

TABLE OF CONTENTS

CHAPTER 6	Construction Administration
6.1	PURPOSE..... 1
6.2	UTILITIES 1
6.3	COST ESTIMATE..... 2
6.4	COMMERCIAL ENTRANCES..... 3
6.4.1	Commercial Entrances - Application Process 3
6.4.2	Commercial Entrances - Notice to Proceed (NTP)..... 4
6.4.2.1	Temporary Entrance Permits..... 4
6.4.3	Commercial Entrances - Inspection and Acceptance 5
6.4.4	Commercial Entrances - Maintenance 6
6.5	SUBDIVISION STREETS..... 7
6.5.1	Subdivision Streets - Application Process 7
6.5.2	Subdivision Streets - Notice to Proceed (NTP)..... 8
6.5.2.1	Temporary Construction Permits 9
6.5.3	Subdivision Streets - Inspection and Acceptance 9
A.	One-hundred percent security for the cost to complete the collector street. 11
B.	A letter to the District Office requesting acceptance of the submitted streets. 11
6.5.3.1	Road Number Assignment 11
6.5.4	Subdivision Streets - Maintenance..... 11
6.6	INDUSTRIAL STREETS..... 12
6.6.1	Industrial Streets - Application Process 12
6.6.2	Industrial Streets - Notice to Proceed (NTP) 12
6.6.3	Industrial Streets - Inspection and Acceptance 12
6.6.4	Industrial Streets - Maintenance 14
6.7	OFF-SITE IMPROVEMENTS (PUBLIC ROAD CONSTRUCTION)..... 15
6.7.1	Off-site Improvements - Application Process..... 15
6.7.2	Off-site Improvements - Notice to Proceed (NTP)..... 15
6.7.3	Off-site Improvements - Inspection and Acceptance..... 16
6.8	CONSTRUCTION RESPONSIBILITIES 17
6.8.1	Construction Responsibilities - Pavement Placement Guidelines..... 17
6.8.2	Construction Responsibilities - Work Hour Restrictions..... 17
6.9	INSPECTION..... 18
6.9.1	Inspection - Inspection of Closed Drainage System 19
6.9.2	Inspection - Inspection Fee 19

List of Figures

Figure 6.2-a DelDOT Public Works Engineers	2
Figure 6.3-a Itemized Cost Estimate Example.....	3
Figure 6.4.3-a Construction Inspection Responsibilities	6

CHAPTER 6 CONSTRUCTION ADMINISTRATION

6.1 PURPOSE

This chapter addresses the permit application process, Notice to Proceed (NTP), and inspection and acceptance procedures for construction of commercial sites, subdivision streets, including industrial streets, and off-site improvements.

Implementation of these procedures will ensure that construction within the State right-of-way is in compliance with these *Development Coordination Manual*, Standard Specifications, Standard Construction Details, *Construction Manual* and other applicable DelDOT standards.

6.2 UTILITIES

Any proposed utility work within the existing or proposed right-of-way of a State-maintained roadway shall require a permit in accordance with the *Utilities Design Manual* prior to the start of construction.

Upon completion and acceptance of the subdivision or industrial streets, the utilities that are located within the State right-of-way shall be franchised in accordance with the existing countywide blanket agreement for each individual utility.

The proposed sanitary sewer and water utilities within a new subdivision or industrial street shall be shown on the construction plans as outlined in Chapter 4.

Utilities that must be located within the dedicated right-of-way or in easements granted in DelDOT's favor shall be installed in accordance with the DelDOT *Utilities Design Manual*. Prior to beginning utility construction, it shall be the contractor's responsibility to contact any utility companies involved in order to secure the most accurate information available as to utility location and elevation. No construction around or adjacent to the utilities shall begin without notifying their owners at least 48-hours in advance. The contractor shall take the necessary precautions to protect the existing utilities and maintain uninterrupted service. Any damage caused to utilities by the contractor shall be immediately and completely repaired at the contractor's expense. The contractor shall contact Miss Utility of Delaware at 1-800-282-8555 to have utilities located within the limits of construction prior to beginning construction.

For entrance or offsite improvement projects requiring utility relocations, the applicant shall submit a utility relocation plan and correspondence from the impacted utility companies stating preliminary approval to the relocation and design of the utilities prior to the DelDOT pre-construction meeting.

Physical construction shall not begin until the utility plans are approved, each impacted utility company issues final approval and a DelDOT utility permit is issued.

Utility conflicts with future State-maintained street construction shall be corrected by the utility company or the developer at no expense to the State. Any modification to the existing or proposed utility locations shall be reflected on the as-built plans.

On State-maintained roadways, utilities should be located outside of the pavement, sidewalk and curb whenever possible. Where utilities need to be located within the pavement, manholes and valves should not be placed at the crown of the roadway or within the vehicle wheelpath.

Requests for utility permits must be submitted with plans to the Public Works Engineer in the respective county as indicated in Figure 6.2-a.

Figure 6.2-a DelDOT Public Works Engineers

New Castle County (DelDOT Canal District) Public Works Engineer 250 Bear-Christiana Road Bear, DE 19701 (302) 326-4679
Kent County (DelDOT Central District) Public Works Engineer 930 Public Safety Blvd. Dover, DE 19901 (302) 760-2433
Sussex County (DelDOT South District) Public Works Engineer 23697 DuPont Blvd. Georgetown, DE 19947 (302) 853-1340

6.3 COST ESTIMATE

Following the approval of the final construction plan, a separate cost estimate shall be prepared for the improvements and shall be provided to DelDOT for review. Each item of construction shall be listed in accordance with DelDOT's *Standard Specifications*. The method of measurement for each item shall be in accordance with the *Standard Specifications* and a current unit price shall be supplied for each item.

