

TECHNICAL CRITERIA

GREEN ACRES



ADDENDUM LOG

June, 2013

Updated to current layout

November, 2013

Added cover photo

March, 2014

Distribution of utilities through exit corridors is prohibited with exception (t11)

October, 2014

At grade level electrical conduit is not allowed to be installed in the slab (t5)

December, 2014

Wiring language updated (t5, #9)

January, 2015

Language regarding the waterproofing membrane on page t9 revised. (t9)

March, 2015

Updated Plumbing content to list specific location for main water shut off valve to be at eye level. (t9)

Removed text under Power Source on page t4

Corrected text under Electrical Criteria t5 #4

Removed text in paragraph after #5

Added text under Load Calculations entitled System Design

September, 2015

Inserted text at the end of Power Source to reflect meter installation by Tenant. (t4)

Added new text under System Design (t6)

Added text under Building Management System to reflect new BMS (t8, t9)

Inserted VAV System/Individual Rooftop Units Illustration t10)

Closeout Language removed (t9)

December, 2015

Food Court Tenants must install water shut off valve in rear corridor behind the premises (t11)

April, 2016

Added Water Efficiency language. (t11)

April, 2017

Removed language regarding Telephone Service (t4)

Replaced with language regarding Communications Services (t4)

September, 2017

Added #3 under Fire Alarm System - Life Safety (t5)

January, 2018

Updated current layout

GREEN ACRES

PLEASE VISIT
WWW.MACERICH.COM

TO VIEW
PLAN SUBMITTAL & APPROVAL
PROCEDURES
and CONTRACTOR RULES &
REGULATIONS

TABLE OF CONTENTS

TECHNICAL CRITERIA

Electrical Criteria	t4-t5
General Design/Construction Coordination, Power Source	T4
Communications Services, Fire Alarm System - Life Safety	t5
Mechanical Criteria	t6-t8
General Design/Construction Coordination, Load Calculations	t6
System Design, Exhaust Requirements, Kitchen Exhaust Systems, Roof Penetrations	t7
Closeout Requirements, Energy Management System, General	t8
Technical Criteria	t9-t10
Air Balancing	t10
VAV System	t11
Plumbing Criteria	t12-t14
General Design/Construction Coordination Water Efficiency	t12-t13
Gas Service, Seismic Gas Shutoff Valve, Ventilation	t14
Structural Criteria & Exit Corridors	t15

ELECTRICAL CRITERIA

GREEN ACRES

ELECTRICAL CRITERIA

General Design/Construction Coordination

The electrical criteria is provided for the purpose of designing the Tenant's electrical system. This criteria is provided as a guideline for Tenant's Engineer. It is the Tenant's responsibility to verify existing conditions and comply with all applicable codes and standards.

1. Conduit and raceway hangers, clamps, light fixtures, junction boxes, supports, etc. must be fastened to joists and/or beams. Do not attach directly to the slab, roof deck, ductwork, piping or conduit above.
2. Tenant's equipment in the Mall electric room must be clearly identified with Tenant's name and space number.
3. Provide access panels at all junction box locations and at smoke detectors above the ceiling.
4. All outlet boxes, floor boxes, wire raceways, power/telephone poles, plug-in molding, wiring devices, hanger supports and other items required for a complete distribution must be furnished and installed by Tenant.
5. Furnish and install power to roof top units, water heater, store fixtures, signage, music systems and any other fixtures or equipment provided by Tenant. All cutting and patching must be provided by Tenant.

Complete Engineered drawings must be submitted to the Landlord's Tenant Coordinator for review and approval. Landlord will review the plans for conformance to basic Mall requirements. The Landlord does not review for electrical design, nor does the Landlord accept responsibility for the Tenant's adherence to governing codes.

The documents to be submitted for Landlord approval must include the following:

1. Complete plans and specifications for all electrical work, including lighting, power and one line riser Diagram. Documents must be signed and sealed by a Licensed Engineer in the state where the Shopping Center is located.
2. Drawings must include panel schedules, load calculations and meter information.
3. Structural drawings must be submitted for all equipment that will be suspended from the steel structure.

Power Source

All work required to connect Tenant to the main power source must be performed by Landlord approved electrician, at Tenant's expense.

Exceptions to this requirement may be granted by the Tenant Coordinator. Tenant is responsible for feeders to the Tenant space, installation of a dry type transformer, panels and complete distribution throughout the Tenant space.

