0°	0°	--	--
BETA	B4	--	120'-0"	110°	ERICSSON	MW DISH ANT2 0.3 18 HPX	0°	0°	--	--
GAMMA	C1	L600/L700/L1900/ L2100/N600/G1900	120'-0"	230°	COMMSCOPE	FFVV-65C-R3-V1	0°	0°	(1) ERICSSON – RADIO 4480 B71 B85, (1) ERICSSON – RADIO 4460 B25 B66	--
GAMMA	C2	--	--	--	--	--	--	--	--	--
GAMMA	C3	L2500 N2500	120'-0"	230°	ERICSSON	AIR 6449 B41	0°	0°	--	--

1 ANTENNA AND CABLE SCHEDULE
SCALE: NOT TO SCALE

INSTALLER NOTES:

1. COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRHs RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING.
2. DO NOT OPEN RRH PACKAGES IN THE RAIN.
3. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.



2 ANTENNA WITH RRHs MOUNTING DETAIL
SCALE: NOT TO SCALE

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24787
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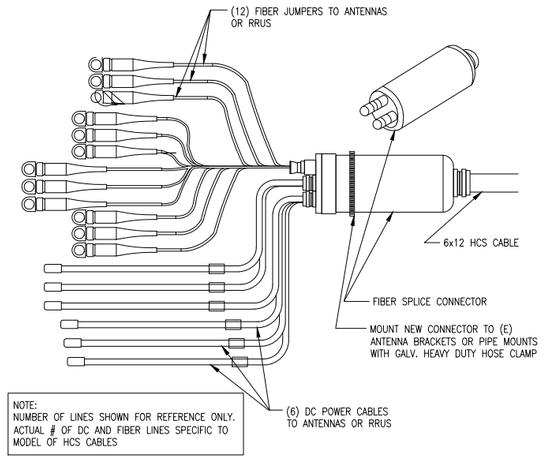
03/01/22

SHEET TITLE:
ANTENNA & CABLE SCHEDULE

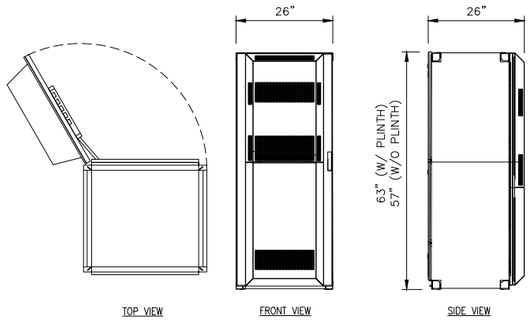
SHEET NUMBER: C-2.2

REVISION: 4



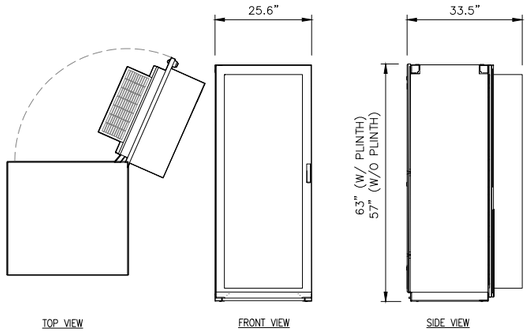
6 (N) 6X12 HCS CABLE DETAIL
SCALE: NOT TO SCALE

2 NOT USED
SCALE: NOT TO SCALE



ERICSSON MODEL NO.:	B160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x26"x26" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	485 LBS
MAXIMUM WEIGHT:	2100± LBS

3 B160 CABINET DETAIL
SCALE: NOT TO SCALE



ERICSSON MODEL NO.:	6160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x25.6"x25.6" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	410 LBS
MAXIMUM WEIGHT:	770± LBS

4 6160 CABINET DETAIL
SCALE: NOT TO SCALE

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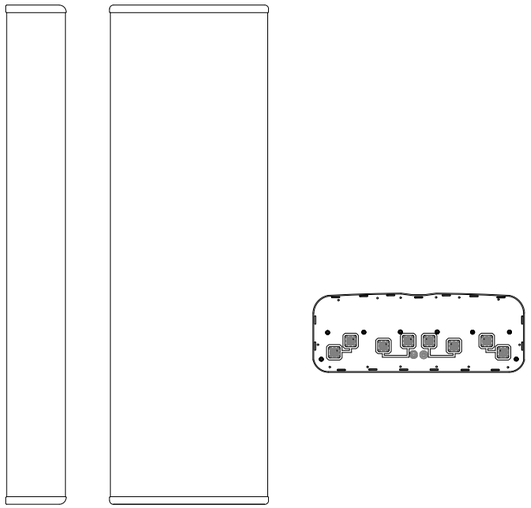
4	03-01-22	DLS	ADDRESS CORRECTION	DS

SHEET TITLE:
EQUIPMENT DETAILS

SHEET NUMBER: C-3

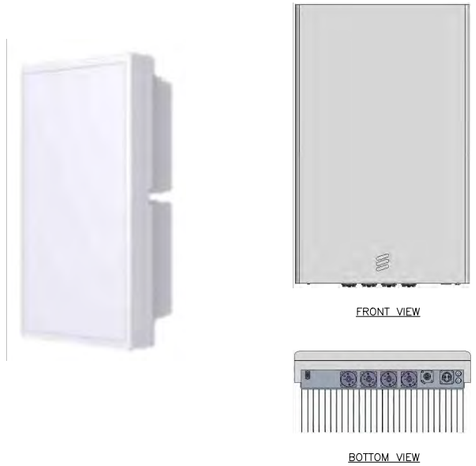
REVISION: 4



COMMSCOPE – FFVV-65C-R3-V1
WEIGHT (WITHOUT MOUNTING HARDWARE): 124.561 LBS
SIZE (HxWxD): 95.954x25.197x9.252 IN.
MOUNTING HARDWARE P/N: BSAMNT-4
RATED WIND VELOCITY: 150.0 MPH

1 COMMSCOPE – FFVV-65C-R3-V1
SCALE: NOT TO SCALE

2 DETAIL NOT USED
SCALE: NOT TO SCALE



ERICSSON – AIR 6449 B41
WEIGHT (WITHOUT MOUNTING HARDWARE): 104 LBS.
SIZE (HxWxD): 33.1x20.6x8.6 IN.

3 ERICSSON – AIR 6449 B41 ANTENNA
SCALE: NOT TO SCALE

PRODUCT DESCRIPTION

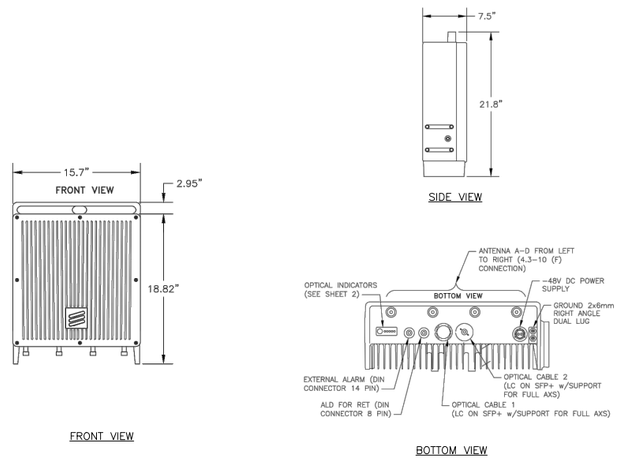
Spectrum Bands	B2/B25 (extended PCS including G block) B66 (AWS)	
Technology	GSM, WCDMA, LTE, NB-IoT, CAT-M and NR	
Max Output Power	4x140W (up to 4x80W per band)	
Instantaneous BW	Full IBW on both B25 and B66 B25: 1850–1915 MHz UL / 1930–1995 MHz DL B66: 1710–1780 MHz UL / 2110–2200 MHz DL	
RF Connector	4.3-10	
Optical Ports	4 x 10G CPRI	
DC Feed	2 x -48 V DC power connector	
Max Power Consumption	Max 2200W / Typical 1500W (*ETSI Busy Hour)	
Dimensions (H x W x D)	19.6" x 15.7" x 12.1" (incl. protrusions)	
Weight	109 lbs	

WARRANTY: 1 Year

SPARES: 2% of install base. Additional units can be requested as per need.

ERICSSON – RADIO 4460
WEIGHT (WITHOUT MOUNTING HARDWARE): 109 LBS.
SIZE (HxWxD): 19.6x15.7x12.1 IN.

4 ERICSSON – RADIO 4460
SCALE: NOT TO SCALE



ERICSSON – RADIO 4480
WEIGHT (WITHOUT MOUNTING HARDWARE): 93 LBS.
SIZE (HxWxD): 21.8x15.7x7.5 IN.

5 ERICSSON – RADIO 4480
SCALE: NOT TO SCALE

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SHEET TITLE:
EQUIPMENT SPECS

SHEET NUMBER: C-4

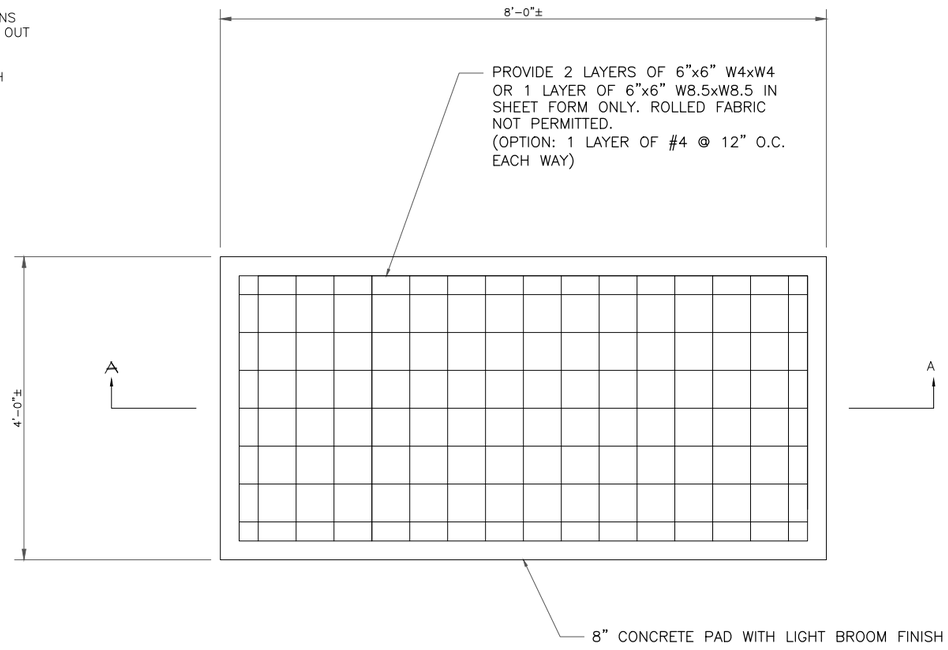
REVISION: 4

FOUNDATION NOTES:

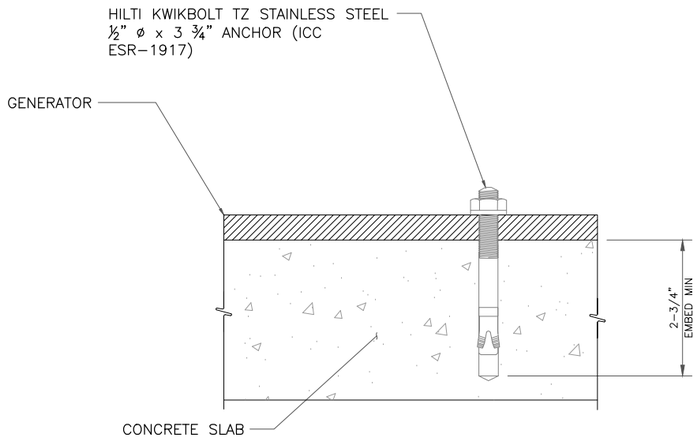
1. FOUNDATION DESIGN BASED ON 2,000 PSF SOIL BEARING CAPACITY.
2. CONCRETE SHALL BE 2,500 PSI.
3. REINFORCING STEEL Fy = 60,000 PSI.
4. ALL BACKFILL SHALL BE THOROUGHLY COMPACTED TO A MINIMUM OF 95% DENSITY USING THE MODIFIED PROCTOR METHOD.
5. SURFACE OF FINISHED SLAB SHALL BE LEVEL AND FLAT WITHIN 1/4".
6. CONTRACTOR SHALL VERIFY WITH MANUFACTURER ACTUAL DIMENSIONS OF EQUIPMENT PRIOR TO LAYING OUT FOUNDATION.
7. ALL CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH AC1 318–11.

SEE PLANS FOR ORIENTATION

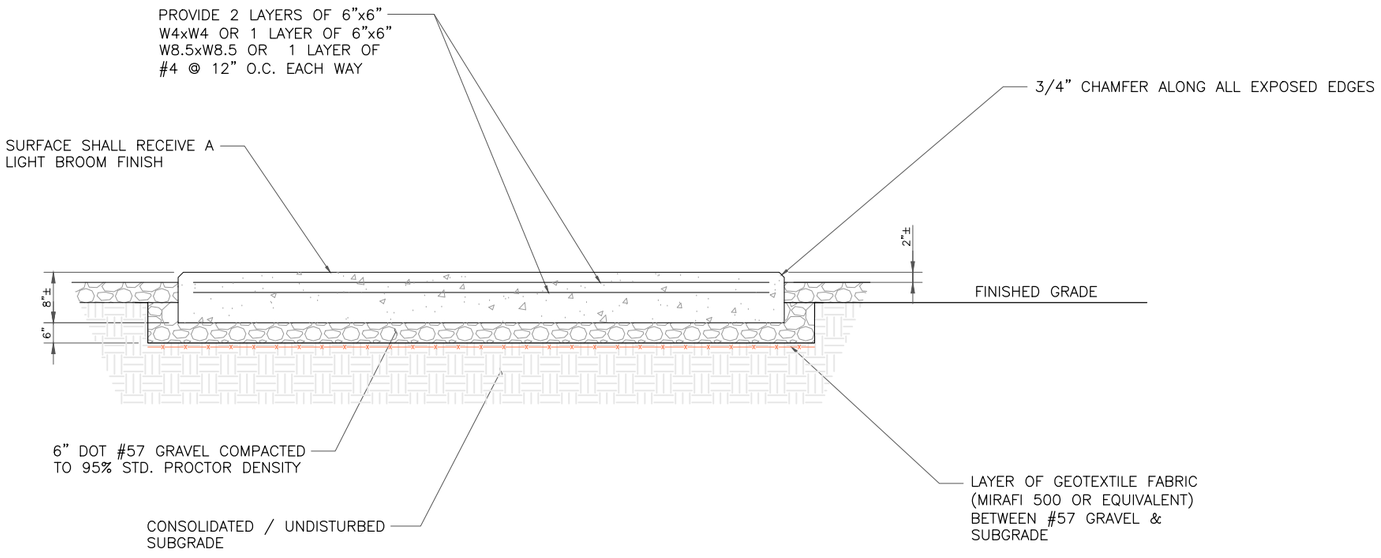
GC TO VERIFY GENERATOR CONNECTIONS FOR CONDUIT STUB UPS BEFORE PAD IS POURED.



FOUNDATION PLAN
SCALE: NOT TO SCALE

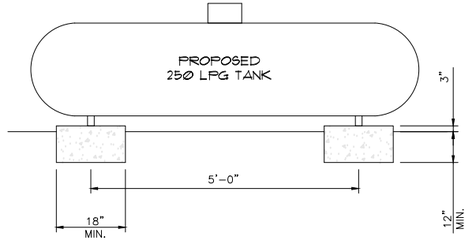


ANCHORAGE DETAIL
SCALE: N.T.S.



1 GENERATOR PAD DETAIL
SCALE: NOT TO SCALE

GC TO VERIFY PAD FOR THIS SITE AND IT'S REQUIRED FOUNDATION DIMENSIONS PRIOR TO STARTING CONSTRUCTION.



TANK FOUNDATION
NTS

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TeleCAD Wireless
1961 NORTHPOINT BLVD, SUITE 130
HIXSON, TN 37343
PH: 423-843-9500 / FAX: 423-843-9509

T-MOBILE SITE NUMBER:
NM01105 - EP03AL504

280 N MESA RD
LOS ALAMOS, NM 87455

EXISTING WATER TOWER

ISSUED FOR:

REV.	DATE	DRWN.	DESCRIPTION	QA.
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B	4-6-21	DLS	GENERATOR ADDITION	DS
0	4-20-21	JEU	ISSUED FOR PERMITTING	DS
1	4-30-21	DLS	REVISIONS CORRECTED	DS
2	10-27-21	DLS	REVISED RFDS	DS
3	02-09-22	DLS	PROPANE GENERATOR	DS
4	03-01-22	DLS	ADDRESS CORRECTION	DS

FLOYD D. WHITE NEW MEXICO 24787 PROFESSIONAL ENGINEER
03/01/22

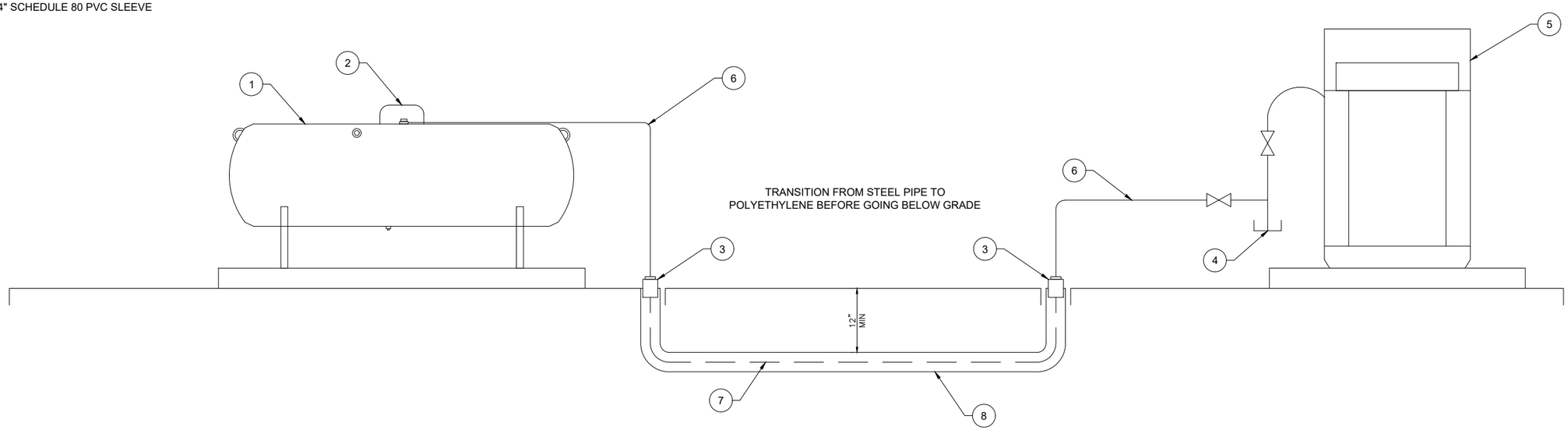
SHEET TITLE:
GENERATOR PAD DETAIL

SHEET NUMBER: C-5

REVISION: 4

EQUIPMENT NOTES:

1. HORIZONTAL LIQUID PROPANE TANK WITH AN INTEGRAL MANUAL SHUTOFF VALVE. SIZE AND TYPE PER T-MOBILE. TANK SHALL COMPLY WITH ALL REQUIREMENTS OF THE NFPA AND INTERNATIONAL FUEL GAS CODE.
2. FIRST STAGE REGULATOR PER NFPA 58 SECTION 6.8.1.1.
3. 4" PVC CAP.
4. PROPOSED VALVE, DRIP LEG, SECOND STAGE REGULATOR, AND FLEXIBLE CONNECTORS, ALL MATERIALS SHALL BE INSTALLED PER THE 2012 NORTH CAROLINA FUEL GAS CODE.
5. PROPOSED GENERAC 35 KW PROPANE / NATURAL GAS GENERATOR
6. 1" SCHEDULE 40 STEEL PIPE. PIPE MATERIAL TO COMPLY WITH SECTION 403.4.2 OF THE 2012 NORTH CAROLINA FUEL GAS CODE. PIPE SIZED OR AN INLET PRESSURE OF 11" IN W.C.I. AND A MAXIMUM LENGTH OF 50 L.F.
7. 1" POLYETHYLENE PIPE WITH A TRACER WIRE. PIPE MATERIAL TO COMPLY WITH SECTION 403.6 OF THE 2012 NORTH CAROLINA FUEL GAS CODE. PIPE SIZED OR AN INLET PRESSURE OF 11" IN W.C. AND A MAXIMUM LENGTH OF 50 L.F. TRACER WIRE SHALL COMPLY WITH SECTION 404.17.3 OF 2015 INTERNATIONAL FUEL GAS CODE.
8. 4" SCHEDULE 80 PVC SLEEVE



MECHANICAL PLAN & DETAILS

NTS

ADDITIONAL NOTES

1. UPON COMPLETION OF ASSEMBLY, PIPING SYSTEMS (INCLUDING HOSE) SHALL BE TESTED AND PROVED FREE OF LEAKS IN ACCORDANCE WITH SECTION 406 OF THE 2012 NORTH CAROLINA FUEL GAS CODE.
2. GENERATOR SUPPLY LINE UPSTREAM OF SECOND STAGE REGULATOR SIZED FOR 632K BTU AT 30 FEET MAXIMUM PIPING LENGTH. LINES SIZED PER TABLES 402.4(28) & 402.4(35) OF THE 2012 NORTH CAROLINA FUEL GAS CODE. IF THE INSTALLATION OF THE SERVICE LINE CANNOT BE MADE WITHIN 30 FEET, THE CONTRACTOR SHALL CONTACT THE ENGINEER PRIOR TO ORDERING MATERIALS TO RECEIVE DIRECTION.
3. COORDINATE ALL ROUTING WITH OTHER TRADES SHOWN ON CIVIL AND ELECTRICAL DRAWINGS.

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4	03-01-22	DLS	ADDRESS CORRECTION	DS

FLOYD D. WHITE
NEW MEXICO
24787
PROFESSIONAL ENGINEER
03/01/22

SHEET TITLE:
GENERATOR DETAILS

SHEET NUMBER: C-6

REVISION: 4

SG035 | 4.5L | 35 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary

GENERAC | INDUSTRIAL POWER

DEMAND RESPONSE READY

Standby Power Rating
35 kW, 44 kVA, 60 Hz

Demand Response Rating
35 kW, 44 kVA, 60 Hz

Prime Power Rating
32 kW, 39 kVA, 60 Hz

ISO 9001:2008

USA ENGINEERED & BUILT* *Assembled in the USA using domestic and foreign parts

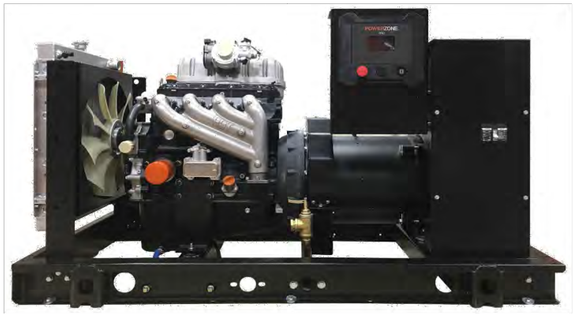

Image used for illustration purposes only

Codes and Standards

Not all codes and standards apply to all configurations. Contact factory for details.

- UL2200, UL6200, UL1236, UL489
- CSA C22.2
- BS5514 and DIN 6271
- SAE J1349
- NFPA 37, 70, 99, 110
- NEC700, 701, 702, 708
- ISO 3046, 7637, 8528, 9001
- NEMA ICS10, MG1, 250, ICS6, AB1
- ANSI C62.41
- IBC 2009, CBC 2010, IBC 2012, ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012)

Powering Ahead

Generac ensures superior quality by designing and manufacturing most of its generator components, such as alternators, enclosures, control systems and communications software. Generac also makes its own spark-ignited engines, and you'll find them on every Generac gaseous-fueled generator. We engineer and manufacture them from the block up — all at our facilities throughout Wisconsin. Applying natural gas and LP-fueled engines to generators requires advanced engineering expertise to ensure reliability, durability and necessary performance. By designing specifically for these dry, hotter-burning fuels, the engines last longer and require less maintenance. Building our own engines also means we control every step of the supply chain and delivery process, so you benefit from single-source responsibility.

Plus, Generac Industrial Power's distribution network provides all parts and service so you don't have to deal with third-party suppliers. It all leads to a positive owner experience and higher confidence level. Generac spark-ignited engines give you more options in commercial and industrial generator applications as well as extended run time from utility-supplied natural gas.

SPEC SHEET 1 of 6

SG035 | 4.5L | 35 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary

GENERAC | INDUSTRIAL POWER

APPLICATION AND ENGINEERING DATA

DEMAND RESPONSE READY

ENGINE SPECIFICATIONS

General

Make	Generac
Cylinder #	4
Type	In-Line
Displacement - in^3 (L)	275.0 (4.5)
Bore - in (mm)	4.5 (114.3)
Stroke - in (mm)	4.25 (107.95)
Compression Ratio	9.94:1
Intake Air Method	Naturally Aspirated
Number of Main Bearings	5
Connecting Rods	Forged Steel, Fractured Split, Bushingless
Cylinder Head	Cast Iron
Cylinder Liners	Cast Iron
Ignition	Coil Near Plug Solid State Inductive
Piston Type	Cast Aluminum Flat Top
Crankshaft Type	Forged Steel
Lifter Type	Hydraulic
Intake Valve Material	Stainless Steel
Exhaust Valve Material	Stainless Steel
Hardened Valve Seats	High Steel Iron Alloy

Engine Governing

Governor	Electronic
Frequency Regulation (Steady State)	±0.25%

Lubrication System

Oil Pump Type	Gear Driving
Oil Filter Type	Full-Flow Spin-On Cartridge
Crankcase Capacity - qt (L)	21 (20)

Cooling System

Cooling System Type	Pressurized Closed
Fan Type	Pusher
Fan Speed - RPM	2,100
Fan Diameter - in (mm)	20 (508)

Fuel System

Fuel Type	Natural Gas, Propane
Fuel Injection	Electronic
Fuel Shut Off	Generac
NG Operating Fuel Pressure - in H_2O (kPa)	5 - 14 (1.2 - 3.5)
LP Operating Fuel Pressure - in H_2O (kPa)	7 - 14 (1.7 - 3.5)

Engine Electrical System

System Voltage	12 VDC
Battery Charger Alternator	35 A
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	K0035124Y21
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5% (3-Phase Only)
Telephone Interference Factor (TIF)	<50
Standard Excitation	Synchronous Brushless
Bearings	Sealed Ball
Coupling	Direct via Flexible Disc
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Full Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

SPEC SHEET 4 of 6

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FLOYD D. WHITE
NEW MEXICO
24787
PROFESSIONAL ENGINEER
03/01/22

SHEET TITLE:
GENERATOR SPECS

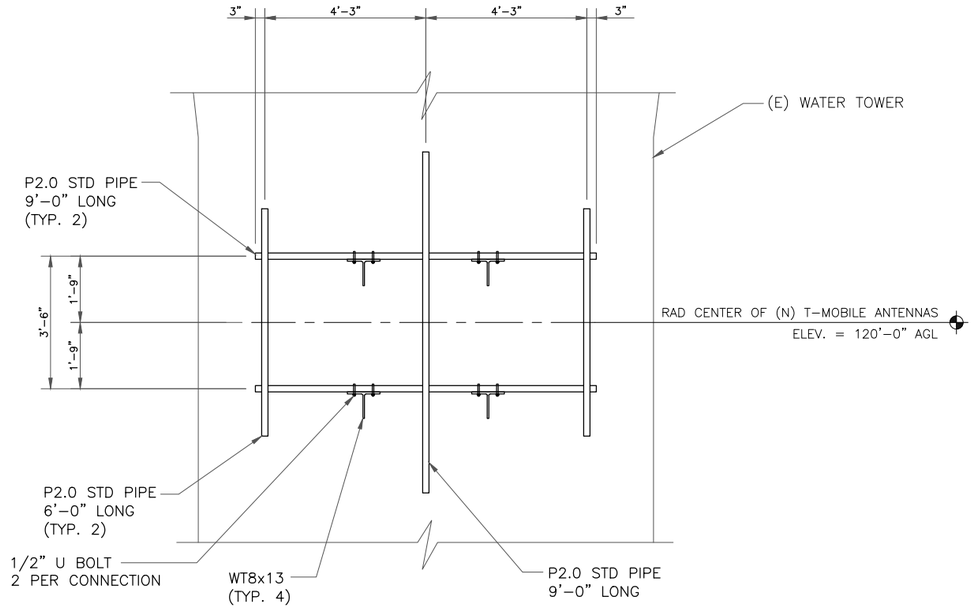
SHEET NUMBER: C-7

REVISION: 4

GENERAL NOTES – STRUCTURAL STEEL

1. PIPE STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A–53, TYPE S. ALL OTHER STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A992.
2. ALL DETAILING, FABRICATION, AND ERECTION OF STRUCTURAL STEEL, UNLESS OTHERWISE NOTED, SHALL CONFORM TO THE REQUIREMENTS OF THE AISC SPECIFICATIONS FOR BUILDINGS, LATEST EDITION.
3. UNLESS OTHERWISE NOTED, ALL CONNECTIONS SHALL BE MADE BY SHOP WELDING.
4. ALL WELDS SHALL BE MADE WITH E–70 ELECTRODES.
5. UNLESS OTHERWISE NOTED, AND ALL STRUCTURAL STEEL SHALL BE HOT–DIPPED GALVANIZED, TOUCH–UP WITH GALVANIZED PAINT ONLY, AS REQ'D.
6. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

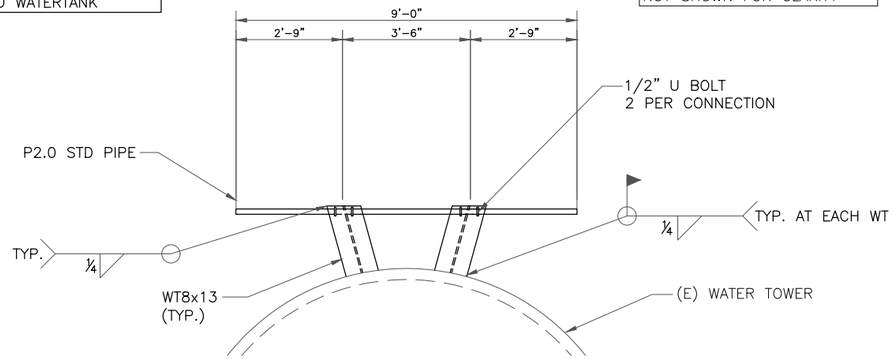
NOTE: ALL PROPOSED STRUCTURAL STEEL AND MOUNTING HARDWARE TO BE PAINTED TO MATCH EXISTING WATER TANK AFTER INSTALLATION.



2 STRUCTURAL MOUNT ELEVATION (ALPHA & GAMMA)
SCALE: 2' 1' 0 2' 1/2"=1'–0" (FULL SIZE) 1/4"=1'–0" (11x17)

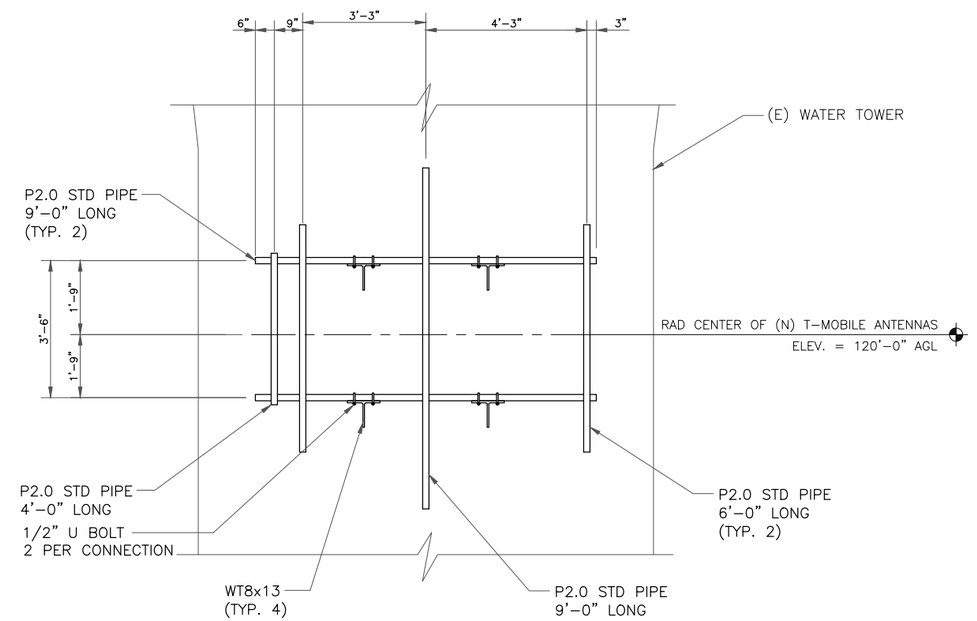
NOTE: WT8 TO BE NOTCHED FOR FLUSH FIT TO WATERTANK

NOTE: ANTENNA PIPE MOUNTS NOT SHOWN FOR CLARITY



1 STRUCTURAL MOUNT PLAN (ALPHA,BETA,GAMMA)
SCALE: 2' 1' 0 2' 1/2"=1'–0" (FULL SIZE) 1/4"=1'–0" (11x17)

N



3 STRUCTURAL MOUNT ELEVATION (BETA)
SCALE: 2' 1' 0 2' 1/2"=1'–0" (FULL SIZE) 1/4"=1'–0" (11x17)

Attachment C

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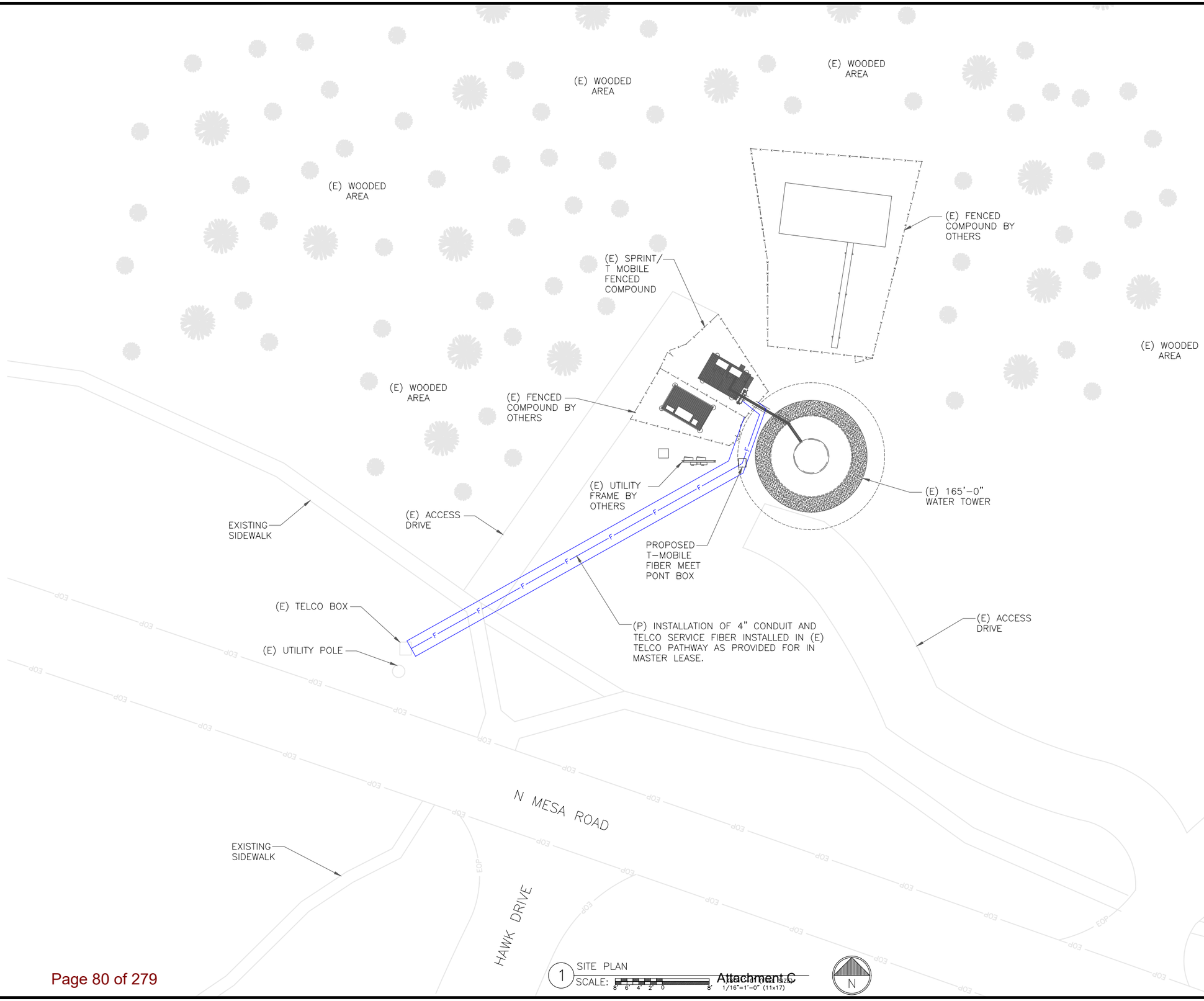
NEW MEXICO
24787
PROFESSIONAL ENGINEER
03/01/22

SHEET TITLE:
STRUCTURAL PLAN & NEW MOUNTS

SHEET NUMBER: S-1

REVISION: 4



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03/01/22

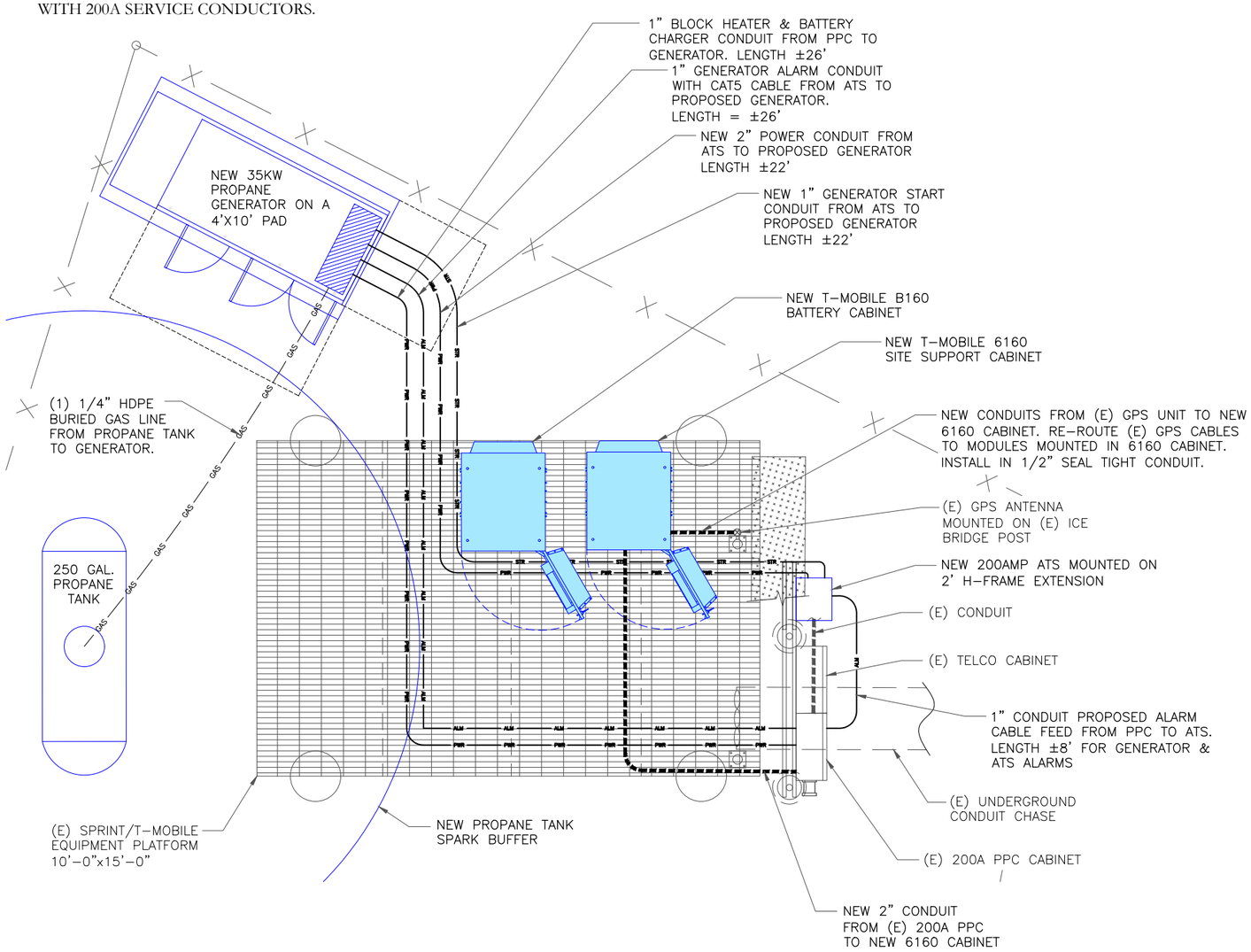
SHEET TITLE:
OVERALL EXISTING SITE PLAN

SHEET NUMBER:
FIBER

REVISION:
4

ELECTRICAL NOTES

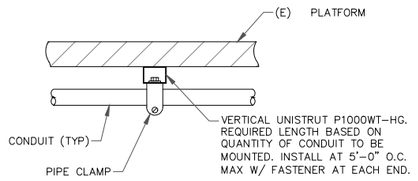
1. ALL RISERS AND ABOVE GRADE CONDUITS SHALL BE GALVANIZED RIGID CONDUIT TYPE.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDUITS OR ELECTRICAL CONDUCTORS FOR REUSE PRIOR TO CONSTRUCTION.
3. ALL TRENCHING REQUIRED WITHIN COMPOUND SHALL BE PERFORMED BY HAND-DIGGING ONLY.
4. CONTRACTOR SHALL UPSIZE ALL NECESSARY CONDUCTORS AND/OR CONDUITS FOR 200A SERVICE TO T-MOBILE EQUIPMENT. IF IT IS DETERMINED THAT 200A SERVICE IS ALREADY ACTIVE ON SITE, CONTRACTOR SHALL IMMEDIATELY CONTACT THE T-MOBILE CM.
5. ALL ABOVE GROUND CONDUIT SHALL BE RGS. WHERE CONDUITS CROSS SLABS RGS SHALL BE MOUNTED ON UNISTRUT CHANNEL (TYP.)
6. ALL CONDUITS SHALL BE SECURED TO THE PAD WITH HANGERS AND SIZED PER NEED (TYP.)
7. CONTRACTOR SHALL CONFIRM PRIOR TO CONSTRUCTION IF EXISTING CONDUITS CAN BE UTILIZED WITH 200A SERVICE CONDUCTORS.



1 SITE PLAN
SCALE: 2' 1' 0 2' 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)

CONTRACTOR NOTE:

CONDUIT SIZE, TYPE, QUANTITY AND SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS & T-MOBILE CONSTRUCTION MANAGER.



2 CONDUIT PLATFORM MOUNT DETAIL
SCALE: NOT TO SCALE

3 NOT USED
SCALE: NOT TO SCALE

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FLOYD D. WHITE
NEW MEXICO
24787
PROFESSIONAL ENGINEER
03/01/22

SHEET TITLE:
ELECTRICAL SITE LAYOUT

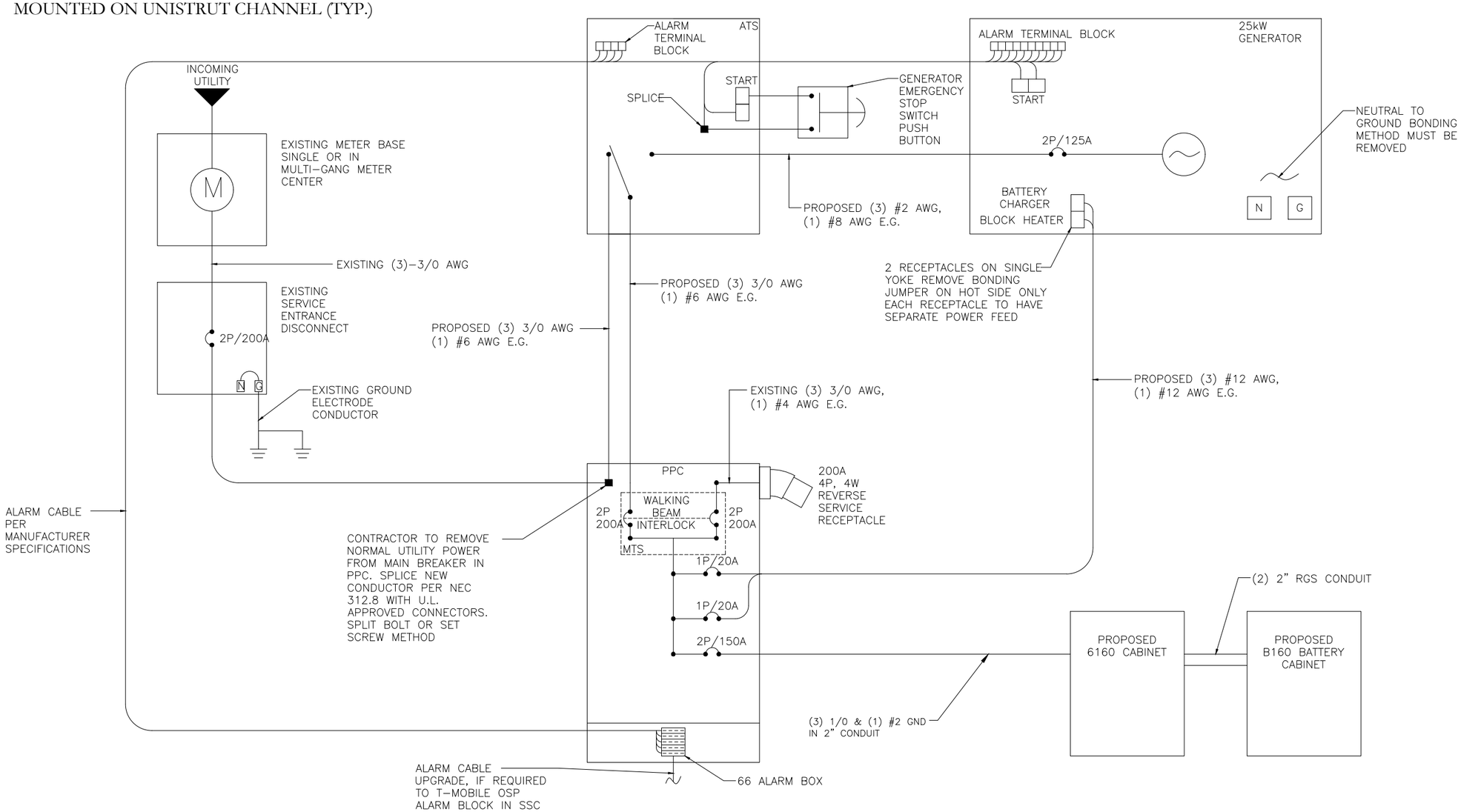
SHEET NUMBER: E-1

REVISION: 4

Attachment C

ELECTRICAL NOTES

1. THE HEIGHT OF METER MOUNTING DEVICES SHALL BE SUCH THAT THE CENTER OF THE OPENING FOR THE METER IS BETWEEN 4'-0" & 6'-0". A FREE SPACE OF 36" MIN. CLEARANCE IN FRONT & 2" ON SIDES, TOP, & BOTTOM. (IF NECESSARY)
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING PAD CONDUITS OR ELECTRICAL CONDUCTORS FOR REUSE PRIOR TO CONSTRUCTION.
3. ALL TRENCHING REQUIRED WITHIN COMPOUND SHALL BE PERFORMED BY HAND-DIGGING ONLY.
4. CONTRACTOR SHALL UPSIZE ALL NECESSARY CONDUCTORS AND/OR CONDUITS FOR 200A SERVICE TO T-MOBILE EQUIPMENT. IF IT IS DETERMINED THAT 200A SERVICE IS ALREADY ACTIVE ON SITE. CONTRACTOR SHALL IMMEDIATELY CONTACT THE T-MOBILE CM.
5. ALL ABOVE GROUND CONDUIT SHALL BE RGS. WHERE CONDUITS CROSS SLABS RGS SHALL BE MOUNTED ON UNISTRUT CHANNEL (TYP.)



T-MOBILE ELECTRICAL SINGLE-LINE DIAGRAM

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FLOYD D. WHITE
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PROFESSIONAL ENGINEER
03/01/22

SHEET TITLE:
ELECTRICAL
ONE LINE DIAGRAM

SHEET NUMBER: E-2

REVISION: 4

POWER PANEL (EXISTING)													
MAIN BREAKER (A)		200	VOLTAGE			120/240 V, 1 PH, 3W							
POS	DESCRIPTION	BKR	ON / OFF	C / NC	VA	L1 (VA)	L2 (VA)	VA	C / NC	ON / OFF	BKR	DESCRIPTION	POS
1	RBS1	100	ON	C	1000	1000		0	NC	ON	60	TVSS	7
2			ON	C	1000		1000	0	NC	ON			8
3	VACANT	--	--	--		10000		9000	C	ON	150	6160	9
4	VACANT	--	--	--			9000	9000	C	ON			10
5	6160 GFCI	20	ON	NC	180	3000		180	NC	ON	15	GFI	11
6	FAN	15	ON	NC	180		180		--	--	--	VACANT	12
PHASE TOTALS (VA)						14,000	10,180	AMPERES PER PHASE CANNOT EXCEED MAIN					
PHASE CURRENT (A)						107	106	BREAKER RATING					
PANEL TOTAL (VA)						24,180		LEGEND: C=CONTINUOUS, NC=NON-CONTINUOUS					

PANEL CAPACITY AT 80% (VA)	38,400.0
PANEL LOADING (100% NON-CONTINUOUS) (VA)	540.0
PANEL LOADING (125% CONTINUOUS) (VA)	25,000.0
TOTAL PANEL LOADING (VA)	25,540.0
PANEL SPARE CAPACITY (VA)	12,860.0

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PH: 423-843-9500 / FAX: 423-843-9509

T-MOBILE SITE NUMBER:
NM01105 - EP03AL504

280 N MESA RD
LOS ALAMOS, NM 87455

EXISTING WATER TOWER

ISSUED FOR:

REV.	DATE	DRWN.	DESCRIPTION	QA.
A	3-12-21	JAF	PRELIMINARY REVIEW	DS
B	4-6-21	DLS	GENERATOR ADDITION	DS
0	4-20-21	JEU	ISSUED FOR PERMITTING	DS
1	4-30-21	DLS	REVISIONS CORRECTED	DS
2	10-27-21	DLS	REVISED RFDS	DS
3	02-09-22	DLS	PROPANE GENERATOR	DS
4	03-01-22	DLS	ADDRESS CORRECTION	DS

FLOYD D. WHITE
NEW MEXICO
24787
PROFESSIONAL ENGINEER
03/01/22

SHEET TITLE:
POWER PANEL SCHEDULE

SHEET NUMBER: E-3

REVISION: 4

POWER & TELCO NOTES:

P1 PROPOSED POWER CONDUIT ROUTING (TYP.)

T1 PROPOSED TELCO CONDUIT ROUTING (TYP.)

GROUNDING NOTES:

G1 GROUND TOWER TOP TMAs AND RRUs TO EXISTING OR NEW TOWER TOP GROUND BAR PER MANUFACTURER'S SPECIFICATIONS (TYP.)

G2 FIELD VERIFY THAT T-MOBILE EQUIPMENT IS PROPERLY GROUNDED (TYP.)

G3 GROUND COVP UNIT & BREAKOUT FEATURE W/ #6 AWG STRANDED GREEN INSULATED GROUND WIRE TO EXISTING OR NEW SITE GROUND PER MANUFACTURER'S SPECIFICATIONS (TYP.)

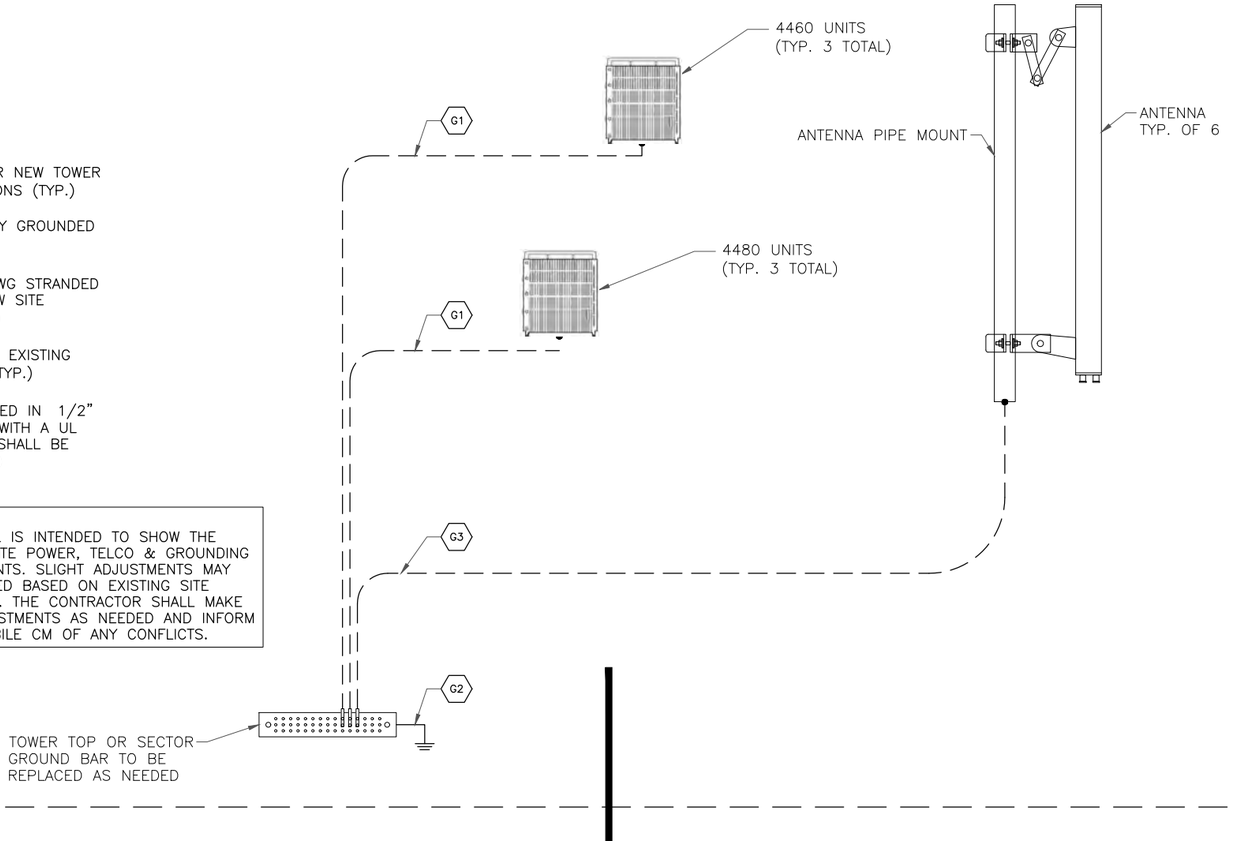
G4 PROPOSED GROUND EQUIPMENT TO BE GROUNDED TO EXISTING GROUND RING PER MANUFACTURE'S SPECIFICATIONS (TYP.)

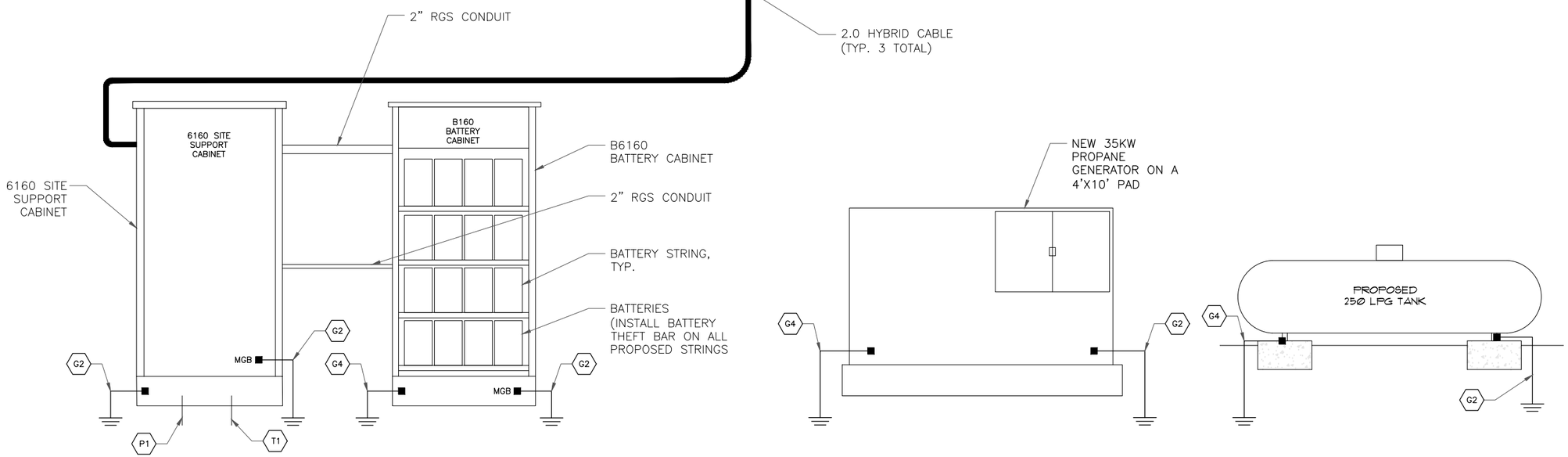
NOTE: ALL EXPOSED GROUND LEADS SHALL BE SLEEVED IN 1/2" PVC FLEX CONDUIT WITH THE EXPOSED END SEALED WITH A UL LISTED, UV RATED SILICONE SEALANT. FLEX CONDUIT SHALL BE CONTINUOUS A MINIMUM OF 12" BELOW GRADE (TYP.)

NOTE:
NEW AC ELECTRICAL LOADS WILL BE ADDED PER THE (ANCHOR) SCOPE OF WORK

NOTE:
ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE LISTED LABELED AND INSTALLED PER A NATIONALLY RECOGNIZED TESTING LABORATORY

NOTE:
THIS DETAIL IS INTENDED TO SHOW THE GENERAL SITE POWER, TELCO & GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE T-MOBILE CM OF ANY CONFLICTS.





1 TYPICAL POWER, TELCO, & GROUNDING SCHEMATIC
SCALE: NOT TO SCALE

GROUNDING PLAN LEGEND:

- #6 STRANDED COPPER WITH GREEN INSULATION GROUND WIRE
- #2 STRANDED COPPER WITH GREEN INSULATION GROUND WIRE
- #2 BARE, SOLID, TINNED COPPER GROUND WIRE
- EXOTHERMIC WELD
- MECHANICAL CONNECTION
- COPPER GROUND ROD
- GROUND ROD W/ TEST WELL

NOTE:

SEE FINAL EQUIPMENT PLAN FOR PROPOSED EQUIPMENT REQUIRING GROUNDING. CONTRACTOR TO VERIFY EXISTING EQUIPMENT GROUNDING IN FIELD. CONTRACTOR TO VERIFY IN FIELD AND INSTALL ANY MISSING T-MOBILE OR SPRINT GROUND BARS ON SITE.

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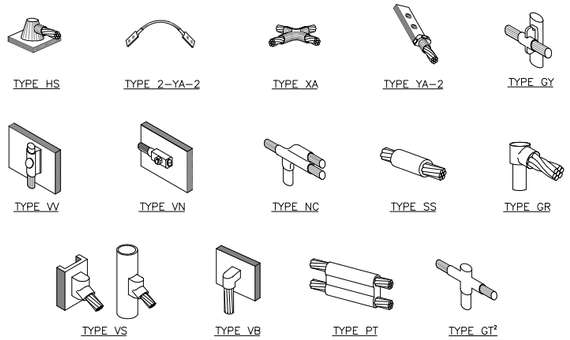
24787
PROFESSIONAL ENGINEER
03/01/22

SHEET TITLE:
ELECTRICAL & GROUNDING SCHEMATIC

SHEET NUMBER: G-1

REVISION: 4

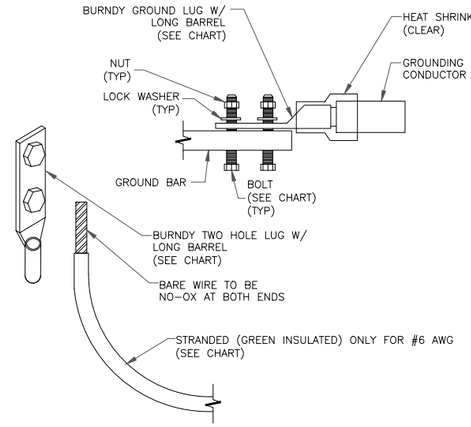


NOTE:

1. ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.
2. MOLD TYPE ONLY TO BE USED BELOW GRADE WHEN CONNECTING GROUND RING TO GROUND ROD.

1 CADWELD GROUNDING CONNECTIONS
SCALE: NOT TO SCALE

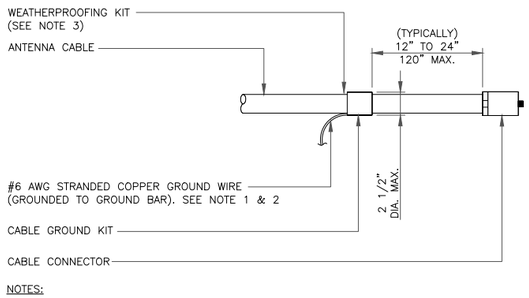
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT



NOTES:

1. ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER,GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

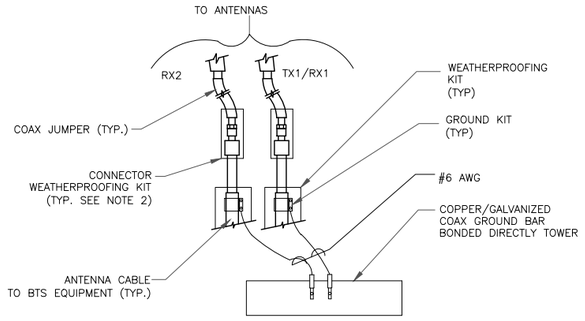
2 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

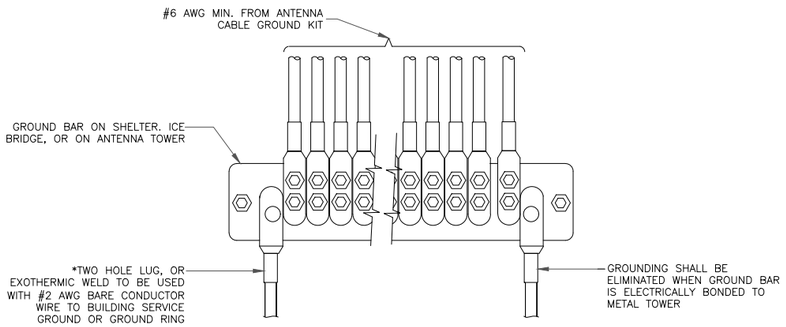
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



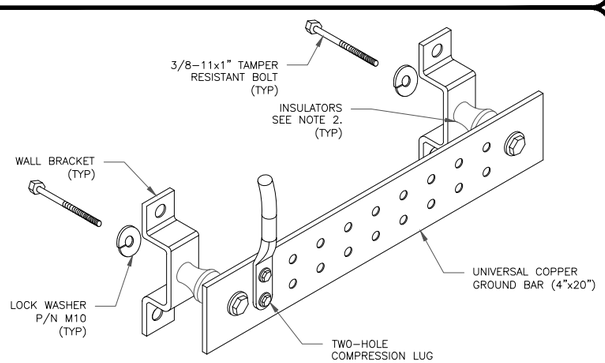
NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.

