Hillsborough County, Florida
Real Estate and Facilities Services
Geomatics Section, Survey & Mapping

Hillsborough County
Florida

Survey and Mapping Manual

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Hillsborough County GOVERNMENT Florida

Real Estate Services Department ~ Geomatics Section

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PREFACE

HILLSBOROUGH COUNTY
SURVEY AND MAPPING MANUAL

PURPOSE:

- To establish survey standards for Hillsborough County.
- To improve the overall efficiency of survey functions.
- To provide a single reference source for surveying policies, procedures and information.
- To help others gain a better understanding of surveying and its relationship to other County projects.

This manual, in general, covers policies, procedures, and appropriate reference material, it is not a textbook, nor is it a substitute for surveying knowledge and judgment. Project specific scopes will detail the work required and identify the types of survey, maps and reports required.

As used in this manual, the terms: surveyor, mapper, consultant and professional are synonymous with Professional Surveyor and Mapper.

This manual is also available via the internet, please call Chris Snyder at (813) 307-4782

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Periodic updates will be made to the Manual. Any suggestions for improvements are welcome. Suggestions may be submitted via e-mail brownt@hillsboroughcounty.org or by fax (813-272- 6459) attention: Tim Brown or by mailing to the above listed address.

CHAPTER 1 – SURVEY PROCEDURES

INTRODUCTION

Uniform standards and procedures are to be used on all surveying and mapping work that is performed by and for Hillsborough County. Contained within this manual are standards regarding information required to be included on County surveying and mapping projects. Within the Appendices, are details and examples of the survey product.

Variations from these procedures will not be allowed unless specifically authorized in writing by the Geomatics Section, Project Surveyor. These standards and procedures are intended to be complimentary to all laws and rules applicable to surveying and mapping. Under no circumstance will the contents of this manual supersede any statutory requirement. All surveying and mapping services shall be performed under the supervision of a licensed Florida Professional Surveyor and Mapper.

Standards and procedures for photogrammetric mapping projects will be issued on an individual project basis.

Chapter 1 Section 1

1.1 SURVEYING SAFETY FOR PUBLIC PROJECTS

1.1.1 PURPOSE

Surveyors shall be aware of laws, regulations, rules, and uniform standards that apply to safety requirements for such work. The safety of the public and survey personnel is the responsibility of the professional. It is the professional's responsibility to be aware of any changes in the law that may affect the required safety procedures.

1.1.2 TRAFFIC CONTROL AND SAFE PRACTICES

To establish uniform standards for safety measures, the Florida Department of Transportation (FDOT) has prepared a "Survey Safety Handbook" and a "Roadway and Traffic Design Standards (Index 600 Series)" manual (this can be found at the following link:

*www.dot.state.**fl**.us/**surveying**andmapping/**Manual**s/**safety**.pdf*
(revised link 10/2012)

The authority for the requirements of the DOT Manual is found in Chapter 316 of the Florida Statutes.

When performing services for the County, the Professional shall comply at all times with applicable Federal, State and local laws and provisions and policies governing safety and health. This includes Title 29, Code of Federal regulations, Parts 1910 and 1976, Occupational Safety and Health Regulations, including confined space entry requirements for General Industry and Construction, including any subsequent revisions and updates and the Sunshine State One Call system (Sunshine811). Full compliance with the current FDOT's Department Roadway and Traffic Design Standards (Index 600 Series) Manual, the Survey Safety Handbook and current Maintenance of Traffic Training D.O.T. Topic No. 625-010-010-a is a minimum requirement.

Closing of traffic lanes on Hillsborough County roads will not be allowed unless permitted by the Developments Services Department, Right-of-Way Use Permits Right of Way Management Office at 813-272-5920 and/or approvals have been granted by any other jurisdictional agency having authority over the road.

Chapter 1 Section 2

1.2 SURVEYING ON PRIVATE PROPERTY

1.2.1 PURPOSE

Surveyors performing work on County projects are considered an extension of our staff. The professional is obligated to respect the rights of the property owners.

1.2.2 PRIOR NOTIFICATION

Hillsborough County requires all surveyors performing work for the County, to notify the property owners as to the nature of the project prior to entry upon their lands. Notification and clear communication is especially important when a project involves jurisdictional surveys or the flagging of proposed right of way acquisitions**.** The County project surveyor will provide a letter to the surveyor explaining the purpose of the work.

1.2.3 RIGHTS OF PROPERTY OWNERS

Florida Statute 472.029 provides authorization to surveyors to enter private lands for surveying work, they cannot destroy, injure, damage or move anything without the written permission of the owner. When performing surveys for the County, surveyors shall not enter private lands without permission of the owner. If a land owner does not want a surveyor or his crew on their lands, the owners' wishes will be respected, and the County project surveyor shall be notified. The County project surveyor will contact the property owner and make the appropriate arrangements to gain access.

1.2.4 IDENTIFICATION

Surveyors shall carry proper identification in the form of business cards and all vehicles should be marked with company identification.

Chapter 1 Section 3

1.3. GENERAL NOTEKEEPING

1.3.1 PURPOSE

Good notekeeping is important and field notes that are accurate, complete, legible and not subject to misinterpretation are necessary.

Field notes must contain all of the information necessary for surveyors not familiar with the site, to understand the work performed. The notes represent the only original record of the field survey and may be used as evidence. It is essential that the note keeper produce notes that are clear and accurate representing the survey work performed. (See Appendix C for General Notekeeping Procedures)

1.3.2 FIELD BOOKS

ALL original field notes are the property of Hillsborough County and shall be returned to the County upon completion of the project. All survey field notes taken for Hillsborough County will be recorded in standard bound "cross section" books. Examples of acceptable field books are: DIETZGEN-ENGINEERS CROSS SECTION BOOK S39IV; ELAN CROSS SECTION BOOK E10X10K; LEITZ CROSS SECTION BOOK 8152-75; OR SOKKIA CROSS_SECTION BOOK.

1.3.3 NUMBERING AND IDENTIFICATION OF FIELD BOOKS

All field books shall be assigned a unique number by the Geomatics Section, Field Office . This number shall be clearly printed on the top portion of the binder in permanent black marker.

GEOMATICS FIELD OFFICE
2218 N. Falkenburg Road, Tampa, FL 33619
p: 813.744.5619 | f: 813.744.5621
h: 7:00 a.m. - 3:30 p.m., Monday -Friday

The inside fly page of each field book shall be labeled "Property of the Hillsborough Geomatics Section - Phone (813) 307-4780 or (813) 744-5619.

Chapter 1 Section 4

1.4 SURVEY STANDARD GUIDELINES

1.4.1 PURPOSE

To establish minimum standards for surveys. The professional's knowledge, experience and judgment will determine office and field procedures needed to provide the necessary services that may be required on any individual survey task. The professional shall perform survey tasks in accordance with all applicable statutes, manuals, guidelines, standards, handbooks, procedures, and current design memoranda.

1.4.2 STANDARDS

Statutory standards Surveyors adhere to are: Chapter 5J-17 Florida Administrative Code ("Minimum Technical Standards"), Chapters 177, 472 and 556 Florida Statutes ("Plat Law", "Land Surveying & Mapping" and "Sunshine State One Call"), Title 29, Code of Federal regulations, Parts 1910 and 1976, Occupational Safety and Health Regulations and FDOT's Department Roadway and Traffic Design Standards (Index 600 Series) Manual.

Projects may require performing services to a standard outlined by others. Examples are: Environmental Protection Commission (EPC), Southwest Florida Water Management District (SWFWMD), Tampa Port Authority, Florida Department of Transportation (FDOT), Department of Environmental Protection (DEP), National Geodetic Survey (NGS), American Congress on Survey and Mapping (ACSM), American Society of Civil Engineers (ASCE), and American Land Title Association (ALTA). When these services are necessary, the appropriate standard will be referred to in the projects scope of services, however, it is the responsibility of the surveyor to ensure compliance with any of these.

Unless otherwise specified, **all surveying and mapping projects** will be performed and submitted utilizing the Florida State Plane Coordinate System. All coordinates and bearings should be grid. All distances shall be in ground feet. Scale and elevation factors shall be shown on drawings.

1.4.3 DATUM

UNITS
U.S. Survey Feet

HORIZONTAL DATUM
The horizontal datum is the North American Datum 1983 (NAD83), or Adjustment 1990 (NAD 83/90) or Adjustment 1999 (NAD83/99) or National Spatial Reference System 2007 NAD NSRS 2007. U.S. Survey feet; Originating horizontal control shall be noted on all surveys.

VERTICAL DATUM

The vertical datum is the North American Vertical Datum of 1988 (NAVD88), U.S. Survey Feet. If a geoid model is used to convert ground surface elevations from GPS measured ellipsoid heights to NAVD88 orthometric heights, then the geoid used shall be specified Data Lineage Section of the metadata.

PROJECTION

The projection to be used is Florida State Plane West, NAD83 (HARN), and U.S. Survey Feet. (If data is submitted in GIS format, it must have a defined projection, whether shapefile or coverage.)

Chapter 1 Section 5

1.5 SURVEYORS REPORT

1.5.1 PURPOSE

A survey report is to provide clear, concise and complete information on the facts, assumptions, analyses, procedures and results obtained during the survey.

1.5.2 SURVEY REPORT

A surveyor's report shall be submitted for all survey and mapping projects performed for the County. The furnished report will, in addition to other pertinent data: explain the theory of location applied in establishing or retracing boundary lines and corners, non-routine methods and/or method of analysis.

When a specific project is of a large and complicated nature, the County may require the surveyor to submit an interim report supporting decisions made. This information will also be in the project's final survey report.

Following are excerpts from the Florida Administrative Code -FAC.

Florida Administrative Code 5J-17.050 (10) (b) Boundary Survey: a survey, the primary purpose of which is to document the perimeters, or any one of them, of a parcel or tract of land by establishing or re-establishing corners, monuments, and boundary lines for the purposes of describing the parcel, locating fixed improvements on the parcel, dividing the parcel, or platting.

Florida Administrative Code 5J-17.050 (11) Survey and Map Report: a written document, sometimes referred to as "a report" or "the report," **detailing methods used**, measurements and computations made, accuracies obtained, and **information obtained or developed** by surveying and mapping techniques.

"Applicable to all categories of surveying and mapping projects"

Florida Administrative Code 5J-17.050 (12) Surveying and Mapping: a process of direct measurement and analysis specifically designed to document the existence, the identity, the location, and the dimension or size of natural or artificial features on land or in the air, space or water for the purpose of producing accurate and reliable maps, suitable for visualization if needed, of such documentation.

Florida Administrative Code 5J-17.050 (14)(b.) The (Survey and Mapping)Text Report items shall be displayed either through notes on the map, report, or in a text report delivered with the map. When the report is produced as a text document and a map is attached, the report shall be signed and sealed. When the map is delivered in digital form only, then a report is required. An **attached map must clearly reference the report by title, date and subject; and the report must likewise clearly refer to the map by title, date, and subject**. Statements must be made on the map and in the

report that neither is full and complete without the other.

1.5.3 SURVEY REPORT REQUIREMENT FOR BOUNDARY SURVEYS

Survey work encompasses the aspects of measurement and analysis; the efforts of research, the search for evidence, and the application of principles to establish boundary lines and monuments is the underlying foundation to presenting map of survey.

Because the work performed by the Professional either is directly for public projects or the dedication of land, easements or rights-of-way to the public, the surveyor has duty to accumulate, preserve and share data.

Principles related to this work:

- Search for controlling physical monuments and weigh reliability.
- Search and locate evidence necessary to the survey.
- Locate evidence of possession.

The survey report should include:

An explanation of the theory of location applied in establishing or retracing lines and corners.

- Availability and condition of reference monuments
- Occupation or possession lines.
- Clarity or ambiguity of the record descriptions. “Conflicts, gaps, overlaps, missclosure.”

CHAPTER 2
RIGHT OF WAY MAPPING AND OTHER SURVEYS

CHAPTER 2 - RIGHT OF WAY MAPPING AND OTHER SURVEYS

INTRODUCTION

Various surveys are prepared for County projects to acquire property, rights of way and easements. These surveys and maps are permanent public records and will be used extensively by County personnel, surveying and engineering consultants and the public. This chapter establishes uniform criteria for the preparation of these maps and related documents.

Right of Way Mapping

Right of Way Maps are prepared to identify existing location of recognized boundaries, establish baseline survey control and to assist engineers in planning and development of projects. Ultimately, these maps are the basis of identifying acquisition needs and are used to create individual parcel sketches and maps used during this process.

Existing Right of Way Map

The Existing Right of Way Map is the first survey on the project, establishing baseline control, locating existing right of way (T.I.I.T.F. Reservations, Maintenance, Deed, Plat, Zoning, etc.). This map is based on title research and field surveys.

Maintained Right of Way Map

The Maintained Right of Way Map may be required to establish and document evidence of the right of way by maintenance as defined by Florida Statutes 95 and 361. The need for this type of map will be identified during the process creating the Existing Right of Way Map.

Right of Way Map

The Right of Way Map is the final map prepared reflecting the existing right of way identified during the initial phases of the project and additional right of way needs based on the design by the engineer. From this map, individual parcel information is developed for the acquisition process (appraisals, final legal descriptions and sketches). The final revision to this map serves as the project record of right of way.

Other Surveys

Other types of surveys may be required for acquisition, permitting, design, etc.. The requirements of each of these surveys will be project and site specific. In all cases the level of research and detail is outlined in this manual.

Records Research

For the acquisition of any right of way, easement or property, title research will be required. Each project needs thorough investigation regarding potential impacts such as:

- Existing easements
- Zoning conditions

- Legal judgments
- Vacation of right of way
- "T.I.I.T.F. Reservations" – Trustees of the Internal Improvement Trust Fund

The research and review of the records shall include but not be limited to:

- Real Property, Technical Services section files which contain many historical records
- Title Report prepared by a Title Company
- Planning and Growth Management Department Records
- Florida Department of Environmental Protection Certified Corner Records
- Survey Division Records

Date of Survey – As defined in 61G17. As needed, this will change with additional field work. To ensure consistency, Hillsborough County requires that each day field work is performed will be listed. The certification block will reflect the actual date of signature. The initial issuance of a survey and/or map and report will be the first date of signature of certification. All subsequent changes made to the survey whether additional field work or changes to the drawing will be issued as a revision. (See Section 1.5)

TYPES OF RIGHT OF WAY & STANDARD TERMS TO BE USED
WHEN REFERRING TO PUBLIC RIGHT OF WAY IN
HILLSBOROUGH COUNTY

DEEDED - Represents land that the County holds by recorded deed

PLATTED – Represents right of way dedicated by a recorded subdivision plat

DEED EXCEPTION – Property line/right of way line established by property owner's deed where footage is specifically lessed out for right of way. i.e. "less the south 25 feet thereof for road right of way" or where the metes and bounds description runs along a line specifically identified in the description as the right of way line i.e. "to a point on the west right of way line" or "along the west right of way line". (Labeled as "PL / DE")

PROPERTY LINE (PL**)** - Property line by description. An example of this is where a property deed description begins at a point XX feet from a sectional line or other controlling line and then runs along a line without reference to a right of way line (although there may, in fact, be a road adjacent to the parcel).

FDOT TRANSFER – Right of way which was legally transferred to the County from the Florida Department of Transportation (i.e. Transfer Book __, Page ___ of the Public Records of ….), shall be referred to and labeled as **FDOT TRANSFER, Bk __, Pg __** except where the FDOT maps state the right of way as "maintained". In the case of "maintained" the Public Works Department will mark the current limits being maintained in accordance with Florida Statues F.S 95.361. The current maintenance limits will be noted as "Maintained Right of Way". Notes shall be placed on the plans/maps and in databases containing right of way documentation that the right of way was initially transferred to Hillsborough County from FDOT by Right of Way Transfer Book ___, Page ___ and was marked and maintained by _ (name) of the Transportation Maintenance Division of the Public Works Department on (date).

MAINTAINED RIGHT OF WAY – Right of way that solely exists by maintenance performed by the Transportation Maintenance Division of the Public Works Department meeting the

requirements of Florida Statues F.S 95.361. Maintained right of way from time to time exists beyond right of way that is set by other designations. When this is a significant amount, both designations shall be noted. (i.e. The right of way by a recorded plat is 25 feet from the section line and the physical maintenance defensible under F.S 95.361 is at 32 feet)

ZONING CONDITION REQUIRMENTS – When zoning conditions exist on a particular property they shall be noted on right of way maps, sketches, etc. a “Proposed Right of Way per Re-Zoning Petition _____”. These “ Zoning conditions” can be found in the Development Services Department Records.

Chapter 2 Section 1

2.1 CONTROL SURVEY AND EXISTING RIGHT OF WAY MAP

2.1.1 GENERAL

Existing Right of Way Maps are prepared for projects to identify and fix the lines and location of existing right of way and establish survey baselines. These maps accurately depict the existing right of way, T.I.I.T.F. (Trustees of the Internal Improvement Trust Fund) reservations, right of way by zoning petitions and property lines.

2.1.2 PROCEDURES

Existing right of way maps shall be based upon actual field surveys performed under the direct supervision of the Professional Surveyor and Mapper preparing the maps. Title reports are required for all adjacent property. Title reports will be the responsibility of the Professional. The Professional will depict the individual property lying along the existing right of way on the maps. The entire adjacent ownership shall be shown and dimensioned. Upon commencement of any project the Professional shall secure copies of the Real Estate and Facilities Services, Real Property Section's section files reflecting existing deeds, easements, vacation of right of ways, etc. which may affect the project. The Professional shall coordinate with the Real Property Section concerning vacated right of way, T.I.I.T.F reservations, applicable court cases and coordinate with the Development Services Department for any zoning conditions placed on adjacent property for right of way or other public purposes. No variation from these procedures will be allowed without prior written approval from the Geomatics Section. Evidence of the research efforts shall be made in the surveyors report accompanying the right of way map submittals. Complete Title Reports as described in the specifications under Exhibit "E", shall be submitted with the Existing Right Of Way Maps and Sketches. Upon commencement of any project, the Professional shall secure copies of the Real Property Section's section files reflecting any and all existing deeds and easements which may affect the proposed project and same shall be appropriately indicated on the Existing Right Of Way Maps. In addition, the Professional will coordinate with the Real Property Technical Team concerning vacated right of way, T.I.I.T.F. Reservations, applicable court cases, and with the Development Services Department regarding right of way conditions on zoning approvals. No variation from these procedures will be allowed without prior written approval of the Geomatics Section.

The preparer of all right of way maps shall contact the Development Services Department of Hillsborough County, in writing, and obtain any and all zoning conditions that may affect properties along the right of way corridor. The limits of such conditions must be shown on the existing right of way maps.

Chapter 2 Section 2

2.2 MAINTAINED RIGHT OF WAY MAPS

2.2.1 GENERAL

Maintained Right of Way Maps are prepared in order to record right of way which has not been deeded or dedicated to the County, as outlined in Florida Statutes 95.361. Information regarding maintained right of way either exists as a recorded document or needs to be researched, mapped and recorded as an official document. In surveying maintained right of way, the Professional must take the lead role, establishing a working relationship with the Real Estate and Facilities Services Department, Geomatics Section, Survey & Mapping and the Public Works Department. The Professional must have first-hand knowledge of all existing right of way on the project, including platted right of way, deeded right of way, and existing maintained right of way. After the right of way survey is completed and prior to the actual field survey of the maintained line, the Professional shall prepare a preliminary map to indicate parcels that need to be looked at by the maintenance department. This will show the results of the preliminary investigation of the existing right of way conditions. After this submittal, the Professional, Survey Project Manager and the Public Works Department shall meet on site. At this meeting, all existing information regarding the right of way will be marked on the ground. The Public Works Department will mark the location of maintenance and provide copies of records supporting the location.

2.2.2 PROCEDURES

Maintained Right of Way maps are created from Existing Right of Way Maps as outlined in the previous Chapter 2, Section 1. Maintained Right of Way Surveys shall comply with all County Survey Procedure specifications and special requirements for the project. Although it is primarily the responsibility of the Geomatics Section, Survey & Mapping Right of Way Project Surveyor to arrange with Public Works Department Official to locate the maintained line, guidance should be offered by the Professional as to existing right of way lines by plat and deed. Upon commencement of any project, the Professional shall secure copies of the Real Property Section's section files reflecting existing deeds and easements which may affect the project and same shall be appropriately indicated on the Maintained Right of Way Maps. In addition, the Professional shall coordinate with the Real Estate Property Section concerning vacated right of way, T.I.I.T.F. Reservations, and applicable court cases. Field notes must show, in addition to the maintained right of way and baseline data, the date of the survey and the name and signature of the Maintenance Unit Official who located the maintained line. No variation from these procedures will be allowed without prior written approval from the Geomatics Section.

Chapter 2 Section 3

2.3 RIGHT OF WAY MAPS

GENERAL:

Right of Way Maps are prepared for projects on which the right of way will be acquired. On occasion they may be prepared to reflect the results of previous acquisitions. The primary purpose of right of way maps is to clearly show the right of way to be acquired on a project. The basis of the maps shall be a Right of Way Survey. The maps must provide sufficient technical data to permit the preparation of legal descriptions for use in acquisition documents and to serve as an aid in appraisal, acquisition and condemnation. Right of way maps shall be prepared by the Surveyor in responsible charge, conforming to all applicable provisions of Florida Statutes and County requirements.

2.3.1 LABELING EXISTING RIGHT OF WAY

Clearly labeled, shown by station and offset
(See Right of Way terms page 16)

(A) All existing right of way must be shown with the official record book and page number of the recording document.

(B) Right of way by plat shall be shown as Exist. R/W (P)

(C) Right of way by deed to Hillsborough County shall be shown as Exist. R/W (D) O.R. Book / Deed Book P.

(D) Right of way by maintenance shall be shown as Exist. R/W (Maint) Book____, Page____

(E) Right of way by exception in a deed i.e. Less the South 25 feet for R/W etc., should not be shown as existing R/W but as a property line (PL).

(F) Right of way by Zoning Condition shall be shown as Right of way by Zoning Petition No. _____

The limits of such conditions must be shown on both the right of way maps and sketches. The area of such conditions, lying within the "take" area shall be shown and dimensioned.

2.3.2 TABLE OF OWNERSHIP

The table of ownership is designed to present ownership information and area of takings for each parcel. The preferred method of presenting this information is on a separate sheet which will become the last sheet of each project.

The Table of Ownership for all Hillsborough County projects shall comply with the following specifications:

(1) Parcel identification numbers for all acquisition parcels.
(2) The sheet numbers on which each parcel appears.

(3) Names of property owners.
(4) The area of taking in square feet. If the taking is more than 1/2 acre, then show the area in acres. If area is shown in square feet, round off to the nearest square foot, if in acres round off to two decimal places.
(5) Space for later insertion of acquiring document recording information.
(6) Space for any necessary comments.

Chapter 2 Section 4

2.4 SURVEY AND LOCATION MAP

The purpose of the Survey & Location Map is to record into the public records the limits of construction for County projects. It is a general map that shows the limits of the project from beginning to end with limited amount of detail including a centerline of construction including side streets, baseline of survey with ties to sectional lines.

Survey and Location Maps for all Hillsborough County roadway projects shall comply with the specifications described in Chapter 3, Section 8.4. Required Certifications are contained in this section.

Chapter 2 Section 5

2.5 LEGAL DESCRIPTIONS AND SKETCHES

2.5.1 GENERAL (See examples)

Legal Descriptions and Sketches are prepared for the purpose of clearly identifying properties needed in support of County projects. Legal Descriptions and Sketches shall provide detailed technical data, ownership information, project limits, and land survey information, to aid in the acquisition of property. All Legal Descriptions and Sketches shall be prepared by the Surveyor in responsible charge, conforming to all applicable provisions of Florida Statutes and County requirements.

2.5.2 PROCEDURES

On all projects requiring the preparation of Legal Descriptions and Sketches, Title Reports shall be secured for all affected properties, in accordance with the Real Estate and Facilities Services Department, Geomatics, Survey & Mapping technical specifications as stated in Appendix “E" of this manual. Complete Title Reports shall be submitted with the right of way maps, legal descriptions and sketches. Upon commencement of any project, the County Real Estate and Facilities Services Department’s Real Property Section’s section files reflecting existing deeds and easements which may affect the proposed project shall be reviewed and the same shall be appropriately indicated on the right of way maps and sketch. Additionally coordination with the Real Property Section concerning vacated right of way, T.I.I.T.F. Reservations, and applicable court cases is required. No variation from these procedures will be allowed without prior written approval from the Geomatics Section Project Surveyor.

2.5.3 SPECIFICATIONS

Legal Descriptions should refer to the parent tract deed, i.e., That Part of “*repeat parent tract deed description”*, (easements are not to be included); except where the parent tract deed is a lengthy description. Deviate from this format will require prior written approval from the Geomatics Section Project Surveyor. If approval is obtained, the tract referred to then can be simplified to a sectional breakdown, i.e., That Part of: The Northwest Quarter of the Northwest Quarter of Section 27, Township 28 South, Range 17 East, etc.

Descriptions should be as simple as possible, i.e., *The South 25 feet of the following described tract or <u>That part</u> of* (parent tract description); *<u>lying</u> within 50 feet of the following described line*, is preferred over a lengthy metes and bounds description. Each parcel, however, has to be treated on its merits as to the type of description to be written.

Legal descriptions must be written on letter size paper (8-1/2" x 11") in the format shown in the Example section of the manual. If the Legal Description is more than one page put “Page 1 of __” under the project information, put the page reference on the top right corner of each additional page. In general, the margins are to be one-inch top margin, a one-inch left margin, an one-inch bottom margin, and an one-inch right margin. Do not justify the right margin. The legal description must state the area of acquisition parcel in square feet (rounded to the nearest square foot, if area is less than 1 acre) and in acres.

The legal description must show the Company Name, LB Number and the Name and License Number of the Professional Surveyor & Mapper in responsible charge. There must also be a statement box stating that " Information is not complete with out the accompanying sketch.

A signed and sealed sketch shall be prepared on letter size paper (8-1/2" x 11") and shall accompany the Legal Description prepared for acquisition, showing all information referenced in the Legal Description:

- Including the entire parent tract, acquisition parcel, and remainders.
- The sketch shall state that it is not a survey.
- The initial point (point of commencement) in the Legal Description and the point of beginning shall be clearly labeled as such on the sketch.
- The sketch must be in complete accordance with the Legal Description to which it accompanies, as well as the right of way map (if applicable).
- The sketch shall also show the Company Name, LB Number and the Name and the license Number of the Professional Surveyor & Mapper in responsible charge.
- Professionals will be required to supply 6 hard copies of the sketch, description and 1 electronic version in MS Word format/ AutoCad on compact disc. In addition,
- Professionals will be required to supply computer printouts of closures on all parcels of acquisition.

All parcels affecting a particular parent tract, i.e., the fee parcel (100 series), drainage easement (800 series), temporary construction easement (700 series), etc. may be shown on the same sketch.

It should be noted, that in no case will it be acceptable to simply refer to the parent tract by reference to the recording information of the parent tract deed. It should also be noted, that maintained right of way lines are not to be written into the body of the legal descriptions. Maintained right of way lines need to be LESSED out at the end of the description. See the Example section at the end of this manual.

2.5.4 PARCEL NUMBERS

Each parcel of land to be described must be identified by a unique parcel number. Once a parcel number is assigned and voided, that parcel number will not be used again on the same project, nor will it be reactivated. Parcel numbers of all right of way projects will be assigned as follows:

1. 100 through 399 are used for deeds to acquire fee simple title.1100-1399 if additional parcels are required:
2. 400 through 499 are used for conservation easements.
3. 500 through 599 - are used for perpetual right of way easements. 5500-

5699 if additional parcels are required:

4. 600-699 – are used for slope easements.
5. 700 through 799 - are used for temporary easements of all types. 7700-7799 if additional parcels are required:
6. 800 through 899 - are used for permanent drainage easements. 8800-8899 if additional parcels are required:
7. 900 through 999 - are used for perpetual or permanent utility easement. 9900-9999 if additional parcels are required:

2.5.5 TYPES OF LEGAL DESCRIPTIONS

The type of legal description should be chosen with care and will depend on the layout of the project, the accuracy and fit of adjacent property line deeds, etc. The object is to ensure that the County will acquire a continuous strip of the required width without any possible hiatus in the description.

The following types of legal descriptions are acceptable and specific examples are included in the Example section at the end of this manual.

(1) Metes and Bounds Description - In effect, any description may be accepted as a metes and bounds inasmuch as an area must have dimensions and boundaries for its determination; however, the term commonly applies to a description which consists of bearings and distances together with qualifying statements as needed to clearly show the intent for each successive course on the boundary.

(2) Baseline of Strip Description - This description is most commonly used when a right of way of uniform width is to be acquired. It is flexible, covering any portion of a particular parcel lying within a specified distance of the reference line. Baseline or centerline descriptions are discouraged as the description generally becomes lengthy and is not easily understood by the General Public.

(3) Aliquot Parts - This type description is most commonly used for entire takes or for takings consisting of strips of uniform width along the boundary of a parcel. The format is simple and relies upon the inclusion of the Subdivision or Township plat by reference.

(4) Three Dimensional Description - This type description is generally used when there is to be a limitation in the vertical dimension of the right conveyed, such as in the acquisition of air rights or tunnel takes. Its unique feature is that it must include a specific description of the limiting vertical plane in addition to the normal horizontal description.

(5) Limited Access Description - This type description is unique to limited access facilities and defines a line of limitation over which the grantor relinquishes rights of access.

(6) Combination Description - This type of description is used to combine two separate descriptions by utilizing connective phrases such as Together With, and Also. An example of the use of this type of description is when drainage right of way and road right of way acquisitions are required from a single parcel. A combination description should be employed to combine the two separate legal

descriptions into one.

2.5.6 GENERAL REQUIREMENT OF LEGAL DESCRIPTIONS

All legal descriptions prepared for Hillsborough County projects, regardless of type, must meet the following requirement:

(1) Specific identification of Section, Township, Range (and Subdivision name with recording information, when applicable) and specific identification of Hillsborough County, Florida

(2) The intent of each call must be clearly stated (ie: use qualifying statements on appropriate lines).

(3) Avoid confusing combinations of numbers. For example: “said Section 2, 870.31 feet... can easily be misinterpreted. Use for, or a distance of to separate numbers and clarify the intent.

(4) Be specific when making reference to corners. For example, use the Northwest corner of the Northeast quarter rather than the North quarter Corner.

(5) Select sectional or other key corners for which a monument was recovered for points of Commencement and/or Beginning in all practical instances.

(6) Ensure that all bearings and distances used in the legal description are determinable from the right of way map and that there is exact agreement between right of way map, sketch and description.

(7) When curved lines are described the data must be in compliance with the Florida Administrative Code 5J-17.

(8) When quoting either an entire description or any portion of a description from a deed or other source, insure that the quotation is exact.

(9) The area of the parcel described must be included in square feet (if area is less than 1 acre) and acres (on large tracts). Larger areas should be shown in areas to two (2) decimal places.

(10) Signature and Seal of Professional Surveyor & Mapper.

(11) Text Boxes to be included on the Description page, in the lower right hand corner of page.

(12) Corrections and Revisions –
When changes are made prior to the acceptance of the description and sketch by the County’s Geomatics Section Project Surveyor, these will be noted as such, i.e. corrected date, in the upper left hand corner. If changes or corrections are made after the County Geomatics Section Project Surveyor acceptance, they will be noted as revised date in the upper left hand corner. All prior dates are to remain unchanged.

2.5.7 SPECIAL REQUIREMENTS OF LEGAL DESCRIPTIONS

In addition to the general requirements; when applicable, the following special requirements will be adhered to:

(1) Baseline descriptions must include a specific tie at each end of the reference baseline and at each one-quarter section line. Such ties must be to physically recovered corners. Distance between reference ties should not ordinarily exceed one mile.

(2) "Access Rights Only" description must contain three (3) elements. These elements are:
- (A) A description of the property being denied access.
- (B) Identification of the facility to which access is denied.
- (C) A description of the limiting line.

(3) T.I.I.T.F. Reservations must be prepared in separate legal descriptions with separate acreage, when they affect only a part of a parcel of acquisition. Historical information must be reviewed when mapping T.I.I.T.F. Reservations.

2.5.8 SKETCHES

A Sketch shall be prepared to accompany all Legal Descriptions prepared in conjunction with all projects, where land rights are to be acquired or surplused. Such Sketches shall show all information referenced in the Legal Description and shall state that it is not a survey. When applicable the sketch will clearly show the right of way to be acquired and the remainders of the parent tract. All Sketches prepared for Hillsborough County projects, as a minimum, must meet the following requirements:

All Sketches require a box with the number of the current sheet and how many sheets are in the project (i.e. Sheet 1 of 5 or Sheet 5 of 5).

(1) Point of Commencement and Point of Beginning clearly labeled.

(2) Bearings and dimensions on all courses.

(3) Parcel number designation.

(4) NOT A SURVEY stated on the sketch.

(5) Street name labeled.

(6) Right of way lines labeled.

(7) North arrow and scale designated.

(8) Basis of bearings.

(9) Company Name/LB Number, or Surveyor & Mapper's name and license number.

(10) Project Number.

(11) Stationing along the baseline of survey as well as the baseline of the centerline of construction.

(12) Signature and Seal of Professional Surveyor & Mapper

(13) Date prepared and Date signed

Sketches ordinarily are not to scale and the parcel being created should be exaggerated so that all dimensions can be clearly shown without the use of line tables, if possible.

See example section of this manual.

Chapter 2 Section 6

2.6 RIGHT OF WAY STAKE-OUT AND CONTROL

2.6.1 GENERAL

Subsequent to the preparation of right of way maps, it often becomes necessary to stake-out areas of right of way acquisition for purposes of appraisal, jury inspection, and public notice. Prior to roadway construction, important control features such as baseline of survey, centerline of construction, or some other controlling line must be re-established in the field and referenced to perpetuate its location through the construction process.

Following construction, these control points may then be easily re-set to their original positions. In addition, land corners lost due to construction must be replaced and new Certified Corner Records filed with the Florida Department of Environmental Protection. All control and monumentation either set or replaced subsequent to construction of the roadway facility must be drafted onto the right of way maps.

All temporary stakes for areas of acquisition, permanent control points for right of way alignment, and land corner monumentation shall be set by the Surveyor in responsible charge, conforming to all applicable provisions of Florida Statutes and County requirements and Rules of the Department of Environmental Protection, Chapter 16Q-10, Florida Administrative Code.

2.6.2 PROCEDURES

Stake-out of areas of right of way acquisition and establishment of permanent control points shall be per this section and any special requirements for the project defined in the work scope.

- All stake-out of acquisition parcels should be made from the baseline of survey, centerline of construction, or some other monumented controlling line.
- Individual property corners should not be relied upon if it is possible to work from the original control.
- The original control must be perpetuated prior to construction by use of references.
- After construction, the original control must be re-established and permanent control points set at all P.C.'s, P.T.'s, P.I.'s and at maximum intervals of 1000 feet, along the baseline of survey, centerline of construction and other controlling line, where applicable.
- In most cases, the controlling line to be staked with permanent control points will be centerline of construction. This is due mainly to the fact that most baselines of the survey are run along the established land lines.

- With the land corners in place, both of these controlling lines will then be established in the field after construction of the project.

  However, each project will be evaluated on it's individual needs and the control line to be staked with permanent control points will be specified by the Geomatics Section Project Surveyor. It is the intention of the Geomatics Section Project Surveyor to establish permanent control points in the pavement of the project rather than permanent reference monuments along the road right of way due to the durability.

  All land corners lost due to construction must be re-established from the available references and new Certified Corner Records prepared and filed with the Department of Environmental Protection in accordance with the Florida Administrative Code.

  No variation of these procedures will be allowed without prior written approval from the Geomatics Section Project Surveyor.

2.6.3 SPECIFICATIONS

The following specifications will apply to all stake-out of right of way acquisition parcels, placement of permanent control points and re-establishment of land corners.

(1) Right of Way/ Parcel Stake-Out:

a.) Temporary stakes shall be set along the existing right of way, along the proposed right of way, along easement lines and at the corners of acquisition parcels.

b.) Stakes should be marked with the parcel identification number assigned to that parcel. Stakes should be color coded for easy identification of the type of line being represented.

Example: *One color for existing R/W, one color for proposed R/W, and one color for easements. Iron rods with caps bearing the Professional Surveyor & Mapper and/or company number along with laths shall be set at all parcel corners, both on the proposed R/W line and the existing R/W line and at changes in direction. Hubs and laths shall be set at intermediate points between corner hubs at intervals no greater than 100 feet.*

(2) Permanent Control Points (P.C.P's):

a.) Permanent control points shall be set at the beginning and end of project P.C.'s, P.T.'s, P.I.'s and a maximum intervals of 1000 feet.

b.) All such points set will be referenced and their positions drafted onto the right of way maps. These points must be set from the original control reestablished after construction of the project. Individual property corners should not be used to set the permanent control

.

(3) Section & ¼ Corners -

a.) All section corners established during the right of way mapping process and lost due to construction must be replaced once the project is complete.

b.) The references from the existing Certified Corner Records and the right of way maps shall be used to re-establish the corner position prior to construction. New Certified Corner Records must then be filed with the Department of Environmental Protection.

(4) Field Notes:
The Professional shall submit original field notes, for all points established, containing the following required information:

(A) Location of all monuments set.

(B) Identification of type of monuments set with the number of the firm or the Professional Surveyor and Mapper stamped on it.

(C) Date of field survey.

(D) Names of the field crew members who set the monuments.

(E) Identification of control points used to set monuments.

(F) References to control points used and/or set.

(G) Certification by the Florida Professional Surveyor and Mapper in responsible charge, that the placing of the monuments conforms with Minimum Technical Standards, Chapter 5J-17, Florida Administrative Code.

Chapter 2 Section 7

2.7 SUBMITTALS, COUNTY REVIEW AND APPROVAL PROCESS

2.7.1 GENERAL

The County Review and Approval Process for maps prepared in accordance with this manual may vary, depending on the type of map being submitted. Right of way maps will be reviewed at 30%, 60%, 90%, and 100% levels of completion. Maintained Right of way Maps, Legal Descriptions and Sketches will be reviewed for form and content at the 90% review for Right of way Maps. Deeds, Title Reports, and Closures are required at this submittal stage. All other maps will be reviewed at the 100% level of completion, only. Professionals will be required to certify the correctness and accuracy of right of way maps, legal descriptions and sketches, they may be called upon to testify during condemnation proceedings. Professionals shall be accountable for all submitted work and shall make required revisions and corrections in a prompt fashion.

2.7.2 PROCEDURES

All submittals and reviews, with the exception of the 100% review, will take the form of meetings between the Professional and County Staff. The Professional will be responsible for bringing all submittal data to meeting.

For all right of way surveys, professionals are encouraged to hold informal reviews during the process of developing these surveys.

The following submittals are required in addition to any other requirements

(A) Original mylar drawings signed and sealed by the Land Surveyor in responsible charge.

(B) Field Books (Original and Scanned).

(C) Copies of recorded Section Corner certificates.

(D) TIFF image of signed and sealed document/ maps

(E) Title work as defined in Chapter 2.

(1) Existing Right of Way Maps - *30%* - Submittals Required.

(A) Prints of right of way maps Showing:

1) Topography (if required).

2) Baseline of Survey & side streets property lines.

3) Section Line, One-Quarter Section and Quarter - Quarter Section (if applicable) Ties.

4) Subdivision and Subdivision Blocks

5) Property Lines.

6) Right of way by Deed to Hillsborough County.

7) Right of way by Deed Exception.

8) Right of way by Zoning Condition.

9) T.I.I.T.F. Reservations.

10) Maintained Right of way.

11) Found Property Corners.

12) All Easements.

13) Folio Numbers

(B) Title Reports (O & E Reports) for each adjacent property.

(C) Copies of all Subdivision Plats.

At this meeting, all problems with property lines will be resolved, (i.e., hiatus's and overlaps). Each property will be examined and a decision made as to which line will be shown as existing right of way. **The Existing Right of Way Maps should be 100% complete at this stage.**

(3) Right of Way Maps - *60%* - Submittals Required.

(A) Prints of Right of Way maps showing:
1) All data required on 30% Submittal.
2) All Existing Right of Way.
3) Centerline of Construction with all geometry and ties to Baseline of Survey.
4) All proposed Right of Way Lines, Drainage Easements, Temporary Construction Easements, etc.
5) Parcel Numbers.

(B) Completed Key Map.

(C) Title Reports (O & E Reports) for Each Parcel.

(D) Maintained Right of Way Map (if applicable).

At this meeting, all problems with the right of way design will be discussed. Types of legal descriptions required for each parcel will be discussed.

(4) Maintained Right of Way Maps - 60% Submittals Required.

(A) Right of Way Survey.
(B) Print of Maintained Right of Way Map Showing:

1) Baseline of Survey.
2) Section line ties.
3) Subdivisions and Subdivision ties.
4) Deeded right of way to Hillsborough County.
5) Property lines for right of way by deed exceptions, previously recorded maintained right of way, etc.

(C) Maintained Right of Way Maps – Final Submittals

(1) Original mylar of Maintained Right of Way Map signed and sealed by the Surveyor & Mapper in responsible charge.
(2) Field Books.
(3) All other data used in preparation of the map.

(5) Right of Way Maps - *90%* - Submittals Required.

(A) Prints of Right of Way Maps showing:
1) All data required in 60% submittal.
2) Complete geometry on all parcels.

The Right of Way maps should be 100% complete at this stage.
(B) Legal descriptions and sketches.
(C) Closure Reports for all parcels

At this meeting, all remaining problems with maps, legal descriptions, and sketches should be solved.

(6) Right of Way Maps - *100%* - Submittals Required.

(A) One -Original Mylars of Right of Way Maps, including completed tabulation sheet.
(B) Six - Original Mylars of Sketches.
(C) Six - Originals of Legal Descriptions.
(D) Legal descriptions in the most current Microsoft Word format.
(E) Right of way maps, maintained maps and sketches shall be in the most current Autodesk format. Any deviation from this format will require prior written approval from the Geomatics Section.
(F) Hard copy of printed geometric closure report for each parcel.
(G) Copy of Title Report /O & E for each parcel.
(H) Copy of Applicable Zoning Condition's.
(I) Copy of any and all right of way deeds encumbered.
(J) Survey Reports shall be in original format and all maps data and resources, including signed and sealed documents shall be included in TIF and/or .pdf format on a PC Compatible CD-Rom or DVD Disk.

The Geomatics Section upon receipt of all of the above, will review all documents submitted for form and content. The Geomatics Section will then submit the entire project to the Real Estate and Facilities Services Department Technical Section for their review and comment. The Geomatics Section will then meet with the Technical Section to combine and assemble review comments for the Real Estate and Facilities Services Department. The Professional shall be accountable for all submitted work and shall make required corrections pursuant to the Real Estate and Facilities Services Department's Project Surveyor review.

2.7.3 QUALITY CONTROL

The Professional shall establish procedures and a certification which will ensure that the maps, sketches, and legal descriptions produced are correct, free from errors and that all data on the Maps, Sketches and descriptions are in agreement.

All right of way parcels must be closed by traverse printout (i.e.: lot summary map check). All sketches must be checked to ensure that they conform to the right of way map and sketch. The County's approval procedure is a review only and will not relieve the Professional from responsibility and liability for the correctness and completeness of his professional services.

CHAPTER 3
SUBDIVISION PLAT STANDARDS

SUBDIVISION PLAT TYPES

Planning and Growth Management (PGM) will make the determination of plat type based on specifications of Land Development Code (LDC) and the Development Review Procedures Manual (DRPM).

Subdivision plats are categorized as:

"Final plat" (usually full-blown plat with infrastructure); may have public and/or private interests. Final plat requires acceptance by Board of County Commissioners (BOCC) at a BOCC meeting and must be scheduled into the agenda. Public dedication can be made (typically: road R/W, utilities easements, master meter easements, sanitary sewer easements, lift station sites, parks); only a Final plat can be bonded; or

"Minor Subdivision" ("Minor plat") (10 or fewer lots; typically no infrastructure other than low volume private road, if required). Private; administrative/staff approval only, no BOCC meeting/acceptance; no public dedication; Minor Subdivision cannot be bonded; or

"Platted Subdivision with No Improvements"("No Improvements plat") (small commercial or multi-family; no infrastructure other than private, if any). Private; administrative/staff approval only, no BOCC meeting/acceptance; no public dedication; Platted Subdivision with No Improvements cannot be bonded.

