

**STATE OF NEW JERSEY  
STATE AGRICULTURE DEVELOPMENT COMMITTEE  
FARMLAND PRESERVATION PROGRAM**

**SCOPE OF SURVEYING SERVICES AND STANDARD DETAIL REQUIREMENTS  
(EFFECTIVE November 1, 2016) <sup>1</sup>**

PURPOSE: These Standard Detail Requirements for State of New Jersey, State Agriculture Development Committee (SADC) Farmland Preservation surveys have been developed to ensure a more consistent format and presentation of information contained on surveys submitted for properties to be enrolled in the Farmland Preservation Program (FPP). The within details and criteria shall be the standard performance for SADC Farmland Preservation Surveys, and the surveyor must comply with the standards set forth herein.

A. REFERENCE TO LAWS:

All survey work will be performed in accordance with New Jersey laws and administrative codes pertaining to land surveying: N.J.S.A. 45:8 et seq., N.J.A.C. 13:40-1.1 et seq. and all other applicable laws or regulations, as same may be amended or enacted.

B. REFERENCE TO SPECIFICATIONS:

All requirements of accuracy and standards, whether conventional surveying methods (traversing, triangulation or trilateration) or Global Positioning System (GPS) kinematic methods are used, shall meet or exceed the Relative Positional Accuracy Standards as adopted by the American Land Title Association (ALTA) and the National Society of Professional Surveyors (NSPS).

C. BASIS OF BEARINGS:

The basis of bearings for all surveys will be the New Jersey State Plane Coordinate System NAD 1983 unless the site-specific RFP or "Notification of Engagement" award specifies an alternate bearing system. NAD 1927 Datum may be projected/converted to NAD 1983 Datum using the Federal CORPSCON, or better, software to make this conversion. The grid factor shall be applied to survey distances stated in feet to two decimal places.

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<sup>1</sup> These specifications shall not be applicable to projects in which, prior to the effective date set forth above, the using agency solicited, or entered into a binding written contract with a surveying company for professional surveying services in connection with the preservation of farmland in accordance with the Agriculture Retention and Development Act, N.J.S.A. 4:1C-11, et seq.

## D. TYPES OF SURVEY ACTIVITIES:

### 1. CONTROL/GLOBAL POSITIONING SYSTEM (GPS) SURVEYS New Jersey Plane Coordinate System

Control/GPS surveys provide the basis of bearings for the property survey in a given project area. Only published survey control marks obtained from the National Geodetic Survey (<http://www.ngs.noaa.gov>) are acceptable, unless this requirement is waived or modified by the using agency (SADC, County, Municipality, or Nonprofit). In addition to labeling the north arrow, the plan must contain a factual note that explains the establishment of the Bearing System or similar title with language that explains how the bearing system for the project area was established and identifies the state or federal control stations used. If an alternate system is specified by the using agency, the filed map number or recording information of the deed used must be stated in a note and labeled on the north arrow. All requirements of accuracy and standards, whether conventional surveying methods (traversing, triangulation or trilateration) or Global Positioning System (GPS) kinematic methods are used, shall meet or exceed the Relative Positional Accuracy Standards as adopted by ALTA and NSPS.

### 2. PROPERTY SURVEYS

The New Jersey Licensed Land Surveyor is responsible for obtaining all records, measurements, and evidence to prepare a correct and accurate land survey and for preparing and providing the corresponding "Description of Property," prepared on company letterhead for the deed of conveyance. All deliverables must be received by the using agency within the time specified in the Engagement Award and before the passing of the date due. All property lines of the surveyed parcel (the farm property) must form closed polygons: all sides must be defined by mathematical survey expressions (with angular units being degrees, minutes and whole seconds of arc and horizontal distances, vertical elevations, radii of curves, lengths of arc, and New Jersey State Plane Coordinate values of Northing and Easting stated in feet to two decimal places. The grid factor shall be applied to the Northing and Easting values in US Survey Feet of the parcel's description point of beginning.) All requirements of accuracy and standards, whether conventional surveying methods (traversing, triangulation or trilateration) or Global Positioning System (GPS) methods are used, shall meet or exceed the Relative Positional Accuracy Standards as adopted by ALTA and NSPS as specified above. Unless otherwise directed by the using agency in any site specific RFP, a separate plan of survey and description of property shall be prepared for each tax lot or group of contiguous tax lots in common ownership. Lots that are in common ownership but are not contiguous may be grouped onto a single plan only if detail and clarity of information is not sacrificed when the scale of the plan is reduced.

3. FARMS PRESERVED UTILIZING FEDERAL FUNDING

For farms preserved utilizing Federal funding, the following additional requirements are mandatory.

The property survey must include the identification and calculation of impervious surfaces. The surveyor must consult with the using agency for the current definition of impervious surfaces, which must be shown on the survey. Examples of impervious surface may include, but are not limited to, pavement, sidewalks, permanent driveways, machine compacted soil, compacted stone areas, roof tops, barns, sheds, houses, garages, commercial buildings, agricultural buildings. The survey will identify the percent of impervious surface existing on the Premises (the property subject to the farmland preservation easement) at the time the development easement is conveyed. The survey plat will serve as a baseline for future reference.

