

Feasibility Study for the Production of Industrial Hemp at the Century City Business Park

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A. Purpose

The City of Milwaukee Common Council and the Mayor directed the Department of City Development (DCD) to undertake a feasibility study to create a facility for the production of industrial hemp at the Century City Business Park (Century City), under resolution number 181465, adopted on February 26, 2019. This resolution was introduced by Alderman Khalif Rainey who represents the 7th Aldermanic District where the Century City Business Park is located. The resolution states: *“Resolution directing the Department of City Development to study the feasibility of creating a facility for the production of industrial hemp at the Century City development.”* See **Exhibit A**.

Based on discussions at the February 20, 2019 Zoning and Neighborhood Development Committee meeting, DCD has analyzed how changes in state law will affect the production of industrial hemp in the City of Milwaukee and particularly at the Century City site. The goal is to capitalize on economic development opportunities for city residents.

DCD staff will not be analyzing the feasibility for retail sales of industrial hemp products as part of this study.

B. Approach

DCD staff conducted an analysis of growing industrial hemp for seed, fiber, and clones at Century City. Staff looked at each of these types of hemp production under three possible scenarios - outdoor cultivation, indoor cultivation, and indoor hemp oil/CBD oil production. Staff considered a number of factors pertaining to each scenario including urban land use, zoning, approved plans, assessment, available land, seed types, pesticide options, soil conditions/growing medium, plowing/harvesting, employment opportunities, irrigation, security, start-up costs considerations, tax implications, sustainability opportunities, and profits/income. For the sake of this study, DCD staff assumed the land would be sold to a private entity who would undertake an industrial hemp operation.

There are numerous methods and approaches for cultivating industrial hemp and processing it. These methods and approaches can vary depending on the grower’s needs, financial resources, facilities, proprietary equipment or procedures, and the grower’s experience. Staff attempted to identify and provide information on the most common methods for cultivation and processing of industrial hemp.

DCD staff acknowledges that there are additional types of industrial hemp products such as biofuels, health care products, paper, food, clothing, insulation, concrete, and more. Given the limited scope of this study, it does not go into detail about these products.

C. Definitions

1. Cannabidiol (CBD): ingredient in both hemp and marijuana found to have analgesic, anti-inflammatory, and anti-anxiety properties without any psychoactive effects.¹

¹ *World Timeline of Hemp*. Ministry of Hemp, N.d.

2. Cannabis: family of plants with two primary classifications — Indica and Sativa. While marijuana can be considered a member of either the Indica or Sativa families, hemp is a member of the Cannabis Sativa family.
3. Clone: a smaller version of a section of the parent cannabis plant. The clone is the copy of the parent plant and can sprout independent roots when planted on its own.
4. Marijuana: the psychoactive dried resinous flower buds and leaves of the female hemp or cannabis plant (*Cannabis sativa* or *C. indica*) that contain high levels of tetrahydrocannabinol (THC) and are smoked, vaped, or ingested (as in baked goods) especially for their intoxicating effect.
5. Hemp: a tall plant that is widely cultivated for its tough bast fiber (i.e. cellulose fibers obtained from just below the bark), edible seeds, and oil. The species is often separated into a tall loosely branched variety and a low-growing densely branched variety.
6. Hemp Oil (aka hemp seed oil): is derived from the seeds of the hemp plant. Hemp oil has nutritional properties and is used in a variety of products from food to body care products to industrial applications.
7. Hydroponic growing: Growing without soil. “In a hydroponic system, plants can focus its energy on maximizing yield instead of root structures because the water, oxygen, and nutrients are readily available. Typically, hydroponic plants have smaller roots, which allow for more plants in the same amount of space.”²
8. Industrial Hemp: includes the plant *Cannabis sativa* L. and any part or derivative of such plant, including seeds of such plant, whether growing or not, that is used exclusively for industrial purposes with a tetrahydrocannabinol concentration of not more than 0.3 percent (%) on a dry weight basis.
9. Tetrahydrocannabinol (THC): the main ingredient in marijuana that produces the psychoactive effect.

Differences between Hemp and Marijuana

1. Species

While it is true that both conventional marijuana and hemp are derived from the same genus, Cannabis, each species is a bit different. Marijuana is a part of both the Cannabis Sativa and Cannabis Indica family, while hemp is exclusively a part of the Cannabis Sativa family.

2. THC Levels

- a. Marijuana: cultivars contain THC levels between 3-15%, with premium strains containing even more, sometimes upwards to 30%³
- b. Hemp: cultivars contain THC levels less than or equal to 0.3% according to law. To be considered legal hemp, THC levels must be at or below this level.

² *Hydroponics Definition: A Simple Guide to Hydroponic Growing*. Hygrozyme, N.d.

³ *Hemp vs. Marijuana: The Difference Explained*. CBD Origin, September 18, 2018.

3. Appearance

Marijuana features broad leaves, dense buds and has a short, bushy appearance. In stark contrast, hemp features skinny leaves that are concentrated towards the top of the plant and grows taller and skinnier than marijuana, with few branches beneath its upper portion.⁴

4. Uses

- a. Marijuana: grown for psychoactive properties (due to high levels of THC) principally for recreational and medicinal use.⁵
- b. Hemp: Primarily used for industrial purposes as it is capable of producing hundreds of crucial resources such as paper, clothing, building materials, biofuel, food products, oils and more.⁶

D. Research Considerations

The Wisconsin industrial hemp industry is in its infancy with only two growing seasons under its belt (2018 and 2019). The Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP) issued its first licenses to growers and processors in 2018. Based on DATCP's information, there were 245 grower licenses issued and 99 processor licenses issued for the 2018 growing season. Of the 185 growers that registered, and only 135 growers actually planted. Approximately 1,850 total field acres were planted and approximately 22 greenhouse acres were planted. There were 82 processors who registered with DATCP.

In 2019 there was a six-fold increase in grower licenses applications (1,468) and a seven-fold increase in processor licenses applications (718). There is currently no limit to the amount acreage or licenses that can be granted in Wisconsin.

There are separate considerations for the retail sales and inspections of hemp-related products. Those items will not be addressed in this report.

Potential hemp growers must decide what type of hemp to grow. There are three main types of hemp production: grain/seed, fiber, and CBD. Each use involves different seed varieties, equipment and techniques, end markets, and requires different amounts of land, labor, equipment, nutrients, security, and weed and pest control.⁷

Similar considerations need to be taken into account for the sale of industrial hemp crops, bi-products, and supply chain equipment. The costs are influenced by the supply and demand of the free market. The market costs and revenues for industrial hemp have shifted significantly within the past years (2017-2019) and continue to change as the industrial hemp industry evolves.

⁴ Ibid.

⁵ Ibid.

⁶ Ibid.

⁷ *What Variety of Hemp Should I Grow?* Wisconsin Department of Agriculture, Trade and Consumer Protection, November 2018.

Legislation that pertains to the cultivation, processing, production, distribution, regulation and sale of industrial hemp products also continues to evolve. During the drafting of this report there was legislation proposed, discussed, and introduced within the United States Congress, Wisconsin Governor's Office, State of Wisconsin Legislature, Milwaukee County Board, Milwaukee Common Council, and multiple other jurisdictions throughout the United States. Actions taken by any of these entities could have an impact on the cultivation, processing, production, distribution, regulation and sale of industrial hemp products. Therefore, the information provided in this report is subject to change and is only relevant as of the date of the drafting of this report.

E. Description of the Century City Business Park

The Century City Business Park is located on Milwaukee's north side near the intersection of North 31st Street and West Capitol Drive in the 30th Street Industrial Corridor. In 2009, the City of Milwaukee acquired 84 acres of the former A.O. Smith/Tower Automotive complex and undertook a \$40 million initiative to remediate blight, cleanup environmental contamination, update the infrastructure, and create a new business park. Between 2010 and 2014 the City razed 2.5 million square feet of buildings and remediated soil and groundwater contamination. The City also rehabilitated a 300,000-square foot industrial building for use as a rail maintenance facility. Between 2015 and 2017 the City created a storm water management facility to serve future business park tenants and made improvements to green space, streets, sidewalks, storm sewers, water supply, electrical, gas, street lights, and telecommunications.

The boundaries of the business park are generally determined by the Century City Redevelopment Plan⁸ **[Map 1]**. The business park is made up of 15 discrete parcels. Nine parcels are zoned for heavy industrial uses and the remaining seven are zoned for light industrial or commercial uses. These parcels are both privately and public owned and currently have four operators that employ hundreds of people. The businesses include Talgo, Inc., Good City Brewing, City of Milwaukee Department of Public Works, and Pak-Technologies. Two of the outlot parcels were redeveloped by a private developer for residential use as the Century City Lofts. One outlot parcel will be developed into a public green space in cooperation with the Century City Tri-Angle Neighborhood Association, Clean Wisconsin, MKE Plays, and other partners.

Approximately 75 acres of publically and privately owned land is available for new development. The publically owned properties located at 3025 and 3055 West Hopkins Street are currently undeveloped. These two properties combined total 50 acres and shall be known as the *Subject Parcels* **[Map 2]**. Approximately 12 acres of the Subject Parcels are used for a storm water management basin and related storm water swales.

⁸ *Redevelopment Plan for the W. Capital Drive and N. 35th St. "Century City" Project Area*, adopted by the Milwaukee Common Council on June 14, 2005 in Resolution Number 050190, pursuant to Section 66.113, Wisconsin State Statutes

Proceeds from Century City land sold by the City of Milwaukee repay expenditures made from Tax Incremental Financing (TIF) District #74. The average price of land within the business park is \$55,000-\$65,000/acre.⁹

Century City has many competitive advantages due to its history as a manufacturing hub. An industrial market analysis was completed as part of the *30th Street Corridor Economic Development Master Plan* (2011). The intent of this analysis was to identify competitive industries in the Milwaukee area that will provide jobs, generate growth, and demand for real estate. The targeted industrial sectors include fabricated metal manufacturing, machinery manufacturing, computer and electronics manufacturing, food manufacturing, electrical appliances and component manufacturing, and miscellaneous manufacturing. This analysis is further supported by research completed for the city's *Growing Prosperity* plan (2014 & 2016) and the type of growth taking place throughout the region.

F. Zoning

The Subject Parcels are zoned Industrial Heavy (IH). The IH zoning code allows high-intensity industry and often includes very large structures, extensive exterior storage, exterior mechanical operations, or heavy truck or equipment operations. It also accommodates uses that require large or isolated sites or harbor, airport or rail service. Century City is part of the 30th Street Industrial Corridor, the historic industrial core of the city. It has a strong relationship to shipping and rail services and includes the port of Milwaukee, the Menomonee Valley and various railroad corridors. Most sites within the IH districts throughout the city have already been developed or redeveloped. These sites seldom have excess land to provide buffer areas. Where possible, the IH district should be separated from residential neighborhoods with less intensive, non-residential districts.

Additional zoning considerations are addressed in section I.

G. Legislative Summary

Brief Timeline of Federal and State Hemp Legislation in the United States

- 1700s: American farmers in several colonies are required by law to grow hemp.
- 1937: The Marijuana Tax Act places a tax on all cannabis sales (including hemp), discouraging the production of hemp.
- 1957: The last commercial hemp fields in the US were planted in Wisconsin.
- 1970: the Controlled Substances Act classified hemp as an illegal Schedule I drug, which imposed strict regulations on the cultivation of industrial hemp as well as marijuana
- 1998: The U.S. begins to import food-grade hemp seed and oil.
- 2004: Ninth Circuit Court decision in *Hemp Industries Association vs. DEA* permanently protects sales of hemp foods and body care products in the U.S.
- 2007: The first hemp licenses in over 50 years are granted to two North Dakota farmers.

⁹ *TID Economic Feasibility Study, Proposed N. 35th St. and W. Capitol Dr. Tax Incremental District (TID #74)*, S.B. Friedman & Company, 2009. Adopted by the Milwaukee Common Council on September 1, 2009 in Resolution Number 090325

- 2014: President Obama signed the Farm Bill, which allowed research institutions to start piloting hemp farming.
- 2015: The Industrial Hemp Farming Act (H.R. 525 and S. 134) was introduced in the House and Senate. Its goal was to remove all federal restrictions on industrial hemp and legalize its cultivation.
- 2016: A Colorado farm earned the Organic certification from USDA for its hemp.¹⁰
- 2018: First pilot hemp growing season begins in Wisconsin. President Trump signs updated Farm Bill in December, legalizing hemp production at the federal level.

Recent Federal Legislation Activity

1. 2014 and 2018 Farm Bills

The 1970 Controlled Substances Act banned all cannabis, including hemp, classifying it as a Schedule I drug. The 2014 Farm Bill allowed states that had already legalized hemp farming to begin growing it for research purposes at universities within those states.¹¹

The 2018 Farm Bill went even further, federally legalizing hemp production nationwide. “It allows hemp cultivation broadly, not simply pilot programs for studying market interest in hemp-derived products. It explicitly allows the transfer of hemp-derived products across state lines for commercial or other purposes. It also puts no restrictions on the sale, transport, or possession of hemp-derived products, so long as those items are produced in a manner consistent with the law.”¹² Excerpts from the 2014 and 2018 Farm Bill industrial hemp provisions are attached as **Exhibits B & C**.

However, there still are numerous restrictions with hemp farming:

- Hemp may not contain more than 0.3% THC levels.
- State departments of agriculture must consult with the state’s governor and chief law enforcement officer to devise a plan that must be submitted to the Secretary of USDA. A state’s plan to license and regulate hemp can only commence once the Secretary of USDA approves the state’s plan. In states opting not to devise a hemp regulatory program, USDA will construct a regulatory program under which hemp cultivators in those states must apply for licenses and comply with a federally-run program.
- The law outlines actions that are considered violations of federal hemp law (including such activities as cultivating without a license or producing cannabis with more than 0.3 percent THC). The law details possible punishments for such violations, pathways for violators to become compliant, and even which activities qualify as felonies under the law, such as repeated offenses.

¹⁰ *World Timeline of Hemp*. Ministry of Hemp, N.d.

¹¹ *Farm Bill Clears Way for Hemp Legislation*. The Daily Caller, February 8, 2019.

¹² *The Farm Bill, hemp legalization and the status of CBD: An explainer*. Brookings, December 14, 2018.

CURRENT STATUS

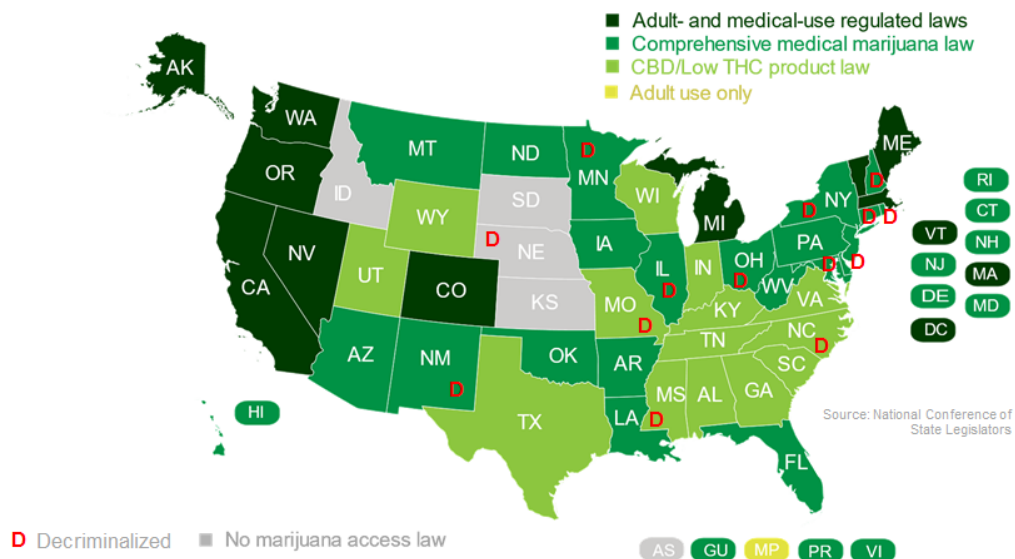


Image provided by UWM Applied Planning Workshop 2019

Note: Illinois legalized recreational marijuana in January, 2020.