A fourth subdivision type, "Certified Parcel" (private; 1 or 2 lots; meeting narrow LDC criteria for parcel certification) does not generate a plat for record, is not reviewed by the Survey & Mapping Section, and so is not covered in this checklist.

Note: Survey reviewer is involved only in review of items outlined in this checklist. All issues regarding fees, scheduling of the plat on the BOCC agenda, performance bonds, construction approvals, etc, are handled by/through PGM/ Development Services.

Contacts in Development Services (PGM Intake) include:

Lee Ann Kennedy, (813) 307-4583, KennedyLA@HillsboroughCounty.ORG

Monica Steadman, (813) 274-6523, SteadmanMD@HillsboroughCounty.ORG

Shirley Teijelo, (813) 276-8380, teijelos@hillsboroughcounty.org

Jessica Harper, (813) 276-8340, harperja@hillsboroughcounty.org

SUBMITTAL REQUIREMENTS (Effective immediately)

A complete plat submittal for Survey review will include:

2 paper plots of plat, plotted at scale (initial submittal); on resubmittals, only 1 scale paper plot is needed.

1 paper plot of boundary survey, plotted at scale, signed and sealed (initial submittal); unless requested, boundary survey is not needed on resubmittals.

Boundary closure report (initial submittal);

GPS report, surveyor's report, traverse notes, or other evidence of ties to grid (initial submittal);

Certified corner record(s), new or held, for section corners held for boundary (initial submittal);

30-year title report (report) (initial submittal), not more than 60 days old, in the form of an Ownership and Encumbrance report (O&E), a commitment to insure, a title policy, or an opinion of title. All documents in 30-year chain of title must be included. An out-dated commitment, policy, or opinion may be supplemented with a current O&E. O&E, commitment, policy, or opinion must be prepared by an abstractor, a title company, or a Florida-licensed attorney. Updates will be required on resubmittals and at mylars if report has become more than 60 days old.

On replats, provide a copy of the original plat; a print-out from clerk's website is acceptable; does not have to be to scale but must be legible (initial submittal).

If a land use variance was granted for any reason pertinent to the plat, provide a copy of the variance approval. A plat note will also be added referencing the variance (initial submittal).

If any boundary of the plat is a water boundary, provide a letter or email from the Tampa Port Authority (TPA) that TPA has approved the plat or has no objections (initial submittal).

This checklist, completed and signed by submitting surveyor (initial submittal);

Under some circumstances, a copy of the development plan may be required; will be requested by reviewer if needed.

Release or subordination of interest, if any, of Trustees of the Internal Improvement Trust Fund (TIITF) (initial submittal); if release or subordination is not feasible, note must be added to plat that the TIITF interest encumbers the lands platted.

Copies of Joinder and Consent documents (do not submit originals to reviewer; originals must be recorded) from all mortgagees and from all fee owners of lands underlying easements serving plat, if any (initial submittal); not required if mortgagee or fee owner of easement will be joining in execution on plat

The Professional Surveyor and Mapper under whose direction and supervision the plat was prepared will examine the plat against the following checklist for compliance prior to submitting the plat for review. A completed and signed copy of this checklist must be submitted with the plat submittal for review, see checklist item (36).

REAL ESTATE and FACILITIES SERVICES DEPARTMENT
GEOMATICS SECTION, SURVEY & MAPPING
REQUIREMENTS & CHECKLIST FOR PLAT REVIEW SUBMITTALS
Revised/Effective 06/26/2013

Review Date:

___ Final Plat (Improved) **___ Resubmittal**
___ Minor Subdivision (Minimal or No Improvements) **___ Resubmittal**
___ Platted Subdivision (with No Improvements) **___ Resubmittal**

Plat name:		STR:	
Folios:		Tax status:	

Reviewed by: HCSD
Surveyor J F Swanson PSM
Email address below
Phone & fax numbers below
County contact: Jennifer F Swanson, PSM; swansonj@hillsboroughcounty.org; Ph (813)307-4783 Fx 272-6459

Contents/Index

Checklist:

Subdivision plats offered for record in Hillsborough County will conform to the following:

(1) Plat must be an original drawing made with black permanent drawing ink or a non-adhered scaled print. A plat copy submitted for subdivision review will be a paper copy of the same size and scale as the original.

When submitted for review, the plat will be accompanied by a current boundary survey (not more than one year old as of date of submittal) and a boundary closure report for the overall plat boundary. Plat and survey will be on the same bearing basis (current grid). Boundary survey must be signed and sealed by the plat surveyor or by another PSM associated with the same LB.

Closure report can be a COGO-generated print-out indicating closure error, a sketch with closure statement, or a surveyor's report.

Scale copy: ___ **Provided** ___ **Need**
Boundary survey: ___ **Provided** ___ **Need**
Closure sheet: ___ **Provided** ___ **Need**

***Comments*:**

(2) The size of each sheet will be 24"(width) x 18"(height), with a marginal line around each sheet, placed so as to leave a $^{1}/_{2}$-inch margin on top, bottom and right sides and a 3-inch margin on the left side of the plat for binding purposes. **Note: Nothing is to be placed in the margins**, including in-house job number, drawing file name, etc. Spaces for Plat Book and Page are to be inside the marginal border line in the upper right corner.

Sheet size and margins: ___ **Provided** ___ **Need**

***Comments*:**

(3) When more than one sheet must be used to accurately portray the lands subdivided, an index or key map must be included. **The key map will be on a separate sheet from the map sheet(s) and dedication sheet(s)**, said sheet following dedications and executions and preceding map sheets (i.e., sheet 2 on a typical plat).

The key map will be to a stated scale, include a north arrow, and show each sheet of the plat; must show the particular number of each sheet, as well as clearly labeled match lines to show where other sheets match or adjoin.

Match lines will be of a unique linetype and linescale so as to be easily distinguished from lot, easement, or other boundary lines within the plat. Match lines and labels will appear on key sheet and on each map sheet affected.

Keymap: ___ **Provided** ___ **Need** ___ **N/A**

Sheet numbering: ___ **Provided** ___ **Need** ___ **N/A**
Match lines: ___ **Provided** ___ **Need** ___ **N/A**

***Comments*:**

(4) In all cases, the letter size and scale used will be of sufficient size to show all detail. Land Development Code (LDC) requires minimum text size will be 0.08 times the drawing scale. **This refers to the plotted size of the text, not the font size used, as plotted font sizes vary greatly according to the font type.** The plat's scale will be **both stated and graphically illustrated** by a graphic scale drawn on every sheet showing any portion of the lands subdivided.
Note: Plats will not be accepted at a scale of smaller than 1"=100'; key map can be at any legible scale; details/insets can be at any legible scale or "not to scale".

All sheets of the plat will be at the same scale, with the permitted exception of said key map sheet and/or details, if any, which will be at a scale appropriate to their purpose.

Graphic/Stated scale: ___ **Provided** ___ **Need**
Sufficient text size: ___ **Provided** ___ **Need**

***Comments*:**

(5)a The primary name of the plat will be shown in bold legible letters of the same size and type, adhering to naming guidelines stated in FS 177.051. The plat name must be unique and previously unused in this county.

This can be confirmed on the Clerk of the Circuit website, www.hillsclerk.com and follow the links through **On-Line Services** → **On-Line Searches** → **Search Official Records** → **"I agree"** → search by **Name**; in the box **Name** type in first part of plat name; in the box **Document Type** type in **PL**; set the **Begin date** starting from 1/1/1900 and **End date** ending at current date; click on **Search Records** button; this will show you a list of names of all plats recorded in this county starting with the partial name you typed in. If your plat name is listed there, consider it taken and modify your choice accordingly.

The primary name of the subdivision plat including the Section, Unit, and/or Phase, as applicable, will be shown on each sheet in the same size and font, and in the same location on each sheet. The primary name of plat will also be shown within the dedication. (The plat subtitle may be optionally included in the dedication, but is not required, as the plats are indexed on public record by the primary name.)

NOTE: The name of a subdivision plat cannot begin with "The", "A", or "Replat". Further, a plat name will not contain Roman numerals (e.g., II, X), or abbreviations or symbols (e.g., No., @). Plats with numbered units or phases will be numbered (e.g., Unit 2), or spelled out (e.g., Phase Two).

Plat name: ___ **Provided** ___ **Need**

***Comments*:**

(5)b If the subdivision plat is a part or the whole of a previously recorded subdivision, the fact of its being a replat will be stated as a subtitle under the name of the plat on each sheet. The

subtitle must state the name of the subdivision being replatted and the appropriate plat book and page recording reference, and will immediately follow the primary plat name. (Exception: If the plat is also a Platted Subdivision with No Improvements or a Minor Subdivision, "Platted Subdivision with No Improvements" or "Minor Subdivision", will immediately follow the primary name and precede the "replat" subtitle.)

"Replat" in Subtitle: ___ Provided ___ Need ___ N/A

***Comments*:**

(5)c If the plat is a Platted Subdivision with No Improvements or a Minor Subdivision, "Platted Subdivision with No Improvements" or "Minor Subdivision" will appear on the plat as part of the plat name, immediately following the primary name. If the plat is also a replat, the "Platted Subdivision with No Improvements" or "Minor Subdivision" subtitle will follow the primary name and precede the "replat" subtitle.

Title includes "Platted Subdivision with No Improvements" or "Minor Subdivision":
___ Provided ___ Need ___ N/A

***Comments*:**

(5)d The name and registration information of the professional surveyor and mapper or licensed business, along with the street and mailing address must be shown on each sheet included. The phone number will also appear on the cover sheet. On the sheet where the surveyor makes his certification (typically sheet 1), the address will also appear below the surveyor's certification and signature. Other info such as website address, etc, may be included on the plat, but can only be in the title block/logo portion of the sheets.

Surveyor/LB info: ___ Provided ___ Need
Address, phone: ___ Provided ___ Need

***Comments*:**

(6)a A prominent "north arrow" will appear on every sheet showing any portion of the lands subdivided, and on the key map sheet and in details, if any.

North arrow: ___ Provided ___ Need

***Comments*:**

(6)b The bearing reference will be clearly stated on the plat. Bearings used will be referenced to a well-established and monumented line, shown and labeled on the plat. Bearings and coordinates will be based on Florida State Plane Coordinate system **NAD1983/adj90 or later**, in feet, and the originating stations named on the plat.

The surveyor is to provide a copy of the traverse notes, GPS report, RTK coordinate file, or surveyor's report re: control, datum, and method used to establish State Plane Coordinates.

If CORS system is utilized, surveyor will submit a report so stating, or will add a statement on his boundary survey that state plane coordinate ties were established by GPS using CORS. Report and/or statement re: CORS will include datum and station designations.

In the case of a control network established for a Planned Development or other phased subdivision, a report from the surveyor stating what control the network was based on and that the subdivision is tied into the network will be accepted in place of the traverse notes or GPS report. Said control network must be on 1983/adj90 or later.

Reports must be signed and sealed by the plat surveyor or by another PSM associated with the same LB.

Note: Plat **bearing basis must be grid**; bearing rotation detail showing the assumed-to-grid relationship will not be accepted. **Exception will <u>not</u> be made for replats.**

<u>NOTE: Typically, Certified Corner Records are accepted for coordinate basis only if established by the Hillsborough County Survey Division; CCRs by other government agencies such as cities, state, DOT, and SWFWMD may be acceptable if other conventional control is not available.</u>

Basis of bearing/bearing reference identified:	**___ Provided**	**___ Need**
Reference line labeled:	**___ Provided**	**___ Need**
Originating stations named:	**___ Provided**	**___ Need**
GPS/traverse/letter:	**___ Provided**	**___ Need**

***Comments*:**

(7)a Permanent reference monuments (PRMs) will be set at each corner or change in direction (PI) on plat boundary, no more than fourteen hundred (1,400) feet apart. PRMs will be set before recording the plat. PRMs will be shown on the plat by an appropriate symbol or designation. PRMs will be 4"x4" concrete monuments (CMs), typically 24" in length, and not less than 18" in length**. If CMs can't be set and alternative PRMs are used, the reason and type must be stated on plat (e.g., "Falls in ditch bottom, set 8' x 2" capped IP", "Falls in asphalt pavement, set PK N&D"), and the PRM noted as "alternative PRM"on map or in legend.**

If plat corner is inaccessible or cannot be set due to physical obstruction, offset/witness PRM will be set ON LINE with the obstructed corner and noted as offset or witness PRM on the plat.

In the case of water boundaries or other irregular boundaries with excessive PIs (e.g., MHW line) or terrain that does not allow conventional monumentation (e.g., vertical creek bank), offset/witness PRMs will be accepted with radial ties to points on the boundary. On such boundaries, all boundary segments will be labeled with bearing and distance, PIs will be monumented where possible, others will be tied lineally or radially to offset/witness PRMs at a frequency of at least one tie every 300 feet along the boundary. One offset/witness PRM may be tied to multiple boundary points, but at least one PRM or offset/witness PRM must be set for every 1,400 feet of boundary.

Where plat corners are a "found" and "held" PRM or historical corner (e.g., axle), the PRM's description and the identification of the PSM or LB on found PRM will be shown on the plat, and the PRM noted as "alternative PRM" on map or in legend. If no I.D. is found on PRM, so state on the plat.

On a Final Plat, surveyor's certificate on plat will state PRMs were set and the date they were set. **PRMs cannot be bonded.** "Temporary" PRMs may be set during construction and grading, but "permanent" PRMs must be in before submittal of mylars.

An inspection for PRMs will be performed by a representative of the County Surveyor's office and will be rechecked at as-built submittal.

PRMs: ___ **Provided** ___ **Need**
Date set: ___ **Provided** ___ **Need**

***Comments*:**

(7)b Two PRMs **that do not abut a right of way** will be tied to the Florida Coordinate System, and the State Plane Coordinates for those 2 PRMs will be shown on the plat next to the respective PRMs. If there are not 2 PRMs that do not about a right of way, then coordinates will be shown on 3 PRMs.

Coordinates: ___ **Provided** ___ **Need**

***Comments*:**

(8) Permanent control points (PCPs) will be set on the centerline of the right-of-way at the intersection and terminus of all streets, at each change of direction, no more than 1,000 feet apart. PCPs will be shown on the plat by an appropriate symbol.

PCPs must be set prior to the expiration of bond or within the time allowed by statute. In un-bonded plats, PCPs must be set before submittal of mylars. In bonded plats, they must be set before As-Built submittal, or evidence of bonding specific to PCPs must be provided.

On a Final Plat, surveyor's certificate on plat will state PRMs were set and the date they were set, as well as that PCPs and lot corners have been set. If bonded, in lieu of "have been set" for the PCPs and lot corners, the statement may be added, "PCPs and lot corners will be set in accordance with Florida Statute or pursuant to terms of bond."

On a No Improvements plat or a Minor Subdivision plat, the date PRMs, lot corners, and PCPs (as applicable) were set is required in the certification. Note: PCPs are not typical in No Improvements or Minor Subdivision plats and are rarely required in those plats.

Requirements for setting PCPs are inclusive of the baseline-type centerlines used in townhome plats, commercial plats, multi-family, and similar plats where a common tract or parcel serves as access, **regardless of the type of plat**. PCPs are not required in a No Improvements plat or Minor Subdivision plat with no road improvements.

If a No Improvements plat or Minor Subdivision is a commercial or multi-family plat; or is required to have minimally improved roads; or if a Minor Subdivision is required to have a "Low Volume" private road (refer to LDC, DRPM, and PGM Transportation Manual for details of "Low Volume" private road), PCPs will be required.

On roads of shell, limerock or a similar surface which makes the setting of nails & disks as PCPs impractical, capped iron rods will be set. This is only required on plats where the road

construction/improvement is part of the development requirement, and **does not apply to driveways, private easements and flag lot accesses.**

An inspection for PCPs will be performed by a representative of the County Surveyor's office.

PCPs statement in certification: ___ Provided ___ Need ___ N/A

***Comments*:**

(9) Monuments as prescribed by Florida Statute will be set at all lot corners, points of intersection, and changes of direction of lines within the subdivision which do not require a PRM or a PCP. A corner monument need not be set if one already exists at such point (so note on plat); or when a monument cannot be set due to a physical obstruction, in which case offset/witness monumentation will be set ON LINE with the obstructed corner, and noted as offset or witness corner on the plat.

Surveyor will include a statement in Surveyor's Certification that the corners were set or will be set in accordance with Florida Statute and/or conditions of bond.

On a Final Plat, surveyor's certificate on plat will state PRMs were set and the date they were set, as well as that PCPs and lot corners have been set. If bonded, in lieu of "have been set" for the PCPs and lot corners, the statement may be added, "PCPs and lot corners will be set in accordance with Florida Statute or pursuant to terms of bond."

On a No Improvements plat or a Minor Subdivision plat, the date PRMs, lot corners, and PCPs (as applicable) were set is required in the certification.

Corners shown or statement in certification: ___ Provided ___ Need

***Comments*:**

(10)a The section, township, and range (STR) will appear under the plat name on each sheet. If the plat has a subtitle, e.g., "A Replat of…", "Platted Subdivision with No Improvements", "Minor Subdivision", etc, the STR will follow the subtitle and precede "Hillsborough County, Florida".

STR: ___ Provided ___ Need

***Comments*:**

(10)b "Hillsborough County, Florida" will appear under the plat name on each sheet. If the plat has a subtitle, e.g., A Replat of…", "Platted Subdivision with No Improvements", "Minor Subdivision", etc, the STR will follow the subtitle and precede "Hillsborough County, Florida".

County name: ___ Provided ___ Need

***Comments*:**

(11)a Each plat will show a legal description of the lands subdivided, and the legal description will be the same in the title report. The legal description must be so complete that from it, without reference to the (proposed) plat, the starting point and boundary can be determined. **If the legal description shown on the plat varies from the title report, the surveyor must**

provide a signed and sealed letter confirming that, in his or her professional opinion, both descriptions describe the same lands.

The bearing basis for the legal description shown on the plat must agree with the bearing basis for the plat map.

A statement of the total acreage contained within the lands platted will follow the legal description, e.g., "Containing 00.00 acres more or less".

Legal: ___ Provided ___ Need
Acreage: ___ Provided ___ Need

***Comments*:**

(11)b A title report not more than 60 calendar days old will be submitted with the plat for review**. The title report ("report") must cover a minimum 30-year period, and must include copies of all recorded documents within the 30-year period, as well as earlier documents still binding on the plat (e.g., easements and rights of way).** All documents referenced in the title report as pertinent to the platted lands must be provided with the certification, including the last deed of record.

Acceptable forms of title report

30-year title report is required, not more than 60 days old; in the form of:
an Ownership and Encumbrance report (O&E);
a commitment to insure;
a title policy; or
an Opinion of Title;
including all documents in 30-year chain of title, and earlier documents still binding on the plat.
Note: Some title preparers provide a report they title "Plat Certificate". This is acceptable as long as it meets the format and content requirements described herein.

NEW: In the interest of conservation and economy, the back-up documents, **other than last deed of record and the report itself,** can be submitted electronically in PDF format and included in the electronic submittal to PGM. Paper submittal of the report and last deed of record is still needed.

O&E, commitment, policy, or Opinion must be prepared by an abstractor, a title company, or a Florida-licensed attorney. Updates will be required on resubmittals and at mylars if report has become more than 60 days old. An out-dated commitment, policy, or opinion may be supplemented with a current O&E.

NOTE: The title report must state who the "Apparent owner of record" is; it is not adequate to state, "Owner per last deed of record".

Report must list all affected tax folio numbers, and state whether taxes are paid, unpaid, and/or delinquent. NOTE: PER 197.192 FLORIDA STATUTE AND 12D-13.012 FLORIDA ADMINISTRATIVE CODE, ALL PROPERTY TAXES MUST BE PAID BEFORE PLAT CAN BE FILED. EVIDENCE THAT TAXES ARE PAID WILL BE REQUIRED BEFORE MYLARS ARE RELEASED FOR RECORD. BE AWARE THAT OCCASIONALLY THE PLAT REVIEW MAY

SPAN INTO A "NEW" TAX YEAR I.E. NEW TAX BILLS COME OUT WHILE PLAT ISSTILL IN REVIEW. IN THOSE CASES THE TAXES FOR THE NEW BILL MUST ALSO BE PAID BEFORE PLAT CAN BE FILED.

If there is a reservation by the Trustees of the Internal Improvement Trust Fund (TIITF), a copy of that reservation and any release pertaining to the reservation must be provided.

Title report **must include a full legal description** of the platted lands. If the legal description in the O&E varies from the plat due to rotation to grid, correction or clarification, perfecting an imperfect metes & bounds or section breakdown, etc, the surveyor must provide a signed and sealed letter confirming that in his/her professional opinion both descriptions describe the same lands.

Title evidence: ___ **Provided** ___ **Need**
Legal same/letter provided: ___ **Provided** ___ **Need**

***Comments*:**

(12)a The dedications and approvals required by ss. 177.071 and 177.081 Florida Statutes must be shown; including (177.071-1) approval from appropriate governing body, e.g.

> **Board of County Commissioners**
> This plat has been approved for recordation.
>
> _____ _____
> Chairman Date

Commission block: ___ **Provided** ___ **Need**

***Comments*:**

(12)b The dedications and approvals required by ss. 177.071 and 177.081 Florida Statutes must be shown; including (177.081-1) review for chapter conformity:

> **PLAT APPROVAL**:
> This plat has been reviewed in accordance with the Florida Statutes, Section 177.081 for Chapter conformity. The geometric data has not been verified.
> Reviewed by: _____
> Florida Professional Surveyor and Mapper, License #_____
> Surveying and Mapping Section
> Hillsborough County Real Estate Department

Chapter conformity block: ___ **Provided** ___ **Need**

***Comments*:**

(12)c The dedications and approvals required by ss. 177.071 and 177.081 Florida Statutes must be shown; **including (177.081-2) dedication by Owner(s) and other parties (if any) shown by title report to hold interest(s)**, executed in the same manner in which deeds are required to be executed, i.e., signature of owners/interest-holders, signatures of two witnesses (for each owner signature), and notary acknowledgment.

Mortgagees must join on plat in the same manner as Owner(s), unless a recorded Joinder and Consent (J&C) document is provided. See checklist item 12d.

Owners of fee interest under (exterior) easements serving plat must join on plat in the same manner as Owner(s), unless a recorded J&C document is provided. See checklist item 12e.

Interests dedicated by plat (or reserved to Owner(s) in plat dedication), including rights of way, easements, parks, lift station sites, master meter easements, etc, will be designated on plat map as "public" or "private". Only public dedication can be made by plat, and can only be made "to the public" or "for public use" or "to Hillsborough County for public use". Dedication cannot be made just to "Hillsborough County" or to any specific agency within Hillsborough County government.

Reservations for "future dedication" or reference to "proposed right of way" or other "future" interest cannot be made. Dedications must be made at execution/acceptance of the plat, or interest must be **reserved by Owner(s) for conveyance subsequent to the filing of the plat on public record.** This would apply, e.g., to interests that are intended to be conveyed to **Homeowners'** or other **Property Owners' Associations** or to **Community Development Districts. NOTE: These interests may be reserved for conveyance to CDD or HOA, but no interest can be dedicated by plat to CDD or HOA. Further, CDD or HOA will not join on plat unless title report indicates that the CDD or HOA is in title.**

No dedication or conveyance of any private interest can be made by plat. Private interests, as well as intended conveyances to Community Development Districts, must be reserved by Owner(s) for conveyance subsequent to filing of the plat. In some cases, easements for the benefit of specific lots within a plat, or more general easements for the benefit of all lots within a plat, may be **created** by plat dedication, but **are not conveyed** by the plat dedication. Such easements are created in the dedication by the Owner(s) to benefit, and as appurtenances to, said lots, and pass in title with the lots at such time as the lots are conveyed.

Specific purpose tracts retained by Owner(s) will be labeled on plat map as to purpose or intent, e.g., "Tract A - Recreation Area". Such tracts may have more than one "purpose" designation: As in the case where said Tract A might have a Recreation Area (RA), a Private Drainage Easement (PDE) adjacent to the RA, and a Wetland Conservation Area (WCA) and WCA-setback adjacent to the PDE. Tract A would be shown with a (solid) boundary linetype; PDE would be delimited within Tract A with easement linetype; WCA-setback and WCA would be delimited with their unique linetypes; limits of the RA would be shown with leaders and/or labels. The tract and all easements/areas within tract would be individually labeled and dimensioned.

Various examples of appropriate dedication language are shown below:

Example of dedication on Final plat with public dedications and private reservations:

"The undersigned, as Owner(s) and/or mortgage holder(s) of the lands platted herein do(es) hereby dedicate this plat of *(subdivision name)* for record. Further, the Owner(s) do(es) hereby dedicate(s) to public use all streets, roads, rights of way, and easements designated on the plat as "public". The undersigned further makes the following dedications and reservations:

Tract ____ *(Tract "LS", for example)* is hereby dedicated to public use as a Lift Station site.

Master Meter Easement, (for example) is hereby dedicated to public use.

Private _____ Easements *(Private Drainage Easements, for example)* are hereby reserved by Owner(s) for conveyance to a Homeowners' Association, Community Development District, or other custodial and maintenance entity subsequent to the recording of this plat, for the benefit of the lot owners within the subdivision. Said easements are not dedicated to the public and will be privately maintained.

Fee interest in Tracts _____ *(Tracts "A", "B", and "C", for example)* is hereby reserved by Owner(s) for conveyance to a Homeowners' Association, Community Development District, or other custodial and maintenance entity subsequent to the recording of this plat, for the benefit of the lot owners within the subdivision. Said tracts are not dedicated to the public and will be privately maintained.

Said Tracts _____ *(Tracts "A", "B", and "C", for example)* and Private _____ Easements *(Private Drainage Easements, for example)* are subject to any and all easements, rights of way and tracts dedicated to public use as shown on this plat.

The maintenance of Owner-reserved tracts and areas and private easements reserved by Owner(s) will be the responsibility of the Owner(s), its(their) assigns and its(their) successors in title."

If Final plat contains private roads rather than publicly dedicated roads, the above dedication language will be revised to so reflect, and the following paragraphs added to the dedication:

"The private roads and private rights of way shown hereon as Tract _____ *(Tract "D", for example)* are not dedicated to the public, but are private, and are hereby reserved by Owner(s) for conveyance to a Homeowners' Association, Community Development District, or other custodial and maintenance entity subsequent to the recording of this plat; for the benefit of the lot owners within the subdivision, as access for ingress and egress of lot owners and their guests and invitees. Said right of access for ingress and egress will extend to lot owners within all phases and units, both existing and future, of this development (*or name of development*).

Owner(s) hereby grant(s) to Hillsborough County government and providers of law enforcement, fire emergency, emergency medical, mail, package delivery, solid waste/sanitation, and other similar governmental and quasi-governmental services, a non-exclusive access easement over and across the private roads and private rights of way within Tract _____ *(Tract "D", for example)* as shown hereon for ingress and egress for the performance of their official duties.

Owner(s) hereby grant(s) to providers of telephone, electric, cable television and cable data, water and sewer, and other public and quasi-public utilities, a non-exclusive access easement over and across and a non-exclusive utility easement over, across and under the private roads and private rights of way within Tract _____ (*Tract "D", for example*) and the areas designated hereon as utility easements, for ingress and egress and for the construction, installation, and

maintenance of utilities* and related purposes, for the benefit of the lot owners herein." (***In private plat***, "as designated by Owner(s)"* **can be inserted***.)*

NOTE: THE ABOVE DEDICATION LANGUAGE CAN BE USED FOR ALL FINAL PLATS, BOTH "PUBLIC" AND "PRIVATE"; AND FOR THOSE NO IMPROVEMENTS AND MINOR SUBDIVISION PLATS WHOSE CONFIGURATIONS ARE NOT APPROPRIATE FOR "SIMPLE DEDICATIONS" (SEE EXAMPLES BELOW), I.E., THOSE THAT HAVE HOAs OR OTHER OWNERSHIP ASSOCIATIONS (SUCH AS COMMERCIAL/BUSINESS PARKS). LANGUAGE MAY BE REVISED AS IS APPLICABLE, BUT SUBSTANTIAL DEVIATION FROM THIS LANGUAGE MAY REQUIRE APPROVAL FROM THE COUNTY ATTORNEY'S OFFICE.

Example of simple dedication for use on Platted Subdivision with No Improvements, i.e., not requiring the language above (see stipulations above); or on Minor Subdivision plat that has lot access only via easement, i.e., not via common interest tract and/or Low Volume private road; with no public dedications (public dedication cannot be made on these plats); and creating private easements:

"The undersigned, as Owner(s) and/or mortgage holder(s) of the lands platted herein do(es) hereby dedicate this plat of (subdivision name) for record.

It is the intent of the undersigned Owner(s) that the private ingress, egress and utilities easement shown hereon as *(name of private easement as required by Streets and Addresses, if any, or just e.g., Easement "A")* being ___ feet in width, and lying within and being a part of Lots __, __, and __, is hereby created for the benefit of Lots __, __, and __. Said easement is for access for ingress and egress and the provision of utilities services, and will run appurtenant and pass in title with aforesaid benefited lots. Said easement is not dedicated to the public, but is private, and will be maintained by the owners of the aforesaid benefited lots.

The undersigned also hereby confirm(s) the limits of the public right of way as shown hereon."

Example of dedication language for shared private driveway easements. (This language is for plats where PGM/Transportation has limited the number and/or location of access points from a plat to a public road. The language may be used on any type of plat, added to the other appropriate dedication language.):

"Shared Drive Way Easements" (___' by ___' *(typically 30' x 30')*), shared ingress and egress easements for access to __*(name)*_ Road) lying in and being parts of Lots __ and __, Lots __ and __, and Lots __ and __, are hereby created for the mutual benefit of the above-paired lots. Said easements are reciprocally exclusive and inseparable as to each pair of lots, and will run appurtenant and pass in title with said benefited lots."

Also as a requirement of PGM/Transportation, it may be necessary to create a "Driveway Area" or "Driveway Access Area". This occurs for the same reason as the "Shared Drive Way Easements", but if the driveway access lies entirely within 1 lot (rather than being shared between 2 lots) it should be labeled and referred to as an "area", not an "easement". Note: Since the "Driveway Area" is owned by the same owner as the lot, it is not necessary to refer to it in the dedication, but it must be labeled and dimensioned on the plat map. **Transportation reviewer may also require that it be described in a plat note as the only permitted location for a driveway on the specified lot.**

If the configuration of a No Improvements plat or Minor Subdivision plat does not require the more in depth style of dedication language, it may be possible/practical to revise the simple dedication language to accommodate the plat. In such cases the simple language can be modified, and one or both of the following added.

Dedication language for access easements over private roads within small commercial plats, shared access tract situations, etc, in No Improvements or Minor Subdivision plat, where it is necessary to ensure access for emergency and other services. The language may be used on either type of plat, added to the other appropriate dedication language:

"An access easement is hereby created over and across Tract ___ for the benefit of the lot owners within the subdivision, for use by providers of law enforcement, fire and medical emergency services, mail and package delivery services, solid waste/sanitation services, public and quasi-public utilities and services, and by other governmental and quasi-governmental entities, for ingress and egress in the performance of their official duties."

Note: Unlike the similar sample paragraph shown under Final plat dedications, the language in the paragraph above does not create a utilities easement; it just creates right of access for providers.

NEW DUE TO 2009/2010 LDC CHANGES: Example of language for private access tract with access easement within Minor Subdivision, such as situation where Low Volume private road has been required:

"It is the intent of the undersigned Owner(s) that Tract "___" *(Tract "A", used herein for example)* shown hereon as *(name of private access/low volume road as required by PGM or Streets and Addresses, if any; or just, e.g., Tract "A")*, being ___ feet in width, is not dedicated to the public, but is private, and is hereby reserved by the Owner(s) for conveyance to the lot owners subsequent to the filing of the plat. An undivided interest in said Tract "A" shall be conveyed with and will run appurtenant and pass in title with each of the lots benefited by said private access/road, specifically Lots __ through __ inclusive. Said Tract "A" will be maintained by the Owner(s), its(their) assigns, and its(their) successors in title.

A private ingress, egress, and utilities easement within Tract "A" is hereby created for the benefit of the lot owners, for access for ingress and egress and the provision of utilities services, and will run appurtenant and pass in title with aforesaid benefited lots. Said private easement is not dedicated to the public, and will be maintained by the owners of the aforesaid benefited lots.

An access easement is hereby created over and across Tract "A" for the benefit of the lot owners within the subdivision, for use by providers of law enforcement, fire and medical emergency services, mail and package delivery services, solid waste/sanitation services, and by other governmental and quasi-governmental entities for ingress and egress in the performance of their official duties.

The undersigned also hereby confirm(s) the limits of the public right of way as shown hereon."

Any other special easements, special purpose areas, etc, that are not covered in the above language examples can usually be handled by adapting one of the above examples. If a

circumstance occurs that does not fit with any of the above, contact the County Survey and Mapping Section for direction.

Owner dedication: ___ **Provided** ___ **Need**
Vested parties: ___ **Provided** ___ **Need** ___ **N/A**

***Comments*:**

(12)d The dedications and approvals required by ss. 177.071 and 177.081 Florida Statutes must be shown; including (177.081-2) **joinder by mortgagee** (if any), either in dedication on plat or by separate recorded document of Joinder and Consent (J&C), executed in the same manner in which deeds are required to be executed.

J&C can be provided with initial submittal, or at any time during the review prior to submitting mylars. A copy will suffice during the review process; the original must be recorded before or with the mylars. If mortgagee joins in execution of plat, J&C is not required.

Mortgagee dedication/J&C: ___ **Provided** ___ **Need** ___ **N/A**

***Comments*:**

(12)e The dedications and approvals required must be shown; including **joinder by fee owner of land under (exterior/adjoining) easement providing access to the plat** (if any), either in dedication on plat or by separate recorded document of Joinder and Consent (J&C), executed in the same manner in which deeds are required to be executed.

This joinder is required only when the proposed plat is dependent upon access via exterior easement(s) over/across lands not owned by the plat Owner(s). The J&C is not required for existing easements inside the proposed plat; for interior easements being created by the plat; or for exterior easements across the lands of an owner or mortgagee of the plat. Exception may also be made if the original easement allowed for subdivision.

J&C can be provided with initial submittal, or at any time during the review prior to submitting mylars. A copy will suffice during the review process; the original must be recorded before or with the mylars. If fee owner under easement joins in execution of plat, J&C is not required.

Adjoining fee owner dedication/J&C: ___ **Provided** ___ **Need** ___ **N/A**

***Comments*:**

(13)a The circuit court clerk's certificate will be shown, e.g.:

CLERK OF CIRCUIT COURT
COUNTY OF HILLSBOROUGH
STATE OF FLORIDA

I hereby certify that this Subdivision Plat meets the requirements, in form, of Chapter 177 Part I of Florida Statutes, and has been filed for record in Plat Book _____, Page _____ , of the Public Records of Hillsborough County, Florida.

By _____
CLERK OF CIRCUIT COURT
By _____
DEPUTY CLERK

THIS _____ DAY OF _____, 20___. TIME_____
CLERK FILE NUMBER _____

OR

CLERK OF CIRCUIT COURT
COUNTY OF HILLSBOROUGH
STATE OF FLORIDA

I hereby certify that this Subdivision Plat has been filed for record this _____ day of _____, 20_____, in Plat Book _____, Page _____, of the Public Records of Hillsborough County, Florida.

By _____
CLERK OF CIRCUIT COURT
By _____
DEPUTY CLERK

THIS _____ DAY OF _____, 20___. TIME_____
CLERK FILE NUMBER _____

Clerk block: ___ Provided ___ Need

***Comments*:**

(13)b The professional surveyor and mapper's seal and statement required by s. 177.061, i.e., "The plat must be signed and sealed by that professional surveyor and mapper, who must state on the plat that the plat was prepared under his or her direction and supervision and that the plat complies with all of the survey requirements of this part.", will be shown.

On a Final Plat, surveyor's certificate on plat will state PRMs were set and the date they were set, as well as that PCPs and lot corners have been set. If bonded, in lieu of "have been set" for the PCPs and lot corners, the statement may be added, "PCPs and lot corners will be set in accordance with Florida Statute or pursuant to terms of bond."

On a No Improvements plat or Minor Subdivision plat, the date PRMs and lot corners (and PCPs, if applicable) were set is required in the certification.

Examples of acceptable surveyor's certifications are shown below:

Example for No Improvements plat or Minor Subdivision plat:

Surveyor's Certification
I, the undersigned surveyor, hereby certify that this Platted Subdivision is a correct representation of the land being subdivided; that this plat was prepared under my direction and

supervision; that this plat complies with all the requirements of Chapter 177, Part I, Florida Statutes, and the Hillsborough County Land Development Code; that permanent reference monuments (PRMs) were set on the ____day of _____, 20____, and lot corners have been set as shown hereon.

By _____(Surveyor)
License# _____
Company _____
LB# _____

Example for Final plat:

Surveyor's Certification
I, the undersigned surveyor, hereby certify that this Platted Subdivision is a correct representation of the land being subdivided; that this plat was prepared under my direction and supervision; that this plat complies with all the requirements of Chapter 177, Part I, Florida Statutes, and the Hillsborough County Land Development Code; that permanent reference monuments (PRMs) were set on the ____day of _____, 20____ , as shown hereon; and that permanent control points (PCPs) and lot corners have been set or will be set per requirements of Florida Statute or in accordance with conditions of bonding.

By _____(Surveyor)
License# _____
Company _____
LB# _____

NOTE: Substantial deviation from the above formats will not be accepted. In the past we have accepted various versions of "custom" language for the surveyor's certificate. Effective immediately, language tailored to lessen or alleviate the surveyor's responsibilities regarding direction, supervision, and/or monumentation will be rejected. The certificate does not have to be a verbatim match to the sample language, but must include all of the points contained in the sample language. No disclaimers as to direction, supervision, and/or monumentation will be accepted in the surveyor's certificate or as a plat note.

Surveyor certificate: ___ Provided ___ Need

***Comments*:**

(13)c Every plat must also contain the printed name and registration number of the professional surveyor and mapper directly below the statement required by this section, along with the printed name, address, and certificate of authorization number of the legal entity, if any. A professional surveyor and mapper practicing independently of a legal entity must include his or her address.

Surveyor info: ___ Provided ___ Need

***Comments*:**

(14)a All section lines and quarter section lines occurring within the subdivision, referenced in the legal description, or needed to establish the plat boundary, will be indicated by lines drawn

upon the map or plat, with appropriate words, labels and figures. Said lines will be adequately tied to the plat boundary to determine relationship to the plat. These ties may be shown on the plat map or on the key sheet, or both. **Note: The requirement for Section corner ties will not be waived for replats.**

Section lines/labels: ___ **Provided** ___ **Need** ___ **N/A**
Ties: ___ **Provided** ___ **Need** ___ **N/A**

***Comments*:**

(14)b The surveyor is to provide copies of (new or held) certified corner records (CCRs) utilized in the boundary survey and plat (FS 177 Part 3 177.507 Certification of corners). Existing CCRs can be downloaded at http://data.labins.org . **Note: The requirement for Section corner ties will not be waived for replats.**

CCRs: ___ **Provided** ___ **Need** ___ **N/A**

***Comments*:**

(14)c If the description is by metes and bounds, all information called for, such as the point of commencement and point of beginning, course bearings and distances, and qualifiers will be indicated.

POB/POC/etc: ___ **Provided** ___ **Need** ___ **N/A**
Bearings/distances/qualifiers ___ **Provided** ___ **Need** ___ **N/A**

***Comments*:**

(15)a Location, width, and names of all streets, waterways, or other rights of way will be shown, as applicable.

Names: ___ **Provided** ___ **Need**
Widths: ___ **Provided** ___ **Need**

***Comments*:**

(15)b On all plats, existing road and street rights of way will be shown, including information regarding deeds, plat dedications, right of way projects, orders of taking, maintenance limits, etc, and including the limits of and method for determining **maintained right of way,** if any.

Information regarding **easements owned by the County** can be obtained from Joe Settecasi in the Real Estate Department at 307-1011, SettecasiJ@HillsboroughCounty.ORG . The Real Estate Department should also be contacted for **inquiries about vacated** right of way.

To inquire as to whether the area impacting or impacted by the plat **has been researched or mapped through the County Surveying Division's Right of Way Inventory Program**, contact Jennifer Swanson at (813) 307-4783, swansonj@hillsboroughcounty.org.

If there is no documented R/W and the area has not been mapped for the R/W Inventory project, **field determination of maintenance limits** will be needed. Surveying Division must schedule the maintenance location through the Public Works Transportation Department.

Contact Jennifer Swanson at (813) 307-4783, swansonj@hillsboroughcounty.org to request scheduling.

If **maintained right of way** is shown on the plat, the name of the person spotting the limits, the department the person works for, and the date the line was spotted will be shown on the plat in a label on or near the right of way.

On **all No Improvement plats** and **Minor Subdivisions**, the following language will be placed in the dedication acknowledging the limits of public right of way:

"The undersigned also hereby confirms the limits of the public right of way as shown hereon".

On Final plats, if additional right of way is not being dedicated to supplement the existing maintained right of way, the "confirmation note" above used for No Improvements and Minor Subdivision plats will be used in the dedication.

Right of way info: ___ **Provided** ___ **Need**
Confirmation note: ___ **Provided** ___ **Need** ___ **N/A**

***Comments*:**

(15)c When **maintained right of way** or **other irregular R/W (deed exceptions, changes of R/W widths at or near plat boundary, etc)** occurs on a plat, a note will appear on the plat map within or reasonably close to that right of way stating:

"Right of Way varies" or "Right of Way width varies"

Note: ___ **Provided** ___ **Need** ___ **N/A**

***Comments*:**

(15)d If PGM/Transportation requires depiction on the plat of a **Future Transportation Corridor** (sometimes incorrectly referred to as a "reserved right of way", or as a request for "additional dedicated r/w" on a No Improvements plat or Minor Subdivision), the following additional designation on plat and/or in dedication* and notes will be made:

On a **No Improvements** or **Minor Subdivision** plat:

The setback area will be shown on the plat map as to the overall width required by the PGM/TRC reviewer. The setback line will be shown in dashed or other non-continuous linetype, dimensioned from the plat boundary and tied to the right of way centerline. The area will be labeled as, "*Required width of the Setback for Future Transportation Corridor, per Hillsborough County Land Development Code, Part 5.11.00*".

Additionally, a note will be added to the plat stating, "*NOTE: Areas of Setback for Future Transportation Corridors will contain no permanent structures. Such areas may be occupied on an interim basis by underground utilities (as designated and permitted by individual lot owners), fences, retention areas and landscaping materials, or by undisturbed or appropriately managed vegetation, approved/permitted driveways or other interim uses as provided in Part 5.11.00 of the Land Development Code."*

*On a **Final plat** only, PGM may require dedication of the area as right of way. **The owner/developer must negotiate this with PGM.**

PGM should be contacted as to the availability of the **Transportation Corridor Reservation Maps** so that you and your clients might have a heads-up on these situations. These maps are also available in PDF format on the PGM website: http://www.hillsboroughcounty.org/pgm/ . Inquire with PGM as to if the maps are complete and current.

Transportation Corridor addressed: ___ Provided ___ Need ___ N/A

***Comments*:**

(15)e Plats including or bordering on waterways (bays, inlets, rivers, creeks, canals, etc.) or major lakes (i.e., Lake Keystone or Lake Thonotosassa) that might be subject to or **affected by sovereign rights must be reviewed by the Tampa Port Authority** (TPA). A copy of the Port Authority's decision must be submitted with the plat for review, and any notes required by the TPA must appear on the plat. Additionally, where applicable, the TPA may require a survey of the Mean High Water or other line (at the discretion of the TPA) separating private ownership from sovereign ownership. A copy of the **plat and the boundary survey must be submitted** to Assistant Port Surveyor, Craig S. Kurial, PLS, Tampa Port Authority, (813) 905-5017, CKURIAL@tampaport.com , for that determination.