4 GROUND CABLE CONNECTION
SCALE: NOT TO SCALE



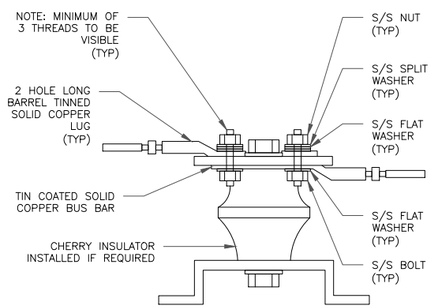
5 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



NOTES:

1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION. CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

6 GROUND BAR DETAIL
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE

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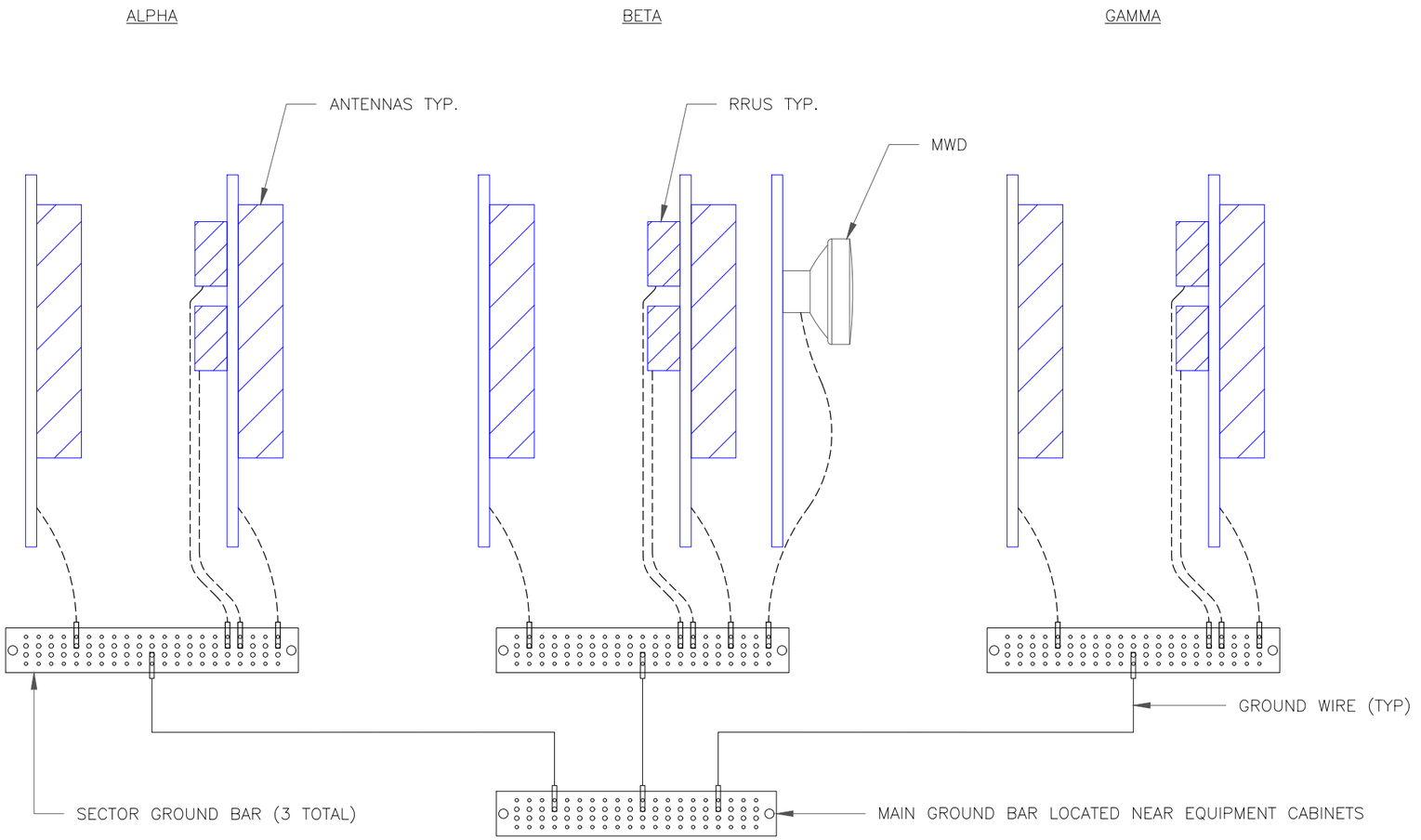
4	03-01-22	DLS	ADDRESS CORRECTION	DS

SHEET TITLE:
GROUNDING DETAILS

SHEET NUMBER: G-2

REVISION: 4



NOTE:

ALL NEW GROUNDS TO BE #6 STRANDED COPPER WITH GREEN INSULATION UNLESS NOTED OTHERWISE.

1 ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE

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24787
PROFESSIONAL ENGINEER
03/01/22

SHEET TITLE:
GROUNDING DETAILS

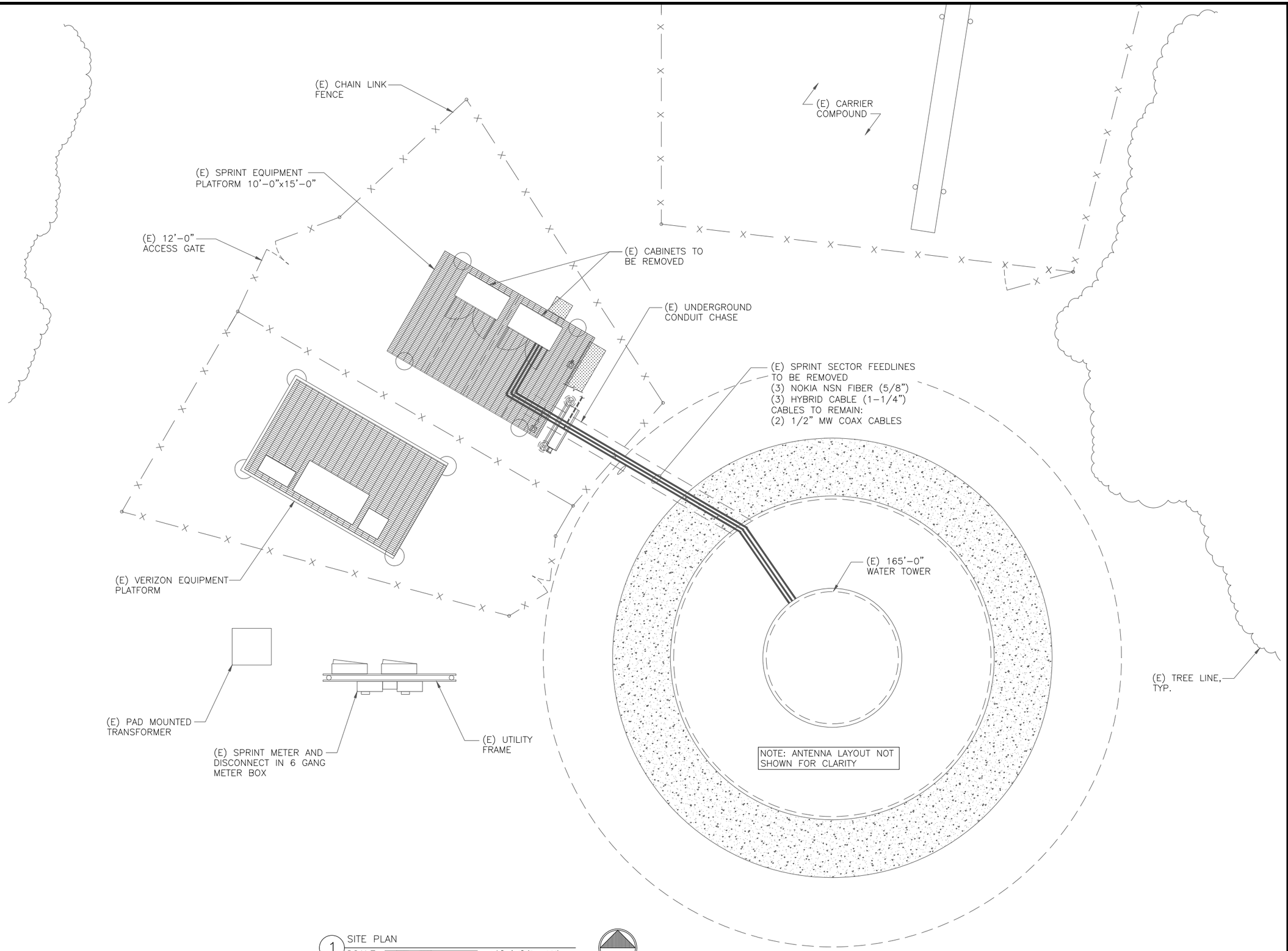
SHEET NUMBER: G-3

REVISION: 4

EXHIBIT C-1

TENANT'S PREMISES

Construction drawings sheet number C-1.1 through sheet number C-2.1 are attached as Exhibit C-1 on the following page depicting Tenant's Premises.



1 SITE PLAN
SCALE: 4' 3' 2' 1' 0 4' 1/4"=1'-0" (FULL SIZE) 1/8"=1'-0" (11x17)

N

Attachment C

T-Mobile
4830 PAN AMERICAN FREEWAY, SUITE A
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24787
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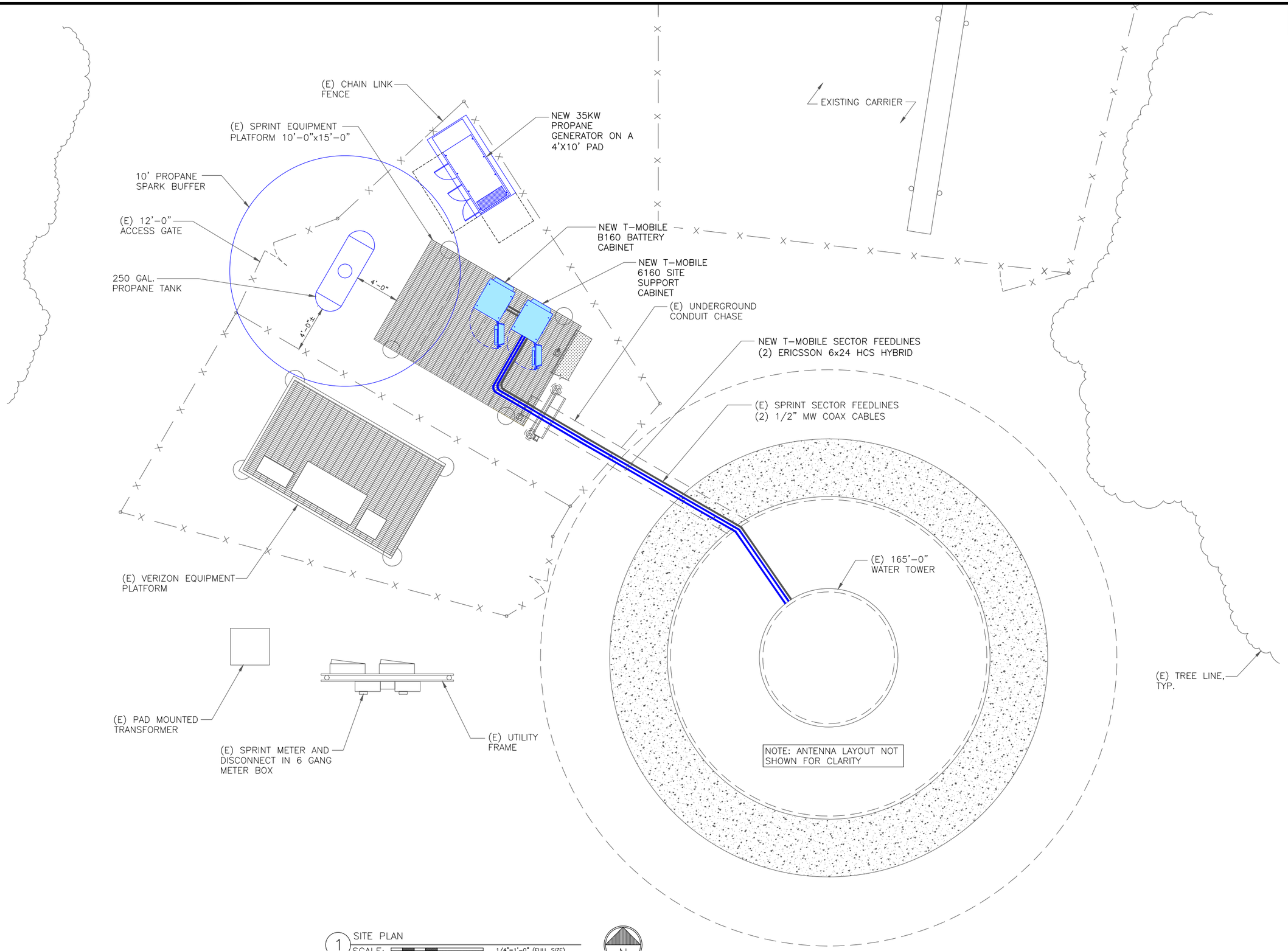
03/01/22

SHEET TITLE:
OVERALL EXISTING SITE PLAN

SHEET NUMBER: C-1.1

REVISION: 4



1 SITE PLAN
SCALE: 4' 3' 2' 1' 0 4' 1/4"=1'-0" (FULL SIZE) 1/8"=1'-0" (11x17)

N

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4	03-01-22	DLS	ADDRESS CORRECTION	DS

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03/01/22

SHEET TITLE:
OVERALL FINAL SITE PLAN

SHEET NUMBER: C-1.1A

REVISION: 4

Attachment C

CONTRACTOR NOTE:

CONTRACTOR TO LOCATE AND REMOVE THE FOLLOWING EQUIPMENT:
(E) SPRINT RBS CABINET
(E) SPRINT BBS CABINET

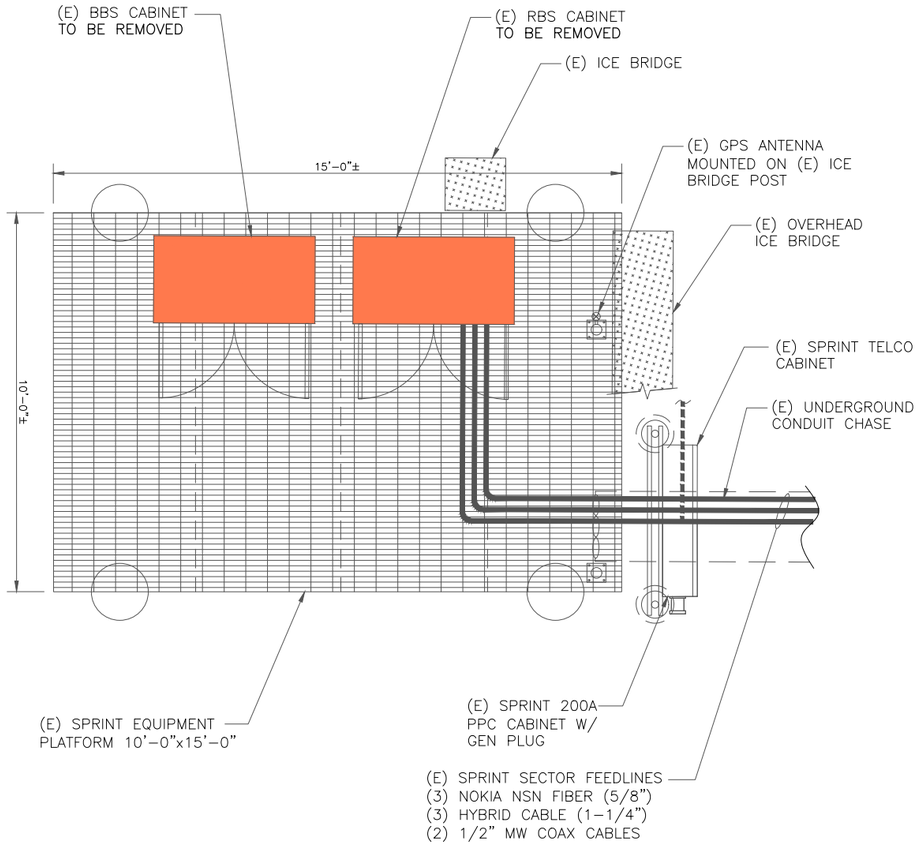
(E) SPRINT EQUIPMENT TO REMAIN:
(E) SPRINT SECTOR FEEDLINES

EQUIPMENT LEGEND:
EXISTING
TO BE RELOCATED/ REMOVED
NEW

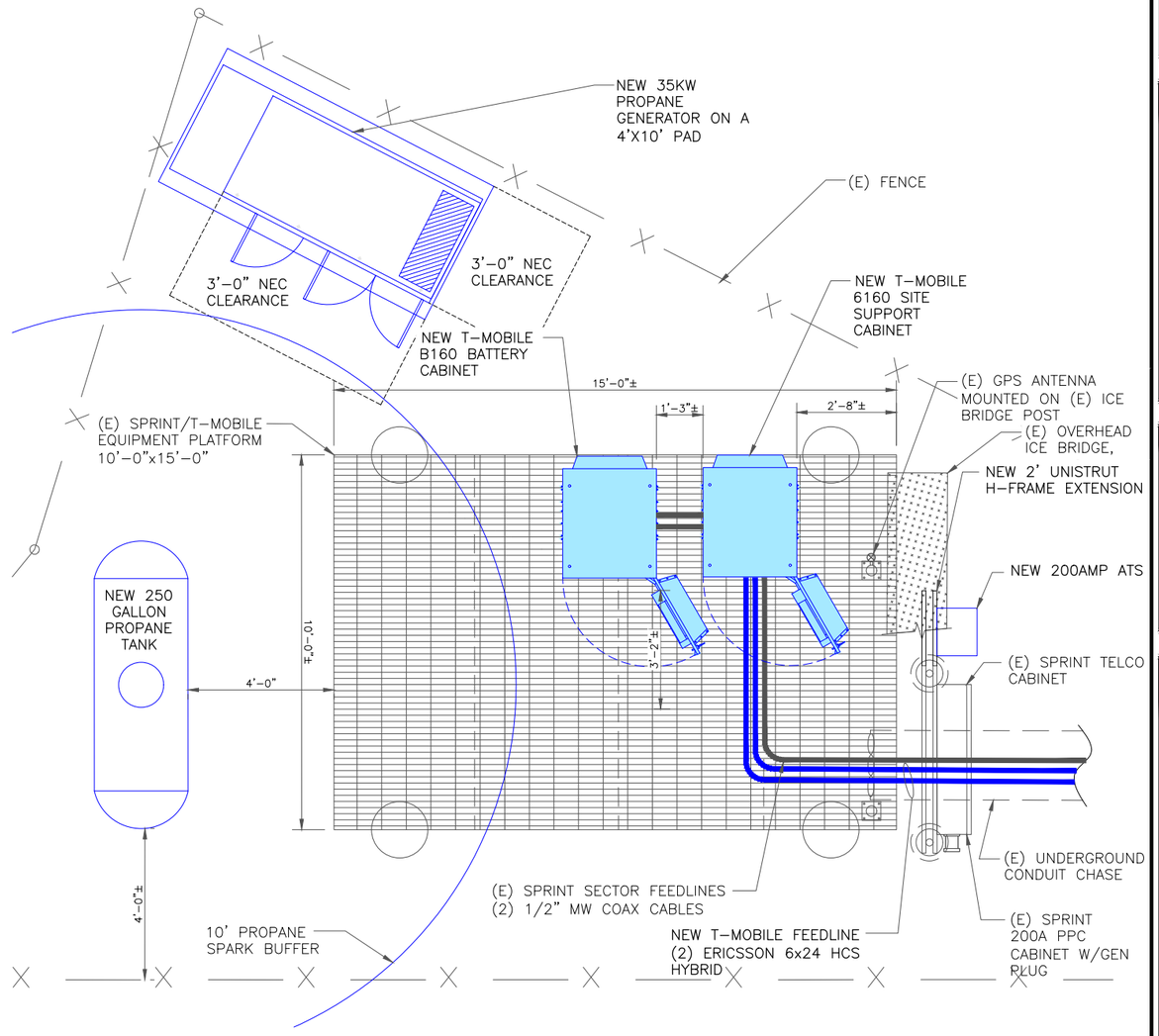
CONTRACTOR NOTE:

CONTRACTOR TO COORDINATE WITH T–MOBILE CONSTRUCTION MANAGER FOR EXACT EQUIPMENT CONFIGURATION AND LOCATION INSIDE EQUIPMENT CABINET(S).

PROPOSED RAN EQUIPMENT:
(1) 6160 CABINET
(1) B160 BATTERY CABINET
(2) BB 6648 UNITS
(1) BB 6630
(1) DUG20 UNIT



1 EXISTING EQUIPMENT PLAN
SCALE: 2' 1' 0 2' 1/2"=1'–0" (FULL SIZE) 1/4"=1'–0" (11x17)



2 FINAL EQUIPMENT PLAN
SCALE: 2' 1' 0 2' 1/2"=1'–0" (FULL SIZE) 1/4"=1'–0" (11x17)

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SHEET TITLE:
EXISTING & FINAL EQUIPMENT PLANS

SHEET NUMBER: C-1.2

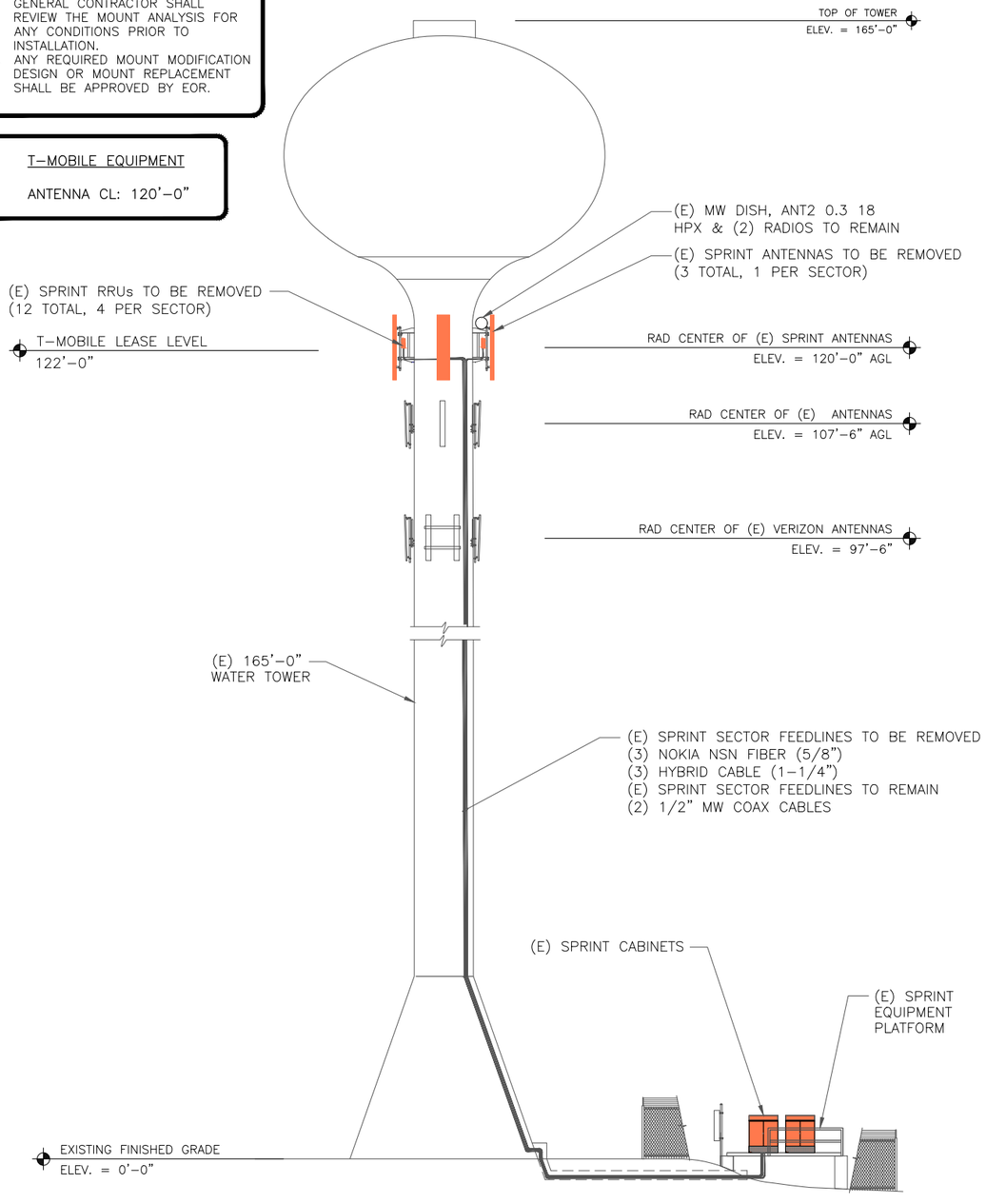
REVISION: 4

MOUNT ANALYSIS NOTES:

1. THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING MOUNT ANALYSIS.
2. CONSTRUCTION MANAGER / GENERAL CONTRACTOR SHALL REVIEW THE MOUNT ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
3. ANY REQUIRED MOUNT MODIFICATION DESIGN OR MOUNT REPLACEMENT SHALL BE APPROVED BY EOR.

T-MOBILE EQUIPMENT

ANTENNA CL: 120'-0"

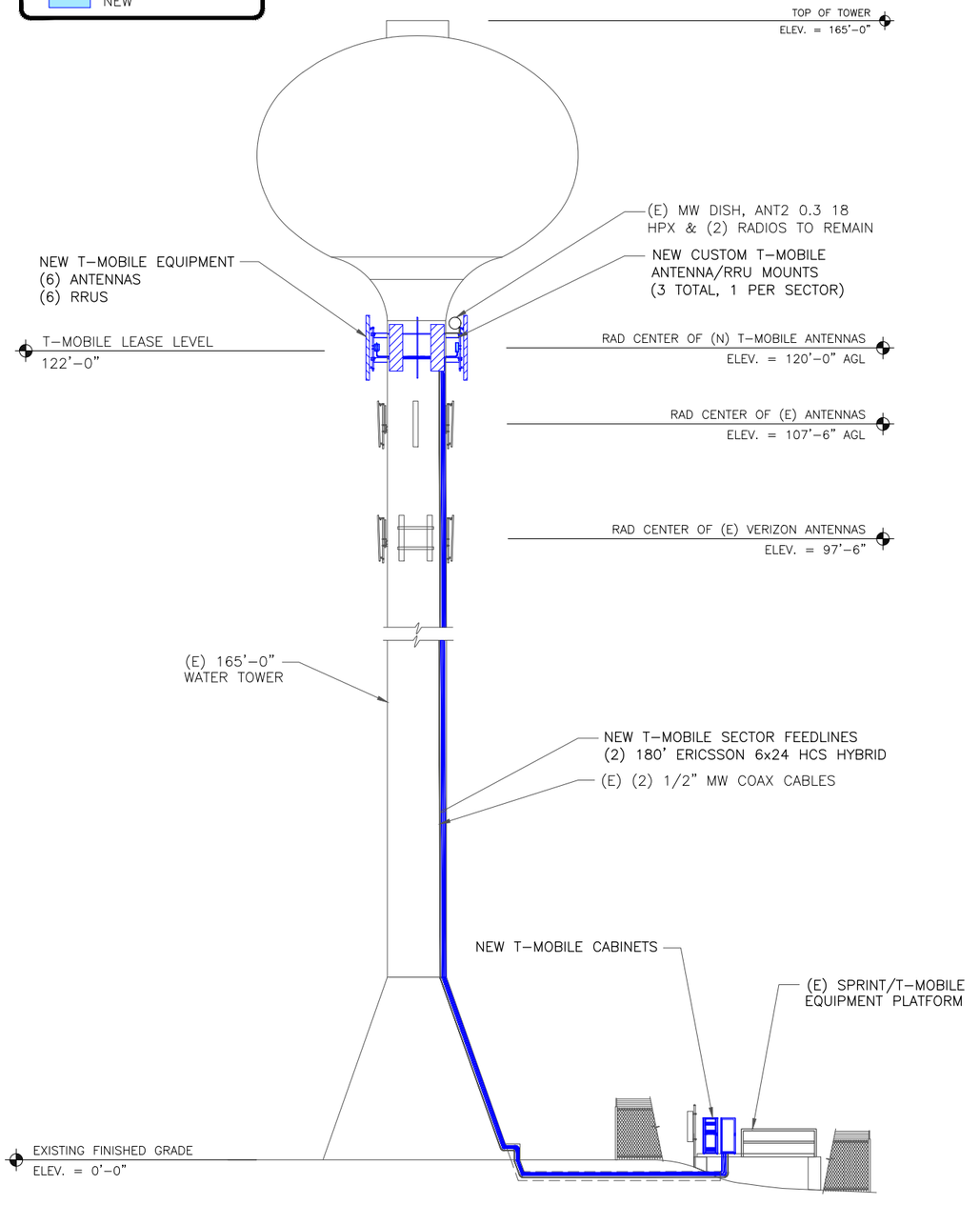


2 EXISTING ELEVATION
SCALE: NOT TO SCALE

EQUIPMENT LEGEND:

- EXISTING
- TO BE RELOCATED/ REMOVED
- NEW

ANTENNA HEIGHTS AND LAYOUT
PER T-MOBILE RFDS
NM01105A_SPRINT
RETAIN_1_2021-08-24



2 FINAL ELEVATION
SCALE: NOT TO SCALE

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SHEET TITLE:

FINAL TOWER ELEVATION

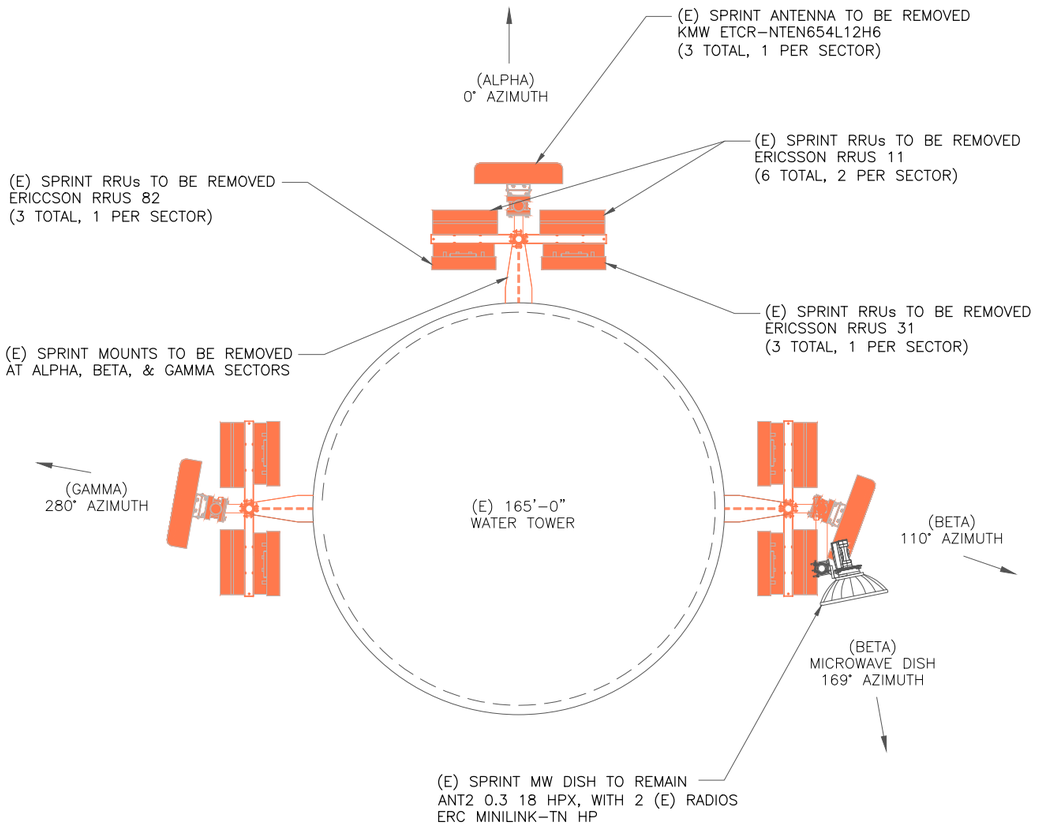
SHEET NUMBER: C-2

REVISION: 4

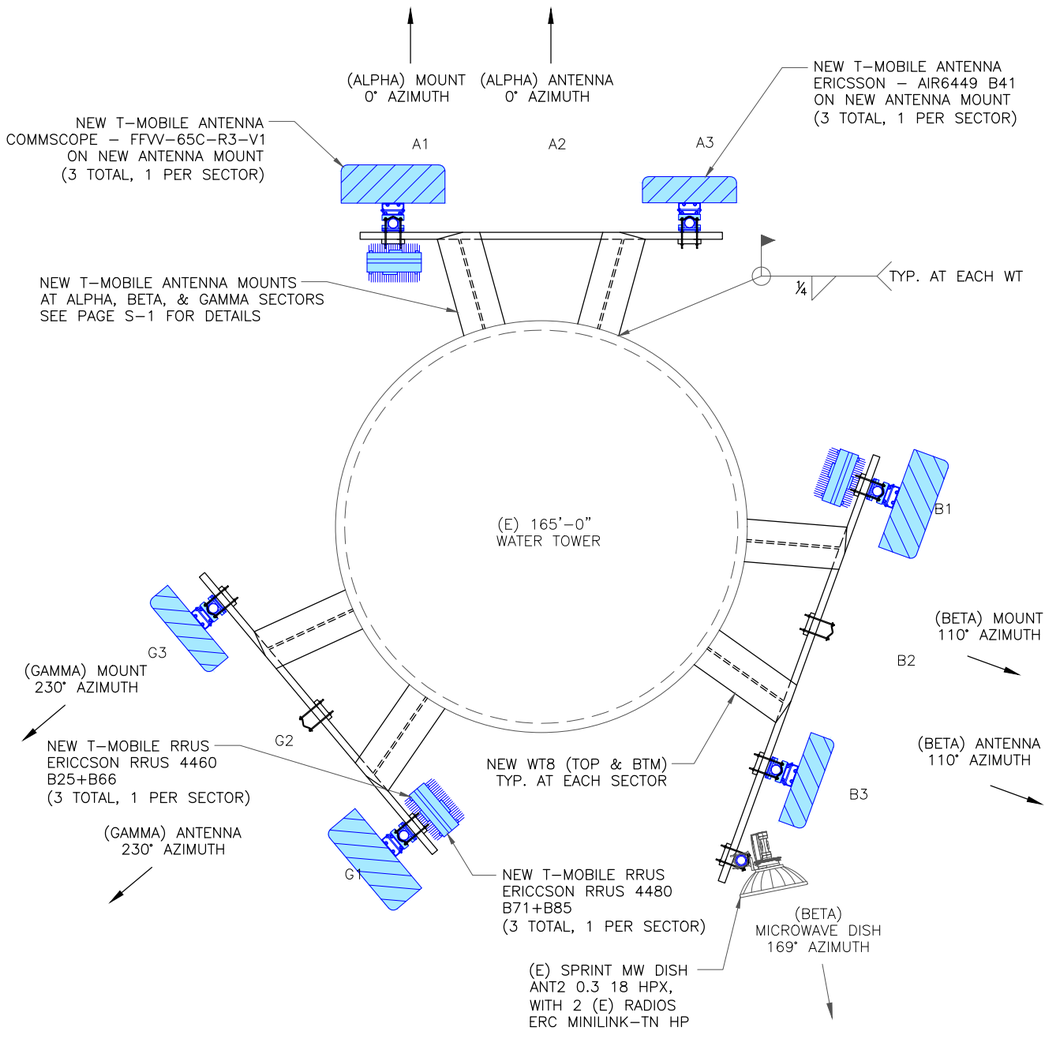
EQUIPMENT LEGEND:

- EXISTING
- TO BE RELOCATED/ REMOVED
- NEW

ANTENNA HEIGHTS AND LAYOUT PER T–MOBILE RFDS NM01105A_SPRINT RETAIN_1_2021–08–24



1 EXISTING ANTENNA PLAN ALPHA SECTOR
SCALE: NOT TO SCALE



2 FINAL ANTENNA PLAN BETA SECTOR
SCALE: NOT TO SCALE

MOUNT ANALYSIS NOTES:

1. THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING MOUNT ANALYSIS.
2. CONSTRUCTION MANAGER / GENERAL CONTRACTOR SHALL REVIEW THE MOUNT ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
3. ANY REQUIRED MOUNT MODIFICATION DESIGN OR MOUNT REPLACEMENT SHALL BE APPROVED BY EOR.

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24787
PROFESSIONAL ENGINEER
03/01/22

SHEET TITLE:
EXISTING AND FINAL ANTENNA PLANS

SHEET NUMBER: C-2.1

REVISION: 4

EXHIBIT F
REPAIR AND MAINTENANCE STANDARDS

The use of the Facility for potable water delivery to the citizens of the County of Los Alamos is paramount, and Tenant's use of the Facility is secondary. Accordingly, to protect the security and delivery of potable water, the following are mandatory standards that must be adhered to by Tenant at all times during the Term of this Agreement.

Landlord designates its utility manager (or his or her designee) in the Engineering Division of the Los Alamos County Department of Public Utilities ("**Utility Manager**") to administer the repair and maintenance standards in this Exhibit F. Landlord may change this designation from time-to-time upon written notice to Tenant. Tenant must adhere to the following repair and maintenance standards:

a. In all cases, all welding, grinding, or painting activities on the Facility shall only be performed by licensed contractor under the Construction Industries Licensing Act, NMSA 1978 to conduct work on water storage tanks as approved by the Utility Manager.
b. No unused Tenant attachments to the Facility shall be permitted. Any such existing but unused Tenant attachments on the Effective Date of this First Amendment shall be removed by Tenant no later than thirty (30) days thereafter.
c. Once the unused attachments are removed, Tenant shall grind smooth with existing Facility surface and within two (2) hours thereafter apply a minimum of two (2) coats of polyurethane paint on Facility exterior, or additional coats if required by the Utility Manager.
d. For all new Tenant attachments on or after the Effective Date of this First Amendment, all areas must be stripped and coated as part of the new Tenant attachment installation on the Facility exterior with minimum of two (2) coats of polyurethane paint as required by the Utility Manager.
e. Where heat from any welding or cutting damages the prior existing interior coating of the Facility, Tenant must apply minimum of two (2) coats of paint on the tank interior where so damaged as determined by Utility Manager.
f. In all cases, Tenant shall perform surface preparation in compliance with the paint manufacturer specifications and any additional specifications of the Utility Manager.
g. In all cases, Tenant must first submit to Utility Manager detailed plans and specifications for all work to be performed and products to be used for written approval. The Utility Manager may waive or impose additional requirements for specific Tenant projects submitted for approval based on the work to be performed. No work may proceed without such prior written approval. Any such work performed by Tenant on the Facility without the prior written approval of the Utility Manager shall be a material breach of the Lease, as amended.

Summary of Current and Proposed Provisions

Lease for Antenna Collocation and Facilities Site dated March 5, 2002 between The Incorporated County of Los Alamos (the "**County**") and Sprint Spectrum Realty Company, LLC, a Delaware limited liability company, successor-in-interest to Alamosa Properties, L.P. a Texas limited partnership ("**T-Mobile**")

	SUMMARY OF THE CURRENT PROVISIONS IN THE LEASE	**SUMMARY OF PROPOSED CHANGES THROUGH THE FIRST AMENDMENT**
Current Premises	122-feet above-ground-level of vertical space on the Mesa Water Tank 624 square feet of ground space below the Mesa Water Tank	Additional horizontal space on the 122-foot level of the Mesa Water Tank for one (1) antenna No change to the ground space
Initial Term	Five (5) years, commencing on March 5, 2002 and ending on March 4, 2007	No change
Renewal Terms	Mobile can extend the Lease up to five (5) additional terms of (5) years each by giving the County written notice of renewal at least ninety (90) days prior to the expiration of the then-current lease term.	No change
Final Expiration if all Lease Terms are Exercised	March 1, 2032	No change
Rent	$876.74/month	$1,951.13/month This is a 225% increase from the current rent.
Rent Escalator	Three percent (3%) per annum	Annual escalator is based on the greater of: (i) Three percent (3%) or (ii) the increase in percentage in annual the Consumer Price Index for All Urban Consumers (CPI-U) published by the United States Bureau of Labor in the immediately preceding October annual CPI-U report.
Early Termination Fee	N/A	If T-Mobile wants to terminate the Lease prior to expiration of the then-current term, T-Mobile will pay a termination fee equal to then-current rent multiplied by (i) either 12 or (ii) the number of months remaining in the then-current five (5) year term, whichever is less
Modifications to the Site	Modifications to the Premises require the County's written approval. However, it is not clear *what level* of approval is required and whether written approval can be given *without requiring a formal amendment* to the Lease.	All future T-Mobile modifications that expand the Premises must be specifically approved by the County Council in the form of an amendment to the Lease.
Signing Bonus	N/A	$15,000 one-time payment

Agenda No.:	5.B.
Index (Council Goals):	DPU FY2022 - 1.0 Provide Safe and Reliable Utility Services; DPU FY2022 - 2.0 Achieve and Maintain Excellence in Financial Performance
Presenters:	James Alarid, Deputy Utilities Manager - Engineering
Legislative File:	**RE0505-22a**

Title
Approval of Resolution 22-16 Authorization to Apply To Water Trust Board 2023 Cycle

Recommended Action
I move that the Board of Public Utilities Approve Resolution 22-16 Authorizing Submission of an Application to the Water Trust Board for the 2023 Funding Cycle, and forward to Council for approval.

..Utilities Manager's Recommendation
The Utilities Manager recommends that the Board approve as presented.

Body
The Department of Public Utilities (DPU) has chosen to apply to the New Mexico Finance Authority, Water Trust Board (WTB) in the 2023 cycle to fund the State Road 4 Water Transmission Line Replacement project. The project is estimated to cost $6 million. We plan to apply for $5 million from the WTB. We do not know the amount that will be awarded, but if successful we anticipate the award will have a 60% grant component, 40% loan component (20-year term @ 0.25% interest rate), and a required match of 20% of the awarded amount which would come from DPU water production capital funds.

The project is driven by the NMDOT's plans to reconstruct NM-4 between White Rock and the NM-502/NM-4 intersection in 2024. The existing 16" water transmission line is located along NM-4 roadway and has been experiencing leaks more frequently in recent years. The pipeline is concrete cylinder material which is difficult to repair and failures are extremely destructive. The new road will be widened placing a large amount of the pipeline beneath the new asphalt. The pipeline must remain in its current alignment as it must stay within an existing 25' easement. DPU had planned this waterline replacement project in near the future but will move it up to coordinate with the road construction to avoid the risk of damages if the line fails beneath the new road and the complexities of replacing the line after the road is widened. The DPU will partner with the NMDOT and construct the waterline as part of the road reconstruction project.

Alternatives
The resolution is a mandatory portion of the application submittal. If the resolution is not

approved an application will not be submitted.

Fiscal and Staff Impact

In 2022 the DPU was awarded a $400,000 grant from the state legislature for the project.

The WTB is the only grant funding available of for the project. Due to the NMDOT project, DPU is moving the project up to 2024, which also requires we complete the project in its entirety in 2024. This eliminates options such as phasing the project or building additional capital to fund the project. If the WTB funding is not awarded, or only a portion is awarded, the DPU will proceed with the existing plan to fund the project with a Drinking Water State Revolving Loan. We have provided a debt profile as Attachment B which includes the new $2 million loan that is the 40% component of the project, assuming we receive the WTB award in 2023. Our debt service coverage ratio stays above 1.2, the value NMFA & NMED consider the lower limit when considering loan applications.

Attachments

A - Resolution 22-16
B - Debt Service Evaluation Including WTB Award

INCORPORATED COUNTY OF LOS ALAMOS RESOLUTION NO. 22-16

A RESOLUTION AUTHORIZING THE COUNTY COUNCIL CHAIR OR LOS ALAMOS COUNTY UTILITIES MANAGER TO APPROVE SUBMISSION OF COMPLETED APPLICATIONS AND NECESSARY DOCUMENTS FOR 2023 APPLICATIONS TO THE WATER TRUST BOARD FOR FUNDING WATER SYSTEM PROJECTS

WHEREAS, the 2001 Legislature enacted the Water Project Finance Act which created the Water Project Fund ("Fund") in the State's New Mexico Finance Authority ("NMFA") and charged the NMFA with the administration of the Fund and the Water Trust Board ("WTB"); and

WHEREAS, the Incorporated County of Los Alamos ("County") is a qualified entity under the New Mexico Finance Authority Act, NMSA 1978, §§ 6-21-1 through 6-21-31 (2003) ("Act"), and County is authorized to borrow funds and/or issue bonds for financing of public projects for the benefit of County; and

WHEREAS, the NMFA has instituted a program for financing of projects from the Fund created under the WTB Act (Sections 19.25.10.1 through 19.25.10.20, NMAC 2008) and has developed an application procedure whereby the County Council ("Governing Body") may submit an application ("Application") for financial assistance from the NMFA for public projects; and

WHEREAS, County intends to undertake replacements for its Water System projects ("Projects") for the benefit of the County and its citizens; and

WHEREAS, County acknowledges a commitment to provide the necessary match funding and funding for future operations and maintenance for these Projects for the benefit of the County and its citizens; and

WHEREAS, the WTB requests, as part of the application process, adoption and submittal of a resolution of commitment to the implementation of an asset management plan; and

WHEREAS, County and WTB's investments shall be protected and maintained for optimum longevity through County's asset management plan; and

WHEREAS, the Applications for WTB funding, as prescribed by NMFA, together with this Resolution, shall be completed and submitted by the Governing Body to NMFA for its consideration and review; and

WHEREAS, the Applications for WTB funding, as prescribed by NMFA, together with this Resolution was recommended to be forwarded to the County Council by the County's Board of Public Utilities ("Board") on August 17, 2022; and

WHEREAS, a meeting of the County Council was held on this date to consider the authorization and submission of the Applications for 2023 WTB Funding Requests for County's Water System projects, implementation of and administration of an asset management plan, and authorization for match and operation and maintenance funding.

NOW, THEREFORE, BE IT RESOLVED BY THE GOVERNING BODY OF THE Incorporated County of Los Alamos:

Section 1. That the Chair of the Incorporated County of Los Alamos Council, the County's Utility Manager ("Utilities Manager") and necessary employees are hereby directed, authorized and requested to submit the necessary documents and applications to NMFA for its review of the project ("Project") which is the Construction of a 16" Water Transmission Line in and along New Mexico State Road 4, and are further authorized to take such other action as may be requested by the NMFA in its consideration and review of the Application(s) and to further proceed with arrangements for financing the Project.

Section 2. The Council further provides authorization for the Utilities Manager to allocate required matching grant funding for the Project and for any future operation and maintenance costs of the Project if the Projects and applications are accepted.

Section 3. All acts and resolutions in conflict with this Resolution are hereby rescinded, annulled and repealed.

Section 4. This Resolution shall take effect immediately upon its adoption.

PASSED AND ADOPTED this 30th day of August 2022.

COUNCIL OF THE INCORPORATED COUNTY OF LOS ALAMOS

_____

Randall T. Ryti,
Council Chair

ATTEST:

_____

Naomi D. Maestas,
Los Alamos County Clerk

Los Alamos County

Debt Profile - Current Debt

Net System Revenue of the Joint Utility System

	Senior Lien	Subordinate Lien				Super Subordinate Lien																		Total		
Debt	2010 NMFA PPRF Loan PPRF-2461	2014 NMFA PPRF Loan PPRF-3150	Proposed NMFA DW Loan DW-5456	Proposed NMFA DW Loan DW-5637	Proposed NMFA DW Loan DW-5638	2019 NMED Loan CWSRF 083	Proposed NMED Loan CWSRF 110	2018 NMED Loan CWSRF 1438143R	2009 NMED Loan CWSRF 09L ARRA	NMFA WTB Loan WTB-0063	NMFA WTB Loan WTB-0089	NMFA WTB Loan WTB-0156	NMFA WTB Loan WTB-0157	NMFA WTB Loan WTB-0220	NMFA WTB Loan WTB-0221	NMFA WTB Loan WTB-0318	NMFA WTB Loan WTB-0340	NMFA WTB Loan WTB-3557	NMFA WTB Loan WTB-4826	NMFA WTB Loan WTB-5426	NMFA WTB Loan WPF-5081	NMFA WTB Loan WPF-5673	Proposed NMFA WTB Loan	Total Debt Service	Total Revenue	Total Debt Service Coverage
Par	$ 13,085,000	$ 21,690,000	$ 3,709,892	$ 857,000	$ 2,700,000	$ 6,500,000	$ 25,000,000	$ 7,029,504	$ 150,000	$ 65,080	$ 79,912	$ 147,500	$ 50,000	$ 600,000	$ 140,000	$ 562,400	$ 182,000	$ 53,840	$ 320,000	$ 1,300,000	$ 360,000	$ 1,460,000	$ 2,000,000			
Rate	5.36%	5.10%	1.00%	1.00%	1.00%	2.38%	0.01%	1.00%	3.00%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%			
Issue Date	8/12/2010	8/13/2014	10/8/2021	Pending	Pending	4/12/2019	Pending	11/8/2018	2009	39178	39759	40375	40385	40851	40921	42184	42460	42776	43903	Pending	Pending	Pending	Pending			
Call Date	8/12/2020	8/13/2024	N/A	N/A	N/A	N/A		N/A	N/A	4/6/2008	11/7/2009	7/16/2011	7/26/2011	11/4/2012	1/13/2013	6/29/2016	3/31/2017	2/10/2018	3/13/2021							
Source	NMFA	NMFA	NMFA	NMFA	NMFA	NMED	NMED	NMED	NMED	NMFA	NMFA	NMFA	NMFA	NMFA	NMFA	NMFA	NMFA	NMFA	NMFA	NMFA	NMFA	NMFA	NMFA			
Pledge	NSR of Joint Utility System	NSR of Joint Utility System	NSR of Joint Utility System	NSR of Joint Utility System	NSR of Joint Utility System	NSR of the Wastewater Utility	NSR of Joint Utility System	NSR of the Wastewater Utility	NSR of Joint Utility System	NSR of the Wastewater Utility	NSR of the Water Utility System	NSR of the Water Utility System	NSR of the Water Utility System	NSR of Water Utility System	NSR of Water Utility System	NSR of Joint Utility System	NSR of Joint Utility System	NSR of Joint Water and Wastewater Utility System	NSR of the Water Utility System	NSR of the Wastewater Utility	NSR of the Water Utility System	NSR of the Water Utility System	NSR of the Water Utility System			
Term	20 years	20 years	25 years	25 Years	25 Years	20 years	20 years	20 years	20 years	20 years	20 years	20 years	20 years	20 years	20 years	20 years	20 years	20 years	20 years	20 years	20 years	20 years	20 years			
2022	$ 1,253,863	$ 729,375	$ 20,920	$ -	$ -	$ -	$ -	$ 460,153	$ 15,783	$ 3,342	$ 4,190	$ 7,570	$ 2,566	$ 31,702	$ 7,186	$ 28,990	$ 9,735	$ 2,772	$ 16,473	$ -	$ -	$ -	$ -	$ 2,594,619	$ 8,860,597	3.41
2023	$ 1,254,372	$ 725,660	$ 37,099	$ -	$ -	$ -	$ -	$ 460,153	$ 15,783	$ 3,341	$ 4,190	$ 7,570	$ 2,566	$ 31,699	$ 7,185	$ 28,990	$ 9,735	$ 2,773	$ 16,473	$ -	$ 18,531	$ -	$ -	$ 2,626,121	$ 13,862,066	5.28
2024	$ 1,239,579	$ 730,925	$ 168,454	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313	$ 460,153	$ 15,783	$ 3,342	$ 4,190	$ 7,570	$ 2,566	$ 31,697	$ 7,186	$ 28,990	$ 9,735	$ 2,772	$ 16,473	$ 66,720	$ 18,532	$ 74,931	$ -	$ 4,714,472	$ 7,698,950	1.63
2025	$ 1,223,138	$ 639,660	$ 168,454	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313	$ 460,153	$ 15,783	$ 3,342	$ 4,190	$ 7,571	$ 2,566	$ 31,696	$ 7,185	$ 28,989	$ 9,735	$ 2,772	$ 16,474	$ 66,720	$ 18,531	$ 74,931	$ 102,646	$ 4,709,410	$ 7,839,896	1.66
2026	$ 1,210,048	$ 640,710	$ 168,455	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313	$ 460,153	$ 15,783	$ 3,342	$ 4,190	$ 7,570	$ 2,566	$ 31,693	$ 7,186	$ 28,990	$ 9,736	$ 2,773	$ 16,473	$ 66,720	$ 18,531	$ 74,931	$ 102,646	$ 4,697,368	$ 7,621,283	1.62
2027	$ 1,189,720	$ 636,295	$ 168,454	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313	$ 460,153	$ 15,783	$ 3,341	$ 4,190	$ 7,570	$ 2,567	$ 31,691	$ 7,185	$ 28,989	$ 9,735	$ 2,773	$ 16,474	$ 66,720	$ 18,532	$ 74,931	$ 102,646	$ 4,672,622	$ 11,914,137	2.55
2028	$ 1,177,264	$ 639,195	$ 168,454	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313	$ 460,153	$ 15,783		$ 4,190	$ 7,571	$ 2,566	$ 31,689	$ 7,185	$ 28,989	$ 9,735	$ 2,772	$ 16,473	$ 66,720	$ 18,531	$ 74,931	$ 102,646	$ 4,659,722	$ 20,071,384	4.31
2029	$ 1,152,072	$ 636,375	$ 168,454	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313	$ 460,153	$ 15,783			$ 7,570	$ 2,566	$ 31,687	$ 7,185	$ 28,989	$ 9,736	$ 2,772	$ 16,473	$ 66,720	$ 18,532	$ 74,931	$ 102,646	$ 4,627,518	$ 14,692,405	3.18
2030	$ 1,129,752	$ 638,015	$ 168,454	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313	$ 460,153	$ 15,783			$ 7,571	$ 2,566	$ 31,684	$ 7,186	$ 28,989	$ 9,736	$ 2,773	$ 16,473	$ 66,720	$ 18,531	$ 74,931	$ 102,646	$ 4,606,837	$ 13,206,694	2.87
2031		$ 633,935	$ 168,455	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313	$ 460,153	$ 15,783					$ 31,681	$ 7,185	$ 28,990	$ 9,736	$ 2,773	$ 16,473	$ 66,720	$ 18,531	$ 74,931	$ 102,646	$ 3,462,865	$ 11,588,963	3.35
2032		$ 632,953	$ 168,454	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313	$ 460,153						$ 31,679	$ 7,185	$ 28,989	$ 9,736	$ 2,772	$ 16,473	$ 66,720	$ 18,531	$ 74,931	$ 102,646	$ 3,446,096	$ 8,577,408	2.49
2033		$ 636,200	$ 168,454	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313	$ 460,153								$ 28,989	$ 9,736	$ 2,772	$ 16,473	$ 66,720	$ 18,531	$ 74,931	$ 102,646	$ 3,410,479	$ 8,577,408	2.52
2034		$ 633,485	$ 168,454	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313	$ 460,153								$ 28,989	$ 9,736	$ 2,772	$ 16,473	$ 66,720	$ 18,532	$ 74,931	$ 102,646	$ 3,407,765	$ 8,577,408	2.52
2035			$ 168,454	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313	$ 460,153								$ 28,989	$ 9,736	$ 2,773	$ 16,473	$ 66,720	$ 18,531	$ 74,931	$ 102,646	$ 2,774,280	$ 8,577,408	3.09
2036			$ 168,454	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313										$ 9,735	$ 2,773	$ 16,473	$ 66,720	$ 18,531	$ 74,931	$ 102,646	$ 2,285,136	$ 8,577,408	3.75
2037			$ 168,455	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313											$ 2,773	$ 16,473	$ 66,720	$ 18,532	$ 74,931	$ 102,646	$ 2,275,403	$ 8,577,408	3.77
2038			$ 168,455	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313											$ 2,773	$ 16,473	$ 66,720	$ 18,531	$ 74,931	$ 102,646	$ 2,275,402	$ 8,577,408	3.77
2039			$ 168,454	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313												$ 16,473	$ 66,720	$ 18,531	$ 74,931	$ 102,646	$ 2,272,628	$ 8,577,408	3.77
2040			$ 168,454	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313												$ 16,473	$ 66,720	$ 18,531	$ 74,931	$ 102,646	$ 2,272,628	$ 8,577,408	3.77
2041			$ 168,455	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313												$ 16,473	$ 66,720	$ 18,531	$ 74,931	$ 102,646	$ 2,272,629	$ 8,577,408	3.77
2042			$ 168,454	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313													$ 66,720	$ 18,531	$ 74,931	$ 102,646	$ 2,256,155	$ 8,577,408	3.80
2043			$ 168,454	$ 38,914	$ 122,598	$ 412,049	$ 1,251,313													$ 66,720		$ 74,931	$ 102,646	$ 2,237,624	$ 8,577,408	3.83
2044			$ 168,454	$ 38,914	$ 122,598																		$ 102,646	$ 432,611	$ 8,577,408	19.83
2045			$ 168,454	$ 38,914	$ 122,598																			$ 329,966	$ 8,577,408	25.99
2046			$ 168,454	$ 38,914	$ 122,598																			$ 329,966	$ 8,577,408	25.99
2047			$ 168,454	$ 38,914	$ 122,598																			$ 329,966	$ 8,577,408	25.99
2048			$ 168,453	$ 38,914	$ 122,598																			$ 329,965	$ 8,577,408	25.99
Total	$ 12,080,037	$ 11,224,521	$ 4,269,372	$ 972,840	$ 3,064,956	$ 8,240,979	$ 25,026,258	$ 6,949,549	$ 173,613	$ 23,392	$ 33,520	$ 75,702	$ 25,661	$ 380,303	$ 86,223	$ 434,842	$ 155,767	$ 49,905	$ 329,463	$ 1,334,395	$ 370,625	$ 1,498,628	$ 2,052,915	$ 78,853,466		

Agenda No.:	6.A.
Index (Council Goals):	DPU FY2022 - 3.0 Be a Customer Service Oriented Organization that is Communicative, Efficient, and Transparent
Presenters:	Board of Public Utilities
Legislative File:	**15788-22**

Title
Approval of Board of Public Utilities Meeting Minutes

Recommended Action
I move that the Board of Public Utilities approve the meeting minutes as presented (or amended).

Body
REQUESTED REVISIONS TO THE DRAFT MINUTES

Draft minutes are sent to members after each meeting for their review. Members may then send changes to be incorporated prior to final approval of the minutes at the next regular meeting.

Attachments
A - Draft BPU Work Session Minutes - July 6, 2022
B - Draft BPU Regular Meeting Minutes - July 20, 2022
C - Utilities Manager Report - July 20, 2022

County of Los Alamos

Minutes

Board of Public Utilities Work Session

1000 Central Avenue
Los Alamos, NM 87544

Cornell Wright, Chair; Steve Tobin, Vice Chair;
Eric Stromberg, Stephen McLin and Charles Nakhleh, Members;
Philo Shelton, Ex Officio Member
Steve Lynne, Ex Officio Member
Denise Derkacs, Council Liaison

Wednesday, July 6, 2022 **6:30 PM** **Zoom**
https://us06web.zoom.us/j/87082501877

Business & Action Items

1. CALL TO ORDER

This work session of the Incorporated County of Los Alamos Board of Public Utilities was held on Wednesday, July 6, 2022, via Zoom video conferencing platform. Board Chair Cornell Wright called the meeting to order at 6:30 p.m. BPU members, staff and the public participated remotely. Members of the public were notified of the ability to watch and submit public comment online. The following board members were in attendance:

Present 7 - Wright, Tobin, McLin, Nakhleh, Stromberg, Shelton and Lynne

1.A. 16106-22 Statement Regarding Closed Session

Pursuant to § 10-15-1 (H)(2) of the New Mexico Open Meetings Act, NMSA 1978, the Board of Public Utilities met in closed session at 5:30 pm to discuss information pertaining to limited personnel matters: Utilities Manager Performance Planning

****

Member Wright moved that the Board of Public Utilities approve the following statement for inclusion in the minutes: "The matters discussed in the closed session on July 6, 2022 were limited only to those topics specified in the notice of the closed session, and no action was taken on any matter during the closed session. I further move that the Board of Public Utilities approve the Utilities Manager's performance planning document developed in tonight's closed session and ask the Board Chair to review the same with the Utilities Manager."
The motion passed by the following vote:
****

Yes: 4 - Board Member Wright, Board Member Tobin, Board Member McLin, Board Member Nakhleh and Board Member Stromberg

2. PUBLIC COMMENT

Chair Wright opened the floor for public comment on items not otherwise included on the agenda. There was no public comment.

3. APPROVAL OF AGENDA

****

Member McLin moved that the agenda be approved as presented. The motion passed by the following vote:

****

Yes: 4 - Board Member Tobin, Board Member McLin, Board Member Nakhleh, Board Member Stromberg and Board Member Wright

4. BUSINESS

4.A. 16024-22 Water and Energy Conservation Plan

Ms. Hayward presented the Draft 2022 Water and Energy Conservation Plan and shared that it has been submitted to the State Engineer for review and comments. Staff is also seeking comments from the BPU before the plan is brought back in final form for approval. This plan used the 2015 water and energy conservation plan as a starting point and was updated to meet current state regulations, incorporate DPU's Strategic Goals and Objectives,and includes relevant goals and ideas presented by the Conservation Task Force and the LARES Task Force. She also provided a copy of the document in the meeting packet.

Ms. Hayward responded to board member inquiries and provided clarifying information as appropriate. Chair Wright opened the floor for public comment; there was none. The final plan will be presented to the BPU for approval at the August 17th regular meeting.

4.B. 15878-22 Review of the Department of Public Utilities Rules & Regulations

Mr. Powers reviewed the Department of Public Utilities Rules & Regulations. He reiterated that this was an opportunity for board members and staff to review and discuss any potential revisions to the DPU Rules & Regulations with input from the attorney. Mr. Powers responded to Board member inquiries and provided clarifying information as appropriate

4.C. 15877-22 Annual Review of the Board of Public Utilities Procedural Rules

Mr. Powers presented the Annual Review of the Board of Public Utilities Procedural Rules and requested any updates or changes to them that will be incorporated for adoption by the BPU at the regular meeting on July 20, 2022.

Additionally, article 1.9 of the PR states that each year during the July BPU regular meeting each board member will affirm that he/she has received, read, understands, and agrees to abide by the PR and the applicable documents referenced in its Appendix. Appendix A is the reaffirmation signature sheet.

The following documents were also provided in the meeting packet:
A - Board of Public Utilities Procedural Rules
B - Appendix A - Reaffirmation Signature Sheet

Mr. Powers responded to Board member inquiries and provided clarifying information as appropriate.

4.D. 15800-22 Planning for Upcoming Board of Public Utilities Annual Boards & Commissions Presentation to Council on September 20, 2022.

Chair Wright reminded the board that the Board of Public Utilities Annual Boards & Commissions Presentation to Council is scheduled for September 20, 2022. In preparation for the upcoming presentation, the Board should discuss possible topics. A draft presentation will be prepared and presented at August's BPU meeting, prior to the presentation to Council. The following documents were also provided in the meeting packet:
A - Guidelines for 2022 B&C Presentations
B - Schedule for the 2022 B&C Presentations

5. PUBLIC HEARING(S)

5.A. OR0948-22a **Approval of Recommendation to Council to incur the debt obligation as outlined in the attached draft Ordinance No. 720 authorizing the Incorporated County of Los Alamos ("borrower") to enter into a loan agreement with the New Mexico Environment Department ("NMED") for the purpose of obtaining project loan funds in the principal amount of up to $25,000,000 *plus accrued interest*; designating the use of the funds for the purpose defined in the most current project description form as approved by NMED; declaring the necessity for the loan; providing that the loan will be payable and collectible solely from the borrower's pledged revenues defined below; prescribing other details concerning the loan and the security for that purpose.**

Ms. Garcia requested that the board approve the recommendation and supported that request by providing the following information:

- The Clean Water State Revolving Loan CWSRF #110 will be replacing Loan CWSRF #083. NMED has agreed to reduce the original 2.38% interest rate down to 0.01%, resulting in significant savings.

- The Clean Water State Revolving Loan CWSRF #083 was executed on April 12, 2019, through Ordinance No. 687, approved on October 30, 2018, amended by Ordinance No. 689, approved on February 19, 2019, and amended by Ordinance No. 712, approved on November 9, 2021. Loan CWSRF #083 funds the design and construction of a replacement wastewater treatment plant in White Rock, New Mexico. The existing plant is an antiquated trickling filter plant that was constructed in 1966 and is at the end of its useful life. The loan amount is a maximum of $30 million, plus accrued interest.

- Loan CWSRF #083 will be closed out with a projected balance of $6.5 million. Approval of Ordinance No. 720 is the first step to finance the balance of project expenses at a lower interest rate of 0.01%. Loan CWSRF #110 will be entered

into with a maximum of $25 million, plus accrued interest, to complete the project. The annual interest rate on that principal amount shall not exceed 0.01% percent per annum. Joint Utility System Revenues will be pledged, and the term of CWSRF #110 will remain at 20 years.

- Loan CWSRF #110 includes the addition of $1.5 million to fund the Bayo Lift Station Elimination Pipeline Project. The Bayo Lift Station pumps sewage from all of Barranca Mesa to the Los Alamos Wastewater Treatment Plant. This represents approximately 20% of the sewage treated at the Los Alamos Wastewater Treatment Plant. The lift station is due for some major upgrades and rather than reinvest in the lift station, funds will used to build a gravity sewer line to replace the lift station and eliminate the cost and risk associated with pumping the sewage. This project was approved in the FY2023 CIP budget, and staff proposed financing through the CWSRF program at that time.

- Issuance of the loan agreement and promissory notes for CWSRF Loan #110 are needed to enter into the agreement for funding. Resolution 22-13 for signatory authorization on loan documents will also be presented to Council.

- If debt is not incurred as outlined in CWSRF Loan #110, the Bayo Lift Station Elimination project will be delayed. The existing project funding through CWSRF Loan #083 for the Wastewater Treatment Facility will remain with the 2.38% interest rate.

- The reduced annual interest rate of 0.01% will result in significant savings to the Wastewater fund. A $6.2 million savings is expected over the life of the loans if the refinance of CWSRF Loan #083 is not available for the lower interest rate. Savings with both loans with the 0.01% interest rate is projected to be $8 million over the 20 years if the refinance of CWSRF Loan #083 is available.

The following documents were also provided in the meeting packet:
A - Proposed Draft CWSRF Loan 110 Loan Agreement *(Pending NMED and County Attorney's Office Approval)*
B - Proposed Draft CWSRF Loan 110 Promissory Note *(Pending NMED and County Attorney's Office Approval)*
C - Proposed Draft Incorporated County of Los Alamos Ordinance No. 720 *(Pending NMED and County Attorney's Office Approval)*
D - Credit and Debt Analysis

Ms. Garcia responded to board member inquiries and provided clarifying information as appropriate. Chair Wright opened the floor for public comment; there was none.

****

Member Stromberg moved move that the Board of Public Utilities recommend Council incur the debt obligation as outlined in the attached draft Ordinance No. 720, in a form acceptable to the County Attorney's Office and forward to Council for final approval. The motion passed by the following vote:

****

Yes: 4 - Board Member Wright, Board Member Tobin, Board Member McLin, Board Member Nakhleh and Board Member Stromberg

5.B. RE0500-22

Approval to take Incorporated County of Los Alamos Resolution No. 22-13, A Resolution Authorizing the Assignment of Authori

Officer(s) and Agent(s), Pursuant to Ordinance 720, for Loan No. CWSRF 110 for approval by Council.

