Frequently Asked Questions:

Q. The program calls for two rooms to be “near”. What is “near”?
A. Always consider the door to door distance. Same half of the same floor should be sufficient. Direct access is not a substitute for “near”.

Q. How many windows should I use, and how big should they be?
A. At least one, and you can add more if it’s a large room. Typically 4’ to 6’ wide is sufficient.

Q. If the program does not specify which floor for a room, does it matter where it goes?
A. For some rooms it will not really matter. The program does require “sound design logic”, so rooms like EM and EE logically belong on the first floor.

Q. How do I achieve “visual control”?
A. Use interior windows, not doors to provide a line-of-sight control of a particular element.

Q. The program does not call for windows in some rooms. Should I add them anyway?
A. You can, but it won’t help your score, and you risk adding them where they may be prohibited.

Q. Should I add exit doors from the larger rooms even though the code and program don’t require them? I’m concerned about the room capacity.
A. No. The code provided is the only one that applies.

Q. I’ve seen sample passing solutions with double doors. Are they required?
A. No. Egress capacity is not in the scope of this vignette unless the program says otherwise (unlikely). Many sample passing solutions contain errors, just not fatal ones.

Q. I heard that the toilet rooms must be stacked. Is that true?
A. No. It's only a 2 story building. Stacking toilet rooms (developing a core layout) makes sense for multi-story buildings.

Q. Does the practice software have a timer like the real exam?
A. No.

Q. On the actual exam, do they still give the tabs for Codes and Tips, or is it just the Program?
A. The exam will provide codes, tips and the program in the same format as the practice exam. You do not have to memorize the code or tips. Note the real exam may not have the same code or tips. Read everything provided to you.

Q. Do door locations at stairs matter? Do I have to worry about headroom issues inside the stair?
A. There is no sure way to know how NCARB grades door locations in stairs - if at all. The late Prof. Norman Dorf recommended using a 10x20 stair for entry/exit at the same end and 12x18 for entry/exit at opposite ends. Given a lack of evidence either way, I tend to take a more conservative approach. Floor to floor heights are not given, so we don’t really know how stairs would be configured. Since “sound design logic” is a program requirement, you should probably put the entry door to the stairs at the same end on each floor. The NCARB sample passing solution shows entry/exit at the same end, but that does not
Q. The program says corridors may not exceed 25% of the program area. Does this include the lobby and stairs?
A. No. The lobby is circulation, but is not a corridor. The program is specific. Take it literally.

Q. I'm concerned about having a dead-end lobby. What if I have one end of my lobby that is more than 20' from an exit?
A. There is no such thing as a dead-end lobby. The code does not refer to dead-end circulation. The code only refers to dead-end corridors. Take the code literally.

Q. Can doorswings cross the building limit line?
A. Yes.

**Common Mistakes:**

1. **Doors swinging the wrong way.** Doors swing into rooms. Exit doors MUST swing in the direction of egress. If a room is required to have exit doors, **all** doors to the exterior or circulation MUST swing in the direction of egress.
2. Missing wall openings. To connect circulation elements, use the wall opening tool. **Omitting wall openings between circulation elements is likely fatal because it can create illegal dead-ends.**
3. Dead-ends exceeding 20’. Very likely a fatal error.
4. Trying to match the second floor outline to the first floor outline.
5. “island” roof. This is a first floor roof area completely surrounded by second floor elements. Placing a room or corridor there is recommended.
Step 1: Layout spaces based on prescribed programmatic areas using logical dimensions that will be common to similar size spaces. These similar dimensions will tie these spaces together as a whole for a particular wing, area or bar. As a result, when you get to step 5 & 6 you may find that everything aligns nicely and fits within border. Use your head. Don’t be stupid. If its 2,500sf then you know its 50’ x 50’ so draw it that way...at least for starters. Coming up with nifty proportions will only create a visual predisposition to orientation that may ultimately lead you astray. Be square and be there. I start with the spaces with the obvious sizes such as the 10’ x 20’ dimension of the stairs (ST), the obvious 10’ x 15’ for the toilets (T) and the obvious 10’ x 10’ for the elevator shaft (E), elevator machine room (EE) and custodian (C). After I drew these first, I laid out the other spaces to match the appropriate dimension. For instance; using the long side of the stair (ST) of 20’, I used this as the short side of the mechanical (EM), special collections (SC), workspace (W) and the lending desk (LD).