TPA review: ___ Provided ___ Need ___ N/A

Comments:

(16)a Location and width of proposed easements and their intended use will be clearly stated. Where easements are not coincident with property lines, they must be labeled with bearings and distances and tied to the principal lot, tract, or right-of-way. All proposed easements must be addressed in the plat dedication.

Labels/intent: ___ Provided ___ Need ___ N/A
Dims/Ties: ___ Provided ___ Need ___ N/A

***Comments*:**

(16)b All dedicated easements must have an underlying fee interest. For example, when easements are noted within a tract, and appear to cover the entire tract (such as some drainage easements), there are two different interests displayed there: 1) Fee interest, i.e., "Tract A", and 2) Easement interest, i.e., "drainage easement". For purpose of dedication, these interests will be addressed separately, as "Tract A" and "Drainage easement lying within Tract A", or similarly.

Esmt/fee addressed: ___ Provided ___ Need ___ N/A

***Comments*:**

(16)c Existing easements identified in the title report will be shown on the plat (including dimensions and recording info) if being perpetuated, or will be addressed by subordination, vacation, or other release.

Note: If access to the plat is provided by way of an existing easement, the **owner of the fee interest** underlying the access easement must join on the plat or by recorded Joinder and Consent form.

Easements addressed: ___ **Provided** ___ **Need** ___ **N/A**
Joinder by fee (if applicable): ___ **Provided** ___ **Need** ___ **N/A**

***Comments*:**

(16)d Typically, Wetlands Conservation/Preservation Areas **(WCAs or WPAs) cannot be part of a drainage easement (DE)**. The WCA can lie entirely inside of a drainage easement, but must have a distinct, well-defined boundary separating the WCA from the DE. Exception will be allowed only if approval from the Environmental Protection Commission of Hillsborough County is provided. Further, **a WCA/WPA cannot be dedicated to the public**.

Separate WCA/WPA: ___ **Provided** ___ **Need** ___ **N/A**

***Comments*:**

(16)e Regarding **dedications** in "Platted Subdivision With No Improvements" and "Minor Subdivision" plats, **these plats cannot have any dedications to the public**. On these plats, when it is desired to give an easement or right of way to the County ("Public") it must be recorded prior to platting, and then shown as "existing" on the plat.

Contact Cathy Watson, Real Property Section, Technical Support Section, (813) 307-1016, watsonc@hillsboroughcounty.org regarding the process for conveying interests to the County.
Ms. Watson should also be contacted for initiating conveyance of off-site easements, temporary easements, etc, prior to Final plats when such items are required.

Existing shown: ___ **Provided** ___ **Need** ___ **N/A**

***Comments*:**

(16)f Regarding private access, ingress/egress, and utilities easements in "Platted Subdivision With No Improvements" and "Minor Subdivision" plats:

1. Frontage access, flag access (flag access may be disallowed by LDC), or an easement, all meeting PGM/LDC guidelines, is required for each lot for provision "ingress/egress & utilities". A width of 20 feet can serve 1 lot; a width of 30 feet can serve up to 3 lots. Access-ways smaller than, or bearing more traffic than, these requirements must have written approval from PGM. **If a variance has been granted, provide a copy of the variance and reference it in the plat notes.**
2. Where frontage access or private ingress/egress easement does not provide for utilities, a minimum of 10-foot utility easement is required. (Note: This is a very rare occurrence, and would only happen in a situation where, for example, a lot was being accessed by way of an I/E easement from Public Road A, but its utility service was coming in to a different point on the lot via a separate easement from Public Road B, or via a separate platted or existing utility easement.)

Dedication will note which lot these easements benefit and by whom the easements will be maintained.
NOTE: If access is provided to the plat by way of an existing easement, the owner of the fee interest underlying the access easement must join on the plat or by recorded Joinder and Consent form, **see 16c**.

Ingress/Egress access: ___ **Provided** ___ **Need** ___ **N/A**
Utilities access: ___ **Provided** ___ **Need** ___ **N/A**
Benefit/maintain ___ **Provided** ___ **Need** ___ **N/A**

***Comments*:**

(17)a All contiguous properties will be identified by subdivision title, plat book, and page, or if unplatted land, will be so designated. **Do not**, however, **show tax folio numbers** for the plat or its adjoiners.

Contiguous lands labeled: ___ **Provided** ___ **Need**

***Comments*:**

(17)b If the subdivision platted is a part or the whole of a previously recorded subdivision, sufficient ties will be shown to controlling lines appearing on the earlier plat to permit an overlay to be made. It must be made clear what part of the previous plat is being replatted. These ties may be shown on the plat map or on the key sheet, or both. **A copy of the earlier plat must be provided to the County Surveying Division with the plat review package.**

Previous plat tied: ___ **Provided** ___ **Need** ___ **N/A**
Copy of earlier plat: ___ **Provided** ___ **Need** ___ **N/A**

***Comments*:**

(18) All lots will be numbered either by progressive numbers or, if in blocks, progressively numbered in each block, and the blocks progressively numbered or lettered. Lots and/or blocks in numbered additions/units/phases bearing the same name may be numbered consecutively throughout the several additions/units/phases. Continuous lot/block numbering through additions/units/phases will be permitted, provided that a copy of the development plan is provided to the County Surveying Division with the plat for review.

Numbers progressive: ___ **Provided** ___ **Need** ___ **N/A**
Development plan: ___ **Provided** ___ **Need** ___ **N/A**

***Comments*:**

(19)a Sufficient survey data will be shown to positively describe the bounds of every lot, block, street, easement, and all other areas shown on the plat.

Sufficient data: ___ **Provided** ___ **Need**

***Comments*:**

(19)b Lot, block, street, and all other dimensions will be shown to hundredths of feet. This includes the dimensioning of lot line offsets and centerline offsets for easements and rights of way. Descriptive labels, i.e., “10’ Utility Easement”, can be rounded to the foot only if actual dimensions are shown to the 0.01’; if label also serves as dimension, it would have to be, e.g., “10.00’ Utility Easement”.

Sufficient data: ___ Provided ___ Need

***Comments*:**

(20) Curvilinear lot lines will show the radii, arc distances, and central angles. Nonradial lines will be indicated.

Sufficient data: ___ Provided ___ Need ___ N/A

***Comments*:**

(21) Sufficient angles, bearings, or azimuth to show direction of all lines will be shown, and all bearings, angles, or azimuth will be shown to the nearest second of arc.

Sufficient data: ___ Provided ___ Need

***Comments*:**

(22) The centerlines of all streets/rights of way will be shown with sufficient survey data, and will require PCPs. This includes the baseline-type centerlines used within townhome plats and other plats where a common tract or parcel serves as access.

Sufficient data: ___ Provided ___ Need ___ N/A

***Comments*:**

(23) Park and recreation parcels as applicable will be so designated.

Parks labeled: ___ Provided ___ Need ___ N/A

***Comments*:**

(24) All **excepted parcels** as described in the description of the lands being subdivided will be clearly indicated and labeled "Not a part of this plat”.

The boundary of any **interior excepted parcel** will be **monumented with PRMs.** Note: An **interior excepted parcel** is a rare occurrence and does not apply to those excepted parcels adjoining the plat, only those interior to the plat.

Excepted parcels labeled: ___ Provided ___ Need ___ N/A
Interior excepted parcels monumented: ___ Provided ___ Need ___ N/A

***Comments*:**

(25) The purpose of all areas dedicated or reserved, and/or labeled or designated by plat as having a special purpose, must be clearly indicated or stated on the plat. This will include tracts, areas, easements, R/Ws, buffers, setbacks, etc. A table may be used for this purpose, but all dedications (to public) and reservations (by owner/developer) must also be recited in the dedication.

All easements and rights-of-way must be labeled as either **public** or **private** on the plat, and must be dedicated or reserved in dedication consistently with this labeling.

Dedicated areas labeled: ___ **Provided** ___ **Need** ___ **N/A**

***Comments*:**

(26) When it is not possible to show line or curve data information on the map, a tabular form may be used. **The tabular data must appear on the sheet to which it applies.**

Line tables: ___ **Provided** ___ **Need** ___ **N/A**
Curve tables: ___ **Provided** ___ **Need** ___ **N/A**

***Comments*:**

(27) The plat will include in a prominent place the following:

"NOTICE: This plat, as recorded in its graphic form, is the official depiction of the subdivided lands described herein and will in no circumstances be supplanted in authority by any other graphic or digital form of the plat. There may be additional restrictions that are not recorded on this plat that may be found in the public records of this county."

Statement: ___ **Provided** ___ **Need**

***Comments*:**

(28) Florida Statute specifies that platted utility easements will also be easements for cable television services. On **Final plats** making dedication or reservation of utility easements, the following excerpt from Florida Statute will appear as a plat note (Note is optional on No Improvements and Minor Subdivision plats.):

" All platted utility easements will provide that such easements will also be easements for the construction, installation, maintenance, and operation of cable television services; provided, however, no such construction, installation, maintenance, and operation of cable television services will interfere with the facilities and services of an electric, telephone, gas, or other public utility. "

Along these same lines, **dedication to a** specific, **named utility provider cannot be made by plat**. Dedication by plat of utility easements is non-exclusive and must be as to all providers of utilities (including cable television), or as to "for public use", or as to generic providers, e.g., "providers of telephone, electric power, and cable television services" or similar. If a specific utility company such as TECO is requiring exclusive easements within a plat, they must obtain it prior to the platting and show it as existing, or they must obtain it after the plat is filed.

Cable TV note: ___ **Provided** ___ **Need** ___ **N/A**

No name-specific dedication: ___ Provided ___ Need ___ N/A

***Comments*:**

(29) A legend of all symbols and abbreviations will be shown. This includes abbreviations used on the cover sheet, in the legal description, and in the title block of the plat.

Legend: ___ Provided ___ Need

***Comments*:**

(30)a Final Plats require a minimum of two benchmarks per plat or per half mile of roadway, whichever is greater. The benchmarks will be set post-construction, and be on the North American Vertical Datum of 1988 to third order accuracy, and a statement will be made on the certification as to the datum.

The plat surveyor will provide a signed and sealed benchmark certificate **prior to or with County's As-built review** submittal.

NEW: If the plat will not be as-builted, BMs must be submitted with mylars.

NEW: Platted Subdivisions with No Improvements and **Minor Subdivision plats do not require benchmarks, unless PGM** or other reviewing agency **has required improvements** (such as a "low volume road" or drainage structures) within the subdivision. In that case, the same benchmark requirements will apply to those plats as for the Final Plats.

***Comments*: Provide as indicated in 30a above.**

(30)b Plat benchmarks will be a metal disc set in top of curbs, catch basins, sidewalks, or other concrete structures, or other marks as approved by the County Survey Division. PRMs are not to be used as benchmarks.

***Comments*: Provide as indicated in 30a and 30b above.**

(31) In addition to notes and statements required by Chapter 177 Part I of Florida Statutes, the plat will include the following statements:

(31)a "Subdivision plats by no means represent a determination on whether properties will or will not flood. Land within the boundaries of this plat may or may not be subject to flooding; the Development Services Division has information regarding flooding and restrictions on development."

Note shown: ___ Provided ___ Need

***Comments*:**

(31)b The following statement will be included for wetland conservation/preservation areas:

"The Wetland (Conservation/ Preservation) Area will be retained in a natural state pursuant to the Hillsborough County Land Development Code (LDC) as amended; the Hillsborough County Environmental Protection Act, Chapter 84-446; and Chapter 1-11, Rules of the Hillsborough

County Environmental Protection Commission. In addition, a (30/50)-foot setback from the Wetland (Conservation/ Preservation) Area is required and will conform to the provisions stipulated within the Hillsborough County Land Development Code."

NOTE: The example provided above is an excerpt from the Development Review Procedures Manual. EPC or other reviewing agency may request variations of this excerpt, including the addition of an Uplands note. **The reviewing agency requiring the notes will review for the content of said notes.**

Wetlands note: ___ Provided ___ Need ___ N/A

***Comments*:**

(31)c When drainage easements are shown on the plat, the following statement will be included on the plat:

"Drainage easements will not contain permanent improvements, including but not limited to sidewalks, driveways, impervious surfaces, patios, decks, pools, air conditioners, structures, utility sheds, poles, fences, sprinkler systems, trees, shrubs, hedges, and landscaping plants other than grass, except for landscaping of stormwater detention and retention ponds as required by the Land Development Code."

NOTE: The example provided above is an excerpt from the Development Review Procedures Manual. Stormwater or other reviewing agency may request variations of this excerpt. **The reviewing agency requiring the notes will review for the content of said notes.**

D/E note: ___ Provided ___ Need ___ N/A

***Comments*:**

(Refer to the Development Review Procedures Manual for additional notes and statements which may be required by other reviewing agencies.)

(32)a All title clouds including liens, judgments, and real estate taxes must be cleared. If title report shows outstanding liens, judgments, or real estate taxes, evidence that all have been cleared must be provided for plat to be approved.

Surveyor or title preparer will provide a list of all tax folios involved in the plat, and a statement of whether the taxes are paid, current, or delinquent.

NOTE: PER 197.192 FLORIDA STATUTE AND 12D-13.012 FLORIDA ADMINISTRATIVE CODE, ALL PROPERTY TAXES MUST BE PAID BEFORE PLAT CAN BE FILED. EVIDENCE THAT TAXES ARE PAID WILL BE REQUIRED BEFORE MYLARS ARE RELEASED FOR RECORD. BE AWARE THAT OCCASIONALLY THE PLAT REVIEW MAY SPAN INTO A "NEW" TAX YEAR I.E. NEW TAX BILLS COME OUT WHILE PLAT ISSTILL IN REVIEW. IN THOSE CASES THE TAXES FOR THE NEW BILL MUST ALSO BE PAID BEFORE PLAT CAN BE FILED.

Title clear: ___ Provided ___ Need ___ N/A
Taxes paid: ___ Provided ___ Need ___ N/A

***Comments*:**

(32)b TIITF Reservations will be resolved or shown upon plat. If TIITF has not been released and is shown on plat, a plat note will be added that, "All or part of the lands lying within this subdivision plat are subject to a Reservation by the Board of Trustees of the Internal Improvement Trust Fund recorded in Deed Book _____ Page _____."

TIITFs resolved: ___ Provided ___ Need ___ N/A

***Comments*:**

(33) If a plat is a replat of all or part of a previously platted subdivision, a determination must be obtained from the Hillsborough County Real Estate Department as to whether or not a vacation of the previous plat is required. Generally, if the "geometry" of the previous plat is not being changed, including the perpetuation of existing easements and rights of way, a vacation will not be required.

If, however, there are geometric changes or changes in size, shape or location of any easements or rights of way, vacation may be required. **For info re vacating, contact Hillsborough County Real Estate Department, (813) 272-5810, and ask for the vacating manager.**

Vacation: ___ Provided ___ Need ___ N/A

***Comments*:**

NEW: (34)a On **initial submittal** of the plat for **Survey review**, the surveyor will provide his boundary survey (**or** isolated linework of the plat boundary), in AutoCAD DWG format, on current state plane grid.

It is understood that these preliminary boundary drawings are not "finished" drawings or surveys, and the file can be stripped of all info except the boundary linework, if desired. This is to expedite in-house mapping for field inspections and will not be reviewed or used for any other purpose.

CAD files will be accepted by email (preferred, to swansonj@hillsboroughcounty.org); on CD or DVD; or on a thumb drive.

Boundary drawing: ___ Provided ___ Need

Comments:

(34)b Hillsborough County requires that when submitting a subdivision plat for approval on mylar before recording, a digital file of the plat in AutoCAD DWG format is to be submitted. (Mylars and CAD submittals are made **after** plat is approved by all agencies.)

NEW: The CAD file is required by LDC/DRPM, but an unfortunately large number of surveyors do not provide the drawing file after notification that the plat has been approved; thus the implementation of this change in procedure:

Effective upon the release and distribution of this checklist, "finished" plat CAD file must be provided before mylars will be released for recording. CAD files will be accepted by email (preferred, to swansonj@hillsboroughcounty.org); on CD or DVD; or on a thumb drive. Note: Survey Division no longer has access to machines that will read a 3.5-inch "floppy" disk.

The finished CAD file can be provided at any time between submittal of mylars to PGM and notification of mylars' approval from Survey Division. Ideally, best time/method for CAD submittal is by replying to the mylars submittal approval email from Survey reviewer, and attaching CAD file to return email. Mylars will not be released for recording until **finished CAD** file is received by the Survey reviewer.

***Comments*: Provide as indicated in 34b above.**

NEW: (34)c Mylars will be submitted **after all agencies** have reviewed and **approved the plat,** and **PGM has instructed** the plat surveyor, engineer, owner, or agent **to provide mylars**. (A fee is required at mylars submittal; contact PGM Intake for fee information.)

Mylars submittal will include:
a transmittal letter;
two sets on mylar of all non-signature/non-execution sheets (i.e. keymap sheet, map sheets, and details sheets, if any);
one set on mylar of all signature/execution sheets (i.e. any sheet that has been or will be signed, executed, acknowledged or otherwise "filled in");
any supplemental data required at last review, e.g. title report update.
(**Contact PGM as to** whether they have any **additional requirements** for the mylars submittal.)

Before submittal, the mylars must be **fully executed** by owners, mortgagees (as applicable), other interest holders (as applicable; not commonplace); **witnessed and notary-acknowledged**; and **signed and sealed** by the plat surveyor.

PGM Intake will distribute mylars to Survey reviewer after receiving **or** after Board of County Commissioners (BOCC) acceptance of the plat, depending on plat type. On approval, **Survey reviewer will sign off on mylars and** contact plat surveyor to **request finished CAD file**. On **receipt of the CAD file**, Survey reviewer **will return mylars to PGM Intake**.

After sign-off of mylars and their return to PGM by the Survey reviewer, PGM will secure the **signature of Chairman of BOCC** and contact plat surveyor, engineer, owner, or agent.

***Comments:* Provide as indicated in 34c above.**

(35) Additional comments or conditions from reviewer:

***Comments/conditions*:**

(36) Plat surveyor will submit a completed and signed copy of this checklist acknowledging below that he/she has reviewed the plat prior to submittal, and that the plat and the submittal package comply with the checklist requirements.

NEW: In the interest of conservation and economy, the checklist can be completed and submitted electronically, either as a PDF or a DOC, and included in the electronic submittal to PGM.

NOTE: Geomatics Section Surveying Mapping Team reviewers will not provide quality assurance/quality control level of review. Plats not conforming to statutory requirements, LDC, FAC/MTS, and/or this checklist will be disapproved with minimal comments. It is the responsibility of the signing surveyor to inspect the plat for adequacy and compliance. Survey reviewers also will not provide technical assistance to the technical staff of the signing surveyor/LB producing the plat. Contact with survey reviewers must be made at a Professional-to-Professional level; i.e., if the platting surveyor wishes to discuss the plat review, he/she should make contact, not a member of his/her staff.

Surveyor's Statement of Compliance

I, the undersigned surveyor, hereby state that this Subdivision Plat was prepared under my direction and supervision; that this plat complies with all the requirements of the preceding Hillsborough County's plat review checklist; and that the plat submittal package contains all of the required documents and back-up information as specified within said checklist, and as required by Florida Statute, Hillsborough County Land Development Code, and the Hillsborough County Development Review Procedures Manual.

By _____(Surveyor)
License# _____
Company _____
LB# _____

Checklist: ___ Provided ___ Need

***Comments*:**

The preceding checklist is provided for surveyors submitting plats for record in Hillsborough County. There may be additional statutory requirements and/or conditions set by specific reviewing agencies which are not addressed in this checklist. Any entity submitting a plat for record in Hillsborough County should refer to the Hillsborough County Planning and Growth Management Department's Development Review Procedures Manual and the Hillsborough County Land Development Code, in addition to Florida Statutes and Florida Administrative Code.

If surveyor wants a digital copy of the County's Plat Review Checklist, email or call Jennifer F Swanson, PSM, swansonj@hillsboroughcounty.org, Ph (813)307-4783. Digital file is in Word format, allowing copy-and-paste of certifications, acceptance blocks, notes etc.

CHAPTER 4
CADD STANDARDS

CHAPTER 4 CADD STANDARDS

INTRODUCTION

PURPOSE

The electronic files created during the process of Computer Aided Design and Drafting (CADD) County projects are shared and referenced by many different individuals and disciplines. The files must be in formats that most parties can utilize. The processes and requirements have been established for disciplines that share in the CADD development workflow. This chapter outlines the minimum standards, conventions, and formats necessary to ensure a usable CADD data set.

GENERAL

*Chapter 334 of the Florida Statues, "known as the Florida Transportation Code (Code), establishes the responsibilities of the State, **Counties**, and Municipalities for planning and developing transportation systems which serve the people of Florida. The Code's purpose is to protect the safety and general welfare of the people of Florida and preserve and improve Florida's transportation facilities. Code Section 334.044(2) sets forth the powers and duties of the Department of Transportation to develop and adopt uniform minimum standards and criteria for the design, construction, maintenance, and operation of public roads."* *State of Florida Department of Transportation CADD Production Criteria Handbook, March 2011, Update February 2012*

These guidelines represent the minimum requirements that shall be met for the development of survey CADD projects. They provide uniformity in practice, recognizing there may be situations which the existing guidelines do not provide a solution to or do not apply. When these occur, deviations must be approved in writing by the County Geomatics Section, Survey Project Manager.

4.1 CADD SOFTWARE

GENERAL

The Real Estate and Facilities Services, Geomatics Section Surveying & Mapping CADD standard software is Civil 3D by Autodesk ® current version. The manual covers standards & formats, lines, symbols, blocks (cells) and for the current version.

This is a transitional standard in which the goal is to emulate the State of Florida Department of Transportation CADD Manual & Production Criteria Handbook. The County maintains the industry standard version (which is four versions of Civil 3D 2011-2014) as supported by Autodesk ® as of the effective date of this manual. We are on subscription with Autodesk, so as we progress the oldest version will not be supported i.e. for 2015 it will be versions Civil 3D 2012-2015

Although the State of Florida Department of Transportation FDOT2012 Civil 3D State Kit Is be beta testing, it supplies all the basic CADD elements and standards that we will be basing our hybrid standard

http://www.dot.state.fl.us/ecso/downloads/software/FDOT2012C3D/FDOTStateKitDownload.shtm

Or the current version as supplied by FDOT

NOTE: Land Development Desktop will be supported, for notations & requirements on submittals per this manual, the Autodesk Civil 3D standards are currently under development. Autodesk Civil 3D will be accepted as long as they emulate previous Autodesk Land Development Desktop 2009 per this manual, Florida Department of Transportation (FDOT), and U.S. Army Corps of Engineers (USACE)

4.1.1 SUPPORT

The Geomatics Section CADD support structure and hierarchy is described in this Chapter.

For items that have been modified specifically for this chapter:
Contact Tim Brown via E-mail:

browntm@hillsboroughcounty.org

Or by phone:

813.301.7261

4.1.2 TRANSLATION OF FILES

Autodesk ® format is required for the delivery of all drawing files as required by Chapter 4 of the CADD Manual. The consultant is solely responsible for any translation required to convert non-AutoDesk® drawing files created during the projects production to the

Autodesk® drawing file format (dwg). All translated survey & mapping files shall conform to the file naming convention and default drawing standards adopted for electronic plans as specified in this document. It is the responsibility of the consultant to ensure the correct translation of the design files, including adherence to the specifications of this manual and the validity of the geometric elements are met. Examples shall be submitted to the Geomatics Section, Survey Project Surveyor prior to project completion to ensure conformity.

4.2 PROJECT DIRECTORY STRUCTURE

4.2.1 STANDARD PROJECT DIRECTORY

The project directory structure is a hybrid that is based on the Florida Department of Transportation (FDOT) Civil 3D State Kit project management directory system containing a unique project folder with default subfolders or subdirectories. These subfolders/subdirectories are to be used for the type of work created in Autodesk®; if there is a question or deviation from standard practice contact the appropriate Geomatics Section for advice or referral and then document the approved change.

4.2.2 CREATE PROJECT PROCEDURE

The Create Project application in the FDOT Civil 3D State Kit, included in Electronic Delivery tools, creates the seed project directory structure and prompts the user for additional project specific information. The County electronic template also contains the directory structure if the user decides not to use the application

4.2.3 DISCIPLINE SUB-DIRECTORIES

The discipline sub-directories are defined for the County department/division/section of work by file ownership, not necessarily the type of work. The County has modified the placement of survey design files to emulate Minimum Technical Standards for types of surveys, thus Survey CADD design files shall be placed in the discipline sub-directories. Supporting survey design files will then be externally-referenced to the main discipline sub-directory

For example, if the project is roadway design the main file go in the \Roadway directory developed drainage sheets would go into the \Drainage directory and be externally-referenced, which is a supporting file; supporting CADD survey design files such as a digital terrain model (DTM) would be externally-referenced from the DTM discipline sub-directory

4.2.4 CUSTOM SUB-DIRECTORIES

Custom sub-directories can be created under the standard discipline sub-directory folders, but are not to be created under the root directory for the project. File path lengths are generally limited to 255 characters total

4.2.5 ENGINEERING DATA DIRECTORY

Each discipline sub-directory contains an additional sub-directory named **\eng_data**. These subdirectories were designated to hold the sheet image files of the plan sheets for that discipline, and supporting reports

4.2.6 THE STANDARD PROJECT DIRECTORY FORMAT

The standard project directory structure and file naming conventions are based on the County Project Identification Number (CPID) and the CIP /Real Estate Project Name as assigned from the Survey Project Manager. The following two examples display a transitional folder directory structure and a hybrid FDOT standard directory structure that comes from using FDOT Civil 3D State Kit.

The following directory structure is a template of the County's phase into the FDOT directory structure and each primary directory has a description of each directory's purpose and hybrid modifications are highlighted in the following:

Folder Names	**Purpose**
Project Name (CPID)	
_meta_info	Files used by ESRI application
_Shortcuts	Data shortcuts for Civil 3D projects
admin	Administrative documents (email, correspondence, etc.)
eng_data	
boundary	Boundary Map Files
eng_data	
const	Construction files (i.e.: "As-builts", Construct Control)
eng_data	
dtm	Digital Terrain Model, TIN, DEM
eng_data	
drainage	Drainage calculation, basin studies and storm water design files
eng_data	
emo	Environmental Management, Specific Purpose files
eng_data	
estimates	Estimates files
eng_data	
geotech	Geotechnical, SUE data files
eng_data	
ld	Legal Descriptions & Sketches
eng_data	
roadway	Roadway design files
eng_data	
rwmap	Right of Way Mapping files
eng_data	
survey	Survey database, Survey Control, CCR, data collector, GPS, level files
eng_data	
title-research	Land Records, Research, Title Reports files
eng_data	
utils	Utility data and design files


eng_data

Folder Names	Purpose
Project Name (CPID)	
_meta_info	Files used by ESRI application
_Shortcuts	Data shortcuts for Civil 3D projects
admin	Administrative documents (email, correspondence, etc.)
eng_data	
arch	Architectural design files
eng_data	
boundary	Boundary Map Files
eng_data	
brinspect	Bridge Inspection files
eng_data	
Cell (Block)	Project specific Block libraries for C3D
concepts	Various preliminary concepts
eng_data	
const	Construction files (i.e.: “As-builts”, Construct. Control)
eng_data	
data	Project data files (i.e.: journals, material backgrounds for rendering, pen tables, plot configuration files, etc.)
dtm	Digital Terrain Model, TIN, DEM
eng_data	
drainage	Drainage calculation, basin studies and storm water design files
eng_data	
emo	Environmental Management, Specific Purpose files
eng_data	
estimates	Estimates files
eng_data	
geotech	Geotechnical data files
eng_data	
ITS	Intelligent Transportation Systems design files
eng_data	
ld	Legal Descriptions & Sketches
eng_data	
landscp	Landscape design files
eng_data	

- lighting — Lighting design files
  - eng_data
- maint — Maintenance department (This is not Maintenance of Traffic).
  - eng_data
- material — Other Materials data files
  - eng_data
- out — Other Output files
- permits — Permits for various items (i.e.: ponds, driveways, mailboxes, etc.)
  - eng_data
- planning — Planning files
  - eng_data
- preestim — Preliminary estimates files
  - eng_data
- roadway — Roadway design files
  - eng_data
- rwmap — Right of Way Mapping files
  - eng_data
- seed — Project specific seed files
- signals — Signalization design files
  - eng_data
- signing — Signing and Pavement Marking design files
  - eng_data
- specs — Specification package
  - eng_data
- struct — Structure calculations and design files
  - eng_data
- survey — Survey database, Survey Control, CCR, data collector, GPS, level files
  - eng_data
- symb — Project specific resource files for fonts and custom line styles
- title-research — Land Records, Research, Title Reports files
  - eng_data
- utils — Utility data and design files
  - eng_data

4.2.6 (A) THE STANDARD LAND DESKTOP PROJECT DIRECTORY FORMAT

The standard project directory structure and file naming conventions are based on the Number and the CIP /Real Estate Project Name as assigned from the Survey Project Manager. The following is a standard directory structure with a description of each directory's purpose and a screen shot of Windows Explorer, showing the directory structure are shown in the following:

Survey Jobs Root Directory/folder for projects

Project Name CIP /Real Estate Project No. and Name

AAdmin Administration, Consultant correspondence, review documents

Email

Align alignment database

Archv Previous/archived project info from a previous project, Xref

cogo coordinate pt databases, description key files, ASCII Coord. File

cr Dimension settings, blocks, layers

data GIS data files, contain all "Arc Generate" files (.lin, .pnt files and .aml files)

dwg Drawing Files, Drawing Readmes and Sketch of Description

dwggis GIS data drawing files that are either a direct export/import of GIS

dtm Terrain modeling settings and related data

image Raster images, aerials, scanned final drawings

ld Deed & Legal descriptions, research information

metadata Geographical Information data *.dxf format from the finalized drawing

shapefiles DWG drawing elements that are for direct import into GIS or project GIS shapefiles

specs Project scope or specifications documents

survey Survey database, raw files and scanned Field notes files

Control – Government Horizontal/Vertical, Sectional (LABINS)

GPS files

Research Title Reports, Deeds etc

…

suppdata GIS Supplimental contain all by-product files, including point and line generate files (.pnt and .lin), AutoCAD drawings, coverages, etc. which are created in the process of arriving at the final deliverable product

zz drawing settings (units, precision)

.

4.2.7 STANDARD FILE NAMES

This section describes file naming conventions used for all design files, standard input files and criteria files. As the County bridges to the FDOT Standard, there are parts in this section that have been simplified to meet the current cross-over in this revision of the manual.

In the event a particular file type needed for the project is not addressed, consult with either the County Survey Project Manager or the County Survey Team Manager to determine the proper file name.

The County identifies all standard graphic file names as Critical or Non-critical. Critical files are used in downstream applications, shared across disciplines and used in quantifying pay items. These critical files must meet a minimum compliancy threshold for CADD symbology (Chapter 4) and detailed in 4.3.1 of this chapter. Standard file names are discipline specific and are listed in whole within the respective discipline chapters of this document.

4.2.8 STANDARD FILE NAMING CONVENTION (FDOT)

The County utilizes standard naming conventions for all of its design files. Some of the automation implemented in various tools provided by FDOT depends on naming conventions being met. More importantly, the naming convention confers information to the downstream customer of the data contained in the design file.

Standard file names should follow this format: **A##-####BBBB##.ext**

Where **A** = abbreviated the Geomatics Section, Survey Team/ County Department/Division/Section

= County Fiscal Year (FY), the range is from October 1 through the end of September of the following year; e.g. F13 = Sept 2012 – Oct. 2013

= Sequence number (a padded integer, i.e. “0001”, “0002” … “9999”

BBBB = Type of Survey/ Discipline as defined by 5J-17.050 Minimum Technical Standards

_BB Project Name abbreviation as defined by the County Project Surveyor

= Sequence number (a padded integer, i.e. “00”, “01”, “02” … “99”), used to sequence additional files of the same Description/Discipline

ext = File extension indicating the type of file.

Example: The first proposed fiscal year project boundary survey would be named – **F13-0001BDRY_Parksdale01.dwg**

If it is necessary to add additional descriptive information in the filename, this descriptive information should be inserted after the discipline denotation “BB” .

Survey/ Discipline as defined by 5J-17.050 Minimum Technical Standards Abbreviations

ASBLT	As-built Survey
BDRY	Boundary Survey
COND	Condominium Survey
CONST	Construction Layout Survey
CTRL	Control Survey
GEOD	Geodetic Survey
GIS	Geographic Information Systems
HYDR	Hydrographic Survey
MHW	Mean High Water Survey
ORTHO	Ortho/Photogrammetric
QTY	Quantity Survey
RCD	Record Survey
RW	Right-of-way Survey
MRW	Maintained Right-of-way Survey
SPCP	Specific or Special Purpose Survey
TOPO	Topographic Survey

4.2.8 FILE NAME EXTENSIONS

File Name	Ext.	Saved-in Folder
3 Port Criteria Files	.3pc	Most appropriate discipline folder
Adobe Acrobat Files	.pdf	Most appropriate discipline folder \eng_data subfolder if signed
Cell Count Report	.ccp	Most appropriate discipline folder
Comma Separated Values	.csv	Most appropriate discipline folder
Coordinate Geometry Database Files	.gpk	Most appropriate discipline folder
Corridor Modeling Alignment Database	.alg	Most appropriate discipline folder
Corridor Modeling Cross Section Labeling Preference File	.xlp	Most appropriate discipline folder
3 Port Criteria Files	.3pc	Most appropriate discipline folder
Adobe Acrobat Files	.pdf	Most appropriate discipline folder \eng_data subfolder if signed le t ic ll
Block Count Report	.ccp	Most appropriate discipline folder
Comma Separated Values	.csv	Most appropriate discipline folder
Coordinate Geometry Database Files	.gpk	Most appropriate discipline folder
Corridor Modeling Alignment Database	.alg	Most appropriate discipline folder
Corridor Modeling Cross Section Labeling Preference File	.xlp	Most appropriate discipline folder
File Name	**Ext.**	**Saved-in Folder**

Corridor Modeling Roadway Design Preference File	.rdp	Most appropriate discipline folder
Corridor Modeling Roadway Designer database	.ird	Most appropriate discipline folder
Corridor Modeling Surface Database	.dtm	Most appropriate discipline folder
Surface Break line Database (ASCII format)	.flt	Most appropriate discipline folder
Corridor Modeling Template Library	.itl	Most appropriate discipline folder
Cross Section Sheet Design Files (No longer used in V8 or XM, but may be allowed.)	.shg	Most appropriate discipline folder
Cross Section Sheet Layout Files (No longer used in V8 or XM, but may be allowed.)	.plg	Most appropriate discipline folder
Crystal Reports	.rpt	Most appropriate discipline folder
ER Mapper Raster Image Files	.ers, .ecw	Most appropriate discipline folder
Electronic Delivery Index Settings Files	.edi	Project Root folder
GDM QC Rule Files	.rul	Most appropriate discipline folder
Civil3D Survey Database, main file	.sdbx	Most appropriate discipline folder
Civil3D Survey Database, extended properties	.sdxx	Most appropriate discipline folder
Civil3D Survey Database Report Style	.xsl	Most appropriate discipline folder
Civil3D Survey Database Log file	.log	Most appropriate discipline folder
Civil 3D Equipment Database	.edb_xdef	Most appropriate discipline folder
Civil 3D Figure/chain Database	.fdb_xdef	Most appropriate discipline folder
Civil 3D Sheet Set	.dst	Most appropriate discipline folder
Civil 3D Least Squares	.lsi	Most appropriate discipline folder
Log File	.log	Most appropriate discipline folder
Microsoft Excel Spreadsheets	.xls	Most appropriate discipline folder
Microsoft Word Documents	.doc	Most appropriate discipline folder
Civil 3D & GEOPAK Resource Files	.rsc	\eng_data subfolder for discipline
Civil 3D Batch Plot Job Files	.job	\eng_data subfolder for discipline
Civil 3D Block Libraries	.dwg , .sld	symbol block folder
Civil 3D Design Files	.dwg	Most appropriate discipline folder
Civil 3D Plot Style Tables	.stb	\eng_data subfolder for discipline
Civil 3D Plot file	.plt	\eng_data subfolder for discipline
Civil 3D Plotter Configuration File	.pc3	Most appropriate discipline folder
Civil 3D Plotter Model Parameter File	.pmp	Most appropriate discipline folder
Civil 3D Project Field book	.fbk	Project Root folder
Civil 3D Line type style	.shx	\symb if copied to local project
Civil 3D True Font	.ttf	\eng_data subfolder for discipline
QC Exception Files	.xcp	\eng_data subfolder for discipline
QC Reports, QC ”folder name”	.rpt, .txt	\eng_data subfolder for discipline
Web Pages	.htm	Project Root folder and \data subfolder
Web Pages	.html	Project Root folder and \data subfolder
XML Files	.xml	Project Root folder and \data subfolder

4.2.9 Paper Space Layout/Sheet Number

Sheet numbers used in plans/paper space layouts can be composed of multiple parts using the format: **## of ##, e.g. 09 of 35**

4.2.10 Data Shortcuts and External Reference Files

Data Shortcuts

In delivery to the County, use the Data Shortcut Editor to create stand-alone Data Shortcuts for data references, thus the data shortcut provides a direct path to the location of a shareable source object, either a surface, alignment, profile, pipe network, or view frame group.

External Reference Files

A reference file can be a AutoCAD design file, a raster image file (such as a PDF, SID, TIF, or HMR). A reference file is attached as a background file to an active design file, thus allowing multiple users to share the same information without the need to copy the file(s) into the active design file directory, or copy the referenced file's content into the active design file.

In order to allow a project to be moved to a different drive without the loss of reference file attachments, the reference files must be attached so that AutoCAD Civil 3D design file can resolve the reference file attachments regardless of the project directory location. **Reference files shall be attached using the file name only**, without the full path. Always **attach using relative path** to the project root folder, allowing the project to be moved from drive to drive without losing the reference file attachments

4.3 QUALITY ASSURANCE REVIEW

A review will be conducted on each: Survey & Mapping CADD function and its associated components on each project. This review will be for assurance that the consultants are complying with policy, procedures, standards and guidelines and the identification of any outstanding or non compliance areas. The consultant shall certify that Quality Assurance has been done.

4.3.1 AREAS OF RESPONSIBILITY

County's Role -- Quality Assurance: Provide adequate direction to the consultant(s) so that all resulting mapping products can meet requirements. This involves the establishment of mapping, procedures, standards, guidelines and review of the consultant's compliance with these items.

Consultant's Responsibility - Quality Control: The consultant is to follow established mapping policies, procedures, standards and guidelines in the preparation of all County deliverables/products; the checking and review of individual mapping procedures for compliance and good mapping practice.

CADD drawing components that will be monitored for compliance:

- Project directory structure
- Scope & Specifications (Criteria & Geometry)
- File Naming Convention (Real Estate/CIP Project Number + Project Name)
- Drawing Format
- Geographic Information System data (lines, polygons, nodes) required
- Symbology (Fonts, Layers, Colors, Line Style & Weight, Blocks)
- Plan Sheet formats as required from the project specifications
- Final Plots of project drawings as required from the project specifications
- Portable Document Format (PDF) Plot images of project drawings
- Portable Document Format (PDF) Plot images of project field books
- Data files (ASCII. GPS Processed, raw fieldbook files (comma coordinate file as delimited: PN,
  N, E, Z, DE) and other data as required the project specifications
- CADD Project (project index & project file index)
- Compliance to Hillsborough County Survey & Mapping Manual
- Compliance to Professional regulations (Local, State Statutes and Administrative codes)
- Compliance Reports for Quality Control

4.3.2 SURVEY & MAPPING CADD FUNCTION

Definition: Survey & Mapping CADD design consists of the **development** and **support** of computer aided drafting and design for the preparation of Survey & Mapping related deliverables with AutoCAD software and PC based operating systems.

4.4 Autodesk Land Desktop-Civil Drawing File Structure

GENERAL

The County Survey Division requires that CADD drawings be based on this supplied template. The template is based on the Autodesk® Land Development Desktop/Civil format, latest version. The template is to be used at all times unless otherwise notified by the County Project Surveyor.

In keeping to the structure of this manual and drawing file formatting, the other format shall be the “generic” Autodesk format. The generic” Autodesk format is a “dwg” drawing file format created either in Autodesk AutoCAD (no associated Autodesk Desktop modules) or by a program that uses the certified Autodesk software engine that directly readable into Autodesk® Land Development Desktop/Civil program with no add-ons; a certified Autodesk software engine drawing file must be based on the county template and meet 95% of it’s’ structure. This format must be pre-approved by the Project Surveyor before starting.

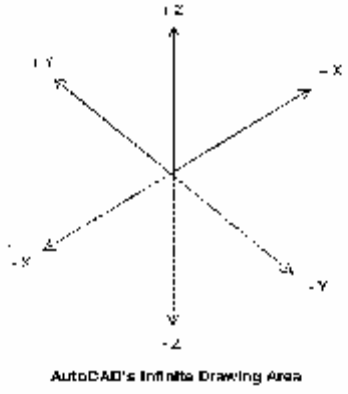
4.4.1 STRUCTURE

This chapter will follow the drawing setup process in Autodesk® Land Development/Civil Desktop that occurs after the Project management process has been set. The some of the settings in the template are based on common practice, other setting are particular to the program.

4.4.2 DESIGN CUBE

AVAILABLE DRAWING AREA
The two most extensively used CADD applications, AutoCAD and MicroStation, manage the available drawing area in an electronic file differently.

AutoCAD's approach provides for a drawing area with infinite range in each positive and negative axis (x,y,z).



AutoCAD's Infinite Drawing Area

Figure 1. Available drawing size

4.4.3 DRAWING UNITS/WORKING UNITS

AutoCAD users should use engineering (feet and tenths), or decimal (suitable for meters or millimeters) options provided in the "Drawing Units" command screen.

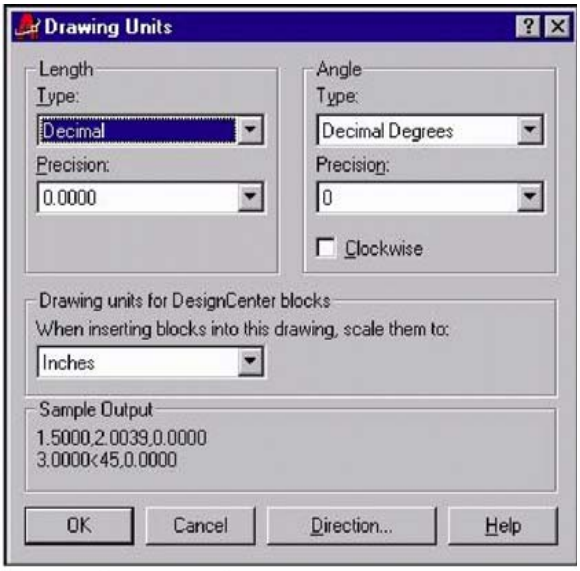
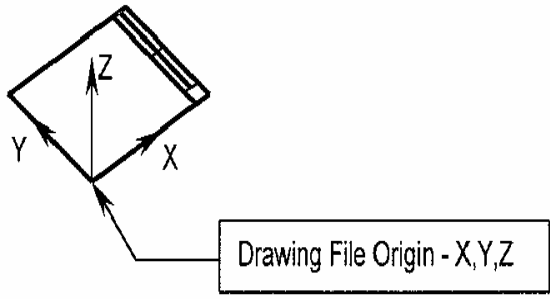


Figure 2. AutoCAD Units Dialog Box

4.4.4 IN (GLOBAL ORIGIN)

All drawing files will be in Florida State Plane Coordinate System as defined by the required Datum projection located at the beginning of this manual.Positioned within every electronic drawing file is an origin("origin" in AutoCAD). The origin of a drawing file is important because it serves as the point of reference from which all other elements are located. Origins are typically defined (located) in a drawing file by the Cartesian coordinate system of x, y, and z (Figure 3). The global origin for AutoCAD is 0, 0, 0; by holding to this structure in the drawing file benefits the end-user in insertion of (blocks) external references, aerial/raster imagery and the interchanging in other like applications.



AutoCAD's Drawing File Origin

4.4.5 COORDINATE SYSTEM (UCS)

There are times in which a user defined coordinate system is used to improve the efficiency of paper pace layout/plotting. When this occurs it is to be documented.

