

**AGENDA**  
**PLANNING COMMISSION PUBLIC HEARING / REGULAR MEETING**  
**FEBRUARY 17, 2022, 7:30 P.M.**  
**CITY OF FARMINGTON HILLS,**  
**CITY HALL – CITY COUNCIL CHAMBERS**  
**31555 W. ELEVEN MILE ROAD, FARMINGTON HILLS MI 48336**  
**Cable TV: Spectrum – Channel 203; AT&T – Channel 99**  
**YouTube Channel: <https://www.youtube.com/user/FHChannel8>**  
**[www.fhgov.com](http://www.fhgov.com)**  
**(248) 871-2540**

- 1. Call Meeting to Order**
- 2. Roll Call**
- 3. Approval of [Agenda](#)**
- 4. Public Hearing**

**A. SPECIAL APPROVAL 53-1-2022**

LOCATION:	29411 W. Twelve Mile Rd.
PARCEL I.D.:	23-14-226-004
PROPOSAL:	Gasoline station and convenience store in B-1, Local Business District
ACTION REQUESTED:	Special Land Use Approval including Site Plan Approval by Planning Commission
APPLICANT:	Bazco Holdings, LLC
OWNER:	Bazco Holdings, LLC

**5. Regular Meeting**

**A. HISTORIC DISTRICT COMMISSION ANNUAL REPORT**

**B. SITE PLAN 54-1-2022**

LOCATION:	29509 Orchard Lake Rd.
PARCEL I.D.:	23-03-477-056 & 052
PROPOSAL:	Gasoline station and convenience store in B-3, General Business District
ACTION REQUESTED:	Site Plan Approval by Planning Commission
APPLICANT:	Bazco Holdings, LLC
OWNER:	Bazco Holdings, LLC

**C. SITE PLAN 55-1-2022**

LOCATION:	27730 Orchard Lake Rd.
PARCEL I.D.:	23-14-101-036
PROPOSAL:	Gasoline station and convenience store in B-3, General Business District
ACTION REQUESTED:	Site Plan Approval by Planning Commission
APPLICANT:	Bazco Holdings, LLC
OWNER:	Bazco Holdings, LLC

**D. SITE PLAN 66-12-2021**

LOCATION: 38400 W. Ten Mile Rd.  
PARCEL I.D.: 23-19-351-012  
PROPOSAL: Renovation of existing building for car wash in B-3,  
General Business District  
ACTION REQUESTED: Site Plan Approval by Planning Commission  
APPLICANT: Mustafa Gardi  
OWNER: 38400 W. 10 Mile Road, LLC

**E. SITE PLAN 51-1-2022**

LOCATION: 32200 W. Twelve Mile Rd.  
PARCEL I.D.: 23-10-454-003  
PROPOSAL: Parking addition to existing place of worship in RA-2,  
One-Family Residential District  
ACTION REQUESTED: Site Plan Approval by Planning Commission  
APPLICANT: RCI Contracting Services, Mike Hall  
OWNER: Mooney Real Estate Holdings, St. Fabians Church

**F. SITE PLAN 52-1-2022**

LOCATION: 29975 Orchard Lake Rd.  
PARCEL I.D.: 23-03-433-045  
PROPOSAL: Rear addition to an existing retail store in B-2,  
Community Business District  
ACTION REQUESTED: Site Plan Approval by Planning Commission  
APPLICANT: Jim Seba  
OWNER: CLV Orchard, LLC

**G. PLANNING COMMISSION ANNUAL REPORT**

**H. ELECTION OF OFFICERS**

- 6. Approval of minutes **January 20, 2022**  
**January 27, 2022**
- 7. Public Comment
- 8. Commissioner's Comments
- 9. Adjournment

**Respectfully Submitted,**

**John Trafelet**  
**Planning Commission Secretary**

**Staff Contact**  
**Erik Perdonik, [eperdonik@fhgov.com](mailto:eperdonik@fhgov.com)**  
**Staff Planner, Planning and Community Development**  
**248-871-2540**

NOTE: Anyone planning to attend the meeting who has need of special assistance under the Americans with Disabilities Act (ADA) is asked to contact the City Clerk's Office at 248-871-2410 at least two (2) business days prior to the meeting, wherein arrangements/accommodations will be made. Thank you.



## **SPECIAL USE APPROVAL 53-1-2022**

Special Use Approvals are discretionary and therefore reasons need to be given for approvals as well as denial. Decisions should be based upon the facts presented.

### **Approval:**

I move that Special Approval No. 53-1-2022 submitted by Bazco Holdings, LLC, be approved, subject to all applicable provisions of the Zoning Chapter, for the following reasons:

1. The use would not be injurious to the district and environs.
2. The effects of the use would not be contrary to the spirit and intent of the Zoning Chapter.
3. The use would be compatible with existing uses in the area.
4. The use will not interfere with orderly development of the area.
5. The use will not be detrimental to the safety or convenience of vehicular or pedestrian traffic.

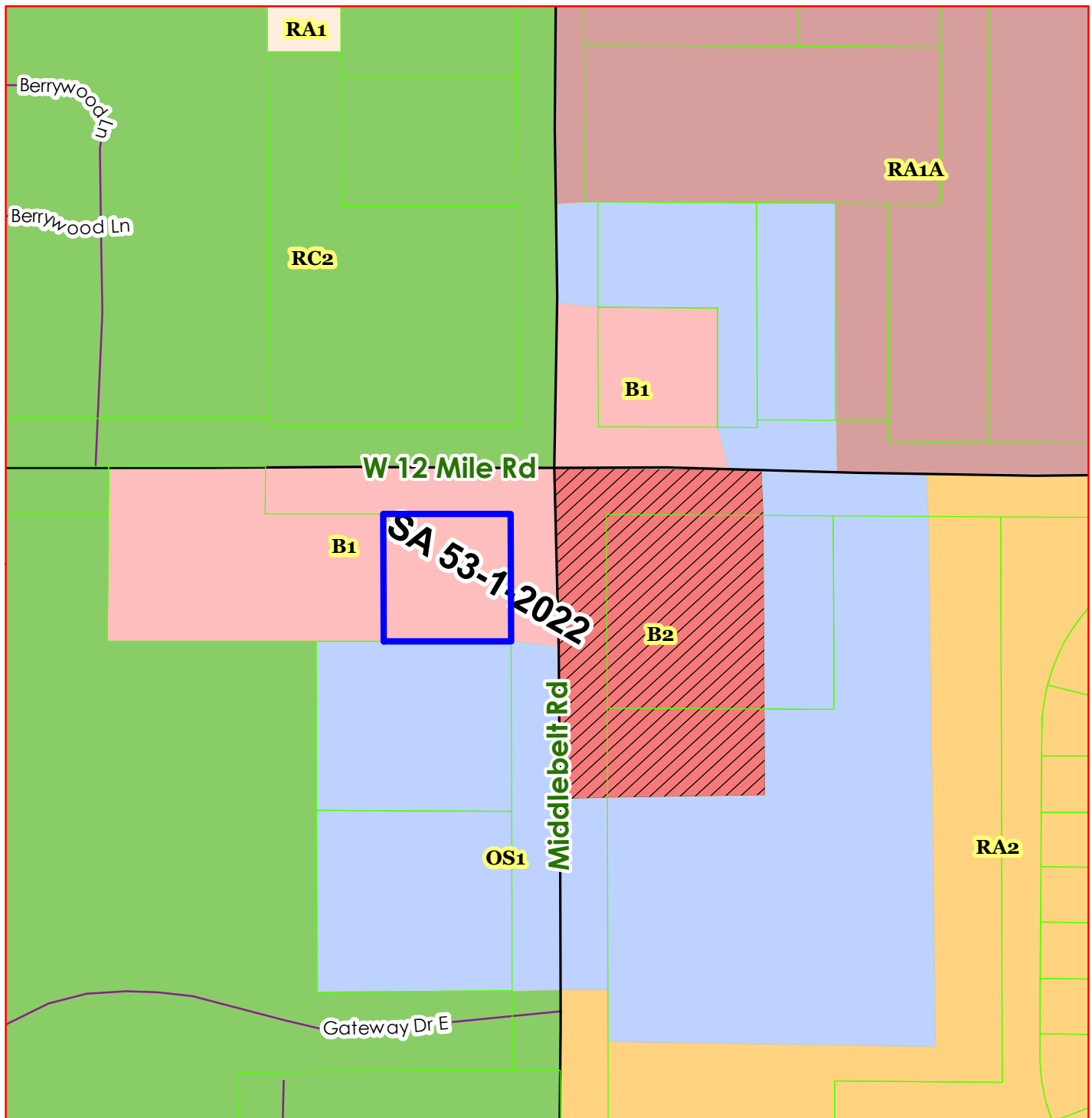
### **Denial:**

I move that Special Approval No. 53-1-2022, submitted by Bazco Holdings, LLC, be denied for the following reasons:

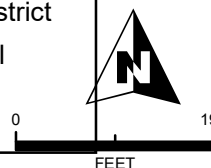
1. The use would interfere with orderly, future development of the area.
2. The use would not be compatible with the objectives, goals or policies of the Master Plan for Future Land Use.
3. The use would be incompatible with the existing or future uses in the area.
4. The use would have a negative impact on the district and/or environs.
5. The use would be contrary to the spirit and purpose of the Zoning Chapter.
6. The use would be detrimental to the safety or convenience of vehicular or pedestrian traffic.
7. The use would make it difficult for the City to implement the uses proposed by the Master Plan for Future Land Use.

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**SA 53-1-2022, B-1**  
**23-14-226-004, 29411 Twelve Mile**  
**Gasoline station and convenience store**



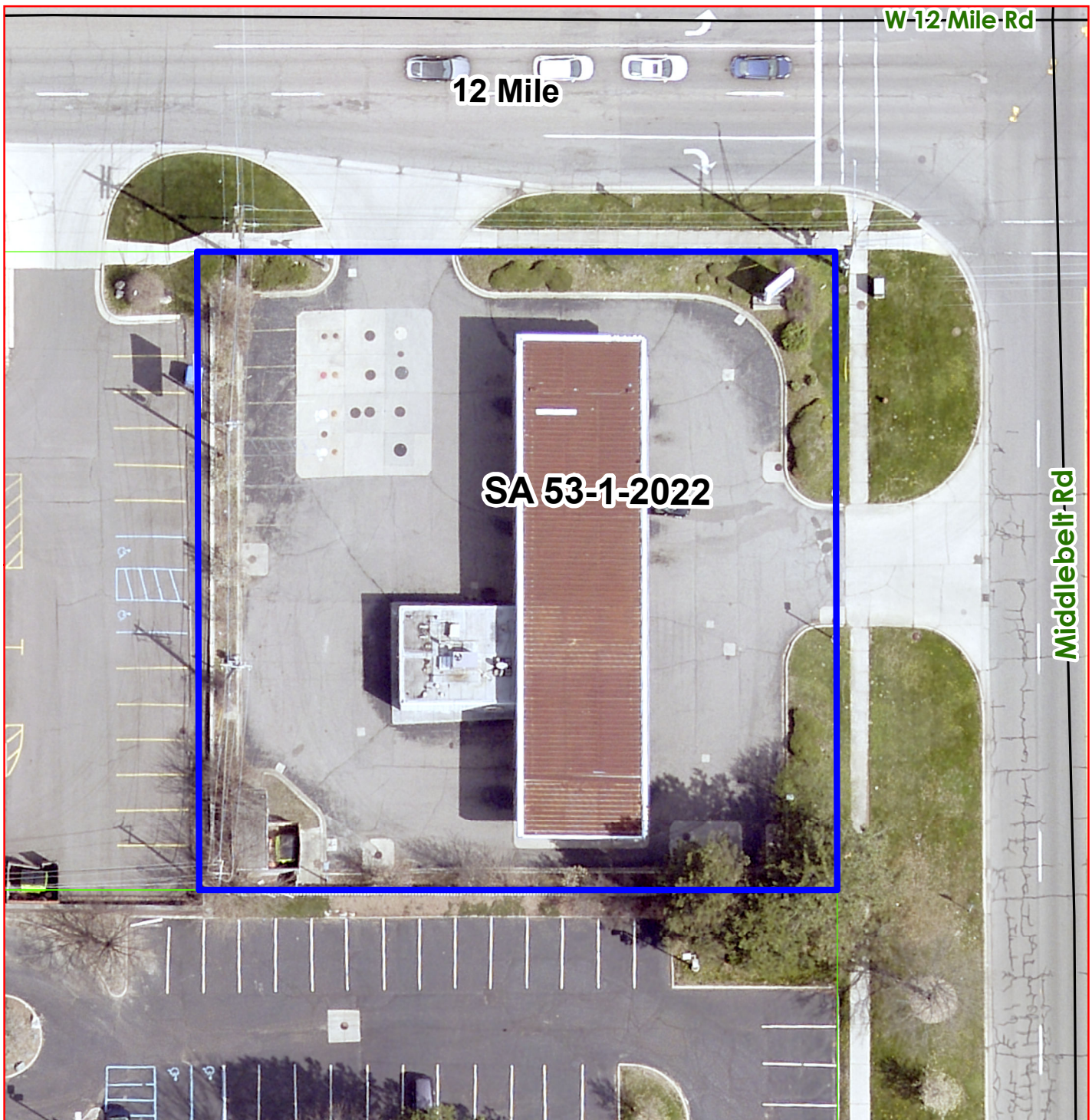
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|---------------------------------|---------------------------------------|
| Tax parcel                      | OS-1 Office Service District          |
| Minor roads                     | RA-1 One Family Residential District  |
| <b>Zoning Districts</b>         | RA-1A One Family Residential District |
| <b>Zoning Districts</b>         | RA-2 One Family Residential District  |
| B-1 Local Business District     | RC-2 Multiple Family Residential      |
| B-2 Community Business District |                                       |



SOURCE: City of Farmington Hills, 2022  
 Oakland County GIS, 2022

190  
 DISCLAIMER: Although the information provided by this map is believed to be reliable, its accuracy is not warranted in any way. The City of Farmington Hills assumes no liability for any claims arising from the use of this map.

SA 53-1-2022, B-1  
23-14-226-004, 29411 Twelve Mile  
Gasoline station and convenience store



## Planning Division

☐ Tax parcel



0  
FEET



SOURCE: City of Farmington Hills, 2022  
Oakland County GIS, 2022

DISCLAIMER: Although the information provided by this map is believed to be reliable, its accuracy is not warranted in any way. The City of Farmington Hills assumes no liability for any claims arising from the use of this map.



INTEROFFICE CORRESPONDENCE

**DATE:** January 27, 2022  
**TO:** Planning Commission  
**FROM:** Jason Baloga, Fire Marshal  
**SUBJECT:** Site Plan 53-1-2022 29411 Twelve Mile (Gas Station)

The Fire Department has reviewed the following site plan and made the following notation:

1. The site does not appear to meet Site Access requirements outlined in Chapter 12 Section 12-11(1) of the City Code; sites shall be designed to accommodate fire apparatus with a 50' turning radius.

Note: If the Proponent finds it impractical to comply with the minimum Fire Department site plan review and design standards, please contact the Fire Marshal to discuss the Alternate Protection provision outlined in Chapter 12 Section 12-11(4).

Once the above Ordinance requirements have been satisfied, the Fire Department will have no objection to recommending approval contingent upon compliance with the following conditions:

2. Fire lanes shall be posted and strictly enforced.
3. Hazardous materials shall be regulated according to State requirements as well as requirements of Chapter 12 of the City of Farmington Hills Ordinance.
4. Pumps shall only dispense fuel with attendant present.
5. Building shall be maintained in accordance with minimum Fire Prevention Code requirements.
6. The minimum clearance between the finished roadway surface and any overhead obstruction shall be 13'6".

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Jason Baloga, Fire Marshal

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DEPARTMENT OF PUBLIC SERVICES  
KAREN MONDORA, P.E., DIRECTOR

### INTEROFFICE CORRESPONDENCE

DATE: January 25, 2022  
TO: Planning Commission  
FROM: James Cubera, Engineering *JC*  
SUBJECT: BP Gas Station  
29411 12 Mile Road  
SP#: 53-1-2022 - PJ#: 14-22-45  
22-23-14-226-004

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This office has performed a preliminary review of the above referenced site plan submitted to the Planning Department on January 18th, 2022. Our preliminary comments are as follows:

1. A 16-inch watermain exists along the south side of 12 Mile Road across the frontage of this site. In addition, there appears to be a 12-inch watermain along the west side of Middlebelt Road across the frontage of this site. Both lines are available for service. It appears that the existing facility had a service tie-in to the 16-inch main. This needs to be confirmed. The proponent needs to identify whether they will be utilizing this service or providing a new tap.
2. A 30-inch sanitary sewer exists along the east side of Middlebelt Road across the frontage of this site. This is a County Interceptor sewer. The original plans for this site dating back to 1989 show the installation of a sewer lead boring underneath Middlebelt Road to tap into this Interceptor sewer. If the proponent will be utilizing this sewer lead, they will need to televise the line to confirm that it meets minimum infiltration and inflow requirements for the City. They will be obligated to attend to any deficiencies that are identified by the City or County when reviewing this video.
3. The site is utilizing the two existing curb cuts with one being to Middlebelt Road and the other to 12 Mile Road. This is appropriate.

4. A 5-foot-wide concrete sidewalk currently exists along the entire 12 Mile Road frontage as well as the Middlebelt Road frontage. Therefore, no additional walkway requirements will be in effect.
5. Storm detention must be provided in the amounts of 2 inches over the gross area of the site. Discharge must be restricted to an agricultural of 0.2 cfs per acre.

Our office notes that the original site currently utilizes underground pipe storage. If it is to be utilized for this new development, the appropriate storage volume must be confirmed and supplemented as necessary.

In addition, no part of the underground storage can be provided in areas where the pump canopy over hangs the storage pipe.

6. Storm water quality improvements will be required in accordance with the City of Farmington Hills Engineering standards. Attached are comments from the City's Environmental Engineer Tyler Sonoga. Any question regarding these items can be referred to him at 248-871-2533.
7. It is suggested that the proponent set up a Zoom or Teams meeting with the City Engineering Division to discuss this site in further detail.





DEPARTMENT OF PUBLIC SERVICES  
KAREN MONDORA, P.E., DIRECTOR

City of Farmington Hills  
Environmental Review

Project Name: BP Gas Station (Previously Mobil)

Address: 29411 12 Mile Rd.

Project Job #: 14-22-45

Plan Dated: 1-17-22

Plan Received: 1-19-2022

Review #: 1

Review Date: 1-26-2022

As requested, I have conducted a plan review of the above reference engineering plans. I have the following comments:

1. Storm water quality management must be provided for the site in accordance with the City of Farmington Hills Engineering Design Standards.
2. The existing underground detention system, outlet control structure, and storm catch basins and manholes should be inspected and cleaned out.
3. There is opportunity for low impact development best management practices to address storm water quality and quantity. These techniques include: porous pavement, infiltration trenches, and bioretention/rain gardens. The low impact development techniques would minimize the volume of storm water runoff and provide storm water quality treatment.

Respectfully submitted,

Tyler Sonuga  
Civil/Environmental Engineer  
Department of Public Services

cc: City of Farmington Hills, J. Cuhera

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February 4, 2022

Farmington Hills Planning Commission  
31555 W 11 Mile Rd  
Farmington Hills, MI 48336

# Site Plan Review

Case: SP 53-1-2022  
Site: 29411 12 Mile Rd (22-23-14-226-004)  
Applicant: Bazco Holdings, Inc.  
Plan Date: 1/17/2022  
Zoning: B-1 General Business

We have completed a review of the application for site plan approval and a summary of our findings is below. Items in **bold** require specific action. Items in *italics* can be addressed administratively.





SUMMARY OF FINDINGS

Summary of Proposal. The applicant proposes to rebuild an existing gas station and convenience store.

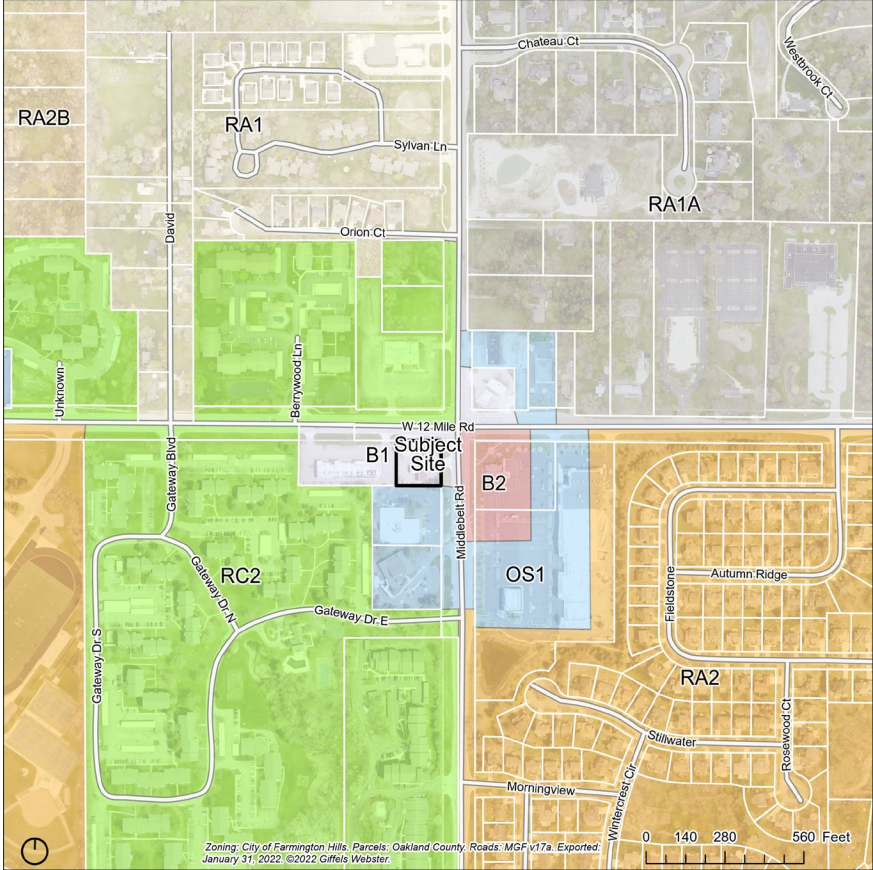
Summary of Issues.

- Inadequate labeling of buffer width on Sheet C-1.
- Address rooftop and other mechanical equipment.
- Address loading area and blocked spaces.
- Calculation of paved area needed to determine tree requirement; status of existing trees.
- Planning Commission to review method of parking lot screening.
- Lighting plan adjustments required.

Existing Conditions

1. Zoning. The site is 0.58 acres and zoned B-1.
2. Existing site. The site is currently developed with a gas station and convenience store.
3. Adjacent properties.

Direction	Zoning	Land Use
North (across 12 Mile)	RC-2	Approved senior housing site plan
South	OS-1	Office
East	B-2	Commercial
West	B-1	Commercial



4. **Site configuration and access.** The site is accessed via two driveways: one from Middlebelt Road, and another from 12 Mile Road.

**Site Plan & Use:**

1. **Use.** A gas station is a special land use in the B-1 district, subject to the standards of Section 4.28 (see below).
2. **Dimensional Standards (B-1 district).** See footnotes after the table for remarks on compliance issues.

Item	Required	Proposed/Comments
Standards of Sec. 34-3.1.25.E		
Min. lot size	None specified	0.58 acres
Min. lot width	None specified	160 ft/160 ft
Front Setback (east)	25 ft (to Middlebelt)	43.48 ft to canopy
Rear Setback (west)	20 ft	20 ft
Side Setback (north)	25 ft (to 12 Mile)	40 ft to canopy/45.8 ft to building
Side Setback (south)	10 ft	40 ft to canopy/45.29 ft to building
Building Height	30 feet	18 feet
Front Yard Open Space	50%	Compliant
Other dimensional standards		
Yard landscaping (34-3.5.2.A)	For all uses except one-family detached residential units, landscaping of all yards abutting a street shall be provided	See landscaping comments below.
Minimum parking setback (34-3.5.2.J)	10 feet	Compliant to east, north needs to be dimensioned <sup>1)</sup>
Loading space (34-3.5.2.N)	10 feet of loading space per front foot of building = 620 sq ft	600 sq ft <sup>2)</sup>
Rooftop equipment (34-3.5.2.U.)	Rooftop equipment shall be screened in accordance with Section 34-5.17.	Rooftop equipment is not addressed on the plans
Landscape area abutting street or freeway (34-3.5.2.V.)	A landscaped area not less than ten (10) feet deep	Varies and appears compliant, but width of each section should be labeled to verify compliance <sup>1)</sup>

- 1) When measured, the landscape buffer depth appears to be adequate; however, this should be dimensioned on the plan.
- 2) This area should be enlarged by 20 square feet. Because this area blocks access to 5 parking spaces, the applicant should be prepared to address how this will affect daily functioning on the site, such as by designating three of these spaces as employee parking or scheduling deliveries outside of busy hours.

3. **Dumpster (34-5.1.2.D).**

Item	Required	Proposed/Comments
Location	Rear yard or interior side yard	The dumpster enclosure is in the rear yard and compliant.
Screening	Permanent building wall or earth mound not less than 6 feet or 1 foot above the enclosed dumpster whichever is greater	

Setback	20 feet from any residential property	
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4. **Mechanical Equipment (34-5.1.4.D).** *The plan does not address mechanical equipment.*

5. **Minimum parking (34-5.2.11.C.i/x).**

Requirement	Calculations	Provided
i. Retail store: One (1) for each one hundred seventy-five (175) square feet of usable floor area x. Self-service gas station: One (1) space plus one (1) space for each employee on the largest working shift. Additional parking shall be provided for any accessory retail use as required for such use	$2728 \times 0.8 = 2,182.4$ $2,182.4/175 = 12$ $1 + 2 = 3$  Total required = 15 +1 for uses requiring less than 25 spaces = 16	18 spaces (50% of fueling positions may be counted as spaces); <i>plan counts 21 spaces and should be revised</i>
Barrier-Free Spaces	1 space (van accessible)	1 space

6. **Off-street parking dimensions (34-5.3.3.A & B.).**

Item	Required	Proposed/Comments
Maneuvering lane width	20 ft.	26 ft
Parking space width	9 ft.	9 ft
Parking space length	20 ft. for minimum required (May include a maximum two-foot unobstructed vehicle overhang area at the front of the parking space.)  17 ft. for additional parking (May include a maximum one-foot unobstructed vehicle overhang area at the front of the parking space)	20 ft

7. **Acceleration-Deceleration-Passing Lanes (34-5.6.2.)** Driveways providing ingress and egress to all three-lane paved major or secondary thoroughfares shall be provided with paved acceleration and deceleration lanes. If in the opinion of the director of public services no useful purpose would be served or if unusual difficulty would be encountered by reason of grade changes, intersections, bridges, or other land restrictions, the director may waive or modify the requirements of this section. **We defer to engineering to address this issue.**

8. **Standards for gas stations in the B-3 district.** Per Section 34-4.28, gas stations in the B-3 district shall meet the following standards:

In all districts:

- A. Adequate space shall be provided for the ingress, egress, and maneuvering of delivery trucks and emergency vehicles on the site. The analysis shall be based on radii and standards in the latest edition of A Policy of Geometric Design of Highways and Streets by the American Association of State Highway and Transportation Officials. Use of AutoTURN software or the equivalent is highly recommended for this analysis. This information shall be depicted on a site plan and approved in accordance with Section 34-6.1.

*This standard appears to be met.*

- B. Up to fifty (50) percent of fueling positions may be considered toward fulfilling the parking requirement for the gas station, except that fueling positions shall not be counted as spaces required for service bays.

*The applicant has used this standard to meet the parking requirement.*

In the B-1, B-3 and ES districts, gasoline service stations where no repair work is done, other than incidental service, but not including steam cleaning or undercoating, vehicle body repair, painting, tire recapping, engine rebuilding, auto dismantling, upholstery, auto glass work and such other activities whose external effects could adversely extend beyond the property line, shall be permitted subject further to the following conditions:

*This station has no auto service.*

- A. In the B-1 district:

- i. Main buildings shall have a minimum setback of one hundred (100) feet from an RA district unless the district is separated from the use by a major or secondary thoroughfare.

*This standard is met.*

- ii. The operation of an automobile car wash shall not be permitted.

*This standard is met.*

- B. In the B-1, B-3 and ES districts:

- i. The curbcuts for access to a service station shall not be permitted at such locations that will tend to create traffic hazards in the streets immediately adjacent thereto. Entrances shall be no less than twenty-five (25) feet from a street intersection (measured from the road right-of-way) or from adjacent residential districts.

*This standard is met.*

- ii. The minimum lot area shall be fifteen thousand (15,000) square feet, and so arranged that ample space is available for motor vehicles which are required to wait. Gasoline service stations having no facilities for repair or servicing of automobiles (including lubricating facilities) may be permitted on lots of ten thousand (10,000) square feet, subject to all other provisions herein required.

*This standard is met.*

- iii. Gasoline service stations which do not have a property line abutting a residential district shall not have service bay openings facing the public thoroughfare.

*N/A*

- iv. The parking of motor vehicles or the storage of trailers, campers or other such conveyances on the gasoline service station property shall be prohibited, except for those necessary to the operation of a gasoline service station.

*This standard appears to be met, but should be confirmed with a note on the plan.*

- v. Off-street loading and unloading space shall be provided in the ratio of at least ten (10) square feet per front foot of building but may be located in any required yard notwithstanding Section 34-5.4.

*See notes about the loading space above.*

9. **Circulation.** See notes about Sheet C1-A above.

10. **Corner Clearance (34-5.10).** Corner clearance standards appear to be met, but this should be shown on the plan (preferably on Sheet L-1).

11. **Landscaping.** There are several trees along the retaining wall that runs on the property line between this lot and the neighbor to the west—are these trees on this property? If so, are they proposed to be kept? They do not appear on the plans.

Item	Required			Proposed/Comments
Minimum distance from the property line (34-5.14.C.ii)	4 ft from the property line for trees and large shrubs			Compliant
Minimum parking lot island area	Minimum of 180 square feet; 3 feet minimum radius at the trunk of the tree			N/A
Cost estimate	Not required			--
Minimum size and spacing requirements at planting (34-5.14.F)	Size	Center to center distance (max)		
	(Height/width)	groupings	rows	
• Evergreen Trees	8 ft. height	20 ft.	12 ft.	N/A
• Narrow Evergreen Trees	5 ft. height	10 ft.	5 ft.	N/A
• Large Shrubs	30 in. height	10 ft.	5 ft.	Standard is met
• Small Shrubs	24 in. width	4 ft.	4 ft.	Standard is met
• Large Deciduous	3 in. caliper	30 ft.	-	Standard is met
• Small deciduous trees	2 in. caliper	15 ft.	-	Standard is met
• Hedge shrubs	24 in. height	3 ft.	3 ft.	No hedge
Canopy Trees	Shall be large deciduous. PC may permit large evergreens			2 large deciduous trees provided, plus 3 ornamental; <b>there is one unlabeled tree shown on the plans in the northern landscape buffer.</b>
Minimum number of parking lot trees (34-5.14.4.C)	1 per every 2,800 square feet of paved surface area:			<b>Paved surface quantity not provided; requirement unknown</b>
Parking lot screening from public thoroughfare (34-5.14.5)	A planted hedge of small shrubs, or A masonry wall or berm of 2 feet high			No hedge is provided, but the dense shrub arrangements will have a similar effect. <b>Planning Commission to review and comment.</b>
Wall or Berm (34-5.15)	Required when abutting a residential district. (See 34-5.15)			Not required
Tree replacement (34-5.18)	0 required			No existing trees will be removed.

12. **Tree Replacement (34-5.18).** The site's two existing trees are not proposed to be removed, and the required affidavit has been provided.



**13. Lighting (Section 34-5.16).**

- a. **Operation hours (34-5.16.3.B.v.).** *The following notes must be added to or addressed on the plan; it is unclear from the existing plans whether these standards are met. The applicant should clarify how these standards are met.*
- i. Exterior lighting shall not operate during daylight hours.
  - ii. Building façade and landscape lighting shall be turned off between midnight or one hour after close of business, whichever is later, and 6:00am or opening, whichever is earlier.
  - iii. All other exterior lighting shall be reduced to no greater than 70% of maximum from midnight or one hour after close of business, whichever is later, and 6:00am or opening, whichever is earlier.
  - iv. Use of occupancy sensors to turn off or reduce lighting within 15 minutes of zero occupancy is recommended.
- b. **Illumination Levels.** With the exception of the undetailed sconces, the fixtures appear capable of meeting cutoff requirements.

Item	Required	Proposed/Comments
Maximum height (34-5.16.3.A.)	30 feet maximum	10, 15, 16 ft.
Building Lighting (34-5.16.3.A. iii.)	Relevant building elevation drawings showing all fixtures and the portions of the walls to be illuminated	Decorative sconces proposed on building; <b>details needed</b>
Average to minimum illumination ratio (34-5.16.3.C)	4:1	<b>8:1</b>
Maximum illumination at the property line	0.3 fc	Met <b>except at east driveway</b>
Illumination Levels- Hardscape areas (e.g., parking areas, sidewalks)	2.5 lumens per sq ft of hardscape area	<b>Unclear from plan</b>
Illumination Levels Building Entrances – within 20 ft of door	2,000 lumens per door	<b>Unclear from plan</b>

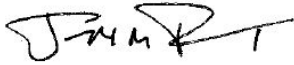
**14. Additional lighting standards for sites abutting a residential district (Sec. 34-5.16.3.B.iii.)**

- a. No direct light source shall be visible at the property line (adjacent to residential) at ground level. *This standard appears to be met.*
- b. All fixtures mounted within 50 feet of a residential property line or public right-of-way boundary shall be fitted with a shielding reflector on the side facing the residential property line or public right-of-way. *This standard does not apply to this site.*

**15. Pedestrian Connection (Sec. 34-5.19).** A pedestrian connection to the 12 Mile sidewalk is provided.

We are available to answer questions.

Respectfully,  
**Giffels Webster**

A handwritten signature in black ink, appearing to read 'J. Tangari'.

Joe Tangari, AICP  
Senior Planner

A handwritten signature in black ink, appearing to read 'Rod Arroyo'.

Rod Arroyo, AICP  
Secretary | Partner

Proposed 2,728 square feet mercantel space to replace existing building in an existing filling station site located @ 29411 Middlebelt Road, Farmington Hills, Michigan

#### Governing Codes

1. 2016 Michigan Building Code
2. 2015 International Fire Code
3. 2015 Michigan Plumbing Code
4. 2015 Michigan Mechanical Code
5. 2017 National Electric Codes, with part 8 rules
6. ANSI 117.1-2008 (Accessibility)
7. ASHRAE 90.1 2013 Energy Code
8. City of Farmington Hills Zoning Ordinance

#### Jurisdiction

1. City of Farmington Hills Planning, Building and Engineering Departments
2. Oakland County

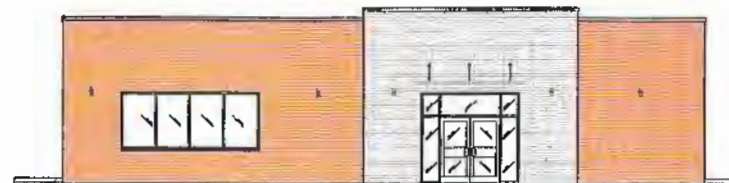
#### Design team and consultants

HANNA ENGINEERING AND CONSULTING  
Planners, Architect and Engineers  
31786 Clarita  
Livonia, Michigan 48162  
Tel: (313) 875-0220  
jand.hce@gmail.com

VITINS ENGINEERING  
44275 Brandywine  
Canton, Michigan 48187  
Tel: (313) 453-3460  
vitins@umich.edu

#### APPLICANT:

Banco Oil Company  
30826 Twenty Six Mile Road, New Haven, Michigan 48048  
Tel: (586) 631-6377



PROPOSED FRONT ELEVATION



#### Site & Building Data

	CODE SECTION	PROPOSED
PROPOSED USE		Filling Station and C store operation
USE GROUP	508.3	MERCANTILE (M)
BUILDING HEIGHT		VARIES 17' TO 18'
CONSTRUCTION TYPE	IIIB	IIIB
GROSS BUILDING AREA		2,728 SQ.FT
OCCUPANT LOAD		RETAIL AREA ( SQ.FT)/30 = 1225/30 = 41 OCCUPANTS STOCK ROOM SQ.FT/300 = 1503/300 = 5 OCCUPANTS TOTAL OCCUPANT LOAD = 47 OCCUPANTS
	1004.1	
EGRESS REQUIREMENT	1005	47X.02 = .94"
NO. OF EXITS	1005	PROVIDED two @ 36" and 72 " = 108"
PARKING CALCULATIONS	156.077	1+ 2 employees + 2728 S.F x .8 /175 S.F + 15 spaces
TOTAL PARKING PROVIDED		16 SPACES INCLUDING ONE VAN ACCESSIBLE
SPRINKLER SYSTEM	TABLE 506.2	NOT PROVIDED AREA < 12,000 SQ.FT
TRAVEL DISTANCE FROM MOST REMOTE POINT	TABLE 1008.2.1	LESS THAN 75'
HOURS OF OPERATION		24 HOURS
NUMBER OF EMPLOYEES		3 EMPLOYEES PER SHIFT

#### Drawing Index

COV	COVER SHEET
C.A.1	PROPOSED SITE PLAN
C.A.2	SITE DETAILS
A-1	PROPOSED FLOOR PLAN
A-2	PROPOSED BUILDING ELEVATIONS
A-3	PROPOSED BUILDING ELEVATIONS

CIVIL

SA & SP 53.1.2022

RECEIVED  
JAN 18 2022  
CITY OF FARMINGTON HILLS  
PLANNING DEPT.