Landlord will make available the main power source for Tenant's connection. Power source will be 277/480v or 120/280v, 3 phase, 4 wire and will be available in the nearest Mall electric room. Tenants are responsible for installation of the fused buss duct disconnect switch and must pull the feeder wires to the Tenant's demised premises. Landlord will provide an empty 2" conduit with pull-wire from the mall electric room to the Tenant space. If a larger conduit is required, Tenant is responsible for installation of same from the power source to the demised premises.

Tenants at Green Acres are individually metered by the utility company. Tenants are required to install a meter and Tenants are required to work directly with the utility company on setting up service.

Communications Services

1. Landlord has installed a high-speed fiber infrastructure at the Center for purposes of providing voice and data access throughout the Center. All access for Tenant's voice and data services must be sourced through Landlord's designated provider which is currently Granite Telecommunications or such alternative provider as designated by Landlord. The vendor contact for voice and data services can be found in the Tenant Criteria Package under General Information.
2. For all wiring needs in common electrical rooms, a required vendor must be used to maintain the integrity of the electrical room. The vendor contact for low voltage wiring needs can be found in the Tenant Criteria Package under General Information.

Fire Alarm System - Life Safety

1. Tenant must provide a complete fire alarm detection system within the Tenant space as an extension of the Landlord's building-wide addressable fire alarm system.
2. Tenant is required to use Landlord's designated contractor for installation of the necessary smoke detectors and connection to the main fire alarm system. System must comply with the requirements of the governing authority.
3. Fire alarm system must tie in directly to the mall's main panel. Fire Alarm panels are not permitted in tenant spaces.

MECHANICAL CRITERIA

General Design/Construction Coordination

The mechanical criteria is provided for the purpose of designing the Tenant's heating, ventilating and air conditioning system. This criteria is provided for Tenant's Engineer. It is the Tenant's responsibility to verify existing conditions and comply with all applicable codes and standards.

Complete Engineered drawings must be submitted to Landlord's Tenant Coordinator for review and approval. Landlord will review the plans for conformance to basic Mall requirements. The Landlord does not review for mechanical design, nor does the Landlord accept responsibility for the Tenant's adherence to governing codes.

The documents to be submitted for Landlord approval must include the following:

1. Complete plans and specifications covering the heating, ventilating and air conditioning system. Show make, type and performance of all equipment. Documents must be signed and sealed by a Licensed Engineer in the state where the Shopping Center is located.
2. Calculations showing the heating and cooling required, including transmission and ventilation losses in the space and heat and cooling provided for the ventilation supply and exhaust required for the space. Calculations shall be as described in "Load Calculations" included below.
3. Temperature control system data showing make, control and energy management systems.
4. Exhaust system layout including CFM and equipment specifications.

5. Structural details for support of all roof top equipment and equipment suspended from the steel structure.

Load Calculations

The Tenant must perform all calculations in accordance with methods set forth in the latest American Society of Heating, Refrigeration and Air Conditioning Engineers' Guide and Data Book and in accordance with good engineering practice. All calculations must be tabulated in a concise, orderly manner.

Heating load calculation: All spaces must be calculated to maintain the minimum space temperatures in sales and public spaces of 68°F and 50°F in non-public spaces.

Cooling load calculation: All spaces must be calculated to maintain the minimum space temperature of 73°F and a maximum relative humidity of 55°F and shall take into account all interior heat producing items such as people, equipment, roof and exterior walls.

The Tenant is required to submit calculations indicating the heating and cooling loads for the space and calculations for exhaust and make-up air.

Tenants must design for a maximum noise criteria of NC40 for all spaces except kitchens and other similar work areas.

System Design

Spaces in Green Acres Mall have two types of HVAC systems. Some spaces are provided with conditioned air from Main Mall Roof Top Units, and some spaces have their own packaged roof top units. Tenant's on the mall conditioned air system are required to install a VAV box ductwork, supply/return diffusers for a complete working system. Mall air is provided at approximately 60 degrees Fahrenheit. For spaces on the VAV system, please make sure to reference the Building Management System section on t8 for additional controls information.

Exhaust Requirements

Tenants whose operation produces objectionable odors such as restaurants, pet shops, hair salons, nail salons and the like must maintain 10% negative air pressure with respect to the Mall by providing make-up air equal to 90% exhaust air volume. Tenant may be required to provide, at Landlord's discretion, a separate make-up outside air supply system to balance Tenant's exhaust system. Spaces that require exhaust must be designed to provide negative air pressure relative to adjoining conditioned spaces to prevent odor transfer.