As a notation on the survey plat, the surveyor must show the impervious surface definition and identify and calculate the area of impervious surface that exists on the premises (the area subject to the farmland preservation easement restrictions). The surveyor must highlight the area that is used to calculate the impervious surface and identify the area in “square feet” (to the nearest whole foot) and “acre” (.000) to three decimal places.

4. GEOGRAPHIC INFORMATION SYSTEM/LAND INFORMATION SYSTEM (GIS/LIS) SURVEY COVERAGE DATA DEVELOPMENT

Three digital CADD files are required.

One digital CADD file shall contain only selected spatial features. The features to be included in the file shall be: the *farmland preservation easement boundaries, all internal lot lines, all exception boundaries*, and a limited text block. Within the text block, the following must appear:

*Property Owner*  
*Project Name and SADC ID#*  
*Municipality, County with Tax Block & Lot Number (each lot)*  
*Survey Firm, Surveyor' s Name and NJPLS License Number*  
*Date of Survey and Date of Last Revision*  
*Area of Lot in Acres (each lot)*  
*NAD used*

One digital CADD file shall contain the site improvements identified in Section E item 15c. One digital CADD file shall contain the full survey drawing including all lines and other features.

All three files must be in .dxf or .dwg format. The files must be drawn at its real New Jersey State Plane Coordinate System (NJSPCS) coordinates in the North American Datum of 1983 (NAD83). The views must be unrotated so that the NJSPCS coordinate North points orthographically up (vertical) on the computer screen. The polygon(s) shall be created from the coordinate geometry of its survey point of beginning through the final course of survey and terminus point. To provide a uniform method of completing the closure of the surveyed polygons without degrading the quality of the NJSPCS surveyed bearings used, the acceptable radial error of survey closure in a zero tolerance data environment shall be entered as a final closing arc between the survey point of beginning and the survey point of ending as an additional course.

The layer structure of the original drawing must be intact.

#### 5. OTHER SURVEYS

When other types of surveys such as wetlands, topographic, ALTA Land Title Surveys or other professional surveying or geographic/land information system services are requested, specifications and guidelines will be furnished at the time that price quotes are solicited for a specific engagement.

### E. GENERAL REQUIREMENTS OF THE PROPERTY SURVEY PLAT

#### 1. MATHEMATICAL CLOSURE

All property surveys must form closed polygons with all sides defined by mathematical survey expressions (bearings and distances on all straight line segments/tie lines; radius, arc length, delta, chord bearing and chord distance on all curved lines.) General calls along roads or waterways are unacceptable. Tie lines are to be provided along waterways, and riparian claim lines.

#### 2. AREA

The area of each parcel being surveyed is generally to be stated in acres. The area is to be rounded to the nearest one-thousandth acre (0.001 ac.) unless said parcel is bounded, all or in part, by a waterway or a riparian claim in which case the area will be rounded to the nearest one tenth acre (0.1 ac.). If the entire parcel is less than one (1) acre, the area shall be stated in square feet as well as acres. If the total area surveyed is less than one one-thousandth acre (0.001 ac.), then the area is to be stated in square feet only and rounded to the nearest square foot.

3. AERIAL PHOTOGRAPHS AND PLANIMETRIC MAPPING

Aerial photographs or planimetric maps or manuscripts, when used to locate physical features upon the survey plat, will be controlled, conforming to National Map Accuracy Standards and be current to within two (2) years of the date of the survey plat, unless this time restriction is modified by the using agency. "Aerial Information" block shall be placed on the plat whenever aerial data has been used. Field verification is required.

**SAMPLE AERIAL INFORMATION BLOCK:**  
AERIAL INFORMATION

TAKEN BY: *(organization)*

REFERENCE: *(file number or identification)*

DATE OF FLIGHT: *(within 2 years of plat)*

SCALE: *(stated as a ratio, 1:xxxx)*

4. CLOUDED TITLE AREAS

The New Jersey Licensed Land Surveyor is responsible for obtaining all records, measurements and evidence to prepare a correct and accurate land survey. As a result of this research, the survey may uncover areas of clouded title such as deed gores, deed overlaps and areas left unclear as to ownership due to deed ambiguities. Although the New Jersey Licensed Land Surveyor may be able to render a professional opinion as to how a deed problem was created, the surveyor is only responsible to show on the plan of survey the record condition as it now exists. Areas of confusion are to be located by bearings and distances and the areas are to be clearly stated. The plat of a parcel being acquired must show the total area surveyed, subject to any area of confusion with an adjoining area for which the tax lot and block numbers are given. Any "Apparent Deed Gore," "Apparent Deed Overlap" or "Clouded Title Area" shall be labeled on the plats of all adjoining areas as an area of confusion being surveyed, including all bearings, distances, and area. The description of property may be written "subject to" an area of overlap, or the using agency may require that a separate metes and bounds description be prepared.

