

Double D Demolition

Business Plan and Final Report

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Double D Demolition



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Company Description

Name and Location

Double D Deconstruction/Demolition (Double D) is a Detroit-based nonprofit organization that will engage in deconstruction and material resale of building materials as well as technical assistance to demolition companies. In addition, Double D will provide training to prepare workers in salvage operations. The organization will be located at (give the specific address, if know, or the general area or city if a location is yet to be determined).

Ownership and Legal Status

Double D will be a 501(c)(3) nonprofit incorporated directorship organization where the decision-making power is assigned to the Board of Directors. The members will have a President, Vice-President, Secretary and Treasurer. The members will elect a Board of Directors who will have decision-making powers. The organization will be incorporated, and therefore, the members and directors will be protected from personal liability. Although forming a corporation can help protect Directors from personal liability for activities of the corporations, Directors are not protected if they do not acquire, hold and dispose of funds only for lawful purposes. The Directors will be individually liable if any such money or property is misused as a result of the Director's neglect or misbehavior, or if they fail to exercise reasonable care in administering the affairs of the corporation. If the corporation is harmed by a depletion of assets because a director failed to diligently perform his/her duties or acted in bad faith or by fraud, the Director will be personally liable to the corporation as well as to creditors.

Company History and Development to Date

The Double D Demolition/Deconstruction's original vision was to propose a business whose focus would be on the demolition, deconstruction, and material resale of building

materials. Additional goals of this business were to be a focus on improved technology processes and cost efficiency; become a preferential supplier for area builders. The group planned to start with demolition and utilize local labor, gain funding through grants, nonprofits and area incubators – eventually adding deconstruction.

Preliminary research revealed that “around 270,000 homes are torn down annually in the U.S., and most of the debris goes to dumps or landfills (Falk as cited in Solomon, 2011)...a staggering 1 billion board-feet of timber alone going to the dump — enough to make tens of thousands of homes.” Nationwide there are approximately 1,500 deconstruction contractors and "reuse" stores like those run by Habitat for Humanity, which sell the recycled doors, windows and fixtures. As the need for demolition grows simultaneously with the trend toward recycling of materials and landfill concerns, this is an area of potential business growth. There are about 35,000 vacant structures in Detroit that are ready to be knocked down (Detroit 2020, 2012).

However, preliminary research also revealed potential challenges and barriers. Community policy and regulatory policies in the City of Detroit revealed that the process for removing these buildings is a lengthy one: There are 36 steps involved in the demolition of a non city-owned structure in a non-emergency situation (Tanner, 2012).

In addition, in order to demolish buildings in the City, a demolition company is required to have a contract with the City. The process in becoming a contractor in the City of Detroit is equally lengthy (City of Detroit, 2013). Labor force concerns included the following: For many projects within the City of Detroit, it is required that companies use union labor which is at a substantially higher wage than non-union. MIOSHA trained labor is required, and the advantage to using union labor is that they are trained at hazardous material removal (lead, asbestos, etc.).

If utilizing non-union or non-trained labor, companies would need to ensure that workers be certified in hazardous materials removal procedures (City of Detroit, 2013).

The above-stated challenges are also in a state of flux given the City's current financial crisis which prompted Governor Snyder's appointment of an Emergency Financial Manager. In addition, labor issues are in flux due to the most recent ruling making the State of Michigan a Right-to-Work State. It is noteworthy to mention that as of this writing, the original information utilized to prepare this report from the City of Detroit is no longer accessible. This speaks to the state of flux that the City and its regulations are currently in.

Starting a demolition company would also require a building to house equipment. This would add to the start-up cost. An area of concern that was brought up during the group's presentation to the Detroit Chamber of Commerce Annual Conference was how to address issues of security with regard to the company's warehouse as well as worksites. Equipment and materials would need to be protected against vandalism and theft, and the company would need to be protected against liability claims.

Subsequently, discussions were held with Erin Kelly at Next Energy who suggested that the group focus on deconstruction and recycling of salvaged materials. Additional consultations were made with D-Hive and Reclaim Detroit who reinforced the suggestion that a company that focuses on recycling of salvaged materials would, not only provide much-needed services to the community, but would also be much more easily navigated

Upon further consultation, the group's focus has shifted. The following is an overview of the current business proposal for Double D Demolition/Deconstruction.

Products and Services

Double D Demolition/Deconstruction (Double D) will engage in:

- **Deconstruction Planning Assistance:**
 - Deconstruction is the planned and systematic disassembly of buildings, which allows component parts and pieces to be removed without damaging them, so that they may be reused.
 - Assistance with deconstruction cost funding
- **Skimming:** Where deconstruction is not possible, skimming is the removal of materials such as doors, hardware, and light fixtures that are easy to remove.
- **Sale of Salvaged Materials:** Materials gathered from deconstruction and skimming are made available for sale at our warehouse.
- **Job Creation and Training:** Salvage work is labor intensive, creating more jobs than demolition and most other economic activities. We provide training to prepare workers for salvage.

Double D will act as a liaison between area demolition and deconstruction companies in obtaining grant and other funding to cover the costs of deconstruction of various blighted buildings in Detroit. After receiving funding, Double D will meet with various deconstruction firms to contract with that firm to deconstruct a building. The various deconstruction firms are then responsible for getting the necessary licensing from the city or other legal entity to allow the deconstruction to go forward.

Detroit requires a wrecker license to deconstruct in Detroit (it is not needed if you work outside of Detroit). Environmental surveys are required to verify compliance with EPA and

MIOSHA regulations. Key to the contract is a provision that materials designated by Double D are provided to Double D. Double D's value to the deconstruction firms is in obtaining grant money for the deconstruction firm and arranging for the appraisal of the salvaged material from the building. That appraisal can then be used as a donation by the deconstruction company for tax purposes, contributing to their "bottom line." It takes about two weeks and \$20,000 to take down a house. Anything over \$5,000 needs a written appraisal (Jeremy Haimen, Reclaim Detroit).

