Notes to Part 1
Compliance

A-1.1.1.1.(1) Application to Existing Buildings. This Code is most often applied to existing or relocated buildings when an owner wishes to rehabilitate a building, change its use, or build an addition, or when an enforcement authority decrees that a building or class of buildings be altered for reasons of public safety. It is not intended that the British Columbia Building Code be used to enforce the retrospective application of new requirements to existing buildings or existing portions of relocated buildings, unless specifically required by local regulations or bylaws. For example, although the British Columbia Fire Code could be interpreted to require the installation of fire alarm, standpipe and hose, and automatic sprinkler systems in an existing building for which there were no requirements at the time of construction, it is not intended that the British Columbia Fire Code be applied in this manner to these buildings unless the authority having jurisdiction has determined that there is an inherent threat to occupant safety and has issued an order to eliminate the unsafe condition, or where substantial changes or additions are being made to an existing building or the occupancy has been changed. (See also Note A-1.1.1.1.(1) of Division A of the British Columbia Fire Code.)

Relocated buildings that have been in use in another location for a number of years can be considered as existing buildings, in part, and the same analytical process can be applied as for existing buildings. It should be noted, however, that a change in occupancy may affect some requirements (e.g. loads and fire separations) and relocation to an area with different wind, snow or earthquake loads will require the application of current code requirements. Depending on the construction of the building and the changes in load, structural modifications may be required. Similarly, parts of a relocated or existing building that are reconstructed, such as foundations and basements, or parts being modified are required to be built to current codes.

Whatever the reason, Code application to existing or relocated buildings requires careful consideration of the level of safety needed for that building. This consideration involves an analytical process similar to that required to assess alternative design proposals for new construction. See Clause 1.2.1.1.(1)(b) for information on achieving compliance with the Code using alternative solutions.

In developing Code requirements for new buildings, consideration has been given to the cost they impose on a design in relation to the perceived benefits in terms of safety. The former is definable; the latter difficult to establish on a quantitative basis. In applying the Code requirements to an existing building, the benefits derived are the same as in new buildings. On the other hand, the increased cost of implementing in an existing building a design solution that would normally be intended for a new building may be prohibitive.

The successful application of Code requirements to existing construction becomes a matter of balancing the cost of implementing a requirement with the relative importance of that requirement to the overall Code objectives. The degree to which any particular requirement can be relaxed without affecting the intended level of safety of the Code requires considerable judgment on the part of both the designer and the authority having jurisdiction.

Further information on the application of Code requirements to existing or relocated buildings can be found in the following publications:

- "User's Guide – NBC 1995, Fire Protection, Occupant Safety and Accessibility (Part 3)"
- "Guidelines for Application of Part 3 of the National Building Code of Canada to Existing Buildings"
- Commentary entitled "Application of NBC Part 4 of Division B for the Structural Evaluation and Upgrading of Existing Buildings" of the "User's Guide – NBC 2015, Structural Commentaries (Part 4 of Division B)"
- "User's Guide – NBC 1995, Application of Part 9 to Existing Buildings"
- CBD 230, "Applying Building Codes to Existing Buildings"

These publications can be ordered through NRC's Web site.

A-1.2.1.1.(1)(a) Code Compliance via Acceptable Solutions. If a plumbing system design (e.g., material, component, assembly or system) can be shown to meet all provisions of the applicable acceptable solutions in Division B (e.g., it complies with the applicable provisions of a referenced standard), it is deemed to have satisfied the objectives and functional statements linked to those provisions and thus to have complied with that part of the Code. In fact, if it can be determined that a design meets all the applicable acceptable solutions in Division B, there is no need to consult the objectives and functional statements in Division A to determine its compliance.