Ms. Garcia requested approval and supported that requested by providing the following information:

- The DPU proposes to close the Clean Water State Revolving Fund (CWSRF) Loan Number 083 as enacted by Ordinance No. 687, and amended by Ordinance No. 689 and No. 712, and enter into Loan CWSRF 110, as proposed by Ordinance No. 720. The New Mexico Environment Department (NMED) has agreed to reduce the current 2.38% interest rate down to 0.01%.
- Resolution No. 22-13 approves the assignment of authorized Officers and Agents. The County Council Chair, designee or successor, would be authorized to sign the Loan Agreement and Promissory Note for project #CWSRF 110. The Utilities Manager, designee or successor, or the Deputy Utilities Manager of Finance and Administration, designee or successor, would be authorized to sign all other documents necessary to fulfill the Loan Agreement and the Promissory Note requirements (Borrower's Intention, Project Description, Budget, Disbursement Requests) and to act as the project contact. The Engineering Project Manager, designee or successor, or the Business Operations Manager, designee or successor, would be authorized to sign reimbursement requests only for project #CWSRF 110.
- Resolution No. 22-13 is required by NMED in order to authorize the assignment of Officers and Agents to complete the documents necessary to finalize Loan CWSRF 110 as proposed by Ordinance No. 720.
- The current interest rate will remain at 2.38% if Loan CWSRF 083 is not closed and Loan CWSRF 110 is not entered into. Los Alamos County will forego interest savings of up to $8 million for the duration of Loan CWSRF 083.

Ms. Garcia also provided a copy of Proposed Draft Resolution No. 22-13 *(Pending NMED and County Attorney's Office Approval)* in the meeting packet. She responded to board member inquiries and provided clarifying information as appropriate. Chair Wright opened the floor for public comment; there was none.

****

Member McLin moved that the Board of Public Utilities approve Resolution No. 22-13, A Resolution Authorizing the Assignment of Authorized Officer(s) and Agent(s), Pursuant to Ordinance 720, for Loan No. CWSRF 110, and forward to Council for final approval. The motion passed by the following vote:

****

Yes: 4 - **Board Member Wright, Board Member Tobin, Board Member McLin, Board Member Nakhleh and Board Member Stromberg**

6. PUBLIC COMMENT

Chair Wright opened the floor for public comment on any item; there was none.

7. ADJOURNMENT

The meeting adjourned at 8:49pm

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APPROVAL

_____

Board of Public Utilities Chair Name

_____

Board of Public Utilities Chair Signature

_____

Date Approved by the Board

County of Los Alamos
Minutes
Board of Public Utilities

1000 Central Avenue
Los Alamos, NM 87544

Cornell Wright, Chair; Steve Tobin, Vice-chair;
Stephen McLin, Eric Stromberg, and Charles Nakhleh, Members
Philo Shelton, Ex Officio Member
Steven Lynne, Ex Officio Member
Denise Derkacs, Council Liaison

Wednesday, July 20, 2022 **5:30 PM** **Remote Meeting: https://us06web.zoom.us/j/85016571926**

REGULAR SESSION

1. CALL TO ORDER

The regular meeting of the Incorporated County of Los Alamos Board of Public Utilities was held on Wednesday, July 20, 2022. Board Vice Chair Steve Tobin called the meeting to order at 5:49 p.m. The meeting was held in Council Chambers and via Zoom videoconferencing platform. Members of the public were notified of the ability to live-stream the meeting online and submit public comment during the meeting. The following board members were in attendance:

Present 6- Board Members McLin, Nakhleh, Stromberg, Tobin, Shelton, and Lynne.
Absent: 1 - Board Member Wright

2. PUBLIC COMMENT

Vice Chair Tobin Chair opened the floor for public comment on items on the Consent Agenda and for those not otherwise included on the agenda. There were no comments.

3. APPROVAL OF AGENDA

Vice Chair Tobin called for discussion on amending or a motion on approval of the agenda. Mr. Powers brought to the board's attention that since some areas of the County did not have internet access that evening, interested members of the public may not be able to comment on the scheduled Public Hearings. He suggested that the board discuss whether they would like to postpone any of the items on the agenda, After some discussion the board agreed that it would be best to remove item 5.A.(Ordinance No. 02-329) and add it to the August 3 Work Session agenda. Vice Chair Tobin asked for public comment on approval of the agenda; there was none.

****

Member Tobin moved that the agenda be approved as amended. The motion passed by the following vote.

****

Yes: 4 - Board Members McLin, Nakhleh, Stromberg, and Tobin

Absent: 1 - Board Member Wright

4. BOARD BUSINESS

4.A. Chair's Report

Chair Wright was absent and Vice Chair Tobin had no items to report.

4.B. Board Member Reports

There were none.

4.C. Utilities Manager's Report

Mr. Shelton reviewed his written report which is attached to the minutes. He provided summarized comments and responded to board member inquiries as appropriate.

4.D. County Manager's Report

Mr. Lynne only had one item to present. He agreed with Mr. Shelton that recruitment and retention have been an issue County wide. Senior Management is working with Department to address issues and identify alternatives. There were no board member questions or public comment.

4.E. Council Liaison's Report

Council Vice Chair Derkacs was absent.

4.F. Environmental Sustainability Board Liaison's Report

Ms. Emerson was absent.

4.G. General Board Business

4.G.1. 16101-22 Electricity Grid Research Presentation

Ms. Garcia provided the following summary: at the June 15th regular session of the BPU, EPSCoR and NM SMART Grid Center presented on a potential partnership opportunity regarding AMI metered data and consumer information. Further discussion with the attorney's office was needed before proceeding with the project. Those discussions have concluded, and staff feels confident in returning with this presentation for board consideration. The original staff report from the June 15th session is below.

University of New Mexico Department of Economics, EPSCoR and NM SMART Grid Center will be giving a presentation on a potential partnership opportunity. The following researchers will be presenting and soliciting BPU & DPU support for "Smart Meters and Household Characteristics: Estimating load profiles and changes in consumption behavior:"

Mr. Jesse Kaczmarski, Ph.D. Candidate of Economics, UNM (absent)
Dr. Janie Chermak, Professor of Economics, UNM
Dr. Yuting Yang, Assistant Professor of Economics, UNM
Dr. Selena Connealy, Associate Director of NM EPSCoR

The research aims to develop improved estimates of customer electricity demand for intra-day, week, month, and season, the research team would like to partner with DPU and solicit information from customers. Data collected at the household-level will be linked to electric consumption data provided by the department, along with weather data. This

will provide a rich, micro-level dataset to be used to develop consumption models for customer types and an improved understanding of the consumption patterns. This information could allow for better load forecasting and improving reliability in the electric utility. In addition, information gathered in this research project could potentially be used for conservation efforts and goals. Information that the team will be seeking from DPU customers will cover dwelling characteristics, appliance characteristics, and socio-economic factors. The survey would be designed and administered through the UNM Department of Economics, with any additions that DPU would like to add.

DPU took part in this research in 2019, providing only electric consumption data for customers on circuit 16. This data covered a select number of accounts from 2013 to 2019. This survey would add to the previous research that has been conducted thus far.

If the board does not approve participation, the department will not move forward with this project and will not have access to the information that is collected. There is no fiscal impact to the department and minimal staff impact.

Dr. Connealy spoke and introduced Dr. Chermak and Dr. Yang who provided some background on their research. Dr, Chermak then provided a detailed synopsis and responded to board member inquiries as appropriate. The presentation "Smart Meters and Household Characteristics Slides" was provided in the meeting packet but not reviewed during the meeting. There was no public comment.

****

Member Nakhleh moved that the Board of Public Utilities approve the Department's participation in the UNM Department of Economics research project as presented and outlined in the agenda documents. The motion passed by the following vote:

****

Yes: 4 - Board Members McLin, Nakhleh, Stromberg, and Tobin

Absent: 1 - Board Member Wright

4.G.2. **15799-22** Approval of the Revised Board of Public Utilities Procedural Rules

Vice Chair Tobin introduced the topic and thanked Member Nakhleh and staff for their detailed review of the procedural rules. He opened the floor for discussion. Mr. Shelton noted that there was an error in section 3.4. 1. Regular Meetings; it should have read "Regular meetings will generally be held on the third Wednesday of each month at 5:30 p.m." He asked that any motion reflect the amendment. Mr. Nakhleh thanked the board for the opportunity to participate in the process. He stated that the timing was right since he is a new board member and was able to review the document for clarity. He noted no substantial revisions. Vice Chair then called for a motion on approval of the Revised Procedural Rules as amended.

****

Member Tobin moved that the board approve the revised Procedural Rules to include the correction to the regular monthly meeting.. The motion passed by the following vote:

****

Yes: 4 - Board Members McLin, Nakhleh, Stromberg, and Tobin

Absent: 1 - Board Member Wright

4.H. Approval of Board Expenses

There were none.

4.I. Preview of Upcoming Agenda Items

15794-22 Tickler File for the Next Three Months

Vice Chair Tobin reported that Chair Wright requested that the Preview of the Presentation to Council be moved to the August 17th regular meeting. There were no additional changes to the tickler.

5. PUBLIC HEARING(S)

5.A. CO0643-22-b

Incorporated County of Los Alamos Code Ordinance No. 02-329; An Ordinance Amending Chapter 40, Article III, Sections 40-151, and 40-152 of the Code of the Incorporated County of Los Alamos Pertaining to Gas Service Rates.

This item was removed from the agenda and will be presented at the BPU Work Session on August 3rd..

5.B. CO0648-22-a Introduction of Incorporated County of Los Alamos Code Ordinance No. 02-328; An Ordinance Amending Chapter 40, Article III, Sections 40-171, 40-173 and 40-175 of the Code of the Incorporated County of Los Alamos Pertaining to Potable and Non-Potable Water Rates and Bulk Delivery Rates

Ms. Garcia presented this item and provided this synopis: The ten-year forecast for the water utility presented with the FY2023 budget included a series of rate increases to generate revenues needed for current operations, increased costs due to inflation and supply chain shortages, and building cash reserves necessary for future infrastructure needs. Detailed in the Water fund 10-year forecasts were four consecutive years of increases of five percent for bulk, potable, and non-potable rates. This was presented to board in June of 2022 as four-year rate ordinance. Staff was directed to make a presentation to the policy committee, which consists of 3 council members and 2 BPU members, to discuss different scenarios, review details about the customer base, and review the tiered rate structure currently in place. The meeting was held June 17th, 2022, and staff presented a “cost of service” rate adjustment along with the flat five percent proposed adjustment. The policy committee and staff concluded that the “cost of service” approach was more effective in building cash flows and is more fair to consumers.

Staff used three years of actual data to calculate an average cost per thousand gallons (kGal) for production and distribution of water. The cost of production was $4.83 per thousand gallons (averaged from peak and non-peak seasons) and $6.89 per thousand gallons for distribution (averaged from peak and non-peak seasons). In this proposal, the base price (non-peak price per thousand gallons and peak tier one price per thousand gallons) for distribution is proposed at $6.50 per kGal. The bulk delivery price per kGal is $4.83. These proposed “cost of service” adjustments better reflect the total amount of expenses to be recovered and will help DPU generate a reasonable return to support infrastructure and cash reserve needs. Moving the base charge up also shifts earned revenues proportionally across peak and non-peak seasons, stabilizing the revenues to

assist in resource planning and budgeting. Also, included in this proposal is a change to the percentage between tiers. Tiers one, two, and three are now ten percent apart as opposed to the six and twenty percent difference in the previous proposal. This approach still accomplishes five percent increased revenues while softening the impact to residential users during the peak season.

Multifamily customers make up one percent or 76 accounts out of nearly 7,000 active accounts. These customers are occupants of apartment buildings, condos, duplexes and quads, mobile home parks and senior living facilities. When this customer type's consumption was studied, it was found that there was little to no change in use from the peak to non-peak seasons. Irrigation was not a factor in their average consumption and the tiered rate would not affect conservation efforts the same as it would in residential customers. As a result, DPU is making the proposal to charge multifamily customers in the same manner as commercial, county and school customers, a flat rate per kGal in the peak season.

In distribution, there are currently three tiers built into the current rate structure for water in Los Alamos, these are applicable during the peak season, which is May through September. Tiered water rate structures encourage conservation and are required specifically through New Mexico Statute 72.14-3.2 G to be eligible for financial assistance programs. Los Alamos County DPU regularly applies for, and has received, the previously mentioned funding through the Water Trust Board for various water infrastructure capital projects. DPU also has a conservation goal of a 12% reduction in consumption of water by 2030.

Staff feels confident that the proposed "cost of service" rate trajectory will generate appropriate cash flows for the four-year horizon and is thus proposing the multi-year rate adjustment at this time. The advantages to implementing the multi-year proposal are numerous. Importantly, it provides for the rate adjustments to scheduled and effective with advanced notice to customers. It allows our customers to plan and budget for future anticipated utilities costs, rather than experience the "rate shock" of unanticipated rate increases on a more frequent basis. Without the multi-year approach, that is difficult to accomplish, and complicates fiscal planning needs from year to year. Doing a multi-year incremental rate adjustment also allows planned revenues to match the timing of planned expenditures, rather than accumulating excess cash early on for expenditure in a later period. This also allows for the advanced planning of rates in the billing system, helping staff ensure billing accuracy when the new rates become effective. Enacting a multi-year ordinance in no way limits the Board from later proposing another ordinance to change rates, either up or down, during that four-year period if operational experience necessitates such action. Should it become apparent that the rates proposed are either not achieving the revenue requirements of the systems, or are exceeding them, there is no reason why they could not be adjusted in the interim. This multi-year proposal simply provides for seamless and timely implementation of the rate projections should future results tie within reasonable variation to budget projections.

Included in the presentation attached as Attachment B are the rate comparisons with neighboring and similar communities. These continue to demonstrate that even with the challenges of our complicated system and mountainous terrain, consumer costs for water services remain competitive and reasonable for our community.

The proposed rates should restore cash flow to an acceptable level within the projected time frame in the water systems. While it may take some additional time to reach our target levels in the Water Utility overall, this plan will provide adequate funding for necessary repairs and replacements and continuing operations and provide for movement

toward our long-term cash reserve goals. Once achieved, it is anticipated that rate adjustments simply to account for inflation will suffice for the foreseeable future.

In addition to the public notices required for consideration of an ordinance, staff will has included “frequently asked questions” to be posted on the DPU website in Attachment E. FAQs will be included in the council public hearing staff reports for this proposed rate ordinance. And will be updated as information is requested from the department on these increases.

In regard to alternatives, Ms. Garcia noted that rate increases are going to be needed to fund necessary operations and replacement of infrastructure through rates. Other scenarios could be considered with more significant rate increases being implemented to fund more rapid system upgrades. If no action is taken, we would have to continue to curtail maintenance and replacements and system reliability will suffer.

In regard to fiscal and staff impact she stated that the budgeted increases are expected to generate $620,315 additional revenue in Water Distribution in FY23, $1,031,871 additional revenue in FY24, $1,377,207 additional revenue in FY25, and $1,739,810 additional revenue in FY26. In Water Production additional revenue for wholesale sales to external parties is projected at $371,649; $581,409; $862,017; and $1,156,655 for FYs 23, 24, 25, and 26 respectively.

In addition Ms. Garcia provided the following documents in the meeting packet:
A - Code Ordinance 02-328 - Water Rates
B - Rate Comparisons to Neighboring Communities
C - Revenue, Expenses, and Cash Balances Graphs FY2023 through FY2032
D - Summary of Proposed Water Rate Adjustments
E - Frequently Asked Questions - Water
F - 2022 Water Rate Adjustment Presentation

Ms. Garcia and Mr. Alarid responded to board member inquiries and provided clarifying information as appropriate. Mr. Tobin called for discussion, which was limited. Mr. Tobin then called for public comment; there was none.

****

Vice Chair Tobin read into the record:
I introduce, without prejudice, Incorporated County of Los Alamos Code Ordinance No. 02-328; An Ordinance Amending Chapter 40, Article III, Sections 40-171, 40-173 and 40-175 of the Code of the Incorporated County of Los Alamos Pertaining to Potable and Non-Potable Water Rates and Bulk Delivery Rates.

****

Yes: 4 - Board Members McLin, Nakhleh, Stromberg, and Tobin

Absent: 1 - Board Member Wright

5.C. 16122-22 Approval of the Department of Public Utilities Rules & Regulations Fee Schedule (FS)

Mr. Alarid presented this item and provided this synopsis: The Department of Public Utilities periodically revisits it's fee schedule to update costs due to inflation, operational changes and changes administrative tasks to capture the actual costs for the routine services provided by DPU. The adjustments presented are a result of two occurrences that have taken place since the fees were last updated on February 24, 2021. The first is

the implementation of Advanced Metering Infrastructure (AMI) which includes the addition of radio end-points and in some cases additional wiring and new style of meters for installing new gas, water and electric services. The second is to capture the increase material and equipment costs due to the high inflation experienced in the last 18 months. Staff will present the services which are being increased and the supporting information justifying the proposed fee increases.

In regard to alternatives, Mr. Alarid stated that If the amendments to the Fee Schedule (FS) are not approved, DPU will not be recovering complete cost for some of the services provided. In regard to fiscal and staff impact, Mr. Alarid state that approval of the recommended amendments to the Fee Schedule (FS) will capture cost escalation over the past 18 months for materials and equipment included in the routine services provided by DPU.

Mr. Alarid also provided the following documents in the meeting packet:
A - Fee Schedule Red-Lined
B - Fee Schedule Updated

Mr. Alarid responded to board member inquiries and provided clarifying information as appropriate. Vice Chair Tobin called for board discussion; there was none. He then called for public comment; there was none

****

Member McLin moved that the Board of Public Utilities Approve the Amendments to the Department of Public Utilities Rules and Regulations, Fee Schedule (FS). The motion passed by the following vote:

****

Yes: 4 - Board Members McLin, Nakhleh, Stromberg, and Tobin

Absent: 1 - Board Member Wright

6. CONSENT AGENDA

****

Member Tobin moved that the Board of Public Utilities approve the items on the Consent Agenda as amended and that the motions contained in the staff reports, be included in the minutes for the record. The motion passed by the following vote:

****

Yes: 4 - Board Members McLin, Nakhleh, Stromberg, and Tobin

Absent: 1 - Board Member Wright

6.A. 15787-22 Approval of Board of Public Utilities Meeting Minutes

I move that the Board of Public Utilities approve the meeting minutes as presented.

6.B. 16114-22 **Approval of Task Order No. 5 Under Professional Services Agreement No. AGR20-48a with Bohannan Huston, Inc.**

I move that the Board of Public Utilities approve Task Order No. 5 Under Professional Services Agreement No. AGR20-48a with Bohannan Huston, Inc. in the amount of $181,225.00 for the Purpose of Construction Phase Engineering Services and a contingency in the amount of $18,000.00, for a total project budget of $199,225.00, plus Applicable Gross Receipts Tax.

6.C. AGR0821-22a Approval of Services Agreement No. AGR22-57 with Cambridge Park Investments, LLC, dba Global Data Specialists in the amount of $94,950.00, plus Applicable Gross Receipts Tax, for the Purpose of Water Systems SCADA Study

I move that the Board of Public Utilities approve Services Agreement No. AGR22-57 with Cambridge Park Investments, LLC, dba Global Data Specialists in the amount of $94,950.00 and a contingency in the amount of $20,050.00, for a total of $115,000.00, plus applicable gross receipts tax, for the purpose of a Water System SCADA Study.

7. BUSINESS

8. STATUS REPORTS

15791-22 Status Reports

Mr. Shelton began by commending Ms. Garcia's staff on bringing customer utility accounts current. He reported that the following informational status reports were provided to the Board in the agenda packet:
1). Electric Reliability Update
2). Accounts Receivables Report
3). Safety Report
Mr. Shelton responded to board member inquiries and provided clarifying information as appropriate.

9. PUBLIC COMMENT

Vice Chair Tobin opened the floor for public comment on any items. There was none.

10. ADJOURNMENT

The meeting adjourned at 7:51 p.m.

****

APPROVAL

_____

Board of Public Utilities Vice Chair Name

_____

Board of Public Utilities Vice Chair Signature

_____

Date Approved by the Board

Utility Manager's Report
July 20, 2022

1. The latest surge in COVID cases have reduced our crew sizes to minimum levels at times over the last month. Another issue is employee retention and we lost three employees in the GWS division to other opportunities with one moving to LANL for significantly more pay. The employees lost are two apprentice II's with one being close to being promoted to a pipefitter and, a Senior. WWTP Operator. It is very concerning with losing experienced employees who cover stand by duty because it impacts DPU's are ability to respond to emergency calls like sewer backups, water break, or gas odors.

2. DPU has returned all the generators that were put in place in response to the Cerro Pelado Fire. I was asked to present DPU's response to the fire at the UAMPS Annual Member Conference in August.

3. Attended the UAMPS Project Management Committee (PMC) meeting regarding the CFPP and the project continues to remain on schedule and just under budget. Again, there were no additional subscriptions obtained but there are a couple of prospective entities that may add to the subscription base by the end of summer. UAMPS is scheduling another tour of the NuScale Facility in Corvallis, OR for October 10 and 11, 2022.

4. For the NM Gas rate case that is before the PRC, Jordan Garcia, Deputy Utilities Manager for Power Supply testified at the June 27th hearing. As a follow up to the hearing, the hearing examiner asked for briefs, and Dan Najjar is preparing a brief in support of the stipulation with NM Gas.

5. After two years of waiting, FERC has finally issued an order regarding PNM's FERC 864 filing. The 864 filing is geared at handling of the Tax Cut and Jobs Act by the former administration. LAC's biggest issues with the filing was the payback period for over collected deferred income taxes, PNM proposed a 23-year payback, while LAC was seeking 5-7 years. Other issues raised by LAC and our Consultants are regarding the treatment of tax rates and costs that included through an enormous formula for all the network customers. FERC found there were issues of material facts that warranted a Settlement Judge to be appointed. LAC continues to push its concerns to the Settlement Judge. There should hopefully be resolution within the next 60 days.

6. The SJGS had an orderly shutdown of Unit 1 on June 30th. Unit 4 is the last remaining unit generating energy at approximately 520 MW's. The coal mine has restored coal production and to date Westmoreland has delivered 19-day supply of coal and continues to work to improve the stockpile to 30 days. I continue to attend weekly meetings on the Farmington and Enchant term sheet. This term sheet is now in Enchant hands to take action to accept the terms for a clean break from reclamation and demolition of the SJGS.

7. For the Los Alamos County Wastewater Treatment plant NPDES Discharge Permit renewal, staff prepared a detailed response to EPA including new sampling data to support DPU's request for a reduced sampling frequency. The goal with these comments is to help reduce DPU's sampling and monitoring costs proposed in this five-year permit renewal.

8. A schedule has been developed with the vendor to implement the Tyler 311 and MyCivic software. August and September will be devoted to setting up the requested department fields and train staff, and then October will be devoted to performing testing. The go live date is estimated to be sometime in November should testing be successful.

9. Continued to work with staff on reviewing and updating of the department's job descriptions. These updated job descriptions will then be forwarded to Human Resources' compensation consultant to use in updating the County's compensation plan that occurs every four years.

10. Met with a representative of the San Ildefonso (San I.), their consultant and Jemez Electric Coop to explore options for a solar project on the pueblo. San I. has a planning grant and there is one potential site that could support 20 MW of solar. The planning grant will determine project feasibility and how to best connect to area transmission lines and explore a potential new transmission to Los Alamos in cooperation with Jemez Electric Coop to support the proposed project.

11. Held a Power Pool meeting with LANL and received approval to proceed and work with UAMPS to explore the in the feasibility of a 5 MW share a geothermal project located in southern Utah or Nevada.

12. In accordance with the IRP, a request for information was issued and due August 5th for the following:

Energy storage:	30+/- MW AC, 4-hour duration
Photovoltaic:	70+/- MW AC
Wind:	50+/- MW AC

13. Held a meeting with LANL to explore using reclaimed water to help cool the proposed supercomputer.

14. Attended a few meetings on the Ski Hill Waterline project. LAC Intergovernmental Affairs Manager is setting up a tour of county projects for next week with both our Congressional delegation and New Mexico delegation in seeking funding to support county projects.

15. Held an employee recognition picnic on June 30th and it was a great way to wrap up the 2022 fiscal year.

Agenda No.:	7.A.
Index (Council Goals):	* 2022 Council Goal - Protecting our Environment and Improving our Open Spaces, Recreational, and Cultural Amenities; DPU FY2022 - 5.0 Achieve Environmental Sustainability
Presenters:	Conservation Specialist Abbey Hayward, Conservation Specialist
Legislative File:	**16138-22**

Title
Approval of the Water and Energy Conservation Plan

Recommended Action
I move that the Board of Public Utilities approve the Water and Energy Conservation Plan.

Utilities Manager Recommendation
The Utilities Manager recommends that the motion be approved as presented.

Body
The Water and Energy Conservation Plan (Plan) is being presented by Ms. Hayward in its final form. The Plan has been reviewed extensively by DPU staff, the BPU, as well as the Office of the State Engineer. All comments and concerns have been incorporated into and this final version.

The Plan will be submitted to the Office of the State Engineer and WAPA to have a current Plan on file with both agencies.

Going forward, this Plan will be updated on a biannual basis to best align with DPU's goals. Plan revisions will begin in the winter of 2024 with a period of public input to occur in the spring of 2024 before adoption of the next revision by BPU in the summer of 2024.

Alternatives
Not to adopt the Plan and rely on the old one.

Fiscal and Staff Impact
None.

Attachments
A - Water and Energy Conservation Plan 2022-2027 Update

Los Alamos Department of Public Utilities
2022-2027 Update

Water and Energy Conservation Plan

Approved by the Board of Public Utitlities

August 17, 2022

Mission: Provide safe and reliable utility services in an economically and environmentally sustainable fashion.

LOS ALAMOS
Department of Public Utilities

Acknowledgments

The 2022-2027 Water and Energy Conservation Plan was prepared by Abbey Hayward, Water and Energy Conservation Coordinator. The Los Alamos Department of Public Utilities appreciates the support and contributions of the following persons.

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Executive Summary

The 2022-2027 Water and Energy Conservation Plan focuses on goals and objectives, as ranked by the BPU. There is a noticeable need for conservation efforts from both sides of utility services – the supply (DPU) and the demand (Customers) – to achieve these strategic goals.

In 2013, the Board of Public Utilities (BPU) approved of six strategic goals to guide the Department of Public Utilities (DPU). The DPU Senior Management Team (SMT) then developed broad, long-term objectives detailing how the department would meet the strategic goals. Goals are reviewed annually by both BPU and DPU SMT and revised based on achievement(s) of objectives. The DPU strategic goals and objectives were most recently approved on September 15, 2021.

This plan primarily focuses on Goal 5.0 – Achieve Environmental Sustainability, and has a supporting focus on Goal 6.0 – Develop and Strengthen Partnerships with Stakeholders.

Fiscal-year deliverables are established in this plan to make progress toward objectives and overall strategic goals. Deliverables in this plan were developed with suggestions from various community committees, DPU staff, and the BPU.

Strategic objectives for Goal 5.0, in order of highest priority to lowest priority:

1. Be a carbon neutral electric provider by 2040.
2. Provide Class 1A effluent water in Los Alamos County.
3. Reduce natural gas usage by 5% per capita per heating degree day by 2030 and support elimination of natural gas by 2070.
4. Promote electric efficiency through targeted electric conservation programs.
5. Reduce potable water use by 12% per capita per day by 2030.

Strategic objective for Goal 6.0:

1. Communicate with stakeholders to strengthen existing partnerships and identify new potential mutually beneficial partnering opportunities.

Table of Contents

Abbreviations

BPU	Board of Public Utilities
DPU	Department of Public Utilities
SMT	Senior Management Team
DOE	Department of Energy
WAPA	Western Area Power Administration
NMOSE	New Mexico Office of the State Engineer
LANL	Los Alamos National Laboratory
ECA	Electric Coordination Agreement
IRP	Integrated Resource Plan
PEEC	Pajarito Environmental Education Center
ESB	Environmental Sustainability Board
LARES	Los Alamos Resiliency, Energy, and Sustainability (Task Force)
USDM	US Drought Monitor
LRWS	Long-Range Water Supply
WWTP	Wastewater Treatment Plant
PNM	Public Service Company of New Mexico
SAIDI	System Average Interruption Duration Index
CFPP	Carbon Free Power Project
GPCD	Gallons Per Capita Per Day
SFR	Single Family Residence
MFR	Multi-Family Residence
AWWA	American Water Works Association
SJGS	San Juan Generating Station
HDD	Heating Degree Day
WRRF	Water Resource Reclamation Facility

Part I

Background Information and Data of Los Alamos County and Its Utilities

Introduction

Purpose

The Water and Energy Conservation Plan is being updated to best identify and provide target measures for conservation of critical resources needed for a community to thrive in the high desert of New Mexico. In the face of a changing climate, there is increasing pressure for the Los Alamos DPU to provide reliable and efficient sources for its utilities. A hotter and drier climate will strain grid systems and water supplies. There is also increasing pressure on consumers to conserve and efficiently use these same resources to accommodate a growing community and to ensure resources will last.

The DPU operates the county-owned electric, gas, water, and wastewater systems servicing customers, including residents, businesses, schools, and local government facilities. The DPU has provided the community with these services for more than 50 years. Publicly held, DPU is directly accountable to the citizens of Los Alamos County through the local BPU.

This document serves as an evolving plan to meet the following objectives :

- Support DPU's mission, vision, and long-term strategic goals.
- Develop cost-effective conservation programs to move the community toward defined conservation goals.
- Establish consumption baselines for water, electricity, and gas representative of designated customer classes.
- Adopt appropriate and reasonable conservation goals representative of community desires.
- Develop an implementation plan and measurement metrics of conservation efforts.

The Water and Energy Conservation Plan focuses on the planning period of 2022-2027. However, this document will be reviewed and updated biannually to accommodate successes and unforeseen changes to DPU resource supply and consumer needs.

Compliance

This plan serves two separate compliance requirements. The first is to fulfill a federal regulatory requirement as part of Los Alamos County's section of the joint Integrated Resource Plan (IRP) with the Department of Energy (DOE). This compliance piece requires the development and implementation of a water and energy conservation plan that addresses both the supply-side (DPU) and demand-side (customer) of water and energy conservation efforts, which is then submitted to the Western Area Power Administration (WAPA) annually. The second compliance requirement, which is filed with the New Mexico Office of the State Engineer (NMOSE), is conditional pending current projects.

Partners

Los Alamos National Laboratory, Department of Energy

Conservation efforts in this plan are not directed toward the DOE or the Los Alamos National Laboratory (LANL). LANL is a facility that falls under the requirements of DOE, neither of which are under the jurisdiction of DPU. There is a contract to supply DOE with water for LANL and DPU is a partner with DOE in the Electric Coordination Agreement (ECA). Los Alamos County and DOE also have a joint IRP, which guides the ECA. LANL also has a site-wide Water Conservation Program Plan. DPU and LANL will coordinate and communicate conservation efforts and support long-term conservation goals.

Pajarito Environmental Education Center

DPU partners with Pajarito Environmental Education Center (PEEC) on educational outreach efforts in a contracted format. PEEC is very involved with the schools in the county, in addition to its own programming at the Nature Center. DPU and PEEC agree on annual task orders that promote evolving conservation foci for the schools and community members.

Los Alamos Environmental Sustainability Board

The Los Alamos Environmental Sustainability Board (ESB) updates the County's Environmental Sustainability Plan. While DPU and the ESB support one another's plans, this Water and Energy Conservation Plan focuses specifically on the commodities provided by DPU. The Environmental Sustainability Plan goes beyond water and energy usage by establishing goals in other areas crucial to creating a more sustainable community.

Public Input

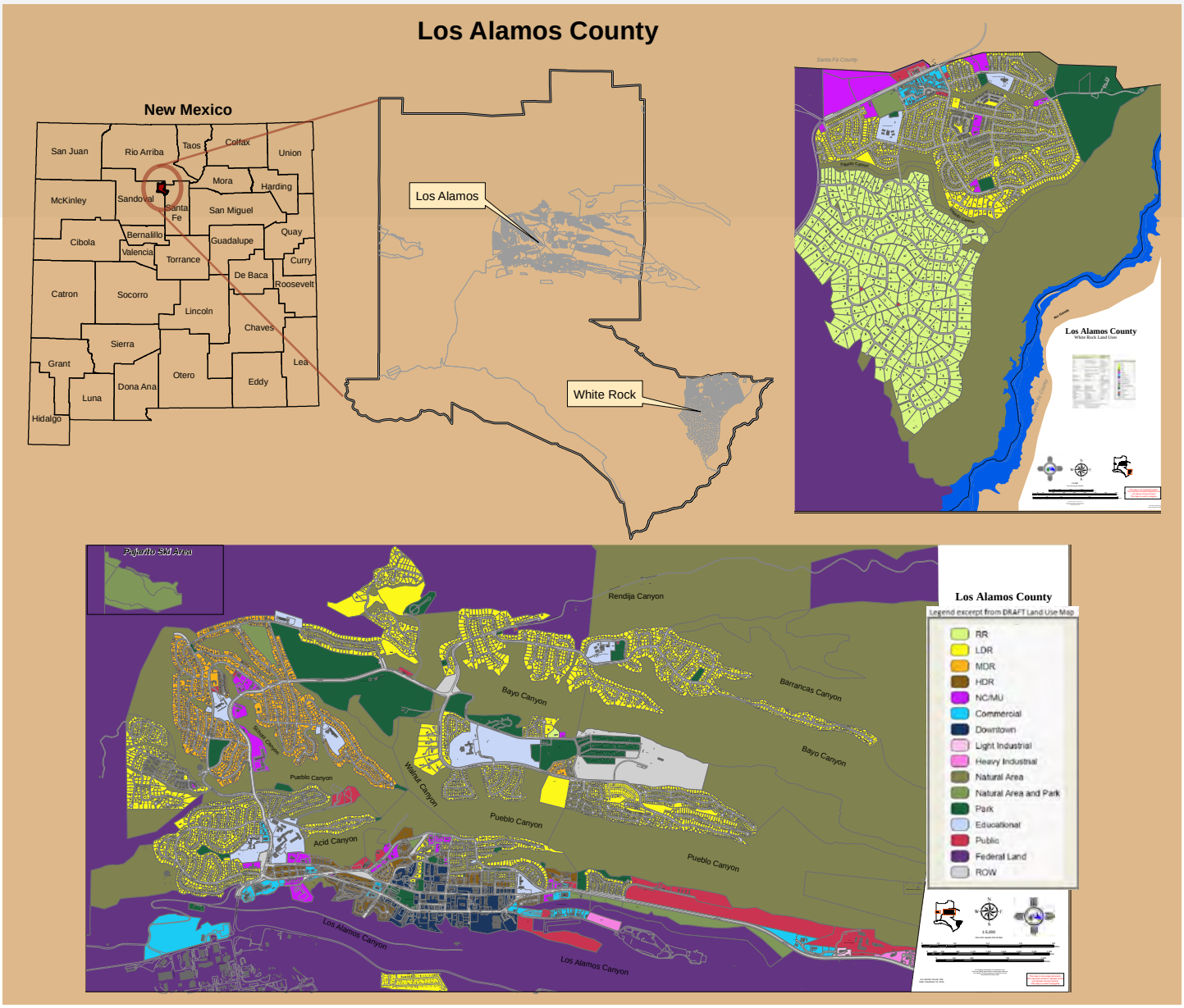
A "Conservation Plan Update Committee" was formed by DPU in early 2020 to begin to address and provide recommendations to the existing Water and Energy Conservation Plan. However, two factors overshadowed the extent of the group's efforts. The first was the onset of the COVID-19 pandemic which slowed the group's first progression as the scope of the pandemic was unknown. The second factor was the formation of the Los Alamos Resiliency, Energy, and Sustainability (LARES) task force by Los Alamos County Council in January 2021. The LARES task force was assembled to address very similar recommendations that the update committee was working toward.

Regarding the suggestions and recommendations from each of these groups, it is important to note: the recommendations from the Plan Update Committee were considered as this committee was specifically formed by the DPU for this very purpose. The LARES Final Report recommendations are not incorporated into this plan update because they go beyond the scope of DPU's responsibilities and reach. However, many of the recommendations will be supported by and potentially partnered with DPU, as efforts align.

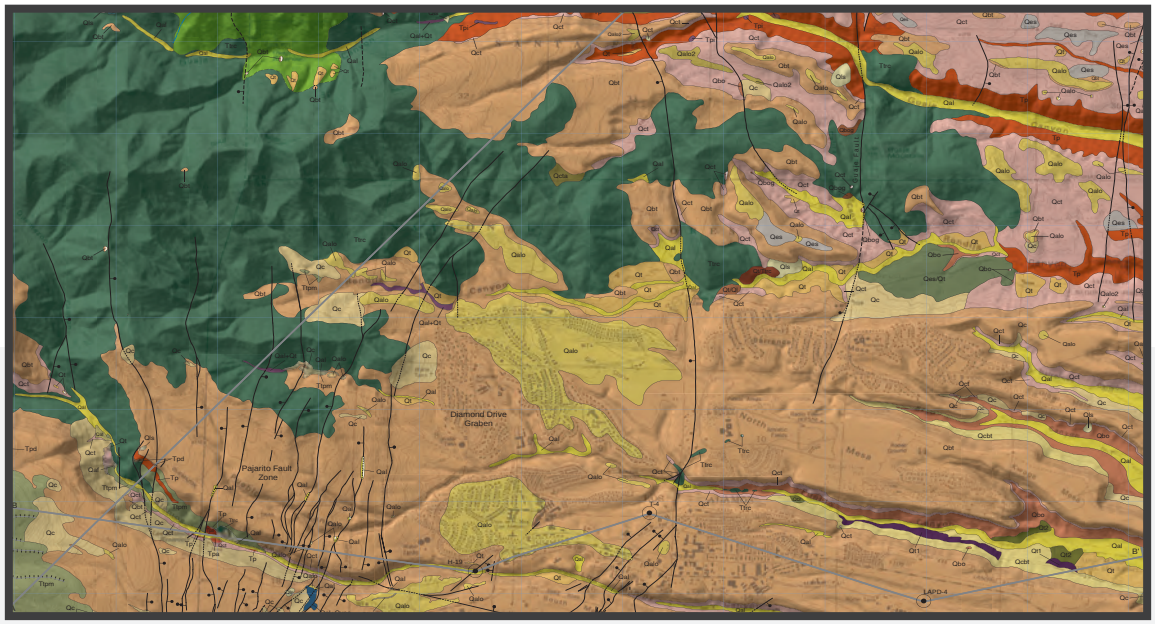
Additional updates to this plan will incorporate suggestions, pending BPU approval, stemming from the "Voice of the Customer" survey created by. This survey is an opportunity for DPU to better understand its customers' perceptions and wants of the DPU.

Local Conditions

Los Alamos County is located in northern New Mexico and comprises the communities of Los Alamos and White Rock. Nestled in a region known as the Pajarito Plateau, the service area ranges in elevation from 6,365 feet in White Rock up to 7,320 feet in the Los Alamos townsite. The population for the county was 19,419 per the 2020 Census. The County is surrounded by various Pueblos including San Ildefonso and Santa Clara, and by protected areas including the Santa Fe National Forest and Bandelier National Monument. Modern-day Los Alamos was incorporated in 1968, after two decades of existing as the Manhattan Project's Site Y. Prior to 1963, no land was privately owned and three federal agencies – the Atomic Energy Commission, the US Forest Service, and the National Park Service – owned and managed all land.



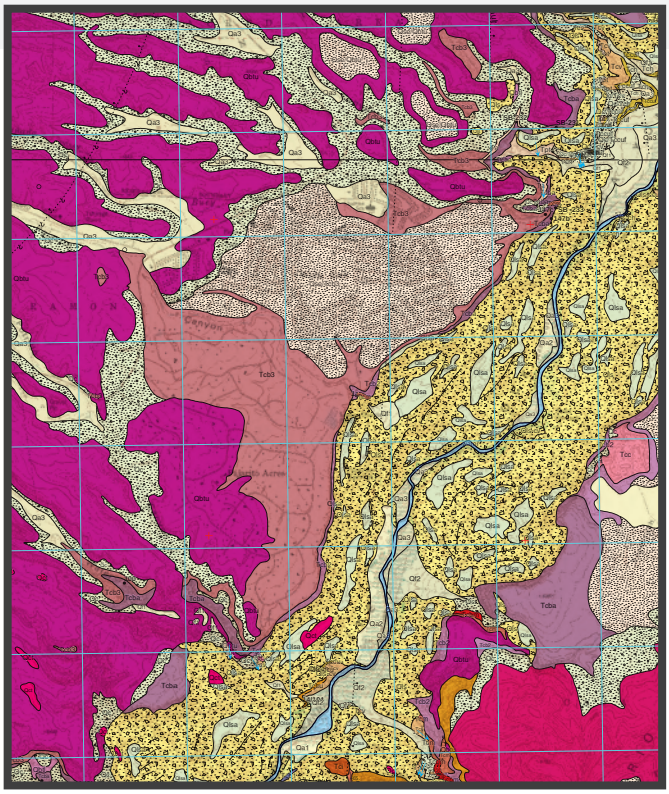
Geographical Considerations



Geologic Map of Los Alamos townsite. Basic interpretation: green designates rhyodacite lava flows; tan designates Bandelier Tuff; yellow, pink, and red designate sedimentary deposits.

Initially chosen for its relative inaccessibility, Los Alamos County is spread across several flat mesas separated by steep canyons. The geology is primarily volcanic, consisting of Upper Bandelier Tuff, basalts, and rhyodacite lava flows, with some areas of sedimentary deposits from alluvial flows and stream deposits as the Rio Grande and previous rivers transformed over time.

The geological deposits impact utility placement. For example, the basalts and certain areas of the Bandelier Tuff are very hard and restrict water well, pipeline (water, gas, or sewer), and buried electricity infrastructure placement. There is an area of White Rock that is unable to be connected to the municipal sewer and gas systems because the geology prevents the infrastructure. Other considerations include areas prone to rockfalls, such as with the rhyodacite (green) flow, and placing utility sources here (maintenance costs, reliability issues, etc.).



Geologic Map of White Rock. Basic interpretation: hot pink designates Bandelier Tuff; dusty pink designates basalts; dotted cream designates interspersed sedimentary deposits with basalts; most other classifications represent sedimentary deposits.

Local Conditions

Demographics and Projections

Population

According to the US Census, the population for Los Alamos County increased by nearly 1,500 people between 2010 and 2020. The current population estimate (as of July 2021) is 19,330 for the county. Because of the geographical limitations of Los Alamos County, population growth is constrained until new housing developments are constructed in White Rock, new apartment buildings are constructed where defunct buildings stand in Los Alamos, or unoccupied homes become available for occupancy (renovated or sold).

Los Alamos is a destination for tourists, and the popularity of vacation rentals, such as Airbnb and VRBO, increases the population of the county by an unknown number as these visitors utilize utility resources.

LANL is the largest employer in the county and in northern New Mexico. Total employment, including students and contract labor, was 13,512 at the end of fiscal year 2021. LANL is planning to hire an additional 2000 employees in fiscal year 2022. Around 40% of these employees live in Los Alamos County.

Population estimates vary depending on the method and predictor. Los Alamos estimates can go off-track quickly depending on the employment goals of LANL. The table below shows population projections from the Geospatial and Population Studies Department at the University of New Mexico. These projections are based on 2010 Census data and migration trends and have not been updated to reflect 2020 Census data. Compare these estimates to the projections in the other table below.

July 2010	July 2020	2025	2030	2035	2040
17,935	18,765	19,164	19,501	19,753	19,941

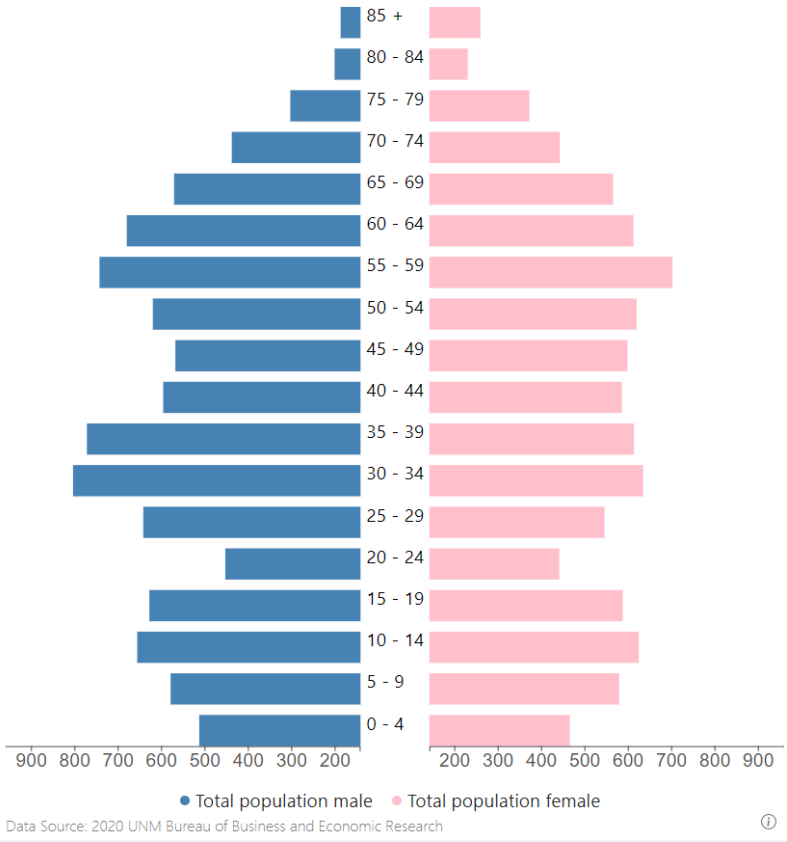
Geospatial and Population Studies Department at the University of New Mexico population projections based on 2010 Census data and migration trends.

The Long-Range Water Supply Plan (LRWS Plan), updated in 2017, has two scenarios for projected water demand based on a different set of population projections. These low- and high-projection cases are based on population estimates prepared for the 2016 update to the State of New Mexico's 16 regional water plans.

Population differences between Los Alamos townsite and White Rock show that Los Alamos is more than twice the size of White Rock. Per the 2020 Census, White Rock has a population of 5,852 while Los Alamos is 13,179.

Year	Population Projection	
	Low	High
2020	17,988	20,000
2030	17,789	20,812
2040	17,123	21,447
2050	16,480	21,874
2060	15,863	22,092

Population projections from LRWS Plan based on estimates for the 2016 version of the State of New Mexico's 16 regional water plans.



Created by the University of New Mexico Bureau of Business & Economic Research, this "population pyramid" is based on 2020 Census Data. The simplest breakdown of this data indicates that Los Alamos County is 24% child-aged (0-19 years), 58% working-aged (20-64 years), and 18% senior-aged (65+ years).

The median household income, in 2020 dollars for the period of 2016-2020, is slightly over $119,000 for Los Alamos County. The percentage of persons in poverty is 3.3% for the county.

The primary language is English; however, nearly 14% of the population speaks another language (at least 20 different ones) including Spanish and several Asian and Pacific Island Languages.

Housing

Most homes were built before the Energy Policy Act of 1992, which increased the energy efficiency of buildings including the required use of low-flow toilets, urinals, faucets, and showerheads as replacement installations and in new-builds.

US Census Bureau compiles housing data in its Table DP04: Selected Housing Characteristics. The latest dataset available for Los Alamos is the 2019: American Community Survey 5-Year Estimates.

It can be assumed from this information that around 7,000 homes in Los Alamos County were built prior to 1994, when enforcement of the Energy Policy Act of 1992 began. It is unknown how many of these 7,000 homes have done upgrades or retrofits. This provides a potentially large customer base to target with specific conservation efforts like improved appliance efficiency, insulation, and weather stripping.

Landscape preferences vary throughout the county, from extensive lawns to complete xeriscaped yards. Precise numbers of each are unknown but increased water usage during the summer months is indicative of landscape maintenance.

Total Housing Units: 8,384


Pre-1940: 24


1940-1949: 621


1950-1959: 1360


1960-1969: 1570


1970-1979: 1875


1980-1989: 1039


1990-1999: 708


2000-2009: 1064


After 2009: 123

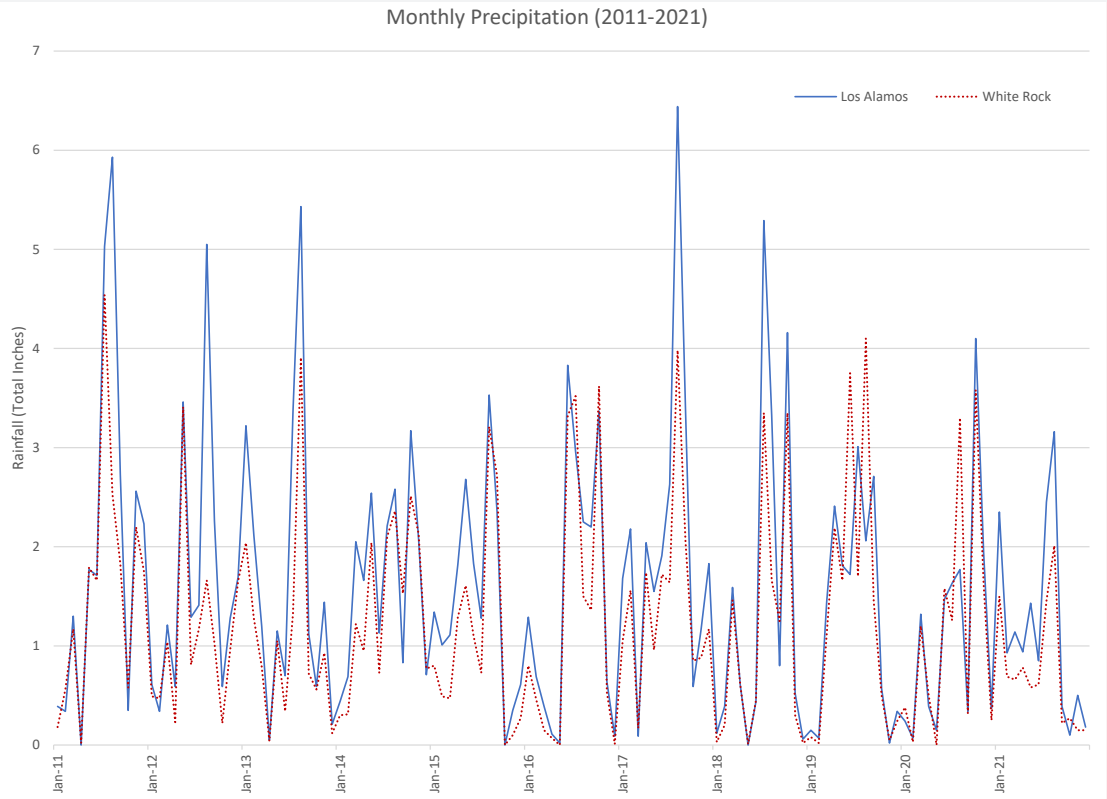
Local Conditions

Climate Trends

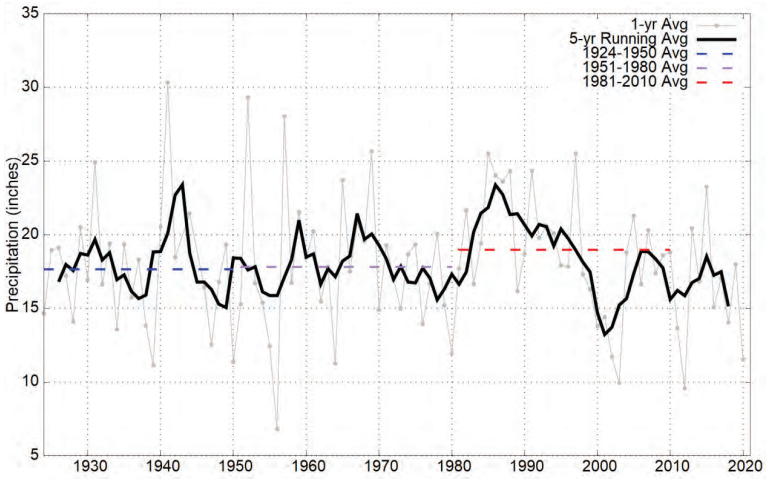
All weather data comes from the LANL Weather Machine, which maintains many weather stations around Los Alamos County. LANL's meteorologists on staff provided data in the following charts. These charts reveal that Los Alamos and White Rock have their own distinct climate systems.

Los Alamos is at a higher elevation – around 1000 feet higher – and closer to the Jemez Mountains than White Rock. Therefore, Los Alamos has a wetter, cooler climate overall. LANL meteorologists recently released the "Los Alamos Climatology 2021 Update," which provides climate statistics for the 30-year, 1991-2020 averaging period. More in-depth information regarding the climate of Los Alamos County can be found in their report.

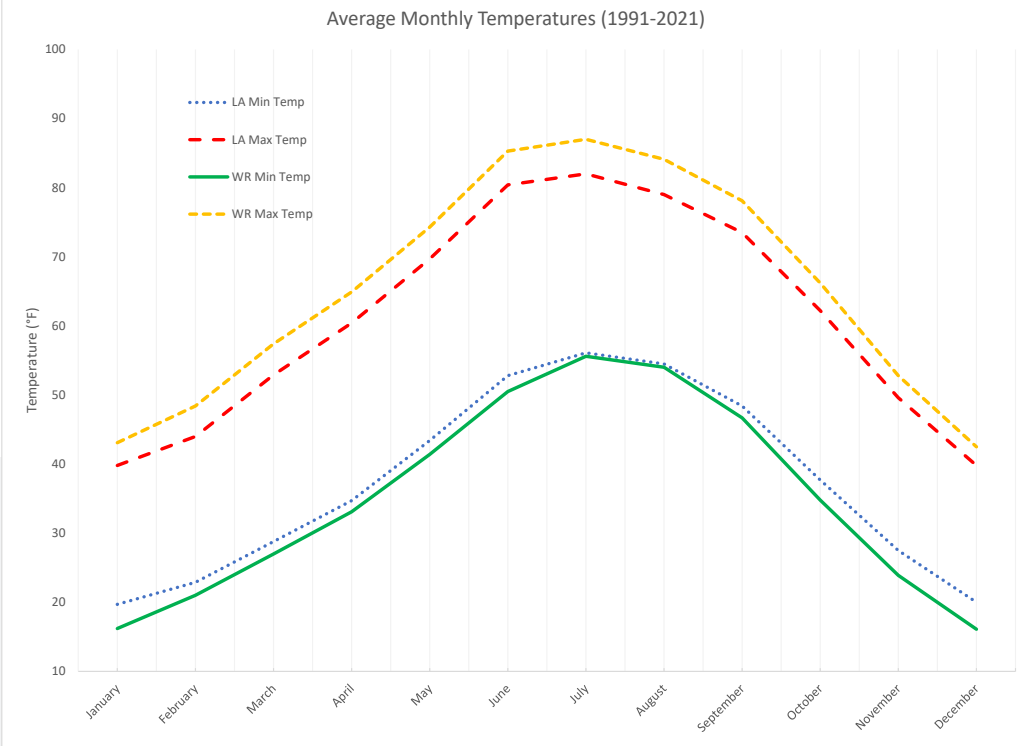
Right: Monthly total precipitation data for Los Alamos (blue solid) and White Rock (red dot) from January 2011 to December 2021. A complete monthly total precipitation chart (1991-2021) can be found in Appendix 2.

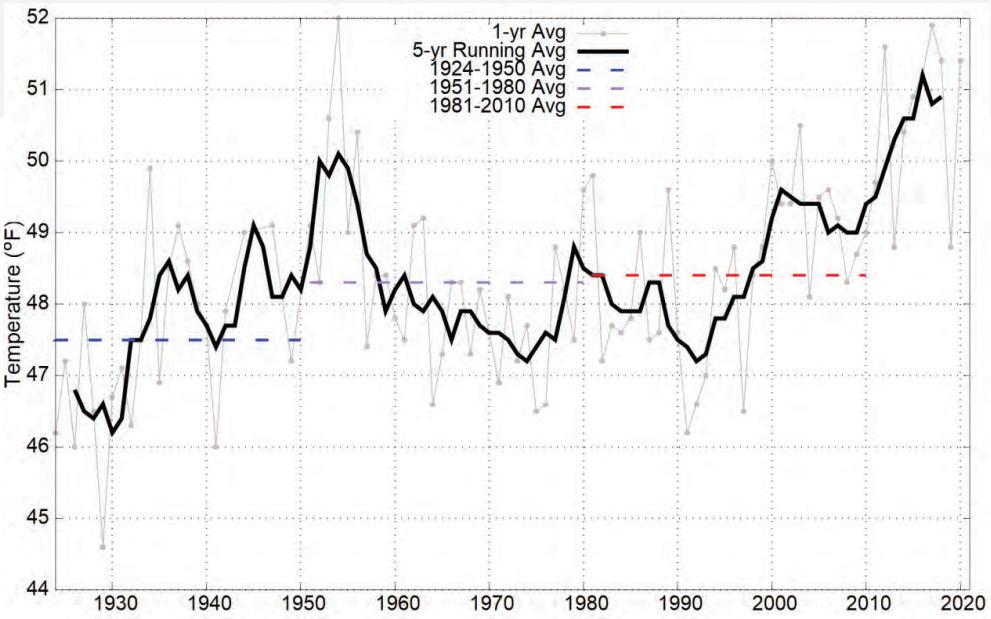


Below: Precipitation history for Los Alamos County (1924-2020) taken from the LANL Climatology 2021 Update, Figure 34.



Prior to 2015, more regular cycles of precipitation associated with the monsoon season (July – September) are visible. After 2015, the precipitation cycle appears more erratic for both Los Alamos and White Rock. The area seems to be experiencing longer periods of no precipitation with intense bursts of heavy precipitation.





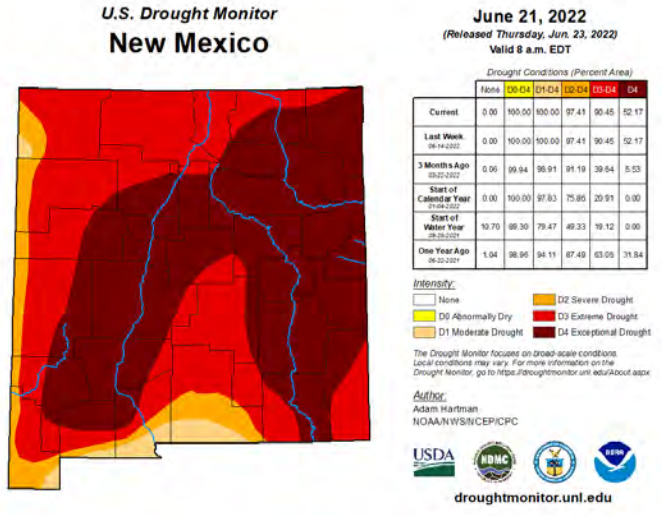
Regarding average monthly temperature, an important note is that the maximum summer temperatures for both communities are creeping toward an average of 90°F for a couple of months, when historically only a few days of the year would reach this temperature. And, although Los Alamos is at a higher altitude, White Rock has lower minimum temperatures when the cold air drains off the Jemez Mountains at night.

The US Drought Monitor (USDM) releases drought maps every Thursday. These maps are based on several numeric inputs, index readings, and satellite-based assessments. It's important to remember that the USDM is not a forecast, but it is a tool to use to trigger drought responses and emphasize the need for conservation efforts.

Top: Average monthly temperatures for Los Alamos (minimum temp is blue dot; maximum temp is red big dash) and White Rock (minimum temp is green solid; maximum temp is yellow small dash).

Middle: Temperature history for Los Alamos (1924-2020) taken from the LANL Climatology 2021 Update, Figure 29.

Right: An example of a USDM Map released June 21, 2022. An interesting note regarding this map: New Mexico recieved rain in the week prior to this map and a majority of the state remains in the worst drought condition category.

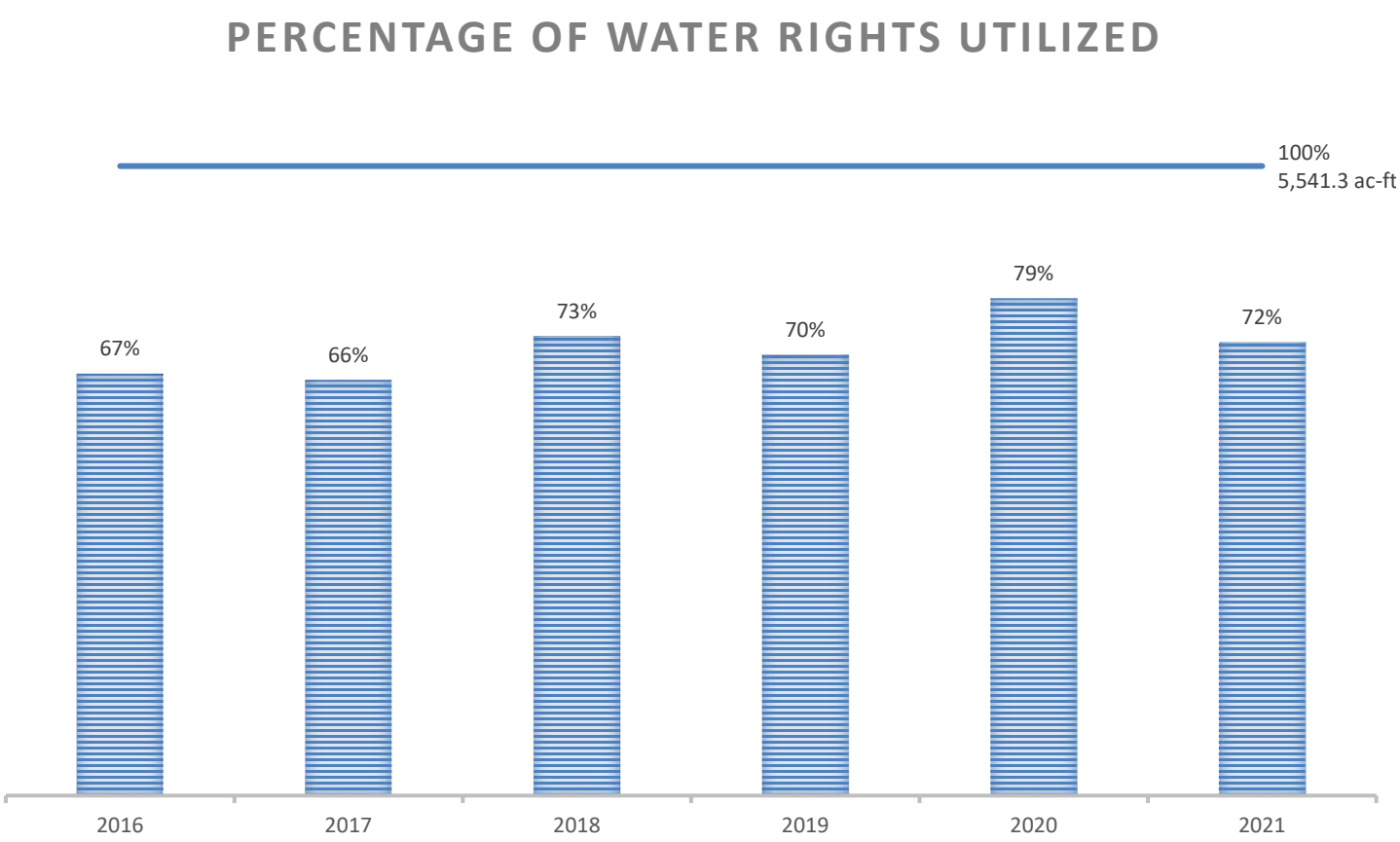


Water Resources and Supply Overview

Water Rights

The DPU provides water service to the users in Los Alamos County, at LANL, and to Bandelier National Monument. DPU began operating the water system in 1998; however, it wasn't until 2001 that ownership and most of the water rights (70%) were transferred from the DOE. The DPU leases the remaining water rights owned by DOE. This agreement was renewed for an additional 10 years in Fiscal Year 2021. Within this agreement, there is no limit to the amount of water that DPU must provide to LANL. LANL's usage has yet to exceed any designated water rights, and it maintains a site-wide Water Conservation Program Plan.

Water rights in use for Los Alamos County total 5,541.3 acre-feet per year and are comprised of a combined right of groundwater and surface water. From the 1960s to the present, total water consumption hovers between 4,000 and 5,000 acre-feet per year.



Water rights usage data is tabulated from each water production well meter.

Demand Projections

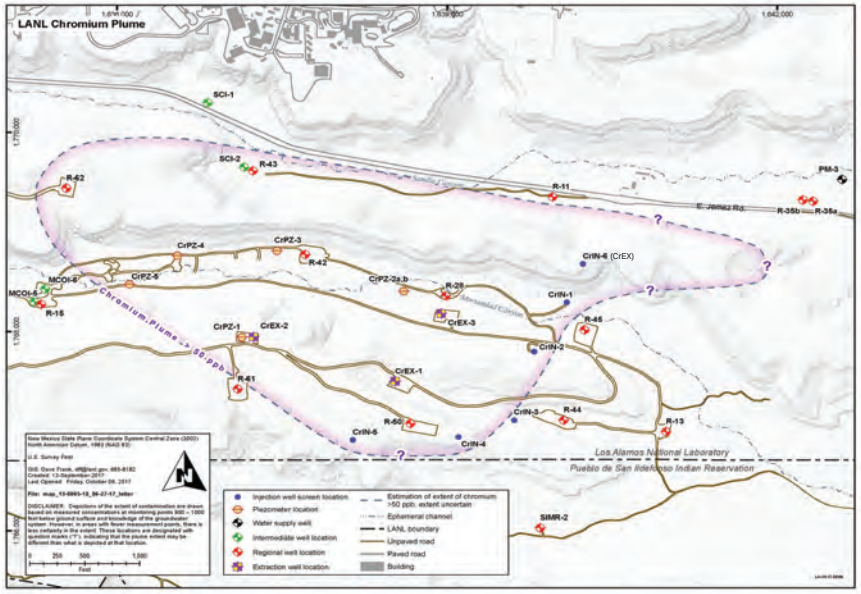
Daniel B. Stephens and Associates, Inc., completed an update to the Long-Range Water Supply (LRWS) Plan and it was approved by the BPU in January 2018. The LRWS Plan focuses on long-term water planning, and projects two possible outcomes as part of its demand forecast. This table shows the projected demands with and without LANL usage based on low (decreasing population) and high (increasing population) estimates.

