NASSAU COUNTY DEPARTMENT OF HEALTH ARTICLE XV PLAN REVIEW CHECKLIST FOR BELOWGROUND PBS TANKS

NCHD Facility Id. #: _____ Date: _____

Facility Name: _____

Facility Address: _____

Owner's name, address, phone #: _____

Operator's name, address, phone #: _____

List The Capacity & Contents of The Tank(s) This Plan is Being Submitted for:

_____

YES	NO	A. APPLICATIONPACKAGE:
_____	_____	1. Is the application for a Toxic or Hazardous Materials Storage Facility Permit Form #1 & Form #2 filled out completely?
_____	_____	2. Are four (4) folded copies of the plans provided?
_____	_____	3. Is literature / specifications for the tank & major equipment provided?
_____	_____	4. . Is a check attached for the proper plan review fees?
_____	_____	5. Does each page of the plans bear an original seal & signature by a NYS Professional Engineer or Registered Architect?
_____	_____	6. Owner's Letter provided.
_____	_____	7. Engineer's Letter provided.
_____	_____	8. SEQR Form provided.
_____	_____	9. Provide a 6-inch by 6-inch blank space in the lower right corner of the first page for NCDH approval stamps.
_____	_____	10. Approval from NCFM for CCTV and fire suppression system included. (For gasoline tanks only)

The Following check list Contains general information required for a belowground tank to be installed in Compliance with Article XV of the Nassau County Public Health Ordinance. Not all situations are covered here, and there may be additional comments not listed on this checklist for a particular installation. All information must be provided on the submitted plans.

References:

( ) Article XV Regulations of the Nassau County Public Health Ordinance.

[ ] National Fire Protection Association, Publication # 31. 1992.

YES	NO	B. SITE PLAN:
____	____	1. Is there a key map provided identifying the location of the facility within the community? (22.3.1 (v)1)
____	____	2. Are the plans of a standard drawing size of either 18" X 24" or 24" X 36"?
____	____	3. Do the plans show the facility name, street address, Section, Block, and Lot number, have an appropriate title and date?
____	____	4. A plot plan showing and identifying all property lines and the location and use of all existing and proposed buildings (22.3.1 (v)2)
____	____	5. Site plan is drawn to scale and provides a topographical contour of the facility. (223.1 (iii))
____	____	6. Are the streets next to the property shown and identified?
____	____	7. Are all pertinent dimensions provided?
____	____	8. Location of all existing tanks, proposed new tank(s) and piping (fill, vent, and product piping) and all peripheral equipment shown & identified with capacity/contents and any action relative to the tank. (continued use, abandonment in place, removed, etc.)
____	____	9. No underground tank shall be installed beneath an existing or proposed structure.
____	____	10. Show the distance from the tank fills to the nearest building and property line.
____	____	11. Is the water line shown from the street to the building? (22.3.1 (v)4))
____	____	12. Show storm drains and drywells. If none exist, please state so on the plan. (22.3.1 (v)4)
____	____	13. Is the sewer line shown from the street to the building. If not connected to sewers, show the on-site sanitary system. (22.3.1(v)(3)).

YES	NO	
		14. All tanks must meet the following minimum separation distances:
_____	_____	Ten (10) feet from any water line(13.2.4(i))
_____	_____	100 feet away from any water supply well
_____	_____	Three (3) feet away from any property line
_____	_____	One (1) foot away from any building structure
_____	_____	Two (2) feet away from any other tank
_____	_____	Ten (10) feet away from any sewer line or sewer connection (13.2.4(iii))
_____	_____	Twenty (20) feet away from an on-site sanitary system (13.2.4(iii))
_____	_____	Twenty (20) feet away from all drywells, catch basins, and storm drains (13.2.4(iii))
_____	_____	Ten (10) feet away from all drainage piping (13.2.4(iii))
_____	_____	No tank or component of a tank system shall be in a right of way.
_____	_____	15. Are there any surface waters within 500 feet of the property? (22.3.1 (V)9))
_____	_____	16. ls there a North Reference provided on the Site Plan?
_____	_____	17. ls the depth from grade to groundwater & historical maximum/minimum groundwater levels provided? (22.3. (v)6))
_____	_____	18. ls the building free of floor drains? (If none exist, it must be stated on the plans.)
_____	_____	19. Does the building have a basement? If no, is a detail provided for product piping entering the building?
_____	_____	20. ls the location of the oil burner shown? (heating oil only)
_____	_____	21. Show location of portable fire extinguishers. A 10 lbs. Class BC portable fire extinguisher is required at each dispenser.
_____	_____	22. Are emergency shut-off switches shown in attendant's area & outside.
_____	_____	23. "No Smoking" signs & "Unlawful to Dispense Gasoline Into Unapproved Containers" signs posted at each dispenser island.

