



COMMUNITY DEVELOPMENT DEPARTMENT

45175 Ten Mile Road
Novi, MI 48375
(248) 347-0415 Phone
(248) 735-5600 Facsimile
www.cityofnovi.org

ZONING BOARD OF APPEALS STAFF REPORT

FOR: City of Novi Zoning Board of Appeals **ZONING BOARD APPEALS DATE:** July 12, 2016

REGARDING: 22285 ROETHEL DRIVE, Parcel # 50-22-35-127-018

BY: Larry Butler, Deputy Director Community Development

I. GENERAL INFORMATION:

Applicant

Shastco LLC

Variance Type

Dimensional Variance

Property Characteristics

Zoning District:	I-1 (Light Industrial)
Location:	south of Nine Mile Road and east of Novi Road
Parcel #:	50-22-35-127-018

Request

The applicant is requesting variances from the City of Novi Zoning Ordinance Sections 4.19.2.A to allow placement in the side yard and 3.1.1.8.D to allow a reduction of exterior side yard setback (40 feet required, 28 feet proposed) for installation of a generator. The parcel is zoned I-1.

II. STAFF COMMENTS:

Proposed Changes

The applicant is requesting approval to install a generator in the exterior side yard setback.

III. RECOMMENDATION:

The Zoning Board of Appeals may take one of the following actions:

1. I move that we **grant** the variance in Case No. **PZ16-0024**, sought by _____, for _____ because Petitioner has shown practical difficulty requiring _____.

 - (a) Without the variance Petitioner will be unreasonably prevented or limited with respect to use of the property because _____.
 - (b) The property is unique because _____.

_____.

(c) Petitioner did not create the condition because_____.

(d) The relief granted will not unreasonably interfere with adjacent or surrounding properties because_____.

(e) The relief if consistent with the spirit and intent of the ordinance because_____.

(f) The variance granted is subject to:

- 1. _____.
- 2. _____.
- 3. _____.
- 4. _____.

2. I move that we **deny** the variance in Case No. **PZ16-0023**, sought by _____, for_____ because Petitioner has not shown practical difficulty requiring _____.

(a) The circumstances and features of the property including_____ are not unique because they exist generally throughout the City.

(b) The circumstances and features of the property relating to the variance request are self-created because_____.

(c) The failure to grant relief will result in mere inconvenience or inability to attain higher economic or financial return based on Petitioners statements that _____.

(d) The variance would result in interference with the adjacent and surrounding properties by_____.

(e) Granting the variance would be inconsistent with the spirit and intent of the ordinance to_____.

Should you have any further questions with regards to the matter please feel free to contact me at (248) 347-0417.

Larry Butler
Deputy Director Community Development
City of Novi



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ZONING BOARD OF APPEALS APPLICATION

APPLICATION MUST BE FILLED OUT COMPLETELY

I. PROPERTY INFORMATION (Address of subject ZBA Case)				Application Fee: _____	
PROJECT NAME / SUBDIVISION Shastco LLC/Signal Group				Meeting Date: _____	
ADDRESS 22285 Roethel		LOT/SIUTE/SPACE #		ZBA Case #: PZ _____	
SIDWELL # 50-22-35 - 127 - 018		May be obtain from Assessing Department (248) 347-0485			
CROSS ROADS OF PROPERTY 9 Mile/Novi Rd					
IS THE PROPERTY WITHIN A HOMEOWNER'S ASSOCIATION JURISDICTION? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			REQUEST IS FOR: <input type="checkbox"/> RESIDENTIAL <input checked="" type="checkbox"/> COMMERCIAL <input type="checkbox"/> VACANT PROPERTY <input type="checkbox"/> SIGNAGE		
DOES YOUR APPEAL RESULT FROM A NOTICE OF VIOLATION OR CITATION ISSUED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
II. APPLICANT INFORMATION					
A. APPLICANT		EMAIL ADDRESS JC@signalgroupLLC.com		CELL PHONE NO. 248-935-3070	
NAME Jerry Chapman		TELEPHONE NO.			
ORGANIZATION/COMPANY Shastco LLC		FAX NO.			
ADDRESS 22285 Roethel		CITY Novi	STATE MI	ZIP CODE 48375	
B. PROPERTY OWNER <input checked="" type="checkbox"/> CHECK HERE IF APPLICANT IS ALSO THE PROPERTY OWNER					
Identify the person or organization that owns the subject property:		EMAIL ADDRESS JC@signalgroupLLC.com		CELL PHONE NO. 248-935-3070	
NAME Jerry Chapman		TELEPHONE NO.			
ORGANIZATION/COMPANY Shastco LLC		FAX NO.			
ADDRESS 22285 Roethel		CITY Novi	STATE MI	ZIP CODE 48375	
III. ZONING INFORMATION					
A. ZONING DISTRICT					
<input type="checkbox"/> R-A <input type="checkbox"/> R-1 <input type="checkbox"/> R-2 <input type="checkbox"/> R-3 <input type="checkbox"/> R-4 <input type="checkbox"/> RM-1 <input type="checkbox"/> RM-2 <input type="checkbox"/> MH <input checked="" type="checkbox"/> I-1 <input type="checkbox"/> I-2 <input type="checkbox"/> RC <input type="checkbox"/> TC <input type="checkbox"/> TC-1 <input type="checkbox"/> OTHER _____					
B. VARIANCE REQUESTED					
INDICATE ORDINANCE SECTION (S) AND VARIANCE REQUESTED:					
1. Section <u>4.19.2.A</u>		Variance requested		<u>Access structure & exterior side yard</u>	
2. Section <u>3.1.18.D</u>		Variance requested		<u>Reduce exterior side yard from 40ft to 28ft</u>	
3. Section _____		Variance requested		_____	
4. Section _____		Variance requested		_____	
IV. FEES AND DRAWINGS					
A. FEES					
<input type="checkbox"/> Single Family Residential (Existing) \$200 <input type="checkbox"/> (With Violation) \$250 <input type="checkbox"/> Single Family Residential (New) \$250 <input checked="" type="checkbox"/> Multiple/Commercial/Industrial \$300 <input type="checkbox"/> (With Violation) \$400 <input type="checkbox"/> Signs \$300 <input type="checkbox"/> (With Violation) \$400 <input type="checkbox"/> House Moves \$300 <input type="checkbox"/> Special Meetings (At discretion of Board) \$600					
B. DRAWINGS 1-COPY & 1 DIGITAL COPY SUBMITTED AS A PDF					
<ul style="list-style-type: none"> • Dimensioned Drawings and Plans • Site/Plot Plan • Existing or proposed buildings or addition on the property • Number & location of all on-site parking, if applicable 			<ul style="list-style-type: none"> • Existing & proposed distance to adjacent property lines • Location of existing & proposed signs, if applicable • Floor plans & elevations • Any other information relevant to the Variance application 		



ZONING BOARD OF APPEALS APPLICATION

V. VARIANCE

A. VARIANCE (S) REQUESTED

DIMENSIONAL USE SIGN

There is a five-(5) hold period before work/action can be taken on variance approvals.

B. SIGN CASES (ONLY)

Your signature on this application indicates that you agree to install a **Mock-Up Sign** ten-(10) days before the schedule ZBA meeting. Failure to install a mock-up sign may result in your case not being heard by the Board, postponed to the next schedule ZBA meeting, or cancelled. A mock-up sign is **NOT** to be actual sign. Upon approval, the mock-up sign must be removed within five-(5) days of the meeting. If the case is denied, the applicant is responsible for all costs involved in the removal of the mock-up or actual sign (if erected under violation) within five-(5) days of the meeting.

C. ORDINANCE

City of Novi Ordinance, Section 3107 – Miscellaneous

No order of the Board permitting the erection of a building shall be valid for a period longer than one-(1) year, unless a building permit for such erection or alteration is obtained within such period and such erection or alteration is started and proceeds to completion in accordance with the terms of such permit.

No order of the Board permitting a use of a building or premises shall be valid for a period longer than one-hundred and eighty-(180) days unless such use is establish within such a period; provided, however, where such use permitted is dependent upon the erection or alteration or a building such order shall continue in force and effect if a building permit for such erection or alteration is obtained within one-(1) year and such erection or alteration is started and proceeds to completion in accordance with the terms of such permit.

D. APPEAL THE DETERMINATION OF THE BUILDING OFFICIAL

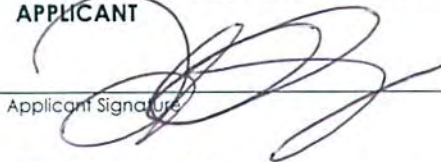
PLEASE TAKE NOTICE:

The undersigned hereby appeals the determination of the Building Official / Inspector or Ordinance made

CONSTRUCT NEW HOME/BUILDING ADDITION TO EXISTING HOME/BUILDING SIGNAGE
 ACCESSORY BUILDING USE OTHER Stand-by generator

VI. APPLICANT & PROPERTY SIGNATURES

A. APPLICANT


Applicant Signature

6-2-16
Date

B. PROPERTY OWNER

If the applicant is not the owner, the property owner must read and sign below:

The undersigned affirms and acknowledges that he, she or they are the owner(s) of the property described in this application, and is/are aware of the contents of this application and related enclosures.

Property Owner Signature

Date

VII. FOR OFFICIAL USE ONLY

DECISION ON APPEAL:

GRANTED DENIED

The Building Inspector is hereby directed to issue a permit to the Applicant upon the following and conditions:

Chairperson, Zoning Board of Appeals

Date



Community Development Department
45175 Ten Mile Road
Novi, MI 48375
(248) 347-0415 Phone
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REVIEW STANDARDS DIMENSIONAL VARIANCE

The Zoning Board of Appeals (ZBA) will review the application package and determine if the proposed Dimensional Variance meets the required standards for approval. In the space below, and on additional paper if necessary, explain how the proposed project meets each of the following standards. (Increased costs associated with complying with the Zoning Ordinance will not be considered a basis for granting a Dimensional Variance.)

Standard #1. Circumstances or Physical Conditions.

Explain the circumstances or physical conditions that apply to the property that do not apply generally to other properties in the same zoning district or in the general vicinity. Circumstances or physical conditions may include:

- a. Shape of Lot.** Exceptional narrowness, shallowness or shape of a specific property in existence on the effective date of the Zoning Ordinance or amendment.

Not Applicable Applicable If applicable, describe below:

Lot is considered to have two fronts. One on the east, one on south side.

and/or

- b. Environmental Conditions.** Exceptional topographic or environmental conditions or other extraordinary situations on the land, building or structure.

Not Applicable Applicable If applicable, describe below:

and/or

- c. Abutting Property.** The use or development of the property immediately adjacent to the subject property would prohibit the literal enforcement of the requirements of the Zoning Ordinance or would involve significant practical difficulties.

Not Applicable Applicable If applicable, describe below:

Standard #2. Not Self-Created.

Describe the immediate practical difficulty causing the need for the Dimensional Variance, that the need for the requested variance is not the result of actions of the property owner or previous property owners (i.e., is not self-created).

North side of building is parking lot. West side of building is R.O.W.

Standard #3. Strict Compliance.

Explain how the Dimensional Variance in strict compliance with regulations governing area, setback, frontage, height, bulk, density or other dimensional requirements will unreasonably prevent the property owner from using the property for a permitted purpose, or will render conformity with those regulations unnecessarily burdensome.

Standard #4. Minimum Variance Necessary.

Explain how the Dimensional Variance requested is the minimum variance necessary to do substantial justice to the applicant as well as to other property owners in the district.

