

FRIENDS OF THE STURGEON
BAY PUBLIC WATERFRONT,
SHAWN M. FAIRCHILD,
CARRI ANDERSSON,
LINDA COCKBURN,
RUSS COCKBURN,
KATHLEEN FINNERTY,
and
CHRISTIE WEBER,

Case No. 16-CV-23
Code: 30701

Plaintiffs,

vs.

CITY OF STURGEON BAY,
a Wisconsin municipal corporation,
and
WATERFRONT REDEVELOPMENT AUTHORITY
OF THE CITY OF STURGEON BAY
a municipal redevelopment authority,

Defendants.

AFFIDAVIT OF LORI HUNTOON, PG

STATE OF WISCONSIN }
 }
COUNTY OF DANE } SS.

LORI HUNTOON, first being duly sworn under oath, subscribes and states as follows:

1. I am a Licensed Professional Geologist retained in this case on behalf of the Plaintiffs to render an expert opinion concerning the character of the subsurface of property known as the "Hotel Parcel" that is the subject of this matter. Attached as Exhibit 1 is a true and correct copy of my current CV.
2. Attached hereto as Exhibit 2 is a true and correct copy of my report dated June 15, 2016, which consists of a technical review of environmental and geotechnical assessments of the Hotel Parcel and surrounding property which were prepared and submitted to the State of Wisconsin Department of Natural Resources ("WDNR") by scientists and engineers retained by the City of Sturgeon Bay, as well as environmental assessments prepared and submitted to WDNR by previous property owners.

3. Copies of the environmental and technical assessments listed in my report (Exhibit 2) and supporting the conclusions in the report were obtained from the following sources:

Report	Source
2000 Final Site Closure Maritime Museum October 30, 2000	Online database WDNR Bureau for Remediation and Redevelopment Tracking System (BRRTS) 02-15-000579
2005 Phase I Environmental Site Assessment Door County Co-op, 92 East Maple STS Consultants, September 28, 2005	Defendants' Discovery Response
2005 Phase II Subsurface Assessment Door County Co-op, 92 East Maple STS Consultants, October 12, 2005	Defendants' Discovery Response
2013 Phase I Environmental Site Assessment Industrial/Municipal Properties, 92-100 East Maple AECOM, January 8, 2013	Defendants' Discovery Response
2013 Phase II Environmental Site Assessment Sturgeon Bay West Waterfront Redevelopment Ayres & Associates, August 2013	Defendants' Discovery Response
2015 WDNR Approval for Management of Contaminated Soil Door County Co-op, 92 East Maple (Closed Site)	BRRTS 03-15-000659

4. In addition to the foregoing, I have reviewed additional reports obtained from the online database of WDNR's Bureau for Remediation and Redevelopment Tracking System (BRRTS), available at: <http://dnr.wi.gov/topic/brownfields/botw.html>, a database that contains information on the investigation and cleanup status of sites throughout Wisconsin. The Hotel Parcel has five different BRRTS numbers associated with it: 02-15-544253 Door Co Coop – Fill, 02-15-563484 Former US Coast Guard - Above OHWM, 02-15-563485 Former US Coast Guard - Below OHWM, 03-15-000659 Door CNTY Coop, and 06-15-560738 Former Door CNTY Coop. See attached Exhibit 3 for a map of the BRRTS site names in relation to the Hotel Parcel.
5. Reports in the BRRTS files were submitted by the City of Sturgeon Bay in connection with the City's application for a Historical Fill Exemption and Voluntary Party Liability Exemption ("VPLE") to allow the redevelopment of the Hotel Parcel and construction on historic fill under an exemption from the State's solid waste laws otherwise applicable to landfills.

6. The WDNR publication “Development at Historic Fill Sites and Licensed Landfills: What You Need to Know” (available at: <http://dnr.wi.gov/files/PDF/pubs/rr/RR683.pdf>) states:

Many property owners are aware that the disposal of waste materials or solid waste was a matter of convenience in the past. Municipal solid waste, ashes, demolition debris, foundry sand, and other wastes were placed in wetlands, marshes, ravines, or other depressions, or were used to adjust the grade on properties. Any deposit of waste material, other than by homeowners on their own property, meets the statutory definition of a landfill. Landfills that were established before 1970 and were never licensed by the Department of Natural Resources (DNR) are called **historic fill sites**. DNR’s administrative codes prohibit the placement of structures or other development on buried waste without an exemption to s. NR 506.085, Wis. Adm. Code, because of legitimate and documented concerns about leachate, generation of methane, and past disposal practices.

7. The reports and submittals listed above confirm the opinion set forth in my report that the subsurface of the Hotel Parcel is artificial fill. In particular, the conclusion that the subsurface of the Hotel Parcel is contaminated with methane is consistent with the historical landfilling with organic matter that creates methane gas as it decomposes.
8. I have considerable experience as a project manager for environmental and construction projects involving groundwater contamination, site remediation and regulatory compliance. I also have prior experience in State of Wisconsin regulatory program management based on my previous position as Section Chief of the Technical Section of the former Wisconsin Department of Commerce Petroleum Cleanup Fund.
9. Fire insurance maps such as Sanborn maps are identified in the ASTM International’s Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM Designation No. E1527-13), which defines good commercial and customary practice in the United States for conducting a Phase I Environmental Site Assessment (“ESA”). A Phase I environmental assessment is an initial documentary investigation of the historic use of a development site for purposes of evaluating the existence and scope of likely environmental contamination. Fire insurance maps are specifically called out in Section 8.3.4.2 of the ASTM Standard for Phase I ESAs as a source of historical use information.
10. In my 25+ years of experience as a hydrogeologist and Program Manager, reliance on Sanborn Fire Insurance Maps is standard in the industry for the preparation of Phase I ESAs. Preparation of Phase I environmental assessments routinely involves acquisition of a data set of Sanborn Maps from the firm Environmental Data Resources, Inc. (“EDR”).

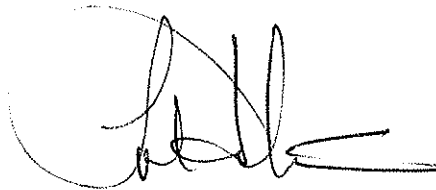
11. Attached hereto as Exhibit 4 is EDR's description of Sanborn maps, available at <http://edrnet.com/prods/sanborn-maps/> (last visited 9/26/2016). Under the heading "What It's Used For," the EDR website describes Sanborn maps as "one of the best sources of historical property information and are used every day by thousands of environmental consultants to conduct Phase I ESAs."
12. A Phase II Environmental Site Assessment is a scope of work conducted for the purpose of evaluating environmental conditions of a site, including assessment activities, field screening, environmental media sampling, evaluation and verification of data, interpretation and reporting of results. Site activities include identification of soil and groundwater contamination from previous and/or present operations on a subject property, including recognized environmental conditions (RECs).

Phase II Environmental Site Assessment processes are described in the ASTM E1903-11 Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process. Components of the Phase II Investigation (Section 6.4 under Phase II ESA Overview) includes an evaluation of the physical setting, including the presence of fill. Soil conditions are evaluated through the placement of soil borings, including characterization of soil type, evaluation of the presence of fill material, screening for contaminants, collection of soil samples, and laboratory analysis. Results are evaluated and documented in tabular form, cross section illustrations, and maps.
13. Based on my training, professional license and experience in both the regulatory and construction fields, an analysis of soil borings obtained in connection with a Phase II ESA that results in a conclusion that the site of the soil boring is "*fill*" is based on the composition of materials, stratification and layering found in the soil boring sample. The term "fill" is used to identify and distinguish the subsurface in the boring area from "deposits" in surface and subsurface areas formed by natural processes, including accretion of lake sediments by current and wave action.
14. An illustrative example of an analysis of soil borings to conclude that areas of land were artificially filled is found in Exhibit 5, which are figures appended to the Phase II ESA dated August 2013, prepared on behalf of the City of Sturgeon Bay by the engineering firm Ayres & Associates. Exhibit 5 consists of a characterization of the subsurface based on location of the soil borings, the configuration of cross sections (linear transects) composed of four or more soil boring samples, the analysis of the composition of each boring, and a conclusion in those areas of the site, there exist several feet of fill overlaying lacustrine (lake deposit) sediments.
15. The industry use of the term "fill" as applying to lands formed by artificially placed materials is consistent with the regulatory definition of "fill material" in the Environmental Protection Agency's regulations promulgated under the Clean Water Act in 40 CFR § 232.2 and 33 CFR § 323.2(f). EPA defines "fill material" as "material placed in waters of the United States where the material has the effect of:

- (i) Replacing any portion of a water of the United States with dry land; or
- (ii) Changing the bottom elevation of any portion of a water of the United States.

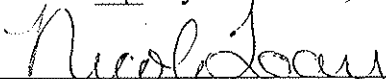
(2) Examples of such fill material include, but are not limited to: rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mining or other excavation activities, and materials used to create any structure or infrastructure in the waters of the United States.”

16. The conclusions and opinions in this affidavit are made to a reasonable degree of certainty in my field as a professional geologist, based on my training, credentials and experience as an environmental consultant, project manager and regulatory program supervisor.



Lori Huntoon, PG

Subscribed and sworn to before
me this 7 day of October, 2016



Notary Public, State of Wisconsin
My Commission expires 3/8/2018.

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Lori Huntoon, PG

Principal Hydrogeologist & Owner, Huntoon Environmental Consulting, llc

P.O. Box 259927, Madison WI 53725

608-886-7245 · lorihuntoonpg@gmail.com

QUALIFICATIONS

Professional geologist, certified educator and former regulator with over 25 years of progressive leadership experience providing technical program management for water and environment.

- **Consulting experience** includes oversight of site investigations including identification of potentially responsible parties, independent technical evaluations for environmental programs, farmland assessments, Phase I and Phase II real estate property transactions; groundwater resource assessment/evaluation/ protection; development of remedial action plans, wellhead protection surveys; regulatory negotiation; wetland determinations; water supply/conservation; litigation support; oversight of administrative/field staff, and training.
- **Regulatory program management** includes Section Chief of the technical section of the Wisconsin Petroleum Cleanup Fund overseeing 25 technical staff with projects exceeding an annual budget of \$94M; represented the PECFA program at public hearings throughout the state, and contributed to administrative code revisions. As a consultant, worked on the development of environmental standards for industry; participated in the initial “integrated environmental plan for the Mexican-US Border” between USEPA and (then) SEDUE in 1992.
- **Project management** experience includes oversight of subcontractors and drilling crews; completion of field and reporting activities associated with groundwater contamination investigations and remediation programs, development of well head protection programs and siting of replacement water supply wells; regulatory compliance; and establishment of consistent objectives for municipal, state/federal, legal, and and industrial clients.
- **Drilling oversight** includes management of drilling programs, supervision of an environmental drilling crew; presentation of investigative results focused on groundwater sampling at multiple intervals utilizing dual-tube drilling technology; speaker at hands-on environmental drilling technology programs; and a broad range of experience managing large-scale groundwater monitoring networks for extensive and complex site investigations.