Wisconsin Legislation

1. 2017 Wisconsin Act 100

2017 Wisconsin Act 100 (“the Act”) creates a state “industrial hemp” pilot program administered by DATCP. This means that only the state can issue licenses. The state’s first growing season was in 2018 and continued in 2019. Wisconsin Act 100 is attached as **Exhibit D**.

DATCP’s industrial hemp research pilot program requires both growers and processors to obtain one-time licenses, and register each year that they intend to plant/process industrial hemp. Growers and processors must also pass background checks and pay fees to participate in the program. The emergency administrative rule, ATPC 22, became effective March 2, 2018. ATPC 22 and Emergency Rule EmR1808 are attached as **Exhibit E**.

This is a research pilot program permitted under terms of the 2014 Farm Bill. As participants in the research program, growers and processors will be required to report their research plans along with their annual registrations, and to file research reports for each growing season.

2. Governor Evers’ Proposal on Marijuana/Hemp Policy and Hemp 2.0

During the drafting of this study, the Governor’s first budget proposal was introduced. It includes language amending policy to both marijuana and hemp regulations. In the 2019-21 budget bill, Governor Evers proposes changing Wisconsin’s marijuana laws to create a medical marijuana program and decriminalize offenses pertaining to small amounts of marijuana (25 grams or less), even preventing localities from establishing ordinances that would issue penalties for possessing less than that amount

of marijuana. As of January 2020, proposed legislation loosening marijuana regulations in Wisconsin has not happened.

The proposal also includes language pertaining to the realignment of hemp/CBD policy with federal regulations. 2019 AB 2016 and 2019 SB 188 or “Hemp 2.0” is legislation that brings Wisconsin’s laws more in line with the 2018 Farm Bill. This transitioned Wisconsin’s hemp program from a pilot program into a permanent program. The Amendment Memo for 2019 SB 188 is attached as **Exhibit F**.

3. Department of Agriculture, Trade, and Consumer Protection Requirements

DATCP is the lead agency for hemp regulations in the State of Wisconsin. DATCP has worked vigorously to update their regulations and information available to both growers and processors for the 2019 growing season. Since the resolution was introduced for this feasibility study the state regulations and guidance have evolved and will likely continue to evolve. The following information was taken directly from DATCP web resources as of May 2019 with an update in January 2020:

a. Licensing, Registration and Fees

You are required to have a license to grow or process industrial hemp. The grower license allows you to plant and harvest industrial hemp, if you register to do so. A processor license allows you to store, handle, and convert industrial hemp into a marketable form, if you register to do so. Both are lifetime licenses that you need only get once. If you are processing only hemp that you grow, you need only the grower license. However, processors and growers must register annually with DATCP if they plan to continue to growing or processing hemp.¹³

Grower License (one-time fee)	\$150 (0-30 acres)
	\$5 per acre (31-199 acres)
	\$1000 (200+ acres)
Processor License*	No Fee
License Modification	\$50/change (plus fee for additional acreage as listed above)
Grower Registration (annual fee)	\$350
Processor Registration (annual fee)	\$100
Sampling/testing	\$250 per sample and test (each field and variety needs at least one sample/test)

¹³ *Industrial Hemp: Licensing, Registration and Feeds*. Department of Agriculture, Trade and Consumer Protection, n.d.

Grower Registration Late Fee	\$70 (20% late fee for hemp grower annual registration renewal application form and/or payment received after March 1, 2020.)
Processor Registration Late Fee	\$20 (20% late fee for processor annual registration renewal application form and/or payment received after March 1, 2020.)

*Depending on what you are doing with the industrial hemp you process, you may need additional licenses from the department or other departments. For example, any industrial hemp processors who will be using hemp or hemp extracts in food products will need a license from the DATCP Division of Food Safety.¹⁴

Note: Additionally, the 2018 Farm Bill includes language barring individuals from obtaining licenses to hemp growing or processing if they had had a prior substance abuse conviction in the past ten years. As Alderman Rainey mentioned at the March 18, 2019 Judiciary and Legislation Committee meeting, Wisconsin's policy was even stricter, barring anyone with a criminal drug conviction from participating in the program. Resolution 181768 was unanimously recommended for adoption by the Judiciary and Legislation Committee on April 8, 2019, "directing the Department of Administration – Intergovernmental Relations Division to seek introduction and passage of State legislation to amend the State statute which prohibits certain applicants with criminal histories from receiving industrial hemp licenses." "Hemp 2.0" signed in November 2019 brought Wisconsin law in accordance with federal law, allowing individuals with a substance abuse conviction older than ten years to apply for hemp licenses.

b. Industrial Hemp Recordkeeping

DATCP requires various reports and recordkeeping for each growing season. For growers, this includes reports and records of:

- Planting report by July 1 or within 30 days after planting, whichever is earlier
- Final production report by December 15 of the crop year
- Any other reports requested
- Seed source/variety
- Agronomic and production information on soils, planting, crop development, weeds, weather, pesticide and fertilizer applications, and harvest
- Fit-for-commerce certificates for each field and variety
- Name and address of processors where the grower sent their harvested industrial hemp, or if it was not processed, how the grower destroyed or disposed of it

Hemp processors are also subject to reports and recordkeeping to be supplied to DATCP. This includes:

¹⁴ *Frequently Asked Questions: Wisconsin's Industrial Hemp Pilot Research Program*. Department of Agriculture, Trade and Consumer Protection, March 13, 2019.

- A report by December 15 each year of the quantity of industrial hemp received from licensed growers and the intended markets
- Sources of industrial hemp, including sellers' license numbers and quantities purchased
- Names and address of recipients of processed industrial hemp, and quantities sold

Both growers and processors must keep their records for at least three years.¹⁵

c. Inspection and Testing

Licensed growers must notify DATCP at least 30 days before harvest is expected to begin, so department inspectors can collect samples for THC testing. Inspectors will sample each field, and each variety planted. If there are two separate fields, both planted to the same variety, the inspector would sample each field. If there is more than one variety planted in a single field, the inspector would sample each variety. The sampling process entails taking a cutting from the top two (2) inches of multiple plants across the field to get an overall composite sample that is representative of the entire field.

The samples will go to the DATCP laboratory. The lab will dry each sample and analyze it for delta-9-THC levels. The grower will get a written analysis of the test results.

The crops can fail the test if the results indicate THC levels higher than 0.3%. Growers can request a resampling, at their expense. Only one resample per field or variety is permitted. If the retest fails, the grower will have 10 days to destroy the entire field where the sample was collected. DATCP will inspect the field after 10 days. If the crop has not been destroyed, DATCP may destroy it and invoice the grower for the cost.¹⁶

With the increase of growers for the 2019 season, DATCP struggled keeping up with testing fields. Some farmers complained that DATCP employees took too long to test their fields due to the high demand increase from the 2018 season, and that led to THC levels above the 0.3% threshold.¹⁷

d. Seeds and Transplants

DATCP requires that approved industrial hemp varieties are the only ones planted. For grain and fiber, DATCP currently references varieties listed in the Health Canada List of Approved Varieties or the Organization for Economic Cooperation and Development List of Varieties Eligible for Seed Certification. For CBD, DATCP has compiled their own list and prohibited the C4 variety for the 2019 growing season, as tests during the last years growing season consistently failed the THC test.

The Wisconsin law allows growers to plant varieties that are not preapproved as well. However, documentation must be sent to DATCP showing the variety in question has tested at or below 0.3% THC in other states pilot programs.

¹⁵ *Industrial Hemp Recordkeeping*. Department of Agriculture, Trade and Consumer Protection, n.d.

¹⁶ *Industrial Hemp Inspection and Testing*. Department of Agriculture, Trade and Consumer Protection, n.d.

¹⁷ *Hemp growers blame state agriculture officials for testing crops too late*. WKOW27. October 16, 2019.

While the law does not require that growers plant seeds that have actually been certified, DATCP highly recommends doing so. Certified seed is more likely to produce a crop that falls below the THC limit, and many markets demand hemp grown from certified seed. It will also provide legal protection; if you plant certified seed, a grower will not be prosecuted under Wisconsin law if their crop exceeds the THC limit.

DATCP also requires anyone selling hemp seeds in Wisconsin be a licensed seed labeler, and anyone selling clones to be a licensed hemp grower. However, there is no requirement for the buyer to ensure the seller has either of these licenses, though it is recommended.

Note: It is fully legal to transport hemp seeds and clones across state lines. The logistics of transporting hemp has been a bit of an issue though. For example, authorities in Oklahoma and Idaho have pulled over and arrested drivers transporting thousands of pounds of legal hemp thinking it was marijuana, even though the drivers had papers indicating the product was hemp and not marijuana. Currently, law enforcement officers do not have roadside capability to differentiate hemp from marijuana other than the naked eye.¹⁸

The legality of international seed importing is unclear at the present time. DATCP registered with the U.S. Drug Enforcement Agency (DEA) as an international seed importer. Federal law has taken industrial hemp with 0.3% THC or less off of the controlled substance list, but the DEA has not made any statement on how it would now regard imports. Thus, DATCP is recommending for growers to work independently from DATCP if they choose to buy internationally.

The first pilot program for growing industrial hemp in Wisconsin was conducted in 2018 with about 245 grower and 99 processor licenses issued by DATCP. Though the 2018 Farm Bill federally legalized hemp production, the state will still be issuing licenses and enforcing rules from the previous years' pilot program until state legislation can catch up with the federal regulations. DATCP processed 2,186 total applications for licenses for the 2019 growing season.¹⁹ Of those applications, 1468 were for growing, and about 718 were for processing.

e. **Background Checks**

The DATCP FAQ sheet indicates that if you apply for a license as a business, the operations manager is the person who the background check is conducted on, and who is legally responsible for the hemp operations. A business may also designate other points of contact for the hemp operation if it desires to do so. An applicant or an operations manager may not have a conviction for a criminal violation of the Federal Controlled Substances Act under 21 USC 801 to 971, the Uniform Controlled Substances Act under Chapter 961, or any controlled substances law of another state. If you are unsure if your conviction violates this standard, please check with an attorney. The FAQ sheet can be found at <https://datcp.wi.gov/Documents/IHFAQ.pdf>.

4. Recent City and County Legislative Activity

¹⁸ *Legal hemp or illegal pot? Police can't tell shipments apart.* Idaho State Journal, March 29, 2019.

¹⁹ *50 years later, industrial hemp back in Wisconsin.* Wisconsin Technology Council, February 26, 2019

After the City of Milwaukee Common Council adopted resolution 181465, the city's Common Council also introduced resolution number 181768: *"Substitute resolution directing the Department of Administration - Intergovernmental Relations Division to seek introduction and passage of State legislation to amend the State statute which prohibits certain applicants with criminal histories from receiving industrial hemp licenses."* This is an attempt to bring Wisconsin law in line with federal regulations. Federal law allows those with a controlled substance felony from over 10 years ago to apply for hemp licenses. At that time, Wisconsin law was more prohibitive, not allowing those with a controlled substance felony to apply for these licenses, no matter the length of time since the felony had occurred. This was changed in November, 2019 with the passage of "Hemp 2.0", allowing individuals with controlled substance felony convictions of 10 years or more to apply for hemp licensing.

The Milwaukee County Board introduced resolution 18-690 on September 14, 2018: *"A resolution requesting the Department of Parks, Recreation, and Culture to conduct a study, and provide a written report, of their conclusions on possible revenue-generating uses for the Mitchell Park Greenhouses, including the potential to grow and produce industrial hemp, hemp seeds, and cannabinoid oil, or construct a Grow Education Resource Center."* Their study was presented to the Parks, Energy, and Environment Committee on April 22, 2019 with a recommendation to allow time for State permitting to catch up with new federal regulations. The study also concluded that the Greenhouses are too small to grow a sustainable amount of industrial hemp. This was informational only and no action was taken.

Milwaukee County also introduced resolution 18-926: *"A resolution authorizing and directing the Department of Parks, Recreation, and Culture, to apply for licenses through the Industrial Hemp Research Pilot Program, Wisconsin Department of Agriculture, Trade, and Consumer Protection, to grow and process industrial hemp."*

2020 Update: Milwaukee County introduced resolution 19-718 *"A resolution requesting the Director, Department of Parks, Recreation, and Culture issue a Request for Proposals related to the lease of a greenhouse at Mitchell Park to a private entity for the purpose of propagating hemp clones and to report back to the Milwaukee County Board of Supervisors the results of the process, including recommendations for moving forward."* This was adopted at the Parks, Energy and Environment Committee on October 29, 2019. This resolution was then adopted as amended by the Milwaukee County Board of Supervisors on November 7, 2019.

5. Banking and Insurance Industries

DCD staff attended an event put on by the Wisconsin Technology Council on February 26, 2019. The event hosted panelists from the Wisconsin State Legislature, UW-Madison, and DATCP. This event was sponsored by Old National Bank and provided insight into the evolving legislation and legal issues surrounding industrial hemp. One of the current grey areas is in regard to the banking and insurance industries. While there is great interest from these industries for future business opportunities, there is also reservation in financing or insuring hemp-related operations. DCD staff reached out to representatives from the banking and insurance industries but received limited feedback with very few industry representatives willing to go on record.

Staff from the Milwaukee Economic Development Corporation (MEDC) spoke with DCD staff about the banking industry in regards to hemp. MEDC said there has been a quite a few articles in Wisconsin Bankers Association newsletters, but they focused more on retail distribution of marijuana, not industrial hemp.

MEDC had been approached by a prospective client that wanted to set up a retail space for CBD products and possibly start a growing operation, though it never materialized. At that time, MEDC's Loan Committee was comfortable with CBD retail. For anything pertaining to agriculture lending, MEDC does not believe they are the correct lender. In fact, MEDC did not feel any local lender would feel confident since agriculture is not a common land use in Milwaukee.²⁰

A December 2019 survey from the Wisconsin Bankers Association (WBA) of 85 bank executives showed that of those executives surveyed, 38% were accepting deposits on hemp businesses, and 15% said they were actively involved as lenders in hemp related businesses. Only 17% of bankers were willing to actively seek to provide loans to hemp growers and processors.²¹

The definition of "agriculture" in regard to hemp is inconsistent in Federal, State and local regulations, as follows:

Section 11119 of the 2018 Farm Bill defines hemp as an agricultural commodity, eligible for insurance under Section 518 of the Federal Crop Insurance Act (7 USC 1518). In Wisconsin, it is still listed as a controlled substance. Based on information from various state agencies hemp will be removed from the state controlled substances list, but that has not happened as of May 2019.

The Wisconsin Administrative Code, Section Tax 18, Assessment of Agricultural Property, uses the North American Industry Classification System (NAICS), United States, 1997, published by the Executive Office of the President, U.S. Office of Management and Budget. NAICS does not currently define hemp as an agricultural product. However, DATCP does recognize hemp as an agricultural crop.²²

Due to the lack of clarity and regulatory uncertainty related to industrial hemp the industry remains a high risk investment and primarily relies on cash to finance hemp-related businesses and operations.

H. Urban Agriculture Sites in the City of Milwaukee

Wisconsin is a state with a rich agricultural history. There are over 14 million acres of land dedicated to farming in the state with the average size of a farm being 221 acres.²³ Farming operations are seasonal and the employment fluctuates as the season and crop dictate. Milwaukee County reports there are five farms that employ 13 hired farm labors working 150 days or more per year.²⁴

Indoor growing operations can offer a more controlled growing environment and therefore have a more consistent, year-round, workforce. However, DCD staff was unable to find information summarizing labor data for indoor farming or greenhouse operations.

DCD staff looked at examples of outdoor urban agriculture within the Milwaukee city limits. There are numerous examples of small-scale urban gardens throughout the city. These sites are typically a few

²⁰ MEDC (email communication, March 8, 2019)

²¹ Kirwan, Hope. *More Banks May Serve Hemp Businesses*. Wisconsin Public Radio, January 6, 2020.