The value to various deconstruction companies is the tax deduction they will receive for the materials removed for demolition/deconstruction. The deconstruction companies need appraisals and receipts from a non-profit organization to receive a tax deduction, and Demolition/Deconstruction will serve as that nonprofit organization (Jeremy Haimen, Reclaim Detroit). In this way, one of the company's primary foci is to accelerate the rate in which the enormous volumes of vacant structures in the City are torn down so that these properties can be put to better use for the communities. By emphasizing deconstruction, the company can assist communities by providing environmentally friendly, cost-effective removal of buildings and reuse and recycle as much materials as possible, thereby reducing area landfills while also posting profits from the sales of such materials.

Double D will add additional value to the community by offering training to area residents as "skimmers" whose job it is to remove material that may be valuable in its own right. Deconstruction employs six times as many workers as demolition does per building. These trained Double D skimmers identify and remove the architecturally significant materials from building such fireplace mantels, tile, chandeliers, brick, reusable/resalable lumber, windows, etc.

Double D retains ownership of the architecturally materials deemed appropriate for resale. The materials are then cleaned, reprocessed, and offered for resale by Double D.

Description of Industry

There is real value in the architecturally significant material that is removed by skimmers. For example, the wood from the older buildings is of superior quality compared to the typical wood used in today's construction which relies on fast grown, quickly harvested trees. The wood remove from older buildings is much more dense and strong and sought out by architects and interior designers for its quality and aesthetically pleasing appearance. It therefore sells at a premium. Reclaimed wood flooring can be sold for the same price as new flooring: Oak flooring goes for \$3.25 per square foot (Jeremy Haines, Reclaim Detroit).

The material value goes to support a portion of Double D's labor and training; however, the bulk of the funding for workforce development will come from grants that provide for job training. Materials can also be donated to area human services agencies. For example: Focus Hope teaches people furniture making skills, and wood for this purpose can be donated. Materials can be donated to Habitat for Humanity who is in need of all materials from wood to old sinks, radiators, doors etc.

Subsequent to the skimmers' work removing the architecturally significant materials for resale, the deconstruction companies then take the building apart. The deconstruction company retains ownership of the remaining material which may be sold by them to be processed into other products, such as chipped to be used in construction material, or as biomass to fuel power plants. Particle board from chipping the otherwise unusable wood, for example, is of value to the deconstruction companies as are crushed brick products which can be reused for veneered

brick (brick that is sliced into thin sections). Any material without a use is then discarded as trash and landfill.

Industry overview

Deconstruction is the process of systematically dismantling a structure with the intent to recover the maximum amount of materials for the highest and best re-use. Deconstruction crews work for homeowners, contractors, local governments, and other property owners to provide environmentally friendly, cost-effective removal of building components and complete structures, both residential and commercial. Deconstruction offers many benefits over standard demolition and while the process is different the end result is the same, leaving a clean, vacant site ready for development.

Deconstructing homes instead of demolishing them brings about much more positive results for the community in terms of the environment, the community and the economy. As much as 90 percent of materials from demolition can be reclaimed, deconstruction experts say (<http://www.remodeling.hw.net/reuse/mind-the-waste-deconstruction-vs-demolition.aspx>).

Materials such as wood, windows, doors, cabinetry, flooring, wall studs, joists, copper wiring, lighting and plumbing fixtures, appliances, concrete, and other masonry prevents those materials from clogging up landfills, whether they are repurposed for use in another project or sent to industrial recyclers to go back into the product stream. Deconstruction also reduces carbon dioxide production from the manufacture of new materials.

Deconstruction per house is the equivalent of removing 12.25 cars / year from the road. The pollution reduction is equivalent to the amount of air pollution reduction from 15.2 acres of forest. Materials can be donated to non-profit organizations that resell them or use them for community projects. Such charitable donations are eligible for tax deductions, which can be

claimed by either the homeowner or the contractor. Salvaged elements also can be incorporated back into the project instead of being donated. Alternatively, the builder/remodeler could warehouse the materials for use in future projects. For-profit materials recyclers also may offer deconstruction services for a nominal fee along with the rights to the reclaimed materials.

Interest in deconstruction and salvage is likely to grow, experts predict, particularly as urban and suburban infill become more necessary. Some municipalities now require recycling of a significant portion of demolition waste, while others offer incentives—such as expedited permits—for recycling activities (Delta, 2011).

Detroit is ripe with new possibilities, and as it transitions into a new economy, deconstruction is not only needed but is also in the right place at the right time. Additionally, deconstruction has the potential to create jobs by offering opportunities in construction related careers, provide employment in a high growth area, and most importantly, revitalization of distressed communities will offer investors to build new businesses on newly vacant lands in potential growth areas, as well as the opportunity to utilize some of the reclaimed materials.

Potential Funding

As a start-up company, Double D Demolition/Deconstruction seeks to become a 501 (c)(3) non-profit organization founded to keep building materials out of landfills through architectural salvage.

- **Tax exemption/deduction:** Organizations that qualify as public charities under Internal Revenue Code 501(c)(3) are eligible for federal exemption from payment of corporate income tax. Once exempt from this tax, the nonprofit will usually be exempt from similar state and local taxes. If an organization has obtained 501(c) (3) tax-exempt status, an

individual or company's charitable contributions to this entity are tax-deductible (Michigan Nonprofit Association, 2008).

- **Formal structure:** A nonprofit organization exists as a legal entity in its own right and separately from its founder(s). Incorporation puts the nonprofit's mission and structure above the personal interests of individuals associated with it (Michigan Nonprofit Association, 2008).
- **Limited liability:** Under the law, creditors and courts are limited to the assets of the nonprofit organization. The founders, directors, members, and employees are not personally liable for the nonprofit's debts. There are exceptions. A person cannot use the corporation to shield illegal or irresponsible acts on his/her part. Also, directors have a fiduciary responsibility; if they do not perform their jobs in the nonprofit's best interests, and the nonprofit is harmed, they can be held liable (Michigan Nonprofit Association, 2008).

Grant funding for initial planning will be solicited from the Kresge Foundation which will provides seed money usually used for business planning, market analysis, or other aspects of launching or spinning off a new program or nonprofit organization. According to the Kresge

Public policy plays a big role in shaping that market...Public policy can influence costs, demand and consumer behavior to encourage greater investment...ongoing innovation is also critical to transforming the energy market. Citizens, civic leaders and others can spur change by advocating for additional efficiency gains and energy generated by clean, renewable sources (Kresge Foundation, 2013).”

