



NORTH DAKOTA

Updated: 5/16/13

Water and Sewer

8" minimum watermain in residential areas

12" minimum watermain in commercial, industrial & multifamily areas

Waterlines located 6.33' inside a 66' right-of-way, 9.66' inside an 80' right-of-way

Hydrants located 2.33' from the back of curb

A gate valve shall be installed on the mainline 5' prior to each hydrant

A gate valve shall be installed on each hydrant lead

Hydrant spacing shall be based on 175' radius providing full home coverage in residential

300' maximum hydrant spacing in commercial areas

Curb Stops located on the right of way

Water and sewer marking tape above pipes during installation

Blue steel posts on all gate valves and curb stops

Mud plugs in valve boxes

No extension rods in valve boxes unless over 8' deep (use 9.5' long wrench)

Need operating rod extensions on curb stops (use short wrench)

Gate valves to be 3' from back of curb on mainline side of roadway if 6" or larger service line

The maximum reduction from the required fire flows listed in the IFC for buildings with an automatic sprinkler system shall be 50% for any zoning district.

8" minimum sewer mainline

400' maximum manhole spacing

Use rubber boots on sanitary manholes

No steps in manholes

Green painted 2x4's at all sanitary service stubs

Sewers must be televised after installation

Storm Sewer

No steps in manholes

Curb Inlets – Type 30" & 48" Castings - Neenah R-3030 Type R / East Jordan 7010 T2 Type M5

- Type 36", 72", & 108" Neenah R-3295 or equal

Manholes Neenah R-1733

Area Inlets Neenah R-2561

Tie last three joints of concrete pipe at outlets

All outlet pipes shall have concrete flared end sections

Concrete pipe shall be used in the City rights of way and easements

Maintain a minimum of 1.5' of cover over culverts and storm sewer

18" minimum culvert size

15" minimum storm sewer size on laterals, 18" minimum storm sewer size on mainline

Manhole Spacing – 400' for 15", 450' up to 21", 500' up to 30", 600' greater than 30"

Street Lights

Generally provided by Capital Electric, if not then by Developer.

Located 3' from back of curb.

Engineer to design location and provide to City Engineer for review.

General light placement shall be on every other lot line and alternating each side of the street.

There shall be a minimum of 1 light placed at every intersection. The City Engineer reserves the right to add additional lights at the intersection if deemed necessary.

The City Engineer reserves the right to request the lighting layout meet AASHTO requirements in certain circumstances. If requested, the Engineer or Developer shall submit a lighting analysis for review.

The fixture provided by Capital Electric is generally General Electric 201 Unit Pack catalog number SAM10SL, 100W, High Pressure Sodium, with IES type 5 distribution (GE photometric curve number 452512).

Capital Electric will provide power to the fixture and mount it on a wooden pole with a fixture mounting height of 24' and a mast arm length of 27".

Lincoln

NORTH DAKOTA

Roadway

Designs for local and collector streets shall meet 30 mph AASHTO design criteria
0.4% minimum longitudinal street grade, 5% max grade for major (collector) streets, 7% max grade for secondary (local) streets
4" NDDOT Class 27 or Lincoln Class B Asphalt with 6.2% AC and 0.05-0.10 gal/sy Tack Coat (R1, R2, & R5 Zoning)
5" NDDOT Class 29 or Lincoln Class B Asphalt with 6.2% AC and 0.05-0.10 gal/sy Tack Coat (R7, R9, C1, MU, I1, I2 Zoning or areas with heavy traffic loads)
4" Class 5 Gravel – Asphalt Millings or Blended Bases may not be substituted
Chip Seal – CRS-2P 0.34 gal/sy with Class 43 Chips 28 lbs/sy and Class 44 Blotter Sand 1 lb/sy
18" gutter – 6" barrier curb
Local Roads – 40' back of curb to back of curb - 66' right of way
Collector Roads – 44' back of curb to back of curb – 80' right of way
13' radius on local and collector streets (see City Detail), 36' radius when connecting to County Rd
No residential sidewalks
6' Sidewalks on commercial and multi-family lots
Must meet Bismarck's intersection approach grade design criteria policy
Internal/private roadways and turnarounds should meet the International Fire Code Section 503 for Fire Apparatus Access Roads

Signs

Installed by Developer
Street Name Signs – Generally 9" high signs with 6" high Clearview Highway font letters
See Standard Detail 1212-1
Street name signs should be located in NE corner of intersections approximately 4.5' from the face of curb to sign post.
Regulatory signs should generally be placed 4' from the face of curb to sign post.
Signs should be located at least 2' from the face of curb to edge of sign plate.
In general stop signs approaching county roads have been placed 48' from the edge of the driving lane or white fog line to the sign post.

Three Party Agreement

- Irrevocable letter of credit or a certificate of deposit in an escrow account from a bona fide bank in the amount of the project construction cost plus five (5) percent as approved by the City.
- The Developer shall reimburse the City all engineering, legal, and administrative review fees and related costs. The Developer shall deposit with the City Auditor a sum of money estimated by the City Engineer, Auditor and Attorney. This fee is estimated at four (4) percent of the project construction cost. If it becomes apparent the amount will be insufficient, the City Auditor shall notify the Developer in writing and the Developer shall, within ten (10) days of each such notice, deposit with the City Auditor such additional amount. Upon completing all work the City shall refund to the Developer any deposit not needed to pay said fees.
- Other submittals as part of agreement: Performance and Payment Bonds, Certificate of Premium Paid – Workforce Safety & Insurance, Contractor's License, Contractor's Bid, Certificate of Liability Insurance from both the Contractor and the Developer (Holder is City of Lincoln and the City Engineer – Kadrmas, Lee, & Jackson, Inc. is listed as additional insured)
- City must review pay estimates and change orders and will write a letter to the bank allowing funds to be released from the letter of credit or escrow account.
- Developer's engineer, City Engineer, and Public Works Department complete a walkthrough of the project when finished and verify that all items in the plans and specs and on the City's checklist are completed.
- Developer's Engineer completes a certification letter to the City, certifying all components have been installed according to the approved project plans and specifications and have been inspected.
- As-constructed drawings are provided.
- All parties sign the City's Final Review and Acceptance document to signify that the project is complete, the warranty period will start, and the City will take over operation and maintenance.