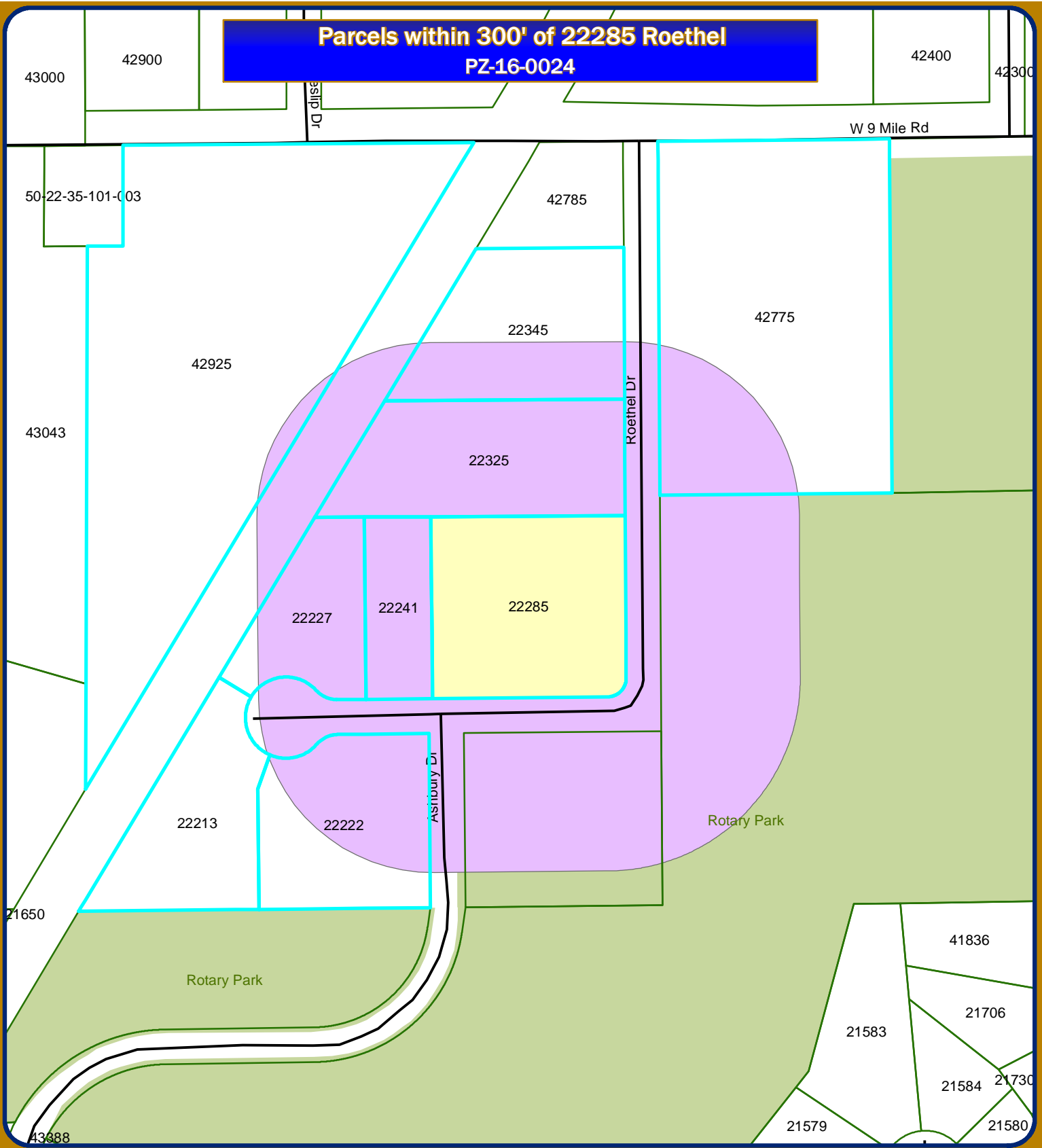
The stand-by generator would be placed on the south side of building where all other utility's are now. With the amount of space on the south side, generator would be well screened.

Standard #5. Adverse Impact on Surrounding Area.

Explain how the Dimensional Variance will not cause an adverse impact on surrounding property, property values, or the use and enjoyment of property in the neighborhood or zoning district.

We are in an industrial park. There should be no adverse impact. With the addition of landscaping for screening, it would be an improvement to the area.

**Parcels within 300' of 22285 Roethel
PZ-16-0024**



Map Author: Jon Gartha
 Date: June 22, 2016
 Address List for 22-35-127-018
 Version #: 1.0

Amended By:
 Date:
 Department:

MAP INTERPRETATION NOTICE
 Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

Map Legend

- 300' Buffer
- Subject Property
- Tax Parcel

Municipality

- Novi
- Novi Twp.



City of Novi

IT Department
 GIS Division
 45175 Ten Mile Rd
 Novi, MI 48375
cityofnovi.org





VITINS ENGINEERING

June 20, 2016

Ms. Kirsten Mellem, Planner
City of Novi
45175 W. Ten Mile Road
Novi, Michigan 48375

RE: **SHASTCO, LLC Generator (22285 Roethel Drive), JSP16-29**
City of Novi, Oakland County, Michigan

Dear Ms. Mellem:

The following responses are in the same sequence as they appeared in the Plan Review Center Report dated June 8, 2016:

Ordinance Standards

1. Applicant is pursuing a variance from the ZBA to place a generator in the exterior side yard.
2. Applicant is pursuing a variance from the ZBA to place an accessory structure, the generator, in the 40 foot setback.
3. Generator will be screened with landscaping per the attached drawings. Refer to Sheet C-1 for the Plant List. Generator screening detail is on Sheet C-6.
4. Specifications for the Generac Standby Generator (130 kW) are attached. Sound levels are listed in the Operating Data table on page 4 of 9. Sound output is measured in front of the generator.

Sound output at 23 feet with the generator in exercise mode is 69 dB(A). This decibel level does not exceed the daytime and nighttime limits in an Industrial District (I-1).

Sound output at 23 feet with the generator operating at normal load is 75 dB(A). This level does not exceed the Industrial District daytime limit. The maximum permitted decibel level for nighttime hours is 70 dB(A). Since the property line is 29.5 feet in from the edge of the generator pad and since landscaping will be provided to screen and reduce noise output, the noise levels will probably be in compliance with the city's standards. Compliance with noise levels will be verified by the owner's acoustic consultant during startup testing. Additional landscaping will be provided if noise levels are exceeded.

Revised drawing file is attached in PDF format for your review. Stamping sets will be provided after ZBA approval.



VITINS ENGINEERING

SHASTCO, LLC Generator (22285 Roethel Drive), JSP16-29

June 20, 2015

Page 2

Thank you for your help on this project. If you have any questions or require additional information, please feel free to call.

Enclosures

Very truly yours,
VITINS ENGINEERING

A handwritten signature in black ink, appearing to read 'Uldis G. Vitins', with a large flourish at the end.

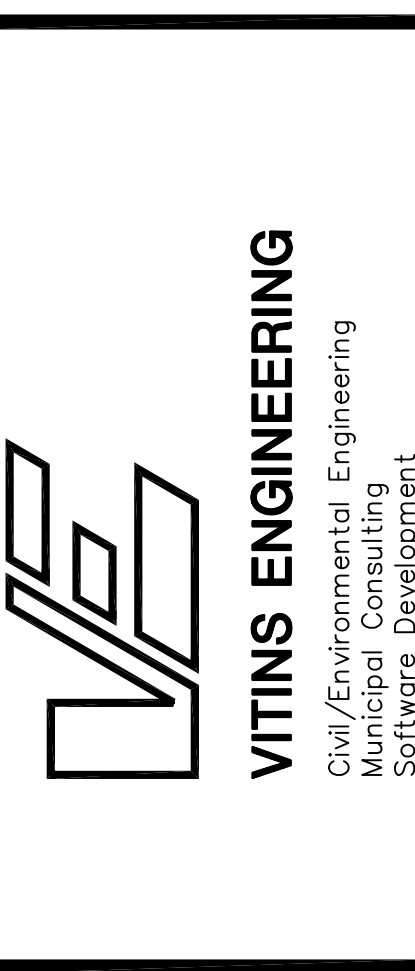
Uldis G. Vitins, P.E.
Principal

Copies: SHASTCO, LLC
 ATC Building Services
 file

SHASTCO, LLC TRUCKWELL

22285 ROETHEL DRIVE

PART OF THE NW 1/4 OF SECTION 35, T.1N., R.8E.
CITY OF NOVI, OAKLAND COUNTY, MICHIGAN



OWNER

SHASTCO, LLC
25225 REGENCY DRIVE
NOVI, MICHIGAN 48375

(248) 479-2224 (PHONE)
(248) 995-4282 (FAX)

CONTRACTOR

VINCENT J. DOA JR.
SARDO CONSTRUCTION, INC.
455 E. GRAND RIVER AVENUE
SUITE 107
BRIGHTON, MICHIGAN 48116

(810) 333-2197 (PHONE)

ARCHITECT

FRANK SALAMONE ARCHITECT
48701 HAYES ROAD
SHELBY TOWNSHIP, MICHIGAN 48315

(586) 532-0091 (PHONE)
(586) 566-4642 (FAX)

CIVIL ENGINEER

VITINS ENGINEERING
44275 BRANDYWYNE
CANTON, MICHIGAN 48187

(734) 453-3460 (MOBILE)
(734) 453-5812 (PHONE/FAX)

ISSUE NO.	DATE ISSUED	DESCRIPTION
1	4/14/2014	SITE PLAN REVIEW
2	4/20/2014	ADDED PUMP STATION SKETCH
3	5/19/2014	REVISED PER CITY REVIEW
4	6/6/2014	REVISED PER CITY REVIEW
5	7/6/2014	ADDED SPEC NOTES
6	8/20/2014	CHANGED PUMP STATION LOCATION
7	9/22/2016	ADDED GENERATOR

DO NOT SCALE DRAWINGS. USE ONLY DIMENSIONS MARKED. ISSUED FOR CONSTRUCTION. VERIFY CONFIGURATIONS AND DIMENSIONS ON SITE BEFORE BEGINNING WORK. NOTIFY THE ENGINEER IMMEDIATELY OF ANY ERRORS, OMISSIONS OR DISCREPANCIES.

DRAWING INDEX	
SHEET NO.	DESCRIPTION
T-1	COVER SHEET
C-1	DIMENSIONAL SITE PLAN
C-2	PAVING PLAN
C-3	GRADING & SOIL EROSION CONTROL PLAN
C-4	UTILITY PLAN
C-5	DEMOLITION PLAN
C-6	CONSTRUCTION NOTES & DETAILS
C-7	PUMP STATION CALCULATIONS, NOTES & DETAILS
2 SHEETS	CITY OF NOVI STANDARD DETAILS
1 SHEET	REFERENCE DRAWINGS ALTA SURVEY (DIFFIN-UMLOR)
A-1	ARCHITECT DRAWINGS PLANS
A-2	ELEVATIONS

PROJECT INFORMATION	
LAND AREA GROSS & NET	2.39 ACRES
SITE ZONING	I-1, LIGHT INDUSTRIAL DISTRICT
TAX IDENTIFICATION NO.	22-35-127-018
EXISTING BUILDING	33,025 S.F. GROSS
SETBACKS	
FRONT YARD	40 FEET
SIDE YARD	20 FEET
REAR YARD	20 FEET
PARKING REQUIRED	
INDUSTRIAL/WAREHOUSE	1 SPACE PER 700 S.F. OF USEABLE FLOOR AREA (33,025 x 80%) / 700 = 38 SPACES
TOTAL PROVIDED	65 SPACES INCLUDING 2 BARRIER FREE

PROJECT TITLE
**SHASTCO, LLC TRUCKWELL
22285 ROETHEL DRIVE
CITY OF NOVI
OAKLAND COUNTY, MICHIGAN**

SHEET NAME
COVER SHEET

PROJECT NUMBER
14040

SHEET NUMBER
T-1

ISSUE NO.	DATE ISSUED	DESCRIPTION
1	4/7/2014	SITE PLAN REVIEW
2	4/29/2014	ADDED PUMP STATION SKETCH
3	5/19/2014	REVISED PER CITY REVIEW
4	6/6/2014	REVISED PER CITY REVIEW
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6	9/29/2014	CHANGED PUMP STATION LOCATION
7	5/23/2016	ADDED GENERATOR

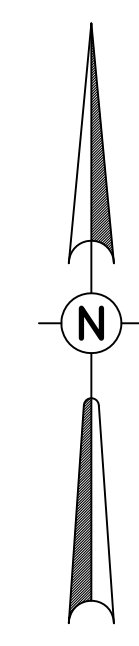
DO NOT SCALE DRAWINGS. USE DIMENSIONS AND NOTES FOR CONSTRUCTION.
 THESE DRAWINGS AND THE SUBJECT MATTER CONTAINED THEREON ARE PROPRIETARY AND NOT TO BE USED OR REPRODUCED WITHOUT THE WRITTEN PERMISSION OF VITINS ENGINEERING.

