



AGENDA

WATER CONSERVATION
COMMITTEE
JULY 13, 2021
4:00 PM
ATTEND VIRTUALLY

SPECIAL PROCEDURES FOR WATER CONSERVATION COMMITTEE MEETING

Attendance: In response to the State's declaration of a Public Health Emergency, the Mayor's Proclamation of Emergency, and the ban on public gatherings in excess of those permitted in the current Public Health Order, and the need to incorporate technology and practices to re-institute in-person meetings consistent with the limitations established by the Order, the Water Conservation Committee meeting will be conducted virtually.

Viewing: Members of the public may join the Zoom meeting by internet or phone, as follows:

Internet: To join the Zoom meeting on the internet using a computer, laptop, smartphone, or tablet, use the following link: <https://santafenmgov.zoom.us/j/91023070113?pwd=QTJrQjl3M2c3TFpCRjVaRkJKYU53UT09>.

Passcode: 141109

Attendees should use the "Raise Hand" function to be recognized by the Chair to speak at the appropriate time.

Phone: To join the Zoom meeting using a phone, use the following phone numbers and Webinar ID: **US: 1 (346) 248-7799 - Webinar ID: 910 2307 0113 - Passcode: 141109**

Phone attendees should press *9 to use the "Raise Hand" function to be recognized by the Chair to speak at the appropriate time.

The agenda and packet for the meeting will be posted at <https://santafe.primegov.com/public/portal>.

1. **CALL TO ORDER**
2. **ROLL CALL**
3. **APPROVAL OF AGENDA**
4. **APPROVAL OF MINUTES**
 - a. Approval of Minutes from June 8, 2021



AGENDA

WATER CONSERVATION
COMMITTEE
JULY 13, 2021
4:00 PM
ATTEND VIRTUALLY

5. **INFORMATIONAL ITEMS**

- a. GREEN BUILDING CODE UPDATE (Neal Denton, Sustainability Planner for the City of Santa Fe, nhdenton@santafenm.gov, 955-2229)
- b. DEMAND DASHBOARD: PRESENTATION OF INTERACTIVE TOOL FOR VISUALIZING WATER DEMAND (Steve Schultz, Associate, Hazen and Sawyer, Christine Chavez, Water Conservation Manager, cychavez@santafenm.gov, 955-4219)

6. **DISCUSSION AND ACTION ITEMS**

- a. MID-YEAR SCORECARD REPORT (Christine Chavez, Water Conservation Manager, cychavez@santafenm.gov, 955-4219)

7. **SUBCOMMITTEE COMMUNICATIONS**

- a. COMMERCIAL SUBCOMMITTEE (Matt O' Reilly and Christine Chavez, Water Conservation Manager, cychavez@santafenm.gov, 955-4219)
- b. OUTDOOR SUBCOMMITTEE (Stephen Schmelling and Christine Chavez, Water Conservation Manager, cychavez@santafenm.gov, 955-4219)
- c. JOINT SUBCOMMITTEE REPORT (Ken Kirk and Christine Chavez, Water Conservation Manger, cychavez@santafenm.gov, 955-4219)

8. **MATTERS FROM THE PUBLIC**

9. **MATTERS FROM STAFF**

10. **MATTERS FROM THE COMMITTEE**

11. **MATTERS FROM THE CHAIR**

12. **NEXT MEETING: Tuesday, August 10, 2021**

13. **ADJOURN**



City of Santa Fe

AGENDA

**WATER CONSERVATION
COMMITTEE
JULY 13, 2021
4:00 PM
ATTEND VIRTUALLY**

Persons with disabilities in need of accommodations, contact the City Clerk's office at 955-6521, five (5) working days prior to meeting date.



MINUTES

WATER CONSERVATION
COMMITTEE
JUNE 08, 2021
4:00 PM
VIRTUAL MEETING

1. **CALL TO ORDER**

Meeting started at 4:03pm.

2. **ROLL CALL**

Members Present:

Councilor Carol Romero-Wirth
Member Bob Coombe
Member Beth Kirby
Member Jerry Jacobi
Member Ken Kirk
Member Matthew O'Reilly
Member Scott Bunton
Member Stephen Schmelling

Members Excused:

Member DeAnda Hay
Member Peggy Wright
Member Reese Baker

Others Attending:

Christine Chavez, Water Conservation Manager
Jason Kluck, Attendee

Also present:

Miles Conway
Robert Wood
Mike Collignon
Andy Otto
Andrew Erdmann
Ramon Coriz
Doug Pushard
Ramon Coriz
Robert Ortiz
Bill Roth
Glenn Schiffbauer



MINUTES

WATER CONSERVATION
COMMITTEE
JUNE 08, 2021
4:00 PM
VIRTUAL MEETING

3. APPROVAL OF AGENDA

MOTION: Member Bunton moved, seconded by Member Coombe, to approve the agenda as presented.

VOTE: The motion was approved on the following Roll Call vote:

For: Councilor Romero-Wirth, Member Coombe, Member Kirby, Member Jacobi, Member Kirk, Member O'Reilly, Member Bunton, Member Schmelling

Against: None

Abstain: None

Item b moved to the top of the information item section.

4. APPROVAL OF MINUTES

a. Meeting minutes from 5/11/21

MOTION: Member Coombe moved, seconded by Member Kirby, to approve the minutes as presented.

VOTE: The motion was approved on the following Roll Call vote:

For: Councilor Romero-Wirth, Member Coombe, Member Kirby, Member Jacobi, Member Kirk, Member O'Reilly, Member Bunton, Member Schmelling

Against: None

Abstain: None

5. INFORMATIONAL ITEMS

a. WERS Single Family and Multi-Family Update (Mike Collignon, Executive Director of GreenBuilder Coalition and Christine Chavez, Water Conservation Manager, cychavez@santafenm.gov, 955-4219)



MINUTES

WATER CONSERVATION
COMMITTEE
JUNE 08, 2021
4:00 PM
VIRTUAL MEETING

- b. Santa Fe Area Home Builders Association (Miles Conway, Executive Officer of the SFAHBA and Bill Roth, Board member of the SFAHBA, and Christine Chavez, Water Conservation Manager, cychavez@santafenm.gov, 955-4219)
- c. Next Generation Water Summit Review (Doug Pushard, Executive Director of KuelWater and Christine Chavez, Water Conservation Manager, cychavez@santafenm.gov, 955-4219)

6. **DISCUSSION AND ACTION ITEMS**
7. **MATTERS FROM THE PUBLIC**
8. **MATTERS FROM STAFF**
9. **MATTERS FROM THE COMMITTEE**
10. **MATTERS FROM THE CHAIR**
11. **NEXT MEETING: July 13 2021**
12. **ADJOURN**

Meeting adjourned at 5:41pm.

Christine Chavez

Liaison



Carol Romero-Wirth (Jun 16, 2021 14:13 MDT)

Chair



MINUTES

WATER CONSERVATION
COMMITTEE
JUNE 08, 2021
4:00 PM
VIRTUAL MEETING

1. **CALL TO ORDER**

Meeting started at 4:03pm.

2. **ROLL CALL**

Members Present:

Councilor Carol Romero-Wirth
Member Bob Coombe
Member Beth Kirby
Member Jerry Jacobi
Member Ken Kirk
Member Matthew O'Reilly
Member Scott Bunton
Member Stephen Schmelling

Members Excused:

Member DeAnda Hay
Member Peggy Wright
Member Reese Baker

Others Attending:

Christine Chavez, Water Conservation Manager
Jason Kluck, Attendee

Also present:

Miles Conway
Robert Wood
Mike Collignon
Andy Otto
Andrew Erdmann
Ramon Coriz
Doug Pushard
Ramon Coriz
Robert Ortiz
Bill Roth
Glenn Schiffbauer



MINUTES

WATER CONSERVATION
COMMITTEE
JUNE 08, 2021
4:00 PM
VIRTUAL MEETING

3. APPROVAL OF AGENDA

MOTION: Member Bunton moved, seconded by Member Coombe, to approve the agenda as presented.

VOTE: The motion was approved on the following Roll Call vote:

For: Councilor Romero-Wirth, Member Coombe, Member Kirby, Member Jacobi, Member Kirk, Member O'Reilly, Member Bunton, Member Schmelling

Against: None

Abstain: None

Item b moved to the top of the information item section.

4. APPROVAL OF MINUTES

a. Meeting minutes from 5/11/21

MOTION: Member Coombe moved, seconded by Member Kirby, to approve the minutes as presented.

VOTE: The motion was approved on the following Roll Call vote:

For: Councilor Romero-Wirth, Member Coombe, Member Kirby, Member Jacobi, Member Kirk, Member O'Reilly, Member Bunton, Member Schmelling

Against: None

Abstain: None

5. INFORMATIONAL ITEMS

a. WERS Single Family and Multi-Family Update (Mike Collignon, Executive Director of GreenBuilder Coalition and Christine Chavez, Water Conservation Manager, cychavez@santafenm.gov, 955-4219)



MINUTES

WATER CONSERVATION
COMMITTEE
JUNE 08, 2021
4:00 PM
VIRTUAL MEETING

- b. Santa Fe Area Home Builders Association (Miles Conway, Executive Officer of the SFAHBA and Bill Roth, Board member of the SFAHBA, and Christine Chavez, Water Conservation Manager, cychavez@santafenm.gov, 955-4219)
- c. Next Generation Water Summit Review (Doug Pushard, Executive Director of KuelWater and Christine Chavez, Water Conservation Manager, cychavez@santafenm.gov, 955-4219)

6. **DISCUSSION AND ACTION ITEMS**
7. **MATTERS FROM THE PUBLIC**
8. **MATTERS FROM STAFF**
9. **MATTERS FROM THE COMMITTEE**
10. **MATTERS FROM THE CHAIR**
11. **NEXT MEETING: July 13 2021**
12. **ADJOURN**

Meeting adjourned at 5:41pm.

Christine Chavez

Liaison



Carol Romero-Wirth (Jun 16, 2021 14:13 MDT)

Chair



GREEN BUILDING CODE 2021 UPDATES IMPLEMENTATION STRATEGY

July 8, 2021

Background

- Buildings cause 55% of Santa Fe's greenhouse gas emissions. As the authority responsible for building codes, the city can make the biggest impact on the road to carbon neutrality by adopting building codes that reduce energy use and increase the use of renewable energy.
- Resolution #2006-55 adopted the U.S. Conference of Mayors agreement to require all new buildings be carbon-neutral by 2030.
- Resolution #2017-82 stated other building types shall be added to the Green Building Code using the same approach as what was used for single family residential dwellings.
- The Sustainable Santa Fe 25-Year Plan, approved by city council in 2018, established a strategy to expand the city's green building code offerings to other building types.

Green Building Code Overview

- Green building code requirements have applied to new single family residential dwellings in Santa Fe since 2009. Builders/architects are allowed the flexibility to determine how they will achieve a Home Energy Rating System (HERS) score of 60 and a Water Efficiency Rating Score (WERS) of 70.
- That code has been revised by the former Green Building Code Specialist to expand its applicability to multifamily residential dwellings along with new requirements for those facilities as they relate to landscaping, common areas, etc. The WERS requirement would be decreased to 65 for all new construction affected by the code. Currently a majority of homes are achieving WERS Scores near or below this. A summary of the changes is attached.
- The revised code also includes new electric vehicle charging requirements for new multifamily residential dwellings and multifamily parking area retrofits meeting certain applicability requirements.

Implementation Timeline

- July-October: The Environmental Services Division conducts informational sessions with builders and other stakeholders to answer questions and address concerns prior to introduction to city council. Appropriate revisions are made to address reasonable feedback.
- October: Send to City Attorney's Office for legal review.
- November 3: Introduced at Quality of Life Committee
- November 8: Introduced at Public Works/Public Utilities Committee
- November 10: Introduced at Governing Body
- December 8: Public Hearing at Governing Body
- Published and effective 180 days afterwards

2021 Santa Fe Green Building Code Changes

The following outlines the major changes to the Residential Green Building Code for new construction.

- Multi-family, and some other types of occupancies that have similar construction types, would be added to the dwellings requiring a HERS Index (Home Energy Rating), a WERS (Water Efficiency Rating) Score, and indoor air quality requirements such as radon mitigation and ventilation.
- Multi-family units will be allowed to have the HERS and WERS raters “sample” the units. This is a practice that is allowed by Energy Star for Homes but has previously not been allowed in Santa Fe. This helps to keep the cost of HERS and WERS ratings down by not requiring each and every unit to be tested and inspected by a third party. Sampling will not be made available to single family dwelling units.
- The WERS requirement would be decreased to 65 for all new construction affected by the code. Currently a majority of homes are achieving WERS Scores near or below this.
- Multi-family buildings/complexes would be required to have recycling space in the trash enclosures.
- Multi-family buildings/complexes would be required to have electric vehicle charging stations installed.
- Addition and Remodel Green Building Code Checklists would be repealed and replaced with the following mandatory requirements:
 - Air sealing and air barrier requirements*
 - Insulation installation requirements*
 - Radon mitigation*
 - Air quality requirements for new solid fuel-burning appliances*
 - CO alarms*
 - Dwelling unit ventilation requirements when not testing an existing dwelling’s air leakage or when building has been made too “tight”*
 - Intermittent ventilation to be vented to the outdoors*
 - Window, and lighting energy efficiency requirements*
 - Appliance energy efficiency requirements
 - Indoor water fixture flow requirements for items such as showerheads, faucets, and water closets*
 - Appliance water efficiency requirements
 - Water softener, and reverse osmosis water efficiency requirements
 - Compost and mulch added to new planting areas to conserve outdoor water use.

*These are items that were previously mandatory in the checklist but sometimes had points earned toward the required total.

2021 Santa Fe Green Building Code Changes

The following outlines the major changes to the Residential Green Building Code for new construction.

