SUBDIVISION AND LAND DEVELOPMENT ORDINANCE

PENN FOREST TOWNSHIP

CARBON COUNTY, PENNSYLVANIA

EFFECTIVE: JULY 2014

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SECTION I

PURPOSE, AUTHORITY, TITLE AND JURISDICTION

100 Purpose

101 The purpose of this Ordinance is to regulate subdivision and land development within the Penn Forest Township, Carbon County, Pennsylvania.

110 Authority and Title

111 This Ordinance is enacted pursuant to the Pennsylvania Municipalities Planning Code and may be cited as the Penn Forest Subdivision and Land Development Ordinance of 2014.

120 Jurisdiction

121 This Ordinance shall apply in the following circumstances:

121.1 To all subdivision and land development plans for property located in the Penn Forest Township.

121.2 To all subdivision and land development plans for property located in the Penn Forest Township, previously approved in accordance with any law or regulation then applicable, the development of which has not been completed in accordance with the terms of such approval within five (5) years of such approval.

121.3 A modification to a submitted Drainage Plan for a proposed development site which involves a change in control methods or techniques, or which involves the relocation or redesign of control measures, or which is necessary because soil or other conditions are not as stated on the Drainage Plan (as determined by the Township Engineer) shall require a resubmission of the modified Drainage Plan consistent with this Ordinance.

130 Application

131 No subdivision or land development of any lot, tract or parcel of land shall be made, and no street, sanitary sewer, water main, gas, or electric transmission line, or other improvements in connection therewith shall be laid out, constructed, opened or dedicated for public use or travel or for the common use of occupants of buildings abutting thereon, except in accordance with this Ordinance.

No grading, earth work, or removal of natural resources shall be undertaken until approval is granted by the Township in the manner prescribed herein.

132 No lot in a proposed subdivision or land development may be sold, and no final permit to erect any building upon land in a subdivision or land development may be issued unless and until a final plan has been approved and recorded and either the Penn Forest Township has been assured by means of an Improvements Agreement acceptable to the

Township that the improvements will subsequently be installed or the required improvements in connection therewith have been constructed.

133 Notwithstanding any provisions of this Ordinance, including waiver provisions, any landowner and any person engaged in the alteration or development of land which may affect storm water runoff characteristics shall implement such measures as are reasonably necessary to prevent injury to health, safety or other property. Such measures shall include such actions as are required to manage the rate, volume and direction of resulting storm water runoff in a manner which otherwise adequately protects health and property from possible injury.

134 Board of Supervisors may grant a modification of the requirements of this ordinance, through a waiver, if strict application of these requirements would be unreasonable or cause undue hardship, or when an alternative standard can be demonstrated to provide equal or better results, provided that such modification will not be contrary to the public interest and that the purpose and intent of the Ordinance is observed. All requests for modifications shall:

134.1 Be in writing and be part of the application for subdivision and/or land development;
134.2 State the grounds and facts of unreasonableness or hardship on which the request is based;
134.3 List the provision(s) of the Ordinance involved:
134.4 State the minimum modification necessary;
134.5 Be subject to approval by the Board of Supervisors after receiving advisory recommendations from the Township Planning Commission.
134.6 All granted requests must be listed on the plan to be recorded, must clearly & concisely state what section is being requested to be waived, and state when the request was granted and, where applicable, state any conditions that may have been imposed.

SECTION II

SUBMISSION PROCEDURES

210 Sketch Plan Review Submission

211 Sketch plan review maps and materials may be submitted for any proposed subdivisions and land developments, for purposes of discussion between the Penn Forest Board of Supervisors, the Penn Forest Township Planning Commission and the developer.

212 Eleven (11) copies of all review maps and materials, as set forth in Section 300, shall be submitted to the Township Planning Commission Secretary or her/his designee.

213 The Township Planning Commission Secretary or her/his designee shall distribute one (1) copy of the review maps and materials to each member of the Planning Commission for its review and recommendations, and one (1) copy of said material to each member of the Board of Supervisors for their later review and discussion if deemed appropriate.

214 The Township Planning Commission Secretary or her/his designee shall refer one (1) copy of review maps and materials to the Township Engineer for its review and recommendations.

215 The Township Planning Commission Secretary or her/his designee shall distribute one (1) copy of the review maps and materials to the Township Zoning Office for review and recommendations.

216 One (1) application, one (1) plan print information, and one (1) copy of supplemental information shall be retained by the Township Planning Commission Secretary or her/his designee.

220 Sketch Plan Review

221 When review maps and materials have been submitted to the Planning Commission, the data presented will be reviewed by that body at its next regular meeting, provided that submission has occurred no less than twenty-one (21) days prior to such scheduled meeting.

222 The Planning Commission shall review the review data to determine the development potential of the site, as indicated by the natural features analysis presented. The general development concepts of the developer will be reviewed to determine their compatibility with the development potential of the site and with relevant plans and ordinances. Also, the review stage is designed to offer the developer an opportunity to informally discuss his or her plans for the proposed subdivision or land development with the Planning Commission.

223 Within sixty (60) days of submission of review maps and materials to the Planning Commission, the Planning Commission shall make any recommendations about the application to the Board of Supervisors which it deems necessary or advisable in the public interest in order to provide an acceptable subdivision or land development plan

for the site, for review and discussion at the next regularly scheduled Board of Supervisors meeting.

224 Within fifteen (15) days after such meeting, the Board of Supervisors, if they have met to discuss, and if they deem it necessary, may send written notice of its recommendations to the following:

224.1 The applicant;

224.2 The applicant's engineer or surveyor;

224.3 The Penn Forest Planning Commission.

225 The time period for review of the plan may be extended by mutual agreement of the Applicant and the Planning Commission, and any such agreement shall be in writing.

230 Submission of the Preliminary Plan

231 Preliminary Plans and all required supplementary data for all proposed subdivisions and land developments shall be submitted to the Township Planning Commission Secretary or her/his designee.

232 Official submission of a Preliminary Plan to the Township Planning Commission Secretary or her/his designee by a developer shall comprise of the following: (submissions which do not include the material specified in the following subsections shall not be accepted as an official submission.) The Township Planning Commission Secretary or her/his designee shall examine the material submitted for completeness. If the application is complete, the Township Planning Commission Secretary or her/his designee shall proceed with the provisions of Section 233. If the application is missing one or more completeness review required items, the Township Planning Commission Secretary or her/his designee shall not accept the application for review and shall notify the applicant of the missing items.

232.1 Five (5) copies of a completed Application for Review of Preliminary Subdivision Plans;

232.2 Six (6) black-on-white or blue-on-white prints on paper of the Preliminary Plan which shall fully comply with the provisions of this Ordinance as set forth in Section 310;

232.3 Three (3) copies all required supplemental information as set forth in Section 316;

232.4 Additional sets of application forms, plans and supplemental material shall be submitted if sections 234.1 or 234.2 are applicable.

232.5 The review fee and escrow shall be submitted as set forth in Section 640.

233 The Township Planning Commission Secretary or her/his designee shall refer preliminary plan submission materials to the various review bodies as follows (unless noted otherwise):

233.1 One (1) plan print to each member of the Penn Forest Planning Commission;

233.2 One (1) application, one (1) plan print, and one (1) copy of the supplemental information to the Township Engineer for review and recommendation;

233.3 One (1) application, one (1) plan print, to the Township Zoning Officer for review and recommendation;

233.4 One (1) application, one (1) plan print information, and one (1) copy of supplemental information shall be retained by the Township Planning Commission Secretary or her/his designee.

233.5 Carbon County Planning Commission – all required documentation for this application shall be submitted, by the applicant, directly to Carbon County with proof of submission sent to Penn Forest Township.

233.51 One (1) application, one (1) plan print and the review fee shall be sent to the Carbon County Planning Commission by the applicant. If the application requires the preparation of a storm water management plan pursuant to this ordinance, the applicant shall send one additional plan print and the storm water calculations to the Carbon County Planning Commission. If a traffic study is prepared pursuant to this ordinance, the applicant shall also send it to the Carbon County Planning Commission.

234 The Township Planning Commission Secretary or her/his designee shall refer additional copies of the Preliminary Plan materials to the respective agencies in the following circumstances:

234.1 Whenever the property being subdivided or developed abuts a State Legislative Route, one (1) plan print shall be submitted to the Pennsylvania Department of Transportation District Office;

234.11 Whenever any work or improvements are proposed in an adjacent state right of way, as a part of the project, it is the responsibility of the applicant to submit plans, calculations, and application to PennDOT, with submission proof submitted to Penn Forest Township.

234.2 Whenever a proposed subdivision or land development is located adjacent to another municipality, one (1) plan print shall be referred to that municipality.

235 Supplemental submissions are permitted subject to the following provisions:

235.1 The supplemental submission shall consist of six (6) complete sets of the plans, three (3) copies of any revised supporting documentation, a completed and executed application form which notes the submission as a supplemental submission and a detailed written summary of the changes made. The summary of the changes made shall refer to reviews to which the changes are responding.

235.2 The submission shall be received at least twenty-one (21) days prior to the date of the next meeting of the Penn Forest Planning Commission at which the

application is to be considered. Distribution of supplemental submissions shall be in accordance with Section 233.

235.3 Supplemental submissions which do not comply with the requirements of Section 235.1 shall not be accepted for review. The submission of a final plan application will not be considered as a supplemental submission.

240 Review of Preliminary Plan

241 By the Penn Forest Planning Commission

241.1 When a Preliminary Plan has been accepted for review, such plan shall be placed on the agenda of the Planning Commission for review at its next regular meeting, provided that such official submission has occurred no less than twenty-one (21) calendar days prior to such regular meeting. The Planning Commission may hold a Public Hearing on the Preliminary Plan at this time.

241.2 The Planning Commission shall review the Preliminary Plan to determine its conformance with the standards contained in this Ordinance and other applicable Township ordinance; consider comments and recommendations of the Township Engineer, Township Zoning Office, and other reviewing agencies; and shall require or recommend such changes and modifications as it deems necessary.

241.3 Within sixty (60) days following the date of the regular meeting of the Planning Commission next following the date of the application (unless the next meeting does not fall in a 30-day period in which case the 60-day period commences on the 30th day following the date of the application), the Penn Forest Planning Commission shall recommend to the Penn Forest Board of Supervisors that the Preliminary Plan be approved, conditionally approved or disapproved together with the documented findings upon which the recommendation is based.

242 By the Penn Forest Board of Supervisors

242.1 Within ninety (90) days following the date of the regular meeting of the Planning Commission next following the date of the application (unless the next meeting does not fall in a 30 day period following the date of the application in which case the 90 day period commences on the 30th day following the date of the application), the Board of Supervisors shall, in accordance with the provisions of this ordinance and other applicable Township Ordinances and considering the recommendations of the Penn Forest Planning Commission and the Carbon County Planning Commission, take action by approving, conditionally approving or disapproving the Preliminary Plan.

242.11 Prior to the above action by the Board of Supervisors, the applicant shall make all requested revisions to plans and supporting documents and reports; provide a detailed narrative of changes – referenced to review comments, discussion at Planning Commission meetings, regulator comments, etc. ; and submit said plans and documents to

the Township Secretary a minimum of 21 days prior to the Board of Supervisors meeting where action is requested to be taken.

242.12 Nine (9) copies of plans and documents, such as letter, permits, etc. and two (2) copies of all supporting documents, (studies, reports), shall be submitted. If applicable, for other reason(s), additional copies shall be submitted.

Distribution shall be as below:

242.121 One (1) set of plans and supporting documentation to the Township Engineer for review. Within 10 days, the Township Engineer shall determine if all revisions to the plans and documents have been made, and if so, recommend that the project be placed on the Board of Supervisors Meeting Agenda for discussion, and if appropriate, action.

242.122 If recommendation is made to place the project on the Board of Supervisors Agenda, Distribution of plans and appropriate supporting documentation shall be made to each Township Supervisor; the Township Zoning Officer; and a copy of all shall be retained by the Township Planning Commission Secretary.

242.2 No action shall be taken by the Board of Supervisors until it has received the written report of the Carbon County Planning Commission. However, the Board of Supervisors may act on the Preliminary Plan application if more than thirty (30) days have elapsed since the date that the application was forwarded to the Carbon County Planning Commission and the Carbon County Planning Commission has not issued a written report.

242.3 The Board of Supervisors shall issue a written copy of the decision and communicate it to the applicant personally or mail it to him at this last known address not later than fifteen (15) days following the decision. Copies of the decision shall also be mailed to

242.31 The applicant's engineer or surveyor;
242.32 The Penn Forest Planning Commission;
242.33 The Township Engineer
242.34 The Carbon County Planning Commission.

242.4 The applicant shall be provided with a form to indicate acceptance of the conditions of approval, if any were imposed. The form shall be signed and dated by the applicant and shall be returned to the Township Planning Commission Secretary or her/his designee on behalf of the Township. Unless the signed, dated form is received by the Township within ten (10) days of the date that the form was sent to the applicant, the Board of Supervisors action is to deny the application for failure to comply with the ordinance requirements cited in the action for conditional approval.

243 The time period for review of the plan may be extended by mutual agreement of the Applicant and the Board of Supervisors, and any such agreement shall be in writing.

250 Submission of the Final Plan

251 Within twelve (12) months after approval of the Preliminary Plan, a Final Subdivision or Land Development Plan and all required supplemental data shall be submitted to the Township Planning Commission Secretary or her/his designee. An extension of time may be granted by the Penn Forest Board of Supervisors upon written request, otherwise, the plan submitted may be considered as a new Preliminary Plan.

252 The Final Plan shall conform in all significant respects to the Preliminary Plan as previously approved by the Penn Forest Board of Supervisors and shall incorporate all modifications required by the Board of Supervisors in its Preliminary Plan approval. The Board of Supervisors may, however, accept a Final Plan modified so as to reflect any substantial changes which have occurred on the site of the proposed subdivision, or its surroundings, since the time of the Preliminary Plan review.

253 The Final Plan may be submitted in sections or stages, each covering a reasonable portion of the entire proposed subdivision as shown on the reviewed Preliminary Plan, in accordance with the regulations set forth in Section 320. In the case of the Final Subdivision or Land Development Plan which is to be submitted in sections or stages over a period of years, the time between submission of application for final approval of each stage or section shall be no greater than twelve (12) months, unless extended by mutual agreement of the applicant and the Board of Supervisors in writing.

254 Final Plans and all required supplementary data for all proposed subdivisions and land developments shall be submitted to the Township Planning Commission Secretary or her/his designee.

255 Official submission of a Final Plan to the Township Planning Commission Secretary or her/his designee by a developer shall comprise of the following: (submissions which do not include the material specified in the following subsections shall not be accepted as an official submission.) The Township Planning Commission Secretary or her/his designee shall examine the material submitted for completeness. If the application is complete, the Township Planning Commission Secretary or her/his designee shall proceed with the provisions of Section 256. If the application is missing one or more completeness review required items, the Township Planning Commission Secretary or her/his designee shall not accept the application for review and shall notify the applicant of the missing items.

255.1 Five (5) copies of a completed Application for Review of Final Subdivision Plans;

255.2 Seven (7) black-on-white or blue-on-white prints on paper of the Final Plan which shall fully comply with the provisions of this Ordinance as set forth in Section 320;

255.3 Three (3) copies all required supplemental information as set forth in Section 324;

255.4 Additional sets of application forms, plans and supplemental material shall be submitted if Section 257 is applicable.

255.5 The review fee and escrow shall be submitted as set forth in Section 640.

256 The Township Planning Commission Secretary or her/his designee shall refer final plan submission materials to the various review bodies as follows:

256.1 One (1) plan print to each member of the Penn Forest Planning Commission;

256.2 One (1) application, one (1) plan print, and one (1) copy of the supplemental information to the Township Engineer for review and recommendation;

256.3 One (1) application and one (1) plan print to the Township Zoning Officer for review and recommendation

256.4 One (1) application, one (1) plan print, and one (1) copy of the supplemental information shall be retrained by the Township Planning Commission Secretary, or her/his designee, and one (1) plan copy shall be transmitted to the Board of Supervisors;

256.5 Carbon County Planning Commission – all required documentation for this application shall be submitted, by the applicant, directly to Carbon County with proof of submission sent to Penn Forest Township.

256.51 One (1) application, one (1) plan print and the review fee shall be sent to the Carbon County Planning Commission by the applicant. If the application requires the preparation of a storm water management plan pursuant to this ordinance, the applicant shall send one additional plan print and the storm water calculations to the Carbon County Planning Commission. If a traffic study is prepared pursuant to this ordinance, the applicant shall also send it to the Carbon County Planning Commission.

257 The Township Planning Commission Secretary or her/his designee shall refer additional copies of the Preliminary Plan materials to the respective agencies in the following circumstances:

257.1 Whenever the property being subdivided or developed abuts a State Legislative Route, one (1) plan print shall be submitted to the Pennsylvania Department of Transportation District Office;

257.11 Whenever any work or improvements are proposed in an adjacent state right of way, as a part of the project, it is the responsibility of the applicant to submit plans, calculations, and application to PennDOT, with submission proof submitted to Penn Forest Township.

257.2 Whenever a proposed subdivision or land development is located adjacent to another municipality, one (1) plan print shall be referred to that municipality.

258 Whenever the subdivision or land development requires a soil erosion and sedimentation control plan, as described in Section 491.5 of this ordinance, one (1)

application, one (1) plan print and one (1) copy of supplemental information shall be submitted to the Carbon County Conservation District, by the applicant, with submission proof submitted to Penn Forest Township.

260 Review of Final Plan

261 By the Penn Forest Planning Commission

261.1 When a Final Plan has been accepted for review, such plan shall be placed on the agenda of the Planning Commission for review at its next regular meeting, provided that such official submission has occurred no less than twenty-one (21) calendar days prior to such regular meeting. The Planning Commission may hold a Public Hearing on the Preliminary Plan at this time.

261.2 The Planning Commission shall review the Final Plan to determine its conformance with the standards contained in this Ordinance and other applicable Township ordinance, and shall require or recommend such changes and modifications as it deems necessary.

261.3 Within sixty (60) days following the date of the regular meeting of the Planning Commission next following the date of the application (unless the next meeting does not fall in a 30-day period in which case the 60-day period commences on the 30th day following the date of the application), the Penn Forest Planning Commission shall recommend to the Penn Forest Board of Supervisors that the Final Plan be approved, conditionally approved or disapproved together with the documented findings upon which the recommendation is based.

261.4 The time period for review of the plan may be extended by mutual agreement of the Applicant and the Planning Commission, and any such agreement shall be in writing.

262 By the Penn Forest Board of Supervisors

262.1 Within ninety (90) days following the date of the regular meeting of the Planning Commission next following the date of the application (unless the next meeting does not fall in a 30 day period following the date of the application in which case the 90 day period commences on the 30th day following the date of the application), the Board of Supervisors shall, in accordance with the provisions of this ordinance and other applicable Township Ordinances and considering the recommendations of the Penn Forest Planning Commission and the Carbon County Planning Commission, take action by approving, conditionally approving or disapproving the Final Plan.

262.11 Prior to the above action by the Board of Supervisors, the applicant shall make all requested revisions to plans and supporting documents and reports; provide a detailed narrative of changes – referenced to review comments, discussion at Planning Commission meetings, regulator comments, etc. ; and submit said plans and documents to the Township Secretary a minimum of 21 days prior to the Board of

Supervisors meeting where action is requested to be taken.

262.12 Nine (9) copies of plans and documents, such as letter, permits, etc. and two (2) copies of all supporting documents, (studies, reports), shall be submitted. If applicable, for other reason(s), additional copies shall be submitted.

Distribution shall be as below:

262.121 One (1) set of plans and supporting documentation to the Township Engineer for review. Within 10 days, the Township Engineer shall determine if all revisions to the plans and documents have been made, and if so, recommend that the project be placed on the Board of Supervisors Meeting Agenda for discussion, and if appropriate, action.

262.122 If recommendation is made to place the project on the Board of Supervisors Agenda, Distribution of plans and appropriate supporting documentation shall be made to each Township Supervisor; the Township Zoning Officer; and a copy of all shall be retained by the Township Planning Commission Secretary.

262.2 No action shall be taken by the Board of Supervisors until it has received the written report of the Carbon County Planning Commission. However, the Board of Supervisors may act on the Final Plan application if more than thirty (30) days have elapsed since the date that the application was forwarded to the Carbon County Planning Commission and the Carbon County Planning Commission has not issued a written report.

262.3 The Board of Supervisors shall issue a written copy of the decision and communicate it to the applicant personally or mail it to him or her at this last known address not later than fifteen (15) days following the decision. Copies of the decision shall also be mailed or provided to

262.31 The applicant's engineer or surveyor;
262.32 The Penn Forest Planning Commission;
262.33 The Township Engineer
262.34 The Carbon County Planning Commission.

262.4 The applicant shall be provided with a form to indicate acceptance of the conditions of approval, if any were imposed. The form shall be signed and dated by the applicant and shall be returned to the Township Planning Commission Secretary or her/his designee on behalf of the Township. Unless the signed, dated form is received by the Township within ten (10) days of the date that the form was sent to the applicant, the Board of Supervisors action is to deny the application for failure to comply with the ordinance requirements cited in the action for conditional approval.

263 The time period for review of the plan may be extended by mutual agreement of the

Applicant and the Board of Supervisors, and any such agreement shall be in writing.

264 When a Final Plan has been approved without conditions or approved with conditions accepted by the applicant, no subsequent change or amendment in the Zoning Ordinance, Subdivision and Land Development Ordinance, or other governing ordinance shall be applied to affect adversely the right of the applicant to commence and to complete any aspect of the approved development in accordance with the terms of such approval within five (5) years from such approval. Where Final Plan approval is preceded by Preliminary Plan approval, the aforesaid five (5) year period shall be counted from the date of the Preliminary Plan approval.

264.1 In the case of any doubt as to the terms of a preliminary approval, the terms of such approval shall be construed in the light of provisions of the governing ordinances as they stood at the time when the application for such approval was duly filed.

264.2 Where the landowner has substantially completed the required improvements as depicted upon the Final Plan within the aforesaid five (5) year period, or any extension thereof as may be granted by the Board of Supervisors, no change in any Township ordinance enacted subsequent to the date of the approval of the Preliminary Plan shall modify or revoke any aspect of the approved Final Plan pertaining to zoning classification, or density, lot, building, street, or utility location.

264.3 Where the developer fails to substantially complete improvements shown on an approved Preliminary Plan within five (5) years of Preliminary Plan approval, and where no extension to such five (5) year period has been granted, the Township shall require that construction of any improvements not substantially completed meet such design standards as may have been adopted by the Township since the date of Preliminary Plan approval. Such revisions shall affect, but shall not necessarily be limited to, street construction standards, curb and sidewalk requirements and construction standards, stormwater management facilities, sanitary sewerage provisions, water supply provisions, and any other element of the design deemed by the Township to be related to the health, safety, and welfare of the future residents of the development or of the general public.

270 Recording of the Final Plan

271 After the Final Plan is approved by the Penn Forest Board of Supervisors, the applicant shall provide two mylar reproducible prints and six (6) paper prints of the Final Plan for endorsement.

272 The Record Plan shall be a clear and legible print of a type and material required by the County Recorder of Deeds.

273 After the Penn Forest Planning Commission and the Penn Forest Board of Supervisors have signed the record plan, it shall be presented to the Carbon County Planning Commission for signature pursuant to Section 513 of the PA Municipalities Planning Code. Once the plans bear these signatures, the applicant shall file the plan with the Carbon County Recorder of Deeds within ninety (90) days of the approval. The

applicant shall provide proof of the recording by providing the Township Planning Commission or her/his designee with a receipt from the Recorder's office.

274 At the time the Record Plan is endorsed by the Planning Commission and Board of Supervisors, the Township shall receive three (3) paper prints and two (2) mylar prints of the approved Final Plans for the Township's files.

275 At the time the Record Plan is signed by the Carbon County Planning Commission, it shall receive one paper copy of the plans for the permanent files.

280 Plans Exempted from Standard Procedures

281 In the case of any proposed residential subdivision which does not by itself or in combination with previously approved subdivisions, involve more than a total of three (3) lots including the residue property and does not involve the provision of any new street or easement for access (i.e. one in which all proposed lots will have frontage on an existing public street), or for a boundary adjustment where no new lots are created and where no development is proposed, the following procedure shall apply:

282 Plans and all required supplementary data for all proposed subdivisions and land developments shall be submitted to the Township Planning Commission Secretary or her/his designee.

283 Official submission of a Plan exempted from standard procedure to the Township Planning Commission or her/his designee by a developer shall comprise of the following: (submissions which do not include the material specified in the following subsections shall not be accepted as an official submission.) The Township Planning Commission Secretary or her/his designee shall examine the material submitted for completeness. If the application is complete, the Township Planning Commission Secretary or her/his designee shall proceed with the provisions of Section 284. If the application is missing one or more completeness review required items, the Township Planning Commission Secretary or her/his designee shall not accept the application for review and shall notify the applicant of the missing items.

283.1 Five (5) copies of a completed Application for Review of Preliminary Subdivision Plan Exempt from standard procedure;

283.2 Seven (7) black-on-white or blue-on-white prints on paper of the Plan which shall fully comply with the provisions of this Ordinance as set forth in Section 330;

283.3 Three (3) copies all required supplemental information as set forth in Section 334;

283.4 Additional sets of application forms, plans and supplemental material shall be submitted if sections 286.1 or 286.2 are applicable.

283.5 The review fee and escrow shall be submitted as set forth in Section 640.

284 The Township Planning Commission Secretary or her/his designee shall refer preliminary plan submission materials to the various review bodies as follows:

284.1 One (1) plan print to each member of the Penn Forest Planning Commission;

284.2 One (1) application, one (1) plan print, and one (1) copy of the supplemental information to the Township Engineer for review and recommendation;

284.3 One (1) application and one (1) plan print to the Township Zoning Officer for review and recommendation;

284.4 One (1) application, one (1) plan print shall be retained by the Township Planning Commission Secretary or her/his designee;

284.5 Carbon County Planning Commission – all required documentation for this application shall be submitted, by the applicant, directly to Carbon County with proof of submission sent to Penn Forest Township.

284.51 One (1) application, one (1) plan print and the review fee shall be sent to the Carbon County Planning Commission by the applicant. If the application requires the preparation of a storm water management plan pursuant to this ordinance, the applicant shall send one additional plan print and the storm water calculations to the Carbon County Planning Commission. If a traffic study is prepared pursuant to this ordinance, the applicant shall also send it to the Carbon County Planning Commission.

285 The Township Planning Commission Secretary or her/his designee shall refer additional copies of the Preliminary Plan materials to the respective agencies in the following circumstances:

285.1 Whenever the property being subdivided or developed abuts a State Legislative Route, one (1) plan print shall be submitted to the Pennsylvania Department of Transportation District Office;

285.11 Whenever any work or improvements are proposed in an adjacent state right of way, as a part of the project, it is the responsibility of the applicant to submit plans, calculations, and application to PennDOT, with submission proof submitted to Penn Forest Township.

285.2 Whenever a proposed subdivision or land development is located adjacent to another municipality, one (1) plan print shall be referred to that municipality.

286 Supplemental submissions are permitted subject to the following provisions:

286.1 The supplemental submission shall consist of six (6) complete sets of the plans, three (3) copies of any revised supporting documentation, a completed and executed application form which notes the submission as a supplemental submission and a written summary of the changes made. The summary of the changes made shall refer to reviews to which the changes are responding.

286.2 The submission shall be received at least twenty-one (21) days prior to the date of the next meeting of the Penn Forest Planning Commission at which the application is to be considered.

286.3 Supplemental submissions which do not comply with the requirements of Section 286.1 shall not be accepted for review. The submission of a final plan application will not be considered as a supplemental submission.

287 By the Penn Forest Planning Commission

287.1 When a Plan exempt from standard procedure has been accepted for review, such plan shall be placed on the agenda of the Planning Commission for review at its next regular meeting, provided that such official submission has occurred no less than twenty-one (21) calendar days prior to such regular meeting. The Planning Commission may hold a Public Hearing on the Preliminary Plan exempt from standard procedure at this time.

287.2 The Planning Commission shall review the plan exempt from standard procedure to determine its conformance with the standards contained in this Ordinance and other applicable Township ordinance, and shall require or recommend such changes and modifications as it deems necessary.

287.3 Within sixty (60) days following the date of the regular meeting of the Planning Commission next following the date of the application (unless the next meeting does not fall in a 30-day period in which case the 60-day period commences on the 30th day following the date of the application), the Penn Forest Planning Commission shall recommend to the Penn Forest Board of Supervisors that the plan exempt from standard procedure be approved, conditionally approved or disapproved together with the documented findings upon which the recommendation is based.

287.4 The time period for review of the plan may be extended by mutual agreement of the Applicant and the Planning Commission, and any such agreement shall be in writing.

288 By the Penn Forest Board of Supervisors

288.1 Within ninety (90) days following the date of the regular meeting of the Planning Commission next following the date of the application (unless the next meeting does not fall in a 30 day period following the date of the application in which case the 90 day period commences on the 30th day following the date of the application), the Board of Supervisors shall, in accordance with the provisions of this ordinance and other applicable Township Ordinances and considering the recommendations of the Penn Forest Planning Commission and the Carbon County Planning Commission, take action by approving, conditionally approving or disapproving the plan exempt from standard procedure.

288.11 Prior to the above action by the Board of Supervisors, the applicant shall make all requested revisions to plans and supporting documents and reports; provide a detailed narrative of changes – referenced to review comments, discussion at Planning Commission meetings, regulator comments, etc.; and submit said plans and documents to the Township Planning Commission Secretary or her/his designee a

minimum of 21 days prior to the Board of Supervisors meeting where action is requested to be taken.

288.12 Nine (9) copies of plans and documents, such as letter, permits, etc. and two (2) copies of all supporting documents, (studies, reports), shall be submitted. If applicable, for other reason(s), additional copies shall be submitted.

Distribution shall be as below:

288.121 One (1) set of plans and supporting documentation to the Township Engineer for review. Within 10 days, the Township Engineer shall determine if all revisions to the plans and documents have been made, and if so, recommend that the project be placed on the Board of Supervisors Meeting Agenda for discussion, and if appropriate, action.