4.4.6 UNITS

The drawing units are as followed unless otherwise specified by the County Project Surveyor.

Units

Linear: U.S. feet

Angular: Degrees

Angular Display: Bearings

Precision (Decimal Placement)

Linear: 4

Elevation: 2

Coordinate: 4

Angular: 0

4.4.7 SCALE

AutoDesk Land Development Desktop/Civil (3D) Design applies scale to many variables once it is set. The mapping scale will be designed for the type of project. Reference other sections in this manual for the appropriate horizontal & vertical scale.

“NAD_1983_HARN_StatePlane_Florida_West_FIPS”, and modifying the default HARN NAD83 projection from linear units of meters to “foot_us”, or U.S.survey feet.

FONTS

Standard text sizes and fonts have been selected to ensure uniformity and legibility on CADD drawings. Proper drawing setup through the AutoDesk Land Development Desktop Project Management tool application provides scale dependent elements in the drawing, i.e. scale dependent. Legibility of font, weight is clearly important and text size may vary as necessary. Text line spacing should be, on average, three-fourths of the text height. The following table of standard text sizes defined for plans at given plot scales should be used as a guideline.

FONTS

The Simplex font, as provided with AutoCAD, will be the acceptable font for Survey-Map production. No custom fonts will be accepted. Text heights will be in

accordance withthis Section. Width factors will be a standard of 1. An oblique angle of 30° will be applied to text on Metric projects.

The following Metric Table is to be referenced if a project calls for the this standard in the scope of work.

TEXT SIZE

The following table of text sizes for right-of-way maps at a given scale is to be used as a guide for the minimum and maximum size for test with a minimum of 0.08" for lower case.

TYPICAL TEXT HEIGHTS FOR ENGLISH SURVEY & MAPPING PROJECTS								
		S	C	A	L	E		English
(Scale)	1"=1'	1"=20'	1"=40'	1"=50'	1"=100'	1"=200'	1"=400'	1"=500'
Minimum	0.06	1.2	2.4	3	6	12	24	48
Desired	0.07	1.4	2.8	3.5	7	14	28	54
Maximum	0.1	2.0	4	5	10	20	40	80

TYPICAL TEXT HEIGHTS FOR METRIC SURVEY & MAPPING PROJECTS								
Metric								
Scale Ratio	1:1M	1:100M	1:200M	1:400M	1:500M	1:1000M	1:2000M	1:5000M
Minimum	0.0015	0.015	0.3	0.6	0.75	1.5	3	7.5
Desired	0.002	0.02	0.4	0.8	1	2	4	10
Maximum	0.0025	0.025	0.5	1.0	1.25	2.5	7	12.5

4.5 POINTS

GENERAL

The CADD project is dependent on points from field collection, record information and calculated geometry. A point used in Land Desktop/ Civil 3D has many variables that interact with each other; from description keys, elevations, layer placement and automatic creation. This section goes through the basic requirements prompted through the setup and other functions that may be used in a County CADD Project.

4.5.1 POINT SETTINGS

This process for the drawing setup that creates the point database and will follow in this section is by default for the experienced user and will be embedded in the default template (*.dwt) file. Any changes to the setting are by request of the Survey Project Manager for the final output of deliverables.

4.6 LINETYPES

4.6.1 LINE TYPE/STYLES

The Line type/styles are a part of the symbology of an element, i.e. a line is solid (continuous), dashes, dots and dashes, and so on; in addition these elements are also represented by the line weight/width and color. This manual has standard lines styles that are standard with AutoDesk Land Development Desktop (LDD), Civil 3D and the County has also created line type/styles file that are in association with the American Public Works Association (APWA) (called HCSD.lin) which are all shown in Table XX.

NOTE: The LTscale will always be equal to the final plot scale of each drawing; i.e. - LTscale for a 1" = 50' sheet is 50.

In using MicroStation design files, the line style resource file must be found by MicroStation's configuration in order to properly display the line. This is also true in AutoDesk LDD, therefore, users are discouraged from creating their own custom line styles in place of using the HCSD supplied standard line style resources.

Appendix "G" – Defines the layer name, linetype example, pen no. ,color, linetype, lineweight as shown in the default drawing template.

4.6.2 LINE COLOR

Line color is primarily used to distinguish elements on the computer monitor and due to the variety of colors available through varying graphics cards/ systems; this manual recommends the basic color scheme as shown below. Color designation is further defined by element later on in this manual.

Table 1

Screen Color Comparison

Color Number				Ratios of RGB, %	
Color	**AutoCAD**	**MicroStation**	**Red**	**Green**	**Blue**
Blue	5	1	0	0	255
Gray	8	9	128	128	128
Green	3	2	0	255	0
Red	1	3	255	0	0
Yellow	2	4	255	255	0
Magenta	6	5	255	0	255
Cyan	4	7	0	255	255
White	7	0	255	255	255
Note: Color numbers for AutoCAD and MicroStation were taken from default color tables					

4.6.3 LINE WEIGHT

The thickness of a line is used to indicate an

element/entity in the drawing or finished plot. The weight of the line is indicated by the default layers in the template drawing file. The settings can be changed by the Lineweight Settings dialog box by using the LWEIGHT command. Or you can also plot objects in your drawing with custom lineweight values. Use the Plot Style Table Editor to adjust the fixed lineweight values to plot at a new value. This may vary depending on the output device (printer or plotter).

Note: Table supplied by FDOT CADD Production Criteria Handbook 2012

Please refer to Appendix "H" for AutoCAD Standard Lineweights

Line Weight	Weight (Inches)	Weight (mm)
0	0.005	0.127
1	0.010	0.254
2	0.015	0.381
3	0.020	0.508
4	0.025	0.638
5	0.030	0.762
6	0.035	0.889
7	0.040	1.016
8	0.045	1.143
9	0.050	1.270
10	0.055	1.397
11	0.060	1.524
12	0.065	1.651
13	0.070	1.778
14	0.075	1.905
15	0.080	2.032
16	0.085	2.159
17	0.090	2.286
18	0.095	2.413
19	0.100	2.540
20	0.105	2.667
21	0.110	2.794
22	0.115	2.921
23	0.120	3.048
24	0.125	3.175
25	0.130	3.302
26	0.135	3.429
27	0.140	3.556
28	0.145	3.683
29	0.150	3.810
30	0.155	3.937

4.6.4 SCREENING

The resemblance of varying shades of gray is determined by the density and patterns of black and white dots. This applied screening as plotted in varying scales of gray designates elements of interest in the drawing.

Table 2 lists colors recommended to be used for screening along with a recommended screening percentage. Using Table 10, Micro-Station users can edit a plotter driver, using a text editor, to assign a screening percentage to the specific colors (see the MicroStation user's manuals for information on working with plotter/printer drivers).

Table 2

Screened Colors

AutoCAD				MicroStation			GrayScale Ratios (RGB), percent		
Color No.	**Line Width mm**	**Line Width in**	**Screen Percent**	**Line Weight**	**Color No.**	**Screen Percent**	**Red**	**Green**	**Blue**
10	0.18	0.007	10	10	0	10	230	230	230
11	0.25	0.010	10	19	1	10	230	230	230
12	0.35	0.014	10	27	2	10	230	230	230
13	0.50	0.020	10	35	3	10	230	230	230
14	0.70	0.028	10	43	5	10	230	230	230
15	1.00	0.039	10	51	7	10	230	230	230
16	1.40	0.055	10	59	10	10	230	230	230
19	2.00	0.079	10	83	15	10	230	230	230
50	0.18	0.007	20	20	0	20	204	204	204
51	0.25	0.010	20	28	1	20	204	204	204
52	0.35	0.014	20	36	2	20	204	204	204
53	0.50	0.020	20	44	3	20	204	204	204
54	0.70	0.028	20	52	5	20	204	204	204
55	1.00	0.039	20	60	7	20	204	204	204
56	1.40	0.055	20	68	10	20	204	204	204
59	2.00	0.079	20	92	15	20	204	204	204
90	0.18	0.007	30	82	0	30	179	179	179
91	0.25	0.010	30	106	1	30	179	179	179
92	0.35	0.014	30	92	2	30	179	179	179
93	0.50	0.020	30	122	3	30	179	179	179
94	0.70	0.028	30	114	5	30	179	179	179
95	1.00	0.039	30	138	7	30	179	179	179
96	1.40	0.055	30	130	10	30	179	179	179
99	2.00	0.079	30	170	15	30	179	179	179
130	0.18	0.007	40	87	0	40	153	153	153
131	0.25	0.010	40	95	1	40	153	153	153
132	0.35	0.014	40	103	2	40	153	153	153
133	0.50	0.020	40	111	3	40	153	153	153
134	0.70	0.028	40	119	5	40	153	153	153
135	1.00	0.039	40	127	7	40	153	153	153
136	1.40	0.055	40	135	10	40	153	153	153
139	2.00	0.079	40	159	15	40	153	153	153
170	0.18	0.007	50	97	0	50	128	128	128
171	0.25	0.010	50	105	1	50	128	128	128
172	0.35	0.014	50	113	2	50	128	128	128
173	0.50	0.020	50	121	3	50	128	128	128
174	0.70	0.028	50	129	5	50	128	128	128
175	1.00	0.039	50	137	7	50	128	128	128
176	1.40	0.055	50	145	10	50	128	128	128
179	2.00	0.079	50	169	15	50	128	128	128
210	0.18	0.007	50	85	0	50	128	128	128
211	0.25	0.010	50	109	1	50	128	128	128
212	0.35	0.014	50	101	2	50	128	128	128
213	0.50	0.020	50	125	3	50	128	128	128
214	0.70	0.028	50	117	5	50	128	128	128

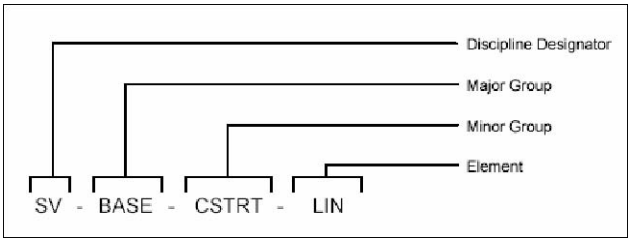
4.7 Layers

GENERAL

This manual has standard layers that are based on the American Public Works Association (APWA). This manual has updated layers to match in part the definition of levels (layers) as documented in the Florida Department of Transportation (FDOT) CADD Production Manual. The intent in this similarity of the two standards (FDOT and the County) is to enhance ease of use.

4.7.1 LAYER NAMING CONVENTION

Layer names consist of a two-character Discipline Designator (e.g. “SV-“ for Survey), followed by a three/four-character Major Group (e.g., “BASE” for survey type baselines/stationing), followed by a three/four-character Minor Group (e.g., “CSTRT” for surveyed construction baselines/stationing), followed by a three-character drawing Element Group (e.g., “LIN” for line). This CADD Element could be either a line, text (TXT) or symbol block (SYM). In some cases the Minor group designation is not applicable and not shown.



Layer naming format

4.7.2 LAYER DEFINITION TABLE

The Layer Definition table is a reference to the drawing elements that will be placed on a particular layer. The Division has made ever effort to define typical layers that have been historically used. The definitions of the layers also been cross-referenced with and reflect defined levels (layers) in the CADD Production Manual of the Florida Department of Transportation and the U.S. Army Corps of Engineers Manuals for Control, Topographic Surveying, & Photogrammetric Mapping and the U.S. National CAD Standards.
References:

http://www.usace.army.mil/publications/eng-manuals/em.htm ; https://cadlib.wes.army.mil/

In the default template drawing (*.dwt) the corresponding layers can be found with the definitions in the layer dialog box. It is the end-users responsibility to familiarize one-self with this format. The project CADD file (*.dwg) are to be ninety-five percent correct as to placement of drawing elements on these layers at time of submittal.

Please refer to Appendix “I” for the Layer Names and Layer Descriptions

4.7.3 LAYER ACRONYM TABLE

Appendix "J" – Layer Acronym Table defines the abbreviations as used in the layer naming convention.

4.7.4 LAYER TABLE BY COLOR, LINETYPE, LINEWEIGHT AND PLOT STYLE (PEN)

Appendix "K" – Defines the layer color, linetype, lineweight and plot style (pen) as shown in the default drawing template.

4.8 SYMBOL LIBRARIES

GENERAL

All symbols are typical of what comes out of the box for Civil 3D/Land Desktop. The symbol/block charts shown by palette in Appendix "L" All symbols have been preset to the appropriate layer.

4.9 RIGHT OF WAY MAPPING CADD

Purpose

The standards represent minimum requirements, which must be met for Right of Way Map CADD projects for Hillsborough County. Right of Way Maps shall be scaled drawings of plat developed toward the production of legible copies.

4.9.1 SPECIFICATIONS FOR EXISTING CONTROL SURVEY AND RIGHT OF WAY MAP

Existing Right of Way Maps shall be line drawings depicting cadastral (either define or replace) data only. No topographic features are required to be shown, unless otherwise specified Existing Right of Way Maps are composed of a coversheet, key sheet and detail sheet.

Detail sheets are to provide all the necessary data in order that legal descriptions may be written for all the parcels involved in the right of way acquisition. Any other formats must receive prior written approval from the County Surveyor. All break points in the right of way line and property lines will be shown by station and offset. All intersecting streets and roads (public and private) will be labeled by road number and/or name. Label all dedicated and vacated streets with reference to official record book and page of the recording documents, (e.g. Deed, Final Judgment). It is important that parent tract property lines are shown and labeled on the Detail Sheets, the Key Map or with Inserts.

4.9.1.1 COVER SHEET LAYOUT

1. Project Number - Obtain the project numbers (i.e.: C.I.P. /C.I.T. and Real Estate Project Numbers) from the Geomatics Section, Survey & Mapping Team. Project numbers must appear in the top right-hand corner of the cover sheet.

2. Date of issue shall appear in a box labeled as such on the Cover Sheet.

3. Text Box as follows:

This set of Plans/Maps have been reviewed and accepted by the Hillsborough County, Real Estate and Facilities Services Department Geomatics Section, Survey & Mapping Team. By: _____ Date: _____

4.9.1.2 KEY MAP LAYOUT(S)

Right of Way Maps will include a Key Map which depicts coverage of the project area, defining the overall project limits, serves as a key for detail sheet coverage, depicts platted subdivisions, roads and highways, existing access, proposed access and other important features.

Key Maps for all Hillsborough County Right of Way projects shall comply with the following specifications:

(1) Scale - The Key Map will ordinarily be prepared at a scale of 1" = 400'. Other scales may be used if determined to be appropriate during the development of the project.

(2) Lettering Size - Shall be a minimum of .08 times the scale factor of the final mapping. (Refer to Chapter 4 CADD Standards)

(3) Survey Baseline - Depicting begin and end survey, stations, curve data, bearings, distances, equations, and coordinates. The primary survey baseline shall coincide with a Public Land System line where possible.

(4) Subdivisions - The name, record data, and boundaries of all subdivisions along the project route will be shown, including unrecorded subdivisions, if known.

(5) Section Corner Ties - Ties to section corners, One-Quarter section corners, and other important corners shall be shown, including type and size of monuments or evidence found or set including any and all markings.

(6) General Note - General notes covering, but not limited to, the following:
- (A) Source of bearings
- (B) Reference to Right of Way Survey (if prior)
- (C) Source of property line data
- (D) Datum of coordinates. (i.e.:1983 Adjustment of 90)

(7) Company Name, Professional Surveyor and Mapper’s name and Professional Surveyor and Mapper’s registration number under whose direction the maps were prepared, as well as the firms LB number.

(8) Project Limits - Beginning and ending limits of right of way project labeled, with stations.

(9) Street Names - Names of street labeled (field and platted name).

(10) City Limits - Boundaries of city limits labeled with city name and date of Annexation Ordinance. Boundaries of unincorporated Hillsborough County

labeled.

(11) Section, Township and Range - Label the boundaries of all sections affected by the project. Label section, township and range on each plan sheet.

(12) Other Right of Way Projects - Reference to adjacent and intersecting right of way projects by Project Number (this pertains to previous County projects and DOT projects).

(13) Title Block - Completed Hillsborough County title block, including County field book number and the project name.

(14) North Arrow and Scale - North arrow with both graphic scale and stated scale on all sheets.

(15) Project Number - County Real Estate and C.I.P./ C.I.T. project numbers will be obtained from the County Survey Division. Project numbers must appear in top right-hand corner of each plan sheet.

(16) Revisions - Revisions clearly marked on the plan sheet with a number enclosed by a triangle, where the revision occurred. A corresponding number enclosed by a triangle will appear in the revision box with a brief description of the revision made and the date of said revision.

4.9.1.3 DETAIL SHEET LAYOUTS

Detail sheets are to provide the necessary data to clearly identify all existing right of way conditions along the project corridor. All break points in the existing right of way line will be shown with station and offset. All crossroads shall be labeled by road number and name, where applicable and label all dedicated and vacated streets with reference to official record book and page of the recording documents. It is important to show property lines with stations. Ownership data should be shown on all parcels. Detail Sheets for all existing right of way projects shall comply with the following specifications:

(1) Scale - Recommended scales for detail sheets are:
(A) 1" = 50' for rural projects
(B) 1" = 20' for urban projects

The majority of projects in Hillsborough County will require a scale of 1" = 20' in order to legibly show any required topographic detail and right of way data.

(2) Lettering Size - Minimum size for text shall be .08 times the final mapping scale. (i.e.: (.08 x 50) = 4) Acceptable lettering font styles are addressed in the CADD Standards Chapter of this manual.

(3) Survey Baseline - Show beginning and end survey, stations, curve data, bearings, distances, equations, and coordinates. The survey baseline should coincide with Public Land System lines where possible, deviations must have prior written approval from County Survey Division. In the event that the survey baseline is not used to control the new right of way alignment, sufficient ties and coordinate table will be shown to accurately define the relationship between the survey baseline and the centerline of right of way (or the other controlling line). Complete data for each line must be shown. Only one alignment per sheet will be acceptable.

(4) Subdivisions - The name, recording data, and boundaries of all subdivisions along the project route shall be field tied and will be shown, along with station and bearings ties to the subdivision boundaries and block lines. Plat dimensions and calculated dimensions, complete lot and block information shall also be shown. If un-recorded subdivisions are encountered, they shall be labeled in the same manor as recorded subdivisions.

(5) Section Ties – Show entire Quarter section with ties to all section corners, One-Quarter section corners, and other corners of record shall be shown. Type, size and any markings of monuments found or set shall be shown including coordinates. Florida Department Of Environmental Protection Certified Corner Record Document numbers shall be noted.

(6) All section and quarter section lines intersecting the baseline, shall be shown by station and bearing ties.

(7) Existing Right of Way

Clearly labeled, shown by station and offset.

(A) All existing right of way must be shown with the official record book and page number of the recording document.

(B) Right of way by plat shall be shown as Exist. R/W (P)

(C) Right of way by deed to Hillsborough County shall be shown as Exist. R/W (D) O.R. Book / Deed Book PG.

(D) Right of way by maintenance shall be shown as Exist. R/W (Maint) Book____, Page____

(E) Right of way by exception in a deed i.e. Less the South 25 feet for R/W etc., should not be shown as existing R/W but as a property line (PL).

(F) Right of way by Zoning Condition shall be shown as right of way by Zoning Petition No.

(8) Existing Easements and Reservations - Clearly labeled with station and offset. All T.I.I.T.F. Reservations must be clearly labeled and dimensioned. All existing Easements and T.I.I.T.F. Reservations must be shown with reference to official recording information. Statement shall be made as to how T.I.I.T.F. line was determined (ie: reference made to aerial photograph dated 1938).

(9) North Arrow & Scale - North arrow and both graphic scale and stated scale on all sheets.

(10) Section, Township & Range - Label the boundaries of all sections and or quarter sections on the project. Section, township and range shall be labeled on every plan sheet.

(11) Right of way lines - Clearly label all proposed right of way lines R/W Line , and tie by station and offset to all break points, from the controlling baseline.

(12) Side Streets - Baselines on all intersecting streets and tied by station and angle or station and bearing to the survey baseline. Intersecting roads, labeled by road number and/or name, with station equations shown. When there is a grade separation the map must show whether the crossroad is over or under. R/W projects numbers should be shown when available.

(13) Acquisition Parcels - Right of way acquisition clearly shown with all data necessary to describe the parcel. Bearings and distances must be shown for all parcel boundaries and property lines. Where boundaries are curved lines a minimum of Radius, Delta Angle, Arc length, Chord length and Chord bearing shall be shown. Parent tracts will be shown, and their boundaries labeled

Property Lines. Acquisition parcels will be identified by numbers in parcel bubbles.

Sample:

(14) Project Number - Obtain the project numbers (ie: C.I.P./C.I.T. and Real Estate Project Numbers) from the County Survey Division. Project numbers must appear in the top right-hand corner of each plan sheet.

(15) Revisions - Revisions clearly marked on the plan sheet, with a number enclosed by a triangle, where the revision occurred. A corresponding number enclosed by a triangle will appear in the revision box with a brief description of the revision made and the date of said revision. Any revision to any sheet automatically

triggers a new issue date for the set of plans. The entire set of plans will be resubmitted; no individual pages will be accepted.

4.9.2 PROCEDURES SPECIFICATIONS FOR MAINTAINED RIGHT OF WAY MAPS

4.9.2.1 SPECIFICATIONS

All Maintained Right of Way Maps shall be on 18" x 24" mylar sheets with the border drawn 3" inside the sheet on the left hand edge and 1/2" inside on all other edges. Maintained Right of Way Maps shall have a Hillsborough County Survey and Mapping title block on each sheet, and all applicable Hillsborough County project numbers in the top right hand corner. Maintained Right of Way Maps should be planimetric base plan sheets depicting the edge of pavement and other necessary topographic features (ie: fences, power poles, etc.). Photo base plan sheets should not be used for Maintained Right of Way Maps. The Maintained Right of Way Maps shall be scaled drawings of plat quality developed with a view toward production of legible copies.

4.9.2.2 COVER SHEET/KEY MAP LAYOUT

Maintained Right of Way Maps may include a Cover Sheet and/or Key Map. The exclusion of the Cover Sheet / Key Map shall be determined at the beginning of the project by the County Survey Division and will require prior written approval. If a Cover Sheet/Key Map is used; the first sheet of the Maintained Right of Way Maps shall show the following information:

(1) Certification by Professional Surveyor and Mapper.
(See Appendix “A”)

(2) Certification by the Director of the Transportation Maintenance Division, Public Works Department
(See Appendix “A”)

(3) Certification by the Board of County Commissioners
(See Appendix “A”)

4) Recording information by the Clerk of Circuit Court
(See Appendix “A”)

(5) Text Box as follows:

This set of Plans/Maps have been reviewed and accepted by the Hillsborough County, Real Estate and Facilities Services Department Geomatics Section, Survey & Mapping Team. By: _____ Date: _____

4.9.2.3 DETAIL SHEETS LAYOUT

The purpose of detail sheets is to provide all the necessary data in order to completely identify the limits of the maintained right of way and existing right of way by plat or deed. Planimetric drawings are the preferred format for detail sheets by conventional or preferably by aerial methods. Any other formats must receive prior approval from the Survey and Mapping Section.

All break points in the right of way line will be shown with station and offset ties.. Also, label all intersecting streets by road number and/or name, with station and bearing and/or angles and label all dedicated and vacated streets with reference to recording information.

Detail Sheets for all maintained right of way projects shall comply with the following specifications:

(1) Scale - Recommended scales for detail sheets are:
(A) 1" = 100' for rural projects
(B) 1" = 50' for urban projects
The majority of projects in Hillsborough County will require a scale of 1" = 50' in order to show legibly the required detail and right of way data.

(2) Survey Baseline - Depicting beginning and end survey, stations, curve data, bearings, distances, equations, and State Plane Coordinates. The survey baseline shall coincide section or fractional section lines where possible, deviations from this must have prior written approval from County Real Estate and Facilities Services, Geomatics Section, Survey & Mapping. The survey baseline will be tied to the Florida State Plane Coordinate System and all bearings will be based on this system. In the event that the survey baseline is not used to control the new right of way alignment, sufficient ties and coordinate table will be shown to accurately define the relationship between the survey baseline and the centerline of right of way (or the other controlling line). If more than one baseline is used, the relationship between the two lines and complete data for each line must be shown. Only one segment per sheet will be acceptable.

(3) Subdivisions - The name, Plat book / page, boundaries and found set monuments along the project road will be shown for all subdivisions along the project route. They will be field measured and shown, along with station and bearing ties to the subdivision boundaries and block lines. Plat and calculated dimensions, complete lot and block information shall also be shown. If unrecorded subdivisions are encountered, they shall be labeled in the same manor as recorded subdivisions.

(4) Section Ties – Project location will determine the level of Section Breakdown required to be shown on a right of way mapping project. When Section and/or fractional section lines are shown on a right of way map, intersecting lines with the baseline shall be tied in reference to the bearing and distances and the corresponding intersecting station hown. Type, size and any stampings of monumentation found or set shall be shown as well as the State Plane coordinates for the monument. Florida Department Of Environmental Protection Certified Corner Record Document numbers shall be noted on all Government Land Office (GLO) corners.

(5) Maintained Right of Way – All line segments of Maintained right of way line shall be labeled with bearing and distance. Distance from baseline of survey to maintained R/W will be at each change in direction by station and offset, right of way. All intersecting streets shall be shown for a minimum of 300 feet from the baseline of survey. At all points where the maintained R/W breaks; (i.e. begin and end project or where deeded right of way starts and end) show "Begin (or End) Maintained R/W" with station and offset. Ties to the baseline and the Topographic attribute (???????) of the maintained R/W line must be identified by arrows or station to station location on the map (i.e. fence line, back of power pole line, top of back slope of ditch line, back of sidewalk, edge of pavement).

(6) Easements and Reservations - Clearly labeled with station and offset. All Easement and Reservations must be clearly labeled and dimensioned, including record information. This section also refers to all open and notorious easements.

4.9.3 PROCEDURES SPECIFICATIONS FOR RIGHT OF WAY MAPS

4.9.3.1 SPECIFICATIONS

All survey work done for Hillsborough County, shall comply with this Hillsborough County Survey and Mapping Manual

Right of Way Maps shall have a Geomatics, Survey & Mapping Team title block on each sheet and Hillsborough County project numbers (i.e.: Real Property Project Numbers and C.I.P. Numbers) in the top right-hand corner of the sheet. In addition, the maps shall be prepared to depict entire ownerships (utilizing inserts where necessary. The right of way maps shall be scaled drawings of plat quality, developed with a view toward production of legible copies.

4.9.3.2 COVER SHEET LAYOUT

1. Project Number - Obtain the project numbers (ie: C.I.P./C.I.T. and Real Property Project Numbers) from the County Survey Division. Project numbers must appear in the top right-hand corner of the cover sheet.

2. Date of issue shall appear in a box labeled as such on the Cover sheet.

4. Text Box as follows:

This set of Plans/Maps have been reviewed and accepted by the Hillsborough County, Real Estate and Facilities Services Department Geomatics Section, Survey & Mapping Team. By: _____ Date: _____

4.9.3.3 KEY MAP LAYOUT(S)

Right of way maps will include a Key Map which provides large coverage of the project area, assist in defining the overall project limits, serves as a key for detail sheet coverage, depicts platted subdivisions, area roads and highways, existing access, proposed access and other important cultural features.

Key Maps for all Hillsborough County right of way projects with all CADD standards referenced and outlined in Chapter 3 of this manual, additional key items found and contained on Key Maps are:

(1) Scale - The Key Map will ordinarily be prepared at a scale of 1" = 400'. Other scales may be used if determined to be appropriate during the development of the project.

(2) Survey Baseline - Depicting begin and end survey, stations, curve data, bearings, distances, equations, and Florida State Plane Coordinate System. The primary survey baseline shall coincide with a landline where possible. The survey baseline will be tied to the Florida State Plane Coordinate System and all bearings will be based on this system. Only one baseline alignment per sheet will be acceptable.

(3) Subdivisions - The name, recording data, and boundaries of all subdivisions along the project route will be shown, including unrecorded, if known.

(4) Section, Township and Range - Label the boundaries of all sections affected by the project. Label section, township and range on every plan sheet. Section Corner Ties - Ties to section corners, One-Quarter section corners, Quarter-Quarter section corners, and other important corners shall be shown, including type and size of monumentation found or set as well as any and all stamping.

(5) Project Limits - Beginning and ending limits of right of way project including side streets labeled, with stations.

(6) Municipality Limits - Boundaries of municipality limits labeled with municipality name and date established. Boundaries of unincorporated Hillsborough County labeled.

4.9.3.4 DETAIL LAYOUT(S) (See examples)

The detail sheets is to provide all the necessary data in order that legal descriptions may be written for all the parcels involved in the right of way acquisition. Any other formats must receive prior written approval from the County Survey Division. All break points in the right of way line and property lines will be shown with station and offset ties. Where the right of way taking is based on lines other than the centerline or baseline of survey, sufficient ties to the baseline of survey must be shown to facilitate actual field staking of right of way limits. All intersecting streets and roads (public and private) will be labeled by road number and/or name. Label all dedicated and vacated streets with reference to official record book and page of the recording documents, (e.g. Deed, Final Judgments). It is most important that entire parent tracts with property lines be shown and labeled either on the Detail Sheets, the Key Map or with Inserts.

The majority of projects in Hillsborough County will require a scale of 1" = 20' in order to legibly show any required topographic detail and right of way data.

Detail Sheets for all Hillsborough County right of way projects shall comply with the following specifications:

(1) Survey Baseline - Depicting beginning and end survey, stations, curve data, bearings, distances, equations, and State Plane Coordinates. The survey baseline shall coincide with landlines where possible, deviations from this must have prior written approval from County Survey Division. The survey baseline will be tied to the Florida State Plane Coordinate System and all bearings will be based on this system. In the event that the survey baseline is not used to control the new right of way alignment, sufficient ties and coordinate table will be shown to accurately define the relationship between the survey baseline and the centerline of right of way (or the other controlling line). Complete data for each line must be shown. Only one alignment per sheet will be acceptable.

(2) Subdivisions - The name, recording data, and boundaries of all subdivisions along the project route shall be field tied and will be shown, along with station and bearings ties to the subdivision boundaries and block lines. Plat dimensions and calculated dimensions, complete lot and block information shall also be shown. If un-recorded subdivisions are encountered, they shall be labeled in the same manor as recorded subdivisions.

(3) Section Ties – Show entire Quarter section. Ties to all section corners, One-Quarter section corners, Quarter-Quarter section corners and other fractional section corners shall be shown. Type, size and any stampings of monumentation

found or set shall be shown as well as the coordinates for the monument. Florida Department Of Environmental Protection Certified Corner Record Document numbers shall be noted on all Government Land Office (GLO) corners.

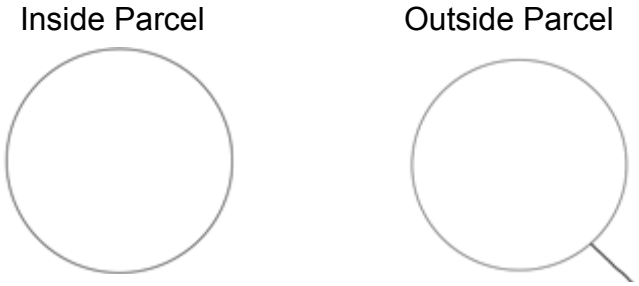
(4) All section, quarter sections and quarter-quarter section lines intersecting the baseline, shall be shown by station and bearing ties.

(5) Existing Easements and Reservations - Clearly labeled with station and offset. All T.I.I.T.F. Reservations must be clearly labeled and dimensioned. All existing Easements and T.I.I.T.F. Reservations must be shown with reference to official recording information. Statement shall be made as to how T.I.I.T.F. line was determined (ie: reference made to aerial photograph dated 1938). (6) Right of Way Lines - Clearly label all proposed right of way lines R/W Line , and tie by station and offset to all break points, from the controlling baseline.

(7) Side Streets - Baselines on all intersecting streets and tied by station and angle or station and bearing to the survey baseline. Intersecting roads, labeled by road number and/or name, with station equations shown. When there is a grade separation the map must show whether the crossroad is over or under. R/W projects numbers should be shown when available.

(8) Acquisition Parcels - Right of way takings clearly shown with all data necessary to describe the parcel. Bearings and distances must be shown for all parcel boundaries and property lines. Where boundaries are curved lines a minimum of Radius, Delta Angle, Arc length, Chord length and Chord bearing shall be shown. Parent tracts will be shown, and their boundaries labeled Property Lines. Acquisition parcels will be identified by numbers in parcel bubbles.

Sample:



4.9.4 SURVEY AND LOCATION MAP LAYOUT

See Chapter 2, Section 4

Survey and Location Maps for all Hillsborough County roadway projects shall comply with the following specifications:

(1) Sheet size and margin information (See CADD Standards, Chapter 4)

(2) Scale - The Map will ordinarily be prepared at a maximum scale of 1" = 400'. Other scales may be used if determined to be appropriate during the development of the project.

(3) Lettering Size - Shall be a minimum of .08 times the scale factor of the final mapping. (See CADD Standards, Chapter 4)

(4) Survey Baseline - Show begin and end project, stations, curve data, bearings, distances, equations and Florida State Plane Coordinate System. Show all baselines to match those of existing mapping, right of way map, constructions plans, etc.

(5) Section, Township and Range - Label the boundaries of all sections affected by the project. Label section, township and range on every plan sheet.

(6) Section Corner Ties - Ties to section corners, One-Quarter section corners, Quarter-Quarter section corners, and other important corners shall be shown, including type and size of monumentation found or set as well as any and all stamping.

(7) General Note - General notes covering, but not limited to, the following:

(A) Source of bearings
(B) Reference to Right of Way Survey (if prior)
(C) Datum of coordinates. (ie:1983 adjustment of 90)

(8) Company Name, Professional Surveyor and Mappers name and Professional Surveyor and Mappers registration number under whose direction the maps were prepared as well as the firm's LB number.

(9) Project Limits - Beginning and end of right of way project labeled, with stations, including side streets where proposed construction will take place.

(10) Street Names - Names of all streets shall be labeled (field and platted name).

(11) City Limits - Boundaries of city limits labeled with city name and annexation date. Boundaries of unincorporated Hillsborough County labeled.

(12) Other Right of Way Projects - Reference to adjacent and intersecting right of way projects by Project Number (this pertains to previous County projects and DOT projects).

(13) Title Block - Completed Hillsborough County title block, including County field book number, project name, CIP and Real Estate Project number. (See CADD Standards, Chapter 3)

(14) Revisions - Revisions clearly marked with a number enclosed by a triangle, where the revision occurred. A corresponding number enclosed by a triangle will appear in the revision box with a brief description of the revision made and the date of said revision.

4.10 LAYOUTS

GENERAL

All layouts are typical ANSI landscape sheet sizes. There are two default template drawings, the
difference is that the title blocks in HCtemplate06A.dwt are attributed; HCtemplate06.dwt the
title blocks are not attributed.

The following layouts are specifically designed for right of way:

- Eminent Domain Survey Location Map
- Parcel Sketch Sheet
- Location Sheet (ANSI D)
- Right of Way Inventory
- Mapping Title Block

4.11 PLOTTING AND PORTABLE DOCUMENT FORMAT IMAGE FILES

GENERAL

The current plotting devices are many; this section deals with standard plot settings for plotters supporting Autodesk & HPGL2 plot configurations for ANSI series of sheet sizes.

4.11.1 HALF-TONING

The pen color 20 is used to define half-toning in final plots. Half-toning of the minor grid lines on the cross section sheets, the profile portion of the plan/profile sheet and the profile.

Half-toning of elements shall not be less than 75% of the original

4.11.2 PEN SETTINGS

The HCtemplate06.CTB file has been set to *“use object”* by layer for line weights, line types and color. The line Join Style is to be set to “Miter” and the Line End Style is to be set to “Butt”.

4.11.3 PLOTTER SETUPS

All final hardcopy plots and Portable Document Format (PDF) images are to be generated from AutoCAD drawing files. Each plot is to have a Plot Stamp. The plot stamp is to have the drawing filename (file path not required), layout name, date and time.

All plots shall be to scale. Standard sheet plots (hardcopy paper and PDF) shall contain the file name and directory path and the date and time of the plot, at the side of the sheet. These standard sheet borders comply with the standard sheet formats as defined in this manual.

Portable Document Format (PDF) was selected as the format for the electronic version of the plan sheet image. "PDF streamlines document management, increase productivity, and reduce reliance on paper is the most widely used, open standard in the publishing and reprographics industry." The PDF plan sheet images can be plotted at any scale while maintaining adequate resolution.

4.12 ELECTRONIC DELIVERY/TRANSMISSION PROCEDURE

GENERAL

Before proceeding with this section makes sure the deliverables comply with the project scope of work and the type of survey requirements of this technical manual. This section talks about process to monitor for compliance and general electronic delivery/transmission. There several methods of delivery/transmission of digital files, an Autodesk E-Transmit file, a zipped file/executable, uncompressed format etc.…DWG, PDF, XML, Fonts, CTB. Delivery is typically by CD, DVD, portable media hard drive or upload to an ftp site.

4.12.1 CADD STANDARDS MONITORING

GENERAL

The composition of the CADD project drawings will follow the standards set forth in this Chapter and are to be monitored throughout the project cycle. The Standards Monitoring Extension of Autodesk will be used by the County. This Extension offers tools for maintaining standards compliance.

The County will provide the associate standards (DWS) files with AutoCAD drawings to perform these interactive and batch audits to ensure that any discrepancies between a drawing file and its associated standards can be resolved.

4.12.2 DRAWING BATCH AUDIT REPORT

The HCtemplate06A and HCtemplate06 drawing compliance program is make sure that project drawing file submittals are compliant to the Survey & Mapping Standard. The HCRWInvent06 drawing compliance program is make sure that RW Inventory project drawing file submittals are compliant to this specific survey program.

The drawing compliance program is apart of the Autodesk tool set that has been modified for this use and is supplied by the County. It will check drawing files for

layering, fonts, linetypes, color and dimensions against the supplied standard. The checker has reporting capabilities.

All County survey & mapping project drawings are to be at 90% in compliance to the Survey & Mapping template drawing at time of submittal and is to be accompanied with the compliance report in portable document format (*.pdf) and noted by the Consultant Project Surveyor in the transmittal letter.

The project submittal will be rejected if the report is missing.

4.12.3 ELECTRONIC DELIVERABLES

Electronic files are to be submitted on a labeled on the digital media & case and accompanied with a hard copy of the plans (unless otherwise directed from the Survey Project Manager). The deliverable digital media drawing files in the transmittal package shall include all related dependent files such as xrefs, font files, CTB, XML. It is important that the Project file.dat file document t he drawing i.e. views, layouts and xrefs etc…

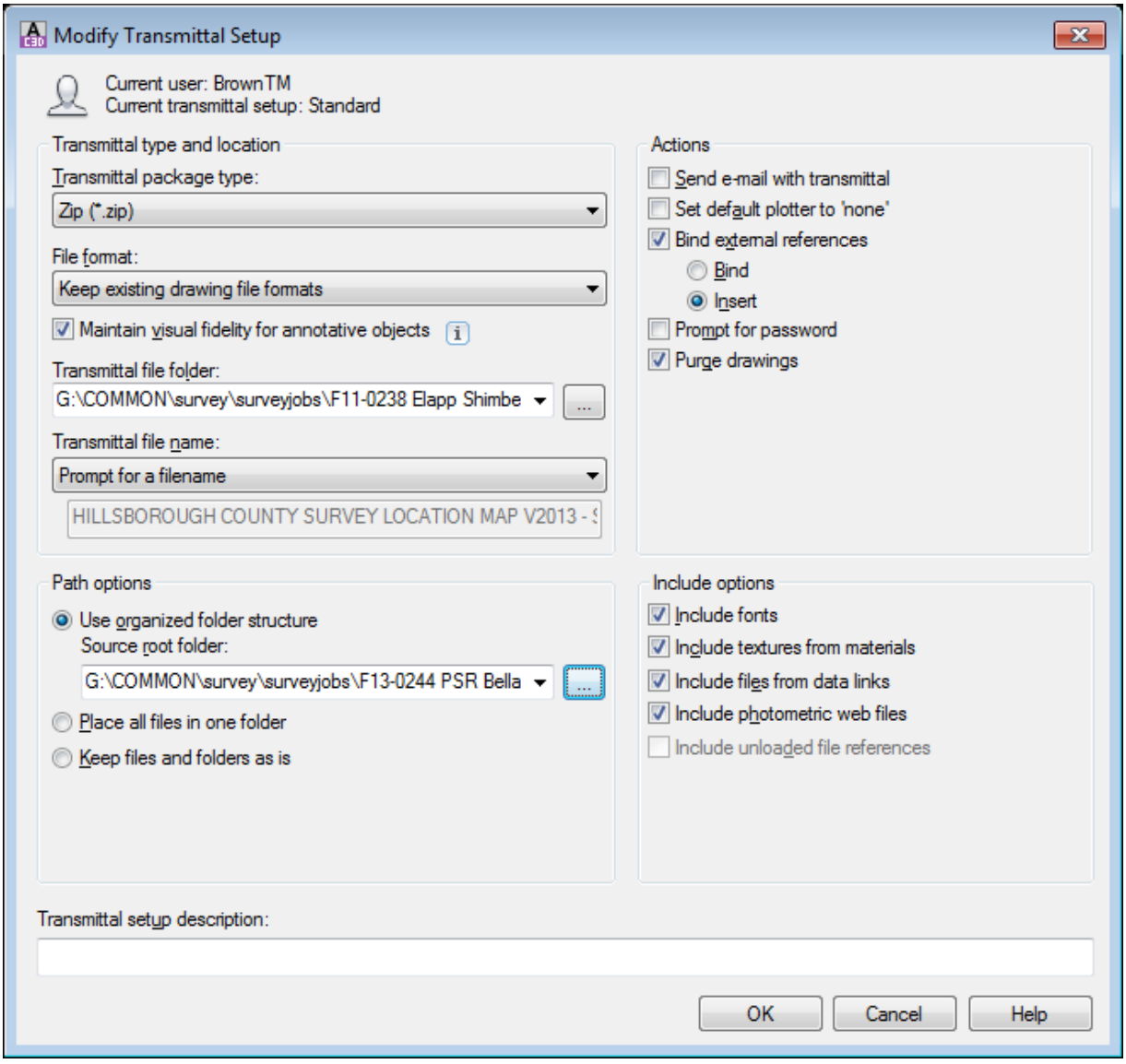
The current standard is delivery on CD, DVD, and portable media hard drive as requested by the Survey Project Manager. The digital files are to be complete, compliant to this technical manual and missing no artifacts that would inhibit the deliverable to the County.

4.12.4 FTP SITE

The Geomatis, Surveying & Mapping ftp site is ftp:\\hillsboroughcounty.org. The Survey Project Manager will give you the specifics about access if necessary.

4.12.5 ELECTRONIC TRANSMIT

The use of the Etransmit command in AutoDesk is the suggested and approved procedure for delivery of electronic plans and associated support files. The files can come as a Zip compressed format or an executable. The dialog box demonstrates the options available.



Please be sure to select:

- Zip (*.zip) or executable (*.exe)
- Format Acad Civil 3D/ (Land Desktop 2009), 2013 or current preferred format. Inform the County Survey Project Manager if you are using a different application. This application must be ACAD Compliant to the County current version
- Keep files and folders as is
- Prompt for filename
- Include project information
- Include fonts, *.CTB, *.xml, Xrefs, a PDF of the signed & sealed Survey
- Set default plotter to none
- Include Drawing Set Data and Files, inclusive of scanned copy of Field Notes,and Repots
- Transmittal setup description –add relative notes.

4.11.6 ELECTRONIC TRANSMIT CD-ROM/DVD

The CD-ROM label should have:

- the originators business/firm name & address, contact phone
- the Project Name
- the CIP/ Real Estate Project Number
- CD-ROM is to be numbered if more that one, i.e. 1 of 2

Note if a substitute archiving program is used; make sure it is pre-approved by the Survey Project Manager and that the application is licensed for transfer.

4.13 DIGITAL SIGNATURE

"SECTION IS IN DRAFT AND HAS NOT BEEN APPROVED FOR THIS CURRENT VERSION OF THE MANUAL."