In 2009, the Kresge Foundation shifted its granting focus from its Green Building Initiative, which was introduced in 2003, to its Environmental Program with a focus on

advancing environmental stewardship and the overarching goal of a new grant-making approach which supports policy changes to accelerate the adoption of energy-efficient practices in building construction, renovation, and operation (Kresge Foundation, 2013).

It is believed that Double D Deconstruction/Demolition fits this granting category. Funding opportunities exist within this category supporting next-generation initiatives, specifically to “Outreach to professionals in the architecture, design, engineering and building management fields about energy performance aspirations (Kresge Foundation, 2013).” Those wishing to apply for these grants must be a U.S.-based 501(c)(3) organization. Therefore, the first step for Double D will be to apply for 501(c)(3) status. It is believed that Double D will be competitive for this grant because according to the Kresge Foundation, they support organizations whose work aligns closely with their strategies to bring about positive change and organizations whose projects are local in scope but that have clear replication potential.

Double D will need to seek additional funding outside of the initial Kresge Foundation grant in order to fulfill other goals as the Kresge Foundation does not fund environmental education programs or the development of curricula. Given the goal of providing educational opportunities, additional funding will need to be sought to address this need. Possible avenues for funding could be Next Energy’s Michigan Accelerating Technologies Energy Grant that is funded by the Michigan Economic Development Corporation (MEDC) and provides matching funds to eligible Michigan businesses and universities applying for advanced energy-related federal funding.

Target Market

Double D will serve the City of Detroit. Detroit has seen its population plummet 25 percent over the past decade. According to census data, the City’s population fell to 713,777 in

2010, compared to 951,270 in 2000. The drop-off of more than 237,000 people in Detroit helped Michigan become the only state that suffered an overall population decline between 2000 and 2010, slipping 0.6 percent to 9,883,640 (NBC, 2010). According to the City's Buildings, Safety Engineering and Environmental Department, there are approximately 35,000 vacant structures in Detroit (Sands 2012). An astounding 26,000 of those have been identified as unsafe. Mayor Bing promised to demolish 10,000 buildings by the end of his term in 2013, yet as of last year only 4,200 buildings had been completed (Sands, 2012).

The need for demolition of these structures is considered urgent by the City and the State of Michigan. Double D has an opportunity to assist demolition companies in the deconstruction of these buildings. The staggering amount of buildings slated for demolition will place a great deal of burden on the area landfills. In addition, there is a wealth of materials to be gained from these older buildings that could be used for resale.

Although much opportunity exists within the City of Detroit, the lack of available funding to bring the vision of deconstructing Detroit to reality has been a barrier. As of April of 2012, , and no funding existed to do tear them down, (Tanner and Sly, 2012).

In late 2012, the State of Michigan allocated \$10 million to the City of Detroit for blight elimination. The Michigan Land Bank Fast Track Authority (MLB) is currently handling the demolitions in the City. The Detroit Demolition Program is part of the state's Neighborhood Stabilization School Anchor Initiative (NSSA), headed by the Governor's Office of Urban and Metropolitan Initiative (State of Michigan, 2013).

It is believed that, given this new development, Double D is in a good position to target the State of Michigan's Detroit Demolition Program as a potential market, along with deconstruction companies in the City of Detroit who need assistance in obtaining grant and other

funding to cover the costs of deconstruction of various blighted buildings in Detroit as well as assistance in the salvage process. Those seeking materials to be used for restoration of historic homes and buildings in the City of Detroit will be an additional target market.

The Competition

There are existing organizations who offer similar services. These include Architectural Salvage Warehouse of Detroit, Deconstruction Salvage Company of Detroit, Reclaim Detroit, Zachary and Associates and Next Energy. Although these companies offer similar services, they vary in their approaches and there is much overlap between and among all of them. Of all of the organizations listed, the one that comes closest to Double D's vision is Reclaim Detroit.

In a city with such a vast need for environmentally sound salvage services, it is believed that having more services will only bring positive results and that it is likely that these two organizations in particular can actually work in collaboration with one another for the benefit of the community as a whole. The biggest obstacle will be the competition for outside funding as it becomes increasingly more competitive to secure a shrinking supply of state, federal and philanthropic funding. In order to distinguish itself from the other organizations, Double D will strive to ensure that it has a working relationship with an experienced grant writer on its Board.

In order to determine what would best distinguish Double D from its competition, the organization will conduct needs assessment through survey analysis of demolition companies, governmental entities involved in the proposed demolition of properties in the City of Detroit as well as community organizations involved with historic renovation of homes in historic neighborhoods of the City. The purpose of this survey will be to better establish the needs of the target markets. Additionally, the results of this survey will enhance our ability to secure funding from grantors in that this information will better establish the mission of the organization within

the community in terms of where and how the funds will be spent and the metrics that will be used to measure the proposed outcomes indicated within those grant proposals.

The results of this will also provide a competitive analysis for the organization. It is believed that the competitive edge that Double D will have over its competition will include:

- Its status as an organization that can provide technical assistance for demolition companies seeking grants in order to endeavor into deconstruction as a potential avenue for plausible tax write-offs
- Its ability to provide a workforce for skimming of materials which will free up demolition companies' workforce so that they can focus exclusively on demolition and leave the salvage to Double D.
- Its ability to offer a unique service to area residents who are in the process of restoring historic homes in the City of Detroit.
- Its ability to provide much-needed job creation and training in the area of architectural salvage.

Marketing and Sales Plan

Consequently, the marketing plan of Double D will be focused upon the unique attributes indicated above. Double D will focus on a strategic and local marketing and sales campaign that employs local companies to create a cooperative business environment. The most important aspect of today's business marketing campaign is the production of a company website. Double D will have a first-class website, with Trent Designs, a local Detroit based Banding, Graphic and Web Design Company handling the creation and design for our website. Trent Designs have a proven track record of quality and valuable online internet advertising. By implementing creative and cutting edge website techniques, Trent Design will assist Double D will creating an

image that portrays our business as fresh and welcoming into the Detroit community. They will assist with web page maintenance and be at the ready for anything that may require professional expertise in terms of internet branding. Almost as important in today's society is the value of social media on local business.

