

Lucas Batten

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EDUCATION

UNIVERSITY OF MASSACHUSETTS AMHERST

2002 - 2006

- Obtained a Bachelor of Science degree specializing in Plant Soil and Insect Sciences.
- Studied under the 'business option' that is 70% plant and soil related classes, and 30% business related classes.
- Primary course focus on Turf Management with several other plant specific courses including plant biology/physiology, entomology, hydroponics, technical writing, plant propagation, and plant pathology.
- Studied courses in the Eisenberg School of Management, which included business management, human resources management, accounting, statistics, economics, and marketing.

EXPERT WITNESS CASE HISTORY

SURF SHACK BUILDERS/NIRAAM v. FLORIDA DEPARTMENT OF HEALTH

2025

- **Case is ongoing, details to be provided upon resolution.**
- Performed extensive file review, written opinions, deposition, and witness testimony and cross examination.

HAPPY VALLEY MA v. SMART GROW PROS/JODY VUKAS

2025

- Served as an expert witness in a counter lawsuit dispute between a cultivation facility operator in MA and a former consultant in charge of equipment designs and facility operations (on behalf of the plaintiff).
- Performed detailed file review on all communications, consulting contract, invoices and equipment selections/designs.
- Performed a site visit to assess the cultivation facility operations, SOPs, equipment and overall designs.
- Provided initial opinions and detailed deposition questions to the legal team.
- The case was settled prior to going to trial.

LIVWELL v. SYBAZZ ARCHITECTS, BECR ENGINEERING, GENTECH

2022

- Served as a cultivation expert in a lawsuit dispute between a cultivation facility operator in MI and the architectural, engineering, and equipment supplier for HVAC systems and a co-gen power facility (representing the defendants).
- Performed detailed file review on communications, contracts, invoices and equipment selections and plaintiff's expert witness reports.
- Performed a site visit to assess the 100,000 ft² cultivation facility operations, equipment, as well as review of the 20,000 ft² two story co-gen power producing facility that provided all the power to the cultivation facility.
- Provided an expert report with opinions that refuted damages for claims regarding:
 - Architectural and engineering design processes and owner involvement regarding decision making and collaboration on the design and construction process.
 - Equipment designs and selection process.

- Yield losses due to design errors/omissions, equipment selections.
- Yield losses due to startup issues with the co-gen facility and ability to power the full facility in relation to grow room startup and ramp up.
- Rebuttals to plaintiff's expert witness reports that provided faulty information, inaccurate graphs/charts, biased opinions, and incorrect assessments.
- Performed deposition prep with defendant's attorneys, however the case was settled prior to going to court.

PTS v. MASS MEDICUM

2021

- Served as an expert witness in a lawsuit dispute between a cultivation facility operator in MA and the former owner between a management/license transfer dispute (on behalf of the plaintiff).
- Performed detailed file review on expert witness reports provided by the defendants.
- Provided multiple rebuttal expert reports to refute defendants claims regarding losses due to insect and pest infestations, crop losses, post harvest processes including the storage and curing, as well as the quality and test results of finished flower/biomass.
- After submitting rebuttal expert reports, two out of three of the defendant's experts withdrew from the case.
- Performed witness testimony and cross examination regarding my expert report on pest issues and associated crop losses, contributing to a positive outcome for the client.

WORK EXPERIENCE

BATTEN SOLUTIONS LLC

OCTOBER 2025-PRESENT

- Owner/sole proprietor of a cultivation consulting company offering customized solutions to new and existing businesses.
- Working with clients in multiple states assisting with all necessary planning work for cultivation including facility design, financial modeling and forecasting, equipment selections, equipment rebate options, strategies for scaling and/or downsizing to meet license sizing and budget requirements, as well as optimization of existing operations/facilities.
- Performing work and providing opinions as an expert witness in court cases that require an expert to weigh in on cultivation specific aspects of legal proceedings/arguments. Experienced with legal documentation and file review, expert reports, depositions, and witness testimony/cross examination.

