



North Carolina Department of Transportation Office of Inspector General

Audit of Highway Planning and Construction Highway Division Contract Pre-Award Process

For the Period July 1, 2017 through June 30, 2019

December 9, 2020

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

December 9, 2020

Ronnie Keeter, PE
Chief Engineer
North Carolina Department Transportation
1536 Mail Service Center
Raleigh, North Carolina 27699-1536

Dear Mr. Keeter,

The Internal Audit Unit within the Office of Inspector General has completed the Highway Planning and Construction Pre-award Process audit of the Highway Division. The audit covered the following areas:

1. Advertisement, bidding and contractor selection for Division Let Contracts and On-Call Purchase Order Contracts.
2. Negotiation and execution of purchase orders under Limited Services Contracts.
3. Analysis of minority utilization on Division Let, On-Call Purchase Order and Limited Services Purchase Order Contracts.

We wish to express our appreciation to all Highway Division personnel for assistance provided to us during the audit.

Respectfully,

A handwritten signature in cursive script, appearing to read "Mary Morton".

Mary Morton, CPA
Inspector General

Cc:

Eric Boyette, Secretary
Chris Peoples, PE, Deputy Chief Engineer
Lamar Sylvester, PE, Director of Field Support

EXECUTIVE SUMMARY

PURPOSE

The purpose of this audit was as follows:

- 1) Evaluate Highway Division pre-award processes for Division Let Contracts and On-call Purchase Order Contracts from the time of project funding release to contract award for effectiveness of ensuring compliance with federal and state regulations and internal policies and procedures. Specifically, the audit focused on processes related to project advertisement, bidding and contractor selection.
- 2) Evaluate Highway Division pre-award processes for Limited Services Purchase Order Contracts from the time a consultant is selected to approval of the purchase order for effectiveness of ensuring compliance with internal policies and procedures.
- 3) Determine DBE and non-DBE minority business utilization on Division Let, On-call Purchase Order and Limited Services Purchase Order Contracts.

BACKGROUND

Highway Division (Division) contracts are executed at the division level for transportation infrastructure construction or repair projects and for transportation infrastructure maintenance, excluding resurfacing, with a value of five million dollars (\$5,000,000) or less. At least three informal bids must be solicited for these contracts and all contracts are awarded to the lowest responsible bidder. Contracts must be posted for advertisement at least 14 calendar days prior to the contract letting date if advertised publicly. The results of the bidding process must be published no later than three business days after the contract is awarded.

Limited Services Contracts (LSCs) are executed when procuring professional or specialized services in connection with the planning, design, maintenance, repair and construction of transportation infrastructure.

With regards to participation in Division Let, On-call Purchase Order and Limited Services Purchase Order Contracts, NCDOT (Department) tracks the award and utilization of Disadvantaged Business Enterprises (DBE) and non-DBE minority businesses.

KEY FINDINGS

Highway Divisions are generally effective in managing processes related to advertising, bidding and contractor selection for Division Let, On-Call Purchase Order and Limited Services Contracts. However, process improvements are needed as follows:

Division Let Contracts

- ❖ To ensure completeness of documentation during advertising to inform perspective bidders of project information.
- ❖ To ensure completeness of bid opening attendance documentation.
- ❖ To ensure documented verification of bid review.
- ❖ To ensure sufficient documentation of decision-making and timely submissions of good faith efforts.

On-Call Purchase Order Contracts

- ❖ To ensure consistency in completion of project estimates.
- ❖ To ensure projects are advertised for the required duration.
- ❖ To ensure completeness of bid opening attendance documentation.

To ensure documented verification of bid review.

Limited Services Purchase Order Contracts

- ❖ To ensure completion of independent estimates.
- ❖ To ensure documentation is complete to support negotiations.
- ❖ To ensure the appropriate level of detailed documentation review.

KEY RECOMMENDATIONS

Division Let and On-Call Purchase Order Contracts

- ❖ Develop a comprehensive checklist to capture federal and state pre-award requirements and administer to Divisions.
- ❖ Use of Good Faith Worksheet for sufficient level of detail in documenting good faith effort decisions.

Limited Services Purchase Order Contracts

- ❖ Develop a control checklist to include process related steps which align with memo guidance issued by Technical Services.
- ❖ Evaluate workflow approval processes to ensure a comprehensive level of review.

OBJECTIVES, SCOPE AND METHODOLOGY

The key audit objectives were to 1) evaluate Highway Division pre-award processes for Division Let Contracts and On-Call Purchase Order Contracts from the time of project funding release to project award for effectiveness of ensuring compliance with federal and state regulations and internal policies and procedures; 2) evaluate Highway Division pre-award processes for Limited Services Purchase Order Contracts from the time a consultant is selected to approval of the purchase order for effectiveness of ensuring compliance with internal policies and procedures and 3) Determine DBE and non-DBE minority business utilization on Division Let, On-call Purchase Order and Limited Services Purchase Order Contracts.

The following audit procedures were performed to achieve the key objectives:

- ❖ Interviewed personnel within the Chief Engineer's (CE) Office to gain an understanding of CE Office oversight regarding Division Let, On-Call Purchase Order and Limited Services Purchase Order Contracts.
- ❖ Reviewed internal policies and procedures, federal and state regulations.
- ❖ Surveyed 14 Highway Divisions using an internal control process questionnaire to determine each Division's processes and internal controls designed to ensure compliance with policies and procedures governing Division Let, On-Call Purchase Order and Limited Services Purchase Order Contracts.
- ❖ Performed walk-throughs with Divisions to document verifiable controls and procedures implemented.
- ❖ Selected a sample of Division Let, On-call Purchase Order and Limited Services Purchase Order Contracts and examined project documentation for each contract category.
- ❖ Extracted and analyzed data related to DBE and non-DBE minority business participation on Division Let, On-Call Purchase Order and Limited Services Purchase Order Contracts.

The audit scope included a review of processes and contracts awarded during the period of July 1, 2017 through June 30, 2019.