288.122 If recommendation is made to place the project on the Board of Supervisors Agenda, Distribution of plans and appropriate supporting documentation shall be made to each Township Supervisor; the Township Zoning Officer; and a copy of all shall be retained by the Township Planning Commission Secretary.

288.2 No action shall be taken by the Board of Supervisors until it has received the written report of the Carbon County Planning Commission. However, the Board of Supervisors may act on the plan exempt from standard procedure application if more than thirty (30) days have elapsed since the date that the application was forwarded to the Carbon County Planning Commission and the Carbon County Planning Commission has not issued a written report.

288.3 The time period for review of the plan may be extended by mutual agreement of the Applicant and the Board of Supervisors, and any such agreement shall be in writing.

288.4 The Board of Supervisors shall issue a written copy of the decision and communicate it to the applicant personally or mail it to him at this last known address not later than fifteen (15) days following the decision. Copies of the decision shall also be mailed to

288.41 The applicant's engineer or surveyor;
288.42 The Penn Forest Planning Commission;
288.43 The Township Engineer
288.44 The Carbon County Planning Commission.

288.5 The applicant shall be provided with a form to indicate acceptance of the conditions of approval, if any were imposed. The form shall be signed and dated by the applicant and shall be returned to the Township Planning Commission Secretary or her/his designee on behalf of the Township. Unless the signed, dated form is received by the Township within ten (10) days of the

date that the form was sent to the applicant, the Board of Supervisors action is to deny the application for failure to comply with the ordinance requirements cited in the action for conditional approval.

288.6 If the plan receives final approval, the provisions of Section 270 shall apply.

SECTION III

PLAN REQUIREMENTS

300 Sketch Plan Review

301 The Sketch Plan review submission shall include the following maps and materials.

301.1 A key map, for the purpose of locating the property being subdivided, drawn at a scale not smaller than one (1) inch equals two thousand (2,000) feet and showing the relation of the property, differentiated by tone or pattern, to adjoining property and to all streets, roads and municipal boundaries existing within one (1) mile of any part of the property. The key map may be based on USGS quad sheet maps.

301.2 A map illustrating an analysis of natural drainage patterns and water resources within the proposed subdivision tract, including delineation of streams, natural drainage swales, ponds and lakes, wetlands, flood plains subject to a one hundred (100) year flood frequency, and permanent and seasonal high water table areas. The map shall be based on USGS quad sheets, County Soil Survey Maps, and the flood boundary and floodway map from the Municipal Flood Insurance Study, when available.

301.3 A topographic map of the site based on USGS quad sheets.

301.4 A map delineating additional significant physical features within the proposed subdivision tract, such as woodland areas, large trees, rock outcroppings and scenic views. The map may be based on USGS quad sheets and on-site survey work.

301.5 Where feasible and legible, the analysis involved in Sections 301.1 through 301.4 may be illustrated on one or a combination of composite maps. The combined impact of the natural characteristics upon the development potential of the tract shall be clearly illustrated on the map or maps.

301.6 A letter of intent and a sketch of the proposed subdivision or land development tract at a scale of one (1) inch equals one hundred (100) feet explaining and illustrating the developer's general development concepts for the tract. The type of development, density of development, form of ownership, circulation patterns, and means of providing major utility service should be explained and illustrated. The sketch may be based on deed and tax map information.

310 Preliminary Plan

311 The Preliminary Plan of a proposed subdivision or land development shall be clearly and legibly drawn at one of the following scales:

311.1 One (1) inch equals one hundred (100) feet;

311.2 One (1) inch equals fifty (50) feet;

311.3 One (1) inch equals twenty (20) feet; and

311.4 One (1) inch equals ten (10) feet.

312 The original drawing and all submitted prints shall be made on sheets of one of the following sets of dimensions:

312.1 Twenty-four (24) inches by thirty-six (36) inches;

312.2 Thirty-six (36) inches by forty-eight (48) inches.

313 If the Preliminary Plan requires more than one sheet, a key diagram illustrating relative location of the several sections shall be drawn on each sheet.

314 The Preliminary Plan shall indicate the following data:

314.1 Name and address of record owner;

314.2 Name of developer if different from owner;

314.3 Name of the proposed subdivision;

314.4 Name of the municipality or municipalities within which subdivision is proposed;

314.5 Names of all adjoining subdivisions, if any, and the names of owners of all adjacent unplatted land;

314.6 Name, address, license number, and seal of the registered surveyor responsible for the subdivision plan. The surveyor shall sign a statement attesting to the accuracy of the survey.

314.7 North point, graphic scale, written scale, and date including the month, day and year that the original drawing was completed, and the month, day and year that the original drawing was revised, for each revision;

314.8 A key map, for the purpose of locating the property being subdivided, drawn at a scale not smaller than one (1) inch equals two thousand (2,000) feet and showing the relationship of the property, differentiated by tone or pattern, to adjoining property and to all streets, roads, and municipal boundaries, within one (1) mile of any part of the property;

314.9 Total tract boundaries of the property being subdivided showing bearings and distances, and a statement of total acreage of the property;

314.10 Tax map sheet, block and lot numbers within the proposed subdivision tract obtained from the county tax assessor's office;

314.11 The zoning district or districts within which the proposed subdivision is located;

314.12 All existing buildings or other structures within the proposed subdivision tract;

314.13 All existing streets, including streets of record (recorded but not constructed), on or adjoining the tract, including names, right-of-way widths, and pavement widths;

314.14 All existing sewer lines, septic systems, storm sewers, water lines, community water supply wells within 400 feet of the project, private water supply wells within 100 feet of the project, fire hydrants, utility transmission lines, culverts, bridges, railroads, other man-made features, watercourses and wetlands within the proposed subdivision tract and immediately adjacent to the subdivision tract;

314.15 Location, width, and purpose of existing easements and utility rights-of-way within the proposed subdivision tract;

314.16 Contour lines at vertical intervals of not more than two (2) feet for land with average natural slope of five (5) percent or less, and at intervals of not more than five (5) feet for land with average natural slope exceeding five (5) percent, except areas of development with slopes in excess of 5%, shall have a contour interval of 2' or less. All existing contours and planimetric features shall in accordance with "National Map Accuracy Standards". Contour lines for off-site drainage areas impacting the project, location and elevation of the data to which contour elevations refer shall be the closest United States Geologic Survey established benchmark, where available;

314.17 Signature blocks for the Penn Forest Board of Supervisors and the Penn Forest Planning Commission approval of the subdivision;

314.18 A signature block for the Carbon County Planning Commission denoting its review of the subdivision.

314.19 The following owner's statement shall be placed on the plan. The owner(s) shall execute the statement before a notary public. The seal of the notary public acknowledging the owner(s) statement shall be impressed on the plan. The statement shall read, "We (I), the owners of this plat of land being duly sworn according to law, depose and say we (I) are (am) the sole owner(s) of this property in peaceful possession of it and there are no suits pending affecting title of same.";

314.20 Proposed locations of wells (if any), proposed locations of subsurface disposal fields and alternate fields (if any), and the locations of percolation test holes and soil probe pits (if any);

314.21 A signature block, executed by the applicant, shall read "The applicant hereby authorizes the staff of the Penn Forest Township and its consultants to enter upon and inspect the site for the purposes of conducting a review and determining consistency with the requirements of the Penn Forest SALDO during the pendency of the application before the Penn Forest Township.";

314.22 Significant natural features including but not limited to flood plains, ponds and lakes, wooded areas and trees of greater than eight (8) inches in caliper. Flood

plain information shall delineate the bounds of the 100 year flood plain, floodway and flood fringe.

315 The full plan of proposed development, including:

315.1 Location and width of all streets and rights-of-way, with a statement of any conditions governing their use;

315.2 Suggested street names;

315.3 Utility easement locations;

315.4 Building setback lines along each street;

315.5 Lot lines with approximate dimensions;

315.6 A statement of the intended use of all non-residential lots and parcels;

315.7 Lot numbers, a statement of total number of lots and parcels and the lot size in square feet or acres for each lot;

315.8 Sanitary and/or storm sewers (and other drainage facilities), with the size and material of each indicated, and any proposed connections with existing facilities;

315.9 Parks, playgrounds and other areas dedicated or reserved for public or common use, with any conditions governing such use;

315.10 Location, width, and purpose of proposed easements and utility rights-of-way;

315.11 Copies of the proposed deed restrictions and protective and restrictive covenants referenced to the Preliminary Plan;

315.12 A contour grading plan.

316 The Preliminary Plan shall be accompanied by the following supplementary data unless the Penn Forest Board of Supervisors upon the advice of the Township Engineer has determined that the submission of such data is not necessary:

316.1 Preliminary profiles, typical cross-sections and specifications for proposed street, sanitary sewer, water system improvements, and storm drainage in accordance to the design standards of Sections 430, 440, 450 and 460, respectively.

316.2 A storm drainage plan for the proposed subdivision tract which includes the following in addition to the requirements of Sections 314 and 315:

316.21 A narrative with a general description of the proposed subdivision and/or land development and a general description of proposed permanent storm water controls.

316.22 Maps of the project area showing:

316.221 Soil types and boundaries based on the Carbon County Soil Survey.

316.222 Proposed structures, paved areas and buildings.

316.223 Storm Water Management District boundaries applicable to the site.

316.224 A schematic showing all tributaries contributing flow to the site and all existing man-made features beyond the property boundary that would be affected by the project.

316.23 Storm water management controls.

316.231 All stormwater management controls must be shown on a map and described, including:

316.2311 Groundwater recharge methods such as seepage pits, beds or trenches. When these structures are used, the locations of septic tank infiltration areas and wells must be shown.

316.2312 Other control devices or methods such as roof-top storage, semi-pervious paving materials, grass swales, parking lot ponding, vegetated strips, detention or retention ponds, storm sewer, etc.

316.232 All calculations, assumptions and criteria used in the design of the control device or method must be shown.

316.233 All site testing data used to determine the Sketch of infiltration on a site.

316.234 All details and specifications for the construction of the stormwater management controls and BMPs.

316.24 The BMP Operations and Maintenance Plan, as required in Section 464, describing how each permanent stormwater BMP will be operated and maintained and the identity of the person(s) responsible for operations and maintenance. A statement must be included, signed by the landowner, acknowledging that the stormwater BMPs are fixtures that cannot be altered or removed without approval by the Township.

316.25 An Environmental Resources Site Design Assessment that describes the following:

316.251 The extent to which the proposed grading and impervious cover avoid disturbance of significant environmental resources and preserve existing site hydrology.

316.252 An assessment of whether alternative grading and

impervious cover site design could lessen the disturbance of significant environmental resources and/or make better use of the site hydrologic resources.

316.253 A description of how the proposed stormwater management controls and BMPs serve to mitigate any adverse impacts on environmental resources on the site.

316.254 Significant environmental resources considered in the site design assessment include, but are not limited to, steep slopes, ponds, lakes, streams, wetlands, hydric soils, floodplains, riparian vegetation, native vegetation and special geologic features.

316.3 A landscape plan, where applicable, according to the standards set forth in Section 492.3, Landscaping;

316.4 In the case of subdivisions or land development plans to be developed in stages or sections, over a period of time, a map delineating each stage or section of the proposed subdivision or land development consecutively numbered so as to illustrate phasing of development and a schedule indicating the approximate time for which application for final approval of each stage or section are intended to be filed;

316.5 Preliminary designs of any bridges or culverts which may be required. Such designs shall meet all applicable requirements of the Pennsylvania Department of Environmental Protection - Division of Dams and Encroachments and/or the Pennsylvania Department of Transportation;

316.6 A map illustrating the entire contiguous holdings of the landowner indicating the area or scope of ultimate proposed subdivision and delineating the area which the Preliminary Plan encompasses;

316.7 A sketch map of the proposed road system for the remainder of the area not included in the Preliminary Plan;

316.8 When water service to the proposed subdivision is to be provided by an existing community system, the developer shall submit one (1) copy of a letter from the utility which agrees to extend water service, subject to the execution of a service agreement.

316.9 Certification of sewage disposal systems.

316.91 When sewage disposal service to the proposed subdivision is to be provided by an existing public system, the developer shall submit one (1) copy of a letter from the agency, authority or utility which agrees to provide sewer service subject to the execution of a service agreement.

316.92 When sewage disposal service for the proposed subdivision is to be by individual on-lot sewage disposal systems, the applicant shall

submit two (2) copies of the Municipal Sewage Enforcement Officer's approval of the planning module.

316.10 If the subdivision or land development includes wetlands or hydric soils, the applicant shall submit either a written determination from the U.S. Army Corps of Engineers that the area does not contain wetlands, or copies of permits for the proposed activity from the U.S. Army Corps of Engineers pursuant to Sections 9 and 10 of the River and Harbor Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection Research and Sanctuaries Act and from the Pa. Department of Environmental Protection pursuant to the Dam Safety and Encroachments Act. A copy of any wetlands study prepared for the property, including a study prepared for the use of the U.S. Army Corps of Engineers or the Pa. Department of Environmental Protection shall be submitted.

316.11 Traffic Impact Study

A Traffic Impact Study and report, with recommendations, for all developments meeting the below requirements, must be submitted with each preliminary plan submission.

316.111 Purpose. The Traffic Impact Study will enable Penn Forest Township to assess the impact of the proposed development on the transportation system, both highways and public transportation, in Penn Forest Township. The purpose of the impact study is to insure that proposed developments do not adversely affect the transportation network and to identify any traffic problems associated with access between the site and the existing transportation network. The study's purpose is also to delineate solutions to potential problems and to present improvements to be incorporated into the proposed development. The study shall assist in the protection of air quality, conservation of energy and encouragement of public transportation use. Prior to commencing a Traffic Impact Study, the applicant's Engineer shall submit a scope and extents of the study to the Township for review and approval prior to beginning the study.

316.112 A Traffic Impact Study shall be prepared by a qualified Traffic Engineer and/or transportation planner with previous traffic study experience. Procedures and standards for a Traffic Impact Study are as set forth herein. Applicant may provide funds to Penn Forest Township to enable the Township to hire a Traffic Engineer of its choice to conduct the study, if this procedure is deemed appropriate and approved by the Penn Forest Township.

316.113 Applicability. A Traffic Impact Study shall be submitted as part of all subdivision, land development and conditional use applications for all residential subdivisions of twenty (20) lots or more and all commercial, office, industrial, institutional or other uses requiring land development approval.

316.114 The Township Board of Supervisors, after receipt of recommendations from the Planning Commission & Township Engineer, at its discretion, may require any other subdivision or land development application to be accompanied by a Traffic Impact Study; provided, however, that the Board of Supervisors notify the Applicant within thirty(30) days following the Board of Supervisors first meeting to consider the proposal. Such a notification shall specify the reason for the requirement, citing the proposal's particular location or existing problems or type of use. The Board of Supervisors, at its discretion, may waive the requirement for a Traffic Impact Study.

316.115 If required by the Board of Supervisors, after receipt of recommendations from the Planning Commission & Township Engineer, the developer of a land development or subdivision shall provide emergency signal preemption for any traffic signals located within or immediately adjacent to the development. An application which requires a Traffic Impact Study shall not be considered complete until the Traffic Impact Study is submitted to Penn Forest Township in accordance with the provisions of this section.

316.116 Definitions.

316.1161 Public Transportation. Transportation service for the general public provided by a common carrier of passengers generally on a regular route basis, or a private operator offering service to the public.

316.1162 Study Area. This area will extend approximately one-half (1/2) mile along the adjacent roadways in all directions from all access points or the first two major intersection along these roadways, whichever is greater. The Traffic Engineer shall seek guidance from the Penn Forest Township Engineer prior to the submission of the Traffic Impact Study.

316.1163 Major Intersection. Any intersection where traffic generated by the proposal will have significant impact on the operation of the intersection and/or any other intersection involving an arterial road. Where doubt exists, the Traffic Engineer shall seek guidance from the Penn Forest Township Engineer prior to the submission of the Traffic Impact Study.

316.1164 Volume/Capacity Analysis. This procedure compares the volume of a roadway or intersection approach to its capacity (maximum number of vehicles that can pass a given point during a given time period.) The procedures described in the 2000 Highway Capacity Manual and latest shall be followed.

316.1165 Level of Service. Level of service, as described in the latest issue of the Highway Capacity Manual, indicates how well traffic moves on a particular highway facility or through a specific intersection. There are six levels of servicing ranging from "A" through "F". Level of Service "A" indicates generally free movement. Level of Service "E' represents operations at maximum capacity of the facility. Level "F" indicates congestion. Level of Service "C" is considered the design level of service, representing a stable traffic flow and a relatively satisfactory travel speed.

316.1166 Trip Generation Rates. The total count of trips to and from a study site per unit of land use as measured by parameters such as dwelling units, acres, etc.

316.1167 Queue Analysis. This procedure includes the average queue and maximum queue of vehicles which will be observed in each traffic stream and intersection approach, measured in both feet and vehicles. Various statistical and/or computer models may be applied.

316.1168 Warrants for Traffic Signal Installation. This is a series of warrants which detail the minimum traffic or pedestrian volumes or other criteria necessary for the installation of a traffic signal. These warrants are contained in the Manual on Uniform Traffic Control Devices for Streets and Highways, U.S. Department of Transportation, Federal Highway Administration, most recent version.

316.1169 Engineering and traffic studies shall be prepared in accordance with PennDOT Publication 'Policies and Procedures for Transportation Impact Studies', Traffic Engineering Manual (PennDOT Pub. 46), and other applicable PennDOT Publications, as needed.

316.117 General Requirements and Standards. A Traffic Impact Study shall contain the following information:

316.1171 General Site Description. The site description shall include the size, location, proposed land uses, construction staging and completion date of the proposed subdivision or land development. If the development is residential, types of dwelling units shall also be included. A brief description of other major existing and proposed developments within the study area shall be provided. The general site description shall also include probable socio-economic characteristics of potential site users to the extent that they may affect the transportation needs of the site (i.e., number of senior citizens).

316.1172 Transportation Facilities Description. The description shall contain a full documentation of the proposed internal and existing external transportation system. This description shall include proposed internal vehicular, bicycle and pedestrian circulation, all proposed ingress and egress locations, all internal roadway widths and rights-of-way, parking conditions, traffic channelization and any traffic signals or other intersection control devices at all intersections within the site.

316.1173 The report shall describe the entire external roadway system within the study area and include discussion of existing design deficiencies and potential safety hazards. Major intersections in the study area shall be identified and sketched. All existing and proposed public transportation services and facilities within a one (1) mile radius of the site shall also be documented. Report shall include review and discussion of all available accident reports within the study area during the prior three (3) years. All future highway improvements, including proposed construction and traffic signalization, shall be noted. Any Regional Transportation Improvement Programs and any PADOT Multi Year Plans shall be used as a source of information when determining if any future roadway improvements are scheduled for the adjacent road network. Any proposed roadway improvements due to proposed surrounding developments shall be recorded.

316.1174 Existing Traffic Conditions. Existing traffic conditions shall be measured and documented for all roadways and intersections in the study area. Existing traffic volumes for average daily traffic, peak highway hour(s) traffic, and peak development generated hour(s), and documentation shall be included in the report. Traffic counts are to be performed from 6 A.M. to 10 A.M. and from 3 P.M. to 7 P.M. Traffic count data shall not be more than one (1) year old. Traffic counts shall be taken on a Tuesday, Wednesday, or Thursday of a non-holiday week. Traffic counts shall be taken during the school year. Traffic counts shall be collected during average volume conditions, during fair weather, and in consideration of any construction activities or special events which may be taking place in the area. Additional counts and subsequent analysis (conducted on Friday evenings, on weekends, holidays, and in the summer months, for a commercial development or residential development in close proximity to SR 0903 and/or tourist attractions) may also be required in some cases. The Penn Forest Township Engineer shall make such determinations. Traffic counts shall be submitted

in electronic format to Penn Forest Township. Roadway characteristics shall be described and illustrated. Features to be addressed shall include lane configurations, geometry, signal timing, traffic control devices, posted speed limits, and sight distance limitations. Existing levels of service shall be calculated for all intersections and turning movements within the study area. This analysis will determine the adequacy of the existing roadway system to adequately serve the existing traffic demand. Roadways, intersections, or individual movements experiencing levels of service below C, and/or volume/capacity ratios greater than or equal to 1.0 shall be noted as deficient. A volume/capacity analysis based upon existing volumes shall be performed during the peak highway hour(s) and the peak development generated hour(s) for all roadways and major intersections in the study area. Levels of service shall be determined for each location using the current edition of The Highway Capacity Manual methodology.

316.1175 Transportation Impact of the Development. Estimation of vehicular trips to result from the proposal shall be completed for the average daily peak highway hour(s) and peak development-generated hour(s). Vehicular trip generation rates to be used for this calculation shall be obtained from the manual Trip Generation, Ninth Edition, Institute of Transportation Engineers. These development-generated traffic volumes shall be provided for the in-bound and out-bound traffic movements as estimated, and the reference source(s) methodology followed shall be documented. All turning movements shall be calculated. These generated volumes shall be distributed to the study area and assigned to the existing roadways and intersections throughout the study area. Documentation of all assumptions used in the distribution and assignment phase shall be provided. Traffic volumes shall be assigned to individual access points. If school crossings are to be used, pedestrian volumes shall be assigned to each crossing. Any characteristics of the site that will cause particular trip generation problems shall be noted.

316.1176 Analysis of Transportation Impact. The total future traffic demand shall be calculated. This demand shall consist of the combination of the existing traffic expanded to the completion year (using a background growth rate for the area from Pennsylvania Traffic Data, latest edition), the development-generated traffic, and the traffic generated by other proposed developments in the study area. A separate trip distribution figure shall be

provided. A second/volume capacity analysis shall be conducted using the future conditions volumes without development. This analysis shall be performed during the peak highway hour(s) and peak generated hour(s) for all roadways and major intersections in the study area. Level of Service calculations shall be completed for all major intersections. A third/volume capacity analysis shall be conducted using the total future demand and the future roadway capacity. If staging of the proposed development is anticipated, calculations for each stage of completion shall be made. This analysis shall be performed during the peak highway hour(s) and peak development-generated hour(s) for all roadways and major intersections in the study area. Level of Service calculations shall be completed for all major intersections. It is usually at these locations that capacity is most restricted. All access points and pedestrian crossings shall be examined as to the feasibility of installing traffic signals. This evaluation shall compare the projected traffic and pedestrian volumes to the warrants for traffic signal installation.

316.1177 Sight Distance Analysis. Sight distance measurements shall be performed at any proposed driveway and/or existing driveway to determine sufficient sight distance to the left and right of the driveway. Sight distances shall be compared to the desirable sight distance standards as specified in Title 67 of the PA Code, Chapter 441, "Access to and Occupancy of Highways by Driveways and Local Roads," January, 1992 or later. Sight distance shall also be compared to PADOT's safe stopping sight distance (SSSD) requirements and also as specified in A Policy on Geometric Design of Highways and Streets, of the American Association of State Highway and Transportation Officials (AASHTO), Chapter III, "Elements of Design," latest edition.

316.1178 Conclusions and Recommended Improvements. Levels of service for all roadways and intersections shall be listed. All individual turning movement of roadways and/or intersections showing a level of service below "C" shall be considered deficient, and specific recommendations for the elimination of these problems shall be listed. This listing of recommended improvements shall include, but not be limited to the following elements: internal circulation design, site access location and design, external roadway and intersection design/safety improvements, traffic signal installation and operation including signal timing, and transit design improvements. All physical roadway improvements shall be shown in sketches.

Existing and/or future public transportation service shall also be addressed. A listing of all actions to be undertaken to increase present public transportation usage and improve service, if applicable, shall be included.

The listing of recommended improvements for both roadways and transit shall include, for each improvement, the party responsible for the improvement, the cost and funding of the improvement and the completion date for the improvement.

The study shall outline mitigation measures and demonstrate any changes to the level of service achieved by these measures. Any alternatives or suggested phasing of improvements shall be described. The mitigation measures may include recommendations such as roadway widening, turning lanes, deceleration lanes/tapers, changes to signalization, use of access management techniques, or a reduction in the proposed intensity of the use. The responsibility and timing of all recommended roadway improvements shall be described within the traffic impact study.

316.118 Time of Submission. The Traffic Impact Study shall be submitted to the Planning Commission with the preliminary plan submission. Revisions to preliminary plans may constitute the need for re-submission of the traffic impact study for the revised conditions. Improvement plans shall not be submitted to PADOT until after review by the Carbon County Planning Commission and Township Planning Commission.

316.119 Implementation. The Township Planning Commission and Board of Supervisors shall review the Traffic Impact Study to analyze its adequacy in solving any traffic problems that will occur due to the land development or subdivision. The Township Board of Supervisors, after receipt of recommendations from the Planning Commission & Township Engineer, may determine that certain improvements on and/or adjacent to the site and within the study area are necessary requirements for land development or subdivision plan approval and may attach these as conditions to the approval. If the Board of Supervisors determines that such additional improvements are necessary, the developer shall have the opportunity to submit improvement designs to obtain plan approval.

316.1110 The Board of Supervisors may determine, after receipt of recommendations from the Planning Commission & Township Engineer and based on other development submissions received by the Township, that two or more developments shall participate in a joint study, providing a major more coordinated study of the

combined impacts of all the developments in question. The Board of Supervisors may also determine the applicability, and apportionment methodology, of cost sharing between developments in question, for any required improvements.

316.1111 Emergency Response Organizations. The applicant shall submit all land development plans proposing the construction of non-residential buildings, multi-family residential dwellings, and residential subdivisions to the applicable Fire Company(s), PA State Police, and any other emergency response organization having jurisdiction within the area of the proposed development for review and comment prior to any formal Township action being taken.

316.1112 Design of required improvements must be in accordance with Pennsylvania Department of Transportation standards as appropriate for the traffic control improvements being proposed. In order to standardize equipment, and to provide closed loop system compatibility, where applicable, all proposed equipment must be in conformance with that specified in Penn Forest Township Resolution NO. 2013-02 as approved on March 8, 2013, or approved equal equipment, again, conforming to PennDOT standards.

316.12 Proposed lighting plan, in accord with Section 494 "Lighting Standards."

320 Final Plans

321 The final plans shall conform to the standards and data requirements set forth for Preliminary Plans in Sections 311 through 315 of this Ordinance.

322 It shall not be necessary to resubmit supporting maps and data submitted with the Preliminary Plan, as set forth in Section 316 of this Ordinance, provided that no change has occurred.

323 The following additional data shall be illustrated on the Final Plan:

323.1 The latest source of title to the land as shown by the deed, page number and book of the County Recorder of Deeds;

323.2 The total tract boundary lines of the area being subdivided with accurate distances to hundredths of a foot and bearing to fifteen (15) seconds. These boundaries shall be determined by accurate survey in the field, to an error of closure not to exceed one (1) foot in ten thousand (10,000) feet. The tract boundary shall be subsequently closed and balanced. The boundary(s) adjoining additional unplatted land of the subdivider (for example, between separately-submitted Final Plan sections), however, are not required to be based upon field survey, and may be calculated. The location of all boundary line (perimeter) monuments shall be indicated, along with a statement of the total area of the property being subdivided. In addition, the engineer or

surveyor shall certify to the accuracy of the survey, the drawn plan, and the placement of the monuments;

323.3 All lot lines shall be completely dimensioned in feet if straight, and by designating length of arc and radius (in feet) and central angle (in degrees, minutes, and seconds) if curved. All internal angles within the lots shall be designated to within fifteen (15) seconds;

323.4 The proposed building setback or the proposed placement of each building;

323.5 All easements or rights-of-way where provided for or owned by public services and any limitations on such easements or rights-of-way. Rights-of-way shall be shown and accurately identified on the plan. Easements shall either be shown or specifically described on the plan. Easements should be located in cooperation with the appropriate public utilities;

323.6 Such private deed restrictions as may be imposed upon the property as a condition to sale, together with a statement of any restrictions previously imposed which may affect the title to the land being subdivided;

323.7 Space shall be left along the lower edge of the sheet, in order that the County Recorder of Deeds may acknowledge receipt and recording of the plan when it is presented;

323.8 If the Final Plan requires more than one sheet, a key diagram showing the relative location of the several sections shall be drawn on each sheet.

324 The Final Plan shall be accompanied by the following:

324.1 Plans showing:

324.101 Location, size and invert elevation of all sanitary sewer, water distribution and storm drainage systems and the location of all manholes, inlets and culverts;

324.102 Final profiles, cross-sections, and specifications for proposed streets, sanitary sewers, water distribution systems, and storm drainage systems shall each be shown on one or more separate sheets.

324.2 Documentation from the Sewage Enforcement Officer that each lot has been approved for on-lot sewage systems (where applicable).

324.3 A copy of the Department of Environmental Protection acceptance or approval of the planning module (where applicable).

324.4 A copy of the permit granted by the Pennsylvania Department of Environmental Protection for a private centralized sanitary sewer system, where applicable.

324.5 A copy of the highway occupancy permit for any road or driveway requiring access to a State Legislative Route. Designs for all required traffic control

devices for both PennDOT and Township roadways, and where appropriate, documentation of approval to construct said improvements.

324.6 A copy of a permit granted by the Pennsylvania Department of Environmental Protection for a private centralized water system (where applicable).

324.7 A completed and executed copy of the Subdivision Improvements Agreement as agreed upon by the developer and the Penn Forest Board of Supervisors, public utility or municipal authority.

324.8 A performance guarantee in the amount of one hundred ten (110) percent of the cost of all required improvements, as set forth in Section 520 as estimated in accordance with the provisions set forth in the Municipalities Planning Code as amended, in a form and with surety in accordance with the provisions set forth in the Municipalities Planning Code as amended and acceptable to the Penn Forest Township solicitor, guaranteeing the construction and installation of all such improvements within a stated period which shall not be longer than one (1) year from the date of the Final Subdivision Approval. Where the Final Plan is submitted in stages or sections, the amount of the guarantee may also be provided in stages if acceptable to the Penn Forest Board of Supervisors, public utility or municipal authority.

324.9 A maintenance guarantee in an amount of not less than fifteen (15) percent of the actual cost of the installation of the improvements as set forth in Section 520. This guarantee assures the structural integrity of the improvements as well as the functioning of said improvements in accordance with the design and specifications as depicted on the final plat for a period not to exceed eighteen (18) months after the acceptance of all such improvements by the Penn Forest Board of Supervisors, public utility, or municipal authority.