Guidance on calculation of quantities and cost estimates can be found in the Doing Business section of DelDOT's website, within the Design Resource Center in the Cost Estimating & Project Timing subsection.

The itemized construction cost estimate shall be broken down to provide sufficient detail to allow DelDOT to establish the accuracy and completeness of the estimate. Each material shall be accounted for as a separate item in the estimate as illustrated in Figure 6.3-a.

DelDOT, as part of the review, shall approve all the cost estimates. These estimates shall be used to determine the security required for each part of construction.

Figure 6.3-a Itemized Cost Estimate Example

Item No.	Item Description	Quantity	Unit Cost	Total Cost
701021	Integral Portland Cement Concrete Curb & Gutter, Type 2	15,000 l.f.	\$20.00 per l.f.	\$300,000.00
401648	Superpave, Type B Hot-Mix, 160 Gyration, Pg 64-22	2,500 tons	\$75.00 per ton	\$187,500.00

6.4 COMMERCIAL ENTRANCES

6.4.1 Commercial Entrances - Application Process

This section outlines the application process for the construction of commercial entrances. Prior to issuance of a permit for entrance construction the following documents must be submitted to the Public Works Engineer for review and approval:

- A. An application for commercial entrance permit (see Appendix E).
- B. Proof of ownership from the local land use agency (this must be an official document or on letterhead from the local land use agency) or an affidavit indicating property owner's name and Tax Map I.D. Number.
- C. If the applicant is not the current property owner, the power of attorney form in Appendix E must be completed and included in the application. The Power of Attorney form is not used to issue the permit to someone other than the property owner. It just allows someone else to sign for the permit. The permit holder is still the property owner.
- D. A copy of the recorded record plan, which is consistent with the DelDOT "No Objection to Recordation" stamped plan and all appropriate signatures, seals, plot book and page number.
- E. Two sets of construction drawings that have been approved by DelDOT's Subdivision Engineer.
- F. The itemized construction cost estimate. See Figure 6.3-a for a sample cost estimate.
- G. A security in the amount of 150% of the approved construction cost estimate. A security will not be required for federal, state, and local government projects. The following forms of security shall be acceptable:
 1. Surety Bond issued by a bonding company licensed in Delaware.
 2. Commercial Letter of Credit issued by a lending institution licensed in Delaware.

3. Certified check with escrow agreement. This requires completion of a W-9 form online available at <https://dew9.accounting.delaware.gov/accounting/w-9.nsf/w9!OpenForm>

The approved security forms are provided in Appendix E.

- H. Approval letter from DNREC or the DNREC approved delegated agency.
- I. An executed construction agreement for projects requiring 3rd party inspection.
- J. A copy of the construction schedule.
- K. A copy of the material sources. A sample form is available on DelDOT's Doing Business website.

6.4.2 Commercial Entrances - Notice to Proceed (NTP)

After review and approval of the documentation and security, the Public Works Engineer will evaluate the following items prior to issuance of a permit for entrance construction. The permit shall serve as the NTP:

Preconstruction Meeting – The Public Works Engineer will determine if a preconstruction meeting is needed prior to issuance of the NTP. The preconstruction meeting shall be scheduled by the Public Works Engineer or designee and attended by appropriate representatives of DelDOT, the developer, design engineer, contractor, utility firms and such other agencies as may be deemed appropriate. Items to be discussed at this meeting may include, but are not limited to, the following:

- A. Contractor and subcontractor.
- B. Source of supplies.
- C. Maintenance of traffic.
- D. Removal of unsuitable materials.
- E. Construction access.
- F. Construction Inspection Coordination.
- G. Utility Coordination.
- H. Material Testing.
- I. Construction Schedule.
- J. Contributions (if applicable) to Signal Improvements, Traffic Signal Revolving Fund, and/or Bicycle and Pedestrian Improvement Fund.
- K. Executed Letter Agreements (if applicable).
- L. Attestation by relevant agencies that all required permits have been obtained.

Once the Public Works Engineer is satisfied with the items listed above, the permit for entrance construction will be issued.

6.4.2.1 Temporary Entrance Permits

The developer may request from the Public Works Engineer a temporary entrance permit, to perform clearing and grading activities and installation of utilities, at its own risk for a period of thirty calendar days, prior to final approval of construction plans by the DelDOT Subdivision Engineer. No work may be performed within the State-maintained right-of-way, and no construction materials (such as graded

aggregate base course, asphalt or drainage pipe) can be placed until after the NTP is issued by the Public Works Engineer. If final plan approval is not received within thirty calendar days of the issuance of the temporary entrance permit, all construction activities shall be stopped and the temporary entrance permit shall be withdrawn.

Once the DelDOT Subdivision Engineer approves the construction drawings, two complete sets of approved construction drawings shall be forwarded to the Public Works Engineer. The drawings must have the approval stamp of the DelDOT Subdivision Engineer.

Upon receipt of approved construction drawings, the Public Works Engineer will issue a final "Notice to Proceed" letter, allowing the developer to proceed with permanent construction activities.

6.4.3 Commercial Entrances - Inspection and Acceptance

Projects are divided into two levels based on their size and impact on the abutting State-maintained roadway. This categorization helps DelDOT identify the level of involvement with each project, and what division will manage the construction of the project. Figure 6.4.3-a summarizes the two levels of construction inspection.

DelDOT reserves the right to inspect and approve any construction associated with the proposed entrance in accordance with Section 6.8 and the inspection procedures in DelDOT's *Construction Manual*.

DelDOT also reserves the right to make such changes, additions, and relocations to the approved entrance plans that may be considered necessary to ensure compliance with any applicable design standards and ensure the safety of the traveling public.