YES NO

C. BELOWGROUND TANK EQUIPMENT DENTIFIED ON THE PLANS:

_____ _____ 1. Provide a cross-section detail showing two (2) views of the tank installation. Show a side view and an end view of the tank identifying the following items: (22.3.2(i))

_____ _____ equipment to prevent flotation (if high water table exists)

_____ _____ 12-inch pea gravel bed under the tank

_____ _____ 18-inch pea gravel bed under tank in a wet hole

_____ _____ Tank

_____ _____ Appropriate backfill provided around the tank up to grade

_____ _____ containment sump(s), Gasoline tanks require two (2) sump risers

_____ _____ fill pipe & spill containment at the fill port

_____ _____ vent pipe

_____ _____ product piping

_____ _____ leak detection probe on tank

_____ _____ leak detection probe for piping (probe in tank sump riser & line leak detector)

_____ _____ leak detection probe in sump under dispenser

_____ _____ overfill probe

_____ _____ Shear valve at the base of the dispenser

_____ _____ Break away valve at the dispenser hose

_____ _____ elevations

_____ _____ adequate burial depth

_____ _____ concrete pad above the entire tank

_____ _____ Material of the finished grading above the tank

_____ _____ 2. ls a plan view detail provided identifying the tank, sump, and concrete pad? (22.3.2(i))

_____ _____ 3. ls a partial site plan detail provided showing and identifying the following items? (22.3.2(i))

_____ _____ tank?

_____ _____ piping?

_____ _____ sump?

YES NO

_____ _____ concrete pad?

_____ _____ building?

_____ _____ location of audible/visible alarm panel?

_____ _____ Is the overfill alarm panel audible & visible near the fill port?

_____ _____ location of the leak detection alarm panel?

_____ _____ ls the leak detection alarm panel in a supervised area?

D. EOUPMENT DETALS:

_____ _____ 1. Indicate the material of the new tank(s), the tank manufacturer, capacity, and the design configuration (i.e. doublewall fiberglass or doublewall coated steel).

_____ _____ 2. ls the tank constructed to an acceptable design and manufacturing standard? (UL-58, UL-1746, or ACT 100U, UL-1316) (3.1); (599.3(c)}

_____ _____ 3. Gasoline tanks must have two (2) sump risers

_____ _____ 4. The tank construction or tank coating must be compatible with the intended product used. Provide product storage documentation from the tank manufacturer relative to the resistiveness of the intended product.

_____ _____ 5. ls the tank protected against corrosion, or constructed of non – corrodible materials? (3.1); {599.3(d)}

_____ _____ 6. lf a doublewalled steel tank is used, indicate the material used to coat the tank and the minimum thickness of the coating.(3.1.2)

_____ _____ 7. Indicate the installation of dielectric bushings on the tank and end use point of buried metal piping systems.

_____ _____ 8. ls there a wear plate under each tank opening? (3.1.7); (599.3(b))

_____ _____ 9. Fill port labelled with the tank's contents, design capacity, working capacity, and tank ID #. (3.1.6); (599.3(a)(2)}

_____ _____ 10. Fill port provided with spill containment? (599.17(c)(2)(i)}

_____ _____ 11. Fill port color coded?

_____ _____ 12. Are tanks in high groundwater areas anchored to prevent floatation? (13.2.1); (599.6(d)}

_____ _____ 13. If the tank is located in a traffic area, is there a concrete pad at grade above the tank? (13.2.1); (599.6(i)}

YES NO

_____ _____ 14. Are the dimensions of the concrete pad provided? (At least two feet longer and two feet wider than the tank)

E. SECONDARY CONTAINMENT:

_____ _____ 1. Does the tank have secondary containment? (doublewalled tank) Is an acceptable doublewalled tank provided that is compatible with gasoline/ethanol, or the product stored?

