A system and method for temporary sanitary disposal of human liquid waste in a building under construction on a level above ground level with a ceiling and prior to the installation of permanent plumbing fixtures. The method comprises the steps of providing one or more temporary urinals on the level, providing at least one holding tank capable of accumulating liquid waste at or below ground level, and providing liquid waste piping between each of the one or more temporary urinals and the at least one holding tank. The method also comprises the steps of introducing a fluidization agent at the one or more temporary urinals, guiding the liquid waste and the fluidization agent from the one or more temporary urinals to the at least one holding tank via the waste piping system, wherein the fluidization agent prevent precipitation of solids from the liquid waste in the waste piping.
TEMPORARY HUMAN WASTE DISPOSAL SYSTEM AND METHOD

BACKGROUND

[0001] Generally, disposal of human waste in construction sites is conducted by locating portable toilets on the ground level of a building under construction. In a multi-level building under construction such as high-rise buildings or the like, ground level portable toilets are inconvenient and difficult to reach for those workers at above ground floor levels. Ceilings on multi-level buildings under construction prevent cranes from placing portable toilets on above-ground floor levels. Thus, unsanitary conditions frequently result in construction sites from workers located in these above-ground floor levels. Such unsanitary conditions commonly found in multi-level construction sites are containers of liquid human waste, liquid human waste lying on the floor and other areas of a building under construction, and the associated odor with these open pools and containers of liquid human waste. Thus, there exists a need in the art to provide sanitary conditions and dispose of liquid human waste in a multi-level building under construction.

[0002] It is therefore an object of the disclosed subject matter to obviate the deficiencies of the prior art by presenting a novel temporary urinal comprising a basin, a drain, and a splash guard wherein an upper portion of the temporary urinal comprises an attachment device adapted for attaching the temporary urinal to a wall system.

[0003] It is another object of the disclosed subject matter to present a novel temporary liquid waste system for an above ground level floor in a building under construction without permanent plumbing fixtures. The temporary liquid waste system comprises one or more urinals located on the above ground level floor, at least one holding tank located at or below ground level, and a liquid waste piping system extending from each of the one or more urinals to the at least one holding tank whereby the one or more urinals and the at least one holding tank are disparately located.

[0004] It is still another object of the disclosed subject matter to present a novel method for temporary sanitary disposal of human liquid waste in a building under construction on a level above ground level with a ceiling and prior to the installation of permanent plumbing fixtures. The method comprises the steps of providing one or more temporary urinals on the level, providing at least one holding tank capable of accumulating liquid waste at or below ground level, and providing liquid waste piping between each of the one or more temporary urinals and the at least one holding tank. The method also comprises the steps of introducing a fluidization agent at the one or more temporary urinals, guiding the liquid waste and the fluidization agent from the one or more temporary urinals to the at least one holding tank via the waste piping system, wherein the fluidization agent prevent precipitation of solids from the liquid waste in the waste piping.

[0005] It is yet another object of the disclosed subject matter to present a novel temporary liquid waste system for an above ground level floor in a building under construction without permanent plumbing fixtures. The system comprises one or more temporary urinals located on the above ground level floor, a sewer interface located at or below ground level, a connection device, a trapless liquid waste piping system extending from the above ground floor to the sewer interface and adapted to receive permanent toilet fixtures, and a connection device extending between the one or more temporary urinals and the trapless liquid waste piping system.

[0006] It is also an object of the disclosed subject matter to present a novel method to reduce the proliferation of containers of human urine on interior levels of a multilevel building during the construction of the building and prior to installation of permanent plumbing fixtures where the interior levels are above ground level. The method comprises the steps of providing one or more temporary urinals on one or more interior levels, providing a waste collection interface capable of disposing liquid waste at or below ground level, and providing liquid waste piping between each of the one or more temporary urinals and the waste collection interface. The method also comprises the steps of introducing fluidization agent at the one or more temporary urinals, guiding the liquid waste and the fluidization agent from the one or more temporary urinals to the waste collection interface via the waste piping system, and removing the liquid waste and the fluidization agent from waste collection interface.