The Developer shall request a final inspection when all work is complete. The Public Works Engineer or the Construction Group Engineer may then schedule a final inspection which shall be conducted by the District. DelDOT personnel, accompanied by the developer and/or his/her contractor, and representatives of the appropriate County and/or municipal officials, shall inspect the site and determine those items of work, if any, that must be either completed, replaced or repaired.

In the event of failure to perform the intended construction in accordance with the terms of the commercial entrance permit as determined by DelDOT, the developer shall receive written notice and have fourteen calendar days to provide DelDOT with an approved schedule for completion. If a schedule for completion has not been received within the specified time period, the developer shall receive a second written notice and have an additional seven calendar days to meet in person with DelDOT and present an approved schedule for completion.

Should the developer fail to provide a satisfactory construction schedule or fail to comply with the approved completion schedule, DelDOT shall withdraw its permit and shall have the right to collect the construction security to correct the condition. All costs incurred in the removal and/or correction of defective workmanship and/or materials over and above the construction security shall be borne by the applicant.

Figure 6.4.3-a Construction Inspection Responsibilities

	Criteria			
Level	Existing Roadway AADT	Total Site ADT	Traffic Impact	Inspection
Level I ²	≤ 10,000 veh/day	≤ 2,000 veh/day	Construction has no or minimal impact to the traveling public.	DelDOT will provide inspection for Level I projects through the Public Works Section in accordance with the construction agreement and DelDOT's <i>Construction Manual</i> .
Level II	>10,000 veh/day	> 2,000 veh/day	Construction has significant impact to the traveling public. ³	The developer will be required to enter into a construction inspection agreement with an inspection firm currently under contract with DelDOT. Division of Transportation Solutions Construction Section will coordinate inspection.

Notes: 1. All work shall be in accordance with the construction agreement and DelDOT's Construction Manual.

2. Any project which exceeds the thresholds of 2 of the 3 above criteria for Level I review shall require a Level II inspection.

3. Significant impacts include but are not limited to: night work, road closures, or work impacting major intersections.

4. Any structure classified as a bridge shall require a Level II inspection.

6.4.4 Commercial Entrances - Maintenance

After the entrance has been constructed to the satisfaction of DelDOT and the commercial entrance permit has been issued, the property owner shall be responsible for the repair of any deficiencies within the entrance for a period of one year. A deficiency is generally defined as an item that does not meet DelDOT's specifications or the approved plans. Deficiencies identified by DelDOT shall be repaired in accordance with DelDOT's *Construction Manual*. If repairs are not initiated within three months of notification, then DelDOT shall void the commercial entrance permit and access to the property shall be denied.

After a one year warranty period, DelDOT shall assume responsibility for future maintenance of the entrance within the shoulder area and any necessary cleaning or replacing of drainage pipe, and guardrail repair within the right-of-way. Entrance appurtenances beyond the edge of shoulder are the responsibility of the property owner for maintenance. This includes any traffic control signs (i.e., Stop or Yield) that may need future maintenance. Should the applicant, heirs, or assigns desire to alter or reconstruct any

portion of the entrances or appurtenances, application for a new permit must be submitted to DelDOT for approval.

Upon acceptance of the improvements within the right of way into the State maintenance system, while retaining all controls over the dedicated right-of-way or easements, DelDOT assumes no responsibility for:

- A. The paved portion of the entrance.
- B. Entrance curbing and gutters.
- C. Maintenance of grass and plantings in any portion of the right-of-way, including landscaped islands and medians.
- D. Closed drainage systems, including inlets and pipes, outside of the right of way, that do not convey roadway runoff.
- E. Open drainage systems not within the right of way, or not adjacent and parallel to the right of way, regardless of whether the system conveys roadway runoff.
- F. Removal of silt and debris that have a minimal impact on the drainage system in open swales, gutters and inlet openings.
- G. Removal and/or maintenance of improvements, such as landscaping, underground sprinklers, etc.
- H. Maintenance of sidewalks, lighting, and entrance amenities.
- I. Guardrails outside of the right of way.
- J. Physical removal of snow and ice.
- K. All signs, including signs shown on the approved plans. The owner or maintenance corporation shall be responsible for maintenance of all signs installed as part of the project.

6.5 SUBDIVISION STREETS

6.5.1 Subdivision Streets - Application Process

This section outlines the application process for the construction of new subdivision streets dedicated for public use and intended for acceptance into State maintenance. Prior to issuance of a NTP the following documents must be submitted to the Public Works Engineer for review and approval:

- A. A copy of the recorded record plan, stamped with DelDOT's "No Objection" and stamped or signed indicating final approval from the local land use agency.
- B. Two sets of construction drawings that have been approved by DelDOT's Subdivision Engineer.
- C. For phased subdivisions, two copies of the signed and sealed title sheet, listing the streets to be constructed in a particular phase. Subsequent phases will follow the same process.
- D. Proof of ownership from the local land use agency (this must be an official document or on letterhead from the local land use agency) or an affidavit indicating property owner's name and Tax Map I.D. Number.
- E. A security using the security determination chart in the construction agreement for subdivision streets (see Appendix F). Also, a security in the amount of 150% of the estimated cost to construct the main

entrance. A security will not be required for federal, state, and local government projects. The approved security forms for subdivision streets are provided in Appendix F. Entrances to subdivisions with non-State-maintained streets use the same forms that are used for commercial entrances (Appendix E).