_____ _____ 2. All gasoline/diesel dispensers must have under-dispenser containment

F. TRANSFER STATIONS:

_____ _____ 1. Do tanks used for distribution purposes (filling containers or other tanks), have spill protection for filling the distribution tank (Concrete pad, Curb and roofed without any drains where the distribution tank is filled) For more information see Transfer Stations under Additional Requirements for Chemical Tanks (Section "P") ((12.e)); (599.17 (c)}: (7.1.4)

_____ _____ 2. Does the filling of containers or tanks from a distribution tank occur within an indoor or roofed secondary containment system without any drains? (12.e)); (599.17 (c)(1)}; (7.1.4)

_____ _____ 3. Is the transfer station designed so that all possible points of overflow are visible to the operator during the loading and unloading operations. (12.c))

_____ _____ 4. Are all dispensing ports at transfer stations properly labelled with their contents? (598.4(b)(8)}

G. LEAK MONITORING:

_____ _____ 1. All doublewall tanks must have the interstitial space monitored for leakage by either a dry electronic probe, pressure, vacuum, or liquid filled monitoring systems that include the following:

_____ _____ Indicate approval of the monitoring system by the tank manufacturer.

_____ _____ Indicate the medium to be used in the annular space. (Liquid filled system)

_____ _____ Indicate graphically the monitoring system and alarm annunciation system.

_____ _____ Show all electronic components relative to the monitoring system.

_____ _____ Indicate alarm enunciator location.

_____ _____ 3. ls monitoring of the interstitial space for leakage on a jacketed tank done by vacuum monitoring? (An electronic probe in the interstitial space of a jacketed tank is unacceptable)

YES NO

4. All underground piping systems must have an electronic monitoring system in place that includes the following:

_____ _____ All piping under pressure must have an automatic line leak detector.

_____ _____ All suction piping must have electronic leak monitoring.

_____ _____ Indicate the type of leak detector to be installed in a remote pumping system.

_____ _____ Indicate the system listing by a Nationally Recognized Testing Laboratory.

_____ _____ Indicate if the system will detect the presence of water and/or stored product in the annular space.

_____ _____ Graphically indicate the alarm panel on the drawing, indicating trouble alarm (water and product) indicators, reset, test, and normal indicators.

_____ _____ Indicate alarm annunciation location at the site.

_____ _____ 5. All dispensers must have under-dispenser containment with electronic monitoring for leakage.

H. OVERFLL PROTECTION:

_____ _____ 1. Does the tank have an audible & visible overfill alarm located where it can be seen and heard from the fill port? (4.8); (599.17(b)(1)(i)}

_____ _____ 2. The tank must have a fill limiter in the fill drop tube.

_____ _____ 3. Overfill alarm panel must have a separate light for each tank.

_____ _____ 4. No ball float valves are allowed in the vent pipe.

I. SPECIFICATIONS:

_____ _____ 1. Is a description of the materials, products, and other related information for all aspects of the tank system including but not limited to piping materials, electronic monitoring systems for leak detection and high level alarm systems, gauges, pumps, valves etc. provided to show conformance with the requirements of this Article?

_____ _____ 2. Is the manufacturer, materials, and model numbers provided for the following items:

_____ _____ New tank? (doublewall fiberglass, UL-1316), double wall steel with acceptable polyurethane coating (ACT 100-U)

_____ _____ containment sump? (welded to tank by manufacturer, or bolted to the tank manway)

YES NO

_____ _____ leak detection probes? (tank probe, piping sump probe, under dispenser sump probe & line leak detector).

_____ _____ leak detection alarm panel?

_____ _____ overfill probe?

_____ _____ overfill alarm panel?

J. PIPING DETALS:

_____ _____ 1. All components of the piping system shall be indicated (i.e. impact valves, product control valves, check valves, submersible pumps, anti-siphon valves, shear valves, etc.). If practical, some of the piping and components detail may be indicated in the tank installation detail.