LICENSING & CERTIFICATIONS

Licensed Professional Geologist – State of Wisconsin #13-008, since 1997

Certified Ground Water Professional – National Ground Water Association, since 1991

Certified Secondary Science Teacher – State of Wisconsin, 2008

Certified English As a Second Language Teacher – State of Wisconsin, 2008

PROFESSIONAL EXPERIENCE

Owner & Principle Hydrogeologist February 2013 to present

Huntoon Environmental Consulting, Ilc, Wisconsin (formerly HydroGeoLOGIC Consulting, Ilc)

Logical approaches to environmental and sustainability solutions for communities, non-profit groups, law firms, government agencies, other consulting firms, and businesses. Assistance with technical reviews and litigation preparation. Grant writing and oversight of grant-funded programs, technical assistance with economic development projects, program oversight, strategic planning, marketing.

Section Chief, Wisconsin Petroleum Cleanup Fund · 1997 to 2004

State of Wisconsin Department of Commerce, Madison WI

Managed the technical section of Wisconsin's Petroleum Cleanup Fund, including an experienced staff of 25 hydrogeologists and program assistants at five locations throughout the state. Conducted public hearings, facilitated meetings, coordinated interagency training, participated in preparation of interagency memorandums, assisted with administrative rule changes, represented the agency at national conferences, served as liaison in regional and national meetings with EPA, prepared annual reports for the legislature and Governor's office, chaired Administrative Code revision committee.

Hydrogeologist 1985-1997

Environmental Consulting Firms, Madison WI & Rockford IL

Project oversight, including RCRA, Phase I/II environmental site assessments for property transactions, and groundwater investigations. Managed environmental projects including Fortune 500 manufacturing firms based out of Milwaukee. Provided corporate compliance audits for facilities located nationally and along the US/Mexico border. Managed metals contaminated site investigation and remediation program in California, including an evaluation of new metals-treatment technology and facilitation of meetings involving multiple regulatory agencies. Managed office for full service engineering, geotechnical and environmental consulting firm, including monthly operations reports, timesheets, accounts payable and receivable, expense reports, hiring and discipline of staff.

Branch Manager/Operations Manager/Hydrogeologist 1985-1993

Environmental Consulting Firms, Houston TX & Milwaukee WI

Supervised staff including geologist, drilling crew, and administrative support. Conducted business development. Managed environmental projects including RCRA, leaking underground storage sites, lumber treatment facilities, and locations of illegally disposed drums. Managed field activities for the City of Wausau Superfund Site and the Sheboygan River & Harbor Superfund Site, including oversight of drilling operations on each side of the Wisconsin River and in the Sheboygan Harbor, respectively. Completed health risk assessment and groundwater investigation for neighborhood surrounding petroleum refinery in western Louisiana. Conducted business development throughout Texas, Oklahoma, and the Midwest, including assistance with the opening of offices in Michigan, Indiana and Illinois. Conducted business development, participated in corporate strategic planning and training.

EDUCATION & TRAINING

Sustainability Consulting Cohort Program, ISSP – 2013
Science and ESL Education, Edgewood College, Madison, Wisconsin – 2008
Organizational Facilitation and Negotiation, State of Wisconsin – 1997
Organizational Management and Leadership Training, State of Wisconsin – 1998 - 2000
ISO14000 Environmental Management System Training - 1996
40 Hazardous Waste Operations and Emergency Response Training – NGWA, 1985
B.S., Geology – University of Wisconsin Platteville, 1985
Advanced classes in Hydrogeology – University of Minnesota Minneapolis, 1984-1985
Mining Engineering coursework – University of Wisconsin Platteville, 1980-1982
Water Well Drilling Course, Staples Technical Institute, 1982
Baroid Mud Drilling Technology – Baroid Drilling Institute, Houston Texas, 1981

PROFESSIONAL ASSOCIATIONS

ASTM International D18-21 on Ground Water Monitoring (1987-present)
ASTM International E-50 on Environmental Site Assessments (1990-present)
Department of Interior ASTM Representative to Subcommittee on Groundwater (2010-present)
Federation of Environmental Technologists Audit Committee CoChair (1990-1994)
Ground Water Age Advisory Board (1987-1990)
International Society of Sustainability Professionals Consultant Cohort (2013)
Merlin Mentors UW-Madison (2014)
Rock Trail Coalition Board of Directors (2013-present), Newsletter Editor (2013-present)
National Ground Water Association Ground Water Scientists & Engineers Director (1990-1994)
National Ground Water Association Ground Water Management and Protection Committee (2015)
National Ground Water Research and Educational Foundation Board Member (2015)
Rock Trail Coalition Newsletter Editor (2014-2015)
Sustainable Janesville Committee Member (2014-2015)
Wisconsin Ground Water Association President (1988-90), Board member (2008-10)
Wisconsin Water Association Chair, Small Systems Committee (2012-2013)
Wisconsin Water Well Association Associate Member (1985-present)
Wisconsin Women Environmental Professionals / Madison Chapter – CoChair (2003-2004, 2011)
University of Wisconsin Women In Business Council Board Member (1998-2000)

REFERENCES

Available upon request.

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15 June 2016

Mary Beth Peranteau, Attorney
Wheeler Van Sickle & Anderson
44 East Mifflin Street, Suite 1000
Madison, WI 53703

RE: Technical Review, Friends of the Sturgeon Bay Public Waterfront

Dear Attorney Peranteau;

A technical review has been completed for the Friends of the Sturgeon Bay Public Waterfront (FSBPW) in order to render an opinion as to the nature of the subsurface of the properties located at 92 East Maple Street (Door County Parcel Number 2811210080101) and 100 East Maple Street (Door County Parcel Number 2812415090101), Sturgeon Bay, Wisconsin (hereinafter referred to as the "Redevelopment Property"). Review included the fill areas within the "Hotel Site", defined as the area identified on the Certified Survey Map included as Attachment 1, as follows:

Being a part of Lot 1, Block 9 of Harris First Addition and also a part of Lots 1, 6, and 7, Block 8 of Bayview Plat and all of Lots 2, 3, 4 and 5, Block 8 of Bayview Plat and also part of Subdivision 76, all in the NE ¼ of Section 7, Township 27 North, Range 26 East, City of Sturgeon Bay, Door County, Wisconsin, bounded and described as provided on Certified Survey Map 788826 (Door County Register of Deeds, Volume 18 Page 60, recorded July 20th, 2015).

TECHNICAL REVIEW AND REFERENCES

Multiple environmental and geotechnical assessments have been completed on the Redevelopment Property, the results of which confirm that the majority of the subsurface of the Hotel Site is filled lakebed. These reports, and the respective references to the identification of filled lakebed, are provided below:

2000 FINAL SITE CLOSURE, MARITIME MUSEUM

BRRTS 02-15-000579, Maritime Museum, Sturgeon Bay, WI. October 30th, 2000.

Wisconsin Department of Natural Resources (WDNR) Bureau of Remediation and Redevelopment Tracking System (BRRTS on the Web) provides the GIS Registry Package which includes geologic cross-sections of 8 borings installed on the proposed Maritime Museum site during investigation activities in 1995, results which **indicate fill across the Maritime Museum site adjacent to the Hotel Site, including debris and wood observed at depths exceeding twelve feet below land surface.** A map illustrating the locations of these borings with respect to the location of the Hotel Site is provided as Attachment 2.

2005 PHASE I ENVIRONMENTAL SITE ASSESSMENT

STS Consultants, Ltd., Prepared for Door County Cooperative, 92 East Maple Street, Sturgeon Bay, WI. September 28, 2005. **Historical evidence of filled areas identified.**

(page 23): **Section 5.7 Indications of Solid Waste Disposal**

*STS observed the subject property for solid waste management issues including generation and disposal methods. Evidence of dumping or disposal of solid wastes on the subject property was not observed. However, **based on a review of historical Sanborn maps, the northern portion of the subject property is located in an area formerly occupied by water (Sturgeon Bay). Sanborn maps suggest that the area was filled in the late 1800s. Furthermore, WDNR information indicated that up to 10 feet of fill (including up to 5 feet of wood chips and/or charred wood and/or concrete) was identified in soil borings advanced on the subject property during LUST case assessment activities.** If fill is encountered during future development activities on the subject property, it may require management as a solid waste.*

2005 PHASE II SUBSURFACE ASSESSMENT AND ASBESTOS DEMOLITION SURVEY

STS Consultants, Ltd., Prepared for Door County Cooperative, 92 East Maple Street, Sturgeon Bay, WI. October 12, 2005. The installation of 8 soil borings confirmed the presence of fill in the area of the Hotel Site. A map illustrating the locations of these borings on the Hotel Site is provided as Attachment 3.

(page 23): **Section 5.7 Indications of Solid Waste Disposal**

*STS observed the subject property for solid waste management issues including generation and disposal methods. Evidence of dumping or disposal of solid wastes on the subject property was not observed. However, **based on a review of historical Sanborn maps, the northern portion of the subject property is located in an area formerly occupied by water (Sturgeon Bay). Sanborn maps suggest that the area was filled in the late 1800s. Furthermore, WDNR information indicated that up to 10 feet of fill (including up to 5 feet of wood chips and/or charred wood and/or concrete) was identified in soil borings advanced on the subject property during LUST case assessment activities.** If fill is encountered during future development activities on the subject property, it may require management as a solid waste.*

(page 7): **Section 2.3 Geology**

*Subsurface conditions encountered during the Phase II **were generally described as fill** consisting of brown fine to coarse silty sands and fine to coarse sands with gravel to the boring termination depths. **Trace cinders were observed at a depth of approximately 0.5 to 2 feet bgs at Borings B-3 and B-8. Trace wood was observed at a depth of approximately 6 to 8 feet bgs at Boring B-4, and trace wood and glass were observed at a depth of approximately 2 to 8 feet bgs at Boring B-8.***

(page 17): **Section 2.7 Recommendations**

*Visual and olfactory observations completed during the Phase II did not reveal staining, odors, or other evidence to suggest that the lead and PAH detections at the site were related to the areas of concern assessed as part of the Phase II. Rather, **visual and olfactory observations suggest that the detected concentrations are most likely associated with urban fill placed on the site as documented in historical Sanborn maps from the late 1800s and early 1900s.** If the area with lead and PAH detections are disturbed in the future, the soil will likely require management as a solid waste in general accordance with local, state and federal laws. Nevertheless, due to the concentrations of lead and PAHs detected in soil*

samples, the WDNR reporting requirements identified in s.292.11, Wisconsin Statutes (i.e. Wisconsin Spills Law), may be applicable to the site.

Appendix A: WDNR Boring Log Information Forms

- B-3 - cinders observed in soil sample collected from 0-2 feet below land surface
- B-4 - trace wood and gravel observed in soil sample collected from 6-8 feet bls
- B-8 - trace cinders observed in soil sample collected from 0-2 feet bls
trace wood and trace glass in soil sample collected from 2-4 feet bls
trace cinders and trace wood in soil sample collected from 4-6 feet bls
trace wood in soil sample collected from 6-8 feet bls

2013 PHASE I ENVIRONMENTAL SITE ASSESSMENT OF INDUSTRIAL/MUNICIPAL PROPERTIES

AECOM, Prepared for the City of Sturgeon Bay for the Industrial/Municipal Properties located at 92 and 100 East Maple Street, Sturgeon Bay, WI, Wisconsin, January 8th, 2013.