The following forms of security shall be acceptable:

1. Surety Bond issued by a bonding company licensed in Delaware.
 2. Commercial Letter of Credit issued by a lending institution licensed in Delaware.
 3. Certified check with escrow agreement. This requires completion of a W-9 form online available at <https://dew9.accounting.delaware.gov/accounting/w-9.nsf/w9!OpenForm>
- F. Completed construction agreement for subdivision streets which are to be a minimum of 1000 ft. in length or as approved (see Appendix F).
- G. Approval letter from DNREC or the DNREC approved delegated agency.
- H. An executed construction agreement for projects requiring 3rd party inspection.
- I. A copy of the construction schedule.
- J. A copy of the material sources. A sample form is available on DelDOT's Doing Business website.

6.5.2 Subdivision Streets - Notice to Proceed (NTP)

After review and approval of the construction agreement and security, the Public Works Engineer will address the following items prior to issuance of the NTP:

Preconstruction Meeting – The Public Works Engineer will determine if a preconstruction meeting is needed prior to issuance of the NTP. The preconstruction meeting shall be scheduled by the Public Works Engineer or designee and attended by appropriate representatives of DelDOT, the developer, the design engineer, contractor, utility firms and such other agencies as may be deemed appropriate. Items to be discussed at this meeting may include, but are not limited to, the following:

- A. Contractor and subcontractor.
- B. Source of supplies.
- C. Street construction phasing.
- D. Maintenance of traffic.
- E. Removal of unsuitable materials.
- F. Construction Inspection Coordination.
- G. Utility Coordination.
- H. Material Testing.
- I. Construction Schedule.
- J. Contributions (if applicable) to Signal Improvements, Traffic Signal Revolving Fund, and/or Bicycle and Pedestrian Improvement Fund.
- K. Executed Letter Agreements (if applicable).
- L. Attestation by relevant agencies that all required permits have been obtained.

Following approval of the required submissions and a successful preconstruction meeting, the Public Works Engineer shall issue the NTP, allowing the developer to proceed with construction on bonded streets.

Construction of the entrance to the subdivision shall be complete (excluding the top paving course) prior to the 1st certificate of occupancy. Once construction has started on the roadway it must remain active until completed up to but not including the final lift of asphalt. The entrance may be required to be built sooner at the discretion of the Public Works Engineer.

6.5.2.1 Temporary Construction Permits

If a project is nearing approval as determined by DelDOT, then the developer may request from the Public Works Engineer a temporary entrance permit, to perform specific allowable construction activities such as clearing and grading at its own risk prior to final approval of subdivision construction plans by the DelDOT Subdivision Engineer. No work may be performed within the State-maintained right-of-way, and no construction materials (such as graded aggregate base course, asphalt or drainage pipe) can be placed until after the construction plans of the subdivision drawings are stamped "APPROVED" by the DelDOT Subdivision Engineer. Unapproved work activities performed may result in DelDOT closing or removing the temporary construction entrance. If final approval is not received within the timeframe specified in the temporary entrance permit, then all construction activities shall be stopped and the permit shall be withdrawn.

Once the DelDOT Subdivision Engineer approves the subdivision construction drawings, two complete sets of approved construction drawings shall be forwarded to the Public Works Engineer. The drawings must have the approval stamp of the DelDOT Subdivision Engineer.

Upon receipt of approved construction drawings, the Public Works Engineer will issue a final "Notice to Proceed" letter, allowing the developer to proceed with permanent street construction within the subdivision.

6.5.3 Subdivision Streets - Inspection and Acceptance

Projects are divided into two levels based on their size and impact on the abutting State-maintained roadway. This categorization helps DelDOT identify the level of involvement with each project, and what division will manage the construction of the project. Figure 6.4.3-a summarizes the two levels of construction inspection to be used for subdivision entrances and/or bridges within subdivisions.

DelDOT reserves the right to inspect and approve any construction associated with the proposed subdivision in accordance to Section 6.9 and the inspection procedures outlined in the *DelDOT Construction Manual*.

DelDOT also reserves the right to make such changes, additions, and relocations to the approved plans that may be considered necessary to ensure compliance with any applicable design standards and ensure the safety of the traveling public.

The Developer shall request a final inspection when all work is complete. The Public Works Engineer or the Construction Group Engineer may then schedule a final inspection which shall be conducted by the District. DelDOT personnel, accompanied by the developer and/or his/her contractor, and representatives of the appropriate County and/or municipal officials, shall inspect the site and determine those items of work, if any, that must be either completed, replaced or repaired.

- A. As-built construction plans – The as-built construction plans shall be a print of the approved construction plan annotated in red to show all revisions. The developer's engineer shall prepare this plan and submit it to the Public Works Engineer or his/her designee prior to the issuance of the letter recommending acceptance. In addition, the developer's engineer shall also submit an electronic plan version of the as-built construction plans for the entire subdivision to the Public Works Engineer or designee. The as-built plans shall show in red ink any alterations made in foundations; locations, lengths and elevations of pipe culverts; side ditches, ditch paving, and other drainage items added or altered; final checked stationing; and all other significant variations from the original plans. As-built plans will be required as part of the final acceptance. See Chapter 4 for electronic plan submission requirements.
- B. A letter from the local land use agency stating that all work required by the land use agency is complete.
- C. A letter from DNREC or the DNREC-approved delegated agency stating that all work required by the agency is complete (if applicable).
- D. A letter from the maintenance association providing contact information.
- E. A letter to DelDOT from the developer releasing DelDOT from any claims as a result of any unpaid bills or obligations. An affidavit releasing DelDOT is to be fully executed and furnished to the Public Works Engineer prior to the issuance of the letter recommending acceptance. See Appendix F for a sample affidavit.

Once DelDOT is satisfied with the construction, the inspector shall recommend final acceptance and the release of the security by the Public Works Engineer. The local land use agency shall be notified prior to final acceptance.

