Article IV
FINAL ENGINEERING AND CONSTRUCTION PLAN

400 PURPOSE

To outline the procedure to be followed for a final engineering plan submittal, including the specific information necessary for the submittal. The required information shall address all comments/issues made during the Preliminary Engineering Plan phase. A Storm Water Management Report shall also be provided as part of the Final Engineering and Construction Plan.

When a reference is made to the Final Engineering and Construction Plan, it shall include all pertinent reports and calculations necessary for review by the County Engineer.

401 PROCEDURE

The Final Engineering and Construction Plan shall follow the procedure below:

A. Step 1

Four complete copies on 22" x 34" size plan sheets and two complete copies on 11" x 17" size plan sheets of the Final Engineering and Construction Plan including all checklists and review fees shall be submitted to the County Engineer for review.

In addition, one copy of the Storm Water Management Report shall be provided with the submittal. The Report shall be submitted in a three-ring binder with the project name, section and phase and the design engineer on the front cover and spline. The Report shall include the Pre- and Post-Development Storm Water Tributary Maps of the site conditions, calculations for storm sewers, culverts, ditches, basin sizing, drainage, water quality, and other support data as deemed necessary by the County Engineer. Flood routing calculations and a narrative on the major flood routing through and downstream of the site including specific details on the flood routing shall also be included with the Report. See Articles IX, XII, and the Supplemental Specifications for additional items and content to be included in the report. The report shall be signed and sealed by an Ohio Registered Engineer. One CD which contains the Final Engineering and Construction plan and Storm Water Management Reports (PDF format) shall be included.

Also, one copy of support data and documents, as deemed necessary by the County Engineer shall be submitted. Support data shall include, but not be limited to, homeowner association documents, offsite easements, variance approvals, and correspondence with other governmental agencies (e.g., U.S. Army Corps of Engineers, Ohio EPA, ODNR, etc.) or third parties relative to the project. A CD containing all necessary support data and documents may be requested by the County Engineer.

If a detailed Preliminary Storm Water Management Report was submitted with the previous Preliminary Plan submittal and only minor changes have occurred (involving changes to a few pages of the report or less) the Design Engineer may only need to submit the changed pages. Whether the entire report needs resubmitted shall be determined by the County Engineer based on review of the revised sheets submitted and original report along with Final Engineering and Construction Plan.

A DESC permit is required for all sites. See Article XII of these standards for additional information regarding the DESC permit.

The Final Engineering and Construction Plan submittal shall include a written response addressing the resolution of all comments made as part of the Preliminary Engineering Plan review. The submittal letter shall also identify any additions or deletions made to the plans since the last submission. Failure to identify additions/deletions shall be cause for disapproval of the plans, and require a resubmittal of the plans with additional review fees charged.

B. Step 2

Upon receipt of a complete submission (including appropriate review fees as identified in the Supplemental Specifications), the County Engineer shall review the plan within twenty-eight calendar days. During this review period, the County Engineer shall determine what items on the plan will be required to be part of the County's Drainage Maintenance Program. These items will be clearly designated on a set of marked plans and returned to the Design Engineer. These items shall be included

on a separate plan sheet (Exhibit "C") and incorporated into the Final Engineering and Construction Plan.

The County Engineer shall provide written comments and/or approval. Marked checked prints may be returned to aid in understanding the comments made by the County Engineer. The County Engineer shall: (1) approve; (2) approve subject to the resolution of the attached comments; or (3) not approve the Final Engineering and Construction Plan. Note that the plans can not be approved without the submission of Exhibit "C".

At the Owner's request, a meeting with the County Engineer may be scheduled to discuss the comments. An agenda of the meeting topic(s) shall be sent to the County Engineer a minimum of two business days prior to the meeting.

All subsequent submittals of the Final Engineering and Construction Plan shall include the following:

Major Plan Changes - A written response addressing resolution of all comments made as part of the previous Final Engineering and Construction Plan review. Major Plan Changes shall be include but not be limited to the major or significant changes as were discussed in Article III.

Minor Plan Changes - A set of marked-up prints with the specific areas that changed circled. (Note: The circling of entire plan sheets shall be considered a Major Plan Change and must also be addressed with a written response of the changes as per above in order to be reviewed).