324.10 An erosion and sedimentation control plan developed in accordance with Part IV, paragraph 44 of the Soil Erosion and Sedimentation Control Manual issued by the Department of Environmental Protection.

324.11 A legal description of all areas offered for dedication. Where applicable, legal descriptions of any required easements and written documentation stating the ability to obtain these easements must be supplied.

324.12 A copy of an opinion of title from a title insurance company or an attorney which sets forth the names of all owners of the property, and a list of all mortgages, judgments, liens, easements, contracts and agreements of record as filed in the Carbon County Recorder of Deeds Office, which affect the property being acted upon.

324.13 When an agency, authority or utility providing sewer or water service to the subdivision or land development has approval authority under its own jurisdiction, a letter which indicates that the plans meet the relevant agency, authority or utility specifications shall be submitted.

325 In the case of a subdivision or land development proposed to be developed in stages or sections over a period of years, Final Plan requirements as listed in Section 321

through 324 shall apply only to the stage or section for which Final Approval is being sought. However, the Final Plan presented for the stage or section must be considered as it relates to information presented for the entire subdivision or land development in the application for Preliminary Approval.

330 Plans Exempted from Standard Procedures

331 The Plan shall be clearly and legibly drawn to one of the following scales:

331.1 One (1) inch equals fifty (50) feet;

331.2 One (1) inch equals twenty (20) feet; and

331.3 One (1) inch equals ten (10) feet.

332 The original drawing and all submitted prints shall be made on sheets of one of the following sets of dimensions:

332.1 Twenty-four (24) inches by thirty-six (36) inches;

332.2 Thirty-six (36) inches by forty-eight (48) inches.

333 The Plan shall indicate the full plan of proposed development and the following data:

333.1 Name and address of record owner;

333.2 Name of developer if different from owner;

333.3 Name of the proposed subdivision;

333.4 Name of the municipality or municipalities within which the subdivision is proposed;

333.5 Names of all adjoining subdivisions, if any, and the names of owners of all adjacent unplatted land;

333.6 North point, graphic scale, written scale, and date including the month, day and year that the original drawing was completed, and the month, day and year that the original drawing was revised, for each revision;

333.7 A key map, for the purpose of locating the property being subdivided, drawn at a scale not smaller than one (1) inch equals two thousand (2,000) feet and showing the relation of the property, differentiated by tone or pattern, to adjoining property and to all streets, roads and municipal boundaries within one mile of any part of the property;

333.8 A statement of total acreage of the property;

333.9 Tax map sheet, block and lot numbers within the proposed subdivision tract obtained from the county tax assessor's office;

333.10 The zoning district or districts within which the proposed subdivision is located;

333.11 All existing buildings or other structures within the proposed subdivision tract;

333.12 All existing streets, including streets of record (recorded but not constructed), on or adjoining the tract, including names, right-of-way widths, and pavement widths;

333.13 All existing sewer lines, subsurface disposal areas, storm sewers, water lines, wells, fire hydrants, utility transmission lines, culverts, bridges, railroads, other man-made features or watercourses within the proposed subdivision tract and within fifty (50) feet of the boundaries of the proposed subdivision tract;

333.14 Location, width, and purpose of existing easements and utility rights-of-way within the proposed subdivision tract;

333.15 Contour lines at vertical intervals of not more than two (2) feet for land with average natural slope of five (5) percent or less, and at intervals of not more than five (5) feet for land with average natural slope exceeding five (5) percent, except areas of development with slopes in excess of 5%, shall have a contour interval of 2' or less. All existing contours and planimetric features shall in accordance with "National Map Accuracy Standards". Contour lines for off-site drainage areas impacting the project, location and elevation of the data to which contour elevations refer shall be the closest United States Geologic Survey established benchmark, where available;

333.16 The latest source of title to the land as shown by the deed, page number and book of the County Recorder of Deeds;

333.17 The total tract boundary lines of the area being subdivided with accurate distances to hundredths of a foot and bearing to fifteen (15) seconds. These boundaries shall be determined by accurate survey in the field, to an error of closure not to exceed one (1 foot in ten thousand (10,000) feet. The tract boundary shall be subsequently closed and balanced. The boundary(s) adjoining additional unplatted land of the subdivider, however, are not required to be based upon field survey, and may be calculated. The location and elevation of all boundary line (perimeter) monuments shall be indicated, along with a statement of the total area of the property being subdivided. In addition, the engineer or surveyor shall certify to the accuracy of the survey, the drawn plan, and the placement of the monuments;

333.18 All lot lines shall be completely dimensioned in feet if straight, and by designating length of arc and radius (in feet) and central angle (in degrees, minutes, and seconds) if curved. All internal angles within the lots shall be designated to within fifteen (15) seconds;

333.19 The proposed building setback or the proposed placement of each building;

333.20 All easements or rights-of-way where provided for or owned by public services and any limitations on such easements or rights-of-way. Rights-of-way shall be

shown and accurately identified on the plan. Easements shall either be shown or specifically described on the plan. Easements should be located in cooperation with the appropriate public utilities;

333.21 The following owner's statement shall be placed on the plan. The owner(s) shall execute the statement before a notary public. The seal of the notary public acknowledging the owner(s) statement shall be impressed on the plan. The statement shall read, "We (I) the owner(s) of this plat of land being duly sworn according to law, depose and say we (I) are (am) the sole owner(s) of this property, in peaceful possession of it, and there are no suits pending affecting title of same.";

333.22 Signature blocks for certification of approval of the plan by the Penn Forest Board of Supervisors and the Penn Forest Planning Commission;

333.23 A signature block for the Carbon County Planning Commission indicating their review of the plan.

333.24 Space shall be left along the lower edge of the sheet, in order that the County Recorder of Deeds may acknowledge receipt and recording of the plan when it is presented;

333.25 A map illustrating the entire contiguous holdings of the landowner, and indicating the area or scope of ultimate proposed subdivision and delineating the area which the Plan encompasses;

333.26 A sketch map of the proposed road system for the remainder of the area not included in the Plan;

333.27 A statement of the intended use of all non-residential lots and parcels;

333.28 Lot numbers, a statement of total number of lots and parcels, and the lot size in square feet or acres for each lot.

333.29 Proposed locations of wells, subsurface disposal fields, and alternate fields, percolation test holes, and soil probes, if relevant.

333.30 A signature block, executed by the applicant, shall read "The applicant hereby authorizes the Penn Forest Township staff and consultants to the Penn Forest Township to enter upon and inspect the site for the purposes of conducting a review and determining consistency with the requirements of the Penn Forest SALDO during the pendency of the application before the Penn Forest Township.";

333.31 Significant natural features including but not limited to flood plains, ponds and lakes, streams, natural drainage swales, wooded areas and trees of greater than eight (8) inches in caliper. Flood plain information shall delineate the bounds of the 100 year flood plain, floodway and flood fringe;

333.32 Proposed grading.

334 The Plan shall be accompanied by the following supplementary data unless the Penn Forest Board of Supervisors upon advise from the Township Engineer has determined that the submission of such data is not necessary:

334.1 A legal description of all areas offered for dedication;

334.2 Such private deed restrictions as may be imposed upon the property as a condition to sale, together with a statement of any restrictions previously imposed which may affect the title to the land being subdivided;

334.3 A copy of the highway occupancy permit for any driveway requiring access to a State Legislative Route;

334.4 When water service to the proposed subdivision is to be provided by an existing community system, the developer shall submit one (1) copy of a letter from the agency, authority or utility which agrees to provide sewer service subject to the execution of a service agreement.

334.5 When sewage disposal service to the proposed subdivision is to be provided by an existing public system, the developer shall submit one (1) copy of a letter from the agency, authority or utility which agrees to provide sewer service subject to the execution of a service agreement.

334.6 When sewage disposal service for the proposed subdivision is to be by individual on-lot sewage disposal systems, the applicant shall submit two (2) copies of the Municipal Sewage Enforcement Officer's approval of the planning module.

334.7 Where an agency, authority or utility providing sewer or water service to the subdivision has approval authority under its own jurisdiction, a letter which indicates that the plans meet the relevant agency, authority, or utility specifications shall be submitted;

334.8 A copy of an opinion of title from a title insurance company or an attorney which sets forth the names of all owners of the property, and a list of all mortgages, judgments, liens, easements, contracts and agreements of record as filed in the Carbon County Recorder of Deeds Office, which affect the property being acted upon.

SECTION IV

DESIGN STANDARDS

400 Application

401 The design standards and requirements outlined in this section will be utilized by the Penn Forest Planning Commission and Board of Supervisors in determining the adequacy of all plans for proposed subdivisions and land developments.

402 Development shall be planned, reviewed and carried out in conformance with all municipal, state and other applicable laws and regulations.

403 Whenever provisions of this ordinance conflict with the provisions of other ordinances and regulations, the most restrictive provisions shall apply.

410 General Standards

411 Land shall be suited to the purpose for which it is to be subdivided. Land with unsafe or hazardous conditions such as open quarries, unconsolidated fill, steep slopes, or flood prone areas shall not be subdivided unless the subdivision plan provides for adequate safeguards which are approved by the Penn Forest Board of Supervisors.

412 The development of the proposed subdivision shall be coordinated with adjacent existing development so that the area, as a whole, may develop harmoniously.

413 These design standards and requirements may be altered by the Penn Forest Board of Supervisors for the purpose of achieving economy and ingenuity in design in accordance with modern and evolving principles of site planning and development, upon presentation of evidence that the intent of such standards shall be substantially achieved.

420 Block and Lot Design Standards

421 Block Layout

421.1 The length, width and shape of blocks shall be determined with due regard to:

421.11 Provisions of adequate sites for buildings of the type proposed;
421.12 Municipal zoning requirements;
421.13 Topography;
421.14 Requirements for safe and convenient vehicular and pedestrian circulation, including the reduction of intersections with arterial streets;

422 Block Length

422.1 Residential blocks shall ordinarily be no less than five hundred (500) feet in length and no more than eighteen hundred (1,800) feet in length.

422.2 In the design of blocks longer than one thousand (1,000) feet, special consideration shall be given to the requirements of satisfactory fire protection.

422.3 Where practicable, blocks along arterial and collector streets shall not be less than one thousand (1,000) feet in length.

423 Block Depth

423.1 Single family residential blocks shall be of sufficient depth to accommodate two tiers of lots; except the Penn Forest Board of Supervisors may approve a single tier of lots in the following cases:

423.11 Where reverse frontage lots are required; or

423.12 Where two tiers of lots are not possible due to the size, topographical conditions or other inherent conditions of the property.

424 Commercial and Industrial Blocks

424.1 Blocks in commercial, industrial and multi-family developments may vary from the elements of design detailed above if required by the nature of the use. In all cases, however, adequate provisions shall be made for traffic and pedestrian circulation, off-street parking, and loading areas.

425 General Lot Design Standards

425.1 Within the requirements of the Penn Forest Zoning Ordinance, the size, shape and orientation of lots shall be appropriate for the type of development and use contemplated.

425.2 Insofar as practical, side lot lines shall be at right angles to straight street lines or radial to curved street lines.

425.3 Where feasible, lot lines shall follow municipal boundaries rather than cross them, in order to avoid jurisdictional problems.

425.4 Generally, the depth of single family detached residential lots shall be not less than one (1) nor more than three (3) times their width.

425.5 Depth and width of parcels intended for non-residential uses shall be adequate for the use proposed and sufficient to provide satisfactory space for on-site parking, loading and unloading, setbacks and landscaping.

425.6 If, after subdividing, there exists remnants of land, they shall be either:

425.61 Incorporated in existing or proposed lots; or

425.62 Legally dedicated to public use, if acceptable to the Penn Forest Board of Supervisors

426 Lot Frontage

426.1 All proposed lots shall have frontage on an ordained public street, or private street constructed in accordance with this ordinance, other than an alley. These

requirements shall not apply to individual condominium units when such units are contained in an approved condominium development.

426.2 Double or reverse frontage lots may be required to provide separation of residential development from arterial streets or to overcome specific disadvantages of topography or other natural features of the proposed subdivision tract.

426.3 All residential reverse frontage lots shall have a rear yard with a minimum depth of seventy-five (75) feet, measured along the shortest distance from the proposed dwelling unit to the ultimate right-of-way and shall, within such rear yard and immediately adjacent to the right-of-way, have a planting screen easement of at least ten (10) feet in width, across which there shall be no right of access.

427 Lot Access

427.1 Direct access onto arterial roads and numbered traffic routes shall be minimized.

427.11 Direct access onto an arterial road or a numbered traffic route shall be prohibited where adequate alternative access can be obtained from a collector road, local road or alley.

427.12 Access to two or more abutting residential properties shall be provided by a shared driveway unless the applicant demonstrates that such access is impractical.

427.13 A maximum of one access point per property involving a left hand turn exiting a non-residential property onto an arterial road or a numbered traffic route shall be permitted.

427.14 Parking lots and internal driveways for non-residential development shall support access management objectives along arterial roads and numbered traffic routes.

427.141 Shared parking lots and driveways connecting adjacent parking lots for non-residential uses shall be used whenever practical.

427.142 The distance between the intersection of the access road with the arterial road or a numbered traffic route and the intersection of the access road with other internal access roads shall be maximized to the extent possible.

427.2 Where access is permitted to a state road or highway, authorization from the Pennsylvania Department of Transportation must be proven by the display of a valid highway occupancy permit. Driveways to single family residences shall intersect streets at angles of no less than sixty (60) degrees. All other driveways or access roads shall intersect streets at right angles, where practicable, and in no case less than seventy-five (75) degrees.

427.3 Widths of access roads or driveways shall be in accordance with the following standards:

427.31 Access roads for multi-family residential, mobile home parks and all non-residential subdivisions shall be no less than twenty-four (24) feet in width, shall not exceed thirty (30) feet in width at the street line, and shall be clearly defined by use of curbing;

427.32 Driveways for single family residential subdivisions shall be no less than ten (10) feet in width but shall not exceed twenty (20) feet in width at the street line.

427.4 To provide safe and convenient ingress and egress, access road and driveway entrances shall be rounded at the following minimum radii.

427.41 Access road entrances for multi-family residential developments, mobile home parks, and all non-residential subdivisions shall be rounded at a minimum radius of ten (10) feet;

427.42 Driveway entrances for single-family residences shall be rounded at a minimum radius of five feet except along legislative routes where a ten (10) foot radius is required.

427.5 Access road grades or driveway grades shall not exceed the following grades:

427.51 Twelve (12) percent between the future street right-of-way line and any other point within the confines of the lot being served;

427.52 Five (5) percent in a leveling area extending forty (40) feet from the intersection of the access road or driveway with the cartway of the street.

427.6 The centerline of an access road or driveway at the point of access to a street shall not be located closer to an intersection of street centerlines than the following distances:

427.61 Seventy-five (75) feet for single-family residential units.

427.62 For multi-family residential developments, mobile home parks, and all non-residential subdivisions:

427.621 One hundred fifty (150) feet if either street is an arterial street;

427.622 One hundred (100) feet if either street is a collector street;

427.623 Seventy-five (75) feet if both streets are local streets.

427.7 Vehicular access shall be available to all lots directly from an ordained public street, or private street constructed in accordance with this ordinance. This requirement shall not apply to individual condominium units where such units are contained in an approved condominium development.

427.8 Clear sight triangles shall be provided at all intersections of driveways with streets, except alleys. Clear sight triangles are not required for intersections of driveways with alleys. Within such triangles, no object greater than two and one-half (2½) feet in height and no other object that would obscure the vision of the motorist shall exist or be placed. A note to such affect shall be placed on all plans with proposed driveways. The triangles shall be measured as follows:

427.81 Along the centerline of the driveway from a point twenty (20) feet from where the driveway meets the cartway of the road, to points along the centerline of the road two hundred (200) feet on each side from the intersecting centerlines of the driveway and road, if the road is classified as a local road.

427.82 Along the centerline of the driveway, from a point twenty (20) feet from where the driveway meets the cartway of the road, to points along the centerline of the road three hundred (300) feet on each side from the intersecting centerlines of the driveway and road, if the road is classified as a collector or arterial road.

428 Flag lots may be allowed in certain circumstances to minimize hardships in the use of land that lacks adequate road frontage for an equitable use of the lot. Normally, this situation will be deemed to exist when the lot lacks double the required road frontage for lots in that zoning district. However, flag lots will not be permitted merely to increase the density of development nor to minimize the amount of road improvements. The following requirements will apply:

428.1 No more than two flag lots will be permitted per original tract of land, even if lots are subdivided from the tract at different times;

428.2 The access lane (flagpole section of lot) will have a minimum width of twenty-five (25) feet, and serve only one lot;

428.3 The access lane will have a maximum length of five hundred (500) feet measured from the right-of-way of the public road to the perimeter of the rectangle defining the lot area;

428.4 The area in the access lane shall be excluded from the area required for meeting the minimum lot size standards of the Zoning Ordinance;

428.5 No sharp turns (greater than 45 degrees) shall be allowed within the access lane;

428.6 The location of the access lane shall be logically related to the body of the flag lot, surrounding property configurations, woodlands, topography, watercourses and flood plains. The actual driveway section shall be contained entirely within the access lane.

430 Street Design Standards

431 General Requirements

431.1 Proposed streets shall be properly related to the road and highway plans of the state, county and Township. Streets shall be designed to provide adequate vehicular access to all lots or parcels and with regard for topographic conditions, project volumes of traffic, and further subdivision possibilities in the area.

431.2 The street system of a proposed subdivision or land development shall be designed to create a hierarchy of street functions which includes collector and local streets.

431.3 The street system of a proposed subdivision or land development shall be designed so as to minimize street intersections and pedestrian-vehicular conflict points.

431.4 Proposed local streets shall be designed so as to discourage through traffic and excessive speeds. However, the developer shall provide for the extension and continuation of arterial and collector streets into and from adjoining properties.

431.5 Where, in the opinion of the Penn Forest Board of Supervisors, it is desirable to provide for street access to adjoining property, streets shall be extended by dedication to the boundary of such property. Distances between access points to adjoining property shall be based on block length standards set forth in Section 422.

431.6 Where a subdivision abuts or contains an existing or proposed arterial traffic street, the Penn Forest Board of Supervisors may require marginal access streets, reverse frontage lots, or other such treatment as will provide protection for abutting properties, reduction in the number of intersections with the arterial street, and separation of local and through traffic.

431.7 Private streets (streets not to be offered for dedication) may be approved by the Penn Forest Board of Supervisors only if they meet the street design and improvement standards set forth in this Ordinance and when they are part of an approved condominium development.

431.8 If the lots in the development are large enough for re-subdivision, or if a portion of the tract is not subdivided, suitable access and street openings for such an eventuality shall be provided.

432 Street Right-of-Way and Cartway Widths

432.1 Street right-of-way and cartway widths in proposed subdivisions shall conform to the standards on the following chart:

STREET DESIGN STANDARDS

	Street Classification		
	Local	**Collector**	**Arterial**
Right-of-Way Width	50-60'	60'	80'
Pavement Width	See Below	40'	44'
Traffic Lane Width	11'	12'	12'
Parking Lane Width	8' (when required		
Sidewalk Width	4' as per Section 511.3		
Curbing	vertical curb, or grassed drainage swale with no curbing. Depending on below.		

432.2 Local Streets

Local streets shall have a minimum right-of-way width of 50 feet for single family detached lot subdivisions and 60 feet of right-of-way for non-residential or townhouse and multi-family subdivisions or subdivisions with densities of three dwelling units per acre or more.

432.21 In residential developments with townhouses or multi-family dwellings and with a density of three dwelling units per acre or more, the local street shall consist of at least;

60 feet right-of-way
Two 10 feet traffic lanes
Two 8 feet parking/gutter lanes
Total paved width 36 feet
Concrete curb and concrete sidewalk are required

432.22 In residential subdivision with a density of less than three dwelling units per acre but more than one dwelling unit per acre, the local street shall consist of at least;

50 feet right-of-way
Two 12 feet traffic lanes
Two 4 feet paved shoulders/gutter and concrete curbing
Total paved width 32 feet
Concrete curing is required, sidewalks are required only if required by the Township Board of Supervisors because of special pedestrian requirements of the area, if any.

432.23 In non-residential developments and in residential subdivisions with a density of less than one dwelling unit per acre the local streets shall consist of at least;

50 fee right-of-way
Two 10 feet traffic lanes
Two four feet paved shoulders
Total paved width 28 feet
No curb or sidewalk

432.3 Collector Streets

Collector roads shall have a 60-foot design right-of-way minimum, and at least two 12 feet traffic lanes and two 8 feet paved shoulders. Curbs shall be required in residential developments with densities of more than one dwelling unit per acre.

432.4 The standards set forth in Section 432.2 may be modified by the Penn Forest Board of Supervisors when an analysis of proposed development densities, provisions for off-street parking, and projected traffic volumes indicate a need for such modifications. The burden of proof shall be upon the developer to justify the adequacy of rights-of-way or cartway widths which are less than those set forth in Section 432.1 and 432.2.

433 Horizontal Curves

433.1 Whenever street centerlines are deflected more than five (5) degrees within five hundred (500) feet, connection shall be made by horizontal curves.

433.2 Horizontal curves shall be designed to produce the following minimum sight distances:

433.21 Local streets - one hundred fifty (150) feet;

433.22 Collector streets - three hundred (300) feet;

433.23 Arterial streets - six hundred (600) feet.

433.3 A minimum tangent of one hundred (100) feet shall be required between reverse curves on a street and between a curve and a street intersection.

434 Street Grades

434.1 There shall be a minimum centerline grade on all streets of one and one-half (1.5) percent.

434.2 Unless approval is obtained from the Penn Forest Board of Supervisors upon recommendation from the Township Engineer, centerline grades shall not exceed the following:

434.21 Local streets - eleven (11) percent;

434.22 Collector streets - eight (8) percent;

434.23 Arterial streets - six (6) percent.

434.3 Intersections shall be approached on all sides by leveling areas. Such leveling areas shall have a minimum length of seventy-five (75) feet (measured from the edge of the cartway of the intersecting road), within which no grade shall exceed a maximum of four (4) percent.

435 Vertical Curves

435.1 Vertical curves shall be used in changes of grade exceeding one (1) percent. However, where the curve would be a sag curve, vertical curves shall be used in changes of grade exceeding two (2) percent.

435.2 Vertical curves shall be designed to meet minimum sight distances according to standards set forth by the American Association of State Highway Officials.

436 Street Intersections

436.1 Streets shall intersect at right angles whenever practicable. When local streets intersect collector or arterial streets, the angle of intersection at the street centerlines shall in no case be less than seventy-five (75) degrees. No two streets shall intersect with an angle of intersection at the centerlines of less than sixty (60) degrees.

436.2 Multiple intersections involving the junction of more than two sheets shall be prohibited.

436.3 Two streets intersecting a third street from opposite sides shall either intersect with a common centerline or their centerlines shall be offset according to the following distances:

436.31 The two streets shall be separated by a distance of two hundred fifty (250) feet between centerlines measured along the centerline of the street being intersected when all three streets involved are local streets;

436.32 The two streets shall be separated by a distance of three hundred (300) feet between centerlines measured along the centerline of the street being intersected when one or more of the streets involved is a collector street;

436.33 The two streets shall be separated by a distance of five hundred (500) feet between centerlines measured along the centerline of the street being intersected when one or more of the streets involved is an arterial street.

436.4 Street curb intersections shall be rounded by a tangental arc with a minimum radius of:

436.41 Twenty (20) feet for intersections involving only local streets;

436.42 Thirty (30) feet for all intersections involving a collector street;

436.43 Forty (40) feet for all intersections involving an arterial street.

436.5 Street right-of-way lines shall be parallel to (or concentric with) curb arcs at intersections.

436.6 Clear sight triangles shall be provided at all street intersections. Within such triangles, no object greater than two and one-half (2½) feet in height and no other object that would obscure the vision of the motorist shall exist or be placed. A note to such effect shall be placed on all plans with proposed street intersections. Such triangles shall be established as follows:

436.61 Seventy-five (75) feet from the point of intersection of the centerlines of the two streets, along the centerlines of all streets, where both streets are local streets and the intersection is not controlled by a stop sign or a traffic light.

436.62 One hundred (100) feet from the point of intersection of the centerlines of the two streets, along the centerlines of all streets, where at least one road is collector road and the intersection is not controlled by a stop sign or a traffic light.

436.63 One hundred fifty (150) feet from the point of intersection of the centerlines of the two streets along the centerlines of all streets where at least one road is an arterial street and the intersection is not controlled by a stop sign or a traffic light.

436.64 Along the centerline of the street where movement is controlled by a stop sign, from a point twenty (20) feet from where the cartways of the two roads meet, to points two hundred (200) feet on each side from the point where the centerlines of the two roads meet along the other road, if both roads are classified as local roads.

436.65 Along the centerline of the street whose movement is controlled by a stop sign from a point twenty (20) feet from where the cartways of the two roads meet, to points three hundred (300) feet on each side from the point where the centerlines of the two roads meet along the other road, if at least one road is classified as a collector or arterial road.

436.7 Wherever a portion of the line of such triangles occurs within the proposed building setback line, such portion shall be shown on the Final Plan of the subdivision, and shall be considered a building setback line.

437 Cul-de-sacs

437.1 Dead-end streets are prohibited unless designed as cul-de-sac streets or designed for future access to adjoining properties.

437.2 Any dead-end street which is constructed for future access to an adjoining property or because of authorized stage development, and which is open to traffic and exceeds two hundred (200) feet in length, shall be provided with a temporary, all-weather turning circle or "T" type turnaround. The turning circle or "T" type turnaround shall be completely within the boundaries of the subdivision and the use of the turnaround shall be guaranteed to the public through easements until such time as the street is extended.

437.3 Cul-de-sac streets, permanently designed as such, shall not exceed one thousand (1,000) feet in length and shall not furnish access to more than twenty-five (25) dwelling units. In the case of industrial parks, a cul-de-sac shall not furnish access to more than two hundred (200) employees. Exemptions from these requirements may be granted where necessary due to unique characteristics of the site.

437.4 All cul-de-sac streets, whether permanently or temporarily designed as such, shall be provided at the closed end with a fully-paved turning circle. The turning circle may be offset to the left, but turnarounds offset to the right shall be discouraged.

437.41 If parking will be prohibited on the turning circle, the minimum radius to the pavement edge or curb line shall be forty (40) feet and the minimum radius of the right-of-way shall be forty-eight (48) feet.

437.42 If parking will be permitted on the turning circle, the minimum radius to the pavement edge or curb line shall be fifty (50) feet and the minimum radius of the right-of-way line shall be fifty-eight (58) feet.

437.5 The centerline grade on a cul-de-sac street shall not exceed eleven (11) percent, and the grade of the diameter of the turnaround shall not exceed five (5) percent. The minimum slope of paving, in any part of the cul-de-sac shall not be less than two (2) percent.

438 Half Streets

438.1 The dedication of new half streets at the perimeter of a new subdivision is prohibited.

438.2 The subdivider shall provide the entire required right-of-way, or as much thereof as is possible, within his property, along all existing streets which traverse or abut the property.

439 Street Names and Street Signs

439.1 Proposed streets which are in alignment with others already existing and named shall bear the name of the existing streets.

439.2 In no case shall the name of a proposed street duplicate an existing street name in the Township and in the postal district, irrespective of the use of the suffix street, road, avenue, boulevard, driveway, place, court or lane.

439.3 All street names shall be subject to the approval of the Penn Forest Board of Supervisors and US Postal Service.

439.4 Street signs shall be provided at the intersection of all streets. The type, height and design shall be according to the provisions of Section 511.10.

440 Sanitary Sewage Disposal

441 The developer shall provide the most effective type of sanitary sewage disposal consistent with the Township's official plan for sewage facilities prepared in accordance with the Pennsylvania Sewage Facilities Act (Act 537) and Chapter 71 of the Pennsylvania Department of Environmental Protection Regulations.

442 Connection to a public sanitary sewer system shall be required where such a system is proposed by the Township's official plan for sewage facilities, can feasibly be provided to the proposed subdivision tract, and where such a system can adequately fulfill the sewage disposal needs of the subdivision or land development.

443 Where a public sanitary sewer system is not yet accessible to the site, but is planned for extension within a five (5) year period, the developer shall install sanitary sewer lines within the subdivision boundary to the point where the future connection to a public sewer system will be made. Lateral connections shall be constructed for all lots. Connections shall be available in the structures so as to allow the switch from the use of on-lot systems to the public system. Such sewer systems shall be capped until ready for use. On-lot disposal facilities shall be provided for interim use.

444 In subdivision/land developments where connection to a public sewage system is not possible, on-lot sewage disposal systems shall be provided in accordance with the Pennsylvania Sewage Facilities Act, Chapter 73 of DEP Regulations, and the requirements of the Municipal Sewage Enforcement Officer. Each lot shall be provided with a tested, approved primary and secondary absorption area.

445 Sanitary sewerage systems shall be located and designed to minimize or eliminate flood damage, infiltration of flood waters into the system, and discharges from the system into flood waters.

446 On-lot sewage disposal systems shall be located and designed to avoid impairment or contamination from flooding.

450 Water Supply and Distribution Systems

451 The developer shall provide a water supply and distribution system to service the proposed subdivision through one of the following methods:

451.1 Connection shall be made to the community water supply system where the system can feasibly be provided to the proposed subdivision tract and where the capacity of such a system can adequately fulfill the water supply demands of the proposed subdivision. A distribution system shall be designed to furnish an adequate supply of water to each lot.

451.2 Where a public water supply system is planned to serve the proposed subdivision area within ten (10) years, a centralized water system will be provided by the developer if the subdivision involves twenty (20) or more dwelling units unless the average residential lot size is one acre or larger. Whenever such a system is provided, the water distribution lines shall be dedicated to the appropriate public authority and the authority will acquire other parts of the water supply system such as wells, pumps and storage tanks

that can be integrated into the public water system. This will take place after the improvements are completed so that the system can be operated by the public authority. Also, such a system shall be designed and constructed in a manner that will permit adequate connection to a public water supply system in the future. The system shall meet the design and construction standards for centralized water systems set forth in Appendix A.