In the event of failure to perform the intended construction in accordance with the terms of the construction agreement as determined by DelDOT, the developer shall receive written notice and have fourteen calendar days to provide DelDOT with an approved schedule for completion. If a schedule for completion has not been received within the specified time period, the developer shall receive a second written notice and have an additional seven calendar days to meet in person with DelDOT and present an approved schedule for completion.

Should the developer fail to provide a satisfactory construction schedule or fail to comply with the approved completion schedule, DelDOT shall have the right to collect the construction security to correct the condition as per the construction agreement. All costs incurred in the removal and/or correction of defective workmanship and/or materials over and above the construction security shall be borne by the applicant.

Withdrawal of subdivision street construction approval for failure to complete the streets shall be cause to increase the required construction security to 100% of the itemized cost estimate on future subdivision street construction projects requested by the defaulting applicant.

Following completion of street construction and submission of required documentation to the satisfaction of the Public Works Engineer, the Public Works Engineer will recommend acceptance of the streets and the Subdivision Engineer shall prepare an "Acceptance Drawing and an Acceptance Statement". The Subdivision Engineer shall approve and sign the acceptance documents for DelDOT and shall notify the maintenance association, local land use agency and local legislators that the streets have been accepted. Once accepted into the State maintenance system, the Developer shall be responsible for any failure of pavement or drainage for three years from the date of acceptance, as noted in the Construction Agreement in Appendix F, and as described in Section 6.5.4.

Upon acceptance of the streets into the State maintenance system, an entrance permit shall be required for each new entrance to the street as outlined in Chapter 7. The applicant shall be responsible for damage to the curb, gutter, shoulders, and drainage affected by any entrance construction.

In subdivisions where residential streets and cul-de-sacs have been completed and the collector street serving them is complete except for the final lift of asphalt pavement, the developer shall submit the completed residential streets and cul-de-sacs for acceptance. Additionally, the developer shall provide:

- A. One-hundred percent security for the cost to complete the collector street.
- B. A letter to the District Office requesting acceptance of the submitted streets.

6.5.3.1 Road Number Assignment

The Planning Section shall assign maintenance road numbers to the subdivision streets following acceptance by DelDOT.

6.5.4 Subdivision Streets - Maintenance

- A. Prior to the acceptance of the streets into the State maintenance system, the developer agrees to be responsible to maintain the following items:
 - 1. The paved portion of the roadway.
 - 2. Curbing and gutters.
 - 3. Closed drainage system including inlets and pipes that convey roadway runoff.
 - 4. Open ditch systems, including entrance pipes, located within the right-of-way and easements that convey roadway runoff.
 - 5. Guardrails.
 - 6. Maintenance of grass and plantings in any portion of the right-of-way, including landscaped islands and medians.
 - 7. Removal of silt and debris in open swales, gutters and inlet openings.
 - 8. Any necessary removal of improvements by residents, such as landscaping, non-conforming mailboxes, underground sprinklers, signs, etc. not shown on the plans.
 - 9. Maintenance of sidewalks (including removal of snow and ice), lighting, and entrance amenities.
 - 10. Removal of snow and ice having a measurable snow accumulation on pavement of 4 inches or more. Measurement of snow accumulation should follow the snow removal reimbursement program guidelines.
 - 11. Signs, including all standard roadway signage.
- B. Upon acceptance of the streets into the State maintenance system, DelDOT agrees to maintain the following elements within the dedicated right-of-way or easements:
 - 1. The paved portion of the roadway.
 - 2. Curbing and gutters.
 - 3. Closed drainage system including inlets and pipes that convey roadway runoff.
 - 4. Open ditch systems adjacent to and parallel to the roadway, including entrance pipes, located within the right-of-way and easements that convey roadway runoff.

5. Guardrails.
6. DE MUTCD-compliant signage.

C. While retaining all controls over the dedicated right-of-way, DelDOT assumes no responsibility for:

1. Maintenance of grass and plantings in any portion of the right-of-way, including landscaped islands and medians.
2. Closed drainage systems, including inlets and pipes, outside of the right of way, that do not convey roadway runoff.
3. Open drainage systems not within the right of way, or not adjacent and parallel to the right of way, regardless of whether the system conveys roadway runoff.
4. Removal of silt and debris that have a minimal impact on the drainage system in open swales, gutters and inlet openings.
5. Removal and/or maintenance of improvements by residents, such as landscaping, underground sprinklers, etc.
6. Maintenance of sidewalks, lighting, and entrance amenities.
7. Physical removal of snow and ice, however DelDOT offers reimbursement of snow removal expenses through the “Snow Reimbursement Program.”
8. Non DE MUTCD-compliant signage.

Alleys should be used within the subdivision street layout in accordance with appropriate subdivision design principles and the requirements of local land use ordinances. While DelDOT encourages the appropriate use of alleys in subdivision street layout, DelDOT shall not accept any maintenance responsibilities for alleys in the public right-of-way.

6.6 INDUSTRIAL STREETS

6.6.1 Industrial Streets - Application Process

The application process for industrial streets follows the same procedures as subdivision streets presented in Section 6.5.1. See Appendix G for related forms and agreements.

6.6.2 Industrial Streets - Notice to Proceed (NTP)

Requirements for obtaining a NTP for industrial streets follow the same procedures as subdivision streets presented in Section 6.5.2.

6.6.3 Industrial Streets - Inspection and Acceptance

The developer is responsible for providing inspection of the bonded internal industrial park streets as per the construction agreement. The developer's engineer shall be certified by the DelDOT Consultant Control Coordinator to perform construction engineering.

Projects are divided into two levels based on their size and impact on the abutting State-maintained roadway. This categorization helps DelDOT identify the level of involvement with each project, and what division will manage the construction of the project. Figure 6.4.3-a summarizes the two levels of construction inspection to be used for industrial street entrances and/or bridges within industrial developments.