Roof mounted exhaust fans must be ducted to ceiling grilles located approximately in the center and rear of the demised premises and specifically near the area here the odors are generated. The system shall be designed to cause the exhaust air to gravitate from the Mall common area to the odor producing area and then exhausted out.

Air filtration systems and bathroom exhaust fans are not acceptable solutions.

The exhaust fan must be interlocked with the light switches for the store customer service area.

The combined HVAC and exhaust system must be in operation during all hours that the Tenant is open for business.

Kitchen Exhaust Systems

Kitchen exhaust systems are subject to Landlord's review to ensure the exhaust does not compromise the ventilation air of adjacent Mall roof top units. Kitchen exhaust systems are subject to the following criteria:

1. The exhaust fan must be a SWSI centrifugal fan which must be fitted with a minimum 10'-0" stainless steel upblast. Guy wires must be attached to the roof in order to secure the stack. Use the Mall roofer for connection of the guy wires.
2. A "Grease Guard" grease containment system (or approved equal) must be installed to protect the Landlord's roof. A quarterly maintenance program must be in-place for the grease containment units. Proof of the maintenance contract must be presented to Landlord prior to the store opening.

Roof Penetrations

If use of roof top units, roof-type supplemental supply, condensing units or exhaust air units by the Tenant is permitted by the Landlord, units must be located on that part of the roof of the building directly above the demised premises as designated by Landlord. Tenant must provide and install all necessary piping and other necessary appurtenances for the operation of the roof top equipment. To the extent any of Tenant's equipment is to be located on the roof, the Tenant agrees to erect roof units in accordance with the requirements of the Landlord and the Tenant further agrees to repair any and all damage to the roof and structure caused by hoisting installation and the maintenance and/or servicing of such equipment, all of which must be at the sole cost and expense of the Tenant.

The Tenant must furnish and install all curbs, supports, lintels, pipes, ducts, vent caps, air inlets, exhaust hoods, louvers, flashings, counterflashing, etc. as required for any equipment requiring openings through the roof and/or exterior walls. The use of curb adapters is not allowed.

The Landlord has the right to inspect the quality of the work and approve locations and, if found unsatisfactory, reject same.

All cutting, patching and restoring of roofing is to be done by the Landlord's roofing contractor at the Tenant's expense. All repairs, maintenance and damage to the roof and/or building due to Tenant's installation must be at the Tenant's cost and expense.

Closeout Requirements

1. Tenant must submit as-built drawings and certified air balance reports prior to construction close out showing the exact location of all equipment and duct work.
2. Tenant is required to properly abandon old and unused roof top equipment (HVAC units, exhaust fans, etc.) by full removal, including curb with an appropriate metal deck and roof material patch. All roofing work must be performed by the Mall approved roofing contractor.
3. Pavers must be placed around the roof top equipment and from the main pathway to the equipment in order to protect the roof from traffic.

Energy Management System

The building EMS system is a Niagara Based Tridium system. Each control package must include the following:

- a) All control hardware as noted below
- b) Wiring diagrams and sequence of operations

Specifications for the compatibility of VAV controls with the Macerich Tridium Network.

General

All VAV units are to be controlled through the Mall EMS system (open protocol BACnet controls, installation and termination to be done by landlord approved contractor at tenant's expense). Any and all HVAC equipment installed for the purpose of TI related work and related to functionality and/or property provided maintenance/monitoring shall be furnished with Open Protocol BACnet DDC Control Module Interface (See below for list of acceptable hardware manufacturers. Any devices requested to the contrary must be approved by the MACERICH CORPORATE EMS Team prior to proposal/approval of TI work) for integration into the Tridium Niagara AX Framework EMS. TI controls contractor shall be responsible for any/all JACE license modifications needed to incorporate new controls installed for TI purposes. Property backbone communication structure will determine if/when BACnet/IP Integration is acceptable. Communication cable furnished for the purpose of controller interface shall meet/exceed all ASHRAE BACnet certified cabling requirements. Cabling color and specifications shall match property backbone communication wiring when applicable.