451.3 Where a public water supply is not proposed in the area of the proposed subdivision within ten (10) years, the developer shall provide a centralized water system if the subdivision involves twenty (20) or more lots and the average residential lot size is less than one (1) acre. The system shall meet the design and construction standards for centralized water systems set forth in Appendix A.

451.4 All centralized water systems that remain privately owned shall be organized in a manner as to fall within the jurisdiction of the Pennsylvania Public Utility Commission.

451.5 Water supply systems shall be located and designed to minimize or eliminate infiltration of flood waters so as to meet Federal Insurance Administration provisions.

451.6 Fire hydrants shall be located no less than five hundred (500) feet from all primarily buildings.

460 Storm Drainage Systems

461 Storm drainage systems shall be provided in order to:

461.1 Permit unimpeded flow of natural watercourses, except as may be modified by storm water detention pond requirements in Section 464 or open channels pursuant to Section 462.7.

461.2 Ensure adequate drainage of all low points along the line of streets.

461.3 Intercept storm water runoff along streets at intervals related to the extent and grade of the area drained.

461.4 Provide positive drainage away from on-site sewage disposal systems.

461.5 Take surface water from the bottom of vertical grades, to lead water from springs and to avoid excessive use of cross gutters at street intersections and elsewhere.

461.6 Provide for the conveyance of a 100 year storm event without causing safety hazards or property damage.

461.7 Prevent overloading of downstream drainage systems and watercourses as a result of increased rate of runoff caused by the proposed development.

462 General Requirements

462.1 A site drainage plan for the proposed subdivision or land development tract shall be prepared which illustrates the following information:

462.11 Mapping of the watershed area or areas in which the proposed subdivision or land development is located.

462.12 Calculations of runoff for all points of runoff concentration.

462.13 Complete drainage systems for the subdivision. All existing drainage features which are to be incorporated in the design shall be so identified. If the subdivision or land development is to be developed in stages, a general plan for the entire subdivision shall be presented with the first stage and appropriate development stages for the drainage system shall be indicated.

462.2 The existing points of natural drainage discharge and the mode of drainage discharge and the mode of drainage conduct onto adjacent property shall not be altered, unless:

462.21 Written consent of affected landowner is obtained by the applicant with agreement filed on record plan.

462.3 No storm water runoff or natural drainage shall be so diverted as to overload existing drainage systems, or create flooding or the need for additional drainage structures on other private properties or public lands.

462.4 Where a subdivision is traversed by watercourses other than permanent streams, there shall be provided on the subdivision plan, a drainage easement conforming substantially with the line of such watercourse which shall be offered to the Township for dedication. The width of the easement shall be adequate to provide for unimpeded flow of storm runoff based on calculations made in conformance with Section 463 and to provide a freeboard allowance of one half (0.5) foot above the design water surface level. Periodic cutting and maintenance of the vegetation by the landowner is required. The alteration, obstruction or encroachment of any kind is prohibited with easements. The Township shall have the right, but not the responsibility, to maintain the swale or pipe and infrastructure within the easement and seek reimbursement from the property owner as allowed by law.

462.5 Drainage structures that are located on State highway rights-of-way shall be approved by the Pennsylvania Department of Transportation and a letter from that office indicating such approval shall be included with the preliminary plan application.

462.6 All streets shall be so designed as to provide for the discharge of surface water from their rights-of-way.

462.7 When natural drainage swales on the site cannot adequately provide for drainage, open channels may be constructed conforming substantially to the line and grade of such natural drainage swales. Capacities shall be calculated using the Manning equation as explained in Appendix B.

462.8 Storm drainage facilities and appurtenances shall be so designed and provided as to minimize erosion in watercourse channels and at all points of discharge.

463 Calculation of Storm Runoff and Design Storm Frequency

463.1 Storm drainage systems required by this Ordinance shall be designed to provide protection from Post Development Stormwater increases from a two (2) to one hundred (100) year storm. If the site of the subdivision or land development is within a watershed with an approved Storm Water Management Plan enacted pursuant to Act 167, the criteria in the applicable plan shall be used. Stormwater infrastructure shall be designed to handle storms as determined below.

463.11 A ten (10) year design storm is appropriate where a storm in excess of the design storm will have minor impact such as inconvenience to traffic on local streets.

463.12 A twenty-five (25) year design storm is appropriate where a storm in excess of the design storm will cause major inconvenience to people and traffic in high use areas such as business districts and along busy streets.

463.13 A one hundred (100) year design storm is appropriate where a storm in excess of the design storm will cause damage to existing or future structures or their contents.

463.14 Any downstream analysis conducted to determine adequacy for accepting increased rates of runoff shall consider the one hundred (100) year storm event.

463.15 The design or analysis of all natural or man-made overland drainage systems shall have adequate capacity for the ten (10) to one hundred (100) year return storm as indicated above and shall further consider the two (2) year storm event for velocity. Permissible velocities are indicated in Appendix B.

463.2 Storm water runoff from watersheds of two hundred (200) or less acres shall be calculated by the rational method as described in Manual Number 37 of the American Society of Civil Engineers, except as the watershed size criteria may be modified by an approved Act 167 Storm Water Management Plan. The rational method of runoff calculation is explained in Appendix B.

463.3 Storm water runoff from watersheds of more than two hundred (200) acres shall be calculated using the Soil-Cover-Complex Method developed by the Soil Conservation Service or other appropriate method acceptable to the Township Engineer.

463.31 Runoff calculations using the soil cover complex method shall use the Natural Resources Conservation Service Type II twenty four hour rainfall distribution. They twenty four hour rainfall depths for the various return periods shall be taken from NOAA Atlas 14, Volume 2, Version 3. The following values are taken from NOAA Atlas 14, Volume 2, Version 3.

Return Period (years)	24-Hour Rainfall Depth (inches)
1	2.77
2	3.33
5	4.13
10	4.84
25	5.99
50	7.06
100	8.33

463.4 The design of any detention facility shall be verified by routing the proposed post-development hydrograph through the basin using a storage indication technique.

463.5 The Manning equation explained in Appendix A shall be used in calculating capacities of watercourses and storm sewers, except culverts which shall be designed using methods acceptable to the Township Engineer.

463.6 Complete detailed drainage calculations and applicable charts and nomographs certified by the design engineer shall be submitted to the Township Engineer.

464 Stormwater Detention

464.1 Stormwater detention facilities shall be used for all subdivisions and/or land development proposals unless the following two (2) criteria have been met.

464.11 The proposed rate and volume of runoff can be accommodated by all downstream fixed pipe or surface drainage systems in accordance with Section 463.14.

464.12 Written permission has been granted by the adjoining downstream tenant where runoff discharges onto the adjoiner overland, via a surface drainage system.

464.2 Whenever stormwater detention facilities are required under Section 646.1 the maximum post-development peak rates of flow shall be governed by the following provisions:

464.21 Post-development rates of runoff for the one (1) through one hundred (100) year storm events shall not exceed pre-development rates.

464.22 Within watersheds for which there is an approved Act 167 Storm Water Management Plan, the detention facilities shall at minimum be designed to discharge post-development peak runoff rates consistent with the Plan criteria except in the instance of off-site detention facilities implemented as per Section 464.24.

464.23 Within watersheds for which there is not an approved Act 167 Storm Water Management Plan, the detention facilities shall be designed to provide that the peak rate of runoff at all points of discharge from the site, when developed, will not exceed the peak rate of runoff at each of those points prior to development, with the exception of the instance of off-site detention facilities implemented as per Section 464.24.

464.24 In certain instances, regional detention facilities to provide runoff control for multiple development sites may be implemented in lieu of individual development site detention basins. Peak runoff rates of discharge from a regional detention basin shall be based upon maintaining existing peak runoff rates for the tributary area, except that other criteria for discharge may apply for regional detention facilities located within a watershed with an approved Act 167 Storm Water Management Plan. Any developer relying upon regional detention facilities in lieu of on-site controls shall pay a fee to the owner of the regional facility (presumably the municipality) in proportion to the share of total storage volume required by the development and provided by the basin.

464.3 Where detention facilities are included as part of the storm drainage system, the following provisions will apply:

464.31 Detention ponds shall be designed so that they return to normal conditions within approximately twelve (12) hours after the termination of the storm, unless the Township Engineer finds that downstream conditions may warrant other design criteria for storm water release;

464.32 The developer shall demonstrate that such ponds are designed, protected and located to assure that public safety is maximized and health problems are prevented. The following minimum criteria shall apply:

464.321 Top berm width shall be a minimum of six (6) feet.

464.322 Side slopes shall be four (4) horizontal to one (1) vertical or flatter;

464.323 Any pond that can possibly impound water to a depth in excess of four (4) feet shall be enclosed with a four (4) foot high durable chain link fence or approved equivalent that includes a ten (10) foot wide gate. A temporary construction fence is required upon excavation of the basin and shall not be removed until a permanent fence is constructed;

464.324 All ponds shall be screened from view with a dense low maintenance year round vegetative screen that will reach a height of four (4) feet within three years.

464.325 All ponds shall incorporate an impervious liner, with either a clay liner having a percolation rate less than 10^{-6} cm/sec, or synthetic liner.

464.33 The developer shall verify that the operation of the detention facilities will not aggravate potential downstream peaking conditions;

464.34 Emergency overflow facilities shall be provided for detention facilities to handle runoff in excess of design flows with preference given to low maintenance (grass or concrete) spillways;

464.35 If the lands of the proposed land development will remain in common ownership, the developer shall provide an annotation on the Record Plan imposing a covenant running with the land. The covenant shall require perpetual maintenance of the detention pond by, (at the option of the Township) either a homeowners association or by the owner of the development. The covenant shall include provisions for enforcement of maintenance responsibilities by the Township in a form acceptable to the Township Solicitor.

464.36 If the lands of the proposed land development will be conveyed to two (2) or more separate owners, the developer shall (at the option of the Township) provide one of the following:

464.361 Provide an annotation on the Record Plan imposing a covenant running with the land requiring perpetual maintenance of the detention pond by either a homeowners association or by the lot owners. Such covenant being enforceable by the Township in a manner acceptable to the Township Solicitor.

464.362 Dedicate the land on which the detention ponds are located to the Township which shall then be responsible for maintaining the detention ponds. Should the maintenance of the pond be the Township's responsibility, a fund for perpetual maintenance shall be provided by the Developer as calculated by the detention pond maintenance fee contained in Appendix B.

465 Post-construction water quality criteria

465.1 No regulated earth disturbance activities within the Township shall commence until approval by the Township of a plan which demonstrates compliance with this chapter.

465.2 The water quality volume (WQv) shall be captured and treated. The WQv shall be calculated two ways. First, WQv shall be calculated using the following formula:

$$WQv = \frac{(c)(P)(A)}{12}$$

Where:

WQv = Water quality volume in acre-feet.
c = Rational Method post-development runoff coefficient for the two-year storm.
P = 1.25 inches.
A = Area in acres of proposed regulated activity.

Second, the WQv shall be calculated as the difference in runoff volume from pre-development to post-development for the two-year return period storm. The effect of closed depressions on the site shall be considered in this calculation. The larger of these two calculated volumes shall be used as the WQv to be captured and treated, except that in no case shall the WQv be permitted to exceed 1.25 inches of

runoff over the site area. This standard does not limit the volume of infiltration an applicant may propose for purposes of water quantity/peak rate control.

465.3 The WQv shall be calculated for each post-development drainage direction on a site for sizing BMPs. Site areas having no impervious cover and no proposed disturbance during development may be excluded from the WQv calculations and do not require treatment.

465.4 If an applicant is proposing to use a dry extended detention basin, wet pond, constructed wetland or other BMP that ponds water on the land surface and may receive direct sunlight, the discharge from that BMP must be treated by infiltration, a vegetated buffer, filter strip, bioretention, vegetated swale or other BMP that provides a thermal benefit to protect the receiving water from thermal impacts.

465.5 The WQv for a site as a result of the regulated activities must either be treated with infiltration or two acceptable BMPs such as those listed in Section 465.12, except for minor areas on the periphery of the site that cannot reasonably be drained to an infiltration facility or other BMP.

465.6 Infiltration BMPs shall not be constructed on fill.

465.7 The applicant shall document the bedrock type(s) present on the site from published sources.

465.8 For each proposed regulated activity in the watershed where an applicant intends to use infiltration BMPs, the applicant shall conduct a preliminary site investigation, including gathering data from published sources, a field inspection of the site, a minimum of one test pit and a minimum of two percolation tests, as outlined in Appendix B, Attachment B-9. This investigation will determine depth to bedrock, depth to the seasonal high water table, soil permeability and location of special geologic feature, if applicable. The location of special geologic features shall be verified by a qualified geotechnical professional.

465.9 Sites where applicants intend to use infiltration BMPs must meet the following criteria:

465.91 Depth to bedrock below the invert of the BMP greater than or equal to two feet.

465.92 Depth to seasonal high water table below the invert of the BMP greater than or equal to three feet; except for infiltration of residential roof runoff where the seasonal high water table must be below the invert of the BMP. (If the depth to bedrock is between two and three feet and the evidence of the seasonal high water table is not found in the soil, no further testing to locate the depth to seasonal high water table is required.)

465.93 Soil permeability (as measured by the adapted 25 PA Code § 73.15. percolation test in Appendix B, Attachment B-9) greater than or equal to 0.5 inch/hour and less than or equal to 12 inches per hour.

465.94 Setback distances or buffers as follows:

465.941 One hundred feet from water supply wells.

465.942 Fifteen feet downgradient or 100 feet upgradient from building foundations; except for residential development where the required set back is 15 feet downgradient or 40 feet upgradient from building foundations.

465.943 Fifty feet from septic system drainfields; except for residential development where the required setback is 25 feet from septic system drainfields.

465.944 One-hundred feet from the property line unless documentation is provided to show that all setbacks from existing or potential future wells, foundations and drainfields on neighboring properties will be met; except for one- and two-family residential dwellings where the required setback is 40 feet unless documentation is provided to show that all setbacks from existing or potential future wells, foundations and drainfields on neighboring properties will be met.

465.10 The recharge volume (REv) shall be infiltrated unless the applicant demonstrates that it is infeasible to infiltrate the REv for reasons of seasonal high water table, permeability rate, soil depth or setback distances, or except as provided in Section 465.17.

465.101 The REv shall be calculated as follows:

REv = (0.25)* (I)/12
Where
REv = Recharge volume in acre-feet.
I = Impervious area in acres.

465.102 The preliminary site investigation described in Section 465.8 is required and shall continue on different areas of the site until a potentially suitable infiltration location is found or the entire site is determined to be infeasible for infiltration. For infiltration areas that appear to be feasible based on the preliminary site investigation, the additional site investigation and testing as outlined in Appendix B, Attachment B-9, shall be completed.

465.103 If an applicant proposes infiltration, the Township may determine infiltration to be infeasible if there are known existing conditions or problems that may be worsened by the use of infiltration.

465.104 The site must meet the conditions listed in Section 465.9.

465.105 If it is not feasible to infiltrate the full REv, the applicant shall infiltrate that portion of the REv that is feasible based on the site characteristics. If none of the REv can be infiltrated, REv shall be considered as part of the WQv and shall be captured and treated as described in Section 465.12.

465.106 If REv is infiltrated, it may be subtracted from the WQv required to be captured and treated.

465.11 Site areas proposed for infiltration shall be protected from disturbance and compaction except as necessary for construction of infiltration BMPs.

465.12 If infiltration of the entire WQv is not proposed, the remainder of the WQv shall be treated by two acceptable BMPs in series for each discharge location. Sheet flow draining across a pervious area can be considered as one BMP. Sheet flow across impervious areas and concentrated flow shall flow through two BMPs. If sheet flow from an impervious area is to be drained across a pervious area as one BMP, the length of the pervious area must be equal to or greater than the length of impervious area. In no case may the same BMP be employed consecutively to meet the requirement of this section. Acceptable BMPs are listed on the following page along with the recommended reference for design.

Best Management Practice	Design Reference Number[3]
Bioretention[1]	4, 5, 11, 16
Capture/reuse[2]	4, 14
Constructed wetlands	4, 5, 8, 10, 16
Dry extended detention ponds	4, 5, 8, 12, 18
Minimum disturbance/minimum maintenance practices	1, 9
Significant reduction of existing impervious cover	N/A
Stormwater filters[1] (sand, peat, compost, etc.)	4, 5, 10, 16
Vegetated buffers/filter strips	2, 3, 5, 11, 16, 17
Vegetated roofs	4, 13
Vegetated swales[1]	2, 3, 5, 11, 16, 17
Water quality inlets[4]	4, 7, 15, 16, 19
Wet detention ponds	4, 5, 6, 8

NOTES:

[1] This BMP could be designed with or without an infiltration component. If infiltration is proposed, the site and BMP will be subject to the testing and other infiltration requirements in this chapter.

[2] If this BMP is used to treat the entire WQv then it is the only BMP required because of this BMP's superior water quality performance.

[3] See table below.

[4] Water quality inlets include such BMPs as oil/water separators, sediment traps/catch basin sumps, and trash/debris collectors in catch basins.

Number	Design Reference Title
1	"Conservation Design For Stormwater Management — A Design Approach to Reduce Stormwater Impacts From Land Development and Achieve Multiple Objectives Related to Land Use," Delaware Department of Natural Resources and Environmental Control, The Environmental Management Center of the Brandywine Conservancy, September 1997
2	"A Current Assessment of Urban Best Management Practices: Techniques for Reducing Nonpoint Source Pollution in the Coastal Zone," Schueler, T. R., Kumble, P. and Heraty, M., Metropolitan Washington Council of Governments, 1992.
3	"Design of Roadside Channels with Flexible Linings," Federal Highway Administration, Chen, Y.H. and Cotton, G.K., Hydraulic Engineering Circular 15, FHWA-IP-87-7, McLean Virginia, 1988.
4	"Draft Stormwater Best Management Practices Manual," Pennsylvania Department of Environmental Protection, January 2005.
5	"Evaluation and Management of Highway Runoff Water Quality," Federal Highway Administration, FHWA-PD-96-032, Washington, D.C., 1996.
6	"Evaporation Maps of the United States," U.S. Weather Bureau (now NOAA/National Weather Service) Technical Paper 37, Published by Department of Commerce, Washington D.C., 1959.
7	"Georgia Stormwater Manual," AMEC Earth and Environmental, Center for Watershed Protection, Debo and Associates, Jordan Jones and Goulding, Atlanta Regional Commission, Atlanta, Georgia, 2001.
8	"Hydraulic Design of Highway Culverts," Federal Highway Administration, FHWA HDS 5, Washington, D.C., 1985 (revised May 2005).
9	"Low Impact Development Design Strategies An Integrated Design Approach," Prince Georges County, Maryland Department of Environmental Resources, June 1999.
10	"Maryland Stormwater Design Manual," Maryland Department of the Environment, Baltimore, Maryland, 2000.
11	"Pennsylvania Handbook of Best Management Practices for Developing Areas," Pennsylvania Department of Environmental Protection, 1998.
12	"Recommended Procedures for Act 167 Drainage Plan Design," LVPC, Revised 1997.
13	"Roof Gardens History, Design, and Construction," Osmundson, Theodore. New York: W.W. Norton & Company, 1999.
14	"The Texas Manual on Rainwater Harvesting," Texas Water Development Board, Austin, Texas, Third Edition, 2005.

Number	Design Reference Title
15	"VDOT Manual of Practice for Stormwater Management," Virginia Transportation Research Council, Charlottesville, Virginia, 2004.
16	"Virginia Stormwater Management Handbook," Virginia Department of Conservation and Recreation, Richmond, Virginia, 1999.
17	"Water Resources Engineering," Mays, L.W., John Wiley & Sons, Inc., 2005.
18	"Urban Hydrology for Small Watershed," Technical Report 55, US Department of Agriculture, Natural Resources Conservation Service, 1986.
19	US EPA, Region 1 New England web site (as of August 2005) http://www.epa.gov/NE/assistance/ceitts/stormwater/techs/html.

465.13 Stormwater runoff from hot spot land uses shall be pretreated. In no case, may the same BMP be employed consecutively to meet this requirement and the requirement in Section 465.12. Acceptable methods of pretreatment are listed on the following page.

Hot Spot Land Use	Pretreatment Method(s)
Vehicle maintenance and repair facilities including auto parts stores	Water quality inlets Use of drip pans and/or dry sweep material under vehicles/equipment Use of absorbent devices to reduce liquid releases Spill prevention and response program
Vehicle fueling stations	Water quality inlets Spill prevention and response program
Storage areas for public works	Water quality inlets Use of drip pans and/or dry sweep material under vehicles/equipment Use of absorbent devices to reduce liquid releases Spill prevention and response program diversion of stormwater away from potential contamination areas
Outdoor storage of liquids	Spill prevention and response program
Commercial nursery operations	Vegetated swales/filter strips Constructed wetlands Stormwater collection and reuse
Salvage yards and recycling facilities[1]	BMPs that are a part of a stormwater pollution prevention plan under an NPDES permit
Fleet storage yards and vehicle cleaning facilities[1]	BMPs that are a part of a stormwater pollution prevention plan under an NPDES permit
Facilities that store or generate regulated substances[1]	BMPs that are a part of a stormwater pollution prevention plan under an NPDES permit
Certain industrial uses (listed under NPDES)[1]	BMPs that are a part of a stormwater pollution prevention plan under an NPDES permit

NOTES:

[1] Regulated under the NPDES stormwater program.

Design references for the pretreatment methods, as necessary, are listed below. If the applicant can demonstrate to the satisfaction of the Township that the proposed land use is not a hot spot, then the pretreatment requirement would not apply.

Pretreatment Method	Design Reference[1]
Constructed wetlands	5, 6, 10, 12, 18
Diversion of stormwater away from potential contamination areas	5, 13
Stormwater collection and reuse (especially for irrigation)	5, 16
Stormwater filters (sand, peat, compost, etc.)	5, 6, 12, 18
Vegetated swales	2, 4, 6, 13, 18, 19
Water quality inlets	5, 9, 17, 18, 21

NOTES:

[1] These numbers refer to the Design Reference Title Chart in Section 465.13 above.

465.14 The use of infiltration BMPs is prohibited on hot spot land use areas.

465.15 Applicants shall request, in writing, community water suppliers to provide the Zone I Wellhead Protection radius, as calculated by the method outlined in the Pennsylvania Department of Environmental Protection Wellhead Protection regulations, for any community water supply well within 400 feet of the site. In addition to the setback distances specified in Section 465.9, infiltration is prohibited in the Zone I radius as defined and substantiated by the community water supplier in writing. If the applicant does not receive a response from the community water supplier, the Zone I radius is assumed to be 100 feet.

465.16 The Township may, after consultation with PA DEP, approve alternative methods for meeting the state water quality requirements other than those in this section, provided that they meet the minimum requirements of and do not conflict with state law, including but not limited to the Clean Streams Law.

470 Underground Utilities and Utility Easements

471 In accordance with the Pennsylvania Public Utility Commission Investigation Docket No. 99, as amended from time to time, all electric utility distribution lines shall be installed underground in subdivisions or land developments of five (5) or more dwelling units. In addition, the following design requirements shall be observed:

471.1 Established public utility and state and Federal governmental agency design standards shall be observed in preparing the utility plan;

471.2 Utility lines to be installed within street rights-of-way shall be located according to Township or Penn Forest Sewer authority requirements;

471.3 Whenever practicable, telephone and cable TV utilities shall be installed underground in connection with the installation of electric utility distribution lines;

471.4 Street lighting, where required, shall be provided at each intersection of the development and at intervals not to exceed two hundred (200) feet between intersections;

471.5 Utility lines shall be installed at the rough grade phase of construction. Utility lines shall be installed according to their depth, with the utility line installed at the greatest depth being installed first.

472 Utility Easements

472.1 Utility easements shall be provided for all utility lines servicing the abutting lots when such utility lines are installed outside street rights-of-way. No structures or trees shall be placed within such easements. The location of utility easements shall be acceptable to the appropriate public utility or municipal authority.

472.2 Whenever practicable all utility lines to be installed outside street rights-of-way shall share a common utility easement.

472.3 Utility easements shall be located either:

472.31 Abutting the street right-of-way. In this case a minimum easement width of ten (10) feet shall be required;

472.32 Along rear or side lot lines. In this case a minimum easement width of twenty (20) feet, ten (10 feet on each side of the lot line, shall be provided. Where the lot line coincides with the subdivision boundary a minimum easement width of fifteen (15) feet may be required by the Penn Forest Board of Supervisors.

473 Petroleum and Natural Gas Transmission Lines

473.1 No company intending to install any petroleum, petroleum product or natural gas transmission line shall be allowed to construct the line on less than a fifty (50) foot right-of-way. Such lines are to be installed in the center of the right-of-way, and shall comply with the applicable standards imposed by State and Federal laws and regulations.

473.2 There shall be a minimum distance of twenty-five (25) feet, measured from the right-of-way line, between any proposed dwelling unit and any petroleum, petroleum products or natural gas transmission line which traverses the subdivision.

474 Floodproofing

474.1 Facilities for gas, electric and communication utilities shall be elevated or floodproofed to a level at least one (1) foot above the 100-year flood elevation.

480 Mobile Home Parks

481 Applicable Standards and Requirements

481.1 The design and development of mobile home parks shall conform to all the general standards and requirements set forth for subdivision and land developments in this Ordinance in addition to the specific design standards set forth herein (Section 480), along with Density Requirement, and other requirements, as listed in the Penn Forest Township Zoning Ordinance.

482 Permits

482.1 It shall be unlawful for any person to construct, alter, or extend any mobile home park or any of the facilities thereof within the limits of the Township unless such action has been approved by the Penn Forest Board of Supervisors.

482.2 Mobile home park expansions, constructions and alterations shall be approved by the Penn Forest Board of Supervisors only after all requirements of this Ordinance are met.

483 Off-Street Parking Areas

483.1 Off-street parking areas shall be provided in all mobile home parks for the use of park occupants and guests. A minimum of two (2) off-street parking places for each mobile home unit shall be required.

483.2 Required car parking spaces shall be so located as to provide convenient access to the mobile home, but shall not exceed a distance of one hundred (100) feet from the mobile home that they are intended to serve.

484 Pedestrian Walkways

484.1 All parks shall provide safe, convenient, all-season pedestrian access between individual mobile homes, the park streets, and all community facilities provided for park residents. Sudden changes in alignment and gradient shall be avoided.

484.2 Where a common walk system is provided and maintained between locations, and where pedestrian traffic is concentrated, such common walks shall have a minimum width of three and one-half (3½) feet.

484.3 All mobile home stands shall be connected to common walks, streets, driveways or parking spaces connecting to a paved street. Such individual walks shall have a minimum width of two (2) feet.

485 Mobile Home Siting

485.1 Mobile Home Stand Construction

485.11 The area of the mobile home stand shall be improved to provide an adequate foundation for the placement of the mobile home.

485.12 The stand shall be constructed from either concrete, asphalt concrete or other material sufficient to adequately support the mobile home and to prevent abnormal settling or heaving under the weight of the home. The corners of the mobile home shall be anchored to prevent wind overturn and rocking with tie-downs such as concrete “dead men”, screw augers, arrowhead anchors, or other devices suitable to withstand a tension based on the requirements of applicable building codes.

485.13 After a mobile home has been anchored to the mobile home stand, the hitch which is employed for the transportation of the unit shall be removed, and there shall be a decorative skirt installed around the base of the unit.

486 Common Open Space

486.1 At least twenty (20) percent of the usable site area of the mobile home park must be in common open space. The usable site area is that area which is free of water surfaces, severe high water table, quarries, or slopes over twenty (20) percent.

486.2 Whenever possible, the common space shall be designed as a contiguous area with pedestrian and visual accessibility to all residents of the mobile home park.

486.3 Recreation areas and facilities shall be provided to meet the anticipated needs of the residents of the park. Not less than ten (10) percent of the usable site area shall be devoted to recreation. Recreation areas shall be of a size, shape and relief that is conducive to active play.

487 Utilities

487.1 Water Supply

487.11 All mobile home parks shall be connected to the community water supply and distribution system upon construction or expansion. The availability of service shall be certified in accordance with the provisions of Section 334.4.

487.12 Individual Water Connections

487.121 Individual water-riser pipes shall be located within the confined area of the mobile home stand at a point where the water connection will approximate a vertical position, thereby insuring the shortest water connection possible and decreasing susceptibility to water pipe freezing.

487.122 The water-riser pipe shall have a minimum inside diameter of three-quarter (¾) inch and terminate at least four (4) inches above the ground surface. The water outlet shall be provided with a cap when the mobile home does not occupy the lot.

487.123 Adequate provisions shall be made to prevent freezing of service lines, valves and riser pipe and to protect risers from heaving and thawing actions of ground during freezing weather. Surface drainage shall be diverted from the location of the riser pipe.

487.124 A shut-off valve below the frost line shall be provided near the water-riser pipe on each mobile home lot. Underground stop-and-waste valves are prohibited unless the type of manufacture and method of installation are approved by the Township Engineer.

487.2 Sewage Disposal

487.21 All mobile home parks shall be connected to the public sanitary sewage disposal system upon construction or expansion. The availability of service shall be certified in accordance with the provisions of Section 334.5.

487.22 Individual Sewer Connections

487.221 Each mobile home stand shall be provided with at least a four (4) inch diameter sewer riser pipe. The sewer riser pipe shall be so located on each stand that the sewer connection to the mobile home drain outlet will approximate a vertical position.

487.222 The sewer connection shall have a nominal inside diameter of not less than four (4) inches, and the slope of any portion thereof shall be at least one-fourth (¼) inch per foot. All joints shall be watertight.

487.223 All materials used for sewer connections shall be semi-rigid, corrosion resistant, non-absorbent and durable. The inner surface shall be smooth.

487.224 Provision shall be made for plugging the sewer riser pipe when a mobile home does not occupy the site. Surface drainage shall be diverted away from the riser. The rim of the riser pipe shall extend at least one-half (½) inch above ground elevation.

487.3 Individual Electrical Connections

487.31 Each mobile home lot shall be provided with an approved disconnecting device and over-current protective equipment. The minimum service per outlet shall be 120/240 volts AC, 100 amperes.

487.32 The mobile home shall be connected to the outlet receptacle by an approved type of flexible cable with connectors and a male attachment plug.

487.33 Where the calculated load of the mobile home is more than one hundred (100) amperes either a second outlet receptacle shall be installed or electrical service shall be provided by means of permanently installed conductors.