- Multi-family, and some other types of occupancies that have similar construction types, would be added to the dwellings requiring a HERS Index (Home Energy Rating), a WERS (Water Efficiency Rating) Score, and indoor air quality requirements such as radon mitigation and ventilation.
- Multi-family units will be allowed to have the HERS and WERS raters “sample” the units. This is a practice that is allowed by Energy Star for Homes but has previously not been allowed in Santa Fe. This helps to keep the cost of HERS and WERS ratings down by not requiring each and every unit to be tested and inspected by a third party. Sampling will not be made available to single family dwelling units.
- The WERS requirement would be decreased to 65 for all new construction affected by the code. Currently a majority of homes are achieving WERS Scores near or below this.
- Multi-family buildings/complexes would be required to have recycling space in the trash enclosures.
- Multi-family buildings/complexes would be required to have electric vehicle charging stations installed.
- Addition and Remodel Green Building Code Checklists would be repealed and replaced with the following mandatory requirements:
 - Air sealing and air barrier requirements*
 - Insulation installation requirements*
 - Radon mitigation*
 - Air quality requirements for new solid fuel-burning appliances*
 - CO alarms*
 - Dwelling unit ventilation requirements when not testing an existing dwelling’s air leakage or when building has been made too “tight”*
 - Intermittent ventilation to be vented to the outdoors*
 - Window, and lighting energy efficiency requirements*
 - Appliance energy efficiency requirements
 - Indoor water fixture flow requirements for items such as showerheads, faucets, and water closets*
 - Appliance water efficiency requirements
 - Water softener, and reverse osmosis water efficiency requirements
 - Compost and mulch added to new planting areas to conserve outdoor water use.
- Multi-family buildings/complexes are required to install electric vehicle charging stations for 2% of parking spaces, provide electrical capacity and conduit to 20% of parking spaces, and run conduit to 70% of parking spaces.
- Multi-family buildings/complexes resulting in breaking ground beneath at least 50 parking spaces will be required to install electric vehicle charging stations for 1% of new parking spaces and provide electrical capacity and conduit for 10% of new parking spaces.

*These are items that were previously mandatory in the checklist but sometimes had points earned toward the required total.



2020

City of Santa Fe Green Building Code

SFGBC

Rev. 1.0

DRAFT

2020
City of Santa Fe
Green Building Code

Table of Contents

Chapter 1 - Scope and Administration	1
Chapter 2 - Definitions	2
GB201 General.....	2
GB202 Definitions	2
Chapter 3 - Residential: New Dwelling Units	7
GB301 General Requirements	7
GB302 <i>Energy Rating</i>	7
GB303 <i>Building Thermal Envelope</i>	8
Table GB303.5 Thermal Bypass Inspection Checklist	9
GB304 HVAC Design, Installation and Performance	10
GB305 Indoor Air Quality	10
GB306 Mechanical <i>Ventilation</i>	11
GB307 Water Conservation	14
Chapter 4 - Residential: Remodels, Additions, and New Detached and Conditioned Accessory Structures ..	15
GB401 General Requirements	15
GB402 Energy Performance	15
GB403 Indoor Air Quality	17
GB404 Water Conservation	18
Chapter 5 - Special Provisions for Multi-Family Buildings	20
GB501 General.....	20
GB502 Trash Enclosures.....	20
GB503 <i>Electric Vehicle</i> Infrastructure.....	20
Table GB503.2 Minimum <i>EV</i> Parking Spaces.....	21
GB504 <i>Sampled Rating</i> Process.....	23
Chapter 6 – Referenced Standards	26
GB601 Referenced Standards	26
Index	28

DRAFT

DRAFT

Chapter 1 - Scope and Administration

SECTION GB101 SCOPE AND ADMINISTRATION

GB101.1 Title. This code shall be known as the Santa Fe Green Building Code and shall be cited as such. It is referred to herein as “this code”.

GB101.2 Scope. This code applies to *Residential Buildings*, their building sites and associated systems and equipment. The city of Santa Fe shall identify, by ordinance, the specific building occupancy and usage types for which this code shall apply.

GB101.3 Intent The intent of this code is:

1. To regulate the environmental performance of new residential construction by providing criteria for assessment and guidelines for documentation that demonstrates conformance with said criteria.
2. To regulate the environmental performance of residential *additions* and *remodels* and provide guidelines for documentation that demonstrates conformance with those requirements.

GB101.4 Compliance. No person shall fail to comply with the requirements of this code. No person shall construct in violation of a Green Building Code approval. An application shall be made on a form *approved* by the authority having jurisdiction. All approvals and inspections shall be done in conjunction with an issued building permit or an application for building permit. The applicant shall demonstrate compliance with all of the provisions of this code prior to the issuance of a certificate of occupancy by the *code official*.

GB101.5 Relationship to other building codes. The requirements in this code are in addition to and do not replace the requirements of other building codes adopted by the governing body, including without limitation, all of the life safety codes, historic preservation ordinance, land development code, and adopted building codes and development standards. Where a discrepancy exists between this code and the adopted ICC IECC, this code shall prevail.

Exception: For structures located in an historic overlay district where it can be demonstrated that strict application of the requirements of this code cannot be accomplished due to the requirements of the historic overlay district and that findings cannot be reasonably made for a variance or exception to the historic overlay district requirements, the requirements of this code may be reduced commensurate with the conflict between the two codes.

GB101.6 Validity. If a portion of this code is held to be illegal or void, such a decision shall not affect the validity of the remainder of this code. The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law.

GB101.7 Referenced Standards. Chapter 6 of this code lists national and local standards that are considered part of the requirements of this code to the extent of each such reference.

Chapter 2 – Definitions

SECTION GB201 GENERAL

GB201.1 General. Unless otherwise expressly stated, the following words and terms shall, for the purposes of this Code, have the meanings shown below. Words defined in other City of Santa Fe Building Codes shall have the meanings ascribed to them as in those codes. Words or terms also used in Santa Fe’s Municipal

Charter and Code of Ordinances Chapter 7-4 and in the Green Building Code *Administrative Procedures Manual* will have the definition below. Where terms are not defined through the methods authorized by this Chapter, such terms shall have ordinarily accepted meanings such as the context implies.

SECTION GB202 DEFINITIONS

ADDITION: An extension or increase in floor area or height of a building or structure.

ADMINISTRATIVE PROCEDURES MANUAL: A manual that acts as a companion to this code which sets additional procedures for, but not limited to: approving certified energy raters and verifiers; identifying procedures for validating *energy ratings* and *Water Efficiency Rating Score (WERS)*®; identifying reporting formats and acceptable software; and explaining required inspections. The *Administrative Procedures Manual* may be updated as needed by the *code official* when technology, staffing or other circumstances change, without need to revise ordinances or this code.

AIR BARRIER: Material(s) assembled and joined together to provide a barrier to *air infiltration* through the building envelope. An *air barrier* may be a single material or a combination of materials.

AIR HANDLER: A blower or fan used for the purpose of distributing supply air to a room, space or area.

AIR INFILTRATION: The exchange of outdoor and indoor air through small cracks and penetrations in home enclosures driven by pressure differences between the indoor and outdoor environment.

APPROVED: When italicized, it shall mean approved by the *code official* unless otherwise defined in Section GB202. When not italicized, it shall have the ordinary accepted meanings such as the context implies.

APPROVED INSPECTOR: An individual who, by the virtue of training and examination, has demonstrated competence in the performance of on-site inspections in accordance with requirements of Appendix A and Appendix B of the ANSI/RESNET/ICC 301-2019 standard and who has been approved by an *approved rating provider* to conduct such inspections.

APPROVED RATING PROVIDER: An entity responsible for the approval of *Approved Testers* and *Approved Inspectors* and the certification of raters working under its auspices and who is responsible for the *quality assurance* of such *Certified Raters* and for the *quality assurance* of *energy ratings* produced by such *Certified Raters*.

APPROVED SOFTWARE RATING TOOL: A computerized procedure that is sanctioned by the *approved rating provider* for the purpose of conducting *energy ratings* and calculating the annual energy consumption, annual energy costs and an *ERI (Energy Rating Index)* for a *dwelling unit*.

APPROVED TESTER: An individual who, by virtue of training and examination, has demonstrated competence in the performance of on-site testing in accordance with the requirements of the ANSI/RESNET/ICC 380-2019 and has been approved by an *approved rating provider* to conduct such tests.

AVERAGE DWELLING UNIT ENERGY RATING INDEX: A single, composite *Energy Rating Index (ERI)* substitute that can be used to represent the residential portions of a single building. This

substitute is established by averaging the *ERI (Energy Rating Index)* of each *dwelling unit* in the building.

BEDROOM: For the purposes of this code, a room or space with 70 square feet or greater of floor area, except for living rooms and foyers, which also has an egress window or egress door and a closet.

BLOWER DOOR TEST: A test done by a *certified rater* or *approved tester* with specialized equipment which slightly pressurizes or depressurizes a *dwelling unit* to determine how much natural *air infiltration* occurs under natural conditions.

BUILDING THERMAL ENVELOPE: A boundary, created by a union of various *thermal barriers*, which holds heated or cooled air inside a building, including, but not limited to, walls, floors, ceilings, windows, and doors. This boundary also includes the boundary between *conditioned space* and any exempt or *un-conditioned space*.

CARE FACILITY: A building which houses people needing care where staff is in attendance for supervision and treatment of care recipients.

CERTIFIED RATER: An individual who has become qualified to conduct *energy ratings* through certification by an *approved rating provider* and by the authority having jurisdiction as dictated by the *Administrative Procedures Manual*.

CERTIFIED VERIFIER: An individual who has been certified to conduct a *Water Efficiency Rating Score (WERS)®* by the Green Builder Coalition and by the authority having jurisdiction as dictated by the *Administrative Procedures Manual*.

CODE OFFICIAL: The officer or other designated authority charged with the administration and enforcement of this code, or a duly authorized representative.

CONDITIONED SPACE: An area or room within a building being heated or cooled directly or indirectly through fixed openings to heated and cooled space, or through heat transfer through uninsulated walls, floor or ceilings, or where the space contains uninsulated ducts, pipes or other sources of heating or cooling.

CONFIRMED RATING: An *energy rating* accomplished using data gathered from verification and testing of all rated features of the *dwelling unit* in accordance with ANSI/RESNET/ICC 301-2019 and the ANSI/RESNET/ICC 380-2019 standards. A *confirmed rating* is ready to be submitted for a *quality assurance* process but may not yet be certified and archived by the *approved rating provider*. See also: AVERAGE DWELLING UNIT ENERGY RATING INDEX, CONFIRMED RATING, ENERGY RATING, ERI (ENERGY RATING INDEX), and PROJECTED RATING.

DUCT LEAKAGE TEST: A test done by a *certified rater* or *approved tester* with specialized equipment which pressurizes or depressurizes a *dwelling's* duct system and air handling equipment to determine how much air, and therefore energy, is lost to the leakage.

DWELLING: Any building that contains one or two *dwelling units* used, intended, or designed to be built, used, rented, leased, let, or hired out to be occupied, or that are occupied for living purposes.

DWELLING UNIT: A single unit providing complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking, and sanitation.

ELECTRIC VEHICLE (EV): A vehicle that uses electricity for propulsion via on-board batteries.

EV SUPPLY EQUIPMENT (EVSE): The charging stations or charging docks that recharge the battery of an electric vehicle. EVSE systems include the electrical conductors, related equipment, software, and communications protocols that deliver energy efficiently and safely to the vehicle. Three levels of EVSE are available:

1. Level 1 is considered slow charging and operates on a 15-20 amp breaker on a 120 volt AC circuit.
2. Level 2 is considered medium charging and operates on a 40 to 100 amp breaker on a 208 or 240 volt AC circuit.
3. DC Fast Charger (DCFC) is considered “fast” or “rapid” charging and typically operates on a 60 amp or higher breaker on a 480 volt or

higher three phase circuit with special grounding equipment.

EV CAPABLE SPACE: A parking space equipped for future *electrical vehicle supply equipment* with, at a minimum:

1. raceway or conduit designed to accommodate installed and future EVSE, underground and surface mounted, and;
2. electrical panel capacity and space to support a minimum 40-ampere, 208/240-volt dedicated branch circuit.

EV READY SPACE: A parking space which is provided with one 40-ampere, 208/240-volt dedicated branch circuit terminating in a point such as a receptacle, junction box, or battery charging equipment.

ENERGY RATING: An unbiased indication of a *dwelling unit's* relative energy performance based on consistent inspection procedures, operating assumptions, climate data and calculation methods in accordance with the ANSI/RESNET/ICC 301-2019. See also: AVERAGE DWELLING UNIT ENERGY RATING INDEX, CONFIRMED RATING, ERI (ENERGY RATING INDEX), and PROJECTED RATING.

ENERGY RATING REFERENCE HOME: A hypothetical home configured in accordance with the specifications set forth in Section 4.2 of the ANSI/RESNET /ICC 301-2019 Standard as the basis of comparison for the purpose of calculating the relative energy efficiency and *ERI (Energy Rating Index)* of a rated home.

ENERGY STAR®: A joint program of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE) that encourages energy use reduction by providing ENERGY STAR® labels to products and homes meeting the improved energy efficiency requirements of the program.

ERI (ENERGY RATING INDEX): A numerical integer value that represents the relative energy use of a *dwelling unit* as compared with the energy use of the *Energy Rating Reference Home* and where an Index value of 100 represents the energy use of the *Energy Rating Reference Home* and an Index value of 0 (zero)

represents a *dwelling unit* that uses zero net purchased energy annually.

FINAL WERS: A *Water Efficiency Rating Score (WERS)*® completed by validating the predicted water use of a *dwelling unit* by entering all verified data into the *WERS* tool. A *final WERS* is ready to be submitted for a *quality assurance* process but may not yet be certified.

GREENHOUSE GAS: An atmospheric gas that absorbs infrared radiation and radiates heat in all directions. Greenhouse gasses contribute to the earth's greenhouse effect. The greenhouse gasses in Earth's atmosphere include: water vapor, carbon dioxide, methane, nitrous oxide, and ozone.

HIGH-EFFICACY LAMPS: Compact fluorescent lamps (CFL); light emitting diode (LED); T-8 or smaller diameter linear fluorescent lamps, or lamps with a minimum efficacy of:

1. 60 lumens per watt for lamps over 40 watts;
2. 50 lumens per watt for lamps over 15 watts to 40 watts; or
3. 40 lumens per watt for lamps 15 watts or less.

LIVE/WORK UNIT: A *dwelling unit* or *sleeping unit* in which a significant portion of the space includes a nonresidential use that is operated by the tenant. For the purposes of this code, live/work units without both cooking and sanitation will not be considered under this code.