Double D will employ individuals that are knowledgeable for the creation and maintenance of Facebook, Twitter and LinkedIn accounts. An active, updated and progressive Facebook page can market Double D to a very broad and inquisitive audience. In addition, Double D's Twitter and LinkedIn profiles can provide up-to-date deconstruction progress, contact information for possible business partners and most importantly reach a medium for people on the move with updates via iPhones, Smart phones, Ipads and other mobile devices.

All queries coming in through the website are first screened by the warehouse secretary who will double as the customer service representative, and who responds to each one immediately and personally and passes the leads on to the warehouse manager. Each website inquiry is called back within 24 hours. All company personnel, therefore, are considered members of the sales team.

Double D will not forget the effectiveness of print media, and will employ Detroit based Detroit Print Shop to handle Product Brochures. Detroit Print Shop has excellent service coupling with a local sales strategy that can spawn possible the timeless 'word-of-mouth' advertising. In addition to product brochures, direct mail and print media shall be part of Double D's marketing strategy. We shall employ Detroit-Media Partnership, an additional Detroit-based firm that will provide services including: creative design, printing, targeted mail list, postage, post office deliveries and inkjet processing. With partnerships already with the *Detroit Free*

Press and *Detroit News*, Detroit Media-Partnership will assist in print media for possible ad space in the local newspapers and magazines.

Company websites for further information:

<http://detroitprintshop.com/>

<http://trentdesign.net/current/>

<http://www.detroitmedia.com/direct-mail>

Operations

Location and facilities

Double D will secure a location close to all major highways and downtown Detroit. Double D will have a warehouse for material storage, equipment storage, offices and meeting rooms. It is believed that having a location that will be visible and welcoming to commuters and customers will prove beneficial. This location will comprise a warehouse for storage. Double D concluded that our warehouse would be located near the intersection of Gratiot Ave. and E. Vernor Hwy (Appendix C). The 3.21 acre parcel selected is surrounded by E. Vernor, Chene St. Hendricks St. and Dubois St. Double D chose this location because of its proximity to busy, wide-lane freeways in Detroit, closeness near homes needing deconstruction/demolition services and the downtown central business district. The entrance into the property will have a 50 ft. wide gate servicing E. Vernor highway allowing for enough space for entry for trucks and trailers, equipment and other large vehicles that need entry onto the property. The visibility of the location will be beneficial allowing for community involvement and possible sales of value-added materials.

A 3.2-acre parcel allows for enough space for warehouse, possible expansion and parking. The parcel is also relatively flat, allowing fewer excavation and construction cost for the warehouse and other outbuildings. The perimeter of the property reaches a length of 560 ft. long and 250 ft. wide, this calculates to a total perimeter of 1,620 ft. The requirements for the

warehouse building should provide roughly 50,000 sq. ft. for storage. With 140,000 sq. ft. total, there will be plenty of space for the warehouse, parking, utilities, and truck and trailer entry/exit onto E. Vernor and the possibly for expansion. The gate into the parcel for entry will be located on the Southeast corner of the parcel a 50 ft. wide moving gate shall be installed.

Most importantly the building needs to have extensive security measures for protection from theft and damage to equipment salvaged material. First off, there will be a gated parking lot for Double D surrounding the property. Fencing will be vital to the security for Double D. A 10 ft. tall industrial strength fence surrounding the perimeter will secure the building, vehicles and employees. The cost of fencing is high, at \$400/roll at 50 ft. a roll, 33 rolls will be needed to surround the perimeter. Industrial fencing was selected due to its material strength, height, barbed wire on the top of the fence and difficulty for damage through cutting and slicing. Industrial strength fencing 10 ft. tall will deter theft and criminals from entering the property and stealing materials of value. Double D's vehicles, equipment will also be protected.

Included, Double D will have a security guards employed for a 12-hour shift, 7 days a week. The security guard will allow for entry and exit into the property from 9pm to 9am on working days. The security guard will have a daily checklist to thoroughly ensure security and order for Double D. The security guard will also be encouraged to create a strong relationship with local Police to add an additional layer of security for Double D. Double D will install video surveillance cameras throughout the property. Located at the street entrance, building entrance, each end of the property and several strategically located through the warehouse. Double D will have 24 hours a day, 7 days a week monitoring of the property. Included will be a 24 hours security alarm system (ADT, Watchdog security etc.) to alarm of any illegal activity or entry and/or vandalism. The lighting will be critical on the property, with motion activated lights

installed to detect movement along the warehouse, particularly during the night hours and winter season when employee activity is less. Flood lights will also be installed on the property, near the entrance, warehouse entry, in the parking lot and on each end of the property. The flood lights will work in concert with the security camera for professional security measures. Double D will also include signage on the property, located either on the door or near the entry/exit gate. We concluded on having our location on the parcel meets all the requirements and will supplement Double D's vision of community involvement and mission of improving Detroit.

Equipment and technology

In the case of Double D the emphasis is on Detroit, and accordingly, grant and aid sources that are interested in Detroit are of primary interest. In the case of Double D, Deconstruction, as a general field, relies essentially on the knowledge and skills of the individuals involved as well as the basic tools of carpentry and home building. However deconstruction, of itself, has a number of significant additional requirements to include knowledge of construction such that they can be applied in reverse as part of the deconstruction process. Significant health and safety concerns must be addressed to include asbestos and lead safety, as well as basic structure and material handling practices. These requirements also apply to Double D in their warehousing and resale material management warehousing requirements. As part of the 501 (c) (3) charter, Double D must also provide the training and equipment to assure the safety and health of their employees.

