Town of Oro Valley

Residential Construction Handbook

Community Development & Public Works
Permitting Division
11000 N. La Cañada
Oro Valley, AZ 85737
Phone: (520) 229-4800
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www.orovalleyaz.gov

PERMITTING DIVISION

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COMMUNITY DEVELOPMENT AND PUBLIC WORKS
11000 N. La Cañada Drive
Oro Valley, AZ 85737
Phone (520) 229-4800 ● Fax (520) 742-1022

Office Hours: 8:00 a.m. – 5:00 p.m. M-F
(no applications will be processed after 4:30)

In-field Inspection Hours: 8:30 a.m. - 3:30 p.m.
(call for inspections by 3:30 for next day service)

Web site: http://www.orovalleyaz.gov

LOCAL AGENCIES

AZ Office of Manufactured Housing	628-6920	www.dbfs.state.az.us
Blue Stake	(800) 782-5348	www.azbsinc.com.
Golder Ranch Fire District	825-5968	www.golderranchfire.org
Oro Valley Water	229-5000	www.orovalleyaz.gov/waterutility
Pima Co. Addressing	740-6480	www.pimaexpress.com
Pima Co. DEQ/Septic Permits	740-6501	www.deq.co.pima.az.us
Pima Co. Wastewater Management	740-6503	www.pima.gov/wwm
Registrar of Contractors	628-6345	www.azroc.gov
Southwest Gas	889-1888	www.southwestgas.com
Tucson Electric Power	623-7711	www.tucsonelectric.com

WELCOME LETTER

Dear Customer,

The Permitting Division is dedicated to helping homeowners successfully complete home improvement projects. This guide is designed to assist the home owner through the process of obtaining a construction permit. It has been created to explain the various steps, requirements, and resources available to you as you undertake your home construction, remodeling, pool and spa projects.

It you have any questions at any point in your project, Permitting staff is here to help. Just call the main line at 520-229-4800 for assistance. We want your experience with Permitting to be a smooth and pleasant one. Best wishes with your project.

Chuck King
Building Official / Inspection and Code Compliance Manager

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INTRODUCTION

An important part of any improvement project is good planning. Such planning efforts include developing construction documents and applying for a building permit **before** beginning construction. Obtaining a building permit helps protect the safety of your family, as well as the value of your home and property. Proper permits are also beneficial when selling your home, applying for a home equity loan, or making a claim against your homeowner's insurance.

Work started without a building permit is subject to fines and penalties, in addition to the building permit fee. Any work begun without a permit that does not meet code requirements may have to be removed or rebuilt. If you are not sure whether a permit is required or require additional information, please contact the Building Safety Department.

OBTAINING A BUILDING PERMIT

The homeowner, designer, or licensed contractor may apply for a building permit. The application must contain enough detailed information to fully and clearly describe the proposed project. A simple description of the project (i.e. "Upgrade existing electric service from 100 to 200 AMPS" or "Replace ¾ inch copper water service line") may be sufficient. However, Construction Documents, including a site plan, will be required in most cases.

Plans submitted for very minor projects (i.e. patio walls, patio addition, adding a door, room remodel, etc.) may be submitted on plain paper (8½" x 11"). All plans must be signed by the preparer of the drawings or responsible individual, and include the correct address and phone number. Three sets of each drawing must be submitted drawn to a minimum scale of ¼"=1'-0". Plans and documents prepared by registered design professionals are required when the construction does not comply with the conventional framing provisions of the

International Residential Code (IRC). Plans and documents prepared by a registered design professional are required to be sealed, signed and dated. The Assessor's tax code number for the property is also required.

Upon submittal, the construction documents will be reviewed to verify compliance with all applicable zoning, grading (if applicable) and building code requirements. Corrections, modifications and/or additional information may be required after the initial review has been completed. Upon approval of the construction documents and the issuance of a building permit, one set of approved drawings and the building permit must be located in a conspicuous place on the job site. Oro Valley will retain an approved set of drawings for the period of time prescribed by law for the retention of public records.

SUBMITTAL CHECKLIST

- ***General Requirements*** Dimensioned building plans drawn to a minimum scale of ¼"=1'-0" are required for all submittals. Submit three bound sets of bluelines or blacklines (Plans prepared by an architect or engineer are required to be sealed by registrant).

- ***Completed Application*** Include parcel #, contractor license information and Oro Valley business license for work done by a contractor, grading statement, and a bond exemption certificate for projects over $50,000.

- ***Grading/Site Plans*** with set backs from property line to new construction and existing buildings; calcs, feeds of sewer, water, electric and gas; proposed walls giving type, height and length. (Details for retaining walls)

  (If not mass graded) Include topography (existing and proposed), grading limits, cross section and general notes. Attach certified source of topography (such as a preliminary plat) or a land surveyor stamp with statement of certified topography.

  Walls Patio walls 6' in height and less are not required to have a permit but need zoning approval. Patio walls over 6' require engineering.

  Retaining/Restraining walls will require:
  - Three retaining wall details and calculations. (bound and sealed)
  - A separate permit application will need to be completed for the walls.

- ***Elevations*** show all four sides, provide building heights. If average cross slope exceeds 6% then existing natural grade must be shown.

- ***Section Views*** show all heights of ceilings and roof members. Label all section materials.

- ***Floor Plans*** with window & door schedules and all room uses labeled. Show fire rated separations and all cabinet and fixture locations.

- ***Soils Reports*** (2 copies bound and sealed) must be included for all non-mass graded sites. Soils report must be from the lot being built on. If over one year old a letter from registrant stating the soils report is still valid for that lot will be required. Soils reports must include slope recommendation(s) and building foundation requirements.

- ***Structural Calculations*** (2 copies bound and sealed) when structure does not fall within the Conventional Light-Frame Construction Provisions of the International Residential Code.

- ***Energy Calculations*** showing compliance with the International Energy Conservation Code.

- ***Electric Plans*** with panel schedule showing service size and circuits identified. All outlets, smoke detectors and feeders with appropriate panel circuit numbers. Load calculations are required for all residential electric services.

- ***Plumbing Plans*** must include location, size and material of all piping, drainage waste and vent and water piping w/ developed length. Location and size of gas piping with developed length and appliance demands. Location and demand of water meters and gas meters. Location of water heater, temperature relief, combustion air and flue. Locations of clean-outs, water shut off and pressure reducing valves. Provide residential water pressure.

- ***Mechanical Plans*** including heating and cooling unit capacity, location and demand or input. Furnace combustion air and flue sizes. Circulating return air ducts and supply sizes. Size and location of all condensate drains.

- ***Footing/Foundation Plans*** showing size and depth of footings, stem wall and concrete slabs on grade, reinforcing steel size and spacing, retaining or restraining walls, anchors and hold-downs.

- ***Structural/Framing Plans*** including truss certifications and layout, all beams, supports and structural details, roof construction, venting calculations, types, and sizes. Exterior walls and bearing partitions, lintel and header sizes and shear wall schedule showing resistive elements. Framing member size, grade, species of lumber, and spacing. Indicate the type and thickness of all floor and roof systems.

