



North Carolina  
Department of Transportation

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**Session Law 2016-90, Section  
2(b)  
Study the Issue of Administrative  
Fees for Encroachments**

Report to the Joint Legislative Transportation Oversight  
Committee and the Fiscal Research Division

December 1, 2016

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### Department Analysis

In July 2016, the Department had discussions with stakeholders about charging fees to defray the Department’s administrative cost of reviewing utility and non-utility encroachments, payable upon initial application for the encroachment. During these discussions, stakeholders raised concerns about the length of time it was taking for encroachments to be reviewed and inconsistent turnaround times between different highway divisions and district offices. Based on these conversations, the Department undertook a review of current protocol for the purpose of identifying improved practices that would streamline submittal procedures prior to pursuing the possibility of charging fees.

In August 2016, the Department enlisted the assistance of the DOT Governance Office to perform a Lean Six Sigma data analysis with regard to encroachment submittal cycle time. Data was gathered from three district offices in each of four highway divisions. Approximately 100 encroachment applications from each of the district offices were tracked from submittal to approval and, as shown in Table 1, an average cycle time of approximately 20 days was determined. The average cycle time for the selected district offices is shown in Table 2.

	TOTAL ENCROACHMENTS	DIV A	DIV B	DIV C	DIV D
SAMPLE POOL*	8,634	1,122	4,824	1,350	1,338
SAMPLE SIZE*	1,296	300	347	347	302
AVERAGE	20.6	24.2	24.2	15.0	19.1
ST. DEV.	38.3	28.8	46.4	28.3	44.8

Table 1 Encroachment Cycle Time by Division

	DIV. A DIST. 1	DIV. A DIST. 2	DIV. A DIST. 3	DIV. B DIST. 1	DIV. B DIST. 2	DIV. B DIST. 3
SAMPLE POOL*	723	243	156	3,620	960	244
SAMPLE SIZE*	105	93	102	146	69	132
AVERAGE	27.3	22.8	22.4	25.3	45.0	12.3
ST. DEV.	24.7	38.7	21.5	42.4	71.6	25.8
	DIV. C DIST. 1	DIV. C DIST. 2	DIV. C DIST. 3	DIV. D DIST. 1	DIV. D DIST. 2	DIV. D DIST. 3
SAMPLE POOL*	450	450	450	465	366	507
SAMPLE SIZE*	99	102	146	105	98	99
AVERAGE	16.3	19.1	11.4	16.9	8.2	32.3
ST. DEV.	34.2	34.6	16.3	45.2	6.2	60.5

Table 2 Encroachment Cycle Time by District Office

Next, the analysis focused on the number of revisions needed for the Department to complete the submittal reviews, and the reasons for the revisions. As shown in Table 3 the number of revisions as well as the average impact on cycle time was determined. Note that average number of days shown in the table is not cumulative. That is, if two revisions to the original submittal were required, on average, the total time to complete the review was 108.1 days (20.6 + 29.7 + 57.8).

	1 REVISION	2 REVISIONS	3 REVISIONS	4 REVISIONS	5 REVISIONS	RALEIGH REVISIONS
% OCCURRENCE	67%	11%	4%	1%	.5%	17%
COUNT	132	21	8	3	1	33
AVERAGE (days)	29.7	57.8	19.3	24.3	2.0	82.3
ST. DEV. (days)	39.1	110.2	24.0	22.2	-	130.5

Table 3 Encroachment Cycle Time per Revision Cycle

As would be expected, part of the extra cycle time identified for each revision is attributed to the Department’s extra review efforts and part is attributed to the time it takes the requesting party to submit the required information. As shown in Table 4 the overall time of possession was found to be approximately equally shared by the Department and the encroachment submitter.

	NCDOT DAYS	UTILITY / OTHER DAYS
1 REVISION	923	3,926
2 REVISIONS	224	1,213
3 REVISIONS	142	154
4 REVISIONS	29	73
5 REVISIONS	0	2
RALEIGH REVIEW	2,828	0
DIVISION REVIEW	2,303	0
<b>TOTAL DAYS</b>	<b>6,449</b>	<b>5,368</b>
	<b>55%</b>	<b>45%</b>

Table 4 Number of Days of Encroachment Submittal Possession

Next the cause of the revised submittals was quantified. As seen in Table 5 the prominent “error code” that resulted in a need for a revision was incomplete information.