_____ _____ 2. Locations of all existing and proposed dispensing islands shown and identified on the plans.

_____ _____ 3. ls all new underground piping being connected to the tank? If not, does the existing piping comply with the requirements for new piping? (See #6 below). (If 50% or more of a piping run is being replaced, the entire piping run must be replaced.) (19.2); (599.12(b)}

_____ _____ 4. Are all piping runs shown and indicated on the plans?

_____ _____ 5. ls all new underground doublewall product pipe installed from the tank to the interior of the building or to the dispenser?

6. All underground product piping and remote fills must have the following:

_____ _____ secondary containment? (must be doublewall pipe) (19.1(v)); (599.14(a)(1))

_____ _____ leak detection equipment capable of detecting leakage between the piping and secondary containment? (19.1(iv)); {599.15(b)}

_____ _____ corrosion protection or constructed of non-corrodible materials? If cathodic protection is used, provide complete details. (19.1 (ii)); {599.13(b)}

_____ _____ 7. Piping must be compatible with the product used. Provide manufacturers documentation about the resistiveness of the piping to water and the product.

_____ _____ 8. ls the diameter and materials provided for the following pipes: (19.1)

_____ _____ vent pipe diameter? (2" minimum. see NFPA #31 Section 2—2.5)

_____ _____ vent pipe material? (wrapped galv. steel, or FRP belowground, & galv. steel aboveground)

_____ _____ If vent pipes are manifolded, provide details

_____ _____ pressure / vacuum vent cap provided (gasoline tank)

YES	NO	
_____	_____	9. Gasoline, diesel, and kerosene tank vents must be at least 12 feet above grade, and 5 feet from any building, property line, lighted sign, light, or ignition source.
_____	_____	fill pipe diameter?
_____	_____	fill pipe materials? (Wrapped galv. steel, or FRP)
_____	_____	Direct fill pipes must be located inside a sump riser connected to the tank.
_____	_____	lf remote fill, diameter & material of secondary piping? (polyethylene, or FRP. No PVC)
_____	_____	stick line pipe? (galvanized steel)
_____	_____	primary product pipe diameter?
_____	_____	primary product pipe material? (if 2" diameter or larger must be FRP. lf less than 2" diameter use wrapped Copper.
_____	_____	secondary product pipe diameter?
_____	_____	secondary product pipe materials? (FRP, or polyethylene. All piping must be UL approved for the intended use. Gasoline, Diesel, Fuel Oil, etc.)
_____	_____	10. Flexible Connectors (braided stainless steel, UL Approved for gasoline)
_____	_____	11. Indicate the type of vapor recovery system to be installed, and system component details (gasoline tanks only).
_____	_____	12. lf gauge lines Contain oil, is secondary containment pipe provided?
_____	_____	13. Does buried piping have at least a six-inch bed of appropriate backfill material underneath the piping? (10.b. 1)); (599.16(b))
_____	_____	14. Is buried product piping at least 18 inches below the ground surface? (10.b. 1)); {599.16(c)}
_____	_____	15. Does product piping cross any water lines? If yes, is there an 18-inch vertical clearance? (13.2.4(i))
_____	_____	16. Does all belowground product piping slope to a Collection Sump with leak detection? {599.14(a)(2)(vi)}
_____	_____	17. Are flexible connectors in the tank sump and dispenser sump fully visible
_____	_____	18. Is all aboveground piping, valves and other ancillary equipment protected against physical damage? (13.3.2); {599.13(a)(3)}
_____	_____	19. Indicate the method of the liquid withdrawal and product pumping system. Provide the manufacturer and model number of the product point of discharge.

YES NO

K. MISCELLANEOUS:

_____ _____ 1. If an oil/water separator is to be connected to the existing floor drains, all existing floor drain piping must be tested as a condition of approval, OR replacement of all floor drain piping is required.

L. UNDERGROUND NOTES:

_____ _____ 1. Are all of the notes on pages 13 and 14 of this checklist included on the plans?

M. SERVICE STATIONS AND DISPENSING LOCATIONS:

1. Show and identify the following:

_____ _____ Dispensing island locations(s)

_____ _____ Island dimensions

_____ _____ Distance between islands

_____ _____ Distances from islands to property lines

_____ _____ If islands are new or existing, and if they will be modified or rebuilt

_____ _____ Dispenser locations and their positions on the island(s)

_____ _____ Type of dispenser (new or existing) to be installed (single, dual, mpd)

_____ _____ Dispenser hose length

_____ _____ 2. The length of all dispensing hoses must be of adequate length to ensure that all vehicles will be completely on the property when fueling.

