

II. PUBLIC COLLECTION SYSTEM

PUBLIC COLLECTION SYSTEM

A public collection system is a system which is owned and maintained by the Metropolitan Sewerage District.

The public system will be constructed in accordance with MSD Standards. The systems shall be constructed within public rights-of-way or easements owned by the District. Any sewer system which transverses more than one property and serves more than one property **must** be dedicated as a public system.

Procedures

1. **Allocation Approval** - Applicants shall submit a completed "Wastewater Allocation Request" form along with the \$120.00 Allocation Fee. Upon approval of request the determination of a Public or Private System will be made. Any exceptions will also be determined.
2. **Submittal of Plans** -
 - a. Applicant must submit two **(2) sets** of plans sealed by a certified North Carolina Professional Engineer. Items required on the plans are listed on the plan sheet checklist. Easement requirements are listed on the Easement Checklist. The following must be submitted along with the plans: a check for the plan review/permit fee of \$480, an original signed/dated "Owner's Agreement", an original signed/sealed/dated "Application for Non-Discharge Permit".
 - b. **Resubmittal of Plans (if necessary)** - Applicant must submit five (5) sets of Revised plans or if the first submittal had no concerns or comments, three (3) additional sets of plans should be submitted. Resubmittals beyond the first revision must be accompanied by a check for re-review fee of \$240.
3. **Easement Documents - (See Easement Section)**
4. **Non-Discharge Permit** - The District will issue the Non-Discharge Permit. (See Non-Discharge Permit section).
5. **Pre-Construction Meeting** - Construction may begin once the Non-Discharge Permit has been issued. Construction must begin with a pre-construction meeting with the District's Construction Administration Department.
6. **Tap Applications** - Applications and associated connection fees will be accepted and issued contingent on a Certificate of Occupancy agreement.
7. **Completion of the Project** - Completion of the project requires the applicant to:
 - a. submit a copy of the Engineer sealed Record drawings and an As-built Checklist
 - b. submit all Easement documents
 - c. submit Contractor's Certification
 - d. submit Engineer's Certification
 - e. receive Final Inspection Certification
8. **Certificate of Occupancy** - MSD will notify the Building Permit office releasing the sewer as part of the Building Inspections sign off.

The District is in no way responsible for the completion of these sewer projects.



Metropolitan Sewerage District

OF BUNCOMBE COUNTY, NORTH CAROLINA

PROJECT NAME: _____

PUBLIC GRAVITY/ PUMP COLLECTION SYSTEM PLAN SHEET CHECKLIST FOR SUBMITTAL PRIOR TO APPLICATION for NON-DISCHARGE PERMIT

Plan Requirements

- _____ 1. Plans consist of Cover Sheet(s), Plan-Profile Sheet (s) and Detail Sheet(s)
- _____ 2. Each Sheet:
 - _____ a. Has a title block:
 - _____ 1. With the project name consistent with the project name on the application.
 - _____ 2. With the engineer's job number, sheet number, date, revision dates, scale and drawn by.
 - _____ b. Has been signed, sealed and dated by a North Carolina licensed Professional Engineer.
 - _____ c. Sheet size: 24" x 36"
- _____ 3. Cover Sheet(s):
 - _____ a. Indicating the name, address and phone number of the developer and engineer.
 - _____ b. Vicinity map at not less than 1" = 2000 with North arrow.
 - _____ c. Schematic site plan with sheet index indicated.
 - _____ d. Symbols legend.
 - _____ e. Topography - Minimum USGS with drainage area to actual low points of boundary indicating zoning by types and acreage of each.
 - _____ f. MSD project number as issued on allocation approval
- _____ 4. Plan-Profile Sheets:
 - _____ a. North arrow on plans.
 - _____ b. At a scale of not less than 1" = 50' horizontal and 1" = 10' vertical.
 - _____ c. Plan and profile views run in the same direction (left to right) upstream with profile directly beneath corresponding plan view.
 - _____ d. All existing utility poles and existing underground utilities with sizes are shown with faded or thin inked lines. All locations were determined by field survey. Existing utilities include the tie-in Manhole and the next downstream manhole with 27 or 83 NC Grid Coordinates.
 - _____ e. All proposed utility poles and underground utilities with sizes are shown with bold or

shaded inked lines.

f. Proposed Manholes:

- _____ 1. Top and invert elevations shown to mean sea level datum in accordance with MSD design criteria.
- _____ 2. Within the 100 year storm flood plain are two feet higher than the flood elevation or have been provided with a sealed locking cover and vent as required to the higher elevation and have been indicated on this plan, profile and data sheet.
- _____ 3. That have drop connections have been indicated as such on the plan, profile sheets and have been used where the invert "In" is greater than 36" higher than the invert "Out".
- _____ 4. Spacing is 400' or less.
- _____ 5. Stationing is shown on the plan and profile along centerline of sewer.
- _____ 6. Angle of flow is noted at each manhole.

