Group Level	Skill Number	Skill	Complement Per Office	Prerequisites	Duties	Rank	Training	Measurements
Field Core	**2LS1**	**Property Research and Reconnaisance Level I** (Less Complex, single-tract, well documented property divisions)	All	8LS6	Court House/Tax Office research and field reconnaisance applications working with less complex property research (platted urban subdivisions), including retrieval of plats and tax maps, ability to evaluate simple deeds for correct location of property. Field property reconnaisance (Field only)	3	Min. 6 months OJT using Mentor with standardized guidelines to be developed.	Supervisor review/observation with standardized checklist. Test with 90% correct.Test to include terminology, analyzing deeds,reconaisance of field data,what are various sources of public records, clerk of court, etc.
PDC Core	**2LS2**	**Property Research Level I (**Less Complex, single-tract, well documented property divisions**)**	All	8LS6	Property research working with less complex property (platted urban subdivisions), including internet retrieval of deeds, plats and tax maps, ability to evaluate simple deeds to ensure correct parcel plotted; ability to evaluate Title Search to ensure correct ownership of property	3	Min. 6 months OJT using Mentor with standardized guidelines to be developed.	Supervisor review/observation with standardized checklist. Test with 90% correct.Test to include terminology, analyzing deeds,analyzing of Title Search,what are various sources of public records, clerk of court, etc.
Field Core	**2LS3**	**Level 1 Survey Total Station Instrument Operation** (includes Field Data Collection and Stake-out: Construction and Route Location applications)	All	8LS5	Survey tools such as transits, levels, and introduction to total stations with data collectors/ field computers, including care and maintenance of equipment, use of levels and total stations in less complex survey operations such as traversing	3	Min. 6 months OJT using Mentor with standardized guidelines to be developed.	Successful completion of checklist to include familiarilty with how to operate the basic instrument features, (i.e turn angles, shoot distances, sighting targets, modes of instrument operation and data collector, PPM's/Check Calibration, setting various program settings, adjust tribachs, collimation, ATR, etc). Accuracy and closure will not be a measurable issue at this level.
Field Core	**2LS4**	**Level 2 Survey Total Station Instrument Operation** (includes Field Data Collection and Stake-out: Construction and Route Location applications)	All	2LS3	Use of data collectors and total stations/transits in field topo/dtm collection and construction stake-out. This Skill involves more complex use of data collectors in field survey operations.	3	Min. 6 months OJT with Level 1 Instrument Operation as a prerequisite using Mentor with standardized guidelines	Technician will compile a portfolio of minimum of 6 projects (to include 2 level loops, 2 DTM's, 1 staking of CL alignment, 1 Topo/planimetric data collection) of satisfactory completion of instrument operation and data collection. Test Site (Checklist to include applications of traverses, level loops, data collection of planimetric features and DTM's, stakeout of predetermined points). Accuracy, procedures, time, and closure will be a measurable issue at this level.

Field Core	**2LS5**	**Photogrammetric Ground Support Level I** (Paneling/ Simple Photo Classification)	All	8LS5	Includes leading other technicians in photo classification for less complex projects, setting panels according to defined specifications using GPS, locating obscured planimetrics,	3	Min.12 months OJT using Mentor with standardized "Quick Classification Guidelines" including "Classification manual" and "Plan Sheet Symbology manual." Attend "Introduction to Photogrammetry." (A NCDOT Course identified in "Training Proposal for Spatial Information Engineering Technical Training" to be developed)	Successful completion of "Introduction to Photogrammetry." (A NCDOT Course to be developed). Satisfactory compile and complete a min. of 2 medium density projects. No less than 8 sheets total and one bridge project. Photos to be reviewed and checked by advanced level technician using a standardized checklist. Test on symbology and abbreviations with 90% correct. Supervisor review/observation with standardized checklist
Field Core	**2LS6**	**Level 1 GPS RTK Survey Operation**	All	8LS5, 2LS4	Independant Operation of GPS equipment in RTK mode for topographic/planimetric data collection, under supervision of higher level technician	3	Basic GPS Field Procedures (to be developed) Require J1-3 Survey Total Station Insrument Operation as prerequisite Min.6 months to include at least one panel season of OJT using Mentor with standardized guidelines.	Technician will compile a portfolio of minimum of 3 projects of satisfactory completion of instrument operation and data collection. Test Site (Checklist to include applications of locating pre-determined points (navigation), data collection of planimetric features, and stakeout of predetermined points). Accuracy, procedures, time, and closure will be a measurable issue at this level.