The submittal letter shall also identify any additions or deletions made to the plans since the last submission. Failure to identify additions/deletions shall cause immediate disapproval of the plans, and require a resubmittal of the plans with additional review fees charged. Review times for subsequent reviews will be completed by the County Engineer based on the requirements of the Supplemental Specifications of these Standards.

C. Step 3

Once the Final Engineering and Construction Plan submittal

meets all the County Engineer's requirements, the Owner shall submit the original cover sheet mylar for signature along with one (1) complete plan set and the approved current estimated cost of construction. In addition, two copies of the final plat shall be included. This plat shall be nearly complete (approximately 90% complete) and be in compliance with the Final Engineering and Construction Plan.

All copies of the approved environmental documents required by other agencies (US Army Corps of Engineers, Ohio EPA, ODNR, etc.) for construction of the project must be received by the County Engineer prior to approval of the Final Engineering and Construction Plan.

Sanitary Plans: Should the Owner desire to commence construction of the sanitary sewer plans prior to approval of the Final Engineering and Construction Plan, the sanitary plans shall include adequate erosion and sediment control details. The County Engineer will not approve the sanitary plans without these details and approval of the County Engineer's Storm Water Department.

Once the County Engineer approves the Final Engineering and Construction Plan, the plan may be used for construction provided such construction is started within one year of the approval date. After one year, the County Engineer reserves the right to review a resubmittal of the plans, with appropriate review fees, and require it to be updated to the standards in place at that time.

Plans approved prior to the adoption of these Standards may be granted additional time extension which shall be approved in writing by the County Engineer.

At the discretion of the County Engineer, Final Engineering and Construction Plans that have been submitted for review prior to adoption of these Standards may be allowed to proceed to construction without being required to update to these standard.

Provide one half size signed set of final approved plans (11" x 17") and one CD containing all the plan sheets (PDF format) to the County Engineer once the plans have been approved.

D. Step 4

Change Orders: No major design or material changes to the approved Final Engineering and Construction Plan will be permitted in the field unless approved by the County Engineer. The proposed changes ("Change Order") must be added to said plan and referenced on all sheets with approvals. Minor revisions or "Field Changes" may be submitted by the Owner that do not affect the design or materially change the approved Final Engineering and Construction Plan for review and approval by the County Engineer. These "Field Changes" will be documented by the County Engineer and must be included in the "as-built plans" as the final "Change Order" for the approved Final Engineering and Construction Plan.

Submittal of all Change Orders, including proposed revisions to the Master Grading Plan, shall include two "red-line" paper copies of the proposed changes.

For projects where phase and/or part lines are added as a change order, all affected plan sheets, including the affected sanitary plan sheets and plat shall be submitted to the County Engineer for review and comment. Section 402C of these standards describes the proper subdivision nomenclature.

All sanitary sewer change orders that affect public R/W or storm sewers shall be submitted concurrently to the Delaware County Sanitary Engineer and County Engineer for review and approval. Submit two sets of marked plans to the Delaware County Sanitary Engineer and one set to the County Engineer.

An additional column in the standard change order table on the Title Sheet shall be added for the County Engineer's approval (by initialing). If the proposed change order does not affect public R/W or storm sewers, a "N/A" shall be added in the column indicating the County Engineer's approval.

E. Step 5

After all of the proposed improvements have been completed, the Owner shall submit an updated "as-built" plan to the County Engineer. In addition to the requirements of these Standards, the information and data obtained for and presented on the "as-built" plan shall conform to the as-built survey specifications currently accepted by the surveying profession. The as-built submission shall include final design calculations

and supporting documents (e.g. stormwater management calculations, verified sight distance exhibits as required, etc.) as set forth in the Final Engineering and Construction Plan.

This plan (one copy) shall be a permanent mylar copy of the Final Engineering and Construction Plan. Each sheet shall be 11"x17" in size. In addition to the submittal of the project plan mylars, four CD's containing the as-built project plan, signed plat, the stormwater management report and calculations, as-built certifications, approved cost estimate, Traffic Impact Study, supporting documentation, etc. shall be submitted (in pdf format). The project name, section, phase (if applicable) and date should be clearly marked on the CD's.

