



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: October 10, 2017

REGARDING: 42355 Grand River Ave, Parcel # 50-22-23-176-024 (PZ17-0049)

BY: Larry Butler, Deputy Director Community Development

I. GENERAL INFORMATION:

Applicant

Feldman Automotive

Variance Type

Dimensional Variance

Property Characteristics

Zoning District: Vehicular Parking
Location: East of Novi Road and South of Grand River
Parcel #: 50-22-23-176-024

Request

The applicant is requesting a variance from the City of Novi Zoning ordinance Sections 4.74.3. For the reduction in height of required 10 foot berm along the property lines abutting residential zoned district. The applicant is proposing a 10 foot berm for 67 feet and a berm with varying height from 5 feet to 10 feet along the southwest property lines. The request is being made due to the irregular shaped lot and conflicts with the layout. This property is zoned Vehicular Parking (P-1)

II. STAFF COMMENTS:

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. **PZ17-0049**, 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. **PZ17-0049**, 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



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ZONING BOARD OF APPEALS APPLICATION

RECEIVED

SEP 13 2017

CITY OF NOVI
 COMMUNITY DEVELOPMENT

APPLICATION MUST BE FILLED OUT COMPLETELY

I. PROPERTY INFORMATION (Address of subject ZBA Case)			
PROJECT NAME / SUBDIVISION Feldman Chevrolet of Novi Parking Lot Addition			
ADDRESS 42355 Grand River Ave., Novi, MI 48375		LOT/SIUTE/SPACE #	
SIDWELL # 50-22- 23 - 176 - 024		May be obtain from Assessing Department (248) 347-0485	
CROSS ROADS OF PROPERTY South side of Grand River Avenue and east of Constitution			
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 jay@feldmanauto.com	CELL PHONE NO.
NAME Jay Feldman		TELEPHONE NO. (248) 486-1900	
ORGANIZATION/COMPANY Feldman Automotive		FAX NO. (248) 264-5160	
ADDRESS 30400 Lyon Center Drive East	CITY New Hudson	STATE MI	ZIP CODE 48165
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	CELL PHONE NO.
NAME		TELEPHONE NO.	
ORGANIZATION/COMPANY		FAX NO.	
ADDRESS	CITY	STATE	ZIP CODE
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 type="checkbox"/> I-1 <input type="checkbox"/> I-2 <input type="checkbox"/> RC <input type="checkbox"/> TC <input type="checkbox"/> TC-1 <input checked="" type="checkbox"/> OTHER <u>P-1</u>			
B. VARIANCE REQUESTED			
INDICATE ORDINANCE SECTION (S) AND VARIANCE REQUESTED:			
1. Section <u>4.74.3</u> Variance requested <u>of the berm height</u>			
2. Section _____ Variance requested _____			
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 _____

VI. APPLICANT & PROPERTY SIGNATURES

A. APPLICANT

Applicant Signature

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
(248) 735-5600 Facsimile
www.cityofnovi.org

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.

Describe below:

The subject property is an irregular flag shaped lot.

OR

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

To accommodate existing drainage patterns, a swale along the property line was included to manage storm drainage.

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. **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).

The subject property is an irregular flag shaped lot.

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.

Due to the property being an irregular flag shape and the existing topographic conditions, the width of land that would be required to accommodate a full length 10' berm would severely limit the use of the property.

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 Applicant is proposing a reduction of the height for a portion of the berm; however the Applicant is proposing to provide a shorter berm that will be heavily landscaped for screening purposes.

As currently proposed, approx. 30' of the site perimeter is zoned B-3; therefore, a 6'-8' berm is required. A 6'-7' berm is prop. for this location.

Along the west & south side of the subject property zoned P-1 where the 10' berm is required: A 10' berm is provided along approx. 67' of the perimeter (southwest side). A 8' berm is provided along approx. 50' of the perimeter. A 6' berm is provided along approx. 149' of perimeter. A 5' berm is provided along approx. 146'.

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.

A berm is currently proposed. Although the berm proposed is not as high as required by Ordinance, it should be noted that it will be heavily landscaped.

Due to the proximity of the residential building on the west side of the parking lot addition. The layout has been revised to accommodate a 10' berm at this location. Other areas along the perimeter of the site are adjacent to roads and parking.

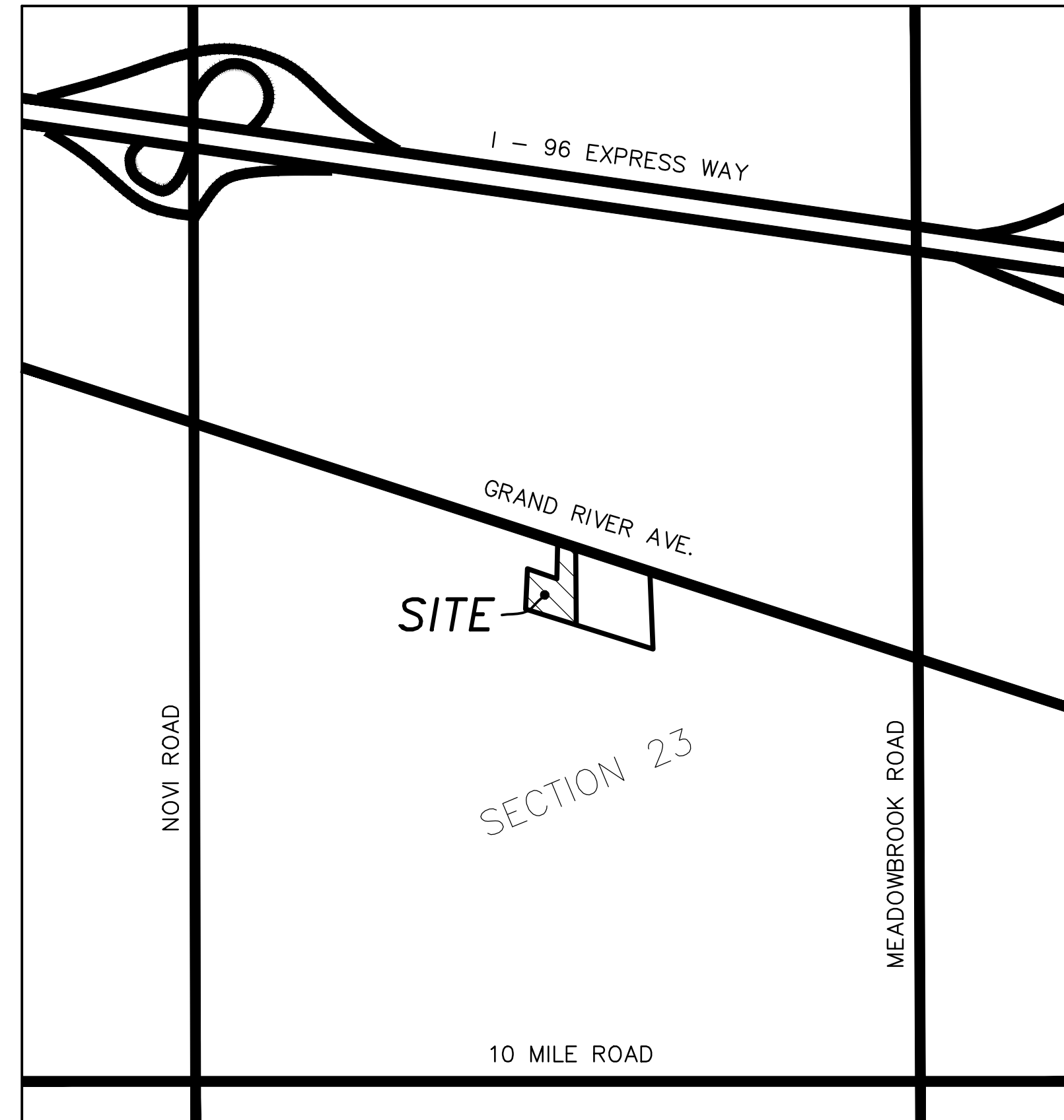
Due to the landscaping berm that is proposed and the nature of the proposed project (parking lot addition for a car dealership lot), it is not anticipated that the project will cause an adverse impact on surrounding properties, property values, or the use and enjoyment of property in the neighborhood or zoning district.

FELDMAN CHEVROLET OF NOVI PARKING LOT ADDITION

PRELIMINARY SITE PLAN CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

LEGEND:

□	EX. CATCH BASIN	F.F.	EX. FINISH FLOOR ELEVATION
⊕	EX. STORM MANHOLE	—	PROP. SIGN
—	EX. END SECTION	—	PROP. CURB & GUTTER (PITCH IN)
—	EX. SANITARY MANHOLE	—	PROP. CURB & GUTTER (PITCH OUT)
—	EX. CLEANOUT	—	PROP. STORM SEWER
—	EX. WATER GATE VALVE	—	PROP. SANITARY SEWER
—	EX. COMMUNICATIONS MANHOLE	—	PROP. WATER MAIN
—	EX. HYDRANT	—	PROP. STRUCTURE
—	EX. WATER VALVE	—	PROP. END SECTION
—	EX. WATER SHUTOFF	—	PROP. CLEAN-OUT
—	EX. GAS SHUTOFF	—	PROP. HYDRANT
—	EX. GAS VENT	—	PROP. GATE VALVE
—	EX. ELECTRIC MANHOLE	—	PROP. CURB BOX
—	EX. HANDHOLE	—	PROP. GUTTER ELEV.
—	EX. PEDESTAL	—	PROP. TOP OF CURB ELEV.
—	EX. TRANSFORMER	—	PROP. TOP OF WALK ELEV.
—	EX. LIGHTPOLE	—	PROP. TOP OF PAVEMENT ELEV.
—	EX. UTILITY POLE	—	PROP. SPOT ELEV.
—	EX. GUY ANCHOR	—	PROP. DRAINAGE ARROW
—	EX. COMMUNICATION MANHOLE	—	PROP. SILT FENCE
—	EX. GENERIC MANHOLE	—	PROP. TREE PROTECTION FENCE
—	EX. TREE LINE	—	PROP. INLET FILTER
—	EX. SANITARY SEWER	—	PROP. STANDARD PAVING
—	EX. STORM SEWER		
—	EX. WATER MAIN		
—	EX. ELECTRIC CABLE		
—	EX. COMMUNICATION		
—	EX. SIGN		
—	EX. POST/BOLLARD		
—	EX. FLAGPOLE		
—	EX. OVERFLOW STRUCTURE		
—	EX. SOIL BORING		
—	EX. MAILBOX		
—	EX. MONITOR WELL		
—	EX. AIR CONDITIONER		
—	EX. TRAFFIC SIGNAL		
—	EX. FENCE		



LOCATION MAP
1" = ±900 FEET

APPLICANT/OWNER:
FELDMAN AUTOMOTIVE INC.
30400 LYON CENTER DRIVE EAST
NEW HUDSON, MI 48165
CONTACT: JAY FELDMAN
PHONE: (248) 486-1900
FAX: (248) 264-5160

LANDSCAPE ARCHITECT:
ALLEN DESIGN
557 CARPENTER
NORTHVILLE, MI 48167
CONTACT: JIM ALLEN, LA
PHONE: (248) 467-4668

SURVEYOR/ENGINEER:
ALPINE ENGINEERING, INC.
46892 WEST ROAD, SUITE 109
NOVI, MI 48377
CONTACT: SHILOH DAHLIN, PE
PHONE: (248) 926-3701
FAX: (248) 926-3765

COMMERCIAL
SITE PLANNING
SITE ENGINEERING
INDUSTRIAL & MULTI-UNIT
LAND SURVEYING
CONSTRUCTION LAYOUT

SURVEYING
ALTA SURVEYS
BOUNDARY SURVEYS
TOPOGRAPHIC SURVEYS
PARCEL SPLITS

RESIDENTIAL
SUBDIVISIONS
SITE CONDOMINIUM
MULTI-FAMILY
PLOT PLANS
CONSTRUCTION LAYOUT

ALPINE ENGINEERING, INC.
CIVIL ENGINEERS & LAND SURVEYORS

(248) 926-3701 (BUS)
(248) 264-5160 (OFFICE)
WWW.ALPINE-INC.NET

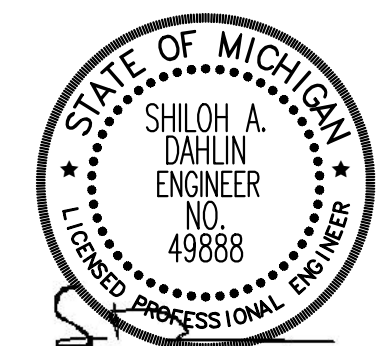
46892 WEST ROAD
SUITE 109
NOVI, MICHIGAN 48377



CLIENT: FELDMAN AUTOMOTIVE INC.

COVER SHEET

FELDMAN CHEVROLET OF NOVI - PARKING LOT ADDITION
RANGE: BE
SECTION: 23
TOWNSHIP: AN
CITY OF NOVI
OAKLAND COUNTY
MICHIGAN



NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

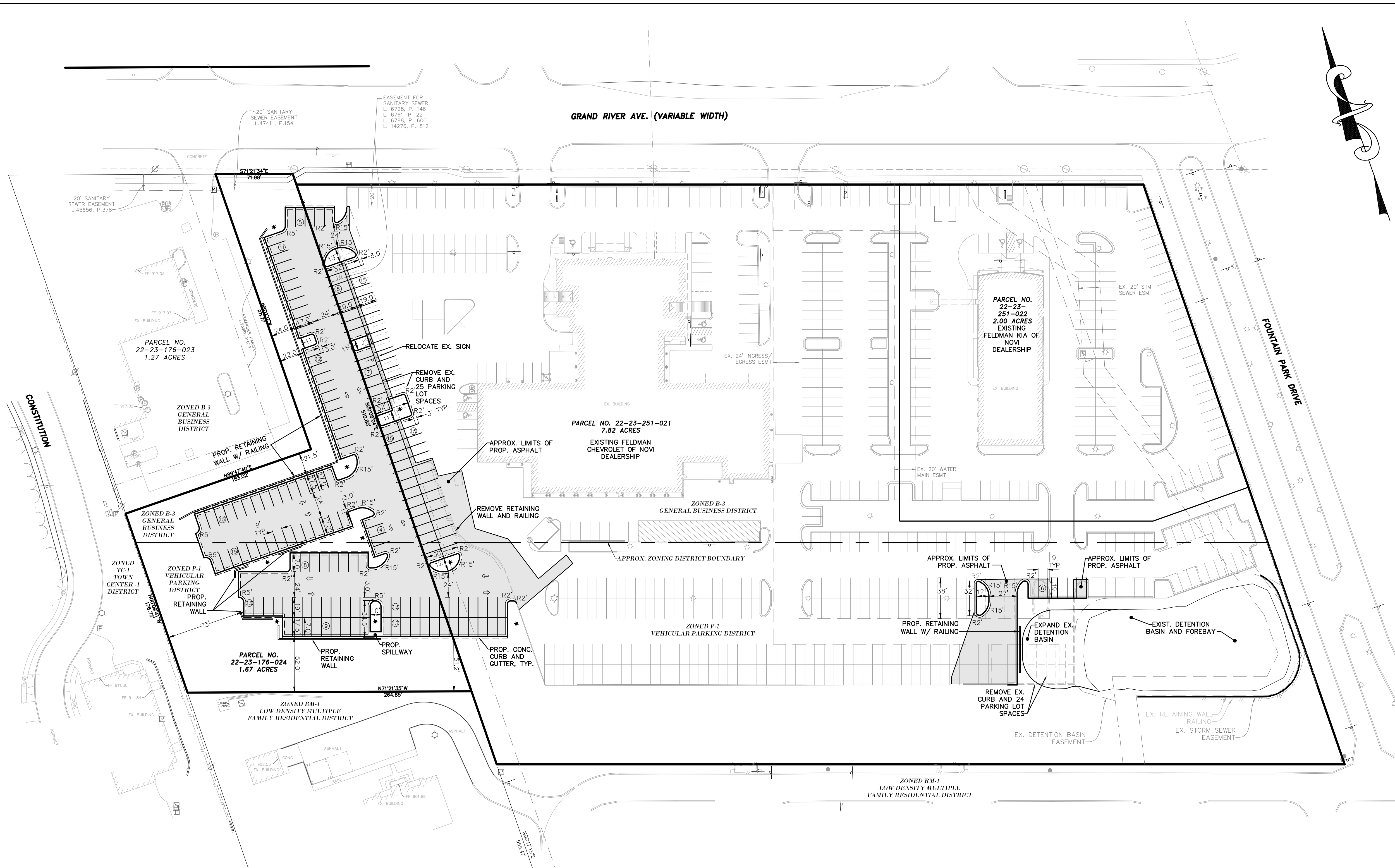
NOTE:
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

SHEET INDEX

1	COVER SHEET
2	PRELIMINARY SITE PLAN
3	TOPOGRAPHIC SURVEY
4	PRELIMINARY GRADING PLAN
5	PRELIMINARY UTILITY PLAN
6	PRELIMINARY STORM WATER MANAGEMENT PLAN
7	PRELIMINARY SOIL EROSION AND SEDIMENTATION CONTROL PLAN
P1	GASSER BUSH PHOTOMETRICS PLAN
L-1	ALLEN DESIGN LANDSCAPE PLAN
L-2	LANDSCAPE DETAILS
L-3	WOODLAND PLAN

REVISED	
DATE:	06-03-2016
DRAWN BY:	SD
CHECKED BY:	TG
SCALE	HOR 1" = 100 FT. VER 1" = 10 FT.
FBK:	
CHF:	
1	
08-172.4	

NOT FOR CONSTRUCTION



PARCEL ID: 50-22-23-176-024

SITE DATA:
 SITE AREA: 1.67± ACRES GROSS
 1.65± ACRES NET

EXISTING ZONING: B3 - GENERAL BUSINESS DISTRICT & P1 - VEHICULAR PARKING DISTRICT (REQUIRES A SPECIAL LAND USE)

EXISTING BUILDING: NOT APPLICABLE

PROPOSED BUILDING: NONE PROPOSED

REQUIRED PARKING: NOT APPLICABLE

PROVIDED PARKING: 135 ADDITIONAL SPACES (INVENTORY)

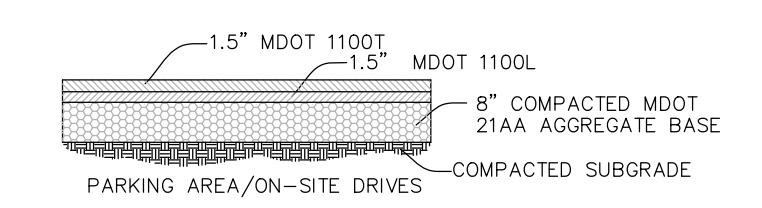
GENERAL SITE NOTES:

1. ALL WORK SHALL CONFORM TO THE CURRENT CITY OF NOVI STANDARDS AND SPECIFICATIONS.
2. STORM WATER TREATMENT AND DETENTION WILL BE ACCOMMODATED VIA AN EXISTING MANUFACTURED TREATMENT SYSTEM AND DETENTION BASIN.
3. EXTERIOR LIGHTING MUST COMPLY WITH SECTION 2511 OF THE CITY OF NOVI CODE.
4. RIGHT OF WAY PERMIT IS REQUIRED FROM THE CITY OF NOVI FOR ANY WORK IN THE GRAND RIVER AVENUE RIGHT-OF-WAY.
5. ALL SIGNS SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES (CHAPTER 28) OF THE CITY OF NOVI, AND WHERE REQUIRED SHALL BE REVIEWED AND APPROVED BY THE DEPARTMENT OF BUILDING AND SAFETY AND A PERMIT ISSUED. NO SIGNS (OTHER THAN TYPICAL TRAFFIC CONTROL SIGNS) ARE APPROVED AS PART OF THIS SITE PLAN APPROVAL. PRIOR TO ERECTION OF A SIGN, AN APPLICATION AND APPROPRIATE SUBMISSIONS SHALL BE MADE TO THE BUILDING DEPARTMENT FOR REVIEW, APPROVAL AND ISSUANCE OF A SIGN PERMIT.
6. ALL PARKING AND TRAFFIC CONTROL SIGNS SHALL COMPLY WITH THE DESIGN AND PLACEMENT REQUIREMENTS OF THE "2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (2011 MMUTCD).
7. NOTIFY THE CITY OF NOVI A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
8. CALL MISS DIG (811) A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
9. ALL SOIL EROSION AND SILT MUST BE CONTROLLED AND CONTAINED ON-SITE.
10. ALL EXCAVATION UNDER OR WITHIN A 1 ON 1 INFLUENCE OF PUBLIC PAVEMENT, EXISTING OR PROPOSED, SHALL BE BACKFILLED AND COMPACTED WITH SAND (CLASS II MDOT).
11. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.
12. PRIOR TO ISSUANCE OF AN OCCUPANCY PERMIT, ENGINEERING SITE INSPECTION IS REQUIRED.
13. IF DEWATERING IS ANTICIPATED OR ENCOUNTERED DURING CONSTRUCTION THE CONTRACTOR IS REQUIRED TO SUBMIT A DEWATERING PLAN TO THE CITY ENGINEERING DIVISION FOR REVIEW.

