

APPENDIX B- PUBLIC IMPROVEMENT PROJECT CHECKLIST
Town of Lockport, NY

I. GENERAL

- _____ Make sure "Note: All services to extend thru 15' utility easement" note is on plans.
- _____ Matchlines drawn and labeled correctly.
- _____ Are all easement widths noted on plans and called out as "Town of Lockport Water/Sewer Easement", "Town of Lockport Drainage Easement" or "General Utility Easement".
- _____ All easements (sanitary sewer, water, drainage, utility) must be shown and labeled on the plans.
- _____ House numbers must be shown on the plans. Please obtain these numbers from the Town of Lockport Building Inspector.
- _____ All elevations must reference the actual elevation of the site and proposed building. Setting a base elevation at the centerline of the road to use as reference is not acceptable.
- _____ All profiles provided must be drawn so that the horizontal scale is no more than 1" = 10' horizontal, and 1" = 5' vertical.
- _____ Profiles be provided for utility crossings, the sanitary sewer system, water system storm sewer system and roadway.
- _____ Profiles for any utilities as deemed necessary by the engineer for construction shall be provided.
- _____ The plat map must be signed and sealed by a professional surveyor.
- _____ The final design drawings must be signed and sealed by a professional engineer.
- _____ Provide a site location map showing the location of the parcel(s) that provides road names, names of adjacent bodies of water, streams, major utilities, railroads, etc.
- _____ A boundary survey of the parcel(s) involved with the site plan shall be provided.
- _____ A certificate signed by the surveyor or engineer setting forth the source of title and the place of record of the last instrument in the chain of title shall be provided.

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_____ All existing structures, roads, easements, utility lines, streams and drainageways, floodplain and wetland designations, natural features and landforms, existing topography (max 2-foot contours) must be shown on an “existing conditions” drawing.

_____ All plans shall contain north arrow, scale and date.

_____ All proposed streets, easements, location, type and size of vehicle entrances including fire lanes shall be shown.

_____ Any and all separate permits required for the development must be obtained prior to finalization of site plan approval.

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II. UTILITY PLAN- GENERAL

_____ A note must be on the plans that states “A minimum of 10.0 feet of horizontal and 18 inches of vertical separation must be maintained between all sanitary sewer and water services.”

_____ A note must be on the plans that states “Select backfill is required for all utilities (gas, water, storm, sanitary) that cross through any pavement area.” The limits of the select backfill must be shown on the utility plan.

_____ All existing utilities, grading, etc. must be shown use a grey line type.

_____ All proposed utilities, grading, etc. must be shown use a black line type.

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III. UTILITY PLAN- WATER

- _____ A note must be on the plans that states “The Town of Lockport Water Department is to be notified a minimum of 48-hours prior to starting the connection for the new water service.”
- _____ All notes on the plans must reference the “Town of Lockport Water Department”
- _____ The Town of Lockport requires waterline connections to be made with a 3 way valve cluster.
- _____ Provide a trench detail for the proposed waterline installation. The detail must show the depth of cover, stone bedding and indicate the use of underground waterline marker tape.
- _____ A note must be added to the drawings that retaining glands are required on all waterline fittings.
- _____ The maximum distance between sampling points/blowoffs is 1000 feet per Town of Lockport requirements.
- _____ Place notes on the plans requiring 5’ of cover to be maintained over waterline.
- _____ Are watermain trench edges at least 5' away from edge of pavement and gutters.
- _____ Check for watermain conflicts with other pipes or underground obstacles.
(Note: Vertical separation on plan near each crossing)
- _____ Check that all numbers and notations agree between plans and profiles.
- _____ Do all water fittings, valves, hydrants, etc. have stations and offsets.
- _____ Proper hydrant spacing (500' to 600' typ.).
- _____ Proper mainline valve spacing. (1,000 typ.)
- _____ Are services located on plan (drawn or chart form).
- _____ Is existing waterline information shown on plans including size, location and type of material?

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_____ Has submitting engineer flow tested waterline at project site for adequate fire protection.

