## SANDWICH SUBDIVISION RULES & REGULATIONS

### AMENDMENT DATES

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 30, 1954</td>
<td>First Subdivision Rules &amp; Regulations of the Sandwich Planning Board</td>
</tr>
<tr>
<td>January 9, 1962</td>
<td>Amendment to Rules &amp; Regulations</td>
</tr>
<tr>
<td>January 22, 1964</td>
<td>Amendments to Rules &amp; Regulations</td>
</tr>
<tr>
<td>November 10, 1969</td>
<td>Newly adopted Rules &amp; Regulations</td>
</tr>
<tr>
<td>July 25, 1972</td>
<td>Amendments to Rules &amp; Regulations</td>
</tr>
<tr>
<td>June 27, 1973</td>
<td>Amendments to Rules &amp; Regulations</td>
</tr>
<tr>
<td>December 27, 1977</td>
<td>Amendments to Rules &amp; Regulations</td>
</tr>
<tr>
<td>April 30, 1984</td>
<td>Revisions to Rules &amp; Regulations</td>
</tr>
<tr>
<td>January 8, 1988</td>
<td>Amendments to Rules &amp; Regulations</td>
</tr>
<tr>
<td>September 26, 1988</td>
<td>Amendments to Rules &amp; Regulations</td>
</tr>
<tr>
<td>June 6, 1990</td>
<td>Amendments to Rules &amp; Regulations</td>
</tr>
<tr>
<td>November 7, 1990</td>
<td>Amendments to Rules &amp; Regulations</td>
</tr>
<tr>
<td>March 20, 1991</td>
<td>Amendments to Rules &amp; Regulations</td>
</tr>
<tr>
<td>August 31, 1993</td>
<td>Amendments to Rules &amp; Regulations</td>
</tr>
<tr>
<td>July 12, 1994</td>
<td>Amendments to Rules &amp; Regulations</td>
</tr>
<tr>
<td>June 7, 1995</td>
<td>Amendments to Rules &amp; Regulations</td>
</tr>
<tr>
<td>October 2, 1996</td>
<td>Amendments to Rules &amp; Regulations</td>
</tr>
<tr>
<td>September 3, 1997</td>
<td>Amendments to Rules &amp; Regulations</td>
</tr>
<tr>
<td>September 21, 1999</td>
<td>Amendments to Rules &amp; Regulations</td>
</tr>
<tr>
<td>August 17, 2004</td>
<td>Amendments to Rules &amp; Regulations</td>
</tr>
</tbody>
</table>
SECTION 1: GENERAL INFORMATION

SECTION 2: DEFINITIONS

SECTION 3: PROCEDURES FOR THE SUBMISSION AND APPROVAL OF PLANS
  Approval Not Required
  Preliminary Plan
  Definitive Plan

SECTION 4: DESIGN OF THE REQUIRED IMPROVEMENTS
  Streets
  Dead End Streets
  Drainage
  Easements
  Pedestrian Ways
  Sidewalks
  Berms and Curbs
  Open Spaces
  Protection of Natural Features
  Retaining Walls
  Water Supply and Sanitary Disposal
  Municipal Services and Utilities
  Access to Lots

SECTION 5: SPECIFICATIONS FOR CONSTRUCTION OF THE REQUIRED IMPROVEMENTS
  Subdivision Layout
  Drainage System
  Municipal Services
  Fill
  Roadway Foundation
  Roadway Surface
  Sidewalks
  Berms
  Grass Areas
  Street Trees
  Side Slopes
  Monuments
  Corner Lot Bounds
  Street Signs
  Cleaning Up
  Fee to Streets
  Maintenance
  Minimum Road Construction
  Erosion

SECTION 6: INSPECTION

SECTION 7: SPECIAL ACCOUNT FOR CONSULTANT'S FEES

SECTION 8: DESIGN STANDARDS

FORMS:
FORM A: APPLICATION FOR ANR APPROVAL
FORM B: APPLICATION FOR PRELIMINARY PLAN
FORM C: APPLICATION FOR DEFINITIVE PLAN
FORM E: COVENANT
FORM G: RELEASE FROM COVENANT
FORM I: CONSTRUCTION COST ESTIMATE FOR PERFORMANCE GUARANTEE
FORM J: DEVELOPMENT SCHEDULE COVENANT
FORM K: REDUCTION IN PERFORMANCE SURETY

APPENDICES:

- FEE SCHEDULE
- FIGURE 1: TIME OF CONCENTRATION DETERMINATION
- FIGURE 2: RAINFALL INTENSITY FOR THE DURATION
- DESIGN SHEET 1: DRAINAGE CALCULATIONS
- DESIGN SHEET 2: DRAINAGE CALCULATIONS FOR SUCCESSIVE AREAS
- TYPICAL ROAD CROSS SECTION
- MANHOLE
- CATCH BASIN
- STANDARD PRECAST LEACHING BASIN
- BITUMINOUS CONCRETE BERM, CURB AND METHODS FOR SETTING
- DESIGN STANDARDS
- PRECAST CONCRETE CURB INLET

RULES AND REGULATIONS
GOVERNING THE SUBDIVISION OF LAND
SANDWICH, MASSACHUSETTS
SECTION I
GENERAL INFORMATION

1. A AUTHORITY:
Under the authority vested in the Planning Board of the Town of Sandwich by Section 81-Q of Chapter 41 of the General Laws, said Board hereby adopts these Rules and Regulations governing the Subdivision of land in the Town of Sandwich. Such Rules and Regulations shall supersede and replace any previously adopted Subdivision Control Law Rules and Regulations; and may be amended in accordance with the provisions of Section 81-Q of the General Laws.

1.B PURPOSE:
The Subdivision Control Law has been enacted for the purposes of protecting the safety, convenience and welfare of the inhabitants of the cities and towns in which it is, or may hereafter be, put in effect by regulating the laying out and construction of ways in subdivisions providing access to the several lots therein, but which have not become public ways and ensuring sanitary conditions in subdivisions and in proper cases parks and open areas. The powers of the Planning Board and of a Board of Appeal under the Subdivision Control Law shall be exercised with due regard for the provision of adequate access to all of the lots in a subdivision by ways that will be safe and convenient for travel; for lessening congestion in such ways and in the adjacent public ways; for reducing danger to life and limb in the operation of motor vehicles; for securing safety in the case of fire, flood, panic and other emergencies; for insuring compliance with the applicable zoning ordinances or by-laws; for securing adequate provision for water, sewerage, drainage, underground utility services, fire, police, street lighting, other similar municipal equipment and other requirements where necessary in a subdivision; and for coordinating the ways in a subdivision with each other and with the public ways in the city or town in which it is located and with the ways in neighboring subdivisions.

It is the intent of the Subdivision Control Law that any subdivision plan filed with the Planning Board shall receive the approval of such Board if said plan conforms to the recommendations of the Board of Health and to the reasonable Rules and Regulations of the Planning Board pertaining to subdivision of land; provided, however, that such board may, when appropriate, waive, as provided for in Section 81-R, such portions of the Rules and Regulations as is deemed advisable. No person shall make a subdivision of any land within the Town or proceed with the improvement or sale of lots in a subdivision, or the construction of ways, or the installation of municipal services therein, unless and until a Definitive Plan of such subdivision has been submitted to and approved by the Board as hereinafter provided. After the approval of such plan no changes will be made without the approval of the Board.

No subdivision Plan shall be approved by the Planning Board unless all lots within the subdivision comply with the latest requirements of the Zoning By-Laws of the Town of Sandwich.

Lot lines shall be changed or modified only through the submission of a plan to the Planning Board for their approval under the appropriate sections of the Subdivision Control Law. Such changes or modifications shall be depicted on a plan, stamped by a Registered Professional Land Surveyor and be of sufficient detail and size as determined by the Planning Board.

SECTION 2
DEFINITIONS

2.A DEFINITIONS:
AASHTO: American Association of State Highway and Transportation officials.
APPLICANT: The owner, his authorized agent, representative or his assigns.
ARTERIAL STREET: A street which collects or may reasonably be expected to collect, traffic from several collector and minor streets as defined in the Zoning by-laws and requiring a vote by Town Meeting action.
BOARD: The Planning Board of the Town of Sandwich.
BOARD's ENGINEER: The Town Engineer.
COLLECTOR STREET: A street which collects or may reasonably be expected to collect traffic from several minor streets, or which handles traffic equivalent to that generated by 50 homes or more, or which serves nonresidential abutting property.
CONSTRUCTION STANDARDS: The latest revision of the Construction Standards of the Massachusetts Department of Public Works.
DEFINITIVE PLAN: The Plan of a subdivision as submitted to the Board for approval, to be recorded in the Registry of Deeds or Land Court when approved by the Board.
ELEVATION: The height relative to Mean Sea Level.
GENERAL LAWS: The General Laws of the Commonwealth of Massachusetts as most recently amended.
LANE: A street which by its locations and design, may not reasonably be expected to service non-residential property, or serve as a means of access to more than ten homes.
MINOR STREET: A street which does not meet the qualifications of a lane, but which can be expected to handle less traffic than a collector street.
MUNICIPAL SERVICES AND UTILITIES: Sewers, surface water drains, water lines, gas lines, electric lines, telephone lines, TV cable lines and their respective appurtenances and other like services.
PRELIMINARY PLAN: A plan of a proposed subdivision submitted for discussion and consideration by the Board prior to a preparation of a Definitive Plan.
STANDARD SPECIFICATIONS: The latest revisions of the Standard Specification for Highways and Bridges of the Massachusetts Department of Public Works.
SUBDIVISION: The division of a tract of land into two or more lots as defined in Section 81-L, Chapter 41 of the General Laws.
SUBSTANTIAL CONSTRUCTION: Shall be the determination of the Sandwich Planning Board that the roadway and utilities combined are more than 50% complete in accordance with the approved subdivision plan.
TOWN ENGINEER: The Engineer of the Town of Sandwich, or his representative, acting as an agent of the Planning Board.

2. B ADMINISTRATION:
   Requirements for submission of plans shall be made in accordance with these Rules and Regulations.

2.C CERTIFICATION OF PLANS:
   All plans submitted to the Board shall include a certification as to their conformance with these Rules and Regulations as to the validity of their content executed by a person registered in the Commonwealth of Massachusetts as a Land Surveyor or Professional Engineer, or both as required by the Board. The owner or his legal representative shall be represented at any meeting with the Board by the person responsible for the design of the subdivision and preparation of plans.

2. D VARIATION:
The Board may waive such portions of these Rules and Regulations, when in their judgement such action is in the public interest and not inconsistent with the Subdivision Control Law.

2.E APPEALS:
The Board of Appeals established pursuant to Section 1300 of the Town of Sandwich Zoning Bylaw (October 14, 1970) shall act as the Board of Appeals cited by Section 81-Z of Chapter 41 of the General Law. Other appeals are to be made to the Superior Court, as provided by Section 81-BB of Chapter 41 of the General Law.

2.F INSPECTIONS:
All work required by these Rules and Regulations shall be under the inspection of and with the approval of the respective Town Departments and utilities involved hereunder.

2.G SEPARABILITY:
If any section, paragraph, sentence, clause or provision of these regulations shall be adjudged not valid, the adjudication shall apply only to the material so adjudged and the remainder of these regulations shall be deemed valid and effective.

2.H AMENDMENTS:
These regulations or any portion thereof may be amended, supplemented or repealed from time to time by the Board, after a public hearing held in accordance with Chapter 41, Section 81-Q of the Massachusetts General Law, on its own motion or by petition.
SECTION 3

PROCEDURE FOR THE SUBMISSION AND APPROVAL OF PLANS

3.A PLAN BELIEVED NOT TO REQUIRE APPROVAL UNDER THE SUBDIVISION CONTROL LAW
(As defined under M.G.L. Chapter 41, Section 81-P):

3.A.1 Any person wishing to record a Plan of Land, who believes that his plan does not require approval under the Subdivision Control Law shall do the following:

a. The applicant shall file, by delivery or registered mail, a notice (Form A) application with the Town Clerk. Proof of said filing shall be given to the Planning Board prior to their taking action.

b. At a regularly scheduled Planning Board meeting, the applicant shall submit the original drawing of the plan suitable for recording at the Barnstable County Registry of Deeds or Land Court, four (4) prints and a Form A application to the Planning Board.

c. The applicant shall furnish a fee of one hundred dollars ($100.00) (Refer to Fee Schedule) at the time each Form A is submitted to the Planning Board payable to the Town of Sandwich.