Year	Population Projection		Projected Demand (ac-ft/yr)		Total Projected Demand-includes LANL (ac-ft/yr)	
	Low	High	Low	High	Low	High
2020	17,988	20,000	2,716	3,020	3,634	3,938
2030	17,789	20,812	2,686	3,143	4,191	4,648
2040	17,123	21,447	2,586	3,239	4,091	4,744
2050	16,480	21,874	2,488	3,303	3,993	4,808
2060	15,863	22,092	2,395	3,336	3,900	4,841

Potential Concerns

Los Alamos County's water rights are junior to several downstream senior water rights holders. With additional growth (population, tourists, and work force) in Los Alamos County and other areas and requirements to sustain endangered species and wetland habitats, there is the potential that protection of the senior water rights could impact long-term allocation of Los Alamos County's water rights, even over the next 40 years. Additional water rights concerns include Rio Grande Offset Requirements and the difficulty in finding willing sellers of water rights, and the potential impact of the Navajo Water Rights Settlement provisions on the San Juan-Chama Project water rights.

Approximate location of chromium plum. Located southest of Los Alamos townsite and northwest of White Rock.



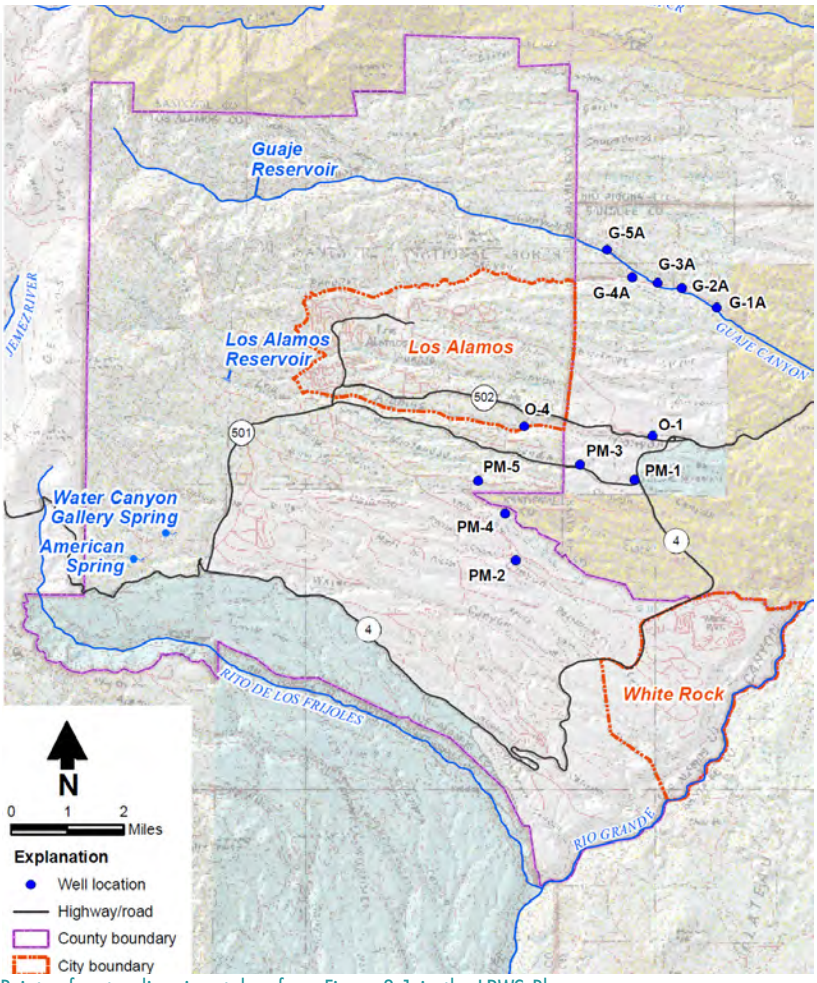
The risk of contamination of the current and/or future groundwater supply for Los Alamos County and its service members should be acknowledged. The DPU protects drinking water sources with sound well placement and construction as well as maintaining top-performing system operations and management. The DOE is currently assessing the extent of and remediation measures for a hexavalent chromium plume that is present in the regional aquifer.

The impacts of a changing climate are one of the biggest factors out of the control of DPU and DOE. Increasing temperatures and decreasing precipitation totals will strain existing water resources. Evaporation of surface water sources and lower recharge rates of groundwater resources need to be realized as possible threats to water availability for Los Alamos County.

"An application for permit to change an existing water right was filed jointly by DOE and the LACWU [DPU] in May 2016, in support of the chromium interim measure project that will run through December 2023...The application requests a change in purpose of use for groundwater to add groundwater remediation and additional groundwater points of diversion to be used for control and future characterization of hexavalent chromium-contaminated groundwater...The projections assume that the water supply remains available in terms of water rights and contamination, and do not take into account the possibility of treating and using contaminated groundwater." -LRWS Plan

Water Resources and Supply Overview

Water Sources



Points of water diversion, taken from Figure 2-1 in the LRWS Plan.

Los Alamos County is currently supplied by 12 active wells that range in depth from 1,519 feet to 3,092 feet. All water is drawn from the regional aquifer beneath the Pajarito Plateau. Currently, groundwater supplies potable water from the Guaje, Pajarito, and Otowi well fields. An additional well has been drilled in the Otowi well field and will be complete in late 2022, pending material availability and supply chain issues. This well, Otowi 2, reaches a depth of 2,520 feet and will be one of DPU's largest water-producing wells, pumping between 1,200-1,300 gallons per minute.

While the County's water rights of 5,541.3 acre-feet include both surface water and groundwater, the DPU supplies its potable water for customers solely from groundwater sources. Surface water sources are primarily used for irrigation purposes and as emergency supplies for wildfires. Surface water sources include: Water Canyon Gallery Spring, Los Alamos Reservoir, Guaje Reservoir, Camp May , and the unused contracted rights in the San Juan-Chama Project.

Los Alamos Reservoir Repair

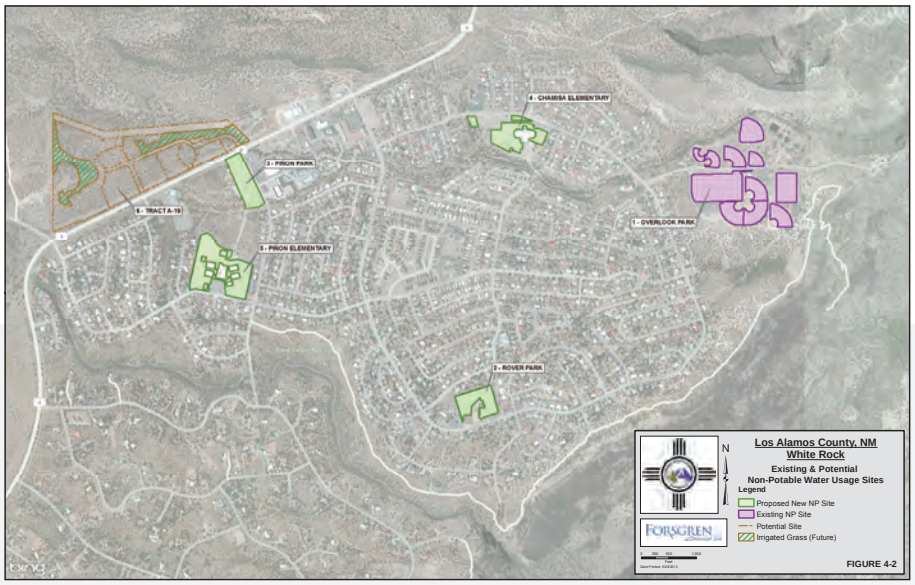
The Los Alamos Reservoir was severely damaged after the Cerro Grande Fire in 2000 and again by the Las Conchas Fire in 2011. The reservoir has been impacted by siltation and transmission pipeline breaks because of intense and catastrophic flooding events ever since. DPU has been awarded a grant from the River Stewardship Program to help address the erosion in this watershed impacting the stream and reservoir quality and to stabilize the access pipeline and roadway. The project will clear debris and use natural channel design to restore the water channel and floodplain above and below the reservoir. It is expected to begin in the summer of 2023.

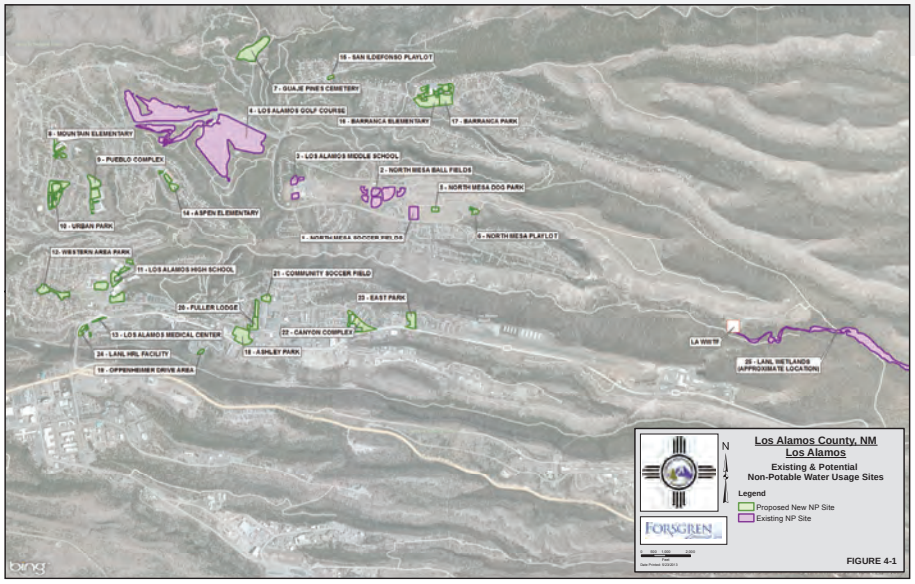
San Juan-Chama Project

The San Juan-Chama Project, in the Colorado River Basin, is geographically separate from the current regional aquifer DPU utilizes for potable water. Should DPU decide to implement access to this project, this source water would help to diversify Los Alamos County's water supply. The County is contracted for 1,200 acre-feet of the San Juan-Chama Project with the US Department of the Interior Bureau of Reclamation. More information about the development of this water right can be found in Section 4.2.1 of the LRWS Plan.

Reclaimed Water

Wastewater is currently treated at the Los Alamos Wastewater Treatment Plant (WWTP) and the effluent is used to maintain a wetland downstream of the WWTP and to irrigate four different sites in Los Alamos: North Mesa Soccer Field, North Mesa Ball Fields, and Los Alamos County Golf Course. Effluent from the White Rock WWTP is used to irrigate Overlook Park. Per the Fiscal Year 2021 DPU Annual Report, 116 million gallons of reclaimed water was used to irrigate green spaces throughout the county.





Locations of non-potable/reclaimed water irrigation sites in White Rock (top) and Los Alamos townsite (bottom). Figures taken from the Non-Potable Water System Master Plan.

Los Alamos' original golf course began using reclaimed water in 1945 (the first in the nation to do so) and White Rock began irrigating Overlook Park with reclaimed water in 1985. DPU continues to evaluate the expansion of reclaimed water use per the guidance of the Los Alamos County Non-Potable Water System Master Plan, last updated in 2013.

The Non-Potable Water System Master Plan was prepared to optimize the use of effluent and surface water for irrigation purposes. This master plan helps DPU review existing infrastructure, evaluate existing and potential future irrigated sites, develop a realistic demand for system build-out, and recommend system improvements. This resource continues to serve as a planning tool for non-potable projects, and, as such, there is no timeline to update the Non-Potable Water System document.

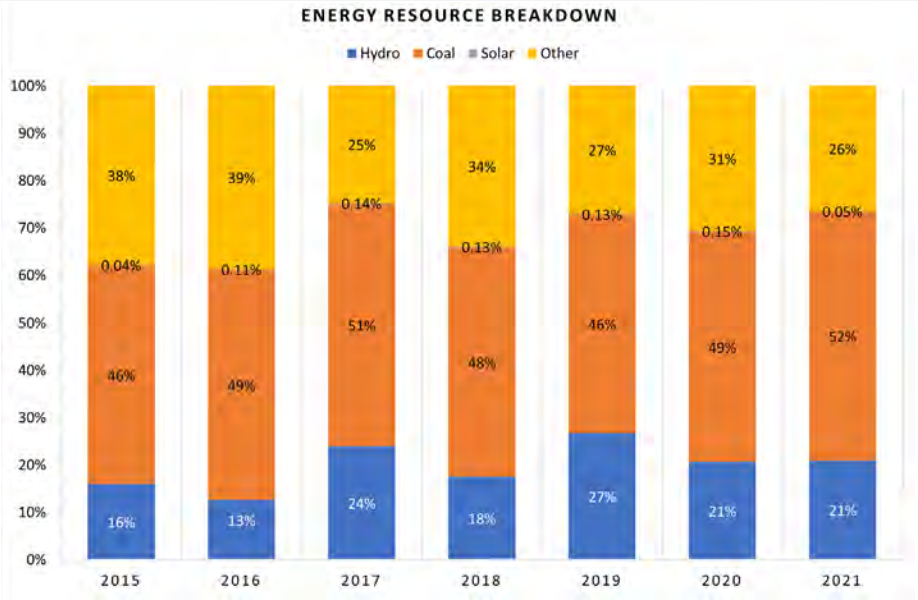
Expansion of the non-potable system is supported by loan/grant funding from the New Mexico Finance Authority Water Trust Board, which is applied for annually.

Electrical Resources and Supply Overview

System Components

The DPU and the DOE are joined in an ECA which allows each entity to combine resources for the Los Alamos Power Pool. The Power Pool purchases, sells, and schedules the power requirements for Los Alamos County customers and LANL. The current ECA expires in 2025 and both parties are working on negotiations for a post-2025 ECA.

Los Alamos County owns and operates the electric distribution system in Los Alamos and White Rock, and manages the Power Pool resources 24 hours a day, 365 days a year. However, the County does not own any transmission systems to get the electricity to its customers. The Public Service Company of New Mexico (PNM) provides the transmission service into Los Alamos County. DOE owns the transmission system within the county that serves both LANL and Los Alamos County. The Power Pool utilizes PNM's network to bring energy to the DOE system, and then the DOE's system feeds the County's switching stations, which distribute power to DPU customers.



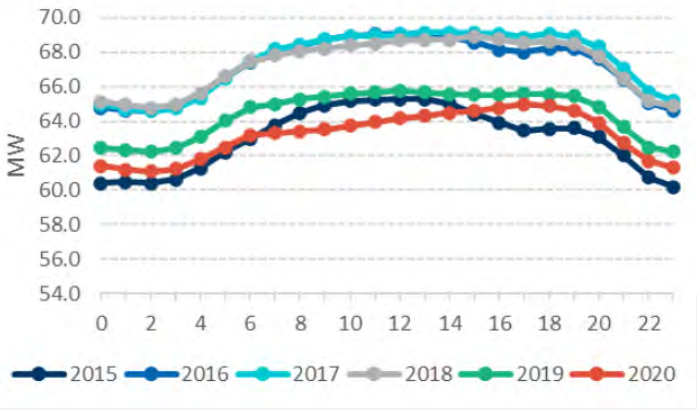
County assets of the Power Pool:

- San Juan Generating Station Unit 4 (coal, 36 megawatts)
- Laramie River Station entitlement (coal, 10 megawatts)
- El Vado hydroelectric facility (hydropower, 8 megawatts)
- Abiquiu hydroelectric facility (hydropower, 17 megawatts)
- Los Alamos Western Area Power Administration entitlement (hydropower, 1 megawatt)
- East Jemez Landfill photovoltaic array (solar, 1 megawatt)
- County transmission agreements
- County purchased power contracts
  - UNIPER, 2 agreements (wind and solar, 15-25 megawatts) *note: active as of 2022, and not relected in above chart

Demand Projections

The Los Alamos County distribution system consists of the townsite substations, which provide power to approximately 7,507 customers and LANL in Los Alamos, and the White Rock substation, which provides power to approximately 2,815 customers.

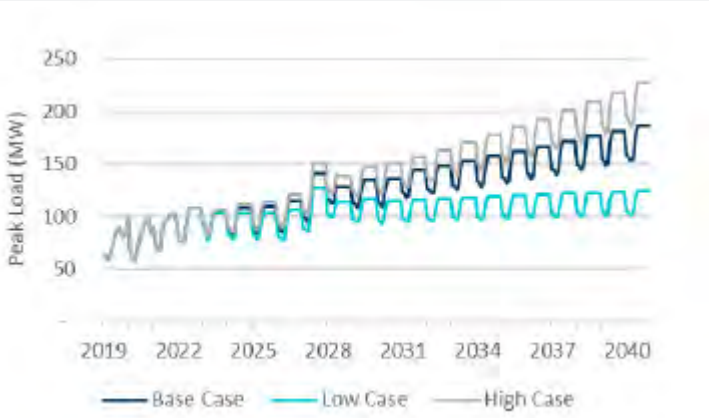
The IRP provides load forecasts and demand projections based on several inputs of the ECA partners. This plan recognizes that Los Alamos County load and demand projections are driven by population growth and commercial activity. The LANL load is driven by mission change and pace of operation.



Los Alamos Power Pool Hourly Demand Summary, 2015-2020.
Taken from the 2022 IRP, Exhibit 48.

The Power Pool will also need to accommodate additional electrical needs for new housing units in White Rock and apartment complexes in Los Alamos townsite. The pace of electrical vehicle adoption and additional electrification as people switch away from natural gas also need to be considered.

Potential Concerns



Los Alamos Power Pool Peak Load Forecast.
Taken from the 2022 IRP, Exhibit 57.

Providing a reliable source of electricity is the overarching concern for both electrical production and electrical distribution. As more and more electrical providers switch to renewable sources, there may be periods where there aren't enough renewable sources to match load. This issue is exacerbated by the slow construction of renewable sources because of material availability and required labor needs. Going forward, production sources need to be balanced: bringing renewable sources online as fossil fuel sources are phased out.

Transmission line concerns affect both production and distribution. Existing transmission lines can only carry so much electricity. As conversions from gas to electric continue, the demand for more electricity will increase, putting strain on existing lines and forcing the need for additional transmission lines from electrical production resources. Sourcing transformers is a concern on the distribution-side of transmission lines. DPU is in the process of replacing transformers and, like most supply-demand issues currently, is having to delay the progress of this project because of the slow pace of the manufacture of transformers.

Another potential concern that can be alleviated with planning is the maintenance, both planned and unforeseen, that takes power production sources offline for a given period of time. While the DPU has a goal response time of 60 minutes, known as SAIDI (System Average Interruption Duration Index), the occasional issue can take longer to resolve.

Electrical Resources and Supply Overview

Renewables

One of the strategic objectives approved by the BPU is for the DPU to become a carbon neutral electric provider by 2040.

Current electric resources utilized by the DPU for the Power Pool and considered renewable/clean energy are the El Vado and Abiquiu hydroelectric facilities, the hydropower provided from the WAPA entitlement, and the East Jemez Landfill photovoltaic array. The energy supplied to Los Alamos County that comes from these renewable resources hovers around 20% annually.

Recently, the DPU entered into two power purchase agreements with Uniper Global Commodities to bring solar and wind energy to Los Alamos County. The first began delivering energy in January 2022. This agreement is for 15 MW of wind and solar energy over 15 years with a subscribed output of 76% renewable energy. The wind portion of this agreement is online, but the solar is delayed due to material shortages. The second agreement is for 25MW and will be delivered from October 2022 to June 2025. Any excess megawatts generated from the first agreement will roll over to be a part of the second agreement. The 25 MW agreement will have a subscription output of 26% renewable energy.

WAPA contracted resources are subject to having an updated conservation plan as well as a current IRP agreement. The IRP agreement, a planning tool to guide the ECA in providing for future resources, was negotiated and extended until the year 2057.

An additional Power Pool resource being pursued, and discussed more thoroughly in Part II, is:

- Carbon Free Power Project (CFPP): a power generation facility that utilizes small modular reactor technology. There is potential to receive up to 8.3 MW from this resource. The facility is scheduled to be operational by 2030 and will be sited at the Idaho National Laboratory.

Non-Renewables

With the goal to become a carbon-neutral provider, the DPU is beginning to phase out its coal-powered resources.

The DPU is a partial owner in the San Juan Generating Station 4 near Farmington, NM. This station was planned to sunset at the end of June 2022. However, with the unavoidable delay in getting replacement renewable resources online and the timing of a power purchase agreement gap (Uniper coming online in October 2022), the BPU proposed to extend the San Juan agreement through the end of September 2022.

The DPU has a life-of-plant entitlement with the Laramie River Station in Wheatland, WY, with plant closure slated for 2040-2042. Opportunities continue to be sought for the DPU to capitalize on its long-term agreement by potentially swapping for renewable resources. In parallel, a negotiation for a hard exit, if an option exists, will be pursued in accordance with the BPU adopted goal.

Gas Resources and Supply Overview

The DPU owns and operates its natural gas distribution system. The regional transmission pipelines are owned and operated by New Mexico Gas Company. There are two sources of supply available for Los Alamos County. From these regional lines, two stations supply Los Alamos townsite and one station supplies White Rock.

Fiscal year 2022 has an average customer base of 7,263 residential units and 430 commercial, municipal, or educational units. These numbers fluctuate for any number of reasons, including households moving, seasonal residents, and businesses changing spaces.

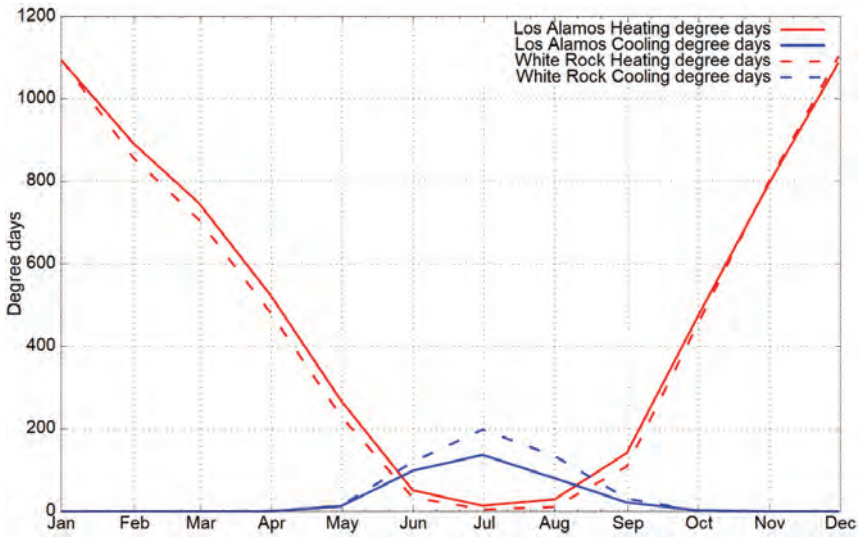
Demand Projections

The DPU has an ultimate goal of eliminating natural gas use by 2070. Demand projections include the reduction of natural gas usage each year. While simple in concept, achieving these reduced projections in practice may be far more challenging. Gas consumption is only predictable at a base level—the amount customers might use to heat water and run appliances. Other uses, primarily heating buildings, are dependent on weather patterns and much less predictable. What may look like a solid success in one year could be followed by failure to meet the reduction in the next due to uncontrollable weather-related circumstances.

Potential Concerns

There are few concerns with the gas supply specifically. Locally, freezing isn't an issue, and the risk of earthquakes damaging pipes is of low concern. However, supply issues from regional sources and systems can impact the Los Alamos system. For example, the failure of gas operations during the deep freeze in Texas in February 2021 caused a regional rate spike.

Another concern is related to the long-term elimination goal. As customers phase out natural gas usage in their homes, eventually gas rates will need to increase significantly for those still using natural gas to cover the DPU's cost of gas. This won't be obvious in the beginning, but it will cost the same to operate the natural gas system for 400 customers as it does 8000 customers. The DPU will need to plan for this transition.



Monthly average heating and cooling degree day (1991-2020).
Taken from the LANL Climatology 2021 Update, Figure 5.

Assessing Supplier Performance: Water

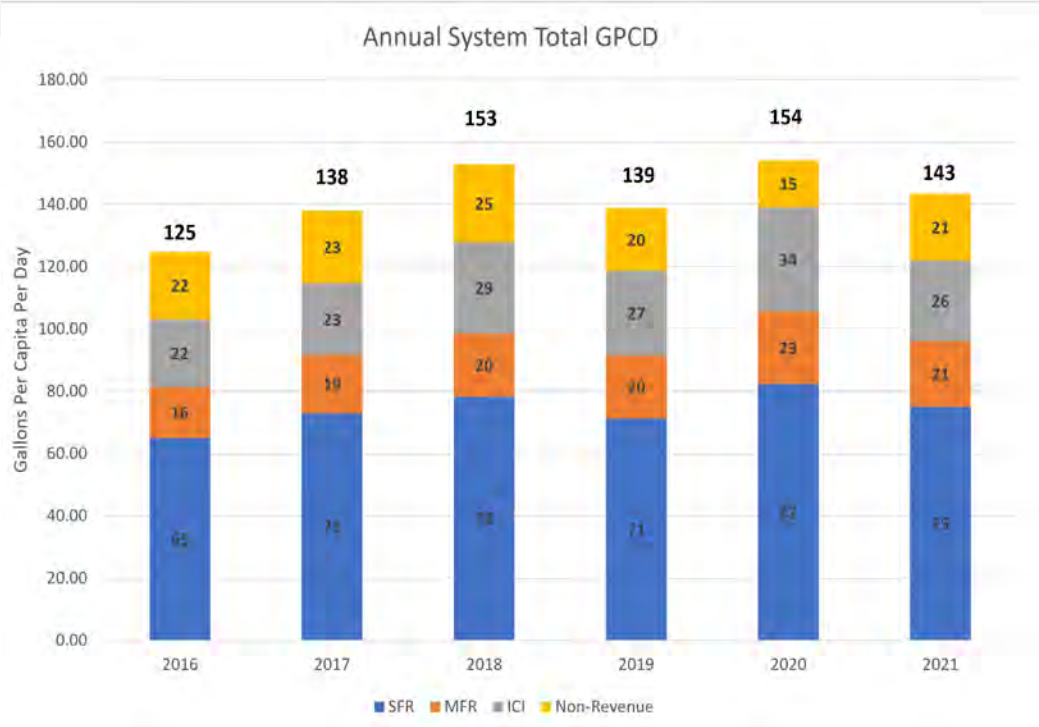
Water demand and consumption is tracked using a variety of metrics. All of the metrics rely on the base data pulled from the utility billing system, Munis.

Leak Detection Surveys

A system leak detection survey is conducted on a 5-year cycle. 20% of the total system is targeted annually. Each year a different part of the system is surveyed, and the leaks are classified into three categories: Class 1-3. Class 1 leaks are deemed hazardous and could result in damage to the utilities. Class 2 leaks display water losses significant enough to be monitored on a regular repair schedule. Class 1 and 2 leaks are repaired immediately. Class 3 leaks are relatively small and are repaired as workloads permit.

Gallons Per Capita Per Day

The NMOSE's Gallons Per Capita Per Day (GPCD) is a spreadsheet calculator completed and submitted annually to the NMOSE as a compliance piece for Los Alamos County water rights. This spreadsheet will be used to compare the County's water consumption with other communities in the southwest to help develop water conservation goals.



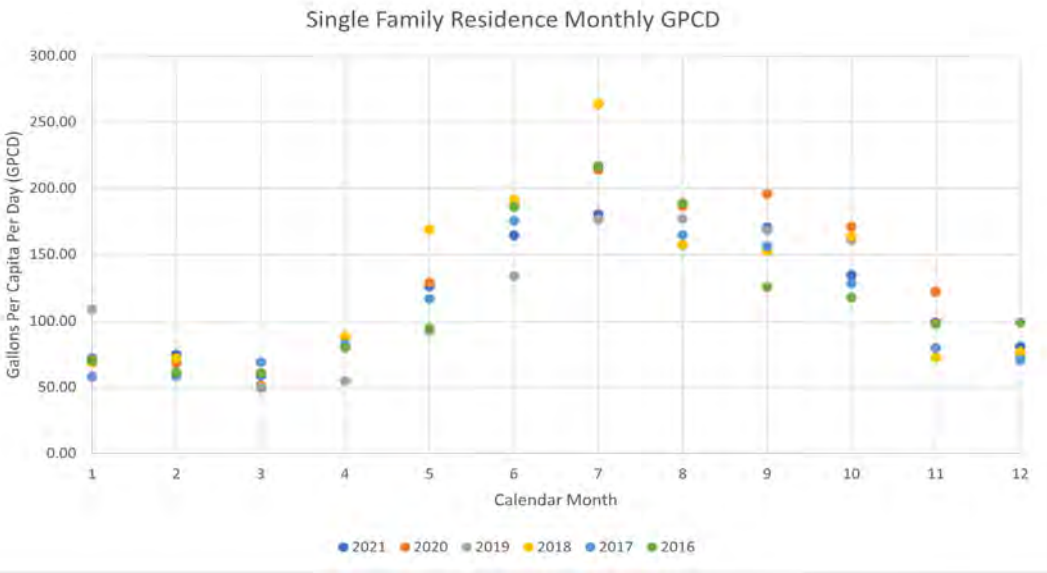
The GPCD charts in this plan report on the years 2016 to 2021. Household data is pulled from the 2010 Census. 2020 Census data was not released at the time of the 2021 GPCD update. Average household size for the reporting period is determined, by Census data, to be 2.33 persons. The populations for Single Family Residence (SFR) and Multi-Family Residence (MFR) are calculated using average household size multiplied by the number of connections associated with each customer category. GPCD for each category is formulated by dividing class consumption by class population. All values are auto-calculated in the NMOSE GPCD spreadsheet.

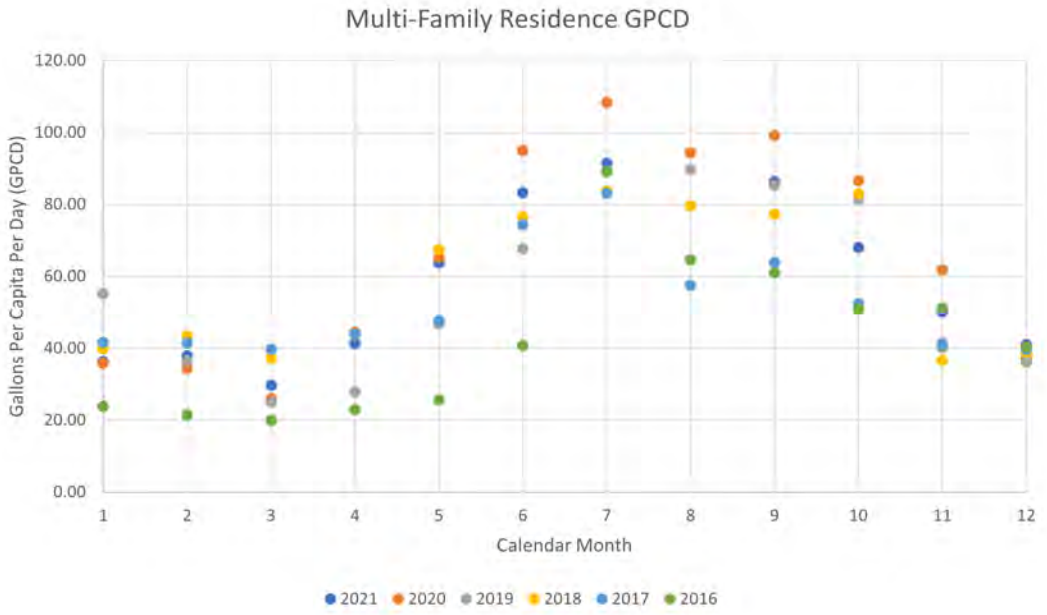
Lower Left: Los Alamos County total system annual Gallons Per Capita Per Day broken down into customer class and Non-Revenue water.

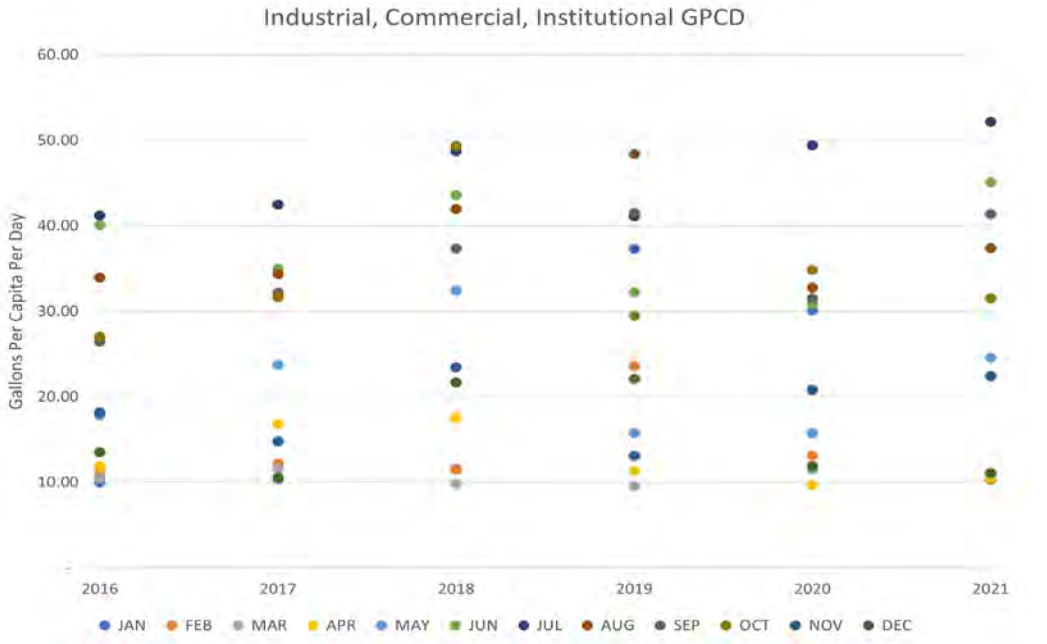
This page: Charts compiled from the NMOSE GPCD calculator. THe top chart graphs the GPCD of Single Family Residences while the middle graphs the GPCD of Multi-Family Residences. The bottom chart graphs all commercial, municipal, and educational facility (refered to as "Industrial, Commercial, Institutional by the calculator) GPCD.

These values are for all of Los Alamos County and are not broken into community. More information on the difference between the two communities can be found in Part II, Goal 5.

Monthly total system GPCD for 2016 - 2021 can be found in Appendix 1 of this plan.



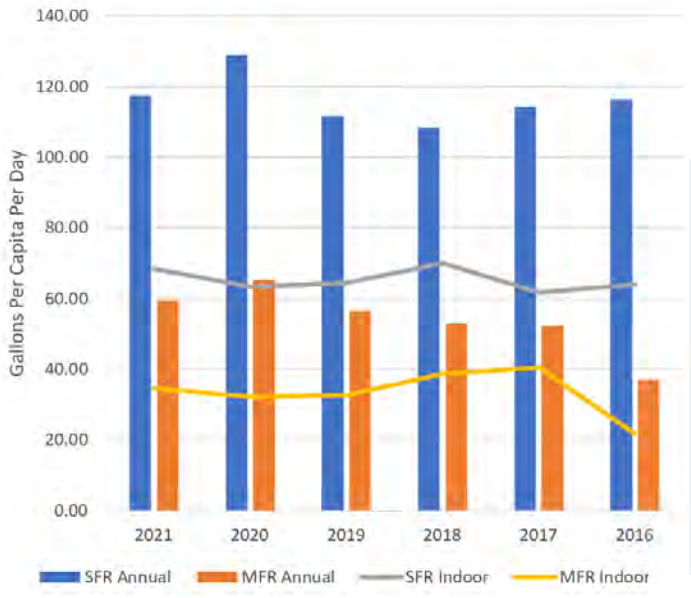




Assessing Supplier Performance: Water

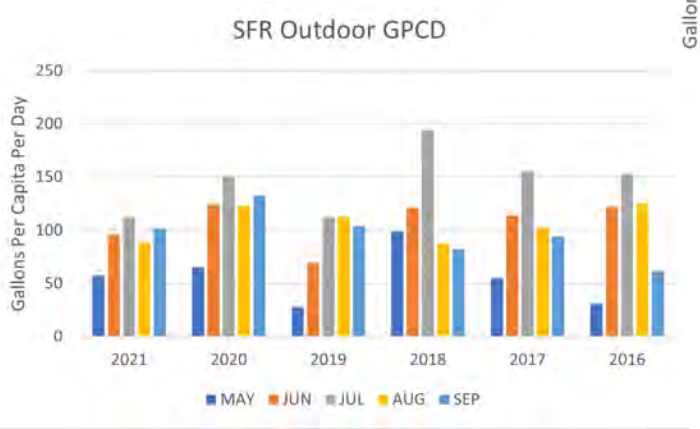
Indoor GPCD

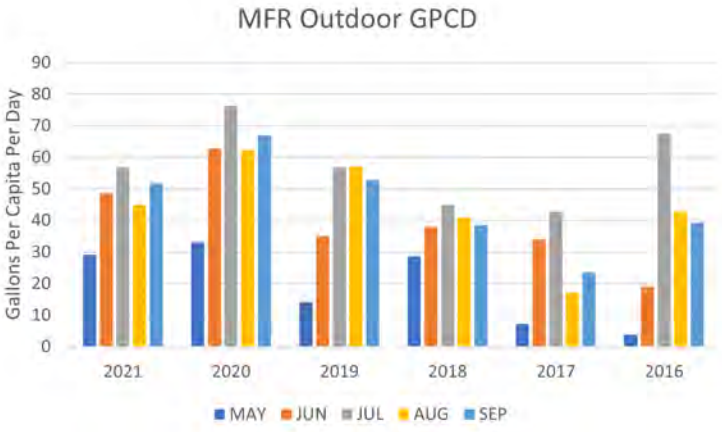
Using the GPCD calculator, indoor and outdoor water usage can be estimated. Indoor water consumption is calculated by averaging the three months - of the four winter months between December and March - with the lowest water use. Indoor GPCD is graphed with the annual GPCD for these two customer classes.



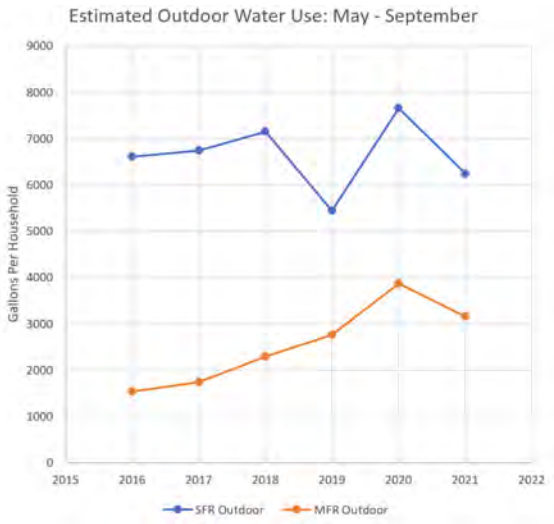
Outdoor GPCD

While reducing indoor water use is a common water conservation strategy, outdoor water use is a significant percentage of total water usage. This is expanded more in Part II, Goal 5 of the conservation program. Outdoor GPCD is calculated by subtracting the average monthly indoor GPCD from the total monthly GPCD. The charts below provide a detailed monthly breakdown of GPCD during peak water-use months (May to September). It is important to notice the difference in scales between these two charts.





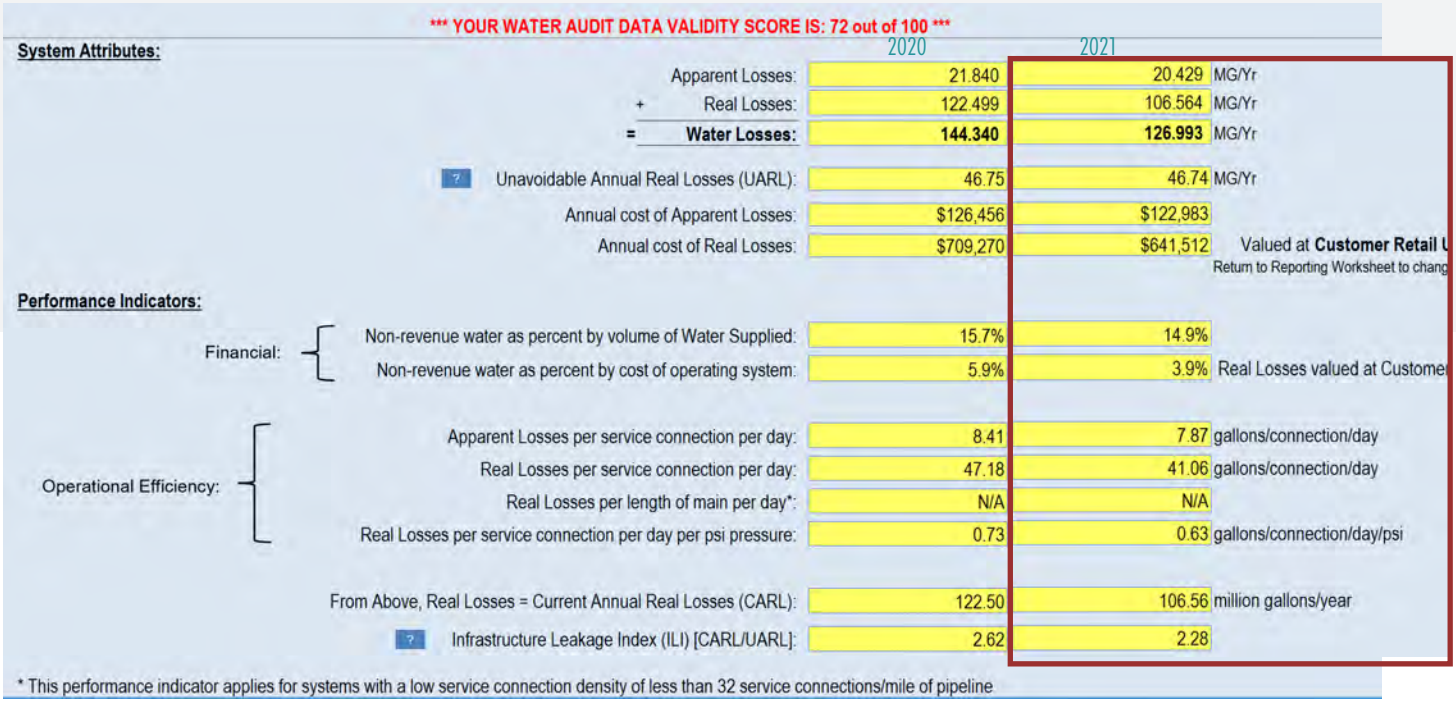
Alternatively this line graph displays outdoor water usage in gallons per household instead of GPCD because outdoor water usage is irrelevant of the number of household occupants.



Utilities Water Audit

The American Water Works Association (AWWA) Water Audit is a requirement of the NMOSE to standardize a method of auditing water utilities when calculating the percentage of non-revenue water. The AWWA Water Audit tracks water from the point of withdrawal, or treatment, all the way through to the point of delivery to the customer.

Two of the important figures this audit helps to identify, which the DPU can then work to reduce, are apparent losses and real losses. Apparent losses include all types of inaccuracies associated with metering, data handling errors, and theft of water. Real losses are breaks or leaks in the water system on the supplier side on to the point of customer consumption. Below are results from the 2020 and 2021 (inside red box) audits. The Water Audit Data Validity Score (a measure of the reliability of available data provided in the audit) is the same for both years.



*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 72 out of 100 ***

System Attributes:		2020	2021	
	Apparent Losses:	21.840	20.429	MG/Yr
+	Real Losses:	122.499	106.564	MG/Yr
=	**Water Losses:**	**144.340**	**126.993**	MG/Yr
?	Unavoidable Annual Real Losses (UARL):	46.75	46.74	MG/Yr
	Annual cost of Apparent Losses:	$126,456	$122,983	
	Annual cost of Real Losses:	$709,270	$641,512	Valued at **Customer Retail U**
				Return to Reporting Worksheet to chang
Performance Indicators:				
Financial:	Non-revenue water as percent by volume of Water Supplied:	15.7%	14.9%	
	Non-revenue water as percent by cost of operating system:	5.9%	3.9%	Real Losses valued at Custome
Operational Efficiency:	Apparent Losses per service connection per day:	8.41	7.87	gallons/connection/day
	Real Losses per service connection per day:	47.18	41.06	gallons/connection/day
	Real Losses per length of main per day*:	N/A	N/A	
	Real Losses per service connection per day per psi pressure:	0.73	0.63	gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	122.50	106.56	million gallons/year
?	Infrastructure Leakage Index (ILI) [CARL/UARL]:	2.62	2.28	

* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline

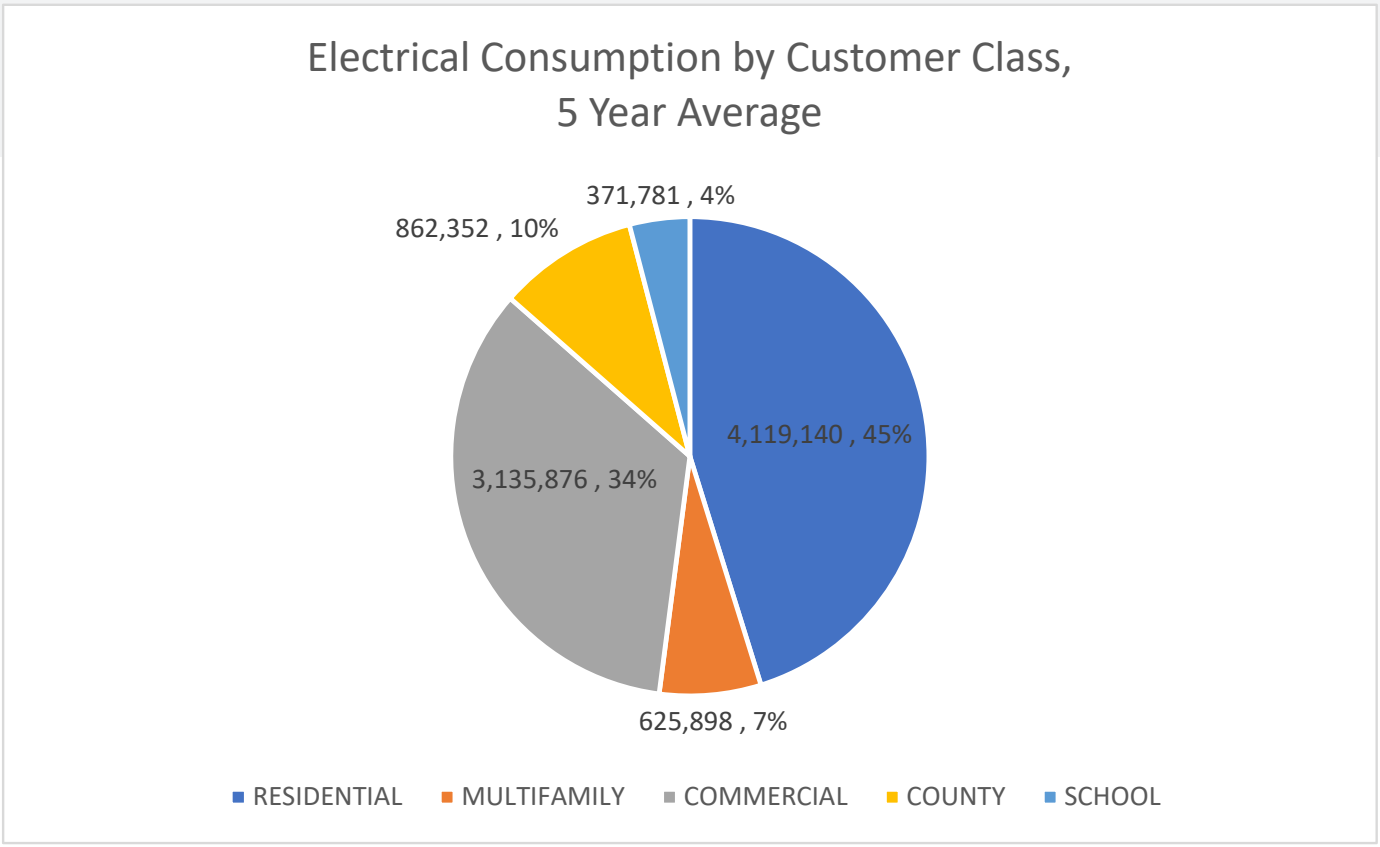
"Apparent Losses" decreased from 2020 to 2021 and this is in part to the installation of the advanced metering system on all water meters, which allow for leaks to be detected sooner and meters to provide more accurate readings. Additional guidance is provided within the AWWA Water Audit to decrease the DPU's non-revenue water and subsequent cost to the system, presented in the table below.

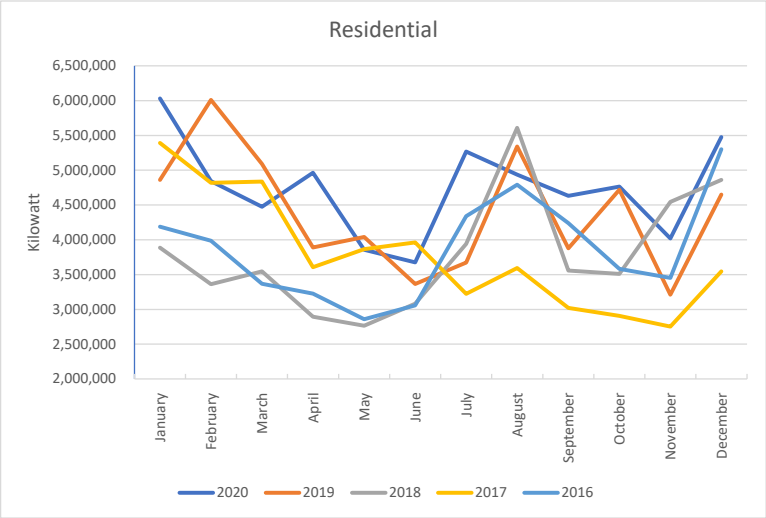
Audit data collection	Short-term loss control	Long-term loss control	Target-setting	Benchmarking
Refine data collection practices and establish as routine business process	Refine, enhance, or expand ongoing programs based upon economic justification	Conduct detailed planning, budgeting, and launch of comprehensive improvements for metering, billing, or infrastructure managment	Establish mid-range (5 year horizon) apparent and real loss reduction goals	Performance Benchmarking -Infrastructure Leak Index is meaningful in comparing real loss standing

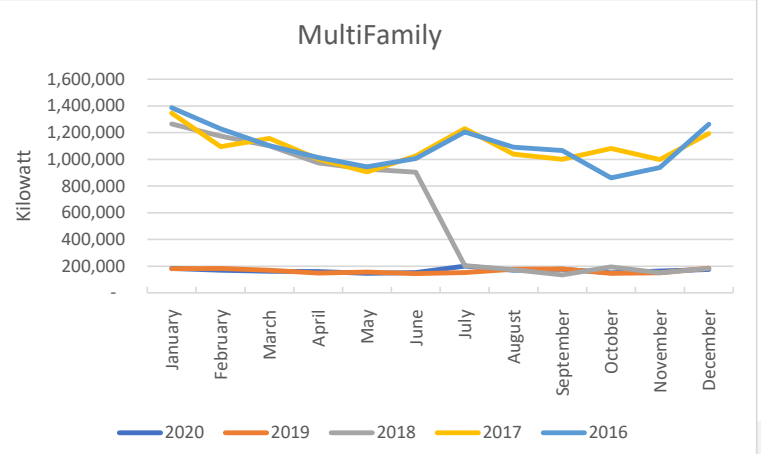
Assessing Supplier Performance: Electric

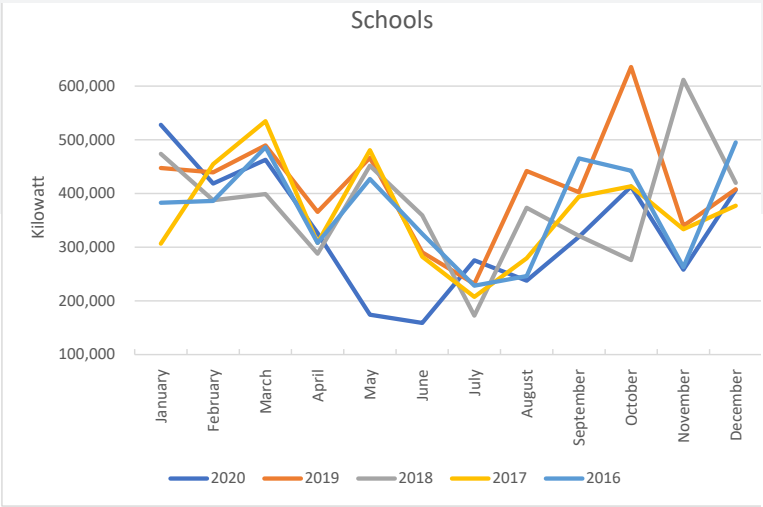
Electrical performance is tracked differently for power supply and electric distribution.
Power supply uses internal spreadsheets that calculate demand and losses. Losses are handled financially.
Electric distribution is tracked primarily through Munis and the consumption reports created using its data.

Below is a pie chart showing the 5-year (2016-2020) average of electrical consumption by customer class. This is an example of one of the consumption charts created through Munis.









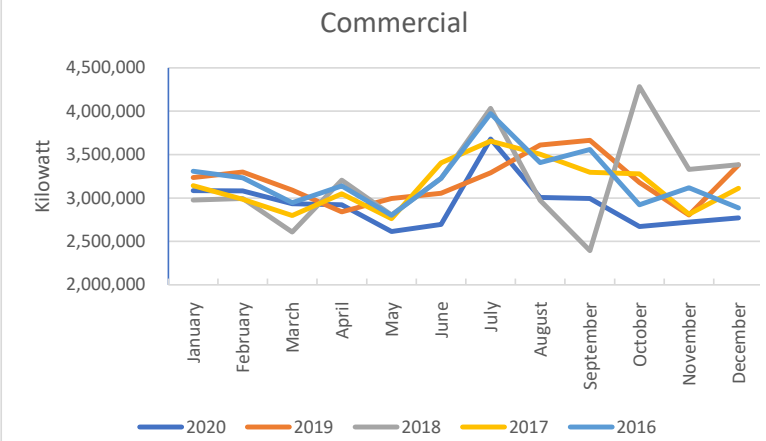
Listed are the consumption charts for each customer class for the last 5 years.

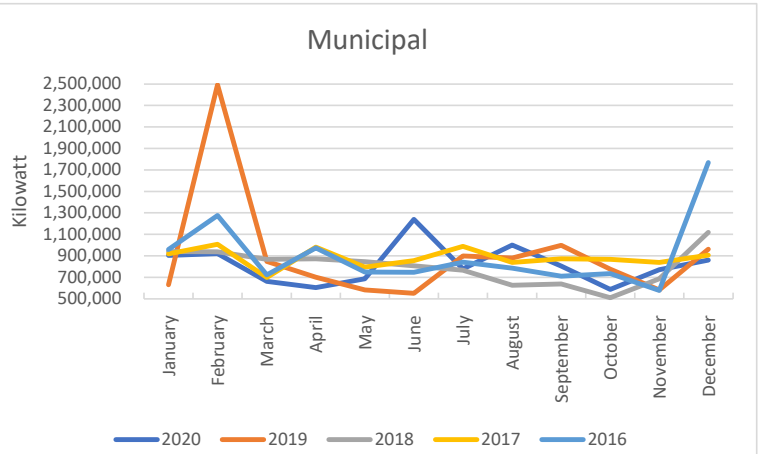
No data collection, tracking, and reporting method is without flaws, but by knowing and understanding the general usage of each customer type, outliers can be identified and determined if it was indeed a change in usage or an issue with data collection and metering.

For example, the DPU switched to the Munis system in July 2018. The Munis system categorizes the definition of "MultiFamily" differently than the previous system. Notice the drop in MultiFamily usage in July 2018 and the uptick in usage for Residential in July 2018 and beyond.

A non-Munis fluctuation is shown with the schools. Electricity usage drops dramatically in March 2020 through June 2020 as the schools were closed due to the COVID19 pandemic.

The Commercial and Municipal spikes in late 2018 and early 2019, respectively, are related to meter reading and billing issues are because of the Munis switch over.



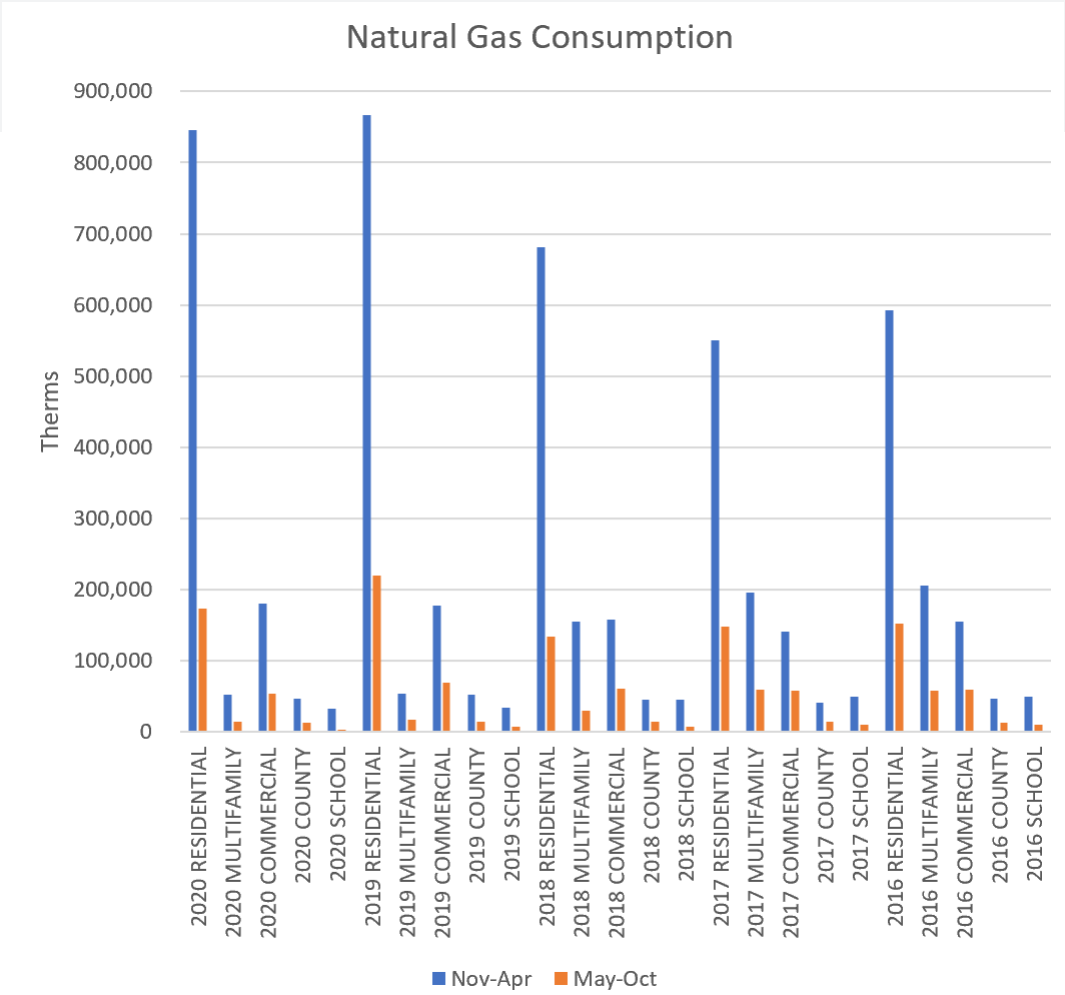


Assessing Supplier Performance: Gas

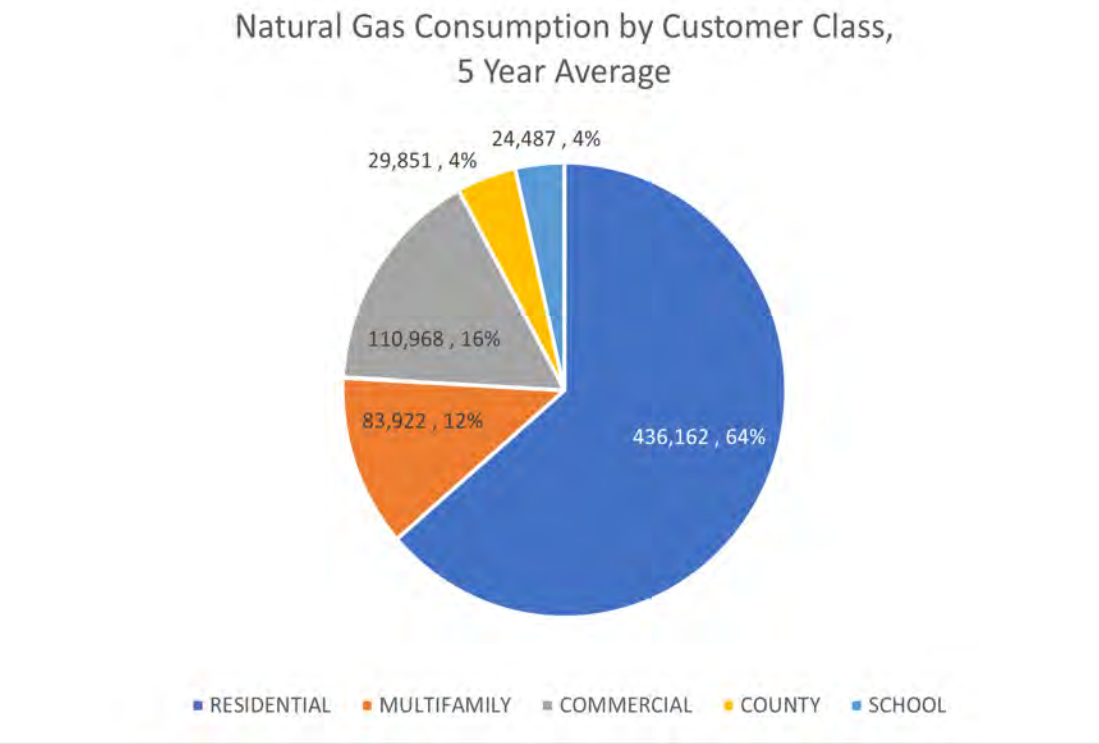
Gas performance metrics are tracked in the DPU's Gas, Water, Sewer internal gas dashboard in addition to the customer consumption monitored through Munis.

The gas industry requires extensive monitoring and reporting. Some examples include:

- An annual gas report submitted to the US Department of Transportation, which discusses pipe material and length as well as damage to and leaks in the natural gas delivery system.
- An annual greenhouse gas report submitted to the US EPA covering emissions relating to natural gas consumption.



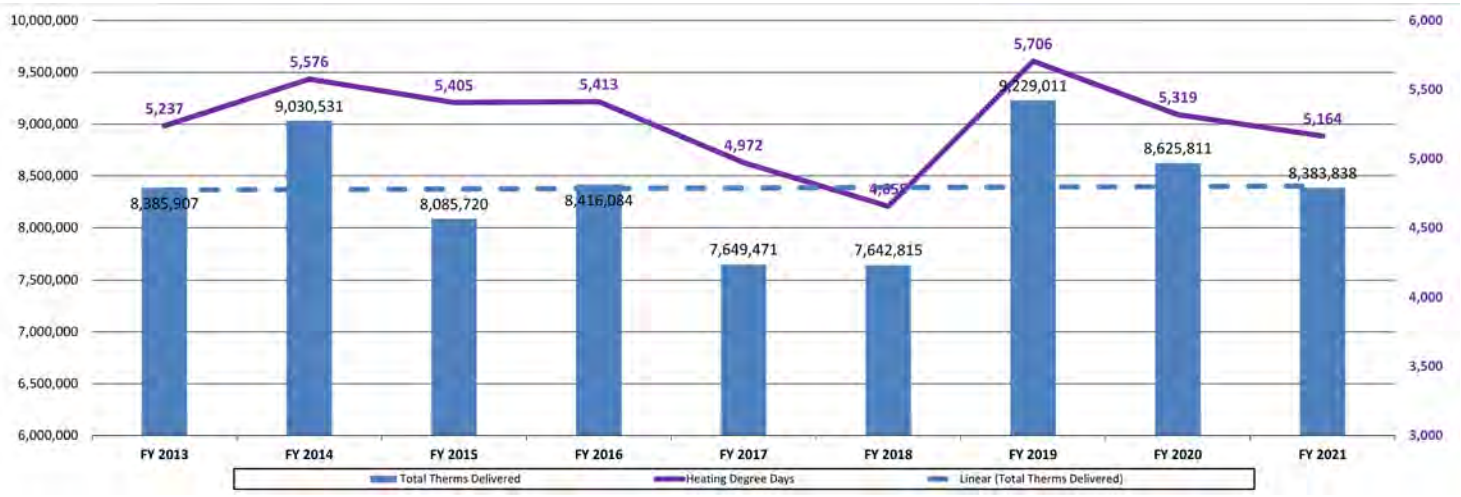
Natural gas consumption by customer class and grouped into months typically needing a heating source (Nov-Apr) and months typically needing low or no heating (May-Oct).



	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	Total Average
Los Alamos	20	17	17	28	69	114	145	149	128	84	48	29	71
White Rock	18	15	15	19	55	117	151	155	123	77	43	25	68

The above pie chart is a 5-year average (2016-2020) of natural gas consumption for each customer class tracked within Munis. Figures are reported in therms and percentage of total. The table is a representation of residential monthly gas consumption between Los Alamos and White Rock. It is a monthly average from FY2019-FY2021.