TRAFFIC SIGNING REQUIREMENTS
 NO NEW TRAFFIC SIGNAGE IS ANTICIPATED. CURRENT FIRE LANE PARKING SIGNAGE TO BE MAINTAINED TO INSURE ADEQUATE FIRE FIGHTING ACCESS.

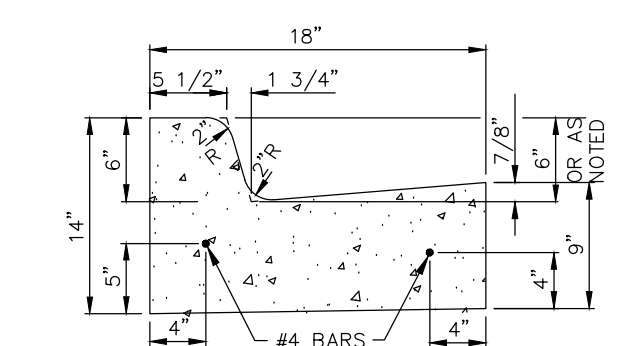
LIGHTING NOTES

1. EXTERIOR LIGHTING MUST COMPLY WITH SECTION 2511 OF THE CITY OF NOVI CODE.
2. ELECTRICAL SERVICE TO LIGHT FIXTURES SHALL BE PLACED UNDERGROUND.
3. FLASHING LIGHT SHALL NOT BE PERMITTED.
4. ONLY NECESSARY LIGHTING FOR SECURITY PURPOSES AND LIMITED OPERATIONS SHALL BE PERMITTED AFTER A SITE'S HOURS OF OPERATION.
5. CURRENT HOURS OF OPERATION:
 M: 7AM - 9PM
 T: 7AM - 6PM
 W: 7AM - 6PM
 R: 7AM - 9PM
 F: 7AM - 6PM
 S: 8AM - 4PM

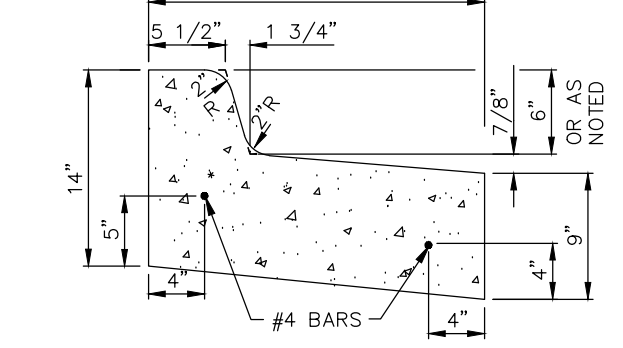


NOTE: CONTRACTOR SHALL COORDINATE PAVEMENT SECTION WITH OWNER AND GEOTECHNICAL ENGINEERING CONSULTANT PRIOR TO CONSTRUCTION.

TYPICAL PAVEMENT CROSS-SECTIONS
 NOT TO SCALE



PITCH IN CURB



PITCH OUT CURB

CONCRETE CURB & GUTTER
 NOT TO SCALE

LEGEND:

□	EX. PEDESTAL
□	EX. TRANSFORMER
□	EX. LIGHTPOLE
□	EX. UTILITY POLE
□	EX. GUY ANCHOR
□	EX. SIGN
□	EX. POST/BOLLARD
□	EX. FLAGPOLE
□	EX. MAILBOX
□	EX. MONITOR WELL
□	EX. AIR CONDITIONER
□	EX. TRAFFIC SIGNAL
□	EX. FENCE
□	EX. FINISH FLOOR ELEVATION
□	PROP. CURB & GUTTER (PITCH IN)
□	PROP. CURB & GUTTER (PITCH OUT)
□	PROP. STANDARD PAVING

TRAFFIC SIGNING AND STRIPING REQUIREMENTS

1. ALL PERMANENT AND TEMPORARY TRAFFIC SIGNAGE & STRIPING SHALL COMPLY WITH THE 2011 MMUTCD.
2. SIGNS SHALL BE MOUNTED ON 1 1/2" SQUARE GALVANIZED STEEL POST, WALL OR FENCE MOUNTED AS INDICATED ON THE PLANS, LOCATE AND INSTALL IN ACCORDANCE WITH ALL APPLICABLE STANDARDS AND REGULATIONS.
3. STRIPING FOR HANDICAPPED PARKING SPACES SHALL BE BLUE AND MARKINGS FOR NON-HANDICAPPED PARKING SPACES SHALL BE WHITE. WHERE A HANDICAPPED PARKING SPACE ABUTS A NON-HANDICAPPED SPACE, THE TWO SPACES SHALL BE SEPARATED BY ABUTTING BLUE AND WHITE STRIPES.
4. AN END PARKING SPACE ABUTTING A CURB OR WALK SHOULD BE 8 FEET WIDE IF DESIGNATED A HANDICAPPED SPACE OR 9 FEET WIDE IF NOT. THESE WIDTHS ARE REFERENCED TO THE FACE OF CURB OR WALK.
5. EACH INTERNATIONAL SYMBOL OF ACCESSIBILITY (WHEELCHAIR) TO BE PAINTED ON THE PAVEMENT SHALL BE WHITE.
6. SOLID ARROWS INDICATE WHERE ARROWS ARE PROPOSED AS PART OF THE STRIPING PLAN; HOLLOW ARROWS ARE PROVIDED TO DENOTE TRAFFIC FLOW DIRECTION.

NOTE:
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NOTICE:
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COMMERCIAL
 SITE PLANNING
 SITE ENGINEERING
 INDUSTRIAL & MULTI-UNIT
 LAND SURVEYING
 CONSTRUCTION LAYOUT

SURVEYING
 ALTA SURVEYS
 BOUNDARY SURVEYS
 TOPOGRAPHIC SURVEYS
 PARCEL SPLITS

RESIDENTIAL
 SUBDIVISIONS
 SITE CONDOMINIUM
 MULTI-FAMILY
 PLOT PLANS
 CONSTRUCTION LAYOUT

ALPINE ENGINEERING, INC.
 CIVIL ENGINEERS & LAND SURVEYORS

48892 WEST ROAD
 SUITE 109
 NOVI, MICHIGAN 48377

(248) 996-3701 (BUS)
 (248) 926-3765 (FAX)
 WWW.ALPINE-INC.NET

811
 Know what's below
 Call before you dig.

CLIENT: FELDMAN AUTOMOTIVE INC.

PRELIMINARY SITE PLAN

FELDMAN CHEVROLET OF NOVI - PARKING LOT ADDITION
 RANGE: BE

TOWNSHIP: IN
 CITY OF NOVI
 OAKLAND COUNTY
 MICHIGAN

SECTION: 23

REVISED

DATE: 06-03-2016

DRAWN BY: SD

CHECKED BY: TG

SCALE: HOR 1"=50 FT.
 VER 1"=

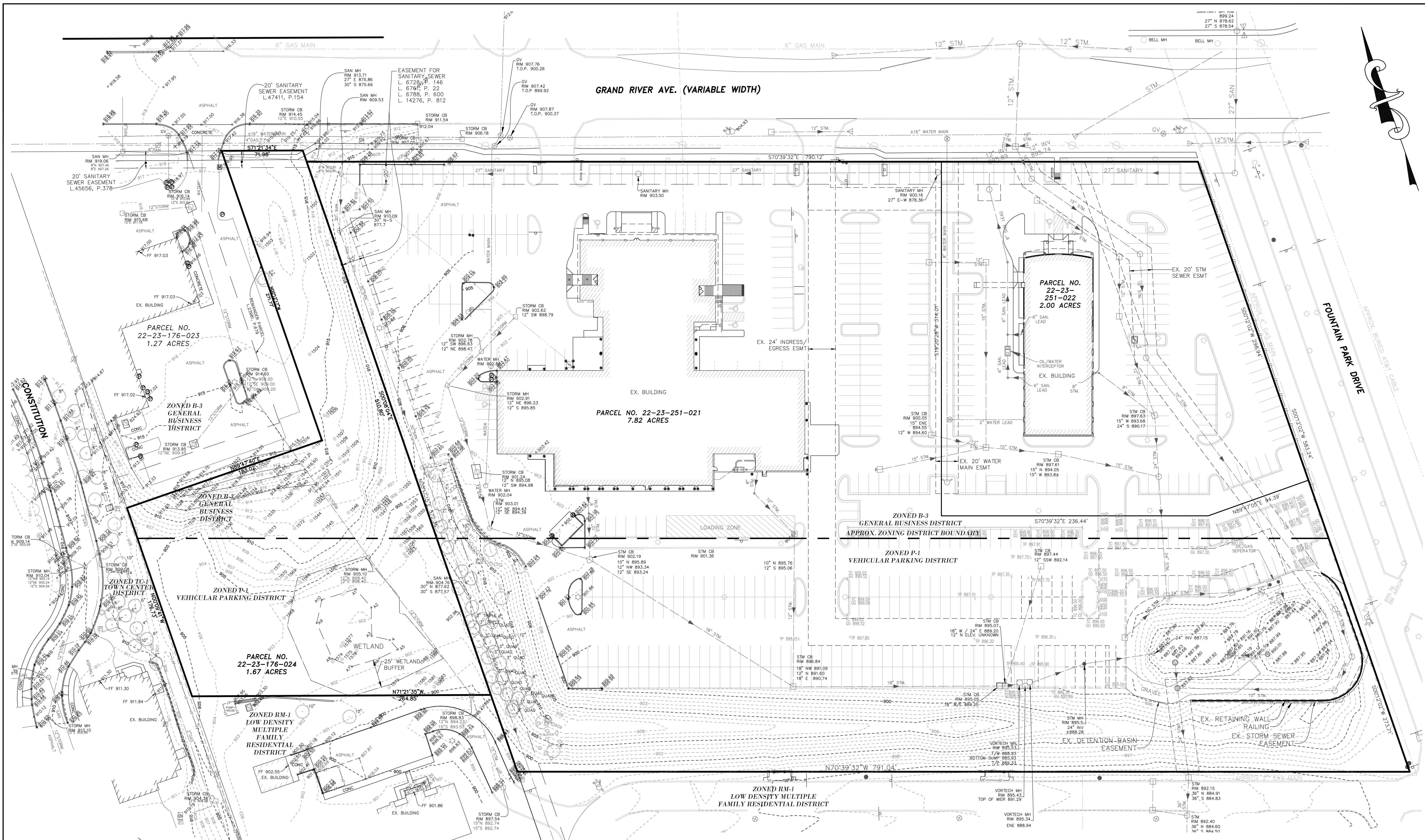
FBK:

CHF:

2

08-172.4

NOT FOR CONSTRUCTION



NOTICE:
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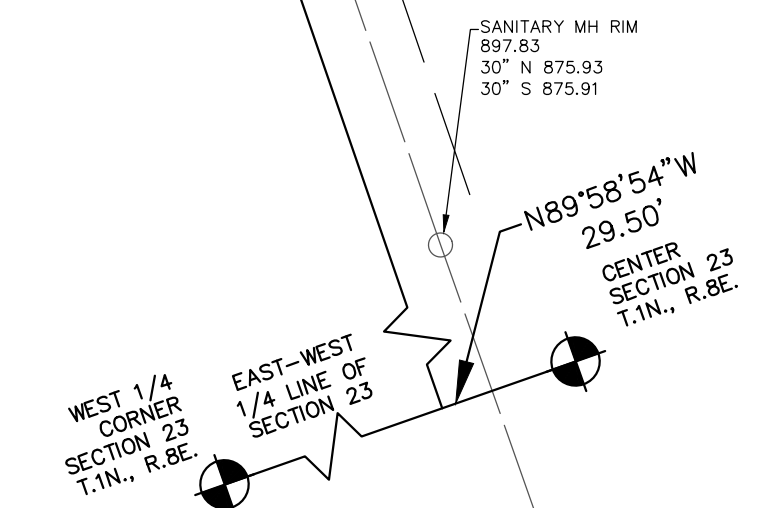
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DESCRIPTION:
T1N, R8E, SEC 23 PART OF NW 1/4 BEG AT PT DIST N 89-58-54 W 279.79 FT & N 00-09-41 W 1158.04 FT FROM CEN OF SEC. TH N 00-09-41 W 176.73 FT, TH N 89-47-40 E 183.02 FT, TH N 00-12-17 W 271.77 FT, TH S 71-21-34 E 71.98 FT, TH S 00-08-04 E 510.80 FT, TH N 71-21-35 W 264.85 FT TO BEG

BENCHMARKS:
CITY BM #2315 - "X" ON NORTH RIM OF GATE WELL, 8' NORTH OF SIDEWALK, NORTH SIDE OF GRAND RIVER BETWEEN #42350 & #42400. ELEVATION 912.67 CITY OF NOVI DATUM
BM#1 - ARROW ON HYDRANT SOUTH SIDE OF GRAND RIVER AVENUE AT NORTHEAST CORNER OF PARCEL. ELEVATION 916.96 CITY OF NOVI DATUM
BM#2 - ARROW ON HYDRANT SOUTH SIDE OF GRAND RIVER ON BELLE TIRE PARCEL. ELEVATION 918.97 CITY OF NOVI DATUM

LEGEND:

□	EX. CATCH BASIN	—	EX. GUY ANCHOR
○	EX. STORM MANHOLE	○	EX. COMMUNICATION MANHOLE
△	EX. END SECTION	○	EX. GENERIC MANHOLE
○	EX. SANITARY MANHOLE	—	EX. SANITARY SEWER
○	EX. CLEANOUT	—	EX. STORM SEWER
○	EX. WATER GATE VALVE	—	EX. WATER MAIN
○	EX. COMMUNICATIONS MANHOLE	—	EX. ELECTRIC CABLE
○	EX. HYDRANT	—	EX. COMMUNICATION
○	EX. WATER VALVE	—	EX. SIGN
○	EX. WATER SHUTOFF	—	EX. POST/BOLLARD
○	EX. GAS SHUTOFF	—	EX. FLAGPOLE
○	EX. GAS VENT	—	EX. OVERFLOW STRUCTURE
○	EX. ELECTRIC MANHOLE	—	EX. SOIL BORING
○	EX. HANDHOLE	—	EX. MAILBOX
○	EX. PEDESTAL	—	EX. MONITOR WELL
○	EX. TRANSFORMER	—	EX. AIR CONDITIONER
○	EX. LIGHTPOLE	—	EX. TRAFFIC SIGNAL
○	EX. UTILITY POLE	—	EX. FENCE
		—	EX. FINISH FLOOR ELEVATION



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ALTA SURVEYS
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TOPOGRAPHIC SURVEYS
PARCEL SPLITS

RESIDENTIAL
SUBDIVISIONS
SITE CONDOMINIUM
MULTI-FAMILY
PLOT PLANS
CONSTRUCTION LAYOUT

ALPINE ENGINEERING, INC.
CIVIL ENGINEERS & LAND SURVEYORS

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SUITE 109
NOVI, MICHIGAN 48377

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(248) 926-1765 (FAX)
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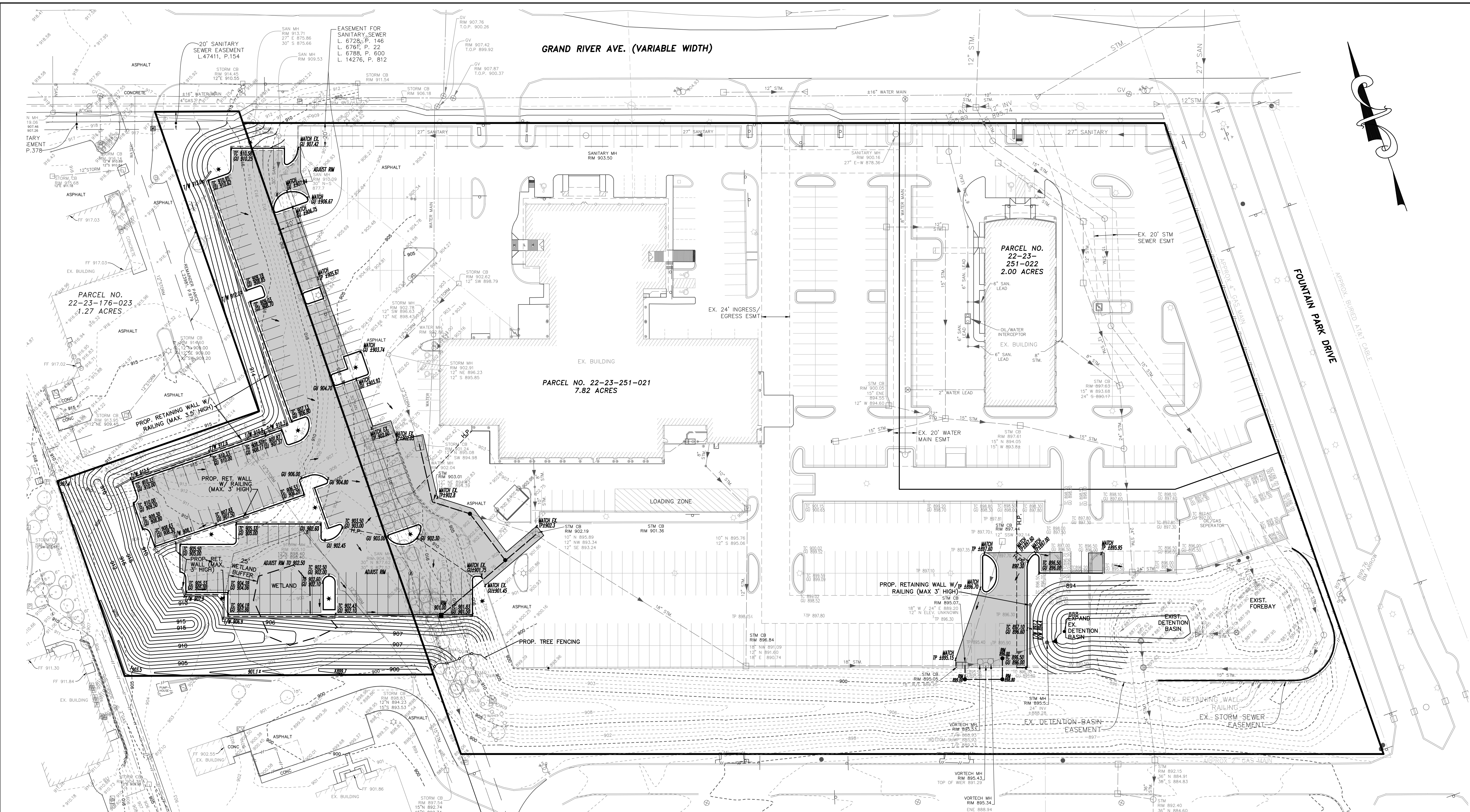
CLIENT: FELDMAN AUTOMOTIVE INC.
TOPOGRAPHIC SURVEY
FELDMAN CHEVROLET OF NOVI - PARKING LOT ADDITION
RANGE: BE
TOWNSHIP: 1N
CITY OF NOVI
OAKLAND COUNTY
MICHIGAN
SECTION: 23