**SHASTCO, LLC TRUCKWELL
 22285 ROETHEL DRIVE
 CITY OF NOVI
 OAKLAND COUNTY, MICHIGAN**

DIMENSIONAL SITE PLAN

PROJECT NUMBER
14040

SHEET NUMBER
C-1



SCALE: 1"=20'

NOTE:
 REFER TO FRANK SALAMONE
 ARCHITECT DRAWINGS FOR
 TRUCKWELL DETAILS AND
 DIMENSIONS

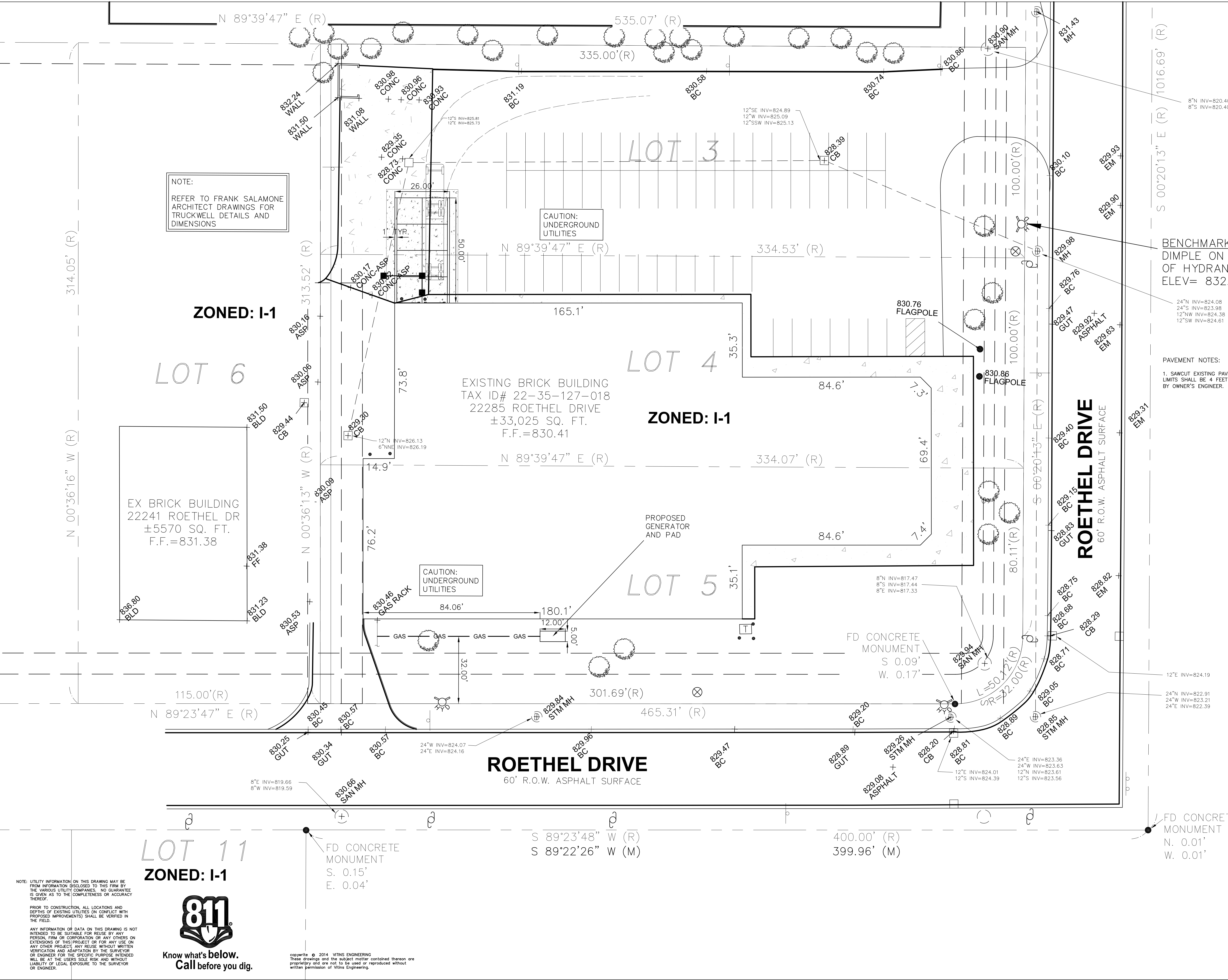
CAUTION:
 UNDERGROUND
 UTILITIES

CAUTION:
 UNDERGROUND
 UTILITIES

BENCHMARK:
 DIMPLE ON LARGE NUT
 OF HYDRANT
 ELEV= 832.15

PAVEMENT NOTES:
 1. SAWCUT EXISTING PAVEMENT FULL DEPTH AND REMOVE. PAVEMENT REMOVAL LIMITS SHALL BE 4 FEET OUTSIDE OF PROPOSED TRUCKWELL OR AS DIRECTED BY OWNER'S ENGINEER.

SYMBOL	DESCRIPTION
(circle with dot)	CLEAN OUT
(circle with cross)	SAN MANHOLE
(circle with horizontal line)	SAN MANLINE
(circle with vertical line)	SAN SERVICE
(circle with star)	FIRE HYDRANT
(circle with 'W')	WATERMARK
(circle with 'V')	WATER VALVE
(circle with 'S')	WATER SERVICE
(circle with 'M')	STM MANHOLE
(circle with 'C')	STM CATCH BASIN
(circle with 'S')	STM SEWER
(circle with 'E')	ELEC RISER
(circle with 'T')	ELEC TRANSFORMER
(circle with 'L')	LIGHT POLE
(circle with 'E')	ELECTRIC
(circle with 'P')	POWER POLE
(circle with 'G')	GAS
(circle with 'F')	FIBER OPTIC CABLE
(circle with 'O')	OVERHEAD UTILITIES
(circle with 'S')	SEIN
(circle with 'R')	SET IRON
(circle with 'F')	FOUND IRON
(circle with 'F')	FENCE
(circle with 'S')	S&T FENCE
(circle with 'T')	TOP OF WALK
(circle with 'G')	GUTTER



NOTE: UTILITY INFORMATION ON THIS DRAWING MAY BE FROM INFORMATION DISCLOSED TO THIS FIRM BY THE VARIOUS UTILITY COMPANIES. NO GUARANTEE IS GIVEN AS TO THE COMPLETENESS OR ACCURACY THEREOF.

PRIOR TO CONSTRUCTION, ALL LOCATIONS AND DEPTHS OF EXISTING UTILITIES (IN CONFLICT WITH PROPOSED IMPROVEMENTS) SHALL BE VERIFIED IN THE FIELD.

ANY INFORMATION OR DATA ON THIS DRAWING IS NOT INTENDED TO BE SUITABLE FOR REUSE BY ANY PERSON, FIRM OR CORPORATION OR ANY OTHERS ON EXTENSIONS OF THIS PROJECT OR FOR ANY USE ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION AND ADAPTATION BY THE SURVEYOR OR ENGINEER FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY OF LEGAL EXPOSURE TO THE SURVEYOR OR ENGINEER.



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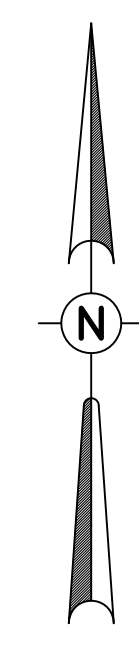
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PROJECT TITLE
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 22285 ROETHEL DRIVE
 CITY OF NOVI
 OAKLAND COUNTY, MICHIGAN**

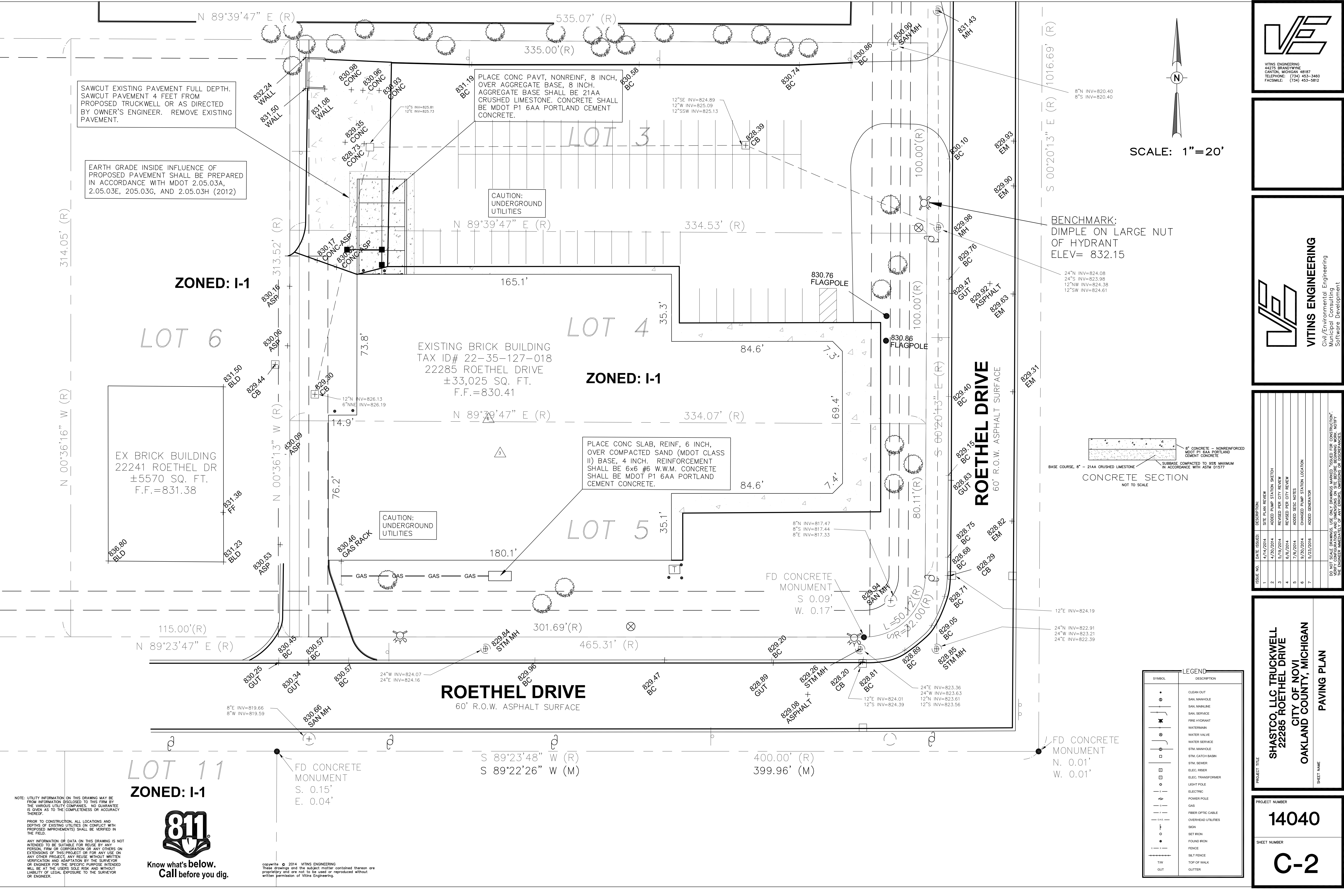
SHEET NAME
PAVING PLAN

PROJECT NUMBER
14040

SHEET NUMBER
C-2



SCALE: 1"=20'



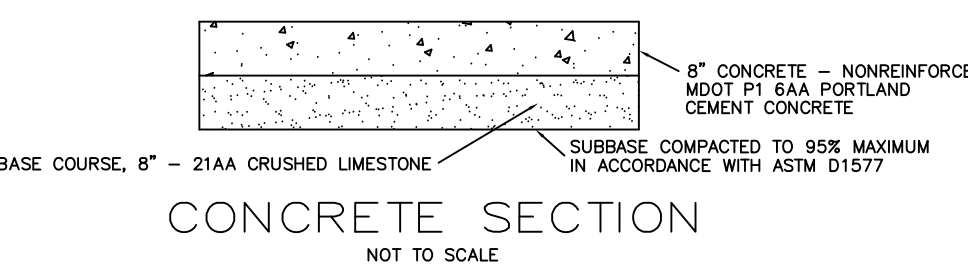
SAWCUT EXISTING PAVEMENT FULL DEPTH. SAWCUT PAVEMENT 4 FEET FROM PROPOSED TRUCKWELL OR AS DIRECTED BY OWNER'S ENGINEER. REMOVE EXISTING PAVEMENT.