Double D is based on four significant functional areas:

The first is the effort associated with developing a grant funding relationship with those organizations that are interested in funding deconstruction as a means of redeveloping urban areas. Secondly, Double D serves to provide an interest, both economic and social, in

deconstruction rather than demolition. The individuals involved need to become aware of the benefits to them of deconstruction. In the case of individual owners of candidate structures, the tax write-off that comes from deconstruction and the donation of the resulting materials to Double D as a 501 (c) (3) has economic value to them. In the case of city owned, abandoned buildings, Double D serves to act as a “matchmaker” between a funding organization and a deconstruction company that will do the actual deconstruction with the resulting material being transferred to Double D for ownership and resale. Thirdly, Double D provides for the training of “skimmers” whose function is to remove the readily salvageable and valuable materials from the building prior to the beginning of the actual deconstruction process. The fourth role of Double D is to provide and manage the resale process. That process includes the inventorying of the product that comes in from the deconstruction site, preparing it for resale and presenting it for resale which includes networking with potential consumers as well as maintaining an attractive and accessible resale site.

The first three areas use standard office equipment and space, software, data base management tools and materials. The fourth, however, require a fully equipped lumber warehouse to include several complete sets of carpentry equipment. Critical to Double D’s mission of providing fine wood and lumber material, the warehouse also needs the milling equipment, planners, saws, etc to finish lumber for retail sales. Included in the preparation for retailing includes autoclaves that are designed to both destroy any molds as well as to rehydrate the lumber so that it will be safe, free from splintering when nailed, and presentable for sale.

Double D Inventory management

Inventory management is essential to operating a successful warehouse and retail business, as well as maintaining control of the equipment loaned to the employees as needed for

the tasks at hand. A tool crib is used to collect and issue the hand tools and smaller power tools as well as to maintain the keys needed to turn on the larger power equipment and mills. Signing out for the equipment not only assures traceability, but also assures that those who get the tools are trained to use them.

Product inventory requires an accounting of the product as it comes in from the deconstruction site, and through the processing for resale as well as sales and delivery records. Store scanner tags are applied and the items entered into inventory as well as assigned a location. Software packages are already designed to do this, as well as to use a scanner to account for removal from inventory when the item is sold. Monthly inventory of the more expensive items will also help to minimize the problem of “shrinkage.”

Inventory management is also a key to internet management and sales. As product comes in and is inventoried, it is also entered into a data base on the web site that will give access to consumers as to the availability of each item. Double D will work toward providing a network of deconstruction product warehouses and material so that any customer in the Metropolitan Detroit area can search for an item (antique American cherry, with hand hewn marking, 2”by 2” by 12 feet, for instance) and the system will be able to tell the customer where it is located, the price and ordering information. This will not only increase sales but also professionalize the industry through coordination and product availability.

Cost controls and purchasing

Costing is primarily done in two ways. Initially the product is “benchmarked” with similar items from the national data base managed by Double D. Double D will also use the management inventory system and lumber appraisers in order to assure that the tax deduction provided to the deconstruction company and to the donating owner, an appraisal that will stand

up to Internal Revenue scrutiny, but also provide a basis for costing the items for resale.

Appraisals and cost management are also essential to maintaining credibility with aid and grant organizations as well as to maintaining Double D's own 501 (c) (3) status. Purchases will also be tracked starting with an internal purchase order, verified by a manger or foreman if the purchase exceeds \$100. The "book-keeper also records the transaction on an accrual basis while the company accountant reviews "the books" monthly.

Quality control

Quality control (QC) depends on the skills of the employees throughout the organization. Training is an essential part of controlling quality as well as the knowledge and abilities of the individual employees and in particular the supervisors and other management. Critical, however, to QC are the rating and evaluation of the lumber. Skimmer and warehouse employees must know the characteristics of the recovered lumber and be able to determine if they are reusable as is, reusable with rework, or scrap pallets, chipping for mulch, or simply landfill or incinerator scrap. Of particular concern is the rating of any wood that may be used in a structural capacity. A licensed structural engineer must rate the wood as safe for structural use up to a certain maximum. Wood used in that capacity will be handled, marked and inventoried accordingly. Products received from deconstruction must also be examined for dangerous attributes, such as mold, lead paint, asbestos, etc and such materials must be either discarded or rendered safe before further use.

Order fulfillment and customer service

As indicated previously, customer service will be handled by the warehouse secretary and the warehouse manager. Initial inquiries will be screened initially by the warehouse secretary

who will respond to each one immediately and personally within 24 hours. Each inquiry will be handed over to the warehouse manager for order fulfillment.

Management

Key Team Members

As indicated earlier, Double D will be a 501(c)(3) nonprofit incorporated directorship organization where the decision-making power is assigned to the Board of Directors. The members will consist of:

- Thomas Walkush, President: Prior to founding Double D, Thomas Walkush has years of experience in the industry.
- Alex Alvarez, Vice-President: Alex Alvarez currently works in the field of urban planning and is pursuing a Master of Urban Planning from Wayne State University.
- Brian Urquhart, Secretary: Brian Urquhart is currently pursuing a Master of Urban Planning from Wayne State University and has a passion for positive improvement in the City of Detroit.
- Keely Czartorsky, Treasurer: Keely Czartorsky currently works in the field of finance, and holds a Bachelor of Economics degree.

These members will elect a Board of Directors who will have decision-making powers.

The Board of Directors will consist of community members whose experience, expertise and interests lie in environmentally sound practices of deconstruction in the City of Detroit; a vested interest in appropriate land use of properties in the City of Detroit; the beautification of the City of Detroit through the reuse of architecturally historic materials gained through deconstruction; an interest in much-needed workforce development in the City of Detroit; individuals that can offer technical assistance to the organizations members. It is anticipated that

of those individuals that will constitute the Board of Directors, at least one individual will have extensive experience in grant writing, procurement and management.

The organization will form as a corporation so as to protect its Directors from personal liability as well as to protect the organization from misbehavior or misuse on the part of its Directors. Directors who violate the trust of the organization from misbehavior or misuse will be personally liable to the corporation as well as to creditors.

Future Management Needs:

A Warehouse Manager with experience at architectural salvage and traffic management will be hired at such time that the organization receives start-up funds. This individual will be responsible for the management of incoming salvaged material and outgoing sales. In addition, a warehouse secretary will be hired to field incoming inquiries as well as provide customer service. This individual will additionally maintain files and databases for the warehouse manager.