#### Pumps/Canopy & Price Sign

( Price sign require separate permit and approval)

#### Permits and Approval Requests

#### dates

SITE PLAN APPROVAL	01-17-2022

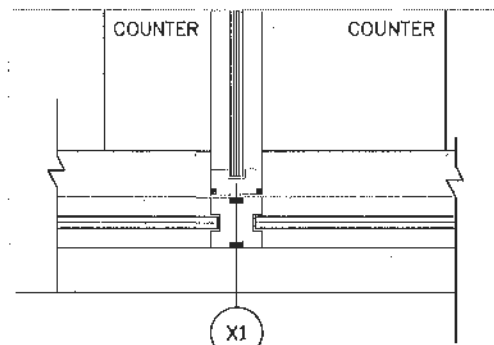
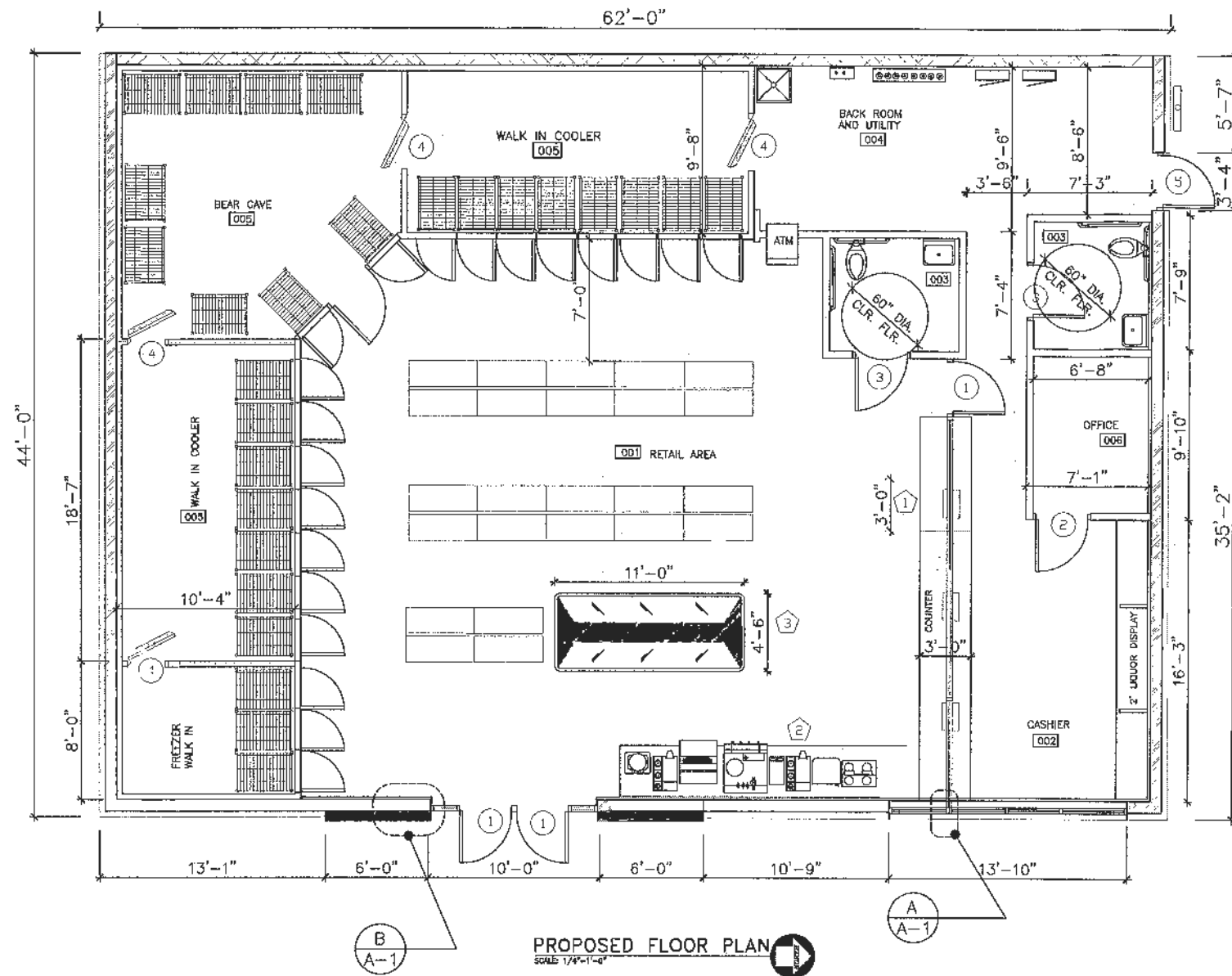
#### Site Data

ZONING	B-1
AREA	25,612 Q.FT = .68 ACRES
DESCRIPTION	EXISTING GAS STATION AND (C) STORE RETAIL RECONSTRUCTION

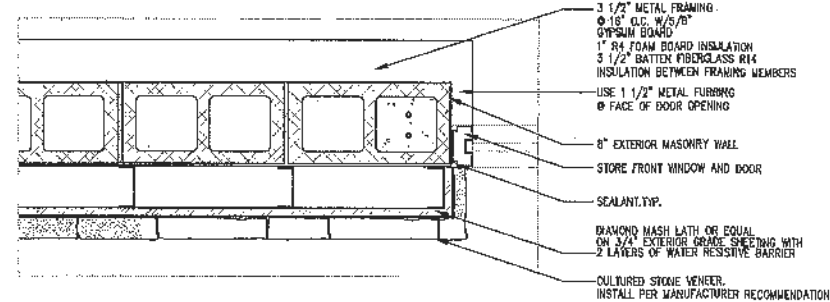
#### ZONING MAP



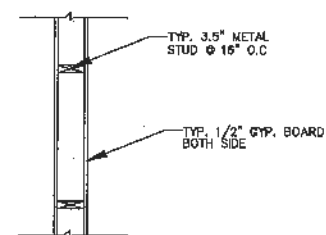




A-1 ENLARGED DETAIL  
NOT TO SCALE



B ENLARGED DETAIL  
SCALE: 1/5"=1'



TYP. INTERIOR PARTITION WALL (PLAN VIEW)  
SCALE: NOT TO SCALE

## DOORS SCHEDULE

NO.	DOOR	FRAME	HARD.	REMARKS
1	3'x7'1/4"	ALUM.	1	DOOR TYPE B
2	3'x7'1/4"	H.M.	3	DOOR TYPE A
3	3'x7'1/4"	H.M.	2	DOOR TYPE C
4	BY COOLER SUPPLIER			
5	3'x7'1/4"	H.M.	1	DOOR TYPE A

## HARDWARE TYPES:

- (3) 1 1/2" BUTTS/PUSH PULL PLATES/LEAD BOLTS W/ TURN BOTTOM/CLOSER/WEATHER STRIP/KECK PLATES (BOTH SIDES)/THRESHOLD
- 1 1/2" PR. BUTTS/PUSH PULL PLATES/WALL BUMPER/CLOSER/PRIVACY SET/LATCH SET/DOOR SIGN
- 1 1/2" PR. BUTTS/LEVER HANDLES/PRIVACY SET/WALL BUMPER/DOOR STOP

## ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR MATERIAL	BASE	WALLS				CEILING		REMARKS
				NORTH	SOUTH	EAST	WEST	MAN.	HT.	
001	DISPLAY AREA	P.T.	P.T.B	GLS	DWP	GLS	DWP/ACT	DWP	STERL	OPEN TO BOTTOM OF TRUSS
002	CASHIER	P.T.	P.T.B	GLS	DWP	GLS	DWP	DWP	ACT	SUSPENDED CEILING OVER FOOD SECTION
003	TOILET	P.T.	P.T.B	DWP	DWP	DWP	DWP	DWP	ACT	8'-0"
004	UTILITY	C.T.	C.T.B	DWP	DWP	DWP	DWP	DWP	ACT	OPEN TO BOTTOM OF TRUSS
005	W.I.C.	C.T.	BY COOLER SUPPLIER							
006	OFFICE	P.T.	P.T.B	DWP	DWP	DWP	DWP	DWP	ACT	8'-0"

- 36"x36" handcap counter of maximum elevation of 34"
- all equipment operating keys to be at max.46" handcap arm reach. counter top to be at 33.5" max elevation
- Gourmet catered sandwich refrigerator display selected by food supplier and owner)

## ABRIVATION

V.C.T.	VINYL COMPOSITE TILES
C.	CONCRETE FLOOR
R.C.B.	RUBBER CURB BASE 4"
DWP	DRY WALL PAINTED
MWP	MASONRY BLOCK PAINTED
ACT	ACOUSTIC TILES 6"x6" (TO BE APPROVED BY OWNER)
P.T.	PORCELAIN TILE
P.T.B	PORCELAIN TILE BASE
GLS	GLASS
C.T.	CERAMIC TILE
C.M.W.	COOLER MATERIAL WALL

## NOTES:

- P.T. #1 PORCELAIN TILE - COLOR SELECTION BY OWNER
- TILE ON WALLS SHALL HAVE DECORATIVE PATTERN SELECTED BY OWNER
- PROVIDE THIS SETTING BEDS AS REQUIRED SO THAT ALL FLOOR SURFACES ARE LEVELLED (WITHOUT TRANSITIONS IN HEIGHT)
- ALL PAINT SHALL BE SEMI-GLOSS FINISH & COMPLY WITH HEALTH DEPARTMENT REQUIREMENTS IN FOOD AREAS
- ALL FINISH MATERIALS TO BE CHOSEN BY OWNER

## WALLS TYPE

	EXTERIOR 6" MASONRY BLOCK WITH 4" BRICK
	1/2" DRY WALL ON 3 1/2" STEEL STUDS
	4" COOLER WALL PER SUPPLIER
	EXTERIOR 4" MASONRY BLOCK WITH 2" CULTURED STONE ON 3 1/2" METAL STUDS
	EXTERIOR 6" MASONRY SPLIT FACE

SHEET TITLE:



SCALE:	DATE:	DATE:	DATE:
AS NOTED	03-12-2020	07-27-2021	07-27-2021
DRAWN BY	DESIGNED BY	CHECKED BY	DATE:
J.S.	J.S.	J.S.	07-27-2021

PROPOSED FLOOR PLAN  
PROPOSED RENOVATION OF AN EXISTING GAS STATION LOCATED @  
29411 MIDDLEBURY ROAD, FARMINGTON HILLS, MI

APPLICANT: Baco Oil Company  
50825 Twenty Six Mile Road, New Haven, Michigan 48046  
Tel: (586) 531-6577

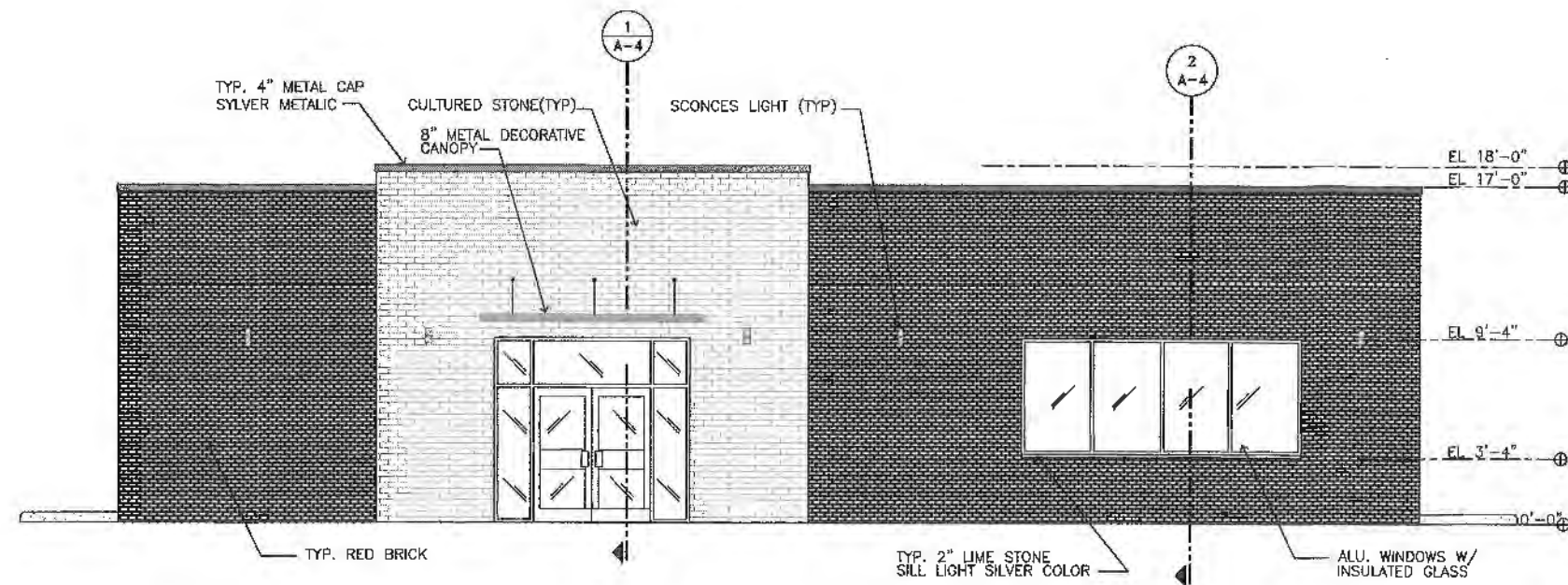
HANNA ENGINEERING AND CONSULTING  
Planners, Architect and Engineers  
31786 Clarita  
Livonia, Michigan 48152  
Tel: (313) 575-0220  
jsaad.hcc@gmail.com

JOB NO.

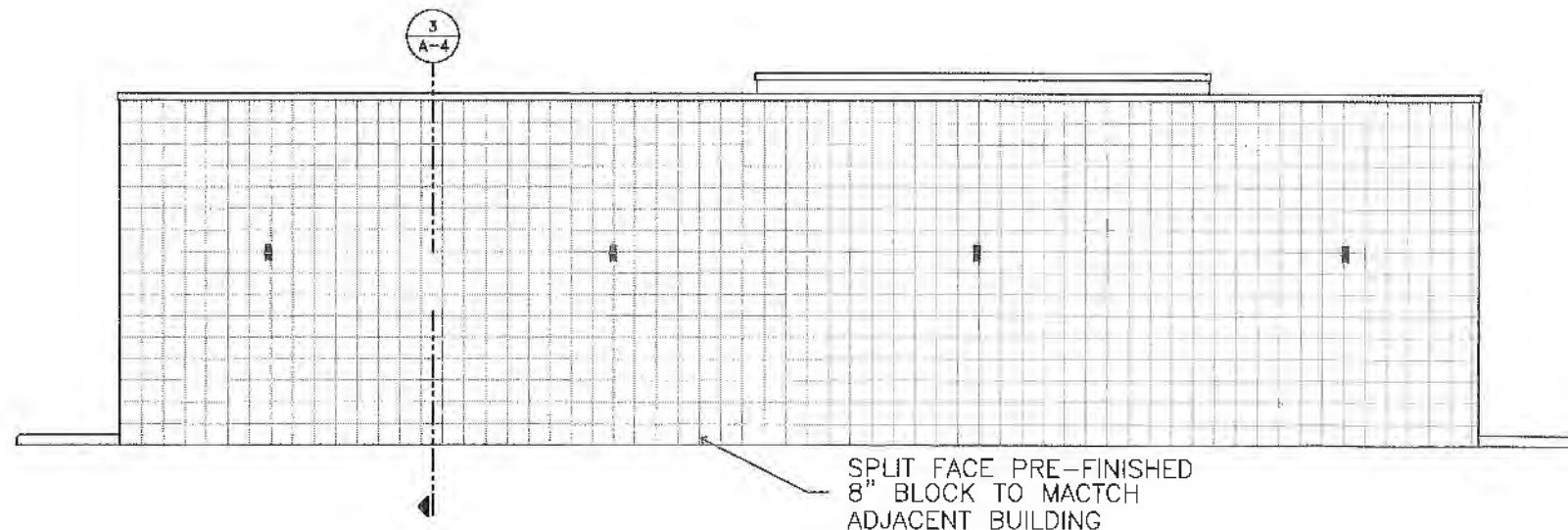
22-21

SHEET NO.

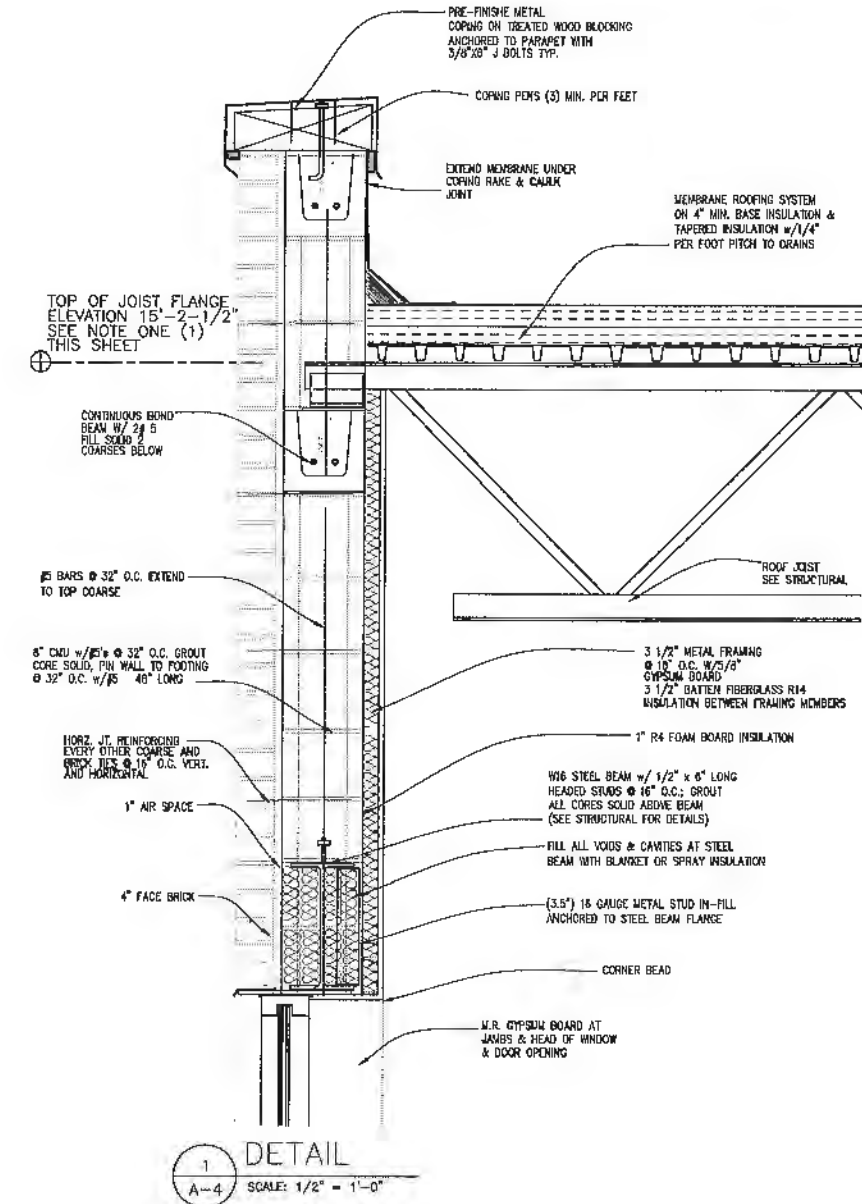
A-1



**PROPOSED EAST ELEVATION**  
SCALE: 1/4"=1'-0"




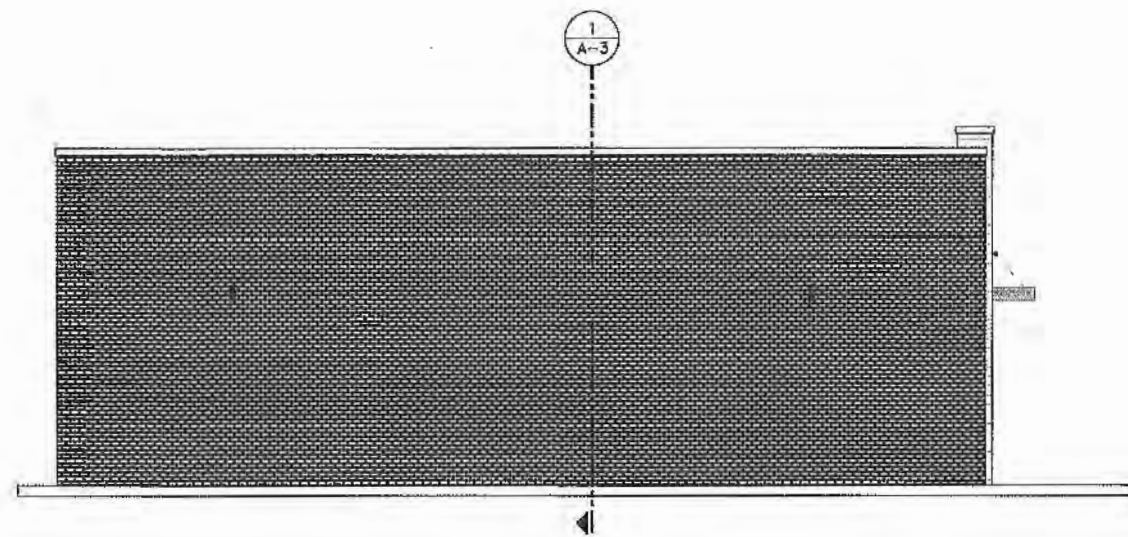
**PROPOSED WEST ELEVATION**  
SCALE: 1/4"=1'-0"



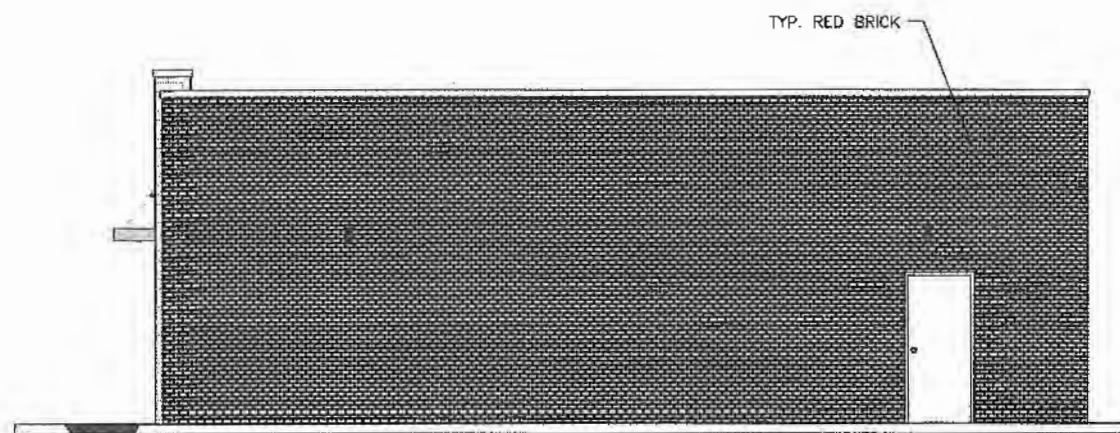
**NOTES:**

1. STEEL CONTRACTOR TO FIELD VERIFY BUILDING DIMENSION AFTER MASONRY ERECTION BEFORE SHOP DRAWING IS PREPARED

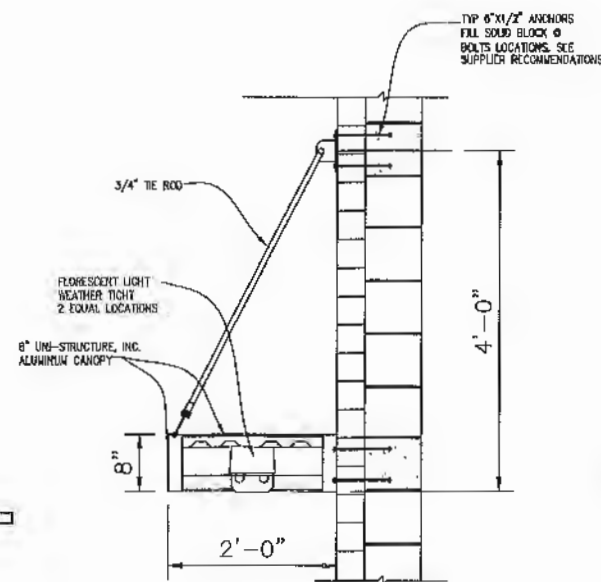
JOB No.		22-21		SHEET No.		A-2	
HANNA ENGINEERING AND CONSULTING Planners, Architect and Engineers 31786 Clarita Livonia, Michigan 48152 Tel: (313) 576-0220 jsaad.hec@gmail.com							
PROPOSED ELEVATIONS							
PROPOSED RENOVATION OF AN EXISTING GAS STATION LOCATED @ 28411 MIDDLEBELT ROAD, FARMINGTON HILLS, MI							
APPLICANT: Basco Oil Company 30826 Twenty Six Mile Road, New Haven, Michigan 48048 Tel: (586) 531-6377							
							
ACAD FILE:		12xmiddlebelt					
DATE:	03-12-2020	12xmiddlebelt					
DATE	07-27-2021	ISSUED FOR					
		SPECIAL LAND USE/PAE PLAN REVIEW					
DESIGNED BY	J.S.						
CHECKED BY	J.S.						



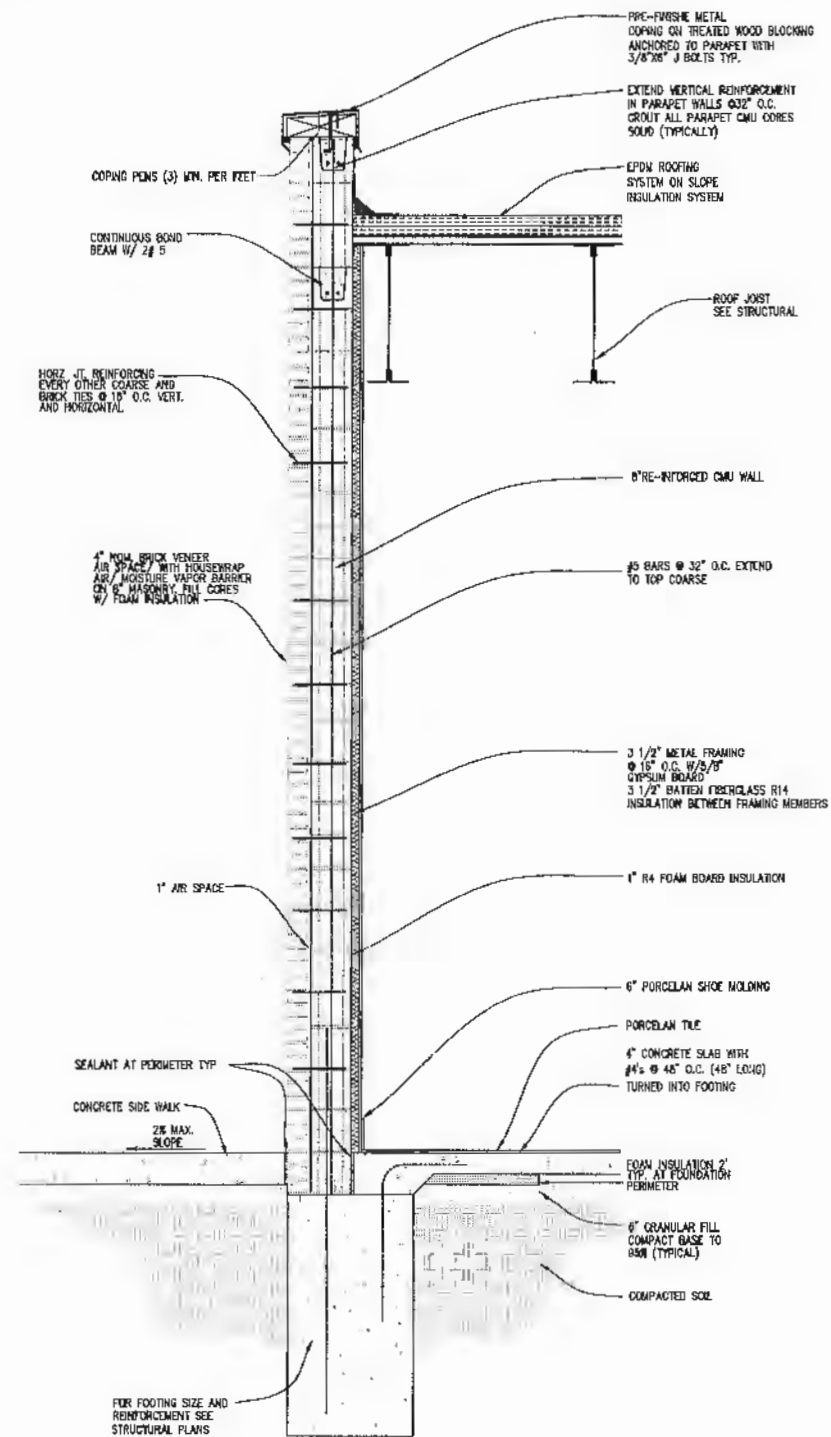
PROPOSED SOUTH ELEVATION  
SCALE: 1/4"=1'-0"




PROPOSED NORTH ELEVATION  
SCALE: 1/4"=1'-0"



CANOPY DETAIL  
SCALE: 1"=1'-0"



1 WALL SECTION  
A-3 SCALE: 3/4"=1'-0"

SCALE:		DATE:		JOB NO.	
AS NOTED		03-12-2020		22-21	SHEET NO.
DRAWN BY		DATE			
U.S.		07-27-2021			
DESIGNED BY		SHEET TITLE:			
J.S.		PROPOSED ELEVATIONS			
		PROPOSED RENOVATION OF AN EXISTING GAS STATION LOCATED @			
		29411 MIDDLEBELT ROAD, FARMINGTON HILLS, MI			
		APPLICANT: Benco Oil Company			
		30826 Twenty Six Mile Road, New Haven, Michigan 48048			
CHECKED BY		Tel: (866) 521-6377			
J.S.					
Hanna Engineering and Consulting Planners, Architect and Engineers 31786 Clarita Livonia, Michigan 48152 Tel: (313) 575-0220 jsaad.hec@gmail.com					

CITY OF FARMINGTON HILLS NOTES:

1. ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF FARMINGTON HILLS.
2. NOTIFY THE CITY OF FARMINGTON HILLS ENGINEERING DIVISION AT (248) 871-2650 A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
3. 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.
4. UTILITIES SHALL BE UNDERGROUND.
5. REFER TO ARCHITECTS DRAWINGS FOR BUILDING DETAILS AND DIMENSIONS.
6. EXTERIOR SITE LIGHTING SHALL BE DIRECTED DOWNWARD AND SHIELDED AWAY FROM ADJACENT PROPERTIES.
7. NO SIGNS ARE APPROVED AS PART OF THIS SITE PLAN APPROVAL AND PRIOR TO ERRECTING A SIGN, AN APPLICATION AND APPROPRIATE SUBMISSIONS SHALL BE MADE TO THE BUILDING DEPARTMENT FOR REVIEW, APPROVAL AND ISSUANCE OF A SIGN PERMIT.
8. PRIOR TO THE ISSUANCE OF AN OCCUPANCY PERMIT, ENGINEERING SITE INSPECTION IS REQUIRED.

PERMITS:

1. A SOIL EROSION AND SEDIMENTATION CONTROL PERMIT OR WAIVER SHALL BE OBTAINED FROM THE CITY OF FARMINGTON HILLS.
2. CONTRACTOR SHALL OBTAIN A CONSTRUCTION PERMIT FROM THE ROAD COMMISSION FOR OAKLAND COUNTY (RCOC) FOR ALL WORK IN THE MIDDLEBELT ROAD AND TWELVE MILE ROAD RIGHT-OF-WAYS.

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 3 FEET OF PAVEMENT, EXISTING OR PROPOSED, SHALL BE BACKFILLED WITH SAND (CLASS II MDOT) 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.

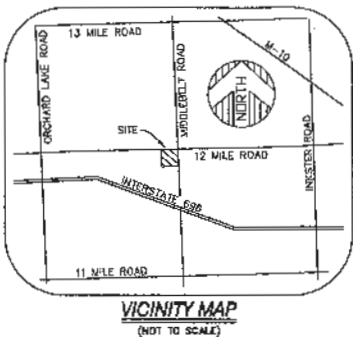
REFERENCES:

1. TOPOGRAPHIC SURVEY AND ALTA/NSPS LAND TITLE SURVEY PREPARED BY KEM-TEC DATED AUGUST 8, 2021.

# FILLING STATION

## 29411 TWELVE MILE ROAD

PART OF THE NE 1/4 OF SECTION 14, T.1N., R.9E.,  
CITY OF FARMINGTON HILLS, OAKLAND COUNTY, MICHIGAN

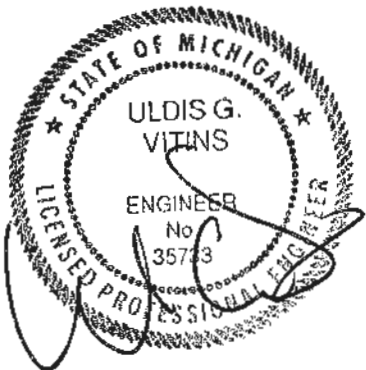


### PROJECT INFORMATION

LAND AREA GROSS & NET	25,600 S.F.
SITE ZONING	B-1 LOCAL BUSINESS DISTRICT
TAX IDENTIFICATION NUMBER	23-14-226-004
PROPOSED BUILDING AREA HEIGHT	2728 S.F. 30 FEET ALLOWABLE (REFER TO ARCHITECTURAL DRAWINGS)
FRONT YARD OPEN SPACE	50% REQUIRED
SETBACKS FRONT SETBACK SIDE SETBACK REAR SETBACK	26 FEET 10 FEET (20 FEET FROM RESIDENTIAL DISTRICT) 20 FEET
PARKING REQUIRED	1 SPACE + 1 SPACE PER EMPLOYEE + 1 SPACE PER 175 S.F. USABLE FLOOR AREA
TOTAL SPACES REQUIRED	1 SPACE + 1 EMPLOYEE + 2728 S.F. x 0.8 / 175 S.F. = 15 SPACES
SPACES PROVIDED	21 SPACES INCLUDING 1 BARRIER FREE
LOADING/UNLOADING SPACE	1 SPACE (1,401 S.F. - 20,000 S.F.)

### DRAWING INDEX

SHEET NO.	DESCRIPTION
T-1	CIVIL ENGINEER DRAWINGS:
C-1	COVER SHEET
C-1A	DIMENSIONAL SITE PLAN
C-2	TRUCK TEMPLATE SITE PLAN
C-3	PAVING PLAN
C-4	GRADING & SOIL EROSION CONTROL PLAN
C-5	UTILITY PLAN
C-6	DRAINAGE AREAS & STORMWATER MANAGEMENT CALCULATIONS
C-7	DEMOLITION PLAN
C-8	STORM SEWER PROFILES
C-9	CONSTRUCTION DETAILS
C-10	SECC DETAILS
C-11	MDOT STANDARD DETAILS
L-1	MDOT STANDARD DETAILS
L-2	LANDSCAPE PLAN
L-3	LANDSCAPE DETAILS
2 SHEETS	REFERENCE DRAWINGS DBA RECORD PLANS
A-1 THRU A-7	ARCHITECT/ENGINEER DRAWINGS FLOOR PLANS, ELEVATIONS, AND BUILDING DETAILS
1 OF 1	SURVEYOR DRAWINGS TOPOGRAPHIC & ALTA/NSPS SURVEY
1 SHEET	CITY OF FARMINGTON HILLS STANDARD STORM SEWER DETAILS



### OWNER/APPLICANT

BAZCO OIL COMPANY  
30825 26 MILE ROAD  
NEW HAVEN, MI 48048  
(586) 749-7444 (PHONE)

### ARCHITECT/ENGINEER

JOHN SAAD, P.E.  
HANNA ENGINEERING AND CONSULTING  
31788 CLARITA  
LYONIA, MI 48152  
(313) 575-0220 (PHONE)  
jsaad.hec@gmail.com

### CIVIL ENGINEER

ULDIS G. VITINS, P.E.  
VITINS ENGINEERING  
44275 BRANDYWINE  
CANTON, MICHIGAN 48187  
(734) 453-3460 (PHONE)



VITINS ENGINEERING  
44275 BRANDYWINE  
CANTON, MICHIGAN 48187  
TELEPHONE: (313) 453-3460  
FAX: (313) 453-3460

VITINS ENGINEERING  
Civil/Environmental Engineering  
Municipal Consulting  
Software Development

PROJECT NO.	DATE REVISION	REVISION	DATE
1	1/2/2022	SITE PLAN	

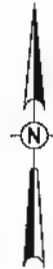
PROPOSED FILLING STATION  
29411 TWELVE MILE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN

COVER SHEET

PROJECT NUMBER  
21090

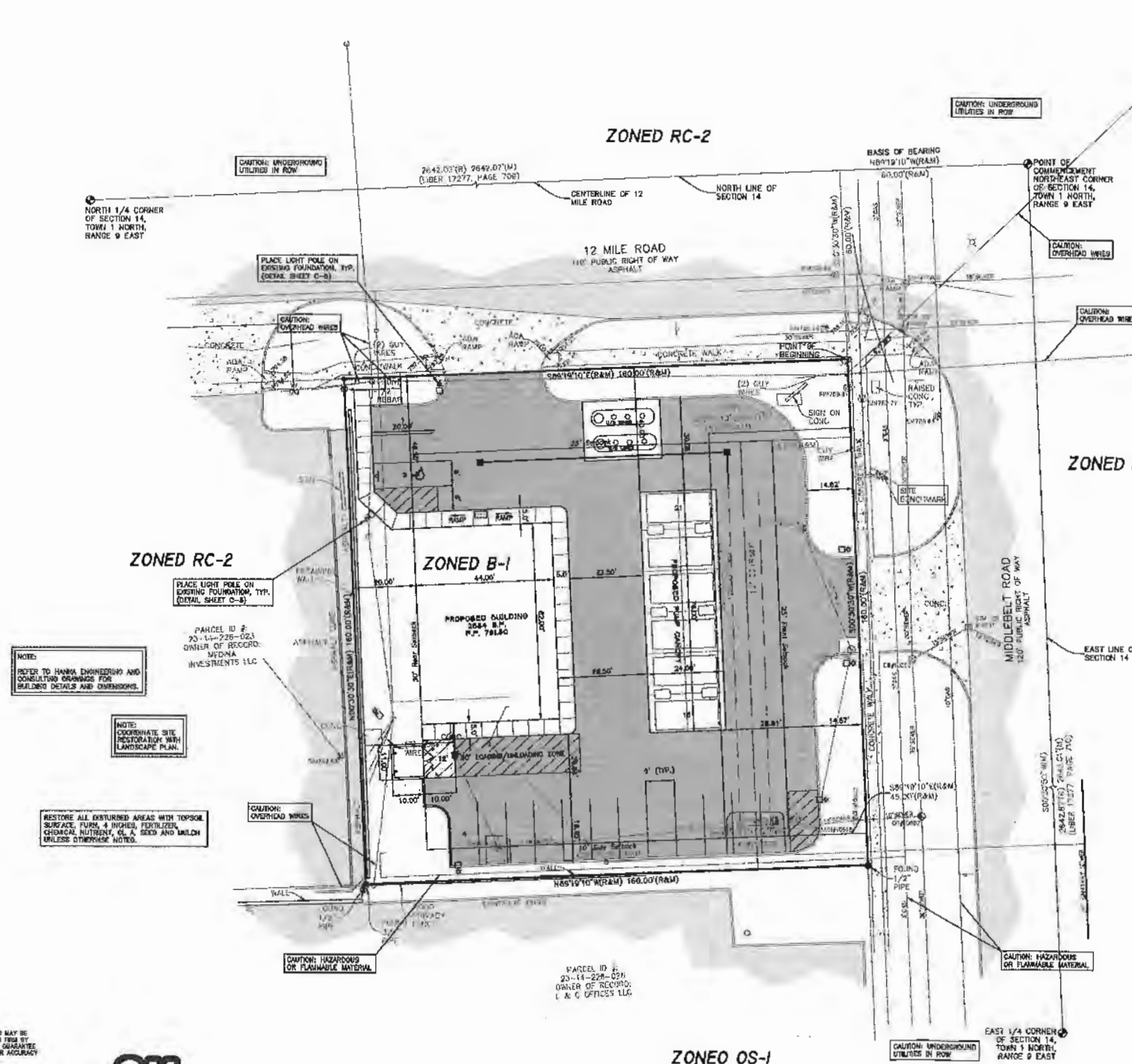
SHEET NUMBER  
T-1





SCALE: 1"=20'

LUMINAIRE SCHEDULE			
SYMBOL	LABL	QTY	CATALOG NUMBER
☐		8	LITHONIA D-SERIES



#### ELECTRICAL NOTES

BUILDING MOUNTED LIGHT FIXTURES SHALL BE ON ONE CIRCUIT CONTROLLED BY A PHOTOCELL MOUNTED ON THE ROOF FACING NORTH. IF REQUIRED, CONTRACTOR TO PROVIDE CONTRACTOR CONTROL DIAGRAM TO ENGINEER FOR APPROVAL. CONTRACTOR SHALL BE IN A NEMA-1 ENCLOSURE.

(2) #8 CONDUCTORS AND (1) #10 GND SHALL BE USED IN EACH CONDUIT RUN.