LODGING HOUSE: A one-family *dwelling* where one or more occupants are primarily permanent in nature and rent is paid for guest rooms.

MAKE-UP AIR: Air that is provided to replace air being exhausted.

MANUAL D: Air Conditioning Contractors of America (ACCA) technical manual used to design the duct layout in *residential buildings* including location, size, and layout of ducts.

MANUAL J: Air Conditioning Contractors of America (ACCA) technical manual which describes how to calculate the heat loss and gain in *residential buildings*, including room-by-room calculations, using

data such as building envelope insulation, *air infiltration*, internal loads, and other factors.

MANUAL S: Air Conditioning Contractors of America (ACCA) technical manual which analyses the selection of residential heating, air conditioning, and *ventilation* equipment to ensure correct sizing.

MINIMUM RATED FEATURES: The characteristics of the building elements which are the basis for the calculation of end use loads and energy consumption for the purpose of an *energy rating*, and which are evaluated by *Certified Raters* or *Approved Inspectors*, in accordance with the on-site inspection procedures described in the ANSI/RESNET/ICC 301-2019 Standard for the Calculation and Labeling of the Energy Performance of Dwelling and Sleeping Units using an Energy Rating Index and its successors, in order to collect the data necessary to create an *energy rating*.

PLUMBING FIXTURE: A receptor or device that requires both a water-supply connection and a discharge to the drainage system, such as water closets, lavatories, bathtubs, and sinks.

PRE-FINAL WERS: A *Water Efficiency Rating Score (WERS)*® used for multi-family *dwelling units*, to allow for the issuance of a certificate of occupancy before landscaping is completed on a building or site, that is derived from sampling or complete testing of the interior water use and landscape plans to estimate the exterior water use. Unlike the *final WERS*, it will not have been through a *quality assurance* process.

PRELIMINARY WERS: A *Water Efficiency Rating Score (WERS)*® that is derived from plans and specifications prior to construction.

PROJECTED RATING: An evaluation of the energy use of a building which results in a projected *ERI (Energy Rating Index)* accomplished by using *minimum rated feature* data derived from plans and specifications prior to the construction of a new building.

QUALITY ASSURANCE: The systematic processes intended to ensure reliable compliance with applicable standards such as the ANSI/RESNET/ICC 301-2019 Standard for the Calculation and Labeling of the

Energy Performance of Dwelling and Sleeping Units using an Energy Rating Index or the WATER EFFICIENCY RATING SCORE (WERS)®.

R-VALUE (THERMAL RESISTANCE): The inverse of the time rate of heat flow through a body from one of its bounding surfaces to the other surface for a unit temperature difference between the two surfaces, under steady state conditions, per unit area ($h \times ft^2 \times ^\circ F/Btu$).

REMODEL(ING): The process of restoring or improving an existing building, structure, *dwelling unit*, or property.

RESIDENTIAL BUILDING: For this code, includes detached one-family *dwelling*s and two-family *dwelling*s, attached single-family *dwelling*s (*townhouses*), and Group R-2 and R-3 buildings as limited by the ordinance adopting this code.

SAMPLED RATING: Either an *Energy Rating* or a *WERS* that encompasses a set of *dwelling units* and is accomplished using data gathered from verification of fewer than 100% of the instances of each *minimum rated feature* within that set in accordance with Section GB504 of this code.

SLEEPING UNIT: A room or space in which people sleep, which can also include permanent provisions for living, eating, and either sanitation or kitchen facilities but not both. Such rooms and spaces that are also part of a *dwelling unit* are not *sleeping units*.

SOLID FUEL-BURNING APPLIANCE: A chimney connected device designed for purposes of heating, cooking, or both that burns solid fuel.

SPOT VENTILATION: *Ventilation* that is provided by fans that remove air to the outside of a building from a room or rooms of a *dwelling unit* for the purpose of removing odors, moisture, or other contaminants generated inside the *dwelling unit* at intermittent intervals which are run on an “as-needed” basis. See also: Exhaust Ventilation in the Uniform Mechanical Code.

THERMAL BARRIER: A building component that is part of a *building thermal envelope* which is designed

to slow the transfer of heat through conduction, convection and/or radiation.

THERMAL BYPASS: The process of heat transfer bypassing the *building thermal envelope* through one of several possible means such as closed loop convection inside an insulated cavity, open loop convection of air between the *conditioned space* and the insulated cavity, or through a non-insulated or under-insulated area of the *building thermal envelope*.

THRESHOLD SPECIFICATIONS: A set of qualification criteria for the *minimum rated features* that are established based on a *worst-case analysis* and against which a *dwelling unit* can be measured and therefore be considered passing.

TOWNHOUSE: A single-family *dwelling unit* constructed in a group of three or more attached units in which each unit extends from foundation to roof and with a *yard* or public way on not less than two sides.

UA: *U-factor* multiplied by area, calculated per the “ASHRAE Handbook of Fundamentals” and including the thermal bridging of framing or other materials.

UA, OVERALL: The sum of all *building thermal envelope* components’ *UA* values. Overall *UA* is used as an alternative method to show compliance with an energy code while allowing one or more components to not meet the code’s prescriptive value requirement.

U-FACTOR (THERMAL TRANSMITTANCE): The coefficient of heat transmission through a building

component or assembly, equal to the time rate of heat flow per unit area and unit temperature difference between the warm side and cold side (Btu/h x ft² x °F). The *U-factor* describes how well a building element conducts heat. The smaller the number the slower the heat transfer. (The inverse of *R-value*: $U=1/R$)

VENTILATION: The natural or mechanical process of supplying conditioned or unconditioned air to, or removing such air from, any space.

WATER EFFICIENCY RATING SCORE (WERS)®: An analysis of the predicted water use of a *dwelling unit* and its site producing an index which compares water use of the *dwelling unit* in comparison to a model *dwelling unit*. This index is much like the *ERI* for energy. See also: PRELIMINARY WERS and FINAL WERS.

WORST-CASE ANALYSIS: An analysis for which the *minimum rated features* of the *dwelling unit* are configured to provide the largest *ERI (Energy Rating Index)* when four ordinal home orientations and the least energy efficient *minimum rated features* for the specified design are considered by the analysis.

YARD: An open space unobstructed from the ground to the sky, except where specifically provided by the International Code Council International Residential Code or International Building Code on the lot on which a building is situated.

Chapter 3 – Residential: New Dwelling Units

SECTION GB301 GENERAL REQUIREMENTS

GB301.1 General Requirements. This Chapter shall apply to new *residential buildings* of the use and occupancy designated in the ordinance adopting this code.

GB301.2 Compliance. Newly constructed *dwelling units* shall comply with all of the following:

1. Sections GB302 through GB307 of this code
2. Currently adopted New Mexico Energy Conservation Code as adopted and amended by the City of Santa Fe.

SECTION GB302 ENERGY RATING

GB302.1 General. Newly constructed *dwelling units* or gut remodel or gut rehabilitations of existing *dwelling units* shall have an *energy rating* resulting in an *ERI* in accordance with the ANSI/RESNET/ICC 301-2019 and ANSI/RESNET/ICC 380-2019 and Sections GB302.2 through GB302.4 using an *approved software rating tool*.

GB302.2 Energy Ratings.

GB302.2.1 Third-Party Verification. Third-party *Certified Raters* shall perform the calculations, tests, and inspections on each newly constructed *dwelling unit*, as required to verify compliance with the requirements of this chapter and other *minimum rated features* per the standards set forth in Section GB302.1. Third-party *Certified Raters* shall submit documentation as required in Section GB302.4. *Certified Raters* shall provide other reports as required by the *Administrative Procedures Manual* to confirm compliance with the code or validate results.

GB302.2.2 ERI maximum. A maximum *ERI* shall be established by ordinance by the governing body. New *dwelling units* shall be at or under the maximum index required.

GB302.2.3 Documentation of ERI. A report of a *projected rating* shall be submitted as part of a building permit application and a report of the *Confirmed Rating*, or equivalent, shall be required prior to issuance of a certificate of occupancy.

Reasonably estimated thresholds shall be set for minimum rated features.

GB302.2.4 Special Provisions for Live/Work units. *Live/work units* may be analyzed such that the work area is not included in the *energy rating* if the *dwelling unit* and work portions of the building are separated by a *building thermal envelope* and each have a separate HVAC system.

GB302.2.5 Special Provisions for gut remodels/rehabilitations. Existing buildings shall be considered gut remodels and be required to provide an *ERI* if both of the following are true:

1. Not less than 90% of the cavities of the exterior walls remaining after demolition will be exposed for *thermal bypass* and insulation inspection; and
2. Not less than 90% of ceiling insulation remaining after demolition can be verified via attic access or exposure during construction.

Additions made to a gut remodel shall be included in the *energy rating*. Where all of the *minimum rated features* required for a *Confirmed Rating* cannot be verified, default values may be used as defined in the *Administrative Procedures Manual*.

GB302.3 Certified raters, approved inspectors and approved testers. *Certified raters* shall be approved by the authority having jurisdiction. *Certified Raters* shall be qualified to conduct *ERI* analysis by passing educational courses and obtaining continuing education

credits; by following the rules and regulations; and by signing the Code of Ethics; defined by the *Administrative Procedures Manual*. *Approved Inspectors* and *Approved Testers* may work under the direction of *Certified Raters* and where “*Certified Rater(s)*” appears in this code it shall be considered to mean any *Approved Inspector* or *Approved Tester* may perform tasks as appropriate to their certification and training.

GB302.4 Tests, inspections, and reports. *Certified Raters* shall perform tests and inspections and provide reports of these to the *code official* as required by this code and the *Administrative Procedures Manual*.

Exception: A multi-family building may be *approved* for sampling of the *minimum rated features* per Section GB504 and subject to approval by the *code official*.

GB302.4.1 Thermal Bypass. *Certified raters* shall complete a City of Santa Fe Thermal Bypass Inspection Checklist per GB303.5.

GB302.4.2 Blower Door Test. *Certified raters* shall test in accordance with ANSI/RESNET/ICC 380-2019.

GB302.4.3 Duct Leakage Test. *Certified raters* shall test duct airtightness in accordance with ANSI/RESNET/ICC 380-2019 or its successors as adopted by the city.

GB302.4.4 Energy and Emissions Reports. *Certified raters* shall provide the following reports and any others as identified by the *Administrative Procedures Manual*:

1. *Certified raters* shall supply reports as identified in the *Administrative Procedures Manual* to give an estimation of the *greenhouse gas emissions avoided*.
2. *Certified raters* shall supply reports that verify the building components, such as but not limited to, insulation levels, window *U-factors*, equipment efficiency and *air infiltration rates*, contributing to the confirmed ERI.

SECTION GB303 BUILDING THERMAL ENVELOPE

GB303.1 General. The *building thermal envelope* shall comply with the requirements in Sections GB303.2 through SFG303.5.

GB303.2 Building Thermal Envelope Insulation. Building insulation levels, including the non-residential occupancy portions of any building this code applies to, shall meet the requirements set forth in the Green Building Code *Administrative Procedures Manual*. Projects defined by City of Santa Fe Chapter 7-4.2(B)(2)(d) and (e) may have this requirement waived, at the discretion of the *code official*, due to reuse of existing building components as described by the *Administrative Procedures Manual*.

GB303.3 Building Thermal Envelope Insulation Confirmation. Insulation *R-values* shall be shown on the construction documents at the time of building permit application. After installation, the insulation installers shall provide a certificate listing the type, manufacturer and *R-value* of insulation installed in each element of the *building thermal envelope*. For blown or

sprayed insulations (fiberglass and cellulose), the initial installed thickness, settled thickness, settled *R-value*, installed density, coverage area and number of bags installed shall be listed on the certification. For insulated siding, the *R-value* shall be listed on the product’s package and shall be listed on the certification. The insulation installer shall sign, date and provide the certification in a conspicuous location on the job site.

GB303.4 Air Infiltration mitigation (air sealing). The *building thermal envelope* shall comply with sections GB402.2.

GB303.4.1 Blower Door Test. A *blower door test* shall be conducted to determine the airtightness of a *dwelling unit’s* thermal envelope in accordance with GB302.4.2. Results of the *blower door test* shall be submitted to the *code official* prior to receiving a certificate of occupancy.

GB303.5 Thermal Bypass. *Air barriers* shall be installed at all required locations. *Air barriers* are

assumed to be tightly sealed with caulk or spray foam, and constructed of durable material. *Certified raters* shall complete a City of Santa Fe Thermal Bypass Inspection Checklist as found in Table GB303.5. No items shall remain needing correction before work is

covered. A copy of the completed checklist shall be provided to the *code official*. More detailed descriptions of *air barrier* locations can be found in Section GB402.3.

Table GB303.5

City of Santa Fe Thermal Bypass Inspection Checklist

Envelope Component	Air Barrier Requirements	Corrections Needed	Rater Verified	N/A
Ceiling/Attic	Ceiling insulation will cover exterior wall to exterior sheathing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Vertical duct, piping or flue shafts are sealed and air barrier is in contact with insulation. Provide fire-rated collars and caulking where required.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Air barrier is installed where there are any voids in ceiling finish and above wood ceilings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Dropped ceilings have air barrier installed to be in contact with the ceiling insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Attic access panels are fully gasketed and insulated with insulation fixed to the panel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Attic drop-down stairs are fully gasketed and insulated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Whole-house fans have insulated cover gasketed to the opening.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Recessed light-fixtures are IC-AT labeled and insulation contact rated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Attic eave baffles where eave is vented	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Knee walls	Where height of ceilings differ, air barrier is installed on attic side of knee walls or insulation on attic side will be more than 6" above the top plate of the knee wall (6" above bottom of higher ceiling).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Knee walls between conditioned attic space and unconditioned attic space have an air barrier on the attic side	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Skylight shaft walls and evaporative cooler walls that are knee walls between conditioned and unconditioned attic have an air barrier on attic side or are continuously wrapped in rigid insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exterior Walls	All exterior walls have a continuous 6 sided air barrier in contact with insulation:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	below and behind bathtubs, bathtub surrounds and shower pans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	behind framed cavities created by bancos, gas fireplaces, etc..	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	behind the stringer of stair cases and under staircases where not used for storage and otherwise covered with finish materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	double walls if not completely filled with insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Where portal or porch framing attaches the exterior sheathing or other air barrier is continuous or sealed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Band Joists	Air barrier installed at band joist between garage and heated areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Air barrier installed at all band joists (or spray foam insulation)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Floors	Air barrier is installed at any exposed fibrous insulation edges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Air barrier is installed between cantilevered floor cavity and heated space	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Common Walls	Gap between drywall firewall and the structural framing between units is fully sealed at all exterior boundary conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SECTION GB304 HVAC DESIGN, INSTALLATION AND PERFORMANCE

GB304.1 General. Heating, Ventilating, and Air Conditioning (HVAC) equipment shall comply with the requirements in Sections GB304.2 through GB304.5.