REVISED

DATE: 06-03-2016
DRAWN BY: SD
CHECKED BY: TG

FBK: 3
CHP: 3
SCALE: HOR 1"=40 FT. VER 1"=40 FT. 08-172.4

NOT FOR CONSTRUCTION

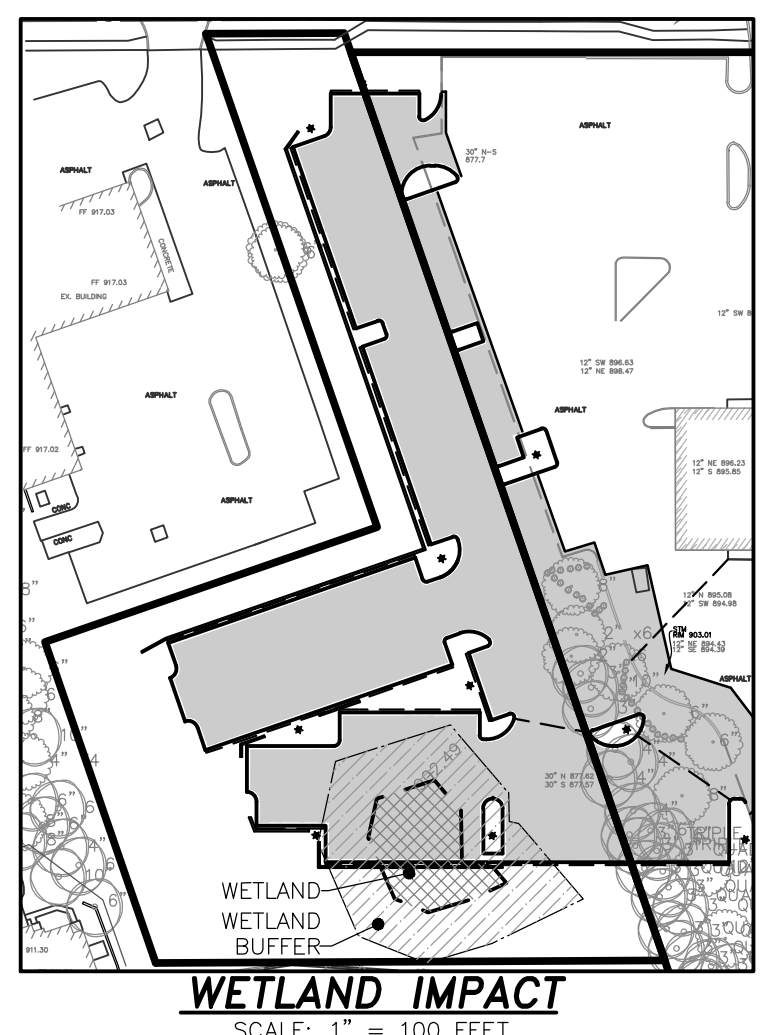


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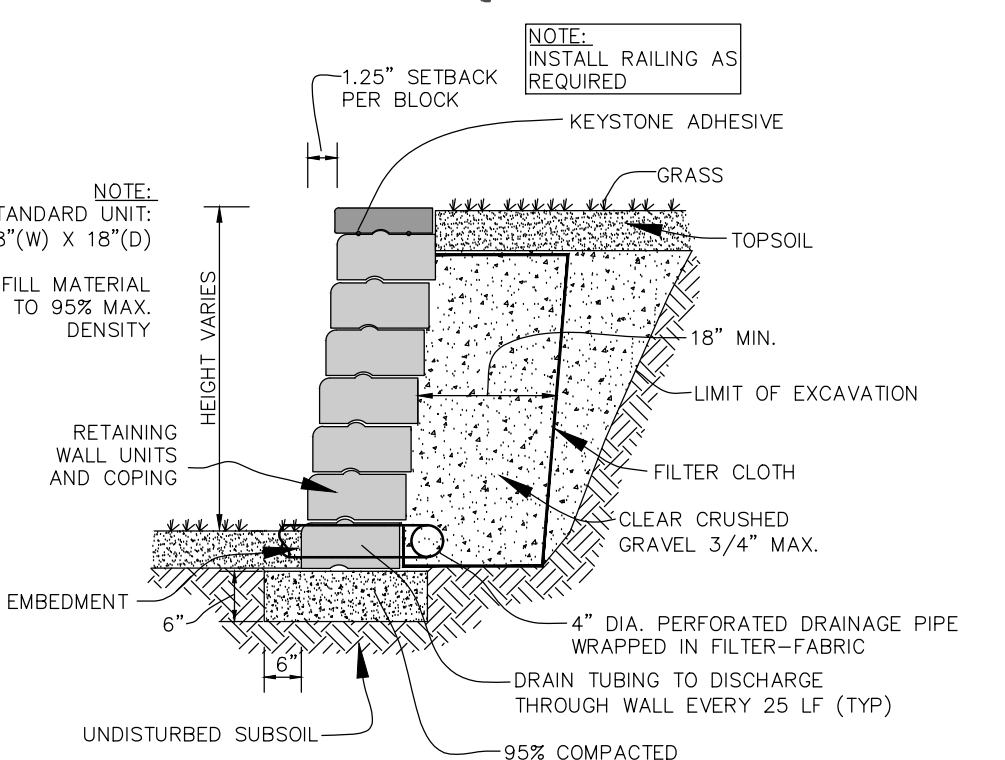
LEGEND:

□	EX. CATCH BASIN	○	EX. COMMUNICATION MANHOLE	▬	PROP. CURB & GUTTER (PITCH IN)
○	EX. STORM MANHOLE	○	EX. GENERIC MANHOLE	▬	PROP. CURB & GUTTER (PITCH OUT)
○	EX. END SECTION	○	EX. TREE LINE	▬	PROP. STORM SEWER
○	EX. SANITARY MANHOLE	▬	EX. SANITARY SEWER	▬	PROP. STRUCTURE
○	EX. CLEANOUT	▬	EX. STORM SEWER	▬	PROP. END SECTION
○	EX. WATER GATE VALVE	▬	EX. WATER MAIN	▬	PROP. CLEAN-OUT
○	EX. COMMUNICATIONS MANHOLE	▬	EX. ELECTRIC CABLE	▬	PROP. GUTTER ELEV.
○	EX. HYDRANT	▬	EX. COMMUNICATION	▬	PROP. TOP OF CURB ELEV.
○	EX. WATER VALVE	▬	EX. SIGN	▬	PROP. TOP OF WALK ELEV.
○	EX. WATER SHUTOFF	▬	EX. POST/BOLLARD	▬	PROP. TOP OF PAVEMENT ELEV.
○	EX. GAS SHUTOFF	▬	EX. FLAGPOLE	▬	PROP. SPOT ELEV.
○	EX. GAS VENT	▬	EX. OVERFLOW STRUCTURE	▬	PROP. DRAINAGE ARROW
○	EX. ELECTRIC MANHOLE	▬	EX. SOIL BORING	▬	PROP. SILT FENCE
○	EX. TRANSFORMER	▬	EX. AIR CONDITIONER	▬	PROP. TREE PROTECTION FENCE
○	EX. LIGHTPOLE	▬	EX. TRAFFIC SIGNAL	▬	PROP. INLET FILTER
○	EX. UTILITY POLE	▬	EX. FENCE	▬	PROP. STANDARD PAVING
○	EX. GUY ANCHOR	▬	EX. FINISH FLOOR ELEVATION		



LEGEND:

▨	WETLAND	EXIST. AREA: 2,891 SQ.FT.
▨	WETLAND BUFFER IMPACT AREA	EXIST. AREA: 7,843 SQ.FT.
▨	PROP. IMPACT AREA:	2,891 SQ. FT.
	PROP. VOLUME:	+160 CU. YD. (FILL)
	PROP. IMPACT AREA:	0.18 ACRES
	PROP. VOLUME:	+200 CU. YD. FILL



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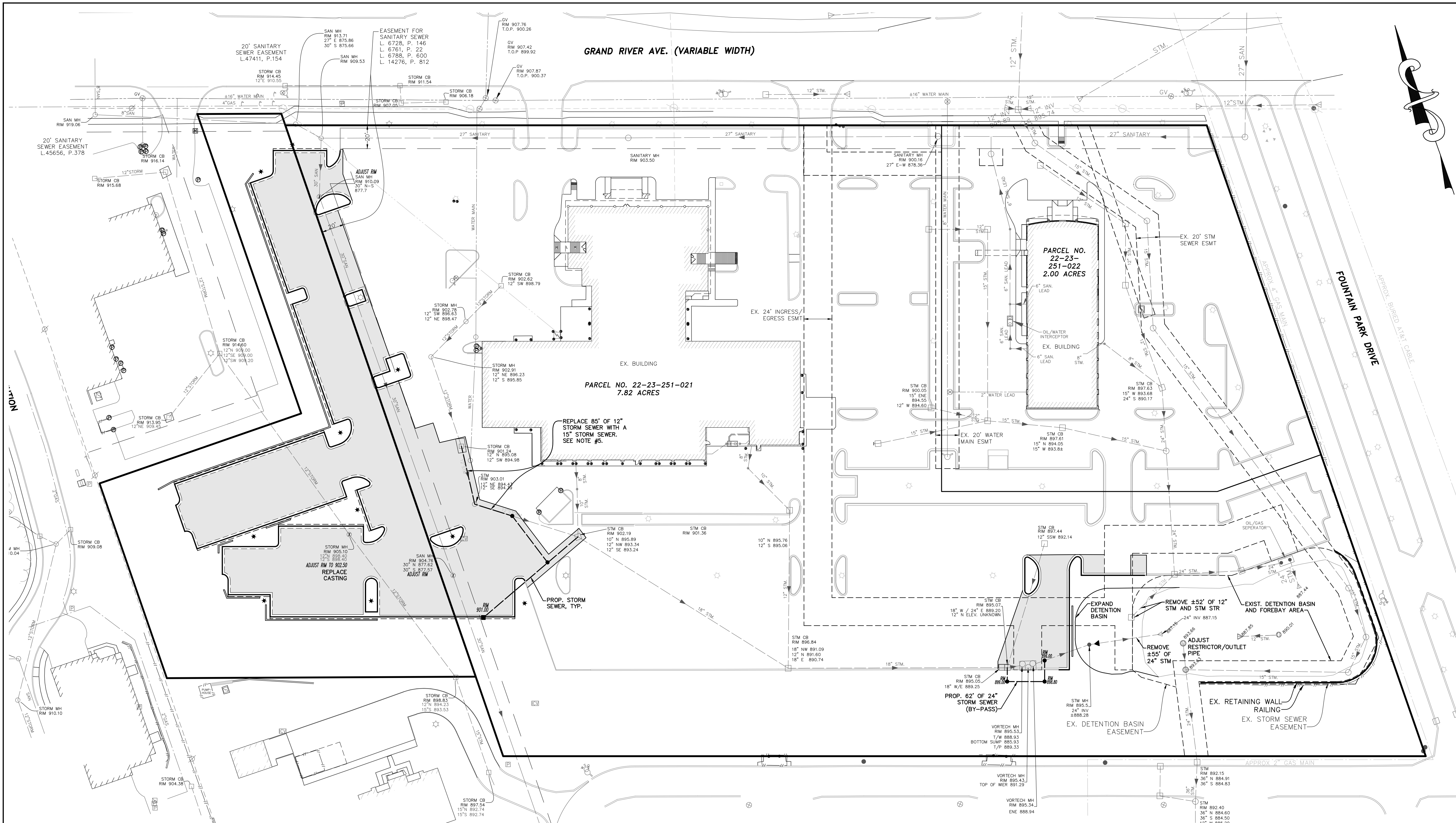
PRELIMINARY GRADING PLAN
FELDMAN CHEVROLET OF NOVI - PARKING LOT ADDITION
RANGE: BE
TOWNSHIP: N
CITY OF NOVI
OAKLAND COUNTY
MICHIGAN
SECTION: 23

FELDMAN AUTOMOTIVE INC.
CLIENT:

REVISED

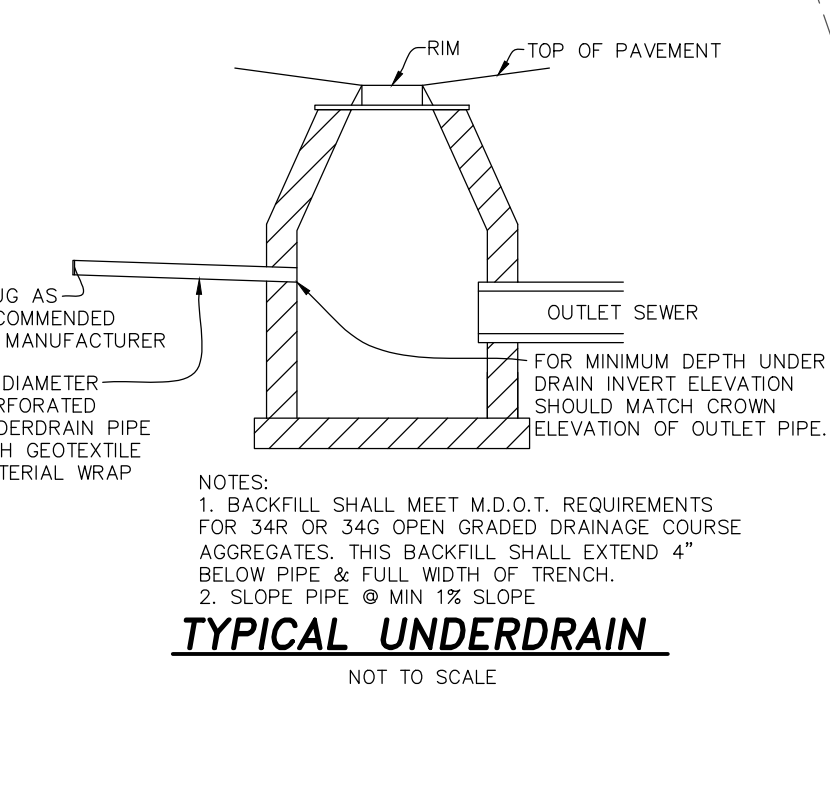
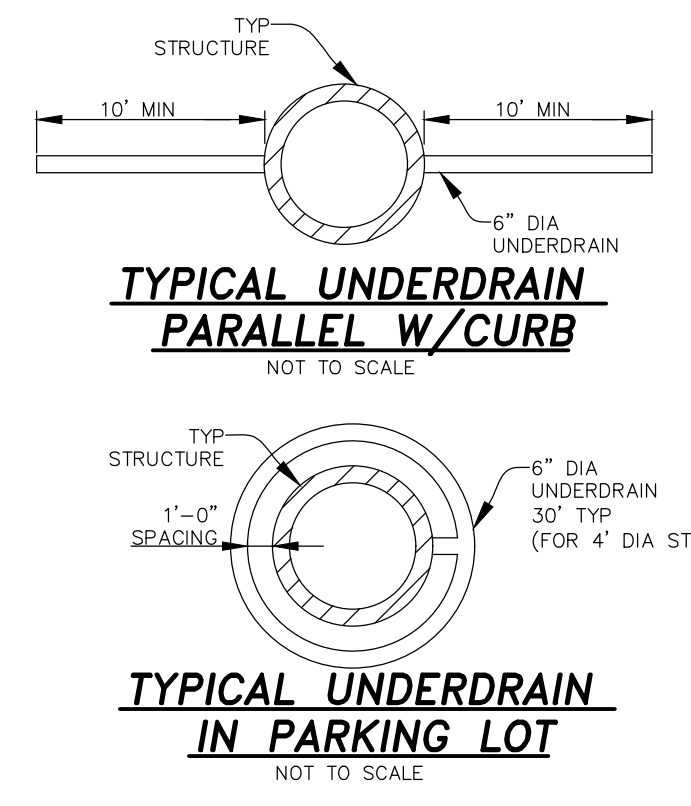
DATE: 06-03-2016
DRAWN BY: SD
CHECKED BY: TG

FBK: 4
CHP:
SCALE: HOR 1"=40 FT. VER 1"=4 FT. 08-172.4



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LEGEND:

□	EX. CATCH BASIN	○	EX. COMMUNICATION MANHOLE	▬▬▬▬	PROP. CURB & GUTTER (PITCH IN)
□	EX. STORM MANHOLE	○	EX. GENERIC MANHOLE	▬▬▬▬	PROP. CURB & GUTTER (PITCH OUT)
□	EX. END SECTION	○	EX. TREE LINE	▬▬▬▬	PROP. STORM SEWER
○	EX. SANITARY MANHOLE	○	EX. SANITARY SEWER	▬▬▬▬	PROP. STRUCTURE
○	EX. CLEANOUT	○	EX. STORM SEWER	▬▬▬▬	PROP. END SECTION
○	EX. WATER GATE VALVE	○	EX. WATER MAIN	▬▬▬▬	PROP. CLEAN-OUT
○	EX. COMMUNICATIONS MANHOLE	○	EX. ELECTRIC CABLE	▬▬▬▬	PROP. STANDARD PAVING
○	EX. HYDRANT	○	EX. COMMUNICATION		
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○	EX. LIGHTPOLE	○	EX. TRAFFIC SIGNAL		
○	EX. UTILITY POLE	○	EX. FENCE		
○	EX. GUY ANCHOR	○	EX. FINISH FLOOR ELEVATION		

UTILITY NOTES:

1. ALL WORK SHALL CONFORM TO THE CURRENT CITY OF NOVI STANDARDS AND SPECIFICATIONS.
2. COMPACTED SAND BACKFILL SHALL BE PROVIDED FOR ALL UTILITIES WITHIN THE INFLUENCE OF PAVED AREAS.
3. 18" MINIMUM VERTICAL CLEARANCE SHALL BE PROVIDED AT ALL UTILITY CROSSINGS. DIP WATER MAIN PER THE CITY OF NOVI STANDARDS AND SPECIFICATIONS, AS NECESSARY.
4. RIGHT OF WAY PERMIT IS REQUIRED FROM THE CITY OF NOVI FOR ANY WORK IN THE GRAND RIVER AVENUE RIGHT-OF-WAY.
5. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITY LOCATIONS, INVERTS AND DIAMETERS PRIOR TO THE START OF ANY WORK.