EARTH GRADE INSIDE INFLUENCE OF PROPOSED PAVEMENT SHALL BE PREPARED IN ACCORDANCE WITH MDOT 2.05.03A, 2.05.03E, 205.03G, AND 2.05.03H (2012)

PLACE CONC PAVT, NONREINF, 8 INCH, OVER AGGREGATE BASE, 8 INCH. AGGREGATE BASE SHALL BE 21AA CRUSHED LIMESTONE. CONCRETE SHALL BE MDOOT P1 6AA PORTLAND CEMENT CONCRETE.

PLACE CONC SLAB, REINF, 6 INCH, OVER COMPACTED SAND (MDOT CLASS II) BASE, 4 INCH. REINFORCEMENT SHALL BE 6x6 #6 W.W.M. CONCRETE SHALL BE MDOOT P1 6AA PORTLAND CEMENT CONCRETE.

BENCHMARK: DIMPLE ON LARGE NUT OF HYDRANT ELEV= 832.15



SYMBOL	DESCRIPTION
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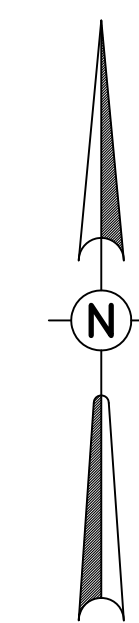
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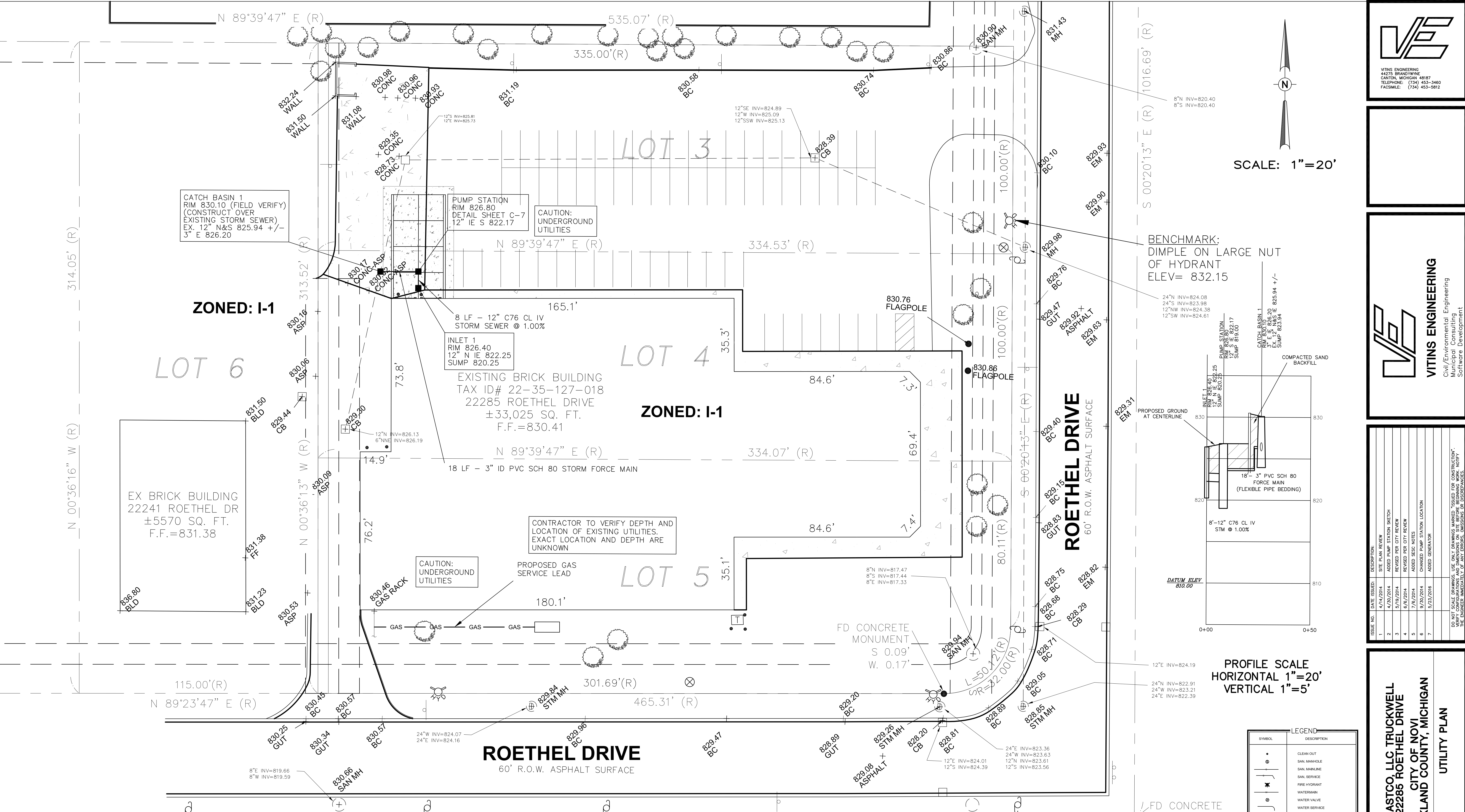
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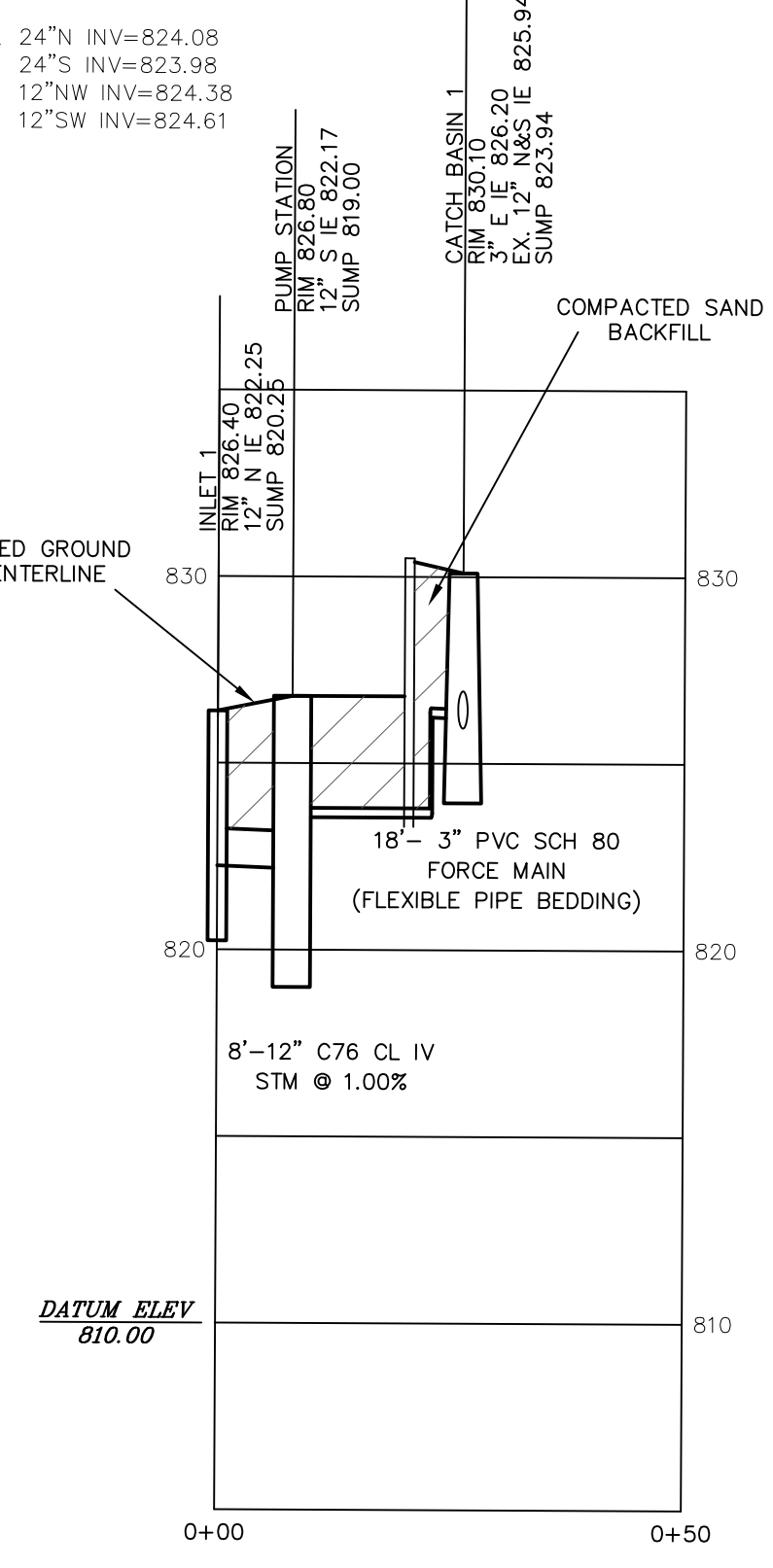
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SCALE: 1"=20'



BENCHMARK:
 DIMPLE ON LARGE NUT
 OF HYDRANT
 ELEV= 832.15



ISSUE NO.	DATE ISSUED	DESCRIPTION
1	4/14/2014	SITE PLAN REVIEW
2	4/20/2014	ADDED PUMP STATION SKETCH
3	5/19/2014	REVISED PER CITY REVIEW
4	6/6/2014	REVISED PER CITY REVIEW
5	7/6/2014	ADDED SECC NOTES
6	9/30/2014	CHANGED PUMP STATION LOCATION
7	9/23/2016	ADDED GENERATOR

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SYMBOL	DESCRIPTION
•	CLEAN OUT
○	SAN MANHOLE
○	SAN MAINLINE
○	SAN SERVICE
○	FIRE HYDRANT
○	WATERMAN
○	WATER VALVE
○	WATER SERVICE
○	STM. MANHOLE
○	STM. CATCH BASIN
○	STM. SEWER
○	ELEC. RISER
○	ELEC. TRANSFORMER
○	LIGHT POLE
○	ELECTRIC
○	POWER POLE
○	GAS
○	FIBER OPTIC CABLE
○	OVERHEAD UTILITIES
○	SON
○	SET IRON
○	FOUND IRON
○	FENCE
○	SILT FENCE
○	TWP
○	GUT

STORM SEWER NOTES:

- UNLESS OTHERWISE NOTED, REINFORCED CONCRETE STORM SEWER PIPE SHALL BE ASTM C76, CLASS IV PIPE. STORM SEWER PIPE JOINTS SHALL BE MODIFIED TONGUE AND GROOVE WITH RUBBER GASKET PER ASTM C443.
- ALL STORM DRAINAGE STRUCTURES SHALL COMPLY WITH CHAPTER 11 OF THE NOVI CITY CODE.
- STORM DRAINAGE STRUCTURE COVERS SHALL BE COVER D PER MDOOT STANDARD PLAN R-9C UNLESS OTHERWISE NOTED. STORM DRAINAGE STRUCTURES SHALL COMPLY WITH CHAPTER 11 OF THE NOVI CITY CODE.
- ALL STORM SEWER INLET AND YARD DRAIN STRUCTURES SHALL BE 2' DIAMETER. ALL CATCH BASIN AND PUMP STATION STRUCTURES SHALL BE 4' DIAMETER.