Step 2: Group small “dark”utilitarian functions that you know will be nested at the double height space. Based on the smaller square footages you can see a commonality. Group them based on their puny size.

Step 3: Layout what you know based on programmatic directive and code restrictions.
- Lobby (L) is to be at the East therefore place it at the East property line.
- Main Reading (MR) and Children Reading (CR) are to have ‘views’ which the program AND the plan indicate is to the North therefore place these spaces at the north property line
- Stacks (S) are to be adjacent to the MR therefore you know it needs to be with the North spaces. Place it at the North property line

Step 4: Nest those ‘dark’ utilitarian spaces. Move them functions just below the North spaces as you planned (or I do at least) nest them in the big box spaces. (Dorf master strategy!!! it works!!!)

Step 5: Move all the remaining medium size spaces, to the bottom. The corridor becomes obvious.

Step 7: Before you start panicking and fucking with every spaces dimension that you so carefully laid out to the inch, adjust all the spaces into a coherent assemblage that will resemble your final layout. Again, don’t mess with the dimensions yet. See what happens when you lay them out.

Step 8: The only adjustment I needed to do to get everything to fit within the building setback lines was rotate the children’s reading (CR). My assumption of dimensions...all based on the obvious seemed to work out (at least this time)

Step 9: Gut check...as it is, it works depending on how you feel about ‘L’ shaped spaces. However, I like the clean lines and felt I could get into a squeeze on the second level. So when you hit the next page you will see the adjustments made in the final solution.
Windows: use sizes between 4'-0" to 10'-0" and make a judgement call on quantity for the space being served. No window is required at the 'Open to Below (OB) volume at the second level.

Egress: Be careful to swing all doors in the direction of travel that are to be used as exits.

There is no square footage trigger to add an additional egress door for larger spaces. It will be dictated in the program requirements or inherent to particular spaces, i.e. Lobby/entry (L) and stairs (ST). Double doors only if required by program. We have not been asked to calculate egress factors.

Two means of exiting the larger space, be sure that the exit doors are no closer than 1/2 of the diagonal distance of that space. In other words, if you have them at opposite corners as shown here you are twice the minimum and thus, golden.

Nesting: Similar type functions of smaller size work well together. When compared to the previous page 'process', I have elongated all the spaces in the N-S direction. This is because when I rotated the toilet spaces to match the 10' dimension of the elevator and custodian spaces, it extended beyond the West edge of the Main Reading (MR). I didn’t like the prospect of an ‘L’ shaped stack (S) room nor the effects it may have on the second level. Therefore I decided to tweak every space to be congruent with that nice square(ish) reading room and result in an nice square(ish) stack space. Also, I flipped the Elevator to the West as well. Since this is only a two story space and the elevator is not a primary means of circulation but rather an accessibility concern, I relocated it to the corridor for similar ‘L’ concerns and also when the elevator machine room is removed from that ban of spaces on the second level, there was nothing that could fill the void. It all could still work, but I like to keep my toilet locations relative to each other although not a concern on the exam, just makes sense. See the next page example to see all this crap in action.

Wall openings: NOT for visual control or direct access. It is only to delete the common wall between lobby & corridor or corridor & corridor. It is meant to adjoining circulation spaces.

No wall opening is required at the elevator shafts.

Visual Control: Achieved only with windows...even at the interior partitions. The Visual control is to watch door access to the space required in the program. NOT just a view of that box. It may provide control of either side of the door operation as shown between the work space and the lending desk. Here, the LD is watching the door from the W’s inside.

Direct access: achieved only with doors... NOT wall openings

Exiting: No door is required at the end of the corridor. Existing is allowed THRU the stairwell from the corridor from the ground level. However, be sure not to pull a Sunny Bono on that tree there. Could probably move the whole building North a bit to take care of this. Also be careful of the dead-end corridor. 20'-0' max.