DelDOT reserves the right to inspect and approve any construction associated with the proposed development in accordance with Section 6.8 and the inspection procedures outlined in the *DelDOT Construction Manual*.

DelDOT also reserves the right to make such changes, additions, and relocations to the approved plans that may be considered necessary to ensure compliance with any applicable design standards and ensure the safety of the traveling public.

Upon completion of the construction, the following documents shall be submitted:

- A. As-built construction plans – The as-built construction plans shall be a print of the approved construction plan annotated in red to show all revisions. The developer's engineer shall prepare this plan and submit it to the Public Works Engineer or his/her designee prior to the issuance of the letter recommending acceptance. In addition, the developer's engineer shall also submit an electronic plan version of the as-built construction plans for the entire subdivision to the Public Works Engineer or designee. The as-built plans shall show in red ink any alterations made in foundations; locations, lengths and elevations of pipe culverts; side ditches, ditch paving, and other drainage items added or altered; final checked stationing; and all other significant variations from the original plans. As-built plans will be required as part of the final acceptance. See Chapter 4 for electronic plan submission requirements.
- B. In addition, the developer's engineer shall also submit an electronic plan version of the as-built construction plans for the entire industrial park streets to the Public Works Engineer or his/her designee. See Chapter 4 for electronic plan submission requirements.
- C. A letter from the local land use agency stating that all work required by the land use agency is complete.
- D. A letter from DNREC or the DNREC-approved delegated agency stating that all work required by the agency is complete (if applicable).
- E. A letter to DelDOT from the developer releasing DelDOT from any claims as a result of any unpaid bills or obligations. An affidavit releasing DelDOT is to be fully executed and furnished to the Public Works Engineer prior to the issuance of the letter recommending acceptance. See Appendix F for a sample affidavit.
- F. A certification letter from the consultant inspection, per the Industrial Street Agreement (Appendix G).

Should the developer fail to satisfactorily complete industrial park street construction in accordance with the construction agreement for industrial park streets as determined by DelDOT, the developer shall receive written notice and have fourteen calendar days to provide DelDOT with an approved schedule for completion. If a schedule for completion has not been received within the specified time period, the developer shall receive a second written notice and have an additional seven calendar days to meet in person with DelDOT and present an approved schedule for completion.

Should the developer fail to provide a satisfactory construction schedule or fail to comply with the approved completion schedule, DelDOT shall withdraw its agreement and shall have the right to collect the construction security to correct the condition. All costs incurred in the removal and/or correction of defective workmanship and/or materials over and above the construction security shall be borne by the applicant.

Upon completion of all aspects of the initial street construction to the satisfaction of the inspecting engineer, a first final inspection shall be held. After the first final inspection, a three-year waiting period is required prior to the acceptance of said streets into DelDOT's maintenance system. At this time a second final inspection shall be held to ensure that all punch list items from the first final inspection have been corrected and that the streets as designed have held up to the anticipated traffic loading. The three-year waiting period is required by DelDOT because of the significantly higher traffic volumes that are typically generated by an industrial park type development and the heavier vehicle loadings that are experienced by the high percentage of truck traffic. DelDOT accepts no responsibility for maintenance or snow removal during the three-year waiting period.

Withdrawal of industrial park street construction approval for failure to complete the streets shall be cause to increase the required construction security to 100% on future industrial park street construction projects requested by the defaulting applicant.

Following completion of street construction and submission of required documentation to the satisfaction of the Public Works Engineer, the Public Works Engineer will recommend acceptance of the streets and the Subdivision Engineer shall prepare an "Acceptance Drawing and an Acceptance Statement". The Subdivision Engineer shall approve and sign the acceptance documents for DelDOT and shall notify the maintenance association, local land use agency and local legislators that the streets have been accepted. Once accepted into the State maintenance system, the Developer shall be responsible for any failure of pavement, curb and gutter, or drainage for three years from the date of acceptance, as noted in the Construction Agreement in Appendix F, and as described in Section 6.6.4.

6.6.4 Industrial Streets - Maintenance

Upon acceptance of the streets into the State maintenance system, DelDOT agrees to the following limited maintenance responsibilities:

- A. DelDOT agrees to maintain the following elements within the dedicated right-of-way or easements:
 - 1. The paved portion of the roadway.
 - 2. Curbing and gutters.
 - 3. Closed drainage systems including inlets and pipes that convey roadway runoff.
 - 4. Open ditch systems adjacent to and parallel to the roadway, including entrance pipes, located within the right-of-way and easements that convey roadway runoff.
 - 5. Guardrails.
 - 6. DE MUTCD-compliant signs.
- B. While retaining all controls over the dedicated right-of-way, DelDOT assumes no responsibility for:
 - 1. Maintenance of grass and plantings in any portion of the right-of-way, including landscaped islands and medians.
 - 2. Closed drainage systems, including inlets and pipes, outside of the right of way, that do not convey roadway runoff.

3. Open drainage systems not within the right of way, or not adjacent and parallel to the right of way, regardless of whether the system conveys roadway runoff.
4. Removal of silt and debris that have a minimal impact on the drainage system in open swales, gutters and inlet openings.
5. Removal and/or maintenance of improvements by occupants, such as landscaping, underground sprinklers, etc.
6. Maintenance of sidewalks, lighting, and entrance amenities.
7. Physical removal of snow and ice.
8. Non DE MUTCD-compliant signs.