The Digital Signature Extension of AutoDesk is currently being reviewed for sharing and digital submission via AutoCAD drawings and E-transmit.

The digital (CADD) deliverables are to an attached and referenced in a Surveyors Report (even if the map is signed and sealed). The report will have all necessary components per law, any additional information as requested by the Project Manager AND a file listing referencing the deliverable digital media (portable HD, CD or DVD). The file listing is to include filename, byte size, type of file and date.

Reference:
5J-17.062 Seal and Signature Procedures for Signing and Sealing Electronically Transmitted Plans, Specifications, Reports or Other Documents. 01/11/2010

"(1) Information stored in electronic files representing plans, specifications, plats, reports, or other documents which must be sealed under the provisions of Chapter 472, F.S., shall be signed, dated and sealed by the professional surveyor and mapper in responsible charge.

(2) A license holder may use a computer generated representation of his or her seal on electronically conveyed work; however, the final hard copy documents of such surveying or mapping work must contain an original signature and raised seal of the license holder and date or the documents must be accompanied by an electronic signature as described in this section. A scanned imageof an original signature shall not be used in lieu of an original signature and raised seal or electronic signature. Surveying or mapping work that contains a computer generated seal shall be accompanied by the following text or similar wording: "The seal appearing on this document was authorized by [Example: Leslie H. Doe, P.E. 0112 on (date)]" unless accompanied by an electronic signature as described in this section.

(3) An electronic signature is a digital authentication process attached to or logically associated with an electronic document and shall carry the same weight, authority, and effect as an original signature and raised seal. The electronic signature, which can be generated by using either public key infrastructure or signature dynamics technology,

must be as follows:

(a) Unique to the person using it;

(b) Capable of verification;

(c) Under the sole control of the person using it;

(d) Linked to a document in such manner that the electronic signature is invalidated if any data in the document are changed.

(4) Alternatively, electronic files may be signed and sealed by creating a "signature" file that contains the surveyor and mapper's name and PSM number, a brief overall description of the surveying and mapping documents, and a list of the electronic files to be sealed. Each file in the list shall be identified by its file name utilizing relative Uniform Resource Locators (URL) syntax described in the Internet Architecture Board's Request for Comments (RFC) 1738, December 1994, which is hereby adopted and incorporated by reference by the Board and can be obtained from the Internet Website: ftp://ftp.isi.edu/in-notes/rfc1738.txt. Each file shall have an authentication code defined as an SHA-1 message digest described in Federal Information Processing Standard Publication 180-1 "Secure Hash Standard," 1995 April 17, which is hereby adopted and incorporated by reference by the Board and can be obtained from the Internet Website: http://www.itl.nist.gov/fipspubs/fip180-1.htm . A report shall be created that contains the surveyor and mapper's name and PSM number, a brief overall description of the surveyor and mapper documents in question and the authentication code of the signature file. This report shall be printed and manually signed, dated, and sealed by the professional surveyor and mapper in responsible charge. The signature file is defined as sealed if its authentication code matches the authentication code on the printed, manually signed, dated and sealed report. Each electronic file listed in a sealed signature file is defined as sealed if the listed authentication code matches the file's computed authentication code.

desired) is only a copy. **For those sheets that are electronically signed and sealed, the following note shall be placed legibly on the sheet:**

"NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED

APPENDIX A
CERTIFICATION AND GENERAL NOTES

Certifications and general notes can be found in the example sheet layouts. They are referenced examples standards as set forth by this manual. As stated in the Introduction of this manual:

Uniform standards and procedures are to be used on all surveying and mapping work that is performed by and for Hillsborough County. Contained within this manual are standards regarding information required to be included on County surveying and mapping projects...

Within the Appendices are details and examples of the survey product. Variations from these procedures will not be allowed unless specifically authorized in writing by the County Survey Division…

These standards and procedures are intended to be complimentary to all laws and rules applicable to surveying and mapping.

Under no circumstance will the contents of this manual supersede any statutory requirement. "

Modifications to title block layouts:
The only modification to the title blocks other than project information is either to add consultant contact information and logo or department client information. This contact information area is defined at the bottom left of the (Ansi D, landscape) title block, left of the County information and to the right of the Revision block. No contact information is to be within the mapping area that displays the content of the survey project. Consultant Logo, if shown, is to be proportionately no bigger than the County Seal as shown in the EXP_Ownership Sheet Ansi D Land).pdf. No consultant logos on Ansi C sheets or smaller.

Layout & drawing file name:
Layout & drawing file name shall be shown vertically along the bottom left margin of plotted drawings in a small but legible aerial/Leroy font. Drawings produced by County staff shall show project folder/directory path. Plotted drawings/sketches that will be recorded are to follow existing standards.

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APPENDIX B

ELECTRONIC DATA COLLECTION GUIDELINES

PURPOSE:
These guidelines have been established to insure compatibility and uniformity of field data obtained through the use of electronic data collectors for Hillsborough County. The requirements contained herein must be followed by those submitting such data in lieu of traditional field notes. There shall be no departure from these guidelines without authorization from the County Project Surveyor or his designated representative. These guidelines are the recommended format for electronic field notes only.

GENERAL FORMAT:
Electronic Field Books will be submitted in hard bound form (hard sided binder) and shall
include, where applicable, but not limited to the following, in the order listed:

COVER SHEET:

1. The cover sheet shall include:

A. The Hillsborough County Project Name, Project Number and Work Order Number.

B. The name, address, and phone number of the submitting firm.

C. The name, signature, and license number of the Professional Surveyor & Mapper in responsible charge, and date of submittal.

D. Vicinity Map - Section, Township, Range (Street Finder Acceptable).

INDEX:

1. The second page shall be an index of the contents:

DATA:

1. The data section of the electronic field book shall include:
   A. The body of the field book and its make up will vary with the types of
      information required for the project.

   B. Minimum Data Requirements Include:

      1. Coordinate Listing.

      2. Plot of Drawing File. (8½" x 11")

      3. Listing of all Bench Marks used, with a description of their

location and elevations; the reference Bench Mark or Marks utilized shall also be included.

4. Base Line Diagram, with monuments set or found, being shown.

5. Copy of any traditional field notes used on the project.

C. Products:

1. The products section of the electronic field book shall include specific information generated from the data collected and processed such as:
   a. Cross-sections.
   b. Stake-out sheets.
   c. Station off-set sheets for manual drafting.
   d. Specific products requested by Hillsborough County Real Estate and Facilities Services Department Geomatics, Surveying and Mapping

It is the Surveyor's responsibility to confirm with the County Survey Division what specific
products are desired prior to beginning the survey project.

ELECTRONIC MEDIA:

1. The electronic media section of the electronic field book shall include as a
minimum:

A. USB/ CD-Rom disks, in some form of protective diskette holder, with all the information that makes up the electronic field book.

B. A “README.DOC” in standard ASCII text shall be on each diskette. This file shall give an explanation of the disk's contents,
including text and shape fonts, symbols, etc., sufficient to prepare
an appropriate user of the data to utilize the data without additional assistance.

C. Reduced Data (Point Number, N(Y), E(X) and/or Z coordinates, point description). (ASCII)

D. Sketches. (AutoCAD DWG or standard DXF file format)

Hillsborough County recognizes that field equipment and software for data collectors vary, but the following criteria can be followed in general.

State Plane Coordinates (NAD 83/90 Florida West Zone) shall be used on all Surveys. No other datum may be used without authorization by the Survey & Mapping Project Manager.

The integrity of the point numbering system should maintained throughout each project. Point numbers shall be as nearly sequential as possible to prevent overwriting or duplication of point numbers. A point number being defined as a unique number assigned to an array of data, consisting of a minimum of the Northing and Easting Coordinates, elevation (null if only planimetric data) and description of that point.

Each individual segment or daily field data record should headed with the survey firm's name and software identification, the firm's code names for the project, type of data shown, date of correlation and scale factor.

RAW DATA FILES:

Raw data should follow the outline below as close as possibly permitted by collectors and software. Submission of the Raw Data files is optional.

1. A page heading listing the Firm's name, identification of software in use, project name, date and scale factor.

2. Additional information at the beginning of any file should include but not be limited to:
    A. Initials of survey party personnel.
    B. Initials of instrument man.
    C. Temperature (average) and pressure.
    D. Date of field work.
    E. Description of work being performed.
    F. Description of control points in use.

2. If software or collectors do not permit extended remarks or descriptions
3. this information must be inserted by hand.

4. Appropriate column headings for raw data for the work being performed

5. In all cases the point number, instrument location, backsight, foresight, instrument height and rod height, (if elevations are involved) horizontal and vertical angle, (with slope distance, horizontal distance mode may be utilized also), and point description.

DIFFERENTIAL LEVELING:

When elevations have been obtained by differential leveling for the project for which electronic field books are submitted, copies of the traditional field notes should be included in the field book on 8 1/2" x 11" pages.

REDUCED DATA:

Reduced data notes should contain the same heading information as for raw data files. In general, reduced data with appropriate heading dependent on type of work should include but not limited to point numbers, North and East Coordinates, elevation and description. An additional listing of reduced side shots and cross-sections is often desirable to aid the end user of the data indicating station, offset, North and East Coordinates, elevation, related point numbers, elevation and description (see sample notes).

APPENDIX C

GENERAL NOTEKEEPING PROCEDURES

PAGING AND INDEXING

The field books shall have pages numbered in such a way that left and right page pairs share the same number. Both the page number and the book number shall be placed in the upper right corner of the right hand page only. The first 5 pages of each field book shall be reserved for the index.

LABELING AND DATING

The beginning of each work task shall have a label page showing the project name, the work task, the date and the professional's name (where appropriate). The names of the party chief and field crew shall be shown and the notekeeper indicated. List the type, manufacturer and serial number of instruments used as well as the weather. Index the label page and cross-reference to related notes where appropriate.

When work tasks within a project take more than one day to complete, a new page shall be started for each new day. On the new starting page, record the projects name, the date, crew list, instrument information and weather and boldly note that this work is a "CONTINUATION OF WORK FROM PAGE ## OF THIS BOOK". (## is the page number, if the work was performed in another field book, note that book's number as well.)

The following is a listing of general note keeping procedures that should be used in producing survey field notes:

1 Always record measurements directly in the permanent field note books and not on temporary sheets.

2 Use a pencil hard enough in order that it will not easily smudge (2H or 3H).

3 Use the Reinhardt System of lettering and do not mix upper and lowercase letters.

4 Avoid making notes and sketches too small. Crowding causes confusion.

5 Use a straightedge for ruling lines.

6 Use sketches and details for clarification; prepare sketches to a general proportion rather than to exact scale.

7 Line up descriptions and/or sketches with corresponding data where possible.

8 Indicate the precision of measurement by showing the significant number of figures as an example if measured to the nearest foot show 10, to the nearest tenth of a foot show 10.0 and to the nearest hundredth of a foot show 10.00.

9 Numbers smaller than one should have a zero before the decimal point. (0.15) 10 Do not erase measured data. Topography or sketch lines may be changed.
11 Do not write over a number to correct or change it.

12 Draw a line through an incorrect number and write the correction above or below.

13 When an entire page is to be voided draw 2 - opposite diagonal lines across the page and write "VOID" in large letters taking care not to cover up numbers or details.

14 Place a north arrow on each sketch page with north oriented either to the top or to the left when possible.

15 Notes should run down the page except on location or route surveys, where they should run up the page to agree with convention.

16 If computations are made in the field they should be shown in the field book so that they can be reviewed and checked.

17 Non standard symbols or abbreviations should be defined by the legend.

18 Locate measurements in close vicinity to sketched elements to clearly show what was measured. Numbered measurements may be used.

APPENDIX D

REQUIREMENTS FOR SURVEY SUBMITTALS
AND
QUALITY ASSURANCE CHECKLIST

REQUIREMENTS FOR FINAL SURVEY SUBMITTALS

Hardcopy Submittal
Surveyor's Report
Map of Survey
Field Book/Notes
Digital Submittal

1. Letter of Transmittal indicating all items transmitted. For electronic files, a copy of the file
   listing showing name, date, time, etc. should be included.
2. TIF or PDF image of the signed and sealed survey with a hard copy for quality control.
   (NOTE: PDF image(s) should be checked for clarity before submitting).
3. Drawings in AutoCAD format or as required.
4. All electronic field notes.
5. Scanned copies of field notes.
6. Scanned copies of certified corner records used or filed.
7. Scanned copies of any resources used. (deeds, title, etc.)
8. Project Quality Assurance Checklist, completed to meet County standards
9. Other pertinent information important to the project.

Quality Assurance

The following checklist is in the drawing template on the "defpoints" layer, a non-printable layer. At time of submission this layer is to be turned on, centered of the (main) project drawing and filled out by the consultant project surveyor who has reviewed the project drawing. ***If this is not presently displayed in the drawing at the time of submission the project will be considered incomplete and returned for re-submission.***

Note: All elements that are shown are to be geometrical tied/referenced/dimensioned to other elements in the drawing unless otherwise instructed from the Project County Surveyor. An example that would be unacceptable would be a jurisdictional line shown but not dimensionally referenced to the main (body) elements in the drawing. This would negate coordinate geometry to retrace the position of the jurisdictional line.

QUALITY ASSURANCE REVIEW

A review will be conducted on each: Survey & Mapping (GIS) CADD function and its associated components a minimum of once annually. This review will be for assurance that the consultants are complying with policy, procedures, standards and guidelines and the identification of any outstanding or non compliance areas and any needs, such as training or resources, etc.

QUALITY ASSURANCE CHECKLIST
Hillsborough County Right of Way Mapping
Quality Assurance Checklist

Section/Township/Range_____Road Name & No._____

CIP#_____ Real Estate Project No._____

Survey Division Project No. _____Stage Requirements: 30% 60% 90% 100%

Check and signed by Surveyor in Responsible Charge:

Sign _____

Date: _____

Firm Name:_____

Note: This check list must accompany right of way maps when submitting for stage requirement review and/or approval by County Personnel

X Indicates has been checked and is correct.
N/A Indicates not applicable (not to be abused).

ALL SUBMITTAL REQUIREMENTS

1. Show pertinent dimensions and label as follows:

_____ a. Plat (P) - Dimensions as shown on recorded plat

_____ b. Computed (C) - Use between computed points and/or monumented corners
When not field measured

_____ c. Field (F) - Use between monumented corners when field measured

_____ d. Deed (D) - Use when dimension is from recorded deed call

_____ 2. Round all bearings and angles to nearest second

_____ 3. Round distances to one-hundredth of a foot

_____ 4. Round State Plane Coordinates (in feet) to the nearest three decimal places

_____ 5. All data meets the "Minimum Technical Standards for Land Surveys in the State of Florida" (Chapter 5J-17, Florida Administrative Code or Current Code) and County procedure manuals, make part of certification.

_____ 6. Title work furnished for all properties in hard copy and digital form.

_____ 7. All comments to be delivered for review to section manager before forwarded to project manager.

30% SUBMITTAL REQUIREMENTS
EXISTING RIGHT- OF-WAY

1. Right of Way Maps prepared on standard Right of Way Map sheets (22”x34”) to show all data and details & in compliance with Hillsborough County Survey and Mapping Manual.

_____ A. Title Box must contain:

_____ 1. County Road Name & Number, Project Number (Real Estate and Facilities Department, Public Works Department and Public Utilities Department)

_____ 2. Preliminary, Final and Checked by (use first initial, last name and date) Note: "CHECKED" Box to be completed at 100% stage

_____ 3. Name and address of surveying firm that prepared R/W Maps (County, Professional,etc)

_____ 4. Field book numbers that Right of Way maps were prepared from

_____ 5. Map Scale

_____ 6. Sheet numbers to be in numerical order (ie. 1 of_, 2 of_, 3 of_, etc.) NOT (1,1A, 1B, 2, etc.)

_____ B. Cover Sheet

_____ 1. County Seal

_____ 2. Index to Sheets

_____ 3. Issue Date Box

_____ 4. Vicinity Map

_____ 5. Board of County Commissioners names

_____ 6. Acceptance by County Project Surveyor or Designee

_____ 7. Location Map – Showing begin and end of project

_____ 8. Firm Name

_____ 9. Certification

_____ 10. Signed and sealed by Professional Surveyor & Mapper

_____ 11. Project Number (Real Estate and Facilities Services Department, Public Works Department and Public Utilities Department) is placed in the upper right corner

_____ 12. County Name and Department

_____ 13. Project Name - County Road Number" "FROM:" and "TO:"

_____ 14. Section – Township – Range

_____ 15. Hillsborough County, FL

_____ 16. General Notes – refer to dates of field survey, field books, control information, datums, Bearing basis, etc. (if space is limited, this information can be placed on the Key Sheet)

_____ 17. Legend – (if space is limited, this information can be placed on the Key Sheet) Any nonstandard abbreviations, as defined by Sec. 5J-17-51(B)(11)(18), F.A.C., must be shown within legend

_____ C. Key Map

_____ 1. The Note: "SEE SHEET ONE FOR LEGEND AND GENERAL NOTES" must be added to each subsequent detail sheet

_____ 2. Label all sheets above Title Block: "County Road Number" "FROM:" and "TO:" (must match description in Work Program Administration)

_____ 3. Indicate layout of sheet numbers

_____ 4. Date of aerial photography must be shown, if applicable

_____ 5. Show center line of construction referenced to baseline of survey

_____ 6. Complete survey base line alignment data, including base line stationing:

_____ a. Ensure that significant elements of all curves are shown. Also show curve data on all sheets where they appear

_____ b. New projects should begin at station 30+00 unless they match to an existing, stationed roadway.

_____ c. Curves are labeled in standard correct format: P.I Station, BK and AHD, East- West, North-South coordinates, Delta (▲), Degree (D), Tangent (T), Chord (C), Length (L), Radius (R), P.C. Station and P.T. Station. P.I. Station and deflection Right or Left. When no curve required, label "No Curve"

_____ d. Bearing on survey base line

_____ e. Survey base line equated to other intersecting jobs by station and job number when available

_____ f. A bearing reference shall be shown and must be clearly stated, This should be “Grid”, unless otherwise approved by the county surveyor in advance

_____ 7. On Key Map or Detail Sheet, State Plane Coordinates shown on survey base line control points. Coordinates must be listed for beginning of project, all P.I.'s and end of project at a minimum.

_____ 8. Reference Points: A separate sheet shall be used to depict all reference points, unless approved otherwise.

_____ a. Survey base line control point references

_____ b. Section and 1/4 section corner references of all corners used

_____ 9. Section and 1/4 section lines and corners shown (1/4 - 1/4 sections if required)

_____ 10. Sections labeled on Detail Sheets

_____ 11. Township, Range and North Arrow shown on each sheet

_____ 12. Government lots, grants, etc displayed and defined

_____ 13. County/ City lines labeled, limits by name and line symbol; name of city, etc.

_____ 14. Land line and subdivision ties to base line (angles, or bearings and distances to nearest found, or set, monumentation)

_____ 15. Show subdivision name and recording data; as recorded with Plat Book and Page Number, (County where recorded only if different from County of project location) and indication of limits by use of arrow delimiter

_____ 16. Lots and Blocks (Key Map - Blocks only)

_____ 17. Show all original plat and lot lines. If different from present delineation or vacated, show with dashed lines and defined "original lot line"

_____ 18. Show names of platted streets (P). If different from plat also show designated name (F) (This information can be place on the Key Map or the Detail Sheet)

_____ 19. Show lot and block number and dimensions, exceptions, easements and Vacated portions. (If vacated show Official Record or resolution as to where recorded)

_____ 20. Describe all monuments as to type, size and whether found or set and any applicable stamped #

_____ 21. Show replat of subdivison. Show old subdivision when necessary to clear up former acquisition or old title references. Use system of dashed lines, dotted figures, etc., with ties to old sub- name and plat book reference

_____ 22. Show station and angle or bearing ties to existing side streets (where applicable)

_____ 23. For intersections having grade separations, label by the crossroad name or number. State whether the crossroad goes over or under, elevated, etc.

_____ 24. Show names of lakes, rivers, creeks or significant bodies of water. Note Whether sovereign or not.

_____ 25. Show property line with stations. (projection of property line with survey

baseline)

30% CONSTRUCTION PLAN SUBMITTAL REVIEW:

_____ 1. Minimum of two Temporary Bench Marks, should be box cuts on concrete structures, or other substantial marks. (preferably outside the limits of perceived construction where possible)

_____ 2. Baseline of survey control points referenced including , Begin Project, End Project, P.C.'s, P.T.'s, P.I.'s, and P.O.T.'s with capped iron rods or pipes or other substantial Marks.

_____ 3. Reference to existing Right of Way maps (ie. Project Name, Project Number (Real Estate & C.I.P.) dated _____ (should be date of County Surveyor approval)

_____ 4. Reference to County field books used for all surveying activities.

_____ 5. Horizontal datum used in feet (FSPCS 1983(1990 Adjustment)

_____ 6. Vertical datum used in feet (NAVD 1988)

_____ 7. FSPC on Baseline Survey at Begin Project all P.I.'s and End Project at a minimum.

_____ 8. All key topographic features including, but not limited to:

_____ a. Bodies of water with names where available

_____ b. Groves, identified by type

_____ c. Fences, identified by type and height

_____ d. Signs

_____ e. Existing pavement, sidewalks, bridges, etc. (other than on aerial format

60% SUBMITTAL REQUIREMENTS

THIS IS WHEN PROPOSED RIGHT-OF-WAY MAP PRODUCTION BEGINS

_____ 1. Perform the necessary coordination to ensure that the new computed right of way is sufficient and is in accordance with the right of way denoted on the construction plans

2. _____ a. Required right of way and/or limited access right of way lines with Bearings and dimensions shown. All breaks in the proposed right of way lines shall be shown. Terminal arrowheads on proposed right of way lines, ties to survey base line, and closing Lines should be shown.

_____ b. Limited access right of way lines labeled, as "L/A R/W Line" where required

_____ 3. Proposed take parcels should be shown with bearings and dimensions. property lines should be shown by the symbol

_____ 4. Sufficient geometry shown on all take parcels to aid in computing parcels & adding to Right-of-Way maps.

_____ 5. Show and identify all existing easements by width and dimension, use and recording data, which lie within the proposed right of way.

_____ 6. Show temporary easement or license agreements (where applicable)

_____ 7. CIP & Real Estate Project Number in upper and lower right corner

8. _____ a. "Begin" and "End" right of way job stations

_____ b. "Begin" and "End R/W Acquisition" "LT" and/or "RT"

_____ c. "Begin" and "End F.A. Participation" "LT" and/or "RT", if applicable

90% SUBMITTAL REQUIREMENTS

Construction Review, submitted plans for changes that may have occurred since 60% submittal

_____ 1. Show take parcels with bearings and distances (clockwise direction where practical). Parent tract geometry must show bearings and distances

_____ 2. Parcel bubbles and identifying number for each parcel are shown

_____ 3. Sufficient dimensions and angular data to ensure ready identification and correlation with the legal descriptions of all parcels and easement that are required by the associated project are included.

_____ 4. Table of Ownerships show:

_____ a. Parcel numbers

_____ b. Sheet numbers on which the parcel appears

_____ c. Owner's name

_____ d. Area of take (show in square feet if under one acres, if one acre or over, round to the nearest three (3) decimal places)

_____ e. Comments as required

_____ f. Column for recording data of the acquired parcel

_____ g. Column for suit information, if applicable.

_____ 5. One copy of each legal description and sketch for all parcels are submitted. The Professional Surveyor & Mapper in responsible charge of preparing the documents, shall certify to the validity of all descriptions (signed & sealed)

_____ 6. Closure reports for all parcels are submitted and reviewed.

_____ 7. All descriptions have been checked against all geometry once closures are verified.

_____ 8. All descriptions & sketches have been checked against one another for consistency and they have been checked against Right-of-Way Maps for consistency.

100% SUBMITTAL REQUIREMENTS

_____ 1. Completed Right of Way Maps, sketches and Legal Descriptions have Been checked and approved through all stages

_____ 2. A final Quality Assurance review has been performed and County Surveyor or his designee has approved all maps.

_____ 3. The final submission will include scanned image of all plans etc. & Right-of-Way maps signed and approved by County Surveyor or designee.

Accepted by: _____ Date: _____
County Project Surveyor or designee

APPENDIX E

TECHNICAL SPECIFICATIONS

HILLSBOROUGH COUNTY, FLORIDA
GENERAL MEMORANDUM
TITLE REPORT REQUIREMENTS

The term "parcel" as used herein shall mean one or more CONTIGUOUS LOTS OR TRACTS OF LAND IN THE SAME OWNERSHIP, whether such lots or tracts consist of one or more platted lots or fractional part thereof. The report shall contain the complete legal description of each "parcel" requested by the County, as shown on the conveying instrument(s), less those portions conveyed out. (LEGAL DESCRIPTION SHOULD NOT BE TAKEN FROM THE TAX ROLL.)

The name(s) and address(es) of the owner(s) of record is needed, along with a COMPLETE COPY of the conveying instrument(s), and the name and address from the tax roll should be given if different from that shown on the deed. Deeds of convenience (i.e. conveyances to create a life estate, an estate by the entirety, etc...) should be shown IN ADDITION to the owner's original conveying instrument(s).

Give complete report reflecting all outstanding encumbrances for the period described in Chapter 712 of the Florida Statutes, on any property involved in the title search; this includes twenty (20) year judgment searches on all names in the chain of title.

In all instances, the report itself shall reflect complete information regarding deeds or encumbrances shown in the title report, i.e. the complete names of all parties to the instrument, the type of deed or instrument, date of instrument, book and page of recordation, amount of mortgage, lien, etc. COMPLETE COPIES OF ALL INSTRUMENTS CITED IN SAID REPORT MUST BE ATTACHED TO ORIGINAL REPORT. Copies on duplicate reports are not required.

The report should include a five year history of the ownership’s of the subject lands, in addition to the conveyances of the last grantee of record. If no conveyance of the subject lands has been made during the past five years, the following notations should be made - "FIVE YEAR HISTORY" - None." This information is to be used for appraisal purposes.

State and Federal Documentary Stamps and Surtax Stamps must be shown for each conveyance reported in the title search, including both those showing the last grantee of record and those reported to disclose the five year history.

Tax payment information or delinquent tax information must be shown along with the current folio number for each parcel. In reporting any outstanding tax certificates, it is ESSENTIAL that the name(s) of the holder(s) of the certificate be given, along with the certificate number and year. Payment or delinquent information must also be shown for solid waste assessments.

All oil, gas and mineral leases, deeds or royalty transfers that include any surface rights are to be reported.

When a description of the parent tract is given in a transfer of property and there is an exception to the parent tract referred to as "Less that part as recorded in Official Record Book , Page ", the Title Company should include such exception in the description or furnish a copy of the instrument referred to.

ESTATES

When an owner is deceased and probate proceedings have been filed, it is necessary that the title search show the name of the heirs as set forth in the petition filed, the name of the Personal Representative, whether or not they are permitted to convey without bond, whether or not the property being searched is listed as an asset of the estate, and whether or not the estate has been closed. Distribution of the property should be reported.

INSANITY PROCEEDINGS

When reporting insanity proceedings of a present record owner, the date of commitment should be given and name of the appointed Guardian, if any, should be provided. The report should also state if the record owner's disabilities have been lawfully removed.

DIVORCES

When a divorce is reported between the record owners, said divorce and any settlement that has been entered into, should be shown in detail as to any real property involved.

GUARDIANSHIPS

In any instance where title to real property has been vested in a person that is a minor, or otherwise incompetent, the title report should show the name of the appointed guardian, if any, and in the event no appointment of a guardian has been made, the report should so state.

GOVERNMENT LANDS

When the record title to a parcel of land appears to be vested in the United States, State, County, or City Government, the title report should show the branch or agency of government as designated, if any.

TAX FORECLOSURE

When the property involved in the title search has been foreclosed upon for delinquent taxes, the report should include the suit information along with the last known owner of record prior to the foreclosure.

DESCRIPTIONS

When the description of a parcel of land on which the ownership is being reported refers to another deed as its basis for a point of beginning to establish a corner or an exception, the description of the land in the deed referred to should be furnished.

RESERVATIONS

Care should be exercised in reporting ANY RESERVATIONS affecting ownership of a given parcel of land, EVEN IF SUCH RESERVATION IS PRIOR TO THIRTY (30) YEARS, as in the case of a deed issued by the TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND. Reservations should be shown in detail, setting out the extent of the reservation.

SPECIAL TAXING DISTRICTS

The interests of Street/Drainage/Lighting Districts in lands involved in the title search should be reported. This report should also disclose any tax certificates for said assessments.

BANKRUPTCY PROCEEDINGS

All information concerning bankruptcy should be reported. The report should include but not be limited to: case number; type of filing; date of filing; exempt lands, (if any); details of any petitions and/or orders approving sale of subject property; name of party appointed by court to handle assets, (if applicable); and current status of proceedings.

CONDOMINIUMS

When a condominium is encountered within the limits of a project, a copy of the plat and the Articles (Declaration) of Condominium must be furnished. No title reports should be prepared to cover individual unit owners unless specifically requested by the County.

PUBLIC RIGHTS OF WAY

No title report should be prepared to cover public rights of way which are dedicated by recorded plat or conveyed by other document, unless such are specifically requested by the County.

The TITLE COMPANY is encouraged to make any comments concerning their knowledge of local matters not of record, including but not limited to, minors becoming of age after the date they may have acquired an interest in property, change in marital status and any other information not of record that may affect the title to the lands to be acquired.

Each Title Search shall be assigned a unique number for reference purposes and shall REFLECT THE COUNTY'S PROJECT NUMBER AND PARCEL NUMBER, IF AVAILABLE. All Ownership & Encumbrance Reports and recertifications shall be submitted in TRIPLICATE and shall bear the following certificate:

STATE OF FLORIDA

COUNTY OF
The undersigned hereby certifies that the foregoing title search report shows the present apparent ownership of the lands described under parcel together with all outstanding encumbrances affecting such lands as disclosed by the public records of Hillsborough County, Florida.

Dated this day_____ of _____, A.D. 20XX , _____at o'clock,___ .m./p..m.

BY:_____

RECERTIFICATIONS

Recertification's are defined to be the updating of an ownership and encumbrance report from the effective date of said report up to the current date. THE RECERTIFICATION SHALL INCLUDE all information as required on the original report, INCLUDING COMPLETE COPIES OF ANY INSTRUMENT FOUND OF RECORD DURING THE RECERTIFICATION PERIOD; in the case where one Title Company is recertifying another Title Company's Ownership and Encumbrance Report, the Title Company doing the recertification is liable only for the time span covered in said recertification. However, applicable information reflected on the original report (i.e. owner of record, encumbrances, etc.) should be brought forward and detailed on the recertification. A notation can be made that the information being brought forward is per the original report and that the Title Company providing the recertification is only certifying any new information found of record.

LAST OWNER OF RECORD

In cases where a complete Ownership and Encumbrance Report is not required, the County may request the Title Company to furnish the last owner(s) of record. Such reports will be furnished in compliance with item No. 2 of this exhibit and will NOT

require an encumbrance search. Approval for use of last deed of record requires prior written approval from the County Real Estate and Facilities Services Department, Geomatics Section, Survey & Mapping Team

OWNERSHIP/LESSEE REPORT FOR ENVIRONMENTAL AUDIT

As a part of environmental audits conducted on certain properties, the County may need reports reflecting a list of property owners and/or lessees of a particular parcel of land. The report shall cover a minimum of forty (40) years and shall reflect on the face of the report

(1) the owner/lessee's name
(2) the book and page number of their acquiring interest document
(3) the type of document
(4) the date of said document. Complete copies of each document must be attached to the report. Three (3) copies of said report is required.

APPENDIX F
REFERENCED MATERIALS

- DOT “Survey Safety Handbook”
  http://www.dot.state.fl.us/surveyingandmapping/documentsandpubs/safety.pdf

- Manual on Uniform Traffic Studies
  www.dot.state.fl.us/**surveying**andmapping/documentsandpubs/safety.pdf

- DOT “Roadway & Traffic Design Standards”
  www.dot.state.fl.us/rd**design/designstandards/standards**.shtm

- Florida Statues Chapters 316, 455, 472, 177, 161,718 and 95
  http://www.flsenate.gov/Statutes/index.cfm

- Title 29

- Code of Federal Regulations 1910 & 1976

- Occupational Safety & Health Regulations
  Confined space entry requirements for General Industry and Construction

- Maintenance of Traffic – Training DOT Topic No. 625-010-010-A

- Sunshine State One Call System

- Rules of the Department of Environmental Protection Chapter 16Q-10

- Florida Administrative Code
  https://www.flrules.org/

- Florida Administrative Code 5J-17
  https://www.flrules.org/gateway/ChapterHome.asp?Chapter=5J-17

- Federal Register
  Vol. 54 No. 113, Page 25318
  Vol. 58 No. 120, Page 34245

APPENDIX G
AutoCAD Linetypes

Layer name	*Example*	Pen No	Color	Linetype	Lineweight
BOUNDARY					
SV-BDRY-DD-LIN		11	(Pink)	CONTINUOUS	.006
SV-BDRY-DESC-LIN		2	(yellow)	CONTINUOUS	.006
SV-BDRY-DIM-TXT		2	(yellow)	CONTINUOUS	Default
SV-BDRY-LGL-TXT		2	(yellow)	CONTINUOUS	Default
SV-BDRY-LIN		5	(blue)	CONTINUOUS	Default
SV-BDRY-PLAT-LIN		4	(cyan)	CONTINUOUS	Default
SV-BDRY-SYM		2	(yellow)	CONTINUOUS	Default
SV-BDRY-TXT		7	(white)	CONTINUOUS	Default
SV-CTY-JUR-LIN		1	(red)	CENTER2X	.020
SV-EMNT-DOM-LIN		1	(red)	CONTINUOUS	Default
SV-ESMNT-LIN		5	(blue)	CONTINUOUS	.010
SV-ESMNT-PROP-LIN		5	(blue)	CONTINUOUS	.010
SV-ESMNT-TEMP-LIN		30	(orange)	TEMP	.010
SV-MEANDR-LIN		4	(cyan)	HIDDEN	.010
SV-PRCL-LIN		2	(yellow)	LINE DASH	Default
SV-PRCL-PROP-LIN		4	(cyan)	LINE DASH	Default
SV-PRCL-TXT		2	(yellow)	CONTINUOUS	Default
SV-RESV-PARK-LIN		3	(green)	PARK	Default
BOUNDARY-SV					
SV-BDRY-PT		2	(yellow)	CONTINUOUS	Default
CONTROL					
SV-ALIGN-CTRL-LIN		7	(white)	CONTINUOUS	.016
SV-BASE-CSTRT-LIN		4	(cyan)	CONTINUOUS	.016
SV-BASE-CSTRT-TXT		7	(white)	CONTINUOUS	.014
SV-BASE-CTRL-LIN		5	(blue)	CONTINUOUS	.016
SV-BASE-CTRL-TXT		2	(yellow)	CONTINUOUS	.014
SV-CTRL-3333-SYM		2	(yellow)	CONTINUOUS	Default
SV-TRAV-SYM		7	(white)	CONTINUOUS	Default
SV-PHOTO-CTRL-SYM		2	(yellow)	CONTINUOUS	Default
SV-TRAV-LIN		7	(white)	CONTINUOUS	.014
CONTROL SV					
SV-CTRL-PT-GRP		7	(white)	CONTINUOUS	.016

Layer name	Example	Pen No	Color	Linetype	Lineweight
DRAFTSMAN					
DCA_INFO		7	(white)	CONTINUOUS	Default
DR-BORDER		91		CONTINUOUS	Default
DR-PAPER		7	(white)	CONTINUOUS	Default
DR-PRCL-CALC-HID		8		HIDDEN2	Default
DR-PRCL-CALC-LIN		3	(green)	CONTINUOUS	.005
DR-PRCL-DD-TXT		2	(yellow)	CONTINUOUS	Default
DR-SHT-MTCH-LIN		4	(cyan)	CONTINUOUS	.021
DR-TBLK-LGND		2	(yellow)	CONTINUOUS	Default
DR-TBLK-LOC-MAP		7	(white)	CONTINUOUS	Default
DR-TBLK-TXT		2	(yellow)	CONTINUOUS	Default
MISCELLANEOUS		7	(white)	CONTINUOUS	Default
SV-DETAIL-LIN		2	(yellow)	CONTINUOUS	Default
SV-DETAIL-SYM		7	(white)	CONTINUOUS	Default
SV-DETAIL-TXT		7	(white)	CONTINUOUS	Default
SV-GEN-NOTES-TXT		7	(white)	CONTINUOUS	Default
SV-RSTR-IMAGE		5	(blue)	CONTINUOUS	Default
SV-DETAIL-TXT		7	(white)	CONTINUOUS	Default
DRAINAGE					
SV-SS-SANT-LIN		44		DASHED	.010
SV-SS-SANT-SYM		44		CONTINUOUS	Default
SV-SS-STOR-MH-SYM		44		CONTINUOUS	Default
SV-SW-CBINLT-SYM		44		CONTINUOUS	Default
SV-SW-CB-SYM		44		CONTINUOUS	Default
SV-SW-CULVRT-LIN		44		CONTINUOUS	Default
SV-SW-CULVRT-TXT		44		CONTINUOUS	Default
SV-SW-STOR-LIN		44		CONTINUOUS	Default
SV-SW-STOR-SYM		44		CONTINUOUS	Default
DIGITAL TERRAIN MODELING					
SV-B-BRK-LIN		1	(red)	CONTINUOUS	Default
SV-BR-BRK-LIN		1	(red)	CONTINUOUS	Default
SV-DSP-PT		1	(red)	CONTINUOUS	Default
SV-IS-BRK-LIN		1	(red)	CONTINUOUS	Default
SV-ISP-PT		1	(red)	CONTINUOUS	Default
SV-R-BRK-LIN		1	(red)	CONTINUOUS	Default

2

Layer name	Example	Pen No	Color	Linetype	Lineweight
DIGITAL TERRAIN MODELING					
SV-SP-PT		1	(red)	CONTINUOUS	Default
SV-SRF-BDR		3	(green)	CONTINUOUS	Default
SV-SRF-RNG		2	(yellow)	CONTINUOUS	Default
SV-SRF-VIEW		2	(yellow)	CONTINUOUS	Default
SV-T-BRK-LIN		1	(red)	CONTINUOUS	Default
SV-V-BRK-LIN		1	(red)	CONTINUOUS	Default
SV-VSP-PT		1	(red)	CONTINUOUS	Default
SV-WC-BRK-LIN		1	(red)	CONTINUOUS	Default
SV-WL-BRK-LIN		1	(red)	CONTINUOUS	Default
SV-CONT-BRK-LIN		7	(white)	CONTINUOUS	Default
SV-CONT-DEP-LIN		4	(cyan)	CONTOUR DEPRESSION	.010
SV-CONT-MIN-LIN		2	(yellow)	CONTOUR MINOR	.010
SV-CONT-MJR-LIN		1	(red)	CONTINUOUS	.010
SV-CONT-SPL-LIN		4	(cyan)	TRIPPLE_DOT	.010
SV-HYD-H-BRK-LIN		6	(magenta)	CONTINUOUS	.028
SV-HYDRO-SYM		4	(cyan)	CONTINUOUS	Default
SV-HYD-S-BRK-LIN		30	(orange)	DASHED	.016
DIGITAL TERRAIN MODELING SV					
SV-SRF-PT-GRP		1	(red)	CONTINUOUS	Default
ENVIRONMENTAL					
SV-EPC-ULD-LIN		3	(green)	CONTINUOUS	Default
SV-EPC-ULD-SYM		3	(green)	CONTINUOUS	Default
SV-EPC-WLD-LIN		4	(cyan)	CONTINUOUS	Default
SV-EPC-WLD-SYM		4	(cyan)	CONTINUOUS	Default
ENVIRONMENTAL-SV					
SV-EPC-PT-GRP		2	(yellow)	CONTINUOUS	Default
ROAD					
SV-BRDG-LIN		7	(white)	CONTINUOUS	Default
SV-CURB-LIN		4	(cyan)	CONTINUOUS	Default
SV-GURD-RL-LIN		7	(white)	DASHED	Default
SV-PVMT-CTR-LIN		2	(yellow)	LINE_DOT	Default
SV-PVMT-LIN		7	(white)	DASHED	.010

Layer name	Example	Pen No	Color	Linetype	Lineweight
ROAD					
SV-PVMT-SHDR-LIN		5	(blue)	DASHED	Default
SV-RLRD-LIN		2	(yellow)	TRACKS	.014
SV-RLRD-SYM		7	(white)	CONTINUOUS	.005
SV-TRF-CHNL-SYM		7	(white)	CONTINUOUS	.014
SV-UPVD-LIN		3	(green)	CONTINUOUS	.005
RIGHT OF WAY					
SV-ROW-DD-LIN		11		PHANTOM	.006
SV-ROW-DESC-LIN		2	(yellow)	PHANTOM	Default
SV-ROW-DIM-TXT		7	(white)	CONTINUOUS	Default
SV-ROW-FDOT-LIN		5	(blue)	DIVIDE2	Default
SV-ROW-LA-LIN		4	(cyan)	RW-LA	.021
SV-ROW-LIN		3	(green)	PHANTOM	.006
SV-ROW-MANT-LIN		3	(green)	PHANTOM	.010
SV-ROW-PLAT-LIN		7	(white)	PHANTOM	.006
SV-ROW-RDCL-LIN		2	(yellow)	CENTERX2	.006
SV-ROW-RLRD-LIN		6	(magenta)	RW-LA	.021
SV-ROW-TXT		3	(green)	CONTINUOUS	Default
SECTIONAL					
SV-QSCT-LIN		2	(yellow)	CONTINUOUS	Default
SV-QSCT-CERT-LIN		4	(cyan)	QTRSECT	Default
SV-QSCT-CERT-TXT		2	(yellow)	CONTINUOUS	.006
SV-SECT-DE		3	(green)	CONTINUOUS	Default
SV-SECT-EL		1	(red)	CONTINUOUS	Default
SV-SECT-LOCL-LIN		9	(gray)	HIDDEN	.010
SV-SECT-PN		2	(yellow)	CONTINUOUS	Default
SV-SECT-PT		7	(white)	CONTINUOUS	Default
SV-SECT-SYM		2	(yellow)	CONTINUOUS	Default
SV-TWP-RNG-LIN		3	(green)	CONTINUOUS	Default
SURVEY					
SV-CERTFY-MTS		2	(yellow)	CONTINUOUS	Default
SV-GIS-EXPORT		7	(white)	CONTINUOUS	Default
SV-PROF-NOTES-TXT		2	(yellow)	CONTINUOUS	Default

Layer name	Example	Pen No	Color	Linetype	Lineweight
TOPOGRAPHY					
SV-LD-HDWALL-LIN		44		DASHED	.010
SV-LD-LITE-SYM		1	(red)	DASHED2	Default
SV-LD-MBX-SYM		206		CONTINUOUS	Default
SV-LD-O-SYM		3	(green)	CONTINUOUS	Default
SV-LD-PM-SYM		3	(green)	CONTINUOUS	Default
SV-LD-PRK-SYM		3	(green)	CONTINUOUS	Default
SV-LD-P-SYM		3	(green)	CONTINUOUS	Default
SV-LD-RES-SYM		206		CONTINUOUS	Default
SV-LD-SIGN1-SYM		1	(red)	HIDDEN2	Default
SV-LD-SIGN2-SYM		1	(red)	HIDDEN2	Default
SV-LD-SYM		3	(green)	CONTINUOUS	Default
SV-LD-TANK-LIN		8		DASHED	Default
SV-LD-VEG-SYM		3	(green)	CONTINUOUS	Default
SV-LD-WALL-LIN		36		CONTINUOUS	.010
SV-LEVEE-DM-LIN		36		DASHED	Default
SV-POND-LIN		4	(cyan)	DASHED	Default
SV-PVMT-CRWN-LIN		2	(yellow)	HIDDEN	Default
SV-SOIL-3333-SYM		3	(green)	CONTINUOUS	Default
SV-STRCTR-HDN-EXST		7	(white)	CONTINUOUS	Default
SV-STRCTR-SLD-EXST		7	(white)	CONTINUOUS	Default
SV-SWLK-LIN		3	(green)	DASHED	Default
SV-SWMP-MRSH-LIN		3	(green)	DASHED	Default
SV-TOPO-MISC		3	(green)	CONTINUOUS	Default
TOPOGRAPHY-SV					
SV-TOPO-DE		3	(green)	CONTINUOUS	Default
SV-TOPO-EL		1	(red)	CONTINUOUS	Default
SV-TOPO-PN		2	(yellow)	CONTINUOUS	Default
SV-TOPO-PT		2	(yellow)	CONTINUOUS	Default
UTILITIES, GENERAL					
SV-GA-SYM		1	(red)	DASHED2	Default
SV-UT-RISR-SYM		6	(magenta)	CONTINUOUS	Default
SV-UT-FITT-SYM		1	(red)	CONTINUOUS	Default
SV-BLDG-LIN		5	(blue)	CONTINUOUS	.005
SV-BLDG-UCONSTR-LIN		5	(blue)	CONTINUOUS	.005

