

POOLS

GETTING YOUR PERMIT

YOU WILL NEED TO SUPPLY THE FOLLOWING:

1. A Survey of your property showing location of pool (indicate location of septic tank if not on sewers) See attached sample.
2. Filter Specifications showing size of filter and amount of water it will process per hour.
3. Drawings and specifications of pool.

FILL OUT THE FOLLOWING FORMS:

(See samples)

1. Building
2. Electric
3. Plumbing

(If pool is heated or connecting to sewer or water)

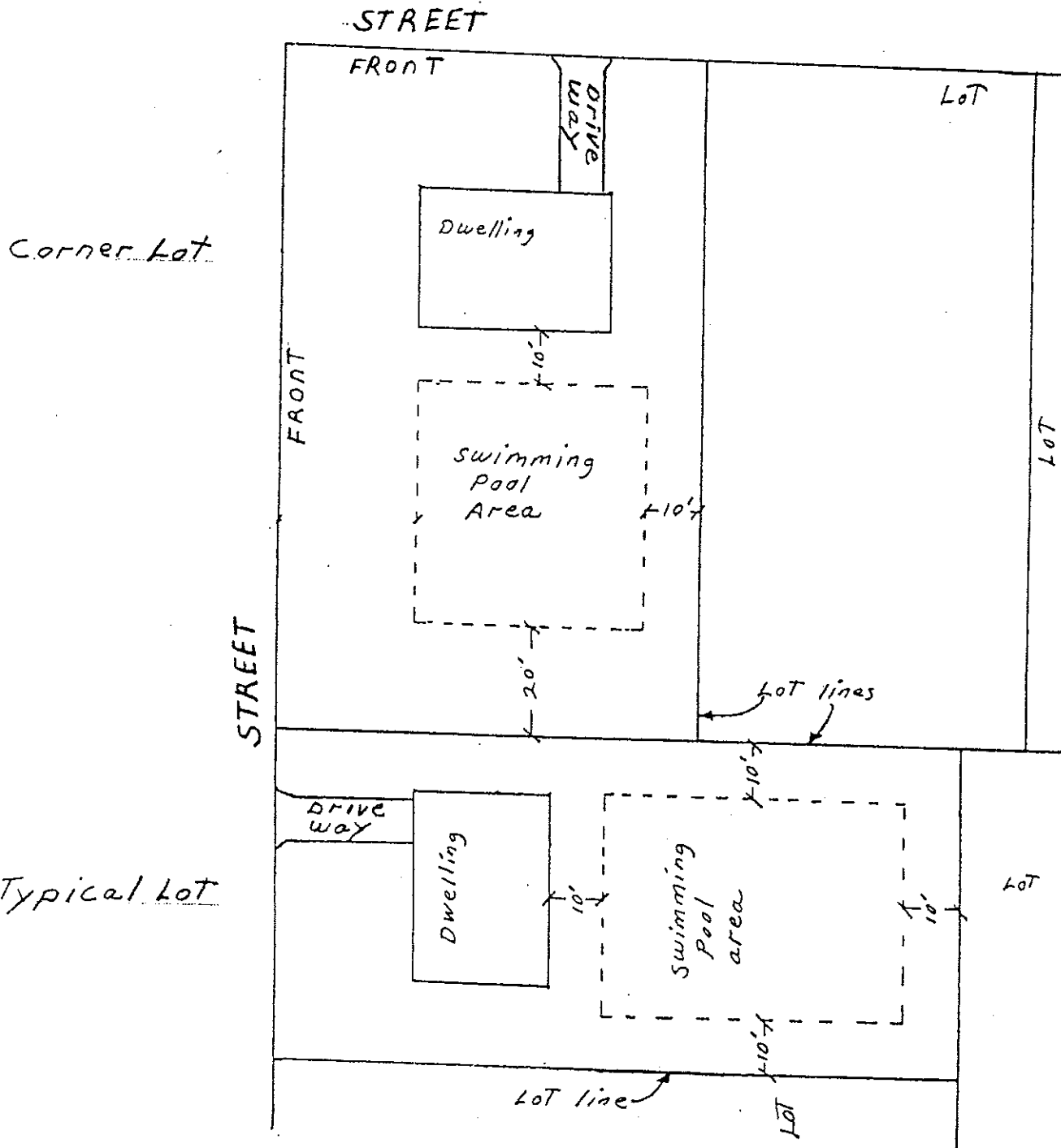
Submit all of the above paperwork to zoning (along with a check for \$35). They will notify you if a variance is necessary. If none is required your application will be forwarded to the Health Department and then to the Building Department. Once the Building Department has received a complete application it has 20 working days to review it.