GB304.2 Heating and cooling equipment sizing. Heating and cooling equipment and appliances shall be sized in accordance with Air Conditioning Contractors of America (ACCA) *Manual S* or other *approved* sizing methodologies and based on building loads calculated in accordance with ACCA *Manual J* (version 8 or higher). Other HVAC design methodologies shall be *approved* by the *code official*.

Exception: Heating and cooling equipment and appliance sizing shall not be limited to the capacities determined in accordance with *Manual S* where either of the following conditions apply:

1. The specified equipment or appliance utilizes multistage technology or variable refrigerant flow technology and the loads calculated in accordance with the *approved* heating and cooling calculation methodology are within the range of the manufacturer's published capacities for that equipment or appliance.
2. The specified equipment or appliance manufacturer's published capacities cannot satisfy both the total and sensible heat gains calculated in accordance with the *approved* heating and cooling calculation methodology and the next larger standard size unit is specified.

GB304.3 Documentation. ACCA Manuals J, S, and D, and radiant design reports, as applicable, along with an Air Conditioning, Heating and Refrigeration Institute (AHRI) certificate or equivalent mechanical equipment certification shall be submitted to the *code official*. Documents for radiant heating systems shall be submitted at the time of building permit application.

Documents for ducted systems, shall be submitted no later than the completion of rough framing. All HVAC documents submitted are subject to review and approval by the *code official* before installation of any part of the heating or cooling system.

GB304.4 Duct design and performance.

GB304.4.1 Design reports. Duct systems serving heating, cooling, and *ventilation* equipment shall be designed and installed in accordance with ACCA *Manual D*, the manufacturer's installation instructions or other *approved* methodologies. Duct design reports shall be submitted to the *code official* before ducts are installed.

GB304.4.2 Duct locations. Cavities in framed buildings such as but not limited to, wood platforms that air handling equipment sits on, wall cavities, and dropped ceilings cavities shall not be used as return or supply ducts.

GB304.4.3 Duct airtightness. Duct airtightness shall comply with the currently adopted New Mexico Energy Conservation Code as adopted by the City of Santa Fe and be tested in accordance with section GB302.4.3. Results of the *duct leakage tests* shall be submitted to the *code official* prior to receiving a certificate of occupancy.

GB304.5 Radiant hydronic systems. Radiant hydronic systems shall be designed using manufacturer's recommendations, mechanical engineer design specifications or other hydronic heating design methods. Equipment specification and ACCA Manuals J, and S for radiant hydronic systems in concrete shall be submitted at the time of building permit application.

SECTION GB305 INDOOR AIR QUALITY

GB305.1 Indoor Air Quality. Newly constructed *dwelling units* and multi-family buildings shall comply with Sections GB305.2 through GB305.7 and Section GB306. Newly constructed *dwelling units*, including those in multi-family buildings, shall comply with

exhaust ventilation requirements of the current New Mexico Mechanical Code.

GB305.2 Radon Mitigation. Newly constructed

dwelling units shall install passive radon mitigation systems per Appendix F of the ICC IRC.

GB305.3 Gas fired equipment. Newly installed gas-fired fireplaces and direct heating equipment shall be listed and installed in accordance with the NMAC 14.9.5. Gas-fired fireplaces and direct heating equipment shall be vented to the outdoors.

GB305.4 Solid fuel-burning appliances. Newly installed solid fuel-burning fireplaces, inserts, stoves, and heaters shall be code compliant and shall be in accordance with the following requirements:

1. Site-built masonry wood-burning fireplaces shall be equipped with outside combustion air and a means of sealing the flue and the combustion air outlets to minimize interior air (heat) loss when not in operation.
2. Factory-built, wood-burning fireplaces shall be in accordance with the certification requirements of UL 127 and are EPA certified.
3. Wood stove and fireplace inserts, as defined in UL 1482 Section 3.8, shall be in accordance with the certification requirements of UL 1482 and shall be in accordance with the emission requirements of the EPA Certification and the State of Washington WAC 173-100(3).

4. Pellet (biomass) stoves and furnaces shall be in accordance with the requirements of ASTM E1509 or are EPA certified.

5. Masonry heaters shall be in accordance with the definitions in ASTM E1602 and ICC IBC, Section 2112.1.

GB305.5 HVAC system protection. Where not required for space conditioning during construction, HVAC supply registers (boots), return grilles, and rough-ins shall be covered during construction activities to prevent dust and other pollutants from entering the system.

GB305.6 Air handling equipment. Newly installed air handling equipment shall not be located in a garage unless placed in an isolated, room or closet, air-sealed from the garage.

GB305.7 Natural Draft Appliances. Newly installed natural draft furnaces, boilers, or water heaters shall not be located in *conditioned spaces*, including conditioned crawlspaces, unless located in a mechanical room that has an outdoor air source and is air sealed and insulated to separate it from the *conditioned space(s)*.

SECTION GB306 MECHANICAL VENTILATION

GB306.1 Scope. Newly constructed *dwelling units*, remodeled *dwelling units*, *dwelling units* with *additions*, and detached and conditioned accessory structures, shall comply with Sections GB306.2 through GB306.8.

GB306.2 Acknowledgement. Much of the text of Section GB306 and related Tables are extracted from ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.) Standard 62.2-2010 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings, Section 4, and is used with the permission of ASHRAE. The referenced

Section and Table numbers within the extracted text are modified to be applicable to Section GB306. A “*” indicates added reference to ICC or ASHRAE 62.2 to provide clarity.

GB306.3 Mechanical ventilation type. One of the following *dwelling unit ventilation* systems shall be installed in each newly constructed *dwelling unit* and in any *remodel* or *addition* to a residential *dwelling unit* where the pre-construction *blower door test* results in an ACH50 of less than 7, and in a *remodel* or *addition* where a pre-construction *blower door test* is not completed:

1. Exhaust-only or supply-only fan(s) ready for continuous operation and with appropriately leveled air flow rates (exhaust-only not recommended if house has attached garage(s) or fuel burning appliances in *conditioned space*).
2. Balanced exhaust and supply fans with supply intakes located in accordance with the manufacturer's guidelines so as not to introduce polluted air back into the building.
3. Heat-recovery or energy-recovery ventilator with supply intakes located in accordance with the manufacturer's guidelines so as not to introduce polluted air back into the building.

Local exhaust fans shall be permitted to be part of a mechanical exhaust system. Outdoor air ducts connected to the return side of an *air handler* shall be permitted as supply *ventilation* if manufacturers' requirements for return air temperature are met. *See ASHRAE 62.2, Appendix B for guidance on selection of methods.

GB306.4 Ventilation airflow rate confirmation. A *Certified rater* shall confirm *ventilation* rates of the *ventilation* equipment used to satisfy the required *dwelling unit ventilation* and report the tested *ventilation* rates to the *code official*. Results of the *ventilation* flow testing shall be submitted to the *code official* prior to receiving a certificate of occupancy.

GB306.5 Ventilation rate requirements. A mechanical exhaust system, supply system, or other

combination thereof shall be installed for each *dwelling unit* to provide *dwelling unit ventilation* with outdoor air each hour at no less than the rate specified in Equation GB306.5a or equivalently Table GB306.5a, based on the floor area of the *conditioned space* and number of *bedrooms*.

GB306.6 Alternative Ventilation. Other methods may be used to provide the required *ventilation* rates (of Equation GB306.5a or Table GB306.5a) when approved by a licensed design professional.

GB306.7 Control and Operation. The "fan on" switch on a heating or air-conditioning system shall be permitted as an operational control for systems introducing *ventilation* air through a duct to the return side of an HVAC system. Readily accessible override control must be provided to the occupant. Local exhaust fan switches and "fan on" switches shall be permitted as override controls. Controls, including the "fan-on" switch of a conditioning system, must be appropriately labeled.

GB306.8 Intermittently operating system. An intermittently operating, *dwelling unit* mechanical *ventilation* system may be used if the *ventilation* rate is adjusted according to equation GB306.8a or Table GB306.8a. The system must be designed so that it can operate automatically based on a timer. The intermittent mechanical *ventilation* system must operate at least one hour out of every twelve.

Equation GB306.5a

$$Q_{\text{fan}} = 0.01A_{\text{floor}} + 7.5(N_{\text{br}} + 1)$$

Where

Q_{fan} = fan flow rate, cfm

A_{floor} = floor area, ft²

N_{br} = number of *bedrooms*; not to be less than one

TABLE GB306.5a
Ventilation Air Requirements, cfm

Floor Area (ft ²)	<i>Bedrooms</i>				
	0-1	2-3	4-5	6-7	>7
<1500	30	45	60	75	90
1501-3000	45	60	75	90	105
3001-4500	60	75	90	105	120
4501-6000	75	90	105	120	135
6001-7500	90	105	120	135	150
>7500	105	120	135	150	165

Equation GB306.8a

$$Q_f = Q_r / (\epsilon f)$$

Where

Q_f = fan flow rate

Q_r = *ventilation* air requirement (from Equation GB306.5a or Table GB306.5a)

ϵ = *ventilation* effectiveness (from Table GB306.8a)

f = fractional on time

if the system runs at least every three hours, 1.0 can be used as the *ventilation* effectiveness. (*See ASHRAE 62.2, Appendix B for an example of this calculation.)

TABLE GB306.8a
Ventilation Effectiveness for Intermittent Fans

Daily Fractional On-Time, f	Ventilation Effectiveness, ϵ
$f \leq 35\%$	0.33
$35\% \leq f < 60\%$	0.50
$60\% \leq f < 80\%$	0.75
$80\% \leq f$	1.0

SECTION GB307
WATER CONSERVATION

GB307.1 Water Conservation. Newly constructed *dwelling units*, of the use and occupancy dictated by the ordinance adopting this code, shall implement water conservation features and comply with Sections GB307.2 through GB307.4.

GB307.2 Water Conservation Performance Modeling. A predictive water use analysis, using the *Water Efficiency Rating Score (WERS)*® tool, or equivalent, and prepared by an *approved certified verifier*, shall be completed. A *preliminary WERS* shall be submitted to the *code official* as part of a building permit application. A *final WERS* report shall be submitted to the *code official* prior to receiving a certificate of occupancy. *WERS* reports shall include the evaluation of indoor and outdoor water use, including rainwater capture and re-use and grey water re-use. Per unit, per building or per site *WERS* may be accepted depending on site and multiple building configurations as set forth by the *Administrative Procedures Manual*.

Exception: Gut remodels and gut rehabilitations that do not include an *addition* and where no exterior landscaping work is being completed shall comply with Section GB404.

GB307.3 Certified Verifiers. Third Party *Certified Verifiers* shall perform all tests and inspections required to verify compliance of each *dwelling unit* with the requirements of Section GB307.

Exception: Sampling of water conservation features shall be allowed only on *dwelling units* within multi-family buildings per the *WERS* protocol and the City of Santa Fe as described in Section GB504.

GB307.4 Water Supply Pressure. The water supply pressure shall be 80 psi or less per the 2015 Uniform Plumbing Code or successor as adopted by the City of Santa Fe. *Certified verifiers* shall test the water supply pressure. Reports submitted before receipt of a certificate of occupancy shall reflect the tested pressure.

Chapter 4 – Residential: *Remodels, Additions, and New Detached and Conditioned Accessory Structures*

SECTION GB401 GENERAL REQUIREMENTS

GB401.1 General. This Chapter shall apply to existing *residential buildings*, where portions of the building are being exposed or altered, and to new detached and conditioned Accessory Structures of the use and occupancy designated in the ordinance adopting this code.

GB401.2 Requirements. Projects shall comply with Sections GB401 through GB404 of this code.

GB401.3 Change in space conditioning. Non-*conditioned space* that is converted to *conditioned space* shall be brought into full compliance with the

currently adopted New Mexico Energy Conservation Code and this chapter of the green building code except where existing cavity dimensions limit the *R-value* or would result in the compression of insulation materials.

GB401.4 Existing buildings. Unless specified in this chapter, no existing building lawfully in existence at the time of adoption of this code, shall be required to be removed, altered or abandoned as a result of this code.

SECTION GB402 ENERGY PERFORMANCE

GB402.1 Requirements. The *building thermal envelope* exposed or created during the *remodel* or *addition* shall comply with Sections GB402.2 through GB402.9. See also: GB303.4 and GB303.5.

GB402.2. Air Infiltration mitigation (air sealing). The sealing methods between dissimilar materials shall allow for differential expansion and contraction. The following areas shall be caulked, gasketed, weather-stripped or otherwise sealed:

1. All joints, seams, and penetrations. Where porches or portal framing is attached, exterior sheathing shall be sealed or connection made without penetrating or omitting sheathing.
2. Junction of foundation and sill plate.
3. Site-built windows, doors and skylights.
4. Openings between window and door assemblies and their respective jambs and framing.
5. Utility, duct shaft, piping and flue shaft penetrations.
6. Attic access panels and attic drop down stairs.
7. Whole house fans and evaporative cooler shafts.
8. Gap between drywall shaft wall and the structural framing between *dwelling units*.

9. HVAC register boots where they penetrate the ceiling material or subfloor.
10. Recessed light fixtures not installed completely within the thermal envelope shall be IC rated; labeled as ASTM E 283; and sealed with a gasket or caulk between the housing and the interior ceiling finish.
11. Other sources of *air infiltration*.