- ***Post Tension Slabs*** require a special inspection form to be completed and approved prior to issuance of the building permit.

FIRE SPRINKLERS ARE REQUIRED FOR HOMES OVER 3600 SQ FT AND FOR SOME ADDITIONS
Please inquire with permit staff for further information

APPLICANT SHALL CONTACT THE TOWN'S PLANNING DIVISION ABOUT THE CONCEPUTUAL *DEVELOPMENT REVIEW BOARD* (CDRB) AS THIS HOME MAY REQUIRE REVIEW BY THE CDRB.

APPLICANT SHALL PAY A SEWER OR SEPTIC CONNECTION FEE TO *PIMA CO. WASTEWATER* AND SUBMIT THE SEWER/SEPTIC CARD TO THE TOWN AT TIME OF PERMIT ISSUANCE.

Deferred Submittals: Those portions of the design not submitted at time of application shall be submitted to the building official (BO) within a specified time period. Deferral of any submittal items **shall** have **prior** approval of the BO. The architect or engineer of record shall list the deferred submittals on the plans and indicate that components of deferred submittals not be installed until approval by the BO. The deferred submittal documents shall be wet stamped and signed by the architect or engineer of record, with a notation indicating that the deferred submittal documents have been reviewed and that they have been found to be in general conformance with the design of the building. The deferred submittal items shall not be installed until their design and submittal documents have been approved by the BO. An hourly, separate plan review fee will be assessed on deferred submittal documents and plans.

CONSTRUCTION DOCUMENTS

An architect, engineer, drafting service or homeowner may prepare construction drawings for residential improvements. All drawings must be detailed, accurate, neat and complete. The purpose of preparing and submitting a complete set of construction documents is to:

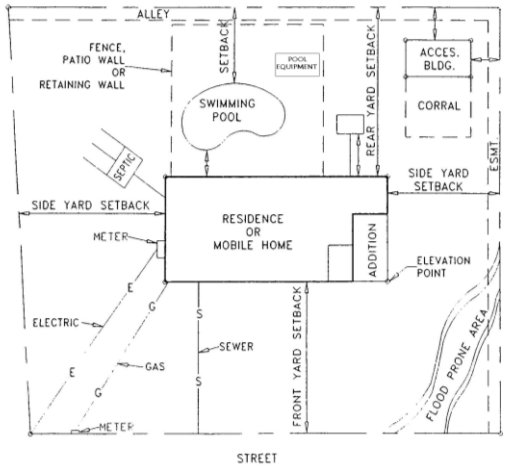
- help the homeowner envision how all parts of the project fit together;
- assist in planning and estimating the costs for each phase of the project;
- prevent unpleasant surprises and last minute changes during construction;
- provide the contractor with clear instructions regarding the required layout, materials and the expected finished product;
- provide written and graphic documentation of the project for future reference;
- enable the Building Safety Department to perform a faster and more thorough plan review;
- enable the Building Safety Department to provide better service by identifying potential code problems and recommending solutions.

Based on the specific project, some or all of the following information may be required:

- Soils Engineering Report
- Site Plan / Grading
- Floor Plans
- Elevations
- Cross Sections
- Foundation Plan
- Floor Framing Plan
- Roof Framing Plan
- Details
- Engineering Calculations
- Truss Plans
- Electrical Plan
- Electrical Service Diagram
- Electrical Load Calculations
- Electrical Panel Schedule
- Plumbing Plan
- Plumbing Fixture Count
- Gas Pipe Plan
- Mechanical Plan
- Septic System / Sewer Permit
- Energy Calculations

SITE PLAN

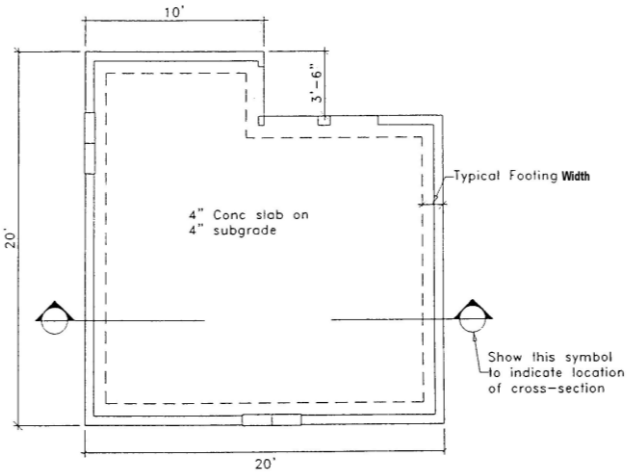
A site plan is a "bird's eye" view of the entire property. This plan is required when constructing a new building, pool, spa, or adding roof area to an existing building. The site plan must show the location of the property lines, dimension of easements, adjacent streets or alleys, and all proposed and existing buildings. The site plan must indicate the distance between buildings on the property and the distance from each building to each property line. The square footage of all new and existing buildings, including patio roofs, walls, garages and carports should also be shown. The location of the septic system or sewer connection, and all water, gas and electric lines must be indicated.



[*Note: This drawing is a sample and may not cover all code requirements for your project.*]

FOUNDATION PLAN

A foundation plan is a "birds eye" view of the foundation of a structure. This plan is required when constructing a new building or adding floor area to an existing building. The foundation plan must show the size and depth of all footings, and indicate the location of the stem walls and slab. The size and spacing of the reinforcing steel must also be provided. Soil bearing values must also be indicated on the foundation plan. Engineering soil reports are usually required.



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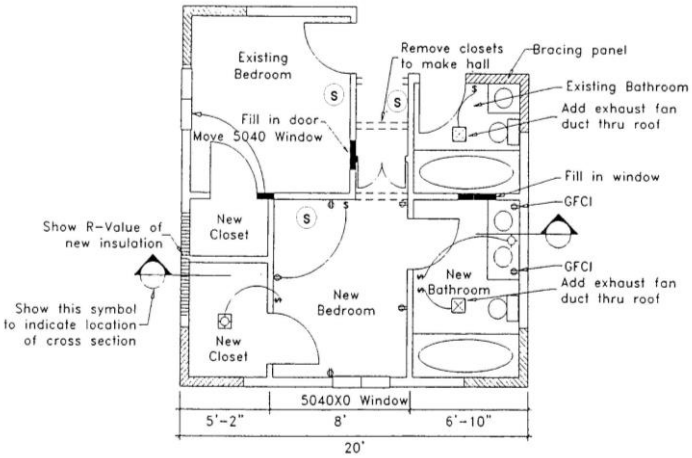
FLOOR PLAN

A floor plan is a "bird's eye" view of a building with the roof removed. This plan is required when adding a room to a home, changing the interior of a house by adding or removing walls, or when constructing a garage, storage unit, or workshop building.

Depending on the project, the floor plan may need to show the entire house or only specific areas. The floor plan must show any part of the structure that will be affected by the project. For example, an existing room must be shown if a new room will be attached to it. The floor plan must show the size and use of every room, the size and type of all doors and windows, plumbing fixtures, water heater, furnace, appliances, and built-in cabinets. The floor plan, or a separate electrical plan, must also indicate the location of all electric switches, lights, fans, smoke detectors, and receptacles with symbols as shown.