Due to the test nature, other inherent limitations of an audit and limitations of internal and management controls, this audit may not disclose all performance weaknesses or lack of compliance.

OIG conducted the audit in accordance with generally accepted government auditing standards issued by the Comptroller General of the United States. These standards require auditors plan and perform the audit to obtain sufficient, appropriate evidence to support audit findings and conclusions. An audit includes examining, on a test basis, evidence supporting the expression of an opinion on the areas under examination. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on the key audit objectives.

FINDINGS AND RECOMMENDATIONS

Division Let and On-Call Purchase Order Contracts

Background

Highway Division (Division) Let contracts are executed at the division level for transportation infrastructure construction or repair projects and for transportation infrastructure maintenance, excluding resurfacing, with a value of five million dollars (\$5,000,000) or less.¹ At least three informal bids must be solicited for these contracts and all contracts are awarded to the lowest responsible bidder. Contracts must be posted for advertisement at least 14 calendar days prior to the contract letting date if advertised publicly. The results of the bidding process must be published no later than three business days after the contract is awarded.

Methodology

Auditors reviewed applicable policies and procedures² in addition to governing state and federal regulations to gain an understanding of processes and controls related to the pre-award process for Division Let contracts. Auditors surveyed Divisions using an internal control process questionnaire to determine each Division's processes and internal controls designed to ensure compliance with policies and procedures governing the pre-award process executed at the division level. All Divisions indicated processes were in place to ensure compliance with policies and procedures.

After gaining an understanding of processes and controls, auditors selected a sample of 80 Division Let Contracts and 38 On-Call Purchase Order Contracts across the 14 Divisions to determine if processes were effective in ensuring compliance with governing policies and procedures. Audit tests were aligned as follows and focused on pre-award processes from the time of project funding release to execution of a contract:

- Project funding released prior to bid advertisement
- Preparation of project proposal and Engineer's Estimate
- Advertisement and Invitation to bid
- Bid opening and letting to award

While some Divisions designed internal controls (i.e. checklists) to ensure compliance with pre-award requirements, other Divisions have procedures in place with no such documented control verifications.

Finding 1: Project Funding Released Prior to Project Advertisement

Divisions must ensure project funding has been authorized and released prior to advertising for bids. Specifically, unique WBS numbers assigned to a project must be funded, authorized and released. This is evidenced by the WBS "User Status" as R-100 in SAP (transaction CJI3 or CJ20N). Division let projects are advertised on the Connect NCDOT website (Connect NCDOT).

Auditors noted three of fourteen Divisions had documented controls for verification of project funding authorization and release prior to advertisement.

Auditors verified project funding authorization and release prior to advertisement by confirming and comparing the date of R-100 WBS "User Status" to the date of project advertisement on Connect NCDOT and noted the following:

¹ North Carolina General Statute 136-28.1(b)

² Division Let Contract Guidance

Division Let (Sample 80): Seventy-five projects (94%) were properly advertised after funding was authorized and released. Five projects (6%) in five Divisions were advertised prior to funds being authorized and released. One project was federal funded, and four projects were state funded. In four of the five instances, Divisions did not have documented controls in place to ensure compliance. In one of the five instances, the Division used a contract checklist to ensure compliance; however, did not complete the “Verify Funds Released – Date of Action” action step on the checklist. Failure to ensure funds are authorized and released prior to advertisement jeopardizes Federal participation.

On-Call Purchase Order (Sample 38): Thirty-eight (100%) projects were properly advertised after funds were authorized and released.

Finding 2: Limits for Small Business Enterprise (SBE) Projects

Projects where the work performed is valued at \$500,000 or less may be let as a SBE project³.

On-Call Purchase Order (Sample 38): Auditors noted one project (3%) was let as a SBE project; however, the contract was awarded for an amount exceeding the \$500,000 limit. The project was state funded and therefore not in compliance with the state statute. This could potentially result in higher costs than necessary as other non-SBE bidders were restricted from bidding on the project.

Finding 3: Preparation of Engineer’s Estimate Prior to Bid Opening

Prior to advertising a project, Divisions must develop Plans, Specifications and Estimates. The Engineer’s Estimate (Estimate) is an estimate of project cost used for comparison of bids during the bid review and should be finalized prior to bid opening. The Estimate is generated after identification of pay items necessary to perform the required work and quantities. In accordance with governing regulations, projects with an estimate value exceeding \$5 million should not be advertised for bid by the Division.

Auditors noted four of fourteen Divisions had documented checklists or memo correspondence to ensure projects with estimated costs exceeding \$5 million are not advertised at the Division level. Of those four Divisions, three Divisions also had controls to ensure the Estimate was reviewed for accuracy and completeness.

Auditors obtained Estimates to verify 1) existence of the Estimate, 2) evidence of Estimate review to confirm completeness, 3) the Estimate did not exceed \$5 million and 4) the Estimate was prepared prior to bid opening. Auditors noted the following⁴:

Division Let (Sample 80): Seventy-seven (96%) projects had supporting Estimates with evidence of review and the Estimates did not exceed \$5 million. There was one instance (1%) in which a Division was unable to provide the Estimate and therefore, auditors were unable to complete testing procedures for that sample selection. Although auditors were unable to verify existence of the Estimate, auditors verified an estimate amount listed on the Bid Summary and Bid Review reports which were completed during bid opening and review. Therefore, auditors reasonably concluded the Estimate existed and was prepared prior to bid opening and did not exceed \$5

³ North Carolina General Statute 136-28.10.

⁴ Auditors also identified instances in which the Estimate was not dated as element of completeness. Estimates should be signed and dated to ensure completeness and as evidence to document and track revisions which may occur during the pre-award process.

million. Auditors were able to reasonably conclude all estimates were prepared prior to bid opening.

Three projects (4%) in two Divisions had supporting Estimates, without evidence of review, and the Estimates did not exceed \$5 million. One Division (one instance) had no documented controls in place to ensure Estimates were reviewed prior to bid opening date. One Division (two instances) implemented controls by use of memo correspondence to evidence review. However, the control was not implemented for the sample item selected.