GB402.3 Thermal bypass mitigation. Breaks or joints in the *air barrier* exposed or created during the *remodel* or *addition* shall be filled or repaired. Where these conditions are created in new construction, *air barriers* shall be placed in the locations listed. Air permeable insulation shall not be used as a sealing material. Well sealed *air barriers*, suitable film, or spray foam insulating material shall be installed:

1. On the attic side of insulated knee walls when the attic insulation is 6” or less above the top of knee wall and on the attic side from ceiling to decking at skylight shaft walls, whole house fan shafts, and evaporative cooler shafts.
2. In contact with the insulation in exterior walls behind tubs and showers, bancos, framed cavities such as those used for gas burning

- fireplaces, and any other framed projection that creates an open cavity connected to exterior walls.
3. Behind the stringers of staircases on exterior walls, extending 12" above and below the stringer, and at exterior walls of cavities under stairwells that are not used for storage or otherwise sheathed in drywall or other finish wall material.
 4. In contact with insulation above dropped ceilings or in framed cavities interior to the building so as to create a continuous ceiling
 5. Separating cantilevered floors from floors which are within the thermal envelope.
 6. At all band and rim joists areas and in floor cavities at the point of separation between *unconditioned spaces*, including vented attics and ceilings, and *conditioned space*.
 7. In contact with the insulation in double framed walls that are not completely filled with insulation.
 8. Other locations such that: all insulated wall cavities have six sides and solid barriers on those sides; the ceiling is continuous and contiguous to the ceiling insulation over the *conditioned space*; and all framed floors have an *air barrier* at any exposed fibrous insulation edges.

GB402.4 Insulation installation. Where applicable to the method of construction in *additions*, and exposed and visible during the *remodel*, insulation shall be installed in accordance with the following:

1. Grade 3 insulation installation, as defined by ANSI/RESENT/ICC 301-2019 Normative Appendix A, is not permitted.
2. Exterior thermal envelope insulation in framed walls shall be installed in substantial contact and continuous alignment with the building envelope *air barrier*.
3. In framed walls: construction corners; intersections of interior partition walls to exterior walls; and headers shall be insulated.
4. Insulation shall be installed to maintain permanent contact with underside of subfloor decking.
5. Batt insulation in framed cavities shall be permanently attached to walls or friction fit.

6. Batts in narrow cavities shall be cut to fit, or narrow cavities filled with sprayed or blown insulation types.
7. Insulation shall be placed between the exterior and pipes. Batt insulation shall be cut to fit around wiring and plumbing, or sprayed/blown insulation shall extend behind piping and wiring.
8. Attic eave baffles shall be installed where eave vents are used or where attic *ventilation* method may displace ceiling insulation.
9. All newly installed, exposed, or modified HVAC ducts, plenums, and trunks in unconditioned attics, basements, or crawl spaces shall be insulated to a minimum of R-8. Outdoor air supplies to *ventilation* systems are insulated to a minimum of R-8.

GB402.5 Insulation R-value. The *building thermal envelope* exposed or created during the *remodel* or *addition* shall be insulated to currently adopted New Mexico Energy Conservation Code.

EXCEPTIONS:

1. In the case of *remodels* with limited building cavity dimensions, and in a reasonable way limited from adding exterior insulation as determined by the *code official*, the *building thermal envelope* shall be insulated to the maximum levels allowed by the dimensions of the existing cavity without compressing insulation to cause lower *R-values* of insulating materials.
2. In the case of *remodels* with cavities larger than that required, insulation levels shall meet the currently adopted New Mexico Energy Conservation Code and GB402.3.7 if the cavity is not completely filled with insulation.

GB402.6 New or Replacement Windows. Newly installed windows, skylights, and sliding glass doors shall have an air filtration rate of no more than 0.3 cfm per square foot, and swinging doors no more than 0.5 cfm per square foot, when tested in accordance with NFRC 400 or AAMA/WDMA/CSA 101/I.S.2/A440.

GB402.7 Appliances. All newly installed refrigerators, freezers, dishwashers, clothes washing machines, and clothes dryers shall be *ENERGY STAR®* qualified or equivalent.

GB402.8 High-efficacy lamps. A minimum of 50 percent of the newly installed hard-wired lighting fixtures, or the bulbs in those fixtures shall qualify as high efficacy or equivalent.

GB402.9 Boiler supply piping. Boiler supply piping in un-conditioned space shall be insulated to currently adopted IECC code minimum *R-value* or highest *R-value* that can fit if there are space constraints.

SECTION GB403 INDOOR AIR QUALITY

GB403.1 Requirements. Where portions of the building are being exposed, altered, or created and where equipment or appliances are being replaced or newly installed during the *remodel* or *addition*, the completed building, equipment and appliances shall meet the requirements of Sections GB403.2 through GB403.11.

GB403.2 Radon mitigation. A passive radon mitigation system shall be installed in *additions* over 200 square feet of heated area above new slab-on-grade, new crawl space, or new basement. For *additions* under 200 square feet of heated area, radon test results of the existing home shall be submitted to show levels less than 4 pCi/L or a passive radon mitigation system shall be installed. Passive radon mitigation systems shall meet the 2015 ICC IRC Appendix F or its successor as adopted by the City.

GB403.3 Natural draft space and water heating appliances. Newly installed natural draft furnaces, boilers, or water heaters shall not be located in *conditioned spaces*, including conditioned crawlspaces, unless located in a mechanical room that has an outdoor air source and is air sealed and insulated to separate it from the *conditioned space(s)*.

GB403.4 Air handling equipment. Newly installed air handling equipment, but not replacement equipment, shall not be located in a garage unless placed in an isolated, room or closet, air-sealed from the garage.

GB403.5 Ductwork. Building cavities, such as but not limited to, wood platforms that air handling equipment sits on, wall cavities, and dropped ceilings cavities, shall not be used as return or supply ductwork. Newly installed supply or return ducts shall not be located in a garage unless placed in an isolated, air-sealed location.

GB403.6 Gas fired equipment. Newly installed gas-fired fireplaces and direct heating equipment shall be listed and installed in accordance with the NMAC 14.9.5. Gas-fired fireplaces and direct heating equipment shall be vented to the outdoors.

GB403.7 Solid fuel-burning appliances. Newly installed solid fuel-burning fireplaces, inserts, stoves, and heaters shall be code compliant and shall be in accordance with the following requirements:

1. Site-built masonry wood-burning fireplaces shall be equipped with outside combustion air and a means of sealing the flue and the combustion air outlets to minimize interior air (heat) loss when not in operation.
2. Factory-built, wood-burning fireplaces shall be in accordance with the certification requirements of UL 127 and EPA certified.
3. Wood stove and fireplace inserts, as defined in UL 1482 Section 3.8, shall be in accordance with the certification requirements of UL 1482 and shall be in accordance with the emission requirements of the EPA Certification and the State of Washington WAC 173-100(3).
4. Pellet (biomass) stoves and furnaces shall be in accordance with the requirements of ASTM E1509 or EPA certified.
5. Masonry heaters shall be in accordance with the definitions in ASTM E1602 and ICC IBC, Section 2112.1.

GB403.8 CO alarms. A carbon monoxide (CO) alarm shall be installed in a central location outside of each separate sleeping area in the immediate vicinity of the *bedrooms*. The CO alarm(s) shall be located in accordance with NFPA 720 and where there are existing electrical lines accessible shall be hard-wired

with a battery back-up. The alarm device(s) shall be certified by a third-party for conformance to either CSA 6.19 or UL 2034. At least one of the CO alarms shall be capable of detecting CO concentrations as low as 9 ppm and include a visible display.

EXCEPTION: No CO alarm is needed if all of the following are true.

1. There is no attached garage.
2. There are no gas-fired appliances within the *conditioned space*.
3. There are no *solid fuel-burning appliances* in the home including fireplaces.
4. A combustion safety test has been completed to ensure the safety of residents.

GB403.9 Spot Ventilation.

GB403.9.1 Bathrooms. Where bathrooms are being *remodeled*, or are part of an *addition*, *spot ventilation* at a minimum rate of 50 cfm for intermittent operation or 20 cfm for continuous operation shall be vented to the outdoors. Exhaust fans shall be *ENERGY STAR®* qualified and operated by an occupancy sensor or timer unless operating continuously for the purposes of meeting the required mechanical *ventilation* per Section GB306.

GB403.9.2 Kitchens. Where kitchens are *remodeled* or are part of an *addition*, range hood *ventilation* rates of 100 cfm for intermittent operation or 25 cfm

for continuous operation shall be vented to the outdoors. If range hoods are rated at 600 cfm or greater, *make-up air* should be provided with the exception of a house with no fuel burning appliances.

GB403.10 Dwelling unit ventilation. Where the pre-construction *blower door test* results is an ACH50 of less than 7, or where a pre-construction *blower door test* is not completed, one of the following *dwelling unit ventilation* systems shall be implemented in accordance with Section GB306.

1. Exhaust-only or supply-only fan(s) ready for continuous operation and with appropriately leveled air flow rates (exhaust-only not recommended if house has attached garage(s) or fuel burning appliances in *conditioned space*).
2. Balanced exhaust and supply fans with supply intakes located in accordance with the manufacturer's guidelines so as not to introduce polluted air back into the building.
3. Heat-recovery or energy-recovery ventilator with supply intakes located in accordance with the manufacturer's guidelines so as not to introduce polluted air back into the building.

GB403.11 HVAC system protection. Where not required for space conditioning during remodeling, HVAC supply registers (boots), return grilles, and rough-ins shall be covered during construction activities to prevent dust and other pollutants from entering the system.

SECTION GB404 WATER CONSERVATION

GB404.1 Requirements. Newly installed *plumbing fixtures*, fittings, equipment, and appliances shall comply with Section GB404.2. The exterior landscaping changed or created when remodeling or adding structure(s); heated or unheated, enclosed or open; shall comply with Sections GB404.3.

GB404.2. Indoor water use. Requirements below shall be met for each newly installed *plumbing fixture*, fitting, equipment or appliance. References to IgCC

indicate adopted sections from the 2015 ICC International Green Construction Code.

1. **Showerheads.** Single showerheads in a shower compartment shall not exceed 2.0 gpm. The combined flow rate from shower water outlets that are capable of operating simultaneously shall not exceed 2.5 gpm. No more than two valves shall be installed in a single shower compartment. Showerheads shall be supplied by

automatic compensating valves and are specifically designed to operate at the flow rate of the showerheads being used.

2. **Combination tub and shower valves.** (IgCC 702.2) Tub spout leakage from combination tub and shower valves that occurs when the outlet flow is diverted to the shower shall not exceed 0.1 gpm, measured in accordance with the requirements of ASME A112.18.1/CSA B125.1.
3. **Faucets.** All lavatory and bar sink faucets shall not exceed 1.5 gpm. Kitchen sink faucets shall not exceed 2.2 gpm.
4. **Water Closets.** Water Closets shall have an effective flush volume of 1.28 gallons or less. IgCC Table 702.1 footnote d: The effective flush volume for a dual-flush water closet is defined as the average flush volume of two reduced flushes and one full flush.
5. **Clothes Washers.** Clothes washers shall have a water factor (WF) not more than 6.0 and a modified energy factor (MEF) of not less than 2.0.
6. **Dishwashers.** Dishwashers shall be *ENERGY STAR*® qualified or equivalent.
7. **Water softeners.** (IgCC Section 704.1 through 704.1.4) Water softeners shall be equipped with demand-initiated regeneration control systems. Such control systems shall automatically initiate the regeneration cycle after determining the depletion, or impending depletion of softening capacity. Water softeners shall have a maximum water consumption during regeneration of 4 gallons per 1000 grains of hardness removed as measured in accordance with NSF 44. Waste water from water softener regeneration shall not discharge to reclaimed water collection systems. Water softeners that regenerate in place, that are connected to the water system they serve by piping not exceeding 1 1/4" in diameter, or that have a volume of 3 cubic feet or more of cation exchange media shall have a rated salt efficiency of not less than 4,000 grains of total hardness

exchange per pound of salt, based on sodium chloride equivalency and shall be listed and labeled in accordance with NSF 44. All other water softeners shall have a rated salt efficiency of not less than 3,500 grains of total hardness exchange per pound of salt, based on sodium chloride equivalency.

8. **Reverse osmosis water treatment systems.** (IgCC Section 704.2) Point-of-use reverse osmosis treatment systems shall be listed and labeled in accordance with NSF 58. The discharge pipe from a reverse osmosis drinking water treatment unit shall connect to the building drainage system. Point-of-use reverse osmosis systems shall be equipped with an automatic shutoff valve that prevents the production of reject water when there is no demand for treated water.

GB404.3 Outdoor water use. The following outdoor water conservation practices shall be instituted where landscape is changed or created when remodeling or adding heated or unheated structures:

1. Compost shall be incorporated to a six inch depth to any planting areas at a rate of at least four cubic yards per 1,000 square feet of planting area (unless contra-indicated by a soil test).
2. Mulch, such as but not limited to, gravel, bark, pecan shell, recycled glass, recycled rubber shall be installed over exposed earth of planting areas with the exception of areas planted with creeping groundcovers or areas seeded with native grass and shrub or wildflower mixes.
3. Smart irrigation controllers, labeled by Watersense®, shall be installed when replacing existing irrigation controllers or to control newly installed irrigation systems.
4. Gray water and rain water capture and re-use shall follow the 2015 Uniform Plumbing Code, or its successors as adopted by the City.

Chapter 5 – Special Provisions for Multi-Family Buildings; Multiple One- and Two-Family *Dwellings* on a lot; and *townhouses*

SECTION GB501 GENERAL

GB501.1 General. For the purpose of this code, the definition of multi-family buildings shall be defined as buildings that contain more than 2 *dwelling units* and do not meet the definition of one- and two-family *dwellings* or *townhouses* per the International Residential Code for One- and Two-family *dwellings*. Properties that have multiple one-and two-family

dwellings or *townhouses* meeting that ICC definition will not be considered multi-family buildings regardless of the status of ownership or rental; requirement for architect's or engineer's stamp on permit application drawings; or zoning of the underlying property. See each section to determine applicable requirements.

SECTION GB502 TRASH ENCLOSURES

GB502.1 Trash Enclosures. Multi-family buildings, or developments where there are multiple one- and two-family *dwellings* and/or *townhouses* on a site that share trash container enclosures, shall design trash container

enclosures per Exhibit A.2 to City of Santa Fe Chapter 21-4.6 in order to provide space for recycling containers. This requirement shall be addressed in the development plan stage whenever possible.