BICKEL CONSULTING

MAY 2017-OCTOBER 2025

- Vice President of a cannabis cultivation consulting company based in Denver, CO and with experience on over 30 unique projects in 19 states in the US.
- Development and design of cultivation facilities and operational plans, proformas and financial models, SOP's and training manuals in coordination with each state's specific laws, client's preferred needs/methods.
- Worked directly architectural and engineering teams, local authorities, legal teams, and contractors to establish efficient, state of the art, compliant, and profitable licensed medical cannabis cultivation facilities.
- Work with architects, MEP engineers, General Contractors, and sub contractors on cultivation facility design, construction, and coordination with equipment vendors to align equipment specifications with design and build out.
- Offering solutions for existing cultivation facilities looking to expand their capacity, improve their processes and bottom line, and manage diseases/pests, increase yields, potencies, and overall facility efficiency.
- Work with business and legal teams on writing application language for merit based license applications for cannabis facilities.
- Full Project List for Bickel Consulting:

- **Sezby Seed (NY)** – Cultivation expert for design of a 30,000 ft² two story building in Astoria (Queens) NYC. Provided multiple layout options to maximize canopy allocation for license type and provide functional layouts. Also provided phased options and a proforma with CAP-EX, OP-EX and output assumptions.
- **Desert Horizons - (CA)** – Hired for oversight and optimization of an existing 12,000 ft² cultivation facility. Provided updated SOPs and best practices in cultivation and post harvest leading to 30-50% yield increases and substantial quality increases. Developed an in house data tracking spreadsheet to capture essential data and provide easy to report information on goals and KPI's.
- **White Lilly (NJ)** – Cultivation expert for a 2500 ft² flower canopy license. Provided concept layouts to optimize existing building and worked with design teams to develop plans and meet local code. Provided cultivation proforma with CAP-EX, OP-EX and output assumptions.
- **Bear River Cannabis (VA)**- Primary cultivation app language writer for a competitive application for one available license in VA. Provided concept layouts, proforma, and best in class cultivation language for all applicable application sections.
- **Fine Fettle (AL)** - Served as the cultivation subject matter expert for a competitive licensing application. Provided all SOPs and narrative sections on cultivation as well as facility design, including managing external contractors such as architect and engineering firms. Collaborated with architectural team to provide a GMP-ready, state-of-the-art facility layout and site plan to supplement the written application sections.
- **Cookies Production Co (NV, IL, PA)** – Served as a cultivation subject matter expert to assist Cookies with existing client partnerships, as well as vet properties and existing businesses for suitability for acquisition and/or buildout. Assisted with developing concept plans, proformas, and working with design professionals to create full designs and preliminary budgets. Worked with existing clients to optimize existing locations to increase output and quality.
- **Good Day Farms (AR, LA, MS, MO)** - Assisted Jeremy Schechter (former Bickel Co COO) in designing and optimizing several new facilities and retrofit of existing operations. Provided detailed review and analysis to confirm plans and projects were within budget and best in class.
- **Nirvana Cannabis (AZ)** – Provided facility optimization for 2 recreation cultivation facilities in Phoenix and Camp Verde, AZ. Assisted with genetic selection and performance, mother plant planning and scheduling, cloning and canopy management procedures, as well as detailed IPM practices to cull pests and eradicate root aphids and other insect pests.
- **Monko aka Pleasant Hill Wellness (Washington DC)** – Cultivation expert for the selection of a property to build a cultivation facility in Washington DC. Performed on site audits and provided detailed reports of 5 unique properties to properly advise client on pros/cons of each. Provided designs, layouts, and proformas for the most desirable options in order to give high level feedback of what each facility could produce.
- **Fine Fettle (GA)** – Principal cultivation expert for a competitive license application, providing proforma, conceptual designs, and best in class answers for all cultivation application sections. Fine Fettle was awarded the highest score for Tier 2 applicants during this application cycle (6 winners out of over 100 applicants). Went on to complete the full design, construction and startup of the 100,000 ft² indoor cultivation facility. Key features: state of the art equipment, cGMP and cGAP compliant facility, single tier with option to add second tier in the future, speed to market startup of cultivation rooms, additional warehouse space for future expansion. Started the facility by providing SOPs, equipment commissioning, and managing staff directly to ensure to first batches and harvests were successful and achieved yields producing 100g/ft² of flower.