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CROSS SECTION

A cross section is a view of a structure that has been sliced horizontally and separated to view the inside. This drawing best demonstrates how a building is constructed. A cross section is required when constructing any type of structure. This drawing must indicate the footings, wall studs and /or re-bar, beams, columns, roof rafters, trusses, plywood sheathing and the type of roofing material. All components and materials must be labeled with their sizes and dimensions. This drawing must also indicate how the individual parts will be put together with metal connectors, bolts or nails.

TYPICAL WOOD FRAME SECTION

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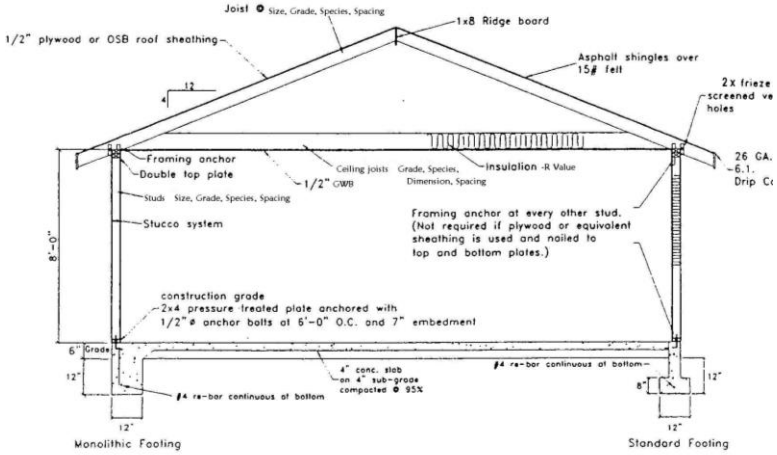

TYPICAL CONCRETE BLOCK SECTION

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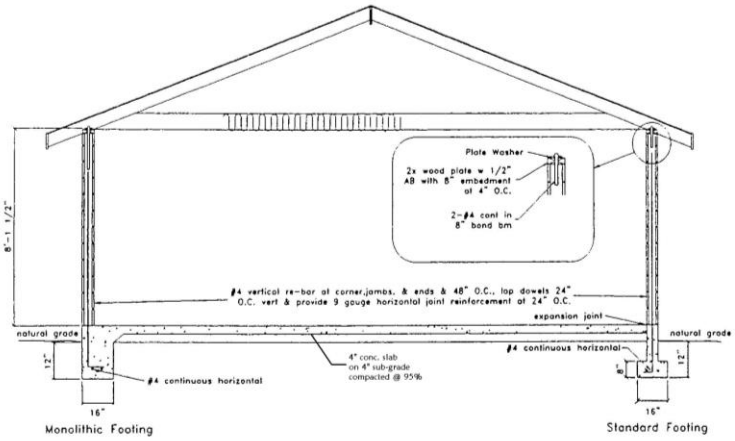


SIZE, HEIGHT AND SPACING OF WOOD STUDS

STUD SIZE (inches)	BEARING WALLS					NONBEARING WALLS	
	Laterally unsupported stud height[a] (feet)	Maximum spacing when supporting roof and ceiling only (inches)	Maximum spacing when supporting one floor, roof and ceiling (inches)	Maximum spacing when supporting two floors, roof and ceiling (inches)	Maximum spacing when supporting one floor only (inches)	Laterally unsupported stud height[a] (feet)	Maximum spacing (inches)
2 X 3[b]	-	-	-	-	-	10	16
2 x 4	10	24	16	-	24	14	24
3 x 4	10	24	24	16	24	14	24
2 x 5	10	24	24	-	24	16	24
2 x 6	10	24	24	16	24	20	24

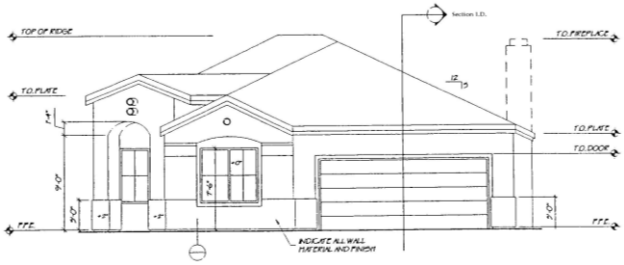
For SI: 1 inch = 25.4 mm

a. Listed heights are distances between points of lateral support placed perpendicular to the plane of the wall. Increases in unsupported height are permitted where justified by analysis.

b. Shall not be used in exterior walls.

ELEVATIONS

An elevation is an exterior view of the front, rear, and sides of a structure. They are required when constructing a new residence, adding a room to a home, or altering the exterior of an existing structure. The elevations must indicate all exterior features of a structure, including walls, roofs, chimneys, doors, windows, openings and decorative elements. One or more elevation views may be required based on the specific project.

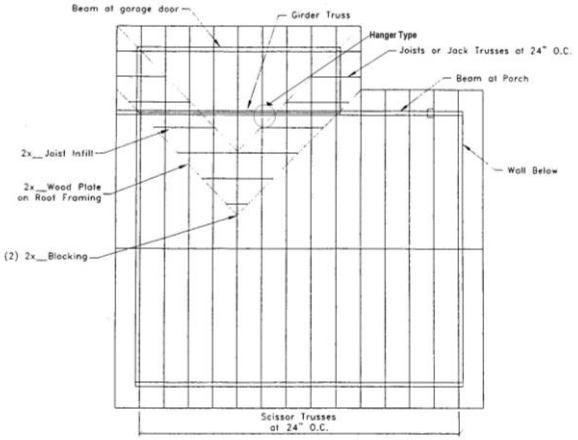


FRONT ELEVATION A

[*Note: This drawing is a sample and may not cover all code requirements for your project.*]

ROOF FRAMING PLAN

A roof framing plan, similar to a floor framing plan, shows the structure beneath the roof surface including rafters, joists, trusses, and beams. This plan is required when a roof structure contains several beams, has one beam supported by another, has trusses supported by a girder truss, or the structural elements of the roof cannot be clearly shown by a cross section. The size and spacing of all beams, supports, venting openings and structural details including types of framing hangers and connectors used must be shown on the plan. Also included is the type of construction materials, the location of exterior walls, and bearing partitions. If using pre-fabricated trusses, two sets of the manufacturer's plans must be provided. The manufacturer's plans must be sealed and dated by an engineer registered in Arizona and include a minimum 90 mph wind load design.



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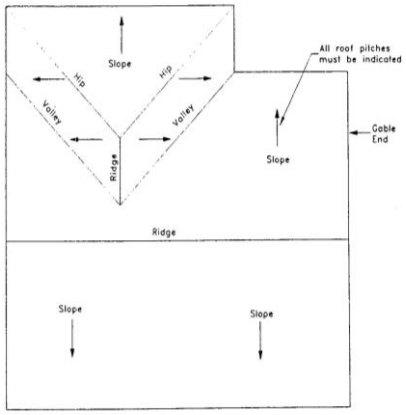
ROOF PLAN

A roof plan is a "bird's eye" view of the roof. This plan demonstrates the slope of each part of the roof, and the location of any valleys, ridges, or hips. The roof plan must indicate the type and size of the roof surfacing material, the approximate location of the vents, and show how the roof will be ventilated. Roof ventilation calculations are also required.