SECTION GB503 *ELECTRIC VEHICLE* INFRASTRUCTURE

GB503.1 General. Multi-family buildings and projects with multiple one- and two-family *dwellings* and/or *townhouses* with parking shared by multiple *dwelling units* will be required to comply with sections GB503.2 through GB503.7. Projects with multiple one- and two-family *dwellings* or *townhouses* on one lot may be exempt from section GB503 if the *code official* determines parking spaces are designed such that the required parking spaces are not likely to be used by vehicles other than those associated with a particular *dwelling unit*. This exemption should be evaluated and determined at the development plan or subdivision plan review and approval phase when possible. The determination for this exemption for parking lot retrofits shall be determined by the *code official* at permit application.

fifty (50) parking spaces; or more than 50 parking spaces are added; shall provide for charging of *electric vehicles* in accordance with Table GB503.2. The requirement for parking area expansion only applies to the new parking area. When the calculation results in a fraction, the number shall be rounded up to the nearest whole number. *EVSE spaces* are included in the calculation of *EV ready spaces*. *EVSE spaces* and *EV ready spaces* are included in the calculation of *EV capable spaces*.

GB503.3 Design of *EVSE*. *EVSE* shall be designed to meet the parking requirements of the authority having jurisdiction and Sections GB503.6.1 through GB503.6.9.

GB503.2 *Electric vehicle supply equipment (EVSE)*. Newly constructed buildings or developments meeting the requirements of Section 503.1, and parking area retrofits and expansions for buildings or developments meeting the requirements of Section 503.1; where the land will be exposed below an area to include more than

GB503.3.1 Electrical code. *EVSE* shall be installed per the requirements of the current edition of the National Electrical Code (NFPA 70).

GB503.3.2 Equipment protection. *EVSE* shall be protected from damage by wheel stops, curbing, or concrete filled bollards

Table GB503.2

MINIMUM *EV* PARKING SPACES

	<i>EVSE</i> Spaces	<i>EV Ready</i> Spaces	<i>EV Capable</i> Spaces
New Construction	not less than 2% of the total number of parking spaces	not less than 20% of the total number of parking spaces	not less than 70% of the total number of parking spaces
Parking Area Retrofits and Expansions	not less than 1% of the total number of parking spaces	not less than 10% of the total number of parking spaces	

GB503.3.3 Location. *EVSE* location must comply with the following:

1. *EVSE* shall not impede pedestrian travel or create trip hazards on sidewalks.
2. *EVSE* must be located above the design flood elevation or be waterproofed to include personnel protection so that it complies with codes for electrical equipment which may become submerged.
3. The charging device shall be mounted on a wall or on a structure at the end of the space provided.
4. The charging device shall be placed at least four and one-half feet above the surface.

GB503.3.4 Lighting. Adequate site lighting shall be provided where *EVSE* is installed without conflict with light pollution ordinances of the authority having jurisdiction.

GB503.3.5 Signage. Signs for *EVSE* and way-finding signage shall be installed as required by and in compliance with the following:

1. Signs for *EVSE* shall provide:
 - a. A phone number or contact information for reporting problems with the equipment; and
 - b. Time limits and tow-away provisions to be enforced by the property owner; and
 - c. Usage fees, if any; and
 - d. Safety information; and

e. Voltage and amperage levels.

2. Way-finding signage shall be installed on multi-level parking garages. Way-finding signs, if installed, shall be placed to effectively guide the motorists to the electric vehicle parking space and/or charging station.
3. Signage shall be placed in a manner that shall not interfere with any parking space, drive lane, or exit.

GB503.3.6 Cord management. Cords, cables, and connector equipment shall not extend across the path of travel in any sidewalk or walkway. When cords and connectors are not in use, retraction devices or locations for storage shall be located sufficiently above the pedestrian surface and the parking lot as to reduce conflicts with pedestrians and vehicle maneuvering.

GB503.3.7 Equipment specifications. *EVSE* must comply with the following specifications:

1. Level 2 *EVSE*; and
2. ETL listed; and
3. UL 2594 listed; and
4. Networked to a public charging network; and
5. Offer SAE Combo and CHAdeMO plugs; and
6. EPA Energy Star[®] certified; and
7. If fee to be charged, *EVSE* shall have a chip reader to allow for point of sale transaction. Other point of sale systems such as app-based payment, contactless credit card, and phone payment are permissible, but not required.

GB503.3.8 Circuit Identification. The branch circuit shall be identified for electric vehicle service panel or subpanel directory. Branch circuits for *EV ready spaces* and *EV capable spaces* shall be identified as “EV Ready” in the service panel or subpanel directory.

GB503.3.9 Raceway Design. *EV ready spaces* shall include a raceway, which is continuous from the branch circuit / feeder panel location to the future parking space and comply with the following.

1. All raceways installed for the *EVSE* shall terminate at the space dedicated for the future *EVSE* installation.
2. The raceway shall be sized and installed per the National Electrical Code; however, in no case shall the *EVSE* infrastructure raceway be less than 1" (one inch) in size.
3. Raceways shall include a pull rope or line installed for future conductor installation, with the raceway sealed.
4. Raceway pathway shall be identified on the electrical drawings.
5. Raceways shall be permanently and visibly marked as “EV Ready.”

GB503.4 Accessible electric vehicle charging. All accessible spaces shall meet the requirements of the currently adopted New Mexico Accessible Parking Checklist or current ICC A117.1 and the requirements of Sections GB503.4.1 through GB503.4.3.

GB503.4.1 Van Accessibility. At least one parking space served with *EVSE* shall be a van-accessible parking space. While this first space is designed to be van-accessible, it shall be available for use by all *EV* drivers and not placarded for exclusive use by disabled *EV* drivers. If a second parking space is made accessible as required by GB 503.4.2, the van-accessible parking space shall be reserved for exclusive use for *EV* drivers with disabilities.

GB503.4.2 Standard Accessibility. If more than five *EVSE* units are installed, a second parking space shall be a standard-accessible space. An additional standard-accessible space shall be added for every 25 spaces served with *EVSE*.

GB503.4.3 Accessible Route. Accessible spaces must have an accessible route from the *EVSE* to the charging equipment.

GB503.4.4 Placement and Installation. The proposed placement and installation of *EVSE* infrastructure or equipment shall not allow for any violation of the Americans with Disabilities Act of 1990 (42 U.S.C. § 12101).

GB503.5 Restricted use of EVSE. *EVSE* use shall be restricted to *electric vehicles* while charging. Any nonelectric vehicle is subject to removal by the property owner or the property owner’s agent. Time limits shall be posted in accordance with Section GB503.3.5 to prevent unlimited, non-charging, parking.

GB503.7 Property owners rights and responsibilities.

GB503.7.1 Equipment maintenance. Charging equipment function, required lighting, and signage shall be maintained by the property owner at all times.

GB503.7.2 Fees for charging vehicles. Property owners are in no way restricted from collecting a fee for charging an electric vehicle so long as the usage fees are posted per Section GB503.3.5.

GB503.4 Reduction in number of spaces served by EVSE. Reductions in the number of *EVSE* spaces may be approved, by the planning commission or *code official*, when the cost of installing *EVSE* exceeds five (5) percent of the total development budget, including reductions in costs resulting from the use of rebates or other such monetary incentives, the applicant shall supply cost estimates and request, from the planning commission, a reduction in the number of parking spaces that have *EVSE* installed. If approved, the number of *EVSE* spaces plus the number of *EV ready spaces* shall not be less than twenty-two (22) percent of the total number of parking spaces for the development. *EV capable spaces* shall remain at 70% of the total number of parking spaces regardless of reductions made to the number of *EVSE* spaces.

SECTION GB504 SAMPLED RATING PROCESS

GB504.1 Purpose. *Sampled ratings and threshold specifications shall be allowed on dwelling units in multi-family buildings, but not one- and two-family dwellings or townhouses, with the approval of the code official. Sampling allows for random inspections and testing by third-party certified raters and certified verifiers and does not apply to inspections by the authority having jurisdiction. Sampling of Energy Ratings shall follow the provisions of Chapter 6, of the Mortgage Industry National Home Energy Rating Systems (MINHERS) Standards published by RESNET. Sampling of WERS shall follow the same standards, but substituting indoor water use calculations and indoor water using features for energy calculations and energy using features as well as substituting WERS Quality Assurance requirements unless or until WERS develops its own sampling protocol. Outdoor water use shall not be sampled and shall be verified upon completion of the landscaping.*

GB504.2 Scope. *This Section specifies the rules and regulations for preparing projected ratings and preliminary WERS, conducting sampled tests and inspections, and disclosing sampled ratings for dwelling units in multi-family buildings and, when approved by the code official, townhouses. Dwelling units that have not been tested or inspected for every minimum rated feature are not considered confirmed ratings and shall be disclosed as sampled ratings.*

GB504.3 Average Dwelling Unit Energy Rating Index and Threshold Specifications. *An Average Dwelling Unit Energy Rating Index shall not be allowed on any structure. ERI or WERS using threshold specifications shall not be allowed on detached one- and two-family dwellings and townhouses not more than three stories above grade plane in height, live/work units, care facilities in a dwelling, or owner-occupied lodging houses.*

GB504.4 Eligibility.

GB504.4.1 Raters and RESNET Providers. *A certified rater, not an approved inspector or approved tester, must oversee the ERI Sampling process and must be contracted with a RESNET*

approved rating provider certified to do quality assurance for sampling. All certified verifiers are allowed to sample for indoor water use verification.

GB504.4.2 Dwelling unit requirements. *For dwelling units to be considered for sampling, the dwelling units must be in the same project or subdivision, using the same construction type with the same envelope system, and constructed by the same general contractor. Sampling for WERS is only allowed on projects that have specific plumbing fixture specifications or predetermined options for plumbing fixtures.*

GB504.5 Sampling Plan. *Before sampling can begin on a project, the code official shall review the Sampling Plans prepared by the Certified HERS rater or Certified Verifier. Any changes to the Sampling Plan shall be submitted to the code official along with any failure reports.*

GB504.5 Projected ratings and threshold specifications.

GB504.5.1 Projected rating and preliminary WERS. *A projected rating and preliminary WERS must be completed and submitted to code official for each dwelling unit type in a project. The projected rating shall be a worst-case analysis, as prescribed in Chapter 6 of the MINHERS and shall include reasonable thresholds for blower door tests and duct leakage tests in accordance with this section. Where options for plumbing fixtures and appliances are offered by the builder, the highest water flow fixtures and least efficient and highest water using appliances shall be used in the preliminary WERS. The selection of unit types shall be in accordance with 5.1.4.4.1 of ANSI/RESNET/ICC 301-2019. If water using appliances or fixture specifications are not available at the time of the projected rating and preliminary WERS, the defaults from the approved software rating tool and WERS tool shall be used.*

GB504.5.2 Blower door test and duct leakage test thresholds. *Blower door test results shall be set no higher than 5 ACH50. Duct leakage to outside tests*

should be set to 8% of the heated square foot area of the *dwelling unit* served by the duct system. If a rater or verifier is confident that a project can achieve better results without failures, lower thresholds may be set.

GB504.6 Confirmed ERI and Final WERS.

Confirmed ERI and *final WERS* shall be submitted to the City for each unit in a multi-family building based on the *threshold specifications* of the sample set it is included in. If any *dwelling unit*, including those in the qualification set, has all inspections and tests required for verification, it shall be submitted as a *confirmed rating* or *final WERS* instead of a *sampled rating*.

GB504.7 adjustments to thresholds.

GB504.7.1 Adjustments to threshold specifications. After the qualification set, described in Chapter 6 of the MINHERS, the *threshold specifications* for rated features such as *blower door tests*, *duct leakage tests*, *plumbing fixture flow rates*, or any other *minimum rated feature* that had thresholds set, shall be changed if any of the following occur.

1. After the qualification set, the original *threshold specifications* are found to be more than 20% less efficient than the actual test data. At such time, the *projected rating* and *preliminary WERS* shall be revised and resubmitted to the *code official*. The *certified raters* and *certified verifiers* shall be responsible for setting the new thresholds to what they believe is reasonable and passable during sampling.
2. During the qualification set, the original *threshold specifications* are found to be too efficient and are not passing. At such time, the *projected ratings* and *preliminary WERS* shall be revised and resubmitted to the *code official*, provided the revision of thresholds does not result in *ERI* or *WERS* that do not meet the requirements adopted by the jurisdiction. The *certified raters* and *certified verifiers* shall be responsible for setting the new thresholds to what they believe is reasonable and passable during sampling so long as the new thresholds are not more than 20% less efficient than the actual test data.

3. During sampling, the project specifications are changed or test results become more than 20% more efficient than the thresholds. At such time, the *projected ratings* or *preliminary WERS* shall be revised and submitted to the *code official* with explanation of the changes. Sampling may continue as long as accurate record keeping indicates which units are affected by any changes to specifications and the appropriate *ERI* or *WERS* is used for future *dwelling units*.

For examples and a diagram of the sampling process, see the *Administrative Procedures Manual*.

GB504.8 Sampling.

GB504.8.1 Construction phases. When sampling is instituted on a project, not all phases of construction are required to be sampled. It is at the *certified rater's* or *certified verifier's* discretion to choose not to sample a particular phase. For example, in a multi-story building, it may not be practical to sample the foundation, as the whole buildings foundation will be visible at one time anyway. Or, a rater may choose to inspect all *dwelling units'* wall and ceiling insulation.

GB504.8.2 Stacked dwelling units. For multi-story buildings, so that no building is constructed without having each portion of the envelope inspected, a bottom floor unit, a top floor unit, and a mid-floor unit from each building shall be inspected for each applicable phase of construction. This may result in very small sample sets that have the same 90-day sample period or overlapping sample periods.

GB504.8.3 Outdoor water. For most multi-family projects the outdoor water use will be based on the landscape of the whole apartment complex or by a method of dividing the site into areas that can be included in the water use of *dwelling units* in individual buildings. Therefore, as individual *dwelling units* are completed, testing and sampling of indoor water and a landscape plan may be used to provide a *pre-final WERS* to the *code official* even when the landscape has not yet been completed. Post Certification Supplement forms shall not be allowed to certify a *final WERS* for

multi-family projects. After the landscape has been completed, verified, and certified, a *final WERS* shall be submitted to the *code official* for each *dwelling unit* in a complex.