IF MIXED, GALVANIZED RIBBON CONDUIT SHALL BE USED ON EXTERIOR OF EXISTING BUILDING AND IN THE VERTICAL SECTION GOING UNDERGROUND TO PROTECT IT FROM PHYSICAL DAMAGE. THIN WALL ELECTRICAL METALLIC TUBING (EMT) WITH COMPRESSION FITTINGS CAN BE UTILIZED FOR REMAINING CONDUIT RUN INSIDE PROPOSED BUILDING. ALL OPENINGS IN THE EXTERIOR WALL AND CONDUIT RUNS INSIDE THE PROPOSED BUILDING SHALL BE APPROVED BY MANNA ENGINEERING AND CONSULTING.

#### ELECTRICAL SPECIFICATIONS

##### GENERAL REQUIREMENTS:

ALL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL LOCAL AND STATE AUTHORITIES HAVING JURISDICTION THEREOF.

ALL EQUIPMENT SHALL BE SPECIFICATION GRADE AND SHALL HAVE U.L. LABEL FOR INTENDED USE.

ELECTRIC SYSTEMS SHALL BE COMPLETE IN EVERY DETAIL, INCLUDING ALL INCIDENTAL ITEMS FOR A PROPER AND FUNCTIONING INSTALLATION SUBJECT TO FINAL APPROVAL OF ENGINEER.

ALL REQUIRED PERMITS AND INSPECTIONS SHALL BE OBTAINED BY CONTRACTOR AND SUCH COSTS SHALL BE INCLUDED IN BID PRICE FOR THIS WORK.

EXAMINATION OF SITE IS MANDATORY. CONTRACTOR IS HEREBY HELD TO HAVE EXAMINED THE SITE AND HAVE INCLUDED IN HIS BID THE PRICE OF ALL COSTS DUE TO SITE AND FIELD CONDITIONS.

COMPLETE IDENTIFICATION OF PROJECT ELECTRICAL COMPONENTS IS REQUIRED. IDENTIFY ALL PANELS, DISCONNECTS, CONTROL DEVICES, ETC., WITH THE NOMENCLATURE REQUIRED USING PLASTIC LAMINATE NAMEPLATE. INSTALL TYPEWRITTEN DIRECTIONS OF ALL CIRCUITS ON INSIDE OF PANELS.

GROUND CONTINUITY SHALL BE MAINTAINED THROUGHOUT THE ELECTRICAL SYSTEM. CONSULT N.E.C., 250.46 AND .55, PROVIDE EQUIPMENT GREEN GROUND WIRE WITH EACH CIRCUIT OR POWERLINE.

PROVIDE ALL LIGHTING CONTROL DEVICES AND WIRING INCLUDING TESTING AND ADJUSTMENT AS REQUIRED FOR FULL COMPLIANCE WITH THE MICHIGAN UNIFORM ENERGY CODE (MUEC) 90.1, 1998 AND RELATED AMENDMENTS.

##### ELECTRICAL EQUIPMENT AND DEVICES:

RECEPTACLES DESIGNATED "GFI" SHALL BE GROUND FAULT RECEPTACLES. FOR OUTDOOR OR WET LOCATIONS, PROVIDE WEATHERPROOF BOX AND GASKETED COVER PLATE.

##### CONDUCTORS:

ALL CONDUCTOR SHALL BE SOFT-DRAWN COPPER OF SIZES INDICATED ON THE DRAWINGS. ALL CONDUCTORS SHALL BE INSULATED FOR 600 VOLTS AND WITH THIN/THIN 75 DEGREE (CENTIGRADE) CODE GRADE INSULATION.

ALL CONDUCTORS SHALL BE COPPER CONDUCTOR AND SHALL HAVE THIN OR THIN INSULATION AS APPLICABLE. CONDUCTORS NO. 8 AND LARGER SHALL BE STRANDED.

##### DISCONNECT SWITCHES:

DISCONNECT SWITCH SHALL BE HEAVY DUTY NEMA-1 ENCLOSURE AND SERVICE RATED.

##### FUSES:

ALL FUSES SHALL BE CURRENT LIMITING TYPE, DUAL ELEMENT TYPE.

##### INSTALLATION AND METHODS OF EXECUTION:

ALL BURIED EXTERIOR WIRING SHALL BE IN PVC CONDUIT. ALL OTHER WIRING SHALL BE IN METALLIC CONDUIT. FLEXIBLE CONDUIT SHALL BE USED FOR SHORT CONNECTION TO MOTORS, RECESSED LIGHTING FIXTURES, VIBRATING EQUIPMENT, ETC., BUT NEVER LONGER THAN 8 FEET.

CONDUIT CONCEALED IN CEILING, WALLS OR FURRED SPACES OR EXPOSED IN DRY LOCATIONS SHALL BE EMT, THIN WALL ELECTRIC METALLIC TUBING.

CONDUIT EXPOSED TO WEATHER, IN CONTACT WITH CONCRETE, BURIED IN SLAB, OR IN HAZARDOUS AREAS, SHALL BE HEAVY WALL, RIGID HOT DIPPED GALVANIZED STEEL.

ALL WORK IN HAZARDOUS LOCATIONS SHALL BE DONE IN STRICT CONFORMANCE WITH WITH NEC ARTICLE 500.

CONDUIT RUNS SHOWN ON DRAWINGS ARE DIAGNOSTIC. EXACT ROUTING ON CONDUIT RUNS SHALL SUIT JOB CONDITIONS. EXPOSED CONDUIT SHALL BE RUN ONLY IN UNFINISHED AREAS SUBJECT TO FINAL APPROVAL OF ENGINEER AND SHALL RUN PARALLEL TO BUILDING LINES, NEVER DIAGONALLY.

CONNECTION TO EQUIPMENT SHALL BE DONE IN ACCORDANCE WITH MANUFACTURER'S SHOP AND INSTALLATION DRAWINGS. REQUIREMENTS GENERALLY VARY FROM ONE MANUFACTURER TO ANOTHER AND CONTRACTOR IS BOUND TO COMPLY AND PROVIDE ALL WORK AS REQUIRED ALTHOUGH CERTAIN DISCREPANCIES MAY EXIST REQUIRING THE REQUIREMENT FROM ONE MANUFACTURER TO ANOTHER.

ALL CONDUITS SHALL RUN BACK TO THEIR RESPECTIVE PANEL.

NO CONDUITS SHALL BE TERMINATED ABOVE THE CEILING.

#### LEGEND

⊙	FOUND MONUMENT (AS NOTED)
⊙	FOUND SECTION CORNER (AS NOTED)
(RAM)	RECORD AND MEASURED DIMENSION
(R)	RECORD DIMENSION
(M)	MEASURED DIMENSION
0.00	GROUND ELEVATION
⊕	ELECTRIC METER
⊕	ELECTRIC PANEL
⊕	UTILITY POLE
⊕	GAS MANHOLE
⊕	GAS VALVE
⊕	VENT PIPE
⊕	TRAFFIC SIGNAL
⊕	TRAFFIC SIGNAL MANHOLE
⊕	CLEANDUIT
⊕	ROUND CATCH BASIN
⊕	SQUARE CATCH BASIN
⊕	SEWER MANHOLE
⊕	FIRE HYDRANT
⊕	WATER GATE MANHOLE
⊕	WATER VALVE
⊕	UNKNOWN MANHOLE
⊕	LIGHTPOST/LAMP POST
⊕	SINGLE POST SDN
⊕	HANDICAP PARKING
⊕	PARCEL BOUNDARY LINE
⊕	ADJOINER PARCEL LINE
⊕	SECTION LINE
⊕	EASEMENT (AS NOTED)
⊕	BUILDING
⊕	BUILDING OVERHANG
⊕	ASPHALT CURB
⊕	CONCRETE CURB
⊕	RAISED CONCRETE
⊕	PARKING
⊕	EDGE OF CONCRETE (CONC.)
⊕	EDGE OF ASPHALT (ASPH.)
⊕	FENCE (AS NOTED)
⊕	WALL (AS NOTED)
⊕	OVERHEAD UTILITY LINE
⊕	GAS LINE
⊕	SEWER LINE
⊕	WATER LINE
⊕	MINOR CONTOUR LINE
⊕	MAJOR CONTOUR LINE
⊕	BUILDING AREA
⊕	ASPHALT
⊕	CONCRETE

#### SITE LIGHTING LEGEND

☐	LIGHT POLE - 1 HEAD
☐	LIGHT POLE - 2 HEAD (180°)
☐	LIGHT POLE - 2 HEAD (90°)
☐	LIGHT POLE - 4 HEAD
☐	BUILDING YARD LIGHT



VITINS ENGINEERING  
4412E BRANTWINE  
GASTON, U.S.A. 28040  
TELEPHONE: (704) 453-3440  
FAX: (704) 453-3440

VITINS ENGINEERING  
Civil/Environmental Engineering  
Mechanical Consulting  
Software Development

ISSUE NO.	DATE ISSUED	DESCRIPTION	SHEET NO.
1	1/18/2023	SITE PLAN	1

PROPOSED FILLING STATION  
28411 TWELVE MILE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN  
DIMENSIONAL SITE PLAN &  
LIGHTING PLAN

PROJECT NUMBER  
**21090**  
SHEET NUMBER  
**C-1**

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

ANY INFORMATION ON DATA ON THIS DRAWING IS NOT  
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OR ENGINEER.



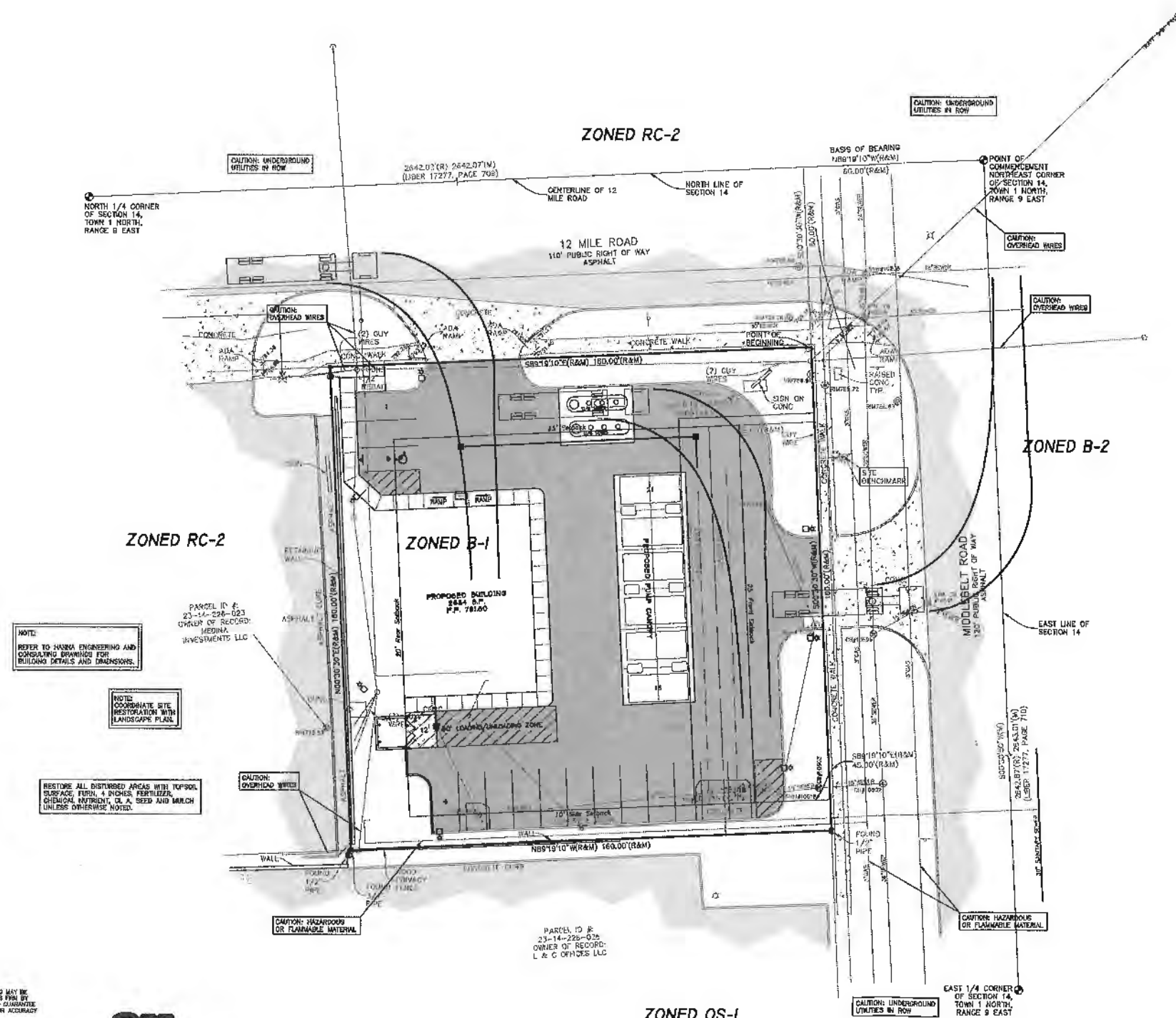
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SCALE: 1"=20'



VEHICLE TURNING TEMPLATE NOTES:

1. SINGLE UNIT (SU) DESIGN VEHICLE HAS AN OVERALL LENGTH OF 30 FEET, WHEELBASE OF 20 FEET, FRONT OVERHANG OF 4 FEET, REAR OVERHANG OF 6 FEET, OVERALL WIDTH OF 8.5 FEET AND A HEIGHT OF 13.5 FEET. SINGLE UNIT TRUCK HAS A 42 FOOT MINIMUM TURNING RADIUS. 90 DEGREE TURNS ARE ILLUSTRATED. OTHER TURNS WOULD CONTINUE AT THE SAME RADIUS.
2. SEMITRAILER COMBINATION (WB-40) DESIGN VEHICLE HAS AN OVERALL LENGTH OF 45.5 FEET, WHEELBASE OF 40 FEET, FRONT OVERHANG OF 3 FEET, REAR OVERHANG OF 2.5 FEET, OVERALL WIDTH OF 8 FEET AND A HEIGHT OF 13.5 FEET. SEMITRAILER TRUCK HAS A 40 FOOT MINIMUM TURNING RADIUS. 90 DEGREE TURNS ARE ILLUSTRATED. OTHER TURNS WOULD CONTINUE AT THE SAME RADIUS.
3. FUEL TRUCKS WOULD HAVE A SIMILAR OR SMALLER MINIMUM TURNING RADIUS THAN THE WB-40 DESIGN VEHICLE. OWNER SHALL CONTACT DELIVERY COMPANY FOR CONFIRMATION.
4. GARBAGE TRUCKS WOULD HAVE A SIMILAR OR SMALLER MINIMUM TURNING RADIUS THAN THE SU DESIGN VEHICLE. OWNER SHALL CONTACT WASTE HAULING COMPANY FOR CONFIRMATION.

LEGEND

●	FOUND MONUMENT (AS NOTED)
○	FOUND SECTION CORNER (AS NOTED)
(RAM)	RECORD AND MEASURED DIMENSION
(R)	RECORD DIMENSION
(M)	MEASURED DIMENSION
0.00	GROUND ELEVATION
⊕	ELECTRIC METER
⊖	ELECTRIC PANEL
⊙	UTILITY POLE
⊕	GAS MANHOLE
⊖	GAS VALVE
⊕	VENT PIPE
⊖	TRAFFIC SIGNAL
⊕	TRAFFIC SIGNAL MANHOLE
⊖	CLEANOUT
⊕	ROUND CATCH BASIN
⊖	SQUARE CATCH BASIN
⊕	SEWER MANHOLE
⊖	FIRE HYDRANT
⊕	WATER GATE MANHOLE
⊖	WATER VALVE
⊕	UNKNOWN MANHOLE
⊖	LIGHTPOST/LAMP POST
⊕	SINGLE POST SIGN
⊖	HANDICAP PARKING
⊕	PARCEL BOUNDARY LINE
⊖	ADJONER PARCEL LINE
⊕	SECTION LINE
⊖	EASEMENT (AS NOTED)
⊕	BUILDING
⊖	BUILDING OVERHANG
⊕	ASPHALT CURB
⊖	CONCRETE CURB
⊕	RAISED CONCRETE
⊖	PARKING
⊕	EDGE OF CONCRETE (CONC.)
⊖	EDGE OF ASPHALT (ASPH.)
⊕	FENCE (AS NOTED)
⊖	WALL (AS NOTED)
⊕	OVERHEAD UTILITY LINE
⊖	GAS LINE
⊕	SEWER LINE
⊖	WATER LINE
⊕	MINOR CONTOUR LINE
⊖	MAJOR CONTOUR LINE
⊕	BUILDING AREA
⊖	ASPHALT
⊕	CONCRETE



VITINS ENGINEERING  
Civil/Environmental Engineering  
Municipal Consulting  
Software Development

DATE	DESCRIPTION	BY	CHK
1/11/2024	SITE PLAN		

PROPOSED FILLING STATION  
20411 TWELVE MILE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN  
TRUCK TEMPLATE  
SITE PLAN

PROJECT NUMBER  
21090  
SHEET NUMBER  
C-1A

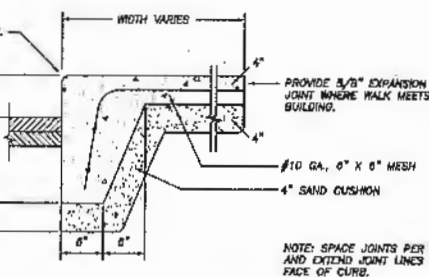


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SCALE: 1"=20'



INTERGRAL CONCRETE CURB & WALK  
NOT TO SCALE

PAYING NOTES:

1. CONTRACTOR TO PROVIDE TEMPORARY PAVEMENT STRIPPING AND ALL NECESSARY TRAFFIC CONTROL DEVICES DURING CONSTRUCTION INCIDENTAL TO THE CONTRACT.
2. COMPLETE UNDERDRAIN INSTALLATION INCLUDING GAPS OR PLUGS, KEELS, PLA GROUND, DRENCH PITS TO CONTROL STRUCTURE AND PLESTATION FABRIC SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE STORM DRAINAGE STRUCTURE.
3. STEEL BOLLARDS SHALL BE 6" DIAMETER, SCHEDULE 40 STEEL PIPE WITH CONCRETE FILL. BOLLARDS SHALL BE CURBED IN AN 18" DIAMETER BY 36" DEEP MINIMUM CONCRETE FOOTING. UNLESS OTHERWISE NOTED, BOLLARDS SHALL BE 48" ABOVE FINISH GROUND AND SHALL BE PAINTED SAFETY YELLOW.
4. SIGNS POSTS IN PAVEMENT AREAS SHALL BE PLACED IN A STEEL ROLLARD. BOLLARDS FOR SIGNS SHALL BE 30" ABOVE FINISH GROUND AND SHALL BE PAINTED SAFETY YELLOW.
5. INCIDENTAL TO THE UNIT PRICE BID FOR TRASH DUMPSTER, PROVIDE 3/4" DIAMETER BY 1 1/2" DEEP RECESS FOR CATCH BOLTS AT GATE IN CLOSED AND OPEN POSITIONS. FIELD VERIFY EXACT LOCATIONS.

SITE GRADING NOTES:

1. **ROADWAY AND SALVAGING TOPSOIL FROM THE SITE AND INSIDE INFLUENCE OF PROPOSED PAVEMENT AND BUILDING PERMITS MUST 20.03M SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR OTHER ITEMS. TOPSOIL SHALL BE STOCKPILED IN UPLAND AREAS.**
2. **PREPARATION OF EARTH GRADE, EXCEPT FOR SUBGRADE UNDERCUTTING, INSIDE INFLUENCE OF PROPOSED PAVEMENT SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR OTHER PAVEMENT ITEMS.**
3. **DISTURBED AREAS SHALL BE RESTORED WITH TOPSOIL, SURFACE, FURM, 4", FERTILIZER, CHEMICAL NUTRIENT, OL A SEED AND MULCH INCIDENTAL TO THE CONTRACT.**
4. **DEVELOPER IS RESPONSIBLE FOR RESOLVING ANY DRAINAGE PROBLEMS ON ADJACENT PARCELS WHICH ARE THE RESULT OF THE DEVELOPER'S ACTIVITIES.**

### LEGEND

①	FOUND MONUMENT (AS NOTED)
(R.S.V)	FOUND SECTION CORNER (AS NOTED)
(R)	RECORD AND MEASURED DIMENSION
(M)	RECORD DIMENSION
0.00	MEASURED DIMENSION
X	GROUND ELEVATION
□	ELECTRIC METER
□	ELECTRIC PANEL
□	UTILITY POLE
□	GAS MANHOLE
□	GAS VALVE
□	VENT PIPE
□	TRAFFIC SIGNAL
□	TRAFFIC SIGNAL MANHOLE
□	CLEANOUT
□	ROUND CATCH BASIN
□	SQUARE CATCH BASIN
□	SEWER MANHOLE
□	FIRE HYDRANT
□	WATER GATE MANHOLE
□	WATER VALVE
□	UNKNOWN MANHOLE
□	LIGHTPOST/LAMP POST
□	SINGLE POST SIGN
□	HANDICAP PARKING
□	PARCEL BOUNDARY LINE
□	ADJOINER PARCEL LINE
□	SECTION LINE
□	EASEMENT (AS NOTED)
□	BUILDING
□	BUILDING OVERHANG
□	ASPHALT CURB
□	CONCRETE CURB
□	RAISED CONCRETE
□	PARKING
□	EDGE OF CONCRETE (CONC.)
□	EDGE OF ASPHALT (ASPH.)
□	FENCE (AS NOTED)
□	WALL (AS NOTED)
□	OVERHEAD UTILITY LINE
□	GAS LINE
□	SEWER LINE
□	WATER LINE
□	MINOR CONTOUR LINE
□	MAJOR CONTOUR LINE
□	BUILDING AREA
	ASPHALT
	CONCRETE



PROPOSED FILLING STATION  
294TH TWELVE MILE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN

21090

C-2

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SCALE: 1"=20'

# MAINTENANCE TASKS AND SCHEDULE DURING CONSTRUCTION

TASKS:	COMPONENTS:												SCHEDULE:
	REPORT FOR MATERIAL QUANTITIES	REMOVAL OF EXISTING STRUCTURES	REPORT FOR MATERIALS AND DEBRIS	CLEARING OF VEGETATION AND DEBRIS	REPORT FOR EROSION	REESTABLISH VEGETATION ON ERODED SLOPES	CLEAR PARKING AREAS AND ACCESS DRIVES	SURVEY	DAY 1	DAY 2	DAY 3	DAY 4	
Report for material quantities	X		X	X	X				X	X			Daily and within 2 hours of a storm
Removal of existing structures	X		X	X					X	X			As needed
Report for materials and debris				X	X	X	X	X	X	X			Daily
Clearing of vegetation and debris				X	X	X	X	X	X	X			Daily
Report for erosion													Daily and within 2 hours of a storm
Reestablish vegetation on eroded slopes													Daily and within 2 hours of a storm
Clear parking areas and access drives			X										As needed to maintain site safety
Survey													As needed

## SITE GRADING NOTES:

- REMOVING REMOVED AND SALVAGING TOPSOIL PER MDT 205.03A SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR OTHER ITEMS. TOPSOIL SHALL BE STOCKPILED IN UPLAND AREAS.
- PREPARATION OF EARTH GRADE, EXCEPT FOR SUBGRADE UNDERCUTTING, INSIDE INFLUENCE OF PROPOSED PAVEMENT SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR OTHER PAVEMENT ITEMS.
- DISTURBED AREAS SHALL BE RESTORED WITH TOPSOIL, SURFACE, FURN, 4", FERTILIZER, CHEMICAL NUTRIENT, CL A, SEED AND MULCH INCIDENTAL TO THE CONTRACT.
- DEVELOPER IS RESPONSIBLE FOR RESOLVING ANY DRAINAGE PROBLEMS ON ADJACENT PARCELS WHICH ARE THE RESULT OF THE DEVELOPER'S ACTIVITIES.

## SESO NOTES:

- PROPERTY OWNER IS RESPONSIBLE FOR MAINTAINING TEMPORARY AND PERMANENT SOIL EROSION CONTROL MEASURES.
- THE OWNER/CONTRACTOR IS RESPONSIBLE FOR KEEPING GROWING LAKE ROAD AND TWELVE MILE ROAD FREE OF MUD AND DIRT AT ALL TIMES DURING CONSTRUCTION ACTIVITIES FOR THIS PROJECT.

## SOIL EROSION CONTROL SEQUENCE OF CONSTRUCTION

	SCHEDULE
1. Install off fence prior to earthwork activity.	Spring, 2022 (Day 1)
2. Install geotextile filter fabric on existing catch basins and silt traps as noted on drawings.	Summer, 2022 (Day 1)
3. Strip and stockpile topsoil, grade and surface as required. Establish drainage, erosion, and other areas that will remain undisturbed for 30 days of final grade.	Summer, 2022
4. Install storm water management system. Road right of ways shall be established within 30 days of construction work in the right of way. Install geotextile filter fabric on all catch basins and silt traps.	Summer, 2022
5. Construct building, final landscape, ramp, and underground system. Place curb and gutter, and install permanent catchpits.	Summer, 2022
6. Install landscaping. Establish off exposed north with seed and mulch within 30 days of final grade.	Fall, 2022
7. Remove all fences and catch basins and silt traps following City of Farmington Hills approval.	Fall, 2022

## LEGEND

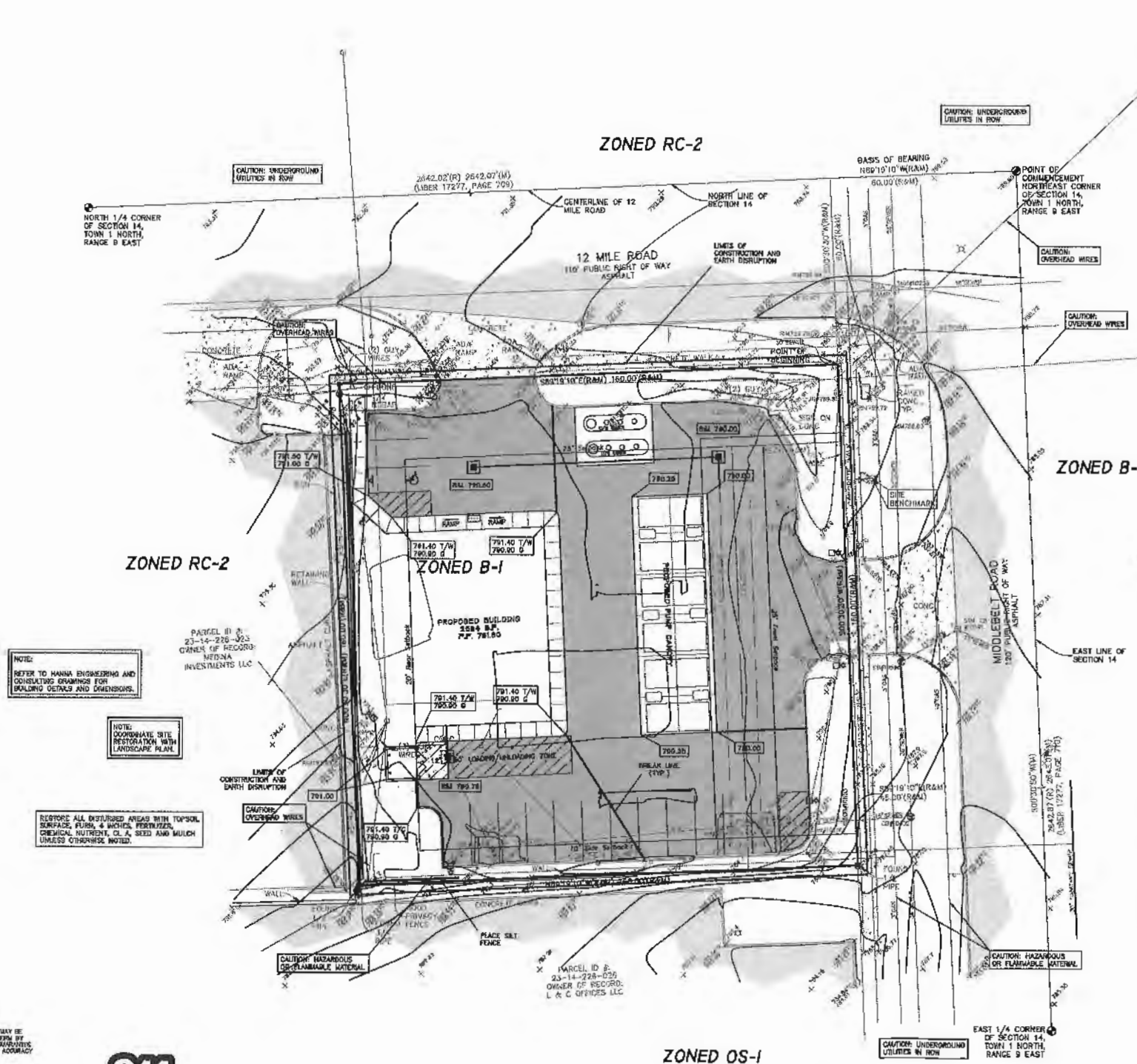
FOUND MONUMENT (AS NOTED)	FOUND SECTION CORNER (AS NOTED)
RECORD AND MEASURED DIMENSION	RECORD DIMENSION
MEASURED DIMENSION	GROUND ELEVATION
ELECTRIC METER	ELECTRIC PANEL
UTILITY POLE	UTILITY POLE
GAS MANHOLE	GAS VALVE
VENT PIPE	TRAFFIC SIGNAL
TRAFFIC SIGNAL MANHOLE	CLEANOUT
ROUND CATCH BASIN	SQUARE CATCH BASIN
SEWER MANHOLE	FIRE HYDRANT
WATER GATE MANHOLE	WATER VALVE
UNKNOWN MANHOLE	LIGHTPOST/LAMP POST
SINGLE POST SIGN	HANDICAP PARKING
PARCEL BOUNDARY LINE	ADJACENT PARCEL LINE
SECTION LINE	EASEMENT (AS NOTED)
BUILDING	BUILDING OVERHANG
ASPHALT CURB	CONCRETE CURB
RAISED CONCRETE	PAVING
EDGE OF CONCRETE (CONC.)	EDGE OF ASPHALT (ASPH.)
FENCE (AS NOTED)	WALL (AS NOTED)
OVERHEAD UTILITY LINE	GAS LINE
SEWER LINE	WATER LINE
MINOR CONTOUR LINE	MAJOR CONTOUR LINE
BUILDING AREA	ASPHALT
CONCRETE	

## LEGEND

000.00	= EXISTING ELEV.
800.00	= PROPOSED ELEV.
.....	= PROPOSED SILT FENCE
□	= PROPOSED INLET FILTER

## Soils:

Spinks loamy sand (15B), 0 to 6 percent slopes, Hydrologic Soil Group A



## SESO GRADING REQUIREMENTS AND STANDARDS

- 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 (SESO) permit may be issued.
- A copy of the SESO permit and approved plans shall be kept at the work site and visible from the road and available at all times during construction activities for this project.
- No earth moving activity can begin without a grading permit.
- Silt fencing, if required, must be installed in and located. The fencing may be tied-in with pre-grown or installed in winter.
- Stake access drives must be installed prior to construction.
- Stockpiling of any excavated material must be kept away from sensitive areas and adequate controls must be in place.
- Catch basins, if installed, must be protected with silt racks.
- Drainage operations must have some type of control, e.g., filter bag, vegetative filter area. There shall be no discharging of untreated water.
- Erosion control measures are required on slopes of 4:1 or steeper.
- Rock check dams are to be used instead of straw bales or silt fencing in concentrated flow locations such as ditches.
- Immediately after installation of stormwater outlet, flap must be installed.
- All areas of a project that are disturbed must be stabilized by December 1.
- All earth changes shall be designed, constructed and completed to such a manner which limits the exposed area of any disturbed land for the shortest possible period of time.
- 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.
- After all temporary erosion control measures have been installed, the owner/contractor shall not use the site for an additional inspection.
- Permanent erosion control measures shall be completed within 15 calendar days after final grading or earth moving activity has been completed. All permanent erosion control measures shall be maintained a minimum of one (1) year after the final inspection date. A final inspection shall be scheduled by the owner/contractor.
- At all, miscellaneous debris or other materials spilled, dumped or otherwise deposited on streets, highways, sidewalks or other thoroughfares during transit to or from the work site shall be removed promptly.

## STREET SWEEPING SCHEDULE

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
SCRAPE STREETS							
SWEEP STREETS		X	X	X	X	X	X

NOTE: REFER TO MANNA ENGINEERING AND CONSULTING ENGINEERS FOR BUILDING DETAILS AND DIMENSIONS.

NOTE: COORDINATE SITE RESTORATION WITH LANDSCAPE PLAN.

RESTORE ALL DISTURBED AREAS WITH TOPSOIL, SURFACE, FURN, 4 INCHES, FERTILIZER, CHEMICAL NUTRIENT, CL A, SEED AND MULCH UNLESS OTHERWISE NOTED.



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**VITINS ENGINEERING**  
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Municipal Consulting  
Software Development

DATE	REVISION	DESCRIPTION
1/10/2023	1	SITE PLAN

PROPOSED FILLING STATION  
28441 TWELVE MILE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN

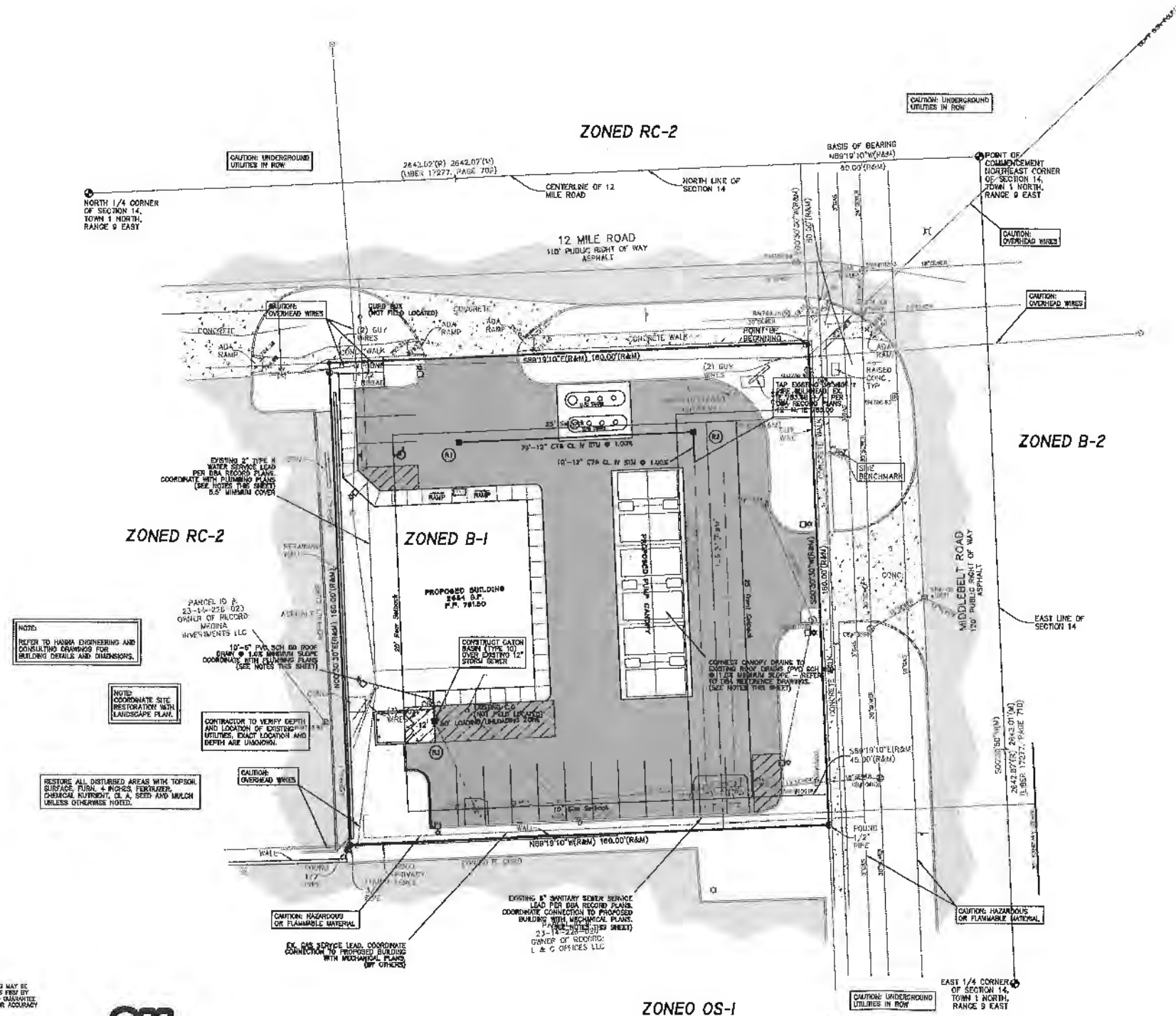
GRADING & SOIL EROSION  
CONTROL PLAN

PROJECT NUMBER  
**21090**  
SHEET NUMBER  
**C-3**





SCALE: 1"=20'



STORM STRUCTURE TABLE				
STRUCTURE	TYPE	RIM ELEVATION	FRAME AND COVER	INVERT ELEVATION
R1	INLET WITH 2' SUMP	790.80	FR E.W. 5105 TYPE M2	12' E 785.99
R2	CATCH BASIN	790.00	FR E.W. 5105 TYPE M2	12' W 785.20 12' S 785.10
R3	CATCH BASIN	790.75	FR E.W. 1040 COVER 'C'	6' N 785.40 12' SE 785.20 +/-

STORM SEWER NOTES:

1. REINFORCED CONCRETE STORM SEWER PIPE SHALL BE ASTM A774, CLASS IV PIPE. STORM SEWER PIPE JOINTS SHALL BE GROoved END AND GROoved WITH RUBBER GASKET PER ASTM C433.
2. ALL STORM DRAINAGE STRUCTURES SHALL BE CONSTRUCTED PER CITY OF FARMINGTON HILLS STANDARD DETAIL SHEET. ALL INLETS AND YARD DRAIN STRUCTURES SHALL BE CONSTRUCTED WITH A 2 FOOT SUMP.
3. ALL STORM SEWER INLET AND YARD DRAIN STRUCTURES SHALL BE 2' DIAMETER. ALL CATCH BASIN AND MANHOLE STRUCTURES SHALL BE 4' DIAMETER.
4. ALL UTILITY TRENCHES UNDER OR WITHIN 5 FEET OF PAVEMENT, EXISTING OR PROPOSED, SHALL BE BACKFILLED WITH SAND (NOT CLASS II) COMPACTED TO 95% MODIFIED PROCTOR DENSITY. COMPACTED SAND BACKFILL SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR STORM SEWER. (REFER TO LATEST EDITION OF MOOT STANDARD PLAN R-83, UTILITY TRENCHES)
5. FLEXIBLE PIPE BEDDING (ONE FOOT MINIMUM DEPTH ABOVE PIPE) IS MAXIMUM 3/4 INCH DIAMETER CRUSHED STONE MEETING MOOT 8A ANGULAR MATERIAL SPECIFICATIONS. PIPE BEDDING SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR STORM SEWER. (REFER TO LATEST EDITION OF MOOT STANDARD PLAN R-83, UTILITY TRENCHES)
6. PROVIDE 12" MINIMUM VERTICAL CLEARANCE BETWEEN STORM SEWERS AND ANY OTHER EXISTING/PROPOSED UTILITIES.
7. ROOF AND CANOPY DRAIN AND CLEANOUTS SHALL BE PVC SCH 80 PIPE CONSTRUCTED PER CITY OF FARMINGTON HILLS STANDARDS.