3.A.2 The plan shall contain sufficient evidence necessary to enable the Board to determine that the plan does not require approval under the Subdivision Control Law. Such information on the plan shall include, but is not necessarily limited to, the following:

a. Assessors' map number, lot number and zoning district(s), including overlay district, if applicable.

b. Names of all owners abutting the land as established from the most recent tax list.

c. All existing buildings within one hundred feet (100') of any newly created boundaries, including setbacks, side and rear yard designations.

d. Names of all ways that abut the Applicant's land.

e. Locus plan at a scale sufficient to identify the location of the lot, surrounding area and adjacent ways.

f. If a new lot is being created, the plan submitted shall show the remaining area and street frontage of the lot the new parcel was created from.

g. The plan shall show adequate access to each lot over the frontage or across the front lot line. Access to each lot shown on the plan shall be gained from the frontage of said lot.

h. A statement shall be put on the plan, by the surveyor under the space provided for Planning Board signatures and date, that "the above endorsement does not constitute compliance with the Protective Zoning By-laws of the Town of Sandwich."

i. Sufficient topographic delineation, including existing streams and bodies of water shall be shown on the plan or a separate plan to allow the Board to determine if the lot(s) have adequate access.

j. A title block including:
   1. The applicant's name and address.
   2. Name, signature and seal of a Massachusetts Professional Land Surveyor.
   3. Plan date, revised dates.
   4. Plan scale.
   5. Seven spaces for the signatures of the Planning Board and the date of the endorsement under the caption "Approval Under the Subdivision Control Law Not Required."

k. The plan shall be at a scale of 1"=40'. Plan sheets shall not exceed 24" x 36". The plan shall show a north arrow.
Whenever applicable, a statement that lots shown on the plan are part of a subdivision and are subject to terms and conditions of its approval plus a reference to the subdivision name, approval date, and the recorded book and page numbers.

The plan shall show the location of public or private wells and septic systems on all abutting properties.

3.A.3 If the Planning Board determines that the plan does not require approval, it shall, within twenty-one (21) days of submission to the Town Clerk without a public hearing, endorse the plan. The Planning Board shall notify the Town Clerk of its action.

3.A.4 If the Planning Board determines that the plan does require approval under the Subdivision Control Law, it shall state so in writing to the Town Clerk within twenty-one (21) days of submission to the Town Clerk. The Planning Board shall notify the Town Clerk of its action.

3.B PRELIMINARY PLAN:

3.B.1 GENERAL
A Preliminary plan of a Subdivision may be submitted by the subdivider for action by the Board. The submission of such plan will enable the subdivider, the Board and other municipal agencies to discuss and clarify the problems of such subdivision before a Definitive Plan is prepared. Six (6) copies of the plan, together with a properly executed Form B shall be submitted to the Board in addition to copies to the Town Engineer, Board of Health, Conservation Commission, and the Water District, (a total of 10 copies) and written notice of such submission made to the Town Clerk by delivery or Registered Mail, accompanied by a copy of the completed application. Proof of such submission to the Town Clerk shall be submitted to the Planning Board at the time the application is delivered to the Board.

a. A filing fee made payable to the Town of Sandwich is required at the time of submission of a Form B. (Refer to Fee Schedule).

3.B.2 CONTENTS
The Preliminary plan, so titled shall be drawn on Mylar, vellum or bond at a scale of 1"=100' on sheets not to exceed 24" x 36". Said Preliminary plan should show sufficient information about the subdivision in order to form a clear basis for discussion of its problems and for the preparation of the Definitive plan. Such information will be as follows:

a. The proposed name of the subdivision, the boundaries, date, scale, north point, bench marks, assessor's number, a locus at a scale sufficient to identify the location of the property, present zoning, including overlay districts, the name of the owner and/or the subdivider and the designer, engineer or surveyor and the stamp and signature of the registered land surveyor and/or civil engineer.

b. In the case of a Preliminary plan of a subdivision that includes less than all of the land owned by the subdivider adjacent to or abutting the subdivision, the Preliminary plan shall be accompanied by a plan showing the location and area of all land owned by the subdivider adjacent to or abutting the subdivision and indicating the section for which approval is requested.

c. The names of all abutters as they appear in the most recent tax list and approximate intersecting boundary lines of the abutting lands.

d. The lines of existing and proposed streets, ways, easements and public or common areas within the subdivision in a general manner.

e. The approximate boundary lines of proposed lots, with approximate areas and dimensions.

f. Location, names and present widths of streets bounding, approaching or within reasonable proximity of the subdivision.
g. The proposed system of storm drainage, including adjacent existing natural waterways with computed runoff flows.

h. The location of major site features such as existing stonewalls, fences, buildings, large trees, rock ridges and outcroppings, swamps and water bodies.

i. The existing and proposed topography at a two (2) foot contour interval. Contours shall extend a sufficient distance to indicate the effect of the subdivision on abutting property.

j. Location relative to the Water Resource District shall be shown, if applicable.

3.B.3 BOARD ACTION

The Planning Board and the Board of Health shall within forty-five (45) days after submission, give such Preliminary plan its approval, with or without modification or shall disapprove such plan stating its reasons. The Town Clerk and the applicant shall be notified of both Boards’ decision in writing.

Such approval does not constitute approval of a subdivision.

3.C DEFINITIVE PLAN:

3.C.1 GENERAL

Any person who submits a Definitive Plan of a subdivision for approval shall file the following at a regularly scheduled meeting:

a. The original 24” x 36” drawing of the Definitive plan and five (5) reproducible prints thereof, dark line on white background. The plans shall be marked by the applicant for the Planning Board, Town Engineer, Conservation Commission, Board of Health and the Water District. Additionally the applicant shall supply seven (7) 11” x 17” copies of the definitive plan and plan and profile sheets. All copies of the plans shall be delivered to the Planning and Development Office who shall be responsible for distribution.

b. Proof that written notice was given to the Town Clerk by delivery or Registered Mail, accompanied by a copy of the completed Form C Application.

c. List of abutters, dated within six months of the submission, CERTIFIED by the Board(s) of Assessors.

d. Applicant(s) shall submit two (two) sets of envelopes addressed with necessary postage affixed to each abutter.

   • One set of envelopes for the hearing notice shall have Certified Mail, return receipt requested slips and green cards to be filled out for each abutter. These envelopes will require enough postage to send one ounce of mail certified return receipt requested. The Planning & Development Office will affix the return receipt requested green cards to the envelopes before they are mailed. All other postage and slips shall be affixed, the envelopes addressed and the green cards completely filled out. The return address on both the envelopes and green slips shall be:
     Sandwich Planning Board
     16 Jan Sebastian Drive
     Sandwich, MA 02563

   • The second set of envelopes for the decision will require one first class stamp and shall be addressed to each abutter with the return address as indicated above.

e. A filing fee made payable to the Town of Sandwich. (Refer to Fee Schedule in the Appendices). The applicant is responsible for payment of the legal notice in the area newspaper, which is published twice.

f. The applicant shall submit calculations for the storm drainage systems. Such calculations shall be prepared by a Registered Professional Engineer.

g. The applicant shall submit boring logs and soil classifications performed by a Registered Professional Engineer of borings taken at the exact location of each proposed leaching basin to a depth of two (2) feet below the structure, but in no case less than ten (10) feet below finish grade.
h. The applicant shall furnish a Municipal Lien Certificate at the time any Form C is submitted which certifies taxes due to the Town of Sandwich on all of the land shown on the proposed plan are paid in full through the most current quarter of the fiscal year.

3.C.2 CONTENTS

The Definitive plan shall be prepared by a Civil Engineer and Land Surveyor, each registered in Massachusetts and shall be clearly and legibly drawn according to the Plan Regulations of the Registry of Deeds. A signed statement to this effect shall appear on the plan title sheet. The plan shall be at a scale of one (1") inch equals forty (40') feet. If the plan requires more than one sheet, an index map at a scale of one (1) inch equals one hundred (100) feet will be required. Plan sheets shall not exceed 24" x 36".

The following information shall be shown on the plan:

a. Subdivision name, date, scale, north arrow, benchmarks used and a locus plan at a scale sufficient to identify the location of the property.

b. Names and addresses of the record owner and subdivider; and the names and addresses, stamps and signatures of the Registered Land Surveyor and Registered Civil Engineer.

c. If the applicant is not the owner of some or all of the land that is the subject of the Definitive plan, the applicant shall provide proof, to the satisfaction of the Planning Board, that any and all owners of the property agree to the subdivision of the property show on the plan; and further, that all owners agree through a written statement submitted to the Planning Board that the applicant or the applicant’s representative is empowered to serve as their agent. Such written statements shall be submitted by each owner of the property that is the subject of the Definitive Plan.

d. Names of all abutters as they appear in the most recent tax list and approximate intersecting boundaries of abutting lands.

e. Lines of existing and proposed streets, ways, lots, easements and public or common areas within the subdivision. The proposed names of proposed streets shall be shown in pencil until they have been approved by the Town Engineer.

f. Sufficient data to determine the location, direction and length of every street and way line, lot line, boundary lines and easements to establish these lines on the ground.

g. Location of all permanent monuments properly identified as to whether existing or proposed.

h. Location, names, and present widths of streets, bounding, approaching or within reasonable proximity of the subdivision.

i. The location of major site features, such as existing stone walls, fences, buildings, large trees, rock ridges and outcroppings, swamps and water bodies.

j. Pavement grades and location of utilities within 100 feet of intersection of proposed road(s) and existing road(s).

k. Proposed road centerline stationing at points of tangency, points of curvature, and street intersections.

l. Assessor's Map number, lot number and zoning district, including minimum requirements for frontage, lot size, setbacks, etc. Location relative to the Water Resource District shall be shown, if applicable.

m. Evidence that access to each lot shown on the subdivision plan shall be gained from the frontage of said lot.

