WORLD HUNGER TEAM HOMELESS COMPOUND PROPOSAL

PROJECT NAME: 500+ Occupancy Homeless Shelter Compound Constructed of De-Commissioned Ocean Shipping Containers

PROJECT OVERVIEW:

a. Construct a large-scale, semi-permanent facility to house homeless people on a temporary, day-to-day basis.
b. Assemble the facility using de-commissioned shipping containers as 'building blocks', so as to:
    a. Facilitate a rapid construction timeline, i.e. less than 6 months.
    b. Significantly reduce expenses to as little as $2,000 per occupant capacity – a one-time cost – while maintaining high construction standards to assure comfortable, safe lodging for the guests.
    c. Establish a long-term solution to the homeless shelter crisis, providing a viable solution that will continue to serve the community for 25+ years with minimal maintenance and upgrade requirements.
c. Maximize the security of the facility, so each of 4 individual groups of homeless people by gender and relationship status – men, women, families and couples – can enjoy privacy, safety, comfort and definitive sequestration from the other groups.
d. Provide all of the basic needs of comfort and personal dignity including toilet, shower, laundry and private sleeping facilities.
e. Facilitate the sharing of all social services in a definitively sequestered environment, including:
    a. Partaking in meals
    b. Receiving counseling, job training and social service assistance
    c. Relaxing and socializing with peers

HOUSING DESIGN EXPLANATION (see attached drawings):

The facility is designed to fit in an area roughly ½ the size of a football field. It is circular in design, with four clearly demarcated and separate 'quadrants'. Each quadrant is generic in design, so each individual quadrant can be assigned as needed to house the day's census of homeless people by four categories:

a. Men
b. Women
c. Families with Children
d. Couples

Each quadrant contains either 14 or 16 shipping containers dedicated to housing, assembled as 'double-wide' units, each unit containing 8 separate bedrooms.

Each of these bedrooms has a programmable lock that can only be accessed by the assigned guest. Each bedroom features a single queen-size bed, with room for fold-up beds to be placed when children are sharing the room with one or more parents.

The bedroom units DO NOT have running water. Inside the 'arc' of each 'quadrant' are three shipping containers: one has toilets, the second has showers, and the third has laundry machines. This will greatly reduce the construction costs, while providing easy access to these facilities by all quadrant guests.

ENTRANCE / GUARD SHACK / INTAKE PROCESSING / DINING & ENTERTAINMENT FACILITY DESIGN EXPLANATION (see attached drawings):

As you will see in the first drawing, the only entrance to the facility is through a walled 'funnel' shaped entrance. This leads visitors to the 'Main Compound Entrance'. Here, visitors are greeted by staff members and directed into the 'Intake Processing' area, manufactured using 10 shipping containers. This is very similar to the front desk in a hotel, with the exception that guests must also be put through a cursory health / cleanliness exam to be tested for lice and other bugs. Personal effects such as shopping carts, duffel bags, suitcases, etc. will have to be dealt with at an exterior storage area. They cannot be allowed into the compound due to the possible presence of lice, bugs, vermin, contamination and the like.

(NOTE: the walls are opened up between containers, yielding a largely open-plan room.)

In the **Guard Shack / Intake Processing** area, guests are entered into the system, assigned to a specific quadrant and guest room in that quadrant, and are given a color-coded electronic key on a lanyard to be worn around their neck at all times:

- ***Blue = men***
- ***Pink = women***
- ***Orange = families with children***
- ***Green = couples***

There are four access doors leading from the Intake Processing area into the **Dining & Entertainment** areas. The doors will feature large changeable color panels identifying the correct guest category. Visitors must be 'buzzed' into the appropriate quadrant by one of the guards.

Each of the **Dining & Entertainment** quadrants is manufactured with 10 shipping containers. Again, the walls are opened up between containers to yield a largely open-plan room. Three of the containers in each of the quadrants are used for toilets, showers and lockers. The lockers are used to provide temporary garments for the guests, who must relinquish their street clothes for washing and/or repair by staff members. This will help minimize the introduction of lice or other bugs into the facility. Guests must agree to shower, wash their hair, receive new undergarments and wear the temporary garments they are assigned. Guests who will not comply cannot be allowed into the facility due to the potential of contamination.

