

# Home Inspection Report

November 6-7, 2007

This inspection was conducted at the request of the purchaser in order to assess the existing construction of a home and other installations completed on lot "JJ" in the canton of Belen, which is in the province of Heredia, Costa Rica. The residence, located in the Bosques Dona Rosa section of the Ciudad Cariari subdivision, contains 350 square meters under roof, and is situated on a 512 square meter lot.

## Principal Findings:

- This home is located in one of the most desirable and convenient locations in the central valley of Costa Rica.
- The organized public services and amenities of this well developed subdivision add value to this residence. For the third year in a row, Belen has been rated the #1 Municipality in Costa Rica by the Control General of Costa Rica.
- Inspection of the exterior structures and foundations of this residence, along with the separate building, revealed no major defects that could potentially impact the structural integrity of any of the completed construction.
- This residence is brand new and is in excellent condition. There are no major problems that would prevent a new owner from moving in and living comfortably.

## Location:

This home is located in one of the most desirable and convenient locations in the central valley of Costa Rica. The residence is conveniently located less than 500 meters from the main highway that connects the northwestern suburbs to the city of San Jose. The area enjoys many advantages. A bi-lingual private school is located within the subdivision. Numerous upscale shopping centers, including the Real Cariari Mall, with its eight movie theaters, the 5 star Marriot San Jose, the Melia Cariari and Ramada Plaza Herradura hotels are all within 2 kilometers of the sub-division.

## Description of Residence:

Located in a popular sub-division, this brand new home and its surrounding walls consist of one rectangular lot with a total of 512 square meters, with 14 lineal meters of frontage on a public street and 14 meters in the rear of the property. The side property lines are 36.60 lineal meters deep.

The adjacent lot JK on the right contains a large and attractive two story home with more square meters of construction and value. A poorly kept vacant lot, filled with overgrown grass, is on the left. Finished homes of similar size that are located behind the home are hidden from view by a privacy wall.

The external boundaries of this property are easily identified from the adjacent home and lot by concrete walls that offer privacy and security. The front of the property facing the street contains a decorative wrought iron fence, with large solid concrete columns and containing handsome carriage lights; a large double wrought iron gated entrance has also been constructed.

The lots in this area have equal value per square meter, and are of similar size. The Bosques Dona Rosa section, with one guarded entrance, is independent from the other areas within the Ciudad Cariari subdivision.

## Frontal Access to the Residence:

The frontal access to this property begins at the same elevation as the sidewalk above the curb that runs along the street frontage; this is where the gated entrance is found. A brick paver driveway is located inside the secure gate and front concrete wall. The driveway leads up to the 5.76 x 5.53 two car garage, with a brick paver floor raised above the driveway elevation in order to allow good drainage from the home into the street. The landscaping surrounding the curved driveway and entrance is extensive, with two grass yards filled with palm trees and tropical plants.

**Neighborhood Infra-structure:**

In addition to performing a comprehensive inspection of the home that included verification of its physical condition, I also visited the surrounding neighborhood in order to offer an assessment of this location within the Municipality of Belen in terms of the availability of public services and amenities.

Ciudad Cariari in Belen is located in the central sector of the Central Valley of Costa Rica. The present climatic characteristics of this area include an agreeable climate, with moderate precipitation (approximately 2000 mm annually), and a median annual temperature above 21 degrees Celsius (72 degrees Fahrenheit). The present state of the climate includes very dry weather during the months of December to April; the period of highest precipitation occurs during the months of September, October and November. Mornings throughout the entire year generally offer at least some sunshine.

**Availability of Public Services:**

All public services and common features of urban living, including electricity, telephone lines, cable television, high-speed internet, drinking water, and street lights are available within this sub-division. There are paved streets with sidewalks, curbs, gutters with underground drain water, and a sanitary sewer system that is presently saturated. The roads, gutters, sidewalks and public green zones are maintained by the Municipality of Belen; garbage is collected twice per week by this same municipality.