²² DATCP (email communication, May 10, 2019)

²³ USDA Census of Agriculture data for Wisconsin, 2017

²⁴ USDA Census of Agriculture data for Milwaukee County, 2017

thousand square feet in size, generally less than a city block. Seven examples were identified where small-scale farming or micro-farming is occurring on a commercial or cooperative basis. DCD staff reached out to farmers and organizers who work on these micro-farms to determine the size of their workforce, organizational model, type of crops grown, and if they are growing hemp or plan to grow hemp.

Below are summaries of the growing operation and organizational models that exist in the City for urban farming:

- **Alice's Garden** is located at 2136 North 21st Street. This property is a 2.2 acre parcel that is zoned Park District (PK). The land is owned by Milwaukee County and is on a ten year lease with Alice's Garden. The garden was established in 1972 and has around 100 community plots for rental encompassing slightly over one acre in total. About half an acre is used as production plots for various herbs. Various community programming is also available, including yoga in the garden, an artisan market, among other things. Alice's Garden is a non-profit organization that has about three volunteer staff to organize the garden and run the programs. There are no true fulltime employees. The only paid staff, at \$12 per hour, coordinates a summer training program for adults. Currently, there are four staff members in that role but plans are to have eight by the end of June 2019. Alice's Garden is not currently interested in hemp, citing that many other herbs are comparable. They could not speak on the interests of individual renters at the site, however.²⁵
- **Cream City Farms** is located at 2055 North 30th Street. This property is a 1.5-acre parcel owned by the Redevelopment Authority of the City of Milwaukee (RACM) and leased to Groundwork Milwaukee and Cream City Farms. RACM worked with a number of public and private partners to develop a sustainable, urban micro-farm that grows produce and maintains a Community Supported Agriculture program. The property is zoned Industrial-Mixed (IM). The property is a brownfield site that had a variety of historic industrial uses that created environmental contamination. Cream City Farms worked with a development team and worked with the Wisconsin Department of Natural Resources (WDNR) to find a solutions that allowed farming to take place at this location. The solution involved bringing in 24 inches of clean topsoil and creating a four (4) inch warning barrier between the imported soil and the disturbed fill material below. Cream City Farms has been operating since 2016 and has one full-time owner/operator and seasonal volunteers. No hemp is being grown at this time.
- **Growing Power/Will's Roadside Farm/Will Allen's Beyond Organics/Select Management** has a facility at 5500 West Silver Spring Drive (with another operation in Oak Creek). This is a 1.9 acre property that is privately owned and currently tax exempt. It is zoned Detailed Planned Development (PD). DCD staff attended an event at Lakefront Brewery on March 10, 2019, sponsored by Will Allen's Beyond Organic and met growers, processors, and other people involved in the hemp and CBD oil industry. Staff spoke with a representative in the late summer of 2019. They were extremely interested in hemp cultivation and were in the process of planning to develop a facility to grow hemp into the city limits soon thereafter.²⁶

²⁵ Alice's Garden (phone conversation, May 16, 2019).

²⁶ Will Allen's Beyond Organics (phone conversation, July, 2019).

- **Kohl Park** is located at 7603 & 9001 West County Line Road. These two properties are owned by Milwaukee County and are 271.8 acres combined with about 2/3 of that being used as farm land. These properties are zoned Park District (PK) and the county leases the land to UW Extension and private farmers. No hemp is being grown at this time.
- **Victory Garden Urban Farm** is located at 220 East Concordia Street. This property is a 1.4 acre parcel that is zoned Two-Family Residential (RT4). The land is privately owned by Victory Garden Initiative and is taxable. The site is made up of community plots for Community Supported Agriculture (CSA). The farm grows vegetables and herbs for local restaurants and provides year-round programming for youth. They also have a kitchen that is soon going to be renovated and used as a community space and for education for youth. They currently have three full time employees and one half time employee. No hemp is being grown at this time.²⁷
- **Walnut Way Conservation Corporation** is a non-profit organization that began in 2000. The organization planted orchards and gardens in vacant lots in the Lindsay Heights Neighborhood. Produce and fruit grown in the Walnut Way area are sold to local markets, restaurants, and grocery stores. It is also sold at the Fondy Farmers Market located at 2200 W. Fond du Lac Ave. Walnut Way does not grow hemp. It is included in this report because they were identified in the *Near North Side Area Plan* and the *30th Street Corridor Economic Development Master Plan* as an agricultural model or an example that would be compatible with the area.
- **9500 West Good Hope Road and 7235 North Granville Road** are two privately-owned properties and total 11 acres. These properties are zoned Single Family Residential (RS2). These parcels are used to grow produce for profit. The produces is sold at a roadside stand near W. Good Hope Rd. and N. Granville Rd. The City of Milwaukee Assessor's Office assesses these properties pursuant to the Wisconsin agricultural use laws.

There are a number of commercial greenhouse and indoor growing operations within the Milwaukee city limits. At least one of these operations is currently growing hemp clones for CBD oil purposes, using a 16,000-square foot green house and an aquaponics system for growing.

I. Feasibility Scenarios for Growing Hemp at Century City

DCD staff conducted analysis on the main types of hemp production in Wisconsin – grain/seed, fiber, clones and CBD oil. They looked at each of these types of hemp production under three possible scenarios - outdoor cultivation, indoor cultivation, and Hemp oil/ CBD oil processing. Staff considered a number of factors pertaining to each scenario including:

²⁷ Victory Garden Initiative (phone conversation, May 15, 2019).

- urban land use
- zoning
- approved plans
- assessment
- available land
- seed types
- pesticide options
- soil conditions/growing medium
- plowing/harvesting
- employment opportunities
- irrigation
- security
- start-up costs considerations
- tax implications
- sustainability opportunities
- profits/income

Then, DCD staff developed recommendations. For the sake of this study DCD staff assumed the land would be sold to a private entity who would undertake an industrial hemp-related operation.

DCD staff acknowledges that there are numerous methods and approaches to cultivating industrial hemp. These methods and approaches could vary depending on the private grower's needs, financial resources, facilities, proprietary equipment or procedures, and the grower's experience. Staff attempted to identify scenarios that might be considered the most common methods for cultivation and provided the information below.

1. Outdoor Growing Operation

Urban Land Use Description: Commercial farming. This use would be licensed, permitted and inspected by DATCP, not the City of Milwaukee Department of Neighborhood Services.

Type of Crops: hemp for grain/seed, fiber, and CBD oil.

Zoning/Approved Plans: The Subject Parcels within Century City are zoned Industrial Heavy (IH). The IH zoning code allows for agricultural uses, as *Commercial Farming Enterprise*.²⁸ However, the Redevelopment Plan for the W. Capitol Drive and N. 35th Street "Century City" Project Area prohibits certain agricultural uses like "*Raising of Crops and Livestock*."²⁹ The Redevelopment Plan would have to be amended and approved by RACM and the Milwaukee Common Council to allow for an agricultural use.

The Near North Side Area Plan (2009) makes references to a smaller scale urban agricultural initiatives such as Growing Power, Johnsons Park (Alice's Garden), and Walnut Way; however, it does not make any recommendations for large scale farming efforts in the area. The *30th Street Corridor Economic Development Master Plan* (2011) makes no mention of agricultural-related uses.

Property Assessment: Wisconsin assessors are guided by State of Wisconsin statutes, the Wisconsin Property Assessment Manual (WPAM), and Wisconsin property tax case law. WPAM indicates that in order for land to be eligible for classification as "Agricultural," the activities and use of the property must fit within the definitions contained in Wis. Admin. Code § Tax 18.05. The administrative code defines "Agricultural uses" for assessment purposes based on the activities defined in subsector 111 (Crop Production) and subsector 112 (Animal Production) of the North American Industry Classification

²⁸ City of Milwaukee Code of Ordinances, Chapter 295, Subchapter 8, Industrial Districts

²⁹ *Redevelopment Plan for the W. Capitol Drive and N. 35th Street "Century City" Project Area*, page 11, Redevelopment Authority of the City of Milwaukee, 2005

System (NAICS). Hemp farming is not currently defined in subsectors 111 or 112 of the United States' version of NAICS.

Other state and federal governmental agencies, however, recognize hemp as a legal agricultural product. For example, DATCP considers hemp an agricultural product for assessments. The United States Food and Drug Administration removed hemp from the Controlled Substances Act, and in Wisconsin, hemp will be removed from the state's controlled substances list (but that has not yet happened). Under the 2018 Farm Bill, hemp is an agricultural commodity, eligible for insurance under Section 518 of the Federal Crop Insurance Act (7 USC 1518).

As the administrative rule-making moves forward on the federal and state level to implement the legal production of industrial hemp, it is likely that hemp farming will be an agricultural use for property assessment purposes.

The classification of industrial hemp production as an agricultural use for assessment purposes is important for this report because agricultural land is assessed at a lower rate than industrial land. As an example, DCD staff looked at the privately-owned parcels located at 9500 West Good Hope Road and 7235 North Granville Road which are zoned single-family residential and are currently being used for agricultural purposes. This land is assessed at \$200/acre (2018) for agricultural use where other residential land in the area is being assessed between \$100,000 - \$200,000/acre (2018). In comparison, the assessed value of 3945 North 31st Street (Century City 1 building) is currently assessed at \$401,395/acre (2018). These are not apples-to-apples comparisons, however they demonstrate that land assessed under an agricultural classification is assessed at a fractional rate compared to urban land use classifications.

Available Land: Approximately 30 acres of 3025 & 3055 W. Hopkins St. (Subject Parcels) could be available for cultivation. This would leave a portion of the Subject Parcels available for storm water infrastructure, farm roads, and farm buildings.

DATCP produced a document entitled "*What Variety of Hemp Should I Grow?*" This document is attached to this study as **Exhibit G**. Information included in this document is summarized below.

Planting Time: 1) Grain/seed – Mid-May to Mid-June

2) Fiber – Early May to Early June

3) CBD – Clones should be started indoors and can be transplanted outdoors by mid-June.

Plant Height: 1) Grain/seed – 5-7 feet tall

2) Fiber – 10-18 feet tall

3) CBD – 6-12 feet tall

Harvest Time: 1) Grain/seed – generally 100-120 days after planting, mid-September to mid-October

2) Fiber – generally 45-70 days after planning; mid-July to early August

- 3) CBD – Female plants grown to near maturity, mid-September to mid-October

Harvest Method:

- 1) Grain/seed – regular combine
- 2) Fiber – mower and a hay baler
- 3) CBD – cut by hand and removed from the field

Post-Harvest Handling:

- 1) Grain/seed – clean before storage in a grain bin, where forced air dries the crop
- 2) Fiber – left to field dry to 15% moisture, then baled
- 3) CBD – dried in drying sheds or warehouse to processor's specifications. After drying, flowers, and some leaf materials are removed from stalks, packaged and sent to processor for oil extraction

Seed Varieties: Whether growing for CBD oil, grain, or fiber, a grower must plant approved industrial hemp varieties. For grain or fiber, approved varieties are on either the current Health Canada List of Approved Varieties or the current Organization for Economic Cooperation and Development List of Varieties Eligible for Seed Certification. For CBD, DATCP has a list of approved varieties. If a grower wants to plant other varieties, the grower can send a request before planting to DATCPIndustrialHemp@Wisconsin.gov, and provide documentation that the variety has tested at 0.3 percent THC or below in another state's pilot program.

Regardless of documentation provided or approval given, all industrial hemp grown in Wisconsin must test at or below 0.3 percent THC in the DATCP's laboratory or be destroyed.

DATCP staff and growers have indicated that not all of the seed variants are suitable for Wisconsin's climate. Hemp is a high-risk crop from an investment standpoint and a legal standpoint (plants above 0.3% THC need to be destroyed). In at least one case the seed variant (C4) is prohibited from being grown in Wisconsin, based on 2018 THC test results. DCD also collected anecdotal information from growers stating that because of the evolving nature of the industry the backend commitments (i.e., buyers) can be soft because of uncertainties in the market, financing and production.

Pesticide Options: There are 44 varieties of pesticides, fungicides, bactericides, and anti-microbial substances that are allowed to be used on hemp in Wisconsin. A list can be found on DATCP's website. These substances have different applications, purposes, requirements, and costs. An individual grower will need to assess their specific need, concern, and area of application to determine the appropriate substance. Due to these variables, the cost of pesticide application is difficult to assess and will vary from season to season.

Soil Conditions/Growing Medium: Field investigations at Century City have characterized the soils as unconsolidated fill material down to 10 feet below grade surface (bgs), and in some cases below 18 feet

bgs.³⁰ The fill material consists of clay, brick, rubble, and miscellaneous debris. This material is impacted with low-level polycyclic aromatic hydrocarbons (PAHs), heavy metals, and volatile organic compounds (VOCs) that exceed the WDNR NR 720 Residual Contaminant Levels (RCLs) for industrial direct contact, non-industrial direct contact, and groundwater pathway limits in select areas.³¹ Given the known environmental conditions on-site, the WDNR would not allow the cultivation of plants without an adequate barrier. This barrier would have to meet the standards for landscaped areas designed to mitigate direct contact standards.³² Typically a barrier involves a warning layer of crushed stone beneath the topsoil and a minimum of 24 inches of clean soil. This is the process that was required as part of the Remedial Action Plan (RAP) for Cream City Farms.³³ Due to the large size of the proposed farming activities at the Century City site, the depth of clean soil would likely need to be increased to accommodate mechanical tilling or plowing.

Any soil brought onto the site must come from a clean source and follow NR700 regulatory standards. Depending on the type of crop a grower intends on producing, the hemp will require varying degrees of organic matter and nutrients to maintain the quality of the crop. Multiple sources have indicated that hemp requires the same fertility inputs as a high-yield crop of wheat or corn.^{34 35} The hemp plant grows best in well-drained loam soils and prefers a pH of 7.0-7.5, but will grow in a pH of 6.0.³⁶

DCD asked its environmental consultant, AECOM, to provide guidance for bringing in clean soil for cultivation. See **Exhibit H** for additional details. The costs for importing clean soil will be determined by the volume that is required and its availability. The cost estimate for acquiring, importing and placing 30 acres of clean soil range from \$4,894,000 to \$5,160,200.

Plowing/Harvesting Methods: Equipment such as a grain drill, broadcast seeder, mower, combine, hay baler, a plow, among other types of farming equipment would be necessary to farm 30 acres of land.

Employment Opportunities: 1-2 full-time. More hired workers seasonally.³⁷ Security will be necessary for the site and could be the source of a few more jobs.

Irrigation: To ensure the success of a crop and enhance the quality of the product an irrigation system is required. Successful irrigation uses a combination of rainfall and applied water to conserved energy, reduce costs and protect groundwater.^{38 39} The use of groundwater on Century City is not possible due

³⁰ *Supplemental Site Investigation Report (Site Wide)*, AECOM, October 2018

³¹ *Ibid.*

³² *Remedial Action Options Report and Conceptual Remedial Action Plan for Site Wide Development at the Century City Business Park*, AECOM, October 2018

³³ *Summary of Remedial Actions Conducted to Date and Pathway to Closure, 2055 North 30th Street, Milwaukee, Wisconsin*, GZA GeoEnvironmental, June 28, 2016

³⁴ *Hemp Project: Hemp Production*. Purdue University, n.d.

³⁵ *Industrial Hemp from Seed to Market*, Cornell University, May 2017

³⁶ *Ibid.*

³⁷ Information based on conversations with farmers from Ozaukee, Manitowoc, and Milwaukee counties and USDA data.

³⁸ *Factors to Consider in Selecting a Farm Irrigation System*. Bulletin 882, University of Georgia Extension, December 23, 2015

to groundwater contamination associated with the historic uses as a manufacturing facility. Use of the storm water is possible but the capacity might only be adequate for part of the growing season. Storm water will need to be supplemented with municipal water.

Security: The site will need to be fenced and monitored. Security measures and signage indicating that the hemp contains “No THC” is being used in rural areas. Small, secure buildings will be necessary to store equipment (tractor, plow, fuel, tools, seed, storage, etc.) and to dry the crop.