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Layer name	Example	Pen No	Color	Linetype	Lineweight
UTILITIES, GENERAL					
SV-BOC-LIN		2	(yellow)	CONTINUOUS	.004
SV-CTR-STRM-LIN		4	(cyan)	CONTINUOUS	Default
SV-DTCH-CTR-LIN		7	(white)	TRIPPLE_DOT	Default
SV-DTCH-LIN		7	(white)	TRIPPLE_DOT SMALL	Default
SV-DTCH-TOB-LIN		4	(cyan)	TRIPPLE_DOT SMALL	Default
SV-DTCH-TOE-LIN		4	(cyan)	TRIPPLE_DOT SMALL	Default
SV-FENC-LIN		30	(orange)	FENCE	.005
SV-FENC-LMTD-LIN		4	(cyan)	CONTINUOUS	Default
SV-LAKE-LIN		4	(cyan)	DASHED	Default
SV-LD-ANT-TWR-SYM		1	(red)	CONTINUOUS	Default
SV-LD-BLDG-TXT		3	(green)	CONTINUOUS	Default
SV-LD-CONFR-SYM		7	(white)	CONTINUOUS	Default
SV-LD-DCDUOS-SYM		3	(green)	CONTINUOUS	Default
SV-LD-EOW-LIN		4	(cyan)	CONTINUOUS	Default
UTILITIES, CATV					
SV-UTC-OHD-LIN		30	(orange)	CONTINUOUS	.005
SV-UTC-SYM		30	(oramge)	CONTINUOUS	.005
SV-UTC-UGD-LIN		30	(oramge)	CONTINUOUS	.005
UTILITIES, ELECTRIC					
SV-UTE-FITT-SYM		1	(red)	CONTINUOUS	.005
SV-UTE-MH-SYM		1	(red)	DASHED2	.005
SV-UTE-OHD-SYM		1	(red)	CONTINUOUS	.005
SV-UTE-SYM		1	(red)	CONTINUOUS	.005
SV-UTE-TMSN-LIN		1	(red)	CONTINUOUS	.005
SV-UTE-UGD-SYM		1	(red)	CONTINUOUS	.005
UTILITIES, GAS					
SV-UTG-FITT-SYM		2	(yellow)	CONTINUOUS	Default
SV-UTG-LIN		2	(yellow)	CONTINUOUS	Default
SV-UTG-MH-SYM		2	(yellow)	CONTINUOUS	Default

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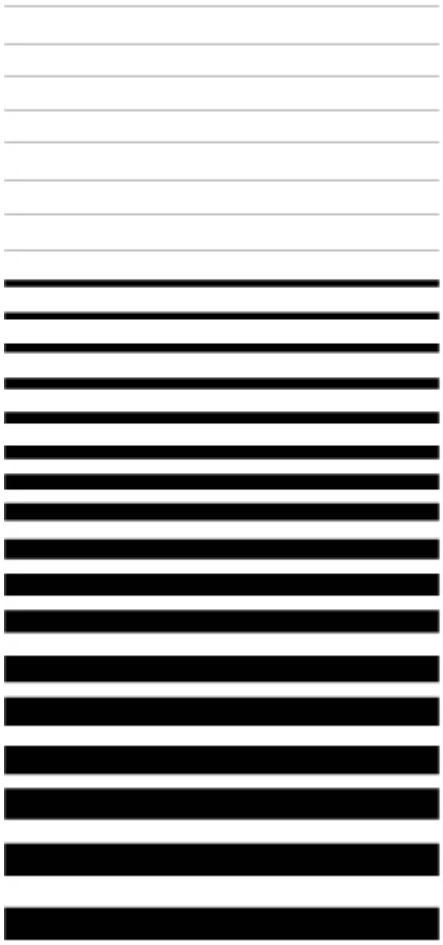
APPENDIX H

AutoCAD Standard Lineweights



INCHES	MM
0.000"	0.00
0.002"	0.05
0.004"	0.09
0.005"	0.13
0.006"	0.15
0.007"	0.18
0.008"	0.20
0.009"	0.23
0.010"	0.25
0.012"	0.30
0.014"	0.35
0.016"	0.40
0.020"	0.50
0.021"	0.53
0.024"	0.60
0.028"	0.70
0.031"	0.80
0.035"	0.90
0.039"	1.00
0.042"	1.06
0.047"	1.20
0.055"	1.40
0.062"	1.58
0.079"	2.00
0.083"	2.11

APPENDIX I

Layer	Layer Description
BOUNDARY	
SV-BDRY-DD-LIN	Boundary by Deed Description
SV-BDRY-DESC-LIN	Boundary by Description
SV-BDRY-DIM-TXT	Boundary text, all boundary legal description calls that are placed on the map of survey (bearings & distances, and curve information, etc; No sectional description text that is not related to the boundary survey/description
SV-BDRY-LGL-TXT	Boundary Legal Description
SV-BDRY-LIN	Boundary Line, subject property of survey
SV-BDRY-PLAT-LIN	Boundary by Plat
SV-BDRY-SYM	Boundary symbology (monumentation description)
SV-BDRY-TXT	Boundary text that is NOT apart of Subject property
SV-CTY-JUR-LIN	State, County, City juridicational line/boundary
SV-EMNT-DOM-LIN	Eminent Domain Line -A government jurisdiction line delineating acquisition of private property for public use by virtue of the superior dominion of the sovereign power over all lands within its jurisdiction.
SV-ESMNT-LIN	Easement Line
SV-ESMNT-PROP-LIN	Easement, Proposed
SV-ESMNT-TEMP-LIN	Easement, Temporary
SV-MEANDR-LIN	Meander Line
SV-PRCL-LIN	Parcel Line
SV-PRCL-PROP-LIN	Ownership line
SV-PRCL-TXT	Parcel Text
SV-RESV-PRK-LIN	Delineation of Reservation/Park/Forest
BOUNDARY –SV	
SV-BDRY-PT-GRP	Set or Held Boundary Point Group Nodes or LDD AECC_POINT, a cogo/control/suvey point is moved to this layer or collected from control
CONTROL	
SV-ALIGN-CTRL-LIN	Alignment Control Line
SV-BASE-CSTRT-LIN	Construction Control Baseline
SV-BASE-CSTRT-TXT	Baseline of construction text & labels
SV-BASE-CTRL-LIN	Survey Control Baseline
SV-BASE-CTRL-TXT	Survey Control Alignment/Baseline/Control-Vector Text including stationing, related bearings & distances, control monumentation descriptions
SV-CTRL-3333-SYM	Survey Control Symbology
SV-CTR-SYM	Control Symbol Point used for both horizontal and vertical control and placed on control point node and label. Control Point Annotation - List point number. North and east coordinate values are to be shown on horizontal points; elevations are to be shown on vertical points. Precision of project indicates the number of place holders to the left of the decimal.
SV-PHOTO-CTRL-SYM	Photo Control targeting, label designation (and geographic position values if requested)
SV-TRAV-LIN	Traverse/Control Vector line
SV-TRAV-SYM	Symbology for initial Traverse/control
CONTROL_SV	
SV-CTRL-PT_GRP	Cogo/Surveyed Control Point Group Nodes or LDD AECC_POINT

DRAFTSMAN

DCA_INFO	Program Default Layer, non-printable
DR-BORDER	Title block border & framework
DR-PAPER	Defines Sheet Edge, Non Printable, paperspace and viewports
DR-PRCL-CALC-HID	Hidden line that defines MRW taking
DR-PRCL-CALC-LIN	Lot, Parcel or tract line as calculated
DR-PRCL-DD-TXT	Lot, Parcel or tract line deed text
DR-SHT-MTCH-LIN	Match Line, Place line at edge of graphic detail to allow for a butt match to adjacent sheets. Place only on edges where matching sheets exist
DR-TBLK-LGND	Legend, North arrow and graphic scale bar
DR-TBLK-LOC-MAP	Project Location Map/ Multi-Sheet Layout Diagram
DR-TBLK-TXT	Framed Title Block Text, i.e. Project Name, Project No Section(s),Twp-Rng, company text & logo, revision
MISCELLANEOUS	Scratch Layer, non-printable
SV-DETAIL-LIN	Detail (Boundary, Easement, etc...) Lines
SV-DETAIL-SYM	Detail (Boundary, Easement, etc...) Symbols
SV-DETAIL-TXT	Detail (Boundary, Easement, etc...) Text
SV-GEN-NOTES-TXT	General Notes as required for cover, detail key sheets etc…
SV-RSTR-IMAGE	Raster Images (ortho photos)
SV-TABLE-CHT	Curve/Line/Point Listing Tables
DRAINAGE	
SV-SS-SANT-LIN	Sanitary water line
SV-SS-SANT-SYM	Sanitary water infrastructure
SV-SS-STOR-MH-SYM	Sanitary Manhole
SV-SW-CBINLT-SYM	Drainage opening beneath a curb and interrupting the gutter. Frequently curb inlets have a manhole directly above them. Symbol centered of curb inlet and orient symbol along the curb
SV-SW-CB-SYM	Small rectangular, round or square drainage grating. Draw/digitize symbol centered on catch basin
SV-SW-CULVRT-LIN	Pipe drain, usually located under roads or driveways. Note size. Digitize/Draw length of pipe from center of each end.
SV-SW-CULVRT-TXT	Text to describe culvert/storm water infrastructure, list pipe or culvert size & length (if possible), material, elevation
SV-SW-STOR-LIN	Storm Water Infrastructure line
SV-SW-STOR-SYM	Storm water Infrastructure symbology
DIGITAL TERRAIN MODELING	
SV-_-B-BRK-LIN	DTM Building Envelopes breaklines, _ is the model name or project area; associated with ARCINFO Generate Format; this layer is not meant for site terrain modeling
SV-_-BR-BRK-LIN	DTM Bridge breaklines, _ is the model name or project area; associated with ARCINFO Generate Format; this layer is not meant for site terrain modeling
SV-_DSP-PT	DEM/DTM mass display point nodes, _ is the model name or project area; associated with ARCINFO Generate Format, Elevations associated are displayed on the map; Mass points will be collected at appropriate locations, which will clearly identify the terrain
SV-_-IS-BRK-LIN	DTM Islands within water body breakline, _ is the model name or project area; associated with ARCINFO Generate Format; this layer is not meant

	for site terrain modeling

SV-_-ISP-PT	DEM/DTM island point nodes, _ is the model name or project area; associated with ARCINFO Generate Format; this layer is not meant for site terrain modeling
SV-_-R-BRK-LIN	DTM Road & Paved/hard surface area breaklines, _ is the model name or project area; associated with ARCINFO Generate Format; this layer is not meant for site terrain modeling
SV-_-SP-PT	DEM/DTM mass point elevation nodes, _ is the model name or project area; associated with ARCINFO Generate Format. Mass points will be collected at appropriate locations, which will clearly identify the terrain variations.
SV-_-SRF-BDR	DTM Surface Border, _ = name of project surface; delineates the perimeter of the surface model; Contour Limit Line, Show line only if project has adjacent areas of planimetric and topographic detail. Contours should end exactly upon this line. Also show a contour limit line between adjacent areas where the contour interval changes
SV-_-SRF-RNG	DTM Surface Elevation/slopes ranges, _ = name of project surface
SV-_-SRF-VIEW	DTM Surface View, _= name of project surface
SV-_-T-BRK-LIN	DTM Soft Terrain breaklines, _ is the model name or project area; associated with ARCINFO Generate Format; this layer is not meant for site terrain modeling
SV-_-V-BRK-LIN	DTM vegetation (obscured) area delineation breakline,_ is the model name or project area; associated with ARCINFO Generate Format; this layer is not meant for site terrain
SV-_-VSP-PT	DEM/DTM vegetation point nodes within obscured areas, _ is the model name or project area; associated with ARCINFO Generate Format; this layer is not meant for site terrain
SV-_-WC-BRK-LIN	DTM Coastal water body breaklines, _ is the model name or project area; associated with ARCINFO Generate Format; this layer is not meant for site terrain modeling
SV-_-WL-BRK-LIN	DTM Lake water body breaklines, _ is the model name or project area; associated with ARCINFO Generate Format; this layer is not meant for site terrain modeling
SV-_-WR-BRK-LIN	DTM River water body breaklines, _ is the model name or project area; associated with ARCINFO Generate Format; this layer is not meant for site terrain modeling
SV-CONT-BRK-LIN	DTM Break line
SV-CONT -INDX-DEP -LIN	Index Depression Contour; Do not break depressed index contours for spot elevations unless absolutely necessary for legibility. Do not drop index contours. If the contours are absolutely too close to pull indexes through, such as on a cliff or in a quarry pulled through and the others are to drop cleanly. Depressed Depression index obstructed by dense vegetation.
SV-CONT-OINDX-DEPLIN	Index Obscured Depression Contour; Clearly labeled on the map as “interpolated” or “estimated” through the use of notes and shall be depicted graphically & clearly different from other surveyed features. Every fifth contour shall be annotated and shall have a thicker line weight than intermediate contours. Do not break index depressed contours for spot elevations unless absolutely necessary for legibility. Do not drop index contours. If the contours are absolutely too close to pull indexes through, such as on a cliff or in a quarry pulled through and the others are to drop cleanly. Hidden Index Contour Indexes that are obstructed by dense vegetation shall be delineated as w/ hidden linetype. Depressed Depression index obstructed by dense vegetation.
SV-CONT-OINDX-LIN	Index Obscured Contour; Index obstructed by dense vegetation/obscured

	vegetation Clearly labeled on the map as “interpolated” or “estimated” through the use of notes and shall be depicted graphically & clearly different from other surveyed features. Every fifth contour shall be annotated and shall have a thicker line weight than intermediate contours. Do not break index depressed contours for spot elevations unless absolutely necessary for legibility. Do not drop index contours. If the contours are absolutely too close to pull indexes through, such as on a cliff or in a quarry pulled through and the others are to drop cleanly. Hidden Index Contour Indexes that are obstructed by dense vegetation shall be delineated as w/ hidden linetype.
SV-CONT-INTMD-DEPLIN	Intermediate Contour Depression; Four intermediates exist between two index contours. Do not show any more or any less than four. Do not drop intermediate contours unless the indexes are less than 1/4 in. apart at map scale. Intermediates should not run through spot elevations. Intermediates can be broken for other text
SV-CONT-OINTMD-DEP-LIN	Intermediate Obscured Depression Contour; depressed by dense /obscured vegetation; Clearly labeled on the map as “interpolated” or “estimated” through the use of notes and shall be depicted graphically & clearly different from other surveyed features. Four intermediates exist between two index contours. Do not show any more or any less than four. Do not drop intermediate contours unless the indexes are less than 1/4 in. apart at map scale. Intermediates should not run through spot elevations. Intermediates can be broken for other text
SV-CONT-INTMD-LIN	Intermediate contour; Four intermediates exist between two index contours. Do not show any more or any less than four. Do not drop intermediate contours unless the indexes are less than 1/4 in. apart at map scale. Intermediates should not run through spot elevations. Intermediates can be broken for other text
SV-CONT-OINTMD- LIN	Intermediate Obscured Contour; Clearly labeled on the map as “interpolated” or “estimated” through the use of notes and shall be depicted graphically & clearly different from other surveyed features. Four intermediates exist between two index contours. Do not show any more or any less than four. Do not drop intermediate contours unless the indexes are less than 1/4 in. apart at map scale. Intermediates should not run through spot elevations. Intermediates can be broken for other text
SV-CONT-INDEX-LIN	Index Contour; Every fifth contour shall be annotated and shall have a thicker line weight than intermediate contours. Do not break index (hidden or depressed) contours for spot elevations unless absolutely necessary for legibility. Do not drop index contours. If the contours are absolutely too close to pull indexes through, such as on a cliff or in a quarry pulled through and the others are to drop cleanly. Hidden Index Contour Indexes that are obstructed by dense vegetation shall be delineated as w/ hidden linetype. Depressed Depression index obstructed by dense vegetation.
SV-CONT-SPL-LIN	Special Contour
SV--OBSCURED-LIN	Delineation of Obscured area
SV-HYD-H-BRK-LIN	Hydrologic Hard Breakline
SV-HYDRO-SYM	Hydrographic Symbols
SV-HYD-S-BRK-LIN	Hydrologic Soft Breakline
DIGITAL TERRAIN MODELING_SV	
SV-SRF-PT-GRP	Surface/Mass/Cogo/Surveyed Point Group Nodes or LDD AECC_Point (photogrammetric/surveyed)
ENVIRONMENTAL	
SV-EPC-ULD-LIN	Environmental Upland line
SV-EPC-ULD-SYM	Environmental Protection Upland flagged point symbol

SV-EPC-WLD-LIN	Environmental Wetland line
SV-EPC-WLD-SYM	Environmental Protection Wetland flagged point symbol

ENVIRONMENTAL –SV	
SV-EPC-PT-GRP	Environmental Cogo/Surveyed Point Group Nodes or LDD AECC_POINT as collected from control
ROAD	
SV-BRDG-LIN	Structure erected over obstacle or depression. "Bridge" includes automotive bridges, railroad bridges, foot-bridges, and viaducts. Continue all depictions across bridge, including edge of paved road and guardrail, if the item continues on the bridge. Do not contour bridges.
SV-CURB-LIN	Raised edge defining edge of pavement, parking lot islands, etc. Curbs have precedence over edge of pavement lines. Retaining walls have precedence over curbs. Contours should run unbroken along curbs (do not snap to each side).
SV-GURD-RL-LIN	Single- or double-sided box beam, corrugated steel, wooden, or cable guide rail. Guardrails are usually located in medians of roads or along road edges near hazards. Digitize center line of rail. For concrete barriers, use ornamental wall symbology.
SV-PVMT-CTR-LIN	Centerline of road
SV-PVMT-LIN	Edge of Pavement as delineated by traffic demarcation, center of painted line
SV-PVMT-SHDR-LIN	Pavement, delineates shoulder of road, slag asphalt
SV-RLRD-LIN	Draw the center line of all rails in use (the line will be patterned to represent two rails 5 ft apart). Show all sidings and spurs (tracks for storage, etc.). For Abandoned Railroad Draw center line of all abandoned railroads with tracks still intact and visible. Do not delineate old railroad grades with no tracks
SV-RLRD-SYM	Railroad infrastructure, switches or non-standard features that are owned & operated by the Railroad
SV-TRF-CHNL-SYM	Traffic Channelization, painted road demarcation symbols
SV-UPVD-LIN	Dirt or gravel road maintained as a thoroughfare. Unpaved roads are frequently found in rural areas or in suburban areas. Unpaved alleys are depicted as unpaved roads. Define by edge of graded surface or edge of tire wear lines, whichever is appropriate. Unpaved road edge has precedence over unpaved drive or parking lot. Where unpaved road intersects a paved surface, the edge of pavement line has precedence, including slabs or sidewalks. Also use unpaved road for unpaved runways.
RIGHT OF WAY	
SV-ROW-DD-LIN	Right of Way by Deed
SV-ROW-DESC-LIN	Right of Way by Description
SV-ROW-DIM-TXT	Right of Way bearing & distances, dimensioning
SV-ROW-FDOT-LIN	Fl Dept. of Transportation Right of Way that is NOT limited access
SV-ROW-LA-LIN	Limited Access Right of Way
SV-ROW-LIN	Right of Way Line, label line accordingly, Right of Way by Description, Deed, Plat or Maintenance
SV-ROW-MANT-LIN	Right of Way Line by Maintenance
SV-ROW-PLAT-LIN	Right of Way by Plat
SV-ROW-RDCL-LIN	Right of Way centerline of road asphalt, not the centerline of right of way
SV-ROW-RLRD-LIN	Rail Road Right of Way
SV-ROW-TXT	Right of Way Text, proper names, notes, etc…
SECTIONAL	

SV-QSCT-LIN	Quarter Section Line
SV-SECT-CERT-LIN	Certified Section Line
SV-SECT-CERT-TXT	CCR Text, Doc.#, bearing & Distance and N & E

SV-SECT-DE	Cogo/Surveyed Land Section Point Number Description
SV-SECT-EL	Cogo/Surveyed Land Section Point Number Elevation
SV-SECT-LOCL-LIN	Local Section line, Not Certified
SV-SECT-PN	Cogo/Surveyed Land Section Point Numbers
SV-SECT-PT	Cogo/Surveyed Land Section Point Nodes or LDD AECC_POINT, either established from control or direct observation
SV-SECT-SYM	Section symbology
SV-TWP-RNG-LIN	Township/range Line
SURVEY	
SV-CERTFY-MTS	CHAPTER 61G17-7 SEALS, SIGNATURES AND CERTIFICATES OF AUTHORIZATION
SV-GIS-EXPORT	GIS Export layer, Exportation of lines, polygons and point are to be dxfout using an early version of DXFOUT
SV-PROF-NOTES-TXT	Surveyors Notes, general notes, qualifiers as specified by the professional for specific types of surveys
TOPOGRAPHY	
SV-BLDG-LIN	Building includes residential or commercial trailers. Include covered porches, permanent overhangs, carport roofs, covered sidewalks, etc., as part of the building. Building envelopes. Do not show common roof lines (e.g., between town homes) or interior roof lines (e.g., dormers). All buildings are to end at the mapping contract boundary. Temporary structures are delineated as miscellaneous structures. Smokestacks are shown as buildings, if freestanding. • Hard breaklines are required along the outside of all buildings (excluding small sheds, outbuildings, mobile homes, nonpermanent structure etc.). • These lines do not need to follow the building outline, which may have several jogs. The intent is to define a building area with ground elevations. • Building envelopes are to be clipped and closed at the cell boundary. • In a situation where a building envelope intersects a water polyline, the building will take precedence. • In a situation where a vegetation/obscured area intersects a building envelope, the building will take precedence. Projection or interpolation will be permitted in this case to allow collection of closed figure for the building. That is if the building structure that projects into the vegetation/obscured area is at 75-85% visibility in the open area and there is a 95% confidence level by the professional as to the actual depiction of the building envelope. • Areas separated from surrounding ground, such as courtyards within building envelope, should not be collected.
SV-BLDG-UCONSTR-	Ruin or Under Construction Building - Delineate all visible building outlines, including foundation slabs or basement remains. Label "RUIN," "UNDER CONSTRUCTION," or "U/C," whichever is appropriate. Ruins other than buildings should be outlined as usual but labeled "RUIN" in addition to any required labels.
SV-BOC-LIN	Back of Curb
SV-CTR-STRM-LIN	Centerline of stream/creek or a non-navigable thread of water, not a ditch

SV-DTCH-CTR-LIN	Ditch/swale centerline, to be delineated for topographic surveys/ a breakline in a Digital Terrain Model
SV-DTCH-LIN	Large Scale Mapping Ditch centerline in which the top of bank/toe of ditch or flow line will not be delineated
SV-DTCH-TOB-LIN	Ditch Top of Bank, to be delineated for topographic surveys/ a breakline in a Digital Terrain Model
SV-DTCH-TOE-LIN	the lowest part (as of an embankment, dam, or cliff), to be delineated for topographic surveys/ a breakline in a Digital Terrain Model
SV-FENC-LIN	Digitize center lines of all visible fences. Do not differentiate between fence and gate. If gate closes across road, pull fence across road. Do not show individual fence posts
SV-FENC-LMTD-LIN	Limited Access fencing
SV-LAKE-LIN	Delineation of a large inland body of usually fresh water. Show man-made reservoirs as lakes. Draw/Digitize shoreline. Join Lake Outline cleanly with river or creek line.
SV-LD-ANT-TWR-SYM	Digitize/draw center of radio or television tower. Commercial and private satellite dishes. Do not show satellite dishes on top of buildings. Ground feature.
SV-LD-BLDG-TXT	Text that describes building features, structures type, material, building address
SV-LD-CONFR-SYM	any evergreen trees and shrubs including forms (as pines) with true cones and others (as yews) with an arillate fruit, label variety/type, size
SV-LD-DCDUOS-SYM	Trees or shrubs in which foliage falls off or shed seasonally or at a certain stage of development in the life cycle , label variety/type, size
SV-LD-EOW-LIN	Edge of Water/ delineation of high/low water mark(s)
SV-LD-HDWALL-LIN	Concrete on the end of a transverse drain or pipe culvert. Digitize/Draw the center line of thin headwalls, such as those on ditches or under driveways. Digitize/Draw outer edge of thicker and larger headwalls. Headwalls have precedence over culvert symbology
SV-LD-LITE-SYM	Residential lighting fixtures
SV-LD-MBX-SYM	Mailboxes, Center of mail box. Do not differentiate between collection boxes and delivery
SV-LD-O-SYM	Oak tree(s) over 8 ft tall (except upon special request). Symbol center of base of tree trunk. No distinction is made between deciduous and coniferous trees. Tree symbol does not reflect extent of tree canopy. Do not plot single trees within a tree mass outline
SV-LD-PM-SYM	Palm(s) over 8 ft tall (except upon special request). Symbol center of base of tree trunk. Descriptor indicates trunk size. Tree symbol does not reflect extent of tree

	canopy. Do not plot single trees within a tree mass outline
SV-LD-PRK-SYM	Miscellaneous Park & Recreation equipment, swings, merry-go-rounds etc…
SV-LD-P-SYM	Pine Tree(s) over 8 ft tall (except upon special request). Symbol center of base of tree trunk. Descriptor indicates trunk size. Tree symbol does not reflect extent of tree canopy. Do not plot single trees within a tree mass outline

SV-LD-RES-SYM	Residential Land features, yard lights, flag poles, feature is to be labeled
SV-LD-SIGN1-SYM	Traffic/other signs
SV-LD-SIGN2-SYM	Large scale signs
SV-LD-SYM	Miscellaneous Land feature that is cannot be applied to a DTM
SV-LD-TANK-LIN	Outline public utility tanks and industrial storage tanks. Show small propane tanks only if used for a business. Label "TANK," or "TANKS," if grouped together.
SV-LD-VEG-SYM	Bushes, clustered vegetation, ornamental/natural
SV-LD-WALL-LIN	Delineation of a wall, Decorative/ornamental of structural; Fixed structure retaining earth located along thorough-fares. Digitize/draw center line and pattern so ticks are on high side of wall.
SV-LEVEE-DM-LIN	Delineation barrier across river, creek, or swamp to regulate or obstruct water flow. Visible beaver dams large enough to affect water flow shall be outlined also. Label structure
SV-POND-LIN	A body of standing water much smaller than a lake, often man-made. Draw/Digitize shoreline. Join pond outline cleanly with stream. If small pond is attached to a river or lake, include in river or lake outline
SV-PVMT-CRWN-LIN	Delineation of the Crown of Road
SV-SOIL-3333-SYM	Soil borings
SV-STRCTR-HDN-	Existing Structure (Hidden)
SV-STRCTR-SLD-EXST	Existing Structure (Solid)
SV-SWLK-LIN	Show edges of all sidewalks, public or private. Side-walk should not continue across paved drives. Paved drive, parking lot, and road have precedence over sidewalk. Sidewalk has precedence over unpaved drive or parking lot and slab. Show steps (if requested) as miscellaneous structures
SV-SWMP-MRSH-LIN	Topographic delineation Swamp/Marsh/mangrove feature
SV-TOPO-MISC	Miscellaneous Topographic Feature, Not listed that will be applied to a DTM
TOPOGRAPHY-SV	
SV-TOPO-DE	Cogo/Surveyed Topographic Point Number Description
SV-TOPO-EL	Cogo/Surveyed Topographic Point Number Elevation
SV-TOPO-PN	Cogo/Surveyed Topographic Point Nodes or LDD AECC_POINT
SV-TOPO-PT	Cogo/Surveyed Topographic Point Numbers
UTILITES, GENERAL	
SV-GA-SYM	Guy Anchors or like fixtures
SV-UT-RISR-SYM	Utility conduit box riser, label type, traffic, electric, gas, telephone
SV-UT-FITT-SYM	Utility pole from which power, telephone, or cable television lines are suspended. Symbolize center of pole. Power pole has precedence over light pole, if the pole has a dual purpose. Traffic signal pole has precedence over power pole

UTILITES, CATV	
SV-UTC-OHD-LIN	Utility CATV overhead line, note the number of lines
SV-UTC-SYM	Utility CATV infrastructure, symbol
SV-UTC-UGD-LIN	Utility CATV subsurface infrastructure
UTILITES, ELECTRIC	
SV-UTE-FITT-SYM	Utility, Electrical above ground fixture, other than poles
SV-UTE-MH-SYM	Utility, Electrical manhole
SV-UTE-OHD-SYM	Utility, Electric Overhead wires, note the number of
SV-UTE-SYM	Utility, Electrical power poles, shared poles, utility poles
SV-UTE-TMSN-LIN	Utility, Electric, Transmission lines, note the number of wires

SV-UTE-UGD-SYM	Utility, Electric, subsurface infrastructure DUPLICATE
SV-UTE-UGD-SYM	Utility, Electrical subsurface
UTILITES, GAS	
SV-UTG-FITT-SYM	Utility, Gas/Propane Valves & Fixtures Symbology
SV-UTG-LIN	Utility, Natural Gas/Propane Line
SV-UTG-MH-SYM	Gas/Propane Manholes
UTILITES, FIBER OPTIC	
SV-UTO-PWR-LIN	Fiber Optic-Electrical Line
SV-UTO-SYM	Fiber Optic Infrastructure
SV-UTO-UGD-LIN	Fiber Optic Line, subsurface
SV-UTO-UTT-LIN	Fiber Optic-Telephone Line
SV-UTO-UTT-UGD-LIN	Fiber Optic-Telephone Line, subsurface
UTILITES, TELEPHONE	
SV-UTT-FITT-SYM	Utility, Telephone fixtures and risers
SV-UTT-MH-SYM	Utility, Telephone manhole
SV-UTT-OHD-LIN	Utility, Telephone overhead wires, note the number of wires
SV-UTT-UGD-SYM	Utility, Telephone subsurface infrastructure
UTILITES, WATER	
SV-FHYDRT-SYM	Fire Hydrants
SV-UTWA-FITT-SYM	Utility, Water fixtures, meters, junction conduit, label feature
SV-UTWA-FM-LIN	Utility, Water , Force Main/Water line Infrastructure, note size
UTILITES, WASTEWATER	
SV-UTWW-FITT-SYM	Utility, Wastewater above ground infrastructure, fixtures, label feature
SV-- UTWW -LIN	Utility, Wastewater line Infrastructure, note size
VOLUME	
SV-_-VOL-TXT	Volume Labels, _ abbreviated project name
SV-_-VOL-XEG	Existing Ground, _ abbreviated project name
SV-_-VOL-XGRID	Existing Grid, _ abbreviated project name
SV-_-VOL-XGRID-TXT	Existing Grid Text, _ abbreviated project name

APPENDIX J
LAYER ACRONYM TABLE

Layer Description Abbreviation	Layer Description
ALIGN	Alignment
ARCH	Architectural Svcs
ASB	As-built
BASE	Baseline
BDRY	Boundary
BDRY-SV	Boundary Survey Point Group
BLDG	Building
CHNL	Traffic Channelization
CONT	Contour
CST	Construction
CTRL	Control
CTRL_SV	Control Survey Point Group
DEM	Digital Elevation Model
DEP	Depression
DOM	Domain
DR	Draftsman
DRE	Drainage
DTCH	Ditch
DTM	Digital Terrain Modeling
DTM-SV	Digital Terrain Mapping Survey Point Group
EMNT	Eminent
EOP	Edge of pavement
EOS	Edge of shoulder
EOW	Edge of water
EPC	Environmental Protection Commission
EPC-SV	Environmental Protection Commission Survey Point Group
FITT	Fixture
GEO	Geotechnical
GIS	Geographic Information System
GURD	Guard
HYD	Hydrographic
HYDL	Hydrological
INDX	Index

INTMD	Intermediate
LA	Limited Access
LD	Land
LIN	Line, chain, points that delineate a Feature
OINTMD	Obscured Intermediate
OINDX	Obscured Index
PHT	Photogrammetric
PRCL	Parcel
PRK	Parks and Recreation
RD	Road
RISR	Utility Riser
ROW	Right of Way
SEC	Sectional
SGN	Signalization
SPS	Specific Purpose
SRF	Surface model
SS	Sanitary Sewer
SV	Survey
SW	Stormwater
SYM	Symbol
TOB	Top of bank
TOE	Toe of slope
TOPO	Topography
TOPO-SV	Topographic Survey Point Group
TRAV	Traverse
TRF	Traffic
TXT	Text
ULD	Uplands
UT	Utility
UTC	Utilities Cable TV
UTE	Utilities Electric
UTG	Utilities Gas
UTO	Utilities Fiber Optic
UTT	Utilities Telephone
UTWTR	Water
UTWW	Waste Water
VOL	Volume
WLD	Wetlands

APPENDIX K
LAYER TABLE BY COLOR, LINETYPE, LINEWEIGHT AND PLOT STYLE (PEN)

Layer	Color	Linetype	Line-weight	Plot Style
BOUNDARY				
SV--BDRY-DD-LIN	(pink)	Continuous	0.006	11
SV--BDRY-DESC-LIN	(yellow)	Continuous	0.006	2
SV--BDRY-DIM-TXT	(yellow)	Continuous	Default	2
SV--BDRY-LGL-TXT	(yellow)	Continuous	Default	2
SV--BDRY-LIN	(blue)	Continuous	0.028	5
SV--BDRY-PLAT-LIN	(cyan)	Continuous	Default	4
SV--BDRY-SYM	(yellow)	Continuous	Default	2
SV--BDRY-TXT	(yellow)	Continuous	Default	2
SV--CTY-JUR-LIN	(red)	Center2x	0.020	1
SV--EMNT-DOM-LIN	(red)	Continuous	Default	1
SV--ESMNT-LIN	(blue)	Continuous	0.010	5
SV--ESMNT-PROP-LIN	(blue)	Continuous	0.010	5
SV--ESMNT-TEMP-LIN	Orange	Temp	0.010	30
SV--MEANDR-LIN	(cyan)	Hidden	0.010	4
SV--PRCL-LIN	(yellow)	ACAD_ISO08W100	Default	2
SV--PRCL-PROP-LIN	(cyan)	ACAD_ISO08W100	Default	4
SV--PRCL-TXT	(yellow)	Continuous	Default	2
SV--RESV--PRK-LIN	(magenta)	ACAD ISO06W100	Default	6
BOUNDARY –SV				
SV--BDRY-PT-GRP	(white)	Continuous	Default	7
CONTROL				
SV--ALIGN-CTRL-LIN	(white)	Continuous	0.016	7
SV--BASE-CSTRT-LIN	(cyan)	Continuous	0.016	4
SV--BASE-CSTRT-TXT	(white)	Continuous	0.014	7
SV--BASE-CTRL-LIN	(blue)	Continuous	0.016	5
SV--BASE-CTRL-TXT	(yellow)	Continuous	0.014	2
SV--CTRL-3333-SYM	(yellow)	Continuous	Default	2

SV--CTR-SYM	(yellow)	Continuous	Default	2
SV--PHOTO-CTRL-SYM	(yellow)	Continuous	Default	2
SV--TRAV-LIN	(white)	Continuous	0.014	7
SV--TRAV-SYM	(white)	Continuous	Default	7
CONTROL_SV				
SV--CTRL-PT-GRP	(white)	Continuous	Default	7
DRAFTSMAN				
DCA_INFO	(white)	Continuous	Default	7
DR-BORDER	(green)	Continuous	0.016	91
DR-PAPER	(white)	Continuous	Default	7
DR-PRCL-CALC-HID	(gray)	Hidden2	Default	8
DR-PRCL-CALC-LIN	(green)	Continuous	0.005	3
DR-PRCL-DD-TXT	(yellow)	Continuous	Default	2
DR-SHT-MTCH-LIN	(cyan)	Continuous	0.021	4
DR-TBLK-LGND	(yellow)	Continuous	Default	2
DR-TBLK-LOC-MAP	(white)	Continuous	Default	7
DR-TBLK-TXT	(yellow)	Continuous	Default	2
MISCELLANEOUS	(white)	Continuous	Default	7
SV--DETAIL-LIN	(yellow)	Continuous	Default	2
SV--DETAIL-SYM	(yellow)	Continuous	Default	2
SV--DETAIL-TXT	(yellow)	Continuous	Default	2
SV--GEN-NOTES-TXT	(yellow)	Continuous	Default	2
SV-RSTR-IMAGE	(white)	Continuous	Default	1
SV--TABLE-CHT	(yellow)	Continuous	Default	2
DRAINAGE				
SV--SS-SANT-LIN	Tan	Dashed	0.010	44
SV--SS-SANT-SYM	Tan	Continuous	Default	44
SV--SS-STOR-MH-SYM	Tan	Continuous	Default	44
SV--SW-CBINLT-SYM	Tan	Dashed	Default	44
SV--SW-CB-SYM	DELETE	Default	0	
SV--SW-CULVRT-LIN	Tan	Continuous	Default	44
SV--SW-CULVRT-TXT	Tan	Continuous	Default	44
SV--SW-STOR-LIN	Tan	ACAD_ISO02W100	Default	44
SV--SW-STOR-SYM	Tan	Continuous	Default	44

DIGITAL TERRAIN MODELING				
SV--_-B-BRK-LIN	(yellow)	Continuous	Default	2
SV--_-BR-BRK-LIN	(red)	Continuous	Default	1
SV--_DSP-PT	(cyan)	Continuous	Default	4
SV--_-IS-BRK-LIN	(gray)	Continuous	Default	9
SV--_-ISP-PT	(gray)	Continuous	Default	9
SV--_-R-BRK-LIN	(magenta)	Continuous	Default	6
SV--_-SP-PT	(white)	Continuous	Default	7

SV--_-SRF-BDR	(red)	Continuous	Default	2
SV--_-SRF-RNG	(cyan)	Continuous	0.003	4
SV--_-SRF-VIEW	Lt Gray	Continuous	0.000	9
SV--_-T-BRK-LIN	(orange)	Continuous	Default	30
SV--_-V-BRK-LIN	(green)	Continuous	Default	3
SV--_-VSP-PT	(green)	Continuous	Default	3
SV--_-WC-BRK-LIN	(blue)	Continuous	Default	5
SV--_-WL-BRK-LIN	(blue)	Continuous	Default	5
SV--_-WR-BRK-LIN	(cyan)	Continuous	Default	4
SV--CONT-BRK-LIN	(white)	Continuous	Default	7
SV--CONT-INDX-DEP-LIN	(orange)	DEPCONT	0.013	30
SV--CONT-OINDX-DEP-LIN	(orange) DEN	DEPCONT	0.013	30
SV--CONT-INTMD-LIN	(yellow)	ACAD_ISO06W100	0.010	2
SV--CONT-INDX-LIN	(orange)	Continuous	0.010	30
SV--CONT-OINDX-LIN (orange)	HIDDEN	0.013	30	
SV--OBSCURED-LIN	(green)	Continuous	0.010	3
SV--CONT-OINTMD-DEP-LIN	(yellow)	HIDDENMDEP	0.010	2
SV--CONT-OINTMD-LIN	(yellow)	HIDDEN	0.010	2
SV--CONT-SPL-LIN	(cyan)	ACAD_ISO05W100	0.012	4
SV--HYD-H-BRK-LIN	(magenta	Continuous	0.028	6
SV--HYDRO-SYM	(cyan)	Continuous	Default	4
SV--HYD-S-BRK-LIN	(orange)	Dashed	0.016	
DIGITAL TERRAIN MODELING_SV				

SV--SRF-PT-GRP	(yellow)	Continuous	Default	2
ENVIRONMENTAL				
SV--EPC-ULD-LIN	(green)	Continuous	Default	3
SV--EPC-ULD-SYM	(green)	Continuous	Default	3
SV--EPC-WLD-LIN	(cyan)	Continuous	Default	4
SV--EPC-WLD-SYM	(cyan)	Continuous		4
ENVIRONMENTAL –SV				
SV--EPC-PT-GRP	(cyan)	Continuous	Default	4
ROAD				
SV--BRDG-LIN	(white)	Continuous	Default	7
SV--CURB-LIN	(cyan)	Continuous	Default	4
SV--GURD-RL-LIN	(white)	Dashed	Default	7
SV--PVD-SHLDR-LIN	(blue)	Continuous	Default	5
SV--PVMT-CTR-LIN	(yellow)	ACAD ISO04W100	Default	2
SV--PVMT-LIN	(white)	Dashed	0.010	7
SV--PVMT-SHDR-LIN	(blue)	Dashed	Default	5
SV--RLRD-LIN	(yellow)	Tracks	0.014	2
SV--RLRD-SYM	(white)	Continuous	Default	7
SV--TRF-CHNL-SYM	(white)	Continuous	0.005	7
SV--UPVD-LIN	(green)	Continuous	0.005	3
RIGHT OF WAY				
SV--ROW-DD-LIN	(pink)	Phantom	0.006	11
SV--ROW-DESC-LIN	(yellow)	Phantom	0.006	2
SV--ROW-DIM-TXT	(white)	Continuous	Default	7
SV--ROW-FDOT-LIN	(blue)	Divide2	Default	5
SV--ROW-LA-LIN	(cyan)	LAROW	0.021	4
SV--ROW-LIN	(green)	Phantom	0.006	3
SV--ROW-MANT-LIN	(green)	Phantom	0.010	3
SV--ROW-PLAT-LIN	(white)	Phantom	0.006	7
SV--ROW-RDCL-LIN	(yellow)	CenterX2	0.006	2
SV--ROW-RLRD-LIN	(magenta	LAROW	0.021	3
SV--ROW-TXT	(green)	Continuous	Default	2
SECTIONAL				

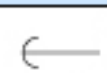
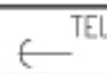
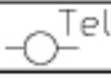
SV--QSCT-LIN	(yellow)	Continuous	Default	2
SV--SECT-CERT-LIN	(green)	Centerx2	0.012	3
SV--SECT-CERT-TXT	(yellow)	Continuous	Default	2
SV--SECT-LOCL-LIN	(gray)	Hidden	0.010	9
SV--SECT-SYM	(yellow)	Continuous	Default	2
SV--TWP-RNG-LIN	(green)	PhantomX2	0.020	2
SECTIONAL_SV				
SV--SECT-PT-GRP	(green)	Continuous	Default	3
SURVEY				
SV--CERTFY-MTS	(yellow)	Continuous	Default	2
SV--GIS-EXPORT	(red)	Continuous	Default	1
SV--PROF-NOTES-TXT	(yellow)	Continuous	Default	2
TOPOGRAPHY				
SV--BLDG-LIN	(blue)	Continuous	0.005	5
SV- BLDG-UCONSTR-LIN	(blue)	Continuous	0.005	5

SV- BOC-LIN	(yellow)	Continuous	0.004	2
SV- CTR-STRM-LIN	(cyan)	Continuous	Default	4
SV- DTCH-CTR- LIN	(white)	ACAD_ISO06W100	Default	4
SV- DTCH-LIN	(white)	ACAD_ISO15W100	Default	7
SV- DTCH-TOB-LIN	(cyan)	ACAD_ISO15W100	Default	4
SV- DTCH-TOE-LIN	(cyan)	ACAD_ISO15W100	Default	4
SV- FENC-LIN	Orange	Fence	0.005	30
SV- FENC-LMTD-LIN	(cyan)	LA	0.005	4
SV- LAKE-LIN	(cyan)	Dashed	Default	4
SV- LD ANT-TWR-SYM	(red)	Custom	Default	1
SV- LD-BLDG-TXT	(green)	Continuous	Default	3
SV- LD-CONFR-SYM	(green)	Continuous	Default	3
SV- LD-DCDUOS-SYM	(green)	Continuous	Default	3
SV- LD-EOW-LIN	(cyan)	Dashed	Default	4
SV- LD-HDWALL-LIN	Tan	Dashed	0.010	44
SV- LD-LITE-SYM	(red)	Dashed2	Default	1