[0007] These objects and other advantages of the disclosed subject matter will be readily apparent to one skilled in the art to which the disclosure pertains from a perusal of the claims, the appended drawings, and the following detailed description of the preferred embodiments.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] FIG. 1A is a front view of a temporary urinal according to an embodiment of the present disclosure.

[0009] FIG. 1B is a side view of the temporary urinal of FIG. 1A.

[0010] FIG. 1C is a cross-sectional view of the temporary urinal of FIG. 1A along line A-A.

[0011] FIG. 2A is a front view of a temporary urinal according to another embodiment of the present disclosure.

[0012] FIG. 2B is a side view of the temporary urinal of FIG. 2A.

[0013] FIG. 3 is a pictorial representation of a temporary human waste disposal system according to an embodiment of the present disclosure.

[0014] FIG. 4 is a pictorial representation of a temporary human waste disposal system according to an alternative embodiment of the present disclosure.

[0015] FIG. 5 is a pictorial representation of a temporary human waste disposal system according to another embodiment of the present disclosure.

DETAILED DESCRIPTION

[0016] The present disclosure presents a system and method to reduce the proliferation of human liquid waste on interior levels of a multilevel building during the construction of the building and prior to installation of permanent plumbing fixtures where the interior levels are above ground level.

[0017] FIGS. 1A-1C illustrate a temporary urinal according to an embodiment of the present disclosure. As shown in
FIGS. 1A-1C, the temporary urinal 100 may be generally tubular in shape. Other forms for the temporary urinal 100 and respective basin 110 are also envisioned such as a trough-shaped, box-shaped, spherical-shaped form or other known form commonly used in the art. The urinal 100 is comprised of a catch basin 110 having a drain 112 operably connected thereto. The catch basin 110 may be formed such that the length, width and height of the basin 110 conform to a substantially rounded bottom is formed having a lower portion proximate to the drain 112. Extending upwardly from the longitudinal sides of the catch basin 110 is a splash guard 114. The width of the splash guard 114 may be substantially equal to the width of the basin 110. The temporary urinal 100 may have privacy panels (not shown) extending from the basin 110. The upper portion of the temporary urinal 100 may have an attachment device 116 adaptable for attaching the urinal 100 to a wall made of sheetrock, masonry, or cement (not shown), stud (not shown) or other vertical plane commonly located in a construction site. The attachment device may be a hanging strap or formed eyelet whereby a bolt, nail or other known affixing means may affix the urinal 100 to a wall, stud or other vertical plane. It is also envisioned that the urinal 100 be affixed directly to a wall, stud or other vertical plane without an attachment means. The basin 110, drain 112 and splash guard 114 may be molded from a single article and/or material or may also be fabricated or constructed from separate articles and/or materials. The temporary urinal 100 may be constructed or molded of any type of plastic, polyvinylchloride, wood, metal, or other known materials commonly used in the art.

As shown in FIG. 1C, the temporary urinal 100 may also comprise a chemical tank 130 positioned in the upper portion of the urinal 100 and above the basin 110. The chemical tank 130 is operably connected to a tube 120 whereby sanitation chemicals may be allowed to enter into the basin 110. A valve 122 may also be provided below and operably connected to the chemical tank 130 to thereby control the flow of sanitation chemicals from the chemical tank 130 into the basin 110. The valve 122 may be a spring loaded valve or other known manually operated valve, an automatic valve or other known valve commonly used in the art. An orifice plate or other known construction means may also be operably placed in the tube 120 in combination with or in lieu of a valve to thereby control the flow of sanitation chemicals and/or to provide a continuous supply of sanitation chemicals. The urinal 100 may also be provided with a cap 118 above and operably connected to the chemical tank 130 for replenishment of the sanitation chemicals contained therein. A strainer 111 may be provided at the interface of the basin 110 and drain 112 to thereby prevent passage of particulate matter into the temporary human waste disposal system. The strainer 111 may be any known straining means such as a wire or fabric mesh, metal strainer, or other known strainer commonly used in the art.