A-1.2.1.1.(1)(b) Code Compliance via Alternative Solutions. Where a design differs from the acceptable solutions in Division B, then it should be treated as an "alternative solution." A proponent of an alternative solution must demonstrate that the alternative solution addresses the same issues as the applicable acceptable solutions in Division B and their attributed objectives and functional statements. However, because the objectives and functional statements are entirely qualitative, demonstrating compliance

with them in isolation is not possible. Therefore, Clause 1.2.1.1.(1)(b) identifies the principle that Division B establishes the quantitative performance targets that alternative solutions must meet. In many cases, these targets are not defined very precisely by the acceptable solutions – certainly far less precisely than would be the case with a true performance code, which would have quantitative performance targets and prescribed methods of performance measurement for all aspects of building performance. Nevertheless, Clause 1.2.1.1.(1)(b) makes it clear that an effort must be made to demonstrate that an alternative solution will perform as well as a design that would satisfy the applicable acceptable solutions in Division B – not "well enough" but "as well as."

In this sense, it is Division B that defines the boundaries between acceptable risks and the "unacceptable" risks referred to in the statements of the Code's objectives, i.e., the risk remaining once the applicable acceptable solutions in Division B have been implemented represents the residual level of risk deemed to be acceptable by the broad base of Canadians who have taken part in the consensus process used to develop the Code.

Level of Performance

Where Division B offers a choice between several possible designs, it is likely that these designs may not all provide exactly the same level of performance. Among a number of possible designs satisfying acceptable solutions in Division B, the design providing the lowest level of performance should generally be considered to establish the minimum acceptable level of performance to be used in evaluating alternative solutions for compliance with the Code.

Sometimes a single design will be used as an alternative solution to several sets of acceptable solutions in Division B. In this case, the level of performance required of the alternative solution should be at least equivalent to the overall level of performance established by all the applicable sets of acceptable solutions taken as a whole.

Each provision in Division B has been analyzed to determine what it is intended to achieve. The resultant intent statements clarify what undesirable results each provision seeks to preclude. These statements are not a legal component of the Code, but are advisory in nature, and can help Code users establish performance targets for alternative solutions. They are published as part of the online Code subscriptions and as a separate electronic document entitled "Supplement to the NPC 2015: Intent Statements," which is available on NRC's Web site.

Areas of Performance

A subset of the acceptable solutions in Division B may establish criteria for particular types of designs (e.g. certain types of materials, components, assemblies, or systems). Often such subsets of acceptable solutions are all attributed to the same objective: Sanitation for example. In some cases, the designs that are normally used to satisfy this subset of acceptable solutions might also provide some benefits that could be related to some other objective: Protection of the Building or Facility from Water and Sewage Damage for example. However, if none of the applicable acceptable solutions are linked to Objective OP5, Protection of the Building or Facility from Water and Sewage Damage, it is not necessary that alternative solutions proposed to replace these acceptable solutions provide a similar benefit related to Protection of the Building or Facility from Water and Sewage Damage. In other words, the acceptable solutions in Division B establish acceptable levels of performance for compliance with the Code only in those areas defined by the objectives and functional statements attributed to the acceptable solutions.

Applicable Acceptable Solutions

In demonstrating that an alternative solution will perform as well as a design that would satisfy the applicable acceptable solutions in Division B, its evaluation should not be limited to comparison with the acceptable solutions to which an alternative is proposed. It is possible that acceptable solutions elsewhere in the Code also apply. The proposed alternative solution may be shown to perform as well as the most apparent acceptable solution, which it is replacing, but may not perform as well as other relevant acceptable solutions. For example, an innovative piping material may perform adequately in a drainage system but may not meet combustibility requirements elsewhere in the Code. All applicable acceptable solutions should be taken into consideration in demonstrating the compliance of an alternative solution.

A-1.4.1.2.(1) Defined Terms.

Auxiliary Water Supply

The auxiliary water supply may include water from a secondary potable water supply or from any natural source, such as a well, lake, spring, stream or harbour. It may also include waste water (but not sanitary drainage) from industrial processes, such as cooling towers, or from storm retention ponds. These sources may be polluted or contaminated and constitute an unacceptable water source over which the primary water purveyor does not have sanitary control. It is generally accepted that there are two categories of auxiliary water supply:

(a) any public potable water supply over which the primary water purveyor does not have sanitary control, or

(b) any private water supply, other than the primary potable water supply, that is on or available to the premises.