402 TITLE SHEET

The title sheet shall contain the following information:

A. Location Map: This map shall indicate the allotment's location within the County.

B. Approval Block: An area shall be prepared for the signatures of the Owner and the County Engineer. The following statement shall be placed above the Approval Block:

"The Delaware County Engineer's signature on this plan signifies only concurrence with the general purpose and location of the proposed improvement. All technical details remain the responsibility of the Professional Engineer who prepared and certified these plans."

For Common Access Drives, Commercial, Industrial and Multi-Family developments, the following statement shall be placed above the Approval Block:

"The Delaware County Engineer's signature on this plan signifies only concurrence with the general purpose and location of the proposed improvements with respect to improvements within the right-of-way, storm water management, erosion and sediment control. All technical details remain the responsibility of the Professional Engineer who prepared and certified these plans."

C. Subdivision Nomenclature:
The terms below shall be used when identifying various

divisions of subdivisions into sections, phases and parts. These terms shall be clearly shown on the title sheet.

Section -- The term used to identify major divisions of a subdivision development (label using Arabic Numerals).

Examples: XYZ Subdivision Section 1

XYZ Subdivision Section 2

Phase -- The term used to identify the divisions of a section of a subdivision (labeled using alphabetically –upper case).

Examples: XYZ Subdivision Section 1 Phase A;
XYZ Subdivision Section 2 Phase A

Part -- The term used to identify the divisions of a phase of a subdivision (labeled using Roman Numerals).

Examples:

XYZ Subdivision Section 1 Phase A Part I;
XYZ Subdivision Section 2 Phase A Part II

(If needed parts could be split and labeled by using lower case letters. Example: XYZ Subdivision Section 1 Phase A Part II-a)

D. Consultant's Certification: This is to include the name and address of firm preparing the plan. The signature and seal of a State of Ohio Registered Professional Engineer is required.

The following note shall be placed above the Consultant's Certification:

"This is to certify that good engineering practices have been utilized in the design of this project and that all of the minimum standards as delineated in the Delaware County Design, Construction and Surveying Standards Manual have been met, including those standards greater than minimum where, in my opinion, they are needed to protect the safety of the public. Any variances to the above standards are consistent with sound engineering practice and are not detrimental to the public safety and convenience. These variances have been listed herein and have been approved by the Delaware County Engineer."

E. Standard Drawing Reference Block: This area shall list all standards drawings approved by the County Engineer that are being incorporated into the plans by reference. The table shall include all applicable standard drawings (Delaware County, ODOT, and City of Columbus), drawing number or designation, originating agency and date. Reference to either ODOT or City of Columbus Standard Drawings (if required) shall be based on the road classification, as outlined in Article II, Section 203 of these Standards. If incorporated, the County Engineer shall be provided copies of these drawings when the plans are filed for construction. Copies shall also be included with plan submissions if requested.

F. Variance or Design Exceptions: These shall be shown on the appropriate plan sheets and listed in a tabular form on the title sheet along with the date approved by the County Engineer.

G. Supplemental Specifications: A list of all applicable supplemental specifications approved or adopted by the County Engineer.

H. Specification Statement: An area above the signature block shall have one of the following statements.

The following statement is for all projects that require the use of ODOT CMS.

1. "The Delaware County Engineer's Design, Construction and Surveying Standards, current edition, the standard specifications of the State of Ohio Department of Transportation, current edition (English Units), including standard drawings and supplemental specifications listed shall govern this improvement."

The following statement is for all projects that require the use of the City of Columbus CMS.

2. "The Delaware County Engineer's Design, Construction and Surveying Standards, current edition, the standard specifications of the City of Columbus, current edition (English Units), including standard drawings and supplemental specifications listed shall govern this improvement."

See Article II, Section 203 of these Standards to determine (based on road classification) which statement is required.

I. Change Order Block: Change orders shall be shown in tabular form on the Title Sheet. This block shall contain a description of the Change Order including affected plan sheets, an initial column for the design engineer with date and an approval column for the County Engineer with date and Change Order number.

The size and location of the various elements (e.g., standard drawing block, change order block, signature block, etc.) required on the Title Sheet shall be subject to the approval of the County Engineer.