Door swings may extend over building setback lines but not over property lines.

No windows are required at the 'Open to Below' space.

Windows are allowed at trees but only if deciduous. As with Site Planning, conifers will block the view.

Near: If a door is programmed to be near another space, make sure it is within 1/2 that floors length. NOT 5' - 10' as proposed within the forum, nor 20% as with Site Planning.

Direct access: although not a program requirement, I decided to swing the doors into the bigger space so as to leave the smaller spaces free of obstacles.

Dead end corridors: although not dead ends here, could probably tighten up a bit by pulling back to just outside the door at both ends of the 2nd floor corridor and the West end of the 1st floor corridor.

Stair towers: place in exact same location as those on the ground level.

Other than view direction specified in program, trees do not impact window location in this exam.
**Windows:** One gigantic window as shown here may not cut it. Computer grading may only take into account one window as opposed to linear feet of window.

As a result of the comments on the previous sheet, you can see what happens if you just leave the spaces per your perfect 'obvious' dimensions. Some tweaking may be in order to make this baby sing. As is, you get a nasty 'L' shaped stack room (S) which may be acceptable since a larger space, but look at that break room (B) on the second level. Not good.

**Stair:** As dashed, the stair tower at this end could probably be moved to get rid of that nugget of unused corridor. Remember, exiting can be thru a stairwell. However, not advisable for the East stair for comments below.

In this example, the corridor stops at the lobby. The previous example shows the corridor extending the full length with the lobby (L) set above it. By doing this you gain a bit more length to the lobby for whatever purpose you may need...may make access to some other doors easier. And as far as both of these examples are concerned we are no where near the 25" of the total square footage cutoff point.

**Visual Control:** For view of doors, not boxes. As shown, the main entry door may be getting to an oblique angle and not as 'visible from the loan desk (LD). Also, if the stair is nudged North as suggested for the West stair, it may block views of the entry entirely.

Would be better to move LD door to East to gain better 'visual' angle of the doors needing control. Also, if you refer to the previous example, by doing so, the door into LD does not block the window for 'visual' of the workspace door.

**'L' shaped rooms at this small size is a BAD idea.**

There is no square footage trigger to add an additional egress door for larger spaces. It will be dictated in the program requirements or inherent to particular spaces. I.E. Lobby/entry (L) and stairs (ST).

**Exiting:** No door is required at the end of the corridor. Existing is allowed THRU the stairwell from the corridor from the ground level. However, be sure not to pull a Sunny Bono on that tree there. Also be careful of the dead-end corridor. 20'-0" max.

Door swings may extend over building setback lines but not over property lines.

**Near = on the "same half of the same floor"**

Other than view direction specified in program, trees do not impact window location in this exam.

Windows are allowed at trees but only if deciduous. As with Site Planning, conifers will block the view.

Near: If a door is programed to be near another space, make sure it is within 1/2 that floors length. NOT 5' - 10' as proposed within the forum, nor 20% as with Site Planning.

Dead end corridors: although not dead ends here, could probably tighten up a bit by pulling back to just outside the door at both ends of the 2nd floor corridor and the West end of the 1st floor corridor.

Stair towers: place in exact same location as those on the ground level.

Keep exterior recesses (niches) w/in 2:1 ratio. This falls under the "sound design logic" category.
A “roof island” or hole is created on the 2nd floor above the LR’s. Not sure if this is a fatal error but probably a downgrade.

To avoid this roof island, place a smaller space here like toilets or custodial room. If not possible or running out of time, fill it w/ a corridor.
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### Bubble Diagrams

**1ST FLOOR**

- **DA**: Direct Access
- **TV**: Visual Control
- **GR**: Open to Below
- **V**: Visual Entry
- **AO**: Accessory Entrance
- **L**: Service Entrance
- **E**: Exterior Wall

**2ND FLOOR**

- **RR**: Roof Access
- **LR**: Level Entry
- **SA**: Service Access

### Legend

- **Room/Space**
- **Room W/ Window**
- **Room W/ Exterior Wall**
- **Visual Control (VC) OR View (N, S, E, W)**
- **Entry/Exit**
- **Near (NR)**
- **Direct Access (DA)**
- **Open to Below (OB)**
Maffewl’s Building Layout Chart – NCARB Practice Vignette

Ok, the chart looks complicated at first glance, but once you understand it, it makes complete sense. Here are the steps:

The following steps do not require opening the program or code.