PDC Core Field AO	**2LS7**	**Level 2 Computer Usage** (Download/Edit electronic data files)	All	8LS6	Downloading and editing data from survey data collectors, in-house data files, GIS or CADD files.	3	Level I Computer Usage as a prerequisite. Advanced level Computer classes (COM 300 - Microsoft Word '97 Level I and COM 235 - Micorosft Excel '97 Level I	Technician will compile a portfolio of 5 acceptable examples as outlined in a standard checklist. Successfully download 5 datasets from a data collector to the appropriate directory location within a 6 month duration (Field only). Successful completion of required classes.
PDC Core Field AO	**2LS8**	**Level 1 CADD** (Microstation)	All	8LS6	CADD - Initial Microstation Applications as related to survey mapping, including use of SMD databases and NCMAP	3	Successful completion of Microstation Essentials I & II (Com 126 & 127) Minimum 6 months OJT in downloading datasets using Mentor with standardized guidelines.	Successful completion of required classes. Technician will compile a portfolio of 5 design files demonstrating Microstation Essentials relative to Unit Specific Policies and Procedures (NCMAP) utilizing checklist and supervisor's observation.

PDC Core Field AO	**2LS9**	**Level 2 CADD** (Basic Geopak Applications)	All	2LS8	GeoPak Basic & Survey Applications	3	Level I CADD - Microstation Applications as a prerequisite. Successful completion of Basic Geopak (Com 192). Successful completion of Geopak Survey (Com 195). Min. 6 months OJT using Mentor w/ standardized guidelines	Technician will compile a portfolio of 5 design files demonstrating Geopak Basic and Survey applications relative to Unit Specific Policies and Procedures utilizing checklist and supervisor's observation. Successful completion of required classes. Successful completion of "Introduction to Survey Office Procedures." (A NCDOT Course identified to be developed)
PDC Core	**2LS10**	**Right Of Way Acquisition Mapping**	All	2LS9	Development of basic R/W acquisition mapping to aid R/W Branch in property acquisition, through alteration/enhancement of previously prepared mapping	3	12 months OJT using mentor with PSD Checklist	Successful completion of 5 R/W acquisition maps within 12 months
Field AO	**2LS11**	**Level 1 Supervision/Lead Worker**	All	8LS3, 2LS1, 2LS4, 2LS5	Basic Survey Team Task Leader, including performing as survey team leader for less complex survey tasks such as running levels, property recon in subdivisions	4	Min. 1 year OJT utilizing supervisor's skills Team Building (ADM 670), Dealing w/ Workplace Violence (ADM 657), Dealing w/ Conflict (ADM 660), Dealing w/ Public (ADM 675)	Exemplifiy good judgement in leadingsurvey crew in completion of 12 less complex survey tasks, including-paneling tasks,-planimetric tasks,-level collection tasks, and-utility collection tasks (above ground utilities). Evaluation Form should include timeliness, quality, and quantity as identified by supervisor. Successful completion of required classes.
Field AO	**2LS12**	**Level 3 Survey Instrument Operation** (Survey Control Traverses and Right of Way Monumentation)	All	2LS4, 2LS6	Includes procedures for highly accurate point location/stake-out, such as geodetic surveys or property monumentation using ATR and static GPS	3	Min. 6 months OJT with Level 1 & 2 Survey Instrument Operation as a prerequisite using Mentor with standardized guidelines	Technician will compile a portfolio of minimum of 6 projects (to include 3 complex baseline control traverses and 3 exisiting property corner location projects) and a R/W staking project (min. of 100 total R/W monuments set) of satisfactory completion of instrument operation and data collection. Completion of Field Survey Test Site (Checklist to include applications of control traverses, setting predetermined points from a set of coordinates, and location of exisitng points). Accuracy, precision, procedures, and time are measurable issues at this level.