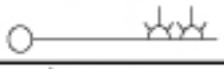
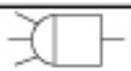
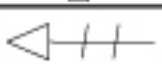
SV- LD-MBX-SYM	Dark Violet	Continuous	Default	206
SV-LD-MH-SYM	(white)	Dot2	Default	7
SV-LD-O-SYM	(green)	Continuous	Default	3
SV-LD-PM-SYM	(green)	Continuous	Default	3
SV-LD-PRK-SYM	(green)	Continuous	Default	3
SV-LD-P-SYM	(green)	Continuous	Default	3
SV- LD-RES-SYM	Dark Violet	Continuous	Default	206
SV- LD-SIGN1-SYM	(red)	Hidden2	Default	1
SV- LD-SIGN2-SYM	(red)	Hidden2	Default	1
SV- LD-SYM	(green)	Continuous	Default	3
SV- LD-TANK-LIN	Gray	Dashed	Default	8
SV- LD-VEG-SYM	(green)	Continuous	Default	3
SV- LD-WALL-LIN	Brown	Continuous	0.010	36
SV- LEVEE-DM-LIN	Brown	Dashed	Default	36
SV- POND-LIN	(cyan)	Dashed	Default	4
SV- PVMT-CRWN-LIN	(yellow)	Hidden	Default	2
SV--SOIL-3333-SYM	(green)	Continuous	Default	3
SV--STRCTR-HDN-EXST		Continuous	Default	
SV--STRCTR-SLD-EXST		Continuous	Default	
SV--SWLK-LIN	(green)	Dashed	Default	3
SV--SWMP-MRSH-LIN	(green)	Dashed	Default	3
SV--TOPO-MISC	(green)	Continuous	Default	3
TOPOGRAPHY-SV				
SV--TOPO-PT-GRP	(yellow)	Continuous	Default	2
UTILITES, GENERAL				
SV-GA-SYM	(yellow)	Dashed2	Default	1
SV-UT-RISR-SYM	(magenta)	Continuous	Default	6
SV-UT-FITT-SYM	(magenta)	Continuous	Default	6
UTILITES, CATV				
SV--UTC-OHD-LIN	orange	Continuous	0.005	30
SV--UTC-SYM	orange	Continuous	0.005	30
SV--UTC-UGD-LIN	orange	Continuous	0.005	30
UTILITES, ELECTRIC				
SV--UTE-FITT-SYM	(red)	Continuous	0.005	1

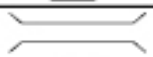
SV--UTE-MH-SYM	(red)	Dashed2	0.005	1
SV--UTE-OHD-SYM	(red)	Continuous	Default	1
SV--UTE-SYM	(red)	Continuous	0.005	1
SV--UTE-TMSN-LIN	(red)	Continuous	0.005	1
SV--UTE-UGD-SYM	(red)	Continuous	0.005	1
SV--UTE-UGD-SYM	(red)	Continuous	0.010	1
UTILITES, GAS				
SV--UTG-FITT-SYM	(yellow)	Continuous	Default	2
SV--UTG-LIN	(yellow)	Continuous	Default	2
SV--UTG-MH-SYM	(cyan)	Continuous	Default	4
UTILITES, FIBER OPTIC				
SV--UTO-PWR-LIN	(yellow)	Continuous	Default	2
SV--UTO-SYM	(yellow)	Continuous	Default	2
SV--UTO-UGD-LIN	(yellow)	Continuous	Default	2
SV--UTO-UTT-LIN	(yellow)	Continuous	Default	2
SV--UTO-UTT-UGD-LIN	(yellow)	Continuous	Default	2
UTILITES, TELEPHONE				
SV--UTT-FITT-SYM	orange	Continuous	0.005	30
SV--UTT-MH-SYM	orange	Continuous	0.005	30
SV--UTT-OHD-LIN	orange	Continuous	0.005	30
SV--UTT-UGD-SYM	orange	Continuous	0.010	30
UTILITES, WATER				
SV--FHYDRT-SYM	(white)	Dashed2	0.005	7
SV--UTWA-FITT-SYM	(blue)	Continuous	0.005	5
SV--UTWA-FM-LIN	(blue)	Continuous	0.010	5
UTILITES, WASTEWATER				
SV--UTWW-FITT-SYM	Tan	Continuous	0.005	44
SV-- UTWW -LIN	Tan	Continuous	0.010	44
VOLUME				
SV--_-VOL-TXT	(yellow)	Continuous	Default	2
SV--_-VOL-XEG	(green)	Continuous	Default	3
SV--_-VOL-XGRID	(gray)	Continuous	Default	9
SV--_-VOL-XGRID-TXT	(white)	Continuous	Default	7

APPENDIX L
BLOCK LIBRARIES

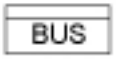
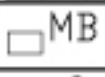
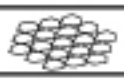
BLOCK NAME	LAYER	BLOCK	PALETTE
UPA	PO-STCR-EXST-SYM		Gas Power Tel
UPA	TL-STCR-EXST-SYM		Gas Power Tel
GMET	GS-METR-EXST-SYM		Gas Power Tel
GV	GS-VALV-EXST-SYM		Gas Power Tel
PTRAN	PO-STCR-EXST-SYM		Gas Power Tel
PV	PO-STCR-EXST-SYM		Gas Power Tel
TELR	TL-STCR-EXST-SYM		Gas Power Tel
TV	TL-STCR-EXST-SYM		Gas Power Tel
PTWR	PO-STCR-EXST-SYM		Gas Power Tel
UP	PO-STCR-EXST-SYM		Gas Power Tel
UP	TL-STCR-EXST-SYM		Gas Power Tel

BLOCK NAME	LAYER	BLOCK	PALETTE
SSMH	SS-STCR-EXST-SYM		Sewer
SSMH	SS-STCR-EXST-SYM		Sewer
SSCO	SS-STCR-EXST-SYM		Sewer
SDCB	SD-STCR-EXST-SYM		Sewer
SDC	SD-GLIN-EXST-SYM		Sewer
SDMH	SD-STCR-EXST-SYM		Sewer

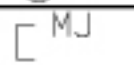
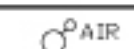
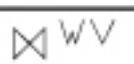
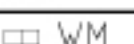
BLOCK NAME	LAYER	BLOCK	PALETTE
TAD	TF-SIGL-EXST-SYM		Signalization
TATC	TF-SIGL-EXST-SYM		Signalization
TDD	TF-SIGL-EXST-SYM		Signalization
TFWS	TF-SIGL-EXST-SYM		Signalization
TIL	TF-SIGL-EXST-SYM		Signalization
TJB1	TF-SIGL-EXST-SYM		Signalization
TJB2	TF-SIGL-EXST-SYM		Signalization
TJB3	TF-SIGL-EXST-SYM		Signalization
TOS	TF-SIGL-EXST-SYM		Signalization
TOSL	TF-SIGL-EXST-SYM		Signalization
TPB	TF-SIGL-EXST-SYM		Signalization
TPSH	TF-SIGL-EXST-SYM		Signalization
TPD	TF-SIGL-EXST-SYM		Signalization
TPN	TF-SIGL-EXST-SYM		Signalization
TQD	TF-SIGL-EXST-SYM		Signalization
TRG	TF-SIGL-EXST-SYM		Signalization

BLOCK NAME	LAYER	BLOCK	PALETTE
BM	SV-BDRY-SYM		SURVEY
BOUND	SV-BDRY-SYM		SURVEY
BRIDGE	SV-BDRY-SYM		SURVEY
DH	SV-BDRY-SYM		SURVEY
G_POLE	SV-BDRY-SYM		SURVEY
IP	SV-BDRY-SYM		SURVEY
PROPCOR	SV-BDRY-SYM		SURVEY
PT	SV-BDRY-SYM		SURVEY
STA	SV-BDRY-SYM		SURVEY
TP	SV-BDRY-SYM		SURVEY
U_POLE	SV-BDRY-SYM		SURVEY
WELL	SV-BDRY-SYM		SURVEY

BLOCK NAME	LAYER	BLOCK	PALETTE
INTER	SV-SIGN-LD-EXST-SYM		EXTERIOR
LUMIN	SV-SIGN-LD-EXST-SYM		EXTERIOR
LUMIN2	SV-SIGN-LD-EXST-SYM		EXTERIOR
SIGN1	SV-SIGN-LD-EXST-SYM		EXTERIOR
SIGN2E	SV-SIGN-LD-EXST-SYM		EXTERIOR
STATE	SV-SIGN-LD-EXST-SYM		EXTERIOR
US	SV-SIGN-LD-EXST-SYM		EXTERIOR

BLOCK NAME	LAYER	BLOCK	PALETTE
SFBS	SF-BUSS-EXST-SYM		Surface Features
SFC	SF-VEGE-EXST-SYM		Surface Features
SFD	SF-VEGE-EXST-SYM		Surface Features
SFB	SF-EMBT-EXST-SYM		Surface Features
SFMB	SF-MAIL-EXST-SYM		Surface Features
SFRR	SF-RIPR-EXST-SYM		Surface Features
SFR	SF-ROCK-EXST-SYM		Surface Features
SFS	SF-VEGE-EXST-SYM		Surface Features
SFSN	SF-SIGN-EXST-SYM		Surface Features
SFL	SF-LITE-EXST-SYM		Surface Features

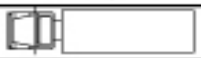
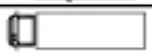
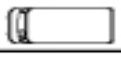
BLOCK NAME	LAYER	BLOCK	PALETTE
TRC	TF-SIGL-EXST-SYM		Signalization
TSB	TF-SIGL-EXST-SYM		Signalization
TSCL	TF-SIGL-EXST-SYM		Signalization
TSD	TF-SIGL-EXST-SYM		Signalization
TSS	TF-SIGL-EXST-SYM		Signalization
TSCL	TF-SIGL-EXST-SYM		Signalization
TSLC	TF-SIGL-EXST-SYM		Signalization
TPOL	TF-SIGL-EXST-SYM		Signalization
TSPL	TF-SIGL-EXST-SYM		Signalization
TSLA	TF-SIGL-EXST-SYM		Signalization
TVHA	TF-SIGL-EXST-SYM		Signalization
TVH	TF-SIGL-EXST-SYM		Signalization
TWN	TF-SIGL-EXST-SYM		Signalization

BLOCK NAME	LAYER	BLOCK	PALETTE
WCAP	WA-FITT-EXST-SYM		Water
WCOUP	WA-FITT-EXST-SYM		Water
WFL	WA-FITT-EXST-SYM		Water
WGP	WA-FITT-EXST-SYM		Water
WFH2	WA-FHYD-EXST-SYM		Water
WFH3	WA-FHYD-EXST-SYM		Water
WMJ	WA-FITT-EXST-SYM		Water
WHUB	WA-FITT-EXST-SYM		Water
WRED	WA-FITT-EXST-SYM		Water
WTH	WA-FITT-EXST-SYM		Water
WTB	WA-FITT-EXST-SYM		Water
WARV	WA-VALV-EXST-SYM		Water
WBOV	WA-VALV-EXST-SYM		Water
WBFV	WA-VALV-EXST-SYM		Water
WCKV	WA-VALV-EXST-SYM		Water
WGV	WA-VALV-EXST-SYM		Water
WPV	WA-VALV-EXST-SYM		Water
WMET	WA-METR-EXST-SYM		Water

BLOCK NAME	LAYER	BLOCK	PALETTE
C2W	TF-CHAN-EXST-SYM		Channelization
CLRS	TF-CHAN-EXST-SYM		Channelization
CLS	TF-CHAN-EXST-SYM		Channelization
CLR	TF-CHAN-EXST-SYM		Channelization
CLT	TF-CHAN-EXST-SYM		Channelization
CRS	TF-CHAN-EXST-SYM		Channelization
CRT	TF-CHAN-EXST-SYM		Channelization
CSA	TF-CHAN-EXST-SYM		Channelization
CB	TF-CHAN-EXST-SYM		Channelization
CHOV	TF-CHAN-EXST-SYM		Channelization
CHS	TF-CHAN-EXST-SYM		Channelization
CLM1	TF-CHAN-EXST-SYM		Channelization
CLM2	TF-CHAN-EXST-SYM		Channelization
CO	TF-CHAN-EXST-SYM		Channelization
CRR	TF-CHAN-EXST-SYM		Channelization
CSC	TF-CHAN-EXST-SYM		Channelization
CS	TF-CHAN-EXST-SYM		Channelization

BLOCK NAME	LAYER	BLOCK	PALETTE
CG_T10	SV-VEGE-LD-EXST-SYM		PLANTS
CG_T13	SV-VEGE-LD-EXST-SYM		PLANTS
CG_T15	SV-VEGE-LD-EXST-SYM		PLANTS
CG_T18	SV-VEGE-LD-EXST-SYM		PLANTS
CG_T21	SV-VEGE-LD-EXST-SYM		PLANTS
CG_T22	SV-VEGE-LD-EXST-SYM		PLANTS
CG_T25	SV-VEGE-LD-EXST-SYM		PLANTS
CG_T30	SV-VEGE-LD-EXST-SYM		PLANTS
CG_T33	SV-VEGE-LD-EXST-SYM		PLANTS
MARSH	SV-VEGE-LD-EXST-SYM		PLANTS
SHRUB1	SV-VEGE-LD-EXST-SYM		PLANTS
SHRUB2	SV-VEGE-LD-EXST-SYM		PLANTS
SHRUB3	SV-VEGE-LD-EXST-SYM		PLANTS
SHRUB4	SV-VEGE-LD-EXST-SYM		PLANTS
STUMP	SV-VEGE-LD-EXST-SYM		PLANTS

BLOCK NAME	LAYER	BLOCK	PALETTE
E_HYD	SV-STM-EXST-LIN		STRUCTURES
GV	SV-STM-EXST-LIN		STRUCTURES
P_HYD	SV-STM-EXST-LIN		STRUCTURES
SMH	SV-STM-EXST-LIN		STRUCTURES
WSO	SV-STM-EXST-LIN		STRUCTURES
WV	SV-STM-EXST-LIN		STRUCTURES
BASIN	SV-SS-SANT-SYM		STRUCTURES
CC	SV-SS-SANT-SYM		STRUCTURES
CURB	SV-SS-SANT-SYM		STRUCTURES

BLOCK NAME	LAYER	BLOCK	PALETTE
BUS	SV-TRAV-SYM		VEHICLES
CAR	SV-TRAV-SYM		VEHICLES
CG_V10	SV-TRAV-SYM		VEHICLES
CG_V11	SV-TRAV-SYM		VEHICLES
CG_V3	SV-TRAV-SYM		VEHICLES
CG_V7	SV-TRAV-SYM		VEHICLES
CG_V8	SV-TRAV-SYM		VEHICLES
VAN	SV-TRAV-SYM		VEHICLES

APPENDIX M
Suggested Vendors for Digital Signatures

Below are Companies that provide products or publish white papers, webcasts, and case studies on Digital Signatures.

AR Ltd

341 First Ave. South
Pleasant Hill, CA CA 94523
TEL: (925) 798 0901
FAX: (925) 226 1982
URL: http://www.arx.com/
Founded in 1987, AR is a worldwide provider of digital signature and data-security solutions for financial, commercial, legal, and governmental sectors.

Sypherlink

1101 30th St. NW, Suite 200
Washington, DC, WA 20007
TEL: 202-333-9055
FAX: 202-293-4588
URL: http://www.sypherlink.com
Sypherlink focuses on solving recurring problems surrounding information sharing and collaboration. We understand the challenges involved with bringing multiple data sources together in a meaningful manner, while maintaining privacy and security.

WatchGuard Technologies, Inc.

505 5th Ave South, Suite 500
Seattle, WA 98104
TEL: 800.734.9905
FAX: 1-206-521-8342
URL: http://www.watchguard.com/
WatchGuard network security solutions provide small- to mid- sized enterprises
worldwide with effective, affordable network protection

EXAMPLES

The following links are to land description documents and drawing sheet layout examples. Title blocks layouts shown in the examples are included in the template drawing.

Land description documents:

EXAMP1 LD
EXAMP1-LD
EXAMP2 LD
EXAMP2A LD
EXAMP2B LD
EXAMP2B-LD
EXAMP3 LD

Drawing sheet layout:

EXP Detail Sheet Ansi-D(Land)
EXP_ Key Sheet Ansi D(Land)
EXP_ RW Cover Sheet Ansi- D(Land)
EXP_MRW CoverSheet Ansi- C(Land)
EXP_MRW Description Sketch-Ansi A
EXP_Ownership Sheet Ansi D(Land)
EXP_Parcel Sketch Ansi A
EXP_RW Description Sketch Ansi A
EXP_RW Detail Sheet Ansi- D(Land)
EXP_Survey-Location Map Rd Projects
EXP_Topographic Survey by Photo Methods

Environmental Land Acquisition Program (ELAP) mapping is to use the Detail Sheet Ansi- D(Land) Layout; the ELAP_DEP Detail Layout is to be used for Florida Department of Environmentsl Protection (FDEP) submissions only (unless specifically), which are found in the template drawing, HCtemplate06

October 30, 20##

94-126-R
Bloomingdale Avenue
Bell Shoals-Lithia
Road Right Of Way
Parcel 110
Folio No. ####.####
Sec.1, TWP 30S, RGE 20E

Schedule "A"

THAT PART OF:

The Southeast 1/4 of the Southwest 1/4 of the Southwest 1/4 of Section 1, Township 30 South, Range 20 East, Hillsborough County, Florida, LESS road right of way.

Lying within the following metes and bounds description:

Commence at the Southwest corner of aforesaid Section 1; thence on the Southerly boundary thereof S89°54'52"E, a distance of 675.35 feet, to the West boundary of the Southeast One-Quarter of the Southwest One-Quarter of the Southwest One-Quarter of said Section 1 and the Point of Beginning; thence on said West boundary, N00°01'10"W, a distance of 52.80 feet; thence N89°09'56"E, a distance of 246.09 feet; thence S88°11'22"E, a distance of 429.40 feet, to the East boundary of the Southeast One-Quarter of the Southwest One-Quarter of the Southwest One-Quarter of said Section 1; thence on said Easterly boundary, S00°08'56"E, a distance of 43.84 feet, to the Southerly boundary of Section 1; thence on said Southerly boundary, N89°54'52"W, a distance of 675.35 feet, to the Point of Beginning.

Less maintained right of way.

Total area contains 12960 square feet of land, more or less.

Area outside of Zoning Petition contains 2940 square feet of land, more or less.

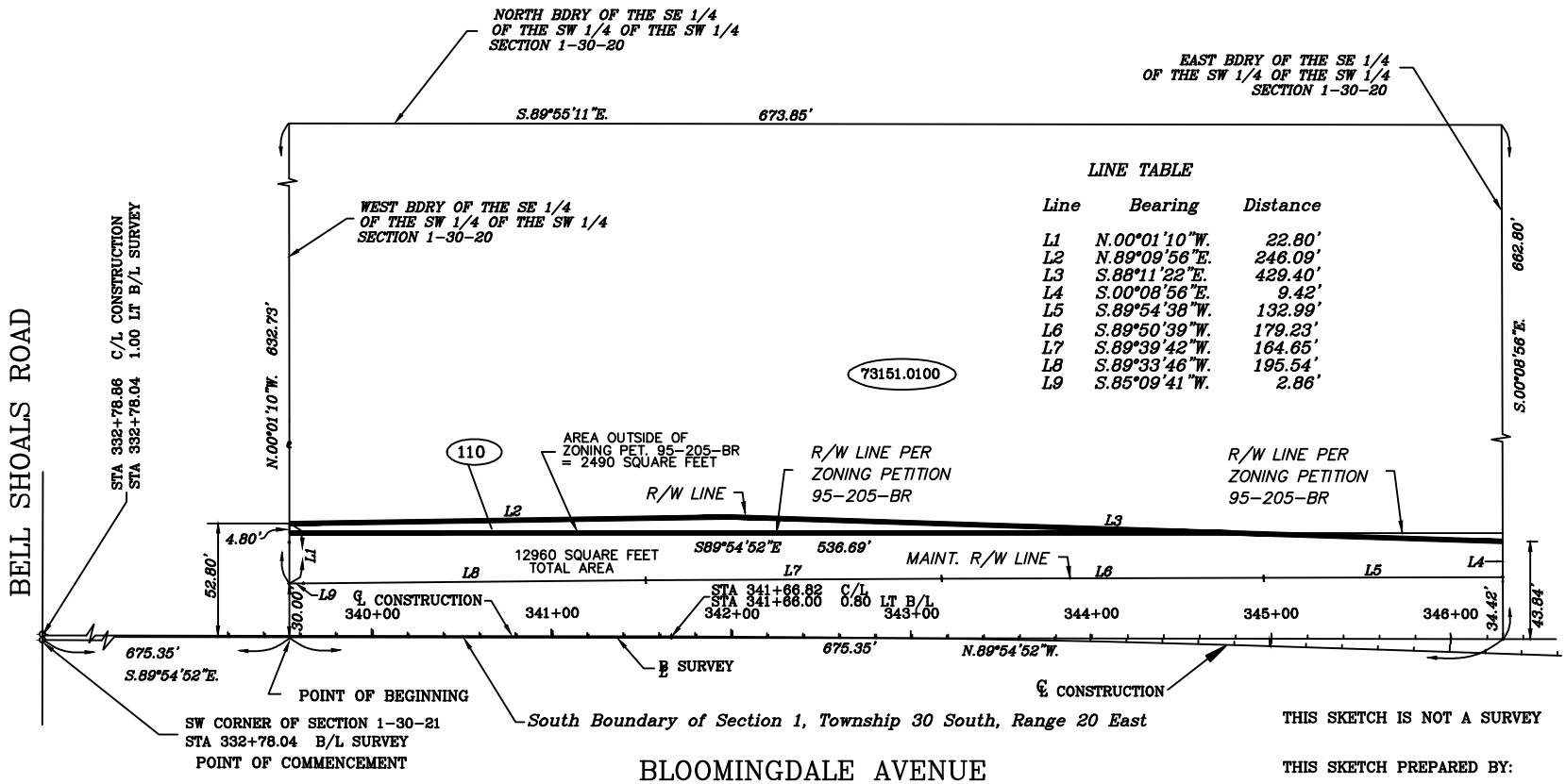
_____ (Surveyors Signature)

Prepared by:
Surveyors Name and PSM#
Company Name
Company Address and Phone #

PROJECT No. 20XX-XXX-X

SECTION 1, TOWNSHIP 30 SOUTH, RANGE 20 EAST
HILLSBOROUGH COUNTY, FLORIDA
SKETCH OF DESCRIPTION

NOT TO SCALE



LINE TABLE

Line	Bearing	Distance
L1	N.00°01'10"W.	22.80'
L2	N.89°09'56"E.	246.09'
L3	S.88°11'22"E.	429.40'
L4	S.00°08'56"E.	9.42'
L5	S.89°54'38"W.	132.99'
L6	S.89°50'39"W.	179.23'
L7	S.89°39'42"W.	164.65'
L8	S.89°33'46"W.	195.54'
L9	S.85°09'41"W.	2.86'

BLOOMINGDALE AVENUE

THIS SKETCH IS NOT A SURVEY

THIS SKETCH PREPARED BY:

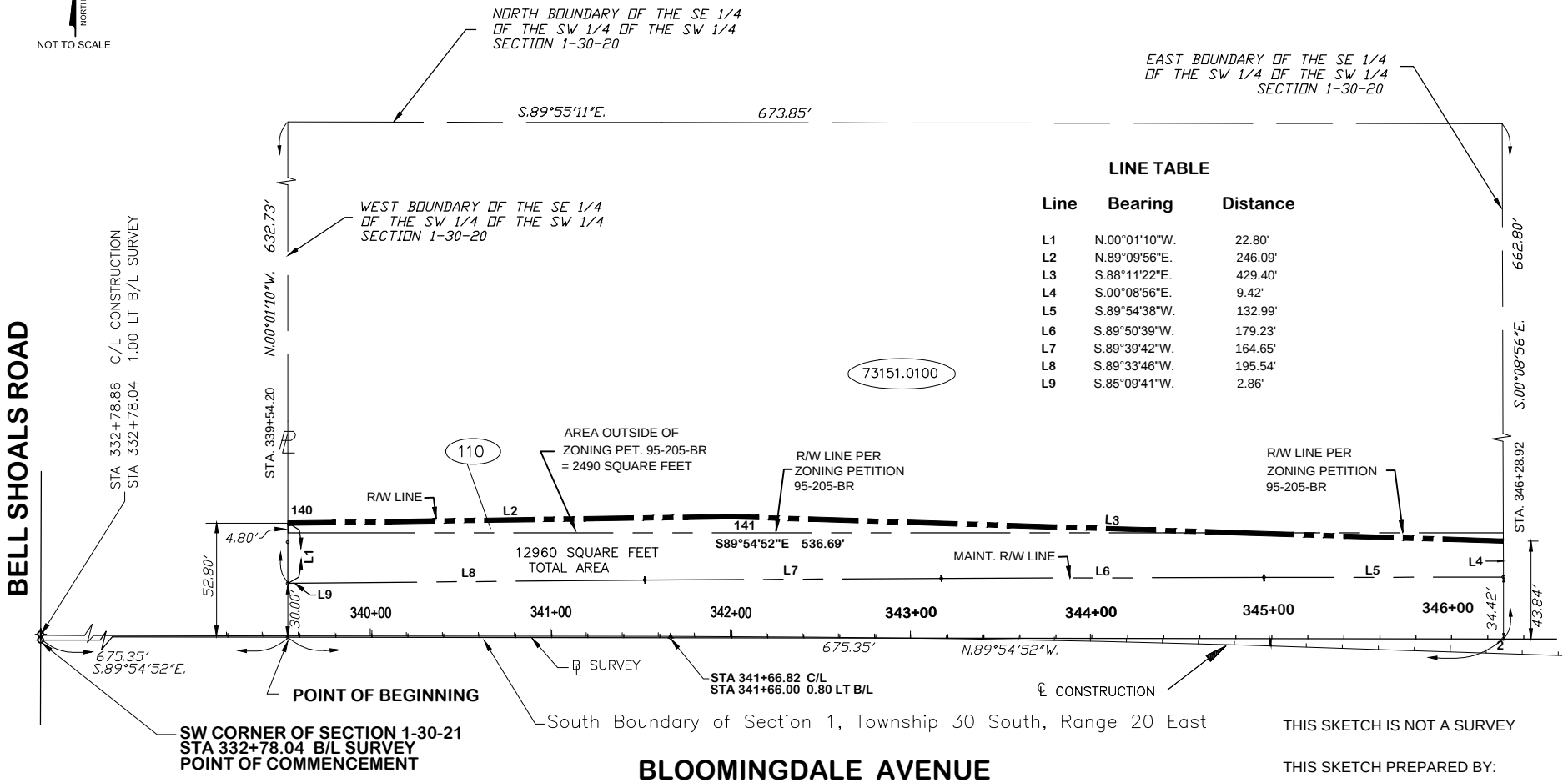
JOHN Q. SURVEYOR, P.L.S. #XXXX

REVISIONS				PROJ. NO. 94-126-R		REAL ESTATE & FACILITIES SERVICES DEPARTMENT GEOMATICS SECTION, SURVEY & MAPPING TEAM 601 E. Kennedy Blvd., 23rd Floor, Tampa, Florida 33602 Phone: (813) 272-5810 Fax: (813) 272-6459 www.hillsboroughcounty.org	BLOOMINGDALE AVENUE (BELL SHOALS TO LITHIA) PARCEL 110	SHEET 1 OF 1
				CIP No. 61122				
				DRAWN BY:				
NO.	DATE	DESCRIPTION	APPV'D.	DATE:	Hillsborough County Florida			

CIP/CIT PROJECT No: 61222
REAL ESTATE PROJECT No: 20XX-XX-X

SECTION 1 , TOWNSHIP 30 SOUTH, RANGE 20 EAST
HILLSBOROUGH COUNTY, FLORIDA
SKETCH OF DESCRIPTION

NOT TO SCALE



LINE TABLE

Line	Bearing	Distance
L1	N.00°01'10"W.	22.80'
L2	N.89°09'56"E.	246.09'
L3	S.88°11'22"E.	429.40'
L4	S.00°08'56"E.	9.42'
L5	S.89°54'38"W.	132.99'
L6	S.89°50'39"W.	179.23'
L7	S.89°39'42"W.	164.65'
L8	S.89°33'46"W.	195.54'
L9	S.85°09'41"W.	2.86'

THIS SKETCH IS NOT A SURVEY

THIS SKETCH PREPARED BY:

JOHN Q. SURVEYOR P.L.S. #XXXX

Hillsborough County Florida

REAL ESTATE & FACILITIES SERVICES DEPARTMENT
GEOMATICS SECTION, SURVEY & MAPPING TEAM
601 E. Kennedy Blvd., 23rd Floor, Tampa, Florida 33602
Phone: (813) 272-5810 Fax: (813) 272-6459
www.hillsboroughcounty.org

BLOOMINGDALE AVENUE

PARCEL 110

DRAWN BY:	DRAFTSMAN	
CHECKED BY:	CHECKEDBY	
DATE:	DATE:	

SURVEY DIVISION PROJECT No. F##-####

SHEET NO. # OF #

July 11, 20##

Project 90-23-R
Linebaugh Avenue
Parcel No. 143
T.I.I.T.F. Reservation
Folio #4464.0200
SEC .24, TWP 28S, RGE 17E

SCHEDULE "A"

THAT PART OF:

The Northwest 1/4 of the Northwest 1/4 of Section 24, Township 28 South, Range 17 East, Hillsborough County, Florida lying North of C.S.X. Transportation, Inc. right of way (formally Seaboard Coastline Railroad), less the East 1096.50 feet, Less the North 28 feet for West Linebaugh Avenue right of way, and also Less, the West 25 feet for Wilsky Road right of way.

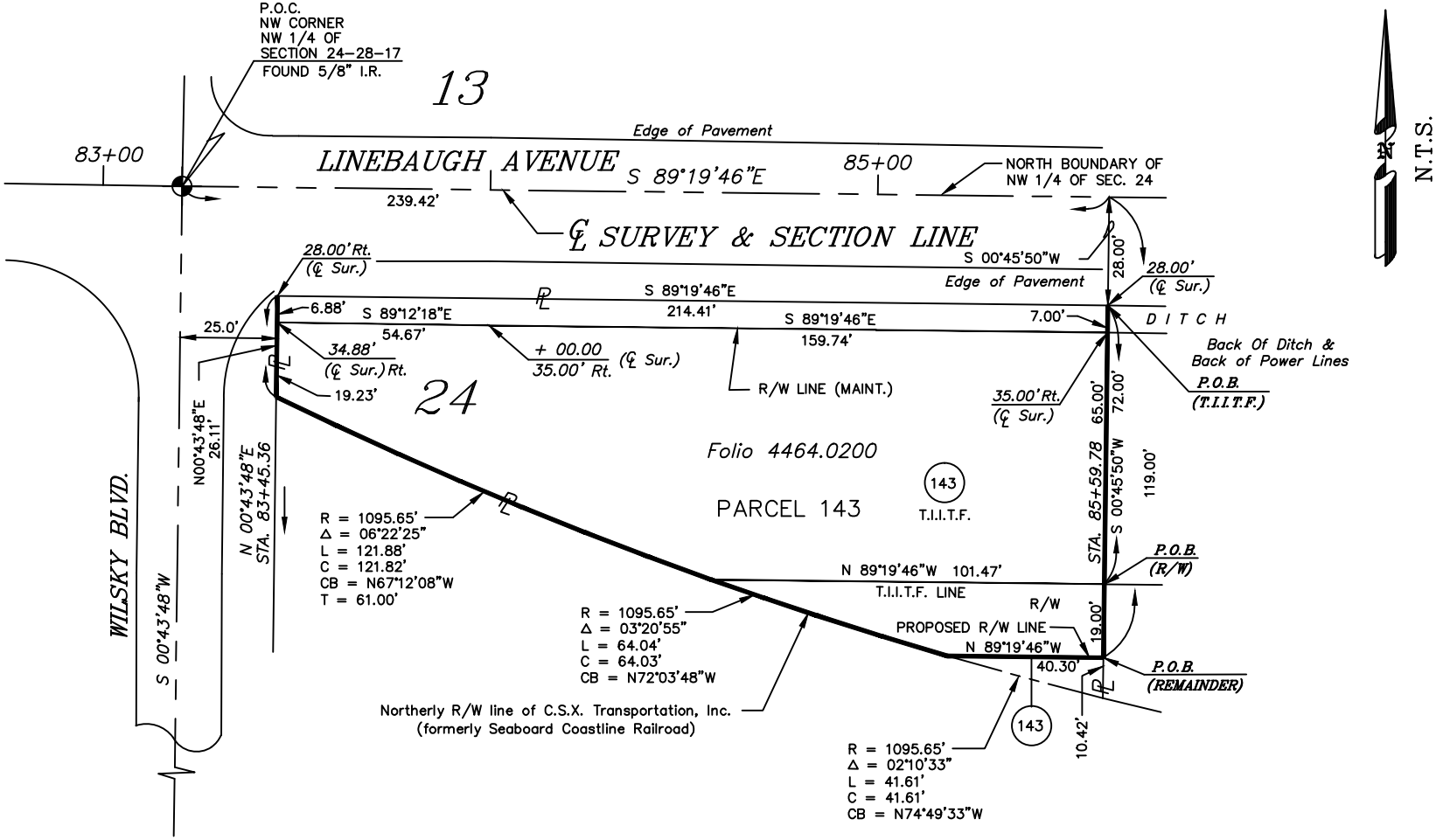
LYING WITHIN the following metes and bounds description:

Commence at the Northwest corner of the Northwest 1/4 of Section 24, Township 28 South, Range 17 East, Hillsborough County, Florida; thence S.89019'46"E. along the North boundary of said Northwest 1/4, a distance of 239.42 feet; thence leaving said line, S.00045'50"W., a distance of 28.00 feet to the POINT OF BEGINNING; thence S.00045'50"W., a distance of 72.00 feet to the South line of the Trustees of the Internal Improvement Trust Fund Reservation line; thence N.89019'46"W. along said line, a distance of 101.47 feet to a non-tangent curve concave Northeasterly and having a radius of 1,095.65 feet being the Northerly right of way line of C.S.X. Transportation, Inc. (formally Seaboard Coastline Railroad); thence Northwesterly along said curve and right of way line, 121.88 feet through a central angle of 06022'25"(chord bearing N.67012'08"W., a chord distance 121.82 feet) to the East right of way line of Wilsky Road; thence along said East right of way line, N.00043'48"E., a distance of 26.11 feet; thence leaving said line, S.89019'46"E., a distance of 214.41 feet to the POINT OF BEGINNING.

Less maintained right of way for Linebaugh Avenue.

Containing 11,485 square feet more or less.

_____ (Surveyors Signature)
Prepared by:
Surveyors Name and PSM #
Company Name
Company Address and Phone #



NOTES
1. BEARINGS SHOWN HEREON ARE BASED ON THE NORTH BOUNDARY OF THE NORTHWEST 1/4 OF SECTION 24, TOWNSHIP 28 SOUTH, RANGE 17 EAST, HILLSBOROUGH COUNTY, FLORIDA, SAID LINE BEARS S 89°19'46"E.
2. SKETCH ONLY. NOT A SURVEY.

LEGEND
P.O.C. = POINT OF COMMENCEMENT
P.O.B. = POINT OF BEGINNING
N.T.S. = NOT TO SCALE
R/W = RIGHT OF WAY
℄ = PROPERTY LINE
I.R. = IRON ROD
SEC. = SECTION
MAINT. = MAINTENANCE
T.I.I.T.F. = TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND

I HEREBY CERTIFY THAT THIS SKETCH AND DESCRIPTION MEETS THE MINIMUM TECHNICAL STANDARDS AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS IN CHAPTER 61G17-6, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

THIS SKETCH AND LEGAL DESCRIPTION NOT VALID UNLESS IMPRINTED WITH AN EMBOSSED SURVEYOR'S SEAL.

For XYZ, Inc.

Date

John Q. Surveyor, L.S. #xxxx
Florida Registered Surveyor

XYZ, INC.
2000 SURVEY ROAD
CLEARWATER, FLORIDA 34623

REVISIONS				PROJ. NO. 90-23-R
				DRAWN BY: S.E.H.
				CHECKED BY: D.H.R.
NO.	DATE	DESCRIPTION	APPV'D.	DATE: MM/DD/YY

Hillsborough County Florida

REAL ESTATE & FACILITIES SERVICES DEPARTMENT
GEOMATICS SECTION, SURVEY & MAPPING TEAM
601 E. Kennedy Blvd., 23rd Floor, Tampa, Florida 33602
Phone: (813) 272-5810 Fax: (813) 272-6459
www.hillsboroughcounty.org

LINEBAUGH AVENUE
PARCEL SKETCH
PARCEL 143

SHEET 1 OF 1

September 13, 20##

Project 90-23-R
Linebaugh Avenue
Parcel No. 143
Right of way
Folio #4464.0200
SEC.24, TWP 28S, RGE 17E

SCHEDULE "A"

THAT PART OF:

The Northwest 1/4 of the Northwest 1/4 of Section 24, Township 28 South, Range 17 East, Hillsborough County, Florida lying North of C.S.X. Transportation, Inc. right of way (formally Seaboard Coastline Railroad), Less the East 1096.50 feet, Less North 28 feet for West Linebaugh Avenue right of way, and also Less, the West 25 feet for Wilsky Road right of way.

LYING WITHIN the following metes and bounds description:

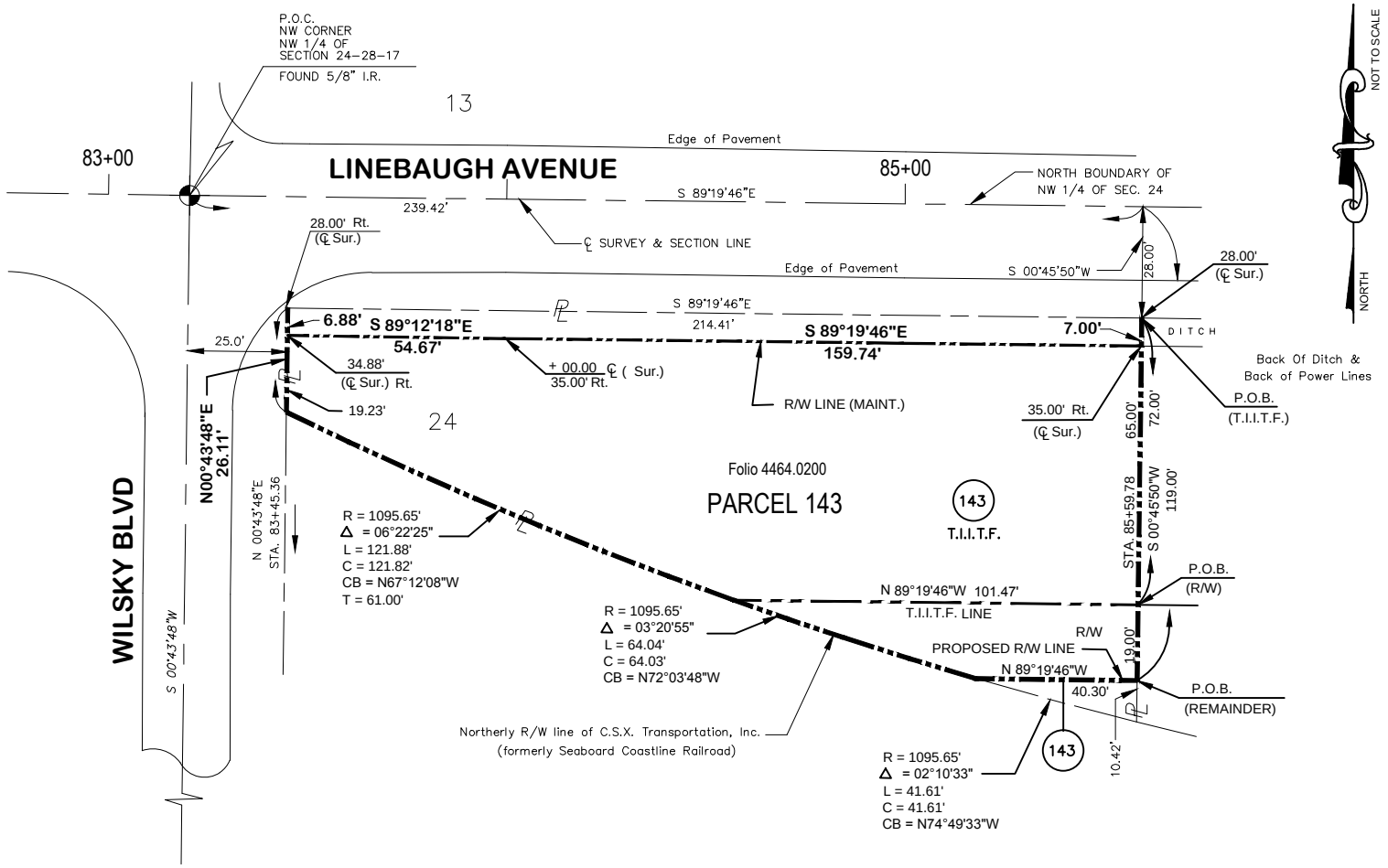
Commence at the Northwest corner of the Northwest 1/4 of Section 24, Township 28 South, Range 17 East, Hillsborough County, Florida; thence S.89019'46"E. along the North boundary of said Northwest 1/4, a distance of 239.42 feet; thence leaving said line, S.00045'50"W., a distance of 100.00 feet to the POINT OF BEGINNING; thence S.00045'50"W., a distance of 19.00 feet; thence N.89019'46"W., a distance of 40.30 feet to a non-tangent curve concave Northeasterly and having a radius of 1,095.65 feet and the Northerly right of way line of C.S.X. Transportation, Inc. (formally Seaboard Coastline Railroad); thence Northwesterly along said curve and right of way, 64.04 feet through a central angle of 03020'55"(chord bearing N.72003'48"W., a chord distance of 64.03 feet) to the South line of the Trustees of the Internal Improvement Trust Fund Reservation line; thence non-tangent along said line, S.89019'46"E., a distance of 101.47 feet to the POINT OF BEGINNING.

Containing 1,367 square feet more or less.

(Surveyors Signature)
Prepared by:
Surveyors Name and PSM #
Company Name
Company Address and Phone #

Description Sketch This is not a survey.

CIP/CIT PROJECT No: 61223
REAL ESTATE PROJECT No: 20XX-XX-X



NOTES
1. BEARINGS SHOWN HEREON ARE BASED ON THE NORTH BOUNDARY OF THE NORTHWEST 1/4 OF SECTION 24, TOWNSHIP 28 SOUTH, RANGE 17 EAST, HILLSBOROUGH COUNTY, FLORIDA, SAID LINE BEARS S 89°19'46"E.
2. SKETCH ONLY. NOT A SURVEY.

LEGEND
P.O.C. = POINT OF COMMENCEMENT
P.O.B. = POINT OF BEGINNING
N.T.S. = NOT TO SCALE
R/W = RIGHT OF WAY
℄ = PROPERTY LINE
I.R. = IRON ROD
SEC. = SECTION
MAINT. = MAINTENANCE
T.I.I.T.F. = TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND

I HEREBY CERTIFY THAT THIS SKETCH AND DESCRIPTION MEETS THE MINIMUM TECHNICAL STANDARDS AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS IN CHAPTER 61G17-6, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

THIS SKETCH AND LEGAL DESCRIPTION NOT VALID UNLESS IMPRINTED WITH AN EMBOSSED SURVEYOR'S SEAL.