The complex chart below shows the total therms delivered each Fiscal Year. This chart helps to show that natural gas fluctuates with Heating Degree Days (HDD) and is a good indicator that a significant number of furnaces within Los Alamos remain natural gas fueled.



Therms delivered with heating degree days, taken from DPU internal dashboard.

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Part II

Water and Energy Conservation Plan

Water and Energy Conservation Plan

Purpose

The DPU Water and Energy Conservation Program is facilitated by a full-time staff member, the Conservation Coordinator, who is responsible for implementing and tracking progress (success/failure) of the components of the Conservation Plan (Plan). The Plan is a dynamic document driven by the DPU strategic goals and influenced by public input, whether through committees, surveys, or comments from a variety of channels. These strategic goals are reviewed annually by the BPU and will be revised based on emerging technologies, community priorities, and progress within each objective.

For Los Alamos County to achieve the maximum conservation of utilities, efforts need to come from both the supplier (DPU) and the demand-side (Customer). The following pages focus on each of the strategic goals, ranked from highest to lowest priority, as determined by the BPU. Within each section, projects, programs, and best management practices will be discussed for the DPU and the Customer. Education and outreach topics will also be covered.

Fiscal Year 2023 strategic goals and objectives were approved by BPU on September 15, 2021.
The strategic objectives (primarily from Goal 5.0 – Achieve Environmental Sustainability) in order of highest priority to lowest priority are as follows.

1. Be a carbon neutral electric provider by 2040.
2. Provide Class 1A effluent water in Los Alamos County.
3. Reduce natural gas usage by 5% per capita per heating degree day by 2030 and support elimination of natural gas by 2070.
4. Promote electric efficiency through targeted electric conservation programs.
5. Reduce potable water use by 12% per capita per day by 2030.
6. Communicate with stakeholders to strengthen existing partnerships and identify new potential mutually beneficial partnering opportunities (from Goal 6.0 – Develop and strengthen partnerships with stakeholders).

Note: The Plan's programs and goals promote conservation to the customer primarily through voluntary compliance. Customers can save money and improve their standard of living through water and energy conservation without making significant sacrifices in lifestyle or through large monetary investments.

Education and Outreach

Overview

In the 2022 Voice of the Customer Survey, conducted between January 4 and February 9, 2022, it was determined that customers gave DPU a poor rating on "helping customers conserve electricity, gas and water." Education and outreach are critical components in promoting conservation. To avoid redundancy, several education and outreach deliverables are listed here and will apply to each of the strategic objectives that follow. This list is not exclusive as education will happen as opportunities present themselves.

Utility Bill Inserts

Each month, the DPU includes information with the utility bill. Sometimes these are seasonal topics (e.g., gas safety as winter sets in, saving water in the summer months, etc.) and sometimes they are programmatic in nature (enrolling in the new Automated Metering Self Service portal). The Conservation Coordinator has a goal to include a conservation-themed insert each month. Close to 9,000 customers receive a paper bill, and thus, the inserts. All bill inserts are also placed on the DPU's website for easy viewing and for those that receive electronic billing statements.

Target timeline: Monthly
Audience: 9000

Community Events and Meetings

The DPU will enhance its presence in the community by attending different events that occur throughout the year to promote relevant programming and outreach efforts. Such events include:

- Earth Day: once a year, April
- Farmer's Market: every Thursday, May – October
- ChamberFest: once a year, June
- ScienceFest: once a year, July
- Los Alamos Fair and Rodeo: once a year, September
- Meetings can include Rotary Club, Kiwanis, Habitat for Humanity, etc.

Target timeline: Monthly to seasonal
Audience: 1000/year

School Programs

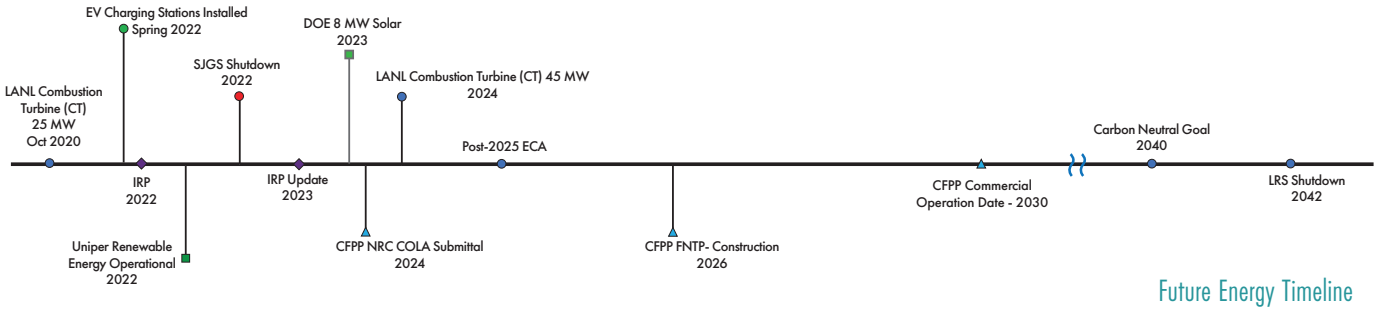
Currently, the DPU has a contract with Pajarito Environmental Education Center (PEEC) to do educational programs both in schools and for the public. PEEC does an excellent job of gearing school programs to current DPU projects. The Conservation Coordinator will also engage in the classroom to enhance promoting conservation in the schools.

Program topics include: The Water Cycle, Water-Wise Gardening, Water Infrastructure, Electricity and Magnetism, Energy Sources, and the Water Festival, among many others.

Target timeline: School year with some summer activity
Audience: 4000

Objective 1: Be a Carbon Neutral Electric Provider by 2040

A "Carbon Neutral Electric Provider" means the DPU will be matching the electricity demand with a carbon free supply on an annual basis.



Future Energy Timeline

Supplier Deliverables

Exit the San Juan Generating Station

The San Juan Generating Station (SJGS) is a coal-powdered facility located in Farmington, NM. The DPU is a partial owner in the SJGS #4 and receives a significant portion of its electrical needs from this resource. An amendment was approved to extend the agreement beyond the original closing date of June 30, 2022, to fill an energy gap created by the delay of new generation resources throughout the west. The new closing date is September 30, 2022. The DPU is working to replace this resource with the clean energy sources listed in this section.

Target timeline: September 30, 2022
Megawatts provided: 36, fossil fuel energy

Carbon Free Power Project

The Carbon Free Power Project (CFPP) is a NuScale Power small modular reactor plant being constructed at the Idaho National Laboratory. CFPP is being spearheaded by Utah Associated Municipal Power Systems (UAMPS), of which the DPU is a member. The DPU is currently subscribed for 2 MW based on a money threshold of $1.2 million. The amount subscribed changes with market fluctuation and could be supplied with 8.3 MW when fully subscribed. This project is the first of its kind in the United States. More information can be found at https://www.cfppllc.com/.

Target timeline: Online by 2030
Megawatts provided: 6.0-8.3, carbon-free energy

Objective 1: Be a Carbon Neutral Electric Provider by 2040

Supplier Deliverables

Investigate Emergent Power Technologies

The DPU will investigate power options as resources and technologies develop. As resources and demands evolve, keeping a diverse energy portfolio is important as is providing a reasonable rate to customers.

Target timeline: ongoing with emphasis on next 5 years
Megawatts provided: 15; 25, renewable energy

Energy Transition Act (SB 489)

The Energy Transition Act, passed in March 2019, is New Mexico legislation that will make New Mexico a leader in renewable energy. The Energy Transition Act "sets a statewide renewable energy standard of 50 percent by 2030 for New Mexico investor-owned utilities and rural electric cooperatives and a goal of 80 percent by 2040, in addition to setting zero-carbon resources standards for investor-owned utilities by 2045 and rural electric cooperatives by 2050." As SB 489 currently stands, this does not apply, but the DPU was one of the first in New Mexico to set a carbon neutral goal.

Target timeline: 2030 – 2050

Smart Energy Provider

The DPU will be reviewing the application requirements for designation as a "Smart Energy Provider" from the American Public Power Association. A Smart Energy Provider is a designation "for utilities that show commitment to and proficiency in energy efficiency, distributed generation, renewable energy, and environmental initiatives." Should DPU decide it's qualified, applications will open in December 2022 and close in April 2023. Designations will be awarded in October or November of 2023 and will last two years, after which, the DPU would need to reapply to ensure maintenance of Smart Energy Provider best practices.

Target timeline: December 2022 – November 2023

Photovoltaics/ Distributed Generation

Per the Fiscal Year 2021 DPU final report, there are approximately 3 megawatts of solar power installed on customers' roofs. The DPU will work with customers to promote education about and installation of additional solar panels while balancing this power load to the Power Pool grid. Distributed generation is programmed to supply 30% of the County's peak daily load locally.

Target timeline: ongoing
Audience: Goal of 6MW of distributed generation solar

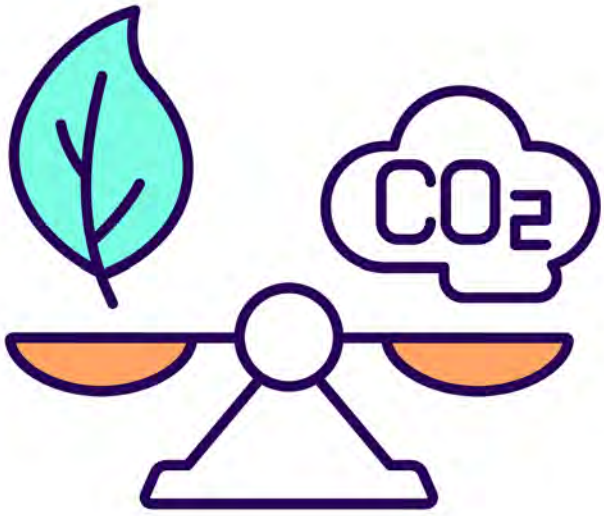
Objective 1: Be a Carbon Neutral Electric Provider by 2040

Customer Deliverables

Updated Building Energy Codes

Adopted in August 2020 by the State of New Mexico's Regulation and Licensing Department, the 2018 iteration of the International Energy Conservation Code (IECC) will reduce emissions from and increase efficiency of residential and commercial buildings. According to energycodes.gov, it is estimated that residential customers could see cost savings of nearly $400 annually (per 1000 ft^2). Commercial customers could see $138 in annual savings with a simple payback of 4.6 years.

Target timeline: variable, as new builds and remodels occur



Objective 2: Provide Class 1A Effluent Water in Los Alamos County

Class 1A Effluent is the highest classification of wastewater/reclaimed water.
A filtration system is required to meet Class 1A effluent standards.

Supplier Deliverables

White Rock Water Resource Reclamation Facility

The existing wastewater treatment plant in White Rock is reaching the end of its lifespan. A new Water Resource Reclamation Facility (WRRF) is in the process of being constructed. This new facility was designed in-house to best serve the White Rock system needs. The WRRF is projected to be operational by 2023; however, supply-chain delays could push this date out.

Target timeline: 2023

Customer Deliverable

Sewer Rate Increase

A sewer rate increase was approved in February 2022 to help with the cost of the new White Rock WRRF. The rate increase will be at 2% per year for four years affecting the monthly service fee, the flat rate charge for residential customers, and the variable rates for commercial and non-residential customers. This has been approved by both BPU and County Council and will go into effect October 1, 2022.

Target timeline: Oct. 2022 – Oct. 2025
Audience: all DPU sewer customers

Upgrade Los Alamos Wastewater Treatment Plant

Tertiary filtration equipment is being added to the Los Alamos Wastewater Treatment Plant (WWTP), which will upgrade its effluent classification from 1B to 1A. This project is moving along with the hinderance of increased cost of work impacting wastewater's budget.

Target timeline: 2022-2023

Facility Tours

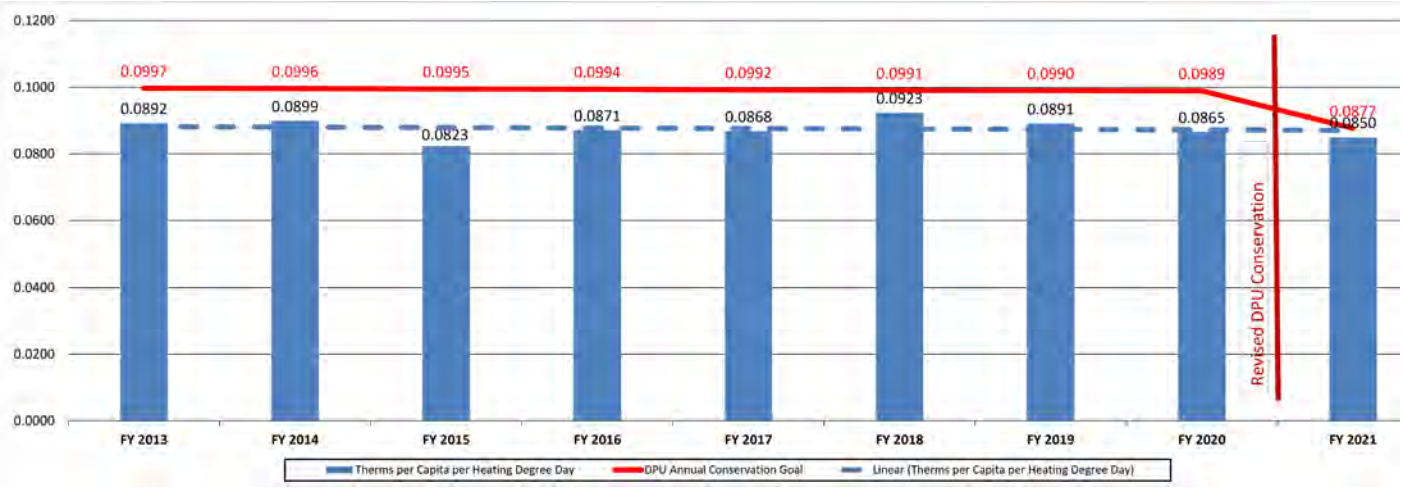
The Wastewater Operators are experts in giving tours. They are excited about what they do and the level at which their facilities operate. Providing tours enables the public to be aware of the full waste cycle and understand the high-quality effluent product.

Tours can be conducted in two ways: in-person and by video. Once the White Rock WRRF is completed and the upgrades to the Los Alamos WWTP are finished, in-person tours can begin. DPU Public Relations staff will work with the operators at each plant to develop a video tour as well. This will expand the touring opportunity to those who cannot easily navigate these types of facilities, school groups with busing shortages, and additional groups as awareness grows.

Target timeline: late 2023, early 2024
Audience: 300 in-person tour, thousands with video

Objective 3: Reduce Natural Gas Usage by 5% by 2030 and Support Elimination by 2070

The full objective is to reduce natural gas usage by 5% per capita per heating degree day by 2030 using a 2020 calendar year-end baseline and support elimination of natural gas usage by 2070.



Graph charting Los Alamos County therms per capita per heating degree day. A "heating degree day" (HDD) essentially means a day when the temperature outside warrants using a heating source to get the inside temperature to 65°F. For example, if the outside temperature is 40°F, it takes 25 degrees to reach 65°F thus the day has a 25HDD. See the chart "Monthly average heating and cooling degree days" in Gas Overview section.

Supplier Deliverables

Replace Meters For Accuracy

The DPU will continue replacing gas meters to provide more accurate readings. A new meter change out goal will be revised for Fiscal Year 2023, increasing the number of meter change outs to 375 per year. All isolated gas risers were replaced between Fiscal Year 2010 and Fiscal Year 2016.

Target timeline: Ongoing

Planning for Cost Adjustments

As customers are encouraged to switch, a plan will need to be developed to offset the cost for the remaining customers. The overall cost of operating the gas delivery system will remain the same, no matter the number of customers; however, the total cost divided among 8,000 customers or by 4,000 customers will be noticeable.

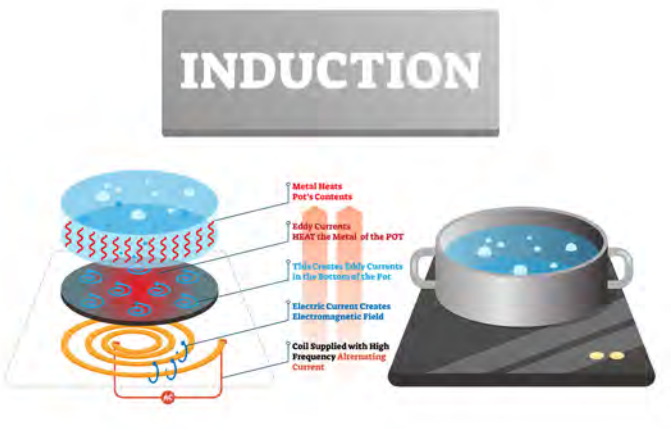
Target timeline: 2070

Objective 3: Reduce Natural Gas Usage by 5% by 2030 and Support Elimination by 2070

Supplier Deliverables

Promote Alternatives to Gas

Funding for new technology demonstrations is provided by the "LA Green" program funds. This is a funding source that customers can opt-in on their utility bill to ensure that DPU is providing some electricity from green sources. This fund is no longer needed because DPU has reliable sources of clean energy. The BPU approved using the remaining money in this fund on projects contributing toward DPU conservation objectives.



Target timeline: See demonstrations below

Induction Cooktop Technology

Target timeline: July-Sept 2022 and beyond
Audience: Goal of 1000 customers

The DPU has two projects under way to provide customers the opportunity to try induction cooking technology before committing to full units. Induction cooking technology uses electromagnets to heat an induction-compliant cooking vessel. These units heat cookware faster than conventional electric cooktops. They also eliminate the indoor air pollution and open flame danger of gas stoves.

The first project is a loaner program for portable induction cooktops. These single burner units will be available to residents of Los Alamos County for a period of two weeks and will include instructions and cookware. This project will begin in July 2022 and will start with six induction cooktop kits.

The second project is to install a full induction stove unit at the White Rock Municipal Complex. DPU staff will document the installation of this unit to better provide customers information on this process. Cooking classes will be taught using this stove and customers will have an opportunity to test the difference between an induction unit and their existing stoves at home. The project will be installed in the late summer of 2022.

Heat Pumps

Target timeline: late 2022 – 2023
Audience: Goal of 500 customers

The DPU is actively working to find locations to demonstrate a heat pump dryer, a heat pump hot water heater, and other heat pump-driven technology. The desired locations will be similar to the location for the induction stove: accessible and interactive (where appropriate) by the public. The DPU wants to provide opportunities for public interaction to best encourage adoption of heat pump technologies.

Objective 3: Reduce Natural Gas Usage by 5% by 2030 and Support Elimination by 2070

Customer Deliverables

Energy Audit Improvement

Comprehensive energy conservation audits consist of a 5-year utility bill analysis, a home or business walk-through with an infrared imager, and a blower door test. Audits allow customers to see consumption history and sources of energy leaks within their home. The results of these audits provide recommendations for conservation practices to reduce energy loss and consumption.

Target timeline: TBD

Rebates

At the present moment, the DPU cannot offer any rebates on appliance conversions or building improvements that will reduce a customer's gas usage. This may change in the future and the DPU will alert customers as soon as any rebate programs are available.

Target timeline: TBD

Utilizing Automated Metering Self Service Data

The DPU installed automated meters for all utilities at most residential and commercial sites. These meters feed data directly to a user-friendly customer dashboard. By utilizing this dashboard, customers can see nearly real-time consumption of utilities. Customers can then incorporate conservation measures (turn down the thermostat in winter or eat more alfresco) to track consumption changes. This system has already helped with leak detection, saving customers money, alleviating dangerous gas situations and reducing unnecessary waste of natural resources.

Target timeline: ongoing
Audience: 10% of utilities customers

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Objective 4: Promote Electrical Efficiency through Targeted Conservation Programs

The Water and Energy Conservation Coordinator will be responsible for the targeted conservation program. The DPU will be balancing adoption of renewables without creating brownouts.

Supplier Deliverables

Promote Energy Efficient Technologies with Demonstrations

See previous "Alternatives to Gas." The technologies being promoted as replacements to natural gas appliances are also highly energy efficient in comparison to conventional appliances.

Other efficient technologies could include: solar power and battery storage, lighting improvements, and programmable thermostats and controllers. The possibility of waiving permitting fees for efficiency improvements is also a consideration

Target timeline: ongoing

Smart Energy Provider

Explained in Objective 1, achieving a Smart Energy Provider designation will show that the DPU is committed to the objective of promoting electrical efficiency on both the supply and demand side of electrical production and distribution.

Target timeline: December 2022 – November 2023

Legislation

Industrial Revenue Bond Act (HB50)

Passed in 2020, this legislation makes transmission line projects eligible for Industrial Revenue Bonds available through cities and municipalities. The bond act will jump start critical transmission line construction, unlocking access to additional renewable energy resources.

Energy Grid Modernization Roadmap (HB233)

This piece of legislation, passed in 2020, directs the New Mexico Energy, Minerals, and Natural Resources Department to develop a strategic plan for energy grid modernization and to create competitive grant programs to implement such projects. This bill will ultimately encourage utilities to propose grid improvements for reliable and up-to-date systems to meet growing renewable energy demands.

The DPU's Electric Production team contributed to the advisory group in 2020 for this legislation and continues to participate in New Mexico Public Regulation Commission's grid modernization webinars.

Objective 4: Promote Electrical Efficiency by Targeted Conservation Programs

Customer Deliverables

Legislation

Solar Market Development Income Tax Credit (Senate Bill 29)

Enacted on March 1, 2020, this piece of legislation provides a tax credit of 10% for small solar systems, including on-grid and off-grid PV systems and solar thermal systems. There is an annual funding cap of $8 million issued on a first-come first-served basis. Customers are encouraged to submit an application to the NM Energy, Minerals, and Natural Resources Department as soon as their system is fully connected and operational.

Community Solar Act (SB0084)

The Community Solar Act was signed into law in April 2021 by New Mexico Governor Michelle Lujan Grisham and the full scope of the program is still under development. This program supports the development of community solar facilities which allows "equal access to the economic and environmental benefits of solar energy generation regardless of the physical attributes or ownership of an individual's home or business" and ensures that at least 30% of projects be allocated for low-income subscribers.

Note: DPU has evaluated this, but the DPU can acquire utility-scale resources directly and community solar as an additional utility service isn't being pursued currently.

Target timeline: March 2020 – December 2027 (SB29)
2022 – 2024 (SB0084)
Audience: homeowners or businesses

Energy Audits

Initally covered in Objective 3, energy audits are an excellent test to identify sources and points of energy inefficiency. Simple audits can be performed by customers or more thorough versions completed by a professional.

Automated Metering Self Service Data

Previously discussed under Objective 3, Customer Deliverables, the Automated Metering Self Service Data system is a very valuable tool for customers to track and manage their consumption. This tool will help customers see the real-time value of energy conservation initiatives such as adjusting heating and cooling temperature settings and the operation of certain appliances.

Rebates

Also previously mentioned under Objective 3, the DPU will communicate with customers when rebates are available directly from the DPU.

However, customers could also take advantage of any national or brand-associated rebates available. The DPU will stay informed of available rebates, should customers inquire.

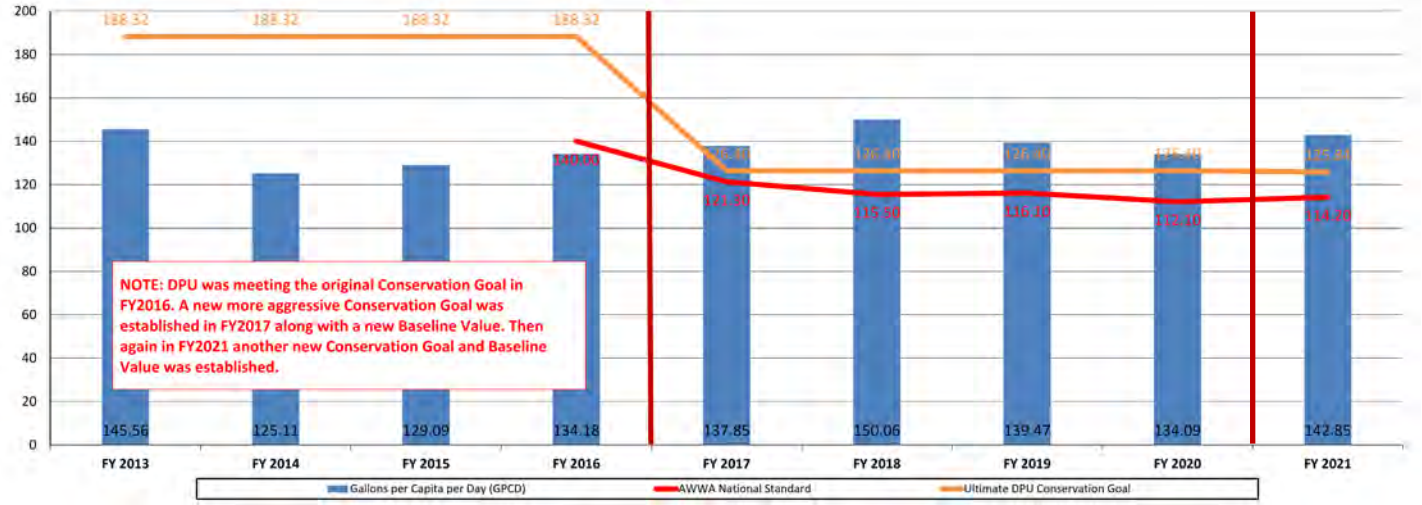
Energy Efficiency Kits

Free Energy Efficiency Kits are available from the DPU and can be picked up at the Pajarito Environmental Education Center or at the Customer Care Center. These kits contain child safety outlet caps, which also help keep drafts out, switch and outlet foam sealers, rope caulk for sealing small gaps, an LED nightlight, an LED bulb, and a furnace filter whistle that alerts customers when it's time to change the filter to maintain efficiency. The items inside this kit are a small sampling of conservation tools that can go a long way in saving energy and money in homes.

Target timeline: ongoing
Audience: 500 households

Objective 5: Reduce Potable Water Use by 12% by 2030

The full objective is to reduce potable water use by 12% per capita per day by 2030 using a 2020 calendar year-end baseline.



Gallons Per Capita Per Day (GPCD) for Los Alamos County, taken from an internal dashboard.

The chart above shows nearly a decade of total GPCD for the Los Alamos County water system. The orange line tracks the DPU's conservation goal over this time. The 2020 baseline GPCD is 143.00. By 2030, GPCD will need to be 125.84 or less to meet the goal. This table lists achievable benchmarks for each year.

BASELINE: 143.00	
2021	141.28
2022	139.57
2023	137.85
2024	136.14
2025	134.42
2026	132.70
2027	130.99
2028	129.27
2029	127.56
2030	125.84

The figure below is from the study completed for the Long Range Water Supply Plan. The conservation savings are from the 2016 GPCD baseline and population predictions. While a little out of date, with the LWRS plan last updated in 2017, the figure provides a good picture of the differences in savings between GPCDs.

Per Capita Water Use (gpcd)	Reduction from 2016 Per Capita Use (%)	Annual Conservation Savings	
		Low Population Projection (acre-feet) [a]	High Population Projection (acre-feet) [a]
130	10	249	346
120	17	426	594
110	24	604	841
100	31	782	1,089
90 [b]	38	960	1,336

[a] Annual water conservation savings that would be achieved based on reductions from the 2016 per capita value of 144 gallons per day in 2060.
[b] This value is equivalent to the City of Santa Fe's per capita demand in 2015.

LRWS Plan projections of potential water conservation savings (taken from Table 5-10, LRWS Plan).

Objective 5: Reduce Potable Water Use by 12% by 2030

Supplier Deliverables

Los Alamos Canyon Restoration

As mentioned in Part I, the Los Alamos Reservoir is nestled in Los Alamos Canyon and was formerly a source of irrigation water and reserve water in the event of wildfire. This water source and its transmission lines were severely damaged by major flooding events and siltation following the build up of hydrophobic soils resulting from two wildfires in 2000 and 2011.

The DPU will be repairing the Los Alamos Canyon using natural channel design. Repairs completed in this manner will allow for a more natural healing that will stand up long-term over manufactured, hard-wall type repairs. Once completed, the Los Alamos Reservoir will again be a viable source of non-potable water to work toward this objective.

Target timeline: Summer 2023
Water supply potential: 8 million gallons

Irrigation of Open Spaces

The DPU works with the Los Alamos County Parks to conduct irrigation audits that result in recommendations to their irrigation schedules and maintenance on existing irrigation systems. Currently, there are nearly 200 acres of open space that could be irrigated with reclaimed water; however, there isn't enough reclaimed water to irrigate this acreage.

Target timeline: ongoing
Water supply potential: 198 acres of irrigated spaces

Non-Potable Water Master Plan

The Non-Potable Water System Master Plan was prepared in 2013 to optimize the use of effluent and surface water for non-residential irrigation purposes. This Master Plan helps DPU review existing infrastructure, evaluate existing and potential future irrigated sites, develop a realistic demand for system build-out, and recommend system improvements. DPU has been and continues to reference the Master Plan for non-potable projects. Increasing the availability of non-potable, reclaimed water will decrease potable water use in non-residential irrigation, a large source of water consumption.

Target timeline: 2013 – ongoing
Water supply potential: 2,184 gallons per minute

Non-Revenue Water

Per the AWWA audit results discussed on page 027, the DPU will work with the offered guidance to reduce its non-revenue water by half by 2030. This starts with an audit of the automated data collection system and works up through an Infrastructure Leak Index

Target timeline: 2030
Water supply potential: reduce non-revenue water by half of EPA National Standard (16.00%)

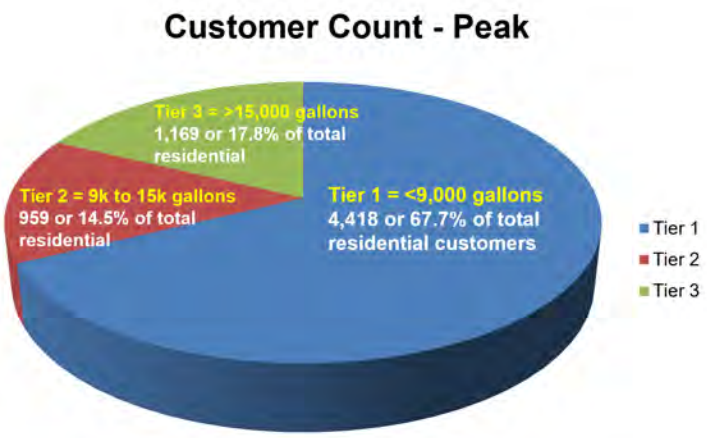
Objective 5: Reduce Potable Water Use by 12% by 2030

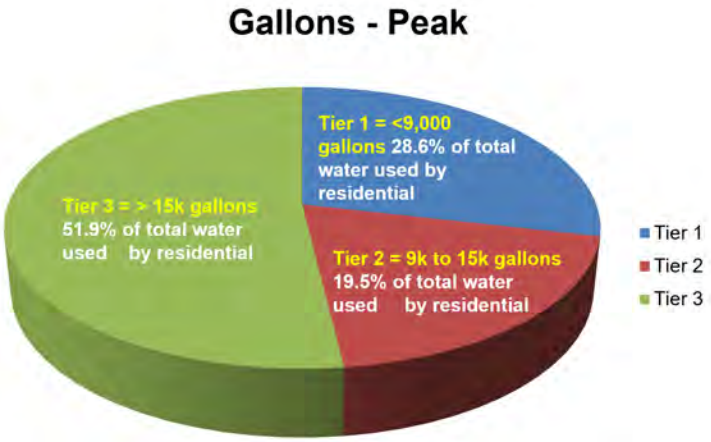
Outdoor Water Usage

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
Los Alamos	8,167	7,138	8,227	7,362	4,963	3,815	4,285	3,833	2,861	3,575	5,914	8,534
White Rock	10,182	13,189	12,246	11,332	6,447	4,410	5,014	2,954	3,565	4,378	8,252	11,078

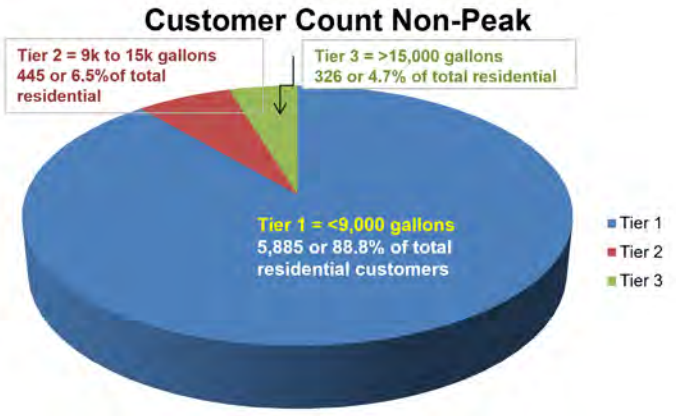
FY2019-FY2021 average monthly water consumption per household, in gallons, for residential customer class. Note the significant increase of water usage for White Rock during peak water months (May through September).

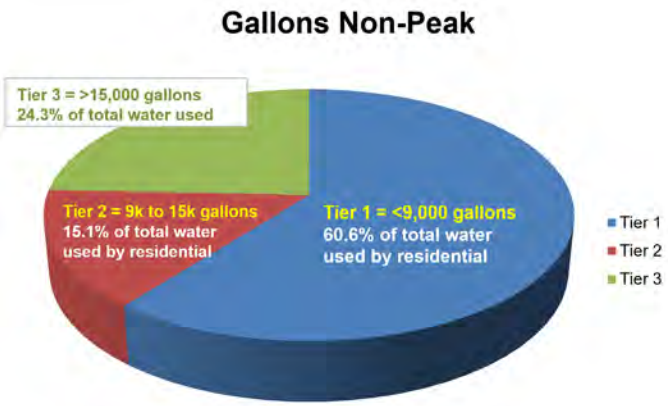
All customer classes can take advantage of the Customer Deliverables on the next page. However, the "residential" customer class is likely to see significant benefits, especially when it comes to outdoor water use. Because there is typically only one meter servicing a household unit, outdoor water use can only be estimated and assumed. The following pie charts are 2019-2021 averages of Residential Water Usage. Peak season is May through September. Non-peak season in October through April. The DPU has a tiered water rate and there is a significant shift in usage between peak and non-peak seasons.





In this dataset, Tier 3 consumers represent 18% of households using 52% of the total water during peak season compared to Tier 3 representing 5% of households using 24% of total water during the non-peak season. Outdoor spaces like lawns and gardens use a lot of water and is a priority target area for reducing potable water consumption.





Objective 5: Reduce Potable Water Use by 12% by 2030

Customer Deliverables

Water Audits

The DPU formerly completed commercial water conservation audits and irrigation audits for utility customers. Responsibility for this task may fall with the new sustainability position recommended by LARES, who may also perform home energy audits. Water audits look at consumption data from utility bills, leaks from faucets and toilets, and water use habits. A report is compiled, and recommendations are provided to the customer. Enrolling in the new Automated Metering Self Service portal is an excellent way for customers to self-audit. This program will send alerts when water consumption is above normal usage levels.

The Certified Landscape Irrigation Auditor (CLIA) certification and the Qualified Water Efficient Landscaper (QWEL) certification through the EPA WaterSense program are ideal in water auditors .

Target timeline: TBD

Water Efficiency Kits

Similar to the energy efficiency kits discussed in Objective 4, the items inside this kit are a small sampling of conservation tools that can go a long way in saving water and money in homes and small businesses. These kits are free and contain such items as a low-flow faucet adapter, a water leak detector, a toilet tank saver, and a drip calculator.

Target timeline: ongoing
Audience: 500 households

Water Rule W-8

The Water Rule W-8 is a voluntary program that encourages customers to conserve outdoor water use through the following best management practices:

- Between May and September, odd and even addresses can use irrigation water on designated days of the week before 10am and after 5pm.
- Water waste and irrigation water runoff should be eliminated.
- Sources of water leaks should be repaired.

Target timeline: ongoing

Promote Xeriscaping

The Los Alamos Master Gardeners have an excellent Demonstration Garden at the corner of Central Avenue and Oppenheimer Drive in Los Alamos townsite. This garden showcases a variety of landscapes with a large focus on xeriscaping, which is a form of landscaping that reduces or eliminates the need for irrigated water. Xeriscaping typically utilizes native plants, which not only conserves water for a customer, but supports a healthy ecosystem.

Target timeline: 2023 and beyond

Automated Metering Self Service Data

Previously discussed under Objective 3, Customer Deliverables, the Automated Metering Self Service Data system is a valuable tool for customers to track and manage their consumption.

Objective 6: Develop and Strengthen Partnerships with Stakeholders

Supplier Deliverables

IRP – DOE/LANL

The DPU and the DOE are joined in an ECA which allows each entity to combine resources for the Los Alamos Power Pool. The Power Pool purchases, sells, and schedules the power required for Los Alamos County customers and LANL. The current ECA expires in 2025 and both parties are working on negotiations for a post-2025 ECA. The IRP is a tool that assists the ECA partners in planning for future resources.

Reclaim Water Users

The DPU will continue to work with the current users of reclaimed water for irrigation to ensure this valuable resource is not being wasted by broken or misaligned sprinklers, or by over watering. The primary consumers of this water source are the County Parks Division and Golf Course.

Sustainability Board/LARES

The Environmental Sustainability Board is established to advise the County Council on environmental sustainability issues and related policies, programs, and services. Several of the points in the Los Alamos County Sustainability Plan overlap with the DPU Goals and Objectives; however, the Sustainability Plan focuses on creating a more sustainable community while the DPU Conservation Plan specifically relates to the supplier and customer of utilities. The DPU and Environmental Sustainability Board will work together where appropriate.

The LARES Task Force, appointed in 2021 by Los Alamos County Council to create recommendations to reduce carbon footprints and enhance sustainability, released a final report in 2022. With each recommendation in the plan, LARES includes a strategy for completion and potential costs.

Many of these recommendations revolve around the creation of new positions. These new positions would be a great partnership opportunity to maximize conservation efforts in Los Alamos County allowing the DPU Conservation Coordinator to focus on the Water and Energy Conservation Plan objectives and the LARES position to focus on their recommendations.

Objective 6: Develop and Strengthen Partnerships with Stakeholders

Memberships

Supplier Deliverables

Alliance for Water Efficiency

In July 2008, the DPU became a charter member of the Alliance for Water Efficiency (AWE), which provides comprehensive information about water efficient products, practices, and programs. Additional services include the development of conservation codes and standards, coordination with green building initiatives, training for conservation professionals, and general water use education.

New Mexico Water Conservation Alliance

The DPU continues to be a member of the New Mexico Water Conservation Alliance (NMWCA), a non-profit dedicated to water conservation issues. Many communities from around the state meet regularly to discuss issues, exchange information, provide education, and work toward a water-secure future for New Mexico.

WateReuse

In April 2021, the DPU joined the New Mexico chapter of WateReuse. The WateReuse Association is solely dedicated to advancing laws, policy, funding, and public acceptance of recycled water. WateReuse is focused on "aiding and accelerating the natural process of cleaning the water to make it suitable for its intended purpose, from irrigation to industrial uses to drinking."

Energy Star Promotional Partner

The DPU became a promotional partner with the Environmental Protection Agency's Energy Star Program in 2008. This partnership provides a unique opportunity to leverage ENERGY STAR™ and receive free energy efficiency updates designed for customer education.

Alliance to Save Energy Member

In 2008, the DPU became a member of the Alliance to Save Energy, which is well known for its national Energy Hog campaign. The bipartisan non-profit is a coalition of business, government, environmental, and consumer leaders advocating to advance federal energy efficiency policy.

Voice of Customer Survey Feedback

Customer Deliverable

The "Voice of the Customer Survey" is specifically designed to help the DPU understand the customer perception of the utility and the services provided. The 2022 Voice of the Customer Survey revealed that customers gave the DPU a poor rating on "helping customers conserve electricity, gas, and water." This aligns with the absence of a dedicated Conservation Coordinator from 2016-2021 and only opens up room for improvement until the next survey.

Target timeline: December 2022 – November 2023

Appendix 1

Public Input: Recommendations from DPU Update Committee

GOALS

1. Eliminate use of natural gas.
2. Find ways to accommodate a massive increase in residential and local solar.
3. Reduce water use by at least 1/3.

RECOMMENDATIONS FOR EDUCATION AND PROMOTION:

1. Customer use of Advanced Metering Infrastructure (AMI) data

The installation of smart meters will eventually allow customer access to AMI data. This could revolutionize individual utility use as customers learn how much they use with various activities. But to be effective, the AMI data presentation must be simple and easily understood. This means there is a need to ensure people have adequate education on how the AMI system works, and some assistance with figuring out what it means. The county should provide interpretation: how is this supposed to work and how does the individual customer make changes?

Advantages: Knowledgeable customers will modify behavior to increase conservation.

Drawbacks: Cost of presentation software and customer access. Some county labor involved with interpretation.

2. Promote "Conservation Will Happen and Will Mean Increased Unit Costs"

If people understand that conservation is inevitable, and that it will mean unit costs will increase, it will inoculate people against a commonly known issue while encouraging a modest race to save both resources and money. Of course, unit costs will probably go up anyway, maybe even more without conservation. See appendix "Cost of Conservation" for further explanation.

Advantages: No cost. Is honest. Provokes conservation on all fronts.

Drawbacks: Will probably open brief heated debate on conservation.

3. Add "Residential Avg Usage" to Electricity, Gas and Water on Utility Bills

Allows each customer to know how their usage compares to residences of similar size. Usage at all single-family homes would be averaged and compared, while duplex- and apartment-style units would have their own comparisons. (Albuquerque does this on their water bills) See appendix "Residential Average Usage" for further explanation.

Advantages: lets above-average users know they can do better.

Drawbacks: Some programming and data processing time.

4. Encourage Programmable Thermostats and Controllers

Should be installed in new construction. County could supply information about energy and cost savings from using these relatively simple and low-cost devices.

Advantages: Decreases usage when appropriate. Saves money and resources.

Drawbacks: Very minor cost increase for device, compensated by savings.

5. Publish Standards on Thermostat/Controller Settings and Energy Savings

Explain how devices are used (all features, etc.) and how do they maximize efficiency? Use ASME standards and area-specific input from the New Mexico Technical Resource Manual to indicate proper settings and explain results. Compare new/suggested measures with previous/baseline measures.

Advantages: Sets baseline to encourage use of improved controllers.

Drawbacks: Some research and writing.

6. General Energy Efficiency Education

Provide information in monthly bill statements or monthly mailings on energy efficiency. Since not everyone gets a bill in

Public Input: Recommendations from DPU Update Committee (continued)

the mail, there should also be online media information feeds.
Advantages: Educated customers generally conserve.
Drawbacks: Some county time and possibly printing costs.
RECOMMENDATIONS THAT MAY INVOLVE REBATES:
7. Pursue Grants for Appliance Rebates and Publicize Existing Local State and Federal Rebates and Tax Breaks
Typically affected appliances are water heaters, furnaces, ranges, washers, dryers, refrigerators, lighting fixtures, evaporative coolers, air conditioners, heat pumps, and smart thermostats. Information could be part of one of the current DPU bill inserts.
Advantages: Replacing older inefficient appliances with newer highly efficient versions should reduce consumption.
Drawbacks: Some investment of time and resources from county staff.
8. Reduce Outdoor Water Use with Xeriscaping Education, Rebates and/or Incentives
With a warming climate, water use on residential landscapes will only increase, and it is already the highest seasonal water use for most residences. Smart plantings and removal of unused turf can greatly reduce the amount of water use. Also, the storage of rainwater and snow melt on the residential property can improve plantings and reduce wear and tear on stormwater runoff infrastructure. This is the biggest bang for the effort--as water use clearly increases during hot months .
Advantages: The county already contracts with an education center, and education is low cost treatment. Easy changes through rebates (removing turf rebate) can result in large water savings almost immediately.
Drawbacks: Rebates or incentives cost money, but only using education can be a slow process
RECOMMENDATIONS ABOUT COUNTY SERVICES:
9. Coordinate and support efforts with Los Alamos Public Schools (LAPS)
LAPS is generally cooperative and certainly wants to save money. There are indications they could save at least 10% on water bills by altering their schedule, and there are probably many other ways to cut utility use and save money.
Advantages: Utilities conserved, LAPS saves money
Drawbacks: Time and effort from both county and LAPS.
10. Free delivery of tumbled glass or mulch when replacing turf
Remove a common obstacle to xeriscape conversion (homeowner doesn't have access to an appropriate truck). Same thing could be accomplished with a loaner truck.
Advantages: Saves water.
Drawbacks: Labor cost if delivered, truck cost if a loaner.
11. Accommodate Purchase-power-only Hybrid Solar
It is now possible to set up residential solar systems that use modest battery backup and do not feed back into the grid, only using county electricity when the battery system is depleted. This solves the county's problem of trying to use the unpredictable electricity produced.
Advantages: Less load on county electrical system without need to adjust grid.
Drawbacks: Some revenue loss, some code and rate complications.
12. Eliminate Most Street Lights
Some (not all) research indicates that streetlights only increase safety at main intersections. This is a complex issue full of wild claims on both sides, but it's certain that removing streetlights saves a lot of energy and improves the night sky.
Advantages: Cuts costs, eliminates substantial CO2, improves night.
Drawbacks: Makes some people feel less safe.
RECOMMENDATIONS INVOLVING CONSTRUCTION:
13. Solar-ready roofs and siting for new construction

Public Input: Recommendations from DPU Update Committee (continued)

Encourage or require new structures to have solar-friendly attributes

Reducing roof penetrations and shading on south-facing areas, aligning structure for southern exposure, installing conduit for future solar infrastructure, enabling passive solar design features such as summer-shaded south facing windows. It is much less expensive to include these features during initial design and construction than add them in the future and can provide long-term energy benefits.

Advantages: Reduce cost of future improvements and improve efficiency.

Drawbacks: Additional construction cost. Perception of government overreach. Restriction of architectural design freedom.

14. Stop issuing natural gas hookups to new construction

Natural gas is primarily used for heating homes and water, and secondarily for stoves. Most homes will probably develop greater electricity capabilities (solar, etc.) and incorporate more energy-saving design. La Senda Unit B used this approach and potentially be a pilot program.

Advantages: Reduces greenhouse gasses.

Drawbacks: May initially be more expensive to heat. Some folks are very attached to gas stoves despite their inefficiency.

RECOMMENDATIONS INVOLVING BILLING OR FEES:

15. No property assessment increase for building improvements that increase water, gas or electric efficiency

Stop charging people indefinite tax for conserving. Already in effect for solar installations.

Advantages: Removes a roadblock to conservation.

Drawbacks: Very minor revenue deferral. Possible legal issues?

16. Waive building permit fees for improvements that cut water use or energy consumption

Window replacements, solar hot water, rain collection systems, etc.

Advantages: Removes a roadblock to conservation improvements.

Drawbacks: Possible increase in staff work, loss of some revenue.

17. Eliminate fees to set up off-grid solar

The county has difficulty using the solar power produced by small home systems. Much goes to waste since it is not delivered to the grid at a time that it can be used. Off-grid solar does not create this problem while it conserves resources. If these homes never use county electricity, and are self-sufficient, then the county does not need to plan on providing it and can reduce the amount of power that is purchased.

Advantages: solar electricity does not go to waste. County doesn't need to try to store this solar energy in County-owned batteries. County does not need to purchase as much electricity. Roof-top solar does not input to the County's electrical infrastructure, and therefore does not 'tax' the infrastructure

Drawbacks: New County Building Codes may be needed to assure that solar owners build to safe standards. Adds a County Building inspection. County loses some homes as customers

18. Granular Tiered Water Rates

Use small, easily understood tiered water rates that start quickly. For example, first 100 Gallons is 50 cents, second 100 gallons 51 cents, etc. When costs increase slightly for every unit used the system is easily understood and immediately effective. Plus, there is no low "dead zone" where consumers feel they have implicit permission to use the amount in the lowest tier.

Advantages: Easy to understand and implement. Initial rate would be lower. No additional cost. Avoids "Implied Permission."

Drawbacks: Some up-front programming cost.

19. Eliminate Service Charge for Water Usage

Remove "In for A Penny" tendency to use water while rewarding the most stringent conservation. The service charge gives the impression that first few thousand gallons of use only increases cost slightly. If all usage is a direct cost, even more conservation is encouraged.

Public Input: Recommendations from DPU Update Committee (continued)

Advantages: Maximizes cost advantage of conservation

Drawbacks: Requires slight adjustment to rates to be value neutral

20. Convert Electric and Gas Services Charges to Minimum Charges

Remove a regressive tax. Virtually everyone uses enough gas and electricity to surpass current service charges. A direct usage-to-cost relationship simplifies understanding of conservation advantages while simultaneously benefiting lowest income bracket.

Advantages: Simplifies rate and saves money for super conservers

Drawbacks: Requires slight adjustment to rates to be value neutral

Appendix:

Cost of Conservation

Most people who consider conservation issues understand that conserving utilities will inevitably lead to higher unit costs, such as price per thousand gallons of water. Further, many otherwise uninterested folks have noticed this effect over the years.

So far, it has not been openly acknowledged or promoted, perhaps because there is a suspicion that it would lead to resistance toward conserving.

However, if it becomes a "meme" it would probably have the opposite effect. Presented as "conservation will happen" and therefore "unit prices will go up" it should provoke a modest Race To The Bottom. Meaning, it would encourage people to cut back on their use to avoid paying more for their utilities. Even more interesting, it means the more aggressive conserver may end up saving quite a bit as time goes by.

It has several advantages, not the least being that it's true. Conservation will happen whether we like it or not. And it will lead to higher unit costs.

Probably it would be best to avoid any heavy-handed or over serious approach. An even-tempered statement that 'this is inevitable' should be enough.

It could also be pointed out that this does not mean the average bill would necessarily go up. Using water as an example, if we all used half as much water, the infrastructure would be less strained, water treatment would be cheaper, the cost of pumping would probably go to less than half due to the longer recharge period in the wells, and it probably would mean far less need to sink new wells. While the cost advantages are muzzy at best, it is in fact possible that under the 1/2-use scenario we would all pay a little less on our water bill.

Finally, it should also be noted that unit prices will probably go up anyway, with or without conservation. And there are scenarios where gas, electricity or water prices would go up even faster without conservation.

The cost of taking this approach would be nearly zero. Basically, zero compared to current methodologies, since it's normal to include flyers in the utility bills -- it would just be additional content.

Residential Average Usage

People naturally compare themselves to their neighbors. If you are the high water/electricity user, and you know it, you are more likely to make changes to reduce your usage. This information works best with an education plan, promoting conservation throughout the community. It effectively and privately guides residents into conforming and conservation.

It's easy data to compile since the county already collects it. It's easy to put this data on utility bills, next to the 'actual' usage from the past year (using two columns in the graph). The county can easily watch the yearly average usage, as this number will decrease from year to year if residents are conserving.

A new routine will need to be written for the Utilities to calculate the information. This may need funds to accomplish, if the county does not have a programmer on staff to write the script. The statements need a new format to add the average data to the graphs.

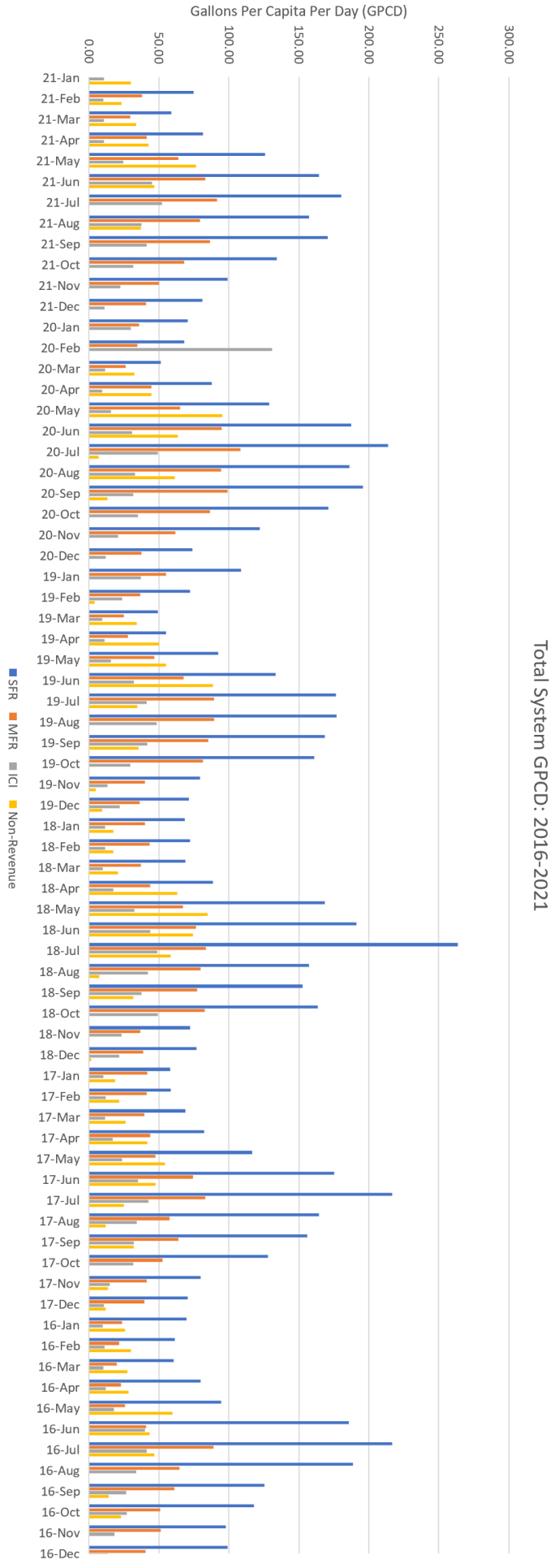
Appendix 2

Additional Graphs and Enlarged Figures

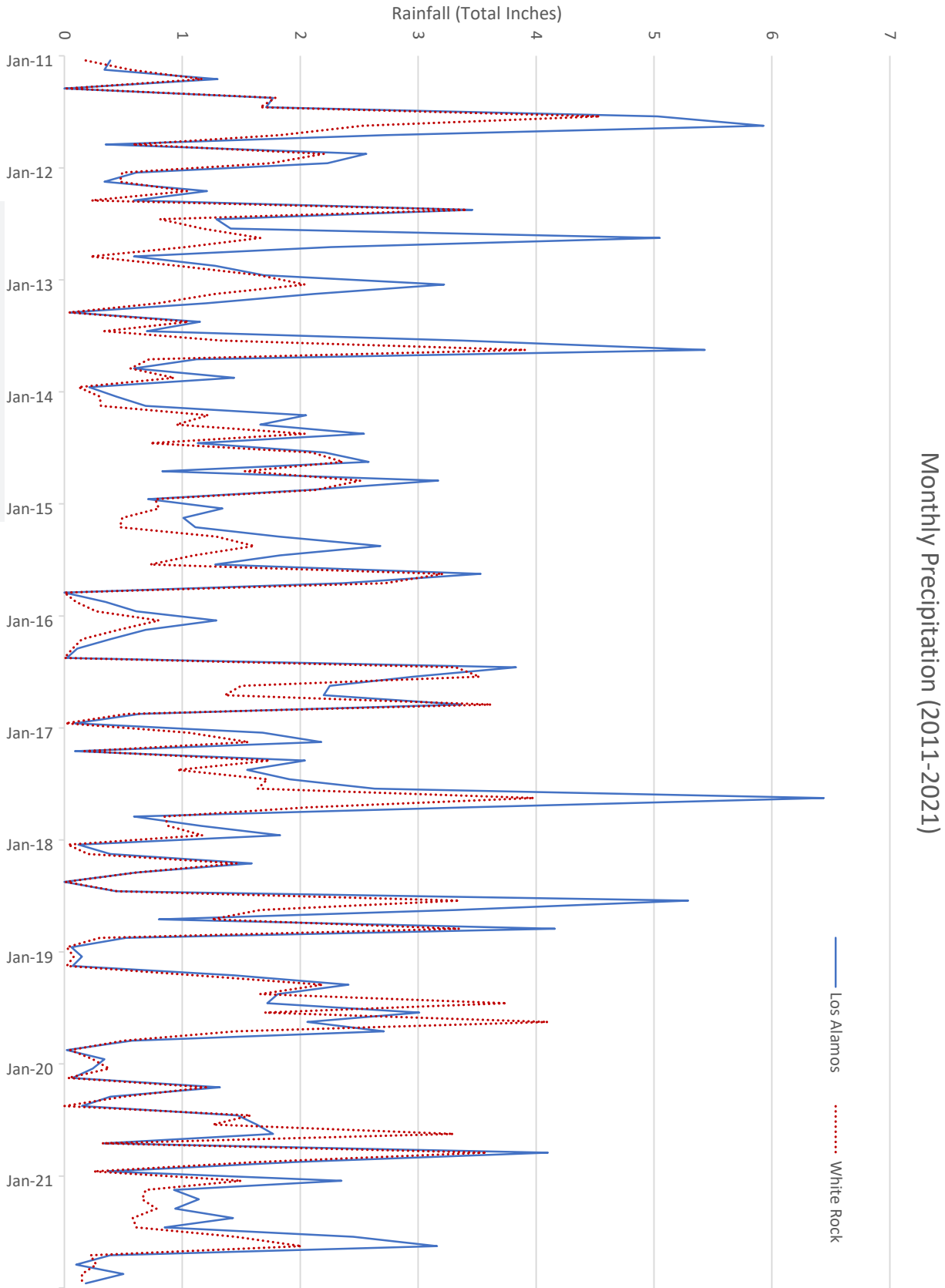
Monthly Gallons Per Capita Per Day

5 years of monthly GPCD data as references in "Assessing Supplier Performance: Water," page 025.

Opposite page: Monthly Precipitation 2011-2021, page 014.



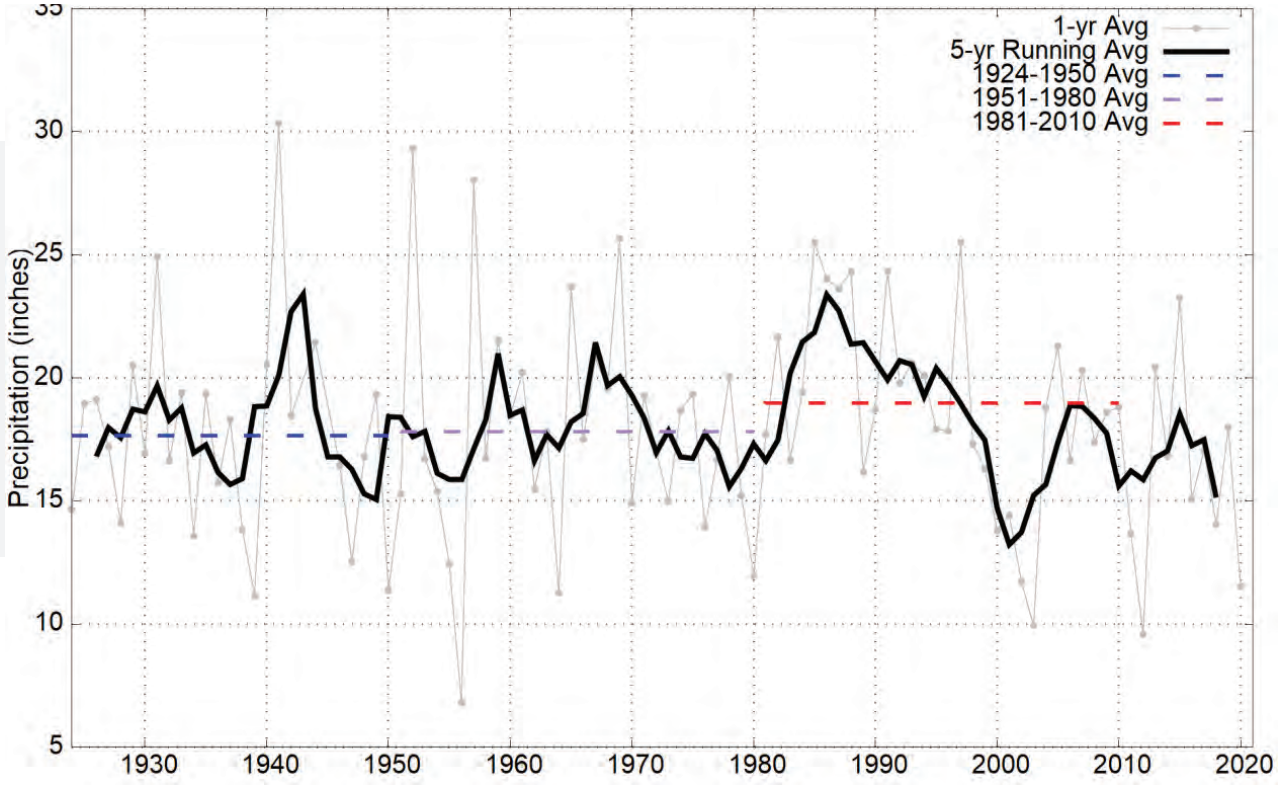
Appendix 2

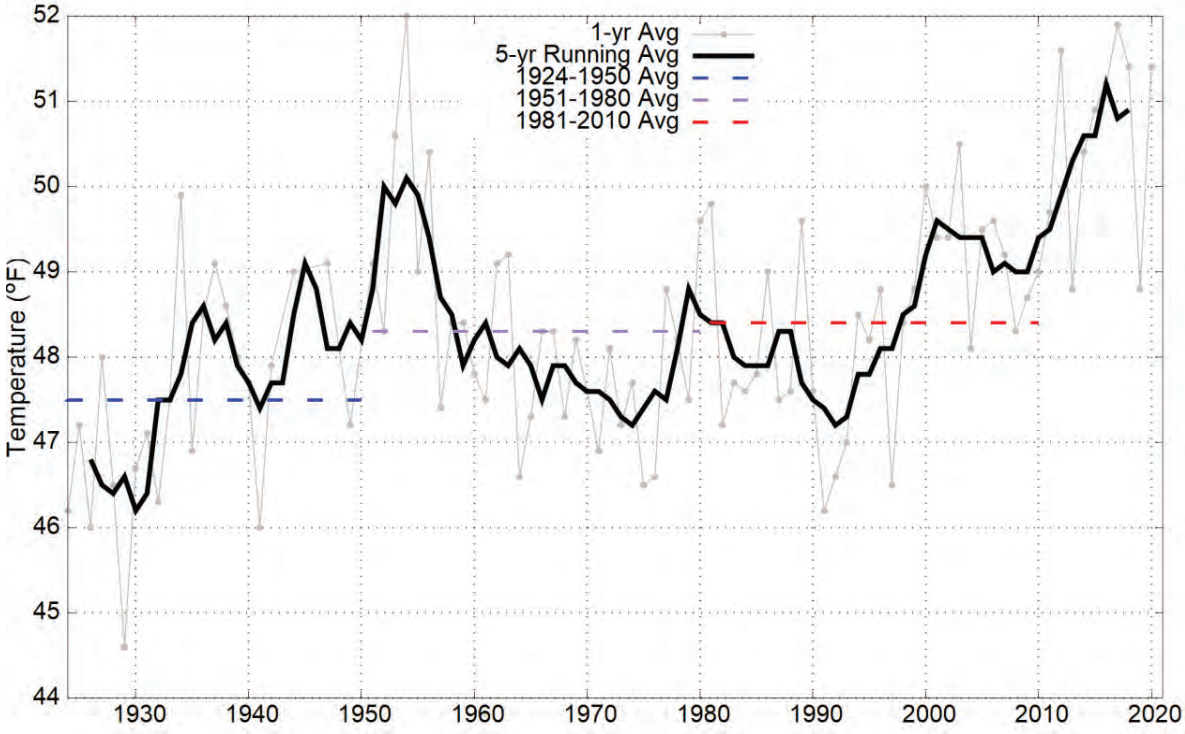

Rainfall (Total Inches)
0
1
2
3
4
5
6
7
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Jan-20
Jan-21
Monthly Precipitation (2011-2021)
Los Alamos
White Rock

Appendix 2

Additional Graphs and Enlarged Figures

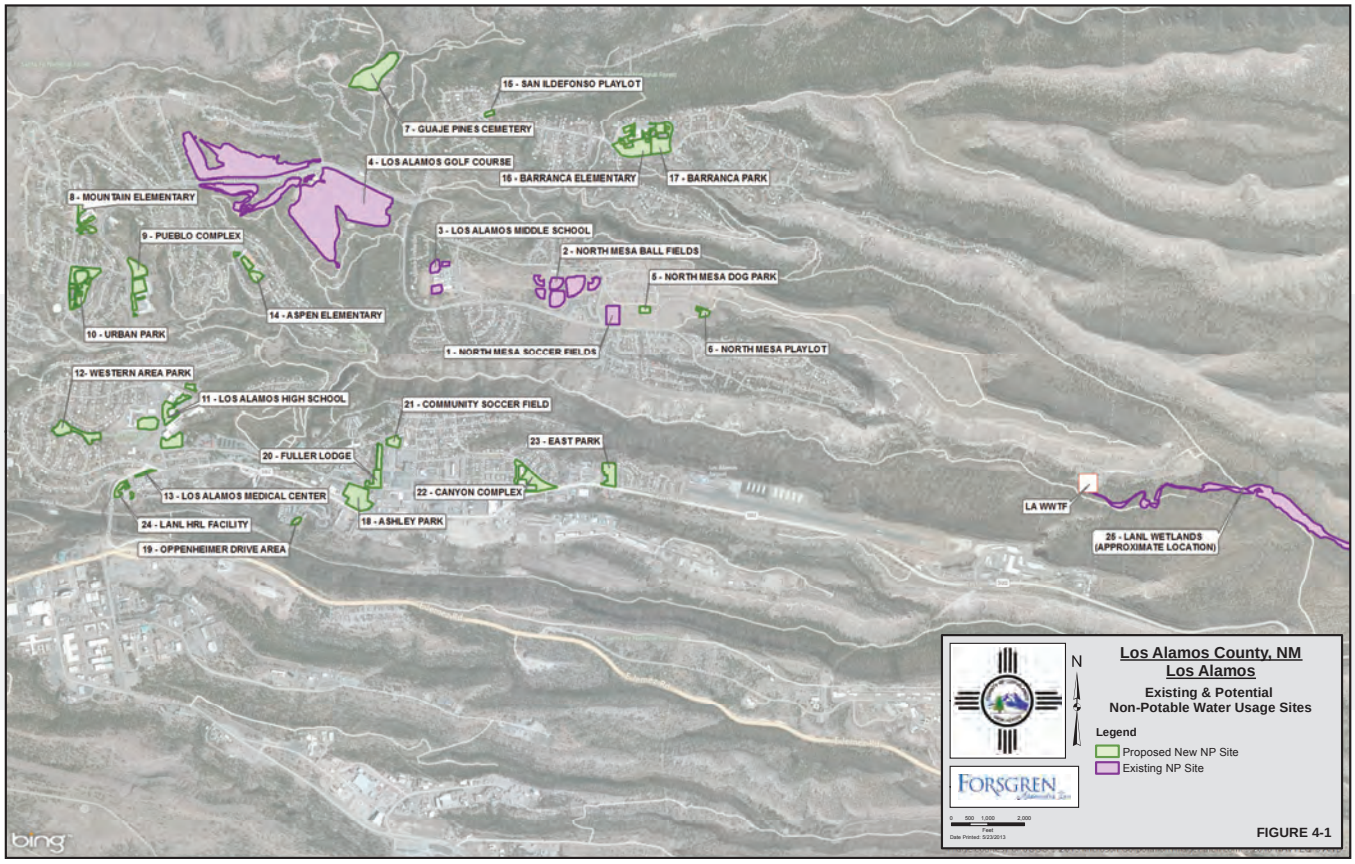
Figures from LANL Climatology 2021 Update. Precipitation (top), page 014, and Temperature (bottom), page 015.