STORM SEWER NOTES (CONTINUED):

- ALL INLET AND YARD DRAIN STRUCTURES SHALL BE CONSTRUCTED WITH A 2' SUMP.
- FLEXIBLE PIPE BEDDING (ONE FOOT MINIMUM DEPTH ABOVE PIPE) IS MAXIMUM 3/4 INCH DIAMETER CRUSHED STONE MEETING MDOOT 6A ANGULAR MATERIAL SPECIFICATIONS.
- PIPE BEDDING SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR STORM SEWER.

LOT 11
 ZONED: I-1



Know what's below.
 Call before you dig.

NOTE: UTILITY INFORMATION ON THIS DRAWING MAY BE FROM INFORMATION DISCLOSED TO THIS FIRM BY THE VARIOUS UTILITY COMPANIES. NO GUARANTEE IS GIVEN AS TO THE COMPLETENESS OR ACCURACY THEREOF.

PRIOR TO CONSTRUCTION, ALL LOCATIONS AND DEPTHS OF EXISTING UTILITIES (IN CONFLICT WITH PROPOSED IMPROVEMENTS) SHALL BE VERIFIED IN THE FIELD.

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**SHASTCO, LLC TRUCKWELL-
 22285 ROETHEL DRIVE
 CITY OF NOVI
 OAKLAND COUNTY, MICHIGAN**

UTILITY PLAN

PROJECT NUMBER
14040

SHEET NUMBER
C-4

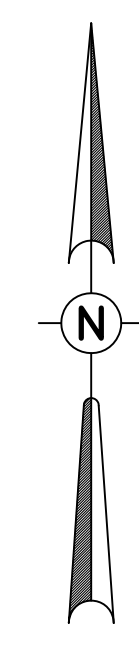
ISSUE NO.	DATE ISSUED	DESCRIPTION
1	4/14/2014	SITE PLAN REVIEW
2	4/20/2014	ADDED PUMP STATION SKETCH
3	5/19/2014	REVISED PER CITY REVIEW
4	6/16/2014	REVISED PER CITY REVIEW
5	7/16/2014	ADDED S&C NOTES
6	9/29/2014	CHANGED PUMP STATION LOCATION
7	5/23/2016	ADDED GENERATOR

PROJECT TITLE
**SHASTCO, LLC TRUCKWELL
 22285 ROETHEL DRIVE
 CITY OF NOVI
 OAKLAND COUNTY, MICHIGAN**

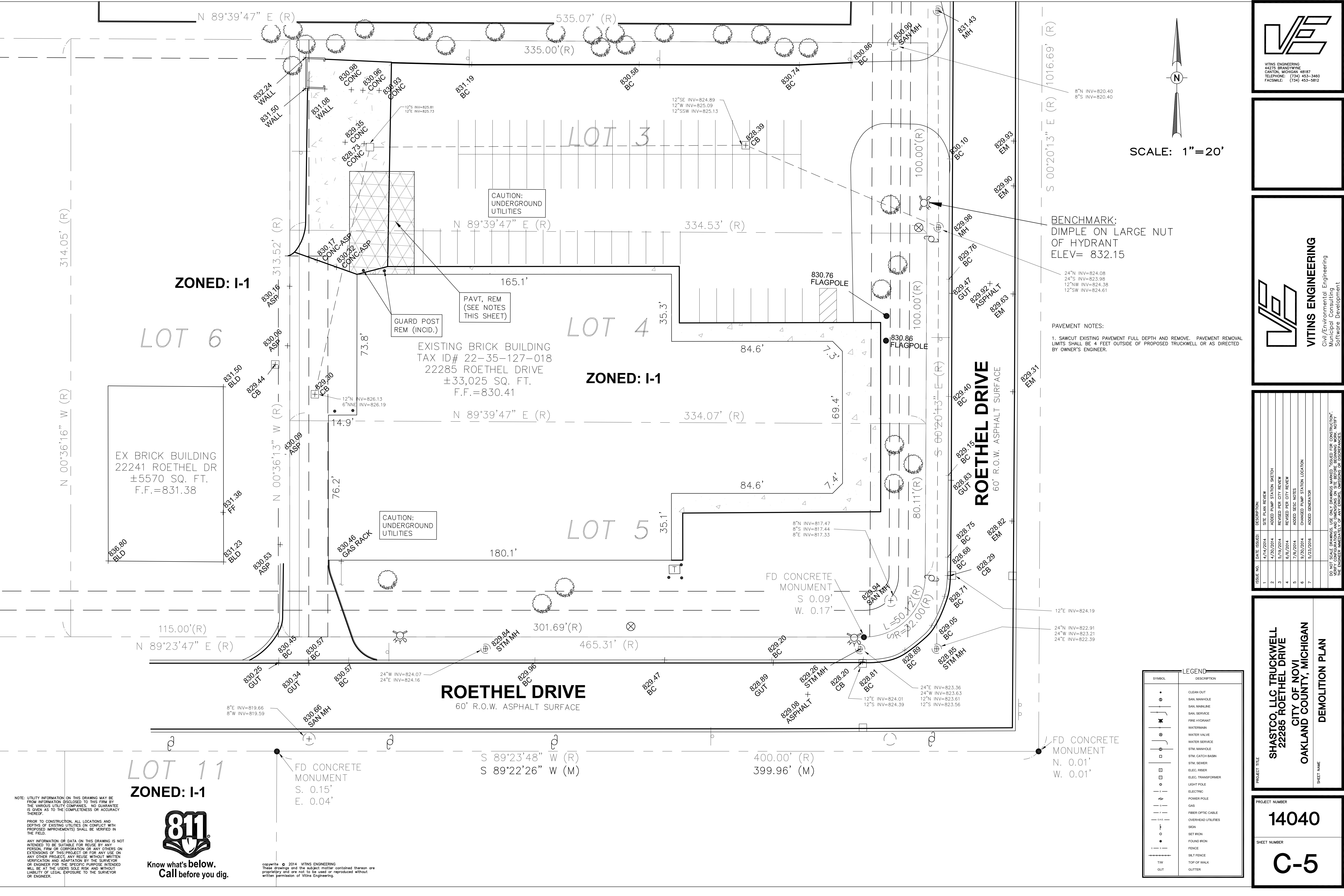
SHEET NAME
DEMOLITION PLAN

PROJECT NUMBER
14040

SHEET NUMBER
C-5



SCALE: 1"=20'



ZONED: I-1

ZONED: I-1

ZONED: I-1



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 Call before you dig.

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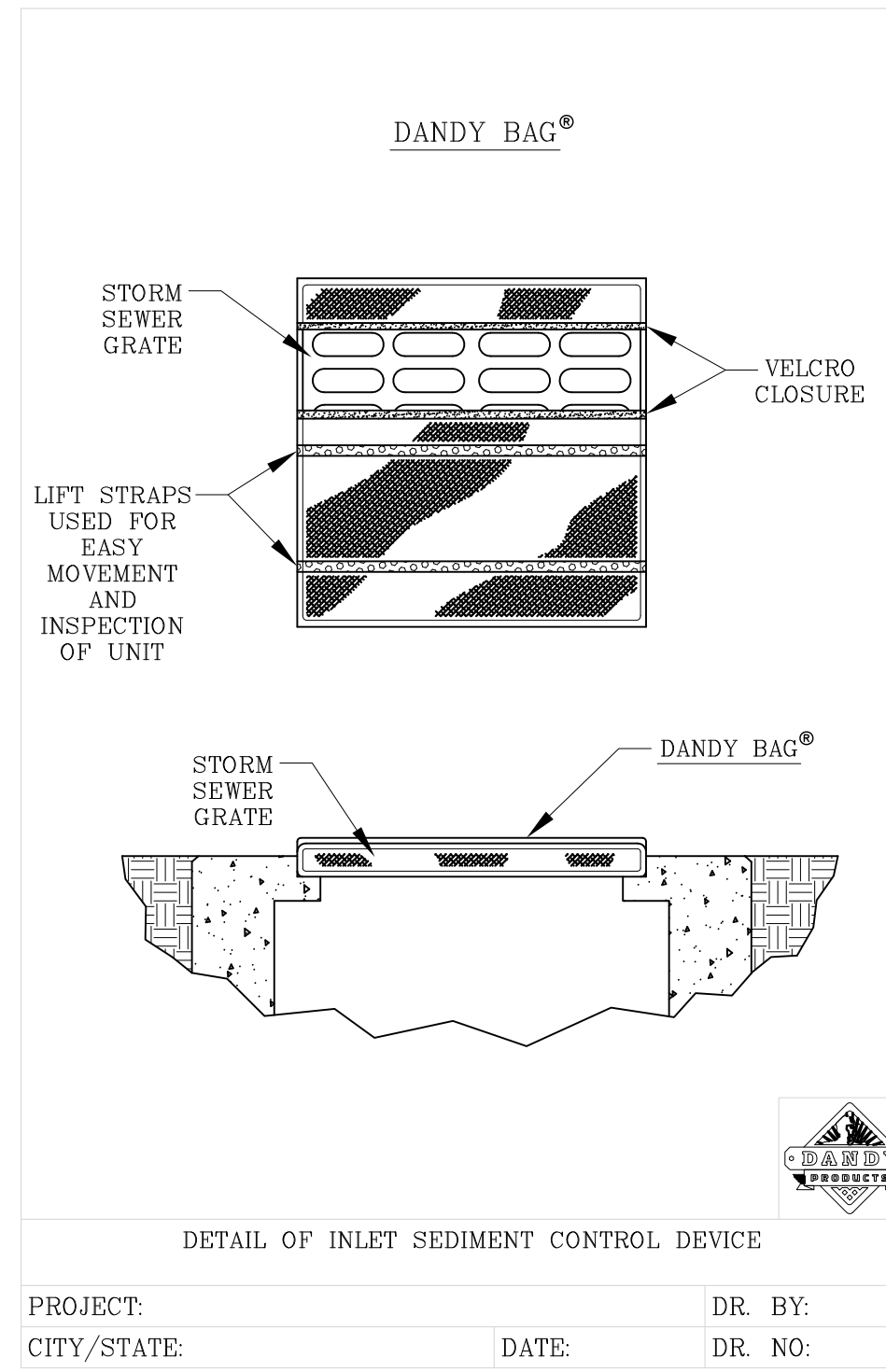
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BENCHMARK:
 DIMPLE ON LARGE NUT
 OF HYDRANT
 ELEV= 832.15

PAVEMENT NOTES:
 1. SAWCUT EXISTING PAVEMENT FULL DEPTH AND REMOVE. PAVEMENT REMOVAL LIMITS SHALL BE 4 FEET OUTSIDE OF PROPOSED TRUCKWELL OR AS DIRECTED BY OWNER'S ENGINEER.