**Access to Shopping and Commerce:**

In addition to the mall and luxury hotels listed above, the area contains well stocked super-markets. There are also many high tech office parks that include international companies such as Intel, Hewlett Packard, Proctor & Gamble, Cisco Systems, Unisys, Bristol Myers Squib, KPMG and Western Union.

**Sports and Recreation:**

The surrounding area contains local gymnasiums and recreation centers. The Cariari Country Club, the centerpiece of the subdivision, with its professionally designed golf course, completes the picture of an upscale and attractive urban location.

**Schools:**

The area has a variety of Costa Rican schools from Kinder through grade 12 as well as the private school within the subdivision.

**Community Resources:**

Public health centers, churches, restaurants, gas stations, hardware stores, banks and many other businesses and community services are all located within five minutes of the subdivision.

**Security:**

The Dona Rosa section within the Ciudad Cariari community has only one entrance that is protected by a security office; several guards work on foot and by motorcycle 24 hours per day.

**Water Meter:**

I have inspected the subterranean public water meter, recessed in the sidewalk in front of the home, and found it to be working properly.

**Subdivision Infra-structure:**

Finding: The organized public services and amenities of this well developed subdivision add value to this residence. For the third year in a row Belen has been rated the #1 Municipality in Costa Rica by the Control General of Costa Rica.

#### **Streets and Sewers:**

The public streets in this subdivision are asphalt, with concrete curbs draining into a public sewer system. The public curbs, gutters and sidewalks are constructed of solid concrete, and are in good condition. There are a few vacant lots; construction is currently in progress on several lots within the same area of this subdivision.

#### **Public Service Connections:**

The overhead Fuerza y Luz Electric, ICE Telephone and Internet, CableTica Cable and Internet cables run from the pole on the street to the front wall, then continue underground in conduit to the internal control boxes located in the laundry room. The main 220 volt, 125 amp electric breaker for the home is recessed in the exterior corner column in front of the garage.

#### **Intercom System:**

An intercom system is located outside the front gate; it allows guests to call in to the house and speak to the occupants via a telephone in the kitchen. The home presently contains two portable remote controls that open the front gate.

#### **Septic Tank:**

Using an extended pole, I was able to determine that the septic tank for the residence is 2.35 meters deep, and currently contains 65 cm's of water and waste. The size of the tank appears adequate for the number of bathrooms in the residence.

*Note: I did not have access to the interior of the tank to measure the dimensions. The tank's location in a grassy area in the front yard led me to believe that the proper drainage tubing had been installed. However, It is impossible to determine the drain tube's path or length without removing the grass and digging up the front yard.*

#### **Plumbing - Drainage Systems:**

As part of the grey water plumbing system, two subterranean concrete boxes, containing clean out tubes, have been installed with U traps for all sink drains from the baths, laundry room and kitchen in order to block all gases from entering the dwelling.

The rainwater drainage system includes clean outs that have been installed for all downspouts in the event of an obstruction within the subterranean tubes. All clean outs have covers and are conveniently located for easy maintenance.

#### **Front Porch:**

From the front driveway, I climbed one small step on an attractive decorative ceramic tile floor to the 2.20 x 2.23 front porch.

#### **Frontal Exterior of the Residence:**

The front exterior finish of this concrete block home is of traditional architecture, designed with several gables and attractive facias of Durock and soffits made from DensGlass that are painted white. There are no visible cracks or gaps; the concrete stucco finished walls are painted beige, with no visible cracks.

Distinctive white concrete moldings border all windows that contain small surface cracks that are typical of solid concrete drying rapidly, due to exposure to the sun's ultraviolet rays. The home has white finished aluminum windows with clear glass panes (without screens) that are in brand new condition.

The large two car metal garage door is raised panel and well- painted with the color of the exterior trim.