487.4 Required Electrical Grounding

487.41 All exposed non-current carrying metal parts of mobile homes and all other equipment shall be grounded by means of an approved grounding conductor run with branch circuit conductors and other approved methods of grounded metallic wiring. The neutral conductor shall not be used as an equipment ground for mobile homes or other equipment.

487.5 Natural Gas Systems

487.51 Natural gas piping systems when installed in mobile home parks shall conform to the rules and regulations of the American Gas Association.

487.52 Each mobile home lot provided with piped gas shall have an approved shutoff valve installed upstream of the gas outlet. The outlet shall be equipped with a cap to prevent accidental discharge of gas when the outlet is not in use.

487.6 Liquefied Petroleum Gas Systems

487.61 Liquefied petroleum systems provided for mobile homes, service buildings or other structures shall be installed and maintained in conformity with the rules and regulations of the National Fire Prevention Association Standards NFPA Nos. 57 and 58.

487.62 Systems shall be provided with safety devices to relieve excessive pressures and shall be arranged so that the discharge terminates at a safe location.

487.63 Systems shall have at least one accessible means for shutting off gas. Such means shall be located outside the mobile home and shall be maintained in effective operating condition.

487.64 All liquefied petroleum gas piping outside of the mobile homes shall be well supported and protected against mechanical injury. Undiluted liquefied petroleum gas shall not be conveyed through piping equipment and systems in mobile homes.

487.65 Vessels of more than twelve (12) and less than sixty (60) U.S. gallons gross capacity may be installed on a mobile home lot and shall be securely, but not permanently, fastened to prevent accidental overturning.

487.66 No liquefied petroleum gas vessel shall be stored or located inside or beneath any storage cabinet, carport, mobile home or any other structure.

487.7 Fuel Oil Supply Systems

487.71 All fuel oil supply systems for mobile homes, service buildings, and

other structures shall be installed and maintained in conformity with the rules and regulations of the National Fire Protection Association Standard NFPA No. 31.

487.72 All piping from outside fuel storage tanks or cylinders to mobile homes shall be securely, but not permanently, fastened in place.

487.73 All fuel oil supply systems provided for mobile homes, service buildings, and other structures shall have shutoff valves located within five (5) feet from any mobile home exit.

487.74 All fuel storage tanks or cylinders shall be a minimum of five (5) feet from any mobile home exit.

487.75 Storage tanks located in areas subject to traffic shall be protected against physical damage.

488 Roads

The private street system shall be designed and built to the specifications contained in the Penn Forest Subdivision and Land Development Ordinance.

488.1 The roads shall meet the design standards for local roads contained in Section 430.

488.2 The roads shall be built to the local road specifications set forth in the Penn Forest Improvements specifications ordinance.

490 Environmental Protection and Open Space Preservation

491 Erosion and Sedimentation Control

491.1 All earth-moving activities shall be conducted in such a way as to prevent accelerated erosion and the resulting sedimentation.

491.2 No Regulated Earth Disturbance Activities within the Township shall commence until approval by the Township of an Erosion and Sediment Control Plan for construction activities. Written approval by DEP or a delegated County Conservation District shall satisfy this requirement.

491.3 An Erosion and Sediment Control Plan is required by DEP regulations for any Earth Disturbance Activity of 5,000 square feet or more under Pa. Code Title 25 Chapter 102. The erosion and sedimentation control plan shall be developed in the form outlined in the Soil Erosion and Sedimentation Control Manual, issued by the Pennsylvania Department of Environmental Protection.

491.4 All erosion and sedimentation control plans shall be submitted with the final plan as set forth in Section 324.10 of this Ordinance.

491.5 A DEP NPDES Stormwater Discharges Associated with Construction Activities Permit is required for Regulated Earth Disturbance Activities under Pa. Code Title 25 Chapter 92 and Chapter 102.

491.6 The Penn Forest Board of Supervisors may require the submission of the erosion and sedimentation control plan to the County Conservation District for review and recommendations, whether a permit for earth-moving is required or not.

491.7 Evidence of any necessary permit(s) for Regulated Earth Disturbance Activities from the appropriate DEP regional office or County Conservation District must be provided to the Township before the commencement of an Earth Disturbance Activity.

491.8 A copy of the Erosion and Sediment Control Plan and any permit, as required by DEP regulations, shall be available at the project site at all times.

492 Natural Feature Preservation

492.1 The design and development of all subdivisions and land developments shall preserve, whenever possible, natural features which will aid in providing adequate open space for recreation and conditions generally favorable to the health, safety, and welfare of the residents. Some of these natural features are the natural terrain of the site, woodland areas, large trees, natural watercourses and bodies of water, wetlands, rock outcroppings, and scenic views. More detailed standards concerning the preservation of specific natural features are set forth in the following sections.

492.2 Flood Plain Regulation

492.21 The flood elevation map shall be based on the municipal flood insurance rate map (FIRM). When not available, the map shall be based on estimated 100-year flood elevations or estimated areas subject to flooding based on best available data.

492.22 No new buildings or structures shall be placed within the bounds of the 100-year flood plain except as Section 492.23 provides.

492.23 The substantial improvement of an existing building or the redevelopment of a vacant but formerly developed parcel is permissible within the floodway fringe if said development is in accordance with the flood plain provisions of the Township zoning ordinance if one has been enacted or with the Township flood plain ordinance.

492.24 When a developer does not intend to develop the plat himself and the Penn Forest Board of Supervisors determines that additional controls are required to insure safe development, it may require the developer to impose appropriate deed restrictions on the land. Such deed restrictions shall be inserted in every deed and noted on every recorded plat.

492.25 The finished elevation of proposed streets shall not be more than the one (1) foot below the Regulatory Flood Elevation. The Penn Forest Board of Supervisors may require profiles and elevations of streets to

determine compliance with the requirements. Drainage openings shall be sufficient to discharge flood flows without unduly increasing flood heights.

492.26 All sanitary sewer systems, whether public or private, shall be flood-proofed up to the Regulatory Flood Elevation.

492.27 The installation of sewage disposal facilities requiring soil absorption systems shall be prohibited within designated flood plain areas.

492.28 All water systems, whether public or private, shall be flood-proofed up to the Regulatory Flood Elevation.

492.29 All other public and private utilities and facilities including gas and electric shall be elevated or flood-proofed up to the Regulatory Flood Elevation.

492.3 Landscaping

492.31 General Conditions and Design Criteria

492.311 Required plant material shall not be planted until the finished grading of the subdivision or land development has been completed.

492.312 All required planting shall be guaranteed for a period of eighteen (18) months from the date of planting and shall be alive and healthy as determined by the Township at the end of the guaranteed period. Should a disagreement arise as to whether the planting is alive and healthy, a qualified nurseryman shall be retained by the Township at the expense of the developer to make a final determination.

492.313 Where planting is required, it shall be assured by financial security posted with the Township in an amount equal to the estimated cost of trees and shrubs and planting. Such guarantee shall be released only after passage of the second growing season following planting.

492.314 The developer shall be responsible for plant material provided for a period of eighteen (18) months. Any such planting that dies within the time period shall be removed in its entirety and replaced in kind, , at the expense of the developer.

492.315 All planting shall be performed in conformance with good nursery and landscape practice. Plant materials shall conform to the standards recommended by the

American Association of Nurseryman, Inc., in the current edition of the American Standard of Nursery Stock

492.316 Plantings shall be spaced to comply with the visual mitigation requirements with consideration given to the provision for the future growth habits and mature sizes of the selected plant species.

492.317 Plant species selection shall be based on the following considerations:

(a) Existing site conditions and their suitability to the soil, hydrology and microclimate

(b) Maintenance considerations, such as hardiness, resistance to insects and disease, longevity, and availability of plant materials

(c) Specific functional objectives, including but not limited to plant growth, form, height, spread, visual screening impacts, wildlife habitat, and aesthetic value

492.318 Maintenance guidelines for the plantings shall be developed by the applicant's landscape architect and shall be noted on the recorded plan.

492.319 All sight distances shall remain clear from any plant materials that could block sight lines or create obstacles for vehicle movement.

492.320 Required plant material shall be maintained by the property owner to achieve their required visual effects. Dead or diseased plant materials shall be removed or treated by the landowner and replaced during the next growing season.

492.32 Existing Vegetation

492.321 In cases where natural features existing on the site duplicate or essentially duplicate the requirements of the street tree, or landscaping provisions of this Ordinance, and the applicant has incorporated the existing vegetation into site design, the applicant may request full or partial landscaping credit from Penn Forest Township. The Township may grant a waiver of landscaping requirements based upon the recommendations of the Borough Engineer.

492.322 All subdivisions and land developments shall be laid out in such manner as to preserve and minimize the removal of the healthy trees on the site. If trees greater than eight (8) inch in caliper are removed, they shall be replaced by trees of three (3") inch minimum caliper and shall be in addition to other landscaping requirements.

492.323 During the construction of any site, trees and shrubs, as identified on the plan to remain, shall be protected by fencing to insure that there is no encroachment within the area of their dripline by changing grade, trenching, stockpiling of building materials or topsoil, or the compaction of the soil and roots by any motor vehicle

492.324 The area of dripline of any tree or group of trees may be encroached up to a maximum of one-third of the total area of the dripline provided that an equivalent proportion of the canopy is removed by pruning by a trained arborist.

492.325 Retaining walls are to be constructed around each tree or group of trees immediately after any grade is lowered within the area of the dripline.

492.326 If any plant material is to be moved, it must be done in accordance with the most current American Standards for Nursery Stock guidelines.

492.327 All diseased or dead trees shall be identified on the plan and removed from the site.

492.33 Detention Basin Plantings

492.331 All areas of stormwater management basins, including basin floors, side slopes, berms, impoundment structures, or other earth structures shall be planted with suitable naturalized vegetation. Landscape designs for the basin should include notes on overall maintenance.

One (1) deciduous tree and five (5) shrubs shall be planted for each fifty (50) lineal feet of the perimeter. It is preferred, however, that this required number of trees be planted in an informal arrangement around the basin when possible. Trees shall not be located on the berm. No woody vegetation shall be planted within thirty (30) feet of an outlet/drain structure, emergency spillway.

492.332 Naturalized ground cover plant species, such as meadow plantings and nonaggressive grasses specifically designed for the permanently wet, intermittently wet, and

usually dry areas of stormwater basins, shall be seeded on the floors and slopes and meet the following requirements:

(a) the plantings shall provide a satisfactory continuous cover that acts to prevent erosion to all areas of the basin

(b) the plantings shall not interfere with the safe and efficient function of the basin as determined by the Penn Forest Township Engineer.

492.333 Mown turf grass is permitted only in the emergency spillway, on top of berms, on the outside face of berms, on specified walking paths within the basin, and on access paths to allow maintenance of inflow and outflow structures. Any other areas of proposed for turf grass requiring regular mowing shall be prohibited unless approved by Penn Forest Township Council based upon the recommendation of the Penn Forest Township Engineer.

492.334 Stormwater basins shall be screened from adjacent properties using the buffer planting standards as described in § 492.37

492.335 Recommended trees for the perimeter of detention basins include, but are not limited to the following:

Acer rubrum - Red Maple
Liquidambar styraciflua - Sweet Gum
Nyssa sylvatica - Black Gum
Platanus occidentalis – American Sycamore
Taxodium distichum – Bald Cypress

492.34 Parking Facilities

492.341 Parking lots shall be effectively landscaped with trees and shrubs to reduce the visual impact of glare, headlights, parking lights, to delineate driving lanes, and to define rows of parking. Furthermore, parking lots shall provide shade trees and locate them as to reduce the amount of reflected heat from impervious surfaces.

492.342 Planting strips and parking islands may be designed to include stormwater facilities, such as bioretention swales and rain gardens, with no curbing or curb cut outs for stormwater flow.

492.343 Parking lot landscape design shall coordinate with the placement of lighting fixtures and underground service

lines to avoid conflicts with light distribution, utility operations and maintenance.

492.344 All parking lots with ten (10) or more parking spaces shall be landscaped according to the following:

(a) No less than ten (10) percent of the parking lot's proposed impervious surface shall consist of interior landscaping areas, such as parking islands and planting strips.

(b) A planting screen shall be provided along the perimeter of the parking lot, except at entrances or exits, by a compact, continuous shrub row not less than four (4) feet in mature plant height.

(c) The planting screen shall be comprised of one (1) deciduous tree for every forty (40) linear feet of parking lot perimeter, plus one (1) shrub for every ten (10) linear feet of parking lot perimeter. Installed trees shall be a minimum two and a half (2 ½) inch caliper size and installed shrub height shall be thirty-six (36) inches above finished grade.

(d) Where such screening is required, it shall be assured by a performance guarantee posted with the governing body in an amount equal to twenty (20) percent of the estimated cost of the plantings. Such guarantee shall be released only after passage of the second growing season following planting.

(e) Planting strips separating parking rows shall be a minimum ten (10) feet in width

(f) One planting island shall be provided for every ten (10) parking spaces. In no case shall there be more than twenty (20) continuous parking spaces in a row without a planting island.

(g) Parking islands shall have a minimum width of nine (9) feet, and have thirty (30) inch depth.

(h) Plantings shall be able to survive soot and gas fumes. Trees which have low growing branches, gum or moisture, which may drop on vehicles, blossoms, thorns, seeds, or pods which may clog drainage facilities shall be avoided. The plantings chosen should be of sufficient size to be effective the first year they are planted.

492.35 Residential Use

For all residential lots, and multi-family developments, the following minimum landscaping shall be provided either on-lot or within the general open space in addition to all other required landscaping and parking requirements.

One (1) planting for every ten thousand (10,000) square feet of lot area. Planting requirement may include any combination of the following:
One (1) canopy tree,
One (1) evergreen tree, or
Two (2) ornamental/ flowering trees

492.36 Non-Residential Projects

492.361 Service loading, dumpsters, mechanical equipment, recycling areas and trash disposal areas shall be effectively screened so as not to be visible from parking areas, roadways, or adjacent properties. Such areas shall be screened with a combination of architectural masonry (or fencing**)** and landscaping with a height of at least six (6) feet.

492.362 Parking and storage of vehicles in front yards of properties, shall be screened from the public right-of-way by an earthen berm and planting screen which provides a dense visual screen at least four (4) feet in height at maturity.

492.363 Ground cover shall be provided on all areas of the project to prevent soil erosion. All areas which are not covered by paving, stone, or other solid material or landscaping as required above, shall be protected with a suitable ground cover, consisting of spreading plants including sods and grasses less than eighteen (18) inches in height.

492.37 Buffer Area Location and Dimensions

492.371 A buffer planting area shall be established along all property lines of the site proposed for subdivision or land development, unless otherwise specified in the Zoning Ordinance.

492.372 Buffer planting may be included within side or rear yard setbacks. Parking and structures are prohibited within the buffer area, but stormwater management facilities are permitted in the buffer area provided the visual screening requirement is still met.

492.373 The buffer area shall be a continuous planting area consisting of evergreen trees, deciduous trees and shrubs, with grass or groundcover.

For every one hundred (100) linear feet of property line to be buffered, the minimum quantities shall be as follows:

Five (5) evergreen trees, plus
Two (2) deciduous and/or flowering trees, plus
Ten (10) shrubs

492.374 Deciduous plant materials shall comprise no more than thirty (30%) percent of the number of plants in the buffer. The required height of the buffer planting may be achieved in part by mounding or installation of plants along a berm.

492.375 The use of a screening buffer shall mitigate the visual impacts which proposed land uses or site elements will have on the subject tract, adjoining properties and the community in general.

492.376 Existing healthy trees, shrubs or woodlands may be substituted for part or all of the required buffer plant material, upon written request of the applicant and at the discretion of Township Council. The minimum quantities or the visual effect of the existing vegetation shall be equal to or exceed that of the required buffer screen.

492.38 Plant Specifications

The following type of plant material and size recommendations are for landscaping purposes. Proposed plant species shall be hardy to the area, not subject to blight or disease, and not categorized as an invasive species as those listed below. All planting material shall meet the standards of the American Standards for Nursery Stock.

492.381 Deciduous trees (Shade trees) shall reach a minimum height and spread of thirty (30') feet at maturity as determined by the AAN Standards, and have a minimum caliper of two and one half (2½") inches at installation.

492.382 Flowering trees (Ornamental tree) shall reach a typical minimum height of fifteen (15') feet at maturity, based upon AAN Standards. Trees may be deciduous or evergreen and shall have a distinctive ornamental characteristic such as prominent flowers, fruit, habitat, foliage or bark. New ornamental trees shall have a

minimum height of eight (8') feet or two and a half (2½") inch caliper at the time of planting.

492.383 Evergreen trees shall reach a typical minimum height of twenty (20') feet at maturity based upon AAN standards for that species and shall remain evergreen throughout the year. New evergreens shall have a minimum height of six (6') feet at the time of planting.

492.384 Shrubs shall have a minimum height of three (3') feet at the time of planting.

492.385 List of Prohibited Plant Species due to invasive tendencies and/or serious health issues for Penn Forest Township climate zone:

Trees
Ailanthus altissima – Tree of Heaven
Fraxinus spp. – Ash Tree species
Gingko biloba (female) – Female Gingko Tree
Pyrus calleryana 'Bradford' – Bradford Pear
Tsuga canadensis – Eastern Hemlock

Shrubs
Euonymus alatus – Winged Euonymus
Elaeagnus angustifolia - Russian Olive
Elaeagnus umbellate – Autumn Olive
Lonicera spp. - Honeysuckle

492.39 Riparian Corridor

492.390 Riparian Corridor, as used in this ordinance is defined as a Riparian Corridor that is within 100 feet of a perennial or intermittent river, stream, or creek, or lake, pond or reservoir when the project site is located in an exceptional value or high quality watershed as defined in PA Code Title 25 Chapter 93.

492.391 Existing trees within the Riparian Corridor shall be preserved and retained. Existing tree cover should be surveyed and inventoried to assess the need for new plantings.

492.392 New trees shall be planted at a minimum rate of twenty (20) feet on center or one (1) tree per two hundred twenty five (225) square feet in staggered rows or an equivalent informal arrangement within the area defined as the Riparian Corridor.

492.393 New trees shall be a variety of sizes ranging from a minimum of four (4) to five (5) foot branched whip; an approximate one and a half (1 ½) inch balled and burlapped planting stock; or may be planted as a barefoot tree. All plants should be protected from deer.

492.394 Tree plantings shall be composed of native riparian tree species.

492.4 Topography

492.41 The natural terrain of the proposed subdivision tract will be retained wherever possible with cut and fill operations being kept to a minimum. Subdivisions and land developments shall minimize the disturbance of steeply sloping areas, that is areas with slopes in excess of fifteen (15) percent. Development shall be directed to the lesser sloping portions of the site to the greatest degree possible.

492.42 Finished slopes on all cuts and fills shall not exceed thirty-three (33) percent.

492.5 Topsoil Protection

492.51 Topsoil shall not be removed from the development site or used as fill. Topsoil shall be removed from the areas of construction and stored separately. The topsoil shall be stabilized to minimize erosion during storage. Upon completion of the construction, topsoil must be uniformly redistributed on the site.

493 Permit Requirements by Other Government Entities

493.1 The following permit requirements apply to certain Regulated and Earth Disturbance Activities and must be met prior to commencement of Regulated and Earth Disturbance activities, as applicable:

493.11 All Regulated and Earth Disturbance activities subject to permit requirements by the PA DEP under regulations at 25 Pa. Code Chapter 102.

493.12 Work within natural drainageways subject to permit by DEP under 25 Pa. Code Chapter 102.

493.13 Any stormwater management facility that would be located in or adjacent to surface waters of the Commonwealth, including wetlands, subject to permit by the PA DEP under 25 Pa. Code Chapter 105.

493.14 Any stormwater management facility that would be located on a State highway right-of-way or require access from a State highway shall be subject to approval by the Pennsylvania Department of Transportation (PennDOT).

493.15 Culverts, bridges, storm sewers or any other facilities which must pass or convey flows from the tributary area and any facility which may constitute a dam subject to permit by DEP under 25 Pa. Code Chapter 105.

494 Lighting Standards for All Uses, Subdivisions, and Land Developments

The standards of this section shall regulate lighting for all residential and/or nonresidential land uses, subdivisions, and land developments.

494.1 Applicants shall provide lighting for safe and convenient visibility for pedestrian, bicycle, and motor vehicle access to residential and nonresidential properties and for the legitimate use of properties by residents, visitors, customers, and/or employees.

494.2 No part of any luminaire mounted on a freestanding lighting standard or on a building wall shall exceed twenty (20) feet in height above the adjacent finished grade.

494.3 Illumination of all parking lots, around all buildings and along all pedestrian walkways shall provide a minimum maintained level of one-half foot-candle, and an average of 1 foot-candle, and a maximum level of 4 foot-candles. (One foot-candle equals one lumen per square foot.).

494.4 All luminaires shall comply with Illuminating Engineering Society of North America (IESNA) full-cutoff criteria, shall have flat lenses, and shall be aimed straight down, unless the luminaire can be directed in another angle to prevent light trespass onto adjoining properties.

494.5 Floodlighting of entire building façades shall be prohibited. Partial lighting of building façades for decorative and/or security purposes may be permitted, provided that no more than twenty-five (25) percent of any one façade is so lighted.

494.6 Lighting poles or standards that abut parking spaces shall be protected from damage by vehicles by being placed on concrete bases or pedestals that are at least thirty (30) inches high above finished grade, or by being placed at least five (5) feet behind the edge of the paved area, tire stops, or curbing, or by other suitable location within a raised island.

494.7 Hours of Operation

A. Nonresidential Development. Lighting shall be extinguished within one hour after the close of business and remain off until dawn, but in no case past 11:00 p.m. For all-night operations, and/or all-night security lighting, Board of Supervisors may permit an appropriate lighting scheme with the advice of the Township Engineer and Planning Commission.

B. Residential Development. Security lighting and lighting of common walkways, parking lots, and shared building entrances shall be maintained from dusk to dawn for multifamily and single-family attached dwellings.

494.8 The amount of light trespassing onto an adjacent residential use or property shall not at any time exceed 0.1 vertical footcandle, line-of-sight from any location on the residential property or use, and shall not exceed 1.0 vertical footcandle, line of sight from any location on any nonresidential property or use.

494.9 Where the abutting property is residentially zoned or used, nonresidential uses shall direct luminaires toward the nonresidential development and shield the residential properties from direct lighting or glare. A lighted nonresidential use shall also require the installation of a landscaped screen buffer along the residential property line, in compliance with the Landscaping Regulations of the Subdivision and Land Development Ordinance.

494.10 Luminaires closer to a side or rear lot line than the side or rear yard setback shall be no more than 10 feet high, and shall be so constructed that all light shall be aimed perpendicular to the side or rear lot line and in the direction of the nonresidential development.

494.11 All luminaires for nonresidential uses shall use the most current lighting industry technology to ensure that these performance standards are satisfied.

SECTION V

IMPROVEMENT SPECIFICATIONS

500 General Requirements

501 Physical improvements to the subdivision/land development tract shall be provided, constructed and installed as shown on the Record Plan, in accordance with the requirements of this Ordinance. Where the term "In accordance with Penn Forest Township Specifications" or "In accordance with Penn Forest Township Improvement Specifications" or similar phrase is used, and no applicable Specifications or Improvement Specifications exist, the applicable Pennsylvania Department of Transportation details and specifications will be used, as appropriate. This also applies throughout this document as may be necessary.

502 As a condition to review of a Final Plan by the Penn Forest Board of Supervisors, the developer shall agree with the Board of Supervisors, public utility or municipal authority as to installations of all improvements shown on the Plan and required by this Ordinance. Before the Record Plan may be endorsed by the Penn Forest Board of Supervisors, the developer shall submit a completed and executed original copy of the Subdivision Improvements Agreement and performance and maintenance guarantees in the amount required by Section 520.

503 All improvements installed by the developer shall be constructed in accordance with the design specifications of the Penn Forest Township, public utility or municipal authority. In the absence of specific design specifications, improvements shall be designed and installed in accordance with the applicable PennDOT requirements.

504 Inspection of the installation of those improvements required by Section 510, shall in all cases be the responsibility of the Penn Forest Board of Supervisors and the Township Engineer, with the cost of said improvements being born by the developer.

510 Required Improvements

511 Improvements shall be provided, constructed and installed by the developer as stated in the Improvements Agreement, shown on the Record Plan, and in accordance with the design standards set forth in Section IV of this Ordinance. The following improvements will be required in all applicable cases:

511.1 Street excavating, grading, subgrade preparation, base course paving and surface course paving installed according to Penn Forest Township specifications;

511.2 Concrete curbing of the vertical type, or stabilized shoulder and drainage swale with no curbing installed according to the Penn Forest Township specifications;

511.3 Concrete sidewalks or interior walkways installed according to the Penn Forest Township Improvements specifications in connection with road construction pursuant to Section 511.1 or when required by Section 402;

511.4 Sanitary sewer system improvements installed according to the specifications of Penn Forest Township, the Penn Forest Township Sewer Authority, if applicable, and the Pa. Department of Environmental Protection;

511.5 Water supply and distribution system improvements installed according to the specifications of the public utility, if applicable, and the Pa. Department of Environmental Protection;

511.6 Storm drainage system improvements installed according to the Penn Forest Township Improvements specifications;

511.7 Monuments shall be installed:

511.71 Permanent reference monuments shall be located at each intersection of rights-of-ways of street(s) constructed by the developer, at the beginning and ending of all street curves, and at exterior corners of the subdivision or land development unless an alternate arrangement is approved that still permits a surveyor to stake out accurately any building lot shown on the Record Plan.

511.72 Monuments shall be made of PennDOT Class "A" concrete, shall be 4 inches x 4 inches square or 4 inches in diameter at the top, and shall taper from 4 inches at the top to 6 inches at the bottom. All monuments shall be a minimum of 40 inches in length and shall be marked with a round metal cap, re-bar or drilled hole. All monuments in developed areas shall be flush with finished grade and in undeveloped areas shall be set 2 inches to 3 inches above existing grade.

511.73 All monuments shall be placed by a Registered Professional Surveyor so that the scored point shall coincide exactly with the point of intersection of the line being monumented.

511.74 Monuments shall be set with their top level with the finished grade of the surrounding ground, except:

511.741 Monuments which are placed within the lines of existing or proposed sidewalks shall be so located (preferably beneath the sidewalks) that their tops will not be affected by lateral movement of the sidewalks, and

511.742 Where monuments are located beneath a sidewalk, proper access shall be provided for their use.

511.743 Where sidewalks are existing, a stone point (a four (4) inch square chisel cut in the sidewalk with a drill hole in center) may be substituted for a monument.

511.75 Lot corner markers shall be provided at all lot corners. Lot corner markers shall be permanently located and shall be a #5 (⅝") diameter

re-bar a minimum length of forty (40) inches. Lot corner markers shall be located in the ground flush to existing grade.

511.8 Fire hydrants installed according to the specifications of the Penn Forest Township Improvements specifications;

511.9 Street signs installed according to Township specifications.

520 Improvements Guarantee Procedure

521 Before the Penn Forest Board of Supervisors approves any Final Plan and as a prerequisite for approval, the developer shall deliver to the Penn Forest Board of Supervisors, a performance guarantee in the amount of one hundred ten (110) percent of the cost of all improvements required by this Ordinance, as determined in accordance with the procedures set forth in the Municipalities Planning Code as amended, in a form and with a surety as determined in accordance with the procedures set forth in the Municipalities Planning Code as amended, guaranteeing the construction and installation of all such improvements before the date fixed in the formal action of approval or accompanying agreement for completion of the improvements. Upon written application signed by both the obligor and surety of the performance guarantee in a form approved by the Township Solicitor and Engineer, the Board of Supervisors may, at their discretion, extend said period by not more than three (3) additional years. If the party posting the financial security requires more than one (1) year from the date of posting of the financial security to complete the required improvements, the amount of financial security may be increased by an additional ten (10) percent for each one-year period beyond the first anniversary date from posting of financial security or to an amount not exceeding one hundred ten (110) percent of the cost of completing the required improvements as reestablished on or about the expiration of the preceding one-year period by using the above bidding procedure. In the event of default under a performance guarantee, the proceeds of the performance guarantee received by the Township, shall be used to construct and install the improvements.

522 Before the Penn Forest Board of Supervisors approves any Final Plan and as a prerequisite for approval, the developer shall deliver to the Board of Supervisors, a maintenance guarantee in an amount of not less than fifteen (15) percent of the actual cost of the installation of all improvements required by this ordinance, guaranteeing the acceptability of all such improvements.

The minimum amount of improvements that shall be secured shall be all those improvements to be dedicated to the township, and also those needed to insure the safety of township residents and users of the development. An example of these are, but not limited to, roadways, utilities, stormwater and erosion controls, PennDOT required improvements, etc.

530 Approval of Improvements and Release of Performance Guarantee by the Penn Forest Board of Supervisors

531 The approval of improvements and release of performance guarantee by the Penn Forest Board of Supervisors, and the inspection of the improvements shall occur in conformance with the procedures prescribed by the Municipalities Planning Code.

532 In the event that any improvements which may be required have not been installed as provided in this Ordinance or in accord with the approved Final Plan, the Penn Forest Board of Supervisors, is hereby granted the power to enforce any corporate bond, or other security by appropriate legal and equitable remedies. If proceeds of such bond, or other security are insufficient to pay the cost of installing or making repairs or corrections to all the improvements covered by said security, the Penn Forest Board of Supervisors may, at its option, install part of such improvements in all or part of the subdivision or land development and may institute appropriate legal or equitable action to recover the monies necessary to complete the remainder of the improvements. All of the proceeds, whether resulting from the security or from any legal or equitable action brought against the developer, or both, shall be used solely for the installation of the improvements covered by such security, and not for any other municipal purpose.

SECTION VI

ADMINISTRATION

600 Amendments

601 Amendments to the Subdivision and Land Development Ordinance shall become effective only after a public hearing held pursuant to public notice in the manner prescribed for enactment of a subdivision and land development ordinance in Section 505 of the Pennsylvania Municipalities Planning Code (53 P.S. § 10505). In addition, in case of an amendment other than that prepared by the Penn Forest Planning Commission, the Penn Forest Board of Supervisors shall submit each such amendment to the Penn Forest Planning Commission for recommendations at least thirty (30) days prior to the date fixed for the public hearing on such proposed amendment.