Date

JOHN Q. SURVEYOR P.L.S. #XXXX
Florida Registered Surveyor

Hillsborough County Florida

REAL ESTATE & FACILITIES SERVICES DEPARTMENT
GEOMATICS SECTION, SURVEY & MAPPING TEAM
601 E. Kennedy Blvd., 23rd Floor, Tampa, Florida 33602
Phone: (813) 272-5810 Fax: (813) 272-6459
www.hillsboroughcounty.org

LINEBAUGH AVENUE
RIGHT OF WAY SKETCH

DRAWN BY:	*DRAFTSMAN*		*SURVEY DIVISION PROJECT No.*
CHECKED BY:	*CHECKEDBY*		*F##-####*
DATE:	*DATE:*		*SHEET NO. # OF #*
24	*28*	*17*	
SEC:	*TWP:*	*RNG:*	

September 13, 20##

Project 90-23-R
Linebaugh Avenue
Parcel No. 143
Remainder
Folio #4464.0200
SEC.24, TWP 28S, RGE 17E

SCHEDULE "A"

THAT PART OF:

The Northwest 1/4 of the Northwest 1/4 of Section 24, Township 28 South, Range 17 East, Hillsborough County, Florida lying North of C.S.X. Transportation, Inc. right of way (formally Seaboard Coastline Railroad), Less the East 1096.50 feet, Less North 28 feet for West Linebaugh Avenue right of way, and also Less, the West 25 feet for Wilsky Road right of way.

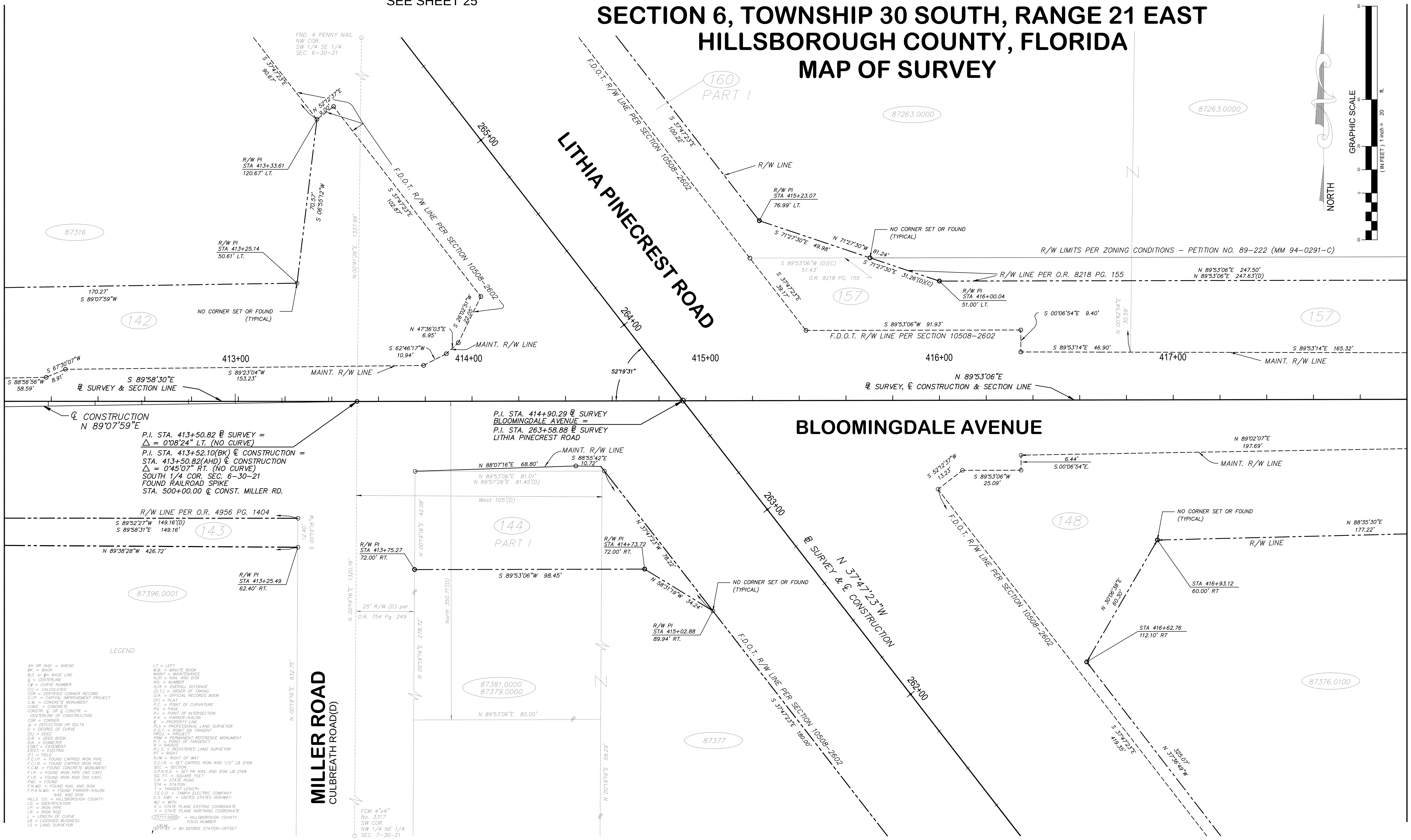
LYING WITHIN the following metes and bounds description:

Commence at the Northwest corner of the Northwest 1/4 of Section 24, Township 28 South, Range 17 East, Hillsborough County, Florida; thence S.89°19'46"E. along the North boundary of said Northwest 1/4, a distance of 239.42 feet; thence leaving said line, S.00°45'50"W., a distance of 119.00 feet to the POINT OF BEGINNING; thence S.00°45'50"W., a distance of 10.42 feet to the Northerly right of way line of C.S.X. Transportation, Inc. (formally Seaboard Coastline Railroad) and a non-tangent curve concave Northerly and having a radius of 1,095.65 feet; thence Westerly along said curve, 41.61 feet through a central angle of 02°10'33"(chord bearing N.74°49'33"W., a chord distance of 41.61 feet); thence non-tangent leaving said right of way line, S.89°19'46"E., a distance of 40.30 feet to the POINT OF BEGINNING.

Containing 215 square feet more or less.

_____ (Surveyors Signature)
Prepared by:
Surveyors Name and PSM #
Company Name
Company Address and Phone #

BLOOMINGDALE AVENUE
SECTION 6, TOWNSHIP 30 SOUTH, RANGE 21 EAST
HILLSBOROUGH COUNTY, FLORIDA
MAP OF SURVEY


SEE SHEET 25
SEE SHEET 26
STA. 412+00.00 MATCH LINE SEE SHEET 17
STA. 418+00.00 MATCH LINE SEE SHEET 19
LITHIA PINECREST ROAD
BLOOMINGDALE AVENUE
MILLER ROAD
CULBREATH ROAD(D)
GRAPHIC SCALE
(IN FEET) 1 inch = 20 ft.
NORTH
LEGEND
265+00
264+00
263+00
262+00
413+00
414+00
415+00
416+00
417+00
℗ SURVEY & SECTION LINE
S 89°58'30"E
℄ CONSTRUCTION
N 89°07'59"E
N 89°53'06"E
℗ SURVEY, ℄ CONSTRUCTION & SECTION LINE
P.I. STA. 414+90.29 ℗ SURVEY
BLOOMINGDALE AVENUE =
P.I. STA. 263+58.88 ℗ SURVEY
LITHIA PINECREST ROAD
P.I. STA. 413+50.82 ℗ SURVEY =
△ = 0°08'24" LT. (NO CURVE)
P.I. STA. 413+52.10(BK) ℄ CONSTRUCTION =
STA. 413+50.82(AHD) ℄ CONSTRUCTION
△ = 0°45'07" RT. (NO CURVE)
SOUTH 1/4 COR. SEC. 6-30-21
FOUND RAILROAD SPIKE
STA. 500+00.00 ℄ CONST. MILLER RD.
℗ SURVEY & ℄ CONSTRUCTION
N 37°47'23"W
R/W LIMITS PER ZONING CONDITIONS – PETITION NO. 89-222 (MM 94-0291-C)
R/W LINE PER O.R. 8218 PG. 155
R/W LINE PER O.R. 4956 PG. 1404
F.D.O.T. R/W LINE PER SECTION 10508-2602
MAINT. R/W LINE
R/W LINE
NO CORNER SET OR FOUND (TYPICAL)
R/W PI STA 413+33.61 120.67' LT.
R/W PI STA 413+25.14 50.61' LT.
R/W PI STA 415+23.07 76.99' LT.
R/W PI STA 416+00.04 51.00' LT.
R/W PI STA 413+75.27 72.00' RT.
R/W PI STA 414+73.72 72.00' RT.
R/W PI STA 413+25.49 62.40' RT.
R/W PI STA 415+02.88 89.94' RT.
STA 416+93.12 60.00' RT
STA 416+62.76 112.10' RT
FND. 4 PENNY NAIL NW COR. SW 1/4 SE 1/4 SEC. 6-30-21
FCM 4"x4" No. 3317 SW COR. NW 1/4 NE 1/4 SEC. 7-30-21
25' R/W (D) per O.R. 754 Pg. 249
West 105'(D)
160 PART I
144 PART I
142
143
148
157
87263.0000
87316
87396.0001
87381.0000
87379.0000
87377
87376.0100

The Survey depicted here is not covered by professional liability insurance. Additions or deletions to survey maps or reports by other than the signing parties is prohibited without written consent of the signing party or parties.

NO.	DATE	REVISIONS DESCRIPTION	APP'D

PREPARED BY:
FIRM NAME/ADDRESS/PHONE/ETC.

Hillsborough County Florida

REAL ESTATE & FACILITIES SERVICES DEPARTMENT
GEOMATICS SECTION, SURVEY & MAPPING TEAM
601 E. Kennedy Blvd., 23rd Floor Tampa, Florida 33602
Phone: (813) 272-5810 Fax: (813) 272-6459
www.hillsboroughcounty.org

BLOOMINGDALE RIGHT OF WAY
BOUNDARY SURVEY

DRAWN BY:	DRAFTSMAN
CHECKED BY:	CHECKEDBY
APPROVED BY:	APPDBY

SEC.	TWP.	RNG.
6	30	21

SURVEY DIVISION PROJECT No.
F##-####

October 23, 20##

94-126-R
Bloomingdale Avenue
Bell Shoals-Lithia
Road Right Of Way
Parcel 135
SEC.7, TWP 30S, RGE 21E

Schedule "A"

THAT PART OF:

Parcel I:
The North 417.7 feet of the West 1/4 of the NW 1/4 of the NW 1/4 of Section 7, Township 30 South, Range 21 East, Hillsborough County, Florida, LESS the East 50 feet thereof for road right of way AND LESS the North 360 feet of the West 60 feet thereof.

Parcel II:
The North 360 feet of the West 60 feet of the West 1/4 of the NW 1/4 of the NW 1/4 of Section 7, Township 30 South, Range 21 East, Hillsborough County, Florida.

Lying within the following metes and bounds description:

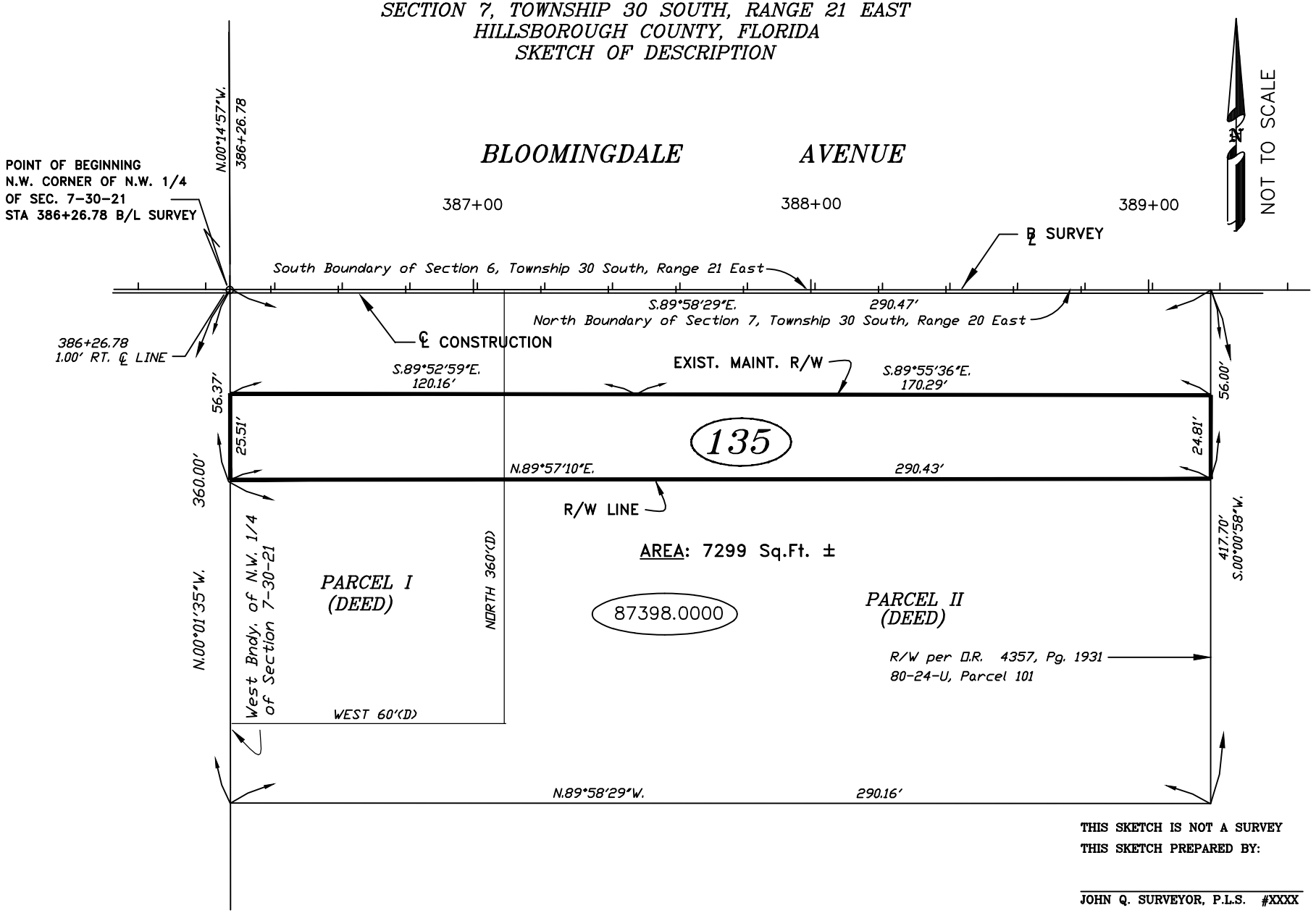
Commence at the Northwest corner of the Northwest One-Quarter of aforesaid Section 7, for the Point Of Beginning; thence on the Northerly boundary thereof, S.89°58'29"E., a distance of 290.47 feet; thence S.00°00'58"W., a distance of 56.00 feet; thence S.89°57'10"W., a distance of 290.43 feet, to the Westerly boundary of the aforesaid Northwest One-Quarter of Section 7;
thence on said Westerly boundary, N.00°01'35"W., a distance of 56.37 feet, to the Point Of Beginning.

Less maintained right of way for Bloomingdale Avenue.

Containing 7299 square feet of land, more or less.

_____ (Surveyors Signature)
Prepared by:
Surveyors Name and PSM #
Company Name
Company Address and Phone #

SECTION 7, TOWNSHIP 30 SOUTH, RANGE 21 EAST
HILLSBOROUGH COUNTY, FLORIDA
SKETCH OF DESCRIPTION



THIS SKETCH IS NOT A SURVEY
THIS SKETCH PREPARED BY:

JOHN Q. SURVEYOR, P.L.S. #XXXX

REVISIONS				PROJ. NO. 94-126-R
				CIP No. 61122
				DRAWN BY: D. NGUYEN
NO.	DATE	DESCRIPTION	APPV'D.	DATE: MM/DD/YY

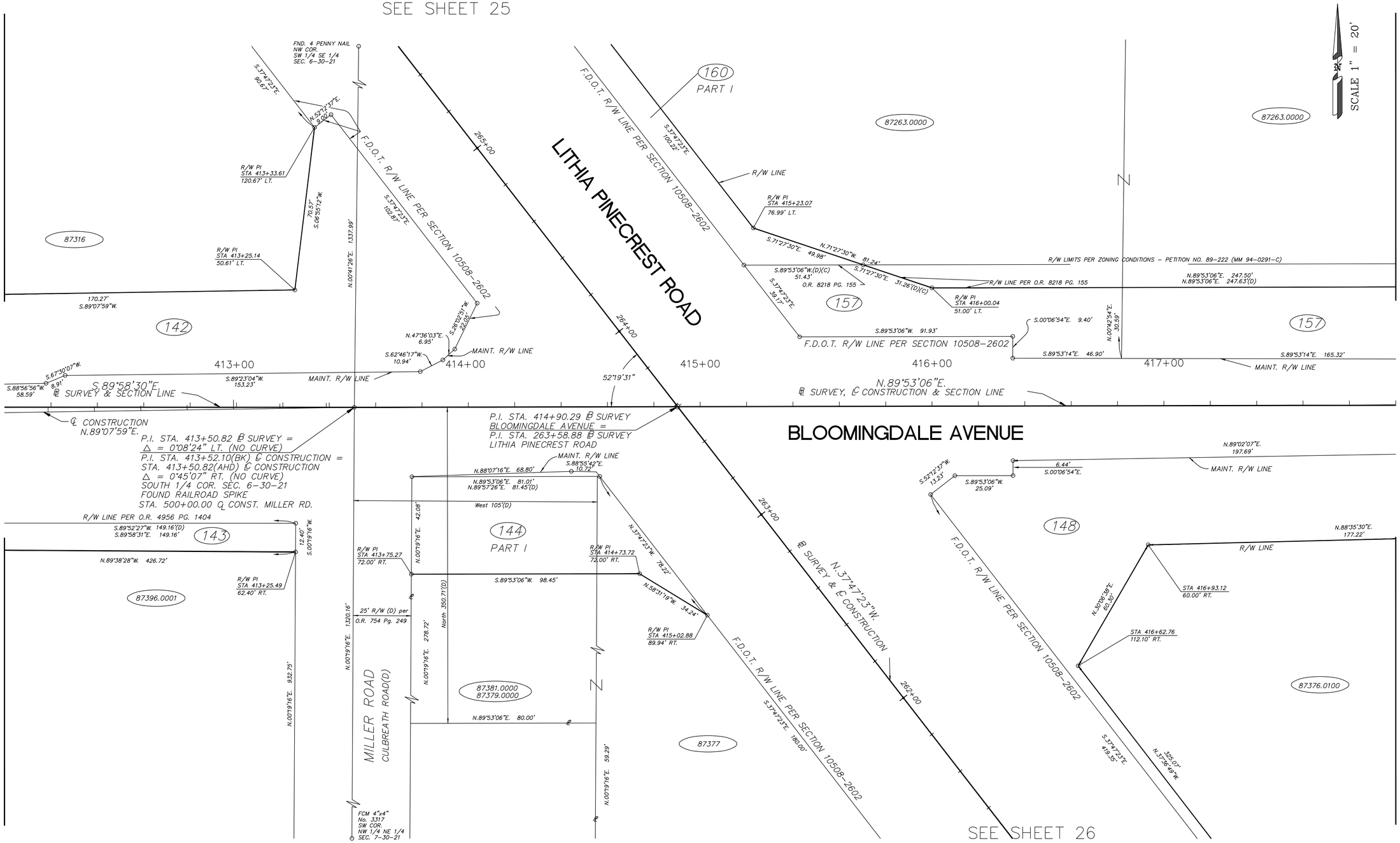
Hillsborough County Florida

REAL ESTATE & FACILITIES SERVICES DEPARTMENT
GEOMATICS SECTION, SURVEY & MAPPING TEAM
601 E. Kennedy Blvd., 23rd Floor, Tampa, Florida 33602
Phone: (813) 272-5810 Fax: (813) 272-6459
www.hillsboroughcounty.org

BLOOMINGDALE AVENUE (BELL SHOALS TO LITHIA) PARCEL 135

SHEET 1 OF 1

SEE SHEET 25



REVISIONS			
NO.	DATE	DESCRIPTION	APPROVED

PREPARED BY:

Hillsborough County Florida

REAL ESTATE & FACILITIES SERVICES DEPARTMENT
GEOMATICS SECTION, SURVEY & MAPPING TEAM
601 E. Kennedy Blvd., 23rd Floor Tampa, Florida 33602
Phone: (813) 272-5810 Fax: (813) 272-6459
www.hillsboroughcounty.org

	NAME	DATE
DRAWN BY:		
CHECKED BY:		
CIP NO.	61122	
SCALE:	1" = 20'	

BLOOMINGDALE AVENUE

RIGHT OF WAY MAPS

PROJECT NO.	SHEET NO.
94-126-R	18

LINE STYLES

BL (BASELINE) (THIS IS A CUSTOM LINE STYLE TO BE MADE BY THE USER FOR NOW)

BLDG (CONTINUOUS)

ESMT (EASEMENT)

ESMT PROP (EASEMENT)

FENCES (THIS IS A CUSTOM LINE STYLE TO BE MADE BY THE USER FOR NOW)

LARW (THIS IS A CUSTOM LINE STYLE TO BE MADE BY THE USER FOR NOW)

MAINTRW (EXISTRW)

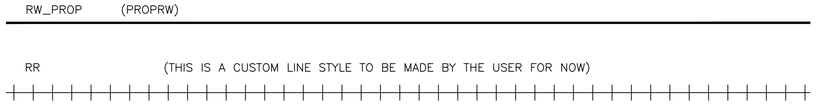
PL (PROP LINE) (THIS IS A CUSTOM LINE STYLE TO BE MADE BY THE USER FOR NOW)

RW_EXIST (EXISTRW)

SEC_LINE (SECTION)

RW_PROP (PROPRW)

RR (THIS IS A CUSTOM LINE STYLE TO BE MADE BY THE USER FOR NOW)



REVISIONS			
NO.	DATE	DESCRIPTION	APPROVED

PREPARED BY:

NAME OF FIRM
ADDRESS/PHONE/ETC.

Hillsborough County Florida

REAL ESTATE & FACILITIES SERVICES DEPARTMENT
GEOMATICS SECTION, SURVEY & MAPPING TEAM

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	NAME	DATE
DRAWN BY:		
CHECKED BY:		
CIP NO.		
SCALE:	1" = 20'	

PROJECT NAME

RIGHT OF WAY MAP

PROJECT NO.	SHEET NO.
20##-###-R CIP NO. ######	1 OF 1

CIP/CIT PROJECT NO: 00000
SURVEY DIVISION PROJECT NO. 000000

Hillsborough County
Florida

LEGEND

AND ANY OTHER ABBREVIATIONS USED MTS# 61G17-6.003(2)I
B/L or ℄= BASE LINE
℄ = CENTERLINE
CONSTR. ℄ OR ℄ CONSTR. =
CENTERLINE OF CONSTRUCTION
EXIST. = EXISTING
(F) = FIELD
LS = LAND SURVEYOR
LT = LEFT
NO. = NUMBER
O/A = OVERALL DISTANCE
℘ = PROPERTY LINE
PLS = PROFESSIONAL LAND SURVEYOR
P.O.T. = POINT ON TANGENT
PROJ. = PROJECT
R = RADIUS
R.L.S. = REGISTERED LAND SURVEYOR
RT = RIGHT
R/W = RIGHT OF WAY
SEC. = SECTION
SQ. FT. = SQUARE FEET
S.R. = STATE ROAD
STA = STATION
U.S. HWY. = UNITED STATES HIGHWAY
SECTION NUMBER 1

Move to Top

LINETYPES

PROJECT LIMITS
ROAD CENTERLINE (TYPICAL)
SECTION LINES

INDEX OF PLANS

SHEET NO.	SHEET DESCRIPTION
1	COVER SHEET
2 - 3	KEY MAP
4 -28	RIGHT OF WAY DETAIL SHEETS
29	TABLE OF OWNERSHIP

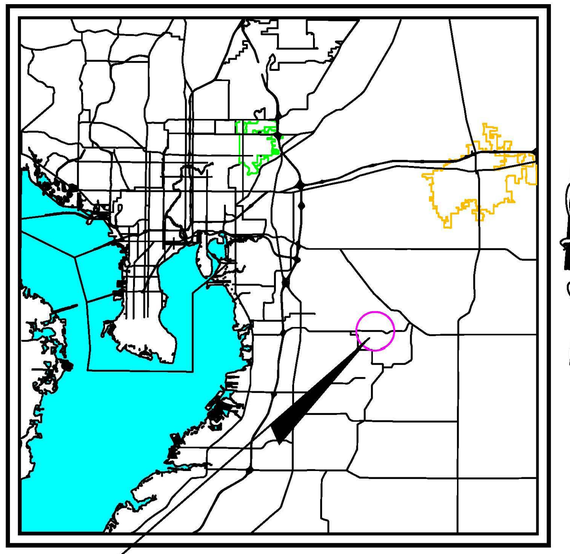
DATE ISSUED	SHEET REVISION NOTES
NOVEMBER 14, 1996	
FEBRUARY 7, 1997	
FEBRUARY 14, 1997	
NOVEMBER 14, 1996	
APRIL 25, 1997	
MAY 7, 1997	
JULY 9, 1997	
JANUARY 16, 1998	
FEBRUARY 18, 1998	
APRIL 7, 1998	
JULY 21, 1998	

SECTION 1 , 12 ,TOWNSHIP 30 SOUTH,RANGE 20 EAST
HILLSBOROUGH COUNTY ,FL

BLOOMINGDALE AVENUE

BELL SHOALS RD.TO LITHIA PINECREST RD.

(EXISTING OR PROPOSED) RIGHT OF WAY MAP OF SURVEY

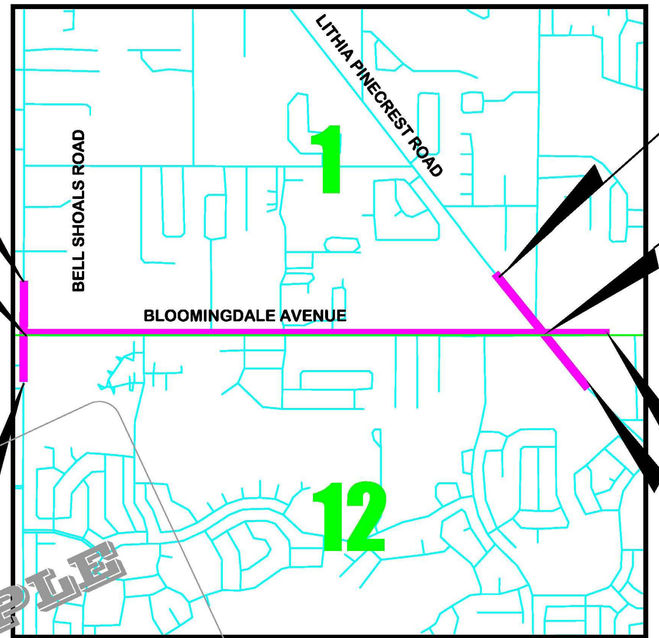


VICINITY MAP

PROJECT LOCATION

END PROJECT
(BELL SHOALS)
STA. 36+30 ℄ SURVEY

BEGIN PROJECT
(BLOOMINGDALE)
STA. 332+78.04 ℄ SURVEY



END PROJECT
(LITHIA PINECREST)
STA. 274+00 ℄ SURVEY

STATION EQUATION:
STA. 414+90.29 ℄ AND ℄
BLOOMINGDALE AVE.
STA. 263+59.14 ℄ AND ℄
LITHIA PINCREST RD.

END PROJECT
(BLOOMINGDALE)
STA. 424+40 ℄ SURVEY

BEGIN PROJECT
(LITHIA PINECREST)
STA. 253+60 ℄ SURVEY

BEGIN PROJECT
(BELL SHOALS)
STA. 22+42 ℄ SURVEY

EXAMPLE

LOCATION MAP

BOARD OF COUNTY COMMISSIONERS

JIM NORMAN	CHAIRMAN
KEN HAGAN	VICE - CHAIRMAN
THOMAS SCOTT	COMMISSIONER
RONDA STORMS	COMMISSIONER
BRIAN BLAIR	COMMISSIONER
MARK SHARPE	COMMISSIONER
KATHY CASTOR	COMMISSIONER

This set of Plans/ Maps have been reviewed and accepted by the Hillsborough County, Real Estate Department, Survey Division.

By :_____ Date : _____

I Hereby certify that these right of way maps prepared under my direct supervision meet the minimum requirements as set forth in chapter 21-HH-06 florida administrative code division.

_____
Johnathan Kent Doe
Professional Surveyor & Mapper
Florida Certificate N0.XXXX

NO.	DATE	REVISIONS DESCRIPTION	APP'D

Real Estate and Facilities Services Department
Geomatics Section, Survey & Mapping Team
601 E. Kennedy Blvd., 23rd Floor Tampa, Fl. 33602
v: (813) 307-4755 f. (813) 272-6459
www.hillsboroughcounty.org

MAP OF RIGHT OF WAY
ROUTE OF SURVEY

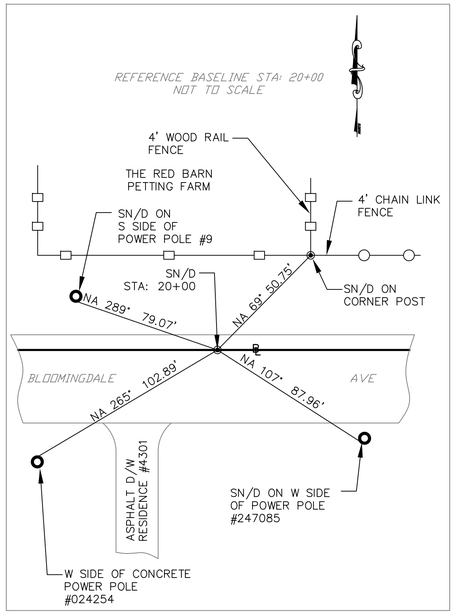
DRAWN BY:		SURVEY DIVISION PROJECT No.
CHECKED BY:		0000
		SHEET NO.
		00 OF 00

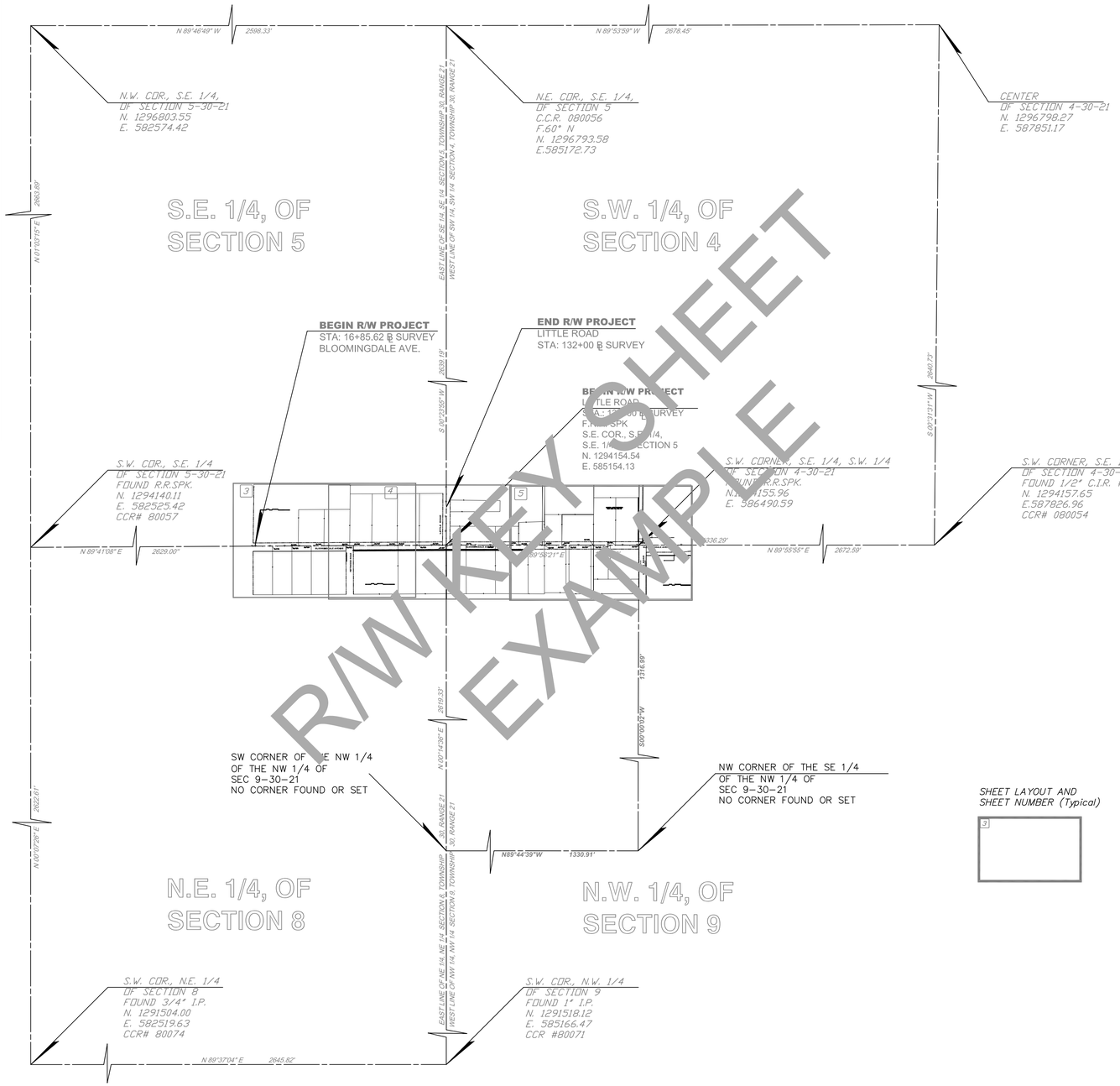
drawing name, Survey Request/Project No.

CIP/CIT PROJECT NO:
SURVEY PROJECT NO. FX-XXXX

Sections 4, 5, 8 and 9 Township 30 South, Range 21 East, Hillsborough County, Florida

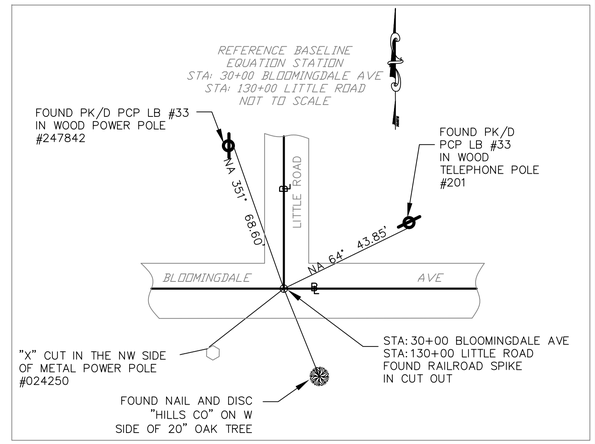
KEY MAP
BLOOMINGDALE AVENUE and LITTLE ROAD

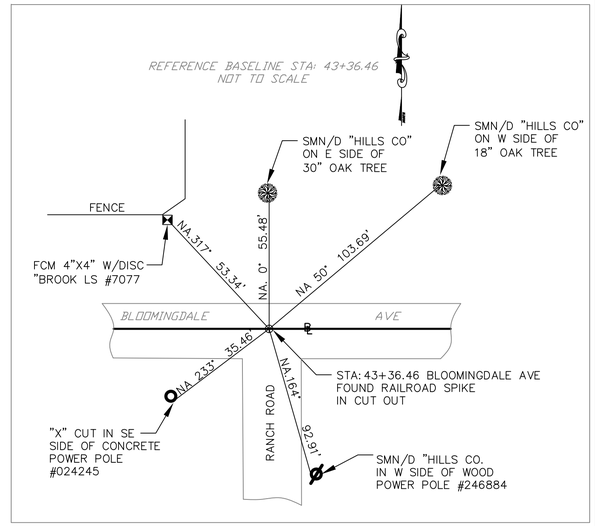


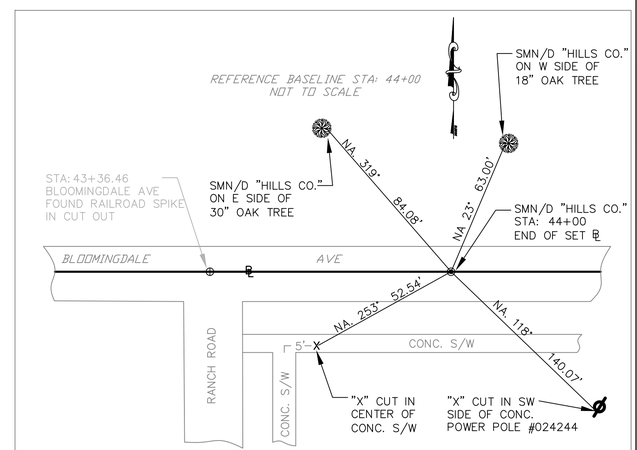


SHEET LAYOUT AND SHEET NUMBER (Typical)

3







NO.	DATE	REVISIONS DESCRIPTION	APP'D

COMPANY NAME, ADDRESS, PROJECT SURVEYOR

Hillsborough County Florida

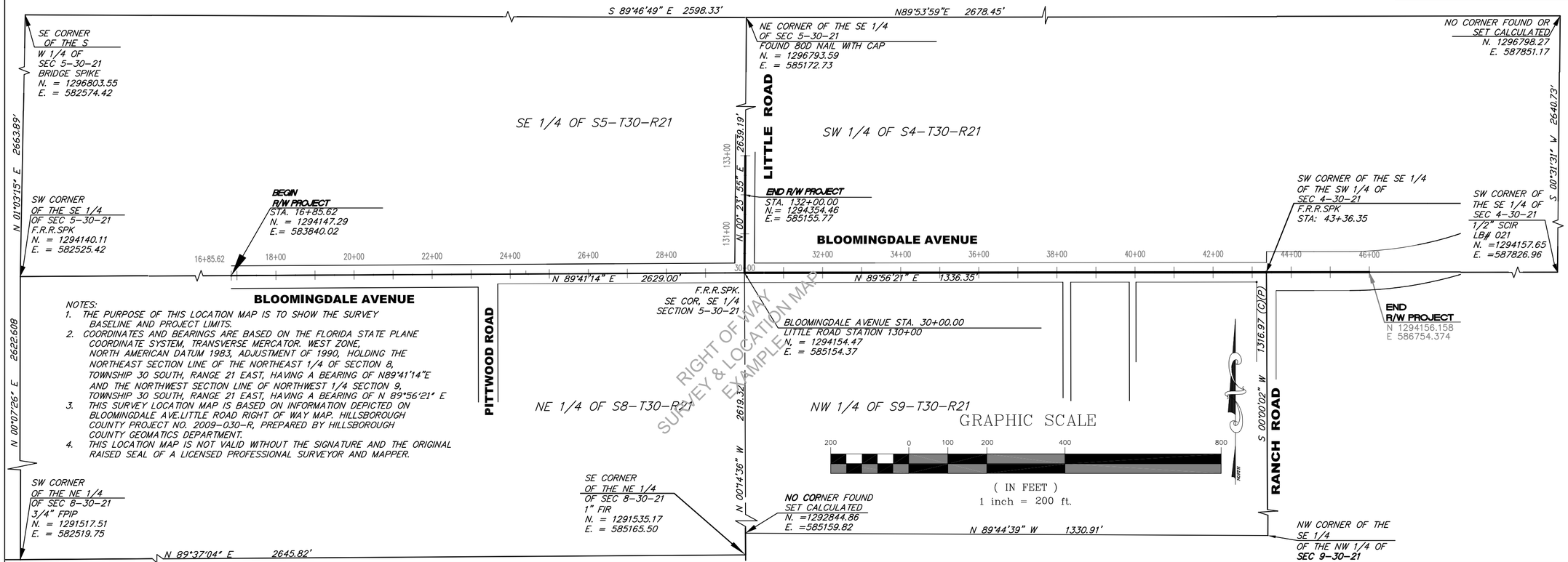
REAL ESTATE and FACILITIES SERVICES DEPARTMENT
GEOMATICS SECTION, SURVEY & MAPPING TEAM
601 E. Kennedy Blvd., 23st Floor Tampa, Fla. 33602
Phone: (813) 307-4755 Fax: (813) 272-6459
www.Hillsboroughcounty.org

BLOOMINGDALE AVENUE AND LITTLE ROAD
EXISTING RIGHT of WAY MAP
for INTERSECTION IMPROVEMENTS

DRAWN BY:	NAME		SURVEY DIVISION PROJECT No. FXX-XXXXX
CHECKED BY:	NAME		
APPROVED BY:	PSM NAME		SHEET NO. 2 OF 5
5	30	21	FIELD BOOK NO. C-XXXX
SEC	TWP	RNG	

Sections 4,5,8,9, Township 30 South, Range 21 East, Hillsborough County, Florida

CIP/CIT PROJECT NO: 000000.0000
SURVEY PROJECT NO. FXX-0000



FILED FOR RECORD IN THE OFFICE OF THE CLERK OF THE CIRCUIT COURT FOR THE COUNTY OF HILLSBOROUGH, STATE OF FLORIDA IN MAP BOOK _____ PAGE _____ ON THE _____ DAY OF _____ A.D. 2006
. TIME: _____ RECORDED : _____

CLERK OF THE CIRCUIT COURT OF HILLSBOROUGH COUNTY FLORIDA
BY : _____ D.C.

I HEREBY CERTIFY THAT THE SURVEY & LOCATION MAP SHOWN HEREON MEETS THE REQUIREMENTS AS SET FORTH BY CHAPTER FJ-17, FLORIDA ADMINISTRATIVE CODE.

JAMES T. SURVEYOR , P.S.&M XXXX DATE

THIS IS A SKETCH BASED ON A RIGHT OF WAY SURVEY
PERFORMED BY HILLSBOROUGH COUNTY ON 11/27/09 FOR HILLSBOROUGH COUNTY

I, MICHAEL WILLIAMS, P.E. AS COUNTY ENGINEER FOR THE COUNTY OF HILLSBOROUGH, STATE OF FLORIDA. DO HEREBY CERTIFY THAT THIS MAP IS THE OFFICAL MAP OF SURVEY AND LOCATION OF: BLOOMINGDALE AVENUE & LITTLE ROAD. HILLSBOROUGH COUNTY.
PROJECT NO.69600.236 IN THE SEC.(S) 4,5,8,9 TOWNSHIP(S) 30 RANGE(S) 21 HILLSBOROUGH COUNTY FLORIDA
I HAVE RETAINED COPIES OF THE ORIGINAL DOCUMENT AND AM NOT RESPONSIBLE FOR ANY CHANGES MADE TO THE ORIGINAL DOCUMENT.

COUNTY ENGINEER
PUBLIC WORKS DEPARTMENT

NO.	DATE	REVISIONS DESCRIPTION	APP'D

COMPANY NAME, ADDRESS, PROJECT SURVEYOR

Hillsborough County Florida

REAL ESTATE and FACILITIES SERVICES DEPARTMENT
GEOMATICS SECTION, SURVEY & MAPPING TEAM
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SURVEY AND LOCATION MAP

BLOOMINGDALE AVENUE
AND
LITTLE ROAD

PROJECT No. 69600.236

DATE: 10 / 4 / 10

CIP/CIT PROJECT NO:
SURVEY PROJECT NO.

TABLE OF OWNERSHIPS

PARCEL NO.	SHEET NO.	NAME	AREA TAKEN	COMMENTS	ACQUISITION DATA	
					O.R. PG.	SUIT NO.

PARCEL NO.	SHEET NO.	NAME	AREA TAKEN	COMMENTS	ACQUISITION DATA	
					O.R. PG.	SUIT NO.

NO.	DATE	REVISIONS DESCRIPTION	APP'D

COMPANY INFORMATION & ADDRESS

Hillsborough County
Florida

REAL ESTATE and FACILITIES SERVICES DEPARTMENT
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601 E. Kennedy Blvd., 23rd Floor Tampa, Fla. 33602
Phone: (813) 307-4755 Fax: (813) 272-6459
www.Hillsboroughcounty.org

PROJECT NAME
TYPE OF SURVEY

DRAWN BY:
CHECKED BY:
APPROVED BY:
SEC: TWP: RNG:

SURVEY DIVISION PROJECT No.
SHEET NO. OF
FIELD BOOK#