- **Wholesome Co (UT)** - Hired to review current practices and a management services agreement operating in 20,000 ft2 of greenhouse in northern Utah. Updated SOPs and practices to match industry standards and current best practices. Simultaneously designed a 12,000 ft2 state of the art multi-tier indoor facility in Centerville, UT. Successfully designed, built, and started the facility with no major delays or budget issues in conjunction with design professionals and GC. Assisted with equipment commissioning, staffing of head cultivator; provided SOPs and startup documentation and ensured the first harvests were successful. Currently achieving yields of 100g/ft2 of flower.
- **Kelly's Green (MS)** - Primary cultivation expert in developing a ground up business with a retrofit of a 30,000 indoor cultivation facility. Provided designs and proforma for business planning, worked directly with design and build teams to ensure project was within budget and on schedule. Performed equipment commissioning and provided SOPs for cultivation and post harvest and trained managerial staff on SOPs and best practices. Implemented a speed to market start up by utilized prefabricated cultivation pods to grow first rounds as quickly as possible. Supplied facility with top tier genetics and performed large scale pheno-hunt to choose the best cultivars for clone production. State of the art facility with best in class equipment and cGMP/cGAP compliant designs.
- **Carpenter Farms (AR)** - Primary cultivation expert for a new cannabis facility for a ground up buildout of a 60,000 ft2 facility. Reworked existing designs to achieve much more optimized workflow, cGMP and cGAP compliant design achieving an increase of 20% more flower canopy within the same building footprint. Designed all equipment and worked with GC for a speed to market startup that initialized select areas of the facility during the buildout process. Provided SOPs and training to onsite staff who were primarily H2-B visa farm workers that worked the existing watermelon fields. Successful startup and harvests from the first round and beyond, providing best in class genetics and performing large scale pheno-hunt to choose the highest performing varieties for clone production.
- **Beleaf Medical, aka Sinse (MO)** - Hired as cultivation expert for design, buildout, startup and SOP implementation for the following facilities:
 - Earth City, MO - 20,000 ft2 facility, updated existing CBD infrastructure and SOPs to match industry standards and best practices
 - Jonesburg, MO - Completed and updated the design of a 30,000 ft2 facility and oversaw construction and startup of the facility. Also provided expansion plans to max out the 30,000 ft2 canopy license.
 - St. Louis, MO- Provided designs for start of the art multi-tier cultivation facility to maximize the 30,000 ft2 canopy license within the building shell. Implemented SOPs and best practices to successfully harvest from the first rounds, and provided expansion plans to build out the remaining areas to maximize the license canopy allocation.
- **Revival 98 (MO)** - Cultivation subject matter expert for a competitive license application. Provided best in class narratives for all cultivation application sections. Worked with design teams to create fully designed facility within a 35,000 ft2 warehouse to achieve maximum output, cGMP and cGAP compliance, and a phase approach to starting and expanding the facility into the full licensed canopy size.
- **Fine Fettle (MA)** - Primary cultivation expert for design, construction, startup, and optimization on the following projects:
 - Martha's Vineyard, MA - optimization and SOP update of existing indoor medical facility. Also designed and oversaw construction and startup of a state of the art expansion (2,000 ft2) with multi-tier racks and new equipment to maximize production within the building.



Assisted with genetic selections and optimization based on performance and qualitative results. Trained manager on SOPs, best practices, and helped navigate the challenges unique to the remote island location.