Financials

Annual Fixed Costs: The annual fixed costs include labor, marketing and a contractor.

Workforce

According to the US Bureau of Labor Statistics (2013), the average construction worker's salary is \$39,750. As a start-up organization, Double D with five construction workers, the total labor cost (5 x \$39,750) would be approximately \$198,750. There would additionally be a general contractor managing and coordinating various projects. Glassdoor (2013), a leading research site for salary comparisons across the United States estimates contractor costs at approximately \$50,000 annually.

These costs break down to approximately \$198,750 for five construction workers, a \$5,000 marketing budget and a \$50,000 salary for a contractor for each of the 52 projects Double D plans to finish annually. This amounts to a total fixed annual cost of \$253,750 based on salary averages and estimates according to the US Bureau of Labor Statistics (2013).

In addition to labor, marketing is another key fixed cost that will be considered. A modest \$5,000 budget will procure basic graphic design, logos, etc. as a means of branding Double D for potential business. The cost for marketing is important because it has a high return of notoriety and potentially will bring in business.

Labor and marketing will be annual constants for Double D; however, it is important to note that these costs may increase or decrease if certain conditions arise. For example, these potential conditions include whether or not there is a higher volume of business projects, which would then require more contractors and construction workers. Consequently, if there is a lower volume of clients for the year, layoffs may have to occur. The annual fixed costs will fluctuate with market demand, and in order for Double D's finances to be efficient, constant overview by Members and the Board will be crucial in order to provide accurate projections. Although there is no magic formula for determining the specific annual fixed costs, if Double D's market is *ceteris paribus*, then the costs mentioned above should apply.

Sunk Equipment Costs

The sunk equipment costs are one-time costs for the start of the business. Sunk costs include things like the building of a factory, railroad, and so on that need to be invested in to make a level playing field for the business. Double D is no exception. In order for laborers to do their jobs efficiently and effectively, they will need certain tools up front. These tools include, but are not limited to a sledgehammer, jackhammer, concrete saw and a truck. Items essential

for deconstruction are estimated to include the following: Approximately \$50 for the sledgehammer, \$200 for the jackhammer, \$198.50 for the concrete saw, and approximately \$20,000 for a truck hauler (Construction Equipment Guide.com). Two crews are proposed to be able to skim about four houses a month. The total approximate for the initial sunk cost is \$20,897.50 for the initial sunk costs (Appendix B).

Initial Sources of Income

Double D has conducted research into funding available for its initial investment. The results revealed that there are grants and other sources of funding available for start-up deconstruction organizations. Potential income sources include, but are not limited to the following: \$25,000 grant from Bizdom (<http://bizdom.com/the-deal/>), \$25,000 grant from Local Initiatives Support Corporation (http://www.lisc.org/section/ourwork/grants_services), \$25,000 Michigan Economic Development Business Accelerator Fund (<http://www.michiganadvantage.org/business-accelerator-fund/>), and \$25,000 Michigan Economic Development Collateral Support Program (http://www.michiganadvantage.org/cm/files/Fact-Sheets/MCSP_fact_sheet.pdf), a \$100,000 grant from the Kresge Foundation (<http://www.kresge.org/programs/environment/energy-efficiency-and-renewable-energy/supporting-next-generation-approaches>).

Although these funds are available, they can be difficult to obtain depending on certain factors such as how many businesses apply for them, what the competition is like, etc. In order to survive the first year of business, Double D would depend upon this type of funding to assist in startup in order to pay for sunk costs like a vehicle, tools and so on. It is possible for Double D can pay fixed costs such as labor and marketing costs on a project by project basis depending upon the amount of business activity.

Alongside initial grants, until Double D Demolition can potentially survive on its own, the plan is for the company to become a 501(c) (3) nonprofit. A 501 (c) (3) organization is a “Religious, Educational, Charitable, Scientific, Literary, Testing for Public Safety, to Foster National or International Amateur Sports Competition, or Prevention of Cruelty to Children or Animals Organization” (IRS). Double D could potentially fall under this exemption because there would be community training for the scrapping of these materials as well as blight education. This would render Double D an Educational organization. What this means is that because Double D would be a certified nonprofit, it is tax exempt which could save thousands, if not millions in the long run depending on how much business there is.

Revenue

While it is hoped that profits can be made, many businesses can expect to operate at a loss at the beginning. The net revenue will come from the \$10,000 from each project of deconstructing a home over a five day period, minus labor and other fixed costs. Materials gleaned from homes including copper, marble, and stone and so on, may amount to \$1,000 give or take the type of home, how big it is, and so on. As Double D organization picks up business and gains materials that can be resold at face value, it will increasingly become able to forecast a profit.

Future Development

Risk Assessment

There will always remain a risk when running an organization and Double D is no exception. Several different situations of risk have been addressed: execution, competitive, financial and economic. To begin, an organization that offers deconstruction services provides the service of physically entering the field deconstructing a home. There is risk in the execution.

With older structures and vacant properties there are potential variables that cannot be overlooked nor underestimated. These variables can consist of injuries on the job, employees getting hurt while skimming a home, falling through rotted out wood, debris falling, asbestos the remains within the structure, moving and transporting the material to and from warehouse, driving with material and the potential for traffic incidents and accidents.

Part of the execution of Double D is to get into a home that may have been already “stripped” of its valuable materials. These “strippers” or “scrap-rats” may still be active or in the home at the time. This poses a risk of encounters that may be unfriendly and confrontational for our employees. They should be prepared to handle a situation that may arise and have the necessary training to implement the proper and professional decision-making that Double D employees will retain. Another obvious risk is theft. Detroit is very well documented for its crime and there is no reason to believe that Double D’s operation of deconstruction will be unaffected to this. This theft can be anything from, stealing prior to arrival, after arrival (I.e. at night, after operation hours, during transportation or lunch break), and anytime there may be an opportunity for salvaged material that is not monitored. As mentioned previously, daily security measures will be implemented to reduce the risk of theft. All this risk will most assuredly increase the liability for insurance purposes for our operation. This risk is of utmost importance to ensure our quality is not diminished by external factors.