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IV. UTILITY PLAN- SEWER

- _____ Add a note to the plans that states “The Town of Lockport Sewer Department is to be notified a minimum of 48-hours prior to starting the connection for the new sanitary sewer service.”
- _____ All notes on the plans must reference the “Town of Lockport Sewer Department”
- _____ Maximum distance between manholes is 400'.
- _____ Manholes should be placed on lot lines where possible.
- _____ Are pipe grades, lengths and inverts correct on sanitary sewer.
- _____ Are sanitary sewer trench edges at least 5' away from edge of pavement or gutter.
- _____ Do rim elevations on sanitary sewer manholes match road crown elevation.
- _____ Check for sanitary sewermain conflicts with other pipes or underground obstacles. (Note: Vertical separation on plan near each crossing)
- _____ Check that all numbers and notations agree between plans and profiles.
- _____ Do all sanitary manholes, c.o's etc. have stations and offsets.
- _____ Does 8 tenths rule need to be applied to sanitary sewer?
- _____ Are connections to existing sanitary sewers noted.
- _____ Is sanitary sewermain offset from baseline or utility easement dimensioned on plans.
- _____ Are flat top manholes noted where rim to invert dimension is less than 7.1'.
- _____ Are inside drop connections used where difference in inverts is over 2.0'.
- _____ Are Manholes numbered on plans.
- _____ Is existing sanitary sewerline information shown on plans including size, location and type of material.

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- _____ If an existing manhole needs to be core drilled, check to see if hole will fall on manhole section seam, if it does can it be moved?
- _____ If a connection to an existing NCS D manhole or trunk line is required, written permission needs to be obtained from the NCS D. Please consult with the Town Engineer for further information.
- _____ Sewers must be laid at least 10 feet horizontally from any existing or proposed water main. Measured edge to edge on a uniform grade.
- _____ Line shall be straight or laid with properly curved pip and fittings. Changes in alignment direction greater than 45° shall be provided with cleanouts accessible for cleaning.
- _____ All gravity building sewer shall be bedded to 1foot above the top of pipe and 6 inches below invert of pipe. Bedding material shall be sand or stone of a max dimension of 0.5 inches and shall be placed to eliminate voids between pipe and undisturbed soil.
- _____ Size and slope: Diameter shall not be less than 4 inches
- _____ Grade or slope for various pipe sizes shall not be less than:
- 4 inch pipe: 1/8 inch per foot
 - 6 inch pipe: 1/16 inch per foot
 - >6inch: plan required for engineering review
- _____ Depth of building sewer shall be sufficient to afford protection from freezing and against physical damage. Shall not be less than 3 feet from the surface.

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V. PAVEMENT

- _____ Asphalt pavement (parking lot) grades should be at least 1.5%, preferably 2.0% to drain properly, minimize public safety concerns and avoid liability issues. These grades must be shown on the drainage plan with flow arrows showing the direction of water flow.

- _____ Show on the plans a cross section of proposed sidewalk with materials, reinforcement and dimensions

- _____ Show on the plans a cross section of the proposed asphalt pavement. It is suggested that a thicker asphalt section be used for high traffic travel areas where the dumpster is located or where deliveries will occur.

- _____ On the asphalt pavement cross section, show the use of filter fabric (Marafi 500X, or equal) under the pavement sub-base.

- _____ If connections to cross access driveways are being made with adjacent sites, a detail must be shown on the plans for the proposed connection. The pavement transition detail must include a V-shaped saw cut into the existing pavement and tack coat.

- _____ Provide cut/fill calculations.

- _____ Are vertical curves needed.

- _____ Check the road radi at the ROW line?

- _____ Are all road grades within acceptable range?
 - a. 0.50% minimum
 - b. 9.00% maximum