403 REQUIREMENTS

A. General:

1. Plan Requirements: The Final Engineering and Construction Plan shall include all items which are required on the Preliminary Engineering Plan including documentation of resolution of all changes and corrections as discussed in the preliminary reviews along with details, estimated quantities, supplemental specifications, standard drawings, proposal notes, etc. needed for construction. Failure to identify additions/deletions shall be cause for immediate disapproval of the plans, and require a resubmittal of the plans with additional review fees. For projects which require the use of ODOT specifications per Article II, Section 203, (Major arterials, minor arterials, major collectors and minor rural collectors), the requirements of the ODOT L&D Manual, current edition shall apply for all design standards, plan preparation, etc.

2. Drawing Standards: Plan line weights and style, topographic symbols, etc. shall conform to the plan requirements as established in ODOT's Location and Design Manual, current edition.

3. General Notes: A set of general notes covering non-standard situations which are not covered under the general specifications shall be included on a separate General Notes sheet within the Final Engineering and

Construction Plan. Sample General Notes are located in the Supplemental Specifications of these Standards and must be included on the projects. These General Notes shall be used on all projects with road classifications of Minor Urban Collectors, Local, Commercial, Common Access Drives, Industrial and Multi-Family. These General Notes shall not be altered or revised without written approval of the County Engineer. General notes shall not be placed on the title sheet.

4. General Summary/Table of Estimated Quantities: A table of "Estimated Quantities" including a column for "Item Number", "Description", "Quantity" and "Unit" shall be included on a separate Estimated Quantities sheet within the Final Engineering and Construction Plan. A sample estimated quantities table is located in the Supplemental Specifications of these standards. A Microsoft Excel document containing all the estimated quantities is available from the County Engineer. Estimated quantities shall not be placed on the title sheet.

5. Cost Estimate: A Final Engineer's Cost Estimate shall be submitted. The unit prices used shall comply with current Delaware County Engineer unit bid prices.

   The format for the Engineer's Cost Estimate can be found in the Supplemental Specifications of these Standards. An electronic version of the bid prices (PDF format) is available on the County Engineer's Design Resource Page on the website at: http://www.co.delaware.oh.us/engineer/drp.htm.

   This estimate shall include the name, address and phone number of the Owner; indicate if the Project Agreement is to be a bond or no-bond type of agreement; be signed and dated by an Ohio Registered Professional Engineer; and contain an approval line for the County Engineer.

   Once the final review is complete and the necessary revisions have been made to the Final Engineer's Cost Estimate, it shall be submitted for approval by the County Engineer. An approved Engineer's Estimate shall be valid for 6 months, unless otherwise approved by

the County Engineer's Office. If construction has not begun within the 6 month period, a revised estimate using current unit bid prices shall be submitted to the County Engineer for approval. Any surety issued within the 6 month period will require revision to conform to the approved Engineer's Estimate.

B. Street Plan, Plat, Profile and Cross Section Sheets:

All streets within the subdivision shall be shown on standard plan and profile sheets in accordance with Section 403.2 of these Standards. The County Engineer shall approve use of scales other than those shown below.

1. Normal scales:

a) Vertical Scale - 1" = 5'

b) Horizontal Scale - 1" = 50' (maximum)

A more detailed scale such as 1" = 20' or 1" = 30' is preferred. 1" = 20' scale is required for all road widening sheets.

c) Plats - 1" = 50 feet (maximum)

A more detailed scale such as (e.g., 1" = 40 feet, 1" = 30 feet) is preferred.

d) Intersection and Cul-de-sac Details - 1" = 20' or 1" = 30'

2. Plan Items (shall include but not be limited to):

a) Street centerline, stationing, right-of-way lines, easements and lot numbers.
b) Pavement, curbs, gutters, waterlines, storm and sanitary sewer structures, guardrail, and all existing and proposed utilities.
c) Topographic features within the general area and any obstructions or encroachments within the right-of-way or construction area.
d) Descriptions of benchmarks and their locations. (Refer to Article X of these Standards.)
e) Work and/or clearing limits.
f) Intersection and cul-de-sac details.

g) Station and offset of all structures and/or GPS coordinates.

3. Profile Items (shall include but not be limited to):
   a) Centerline stationing, original ground profile grade on the proposed centerline and the proposed profile grade.
   b) Vertical curve data and elevations (at all sag and crest points, as well as at even 25 ft. intervals) and sight distance data.
   c) Elevations at even 50-ft. stations for areas outside vertical curves
   d) Storm and sanitary sewer structures, waterline, culverts, and bridges.
   e) All existing and proposed utility crossings (location and elevation).
   f) Clearly label all pipe material specification and classification.