On-Call Purchase Order (Sample 38): Thirty-two projects (84%) had supporting Estimates with evidence of review and the Estimates did not exceed \$5 million. Six projects (16%) in one Division did not have supporting Estimates and therefore, auditors were unable to complete testing procedures for those sample selections. Auditors were able to reasonably conclude thirty-two project Estimates were prepared prior to bid opening based on reviews of various bid documents.

Failure to prepare an Estimate for comparison during the review of bids increases the risk the Department may incur higher projects costs than necessary.

Finding 4: Project Advertised for Required Duration of Time

Federal and State regulations require projects to be advertised for a minimum of three and two weeks, respectively⁵. However, internal policies and procedures require both federal and state funded projects be advertised for a minimum of 3 weeks⁶. Divisions advertise projects using the Notice to Prospective Bidder (NTB) document which is posted to Connect NCDOT. The NTB⁷ contains the 1) contract identification number and description of the project to be let; 2) general summary of the items and approximate quantities of work to be performed (identified in the contract proposal); 3) time and place for the public opening and reading of the bids; and 4) information concerning the cost and availability of the bid documents.

Auditors noted five of fourteen Divisions used checklists or spreadsheets to document the time projects were advertised. Divisions did not have documented controls in place to ensure the NTB and proposal contained all requirement elements.

Auditors calculated the time between the date of advertisement and bid opening to determine whether projects were advertised for the required time. Auditors verified existence and completeness of NTBs to confirm all required components were included.

Auditors noted the following:

Advertisement

Division Let (Sample 80): Seventy-two projects (90%) were properly advertised for the required duration of time. Seven projects (9%) in five Divisions were not advertised for the required time. Six projects were state funded, and one project was federal funded. One Division (three of seven instances) used a contract log spreadsheet as an internal control to record the advertisement date; however, the date recorded on the log was not the date in which the NTB was made publicly available on Connect NCDOT. Four Divisions (four of seven instances) did not have documented

⁵ General Statute 136-28.1 (b), 23 CFR 635.112(b), as applicable

⁶ CE Electronic Bidding – Division Let Projects Memo issued on May 13, 2016

⁷ 19A NCAC 02D.0803

controls in place to ensure compliance with advertisement time requirements. There was one instance (1%) in which the NTB was not accessible on Connect NCDOT. Auditors obtained the NTB from the Division and noted it was dated three weeks prior to bid opening date. However, there is inconclusive evidence the NTB was advertised for the required time.

On-Call Purchase Order (Sample 38): Thirty-one projects (82%) were properly advertised for the required time. Seven projects (18%) in four Divisions were not advertised for the required time. In one instance the project was not advertised for the minimum period of two weeks as required by State regulations. One Division (one of seven instances) used a project spreadsheet as an internal control to record the advertisement date. However, the date recorded on the spreadsheet was not the date in which the NTB was made publicly available on Connect NCDOT. Three Divisions (six of seven instances) did not have documented controls in place to ensure compliance with advertisement time requirements.

NTB Documents

Division Let (Sample 80): Eighty projects (100%) had evidence of NTB documents. NTB documents for twenty-five projects (31%) included the required components. NTB documents for fifty-five projects (69%) in ten divisions lacked a variation of required components such as time and place for bid opening and information concerning cost and availability of bid documents⁸.

On-Call Purchase Order (Sample 38): Thirty-eight projects (100%) had evidence of NTB documents. NTB documents for thirty-six projects (95%) included the required components. NTB documents for two projects (5%) in two divisions lacked cost or cost and availability of bid documents.

Failure to ensure projects are advertised for the minimum amount of time increases the risk of awarding a contract for a higher amount than necessary as it limits the time for which all qualified bidders are able to prepare and submit bids. In addition, it jeopardizes federal participation on federal funded projects. Lack of inclusion of all required components in the NTB impacts having full transparency when advertising projects.

Finding 5: Prequalified Bidders or PO Prime Contractor

Bidders must be prequalified as a Bidder or PO Prime Contractor⁹ to bid on Division Let, non-SBE projects.

Auditors noted six of fourteen Divisions use the Bid Review and Award Task list checklist or other checklists as a control to ensure all bidders are pre-qualified.

Auditors verified the contractors' prequalification status at the bid letting date to determine if awarded contractors were prequalified and noted the following:

Division Let (Sample 80): Eighty projects (100%) were awarded to prequalified bidders or PO Prime contractors.

On-Call Purchase Order (Sample 38): Thirty-seven projects (97%) were awarded to prequalified "Bidder" or "PO Prime" contractors. There was one (3%) instance in which a Division awarded a

⁸ Auditors noted other miscellaneous errors and omissions in proposal documents such as no inclusion of the table contents, transposed contract number, and incorrect year related to the date and time of bid opening.

⁹ 19A NCAC 02D.0801, 23 CFR 635.110 and 48 CFR 9.4

subcontractor a purchase order contract. The subcontractor was not prequalified as a Bidder or PO Prime. The Division has a checklist in place; however, the checklist does not include an action item for verifying prequalification status.

Failure to ensure contractors are prequalified increases the risk the Department may enter into a contract with a contractor who is unable to perform the work required to complete the project. This could impact project delivery and result in unnecessary costs to the Department.

Finding 6: Bid Opening Requirements

The Bid Opening Roster should be completed to document attendance at bid opening. Bidders and Division employees should sign the Bid Opening Roster. At least two Division employees are to be present at the bid opening. One employee opens all sealed paper bids or downloads electronic bids and announces each bidder's name, total bid amount and the Estimate. The second employee records each bidder's name and total bid amount and Estimate on the Bid Summary Sheet. Division employees sign the Bid Summary sheet. The Bid Tabulation is then printed from Trns*port.

Auditors noted six of fourteen Divisions used the Bid Review and Award checklist or other checklists to document compliance with bid opening procedures.