GB504.8.4 Continuous Sampling. Each participating subdivision or project must have at least one *ERI* related test or inspection in a 90 day period or the *ERI* sampling must be discontinued and a new qualification set must be completed to reinstate sampling. *WERS* tests and inspections are not subject to the same 90 day restrictions. Sampling can continue on a project until completion provided there are no failures.

GB504.9 Guidelines regarding failures. When the *certified rater* or *certified verifier* has been informed that a *dwelling unit* or project is ready for a particular phase of inspection or testing, the rater or verifier shall schedule one (1) inspection per selected *dwelling unit*. At the time of inspection, if items are not installed or properly constructed or if testing finds the items not meeting the *threshold specifications* set by the rater or verifier, it is considered a failure. However, in some

cases, timing of required *air barriers* is at the discretion of the *certified raters* or *code official*. For example, there are instances where *air barriers* are required, but their installation is made easier by allowing for insulation to be placed first. If a required *air barrier* is not present, but will be verified at the insulation inspection, the inspection can be considered passing so long as the items are in place at the insulation inspection. Conducting an inspection, informing builders of their failures, then returning to verify at a later date or time is NOT considered passing.

GB504.10 Jurisdiction Inspections. Jurisdictional building inspections will not be sampled and any failure found by a *code official* shall be corrected. If multiple failures of required items are found by the *code official*, a review of the projects' permission to sample may be requested by the *code official*. The *certified rater* and *certified verifier* shall provide the sampling records and records of any and all failures. At the *code official's* discretion, sampling of certain phases of construction or permission for a project to sample altogether may be revoked.

Chapter 6 – Referenced Standards

SECTION GB601 REFERENCED STANDARDS

Acronym	Organization Name	website
<i>Standard numbers and names</i>		
AAMA	American Architectural Manufacturers Association	aamanet.org
<i>AAMA/WDMA/CSA 101/I.S.2/A440, North American Fenestration Standard/Specification for windows, doors, and skylights</i>		
ACCA	Air Conditioning Contractors of America	acca.org
<i>Technical Manual J, Residential Load Calculations Technical Manual S, Residential Equipment Selection Technical Manual D, Residential Duct Design</i>		
AHRI	Air Conditioning, Heating, and Refrigeration Institute	ahrinet.org
<i>List of certification programs is too long to list here and varies depending on equipment type.</i>		
ANSI	American National Standards Institute	ansi.org
<i>ANSI/RESNET/ICC 301-2019, Standard for the Calculation and Labeling of the Energy Performance of Dwelling and Sleeping Units using an Energy Rating Index ANSI/RESNET/ICC 380-2019, Standard for Testing Airtightness of Building, Dwelling Unit, and Sleeping Unit Enclosures; Airtightness of Heating and Cooling Air Distribution Systems; and Airflow of Mechanical Ventilation Systems ANSI/NFRC 400-2017, Procedure for Determining Fenestration Product Air Leakage NSF/ANSI 44, Cation Exchange Water Softeners</i>		
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.	ashrae.org
<i>ASHRAE-2013, ASHRAE Handbook of Fundamentals ASHRAE 62.2, Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings</i>		
ASME	American Society of Mechanical Engineers	asme.org
<i>ASME A112.18.1/CSA B125.1-2012, Plumbing Supply Fittings</i>		
ASTM	ASTM International	astm.org
<i>ASTM E283-19, Standard Test method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across The Specimen ASTM E1509-12, Standard Specification for Room Heaters, Pellet Fuel-Burning Type ASTM E1602-03, Standard Guide for Construction of Solid Fuel Burning Masonry Heaters</i>		
CSA	Standards Council of Canada	scc.ca/en
<i>AAMA/WDMA/CSA 101/I.S.2/A440, North American Fenestration Standard/Specification for windows, doors, and skylights</i>		

ASME A112.18.1/CSA B125.1-2012, Plumbing Supply Fittings
CSA 6.19-01, Residential Carbon Monoxide Alarming Devices

GBC Green Builder Coalition greenbuildercoalition.org

Water Efficiency Rating Score (WERS)®

ICC International Code Council iccsafe.org

ANSI/RESNET/ICC 301-2019, Standard for the Calculation and Labeling of the Energy Performance of Dwelling and Sleeping Units using an Energy Rating Index

ANSI/RESNET/ICC 380-2019, Standard for Testing Airtightness of Building, Dwelling Unit, and Sleeping Unit Enclosures; Airtightness of Heating and Cooling Air Distribution Systems; and Airflow of Mechanical Ventilation Systems

ICC/ANSI A 117.1-2017, Accessible and Useable Buildings and Facilities

NFRC National Fenestration Rating Council, Inc. nfrc.org

ANSI/NFRC 400-2017, Procedure for Determining Fenestration Product Air Leakage

NFPA National Fire Protection Association nfpa.org

NFPA 70, National Electric Code

NSF NSF International (originally National Sanitation Foundation) nsf.org

NSF/ANSI 44, Cation Exchange Water Softeners

NSF 58-2018, Reverse Osmosis Drinking Water Treatment Systems

RESNET Residential Energy Services Network resnet.us

ANSI/RESNET/ICC 301-2019, Standard for the Calculation and Labeling of the Energy Performance of Dwelling and Sleeping Units using an Energy Rating Index

ANSI/RESNET/ICC 380-2019, Standard for Testing Airtightness of Building, Dwelling Unit, and Sleeping Unit Enclosures; Airtightness of Heating and Cooling Air Distribution Systems; and Airflow of Mechanical Ventilation Systems

Mortgage Industry National Home Energy Rating Systems Standards

UL Underwriters Laboratories Inc. ul.com

UL 127, Standard for Factory-Built Fireplaces

UL 1482, Standard for Solid-Fuel Type Room Heaters

UL 2594, Standard for Electric Vehicle Supply Equipment

UL 2034, Standard for Single and Multiple Station Carbon Monoxide Alarms

WDMA Window and Door Manufacturers Association wdma.com

AAMA/WDMA/CSA 101/I.S.2/A440, North American Fenestration Standard/Specification for windows, doors, and skylights

INDEX

A	Defined.....GB202
ADDITION	
Defined.....	GB202
Requirements.....	Chapter 4
ADMINISTRATIVE PROCEDURES MANUAL	
Defined.....	GB202
AIR BARRIER	
Defined.....	GB202
Requirements.....	Table GB303.5, GB402.3, GB402.4
Sampled ratings.....	GB503.9
AIR HANDLER	
Defined.....	GB202
Mechanical ventilation.....	GB306.3
Location.....	GB305.6, GB403.4
AIR INFILTRATION	
Defined.....	GB202
Requirements.....	GB303.4, GB402.2
AIRFLOW RATE	
Ventilation.....	GB306.4
Intermittently operating ventilation.....	GB306.8
APPLIANCES	
Heating & Cooling.....	GB304.2
Solid fuel-burning.....	GB305.4, GB403.7
Natural Draft.....	GB305.7, GB403.3
Other.....	GB402.7, GB404.2
Sampled ratings.....	GB503.5
APPROVED INSPECTOR	
Defined.....	GB202
Requirements.....	GB302.3
APPROVED RATING PROVIDER	
Defined.....	GB202
APPROVED SOFTWARE RATING TOOL	
Defined.....	GB202
APPROVED TESTER	
Defined.....	GB202
Requirements.....	GB302.3
AVERAGE DWELLING UNIT ENERGY RATING INDEX	
	Defined.....GB202
	B
BEDROOM	
Defined.....	GB202
BLOWER DOOR TEST	
Defined.....	GB202
BUILDING THERMAL ENVELOPE	
Defined.....	GB202
	C
CARE FACILITY	
Defined.....	GB202
CERTIFIED RATER	
Defined.....	GB202
CERTIFIED VERIFIER	
Defined.....	GB202
CODE OFFICIAL	
Defined.....	GB202
CONDITIONED SPACE	
Defined.....	GB202
CONFIRMED RATING	
Defined.....	GB202
	D
DUCT AIRTIGHTNESS	
Duct leakage test.....	GB202, GB302.4.3, GB304.4.3
Sampled ratings.....	GB503.5, GB503.7
DUCTWORK	
Design and location.....	GB304.4, GB403.5
Dust protection.....	GB305.5, GB403.11
DWELLING	
Defined.....	GB202
DWELLING UNIT	
Defined.....	GB202

E

ELECTRIC VEHICLE PARKING

- Defined.....GB202
- Requirements.....GB503

ENERGY RATING (See also CONFIRMED RATING, ERI, PROJECTED RATING)

- Defined.....GB202
- Requirements.....GB302.2
- Special provisions, live/work units.....GB302.2.4
- Special Provisions, gut remodel.....GB302.2.5

ENERGY RATING REFERENCE HOME

- Defined.....GB202

ENERGY STAR®

- Defined.....GB202

ERI (Energy Rating Index)

- Defined.....GB202
- Live/Work.....GB302.2.4
- Requirements.....GB302.2.2
- Gut remodels.....GB302.2.5
- Reporting, tests and inspections.....GB302.4
- Sampled ratings.....GB503.3, GB503.6, GB503.8.6

F

FINAL WERS (Water Efficiency Rating Score®)

- Defined.....GB202
- Requirements.....GB307.2
- Sampled ratings.....GB503.6, GB503.7.1

G

GAS FIRED EQUIPMENT

- Requirements.....GB305.3, GB403.6
- Natural draft app

GREENHOUSE GAS

- Defined.....GB202
- Reporting.....GB302.4

H

HEATING & COOLING EQUIPMENT SIZING

- Requirements.....GB304.2

HIGH-EFFICACY LAMPS

- Defined.....GB202
- Requirements.....GB402.8

L

LIVE/WORK UNIT

- Defined.....GB202
- Requirements.....GB302.2.4

LODGING HOUSE

- Defined.....GB202

M

MAKE-UP AIR

- Defined.....GB202
- Requirements.....GB403.9.1

MANUAL D

- Defined.....GB202
- Requirements.....GB304

MANUAL J

- Defined.....GB202
- Requirements.....GB304

MANUAL S

- Defined.....GB202
- Requirements.....GB304

MINIMUM RATED FEATURES

- Defined.....GB202
- Energy rating.....GB302.2
- Gut remodels.....GB302.2.5
- Sampled ratings.....GB302.4(exception), GB503.1, GB503.7, GB503.9.4

MULTI-FAMILY BUILDINGS

- Defined.....GB202
- Requirements.....GB501
- Sampled ratings.....GB307.3 (exception), GB503
- Trash Enclosures.....GB502.1

P

PLUMBING FIXTURE

- Defined.....GB202
- Requirements.....GB404.1
- Sampled ratings.....GB503.4.2, GB503.5.1, GB503.7.2

PRE-FINAL WERS

Defined.....GB202
Sampled ratings.....GB503.8.5

PRELIMINARY WERS

Defined.....GB202
Requirements.....GB307.2
Sampled ratings.....GB503.5.1,
GB503.5.2, GB503.7.2

PROJECTED RATING

Defined.....GB202
Requirements.....GB302.2.3
Sampled ratings.....GB503.5.1,
GB503.5.2, GB503.7.2

Q

QUALITY ASSURANCE

Defined.....GB202
Requirements.....GB503.4

R

R-VALUE

Boiler supply piping.....GB402.9
Defined.....GB202
Insulation certificate.....GB303.3
Requirements.....GB402.5

RADON

Requirements.....GB305.2, GB403.2

RECESSED LIGHT FIXTURES

Requirements.....GB402.2.10

RECYCLING

See Multi-Family Buildings

REMODEL(ING)

Defined.....GB202
Gut remodel.....GB302.2.5
Requirements.....GB306.3, Chapter 4

RESIDENTIAL BUILDING

Defined.....GB202

S

SAMPLED RATINGS

Defined.....GB202
Requirements.....GB503

Sample sets.....GB503.6
Outdoor water.....GB503.8.5

SLEEPING UNIT

Defined.....GB202

SOLID FUEL-BURNING APPLIANCE

Defined.....GB202
Requirements.....GB305.4,
GB403.7

T

THERMAL BARRIER

Defined.....GB202

THERMAL BYPASS

Checklist.....Table GB303.5
Defined.....GB202
Requirements.....GB302.4.1, GB303.5,
GB402.3

THRESHOLD SPECIFICATIONS

Defined.....GB202
Requirements for Sampled Ratings.....GB503.3,
GB503.5, GB503.6, GB503.7.2, GB503.9

THIRD-PARTY VERIFICATION

Requirements.....GB302.2.1

TOWNHOUSE

Defined.....GB202
Requirements.....GB501.1
Sampled Ratings.....GB503.2

U

UA, OVERALL

Defined.....GB202
Requirements.....GB303.2

U-FACTOR

Defined.....GB202

V

VENTILATION (Mechanical)

Defined.....GB202
Intermittent.....GB306.8
Requirements.....GB306, GB403.10

VENTILATION, SPOT (See also New Mexico Mechanical Code for exhaust ventilation)

- Defined.....GB202
- Requirements.....NM Mechanical Code, GB305.1, GB403.9

W

WATER USE (See also WERS)

- Indoor.....GB307.2, GB404.1
- Outdoor.....GB404.3
- Reverse Osmosis Water Treatment.....GB404.2.8
- Water Softeners.....GB404.2.7

WATER SUPPLY PRESSURE

- Requirements.....GB307.4

WERS (Water Efficiency Rating Score®) (See also PRELIMINARY WERS, PRE-FINAL WERS, FINAL WERS)

- Defined.....GB202
- Requirements.....GB307.2
- Multi-family sampled WERS.....GB503.5, GB503.6, GB503.7, GB503.8.5