n. Plan and profile drawings of proposed streets drawn as follows:
   1. A horizontal scale of one (1) inch equals forty (40) feet.
   2. A vertical scale of one (1) inch equals four (4) feet.
   3. Existing centerline in fine solid line.
   4. Existing right sideline in fine dotted line.
   5. Existing left sideline in fine dashed line.
   6. Proposed centerline grades in heavy lines. Grade elevations shall be shown at every fifty (50') foot station, road intersections, points of tangency (PT) and points of curvature (PC). On vertical curves grades shall be shown at every twenty-five (25') foot station, points of vertical curvature (PVC) and points of vertical tangency (PVT).
7. Proposed systems of drainage, including catch basins, leaching basins, manholes and proposed inverts, pipe sizes and materials. Catch basins and manholes shall not be located within the intersection of a driveway and street. (Amended 6/7/95).
8. All intersecting walks and driveways.
9. Elevations referred to mean sea level as established by the United States Coast and Geodetic Survey, Massachusetts Geodetic Survey or the Town of Sandwich Engineering Department.
10. Rates of gradient shown by figures for roadways and drainage.
11. Profile stationing referenced to the plan drawing. Profile shall be drawn along the street centerline around a cul-de-sac. (Amended 6/7/95).
12. Size and locations of existing or proposed water mains, all other utilities and their appurtenances, including hydrants located within and adjacent to the subdivision.
13. Location of proposed monuments and street signs in accordance with SRR Sections 5M and 5O.
o. Typical cross section of proposed streets in accordance with the applicable typical cross section showing construction and all proposed and required utilities.
p. Profiles and cross sections of any swales utilized for storm water runoff.
q. Suitable space for endorsement by the Board and for verification of no appeal by the Town Clerk.
r. Existing and proposed topography at a two (2) foot contour interval, shown on a separate plan as follows:
   Contours shall extend beyond boundaries of the property a sufficient distance to indicate the effect of the subdivision on abutting property as required by the Board.
   Show on each lot: the approximate anticipated location for the house and driveway, and suggested grading and spot elevations. This information will be used to ascertain whether each lot can comply with applicable sections of the Sandwich Zoning By-Law.
s. Proposed street numbers of each lot shown in pencil until approved by the Town Engineer clearly differentiated from the lot number assigned within the subdivision.
t. The base flood elevation contour as shown on the most recent community panel published by the Federal Emergency Management Administration (FEMA) shall be clearly shown in a heavy solid line clearly differentiated from other contour lines.
u. The lengths and bearings of all existing boundaries, all proposed boundaries of lots, lot frontage on street, of all easements, all length, radii, tangents and central angles of all curves in street lines and lot lines.
v. The location of all existing trees fifteen (15") inches in caliper or greater, and all holly trees (Ilex opaca) six (6") inches in caliper or greater. Measurements shall be taken 4 feet above grade.
w. A detailed landscape plan, at a minimum scale of 1"=20', prepared by a Massachusetts Registered Landscape Architect, showing:
   1. Location, size and species of proposed street trees and other plantings.
   2. Existing trees, as described in section 3.C.2.v, which are proposed to be removed. The location of proposed tree plantings in accordance with Section Section 5.K.
   3. Limit of clearing for roadway layout and each house lot.
   4. Location of proposed walls, walkways, utility boxes, lighting fixtures, signs, or other structures within the road layout, easements, or community open space.
   5. Method of slope stabilization.
x. Curb cuts and driveways within proposed street layouts showing access to each lot from the lesser traveled way.
y. An erosion control plan shall include the following:
   1. Topographical contours at two foot intervals;
   2. Drainage patterns and watershed boundaries;
   3. Existing vegetation;
   4. Proposed limit if clearing;
5. The location, identification and narrative description with detailed drawings of all temporary and permanent erosion and sediment control Best Management Practices (BMP);

6. Temporary driveway apron to serve during all phases of site preparation and constructions that shall consist of \( \frac{3}{4} \) “ crushed stone 3” thick or bituminous binder 2 \( \frac{1}{2} \) “ thick.

7. Narrative description of the construction schedule and the concurrent sequencing and timing of erosion control measures as shown on the plan.

8. A traffic impact and access study shall be required for all developments that generate 25 or more peak hour vehicle trips or 250 or more daily vehicle trips at the development access to existing roadway networks. The study shall be based on standard traffic engineering guidelines developed by the Massachusetts Environmental Protection Act (MEPA). The Planning Board may require a traffic study if in their determination one is warranted because of public safety concerns.

3.C.3 PUBLIC HEARING:

a. No notice of a hearing will be advertised until all requirements as called for under Section 3 of the Subdivision Rules and Regulations have been complied with and on file in the Planning Board Office.

b. Before approval of the Definitive plan is given, a public hearing shall be held by the Board. Notice of such hearing will be given by the board at the expense of the applicant at least fourteen (14) days prior thereto by advertisement in an official publication of, or in a newspaper of general circulation in the Town of Sandwich. A copy of said notice will be mailed to the applicant and to all owners of land abutting the subdivision as appearing in the most recent tax list.

3.C.4 PROCEDURE:

a. After the required hearing, but within ninety (90) days of submission of the Definitive plan, if a Preliminary plan has previously been filed, or one hundred and thirty (135) days if no Preliminary plan has previously been filed, the Planning Board will take final action thereon.

b. The Planning Board may approve, approve with modification, or disapprove said plan, it will state in its vote the reasons for such action and shall so notify the applicant, and the Town Clerk.

c. If additional time is needed to resolve an application, the Applicant may request in writing to the Planning Board for an extension of the statutory time frame in which they are required to act.

3.C.5 REVIEW OF BOARD OF HEALTH AS TO SUITABILITY OF LAND:

a. The Board of Health or officer shall report to the Planning Board in writing, approval or disapproval of said plan, and in the event of disapproval shall make specific findings as to which, if any, of the lots shown on the plan cannot be used for building sites without injury to the public health and include such specific findings and the reasons therefore in such report.

b. Failure of the Board of Health to make such a report within forty-five (45) days after the plan is filed with their office shall be deemed approval by such Board or officer.

c. Such Health Board or officer shall send a copy of such report, if any, to the person who submitted said plan.

3.C.6 REVIEW BY OTHER OFFICIALS:

a. Before the opening of the public hearing for the Definitive Plan, the Board will submit to the Engineering Department a copy of the plan. A report as to the conformity of the plan with the Subdivision Regulations and with the design standards will be filed by the Engineering Department. This report to the Planning Board shall follow the format of these Rules and
Regulations and be submitted to the Planning Board office at least one week prior to the scheduled public hearing.

b. The Board will require the subdivider to notify the agencies listed below that a plan has been filed with the Planning board and is available for review. Copies of said notification shall be presented to the Board.

1. The Chief of the Fire Department as to the location of the hydrants and other pertinent data.
2. The Superintendent of the Water District as to the location of the water mains, including service to the fire hydrants.
3. The Manager of the electric company as to the requirements for electrical service.
4. The Gas Company as to the location and size of gas mains.
5. The Telephone Company as to the location of telephone lines and the location of Cable TV lines.
6. The Director of Public Works.
7. The Police Chief.
8. Other departments or officials deemed necessary.

3.C.7 TIME OF COMPLETION OF WAYS AND INSTALLATION OF MUNICIPAL SERVICES:

Every applicant shall state in writing the time within which he agrees to complete the proposed ways and to install all municipal services required by the Board. The Board may decline to approve any plan unless the applicant agrees to complete the ways shown thereon and install the municipal services aforesaid within an agreed upon period after the date of his application. The applicant shall notify the Board in writing of the date that construction will begin at least seven (7) days prior to such date. (Amended 6/7/95)

In the event the work is not completed within the time set forth, or as extended, the Board may rescind its approval and require a new public hearing.

3.C.8 PERFORMANCE GUARANTEE:

Before endorsement of a Definitive Plan of a subdivision, the applicant shall agree to complete the required improvements as shown on the plan and as specified in these Subdivision Rules and Regulations Section 4 and 5 for all lots in the subdivision, such construction and installation to be secured by one, or in part by one and in part by the other, of the following methods which may from time to time be varied at the applicant’s formal written request to the Planning Board.

a. Final Approval Cash Deposit: The applicant shall deliver a passbook in an amount determined by the Board to be sufficient to cover the cost of all or any part of the improvements as shown on the Definitive Plan and as specified in Sections 4 and 5 of these Subdivision Rules & Regulations, not covered by the covenant under “b” below. The passbook will be approved by the Town Treasurer as to form and its release shall be contingent on the completion of such improvements within a time which shall have been set by the Board, up to a maximum of twenty-four (24) months, or an agreed upon period.

b. Final Approval With Covenant: The applicant shall file a covenant acceptable to the Board, executed and duly recorded by the owner of record, running with the land, whereby such improvement as shown on the Definitive Plan and as specified in these subdivision Rules & Regulations, Sections 4 and 5, not covered by deposit under "all above, shall be provided to serve any lot before such lot may be built upon or conveyed, other than by mortgage deed. The form of the covenant may be given by Form E in the appendix.

3.C.9 CERTIFICATE OF ACTION:
a. The action of the Board in respect to said plan shall be by vote, copies of which shall be certified and filed with the Town Clerk and sent by Certified mail to the applicant.

b. Upon final approval, if granted, four (4) copies of the Definitive Plan with all modifications shown (if any were made) shall be submitted to the Planning Board for endorsement.

c. The plan shall not be endorsed, however, until a statutory twenty (20) day appeal period has elapsed following the filing of the Certificate of action of the Planning Board with the Town Clerk and said Clerk has endorsed on the plan that no appeal has been filed, and surety is provided in accordance with Section 3.C.8 of these Rules & Regulations.

d. The plan shall be endorsed by the Planning Board within the six months of approval. If said endorsement is not possible due to incomplete information, the Planning Board may, upon its own motion, rescind the approval of the plan pursuant to Section 81-W of the Subdivision Control Law. (Amended 9/3/97).

e. Approval of the Definitive Plan shall not constitute the laying out or acceptance by the Town of any ways within a subdivision.

3.C.10 RECORDING OF THE PLAN AND OTHER DOCUMENTS:

a. The applicant shall be responsible for recording the approved Definitive Plan and all other relevant documents as may be required in the approval, including the covenant and special permit, if applicable. (Amended 9/3/97)

b. Said documents shall be recorded in Land Court or the Registry of Deeds within sixty days of the Planning Board endorsement of the Definitive Plan. If said documents are not recorded within this time period, the Planning Board may, upon its own motion, rescind the approval of the plan pursuant to Section 81-W of the Subdivision Control Law. (Amended 9/3/97).

c. Furthermore, he shall notify the Planning Board of such recording, submitting copies of plans and covenants bearing the date and time stamp of the Registry of Deeds, and a listing of the book and page where they are recorded.

d. Upon receipt of notification of recording, the Planning Board shall file one print of the Definitive Plan with the Building Inspector, where approval with covenant is noted thereon. He shall issue no permit for the construction of a building on any lot within the subdivision except upon receipt from the Planning Board of a copy of the certificate of Performance, Form G, releasing the lot in question.

3.C.11 REVISION TO A DEFINITIVE PLAN:

a. No revision or change of the Definitive Plan can be made without the prior approval of the Planning Board. This includes any revision due to field conditions or for any reason whatsoever, the applicant shall submit a print of the Definitive Plan or plans to be revised with a red pencil representing the changes he proposes to make.

b. The Board will consider such change in the same manner as the original plan, and approve, disapprove, or modify the requested change with or without a public hearing as the Board may determine.

3.C.12 REDUCTION OF SURETY:

Upon written request of the applicant stating reasons, therefore, the penal sum of any such deposit held hereunder, may from time to time, be reduced at the discretion of the Board and the obligations of the parties thereto, released by said Board in part. The applicant shall be liable for the costs incurred by the Town Engineer or his representative to complete the Form I. (6/7/95).

3.C.13 RELEASE OF PERFORMANCE GUARANTEE:

a. Upon the satisfactory completion of all required work, including the delivery of an original and four (4) copies of "as-built" plans and one year growth for all grass and plantings, the applicant shall send a statement to the Planning Board that the required construction has been completed in
accordance with these Rules and Regulations. The "as built" plans shall contain the following information: (amended 9/3/97).

1. The original plan shall be on 24" x 36" Mylar and shall conform to the logo and title used by the Town for street acceptance plans. It shall also include the area of taking in front of each lot. (Amended 6/7/95).
2. The plan shall be prepared at a scale of one-inch (1") equals forty (40') feet, horizontally and one inch (1") equals four (4') feet vertically.
3. Name of the subdivision, date, scale, name of the owner, or subdivider, name of the Engineer and/or Surveyor, and the benchmark used.
4. The location of the edge of the traveled way with respect to the street layout lines.
5. The location of all permanent monuments, and all other data required.
6. The location, size and invert elevations of the drainage system required to be installed.
7. The location of ground level pads, transformers, pedestals, etc., of the electric, telephone and cable companies. (Amended 6/7/95).
8. The plan shall be prepared by a Massachusetts Registered Land Surveyor and shall bear his stamp.

b. If the Board determines:

1. That said improvements have been completed; and
2. That these Rules and Regulations have been complied with; and
3. That the "as-built" plans are satisfactory, it shall release the interest of the Town and return the cash deposit to the person who furnished the same, or release the covenant by appropriate instrument (Form G) duly acknowledged, with a copy to the Building Inspector.

c. The Board may determine that a partial release of funds be granted for partial completion of work. Interim "as built" plans may be required for work partially completed.