WATER AND SANITARY LEAD NOTES:

1. SANITARY SEWER SERVICE LEAD SHALL BE CONSTRUCTED PER CITY OF FARMINGTON HILLS STANDARDS. CONTRACTOR SHALL CONNECT EXISTING SANITARY LEAD TO PROPOSED BUILDING. COORDINATE WITH PLUMBING PLANS.
2. CONTRACTOR SHALL OLEUM AND VIDEO-INSPECT EXISTING SANITARY LEAD. TEST RESULTS SHALL BE APPROVED BY THE CITY OF FARMINGTON HILLS. EXISTING SANITARY LEADS IN POOR CONDITION SHALL BE REPLACED WITH A NEW SANITARY LEAD PER OAKLAND COUNTY STANDARD DETAIL SHEETS. CITY ENGINEER MAY REQUIRE DEVELOPER/OWNER TO PROVIDE ENGINEERING DRAWINGS FOR REPAIR AND/OR REPLACEMENT OF THE SANITARY LEAD. CLEANING AND VIDEO-INSPECTION SHALL BE INCLUDED IN UNIT PRICE BID FOR SANITARY LEAD.
3. ALL SANITARY LEAD 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 SANITARY LEAD.
4. CONTRACTOR SHALL REPLACE EXISTING WATER SERVICE LEAD FROM STOP BOX TO THE PROPOSED BUILDING. WATER SERVICE LEAD SHALL TYPE K COPPER. WATER SERVICE LEAD TO BE CONSTRUCTED PER OAKLAND COUNTY STANDARD DETAIL SHEETS AND REPLACEMENT SHALL BE COORDINATED WITH CITY OF FARMINGTON HILLS INSPECTOR AND PLUMBING PLANS.

LEGEND

●	FOUND MONUMENT (AS NOTED)
(RAM)	FOUND SECTION CORNER (AS NOTED)
(R)	RECORD AND MEASURED DIMENSION
(M)	RECORD DIMENSION
(M)	MEASURED DIMENSION
X 0.00	GROUND ELEVATION
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⊕	SEWER LINE
⊕	WATER LINE
⊕	MINOR CONTOUR LINE
⊕	MAJOR CONTOUR LINE
⊕	BUILDING AREA
⊕	ASPHALT
⊕	CONCRETE

LEGEND

—	WATER MAIN (SIZE AS NOTED)
—	STORM SEWER (SIZE AS NOTED)
—	SANITARY SEWER (SIZE AS NOTED)
—	GATE VALVE
—	HYDRANT
—	CB
—	LEAD



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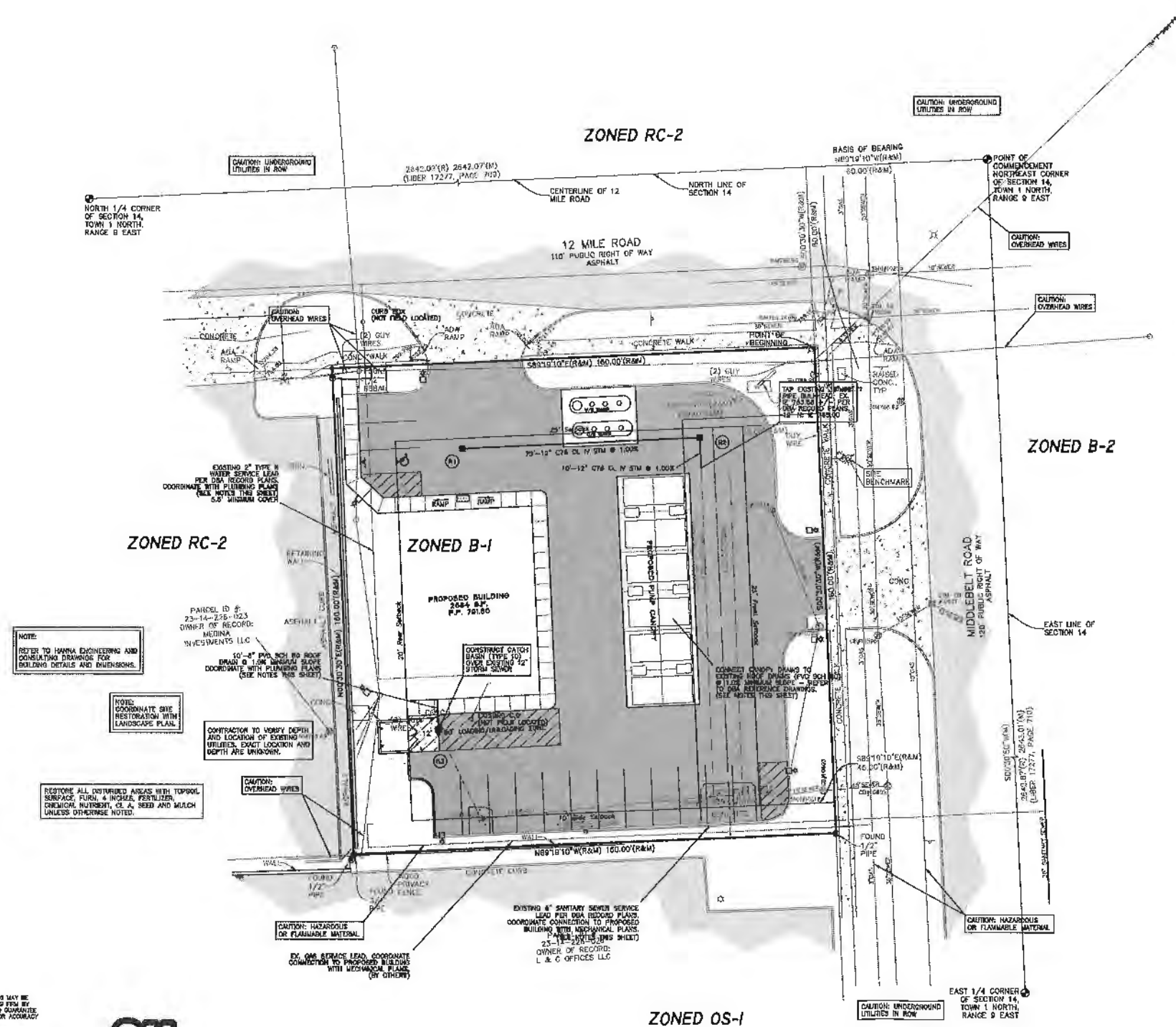
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PROPOSED FILLING STATION  
28411 TWELVE MILE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN  
UTILITY PLAN

PROJECT NUMBER  
21090  
SHEET NUMBER  
C-4



SCALE: 1"=20'



STORMWATER MANAGEMENT SYSTEM NARRATIVE:  
STORMWATER RUNOFF FROM PAVEMENT AREAS, BUILDING ROOF AND CONOPY, AND LANDSCAPE AREAS WILL BE CONVEYED THROUGH EXISTING AND PROPOSED STORM SEWERS TO AN EXISTING UNDERGROUND DETENTION SYSTEM. REFER TO DBA REFERENCE DRAWINGS FOR STORMWATER MANAGEMENT SYSTEM CALCULATIONS, SHEET 3 OF 8, DETAILS AND NOTES. A 2" OUTFLOW RESTRICTOR IS LOCATED IN CATCH BASIN, CB 10803. PROPOSED SITE LAYOUT WILL REDUCE THE IMPERVIOUS AREA SINCE A LANDSCAPE AREA HAS BEEN ADDED BEHIND THE BUILDING.

STORMWATER OUTLET IS A 30" STORM SEWER IN THE MIDDLEBELT ROAD RIGHT-OF-WAY.

#### LEGEND

FOUND MONUMENT (AS NOTED)	FOUND SECTION CORNER (AS NOTED)
RECORD AND MEASURED DIMENSION	RECORD DIMENSION
MEASURED DIMENSION	GROUND ELEVATION
ELECTRIC METER	ELECTRIC PANEL
UTILITY POLE	GAS MANHOLE
GAS VALVE	VENT PIPE
TRAFFIC SIGNAL	TRAFFIC SIGNAL MANHOLE
CLEANOUT	ROUND CATCH BASIN
SQUARE CATCH BASIN	SEWER MANHOLE
FIRE HYDRANT	WATER GATE MANHOLE
WATER VALVE	UNKNOWN MANHOLE
LIGHTPOST/LAMP POST	SINGLE POST SIGN
HANDICAP PARKING	PARCEL BOUNDARY LINE
ADJACENT PARCEL LINE	SECTION LINE
EASEMENT (AS NOTED)	BUILDING
BUILDING OVERHANG	ASPHALT CURB
CONCRETE CURB	RAISED CONCRETE
PARKING	EDGE OF CONCRETE (CONC.)
EDGE OF ASPHALT (ASPH.)	FENCE (AS NOTED)
WALL (AS NOTED)	OVERHEAD UTILITY LINE
GAS LINE	SEWER LINE
WATER LINE	MINOR CONTOUR LINE
MAJOR CONTOUR LINE	BUILDING AREA
ASPHALT	CONCRETE



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DATE	DESCRIPTION
1/14/2020	1. SITE PLAN

PROPOSED FILLING STATION  
28411 TWELVE MILE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN  
DRAINAGE AREAS & STORMWATER  
MANAGEMENT CALCULATIONS

PROJECT NUMBER  
**21090**  
SHEET NUMBER  
**C-5**



Know what's below.  
Call before you dig.

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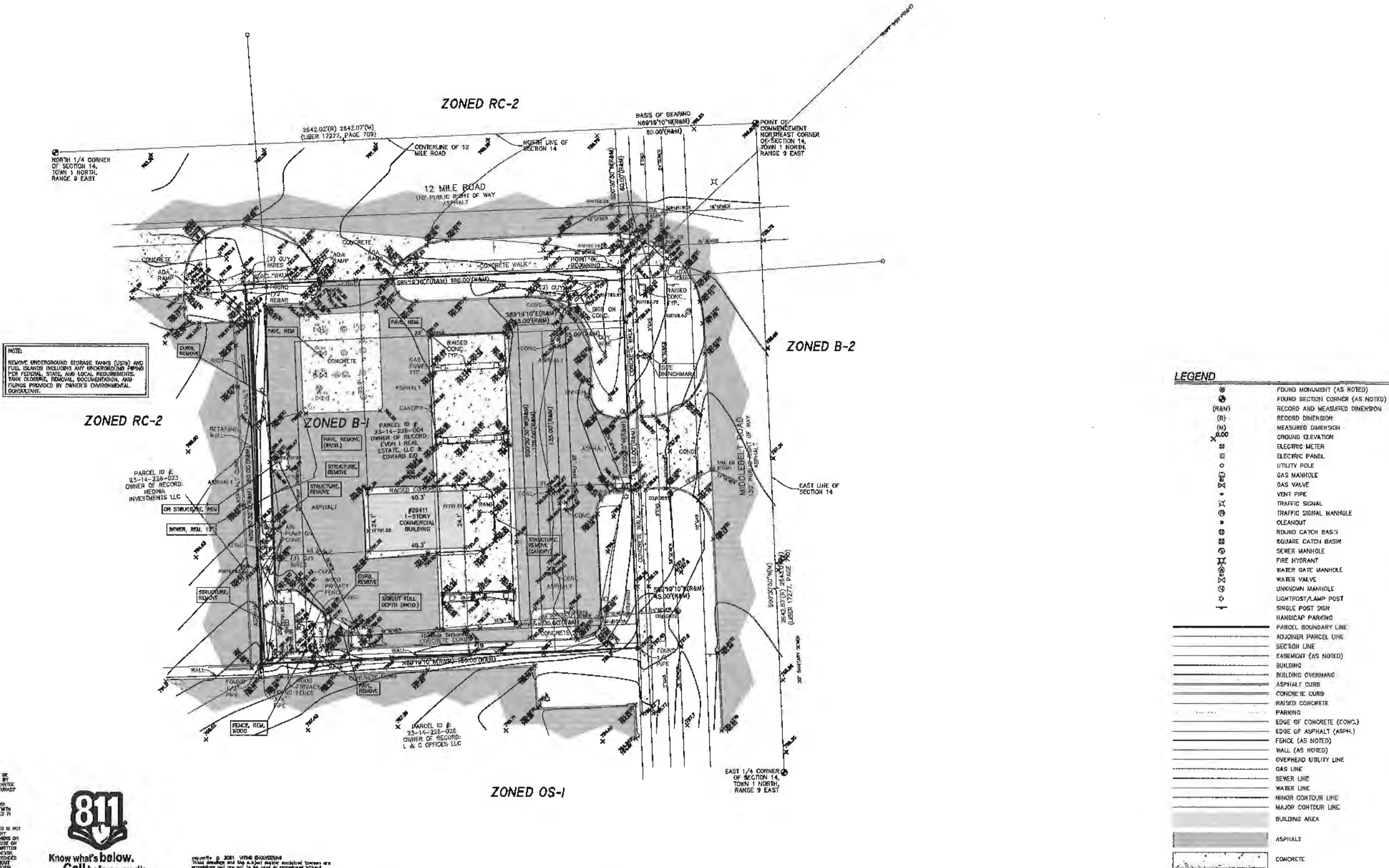


SCALE: 1"=20'

- DEMOLITION NOTES:
1. CONTRACTOR SHALL REMOVE ALL EXISTING BUILDINGS AND ASSOCIATED SITE IMPROVEMENTS AS NOTED ON THE DRAWINGS. DEMOLITION INCLUDES, BUT IS NOT LIMITED TO, BUILDING FOUNDATIONS, CURBS, ASPHALT, EXISTING UTILITY SERVICE LEADS, AND ALL OTHER UTILITIES TO BE ABANDONED.
  2. CONTRACTOR SHALL REMOVE OR ABANDON IN PLACE ALL OHSRE MONITORING WELLS PER PER FEDERAL, STATE, AND LOCAL REQUIREMENTS.



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Software Development



NOTE:  
REMOVE UNDERGROUND STORAGE TANKS (USTs) AND FUEL TANKS INCLUDING ANY UNDERGROUND TANKS PER FEDERAL, STATE, AND LOCAL REQUIREMENTS. TANK CLOSURE, REMOVAL, DOCUMENTATION, AND FILLING PROVIDED BY OWNER'S ENVIRONMENTAL CONSULTANT.

LEGEND

FOUND MONUMENT (AS NOTED)	FOUND SECTION CORNER (AS NOTED)
RECORD AND MEASURED DIMENSION	RECORD DIMENSION
MEASURED DIMENSION	GROUND ELEVATION
ELECTRIC METER	ELECTRIC PANEL
UTILITY POLE	GAS MANHOLE
GAS VALVE	VENT PIPE
TRAFFIC SIGNAL	TRAFFIC SIGNAL MANHOLE
CLEANOUT	ROUND CATCH BASIN
SQUARE CATCH BASIN	SEWER MANHOLE
FIRE HYDRANT	WATER GATE MANHOLE
WATER VALVE	UNKNOWN MANHOLE
LIGHTPOST/LAMP POST	SINGLE POST SIGN
HANDICAP PARKING	PARCEL BOUNDARY LINE
ADJOINER PARCEL LINE	SECTION LINE
EASEMENT (AS NOTED)	BUILDING
BUILDING OVERHANG	ASPHALT CURB
CONCRETE CURB	RAISED CONCRETE
PARKING	EDGE OF CONCRETE (CONC.)
EDGE OF ASPHALT (ASPH.)	FENCE (AS NOTED)
WALL (AS NOTED)	OVERHEAD UTILITY LINE
GAS LINE	SEWER LINE
WATER LINE	MINOR CONTOUR LINE
MAJOR CONTOUR LINE	BUILDING AREA
ASPHALT	CONCRETE



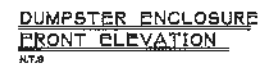
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DATE	DESCRIPTION	SHEET NO.
1/14/2001	1/14/2001	1

PROPOSED FILLING STATION  
28411 TWELVE MILE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN  
DEMOLITION PLAN

PROJECT NUMBER  
21090  
SHEET NUMBER  
C-6



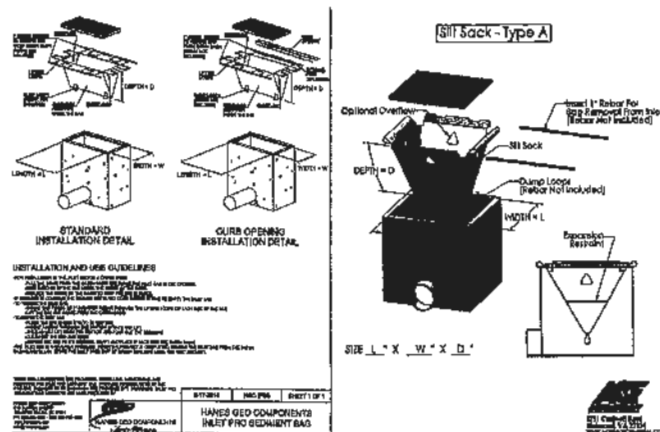


PROJECT TITLE	<p><b>PROPOSED FILLING STATION</b>  <b>2941 TWELVE MILE ROAD</b>  <b>CITY OF FARMINGTON HILLS</b>  <b>OAKLAND COUNTY, MICHIGAN</b></p>
SHEET NAME	<b>CONSTRUCTION DETAILS</b>

PROJECT NUMBER  
**21090**

SHOT NUMBER  
**C-8**





## CSI Geoturf

Down to Earth Solutions  
Professional Construction, Turf, and Landscape Supplies  
• CIVIL SITE IMPROVEMENTS • EROSION & SEDIMENT CONTROL • STORMWATER MANAGEMENT • LANDSCAPE ENHANCEMENTS

### Geoturf® Filter Bag

Whenever accumulated water on a construction site must be pumped, utilize filter bags to ensure the water is properly filtered of silt and sediment prior to discharge into receiving bodies. Filter bags are constructed of strong, high quality nonwoven geotextile filter fabric with a full port to accommodate a pump discharge hose. The filter bags permit a controlled outflow of water, while retaining harmful pollutants.

Size: 15' x 20' x 8"  
Snout Size: 8"  
Holding Capacity: 15 Cubic Yds.

Meets the requirements of MDOT Item 208  
Erosion Control Filter Bag



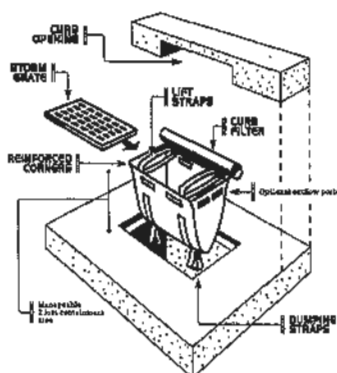
## Catch-All Inlet Protector

**Catch-All** is an inlet and catch basin filtration device designed to significantly reduce the ingress of sediment into stormwater systems, and thereby, improve water quality. Designs are available for a custom fit in virtually any drainage structure or casting.

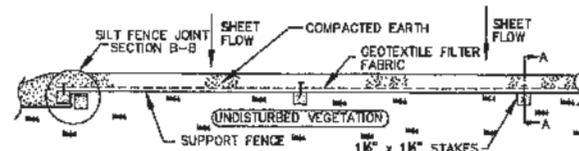


- Helps to prevent sedimentation of lakes, rivers, and streams
- Custom fitted to virtually any drainage structure or casting
- Rugged, reusable, welded steel frames
- Durable, replaceable, reinforced sediment bags
- Standard overflow feature - No ponding during heavy storms

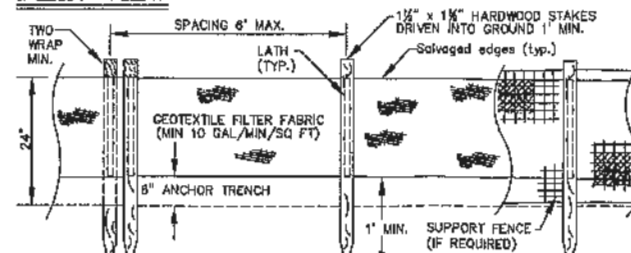
### DANDY CURB SACK



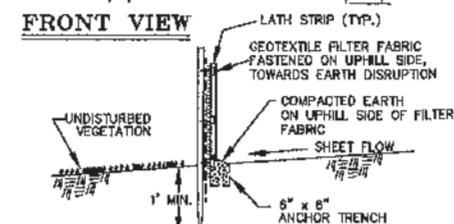
## SILT FENCE (SP-2) (MATERIAL: AMOCO PRO PEX 2130 OR APPROVED EQUIVALENT)



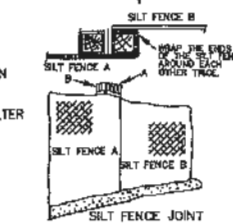
### PLAN VIEW



### FRONT VIEW



### SECTION A-A



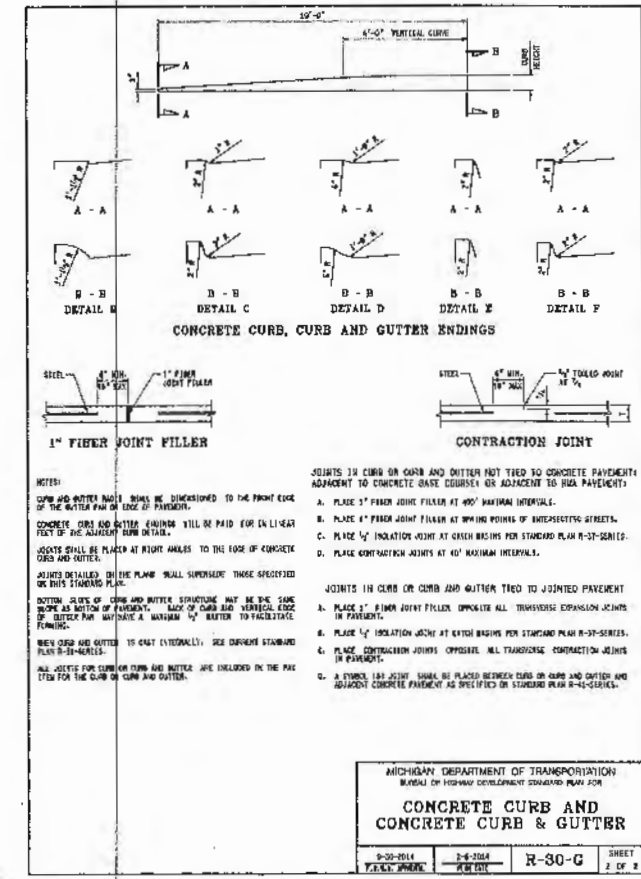
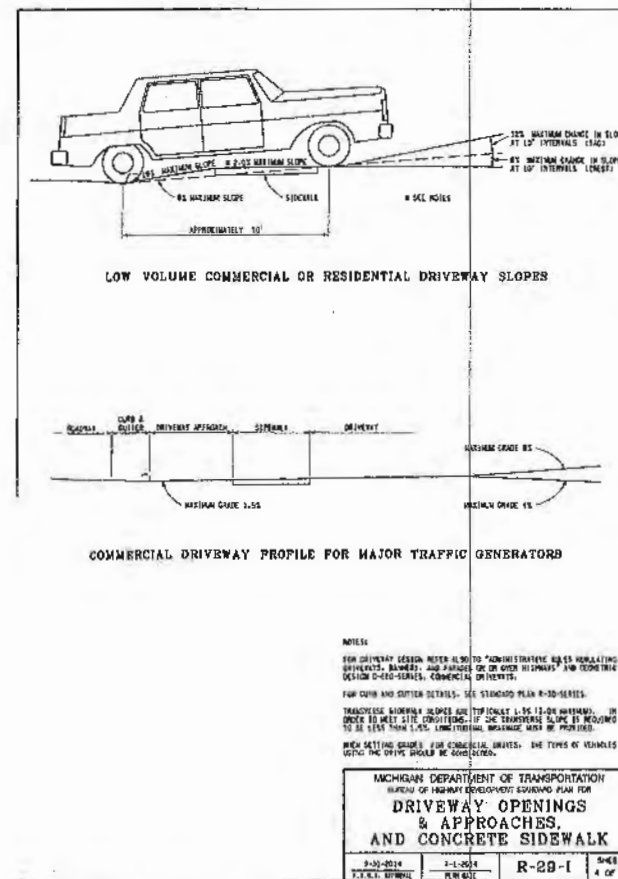
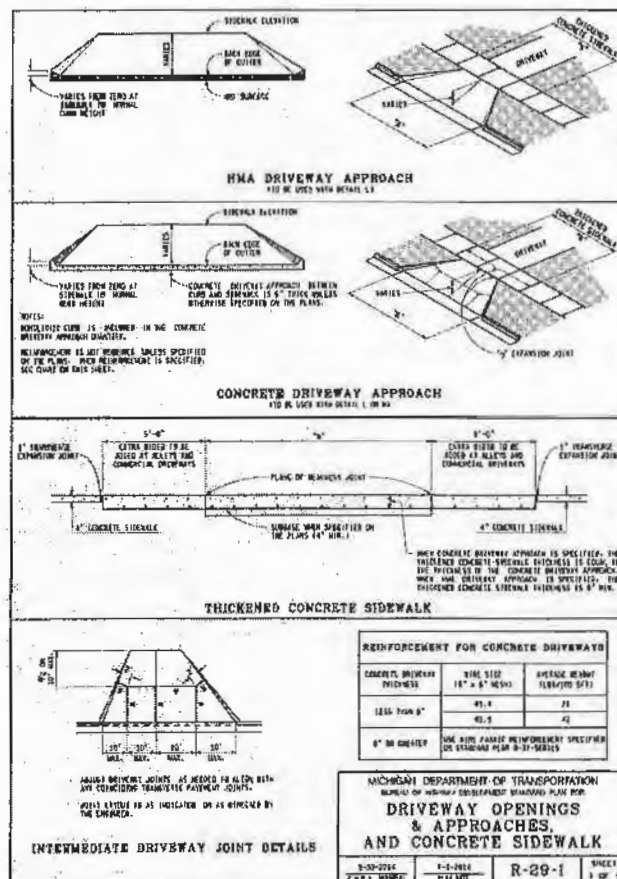
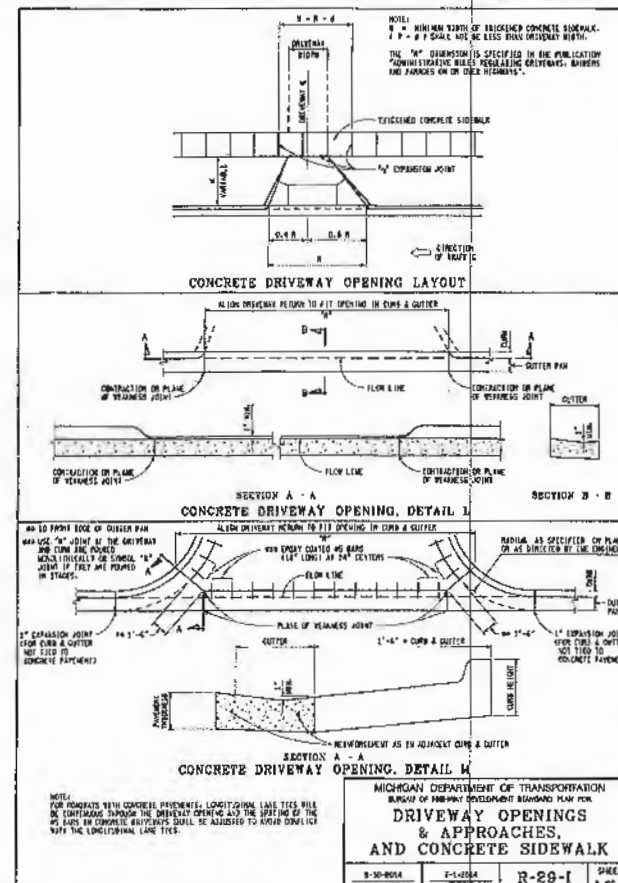
### SECTION B-B

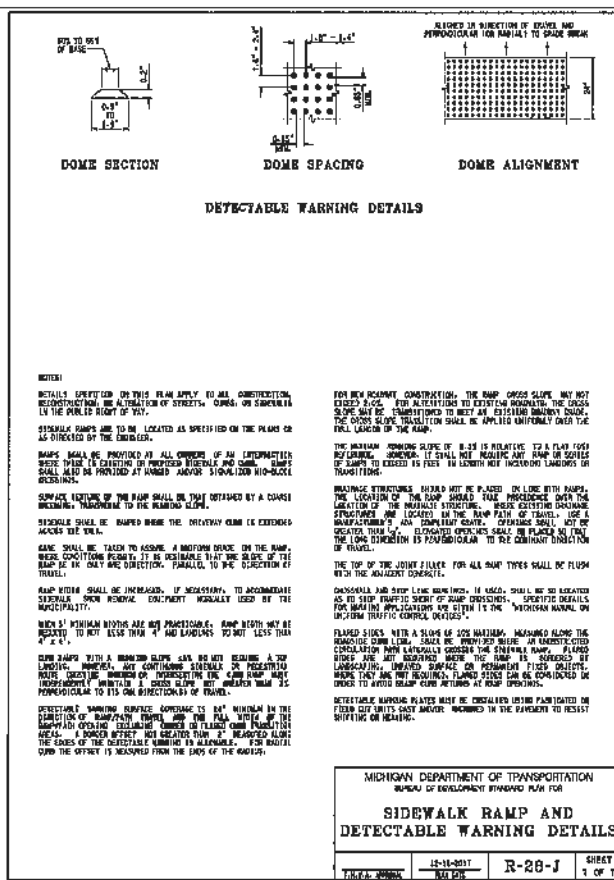
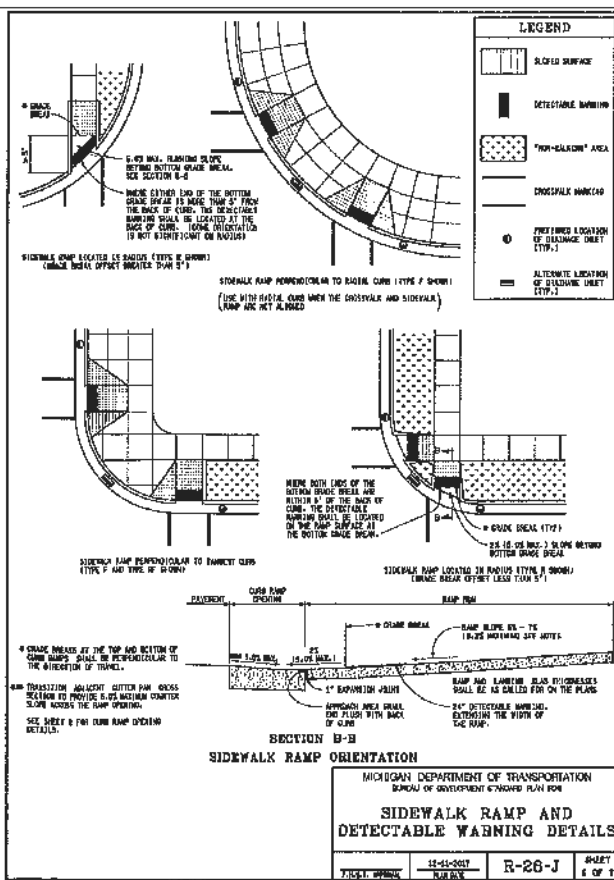
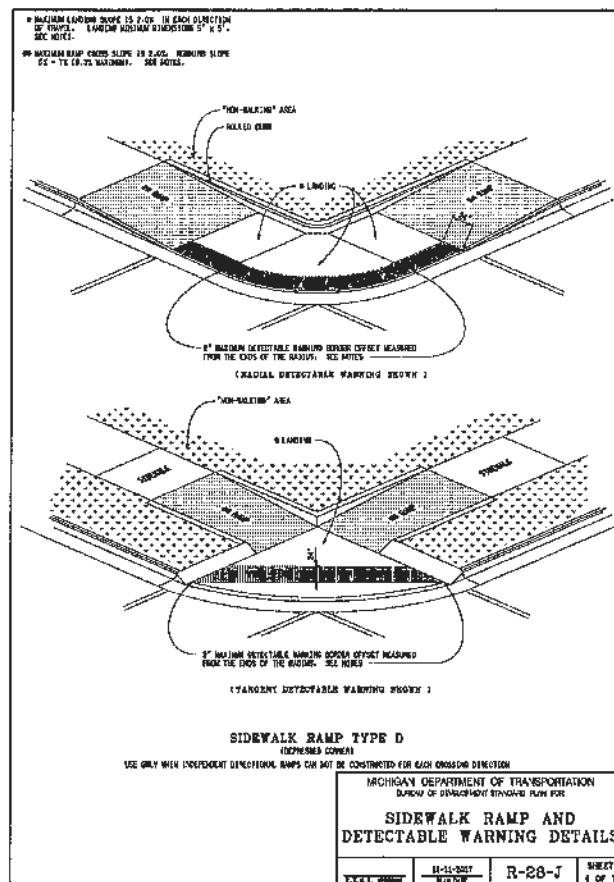
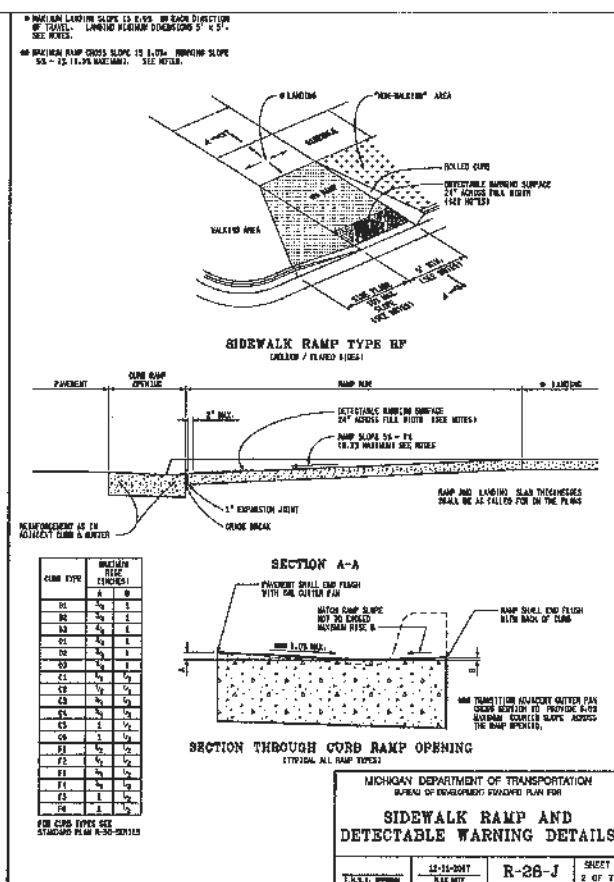


FILE NO.	DATE ISSUED	DESCRIPTION	SHEET NO.
1	1/15/2003	SILT FENCE	1

PROPOSED FILLING STATION 2841 TWELVE MILE ROAD CITY OF FARMINGTON HILLS OAKLAND COUNTY, MICHIGAN	SESC STANDARD DETAILS
-----------------------------------------------------------------------------------------------------------	-----------------------

PROJECT NUMBER 21090	SHEET NUMBER C-9
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VITINS ENGINEERING  
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## Plant List:

CODE	QTY	MATERIAL & SIZE	COMMENTS
CM	1	Acer x freemontii, "Celzam" Celebration Maple, 8" cal.	B&B, single straight trunk
CO	1	Celtis occidentalis Common Hackberry, 3" Cal.	B&B, single straight trunk
SS	1	Amelanchier canadensis Shadblow Serviceberry, 7" H.	B&B
WM	2	Morus alba "Pendula" Weeping Mulberry, 2" cal.	B&B, single straight trunk
VT	9	Viburnum l. "Compactum" Compact American Cranberry Bush, 3 gal./36" H.	Plant 36" o.c.
TA	17	Taxus cuspidata "Aurea" Golden Japanese Yew, 3 gal./24" H.	Plant 36" o.c.
HS	83	Hemerocallis x "Stella de Oro" Stella De Oro Daylily, 1 gal.	Plant 18" o.c.
GG	55	Gallardia x grandiflora Robin Blanket Flower, 5" pot.	Plant 18" o.c.
GVB	17	Buxus koriana x camponovirens Green Velvet Boxwood, 3 gal./30" H.	Plant 36" o.c.

## Landscape Notes

All landscape areas are to be provided with an underground irrigation system.

Furnishing and placing landscape fabric in planting beds shall be incidental to the work of Site Preparation. Landscape fabric/weed barrier shall be Dupont™ Professional Landscape Fabric, or equal.

Shredded bark mulch shall be furnished per MDT 2012 Standard Specifications for Construction (§17.14). Shredded Bark Mulch Surface, Form 4" will be measured in place and trucked onto the jobsite. Work includes preparation of the foundation, furnishing, placing, and spreading.

## General Notes

Conform to size and description set forth in the current edition of "American Standard for Nursery Stock" sponsored by the American Association of Nurserymen, Inc., and approved by the American National Standards Institute, Inc.

Be true to name in conformance to the current edition of "Standardized Plant Names", established by the American Joint Committee on Horticultural Nomenclature.

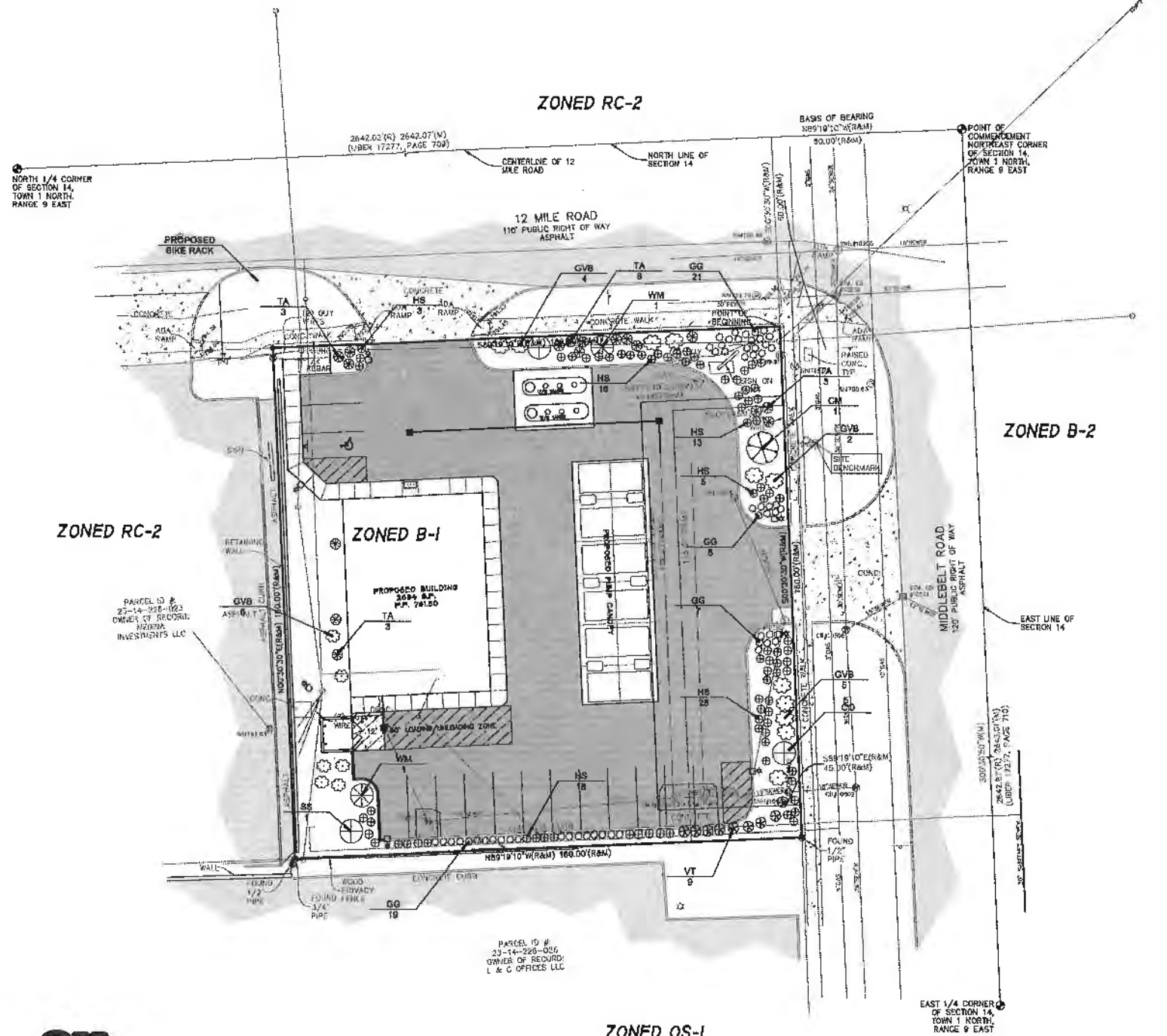
Be typical of their species or variety, with normal growth habits and be well-branched and densely foliated when in leaf.