_____ _____ 3. Indicate the type of pumping system to be installed.

_____ _____ 4. Indicate the physical protection to be provided for the dispenser(s).

N. SELF-SERVICE DISPENSING OPERATIONS:

1. Show and identify the following:

_____ _____ Intercom locations (island and office or kiosk area)

_____ _____ Emergency shut-off switch locations (inside attendants' area and exterior switches accessible to the public) and dimension the travel distances from the dispensers to the switches (20' min. – 50' max.)

YES NO

____ ____ The locations, sizes, and class of all fire extinguishers to be provided and/or existing. A minimum of two (2) 10 lbs class BC fire extinguishers are required.

____ ____ 2. Provide details on the method to be employed to allow the attendant to observe all dispensing operations clearly, including those not in the line of sight of the attendant. Provide specific details if a fixed mechanical device (i.e. cameras) is to be utilized.

____ ____ 3. Indicate construction details of structures to be used by employees, or areas that will be open to the public.

____ ____ 4. Indicate by note that no latch open devices are to be on any self-serve dispensing nozzle.

O. KOSKS

____ ____ 1. Indicate Construction details.

____ ____ 2. Indicate window area and field of view of attendant.

____ ____ 3. Indicate exit locations.

____ ____ 4. Indicate physical protection to be installed, if necessary to protect the kiosk from vehicular traffic.

____ ____ 5. Indicate the installation of an Automatic Fire Suppression System that will protect the kiosk if on a gasoline dispensing island.

P. MARTS, CONVENENCE STORES, AND AREAS OPEN TO THE PUBLIC

____ ____ 1. Indicate Construction details.

____ ____ 2. Indicate window area and field of view of attendant.

____ ____ 3. Indicate exit locations, including exit door(s), direction of swing and door(s) width.

____ ____ 4. Indicate physical protection to be installed if necessary to protect the structure or exit area from vehicular traffic.

____ ____ 5. If the structure is on a gasoline dispensing island, indicate the installation of an automatic fire extinguishing system that will protect the structure and the dispensing island the structure is on.

____ ____ 6. Separate plans shall be filed with the Nassau County Fire Marshal for smoke and fire detecting systems and fire alarm system as required by Article XVIII of the Nassau County Fire Prevention Ordinance.

YES	NO	Q. STATIONARY COMBUSTION ENGINES
_____	_____	1. All plans for the installation of a liquid fueled stationary engine (for pumps, emergency generators, etc.) shall indicate sufficient information so as to reflect Compliance with Article II of the Nassau County Fire Prevention Ordinance and with the National Fire Protection Association Standard 37-1984 and Standard 30 1984.
_____	_____	2) All of the information required to indicate compliance with the aforementioned Standards and Ordinances shall be shown on the plan. When a manufacturer's specification sheet will provide relevant information pertaining to the equipment to be installed, one specification sheet per plan copy shall be submitted with the plans.
		3. Show and identify the following:
_____	_____	Engine location, horsepower, safety devices, supports, etc.
_____	_____	Piping runs, including material of construction and sizes for flexible connector locations, supply, return, vent, fill lines, valves, etc.
_____	_____	All tank locations and sizes including supply tanks, day tanks and integral tanks.
_____	_____	Liquid withdrawal/transfer systems, emergency switches, remote valves, remote high-level indicators and shut off switches, anti-siphon valves, fuel control devices, etc.
_____	_____	Any required construction details that may be required.
_____	_____	All required distances.
_____	_____	Emergency lighting.
_____	_____	4. Indicate the type fuel to be used (i.e. Diesel).
_____	_____	5. Provide a side elevation of the installation indicating the relative elevations of all component parts of the system, including all piping. Floor levels shall be indicated and labeled.

BELOWGROUND PBS STORAGE TANK NOTES

1. The tank, piping and all ancillary equipment shall be installed in accordance with the manufacturers recommendations.

2. The owner/operator shall obtain a Building Permit if required from the local Building Department.

3. All underground metallic piping shall be wrapped with di electric tape.

4. The tank installation has been designed so as to compensate for any force of buoyancy that may be exerted on the tank by the presence of groundwater.