- Hinsdale, MA - Designed, built, and started up a 3 acre outdoor farm with 4 poly film greenhouses, and a 12,000 ft² ground up facility to serve as the head-house and processing facility for the outdoor canopy. Worked with team on location selection to get approval from local authorities, and provided detailed strategies for irrigation, crop cycling, and genetic selections by utilizing autoflower genetics to maximize output during the shorter growing season. Designed a state of the art irrigation and water treatment system to use a mixture of well water and a designated retention pond on site to ensure sufficient water capacity during peak season demand.
- **Ascend Wellness Holdings (MA, IL, PA, NJ, NY, OH, MI)** -Served as a cultivation matter expert on several projects providing a wide range of services (design, build, management, SOPs, optimization) on the following projects:
 - Athol, MA - Design, build, and startup of a 20,000 ft² state of the art indoor facility. Updated existing layouts and equipment to improve performance and optimize the facility. Provided SOPs and assistance with startup as well as site inspection from the CCC (state regulatory commission) to achieve license startup. Also worked with design teams to provide updated designs and proforma for a 50,000 ft² expansion.
 - Barry, IL - Updated exiting facility designs and SOPs of an 80,000 ft² indoor facility to meet industry best practices. Detailed overview and overhaul of genetics plan to switch from seed only production to pheno-hunting and clone production. Management of changes during the overhaul and successful implementation of harvest rotation, and assisted with managerial staff hiring. Also worked directly with design teams and equipment suppliers to complete a 50,000 ft² Nexus greenhouse facility and coordinate support space necessary to support this greenhouse and connect efficiently to existing indoor operations.
 - Lansing, MI - Updated design and layouts of a 20,000 ft² indoor facility. Oversaw construction, startup, and equipment implementation. Provided designs and proforma for an additional 20,000 ft² expansion facility. Provided additional operational support to ensure facility was optimized and running according to industry standards and best practices.
 - Monroe, OH - Provided SOPs and optimized cultivation practices for an existing Tier 2 medical cultivation facility. Worked with design teams to rework the facility to update equipment and maximize flowering canopy by utilizing multi-tier rack systems and utilization of existing space. Provided designs for a 10,000 ft² expansion facility in an adjacent warehouse.
 - Franklin, NJ -_Provided multiple design options for an existing 40,000 ft² indoor facility. The facility was operating one of the existing medical licenses within 10,000 ft² and had several other areas for expansion. Assisted with selecting the best design options and methods for expansion to minimize immediate CAP-EX and provide much needed flower production as quickly as possible. Also worked with design teams to draw up plans for a 3 story tall, 75,000 ft² state of the art indoor facility on a neighboring property.
 - Utica, NY - Provided designs for expansion of an existing license to expand maximize the facility from existing 20,000 ft² to a total size of 206,000 ft². Full state of the art, cGMP and cGAP compliant designs with equipment selections, proforma information and working with architectural team to create finished plans.

- Smithfield, PA - Assisted onsite staff and design teams with expansion of existing facility to capture and additional 20,000 ft² of canopy. Provided multiple design options, equipment layouts, and benching designs to reach to ultimate floorplan for maximized canopy and facility workflow as well as cGMP and cGAP compliance.
- **Growen (IL)** - Cultivation subject matter expert for a craft cannabis license. Provided best in class narratives for all relevant cultivation sections of the competitive application. Full design of an existing 10,000 ft² cultivation facility in Chicago, IL capturing 5,000 ft² of canopy to maximizing the license allocation for flower canopy. Provided full operation details and proforma to supplement narrative sections and facility designs.
- **Elevated (MA)** - Cultivation subject matter expert for the design of a 50,000 ft² indoor facility with expansion plans for up to 100,000 ft² in Clinton, MA. Worked with architect to ensure designs matched the existing facility and provided detailed information on equipment selections, as well as a proforma to layout cultivation operations and assumptions. Attended in person meetings, and on-site inspections with local councils to provide the required information to secure the license. Provided narratives for the cultivation sections of the MA required application.
- **Liberty Plant Sciences, aka Nuka Foods/1906 (NJ)** - Served as the cultivation subject matter expert for a competitive application in New Jersey. Provided best in class narratives for all relevant cultivation sections of the application. Assisted client with property selection by performing on site audits of multiple warehouse spaces. Provided designs and layouts for multiple facilities to determine which was best for the business, and supplemented with proforma to give key insights into operation data such as CAP-EX, OP-EX, and output assumptions.
- **Buckeye Relief (OH)** - Served as cultivation subject matter expert for a competitive license application. Provided best in class narratives for all relevant cultivation sections of the application. Buckeye Relief received the highest score of all applicants for a Tier 1 license type (out of 120 applicants). Worked directly on the design, build out, and startup of the brand new, state of the art cultivation facility. Provided SOPs and onsite training to all local staff who had never worked in a cannabis facility before. Utilized best in class equipment and was one of the first large scale cultivation facilities to implement automated climate and fertigation systems, LED lighting in all grow rooms, Pipp mobile racking (started as single tier but built for easy addition of a second tier). Using a speed to market approach and best in class SOPs Buckeye Relief was the first Tier 1 cultivation in Ohio to receive authorization to begin cultivation, and first Tier 1 facility to successfully harvest their first batches.
- **Culta (MD)** - After performing the on site startup for the Phase 1 indoor grow (*listed below*), continued on as a cultivation expert to assist with optimization of facilities and numerous expansion projects:
 - Outdoor facilities: Beginning with 1 acre and ultimate expanding to a total of ≈5 acres in total. Large scale site development plans to ensure proper soil profile and drainage and meet environmental requirements and provide proper drainage (water table is 6-12" below surface). Utilized multiple techniques including all organic Clean Green Certified organic raised beds, autoflower crops, and potted container plants fed hydroponically with fertigation systems.
 - Phase 2 indoor facility: Retrofit of remaining space inside the existing Phase 1 warehouse (10,000 ft²) that utilized multi-tier mobile racking, led lighting, high end HVAC systems, Priva irrigation, fertigation, and climate automation. Utilized high ceilings to design a multi-story support area to maximize flowering canopy while still providing adequate support areas for the new expansion.