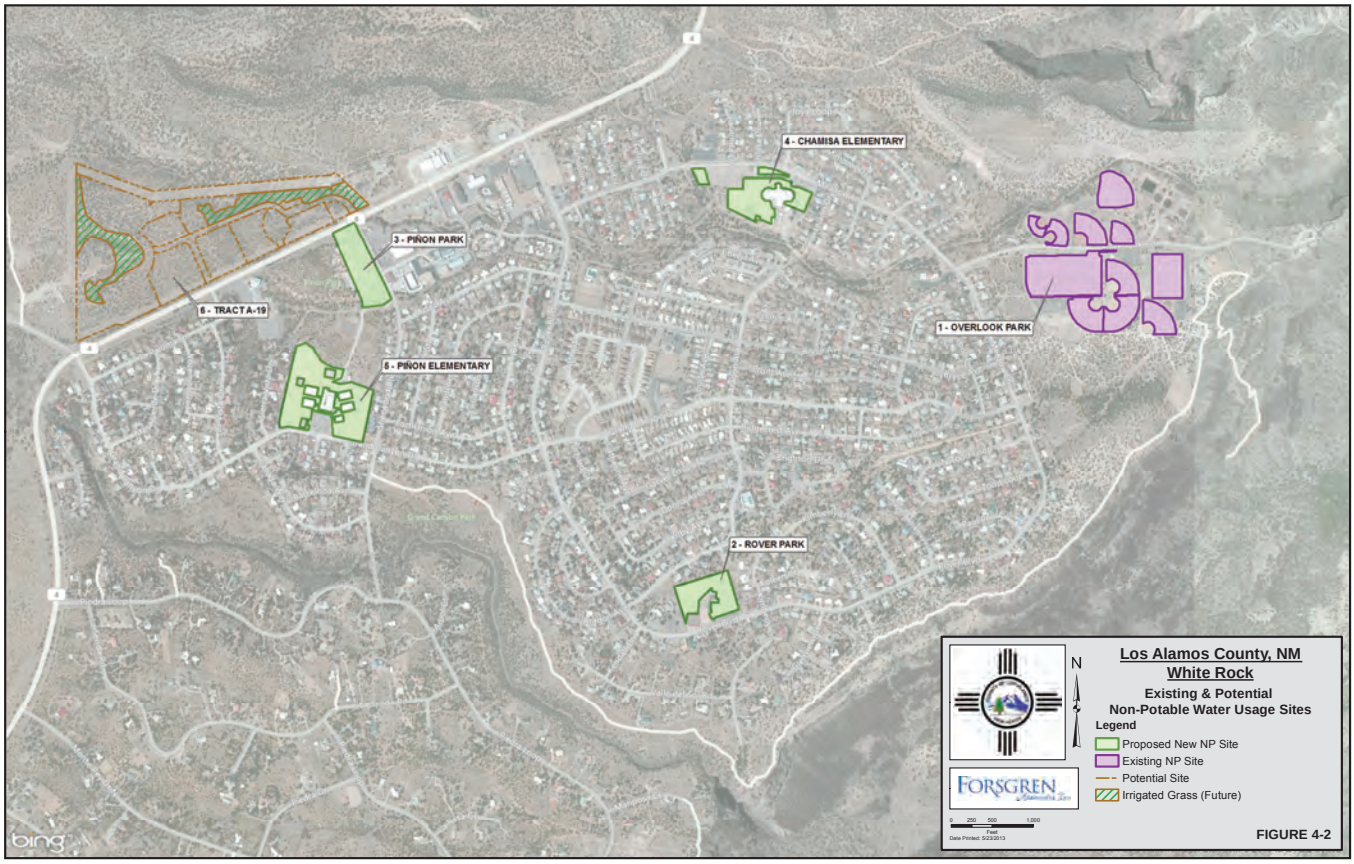




Appendix 2

Reclaimed Water Use Maps, page 019.





Appendix 3

NMOSE GPCD Calculator

NMOSE GPCD CALCULATOR

Gallons per Capita - v2.05

Release Date: August 2015

This spreadsheet-based GPCD calculator is designed to help quantify and track water uses associated with water distribution systems. The spreadsheet contains several separate worksheets. Sheets can be accessed using the tabs towards the bottom of the screen, or by clicking the buttons on the left below. Descriptions of each sheet are also given below.

It should be noted that all the recorded data should be from actual metered results and should not include any estimates.

THE FOLLOWING KEY APPLIES THROUGHOUT:

- Value to be entered by user
- Dropdown box, pick from list
- Value calculated based on input data
- No longer available for input

Look for the following boxes that provide addition Instructions Info

Please begin by providing the following information, then proceed through each sheet:

NAME OF CITY OR UTILITY: Los Alamos County — New Mexico

REPORTING YEARS: Enter the most recent reporting year: 2021 — Data can be entered back to: 2015

NAME OF CONTACT PERSON: James Alarid — **E-MAIL:** james.alarid@lacnm.us — **TELEPHONE:** — **Ext.**

SELECT THE REPORTING UNITS FOR VOLUME DATA: Gallons (US) — For unit converter click here: Converter

Instructions &	This sheet
Census Data	Census data and the portal to get the data from the Census website
Single-Family	Single-Family residential gallons and population
Multi-Family	Multi-Family residential gallons and population
ICI & Other Metered	Other data including Commercial, Industrial and Institutional [1.3] and Other metered [1.4] categories
Reuse	Data related to water reuse projects
Total Diverted	Total Production and Diverted Water
Reported Data	The calculated data graphical review of most common performance indicators
Annual Performance	The calculated data graphical review of **annual** performance indicators
Monthly Performance	The calculated data graphical review of **monthly** performance indicators
Definitions	Use this sheet to understand terms used in the audit process

All parties reserve the right to validate the data recorded in this document. This does not bind the OSE or the Utility to the results. It is a tool used for planning purposes.

questions or comments regarding the software please contact us at: waternm@state.nm.us

Appendix 3

Census Information Data Table 2.1

Info

Click here to access the Census Web site

OR

Click here for instructions on how to find the data on the Census website

2021 TO 2015

Use the most recent census data

Return to Instructions

DATA

US Census Table	Description		INPUT
DP-1	Profile of General Population and Housing Characteristics	Census Year	2010
Subject			
Relationship	In group quarters	Total	94
Housing Occupancy	Total housing units	Total	8,354
	Occupied housing units		7,663
	Vacant housing units		691
Households by Type	Average household size	Total	2.33

Formula: Household Size = Total Population / Total Number of Housing Units

Vacancy Rate %	8.3%

DATA INPUT SHEET

Los Alamos County

Instructions

3. SINGLE-FAMILY RESIDENTIAL (SFR)

Return to Instructions

MONTHLY DATA

TABLE 3.1 Info — 2021 TO 2015

SFR BILLED WATER CONSUMPTION (Gallons (US))

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2021	23,051,000	22,983,000	21,515,000	29,041,000	44,704,000	54,329,000	66,371,000	53,567,000	61,820,000	49,371,000	29,712,000	29,805,000
2020	25,692,000	20,738,000	19,530,000	30,979,000	46,989,000	59,493,000	78,325,000	63,429,000	60,678,000	62,813,000	38,778,000	27,045,000
2019	33,266,000	26,027,000	17,911,000	19,277,000	33,496,000	44,107,000	57,492,000	64,550,000	49,808,000	58,614,000	22,941,000	23,289,000
2018	24,722,000	22,095,000	24,714,000	30,672,000	59,533,000	62,401,000	6,446,000	57,337,000	46,781,000	49,859,000	37,647,000	26,709,000
2017	21,101,000	19,222,000	24,322,000	25,231,000	41,896,000	61,019,000	68,531,000	58,596,000	53,589,000	43,947,000	25,937,000	25,435,000
2016	21,332,000	20,026,000	21,942,000	28,105,000	34,213,000	64,952,000	67,322,000	68,344,000	43,345,000	41,870,000	30,902,000	34,704,000
2015	18,404,000	14,878,000	16,134,000	22,075,000	30,609,000	55,658,000	51,319,000	40,413,000	48,407,000	50,710,000	23,677,000	27,277,000

TABLE 3.2 Info — Total Connections

You have chosen to enter Total Connections, enter the monthly values below, or enter annual values in table 3.8 Check message above Table 3.3 to see if additional data is required.

NUMBER OF SFR CONNECTIONS (Monthly)

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2021	4,888	5,144	5,515	5,532	5,359	5,168	5,531	5,159	5,626	5,523	4,734	5,540
2020	5,472	5,118	5,699	5,485	5,494	4,979	5,509	5,156	4,876	5,523	4,987	5,517
2019	4,657	5,738	5,443	5,444	5,447	5,152	4,939	5,477	4,657	5,472	4,561	4,943
2018	5,407	5,407	5,407	5,390	5,326	5,110	3,852	5,488	4,828	4,657	7,890	5,248
2017	5,461	5,489	5,327	4,824	5,399	5,413	4,811	5,366	5,343	5,185	5,087	5,416
2016	4,658	5,447	5,442	5,470	5,444	5,438	4,738	5,447	5,378	5,358	4,955	5,289
2015	5,017	4,999	5,407	5,354	5,038	5,355	5,063	5,271	5,033	5,350	4,534	5,294

TABLE 3.3 Info

You have entered Total Connections in Table 3.2; enter the number of inactive (zero use) connections below
If values are not entered, an adjustment will be made based on vacancy rates reported in the Census data

INACTIVE (ZERO USE) SFR CONNECTIONS (Monthly)

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2021												
2020												
2019												
2018												
2017												
2016												
2015												

TABLE 3.4

Formula = (No. of Connections - No. of Zero Use Accounts) * Ave. Household Size

SFR POPULATION (Monthly)

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2021	10,365	10,963	11,827	11,865	11,462	11,019	11,863	10,998	12,084	11,845	10,008	11,885
2020	11,726	10,901	12,254	11,755	11,775	10,575	11,812	10,989	10,336	11,843	10,595	11,831
2019	9,856	12,375	11,688	11,690	11,697	11,010	10,513	11,767	9,856	11,755	9,633	10,523
2018	11,607	10,934	11,574	11,535	11,386	10,882	7,951	11,763	10,225	9,827	17,360	11,204
2017	11,710	11,776	11,398	10,226	11,566	11,599	10,196	11,489	11,435	11,067	10,839	11,606
2016	9,840	11,679	11,667	11,732	11,672	11,658	10,027	11,679	11,518	11,471	10,532	11,311
2015	10,698	10,656	11,607	11,484	10,747	11,486	10,806	11,290	10,736	11,474	9,573	11,344

TABLE 3.5

Formula = Billed Water Consumption (SFR only) / Calculated Population (SFR only)

SFR GPCD CALCULATION (Monthly)

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2021	71.74	74.87	58.68	81.59	125.81	164.36	180.47	157.11	170.52	134.45	98.96	80.89
2020	70.68	67.94	51.41	87.85	128.72	187.52	213.90	186.19	195.69	171.08	122.00	73.74
2019	108.88	72.23	49.43	54.97	92.38	133.54	176.40	176.96	168.45	160.85	79.39	71.37
2018	68.71	72.17	68.88	88.64	168.67	191.14	26.15	157.23	152.50	163.67	72.29	76.90
2017	58.13	58.30	68.83	82.24	116.85	175.36	216.82	164.52	156.21	128.09	79.76	70.70
2016	69.93	61.24	60.67	79.85	94.56	185.72	216.59	188.78	125.44	117.74	97.80	98.98
2015	55.49	49.86	44.84	64.08	91.87	161.52	153.20	115.47	150.30	142.56	82.44	77.57

COMMENTS:

ANNUAL DATA

TABLE 3.6 — ANNUAL CONSUMPTION

TABLE 3.7 — ANNUAL CALCULATION

ANNUAL CALCULATION
486,269,000
534,489,000
449,769,000
448,916,000
468,826,000
477,057,000
399,561,000

TABLE 3.8 — AVG. ANNUAL CONNECTIONS

TABLE 3.9 — AVG CONN. CALCULATION

AVG CONN. CALCULATION
5,310
5,318
5,161
5,312
5,260
5,255
5,143

TABLE 3.10 Info — CALCULATED GROWTH RATE

TABLE 3.11 — No. VACANT SFR CONNECTIONS

CALCULATED GROWTH RATE	No. VACANT SFR CONNECTIONS
-0.15%	439
3.05%	440
-2.85%	427
0.99%	439
0.09%	435
2.19%	435
	425

TABLE 3.12 Info — SIZE OF HOUSEHOLD

TABLE 3.13 Info — SFR POPULATION

SIZE OF HOUSEHOLD	SFR POPULATION
2.33	**11,349**
2.33	**11,366**
2.33	**11,030**
2.33	**11,354**
2.33	**11,242**
2.33	**11,232**
2.33	**10,992**

TABLE 3.14 Info

ANNUAL SFR GPCD
117.39
128.84
111.72
108.32
114.25
116.36
99.59

NMOSE GPCD Calculator v3.03

Appendix 3

NMOSE GPCD Calculator

DATA INPUT SHEET

Los Alamos County

Instructions

4. MULTI-FAMILY RESIDENTIAL (MFR)

Return to Instructions

MONTHLY DATA

2021 TO 2015

TABLE 4.1 Info

MFR BILLED WATER CONSUMPTION (Monthly) (Gallons (US))

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2021	6,501,000	6,482,000	6,068,000	8,191,000	12,609,000	15,323,000	18,720,000	15,108,000	17,437,000	13,925,000	8,380,000	8,407,000
2020	7,246,000	5,849,000	5,509,000	8,738,000	13,253,000	16,780,000	22,092,000	17,890,000	17,114,000	17,717,000	10,938,000	7,628,000
2019	9,383,000	7,059,000	5,052,000	5,437,000	9,447,000	12,441,000	16,216,000	18,207,000	14,049,000	16,532,000	6,470,000	6,566,000
2018	7,850,000	7,671,000	6,773,000	8,594,000	12,839,000	15,130,000	1,818,000	16,172,000	13,195,000	14,063,000	10,619,000	7,533,000
2017	7,511,000	6,885,000	7,704,000	8,640,000	9,359,000	14,343,000	16,177,000	10,952,000	11,491,000	10,807,000	7,656,000	8,028,000
2016	7,411,000	7,150,000	7,348,000	8,212,000	9,441,000	14,538,000	16,383,000	11,475,000	11,225,000	8,891,000	8,431,000	8,278,000
2015	8,221,000	6,179,000	7,133,000	7,786,000	8,806,000	10,263,000	11,424,000	9,562,000	11,413,000	10,189,000	6,913,000	8,040,000

TABLE 4.2 If only Current Number of Units is Known, put this number in Table 4.7

NUMBER OF MFR UNITS (Monthly)

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2021	2,722	2,865	3,072	3,081	2,985	2,878	3,080	2,874	3,133	3,076	2,637	3,086
2020	3,048	2,851	3,174	3,055	3,060	2,773	3,069	2,872	2,716	3,076	2,778	3,073
2019	2,594	3,196	3,032	3,032	3,034	2,870	2,751	3,051	2,594	3,047	2,541	2,753
2018	2,969	2,951	2,768	3,050	2,883	3,068	2,145	3,057	2,689	2,594	4,394	2,923
2017	2,740	2,788	2,925	3,054	2,963	3,005	2,940	2,883	2,816	3,093	2,888	3,034
2016	4,658	5,447	5,442	5,470	5,444	5,438	2,886	2,797	2,970	2,762	2,696	3,179
2015	2,950	2,615	2,935	2,793	2,798	2,908	2,820	2,749	2,751	2,771	2,464	3,062

TABLE 4.3 Formula = (Number of Units - Vacant MFR Connections) * Ave. Household Size

MFR POPULATION (Monthly)

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2021	5,773	6,106	6,587	6,608	6,384	6,137	6,607	6,126	6,730	6,597	5,574	6,620
2020	6,531	6,071	6,825	6,547	6,558	5,890	6,579	6,121	5,757	6,596	5,901	6,589
2019	5,490	6,893	6,511	6,511	6,515	6,133	5,856	6,555	5,490	6,546	5,367	5,860
2018	6,348	6,306	5,879	6,536	6,147	6,578	4,428	6,553	5,695	5,474	9,668	6,241
2017	5,820	5,932	6,251	6,552	6,340	6,437	6,286	6,153	5,997	6,643	6,165	6,505
2016	10,063	11,902	11,890	11,955	11,895	11,881	5,934	5,727	6,130	5,645	5,492	6,617
2015	6,334	5,553	6,299	5,968	5,979	6,236	6,031	5,865	5,870	5,917	5,201	6,595

TABLE 4.4 Formula = MFR Billed Water Consumption (Monthly) / MFR Population (Monthly)

MFR GPCD CALCULATION (Monthly)

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2021	36.33	37.91	29.72	41.32	63.71	83.23	91.39	79.56	86.36	68.09	50.11	40.97
2020	35.79	34.41	26.04	44.49	65.19	94.96	108.32	94.29	99.10	86.64	61.78	37.34
2019	55.13	36.58	25.03	27.84	46.77	67.62	89.33	89.60	85.30	81.47	40.19	36.14
2018	39.89	43.45	37.16	43.83	67.37	76.66	13.24	79.61	77.23	82.87	36.61	38.94
2017	41.63	41.45	39.76	43.96	47.62	74.27	83.02	57.42	63.87	52.48	41.40	39.81
2016	23.76	21.46	19.94	22.90	25.60	40.79	89.05	64.63	61.04	50.80	51.17	40.36
2015	41.87	39.74	36.53	43.49	47.51	54.86	61.11	52.59	64.81	55.55	44.30	39.33

ANNUAL DATA

TABLE 4.5

ANNUAL CONSUMPTION

TABLE 4.6

ANNUAL CALCULATION
137,151,000
150,754,000
126,859,000
122,257,000
119,553,000
118,783,000
105,929,000

TABLE 4.7

No. CURRENT UNITS

TABLE 4.8

ANNUAL UNIT CALCULATION
2,957
2,962
2,875
2,958
2,927
4,099
2,801

TABLE 4.9 Info

MFR POPULATION
6,321
6,330
6,144
6,321
6,257
8,761
5,987

TABLE 4.10

VACANT MFR CONNECTIONS
245
245
238
245
242
339
232

TABLE 4.11 Info

ANNUAL MFR GPCD
59.45
65.24
56.57
52.99
52.35
37.15
48.47

DATA INPUT SHEET

Info Los Alamos County

Instructions

5. INDUSTRIAL, COMMERCIAL & INSTITUTIONAL (ICI) AND OTHER METERED

Return to Instructions

MONTHLY DATA

2021 TO 2015

TABLE 5.1

ICI WATER CONSUMPTION (Gallons (US))

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2021	5,916,000	5,097,000	6,005,000	5,637,000	13,525,000	24,028,000	28,736,000	20,580,000	22,032,000	17,359,000	11,940,000	6,123,000
2020	16,625,000	65,260,000	6,334,000	5,160,000	8,703,000	16,485,000	27,267,000	18,090,000	16,828,000	19,216,000	11,109,000	6,557,000
2019	19,961,000	11,418,000	5,130,000	5,871,000	8,433,000	16,680,000	22,014,000	25,919,000	21,503,000	15,769,000	6,799,000	11,835,000
2018	6,376,000	5,717,000	5,412,000	9,357,000	17,879,000	23,243,000	3,611,000	23,126,000	19,906,000	27,173,000	12,499,000	11,932,000
2017	5,673,000	5,995,000	6,344,000	8,883,000	12,940,000	18,466,000	23,163,000	18,732,000	16,990,000	17,261,000	7,798,000	5,749,000
2016	6,200,000	6,246,000	6,539,000	7,168,000	11,087,000	24,165,000	25,662,000	21,137,000	15,923,000	16,848,000	10,968,000	8,419,000
2015	6,758,000	12,165,000	6,402,000	9,556,000	14,576,000	18,194,000	19,425,000	13,967,000	20,192,000	18,211,000	9,130,000	6,992,000

TABLE 5.2

OTHER METERED (Gallons (US))

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2021	0	0	0	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0	0	0	0	0	0
2017	0	0	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0

COMMENTS:

ANNUAL DATA

TABLE 5.3

ICI ANNUAL CONSUMPTION

TABLE 5.4

ICI GPCD
25.75
33.52
27.18
25.63
23.05
21.87
24.96

TABLE 5.5

ICI ANNUAL CALCULATED
166,978,000
217,634,000
171,332,000
166,231,000
147,994,000
160,362,000
155,568,000

TABLE 5.6

OTHER ANNUAL CONSUMPTION

TABLE 5.7

OTHER METERED GPCD
N/A
N/A
N/A
N/A
N/A
N/A
N/A

TABLE 5.8

OTHER ANNUAL CALCULATED
N/A
N/A
N/A
N/A
N/A
N/A
N/A

Appendix 3

DATA INPUT SHEET | Info

Los Alamos County

6. REUSE

Return to Instructions

Instructions

MONTHLY DATA

2021 TO 2015

TABLE 6.1

REUSE DIVERSIONS (Monthly) (Gallons (US))

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2021	0	659,806	2,685,604	9,572,099	16,864,298	17,154,189	12,589,285	17,753,447	14,306,548	6,979,030	3,745,044	0
2020	0	0	158,030	9,585,767	18,637,523	19,375,844	19,800,444	18,055,444	12,950,770	10,681,570	2,753,536	2,740
2019	0	0	0	7,255,359	13,208,681	18,747,870	15,949,582	15,023,910	16,113,086	6,057,093	497,979	0
2018	2,083,164	985,278	3,155,615	16,677,017	19,927,309	20,682,187	19,665,932	11,649,607	12,530,167	2,965,837	4,127,865	0
2017	104,253	91	4,514,917	7,824,055	11,968,411	18,855,466	15,814,165	7,729,965	14,860,284	3,346,195	3,664,157	0
2016	806	8,354	3,097,391	3,788,420	7,380,421	19,528,481	17,224,228	3,095,964	5,733,467	11,322,306	3,576,394	79
2015	0	0	2,311,815	10,895,334	5,531,325	14,973,057	2,916,420	12,186,453	16,723,354	6,133,506	0	77

COMMENTS:

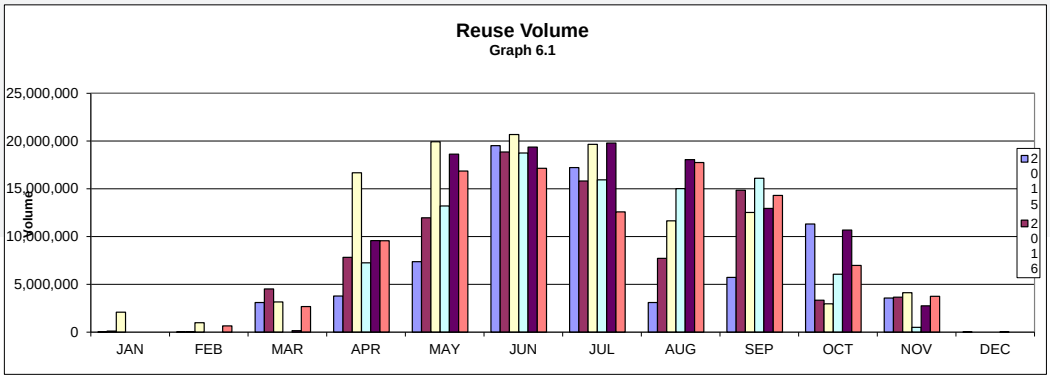
ANNUAL DATA

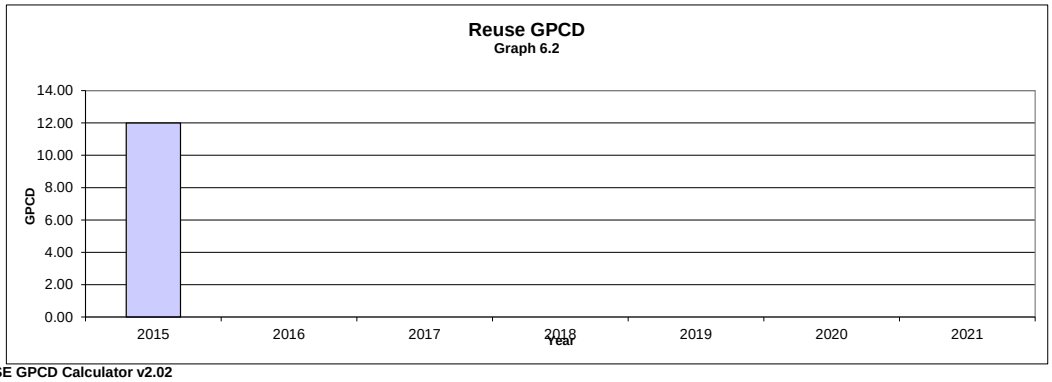
TABLE 6.2

REUSE ANNUAL DIVERSIONS

TABLE 6.3

REUSE GPCD
#REF!
N/A
N/A
N/A
N/A
N/A
12.00





NMOSE GPCD Calculator v2.02

Appendix 3

NMOSE GPCD Calculator

DATA INPUT SHEET

7. TOTAL WATER DIVERTED AND SUPPLIED

Return to Instructions

Los Alamos County

MONTHLY DATA

TABLE 7.1

2021 TO 2015

TOTAL WATER DIVERTED (Monthly) (Gallons (US))

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2021	73,126,163	64,467,149	72,039,181	85,991,658	136,692,116	138,643,972	129,966,482	133,134,069	125,684,832	90,377,271	72,110,779	66,698,497
2020	67,401,950	62,914,565	69,410,979	85,475,833	141,942,322	146,229,622	154,420,672	154,372,810	127,979,713	115,992,409	74,356,386	74,325,330
2019	70,473,755	62,897,063	64,818,312	74,593,227	101,156,217	140,633,414	143,625,950	137,673,036	128,481,675	85,749,242	69,837,534	70,241,727
2018	69,036,758	60,505,310	66,999,126	101,119,506	159,786,139	165,186,443	162,518,990	129,189,843	121,269,403	86,986,823	73,342,136	70,664,136
2017	69,336,000	60,153,000	70,690,000	82,063,000	113,586,000	143,975,000	148,734,000	121,019,000	122,771,425	85,161,000	74,000,000	69,876,653
2016	76,266,000	77,689,000	73,348,000	78,145,000	110,585,000	150,103,000	164,760,000	105,829,000	107,358,000	106,728,000	78,084,000	72,039,000
2015	68,453,500	57,912,300	69,273,500	83,021,700	94,454,200	124,076,300	105,430,500	115,114,400	123,296,600	98,968,300	76,643,800	76,019,000

TABLE 7.2

IMPORTED WATER (Monthly)(Gallons (US)) Info.

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2021	0	0	0	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0	0	0	0	0	0
2017	0	0	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0

TABLE 7.3

EXPORTED WATER (Monthly) (Gallons (US)) Info.

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2021	21,112,700	18,411,100	19,950,700	20,344,529	23,727,100	20,144,000	23,172,900	23,370,500	24,712,200	18,391,900	23,965,700	22,221,900
2020	20,406,100	22,229,600	20,068,800	16,865,200	20,368,900	19,521,100	22,977,900	21,203,500	26,372,800	27,992,200	21,102,400	35,208,600
2019	21,646,200	17,362,400	18,404,100	18,172,800	20,256,000	21,564,900	29,475,500	30,079,600	24,763,500	19,371,800	31,045,600	23,388,700
2018	20,572,860	16,372,840	18,588,020	18,810,720	22,828,000	24,832,730	27,057,100	28,402,800	24,508,400	22,007,000	27,628,200	23,595,000
2017	24,867,700	17,430,940	17,984,950	17,208,200	19,855,950	25,054,470	27,270,000	26,115,100	23,745,100	26,430,000	25,385,700	24,122,880
2016	25,133,820	27,368,200	20,431,210	17,601,790	18,697,580	20,181,160	26,313,280	28,034,800	28,499,990	24,974,070	29,726,740	19,692,900
2015	26,171,490	17,246,620	18,442,090	17,205,510	17,378,210	17,004,930	31,891,120	14,443,150	26,247,120	28,905,780	25,658,300	24,953,020

TABLE 7.4

Formula = Total Water Diverted + Imported water - Exported Water

TOTAL WATER SUPPLY (Monthly) (Gallons (US))

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2021	52,013,463	46,056,049	52,088,481	65,647,129	112,965,016	118,499,972	106,793,582	109,763,569	100,972,632	71,985,371	48,145,079	44,476,597
2020	46,995,850	40,684,965	49,342,179	68,610,633	121,573,422	126,708,522	131,442,772	133,169,310	101,606,913	88,000,209	53,253,986	39,116,730
2019	48,827,555	45,534,663	46,414,212	56,420,427	80,900,217	119,068,514	114,150,450	107,593,436	103,718,175	66,377,442	38,791,934	46,853,027
2018	48,463,898	44,132,470	48,411,106	82,308,786	136,958,139	140,353,713	135,461,890	100,787,043	96,761,003	64,979,823	45,713,936	47,069,136
2017	44,468,300	42,722,060	52,705,050	64,854,800	93,730,050	118,920,530	121,464,000	94,903,900	99,026,325	58,731,000	48,614,300	45,753,773
2016	51,132,180	50,320,800	52,916,790	60,543,210	91,887,420	129,921,840	138,446,720	77,794,200	78,858,010	81,753,930	48,357,260	52,346,100
2015	42,282,010	40,665,680	50,831,410	65,816,190	77,075,990	107,071,370	73,539,380	100,671,250	97,049,480	70,062,520	50,985,500	51,065,980

ANNUAL DATA

TABLE 7.6

ANNUAL TOTAL DIVERTED

TABLE 7.7

ANNUAL TOTAL DIVERTED CALC
1,188,932,169
1,274,822,591
1,150,181,152
1,266,604,613
1,161,365,078
1,200,934,000
1,092,664,100

TABLE 7.8

ANNUAL TOTAL IMPORTED

TABLE 7.9

ANNUAL TOTAL IMPORT CALC
N/A
N/A
N/A
N/A
N/A
N/A
N/A

TABLE 7.10

ANNUAL TOTAL EXPORTED

TABLE 7.11

ANNUAL TOTAL EXPORT CALC
259,525,229
274,317,100
275,531,100
275,203,670
275,470,990
286,655,540
265,547,340

TABLE 7.12

ANNUAL TOTAL WATER SUPPLY
929,406,940
1,000,505,491
874,650,052
991,400,943
885,894,088
914,278,460
827,116,760

TABLE 7.13

TOTAL POP. EST.
17,764
17,791
17,268
17,769
17,593
20,087
17,073

Table 7.5

SYSTEM TOTAL GPCD (Monthly)

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2021	94	93	95	123	205	222	194	199	189	131	90	81
2020	85	82	89	129	220	237	238	241	190	160	100	71
2019	91	94	87	109	151	230	213	201	200	124	75	88
2018	88	89	88	154	249	263	246	183	182	118	86	85
2017	82	87	97	123	172	225	223	174	188	108	92	84
2016	82	89	85	100	148	216	222	125	131	131	80	84
2015	80	85	96	128	146	209	139	190	189	132	100	96

TABLE 7.14

Year	SYSTEM TOTAL GPCD
2021	**143.35**
2020	**154.08**
2019	**138.77**
2018	**152.86**
2017	**137.96**
2016	**124.70**
2015	**132.73**

COMMENTS:

NMOSE GPCD Calculator v2.02

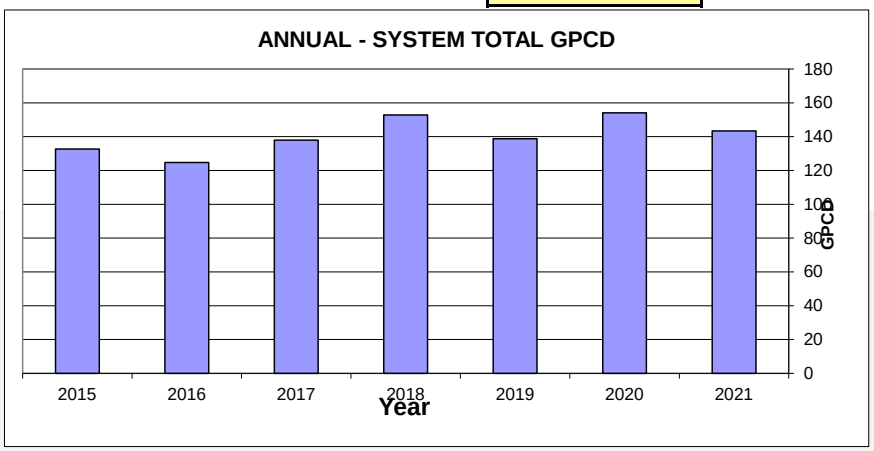
Appendix 3

8. SUMMARY GPCD REPORTED DATA

Los Alamos County		
2021	To:	2015

ANNUAL

Year	SYSTEM GPCD
2021	143.35
2020	154.08
2019	138.77
2018	152.86
2017	137.96
2016	124.70
2015	132.73

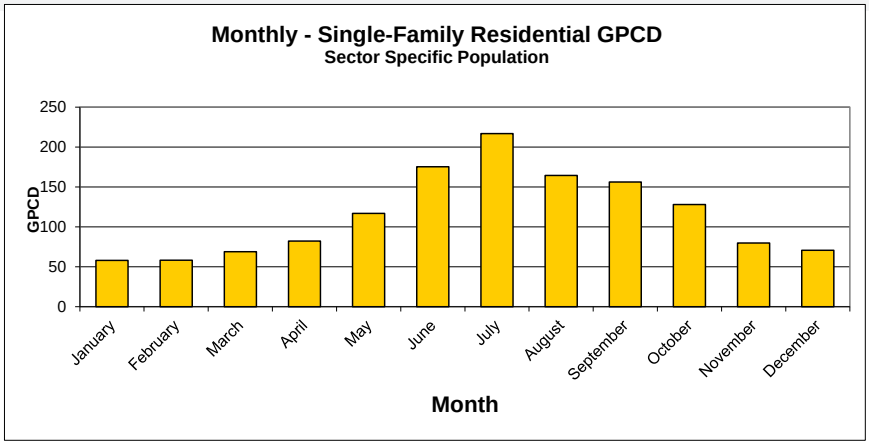


MONTHLY

Month	SFR GPCD
January	58.13
February	58.30
March	68.83
April	82.24
May	116.85
June	175.36
July	216.82
August	164.52
September	156.21
October	128.09
November	79.76
December	70.70

Year	2017

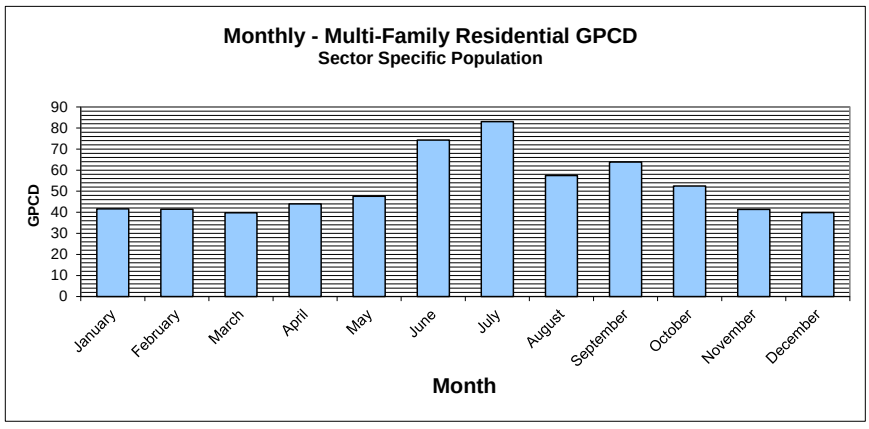
Peak/Ave	1.89



YEAR 2017

Month	MFR GPCD
January	41.63
February	41.45
March	39.76
April	43.96
May	47.62
June	74.27
July	83.02
August	57.42
September	63.87
October	52.48
November	41.40
December	39.81

Peak/Ave	1.59



YEAR 2017

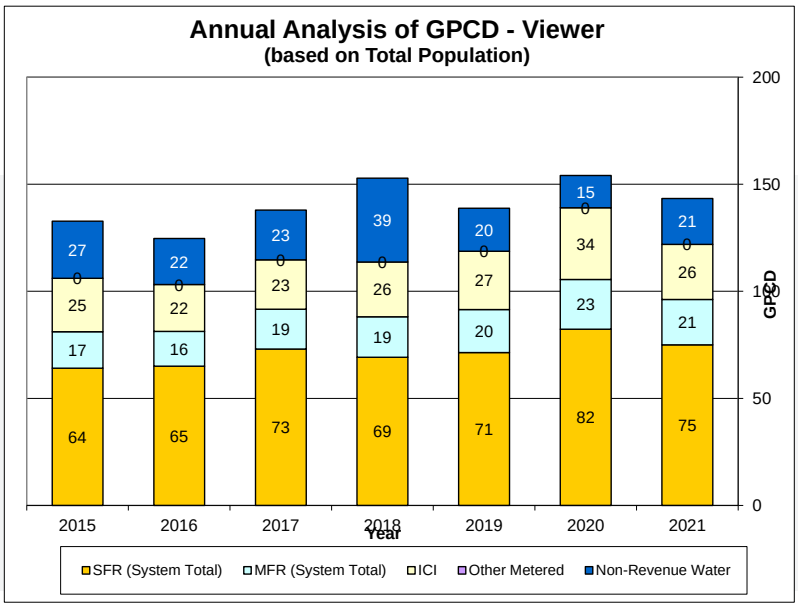
Appendix 3
NMOSE GPCD Calculator

9. System Total Annual Reporting Performance

Overall Annual GPCD (based on Total Population)

Year	SFR (System Total)	MFR (System Total)	ICI	Other Metered	Non-Revenue Water (Info)	Total Supplied	Non-Revenue Volume Million Gallons (US)
On Graph?	Yes	Yes	Yes	Yes	Yes		
2021	75.00	21.15	25.75	N/A	21.44	#REF!	#REF!
2020	82.31	23.22	33.52	N/A	15.03	154.08	97.63
2019	71.36	20.13	27.18	N/A	20.10	138.77	126.69
2018	69.22	18.85	25.63	N/A	39.16	152.86	254.00
2017	73.01	18.62	23.05	N/A	23.28	137.96	149.52
2016	65.07	16.20	21.87	N/A	21.56	124.70	158.08
2015	64.12	17.00	24.96	N/A	26.65	144.72	166.06

Los Alamos County		
2021	to	2015



10. Monthly Reporting Performance

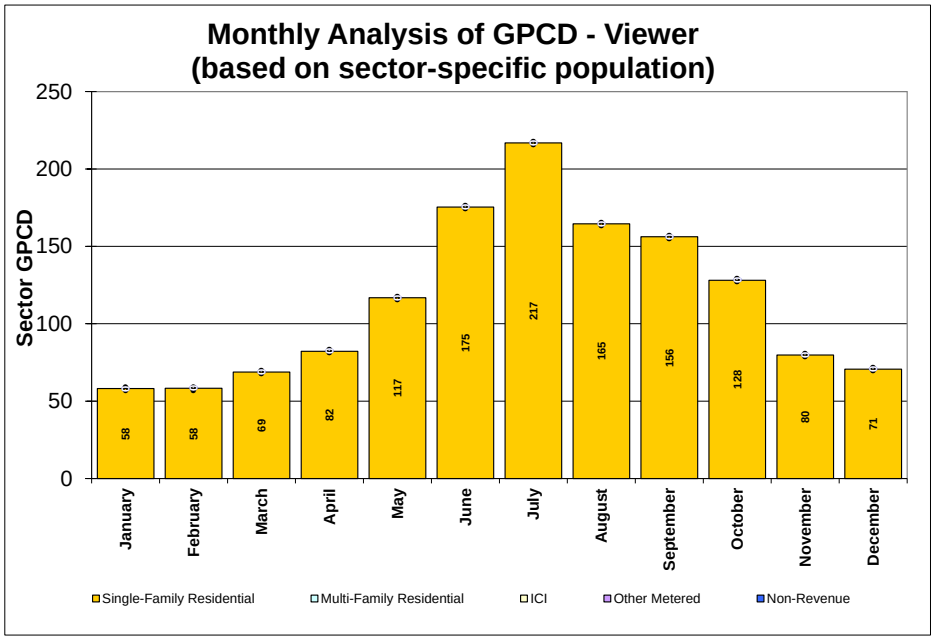
Choose Year for Monthly Analysis **2017**

Choose Sector **Single-Family Residential**

Monthly GPCD

Month	Single-Family Residential GPCD	Multi-Family Residential GPCD	ICI GPCD	Other Metered GPCD	Non-Revenue GPCD
JAN	58.13	41.63	10.40	0.00	18.67
FEB	58.30	41.45	12.17	0.00	21.56
MAR	68.83	39.76	11.63	0.00	26.28
APR	82.24	43.96	16.83	0.00	41.87
MAY	116.85	47.62	23.73	0.00	54.15
JUN	175.36	74.27	34.99	0.00	47.54
JUL	216.82	83.02	42.47	0.00	24.92
AUG	164.52	57.42	34.35	0.00	12.15
SEP	156.21	63.87	32.19	0.00	32.13
OCT	128.09	52.48	31.65	0.00	-24.36
NOV	79.76	41.40	14.77	0.00	13.69
DEC	70.70	39.81	10.54	0.00	11.99

Los Alamos County		
2021	to	2015



Appendix 4

AWWA Audit

AWWA Free Water Audit Software v5.0

This spreadsheet-based water audit tool is designed to help quantify and track water losses associated with water distribution systems and identify areas for improved efficiency and cost recovery. It provides a "top-down" summary water audit format, and is not meant to take the place of a full-scale, comprehensive water audit format.

Auditors are strongly encouraged to refer to the most current edition of AWWA M36 Manual for Water Audits for detailed guidance on the water auditing process and targetting loss reduction levels

The spreadsheet contains several separate worksheets. Sheets can be accessed using the tabs towards the bottom of the screen, or by clicking the buttons below.

Please begin by providing the following information

Name of Contact Person:	Jennifer Baca
Email Address:	jennifer.baca@lacnm.us
Telephone (incl Ext.):	505-662-8133
Name of City / Utility:	Los Alamos County
City/Town/Municipality:	Los Alamos
State / Province:	New Mexico (NM)
Country:	United States
Year:	2021
Start Date:	01/2020 Enter MM/YYYY numeric format
End Date:	12/2020 Enter MM/YYYY numeric format
Audit Preparation Date:	2/17/2022
Volume Reporting Units:	Million gallons (US)
PWSID / Other ID:	NM3500115

The following guidance will help you complete the Audit

All audit data are entered on the ***Reporting Worksheet***

- Value can be entered by user
- Value calculated based on input data
- These cells contain recommended default values

Use of Option (Radio) Buttons: Pcnt: 0.25% Value:

Select the default percentage by choosing the option button on the left

To enter a value, choose this button and enter a value in the cell to the right

The following worksheets are available by clicking the buttons below or selecting the tabs along the bottom of the page

Instructions The current sheet. Enter contact information and basic audit details (year, units etc)	***Reporting Worksheet*** Enter the required data on this worksheet to calculate the water balance and data grading	***Comments*** Enter comments to explain how values were calculated or to document data sources	***Performance Indicators*** Review the performance indicators to evaluate the results of the audit	***Water Balance*** The values entered in the Reporting Worksheet are used to populate the Water Balance	***Dashboard*** A graphical summary of the water balance and Non-Revenue Water components
Grading Matrix Presents the possible grading options for each input component of the audit	***Service Connection Diagram*** Diagrams depicting possible customer service connection line configurations	***Definitions*** Use this sheet to understand the terms used in the audit process	***Loss Control Planning*** Use this sheet to interpret the results of the audit validity score and performance indicators	***Example Audits*** Reporting Worksheet and Performance Indicators examples are shown for two validated audits	***Acknowledgements*** Acknowledgements for the AWWA Free Water Audit Software v5.0

If you have questions or comments regarding the software please contact us via email at: wlc@awwa.org

Appendix 4

AWWA Audit

AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0

American Water Works Association.

Click to access definition

Click to add a comment

Water Audit Report for: Los Alamos County (NM3500115)

Reporting Year: 2021 (1/2020 - 12/2020)

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ----------> Pcnt: Value:

Volume from own sources:	7	1,189.000	MG/Yr	2			MG/Yr
Water imported:	n/a	0.000	MG/Yr				MG/Yr
Water exported:	8	260.000	MG/Yr				MG/Yr
WATER SUPPLIED:		**929.000**	MG/Yr				

Enter negative % or value for under-registration

Enter positive % or value for over-registration

AUTHORIZED CONSUMPTION

Click here: for help using option buttons below

Pcnt: Value:

Billed metered:	8	790.395	MG/Yr		
Billed unmetered:	n/a	0.000	MG/Yr		
Unbilled metered:	n/a	0.000	MG/Yr		
Unbilled unmetered:		11.613	MG/Yr	1.25%	MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: 802.008 MG/Yr

Use buttons to select percentage of water supplied **OR** value

WATER LOSSES (Water Supplied - Authorized Consumption) 126.993 MG/Yr

Apparent Losses

Pcnt: Value:

Unauthorized consumption:		2.323	MG/Yr	0.25%	MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	7	16.131	MG/Yr	2.00%	MG/Yr
Systematic data handling errors:		1.976	MG/Yr	0.25%	MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 20.429 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 106.564 MG/Yr

WATER LOSSES: 126.993 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 138.605 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	167.0	miles
Number of active AND inactive service connections:	7	7,111	
Service connection density:		43	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 6 65.0 psi

COST DATA

Total annual cost of operating water system:	10	$21,424,928	$/Year
Customer retail unit cost (applied to Apparent Losses):	9	$6.02	$/1000 gallons (US)
Variable production cost (applied to Real Losses):	5	$461.38	$/Million gallons

☑ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 72 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources

2: Variable production cost (applied to Real Losses)

3: Unauthorized consumption

Appendix 4

AWWA Free Water Audit Software:
System Attributes and Performance Indicators

WAS v5.0
American Water Works Association.

Water Audit Report for: Los Alamos County (NM3500115)
Reporting Year: 2021 1/2020 - 12/2020

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 72 out of 100 ***

System Attributes:

	Apparent Losses:	20.429	MG/Yr
+	Real Losses:	106.564	MG/Yr
=	Water Losses:	126.993	MG/Yr
?	Unavoidable Annual Real Losses (UARL):	46.74	MG/Yr
	Annual cost of Apparent Losses:	$122,983	
	Annual cost of Real Losses:	$641,512	Valued at Customer Retail Unit Cost

Return to Reporting Worksheet to change this assumpiton

Performance Indicators:

Financial:	Non-revenue water as percent by volume of Water Supplied:	14.9%	
	Non-revenue water as percent by cost of operating system:	3.9%	Real Losses valued at Customer Retail Unit Cost
Operational Efficiency:	Apparent Losses per service connection per day:	7.87	gallons/connection/day
	Real Losses per service connection per day:	41.06	gallons/connection/day
	Real Losses per length of main per day*:	N/A	
	Real Losses per service connection per day per psi pressure:	0.63	gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	106.56	million gallons/year
?	Infrastructure Leakage Index (ILI) [CARL/UARL]:	2.28	

* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline

Appendix 4

AWWA Audit

AWWA Free Water Audit Software:
User Comments

WAS v5.0

Use this worksheet to add comments or notes to explain how an input value was calculated, or to document the sources of the information used.

General Comment:	

Audit Item	Comment
Volume from own sources:	Total Water Produced for all for 2021 divided by 1,000,000
Vol. from own sources: Master meter error adjustment:	Additional meter accuracy data for production wells is needed to improve this value. Calculation only includes 2 of 12 production wells. Source: PureOps - Los Alamos County - Meter Testing Report 17.04 - C.PDF PureOps tested 21 meters in 2016, three of which were production wells (Otowi 1 and 4 and Pajarito 2). The Otowi Well 1 was highly inaccurate (only registering 29.8% of the flow) and therefore replaced. In order to not include an extreme outlier value, the remaining two values were averaged. (Value of all three = 76.9% vs. valueofjusttwo = 100 4%)
Water imported:	None (Los Alamos County has a contract with the United States Bureau of Reclamation for 1,200 acre-feet of water per year from the San Juan-Chama Project, but this water has not been brought online).
Water imported: master meter error adjustment:	Not applicable
Water exported:	Put the LANL water sale as exported water.
Water exported: master meter error adjustment:	Not applicable
Billed metered:	Total water sales, Kgal: total number added 12 months up and divided by 1,000
Billed unmetered:	None
Unbilled metered:	None
Unbilled unmetered:	Calculated

Appendix 4

Audit Item	Comment
Unauthorized consumption:	
Customer metering inaccuracies:	No data (no customer meter testing was conducted in 2021).
Systematic data handling errors:	
Length of mains:	122 miles of water main pipeline + 45 miles of transmission main = 167
Number of active AND inactive service connections:	Average of 12 months of billed locations: total units / locations
Average length of customer service line:	Answer yes to question regarding whether customer meters are located at the curb. From email from James Alarid to Amy Ewing on October 9, 2017: "the vast majority are at the curb."
Average operating pressure:	From email from James Alarid to Amy Ewing: "Average system operating pressure is 65 psi."
Total annual cost of operating water system:	Total cost for Water Production + total cost for Water Distribution - Less: Interdept Water
Customer retail unit cost (applied to Apparent Losses):	Los Alamos County Water Rate
Variable production cost (applied to Real Losses):	Total Water Production Electric Bill divided by Volume from own sources.

Appendix 4

AWWA Audit

AWWA Free Water Audit Software: Water Balance (WAS v5.0)

American Water Works Association.

Water Audit Report for:	Los Alamos County (NM3500115)	
Reporting Year:	2021	1/2020 - 12/2020
Data Validity Score:	72	

	Water Exported *260.000*	Billed Water Exported			
Own Sources (Adjusted for known errors) *1,189.000*	Water Supplied *929.000*	Authorized Consumption *802.008*	Billed Authorized Consumption *790.395*	Billed Metered Consumption (water exported is removed) *790.395*	Revenue Water
				Billed Unmetered Consumption *0.000*	790.395
			Unbilled Authorized Consumption *11.613*	Unbilled Metered Consumption *0.000*	Non-Revenue Water (NRW)
				Unbilled Unmetered Consumption *11.613*	
		Water Losses *126.993*	Apparent Losses *20.429*	Unauthorized Consumption *2.323*	138.605
				Customer Metering Inaccuracies *16.131*	
				Systematic Data Handling Errors *1.976*	
Water Imported *0.000*			Real Losses *106.564*	Leakage on Transmission and/or Distribution Mains *Not broken down*	
				Leakage and Overflows at Utility's Storage Tanks *Not broken down*	
				Leakage on Service Connections *Not broken down*	

Appendix 4

AWWA Free Water Audit Software:
Determining Water Loss Standing

WAS v5.0

Water Audit Report for: Los Alamos County (NM3500115)
Reporting Year: 2021 1/2020 - 12/2020
Data Validity Score: 72

Water Loss Control Planning Guide

	Water Audit Data Validity Level / Score				
Functional Focus Area	**Level I** (0-25)	**Level II** (26-50)	**Level III** (51-70)	**Level IV** (71-90)	**Level V** (91-100)
Audit Data Collection	Launch auditing and loss control team; address production metering deficiencies	Analyze business process for customer metering and billing functions and water supply operations. Identify data gaps.	Establish/revise policies and procedures for data collection	Refine data collection practices and establish as routine business process	Annual water audit is a reliable gauge of year-to-year water efficiency standing
Short-term loss control	Research information on leak detection programs. Begin flowcharting analysis of customer billing system	Conduct loss assessment investigations on a sample portion of the system: customer meter testing, leak survey, unauthorized consumption, etc.	Establish ongoing mechanisms for customer meter accuracy testing, active leakage control and infrastructure monitoring	Refine, enhance or expand ongoing programs based upon economic justification	Stay abreast of improvements in metering, meter reading, billing, leakage management and infrastructure rehabilitation
Long-term loss control		Begin to assess long-term needs requiring large expenditure: customer meter replacement, water main replacement program, new customer billing system or Automatic Meter Reading (AMR) system.	Begin to assemble economic business case for long-term needs based upon improved data becoming available through the water audit process.	Conduct detailed planning, budgeting and launch of comprehensive improvements for metering, billing or infrastructure management	Continue incremental improvements in short-term and long-term loss control interventions
Target-setting			Establish long-term apparent and real loss reduction goals (+10 year horizon)	Establish mid-range (5 year horizon) apparent and real loss reduction goals	Evaluate and refine loss control goals on a yearly basis
Benchmarking			Preliminary Comparisons - can begin to rely upon the Infrastructure Leakage Index (ILI) for performance comparisons for real losses (see below table)	Performance Benchmarking - ILI is meaningful in comparing real loss standing	Identify Best Practices/ Best in class - the ILI is very reliable as a real loss performance indicator for best in class service

For validity scores of 50 or below, the shaded blocks should not be focus areas until better data validity is achieved.

Appendix 4
AWWA Audit

Once data have been entered into the Reporting Worksheet, the performance indicators are automatically calculated. How does a water utility operator know how well his or her system is performing? The AWWA Water Loss Control Committee provided the following table to assist water utilities is gauging an approximate Infrastructure Leakage Index (ILI) that is appropriate for their water system and local conditions. The lower the amount of leakage and real losses that exist in the system, then the lower the ILI value will be.

Note: this table offers an approximate guideline for leakage reduction target-setting. The best means of setting such targets include performing an economic assessment of various loss control methods. However, this table is useful if such an assessment is not possible.

General Guidelines for Setting a Target ILI
(without doing a full economic analysis of leakage control options)

Target ILI Range	Financial Considerations	Operational Considerations	Water Resources Considerations
1.0 - 3.0	Water resources are costly to develop or purchase; ability to increase revenues via water rates is greatly limited because of regulation or low ratepayer affordability.	Operating with system leakage above this level would require expansion of existing infrastructure and/or additional water resources to meet the demand.	Available resources are greatly limited and are very difficult and/or environmentally unsound to develop.
>3.0 -5.0	Water resources can be developed or purchased at reasonable expense; periodic water rate increases can be feasibly imposed and are tolerated by the customer population.	Existing water supply infrastructure capability is sufficient to meet long-term demand as long as reasonable leakage management controls are in place.	Water resources are believed to be sufficient to meet long-term needs, but demand management interventions (leakage management, water conservation) are included in the long-term planning.
>5.0 - 8.0	Cost to purchase or obtain/treat water is low, as are rates charged to customers.	Superior reliability, capacity and integrity of the water supply infrastructure make it relatively immune to supply shortages.	Water resources are plentiful, reliable, and easily extracted.
Greater than 8.0	Although operational and financial considerations may allow a long-term ILI greater than 8.0, such a level of leakage is not an effective utilization of water as a resource. Setting a target level greater than 8.0 - other than as an incremental goal to a smaller long-term target - is discouraged.		
Less than 1.0	If the calculated Infrastructure Leakage Index (ILI) value for your system is 1.0 or less, two possibilities exist. a) you are maintaining your leakage at low levels in a class with the top worldwide performers in leakage control. b) A portion of your data may be flawed, causing your losses to be greatly understated. This is likely if you calculate a low ILI value but do not employ extensive leakage control practices in your operations. In such cases it is beneficial to validate the data by performing field measurements to confirm the accuracy of production and customer meters, or to identify any other potential sources of error in the data.		

Appendix 5

Sources Referenced

Bureau of Business & Economic Research Population Pyramid
https://bber.unm.edu/data/counties?county=LosAlamos
Census Data:
https://www.census.gov/quickfacts/losalamoscountynewmexico
https://data.census.gov/cedsci/profile?g=0500000US35028
Census Housing Data
https://data.census.gov/cedsci/table?g=0500000US35028&tid=ACSDP5Y2019.DP04&moe=false
Community Solar
https://www.nm-prc.org/utilities/community-solar/
Drought Map
https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?NM
Energycodes.gov
https://www.energycodes.gov/status/states/new-mexico
https://www.rld.nm.gov/wp-content/uploads/2021/08/14.7.9-NMAC-NMCECC.pdf
Energy Grid Modernization Roadmap
https://perma.cc/MX25-CYFE
Energy Transition Act
https://www.dws.state.nm.us/ETA#:~:text=The%20ETA%20sets%20a%20statewide,rural%20electric%20cooperatives%20by%202050. https://www.nmlegis.gov/Sessions/19%20Regular/bills/senate/SB0489.html
Geologic Map of Los Alamos
https://geoinfo.nmt.edu/publications/maps/geologic/ofgm/downloads/55/OFGM-55_Guaje Mountain.pdf
Geologic Map of White Rock
https://geoinfo.nmt.edu/publications/maps/geologic/ofgm/downloads/149/OFGM-149_WhiteRock.pdf
Industrial Revenue Bond Act
https://perma.cc/MX25-CYFE
Intergrated Resource Plan Report for Los Alamos County, 2017
LANL Employee Projections
https://discover.lanl.gov/publications/connections/2021-december/director-public-meeting#:~:text=The%20Laboratory%20budget%20for%202022,to%202%2C000%20employees%20in%20FY2022
Long-Range Water Supply Plan Los Alamos County, 2017
Los Alamos Climatology 2021 Update, LANL, 2021
Los Alamos County Comprehensive Plan, 2016
Los Alamos County Non-Potable Water System Master Plan, 2013
Los Alamos Environmental Sustainability Plan, 2017
Los Alamos Resiliency, Energy and Sustainability Task Force Final Report, 2022
New Mexico Climate Change Report 2020 Geospatial and Population Studies Population Projections
http://gps.unm.edu/pru/projections
Solar tax credit
https://www.emnrd.nm.gov/ecmd/tax-incentives/solar-market-development-tax-credit-smdtc/
Smart Energy Provider
https://www.publicpower.org/smart-energy-provider
Voice of Customer Survey
https://www.losalamosnm.us/common/pages/DisplayFile.aspx?itemId=18419823
WateReuse
https://watereuse.org/

Agenda No.:	7.B.
Index (Council Goals):	* 2022 Council Goal - Investing in Infrastructure; DPU FY2022 - 1.0 Provide Safe and Reliable Utility Services; DPU FY2022 - 2.0 Achieve and Maintain Excellence in Financial Performance; DPU FY2022 - 6.0 Develop and Strengthen Partnerships with Stakeholders
Presenters:	Jordan Garcia, Deputy Utilities Manager - Electric Production
Legislative File:	**16139-22a**

Title
Approval of the Fifth Revised Network Integration Transmission Service Agreement (NITSA) and Fifth Revised Network Operating Agreement (NOA) between Los Alamos County and Public Service Company of New Mexico

Recommended Action
I move that the Board of Public Utilities approve the Fifth Revised Network Integration Transmission Service Agreement and Fifth Revised Network Operating Agreement between Los Alamos County and Public Service Company of New Mexico and forward to County Council for final approval.

Utilities Manager Recommendation
The Utilities Manager recommends approval of the motion as presented.

Body
Public Service Company of New Mexico (PNM) provides transmission facilities to deliver power from the various generation resources owned by Los Alamos County, including all market purchases.

Los Alamos County entered into a Network Integrated Transmission Service Agreement (NITSA) and a Network Operating Agreement (NOA) with the Public Service Company of New Mexico in 2002 which was last revised in 2018 and approved by Board and Council.

The County-owned generation resources are; San Juan Generating Station, Abiquiu and El Vado Hydro Electric Generating Facilities. The County also has a life of the plant power purchase agreement (PPA) with Lincoln Electric for the Laramie River Station in Wheatland Wyoming and an allocation of Federal Hydro Power.

Power generated from these resources is delivered to Los Alamos over PNM's transmission system. In the case of Laramie River Station, power is delivered over a Western Area Power Administration (WAPA) transmission line from Wyoming to NM before interconnecting with PNM's transmission system. Abiquiu and El Vado power is delivered over Northern Rio Arriba electric cooperative (NORA) and Jemez Electric Cooperative transmission lines before interconnecting with PNM.

Electricity generated at power plants moves through a complex network of electricity substations, power lines, and distribution transformers before it reaches customers. The network structure of

the interconnections helps maintain the reliability of the power system by providing multiple routes for power to flow and by allowing generators to supply electricity to many load centers. This redundancy helps prevent transmission line or power plant failures from causing interruptions in service.
These interconnections describe the physical system of the grid. The actual operation of the electric system is managed by entities called balancing authorities. PNM is the Balancing Authority for New Mexico. Most, but not all, balancing Authorities are electric utilities, (such as PNM) that have taken on the balancing responsibilities for a specific portion of the power system.
A Balancing Authority ensures, in real time, that power system demand and supply are finely balanced. This balance is needed to maintain the safe and reliable operation of the power system. If demand and supply fall out of balance, local or even wide-area blackouts can result. Balancing Authorities maintain appropriate operating conditions for the electric system by ensuring that a sufficient supply of electricity is available to serve expected demand, which includes managing transfers of electricity with other Balancing Authorities in the region. Balancing Authorities are responsible for maintaining operating conditions under mandatory reliability standards issued by the North American Electric Reliability Corporation (NERC) <http://www.nerc.com> and approved by the U.S. Federal Energy Regulatory Commission (FERC) <http://www.ferc.gov/>. These operators monitor the grid to identify potential problems before a situation becomes critical.

Balancing Authorities provide numerous services but primarily provide scheduling, system control & dispatch, reactive supply & voltage control from generation sources, regulation and frequency response, energy imbalance and reliability re-dispatch services to maintain reliability of the bulk electric system.

Changes to the NITSA and NOA

There are three major reasons for the changes of our NITSA and NOA for this iteration.

1. Retirement of San Juan

   LAC's 7.2% share of output from Unit 4 of the San Juan Generating Station is being removed as an approved resource due to LAC's exit from the participation agreement and possible shutdown/decommissioning.

2. Implementation of the EIM and reflecting OATT changes in the Network Operating
   a. Schedule 2: Reactive Supply and Voltage Control from Generation Sources- PNM is no longer charging for reactive power.
      - Secondary impact of PNM no longer charging for reactive power is the elimination all of the credits received for the Static Var Compensator. It was previously reduced due to transmission upgrades made by PNM and now is eliminated.
   b. Schedule 3: Regulation and & Frequency Response- reference to the Open Access Transmission Tariff filed with the Federal Energy Regulatory Commission. Variable Cost related as the EIM is optimizing on an hourly basis.
   c. Schedule 4: Energy Imbalance Service- reference to the Open Access Transmission Tariff filed with the Federal Energy Regulatory Commission. Variable Cost related as the EIM is optimizing on an hourly basis.
   d. Clean up of legacy language on Schedule 5 & Schedule 6 removing language that referenced LAC's self-supply of Operating Reserves (Spinning and Supplemental Reserves).

3. Formalize our relationship with LANL with regard to the 115 KV Transmission system.
   - We have added delegation of DOE/NNSA staff on matters that pertain to interconnects and services as they are the owner and operator of the Transmission System.

Alternatives

If the County chooses not to accept PNM's proposed changes LAC would find itself before the Federal Energy Regulatory Commission defending our position, with doubtful prospects of success. All of the changes proposed are referring to the PNM OATT already filed and approved with FERC.

Fiscal and Staff Impact

The reduction of 2 MW SVC Credit to 0 MW will result in a cost increase of approximately $72,000.00 on an annual basis. However, elimination of Schedule 2 will result in an approximate savings to LAC of $24,000.00. Staff does not feel that the EIM Changes for Schedule 3 and Schedule 4 are material as they are variable, and this process has been in place since April 1st of last year. The change recognizing DOE/NNSA's ownership of the Transmission system is formalizing our existing arrangement with PNM and DOE/NNSA. There is no material staff implication or monetary implication with this addition.