Start-Up Cost Considerations:

- Land price
- Importing and placing a clean soil engineered cap
- Outbuildings
- Plumbing/Irrigation
- Electrical
- Equipment for plowing and harvesting
- Storm water fees and municipal water costs
- Security fence, cameras, and guard service
- License Fee
- Permitting
- Insurance

Tax Implications: TID #74 was created in 2009 and assumes the Subject Parcels will be developed for industrial purposes. An agricultural use will not generate sufficient incremental tax revenue to cover the debt incurred by the TID.

Sustainable Energy Opportunities: The City of Milwaukee evaluated the feasibility of installing renewable energy generating facilities at Century City. The site is suitable for solar photovoltaic and wind towers. Midwest Energy Research Consortium (M-WERC) and the City also completed a feasibility analysis of building a micro-grid system at Century City.

The City constructed a storm water basin that was designed to provide storm water management for the future tenants of Century City. The storm water being stored in the basin could theoretically be used for irrigation of a crop.

The City is working closely with the Milwaukee Metropolitan Sewerage District (MMSD) to implement green infrastructure improvements in the area.

Any of these sustainable energy opportunities could be utilized to support the production of industrial hemp.

Profits/Income: The Wisconsin hemp industry is in its infancy and just completed its first two growing seasons (2018 & 2019). The markets are currently in flux with a number of new growers coming on-line and the end market is not mature or secure. DCD staff was not able to develop any reliable revenue projections for an urban farming operation for these reasons

³⁹ *Irrigation Management in Wisconsin*. A3600-01, UW Extension Publication, January 2015

Recommendation:

This scenario involves the planting of hemp in soil located at Century City for three crops – hemp for grain/seed, for fiber, and/or for CBD oil. The quality of the soil and plant are important to each of these crops, especially for growing hemp for CBD oil because it is used for human consumption. Based on the extraordinary costs of preparing the Subject Parcels for farming, seasonal growing limitations, limited employment opportunities, devaluation of using the land for an agricultural activity, the inability to repay TID #74, and the loss of 50 acres of contiguous industrial land, and other reasons stated in this report; DCD staff has determined that commercial outdoor farming is not a practical or feasible option for Century City.

2. Indoor Growing Operation

Urban Land Use Description: Commercial growing in a covered structure or greenhouse. This use would be licensed, permitted and inspected by DATCP, not the City of Milwaukee Department of Neighborhood Services.

Type of Crops: seed, CBD oil, clones

Zoning/Approved Plans: The Subject Parcels within Century City are zoned Industrial Heavy (IH). The IH zoning code allows for agricultural uses, such as *Plant Nursery or Greenhouse*.⁴⁰ The *Redevelopment Plan for the W. Capitol Drive and N. 35th Street “Century City” Project Area*⁴¹ does not deviate from the IH zoning code.

The Near North Side Area Plan makes references to urban agricultural initiatives such as Growing Power, Johnsons Park (Alice’s Garden), and Walnut Way. The *30th Street Corridor Economic Development Master Plan* (2011) does not mention of agricultural related uses.

Assessment: An indoor growing operation would be assessed based on an evaluation by the City of Milwaukee Assessor’s Office. An assessment could vary widely depending on whether or the not the improvements to the Subject Parcels are temporary (e.g., hoop houses) or permanent (e.g., flex industrial building) and level of investment in permanent infrastructure (e.g., irrigation system, solar, plumbing, electrical, HVAC, etc.).

Available Land: Growing methods vary widely. Individual growers would need to determine how to maximize their growing operation to maximize profits.

Planting Time: 1) Grain/seed – year round

2) Fiber – not conducive to growing indoors

3) CBD – year round

⁴⁰ City of Milwaukee Code of Ordinances, Chapter 295, Subchapter 8, Industrial Districts

⁴¹ *Redevelopment Plan for the W. Capitol Drive and N. 35th Street “Century City” Project Area*, page 11, Redevelopment Authority of the City of Milwaukee, 2005

- Plant Height:**
- 1) Grain/seed – 5-7 feet tall
 - 2) Fiber – not conducive to growing indoors
 - 3) CBD – 6-12 feet tall

- Harvest Time:**
- 1) grain/seed – year round
 - 2) Fiber – not conducive to growing indoors
 - 3) CBD – year round

- Harvest Method:**
- 1) Grain/seed – by hand
 - 2) Fiber – not conducive to growing indoors
 - 3) CBD – by hand

- Post-Harvest Handling:**
- 1) Grain/seed – clean before storage - forced air drying equipment
 - 2) Fiber – not conducive to growing indoors
 - 3) CBD – dried in drying sheds or warehouse to processor's specifications. After drying, flowers, and some leaf materials are removed from stalks, packaged and sent to processor for oil extraction

Seed Varieties: Whether you are growing for CBD oil, seed, or clones you must plant approved industrial hemp varieties. For grain or fiber, approved varieties are on either the current Health Canada List of Approved Varieties or the current Organization for Economic Cooperation and Development List of Varieties Eligible for Seed Certification. For CBD, DATCP has a list of approved varieties. If a grower wants to plant other varieties, the grower can send a request before planting to DATCPIndustrialHemp@Wisconsin.gov, and provide documentation that the variety has tested at 0.3 percent THC or below in another state's pilot program.

Regardless of documentation provided or approval given, all industrial hemp grown in Wisconsin must test at or below 0.3 percent THC in the Department of Agriculture, Trade and Consumer Protection's laboratory or be destroyed.

DATCP staff and growers have indicated that not all of the seed variants are suitable for Wisconsin's climate. Hemp is a high risk crop from an investment standpoint and a legal standpoint (plants above 0.3% THC need to be destroyed). In at least one case the seed variant (C4) is prohibited from being grown in Wisconsin, based on 2018 THC test results. DCD also collected anecdotal information from growers stating that because of the evolving nature of the industry the backend commitments (i.e., buyers) can be soft because of uncertainties in the market, financing, and production.

Pesticide Option: There are 44 varieties of pesticides, fungicides, bactericides, and anti-microbial substances that are allowed to be used on hemp in Wisconsin. A list can be found on DATCP's website.

These substances have different applications, purposes, requirements, and costs. An individual grower will need assess their specific need or concern and area of application to determine the appropriate substance. Due to these variables, a costs for pesticide application is difficult to assess and will vary from season to season. In a controlled environment it is possible to successfully grow hemp without pesticides. Some local greenhouse operations do not use pesticides.

Soil Conditions/Growing Medium: If a grower decides to grow indoors, but utilize the existing soil at Century City, they will need to understand the soil conditions and the remedial action plan requirements. Field investigations at Century City have characterized the soils as unconsolidated fill material down to 10 feet below grade surface (bgs), and in some cases below 18 feet bgs.⁴² The fill material consists of clay, brick, rubble, and miscellaneous debris. This material is impacted with low-level PAHs, heavy metals, and VOCs that exceed the WDNR NR 720 Residual Contaminant Levels (RCLs) for industrial direct contact, non-industrial direct contact, and groundwater pathway limits in select areas.⁴³ Given the known environmental conditions on site the WDNR would not allow the cultivation of plants without an adequate barrier. This barrier would have to meet the standards for landscaped areas designed to mitigate direct contact standards.⁴⁴ Typically a barrier involves a warning layer of crushed stone beneath the topsoil and a minimum of 24 inches of clean soil. This is the process that was required as part of the Remedial Action Plan (RAP) for Cream City Farms.⁴⁵ The depth of soil at Century City would likely need to be increased to accommodate mechanical tilling.

Any soil brought onto the site must come from a clean source and follow NR700 regulatory standards. Depending on the type of crop a grower intends on producing, the hemp will require varying degrees of organic matter and nutrients to maintain the quality of the crop. Multiple sources have indicated that hemp requires the same fertility inputs as a high-yield crop of wheat or corn.^{46 47} The hemp plan grows best in well-drained loam soils and prefers a pH of 7.0-7.5, but will grow in a pH of 6.0.⁴⁸

A grower could choose to use a hydroponic or aquaponics growing system for industrial hemp. The techniques for growing plants either through hydroponics or aquaponics vary widely and would be specific to the growers needs and expected outcomes. The grower would need to plumb water from the municipal water source. It may be possible to use water from the storm water management basin or similar facility.

Plowing/Harvesting Methods: The equipment would be determined by the techniques an individual grower is using.

⁴² *Supplemental Site Investigation Report (Site Wide)*, AECOM, October 2018

⁴³ Ibid.

⁴⁴ *Remedial Action Options Report and Conceptual Remedial Action Plan for Site Wide Development at the Century City Business Park*, AECOM, October 2018

⁴⁵ *Summary of Remedial Actions Conducted to Date and Pathway to Closure, 2055 North 30th Street, Milwaukee, Wisconsin*, GZA GeoEnvironmental, June 28, 2016

⁴⁶ *Hemp Project: Hemp Production*. Purdue University, n.d.

⁴⁷ *Industrial Hemp from Seed to Market*, Cornell University, May 2017

⁴⁸ Ibid.

Employment Opportunities: An indoor facility would also allow for year-round employment. Projections for employment vary on scale. A greenhouse in Milwaukee, which has 16,000-square feet, grows hemp clones and employs about four (4) people. Security will be necessary for the site and could be the source of a few jobs.

Irrigation: To ensure the success of a crop and enhance the quality of the product, an irrigation system is required. Successful irrigation uses a combination of rainfall and applied water to conserve energy, reduce costs and protect groundwater.^{49 50} The use of groundwater on Century City is not possible due to groundwater contamination associated with the historic uses as a manufacturing facility. Use of the storm water is possible but the capacity might only be adequate for part of the growing season. Storm water will need to be supplemented with municipal water.

Security: The Subject Parcels will need to be fenced and monitored. Small, secure buildings will be necessary to store equipment (tractor, plow, fuel, tools, seed, storage, etc.) and to dry the crop. An indoor facility takes up a significantly smaller footprint than an outdoor facility. Security is also easier to manage with all the products being located indoors compared to an exposed, outdoor growing operation. Security measures would be similar to what is in place at the Century City 1 building (i.e., fences, locked doors, cameras).

Start-Up Cost Considerations: Depending on what sort of indoor facility would be utilized, costs would vary drastically. Simplistic hoop-houses can be constructed as low as \$500 per unit, though this type of structure may not be adequate for security purposes. Greenhouses are another option, with high quality greenhouses easily exceeding thousands of dollars per unit. Additionally, construction of a 50,000-square foot flex industrial building, similar to the Century City 1 building, would cost \$4,500,000.

Startup Cost Considerations:

- Soil or growing medium
- Land price
- Importing and placing clean soil, if growing in soil, or growing medium
- Outbuildings
- Greenhouse structures
 - o Benches/tables
 - o Heating/Fans
 - o Lights
 - o Containers
 - o Irrigation/Piping
- Seed costs
- Plumbing infrastructure
- Electrical infrastructure
- Intense energy usage for lighting and heating
- Equipment for harvesting

⁴⁹ *Factors to Consider in Selecting a Farm Irrigation System*. Bulletin 882, University of Georgia Extension, December 23, 2015

⁵⁰ *Irrigation Management in Wisconsin*. A3600-01, UW Extension Publication, January 2015

- Storm water fees and municipal water costs
- Security fence and cameras, and guard service
- License Fee
- Permitting
- Insurance

Tax Implications: TID #74 was created in 2009 and assumes the Subject Parcels will be developed for industrial purposes. Agricultural land is assessed at a fraction of the assessment for industrial land. Land used for farming will not generate enough tax revenue to repay the TID.

Sustainable Energy Opportunities: The City of Milwaukee evaluated the feasibility of installing renewable energy generating facilities at Century City. The site is suitable for solar photovoltaic and wind towers. Midwest Energy Research Consortium (M-WERC) and the City also completed a feasibility analysis of building a micro-grid system at Century City.

The City constructed a storm water basin that was designed to provide storm water management for the future tenants of Century City. The storm water being stored in the basin could theoretically be used for irrigation of a crop.

The City is working closely with the Milwaukee Metropolitan Sewerage District (MMSD) to implement green infrastructure improvements in the area.

Any of these sustainable energy opportunities could be utilized to support the production of industrial hemp.

Profits/Income: The Wisconsin hemp industry is in its infancy and just completed its first two growing seasons (2018 & 2019). The markets are currently in flux with a number of new growers coming on-line in and the end market is not mature. Growers could see varying amounts of profit based on the type of industrial hemp they decide to grow and based on the technique they choose to utilize. DCD staff was not able to develop any reliable revenue projections for an indoor growing operations for these reasons.

Recommendations: This scenario involves growing hemp indoors. An indoor growing facility offers the most flexibility and opportunity for year-round production. Indoor growing also offers a controlled environment in regard to temperature, moisture, and growing medium. The control of these conditions will allow for a higher quality product, particularly when growing hemp for CBD oil. The indoor growing facilities can range from a relatively simple structure such as a hoop house to something more substantial like the flex industrial building similar to what General Capital developed (Century City 1), now owned by Good City Brewing. Based on anecdotal information collected by DCD staff, a small scale, indoor growing operation can be as small as 5,000-square feet, with an ideal size of 25,000-50,000-square feet.

DATCP suggests that greenhouse operations are more suitable in urban areas, “either as starter plants or clones for movement to fields for finishing or for growing certain varieties to maturity.”⁵¹ Some indoor growing methods require additional resources such as lighting that would incur additional costs for utilities and equipment.

⁵¹ DATCP (email communication, April 11, 2019)

Having an indoor space would also allow for a nearly year-round growing operation. It is quite expensive to set up and monitor hydroponic or aquaponics growing operations. If it is an automated system, it still requires constant monitoring. It can also be risky. Unlike a soil-based growing system, a hydroponic system cannot store water, oxygen, and nutrients essential to the plants survival if there is a failure.⁵²

An indoor growing operation would not result in significant employment opportunities. In addition, the cost to acquire the land, improve the site with plumbing, electricity and secure the structures would be cost prohibitive. The DCD staff has determined that while an indoor growing operation is technically feasible at Century City, it would not likely result in a profit and the tax increment from an indoor growing operation (hoop house or greenhouse) would not be able to repay the TID. However, the development of a flex industrial building would yield opportunities for both growing hemp and future industrial uses.

3. Indoor Processing of Industrial Hemp for Oil

Urban Land Use: Processing industrial hemp

This scenario involves creating a hemp processing facility for extracting hemp oil and CBD oil at Century City. Based on research and conversations with local processors, there are two primary ways of extracting oil from the plants - supercritical carbon dioxide (CO₂) extraction and ethanol extraction. Both methods are used widely and will produce high-quality CBD oil. The extraction equipment ranges in price from low end items you can buy at the local hardware store for extracting hemp oil to expensive, high-end stainless steel equipment made by companies that specialize in extraction for CBD oil. A processor would need to determine their particular method for extracting oil and what quantity, quality, and consistency of product they would like to produce.

Hemp oil and CBD oil are also commonly mischaracterized as the same thing. They are not. Hemp oil contains no CBD and is used in foods and lotions. CBD oil is much more concentrated, and while can also be used in food, is primarily used medicinally as a natural pain reliever.

According to DATCP, a processor will need a one-time license and annual registration to process industrial hemp in Wisconsin. Processing industrial hemp includes transporting, warehousing and converting the industrial hemp to a marketable form. A processor license is also needed if the processor will be packaging and labeling raw industrial hemp for retail sale. If a grower processes their own product, and does not accept product from other licensed growers, they do not need a processor license. Depending on the final hemp product produced, additional licenses from DATCP or other State of Wisconsin departments may be required. For example, any industrial hemp processors who use hemp or hemp extracts in food products will need a license from the DATCP Division of Food Safety. An oil processor will also need permits from the City of Milwaukee Department of Neighborhood Services (DNS).