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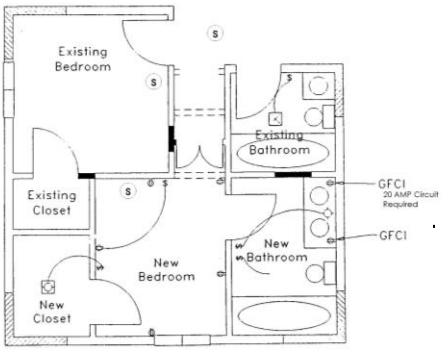
ELECTRICAL PLAN

An electrical plan is required whenever installing or replacing electrical components. All rooms must be identified by room use or name. This plan must indicate the location of all electrical outlets, lights, smoke detectors, and switches. All residential electric services require load calculations.



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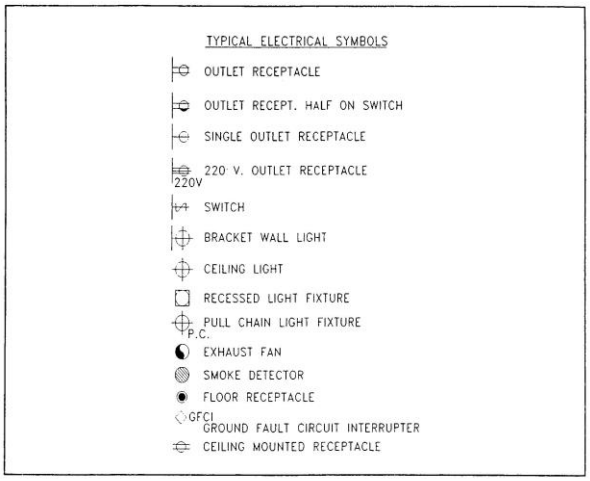
Typical Electrical Symbols:



Common Electric Code Requirements:

- Any living room, dining room, family room, or bedroom must have electrical outlets spaced evenly around a room so that a six-foot cord placed along the walls can reach an outlet without crossing a doorway, other opening, or fireplace.
- Every wall two feet wide or more must have at least one electrical outlet.
- Each room must have a light or an outlet controlled by a switch.
- "Ground Fault Circuit Interrupter," (GFCI) protection is required for outlets serving kitchen countertops, bathrooms, garages, and unfinished accessory buildings or basements, all outlets within 6' of a bar sink, and on all outside outlets.
- When converting a carport into a garage, an additional GFCI outlet may be required.
- Arcfault Circuit Breakers (AFCI) are required for all bedroom uses.
- Outlets shall not be installed face up in the counter.
- Kitchen counters must have electrical outlets for small appliances located so that no counter space 12" or wider, is further than 2' from an outlet. An outlet is required to be located within 2' of each end of any counter space, sink, range, or cooktop. They must be on two individual 20 AMP GFCI circuits.
- The two or more 20 AMP kitchen appliance branch circuits can serve only the kitchen and dining areas.
- Only one outlet is required for an island or peninsula countertop, unless divided by a sink, cooktop, etc.
- The outlets cannot be located higher than 20" above or more than 12" below the countertop, and if mounted below the countertop they cannot be installed under counter overhangs larger than 6".
- Bathroom outlets shall be supplied by at least one 20-amp branch circuit. Such circuits shall have no other outlets and must be GFCI protected. An outlet shall be installed w/in 36" of each sink.
- Outlets and switches are not allowed to be installed in a bathtub or shower space.
- Range and dryer outlets must be four-wire type for all new construction and new circuit installations.
- Incandescent lights located within clothes closets must be enclosed and a minimum of 12" from shelf edges.
- Smoke detectors shall receive their primary power from the building wiring and be equipped with a battery back-up. Detectors shall sound an audible alarm in all sleeping areas in which they are located and be interconnected to sound simultaneously.
- Exterior lights are required at all exterior doors with switches located nearby.

ELECTRICAL SERVICE AND LOAD CALCULATION

Whenever planning an addition or adding electric powered equipment to your home, it is necessary to determine whether the existing electrical service is capable of handling the increased loads. To perform load calculations, the following information is required: the size of the existing service, the total "livable" square footage, the number of kitchen small appliance circuits, a list of standard appliances (range, clothes dryer and water heater), and the full-load amp rating of the air conditioning and all major equipment. If it is determined that the existing system is not adequate, the electrical service must be upgraded.

Electrical Panel Schedule and Circuits:
Whenever adding new loads to an existing electrical service, new circuits may need to be added. Therefore, it is necessary to provide a panel schedule showing the ampere rating of each circuit breaker and the circuit that it protects. It is also necessary to indicate the wire type and size. New breakers need to be from the same manufacturer.

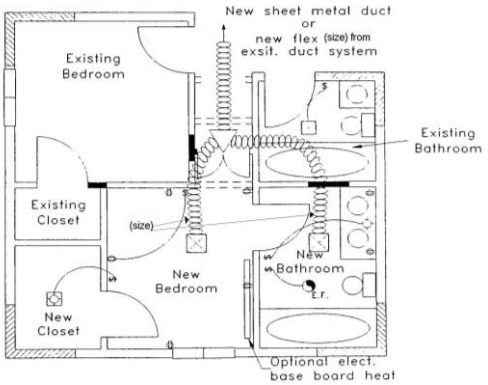
Sample Panel Schedule (120/240V – Single Phase, Service 22,000 AIC)**:**

Wire Type & Size	Circuit Breaker		Circuit Protected	Circuit Protected	Circuit Breaker		Wire Type & Size
	No.	Amp			Amp	No.	
Cu #14	1	15	General Lighting/Receptacles	Air Conditioner	2P 30	2	Cu #10
Cu #14	3	15	"			4	
Cu #14	5	15	"	Range	2P 40	6	Cu #8
Cu #12	7	20	Small Appliances			8	
Cu #12	9	20	"	Water Heater	2P 30	10	Cu #10
Cu #12	11	20	Dishwasher & Disposal			12	
Cu #12	13	20	Laundry	Clothes Dryer	2P 30	14	Cu #10
*Cu #14	15	15	Room Addition			16	
*Cu #12	17	20	Microwave Oven	Spare		18	
	19		Spare	Spare		20	

*New Circuits this Permit *[Note: This drawing is a sample and may not cover all code requirements for your project.]*

MECHANICAL PLAN

A mechanical plan is required whenever installing cooling and/or heating equipment in a new or existing structure. This plan must indicate the size, capacity and location of all piping, supply and return air ducts, grills, exhaust fans, heater, combustion air vents and drains for the cooling/heating system. In addition, the capacity, location and required work space for the cooling/heating unit must be shown. The type of insulation material for mechanical pipes and air ducts must also be provided.