Auditors obtained and reviewed Bid Opening Rosters and Bid Summary forms to verify existence and completeness. Specifically, auditors reviewed the documents to confirm the following: contract number, date and time of bid opening, contractor names and bid amounts, signatures of attendees and Estimate amount. Auditors also confirmed the bidders listed on the Bid Summary and Bid Tabulation were the same as evidence bids were not accepted after bid opening.

Auditors noted the following:

Division Let (Sample 80): Bid Opening Rosters were completed for fifty-nine projects (74%). Bid Opening Rosters were not completed for twenty-one projects (26%) in eight divisions. Two of the eight Divisions had checklists in place to ensure compliance with components of bid opening. However, the checklists did not include an action item for completing the Bid Opening Roster.

Seventy-four projects (93%) included completed Bid Summary forms. Bid Summary forms for five projects (6%) in four Divisions did not include all required information such as the Estimate amount or signature of Division employees. One project (1%) in a Division did not have a Bid Summary form and the Bid Opening Roster indicated there were no attendees.

On-Call Purchase Order (Sample 38): Bid Opening Rosters were completed for twenty-one projects (55%). Bid Opening Rosters were not completed for seventeen projects (45%) in six Divisions. Two of six Divisions had checklists in place to ensure compliance with components of bid opening. However, the checklists did not include an action item for completing the Bid Opening Roster.

As a result, the Divisions were not in compliance with internal policies and procedures which compromises transparency and completeness of information supporting the administration of projects.

Finding 7: Bid Committee Review of Bids

The Bid Review Committee, comprised of at least three DOT employees, receives the Bid Tabulation form and bid summary information. The Bid Review Committee reviews the documents and all bids, ensures the award is not more than 10% or not less than 15% of the

Estimate and awards the contract to the lowest responsible bidder. The Bid Review Committee documents its review of bid documents on the Bid Review Sheet.

Auditors obtained the Bid Review forms to verify existence and completeness including whether the lowest responsible bidder was selected and whether the bid selected was more than 10% or less than 15% of the Estimate. Auditors verified the Bid Review Committee's documented justification if bids selected were more than 10% or less than 15% of the Estimate.

Auditors noted the following:

Division Let (Sample 80): Fifty-two projects (65%) had Bid Review Committees and documented bid review forms. Twenty-two projects (28%) in four Divisions were awarded to the lowest bidder and the bids were within acceptable ranges. Those Divisions did not have a Bid Review Committee; however, the Divisions provided email documentation supporting project approval discussions. Four projects (5%) in one Division had a Bid Review Committee, however, there was no documented evidence of the bid review. Two projects (3%) in one Division had a Bid Review Committee and documented bid review form; however, no justification was documented for awarding the contract for less than 15% of the Estimate.

On-Call Purchase Order (Sample 38): Fifteen projects (39%) had Bid Review Committees and documented bid review forms. Fifteen projects (39%) in four Divisions were awarded to the lowest bidder and the bids were within acceptable ranges. Of the fifteen projects, Divisions provided email documentation supporting project approval discussions. Eight projects (21%) in six Divisions had a Bid Review Committee and Bid Review forms; however, did not document a justification for awarding the contract for less than 15% of the Estimate or more than 10% of the Estimate.

Failure to document the complete results of the bid review process impacts transparency and increases the risk the Department may incur higher projects costs than necessary.

Finding 8: Good Faith Effort

In accordance with governing policies and procedures,¹⁰ if the apparent low bidder does not meet advertised MBE/WBE/DBE goals, the bidder must demonstrate adequate good faith efforts were made to reach the specific goals. For state funded projects, DOT will allow bidders to use banked MBE/WBE credits¹¹ as part of the good faith effort.

Auditors obtained a list of projects in which the low bidder did not meet the advertised MBE/WBE/DBE goals and reviewed a sample of 11 projects to determine implementation and compliance with governing policies and procedures. Audit tests were aligned as follows:

- Bidder submission and Division receipt of good faith effort documentation
- Division review of good faith effort documentation prior to contract award

Auditors noted a process weakness when requesting the population of projects for which a good faith effort was required. Divisions were surveyed and requested to provide the list of projects as there was no centralized listing maintained.

¹⁰ Division Let Contract Guidance manual, 49 CFR §26.53 (federally funded projects; applies to DBE contract goals), 01 NCAC 30I .0101 (state funded projects; applies to MBE/WBE contract goals)

¹¹ In accordance with standard contract provisions, bidders are granted credits when the committed MBE/WBE participation exceeds the combined MBE/WBE goal by \$1,000. These accumulated credits are placed on deposit for future use by the bidder for a period not to exceed 24 months.

Bidder Submission and Division Receipt

Bidders must submit and the Division must receive good faith effort documentation no later than 2:00 p.m. on the fifth calendar day following opening of bids. If the fifth day falls on Saturday, Sunday or an official state holiday, the documentation must be received no later than 10:00 a.m. on the next official state business day.

Auditors verified existence of the good faith effort documentation and determined if the documentation was received timely by the Division. Auditors noted the following:

- Good faith effort documentation was provided for all sampled projects.
- Two instances (18%) in one Division in which the documentation was not received timely. The documents were received on the sixth and eight calendar day respectively following the bid opening date. One instance was for a state funded project and one instance was for a federal funded project.
- Four instances (36%) across four Divisions in which auditors were not able to test timeliness as there was no evidence supporting when the documentation was received by the Division. Auditors noted dates on the good faith efforts submitted by vendors; however, this date does not provide any assurance as to date received by the Divisions.

Division Review and Approval of Good Faith Efforts

Upon receipt of the good faith effort documentation, the Goal Compliance Committee reviews and evaluates the documentation. The Goal Compliance Committee completes a Good Faith Effort Worksheet to evidence review and approval of the documentation. The Good Faith Worksheet is aligned with the contract provisions. If approved, the Goal Compliance Committee informs the Bid Review Committee of the approval and the project can move forward to award.