CLIENT: FELDMAN AUTOMOTIVE INC.

PRELIMINARY UTILITY PLAN

FELDMAN CHEVROLET OF NOVI - PARKING LOT ADDITION
 SECTION: 23
 TOWNSHIP: 11N
 CITY OF NOVI
 OAKLAND COUNTY
 MICHIGAN

REVISED

DATE: 06-03-2016

DRAWN BY: SD

CHECKED BY: TG

FBK: 5

CHP: 5

SCALE: HOR 1"=40 FT. VER 1"=10 FT.

08-172.4

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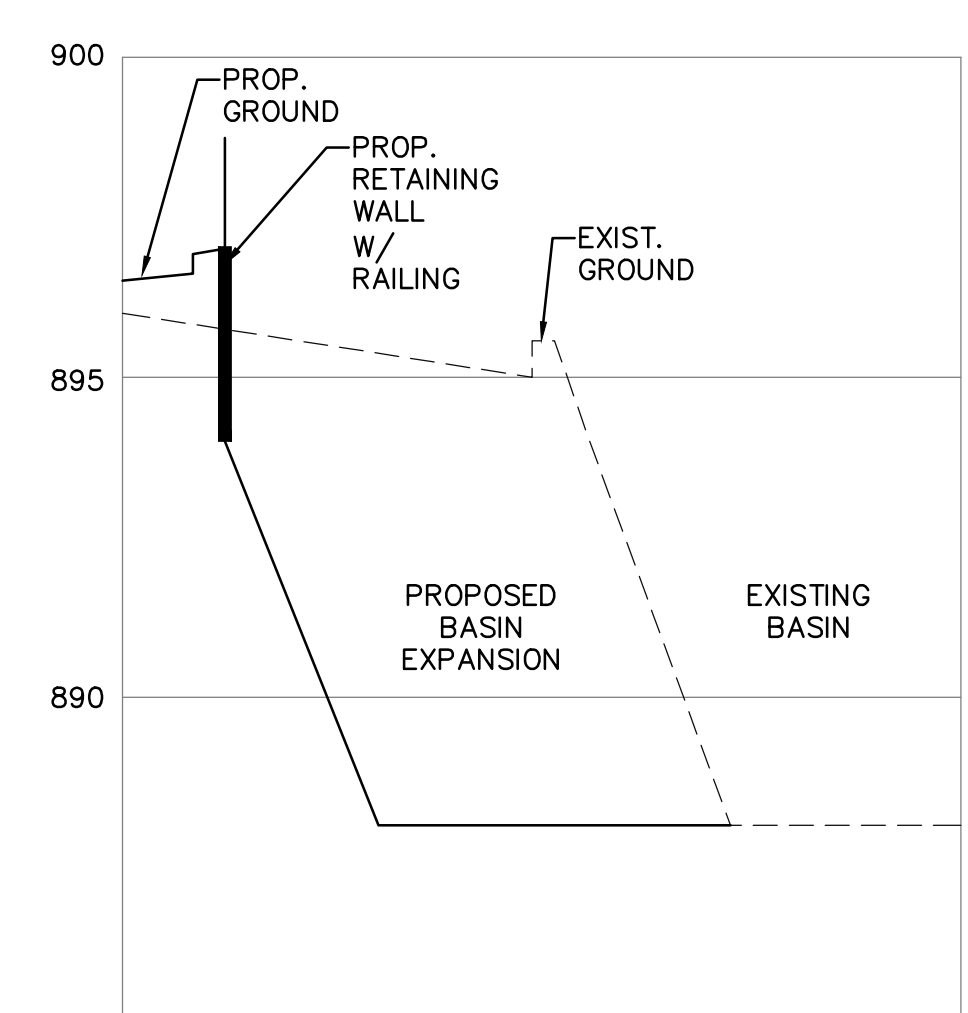
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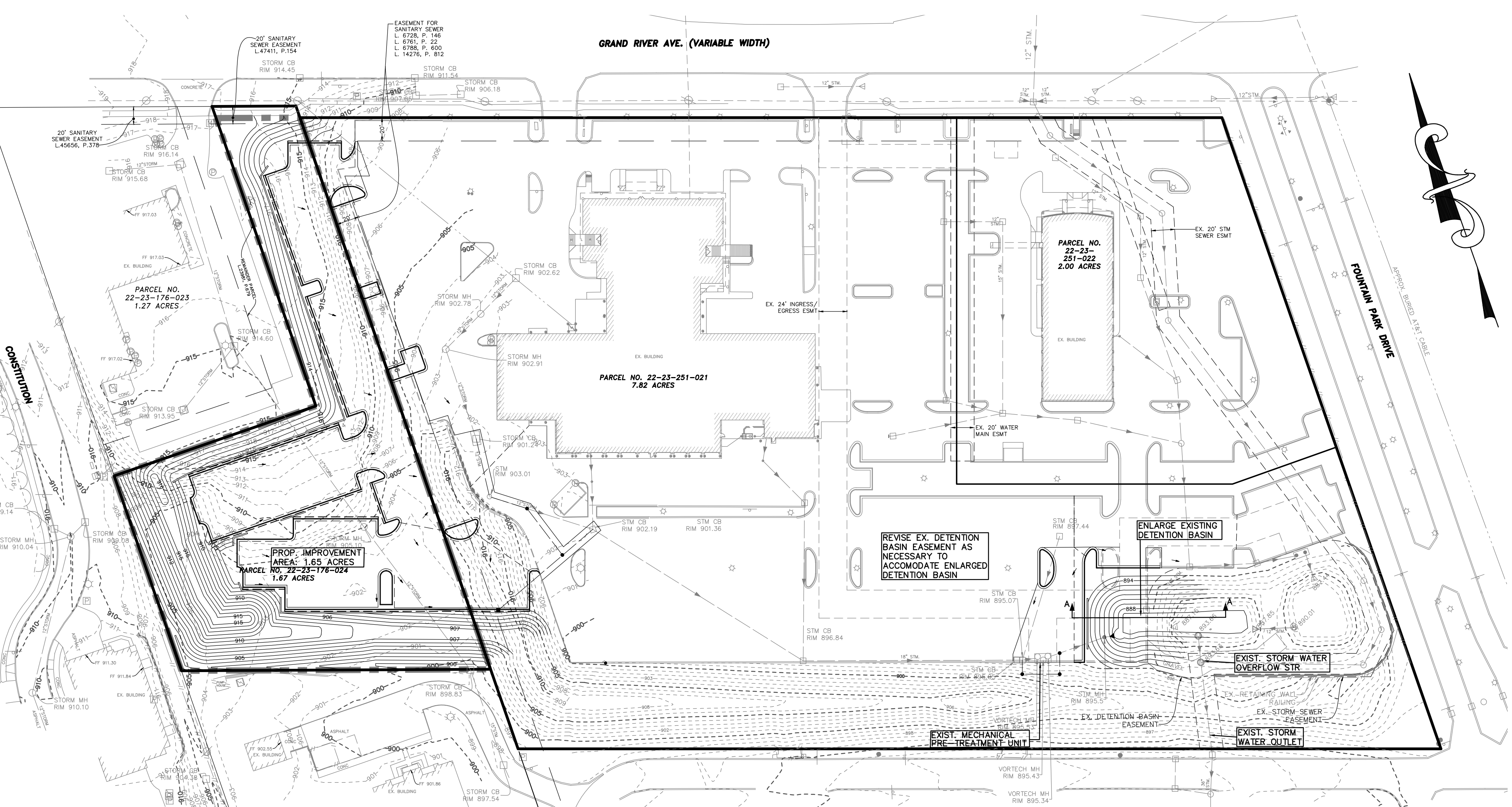
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△	EX. END SECTION	---	EX. SIGN
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○	EX. COMMUNICATIONS MANHOLE	---	EX. SOIL BORING
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○	EX. GAS VENT	---	EX. FENCE
○	EX. ELECTRIC MANHOLE	---	EX. FINISH FLOOR ELEVATION
○	EX. HANDHOLE	---	PROP. CURB & GUTTER (PITCH IN)
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○	EX. TRANSFORMER	---	PROP. STORM SEWER
○	EX. LIGHTPOLE	---	PROP. STRUCTURE
○	EX. UTILITY POLE	---	PROP. END SECTION
○	EX. GUY ANCHOR	---	PROP. CLEAN-OUT
○	EX. COMMUNICATION MANHOLE	---	PROP. GUTTER ELEV.
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○	EX. TREE LINE	---	PROP. TOP OF WALK ELEV.
○	EX. SANITARY SEWER	---	PROP. TOP OF PAVEMENT ELEV.
○	EX. STORM SEWER	---	PROP. SPOT ELEV.
○	EX. WATER MAIN	---	PROP. DRAINAGE ARROW

xGU 642.00
xTC 642.50
xTW 642.50
xTP 642.00
x643.5



CROSS-SECTION A-A
NOT TO SCALE



STORM WATER NARRATIVE:
THE PROJECT INCLUDES A PROPOSED PARKING LOT ADDITION ON AN ADJACENT PROPERTY. THE ADJACENT PROPERTY IS LOCATED WEST OF THE EXISTING DEVELOPMENT AND IS APPROX. 1.67 ACRES.

THE EXISTING STORM WATER MANAGEMENT SYSTEM INCLUDES STORM SEWER PIPE, STORM STRUCTURES, MECHANICAL PRE-TREATMENT UNIT (PER DRAWINGS PREPARED BY LEDY DESIGN GROUP), THE MECHANICAL PRE-TREATMENT UNIT IS A VORTECHS MODEL #7000 AND A DETENTION BASIN.

IT IS PROPOSED THAT THE DRAINAGE FROM THE ADDITIONAL PAVEMENT AREA WILL BE ROUTED THROUGH THE EXISTING STORM SEWER, THE MECHANICAL PRE-TREATMENT UNIT, AND INTO THE DETENTION BASIN. TO ACCOMMODATE THE ADDITIONAL DRAINAGE THE FOLLOWING ITEMS HAVE BEEN ADDRESSED:

- SEVERAL RUNS OF THE EXISTING STORM SEWER SYSTEM HAS BEEN SHOWN TO BE ENLARGED TO ACCOMMODATE THE INCREASED FLOW.
- PER CONVERSATIONS WITH CONTECH, THE MANUFACTURER OF THE MECHANICAL FOREBAY STRUCTURE, IT APPEARS THE EXISTING MODEL #7000 WILL BE ABLE TO HANDLE THE INCREASED FLOWS; HOWEVER, A BY-PASS STORM SEWER SYSTEM WOULD BE REQUIRED.
- THE DETENTION BASIN HAS BEEN SHOWN TO BE ENLARGED.
- THE RESTRICTOR AND OUTLET STRUCTURE WILL BE REQUIRED TO BE ADJUSTED ACCORDINGLY.

1- YEAR STORM (SIZING MECHANICAL FOREBAY STRUCTURE)
DESIGN VARIABLES: Tributary Area (A) = 5.85 acres
Run-Off Coefficient (C) = 0.82
Assumed Time of Concentration = 12 minutes

RATIONAL METHOD
1. CALCULATE INTENSITY
 $I = 72 / (T_c + 25) = 1.95 \text{ in/hr}$
2. Calculate Peak Runoff
 $Q = CIA = 9.3 \text{ cfs}$

100-YEAR STORAGE REQUIRED
DESIGN VARIABLES: Tributary Area (A) = 11.47 acres
Run-Off Coefficient (C) = 0.77

100-YEAR STORAGE VOLUME REQUIRED
1. ALLOWABLE DISCHARGE (Q_0):
 $Q_0 = 0.15 \text{ cfs/acre} \cdot A = 15.50 \text{ cfs}$
2. ALLOWABLE DISCHARGE PER ACRE IMPERVIOUS (Q_0):
 $Q_0 = Q_0 / (A \cdot C) = 1.76 \text{ cfs/acre impervious}$
3. MAXIMUM STORAGE TIME (T):
 $T_{100} = -25 + \sqrt{10,312.5 / Q_0} = 51.66 \text{ minutes}$
4. MAXIMUM STORAGE VOLUME PER ACRE IMPERVIOUS (VS):
 $V_{s,100} = (16,500 \cdot T / (T + 25)) - (40 \cdot Q_0 \cdot T) = 7,493 \text{ cf/acre impervious}$
5. STORAGE VOLUME REQUIRED (V_1):
 $V_{1,100} = V_{s,100} \cdot A \cdot C = 66,174 \text{ cf}$

FIRST FLUSH VOLUME (V_{1f})
 $V_{1f} = 1,815 \cdot A \cdot C = 16,030 \text{ cf}$

BANKFULL FLOOD VOLUME (V_{1bf})
 $V_{1bf} = 5,160 \cdot A \cdot C = 45,573 \text{ cf}$

TOTAL STORAGE VOLUME REQUIRED
TOTAL STORAGE VOLUME REQUIRED:
TOTAL = $V_{1,100} = 66,174 \text{ cf}$

100-YEAR STORAGE DESIGNED
BASIN VOLUME PROVIDED

FOREBAY ELEVATION	AREA	AVG. AREA	HEIGHT	CUMULATIVE VOLUME
891.0	4,041	3,606	1.0	8,534
890.0	3,171	2,804	1.0	4,928
889.0	2,436	2,124	1.0	2,124
888.0	1,812			

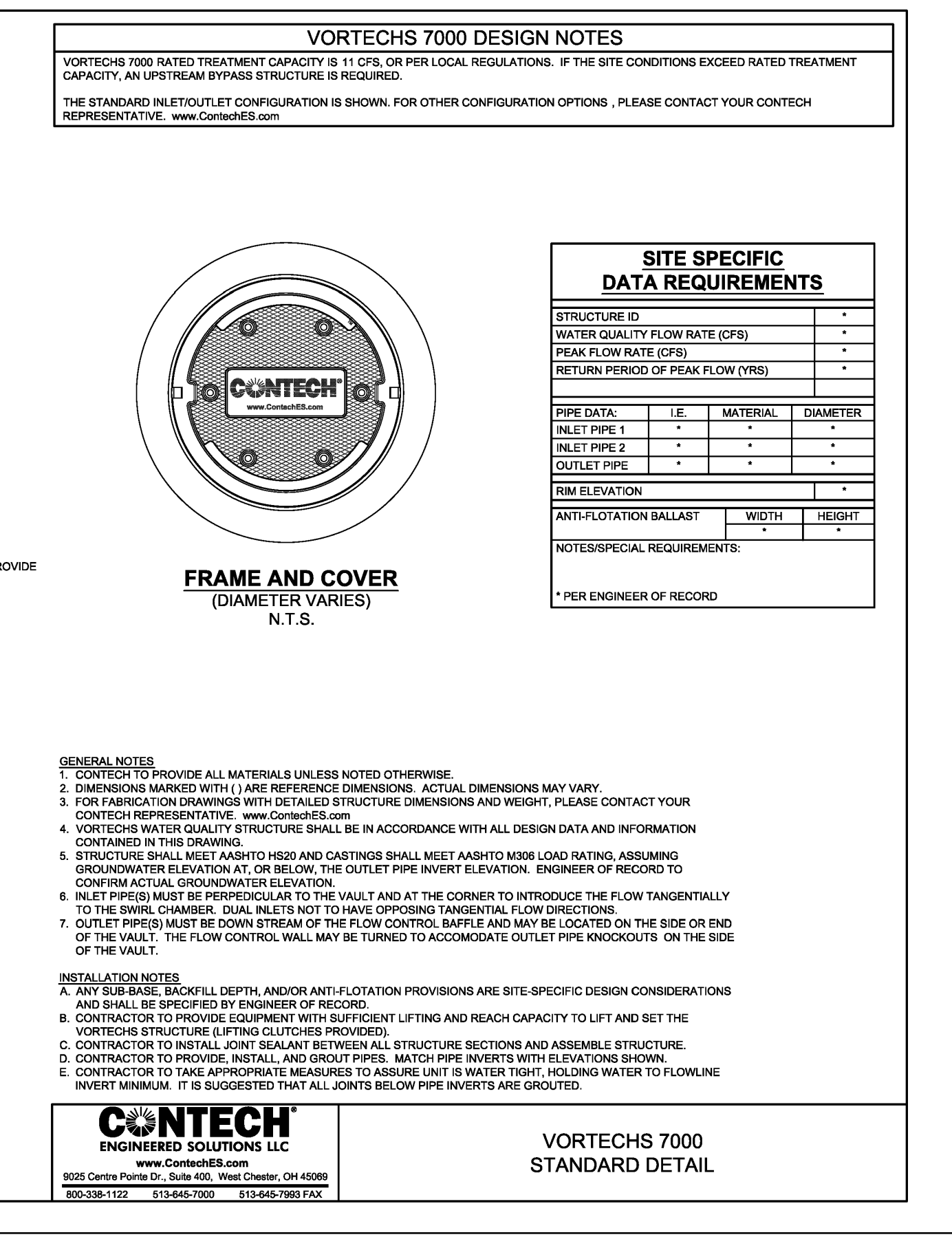
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Assumed Time of Concentration = 12 minutes

STORAGE ELEVATIONS
 $V_{1,1f} = 5,786 \text{ cf provided at}$
 $Z_0 = 888.0$
 $Z_1 = 890.2$

100-YEAR DETENTION BASIN

ELEVATION	AREA (S.F.)		INCREMENTAL VOLUMES (C.F.)		CUMULATIVE VOLUME (C.F.)
	BASIN ONLY	FOREBAY (ABOVE Z_0)	BASIN ONLY	FOREBAY (ABOVE Z_0)	
895.0	FREEBOARD				
894.0	19,211		17,714		66,204
893.0	16,217		14,831		48,490
892.0	13,444		9,956		33,660
891.0	6,468	4,041	5,800	3,606	23,704
890.0	5,131	3,171	4,547	2,804	14,298
889.0	3,963	2,436	3,414	2,124	6,948
888.0	2,864	1,812	1,410		1,410
887.4	1,837				

STORAGE ELEVATIONS
 $V_{1,1f} = 45,573 \text{ cf provided at}$
 $V_{100YR} = 66,174 \text{ cf provided at}$
 $Z_0 = 887.4$
 $Z_1 = 892.8$
 $Z_{100} = 894.0$



EXISTING PRE-TREATMENT STRUCTURE (VORTECHS 7000)
DETAIL PROVIDED BY CONTECH FOR REFERENCE ONLY

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FELDMAN AUTOMOTIVE INC.
PRELIMINARY STORM WATER MANAGEMENT PLAN
FELDMAN CHEVROLET OF NOVI - PARKING LOT ADDITION
RANGE-BE
TOWNSHIP: 11N
CITY OF NOVI
OAKLAND COUNTY MICHIGAN
SECTION: 23