SYMBOL	DESCRIPTION
(circle with dot)	CLEAN OUT
(circle with cross)	SAN MANHOLE
(circle with horizontal line)	SAN MANLINE
(circle with vertical line)	SAN SERVICE
(circle with star)	FIRE HYDRANT
(circle with 'X')	WATERMARK
(circle with 'V')	WATER VALVE
(circle with 'W')	WATER SERVICE
(circle with 'M')	STM MANHOLE
(circle with 'B')	STM CATCH BASIN
(circle with 'S')	STM SEWER
(circle with 'E')	ELEC RISER
(circle with 'T')	ELEC TRANSFORMER
(circle with 'L')	LIGHT POLE
(circle with 'E')	ELECTRIC
(circle with 'P')	POWER POLE
(circle with 'G')	GAS
(circle with 'F')	FIBER OPTIC CABLE
(circle with 'O')	OVERHEAD UTILITIES
(circle with 'S')	SEIN
(circle with 'I')	SET IRON
(circle with 'R')	FOUND IRON
(circle with 'F')	FENCE
(circle with 'S')	S&T FENCE
(circle with 'T')	TOP OF WALK
(circle with 'G')	GUTTER



DANDY BAG®
SPECIFICATIONS

NOTE: THE DANDY BAG® WILL BE MANUFACTURED IN THE U.S.A. FROM A WOVEN MONOPLAMANT FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

HI-FLOW DANDY BAG® (SAFETY ORANGE)

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbf)	1.62 (365) x 0.89 (200)
Grab Tensile Elongation	ASTM D 4632	%	24 x 10
Puncture Strength	ASTM D 4632	kN (lbf)	0.45 (100)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	597 (450)
Tripod Test Strength	ASTM D 4633	kN (lbf)	0.51 (115) x 0.33 (75)
UV Resistance	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	mm (US Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	l/min/m ² (gal/min/ft ²)	5907 (145)
Permittivity	ASTM D 4491	Sec ⁻¹	2.1

*Note: All Dandy Bags® can be ordered with our optional oil absorbent pillows

CITY OF NOVI NOTES:

1. ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF NOVI.
2. THE CONTRACTOR SHALL CALL THE NATIONAL ONE-CALL DIALING NUMBER "811" OR THE NATIONAL ONE-CALL REFERRAL NUMBER 1-888-258-0808 AT LEAST 3 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
3. ROOFTOP EQUIPMENT TO BE SCREENED. REFER TO ARCHITECT DRAWINGS.
4. EXTERIOR SITE LIGHTING SHALL BE SHIELDED FROM ADJACENT PROPERTIES.
5. ALL LANDSCAPE AREAS ARE TO BE PROVIDED WITH AN UNDERGROUND IRRIGATION SYSTEM.
6. NO SIGNS ARE APPROVED AS PART OF THIS SITE PLAN APPROVAL AND NO GROUND MOUNTED SIGNS ARE PROPOSED AT THIS TIME. PRIOR TO ERECTING A SIGN, AN APPLICATION AND APPROPRIATE SUBMISSIONS SHALL BE MADE TO THE CITY OF NOVI FOR REVIEW, APPROVAL, AND ISSUANCE OF A SIGN PERMIT.

PERMITS:

1. A SOIL EROSION AND SEDIMENTATION CONTROL PERMIT SHALL BE OBTAINED FROM THE CITY OF NOVI.
2. CONTRACTOR SHALL OBTAIN A GRADING PERMIT FROM THE CITY OF NOVI AT THE PRE-CONSTRUCTION MEETING. PERMIT FEE TO BE PAID BY OWNER.

GENERAL NOTES:

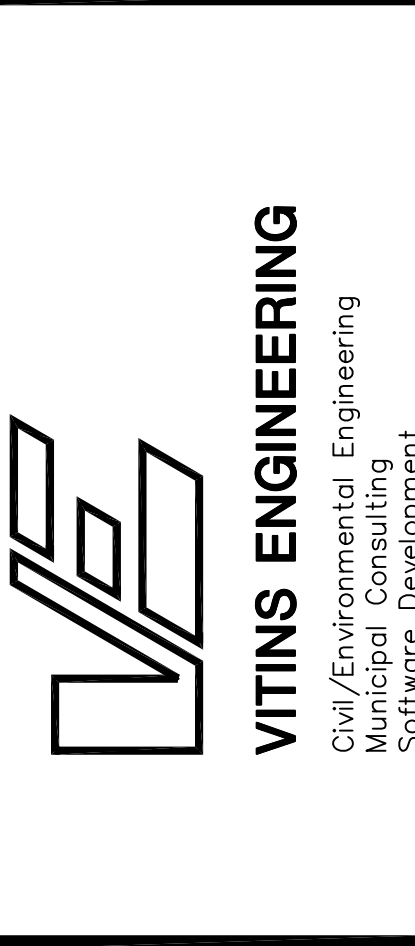
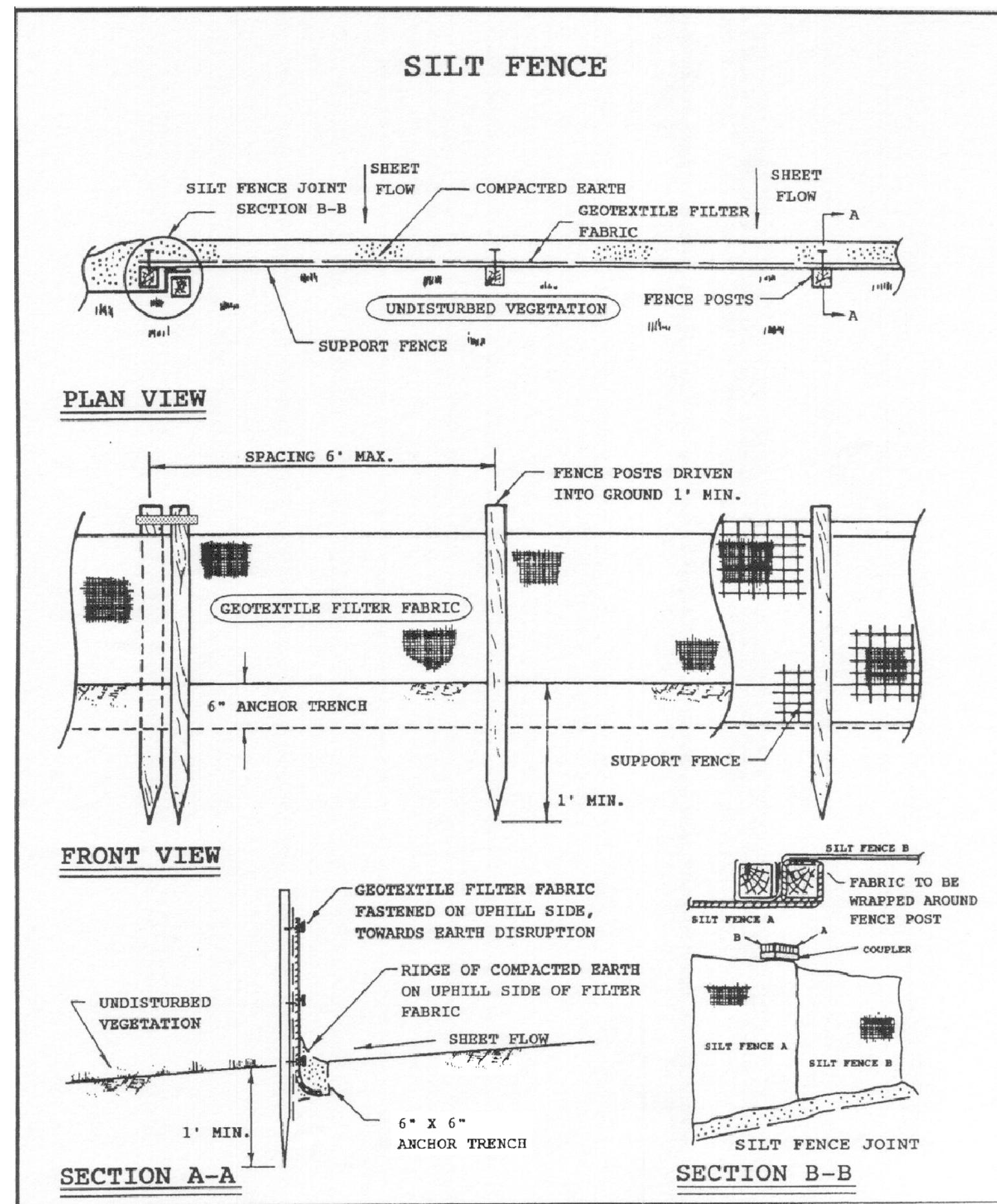
1. THE SITE IMPROVEMENTS SHALL BE COMPLETED IN ACCORDANCE WITH THE PROPOSAL AND ACCOMPANYING SPECIFICATIONS FOR THIS PROJECT INCLUDING THE 2012 MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE CURRENT MICHIGAN MANUAL OF TRAFFIC CONTROL DEVICES.
3. THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN ALL NECESSARY TEMPORARY TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH PART VI OF THE CURRENT MICHIGAN MANUAL OF TRAFFIC CONTROL DEVICES. COST OF TRAFFIC MAINTENANCE AND CONTROL SHALL BE INCLUDED IN THE CONTRACT UNIT PRICES BID FOR OTHER CONTRACT ITEMS.
4. ALL UTILITY TRENCHES UNDER OR WITHIN 5 FEET OF PAVEMENT, EXISTING OR PROPOSED, SHALL BE BACKFILLED WITH SAND COMPACTED TO 95% MODIFIED PROCTOR DENSITY. PIPE BEDDING AND COMPACTED SAND BACKFILL SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR WATER MAIN OR SEWER.
5. DEWATERING SYSTEMS USED BY THE CONTRACTOR WILL NOT BE PAID FOR SEPARATELY. PAYMENT FOR DEWATERING WILL BE INCLUDED IN THE CONTRACT UNIT PRICES BID FOR OTHER CONTRACT ITEMS.
6. ALL SOIL EROSION AND SILT MUST BE CONTROLLED AND CONTAINED ON SITE.
7. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING INTEGRITY OF UTILITY POLES. COST OF SPECIAL CONSTRUCTION METHODS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICES BID FOR OTHER ITEMS.
9. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL DISTURBED AREAS TO THE CONDITIONS THAT EXISTED PRIOR TO CONSTRUCTION.

REFERENCES:

1. ALTA SURVEY PREPARED BY DIFFIN-UMLOR & ASSOCIATES, JOB NO. 140301, DATED MARCH 24, 2014.

SESC GRADING REQUIREMENTS AND STANDARDS

1. A project/property identifier must be posted and visible from the road at time of application in order to conduct a preliminary inspection which is required before a soil erosion and sedimentation control (SESC) permit may be issued.
2. A copy of the SESC permit and approved plans shall be kept at the work site and visible from the road and available at time of inspection for the duration of the project or until the date of expiration.
3. No earth moving activity can begin without a grading permit.
4. Silt fencing, if required, must be trenched in and backfilled. The fencing may be toed-in with pea gravel if installed in winter.
5. Stone access drives must be installed prior to construction.
6. Stockpiling of any excavated material must be kept away from sensitive areas and adequate controls must be in place.
7. Catch basins, if installed, must be protected with silt sacks.
8. Dewatering operations must have some type of control, e.g., filter bag, vegetative filter area. There shall be no dewatering of unfiltered water.
9. Erosion control blankets are required on slopes of 4:1 or steeper.
10. Rock check dams are to be used instead of straw bales or silt fencing in concentrated flow locations such as ditches.
11. Immediately after installation of stormwater outlets, rip rap must be installed.
12. All areas of a project that are disturbed must be stabilized by December 1.
13. All earth changes shall be designed, constructed and completed in such a manner which limits the exposed area of any disturbed land for the shortest possible period of time.
14. Detention/retention/sedimentation ponds must be constructed and stabilized prior to other earth moving activities to collect sediment caused by erosion. This shall be designed and constructed to reduce the water flow to a non-erosive velocity (See Oakland County Drain Commissioner's Specifications).
15. After all temporary erosion control measures have been installed, the owner/contractor shall call this office for an installation inspection.
16. Vegetation shall be established within 5 days of final grade, or whenever disturbed areas will remain unchanged for 30 days or greater. 3"-4" of topsoil will be used where vegetation is required. All permanent erosion control measure shall be maintained a minimum of one (1) year after the final inspection date. A final inspection shall be scheduled by the owner/contractor.
17. All soil, miscellaneous debris or other materials spilled, dumped or otherwise deposited on streets, highways, sidewalks or other thoroughfares during transit to or from the earth change site shall be removed promptly.