6.7 OFF-SITE IMPROVEMENTS (PUBLIC ROAD CONSTRUCTION)

6.7.1 Off-site Improvements - Application Process

During the land development process, DelDOT may determine the need for road improvements beyond the entrance to the site. These improvements shall be required as part of the entrance approval. The developer shall enter into an agreement with DelDOT outlining the implementation of the improvements. This may be for the actual design, construction, and inspection of the improvements, or monetary contribution for the actual construction of the improvements. This agreement shall be executed prior to entrance plan approval. See Appendix B for regulations regarding improvements requiring new rights-of-way.

If a proposed development triggers the need for improvement to the abutting State-maintained roadway beyond the entrance, the following documents shall be obtained and submitted prior to the start of construction.

- A. Approved roadway construction drawings. Refer to DelDOT's publications and forms web page for the checklist for offsite plan development (www.DelDOT.gov).
- B. Construction agreement for public roads (off-site improvements).
- C. The itemized cost estimate. See Figure 6.3-a for a sample cost estimate.
- D. Prior to DelDOT issuing a NTP for the construction of the offsite improvements the developer shall provide DelDOT with a security in the amount of 100% of the estimated construction cost as approved by DelDOT. A security will not be required for state, federal and local projects.

The following forms of security shall be acceptable.

1. Surety Bond issued by a bonding company licensed in Delaware.
2. Commercial Letter of Credit issued by a lending institution licensed in Delaware.
3. Certified check with escrow agreement. This requires completion of a W-9 form online available at <https://dew9.accounting.delaware.gov/accounting/w-9.nsf/w9!OpenForm>

The approved security forms are provided in Appendix H.

6.7.2 Off-site Improvements - Notice to Proceed (NTP)

The following requirements must be fulfilled before DelDOT issues a NTP for off-site improvements:

- A. Approved construction plans and estimates.
- B. Executed construction agreement for public roads (off-site improvements).
- C. Security for the proposed work.
- D. A preconstruction meeting shall be scheduled by the Public Works Engineer or Construction Group Engineer and attended by appropriate representatives of DelDOT, the developer, the developer's engineer and contractor, utility firms and such other agencies as may be deemed appropriate. Items to be discussed at this meeting may include but are not limited to the following:
 - 1. Contractor and subcontractor.
 - 2. Source of supplies.
 - 3. Street construction phasing.
 - 4. Maintenance of traffic.
 - 5. Removal of unsuitable materials.
 - 6. Utility coordination.
 - 7. Construction access.
 - 8. Copy of construction contract between the developer and his contractor if applicable.
 - 9. Materials testing.
 - 10. Construction inspection coordination.
 - 11. Attestation by relevant agencies that all required permits have been obtained.

Following approval of the required submissions and a successful preconstruction meeting, the Public Works Engineer or DelDOT's Construction Group Engineer shall issue the NTP.

6.7.3 Off-site Improvements - Inspection and Acceptance

Off-site improvement projects are divided into two levels based on their size and impact on the abutting State-maintained roadway. This categorization helps DelDOT identify the level of involvement with each project, and what division will manage the construction of the project. Figure 6.4.3-a summarizes the two levels of classification for off-site inspection and acceptance.

The following roles and responsibilities shall apply to Level II impacts:

A. As-Built Plans

For the preparation of as-built plans, the inspecting engineering firm shall retain one set of record prints of the construction plans. These shall be kept up-to-date by the substitution of revised plan sheets by marks for minor changes that have been made, and by notes from the inspector's diary. The as-built plans shall show in red ink any alterations made in foundations; locations, lengths and elevations of pipe culverts; side ditches, ditch paving, and other drainage items added or altered; final checked stationing; and all other significant variations from the original plans. As-built plans will be required as part of the final acceptance of the off-site improvements.

B. Acceptance

Following completion of roadway construction and submission of required documentation to the satisfaction of the Public Works Engineer, the Public Works Engineer will recommend acceptance of the streets and the Subdivision Engineer shall accept the work. The developer will then be released of liability. The local land use agency shall be notified when the work has been accepted.

6.8 CONSTRUCTION RESPONSIBILITIES

The following outlines the applicant's construction responsibilities:

- A. The applicant shall furnish all materials and assume all costs of construction deemed necessary by the Public Works Engineer or the Construction Group Engineer in accordance with the approved plans, agreement and/or the permit.
- B. All material and construction shall be in accordance with DelDOT's current *Standard Specifications*.
- C. The entrance improvements for a commercial site must be complete and accepted prior to the issuance of the certificate of occupancy by the local land use agency.
Construction of the entrance (except for the final wearing course) to a subdivision shall be started prior to the 1st certificate of occupancy. Once construction has started on the roadway it must remain active until completed up to but not including the final lift. The entrance may be required to be built sooner at the discretion of the Public Works Engineer or Construction Engineer.
- D. In the event that poles, lights, signs, traffic signals, or other appurtenances need to be moved per the approved plans, the applicant shall pay all costs involved in the relocation. The applicant shall resolve with the affected utility any required utility relocation, the time of moving and the required reimbursement prior to the preconstruction meeting.
- E. In the event that a mailbox needs to be relocated, DelDOT authorizes the developer to relocate the mailbox with prior notification to the property owner. The developer shall be responsible for any damage to the mailbox and, through coordination with the local postal service, shall be required to maintain the mail service at all times.

6.8.1 Construction Responsibilities - Pavement Placement Guidelines

The first lift of asphalt pavement shall be placed no later than 18 months from the NTP or the beginning of the second winter after the NTP.

The final wearing course of asphalt pavement on subdivision streets shall not be placed until 75% of the houses contributing traffic to those streets have been completed or as directed by the Public Works Engineer.

Prior to placing the pavement sections, the subgrade shall be prepared and test-rolled as detailed in DelDOT's *Standard Specifications*. If the test rolling shows the subgrade to be unstable, the contractor shall scarify, disc, aerate or add moisture and recompact the subgrade to the extent that when retested it shall be stable. If, in the opinion of the Public Works Engineer or the Construction Group Engineer, there are areas to be removed or undercut, they may be ordered excavated and replaced with approved material.