5. AREAS OF CLAIM OF RIPARIAN OWNERSHIP BY THE STATE OF NEW JERSEY

The New Jersey Licensed Land Surveyor is responsible for obtaining the official state maps showing riparian claims of the State of New Jersey and reproducing these claim lines on the survey plat. The area of the New Jersey claim is to be stated in acres to one-tenth acre (0.1 ac.). The sources to be used will be identified in the title report which may include maps which have been filed in the office of the county recorder or clerk.

## 6. WATERWAYS

The New Jersey Licensed Land Surveyor is responsible for providing mathematical tie lines (to two decimal places) for survey courses that follow a waterline. The plan must clearly state the date/time of survey, the “Apparent Mean High Water,” “Mean Low Water” or other acceptable survey terms as may be appropriate. (The term “trash line” is not an appropriate nor an acceptable survey term.) The tie lines may be eliminated from the plan when the waterline is surveyed and/or defined by mathematical survey expressions with angular units being stated in degrees, minutes and whole seconds of arc, and the horizontal distances, radii of curves or lengths of arc are stated in feet to two decimal places.

The acreage contained in permanent bodies of water such as ponds and lakes, perennial rivers and streams, which serve as a property boundary within the premises must be calculated and reflected in the survey. This information must be field verified. The licensed surveyor’s best estimate of the water area contained within the premises can be determined by taking the average width and length of the stream or river. No legal metes and bounds description is needed for the sole purpose of establishing the area of the water body, stream or river in question.

This calculation is not required on that portion of the permanent body of water, river or stream affected by the following conditions:

1. If the surveyor has certified on the survey plat that the average width of the stream or river is so insignificant that it becomes impractical to calculate the area.
2. If the property line is situated so that the premise does not include the permanent body of water, the stream or the river.
3. If the permanent body of water, stream or river is bounded on both sides by lands contained within the premises.

## 7. ROADS

The New Jersey Licensed Land Surveyor is responsible for preparing a survey and corresponding metes and bounds description, which cannot in any way be construed as modifying the apparent intention of the parties. Road rights-of-way and the principles of dedication of land for road purposes shall not be taken lightly by the surveyor. The lines of surveys prepared for the acquisition of land are to run with the lines of the deed description as written in the record unless the site specific engagement request directs some other course of action. If the fee title extends to the center of a public road, the survey lines should run to the center of the public road. The survey must also provide the bearings and distances of the right-of-way sidelines, as well as the area of the public right-of-way. The area in the right-of-way is subject to the paramount rights of the public and possible private rights and the area shall be stated as a separate item on both the plat and in the description. If there has been no dedication to define

the sidelines of the right-of-way, the area of the right-of-way is defined as the area of the paved or traveled portion of the roadbed. Private roads crossing the parcel being surveyed must also be shown. The survey must indicate recording information for maps, deed book number and page number, or other pertinent information regarding the dedication of public ways or private easements.

In the event the survey of the parcel extends to the middle of the road and contains the existing and/or proposed rights-of-way, the surveyor must provide the calculation of the acreage, resulting in the net acres of the area under the development easement, the premises. Furthermore, the area of the proposed rights-of-way must be described and excepted from the overall metes and bounds description.

#### 8. EXCEPTIONS

Exceptions are portions of the applicant's land holdings which are not to be encumbered by the deed restrictions. If the using agency intends to impose restrictions on "excepted" parcels, the bearings and distances of the "excepted" parcels shall be shown on the plat. A legal description of the "exception" is required and the acreage shall be shown on the plat and in the Area Summary. The point of beginning of the exception must be identified and the NJSPCS Northing and Easting Grid values must be stated. If the "exception" is not contained within the premises or will not be restricted, the "exception" does not have to be shown on the survey or contained in the metes and bounds description. The surveyor must contact the landowner and/or using agency and verify the location of the exception in the field.

#### 9. MATHEMATICAL SURVEY EXPRESSIONS

The New Jersey Licensed Land Surveyor is responsible for defining all courses of the parcel being surveyed by mathematical survey expressions. All straight line courses will be defined by bearings and distances with angular units stated in degrees, minutes and whole seconds of arc. Curves will be defined by radius, arc length, chord bearing and chord length, and the horizontal distances, radii of curves or lengths of arc must be stated in feet to two decimal places.

#### 10. LEGEND OF ACQUISITION

The New Jersey Licensed Land Surveyor is responsible for providing a standard title block as required by the State Board of Professional Engineers & Land Surveyors. In addition to the surveyor's standard title block, all plats must contain the following "Legend of Acquisition," listing each lot surveyed and providing an "Area Summary" for each lot surveyed. The "Area Summary" shall list individual lot areas for categories as appropriate. Repetition of lot numbers may be necessary to insure that all area within each lot is accounted for.