Auditors verified existence and completeness of the Good Faith Effort worksheet and noted the following:

- Three instances (27%) in three Divisions in which good faith efforts were approved; however, there was no Good Faith Effort Worksheet to support the decision. Emails were provided as evidence of the approval decision; however, there was no justification for the approval. One project was state funded, and one project was federal funded. There was no documented discussion which aligned with the categories identified on the Good Faith Effort Worksheet.
- Six instances (55%) in five Divisions in which good faith efforts were approved; the Good Faith Effort Worksheet was completed; however, justifications were limited or nonexistent. Three projects were state funded, and one project was federal funded.
- Five instances (45%) in four Divisions in which good faith efforts were approved; however, the Good Faith Worksheet did not contain signatures of committee members as evidence of approval. Three projects were federal funded, and two projects were state funded. In one instance (state funded project), it appears the bid review was completed prior to completion of the good faith effort process.

Due to the lack of documentation and justification for decisions, there is limited assurance good faith efforts were adequately evaluated.

Finding 9: Publish Bid Results Timely

The results of the bidding process must be published within three business days.¹² The award letter and bid tabulation should be published on Connect NCDOT within the three days.

Four Divisions had a documented control in place to ensure the results were published on Connect NCDOT within the three days.

Auditors calculated the time between the date of advertisement and bid opening to determine whether projects were advertised for the required time.

Auditors verified the date of the award letter and verified the date the bid tabulation was published on Connect NCDOT to determine if documents were uploaded within three business days of award.

Auditors noted the following:

Division Let (Sample 80): Bidding results were published for seventy-nine projects (99%) within the required three days. The award letter for one project (1%) in a Division was not uploaded and accessible on Connect NCDOT. The Division did not have documented controls in place to ensure bid results and the award were uploaded timely.

On-Call Purchase Order (Sample 38): Bidding results were published for thirty-four projects (89%) within the required three days. The Bid Tabulation for four projects (11%) in two Divisions was not uploaded timely¹³ to Connect NCDOT. One Division (three instances) used a contract checklist which identified action items for uploading bid results. However, the checklist did not include dates or verbiage related to uploading bid results within three days.

Failure to publish bids results in a timely manner impacts transparency in reporting evidence supporting awards to the lowest responsible bidder.

Recommendations:

To strengthen processes and internal controls, and to promote consistency in Division operations, we recommend the following:

- 1) Chief Engineer's Office should develop a comprehensive checklist or similar platform to capture federal and state pre-award requirements and administer to Divisions. The checklist should include signature and date for each item for accountability and tracking. The checklist should address the following areas to ensure consistency and compliance:
 - Verification of project funding release date
 - Completion and review of the Estimates
 - Division Let limits for project advertisement
 - Completeness of Notice to Prospective Bidder
 - Completeness of proposal components
 - Advertisement time requirements
 - Prequalification of bidders
 - Completion of standard Bid Review forms

¹² General Statute 136-28.1 (b)

¹³ The Bid Tabulation forms were uploaded between 17 and 48 days after the date of the award letter.

- Posting bid results
- 2) When developing the comprehensive checklist, leverage from other Divisions which are currently using a comprehensive guide to ensure compliance with pre-award requirements.
 - 3) Update the Division Let Guidance to reflect inclusion of the developed comprehensive checklist.
 - 4) Ensure all Divisions implement the Bid Review Committee and complete the associated forms for review by the Committee. Ensure justification is documented on the Bid Review Sheet if award is greater than 10% or less than 15% of the Estimate.
 - 5) Evaluate processes for any further opportunities to standardize forms.
 - 6) Ensure the APLUS is updated regularly to include all required elements.
 - 7) Divisions should ensure good faith effort submissions are submitted timely in accordance with contract provisions. Submissions delivered in person or by mail to Divisions should be date and time-stamped and logged to evidence compliance with time requirements. Good faith effort email submissions should be retained as evidence documentation is received timely.
 - 8) Use of the Good Faith Effort Worksheet to document the review of good faith effort submissions. The Good Faith Effort Worksheet should be completed, signed and dated by all participating committee members. Justification should be documented for all criteria with sufficient level of detail.

Division of Highways Response

The Division of Highways agrees with the findings of the audit and the recommendations. The findings will be addressed with Division staff by January 31, 2021. A corrective action plan based on the recommendations will be developed and completed by March 31, 2021.

Updated operating procedures for GFE reviews on Division Let projects were issued by the Chief Engineer in a memorandum dated August 10, 2020. These updated procedures will address several of the issues identified in the audit. A corrective action plan based on the audit recommendations will be developed and completed by March 31, 2021 to address those findings not covered in the updated procedures.

Limited Services Purchase Order Contracts

Background

Limited Services Contracts (LSCs) are executed when procuring professional or specialized service contracts in connection with the planning, design, maintenance, repair and construction of transportation infrastructure¹⁴. These contracts are designed as “as-needed basis” contracts and during the contract period, a scope of services and costs are negotiated with firms for the performance of task orders as defined by the agreement. The Professional Services Management Unit (PSMU) within the Division of Technical Services is responsible for the advertisement, selection, contract preparation and execution of professional or specialized service contracts between DOT and firms providing those services once the need for such is identified by the business units. Divisions and business units are responsible for negotiating and executing purchase orders (task orders) under the LSCs.

Methodology

Auditors reviewed applicable policies and procedures governing the administration of limited services contracts to gain an understanding of processes and controls. Auditors surveyed Divisions by use of an internal control process questionnaire to determine each Division’s processes and internal controls designed to ensure compliance with policies and procedures governing the negotiation of purchase orders (task orders) assigned under LSCs¹⁵. All Divisions indicated processes were in place to ensure compliance with policies and procedures.