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SEWER OR SEPTIC SYSTEM

If your work involves any addition of plumbing fixtures, you will need to obtain a sewer card from Pima County Waste Water Management prior to issuance of building permit. If the property is served by an onsite sewage disposal system, the permit application must be reviewed by the Department of Environmental Quality (PDEQ), 201 North Stone Avenue, 1st Floor, Tucson, Arizona. This review will determine if the existing system is large enough to serve the proposed addition. When installing a new septic system, PDEQ will require an engineered design and percolation testing prior to the issuance of a permit.

BATHROOM AND OTHER PLUMBING ADDITIONS

Installation of "Low Flow" fixtures, designed to save water, must be installed whenever addition or replacing any plumbing fixtures. Sinks and showers are limited to 2.5 gallons per minute; toilets are limited to 1.6 gallons per flush. Whenever adding additional fixtures to a plumbing system, it is necessary to check the size of the existing meter and yard piping to determine if they are capable of handling the increased demand. The meter and/or water line must be upgraded if determined that the existing system is not adequate.

BACKFLOW PREVENTION

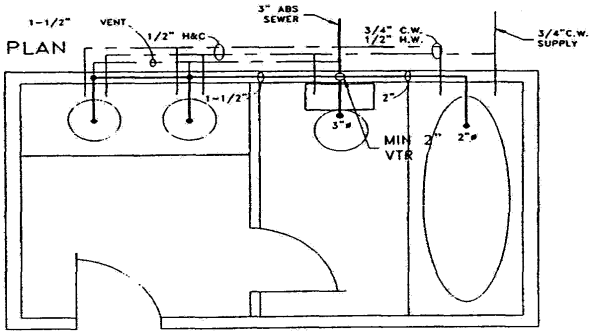
Generally, people have confidence in the quality of water they drink. We open a faucet and drink, cook, and clean with the water that comes out. However, if the water becomes contaminated, sickness and even death could be the result. Many people are unaware that the common garden hose can be a dangerous vehicle for carrying such contaminated water into a home. Hazardous materials can enter a water supply system due to back-siphon. Back-siphon is the reversal of the normal flow in the water supply caused by a vacuum.

Back-siphon can occur whenever there is a loss of water pressure to a home due to a break in the service main, repairs being made on the line or nearby fire fighting activity. The effect of such a loss in pressure is the "sucking" or siphoning of water from the home piping system. In addition, an open hose left on the ground to water shrubs, or located near a cesspool or other contaminated area could cause harmful material to be "sucked" into the house piping system.
Another potential danger is a laundry tub or service sink, where an open hose hanging in the tub could allow contaminants to be siphoned back into the home piping system. While leaking gas can be smelled and smoke or fire can be seen, it is usually impossible to detect contaminated water. The only solution to prevent back-siphon and protect against contaminating the household water supply is the installation of a "back-flow preventer."

A back-flow prevention device works by means of a positive, rubber to rubber seating, which closes absolutely tight if the water supply pressure fails. This device ensures that back-siphon can not occur. The installation of a back-flow prevention device on any faucet where it is possible to attach a garden hose is required by code.

PLUMBING PLAN

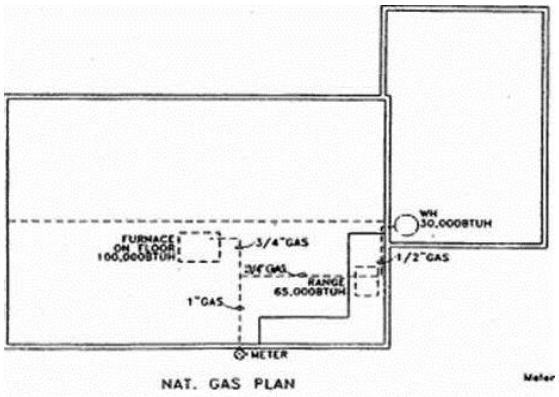
A plumbing plan is a diagram of the plumbing system which indicate the size and location of all new and existing drains, waste lines, and vents. A plumbing plan may be required when adding piping or fixtures to a plumbing system. This diagram must illustrate the proposed system as it will be installed, including all bends and branches required to fit the system inside the walls, floor, and/or roof. In addition, the plans must indicate the location of all existing and proposed traps, fixtures, and piping. Each trap must be labeled with the name of the fixture and the size of each section of pipe. All new piping and the method for tying into the existing system must also be shown.



[*Note: This drawing is a sample and may not cover all code requirements for your project.]*

GAS PLAN

A gas plan is a diagram of the gas supply system. A gas plan may be required when adding a new gas burning appliance to your home, replacing an existing gas burning appliance with a larger unit (measured in BTU's), or replacing the entire gas system. This diagram must illustrate the proposed system as it will be installed, including all bends and branches required to fit the system inside the walls, floor, and/or roof. In addition, the plans must also indicate the location of the meter and appliance, and the BTU rating of each appliance. The gas plan must also indicate the length and the size of each section of pipe. The entire system, both existing and new, must be shown.



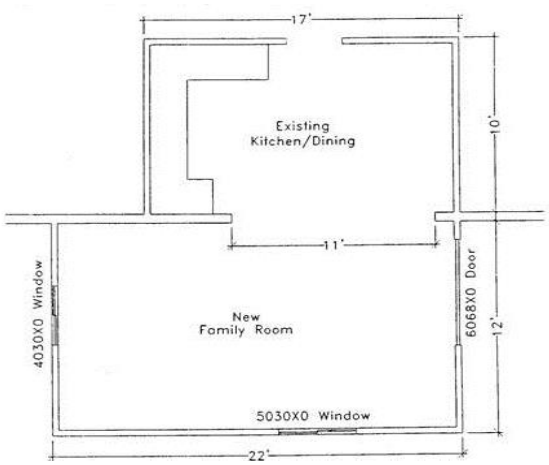
[*Note: This drawing is a sample and may not cover all code requirements for your project.]*

GAS TEST

A "gas test" is actually an air pressure test of the gas supply system. It is required whenever adding or replacing any piping. The building inspector does not perform this test, but must be present while it is performed. The property owner or contractor must provide the equipment and set up the test before the inspection. The building inspector will monitor the test and verify that the pressure test gauge does not drop below the required pressure during the test. The gas test is performed by pressurizing all new gas piping to a pressure of 1 ½ times the proposed maximum working pressure, but not less than 3 psig for not less than 10 minutes.

LIGHT AND VENTILATION

When adding a room or enclosing a patio, the floor plan must demonstrate that all applicable light and ventilation requirements are met. The code requires each habitable room have natural light and ventilation. The total window area within a room must equal at least 8% of the room floor area. The total area of all windows that open must equal at least 4% of the room floor. Bathrooms and laundry rooms may have either windows or a fan vented to the outdoors. If a room addition encloses an outside door or window of an existing room, an additional door or window may be required in the existing room. If no outside wall is available for this purpose, a skylight may be allowed. However, if at least one half of the wall between a new room and the existing room is removed, the area may be called one room and the window area calculation determined based on the combined total floor area of the new and existing room.