Attachments

A - Fifth Revised NITSA between PNM and LAC
B - Fifth Revised NOA between PNM and LAC

FIFTH REVISED SERVICE AGREEMENT FOR NETWORK

INTEGRATION TRANSMISSION SERVICE

BETWEEN

PUBLIC SERVICE COMPANY OF NEW MEXICO

AND

THE INCORPORATED COUNTY OF LOS ALAMOS

FIFTH REVISED SERVICE AGREEMENT FOR NETWORK INTEGRATION

TRANSMISSION SERVICE BETWEEN

PUBLIC SERVICE COMPANY OF NEW MEXICO

AND

THE INCORPORATED COUNTY OF LOS ALAMOS

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FIFTH REVISED SERVICE AGREEMENT FOR NETWORK INTEGRATION

TRANSMISSION SERVICE

BETWEEN

PUBLIC SERVICE COMPANY OF NEW MEXICO

AND

THE INCORPORATED COUNTY OF LOS ALAMOS

This Fifth Revised Service Agreement for Network Integration Transmission Service, which includes the Specifications for Network Integration Transmission Service ("Specifications") and Exhibits attached hereto and made a part hereof (collectively referred to as the "Fifth Revised Service Agreement"), is entered into this X day of Month, 202X, by and between **PUBLIC SERVICE COMPANY OF NEW MEXICO**, a corporation organized under the laws of New Mexico with principal offices located in Albuquerque, New Mexico ("PNM") and **THE INCORPORATED COUNTY OF LOS ALAMOS**, a body politic and corporate, existing as a political subdivision under the constitution and laws of the state of New Mexico, ("County") and operating in cooperative agreement with the Department of Energy/National Nuclear Security Administration as the Los Alamos Power Pool. PNM and County may hereinafter be referred to individually as a "Party" or collectively as "Parties."

In consideration of the mutual covenants and agreements herein contained, the Parties agree to the following:

Section 1: Purpose of Fifth Revised Service Agreement

1.1 The purposes of the Parties entering into this Fifth Revised Service Agreement are as follows:

1.1.1 To recognize that the Parties entered into a Network Operating Agreement ("Operating Agreement") and a Service Agreement for Network Integration Transmission Service ("Service Agreement") pursuant to which PNM has provided network transmission service to County in accordance with the PNM's Open Access Transmission ("Tariff") since July 30, 2002;

1.1.2 To amend and restate the terms and conditions of the Fourth Revised Operating Agreement and the Fourth Revised Service Agreement and supersede both the Fourth Revised Operating Agreement and the Fourth Revised Service Agreement with the Fifth Revised Network Operating Agreement ("Fifth Revised Operating Agreement") and the Fifth Revised Service Agreement respectively by: (a) to reflect the share of the County output from Unit 4 of the San Juan Generating Station being retired by September 2022; (b) removing the ancillary services billing credit for reactive supply and voltage; (c) reflect modifications to certain ancillary services; (d) making modifications to certain provisions to reflect current business arrangements between the Parties;

1.1.3 To provide for the terms and conditions under which PNM will provide Network Integration Transmission Service to County.

1.1.4 To establish the terms and conditions for the direct or indirect interconnection of the Parties' systems.

1.1.5 To incorporate Exhibit C entitled "Special Arrangements Section" which delineates various previously reached agreements between the Parties and which agreements the Parties desire to retain.

1.1.6 To recognize the Department of Energy/National Nuclear Security Administration (DOE/NNSA) as the owner and operator for transmission interconnects and services is in a cooperative agreement with County.

Section 2: Term of Fifth Revised Service Agreement

This Fifth Revised Service Agreement shall become effective as of the date of its execution by the Parties, subject to any required acceptance for filing by the Federal Energy Regulatory Commission (the "Commission" or the "FERC"), unless some other effective date shall be assigned by the Commission (the "Effective Date"). This Fifth Revised Service Agreement shall remain in force unless terminated in accordance with Section 1.3 of the Specifications.

Section 3: Services to be Rendered

The terms and conditions for the provision of Network Integration Transmission Service are as contained in this Fifth Revised Service Agreement and PNM's Tariff, as filed with the Commission as it may be amended from time to time or superseded due to appropriate filings with the Commission, and the Fifth Revised Operating Agreement between the Parties executed contemporaneous with this Fifth Revised Service Agreement. The Tariff is incorporated by reference into this Fifth Revised Service Agreement. In the event of conflicts between this Fifth Revised Service Agreement and the Tariff, this Fifth Revised Service Agreement shall govern.

Section 4: Administration

4.1 As a means of securing effective cooperation in system planning, maintenance, and operation, and of dealing on a prompt and orderly basis with the various operating and technical problems which may arise in connection with delivery of power and energy, ancillary services, and system coordination under changing conditions, the Parties hereby establish a PNM/County Engineering and Operating Committee (the "E&O Committee"), charged with certain responsibilities hereunder.

4.2 The E&O Committee shall consist of two "E&O Representatives," one designated by each Party, and each such E&O Representative shall be authorized by the Party to act on its behalf with respect to those matters herein provided to be responsibilities of the E&O Committee. Each Party shall appoint an Alternate E&O Representative to represent the Party in the absence of the E&O Representative. Each Party shall notify the other Party in writing of the designation of its E&O Representative and of any subsequent change in such designation within thirty (30) days of such change. Either Party may designate, in writing, an alternate or substitute to act as its E&O Representative on specified occasions or with respect to specific matters. The functions and responsibilities of the E&O Committee shall be as follows:

4.2.1 To review periodically the prospective transmission capabilities of the Parties' systems, to arrange for investigations with respect to additional transmission facilities, including possible interconnections with other systems, in order to provide for additional transmission capacity and/or reliability, and to present recommendations as to such matters to the Parties.

4.2.2 To establish appropriate curtailment procedures consistent with the Tariff.

4.2.3 To establish detailed arrangements for scheduling, communication and implementation of operating procedures.

4.2.4 To establish appropriate record keeping and accounting systems for and between the Parties.

4.2.5 To do such other things as are provided for herein and as may be specified from time to time by the Parties; provided that the E&O Committee shall have no authority to modify any of the provisions of this Fifth Revised Service Agreement or the Tariff. Any decision or agreement by the E&O Committee shall be effective when signed by the E&O Representative of each Party.

4.2.6 In the event of a dispute or disagreement between the E&O Representatives, the subject shall be referred to executive officers of PNM and County for resolution.

4.2.7 Written minutes shall be kept by PNM of all meetings of the E&O Committee.

4.3 If either E&O Representative desires to have a meeting of the E&O Committee, then the E&O Representative desiring the meeting shall notify the other E&O Representative in writing or by electronic mail with telephonic confirmation. The meeting shall be held as soon as practicable.

Section 5: Direct Assignment Facilities

The following Direct Assignment Facilities shall be provided or caused to be provided by PNM to facilitate the service to be provided to County under this Fifth Revised Service Agreement:

None

Section 6: Credit for Transmission Agreements

County is entitled to receive the following credit(s) for existing transmission agreements:

6.1 The County and the U.S. Department of Energy National Nuclear Security Administration (“DOE/NNSA”) will be entitled to a combined allocation of federal hydroelectric power or replacement power (“Federal Power”) from the Western Area Power Administration (“Western”) of the actual power delivered by Western up to 33.423 MW during the months of April through September and of the actual power delivered by Western up to 35.057 MW during the months of October through March. As used herein Federal Power shall include available federal hydroelectric power, Western replacement power (additional power and energy secured by Western to firm up the federal hydropower allocation to County), and County displacement power (additional power and energy secured by County to firm up the federal hydropower allocation). The Parties recognize that the transmission capability utilized for the delivery of Federal Power is held under separate contract by Western. The Parties acknowledge that Western reallocated Federal Power in 2004 ("2004 Reduction") and will perform additional reallocations from time to time. Such 2004 Reduction, as well as other future reductions in Federal Power allocation to County and DOE/NNSA, will also reduce the amount of transmission capability required by Western to deliver Federal Power to County and DOE/NNSA. The 2004 Reduction and future reductions of transmission capability by Western for delivery of Federal Power to County and DOE/NNSA will reduce the transmission credit as described in Exhibit A. Exhibit A provides the terms and conditions under which PNM will deliver Federal Power to County and credit County’s monthly network load calculation to reflect the separate use of PNM’s transmission system by Western to deliver Federal Power to County. Such credits will reflect actual delivery of Federal Power coincident with the PNM Transmission System Peak Load, as that term is defined in Exhibit B attached hereto.

6.2 PNM and DOE/NNSA, in reaching a resolution of certain issues raised in New Mexico Public Regulation Commission Case No. 2989 (“Case 2989”), agreed through the execution of the PNM/DOE/NNSA NMPRC Case No. 2989 Settlement Terms, dated September 22, 1999, (the "Case 2989 Settlement") that PNM would provide County with 10 MW of additional transmission service, under a point-to-point transmission service agreement, without charge, except for ancillary services priced at PNM's Tariff rates for a period of time (the "Case 2989 Settlement

Service"). Case 2989 Settlement Service became effective on June 1, 2000 and pursuant to the Settlement was to continue as long as the static var compensator installed at Los Alamos, New Mexico (the "Los Alamos SVC") provided PNM with additional operational flexibility to serve PNM's native load and its Network Integration Transmission Service Agreement customers' requirements. In November, 2017 PNM completed a transmission planning study that determined the Los Alamos SVC provides PNM with limited additional operational flexibility and concluded that 2 MW of transmission credit for the Los Alamos SVC can be established ("Transmission Credit"). Therefore from January 1, 2018 forward, PNM will provide County with 2 MW of Transmission Credit, instead of the 10 MW as had previously been provided pursuant to the Case 2989 Settlement and as continued through the Settlement. Such Transmission Credit shall be extended as long as the Los Alamos SVC provides PNM operational flexibility benefits to the accepted rating for Path 48, as such rating ("Accepted Rating") is defined by the Western Electricity Coordinating Council ("WECC") or other demonstrable benefits to serve PNM's native load and its Network Integration Transmission Service Agreement customers' requirements. Such Transmission Credit will be treated in accordance with the billing methodology established in Exhibit A. The County expressly waives any right to a continuation of the Transmission Credit set forth in this Section 6.2 should it be determined by the Parties or FERC that the Los Alamos SVC does not provide PNM operational flexibility benefits to the Accepted Rating defined by WECC or other demonstrable benefits to serve PNM's native load and its Network Integration Transmission Service Agreement customers' requirements. PNM agrees to give one (1) year advance notice of the termination of the Transmission Credit and shall include in any such notice an explanation of the basis upon which PNM has concluded that the Los Alamos SVC no longer meets the eligibility requirements set forth in this Section 6.2. Such evaluation shall be consistent with the methodology established in Section 30.9 of the Tariff (or its successor section) and FERC policy on providing transmission billing credits for customer-owned transmission facilities and be determined based on the then current and projected PNM transmission system configuration. If any significant changes occur in the Los Alamos area network loads and/or transmission system configuration, the County will notify PNM and if the Parties mutually agree that an evaluation of the Transmission Credit is warranted, then PNM will restudy the

benefits of the Los Alamos SVC. PNM will provide, within 10 business days of the agreement to restudy the benefits of the Los Alamos SVC, a System Impact Study Agreement ("SISA") to County identifying study costs and deposits required to complete the review. County will have 10 business days from the date PNM submits the SISA to execute the SISA or PNM will consider the request withdrawn. If the study shows an increase or decrease in SVC benefits, the Transmission Credit will be modified.

6.2.1 Effective the Effective Date and continuing through the extension of the Transmission Credit set forth in Section 6.2, PNM will have the joint responsibility with the Los Alamos Power Pool members to approve voltage control settings and maintenance schedules for the Los Alamos SVC. PNM, upon request to County, shall be provided written notice of the Los Alamos SVC voltage control settings and maintenance schedule. Should the Los Alamos SVC become unavailable for any reason for a period exceeding ten (10) days, the 2 MW of the Transmission Credit will not be available until the Los Alamos SVC is in service for a continuous ten (10) day period.

6.2.2 The County shall ensure that DOE/NNSA designates a Los Alamos National Laboratory representative to serve as their Los Alamos SVC technical advisor ("Technical Advisor") to PNM within (30) thirty days of execution of this Fifth Revised Service Agreement. The approval of the voltage control settings and maintenance schedule for the Los Alamos SVC shall be the joint responsibility of the Technical Advisor and PNM. The County shall by written notice notify PNM of the selection of the Technical Advisor. The County by written notice to PNM may change the designation of the Technical Advisor.

Section 7: Member Systems

None.

Section 8: General Provisions

8.1 A waiver at any time by either Party of its rights with respect to a default under this Fifth Revised Service Agreement, or with respect to any other matter arising in connection with this Fifth Revised Service Agreement, shall not be deemed a waiver with respect to any subsequent default or matter. No delay short of the statutory period of

limitations in asserting or enforcing any right hereunder shall be deemed a waiver of such right.

8.2 Any notice, demand or request required or permitted under this Fifth Revised Service Agreement shall be in writing and shall be deemed properly served, given or made to the address of the receiving Party set forth below: (i) upon delivery if delivered in person, (ii) upon the date of receipt if sent by United States mail, return receipt requested; (iii) upon receipt of confirmation by return electronic facsimile if sent by facsimile with telephonic confirmation; (iv) upon delivery if delivered by prepaid commercial courier service; or (v) e-mail with telephonic confirmation. Notwithstanding the requirement of this Section 8.2, where any provision of this Fifth Revised Service Agreement requires a Party to furnish any particular data, information or notice in a specific manner or within a specific time period, such provision shall control.

To or upon PNM:

Public Service Company of New Mexico
Corporate Headquarters
Attention: Secretary MS-1245
414 Silver Ave. S.W.

Albuquerque, New Mexico 87102-3289
Facsimile No. (505) 241-2368
Telephone No. (505) 241-2700

With copy to:

Public Service Company of New Mexico
Attention: Director, Transmission and Substation Engineering MS Z220
2401 Aztec Rd. NE
Albuquerque, New Mexico 87107
Facsimile: (505) 241-4363
Telephone: (505) 241-8151
Email address: Laurie.Williams@pnm.com

To or upon County:

The Incorporated County of Los Alamos
1000 Central Ave., Suite 130
Los Alamos, New Mexico 87544
Attention: Utilities Manager

Facsimile No. (505) 662-8005
Telephone No. (505) 662-8333

8.3 This Fifth Revised Service Agreement may be amended upon mutual agreement of the Parties, which amendment shall be reduced to writing and, if applicable, submitted to the Commission.

8.4 Except as otherwise provided in the Tariff, nothing contained in this Fifth Revised Service Agreement and any attachment hereto, as modified from time to time, shall be construed as affecting in any way the right of PNM to unilaterally make application to the Commission for a change in rates, charges, classification of service or in any rules, regulation or contract relating thereto, or the right of County to oppose such application, under Section 205 of the Federal Power Act ("FPA") and pursuant to the Commission's Rules and Regulations promulgated under the FPA.

8.5 No undertaking by either Party to provide services to the other Party under or pursuant to any provision of this Fifth Revised Service Agreement shall constitute or be deemed to constitute a dedication of all or any portion of the PNM electrical system to the public or to County, or all or any portion of the County electrical system to the public or to PNM; provided, however, the Parties agree that this section shall not in any manner limit or restrict the rights and obligations of the Parties pursuant to this Fifth Revised Service Agreement.

8.6 This Fifth Revised Service Agreement including the attached Specifications for Network Integration Transmission Service and Exhibits thereto, the Fifth Revised Operating Agreement and the Exhibits thereto and the Tariff constitute and express the entire agreement between the Parties concerning the subject matter hereof and all prior discussions and negotiations are merged herein and therein.

8.7 This Fifth Revised Service Agreement is made under and shall be governed by the laws of the State of New Mexico, except as governed by federal law.

8.8 From time to time after the execution of this Fifth Revised Service Agreement, the Parties may execute such instruments as may be necessary or appropriate to carry out the intent of this Fifth Revised Service Agreement.

8.9 The execution date of this Fifth Revised Service Agreement shall be the date appearing at the beginning of this Fifth Revised Service Agreement.

8.10 Nothing contained herein shall restrict either Party from interconnecting with or terminating an interconnection with any entity that is not a party to this Fifth Revised Service Agreement.

8.11 Terms used with capitalization in this Fifth Revised Service Agreement shall, unless the context otherwise requires, have the same meanings as set out in the Tariff.

8.12 Specifications for Network Integration Transmission Service are attached hereto and incorporated herein.

IN WITNESS WHEREOF, the duly authorized representatives of PNM and County have executed this Fifth Revised Service Agreement as of the day and year first herein written.

THE INCORPORATED COUNTY OF LOS ALAMOS

BY: _____

NAME: Philo Shelton III

TITLE: Utilities Manager

PUBLIC SERVICE COMPANY OF NEW MEXICO

BY: _____

NAME: Todd Fridley

TITLE: Vice President
New Mexico Operations

Specifications For Network Integration Transmission Service

1.0 Term and Termination:

1.1 These Specifications are part of this Fifth Revised Service Agreement bearing the same date to which they are attached and may be amended as provided in Section 8.3 hereof. PNM shall file this Fifth Revised Service Agreement with the Commission pursuant to the FPA with a request that the Commission permit it to become effective as of the date of execution. PNM shall provide County with a copy of PNM's proposed Commission filing so that County can provide comments to PNM within seven (7) business days. County shall not oppose the PNM filing and may take other action which County deems appropriate in support of the PNM filing.

1.2 PNM shall, consistent with Section 1.1, seek all required regulatory approvals or acceptances for filing of this Fifth Revised Service Agreement and Fifth Revised Operating Agreement between the Parties.

1.2.1 If the FERC does not accept this Fifth Revised Service Agreement for filing without change or modification and unless such change or modification is mutually agreeable to the Parties as evidenced by their written agreement, County and PNM agree to work together in good faith on terms and conditions that are acceptable to them and to the FERC. If the Parties are unable to reach such agreement within thirty (30) days (or such longer period as they may mutually agree upon) from the date of the FERC order declining to accept this Fifth Revised Service Agreement: (i) this Fifth Revised Service Agreement shall become null and void; (ii) all obligations under this Fifth Revised Service Agreement shall be null and void; and (iii) services shall continue to be provided pursuant to the Third Revised Service Agreement and the Third Revised Operating Agreement.

1.3 This Fifth Revised Service Agreement shall remain in effect as long as the County requires transmission service for one or more of the Network Resources identified in Section 2.1 unless terminated earlier by the mutual written agreement of the Parties.

2.0 Network Integration Transmission Service

In accordance with Part III of the Tariff, PNM will provide Network Integration Transmission Service over its Transmission System to County for the delivery of capacity and energy from County's designated Network Resources to serve its Network Loads on a basis that is comparable to PNM's use of its Transmission System to reliably serve PNM's Native Load Customers.

2.1 Network Resources. County's initial Network Resources are described as follows:

2.1.1 County's ownership in El Vado and Abiquiu Hydro Generation Stations.

2.1.2 County and DOE/NNSA combined allocation of Federal Power pursuant to County's contract with Western Contract No.17-SLC-0027, as amended and Western Contract with DOE/NNSA No. 87-SLC-0026, as amended.

2.1.3 County's capacity and energy purchase from Laramie River Station for delivery to San Juan 345 kV.

2.1.4 County's purchase(s) of firm energy from one or more suppliers for delivery to PNM for County's account at Four Corners.

2.2 Additions or modifications of Network Resources. County may make additions to, and modifications of, Network Resources in accordance with the Fifth Revised Operating Agreement and Section 30 of the Tariff or its successor section.

2.3 Delivery of Network Resources to PNM. County will cause capacity and energy from the Network Resources to be delivered to PNM.

2.4 Points of Delivery to Network Load. The Points of Interconnection to County shall be as described in the Fifth Revised Operating Agreement. County shall have the right to modify the Points of Delivery in accordance with the Fifth Revised Operating Agreement and Section 31 of the Tariff or its successor section.

3.0 Description of County's Monthly Network Load:

See Exhibit A (as may be revised from time to time).

4.0 Description of PNM's Monthly Transmission System Peak Load:

See Exhibit B (as may be revised from time to time).

5.0 Designation of Party(ies) Subject to Reciprocal Services Obligation:

County is subject to Reciprocal Services to PNM. In FERC Docket No.OA96-230-000, County requested a waiver to the Reciprocity Requirements in Commission Order No. 888. The Commission granted such waiver. Granting of the waiver was based on a finding by the Commission that the County's facilities were not "grid facilities" and that it is unlikely that anyone would request service over County facilities located within the County Import Boundary, as defined herein. PNM, as the control area operator, is responsible for all PNM system improvements required to facilitate the provision of Network Integration Transmission Service. With Respect to the provision of Network Integration Transmission Service to County, this responsibility includes system improvements to PNM's Northern New Mexico Import Boundary, the Northeast Area Import Boundary and the Santa Fe-Las Vegas Boundary (collectively referred to as the "PNM Boundaries"). County is a metered subsystem located within the PNM Boundaries and within the PNM control area (The "County Import Boundary"). The County Import Boundary is currently defined as a) the STA end of the BA Switching Station ("BA Station") to STA Station transmission line which is metered at the STA Station and b) the ownership boundary on the Norton Switching Station ("Norton Station") to ETA Station transmission line located at the Los Alamos side of the dead-end structure located on the east side of the Rio Grande River crossing approximately five line miles from the Norton Station ("Ownership Boundary") and metered at Norton Station with subtractive required adjustments to remove: a) the Buckman load metered at 12.5kV; b) the Buckman 115/12.5kV transformer losses (to be calculated real-time); and c) the 115kV line losses (to be calculated real-time) between Norton Station and the Ownership Boundary (all of which have been included in Revision 3 to Exhibit A). County is responsible to work with the United States (acting through National Nuclear Security Administration and/or Western), which owns the transmission facilities within the County Import Boundary, for system improvements to ensure that load within the County Import Boundary can be reliably served. County, on behalf of both County and United States, will be responsible to coordinate such system improvements with PNM. Pursuant

to the terms of the Settlement, except for the 2989 Settlement Transmission credit that has been reduced to the Transmission Credit described in Section 6.2 hereof, neither County nor the United States is entitled to a transmission service credit for transmission facilities in service as of March 1, 2012. The eligibility for such credits relating to facilities placed in service after March 1, 2012 or for modifications made after March 1, 2012 to facilities that were in service as of March 1, 2012 and that are physically interconnected to PNM transmission facilities by the County or the United States shall be determined in accordance with Section 30.9 of PNM's OATT, except that no party to the Settlement shall oppose any such request on grounds that the United States is not itself a transmission customer of PNM.

6.0 Service under this Fifth Revised Service Agreement is Subject to the Charges Detailed Below.

Monthly Transmission Charge: The monthly charge for Network Integration Transmission Service shall be the ratio of County's Monthly Network Load as determined in accordance with Exhibit A hereof to PNM's Monthly Transmission System Peak Load as determined in accordance with Exhibit B hereof, multiplied by one-twelfth (1/12) of the Annual Transmission Revenue Requirement for Network Integration Transmission Service set forth in Attachment H to the Tariff plus the charges stated in Section 8, if any, plus charges for all applicable ancillary services stated in Section 9.

7.0 System Impact and/or Facilities Study Charge(s):

None Required

8.0 Direct Assignment Facilities Charge:

None

9.0 Ancillary Services Charge: Under this Fifth Revised Service Agreement, PNM will provide County with certain ancillary services. The rates for ancillary services are set forth in the Tariff, as the Tariff may be modified from time to time

Schedule 1 - Scheduling, System Control & Dispatch Service

County shall be charged for the services of Scheduling, System Control & Dispatch Service based upon the product of County's Monthly Network Load, as determined

in accordance with the methodology set forth in Exhibit A hereof, and pursuant to Schedule 1 of the Tariff.

Schedule 2 - Reactive Supply & Voltage Control from Generation or Other Sources Service

County shall be charged for the service of Reactive Supply & Voltage Control from Generation or Other Sources Service based upon the product of County's monthly Network Load, as determined in accordance with Exhibit A, and pursuant to Schedule 2 of the Tariff.

Schedule 3 - Regulation & Frequency Response Service

County shall be charged for Regulation and Frequency Response Service based upon the product of County's monthly Network Load for the billing month, as determined in accordance with Exhibit A, and pursuant to Schedule 3 of the Tariff.

Schedule 4/4A - Energy Imbalance Service

Energy Imbalance shall be defined as the actual hourly net meter interchange between the Parties, less the total scheduled net hourly interchange. County shall be charged for the hourly Energy Imbalance at the applicable PNM rate for such hourly Energy Imbalance Service according to the terms and conditions of the applicable sections of Schedule 4 or 4A of the Tariff.

Schedule 5 - Operating Reserve – Spinning Reserve Service

County shall be charged for the services of Operating Reserve - Spinning Reserve Service based upon County's Monthly Network Load requiring Operating Reserve – Spinning Reserve Service from PNM, as determined in accordance with Exhibit A and Schedule 5 of the Tariff. In the event that County subsequently elects to self-provide, or acquire from third parties, Schedule 5 services, PNM shall waive charges for such service hereunder. The Parties will work with one another to coordinate any change in the provision of Schedule 5.

Schedule 6 - Operating Reserve – Supplemental Reserve Service

County shall be charged for the services of Operating Reserve – Supplemental Reserve Service based upon County's Monthly Network Load requiring Operating Reserve – Supplemental Reserve Service from PNM, as determined in accordance with Exhibit A and Schedule 6 of the Tariff. In the event that County subsequently elects to self-provide, or acquire from third parties, Schedule 6 services, PNM shall waive charges for such service hereunder. The Parties will work with one another to coordinate any change in the provision of Schedule 6.

10.0 Reliability Criteria

The Parties shall comply with the reliability criteria set forth in Section 5 of the Fifth Revised Operating Agreement as that Section may be amended from time to time.

11.0 Billings and Taxes

11.1 Billing for Network Integration Transmission Service and Ancillary Services shall be per the provisions of Section 7 of the Tariff.

11.2 In addition to any and all charges provided herein for service under this Fifth Revised Service Agreement, County shall pay PNM the total of any taxes, fees or charges levied or assessed by any governmental entity on the services rendered under this Fifth Revised Service Agreement, or on the right or privilege of rendering such service. Examples of such taxes include, but are not limited to, sales taxes and gross receipts taxes on transmission service and use taxes on the amount of transmission service provided, such as kW of transmission service.

11.3 County shall not be required to pay on its bill for service rendered under this Fifth Revised Service Agreement: (i) any state or federal income or profit taxes payable by PNM (including its subsidiaries, parents and affiliates); (ii) any tax, fee or charge levied or assessed by any governmental entity on any input or factor of production used by PNM to provide the services rendered under this Fifth Revised Service Agreement; and (iii) any governmentally imposed charge, fee or tax on PNM (including subsidiaries, parents or affiliates) for any environmental impact of rendering service under this Fifth Revised Service Agreement.

11.4 County shall provide to PNM any pertinent current tax exemption certificates that have been issued to County by any governmental authority. PNM shall not be required to eliminate taxes described in this Section 11 from the bills for service rendered hereunder until it has received the appropriate exemption certificates for such taxes from County.

11.5 Nothing herein shall prevent County from opposing, at its own expense and in an appropriate forum, any governmental authority's determination that a tax, fee or charge is applicable to service rendered under this Fifth Revised Service Agreement.

12.0 Loss Compensation Service:

Real Power Losses for County's Monthly Network Load shall be compensated by County at the rate set out in Section 28.5 and Schedule 10 of the Tariff.

13.0 Network Customer Re-dispatch Obligation:

At certain times, PNM's northern New Mexico transmission system may become constrained. In such constrained period, and in order to continue to provide service to County and PNM Native Load Customers, PNM may need to re-dispatch its owned or purchased resources, County's Network Resources and the resources of other Network Integration Transmission Service customers' load-side area generation that results in a reduction of imports from remote generation. Any re-dispatch charge assessed to County will be in accordance with Attachment R of PNM's Tariff.

14.0 Severability

If following the Effective Date, any term, covenant or condition of this Fifth Revised Service Agreement or the application or effect of any such term, covenant or condition is held invalid as to any person, entity or circumstances or is determined to be unjust, unreasonable, unlawful, imprudent or otherwise not in the public interest by any court or government agency of competent jurisdiction, then such term, covenant or condition shall remain in force and effect to the maximum extent permitted by law, and all other terms, covenants and conditions of this Fifth Revised Service Agreement, and the application thereof, shall not be affected thereby, but shall remain in force and effect and the Parties shall be relieved of their obligations only to the extent necessary to eliminate such regulatory or other determination unless a court or governmental agency of competent jurisdiction holds that such provisions are not separable from all other provisions of this Fifth Revised Service Agreement; provided, however that if such invalidity or unenforceability results in material failure of consideration or imposes a significant disadvantage on one of the Parties, the Parties shall attempt to negotiate a modification of the terms or this Fifth Revised Service Agreement in order to restore the original balance of benefits, and if such modification is not agreed upon either Party may seek reformation of this Fifth Revised Service Agreement in a court of competent jurisdiction.

15.0 Construction of Fifth Revised Service Agreement

Ambiguities or uncertainties in the wording of this Fifth Revised Service Agreement shall not be construed for or against either Party, but shall be construed in a manner that most accurately reflects the purpose of this Fifth Revised Service Agreement and the nature of the rights and obligations of the Parties with respect to the matter being construed.

16.0 Relationship of the Parties, No Partnership, Etc.

Nothing contained herein shall be construed to create an association, joint venture, trust or partnership, or to impose a trust or partnership covenant, obligation or joint liability on or with regard to either or both of the Parties. Each Party shall be individually responsible for its own covenants, obligations and liabilities under this Fifth Revised Service Agreement.

17.0 No Third Party Beneficiaries

Other than the United States with respect to the right to request Network Credits pursuant to Section 5.0 of these Specifications, this Fifth Revised Service Agreement shall not be construed to create rights in, or to grant remedies to, any third party as a beneficiary of this Fifth Revised Service Agreement or of any duty, obligation or undertaking established herein.

18.0 Exhibits Incorporated

The Exhibits to this Fifth Revised Service Agreement, as they may be amended or revised from time to time, are attached to this Fifth Revised Service Agreement and are incorporated by reference as if herein fully set forth.

19.0 Successors and Assigns

19.1 This Fifth Revised Service Agreement is binding on and shall inure to the benefit of the Parties and their respective permitted successors, assigns and legal representatives. Each Party shall have the right at any time to mortgage, create or provide for a security interest in, or convey in trust all or part of its interest in this Fifth Revised Service Agreement, under deeds of trust, mortgages, indentures or security agreements, a security for its present or future bonds or obligations or securities, without the consent of the other Party. In the case of an assignment by County, such assignment shall be pursuant to Section 23 of the

Tariff. Either Party, without the consent of the other Party, may assign its rights and obligations under this Fifth Revised Service Agreement to any person or entity: (i) into which a Party is merged or consolidated, (ii) to which a Party sells, transfers or assigns all or substantially all of its transmission assets, (iii) that is a wholly owned subsidiary of a Party, (iv) that owns all of the outstanding stock of a Party, or (v) whose common stock is wholly owned by an entity that also owns all of the outstanding stock of a Party, so long as the survivor in any such merger or consolidation, or the purchase, transferee or assignee of such assets provides to the non-assigning Party a valid and binding written agreement expressly assuming and agreeing to be bound by all obligations of the assigning Party under this Fifth Revised Service Agreement. Except as provided herein, neither Party shall assign its interest in this Fifth Revised Service Agreement in whole or in part without the prior written consent of the other Party, which consent will not be unreasonably withheld.

19.2 If PNM separates its generation assets and activities from its transmission and distribution assets and activities, the Parties hereto understand and agree that, upon the date PNM implements separation, this Fifth Revised Service Agreement will become the obligation of the transmission and distribution subsidiary.

19.3 The assignment by either Party shall not release said Party from any of its obligations under the Fifth Revised Service Agreement, without the written consent of the other Party, which consent shall not be unreasonably withheld.

19.4 The Parties shall cooperate with and assist one another in obtaining all consents and approvals that may be necessary or desirable in connection with the assignment of the Fifth Revised Service Agreement.

19.5 Except as otherwise provided in Section 19.1, PNM shall not, without the prior written consent of County, which consent shall not be unreasonably withheld, assign, pledge or transfer all, or any part of, its rights or obligations under the Fifth Revised Service Agreement, whether voluntarily or by operation of law.

19.6 Except as otherwise provided in Section 19.1, County shall not, without the prior written consent of PNM, which consent shall not be unreasonably withheld, assign, pledge or transfer all or any part of its rights or obligations under the Fifth Revised Service Agreement, whether voluntarily or by operation of law.

20.0 Operating Representatives

The two E&O Representatives (one each for PNM and County) referenced in Section 4.2 of this Fifth Revised Service Agreement shall be the representatives of PNM and County on the Network Operating Committee established in Section 3 of the Fifth Revised Operating Agreement entered into concurrently herewith by PNM and County.

21.0 Authorized Representatives

PNM and County shall each, within thirty (30) days after this Fifth Revised Service Agreement, designate in writing an Authorized Representative. The Authorized Representatives shall be officers or senior executives of the Parties, or other duly authorized persons, who shall be responsible for executive oversight of the Parties' performance hereunder. The Authorized Representatives shall meet from time to time at the request of either, but in no event less frequently than once every twenty-four (24) months. The Authorized Representatives shall have no authority to modify any of the provisions of this Fifth Revised Service Agreement, the Fifth Revised Operating Agreement or the Tariff. The Authorized Representatives shall address or resolve matters submitted to them by the E&O Committee and may direct the E&O Committee to undertake assigned tasks consistent with this Fifth Revised Service Agreement.

22.0 No Guarantee of Uninterrupted Service

Nothing in this Fifth Revised Service Agreement shall be construed to constitute or imply a guarantee by PNM to provide uninterrupted transmission service or a continued supply of electric power and energy to County.

23.0 No Dedication of Facilities

No undertaking by either Party to the other Party under or pursuant to any provision of the Fifth Revised Service Agreement shall constitute or be deemed to constitute a dedication of all or any portion of the PNM transmission system to the public or to County, or all or any portion of the County electrical system to the public or to PNM;

provided, however, the Parties agree that this section shall not in any manner limit or restrict the rights and obligations of the Parties pursuant to the Fifth Revised Service Agreement.

24.0 Dispute Resolution

If the Authorized Representatives of PNM and County are unable to resolve a dispute or disagreement referred pursuant to Section 4.2.6 of the Fifth Revised Service Agreement, or otherwise arising among the Parties, the Parties may jointly elect: (i) to resort to mediation or other form of dispute resolution, or (ii) to proceed to dispute resolution in accordance with the procedures set out in Sections 12.1 through 12.5 of the PNM Tariff (or successor provisions thereto). Provided neither Party waives its right to litigate their dispute or disagreement.

EXHIBIT A

Description of County's Monthly Network Load

I. Application of Exhibit A

For the purpose of calculating the County's monthly transmission charge as set forth in Section 6 of the Specifications, County's Monthly Network Load shall be determined following the method set forth in this Exhibit A. Exhibit A may be revised from time to time by mutual agreement of the Authorized Representatives, as established in Section 21 of the Specifications for Network Integrated Transmission Service, upon the recommendation of the E&O Committee.

II. Determination of County's Monthly Network Load

A) County's Monthly Network Load shall be equal to County's actual hourly metered New Mexico load including local generation within the County Import Boundary (Revision 3 to Attachment 1 to this Exhibit A is an example of the Parties' current understanding of the best methodology to calculate such load) measured on the hour of PNM's Monthly Transmission System Peak Load less the credits described in Paragraph III below. County's Monthly Network Load shall never be less than zero.

B) All measurements shall be in whole megawatts, rounding capacity and energy to the nearest whole megawatt or megawatt hour.

C) In calculating County's Load Ratio Share in accordance with the Tariff, Section 34.1 or successor Section includes Transmission Losses in all Network Customers' Monthly Network Loads and in PNM's Monthly Transmission System Peak Load, as calculated in accordance with Exhibit B. County's Monthly Network Load determined in accordance with paragraph A above shall be multiplied by the adjustment factor (1 + L), where L equals the real power loss factor set forth in Section 28.5 of the Tariff, or successor Section (expressed as a decimal such as 0.032).

III. Credit for Transmission Agreements

2A credit for Federal Power is described in Section 6.1 of this Fifth Revised Service Agreement. PNM shall deliver Federal Power to County and credit County's Monthly

Network Load to reflect the separate use of PNM's transmission system by Western, pursuant to existing agreements between PNM and Western, to deliver this Federal Power to County. The credit shall be equivalent to the Federal Power delivered by PNM to County at the County Import Boundary as currently described in specification 5. Such credits will reflect the actual delivery of Federal Power coincident with the hour of the PNM Monthly Transmission System Peak Load. In order to receive the credit described herein, County will insure that Western provides to PNM hourly schedules of Western's resources delivered to PNM. No credit for Federal Power shall be provided in calculating the amounts due for PNM's provision of ancillary services associated with Tariff Schedules 1-4.

A) A credit for the 2989 Settlement Transmission credit that has been reduced to a new Transmission Credit is described in Section 6.2 of this Fifth Revised Service Agreement. No credit for the 2989 Settlement Transmission credit that has been reduced to a new Transmission Credit shall be provided in calculating the amounts due for PNM's provision of ancillary services associated with Tariff Schedules 1-4.

B) No credit for TA-3 Generation, the combustion turbine or other local generation located within the County Import Boundary shall be provided in calculating the amounts due for the provision of ancillary services associated with Tariff Schedules 1-3.

Revision #3

Attachment 1 to Exhibit A

County Monthly Network Load Derivation

Revision #3 of Attachment 1 to Exhibit A may be revised from time to time by mutual agreement of the Authorized Representatives, as established in Specification 21 of this Fifth Revised Service Agreement and upon the recommendation of the E&O Committee.

Power Interchange Calculation

Current Interchange Calculation

County Network Interchange

(Hourly or Monthly) = +/- RL[1] Line measured at STA +/-NL[2] Line measured at Norton - Buckman load measured at the low side of transformer (adjusted to include 115/12.5 kV transformer losses to be calculated real-time) – NL Line losses (to be calculated real time) between Norton and the dead-end structure on the east side of the Rio Grande River crossing + (Hydro Schedule -Hydro Actual) + Load side generation

Where: Hydro Actual = El Vado Actual measured at Spills + Abiquiu Actual measured at Coyote

Hydro Schedule = Total Hydro (Sum of El Vado and Abiquiu) Scheduled by County

Metering

[1] RL is the designation for the transmission 115 kV line facility from BA Station to STA Station.

[2] NL is the designation for the transmission 115 kV line facility from Norton Station to ETA Station adjusted to remove the Buckman Substation deliveries metered at Buckman 12.5 kV and loss adjusted real time to the 115 kV transformer terminals with real time loss adjustments and further adjusted for losses (to be calculated real time) between Norton Station and the ownership boundary located on the Los Alamos side of the dead-end structure located on the east side of the Rio Grande River crossing.

- Currently County and PNM will use the billing meters at Norton (less Buckman load (to be calculated real-time) and adjusted for losses between Norton and the ownership boundary on the NL Line located on the Los Alamos side of the dead-end structure located on the east side of the Rio Grande River crossing), at the STA end of the BA Switching Station ("BA Station") to STA Station transmission line which is metered at the STA Station and Local Generation to calculate Hourly and Monthly County Network Load.
- County and PNM will continue to alternate monthly, the use of each other's values for Actual Net Interchange.
- County and PNM will use Tri-State values for El Vado and Abiquiu hydro generation. PNM currently receives these values from Tri-State through ICCP. County shall validate these figures against County's own tie point values. If there is a discrepancy with the hydro values between PNM and County, County shall resolve such difference with Tri-State and inform PNM of such resolution.
- Load side generation information is provided to PNM through ICCP.

End of Month Verification between County and PNM

Current Meter Values

On the first working day of the month, PNM and County will collectively read meters at the following substations: (i) NL line at Norton Station, (ii) RL line at STA Station, Buckman load at Buckman (to be calculated real-time) and adjusted for losses between Norton Station and the ownership boundary located on the Los Alamos side of the dead-end structure located on the east side of the Rio Grande River crossing, (iii) all local generation and (iv) hydro generation (Abiquiu & El Vado).

Interchange Monthly Values

Such monthly interchange values shall include the following:

County's Schedule, County's metered load, Total Hydro Schedule, Total Hydro Actual, and Local Generation.

Energy Imbalance

County's Energy Imbalance = (County's metered load – County's Schedule) + (Total Hydro Schedule – Total Hydro Actual) and shall be accounted for as established in Section 9 of the Specifications of the Fifth Revised Service Agreement.

Note 1: All generation facilities are treated as metered tie points inclusive of Local Generation.
Note 2: The equations above reflect current sign conventions relative to County and are employed by the Parties.
Note 3: County Interchange is used to calculate Energy Imbalance.
Note 4: Subject to Tri-State approval, Tri-State will provide monthly El Vado and Abiquiu interties at Spills and Coyote to County and PNM.
Note 5: All calculations between County and PNM will be measured in KWH and divided by 1000 to convert to MWH. Rounding will occur following the summation of each of individual components to arrive at a MWH total.

EXHIBIT B

PNM's Monthly Transmission System Peak Load

PNM's Monthly Transmission System Peak Load (see Section 1.50 of the Tariff or its successor Section) is defined as the maximum firm usage of PNM's transmission system in a calendar month. PNM's Monthly Transmission System Load (see Section 34.3 of the Tariff) is determined by taking PNM's Transmission System Peak minus the coincident peak usage of all firm Point-to-Point Transmission Service customers pursuant to Part II of the Tariff, plus the reserved capability of all firm Point-to-Point Transmission Service Customers pursuant to Part II of the Tariff.

For purposes of this Fifth Revised Service Agreement, PNM's Monthly Transmission System Load shall be equal to the algebraic sum of the following quantities at the time of hourly coincident peak each month of: (i) PNM's Native Load, (ii) plus PNM's Network Integration Transmission Service customers' loads pursuant to Part III of the Tariff, (iii) plus PNM's bilateral transmission contract customers usage (Pre-Open Access Transmission Tariff firm transmission agreements), and (iv) the reserved capability of PNM's Point-to-Point Transmission Service Customers pursuant to Part II of the Tariff.

PNM's Monthly Transmission System Load set forth in this Exhibit B may be revised from time to time in accordance with the terms and conditions of the Tariff.

EXAMPLE:

This example is intended to illustrate the determination of PNM's Monthly Transmission System load on the Effective Date.

PNM's Monthly Transmission System Peak is equal to the algebraic sum of the following quantities at the time of the hourly coincident peak each month (existing and future quantities shown in this example):

(i) PNM's Native Load;

(ii) Plus Kit Carson Electric Cooperative, delivered network resources;

(iii) Plus City of Gallup, delivered network resources;

(iv) Plus Tri-State Generation and Transmission Association, Inc. Network Load;

(v) Plus Western's Network Load under Contract No. 03 SLC0499;

(vi) Plus Incorporated County of Los Alamos. New Mexico Network Load;

(vii) Plus Jicarilla Apache Network Load;

(viii) Plus the Navajo Tribal Utility Authority Network Load;

(ix) Plus the Pueblo of Acoma Network Load;

(x) Plus Western Area Power Administration scheduled transmission use under Contract No. 14-06-400-2425 and Contract No. 8-07-40-P0695;

(xi) Plus United States Bureau of Reclamation loads at Gallegos Station; and

(xii) Plus all firm point-to-point transmission service provided pursuant to the terms of the PNM Tariff.

EXHIBIT C

Special Arrangements

PNM and County agree to the following Special Arrangements to the mutual benefit of the network load served by PNM for both PNM and County:

I. Operating Agreements Between PNM and County Relating to Service

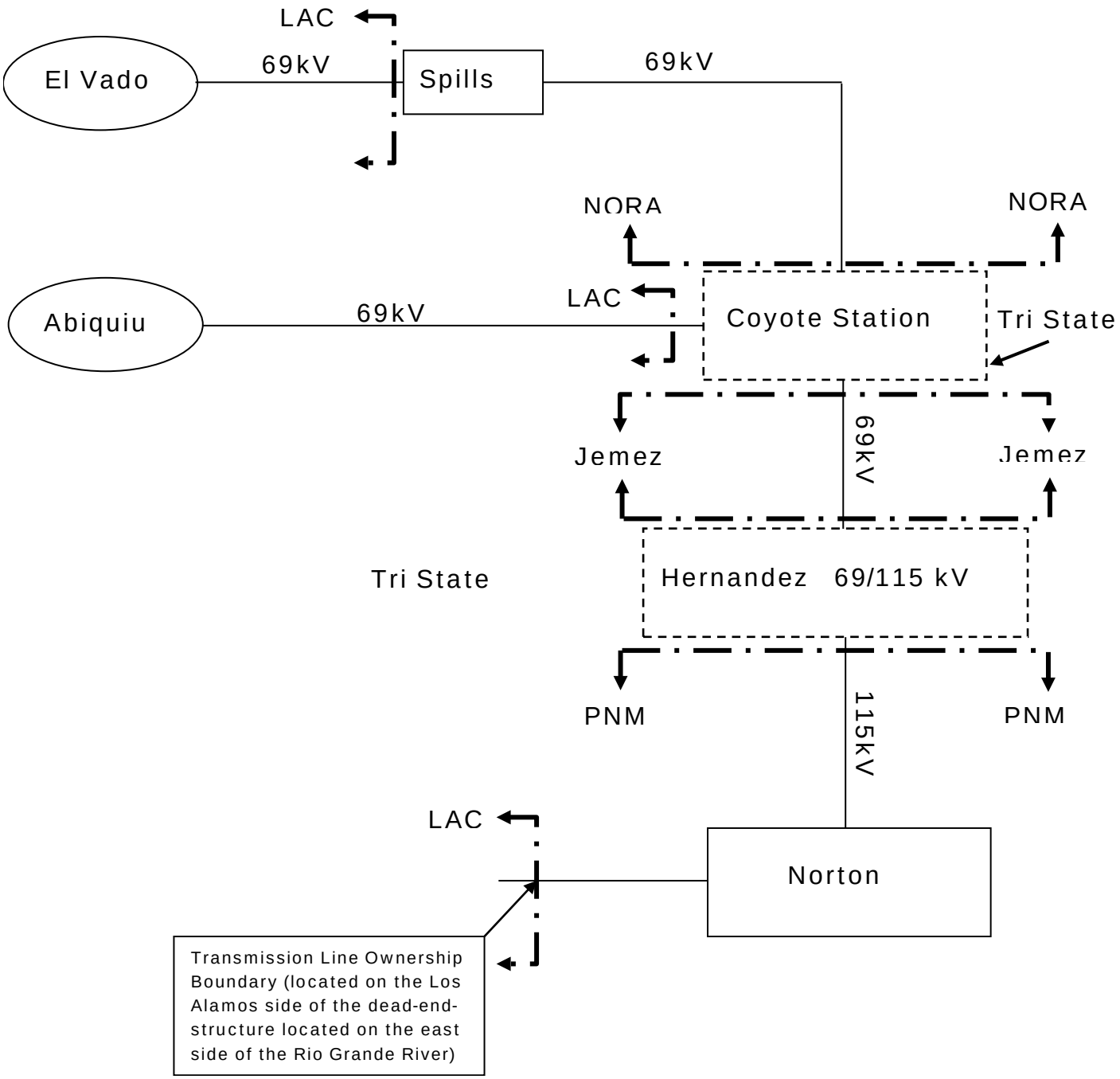
Operating Procedure I Revision 2 (Scheduling of County Abiquiu & El Vado), V Revision 1 (Reactive Credit Derivation) and VI (Energy Imbalance Month-End Accounting) and considered by the Parties to be viable Operating Procedures and currently employed by the Parties.

II. Special Arrangements

A) The County requires certain specific delivery arrangements to facilitate receipt of power and energy from County's Hydro Units located in northern New Mexico. Several intervening parties provide County transmission service to enable County to deliver the power and energy from the Hydro Units to Tri-State prior to such power and energy being received by PNM. These include, (i) Northern Rio Arriba Electric Cooperative (from El Vado Hydro Facility through Spills Switching Station to Coyote Switching Station), (ii) Jemez Mountain Electric Cooperative, Inc. ("Jemez") from Coyote Switching Station to the 69kV side of the Hernandez Substation, (iii) Tri-State provides transmission service through the Coyote Switching Station to the point of interconnection with Jemez. Tri-State delivers the power and energy from the County Hydro Units (from the 69kV side of Hernandez Substation to the 115kV transmission line facilities owned by PNM that terminate at the Hernandez Substation 115kV bus (See Attachment 1 to Exhibit C). The Bus License Agreement between PNM and Tri-State, dated February 25, 2001 provides PNM the rights by which PNM accepts the power and energy from the Hydro Units at Tri-State's 115kV Hernandez Substation. PNM then delivers the power and energy from County's Hydro Units to the County Import Boundary.

B) Upon execution of this Fifth Revised Service Agreement County will continue to provide PNM hourly-metered values (net of auxiliaries) for TA-3, the combined cycle and other local generation hourly and convey the hourly data for the entire month within three (3) business days following the end of each month. The hourly-metered values

shall be employed by PNM to assess County in calculating the amounts due for the provision of network service and the ancillary services associated with Tariff Schedules 1-3.


LAC
El Vado
69kV
Spills
69kV
NORA
NORA
Abiquiu
69kV
LAC
Coyote Station
Tri State
Jemez
69kV
Jemez
Tri State
Hernandez 69/115 kV
PNM
115kV
PNM
LAC
Norton
Transmission Line Ownership Boundary (located on the Los Alamos side of the dead-end-structure located on the east side of the Rio Grande River)

FIFTH REVISED NETWORK OPERATING AGREEMENT

BETWEEN

INCORPORATED COUNTY OF LOS ALAMOS

AND

PUBLIC SERVICE COMPANY OF NEW MEXICO

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Exhibits

FIFTH REVISED NETWORK OPERATING AGREEMENT

BETWEEN

PUBLIC SERVICE COMPANY OF NEW MEXICO

AND

INCORPORATED COUNTY OF LOS ALAMOS

THIS FIFTH REVISED NETWORK OPERATING AGREEMENT ("Fifth Revised Operating Agreement") is entered into this day of 2021, by and between **PUBLIC SERVICE COMPANY OF NEW MEXICO** ("PNM"), a New Mexico corporation and **INCORPORATED COUNTY OF LOS ALAMOS** a body politic and corporate, existing as a political subdivision under the constitution and laws of the state of New Mexico, ("County"). PNM and County are sometimes hereafter referred to individually as a "Party" and collectively as the "Parties".

RECITALS

WHEREAS, County is engaged in the generation, transmission and distribution of electric power and energy for the Los Alamos service area principally within the County of Los Alamos, New Mexico;

WHEREAS, Department of Energy/National Nuclear Security Administration owns and operates the transmission facilities for the Los Alamos service area and has entered into a cooperative agreement with the County;

WHEREAS, PNM is a public utility engaged in the generation, transmission and wholesale sale of electric power and energy in Arizona and in the transmission, distribution and retail and wholesale sale of electric power and energy in New Mexico;

WHEREAS, County requested Network Integration Transmission Service ("Network Service") under the terms and conditions of the PNM Open Access Transmission Service ("PNM Tariff");

WHEREAS, the Parties entered into the Network Operating Agreement ("Operating Agreement") and a Service Agreement for Network Integration Transmission Service ("Service

Agreement") pursuant to which PNM has provided Network Service to County in accordance with the PNM Tariff since July 30, 2002;

WHEREAS, the Parties amended and restated the terms and conditions of the Operating Agreement and the Service Agreement and superseded both the Operating Agreement and the Service Agreement with the First Revised Operating Agreement and the First Revised Service Agreement respectively;

WHEREAS, the Parties amended and restated the terms and conditions of the First Revised Operating Agreement and the First Revised Service Agreement and superseded both the First Revised Operating Agreement and the First Revised Service Agreement with the Second Revised Operating Agreement and the Second Revised Service Agreement respectively;

WHEREAS, the Parties amended and restated the terms and conditions of the Second Revised Operating Agreement and the Second Revised Service Agreement and superseded both the Second Revised Operating Agreement and the Second Revised Service Agreement with the Third Revised Operating Agreement and the Third Revised Service Agreement respectively;

WHEREAS, the Parties amended and restated the terms and conditions of the Third Revised Operating Agreement and the Third Revised Service Agreement and superseded both the Third Revised Operating Agreement and the Third Revised Service Agreement with the Fourth Revised Operating Agreement and the Fourth Revised Service Agreement respectively;

WHEREAS, this Fifth Revised Operating Agreement shall amend and restate the terms and conditions of the Fourth Revised Operating Agreement and will supersede the Fourth Revised Operating Agreement;

WHEREAS, this Fifth Revised Operating Agreement, including Exhibits, is being entered into by County and PNM contemporaneously with the Fifth Revised Service Agreement for Network Service. The Fifth Revised Service Agreement, this Fifth Revised Operating Agreement and the PNM Tariff establish the terms and conditions under which County shall receive Network Service from PNM.

NOW, THEREFORE, in consideration of the mutual benefits to the Parties, the Parties agree as follows:

Section 1: Definitions

For purposes of this Fifth Revised Operating Agreement, capitalized terms not defined elsewhere in this Fifth Revised Operating Agreement or in the PNM Tariff shall have the definitions specified in Exhibit A.

Section 2: Effective Date, Term and Termination

2.0 The Effective Date of this Fifth Revised Operating Agreement shall be the date on which this Fifth Revised Operating Agreement has been executed by both Parties, subject to any required acceptance for filing by the FERC, unless some other effective date shall be assigned by the FERC (the "Effective Date"). PNM shall provide County with a copy of the proposed FERC filing so that County can provide comments to PNM within seven (7) business days thereafter. Not later than thirty (30) days following the date of this Fifth Revised Operating Agreement, PNM shall file this Fifth Revised Operating Agreement with the FERC pursuant to the Federal Power Act with a request that the Commission permit it to become effective as of the date of execution. County shall support the PNM filing by filing a timely motion at the FERC to intervene in support of the PNM filing and by taking other action which County deems appropriate in support of the PNM filing.

2.1 If the FERC does not accept this Fifth Revised Operating Agreement for filing without change or modification and unless such change or modification is mutually agreeable to the Parties as evidenced by their written agreement, County and PNM agree to work together in good faith to agree upon terms and conditions that are acceptable to them and to the FERC. If the Parties are unable to reach such agreement within thirty (30) days (or such longer period as they may mutually agree upon) from the date of the FERC order declining to accept this Fifth Revised Operating Agreement: (i) this Fifth Revised Operating Agreement shall become null and void; (ii) all obligations under this Fifth Revised Operating Agreement shall terminate; and (iii) service shall continue to be provided pursuant to the applicable terms, covenants and conditions of the Fourth Revised Service Agreement and the Fourth Revised Operating Agreement.

2.2 A termination of the Fifth Revised Service Agreement shall constitute a termination of this Fifth Revised Operating Agreement and the rights and obligations of the Parties associated with such termination shall be as provided in the applicable terms, covenants and conditions of the Fifth Revised Service Agreement.

2.3 Unless terminated earlier in accordance with the provisions of Section 2.1, this Fifth Revised Operating Agreement shall remain in effect for the term of the Fifth Revised Service Agreement and shall terminate on the same date as the Fifth Revised Service Agreement.

Section 3: Network Operating Committee

Consistent with Section 35.3 of the PNM Tariff, a Network Operating Committee is established to coordinate operating criteria for the Parties' respective responsibilities under this Fifth Revised Operating Agreement.

3.1 Membership. The Network Operating Committee shall be composed of representatives (the "Operating Representatives") of PNM and those Transmission Customers (including County) that have Network Operating Agreements with PNM. The PNM and County "Operating Representatives" hereunder shall be the same individuals who are designated in accordance with the Fifth Revised Service Agreement.

3.2 Responsibilities. The Network Operating Committee shall: (i) adopt rules and procedures consistent with this Fifth Revised Operating Agreement and other PNM Network Operating Agreements and the PNM Tariff governing operating and technical requirements necessary for implementing the PNM Tariff, (ii) review Network Resources and Network Loads on an annual basis in order to assess the adequacy of the transmission system, and (iii) obtain from PNM the operating policies, procedures and guidelines for network interconnection and operation. The Network Operating Committee shall have no authority to modify any of the provisions of this Fifth Revised Operating Agreement, the Fifth Revised Service Agreement, or the PNM Tariff.

3.3 Meetings. The Network Operating Committee shall meet no less than once each calendar year to discuss and address the specific operating concerns of PNM and the Transmission Customers ("Operating Meeting"). PNM shall prepare minutes of the Operating Meeting as soon as practical following each Operating Meeting.

Section 4: Points of Interconnection and Metering

4.1 Points of Interconnection and Metering Locations.

4.1.1 Exhibit B to this Fifth Revised Operating Agreement lists the Points of Interconnection between the County Facilities and PNM. The Parties shall amend Exhibit B as necessary or appropriate to reflect additions to or modifications of any Points of Interconnection. All such additions to or modifications of any Points of Interconnection or any equipment installation must adhere to and be consistent with PNM's interconnection requirements. Upon any request by PNM, County shall make available to PNM corresponding maps and single-line diagrams that are in its possession of any or all Points of Interconnection listed on Exhibit B.

4.1.2 The Parties agree to exchange measurements at metered tie points and scheduled deliveries at unmetered tie points on an hourly basis to enable the Parties to determine County's monthly network load. The Parties agree to identify the locations of all metered and unmetered tie points required by this Fifth Revised Operating Agreement and any necessary billing adjustments if the location of any metering system is not at a Metered Point of Interconnection. Within sixty (60) days of acceptance of this Fifth Revised Operating Agreement by FERC, PNM and County will review all metering locations between County, PNM and third parties relevant to this Fifth Revised Operating Agreement. PNM and County shall conduct and complete a review of the adequacy of all such metering and metering communications between PNM, County and third parties. Thereafter, the Parties shall develop a timeline for installation and/or replacement of metering and associated communications facilities so as to meet NERC compliance criteria, ANSI revenue class metering standards, and the data needs of PNM and County. The Parties shall also agree upon meter multiplier or conversion values for the meters. The Parties will complete all such installations and/or replacements within two (2) years after recommended solutions are agreed to between the Parties. The Parties agree to keep such information current and to advise each other of any additions or modifications to the metering systems as such additions or modifications occur.

4.2 Metering Systems Requirements.

4.2.1 In carrying out its responsibilities under this Section 4.2, the Parties shall permit a representative of the other Party to be present to witness the performance of such responsibilities.

4.2.2 With respect to Points of Interconnection at which not all lines are metered, or at which the metering systems do not satisfy the requirements of this Fifth Revised Operating Agreement, PNM may at County's expense, add additional metering systems as necessary or appropriate to provide accurate usage in compliance with the standards established by ANSI. Provided, however, PNM shall be responsible for all costs associated with replacement metering for the PNM Buckman load. The Parties shall maintain the status and control of such metering system in accordance with ANSI standards.

4.2.3 At locations where metering is used to determine billing for Network Service, the only acceptable metering systems will be those that meet the requirements of ANSI for revenue class metering. Metering may be installed and maintained by County as a redundant system to PNM's metering.

4.2.4 The Parties shall be responsible for the installation, testing, calibration, maintenance, replacement and reading of, and all collection of recorded demand interval information from all metering systems at the Points of Interconnection. Each Party shall provide the other Party such metering information as is necessary for both reliable operations and for billing purposes including instrument transformer ratios and meter multipliers. County shall be responsible for any metering systems (real time), including the maintenance, replacement of, reading of, and the collection of any generation resource 1 MW or greater connected to County's distribution system.

4.2.5 The Parties shall ensure that all metering systems for the Points of Interconnection are at all times sealed or otherwise secured against tampering and that any seals or other security devices on such systems are opened only when the systems are inspected, tested or adjusted in accordance with the requirements of this Fifth Revised Operating Agreement.

4.2.6 Either Party shall have the right at any time, and from time to time, upon forty-eight (48) hours' notice to the other Party, to have additional tests or inspections of the metering systems performed, and if necessary, recalibrate, with both Parties represented at the test. The expenses of the test or inspections or recalibrations requested by a Party shall be borne by the requesting Party if the other Party's meters are found to be accurate within one percent (1%); otherwise, the cost thereof shall be paid by the non-requesting Party. Each Party shall adjust, repair or replace any

component of any metering system found to be defective or inaccurate, and shall promptly notify the other Party thereof. Each Party shall provide the other Party a copy of all records and documentation of any tests and inspections.

4.2.7 If any metering system at the Points of Interconnection fails to register, or if any measurement made by any such metering system during any test or inspection carried out pursuant to Section 4.2.6 exceeds the accuracy limits established by the Parties consistent with standards established by ANSI, the Party owning the meter shall correct all measurements for the actual period during which such inaccurate measurements were made, if such period can be determined. If such period cannot be determined, such Party shall correct all measurements for the period equal to the lesser of (i) one-half the period from the date of the last preceding test or (ii) the six months immediately preceding the test. Should any metering system at any time fail to register, or should the registration by any such system be so erratic as to be meaningless, the Party owning the meter shall determine delivered capacity and energy based upon the best available data, using a method agreed upon by the Parties. If the Parties are unable to agree upon any such method, the Party owning the meter shall issue billings based upon its own good faith estimate of delivered capacity and energy, and any dispute between the Parties regarding such billings shall be resolved in accordance with the dispute resolution provisions of the PNM Tariff.

4.2.8 Each Party shall have the right annually to audit the other Party's compliance with the requirements of this Section 4.2. The requesting Party shall provide the other Party with reasonable advance notice of any such audit, and such Party shall cooperate therewith. The requesting Party shall be responsible for the costs and expenses of any such audit unless the results thereof demonstrate that the other Party has failed to comply with any of the requirements of this Section 4.2, in which event the other Party shall have sole responsibility for the costs and expenses of such audit.

Section 5: Operating Standards

5.1 County shall comply with applicable WECC and NERC Reliability Criteria in operating County Facilities. Since DOE/NNSA owns and operates the transmission facilities within the Los Alamos Import Boundary, the County may designate a Los Alamos National Laboratory representative to serve as their representative for all matters related to DOE/NNSA-

owned transmission facilities. If County breaches or violates WECC and NERC Reliability Criteria, then, in addition to any other remedies available hereunder to PNM, PNM shall have the right to: (i) compel specific performance of applicable WECC and NERC Reliability Criteria; and (ii) obtain reimbursement, to the extent not prohibited by applicable law, of any fines or penalties incurred by PNM as a result of such breach or violation. In the event that PNM determines that County may be, or may become liable for reimbursement of any such fines or penalties under this Section 5.1, PNM shall immediately provide written notice thereof to County, in order that County may, at the earliest feasible opportunity, contest or take other available action to avoid or minimize such fines or penalties.

5.2 PNM shall comply with WECC and NERC Reliability Criteria in operating its facilities. If PNM breaches or violates WECC and NERC Reliability Criteria, then, in addition to any other remedies available hereunder to County, County shall have the right to: (i) compel specific performance of WECC and NERC Reliability Criteria; and (ii) obtain reimbursement, to the extent not prohibited by applicable law, of any fines or penalties incurred by County as a result of such breach or violation. In the event that County determines that PNM may be, or become, liable for reimbursement of any such fines or penalties under this Section 5.2, County shall immediately provide written notice thereof to PNM in order that PNM may, at the earliest feasible opportunity, contest or take other available action to avoid or minimize such fines or penalties.

5.3 The E&O Representatives as established in Section 4 of the Fifth Revised Service Agreement shall review and discuss the implementation of any necessary changes in facilities and operating practices or procedures as a result of changes in NERC or WECC reliability criteria.

Section 6: Operational Requirements

Since DOE/NNSA owns and operates the transmission facilities within the Los Alamos service area, the County may designate a Los Alamos National Laboratory representative to serve as their representative for operational requirements in section 6.

6.1 Reactive Power Requirements. Neither Party shall be entitled to receive kilovars from the other Party nor obligated to supply kilovars (collectively referred to as "Reactive Power") to the other Party. The Parties recognize that PNM and County along with other members of the

Network Operating Committee have jointly developed a voltage profile for each of its Network Integration Transmission customers at the various points of interconnection. Currently County and PNM have agreed that the Static Var Compensator (the "SVC") should be operated in the automatic voltage control mode. Such operation will cause the SVC, to either supply or absorb Reactive Power resulting in a variance in the desired reactive power exchange between the Parties. Further, the Parties recognize that variances in the desired Reactive Power exchange may occur related to those instances established in Section 6.1.1 and Section 6.1.2.

6.1.1 County shall ensure that all of its generators interconnected within the PNM control area, and third party generators connected to County's transmission system within the PNM control area, maintain a composite power delivery at continuous rated power output at the point where the generator interconnects to the transmission facilities the power factor range of at least 0.95 leading to 0.95 lagging. The Parties acknowledge that the County's existing Abiquiu and El Vado hydro generation units are not currently in compliance with the FERC Standard Small Generator Interconnection reactive power requirements range set forth above. The Parties further acknowledge that operation of the SVC in the automatic voltage control mode consistent with Section 6.1 herein currently compensates for the inadequate generation reactive power requirements at Abiquiu and El Vado. Periodically the Parties agree to evaluate and determine the effectiveness of the SVC to address the generation reactive power requirements and to take the necessary steps to address any degradation in meeting such reactive power requirements.

6.1.2 County shall ensure that County generators interconnected within the PNM control area, and third party generators connected to the County transmission system within the PNM control area, will operate to voltage schedules mutually acceptable to both Parties.

6.2 Under-frequency, Under-voltage and Manual Load Shedding.

6.2.1 Both Parties shall have in place a coordinated under-frequency and under-voltage load shedding program to shed the necessary amount of load in each island area to arrest frequency decay, minimize loss of load and permit timely system restoration. Information on these plans shall be provided by each Party to the other and the plans shall

be reviewed and updated yearly, and shall meet the requirement of WECC and NERC Reliability Criteria. The Parties shall evaluate and coordinate the under-frequency and under-voltage load shedding programs as appropriate and consistent with WECC and NERC Reliability Criteria.

6.2.2 The Parties shall maintain manual load shedding plans for their individual systems, and shall coordinate such plans to ensure optimal mutual benefit. Seasonal plans shall be developed to allow for variations in seasonal load profiles. Operating personnel shall have written authority to implement manual load shedding as required by NERC and WECC criteria.