DO NOT FILL YOUR POOL WITH WATER, UNTIL IT IS PROPERLY PROTECTED.

updated 7/2010

Swimming Pools

Zoning requirements



The above examples are for two typical lots, a rectangle and a corner lot. All pools must be at least 10 feet from their side lines and from other structures. Corner lots need at least 20 feet from the side property line.

Please note: The drawings are for example purposes only. Individual lots may vary and each survey must be reviewed separately for zoning compliance.

SPECIFICATIONS FOR POOLS

1. INGROUND POOLS

Electric permit is required for G.F.I., lights, and bonding
Building permit is required for installation of pool
Plumbing permit is required for gas piping and heater
Pool or yard must be enclosed by at least a 4' high fence with a
Self-closing & self-latching gate (see barrier requirements)

2. ABOVE GROUND POOLS

**Definition: Any pool capable of holding 24 inches or more
of water or being 250 sq. ft or larger.**

Electric permits is required for G.F.I., lights and bonding
Building permit is required for installation of pool
Plumbing permit is required if pool is to be heated.
A 4 foot (or higher) pool only requires a barrier around the
stairs as long as the pool is not sunken into the ground. The
pool must measure at least 4 feet above grade (if not, see
alternative on next page.)

INSPECTIONS

- | | |
|----------|--|
| Building | 1. Rough (before backfilling)
a. Liner Pool- for concrete collar tie
b. Steel Pool- for re-bar before gunite
2. Final (when pool is complete) |
| Plumbing | 1. Rough (underground piping)
2. Gas Line Test (a 15 lb. gauge with 5 lbs of pressure)
3. Final – Heater inspection |
| Electric | 1. Bonding
2. Equipotential Bonding
3. Trench
4. Final |

BARRIER REQUIREMENTS

(International Residential Code 2006)

ABOVE GROUND POOLS AND INGROUND POOLS

1. A 48 inch barrier is required and it must withstand a 200 pound weight. For above ground pools, the pool wall is considered the barrier if it is at least 48 inches high
2. Top of pool barriers
Openings in barriers shall not allow passage of a 4 inch diameter sphere
3. Solid Barriers
Such as a stone wall or masonry must be normal construction tolerances and tooled masonry joints
4. Chain Link Fence
1 ¾ or 2 ¼ with slats
5. Lattice Fence
Diagonal members may have maximum openings of 1 ¾ inches.
6. Access Gates
Shall open away from pool area and have self-closing and self latching devices
7. Above Ground Pool Ladders
Ladder or steps shall be surrounded by a barrier of 48 inches with a self closing and self latching gate. Note: Retractable or removable ladders are not acceptable unless enclosed by the above barrier.