Be of sound health, vigorous and uniform in appearance with a well developed root system, and free from disease, insect pests, eggs or larvae.

Be freshly dug and nursery grown.

Be chosen according to soil, climatic conditions and environmental factors for the proposed development.

Trees shall have straight trunks with leaders intact, undamaged and uncut.



NOTE: VERIFY 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 BY CONFLICT WITH PROPOSED IMPROVEMENTS SHALL BE VERIFIED IN THE FIELD.

ANY INFORMATION ON DATA ON THIS DRAWING IS NOT INTENDED TO BE SUITABLE FOR RELIANCE BY ANY PERSON, FIRM OR CORPORATION OR ANY OTHER ON EXISTENCE OF THIS PROJECT OR THE ANY USE ON ANY OTHER PROJECT. ANY ADVICE WITHOUT WRITTEN VERIFICATION AND APPROVAL 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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LANDSCAPE PLAN  
SCALE: 1" = 20'-0"

PROPOSED FILLING STATION  
28411 TWELVE MILE ROAD  
CITY OF FARMINGTON HILLS  
OKLAND COUNTY, MICHIGAN  
LANDSCAPE PLAN

PROJECT NUMBER  
21090

SHEET NUMBER  
L-1



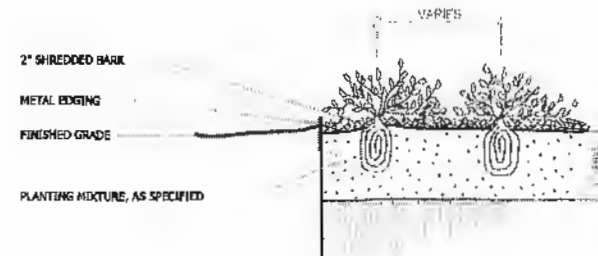
MULCH 3" DEPTH WITH SHREDDED HARDWOOD BARK, NATURAL IN COLOR.

PLANTING MIXTURE: AMEND SOILS PER SITE CONDITIONS AND REQUIREMENTS OF THE PLANT MATERIAL.  
MOUND EARTH TO FORM SAUCER  
REMOVE COLLAR OF ALL FIBER POTS. POTS SHALL BE CUT TO PROVIDE FOR ROOT GROWTH. REMOVE ALL NONORGANIC CONTAINERS COMPLETELY.

REMOVE ALL NON-Biodegradable MATERIALS COMPLETELY FROM THE ROOTBALL. FOLD DOWN BURLAP FROM TOP 1/2 OF THE ROOTBALL.

### SHRUB PLANTING DETAIL

NOT TO SCALE



### PERENNIAL PLANTING DETAIL

Not to scale

NOTE: PLANTS 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 UNSIGHTLY OR COULD CAUSE GIRDLING.

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

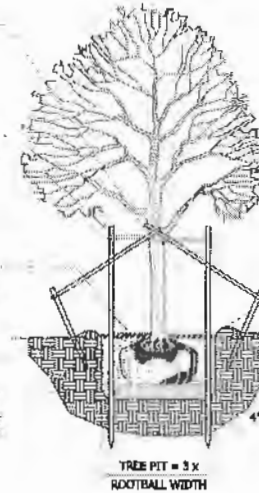
NOTE: GUY DECIDUOUS TREES ABOVE 3" CAL. STAKE DECIDUOUS TREES BELOW 3" CAL.

STAKE TREES AT FIRST BRANCH USING BELT-LIKE FABRIC 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.

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 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 UNSIGHTLY 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.

### DECIDUOUS TREE PLANTING DETAIL

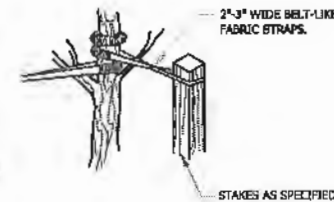


#### STAKING/GUYING LOCATION

2"-3" WIDE BELT-LIKE FABRIC STRAPS.



#### GUYING DETAIL



STAKES AS SPECIFIED 3 PER TREE

#### STAKING DETAIL

### TREE STAKING DETAIL

Not to scale

NOTES: PRUNE AS SPECIFIED STAKE 3 LARGEST STEMS. IF TREE HAS MORE THAN 3 LEADERS SET TREE STAKES VERTICAL AND AT SAME HEIGHT.

MOUND TO FORM SAUCER

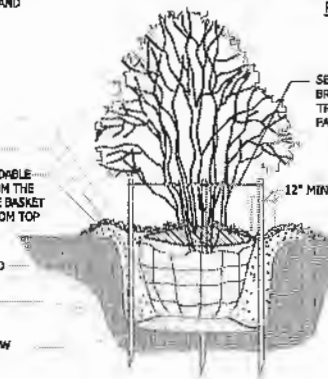
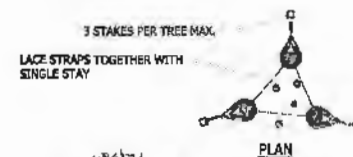
4" OF MULCH

REMOVE ALL NON-Biodegradable MATERIALS COMPLETELY FROM THE ROOTBALL. CUT DOWN WIRE BASKET AND FOLD DOWN BURLAP FROM TOP 1/2 OF THE ROOTBALL.

PLANT MIXTURE AS SPECIFIED

SCARIFY TO 4" DEPTH AND RECOMPACT

STAKES TO EXTEND 12" BELOW TREE PIT IN UNDISTURBED GROUND



### MULTI-STEM TREE PLANTING DETAIL

Not to scale

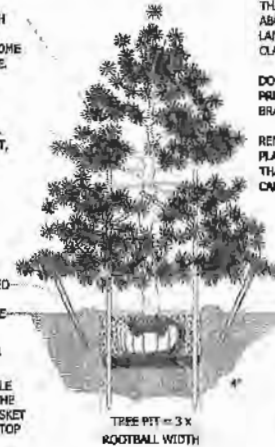
NOTE: GUY EVERGREEN TREES ABOVE 12" HEIGHT. STAKE EVERGREEN TREE BELOW 12" HEIGHT.

STAKE TREES AT FIRST BRANCH USING 2"-3" WIDE BELT-LIKE FABRIC 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.

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 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 UNSIGHTLY 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.

### EVERGREEN TREE PLANTING DETAIL

#### LANDSCAPE NOTES:

1. ALL PLANT MATERIALS ARE TO BE INSTALLED IN A SOUND, WORKMAN-LIKE MANNER AND IN ACCORDANCE WITH THE CURRENT MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. ALL PLANT MATERIALS SHALL BE INSTALLED BETWEEN MARCH 15th AND NOVEMBER 15th.
3. ALL PLANT MATERIALS ARE TO BE NORTHERN NURSERY GROWN NO.1 GRADE AND INSTALLED ACCORDING TO ACCEPTED PLANTING PROCEDURES. ALL PLANT MATERIALS SHALL CONFORM TO THE CURRENT AAN STANDARDS FOR NURSERY STOCK. THEY SHALL BE PLANTED ACCORDING TO THE STANDARD LANDSCAPE DETAILS AND SPECIFICATIONS. THE CITY SHALL HAVE THE RIGHT TO INSPECT THE PLANT MATERIALS PRIOR TO PLANTING AND TO REJECT ANY PLANT MATERIALS DEEMED NOT TO MEET AAN AND MOOT STANDARDS.
4. ALL TREES SHALL HAVE A CENTRAL LEADER AND A RADIAL BRANCHING STRUCTURE. PARK GRADE TREES ARE NOT ACCEPTABLE. ALL TREES SHALL BE BALLED AND BURLAPPED (BBB).
5. ANY DECIDUOUS CANOPY TREES WITH BRANCHES THAT MIGHT TEND TO DEVELOP INTO "Y" CROTCHES SHALL BE SUBORDINATED SO AS NOT TO BECOME DOMINANT BRANCHES.
6. MULCH SHALL BE NATURAL COLOR, FINELY SHREDDED HARDWOOD BARK FOR ALL PLANTINGS. 4" THICK FOR TREES IN 4-FOOT DIAMETER CIRCLE WITH 3" PULLED AWAY FROM TRUNK. 3" THICK FOR SHRUBS AND SHRUB BEDS AND 2" THICK BARK FOR PERENNIALS.
7. ALL PLANT MATERIAL SHALL BE WARRANTED FOR TWO (2) FULL YEARS AFTER DATE OF ACCEPTANCE BY THE OWNER. ALL UNHEALTHY AND DEAD MATERIAL SHALL BE REPLACED WITHIN ONE (1) YEAR OR THE NEXT APPROPRIATE PLANTING PERIOD WHICH EVER COMES FIRST.
8. ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION, INCLUDING WATERING, CULTIVATION, WEED CONTROL AND SOIL ENRICHMENTS AS MAY BE NECESSARY.
9. A MINIMUM OF ONE WEED CONTROL CULTIVATION PER MONTH OCCURRING IN JUNE, JULY AND AUGUST SHALL BE PERFORMED DURING THE TWO-YEAR ESTABLISHMENT PERIOD.
10. ANY SUBSTITUTIONS OR DEVIATIONS FROM THE LANDSCAPE PLAN MUST BE APPROVED IN WRITING BY OWNER PRIOR TO INSTALLATION.
11. ALL TREE WRAP, STAKES, AND GUYS MUST BE REMOVED BY JULY 1ST FOLLOWING THE FIRST WINTER SEASON AFTER INSTALLATION.
12. ALL LANDSCAPE AREAS ARE TO BE MAINTAINED IN HEALTHY GROWING CONDITION FREE OF DEBRIS AND REFUSE AND IN CONFORMANCE WITH THE APPROVED LANDSCAPE PLAN.
13. CONTRACTOR TO REMOVE ALL CONSTRUCTION DEBRIS AND EXCESS MATERIALS FROM THE SITE PRIOR TO FINAL ACCEPTANCE.
14. PLANT MATERIALS, EXCEPT SOD, GROUND COVERS, AND CREEPING VINE TYPE PLANTINGS, SHALL NOT BE LOCATED WITHIN FOUR (4) FEET OF THE PROPERTY LINE.
15. ALL BERMS MUST BE PLANTED WITH A COMBINATION OF TREES, SHRUBS, SOD OR OTHER EVERGREEN GROUND COVERS.
16. THE CONTRACTOR IS RESPONSIBLE FOR REQUEST OF FINAL INSPECTION AND ACCEPTANCE OF THE LANDSCAPE AT THE END OF THE 2-YEAR GUARANTEE PERIOD.

THE DETAILS AND NOTES SHOWN ON THIS PAGE ARE STANDARDS. THESE DETAILS ARE NOT ALL INCLUSIVE AND ARE NOT MEANT TO SUBSTITUTE FOR ANY CITY, MDOT, OR CODE REQUIREMENT.



**VTINS ENGINEERING**  
Civil/Environmental Engineering  
Municipal Consulting  
Software Development

DATE	BY	DESCRIPTION
1/17/2020	VTINS	ISSUED FOR PERMITS

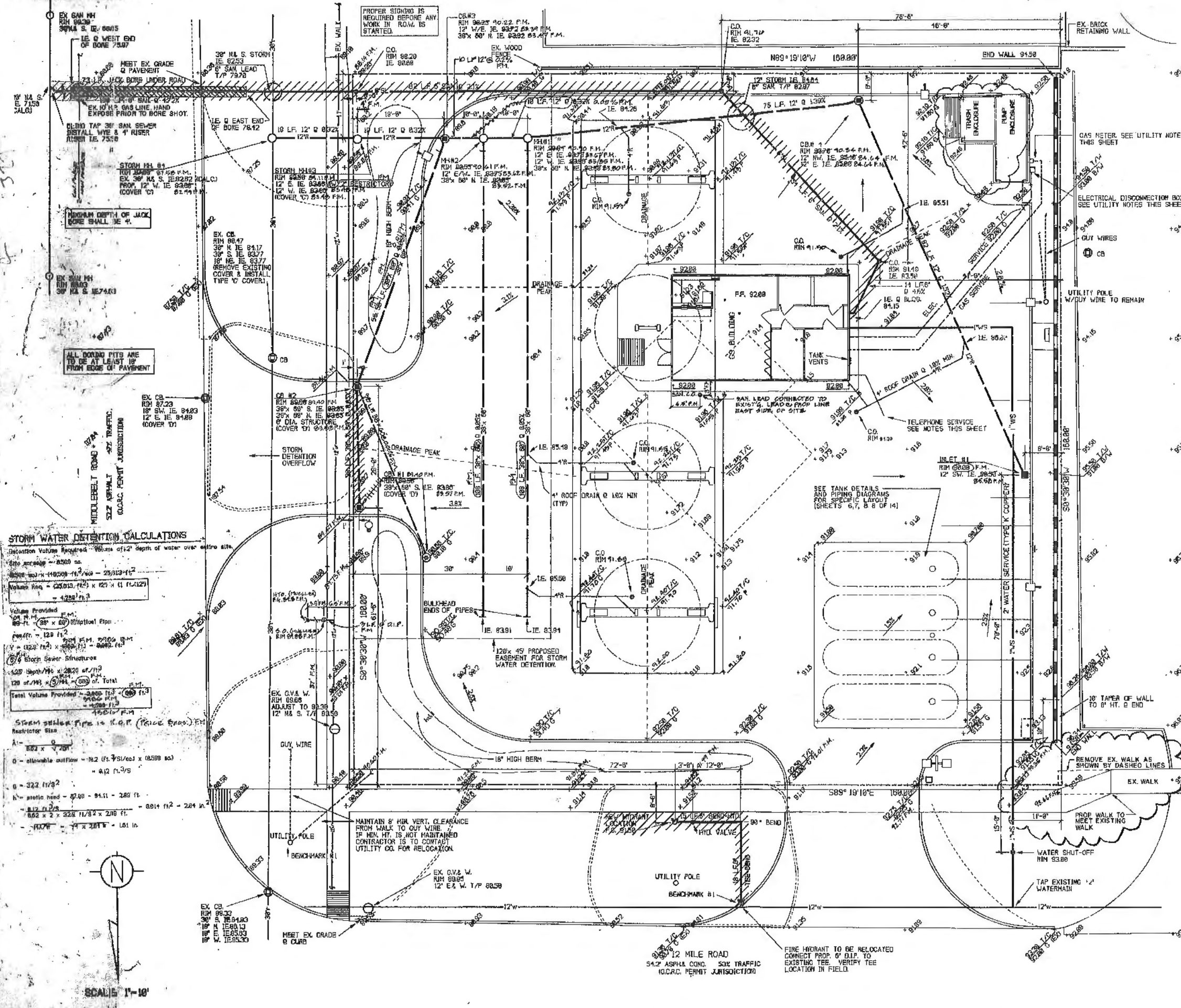
PROPOSED FILLING STATION  
27730 ORCHARD LAKE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN

LANDSCAPE DETAILS

PROJECT NUMBER  
**21090**

SHEET NUMBER  
**L-2**





### LEGEND

- Barrier Free Parking
- Manhole
- Storm Sewer
- Top of Earth
- Water
- Final Grade
- Proposed
- Sanitary Lead
- Existing Sanitary Manhole
- Proposed Sanitary Manhole
- Existing Storm Manhole
- Proposed Storm Manhole
- Existing Gas and Water
- Proposed Gas and Water
- Existing Fire Hydrant
- Proposed Fire Hydrant
- Existing Catch Basin
- Proposed Catch Basin
- Existing Inlet
- Proposed Inlet
- Existing Sanitary Sewer
- Proposed Sanitary Sewer
- Existing Storm Sewer
- Proposed Storm Sewer
- Existing Watermain
- Proposed Watermain
- Existing Gas Line
- Proposed Gas Line
- Existing Electric
- Proposed Electric
- Existing Telephone
- Proposed Telephone
- Existing Utility Pole
- Proposed Utility Pole
- Existing Street
- Proposed Street
- Property Line

- ### GRADING NOTES:
- ADD 700.00 TO ALL SPOT GRADES FOR CORRECT DATUM READING.
  - LIMIT OF EARTH DISRUPTION IS THE PROPERTY LINE, EXCEPT FOR WORK IN ROAD R.O.W. & WORK ALONG THE RETAINING WALL ON THE WEST PROPERTY LINE.
  - WRITTEN PERMISSION FOR OFFSITE EARTH DISRUPTION MUST BE SUBMITTED TO THE CITY OF FARMINGTON HILLS ENGINEERING DEPT. PRIOR TO ANY OFFSITE WORK.

- ### PROPOSED UTILITY NOTES:
- GENERAL CONTRACTOR SHALL VISIT SITE TO REVIEW PROPOSED CONSTRUCTION CONDITIONS AND SHALL CORRECT ANY QUESTIONS TO THE MOBIL FIELD ENGINEER.
  - ALL STORM SEWER PIPE TO BE RCP 30" CLIV.
  - ALL 4" ROOF DRAIN TO BE PVC PIPE.
  - PROPOSED SANITARY SEWER LEAD TO BE 6" DIA. RCP, 12' x 7'6" EXTRA STRENGTH VITRIFIED CLAY PIPE OR MATERIAL APPROVED BY THE CITY OF FARMINGTON HILLS.
  - PROPOSED WATER SERVICE TO BE 1" TYPE K COPPER.
  - PROPOSED WATERMAIN TO BE D.I.P. CLASS 54.
  - ALL PROPOSED UTILITIES SHALL MEET THE CITY OF FARMINGTON HILLS STANDARDS & REQUIREMENTS. SEE ATTACHED CITY OF FARMINGTON HILLS STANDARD DETAIL SHEETS.
  - PROPOSED GAS & ELECTRICAL SERVICE FROM NEAREST AVAILABLE SOURCE (VERIFY LOCATION W/ FIELD ENGINEER) TO GAS METER & ELECTRIC DISCONNECTION BOX @ REAR OF TRASH/STORAGE BLDG.
  - PROPOSED UNDERGROUND TELEPHONE SERVICE FROM NEAREST AVAILABLE SOURCE (VERIFY LOCATION W/ FIELD ENGINEER) TO THE REAR OF THE PROPOSED BUILDING.

### UTILITY NOTE:

UNDERGROUND UTILITY LINES AND STRUCTURES SHOWN ARE PER RECORDS, MAPS, OR AVAILABLE BY FACILITY OF MUNICIPALITY, AND BY FIELD OBSERVATION WHERE POSSIBLE. ALL MUNICIPALITIES AND UTILITY COMPANIES SHOULD BE NOTIFIED BY CONTRACTOR FOR FIELD LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

- ### BENCHMARKS
- Arrow on hydrant + 78' east & 30' north of NW property corner. Elev. 794.54 USGS. Datum. to be re-established after hydrant re-location.
  - P.C. nail in S. side of utility pole, 28' NE. of NE property corner. Elev. 791.81 USGS. Datum.

### WATERMAIN QUANTITIES

33 L.F. OF 30" CLASS 54  
1 EA. 90' BEND D.I.P. CLASS 54

### NOTE:

F.M. INDICATES FIELD MEASUREMENTS TAKEN BY DIETRICH, BAILEY & ASSOCIATES ON 8-8-80

DBA DIETRICH, BAILEY & ASSOCIATES, P.C.  
11111 FARMINGTON HILLS ROAD  
FARMINGTON HILLS, MI 48334  
Engineering Planning Landmark Architecture

THIS DRAWING AND ALL INFORMATION THEREON IS THE PROPERTY OF DBA DIETRICH, BAILEY & ASSOCIATES, P.C. AND SHALL NOT BE COPIED OR USED EXCEPT FOR THE PURPOSES FOR WHICH IT WAS PREPARED. ANY REUSE, REPRODUCTION, OR ANY OTHER USE OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF DBA DIETRICH, BAILEY & ASSOCIATES, P.C. SHALL BE CONSIDERED A VIOLATION OF THE PROFESSIONAL ENGINEERING ACT AND SHALL BE SUBJECT TO THE PENALTIES THEREOF.

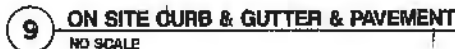
DATE	BY	REVISIONS
11/1/80	DBA	1. PRELIMINARY
11/1/80	DBA	2. REVISED
11/1/80	DBA	3. REVISED
11/1/80	DBA	4. REVISED
11/1/80	DBA	5. REVISED
11/1/80	DBA	6. REVISED
11/1/80	DBA	7. REVISED
11/1/80	DBA	8. REVISED
11/1/80	DBA	9. REVISED
11/1/80	DBA	10. REVISED

12 MILE ROAD  
54.2' ASPHALT CONC. 50% TRAFFIC  
100% PERMIT JURISDICTION

GRADING PLAN - AS-BUILT  
12 MILE & MIDDLEBELL, FARMINGTON HILLS, MI  
PART OF THE NE 1/4 SEC. 14, T. 14 N. R. 16 E.  
CITY OF FARMINGTON HILLS, OAKLAND COUNTY, MI

Mobil Oil Corporation  
Marketing & Refining Division - U.S.  
10000 E. 12 Mile Road  
Farmington Hills, MI 48334  
Professional Engineer  
Michael J. Bailey  
No. 20044  
Professional Seal

DATE: 10/01/80  
SHEET NO: 2 OF 8



- $$= \frac{0.014 \text{ ft}^3/\text{s}}{0.02 \times 2 \times 32.2 \text{ ft}/\text{s}^2 \times 2.89 \text{ ft}} = 0.014 \text{ ft}^2 = 2.04 \text{ in}^2$$

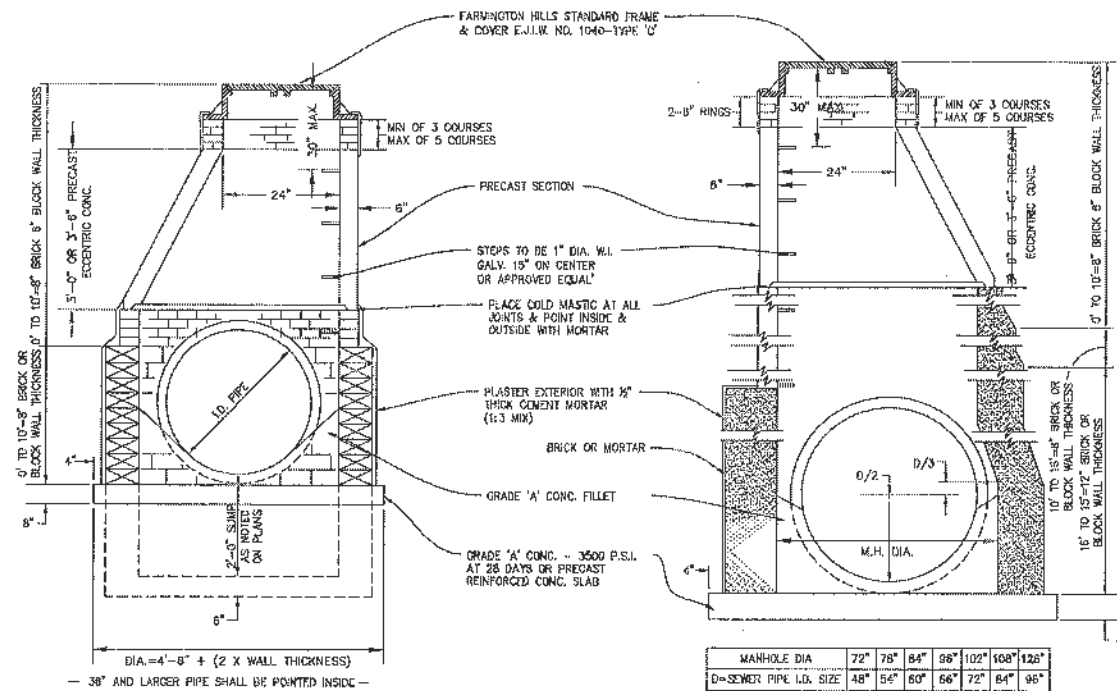
Existing Zoning: B-1 Local Business  
Total Area: 6388 Acres  
Required Setbacks:  
Front: Required - 25 Ft.  
Proposed - 38 Ft. 2 in.  
Side: Required - 10 Ft.  
Proposed - 10 Ft. 8 in.  
Rear: Required - 28 Ft.  
Proposed - 38 Ft.

Parking Requirements  
Required 1 space per 150 Unusable sq. Ft. retail space  
576 SF.; 156 - 4 spaces

Max. Shift: 2 employee spaces - 2 spaces  
Total Spaces Required - 2 spaces  
Total Spaces Proposed: 7 (includes 1 Handicapped Space)

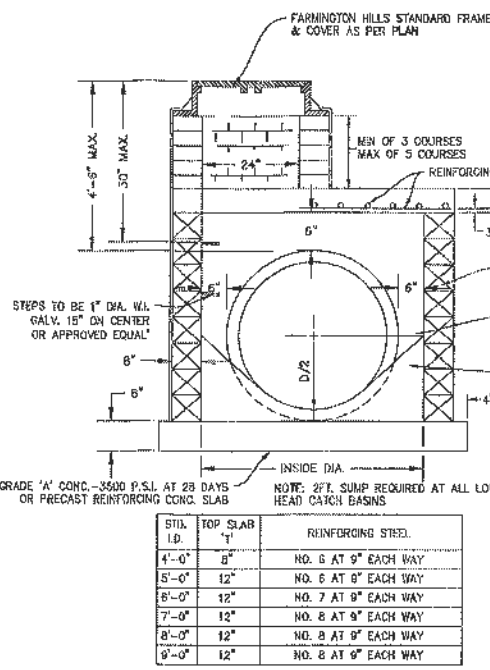
Leasing Zone  
Required 10 Ft. per 1 L.F. of Building Front  
Proposed 240 SF.

Landscape Requirements  
Required 50% of front setback  
Proposed 100 Ft. x 25 Ft. = 4,000 ± 2 = 2800 SF.  
Proposed 2 = 2800 SF.

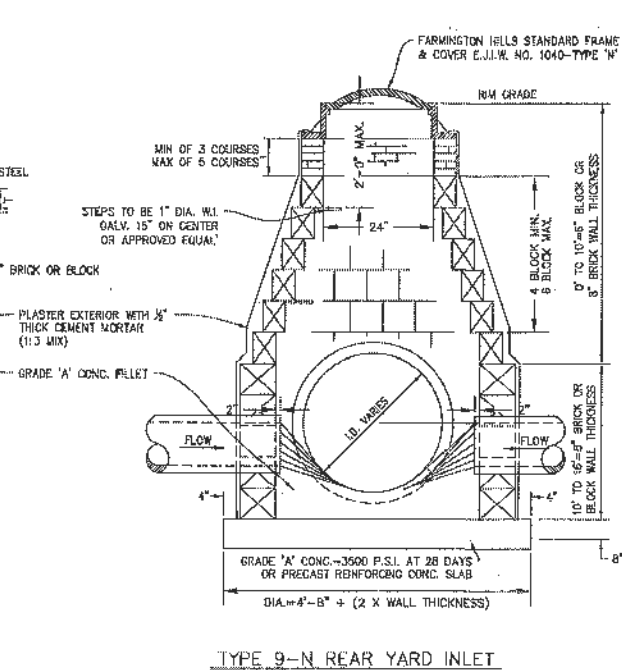


STORM MANHOLE FOR PIPE 42" AND UNDER  
NO SCALE

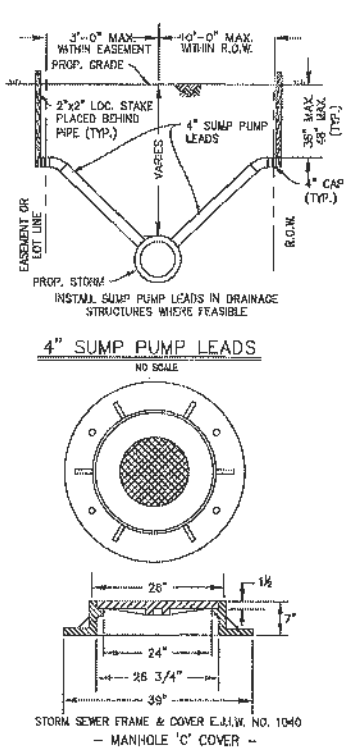
STORM MANHOLE FOR PIPE 48" AND OVER  
NO SCALE



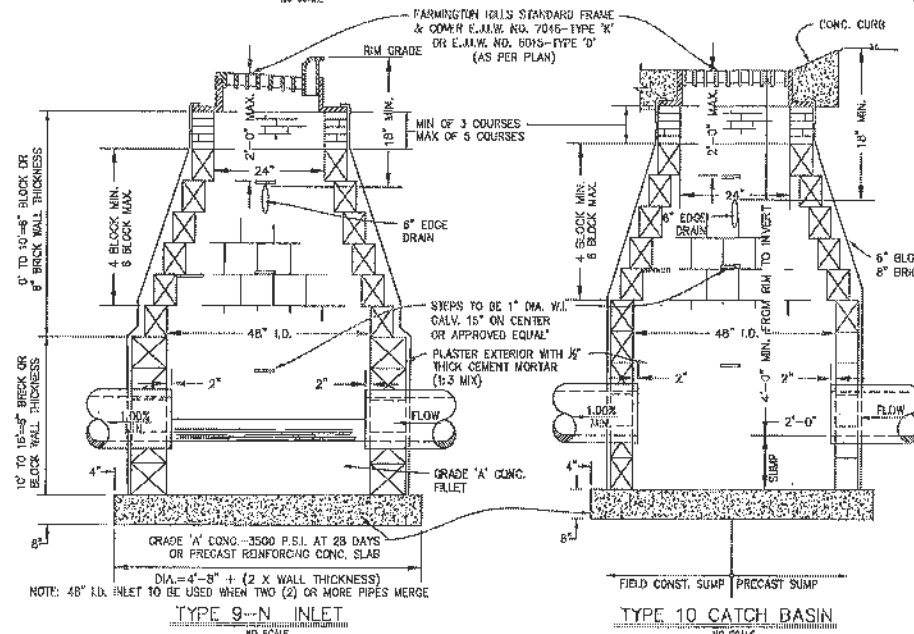
LOW HEAD STORM SEWER STRUCTURE  
NO SCALE



TYPE 9-N REAR YARD INLET  
NO SCALE

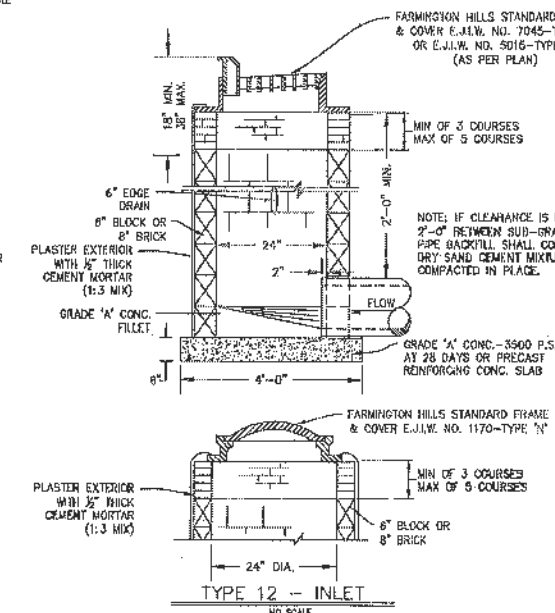


STORM SEWER FRAME & COVER E.J.I.W. NO. 1040  
- MANHOLE 'C' COVER -

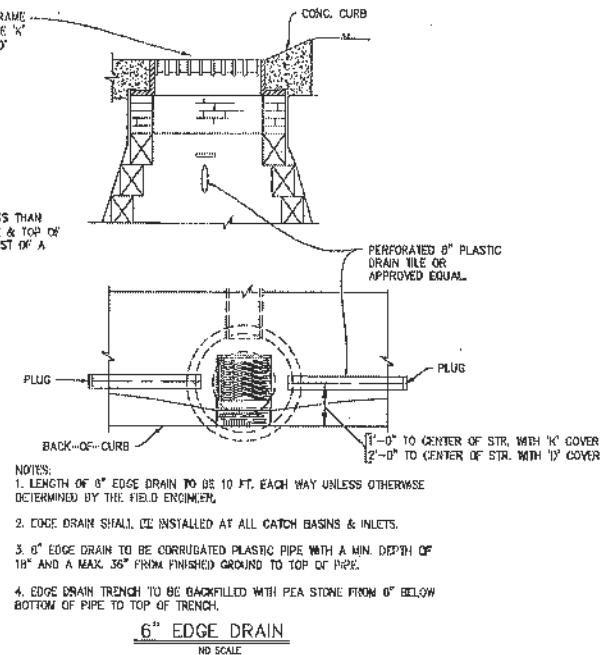


TYPE 9-N INLET  
NO SCALE

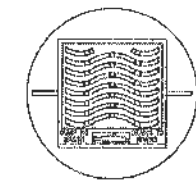
TYPE 10 CATCH BASIN  
NO SCALE



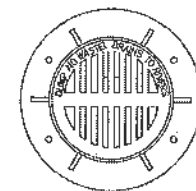
TYPE 12 - INLET  
NO SCALE



6" EDGE DRAIN  
NO SCALE



CATCH BASIN & INLET FRAME & COVER  
E.J.I.W. NO. 7045 AS PER PLAN  
- 'K' COVER -

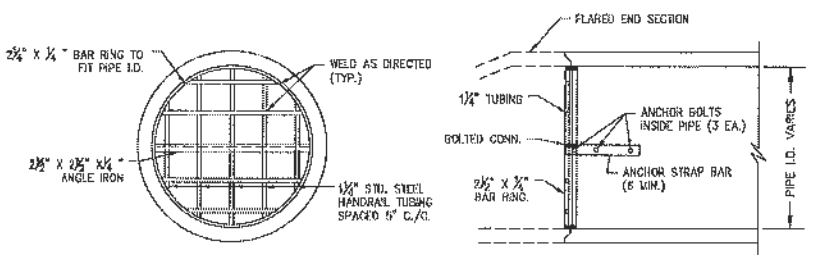


REAR YARD FRAME & COVER FOR 48" DIA. STR.  
E.J.I.W. NO. 1140  
- 'K' COVER -

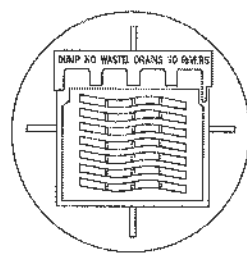


REAR YARD FRAME & COVER FOR 24" DIA. STR.  
E.J.I.W. NO. 1170  
- 'N' COVER -

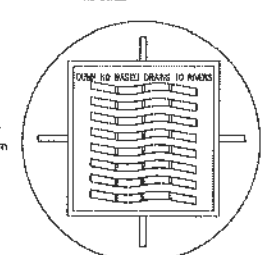
STORM STRUCTURE FRAME & COVER  
NO SCALE



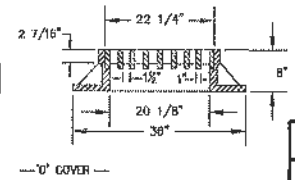
TYPICAL STEEL GRATE DETAIL  
NO SCALE



CATCH BASIN CURB INLET FRAME & COVER  
E.J.I.W. NO. 7065 ONLY AS PER PLAN  
NO SCALE



FARMINGTON HILLS STANDARD CATCH BASIN & INLET FRAME & COVER E.J.I.W. NO. 5105  
NOTE: FOR TRENCH REQUIREMENTS SEE GENERAL STANDARD SHEET



- 10" COVER -

CITY OF FARMINGTON HILLS OAKLAND COUNTY, MI		ENGINEERING DIVISION	
STANDARD DETAIL DRAWINGS  STORM SEWER STANDARDS	JOB NO.		
	SCALE: HORIZ. NA		VERT. NA
	DRAWN: CADATOMIC	DATE: 7/1/13	
	DESIGNED: STIFFI	DATE: 7/1/13	
	CHECKED BY:	DATE:	
	APPROVED BY:	DATE:	
SHEET 1 of 1		DIRECTOR, PUBLIC SERVICES DEPT.	



### CNY LED LED Canopy/Ceiling Luminaire



**Specifications**

Model	CNY LED P0102	CNY LED P0104
Width	10"	14"
Height	10"	14"
Depth	4"	4"
Weight	2.5 lbs	3.5 lbs

**Introduction**

The CNY LED canopy luminaire is a very efficient and budget friendly, perfect for replacing up to 40W metal halide luminaires with savings up to 80% energy costs. Quick mount mechanism significantly reduces the installation time. An LED array and inductor form a uniform and visually comfortable illumination. CNY LED luminaires use DAC Premium LEDs and feature a rugged design.

**Ordering Information**

EXAMPLE: CNY LED P1 50K 120VOLT DDB

Code	Quantity	Part Number	Notes
CNY LED	10	P1 50K 120V	10' x 10' x 4" DDB

**Features & Specifications**

**WARRANTY**

Five (5) year limited warranty on LED chips and driver. Five (5) year limited warranty on the luminaire housing and mounting hardware. Five (5) year limited warranty on the luminaire housing and mounting hardware. Five (5) year limited warranty on the luminaire housing and mounting hardware.

**Notes**

1. All dimensions are in inches unless otherwise noted.  
2. All dimensions are in feet unless otherwise noted.  
3. All dimensions are in meters unless otherwise noted.  
4. All dimensions are in millimeters unless otherwise noted.

### D-Series Size 1 LED Wall Luminaire



**Specifications**

Model	D-Series Size 1
Width	10"
Height	10"
Depth	4"
Weight	2.5 lbs

**Introduction**

The D-Series Size 1 LED wall luminaire is a very efficient and budget friendly, perfect for replacing up to 40W metal halide luminaires with savings up to 80% energy costs. Quick mount mechanism significantly reduces the installation time. An LED array and inductor form a uniform and visually comfortable illumination. D-Series Size 1 luminaires use DAC Premium LEDs and feature a rugged design.

**Ordering Information**


EXAMPLE: D-Series Size 1 LED 20K 1000 40K 73M MVOLT DDB

Code	Quantity	Part Number	Notes
D-Series Size 1	10	20K 1000 40K 73M	10' x 10' x 4" DDB

**Notes**

1. All dimensions are in inches unless otherwise noted.  
2. All dimensions are in feet unless otherwise noted.  
3. All dimensions are in meters unless otherwise noted.  
4. All dimensions are in millimeters unless otherwise noted.

### D-Series Size 0 LED Area Luminaire



**Specifications**

Model	D-Series Size 0
Width	10"
Height	10"
Depth	4"
Weight	2.5 lbs

**Introduction**

The D-Series Size 0 LED area luminaire is a very efficient and budget friendly, perfect for replacing up to 40W metal halide luminaires with savings up to 80% energy costs. Quick mount mechanism significantly reduces the installation time. An LED array and inductor form a uniform and visually comfortable illumination. D-Series Size 0 luminaires use DAC Premium LEDs and feature a rugged design.