5. All underground product piping associated with the new tank shall be new and have secondary containment.

6. Tank(s) and piping must be at least 100 feet from all water supply wells.

7. The engineer / tank installer shall notify the NCHD five (5) days prior to the beginning of all Work.

8. If dewatering is required, all necessary permits shall be obtained from the New York State Department of Environmental Conservation and any other agency having jurisdiction.

9. All product piping shall slope toward a collection sump.

10. The tank(s) and all piping shall be tested for tightness using a method approved by the NCHD.

11. Product pipes crossing water lines or sewer lines shall be installed to provide a minimum vertical clearance of 18 inches between the pipes and a minimum horizontal Clearance of l (O feet.

12. Tanks shall have a permanent label at the fill port with the following information:

- Tank identification Number (from NCHD)
- Design capacity and working capacity
- Tank manufacturer
- Design standard the tank was manufactured to
- Contents and petroleum products the tank is compatible with
- Year the tank was manufactured
- Date the tank was installed
- Statement " This tank conforms with ^NYCRR Part 614"

13. The overfill alarm panel shall be visible and audible from the fill port.

14. The tank fill ports shall be color coded in accordance with the American Petroleum Institute.

15. Underground steel tanks shall be electrically insulated from the piping system, and other underground metallic structures by use of di-electric fittings, bushings, washers, sleeves, or gaskets which are chemically stable when exposed to the stored products.

16. All tanks must be a minimum of 10 feet away from all water lines.

17. All tanks must be a minimum of 10 feet away from all sewer lines.

18. All tanks must be a minimum of 20 feet away from all drywells, storm drains, and leaching pools.

BELOWGROUND PBS STORAGE TANK NOTES continued:

19. The installation and placement of the tank and pipi ng shall conform with NFPA 30, 30A and/or NFPA #31.

20. A certification letter and "As-Built" plans prepared by a NYS professional engineer must be submitted to the Nassau County Health Department upon completion of the tank system installation and testing.

21. The discharge of Contaminants to floor drains connected to drywells i s prohibited unless a permit for such discharge is obtained from the Undergound Injection Control (UIC) Office of the United States Environmental Protection Agency.

22. Floor drains and drywells at this site are subject to inspection by the Nassau County Department of Health and/or the USEPA to determine the points of contaminant discharges. As a result of such inspection the property owner or operator may be required by the USEPA to investigate and remediate contamination resulting from past contaminant discharge.

23. The tank installation Conforms to Article XV of the Nassau County Public Health Ordinance, and the New York State Uniform Fire Prevention and Building Code.

24. All new tank systems must be tested, certified by a professional engineer, and approved by the Health Department prior to being placed in service.

Additional Notes For Gasoline, Diesel, And Kerosene Tanks:

25. "No Smoking" signs and "Unlawful To Dispense Gasoline Into Unapproved Containers" signs shall be posted at each dispenser .

26. Nassau County Fire Marshall approval is required for the fire suppression system, CCTV system, and self- service stations.

27. All electrical equipment and ancillary equipment associated with the gasoline tank, piping, monitoring systems, pumping and dispensing systems shall be UL approved for the intended use.

28. All electrical equipment shall be installed in accordance with the requirements of NFPA #70, National Electric Code.

29. Stage 1 Vapor recovery systems shall comply with the NYSDEC Part 230.2 Sections (f) and (g)..

30. The tank installer/tester must be licensed by the Health Department.

31. The turbine pump shall be UL listed for use with gasoline.

32. No latch open devices shall be on any self-dispensing nozzle.

33. All tanks and equipment shall be protected from static electricity ignition hazards in accordance with NFPA #77, "Recommended Practice on Static Electricity".

I certify that all of the required information in the attached checklist is included in my plans, and the proposed tank installation complies with Article XI of the Nassau County Public Health Ordinance, all applicable building and fire Codes, and CBS if it is a chemical tank installation.

Print name: _____

Signature: _____

Date: _____ _____

Professional Seal

FOR NCHD COMPLETION:

1st Review by: _____ Date:

2nd Review by: _____ Date:

PBS Belowground Checklist Revision 4, 3-14-17