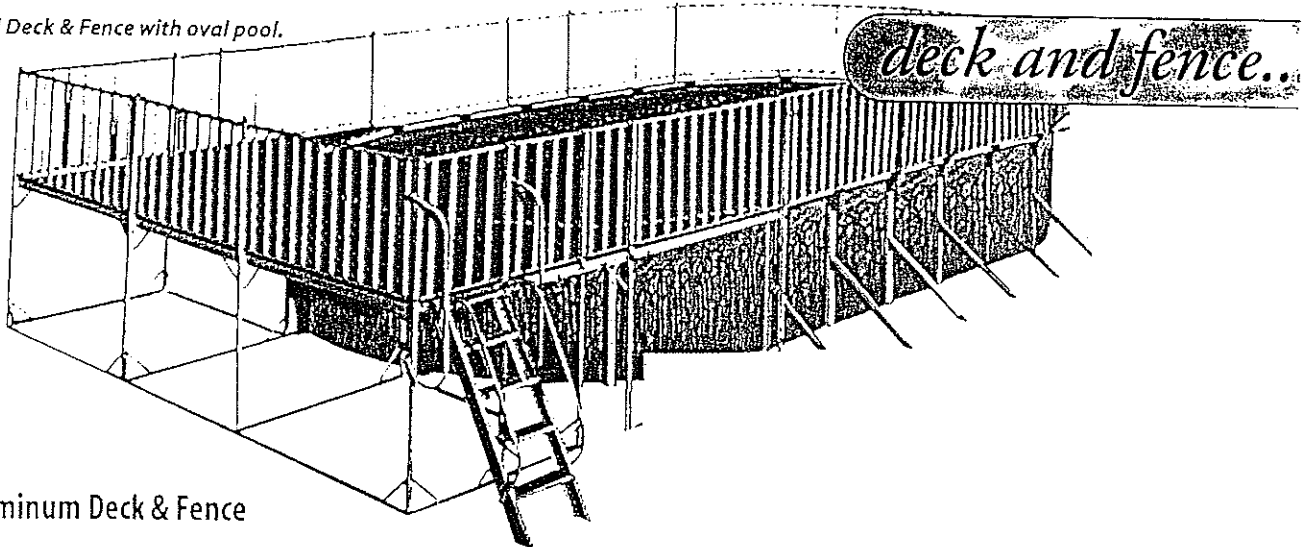
HOT TUBS AND SPAS

Must have a safety cover and comply with ASTM F 1346-91 – see Building Inspector

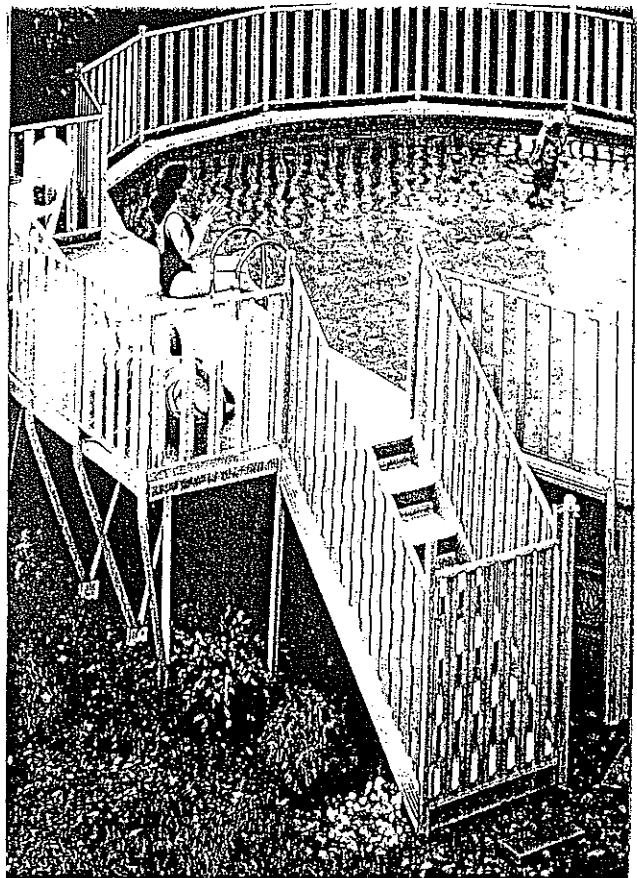
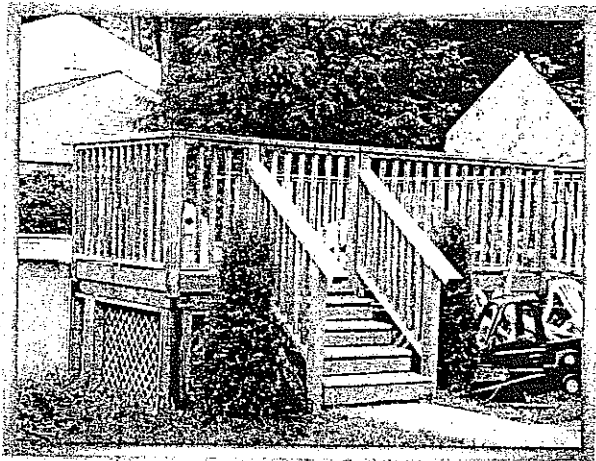
Any unique situations should be referred to your Building Official.