MECHANICAL CRITERIA

GREEN ACRES

CONTINUED

Technical Criteria

1. Open protocol BACnet controls are based on ASHRAE Standard 135-2010. BACnet Testing Laboratory Certification (BTL) is preferred. BTL Device profile B-ASC (Application Specific Controller) or higher is preferred, based on ASHRAE Standard 135-2010 Annex L.
2. Acceptable Open Protocol BACnet DDC Control Module Interface Manufacturers:
 - a) Distech
 - b) Honeywell
 - c) Reliable Controls
3. Energy Management/Building Automation System (EMS/BAS):
 - a) Contractor will coordinate with the Landlords' required controls contractor to remove all DDC components and disconnect all network cabling before demolition. Tenant shall be held responsible to maintain the integrity of the EMS network cable within their space during all phases of construction. General contractor shall bear sole responsibility for any damage or disruption to the EMS network.
4. VAV controls will be upgraded to meet the enclosed specifications during the following conditions:
 - a) All tenant fit-outs
 - b) All tenant renovations
 - c) New VAV installations
 - d) Existing controller failure
5. Controls shall be supplied and installed by the Mall's Authorized Digital Controls Vendor (Automated Building Controls , Sean Golden, 732-918-8958)
6. VAV installation shall include (but not be limited to) the following:
 - a) Mounting and wiring of all control devices
 - (1) VAV Controller
 - (2) Space Sensor
 - (3) Transformer
 - (4) Temperature sensors
 - (5) Pressure sensor and tubing
 - (6) Communication wire (See wire Specification)
 - (7) Contractor shall run a communication wire (See wiring specification for detailed parameters) from the VAV controller to the nearest JACE panel or BACnet junction.

- b) All low volt control wiring
- c) Integration into Macerich Tridium Network system including the following points:
 - (1) Space Temperature
 - (2) Supply Air Temperature
 - (3) Return Air Temperature
 - (4) CFM
 - (5) Damper Position (Modulate)
 - (6) Space Temperature Setpoint
 - (7) Occupancy Command
- d) Start-up, program, and commission controls including:
 - (1) Damper operation
 - (2) Reheat operation (If applicable)
 - (3) CFM accuracy
 - (4) Temperature Sensor accuracy
 - (5) Contractor shall inspect pressure pick-up and replace as necessary
 - (6) All work shall be warranted for one year after Macerich acceptance

Air Balancing

Each Tenant system must be air balanced by a certified air balance contractor. The contractor must contact the Mall maintenance supervisor prior to and upon completion of the air balance. The air balance report will be submitted with the as-built drawings for final closeout. Once installed, access to the fan-powered VAV units is vital. Engineers must note appropriate access doors or lift out panels at every fan-powered VAV unit location. There may not be any obstructions to the fan-powered VAV unit. Tenants are encouraged to pre-order their fan-powered unit(s) and controls. There will be a six-week minimum lead-time required on all units.

MECHANICAL CRITERIA

GREEN ACRES

CONTINUED

- VAV SYSTEM
- INDIVIDUAL ROOFTOP UNITS



PLUMBING CRITERIA

General Design/Construction Coordination

The following criteria is provided for the purpose of designing the Tenant's plumbing system. This criteria is provided for Tenant's Engineer. It is the Tenant's responsibility to verify existing conditions and comply with all applicable codes and standards.

Complete Engineered drawings must be submitted to Landlord's Tenant Coordinator for review and approval. Landlord will review the plans for conformance to basic Mall requirements. The Landlord does not review for plumbing design, nor does the Landlord accept responsibility for the Tenant's adherence to governing codes.

The documents to be submitted for Landlord approval must include the following:

Complete plans and specifications covering the complete plumbing system. Documents must be signed and sealed by a Licensed Engineer in the state where the Shopping Center is located.

The Tenant shall provide a complete plumbing system for the Tenant space. The Landlord has provided connections in each Tenant space for sanitary waste and potable cold water.

Tenant is responsible for all plumbing including toilets, sinks, urinals, drains, hot water heaters, water coolers, grease trap/interceptors and connections into existing water and sewer lines.

Water Efficiency

1. The Tenant is required to install waterless urinals in tenant restrooms when urinals are used.
2. Low-Flow water closets using 1.6 GPF or less gallons per flush will be installed in all tenant spaces.
3. Operation sensors and low-flow heads using 0.5 GPM or less in lavatories.

Tenant shall provide a main water shut off valve located at eye level in a wall behind a labelled access door. Locate in or near employee restroom as designated by Landlord.

All domestic supply lines shall be copper. Sanitary and vent lines traversing the ceiling area to be cast iron or copper (no PVC). Tenant will utilize electric water heaters for domestic hot water.

Every Tenant must install a handicapped restroom facility with a minimum of one water closet and one lavatory and in accordance with local code officials. An exception to this requirement is only permitted for Food Court Tenants who are within close proximity to the public restrooms upon approval of the Landlord and local code official.