602 At least thirty (30) days prior to the public hearing regarding the amendment, the amendment shall be submitted to the Carbon County Planning Commission for recommendations.

610 Appeals

611 The decisions of the Penn Forest Board of Supervisors with respect to the approval or disapproval of Subdivision or Land Development Plans may be appealed directly to court in the same manner and within the same time limitations as is provided for zoning appeals in Article X of the Pennsylvania Municipalities Planning Code (53 P.S. § 11001, et seq.).

620 Enforcement Remedies

621 (a) Any person, partnership or corporation who or which has violated the provisions of any subdivision or land development ordinance enacted under this act or prior enabling laws shall, upon being found liable therefore in a civil enforcement proceeding commenced by a municipality, pay a judgment of not more than $500 plus all court costs, including reasonable attorney fees incurred by the municipality as a result thereof. No judgment shall commence or be imposed, levied or payable until the date of the determination of a violation by the district magistrate. If the defendant neither pays nor timely appeals the judgment, the municipality may enforce the judgment pursuant to the applicable rules of civil procedure. Each day that a violation continues shall constitute a separate violation, unless the district magistrate determining that there has been a violation further determines that there was a good faith basis for the person, partnership or corporation violating the ordinance to have believed that there was no such violation, in which event there shall be deemed to have been only one such violation until the fifth day following the date of the determination of a violation by the district magistrate and thereafter each day that a violation continues shall constitute a separate violation.

(b) The court of common pleas, upon petition, may grant an order of stay, upon cause shown, tolling the per diem judgment pending a final adjudication of the violation and judgment.

(c) Nothing contained in this section shall be construed or interpreted to grant to any person or entity other than the municipality the right to commence any action for enforcement pursuant to this section.

621.1 (a) In addition to other remedies, the municipality may institute and maintain appropriate actions by law or in equity to restrain, correct or abate violations, to prevent unlawful construction, to recover damages and to prevent illegal occupancy of a building, structure or premises. The description by metes and bounds in the instrument of transfer or other documents used in the process of selling or transferring shall not exempt the seller or transferor from such penalties or from the remedies herein provided.

(b) A municipality may refuse to issue any permit or grant any approval necessary to further improve or develop any real property which has been developed or which has resulted from a subdivision of real property in violation of any ordinance adopted pursuant to this article. This authority to deny such a permit or approval shall apply to any of the following applicants:

(1) The owner of record at the time of such violation.
(2) The vendee or lessee of the owner of record at the time of such violation without regard as to whether such vendee or lessee had actual or constructive knowledge of the violation.
(3) The current owner of record who acquired the property subsequent to the time of violation without regard as to whether such current owner had actual or constructive knowledge of the violation.
(4) The vendee or lessee of the current owner of record who acquired the property subsequent to the time of violation without regard as to whether such vendee or lessee had actual or constructive knowledge of the violation.

As an additional condition for issuance of a permit or the granting of an approval to any such owner, current owner, vendee or lessee for the development of any such real property, the municipality may require compliance with the conditions that would have been applicable to the property at the time the applicant acquired an interest in such real property.

630 Validity and Conflicts

631 Should any action or provisions of this Ordinance be declared by the courts to be invalid, such decision shall not affect the validity of the Ordinance as a whole, nor the validity of any other section or provision of the Ordinance than the one so declared.

632 Whenever there is a conflict between minimum standards or requirements set forth in this Ordinance and those contained in other Township ordinances and regulations, or

other applicable laws and regulations, the most stringent standard or requirement shall apply.

640 Fees

641 The Penn Forest Board of Supervisors shall establish, by resolution, a schedule of fees to be paid by the developer at the time of filing of the Sketch, Preliminary and Final Plans, and Plans Exempt from Standard Procedures.

642 The applicant shall pay the subdivision fees charged according to the adopted fee schedule. At the time of the submission, the applicant shall deposit the amount of money specified by the fee schedule with the Township. No application will be accepted for consideration unless accompanied by the required deposit. Charges and expenses will be withdrawn from the account as they are incurred by the Penn Forest Township. The deposit shall be replenished at such time and in such manner as is set forth in the fee schedule. No plan shall be approved unless all fees are paid in full. Any amounts which were deposited in excess of the charges and expenses recorded shall be returned to the applicant following action on the proposal.

650 Repealer

The Penn Forest Township Subdivision and Land Development Ordinance 94-2, Adopted 7/25/94, and all amendments thereto, are hereby repealed. This Ordinance does not repeal other laws or ordinances except those specifically repealed by this Ordinance.

660 Modifications and Exceptions

The Penn Forest Board of Supervisors may grant a modification to the requirements of one or more provisions of this ordinance if the literal enforcement will exact undue hardship because of peculiar conditions pertaining to the land in question, provided that such modification will not be contrary to the public interest and that the purpose and intent of this ordinance is met. All requests for modifications shall be in writing and shall accompany and be a part of the application for development. The requests shall state in full, the grounds and facts of unreasonableness or hardship on which the request is based, the provision or provisions of the ordinance involved and the minimum modification necessary.

670 Effective Date of Ordinance

This Ordinance shall become effective July 7, 2014.

680 Entry

Upon presentation of proper credentials, duly authorized representatives of the Penn Forest Township may enter at reasonable times upon any property to investigate or ascertain the condition of the subject property in regard to any aspect regulated by this Ordinance.

SECTION VII

DEFINITIONS

700 Unless otherwise expressly stated, the following terms shall, for the purpose of these regulations, have the meaning indicated:

701 Words in the singular include the plural and those in the plural include the singular.

702 Words in the present tense include the future tense.

703 The words "person", "developer", "subdivider", and "owner" include a corporation, unincorporated association, a partnership, or other legal entity, as well as an individual.

704 The word "building" includes structure and shall be construed as if followed by the phrase "or part thereof".

705 The words "should" and "may" are permissive; the words "shall" and "will" are mandatory and directive.

710 Other terms or words used herein shall be interpreted or defined as follows: (By reference, all definitions in the PA Municipalities Code are incorporated into this ordinance)

ACCELERATED EROSION. The removal of the surface of the land through the combined action of human activities and natural processes, at a rate greater than would occur because of the natural processes alone.

APPLICANT. A landowner or developer, as hereinafter defined, who has filed an application for development including his heirs, successors and assigns.

BEST MANAGEMENT PRACTICE (BMP). Activities, facilities, measures or procedures used to manage stormwater quantity and quality impacts from Regulated Activities to meet State Water Quality Requirements, to promote groundwater recharge and to otherwise meet the purposes of this Ordinance.

BEST MANAGEMENT PRACTICE OPERATIONS AND MAINTENANCE PLAN. Documentation, included as part of a Drainage Plan, detailing the proposed BMPs, how they will be operated and maintained and who will be responsible.

BIORETENTION. Densely vegetated, depressed features that store stormwater and filter it through vegetation, mulch, planting soil, etc. Ultimately stormwater is evapotranspirated, infiltrated, or discharged. Optimal bioretention areas mimic natural forest ecosystems in terms of species diversity, density, distribution, use of native plants, etc.

BLOCK. Property bounded on one side by a street, and other three sides, by a street, railroad right-of-way, waterway, unsubdivided area, or other definite barrier.

BOARD OF SUPERVISORS. The Board of Supervisors of Penn Forest Township, County of Carbon, Commonwealth of Pennsylvania.

BUFFER. Streamside Buffer - A zone of variable width located along a stream that is vegetated and is designed to filter pollutants from runoff.

BUILDING, ACCESSORY. A detached subordinate building, the use of which is customarily incidental and subordinate to that of the principal building, and which is located on the same lot as that occupied by the principal building.

BUILDING, PRINCIPAL. A structure enclosed within exterior walls or fire walls; built, erected, and framed of component structural parts; designed for the housing, shelter, enclosure, and support of individuals, animals, or property of any kind; main structure on a given lot.

BUILDING SETBACK LINE. The line within a property defining the minimum required front yard distance between any building to be erected, and an adjacent right-of-way.

CAPTURE/REUSE. Stormwater management techniques such as cisterns and rain barrels which direct runoff into storage devices, surface or sub-surface, for later re-use, such as for irrigation of gardens and other planted areas. Because this stormwater is utilized and no pollutant discharge results, water quality performance is superior to other non-infiltration BMPs.

CARBON COUNTY PLANNING COMMISSION (CCPC). The Carbon County Planning Commission, Pennsylvania.

CARTWAY. The portion of the street right-of-way, paved or unpaved, intended for normal vehicular movement. The shoulder is not considered part of the cartway.

CISTERN. An underground reservoir or tank for storing rainwater.

CLEAR SIGHT TRIANGLE. An area of unobstructed vision at street intersections defined by lines of sight between points at a given distance from the intersection of the street center lines.

COMMON OPEN SPACE. A parcel or parcels of land, an area of water, or a combination of land and water within a development site designed and intended for the use of residents of the development, not including streets, off-street parking area, private yard space, and areas set aside for non-residential and public facilities. Common open space shall be substantially free of structures, but may contain such improvements as are appropriate for recreational use by the residents.

COMMUNITY WATER SUPPLIER. A person who owns or operates a Community Water System.

COMMUNITY WATER SYSTEM. A system of piping, tanks, pumping facilities and treatment works which provides for treatment and distribution of drinking water serving a

generalized service area and designated independently of specific land developments or subdivisions.

COMPREHENSIVE PLAN. The maps, charts, and textual material adopted by the Penn Forest Board of Supervisors in accordance with the Pennsylvania Municipalities Planning Code and designated, as a whole and in its several parts, as a Comprehensive Plan for the continuing development of the Township.

CONSTRUCTED WETLANDS. Constructed wetlands are similar to wet ponds (see below) and consist of a basin which provides for necessary stormwater storage as well as a permanent pool or water level, planted with wetland vegetation. To be successful, constructed wetlands must have adequate natural hydrology (both runoff inputs as well as soils and water table which allow for maintenance of a permanent pool of water). In these cases, the permanent pool must be designed carefully, usually with shallow edge benches, so that water levels are appropriate to support carefully selected wetland vegetation.

COUNTY. The County of Carbon.

COUNTY CONSERVATION DISTRICT. The Carbon County Conservation District.

CULVERT. A pipe, conduit or similar structure including appurtenant works which carries surface water.

CUT. An excavation. The difference between a point on the original ground and a designated point of lower elevation on the final grade. Also, the material removed in excavation.

DAM. An artificial barrier, together with its appurtenant works, constructed for the purpose of impounding or storing water or another fluid or semifluid or a refuse bank, fill or structure for highway, railroad or other purposes which does or may impound water or another fluid or semifluid.

DEP. The Pennsylvania Department of Environmental Protection.

DESIGN STORM. The depth and time distribution of precipitation from a storm event measured in probability of occurrence (e.g., 100-yr. Storm) and duration (e.g. 24-hour) and used in computing stormwater management control systems.

DETENTION BASIN. A basin designed to retard storm water runoff by temporarily storing the runoff and releasing it at a predetermined rate.

DEVELOPER. Any landowner, agent of such landowner, or tenant with the permission of such landowner, who makes or causes to be made, a subdivision of land or a land development.

DIFFUSED DRAINAGE. See Sheet Flow.

DOUBLE OR REVERSE FRONTAGE LOT. A lot extending between and having frontage on two generally parallel streets with vehicular access from only one street.

DRAINAGE EASEMENT. A right granted by a land owner to a grantee, allowing the use of private land for storm water management purposes.

DRAINAGE PLAN. The documentation of the proposed storm water management quantity and quality management controls to be used for a given development site, including a BMP Operations and Maintenance Plan.

DWELLING UNIT. Any structure, or part thereof, designed to be occupied as living quarters as a single housekeeping unit.

EARTH DISTURBANCE ACTIVITY. A construction or other human activity which disturbs the surface of the land, including, but not limited to, clearing and grubbing, grading, excavations, embankments, road maintenance, building construction and the moving, depositing, stockpiling or storing of soil, rock or earth materials.

EASEMENT. A right-of-way granted, but not dedicated, for limited use of private land and for a public or quasi-public purpose, and within which the owner of the property shall not erect any permanent structures, but shall have the right to make any other use of the land which is not inconsistent with the rights of the grantee.

EQUIVALENT DWELLING UNIT (EDU). A residential building or portion of a residential building suitable for one family unit or a non-residential structure or building or portion or such a structure or building generating the same water need or sewage flow as one family unit. For the purpose of this Ordinance, the equivalency is based upon a rate of water need or sewage flow of 250 gallons per day for an average daily estimate.

ENGINEER. A professional engineer licensed as such in the Commonwealth of Pennsylvania.

EROSION. The removal of soil particles by the action of water, wind, ice, or other geological agents.

EROSION AND SEDIMENTATION CONTROL PLAN. A plan designed to prevent on-site accelerated erosion and off-site sedimentation through the use of vegetative or mechanical controls. Control measures must be designed to fit the topography, soils, rainfall and land use of the area they are to protect. The plan includes as a minimum: (a) a map or maps describing the topography of the area, the proposed alteration to the area and the specific erosion and sedimentation control measures and facilities; and (b) a narrative report describing the project and giving the purpose and the engineering assumptions and calculations for control measures and facilities.

EXISTING USES. Those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards. (25 Pa. Code Chapter 93.1).

FILL. Man-made deposits of natural soils or rock products and waste materials.

FILTER STRIPS. See Vegetated Buffers.

FLAG LOT. A lot with direct frontage on a public road which does not meet the required lot width at the minimum required front yard setback line, which consists of an access lane with a minimum width of twenty-five (25) feet and a rectangular area, the dimensions of which exceed the minimum lot width requirement as established in the municipal zoning ordinance, if any.

FLOOD, ONE HUNDRED (100) YEAR. The flood having a one (1) percent chance of being equaled or exceeded in any given year.

FLOOD FRINGE. That portion of the flood plain outside the floodway.

FLOOD PLAIN. The area of normally dry land along a natural watercourse which is periodically inundated by water therefrom.

FLOODWAY, REGULATORY. The channel of a watercourse and the adjacent land areas that must be reserved in order to discharge the one hundred (100) year flood. The regulatory floodway is designated on the flood boundary and floodway map of the municipality's flood insurance study prepared by the Federal Emergency Management Agency.

FOOT-CANDLE. A unit of illuminance stated in lumens per square foot and measurable with an illuminance meter, a.k.a. footcandle or light meter.

FREEBOARD. The incremental depth in a storm water management structure, provided as a safety factor of design, above that required to convey the design runoff event.

GROUNDWATER RECHARGE. Replenishment of existing natural underground water supplies.

HYDROLOGIC SOIL GROUP (HSG). Soils are classified into four HSGs (A, B, C and D) to indicate the minimum infiltration rates, which are obtained for bare soil after prolonged wetting. The Natural Resources Conservation Service (NRCS) of the US Department of Agriculture defines the four groups and provides a list of most of the soils in the United States and their group classification. The soils in the area of the development site may be identified from a soil survey report that can be obtained from local NRCS offices or conservation district offices. Soils become less permeable as the HSG varies from A to D.

HOT SPOT LAND USES. A land use or activity that generates higher concentrations of hydrocarbons, trace metals or other toxic substances than typically found in stormwater runoff. These land uses are listed in Appendix B, Section 100.16.

IMPERVIOUS SURFACE. A surface which prevents the percolation of water into the ground.

IMPROVEMENTS. Those physical additions and changes to the land that may be necessary to produce usable and desirable lots.

INFILTRATION PRACTICE. A practice designed to direct runoff into the ground, e.g. French drain, seepage pit, seepage trench or bioretention area.

LAND DEVELOPMENT. Any of the following activities:

A. The improvement of one lot or two or more contiguous lots, tracts, or parcels of land for any purpose involving,

   1. A group of two or more residential or nonresidential buildings, whether proposed initially or cumulatively, or a single nonresidential building on a lot or lots regardless of the number of occupants or tenure, or

   2. The division or allocation of land or space, whether initially or cumulatively, between or among two or more existing or prospective occupants by means of, or the purpose of streets, common areas, leaseholds, condominiums, building groups or other features;

B. A subdivision of land.

C. Any construction of a new building or buildings, or addition to an existing building or building s or construction of new or additional impervious surfaces (driveways, parking lots, etc.) which would create more than 10,000 square feet of impervious cover. The 10,000 square foot limit is an aggregate total that begins tolling upon the adoption of this ordinance and is not meant to exclude, from the definition of Land Development, any proposal under 10,000 square feet of impervious that may be covered by other definitions included herein;

D. The diversion or piping of any natural or man-made stream channel;

E. The installation of stormwater systems or appurtenances thereto;

F. The following activities are excluded from the definition of land development unless the proposal involves the construction described in subparagraphs 3, 4 o4 5 above.

   1. The addition of an accessory building, on a lot, subordinate to an existing farm or residential principal building.
   2. The conversion of an existing single-family detached dwelling into not more than three(3) residential units unless such units are intended to be in the condominium form of ownership.

LANDOWNER. The legal or beneficial owner or owners of land including the holder of an option or contract to purchase (whether or not such option or contract is subject to any condition), a lessee having a remaining term of not less than forty (40) years, or other person having a proprietary interest in land, shall be deemed to be a landowner for the purpose of this Ordinance.

LIGHT TRESPASS. Light emitted by a lighting installation, that extends beyond the boundaries of the property on which the installation is sited.

LINE OF SIGHT. An imaginary straight line along which an observer looks.

LOCAL RUNOFF CONVEYANCE FACILITIES. Any natural channel or manmade conveyance system which has the purpose of transporting runoff from the site to the mainstream.

LOT. A designated parcel, tract or area of land established by a plat or otherwise as permitted by law and to be used, developed or built upon as a unit.

LOT AREA. The area contained within the property line of a lot (as shown on the Plan), excluding space within all streets and within all permanent drainage easements, but including the areas of all other easements.

LOW IMPACT DEVELOPMENT. A development approach that promotes practices that will minimize post-development runoff rates and volumes thereby minimizing needs for artificial conveyance and storage facilities. Site design practices include preserving natural drainage features, minimizing impervious surface area, reducing the hydraulic connectivity of impervious surfaces and protecting natural depression storage.

LOWEST FLOOR. The lowest floor of the lowest enclosed area (including basement). An unfinished or flood-resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance.

LUMINARE. A complete lighting unit consisting of a lamp or lamps together with the parts designed to distribute the light, to position and protect lamps and to connect the lamps to the power supply.

MAINSTEM (MAIN CHANNEL). Any stream segment or other conveyance used as a reach in the Martins and Jacoby Creek hydrologic model.

MAINTENANCE GUARANTEE. Security in a form in accord with the provisions set forth in the Municipalities Planning Code as amended, which insures the structural integrity of the improvements as well as the functioning of said improvements in accordance with the design and specifications as depicted on the final plat for a period not to exceed eighteen (18) months after the acceptance of said improvements by the Municipal Governing Body, public utility, or municipal authority.

MANNING EQUATION (MANNING FORMULA). A method for calculation of velocity of flow (e.g. feet per second) and flow rate (e.g. cubic feet per second) in open channels based upon channel shape, roughness, depth of flow and slope. Open channels may include closed conduits so long as the flow is not under pressure.

MARKER. A metal pipe #4 (½") or #5 (⅝") re-bar at least forty (40) inches in length.

MINIMUM DISTURBANCE/MINIMUM MAINTENANCE PRACTICES (MD/MM). Site design practices in which careful limits are placed on site clearance prior to development allowing for maximum retention of existing vegetation (woodlands and other), minimum disturbance and compaction of existing soil mantle and minimum site application of chemicals post-development. Typically, MD/MM includes disturbance setback criteria from buildings as well as related site improvements such as walkways, driveways, roadways, and any other improvements. These criteria may vary by community context as well as by type of

development being proposed. Additionally, MD/MM also shall include provisions (e.g., deed restrictions, conservation easements) to protect these areas from future disturbance and from application of fertilizers, pesticides, and herbicides.

MOBILE HOME. A transportable single family dwelling intended for a permanent occupancy, contained in one unit, or in two or more units designed to be joined into one integral unit capable of again being separated for repeated towing, which arrives at a site complete and ready for occupancy except for minor or incidental unpacking and assembly operations, and constructed so that it may be used without a permanent foundation

MOBILE HOME LOT. A parcel of land in a mobile home park, improved with the necessary utility connections and other appurtenances necessary for the erections thereon of a single mobile home.

MOBILE HOME PARK. A parcel or contiguous parcels of land which has been so designated and improved that it contains two or more mobile home lots for the placement thereon of mobile homes.

MOBILE HOME STAND. That part of an individual lot which has been reserved for the placement of the mobile home, appurtant structures or additions.

MONUMENT. A tapered concrete monument at least 4 inches by 4 inches square or 4 inches in diameter and at least 40 inches in length and marked with a round metal cap, re-bar or drilled hole.

MUNICIPALITIES PLANNING CODE. The Pennsylvania Municipalities Planning Code, Act of 1968, as amended.

NO HARM OPTION. The option of using a less restrictive runoff quantity control if it can be shown that adequate and safe runoff conveyance exists and that the less restrictive control would not adversely affect health, safety and property.

NPDES REGULATIONS. National Pollutant Discharge Elimination System Regulations.

NRCS - Natural Resource Conservation Service - U.S. Department of Agriculture. (Formerly the Soil Conservation Service).

NUMBERED TRAFFIC ROUTE. A highway that has been assigned an Interstate, United States, or Pennsylvania route number to aid motorists in their travels.

OFFICIAL PLAN - SEWAGE FACILITIES (Act 537). A comprehensive plan for the provision of adequate sewage systems as adopted by the Penn Forest Township and approved by the State Department of Environmental Protection as provided by the Pennsylvania Sewage Facilities Act, and Chapter 71, Rules and Regulations promulgated thereunder.
OIL/WATER SEPARATOR. A structural mechanism designed to remove free oil and grease (and possibly solids) from stormwater runoff.

OPEN SPACE. Any parcel or area of land or water essentially unimproved and set aside, dedicated, designated or reserved for public or private use or enjoyment, or for the use and enjoyment of owners and occupants of land adjoining or neighboring the open space.

OUTFALL. "Point source" as described in 40 CRF § 122.2 at the point where the Township's storm sewer system discharges to surface waters of the Commonwealth.

OWNER. One with an interest in and often dominion over a property.

PAVEMENT WIDTH (ROADWAY or CARTWAY). The portion of a street right-of-way, generally paved, intended for vehicular use, not including shoulders.

PEAK DISCHARGE. The maximum rate of flow of stormwater runoff at a given location and time resulting from a specified storm event.

PENN STATE RUNOFF MODEL (PSRM). The computer-based hydrologic modeling technique adapted to each watershed for the Act 167 Plans. The model was "calibrated" to reflect actual flow values by adjusting key model input parameters.

PERFORMANCE GUARANTEE. Security in a form in accord with the provisions set forth in the Municipalities Planning Code as amended to guarantee that the proper construction of improvements be made by the developer as a condition for the approval of the Plan.

PERSON. An individual, partnership, public or private association or corporation, firm, trust, estate, municipality, governmental unit, public utility or any other legal entity whatsoever which is recognized by law as the subject of rights and duties.

PLAN, SKETCH REVIEW. An initial submission, by the developer, of maps and other materials analyzing the natural features of the site as they relate to its development potential. The proposed concept for development of the tract is included in the submission.

PLAN, PRELIMINARY. A tentative plan, in lesser detail than a Final Plan, showing proposed streets and lot layout and such other information as required by this Ordinance.

PLAN, FINAL. A complete and exact plan prepared for official recording as required by this Ordinance to define property rights, streets and other proposed improvements.

PLAN, RECORD. The copy of the Final Plan bearing the original endorsements of the Penn Forest Board of Supervisors, which is intended to be recorded with the County Recorder of Deeds.

PLANNING MODULE FOR LAND DEVELOPMENT. A document to be prepared by the developer or subdivider, accepted by the Penn Forest Township, and submitted to the Pennsylvania Department of Environmental Protection to provide proposed development data in order to supplement or revise the Township's Official Plan for sewage facilities.

POINT SOURCE. Any discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel or conduit from which stormwater is or may be discharged, as defined in State regulations at 25 Pa. Code § 92.1.

PRELIMINARY SITE INVESTIGATION. The determination of the depth to bedrock, the depth to the seasonal high water table and the soil permeability for a possible infiltration location on a site through the use of published data and on-site surveys. See Appendix B, Attachment A-9.

QUALIFIED GEOTECHNICAL PROFESSIONAL. A licensed professional geologist or a licensed professional engineer who has a background or expertise in geology or hydrogeology.

RATIONAL METHOD. A method of peak runoff calculation using a standardized runoff coefficient (rational "c"), acreage of tract and rainfall intensity determined by return period and by the time necessary for the entire tract to contribute runoff. The rational formula is stated as follows: Q = ciA, where "Q" is the calculated peak flow rate in cubic feet per second, "c" is the dimensionless runoff coefficient (see Attachment C), "i" is the rainfall intensity in inches per hour, and "A" is the area of the tract in acres.

REACH. Any of the natural or man-made runoff conveyance channels used for watershed runoff modeling purposes to connect the subareas and transport flows downstream.

RECHARGE VOLUME (REv). The portion of the water quality volume (WQv) used to maintain groundwater recharge rates at development sites. (See Appendix B, Section 100.101)

REGULATED ACTIVITIES. Actions or proposed actions which impact upon proper management of stormwater runoff and which are governed by this Ordinance.

REGULATED EARTH DISTURBANCE ACTIVITIES. Earth disturbance activity other than agricultural plowing or tilling of one acre or more with a point source discharge to surface waters or to the Township's storm sewer system or earth disturbance activity of five acres or more regardless of the planned runoff. This includes earth disturbance on any portion of, part or during any stage of a larger common plan of development.

RELEASE RATE. The percentage of the pre-development peak rate of runoff for a development site to which the post-development peak rate of runoff must be controlled to avoid peak flow increases throughout the watershed.

RESUBDIVISION (REVERSE SUBDIVISION). Any replatting or resubdivision of land, limited to changes in lot lines on approved Final Plans or Recorded Plans as specified in this Ordinance. Other replattings shall be considered as constituting a new subdivision of land. See also Subdivision.

RETURN PERIOD. The average interval in years over which an event of a given magnitude can be expected to recur. For example, the twenty-five (25) year return period rainfall or runoff event would be expected to recur on the average once every twenty-five years.

RIGHT-OF-WAY. The total width of any land reserved or dedicated as a street, sidewalk, or for other public or quasi-public purposes.

ROAD MAINTENANCE. Earth disturbance activities within the existing road cross-section such as grading and repairing existing unpaved road surfaces, cutting road banks, cleaning or clearing drainage ditches and other similar activities.

RUNOFF. That part of precipitation which flows over land.

SANITARY SEWAGE DISPOSAL, PUBLIC. A sanitary sewage collection system in which sewage is carried from individual lots by a system of pipes to a central treatment and disposal plant, generally serving a major portion of a municipality or municipalities, and operated by a governmental agency, governmental authority, or public utility company.

SANITARY SEWAGE DISPOSAL, CENTRALIZED. A sanitary sewage collection system in which sewage is carried from individual lots by a system of pipes to a central treatment and disposal plant, commonly called a "package treatment plant", generally serving a single land development, subdivision, or neighborhood, and operated by a governmental agency, governmental authority, public utility company, or a developer.

SANITARY SEWAGE DISPOSAL, ON-LOT. Any structure designed to treat sanitary sewage within the boundaries of an individual lot.

SEDIMENT TRAPS/CATCH BASIN SUMPS. Chambers which provide storage below the outlet in a storm inlet to collect sediment, debris and associated pollutants, typically requiring periodic clean out.

SEDIMENTATION. The process by which mineral or organic matter is accumulated or deposited by moving wind, water, or gravity. Once this matter is deposited (or remains suspended in water), it is usually referred to as "sediment".

SEEPAGE PIT/SEEPAGE TRENCH. An area of excavated earth filled with loose stone or similar material and into which surface water is directed for infiltration into the ground.

SEPARATE STORM SEWER SYSTEM. A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels or storm drains) primarily used for collecting and conveying stormwater runoff.

SEWAGE ENFORCEMENT OFFICER. The Township official who issues and reviews permit applications and conducts investigations and inspections as are necessary to implement Act 537 and the rules and regulations thereunder.

SHEET FLOW. Stormwater runoff flowing in a thin layer over the ground surface.

SIGHT DISTANCE. The required length of roadway visible to the driver of a motor vehicle at any given point on the roadway when the view is unobstructed by traffic. Sight distance

measurements shall be made from a point 3.75 feet above the centerline of the road surface to a point 0.5 feet above the centerline of the road surface.

SLOPE. The face of an embankment or cut section; any ground whose surface makes an angle with the plane of the horizon. Slopes are usually expressed in a percentage based upon vertical difference in feet per one hundred (100) feet of horizontal distance.

SOIL-COVER-COMPLEX METHOD. A method of runoff computation developed by NRCS which is based upon relating soil type and land use/cover to a runoff parameter called a Curve Number.

SPILL PREVENTION AND RESPONSE PROGRAM. A program that identifies procedures for preventing and, as needed, cleaning up potential spills and makes such procedures known and the necessary equipment available to appropriate personnel.

STATE WATER QUALITY REQUIREMENTS. As defined under State regulations — protection of designated and existing uses (See 25 Pa. Code Chapters 93 and 96) — including:

A. Each stream segment in Pennsylvania has a "designated use," such as "cold water fishes" or "potable water supply," which is listed in Chapter 93. These uses must be protected and maintained, under State regulations.

B. "Existing uses" are those attained as of November 1975, regardless whether they have been designated in Chapter 93. Regulated Earth Disturbance activities must be designed to protect and maintain existing uses and maintain the level of water quality necessary to protect those uses sin all streams, and to protect and maintain water quality in special protection streams.

C. Water quality involves the chemical, biological and physical characteristics of surface water bodies. After Regulated Earth Disturbance activities are complete, these characteristics can be impacted by addition of pollutants such as sediment, and changes in habitat through increased flow volumes and/or rates as a result of changes in land surface area from those activities. Therefore, permanent discharges to surface waters must be managed to protect the stream bank, streambed and structural integrity of the waterway, to prevent these impacts.