(pages ES-3 and 7-1) Executive Summary/Findings and Opinions

Based on a review of historical Sanborn maps, the northern portion of the Subject Property is located in an area formerly occupied by water (Sturgeon Bay). Sanborn maps suggest that the area was filled in the late 1800s. Furthermore, WDNR information indicated that up to 10 feet of fill (including up to 5 feet of wood chips and/or charred wood and/or concrete) was identified in soil borings advanced on the Subject Property during the LUST case assessment activities. If fill is encountered during future development activities on the Subject Property, it may require management as a solid waste. Furthermore, due to the nature of fill encountered during LUST case assessment activities (i.e. several feet of wood/charred wood); the potential exists for methane gas to be present in the subsurface.

(page 4-3) 4.4 Historical Use Information

Aerial photographs reviewed indicated the following:

- 1938: The Subject Property appeared developed with structures near the southwest, northwest, and southeast corners. The remainder of the property appeared vacant. The northeast portion of the Subject Property appeared to be covered by water (Sturgeon Bay).
- 1951: Notable changes to the Subject Property were not observed.
- 1955: Notable changes to the Subject Property were not observed.
- 1967: Due to the poor quality of the photograph, discernible changes to the Subject Property, if present, were not readily apparent, except for: the northeastern portion of the Subject Property (formerly part of Sturgeon Bay) appeared to have been filled.

(page 4-4) Historical Fire Insurance Maps

- 1885: A large portion of the subject property appeared to be covered by water (Sturgeon Bay). A dock was shown near the eastern property boundary.
- 1891: A large portion of the Subject Property appeared to be covered by water (Sturgeon Bay). Two docks and a warehouse were shown near the eastern property boundary.
- 1898: A majority of the Subject Property (with the exception of property near the eastern boundary) appeared to have been filled, as land which was formerly located underwater was shown covered by "Lawrence's Dock." An ice house, grain warehouse, meat warehouse, and cord wood piles were shown on the dock area.

(page 4-5) **4.4.1 Summary of Subject Property History**

Historically, the Subject Property was developed as industrial/municipal property since at least 1885 and has remained developed in that manner to the present day. Initially, Subject Property development was identified on the western side of the Subject Property. Filling activities later expanded the Subject Property to the east into Sturgeon Bay.

(page 5-4): **Section 5.7 Indications of Solid Waste Disposal**

AECOM observed the subject property for solid waste management issues including generation and disposal methods. Evidence of dumping or disposal of solid wastes on the Subject Property was not observed. However, based on a review of historical Sanborn maps, the northern and eastern portion of the Subject Property is located in an area formerly occupied by water (Sturgeon Bay). Sanborn maps suggest that the area was filled in the late 1800s. Furthermore, WDNR information indicated that up to 10 feet of fill (including up to 5 feet of wood chips and/or charred wood and/or concrete) was identified in soil borings advanced on the Subject Property during LUST case assessment activities.

(Appendix C) **Phase I Environmental Site Assessment User Questionnaire**

January 2013 (no contact information provided). Consistent statement that former bay bottom was filled prior to 1950s and 1960s. "Most of land was created through act of filling bay bottom".

2013 PHASE II ENVIRONMENTAL SITE ASSESSMENT

Ayers & Associates, Prepared for the City of Sturgeon Bay, August 2013. Cross-sections of geological maps identify 10 or more feet of fill overlaying lake deposits in the majority of the Hotel Site.

2015 NR718 ASSESSMENT AND LOW HAZARD WASTE EXEMPTION REQUEST (submitted to WDNR)

Ayres Associates, Prepared for City of Sturgeon Bay, West Waterfront Development Project, October 2015
Waste exemption request was submitted by Ayres & Associates for the City for approval under NR718.12 to allow disposal of excavated contaminated soil/historic fill.

2015 WDNR APPROVAL FOR MANAGEMENT OF CONTAMINATED SOIL (NR718.12)

BRRTS 03-15-000659 DOOR CNTY COOP (Closed LUST Site). WDNR to City of Sturgeon Bay, 12/9/15.

Summary of proposed soil/historic fill management activities:

The soil management request is related to the first phase of the West Waterfront Redevelopment Project and includes the rerouting of utilities and the construction of a four-story 19,420-square-foot-hotel. The building (i.e. hotel), driveways and landscaping associated with the hotel development will be integrated into a cap which will cover areas of contaminated soil/historic fill known to contain bricks, cinders, concrete and wood debris.

The City proposes to dispose of approximately 120 cubic yards of excavated contaminated soil/historic fill originating from the West Waterfront Redevelopment Project located at 92 and 100 East Maple Street, Sturgeon Bay, Wisconsin... This phase of the West Waterfront Redevelopment Project is anticipated to generate contaminated soil/historic fill during site grading, the installation of poured concrete foundation walls and aggregate geopiers, utility trenching, and pool excavation. The contaminated soil/historic fill will be relocated on-site in designated areas and covered with 18" of imported general fill around the building footprint and foundation.

DISCUSSION REGARDING WDNR DETERMINATION OF CONCURRENCE WITH THE APPROXIMATE ORDINARY HIGH WATER MARK FOR THE CITY OF STURGEON BAY WEST SIDE WATERFRONT PROJECT (Letter to Attorney James Smith/Pinkert Law Firm from Michael Bruhn/WDNR, October 20th, 2014)

The WDNR letter states that the Ordinary High Water Mark (OHWM) is typically defined through field analysis of the physical characteristics of the shore for purposes of verifying where water has left a distinct mark. Due to historic filling of the public lakebed, the location could not be determined through physical assessment. Historic maps were utilized in lieu of physical assessment to identify the OHWM; particularly, a 1925 US War Department map and a 1955 bulkhead map from a Board of Commission of Public Lands file. Based on the fact that the Hotel Site "appears to have been a shallow bay of 2 ft. water depth", it was opined that "the parcel area would have filled with sediment slowly over the course of time between the 1925 Map and the 1955 Bulkhead Map". Based on this assumption, it was stated that "The gradual addition of soil to the shallow area shown in the 1925 Map should be considered accretion and would extend the riparian title out to the OHWM".

In my experience as a hydrogeologist, to a reasonable degree of professional certainty, an analysis of the physical characteristics of the soil beneath the Redevelopment Property for purposes of verifying the high water mark should have been conducted through the installation of soil borings. Especially given the presence of extensive fill throughout the Hotel Site, soil observations can provide a determination of the presence and extent of historic fill.

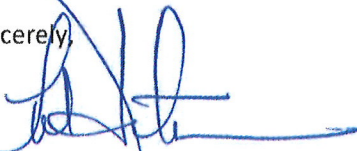
CONCLUSIONS

A considerable amount of information was reviewed which consistently identifies the materials beneath the majority of the Hotel Site as historic fill, including buried debris, glass and wood to depths of greater than ten feet. The characteristics of the fill are conclusively distinguishable from material (such as lake sediment) which would be consistent with natural accretion. No information was reviewed that negated the fact that the subsurface beneath the Redevelopment Property consists primarily of the filled lakebed of Sturgeon Bay. Documents reviewed include maps, the WDNR online database, environmental reports, correspondence, and aerial photos.

The most significant evidence of the expanse of historic fill beneath the Hotel Site includes the City's Low Hazard Waste Exemption Request, and the resultant Approval from WDNR for Management of Contaminated Soil. These documents specifically detail the quantity and quality of the historic fill beneath the Redevelopment Property.

Please contact me if you have any questions regarding the above, or if you are in need of additional information.

Sincerely,



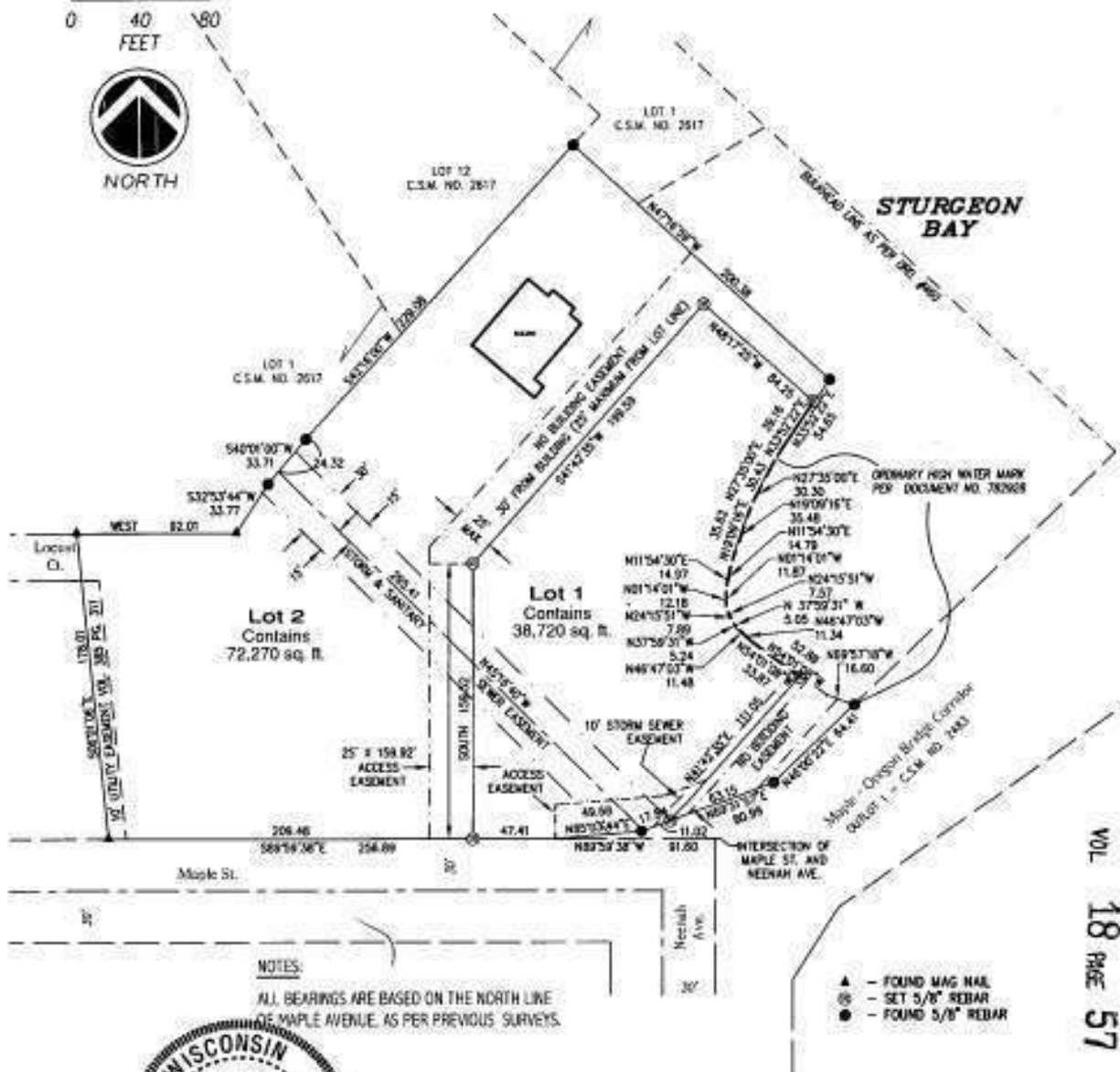
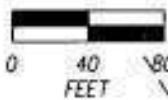
Lori Huntoon, PG

2952

CERTIFIED SURVEY MAP

BEING:
PART OF LOT 1, BLOCK 9 OF HARRIS FIRST ADDITION AND
ALSO A PART OF LOTS 1, 6 AND 7, BLOCK 8 OF BAYVIEW
PLAT AND ALL OF LOTS 2, 3, 4 AND 5, BLOCK 8 OF BAYVIEW
PLAT AND ALSO PART OF SUBDIVISION 76
AND BEING LOCATED IN:
THE NE 1/4 OF SECTION 7, T. 27 N., R. 26 E.,
CITY OF STURGEON BAY, DOOR COUNTY,
WISCONSIN.