SAMPLE "LEGEND OF ACQUISITION" BLOCK:

LEGEND OF ACQUISITION (MUST BE COMPLETED FOR EACH LOT)

PURPORTED OWNER: \_\_\_\_\_ SADC ID No. \_\_\_\_\_

STREET ADDRESS \_\_\_\_\_

PROJECT

NAME \_\_\_\_\_ SURVEY REF. No. \_\_\_\_\_

*(repeat the following as needed, deleting any unused/inappropriate headings)*

MUNICIPALITY \_\_\_\_\_ COUNTY \_\_\_\_\_

BLOCK \_\_\_ LOT \_\_\_ INTEREST *(percentage to be acquired in fee and/or easement to be obtained)*

ACRES \_\_\_\_\_

SUBJECT TO: *(list only the areas that affect the property)* examples:

ACRES OF NJ CLAIM \_\_\_\_\_ ACRES OF OVERLAP \_\_\_\_\_

ACRES WATER *(exclusive of area included in NJ CLAIM above)* ACRES CLOUDED \_\_\_\_\_

ACRES in any easements that affect the property \_\_\_\_\_ ENCROACHMENTS \_\_\_\_\_

AREA SUMMARY: *(list only the areas that affect the property)*

TOTAL GROSS AREA \_\_\_\_\_ ACRES

*List only areas that affect the property:*

TOTAL AREA IN EXCEPTION \_\_\_\_\_ ACRES

TOTAL AREA IN ROAD \_\_\_\_\_ ACRES

TOTAL AREA NJ CLAIM \_\_\_\_\_ ACRES

TOTAL AREA OVERLAP \_\_\_\_\_ ACRES

TOTAL AREA UNDER WATER ON BOUNDARY (OUTSIDE NJ CLAIM)

\_\_\_\_\_ ACRES

TOTAL AREA OF ENCROACHMENTS \_\_\_\_\_ ACRES

TOTAL AREA CLOUDED TITLE \_\_\_\_\_ ACRES

TOTAL AREA IN EASEMENTS *(conservation, drainage, slope, access, sight, landscape, bridge maintenance)* \_\_\_\_\_ ACRES

TOTAL NET FARMLAND EASEMENT AREA TO BE OBTAINED \_\_\_\_\_ ACRES



The following table format should be used to summarize the above information:

Block	Lot	Twp	Gross Acreage	Acreage in ___ Road Road Right of Way	Acreage in Non/Severable Exception	Additional Acreage Notation as needed Subject to:	Acreage of Farmland Preservation Easement
						Acreage in overlap/clouded title	
						Acreage in ___ easements	
						Acreage in encroachment	
						Acreage in boundary water body	
TOTALS							

\* Surveyor should specify any overlapping acreages (e.g. area within road ROW that is also subject to sight easement)

## 11. CORNER MARKING

The New Jersey Licensed Land Surveyor is responsible for determining the ultimate user of the survey, the survey plat and the corresponding description(s) as defined by the New Jersey State Board of Professional Engineers and Land Surveyors. For the purposes of this State Board rule, the “Ultimate User” shall be considered the using agency, generally the client, except when this Scope of Surveying Services and Standard Detail Requirements is being used by the seller of a property to hasten the acquisition process. To clearly define where corner markers must be set and where they may be omitted, the following shall apply:

- a) Corner markers must be set at the limits of a project area where the limits adjoin private lands not being acquired as a part of the project. This shall apply to fee acquisition and easement area acquisitions unless this requirement is modified by the using agency at the time that a site-specific engagement is requested.
- b) Corner markers shall be omitted when corners are common to other lands owned by the using agency, are within a project area limits, or are surrounded by other lands being acquired as part of the overall project being surveyed, unless, in the professional judgment of the surveyor, they should be set. Corner markers that are omitted must be identified on the plan as omitted by contractual agreement using the language required by the State Board of Professional Engineers and Land Surveyors. (See N.J.A.C. 13:40-5.1/d).
- c) A detail of the stamping or casting of each type of cap, disk, shiner, etc., actually set to mark corners shall be drawn on the survey plan and shall be stamped with the name of the survey firm and include the month and year set.

- d) At the time of the survey, any corner location that is found to be inaccessible must be set as an offset on line. The marker must be set on line as near to the corner as is practical, stamped "OFFSET" on the cap, and clearly identified on the plan as having been set back from the corner, with the actual distance to the corner clearly labeled.
- e) To maintain the coordinate system for potential future surveys or resurveys, the surveyor must set a minimum of two concrete monuments, visible from one to another whenever possible, at each grouping of contiguous parcels in a project area. One monument is to be selected as a description point of beginning and the NJSPCS Northing and Easting Grid values must be stated. If the corner selected to be the "Description Point of Beginning" was previously marked, then a monument must be set on an alternate corner to maintain the two monument minimum requirement.
- f) Corner markers that are found in the field to be within a radius of 1.5 feet of the true corner calculated by the surveyor, shall be presumed to mark the corner and no new corner marker shall be set. The plan of survey shall clearly indicate the two offset distances (north or south and east or west) of the found marker from the true calculated corner per the surveyor's calculations.
- g) The point of beginning of an exception area must be identified on the plat and in the description and the NJSPCS Northing and Easting Grid values must be stated.

12. CERTIFICATION

The New Jersey Licensed Land Surveyor is responsible for the work that is produced under signature, seal and certification. The following certification must appear on the plan of survey:

I hereby certify to the State of New Jersey, State Agriculture Development Committee (*and to the County, Municipality, Nonprofit, Property Owner, Attorney(s), Title Company, etc.*) and on their behalf, to their title insurer that this plan, survey and corresponding metes and bounds description are based on an actual land survey conducted under my immediate supervision and that this survey meets or exceeds the Relative Positional Accuracy Standards as adopted by ALTA and NSPS in effect on the date of this certification. I further declare, to the best of my professional knowledge and belief, that this plan, survey and corresponding metes and bounds description are a correct and accurate representation of conditions existing on the site as of (*insert month / year*), subject to such notes as may appear hereon.