- Micropropagation: (Tissue Culture) Lab: Full design of a multi-room clean room micropropagation lab within the Phase 2 cultivation space. Provided equipment and designs that coincide with SOPs and best practices for micropropagation, and tissue culture techniques based on current studies to implement nodal and meristematic culturing techniques. Worked directly with tissue culture manager to oversee processes, provide feedback on results, and collaboration on emerging techniques and new studies.
- Headhouse Facilities: Design, build out and startup of a 15,000 ft² historic warehouse to serve all the support functions for the outdoor facilities. Included a state of the art grow room with multi-tier racking to maximize vegetative starts for outdoor production, and to be utilized as a flowering room during the outdoor growing season to increase total flower output. Incorporated a state of the art water storage and treatment room with 26,000 gallons of storage, reverse osmosis, o₃-zone generation, 200gpm pumping, chiller/heat pumps, and Dosatrons for fertigation the indoor grow room flower rounds. Expanded into an additional area for water storage and pumping that included an additional 20,000 gallons of storage, RO filtration, pumping systems, and Dosatrons for fertigation.
- Cravo Greenhouse: Design and installation of a Cravo retractable roof greenhouse/crop protections system over 1 acre of the existing outdoor grow area. This system is controlled by a central Link-4 controller that is equipped with a weather station to control the opening and closing of the roof, walls, shade cloth, black out curtains, fans, and irrigation systems. This system has allowed for protection of outdoor plants during severe weather, drought conditions, cold temperatures, and excessive rain. This also allowed for an increase in the length of the growing season by planting an extra crop of autoflower genetics during the spring/early summer season to supplement the main season crop.

CULTA LLC (PHASE 1 INDOOR FACILITY)

MAY 2017 - MAY 2018

- As Director of Cultivation, designed and oversaw the completion of construction and start up of a 15,000 square foot indoor cultivation facility on the eastern shore of Maryland.
- Construction project manager for design and implementation of final phases of cultivation equipment, including HVAC systems, fertigation, LED and HPS lighting, mobile benching, CO₂ systems, Priva fertigation system, and water filtration and irrigation systems.
- Wrote and developed a state required Nutrient Management Program in conjunction with a nutrient management consultant to achieve state level compliance.
- Wrote and developed all standard operating procedures for cultivation facility, which achieved full compliance with all state and local laws, for all relevant cultivation practices and procedures.
- Hired and trained a full cultivation staff on all standard operating procedures, cultivation methods and principles, best agricultural practices, and compliance.
- Managed facility during first 6 months of startup and achieved the first harvest within 5 months from planting of seeds, and immediate implementation of perpetual harvest rotation and performed a large scale pheno-hunt to select the best genetics for clonal propagation.
- Continued oversight of all facility operations, and cultivation design expert for all expansions (*See above section for full work as consultant during all expansions*)

THE GREEN STOP

APRIL 2016 - MAY 2017

- Cultivation Facility Manager for a 10,000 square foot indoor cannabis cultivation facility with 80 flower lights in Fort Morgan, CO.