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VI. DRAINAGE/GRADING

- _____ The stockpile area for topsoil and fill must be shown on the design plans.
- _____ Spot elevations for adjacent properties must be provided on the grading plan.
- _____ A minimum of 12-inches of cover are required for all storm sewer pipes. Storm sewer pipe located within the sub-base of the pavement area is not allowed.
- _____ Invert elevations must be shown for all culverts under driveways.
- _____ Detention/Retention Ponds may not be closer than 200 feet to any road right of way
- _____ Detention/Retention Ponds shall not be closer than 100 feet to any property line
- _____ Detention/Retention Ponds shall not be closer than 100 feet to any residential building
- _____ Provide energy dissipation at pipe outlets.
- _____ Provide emergency overflow for the detention pond above the 100-year storm elevation, that can safely pass the peak 100-year flow into the pond.
- _____ All culverts under driveways must be shown with galvanized end sections.
- _____ Diameter, material type, and inverts of all roof leader downspouts must be shown on the plans.
- _____ Diameter, material type, and inverts of all stormsewer pipes must be shown on the plans.
- _____ Is the FFE of the proposed home 18 inches above the centerline of adjacent roadways?
- _____ Are pipe grades, lengths and inverts correct on storm sewer.
- _____ Are storm sewerline trench edges at least 5' away from edge of pavement or gutter where applicable.
- _____ Are C.B. rims at correct elevations
- _____ Check for storm sewer conflicts with other pipes or underground obstacles.
(Note: Vertical separation on plan near each crossing)
- _____ Check that all numbers and notations agree between plans and profiles.
- _____ Do all storm manholes and C.B.'s have station, offset and inverts.
- _____ Make sure all ditches have flow arrows indicating direction of flow.

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- _____ Maximum 400' between C.B.'s.

- _____ All roadside ditches directly adjacent to the site shall be culverted (covered) unless the developer demonstrates to the satisfaction of the board that, for engineering, culverting (covering) is not feasible.

- _____ Is existing storm sewerline information shown on plans including size, location and type of material.

- _____ For sites with less than one (1) acre of disturbance, and greater than a 5000 square foot increase in impervious area, the design engineer is required to detain the difference between the 10-year pre-developed storm and the 25-year post-developed 24-hour design storm event.

- _____ For sites with greater than one (1) acre of disturbance, the design engineer is required to detain the difference between the 10-year pre-developed storm and the 25-year post-developed 24-hour design storm event, AND comply with all NYSDEC Stormwater Phase 2 regulations and design guidance (per GP-0-08-001 or most recent version of the General Permit).

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VII.SITE PLAN ENGINEERING REPORT

_____ The applicant must provide three (3) copies of the construction drawings and engineering report. This report will contain (at a minimum), the following sections:

- General Project Description
- Project Location Map
- Water System Calculations
- Sanitary Sewer System Calculations
- Storm Water Calculations

_____ Provide the following information related to the proposed waterline for the facility in the design report. This would include the following:

- Domestic water demand (include Calculations)
- Static waterline pressure (at the waterline at the right-of-way.)
- Anticipated pressure at the facility (include headloss calculations through the water service and backflow preventer/RPZ and meter)
- The design engineer must comment on the need to provide a sprinkler system for any facility proposed to be connected to the public water supply.
- Provide fireflow calculations (where applicable).

_____ Provide the following information related to the proposed sanitary sewer system for the facility in the design report. This would include the following:

- Number of employees at the facility.
- Sanitary sewer demand and lateral pipe sizing (include Calculations)

_____ Provide the following information related to the storm water calculations for the facility in the design report. This would include the following:

- Soil types of the site
- Permeability and depth of water table of the soil.
- Description/Narrative on existing grading and stormwater runoff.
- Description/Narrative on proposed grading and stormwater runoff.
- Comment on the presence and show location of any NYSDEC or Federal Wetlands, wetland buffer areas, or 100-year Floodplain boundaries.
- For sites with less than one (1) acre of disturbance, the design engineer is required to detain the difference between the 10-year pre-developed storm and the 25-year post-developed storm. Calculations must be provided supporting the entire stormwater system.
- For sites with greater than one (1) acre of disturbance, the design engineer is required to detain the difference between the 10-year pre-developed storm and the 25-year post-developed storm, AND comply with all NYSDEC Stormwater Phase 2 regulations. Calculations must be provided supporting the entire design of the stormwater system.
- Calculations to be provided must include all assumptions, time of concentration, and detention pond sizing, and stormwater pipe sizing.

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- All existing headwater and tailwater conditions must be considered for the design calculations.
- Refer to Appendix C “Design of Stormwater Detention Facilities” for design guidance.