\_\_\_\_\_  
Signature of Surveyor

\_\_\_\_\_  
Date Signed

13. LOCATION MAP

A location map must be provided in the upper right hand corner of the plat indicating the site. A portion of a U.S.G.S. Quadrangle 1" = 2000' is preferred and if used, the name of the quad is to be stated. The scale, north arrow and "site" must be shown.

14. SURVEY PLAT SIZE

Standard sizes of 30x42 inches or 24x36 inches are required. The surveyor should keep in mind clarity of information when selecting the scale and size of the survey plat.

15. MISCELLANEOUS ITEMS ON PLAT

The New Jersey Licensed Land Surveyor is responsible for presenting all of the findings on the final survey plat. In addition to all the State Board of Professional Engineers and Land Surveyors requirements and those previous requirements specified above, the surveyor must show the following items:

- a. Street address of the subject parcel being surveyed only if the municipality has assigned a common street number;
- b. Tax Block and Lot number(s) of the parcel being surveyed and those of adjoining;
- c. Any site improvements (e.g., buildings, equine tracks, paved farm lanes, hardscape, pits, paved parking areas, pools, man-made ponds, silos, storm basins, solar facilities, towers, or wind power facilities) located within the Premises or Exception areas must be labeled with use at time of survey and size shown on the plat. Residential uses must be labeled as single family, multi family or duplex or apartment units or agricultural labor housing. The surveyor must include the following table on the survey for site improvements located on the Premises:

<u>Item</u>	<u>Example</u>	<u>Area</u>
Buildings	houses, barns, sheds, greenhouses	
Equine Track	horse tracks (all surface types)	
Farm lane-paved	areas where vehicles travel	
Hardscape	patios, basketball/tennis courts	
Pit	other permanent depression	
Parking-paved	areas used for vehicle parking	
Pool	swimming pools	
Pond (man-made)	ornamental or irrigation ponds	
Silo	silos	
Storm Basin	man-made, intermittent water	

Solar Facilities	ground-mounted solar systems
Tower	cell, electrical
Wind Power Facilities	windmills, wind turbines

If the surveyor has any question about whether a site improvement should be identified on the survey and shown in the above table, the surveyor should contact the using agency;

- d. Any utility easements, visible or known of record, overhead wires, pole lines, guy wires, or poles within the parcel being surveyed, including within any road rights of ways and exception area(s). Survey should show any identifying numbers on poles;
- e. Any other types of easements, such as conservation, drainage, slope, access, sight, landscape, or bridge maintenance;
- f. Encroachments clearly drawn, labeled and dimensioned with the area. A detail of the encroachment may be necessary to clearly show fences, sheds, buildings or structures;
- g. Watercourses, including the name and showing the direction of flow and area contained must be drawn and labeled on the plan;
- h. Drains and sewers that are visible on the surface of and within the limits of the parcel. Drains and sewers within a dedicated public road right-of-way need not be shown;
- i. The name of record owners and the latest deed book and page reference for adjoining lands to indicate that those records had been examined in the survey process and that there are no areas of confusion in the record, except for those that may be shown on the plan, if any;
- j. Roads not open are to be so indicated. Paper streets that have not been vacated are subject to possible public and or private rights and the area contained by them must be indicated on the plan;
- k. If the survey indicates that the municipal tax map erroneously locates the parcel, this discrepancy should be noted on the plat;
- l. The deed book and page number of the reference deed actually used must be indicated somewhere on the plan in a factual way;
- m. Surveyor's "Notes" should include the most recent title information and the impact each title exception has on the subject property. Surveyor should identify whether the title exceptions are plotted, unplottable, unplottable – along the road, or do not affect the property;

- n. The surveyor should coordinate with the using agency to determine if there are any non-agricultural uses on the premises. This area would be determined by the using agency, and not the surveyor. The location of any non-agricultural use must be clearly identified with an area calculation.

These items shall not be excluded or limited in appearance through the use of notes except that the surveyor may limit his search of records to the obvious and reasonable and may produce a plan noting that the work is subject to the findings of an accurate and up-to-date title search by a competent title company.

## 16. POINT OF BEGINNING

The point of beginning used in the metes and bounds description must be clearly labeled "Description Point of Beginning" or "P.O.B." (or similar) and must be tied into a corner of record or road intersection. The NJSPCS NAD 1983 Northing and Easting Grid coordinate values stated in feet to two decimal places must be labeled on the plan and stated in the description. The surveyor must set a concrete monument at the point of beginning for each parcel, unless this requirement is waived or modified by the using agency at the time that the bids for a site-specific engagement are solicited.

