

Connections to TxDOT Drainage Facilities



Developers' Outfall Review Checklist

TxDOT Design Division H&H Section

Project Name _____

Roadway _____

Location / Town _____

Date: _____

Note: this is not necessarily a comprehensive checklist; nor is it required that all items in it be checked for a project to be acceptable. Each project is different, and a proper H&H analysis may determine that some of the items are not required. However, the checklist is offered as a tool for designers and reviewers.

| Section | Issue | OK | NG | Comments | |
|---|---|--|----|----------|--|
| Are graphics and/or illustrations provided? | Scale, north arrow, symbols, and legends | | | | |
| | Project location map with appropriate land marks if available | | | | |
| | Identification of the Points of Interest (POIs) for the project. These are typically the locations where flows from the proposed development discharge into the TxDOT system | | | | |
| | Identification, geometry, and description of all features of the TxDOT receiving drainage system (storm sewer, roadside ditch, channel, driveway culvert, culvert, bridge, etc.) | | | | |
| | Benchmarks with elevation and datum reference | | | | |
| | Delineation and illustration of effective Flood Insurance Rate Maps (FIRM), Flood Hazard areas | | | | |
| | Existing and proposed conditions drainage area maps for the development | | | | |
| | Flow paths existing conditions | | | | |
| | Flow paths proposed conditions | | | | |
| | Illustration, geometry, and description of proposed outfall into TxDOT drainage system (tie-in(s), details, elevations, etc.) | | | | |
| Hydrology - are appropriate parameters used? Is the pertinent information provided? | TxDOT receiving system design storm (not a must, but a helpful record for evaluation) | | | | |
| | Existing conditions peak runoff flows draining to/from TxDOT right-of-way (2, 5, 10, 25, 50, and 100-yr return periods) - at POIs | | | | |
| | Proposed conditions peak runoff flows draining to/from TxDOT right-of-way (2, 5, 10, 25, 50, and 100-yr return periods) - at POIs before mitigation | | | | |
| | Proposed conditions peak runoff flows draining to/from TxDOT right-of-way (2, 5, 10, 25, 50, and 100-yr return periods) - at POIs after mitigation | | | | |
| | Document all pertinent hydrologic parameters and assumptions used in calculations (time of concentration, land cover, type of development, design rainfall depth & losses, IDF factors, % and area of existing & proposed impervious cover, storm event & duration, runoff coefficient (C), CN; the reviewer must be able to independently confirm results using the methodology, parameters, and assumptions stated in the report. | | | | |
| | Use of 2018 NOAA Atlas 14 rainfall data | | | | |
| Is the pertinent hydraulics information provided? | Geometric dimensions for the TxDOT conveyance structures receiving the flows (i.e. channel width, depth, length, slope, pipe diameter, width, height, etc.) | | | | |
| | Culvert, storm sewer, and/or open channel hydraulic calculations, at TxDOT ROW for each outfall | | | | |
| | Existing and proposed velocities (2, 5, 10, 25, 50, 100-yr return periods) at the appropriate POIs | | | | |
| | Existing and proposed water surface elevations (2, 5, 10, 25, 50, 100-yr return periods) | | | | |
| | Proposed pond outlet works hydraulics | | | | |
| | Hydraulic parameters such as manning's n, slopes, hydraulics radius, rational method's "C" value, etc. | | | | |
| H&H Analysis | Hydrologic method used | Modified Rational Method | | | |
| | | Hydrograph Method | | | |
| | | Other (is method justified and described?) | | | |
| | Detention Pond | Is method appropriate? | | | |
| | | Stage/storage relationship provided? | | | |
| | | Outlet type illustrated and described? | | | |
| | | Stage/discharge relationship provided? | | | |
| Is outlet size smaller than the TxDOT structure receiving the | | | | | |
| Results | Are the results provided and compared at the Points of Interest (POIs)? | | | | |
| | Are peak flows for all probabilities (2, 5, 10, 25, 50, and 100-yr RP) equal or less than existing condition peaks? Note: if flows are higher than existing, contact the District Hydraulics Engineer | | | | |
| | Is hydraulics report and/or plan set signed and sealed by a professional engineer with a current and valid license in the state of Texas? | | | | |
| Notes | If tail water conditions exist at the TxDOT drainage system, coordinate with the District Hydraulics Engineer | | | | |
| | If the project involves pump discharge, please coordinate with the DHE | | | | |