SCALE



NOTES:

ALL BEARINGS ARE BASED ON THE NORTH LINE
OF MAPLE AVENUE, AS PER PREVIOUS SURVEYS.



7-15-15
Michael McCarty

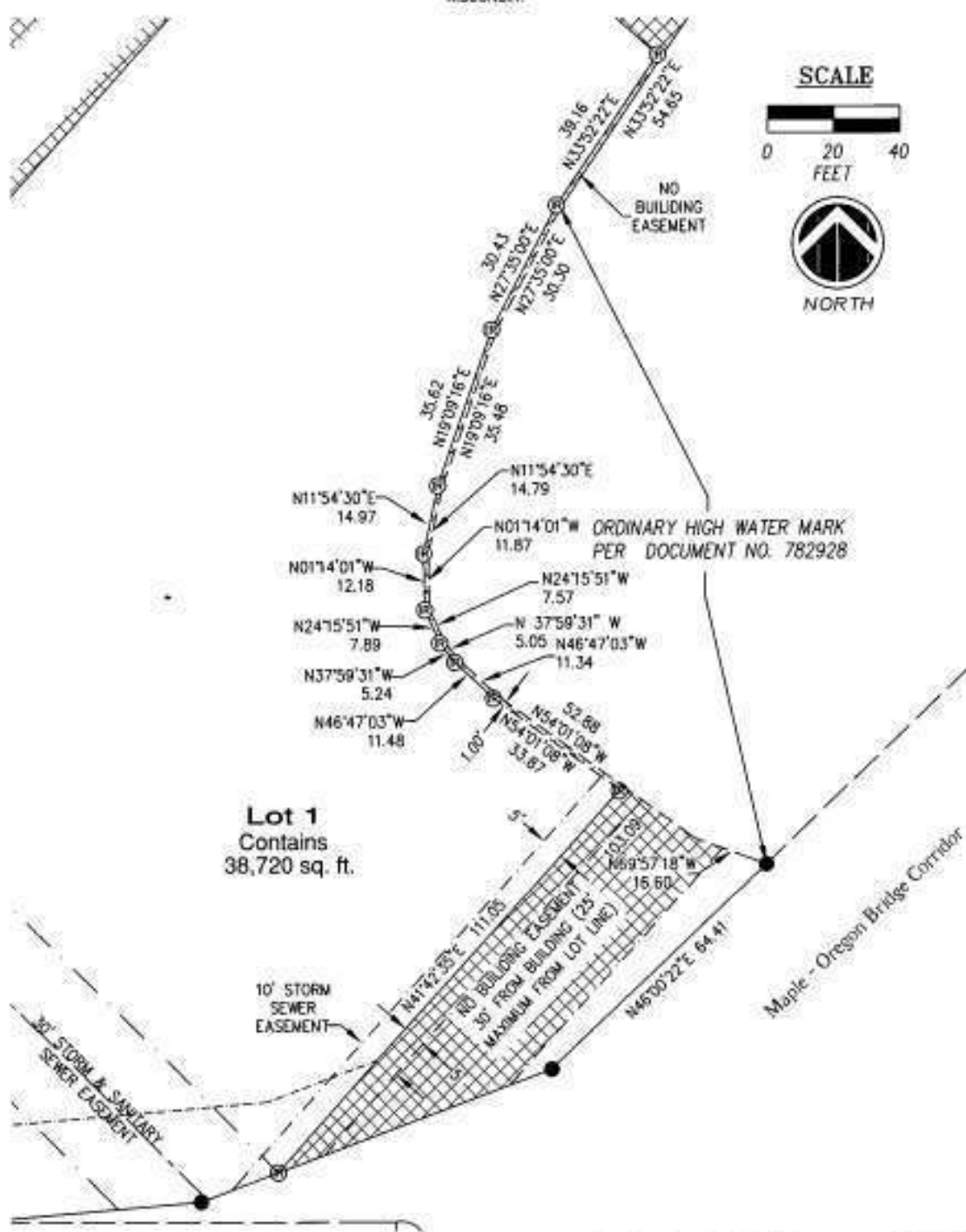
- ▲ - FOUND MAG NAIL
- ⊗ - SET 5/8" REBAR
- - FOUND 5/8" REBAR

VOL 18 PAGE 57

2952

CERTIFIED SURVEY MAP

BEGING:
 PART OF LOT 1, BLOCK 9 OF HARRIS FIRST ADDITION AND
 ALSO A PART OF LOTS 1, 6 AND 7, BLOCK 8 OF BAYVIEW
 PLAT AND ALL OF LOTS 2, 3, 4 AND 5, BLOCK 8 OF BAYVIEW
 PLAT AND ALSO PART OF SUBDIVISION 76
 AND BEING LOCATED IN:
 THE NE 1/4 OF SECTION 7, T. 27 N., R. 26 E.,
 CITY OF STURGEON BAY, DOOR COUNTY,
 WISCONSIN.



Lot 1
 Contains
 38,720 sq. ft.

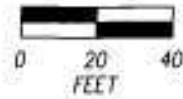
VOL 18 PAGE 58

2952

CERTIFIED SURVEY MAP

BEING:
 PART OF LOT 1, BLOCK 9 OF HARRIS FIRST ADDITION AND
 ALSO A PART OF LOTS 1, 6 AND 7, BLOCK 8 OF BAYVIEW
 PLAT AND ALL OF LOTS 2, 3, 4 AND 5, BLOCK 8 OF BAYVIEW
 PLAT AND ALSO PART OF SUBDIVISION 76
 AND BEING LOCATED IN:
 THE NE 1/4 OF SECTION 7, T. 27 N., R. 26 E.,
 CITY OF STURGEON BAY, DOOR COUNTY,
 WISCONSIN.

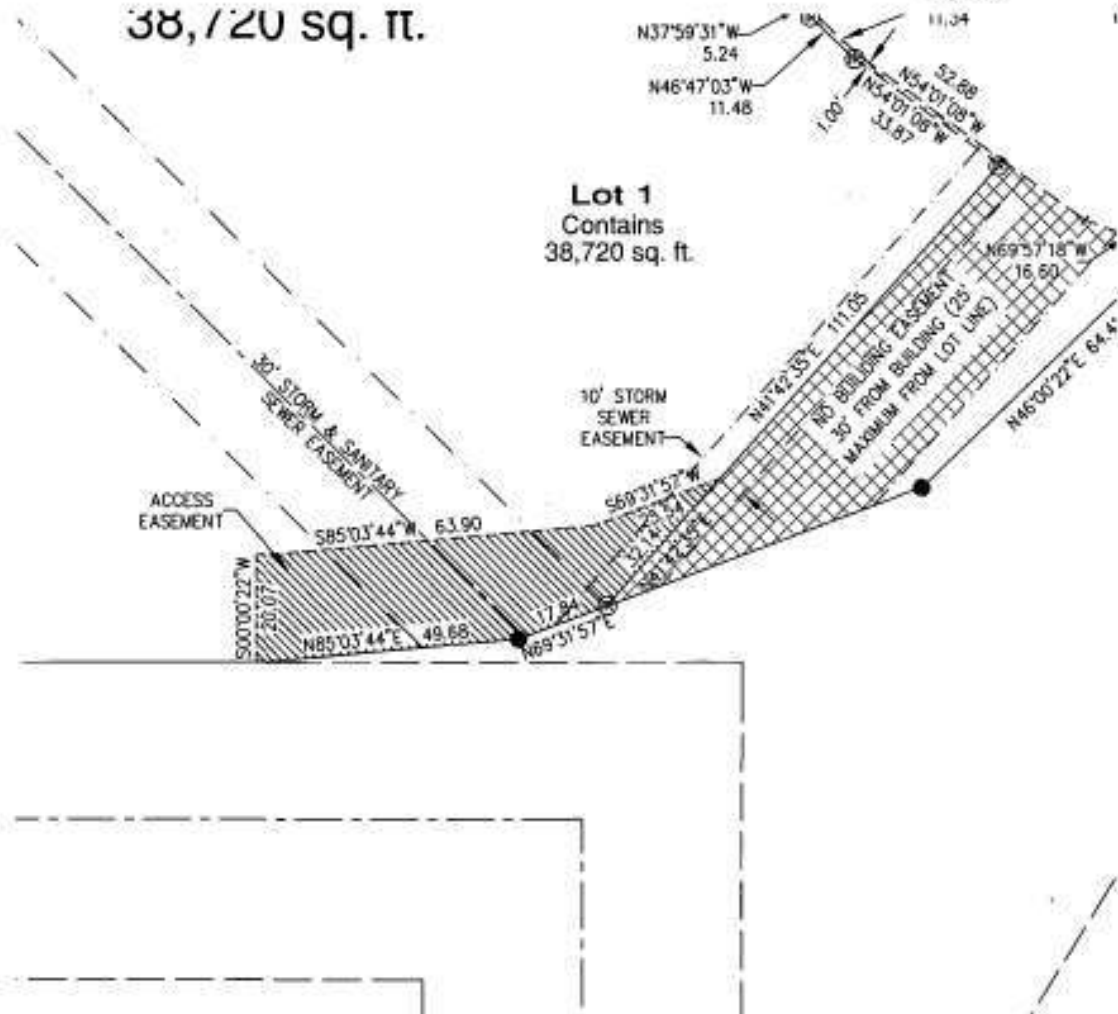
SCALE



NORTH

38,720 sq. ft.

Lot 1
 Contains
 38,720 sq. ft.



VOL 18 PAGE 59



Stock No. 26273

788826

VOL 18 PAGE 60

2952

CERTIFIED SURVEY MAP

BEING:
PART OF LOT 1, BLOCK 9 OF HARRIS FIRST ADDITION AND
ALSO A PART OF LOTS 1, 6 AND 7, BLOCK 8 OF BAYVIEW
PLAT AND ALL OF LOTS 2, 3, 4 AND 5, BLOCK 8 OF BAYVIEW
PLAT AND ALSO PART OF SUBDIVISION 76
AND BEING LOCATED IN:
THE NE 1/4 OF SECTION 7, T. 27 N., R. 26 E.,
CITY OF STURGEON BAY, DOOR COUNTY,
WISCONSIN.

