



**DEPARTMENT OF TRANSPORTATION**

# Development & Permit Guidance

**INFORMATION EACH DEPARTMENT NEEDS TO HAVE SUBMITTED IN  
ORDER TO COMPLETE A PERMIT REVIEW**

**Plans**

**Traffic Control**

**Traffic  
Analysis**

**Traffic  
Signals**

**Drainage**

**Materials  
&  
Research**

**Roadway  
Design/Standards**

**Bridge**

**Lighting**

**Erosion  
Control**

*(Click on the above boxes to go to that section)*

## PLANS

The most common cause for the greatest delays in the review of a permit application, is the incompleteness of plans submitted with the application.

Please:

- Provide the complete set of plans for the project, which incorporates the work being completed within the State Highway right-of-way.
- If there is a Development associated with or reliant upon the work being permitted with the State Highway right-of-way, submit those development plans also.

## TRAFFIC CONTROL

When work is being completed within the highway right-of-way, the placement of traffic control is a must for the safety of both the traveling public and the construction workers.

Traffic Control Plans for the State Highway roadway must be completed and submitted with the Project Plans.

- It is permissible to utilize the NDOT Special Plan 925 as long as the details on the plan fit the conditions required for the permit work.
- All Signs and Pavement Markings placed within the State Highway Right-of-Way need to meet NDOT Standards. Local County or City Standards are not acceptable except inside the communities of Omaha, Lincoln, Grand Island and Bellevue.
- All Temporary Traffic Control Devices shall be maintained as required by the Manual on Uniform Traffic Control Devices (MUTCD).

## TRAFFIC ANALYSIS

Do you need a Traffic Impact Study?

- See Section B of “*So you Want to Access the Highway? – A Guide to Highway Access*” on who needs to complete a study and the requirements of that study. Available on NDOT’s Website: <https://dot.nebraska.gov/media/3462/access-hwy.pdf>
- For additional inquiries on whether an impact study is required or not, the Developer/Consultant can contact the appropriate District Permits officer.

A Traffic Impact Study can require significant time both in its preparation and in its review, and it can impact the design of the intersection with the highway or entrance drive. Such studies should be completed and submitted for review well in advance of the actual submittal for a Permit to complete work within the highway.

Commonly omitted items that are required by a Traffic Impact Study:

- Development’s Site Plan
- Geometrics of the Intersection or Drive

## TRAFFIC SIGNALS

Where traffic signals/lights are warranted, include traffic signal design and detail plans within the submitted plans set detailing the work within the State Highway Right-of-Way.

All traffic signal designs and specifications **must meet NDOT Requirements**. Local County or City Standards are not acceptable.

- Street Light power cables are not allowed within the Traffic Signal Control Boxes.
- Street Light power cables may use the same pull boxes as the traffic signals, but must be run through separate conduits.
- Follow National Electrical Code requirements for conduit fulfillment and grounding.
- Plans must show all locations of the Traffic Signal poles, mast arms, traffic signal heads, electrical pull boxes power source, service disconnect, vehicle detection, pedestrian pushbuttons, cables.
- Utilize the current Nebraska Board of Public Roads Minimum Design Standards for placement of traffic signal cabinet and poles.
- Utilize NDOT's Standard Plans and Specifications.
- Local County or City Standard Plans and Specifications are not acceptable.
- Pedestrian pushbuttons shall be placed per MUTCD and ADA requirements, install a pedestal pole if needed.
- Number of signal heads shall meet MUTCD requirements.
- Protected left turn phase, if provided, shall be warranted.

Are you installing Cameras along with the traffic signals or elsewhere on the State Highway Right-of-Way?

- Follow same standards as traffic lights.
- Draw separate lines on the plans for the placement of the Power and Communication Lines.

## DRAINAGE

Drainage is a serious concern for the Department, and all permit applications will be reviewed for their adequacy as it pertains to drainage. Please use the following resources for our highway drainage design standards/requirements:

### **NDOT Drainage Design and Erosion Control Manual and the NDOT Hydraulic Website:**

<https://dot.nebraska.gov/business-center/permits/row/drainage-impacts/>

Work proposed to be completed on the highway right-of-way under a permit application will not be allowed to change the course of drainage from the existing condition. NDOT will not accept the Modified Rational Method.

All drainage runoff computations will be based on the highway's design return period. See NDOT Manual's Drainage Design Chapter.

If the work completed within the highway right-of-way includes drainage structures, then the following information must be provided as part of the project plans or submitted in additional documentation:

- Existing Topography,
- Proposed Grading,
- Drainage area computations,
- Culvert and Storm Sewer (pavement spread and pipe flow) Hydraulic Computations,
- Detention Pond computations (including stage/storage/discharge data, and outlet works data),
- Storage routing and other runoff volume computations shall utilize the NRCS Curve Number procedure. Modified Rational methods are strictly forbidden.
- Any additional documentation necessary to understand the drainage system proposed.

Provide cross-sections for all culvert, storm sewers, and other drainage structures being constructed within the highway right-of-way in the project plans.

If there is an **Adjacent Development** associated with or reliant upon the work within the State Highway right-of-way:

- Provide the same documentation for the development as is requested (listed above) for work completed within the highway right-of-way,
- Be aware, that in general, the Department's policy relating to runoff from adjacent developments is to accept no more storm water runoff than received under existing conditions,
- Provide runoff computations based on the highway's design return period,
- In general, the Department's policy is to not allow a direct connection between the development's sewer/culvert system and the highway's sewer/culvert system.