The double, recessed panel, hollow core front doors, with attractive hardware, are handsome, but have not been painted properly. The right door has a significant crack on the top left edge. *The crack is located at the top edge of the door, where the exterior laminate is attached to the inner hollow core; it cannot be repaired and will need to be replaced. Both doors need to be sanded, primed and painted with at least two coats of oil base exterior grade paint. The concrete window sills and trim should also be sanded, primed and painted with at least two coats of quality exterior latex paint in order to saturate the cracks and the concrete surface. The builder told me that he has saved a portion of all the paint used on the home for the new owner's use.*

### **Attached Improvements:**

The attached improvements include a rear wall, a waterfall and swimming pool, side concrete walls that are 12 cm's thick and 2 meters high, and the front concrete columns, with wrought iron fencing. In addition, two large decorative wrought iron gates open out to permit wide vehicles to enter the brick paver drive and parking area.

### **Structural Integrity of Exterior and Foundations:**

Finding: Inspection of the exterior structures and foundations of this residence and the separate building revealed no major defects that could potentially impact the structural integrity of any of the completed construction.

The entire roofing installation consists of an underlayment layer of zinc metal laminas, attached to the roof rafters with hardwood nailers, which sustain natural 1.75cm thick clay tiles. This provides an attractive and thermally sound roofing system.

Along all vertical exterior walls, aluminum flashing has been installed 20cm's up the walls and 20cm's onto the metal underlayment. The area where the aluminum flashing meets the stucco surface of the walls has been sealed with an exterior grade sealant.

Recommendation: *The flashing systems sealing should be checked seasonally to determine if the sealant has dried out. (The sealant will eventually need to be removed and replaced)*

All exterior facias, with front pitched roofs that drain rainwater downward, have 20cm, galvanized metal gutters, with sufficient large metal downspouts, that drain into subterranean tubes flowing out to the public street gutters. The downspouts and gutters have been very well attached to the home structure. Upon grabbing portions of the gutters edge, I could not move any.

At the rear of the house, in the ceilings of the soffits and on the face of the fascia overhanging the roof above the master bedroom, I observed several moist areas that indicated water infiltration from above, or possibly from overflowing gutters due to insufficient drip edge flashing. Additionally, I observed similar dirty water marks on the fascia over the garage door. Note: *In order to determine the source of these leaks, the roof tiles will need to be removed above these damaged areas and the source of the leaks repaired.*

### **Pool Bath & Mechanical Room:**

A separate structure, unconnected to the house, is located at the rear of the property, behind the master bedroom and close to the swimming pool. The roof of this structure has the same composition as the roof of the main residence; it contains a 2.45 x 1.52mt full ceramic tiled bath with American Standard toilet, pedestal sink, faucet set, and a large shower with a single handle shower set.

Additionally, a 1.67 x 1.82 mechanical room containing the pool equipment is located under the same roof and is adjacent to the bath. I observed a Hayward sand filter and a Hayward 3/4hp pool pump working quietly and efficiently. The pool equipment is connected to a separate breaker box with a 1 x 220 volt, 20amp breaker for the pump and a 2 x 110 volt breaker connected to a transformer for the pool lights and an over-head light to illuminate the mechanical room.

### **Interior Living Areas:**

The current condition of all exterior surfaces, windows, drainage, roofing and flashing installations has been detailed in other parts of this report. In this section, I will describe each interior living area, including measurements, and offer an assessment of the current condition of the electrical, plumbing and finish installations.

Some of these installations could be improved; I have therefore provided some suggestions of methods to complete the improvements.

I first entered the front entrance to inspect the interior installations of the home. The entire floor is covered with an attractive ceramic tile; it includes;

### **Foyer:**

A 1.97 x 1.20mt. front entrance, with open halls (1.58 x 9.25mt and 1.38 x 4.95mt) that connect to the adjoining living areas.

### **Great Room:**

The great room is comprised of a 9.25 x 4.46mt sunken living and dining area with vaulted ceilings and double sliding doors; fixed windows on both sides overlook the terrace, gardens, and the waterfall that cascades into the pool.

### **Dinette:**

Adjacent to the fabulous great room there is a 3.78 x 4.06mt dinette, overlooking the rear gardens and pool that adjoins the large kitchen.

### **Kitchen:**

A large 7.00 x 2.97mt kitchen contains ample melamine cabinets and granite countertops with a recessed, double bowl sink. The stainless steel sink has a decorative faucet, complete with matching spray and soap dispenser. An icemaker connection, with a control valve, is installed behind the refrigerator.