FIGS. 2A and 2B illustrate a temporary urinal according to another embodiment of the present disclosure. As shown in FIGS. 2A and 2B, the temporary urinal 200 may be elongated and trough-like. The urinal 200 is comprised of a catch basin 210 having a drain 212 operably connected thereto. The catch basin 210 may be formed such that the length, width and height of the basin 210 conform to a substantially rounded bottom having a lower portion proximate to the drain 212. The urinal 200 may be affixed directly to a stud 230, wall or other vertical plane. The upper portion of the temporary urinal 200 may also be equipped with an attachment device (not shown) adaptable for attaching the urinal 200 to the vertical plane. The attachment device may be a hanging strap or other known means whereby a bolt, nail or other affixing means may affix the urinal 200 to the vertical plane. A splash guard 213 may be provided that extends upwardly from the catch basin 210. The width of the splash guard may also be substantially equal to the width of the basin 210. The upper portion of the temporary urinal 200 may also be equipped with a sanitation apparatus depicted in FIGS. 1A-1C and described above.

FIG. 3 is a pictorial representation of a temporary human waste disposal system according to an embodiment of the present disclosure. A temporary liquid waste disposal system 300 is illustrated in a building under construction without permanent plumbing fixtures such as toilets, sinks, and the like. The temporary liquid waste disposal system 300 comprises one or more temporary urinals 380 located on above ground level floors 320, 330. The system 300 may have temporary piping 360 operably connected to the one or more urinals 380 and to a holding tank 362 located below the urinals 380 and preferably at or below ground level 310. The holding tank 362 may include a sanitation solution and a pump out system (not shown) whereby the contents thereof may be pumped to an offsite storage location such as a truck, mobile tank, or other second holding means commonly used in the art. As shown, the holding tank 362 may be located outside of the building and accessible to a vehicle. Thus, the holding tank 362 may be evacuated using a pumping truck or other known pumping means or the holding tank 362 may be disconnected from the system and drained and/or replaced with a new holding tank.

The temporary piping 360 extending from the one or more urinals 380 may be external to the walls 304 of the building and/or internal to the walls 304 of the building, extending through stairway openings, elevator openings and/or window openings. The temporary piping 360 may be flexible tubing, rigid PVC tubing, or other known tubing or piping commonly used in the art. It is also envisioned that the temporary liquid waste disposal system 300 be self venting and trapless to thereby minimize human interaction or operation of the system.

FIG. 4 is a pictorial representation of a temporary human waste disposal system according to an alternative embodiment of the present disclosure. A temporary liquid waste disposal system 400 is illustrated in a building under construction without permanent plumbing fixtures. The temporary liquid waste disposal system 400 comprises one or more temporary urinals 480 located on above ground level floors 420, 430. The urinals 480 are operably connected to interior tubing 450 in the building. The interior tubing 450 may be flexible or rigid temporary or permanent piping. The interior tubing 450 may also be a trapless liquid waste piping system extending from the above ground floors 420, 430 to a sewer interface 452 and to sewer piping 454. The trapless liquid waste piping system may also be adapted to receive permanent toilet or other plumbing fixtures. In the instance the system comprises one or more urinals 480 interfacing with the trapless liquid waste piping system or other permanent waste piping in the building, a connection device or means (not shown) may be provided operably connecting the urinals 480 to the piping 450. The connection interface may be a length of flexible or rigid tubing affixed and
extending from the discharge of the temporary urinals 480 to the piping 450 or may be other known connection means known in the art, i.e., flange, seals and the like.