Harvested or recovered rainwater commonly refers to a type of auxiliary water supply that is collected from external surfaces of buildings or other hard-surfaced areas not exposed to vehicular or pedestrian traffic.

Auxiliary water supply that meets the definition of potable water can be used to supply potable water systems. Auxiliary water supply that doesn't meet the definition of potable water can be used to supply non-potable water systems.

Class 3 Fire Sprinkler/Standpipe Systems

In Class 3 fire sprinkler/standpipe systems, water is supplied to the storage facilities from the public water supply and is maintained in potable condition. Class 3 fire sprinkler/standpipe systems resemble Class 1 fire sprinkler/standpipe systems in all other respects.

Clear-Water Waste

Examples of clear-water waste are the waste waters discharged from a drinking fountain, cooling jacket, air conditioner or relief valve outlet.

Emergency Floor Drains

There are two types of floor drains. One is an emergency floor drain installed to avoid flooding in a building from any pipe or fixture failure. The other encompasses floor drains installed to receive discharge from specific pieces of equipment; this type is defined as a fixture.

Illustrations for Defined Terms

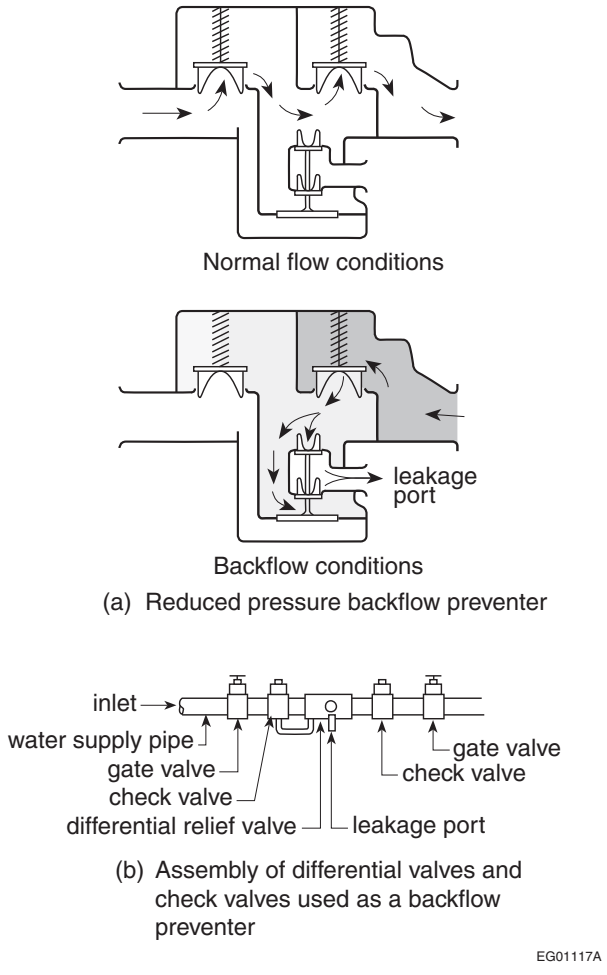

Figure A-1.4.1.2.(1)-A
Backflow Preventer

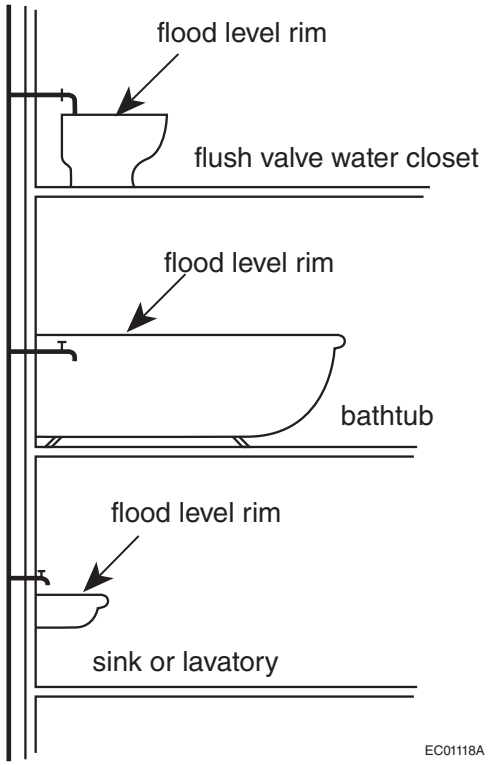

Figure A-1.4.1.2.(1)-B
Back-siphonage

Notes to Figure A-1.4.1.2.(1)-B:

(1) Figure A-1.4.1.2.(1)-B shows a situation that is fairly common in old buildings. If the bathtub is filled to a level above the faucet outlet, or if the flush valve of the water closet is faulty, and if the faucet at the sink or lavatory on the lower floor is opened, water can be drawn (siphoned) from the bathtub or the water closet into the water system when the pressure in the water system is low or the water supply has been shut off.

(2) Back-siphonage can be prevented in the above situations by providing an air gap or a back-siphonage preventer (see Subsection 2.6.2. of Division B).

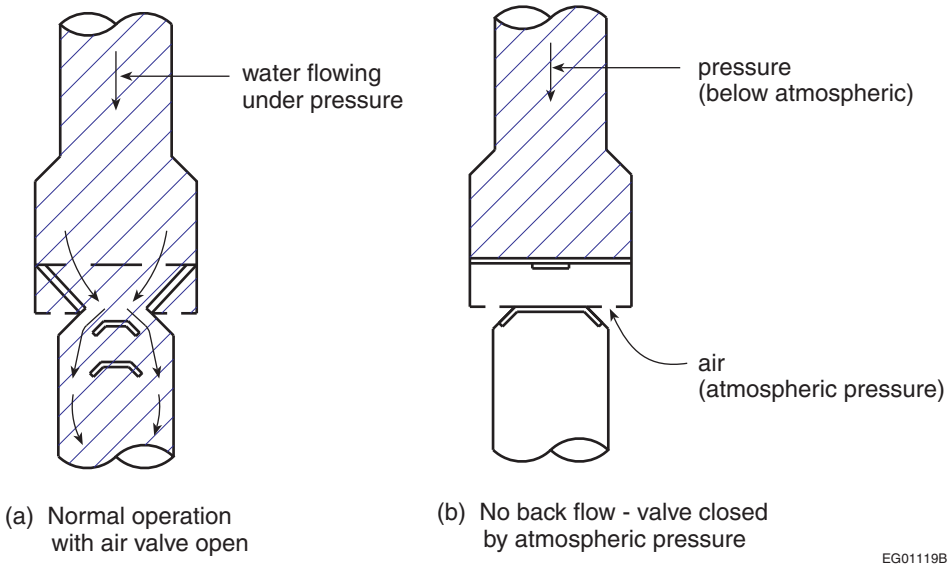

Figure A-1.4.1.2.(1)-C
Back-siphonage Preventer

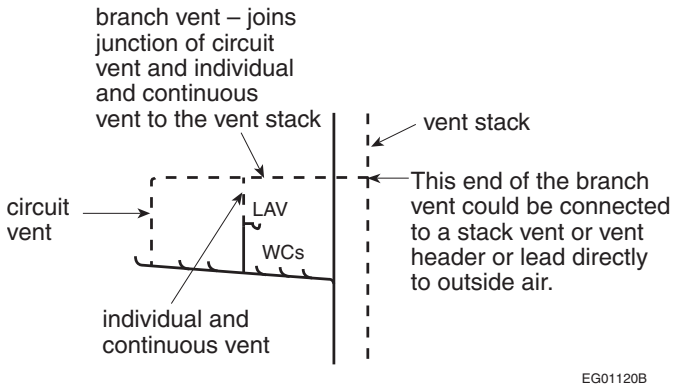

Figure A-1.4.1.2.(1)-D
Branch Vent

Note to Figure A-1.4.1.2.(1)-D:

(1) See also the definitions of header and drainage system in Article 1.4.1.2.