PLUMBING CRITERIA

GREEN ACRES

CONTINUED

A water meter to measure the amount of water used must be installed by the Tenant below the lavatory. If applicable, second level restrooms must install a floor drain. Mop sinks and water fountains must be installed per local code requirements.

Food Court Tenant's must install water shut off valve in the rear corridor behind the premises.

Tenant must install clean outs as required by code and Landlord's requirements and these shall terminate flush with the finish floor or wall. No clean outs are permitted above the ceiling. Garbage disposals are not allowed.

Hair salons and pet shops shall provide hair and solids interceptors on all sinks and basins which may receive human or animal hair. After installation, these hair interceptors shall be properly maintained so as to keep the sanitary system free from any adverse conditions.

Except with Landlord's prior written permission for non-compliance, all pot sinks, scullery sinks, pre-wash sinks and other kitchen units must be connected to a grease trap. Dishwashers may not be connected to grease trap.

If outside Tenants lease line, location of grease interceptor must be designed and approved by Landlord prior to installation.

Waterproofing must be installed in all "wet areas" such as kitchens, restrooms, mop sinks, drinking fountains, etc. The waterproof membrane must extend 4" vertically on all demising walls. This membrane will be water tested by the General Contractor and inspected and signed off by Mall Personnel. If the membrane fails the water test, it must be replaced.

Food service, hair salons or other Tenants with equipment or operations that have the possibility of backflow will be required to install an approved backflow preventer. These must be certified and acceptable to the water district and checked yearly or as required by the local authority having jurisdiction.

Tenants on the upper level must coordinate with lower level Tenants and the Landlord for floor penetrations and any plumbing under the upper level floor/deck. Tenant will be responsible for all cost associated with this work.

Tenants must submit calculations to the Landlord which show the size selection or basis of capacity of all equipment and piping.

Gas Service

Gas may be available at the Center. Tenant, at its sole cost and expense and in compliance with local code must procure gas service to and within the demised premises and will make all necessary arrangements with the local Gas Company for such service. Tenant is responsible for installation of a gas meter at the gas meter header.

Pressure regulators and piping required for connection to Tenant's equipment is the responsibility of the Tenant. Coordinate with Landlord for regulator vent routing.

Gas piping on the roof must be placed on pillow blocks or similar arrangement.

Seismic Gas Shutoff Valve

All Tenants who use or have a gas line installed for their premises, or equipment that serves their premises, are required to install a code and Landlord-compliant seismic gas shut off valve on the main gas line serving the space.

Ventilation

Tenants will provide vertical exhaust ducts at a location designated by Landlord. All hood exhaust must be connected to vertical duct in accordance with code. Tenants are required to provide for the upkeep and maintenance for such vertical exhaust duct and related devices and materials.

All sanitary sewer and plumbing vent piping shall comply with all local codes

STRUCTURAL CRITERIA

GREEN ACRES

STRUCTURAL CRITERIA

The following criteria is provided for the purpose of designing the Tenant's structural drawings. This criteria is provided as a guideline for Tenant's Engineer. It is the Tenant's responsibility to verify existing conditions and comply with all applicable codes and standards.

Complete Engineered drawings must be submitted to the Landlord's Tenant Coordinator for review and approval. Landlord will review the plans for conformance to basic Mall requirements. The Landlord does not review for design, nor does the Landlord accept responsibility for the Tenant's adherence to governing codes.

The documents to be submitted for Landlord approval must include the following:

- Complete plans and specifications for all structural work. Documents must be signed and sealed by a Licensed Engineer in the state where the Shopping Center is located.

General Requirements

1. The Tenant's storefront must be structurally self-supported. Tenant may not support the storefront from the bulkhead or fascia. Structural lateral bracing support for Tenant storefronts must be from the roof joists.
2. Fixtures and equipment may not be attached to or supported from the roof deck.

3. Structural drawings are required for all items weighing 300 lbs. or more.
4. Joist reinforcing is required for roof top equipment as well as steel support for all roof openings.
5. Upper level Tenant's must review base building structural drawings prior to installing a security safe, ovens or any equipment weighing 300 lbs. or more.

EXIT CORRIDORS

Distribution of utilities through a newly constructed or an altered exit passageway is prohibited except for equipment and ductwork specifically serving the exit passageway, sprinkler piping, standpipes, electrical raceway for fire department communication and electrical raceway serving the exit passageway.