**Ordering Information**

EXAMPLE: D-Series Size 0 LED 20K 1000 40K 73M MVOLT DDB

Code	Quantity	Part Number	Notes
D-Series Size 0	10	20K 1000 40K 73M	10' x 10' x 4" DDB

**Notes**

1. All dimensions are in inches unless otherwise noted.  
2. All dimensions are in feet unless otherwise noted.  
3. All dimensions are in meters unless otherwise noted.  
4. All dimensions are in millimeters unless otherwise noted.

Schedule						
Symbol	Label	Quantity	Manufacturer	Description	Lamp	Mounting Height
	A	1	Ushio Lighting	CNY LED Canopy Luminaire, 4000K	LED	15'-0"
	B	5	Ushio Lighting	D50 LED AREA LIGHT, 4000K	LED	16'-0"
	C	2	Ushio Lighting	D50W LED BUILDING MOUNTED LUMINAIRE, 4000K	LED	10'-0"

**Statistics**

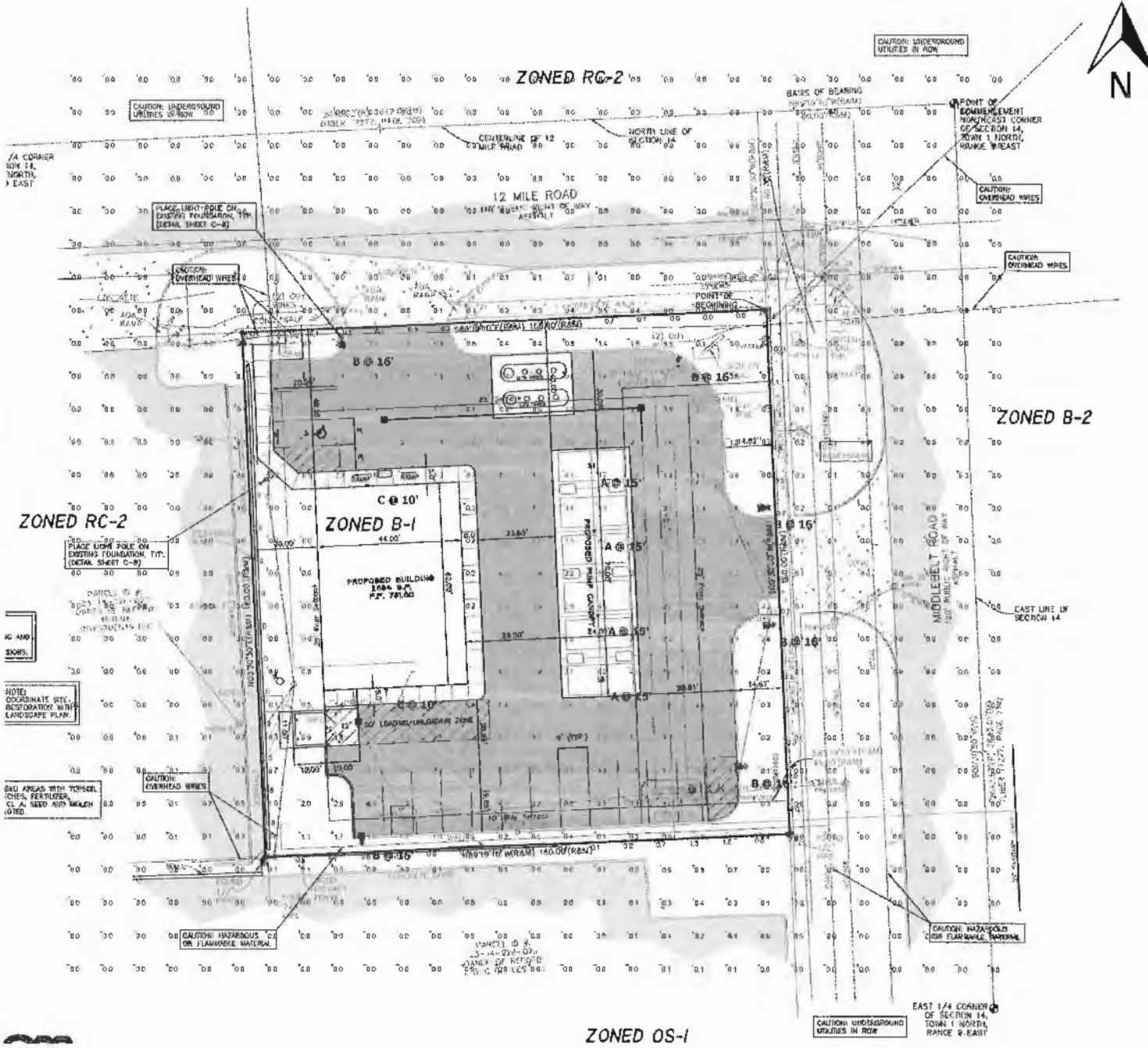
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
PARKING LOT	A	1.6 ft	4.4 ft	0.2 ft	22.0:1	8.0:1	0.4:1
PROPERTY LINE	B	0.3 ft	1.6 ft	0.0 ft	N/A	N/A	0.2:1
UNDER CANOPY	C	4.1 ft	6.7 ft	2.2 ft	3.0:1	1.9:1	0.6:1

**Alternates Note**

THE USE OF FIXTURE ALTERNATES MUST BE RESUBMITTED TO THE CITY FOR APPROVAL.

**Ordering Note**

FOR INQUIRIES CONTACT GASSER BUSH AT QUOTES@GASSERBUSH.COM OR 734-266-6705.



**Plan View**  
Scale - 1" = 20ft

**Mounting Height Note**

MOUNTING HEIGHT IS MEASURED FROM GRADE TO FACE OF FIXTURE. POLE HEIGHT SHOULD BE CALCULATED AS THE MOUNTING HEIGHT LESS BASE HEIGHT.

**Drawing Note**

THIS DRAWING WAS GENERATED FROM AN ELECTRONIC IMAGE FOR ESTIMATION PURPOSE ONLY. LAYOUT TO BE VERIFIED IN FIELD BY OTHERS.

**General Note**

1. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.  
2. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0"

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.

UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIREMENTS DEFINED IN ASHRAE 90.1 2013. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT ASG@GASSERBUSH.COM OR 734-266-6705.

## **ACCEPTANCE OF 2021 HDC ANNUAL REPORT**

I move that the Planning Commission accepts the 2021 Historic District Commission Annual Report.





Historic District Commission

## **CITY OF FARMINGTON HILLS HISTORIC DISTRICT COMMISSION 2021 ANNUAL REPORT**

The City Farmington Hills Historic District Commission is charged with preserving historic districts within the City that reflect elements of the architectural, cultural, economic, political, or social history of the community. This seven-member commission is comprised of City residents working diligently over the past year to further this goal. This report summarizes the Commission's activities in 2021.

### **2021 Commission Membership**

Alec Thomson  
Bryan Brincat (resigned)  
James Paulson, Vice Chair  
John Trafelet  
Ken Klemmer, Chair  
Lisa Martin, Recording Secretary  
Marleen Tulas (newly appointed)  
Steve Olson

City Council Liaison:	Valerie Knol, Councilperson
City Staff Liaison(s):	Angeline Lawrence, Staff Planner (resigned) Erik Perdonik, Staff Planner (newly assigned)

### **2021 Historic District Commission Goals, Objectives, and Initiatives**

- ☐ Assist Parks and Recreation Department with scope of work required to help Spice House recover from damage caused by a fallen tree in 2020 and overall building maintenance. HDC formed a special subcommittee to work with the Department.
- ☐ Continue cemetery preservation plan with additional monument cleaning, initiate resetting of large monuments with scope of services for a consultant. Communicate with Department of Public Works to get clarity on landscape guidelines and process for grounds maintenance.
- ☐ Continue oral history project using on-line meeting software and digital tools to capture interviews of older residents, officials, and community stakeholders.
- ☐ Comprehensive video, photo of Sarah Fisher property since development is slated to begin soon. Review existing descriptions of historic properties in our "Blue Book" to expand language and architectural styles of historic districts described in the book.
- ☐ Conduct a workshop on obtaining a certificate of appropriateness and building permits using online resources.
- ☐ Complete study of properties identified in the 2019 reconnaissance survey by contacting property owners and informing them of benefits of local historic designation.
- ☐ Conduct a workshop on obtaining a certificate of appropriateness and building permits.
- ☐ Monitor the preservation status of the Botsford Inn and work with the responsible parties to address various issues regarding the exterior of the structure.

### **2022 Historic District Commission Goals, Objectives, and Initiatives**

- ☐ Assist the City's Special Services Department with upcoming restoration work on the fieldstone wall at the Sherman-Goodenough House (Historic District Site No. 312).



## Historic District Commission

- ☐ Assist the City's Special Services Department with the upcoming work on the Spicer House (Historic District Site No. 508) and implement a comprehensive restoration plan for the site.
- ☐ Continue collaboration between the Historic District Commission and City's Department of Public Works in implementing the cemetery preservation plan, including additional monument cleaning and resetting.
- ☐ Continue the oral history project using online meeting software and other digital tools to capture interviews of residents, officials, and community stakeholders.
- ☐ Continue to update the "Blue Book," the City's official guide to its Historic Districts, for accuracy and comprehensiveness, and explore a potential internship opportunity within the Planning Office to assist in such process.
- ☐ Comprehensive video and photo documentation of Sarah Fisher property since development may begin soon.
- ☐ Continue to monitor the preservation status of the Botsford Inn and work with the responsible parties to address various issues regarding the exterior of the structure.
- ☐ Complete study of properties identified in the 2019 reconnaissance survey by contacting property owners and informing them of benefits of local historic designation and continue to identify new sites for potential historic designation.
- ☐ Develop a standardized "welcome package" for new owners of designated historic sites.

### **Historic District Commission Meetings**

In 2021, the Historic District Commission held eight (8) regular meetings. Meetings in May, June, August, and September were cancelled due to lack of business.

### **Review of Work Within Historic Districts**

Review by the Historic District Commission is required whenever work is proposed to the exterior or within one-hundred (100) feet of a designated structure.

Certificates of Appropriateness are granted for a project which meets the United States Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings, as set forth in Title 36 of the Code of Federal Regulations, Part 67, as amended. Projects which cannot meet the Standards for Rehabilitation are considered for a Notice to Proceed. A Notice to Proceed may be issued where:

- (1) The resource constitutes a hazard to the safety of the public or to the structure's occupants;
- (2) The resource is a deterrent to a major improvement program that will be of substantial benefit to the community and the applicant proposing the work has obtained all necessary planning and zoning approvals, financing, and environmental clearances, as required;
- (3) Retaining the resource will cause undue financial hardship to the owner when a governmental action, an act of God, or other events beyond the owner's control created the hardship, and all feasible alternatives to eliminate the financial hardship, which may include offering the resource for sale at its fair market value or moving the resource to a vacant area within the historic district or to another site preferably within the city determined to be appropriate by the commission, have been attempted and exhausted by the owner;
- (4) Retaining the resource is not in the interest of the majority of the community.

## Certificates of Appropriateness

In 2021, four (4) Certificates of Appropriateness were issued for work within the following districts:

### Historic District Site No. 2 – John Garfield House – 35810 West Thirteen Mile Road

#### *Site Overview*

This Greek Revival house with a Federalist influence was probably constructed between 1831 and 1838 by John Garfield. The outer portion has hand-hewn beams, and the inner basic beams are logs with bark still on them.

The house experienced extensive remodeling and modification over the years but has been restored to its original Federal-Greek Revival appearance.



The property at one time contained an orchard and a dairy farm. The barn, which has been remodeled into a home, is on neighboring property. A carriage house, to the east of the home, was moved here from its original location near the Botsford Inn.

The John Garfield House is on the Michigan State Registry of Historical Places.

#### *Certificate of Appropriateness 21-1*

The Historic District Commission issued a Certificate of Appropriateness for the replacement of the existing cedar shake wood roofs on the main house, carriage house, and remodeled barn with asphalt, charcoal-colored, architectural grade, multilayered roofing.

**Historic District Site No. 518 – Edward Chene House – 29920 Ardmore Drive**

*Site Overview*

Built in 1927 for Edward and Evelyn Chene, this colonial revival home has original windows, original shingle siding, original plumbing fixtures, wood floor and coved ceilings. The house is situated on an acre lot. There are beautiful oak trees in the front yard and the first Christmas tree in the house was planted in the back yard and still growing.



Edward Chene was from the pioneer Chene family of Detroit. He was an insurance salesman.

This house was one of the early homes of Oaklands subdivision. It was designed by Emily Butterfield, the first woman licensed to practice architecture in Michigan. Emily worked with her father in the firm of Butterfield and Butterfield.

There are two additions to the house; the one on the south was post World War II, and the addition to the east was built in 1981. The house came under new ownership in 2021.

*Certificate of Appropriateness 21-1A*

Staff issued an administratively reviewed Certificate of Appropriateness for the installation of white, aluminum, five (5)-inch seamless gutters and downspouts, with gutter guard, on the home.

*Certificate of Appropriateness 21-2*

The Historic District Commission issued a Certificate of Appropriateness for the installation of a four (4)-foot-tall, black, vinyl-coated, chain-link fence within the rear and side yards.



**Historic District Site No. 514 – James F. Cain House – 26135 Holly Hill Drive**

*Site Overview*

A four-square design with Colonial revival details, this small “estate” house with sidewalks to other early models was located prominently in Pasadena Park subdivision.

This house is typical of a 1925 luxury design. Economic conditions of the Great Depression halted the development of the subdivision until after World War II so no more models like this were constructed.



James F. Cain, the builder and developer of Pasadena Park lived here with his wife Genevieve and three children for about ten years. Hollywood Drive became Holly Hill when Pasadena Park was reorganized.

Other unusual features are the basement, which was constructed of brick, and the Pewabic tile in the upstairs bathroom.

*Certificate of Appropriateness 21-3*

The Historic District Commission issued a Certificate of Appropriateness for the replacement of eight (8) windows on the 1960s family room addition with new double-hung windows with grills.

## Notices to Proceed

In 2021, one (1) Notice to Proceed was amended for work within the following districts:

### Historic District Site No. 507 – Sarah Fisher Home – 27400 Twelve Mile Road

#### *Site Overview*

Egyptian influence used in public building of the 1920s is seen in the original administration office and early buildings of the children's home. Fine brickwork, slate roof, limestone framing on door and windows, and carving over the entrance are used on this structure built in July 1929.

The entrance gates at Twelve Mile and Inkster Roads are outstanding and were restored in 2009.



#### *Background*

The Sarah Fisher family built the facility in 1929 to house unwed mothers and their children. The site includes ten (10) cottages, designed to house twenty-four (24) children each, a chapel, and a playroom. By 1934, there were two-hundred (200) children enrolled (ages two (2) to six (6)) and a nursery school was added.

With over twenty (20) buildings sitting on an approximately 31.5-acre campus, it was an important cultural center for over seventy (70) years. Closed in 2005 and unoccupied since, it has been first on the Historic District Commission's "Watch List," which includes historic district sites whose deteriorating condition is of particular concern to the Commission. Efforts to find a buyer to repurpose the many buildings have been fruitless. Working with other potential buyers, the Commission proposed preservation of a limited number of the most significant structures, symbolic of the facility's cultural role.

*First Amendment to Notice to Proceed 20-1*

The Historic District Commission issued a Notice to Proceed for the demolition of all historic structures on the site, with the exception of the chapel portion of the administration building, entry wall and gates at the corner of Twelve Mile and Inkster Roads, and the historic marker, which shall all be preserved, provided that:

- Materials from the buildings to be razed shall be reused as much as possible;
- Existing wood windows, architecturally significant exterior elements, and historic building material in the historic buildings shall be retained, preserved, and reused in so far as possible in the construction of the new onsite buildings;
- The proponent shall not proceed with any demolition whatsoever until completion of all other associated City of Farmington Hills approvals for complete redevelopment of the property;
- Any structure which is approved for demolition but left standing shall remain subject to Historic District Commission review.



*Chapel Concept*

As explained in greater detail later in this report in the **Project Updates** section, a Planned Unit Development application process is underway to redevelop the site for skilled nursing and residential uses.



## Selected Historic District Commission Activities in 2021

### Historic District Site No. 910 – West Farmington Cemetery – Twelve Mile and Halsted Roads

#### *Site Overview*

This cemetery was established in 1835 on the grounds of the Baptist Church that once stood there. The church is now gone. When the congregation disbanded, the church moved to the Palacky farm on Twelve Mile on May 4, 1938.

The cemetery was maintained by local families who established a group called the Willing Workers. They raised money and maintained the cemetery. It is now the property of the City of Farmington Hills.



This pioneer cemetery is listed on the Michigan State Registry of Historical Places.



**Historic District Site No. 900 – East Farmington Cemetery – Twelve Mile Road between Inkster and Middlebelt Roads**

*Site Overview*

In 1824 Sanford M. Utley came west with his family, including two sons, Peleg and George. His wife, Patience, fell off the wagon when they arrived in July; two months later on September 26, 1824, she was buried on Peleg's farm.

The section of the Utley farm, where Patience was buried, became Farmington's first cemetery. Hers was the first death in the township.

The cemetery was maintained by the East Farmington Cemetery Association with a group called the Mystic Workers taking care of the cemetery with various fundraising activities and their own labor.



The cemetery is now maintained by the City of Farmington Hills. It is listed on the Michigan Registry of Historical Places.

*Cemetery Master Plan Implementation*

Beginning in 2019, the Historic District Commission undertook leading the preservation of the two (2) city-owned cemeteries: Farmington West Cemetery and Farmington East Cemetery. The Master Plan developed by a Historic District Commission subcommittee is a multi-year, phased approach. Broadly speaking, the phases, which overlap, include documentation, cleanup of the landscape, cleaning of markers, and resetting and restoration of the markers.

While work has been slowed by the pandemic, progress has been steady; including both volunteer efforts and the engagement of professional services.

Throughout 2021, the Historic District Commission continued implementation of its Cemetery Master Plan. Commissioners, with the assistance of City Department of Public Works staff, Fenton Memorials, and volunteers, cleaned and reset monuments in West Farmington Cemetery, including the resetting of twelve (12) larger, heavier monuments along Halsted Road. At East Farmington Cemetery, Boy Scouts assisted Commissioners and volunteers in cleaning monuments at East Farmington Cemetery. Finally, the wrought-iron fence was restored at East Farmington Cemetery in 2021 as well.



## Project Updates

### **Historic District Site No. 507 – Sarah Fisher Home – 27400 Twelve Mile Road**

In 2020, a developer began the Planned Unit Development process seeking City approval to redevelop this site for skilled nursing and residential uses. The plans have since been revised in response to City Council comments, which gave rise to the First Amendment to Notice to Proceed 20-1 described previously in this report. The approval process remains ongoing with the developer and City currently exploring various potential economic incentive opportunities. A revised Planned Unit Development and Site Plan application is expected to be received soon. The process will then once again move forward for Planning Commission and City Council consideration.

**Historic District Site No. 508 – Spicer House – Heritage Park on Farmington Road**

*Site Overview*

This long low English Country House was designed to blend in with the landscape by talented architect Marcus Burrowes. The house was built in 1926 for attorney David Gray and his wife, Martha. It originally stood on twelve acres of land.

The house was designed with two wings; the outdoors was visible from all rooms. This design was not only beautiful, but practical, because of the cross ventilation.



David Gray died before the house was occupied and Martha Gray moved to California before the house was ever lived in. When Eleanor Goodenough married John Spicer in 1935, Mrs. Gray gave the home and property to the newlyweds. Eleanor was the daughter of Luman Goodenough, a dear friend of the Grays.

Additional acres were purchased for the farm which Eleanor Spicer ran until her death in 1982. At that time the property included 200 acres and Mrs. Spicer liked to refer to it as the only unspoiled place in Farmington Hills.

The land is now Heritage Park with this jewel of a house as its heart. The Spicer House serves as the Park's Visitor Center, with the wings modernized to serve as classrooms and meeting areas. The four historic rooms: the hall, living room with cathedral ceiling, library and dining room, serve for gatherings and displays.

*Repairs and Maintenance*

In 2020, the Spicer House was damaged by a fallen tree and is generally in need of maintenance in a variety of areas. In 2021, the Historic District Commission worked together with the City's Special Services Department as a variety of repairs were completed.

Funds are budgeted for the replacement of the roof in 2022, as well as work on the gutters and chimney. The Historic District Commission will be highly involved in this project as a Certificate of Appropriateness will be required for the roof replacement.





## Historic District Commission

### *Comprehensive Preservation Plan*

The Commission has also begun working with Special Services and consultants on developing and implementing a broader comprehensive preservation plan for the site. This work will continue in 2022.

### **Historic District Site No. 312 – Sherman-Goodenough House – 24705 Farmington Road**

#### *Site Overview*

Palmer Sherman, a Farmington grower of seed for Ferry Morse Company, built a brick home on his farm in 1869. Palmer Sherman's home is the southeast portion of the Georgian mansion that was constructed from 1914-1930 when the Goodenoughs converted the farmhouse into their country estate. The additions were designed by architect Marcus Burrowes for Luman Goodenough, a Detroit attorney.



Included in the creation of the Georgian manor were elegant details by the talented architect who specialized in historic periods. There is Pewabic tile in one of the bathrooms. The house was a summer country home before becoming a year-round residence in 1916. The outstanding talent of Marcus Burrowes has been rewarded with registration in the Michigan Registry of Historical Places.

The house is surrounded by a fieldstone wall constructed by Farmington stone mason Henry Mahaney.

When Mrs. Goodenough died in 1967, the terms of the will provided for the home to be given to the community for community use, "provided no tax money was involved." A group of local citizens raised money for the operation of the home as a Community Center, and for over 20 years citizens of Farmington/Farmington Hills have been able to enjoy many social and cultural functions within the walls and grounds of this beautiful home, whose walls are redolent of a more leisurely, elegant age of horses and grooms, chauffeurs, gardeners and servants. Today, the City operates and maintains the site.



*Repairs and Maintenance*

In 2018 and 2019, the fieldstone wall was damaged as a result of a vehicle accidents. The Historic District Commission worked together with the City's Special Services Department in repairing the wall; however, more extensive repairs to the wall are necessary to ensure its long-term stability. For 2022, Special Services seeks to contract to reconstruct the southern sixty (60) feet of the wall; the Historic District Commission will be highly involved in this project as well.

**Historic District Site No. 15 – Botsford Inn – 28000 Grand River Avenue**

*Site Overview*

Built in 1836 by Allen Weston, this Inn was used as a hotel and tavern. It was significant as the Sixteen Mile House when owned and run by Stephen Jennings on the Detroit to Howell Plank Road. Milton Botsford purchased the Inn in 1860 and gave it his name.



In 1924 Henry Ford became owner of the Inn and did extensive restoration. He also moved the Inn back to make room for the widening of Grand River Avenue.

This Inn is listed in the National Registry of Historic Places and Michigan State Registry of Historical Places.

*Watch List*

In fall 2021, the Historic District Commission received reports regarding the preservation status of the Botsford Inn, owned by Botsford General Hospital and adjacent to the Cancer Center. As a result, the Commission established a subcommittee to visit and assess the condition of the property. The subcommittee's report noted removal of the historic shutters and other evidence of deterioration.

To assure that the property owner is aware of their preservation responsibilities, the subcommittee has scheduled an onsite meeting to discuss such obligations with the responsible parties.

**SITE PLAN 54-1-2022**

**Approval:**

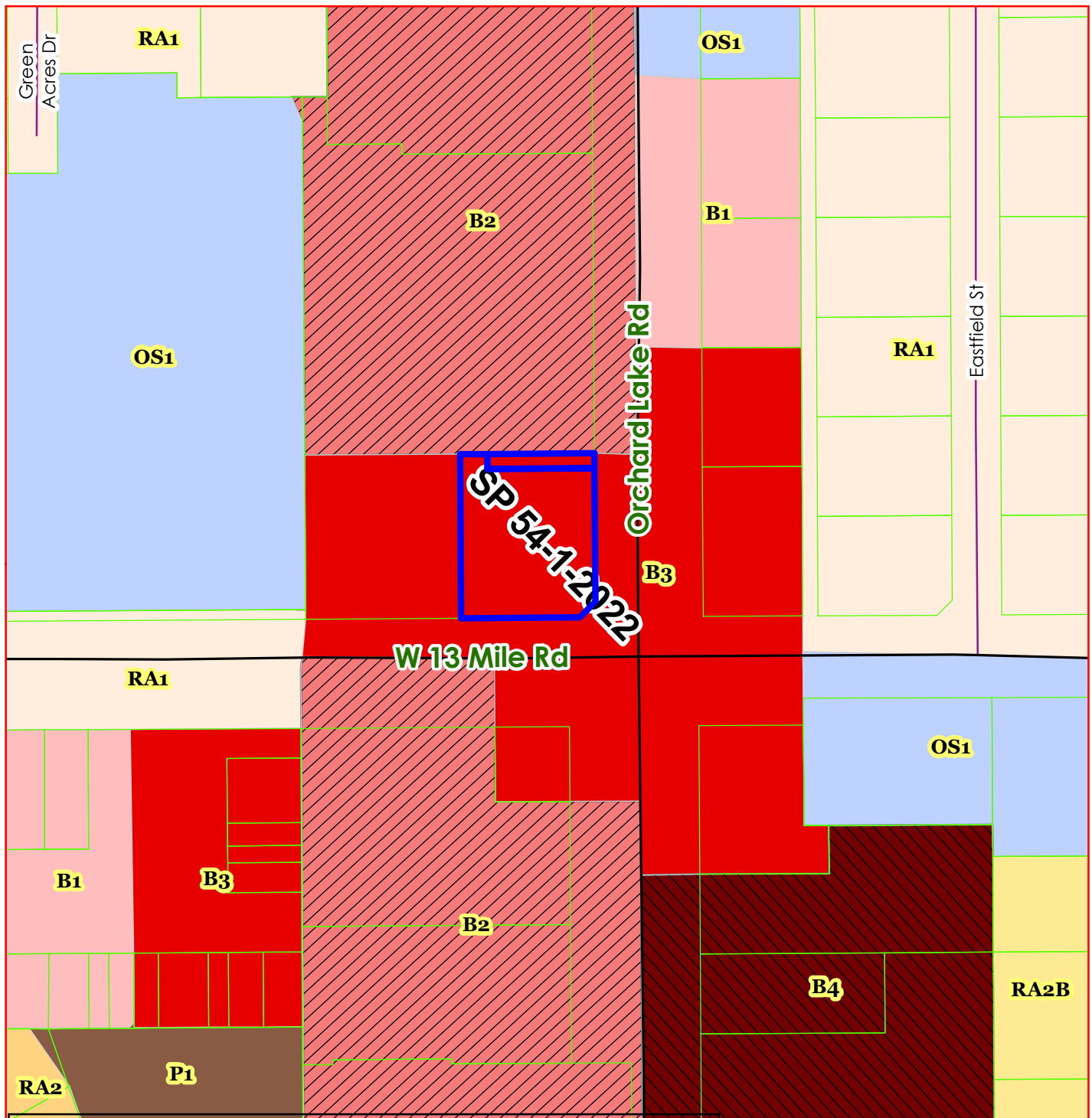
I move that Site Plan 54-1-2022, dated January 18, 2022, submitted by Bazco Holdings, LLC, be approved because it appears to meet all applicable requirements of the Zoning Chapter. Subject to the following conditions:

**Denial:**

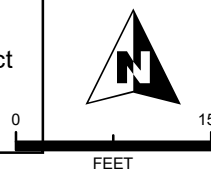
I move that approval of Site Plan 54-1-2022, dated January 18, 2022, submitted by Bazco Holdings, LLC, be denied for the following reasons:

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SP 54-1-2022, B-3  
 23-03-477-056 & 052, 29509 Orchard Lake Rd.  
 Gasoline station and convenience store



- |                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>□ Tax parcel</li> <li>— Minor roads</li> </ul> <p><b>Zoning Districts</b></p> <ul style="list-style-type: none"> <li>■ B-1 Local Business District</li> <li>■ B-2 Community Business District</li> <li>■ B-3 General Business District</li> </ul> | <ul style="list-style-type: none"> <li>■ B-4 Planned General Business District</li> <li>■ OS-1 Office Service District</li> <li>■ P-1 Vehicular Parking District</li> <li>■ RA-1 One Family Residential District</li> <li>■ RA-2 One Family Residential District</li> <li>■ RA-2B One Family Residential District</li> </ul> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

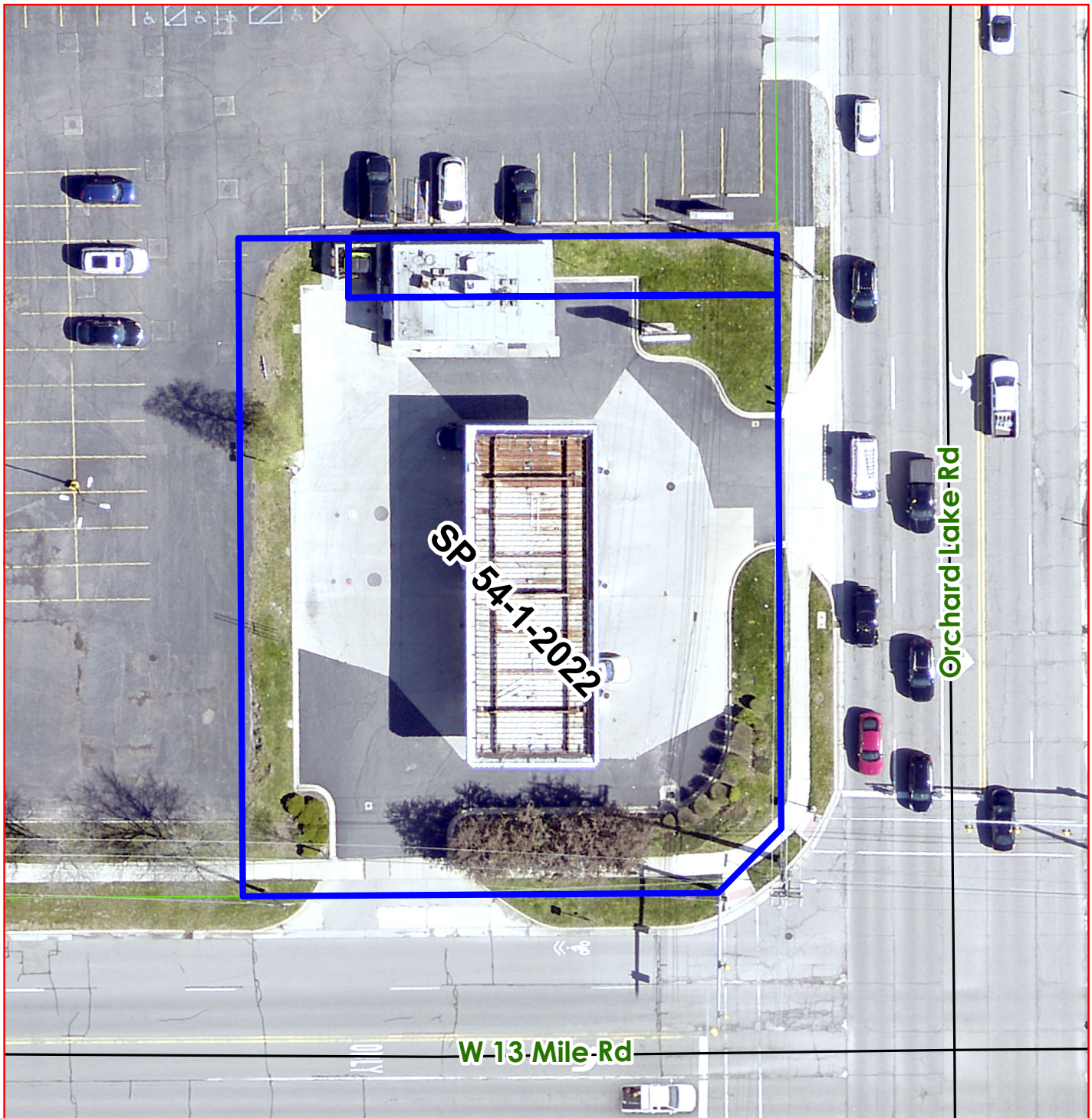


SOURCE: City of Farmington Hills, 2022  
 Oakland County GIS, 2022

DISCLAIMER: Although the information provided by this map is believed to be reliable, its accuracy is not warranted in any way. The City of Farmington Hills assumes no liability for any claims arising from the use of this map.



SP 54-1-2022, B-3  
23-03-477-056 & 052, 29509 Orchard Lake Rd.  
Gasoline station and convenience store



Planning Division



SOURCE: City of Farmington Hills, 2022  
Oakland County GIS, 2022

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0  
FEET

□ Tax parcel



INTEROFFICE CORRESPONDENCE

**DATE:** January 27, 2022  
**TO:** Planning Commission  
**FROM:** Jason Baloga, Fire Marshal  
**SUBJECT:** Site Plan 54-1-2022 29509 Orchard Lake (Gas Station)

The Fire Department has reviewed the following site plan and made the following notation:

1. The site does not appear to meet Site Access requirements outlined in Chapter 12 Section 12-11(1) of the City Code; sites shall be designed to accommodate fire apparatus with a 50' turning radius.
2. Hydrant coverage does not appear to be adequate according to Chapter 12 Section 12-11(2)d of the City Code; all points on the exterior of the building shall be no further than 250' from a hydrant. Hydrants located on the opposite side of major thoroughfares shall not be considered in computing the 250' distance.

Note: If the Proponent finds it impractical to comply with the minimum Fire Department site plan review and design standards, please contact the Fire Marshal to discuss the Alternate Protection provision outlined in Chapter 12 Section 12-11(4).

Once the above Ordinance requirements have been satisfied, the Fire Department will have no objection to recommending approval contingent upon compliance with the following conditions:

3. Fire lanes shall be posted and strictly enforced.
4. Hazardous materials shall be regulated according to State requirements as well as requirements of Chapter 12 of the City of Farmington Hills Ordinance.
5. Pumps shall only dispense fuel with attendant present.
6. Building shall be maintained in accordance with minimum Fire Prevention Code requirements.
7. The minimum clearance between the finished roadway surface and any overhead obstruction shall be 13'6".

A handwritten signature in blue ink, appearing to read "Jason Baloga", is written over a faint circular stamp.

Jason Baloga, Fire Marshal

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DEPARTMENT OF PUBLIC SERVICES  
KAREN MONDORA, P.E., DIRECTOR

INTEROFFICE CORRESPONDENCE

**DATE:** January 27, 2022  
**TO:** Planning Commission  
**FROM:** James Cubera, Engineering *JC*  
**SUBJECT:** BP Gas Station:  
29509 Orchard Lake Road  
SP#: 54-1-2022 - PJ#: 03-22-74  
22-23-03-477-056

---

This office has performed a preliminary review of the above referenced site plan submitted to the Planning Department on January 14th, 2022. Our preliminary comments are as follows:

1. A 10-inch sanitary sewer exists on the east side of Orchard Lake Road across the frontage of this site. There appears to be a 10-inch line that runs westward from this main to this site at the northeast corner of the proposed gas station. The proponent will have to identify where the sewer lead is located and if it uses this particular sewer stub. The lead will have to be televised and any infiltration inflow issues resolved as well as any repairs or improvements that are needed.
2. A 16-inch watermain exists along the south side of 13 Mile Road across the frontage of this site. In addition, a 12-inch watermain exists along the east side of Orchard Lake Road across the frontage of this site. Both lines are available for service. The plans imply that the existing service line runs southward. This needs to be confirmed with the County. It also needs to be confirmed whether it will be utilized for this new development or not.
3. One curb cut on Orchard Lake Road is proposed as well as one curb cut on 13 Mile Road. This is appropriate.
4. A 5-foot-wide sidewalk currently exists both on 13 Mile Road as well as Orchard Lake Road. Therefore, no additional sidewalk requirements are in effect.



5. Storm detention must be provided in the amounts of 2 inches over the gross area of the site. The plans need to identify how this will be engineered. In addition, storm water discharge must be restricted to 0.2cfs per acre. It is unclear how these detention/discharge requirements are being addressed with these plans.
6. Storm water quality improvements will be required in accordance with the City of Farmington Hills Engineering standards. Attached are comments from the City's Environmental Engineer Tyler Sonoga. Any question regarding these items can be referred to him at 248-871-2533.
7. The proponent needs to confirm that the north property line and west property line will maintain the appropriate grade without a grade differential and that there will not be a need for retaining walls along the common property line.
8. The ultimate right-of-way on 13 Mile Road is 120-feet (60-feet both north and south of the section line). It is our understanding that the current right-of-way in this area only allows for 50-feet from the section line northward. In addition, on Orchard Lake the right-of-way appears to be only 33-feet from the section line westward. In both instances it is suggested that the ultimate right-of-way on 13 Mile Road, which would necessitate an additional 10-feet of right-of-way, be dedication as well as the ultimate 60-feet of right-of-way on Orchard Lake Road, which would necessitate an additional 27-feet of right-of-way, be considered at this time.
9. It is suggested that the proponent and his engineer set up a Zoom or Microsoft Teams meeting with the City Engineering Division to discuss this site in further detail.



DEPARTMENT OF PUBLIC SERVICES  
KAREN MONDORA, P.E., DIRECTOR

City of Farmington Hills  
Environmental Review

Project Name: BP Gas Station (Previously Mobil)

Address: 29509 Orchard Lake Rd.

Project Job #: 3-22-74

Plan Dated: 1-18-22

Plan Received: 1-19-2022

Review #: 1

Review Date: 1-26-2022

As requested, I have conducted a plan review of the above reference engineering plans. I have the following comments:

1. Storm water quality and quantity management must be provided for the site in accordance with the City of Farmington Hills Engineering Design Standards.
2. Detention must be provided to store a volume equivalent to 2 inches of water over the developed area of the site.
3. There is opportunity for low impact development best management practices to address storm water quality and quantity. These techniques include: porous pavement, infiltration trenches, and bioretention/rain gardens. The low impact development techniques would minimize the volume of storm water runoff and provide storm water quality treatment.

Respectfully submitted,

Tyler Sonoga  
Civil/Environmental Engineer  
Department of Public Services

cc: City of Farmington Hills, J. Cubera

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February 4, 2022

Farmington Hills Planning Commission  
31555 W 11 Mile Rd  
Farmington Hills, MI 48336

# Site Plan Review

Case: SP 54-1-2022  
Site: 29509 Orchard Lake Rd (22-23-03-477-052/056)  
Applicant: Bazco Holdings, Inc.  
Plan Date: 1/17/2022  
Zoning: B-3 General Business

We have completed a review of the application for site plan approval and a summary of our findings is below. Items in **bold** require specific action. Items in *italics* can be addressed administratively.