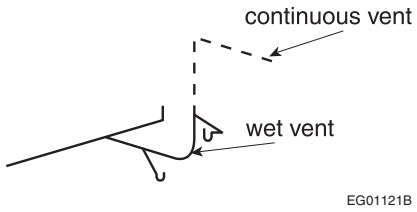

Figure A-1.4.1.2.(1)-E
Continuous Vent

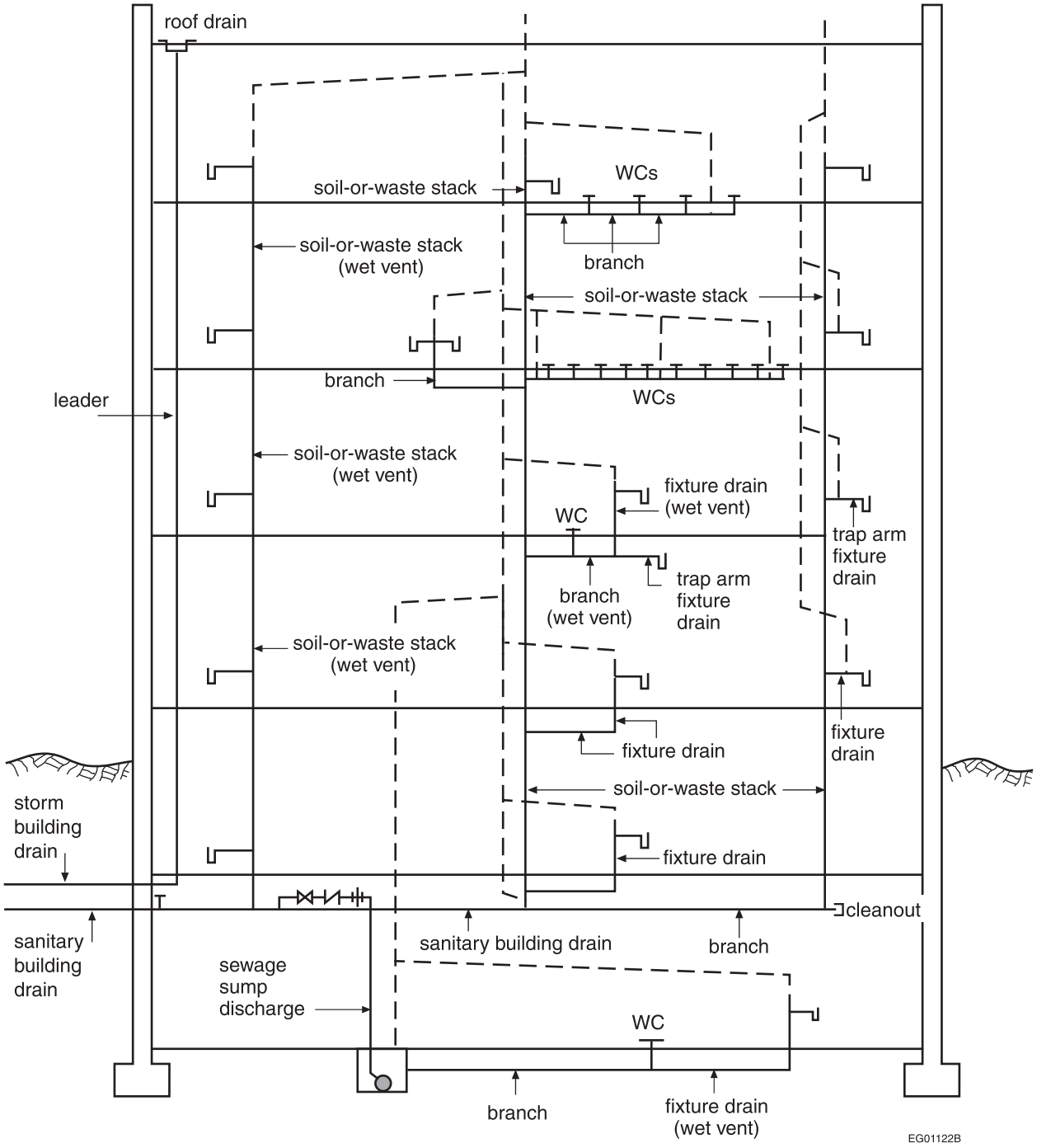

Figure A-1.4.1.2.(1)-F
Drainage System

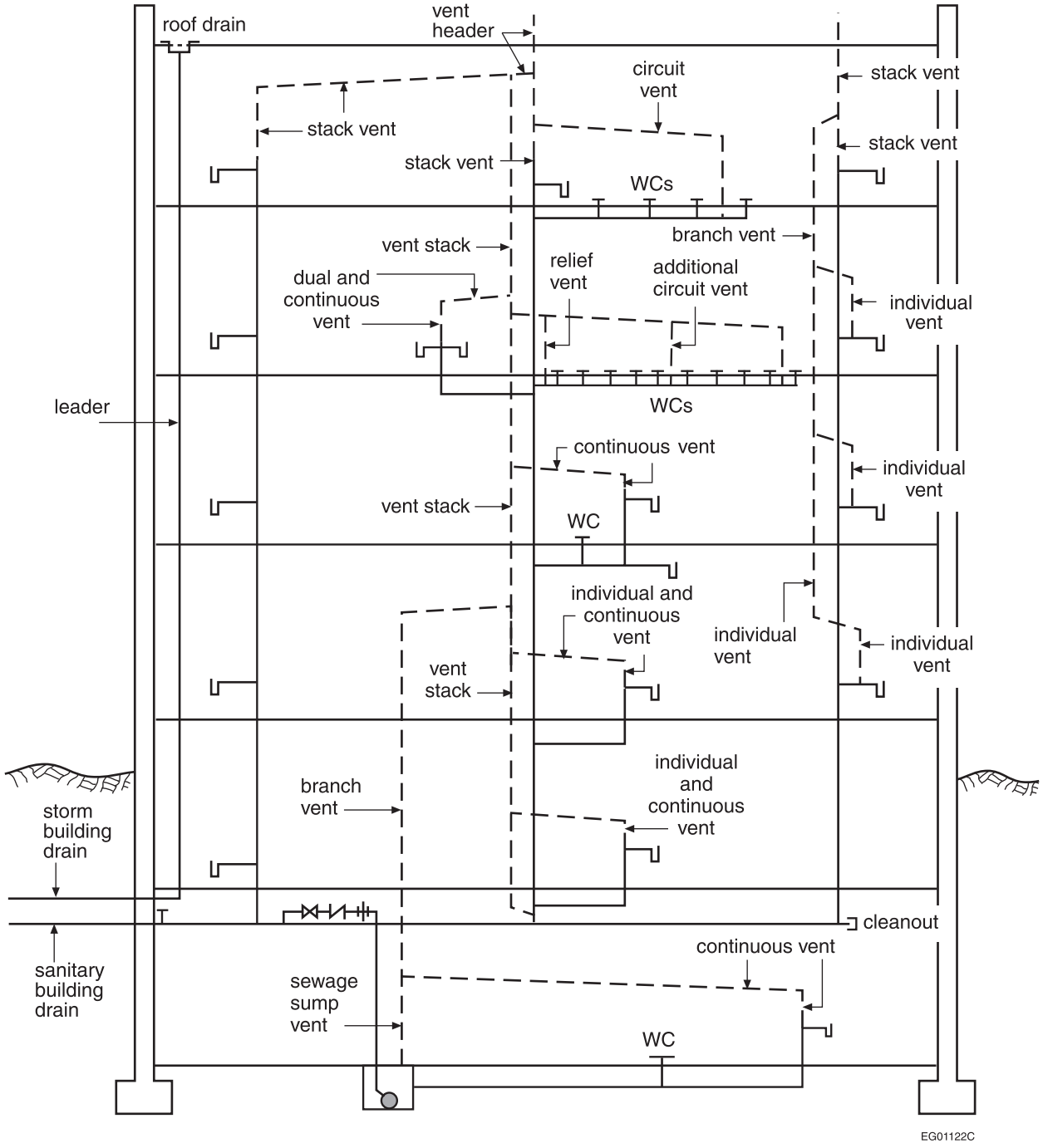

Figure A-1.4.1.2.(1)-G
Venting System

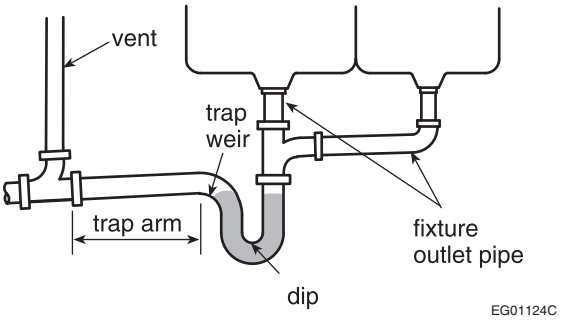

