**CITY OF HORSESHOE BAY**
1 Community Drive
P.O. Box 7765
Horseshoe Bay, Tx 78657
830-598-9959



# Development Policy

## Appendix D

## Infrastructure Plan Checklist

(Complete this checklist for all Major Projects, Subdivision and Planned Development projects)

**A. General Requirements**
**B. Plan Annotations**
**C. Water Lines**
**D. Wastewater Lines**
**E. Raw/Reclaimed Water Lines**
**F. Grease and Sand/Oil Interceptors**
**G. Streets/Roads**
**H. FEMA Floodplain Review**
**I. Water Quality and Drainage Review**

Project Name: _____

**Note:** Questions concerning additional design requirements not included in this checklist shall be submitted to the City of Horseshoe Bay (HSB) Development Services Department

Water and Wastewater Standard Notes and Specifications may be acquired from HSB Utility Department. Design criteria for all water systems shall comply with Texas Commission on Environmental Quality (TCEQ) Chapter 290 (Rules and Regulations for Public Water Systems), Chapter 217 Sub Chapter D (Rules and Regulations for Alternative Wastewater Systems, latest revision.

Check (√) if completed; or (N/A) if not applicable

## A. General Requirements

_____1) Plans shall be submitted using 24” X 36” format and in pdf format and in Digital Format

_____2) Show north arrow and scale. Choose scale (approximately 1” = 50’) to accurately show details.

_____3) Include site map

_____4) Include vicinity map

_____5) Include title of project

_____6) Provide addresses and lot numbers for all lots/buildings

_____7) If multi-family, label as townhomes, apartments, duplexes or condominiums

_____8) Add Owner/Developer signature block to cover sheet only.

_____9) Add HSB Signature block for Utility Service Plan Approval. One block for each phase; applies to all pages of plan set

_____10) If fire service line is proposed, add HSBFD Signature Block to cover sheet.

_____11) Include HSB standard utility service plan notes

_____12) For water and fire service lines 4'' or greater, add standard Water Plan Notes, including project specific notes.

_____13) For water and fire service lines 4'' or greater, include a copy of fire flow report (required prior to plan approval). Also include Fire Flow information (Building Data and Fire Flow).

_____14) Utilize Plan Information Block detail information:
a. Label Water pressure zone
b. Define Max static pressure (see Fire Flow Report and calculate the max static pressure)
c. Provide Utility Design CAD file no.
d. List Plat no.
e. Development Plan no. and date of approval
f. Statement by Engineer declaring plans meet all TCEQ rules and regulations.

## B. Plan Annotations:

_____1) Show and label all existing utilities including gas and electric. Include diameter and material for water, wastewater and storm sewer. Indicate as public or private. Also label HSB existing water and wastewater mains to which connections are proposed. Contact HSB at (830) 598-9959 for "as-builts" of existing utility infrastructure.

_____2) Label and GPS all existing and proposed valves and fire hydrants.

_____3) Label existing and proposed Rights-of-Way and/or easements with plat number and widths

_____4) Label street names (note if private or public)

_____5) Label subdivision boundaries and adjacent filings

_____6) Label phase lines

_____7) Label match lines with stations and corresponding sheet numbers

_____8) Label all existing and proposed pavement, curb and gutter, sidewalks and medians

_____9) Label all existing or proposed surface improvements, including but not limited to signs, retaining walls, fences, stormwater quality features, amenities, etc.

_____10) For townhomes, show driveways and all proposed utility service lines, to include gas, telecommunications and electric.

## C. Water Lines:

_____1) Label line size diameter and material. Note: All water mains 2" shall be DR 11 IPS constructed with AWWA-C906 HDPE (200 psi) with blue stripe. Water mains 2.5"-12" shall be constructed with PE4710-DR11 HDPE with blue stripe. All connections to water mains shall utilize electrofusion transition saddles per HSB utility details.

_____2) Label length, diameter, and material of proposed service line

_____3) Identify meter locations by GPS

_____4) Label tap size; no 3" taps; domestic and fire service lines 4" or greater require tee in lieu of tap

_____5) No service taps allowed on mains 16" or greater

_____6) No taps allowed on fire service lines or fire hydrant laterals, unless pre-approved by City.

_____7) Maintain all required vertical and horizontal separations as required by TCEQ regulations. (TAC 290 Chapter 290, Subchapter D, Rule 290.44(e) and Chapter 217, Subchapter C, Rule 217.53(d))

_____8) For service lines 2'' or greater, call out Caution Note for utility crossings and label minimum required clearance. For service lines 4" or greater, call out utility elevations and proposed clearance.

_____9) Unused service connections shall be abandoned at main.

_____10) Profiles are required for fire service lines 4" or greater

_____11) If crossing other parcels prior to main connection, provide private service line easement and label number on plan

_____12) Fire hydrants

## D. Wastewater Lines

_____1) Label line size diameter and pipe material. Note: All wastewater mains shall be constructed with PE4710 - DR17 IPS HDPE (125 psi) with green stripe. All connections to water mains shall utilize electrofusion saddles per HSB utility details.