CLIENT: REVISED

DATE: **06-03-2016**

DRAWN BY: SD

CHECKED BY: TG

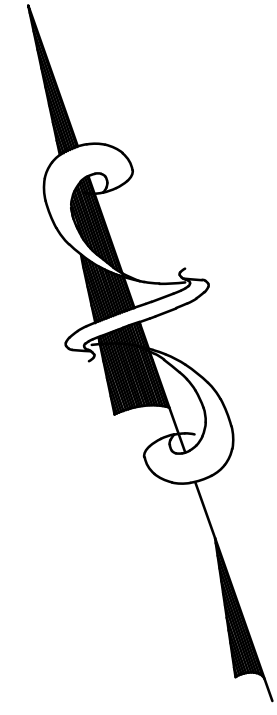
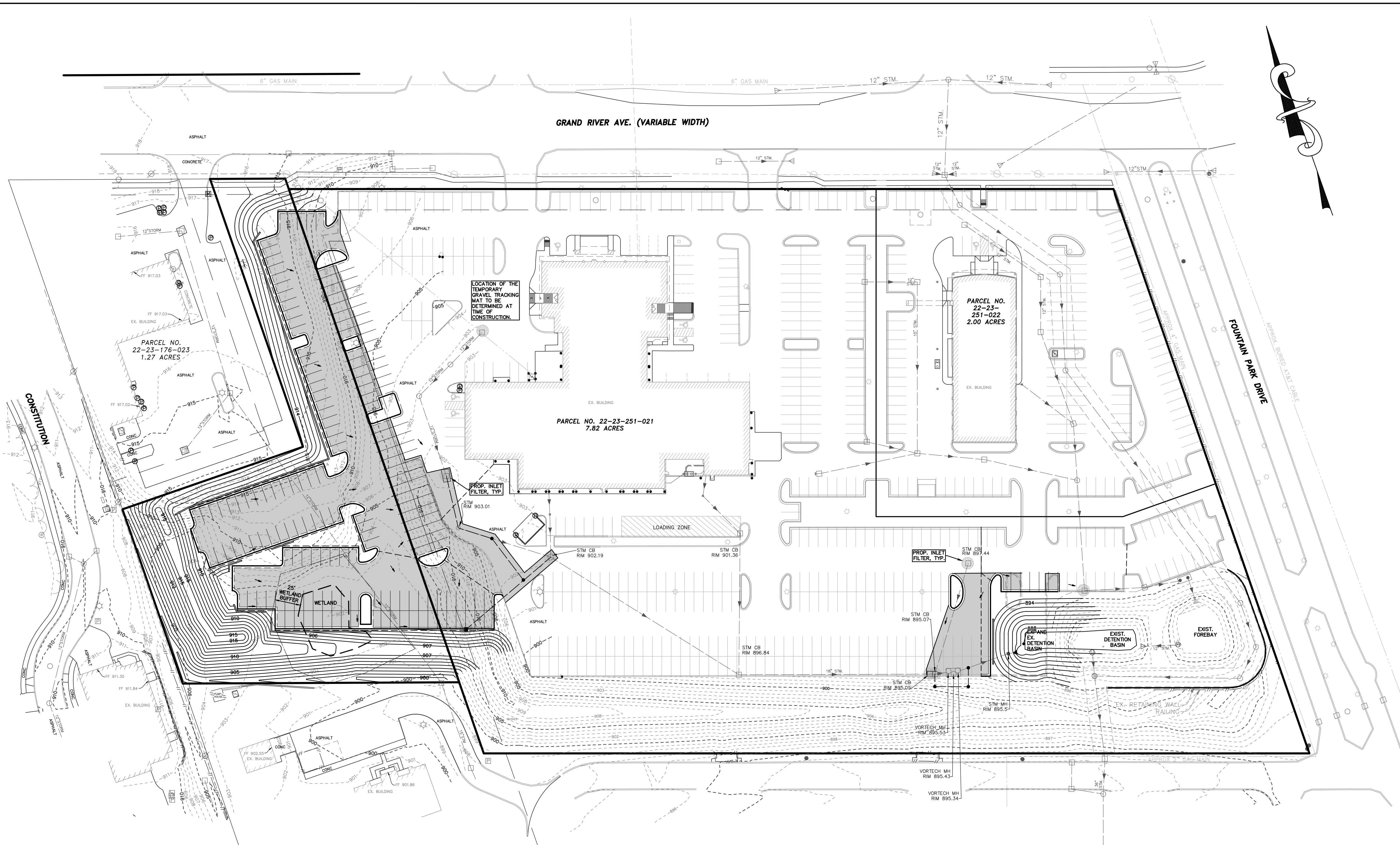
FBK: **6**

CHP:

SCALE: HOR 1"=60 FT. VER 1"=6 FT.

NOT FOR CONSTRUCTION

08-172.4

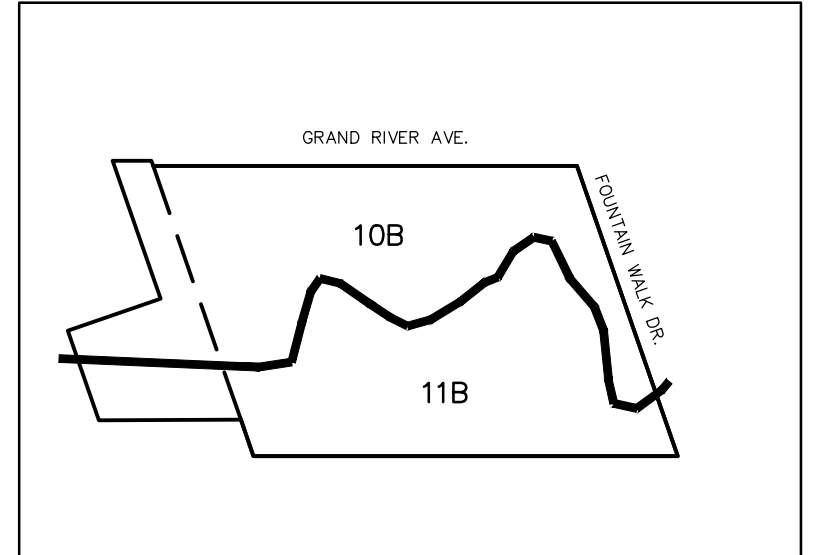


LEGEND:

- EX. CATCH BASIN
- EX. STORM MANHOLE
- EX. END SECTION
- EX. SANITARY MANHOLE
- EX. CLEANOUT
- EX. WATER GATE VALVE
- EX. COMMUNICATIONS MANHOLE
- EX. HYDRANT
- EX. WATER VALVE
- EX. GAS SHUTOFF
- EX. GAS SHUTOFF
- EX. GAS VENT
- EX. ELECTRIC MANHOLE
- EX. HANDHOLE
- EX. PEDESTAL
- EX. TRANSFORMER
- EX. LIGHTPOLE
- EX. UTILITY POLE
- EX. GUY ANCHOR
- EX. COMMUNICATION MANHOLE
- EX. GENERIC MANHOLE
- EX. TREE LINE
- EX. STORM SEWER
- EX. SIGN
- EX. POST/BOLLARD
- EX. FLAGPOLE
- EX. OVERFLOW STRUCTURE
- EX. SOIL BORING
- EX. MAILBOX
- EX. MONITOR WELL
- EX. AIR CONDITIONER
- EX. TRAFFIC SIGNAL
- EX. FENCE
- EX. FINISH FLOOR ELEVATION
- PROP. CURB & GUTTER
- PROP. STORM SEWER
- PROP. STRUCTURE
- PROP. END SECTION
- PROP. CLEAN-OUT
- PROP. DRAINAGE ARROW
- PROP. SILT FENCE
- PROP. TREE PROTECTION FENCE
- PROP. INLET FILTER
- PROP. STANDARD PAVING

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

NOTE:
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.



SOILS MAP:
-10B, MARLETTE SANDY LOAM, 1 TO 6 PERCENT SLOPES
-11B, CAPAC SANDY LOAM, 0 TO 4 PERCENT SLOPES

SOIL EROSION CONTROL NOTES

1. CUTTING, FILLING AND GRADING SHALL BE MINIMIZED AND THE NATURAL TOPOGRAPHY OF THE SITE SHALL BE PRESERVED TO THE MAXIMUM POSSIBLE EXTENT EXCEPT WHERE SPECIFIC FINDINGS DEMONSTRATE THAT MAJOR ALTERATIONS WILL STILL MEET THE PURPOSES AND REQUIREMENTS OF THIS ORDINANCE.
2. DEVELOPMENT SHALL BE STAGED TO KEEP THE EXPOSED AREAS OF SOIL AS SMALL AS PRACTICABLE.
3. SOIL EROSION CONTROL MEASURES SHALL BE INSTALLED BETWEEN THE DISTURBED AREA AND ANY WATER COURSES INCLUDING RIVERS, STREAMS, CREEKS, LAKES, PONDS AND OTHER WATER COURSES; WETLANDS OR ROADWAYS ON OR NEAR THE SITE.
4. SEDIMENT RESULTING FROM ACCELERATED SOIL EROSION SHALL BE REMOVED FROM RUNOFF WATER BEFORE THAT WATER LEAVES THE SITE.
5. TEMPORARY AND PERMANENT SOIL EROSION CONTROL MEASURES DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF WATER AROUND, THROUGH, OR AWAY FROM THE SITE SHALL BE DESIGNED TO LIMIT THE WATER FLOW TO A NON-EROSIVE VELOCITY.
6. TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE REMOVED AFTER PERMANENT SOIL EROSION CONTROL MEASURES HAVE BEEN IMPLEMENTED. ALL SITES SHALL BE STABILIZED WITH PERMANENT SOIL EROSION CONTROL MEASURES.
7. IF LAKES, PONDS, CREEKS, STREAMS, OR WETLANDS ARE LOCATED ON OR NEAR THE SITE, EROSION CONTROL MEASURES WHICH DIVERT RUNOFF AND TRAP SEDIMENT MUST BE PROVIDED AT STRATEGIC LOCATIONS. STRAW BALE BERMS MAY BE USED AS TEMPORARY STORM WATER DIVERSION STRUCTURES, BUT WILL NOT BE CONSIDERED SUFFICIENT FOR TRAPPING SEDIMENT. THE USE OF SEDIMENT BASINS, FILTER FABRIC, VEGETATED BUFFER STRIPS, AND ROCK FILTERS IN LIEU OF STRAW BALE BERMS SHALL BE STRONGLY ENCOURAGED. OTHER MEASURES MAY BE REQUIRED IF REASONABLY DETERMINED TO BE NECESSARY TO PROTECT A WATER COURSE OR WETLAND.
8. 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 TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.
9. VEGETATED BUFFER STRIPS (25' WIDE WHEREVER POSSIBLE) SHALL BE CREATED OR RETAINED ALONG THE EDGES OF ALL WATER BODIES, WATER COURSES OR WETLANDS.
10. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL RECEIVE REGULAR MAINTENANCE TO ASSURE PROPER FUNCTIONING.
11. ALL GRADING PLANS AND SPECIFICATIONS, INCLUDING EXTENSIONS OF PREVIOUSLY APPROVED PLANS, SHALL INCLUDE PROVISIONS FOR EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH, BUT NOT LIMITED TO, THE STANDARDS CONTAINED IN THE "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", PUBLISHED BY THE OAKLAND SOIL CONSERVATION DISTRICT.
12. IT IS THE RESPONSIBILITY OF THE DEVELOPER TO INSURE THAT ALL SOIL EROSION CONTROL MEASURES ARE INSTALLED AND MAINTAINED.
13. THE CITY OF NOVI OR ITS AGENT SHALL INSPECT ALL SOIL EROSION CONTROL MEASURES. UPON THEIR DIRECTION ADDITIONAL MEASURES SHALL BE CONSTRUCTED, OR MAINTENANCE WORK SHALL BE PERFORMED TO ASSURE EROSION AND SEDIMENTATION CONTROL.
14. DEWATER, OF ANY KIND, MUST BE DISCHARGED THROUGH A STONE FILTER, A FILTER BAG, DENSE VEGETATION OR INTO THE SEDIMENTATION BASIN.
15. IT IS THE DEVELOPER'S RESPONSIBILITY TO GRADE AND STABILIZE DISTURBED AREAS DUE TO INSTALLATION OF PUBLIC UTILITIES.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR STREET SWEEPING AND DUST CONTROL.
17. SLOPES STEEPER THAN 1:6 (16%) SHALL BE STABILIZED WITH AN EROSION CONTROL BLANKET.
18. ALL DRAINAGE DITCHES SHALL BE STABILIZED WITH EROSION CONTROL BLANKET AND SHALL UTILIZE CHECK DAMS AS NECESSARY. DRAINAGE DITCHES STEEPER THAN 3% SHALL BE SODDED.
19. ALL WORK SHALL CONFORM TO THE CURRENT CITY OF NOVI STANDARDS AND SPECIFICATIONS.
20. IF DEWATERING IS ANTICIPATED OR ENCOUNTERED DURING CONSTRUCTION A DEWATERING PLAN MUST BE SUBMITTED TO THE ENGINEERING DIVISION FOR REVIEW.

SEQUENCE OF CONSTRUCTION:

1. INSTALL GRAVEL MUD TRACKING MAT, SILT FENCE AND INLET FILTERS (ON EXISTING STORM STRUCTURES) AS INDICATED ON THE PLANS (1 DAY)
2. STRIP EXISTING TOPSOIL, VEGETATION AND ORGANIC FROM THE BUILDING PAD AND PARKING AREAS. COMMENCE LAND BALANCE AND MASS GRADING OPERATIONS. MAINTAIN A MINIMUM 5' BUFFER OF EXISTING VEGETATION AROUND PERIMETER WHENEVER POSSIBLE. STOCKPILES SHOULD BE LOCATED AWAY FROM EXISTING DRAINAGE FACILITIES. SILT FENCE WILL BE INSTALLED SURROUNDING ANY STOCKPILED MATERIAL (3 DAYS)
3. INSTALL UNDERGROUND UTILITIES. INLET PROTECTION MUST BE INSTALLED IMMEDIATELY FOLLOWING THE CONSTRUCTION OF EACH CATCH BASIN. (3 DAYS)
4. INSTALL PAVEMENT (2 DAYS)
5. SEED & MULCH OR SOD ALL DISTURBED AREAS. 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. (1 WEEKS)
6. REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ONCE PERMANENT MEASURES ARE ESTABLISHED. (2 DAYS)

MAINTENANCE REQUIREMENTS:

INSPECTION & MAINTENANCE OF SOIL EROSION CONTROL MEASURES TO BE CONDUCTED ON A WEEKLY BASIS OR AS INDICATED BELOW, WHICHEVER IS SOONER. RECORDS OF MAINTENANCE INSPECTIONS TO BE RECORDED IN A LOGBOOK. THE LOG BOOK SHALL BE KEPT ON SITE AT ALL TIMES.

SILT FENCE
SILT FENCES SHOULD BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND SEVERAL TIMES DURING PROLONGED RAINFALLS. IF THE FENCE IS SAGGING OR THE SOIL HAS REACHED ONE HALF THE HEIGHT OF THE FABRIC, THE SOIL BEHIND THE FABRIC MUST BE REMOVED AND DISPOSED OF IN A STABLE UPLAND SITE. THE SOIL CAN BE ADDED TO THE SPOIL PILE. IF THE FABRIC IS BEING UNDERCUT (IE. IF THE WATER IS SEEPING UNDER THE FENCE), THE FENCE SHOULD BE REMOVED AND REINSTALLED FOLLOWING THE GIVEN PROCEDURES. FABRIC WHICH DECOMPOSES OR OTHERWISE BECOMES INEFFECTIVE SHOULD BE REMOVED AND SAVED WITH NEW FILTER FABRIC IMMEDIATELY. FILTER FENCES SHOULD BE REMOVED ONCE VEGETATION IS WELL ESTABLISHED AND THE UP-SLOPE IS FULLY STABILIZED OR UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

RIP-RAP
INSPECTIONS SHOULD BE MADE OF ALL RIP-RAPPED SITES IMMEDIATELY AFTER THE FIRST RAINFALL FOLLOWING INSTALLATION. DISPLACED RIP-RAP SHOULD BE REPLACED AS NECESSARY FOR PROPER FUNCTION.

OIL/GAS SEPARATORS
INSPECT THE OIL/GAS SEPARATOR FACILITY DURING THE FIRST YEAR FOLLOWING CONSTRUCTION TO OBSERVE THE AMOUNT OF RESIDUE COLLECTED AND DETERMINE AN APPROPRIATE CLEANING SCHEDULE. SEPARATORS SHOULD BE CLEANED AT MINIMUM TWICE PER YEAR. OIL/GAS SEPARATOR CLEANING SHOULD BE DONE BY VACUUM TRUCK AND HAULED TO AN APPROVED OFF-SITE FACILITY.

ACCESS ROADS (HAUL ROADS)
PROPER MAINTENANCE MAY INCLUDE ADDING ADDITIONAL LAYERS OF STONE WHEN THE ORIGINAL STONE BECOMES COVERED WITH MUD. AFTER EACH STORM EVENT, INSPECT THE ROAD FOR EROSION AND MAKE ANY NECESSARY REPAIRS. IT IS ALSO IMPORTANT TO CHECK AND MAINTAIN ANY BMP'S WHICH ARE USED IN CONJUNCTION WITH THIS BMP, ESPECIALLY THOSE FOR DRAINAGE. ALL SEDIMENT DROPPED OR ERODED ONTO PUBLIC RIGHT-OF-WAYS SHOULD BE REMOVED IMMEDIATELY BY SWEEPING.

SEEDING, SODDING & MULCHING
SEED, SODDED OR MULCHED AREAS SHOULD BE CHECKED FOLLOWING EACH RAIN TO ENSURE THE MATERIAL IS STAYING IN PLACE. ADDITIONAL TRACKING MATERIALS OR NETTING MAY NEED TO BE APPLIED TO HOLD THE AFOREMENTIONED MATERIALS IN PLACE. MAINTENANCE PROCEDURES SHOULD ALSO BE FOLLOWED FOR THE BMP'S WHICH WERE IMPLEMENTED TO KEEP ERODED SOIL OR CONCENTRATED RUNOFF AWAY FROM THESE TARGET AREAS.