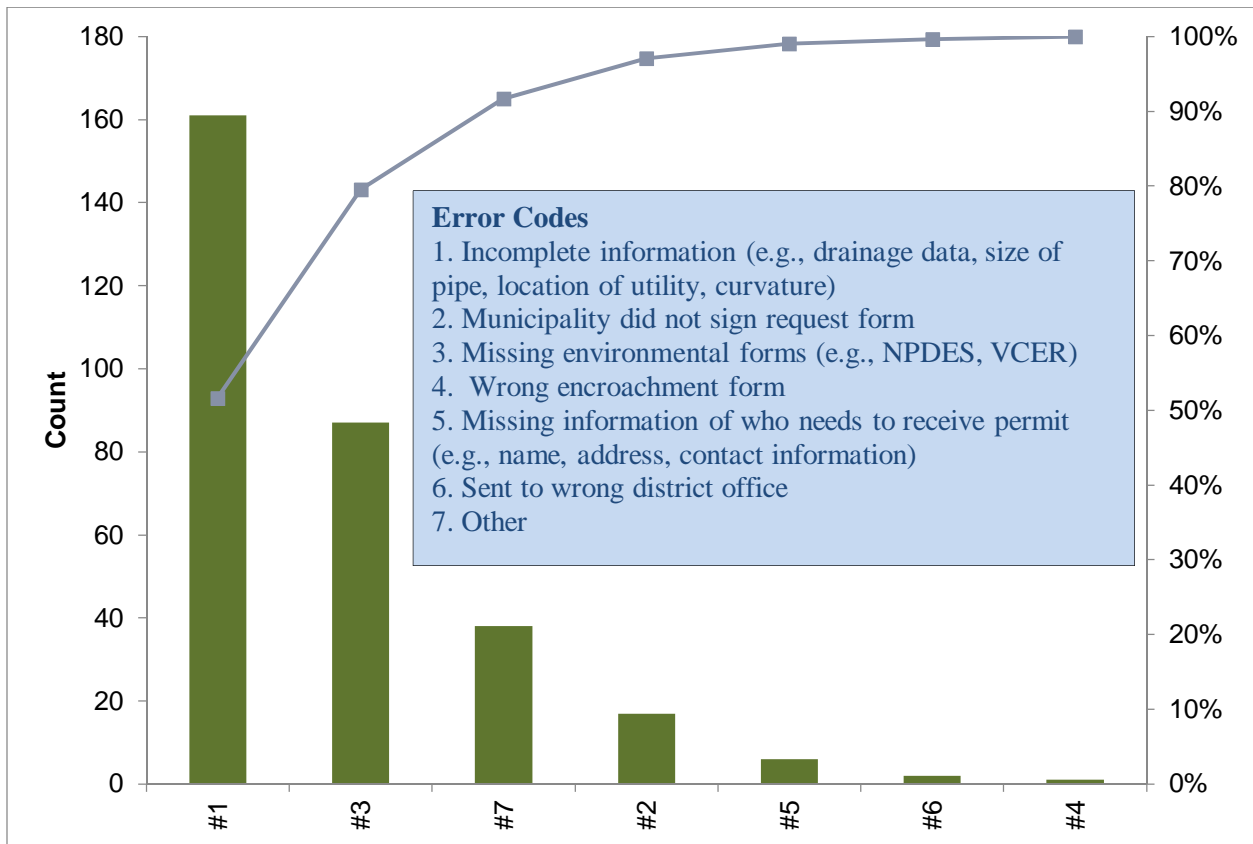


Table 5 Breakdown of Error Codes that Resulted in Revised Submittals

## Streamlining Encroachment Submittals

As a result of feedback from the stakeholders and evaluating the cycle time data results of the Lean Six Sigma team, the Department identified the following goals for streamlining submittal processes:

- Decrease overall cycle time for submittal reviews
- Increase transparency with regard to status of submittal reviews

## Implementation Plan

To provide better customer service for encroachment submitters and achieve the overall stated goals, NCDOT developed an implementation plan that includes a new online submittal protocol and dashboard type submittal tracking interface.

First, a secure online encroachment submittal process that may be accessed from a browser or mobile device is being implemented. This solution will use the Department’s existing business partner website, connect.ncdot.gov. Encroachment submittals will be able to be uploaded through the website and routed directly to the appropriate Department personnel. The submittal uploads will be time stamped and Department personnel notified by email alert. The web interface will highlight required fields to decrease the possibility of incomplete packages being submitted. The web interface prototype is shown in Figure 1.