6.8.2 Construction Responsibilities - Work Hour Restrictions

If DelDOT determines that extended work hours (e.g. night work) are required to construct the improvements associated with a project adjacent to residential properties, the Developer shall notify residents in a timely fashion of the proposed work and scheduled work hours. This notification, as approved by DelDOT, shall be provided to residents at least 2 weeks in advance of the anticipated start of work. Such notification shall include a description of the proposed work, the proposed use of any equipment that may cause noise, vibration or odor disruptions to the residents, and an estimate of the time required to complete the project.

If the proposed work associated with the project (regardless of scheduled time) may cause any vibration or other damage to neighboring property, the developer shall complete a pre-work survey of the potentially affected properties to determine the baseline condition of those properties. The developer shall monitor the properties during construction to ensure that any vibration or other damage is minimized. If any damage does occur, the developer is responsible to reimburse the property owners.

6.9 INSPECTION

The developer shall provide the Public Works Engineer or the Construction Group Engineer, access to all parts of the work and furnish such information and assistance as is required to make a complete and detailed inspection as described in DelDOT's current *Standard Specifications*.

During construction, the developer shall provide the Public Works Engineer or the Construction Group Engineer with at least two working days' notice of all major construction activities. These activities shall include, but are not limited to, the following:

- A. Installation of utilities.
- B. Installation of drainage pipe and all major structures.
- C. Underdrains.
- D. Test rolling of the subgrade.
- E. Placement of base material.
- F. Placement of curbing.
- G. Placement of paving material (underground utilities must be installed and utility permits closed out prior to placement of paving and seeding).
- H. Installation of sidewalk.

A DelDOT Designated Inspector must be present during these construction activities. All materials shall be released, inspected, tested, and approved before being incorporated in the work in accordance with DelDOT's *Standard Specifications* Section 106 – Control of Material.

All inspection of paving materials used and placement of paving materials shall be in accordance with the Contractor's Quality Control (QC) Plan. The Contractor's QC Plan shall be prepared in accordance with DelDOT's Special Provision 401699 – Quality Control/Quality Assurance of Bituminous Concrete.

Credit for Bituminous Concrete – If the Contractor constructs any pavement that does not meet the requirements outlined in the contract documents, the developer will be required to provide DelDOT a certified check for future pavement maintenance based on the amount of pavement that does not meet the specifications. The amount of the certified check will be equal to the average bid prices of the pavement minus the cost of the pavement that does not meet the requirements of the contract documents.

$$\text{Assessment for Future Maintenance} = (\text{Tonnage of Bituminous Concrete in question}) \times \text{Pavement Bid Cost} \times \left[1 - \frac{\% \text{Compliant}}{100\%} \right]$$

The percent compliant is based on the procedures outlined in DelDOT's Special Provision 401699 – Quality Control/Quality Assurance of Bituminous Concrete. The percent compliant is broken down into the amount of material production pay adjustment and the pavement construction pay adjustment. The

material production is 70% of the pavement cost and the pavement construction is 30% of the pavement cost. The payment is calculated for each lot tested. The pay adjustment is discussed in greater detail in Special Provision 401699.

Credit for PCC – The PCC credit shall be consistent with DelDOT's *Standard Specifications* section 602.25.

The Developer shall request a final inspection when all work is complete. The Public Works Engineer or the Construction Group Engineer may then schedule a final inspection which shall be conducted by the District. DelDOT personnel, accompanied by the developer and/or his/her contractor, and representatives of the appropriate County and/or municipal officials, shall inspect the site and determine those items of work, if any, that must be either completed, replaced or repaired.

The Public Works Engineer or the Construction Group Engineer shall then provide the developer with a punch list of the remaining work within ten working days. The punch list shall include required letters or documents indicated under Acceptance. Should the developer fail to request a final inspection, the District Engineer may at his sole discretion provide to the developer a punch list of the remaining work to complete the streets.

The developer shall obtain a sign-off letter from the Public Works Engineer or the Construction Group Engineer indicating all work is complete before the roadway is accepted into the State maintenance system.

6.9.1 Inspection - Inspection of Closed Drainage System

To assure that the storm drainage systems within State right of way and easements are constructed per DelDOT's *Standard Specifications* just prior to placement of final wearing course of asphalt pavement and acceptance into the State maintenance system, a digital video inspection and report, verifying acceptability of the system, shall be required.

The procedure for inspecting closed drainage systems shall follow DelDOT's *Standard Specifications* and DelDOT's *Storm Sewer CCTV Manual for Storm Sewer Assessment and Acceptance*.

6.9.2 Inspection - Inspection Fee

Upon review and approval of the Delaware General Assembly, DelDOT shall collect inspection fees on all new commercial entrance and subdivision street construction projects, built on the public right-of-way, whether seeking State-maintenance or not. When fees are collected they shall be collected from the project developer or owner prior to the start of any aspect of entrance or street construction. The fee shall be made payable to DelDOT, at the rate of 10% of the estimated cost of construction as approved by DelDOT. This fee shall cover a period of five years from the date of the NTP. If construction is not completed within the five-year period, an annual renewal fee of one quarter the current inspection fee shall be required. This fee must be paid at the beginning of each additional year of construction. NTP with initial construction shall not be issued until DelDOT has collected the inspection fee.

If a developer fails to comply with the renewal fee requirements within 100 days of receipt of written notification, DelDOT shall initiate forfeiture of the security bond.

NTP on additional entrance or street construction projects shall not be issued until all outstanding inspection fees have been collected.