An anonymous hemp grower spoke with DCD staff and said the success of the hemp industry is based on projections. They said many CBD consumers like locally produced products and that the disparity

⁵² Ibid.

between DATCP growers and processors applications lead them to believe a processing facility would be best if the city were to pursue hemp.⁵³

Zoning/Approved Plans: The Subject Parcels within Century City are zoned Industrial Heavy (IH). DCD staff is assuming that a hemp processing facility would be classified as Manufacturing, Heavy because of potential odors that cross the property line. A final determination would be made by the City of Milwaukee Development Center once staff has a chance to review an operations plan submitted by a private business owner. Manufacturing, Heavy is allowed under IH zoning.⁵⁴

The *Redevelopment Plan for the W. Capitol Drive and N. 35th Street “Century City” Project Area*⁵⁵ indicates that Manufacturing, Heavy is a “conditional” use. This type of facility would require approval from the RACM Board of Commissioners. The operator would have to demonstrate that the facility would meet the conditions outlined in the Redevelopment Plan.⁵⁶

The Near North Side Area Plan encourages manufacturing operations. The 30th Street Corridor Economic Development Master Plan (2011) also encourages manufacturing operations.

Assessment: The property would be assessed by the City of Milwaukee Assessor’s Office as a manufacturing facility.

Available Land/Facility: The Subject Parcels total 50 acres that can be subdivided into smaller parcels and sold to private owners.

The City of Reedsburg, Wisconsin recently sold three (3) acres of land to a private business owner planning to set up an 8,400 square foot facility to process industrial hemp. Tim Becker, Reedsburg’s city administrator, indicated the building is fairly non-descript and non-specific space.⁵⁷ The operator of this business stated the facility will contain used equipment to dry hemp seed on an industrial scale. He was quoted in the Reedsburg Times-Press as saying “location is everything” and the crop is lost if the seed is not harvested in 4-8 hours.⁵⁸ DCD staff has heard from other processors that it is important to have a processing facility in close proximity to the growers.

Soil Conditions: A new building and parking lot at Century City would act as an engineered cap for soil contamination and would need the approval from the WDNR.

Employment Opportunities: The Reedsburg facility is expected to create 1-4 jobs. Other processors DCD staff spoke with employ no more than two (2) employees. Security will be necessary for the site and could be the source of a few more jobs.

⁵³ Anonymous (phone conversation, April 11, 2019)

⁵⁴ City of Milwaukee Code of Ordinances, Chapter 295, Subchapter 8, Industrial Districts

⁵⁵ *Redevelopment Plan for the W. Capitol Drive and N. 35th Street “Century City” Project Area*, page 11, Redevelopment Authority of the City of Milwaukee, 2005

⁵⁶ *Redevelopment Plan for the W. Capitol Drive and N. 35th Street “Century City” Project Area*, page 7, Redevelopment Authority of the City of Milwaukee, 2005

⁵⁷ T. Becker (email communication, March 26, 2019)

⁵⁸ Reedsburg Times-Press, “Reedsburg approves industrial hemp facility,” article from March 13, 2019

Security: Security would be the same as it would be with an indoor growing facility or industrial facility, similar to the Century City 1 building.

Start Up Cost Considerations:

- Land acquisition
- Building construction
- Hemp oil/CBD oil extraction equipment
- Drying equipment
- Refrigeration equipment
- Hazardous materials storage cabinets
- Plumbing infrastructure
- Electrical infrastructure
- High energy costs
- Storm water fees and municipal water costs
- Security fence, cameras, and guard service
- License Fee
- Permitting
- Insurance

Tax Implications: The property would be assessed by the City of Milwaukee Assessor's Office as a manufacturing facility and taxed accordingly.

Recommendations: This scenario involves creating a hemp processing facility for extracting CBD oil at Century City. A CBD oil extraction facility would not result in high employment opportunities and would require building a facility that would include extraction equipment, drying equipment and storage room for bulk hemp. It would require a security fence and controlled access to the property. A processing facility may produce strong smells from the storage of large quantities of hemp in a dense urban area. Given the industrial history of the area this option is feasible at Century City.

J. Conclusions

The City of Milwaukee Common Council and the Mayor directed DCD to undertake a feasibility study to create a facility for the production of industrial hemp at the Century City Business Park.

DCD staff conducted an analysis of growing industrial hemp for seed, fiber, and clones in both outdoor and indoor settings. Staff also analyzed the potential for extracting hemp oil and CBD oil in an indoor setting.

Staff considered a number of factors pertaining to each scenario including urban land use, zoning, approved plans, assessment, available land, seed types, pesticide options, soil conditions/growing medium, plowing/harvesting, employment opportunities, irrigation, security, start-up cost considerations, tax implications, sustainability opportunities, and profits/income. For the sake of this study, DCD staff assumed the land would be sold to a private entity who would undertake an industrial hemp operation.

These scenarios were evaluated against the following criteria:

- 1) The technical feasibility of growing and operating an industrial hemp facility at Century City.
- 2) The impact of such operations on the City's obligations to repay debt incurred by TIF expenditures related to creating the business park.
- 3) The ability of such operations to create employment opportunities at the business park.
- 4) The relationship of such operations to the land use regulations imposed by the City's zoning ordinance and the Century City redevelopment plan.

Of the scenarios considered in this study, neither outdoor nor indoor growing meets the established goals for the Century City Business Park. Indoor processing of hemp for oil meets some of the goals for production but not the goals for job creation or TIF repayment. The indoor processing of hemp oil at Century City will depend greatly on the park's proximity to the growers, and the availability of capital to develop the facilities and infrastructure required for hemp oil processing.

Based on the site's history and current market research, the Century City Business Park is a location for large scale manufacturing, processing or assembly. This could include the production of products that use hemp as an ingredient or component (e.g., food, beverages, healthcare products, clothing).

Conclusions Table

	Technical feasibility	Impact on TIF repayment	Employment generation	Land use regulations
Outdoor growing	Feasibility severely limited by the expense of dealing with contaminated soils at the site and seasonal growing limitations.	Would not generate enough increment for TIF repayment.	Minimal number of full-time jobs (1-2) for the entire operation. Seasonal employment opportunities. Redevelopment Plan requires 15 jobs per acre.	Permitted by Industrial Heavy (IH) zoning. Not permitted by Century City Redevelopment Plan.
Indoor growing	Feasible if grower uses clean soil or hydroponic or aquaponics growing system; however, amount of capital investment required may preclude profits.	Would not generate enough increment for TIF repayment.	Minimal number of full-time jobs (1-4). Redevelopment plan requires 15 jobs per acre.	Permitted by Industrial Heavy (IH) zoning. Permitted by Century City Redevelopment plan.
Indoor processing	Feasible if hemp growers determine that facility is located close enough to hemp fields to allow processing within 4-8 hours of harvest. Plant may produce strong odors. Large capital investment required for building and equipment.	Would produce some increment for TIF repayment.	Minimal number of full-time jobs (1-4). Redevelopment plan requires 15 jobs per acre.	Permitted by heavy industrial zoning. RACM approval required under Century City Redevelopment Plan.

All three scenarios have high risks, given the shifting regulatory environment across multiple levels of government and the reluctance of conventional financing institutions to invest in the industry. Risk is also posed by the crop itself, in that any hemp crop that fails laboratory tests mandating a maximum level of 0.3% THC must be destroyed.

K. Recommendations

Prior to pursuing a land sale for an industrial hemp facility, DCD staff recommends; 1) discussing the possibility of a hemp processing use with community members; 2) conducting additional analysis to assist policymakers in determining whether such a land sale would be in the best interest of the City; 3) thoroughly vetting the ability of the proposed development to repay the TIF; and 4) ensuring that the Century City Business Park meets its job creation potential.

The City of Milwaukee can prepare for the growth of the hemp industry by examining the zoning ordinance to determine what modifications, if any, are required to accommodate the types of land use changes, or nuisance issues that may arise from an industrial hemp business.

City of Milwaukee officials should continue to be involved in reviewing and advocating for legislation related to the hemp industry at the County, State, and Federal levels with the objective of protecting the health and wellbeing of city residents. Other objectives could include maximizing the tax base, advocating for equal access to the hemp market, and maintaining the integrity of the urban environment.

MAP 1

Century City Redevelopment Plan Boundary

WEST CAPITOL DRIVE AND NORTH 35TH STREET ("CENTURY CITY") REDEVELOPMENT PROJECT AREA



MAP 2
Subject Parcels

Subject Parcel Map – Century City Business Park
Milwaukee, Wisconsin



<u>Address</u>	<u>Owner</u>	<u>Acreage</u>	<u>Current Use</u>
3055 W. Hopkins St.	Redevelopment Authority of the City of Milwaukee	4.7	Vacant
3025 W. Hopkins St.	Redevelopment Authority of the City of Milwaukee	45.2	Vacant + Office Buildings + Stormwater Basin and Swales

EXHIBIT A

Common Council Resolution No. 181465



Legislation Text

File #: 181465, **Version:** 0

181465
ORIGINAL

ALD. RAINEY

Resolution directing the Department of City Development to study the feasibility of creating a facility for the production of industrial hemp at the Century City development.

This resolution directs the Department of City Development to study the feasibility of creating a facility for the production of industrial hemp at the Century City development and to report the findings of this study to the Common Council within 90 days.

Whereas, Industrial hemp is an eco-friendly, versatile crop used worldwide for industrial and consumer products; and

Whereas, According to estimates, the total retail value of hemp products in the U.S. in 2017 was \$820 million; and

Whereas, As of November 1, 2018 the Wisconsin Department of Agriculture, Trade and Consumer Protection began issuing licenses for applicants to grow and/or process industrial hemp; and

Whereas, The Century City development site may have sufficient arable soil on the grounds or infrastructure in place to produce industrial hemp hydroponically or through an alternative form of agriculture; and

Whereas, The Century City development site may also meet the location requirements for the production of industrial hemp as determined by the Wisconsin Department of Agriculture Trade and Consumer Protection; now, therefore, be it

Resolved, By the Common Council of the City of Milwaukee, that the Department of City Development shall study the feasibility of creating a facility for the production of industrial hemp at the Century City development; and, be it

Further Resolved, That the Department of City Development shall report the findings of this study to the Common Council after 90 days.

LRB 173317-1

Luke Knapp

1/09/2019

EXHIBIT B

Excerpt from 2014 Farm Bill

1 **SEC. 7606. LEGITIMACY OF INDUSTRIAL HEMP RESEARCH.**

2 (a) IN GENERAL.—Notwithstanding the Controlled
3 Substances Act (21 U.S.C. 801 et seq.), the Safe and
4 Drug-Free Schools and Communities Act (20 U.S.C. 7101
5 et seq.), chapter 81 of title 41, United States Code, or
6 any other Federal law, an institution of higher education
7 (as defined in section 101 of the Higher Education Act
8 of 1965 (20 U.S.C. 1001)) or a State department of agri-
9 culture may grow or cultivate industrial hemp if—

10 (1) the industrial hemp is grown or cultivated
11 for purposes of research conducted under an agricul-
12 tural pilot program or other agricultural or academic
13 research; and

14 (2) the growing or cultivating of industrial
15 hemp is allowed under the laws of the State in which
16 such institution of higher education or State depart-
17 ment of agriculture is located and such research oc-
18 curs.

19 (b) DEFINITIONS.—In this section:

20 (1) AGRICULTURAL PILOT PROGRAM.—The
21 term “agricultural pilot program” means a pilot pro-
22 gram to study the growth, cultivation, or marketing
23 of industrial hemp—

24 (A) in States that permit the growth or
25 cultivation of industrial hemp under the laws of
26 the State; and

1 (B) in a manner that—

2 (i) ensures that only institutions of
3 higher education and State departments of
4 agriculture are used to grow or cultivate
5 industrial hemp;

6 (ii) requires that sites used for grow-
7 ing or cultivating industrial hemp in a
8 State be certified by, and registered with,
9 the State department of agriculture; and

10 (iii) authorizes State departments of
11 agriculture to promulgate regulations to
12 carry out the pilot program in the States
13 in accordance with the purposes of this
14 section.

15 (2) INDUSTRIAL HEMP.—The term “industrial
16 hemp” means the plant *Cannabis sativa L.* and any
17 part of such plant, whether growing or not, with a
18 delta-9 tetrahydrocannabinol concentration of not
19 more than 0.3 percent on a dry weight basis.

20 (3) STATE DEPARTMENT OF AGRICULTURE.—
21 The term “State department of agriculture” means
22 the agency, commission, or department of a State
23 government responsible for agriculture within the
24 State.

EXHIBIT C
Excerpt from 2018 Farm Bill

H. R. 2—339

(A) in the paragraph heading, by striking "MANDATORY FUNDING" and inserting "FUNDING";

(B) in subparagraph (A)—

(i) by striking "On the date" and inserting the following:

"(i) ESTABLISHMENT FUNDING.—On the date"; and
(ii) by adding at the end the following:

"(ii) ENHANCED FUNDING.—On the date on which the strategic plan described in subsection (f)(3)(B)(iv) is submitted, of the funds of the Commodity Credit Corporation, the Secretary shall transfer to the Foundation to carry out this section \$185,000,000, to remain available until expended."; and

(C) in subparagraph (B)—

(i) by striking "The Foundation" and inserting the following:

"(i) IN GENERAL.—The Foundation";

(ii) in clause (i) (as so designated)—

(I) by striking "purposes" and inserting "purposes, duties, and powers"; and

(II) by striking "non-Federal matching funds for each expenditure" and inserting "matching funds from a non-Federal source, including an agricultural commodity promotion, research, and information program"; and

(iii) by adding at the end the following:

"(ii) EFFECT.—Nothing in this section requires the Foundation to require a matching contribution from an individual grantee as a condition of receiving a grant under this section."

SEC. 7604. ASSISTANCE FOR FORESTRY RESEARCH UNDER THE MCINTIRE-STENNIS COOPERATIVE FORESTRY ACT.

Section 2 of Public Law 87-788 (commonly known as the "McIntire-Stennis Cooperative Forestry Act") (16 U.S.C. 582a-1) is amended in the second sentence—

(1) by striking "and" before "1890 Institutions"; and

(2) by inserting "and 1994 Institutions (as defined in section 532 of the Equity in Educational Land-Grant Status Act of 1994 (7 U.S.C. 301 note; Public Law 103-382)) that offer an associate's degree or a baccalaureate degree in forestry," before "and (b)".

SEC. 7605. LEGITIMACY OF INDUSTRIAL HEMP RESEARCH.

(a) IN GENERAL.—Section 7606 of the Agricultural Act of 2014 (7 U.S.C. 5940) is amended—

(1) by redesignating subsections (a) and (b) as subsections (b) and (a), respectively, and moving the subsections so as to appear in alphabetical order;

(2) in subsection (a) (as so redesignated)—

(A) by redesignating paragraph (3) as paragraph (4); and

(B) by inserting after paragraph (2) the following:

"(3) STATE.—The term 'State' has the meaning given such term in section 297A of the Agricultural Marketing Act of 1946.";

(3) in subsection (b) (as so redesignated), in the subsection heading, by striking “IN GENERAL” and inserting “INDUSTRIAL HEMP RESEARCH”; and

(4) by adding at the end the following:

“(c) STUDY AND REPORT.—

“(1) IN GENERAL.—The Secretary shall conduct a study of agricultural pilot programs—

“(A) to determine the economic viability of the domestic production and sale of industrial hemp; and

“(B) that shall include a review of—

“(i) each agricultural pilot program; and

“(ii) any other agricultural or academic research relating to industrial hemp.

“(2) REPORT.—Not later than 12 months after the date of enactment of this subsection, the Secretary shall submit to Congress a report describing the results of the study conducted under paragraph (1).”.

(b) REPEAL.—Effective on the date that is 1 year after the date on which the Secretary establishes a plan under section 297C of the Agricultural Marketing Act of 1946, section 7606 of the Agricultural Act of 2014 (7 U.S.C. 5940) is repealed.

SEC. 7606. COLLECTION OF DATA RELATING TO BARLEY AREA PLANTED AND HARVESTED.

For all acreage reports published after the date of enactment of this Act, the Secretary, acting through the Administrator of the National Agricultural Statistics Service, shall include the State of New York in the States surveyed to produce the table entitled “Barley Area Planted and Harvested” in those reports.