g. Proposed Lines

- _____ 1. That are to be publicly maintained are a minimum of 8" in diameter, (except service lines with rights-of-way and easements) and have been sized in accordance with the MSD design criteria.
- _____ 2. Are ductile iron and indicated on the plan, profile and data sheet where:
 - _____ a. Less than 3' of cover is available.
 - _____ b. Less than 2' of vertical clearance is available between line and storm drain.
 - _____ c. Sewer crosses over water lines or where less than 18" of vertical clearance water over sewer is available.
 - _____ d. Slopes or velocities required.
 - _____ e. Where traffic loadings require the additional strength.
 - _____ f. Where depth required the additional strength.
 - _____ g. At creek crossings.
- _____ 3. Are 100' from water supplies or meet MSD design criteria.
- _____ 4. Meet MSD design criteria for horizontal separation from other utilities.
- _____ 5. Crossing or within 10' of other existing or proposed utilities have been shown in plan and profile views with horizontal and vertical clearances indicated.
- _____ 6. Where required horizontal separation from other utilities is not available, special provisions have been made and indicated on the plans for the protection of sewer maintenance personnel.
- _____ 7. Concrete anchors for ductile iron pipe have been shown on the plan and profile views when slopes are:
 - Between 20% and 35% at 36' intervals
 - Between 36% and 50% at 24' intervals
- _____ 8. That are to be bored have been indicated on the plan and profile views showing the type of pipe and casing with length.
- _____ 9. Road crossings indicate the type and width of pavement for mains and services.
- _____ 10. Indicate the proposed pipe size, type, direction of flow and length between manholes in plan view.
- _____ 11. Indicate the pipe size, type, length between manholes, and percent of grade in profile view.

h. Plan Views Indicate:

- _____ 1. Existing and proposed structures or lots to be served by gravity with existing or

proposed floor elevations and locations. For vacant lots a spot elevation near the center of the lot has been shown.

- _____ 2. Note existing and proposed structures or lots that can not be served by gravity.
- _____ 3. At least one bench mark per sheet with location and mean sea level elevation and description.
- _____ 4. Flood limits of 100 year flood elevation.
- _____ 5. Location of work within NCDOT rights-of-way and distance to nearest intersection in feet.
- _____ 6. Location of work within railroad rights-of-way and distance to nearest mile post in feet.
- _____ 7. By note that the specifications and requirements of the Metropolitan Sewerage District supersede all others in the installation of the proposed extension.

i. Right-of-Way Plan Requirements:

- _____ 1. Current record owner(s) of subject site, including deed book and page of title acquisition.
- _____ 2. Parcel Identification Number (PIN).
- _____ 3. Developer contact information.
- _____ 4. Easement overlay for all areas proposed for transfer to MSD in accordance with required easement width chart. This includes all areas whether on private property or within a public Right-of-Way.
- _____ 5. Street name/number designation and legal width of all public rights of way.
- _____ 6. Boundary line information for subject site.
- _____ 7. Ownership (deed book/page of title acquisition) and boundary delineation for all off site areas effected by the proposed sewer line easement.
- _____ 8. Owner's Agreement.

j. Profile Views:

- _____ 1. Indicate the 100 year flood elevation at the end of the profile or a note to the effect that area is outside the 100 year flood plain.

k. Detail Sheet(s):

- _____ 1. Details are in accordance with those approved by the District.
- _____ 2. Details required by others have been indicated.
- _____ 3. Details are clear and legible.

l. Special Requirements of Pump Stations and Force Mains Plans

- _____ a. Force Mains have been provided with Air-release valves at high points where elevation differences are ten feet or greater.
- _____ b. Pump Station:
 - _____ 1. Site plan with topography rights-of-way, easements and property lines.
 - _____ 2. Complete plan and sectional drawings of pump station.
 - _____ 3. Has been protected from flooding and buoyancy.
 - _____ 4. Mechanical joint fittings and ductile iron pipe for all yard piping.
 - _____ 5. Wet well and piping inverts are shown.
 - _____ 6. Wet well capacity indicated.
 - _____ 7. All piping is shown in plan and profile views.
 - _____ 8. Complete electrical control and telemetry schematics.

- _____ 9. Auxiliary generators must provide power for all equipment.
- _____ 10. Wet well vented with screen.
- _____ 11. Fillets in wet well.
- _____ 12. Check valves and gate valves.
- _____ 13. Security fencing with 12' access gate.
- _____ 14. Lockable wet well cover.
- _____ 15. Area light.
- _____ 16. Alarms and auto dialer as required by MSD.
- _____ 17. 110 Volt electrical convenience outlet provided.
- _____ 18. Domestic water service has been provided.
- _____ 19. Typical section drawing of access road. Access roads will be reviewed according to site conditions.
- _____ 20. Design calculations and system curve included.
- _____ 21. Multiple alternating pumps capable of pumping 2.5 times the ADF with one pump out of service.
- _____ 22. 480 – 240 – 208 volts (3-phase power)
- _____ 23. Automatic transfer switches must have disconnect on service main.
- _____ 24. Swing arm check valves.
- _____ 25. One (1) set of spare parts.
- _____ 26. Three (3) sets of 'O and M' manuals.
- _____ 27. All electrical conduit sealed from wet well.
- _____ 28. Normal maintenance performable without bodily entry to wet well (floats – pulling pumps – valves).
- _____ 29. No electrical junction boxes or splices in wet well.
- _____ 30. All metal material shall be of proper corrosion resistancy.
- _____ 31. Engineer approved pump pulling hoist.
- _____ 32. Optional landscaping and fencing details for appearance sensitive areas.
- _____ 33. 115 Volt Receptacle.
- _____ 34. Air release valve (all points where elevation difference exceeds 10 feet).

EXPLAIN ANY ITEMS NOT CHECKED. Provide additional sheets as necessary.

Engineer's Signature: _____ Date: _____