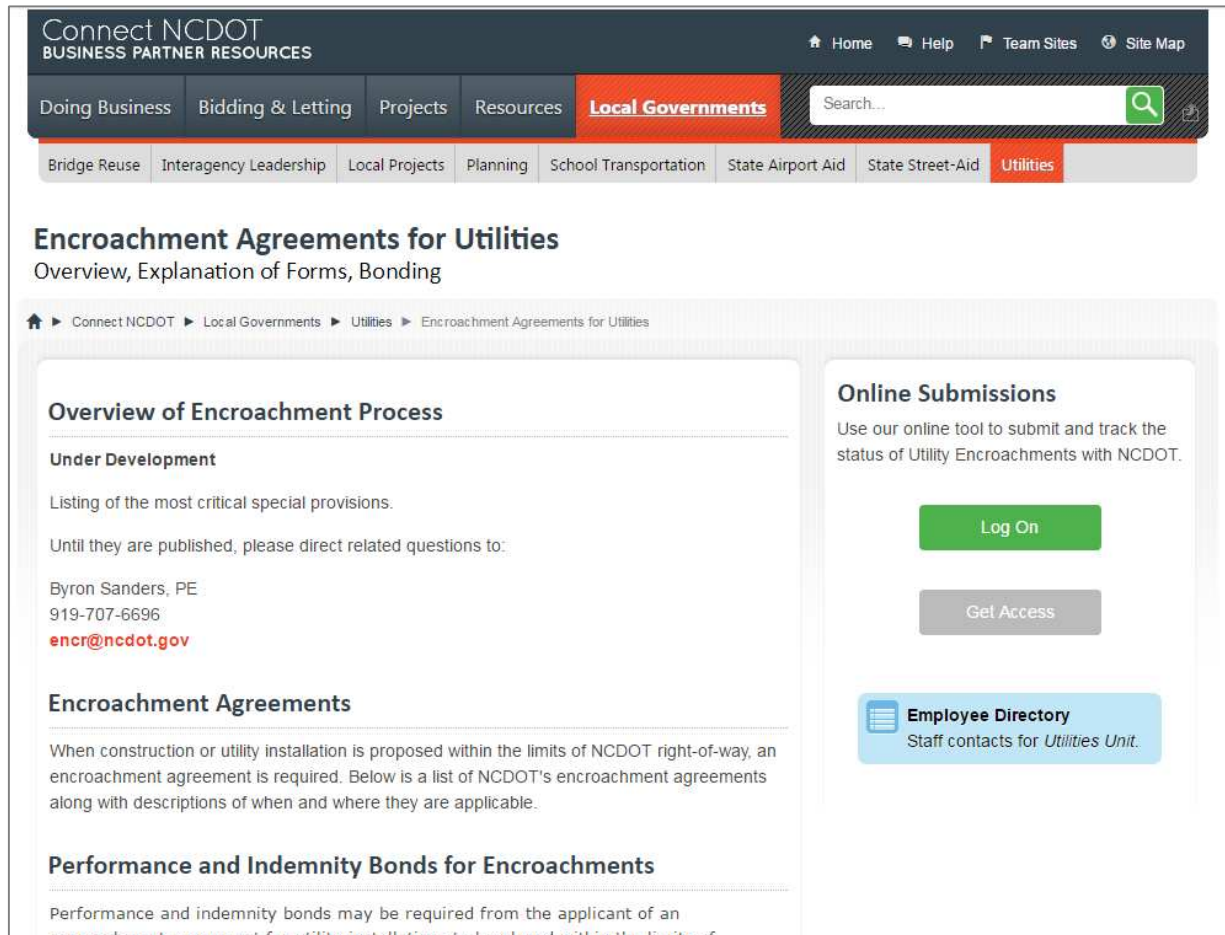


Figure 1 Online Encroachment Submittal Interface

NCDOT is also implementing a dashboard that will help both NCDOT staff and encroachment applicants stay informed on the status of submitted encroachments. The dashboard will provide transparency and allow all parties to see how long encroachment review is taking, status changes to submissions, any cause for delay, and the appropriate contact person. Encroachment submitters will have the ability to choose daily, weekly or real time email notifications based on their preferences. The web interface prototype for submission tracking is shown in Figure 2. NCDOT has set a go live date of January 1, 2017

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## Encroachment Submissions ▶ Encroachment Submission Duration Tracking

Connect NCDOT ▶ Encroachment Submissions

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+ new item

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Submission	Title	Modified By DOT	Division	District	County	Days
▲ Division : 1 (2)						
1-District 1-Alleghany-1478014124899	Pending	Ernesto Spirito	1	District 1	Alleghany	1
1-District 1-Alleghany-1478229469223	Pending	Patrick M. Doran	1	District 1	Alleghany	4
▲ Division : 14 (1)						
14-District 14-Wake-1478553479622	Pending	Ernesto Spirito	14	District 14	Wake	2
▲ Division : 2 (3)						
2-District 2-Bertie-1477944826744	Pending	Ernesto Spirito	2	District 2	Bertie	4
2-District 2-Bertie-1477944826744	Closed Out	Ernesto Spirito	2	District 2	Bertie	3
2-District 2-Bertie-1478033921956	Pending	Ernesto Spirito	2	District 2	Bertie	2

Figure 2 Online Encroachment Submission Tracking Interface

## Evaluation of Online Protocol and Future Administrative Fees

In November 2016, the Department met with industry partners to obtain feedback on the proposed implementation plan. Attendees from AT&T, Century Link, Charter Communications, Duke Energy and Telephone Cooperatives were present. The implementation plan was well received by those present. NCDOT has set a go live date of January 1, 2017. In discussing implementation with these industry stakeholders, it was suggested that data for the three month period from February 1 through April 30 be analyzed to identify turnaround times being provided at local levels and to set performance metrics that will encourage consistency across divisions and district offices. In addition, to better assess the viability of the Department charging fees associated with submittal reviews, work efforts and associated Department costs will be quantified for the same three month period. This information will form the basis for continuing discussions with industry stakeholders regarding charging administrative fees for submittal reviews.