EXAMPLES OF ACCEPTABLE LADDER ENCLOSURES

End Deck & Fence with oval pool.



Aluminum Deck & Fence

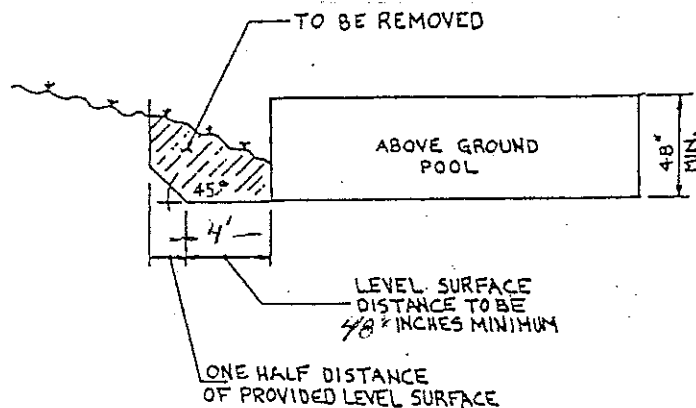


ABOVE GROUND POOL-BARRIER ALTERNATIVE

Many times, above ground pools are installed on a sloped site so that the top of the pool wall, which acts as a barrier, is below the 48 inch minimum required by section, appendix G- IRC 2000. Usually when this occurs, an additional barrier is mounted on the top of the pool.

Where the above-ground pool is to be installed on a sloped site that will render a portion of the top of the pool structure to be less than 48 inches to grade, a minimum of a 4 foot level surface around the portion of the pool structure that is less than 48 inches to grade should be provided. The level surface should be measured away from the pool at a minimum 45 degree angle for a distance of one-half the provided level surface.

Please refer to the sketch below for clarification.



Township of Denville
Electrical Inspection Department
INGROUND POOLS & HOT TUBS

The following is a list of some rules that I have to enforce when doing pool wiring inspections, due to the complexity of pool wiring it is advisable to get the help of a licensed electrical contractor. These rules are taken from the National Electric Code (N.E.C.) book. For a complete list of rules please look in article 680 of the latest edition of the N.E.C. The initials U.L. mean that the equipment is listed and/or labeled by the *Underwriters Laboratories*.