The remaining 7 containers in each quadrant will be outfitted with small meeting offices for counseling and social service meetings. Other areas will be open plan, with tables and chairs for dining, socializing, craftwork, etc. This relaxation area will also be outfitted with televisions for entertainment, as well as computers for Internet access by the guests. Moveable partitions will help divide the room as needed for various needs.

UTILITY DETAIL:

We propose the use of an optional low-cost 'cave effect' heating and cooling system. This is an experimental system that must be reviewed by a geothermal expert before implementing.

Our plan is to create an air tunnel "vortex", buried 15 to 20 feet underground. This tunnel will be manufactured out of 30" corrugated steel drain pipe linked together with elbow fittings and smaller air intake and air outtake pipes. Circular electrical fans will be placed at the fitting points, forcing the air through the drain pipe at high velocity. Our goal is for the air to pick up the ambient 'cave effect' temperature of the soil at that depth, and transfer it up into our building. We call this our **"Vortex HVAC System."**

The **Vortex HVAC System** adjusts the air temperature in two ways:

1. **SUMMERTIME**. If the outside air is too warm in the summertime, air drawn into the vortex will be held in circulation for a longer period of time, cooling it to the desired temperature before it is released into the building. If the air in the vortex is too cold, it will be mixed with outside air to raise it to the desired temperature before release into the building.
2. **WINTERTIME**. Our plans call for pre-installing a natural-gas powered furnace into the vortex. If the air in the vortex is too cold, the burner will come on, raising the air temperature to 70 degrees F. before releasing it into the building.

The goal of the Vortex HVAC System is to significantly lower the cost of operating the homeless shelter facility. Because of the sheer size of the facility, annual costs for HVAC operation could rise as high as $10,000 per month. We believe that our system could lower the cost of heating and cooling below $1,000 per month on average.

Solar Panels will be placed on the roof tops of containers to provide electricity for lighting the units.

COST DETAIL:

The entire compound uses 122 of the 40' long x 8' wide shipping containers. They can be obtained for approximately $2,500 each.

CONTAINERS = $300,000

RETROFITTING CONTAINERS / SOLAR PANELS / CONTRACTOR WORK = $250,000

VORTEX HVAC System, including duct work throughout buildings = $150,000

PLUMBING / FIXTURES / MISC = $150,000

FURNITURE / HARDWARE = 150,000

GRAND TOTAL COST (Estimated) = $1,000,000

SUMMARY:

According to a September, 2011 study by Vanderbilt University (see link below), the cost of Nashville homeless **shelter services alone** was conservatively estimated at $4,888,851 ($2,542,203 for the chronically homeless) or $2,195 per-person across the entire population.

https://webcache.googleusercontent.com/search?q=cache:K_vVHgAv68AJ:https://my.vanderbilt.edu/perkins/files/2011/09/Costs-of-Homelessness.Final-Report.doc+&cd=3&hl=en&ct=clnk&gl=us

Our solution, while admittedly early in its development and budgeting, could potentially provide a large-volume, semi-permanent answer to Nashville's growing homeless housing problem. It can also provide a centralized location to provide services and counseling for the homeless, as well as reduce overall costs for the city of Nashville.

ABOUT US:

World Hunger Team, Inc. is a 501(c)3 non-profit organization based in Nashville, Tennessee. Our mission statement is, "We convert decommissioned ocean shipping containers into greenhouses to grow food using LED lights and non-circulating hydroponics, to feed the hungry."

Our goal is to place double-wide greenhouse units primarily behind churches, and have church volunteers, primarily seniors, staff the greenhouse to grow the food. Many seniors today are seeking an opportunity to be employed in a meaningful

task to utilize their life skills as well as help their communities. The WHT program allows them to do this, learn new skills, and increase their intake of wholesome vegetables and find fellowship and meaning in serving mankind.

WHT received its first round of funding in December of 2015, and is currently building two test greenhouses, one in Donelson, TN and one in Franklin, TN. This proposal uses many of the concepts originally created for our greenhouse design, but is a separate project from our primary mission which is to grow food to feed the hungry, primarily in food deserts and low-income communities.