There is always competition in any business endeavor. For deconstruction one of the main risks that may happen is the cost structure. Other companies may be offering a lower wage to their employee, due to the lack of skilled labor in Detroit, which maintains a lower payroll. Also other non-profit organizations may utilize free labor with volunteer service during the deconstruction/demolition process (i.e. Detroit Blight Busters, Habitat for Humanity). And of

course there are the “scrap-rats” who will not tolerate an organized effort into their “territory” and possibly have the foresight to streamline their efforts retrieve the quality material. An underground economy such as this exists in Detroit and should be always be under consideration in terms of completion. This increases the competition for structures that are looking for deconstruction services. Double D will need to be equipped to handle the situation maintain the expertise to keep the completion at bay and preserve a client base that merits growth for our organization.

Every organization faces a financial risk, and Double D will absorb several factors that come with a deconstruction operation. Most notably is the risk of material loss. Not only is this an execution factor, but unfortunately provide a loss of marketable material for re-sale. This requires the security of on-site material salvage and warehouse storage of materials to be of highest priority. Double D will not provide an easy avenue for thieves to retrieve material. Equipment such as trucks, trailers, tools on the job, electrical, warehouse equipment, hi-lo’s, and others can and will break down at some point. Double D will need to consider the financial risk of having to repair, replace and time-loss if the situation occurs. Equipment is vital to our operation, and a proper maintenance and daily check-list will be implemented to reduce this risk. And of course as a non-profit organization, there remains the risk of losing funding from grant issuing organizations. The lack of federal, state and local grants to fund Double D will need to be taking into account as a financial risk. The operation will not be able to continue without a steady stream of grant-money that supports Double D.

The current economy is volatile to say the least, and deconstruction is not immune to the market. The option for Double D to continue to pay their employees, security functions and the possibly for expansion is all subject to the risk of the economy. The market for wood, copper,

appliances, and value-added products could be unstable. Customers may not have the desire to purchase value-added material, instead buying material at the more traditional arrangement (i.e. through lumber yards, Menards, Lowes etc.) The customer's change of taste could have a lasting impact on the economic risk of re-sale and should be considered during the financial analysis of Double D. Expansion opportunities for Double D may be threatened if this risk occurs.

Five Year Plan

Over a five-year period, provided that there is one project a week, it is possible for Double D Demolition to turn. However, as stated previously, it is difficult to anticipate whether this will be feasible given the amount and availability of funds as well as market fluctuations. Positive projections, given one project a week, would bring \$10,000 in revenue, and therefore a net profit of \$245,801.50 within the first year. This is calculated by taking the net revenue minus the sunk and fixed costs) (\$520,000-\$274,647.50). Year 2 will be calculated by the remaining profit from year 1 + Annual Revenue from projects- fixed costs= 512,051.50. Following this pattern, year five will yield \$1,818,301.50 in total assets, provided everything is et ceteris paribus and Double D is a 501(c) (3) nonprofit organization and maintains that status (Appendix A).

Conclusion

The overall value of deconstruction can be viewed through three layers of advantages: Social, environmental and financial. Double D will be able to address all three of these benefits. From a social benefit standpoint, through deconstruction, Double D will generate jobs because deconstruction takes more time and skill. There is a 5 to 1 ratio of workers in deconstruction versus demolition. As such, this creates green collar jobs for a new green economy. It

additionally will allow residents in the City of Detroit to reuse existing materials to keep the flavor of Detroit's rich historic buildings in place.

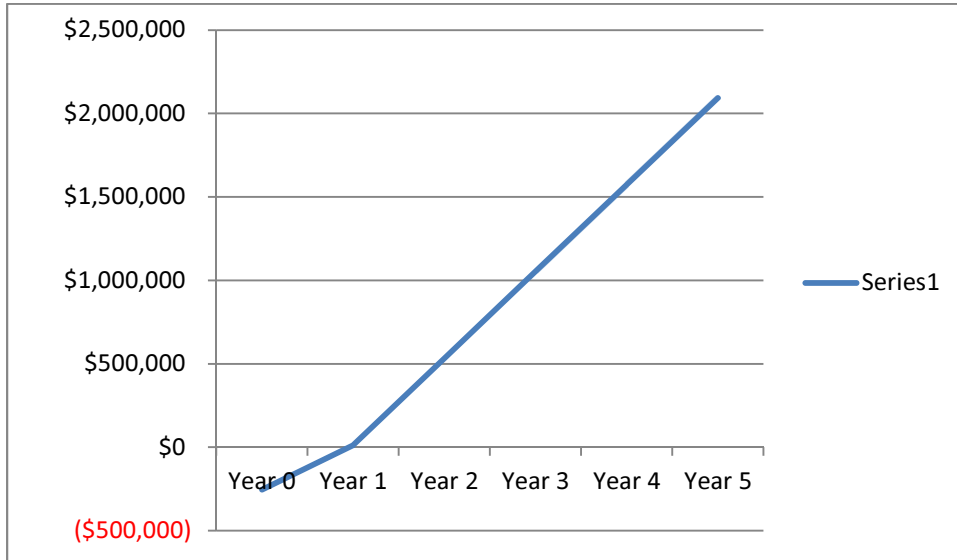
The environmental benefits include reducing the amount of gas emissions produced from landfills and incinerators. The demolition of buildings in the US produces more than 124,670,000 tons of debris each year (Second Chance, 2013). Increasing the amount of deconstruction will not only reduce the impact upon landfills and incinerators, but it will also reduce the harmful effects of caused by the transport of such materials as it will keep materials local.

The financial benefit from deconstruction generates tax savings from home or material donation. It offers a cost savings to individuals, government, business and urban developers through the use of materials collected through deconstruction for resale and reuse. It reduces dumping and demolition time and fees for donors. It provides lower cost goods during renovations. It supports organizations that build or repair homes.

Deconstruction is emerging as an alternative to demolition in the US and around the world. Techniques and tools for dismantling existing structures are gaining interest as is research to support deconstruction. Many agencies are realizing the advantages of deconstruction over demolition by funding research in area of deconstruction and materials reuse. In addition, young, rapidly expanding industries on deconstruction and used building materials are forming to efficiently bridge the logistical gap between building materials recovery and building materials resale. Double D is poised to answer the call and enter into this new green economy.