COMMERCIAL
SITE PLANNING
SITE ENGINEERING
INDUSTRIAL & MULTI-UNIT
LAND SURVEYING
CONSTRUCTION LAYOUT

SURVEYING
ALTA SURVEYS
BOUNDARY SURVEYS
TOPOGRAPHIC SURVEYS
PARCEL SPLITS

RESIDENTIAL
SUBDIVISIONS
SITE CONDOMINIUM
MULTI-FAMILY
PLOT PLANS
CONSTRUCTION LAYOUT

ALPINE ENGINEERING, INC.
CIVIL ENGINEERS & LAND SURVEYORS

48892 WEST ROAD
SUITE 109
NOVI, MICHIGAN 48377

(248) 996-3701 (BUS)
(248) 926-3765 (FAX)
WWW.ALPINE-INC.NET

811
Know what's below
Call before you dig.

CLIENT: FELDMAN AUTOMOTIVE INC.
PRELIMINARY SOIL EROSION AND SEDIMENTATION CONTROL PLAN
FELDMAN CHEVROLET OF NOVI - PARKING LOT ADDITION
TOWNSHIP: IN
CITY OF NOVI
OAKLAND COUNTY
MICHIGAN
SECTION: 23
RANGE: BE

REVISED

DATE: 06-03-2016

DRAWN BY: SD

CHECKED BY: TG

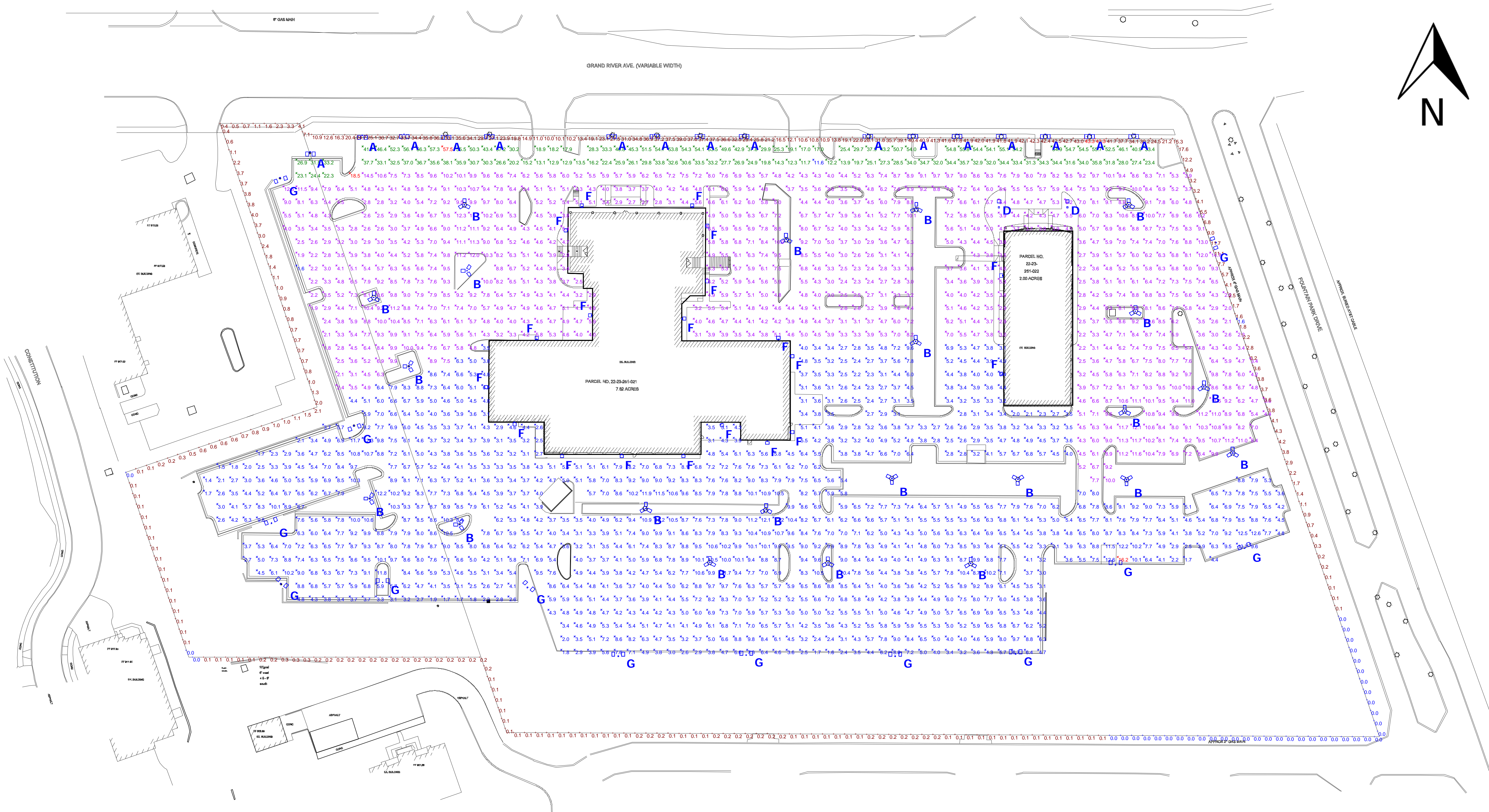
FBK: 7

CHP:

SCALE: HOR 1"=50 FT. VER 1"=5 FT.

08-172.4

NOT FOR CONSTRUCTION



Plan View
Scale - 1" = 40ft

GENERAL NOTE
 1. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
 2. SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.
 3. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: GRADE.

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS. MOUNTING HEIGHTS INDICATED ARE FROM GRADE AND/OR FLOOR UP.

THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Back Lot	X	5.9 fc	16.2 fc	1.4 fc	11.6:1	4.2:1
Front Lot	X	6.0 fc	18.5 fc	1.6 fc	11.6:1	3.8:1
Front Row	X	34.5 fc	57.5 fc	11.6 fc	5.0:1	3.0:1
Property Line	+	8.1 fc	43.3 fc	0.0 fc	N/A	N/A

Schedule											
Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens per Lamp	LLF	Wattage
	A	16	Lithonia Lighting	DSX2 LED 100C 1200 40K T15 MVOLT	DSX2 LED WITH 100 LEDs @1200mA, 4000K, TYPE 1 SHORT OPTICS	LED	1	DSX2_LED_100C_1200_40K_T15_MVOLT.ies	39621	0.9	800
	B	22	Lithonia Lighting	DSX1 LED 60C 1000 40K TTFM MVOLT	DSX1 LED WITH 60 LEDs @ 1000 mA, 4000K, TYPE FORWARD THROW MEDIUM OPTICS	LED	1	DSX1_LED_60C_1000_40K_TTFM_MVOLT.ies	21875	0.9	627
	D	2	Lithonia Lighting	DSX0 LED 40C 1000 40K TSW MVOLT	DSX0 LED WITH 40 LEDs @1000 mA, 4000K, Type 5 Wide Optics	LED	1	DSX0_LED_40C_1000_40K_TSW_MVOLT.ies	15741	0.9	138
	F	20	Lithonia Lighting	KADRD LED 60C 700 40K R4 MVOLT	KADRD LED, 60 LED, 700mA MVOLT DRIVER, 4000K, TYPE 4 OPTICS.	LED	1	KADRD_LED_60C_700_40K_R4_MVOLT.ies	15982	0.9	137
	G	13	Lithonia Lighting	DSX1 LED 60C 1000 40K TTFM MVOLT	DSX1 LED WITH 60 LEDs @ 1000 mA, 4000K, TYPE FORWARD THROW MEDIUM OPTICS	LED	1	DSX1_LED_60C_1000_40K_TTFM_MVOLT.ies	21875	0.9	418

FELDMAN CHEVROLET OF NOVI
 PHOTOMETRIC SITE PLAN
 PREPARED FOR: ALPINE
 GASSER BUSH ASSOCIATES
 WWW.GASSERBUSH.COM

Designer
 BW/AAM
 Date
 10/17/2016
 rev 7/11/2017
 Scale
 Not to Scale
 Drawing No.
 #16-62326-V3
 1 of 1

Seal:



Title:

Landscape Plan

Project:

Feldman Chevrolet
 Novi, Michigan

Prepared for:

Alpine Engineering
 46892 West Road, Ste. 109
 Novi, Michigan 48377
 248.926.3701

Revision:

Submission
 Revised
 Revised

Issued:

June 2, 2016
 October 12, 2016
 July 11, 2017

Job Number:

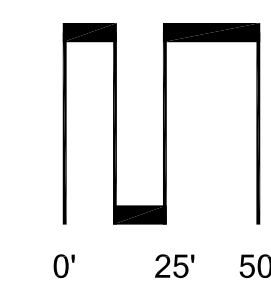
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Drawn By:

jca

Checked By:

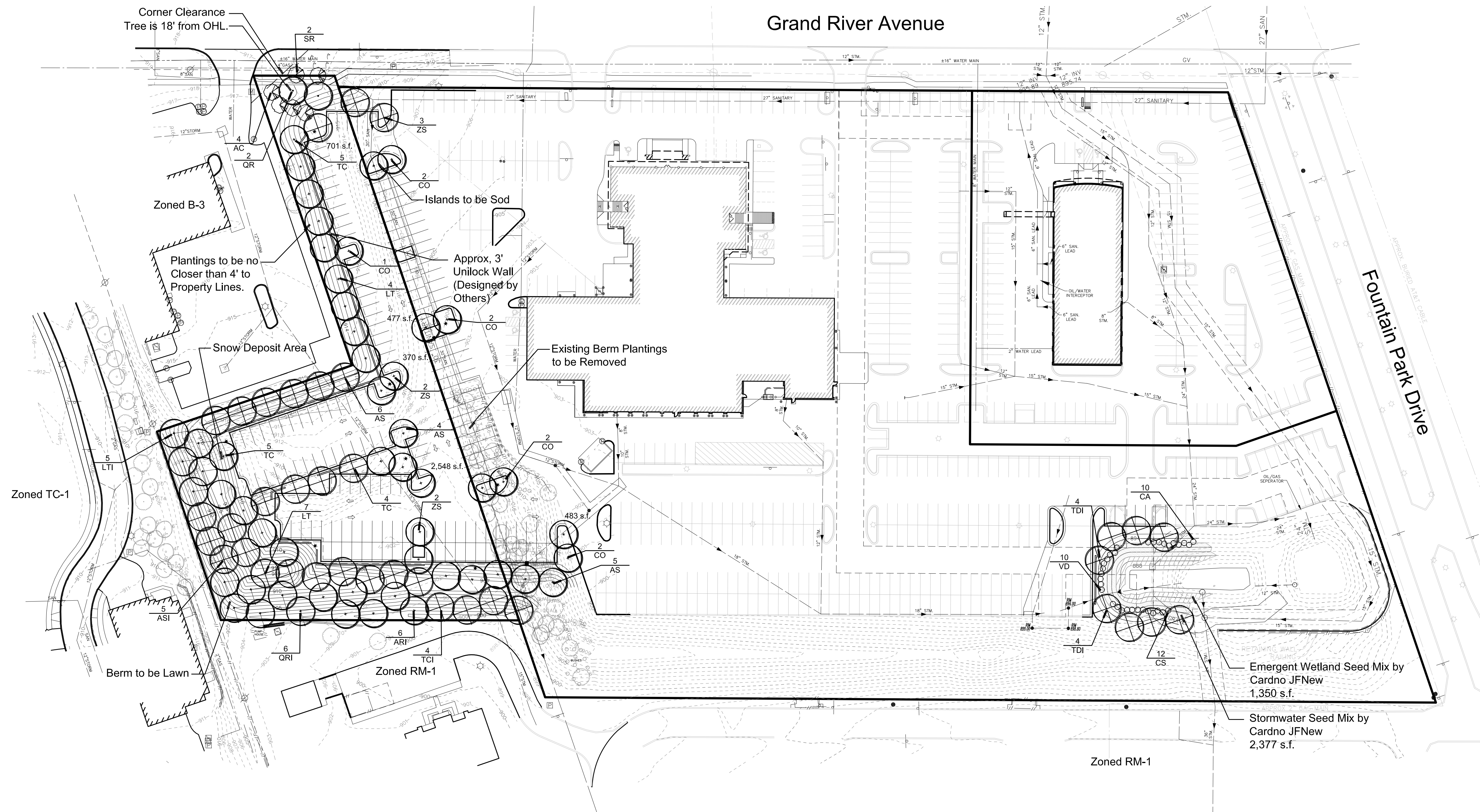
jca



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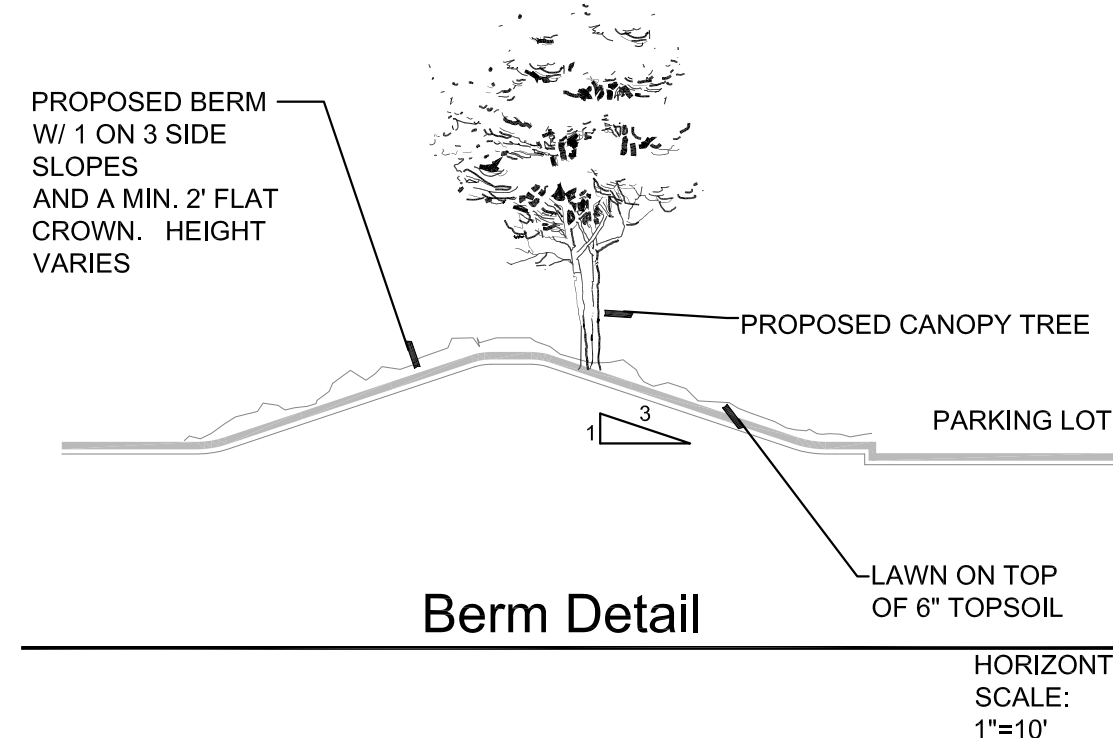
L-1

Grand River Avenue



Landscape Summary Expansion Area

Existing Zoning	B-3	Woodland Replacement	
Parking Lot Landscaping		Trees Required	116 Trees
Parking Space Area	31,370 s.f.	Tree Provided	30 Trees
Vehicular Use Area	21,326 s.f.	Tree Paid into Tree Fund	86 Trees
Landscape Area Required	4,203 s.f.	Detention Pond	
31,370 s.f. x 10% = 3,137 s.f.		Expanded Freeboard	212 l.f.
21,326 s.f. x 5% = 1,066 s.f.		Landscape Area Required	149 l.f. (212 x 70%)
Landscape Area Shown	4,975 s.f.	Landscape Area Provided	150 l.f. (70%)
Canopy Trees Required	56 Trees (4,203 / 75)		
Canopy Trees Shown	56 Trees		
Parking Lot Perimeter			
Perimeter	667 l.f.		
Trees Required	19 Trees (667 l.f. / 35')		
Trees Shown	0 Trees		
Street Lawn Plantings			
Street Frontage	72 l.f.		
Trees Required	1.6 Trees (72 l.f. / 45')		
Trees Shown	1 Tree (2 Sub-Canopy Trees)		
Greenbelt Plantings			
Street Frontage	72 l.f.		
Trees Required	2.4 Trees (72 l.f. / 30')		
Trees Shown	2 Trees		
Sub-Canopy Trees Required	3.6 Trees (72 l.f. / 20')		
Sub-Canopy Trees Shown	4 Trees		



Plant List

Sym.	qty.	botanical name	common name	caliper	spacing	root	height	price	total
Woodland Replacement									
ARI	6	Acer rubrum	Red Maple	2.5"	as shown	B&B		\$ 400.00	\$ 2,400.00
ASI	5	Acer saccharum	Sugar Maple	2.5"	as shown	B&B		\$ 400.00	\$ 2,000.00
LTI	5	Liriodendron tulipifera	Tulip Tree	2.5"	as shown	B&B		\$ 400.00	\$ 2,000.00
QRI	6	Quercus rubra	Red Oak	2.5"	as shown	B&B		\$ 400.00	\$ 2,400.00
TCI	4	Tilia americana	Basswood	2.5"	as shown	B&B		\$ 400.00	\$ 1,600.00
TDI	4	Taxodium distichum	Bald Cypress	2.5"	as shown	B&B		\$ 400.00	\$ 1,600.00
	30	Trees Provided							\$ 10,400.00
Parking Lot Landscaping									
AS	15	Acer saccharum	Sugar Maple	3.0"	as shown	B&B		\$ 400.00	\$ 6,000.00
CO	9	Celtis occidentalis	Northern Hackberry	3.0"	as shown	B&B		\$ 400.00	\$ 3,600.00
LT	11	Liriodendron tulipifera	Tulip Tree	3.0"	as shown	B&B		\$ 400.00	\$ 4,400.00
LC	14	Tilia tomentosa	Silver Linden	3.0"	as shown	B&B		\$ 400.00	\$ 5,600.00
ZS	7	Zelkova serrata	Japanese Zelkova	3.0"	as shown	B&B		\$ 400.00	\$ 2,800.00
	56	Trees Provided							\$ 22,400.00
Detention and Other Plantings									
AC	4	Amelanchier canadensis	Serviceberry	2.5"	as shown	B&B		\$ 250.00	\$ 1,000.00
CA	10	Cornus amomum	Silky Dogwood		as shown		36"	\$ 50.00	\$ 500.00
CS	12	Cornus sericea	Red-osier Dogwood		as shown		36"	\$ 50.00	\$ 600.00
QR	2	Quercus rubra	Red Oak	3.0"	as shown	B&B		\$ 400.00	\$ 800.00
SR	2	Syringa reticulata 'Ivory Silk'	Ivory Silk Lilac Tree	2.5"	as shown	B&B		\$ 250.00	\$ 500.00
VD	10	Viburnum dentatum	Arrow-wood		as shown		36"	\$ 50.00	\$ 500.00
Mulch									
	75	s.y. 4" Deep Shredded Hardwood Bark Mulch						\$35/s.y.	\$ 2,625.00
	2,900	s.y. Hydro-seed						\$3.00	\$ 8,700.00
	600	s.f. Sod						\$6.00	\$ 3,600.00
		Irrigation							\$ 3,500.00
									\$ 22,325.00

Note:
 Soils Information is Located on the Preliminary Soil Erosion and Sedimentation Control Plan.



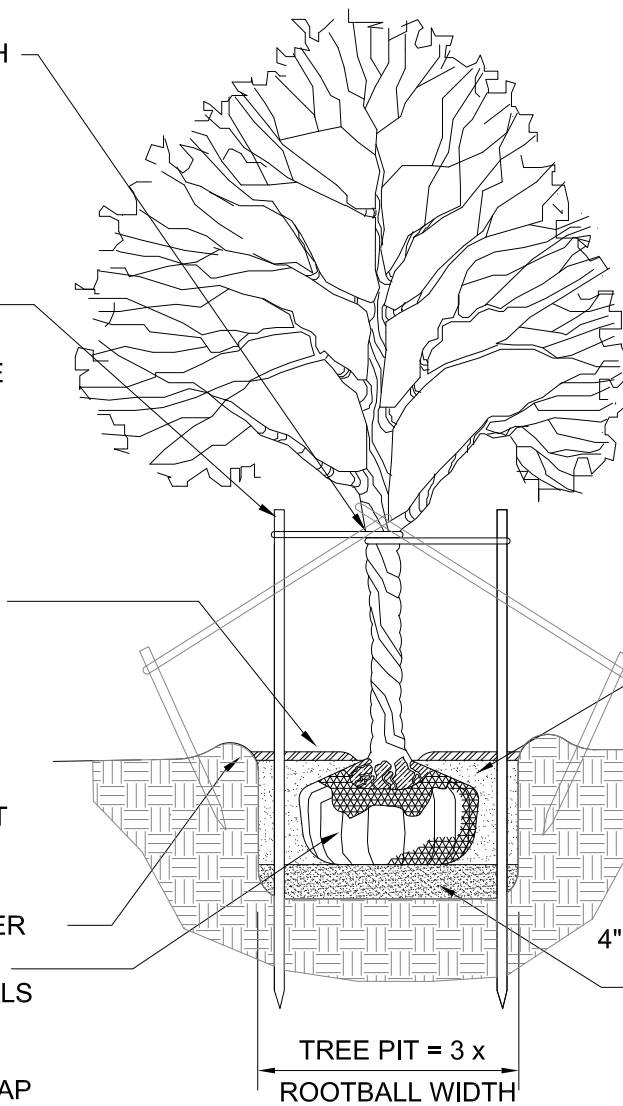
NOTE:
GUY DECIDUOUS TREES ABOVE
3" CAL.. STAKE DECIDUOUS
TREES BELOW 3" CAL..