ISSUE NO.	DATE ISSUED	DESCRIPTION
1	4/14/2014	SITE PLAN REVIEW
2	4/20/2014	ADDED PUMP STATION SKETCH
3	5/19/2014	REVISED PER CITY REVIEW
4	6/17/2014	REVISED PER CITY REVIEW
5	7/8/2014	ADDED SESC NOTES
6	7/29/2014	CHANGED PUMP STATION LOCATION
7	5/25/2016	ADDED GENERATOR

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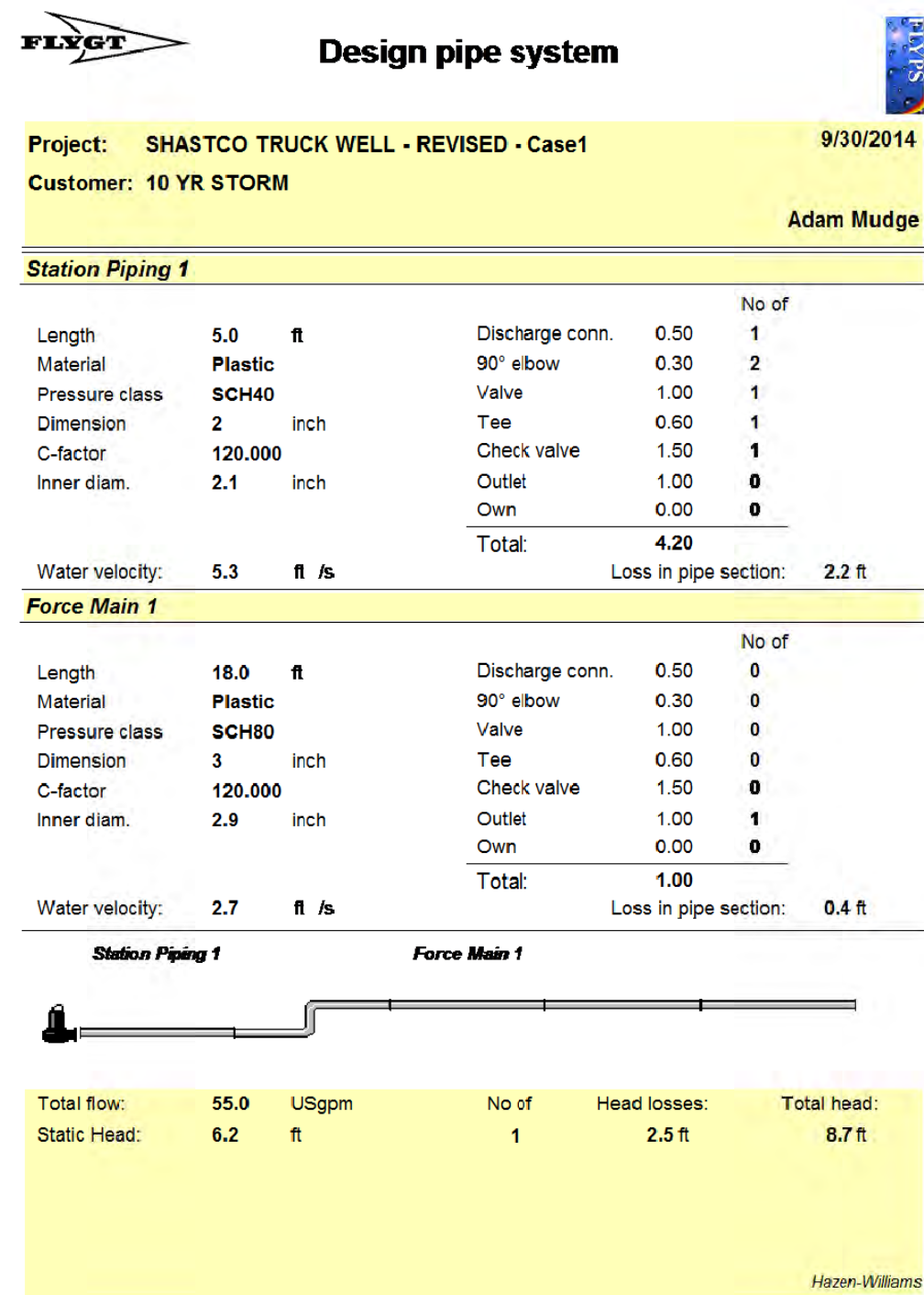
PROJECT TITLE
**SHASTCO, LLC TRUCKWELL
22285 ROETHHEL DRIVE
CITY OF NOVI
OAKLAND COUNTY, MICHIGAN**

SHEET NAME
CONSTRUCTION NOTES & DETAILS

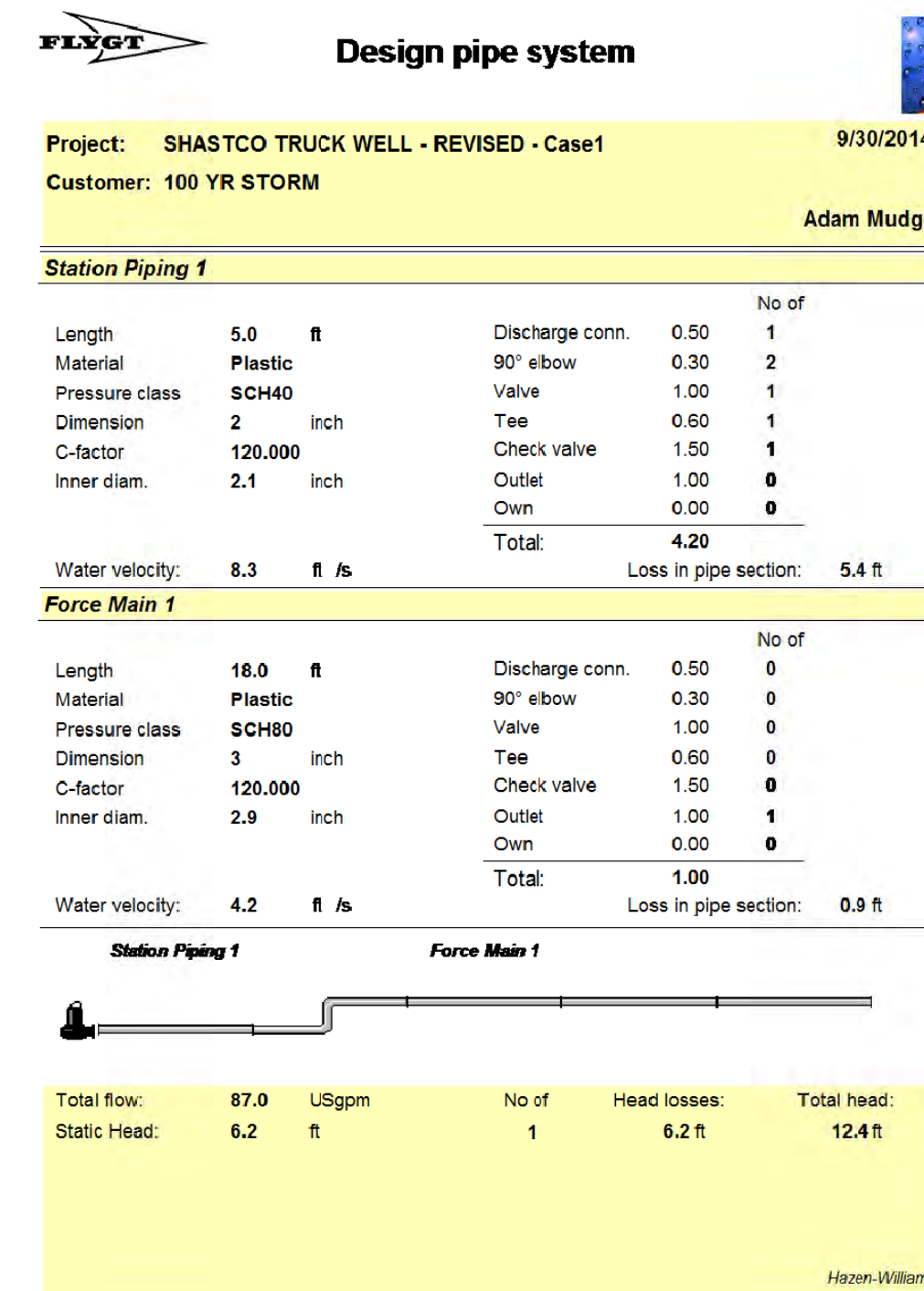
PROJECT NUMBER
14040

SHEET NUMBER
C-6

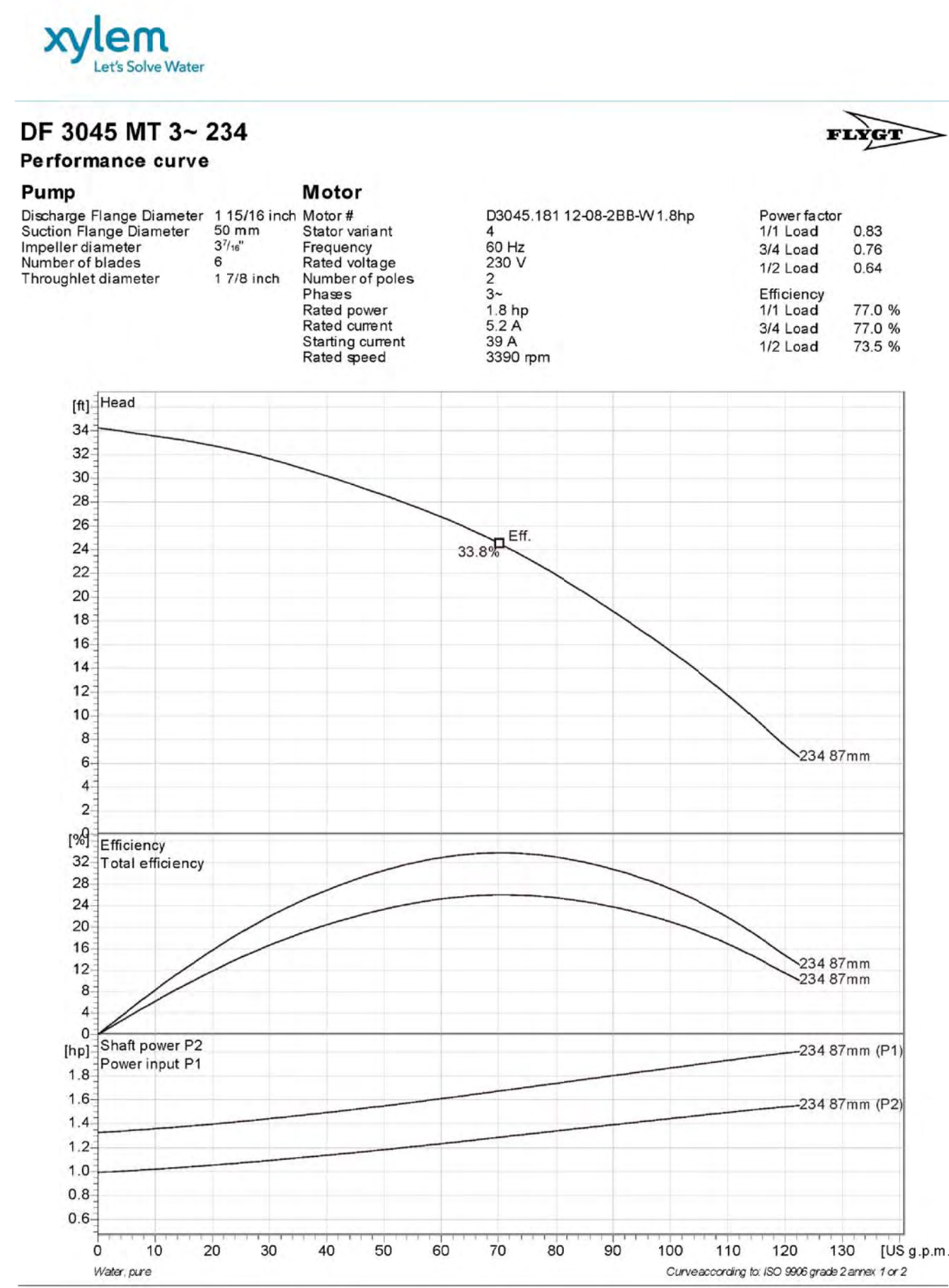
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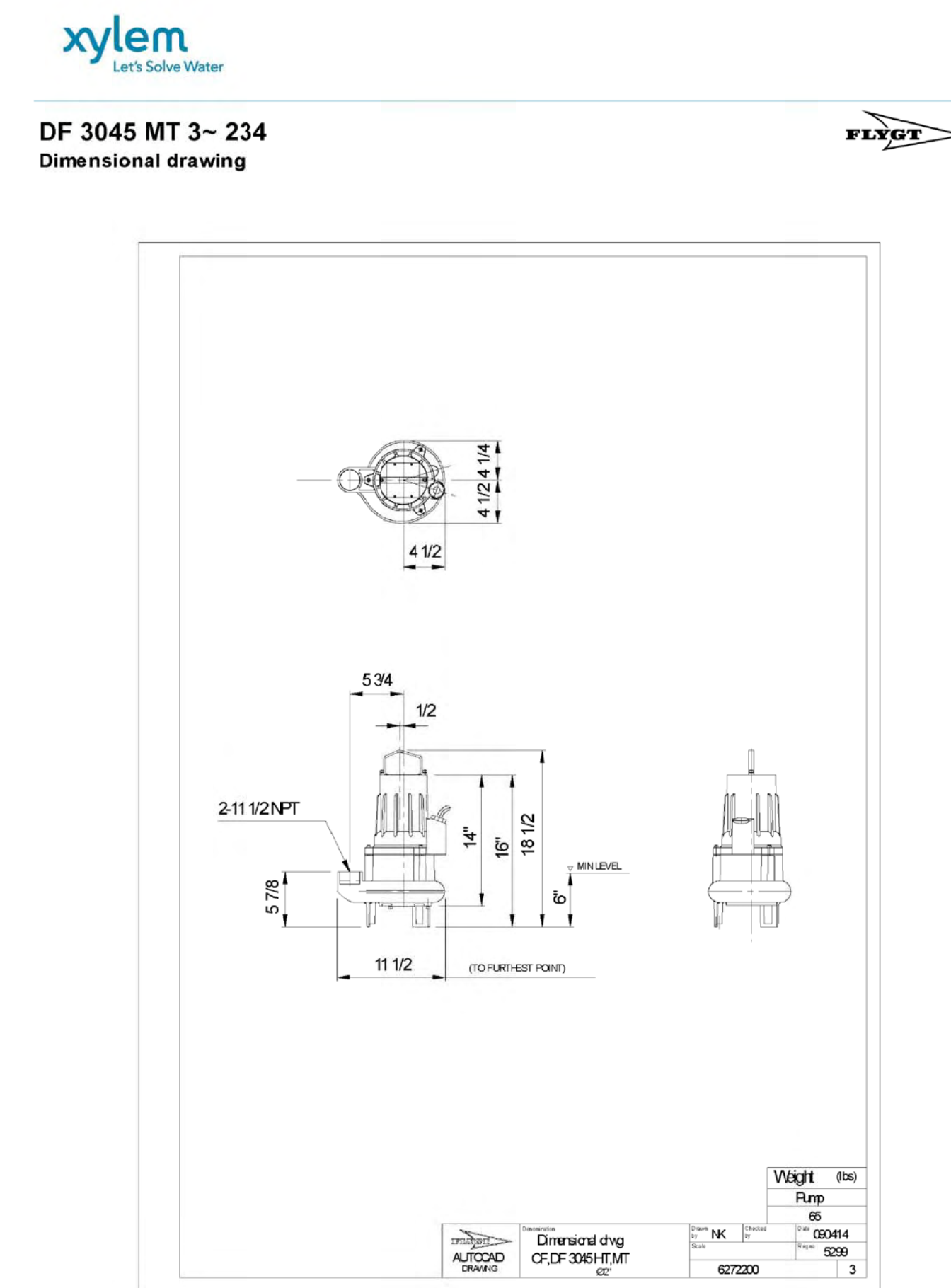
1 (1) Flygt ITT Industries