Figure A-1.4.1.2.(1)-H
Fixture Outlet Pipe and Trap Arm

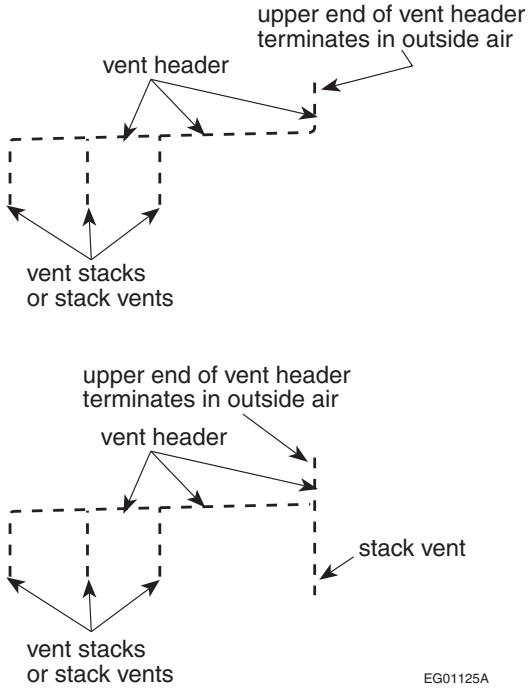

Figure A-1.4.1.2.(1)-I
Vent Header

Note to Figure A-1.4.1.2.(1)-I:

(1) Although a vent header is similar to a branch vent, it serves the special purpose of connecting the tops of stack vents or vent stacks. To make certain that it is adequate for that purpose, it is made larger than a branch vent. The developed length used to determine its size is the total length from the most distant soil-or-waste pipe to outside air, rather than the shorter length used to size a branch vent.