1. A receptacle for the pool motor can be between 6 ft. and 20 ft. from the pool, it shall be a 20 amp twist lock receptacle with an "In Use" cover (That is a cover where the receptacle can stay plugged and the cover can be closed). This receptacle has to be Ground Fault protected. Motor can also be hardwired using approved flexible liquid tight conduit. (Seal tight) For pool motor disconnects, not less than 5 ft. from inside walls of pool.
2. The underground wiring from the house to the receptacle shall be in an approved electrical pipe (like PVC) and buried down at 18" below the grade. The wire in the pipe must be #12 gauge THHN wire of the proper colors (black, white, green, etc.).
3. A bonding inspection is required and the bonding wire is required to be (#8 gauge) solid copper wire shall be attached from the pool frame to the motor at the grounding lug provided on the motor. (All bonding lugs are to be copper and approved for direct burial). All metal within 5 feet of the pool must be bonded (for example: ladders, dive boards, fences, siding of house, etc.).
 - 3a. Equipotential Bonding Grid (see attached)
4. The cord from the motor to the twist lock receptacle shall be a #12 gauge cord approved for outside/wet usage (the cord length shall not exceed 3 feet).
5. There shall be a convenience receptacle between 6 feet and 20 feet from the side of the pool and it shall be a ground fault protected receptacle.
6. Inside the house regular house wiring is allowed. (For example: non metallic sheath cable, romex)
7. Use the correct breaker for the correct panel and label it. (For example: Square D breaker in a Square D panel)
8. There shall be proper support for the box with the receptacle on it for the pool motor, or deck box. (For example: a 4 x 4 post, angle iron, etc.)
9. A trench inspection is required to inspect the pipe from the house to the pool motor or panel wiring, and a bonding inspection of the pool and a final inspection once the pool is completely installed, filled with water, and the pump is working.
10. If there is a pool heater, the lug on the pool heater must be copper, not aluminum.
11. No other wiring allowed in the pipe that has the ground fault wiring from the GFCI to the pool deck box. Switch for the pool light shall also be in pipe and nothing else except that pool light wiring inside of the pipe.
12. Wire from a transformer to the low voltage pool light might have to be #10 THHN in order to meet the ampacity required for the pool light.
13. Low voltage thermostat wire shall not be inside of the same enclosure as line voltage wire. (The low voltage wire must have the same ampacity rating as the line voltage.)

Township of Denville
Electrical Inspection Department
ABOVE GROUND POOLS

The following is a list of some rules that I have to enforce when making inspections on above ground swimming pools. These rules come right out of the National Electric Code (N.E.C.) book. For complete rules please look up article 680 in the latest edition of the N.E.C. The initials U.L. mean that the equipment is listed and/or labeled by the Underwriters Laboratories.

1. Make sure before you start that you have all of your prior approvals. Such as for Zoning. (for example: make sure that you don't need a variance, for the distance from a side yard or rear yard setback.)
2. A receptacle for the pool motor can be between 6' and 20' from the pool, it shall be a 20 amp. Twist lock receptacle with an "In Use" cover. (That is a cover where the receptacle can stay plugged in and the cover can be closed.) This receptacle shall be Ground Fault protected. The motor can also be hard wired using approved flexible liquid tight conduit.
3. The underground wiring from the house to the receptacle shall be in an approved electrical pipe (like PVC) and buried down at 18" below the grade. The wire in the pipe shall be #12 gauge THHN wire of the proper colors. (black, white, green, etc.)
4. A bonding wire is required to be (#8 gauge) solid copper wire and shall be attached from the pool frame to the motor at the grounding lug provided on the motor. (All bonding lugs are to be copper and approved for direct burial.) Double insulated motors that are UL approved for storable pools need not be bonded. (Check the manufacturer's instructions that come with the motor.)
- 4a. Equipotential Bonding (see attachment)
5. The cord from the motor to the twist lock receptacle shall be a #12 gauge cord approved for outside/wet usage. (The cord length shall not exceed 3 feet.)
6. There shall be a convenience receptacle between 6 feet and 20 feet from the side of the pool and it shall be a ground fault protected receptacle.
7. Inside the house regular house wiring is allowed. (for example: non-metallic sheath cable, romex.)
8. Use the correct breaker for the correct panel and label it. (for example: a Square D breaker in a Square D panel)
9. There shall be proper support for the box with the receptacle on it for the pool motor. (for example: a 4x4 post, angle iron, etc.)
10. A trench inspection is required to inspect the pipe underground from the house to the pool motor receptacle, and a final inspection once the pool is completely installed, filled with water, and the pump is working.
11. If there is a pool heater, the lug on the pool heater must be copper, not aluminum.
12. If there is a receptacle needed for a low voltage pool light it shall be installed more than 10 feet away from the pool.