STAKE TREES AT FIRST BRANCH
USING 2"-3" WIDE BELT-LIKE
NYLON OR PLASTIC STRAPS.
ALLOW FOR SOME MINIMAL
FLEXING OF THE TREE.
REMOVE AFTER ONE YEAR.

2" X 2" HARDWOOD STAKES,
MIN. 36" ABOVE GROUND FOR
UPRIGHT, 18" IF ANGLED. DRIVE
STAKES A MIN. 18" INTO
UNDISTURBED GROUND
OUTSIDE ROOTBALL. REMOVE
AFTER ONE YEAR.

MULCH 4" DEPTH WITH
SHREDDED HARDWOOD BARK,
NATURAL IN COLOR. LEAVE 3"
CIRCLE OF BARE SOIL AT BASE
OF TREE TRUNK. PULL ANY
ROOT BALL DIRT EXTENDING
ABOVE THE ROOT FLARE AWAY
FROM THE TRUNK SO THE ROOT
FLARE IS EXPOSED TO AIR.

MOUND EARTH TO FORM SAUCER
REMOVE ALL
NON-BIODEGRADABLE MATERIALS
COMPLETELY FROM THE
ROOTBALL. CUT DOWN WIRE
BASKET AND FOLD DOWN BURLAP
FROM TOP 1/2 OF THE ROOTBALL.



NOTE:
TREE SHALL BEAR SAME
RELATION TO FINISH GRADE AS
IT BORE ORIGINALLY OR
SLIGHTLY HIGHER THAN FINISH
GRADE, IF DIRECTED BY LANDSCAPE
ARCHITECT FOR HEAVY CLAY
SOIL AREAS.

DO NOT PRUNE TERMINAL
LEADER. PRUNE ONLY DEAD OR
BROKEN BRANCHES.

REMOVE ALL TAGS, STRING,
PLASTICS AND OTHER
MATERIALS THAT ARE
UNUSUALLY OR COULD CAUSE
GIRDLING.

PLANTING MIXTURE:
AMEND SOILS PER
SITE CONDITIONS
AND REQUIREMENTS
OF THE PLANT
MATERIAL.

SCARIFY SUBGRADE
AND PLANTING PIT
SIDES. RECOMPACT
BASE OF TO 4"
DEPTH.

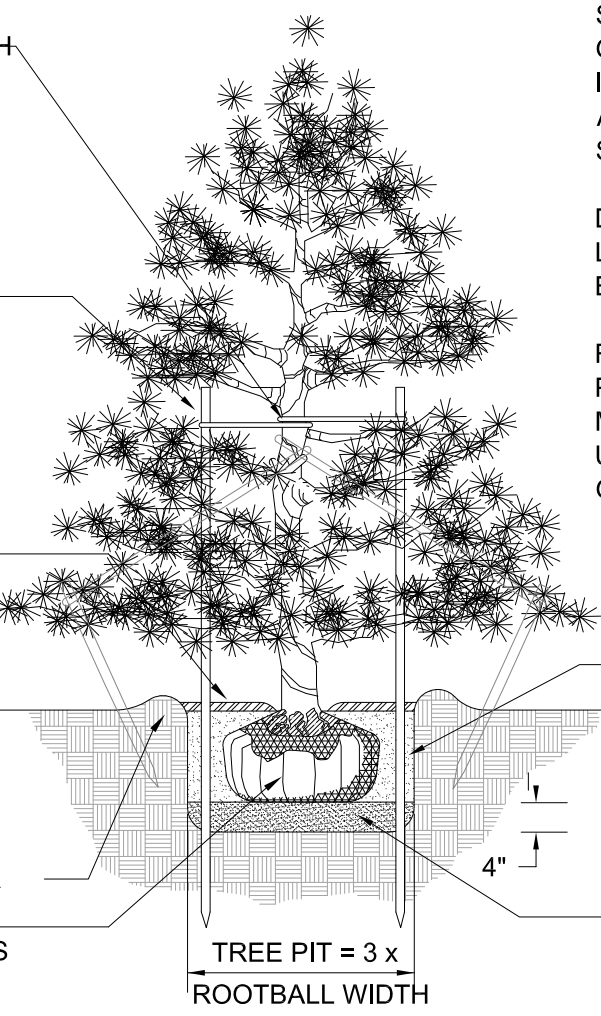
NOTE:
GUY EVERGREEN TREES ABOVE
12' HEIGHT. STAKE EVERGREEN
TREE BELOW 12' HEIGHT.

STAKE TREES AT FIRST BRANCH
USING 2"-3" WIDE BELT-LIKE
NYLON OR PLASTIC STRAPS.
ALLOW FOR SOME MINIMAL
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ROOTBALL. CUT DOWN WIRE
BASKET AND FOLD DOWN BURLAP
FROM TOP 1/2 OF THE ROOTBALL.



NOTE:
TREE SHALL BEAR SAME
RELATION TO FINISH GRADE AS
IT BORE ORIGINALLY OR
SLIGHTLY HIGHER THAN FINISH
GRADE UP TO 6" ABOVE GRADE,
IF DIRECTED BY LANDSCAPE
ARCHITECT FOR HEAVY CLAY
SOIL AREAS.

DO NOT PRUNE TERMINAL
LEADER. PRUNE ONLY DEAD OR
BROKEN BRANCHES.

REMOVE ALL TAGS, STRING,
PLASTICS AND OTHER
MATERIALS THAT ARE
UNUSUALLY OR COULD CAUSE
GIRDLING.

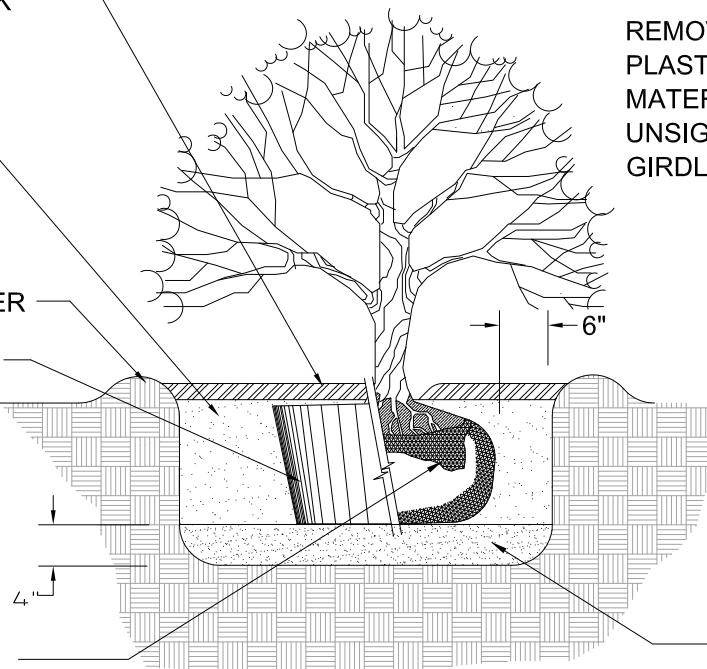
PLANTING MIXTURE:
AMEND SOILS PER
SITE CONDITIONS
AND REQUIREMENTS
OF THE PLANT
MATERIAL.

SCARIFY SUBGRADE
AND PLANTING PIT
SIDES. RECOMPACT
BASE OF TO 4"
DEPTH.

MULCH 3" DEPTH WITH
SHREDDED HARDWOOD BARK,
NATURAL IN COLOR. PULL BACK
3" FROM TRUNK.

PLANTING MIXTURE:
AMEND SOILS PER
SITE CONDITIONS
AND REQUIREMENTS
OF THE PLANT
MATERIAL.
MOUND EARTH TO FORM SAUCER

REMOVE ALL
NON-BIODEGRADABLE MATERIALS
COMPLETELY FROM THE
ROOTBALL. FOLD DOWN BURLAP
FROM TOP 1/3 OF THE ROOTBALL.



NOTE:
TREE SHALL BEAR SAME
RELATION TO FINISH GRADE AS
IT BORE ORIGINALLY OR
SLIGHTLY HIGHER THAN FINISH
GRADE UP TO 4" ABOVE GRADE,
IF DIRECTED BY LANDSCAPE
ARCHITECT FOR HEAVY CLAY
SOIL AREAS.

PRUNE ONLY DEAD OR BROKEN
BRANCHES.

REMOVE ALL TAGS, STRING,
PLASTICS AND OTHER
MATERIALS THAT ARE
UNUSUALLY OR COULD CAUSE
GIRDLING.

SCARIFY SUBGRADE
AND PLANTING PIT
SIDES. RECOMPACT
BASE OF TO 4"
DEPTH.

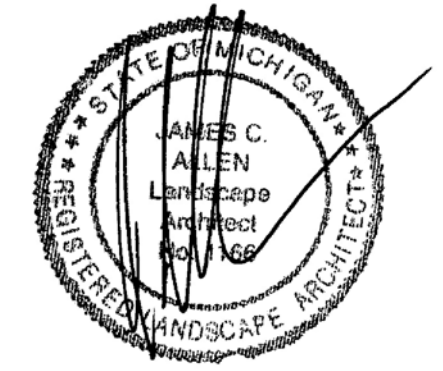
DECIDUOUS TREE PLANTING DETAIL

EVERGREEN TREE PLANTING DETAIL

SHRUB PLANTING DETAIL

NOT TO SCALE

Seal:



Title:

Landscape Details

Project:

Feldman Chevrolet
Novi, Michigan

Prepared for:

Alpine Engineering
46892 West Road, Ste. 109
Novi, Michigan 48377
248.926.3701

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June 2, 2016
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July 11, 2017

Job Number:

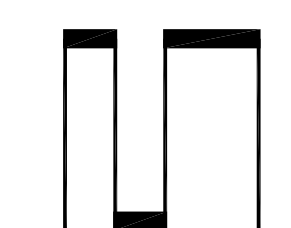
16-039

Drawn By:

jca

Checked By:

jca

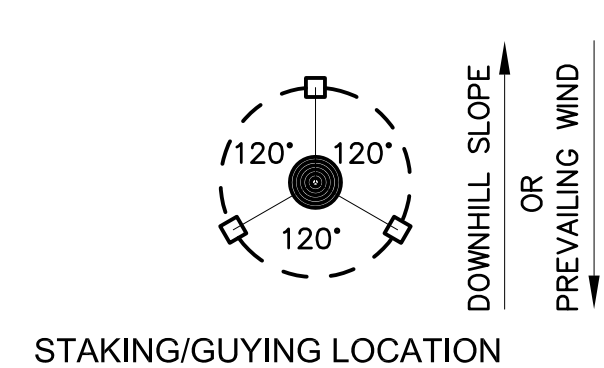
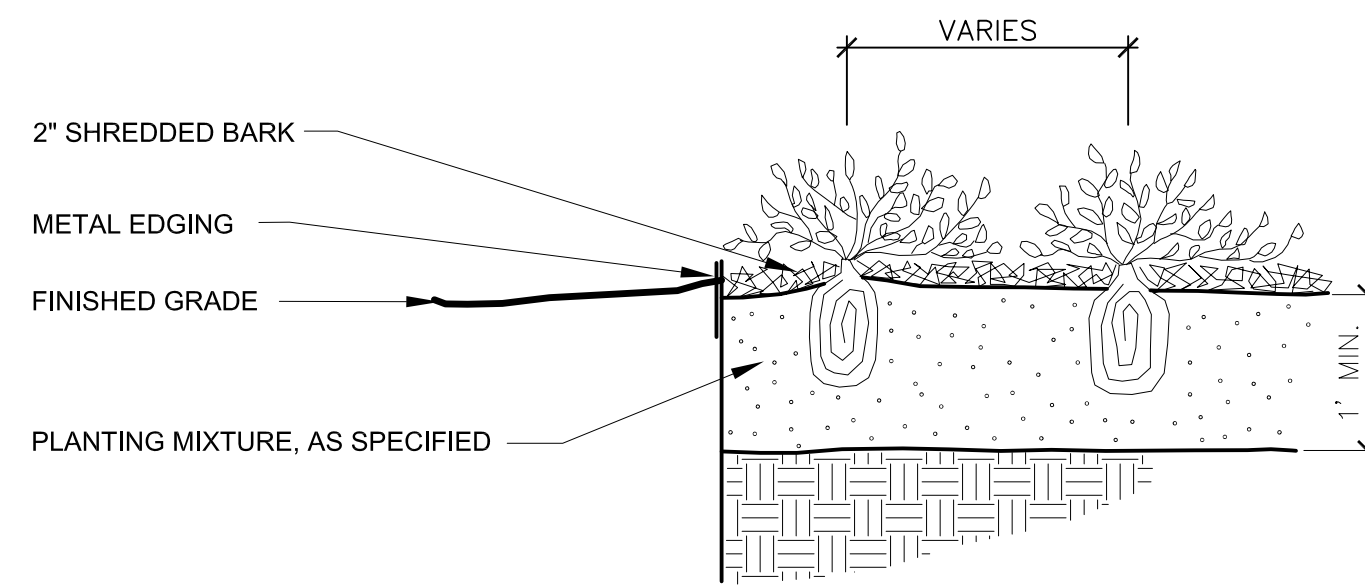


NORTH

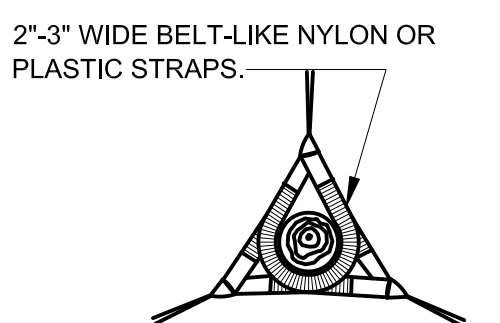
Sheet No.

PERENNIAL PLANTING DETAIL

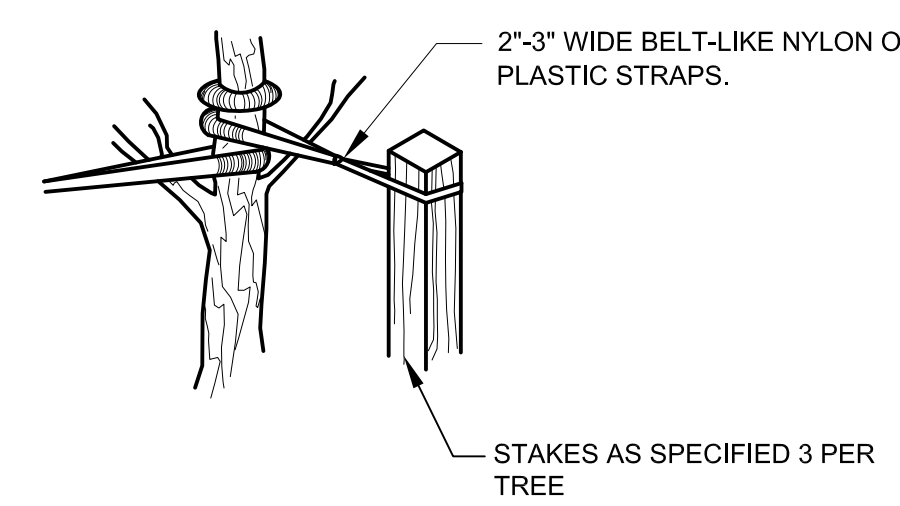
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STAKING/GUYING LOCATION