SEC. 7607. COLLECTION OF DATA RELATING TO THE SIZE AND LOCATION OF DAIRY FARMS.

(a) IN GENERAL.—Not later than 60 days after the date on which the 2017 Census of Agriculture is released, the Secretary, acting through the Administrator of the Economic Research Service, shall update the report entitled “Changes in the Size and Location of US Dairy Farms” contained in the report of the Economic Research Service entitled “Profits, Costs, and the Changing Structure of Dairy Farming” and published in September 2007.

(b) REQUIREMENT.—In updating the report described in subsection (a), the Secretary shall, to the maximum extent practicable, use the same unit of measurement for reporting the full range of herd sizes in Table 1 and Table 2 of the report while maintaining confidentiality of individual producers.

SEC. 7608. AGRICULTURE INNOVATION CENTER DEMONSTRATION PROGRAM.

Section 6402 of the Farm Security and Rural Investment Act of 2002 (7 U.S.C. 1632b) is amended—

(1) in subsection (d)(2)—

(A) in the matter preceding subparagraph (A), by striking “representatives of each of the following groups” and inserting “a diverse group of representatives of public and private entities, including the following;”;

(B) in subparagraph (A), by striking “The 2” and inserting “Two”;

(C) in subparagraph (B), by inserting “or a State legislator,” after “agency,”; and

EXHIBIT D
2017 Wisconsin Act 100

State of Wisconsin



2017 Senate Bill 119

Date of enactment: **November 30, 2017**

Date of publication*: **December 1, 2017**

2017 WISCONSIN ACT 100

AN ACT *to renumber and amend* 961.14 (4) (t) and 961.55 (8); *to amend* 94.67 (2), 97.02 and 973.01 (2) (c) 2. a.; and *to create* 20.115 (7) (gc), 94.55, 94.67 (15r), 348.27 (18) (a) 1. f., 961.14 (4) (t) 2., 961.32 (3), 961.442, 961.55 (8) (b) and 961.55 (9) of the statutes; **relating to:** growing and processing industrial hemp, providing an exemption from emergency rule procedures, granting rule-making authority, making an appropriation, and providing a criminal penalty.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

SECTION 1. 20.115 (7) (gc) of the statutes is created to read:

20.115 (7) (gc) *Industrial hemp.* All moneys received under s. 94.55 for regulation of activities relating to industrial hemp under s. 94.55.

SECTION 2. 94.55 of the statutes is created to read:

94.55 Industrial hemp. (1) DEFINITION. In this section, "industrial hemp" means the plant *Cannabis sativa*, or any part of the plant including the seeds, having a delta-9-tetrahydrocannabinol concentration of no more than 0.3 percent on a dry weight basis or the maximum concentration allowed under federal law up to 1 percent, whichever is greater. "Industrial hemp" includes a substance, material, or product only if it is designated as a controlled substance under the federal Controlled Substances Act under [21 USC 801](#) to [971](#) or the Uniform Controlled Substances Act under ch. 961 or both.

(2) REGULATION OF INDUSTRIAL HEMP. (a) Subject to the provisions under this subsection, a person may plant, grow, cultivate, harvest, sample, test, process, transport, transfer, take possession of, sell, import, and export

industrial hemp in this state to the greatest extent allowed under federal law.

(b) 1. The department shall promulgate rules regulating the activities described in par. (a).

2. Except as provided under subs. 3. to 6. and subs. (3) and (4), rules promulgated under this paragraph shall regulate the activities described in par. (a) only to the extent required under federal law, and in a manner that allows the people of this state to have the greatest possible opportunity to engage in those activities.

3. The department shall promulgate rules, as necessary, to ensure the quality of industrial hemp grown or processed in this state, the security of activities related to industrial hemp, and the safety of products produced from industrial hemp, including any necessary testing; to verify adherence to laws and rules governing activities related to industrial hemp; and to enforce violations of those laws and rules.

4. The department shall require the payment of an initial fee from any person who plants, grows, or cultivates industrial hemp in this state equal to the greater of \$150 or \$5 multiplied by the number of acres on which the person will plant, grow, or cultivate industrial hemp, but not to exceed \$1,000. The department may also impose an

* Section 991.11, WISCONSIN STATUTES: Effective date of acts. "Every act and every portion of an act enacted by the legislature over the governor's partial veto which does not expressly prescribe the time when it takes effect shall take effect on the day after its date of publication."

annual fee on any person whose activities related to industrial hemp are regulated by the department under this paragraph, in an amount not to exceed an amount sufficient to cover the costs to the department of regulating those activities, as determined by the department by rule.

5. The department shall ensure that any of the following information that is in the department's possession is confidential and not open to public inspection or copying under s. 19.35 (1), except that it shall be made available to a law enforcement agency or law enforcement officer:

a. Information relating to the locations of industrial hemp fields and processing locations.

b. Personally identifiable information relating to a person who is lawfully engaging in activities related to industrial hemp.

c. Information obtained about an individual as a result of any criminal history search performed in relation to authorizing the individual to engage in activities related to industrial hemp.

d. Any other information about activities related to industrial hemp that could create a security risk if disclosed.

6. The department shall promulgate rules setting forth the factors to be considered when determining whether to refer a person for prosecution under s. 961.32 (3) (c).

(c) The department shall establish and administer a certification program, or shall designate a member of the Association of Official Seed Certifying Agencies or a successor organization to administer a certification program, for industrial hemp seed in this state. A certification program under this paragraph shall include the testing and certification of delta-9-tetrahydrocannabinol concentrations in hemp plants. Participation in the certification program shall be voluntary for growers and cultivators of industrial hemp. The department shall promulgate rules for the administration of any certification program established and administered by the department under this paragraph.

(d) The department of justice shall provide information to the department that the department has identified, by rule, as necessary to administer the provisions under this subsection.

(e) The department may seek federal approval to serve as an importer of industrial hemp seed.

(3) **PILOT PROGRAM.** The department shall create a pilot program to study the growth, cultivation, and marketing of industrial hemp. The department shall promulgate rules to implement the pilot program consistent with the authority under sub. (2) (b). The department shall also do all of the following as part of the pilot program:

(a) Issue licenses that authorize the planting, growing, cultivating, harvesting, sampling, testing, processing, transporting, transferring, taking possession, selling, importing, and exporting of industrial hemp. The department shall identify the requirements for applying for a

license, approving or denying a license, and suspending or revoking a license, and shall identify the restrictions and obligations that apply to operating under a license. As part of the application process, the department shall require an applicant to provide the global positioning system coordinates of the centers of all fields on which the industrial hemp will be planted, grown, cultivated, or harvested. The department shall obtain a criminal history search from the records maintained by the department of justice for each applicant and may not issue a license if the applicant has ever been convicted of a criminal violation of the federal Controlled Substances Act under [21 USC 801 to 971](#), the Uniform Controlled Substances Act under ch. 961, or any controlled substances law of another state, as indicated in the information obtained from the criminal history search. A license issued under this paragraph does not expire unless the pilot program under this subsection expires or the license is revoked.

(b) Create a registration system that authorizes the sampling, testing, processing, transporting, transferring, taking possession, selling, importing, and exporting of industrial hemp. The department shall obtain a criminal history search from the records maintained by the department of justice for each person applying for registration and may not register an applicant who has been convicted of a criminal violation of the federal Controlled Substances Act under [21 USC 801 to 971](#), the Uniform Controlled Substances Act under ch. 961, or any controlled substances law of another state, as indicated in the information obtained from the criminal history search.

(c) Create a form to accompany any transfer of industrial hemp. The department shall identify the information to be included in the form, which shall include any test results showing the delta-9-tetrahydrocannabinol concentration of the industrial hemp being transferred, the amount of industrial hemp being transferred, and the full chain of custody of the industrial hemp being transferred for all transfers of the industrial hemp until it is processed in such a way that it no longer meets the definition under sub. (1), at which point the form shall be submitted to the department.

(4) **PENALTIES.** A person who violates any provision of this section, or an order issued or rule promulgated under this section, may be required to forfeit not less than \$200 nor more than \$5,000 or, for an offense committed within 5 years of an offense for which a penalty has been assessed under this section, may be required to forfeit not less than \$400 nor more than \$10,000.

SECTION 3. 94.67 (2) of the statutes is amended to read:

94.67 (2) "Agricultural commodity" means any plant or part of a plant, animal or animal product produced by a person primarily for sale, consumption, propagation, or other use by humans or animals. "Agricultural commodity" includes industrial hemp.

SECTION 4. 94.67 (15r) of the statutes is created to read:

94.67 (15r) “Industrial hemp” means the plant *Cannabis sativa*, or any part of the plant including the seeds, having a delta-9-tetrahydrocannabinol concentration of no more than 0.3 percent on a dry weight basis or the maximum concentration allowed under federal law up to 1 percent, whichever is greater.

SECTION 5. 97.02 of the statutes is amended to read:

97.02 Standards; adulterated food. For the purposes of this chapter, a food is adulterated if it is adulterated within the meaning of [21 USC 342](#), except that the department may not consider a food to be adulterated solely because it contains industrial hemp, as defined in s. 94.67 (15r), or an industrial hemp product.

SECTION 6. 348.27 (18) (a) 1. f. of the statutes is created to read:

348.27 (18) (a) 1. f. Industrial hemp, as defined in s. 94.67 (15r).

SECTION 7. 961.14 (4) (t) of the statutes, as affected by [2017 Wisconsin Act 4](#), is renumbered 961.14 (4) (t) (intro.) and amended to read:

961.14 (4) (t) (intro.) Tetrahydrocannabinols, commonly known as “THC”, in any form including tetrahydrocannabinols contained in marijuana, obtained from marijuana, or chemically synthesized, except that tetrahydrocannabinols do not include ~~cannabidiol~~ any of the following:

1. Cannabidiol in a form without a psychoactive effect that is dispensed as provided in s. 961.38 (1n) (a) or that is possessed as provided in s. 961.32 (2m) (b);

SECTION 8. 961.14 (4) (t) 2. of the statutes is created to read:

961.14 (4) (t) 2. Tetrahydrocannabinols contained in fiber produced from the stalks, oil or cake made from the seeds of a *Cannabis* plant, any other compound, manufacture, salt, derivative, mixture or preparation of the mature stalks (except the resin extracted therefrom), fiber, oil or cake or the sterilized seed of a *Cannabis* plant which is incapable of germination.

SECTION 9. 961.32 (3) of the statutes is created to read:

961.32 (3) (a) In this subsection:

1. “Hemp” means the plant *Cannabis sativa*, or any part of the plant including the seeds.

2. “Industrial hemp” has the meaning given in s. 94.55 (1).

(b) A person who is acting in accordance with rules promulgated by the department of agriculture, trade and consumer protection under s. 94.55 (2) (b) may not be prosecuted for a criminal offense under this chapter, or under any municipal ordinance that prohibits conduct that is the same as that prohibited under this chapter, for any of the following:

1. Planting, growing, cultivating, harvesting, processing, or transporting hemp that contains a

delta-9-tetrahydrocannabinol concentration of the crop of not more than 0.7 percent above the permissible limit for industrial hemp on a dry weight basis or that is grown from industrial hemp seed certified under s. 94.55 (2) (c).

2. Selling, transferring, importing, exporting, or taking possession of industrial hemp.

3. Selling, transferring, importing, exporting, processing, transporting, harvesting, or taking possession of hemp that has been certified under s. 94.55 (2) (c), by a laboratory authorized by the department of agriculture, trade and consumer protection to test the delta-9-tetrahydrocannabinol concentration in hemp, as meeting the permissible delta-9-tetrahydrocannabinol concentration limit for industrial hemp.

4. Possessing hemp with a delta-9-tetrahydrocannabinol concentration above the permissible level for industrial hemp if the hemp was certified under s. 94.55 (2) (c) at the time the possessor took possession as meeting the permissible concentration limit for industrial hemp and the possessor had no reason to believe at that time that the certification was incorrect.

5. Taking samples of hemp, transporting samples to a testing facility, or testing samples for their delta-9-tetrahydrocannabinol concentration.

(c) A person who plants, grows, cultivates, harvests, samples, tests, processes, transports, transfers, takes possession of, sells, imports, or exports industrial hemp in violation of a rule promulgated under s. 94.55 (2) (b) may not be prosecuted under s. 94.55 or this chapter unless the person is referred to the district attorney for the county in which the violation occurred by the department of agriculture, trade and consumer protection, and may not be prosecuted under a municipal ordinance that prohibits the same conduct as is prohibited under this chapter unless the person is referred to local law enforcement by the department of agriculture, trade and consumer protection.

(d) Notwithstanding s. 961.41 (4) (am) 2. a., engaging in an activity described under par. (b) does not constitute prima facie evidence of a prohibited representation under s. 961.41 (4) (am) 1. a. or b.

SECTION 10. 961.442 of the statutes is created to read:

961.442 Penalties; industrial hemp. If a person attempts to conceal the commission of a crime under this chapter while representing that he or she is engaging in the planting, growing, cultivating, harvesting, processing, transporting, importing, exporting, selling, transferring, sampling, testing, or taking possession of industrial hemp, the maximum term of imprisonment prescribed by law for that crime may be increased as follows:

(1) The maximum term of imprisonment for a misdemeanor may be increased by not more than 6 months.

(2) The maximum term of imprisonment for a felony may be increased by not more than 3 years.

SECTION 11. 961.55 (8) of the statutes is renumbered 961.55 (8) (intro.) and amended to read:

961.55 (8) (intro.) The failure, upon demand by any officer or employee designated in s. 961.51 (1) or (2), of the person in occupancy or in control of land or premises upon which the species of plants are growing or being stored, to produce an any of the following constitutes authority for the seizure and forfeiture of the plants described in sub. (7):

(a) An appropriate federal registration, or proof that the person is the holder thereof, constitutes authority for the seizure and forfeiture of the plants.

SECTION 12. 961.55 (8) (b) of the statutes is created to read:

961.55 (8) (b) Proof that the person is growing or storing the plants in accordance with the requirements, if any, imposed by the department of agriculture, trade and consumer protection under s. 94.55.

SECTION 13. 961.55 (9) of the statutes is created to read:

961.55 (9) If a crop intended to be industrial hemp, as defined in s. 94.55 (1), is tested for delta-9-tetrahydrocannabinol levels and the average concentration of delta-9-tetrahydrocannabinol in a whole dry plant is found to exceed 0.7 percent above the permissible limit for industrial hemp, the entire crop on the field where the plant was found shall be seized and destroyed. Before a crop is seized and destroyed under this subsection, the agency whose officers or employees intend to seize and destroy the crop shall provide, to the person licensed under s. 94.55 (3) to grow the crop or to the person's agent or employee, written documentation verifying the test results for the crop that is subject to seizure and destruction.

SECTION 14. 973.01 (2) (c) 2. a. of the statutes is amended to read:

973.01 (2) (c) 2. a. Sections 939.621, 939.632, 939.635, 939.645, 946.42 (4), 961.442, 961.46, and 961.49.

SECTION 15. Nonstatutory provisions.

(1) LEGISLATIVE FINDINGS. The legislature finds all of the following:

(a) That the Cannabis sativa plant used for the production of industrial hemp is separate and distinct from forms of Cannabis used to produce marijuana.

(b) That section 7606 of the federal farm bill of 2014, 7 USC 5940, allows states to establish agricultural pilot programs to study the growth, cultivation, or marketing of industrial hemp.

(c) That industrial hemp is used in products such as building materials, textiles, cordage, fiber, food, floor coverings, fuel, paint, animal feed, paper, particle board, plastics, seed meal, cosmetics, seed, oil, and yarn.

(d) That cannabidiol and hemp seed oil have the ability to provide relief for maladies, without psychotropic effect.

(e) That the growth, cultivation, and processing of industrial hemp will provide an alternate crop to vitalize the agricultural sector in this state and will provide production and processing jobs.