6.2.2.1 County system dispatchers shall implement manual load shedding when directed by the Control Area Operator whenever system conditions require such actions. Interruptible loads, if available, shall be shed first.

6.2.2.2 County system dispatchers may implement manual load shedding for localized problems on County's system that do not directly affect the interconnected systems without prior notification to the Control Area Operator. Notification shall be made to the Control Area Operator as soon as possible following any such manual load shedding within County's system within the bounds of the Control Area.

6.3 Generator Interconnections.

6.3.1 County is within PNM's control area and must adhere to the same Safety and Reliability Requirements as PNM. To protect the Parties' transmission systems, County shall not allow any third-party electric generating facility that is 1 MW or greater individually or sum total at a single Point of Interconnection and that will operate within the PNM control area to connect to County's Facilities until County has coordinated with PNM for County to conduct any studies required to determine the impacts of the proposed third-party facility on the Parties' systems. The impacts of the proposed generating facility on the Parties' systems and methods of mitigation for any issues identified in the studies, if any, shall be agreed to by the Parties and incorporated into the interconnection agreement

for the proposed generating facility. Interconnection of such generating facility shall not occur unless either (i) the owner or operator of such generating facility has executed an agreement with County assuring the generation facility operates in accordance with the Safety and Reliability Requirements acceptable to PNM, or (ii) PNM and County have jointly determined to exempt such generation facility from any such requirements.

6.3.2 County shall install (or cause to be installed), if necessary, and maintain (or cause to be maintained) appropriate equipment to prevent the unscheduled flow of energy onto the PNM transmission system following an Electric Disturbance from any generation facility that is connected to County's Electric System and operating within the PNM Control Area that has been exempted by PNM pursuant to Section 6.3.1(ii).

6.3.3 Neither the execution of an agreement governing the operation of generation by the owner or operator of an electric generating facility nor any exemption granted by the Parties pursuant to the provisions of Section 6.3.1(ii) shall relieve County from any responsibility to protect PNM's Electric System or impose any responsibility or liability on PNM for damage to County's Electric System or injury or damage to any person or property.

6.3.4 The Parties shall comply with all WECC and NERC generation requirements and criteria to the extent that they may be deemed applicable to the operation (by PNM or County) of electrical equipment and facilities within PNM's Control Area. All future NERC and WECC sanctions or penalties incurred by PNM that are attributed directly to County's operations shall be County's sole responsibility. All future NERC and WECC sanctions or penalties incurred by County that are attributed directly to PNM's operations shall be PNM's sole responsibility. All future NERC and WECC sanctions or penalties incurred by the Parties together shall be shared in proportion to each Party's contribution to the condition precipitating such sanction or penalty. The Parties agree to perform an evaluation at least once every two (2) years from the Effective Date to determine County's requirements related to all future NERC and WECC requirements and to make appropriate adjustments as required.

6.3.5 The Parties shall comply with all future NERC and WECC criteria and standards related to the coordinated planning and interconnection requirements inclusive of transmission facility installations and generation resources.

6.4 Maintenance. County shall maintain its Electric System in accordance with all applicable Safety and Reliability Requirements. Each Party shall notify the other Party in advance of finalizing any equipment maintenance schedule that would affect the other Party, and shall consult with the other Party, and make reasonable efforts to accommodate the other Party's needs, in scheduling equipment maintenance.

6.5 Protective Devices. Each Party reserves the right to install, operate and maintain such protective devices as it deems necessary to separate the County Facilities from the PNM transmission system sufficiently to avoid injury or damage; provided that each Party shall install, operate and maintain such protective devices in accordance with all applicable Safety and Reliability Requirements. Each Party shall notify the other of any and all such protective devices that it installs, and of the settings of such devices.

6.6 Opening of Interconnection Facilities. County shall have the unilateral right to open Interconnection Facilities in the event of, and for the duration of, any emergency on its Electric System, if such separation would reasonably be expected to mitigate or remedy the emergency. County shall promptly notify PNM of any such opening of Interconnection Facilities, unless such information has already been provided to PNM by automatic data transfer. During an Electrical Disturbance, PNM shall have the right to open or order opened, any Interconnection Facility in accordance with Good Utility Practice. In accordance with Good Utility Practice, each Party shall coordinate with the other Party the removal from service of any of its facilities that may adversely impact the other Parties facilities.

6.7 Compliance with Regional Security Plan. County shall comply with all PNM directives resulting from directives given to PNM by the Reliability Coordinator, or its successor. All such applicable directives shall be consistently applied to all PNM transmission service customers.

6.8 Provision of Data for PNM Operations, Planning and Reliability Functions.

6.8.1 County shall furnish to PNM such data and reports (including but not limited to computer-generated simulations), and such available load forecasts (by Point of Interconnection, if requested by PNM), as PNM reasonably requests from time to time in connection with PNM's operations and planning functions. In addition, County shall furnish to PNM such data and reports (including but not limited to technical data regarding load characteristics required by PNM, under WECC and NERC requirements, for system analysis studies) as PNM reasonably requests from time to time in connection with PNM's reliability functions. County shall provide any such requested data, reports or forecasts, in the form kept by it or such form as may be reasonably specified by PNM, within a reasonable time following any such request. Any Confidential Information of County included in such data, reports or forecasts shall be subject to the provisions of Section 9.

6.8.2 The Parties shall work together to verify that the current equipment ratings at the PNM stations, PNM lines, County stations and County lines are accurate and shall ensure such rating verifications are completed within one year from the execution of this Fifth Revised Operating Agreement. The Parties may upon mutual agreement extend the completion of the verification of the equipment ratings.

6.9 Liability for Noncompliance. Without in any way limiting any provision of Section 10, (i) County shall, subject to the provisions of Section 10, have sole responsibility for any Losses, liabilities, damages, costs and expenses to the extent caused by, resulting from or arising out of any failure on the part of County to comply with any of its responsibilities under this Section 6; and (ii) PNM shall, subject to the provisions of Section 10, have sole responsibility for any Losses, liabilities, damages, costs and expenses to the extent caused by, resulting from or arising out of any failure on the part of PNM to comply with any of its responsibilities under this Section 6.

6.10 Annual Load and Resource Information Updates. Pursuant to Section 31.6 of the PNM Tariff (or successor section), County shall, by March 1 of each year, provide PNM an update to its projected 10-year Network Service requirements, including projected loads and resources pursuant to Exhibit C and projected interruptible loads pursuant to Exhibit D.

Section 7: Scheduling

7.1 Pre-Scheduling.

7.1.1 Mountain Standard Time Zone ("MST") shall be the scheduling standard.

7.1.2 All pre-schedules must be submitted via the NERC E-tagging process in accordance with applicable pre-scheduling timing requirements as specified in applicable NERC reliability standards and applicable business practice standards. These schedules will also be a rollup to a Net Schedule number, which will be confirmed for each hour. NERC E-Tags are required for all schedules in accordance with applicable NERC reliability standards and WECC business practice standards.

7.1.3 If the E-Tag Delivery System is not operational, the Load Serving Entity ("LSE") must make arrangements with another LSE to submit E-Tag.

Section 8: Clearance and Safety Issues

Since DOE/NNSA owns and operates the transmission facilities within the Los Alamos service area, the County may designate a Los Alamos National Laboratory representative to serve as their representative for clearance and safety issue requirements in section 8.

8.1 Without limiting the provisions of Section 6.5, County shall cooperate with PNM to facilitate maintenance of the PNM transmission system by disconnecting County Facilities from the PNM transmission system when so requested by PNM for maintenance purposes. Whenever disconnecting County Facilities from the PNM transmission system, County shall perform such disconnection in accordance with Good Utility Practice.

8.2 The Parties recognize the need to develop and maintain certain switching procedures in conjunction with the interconnection of certain new transmission facilities to the PNM transmission system. Such switching procedures will allow the Parties to coordinate the

various operational activities that may affect the Points of Interconnection between PNM and County.

8.3 The Parties acknowledge that the Southern Technical Area Station ("STA Station") is interconnected to the PNM transmission system that County shall be responsible for ensuring the operation, maintenance, and capital replacement of facilities at STA Station and will coordinate with PNM any activities at STA Station that could affect the PNM transmission system. Each Party shall bear the cost of maintaining their respective facilities in good working order including normal and emergency maintenance and the cost to repair, replace, or upgrade necessary to operate the facilities in good working order.

Section 9: PNM Confidentiality Obligations

9.1 Protection of Confidential Information. PNM shall maintain the confidentiality of all information provided to PNM pursuant to this Fifth Revised Operating Agreement that is designated by County as Confidential Information, provided however, that PNM shall be entitled to disclose such Confidential Information if PNM is required to make such disclosure by administrative or judicial order or as may otherwise be required by law.

9.2 Disclosure Pursuant to Administrative or Judicial Order. PNM shall promptly, and in any event at the earliest practicable opportunity prior to any disclosure of Confidential Information pursuant to any administrative or judicial order or legal requirement, notify County of any petition for or requirement by administrative or judicial order for PNM to disclose Confidential Information of County to any third party. County may, in its sole discretion and at its sole cost and expense, undertake any challenge to such disclosure. PNM shall reasonably cooperate with County, at County's sole cost and expense, to minimize or eliminate any such disclosure requirement consistent with applicable law, and to obtain proprietary or confidential treatment of Confidential Information by any person to whom such information is disclosed pursuant to this section.

Section 10: Liability and Indemnity

10.1 To the extent permitted by law, each Party shall indemnify and save the other Party and the directors, officers, employees and agents of such other Party harmless from any and all

liability, loss, damage, claim, costs and expenses (including attorney fees) on account of injury to persons (including death) or damage or destruction of property, occasioned by the negligence, whether active or passive, of the indemnifying Party and its officers, directors, employees or agents in the performance of this Fifth Revised Operating Agreement; provided, however:

10.1.1 Each Party shall be solely responsible to its own employees for all claims or benefits due for injuries in the course of their employment or arising out of any workers' compensation law. Neither Party shall seek reimbursement or subrogation from the other Party for any benefits paid to the employees of either Party pursuant to any workers' compensation law except as necessary to prevent double recovery by the employee.

10.1.2 Each Party hereby releases the other Party, its officers, directors, employees and agents from any and all liability or responsibility for any loss, damage or injury caused by fire or other casualty for which insurance is carried by the injured Party at the time of such loss, damage or injury, to the extent of any recovery by the injured Party under such insurance.

10.2 Neither Party and its directors, officers, employees or agents shall be liable for any loss of earnings, revenues, indirect or consequential damages or injury which may occur to the other Party as a result of outages in delivery of service hereunder.

10.3 To the extent permitted by law, County shall hold harmless and indemnify PNM from and against any liability for death, injury, loss or damage to County's customers arising out of electric service to such customers caused by the performance of either Party under this Fifth Revised Operating Agreement, except in the case of PNM's gross negligence or willful misconduct.

10.4 County assumes all responsibility for the Electric Power and Energy delivered hereunder after it has been delivered to and received by County.

10.5 The Parties do not believe that the provision of either Sections 56-7-1 or 56-7-2, New Mexico Statues Annotated, 1978 compilation (as such sections may be amended), are applicable to this Fifth Revised Operating Agreement. If an arbitrator or a court of competent jurisdiction nevertheless determines that those provisions are applicable to this Fifth Revised

Operating Agreement, then any agreement contained herein to indemnify against liability, claims, damages, losses or expenses, including attorneys' fees, for or arising out of either:

(i) death or bodily injury to persons, or

(ii) damages or injury to property

shall only be valid to the extent authorized by the applicable provision.

Section 11: No Assignment Apart from Assignment of Fifth Revised Service Agreement

11.1 No interests in this Fifth Revised Operating Agreement may be assigned except in connection with an assignment of a Party's rights and interests in the Fifth Revised Service Agreement and in accordance with the provisions of the Fifth Revised Service Agreement pertaining to assignments.

11.2 If PNM separates its generation assets and activities from its transmission and distribution assets and activities the Parties hereto understand and agree that, upon the date PNM implements separation, this Fifth Revised Operating Agreement will become the obligation of the legal entity which assumes ownership and responsibility for the transmission and distribution assets and activities.

11.3 The assignment by either Party shall not release said Party from any of its obligations under the Fifth Revised Service Agreement without the written consent of the other Party, which consent shall not be unreasonably withheld.

Section 12: No Change in Basic Obligations

This Fifth Revised Operating Agreement is not intended to alter the basic obligation of PNM to provide transmission service to County under the Fifth Revised Service Agreement or the basic obligation of County to receive service under the Fifth Revised Service Agreement.

Section 13: General Information

Each Party shall provide the other Party current lists of operating personnel, organizational charts, phone numbers, pager numbers, operating procedures, and any other operations related

information so requested by the other Party. Information posted on the Open Access Same Time Information System ("OASIS") by the Parties shall be deemed to partially satisfy this requirement. Any notice, demand or request required or permitted under this Fifth Revised Operating Agreement shall be in writing and shall be deemed properly served, given or made to the address of the receiving Party set forth below: (i) upon delivery if delivered in person, (ii) upon the date of receipt if sent by United States mail, return receipt requested; (iii) upon receipt of confirmation by return electronic facsimile if sent by facsimile with telephonic confirmation; (iv) upon delivery if delivered by prepaid commercial courier service; or (v) e-mail with telephonic confirmation. Notwithstanding the requirement of this Section 13, where any provision of this Fifth Revised Operating Agreement requires a Party to furnish any particular data, information or notice in a specific manner or within a specific time period, such provision shall control.

To The Incorporated County of Los Alamos
1000 Central Ave., Suite 130
Los Alamos, New Mexico 87544

Attention: Utilities Manager

Facsimile No. (505) 662-8005
Telephone No. (505) 662-8333

To Public Service Company of New Mexico
Director, Power Operations Mail Stop EP-11
Alvarado Square
Albuquerque, New Mexico 87158

Facsimile No. (505)-241-6891
Telephone No. (505)-241-2400

And a copy to:

Public Service Company of New Mexico
Director, Transmission & Substation Engineering
MS Z220
2401 Aztec Rd. NE
Albuquerque NM 87107

Telephone: (505) 241-0641
Facsimile: (505) 241-4363
E-mail address: laurie.williams@pnmresources.com

Section 14: Amendments

This Fifth Revised Operating Agreement constitutes the entire agreement of the Parties and is a complete merger of prior negotiations and agreements. This Fifth Revised Operating Agreement may not be modified by either Party except by subsequent mutual agreement of the Parties through a written instrument duly executed by the Parties.

Section 15: Construction of Agreement

Ambiguities or uncertainties in the wording of this Fifth Revised Operating Agreement shall not be construed for or against any Party, but shall be construed in a manner that most accurately reflects the purpose of this Fifth Revised Operating Agreement and the nature of the rights and obligations of the Parties with respect to the matter being construed.

Section 16: Preservation of Obligations

Upon termination of this Fifth Revised Operating Agreement, all unsatisfied obligations of each Party shall be preserved until satisfied.

Section 17: Other Obligations Preserved

In carrying out the requirements of this Fifth Revised Operating Agreement, neither Party shall be required to take actions that would violate any NERC or WECC reliability criteria, standards, guidelines and operating procedures, any FERC rules or regulations, any Federal Communications Commission licenses, or applicable laws or regulation.

Section 18: Governing Law

This Fifth Revised Operating Agreement is made under and shall be governed by the laws of the State of New Mexico, except as governed by federal law.

Section 19: Severability

If following the Effective Date, any term, covenant or condition of this Fifth Revised Operating Agreement or the application or effect of any such term, covenant, or condition is held invalid as

to any person, entity or circumstances or is determined to be unjust, unreasonable, unlawful, imprudent or otherwise not in the public interest by any court or government agency of competent jurisdiction, then such term, covenant or condition shall remain in force and effect to the maximum extent permitted by law, and all other terms, covenants and conditions of this Fifth Revised Operating Agreement, and the application thereof, shall not be affected thereby, but shall remain in force and effect and the Parties shall be relieved of their obligations only to the extent necessary to eliminate such regulatory or other determination unless a court or governmental agency of competent jurisdiction holds that such provisions are not separable from all other provisions of this Fifth Revised Operating Agreement; provided, however that if such invalidity or unenforceability results in a material failure of consideration or imposes a significant disadvantage on one of the Parties, the Parties shall attempt to negotiate a modification of terms of the Fifth Revised Operating Agreement in order to restore the original balance of benefits, and if such modification is not agreed upon, either Party may seek reformation of this Fifth Revised Operating Agreement in a court of competent jurisdiction.

Section 20: Headings for Convenience Only

The section headings in this Fifth Revised Operating Agreement are intended for convenience and reference only, and are not intended to define, limit or describe the scope or intent of any provisions of this Fifth Revised Operating Agreement.

Section 21: Relationship of the Parties

Nothing contained herein shall be construed to create an association, joint venture, trust or partnership, or to impose a trust or partnership covenant or obligation, or liability on or with regard to either or both of the Parties. Each Party shall be individually responsible for its own covenants, obligations and liabilities under this Fifth Revised Operating Agreement.

Section 22: No Third Party Beneficiaries

This Fifth Revised Operating Agreement shall not be construed to create rights in, or to grant remedies to, any third party as a beneficiary of this Fifth Revised Operating Agreement or of any duty, obligation or undertaking established herein.

Section 23: No Dedication of Facilities

No undertaking by either Party to the other Party under or pursuant to any provision of this Fifth Revised Operating Agreement shall constitute or be deemed to constitute a dedication of all or any portion of the PNM transmission system to the public or to County, or all or any portion of the Electrical System of County to the public or to PNM.

Section 24: Non Waiver

Any waiver at any time by a Party of its rights with respect to any default under this Fifth Revised Operating Agreement, or with respect to any other matter arising in connection with this Fifth Revised Operating Agreement, shall not constitute or be deemed a waiver with respect to any other default or other matter arising in connection with this Fifth Revised Operating Agreement. Any waiver must be delivered in writing executed by an authorized representative of the Party granting such waiver. Any delay short of the statutory period of limitations in asserting or enforcing any right shall not constitute or be deemed a waiver.

Section 25: Exhibits Incorporated

The exhibits to this Fifth Revised Operating Agreement, as they may be amended or revised from time to time, are attached to this Fifth Revised Operating Agreement and are incorporated by reference as if herein fully set forth.

Section 26: Further Actions and Documents

Each Party agrees to do all things, including but not limited to the preparation, execution delivery, filing and recording of any instruments or agreements, reasonably requested by the other Party to carry out the provisions of this Fifth Revised Operating Agreement.

Section 27: Special Arrangements

Notwithstanding any other provision of the Fifth Revised Operating Agreement, the Parties may agree to specific arrangements that differ from the requirements of the Fifth Revised Operating Agreement, as necessary, to accommodate special circumstances, technical limitations or legal requirements (whether statutory, regulatory or contractual) specific to County. Any such

arrangements shall be written and executed by both Parties and set forth in an Exhibit to this Fifth Revised Operating Agreement and shall be subject to the required approval of regulatory authority.

IN WITNESS WHEREOF, the Parties have caused this Fifth Revised Operating Agreement to be executed and effective as of the date first set forth above.

THE INCORPORATED COUNTY OF LOS ALAMOS

BY: _____

NAME: Philo Shelton III

TITLE: Utilities Manager

PUBLIC SERVICE COMPANY OF NEW MEXICO

BY: _____

NAME: Todd Fridley

TITLE: Vice President
New Mexico Operations

Exhibit A

DEFINITIONS

"ANSI" means the American National Standards Institute.

"Control Area Operator" means Public Service Company of New Mexico or its successor.

"County Facilities" means the electric transmission and distribution equipment the operation or maintenance of which is controlled by County or by DOE/NNSA and which is not a part of the PNM transmission system but which is physically interconnected with third party facilities.

"Confidential Information" means any documents, data or other information received by a Party, whether in written, oral or machine readable form, which the provider has identified in writing to be confidential, provided that Confidential Information shall not include (i) information subject to disclosure on the OASIS, (ii) information that becomes available to the public on a non-confidential basis, other than as a result of the provider's breach of its confidentiality obligations, (iii) information received from a third party without claim of confidentiality, or (iv) information independently developed.

"E-Tag" means a transaction described as an "energy schedule" transferred over a prescribed path for a specific duration and time frame.

"E-Tag Delivery System" means an electronic documentation of an energy transaction that requires coordination of and approval from all operating entities involved – origin, intermediate, and destination. The transaction is described within the E-Tag as an "energy schedule" to be transferred over a prescribed path for a specific duration and time frame. E-Tags are transmitted via computer-to-computer, point-to-point method over the public Internet.

"Electric Disturbance" means any sudden unexpected, changed or abnormal electric condition occurring in or on an Electric System that may cause damage. A single Electric Disturbance shall be deemed to continue from its inception until all affected Electric Systems are

restored to a stable condition of normal voltage and frequency and are capable of carrying normal electrical loads. The effects of a single Electric Disturbance shall be deemed to include: (a) all effects of such Electric Disturbance on the Electric System in or on which such Electric Disturbance originates; and (b) all effects of such Electric Disturbance on all Electric Systems directly or indirectly interconnected with such Electric System.

"Electric System" means a single integrated electric power grid usually characterized by ownership, rental, lease, control or operation by a single person or entity. An "Electric System" consists of electric distribution facilities or generating facilities or transmission facilities, or any combination of the three, and includes transmission lines, distribution lines, substations, switching stations, generating plants and all associated equipment for generating, transmitting, distributing or controlling flow of power. The term "Electric System" shall include any devices or equipment by which information is originated on an Electric System or by the person operating such system, by which such information is transmitted, and by which such information is received either for information or for operation of the system, whether by the originating system or by another system.

"FERC" means the Federal Energy Regulatory Commission, or any successor thereto.

"Glossary of Terms" means NERC's Glossary of Terms Used in NERC Reliability Standards updated as of June 28, 2021 and as further updated and revised from time-to-time.

"Good Utility Practice" means any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

"Interconnection Facilities" means those facilities operated by PNM or County required for the operation of one or more Points of Interconnection.

"Load Serving Entity" shall be as set forth in NERC's Glossary of Terms, as modified from time to time.

"Loss" or "Losses" mean physical damage to an Electric System; loss or damage resulting from making an Electric System or any portion thereof inoperable; and loss or damage consequential to either such loss or damage, including loss of use.

"Metered Interconnection Point" means a point of delivery between the Parties or an interconnection point between County and a third party as further described on Exhibit B.

"NERC" means the North American Electric Reliability Corporation or its successor organization.

"Network Load" shall be as defined in the PNM Tariff.

"Network Operating Committee" shall be as defined in the PNM Tariff.

"Network Resources" shall be as defined in the PNM Tariff.

"Network Service" shall be Network Integration Transmission Service as defined in the PNM Tariff.

"Net Schedule" shall mean an agreed upon schedule between the Parties.

"Operating Representative" means the representatives of PNM and the County established pursuant to the Fifth Revised Operating Agreement.

"PNM Tariff" means the PNM Open Access Transmission Tariff for the provision of Network Service by PNM, including Ancillary Services, as accepted for filing or approved by FERC.

"Reactive Power" means the portion of apparent power that is measured in VARs and that is supplied or absorbed by rotating equipment or by electrostatic equipment, such as capacitors, reactors or power lines.

"Reliability Coordinator" shall be as set forth in NERC's Glossary of Terms, as modified from time to time.

"Safety and Reliability Requirements" means all that is required by Good Utility Practice, together with all applicable laws and governmental rules, regulations, orders and all mandatory provisions of the applicable NERC Reliability Criteria and standards.

"WECC" means the Western Electricity Coordinating Council or its successor organization.

"WECC Regional Security Plan" means a plan adopted and approved by the WECC to meet NERC requirements for a security process for Balancing Authority operations within the WECC.

"WECC and NERC Reliability Criteria" means the reliability standards established by NERC, WECC and local reliability criteria, as amended from time to time, including any appropriate requirements of the Nuclear Regulatory Commission.

Exhibit B

POINTS OF INTERCONNECTION

1. The STA end of the BA Switching Station to STA Station transmission line which is metered at the STA Station ("STA Interconnection").
2. The Norton Switching Station to ETA Station transmission line ownership boundary located on the Los Alamos side of the dead-end structure located on the east side of the Rio Grande River crossing approximately five line miles from the Norton Station and metered at Norton Station with subtractive required adjustments to remove: a) Buckman load metered at 12.5kV; b) the Buckman 115/12.5kV transformer losses (to be calculated real-time); and c) the 115kV line losses between Norton Station and the ownership boundary located on the Los Alamos side of the dead-end structure located on the east side of the Rio Grande River crossing ("Norton Interconnection").
3. Other Points of Interconnection may be established by mutual agreement of the Parties.

Special Delivery Arrangements

The County requires certain specific delivery arrangements to facilitate receipt of power and energy from County's El Vado and Abiquiu Hydro Facilities located in northern New Mexico. These arrangements are fully described in Exhibit D to the Fifth Revised Service Agreement and are pictorially represented in Attachment 1 to Exhibit D to the Fifth Revised Service Agreement.

POINTS OF DELIVERY

Four Corners	345 kV
San Juan	345 kV

Exhibit C

LOAD AND RESOURCE BALANCE

LOS ALAMOS COUNTY EXHIBIT C TO THE NOA CY 2021 THRU CY2032

Date: February 25, 2022

Year			(5)	2021 ACTUALS		2022		2023		2024		2025		2026		2027		2028		2029		2030		2031		2032	
Bus Name	kV	Bus #	date / time	MW	MVAR	MW	MVAR	MW	MVAR	MW	MVAR	MW	MVAR	MW	MVAR	MW	MVAR	MW	MVAR	MW	MVAR	MW	MVAR	MW	MVAR	MW	MVAR
ETA 1	13.8	13305	8/25/21 @ 5:00pm	13.3	8.1	7.0	1.4	8.1	1.7	9.0	1.8	9.0	1.8	9.6	2.0	8.1	1.6	8.2	1.7	8.3	1.7	8.6	1.8	8.9	1.8	9.1	1.8
ETA 2	13.8	13323	10/18/21 @ 4:00pm	19.4	2.5	10.8	2.2	12.5	2.5	12.4	2.5	11.8	2.4	12.4	2.5	12.5	2.5	14.9	3.0	15.0	3.0	15.4	3.1	15.7	3.2	15.8	3.2
WTA	13.8	13322	2/14/21 @ 7:00pm	26.1	4.8	10.7	2.2	16.9	3.4	12.9	2.6	15.0	3.0	16.0	3.3	16.7	3.4	23.9	4.8	22.0	4.5	21.7	4.4	20.4	4.1	20.7	4.2
WTA 2	13.8	TBD				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.9	1.8	9.2	1.9	9.4	1.9	8.9	1.8	9.9	2.0	22.5	4.6
TA-3 AL	13.8	13310	6/22/21 @ 5:00pm	23.9	5.0	20.6	4.2	24.7	5.0	23.2	4.7	24.3	4.9	25.3	5.1	20.4	4.1	24.3	4.9	23.6	4.8	23.4	4.8	23.4	4.7	30.0	6.1
TA-3 BL	13.8	13311	12/15/21 @ 7:00pm	20.3	2.9	21.2	4.3	14.6	3.0	13.3	2.7	13.6	2.8	12.5	2.5	13.7	2.8	19.5	4.0	18.5	3.8	18.9	3.8	17.8	3.6	24.1	4.8
TA-53 A	13.8	13307	12/13/21 @ 11:00pm	16.0	9.0	15.3	3.1	15.3	3.1	15.3	3.1	15.3	3.1	15.3	3.1	15.9	3.2	18.9	3.8	18.9	3.8	23.7	4.8	29.7	6.0	35.7	7.3
TA-53 B	13.8	13308	11/4/21 @ 4:00pm	24.5	15.9	10.2	2.1	10.2	2.1	10.2	2.1	10.2	2.1	10.2	2.1	10.6	2.2	12.6	2.6	12.6	2.6	15.8	3.2	19.8	4.0	23.8	4.8
STA (9)	115		4/14/21 @ 10:00pm	37.0	18.8																						
White Rock	12.47	13312	6/17/21 @ 7:00pm	6.5	1.6	5.0	1.0	4.4	0.9	5.2	1.1	5.3	1.1	4.6	0.9	4.6	0.9	4.7	1.0	4.8	1.0	5.0	1.0	4.9	1.0	5.0	1.0
Max Network Load						101.0	20.5	106.8	21.7	101.6	20.6	104.5	21.2	106.1	21.5	111.6	22.7	136.2	27.7	133.2	27.1	141.3	28.7	150.6	30.6	186.7	37.9
ETA Max						17.9	3.6	20.6	4.2	21.5	4.4	20.8	4.2	22.0	4.5	20.6	4.2	23.1	4.7	23.2	4.7	24.0	4.9	24.6	5.0	24.9	5.1
WTA Max						10.7	2.2	16.9	3.4	12.9	2.6	15.0	3.0	16.0	3.3	25.6	5.2	33.0	6.7	31.5	6.4	30.5	6.2	30.3	6.2	43.2	8.8
TA-3 Max						41.8	8.5	39.3	8.0	36.4	7.4	37.9	7.7	37.9	7.7	34.1	6.9	43.8	8.9	42.2	8.6	42.3	8.6	41.2	8.4	54.1	11.0
TA-53 Max (6)						25.6	5.2	25.6	5.2	25.6	5.2	25.6	5.2	25.6	5.2	26.6	5.4	31.6	6.4	31.6	6.4	39.6	8.0	49.6	10.1	59.6	12.1

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Load Scaling Factor (FY2021 Actuals)	0.79	0.83	0.78	0.78	0.85	0.98	0.98	1.00	0.97	0.90	0.89	0.93

Network Resources												
Onsite PV (8)	1	1	11	11	11	11	11	11	11	11	11	11
Abiquiu (1)	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80
El Vado (2)	0.00	0.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
San Juan unit #4	36.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Laramie River Station	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Western Allocation (3)	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
TA-3 Units (4)	20.00	20.00	20.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Uniper PPA (11)	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Short and long term PPA (12)	0.00	33.00	25.00	25.00	0.00	0.00	24.00	21.00	29.00	38.00	74.00	
Total Network Resources	109.80	106.80	117.80	137.80	112.80	112.80	136.80	133.80	141.80	150.80	186.80	
L&R Balance	9	0	16	33	7	1	1	1	0	0	0.05	

Note (1): Abiquiu Units 1 & 2 are rated at 6.9 MW each, the Low Flow Turbine generator, Unit 3 is rated at 3 MW for a total plant capacity of 16.8 MW.
Note (2): EL Vado is rated at 8.8 MW and can produce up to 9 MW with adequate water and head. Note 2022 Dam Restoration by USBOR
Note (3): Western Available Hydro Power Allocation (AHP)
Note (4): The Combustion Gas Turbine Generator (CGTG) has an output between 20 and 27 MWs based on ambient temperatures. LAC used the lower output of 20 MW's. LANL is planning for a conversion of the CGTG to a combined cycle plant to provide heat and power (CHP) 2024
Note (5): Actual Peak (Date, Time, MW, MVAR) provided by LANL Meter reading Department by substation
Note (6): TA_53 is LANSCE
Note (7): White Rock MVAR's calculated using a PF = 0.95
Note (8): 1 MW PV array constructed on closed landfill. LANL is proposing a 10 MW solar PV array onsite with a COD of July 2023 for a combined 11 MW capacity. Firming options are being explored.
Note (9): No load at STA (Switching Station Only)
Note (10): Import Capacity of 116 MW will be exceeded in 2028.
Note (11): 15 MW ATC Purchase Power Agreement (PPA) Online as of Jan 1,2022
Note (12): Load shaping power blocks using Purchase Power Agreement (PPA) or ownership in new resources currently being considered. LAC has a 25 MW PPA confirmed PPA from Oct 1 2022-June 30 2025 as a San Juan Replacement resource.

Exhibit D

DESCRIPTION OF COUNTY INTERRUPTIBLE LOAD

County's interruptible load consists of County owned water well pumping that range from one to six megawatts (6MW). The water system operator must be called by the County Power Operations Center to interrupt the load.

Agenda No.:

Index (Council Goals): DPU FY2022 - 3.0 Be a Customer Service Oriented Organization that is Communicative, Efficient, and Transparent

Presenters: Philo Shelton, Utilities Manager

Legislative File: **16027-22**

Title
Status Reports

Body
Each month the Board receives in the agenda packet informational reports on various items. No presentation is given, but the Board may discuss any of the reports provided.

Attachments
A - Electric Reliability Report
B - Accounts Receivables Report
C - Safety Report

Los Alamos County

Department of Public Utilities

Electric Distribution

Reliability

August 17, 2022

Stephen Marez

Deputy Utility Manager
Electric Distribution (Acting)

Twelve Month History	July 2022	
Total # Accounts	9045	
Total # Interruptions	41	
Sum Customer Interruption Durations	30319:22:00	hours:min
# Customers Interrupted	20560	
SAIFI (APPA AVG. = 1.0)	2.27	int./cust.
SAIDI (APPA AVG. = 1:00)	3:21	hours:min
CAIDI	1.28	hours:min/INT
ASAI	99.9984%	% available

- **SAIFI - System Average Interruption Frequency Index**
  A measure of interruptions per customer (Per Year)

  SAIFI= (Total number of customer interruptions)
  (Total number of customers served)

- **SAIDI – System Average Interruption Duration Index**
  A measure of outage time per customer if all customers were out at the same time (hours per year)

  SAIDI= (Sum of all customer outage durations)
  (Total number of customers served)

- **CAIDI – Customer Average Interruption Duration Index**
  A measure of the average outage duration per customer (hours per interruption)

  CAIDI= (Sum of all customer outage durations) = SAIDI
  (Total number of customer interruptions) SAIFI

- **ASAI – Average System Availability Index**
  A measure of the average service availability (Per unit)

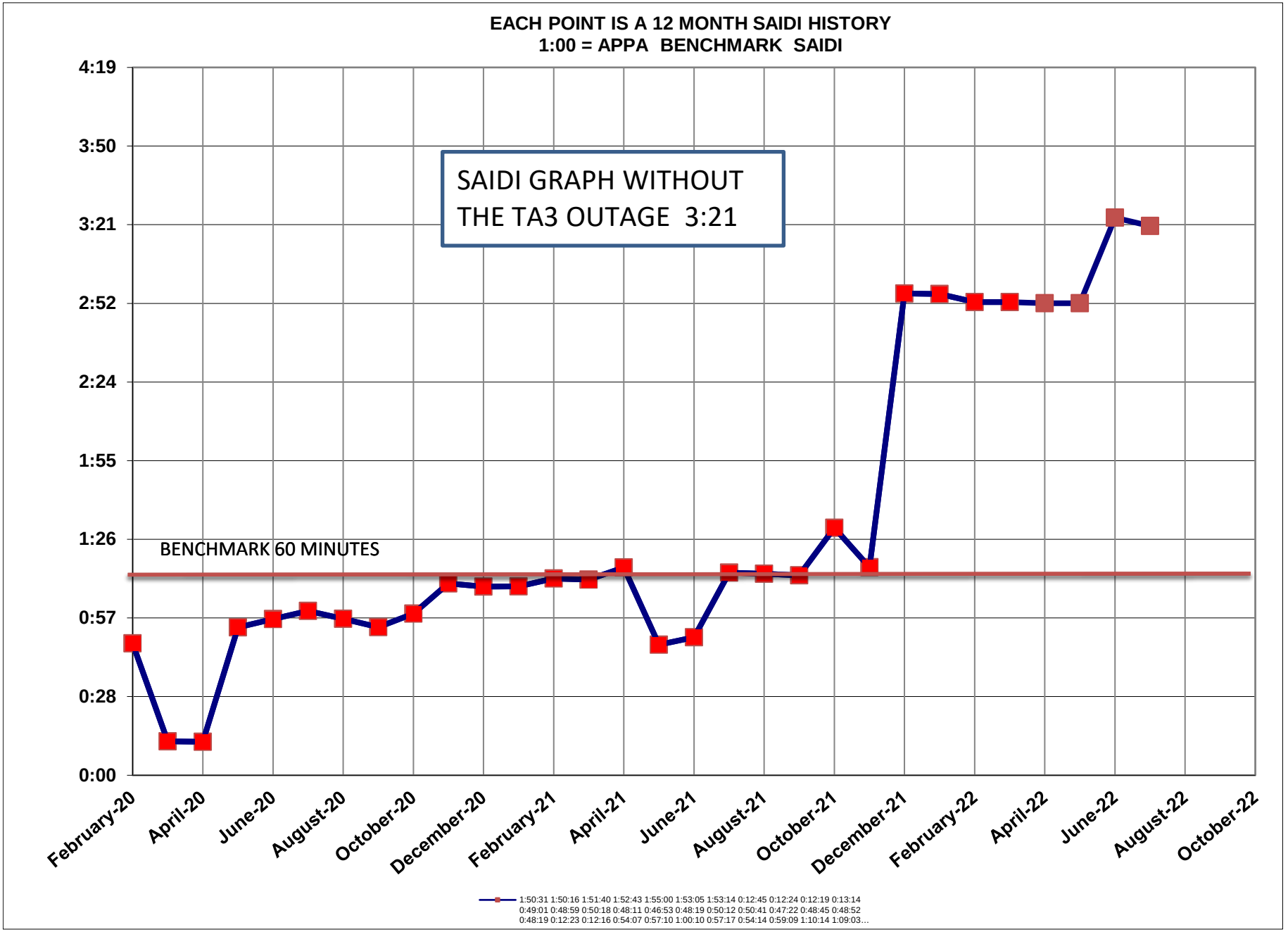
  ASAI= (Service hours available) = 8760-SAIDI
  (Customer demand hours) 8760

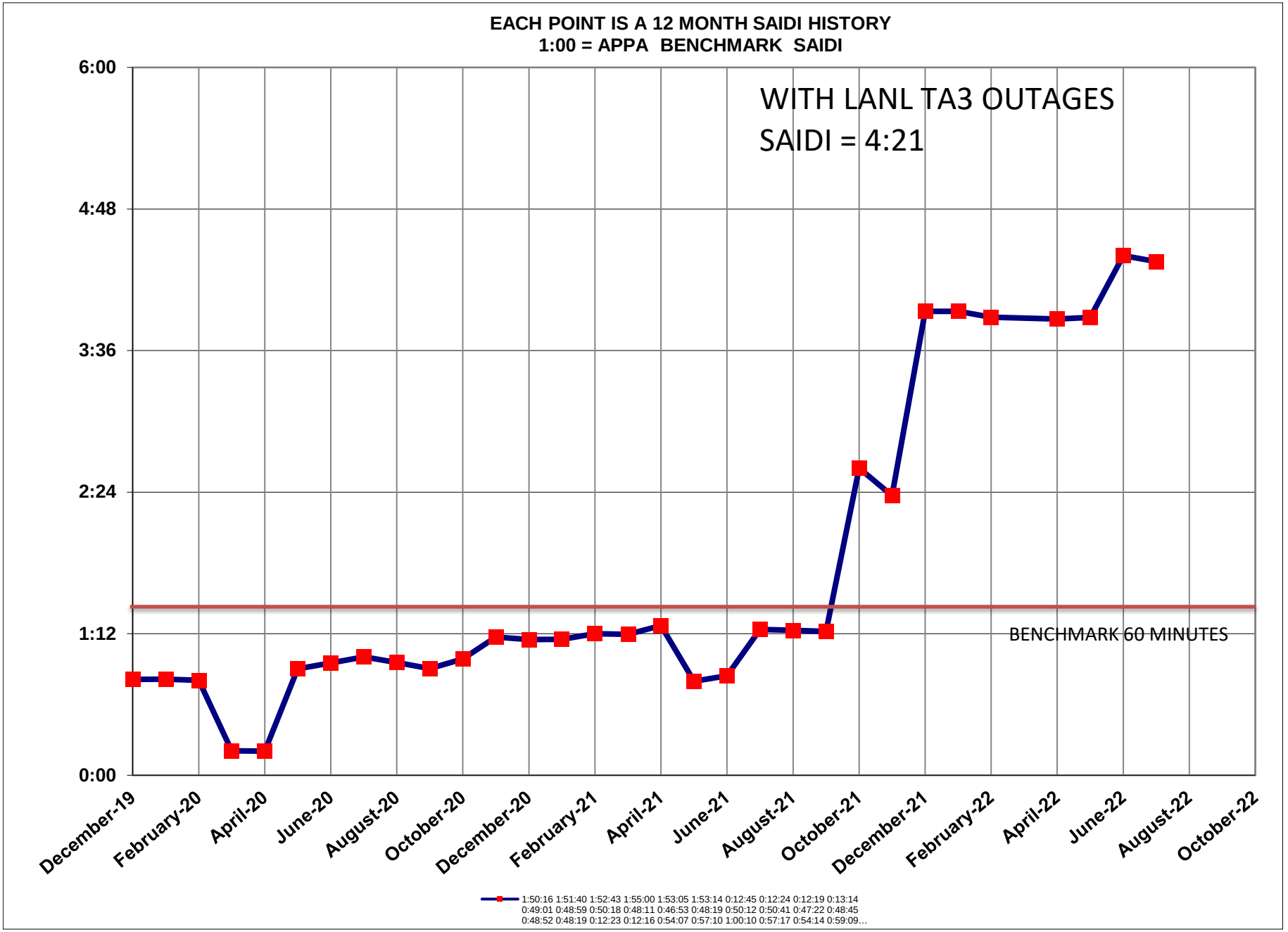
Electric Distribution Reliability Study
Twelve Month Outage History

Date	Call Rcd.	Circuit	Cause	Start Time	End Time	Duration	Customers Affected (Meters)	Combined Customer Outage Durations	Total Outage H:M:S	Running SAIDI
8/25/2021	Utilites	WR1	URD Failure	16:30	18:30	2:00	20	40:00:00	40:00:00	0:00:16
9/26/2021	Utilites	14	URD Failure	4:45	11:00	6:15	5	31:15:00	71:15:00	0:00:28
9/29/2021	Utilites	16	TREE	19:45	23:40	3:55	5	19:35:00	90:50:00	0:00:36
10/2/2021	Utilites	14	UNKNOWN	23:30	0:00	0:30	539	269:30:00	360:20:00	0:02:23
10/2/2021	Utilities	14	UNKNOWN	0:00	1:00	1:00	539	539:00:00	899:20:00	0:05:58
10/6/2021	Utilites	16	URD Failure	9:00	12:30	3:30	41	143:30:00	1042:50:00	0:06:55
10/13/2021	Utilites	16	URD Failure	17:00	21:00	4:00	50	200:00:00	1242:50:00	0:08:15
10/18/2021	Utilites	16	URD Failure	10:20	11:20	1:00	55	55:00:00	1297:50:00	0:08:37
10/19/2021	Utilites	14	URD Failure	2:23	6:00	3:37	19	68:43:00	1366:33:00	0:09:04
10/25/2021	Utilites	15	URD Failure	2:50	3:50	1:00	1564	1564:00:00	2930:33:00	0:19:26
10/25/2021	Utilites	15	URD Failure	2:50	3:50	1:00	47	47:00:00	2977:33:00	0:19:45
11/29/2021	Utilites	16	OH Failure	3:59	4:55	0:56	17	15:52:00	2993:25:00	0:19:51
12/15/2021	Utilites	14,17,18	WEATHER	6:30	8:30	2:00	2594	5188:00:00	8181:25:00	0:54:16
12/15/2021	Utilites	13	WEATHER	6:30	9:20	2:50	1655	4689:10:00	12870:35:00	1:25:23
12/15/2021	Utilites	TOWNSITE	WEATHER	15:23	15:32	0:09	4249	637:21:00	13507:56:00	1:29:36
12/15/2021	Utilites	13,SKI HILL	WEATHER	6:30	16:43	10:13	35	357:35:00	13865:31:00	1:31:59
12/22/2021	Utilites	13	URD Failure	6:30	8:40	2:10	1655	3585:50:00	17451:21:00	1:55:46
12/28/2021	Utilites	17	URD Failure	1:30	2:45	1:15	57	71:15:00	17522:36:00	1:56:14
1/1/2022	Utilites	16	WEATHER	16:50	17:10	0:20	1842	614:00:00	18136:36:00	2:00:19
2/14/2022	Utilites	18	HUMAN	9:34	9:49	0:15	213	53:15:00	18189:51:00	2:00:40
2/24/2022	Utilites	16	OH Failure	4:34	4:55	0:21	22	7:42:00	18197:33:00	2:00:43
3/22/2022	Utilites	16	TREE	21:30	0:00	2:30	6	15:00:00	18212:33:00	2:00:49
3/22/2022	Utilites	16	TREE	0:00	8:00	8:00	6	48:00:00	18260:33:00	2:01:08
3/22/2022	Utilites	13,SKI HILL	TREE	20:00	0:00	4:00	35	140:00:00	18400:33:00	2:02:04
3/22/2022	Utilites	13,SKI HILL	TREE	0:00	11:40	11:40	35	408:20:00	18808:53:00	2:04:46
5/10/2022	Utilites	WR2	Unknown	18:00	18:30	0:30	7	3:30:00	18812:23:00	2:04:48
6/18/2022	Utilites	15	URD Failure	15:15	20:00	4:45	1564	7429:00:00	26241:23:00	2:54:04
6/18/2022	Utilites	WR2	URD Failure	18:30	23:30	5:00	25	125:00:00	26366:23:00	2:54:54
6/22/2022	Utilites	17	URD Failure	9:00	11:00	2:00	2	4:00:00	26370:23:00	2:54:56
6/26/2022	Utilites	13	OH Failure	22:50	2:00	3:10	15	47:30:00	26417:53:00	2:55:15
6/27/2022	Utilites	ELK RIDGE	OH Failure	14:45	15:10	0:25	20	8:20:00	26426:13:00	2:55:18
6/27/2022	Utilites	15	URD Failure	8:15	13:30	5:15	60	315:00:00	26741:13:00	2:57:23
7/10/2022	Utilites	WR1	OH Failure	18:00	19:00	1:00	10	10:00:00	26751:13:00	2:57:27
7/15/2022	Utilites	16	WEATHER	17:20	18:45	1:25	6	8:30:00	26759:43:00	2:57:31
7/15/2022	Utilites	WR2	WEATHER	0:00	4:30	4:30	22	99:00:00	26858:43:00	2:58:10
7/22/2022	Utilites	14	URD Failure	20:15	0:15	4:00	3	12:00:00	26870:43:00	2:58:15
7/23/2022	Utilites	WR1	OH Failure	17:45	20:00	2:15	4	9:00:00	26879:43:00	2:58:18
7/26/2022	Utilites	16	WEATHER	13:53	14:23	0:30	825	412:30:00	27292:13:00	3:01:03
7/26/2022	Utilites	16	WEATHER	13:53	15:50	1:57	1017	1983:09:00	29275:22:00	3:14:12
7/27/2022	Utilites	13	WEATHER	16:16	16:52	0:36	1655	993:00:00	30268:22:00	3:20:47
7/30/2022	Utilites	EA4	OH Failure	12:57	15:30	2:33	20	51:00:00	30319:22:00	3:21:07

CIRCUIT SAIDI IS CALCULATED ACCORDING TO THE NUMBER OF CUSTOMERS IN EACH CIRCUIT RESPECTIVELY

Running SAIDI Circuit 13	Running SAIDI Circuit 14	Running SAIDI Circuit 15	Running SAIDI Circuit 16	Running SAIDI Circuit 17	Running SAIDI Circuit 18	Running SAIDI Circuit EA4 &ELK RIDGE	Running SAIDI Circuit WR1	Running SAIDI Circuit WR2	Monthly SAIDI		Monthly Customer Minutes out of service	WEATHER SAIDI
							0:01:31		AUG	0:00:16	40:00:00	
	0:03:29											
			0:00:38						SEP	0:00:20	50:50:00	
	0:30:00											
	1:00:00											
			0:04:40									
			0:06:31									
	0:07:39											
		0:50:03										
		0:01:30							OCT	0:19:09	2886:43:00	
			0:00:31						NOV	0:00:06	15:52:00	
	9:37:31			24:49:23	24:21:25				DEC	0:34:25		
2:50:00										0:31:06		
0:23:06	1:10:57	0:20:24	0:20:46	3:02:58	2:59:32					0:04:14		
0:12:58										0:02:22		1:12:07
2:10:00										0:23:47		
					0:20:04					0:00:28		
			0:20:00						JAN	0:04:04	15143:11:00	0:04:04
					0:15:00					0:00:21		
			0:00:15						FEB	0:00:03	60:57:00	
			0:00:29						APRIL	0:00:06		
			0:01:34							0:00:19		
0:05:05										0:00:56		
0:14:48										0:02:43	611:20:00	
								0:00:13	May	0:00:01		
		3:57:44								0:49:17		
								0:07:48	June	0:00:50		
					0:01:08					0:00:02		
0:01:43										0:00:19		
						0:03:02				0:00:03		
		0:10:05								0:02:05		
							0:00:23		July	0:00:04		
			0:00:17							0:00:03		
								0:06:11		0:00:39		0:00:43
	0:01:20									0:00:05		
							0:00:20			0:00:04		
			0:13:26							0:02:44		
			1:04:36							0:13:09		
0:36:00										0:06:35	3527:09:00	0:22:29
						0:18:33				0:00:20		
5:55:57	**12:29:35**	**1:11:57**	**0:55:24**	**3:52:21**	**3:56:01**	**0:21:35**	**0:01:31**	**0:00:00**	**Total**	**3:21:07**		**1:39:23**
1655	**539**	**1875**	**1842**	**209**	**213**	**165**	**1586**	**961**	**9045**			


EACH POINT IS A 12 MONTH SAIDI HISTORY
1:00 = APPA BENCHMARK SAIDI
SAIDI GRAPH WITHOUT
THE TA3 OUTAGE 3:21
BENCHMARK 60 MINUTES
4:19
3:50
3:21
2:52
2:24
1:55
1:26
0:57
0:28
0:00
February-20
April-20
June-20
August-20
October-20
December-20
February-21
April-21
June-21
August-21
October-21
December-21
February-22
April-22
June-22
August-22
October-22
1:50:31 1:50:16 1:51:40 1:52:43 1:55:00 1:53:05 1:53:14 0:12:45 0:12:24 0:12:19 0:13:14
0:49:01 0:48:59 0:50:18 0:48:11 0:46:53 0:48:19 0:50:12 0:50:41 0:47:22 0:48:45 0:48:52
0:48:19 0:12:23 0:12:16 0:54:07 0:57:10 1:00:10 0:57:17 0:54:14 0:59:09 1:10:14 1:09:03...


EACH POINT IS A 12 MONTH SAIDI HISTORY
1:00 = APPA BENCHMARK SAIDI
WITH LANL TA3 OUTAGES
SAIDI = 4:21
BENCHMARK 60 MINUTES
6:00
4:48
3:36
2:24
1:12
0:00
December-19
February-20
April-20
June-20
August-20
October-20
December-20
February-21
April-21
June-21
August-21
October-21
December-21
February-22
April-22
June-22
August-22
October-22
1:50:16 1:51:40 1:52:43 1:55:00 1:53:05 1:53:14 0:12:45 0:12:24 0:12:19 0:13:14
0:49:01 0:48:59 0:50:18 0:48:11 0:46:53 0:48:19 0:50:12 0:50:41 0:47:22 0:48:45
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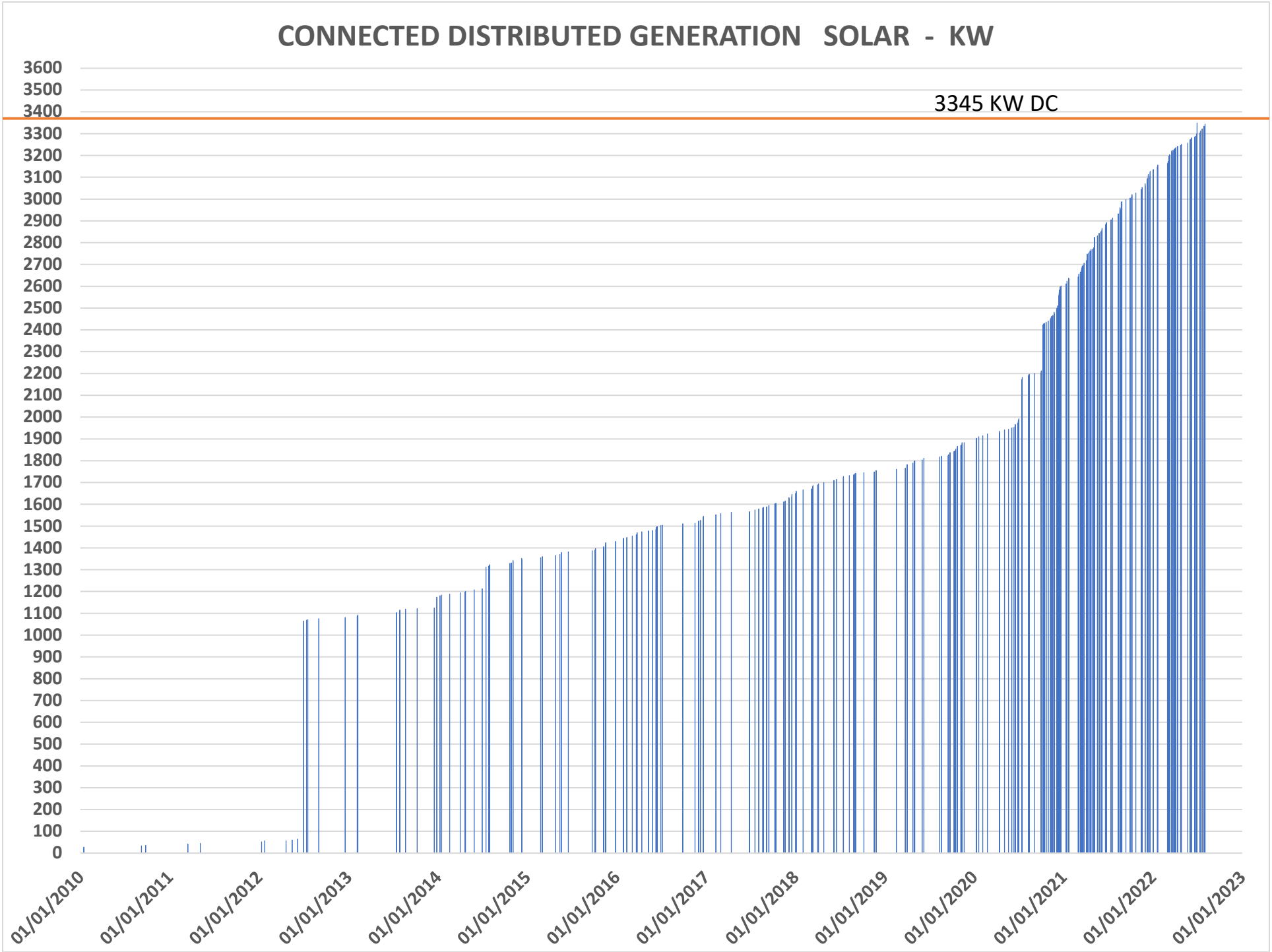
CONNECTED DISTRIBUTED GENERATION SOLAR - KW
3345 KW DC
3600
3500
3400
3300
3200
3100
3000
2900
2800
2700
2600
2500
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
01/01/2010
01/01/2011
01/01/2012
01/01/2013
01/01/2014
01/01/2015
01/01/2016
01/01/2017
01/01/2018
01/01/2019
01/01/2020
01/01/2021
01/01/2022
01/01/2023

STATUS REPORTS

ACCOUNTS RECEIVABLES

PREPARED BY

Joann Gentry
Senior Management Analyst

Los Alamos County Utilities Department
Receivables More than 60 Days Inactive Accounts
August 1, 2022

YEAR	OUTSTANDING 8/1	# OF ACCOUNTS	OUTSTANDING 7/1	# OF ACCOUNTS
FY18	$ 15,871.45	76	$ 15,871.45	76
FY19	$ 38,856.33	137	$ 39,000.11	138
FY20	$ 25,508.16	108	$ 26,286.69	109
FY21	$ 37,016.84	131	$ 38,717.97	130
FY22	$ 19,656.38	171	$ 18,446.65	104
TOTAL	**$ 136,909.16**	**623**	**$ 138,322.87**	**557**

YEAR	Account Type	OUTSTANDING 8/1	# OF ACCOUNTS	OUTSTANDING 7/1	# OF ACCOUNTS
FY18	Residential	$ 10,864.06	72	$ 10,864.06	72
	Commercial	$ 5,007.39	4	$ 5,007.39	4
FY19	Residential	$ 36,275.99	119	$ 36,419.77	120
	Commercial	$ 2,580.34	18	$ 2,580.34	18
FY20	Residential	$ 20,927.31	101	$ 21,705.84	102
	Commercial	$ 4,580.85	6	$ 4,580.85	6
FY21	Residential	$ 30,174.65	114	$ 31,875.78	114
	Commercial	$ 6,842.19	16	$ 6,842.19	16
FY22	Residential	$ 19,573.50	161	$ 18,363.77	93
	Commercial	$ 82.88	12	$ 82.88	12
TOTAL		**$ 136,909.16**	**623**	**$ 138,322.87**	**557**

Los Alamos County Utilities Department
Active Receivables Over 90 Days Past Due
August 1, 2022

Account	Customer ID	Acct Type	Comments	90 - 119	120 +
3000551	2090018	RS	Left message on 8/1/2022 regarding account	$ -	$ 103.75
3010046	2000053	HY	Hydrant, staff is contacting contractor	$ 152.67	$ 152.67
3005190	2122408	RS	Customer will reach out for assistance	$ 228.85	$ 134.50
3006513	2036208	RS	Payment Arrangement on file	$ 317.49	$ 154.63
3000036	2057958	HY	Hydrant, staff is contacting contractor	$ 152.67	$ 1,290.45
				$ 851.68	**$ 1,836.00**
5 Accounts					**$ 2,687.68**

STATUS REPORTS

Risk & Safety

PREPARED BY

Steve Klepeis
Risk Manager

LOS ALAMOS COUNTY - RISK MANAGEMENT

MONTH	ADMIN	EL DIST	EL PROD	GWS	WA PROD	WWTP
	Hours Worked	Hours Worked	Hours Worked	Hours Worked	Hours Worked	Hours Worked
Jan - 2022	2832.0	1385.0	1957.0	3124.0	966.0	1242.0
Feb - 2022	3618.0	1799.0	2117.0	2958.0	1124.0	1304.0
Mar - 2022	3501.0	1631.0	1952.0	3245.0	1208.0	1343.0
Apr - 2022	3722.0	1886.0	1922.0	4009.0	1313.0	1380.0
May - 2022	3634.0	1711.0	2032.0	3320.0	1490.0	1397.0
June - 2022	5231.0	2637.0	3039.0	4564.0	2221.0	1852.0
July - 2022	3616.0	1731.0	2013.0	3081.0	1472.0	1357.0
Aug - 2021	3801.0	1938.0	1850.0	4033.0	1351.0	1346.0
Sept - 2021	3474.0	1714.0	1784.0	3766.0	1281.0	1368.0
Oct - 2021	3502.0	1846.0	1896.0	3996.0	1322.0	1394.0
Nov - 2021	3220.0	1612.0	1764.0	3704.0	1192.0	1333.0
Dec - 2021	4336.0	2131.0	2935.0	5393.0	1630.0	1862.0
Total Hrs Worked ->	**44487.0**	**22021.0**	**25261.0**	**45193.0**	**16570.0**	**17178.0**
Number of Recordable Injury and Illness Cases*	0	2	0	1	1	0
OSHA Recordable Injury & Illness Incidence Rate	0.00	18.16	0.00	4.43	12.07	0.00
Number of OSHA Days Away Days Restricted (DART) cases	0	2	0	0	0	0
OSHA Days Away Days Restricted (DART) Rate	0.00	18.16	0.00	0.00	0.00	0.00

ONE ED INJURY WAS A SLIP AND FALL ON ICE. EMPLOYEE IS WORKING WITH MILD RESTRICTIONS. SECOND ED INJURY WAS A FRACTURE OF TWO FINGERS, AND EMPLOYEE IS WORKING WITH RESTRICTION.

THE WP INJURY INVOLVED AN EMPLOYEE WHO STRAINED HIS KNEE WHILE HOOKING UP A TRAILER; TREATED AND RELEASED TO FULL DUTY.

THE GWS INJURY INVOLVED AN EMPLOYEE FALLING INTO AN EXCAVATED HOLE AT A WORK SITE; TREATED AT HOSPITAL AND RETURNED TO FULL DUTY IN FIVE (5) DAYS. IN SECOND ED INJURY, HAND WAS CAUGHT IN CABLE REEL; RETURNED TO FULL DUTY.

TOTAL UTILITIES PERFORMANCE: 4 INJURIES X 200,000 = 800,000/170,710 ACTUAL HOURS WORKED = 4.69 OSHA RECORDABLE INJURIES PER 100 FTE
NATIONAL PERFORMANCE, UTILITIES (NAICS 22): 1.5 OSHA RECORDABLE INJURIES PER 100 FTE

INJURIES REQUIRING MEDICAL ATTENTION BEYOND FIRST AID ARE REQUIRED TO BE CONSIDERED OSHA RECORDABLE INJURIES , RETAINED IN THIS RECORD FOR 1 YEAR, REGARDLESS OF HOW MINOR THEY MAY BE.

DEPARTMENT OF PUBLIC UTILITIES CLAIMS

Information Provided by the County Risk Manager

YEAR	REPORT MONTH	BPU MTG DATE	TORT CLAIMS	WORKERS COMP	PROPERTY DAMAGE
2022	JUL	8/17/2022	NONE	NONE	An EP employee experienced a stone chipping to his windshield while operating his assigned vehicle. No recovery.
2022	JUN	7/20/2022	NONE	1. A GWS employee fell while securing a Vactor boom; strained leg; lost 6 days then back to full duty. 2. A WP employee working on trailer strained his knee; examined and released to full duty.	NONE
2022	MAY	6/15/2022	Claimant experienced sewer water damage to basement and contents due to a County main back-up. Claimant called ServePro initially, and insurance has approved continuing mitigation and restoration services.	An Electrical Distribution employee caught and fractured two fingers in a cable reel. The employee was treated and released to work with restriction. Employee will require follow-up treatment.	NONE
2022	APR	5/18/2022	NONE	NONE	NONE
2022	MAR	4/20/2022	NONE	NONE	1. WP employee accidentally broke window of truck. 2. GWS Backhoe front bucket apparatus came loose, damaged hood of machine.
2022	FEB	3/16/2022	Claimant alleges property damage due to water line leak. Minor.	NONE	NONE
2022	JAN	2/16/2022	There were no Utilities related tort claims filed with regard to any January incidents.	An Electrical Distribution employee slipped and fell on parking lot ice; currently working with restrictions.	A GWS employee backing into space lost control of his personal vehicle, struck NE corner of Bldg. 5, causing significant damage. Employee provided insurance information. Risk will recover damages for the County.
2021	DEC	1/19/2022	NONE	NONE	NONE
2021	NOV	12/15/2021	NONE	NONE	NONE
2021	OCT	11/17/21	Claimant alleges furnace dame as result of replacement of gas meter.	NONE	NONE
2021	SEP	10/20/21	1. Claimant states damage to various fixtures in building new filtration system was installed 2. Claimant states gas leak to regulator caused damage to GLR-04	NONE	NONE
2021	AUG	09/15/21	NONE	NONE	NONE
2021	JUL	08/18/21	NONE	NONE	NONE
2021	JUN	07/21/21	NONE	NONE	NONE
2021	MAY	06/16/21	NONE	NONE	NONE
2021	APR	05/19/21	NONE	NONE	NONE
2021	MAR	04/21/21	NONE	NONE	NONE
2021	FEB	03/17/21	1. GWS employee backed into parked unoccupied motorist's vehicle. 2. GWS snowplow slid into motorist under icy conditions.	An ED employee slipped and fell on ice; injured right wrist/hand; able to return to work with no lost days.	A GWS employee backed into a shed at the Aquatic Center. GWS is repairing damage.
2021	JAN	02/24/21	NONE	NONE	1. A GWS employee misjudged backing clearance and backed vehicle 1113 into 1202, with minor damage. 2. A Utilities EP Hydro employee misjudged backing clearance and backed vehicle 1242 into a parked snow plow, resulting only in a small hole in 1242 tailgate. Winter weather conditions.
2020	DEC	01/20/21	On DP Road, GWS driver making turn misjudged clearance and struck a support leg of a flagging machine owned by Southwest Safety; $3800+- damage claimed.	NONE	NONE
2020	NOV	12/16/20	Claimant alleges that lightning struck a County utility pole causing a voltage surge that damaged his computer. Recommended for denial.	NONE	Claim in which a Utilities employee reported that the toolbox slid in the truck he was driving, and it broke the truck's rear window.
2020	OCT	11/18/20	Claim involving Electrical Distribution: a claimant alleges that home appliances were damaged due to a failure of their neutral conductor, causing voltage overload in part of their electrical panel. ED has responded that the County has no way of knowing or predicting that a house service conductor will fail. Claim has been recommended for denial.	NONE	NONE
2020	SEP	10/21/20	NONE	A lineman fractured/lacerated his right middle finger when removing a heavy manhole cover; returned to duty same day.	NONE
2020	AUG	09/16/20	Resident and her insurer claim sewer back-up damage due to County main problem	GWS worker using high pressure wand; wand slipped, causing contact and skin abrasion to wrist.	NONE
2020	JUL	08/19/20	Water main repair caused debris to enter residence plumbing, clogging house facilities; plumber's bill claimed.	NONE	Break-in reported at El Vado. Damage and theft of federally owned property being stored on premises; no damage or theft to County.
2020	JUN	07/15/20	A claimant experienced water damage to his residence due to a County water line leak.	Lineman lacerated his hand using a knife to splice cable (6/8/2020)	NONE
2020	MAY	06/17/20	NONE	NONE	NONE
2020	APR	05/20/20	NONE	NONE	NONE
2020	MAR	04/15/20	NONE	NONE	NONE
2020	FEB	03/18/20	NONE	NONE	NONE
2020	JAN	02/19/20	Resident incurred plumber bill; didn't know outage was due to main break.	NONE	NONE