Appendix A

Revenue Graph



Appendix B

Table of Expenditures

Annual Fixed Costs	
5 Workers	\$198,750
Marketing	5,000
Contractor	\$50,000
Total	\$253,750
Sunk Equipment Costs	
Sledgehammer	\$50
Jackhammer	\$200
Concrete Saw	\$198.50
Truck	\$20,000.00
Total	\$20,449
Initial Grants/Sources of Income	
Bizdom	\$25,000
Low Interest Loan Programs	\$25,000
Collateral Support Programs	\$25,000
Capital Access Programs	\$25,000
Materials gained per Project	1000
Kresge	100,000
Total	201,000
Cost for One Day of Demolition	
Labor	\$1,000
Vehicles	\$1,575
Tools	\$50
Total	\$2,625
Cost for a Five Day Demolition Job	
	\$10,000
Five Year Plan	
Year 0	(\$253,750)
Year 1	\$12,500
Year 2	\$532,500
Year 3	\$1,052,450
Year 4	\$1,572,250
Year 5	\$2,092,052

Appendix C

Location Map

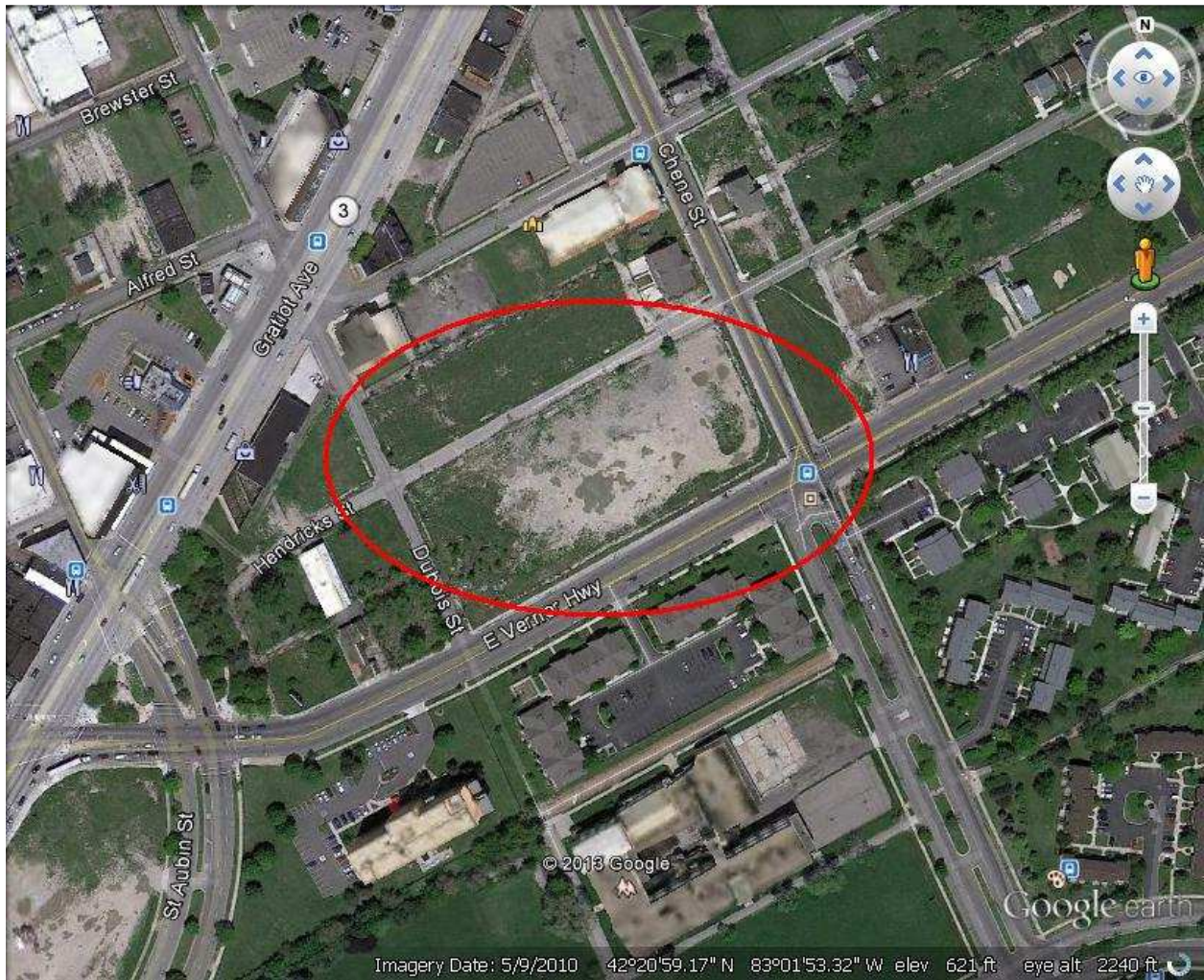


Photo Courtesy: Google Earth

Aerial view of Double D's location in the Eastern side of Detroit

Located on a rectangular parcel surrounded by:

- E. Vernor Hwy-South
- Chene Street- East
- Hendricks Street- North
- Dubois Street-West



Courtesy: Google Earth

Parcel Dimensions:

Size	3.21 Acres
Length	560 ft.
Width	250 ft.
Total Perimeter	1620 ft.
Current Use	Vacant
Total Fencing Required	1570 ft.
Entry/Exit	SE Corner on E. Vernor
Surface Level	Flat
City Services: Water, Light, Sewage	No
Entry Gate Width	50 ft.
Current Zoning	SD1 -Special Development District Residential/Commercial



Street Level View facing Northwest on E. Vernor



Street Level View: Facing Southeast on Hendricks St.

Photos Courtesy: Google Earth

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This report outlines the value brought forth through the proposed Double D Demolition Company in the city of Detroit.

This report plans to preserve Detroit's historical buildings, reuse existing materials, while removing blighted structures. The advantages are social, environmental, and financial.



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