4. Cross-section Sheets:
   a) Minimum scales (unless otherwise approved by the County Engineer):

      Vertical Scale - 1” = 5’

      Horizontal Scale - 1” = 10’

   b) Location: Cross-sections shall be shown at even 50-foot intervals and other needed locations as determined by the County Engineer. All cross sections shall show the existing ground line dashed, with the proposed line drawn solid.
   c) Data: Include the following data from top to bottom:
      (1) Proposed finished grade elevation at centerline.
      (2) Station number (and street name, if more than one proposed street).
      (3) Existing elevation at the centerline.

(4) Ditch flowline elevation.

(5) Existing and proposed utilities (location and elevation).

(6) Foreslope and backslope slope rates (e.g., 4:1, 3:1).

d) Requirements for Cross-sections: Cross-sections shall be provided for all open ditch and curb and gutter streets. Cross-sections shall also be provided for all driveways and culverts.

Where a typical roadway cross-section is provided, road boxout dimensions shall be provided. A maximum of four cross-sections are permitted per plan sheet.

5. Drainage Structures:

Detailed drawings of all bridges, culverts and other drainage structures (other than standard culvert pipes with pipe diameter less than 36") shall be provided with the Final Engineering and Construction Plan. Plan format shall follow current ODOT L&D Manual and Bridge Design Manual Standards, and Article VI of these Standards. The plan scale shall be 1" = 10'- 0" (min). The use of precast wingwalls, headwalls, footings, etc. may be permitted at the discretion of the County Engineer. Requirements for precast wingwalls, headwalls, footings, etc. are outlined in the Supplemental Specifications of the Standards.

C. Master Grading Plan:

This plan shall include all elevations or a profile along the routing path and any other elevations necessary to show that the major storm is contained within the planned area. A detail of the typical section(s) and profile for all flood route(s) shall be provided.

The following information shall be provided on the Master Grading Plan:

1. Maximum scale of 1" = 50'-0". A more detailed scale, such as 1" = 40'-0" is permitted.

2. Rear lot drainage shall have a minimum slope of 2% or a storm sewer system shall be provided in all rear lots. The minimum slope for rear yards and side yards is 1%.

3. For rear lots with slopes of less than the 2% minimum slope, storm structures shall be placed in the rear lots at every third property line. For back yards on ravines, storm structures may not be necessary, at the discretion of the County Engineer. All sump pumps and roof drains shall outlet into the rear lot storm sewer system unless another means is found acceptable by the County Engineer based on specific site conditions.

4. The rear lot storm sewer pipes shall be designed for the 5 year hydraulic grade line not to exceed the top of grate.

5. 10-year ponding limits at all catch basins shall not exceed ponding depth of 1.5 feet.

6. No coring of the curb shall be permitted.

7. Elevations at all proposed property corners and all break points.

8. Along project boundaries with adjacent owners or at edges of No Build Zones/Conservation Easements, the proposed grades must match existing ground or lot grades.

9. Existing and proposed contours must be shown at 1-foot intervals. In areas defined as rolling terrain on the site, contours at 5-foot intervals are allowed.

10. Drainage arrows to indicate design sheet flow.

11. Cross-section and profile of all flood routes.

12. Offsite flows must be shown at property lines by arrows (indicating direction of flow) and the total acres tributary to those points.

13. Finished Grade and Hold-Down (rough grade) elevations.

14. 100-year headwater elevations for all culvert crossings, with easements provided (easement width based on elevation of 1.0’ above the 100-year elevation).

15. All easements must be shown and dimensioned, including major flood route easements, preservation easements, storm sewer easements, etc. See Supplemental Specifications for easement widths.

16. Flood routes on lot lines shall indicate limits of stormwater flow (Q100) so that utility pedestal can be placed above the Q100 stormwater flow limits. Flood Routes shall be clearly indicated and labeled on the plan.