(2) EMERGENCY RULES. No later than the 90th day after the effective date of this subsection, the department of agriculture, trade and consumer protection shall, using the procedure under section 227.24 of the statutes, promulgate rules under section 94.55 (2) and (3) of the statutes. Notwithstanding section 227.24 (1) (a) and (3) of the statutes, the department is not required to provide evidence that promulgating a rule under this subsection as an emergency rule is necessary for the preservation of the public peace, health, safety, or welfare and is not required to provide a finding of emergency for a rule promulgated under this subsection. Notwithstanding section 227.24 (1) (c) and (2) of the statutes, emergency rules promulgated under this subsection remain in effect until July 1, 2020, or the date on which permanent rules take effect, whichever is sooner. Notwithstanding section 227.24 (1) (e) 1d. and 1g. of the statutes, for emergency rules promulgated under this subsection, the department is not required to prepare a statement of scope of the rules or to submit the proposed rules in final draft form to the governor for approval.



WISCONSIN LEGISLATIVE COUNCIL ACT MEMO

2017 Wisconsin Act 100 [2017 Senate Bill 119]	Industrial Hemp
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2017 Wisconsin Act 100 (“the Act”) creates a state “industrial hemp” program to be administered by the Department of Agriculture, Trade, and Consumer Protection (DATCP). A general description of the key provisions in the Act is provided below.

DEFINITION OF “INDUSTRIAL HEMP”

The Act defines “industrial hemp” as the plant *Cannabis sativa*, or any part of the plant including seeds, having a delta-9-tetrahydrocannabinol (THC) concentration of 0.3% or less, although this allowable percentage may be raised up to a maximum concentration of 1% THC if in the future federal law allows a higher percentage. The Act excludes from the definition a substance, material, or product that is not designated as a controlled substance under the state Uniform Controlled Substances Act, or the federal Controlled Substances Act, or both.

STATE INDUSTRIAL HEMP PROGRAM

The Act requires DATCP to promulgate rules establishing a state industrial hemp program. The state industrial hemp program must generally maximize opportunity for a person to plant, grow, cultivate, harvest, sample, test, process, transport, transfer, take possession of, sell, import, and export industrial hemp to the greatest extent authorized under federal law.

This memo provides a brief description of the Act. For more detailed information, consult the text of the law and related legislative documents at the Legislature’s Web site at: <http://www.legis.wisconsin.gov>.

DATCP Requirements

As it pertains to the state industrial hemp program, the Act requires DATCP to do the following:

- Ensure the quality of industrial hemp grown or processed in this state, the security of activities related to industrial hemp, and the safety of products produced from industrial hemp, including any necessary testing.
- Verify adherence to laws and rules governing activities related to industrial hemp.
- Enforce violations of laws and rules.
- Require an initial fee from any person who plants, grows, or cultivates industrial hemp equal to the greater of \$150 or \$5 multiplied by the number of acres used to plant, grow, or cultivate industrial hemp, but not to exceed \$1,000. DATCP may also impose an annual fee on any person whose activities it regulates that may not exceed an amount sufficient to cover its costs to regulate those activities.
- Ensure that certain information in its possession is confidential, except that this information must be made available to a law enforcement agency or law enforcement officer.

Industrial Hemp Seed

The Act requires DATCP to establish and administer an industrial hemp seed certification program, or designate a member of the Association of Official Seed Certifying Agencies or a successor organization to administer a seed certification program. This seed certification program must include the testing and certification of THC concentrations in hemp plants. Participation in the certification program must be voluntary for growers and cultivators of industrial hemp.

The Act also authorizes DATCP to seek federal approval to serve as an importer of industrial hemp seed.

Department of Justice

Under the Act, the Department of Justice (DOJ) must provide information to DATCP necessary to administer the state industrial hemp program.

INDUSTRIAL HEMP PILOT PROGRAM

The Act requires DATCP to create a pilot program to study the growth, cultivation, and marketing of industrial hemp.

Pilot Program Licenses

The Act requires DATCP to issue licenses that authorize the planting, growing, cultivating, harvesting, sampling, testing, processing, transporting, transferring, taking possession, selling, importing, and exporting of industrial hemp. Such licenses do not expire

unless the pilot program expires or the license is revoked. As a part of its role in administering the pilot program, DATCP must do the following:

- Identify the requirements for applying for a license, approving or denying a license, and suspending or revoking a license.
- Identify the restrictions and obligations that apply to operating under a license.
- Require a license applicant to provide the global positioning system coordinates of the centers of all fields on which the industrial hemp will be planted, grown, cultivated, or harvested.
- Obtain a criminal history search from the records maintained by DOJ for each applicant.
- Decline to issue a license to an applicant that has ever been convicted of a criminal violation of the federal Controlled Substances Act or the state Uniform Controlled Substances Act, or any controlled substances law of another state.

Pilot Program Registration System

The Act requires DATCP to create a registration system that authorizes the sampling, testing, processing, transporting, transferring, taking possession, selling, importing, and exporting of industrial hemp. DATCP must obtain a criminal history search from the records maintained by DOJ for each applicant and may not register an applicant that has ever been convicted of a criminal violation of the federal Controlled Substances Act or the state Uniform Controlled Substances Act, or any controlled substances law of another state.

Industrial Hemp Transfers

The Act requires DATCP to create a form to accompany any transfer of industrial hemp until it is processed in such a way that it no longer meets the definition of “industrial hemp,” at which point in time the form must be submitted to DATCP. The form must include any test results showing the THC concentration of the industrial hemp being transferred, the amount of industrial hemp being transferred, and the full chain of custody of the industrial hemp being transferred.

VEHICLE WEIGHT LIMITS

The Act adds industrial hemp to the list of agricultural products for which a permit is available for transporting them at vehicle weights that exceed generally applicable restrictions.

PENALTIES

Violations of Industrial Hemp Program Statutes or Rules

The Act specifies that the penalty for violations of the statutes or rules governing the industrial hemp program is a forfeiture of \$200 to \$5,000 for a first offense and a forfeiture of \$400 to \$10,000 for a second or subsequent offense within five years.

Exemptions From Prosecution Under the State Uniform Controlled Substances Act

The Act creates safe harbor protections for a person acting in accordance with DATCP rules pertaining to the industrial hemp program. Such persons are exempt from criminal prosecution under the state Uniform Controlled Substances Act and exempt from municipal prosecution for any of the following activity:

- Planting, growing, cultivating, harvesting, processing, or transporting hemp that either: (1) contains a THC concentration of the crop of not more than 0.7% above the permissible limit for industrial hemp; or (2) is grown from certified industrial hemp seed.
- Selling, transferring, importing, exporting, or taking possession of industrial hemp.
- Selling, transferring, importing, exporting, processing, transporting, harvesting, or taking possession of hemp grown from seed certified by a DATCP authorized laboratory as meeting the permissible THC concentration limit for industrial hemp.
- Possessing hemp with a THC concentration above the permissible level for industrial hemp if the hemp was certified to meet the permissible concentration limit for industrial hemp and the possessor had no reason to believe that the certification was incorrect.
- Taking samples of hemp, transporting samples to a testing facility, or testing samples for their THC concentration.

DATCP Referral Required for Select Prosecutions

The Act provides that a person who engages in certain activities related to industrial hemp in violation of a DATCP rule may not be prosecuted for violations of the statutes or rules governing the industrial hemp program or violations of the state's Uniform Controlled Substances Act unless DATCP refers the person to the appropriate district attorney. The Act specifies that similar prosecutions under a municipal ordinance may not be commenced until DATCP refers the person to local law enforcement. DATCP is required by the Act to promulgate rules setting forth the factors to be considered when determining whether to refer a person for prosecution.

Definition of "Tetrahydrocannabinols" (THC)

For purposes of the state's Uniform Controlled Substances Act, the Act modifies the definition of THC to clarify that parts of Cannabis plants that are specifically excluded from the definition of "marijuana" under current law are legal to possess.

Imitation of Controlled Substances

Generally, current law prohibits knowingly distributing or delivering a noncontrolled substance and representing that the substance is a controlled substance. Proof of certain factors is prima facie evidence of such a representation (e.g., the physical appearance of the finished product is substantially the same as that of a specific controlled substance).

The Act provides that engaging in certain activities relating to industrial hemp does not constitute prima facie evidence of a prohibited representation described above.

Penalty Enhancer

The Act creates a penalty enhancer for a person who attempts to conceal the commission of a crime under the state's Uniform Controlled Substances Act while representing that he or she is engaging in certain activities related to industrial hemp. This penalty enhancer increases the maximum term of imprisonment for a misdemeanor by up to six months and increases the maximum term of imprisonment for a felony by up to three years.

Seizure and Destruction

The Act requires law enforcement, or certain officers or employees of the Pharmacy Examining Board, to seize and destroy a crop intended to be industrial hemp if the average THC concentration in a whole dry plant is found to exceed 0.7% above the permissible THC limit for industrial hemp. In such cases the entire crop on the field where the plant was found must be seized and destroyed, after notice is provided to the grower.

ADMINISTRATIVE RULES

The Act requires DATCP to promulgate emergency rules within 90 days of the Act's effective date to implement a state industrial hemp program. Under the Act, DATCP is not required to provide a finding of an emergency. In addition, DATCP is not required to prepare a statement of scope of the rules or submit the proposed rules in final draft form to the Governor for approval. DATCP's emergency rules may remain in effect until July 1, 2020, or the date on which permanent rules take effect, whichever is sooner.

Effective date: December 2, 2017

Prepared by: Michael Queensland, Senior Staff Attorney
Larry Konopacki, Principal Attorney

December 4, 2017

MQ:LAK:mcm;ty

EXHIBIT E

Wisconsin ATCP 22 and Emergency Rule EmR1808

Chapter ATCP 22

INDUSTRIAL HEMP

Note: Chapter [ATCP 22](#) was created by emergency rule effective March 1, 2018. See [EmR1808](#) for the rule text. Pursuant to s. [227.20 \(1\)](#), Stats., emergency rules are not published in the Administrative Code. In the event that Chapter [ATCP 22](#) is promulgated as a permanent rule, the text of Chapter [ATCP 22](#) as contained in the the permanent rule will be inserted in the Administrative Code on the effective date of the permanent rule.

Emergency Rule EmR1808

Status: Active

Department of Agriculture, Trade and Consumer Protection (ATCP)

Administrative Code Chapter Group Affected:

Chs. ATCP 20-54; Agricultural Resource Management

Administrative Code Chapter Affected:

Ch. ATCP 22 (Created)

Related to: Industrial hemp and affecting small businesses

Comments for this rule have closed

Related Emergency Rule: EmR1807

Rule Text: EmR1808 Rule Text

Date Filed With LRB: March 6, 2018

Date Published: March 9, 2018

Effective Start Date: March 9, 2018

Expiration Date: July 1, 2020

Hearing Date: April 10, 2018

Notes: 2017 Wisconsin Act 100, section 15 (2) contains the following regarding the promulgation of this rule:

No later than the 90th day after the effective date of this subsection, the department of agriculture, trade and consumer protection shall, using the procedure under section 227.24 of the statutes, promulgate rules under section 94.55 (2) and (3) of the statutes. Notwithstanding section 227.24 (1) (a) and (3) of the statutes, the department is not required to provide evidence that promulgating a rule under this subsection as an emergency rule is necessary for the preservation of the public peace, health, safety, or welfare and is not required to provide a finding of emergency for a rule promulgated under this subsection.

Notwithstanding section 227.24 (1) (c) and (2) of the statutes, emergency rules promulgated under this subsection remain in effect until July 1, 2020, or the date on which permanent rules take effect, whichever is sooner.

Notwithstanding section 227.24 (1) (e) 1d. and 1g. of the statutes, for emergency rules promulgated under this subsection, the department is not required to prepare a statement of scope of the rules or to submit the proposed rules in final draft form to the governor for approval.

Register Entries

Date	Register	File
3/12/2018	747A2, Emergency Rules Filed with Legislative Reference Bureau	EmR1808 Rule Text
4/2/2018	748A1, Rule-Making Notices (Hearing Notices)	EmR1807, EmR1808 Hearing Information

EXHIBIT F

2019 SB 188 Amendment Memo

Wisconsin Legislative Council

AMENDMENT MEMO



Memo published: September 30, 2019

Contact: Michael Queensland, Senior Staff Attorney
Amber Otis, Staff Attorney

2019 Senate Bill 188

Senate Amendment 1

BACKGROUND

Current Wisconsin Law

The Wisconsin Department of Agriculture, Trade, and Consumer Protection administers the state industrial hemp program, consistent with the authorization under the federal Agricultural Act of 2014 (2014 Farm Bill) that allows states to operate research-based pilot programs to study the growth, cultivation, or marketing of industrial hemp.

Under Wisconsin law, a person may generally engage in activities relating to industrial hemp to the greatest extent authorized under federal law and subject to regulations promulgated by DATCP. Such rules must regulate the authorized activities to the extent required under federal law, and in a manner that gives the greatest opportunity to engage in these activities. Wisconsin law contains various safe harbor protections for a person acting in accordance with DATCP rules pertaining to the industrial hemp program, which generally exempt such persons from criminal prosecution under the state controlled substances act (CSA) and municipal prosecutions for certain activities.

Recently Enacted Federal Law

The Agriculture Improvement Act of 2018 (2018 Farm Bill), enacted on December 20, 2018, reduced regulation of the production and possession of hemp under federal law. Very generally, the 2018 Farm Bill legalized hemp and shifted the federal regulation of hemp production from research-based pilot programs to a regulatory scheme that authorizes hemp production without limitations on its purpose. The 2018 Farm Bill's key provisions relating to hemp include: a new definition for hemp; removal of hemp from the federal CSA; and creation of a regulatory structure in which states may apply to the U.S. Department of Agriculture (USDA) for primary regulatory control over hemp production.

The 2018 Farm Bill defined “hemp” as “the plant *Cannabis sativa* L. and any part of that plant, including the seeds thereof and all derivatives, extracts, cannabinoids, isomers, acids, salts, and salts of isomers, whether growing or not, with a delta-9 tetrahydrocannabinol concentration of not more than 0.3 percent on a dry weight basis.” The 2018 Farm Bill removed hemp from the federal CSA by clarifying that marijuana does not include hemp and creating an exception for tetrahydrocannabinol (THC) contained in hemp.¹

Under the 2018 Farm Bill, states must specify certain information when seeking primary regulatory control, enforce violations of certain requirements by hemp producers, and determine the eligibility of prospective hemp producers with certain felony convictions related to controlled substances. If a state

¹ Marijuana and THC are both Schedule I controlled substances under the federal CSA.

does not seek primary regulatory authority or is not approved to have such authority, hemp production in that state will be governed by a federal plan to be promulgated by the USDA.

The 2018 Farm Bill repealed states' authority to operate hemp pilot programs, with a delayed effective date of one year after the USDA establishes its plan for regulating hemp production for states without primary regulatory authority. Under the 2018 Farm Bill, states may not prohibit transportation or shipment of hemp or hemp products. Finally, the 2018 Farm Bill specifies that it does not affect the authority of the U.S. Food and Drug Administration (FDA), meaning that the federal laws and regulations related to food and drug safety remain applicable, depending on the circumstances.

2019 SENATE BILL 188

Senate Bill 188 modifies state law in accordance with the 2018 Farm Bill and clarifies certain activities related to hemp under state law, including the relationship between hemp products and certain cannabidiol (CBD) products. The bill also removes delta-9-THC from the definition of "restricted controlled substance" for purposes of certain crimes prohibiting any detectable amount of a restricted controlled substance in a person's blood. In addition, the bill creates an appropriation for DATCP to fund three staff positions and purchase machinery for the hemp program.

2018 Farm Bill Related Changes

The bill modifies the definition of hemp under state law to conform to the definition created under the 2018 Farm Bill, and removes hemp from the state CSA. The bill requires DATCP to promulgate rules to ensure that the state's hemp program complies with federal law and to obtain and maintain any required federal approval of the state's hemp program. The bill creates various provisions that provide DATCP the authority to establish the procedures necessary to apply for primary regulatory authority of hemp production. The bill also adopts other provisions similar to those set forth in the 2018 Farm Bill, such as provisions governing certain negligent violations, the reporting of violations, and eligibility of hemp producers with certain felony convictions. Under the bill, the statutory authority for Wisconsin's hemp pilot program is repealed one year after the date on which the USDA establishes a federal plan for regulating hemp production.