## MATERIALS & RESEARCH

The material designs and specifications for highways generally differ from those used for local residential and commercial development. You can find guidance/general guidelines in the Materials Guidance for ROW on the Department's website here:

<https://dot.nebraska.gov/business-center/permits/row/materials-guidance/>

For pavement work completed within the highway right-of-way, the NDOT Standard Specification for Highway Construction, current edition, must be followed.

In general:

- Concrete within NDOT ROW shall be 47B-3500, and shall be made with Type 1P cement.
- The proposed pavement structure needs to match with NDOT existing pavement.
- Turn Lanes/Drives must be tied in to adjacent pavement using NDOT Standard Plan 329-R-10;
- Existing underlying foundation course will need to be duplicated in new pavement sections;
- Any foundation course used shall be drained with granular subdrains or pipe underdrains;
- Existing asphalt highway pavement will require a saw cut to achieve a clean vertical edge;
- Compaction requirements must be included for prepared or stabilized subgrades;
- Foundation Course and Subgrade Preparation shall extend 3' beyond edge of pavement;



- Subgrade Preparation must be 12” deep, and shall be done in two 6” lifts;
- The plan set needs to include traffic volume data to evaluate the proposed pavement thickness.

A Geo-technical Investigation and Report will need to be completed for work completed in the highway right-of-way that includes:

- any significant fill;
- foundation work, such as traffic light bases;
- bridge pilings;
- tall retaining walls, and
- any situation where soil stability or support is necessary for the proper functions of the product.

Please be sure to include these items in the plans submitted with the permit application when they are to be constructed within the highway right-of-way, or adjacent to the highway right-of-way and part of a development associated with or reliant upon the work within the State Highway right-of-way.

- Retention wall Geometry and Cross Sections
- Significant Fill Location

## ROADWAY DESIGN & STANDARDS

The design of highways and their intersections (streets or driveways) can differ from that generally accepted for local residential and commercial development. Please see the following manuals for our highway design standards/requirements:

- NDOT Roadway Design Manual, and
- NDOT Drainage Design and Erosion Control Manual.

Work completed within the highway right-of-way must meet NDOT Standards and requirements. All permanent work within the highway right-of-way must be compliant with the Americans with Disabilities Act (ADA), and our reviewers will be checking that it is.

The following items are generally found be our reviewer to be missing from plans; are incorrectly designed; or do not meet NDOT standards/requirements for placement along the highway. Please be sure to include these items in the plans when warranted or desired, and review the above manuals for acceptable design.

- Vertical Alignments (plan and profile sheets)
- Proposed Typical Sections
- Roadway Cross-Section sheets (showing existing ground and proposed work) from the existing pavement and when applicable to the Right-of-Way Line
- Guardrail (type, placement, and details)
- Joints and Pavement Grades (at intersections and other critical areas)
- Sidewalks and Curb Ramps
- Construction Build and Removal Sheets
- Culvert Cross Section

## BRIDGE

Should the proposed work within the highway right-of-way impact upon a bridge, require a modification of a bridge, or propose the construction of a new highway bridge, the Developer will need to be in contact with the Department well in advance of the actual submittal for a Permit to complete work within the highway right-of-way.

The Department defines a Bridge as a structure erected over a depression or obstruction, having an opening greater than 20 feet as measured along the centerline of the highway. This includes culverts with multiple barrels, or multiple culverts placed within close proximity to each other.

*Bridges to be constructed within the highway right-of-way must meet NDOT design requirements and standards.*

Final Review of any bridge plans proposed for a project will occur as part of the Permit Review process. You will need to provide the following:

- A complete set of bridge plans that have been sealed and signed.

Where a bridge will cross a drainage system, you will need to submit a report on the Hydraulic analysis of the bridge, which includes:

- Hydrologic calculations,
- Hydraulic calculations,
- Hydraulic model,
- Site map, and
- Technical write-up.

## LIGHTING

Where highway lighting is warranted (see NDOT Roadway Design Manual, Chapter 10) or desired, include highway lighting design and detail plans within the submitted plans set detailing the work within the State Highway Right-of-Way.

Be sure to include in those plans and details:

- Light Pole Locations,
- Light Pole Heights,
- Mast arm lengths,
- Luminaire Types and Wattage.

Highway lighting conductors running through the Traffic Signals pull boxes need to be conveyed in their own conduits and adequately grounded.

- Do not run the highway lighting conductors through the Traffic Signals Control Boxes.

Highway Lighting plans to be "*Completed by Others*" must be submitted along with all other plans provided for the permit application.

## EROSION CONTROL

Include the erosion and sediment control activities being done on the highway right-of-way in the plan set provided to the Department.

- If there is an adjacent development associated with or reliant upon the work within the State Highway right-of-way include with those plans how you plan to protect the highway right-of-way from erosion and sediment generated during construction of the development.
- Provide SWPPP Information for the development.
- If the development is located within one of the regulated Municipal Separate Storm Sewer System (MS4) Communities (see List of MS4 Communities), detail how the storm water discharging from the development on to the highway right-of-way meets the MS4 requirements of the Community (NDOT's requirements need to be met if there are no Community requirements).
- Provided the seed mixture(s) applied to the disturbed areas of the highway right-of-way.
- Temporary seed mixture (if any) required due to delays.
- Permanent seed mixtures.