STORAGE INDICATION METHOD. A method of routing or moving an inflow hydrograph through a reservoir or detention structure. The method solves the mass conservation equation to determine an outflow hydrograph as it leaves the storage facility.

STORM DRAINAGE PROBLEM AREAS. Areas which lack adequate storm water collection and/or conveyance facilities and which present a hazard to persons or property. These areas are either documented in Attachment B of this ordinance or identified by the Township or Township Engineer.

STORM SEWER. A system of pipes or other conduits which carries intercepted surface runoff, street water and other wash waters, or drainage, but excludes domestic sewage and industrial wastes.

STORMWATER. The surface runoff generated by precipitation reaching the ground surface.

STORMWATER DETENTION FACILITIES. Basins, ponds, ponding areas, depressions or other structures or features used to temporarily store rainfall and release it at a controlled rate.

STORMWATER FILTERS. Any number of structural mechanisms such as multi-chamber catch basins, sand/peat filters, sand filters, and so forth which are installed to intercept stormwater flow and remove pollutants prior to discharge. Typically, these systems require periodic maintenance and clean out.

STORM DRAINAGE SYSTEMS. All facilities and features, such as pipes, culverts, open channels, ditches, swales, and storm water detention facilities, used to transmit or temporarily store surface water runoff.

STORMWATER MANAGEMENT PLAN. The plan for managing storm water runoff adopted by Carbon County, for the Martins/Jacoby Creek Watershed as required by the Act of October 4, 1978, P.L. 864, (Act 167), as amended, and known as the Storm Water Management Act.

STREAM. A watercourse.

STREET. A strip of land, including the entire right-of-way (i.e., not limited to the cartway) intended for use as a means of vehicular and pedestrian circulation to provide access to more than one (1) lot. The word "street" includes street, avenue, boulevard, road, highway, freeway, parkway, alley, viaduct, and any other ways used or intended to be used by vehicular traffic or pedestrians whether public or private. Streets are further classified according to the functions they perform:

Turnpike. The Pennsylvania Turnpike

Arterial Street. A street serving a large volume of comparatively high-speed and long distance traffic, including all facilities classified as main and secondary highways by the Pennsylvania Department of Transportation.

Collector Street. A street which, in addition to providing access to abutting properties, intercepts local streets to provide a route giving access to community facilities and/or other collector and arterial streets (streets in industrial and commercial subdivisions shall generally be considered collector streets);

Local Street. A street used primarily to provide access to abutting properties;

Cul-de-Sac Street. A local street intersecting another street at one end, and terminating in a vehicular turn-around at the other;

Half (Partial) Street. A street, generally parallel and adjacent to a property line, having a lesser right-of-way width than normally required for improvement and use of the street;

Marginal Access Street. A local street, parallel and adjacent to a major street (but separated from it by a reserve strip) which provides access to abutting properties and control of intersections with the major street;

Alley. A minor right-of-way providing secondary vehicular access to the side or rear of two or more properties. All streets with a right-of-way width of less than thirty (30) feet are alleys.

Private Street. A strip of privately owned land providing access to abutting properties and not offered for dedication.

STRUCTURE. Any man-made object having an ascertainable stationary location on or in land or water, whether or not affixed to the land.

SUBAREA. The smallest unit of watershed breakdown for hydrologic modeling purposes for which the runoff control criteria have been established in the Storm Water Management Plan.

SUBDIVISION. The division or redivision of a lot, tract or parcel of land by any means into two or more lots, tracts, or parcels or other divisions of land including changes in existing lot lines for the purpose, whether immediate or future, of lease, partition by the court for distribution to heirs or devisees, transfer of ownership or building, or lot development; provided, however, that the division of land for agricultural purposes into parcels of more than ten (10) acres, not involving any new street, easement of access, or residence, shall be exempted.

Minor Subdivision. A residential subdivision which does not and will not in the future involve more than a total of three (3) lots, including the residue parcel, and does not involve the provision of any new street or easement for access. Such subdivision applications shall be processed in accordance with the provisions of Section 280.

SUBSTANTIAL IMPROVEMENT. Any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds fifty (50%) percent of the market value of the structure before the "start of construction" of the improvement.

SURFACE WATERS OF THE COMMONWEALTH. Any and all rivers, streams, creeks, rivulets, impoundments, ditches, watercourses, storm sewers, lakes, dammed water, wetlands, ponds, springs and all other bodies or channels of conveyance of surface water, or parts thereof, whether natural or artificial, within or on the boundaries of this Commonwealth.

SURVEYOR. A licensed surveyor registered by the Commonwealth of Pennsylvania.

SWALE. A low lying stretch of natural or man-made land which gathers or carries surface water runoff. See also Vegetated Swale.

TESTING ON-LOT SANITARY SEWER SYSTEMS. Soil tests and percolation tests conducted by the Township Sewage Enforcement Officer in compliance with Chapter 73 of

PA. Department of Environmental Protection Regulations in order to determine whether a permit may be issued for installation of on-lot sewage disposal systems.

TOPSOIL. Surface soils and subsurface soils which presumably are fertile soils and soil material. Ordinarily rich in organic matter or humus debris. Topsoil is usually found in the uppermost soil layer called the A Horizon.

TOWNSHIP. Penn Forest Township, County of Carbon, Commonwealth of Pennsylvania.

TOWNSHIP ENGINEER. The engineer duly appointed by the Board of Supervisors as the Township Engineer.

TOWNSHIP PLANNING COMMISSION. The appointed planning commission of Penn Forest Township, County of Carbon, Commonwealth of Pennsylvania.

TOWNSHIP SOLICITOR. The attorney duly appointed by the Board of Supervisors as the Township Solicitor.

TRASH/DEBRIS COLLECTORS. Racks, screens or other similar devices installed in a storm drainage system to capture coarse pollutants (trash, leaves, etc.).

VEGETATED BUFFERS. Gently sloping areas that convey stormwater as sheet flow over a broad, densely vegetated earthen area, possibly coupled with the use of level spreading devices. Vegetated buffers should be situated on minimally disturbed soils, have low-flow velocities and extended residence times.

VEGETATED ROOFS. Vegetated systems installed on roofs that generally consist of a waterproof layer, a root-barrier, drainage layer (optional), growth media, and suitable vegetation. Vegetated roofs store and eventually evapotranspirate the collected rooftop rainfall; overflows may be provided for larger storms.

VEGETATED SWALES.

A. Vegetated earthen channels designed to convey stormwater. These swales are not considered to be water quality BMPs.
B. Broad, shallow, densely vegetated, earthen channels designed to treat stormwater while slowly infiltrating, evapotranspirating, and conveying it. Swales should be gently sloping with low flow velocities to prevent erosion. Check dams may be added to enhance performance.

WATERCOURSE. Any channel or conveyance of surface water having defined bed and banks, whether natural or artificial, with perennial or intermittent flow.

WATER QUALITY INSERTS. Any number of commercially available devices that are inserted into storm inlets to capture sediment, oil, grease, metals, trash, debris, etc.

WATER QUALITY VOLUME (WQv). The volume needed to capture and treat 90% of the average annual rainfall volume. (see Appendix B, Section 100.2)

WATERSHED. The entire region or area drained by a river or other body of water, whether natural or artificial.

WATER SUPPLY AND DISTRIBUTION SYSTEM, COMMUNITY A system of piping, tanks, pumping facilities and treatment works which provides for treatment and distribution of drinking water serving a generalized service area and designed independently of specific land developments or subdivisions.

WATER SUPPLY AND DISTRIBUTION SYSTEM, CENTRALIZED. A publicly or privately owned system of piping, tanks, pumping facilities and treatment works for the treatment and distribution of drinking water designed primarily to serve a single subdivision, land development or rural public use involving two or more lots or domestic water use in excess of one EDU on a single lot.

WATER SUPPLY AND DISTRIBUTION SYSTEM, ON-LOT. A system for supplying and distributing water to a single dwelling or other building from a source located on the same lot.

WATER TABLE. Is the imaginary surface in an unconfined aquifer at which the pressure is atmospheric The water table is thought of as the surface representing the top of the saturated zone, below which all pores in the rock matrix are filled with water The water table is defined by the levels at which water stands in wells that just penetrate the top of the water body . Additional information on the position of the water table is provided by the locations of surface-water features that interact with the water table, which can include rivers, streams, lakes, wetlands, and springs.

The above definition of the water table excludes:

> *Capillary fringe water*. Water in the unsaturated zone that is held by capillary forces and may be under tension (negative pressure);
>
> *Confined water*. Water in the saturated zone between two impermeable rock layers, which may result in the water being under pressure; and
>
> *Perched water.* Water that is unconfined ground water separated from an underlying body of ground water by an unsaturated zone. Perched ground water typically is isolated from the regional water table by low-permeability beds.

Severe Water Table. Any water table within 8” of the existing ground surface.

WET DETENTION PONDS. Basins that provide for necessary stormwater storage as well as a permanent pool of water. To be successful, wet ponds must have adequate natural hydrology (both runoff inputs as well as soils and water table which allow for maintenance of a permanent pool of water) and must be able to support a healthy aquatic community so as to avoid creation of mosquito and other health and nuisance problems.

Appendix A

Design and Construction Standards for Centralized Water Systems

I. General requirements.

A. Centralized water systems shall be developed and maintained so as to meet the standards of the Pennsylvania Department of Environmental Protection (PA DEP) under Chapter 109 – Waterworks of its rules and regulations and the Public Water Supply Manual – Bureau of Water Quality Management Publication No. 15, 2nd edition.

B. Where a centralized water system is contemplated in a new subdivision or land development, a feasible water supply and distribution system shall be proposed before preliminary approval of the subdivision or land development. Detailed plans and specifications for the water system shall be submitted to and be approved by the Carbon County Planning Commission's (CCPC) engineer before final approval. A permit for the system must be granted by PA DEP before final approval.

II. Water supply.

A. Quantity.

(1) The water supply shall be drawn from an adequate and reliable source which can supply, in combination with storage facilities, the water demands of the proposed service area at all times. The water source in combination with storage facilities shall be capable of meeting fire flow demands according to Section II-C of this Appendix as well as average daily consumption, except that in systems not required to provide fire flow, the source, in combination with storage facilities, shall be capable of meeting the peak hour demand.

(2) The water source shall be capable of supplying 110 gallons per day per person (GPCD) and/or 400 GPD per dwelling unit, for the design population of the development or the service area. Testing procedures to determine the reliable capacity of the water source are set forth in Section VI of this Appendix.

(3) Water service to commercial or industrial developments shall demonstrate adequacy to meet projected demand from the specific project.

B. Quality. Source shall conform to the water quality requirements of the PA DEP as set forth in its Public Water Supply Manual, Bureau of Water Quality Management Publication No. 15, Section 2.2. Treatment of the water supply shall be done in accordance with requirements set forth in the Public Water Supply Manual, Parts 4 through 12.

C. Reliability criteria. All utilities shall have a standby pump or pumps adequate to insure that the system can operate normally with the largest pump out of service. In addition, the following storage and equipment requirements shall be met by centralized water supply systems according to the size of the system.

(1) Small utilities servicing fewer than 50 customers shall have sufficient storage facilities to supply demand for a twenty-four-hour time period with the source cut off.

(2) Utilities serving more than 50 but fewer than 100 customers shall maintain a minimum distribution storage capability of 100% of the maximum twenty-four-hour demand.

(3) Utilities serving more than 100 but fewer than 200 customers shall maintain a minimum distribution storage capacity of 100% of the maximum twenty-four-hour demand and an auxiliary power generation source.

(4) Utilities servicing more than 200 customers shall provide elevated storage facilities of sufficient capacity to meet National Insurance Services Office recommendations for fire protection, shall provide fire hydrants, and shall meet design standards of the American Water Works Association.

The NISO minimum requirements for low-or medium-value residential and commercial areas are indicated in the table below.

Zone	Rated Capacity (gpm)	Time Duration (hours)	Residual Pressure at Rated Capacity (psi)
Residential	500	2	20
Commercial	1,000	2	20

III. Distribution systems.

A. Acceptable pipe materials. Pipe selected for distribution systems shall have been manufactured in conformance with the latest standard specifications issued by the American Water Works Association. The following are generally acceptable materials for water main use:

(1) Cast-iron pipe (cement-lined).

(2) Ductile iron pipe (cement-lined).

(3) Steel pipe (for large-size mains).

(4) Reinforced concrete pipe (for large-size mains).

B. Main sizes. Water distribution mains shall be a minimum of six inches inside diameter laid out in a well-gridded system. Whenever fire protection capability is provided, main sizes shall be adequate so the system can meet the water quantity and pressure standards in Sections II-A and II-C of this Appendix. Supply mains not adequate for firefighting shall not be connected to fire hydrants and can only be considered for use as special water service lines.

C. Water pressure. A minimum static pressure during peak hourly flow of 50 pounds per square inch is desirable, but the minimum static pressure during peak hourly flow shall not be less than 30 pounds per square inch. A minimum of 20 pounds per square inch should exist at any point in the system during periods of fire flow.

D. Customer connections.

(1) All service connections from the main to a single dwelling unit shall be a minimum of one inch in diameter. The diameter of service connections to multiple units shall meet the approval of the Borough Engineer.

(2) Customer service connections shall be one of the approved materials for mains. Heavy wall copper may be used for service connections where soils are not permeated or subject to acidic ground discharge waters.

(3) A curb stop shall be furnished for each customer service connection.

(4) Cross connections. A cross connection is any physical connection, direct or indirect, which provides a potential opportunity for non-potable water to enter a conduit, pipe or receptacle containing potable water. Such cross connections are prohibited.

E. Leakage test.

(1) No installation shall be approved until the leakage is less than the number of gallons per hour as determined by the formula:

$$L = \frac{ND\sqrt{P}}{3700}$$

Where:

L = Allowable leakage in gallons per hour.
N = Number of joints in the length of pipe tested.
D = Nominal diameter of the pipe in inches.
P = The average test pressure during test.

(2) Leakage tests are conducted by measuring the amount of water which enters the test section under normal working pressures for a period of at least two hours.

IV. Water storage and pumping stations.

A. Storage for finished water should be provided as an integral part of each water supply system. Standards set forth in Part 14 of the Public Water Supply Manual – Tanks, Standpipes and Pressure Tanks shall be used in designing water storage systems. Equipment selected shall have been manufactured in conformance with the latest standards and specifications issued by the American Water Works Association.

B. Pumping stations within centralized water systems shall comply with standards and specifications set forth in Part 13 of PA DEP Public Water Supply Manual.

V. Well construction and location.

A. Well construction shall take place according to the standards set forth in Part 3 of the PA DEP Public Water Supply Manual.

B. The centralized water system well source shall be centrally located within an open space water protection zone a minimum of one acre in size. No structures other than water system pumping stations, standpipes, etc., shall be located within the protected zone. No on-lot sewage disposal system shall be constructed within 200 feet of the water source well.

VI. Well capacity testing procedures.

A. A dynamic recovery rate and draw-down test shall be conducted to determine the capacity and safe daily yield of the well source. The test procedures shall be conducted as follows:

(1) A water pump, capable of variable output, having sufficient capacity to exceed the dynamic recovery rate of the water source shall be employed for said test. It is recommended that the capacity of the source pump be such that draw-down to within 20 feet of the source pump be achieved in a maximum of three hours.

(2) A suitable calibrated water meter capable of measuring the water output shall be connected to the water source pump outlet.

(3) The exact location of the water source pump with respect to the bottom of the well shall be recorded and maintained constant for the duration of the test.

(4) The water source pump shall be operated at maximum capacity and output for the first six hours of the test or until the water level in the source well reaches a point 20 feet above the water source pump. The elapsed time and rate of pumping shall be recorded at sixty-minute intervals on the log data sheet form supplied.

(5) Draw-down of the source well in feet shall be recorded at sixty-minute intervals as well as the water drawn-down of any required peripheral test hole wells on the log data form. [NOTE: Peripheral test hole wells may be required in order to determine the area of influence of the source well and the capacity of the source well aquifer. Peripheral test hole wells will generally be required in geological areas with slate and shale formations. The test hole wells shall be situated according to Figure 1 and have a minimum diameter of six inches.]

(6) Reduce the maximum rate of pumping by 10 gallons per minute (GPM) and continue pumping for the next two hours of test or until the water level reaches a point 20 feet above the water source pumps. The elapsed time, rate of pumping and draw-down of the source well and, where required, the peripheral test hole wells shall be recorded on the log data forms at sixty-minute intervals. [NOTE: Peripheral test hole wells may be required in order to determine the area of influence of the source well and the capacity of the source well aquifer. Peripheral test hole wells will generally be required in geological areas with slate and shale formations. The test hole wells shall be situated according to Figure 1 and have a minimum diameter of six inches.]

(7) Continue the above procedure using the two-hour time periods or the criteria of water level above the source pump until the conditions are such that the dynamic recovery rate of the water source equals the pumping rate (dynamic equilibrium). The Township Engineer may increase the increment of GPM reduction where on-site review of the data warrants such action. Note, as the dynamic recovery rate is approached, the increment of GPM reduction will need to be reduced from 10 GPM to eight GPM to five GPM — to n GPM ÿ 0. At this point, no detectable change in draw-down will occur. If any change in draw-down is detected, either plus or minus, dynamic equilibrium has not been achieved.

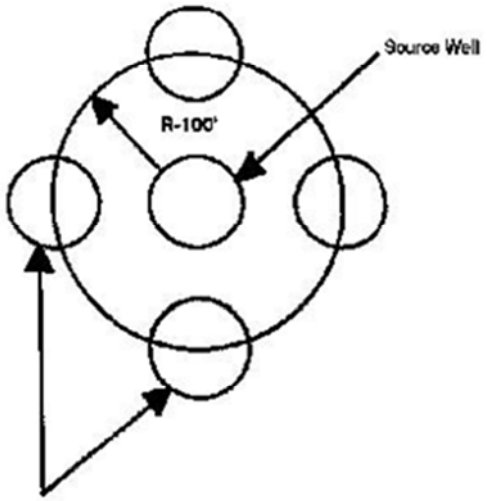
(8) When said dynamic recovery rate is reached, record elapsed time, pumping rate and draw-down on log data sheet and continue pumping at this rate for the remainder of the seventy-two-hour test time or a minimum of 24 hours, whichever is the greater time. Elapsed time, pumping rate and draw-down of the source well, and where required, the peripheral test wells, shall be recorded hourly. [NOTE: Peripheral test hole wells may be required in order to determine the area of influence of the source well and the capacity of the source well aquifer. Peripheral test hole wells will generally be required in geological areas with slate and shale formations. The test hole wells shall be situated according to Figure 1 and have a minimum diameter of six inches.]

(9) Measurements of static water level recovery shall be made on the source well and peripheral test hole wells, where required. [NOTE: Peripheral test hole wells may be required in order to determine the area of influence of the source well and the capacity of the source well aquifer. Peripheral test hole wells will

generally be required in geological areas with slate and shale formations. The test hole wells shall be situated according to Figure 1 and have a minimum diameter of six inches.] Measurements shall be taken hourly and the data recorded for a minimum time period of 24 hours upon cessation of the dynamic recovery rate test.

(10) Calculations of specific capacity and safe daily yield of the source well shall be submitted to the Township Engineer and DEP by the registered professional engineer employed by the utility or developer for review and analysis.

Figure 1



Peripheral Test Hole Wells

VII. Improvements requirements.

A. Where a centralized water system is to be installed within a proposed subdivision or land development, the improvement procedures and requirements set forth within § 93-23 shall be followed.

B. Final specifications for the design and installation of the centralized water system shall be included as part of the improvements agreement between the developer and the municipal governing body. Final approval of the subdivision or land development plan shall not take place until such specifications are finalized within the improvements agreement and until the necessary improvements and maintenance guarantees are posted. Engineering review of the specifications shall take place before signing of the improvements agreement and before approval of the final development plan.

SUBDIVISION AND LAND DEVELOPMENT

Appendix B

B-1 NRCS Type II 24-Hour Rainfall Distribution (Graphic and Tabular)

B-2 Intensity-Duration-Frequency Curves

B-3 Runoff Curve Numbers and Percent Imperviousness Values

B-4 Runoff Coefficients for the Rational Method

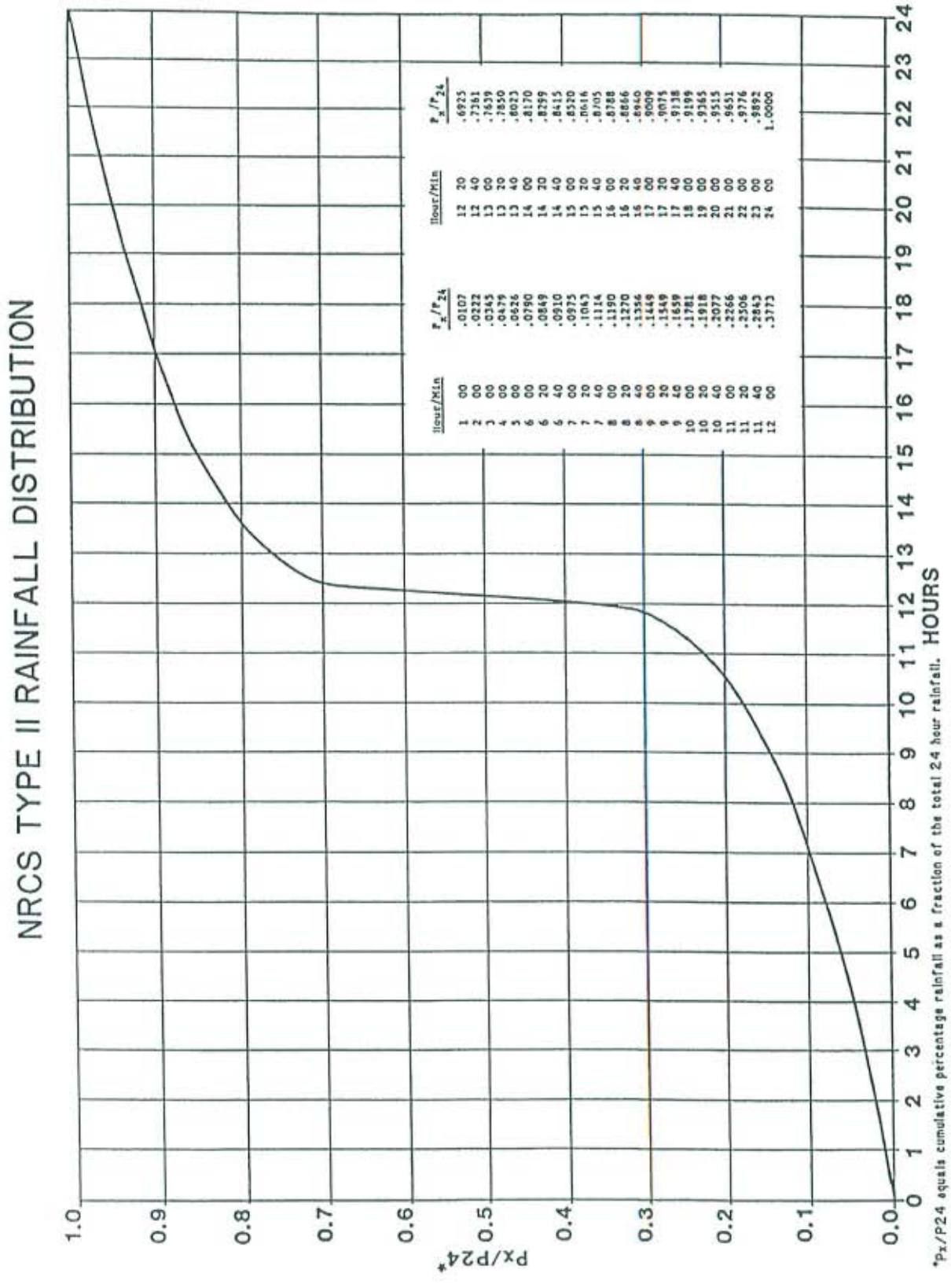
B-5 Manning 'n' Values

B-6 Permissible Velocities for Channels

B-7 Stormwater Best Management Practices Operations and Maintenance Agreement

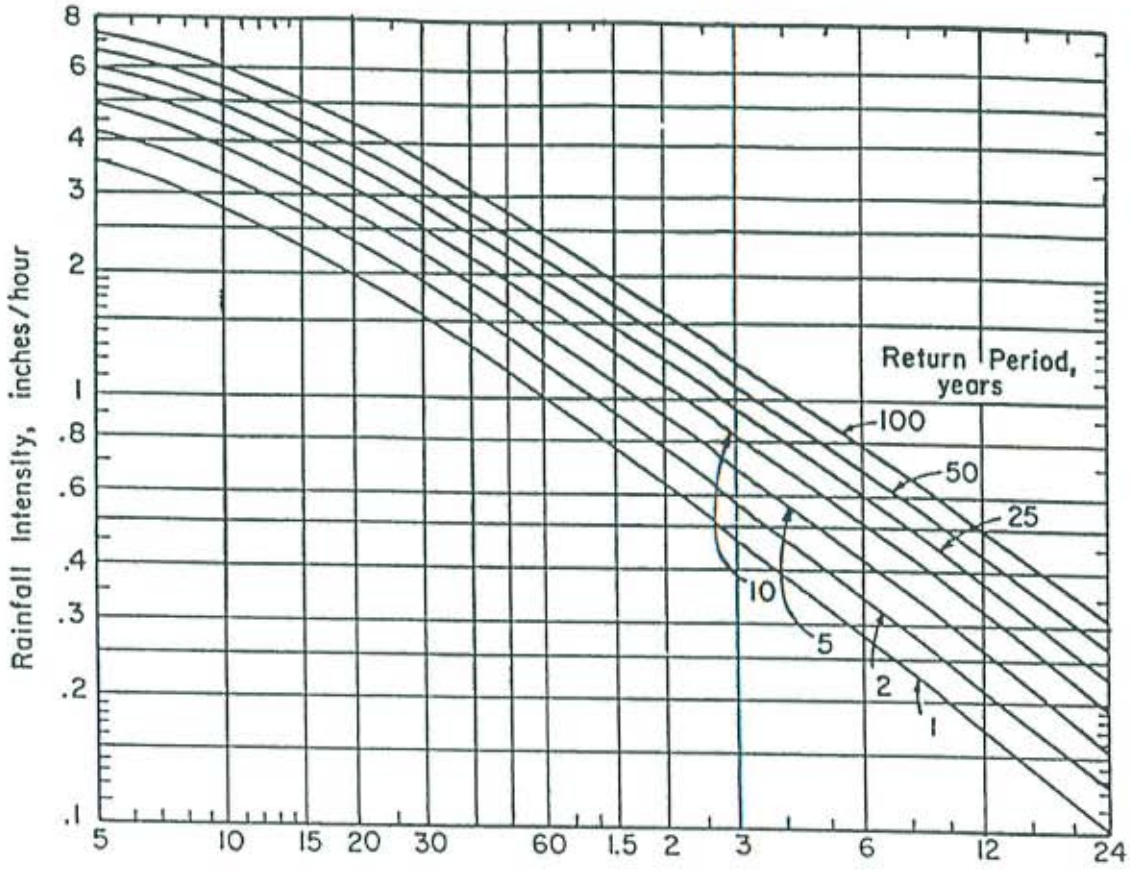
B-8 Low-Impact Development Practices

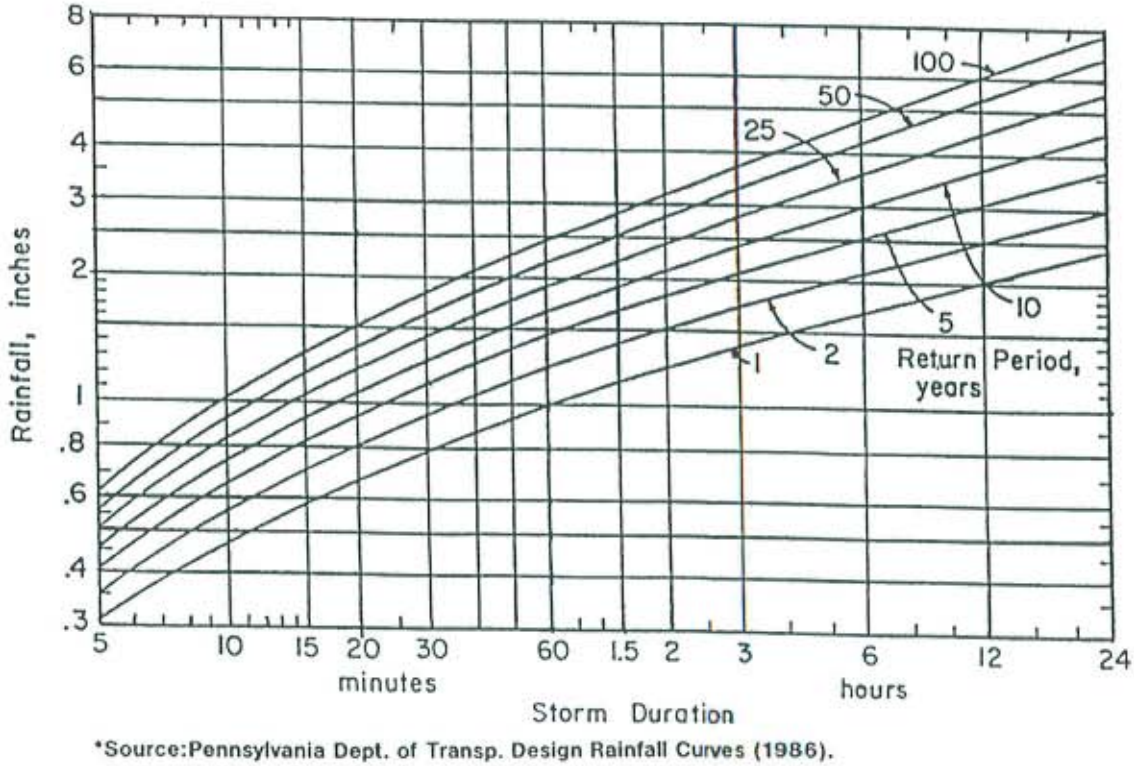
B-9 Preliminary Site Investigation and Testing Requirements


NRCS TYPE II RAINFALL DISTRIBUTION
Px/P24*
HOURS
*Px/P24 equals cumulative percentage rainfall as a fraction of the total 24 hour rainfall.
Hour/Min
Px/P24
Hour/Min
Px/P24
1 00 .0107
2 00 .0222
3 00 .0345
4 00 .0479
5 00 .0626
6 00 .0790
6 20 .0849
6 40 .0910
7 00 .0975
7 20 .1043
7 40 .1114
8 00 .1190
8 20 .1270
8 40 .1356
9 00 .1449
9 20 .1549
9 40 .1659
10 00 .1781
10 20 .1918
10 40 .2077
11 00 .2266
11 20 .2506
11 40 .2843
12 00 .3773
12 20 .6925
12 40 .7361
13 00 .7639
13 20 .7850
13 40 .8023
14 00 .8170
14 20 .8299
14 40 .8415
15 00 .8520
15 20 .8616
15 40 .8705
16 00 .8788
16 20 .8866
16 40 .8940
17 00 .9009
17 20 .9075
17 40 .9138
18 00 .9199
19 00 .9365
20 00 .9515
21 00 .9651
22 00 .9776
23 00 .9892
24 00 1.0000

ATTACHMENT B-2

INTENSITY-DURATION-FREQUENCY CURVES*





*Source:Pennsylvania Dept. of Transp. Design Rainfall Curves (1986).