3.C.14 FAILURE OF PERFORMANCE:

Upon failure of the applicant to satisfactorily complete all required work by cash deposit within the time frame specified and in accordance with these Rules and Regulations, the Planning Board shall specify in notice sent by Certified Mail to the applicant and the Town Clerk, the details wherein said improvements fail to comply with its Rules and Regulations. The Planning Board shall have the right to rely upon the cash surety to the extent of the reasonable cost to the Town of completing the required construction and installation including any portion of such security necessary to cover the expenses incurred in conjunction therewith and return any amounts left after such completion to the applicant.

3.C.15 RESCISSION:

In accordance with Massachusetts General Laws, Chapter 41, Section 81-W, the Board may rescind approval for non-compliance with these Rules and Regulations.

3.C.16 LONG TERM COMPLIANCE:

Any subdivision that was originally under covenant at the time of endorsement and that remains entirely under covenant eight years after endorsement by the Planning Board and whose roads and utilities have not been substantially constructed shall be subject to the most current Sandwich Subdivision Rules and Regulations.
SECTION 4

DESIGN OF THE REQUIRED IMPROVEMENTS

4.A GENERAL:

The proposed subdivision shall be so designed as to protect the safety, convenience and welfare of the occupants of the subdivision and the Town of Sandwich, through reasonable precautions against possible natural disasters, provisions for traffic safety and convenience, assurance of adequate sanitary conditions and consideration of amenities.

Existing contours shall be preserved insofar as it is practical. In any event no change shall be made in existing contours which adversely affects land abutting the proposed subdivision.

Due regard shall be shown for all natural features and community assets, which if preserved will add attractiveness and value to the subdivision.

All work on the ground hereinafter specified shall be performed by the subdivider in accordance with these Rules and Regulations, in conformity with approved Definitive Plan and specifications and other construction requirements of any agencies concerned and to the satisfaction of such agencies.

Any proposal for construction that is different from the approved plans, including proposed field changes, shall be submitted to the Planning Board for its approval on a plan of sufficient size and detail as determined by the Planning Board and stamped by a Registered Professional Land Survey and/or a Registered Professional Engineer.

All road design shall include all information relating to construction and performance provided by the manufacturer of any products and materials proposed to be included in the construction of the roadway.

If an applicant chooses to design streets that do not conform to the Sandwich Subdivision Rules & Regulations, the applicant shall submit to the Planning Board all design and calculations for such proposed roadway prior to the request for a waiver from the Sandwich Subdivision Rules & Regulations.

In the event that the proposed subdivision is not constructed in such a manner as to obtain release of all lots from covenant and release of all sureties prior to the expiration of 8 years from the date of approval of plan, all construction shall comply with the most current Rules and Regulations.

4.B STREETS:

4.B.1 LOCATION OF STREETS:

a. The streets shall be designed and located so as, in the opinion of the Board, to be continuous and in alignment with existing streets; to provide adequate access to all lots in the subdivision by streets that are safe and convenient for travel; to lessen congestion in such streets and adjacent streets; to reduce danger from the operation of motor vehicles; to secure safety in case of fire, flood, panic and other emergency; to insure adequate provision for proper drainage, water and other municipal services; and to coordinate the streets in the subdivision with each other and with the existing street system of the Town and the streets in the neighboring subdivisions.

b. The proposed streets shall be designed and located so as to conform to the Master Plan, if any, as adopted in whole or in part by the Board.

c. Reserve strips prohibiting access to streets or adjoining property shall not be permitted, except where, in the opinion of the Board, such strips shall be in the public interest.

d. In case access to a subdivision crosses land in another municipality, the Board will require certification from the appropriate authorities, that such access is in accordance with the Master Plan and Subdivision requirements of such municipality and that such access is adequately improved to handle prospective traffic.

e. Streets should be so located as to preserve existing landscape features such as kettleholes and other landforms; large trees and other significant vegetation; stone walls; existing woods roads; and wetlands.
4.B.2 WIDTH, ALIGNMENT AND GRADES OF STREETS:

a. The criteria contained in the appendix shall be observed in the design of streets. The Board may require that the traveled way be separated by a raised median strip with a width to be determined by the Board. In this case the traveled way shall consist of two roadways, each with a minimum width of 18 feet or such greater width as the Board may specify.

b. Street jogs with centerline offsets of less than one hundred twenty-five (125) feet shall not be permitted.

c. Property lines at street intersections shall be rounded or cut back to provide for curb radius of not less than thirty (30) feet at intersections with a collector street and twenty (20) feet for intersections involving only minor streets and lanes.

d. Streets shall be laid out so as to intersect as nearly as possible at right angles. No street shall intersect any other street less than sixty (60) degrees.

e. Where the angle of intersection between two streets varies more than ten (10) degrees from a right angle, the radius of the curve at the curb line at the obtuse angle shall not be less than twenty-five (25) feet at the intersections with a collector street and fifteen (15) feet at intersections with minor streets or lanes.

f. The radius of the curve at the curb line at the acute angle shall not be less than thirty-five (35) feet for intersections with a collector street and twenty-five (25) feet at intersections with minor streets and lanes.

g. The minimum centerline radius of a curve in streets shall not be less than one hundred (100) feet for a lane, one hundred fifty (150) feet for minor streets and five hundred (500) feet for collector streets.

h. All reverse curves on collector streets shall be separated by a centerline tangent of at least one hundred (100) feet in length.

i. There shall be access to all lots via streets and portions of streets, no part of which shall be less than 100 year flood elevation as determined by F.E.M.A.

j. The width of street rights-of-way shall not be less than fifty (50) feet for minor streets and lanes, sixty-eight (68) feet for collector streets. Greater width shall be required by the Board when deemed necessary for present and future pedestrian safety and vehicular traffic. (Amended 10/2/96).

k. The grade of any street shall never be less than one percent (1%). Grades shall never exceed six percent (6%) for collector streets, ten percent (10%) for minor streets or twelve percent (12%) for lanes.

l. All changes in grade exceeding two (2%) percent shall be connected by vertical curves of sufficient length to afford the following sight distances: Two hundred (200) feet for minor streets and lanes; three hundred (300') feet on collector streets.

m. No street shall intersect another street at gradient in excess of two (2%) percent for a distance of at least fifty (50) feet when intersecting a minor street or lane, or seventy-five (75) feet when intersecting a collector street.

n. No centerline gradient is to exceed six (6%) percent on any curve whose radius is less than three hundred (300) feet.

o. No centerline gradient is to exceed six (6%) percent within five hundred (500) feet of a dead end. Grades along the street centerline around a cul-de-sac shall not exceed 3%. (Amended 6/7/95).

p. Way lines shall be parallel unless otherwise specified by the Planning Board.

q. No proposed arterial street shall connect at any street other than another arterial street. No collector street shall connect to a minor street.

r. Any applicant that proposes to connect an arterial street to an existing arterial street shall be responsible for improvements and upgrading the existing arterial street in accordance with the most current Planning Board standards for arterial street.

s. Any applicant that connects a collector street to another collector street or arterial street shall be responsible for improvements and upgrading the existing collector or arterial street in accordance with the most current Planning Board standards for collector and arterial streets.

4. B. 3 DEAD END STREETS
a. No street shall have a length where a condition of restricted access exists which is greater than 500 feet. Restricted access shall be defined as only one means of access by a street which is constructed to the requirements of the Subdivision Rules and Regulations. It shall be measured from the last point that can be reached by vehicles traveling on separate routes over streets constructed to the requirements of the Subdivision Rules and Regulations.

b. Where this point is on an existing road, the 500 feet shall be measured along the centerline of the proposed road, from the sideline of the right-of-way of the existing road to the radius point of the proposed cul-de-sac; where it is on a proposed road, the 500 feet shall be measured from the intersection of the two centerlines to the radius point of the cul-de-sac. Two separate lanes of pavement within the same layout will not constitute separate means of access. Separate layouts must be separated by at least the minimum frontage requirement for the zoning district.

c. Dead-end streets shall be provided at the closed end with a cul-de-sac having an outside roadway diameter of at least one hundred (100') feet and a property line diameter of at least one hundred twenty (120') feet. (Amended 9/3/97).

d. Upon construction of an extension of a dead-end street the easement for the existing turn around or cul-de-sac shall terminate in accordance with the provision of Chapter 41, of the Massachusetts General Law. (amended 9/3/97)

e. The cul-de-sac shall have a central island sixty (60) feet in diameter and shall be graded such that it slopes uniformly from the center to the road. If existing vegetation is disturbed, the island shall be re-vegetated with low maintenance trees, shrubs, or other landscape treatment deemed appropriate by the Planning Board. (Amended 9/3/97).

4.C DRAINAGE

4.C.1 GENERAL:

a. All drainage systems involving within the subdivision shall be designed in accordance with the rational or SCS (TR 55 or TR 20) Methods based on the standards set forth in the Massachusetts Highway Department's Highway Design Manual. (Amended (6/7/95).

b. Calculations shall be made from the source of drainage runoff using adequate topographic maps for the entire drainage area, including those areas outside the subdivision affecting it. Copies of all drainage calculations shall be submitted on forms, similar to those shown in the appendix. Percolation test may be required at specific locations at the discretion of the Board.

c. All drainage calculations shall include any information relating to construction and performance provided by the manufacturer of any products and materials proposed to be included in the construction of the drainage facilities that have been used in the drainage calculations.

4.C.2 STORM DRAINAGE SYSTEM:

a. Complete storm drainage system shall be designed for each street in the subdivision. It shall be of sufficient size to permit unimpeded flow of all natural runoff; to provide adequate drainage for all streets, to intercept runoff from the adjacent lots of the subdivision and to eliminate ponding of storm runoff except in designated areas. Leaching catch basins are prohibited.

b. All runoff shall be designed to utilize natural drainage areas and these areas shall be protected from development. In the event that a natural drainage area is eliminated by a street, compensatory drainage area must be provided. In areas where the natural drainage area is determined to be insufficient in size, additional drainage areas will be required. Any drainage area that is constructed shall not have sides with slopes steeper than three (3) horizontal to one (1) vertical. In such cases as it is deemed necessary and acceptable by the Board and its engineer, surface water may be disposed of by a leaching system of the proper design and size. Calculations for a design of such system shall be submitted with the other drainage calculations under the same provisions. (Amended 6/7/95).

c. Provision shall be made for the disposal of surface water intercepted or collected by the system in such a way that no flow is conveyed over or under the land of others unless a drainage
easement is obtained. No flow shall be conveyed over or under town ways. All drainage easements shall conform to the requirements of Section 4.D of these Rules and Regulations. (Amended 6/7/95).

d. Catch basins shall be located on each side of the roadway, at all low points or sag curves in the roadway, at intervals of no more than three hundred (300') feet on continuous grades of the roadway, and at or near corners of the roadway at intersecting streets.

e. Manholes shall be located at all changes in direction either horizontally or vertically, of a drain line or so located that no drain line greater than three hundred (300') feet in length would exist without either a catch basin or manhole.

f. The calculations necessary to determine the size of any culvert shall be submitted to the Planning Board for review. All culverts shall have a headwall or flared end section at each end and any additional slope protection deemed necessary.

g. All drain lines shall be a minimum of twelve (12") inches in diameter and shall be laid on slope of not less than one-half of one (0.5%) percent. The minimum design velocity shall be three (3') feet per second and maximum design velocity shall be ten (10') feet per second.

h. A headwall or flared end section shall be provided at the outfall end of all drains where required.
i. Catch basins at all sag points be equipped with curb inlets.

4.C.3 SUB-SURFACE DRAINAGE:

In areas where an unusually high water table exists, or in other areas as deemed by the Board, a system of sub-drains shall be designed. The sub-drain system shall discharge into the storm drainage system or disposed of in a manner acceptable to the Board.