SURVEYOR'S CERTIFICATE:

I, Michael G. McCarty, Registered Land Surveyor for Baudhuin Incorporated, do hereby certify that we have surveyed the following described parcel:

Being a part of Lot 1, Block 9 of Harris First Addition and also a part of Lots 1, 6 and 7, Block 8 of Bay View Plat and all of Lots 2, 3, 4 and 5, Block 8 of Bayview Plat and also part of Subdivision 76, all in the NE 1/4 of Section 7, T. 27 N., R. 26 E., City of Sturgeon Bay, Door County, Wisconsin, bounded and described as follows:

Commencing at the intersection point of the east line of Neenah Avenue and the north line of Maple Street, thence N. 89°59'38" W., 91.60 feet along the north line of Maple Street to the point of beginning of lands to be described; thence N85°03'44"E -- 49.68 feet; thence N69°31'57"E -- 80.99 feet; thence N46°00'22"E -- 64.41 feet to the approximate ordinary high water mark; thence along said ordinary high water mark as follows: N69°57'18"W -- 16.60 feet; thence N54°01'08"W -- 52.88 feet; thence N46°47'03"W -- 11.34 feet; thence N37°59'31"W -- 5.05 feet; thence N24°15'51"W -- 7.57 feet; thence N01°14'01"W -- 11.87 feet; thence N11°54'30"E -- 14.79 feet; thence N19°09'16"E -- 35.48; thence N27°35'00"E -- 30.30 feet; thence leaving said ordinary high water mark N33°52'22"E -- 54.65 feet; thence N47°16'59"W -- 200.38 feet; thence S42°16'00"W -- 229.08 feet; thence S40°01'00"W -- 33.71 feet; thence S32°53'44"W -- 33.77 feet; thence West, 92.01 feet; thence S06°01'06"E -- 178.01 feet to the north line of Maple Street; thence S89°59'38"E -- 256.89 feet along said north line to the point of beginning.

Said parcel contains 110,990 square feet.

Also, I have fully complied with the requirements of chapter 236.34 of the Wisconsin Statutes. I further certify that the attached map is a true representation of said property and correctly shows the exterior boundaries and correct measurements thereof.

Dated: 7-15-15

Michael G. McCarty
Michael G. McCarty S-2298



VOL 18 PAGE 60



2952

CERTIFIED SURVEY MAP

BEING:
 PART OF LOT 1, BLOCK 9 OF HARRIS FIRST ADDITION AND
 ALSO A PART OF LOTS 1,6 AND 7, BLOCK 8 OF BAYVIEW
 PLAT AND ALL OF LOTS 2,3,4 AND 5, BLOCK 8 OF BAYVIEW
 PLAT AND ALSO PART OF SUBDIVISION 78
 AND BEING LOCATED IN:
 THE NE 1/4 OF SECTION 7, T. 27 N., R. 26 E.,
 CITY OF STURGEON BAY, DOOR COUNTY,
 WISCONSIN.

OWNER'S CERTIFICATE:

As owners, we, City of Sturgeon Bay and the Sturgeon Bay Waterfront Redevelopment Authority, do hereby certify that we have caused the land depicted on this certified survey map to be surveyed, mapped and dedicated as represented on this certified survey map.

Dated: 7/20/2015

Thad Birmingham
 Thad Birmingham, Mayor

Dated: 7/20/2015

Stephanie Reinhardt
 Stephanie Reinhardt, Clerk

Dated: 7/20/15

Thomas Herlache
 Thomas Herlache, Chairman - Sturgeon Bay
 Waterfront Redevelopment Authority

PLANNING COMMISSION CERTIFICATE:

This certified survey map has been submitted and approved in accordance with Chapter 21 of the Sturgeon Bay Municipal Code.

Dated: July 17, 2015

Martin Olejniczak
 Martin Olejniczak
 Community Development Director

RECORDED
 Time 2:23 pm
 JUL 20 2015
 Carey Petersilka
 Register of Deeds
 Door County, WI
 Tract Indexed \$30⁰⁰ pd

VOL 18 PAGE 61

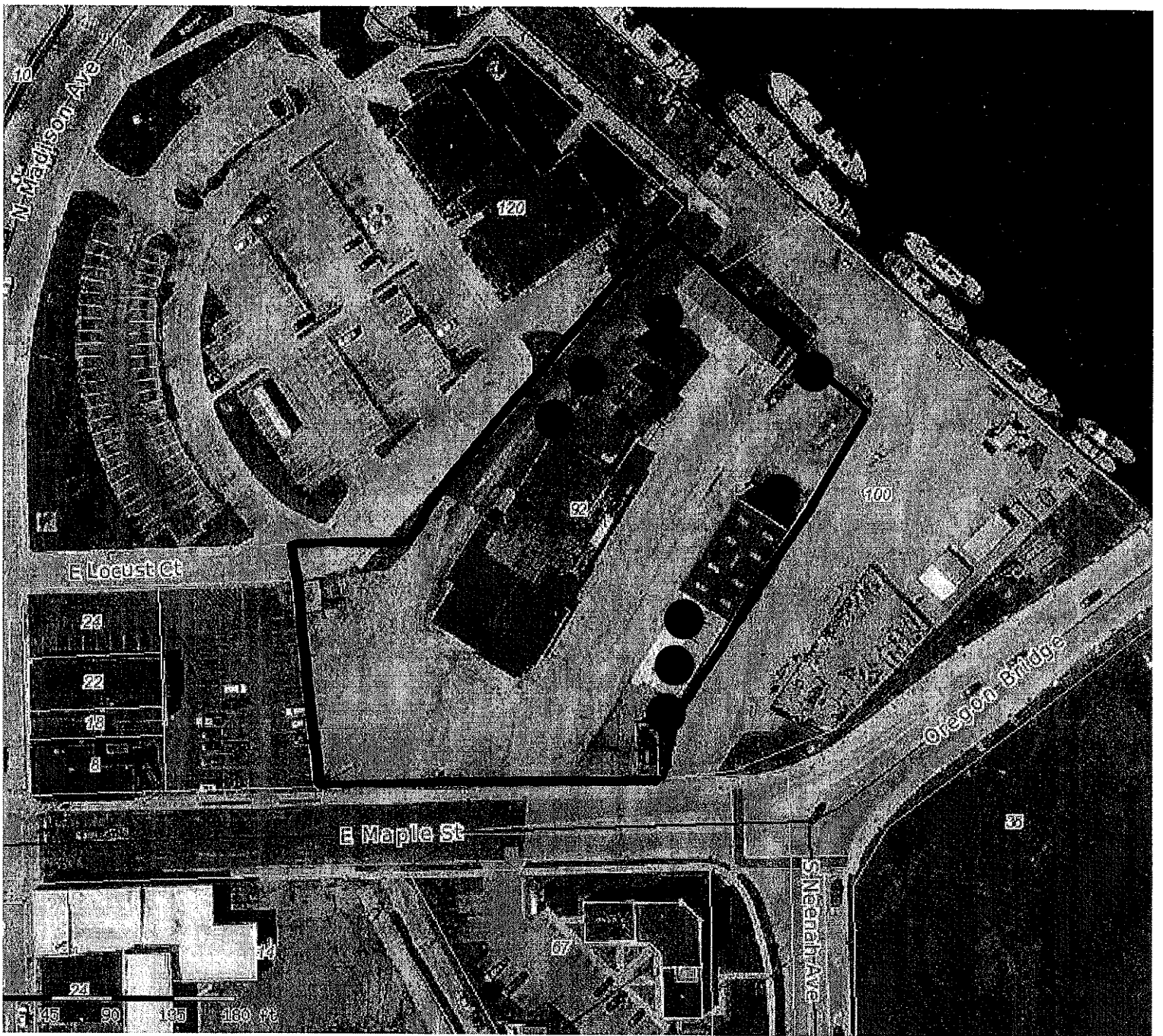
DOOR COUNTY REGISTER OF DEEDS

7



● Symbol indicates soil borings installed during Environmental Site Assessment for Proposed Maritime Museum, City of Sturgeon Bay, WI. Based on Figure 2A - Site Detail Map, OMNNI Associates, prepared 07/95. Included in Final Site Closure for Maritime Museum, WDNR GIS Registry Package, WDNR # 02-15-000579.

Illustration prepared as Attachment 2, Technical Review, FSBPW, Huntoon Environmental Consulting, LLC.



● Symbol indicates soil borings installed during Phase II Environmental Site Assessment for Door County Cooperative, 92 East Maple Street, Sturgeon Bay, WI. Based on Figure 2, STS Consultants, Phase II Subsurface Assessment and Asbestos Demolition Survey, 10/12/05.

Illustration prepared as Attachment 3, Technical Review, FSBPW, Huntoon Environmental Consulting, LLC.