After gaining an understanding of the processes and controls, auditors selected a sample of 38 Limited Services Purchase Order contracts across Divisions to determine implementation of and compliance with governing policies and procedures. Audit tests were aligned as follows and focused primarily on processes occurring at the Division level after a firm is selected by the Division for the task order and scope of work is determined:

- Preparation and review of independent DOT manday and classification estimates
- Solicitation and review of firm manday and cost estimates
- Negotiation of firm cost estimates within acceptable tolerances
- Preparation, review and approval of supporting purchasing order documents to include Notice to Proceed, Subconsultant forms, Certification Memo, Cost Comparison sheet, final DOT and firm estimates

Finding 10: Preparation of Independent DOT and Firm Estimates

After the scope of work is finalized, the Division prepares an independent in-house (DOT) manday and classification estimate for the task order using the NCDOT Scope and Manday Estimate Form¹⁶. The Division concurrently solicits a manday and cost estimate from the selected firm and the firm prepares and submits an estimate using the same NCDOT provided form. The DOT estimate is used when evaluating reasonableness of the selected firm’s cost proposal.

After Divisions receive the firm’s estimate, mandays are negotiated with the firm to the extent the firm mandays exceed DOT tolerances. After negotiation, a final DOT and firm estimate is

¹⁴ General Statute 136-28.1(f), 23 CFR 172, as applicable.

¹⁵ Policies and Procedures for Procurement and Administration of Major Professional or Specialized Service Contracts and Memorandum dated January 24, 2018 to Division Engineers and Business Unit Heads providing updated procedures for professional service contract negotiations.

¹⁶ The NCDOT Scope and Manday Estimate Form is used for initial, revised and final estimates. The final estimate is denoted as “1” in the appropriate section on the form.

prepared. The Division also completes a Cost Comparison sheet which contains all negotiated amounts. In accordance with governing procedures, in completing the Cost Comparison sheet, Divisions are certifying the DOT estimate was completed independent of the firm's estimate. The final DOT and firm estimates¹⁷ and Cost Comparison sheet are included in the supporting purchase order documentation uploaded to SAP for approval.

Auditors verified existence and completeness of final DOT and firm estimates and verified existence and completeness of Cost Comparison sheets for independent estimate certifications¹⁸.

Auditors noted the following:

DOT-Prepared Estimates:

- Estimates were properly included in the supporting documentation for all sampled purchase orders.
- Three instances (8%) in one Division in which the preparer listed on the DOT estimate was the same preparer listed on the selected firm's estimate. However, in each instance, the Cost Comparison sheet was completed certifying completion of an independent DOT estimate. As a result, there was no assurance the firm's estimates were evaluated for reasonableness without an independently prepared estimate by which to compare. In addition, this potentially impacts reasonableness of costs incurred.
- Four instances (11%) across four Divisions in which the estimate did not include one or more of the following to support completeness: preparation date, preparer or reviewer. While the estimates were approved, partial completion of documents weakens reliance on internal controls such as documented signatures evidencing review and related segregation of duties between preparing and reviewing documents.
- Estimates were not consistently marked as final estimates although they were included in SAP for approval as final estimates based on the amounts included on the Cost Comparison sheets. As the final estimate represents the final negotiated amounts, it should be noted as such to ensure proper version control.

Firm-Prepared Estimates:

- One instance (3%) in one Division in which the preparer listed on the firm estimate was a Division employee. However, the Cost Comparison Sheet was completed certifying completion of independent estimates. As a result, there was no assurance of independence in preparing estimates which potentially impacts reasonableness of costs incurred.
- Estimates were not consistently marked as final estimates although they were included in SAP for approval as final estimates based on the amounts included on the Cost Comparison sheet. As the final estimate represents the final negotiated amounts, it should be noted as such to ensure proper version control.

¹⁷ The final estimate form includes the initial and final manday and cost amounts.

¹⁸ Documentation was extracted from SAP as this includes documentation reviewed by the Division and PSMU.

Cost Comparison Sheets:

- Two instances (5%) across two Divisions in which Cost Comparison Sheets were not included in the purchase order documentation uploaded to SAP for approval. Upon auditor request, the Division provided the information; however, PSMU approved the transaction in SAP without inclusion of the documentation. As a result, there was no assurance independent preparation of estimates was verified beyond the Division level.
- Two instances (5%) in one Division in which the Cost Comparison sheet was incomplete as to the reviewer of the document. While the amounts on the estimates agreed to the Cost Comparison sheet, partial completion of documents weakens reliance on internal controls such as documented signatures evidencing review and related segregation of duties between preparing and reviewing documents.
- One instance (3%) in one Division in which the same individual was listed as the preparer and approver of the document. As such, this weakens internal controls related to segregation of duties.

Although processes and controls implemented are designed to ensure compliance with policies and procedures, improvements are needed to ensure independent estimates are prepared, documented and certifications are properly completed. Improvements are also needed in the SAP workflow approval processes to ensure supporting documentation is verified for compliance prior to approval.

Finding 11: Estimates within Acceptable Thresholds

Firm manday estimates must be within 5% of DOT's manday estimate by discipline. Divisions may exceed this limit up to 10% of mandays with approval of the Business Unit Head or Division Engineer, evidenced by co-signatures on the Cost Certification Memo. Any firm manday estimate exceeding 10% requires approval of the Director of Technical Services. After completion of final estimates, the Division completes and signs a Cost Comparison sheet which contains all negotiated amounts and corresponding manday and cost calculation percentages. In accordance with governing procedures, by signing the Cost Comparison sheet, the Division confirms the DOT and firm estimates are within the prescribed thresholds for mandays.

Auditors verified existence and completeness of Cost Comparison sheets to determine if mandays were within prescribed tolerances by discipline and approvals were documented to the extent mandays exceeded tolerances. Auditors noted the following:

- Cost Comparison sheets were properly included in the supporting documentation for all sampled purchase orders.
- One instance (3%) in which the grand total cost on the final DOT estimate did not agree to the grand total cost on the Cost Comparison sheet. The final mandays; however, did agree. The estimate, although included in SAP as the final estimate, was not marked as final and the cost amounts listed in the "Initial" section of the form does not agree to the Cost Comparison sheet. No amounts were included in the "Final" section. Auditors also noted the selected firm as the preparer of the DOT estimate (see related finding under "DOT-Prepared Estimates") and a statement was included in the Notice to Proceed indicating the grand totals were verified. PSMU approved the transaction in SAP as presented which weakens the approval controls.