_____2) Label length, diameter, and material of proposed service lines

_____3) Label tap size and show connection perpendicular to main

_____4) Label invert elevation of service line at building and main at connection point

_____5) No service taps allowed on mains 15” or greater

_____6) Label fittings and distances between them

_____7) Maintain all required vertical and horizontal separations as required by TCEQ regulations.

_____8) Call out Caution Note for utility crossings. Add pipe elevations for water main and stormwater pipe crossings.

_____9) Unused service connections to be abandoned at main.

_____10) Service connections require a minimum of 2’ between connections

_____11) If project has a swimming pool, add 100 GPM max discharge note

_____12) Show service locations in accordance with drawing

_____13) If crossing other parcels prior to main connection, provide private service line easement and label number on plan

_____14) Provide recorded document for Notice of Private Wastewater Pump System and label Plat number on plan.

## E. Raw/Reclaimed Water Lines:

_____1) Label line size diameter and material. All raw or reclaimed water mains shall be constructed with PE4710 - DR17 IPS HDPE (125 psi) with purple stripe. All connections to water mains shall utilize electrofusion saddles per HSB utility details.

_____2) Label length, diameter, and material of proposed service lines

_____3) Label tap size and show connection perpendicular to main

## F. Grease and Sand/Oil Interceptors:

_____1) Provide a copy of the kitchen Mechanical or Plumbing plan with legend showing number of fixtures connecting to the interceptor to verify its size

_____2) Provide copy of calculations to determine size

_____3) Show and label size of interceptor on plan

_____4) Label whether traffic or non-traffic rated

_____5) Refer to Wastewater Detail Drawings for grease and sand/oil interceptor design specifications

_____6) Ensure the interceptor is accessible for maintenance

_____7) Grease interceptor will be located within 50’ of last fixture

_____8) Ensure outlet is a minimum of 2’’ and a maximum of 4’’ lower than inlet. Provide invert in and invert out elevations on the plan.

_____9) For car wash facilities, check valve required downstream of the sand/oil interceptor.

## G. Streets/Roads/Parking Lots:

_____1) Designate pavement widths, curb widths and type of curbs

_____2) Define street/road material for finished driving surface and depth of materials, including base material. Reference applicable TXDOT standards are necessary.

_____3) All roads shall be in accordance with the current version of the International Fire Code (IFC) that is adopted by the City of Horseshoe Bay. This includes minimum road widths exclusive of shoulders or curbs. It also includes percent of grade, turning radius, dead-ends, and number of means of access.

_____4) Dead-end fire apparatus access road turnarounds shall be in compliance of the current version of the International Fire Code (IFC) adopted by the City.

_____5) Facilities, buildings, or portions of buildings hereafter constructed shall be accessible to fire department apparatus by way of an approved fire apparatus access road with an asphalt, concrete, or other approved driving surface capable of supporting the imposed load of fire apparatus weighing at least 75,000 pounds.

_____6) All roads with gates shall comply with the International Fire Code and all City ordinances adopted concerning KNOX system entry for Fire Department access. All gates shall also not be less than the width stated in the current adopted International Fire Code.

a. 7) If streets are considered private, Texas Transportation Code article 542.008 requires an agreement to be in place between the entity owning/maintaining the roadways within a privately owned subdivision and the governing body of the Municipality where the subdivision is located before an Ordinance can be enacted by the Municipality authorizing the enforcement of traffic offenses within the subdivision.

_____8) Parking spaces must be 10’ wide by 20 feet long with an all-weather surface.

_____9) Street signs must be provided for emergency services.

## H. FEMA Floodplain Review

_____1) Floodplain note on the cover page with correct FEMA FIRM Panel number and revision letter (suffix), as well as correct effective date.

_____2) Clearly delineate FEMA 100-year floodplain on plans.

_____3) Provide finished floor elevations on plans.

## I. Water Quality and Drainage Review

_____1) Provide LCRA Highland Lakes Watershed Permit or proof of exemption.

_____2) Provide an existing and proposed drainage area map (off-site and on-site) with flow patterns and drainage calculation summary tables for the two (2), ten (10), and 100-year frequency storm events. Include offsite flows contributing to the site in calculations.

_____3) Provide all calculations showing acreage, peak Q for the two (2), ten (10), and 100-year storm, and impervious area.

_____4) Label existing and proposed drainage infrastructure showing type, material, size, top and flowline elevations. Provide calculations for existing storm system verifying capacity for upstream flow.

_____5) Provide storm drain lines in profile with existing and proposed grade and hydraulic grade line for the 100-year storm. Label with pipe material, diameter, and slope.

_____6) Provide hydraulic cross sections for swales and channels showing elevation of normal depth for peak events and freeboard.

_____7) Velocity in swales and channels greater than 6 fps require armoring.

_____8) Design energy dissipation at headwalls and include dimensions on the plans.

_____9) Provide Engineering Report (signed, sealed and dated by P.E.) with all assumptions and information used for drainage calculations. Drainage must comply with the following:

i. Provide digital copies of all models used in the development of the report and the plans.

ii. All projects must use NOAA ATLAS 14 updated rainfall data for site peak flows and required detention volume calculations.

iii. Stormwater runoff peak flow rates for the two (2), ten (10), and 100-year frequency storms shall not cause increased inundation of any building or roadway surface or create any additional adverse flooding impacts.

iv. 100-year discharge shall be contained in an easement or ROW after traversing more than 2 lots. Drainage shall be conveyed offsite in an easement to an acceptable receiving point (roadway, bar ditch, or channel).

v. Increased discharge onto private property is not allowed without acquisition of an easement.

vi. Stormwater runoff shall be computed on the basis of a fully developed contributing drainage area.

vii. Street curbs, gutters, inlets and storm drains shall be designed to intercept, contain and transport all runoff from the 25-year frequency storm, the remainder of drainage system shall be designed to convey flows greater than 25-year frequency storm up to and including the 100-year frequency storm within defined right of way or drainage easements.

**Add any project related comments below:**

**Signatures of engineering firm:**
Plan drawn by (type name below):

**_____ Date : _____**

Plan reviewed by (type name below):

**_____ Date: _____**