[*Note: This drawing is a sample and may not cover all code requirements for your project.]*

PORCH: DESIGN CRITERIA, FRAMING DETAIL , FRAMING CHART, & SECTION

Porch Design Criteria:

1. All wood for this design must be Douglas Fir #2 or better.
2. Concrete grade must be a minimum of 2,500 psi.
3. Re-bar must be a minimum #4. (not shown)
4. Roof nailing must be 8d nails at 6" on-center at panel edges and 12" on-center elsewhere.
5. Minimum concrete toe-down at 6"h x 6"w with 1 - #3 re-bar horizontal, continuous. (Perimeter of concrete slab)
6. Assumed soil bearing 1500 psf.
7. Porch framing based on 30# dead load and live load.
8. Metal connectors to be ICBO approved.

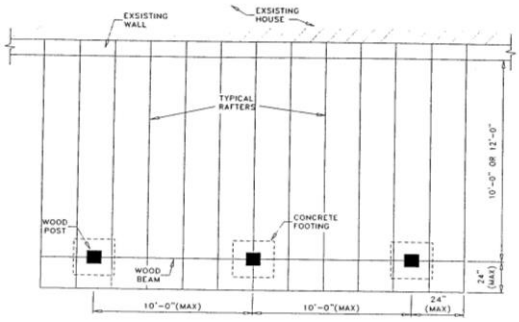
Framing Chart:

DEPTH	BEAM	RAFTER	POST	FOOTING
10' - 0"	4 x 8	2 x 6 @ 24" o.c.	4 x 4	18" SQ. x 12" D
12' - 0"	4 x 8	2 x 8 @ 24" o.c.	4 x 6	24" SQ. x 12" D

* Table based on Douglas Fir Larch #2

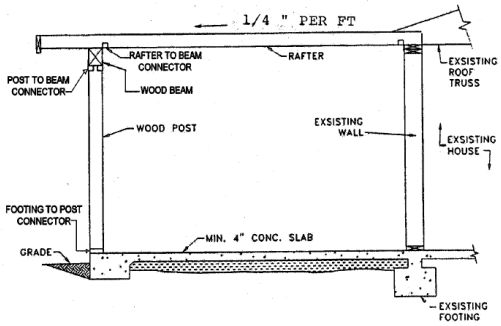
Porch Framing Detail:

[*Note: This drawing is a sample and may not cover all code requirements for your project.*]



Covered Patio Section:

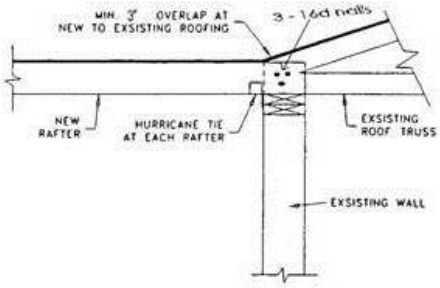
[*Note: This drawing is a sample and may not cover all code requirements for your project.*]



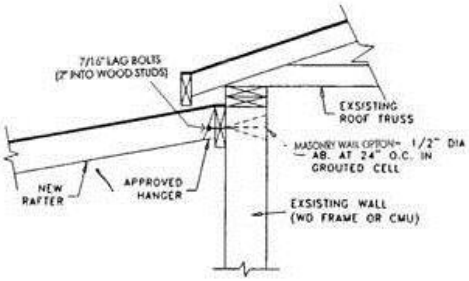
ROOF AND FOUNDATION DETAILS

ROOF AND FOUNDATION DETAILS

[Note: If this design is used to obtain a permit, the design may not be changed in the field.]

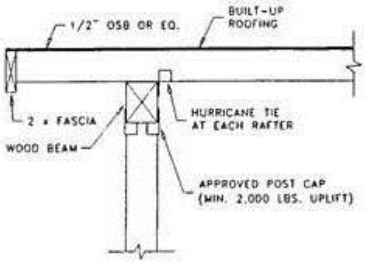


JOIST BEARING AT EXSISTING WALL DETAIL

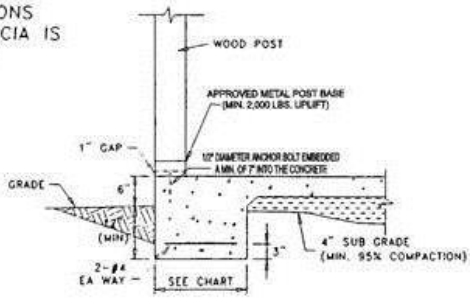


OPTION: LEDGER/JOIST DETAIL

NOTE:
RAFTER CONNECTIONS TO EXSISTING FASCIA IS NOT ACCEPTABLE



POST TO BEAM DETAIL



FOOTING DETAIL

FENCE/WALL REQUIREMENTS

Building permits and inspections are required for fences and walls over six (6) feet in height measured from the lowest grade on either side of the wall or fence. A retaining wall is required when a slope exceeds a 1:1 horizontal to vertical ratio. Building permits are also required for all retaining walls four (4) feet or taller in height measured from bottom of footing. Any retaining wall carrying a surcharge (additional load other than the earth) including structures, pools, vehicles or earth placed closer than a 3:1 horizontal to vertical ratio, requires a registrant design and retaining wall permit.

A site plan must be submitted with the permit application. The plan must be drawn to scale, indicate the total length, and the proposed location of the fence or wall relative to the property lines and any structures on the property. All parts of the retaining wall, including the footing, must be located within the property line. If the proposed retaining wall will encroach in a utility easement, evidence of approval by utility companies holding rights to the easement, must be submitted prior to permit approval.

In addition to a site plan, a cross section must be provided delineating the height of the retaining wall and the size and type of proposed material. Retaining walls that require a permit shall be designed and sealed by an Arizona Registrant (engineer). Prior to placing a retaining wall adjacent to a street or alley it is necessary to contact the Oro Valley Public Works Department.

RESIDENTIAL SWIMMING POOL AND SPAS

Permits are required for all in ground and most above ground pools and spas. Most people have their swimming pool and/or spa built by an established licensed company. Generally, the pool company obtains the required permits and requests inspections as part of their service. However, as with any other project, a homeowner may choose to be the general contractor. To obtain a building permit for an "in-ground" pool or spa, structural plans sealed by a registered engineer or an approved model plan, must be provided. When using an approved model, authorization to use such model must be provided by the designer. Aboveground pools and spas do not require engineered plans, but are required to be permitted.

To obtain a pool or spa permit a site plan must be submitted. This site plan must indicate the distance from the pool or spa, to the property line, and the closest point of any structure on the property, including patios, ramadas or gazebos. The site plan must also show the location of the pool and/or spa filtering equipment and heater, electrical service for the home, and any electrical sub-panel installed for the pool. In addition, the plan must indicate the location of any overhead or underground electrical lines and all electrical outlets within twenty feet, and lights or switches within five feet of the water's edge.

If a natural gas or propane heater will be installed for the pool or spa, the location and size of the propane tanks must be indicated on the site plan. The length and size of the piping, and the BTU rating of the heater must also be provided. A licensed propane installer may obtain the permit for the heater and tanks rather than including them with the pool or spa permit. The propane tank installation also requires a Fire Department approval and inspection. This inspection is obtained through Golder Ranch Fire District.

BARRIERS AND ENCLOSURES:

All pool plans submitted for permits will be required to include pool barrier and enclosure details that illustrate compliance with the following information.