### **Guest Bath:**

Just inside the front entrance and conveniently located to this open living area is a 1.50 x 2.02mt half-bath with an American Standard elongated toilet and decorative pedestal lavatory, complete with an attractive faucet set, mirror and accessories. An attractive ceramic tile rises up all walls 1.75mt high.

### **Indoor Garden:**

A 1.25 x 5.00mt natural rock weeping wall garden, found just off the living room, is presently open air so that rain and all exterior elements can enter the interior of the home.

### **Bedrooms with Bath:**

To the left of the entrance and off the halls that open to the living room, there is another 3.70 x 1.20 hall connecting to a 4.64 x 2.94 bedroom and closet with vinyl covered metal shelving.

This hall also connects to another 5.10 x 3.37 bedroom and walk-in closet, with vinyl covered metal shelving.

Also connected to this hall is a 4.83 x 2.90 full bath, with an American Standard toilet. The fiberglass bath tub has a single control shower set and a melamine vanity cabinet, with a granite top and recessed sink, mirror and

accessories. *The bathtub drained very slowly.*

### **Master Bedroom Suite:**

Walking down another open hall located off the living room is the door to the rear 5.70 x 4.33 master suite, with one window that opens to the interior garden and double sliding doors, with fixed windows on both sides that open to the rear terrace.

The suite contains a 1.20 x 2.26 hall with doors opening into two 1.65 x 2.60 closets, with vinyl covered metal shelving.

At the other end of the hall, there is a luxurious master bath, highlighted by an oversized American Standard whirlpool spa centered on a rear window, providing plenty of light.

To the left of the spa, inside a door to a private commode room with a window opening outside, there is an American Standard low profile elongated toilet.

On the right side of the spa, there is a door opening to an ample shower, with gold shower control valves and a window opening to the outside.

All of these areas have ceramic tile rising up the wall 1.65mt high.

On each side of this elaborate bath are two separate raised panel, melamine vanity cabinets, mirrors, and granite countertops, with lavatories and gold faucet sets.

All matching accessories installed in the bath are gold plated and match the faucets.

*There was no access to inspect the spa pump motor and plumbing; the builder indicated he would have his plumber make an access panel from the rear exterior wall in order for the pump to be serviced in the future.*

### **Laundry-Utility Room:**

Located behind a closed door off the kitchen is the 4.66 x 1.80mt laundry room, containing a wood sink base, white doors, and a double large sink with hot and cold water controls.

A Westomatic 220 volt, 50 amp, instant hot water heater, with a 1.2 gal tank supplying 80psi water pressure, is found inside the sink base; a dryer vent has been installed in the wall to the outside.

The telephone, cable and electrical boxes, containing all connections and wiring distributed throughout the entire home, are recessed in the wall of the laundry room. The telephone box contains 5 connections, with the cable box containing 7 connections.

The electrical panel has an adequate supply of copper wiring connected to 5 x 220 volt breakers, (20, 30, 40, 50 and 60amps), long with 11 x 110 volt breakers that are 20 amps each. All breakers and interior electrical outlets were checked with my GB Instruments Multi-meter, and were found to be grounded properly.

### **Maid's Quarters:**

A door connected to the laundry room provides access to another 3.12 x 2.44 bedroom, with window and private 2.42 x 1.38 full bath, an American Standard toilet, a large shower with single handle shower set, and a vanity, faucet, mirror with all accessories. This bath has ceramic tile on the floor, along with tile rising up the walls 1.62mt high.