1 (1) Flygt ITT Industries



Project	Project ID	Created by	Created on	Last update
			2014-09-30	



Project	Project ID	Created by	Created on	Last update
			2014-09-30	

STORMWATER MANAGEMENT CALCULATIONS

Drainage Area = 0.030 acres
Runoff Coefficient C = 0.95
T = 15 minutes (Time of Concentration)

$$I = 175 / (T + 25) = 4.375 \text{ in/hr (10 Year Intensity Storm)}$$

$$I = 275 / (T + 25) = 6.875 \text{ in/hr (100 Year Intensity Storm)}$$

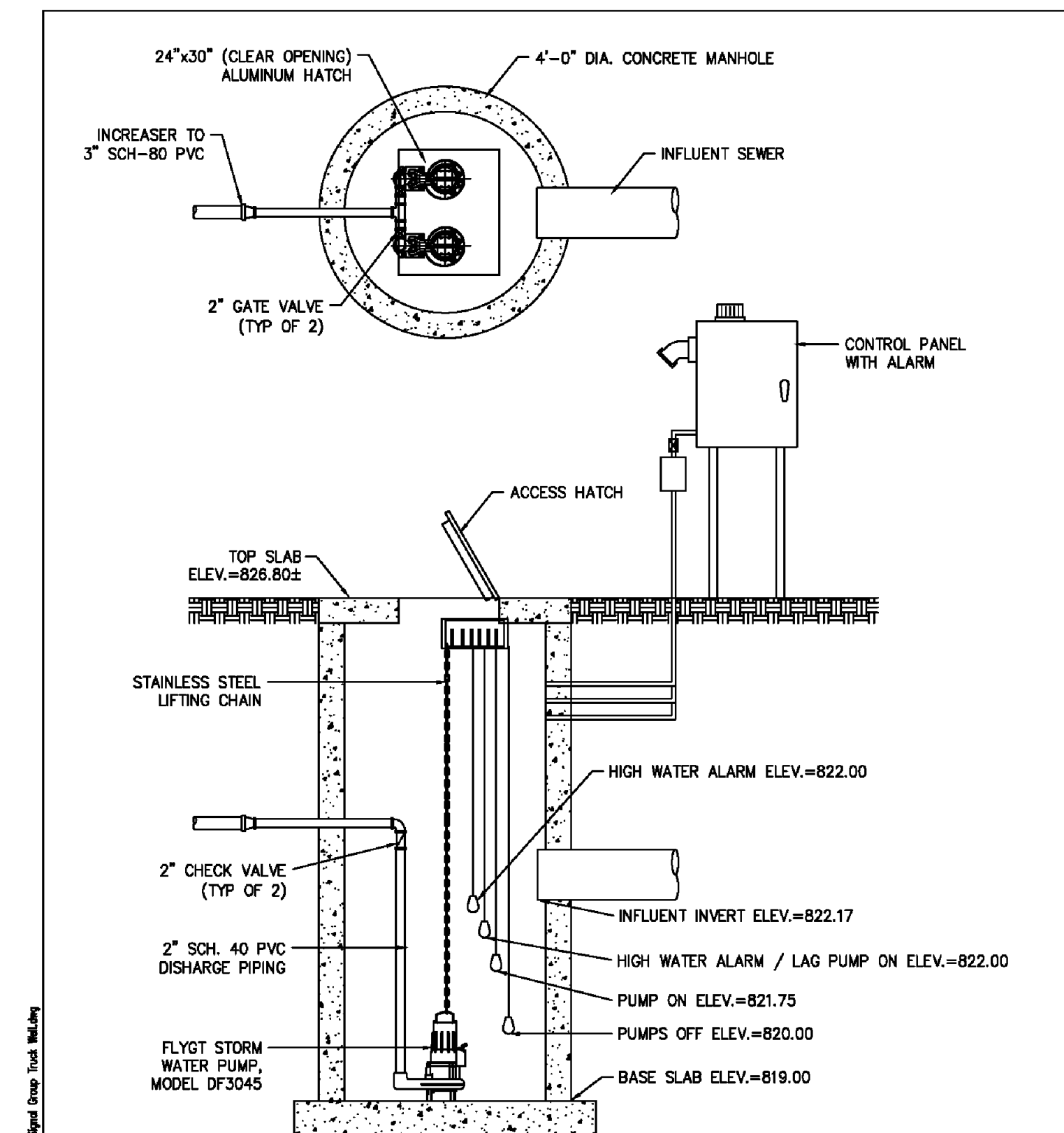
Q = CIA (Rational Method)

$$Q = (0.95)(4.375)(0.030) = 0.125 \text{ cfs (55 gpm) (10 Year Storm)}$$

$$Q = (0.95)(6.875)(0.030) = 0.196 \text{ cfs (87 gpm) (100 Year Storm)}$$

PUMP STATION NOTES:

- PUMPS (2) SHALL BE FLYGT SUBMERSIBLE EFFLUENT PUMP MODEL DP3045, 234 IMPELLER, 1.8 HP, 3 PHASE, 230V WITH 2" DISCHARGE, PUMP FEET AND 30" CABLE.
- EACH PUMP RATED 87 GPM AT 12.4 TDH (100 YEAR INTENSITY STORM).
- PUMP STATION SHALL BE PROVIDED WITH STAINLESS STEEL LIFTING CHAIN AND QUICK LINKS.
- PUMPS SHALL ALTERNATE BETWEEN PRIMARY PUMP AND LAG PUMP AFTER EACH PUMPING CYCLE.
- DUPLEX CONTROL PANEL SHALL BE IN NEMA 4X FIBERGLASS ENCLOSURE WITH MOTOR STARTERS, PUMP DISCONNECT, H-O-A SWITCHES, CONTROL CIRCUITS, ALARM LIGHT AND HORN, AND A GENERATOR RECEPTACLE.
- ALARM SHALL BE PROVIDED FOR HIGH WATER AND PUMP FAILURE.
- PUMP STATION SHALL HAVE LOT MERCURY TYPE FLOAT SWITCHES AND STAINLESS STEEL SUPPORT BRACKET.
- 24" X 30" ACCESS HATCH SHALL BE PROVIDED.
- CONTRACTOR SHALL PROVIDE INSTALLATION, SITE WORK, CONCRETE MANHOLE, ANCHOR BOLTS, PIPING, VALVES, CONDUIT, WIRING, JUNCTION BOXES, PADLOCKS OR KEYS INCIDENTAL TO THE UNIT PRICE BID FOR THE PUMP STATION.
- START UP ASSISTANCE SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR THE PUMP STATION.



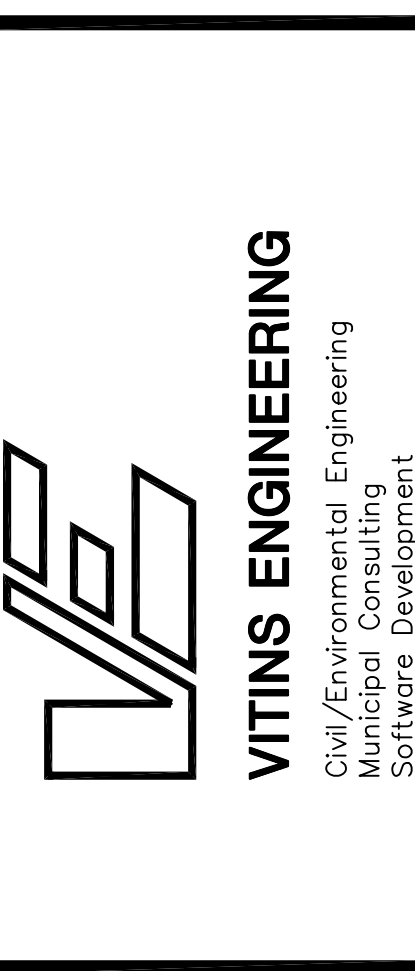
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NOT FOR CONSTRUCTION

CLIENT: VITINS ENGINEERING
PROJECT: SHASTCO TRUCK WELL

SCALE: NONE
DATE: 09/30/14
BY: A.K.M. REV: 2
JOB #: 54105 REV: REV1
DWR: 1 OF: 1

Industries Inc.
PUMPS + VALVES + CONTROLS
4875 TECHNICAL DRIVE, P.O. BOX 809, MILFORD, MI 48061



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SHASTCO, LLC TRUCKWELL
22285 ROETHHEL DRIVE
CITY OF NOVI
OAKLAND COUNTY, MICHIGAN
PUMP STATION CALCULATIONS,
NOTES AND DETAILS

SHEET NAME

PROJECT NUMBER
14040

SHEET NUMBER
C-7

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