4.D EASEMENTS:

4.D.1 Easements for municipal services shall be provided and recorded as required and centered on lot lines where practical and shall be at least twenty (20') feet wide.

4.D.2 All easements shall have sufficient data to determine the location, direction, length and width and to establish these lines on the ground.

4.D.3 Where a subdivision is traversed by a water course, drainage way, wetland, channel or stream, the Board may require that there be provided a storm water easement or drainage easement of a minimum width of twenty (20') feet to conform substantially to the lines of water courses, drainage way, drainage pipe, or construction, maintenance or other necessary purposes. (Amended 9/3/97).

4.D.4 No permanent structures, other than drainage facilities, shall be constructed within the limits of any drainage easement. (Amended 9/3/97).

4.D.5 Slope easements shall be provided where cut and fill slopes cannot be contained within the street layout. (Amended 9/3/97).

4.D.6 Driveway easements may be required where deemed necessary. Where possible, driveways should enter onto lanes or minor streets, rather than collector or arterial streets.

4.E PEDESTRIAN WAYS:

4.E.1 Wherever in the opinion of the Board, proximity to public land or recreational facilities, or continuation of abutting pathways reasonably requires them, rights-of-way not in excess of eight (81') feet for pedestrian travel shall be provided.

4.E.2 COMMUNITY walkway systems linking open spaces and roads are encouraged where appropriate.
4. F SIDEWALKS:

4.F.1 Sidewalks shall be located on one or both sides of a collector street and on one side of a minor street and at any other locations where, in the judgement of the Planning Board, their installation is appropriate for pedestrian safety.

4.F.2 The Planning Board may also require that at other locations, the grading of the right of way be so executed as to make sidewalks possible in the future without major re-grading.

4.F.3 Sidewalks shall not be less than four (41) feet in width, constructed of either bituminous concrete or Portland cement concrete and shall be so aligned as to avoid cuts and fills, removal of trees and shrubs or long tangents.

4. G BERMS AND CURBS:

4.G.1 Bituminous concrete berms shall be installed on both sides of all streets. (Amended 6/7/95).

4.G.2 The Board shall have the discretion to require bituminous concrete curbs on both sides of any street in place of berms. (Amended 6/7/95)

4. H OPEN SPACES:

Before approval of a Plan, the Board may in proper cases require the plan to show a park or parks, suitably located for playground or recreation purposes for providing light and air. The park or parks shall not be unreasonable in area in relation to the land being subdivided and to the prospective uses of such land. The Board may by appropriate endorsement on the plan require that no building be erected upon such park or parks for a period of three (3) years without its approval.

4. I PROTECTION OF NATURAL FEATURES:

Due regard shall be shown for all natural features such as large trees, water courses, scenic points, historic spots and similar community assets which if preserved, will add attractiveness and value to the subdivision. Destruction of trees, stone walls, woods roads, and other landscape features should be minimized by siting lot lines on or near such elements.

4. J RETAINING WALLS:

Wherever retaining walls may be required, such retaining walls shall not be proposed nor constructed within the street layout. The Planning Board shall not approve easements for retaining walls.

4. K WATER SUPPLY AND SANITARY DISPOSAL:

4.K.1 No definitive plan shall be approved by the Planning Board unless all lots are to be served by a public water supply or evidence satisfactory to the Board is presented that an adequate supply of water can be provided to each lot in the subdivision which is to be built upon.

4.K.2 No water supply subject to interruption or contamination in the event of coastal flooding according to F.E.M.A. maps shall be considered adequate.

4.K.3 No Definitive plan shall be approved by the Planning Board if its sanitary disposal arrangements have been disapproved by the Board of Health and no plan shall be approved
unless each building lot in the subdivision is served by a sanitary disposal system not subject to inundation in the event of coastal flooding.

4. L MUNICIPAL SERVICES AND UTILITIES:

4. L.1 The Board may require that the plan show municipal services and utilities of the kinds existing in the public ways nearest to the subdivision, or which in the opinion of the Board are likely to be laid in such public ways within the reasonable near future and which will be necessary for the health, safety or convenience of the prospective occupants of the subdivision.

4. L.2 The design of the water system and provision for hydrant service shall be as directed or approved by the Sandwich Water District, in accordance with the "Typical Road Cross Sections". In the case where sidewalks are to be constructed on one side of the roadway, the water and hydrants shall be on the opposite side of the roadway.

4. L.3 The design of the electrical power system shall be as directed by the electric company.

4. L.4 The applicant shall consult with the Telephone Company relative to the installation of telephone service.

4. L.5 All electrical, telephone and other utility wires shall be placed underground unless the board determines that such installation is not feasible or is not in the best interest of the Town. Such utilities shall be constructed in accordance with the information contained on the typical road cross section. The Board may allow all or any part of the wiring, cables and other appurtenances to be placed above ground within appropriate easements.

4. L.6 All service connections for utilities shall be clearly marked at the lot line and shall be installed such that electric and telephone services are located on the lot line perpendicular to the street and the gas service is located on the alternative lot line and said service connection shall be installed prior to the completion of the fill.

4. L.7 All public utilities and facilities such as sewer, gas, electrical and water systems shall be located and constructed to minimize or eliminate flood damage.

4. L.8 All utilities located under the limits of the paved roadway and berms shall be installed prior to constructing the bituminous concrete binder course.

4. L.9 All utilities shall be installed prior to constructing bituminous concrete top course.

4. M ACCESS TO LOTS:

Lots with frontage on more than one way shall maintain a driveway on the lesser-traveled way.
SECTION 5

SPECIFICATIONS FOR CONSTRUCTION OF THE REQUIRED IMPROVEMENTS

5.A GENERAL:

5.A.1 All improvements specified or implied on the Definitive plan shall be constructed or installed by the applicant in accordance with the provisions of this section of the Rules and Regulations, or as directed by the Board. The applicant at his own expense shall furnish all necessary materials, labor and equipment which may be required to complete the work called for or implied on the Definitive Plan. Items not specifically mentioned herein shall be constructed in accordance with the latest revision of the Standard Specification for Highway and Bridges of the Massachusetts Highway Department (herein after referred to as the "Standard Specifications"), unless specifically directed otherwise by the Board.

5.A.2 All work performed by the applicant as a consequence of these rules and regulations will be subject to the review and acceptance or approval of the Board. The Town Engineer will act as agent for the Board for the inspection of the work. In order that the Town Engineer may
properly inspect the work as it progresses, the applicant will keep the Town Engineer informed of the progress of the work and shall at any time, provide safe and convenient access to all parts of the work for inspection by members of the Board or the Town Engineer, or such persons as the Board may designate. No work will be approved which has been covered, prior to inspection, by subsequent work.

5.B SUBDIVISION LAYOUT:

5.B.1 The subdivision, including all way and lot lines and all drain lines and municipal services shall be laid out as to line and grade by a Registered Land Surveyor and/or Engineer. Stakes for line and grade clearly marked with the proper station shall be maintained throughout construction. Immediately subsequent to the applicant's surveyor laying out the road with grade stakes, drain lines and municipal services and prior to any construction, the applicant shall submit a letter to the Planning Board from a Registered Professional Land Surveyor certifying that the road layout, drain lines and municipal services are laid out on the ground as shown on the approved definitive plan or other roadway plan duly approved by the Planning Board.

5.B.2 If the Board determines that any work does not conform to the required specifications, or the plan, the applicant shall pay all costs, which the Board incurs as a consequence of checking the work which has been incorrectly laid out.

5.B.3 All improvements specified or implied on the Definitive plan shall be shown on the Definitive plan within the right-of-way and clearly distinguished by lines labeled "limit of clearing" which shall be subject to approval by the Planning Board. No areas within the right-of-way, outside of the "limit of clearing", shall be disturbed. In no case shall the entire right-of-way be cleared. The Planning Board shall require complete restoration of any areas outside of the "limit of clearing" that are disturbed. The entire area within the "limit of clearing" shall be cleared of all trees, stumps, brush roots, rocks or boulders and all unsuitable materials. No loam suitable for reuse shall be removed from the subdivision unless adequate loam will remain or is otherwise assured to provide all disturbed areas within the subdivision with a loam depth of at least six (6) inches. All streets from which loam is being removed shall be brought to sub-grade with the approved foundation materials within six (6) months.

5.B.4 The entire area to be occupied by the roadway and an additional eight (8') feet wider than the paved width or extending outward to the top of the slopes in fill areas, shall be excavated a minimum of fifteen (15") inches below finish grade in cut sections or as necessary to remove the topsoil in fill sections. The Town Engineer or his representative may require greater depths of excavation if soft or yielding material detrimental to the sub-grade is encountered. All fill or undisturbed material shall be non-frost-susceptible for a minimum depth of three (3') feet below the finished road grade.

An inspection of this phase of the work will be made when completed.

5.C DRAINAGE SYSTEM:

5.C.1 The construction of the drainage system, including methods and quality of materials, shall conform to the Standard Specifications, or modification hereafter, or as directed by the Board's Engineer. All catch basins shall be constructed of pre-cast concrete with an approved standard square frame and grate, with square holes.

5.C.2 All catch basins shall have minimum diameter of at least forty-eight (48") inches and shall be constructed with a minimum depth of three (3') feet below the invert of the out flow pipe. (See Appendix)
5.C.3  For curb inlet detail, see Appendix.

5.C.4  All storm drainage pipe, subject to vehicular loading, shall be reinforced concrete pipe, or a type approved by the Board's Engineer and shall be laid with the minimum cover of three (3') feet.

5.C.5  All storm drainage pipe not subject to vehicular loading shall be reinforced or plain concrete pipe or asphalt coated corrugated metal pipe or a type approved by the Board's Engineer and shall be laid with a minimum cover of three (3') feet.

5.C.6  In cases where a leaching system for surface water disposal has been approved, a standard pre-cast concrete leaching basin, as shown in the appendix, may be used. Drainage areas that have been designed to utilize a leaching field must be approved by the Board's Engineer. The applicant's Engineer must submit a construction plan of such area to be approved. The Sub-surface drainage system, if necessary, shall be constructed according to the latest revision of the Construction Standards.

5.C.7  All drainage pipe shall end in a headwall or approved end section with sizes, materials and construction according to the construction standards.

5.C.8  All trench backfill for the storm drains and other backfill within the limits of the way shall consist of an approved suitable material thoroughly compacted.

5.D  MUNICIPAL SERVICES:

5.D.1  The applicant shall provide and install all necessary materials, appurtenances and equipment to complete the municipal services as may be required on the Definitive Plan in a manner acceptable to the officials or agencies having jurisdiction of each service as previously mentioned.

5.D.2  For Subdivisions within the Sandwich Water District, water mains, related equipment, such as hydrants and main shut-off valves, shall be constructed to serve all lots on each street in the subdivision in conformity with the specifications of the Sandwich Water District. An easement shall be granted giving the Water District access to the entire parcel. No other utilities shall be placed within the same trench with the water mains. Hydrants shall be placed within five hundred (500') feet of each potential dwelling and shall be centered on lot sidelines.

5.D.3  All municipal services shall be located as shown on the typical road cross section in the appendix.

5.D.4  All work in connection with the municipal services shall be left uncovered until such time as the Town Engineer permits the backfill to be placed.

5.D.5  All trench backfill material for municipal services within the way limits shall consist of an approved suitable material thoroughly compacted.

5. E  FILL:

5.E.1  All material which may be required within the exterior lines of the way, up to the twelve (12") inch gravel foundation, shall be of clean gravel or other suitable material as approved by the Town Engineer and properly compacted.

5.E.2  All municipal services shall be installed prior to all the fill being added. This shall include the installation of each service pipe, sleeve, or conduit to the front of the lot line of each lot in the subdivision. Upon completion of the fill and the backfill of all service trenches, the work
will be inspected by the Town Engineer. Subsequent work shall not be commenced until the Town Engineer has approved the fill as acceptable for the application of the roadway foundation material.