[0023] FIG. 5 is a pictorial representation of a temporary human waste disposal system according to another embodiment of the present disclosure. A temporary liquid waste disposal system 500 is illustrated in a building under construction without permanent plumbing fixtures. The temporary liquid waste disposal system 500 may comprise one or more temporary urinals 580A, 5803 located on above ground level floors 520, 530 and operably connected to both temporary piping 560 and interior tubing or piping 550 in the building such as a trapless liquid waste piping system extending from the above ground floor 520, 530 to a sewer interface 552 and to existing sewer piping 554. The temporary piping 560 may be operably connected to a holding tank 562 located below the urinals 580A and preferably at or below ground level 510 and accessible by a vehicle. The holding tank 562 may be located within or outside of the building and may include a sanitation solution and a pump out system (not shown) whereby the contents thereof may be pumped to an offsite storage location such as a truck, mobile tank, or other known storage means commonly used in the art. Thus, the holding tank 562 may be evacuated as necessary or the holding tank 562 may be disconnected from the system and drained and/or replaced with a new holding tank 562.

[0024] The temporary piping 560 extending from the one or more urinals 580A may be external to the walls 504 of the building and/or internal to the walls 504 of the building, extending through stairway openings, elevator openings and/or window openings. The temporary piping 560 may be flexible tubing, rigid PVC tubing, or other known tunneling or piping commonly used in the art.

[0025] As shown in FIG. 5, the urinals 5803 are operably connected to interior tubing 550 in the building. The interior tubing 550 may be flexible or rigid temporary or permanent piping such as a trapless liquid waste piping system extending from the above ground floor 520, 530 to a sewer interface 552 and to sewer piping 554. The trapless liquid waste piping system may be adapted to receive permanent toilet or other plumbing fixtures. In the instance the system comprises one or more urinals 5803 interfacing with the trapless liquid waste piping system or other permanent waste piping in the building, a connection device or means (not shown) may be provided operably connecting the urinals 5803 to the piping 550. The connection interface may be a length of flexible or rigid tubing affixed and extending from the discharge of the temporary urinals 5803 to the piping 550 or may be other known connection means known in the art, i.e., flange, seals and the like.

[0026] The temporary human waste disposal system shown in FIGS. 3-5 may contain a fluidization agent located proximate to or affixed in one or more of the urinals. The fluidization agent may be introduced directly into the piping or via the one or more urinals by depressing a spring loaded valve or other known manually operated valve or automatic valve. The fluidization agent and any liquid human waste is then directed to the holding tank via the temporary piping. The fluidization agent is generally utilized to prevent precipitation of solids form the liquid waste in the piping to thereby sanitarly dispose of any liquid human waste. The fluidization agent may be released at any time during operation of the system. It is envisioned that the temporary human waste disposal system disclosed herein may be provided with privacy walls (not shown) between any temporary urinals that are proximate to each other or for each temporary urinal. Furthermore, hand sanitizers may be provided at various locations in the temporary human waste disposal system including at the one or more temporary urinals. It is further envisioned that the temporary liquid waste disposal system illustrated herein be self venting and trapless to thereby minimize human interaction or operation of the system.

[0027] While preferred embodiments of the present inventive system and method have been described, it is to be understood that the embodiments described are illustrative only and that the scope of the embodiments of the present inventive system and method is to be defined solely by the appended claims when accorded a full range of equivalence, many variations and modifications naturally occurring to those of skill in the art from a perusal hereof.

What I claim is:

1. A temporary urinal comprising:
   a basin;
   a drain; and
   a splash guard,
   wherein said basin has a height, width and a depth, said basin having a rounded bottom with a lower portion proximate to the drain;
   wherein said splash guard extends from the top of said basin upwards, and has a width substantially equal to the width of the basin; and
   wherein an upper portion of the temporary urinal comprises a spring loaded valve, said valve allowing chemicals in the chemical tank to enter into the basin.

2. The urinal of claim 1, further comprising a chemical tank positioned proximate to the upper portion and above the basin.