Although processes and controls exist to ensure estimates are within DOT tolerances, improvements are needed in the SAP workflow approval processes to ensure supporting documentation is verified for compliance prior to approval.

Finding 12: Review of Final Negotiated Cost Proposal

After completion of the Cost Comparison sheet, Divisions complete a Cost Certification Memo certifying 1) the negotiated cost proposal has been reviewed and is consistent with the appropriate LSC's approved salaries and rates; 2) accuracy of cost proposal grand total; 3) total mandays and fee for engineering services are reasonable and acceptable with the Cost Comparison sheet attached for review and 4) the purchase order is ready for review and approval.

Auditors verified existence and completeness of the Cost Certification memo and noted the following:

- Cost Certification Memos were not included for all sampled purchase orders. Eight purchase orders (21%) in seven Divisions were not supported with Cost Certification Memos. Two Divisions, as a standard process, did not complete the Cost Certification memo. Rather, the Divisions indicated reliance on the certification statement included in the signed Notice to Proceed (NTP) to satisfy the requirement of completing the Cost Certification memo. This impacted nine purchase orders (24%) included in the sample. All transactions were approved by PSMU without inclusion of the required document.

Auditors noted although there is duplication of statements in the NTP and what is required in the Cost Certification memo; reliance on the NTP statements does not meet the full requirement of the Cost Certification memo. The Cost Certification memo supports certification of the above-mentioned four areas. The NTP does not include any references to certifying total mandays and fees for engineering services are reasonable and acceptable and makes no references to the readiness of the purchase order for review and approval.

Finding 13: Notice to Proceed and Subconsultant RS-2 Forms

After completion of the above processes, Divisions issue an official NTP letter and Subconsultant RS-2 forms to the selected firm for signature. Upon receiving the forms from the firm, the signed documents are included in the supporting purchase order documentation submitted in SAP for review and approval.

Auditors verified existence and completeness of NTP letters and Subconsultant RS-2 form. In addition, to the extent subconsultants were listed on the RS-2 form, auditors reviewed the LSC agreement to ensure the subconsultants were approved by DOT. Auditors noted the following:

- NTP letters and Subconsultant RS-2 forms were included in the supporting documentation for all sampled purchase orders.
- Subconsultants listed on RS-2 forms were approved by DOT without exception.

Recommendations:

To strengthen processes and internal controls, and to promote consistency in Division operations, we recommend the following:

- 1) Chief Engineer's Office should oversee the development of a comprehensive checklist or similar platform to capture requirements for each phase of the Limited Services purchase order process and administer to Divisions. Consideration should be given for inclusion of the

checklist in SAP with the supporting purchase order documentation. The checklist should include signature and date for each item for accountability and tracking.

- 2) To the extent DOT estimates are prepared by consultants with appropriate segregation of duties; implement processes to ensure all estimate forms are completed with all required information, which includes dates, preparer and approver.
- 3) Include specific certification statements on the Cost Comparison sheet. Statements should reference completion of independent estimates, negotiations were fair and equitable (if negotiations were needed) and confirm the NCDOT and firm estimates are within the above prescribed tolerances. As currently presented, certifications are presumed complete by completion of the Cost Comparison sheet.
- 4) Update Cost Comparison Sheet form to include title of preparer and reviewer for increased accountability.
- 5) Evaluate workflow approval processes at the PSMU level to ensure a comprehensive level of review is performed.

Division of Highways Response

The Division of Highways agrees with the findings of the audit and the recommendations. The findings will be addressed with Division staff by January 31, 2021. A corrective action plan based on the recommendations will be developed and completed by March 31, 2021.

DBE and Non-DBE Minority Participation Analysis

In conjunction with the audit, OIG's Internal Audit Unit was requested to review and provide data on utilization of minority businesses in contracts. Following in Attachment I is an analysis DBE and non-DBE minority business utilization on Division Let, Limited Services Purchase Order Contracts and On-call Purchase Order Contracts.