## SUMMARY OF FINDINGS

**Summary of Proposal.** The applicant proposes to rebuild an existing gas station and convenience store.

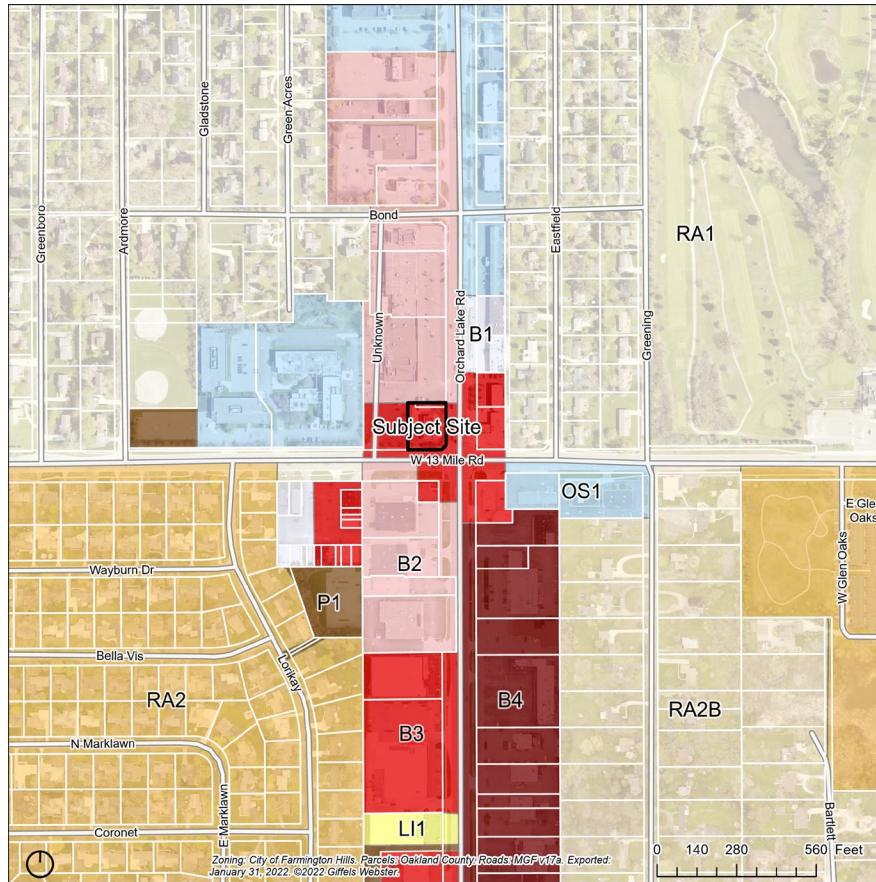
### Summary of Issues.

- Variance required for west side setback.
- Inadequate labeling of setbacks and buffer widths on Sheet C-1.
- Address rooftop and other mechanical equipment.
- Address loading requirement/labeling/blocked spaces.
- Calculation of paved area need to determine tree requirement.
- Applicant proposing mixture of shrubs rather than uniform hedgerow for parking lot screening.  
PC to confirm if acceptable.
- Lighting plan adjustments required.

### Existing Conditions

1. **Zoning.** The site is 0.51 acres and zoned B-3.
2. **Existing site.** The site is currently developed with a gas station and convenience store.
3. **Adjacent properties.**

Direction	Zoning	Land Use
North	B-2	Commercial
South	B-3	Commercial
East	B-3	Commercial
West	B-3	Commercial



4. **Site configuration and access.** The site is accessed via two driveways: one from Orchard Lake Road, and another from 13 Mile Road.

**Site Plan & Use:**

1. **Use.** A gas station is a principally permitted use in the B-3 district, subject to PC approval and the standards of Section 4.28 (see below).
2. **Dimensional Standards (B-3 district).** See footnotes after the table for remarks on compliance issues.

Item	Required	Proposed/Comments
Standards of Sec. 34-3.1.25.E		
Min. lot size	None specified	0.51 acres
Min. lot width	None specified	149 ft/119 ft
Front Setback (south)	25 ft (to 13 Mile)	47.5 ft to canopy/58 ft to building
Rear Setback (north)	20 ft	41 ft to canopy/45.5 to building
Side Setback (east)	25 ft (to Orchard Lake)	25+ ft to canopy <sup>1)</sup>
Side Setback (west)	10 ft	1.5 ft <sup>2)</sup>
Building Height	50 feet	18 feet
Front Yard Open Space	50%	Compliant
Other dimensional standards		
Yard landscaping (34-3.5.2.A)	For all uses except one-family detached residential units, landscaping of all yards abutting a street shall be provided	See landscaping comments below.

Item	Required	Proposed/Comments
Minimum parking setback (34-3.5.2.J)	10 feet	Appears compliant, but needs label <sup>3)</sup>
Loading space (34-3.5.2.N)	10 feet of loading space per front foot of building = 440 sq ft	Approx. 490 sq ft <sup>4)</sup>
Rooftop equipment (34-3.5.2.U.)	Rooftop equipment shall be screened in accordance with Section 34-5.17.	Rooftop equipment is not addressed on the plans
Landscape area abutting street or freeway (34-3.5.2.V.)	A landscaped area not less than ten (10) feet deep	Varies and appears compliant, but width of each section should be labeled to verify compliance.

1) The setback is clearly compliant; however, the actual distance should be labeled on the plan.

2) This setback will require a variance or plan modification.

3) When measured, the landscape buffer to the northeast parking space appears to be adequate; however, this should be dimensioned on the plan. Other buffers are compliant.

4) There is a dimensioned area north of the building that appears intended to be used as a loading area, though it is not labeled as such on any plan sheet. Because this area blocks access to 4 parking spaces, the applicant should be prepared to address how this will affect daily functioning on the site, such as by designating three of these spaces as employee parking or scheduling deliveries outside of busy hours.

3. Dumpster (34-5.1.2.D).

Item	Required	Proposed/Comments
Location	Rear yard or interior side yard	The dumpster enclosure is in the rear yard and compliant.
Screening	Permanent building wall or earth mound not less than 6 feet or 1 foot above the enclosed dumpster whichever is greater	
Setback	20 feet from any residential property	

4. Mechanical Equipment (34-5.1.4.D). The plan does not address mechanical equipment.

5. Minimum parking (34-5.2.11.C.i/x).

Requirement	Calculations	Provided
i. Retail store: One (1) for each one hundred seventy-five (175) square feet of usable floor area	$2728 \times 0.8 = 2,182.4$ $2,182.4 / 175 = 12$	16 spaces (50% of fueling positions may be counted as spaces)
x. Self-service gas station: One (1) space plus one (1) space for each employee on the largest working shift. Additional parking shall be provided for any accessory retail use as required for such use	$1 + 2 = 3$  Total required = 15 +1 for uses requiring less than 25 spaces = 16	
Barrier-Free Spaces	1 space (van accessible)	

6. Off-street parking dimensions (34-5.3.3.A & B.). The spaces meet the minimum requirements for parking spaces. However, space 13 may conflict with the driveway connection to 13 Mile Rd.

Item	Required	Proposed/Comments
Maneuvering lane width	20 ft.	20 ft min
Parking space width	9 ft.	9 ft
Parking space length	20 ft. for minimum required (May include a maximum two-foot unobstructed vehicle overhang area at the front of the parking space.)  17 ft. for additional parking (May include a maximum one-foot unobstructed vehicle overhang area at the front of the parking space)	20 ft

7. **Acceleration-Deceleration-Passing Lanes (34-5.6.2.)** Driveways providing ingress and egress to all three-lane paved major or secondary thoroughfares shall be provided with paved acceleration and deceleration lanes. If in the opinion of the director of public services no useful purpose would be served or if unusual difficulty would be encountered by reason of grade changes, intersections, bridges, or other land restrictions, the director may waive or modify the requirements of this section. **We defer to engineering to address this issue.**

8. **Standards for gas stations in the B-3 district.** Per Section 34-4.28, gas stations in the B-3 district shall meet the following standards:

In all districts:

- A. Adequate space shall be provided for the ingress, egress, and maneuvering of delivery trucks and emergency vehicles on the site. The analysis shall be based on radii and standards in the latest edition of A Policy of Geometric Design of Highways and Streets by the American Association of State Highway and Transportation Officials. Use of AutoTURN software or the equivalent is highly recommended for this analysis. This information shall be depicted on a site plan and approved in accordance with Section 34-6.1.  
*This standard appears to be met, though the AutoTurn diagram on Sheet C1-A is somewhat confusing. **We defer to engineering for review.***

- B. Up to fifty (50) percent of fueling positions may be considered toward fulfilling the parking requirement for the gas station, except that fueling positions shall not be counted as spaces required for service bays.  
*The applicant has used this standard to meet the parking requirement.*

In the B-1, B-3 and ES districts, gasoline service stations where no repair work is done, other than incidental service, but not including steam cleaning or undercoating, vehicle body repair, painting, tire recapping, engine rebuilding, auto dismantling, upholstery, auto glass work and such other activities whose external effects could adversely extend beyond the property line, shall be permitted subject further to the following conditions:

*This station has no auto service.*

- B. In the B-1, B-3 and ES districts:
- i. The curbcuts for access to a service station shall not be permitted at such locations that will tend to create traffic hazards in the streets immediately adjacent thereto. Entrances shall



be no less than twenty-five (25) feet from a street intersection (measured from the road right-of-way) or from adjacent residential districts.

*This standard is met.*

- ii. The minimum lot area shall be fifteen thousand (15,000) square feet, and so arranged that ample space is available for motor vehicles which are required to wait. Gasoline service stations having no facilities for repair or servicing of automobiles (including lubricating facilities) may be permitted on lots of ten thousand (10,000) square feet, subject to all other provisions herein required.

*This standard is met.*

- iii. Gasoline service stations which do not have a property line abutting a residential district shall not have service bay openings facing the public thoroughfare.

*N/A*

- iv. The parking of motor vehicles or the storage of trailers, campers or other such conveyances on the gasoline service station property shall be prohibited, except for those necessary to the operation of a gasoline service station.

*This standard appears to be met, but should be confirmed with a note on the plan.*

- v. Off-street loading and unloading space shall be provided in the ratio of at least ten (10) square feet per front foot of building but may be located in any required yard notwithstanding Section 34-5.4.

*See notes about the loading space above.*

- C. In the B-3 and ES districts, automobile car washes may be permitted as an accessory use.

*N/A*

9. **Circulation.** See notes about Sheet C1-A above.

10. **Corner Clearance (34-5.10).** Corner clearance standards appear to be met, but this should be shown on the plan (preferably on Sheet L-1).

11. **Overall site.**

Item	Required			Proposed/Comments
Minimum distance from the property line (34-5.14.C.ii)	4 ft from the property line for trees and large shrubs			Compliant
Minimum parking lot island area	Minimum of 180 square feet; 3 feet minimum radius at the trunk of the tree			N/A
Cost estimate	Not required			--
Minimum size and spacing requirements at planting (34-5.14.F)	Size	Center to center distance (max)		
	(Height/width)	groupings	rows	
• Evergreen Trees	8 ft. height	20 ft.	12 ft.	N/A

Item	Required			Proposed/Comments
• Narrow Evergreen Trees	5 ft. height	10 ft.	5 ft.	N/A
• Large Shrubs	30 in. height	10 ft.	5 ft.	Standard is met
• Small Shrubs	24 in. width	4 ft.	4 ft.	Standard is met
• Large Deciduous	3 in. caliper	30 ft.	-	Standard is met
• Small deciduous trees	2 in. caliper	15 ft.	-	Standard is met
• Hedge shrubs	24 in. height	3 ft.	3 ft.	No hedge
Canopy Trees	Shall be large deciduous. PC may permit large evergreens			4 large deciduous trees provided
Minimum number of parking lot trees (34-5.14.4.C)	1 per every 2,800 square feet of paved surface area:			<b>Paved surface quantity not provided; requirement unknown</b>
Parking lot screening from public thoroughfare (34-5.14.5)	A planted hedge of small shrubs, or A masonry wall or berm of 2 feet high			No hedge is provided, but the dense shrub arrangements will have a similar effect. <b>Planning Commission should review and confirm</b>
Wall or Berm (34-5.15)	Required when abutting a residential district. (See 34-5.15)			Not required
Tree replacement (34-5.18)	0 required			No existing trees will be removed.

12. **Tree Replacement (34-5.18).** The site's two existing trees are not proposed to be removed, and the required affidavit has been provided.

13. **Lighting (Section 34-5.16).**

- a. **Operation hours (34-5.16.3.B.v.).** *The following notes must be added to or addressed on the plan; it is unclear from the existing plans whether these standards are met. The applicant should clarify how these standards are met.*
  - i. Exterior lighting shall not operate during daylight hours.
  - ii. Building façade and landscape lighting shall be turned off between midnight or one hour after close of business, whichever is later, and 6:00am or opening, whichever is earlier.
  - iii. All other exterior lighting shall be reduced to no greater than 70% of maximum from midnight or one hour after close of business, whichever is later, and 6:00am or opening, whichever is earlier.
  - iv. Use of occupancy sensors to turn off or reduce lighting within 15 minutes of zero occupancy is recommended.
- b. **Illumination Levels.** With the exception of the undetailed sconces, the fixtures appear capable of meeting cutoff requirements.

Item	Required	Proposed/Comments
Maximum height (34-5.16.3.A.)	30 feet maximum	10, 15, 16 ft.

Item	Required	Proposed/Comments
Building Lighting (34-5.16.3.A. iii.)	Relevant building elevation drawings showing all fixtures and the portions of the walls to be illuminated	Decorative sconces proposed on building; <b>details needed</b>
Average to minimum illumination ratio (34-5.16.3.C)	4:1	<b>13:1</b>
Maximum illumination at the property line	0.3 fc	Met <b>except at driveways</b>
Illumination Levels- Hardscape areas (e.g., parking areas, sidewalks)	2.5 lumens per sq ft of hardscape area	<b>Unclear from plan</b>
Illumination Levels Building Entrances – within 20 ft of door	2,000 lumens per door	<b>Unclear from plan</b>

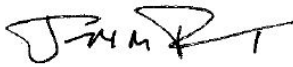
**14. Additional lighting standards for sites abutting a residential district (Sec. 34-5.16.3.B.iii.)**

- a. No direct light source shall be visible at the property line (adjacent to residential) at ground level.  
*This standard appears to be met.*
- b. All fixtures mounted within 50 feet of a residential property line or public right-of-way boundary shall be fitted with a shielding reflector on the side facing the residential property line or public right-of-way. *This standard does not apply to this site.*

**15. Pedestrian Connection (Sec. 34-5.19).** A pedestrian connection to the 13 Mile sidewalk is provided.

We are available to answer questions.

Respectfully,  
**Giffels Webster**



Joe Tangari, AICP  
Senior Planner



Rod Arroyo, AICP  
Secretary | Partner



# Proposed 2,728 square feet mercantel space to replace existing building in an existing filling station site located @ 29509 Orchard Lake Road, Farmington Hills, Michigan

## Governing Codes

1. 2015 Michigan Building Code
2. 2015 International Fire Code
3. 2015 Michigan Plumbing Code
4. 2015 Michigan Mechanical Code
5. 2017 National Electric Codes, with part 8 rules
6. ANSI 117.1-2009 (Accessibility)
7. ASHRAE 90.1 2013 Energy Code
8. City of Farmington Hills Zoning Ordinance

## Jurisdiction

1. City of Farmington Hills Planning, Building and Engineering Departments
2. Oakland County

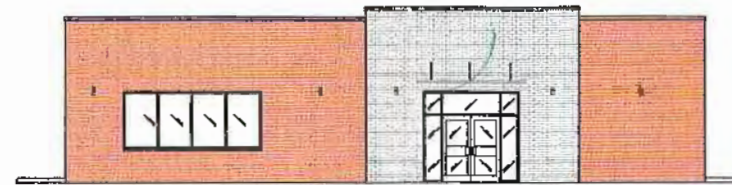
## Design team and consultants

HANNA ENGINEERING AND CONSULTING  
Planners, Architects and Engineers  
31786 Clarita  
Livonia, Michigan 48152  
Tel: (313) 575-0820  
jsaad.hao@gmail.com

VITINS ENGINEERING  
44275 Brandywine  
Canton, Michigan 48187  
Tel: (373) 453-8480  
vitins@umich.edu

## APPLICANT:

Baxco Oil Company  
30828 Twenty Six Mile Road, New Haven, Michigan 48048  
Tel: (586) 531-6377



PROPOSED FRONT ELEVATION

## Site & Building Data

	CODE SECTION	PROPOSED
PROPOSED USE		Filling Station and C store operation
USE GROUP	508.3	MERCANTILE (M)
BUILDING HEIGHT		VARIES 17' TO 18'
CONSTRUCTION TYPE	IIIB	IIIB
GROSS BUILDING AREA		2,728 SQ.FT
<b>OCCUPANT LOAD</b>		
	1004.1	RETAIL AREA ( 8Q.FT/30 = 1225/30 = 41 OCCUPANTS STOCK ROOM SQ.FT/300 = 1503/300 = 5 OCCUPANTS TOTAL OCCUPANT LOAD = 47 OCCUPANTS
EGRESS REQUIREMENT	1005	47X.02 = .94"
NO. OF EXITS	1005	PROVIDED two @ 36" and 72 "x108"
PARKING CALCULATIONS	155.077	1+ 2 employees + 2728 S.F x.8 /175 S.F + 15 spaces
TOTAL PARKING PROVIDED		16 SPACES INCLUDING ONE VAN ACCESSIBLE
<b>SPRINKLER SYSTEM</b>		
	TABLE 508.2	NOT PROVIDED AREA < 12,000 SQ.FT
TRAVEL DISTANCE FROM MOST REMOTE POINT	TABLE 1006.2.1	LESS THAN 75'
HOURS OF OPERATION		24 HOURS
NUMBER OF EMPLOYEES		3 EMPLOYEES PER SHIFT

## Site Data

ZONING	B-3
AREA	22,115 Q.FT = .51 ACRES
DESCRIPTION	EXISTING GAS STATION AND (C) STORE RETAIL RECONSTRUCTION



## Drawing Index

COV	COVER SHEET
C.A.1	PROPOSED SITE PLAN
C.A.2	SITE DETAILS
A-1	PROPOSED FLOOR PLAN
A-2	PROPOSED BUILDING ELEVATIONS
A-3	PROPOSED BUILDING ELEVATIONS

CIVIL BINDER

RECEIVED  
JAN 18 2022  
CITY OF FARMINGTON HILLS  
PLANNING DEPT.



## Pumps/Canopy & Price Sign

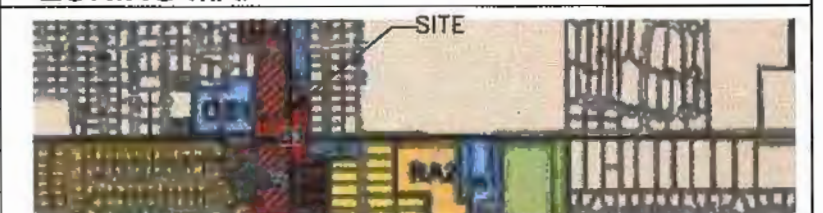
( Price sign require separate permit and approval)

## Permits and Approval Requests

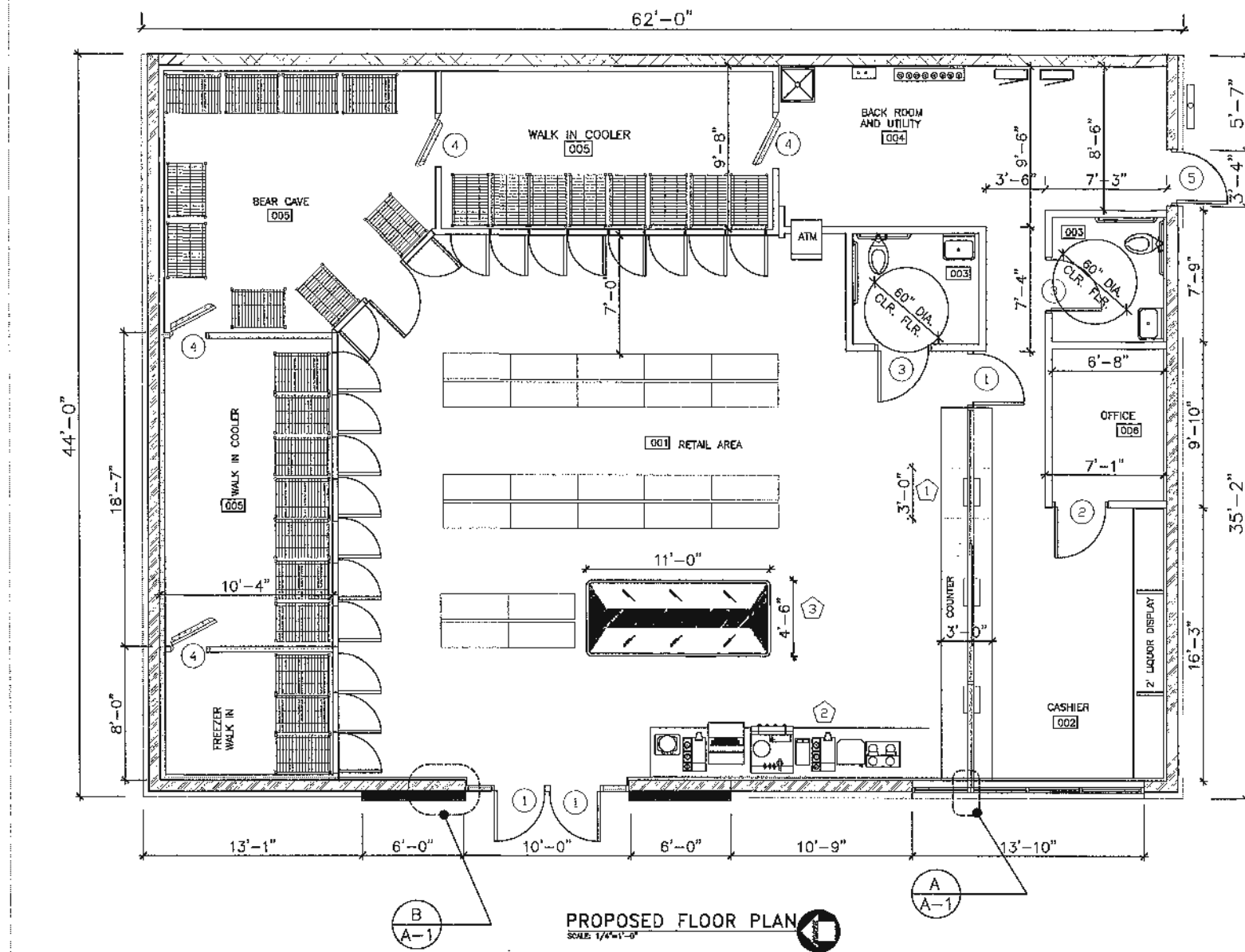
## dates

SITE PLAN APPROVAL 01-17-2022

## ZONING MAP







## DOORS SCHEDULE

NO.	DOOR	FRAME	HARD.	REMARKS
1	3'x7' 1/4"	ALUM.	1	DOOR TYPE B
2	3'x7' 1/4"	H.M.	3	DOOR TYPE A
3	3'x7' 1/4"	H.M.	2	DOOR TYPE C
4	BY COOLER SUPPLIER			
5	3'x7' 1/4"	H.M.	1	DOOR TYPE A

## HARDWARE TYPES:

- (3) 1 1/8" BUTTS/PUSH PULL PLATES/DEAD BOLTS W/ TURN BOTTOM/CLOSER/WEATHER STRIP/KICK PLATES (BOTH SIDES)/THRESHOLD
- 1 1/2" PR. BUTTS/PUSH PULL PLATES/WALL BUMPER/CLOSER/PRIVACY SET/LATCH SET/DOOR SIGN
- 1 1/8" PR. BUTTS/LEVER HANDLES/PRIVACY SET/WALL BUMPER/DOOR STOP

## ROOM FINISH SCHEDULE

ROOM No.	ROOM NAME	FLOOR MATERIAL	BASE	WALLS	CEILING	REMARKS
001	DISPLAY AREA	P.T.	P.T.B.	GLS DWP GLS DWP GLS DWP GLS DWP	STSL	OPEN TO BOTTOM OF TRUSS SUSPENDED CEILING OVER FOOD SECTION
002	CASHIER	P.T.	P.T.B.	GLS DWP GLS DWP GLS DWP GLS DWP	ACT	8'-0"
003	UTILITY	P.T.	P.T.B.	DWP DWP DWP DWP	ACT	8'-0"
004	UTILITY	C.T.	C.T.B.	DWP DWP DWP DWP	MRP	OPEN TO BOTTOM OF TRUSS
005	W.I.C.	C.T.	BY COOLER SUPPLIER			
006	OFFICE	P.T.	P.T.B.	DWP DWP DWP DWP	ACT	8'-0"

- 36"x36" handicap counter of maximum elevation of 34"
- all equipment operating keys to be at max.48" handicap arm reach. counter top to be at 33.5" max elevation
- Gourmet catered sandwich refrigerator display selected by food supplier and owner

## ABRIVATION

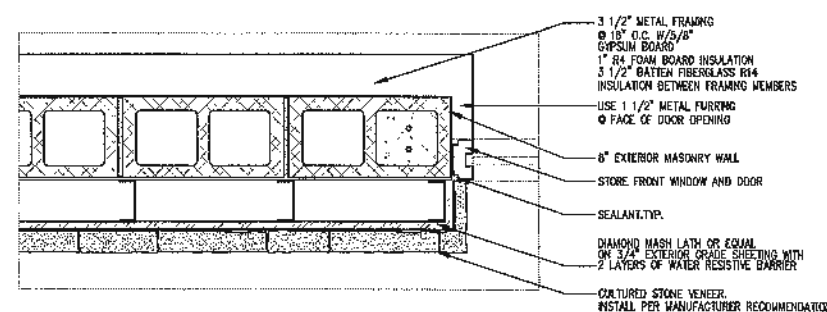
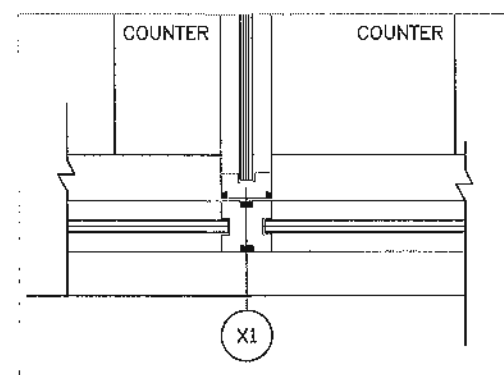
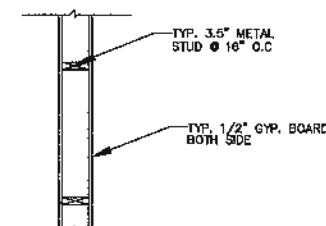
- V.C.T. VINYL COMPOSITE TILES  
C CONCRETE FLOOR  
R.C.B. RUBBER COVE BASE 4"  
DWP DRYWALL PAINTED  
MSP MASONRY BLOCK PAINTED  
ACT ACOUSTIC TILES 2"x4" (TO BE APPROVED BY OWNER)  
P.T. PORCELAIN TILE  
P.T.B. PORCELAIN TILE BASE  
G.L.B. GLASSING  
C.T. CERAMIC TILE  
C.M.W. COOLER MATERIAL WALL

## NOTES:

- P.T. #1 PORCELAIN TILE - COLOR SELECTION BY OWNER
- TILE ON WALLS SHALL HAVE DECORATIVE PATTERN SELECTED BY OWNER
- PROVIDE TILE SETTING BEDS AS REQUIRED SO THAT ALL FLOOR SURFACES ARE LEVELLED (WITHOUT TRANSITIONS IN HEIGHT)
- ALL PAINT SHALL BE SEMI-GLOSS FINISH & COMPLY WITH HEALTH DEPARTMENT REQUIREMENTS IN FOOD AREAS
- ALL FINISH MATERIALS TO BE CHOSEN BY OWNER

## WALLS TYPE

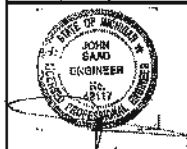
	EXTERIOR 8" MASONRY BLOCK WITH 4" BRICK
	1/2" DRY WALL ON 3 1/2" STEEL STUDS PARTITION WALLS TO BOTTOM OF STEEL ROOF DECK
	4" COOLER WALL PER SUPPLIER
	EXTERIOR 8" MASONRY BLOCK WITH 2" CULTURED STONE ON 3.5" METAL STUDS
	EXTERIOR 8" MASONRY SPLIT FACE



HANNA ENGINEERING AND CONSULTING  
Planners, Architect and Engineers  
31788 Clarita  
Livonia, Michigan 48152  
Tel: (313) 575-0220  
jsaad.hcc@gmail.com

## PROPOSED FLOOR PLAN

PROPOSED RENOVATION OF AN EXISTING GAS STATION LOCATED @  
26609 ORCHARD LAKE ROAD, FARMINGTON HILLS, MI  
APPLICANT: Banco OH Company  
30026 Twenty Six Mile Road, New Haven, Michigan 48048  
Tel: (508) 631-6577

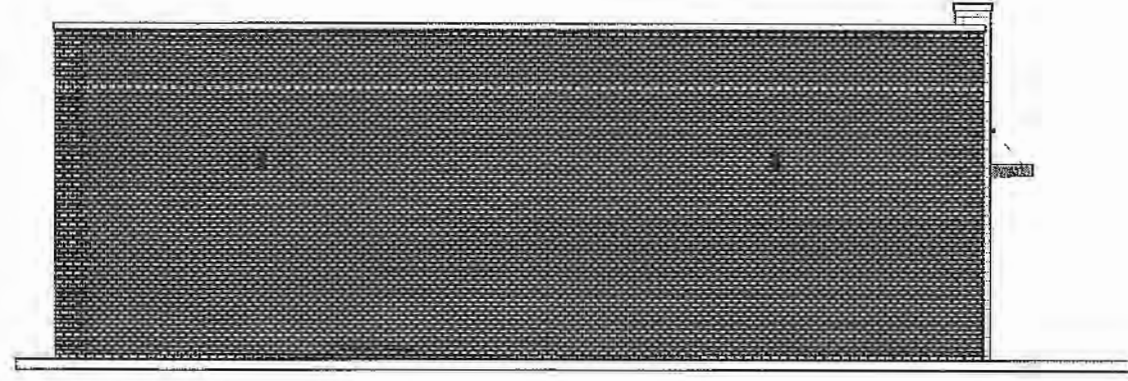


DATE: 10-12-2021	DATE: 01-04-2022	DATE: 01-04-2022	DATE: 01-04-2022
AS NOTED	DRAWN BY J.S.	DESIGNED BY J.S.	CHECKED BY J.S.
136040404	136040404	136040404	136040404

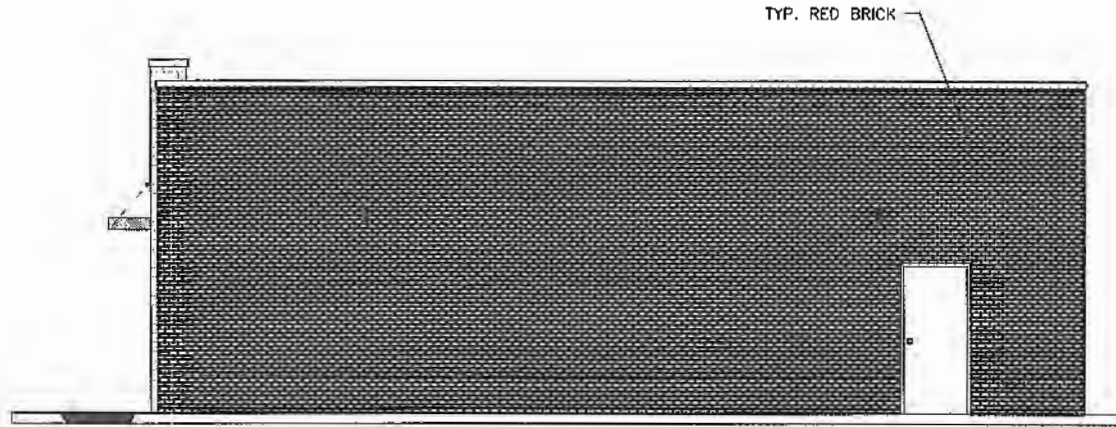


SCALE:	DATE:	PROJECT TITLE:	<p>JOHN SAAD ENGINEER No. 00177</p>	<p>APPLICANT: Baco Oil Company 30055H Twenty Six Mile Road, New Haven, Michigan 49048 Tel: (800) 581-6377</p>	<p>PROPOSED RENOVATION OF AN EXISTING GAS STATION LOCATED @ 295059 ORCHARD LAKES ROAD, FARMINGTON HILLS, MI</p>	<p>PROPOSED BUILDING ELEVATIONS</p>	<p>SN: 22-21</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>PROJECT TITLE: 1350=horizontal</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY J.S.</p>	<p>DATE: 03-12-2020</p>	<p>SCALE: 1/320=horizontal</p>	<p>DATE: 07-27-2021</p>	<p>ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW</p>	<p>DESIGNED BY J.S.</p>	<p>CHECKED BY </p>
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PROPOSED SOUTH ELEVATION  
SCALE: 1/4"=1'-0"



PROPOSED NORTH ELEVATION  
SCALE: 1/4"=1'-0"

SCALE	DATE	ADDITIONAL FILE
AS NOTED	03-12-2020	1360 Orchard
DRAWN BY	DATE	ISSUED FOR
J.S.	07-07-2021	SPECIAL LAND USE/SITE PLAN REVIEW
DESIGNED BY		
J.S.		
CHECKED BY		
J.S.		



SHEET TITLE
PROPOSED BUILDING ELEVATIONS
PROPOSED RENOVATION OF AN EXISTING GAS STATION LOCATED @ 28509 ORCHARD LAKE ROAD, FARMINGTON HILLS, MI
APPLICANT: Benco Oil Company 30826 Twenty Six Mile Road, New Haven, Michigan 48048 Tel: (586) 531-0577

HANNA ENGINEERING AND CONSULTING Planners, Architect and Engineers 31786 Clarita Livonia, Michigan 48152 Tel: (313) 575-0220 jsaad.hec@gmail.com	JOB No. 22-21	SHEET No. A-3
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CITY OF FARMINGTON HILLS NOTES:

- ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF FARMINGTON HILLS.
- NOTIFY THE CITY OF FARMINGTON HILLS ENGINEERING DIVISION AT (248) 871-2850 A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR SHALL CALL THE NATIONAL ONE-CALL DIALING NUMBER "811" OR THE NATIONAL ONE-CALL REFERRAL NUMBER 1-888-298-0808 AT LEAST 3 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
- UTILITIES SHALL BE UNDERGROUND.
- REFER TO ARCHITECT'S DRAWINGS FOR BUILDING DETAILS AND DIMENSIONS.
- EXTERIOR SITE LIGHTING SHALL BE DIRECTED DOWNWARD AND SHIELDED AWAY FROM FROM ADJACENT PROPERTIES.
- NO SIGNS ARE APPROVED AS PART OF THIS SITE PLAN APPROVAL AND PRIOR TO ERRECTING A SIGN, AN APPLICATION AND APPROPRIATE SUBMISSIONS SHALL BE MADE TO THE BUILDING DEPARTMENT FOR REVIEW, APPROVAL AND ISSUANCE OF A SIGN PERMIT.
- PRIOR TO THE ISSUANCE OF AN OCCUPANCY PERMIT, ENGINEERING SITE INSPECTION IS REQUIRED.
- STORMWATER DETENTION AND PRETREATMENT SHALL BE PROVIDED PER OAKLAND COUNTY WATER RESOURCES COMMISSIONER'S OFFICE AND CITY OF FARMINGTON HILLS STANDARDS.

PERMITS:

- A SOIL EROSION AND SEDIMENTATION CONTROL PERMIT OR WAIVER SHALL BE OBTAINED FROM THE CITY OF FARMINGTON HILLS.
- CONTRACTOR SHALL OBTAIN A CONSTRUCTION PERMIT FROM THE ROAD COMMISSION FOR OAKLAND COUNTY (RCOC) FOR ALL WORK IN THE ORCHARD LAKE ROAD AND THIRTEEN MILE ROAD RIGHT-OF-WAYS.

GENERAL NOTES:

- 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.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE CURRENT MICHIGAN MANUAL OF TRAFFIC CONTROL DEVICES.
- 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.
- ALL UTILITY TRENCHES UNDER OR WITHIN 3 FEET OF PAVEMENT, EXISTING OR PROPOSED, SHALL BE BACKFILLED WITH SAND (CLASS II MDOT) 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.
- 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.
- ALL SOIL EROSION AND SILT MUST BE CONTROLLED AND CONTAINED ON SITE.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.
- 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.
- THE CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL DISTURBED AREAS TO THE CONDITIONS THAT EXISTED PRIOR TO CONSTRUCTION.

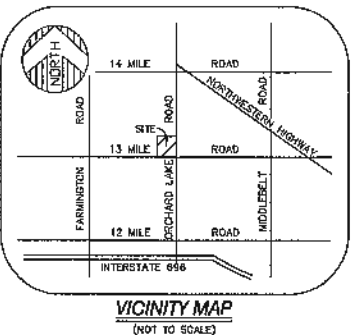
REFERENCES:

- TOPOGRAPHIC SURVEY AND ALTA/NSPS LAND TITLE SURVEY PREPARED BY KEM-TEC DATED AUGUST 3, 2021.

# FILLING STATION

## 29509 ORCHARD LAKE ROAD

PART OF THE SE 1/4 OF SECTION 3, T.1N., R.9E.,  
CITY OF FARMINGTON HILLS, OAKLAND COUNTY, MICHIGAN

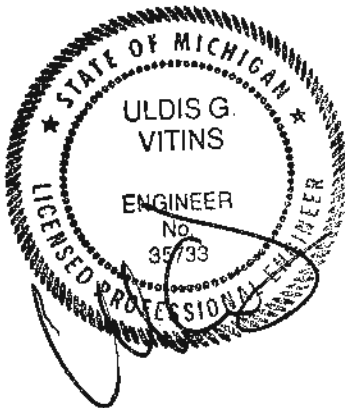


### PROJECT INFORMATION

LAND AREA GROSS & NET	22,147 S.F.
SITE ZONING	B-3 GENERAL BUSINESS DISTRICT
TAX IDENTIFICATION NUMBER	23-03-477-056
PROPOSED BUILDING AREA	2728 S.F.
HEIGHT	60 FEET ALLOWABLE (REFER TO ARCHITECTURAL DRAWINGS)
SETBACKS	
FRONT SETBACK	25 FEET
SIDE SETBACK	10 FEET
REAR SETBACK	20 FEET
PARKING REQUIRED	1 SPACE + 1 SPACE PER EMPLOYEE + 1 SPACE PER 175 S.F. USABLE FLOOR AREA
TOTAL SPACES REQUIRED	1 SPACE + 2 EMPLOYEES + 2728 S.F. x 0.8 / 175 S.F. = 15 SPACES
SPACES PROVIDED	15 SPACES INCLUDING 1 BARRIER FREE
LOADING/UNLOADING SPACE	1 SPACE [1,401 S.F. - 20,000 S.F.]

### DRAWING INDEX

SHEET NO.	DESCRIPTION
T-1	ORAL ENGINEER DRAWINGS:
C-1	COVER SHEET
C-1A	DIMENSIONAL SITE PLAN
C-2	TRUCK TEMPLATE SITE PLAN
C-3	PAVING PLAN
C-4	CONSTRUCTION DETAILS
C-5	MOOT STANDARD DETAILS
L-1	MOOT STANDARD DETAILS
L-2	LANDSCAPE PLAN
L-2	LANDSCAPE DETAILS
2 SHEETS	REFERENCE DRAWINGS
4 SHEETS	DBA CONSTRUCTION RECORD DRAWINGS
1 OF 1	ARCHITECT/ENGINEER DRAWINGS
	FLOOR PLANS, ELEVATIONS, AND BUILDING DETAILS
	SURVEYOR DRAWINGS
	TOPOGRAPHIC & ALTA/NSPS SURVEY



### OWNER/APPLICANT

BAZCO OIL COMPANY  
30825 28 MILE ROAD  
NEW HAVEN, MI 48048  
(586) 748-7444 (PHONE)

### ARCHITECT/ENGINEER

JOHN SAAD, P.E.  
HANNA ENGINEERING AND CONSULTING  
31788 CLARITA  
LYONIA, MI 48152  
(313) 575-0220 (PHONE)  
jsaad.hac@gmail.com

### CIVIL ENGINEER

ULDIS G. VITINS, P.E.  
VITINS ENGINEERING  
44275 BRANDYWINE  
CANTON, MICHIGAN 48187  
(734) 453-3460 (PHONE)



VITINS ENGINEERING  
44275 BRANDYWINE  
CANTON, MICHIGAN 48187  
TELEPHONE: (734) 453-3460  
FAX: (734) 453-3460

VITINS ENGINEERING  
Civil/Environmental Engineering  
Architectural Consulting  
Software Development

DO NOT SCALE DRAWINGS. USE ONLY DIMENSIONS LABELED THEREON. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF ALL DIMENSIONS AND LOCATIONS OF ALL UTILITIES AND STRUCTURES SHOWN ON THE DRAWINGS.