## F. DEED DESCRIPTION FORMAT

The New Jersey Licensed Land Surveyor is responsible for preparing a separate metes and bounds type "Description of Premises – Schedule A" from the survey plan. This description is to agree with the results of the survey in every particular and for that reason, the description must not include any information which does not appear graphically or in a factual note on the survey plat. One description may include several contiguous tax lots in common ownership grouped together into one or more "survey tracts." The surveyor shall also prepare a separate metes and bounds type description of each Exception area labeled "Description of Exception Area - Schedule C." The description must be prepared in accordance with the following:

### 1. SURVEYOR'S LETTERHEAD

The New Jersey Licensed Land Surveyor shall prepare an original metes and bounds type description of property, separate and apart from the prepared final plan of survey and must submit it on an original company letterhead 8 ½" in width by 11", 13" or 14" in length.

### 2. HEADING OF DESCRIPTION

All headings must appear at the top of the page, but below any company logo, address, or name. The heading must read as shown below:

DESCRIPTION OF PREMISES  
(SADC ID #)

(Municipality) (Date)  
(County) (Block\_\_\_\_, Lot\_\_\_\_)  
Lands N/F (Purported owner) (Street address)

3. FIRST PARAGRAPH OF DESCRIPTION

The first paragraph of the metes and bounds description must begin:

“All that certain tract or parcel of land located at (Street Address) in the (City, Borough, Town, or Township) of \_\_\_\_\_, County of \_\_\_\_\_, New Jersey, bounded and described as follows:”

4. SECOND PARAGRAPH OF DESCRIPTION

The second paragraph will describe the point of commencement, if any, leading to the beginning point, including its New Jersey State Plane Coordinates (NAD 1983) or bearing system used similar to the following:

Commencing at the intersection of the westerly line of *First Street* (*xx feet* wide R.O.W.) with the Northerly line of *Kings Highway* (*99 feet* wide R.O.W.) and on a New Jersey Plane Coordinate System NAD 1983 (NJSPCS) bearing of South 0X degrees 0X minutes and 0X seconds West, a distance of xxx.xx feet to the TRUE POINT OF BEGINNING, (said beginning point having NJSPCS Grid values *N XXX,XXX.XX feet* and *E XXX,XXX.XX feet*), and from said beginning point and in the said bearing system running, thence:

5. BODY OF DESCRIPTION

The New Jersey Licensed Land Surveyor shall prepare the description in his/her own style from information that is shown on the final plan of survey. No information shall be provided in the description that does not appear drawn graphically or provided in a note form on the plan. All courses of the description must be numbered in sequence. To avoid having the description state that the bearings are in the “reverse” of those shown on the plan some bearings appearing on the plan shall be labeled in each direction (i.e. NE and SW or NW and SE).

The New Jersey Licensed Professional Land Surveyor shall prepare the description with courses running clockwise from the description point of beginning. Each course shall be a new paragraph and shall be numbered, with a line space between each such course/paragraph. No information shall be provided in the description

that does not appear graphically or appear in a factual note form on the plan. Whenever a called point is a marked corner, the description shall make reference to the type of marker found or set, without changing the intention of prior records. As an example, the call TO A POINT should include language such as NOW EVIDENCED BY A CONCRETE MONUMENT SET, TO A POINT NOW EVIDENCED BY A ONE INCH DIAMETER PIPE FOUND, or TO A POINT NEAR A CAPPED IRON PIN FOUND, etc. Original called-for markers shall still be called for in the description. Example: a call TO A CONCRETE MONUMENT SET shall instead be TO A CONCRETE MONUMENT FOUND. The description shall include reference to the corner markers that have been set. Cap labels (surveyor, firm, license number) shall be referenced for all such corner markers.

6. QUALIFYING AND AUGMENTING CLAUSES SHALL BE INCLUDED WHERE REQUIRED

The surveyor is reminded that an easement of access that will be acquired with the surveyed parcel should be written in the description as a conveyance “together with” an easement for access whereas an easement of access that benefits the adjoiner should be written in the description as a conveyance “subject to an easement for access containing xx.xx acres.” The description of property where a mapped claim of the State of New Jersey is not used as the property line in the survey must state, “The total area of the surveyed parcel contains xxx.xxx acres, subject to a riparian claim of the State of New Jersey containing xx.x acres.” Alternately, if the claim is cut out of the lines of the survey and the survey binds along the riparian claim of the State of New Jersey, the description must state that the parcel is being conveyed “together with a riparian grant from the State of New Jersey containing xx.x acres, subject to” the conditions stated in the grant.

7. AREAS OF THE SURVEY MUST BE STATED

The area(s) of each parcel(s) must be clearly stated in the description as well as on the plan of survey. If there is more than one lot included in the surveyed parcel, state the total area of the survey and the area for each included lot according to the categories indicated in the Legend of Acquisition. In addition, state separate areas for other possible reasons, if any, as indicated in the above clauses.