Attachment I									
DBE and Non-Minority Business Utilization of Minority Businesses									
Division Let, Limited Services Purchase Order, On-Call Purchase Orders Contracts									
For the Period July 1, 2018 through June 30, 2019									
	Note 1		Note 1			Note 1		Note 1	
	Division Let - DBE Certified		Division Let - Noncertified			Limited Seviles PO		On-Call PO	
	Prime		Prime			Prime		Prime	
Prime Contracts Awarded	619,841,554.68		619,841,554.68		Total Contracts Amount Awarded	270,866,972.65		255,056,331.67	
Number Prime Contracts Awarded	431		431		Total Number Contracts Awarded	529		1,305	
Prime Contacts Awarded	24,860,138.09		24,647,631.33		Total Contracts Amount Awarded to Ethnic/Gender Minority / % Awarded	45,201,977.36	16.7%	55,103,720.41	21.6%
Less: Prime Contracts Awarded - Subcontracted	2,845,897.86		4,366,294.38						
Net Prime Contracts Awarded/ % Prime Contracts Awarded	22,014,240.23	3.6%	20,281,336.95	3.3%					
Number Prime Contracts Awarded / % Number Prime Contracts Awarded	34	7.9%	26	6.0%	Total Number Contracts Awarded to Ethnic/Gender Minority / % Number Contracts Awarded	109	20.6%	359	27.5%
Ethnic/Gender Minority		% Total		% Total	Ethnic/Gender Minority		% Total		% Total
Asian/Pacific American - Female	-	-	-	0.0%	Asian/Pacific American - Female	-	0.0%	799,445.00	1.5%
Asian/Pacific American - Male	1,515,950.00	6.9%	-	0.0%	Asian/Pacific American - Male	-	0.0%	-	0.0%
Black American - Female	375,800.00	1.7%	-	0.0%	Black American - Female	-	0.0%	1,332,545.80	2.4%
Black American - Male	697,706.00	3.2%	-	0.0%	Black American - Male	1,601,382.69	3.5%	8,640,343.97	15.7%
Black American - Unknown	943,795.10	4.3%	-	0.0%	Black American - Unknown	-	0.0%	164,472.00	0.3%
Caucasian American - Female	18,480,989.13	84.0%	19,510,653.83	96.2%	Caucasian American - Female	41,098,028.70	90.9%	39,826,486.18	72.3%
Hispanic American - Female	-	-	151,458.50	0.7%	Hispanic American - Female	-	0.0%	790,963.00	1.4%
Hispanic American - Male	-	-	-	0.0%	Hispanic American - Male	2,222,415.12	4.9%	94,459.46	0.2%
Hispanic American - Unknown	-	-	-	0.0%	Hispanic American - Unknown	-	0.0%	1,088,103.40	2.0%
Native American - Female	-	-	-	0.0%	Native American - Female	-	0.0%	8,254.70	0.0%
Native American - Male	-	-	619,224.62	3.1%	Native American - Male	-	0.0%	2,104,946.90	3.8%
Subcontinent Asian American - Male	-	-	-	0.0%	Subcontinent Asian American - Male	280,150.85	0.6%	253,700.00	0.5%
Total Contracts Awarded	22,014,240.23	100.0%	20,281,336.95	100.0%		45,201,977.36	100.0%	55,103,720.41	100.0%
Ethnic/Gender Minority		% Total		% Total	Ethnic/Gender Minority		% Total		% Total
Asian/Pacific American - Female	-	0.0%	-	0.0%	Asian/Pacific American - Female	-	0.0%	8	2.2%
Asian/Pacific American - Male	1	2.9%	-	0.0%	Asian/Pacific American - Male	-	0.0%	-	0.0%
Black American - Female	2	5.9%	-	0.0%	Black American - Female	-	0.0%	9	2.5%
Black American - Male	2	5.9%	-	0.0%	Black American - Male	13	11.9%	84	23.4%
Black American - Unknown	4	11.8%	-	0.0%	Black American - Unknown	-	0.0%	2	0.6%
Caucasian American - Female	25	73.5%	24.00	92.3%	Caucasian American - Female	85	78.0%	209	58.2%
Hispanic American - Female	-	0.0%	1.00	3.8%	Hispanic American - Female	-	0.0%	5	1.4%
Hispanic American - Male	-	0.0%	-	0.0%	Hispanic American - Male	10	9.2%	4	1.1%
Hispanic American - Unknown	-	0.0%	-	0.0%	Hispanic American - Unknown	-	0.0%	4	1.1%

DBE and Non-Minority Business Utilization of Minority Businesses									
Division Let, Limited Services Purchase Order, On-Call Purchase Orders Contracts									
For the Period July 1, 2018 through June 30, 2019									
Native American - Female	-	0.0%	-	0.0%	Native American - Female	0	0.0%	6	1.7%
Native American - Male	-	0.0%	1.00	3.8%	Native American - Male	-	0.0%	26	7.2%
Subcontinent Asian American - Male	-	0.0%	-	0.0%	Subcontinent Asian American - Male	1	0.9%	2	0.6%
Total Number Contracts Awarded	34	100.0%	26	100.0%		109	100.0%	359	100.0%
	Note 1		Note 1						
	Subcontractors		Subcontractors						
	Dlet DBE Certified		Dlet Non-DBE Minority						
Subcontracts Awarded	162,978,534.91		162,978,534.91						
Add: Net Adjustments related to PY awards	1,895,659.46		1,895,659.46						
Net Subcontracts Amount Awarded	164,874,194.37		164,874,194.37						
Total Number Subcontracts Awarded	2,437.00		2,437.00						
Subcontracts Awarded	49,053,919.68		19,595,194.06						
Add: Net Adjustments related to PY awards	619,763.17		228,763.25						
Net Subcontracts Awarded / % Subcontracts Awarded	49,673,682.85	30.1%	19,823,957.31	12%					
Total Number Contracts Awarded / % Number Contracts Awarded	1,062	43.6%	311	12.8%					
		% Total		% Total					
Asian/Pacific American - Male	335,150.00	0.7%	-	0.0%					
Black American - Female	74,778.55	0.2%	157,296.10	0.8%					
Black American - Male	6,885,262.01	13.9%	15,010.00	0.1%					
Caucasian American - Female	37,032,140.03	74.6%	18,781,680.10	94.7%					
Hispanic American - Female	721,737.25	1.5%	-	0.0%					
Hispanic American - Male	2,526,527.72	5.1%	272,515.00	1.4%					
Hispanic American - Unknown		0.0%	211,999.75	1.1%					
Native American - Female	1,136,752.24	2.3%	164,072.00	0.8%					
Native American - Male	546,935.05	1.1%	221,384.36	1.1%					
Subcontinent Asian American - Male	414,400.00	0.8%	-	0.0%					
Total Contracts Awarded	49,673,682.85	100.0%	19,823,957.31	100.0%					
		% Total		% Total					
Asian/Pacific American - Male	7	0.7%	-	0.0%					
Black American - Female	7	0.7%	4	1.3%					
Black American - Male	189	17.8%	1	0.3%					
Caucasian American - Female	713	67.1%	284	91.3%					
Hispanic American - Female	14	1.3%	-	0.0%					

DBE and Non-Minority Business Utilization of Minority Businesses									
Division Let, Limited Services Purchase Order, On-Call Purchase Orders Contracts									
For the Period July 1, 2018 through June 30, 2019									
Hispanic American - Male	56	5.3%	9	2.9%					
Hispanic American - Unknown	-	0.0%	2	0.6%					
Native American - Female	40	3.8%	7	2.3%					
Native American - Male	32	3.0%	4	1.3%					
Subcontinent Asian American - Male	4	0.4%	-	0.0%					
Total Number Contracts Awarded	1,062	100%	311	100.0%					
Note 1 - Includes new contract awards and amount at time of award. Amount does not include contract adjustments, supplementals or contracts awarded in a prior year and renewed in subsequent year(s).									
Data Sources: SAP (Uniform Report-Award Details), SAP (Transaction code ME2N)									