WINDOWS

- Air infiltration.....GB402.2, GB402.6

WORST-CASE ANALYSIS

- Defined.....GB202
- Sampled ratings.....GB503.5.1

Y

YARD

- Defined.....GB202
- Townhouses.....GB501.1

Program	Performance Indicators	What we did in Q1/ Q2?	Progress			
			None	Some	Significant	Complete
Goal 1: Education Outreach & Communications						
Passport Program	<ul style="list-style-type: none"> Build out virtual formats for each Passport section; BDD, Water Fiesta, Recycling, Water Energy Nexus, WWTP Survey past passport teachers on recommendations Work with other City departments to distribute passport education material 	<ul style="list-style-type: none"> Developed Education resource booklet that supplements passport program. Completed education program webpage to our website. Incorporated other City outreach messages into booklet. 				x
Passport Program Expansion	<ul style="list-style-type: none"> Virtual 5th grade component in alignment with the "My Water My Watershed" Program Pilot 6th grade virtual component with small group of classes Evaluate opportunities for virtual Middle School/High School Expansion 		x			
Adult Outreach	<ul style="list-style-type: none"> Identify groups such as HOA's, community clubs, community events that will provide education to more diverse groups Align with Next Generation Water Summit to provide a community education event Use of demonstration gardens for training/community engagement Administer QWEL program 	<ul style="list-style-type: none"> 2 articles and rebate promotion in Nave Ade newsletter Breaking ground on new Raingarden Demonstration Planning and execution of the Next Generation Water Summit Demo garden improved with plant identification and new plantings 				x
Strategic Marketing Plan	<ul style="list-style-type: none"> Create quarterly plans to support objectives of the water conservation program related to marketing strategies 	<ul style="list-style-type: none"> Social media training and cross-promotion of conservation with other city messaging Attended weekly communications/outreach 		x		

	<ul style="list-style-type: none"> Quarterly reports on progress on all strategic briefs, including budget allocations, will be created Marketing will be coordinated with other city PR strategies for better alignment Develop staff capacity for website maintenance and social media management. Work with social media partners to cross-promote conservation oriented materials. Work on two bilingual translation projects with utility partners 	coordination meetings with staff from throughout the city				
Goal 2: Customer Service						
Social Equity	<ul style="list-style-type: none"> Work with environmental services on social equity tool to research opportunities for low-income customer base Utilize mapping tools to evaluate trends in recent rebate issuance Seek partnerships and models for low-income plumbing and fixture assistance programs Evaluate potential for large-scale city purchase of high efficiency appliances for distribution and installation at low income homes Evaluate Triple Bottom Line (3BL) accounting and how best to incorporate it into decision making. 	<ul style="list-style-type: none"> The NGWS allowed for us to learn more about models for low income plumbing and fixture assistance programs Developed Survey123 tool in use tracking spatial information about rebates. In discussion with the SFCC about potential partnerships for low-income plumbing and fixture assistance programs 			x	
EyeOnWater Optimization	<ul style="list-style-type: none"> Market increased participation with EyeOnWater App with emphasis on threshold setting and alerts Work with Beacon to develop incorporate Spanish language access and alerts into EyeOnWater 	<ul style="list-style-type: none"> Beacon training on EyeOnWater app and badger modules for leak detection. EyeOnWater focus in new education resource booklet and neighborhood door hanger pilot 		x		

	<ul style="list-style-type: none"> • Utilize EyeOnWater as an educational tool for kids to track water use and understand complex data • Geographic analysis of customer data including water usage by tier, area / neighborhood, rebate utilization, lot size, irrigation practices, etc. • Work with legal to determine appropriate levels of aggregation of data to protect privacy and allow for detailed evaluation of water use trends • Build a citizen science program demonstrating use of EyeOnWater data in a household/business • Collect and document EyeOnWater success stories for website / social media • Outreach to all City staff living in Santa Fe re: EyeOnWater • Reach out to State Agencies and other large local employers to offer materials / training / meeting participation to promote EyeOnWater • Align EyeOnWater with current leak adjustment requirements • Utilize Beacon technology to support leak detection program and spatial analysis • Pursue training materials and courses from Beacon • EyeOnWater workshops for internal and external users 					
Rebate Program	<ul style="list-style-type: none"> • Track program using Survey 123 • Spatial analysis of rebate distribution • Align opportunities with rebates given by PNM and NM Gas Co 	<ul style="list-style-type: none"> • Track program using GIS Survey 123 • Spatial analysis of rebate distribution 			x	

	<ul style="list-style-type: none"> • Continue to examine Commercial Rebate Opportunities by sector • Align rebates with federal standards and industry changes • Evaluate potential additional value from infiltration and catchment systems re: stormwater management, tree planting potential, etc. • Evaluate water deposits into the waterbank from conservation potential or rebated appliances 	<ul style="list-style-type: none"> • Implemented WCC subcommittee recommendation changing rebates on catchment to \$0.25/gallon instead of a tiered system 				
Leak Detection	<ul style="list-style-type: none"> • Use Beacon training to work with customer service and T&D on updated leak detection program • Track EyeOnWater adoption rates for recipients of continuous flow letters • Spatial tracking of leak detection program and data tracking for amount of water saved • Use the leak detection process to identify continuous flow accounts and track in Beacon. • Evaluate continuous flow customer list and identify potential for water savings programming. 	<ul style="list-style-type: none"> • Water Waste campaign on all platforms • Enforcement and restriction reminders on all outlets • Leak prioritization on commercial shopping center pilot • Piloting leak assistance in the Nave Ade neighborhood • Continuous flow program has continued with 300-500 letters sent out each month 			x	
New Outdoor program	<ul style="list-style-type: none"> • Build out website component supporting new outdoor initiative • Showcase outdoor landscapes in line with program initiatives • Meet with stakeholder groups to assist with administrative procedures and fine schedule • Use spatial analysis tools for decision making related to enforcement and outdoor program 	<ul style="list-style-type: none"> • Expanded website component supporting new outdoor initiative • Showcase outdoor landscapes in line with program initiatives • Seeking public input on outdoor water conservation opportunities 		x		
Work with internal City departments	<ul style="list-style-type: none"> • Water Conservation messaging alignment with other city departments 	<ul style="list-style-type: none"> • Water Conservation messaging alignment with other city departments 				x

on joint projects	<ul style="list-style-type: none"> • Work with tourism on messaging for hotels/ restaurants. • Canopy Project • Bee's City, USA 	<ul style="list-style-type: none"> • TreeSmart Santa Fe initiative • Bee's City, USA designation • Monarch City, USA designation • Active participation in Core40 sustainability cross-department planning & ongoing communications/outreach coordination 				
Goal 3: Partnerships & Pilot Projects						
Neighborhood Pilot Project	<ul style="list-style-type: none"> • LID Pilot Project with Public Works • Review of rainwater harvesting rebate opportunities • Align the rebate structure with stormwater fees • Development of neighborhood education program with HOA of pilot neighborhood • Work on neighborhood Pilot Raingarden Project 	<ul style="list-style-type: none"> • Implementation of two neighborhood scale water conservation pilot projects, completing a goal from the 25-year Sustainability Plan • LID Pilot Project with Public Works optimizing the use of infiltrated stormwater to offset potable demand • Calle Sombra project utilizing local knowledge to identify and optimize a specific solution for infiltration and tree canopy raingarden • Water conservation outreach distributed through HOA's at Nava Ade and Quail Run 				x
Organizational Collaborations	<ul style="list-style-type: none"> • NM Water Conservation Alliance (NMWCA) • NM Gas • PNM • Santa Fe County • Santa Fe Green Chamber of Commerce • Santa Fe Watershed Association 	<ul style="list-style-type: none"> • NM Water Conservation Alliance (NMWCA) • NM Gas • PNM • Santa Fe County • Santa Fe Green Chamber of Commerce 				x

	<ul style="list-style-type: none"> • Alliance for Water Efficiency • Santa Fe Public Schools • Lane Community College • WaterNow Alliance • KuelWater • Green Building Coalition 	<ul style="list-style-type: none"> • Santa Fe Watershed Association • Alliance for Water Efficiency • Santa Fe Public Schools • Lane Community College • WaterNow Alliance • KuelWater • Green Building Coalition 				
Cooling Tower Pilot	<ul style="list-style-type: none"> • Continue work with AWE to look at water savings potential with cooling towers and to look at potential rebate opportunities 	<ul style="list-style-type: none"> • Completed 				x
Hotel Pilot	<ul style="list-style-type: none"> • Pursue grant opportunities to fund program • Form partnerships to support program • Develop training program at SFCC • Develop administrative procedures for commercial hotel rebates 	<ul style="list-style-type: none"> • Evaluated grant opportunities and elected to wait until 2022 or later due to changes in the hotel industry per Covid-19 		x		
Restaurant Pilot Project	<ul style="list-style-type: none"> • Continue Pilot with Uponor/Phyn • Continue to work with SFCC to train workforce to do restaurant audits • Continue with SFCC to develop online training in coordination with Lane Community College and the National Science Foundation grant • Work with Green Chamber of Commerce to coordinate work with restaurants • Work on a partner webinar for the website on the pilot • Develop administrative procedures for restaurant rebates 	<ul style="list-style-type: none"> • Continue Pilot with Uponor/Phyn • Continue to work with SFCC to train workforce to do restaurant audits • Continue with SFCC to develop online training in coordination with Lane Community College and the National Science Foundation grant • Work with Green Chamber of Commerce to coordinate work with restaurants • Work on a partner webinar for the website on the pilot 			x	
Goal 4: Program Management						

Human Resources	<ul style="list-style-type: none"> Align with City protocols to hire a qualified diverse staff that includes different advertisement opportunities Analyze staffing need for any vacancy and request to fill position within 1 month of vacancy. Section Supervisor to develop and initiate annual PADPs for all staff with a mid-year review. Develop annual survey of direct report staff's assessment of Section Supervisor. Section Supervisor to participate in NM Edge Certified Public Manager Program and obtain 4+ credit hours/year. PADP assessments with improved feedback from staff on program management Training as defined on PADP Work load alignment with individual programs Increase capacity and efficiencies of employees working from home 	<ul style="list-style-type: none"> Annual survey of direct report staff's assessment of Section Supervisor developed. Work load alignment with individual programs Increased capacity and efficiencies of employees working from home through laptop acquisition and scheduling 		x		
Financial Resources & Budget	<ul style="list-style-type: none"> Submit conservation budget by February 2021 Track budget for each project/program for FY20/21 Apply for grants to support pilot projects Process invoices within 1.5 week of receipt. 	<ul style="list-style-type: none"> Submit conservation budget by February 2021 Track budget for each project/program for FY20/21 Process invoices within 1.5 week of receipt. 			x	
Organizational Development	<ul style="list-style-type: none"> License/certifications to be maintained: Certified Landscape Irrigation Auditor (<i>e.g. 20 CEU's every 2 years</i>) Qualified Water Efficient Landscaper (<i>e.g. 10 CEUs/year or 30 CEU/3-year renewal cycle</i>). Home Energy Auditor (<i>e.g. 24 CEUs/year</i>). 	<ul style="list-style-type: none"> QWEL licenses maintained/obtained by all staff 		x		

	<ul style="list-style-type: none"> • Graywater • Restaurant Auditor Certification • WERS Professional • Hotel Auditor Certification • Draft formal onboarding process. • Review with staff and recommend approval from Division Director, job related training identified in staff PADP. • Develop Section-wide annual general training plan based on programs utilized by the Section (e.g. GIS, MS Office – Outlook, Word, Excel, Adobe Acrobat, PowerPoint, AutoCAD, InfoWater, Power BI, etc.). • Develop individual trainings to support functions of the Section (e.g. Project Manager, SCADA, etc.) and incorporated into individual PADP's. • Staff cross-trained on all programs • Staff certified as relevant to program (QWEL, WERS, CLIA, ARCSA, Backflow, etc.) • <i>Develop, implement and transition 100% of Water Conservation Section electronic files to new Water Division electronic file structure.</i> • Create a SOP document for all programming – rebate analysis, enforcement, leak detection, demonstration garden plant identification and irrigation system layout • Ongoing training in Spanish language esp in regard to rebates, water treatment, etc. 					
Facility Management	<ul style="list-style-type: none"> • Maintenance of demonstration gardens at WCO and San Mateo including weeding, irrigation system repair, pruning, and plant care • Building maintenance and security 	<ul style="list-style-type: none"> • Maintained and improved demonstration garden for use at the Next Generation Water Summit 				x

	<ul style="list-style-type: none"> • Installation of security barrier for water conservation office 					
Water Conservation Committee	<ul style="list-style-type: none"> • Water Conservation Manager to be liaison to Water Conservation Committee • Coordinate committee and subcommittee work with WCO • Assist with joint city/county work as it relates to water conservation • Develop recommendations for a drought emergency response plan including triggers and measures • Develop recommendations for pricing structures • Evaluate utilization of WCC as oversight committee for CSFW proposals 	<ul style="list-style-type: none"> • Currently have 3 subcommittees focused on outdoor use, commercial sector opportunities and a joint committee of the WCC and the County's Water Policy Advisory Committee to look at joint water conservation opportunities. 				X
Reporting & Accountability	<ul style="list-style-type: none"> • Quarterly update to PWPUC against section scorecard • End of FY reports to Stormwater division as it relates to MS4 permit • End of FY reports to Sustainability department as it relates to goals in the sustainability plan • Public input gathered in July of 2021 with public meetings and website to develop 2022 scorecard • Review and update Water Conservation Section on City website on a quarterly basis to verify accuracy of presented information. • Align Save Water Santa Fe website with Water Division Updates • Section Supervisor to encourage and support staff to present at conferences and community events. • Respond to emails and phone calls within 24-hours. 	<ul style="list-style-type: none"> • Developed questions and process for online public input in July. 		x		

	<ul style="list-style-type: none"> Utilize Outlook "Out of Office" tool when not working during the work week. 					
Integration with Water Resources	<ul style="list-style-type: none"> Annual Water report AWWA non-revenue water audit GPCD analysis Attend expanded Water Division monthly meeting and April "What's Up at Water" update webinar to community. Attend weekly Water Division Staff Meeting and weekly Water Operations Meeting. Attend weekly Water Conservation Section Staff Meeting where the weekly Water Division Staff Meeting notes and weekly Water Operations Meeting notes will be shared by the Section Supervisor. Contribute to monthly water division update newsletter with section updates 	<ul style="list-style-type: none"> Completed the 2020 Annual Water Report Completed the 2020 GPCD analysis including OSE reporting (93 GPCD) Attended regular water division and water operations meetings 			x	
Safety	<ul style="list-style-type: none"> Develop and implement an annual safety plan and perform 12 monthly safety trainings on relevant topics for the Section per year. Provide a safe workplace with zero (0) lost work hours/year due to on the job injuries. Maintain compliance with COVID safety regulations from state and city 	<ul style="list-style-type: none"> Maintained compliance with COVID safety regulations Zero workplace injuries Participation in ongoing safety training through division wide trainings 			x	