ATTACHMENT B-3

Runoff Curve Numbers and Percent Imperviousness Values[1]

Cover Description		Curve Numbers For Hydrologic Soil Group[2]			
Land Use/Cover Type	**Average Percent Impervious Area**	**A**	**B**	**C**	**D**
Open space (lawns, parks, golf courses, cemeteries, etc.):					
Good condition (grass cover greater than 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (townhouses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Woods		30	55	70	77
Agriculture		Refer to Table 2-2b in source document (TR55) by crop type and treatment.			

NOTES:

[1] Source: Natural Resources Conservation Service Technical Release No. 55, Second Edition, June 1986.

[2] Hydrologic soil group based on the County Soil Survey latest edition.

ATTACHMENT B-4

Runoff Coefficients for the Rational Method[1]
Hydrologic Soil Group and Slope Range[2]

	A			B			C			D		
Land Use	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+
Cultivated[5]	0.18[3]	0.23	0.28	0.24	0.29	0.33	0.30	0.34	0.38	0.33	0.37	0.41
	0.23[4]	0.29	0.34	0.30	0.36	0.40	0.36	0.41	0.45	0.39	0.44	0.48
Pasture[6]	0.09	0.13	0.17	0.19	0.24	0.29	0.27	0.31	0.36	0.31	0.35	0.39
	0.12	0.17	0.23	0.24	0.30	0.36	0.33	0.38	0.43	0.37	0.42	0.46
Meadow, lawn[7]	0.05	0.08	0.12	0.15	0.20	0.24	0.23	0.28	0.32	0.28	0.32	0.36
	0.07	0.12	0.17	0.19	0.25	0.30	0.28	0.34	0.39	0.33	0.39	0.43
Forest, woods	0.03	0.05	0.08	0.11	0.16	0.20	0.20	0.25	0.29	0.25	0.30	0.34
	0.04	0.08	0.12	0.15	0.21	0.26	0.25	0.31	0.36	0.31	0.37	0.41
Gravel	0.24	0.29	0.33	0.32	0.36	0.40	0.35	0.39	0.43	0.37	0.41	0.44
	0.30	0.36	0.40	0.38	0.43	0.47	0.42	0.46	0.50	0.44	0.48	0.51
Parking, other impervious	0.85	0.86	0.87	0.85	0.86	0.87	0.85	0.86	0.87	0.85	0.86	0.87
	0.95	0.96	0.97	0.95	0.96	0.97	0.95	0.96	0.97	0.95	0.96	0.97
Residential, commercial, industrial and other developed	Runoff coefficients should be calculated based upon weighted average of impervious area coefficients and pervious area coefficients from above based upon soil type, slope and the particular development proposal.											

NOTES:

[1] Coefficients for all land uses except parking and other impervious cover are based on the Rossmiller Equation for translating NRCS curve numbers into Rational Method 'c' values. The source for the parking and other impervious cover coefficients is RAWLS, W.J., S.L. WONG and R.H. McCUEN, 1981. Comparison of urban flood frequency procedures. Preliminary draft report prepared for the Soil Conservation Service, Beltsville, MD.

[2] Hydrologic soil group based on the county soil survey latest edition.

NOTES: (cont'd)
[3] Runoff coefficients for storm recurrence intervals less than 25 years.

[4] Runoff coefficients for storm recurrence intervals of 25 years or more.

[5] Represents average of cultivated land with and without conservation treatment from TR-55, January 1975. These values are consistent with several categories of cultivated lands from TR-55, June 1986.

[6] Represents grasslands in good condition with 50% to 75% grass cover.

[7] Represents grasslands in good condition with greater than 75% grass cover.

ATTACHMENT B-5

Manning 'n' Values by Typical Reach Description

Reach Description	Manning 'n'
Natural stream, clean, straight, no rifts or pools	0.030
Natural stream, clean, winding, some pools and shoals	0.040
Natural stream, winding, pools, shoals, stony with some weeds	0.050
Natural stream, sluggish with deep pools and weeds	0.070
Natural stream or swale, very weedy or with timber under brush	0.100
Concrete pipe, culvert or channel	0.012
Corrugated metal pipe	0.012-0.027[1]

NOTES:

[1] Depending upon type and diameter.

Roughness Coefficients (Manning 'n') for Sheet Flow

Surface Description	Manning 'n'
Smooth surfaces (concrete, asphalt, gravel, or bare soil)	0.011
Fallow (no residue)	0.050
Cultivated soils:	
Residue cover less than or equal to 20%	0.060
Residue cover greater than 20%	0.170
Grass:	
Short grass prairie	0.150
Dense grasses[2]	0.240
Bermuda grass	0.410
Range (natural)	0.130
Woods:[3]	
Light underbrush	0.400
Dense underbrush	0.800

NOTES:

[1] The n values are a composite of information compiled by Engman (1986).

[2] Includes species such as weeping lovegrass, bluegrass, buffalo grass, blue grama grass and native grass mixtures.

[3] When selecting n, consider cover to a height of about 0.1 foot. This is the only part of the plant cover that will obstruct sheet flow.

ATTACHMENT B-6

Permissible Velocities for Selected Channels

Channel Lining	Permissible Channel Velocity (feet per second)		
Vegetation[1]			
Grass mixture	4.0	-	5.0
Kentucky bluegrass	5.0	-	7.0
Kentucky 31 tall fescue	3.0	-	6.0
Red clover or red fescue	2.5	-	3.5
Red top	2.5	-	3.5
Red canarygrass	3.0	-	4.0
Sericea lespedeza	2.5	-	3.5
Sudan grass	2.5	-	3.5
Weeping lovegrass	2.5	-	3.5
Bare Earth, Easily Eroded[2]			
Fine sand	1.5		
Sand loam	1.75		
Silt loam or alluvial silts, loose	2.0		
Firm loam	2.50		
Bare Earth, Erosion-Resistant[2]			
Fine gravel	2.5		
Stiff clay or alluvial silts, firm	3.75		
Loam to cobbles (graded)	3.75		
Silt to cobbles (graded or course gravel)	4.0		
Cobbles and stones or shales and hardpans	6.0		
Rock lined			
6 inches riprap	9.0		
9 inches riprap	11.5		
12 inches riprap	13.0		

NOTES:

[1] Maximum permissible velocities dependent on soil erodibility and slope.

[2] Maximum permissible velocities in bare earth channels – for straight channels where slopes are less than 0.02 foot per foot.

Source: Department of Environmental Protection, Erosion and Sediment Pollution Control Program Manual, April 1990.

ATTACHMENT B-7

Stormwater Best Management Practices Operations and Maintenance Agreement

THIS AGREEMENT, made and entered into this _____ day of _____, 200___, by and between _____, (hereinafter the "Landowner"), and _____, _____ County, Pennsylvania, (hereinafter "municipality");

WITNESSETH

WHEREAS, the Landowner is the owner of certain real property as recorded by deed in the land records of _____ County, Pennsylvania, Deed Book _____ at Page _____, (hereinafter "Property").

WHEREAS, the Landowner is proceeding to build and develop the Property; and

WHEREAS, the stormwater management BMP Operations and Maintenance Plan approved by the municipality (hereinafter referred to as the "Plan") for the property identified herein, which is attached hereto as Appendix A and made part hereof, as approved by the municipality, provides for management of stormwater within the confines of the Property through the use of Best Management Practices (BMPs); and

WHEREAS, the municipality, and the Landowner, his successors and assigns, agree that the health, safety, and welfare of the residents of the municipality and the protection and maintenance of water quality require that on-site stormwater Best Management Practices be constructed and maintained on the Property; and

WHEREAS, for the purposes of this agreement, the following definitions shall apply:

BMP — "Best Management Practice;" activities, facilities, designs, measures or procedures used to manage stormwater impacts from land development, to protect and maintain water quality and groundwater recharge and to otherwise meet the purposes of the Municipal Stormwater Management Ordinance, including but not limited to infiltration trenches, seepage pits, filter strips, bioretention, wet ponds, permeable paving, rain gardens, grassed swales, forested buffers, sand filters and detention basins.

Infiltration Trench – A BMP surface structure designed, constructed, and maintained for the purpose of providing infiltration or recharge of stormwater into the soil and/or groundwater aquifer,

Seepage Pit – An underground BMP structure designed, constructed, and maintained for the purpose of providing infiltration or recharge of stormwater into the soil and/or groundwater aquifer,

Rain Garden – A BMP overlain with appropriate mulch and suitable vegetation designed, constructed, and maintained for the purpose of providing infiltration or recharge of stormwater into the soil and/or underground aquifer, and

WHEREAS, the municipality requires, through the implementation of the Plan, that stormwater management BMPs as required by said Plan and the Municipal Stormwater Management Ordinance be constructed and adequately operated and maintained by the Landowner, his successors and assigns, and

NOW, THEREFORE, in consideration of the foregoing promises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The BMPs shall be constructed by the Landowner in accordance with the plans and specifications identified in the Plan.

2. The Landowner shall operate and maintain the BMP(s) as shown on the Plan in good working order acceptable to the municipality and in accordance with the specific maintenance requirements noted on the Plan.

3. The Landowner hereby grants permission to the municipality, its authorized agents and employees, to enter upon the property, at reasonable times and upon presentation of proper identification, to inspect the BMP(s) whenever it deems necessary. Whenever possible, the municipality shall notify the Landowner prior to entering the property.

4. In the event the Landowner fails to operate and maintain the BMP(s) as shown on the Plan in good working order acceptable to the municipality, the municipality or its representatives may enter upon the Property and take whatever action is deemed necessary to maintain said BMP(s). This provision shall not be construed to allow the municipality to erect any permanent structure on the land of the Landowner. It is expressly understood and agreed that the municipality is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the municipality.

5. In the event the municipality, pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner shall reimburse the municipality for all expenses (direct and indirect) incurred within 10 days of receipt of invoice from the municipality and if not timely paid, a municipal lien shall be placed upon the premises for 110% of the invoice amount, plus statutorily allowed fees, expenses and costs.

6. The intent and purpose of this Agreement is to ensure the proper maintenance of the onsite BMP(s) by the Landowner; provided, however, that this Agreement shall not be deemed to create or effect any additional liability of any party for damage alleged to result from or be caused by stormwater runoff.

7. The Landowner, its executors, administrators, assigns, and other successors in interests, hereby release and hold harmless the municipality's employees and designated representatives from all damages, accidents, casualties, occurrences or claims which might arise or be asserted against said employees and representatives

from the construction, presence, existence, or maintenance of the BMP(s) by the Landowner or municipality. In the event that a claim is asserted against the municipality, its designated representatives or employees, the municipality shall promptly notify the Landowner and the Landowner shall defend, at his own expense, any suit based on the claim. If any judgment or claims against the municipality's employees or designated representatives shall be allowed, the Landowner shall pay all costs and expenses regarding said judgment or claim.

8. The municipality shall inspect the BMP(s) as necessary to ensure their continued functioning.

This Agreement shall be recorded at the Office of the Recorder of Deeds of _____ County, Pennsylvania, and shall constitute a covenant running with the Property and/or equitable servitude, and shall be binding on the Landowner, his administrators, executors, assigns, heirs and any other successors in interests, in perpetuity.

ATTEST:

WITNESS the following signatures and seals:

(SEAL) For the municipality:

(SEAL) For the Landowner:

ATTEST:

_____ (City, Borough, Township)

County of _____, Pennsylvania

I, _____, a Notary Public in and for the County and State aforesaid, whose commission expires on the _____ day of _____, 200____, do hereby certify that _____ whose name(s) is/are signed to the foregoing Agreement bearing date of the _____ day of _____, 200____, has acknowledged the same before me in my said County and State.

GIVEN UNDER MY HAND THIS _____ day of _____, 200_____.

_____ _____

NOTARY PUBLIC **(SEAL)**

ATTACHMENT B-8

Low-Impact Development Practices
Alternative Approach for Managing Stormwater Runoff

Natural hydrologic conditions may be altered radically by poorly planned development practices, such as introducing unneeded impervious surfaces, destroying existing drainage swales, constructing unnecessary storm sewers, and changing local topography. A traditional drainage approach of development has been to remove runoff from a site as quickly as possible and capture it in a detention basin. This approach may lead ultimately to the degradation of water quality as well as expenditure of additional resources for detaining and managing concentrated runoff at some downstream location.

The recommended alternative approach is to promote practices that will minimize post-development runoff rates and volumes, which will minimize needs for artificial conveyance and storage facilities. To simulate pre-development hydrologic conditions, forced infiltration is often necessary to offset the loss of infiltration by creation of impervious surfaces. The ability of the ground to infiltrate depends upon the soil types and its conditions.

Preserving natural hydrologic conditions requires careful alternative site design considerations. Site design practices include preserving natural drainage features, minimizing impervious surface area, reducing the hydraulic connectivity of impervious surfaces, and protecting natural depression storage. A well-designed site will contain a mix of all those features. The following describes various techniques to achieve the alternative approach:

- **Preserving Natural Drainage Features.** Protecting natural drainage features, particularly vegetated drainage swales and channels, is desirable because of their ability to infiltrate and attenuate flows and to filter pollutants. However, this objective is often not accomplished in land development. In fact, commonly held drainage philosophy encourages just the opposite pattern — streets and adjacent storm sewers typically are located in the natural headwater valleys and swales, thereby replacing natural drainage functions with a completely impervious system. As a result, runoff and pollutants generated from impervious surfaces flow directly into storm sewers with no opportunity for attenuation, infiltration, or filtration. Developments designed to fit site topography also minimizes the amount of grading on site.

- **Protecting Natural Depression Storage Areas.** Depression storage areas have no surface outlet, or drain very slowly following a storm event. They can be commonly seen as ponded areas in farm fields during the wet season or after large runoff events. Traditional development practices eliminate these depressions by filling or draining, thereby obliterating their ability to reduce surface runoff volumes and trap pollutants. The volume and release-rate characteristics of depressions should be protected in the design of the development site. The depressions can be protected by simply avoiding the depression or by incorporating its storage as additional capacity in required detention facilities.

- **Avoiding Introduction of Impervious Areas.** Careful site planning should consider reducing impervious coverage to the maximum extent possible. Building footprints,

sidewalks, driveways and other features producing impervious surfaces should be evaluated to minimize impacts on runoff.

- **Reducing the Hydraulic Connectivity of Impervious Surfaces.** Impervious surfaces are significantly less of a problem if they are not directly connected to an impervious conveyance system (such as storm sewer). Two basic ways to reduce hydraulic connectivity are routing of roof runoff over lawns and reducing the use of storm sewers. Site grading should promote increasing travel time of stormwater runoff, and should help reduce concentration of runoff to a single point in the development.

- **Routing Roof Runoff Over Lawns.** Roof runoff can be easily routed over lawns in most site designs. The practice discourages direct connections of downspouts to storm sewers or parking lots. The practice also discourages sloping driveways and parking lots to the street. By routing roof drains and crowning the driveway to run off to the lawn, the lawn is essentially used as a filter strip.

- **Reducing the Use of Storm Sewers.** By reducing use of storm sewers for draining streets, parking lots, and back yards, the potential for accelerating runoff from the development can be greatly reduced. The practice requires greater use of swales and may not be practical for some development sites, especially if there are concerns for areas that do not drain in a reasonable time. The practice requires educating local citizens and public works officials, who expect runoff to disappear shortly after a rainfall event.

- **Reducing Street Widths.** Street widths can be reduced by either eliminating on-street parking or by reducing roadway widths. Municipal planners and traffic designers should encourage narrower neighborhood streets which ultimately could lower maintenance.

- **Limiting Sidewalks to One Side of the Street.** A sidewalk on one side of the street may suffice in low-traffic neighborhoods. The lost sidewalk could be replaced with bicycle/recreational trails that follow back-of-lot lines. Where appropriate, backyard trails should be constructed using pervious materials.

- **Using Permeable Paving Materials.** These materials include permeable interlocking concrete paving blocks or porous bituminous concrete. Such materials should be considered as alternatives to conventional pavement surfaces, especially for low-use surfaces such as driveways, overflow parking lots, and emergency access roads.

- **Reducing Building Setbacks.** Reducing building setbacks reduces driveway and entry walks and is most readily accomplished along low-traffic streets where traffic noise is not a problem.

- **Constructing Cluster Developments.** Cluster developments can also reduce the amount of impervious area for a given number of lots. The biggest savings is in street length, which also will reduce costs of the development. Cluster development clusters the construction activity onto less-sensitive areas without substantially affecting the gross density of development.

ATTACHMENT B-9

Preliminary Site Investigation and Testing Requirements

Required Data and Site Information: The following data shall be gathered utilizing standard testing procedures as part of a preliminary site investigation:

- Bedrock composition.
- Bedrock structural geology. This includes the possible presence of faults and mapping of conspicuous fracture traces or lineaments.
- Overburden and soil mantle composition and thickness.
- Permeability of the soil.
- Depth to the seasonal high water table.

Preliminary Site Investigation Required for Sites Intending to Use Infiltration

Review of Available Data, Maps and Reports: Some of the required information, as listed above, can be found in existing published data. Suggested resources include the following:

- Geologic maps and references for the development area.
- USGS topographic maps.
- Carbon County soil survey maps.
- Aerial photographs from the CCPC or other sources.

Field Inspections: In addition to gathering data from published sources, a field inspection of the proposed site is required. A field inspection can provide additional information relating to site features such as indicators of seasonal high stream-level or water table levels, streams, springs, etc.

Soil Test Pit and Percolation Test Requirements: A minimum of one test pit and a minimum of two percolation tests are required for every site. A test pit is a two-to-three-foot wide, eight-foot deep trench excavated with a backhoe for observing subsurface conditions. The test pits will be used to describe soil depth and quality, including soil horizons, and testing of permeability or percolation rates and can be conducted by a certified Sewage Enforcement Officer.

Percolation tests are to be conducted as follows (adapted from § 73.15. "Percolation Tests" of the Pennsylvania Code)

1. The percolation tests shall be made in separate holes uniformly spaced over the possible infiltration area.

2. An initial presoak should not be performed.

3. Percolation holes located within the possible infiltration area shall be used in the calculation of the average percolation rate.

4. Holes having a uniform diameter of six to 10 inches shall be bored or dug as follows:

    a. To the depth of the bottom of the possible infiltration BMP.

    b. Alternate depths if the test pits/auger holes indicate that the soils are more suitable at a different depth (i.e., if a clay horizon is identified and more suitable soils are located beneath the horizon, and infiltration test should be performed in the suitable horizon).

5. The bottom and sides of the hole shall be scarified with a knife blade or sharp-pointed instrument to completely remove any smeared soil surfaces and to provide a natural soil interface into which water may percolate. Loose material shall be removed from the hole. Two inches of coarse sand or fine gravel shall be placed in the bottom of the hole to protect the soil from scouring and clogging of the pores.

6. Immediately before the percolation test, as a final presoak, water shall be placed in the hole to a minimum depth of six inches over the gravel and readjusted every 30 minutes for one hour.

7. The drop in the water level during the last 30 minutes of the final presoaking period shall be applied to the following standard to determine the time interval between readings for each percolation hole:

    a. If water remains in the hole, the interval for readings during the percolation test shall be 30 minutes.

    b. If no water remains in the hole, the interval for readings during the percolation test may be reduced to 10 minutes.

8. After the final presoaking period, water in the hole shall again be adjusted to approximately six inches over the gravel and readjusted when necessary after each reading.

    a. Measurement to the water level in the individual percolation holes shall be made from a fixed reference point and shall continue at the interval determined from Step No. 7 (above) for each individual percolation hole until a minimum of eight readings are completed or until a stabilized rate of drop is obtained, whichever occurs first. A stabilized rate of drop means a difference of 1/4 inch or less of drop between the highest and lowest readings of four consecutive readings.

b. The drop that occurs in the final period in percolation test holes, expressed as inches per hour, shall be used to calculate the average percolation rate.

c. When the rate of drop in a percolation test is too slow to obtain a measurable rate, the rate of 0.25 inches per hour shall be assigned to that hole for use in calculating the average percolation rate. The infiltration area may be placed over holes with no measurable rate when the average percolation rate for the possible infiltration area is within the acceptable range.

When a percolation test hole yields a percolation rate of greater than 12 inches per hour, the proposed infiltration area may not be designed or installed within 25 feet of this hole unless the municipality determines that a testing anomaly caused the fast percolation rate and a retest of the area yields acceptable percolation rates. This percolation rate limit is established to protect groundwater quality and to minimize the risk of subsidence.

Additional Site Investigation and Testing Required if Infiltration is Proposed

Soil Test Pit Requirements: The required number of test pits varies with effective soil thickness. As risk factors increase, the number of test pits increases. A minimum of two test pits, uniformly spaced within the proposed infiltration area (e.g., the two pits should be centered on each half of the proposed infiltration area), are required for any site proposing infiltration unless the applicant can demonstrate that one test pit is adequately representative of the area proposed for infiltration. For larger infiltration areas, multiple test pits shall be developed at the densities as listed below:

Effective Soil Thickness (feet)	Test Pit Density (per acre of proposed infiltration area)[1]	Percolation Tests (per acre of proposed infiltration area)[2]
8	4	8
4 to 8	6	12
2 to 4	8	16

NOTES:

[1] No. of Test Pits required = Infiltration sq. ft./43,560 sq. ft. x test pit density from chart rounded up to the nearest whole number.

[2] No. of Percolation Tests required = Infiltration sq. ft./43,560 sq. ft. x percolation tests from chart rounded up to the nearest whole number.

Percolation Testing Requirements: For each proposed infiltration area, a minimum of six percolation tests shall be conducted with a vertical component permeability test unless the applicant can demonstrate that fewer tests accurately represent the percolation rate of the proposed infiltration area. Additional testing shall be required if the initial test results show significant variability in the vertical component percolation rate. For larger infiltration areas, percolation tests shall be conducted at the densities listed in the table above.

PENN FOREST TOWNSHIP

Plans Exempt from Standard Procedure Checklist

Included	Missing	Not Applicable	
_____	_____	_____	Five (5) completed application forms (283.1)
_____	_____	_____	Nine (9) prints of the plan(s) with the following data (281.22)
_____	_____	_____	Latest source of title (333.16)
_____	_____	_____	Total tract boundaries (333.17)
_____	_____	_____	Location of monumentation (333.17)
_____	_____	_____	Total site acreage (333.17)
_____	_____	_____	Signed surveyor's certification of survey and plan accuracy, and monument placement (333.17)
_____	_____	_____	Lot line information (333.18)
_____	_____	_____	Building setback data or building location (333.19)
_____	_____	_____	Name and address of developer (333.1)
_____	_____	_____	Name of subdivision (333.3)
_____	_____	_____	Name of municipality (333.4)
_____	_____	_____	Names of adjoiners (333.5)
_____	_____	_____	North point, graphic scale, written scale, drawing date and revision dates (333.6)
_____	_____	_____	Location map (333.7)
_____	_____	_____	Tax map data (333.9)
_____	_____	_____	Zoning district information (333.10)
_____	_____	_____	Proposed grading (333.32)
_____	_____	_____	Existing buildings (333.11)
_____	_____	_____	Existing street data (333.12)
_____	_____	_____	Existing utility and infrastructure data (333.13)
_____	_____	_____	Topographic data (333.15)
_____	_____	_____	Signed and notarized ownership certification (333.21)

PENN FOREST TOWNSHIP

Plans Exempt from Standard Procedure Checklist

Included	Missing	Not Applicable	
_____	_____	_____	Penn Forest Township signature block (333.22)
_____	_____	_____	CCPC signature block (333.23)
_____	_____	_____	Map of contiguous holdings (333.25)
_____	_____	_____	Sketch plan of area not proposed for present subdivision (333.26)
_____	_____	_____	Statement of non-residential lot uses (333.27)
_____	_____	_____	Lot numbers, number of lots, and lot sizes in square feet (333.28)
_____	_____	_____	Well and sewage disposal system locations (333.29)
_____	_____	_____	Signed signature block for Penn Forest Township (333.30)
_____	_____	_____	Additional prints of the plan(s) as required by Section (281.4)
_____	_____	_____	Review Fee (283.5)
_____	_____	_____	Seven (7) copies of the required supplemental information (281.23)
_____	_____	_____	Legal description of areas offered for dedication (334.1)
_____	_____	_____	Documentation of water supply availability (334.4)
_____	_____	_____	Documentation of sanitary sewer service availability (334.5)
_____	_____	_____	Documentation of sewage enforcement officer's approval for on-lot sewage disposal systems (334.6)
_____	_____	_____	An opinion of title (334.8)

PENN FOREST TOWNSHIP

Preliminary Plan Checklist

Included	Missing	Not Applicable	
_____	_____	_____	Five (5) completed application forms
_____	_____	_____	Nine (9) prints of the plans with the following data (232.2)
_____	_____	_____	Name and address of record owner (314.1)
_____	_____	_____	Name and address of developer (314.2)
_____	_____	_____	Name of subdivision (314.3)
_____	_____	_____	Name of municipality (314.4)
_____	_____	_____	Names of adjoiners (314.5)
_____	_____	_____	Name, address, seal, and signed statement of accuracy by surveyor (314.6)
_____	_____	_____	North point (314.7)
_____	_____	_____	Graphic and written scales (314.7)
_____	_____	_____	Date of drawing and revisions (314.7)
_____	_____	_____	Location map (314.8)
_____	_____	_____	Tract boundaries (314.9)
_____	_____	_____	Tax map reference numbers (314.10)
_____	_____	_____	Zoning district information (314.11)
_____	_____	_____	Existing buildings on lot (314.12)
_____	_____	_____	Existing street information (314.13)
_____	_____	_____	Existing utility and infrastructure information (314.14)
_____	_____	_____	Mapping of existing easements (314.15)
_____	_____	_____	Topographic data (314.16)
_____	_____	_____	Penn Forest Township Signature block (314.17)
_____	_____	_____	CCPC signature block (314.18)
_____	_____	_____	Signed and notarized owner's statement (314.19)
_____	_____	_____	Proposed wells and subsurface drain fields (314.20)
_____	_____	_____	Executed signature block for Penn Forest Township staff entry (314.21)

PENN FOREST TOWNSHIP

Preliminary Plan Checklist

Included	Missing	Not Applicable	
_____	_____	_____	Proposed street information (315.1)
_____	_____	_____	Utility easement information (315.3)
_____	_____	_____	Building setback information (315.4)
_____	_____	_____	Lot lines (315.5)
_____	_____	_____	Statement of use for non-residential lots (315.6)
_____	_____	_____	Lot numbers (315.7)
_____	_____	_____	Proposed sanitary and storm water improvement (315.8)
_____	_____	_____	Proposed easement locations (315.10)
_____	_____	_____	Additional prints of the plans as required by Section 234
_____	_____	_____	The review fee (232.5)
_____	_____	_____	Three (3) copies of the required supplemental information (232.3)
_____	_____	_____	Street, sanitary sewer, water system and storm water improvement profiles, cross-sections and specifications (316.1)
_____	_____	_____	Storm drainage plan (316.2)
_____	_____	_____	Landscape Plan (316.3)
_____	_____	_____	Map showing owner's contiguous holding (316.6)
_____	_____	_____	Sketch road map of remaining area (316.7)
_____	_____	_____	Documentation of water service availability (316.8)
_____	_____	_____	Documentation of sanitary sewer service availability (316.91)
_____	_____	_____	Documentation of sewage enforcement officer's approval of on-lot sewage disposal system (316.92)
_____	_____	_____	Traffic impact study (316.11) (Carbon County)
_____	_____	_____	Grading plan (315.12)
_____	_____	_____	Lighting Plan (494)

PENN FOREST TOWNSHIP

Final Plan Checklist

Included	Missing	Not Applicable	
_____	_____	_____	Six (6) completed application forms (255.1)
_____	_____	_____	Ten (10) prints of the plan(s) with the following data (255.2)
_____	_____	_____	Latest source of title (323.1)
_____	_____	_____	Location of monumentation (323.3)
_____	_____	_____	Total tract boundaries (323.2)
_____	_____	_____	Total site acreage (323.2)
_____	_____	_____	Signed surveyor's certification of survey and plan accuracy (323.2)
_____	_____	_____	Lot line information (323.3)
_____	_____	_____	Building setback data or building location (323.4)
_____	_____	_____	Proposed easements (323.5)
_____	_____	_____	Space for Recorder of Deeds (323.7)
_____	_____	_____	Additional prints of the plan(s) pursuant to Section 257
_____	_____	_____	Review Fees (255.5)
_____	_____	_____	Three (3) copies of the following supplemental information (255.3)
_____	_____	_____	Sanitary sewer, water and storm drainage detail plans (324.101)
_____	_____	_____	Final profiles, cross-sections and specifications for roads, sanitary sewers, water distribution systems and storm drainage systems (324.102)
_____	_____	_____	Documentation that each lot has been approved for an on-lot sewage disposal system (324.2)
_____	_____	_____	Soil erosion and sedimentation control plan (324.10)
_____	_____	_____	Legal descriptions of all areas offered for dedication (324.11)
_____	_____	_____	An opinion of title (324.12)