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Door County Coop - Fill

92 East Maple Street, Sturgeon Bay, Wisconsin
DNR BRRTS #: 02-15-544253 (formerly 09-15-544253)

Former Door County Coop - VPLE

92 East Maple Street, Sturgeon Bay, Wisconsin
DNR BRRTS #: 06-15-560738

Door County Coop

92 East Maple Street, Sturgeon Bay, Wisconsin
DNR BRRTS #: 03-15-000659

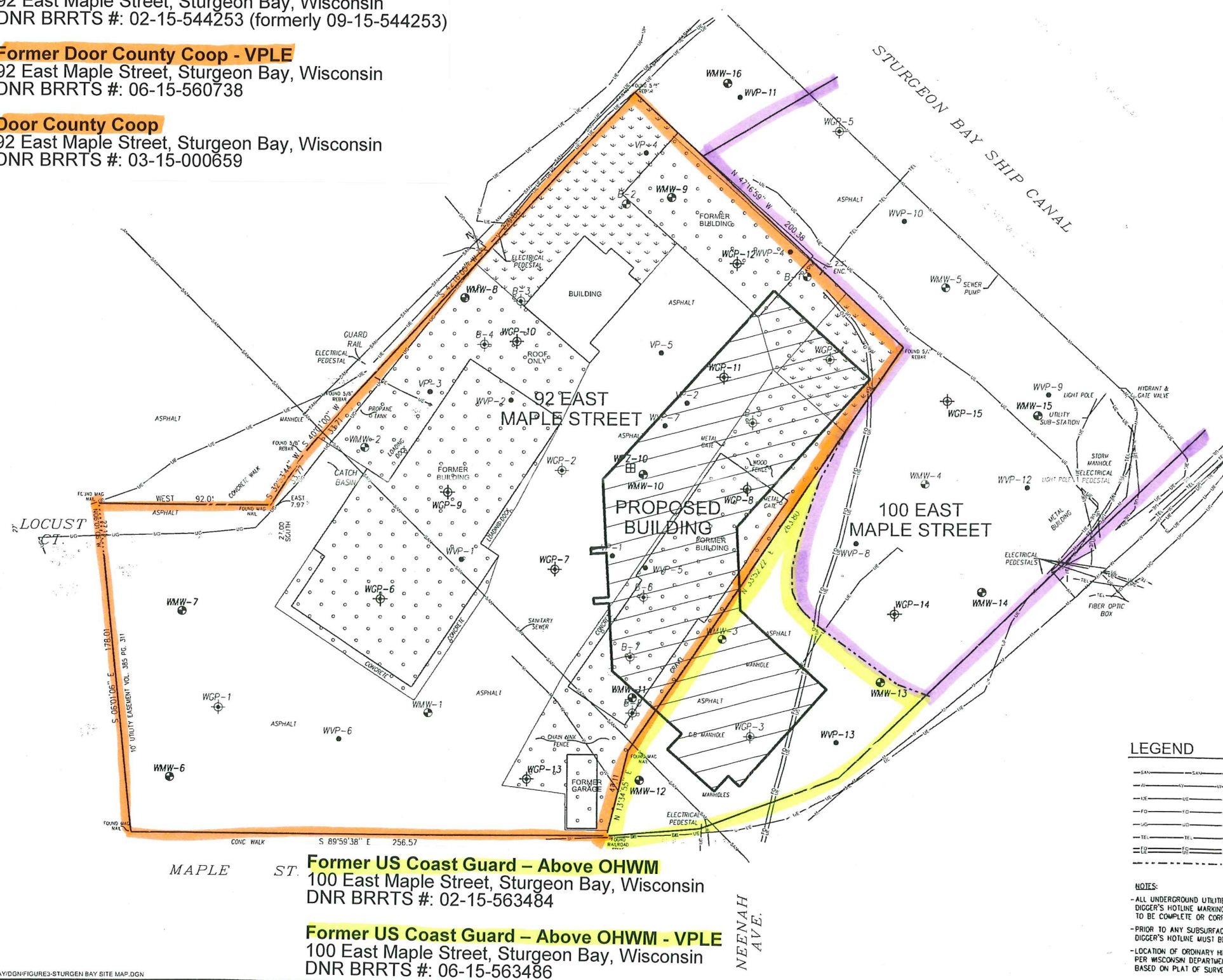


GROUND SURFACE COVER

- GRASS
- SAND & GRAVEL
- ASPHALT/CONCRETE

Former US Coast Guard - Below OHHM

100 East Maple Street, Sturgeon Bay, Wisconsin
DNR BRRTS #: 02-15-563485



LEGEND

- SANITARY SEWER LINE
 - WATER MAIN
 - UNDERGROUND ELECTRIC LINE
 - UNDERGROUND FIBER OPTIC LINE
 - UNDERGROUND GAS LINE
 - UNDERGROUND TELEPHONE LINE
 - UNDERGROUND ELECTRIC & FIBER OPTIC
 - ORDINARY HIGH WATER MARK
 - WMW-5 - MONITORING WELL
 - WCP-4 - GEOPROBE
 - WVP-9 - VAPOR PROBE
 - WVP-10 - PIEZOMETER
 - B-5 - MONITORING WELL (BY STS CONSULTANTS 2004)
 - B-4 - GEOPROBE (BY STS CONSULTANTS 2004)
 - VP-1 - VAPOR PROBE (BY STS CONSULTANTS 2004)
- NOTES:**
 - ALL UNDERGROUND UTILITIES WERE LOCATED AS PER DIGGER'S HOTLINE MARKINGS AND ARE NOT GUARANTEED TO BE COMPLETE OR CORRECT.
 - PRIOR TO ANY SUBSURFACE WORK ON THIS PROPERTY, DIGGER'S HOTLINE MUST BE CONTACTED FOR A RE-LOCATE.
 - LOCATION OF ORDINARY HIGH WATER MARK OF STURGEON BAY PER WISCONSIN DEPARTMENT OF NATURAL RESOURCES BASED ON PLAT OF SURVEY DATED OCTOBER 2, 2014.

Former US Coast Guard - Above OHHM
100 East Maple Street, Sturgeon Bay, Wisconsin
DNR BRRTS #: 02-15-563484

Former US Coast Guard - Above OHHM - VPLE
100 East Maple Street, Sturgeon Bay, Wisconsin
DNR BRRTS #: 06-15-563486

DESIGNED BY		J. STEINER	BOOK NO.	1	02-11-2015	ADDED ORDINARY HIGH WATER MARK FOR STURGEON BAY				WEST WATERFRONT REDEVELOPMENT PROJECT CITY OF STURGEON BAY STURGEON BAY, WISCONSIN		SITE MAP/ PROPOSED BUILDING	DRAWING NO 1
DRAWN BY		T. SHUPER	JOB NO.	2	06-11-2015	ADDED WCP-13 - 15, WMW-12 - 16, WVP-11 - 13							
CHECKED BY		J. STEINER	DATE	3	06-26-2015	ADDED GROUND SURFACE COVER INFORMATION							
DATE		JUNE 2015	NO.			REVISION							

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Phase II Assessment Report

**West Waterfront Redevelopment Project
92 and 100 East Maple Street
Sturgeon Bay, Wisconsin**

Prepared for:

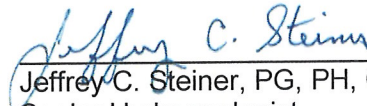
**Mr. Martin Olejniczak
City of Sturgeon Bay
421 Michigan Street
Sturgeon Bay, Wisconsin 54235**

August 2013

Phase II Assessment Report

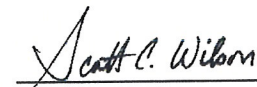
**West Waterfront Redevelopment
92 and 100 East Maple Street
Sturgeon Bay, WI 54235**

This report prepared by:



Jeffrey C. Steiner, PG, PH, CPG
Senior Hydrogeologist

This report reviewed by:



Scott C. Wilson, PSS, CPSS
Vice President – Environmental Services

AYRES
ASSOCIATES

5201 E. Terrace Drive, Suite 200
Madison, WI 53718
608.443.1200 • Fax: 608.443.1250
www.AyresAssociates.com

NR 712.09 SUBMITTAL CERTIFICATION

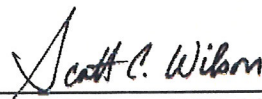
"I, Jeffrey Steiner, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03(1), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to NR 726, Wis. Adm. Code."



Jeffrey C. Steiner, PG, PH, CPG

8/7/2013
Date

"I, Scott C. Wilson, hereby certify that I am a scientist as that term is defined in s. NR 712.03(3), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to NR 726, Wis. Adm. Code."



Scott C. Wilson, PSS, Vice President – Environmental Services

8/7/2013
Date

Contents

	<u>Page No.</u>
Executive Summary	i
Acknowledgement	ii
Introduction	1
Background	2
Site Location and Description	2
Site History and Background	2
Recognized Environmental Concerns	3
Regional Geology and Hydrogeology	3
Geology	3
Hydrogeology	4
Site Geology and Hydrogeology	5
Site Stratigraphy	5
Groundwater Flow Conditions	5
Groundwater Levels	5
Groundwater Flow	5
Groundwater Flow Velocity	6
Soil Quality Assessment	7
Field Observations and Screening Results	7
Results of Soil Sample Laboratory Analysis	7
Volatile Organic Compound Analysis (VOCs)	7
Polycyclic Aromatic Hydrocarbon Analysis (PAH)	7
Inorganic Analysis	8
Groundwater Quality Assessment	9
Volatile Organic Compound Analysis (VOCs)	9
Polycyclic Aromatic Hydrocarbon Analysis (PAH)	9
Inorganic Analysis	9
Summary of Findings	12
Geology and Hydrogeology	11
Soil Assessment	11
Volatile Organic Compound Analysis (VOCs)	11
Polycyclic Aromatic Hydrocarbon Analysis (PAH)	11
Inorganic Analysis	11
Groundwater Assessment	11

	<u>Page No.</u>
Volatile Organic Compound Analysis (VOCs).....	12
Polycyclic Aromatic Hydrocarbon Analysis (PAH)	12
Inorganic Analysis	12
Conclusions and Recommendations	14

List of Figures

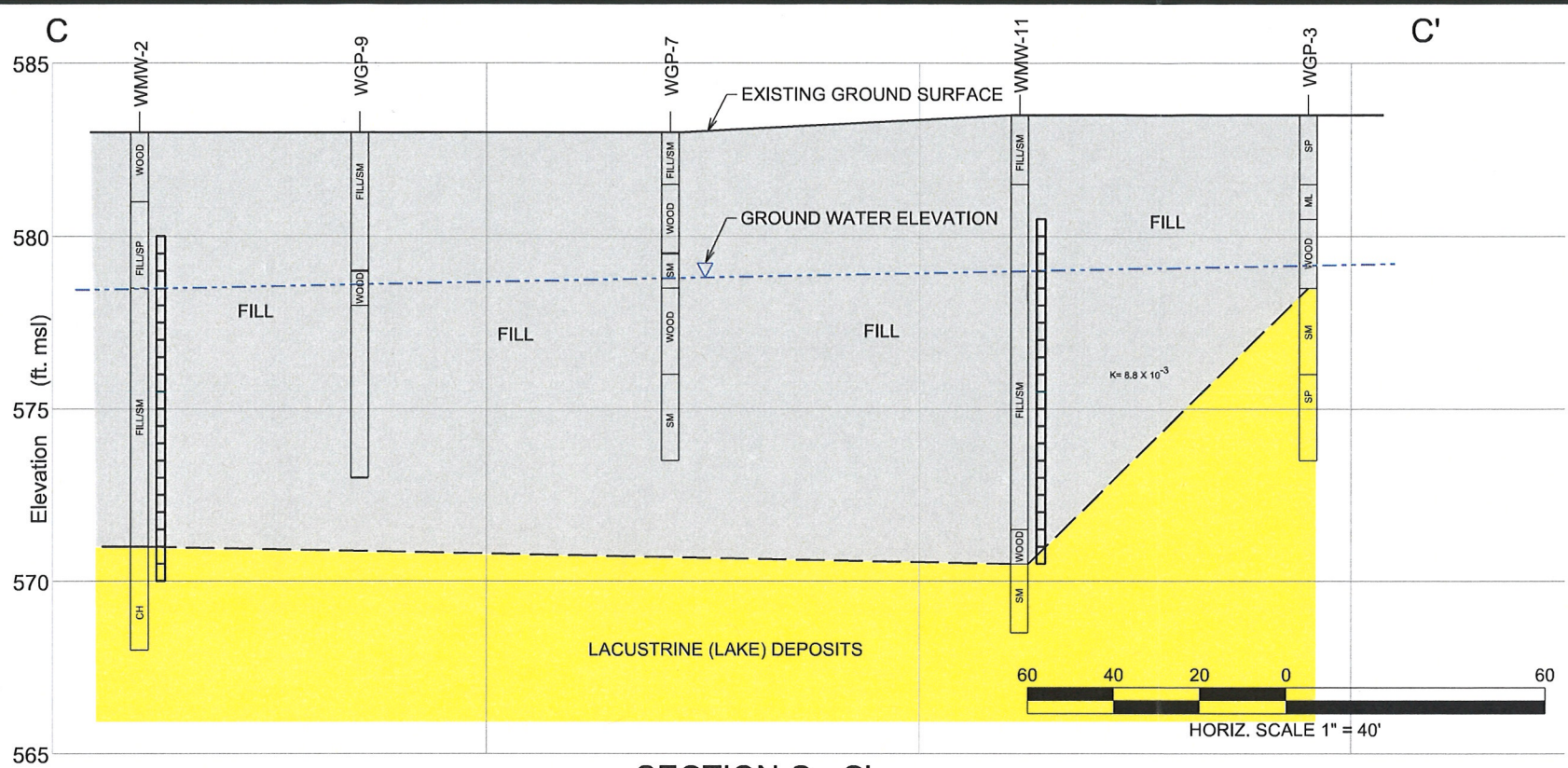
- Figure 1 – Site Location Map
- Figure 2 – Parcel Map
- Figure 3 – Site Map
- Figure 4 – Geologic Cross Sections
- Figure 5 – Water Table Contour Map
- Figure 6 – Summary of Analyte Exceedences in Soil
- Figure 7 – Summary of Analyte Exceedences in Groundwater
- Figure 8 – Summary of Methane Detections