5.F ROADWAY FOUNDATION:

5.F.1 A minimum of twelve (12") inches of clean gravel, approved by the Town Engineer, shall be deposited for the full width of the traveled way and shoulders, so as to form a roadway centerline grade, allowing for the pavement thickness, below the proposed finished grade at all points.

5.F.2 The gravel shall be compacted to ninety-five (95%) percent of the maximum dry density as determined by the modified Proctor Test in accordance with ASTM 1557, Method "D".

5.F.3 Gravel shall consist of the following as set forth in the Standard Specifications or as modified below:

a. **M1.03.1 Processed Gravel** for roadway foundation shall consist of inert material that is hard, durable stone and coarse sand, free from loam and clay, surface coatings and deleterious materials. The coarse aggregate shall have a percentage of wear, by the Los Angeles Abrasion Test, of not more than 50.

   The gradation shall meet the following requirements:

<table>
<thead>
<tr>
<th>Sieve</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>3&quot;</td>
<td>100</td>
</tr>
<tr>
<td>1 1/2&quot;</td>
<td>70-85</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>50-75</td>
</tr>
<tr>
<td>#4</td>
<td>30-50</td>
</tr>
<tr>
<td>#200</td>
<td>0-10</td>
</tr>
</tbody>
</table>

   The approved source of bank run gravel shall be processed by mechanical means. The equipment for producing crushed gravel shall be of adequate size and with sufficient adjustments to produce the desired materials. The processed material shall be stockpiled in such a manner to minimize segregation of particle sizes. All processed gravel shall come from approved stockpiles.

b. **M1.11.0 Reclaimed Pavement**. Reclaimed pavement material for roadway foundation shall consist of crushed asphalt pavement (less than 50% by volume), crushed cement concrete, and gravel borrow (meeting M1.03.0) free from loam, clay and deleterious materials such as brick, reinforcing steel, glass, wood, paper, plaster, lathing, and building rubble, etc.

   The coarse aggregate shall have a percentage of wear, by Los Angeles Abrasion Test, of not more than 50.

   The gradation shall meet the following requirements:

<table>
<thead>
<tr>
<th>Sieve</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>3&quot;</td>
<td>100</td>
</tr>
<tr>
<td>1 1/2&quot;</td>
<td>70-100</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>50-85</td>
</tr>
<tr>
<td>#4</td>
<td>30-60</td>
</tr>
<tr>
<td># 50</td>
<td>8-24</td>
</tr>
<tr>
<td># 200</td>
<td>0-10</td>
</tr>
</tbody>
</table>

   The approved source of reclaimed pavement material shall be processed by mechanical means. The equipment for producing crushed material shall be of adequate size and with sufficient adjustments to produce the desired materials. The processed material shall be stockpiled in such a manner as to minimize segregation of particle sizes. All reclaimed pavement material shall come from approved stockpiles.
c. **M2.01.7 Dense-graded crushed stone.** This specification covers the quality and gradation requirements for roadway foundation gravel combining crusher-run coarse aggregates of crushed stone or gravel and fine aggregates of natural sand or stone screenings uniformly mixed with a pre-determined quantity of water.

Coarse aggregate shall consist of hard durable particles or fragments of stone or gravel. Materials that break up when alternately frozen and thawed or wetted and dried shall not be used.

Coarse aggregate shall have a percentage of wear by the Los Angeles Test, of not more than 42.

Fine aggregate shall consist of natural or crushed sand.

The composite material shall be free from clay, loam or other plastic material and shall conform to the following grading requirements:

<table>
<thead>
<tr>
<th>Sieve</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>2&quot;</td>
<td>100</td>
</tr>
<tr>
<td>1 1/2&quot;</td>
<td>70-100</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>50-85</td>
</tr>
<tr>
<td># 4</td>
<td>30-55</td>
</tr>
<tr>
<td># 50</td>
<td>8-24</td>
</tr>
<tr>
<td>#200</td>
<td>3-10</td>
</tr>
</tbody>
</table>

Sampling and testing shall be in accordance with the following standard ASHTO methods:

<table>
<thead>
<tr>
<th>SM Test</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T 27</td>
<td>Sieve Analysis</td>
</tr>
<tr>
<td>T 11</td>
<td>Passing No. 200 Sieve</td>
</tr>
</tbody>
</table>

d. All sieve analyses must be submitted to the Planning Board from samples of the gravel after it is brought on site. Sieve analyses can be performed by the applicant at his option before the gravel is brought on site.

**5.G ROADWAY SURFACE:**

**5.G.1** All roadways shall be paved to conform with the finished grade and width as specified, with Class I Bituminous Concrete paving Type I-1 in accordance with the Standard Specifications and subject to the approval of the Town Engineer. The applicant shall submit a specification job mix formula to the Town Engineer for approval prior to starting the work.

**5.G.2** Finished pavement thickness (minimum)

<table>
<thead>
<tr>
<th>Type of Street</th>
<th>Binder Course</th>
<th>Top Course</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Street, Lane</td>
<td>2&quot;</td>
<td>1&quot;</td>
<td>3&quot;</td>
</tr>
<tr>
<td>Collector</td>
<td>2-1/2&quot;</td>
<td>1&quot;</td>
<td>3-1/2&quot;</td>
</tr>
<tr>
<td>Commercial + Industrial</td>
<td>2-1/2&quot;</td>
<td>11/2&quot;</td>
<td>4&quot;</td>
</tr>
</tbody>
</table>

**5.G.3** The Town Engineer will inspect the pavement construction during the operation.

**5.H SIDEWALKS:**

**5.H.1** Sidewalks shall be constructed of bituminous or Portland Cement concrete. The gravel foundation shall be a minimum of six (6") inches and conform to the requirements of the roadway foundation.

**5.H.2** Bituminous concrete sidewalks shall consist of one and a half (1 1/2") inches of Type I-1 binder course and one (1") inch of Type I-1 top course. Portland Cement concrete sidewalks shall be four (4") inches thick and have a scored section every four and one half (4 1/2') feet.
After each four (4) scored sections there shall be an expansion joint consisting of a preformed joint filler.

5. H. 3 The Portland Cement concrete shall meet the mix specifications as set forth in the Standard Specifications.

5. H. 4 All concrete sidewalks shall be constructed in accordance with the latest revisions of the construction manuals of the American Concrete Institute.

5. 1 BERMS:

5. 1. 1 Berm shall consist of Class I bituminous concrete, Type I-1, and shall conform to the requirements for either top course or dense mix. Berm shall be constructed in conformity with the typical section shown in the appendix.

5. J GRASS AREAS:

5. J. 1 A grassy area shall be provided on each side of all roadways with widths and grades as shown in the typical cross sections in the appendix.

5. J. 2 The top six (6") inches shall be a good quality loam, approved by the Town Engineer and shall be raked and rolled to the satisfaction of the Town Engineer.

5. J. 3 Grass seed shall be as specified in section M6.03.0 of the Massachusetts Standard Specifications.

5. J. 4 The loam shall be seeded with grass in sufficient quantity to assure adequate coverage and establish growth. The subdivider, his heirs or assigns shall be responsible for maintenance of grass areas until such time as the Town accepts the roads.

5. J. 5 The Planning Board may require the planting of blueberry sod in place of grass.

5. K STREET TREES:

5. K. 1 Where existing trees will be removed, or are deemed inadequate by the Board, street trees at least 2.5 inches in caliper shall be planted. Trees shall be located within the road layout. Each lot shall be provided one tree for every fifty (50') feet of frontage. Trees may be clustered; however, they may not be planted closer than fifteen (15) feet on center. (Refer to Section 3.C.2.v) (Amended 9/3/97).

5. K. 2 Species of trees shall be approved by the Board; a list of suggested species is found in the Appendix. At the discretion of the Board, an easement outside the exterior right-of-way line may be required for the planting of trees. (Refer to Section 3.C.2.v)

5. L SIDE SLOPES:

Areas outside street sidelines shall be sloped not to exceed one (1') foot vertical to three (3') feet horizontal in fill and one (1') foot to two (2') feet in cut. Slopes steeper than 3:1 shall be immediately stabilized with erosion control blankets or other means approved by the Town Engineer. Slope easements or retaining walls, approved by the Town Engineer, shall be employed where slopes cannot be contained within street sidelines. Slopes must be carried until they intersect the finished grade of the abutting lots. Grass areas and driveway entrances shall be so graded as to prevent surface water on the streets from draining onto private land, except designed ponding areas. All such slopes shall be loamed, seeded and
kept stabilized as previously required for grassy areas. In some cases the Planning Board may require the planting of blueberry sod.

5.M MONUMENTS:

5.M.1 Granite or reinforced concrete bounds shall be set at all street intersections, at all points of change in direction or curvature of streets and at other points, where in the opinion of the Board, permanent monuments are necessary, but in no case more than five hundred (500') feet apart.

5.M.2 Monuments shall be at least six by six (6” X 6”) inches by thirty-six (36”) inches. The top of each bound shall be dressed and have a one-half (1/2”) drill hole.

5.M.3 The subdivider will be responsible for furnishing the Board a letter from a Registered Land Surveyor certifying that all monuments have been precisely placed as indicated on the Definitive plan.

5.N CORNER LOT BOUNDS:

All lot corners shall be bounded with permanent marker bounds. The front lot corner bounds shall be granite or reinforced concrete.

5.0 STREET SIGNS:

5.0.1 Street signs, conforming to signs used by the Town, shall be erected at each intersection within the subdivision.

5.0.2 Alternative types of signs of equivalent legibility may be used, but only with prior approval from the Board.

5.P CLEANING UP:

5.P.1 Before release of covenant, the subdivider shall clean up any debris or objectionable material to the satisfaction of the Town Engineer.

5.P.2 Following the completion of this and other work herein required, a final inspection will be made.

5. Q FEE TO STREETS:

5.Q.1 The developer shall retain title to the fee of each street, roadway or walkway in the subdivision, and shall convey to the Town said fee without encumbrance and upon layout of the street by the Selectmen.

5.Q.2 The developer shall also convey to the Town any easement right within or appurtenant to the subdivision upon request by the Selectmen. Notation that this is to be done shall be placed upon the Definitive Plan. However, all of the above may be waived in cases where the Board finds that conditions particular to that subdivision render it in public interest that the streets therein be maintained as private not public, ways and shall be so noted on the Definitive Plan.

5.R MAINTENANCE:

If released from restrictions with regard to sale of lots by posting a Performance Bond, the
subdivider, his heirs or assigns shall maintain the roadway, drainage structures, easements, landscaping, and other improvements in a manner which meets all the requirements of these regulations to the satisfaction of the Town Engineer until acceptance of the road and related structures by the Town.

5.S MINIMUM ROAD CONSTRUCTION REQUIREMENTS:

5.S.1 Minimum 18’ wide gravel road with 8” thick gravel surface with the following specifications:
   a. All topsoil, subsoil, roots or other deleterious material shall be removed below the proposed gravel road.
   b. If required, road to be brought to sub-grade with clean fill free of organic soils, stones greater than 6” diameter and construction debris, compacted to 95% dry density (modified Proctor).
   c. Gravel surface shall be crowned to provide a 1/4” per foot minimum cross slope.
   d. Gravel shall conform to Section 5.F. (amended 6/7/95)

5.S.2 Roadway shall be properly drained by use of drainage swales off each side of the roadway dispersing to undeveloped areas in a manner that will not cause ponding or erosion. Riprap channels, inlets or other design methods may be required by the Town Engineer. In no case shall the drainage be directed toward abutting property.

5.S.3 Cross culverts, if required, shall be designed to insure no flooding or wash out of gravel allowing a minimum 1-foot of freeboard from the top of the culvert to the surface of the road.

5.S.4 Prior to start of construction, a plan shall be submitted to the Planning Board and Town Engineer for approval showing existing and proposed grades, right-of-way lines and methods of handling drainage.