Certain Activities Related to Hemp

The bill authorizes DATCP to establish fees for hemp licenses, set criteria for and approve persons to sample and test hemp, and release information regarding licensees upon election by the licensee. The bill clarifies certain aspects of testing hemp and requires DATCP to issue a certificate of compliance that hemp has been tested or is otherwise exempt from testing requirements.

The bill prohibits a person from: mislabeling hemp or hemp product; knowingly making an inaccurate claim about hemp or a hemp product in the course of transfer or sale; or knowingly selling at retail mislabeled hemp or hemp products. The bill clarifies certain safe harbor provisions in current law, and creates additional safe harbor protections.

The bill also contains various provisions that treat hemp similarly to other agricultural commodities. For example, the bill requires payment under contracts with hemp growers within a specified period of time and adds hemp to the list of agricultural products subject to current law restrictions related to land owned by large corporations or trusts.

CBD Products

The bill clarifies that hemp does not include FDA-approved prescription drug products and that the laws governing hemp may not be construed to limiting a person's access to CBD products under current

law provisions commonly referred to as “Lydia’s Law,” which generally allow an individual to possess CBD in a form without a psychoactive effect if the individual has a valid certification stating that the individual possesses CBD to treat a medical condition. The bill also reorganizes certain provisions of Lydia’s Law for clarity.²

Removal of Delta-9-THC as a Restricted Controlled Substance

Current law prohibits a person from driving or operating various types of vehicles while under the influence of an intoxicant, a controlled substance, or any other drug to a degree which renders a person incapable of safely driving (impairment track). In addition, current law also, as a separate offense, prohibits a person from driving or operating vehicles while the person has a detectable amount of a restricted controlled substance in his or her blood (RCS track). The bill removes delta-9-THC from the definition of a “restricted controlled substance” for purposes of the RCS track.

SENATE AMENDMENT 1

Senate Amendment 1 modifies the bill concerning the following issues:

- Delta-9-THC as a restricted controlled substance under the RCS track.
- Background checks and the eligibility of hemp producers with certain felony convictions.
- The practice of chiropractic and pharmacy.
- Certain requirements of the Controlled Substances Board.
- The appropriation to DATCP.

Delta-9-THC as a Restricted Controlled Substance

The amendment maintains delta-9-THC as a restricted controlled substance for purposes of the RCS track of prosecution. However, the amendment provides that, in order to be a restricted controlled substance under the RCS track, the delta-9-THC, excluding its precursors or metabolites, must be at a concentration of one or more nanograms per milliliter (1 ng/mL) of a person’s blood.

The amendment addresses the admissibility of certain evidence under RCS track cases. Under current law, a chemical analysis of a sample of the person’s blood that shows that the person had a detectable amount of a restricted controlled substance in his or her blood is treated as prima facie evidence without requiring any expert testimony, though introduction of other forms of evidence bearing on the question of whether or not a person had a detectable amount of a restricted controlled substance in his or her blood is not limited. Under the amendment, a chemical analysis of the sample of the person’s blood is the only form of chemical analysis of a sample of human biological material that is admissible as evidence bearing on the question of whether or not the person had delta-9-THC at a concentration of 1.0 ng/mL or more of the person’s blood.

Eligibility of Hemp Producers

Under the bill, no person may produce hemp in this state for 10 years following any felony conviction relating to a controlled substance under state or federal law. The bill includes an exception for a person that holds a valid license to produce hemp under any state’s pilot program on the effective date of the bill. In accordance with the 2018 Farm Bill, the amendment narrows this exception to any person that

² [2013 Wisconsin Act 267](#) and [2017 Wisconsin Act 4](#), together, are commonly referred to as “Lydia’s Law.”

held a valid license to produce hemp on December 20, 2018, the effective date of the 2018 Farm Bill, and the felony conviction occurred prior to that date.

The amendment requires DATCP, if required for federal authorization of Wisconsin's hemp program, to conduct a background investigation of any person who applies to produce hemp, which must include requiring the person to be fingerprinted to verify the person's identity and obtain records of his or her criminal arrest and convictions from the Federal Bureau of Investigation (FBI).

Practice of Chiropractic and Pharmacy

The amendment creates an exception to the definition of "practice of chiropractic." Under current law, the "practice of chiropractic" means, in relevant part, to treat without the use of drugs. For chiropractors, treating with the use of drugs is outside the scope of practice. The amendment clarifies that the "practice of chiropractic" means to treat without the use of drugs, other than hemp.

The amendment also creates an exception to the general requirement that a person be licensed by the Pharmacy Examining Board to engage in the practice of pharmacy or to sell, give away, or barter drugs. Specifically, under the amendment, the licensure requirement does not apply to a person who sells, gives away, or barter hemp, or takes any of the actions constituting the practice of pharmacy in relation to hemp. Similarly, under the amendment, a manufacturer's license issued by the Pharmacy Examining Board is not required for a person to engage in the manufacturing of hemp.

Controlled Substances Board

The amendment requires the Controlled Substances Board to treat nabixomols in the same manner that it is required to treat CBD if nabixomols is rescheduled or deleted as a controlled substance under federal law. Specifically, the amendment requires the Controlled Substances Board, if nabiximols is rescheduled or deleted as a controlled substance under federal law, to similarly treat nabiximols under state law as soon as practically possible, but no later than 30 days from the date of publication in the federal register of the federal order.

The amendment also repeals certain requirements of the Controlled Substances Board. Specifically, the amendment repeals requirements that the Controlled Substances Board approve pharmacies and physicians that may dispense CBD to patients, if the FDA issues an investigational drug permit or if CBD is removed from the state or federal list of controlled substances.

Appropriation to DATCP

The amendment deletes the appropriation to DATCP created under the bill.

BILL HISTORY

Senators Testin and Taylor introduced Senate Amendment 1 on August 12, 2019. The Senate Committee on Agriculture, Revenue and Financial Institutions voted on August 20, 2019 to recommend adoption of the amendment and passage of the bill, as amended, on votes of Ayes, 9; Noes, 0.

MQ:AO:ksm

EXHIBIT G

DATCP Document - “What Variety of Hemp Should I Grow?.”



What Variety of Hemp Should I Grow?

WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION

One of the first things a potential hemp grower must decide is what type of hemp to grow. There are three main types of hemp production: Grain/seed, fiber and CBD. Each uses different seed varieties, equipment and techniques, and end markets, and requires different amounts of land, labor, equipment, nutrients, and weed and pest control. Very briefly, this is what you need to know about each type of hemp crop.

Hemp for grain/seed



These cultivars are slender, and about 5-7 feet tall.

- **Planting time:** Mid-May to mid-June
- **Planting method:** Grain drill, broadcast seeder or corn planter
- **Planting rate:** 25-35 pounds/acre
- **Harvest time:** At maturity, generally 100-120 days after planting; mid-September to mid-October
- **Harvest method:** Regular combine
- **Post-harvest handling:** Clean before storage in a grain bin, where forced air dries the crop
- **Other comments:** Some cultivars may also be harvested for fiber after combining.

Hemp for fiber



These cultivars are very slender, and range from 10 to 18 feet tall.

- **Planting time:** Early May to early June
- **Planting method:** Grain drill or broadcast seeder
- **Planting rate:** 50-70 pounds/acre
- **Harvest time:** Around the time of pollination, generally 45-70 days after planting; mid-July to early August
- **Harvest method:** Mower (sickle or disc mower) and a hay baler (round or large square)
- **Post-harvest handling:** Left to field dry to 15% moisture, then baled
- **Other comments:** Some cultivars may also be harvested for seed, but special harvesting equipment may be necessary.

Hemp for CBD use



These cultivars are very bushy, and may reach heights of 6 to 12 feet.

- **Planting time:** Clones or other starters may be transplanted outdoors by mid-June. Greenhouse-only systems may plant year-round.
- **Planting method:** By hand or by transplanter when using clones or starts.
- **Planting rate:** 800-1,500 plants/acre, spaced 4-6 feet apart.
- **Harvest time:** Female plants grown to near maturity, mid-September to mid-October in fields; greenhouse harvests vary.
- **Harvest method:** Plants are cut by hand and removed from the field.
- **Post-harvest handling:** Dried in drying sheds or warehouse to processor's specifications. After drying, flowers and some leaf materials are removed from stalks, packaged and sent to processor for oil extraction.
- **Other comments:** Only the female plants are used; male plants are terminated once identified.

EXHIBIT H
AECOM Tech Memo

Technical Memorandum

To	Benjamin Timm, RACM	Page 1 of 5
CC		
Subject	Engineered Cap for Crop Production Summary of Proposed Design Parameters and Estimate of Probable Construction Cost Century City Site, Milwaukee, Wisconsin	
From	Dave Henderson, AECOM	
Date	May 7, 2019	

Goal: To provide fertile soil for crop production while providing protection to human health and the environment from residual soil contaminants.

Cover Crop for Production: Industrial hemp. Highest root density in top 6 to 12-inches of soil. Wisconsin Department of Agriculture, Trade and Consumer Protection, FAQ guidance references that roots are capable of penetrating up to 24-inches below ground surface (bgs).

Area for Crop Production: 30 acres for crop production. This leaves areas of the site available for access roads, support buildings, support “yard” areas, stormwater infrastructure (i.e. drainage ditches and retainage pond), and perimeter site security.

Basic Engineered Cap Design: Designed in general accordance with *Guidance for Cover Systems as Soil Performance Standard Remedies*, WDNR Publication RR-709, October 2013, and NR 700 code requirements.

- Engineered cap should be a WDNR acceptable “soil cover/cap” designed to mitigate “direct contact exposure”.
- Soil cover is typically a minimum 2-foot thick layer of clean soil (i.e. fertile soil) that should be vegetated (i.e. the cover crop) to prevent erosion and deterioration.
- A warning layer should be constructed below the fertile soil to prevent migration of the unlaying contaminated soil into the upper fertile soil and to provide a physical barrier (i.e. the “warning layer”) from deeper excavation into the contaminated soil. The warning layer must be robust (i.e. aggregate) and not fragile (i.e. geotextile fabric) relative to possible future excavation activities. A typical aggregate warning layer is 4-inches thick.

Farming Activities to be Considered: The fertile soil cover will need sufficient thickness to support healthy plant growth and tillage activities (i.e. the preparation of land for growing crops). The following three types of tillage activities were taken into account while considering the thickness of the engineered soil cover/cap.

- Cultivators or harrows stir and pulverize breaking up and smoothing out the surface of the soil. This is done, either before planting (to aerate the soil and prepare a smooth, loose seedbed) or after the crop has begun growing to kill weeds. Harrowing is often carried out on fields following the rough finish left by plowing operations. Typical depth of cultivating or harrowing; 6 to 8-inches bgs.
- Plowing or Ploughing. The plow (e.g. moldboard or chisel plow) is a common tool to get deep tillage. The main function of plowing is to loosen and aerate the soils while leaving crop residue at the top of the soil. The plow can be used to reduce the effects of compaction and to help break up plowpan and hardpan. Typical range of depth for plowing; 8 to 15-inches bgs.
- The subsoiler is a tillage tool used to improve growth in all crops where soil compaction is a problem. The subsoiler is used to lift and shatter the hard pan that builds-up due to compaction. Typical range of depth for subsoiler tillage; 15 to 24-inches bgs or deeper.

For design considerations, the maximum depth of tillage was anticipated to be equal to or greater than the maximum root depth of the cover crop. In this case, the maximum depth of tillage is estimated to range from 24 to 30-inches bgs.

Summary of Engineered Cap Design Conditions:

30-acre, Century City site

Cover Crop, Industrial Hemp, roots capable of penetrating 24-inches

Possible tillage depth, 24 to 30-inches

Maximum depth of fertile soil (i.e. field run, unscreened, topsoil) 30-inches

Warning layer for Direct Contact protection, 4-inches, crushed concrete

Summarized Sub-Total Costs – Field Run, Unscreened, Topsoil

Cost of Field Run, Unscreened, Topsoil:

Nobody would give a volume discount quote.

Typical price \$12 to \$15 per cy.

133,100 cy of soil, loose

Typical cost \$1,331,000 to \$1,597,200

See notes about supply below.

Loading Trucks at Source:

\$1.50/cy

Cost for Loading = \$ 199,650

Transport:

16 cy per truck
8,319 truckloads, loose
Assume source 1.5 hours from site
One round = 3 hours
Truck/driver = \$110/hr - see note below.
Cost for Trucking = \$2,745,200

Spreading at Site:

20 trucks, 3 rounds/day, 60 truckloads/day
Approx. 960 cy/day, loose
139 days to transport
18 days additional for grading
Dozer w/ operator = \$110/hr
Dozer 8 hrs/day = \$880/day
Cost for spreading with dozer = \$ 137,850

Sub-Total for Field Run, Unscreened, Topsoil: approx. cost:

RANGE, \$4,413,700 to \$4,679,900 to provide, transport, and place
Based on typical price for unscreened topsoil, no-one would provide a discount number.

Summarized Sub-Total Costs – Crushed Concrete Warning LayerCost of Crushed Concrete:

Typical price \$8.50 per ton, with mark-up
25,410 tons, loose
Typical cost \$216,000
See notes about supply below.

Loading Trucks at Source:

Cost for Loading = \$ zero, included in material purchase price

Transport:

16 cy per truck
1,059 truckloads, loose
Assume source 1.0 hours from site
One round = 2 hours
Truck/driver = \$110/hr - see note below.

Cost for Trucking = \$232,900

Spreading at Site:

20 trucks, 3 rounds/day, 60 truckloads/day

Approx. 960 cy/day, loose

18 days to transport

18 days additional for grading

Dozer w/ operator = \$110/hr

Dozer 8 hrs/day = \$880/day

Cost for spreading with dozer = \$ 31,370

Sub-Total for Crushed Concrete Warning Layer: approx. cost

\$480,300 to provide, transport, and place

Based on typical price for crushed concrete, no-one would provide a discount number.

TOTAL Estimated Construction Cost – for field run, unscreened, topsoil and crushed concrete warning layer. To provide, transport, and place.

\$4,894,000.00 <RANGE> \$5,160,200.00

Add 20-30% for Davis Bacon, if required.

References, a mixture of information from:

Lieseners Soils, Jackson, WI

UPC, Tage

Hoffman Construction, I believe they are working Foxconn & WDOT jobs

CWP, Michael

Comments from Suppliers:

- Costs do not include site subgrade preparation, grading for drainage, removal of concrete, etc.
- Irrigation of future crops may not be allowed by the WDNR, as it relates to protection of groundwater.
- Crushed concrete can have asphalt included in the mix.
- Crushed concrete would have to come from multiple suppliers to meet demand.
- Farm, field run, unscreened, topsoil may need to be tested (pesticides, metals, etc..) to confirm clean.
- Note that volume of topsoil is not available north of Milwaukee. Typical price \$12 - \$15/cy provided.

- No DOT topsoil in Racine – i.e. south Hwy 94 – its spoken for.
- Private topsoil in Racine – probably not available, its privately-owned so contractor would not offer any cost information beyond the typical \$12 to \$15/cy, contractor stated that negotiations would be required, BUT if its bid, they would like the chance to bid on the work.
- One Contractor said cost for topsoil could be \$2 to \$5 per cy in Racine but would not stand behind that cost – so the typical cost is provided above.
- Lots of topsoil in Racine area, privately owned, BUT it's wet and heavy.
- Trucks are in high season, \$110 to \$115 per hour, and not enough trucks to go around.

The engineer's opinion of probable construction cost is based on the engineer's experience and judgement. The engineer cannot control the cost of labor, materials, equipment, and services provided by others or the means and methods of construction. Actual costs will only be determined upon receipt of construction bids for the work.