- Barriers and enclosures shall be a minimum of 4 feet in height above finished grade or other walking surface, measured on the side opposite the swimming pool. **Enclosures** are the physical separation of the pool from access from the outside. A **Barrier** is the separation from the house to the pool when the house is part of the enclosure.
- No opening in a barrier or enclosure shall allow passage of a 4 inch sphere.
- The vertical distance between the bottom of a barrier or enclosure and the finished grade or walking surface shall be less than 4 inches.
- The barrier or enclosure shall be constructed so as to not provide opportunity for climbing on the side opposite the pool.
- Footholds or handholds shall not be less than 48 inches from the top of the enclosure or 48 inches from the finished grade, or other walking surface measured on the side opposite the swimming pool. Openings in chain-link fences, exceeding one inch shall be slatted.
- Pool equipment must be located 48 inches from barrier or enclosure or be separately enclosed with an approved barrier or enclosure.
- Wrought iron or wood barriers or enclosures shall be constructed with at least 48 inches between the top surface of the horizontal members.

- Where a protrusion, indention, or top surface is at a continuous angle of inclination equal to or greater than 45 degrees above the horizontal and otherwise does not provide a handhold or foothold, it shall be deemed not to provide an opportunity for climbing, for purposes of this code.
- Any space which falls within the area described by a 48 inch radius, measured from the top of the barrier/enclosure, must be maintained free of all natural or man made objects.
- Gates placed in an enclosure or barrier shall comply with the above. All gates shall be not less than 48 inches in height and be self-closing and self-latching. Where the latch is less than 54 inches above the walking surface or 50 inches above a foothold, the latch may be installed on the poolside of the gate not less than 42 inches above the walking surface and the gate and barrier shall have no opening greater than 1 inch within 18 inches of the latch. Gates in enclosures shall be installed to swing in a direction opposite the pool.
- The pool shall not be filled with water until the pool enclosure is complete. The pool enclosure and barrier must be maintained to ensure the pool is safely isolated. This is a life safety issue and should not be reduced by propping gates open, broken latches and closure devices, or any other action that reduces the effectiveness of the enclosure.
- A pool safety cover may be used for a barrier if all of the following conditions are met:
  - When in the closed position, a sphere 4 inches in diameter is prevented from reaching the water surface.
  - The cover is designed to support a static load of 485 pounds.
  - The electric motor switch shall be key-operated or locked and there shall be an additional power disconnect located not less than 48 inches above the finished grade, deck or other walking surface.
- A wall of a dwelling or other building may be used as part of an enclosure or barrier if all of the following conditions are met:
  - **Windows** leading to the swimming pool area shall be provided with a **latching device** located not less than 42 inches above the floor. All windows and doors shall be identified with the window style, swing, and glass type, on a detailed floor plan.
  - **Doors** leading to the swimming pool area shall be provided with a **self-closing/self-latching device** on the door or the screen not less than 42 inches above the finished grade or other walking surface, measured on the side opposite the swimming pool. Screen doors shall be protected with a substantial grill on the poolside to a minimum height of 36 inches above the walking surface. Dog doors or pass through openings may not open into the pool area. An alarm system that alerts occupants to an opening door is not permissible by code. However, the Building Official may consider the use of a hardwired alarm system when all other means of meeting code are impractical. A Petition of Appeal must be filed for the Building Official's consideration and ruling.

NOW THAT YOU HAVE YOUR PERMIT

Congratulations! Now that you have obtained an Oro Valley Building Permit, you may start construction of your project. The permit card/inspection record and a copy of the approved building plans must be kept on site, in a conspicuous location, where the inspector can access them. After final approval, it is recommended that you retain the building permit and original drawings in a permanent place, along with the deed and the insurance policy for your home.

A permit will remain valid for 180 days from the date of issuance. Once work begins and the first inspection is passed, the permit will remain valid as long as work continues and inspections are requested. If work ceases for more than 180 days, and/or no inspections are requested, the permit will expire. Therefore, if unexpected problems arise, or if circumstances exist that interfere with completion of the project, please contact the Oro Valley Building Safety Department prior to expiration. Depending on the circumstances, the permit may be extended for 180 days free of charge or renewed for a fee. However, if more than one year passes without notifying the Building Safety Department, a new permit will be required. In this situation, new plans must be submitted and the full fee paid.

A general contractor may be hired to manage a project or a homeowner may choose to be the general contractor and hire sub-contractors. A homeowner may perform all of the work or perform only portions of the work and hire sub-contractors for other parts. For example, a homeowner may feel confident doing carpentry work, but may prefer to hire an electrician for wiring or a plumber for piping. Although there are many options available, Arizona state law requires that anyone other that the homeowner who works on a home must be a licensed contractor. Work performed on a home for rent or sale which requires a building permit must be done by a licensed contractor.

Helpful hints:

- We suggest that when hiring a general contractor or a sub-contractor, ask for his/her license number and check their status with the Registrar of Contractors at 628-6345 or www.AZROC.gov before signing an agreement or making any payment.
- Prior to starting construction, identify the location of any underground utilities by contacting Blue Stake at 1-800-STAKE IT (782-5348) or www.azbsinc.com.

INSPECTIONS

Inspections are as important to a home improvement project and the building inspector is an objective and experienced observer whose primary function is to verify that construction is performed in accordance with applicable code requirements and the approved plans. An approved inspection indicates that work performed complied with code requirements and the project may proceed to the next phase. If a portion of the construction does not pass inspection, all required changes must be made and re-inspected. No portion of work requiring an inspection may be concealed, covered, or occupied, without first passing all necessary inspections.

All inspection requests received prior to 3:30 p.m. each working day will be scheduled for inspection the following working day. Inspection requests received prior to 3:30 p.m. on a Friday will be scheduled for inspection on Monday. Inspection requests received prior to 3:30 p.m. the working day before an observed holiday will be scheduled for inspection the next working day following such holiday. Inspection requests recorded after 3:30 p.m. may be scheduled for inspection the day following the next working day. Adherence to inspection schedules is subject to workload. It is important to plan ahead so that work will be ready for inspections when the inspector arrives. Although you are not required to be present during an inspection, you may want to be present to talk with the inspector. If someone cannot be on site, make sure that the inspector is provided access to the property, the inspection record card, and the approved copy of the plans. The inspector will not enter the property if dogs are not contained. Certain inspections may require that someone be present.