1. Write the text at the top. (Major View, Visual Control, Main Entry, Area/Corridor Percentages, Notes, and I also drew a compass because in the pressure of an exam, I didn’t want to be in a hurry and accidently confuse any directions).

2. Draw the grid. (At least 9 Spaces wide and 25-30 spaces tall).

3. Write the text. (Tag 1st/2nd, Name, 1st Floor, 2nd Floor, Window, Visual Control, Direct Access, Near, Notes).

The following steps require the program and code.

Review Code. Take notes on anything that you feel you need to remember.

Go to Program.

1. Fill in Major View direction. (I draw an arrow as well for quick visualization).

2. Fill in the Visual Control.

3. Fill in the Main Entry direction. (I draw an arrow as well for quick visualization).

4. Fill in the allowed Area/Corridor Percentages.

5. Fill in the Notes. (Such as MP is a 2-story space, or any other general program notes you feel you will need to remember).

6. Fill in the Tags and Names (not all the requirements, that’s next). Afterwards, count the number of Tags/Names and make sure it matches up with what is on the Program.

7. Go down the list of spaces and do the following for each requirement.

    - Draw a “heavy line” around the 1st/2nd floor square foot box if it is required to be on a certain floor/both floors. This means that space is “locked” on that floor. Go through each space and draw the “heavy line” if it is required on a certain floor before moving to the next series of steps. In the practice example, these should be ST, E, MP, SO, TR.

    - As you do the following steps (Filling in the grid), and notice Near, Direct Access, Visually Controlled, etc., go ahead and draw a “heavy line” around the square foot boxes that will be on a certain floor because of other spaces requirements. These should be AO, CR, DO, GR, L, LM, LR, R, SM, TS. (This is somewhat of a back and forth since you will be writing the other requirements
such as Near, Direct Access, etc. and have to realize that means the room needs to be “locked” on a certain floor as well). An example of this is that TS needs to be Near MP, therefore TS will be “locked” on the first floor.

8. Fill in the Grid each space at a time. (Name, 1st, 2nd, Window, etc.).

- As you are filling in the grid, if a space is required to be on a certain floor, it should have a heavy line box around it. This means it’s “locked” or must be on that floor.

- If there is no floor requirement, and it can be on any level, lightly write the square footage on the level you think it should be on and circle it. (Such as EM should be on 1st floor if possible, so lightly write the square footage in the 1st floor block and circle). The circle means that room is “not locked” and can be moved during design if need be.

- Also, if one space needs to be Near, Direct Access, etc. another, write it in both spaces grid boxes. So, as TS needs to be near MP, write TS in MP’s Near box.

9. Tally up the square footages for each floor and write in bottom blocks. If they are about equal, then proceed. Don’t forget to include the OB square footage. If not, adjust the spaces that are “not locked” to try to “balance” the areas. However, you will still want the 1st floor weighted more so you can keep the 2nd floor area inside the 1st floor envelope. Keep in mind, this is not set in stone, there may be a space that you place on a level that is better on the other. The circles around the square footages make it easy to realize which rooms can be moved.

10. Draw the following by the Tags for each space (confirm with the grid chart).

   - Draw a “square” by the Tag if it requires exterior windows.
   - Draw a “square with a V” by the Tag if it requires a View.
   - Draw an “arrow” pointing in the Entry direction by the Tag if it is to be the main entry.
   - Draw a “solid line” by the Tag if it is to have Direct Access.
   - Draw a “dashed line” by the Tag if it is to be Near.
   - Draw a “line with dots” by the Tag if it is to be Visually Controlled

11. Double and Triple check that everything on both charts is correct with Program.


**Best of luck!**

maffewl
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