List of Table

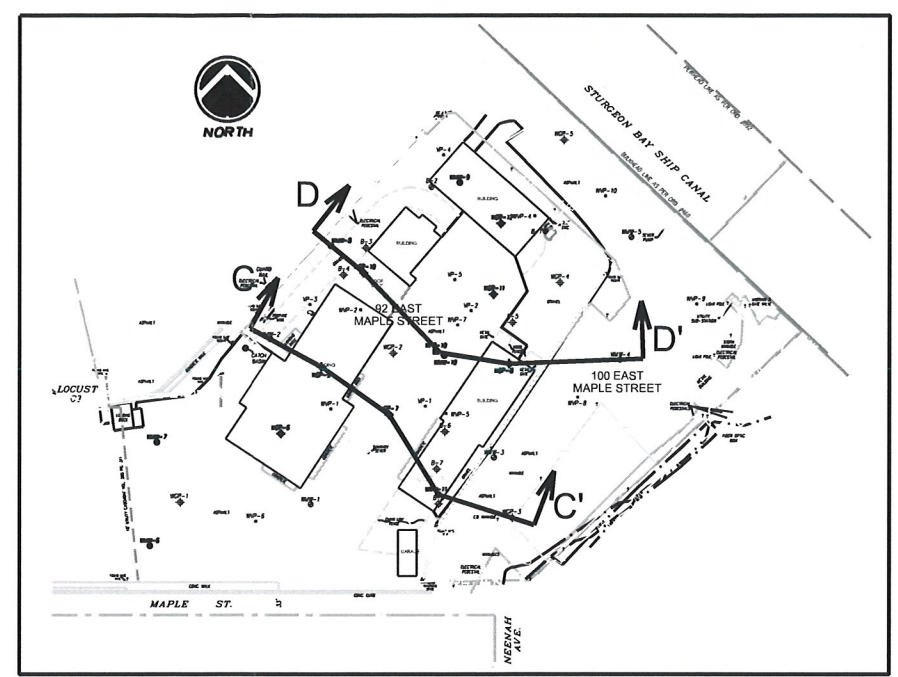
- Table 1 – Summary of Groundwater Elevation Data
- Table 2 – Summary of Soil Sample Analytical Laboratory Detections
- Table 3 – Summary of Groundwater Sample Analytical Laboratory Detections
- Table 4 – Summary of Soil Vapor (Methane) Monitoring Results

List of Appendices

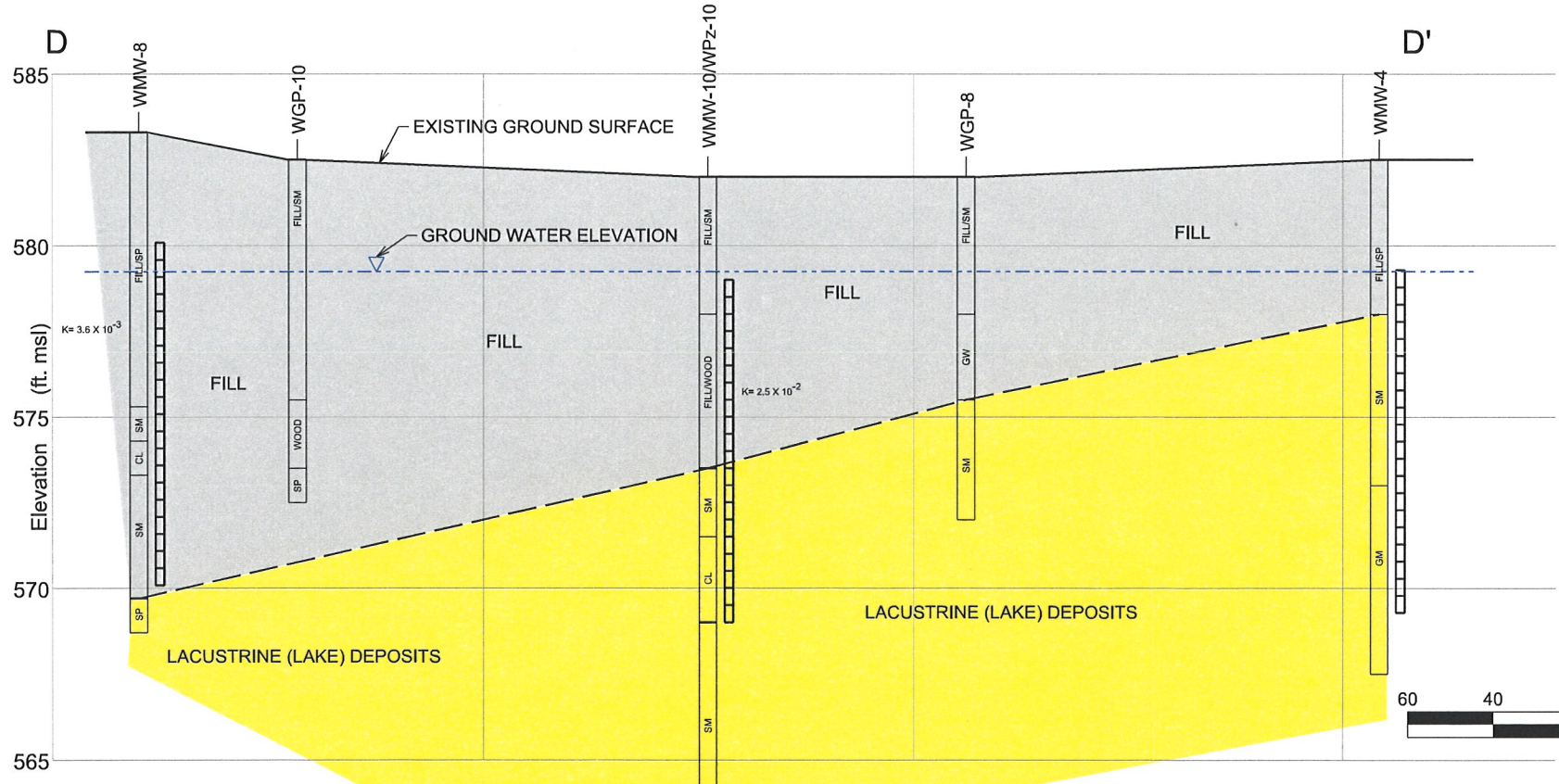
- Appendix A - Geologic Logs & Monitoring Well Construction/Well Development/Borehole Abandonment Forms
- Appendix B - Laboratory Analytical Reports for Soil Samples
- Appendix C - Laboratory Analytical Reports for Groundwater Samples



SECTION C - C'



SECTION LOCATION MAP
NTS



SECTION D - D'

LEGEND

- WATER LEVEL MEASURED IN WATER TABLE OBSERVATION WELL
- MONITORING WELL SCREEN INTERVAL
- CL INORGANIC CLAYS OF LOW PLASTICITY
- CH INORGANIC CLAYS OF HIGH PLASTICITY
- ML INORGANIC SILTS AND VERY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
- SC CLAYEY SANDS, SAND - CLAY MIXTURES
- SM SILTY SANDS, SAND - SILT MIXTURES
- SP POORLY - GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
- GM SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
- GP POORLY GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
- $K=4.9 \times 10^{-3}$ HYDRAULIC CONDUCTIVITY (cm/sec)

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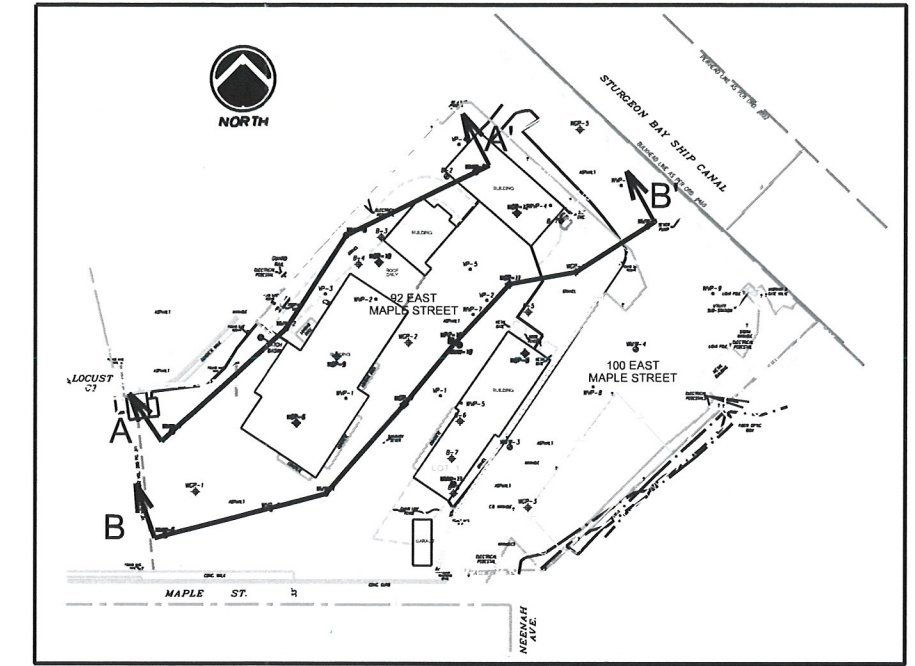
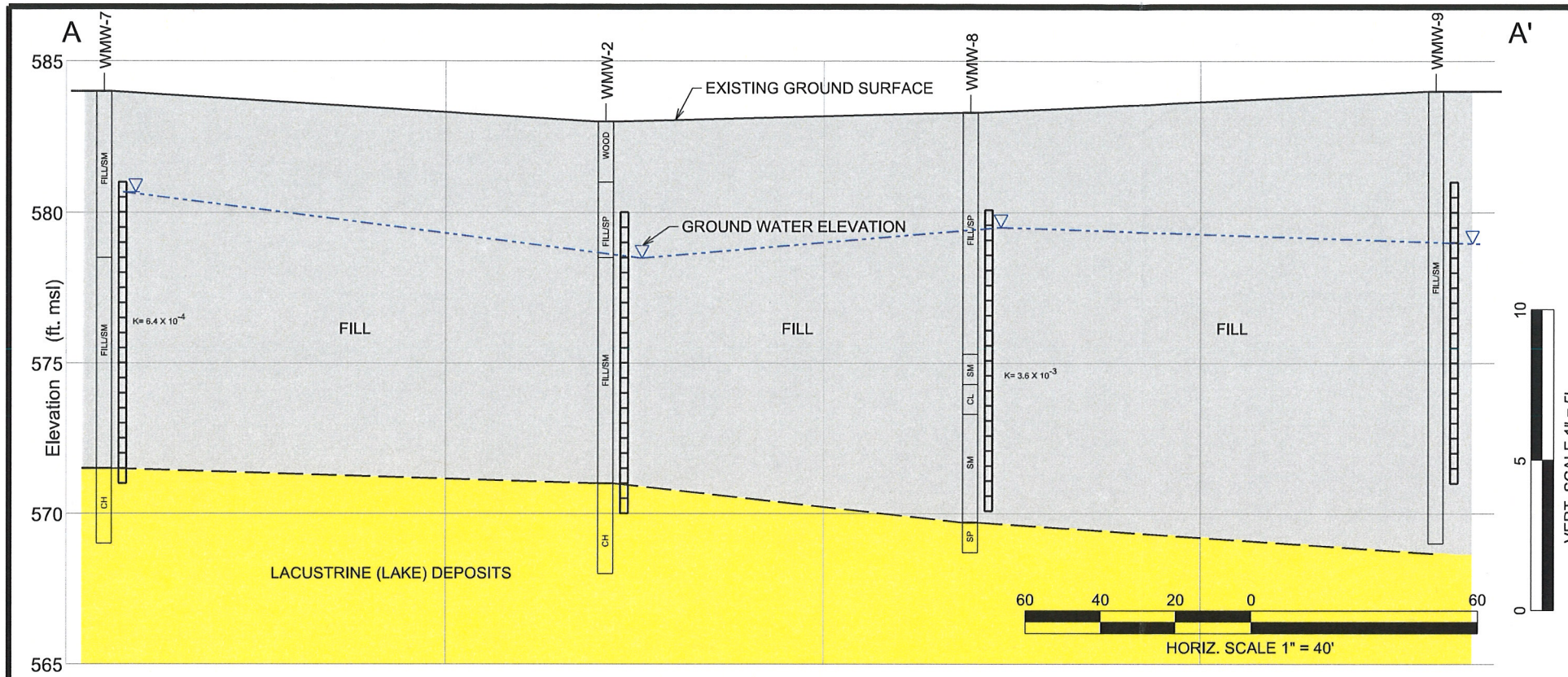
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DR BY	T. SHUPERT	JOB NO.	19-0422.00
CHK BY	J. STEINER	DATE	JULY 2013
	NO	DATE	
	REVISION	NO	DATE
		REVISION	