8. FINAL PARAGRAPH OF DESCRIPTION

To provide a uniform closing “call for survey” the final paragraph in all descriptions must read as follows:

The above description was written pursuant to a survey of property designated as Block \_\_\_\_\_, Lot \_\_\_\_\_, on the municipal tax map of (\_\_\_\_\_*municipality name*\_\_\_\_\_), County of (\_\_\_\_\_*county name*\_\_\_\_\_), State of New Jersey. Said survey was prepared by (\_\_\_\_\_*Your firm's name and address*\_\_\_\_\_), (\_\_\_\_\_*date*\_\_\_\_\_), revised through (\_\_\_\_\_*last revision date, if any*\_\_\_\_\_) and is marked as

file No. \_\_\_\_\_. A reduced copy of said survey plat is attached hereto and made a part hereof.

9. SIGNATURE AND SEAL OF THE NEW JERSEY LICENSED LAND SURVEYOR

The separate metes and bounds “Description of Premises – Schedule A” and “Description of Exception Area – Schedule C” must bear the original ink signature, unless it is a digital signature provided in compliance with N.J.A.C. 13:40-8.1 and 8.1A, and embossed seal of the surveyor who prepared the survey plan.

G. NEW JERSEY LICENSED LAND SURVEYOR

1. ORIGINAL SIGNATURE AND SEAL

All survey plans and the original description(s) must be signed and sealed by a New Jersey Licensed Professional Land Surveyor responsible for the work who is a member of the survey firm under contract. To insure that the plan is the product of the licensee, the signature must be the original signature in ink on each copy of the plan of survey and original description, unless it is a digital signature provided in compliance with N.J.A.C. 13:40-8.1 and 8.1A. A rubber stamp is unacceptable.

2. RESEARCH

The New Jersey Licensed Land Surveyor is responsible for obtaining sufficient documentation and evidence to render a survey plat which is correct as well as accurate to the stated specifications and standards. The using agency will not withhold information from the surveyor; for site specific bidding purposes, the surveyor shall conduct all research required to complete the work by the due date. Any title work, prior surveys, adjoining surveys, and any survey records in the using agency’s possession that pertain to the subject site shall be provided to the surveyor.

3. FIELD PROCEDURES AND CREW RESPONSIBILITIES

The New Jersey Licensed Professional Land Surveyor shall be responsible for the work of all survey crews operating from the firm. The crew shall endeavor to cause as little inconvenience as possible to property owners when conducting the field survey. Whenever possible, random traverse lines shall be run within the property being surveyed rather than upon the lands of an adjoiner. If traverse lines are run upon the lands of an adjoiner, no clearing of lines shall be conducted without the prior written consent of the party whose name appears as the property owner as indicated in the tax rolls of that municipality. Copies of the consent must be forwarded to the using agency. Painting and flagging evidence shall be kept to a minimum whenever possible. Littering or damaging the property may subject the



offenders and licensee to possible civil action. Large trees shall not be cut to clear line without the prior consent of the using agency. Brushing-out of lines shall be kept to a minimum. The surveyor is responsible for compliance with regulations, including procuring of permits with regard to disturbance of wetland vegetation.

4. COST ESTIMATING

The New Jersey Licensed Professional Land Surveyor shall be responsible for preparing accurate proposals to cover all projected costs associated with the completion of work in accordance with the contract to the satisfaction of the using agency. Failure on the part of the New Jersey Licensed Professional Land Surveyor to project costs adequately will not be accepted as justification for “additional work” payment requests.

H. NOTIFICATION OF PARTIES AND SURVEYORS RIGHT OF ENTRY

Pursuant to the “Underground Facility Protection Act”, N.J.S.A. 48:2-73, et seq., three business days prior to starting a job where digging to look for corner markers or the setting of new corner markers will be required, the New Jersey Licensed Land Surveyor shall call 1-800-272-1000 for a mark out of underground utilities on any affected properties. Pursuant to the Surveyor’s Trespass Law, N.J.S.A. 45:8-44.1, the New Jersey Licensed Land Surveyor has the authority to go on, over and upon lands of others during reasonable hours to make a land survey. Pursuant to the provisions for “Preliminary Entry” under the Eminent Domain Act, N.J.S.A. 20:3-16, agent surveyors of a prospective condemner may enter lands during reasonable business hours to make a land survey. Upon State Agriculture Development Committee authorization, land surveyors may enter on any lands for the purpose of making surveys or other inspections. The New Jersey Licensed Land Surveyor shall be responsible for sending written notice 10 days prior to entry unless waived by the using agency to the property owner or designated representative and occupant, if any, and any adjacent property owner upon whose land it may be necessary to enter to complete the survey. The notices shall be prepared on company letterhead with a copy being sent to the using agency and to the local police department(s) where the job is located. The original notifications must be sent via the United States Postal Service as Certified Mail, Return Receipt Requested and must read substantially in accordance with the following format:

SAMPLE NOTIFICATION LETTER:

*to*

*date*

RE: SADC ID # \_\_\_\_\_ Project Name \_\_\_\_\_  
Municipality, County \_\_\_\_\_  
Tax Block and Lot Numbers \_\_\_\_\_  
Street Address or location \_\_\_\_\_  
Survey Reference No. \_\_\_\_\_

Dear \_\_\_\_\_:

Our firm is under contract to provide Professional Land Surveying Services to (\_\_\_\_\_ *using agency* \_\_\_\_\_) in connection with the above referenced land acquisition project.