5.S.5 Centerline of proposed road shall be staked for line and grade prior to construction.

5.S.6 All dead ends shall be constructed with a cul-de-sac having a minimum centerline radius of 40 feet or other configuration satisfactory to the Planning Board. The inside island shall remain natural as much as practical.

5.S.7 Written approval of the Fire Chief and Police Chief required prior to construction.

5.S.8 Construction inspections shall be performed in accordance with the subdivision Rules and Regulations.

5.S.9 In cases of existing cart paths or ancient ways being improved to provide minimum access, proof shall be submitted to the Board that all parties with ownership in the way consent to the proposed widening and construction within their ownership.

5.S.10 Where a proposed gravel road intersects an existing paved road, a bituminous concrete apron having a minimum length of 20’ and a width equal to the width of the gravel road and curb radii of 20’ are required.

5.T EROSION:

Erosion shall be controlled as approved by the Planning Board in accordance with Section 3.C.2.x of these Rules & Regulations. All material from the lot shall be contained on the lot. All applicable Zoning and Town By-laws regarding erosion control shall be complied with.
SECTION 6

INSPECTION

6.A GENERAL:

All necessary materials shall be submitted to the Town Engineer's office no later than 12:00 noon on the Friday before a Wednesday Planning Board Meeting. If said materials are not submitted or are unsatisfactory to the Engineering Department, no inspection will be performed. Additionally, no inspections shall be performed if any violation of the Subdivision Rules & Regulations exists.

6.A.1 All work performed as a consequence of these Rules and Regulations shall be subject to the review of the Board which shall approve and accept or disapprove and reject each phase or portion of such work and at completion shall recommend the acceptance of all work or disapproval of the work with reasons therefore.

6.A.2 The Town Engineer, or his representative, will act as agent for the Board in the inspection of the work to insure compliance with those Rules and Regulations and to report to the Board his recommendations as to approval or disapproval of the work. As Engineer for the Board, he, or his representative, shall have the authority to enforce all Subdivision Rules and Regulations of the Town.

6.A.3 The Board, its Engineer, and such other persons as the Board may designate, shall have the right to inspect the work at any time.

6.A.4 All work which has been disapproved or is not acceptable to the Board shall be removed and replaced or otherwise corrected to the point of complying with the requirements of the Board for acceptance. Any work which has been covered by subsequent work prior to acceptance or is otherwise not available or obscured to the point of rendering inspection of the work difficult shall be considered unacceptable to the Board.
6.A.5 Such subsequent work shall be removed as directed by the Town Engineer to insure availability of the work to be inspected as required herein. The release of the Performance Guarantee shall depend upon the acceptance of all work prescribed herein and on the Definitive Plan and as directed by the Board.

6.A.6 At points indicated in Section 5 and as further described hereinafter, the construction of the required improvements may be inspected by the Town Engineer, or authorized agent, and unless approval of the work completed, including approval of the materials used, to reach such point has been given in writing, no further work shall be commenced. Such inspections may include the "taking" of certain samples; in such cases the applicant shall insure that the Town Engineer is in no way hindered or obstructed in the course of obtaining such samples.

6.A.7 Where such samples are removed from the completed work, the applicant shall replace and restore such work to the satisfaction of the Town Engineer, to its condition prior to the taking of the sample.

6.A.8 The Town Engineer may require certified copies of delivery receipts or bills of lading, or other certification as to the description of the materials used or incorporated in the work.

6.A.9 The Town Engineer may also require a sample of any materials or supplies which may be incorporated in the work. Such samples shall be furnished at the expense of the applicant, and the applicant shall be liable for all costs and fees incurred by the Board as a result of transporting and testing such materials.

6.A.10 The applicant shall keep the Town Engineer fully informed as to the status and progress of the work and shall notify the Town Engineer at least one (1) working day in advance that the work has progressed to a stage that an inspection is required.

6.A.11 In the event the Town Engineer makes an inspection of the work at the time designated and finds such work is not at the proper stage of completion, or that the work has been covered or otherwise obscured; the Town Engineer shall notify the applicant and the Board as to the additional steps the applicant shall take to complete the work to the point required, or to the extent the work shall be uncovered or exposed to full view. The applicant shall notify the Town Engineer again when the work is ready as prescribed in Section 6.A.10.

6.A.12 The applicant shall be liable for all fees incurred for any inspection or the taking and testing of samples.

6. B LINES AND GRADES:

6.B.1 The Town Engineer will advise the Board at any time during the construction, if in his opinion, he believes that the work has not been laid out to the lines and grades as shown on the Definitive Plan. In such cases, the Board will proceed as described in section 5.B.

6.B.2 Any costs, which in the opinion of the Board are the responsibility of the applicant as noted in Section 5.B, shall be in addition to the fees required elsewhere herein.

6.C INSPECTION OF REQUIRED IMPROVEMENTS:

The following inspections of the required improvements will be made by the Town Engineer. These inspections may be made in addition to any other inspections the Board may make or cause to be made.
6.C.1 **First Inspection:** An inspection will be made of the work upon completion of all clearing, grubbing and excavation and all work incidental thereto as may be required or implied in section 5.C. No fill shall have been placed at the time of this inspection.

6.C.2 **Second Inspection:** An inspection will be made of the completed drainage system (without backfill) as required or implied herein or on the Definitive Plan. At the same time, or such other time as the work may be available, an inspection will be made of the completed municipal services (without backfill), as required on the Definitive Plan. The inspection of the required municipal services will be made by the agency responsible for the particular service.

6.C.3 Each agency involved will notify the Town Engineer in writing of the approval of such work.

6.C.4 Backfill of any portion of the drainage system or municipal services shall not be made until after notification of approval of acceptance by the Town Engineer, or agency responsible.

6.C.5 The inspection of the construction of the ways shall include the inspection of the backfilling and compaction of all utility trenches as may be installed by utility companies and such work shall be performed in the manner as required by these Rules and Regulations.

6.C.6 If in the opinion of the Board, the backfilling and compaction of utility trenches has not been performed in accordance with these Rules and Regulations, the Planning Board may not release the Bond or Covenant applicable until such work has been performed to the satisfaction of the Planning Board.

6.C.7 **Third Inspection:** An inspection will be made of the compacted fill as specified in Section 5.F and as may be required to bring the roadways to their proposed grades. The applicant shall notify the Town Engineer as to his source of gravel for fill as soon as such information is known, so that samples may be taken and analyzed by the Town Engineer. The applicant is advised not to proceed with the filling operation until such time as the Town Engineer notifies the applicant that the gravel proposed for the fill is acceptable.

6.C.8 If the applicant proceeds with the fill prior to such notice, he does so at his own risk. The applicant shall not use a gravel source, other than the one designated, without prior notice to the Town Engineer.

6.C.9 **Fourth Inspection:** An inspection will be made of the compacted roadway foundation as specified in Section 5-G. A gravel sample or samples may be taken at the option of the Town Engineer, in the same manner as prescribed for the third inspection.

6.C.10 Prior to any paving the applicant will show proof that all utilities have been installed, so that there will be no trench cut for that purpose after paving.

6.C.11 **Fifth Inspection:** Inspections will be made during the application of the bituminous concrete binder course and top course. Samples of the mix may be taken by the Town Engineer for purposes of performing an extraction test in order to compare the sample with the job mix formula previously submitted.

6.C.12 Core samples for the purpose of checking depths of pavement may be taken at the discretion of the Town Engineer.

6.C.13 **Sixth Inspection:** An inspection will be made of all work as required on sidewalks, curbing, grass plots, side slopes, monuments and street signs.
6.C.14  **Seventh Inspection:** A final inspection will be made of all subsequent work as required herein, or on the Definitive Plan to include the final clean up.

---

**SECTION 7**

**SPECIAL ACCOUNT FOR CONSULTANT'S FEES**

7.A  **GENERAL:**

Pursuant to Massachusetts General Law Chapter 44, Section 53g, the Planning Board imposes on all applicants, when it determines that it is necessary, reasonable fees for the employment of outside consultants to review subdivision plans and/or special permit applications under all sections of the Town of Sandwich Zoning Bylaws.

7.A.1 The Planning Board, when it determines that it is necessary, shall require any applicant to establish a special account with the Town Treasurer equal to an amount determined by the Planning Board to be sufficient to hire outside consultants to review and report on applications under this section.

7.A.2 All funds deposited with the Town Treasurer may be expended by the Planning Board, without Town Meeting appropriation, for consulting fees only. Any principal and interest remaining in the account upon approval or disapproval of the plan or permit shall be repaid to the applicant at the conclusion of the planning process.

7.A.3 The Town Accountant shall submit an annual report to the Board of Selectmen and the Town Executive Secretary for review. Each account under this section shall be published in the annual report and be provided by the Town Treasurer to the Bureau of Accounts.

7.A.4 The applicant may appeal to the selection of any particular consultant to the Board of Selectmen on grounds of a conflict of interest or that the consultant does not possess minimum required qualifications.

1. Minimum required qualifications shall consist of an educational degree in or related to the field at issue or three or more years of practice in the field at issue or a related field.
2. The Board of Selectmen may act on any appeal under this section within 28 days of the filing of an appeal.
3. In the event that no decision is made by the Board of Selectmen within 28 days of the filing of an appeal, the selection made by the Planning Board shall stand.
SECTION 8
DESIGN STANDARDS

8.A DRAINAGE CALCULATIONS FOR SIMPLE & COMPLEX AREAS

Drainage calculations for simple and complex areas (calculations shall be done on a form similar to design sheet 1).

8.A.1 A rainfall intensity based on a storm frequency of 25 years will be used for all calculations.

8.A.2 Determine the area in acres of each drainage area, within and affecting the subdivision. Delineation lines, clearly marked, separating drainage areas shall be drawn on an accurate topographic map.

8.A.3 Determine the area type of each drainage area from the following:
   a. Simple area: One (1) type of soil or cover is greater than or equal to 80% of the total area.
   b. Complex area: No single type of soil or cover is greater than or equal to 80% of the total area.

8.A.4 Establish representative flow lines for each drainage area. Flow lines must be chosen that are representative of the time required for a majority of the area to drain. Flow lines shall be clearly marked on the topographic map mentioned in Step 2.

8.A.5 Determine the time of concentration for each flow line within the drainage area, each broken down into their proper ground characteristics. See Figure 1 for values.

8.A.6 Determine the intensity for the duration of the critical storm. The longest time of Concentration for the flow lines will be the time of concentration for the area. See Figure 2 for values.