17. All existing vegetation, limits of trees to be protected, wetlands, archeological areas, etc. must be delineated.

18. All proposed stormwater management facilities.

19. Construction limits.

20. For minor drainage courses on lot lines, utility pedestals shall be offset to avoid impeding the drainage course.

21. Landscape and/or mounding features plan for a proposed development shall be shown on the Master Grading Plan. This requirement is to assure there are no conflicts with these landscape features and the proposed drainage facilities, sight distance issues or right-of-way encroachments for the proposed development.

All proposed walkout basements shall be designated at the time the Final Engineering and Construction Plans are submitted for their initial review.

D. Detailed Retention/Detention Basin Plans

The purpose of these plans are to provide greater level of detail of how these storm water basins are to be constructed to aid the contractor as well as to aid the construction inspection of these facilities.

These basins must be provided on a separate plan sheet from the Master Grading Plan to provide a greater level of detail. However, the Master Grading Plan shall include the proposed stormwater basins drawn to proper scale. Unless otherwise approved by the County Engineer, these detailed plans shall include the following:

Note: See Section 601 of Article VI of these Standards for density classifications.

1. Dimensioned plan and cross-sectional views of the complete basin. The plan view shall include contour lines at one-foot intervals and the area of each contour plane. The basin side slopes shall be labeled on the cross sections.
2. Emergency spillway designed to convey the 100-year storm.
3. Detail(s) of the detention flow control structure(s) including sizes, orifice plates, specifications, and materials.
4. See the Article IX and the Supplemental Specifications for Allowable Peak Runoff Rates and other Design Criteria.

E. Storm Water Tributary Map Requirements:

See the Supplemental Specifications for the Pre- and Post-Development Storm Water Tributary Map requirements for the maps to be included with the Final Engineering and Construction Plan. Please refer to Article IX for the minimum standards and specifications for design.

F. Sediment Control Plan:

The erosion and sediment control plan shall represent the best management practices currently available at the time of the design. This plan must be a separate plan sheet from the Master Grading Plan. The plan must be designed in order to minimize the amount of sediment leaving the site. This plan and its components are subject to the review and approval of the Delaware County Engineer. Please refer to Article XII and the Supplemental Specifications for the requirements.

G. Road Widening, Shoulder and Ditch Improvements:

All subdivision projects (non-publicly funded) fronting on an existing public road shall provide pavement, shoulder widening and ditch improvements plan sheets. These plan sheets shall comply with the ODOT Location and Design Manual, current edition, including the Supplemental Specifications and Standard Drawings. Please also refer to the Supplemental Specifications

of these Standards for additional requirements. The plan sheets shall include, but is not limited to, the following items:

1. Typical Section and Pavement Width: The County Engineer shall approve the proposed typical section (pavement buildup) and pavement width.
2. Cross-sections at even 50-foot intervals and at all structures, drives and road entrances.
3. Proposed and existing road profile at the existing profile grade line.
4. At the discretion of the County Engineer, an alternative ditch design may be necessary for ditch slopes of 3:1 or steeper.
5. Proposed drive profiles. Note that if drives are located close to road cross sections, the drives may be shown in the cross sections instead of the drive profiles.
6. Plans for modification and/or extension of existing drainage structures and/or culverts. The County Engineer will determine if the existing drainage structure(s) are to be modified or be replaced.
7. Calculations for drive culverts.
8. Maintenance of traffic plan sheet(s), plan notes and permits are required for all work within the R/W. The Delaware County Permit Department will need to be contacted to obtain the necessary permit(s).
9. Identification, including horizontal and vertical locations of existing utilities (both above and below ground), and subsurface drainage systems. The requirements for relocation of utilities must comply with the County Engineer's Utilities Policy. A copy of this policy is included in the Supplemental Specifications of these Standards. Relocation of any affected utility lines will need to be done as part of the County Engineer's permit process. Coordination by the Owner with the affected utilities must be done as early as possible in the design process so that potential delays in relocating the utilities can be avoided. The Owner is responsible for

reimbursing the utility companies for this work. The County Engineer reserves the right to request proof of payment (by the Owner) from any utility company that is required to relocate their facility. Lack of timely relocation by the utility company could cause denial by the County Engineer of all pending utility permits for this utility company. In no case will an existing underground utility be permitted to remain beneath the pavement or shoulder.

10. Proposed right-of-way shall be shown. The right-of-way width provided shall comply with these standards. Please see the Supplemental Specifications for further information.