- Developed the facility from the ground up, including the final phases of build out and installation of all cultivation equipment, lighting systems, irrigation and drainage systems, rolling benches, and G-Pod climate control systems.
- Implemented cultivation Standard Operating Procedures for the facility, including fertilization and spray schedules, IPM plan, environment control settings and management, cleanliness and sanitization procedures, pruning schedule & techniques, training of staff, and labor efficient practices.
- Trained all cultivation staff in standard operating procedures, and cultivation methods and principles.
- Certified Metrc administrator, and management/use of Metrc seed to sale tracking system and software for cultivation operations.
- Obtained Colorado Private Pesticide Applicators license, and trained all staff on the EPA Worker Protection Standard for safe and responsible pesticide usage and handling.

TERRAPIN CARE STATION

JANUARY 2015 - JANUARY 2016

- Assistant Garden Manager for a 10,000 square foot indoor cannabis cultivation facility with 150 flower lights in Denver, CO.
- Involved in all cultivation and gardening tasks relating to the garden from clones to harvest.
- Performed all duties of the Garden Manager during any absence on his behalf.
- Worked on several construction projects including full replacement of all existing grow tables, irrigation lines, and lighting systems.
- Learned how to map out cultivation processes to a production schedule and coordinate events between other cultivation facilities and trim/harvest crews.
- Learned the process of drain to waste hydroponics in a coco coir/perlite medium achieving yields averaging from 2-3 lbs. per light.
- Received extensive training in pesticide handling and application in compliance with Colorado Department of Agriculture and the Marijuana Enforcement Division.
- Spearheaded the implementation of a dry trimming/harvest procedure that was a more efficient process, and substantially increased the quality of finished flower.
- Assisted in development of an IPM plan and detailed procedures to mitigate pest related issues.

COLORADO ALTERNATIVE MEDICINE (C.A.M.)

SEPTEMBER 2014 - JANUARY 2015

- Full time position as a cultivation technician in a 50,000 square foot indoor cannabis cultivation facility with 240 flower lights in Denver, CO.
- Gained experience with ebb and flow hydroponics systems (floor and drain in Dutch buckets), as well as maintaining mother plants in a coco/perlite mixture.
- Learned the day-to-day tasks involved in growing and working with cannabis in all aspects from cutting clones to harvest/drying and trimming.
- Learned how to properly assemble hydroponic systems and properly arrange plants in grow areas.
- Learned several techniques for facility maintenance, cleanliness, and producing top quality flower.

COMAK BROS. LANDSCAPING INC.

APRIL 2008 - AUGUST 2014

- Full time construction foreman for a high end, family owned landscaping business on the north shore of Boston, MA.
- Responsible for logistics of each given job and leading teams of workers, including delegating tasks among workers, training workers, employee oversight and development, purchasing materials from local nurseries, gravel yards, and asphalt plants, timely completion of work and quality control. Also responsible for completing daily work logs tracking labor hours, drive times, work performed and materials used.