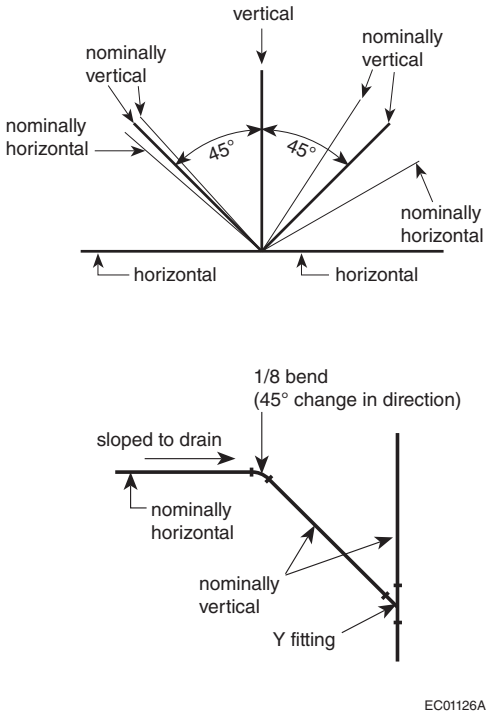

Figure A-1.4.1.2.(1)-J
Nominally Horizontal and Nominally Vertical

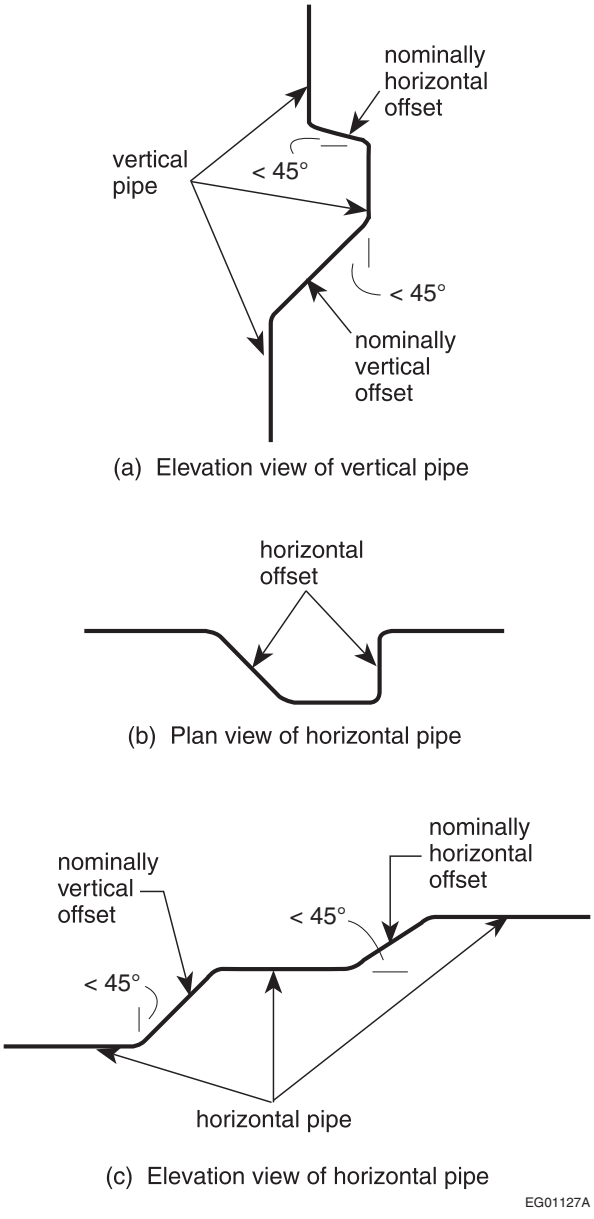

Figure A-1.4.1.2.(1)-K
Offset

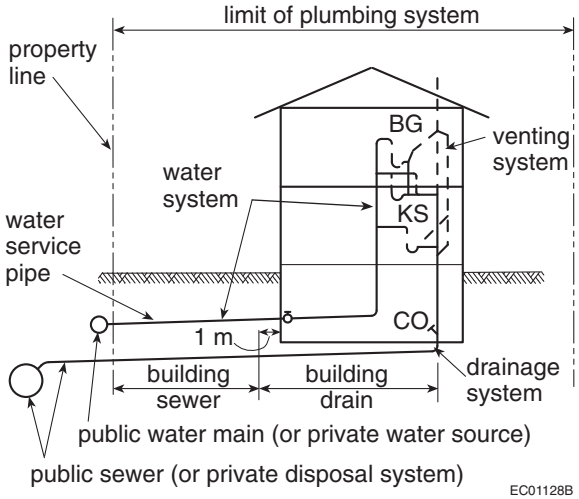

Figure A-1.4.1.2.(1)-L
Plumbing System

A-1.5.1.1.(1) Application of Referenced Documents. Documents referenced in the NPC may contain provisions covering a wide range of issues, including issues that are unrelated to the objectives and functional statements stated in Parts 2 and 3 of Division A respectively; e.g. conservation of water resources. Sentence 1.5.1.1.(1) is intended to make it clear that, whereas referencing these documents in the NPC generally has the effect of making the provisions of those documents part of the Code, provisions that are unrelated to plumbing systems or to the objectives and functional statements attributed to the provisions in Division B where the document is referenced are excluded.

Furthermore, many documents referenced in the NPC contain references to other documents, which may also, in turn, refer to other documents. These secondary and tertiary referenced documents may contain provisions that are unrelated to plumbing systems or to the objectives and functional statements of the NPC: such provisions – no matter how far down the chain of references they occur – are not included in the intent of Sentence 1.5.1.1.(1).