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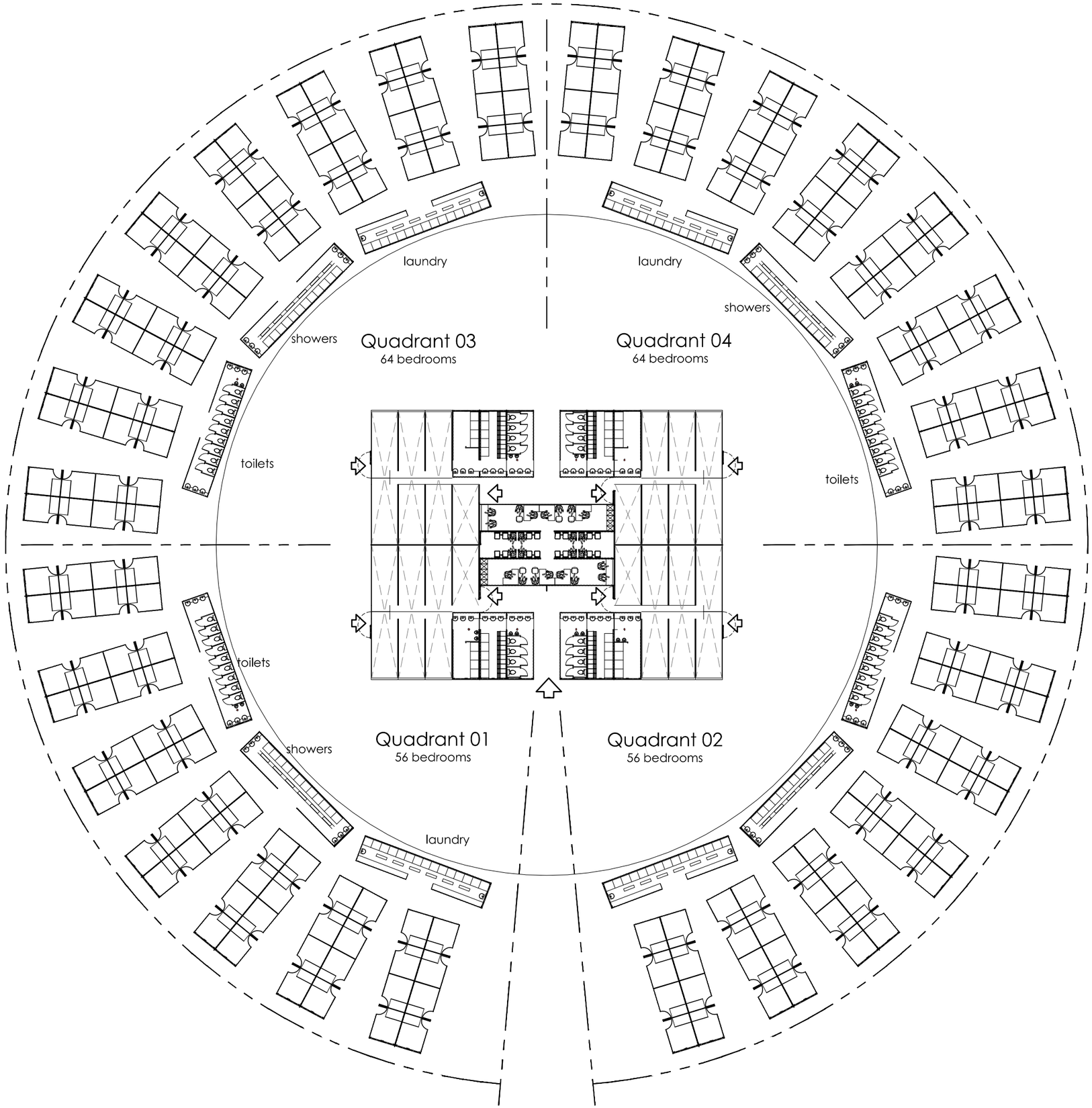

No. Date	Issue

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Homeless Persons Housing Compound