- Experienced Bobcat operator; including the use of several mechanical attachments (auger, landscape rake, jackhammer, excavator, tree ball forks, tree spade, forks, etc.) and processes related to Bobcat and machinery work. Experienced in loading and unloading machinery and equipment, as well as towing to and from job sites.
- Dump truck operator; loading, dumping and hauling several materials for waste and demolition, receiving materials from local nurseries and stone yards, & asphalt and concrete from local plants. Hauling, loading/unloading, parking and maneuvering trailers loaded with equipment and materials.
- Stone masonry; detailed natural stonewalls, patios, waterfalls, pillars, and large custom fireplaces as well as brick paver patios, walkways, and driveways. Skilled laborer in use of diamond blade cut off saw for crafting specialty patterns into pavers and stone features.
- Landscape plantings of trees, perennials, shrubs, and hedges, as well as site demolition and removal of existing plants, soils, trees, and hardscape features.
- Drainage excavation and installations, such as pipe, swales, trench, herring bone, and French drains.
- Lawn plantings and renovations for residential households and large commercial properties. Full demolition, mechanical and manual resurfacing/grading of soil; application of fertilizers, seed and sod, as well as applying covering materials such as fabric mats and paper mulch products.
- Extensive pruning of trees and shrubs. From precise hand pruning of detailed flowering shrubs and perennials, to machine trimming of hedges, aged topiary trees and decorative shrubs, large tree pruning, as well as tree removal. Skilled laborer in the use of chainsaws, mechanical trimming shears, wood chippers, string trimmers, stump grinders, pole pruners/saws, and hand pruners/shears. Extensive experience working on ladders in outdoor areas.
- Irrigation installations for residential and commercial properties. Site work and preparation of residential and commercial properties as well as large athletic fields. Worked directly with irrigation division for proper site excavation, system installation, and filling, compacting and patching of finished areas.
- Concrete work, asphalt, demolition, site excavation and preparation. Worked on several jobs for site preparation for installation of prefabricated staircases, street lamp foundations, structural pads, parking lots and sidewalks, as well as concrete and asphalt work for patch jobs, and sidewalks, & walkways.
- Tennessee Gas Pipeline restoration work. Worked on several large projects covering hundreds of square miles for the Tennessee Gas Company to repair damaged areas from gas line installation and repair work on residential and commercial properties, as well as large wetland restoration and replanting operations.

ON THE LEVEL FRAMES (6/2007-4/2008)

- Carpenters apprentice; built houses and multi-unit condo structures in the north shore Boston area.
- Learned several methods and techniques of carpentry related to framing, and building houses.
- Worked directly under crew foreman, and company owner to learn specific work methods preferred by the company.
- Learned the use of several hand and power tools and equipment related to carpentry and framing such as, rotary saws, reciprocal saws, and various sized air powered nail guns.
- Extensive experience working with and on ladders, and some experience with mechanical lifts.

SAFE-GROUND ORGANIC LAWN CARE (9/2006-5/2007)

- Worked as a lawn care and maintenance technician for a family operated organic lawn care company, in Northampton, MA.



- Responsible for applying organic fertilizers and pesticides to residential and commercial lawns.
- Calculated proper application rates, product usage, and spreader calibration for each job.
- Performed routine maintenance such as mowing, weed whacking, pruning, plantings, and fall cleanups.
- Assisted the owner during site visits for scouting and diagnosing potential issues related to pest damage, and proper soil conditions.

THE ORCHARDS GOLF COURSE (4/2006-9/2006)

- Internship position in South Hadley, MA at one of the first golf courses built in the New England area.
- Worker directly with Superintendent and Assistant Manager for tasks related to fertilizer application, and handling, mixing, and application of pesticide products.
- Detailed mowing of all turf areas, such as greens, fairways and approaches, tee boxes, roughs, and clearing or wooded areas on site perimeters.
- Worker on several restoration projects involving over seeding, core aeration, cutting/laying sod, and thatching.
- Experienced in use of irrigation systems, including radio control zone specific feedings during hot summer months. Trained on irrigation strategies as related to seasonal weather conditions.
- Repaired and assisted with troubleshooting and repairs of irrigation system components and piping.

BERKSHIRE HILLS GOLF COURSE (5/2005-9/2005)

- Summer internship position at a private golf course in Pittsfield, MA.
- Gained course credits for completing summer internship and writing a detailed report and maintaining a daily journal.
- Trained directly from Superintendent and Assistant Manager on the proper application of fertilizers, as well as proper handling, storage, and mixing of pesticide products.
- Detailed mowing of all turf areas such as greens, fairways, approaches, tee boxes, and roughs.
- Assisted in full overhaul and resurfacing all bunkers and sand dune areas.
- Worked directly with Assistant Manager on proper identification of pests and diseases, and methods of implementing IPM strategies to manage pest outbreaks.
- Several restoration projects such as thatching, core aeration, deep tine aeration, over seeding, and laying sod.
- Responsible for small crew management of inexperienced workers for basic tasks such as mowing, weeding, and clearing brush.