### **Garage:**

A 5.76 x 5.53mt double car garage, with a Craftsman 1/2hp electric garage door opener equipped with three remote controls, is located off the laundry room through an opening without a door. The garage is substantial, having a brick paver floor with 5 electrical outlets and 3 front windows offering plenty of light. *If a door were to be installed from the garage into the laundry room, it would be wise to install an electric exhaust vent in the laundry room since there are no windows opening to the outside that could provide needed ventilation.*

**Terrace:**

Located off the living room, through double sliding glass doors and down one step, is a 5.13 x 3.85 ceramic tiled covered terrace, with an open beamed traditional appearing ceiling. This terrace is a comfortable living area, with electric outlets, telephone jack, and overhead lighting; there are also double sliding doors providing access from the terrace into the master bedroom. *I observed moisture in a small area of the drywall ceiling of the terrace caused by water infiltration from the roof above. The source of this leak needs to be determined by removing the roof tiles above this area. This repair should wait until the rains have subsided; then the moisture can be dried out naturally with sunshine for at least several hours.*

**Attic:**

An access panel to enter the attic is located in the ceiling of the front bedroom closet. I climbed up into the attic and observed an adequate rafter structure supporting the metal laminate roof sheathing. On both sides of the top of the concrete wall, where the roof structure is attached, I observed small open spaces permitting light and exterior elements to enter the attic that should be closed.

All electrical, telephone and cable wiring were properly installed inside of PVC tubing in the attic.

In the attic, I did observe one 2 inch tube recessed in the exterior concrete wall in the attic that was plugged with a ball of paper that had no apparent purpose, but possibly this could be a tube for ventilation of the black water plumbing system. The builder did not know the details about the plumbing system; his plumber was not available.

During my inspection of the exterior roof, I did not find any plumbing pipes venting outside that would provide an escape for black water gases and odors.

All five baths and the kitchen have exterior windows that provide natural ventilation to the outside. This lack of plumbing ventilation is common in Central America, where the climate permits windows to remain open year round.

As previously noted, there is neither ventilation nor insulation in the attic. The entire attic was dry; the only light entering this area was from the few gaps observed on the sides. Upon opening the attic access in the front bedroom closet and climbing up into the attic, I found the temperature to be 31 degrees Celsius (88 degrees Fahrenheit), with only 68% relative humidity. These readings allowed me to establish existing outside conditions and compare those from the interior living areas, as well as to conditions in the attic, to determine if the dwelling is retaining excessive humidity or is dryer than normal.

*Based on the current rainy season here in Costa Rica and the home's open windows and natural ventilation, the interior readings are within normally acceptable ranges. The higher temperature and lower relative humidity readings in the attic indicate a lack of ventilation and insulation which will cause the home to be warmer during the hotter summer months. This could be avoided with the installation of soffit vents and fiberglass bat insulation in the attic.*

*Recommendation: It is recommended that 30cm x 20cm aluminum soffit vents, with built-in screens to keep insects out, be installed in the ceilings of the soffits. It is further recommended that a minimum of R-19 fiberglass bat insulation be placed on the ceiling in the attic and covered with rolled plastic to provide needed heat and moisture barriers.*

**Attached Amenities:**

A tasteful chandelier hangs in the entryway; two large chandeliers are centered equally in the living and dining area; a decorative ceiling fan is installed in the dinette.

There were ceiling light fixtures and 110 volt electrical outlets in all bathrooms, except the half-bath.

All baths have exterior windows which provide natural ventilation, while all bedrooms have ceiling lights with switches and cable TV outlets.

The dinette has two cable TV outlets; the master and two front bedrooms, along with the kitchen, living room, and terrace have telephone outlets.

All ceilings in the house (even the garage) have decorative fiber composite ceilings supported by perimeter

crown moldings and by hanging supports in the attic.

The interior baseboards throughout the entire home are 12 cm's high; all doors are raised panel, Masonite type, with attractive hardware.

All rooms have overhead lighting with wall control switches that function properly.

*The baseboards in some areas have begun to pull away from the walls; the tops, where they join the walls, should be caulked with a paint-able acrylic sealant.*

### **Mechanical Observations:**

There are no electric exhaust fans or GFI electrical outlets in the baths, kitchen or laundry room.

There was adequate hot and cold water pressure coming from all of the water outlets in all 5 bathrooms, kitchen and laundry room.

The plumbing connections are of high quality; there are braided metal connectors with individual control valves and well installed PVC drains without traps.