8.A.7 Determine the runoff coefficient by the following method:
   a. If the area type is simple, only (1) "C" value need be determined.
   b. If the area type is complex, all values of "C" must be considered and the area "C" will be a weighted "C", (See step 8.A.7.d).
c. Select the assumed runoff coefficient (C)

<table>
<thead>
<tr>
<th>Type of Surface</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pavement</td>
<td>0.90</td>
</tr>
<tr>
<td>Compacted Gravel</td>
<td>0.70</td>
</tr>
<tr>
<td>Impervious Soils*</td>
<td>0.65</td>
</tr>
<tr>
<td>Impervious Soils with Turf*</td>
<td>0.55</td>
</tr>
<tr>
<td>Slightly Pervious soils*</td>
<td>0.45</td>
</tr>
<tr>
<td>Slightly Pervious with Turf</td>
<td>0.30</td>
</tr>
<tr>
<td>Pervious Soils*</td>
<td>0.10</td>
</tr>
<tr>
<td>Wooded Areas</td>
<td>0.30</td>
</tr>
</tbody>
</table>

*It is required that for these surfaces the "C" value be adjusted for slopes greater than 2% by the following method:
1. Determine the average slope over the surface.
2. Determine the corrected "C" value
   

\[ C_{corr} = (\text{Average slope} - 2) \times 0.01 + C \]


d. Determine weighted C \((C_{wtd})\) for Complex areas

\[ C_{wtd} = C_{corr} \frac{A}{A_1} + C_{corr} \frac{A_2}{A_1 + A_2} \]

8.A.8 Determine the rate of runoff in the area by the following formula:

\[ Q = C I A \]

\( Q \) = Rate of Runoff (CFS - Cubic feet per second)
\( C \) = Runoff Coefficient (from Step 7)
\( I \) = Rainfall intensity (in/hr., inches per hr.)
\( A \) = Drainage area in acres

8.A.9 Determine pipe and/or ditch sizes by using the Manning Formula:

\[ Q = A \frac{1.486}{n} R^{2/3} S^{1/2} \]

\( Q \) = Discharge in cubic feet per second
\( A \) = Cross sectional area of flow in square feet
\( n \) = Roughness Coefficient
**\( R \) = Hydraulic radius in feet \( S \) = Slope in feet per foot

*Type of Conduit | n 
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete Pipe</td>
<td>0.015</td>
</tr>
<tr>
<td>Asphalt Coated Corrugated Metal Pipe</td>
<td>0.024</td>
</tr>
<tr>
<td>Shallow Channel (less than 1&quot; deep)</td>
<td>0.080</td>
</tr>
<tr>
<td>Channel</td>
<td>0.060</td>
</tr>
</tbody>
</table>

Area of Section in Square feet
**Hydraulic Radius = Wetted Perimeter in feet

8.A.10 Determine the velocity of the discharge

\[ V = \frac{Q}{A} \]

\( Q \) = Discharge in cubic feet per second
\( A \) = Cross sectional area of flow in square feet
8.B DRAINAGE CALCULATIONS FOR SUCCESSIVE AREAS

Successive areas: A series of areas which discharge into a lower area consisting of accumulated runoff.

The calculations shall be done on a form similar to design sheet 2 and be as follows:

8.B.1 Delineate the drainage areas on the topographic maps. (See Step 2 of Simple and Complex Area Design Standards)

8.B.2 Establish representative flow lines for each individual drainage area. (See Step 4 of Simple and Complex Area Design Standards).

8.B.3 Establish the time of concentration for each flow line in each drainage area (See Step 5).

8.B.4 See Design Sheet 2 for Reference:

a. Item 1 - The number of the drainage inlet for a particular area.
b. Item 2 - The numbers of the drainage inlets between which flow will run.

c. Item 3 - The length of the drainage flow between the inlets.
d. Item 4 - The time of concentration for the particular inlet under consideration. This figure is the longest time of concentration for the flow lines in the area, as established in Step 3 above.
e. Item 5 - The time it takes for the flow in culvert of channel.
f. Item 6 - The summation of inlet time and flow time to the particular inlet under consideration.
g. Item 7 - The time of concentration taken for the particular inlet. The longer time between the area time of concentration, (item 4) and the total time from the preceding inlet (item 6).
h. Item 8 - The runoff coefficient for the particular area contributing runoff to the inlet (See Step 7 of Simple and Complex Area Design Standards).
i. Item 9 - The intensity for the duration of the critical storm. The time of concentration established in Item 7 is used in Figure 2.
j. Item 10 - The total area for the particular inlet under consideration.
k. Item 11 - The area runoff as determined from: \( Q = CIA \) calculated from values in items 8, 9, and 10.
l. Item 12 - The accumulated runoff is the total quantity of runoff that can be expected at a particular inlet. (The summation of the accumulated runoff plus the area runoff from Item 11).

8.B.5 Determine pipe and/or ditch sizes by using the Manning Formula as in Step 9 of the Simple and Complex Area Design Standards.

8.B.6 Determine the velocity of the discharge as in Step 10 of the Simple and Complex Area Design Standards.
FORMS

Forms A, B, C, E, G, I, J and K may be found as .pdf files under the Forms and Applications Section of the website.
### PLANNING BOARD FEE SCHEDULE

<table>
<thead>
<tr>
<th>Description</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form A - Approval Not Required</td>
<td>$100</td>
</tr>
<tr>
<td>Form B - Preliminary Subdivision Plan</td>
<td>$200/2 lots + $25 each additional lot</td>
</tr>
<tr>
<td>Form C - Definitive Subdivision Plan</td>
<td></td>
</tr>
<tr>
<td>Preceded by a Preliminary Subdivision Plan</td>
<td>$200/2 lots + $25 each additional lot</td>
</tr>
<tr>
<td>Not preceded by a Preliminary Subdivision Plan</td>
<td>$300/2 lots + $35 each additional lot</td>
</tr>
<tr>
<td>Modification of a Definitive Plan *</td>
<td>$150.00</td>
</tr>
<tr>
<td>Zoning By-laws, Zoning Map included</td>
<td>$20.00</td>
</tr>
<tr>
<td>Zoning Maps, reduced color copy</td>
<td>$2.00</td>
</tr>
<tr>
<td>Subdivision Rules &amp; Regulations</td>
<td>$15.00</td>
</tr>
<tr>
<td>Any 24” x 36” copy of a Zoning Map</td>
<td>$5.00</td>
</tr>
</tbody>
</table>

* Modification to a Definitive Subdivision Plan proposing design changes to roadways and/or drainage.
Example shown: A 300' flow over an average grass surface at a slope of 2% would equal a time of concentration of 20 minutes.
Example shown: A 17 minute Time of Concentration would equal a Rainfall Intensity of 4 inches per hour.
## DESIGN SHEET 1

### DRAINAGE CALCULATIONS

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>DRAINAGE AREA ACRES</th>
<th>TYPE OF SURFACE AREA TYPE</th>
<th>TIME OF CONCENTRATION MIN.</th>
<th>RAINFALL INTENSITY IN/HR</th>
<th>RUNOFF COEFF.</th>
<th>RUNOFF CFS</th>
<th>VELOCITY FPS</th>
<th>FRICTION FACTOR</th>
<th>SLOPE FT/FT</th>
<th>PIPE SIZE IN.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# DESIGN SHEET 2

## DESIGN SHEET 2

### DRAINAGE CALCULATIONS FOR SUCCESSIVE AREAS

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>INLET</td>
<td>LINE SEGMENT</td>
<td>LENGTH OF SEGMENT</td>
<td>INLET TIME</td>
<td>FLOW TIME</td>
<td>TOTAL TIME</td>
<td>TIME OF CONCEN.</td>
<td>RUNOFF COEFF. &quot;C&quot;</td>
<td>RAINFALL INTENSITY</td>
<td>TRIBUTARY AREA</td>
<td>RUNOFF</td>
<td>ACCUM RUNOFF</td>
</tr>
<tr>
<td></td>
<td>MIN.</td>
<td>MIN.</td>
<td>MIN.</td>
<td>MIN.</td>
<td>MIN.</td>
<td></td>
<td></td>
<td>IN/HR</td>
<td>ACRES</td>
<td>CFS</td>
<td>CFS</td>
</tr>
</tbody>
</table>

---

43
TYPICAL ROAD CROSS SECTION

COLLECTOR STREETS 60' PAVEMENT 24"  3 1/2" BIT. CONCRETE
MINOR STREETS & LANES 50' PAVEMENT 20"  3" BIT. CONCRETE
commercial & industrial 80' pavement 30" thickness to be determined
	based on use.

*The Planning Board may require that the travelled way be
separated by a raised median strip with a width to be
determined by the Board.

TYPICAL ROAD CROSS SECTION

FOR REQUIREMENTS OF "LIMIT OF CLEARING" NOT SHOWN ABOVE, REFER TO
SECTIONS 5.B.3 and 5.B.4 IN THE SUBDIVISION RULES AND REGULATIONS.
MANHOLE

PRECAST CONCRETE OR CONCRETE BLOCK

MANHOLE

CAST IRON FRAME AND COVER

AT LEAST ONE COURSE OF BRICK SHALL BE USED FOR GRADE ADJUSTMENTS. FRAMES TO BE SET IN A FULL BED OF MORTAR

1. MORTAR ALL JOINTS
2. BASE TO BE SOLID SECTION
3. PIPE MORTARED INSIDE AND OUT
4. FRAMES AND COVERS MUST BE OF AN APPROVED TYPE.
CATCH BASIN

PRECAST CONCRETE OR CONCRETE BLOCK
CATCH BASIN

1. WEEP HOLES AS REQUIRED BY FIELD INSPECTION
2. MORTAR ALL JOINTS
3. BASE TO BE SOLID FILL SECTION
4. PIPE MORTARED INSIDE AND OUT
5. FRAMES AND GRATES MUST BE OF AN APPROVED TYPE

CAST IRON FRAME AND GRATE

AT LEAST ONE COURSE OF BRICK SHALL BE USED FOR GRADE ADJUSTMENTS FRAMES TO BE SET IN A FULL BED OF MORTAR.

18" - 24" TAPERED SECTION

6'6" (STANDARD DEPTH)

48" DIAMETER

3' MIN.

6" MIN. (BLOCK)
5" MIN. (PRECAST)

5" PRECAST OR 4" SECTIONAL PLATES
NOTE: Variations in this design must be approved by the Engineering Department.
BITUMINOUS CONCRETE BERM, CURB INLET AND METHODS FOR SETTING

METHODS FOR SETTING BITUMINOUS CONCRETE BERM AND CURB

BITUMINOUS CONCRETE CURB

BITUMINOUS CONCRETE BERM, CURB AND METHODS FOR SETTING
## DESIGN STANDARDS

<table>
<thead>
<tr>
<th>TYPE OF STREET</th>
<th>COMMERCIAL &amp; INDUSTRIAL</th>
<th>COLLECTOR</th>
<th>MINOR</th>
<th>LANE</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIDTH OF RIGHT OF WAY</td>
<td>80'</td>
<td>68'</td>
<td>50'</td>
<td>50'</td>
</tr>
<tr>
<td>WIDTH OF ROADWAY</td>
<td>30' *</td>
<td>24' *</td>
<td>20'</td>
<td>20'</td>
</tr>
<tr>
<td>MINIMUM CENTERLINE RADII</td>
<td>500'</td>
<td>500'</td>
<td>150'</td>
<td>100'</td>
</tr>
<tr>
<td>MINIMUM CENTERLINE GRADE</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>MAXIMUM CENTERLINE GRADE</td>
<td>6%</td>
<td>6%</td>
<td>10%</td>
<td>12%</td>
</tr>
<tr>
<td>MINIMUM CURB RADIUS @ INTERSECTION (90 DEGREES)</td>
<td>30'</td>
<td>30'</td>
<td>20'</td>
<td>20'</td>
</tr>
<tr>
<td>MINIMUM INTERSECTION ANGLE</td>
<td>80°</td>
<td>60°</td>
<td>60°</td>
<td>60°</td>
</tr>
<tr>
<td>MINIMUM CURB RADIUS @ INTERSECTIONS ACUTE ANGLE SIDE</td>
<td>35°</td>
<td>35°</td>
<td>25°</td>
<td>25°</td>
</tr>
<tr>
<td>MINIMUM CURB RADIUS @ INTERSECTIONS OBTUSE ANGLE SIDE</td>
<td>30'</td>
<td>25'</td>
<td>15°</td>
<td>15°</td>
</tr>
<tr>
<td>MINIMUM CENTERLINE TANGENT REVERSE CURVE</td>
<td>100'</td>
<td>100'</td>
<td>0'</td>
<td>0'</td>
</tr>
</tbody>
</table>
PRECAST CONCRETE CURB INLET

SECION THRU CENTERLINE OF FRAME AND GRATE
TYPICAL CATCH BASIN(S) AT LOW POINTS

NOTES:
1. MATERIALS AND DIMENSIONS FOR CONCRETE CURBING SHALL CONFORM TO COMM. OF HOUS. DPW SPECIFICATION SECTION 500 AND M4-02.00
2. CURB INLETS SHALL BE SET IN A FULL BED OF MORTAR, FULLY SUPPORTED BY THE CATCH BASIN.