*** 3a & 4a**
EQUIPOTENTIAL BONDING

- The requirement for bonding perimeter surfaces now applies to paved and unpaved surfaces. An example of an unpaved perimeter surface would be the lawn surrounding a permanently installed aboveground swimming pool. Where the paved portion of the perimeter surface extends less than 3 ft horizontally from the inside walls of the pool, the perimeter bonding grid must be continued under the adjacent unpaved perimeter surface. If physical constraints (such as a wall or other physical barrier) prevent the perimeter from extending 3 ft beyond the inside walls of the pool, the bonding grid is required only to extend under the available perimeter area.
- The perimeter bonding grid can be comprised of structural reinforcing metal (re-bar or welded wire mesh) that is conductive to the perimeter surface and installed in or under the perimeter surface. Where structural reinforcing steel is not available, a single, bare, solid 8 AWG or larger copper conductor can be installed around the perimeter of the pool in an area measuring between 18 in. and 24 in. from the inside pool walls. This 8 AWG bonding conductor can be installed in the paving material (i.e., in the concrete), or it can be buried in the material (subgrade) below the paving material. Where buried, the bonding conductor is to be not less than 4 in. and not more than 6 in. below the surface level of the subgrade material.
- The perimeter surface bonding medium has to be connected, at four evenly spaced points around the pool perimeter, to either the structural steel of a conductive pool shell or to the copper bonding grid provided for the conductive pool shell that has encapsulated re-bar or no re-bar at all. Connection between the perimeter bonding medium and nonconductive pool shells is not required.



ELECTRICAL SUBCODE TECHNICAL SECTION



Date Received
Date Issued
Control #
Permit #

A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION, WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 12121 Lot 22
Work Site Location 2 ANYOLD STREET
DENVILLE, NJ 07834
Owner in Fee/Occupant HARRY HOME MAKER
Address same as above

Tele. () 625-5555
Contractor Short Circuit Sal's Electric
33 Shock St.
Serviceville, NJ

Lic. No. 1010
Federal Emp. No.
B. ELECTRICAL CHARACTERISTICS

Use Group Present
Building Occupied as Temporary
Est. Cost of Elec. Work \$ 400

Table with columns: PLAN REVIEW, Date, Initial, INSPECTIONS, Type, Failure, Dates (Month/Day), Approval, Initial

C. CERTIFICATION IN LIEU OF OATH
I hereby certify that I am the (agent of) owner of record and am authorized to make this application and perform the work listed on this application.

SIGNED & SEALED BY CONTRACTOR
Applicant's Signature/Contractor's Seal and Signature

[] Licensed Electrical Contractor [] Exempt Applicant

D. TECHNICAL SITE DATA

Table with columns: QTY, SIZE, ITEMS
Lighting Fixtures
Receptacles
Switches
Detectors
Light Poles
Motors—Fract. HP
Emergency & Exit Lights
Communications Points
Alarm Devices/F.A.C. Panel

TOTAL NUMBERS

- Pool Permit/with UVW Lights
Storable Pool/Spa/Hot Tub
KW Elec. Range/Receptacle
KW Oven/Surface Unit
KW Elec. Water Heater
KW Elec. Dryer/Receptacle
KW Dishwasher
HP Garbage Disposal
KW Central A/C Unit
HP/KW Space Heater/Air Handler
KW Baseboard Heat
HP Motors 1/+ HP
KW Transformer/Generator
AMP Service
AMP Subpanels
AMP Motor Control Center
KW Elec. Sign/Outline Light

Table with columns: Fee Name, Amount
Administrative Surcharge
Minimum Fee
DCA Training Fee
TOTAL FEE

U.C.C. F120 (rev. 3/96)
1 White = Inspector Copy
2 Canary = Office Copy
3 Pink = Office Copy
4 Gold = Applicant Copy