3. The urinal of claim 2, wherein the chemical tank comprises a spring loaded valve, said valve allowing chemicals in the chemical tank to enter into the basin.

4. The urinal of claim 2, comprising a sanitation chemical tank positioned above the basin.

5. The urinal of claim 1, comprising privacy panels extending from the basin.

6. The urinal of claim 1, wherein the basin, drain and splash guard are integral.

7. A temporary liquid waste system for an above ground level floor in a building under construction without permanent plumbing fixtures comprising:
   one or more urinals located on the above ground level floor;
   at least one holding tank located at or below ground level, said at least one holding tank comprising a sanitation solution and a pump out system; and
   a liquid waste piping system extending from each of the one or more urinals to the at least one holding tank, wherein the one or more urinals and the at least one holding tank are disparately located.
8. The system of claim 7, wherein the liquid waste piping extends from the above ground level floor to the ground level through stairway openings, elevator openings or window openings.

9. The system of claim 7, further comprising a fluidization agent located proximate to said one or more urinals, such that depressing a spring loaded valve proximate to the fluidization agent to enter the urinal.

10. The system of claim 7, wherein the one or more urinals comprise:
   a basin;
   a drain; and
   a splash guard,
   wherein said basin has a height, width and a depth, said basin having a rounded bottom with a lower portion proximate to the drain;
   wherein said splash guard extends from the top of said basin upwards, and has a width substantially equal to the width of the basin; and
   wherein an upper portion of the temporary urinal comprises an attachment device adapted for attaching the temporary urinal to a wall system.

11. The system of claim 7, wherein the waste piping comprises flexible tubing.

12. The system of claim 7, wherein the at least one holding tank is located outside of the building and proximate to vehicle access.

13. The system of claim 7, wherein the waste piping system is self venting and trapless.

14. A method for temporary sanitary disposal of human liquid waste in a building under construction on a level above ground level with a ceiling, and prior to the installation of permanent plumbing fixtures comprising:
   providing one or more temporary urinals on the level;
   providing at least one holding tank capable of accumulating liquid waste at or below ground level;
   providing liquid waste piping between each of the one or more temporary urinals and the at least one holding tank;
   introducing fluidization agent at the one or more temporary urinals; and
   guiding the liquid waste and the fluidization agent from the one or more temporary urinals to the at least one holding tank via the waste piping system,
   wherein the fluidization agent prevents precipitation of solids from the liquid waste in the waste piping thereby sanitarily disposing of the human liquid waste.

15. The method of claim 14, further comprising the step of removing the accumulated liquid waste from the at least one holding tank.

16. The method of claim 14, wherein the step of introducing the fluidization agent comprises depressing a spring loaded valve proximate to introducing the liquid waste.

17. The method of claim 14, further comprising the step of providing a sanitizer solution at the one or more temporary urinals.

18. The method of claim 14, further comprising the step of providing privacy walls at the one or more temporary urinals.

19. A temporary liquid waste system for an above ground level floor in a building under construction without permanent plumbing fixtures comprising:
   one or more temporary urinals located on the above ground level floor;
   a sewer interface located at or below ground level;
   a connection device;
   a trapless liquid waste piping system extending from the above ground floor to the sewer interface and adapted to receive permanent toilet fixtures; and
   a connection device extending between the one or more temporary urinals and the trapless liquid waste piping system.

20. A method to reduce the proliferation of containers of human urine on interior levels of a multilevel building during the construction of the building and prior to installation of permanent plumbing fixtures where the interior levels are above ground level comprising:
   providing one or more temporary urinals on at least one of the interior levels;
   providing a waste collection interface capable of disposing liquid waste at or below ground level;
   providing liquid waste piping between each of the one or more temporary urinals and the waste collection interface;
   introducing fluidization agent at the one or more temporary urinals;
   guiding the liquid waste and the fluidization agent from the one or more temporary urinals to the waste collection interface via the waste piping system; and
   removing the liquid waste and the fluidization agent from the waste collection interface.

* * * * *