11. Show the Clear Zone on the plans as well as the location of existing utility poles and items that lie within the Clear Zone.

12. At the joint where the existing and proposed pavement meet the County Engineer will require an approved pavement reinforcement to minimize cracking of the pavement joint.

13. Subgrade stabilization or full depth pavement repairs may be required under the proposed pavement to minimize settlement. The requirements for this repair or stabilization (e.g., construction methods, materials, etc.) shall meet these Standards and Supplemental Specifications.

14. The Owner is required to submit a video tape of the existing roadway, documenting the condition of the existing pavement, location of existing utilities, ditches, driveways, culverts, structures, etc. at the time the plans are signed by the County. The videotaping is required to document the condition of the existing area prior to the start of construction. The tape will be used by the County Engineer during the construction phase should any disputes with adjoining property owners or the Contractor arise. The video will need to include a narrative describing the approximate location of the features mentioned previously including the date and

time of videotaping. See Supplemental Specifications for further information.

15. Construction start and end dates shall be approved by the County Engineer prior to the start of any construction activities. The County Engineer reserves the right to stop (or delay) construction activities at anytime (e.g. at the end of the construction season, etc.), should an unsafe condition arise. No road widening work will be permitted between December 1 and April 1.

All work on the existing road system such as pavement widening, turn lanes, ditch and drainage improvements, etc. shall be done as part of the first phase for any proposed development. The road widening plan sheets shall be included as part of the Final Engineering and Construction Plan for the first phase of the development. The County Engineer will not release building permits until this work is complete. Further, streets shall not be accepted onto the system without this work being complete.

H. Traffic Control, Signing, Pavement Markings, Street Names and Highway Lighting (if applicable) Plan:

All necessary street name signs, traffic control devices, traffic signs, pavement markings and highway lighting (if applicable) shall be shown in the Final Engineering and Construction Plan. These details shall be provided on separate sheet(s) and not included on the other plan sheets within the Final Engineering and Construction Plans. If only one intersection is involved with a maximum of 8 lots in the entire development, then a separate signage/striping plan is not necessary. All regulatory traffic control devices and signs shall conform to the requirements of the ODOT Manual Of Uniform Traffic Control Devices (MUTCD), Current Edition. All street names shall be approved by the Delaware County Engineer's Map Department prior to final plan approval by the County Engineer. Highway lighting (if required) shall be provided as directed by the Delaware County Engineer, and shall conform to the ODOT L&D Manual, current edition.

I. Special Construction Details:

These sheets should contain the details of special construction items not otherwise included in the plan or standard drawings modified to meet specific needs for the project. Reference must be made to the source of the drawings (e.g. ODOT, City of Columbus, etc.).

J. Drafting and Computer Aided Design and Drafting (CADD):

Drafting and CADD drawings shall conform to the requirements as established in ODOT's L&D Manual, current edition. The intent of this requirement is to provide a uniform standard concerning font sizes, line weights, symbols, etc, used in CADD drawings. It is not the intention of Delaware County to establish layer standards at this time, however, the County Engineer reserves the right to establish these standards if needed. As the County GIS system expands, this type of layer standard may be needed.

404 COMMON ACCESS DRIVES, COMMERCIAL, INDUSTRIAL, & MULTI-FAMILY PLAN DEVLOPMENT AND APPROVAL PROCEDURE

The plan development for these projects shall follow the procedure set forth in Article II of these Standards. The Final Engineering and Construction Plan shall meet all the requirements of the County Engineer as set forth in these Standards (e.g., work within the right-of-way, storm water management and erosion and sediment control). The required items on the Master Grading Plan as listed in Art. IV, Section 403 C shall apply to all CAD, Commercial, Industrial and Multi-family sites.

The submittal of the preliminary engineering plan may be waived for Commercial, Common Access Drive and Multi-family sites.

Procedure for approval: Once the Final Engineering and Construction Plan is acceptable, the County Engineer shall notify the Owner and/or Design Engineer. The original mylar title sheet, and all required permit applications (including Drainage Maintenance Petition) shall be submitted to the County Engineer for final signature. No plan will be signed until permit fees have been paid. A DESC permit is required for all CAD, Commercial, Industrial and Multi-family sites. Please refer to Article XII of these standards for further information.