In order to perform the land survey, our staff must gather field evidence, make measurements and obtain data relative to existing physical characteristics and conditions of the lands being surveyed and sometimes on those lands, which adjoin the project area as well. It is therefore necessary for our land survey crew to enter upon your property for this purpose.

Be advised that there are several laws that provide specific authority for land surveyors to enter property for the purpose of making surveys and this letter is being provided to you as written notice that members of this office will be on your property during the period between (\_\_\_\_ time period\_\_\_\_) and (\_\_\_\_ time period\_\_\_\_\_).

Your cooperation in this success of this engagement is important to us. We would greatly appreciate you loaning to us copies of any prior surveys or deed documents that you may have in your possession that would assist in the completion of this project. Please call me here at the office to advise if you have any such documents.

If you have any questions concerning this project, please call (\_\_\_\_\_ *project coordinator identified in the site specific RFP* \_\_\_\_\_) who can be reached by calling (\_\_\_\_ *area code and phone number* \_\_\_\_\_). While the work is being performed, we will make every effort to cause as little inconvenience as possible.

Very truly yours,

*Name and signature of New Jersey Licensed Land Surveyor*

c. (\_\_\_\_ *project manager, using agency* \_\_\_\_)  
(\_\_\_\_ *municipal police department* \_\_\_\_\_)

## I. DELIVERABLES

The New Jersey Licensed Land Surveyor is responsible for submitting all deliverable work products on or before the date specified in a site specific engagement to the using agency or such other location as may be specified in the site specific RFP. As appropriate for the type of survey ordered, the deliverables shall include all of the following or such other items as may be directed in the site specific RFP:

1. Copies of all written notices sent to the property owners or designated representatives and occupants, if any, and adjacent property owners upon whose land it may have been necessary to enter to complete the survey. The notices shall have been prepared on company letterhead and a copy sent to the municipal police department;

2. A computer printout of the coordinate geometry (COGO) survey data files demonstrating that the mathematical survey expressions used to define the parcel as used on the plan and in the description of the property form a closed polygon and verify that the areas as stated are correct. The precision of the survey must be stated and the bearing and distance of the radial error of closure of the adjusted survey (distance from the terminus of the final course to the point of beginning) must be given;
3. Six (6) signed, sealed and dated paper copies of the survey plat depicting the results of the field and record investigation and survey. These plans must be folded to approximately 8 ½" x 14" with the title block facing up prior to being submitted;
4. Six (6) originals of the metes and bounds "Description of Premises – Schedule A" and "Description of Exception Area – Schedule C" that corresponds to and has been derived from the plan of survey. Each description must be prepared on original company letterhead (8 ½" x 11" or 8 ½" x 14") and must bear the original signature and must bear the raised impression type seal of the New Jersey Licensed Land Surveyor who has prepared the description and plat. The description must not contain information not also stated in a factual note or shown graphically on the survey plan;
5. Two (2) paper copies of the 8 ½" x 11" reduced survey plan. This sheet must be a true reduction of the original plan as submitted and may not be altered in order to provide clarity of data. (It is understood that data appearing on this plan may not be entirely legible. This plan is not to be sealed with the embossed seal of the New Jersey Licensed Land Surveyor);
6. For each property to be surveyed, three digital CADD survey files are required for GIS use.

One digital CADD file shall contain only selected spatial features. The features to be included in the file shall be: the *farmland preservation easement boundaries*, *all internal lot lines*, *all exception boundaries*, and a limited text block. Within the text block, the following must appear:

*Property Owner*  
*Project Name and SADC ID#*  
*Municipality, County with Tax Block & Lot Number (each lot)*  
*Survey Firm, Surveyor' s Name and NJPLS License Number*  
*Date of Survey and Date of Last Revision*  
*Area of Lot in Acres (each lot)*  
*NAD used*

One digital CADD file shall contain the site improvements identified in Section E item 15c.

One digital CADD file shall contain the full survey drawing including all lines and other features (site improvements, easements, streams, overlaps, woods, etc.).

All three files must be in .dxf or .dwg format. The files must be drawn at its real New Jersey State Plane Coordinate System (NJSPCS) coordinates in the North American Datum of 1983 (NAD83). The views must be unrotated so that the NJSPCS coordinate North points orthographically up (vertical) on the computer screen. The polygon(s) shall be created from the coordinate geometry of its survey point of beginning through the final course of survey and terminus point. To provide a uniform method of completing the closure of the surveyed polygons without degrading the quality of the NJSPCS surveyed bearings used, the acceptable radial error of survey closure in a zero tolerance data environment shall be entered as a final closing arc between the survey point of beginning and the survey point of ending as an additional course. The layer structure of the original drawing must be intact.

Digital files for GIS must be on a Windows compatible CD ROM or sent via email. The files are to be named using the first eight letters of the property owner' s name unless multiple files are combined in a project area. If this is the case, then use the first eight letters of the project name;

7. A full sized digital 300dpi PDF/A copy of the final survey must be provided to the using agency.

*END OF SCOPE OF SURVEYING SERVICES AND STANDARD DETAIL  
REQUIREMENTS*