INTERACTIVE VOICE RESPONSE (IVR):

To schedule an inspection with the Oro Valley Interactive Voice Response (IVR), dial **229-4898**. Select **1** to schedule an inspection and enter the type of permit:

1 – B (Residential Bldg.)
2 – C (Commercial)
3 – G (Grading)
4 – MB (Miscellaneous)
5 – P (Pool)
6 – W (Wall)

Enter the next **7 numerical digits of the permit number** and select inspection date:

1 – Next work day
2 – 2 work days out
3 – 3 work days out
***** – Previous menu

Enter the **5 digit inspection code(s)** listed on your inspection card. You may enter the individual codes for all inspections needed, or enter the Group Code:

Code	Group Type	Inspections Included
00005	Initial Building and Electrical Group	Excavation/Layout Rebar & Zoning Building Pre-Slab Electric Ufer
00010	Initial Plumbing Group	Plumbing Rough – Soil Plumbing Water Underground Plumbing Sewer – HCS Connection
00015	Clips and Nails Group	Exterior Metal Clips Exterior Wall Sheathing Roof Nail
00020	Temp Power and Cable Drop Group	Electric Temporary Service Electric Cable Drop
00030	Pool/Spa Pre-Gunite Group	Pool/Spa Pre-Gunite Pool/Spa Plumbing Pool/Spa Electric
00035	Intermediates Group	Final Frame Electric Intermediate Plumbing Intermediate Mechanical Intermediate
00090	Finals Group	Building Final Electric Final Plumbing Final Mechanical Final Fire Sprinkler Final Verification Certificate of Occupancy Final Grading Permit Finaled
00095	Pool/Spa Finals Group	Pool/Spa Final Barrier Pool/Spa Heater (if applies) Permit Finaled

Enter the **5 digit inspection code** for the next inspection or press the # key. Remember, you can press 0# at any time and, during normal business hours, a staff person will be able to assist you.

FREQUENTLY ASKED QUESTIONS

What is a permit and why do I need one?
The safety of the occupants of a building is the primary purpose of construction codes. Obtaining a permit provides the ability for the plans to be reviewed to the current adopted code prior to start of construction. A permit also enables Oro Valley to ensure public safety during construction. Oro Valley has adopted the 2012 edition of the International Codes, with local amendments, including Building (IBC), Residential (IRC), Fire (IFC), Mechanical (IMC), Plumbing (IPC), Fuel Gas (IFGC), Energy (IECC), and Property Maintenance Codes (IPMC), 2011 National Electrical Code (NEC), and Oro Valley Pool and Spa Code.

When is a permit required?
Building permits are required for the construction of new a home, remodeling an existing home, additions or improvements to your home and property, swimming pool or spa, new furnace, new water heater, or any change or repair of an existing electrical, mechanical or plumbing system. Other examples of when a building permit is required or not are:

REQUIRED (OTHER EXAMPLES):

- New Fireplace
- New Roofing
- New Door or Window
- Replacement Water Heater
- New Dishwasher
- New Skylight ***
- New Pipe Work
- New A/C Unit (central)
- New Deck (>30" in height) ***
- Enclosed Porch or Carport ***

NOT REQUIRED (EXAMPLES):

- Wallpapering, painting, carpeting, or similar finish work
- New Washing Machine *
- Attic Insulation
- Replacement Door or Window **
- Roof Repairs
- New A/C Unit (window)
- Drywall Repairs *
- Shed (< 120 sq. ft. area) ***
- Retaining Wall (< 4' from footing base unless supporting a surcharge) *, ***
- Refinish Floor
- Fence (not over 6' tall)
- New Concrete Driveway
- Replace/New Gutter

* No electrical, plumbing, or mechanical work. Residential use only.
* * Replacement must be same size and type (e.g. Fire door or Safety glass) as existing door or window.
* * * No permit is required if structural components are not affected.

Single family home construction and most small homeowner projects require a Combination permit which includes electrical, plumbing, and mechanical permits. The construction of a new home, home addition, and pool addition usually require a separate grading permit when any ground is disturbed.

What about zoning requirements?
The Zoning Code establishes zoning districts for the Town of Oro Valley. The Zoning Code also outlines various requirements, including the uses of buildings, structures, improvements and premises in each zoning district. During the plan review process, zoning issues must be reviewed and approved by planning and zoning staff. If a project cannot meet certain requirements of the Zoning Code, the property owner may apply to the Board of Adjustment for a variance. Contact a planner in the Planning Division at (520) 229-4800 for more information.

How long does it take to get a building permit?
Time frames for building permit review and issuance may vary depending on the project being permitted. Typically, each plan review for each time it is submitted (e.g. for corrections) is as follows (in working days):

20 days – Single Family Residence (SFR)
10 days – SFR Addition/Alteration
10 days – Pool / Spa

The actual length of time required to review plans may vary depending on the complexity of the plans and the total number of plans under review at that time.

What if I do not get a building permit?
If a required building permit is not obtained **prior** to the start of construction, the property owner may be subject to fines, penalties and/or legal action. The property owner must immediately obtain permits for the work and pass all required inspections. If permits are not acquired, the structure or site must be returned to its original condition.

What about inspections?
Whether work is performed by a homeowner or a contractor, the inspection phase is a method to verify that the installation is correct. It is the permittee's responsibility to call for inspections at specific times during the construction phase. A contractor may request inspections, but it is the permittee's responsibility to ensure that all required inspections are made. The type of inspections required will vary depending on the project. **Remember, a project is not complete until it has passed the final inspection**.

How do I call for inspections?
To schedule inspections, cancel inspections, hear inspection results, or leave a message for an inspector, simply call the Oro Valley Interactive Voice Response (IVR) at (520) 229-4898. By entering the 8 digit permit number and 5 digit inspection codes listed on your inspection card, you may schedule inspections for the following business day (if entered by 3:30 p.m.) or up to three business days in advance. See page 14 for detailed directions.

What if I have a permit, but do not call for inspections?
A project is not complete until it passes the final inspection. Permits expire after 180 days if a required inspection has not been performed. If a permit expires before the final inspection, all work must cease. To continue work after expiration of a permit, you must make a written request to the Building Official demonstrating justifiable cause for the inactivity.

How are permit fees determined?
All permit fees are based on the current fee schedule as adopted by Oro Valley. Individual project fees will vary depending on the type of project, square footage, and total valuation of work including labor and materials. These schedules are located on the BSD web site or call the department to determine approximate fees.

A FINAL WORD

After your project has passed final inspection and you are able to relax and enjoy your accomplishments, we would appreciate your feedback regarding your experience with the Building Safety Department. We hope that you have found our office staff, plan reviewers and building inspectors to be courteous, knowledgeable and helpful. Please take this opportunity to complete the evaluation form provided on the last page of this booklet and return it to:

The Town of Oro Valley
Permitting Division
11000 N. La Cañada Drive
Oro Valley, AZ, 85737

You may also fax completed forms to Building Safety at (520) 742-1022,
or provide input by phone at (520) 229-4800.

We welcome your comments and suggestions!

Development and Infrastructure Services Department
11000 N. La Cañada Drive • Oro Valley, Arizona 85737
www.orovalleyaz.gov

Customer Name (Please Print) *Contact Phone (Optional)* *Date*

Meeting our Customer's needs is important to us. We welcome your suggestions and comments and encourage you to fill out this form.

1. Were the steps for the development, permit, or inspection process clearly explained and understandable?

   ☐ Yes? ☐ No?

2. Were the development, permit, and/ or inspection approval(s) received within the timeline goals prescribed?

   ☐ Yes? ☐ No?

3. Was the service professional, courteous and helpful?

   ☐ Yes? ☐ No? Would you like to name any employee(s) that you feel provided exceptional service?

   _____

   _____

5. Did you experience a problem getting the information you needed?

   If yes, what aspect?

7. Any general comments?

Thank you for taking your time to help us improve!