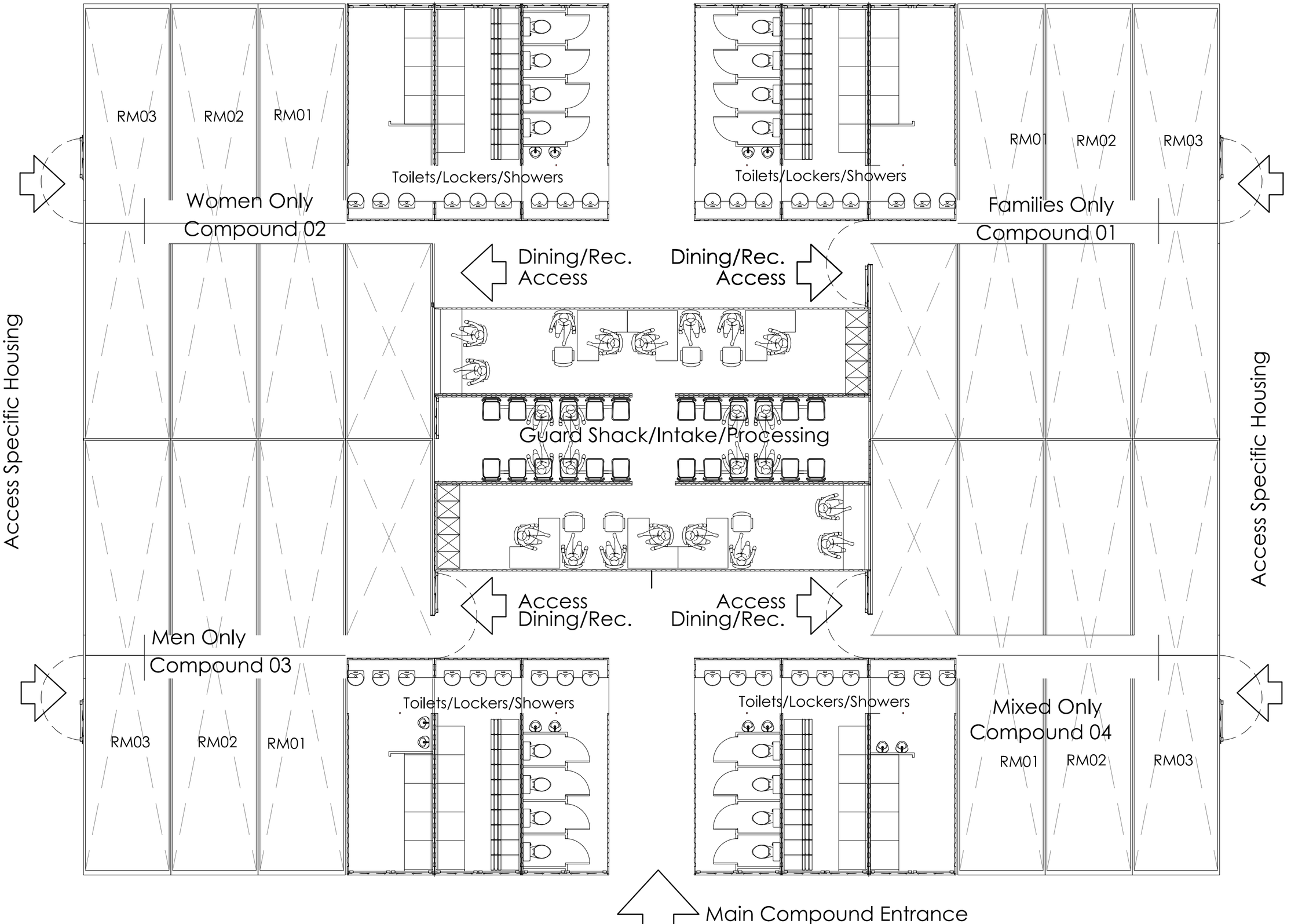
Issued for Information

Title: Compound Site Plan

Scale: 1"=30'-0" @ Ansi B

Sheet Number:

GA.01



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Homeless Persons
Housing Compound

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Title: Accommodation Block Plan

Scale: 1/8"=1'-0" @ Ansi B

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SP.01