All American Standard toilets were in excellent physical condition; the flow of water through the toilet drains and into the septic tank was fast. No obstructions were detected from any of the toilets. The tanks immediately re-filled after flushing, and the floats all functioned properly after adjustment.

### **Cosmetic Observations:**

I closely inspected various hairline cracks in the interior wall surfaces and two larger cracks on the interior block concrete walls in the kitchen and master bedroom. The cracks are 2mm wide and are filled with some kind of caulking.

I needed to establish the current relative humidity and moisture conditions inside the home in order to determine if these cracked walls have excess moisture from water infiltration.

I therefore began taking moisture readings of all inside and outside concrete block walls with my Wagner C 575 Concrete Moisture Meter. I found that all the inside of the walls throughout the house contained 12% moisture content. Upon checking the outside walls that had been exposed to the morning sun, I found their moisture content to be 10%. I then went to the inside walls that had cracked and found their moisture content to be 12%, which was the same as all the other inside walls.

Upon taking several readings of the exterior in front of the house (where the sun was shining) with my Meterman TRH22 Relative Humidity Temperature Meter, I found the exterior temperature to be 26 degrees Celsius (79 degrees Fahrenheit), with 76% relative humidity. Upon entering the interior of the residence I found the readings to be 24 degrees Celsius (75 degrees Fahrenheit), with 74% relative humidity. The baths in the residence had a temperature of 24 degrees Celsius (75 degrees Fahrenheit), with a relative humidity of 75%. When I placed the extended probe on my Meterman against the concrete walls where the cracks were located, I found that the relative humidity and temperature remained the same as the other interior portions of the home.

All areas of the home have similar relative humidity readings; no excess moisture was found in the concrete walls where the cracks are located.

Additionally, because the areas where both of these cracks are located are not supporting columns but instead are open concrete block areas, I believe that normal settling of the walls has created the cracks and there are no external leaks, with no part of the structure in danger of these cracks causing damage.

All the cracks are unsightly from a cosmetic standpoint and need to be repaired and covered with the original paint in order to match the existing walls.

The 2mm cracks are larger, and therefore must be filled with a concrete mortar because synthetic caulking has a different texture and will never look the same as the rest of the walls.

*Recommendation: Repairing the surface of both of these cracks in the following manner is recommended. First, excavate the cracks with a razor knife, removing all loose concrete until only solid concrete block is present. Employing a small metal brush, clean the surface of the areas excavated, using a damp towel to further clean the cracks.*

*Next, brush on a coat of Plasterbond concrete adhesive and let it dry for several hours. Once the surface has dried, mix together a small amount of dry concrete mortar mix with a little water and Acril concrete additive to make the mortar bond tighter. With a small trowel, apply the mortar mixture into the cracks and backfill with the trowel, smoothing the surface to give an appearance similar to the existing adjacent surfaces.*

*Using a piece of wet sandpaper, lightly sand the surface around the area where the crack was previously located and then clean with a damp towel. Once dry, apply a primer coat of paint. Apply several coats of finish paint, using the same paint that was previously applied to the walls.*

*For the final step, blend in the area that has been repaired with the existing wall color. If these areas are not cosmetically acceptable, the walls must be repainted in order to give them a proper appearance.*

#### **Non-Attached Amenities:**

At the time of my inspection I observed professional looking window treatments in both of the front bedrooms, master bedroom and bath, half bath, living and dining area, dinette and kitchen. There were living room sofas and a formal dining room table, as well as several sofas in the dinette. The master bedroom had a large bedroom set, complete with bedding and accessories.

Additionally, the kitchen contained a Frigidaire refrigerator (without an icemaker), a Frigidaire stove connected to a 220 volt electric outlet, and a Hotpoint dishwasher that had been connected under the sink to the hot and cold water connections and to the drain. A Frigidaire washer in the laundry room was connected to the hot and cold water controls, and a Frigidaire dryer was connected to the 220 volt electric outlet. *However, no dryer vent had been installed.*

#### **Conclusion:**

This residence is brand new and in excellent condition. There are no major problems that would prevent a new owner from moving in and living comfortably.