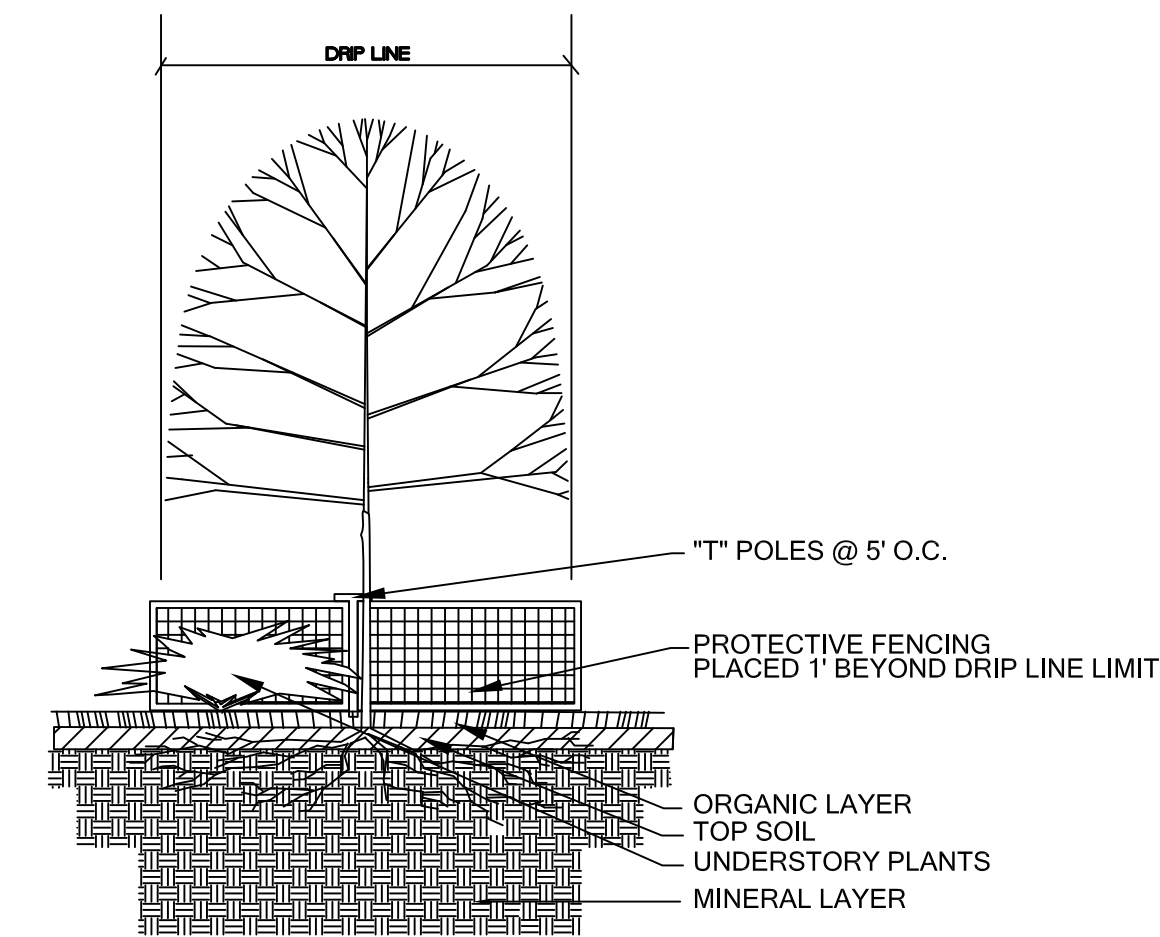
GUYING DETAIL



STAKING DETAIL

TREE STAKING DETAIL

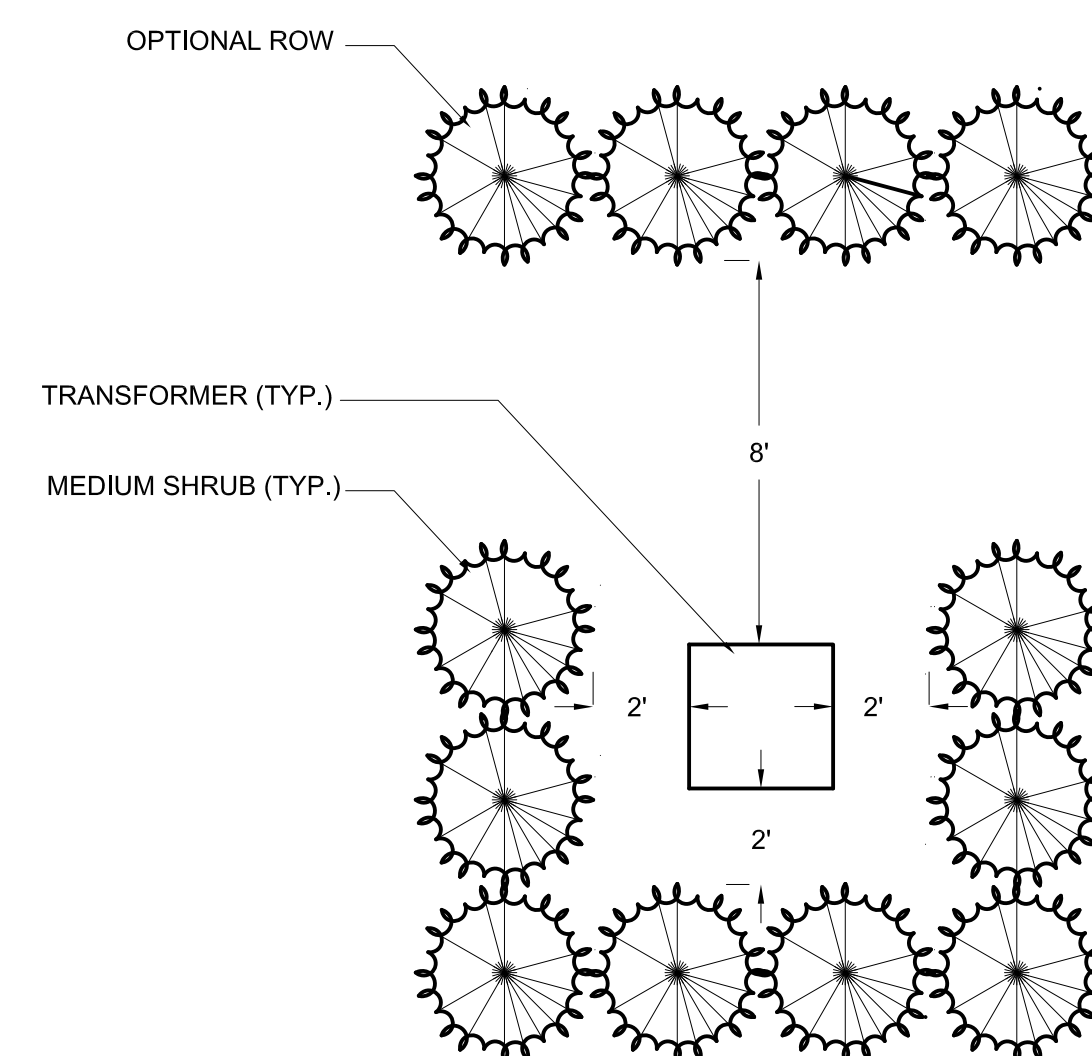
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1. Either Plastic or Wood Orange Snow Fencing Shall be Installed at or Beyond the Drip Line, Unless More Substantial Fencing is Required.
2. Stakes Shall be Metal "T" Poles Spaced no Further than 5' on Center.
3. Fencing Shall not be Installed Closer to the Tree than the Drip Line of Those Trees to be Saved.
4. Fencing Shall be Erected Prior to Construction. The City Shall be Notified Once the Fencing is Installed for Inspection.
5. Under no Circumstances Shall the Protective Fencing be Removed Without Proper Approval from the City.
6. No Person Shall Conduct any Activity Within Areas Proposed to Remain. This Shall Include, but not be Limited to:
 - a. No Solvents or Chemicals Within Protected Areas.
 - b. No Building Materials or Construction Equipment Within Protected Areas.
 - c. No Grade Changes, Including Fill, Within Protected Areas.
 - d. No Removal of Vegetation from the Ground Up Without Permission from the Proper Reviewing Authority, Including the Woodlands Review Board.
 - e. Any Required Swale Needs to be Directed Around the Protected Areas. Instances Where Swales are Approved Through a Protected Area, the Swales Need to be HAND DUG. Machinery of Any Kind is Prohibited.
 - f. Regulated Woodland or Regulated Trees Adjacent to the Property are Also Required to be Protected Whether or not they are Shown on the Plan.

TREE PROTECTION DETAIL

NO SCALE



TRANSFORMER SCREENING DETAIL

Not to scale

LANDSCAPE NOTES

1. All plants shall be north Midwest American region grown, No. 1 grade plant materials, and shall be true to name, free from physical damage and wind burn.
2. Plants shall be full, well-branched, and in healthy vigorous growing condition.
3. Plants shall be watered before and after planting is complete.
4. All trees must be staked, fertilized and mulched and shall be guaranteed to exhibit a normal growth cycle for at least two (2) full years following City approval.
5. All material shall conform to the guidelines established in the most recent edition of the American Standard for Nursery Stock.
6. Provide clean backfill soil, using material stockpiled on site. Soil shall be screened and free of any debris, foreign material, and stone.
7. "Agriform" tabs or similar slow-release fertilizer shall be added to the planting pits before being backfilled.
8. Amended planting mix shall consist of 1/3 screened topsoil, 1/3 sand and 1/3 peat, mixed well and spread to the depth as indicated in planting details.
9. All plantings shall be mulched per planting details located on this sheet.
10. The Landscape Contractor shall be responsible for all work shown on the landscape drawings and specifications.
11. No substitutions or changes of location, or plant types shall be made without the approval of the Landscape Architect.
12. The City of Novi's Landscape Architect shall be notified of any discrepancies between the plans and field conditions prior to installation.
13. The Landscape Contractor shall be responsible for maintaining all plant material in a vertical condition throughout the guaranteed period.
14. The Landscape Architect shall have the right, at any stage of the installation, to reject any work or material that does not meet the requirements of the plans and specifications, if requested by owner.
15. Contractor shall be responsible for checking plant quantities to ensure quantities on drawings and plant list are the same. In the event of a discrepancy, the quantities on the plans shall prevail.
16. The Landscape Contractor shall seed and mulch or sod (as indicated on plans) all areas disturbed during construction, throughout the contract limits.
17. A pre-emergent weed control agent, "Preen" or equal, shall be applied uniformly on top of all mulching in all planting beds.
18. All landscape areas shall be provided with an underground automatic sprinkler system.
19. Sod shall be two year old "Baron/Cheriadelpi" Kentucky Blue Grass grown in a sod nursery on loam soil.

CITY OF NOVI NOTES

1. All landscape islands shall be backfilled with a sand mixture to facilitate drainage.
2. All proposed landscape islands shall be curbed.
3. All landscape areas shall be irrigated.
4. Overhead utility lines and poles to be relocated as directed by utility company of record.
5. Evergreen and canopy trees shall be planted a minimum of 10' from a fire hydrant, and manhole, 15' from overhead wires.
6. All plant material shall be guaranteed for two (2) years after City Approval and shall be installed and maintained according to City of Novi standards. Replace Falling Material During the Next Appropriate Planting Period.
7. All proposed street trees shall be planted a minimum of 4' from both the back of curb and proposed walks.
8. All tree and shrub planting beds shall be mulched with shredded hardwood bark, spread to minimum depth of 4". All lawn area trees shall have a 4" diameter circle of shredded hardwood mulch 3' away from trunk. All perennial, annual and ground cover beds shall receive 2" of dark colored bark mulch as indicated on the plant list. Mulch is to be free from debris and foreign material, and shall contain no pieces of inconsistent size.
9. All Substitutions or Deviations from the Landscape Plan Must be Approved in Writing by the City of Novi Prior to their Installation.

NOTES:
THE APPROXIMATE DATE OF INSTALLATION FOR THE PROPOSED LANDSCAPE WILL BE MARCH 15 - NOVEMBER 15 OF 2017.

THE SITE WILL BE MAINTAINED BY THE DEVELOPER IN ACCORDANCE WITH THE STANDARDS SET FORTH IN THE CITY OF NOVI ZONING ORDINANCE. THIS INCLUDES WEEDING AND WATERING AS REQUIRED BY NORMAL MAINTENANCE PRACTICES. THIS INCLUDES ONE CULTIVATION BETWEEN JUNE-AUGUST.

DEVELOPER SHALL BE RESPONSIBLE FOR REPLACING ANY TREES WITHIN UTILITY EASEMENTS THAT ARE DAMAGED THROUGH NORMAL MAINTENANCE OR REPAIRS.

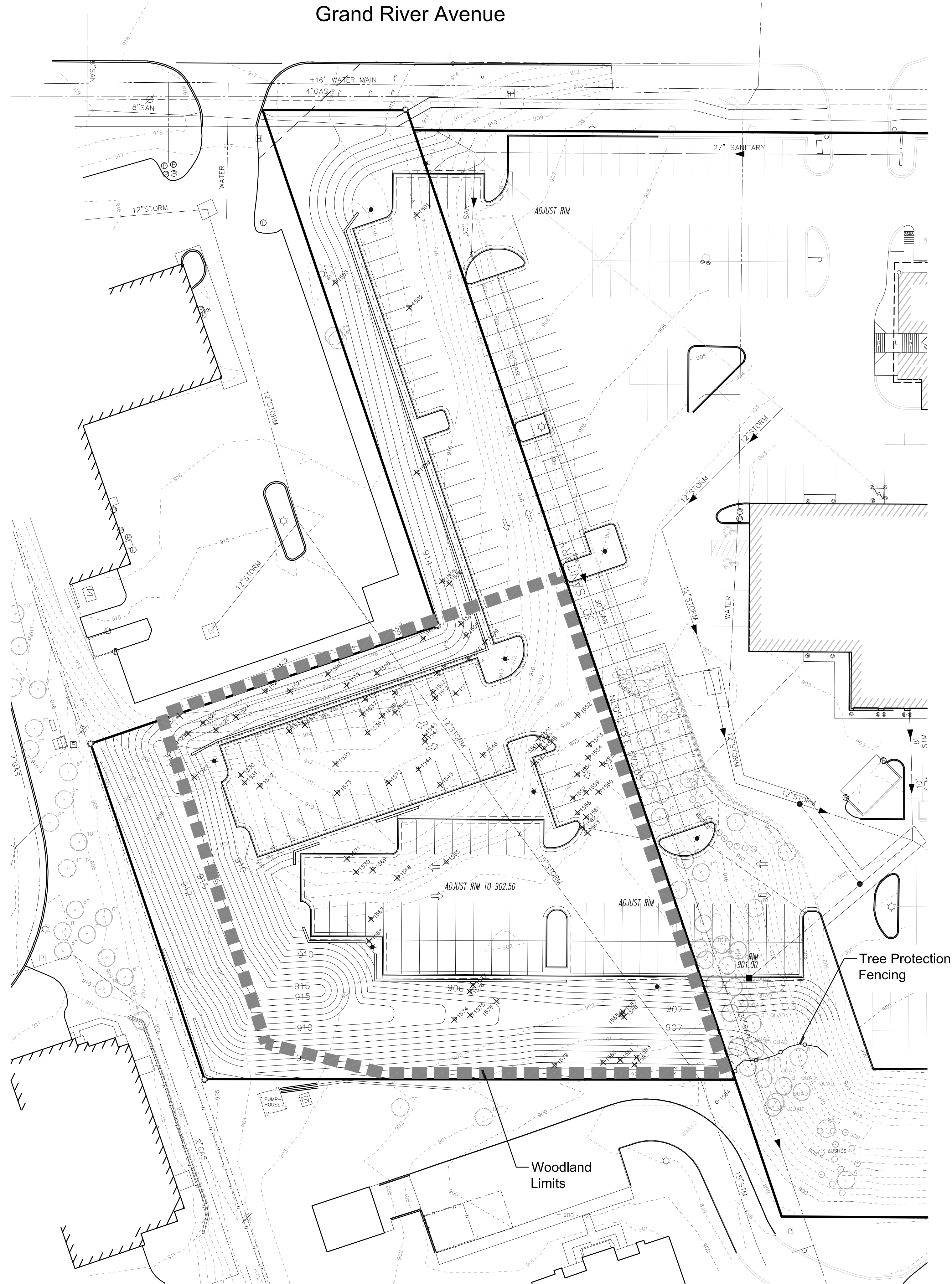
PLANT MATERIALS SHALL BE GUARANTEED FOR 2 YEARS AND SHALL BE MAINTAINED IN ACCORDANCE WITH CITY ORDINANCES. WARRANTY PERIOD BEGINS AT THE TIME OF CITY APPROVAL. WATERING AS NECESSARY SHALL OCCUR DURING THIS WARRANTY PERIOD.



Sheet No.

L-2

Grand River Avenue



Tree List

TAG NO.	DIAMETER	COMMON NAME	BOTANICAL NAME	CONDITION	REMARKS	REQUIRED REPLACEMENT
1501	8,9,9,10	Mulberry	Morus alba	Good	Remove	5
1502	14	Eastern Cottonwood	Populus deltoides	Good	Remove	2
1503	8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1504	9,11	Black Locust	Robinia pseudoacacia	Good	Remove	3
1505	6,6,8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1506	6,8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1507	11	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1508	10	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1509	12	Mulberry	Morus alba	Good	Remove	2
1510	9	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1511	10	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1512	8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1513	11	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1514	8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1515	8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1516	14	Eastern Cottonwood	Populus deltoides	Good	Save	
1517	10	Eastern Cottonwood	Populus deltoides	Good	Save	
1518	12	Austrian Pine	Pinus nigra	Good	Remove	2
1519	12	Austrian Pine	Pinus nigra	Good	Remove	2
1520	12	Austrian Pine	Pinus nigra	Good	Remove	2
1521	14	Austrian Pine	Pinus nigra	Good	Remove	2
1522	10	Austrian Pine	Pinus nigra	Tip Blight, Fair	Save	
1523	12	Austrian Pine	Pinus nigra	Tip Blight, Fair	Remove	2
1524	12	Austrian Pine	Pinus nigra	Tip Blight, Poor	Remove	2
1525	11	Austrian Pine	Pinus nigra	Good	Remove	1
1526	12	Austrian Pine	Pinus nigra	Tip Blight, Fair	Remove	2
1527	12	Austrian Pine	Pinus nigra	Tip Blight, Fair	Remove	2
1528	11	Austrian Pine	Pinus nigra	Good	Remove	1
1529	22	Eastern Cottonwood	Populus deltoides	Good	Remove	3
1530	9	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1531	12	Eastern Cottonwood	Populus deltoides	Good	Remove	2
1532	18	Eastern Cottonwood	Populus deltoides	Good	Remove	2
1533	9	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1534	9	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1535	8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1536	8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1537	9	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1538	8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1539	9	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1540	9	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1541	10	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1542	8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1543	8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1544	9	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1545	9	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1546	7,9	Black Locust	Robinia pseudoacacia	Good	Remove	1
1547	17	Eastern Cottonwood	Populus deltoides	Good	Remove	2
1548	10	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1549	9	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1550	13	Eastern Cottonwood	Populus deltoides	Good	Remove	2
1551	19	Eastern Cottonwood	Populus deltoides	Good	Remove	2
1552	8	Black Locust	Robinia pseudoacacia	Good	Remove	1
1553	8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1554	12	Eastern Cottonwood	Populus deltoides	Good	Remove	2
1555	13	Eastern Cottonwood	Populus deltoides	Good	Remove	2
1556	14	Eastern Cottonwood	Populus deltoides	Good	Remove	2
1557	14	Eastern Cottonwood	Populus deltoides	Good	Remove	2
1558	10	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1559	11	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1560	10	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1561	9	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1562	13	Eastern Cottonwood	Populus deltoides	Good	Remove	2
1563	10	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1564	18	Eastern Cottonwood	Populus deltoides	Good	Remove	2
1565	14	Eastern Cottonwood	Populus deltoides	Good	Remove	2
1566	9	Black Locust	Robinia pseudoacacia	Good	Remove	1
1567	9	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1568	9	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1569	8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1570	8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1571	8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1572	9	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1573	11	Black Locust	Robinia pseudoacacia	Good	Remove	1
1574	12	Eastern Cottonwood	Populus deltoides	Good	Remove	2
1575	11	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1576	11	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1577	10	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1578	10	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1579	12	Eastern Cottonwood	Populus deltoides	Good	Remove	2
1580	8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1581	8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1582	12	Black Willow	Salix nigra	Good	Remove	2
1583	8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1584	11	Eastern Cottonwood	Populus deltoides	Fair	Save	0
1585	8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1586	10	Eastern Cottonwood	Populus deltoides	Good	Remove	1
1587	8	Eastern Cottonwood	Populus deltoides	Good	Remove	1
Required Replacement						116

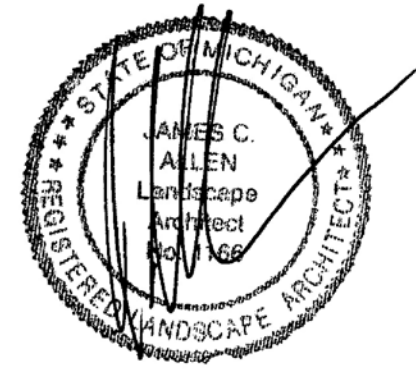
Woodland Summary

Total Trees	87 Trees
Regulated Trees Removed	83 Trees
Replacement Required	
Trees 8" - 11"	55 trees x 1= 55 Trees
Trees 11" - 20"	25 trees x 2= 50 Trees
Trees 20" - 30"	1 tree x 3= 3 Trees
Trees 30"+	0 trees x 4= 0 Trees
Multi-Stemmed Trees (2 trees)	8 Trees
Total Replacement Required	116 Trees

See Sheet L-1 for Replacement Tree Locations
Tree Survey Work was Conducted in May, 2016



Seal:



Title:

Woodland Plan

Project:

Feldman Chevrolet
Novi, Michigan

Prepared for:

Alpine Engineering
46892 West Road, Ste. 109
Novi, Michigan 48377
248.926.3701

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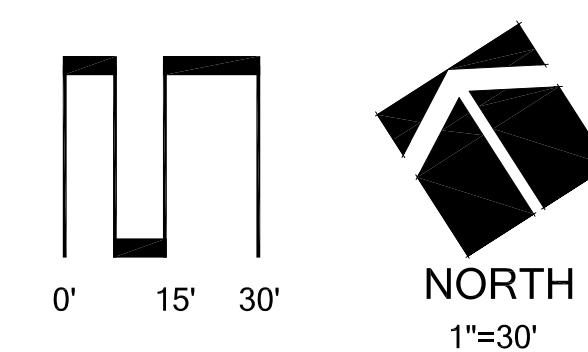
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Drawn By:

jca

Checked By:

jca



Sheet No.