WEST WATERFRONT REDEVELOPMENT PROJECT
 CITY OF STURGEON BAY
 STURGEON BAY, WISCONSIN

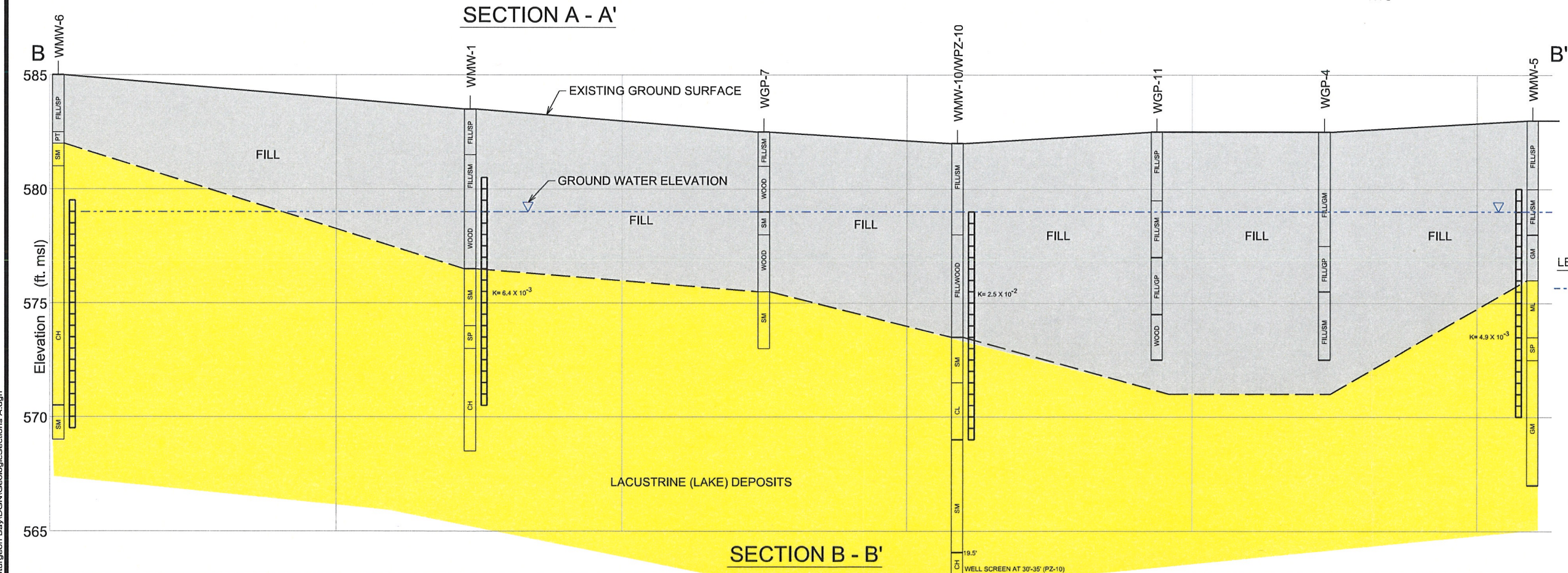


GEOLOGICAL CROSS SECTIONS C - C' AND D - D'

DRAWING NO
5



SECTION LOCATION MAP
NTS



LEGEND

- WATER LEVEL MEASURED IN WATER TABLE OBSERVATION WELL
- MONITORING WELL SCREEN INTERVAL
- CL INORGANIC CLAYS OF LOW PLASTICITY
- CH INORGANIC CLAYS OF HIGH PLASTICITY
- ML INORGANIC SILTS AND VERY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
- SC CLAYEY SANDS, SAND - CLAY MIXTURES
- SM SILTY SANDS, SAND - SILT MIXTURES
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- GM SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
- GP POORLY GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
- $K=4.9 \times 10^{-3}$ HYDRAULIC CONDUCTIVITY (cm/sec)

SECTION B - B'

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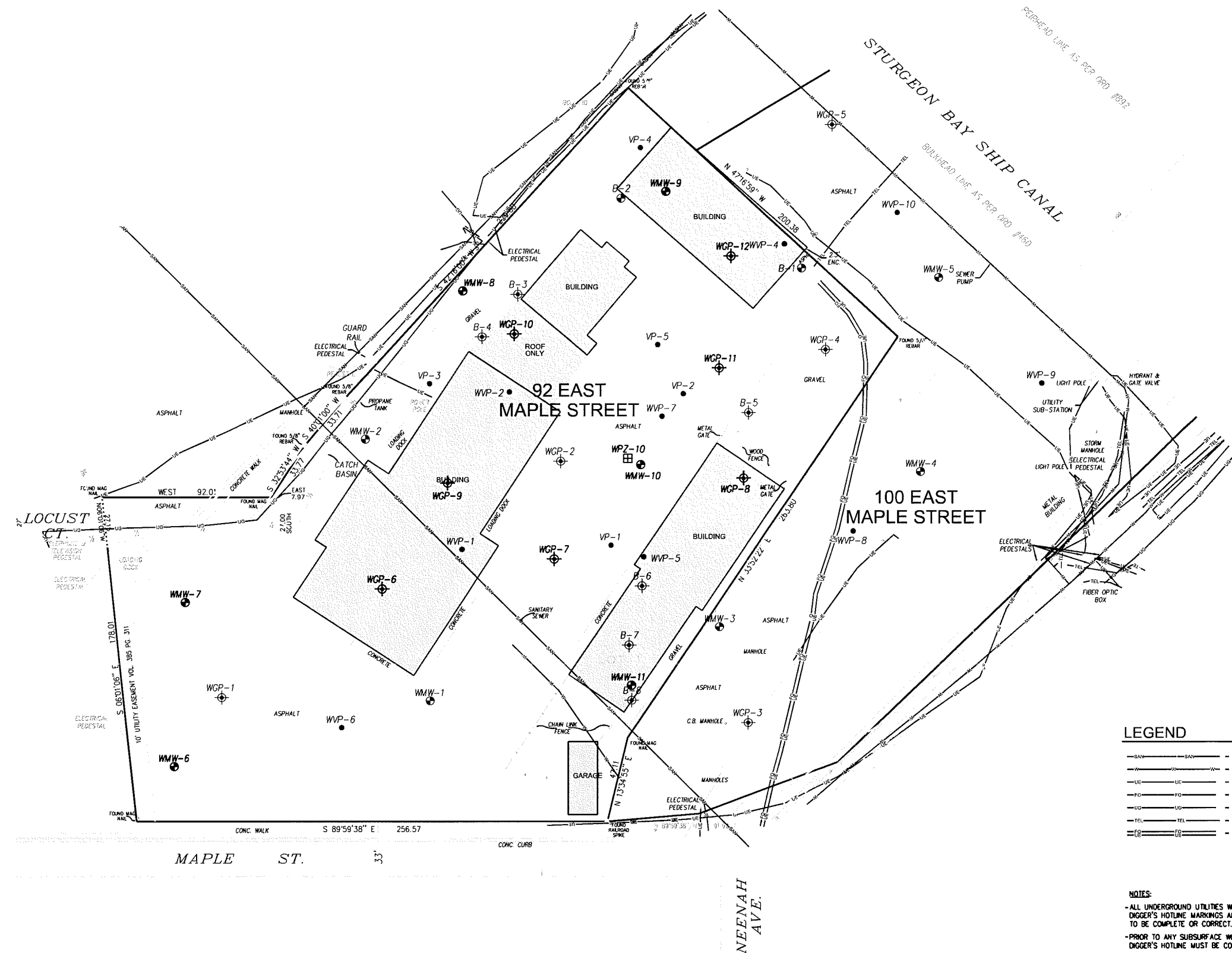
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DR BY T. SHUPERT	JOB NO 19-0422.00				
CHK BY J. STEINER	DATE JULY 2013	NO	DATE	REVISION	
		NO	DATE	REVISION	

WEST WATERFRONT REDEVELOPMENT PROJECT
CITY OF STURGEON BAY
STURGEON BAY, WISCONSIN



GEOLOGICAL CROSS SECTIONS A - A' AND B - B'

DRAWING NO
4



LEGEND

- S-S- - SANITARY SEWER LINE
- W-W- - WATER MAIN
- E-E- - UNDERGROUND ELECTRIC LINE
- FO-FO- - UNDERGROUND FIBER OPTIC LINE
- G-G-G- - UNDERGROUND GAS LINE
- TEL-TEL-TEL- - UNDERGROUND TELEPHONE LINE
- E-E-E-E- - UNDERGROUND ELECTRIC & FIBER OPTIC
- MMW-5 - MONITORING WELL
- WCP-4 - GEOPROBE
- WVP-9 - VAPOR PROBE
- WPZ-10 - PIEZOMETER
- B-5 - MONITORING WELL (BY STS CONSULTANTS 2004)
- B-4 - GEOPROBE (BY STS CONSULTANTS 2004)
- VP-1 - VAPOR PROBE (BY STS CONSULTANTS 2004)

NOTES:
 -ALL UNDERGROUND UTILITIES WERE LOCATED AS PER DIGGER'S HOTLINE MARKINGS AND ARE NOT GUARANTEED TO BE COMPLETE OR CORRECT.
 -PRIOR TO ANY SUBSURFACE WORK ON THIS PROPERTY, DIGGER'S HOTLINE MUST BE CONTACTED FOR A RE-LOCATE.

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	DR BY	T. SHUPERT	JOB NO	19-0422.00
	CHK BY	J. STEINER	DATE	JULY 2013
			NO	DATE

WEST WATERFRONT REDEVELOPMENT PROJECT
 CITY OF STURGEON BAY
 STURGEON BAY, WISCONSIN



SITE MAP

DRAWING NO
3