PROPOSED FILLING STATION  
29509 ORCHARD LAKE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN

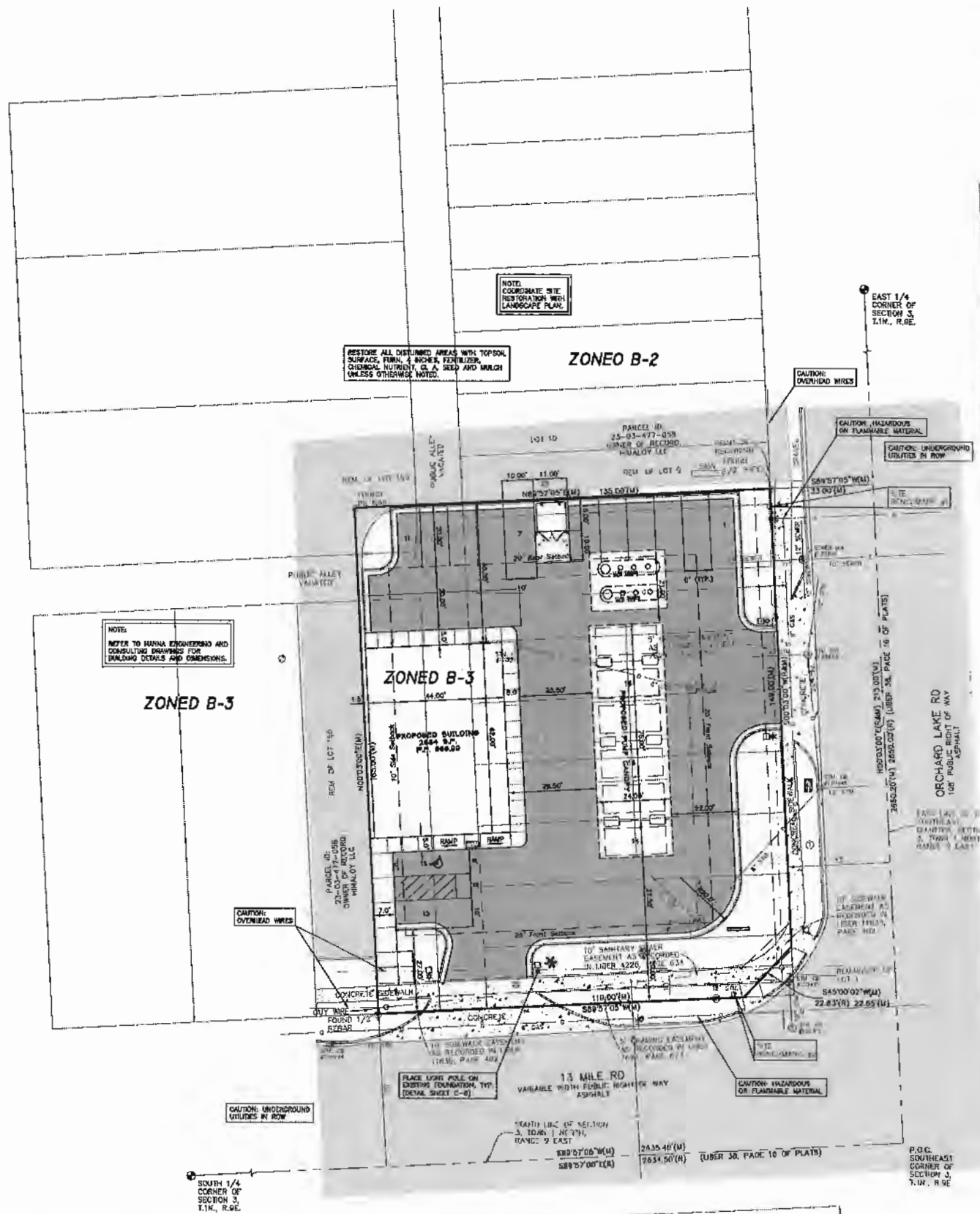
COVER SHEET

21080

T-1



SCALE: 1"=20'



### ELECTRICAL NOTES

BUILDING MOUNTED LIGHT FIXTURES SHALL BE ON ONE CIRCUIT CONTROLLED BY A PHOTOCELL MOUNTED ON THE ROOF FACING NORTH. IF NEEDED, CONTRACTOR TO PROVIDE CONTROL CIRCUIT TO ENGINEER FOR APPROVAL. CONTROL CIRCUIT SHALL BE IN A NEMA-1 ENCLOSURE.

(1) #10 CONDUCTORS AND (1) #10 GND SHALL BE USED IN EACH CONDUIT RUN.

IF NEEDED, GALVANIZED RIGID CONDUIT SHALL BE USED ON EXTERIOR OF EXISTING BUILDING AND IN THE VERTICAL SECTION GOING UNDERGROUND TO PROTECT IT FROM PHYSICAL DAMAGE. THIN WALL ELECTRICAL METALLIC TUBING (EMT) WITH COMPRESSION FITTINGS CAN BE UTILIZED FOR REMAINING CONDUIT RUN INSIDE PROPOSED BUILDING. ALL OPENINGS IN THE EXTERIOR WALL AND CONDUIT RUNS INSIDE THE PROPOSED BUILDING SHALL BE APPROVED BY HANNA ENGINEERING AND CONSULTING.

### ELECTRICAL SPECIFICATIONS

#### GENERAL REQUIREMENTS

ALL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL LOCAL AND STATE AUTHORITIES HAVING JURISDICTION THEREOF.

ALL EQUIPMENT SHALL BE SPECIFICATION GRADE AND AND SHALL HAVE U.L. LABEL FOR INTENDED USE.

ELECTRIC SYSTEMS SHALL BE COMPLETE IN EVERY DETAIL, INCLUDING ALL INCIDENTAL ITEMS FOR A PROPER AND FUNCTIONING INSTALLATION SUBJECT TO FINAL APPROVAL OF ENGINEER.

ALL REQUIRED PERMITS AND INSPECTIONS SHALL BE OBTAINED BY CONTRACTOR AND SUCH COSTS SHALL BE INCLUDED IN BID PRICE FOR THIS WORK.

EXAMINATION OF SITE IS MANDATORY. CONTRACTOR IS HEREBY HELD TO HAVE EXAMINED THE SITE AND HAVE INCLUDED IN HIS BID THE PRICE OF ALL COSTS DUE TO SITE AND FIELD CONDITIONS.

COMPLETE IDENTIFICATION OF PROJECT ELECTRICAL COMPONENTS IS REQUIRED. IDENTIFY ALL PANELS, DISCONNECTS, CONTROL DEVICES, ETC., WITH THE IDENTIFICATION REQUIRED USING PLASTIC LABELS. INSTALL TYPEWRITTEN IDENTIFICATION OF ALL CIRCUITS ON INSIDE OF PANELS.

GROUND CONTINUITY SHALL BE MAINTAINED THROUGHOUT THE ELECTRICAL SYSTEM. CONSULT N.E.C. 250.4 AND .45. PROVIDE EQUIPMENT GROUND WIRE WITH EACH CIRCUIT OR HOMERUN.

PROVIDE ALL LIGHTING CONTROL, DEVICES AND WIRING INCLUDING TESTING AND ADJUSTMENT AS REQUIRED FOR FULL COMPLIANCE WITH THE ILLINOIS ENERGY CODE (ASHRAE 90.1, 1989 AND RELATED AMENDMENTS).

#### ELECTRICAL EQUIPMENT AND DEVICES

RECEPTACLES DESIGNATED "DIT" SHALL BE GROUND FAULT RECEPTACLES. FOR OUTDOOR OR WET LOCATIONS, PROVIDE WEATHERPROOF BOX AND GASKETED COVER PLATE.

#### CONDUCTORS

ALL CONDUCTOR SHALL BE SOFT-DRAWN COPPER OF SIZES INDICATED ON THE DRAWINGS. ALL CONDUCTORS SHALL BE INSULATED FOR 600 VOLTS AND WITH THIN WALL 75 DEGREES (CENTIGRADE) CORD GRADE INSULATION.

ALL CONDUCTORS SHALL BE COPPER CONDUCTOR AND SHALL HAVE THIN OR THIN INSULATION AS APPLICABLE. CONDUCTORS NO. 8 AND LARGER SHALL BE STRANDED.

#### DISCONNECT SWITCHES

DISCONNECT SWITCH SHALL BE HEAVY DUTY NEMA-1 ENCLOSURE AND SERVICE RATED.

#### FUSES

ALL FUSES SHALL BE CURRENT LIMITING TYPE, DUAL ELEMENT TYPE.

#### INSTALLATION AND METHODS OF EXECUTION

ALL BURIED EXTERIOR WIRING SHALL BE IN PVC CONDUIT. ALL OTHER WIRING SHALL BE IN METALLIC CONDUIT. FLEXIBLE CONDUIT SHALL BE USED FOR SHORT CONNECTION TO MOTORS, RECESSED LIGHTING FIXTURES, VIBRATING EQUIPMENT, ETC., BUT NEVER LONGER THAN 6 FEET.

CONDUIT CONCEALED IN CEILING, WALLS OR FURRED SPACES OR EXPOSED IN DRY LOCATIONS SHALL BE EMT, THIN WALL ELECTRIC METALLIC TUBING.

CONDUIT EXPOSED TO WEATHER, IN CONTACT WITH CONCRETE, BURIED IN GRAVEL OR IN HAZARDOUS AREAS, SHALL BE HEAVY WALL, RIGID HOT DIPPED GALVANIZED STEEL.

ALL WORK IN HAZARDOUS LOCATIONS SHALL BE DONE IN STRICT CONFORMANCE WITH WITH NEC ARTICLE 500.

CONDUIT RUNS SHOWN ON DRAWINGS ARE DIAGRAMMATIC. EXACT ROUTING ON CONDUIT RUNS SHALL SUIT JOB CONDITIONS. EXPOSED CONDUIT SHALL BE RUN ONLY IN UNFINISHED AREAS SUBJECT TO FINAL APPROVAL OF ENGINEER AND SHALL RUN PARALLEL TO BUILDING LOOS, NEVER DIAGONALLY.

CONNECTION TO EQUIPMENT SHALL BE DONE IN ACCORDANCE WITH MANUFACTURER'S SHOP AND INSTALLATION DRAWINGS. REQUIREMENTS GENERALLY VARY FROM ONE MANUFACTURER TO ANOTHER AND CONTRACTOR IS BOUND TO COMPLY AND PROVIDE ALL WORK AS REQUIRED ALTHOUGH CERTAIN DISCREPANCIES MAY EXIST REGARDING THE REQUIREMENT FROM ONE MANUFACTURER TO ANOTHER.

ALL CONDUITS SHALL RUN BACK TO THEIR RESPECTIVE PANEL.

ALL CONDUITS SHALL BE TERMINATED ABOVE THE CEILING.

### ZONE B-3

LUMINAIRE SCHEDULE			
SYMBOL	LABEL	QTY	CATALOG NUMBER
		4	LITHONIA D-SERIES

### SITE LIGHTING LEGEND

- LIGHT POLE - 1 HEAD
- LIGHT POLE - 2 HEAD (100')
- LIGHT POLE - 2 HEAD (10')
- LIGHT POLE - 4 HEAD
- BUILDING YARD LIGHT

### LEGEND

- FOUND MONUMENT (AS NOTED)
- FOUND SECTION CORNER (AS NOTED)
- RECORD AND MEASURED DIMENSION
- RECORD DIMENSION
- MEASURED DIMENSION
- GROUND ELEVATION
- ELECTRIC METER
- ELECTRIC PANEL
- TRANSFORMER
- UTILITY POLE
- GAS LINE MARKER
- GAS MANHOLE
- GAS METER
- GAS VALVE
- VENT PIPE
- TELEPHONE MANHOLE
- CABLE TV BOX
- TRAFFIC SIGNAL
- TRAFFIC SIGNAL VANHOLE
- CLEANOUT
- SANITARY MANHOLE
- SQUARE CATCH BASIN
- STORM DRAIN MANHOLE
- GAS PUMP
- MONITOR WELL
- UNKNOWN MANHOLE
- BOLLARD
- GAS FILL
- LIGHTPOST/LAMP POST
- AIR PUMP
- SINGLE POST SIGN
- HANDICAP PARKING
- DECIDUOUS TREE (AS NOTED)
- CONIFEROUS TREE (AS NOTED)
- PARCEL BOUNDARY LINE
- PLATTED LOT LINE
- ADJONER PARCEL LINE
- SECTION LINE
- EASEMENT (AS NOTED)
- BUILDING
- BUILDING OVERHANG
- CONCRETE CURB
- RAISED CONCRETE
- PARKING
- EDGE OF CONCRETE (DOING)
- EDGE OF ASPHALT (ASPH.)
- FENCE (AS NOTED)
- WALL (AS NOTED)
- OVERHEAD UTILITY LINE
- GAS LINE
- SEWER LINE
- STORM LINE
- WATER LINE
- MINOR CONTOUR LINE
- MAJOR CONTOUR LINE
- BUILDING AREA
- ASPHALT
- CONCRETE

PROPOSED FILLING STATION  
28609 ORCHARD LAKE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN

DIMENSIONAL SITE PLAN &  
LIGHTING PLAN

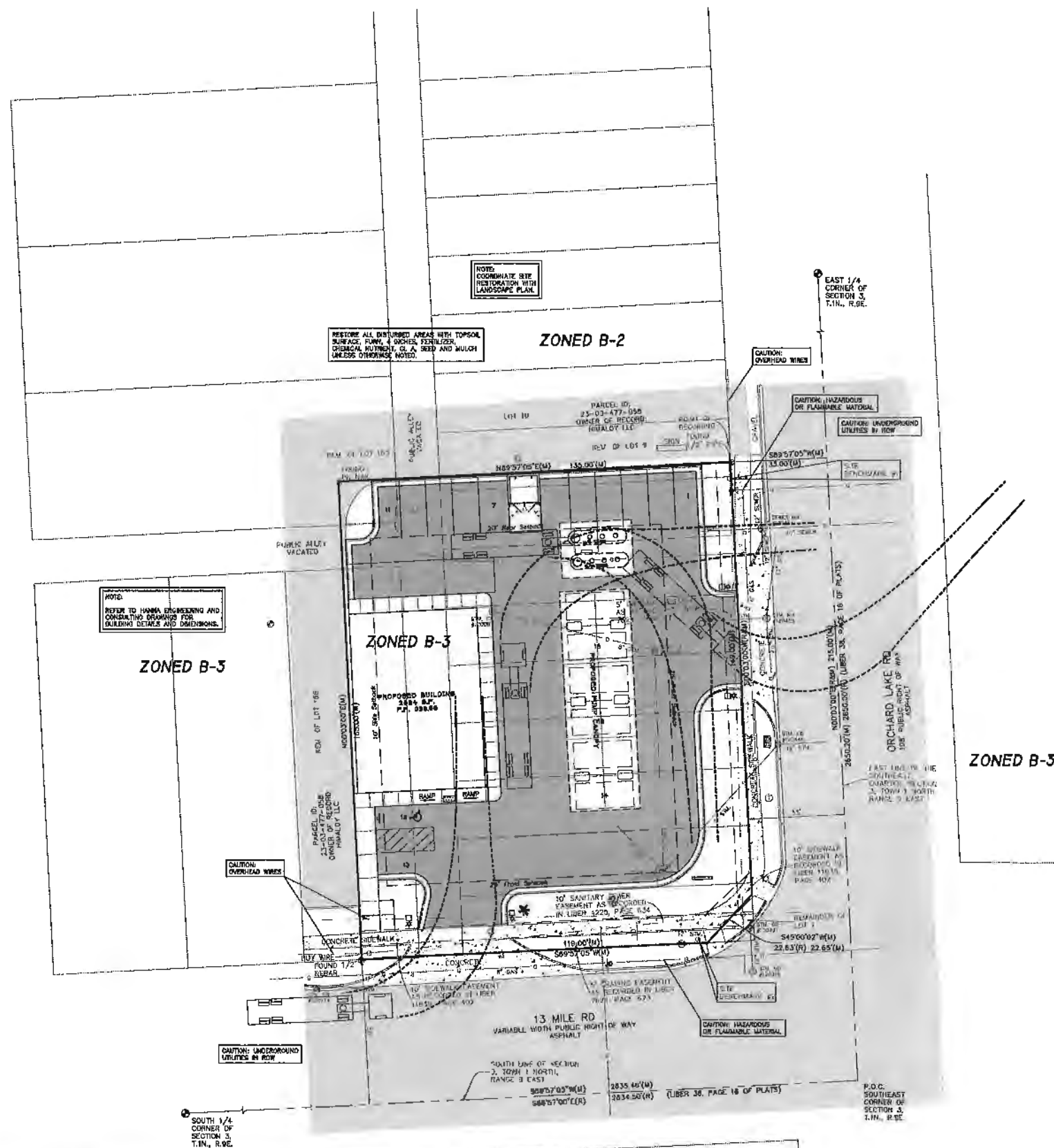
PROJECT NUMBER  
21080

SHEET NUMBER  
C-1



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OR ENGINEER.























































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VEHICLE TURNING TEMPLATE NOTES

1. SINGLE UNIT (SU) DESIGN VEHICLE HAS AN OVERALL LENGTH OF 30 FEET, WHEEL BASE OF 20 FEET, FRONT OVERHANG OF 4 FEET, REAR OVERHANG OF 5 FEET, OVERALL WIDTH OF 8.5 FEET AND A HEIGHT OF 13.5 FEET. SINGLE UNIT TRUCK HAS A 42 FOOT MINIMUM TURNING RADIUS. 90 DEGREE TURNS ARE ILLUSTRATED. OTHER TURNS WOULD CONTINUE AT THE SAME RADIUS.
2. SEMITRAILOR COMBINATION (WB-40) DESIGN VEHICLE HAS AN OVERALL LENGTH OF 45.5 FEET, WHEELBASE OF 40 FEET, FRONT OVERHANG OF 3 FEET, REAR OVERHANG OF 2.5 FEET, OVERALL WIDTH OF 8 FEET AND A HEIGHT OF 13.5 FEET. SEMITRAILOR TRUCK HAS A 40 FOOT MINIMUM TURNING RADIUS. 90 DEGREE TURNS ARE ILLUSTRATED. OTHER TURNS WOULD CONTINUE AT THE SAME RADIUS.
3. FUEL TRUCKS WOULD HAVE A SIMILAR OR SMALLER MINIMUM TURNING RADIUS THAN THE WB-40 DESIGN VEHICLE. OWNER SHALL CONTACT DELIVERY COMPANY FOR CONFIRMATION. PARKING SPACES ALONG EAST SIDE OF SITE WILL NEED TO BE VACANT FOR GARBAGE PICKUP. GARBAGE PICKUP IS EXPECTED TO BE ONCE EVERY TWO WEEKS.
4. GARBAGE TRUCKS WOULD HAVE A SIMILAR OR SMALLER MINIMUM TURNING RADIUS THAN THE SU DESIGN VEHICLE. OWNER SHALL CONTACT WASTE HAULING COMPANY FOR CONFIRMATION.

### LEGEND

	FOUND MONUMENT (AS NOTED)
	FOUND SECTION CORNER (AS NOTED)
(R&A)	RECORD AND MEASURED DIMENSION
(P)	RECORD DIMENSION
(M)	RECORDED DIMENSION
0-00	GROUND ELEVATION
	ELECTRIC METER
	ELECTRIC PANEL
	TRANSFORMER
	UTILITY POLE
	GAS LINE MARKER
	GAS MANHOLE
	GAS METER
	GAS VALVE
	VENT PIPE
	TELEPHONE MANHOLE
	CABLE TV BOX
	TRAFFIC SIGNAL
	TRAFFIC SIGNAL MANHOLE
	CLEANOUT
	SANITARY MANHOLE
	SQUARE CATCH BASIN
	STORM DRAIN MANHOLE
	GAS PUMP
	MONITOR WELL
	UNKNOWN MANHOLE
	BOLLARD
	GAS FILL
	LIGHT POST/LAMP POST
	AIR PUMP
	SINGLE POST SIGN
	HANDICAP PARKING
	DECIDUOUS TREE (AS NOTED)
	CONIFEROUS TREE (AS NOTED)
	PARCEL BOUNDARY LINE
	PLATTED LOT LINE
	ADJOINING PARCEL LINE
	SECTION LINE
	EASEMENT (AS NOTED)
	BUILDING
	BUILDING OVERHANG
	CONCRETE CURB
	RAISED CONCRETE
	PARKING
	EDGE OF CONCRETE (CONC)
	EDGE OF ASPHALT (ASPH)
	FENCE (AS NOTED)
	WALL (AS NOTED)
	OVERHEAD UTILITY LINE
	GAS LINE
	SEWER LINE
	STORM LINE
	WATER LINE
	MINOR CONTOUR LINE
	MAJOR CONTOUR LINE
	BUILDING AREA
	ASPHALT
	CONCRETE

PROPOSED FILLING STATION  
228508 ORCHARD LAKE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN

## TRUCK TEMPLATE

PROJECT HUSBAND

21080

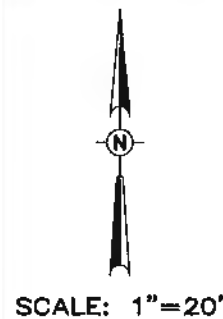
SHEET NUMBER

**C-1A**

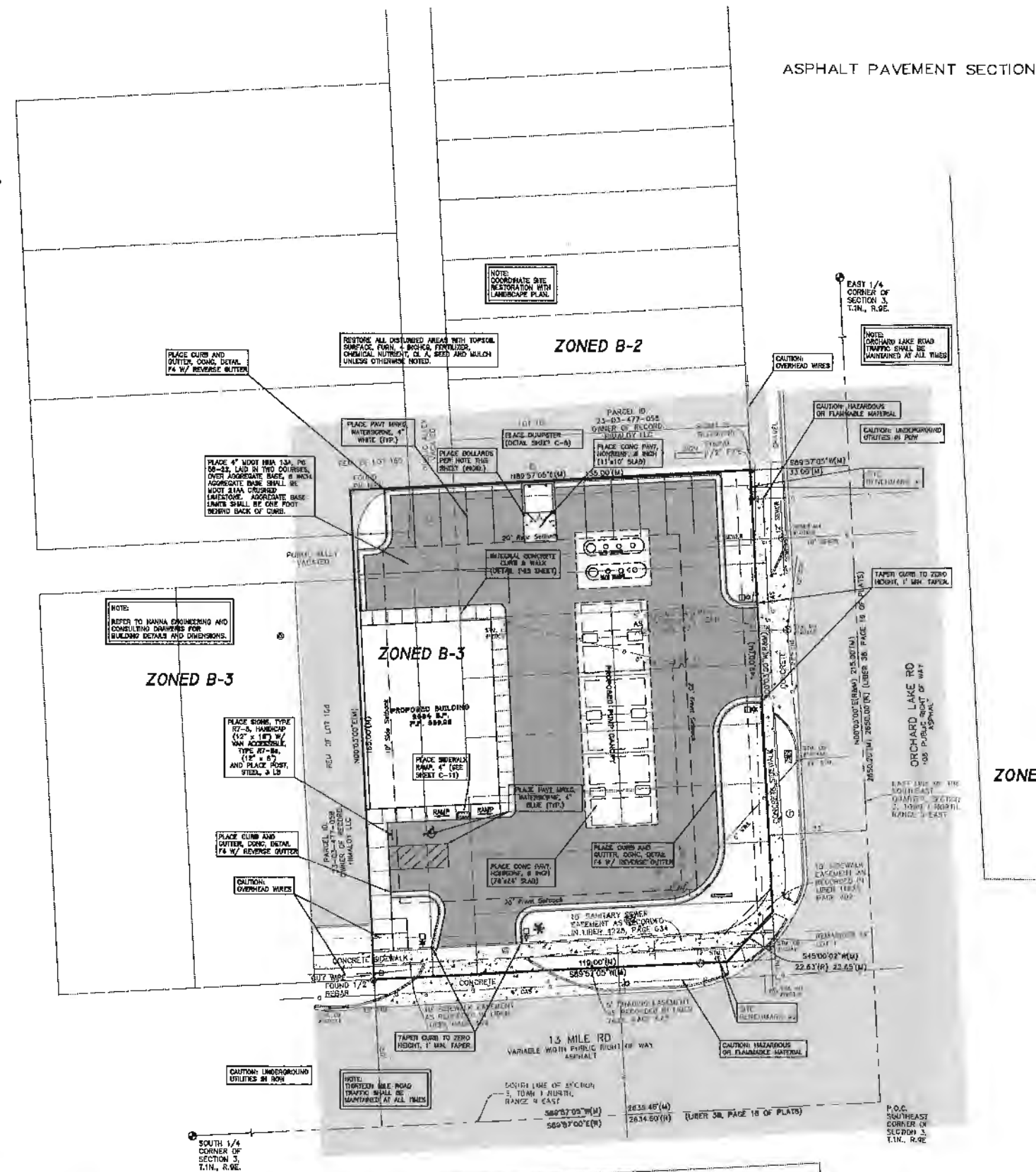


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Municipal Consulting  
Software Development





SCALE: 1"=20'



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 ARE TO BE VERIFIED BY THE CONTRACTOR. ANY DISCREPANCIES OR OMISSIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

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



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#### ROW NOTES GENERAL:

- NO PARKING OR STORAGE OF MATERIAL OR EQUIPMENT WILL BE ALLOWED WITHIN THE ORCHARD LAKE ROAD OR 13 MILE ROAD RIGHT-OF-WAY.
- ALL TRAFFIC CONTROL DEVICES AND THEIR USAGE SHALL CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2011 EDITION.

#### PAVING NOTES:

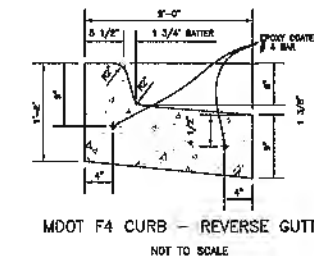
- CONTRACTOR TO PROVIDE TEMPORARY PAVEMENT STRIPING AND ALL TEMPORARY TRAFFIC CONTROL DEVICES DURING CONSTRUCTION INCIDENTAL TO THE CONTRACT.
- COMPLETE UNDERDRAIN INSTALLATION INCLUDING CAP OR PLUG, TEES, PEA GRAVEL TRENCH, TAP TO DRAINAGE STRUCTURE AND FILTRATION FABRIC SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE STORM DRAINAGE STRUCTURE.
- STEEL BOLLARDS SHALL BE 6" DIAMETER, SCHEDULE 40 STEEL PIPE WITH CONCRETE FILL. BOLLARDS SHALL BE EMBEDDED IN AN 18" DIAMETER BY 36" DEEP MINIMUM CONCRETE FOOTING. UNLESS OTHERWISE NOTED, BOLLARDS SHALL BE 40" ABOVE FINISH GROUND AND SHALL BE PAINTED SAFETY YELLOW.
- SIGNS POSTS IN PAVEMENT AREAS SHALL BE PLACED IN A STEEL BOLLARD. BOLLARDS FOR SIGNS SHALL BE 30" ABOVE FINISH GROUND AND SHALL BE PAINTED SAFETY YELLOW.
- INCIDENTAL TO THE UNIT PRICE BID FOR TRASH DUMPSTER, PROVIDE 3/4" DIAMETER BY 1 1/2" DEEP RECESS FOR GATE BOLTS AT DATE IN CLOSED AND OPEN POSITIONS. FIELD VERIFY EXACT LOCATIONS.

#### SITE GRADING NOTES:

- REMOVING AND SALVAGING TOPSOIL FROM THE SITE AND INSIDE INFLUENCE OF PROPOSED PAVEMENT AND BUILDING PER ADOPT 200.03M SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR OTHER ITEMS. TOPSOIL SHALL BE STOCKPILED IN UPLAND AREAS.
- PREPARATION OF EARTH GRADE, EXCEPT FOR SUBGRADE UNDERCUTTING, INSIDE INFLUENCE OF PROPOSED PAVEMENT SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR OTHER PAVEMENT ITEMS.
- DISTURBED AREAS SHALL BE RESTORED WITH TOPSOIL, SURFACE, FURN, 4" FERTILIZER, CHEMICAL NUTRIENT, CL A, SEED AND MULCH INCIDENTAL TO THE CONTRACT.
- DEVELOPER IS RESPONSIBLE FOR RESOLVING ANY DRAINAGE PROBLEMS ON ADJACENT PARCELS WHICH ARE THE RESULT OF THE DEVELOPER'S ACTIVITIES.

#### LEGEND

(F&M)	FOUND MONUMENT (AS NOTED)
(R)	FOUND SECTION CORNER (AS NOTED)
(M)	RECORD AND MEASURED DIMENSION
(D)	RECORD DIMENSION
(E)	MEASURED DIMENSION
(G)	GROUND ELEVATION
(E)	ELECTRIC METER
(E)	ELECTRIC PANEL
(E)	TRANSFORMER
(E)	UTILITY POLE
(E)	GAS LINE MARKER
(E)	GAS MANHOLE
(E)	GAS METER
(E)	GAS VALVE
(E)	VENT PIPE
(E)	TELEPHONE MANHOLE
(E)	CABLE TV BOX
(E)	TRAFFIC SIGNAL
(E)	TRAFFIC SIGNAL MANHOLE
(E)	CLEANOUT
(E)	SANITARY MANHOLE
(E)	SQUARE CATCH BASIN
(E)	STORM DRAIN MANHOLE
(E)	GAS PUMP
(E)	MONITOR WELL
(E)	UNKNOWN MANHOLE
(E)	BOLLARD
(E)	GAS FILL
(E)	LIGHTPOST/LAMP POST
(E)	AIR PUMP
(E)	SINGLE POST SIGN
(E)	HANDICAP PARKING
(E)	DECIDUOUS TREE (AS NOTED)
(E)	CONIFEROUS TREE (AS NOTED)
(E)	PARCEL BOUNDARY LINE
(E)	PLATTED LOT LINE
(E)	ADJOINER PARCEL LINE
(E)	SECTION LINE
(E)	EASEMENT (AS NOTED)
(E)	BUILDING
(E)	BUILDING OVERHANG
(E)	CONCRETE CURB
(E)	RAISED CONCRETE
(E)	PAVING
(E)	EDGE OF CONCRETE (CONC.)
(E)	EDGE OF ASPHALT (ASPH.)
(E)	FENCE (AS NOTED)
(E)	WALL (AS NOTED)
(E)	OVERHEAD UTILITY LINE
(E)	GAS LINE
(E)	SEWER LINE
(E)	STORM LINE
(E)	WATER LINE
(E)	MAJOR CONTOUR LINE
(E)	MAJOR CONTOUR LINE
(E)	BUILDING AREA
(E)	ASPHALT
(E)	CONCRETE



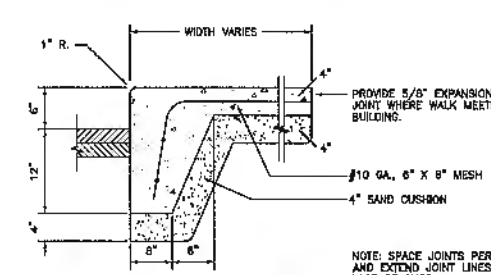
MDOT F4 CURB - REVERSE GUTTER  
NOT TO SCALE



CONCRETE SECTION  
NOT TO SCALE



ASPHALT PAVEMENT SECTION  
NOT TO SCALE



INTERGRAL CONCRETE CURB & WALK  
NOT TO SCALE



DATE	DESCRIPTION	SHEET NO.
1/17/2012	SITE PLAN	1

PROPOSED FILLING STATION  
28508 ORCHARD LAKE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN

PROJECT NUMBER  
**21080**

PROJECT NAME  
**C-2**



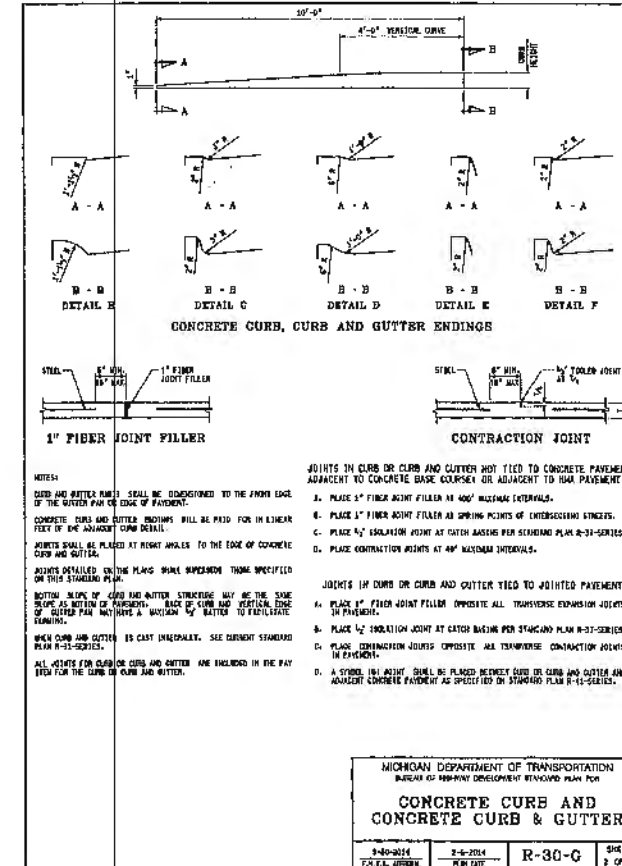
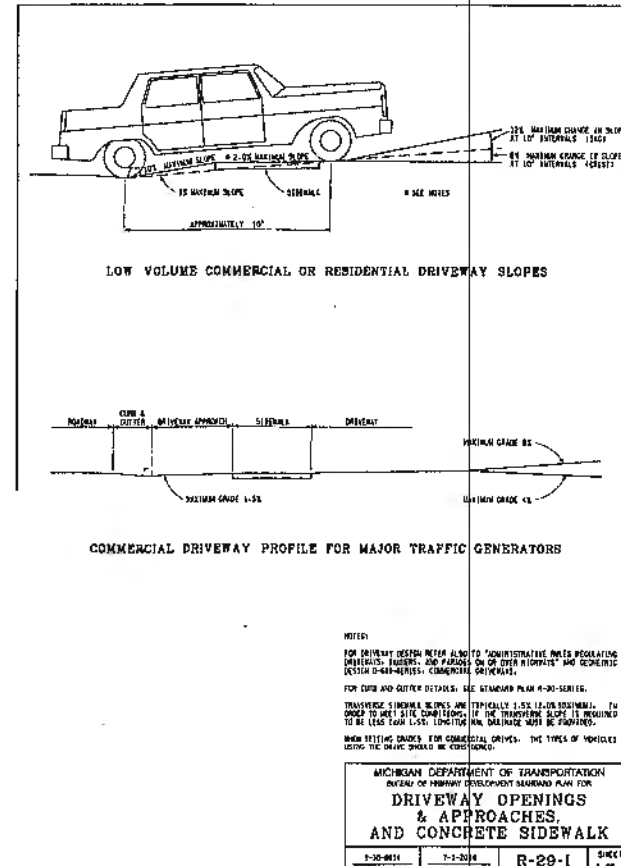
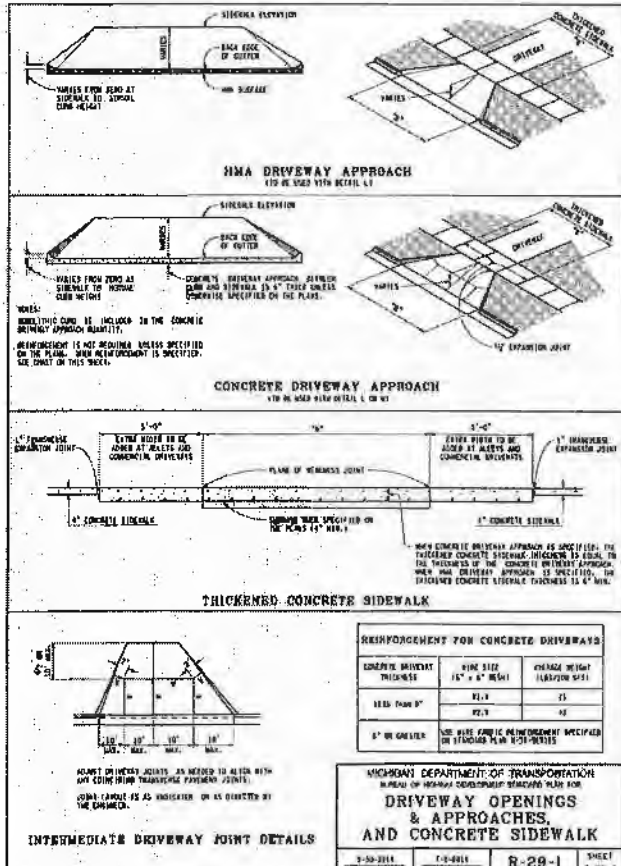
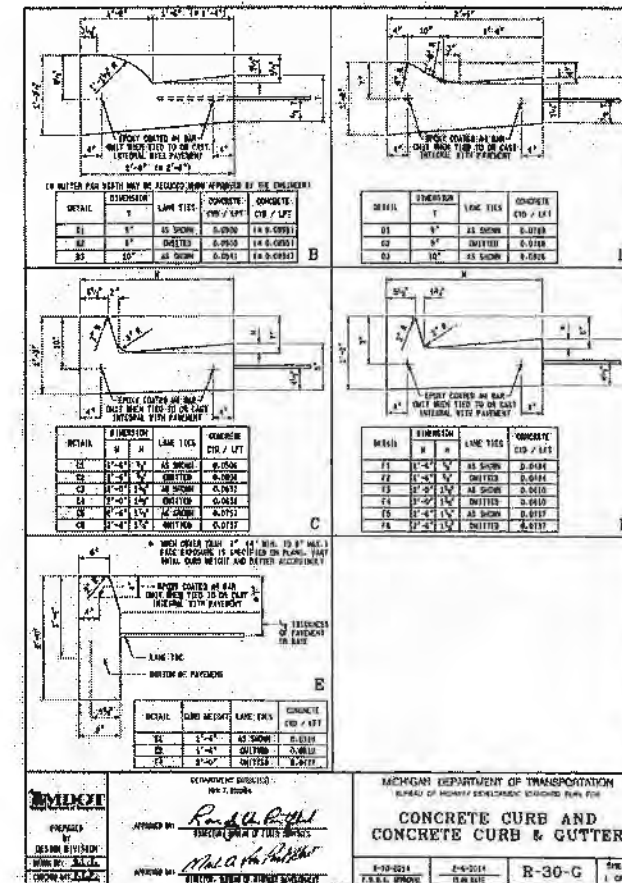
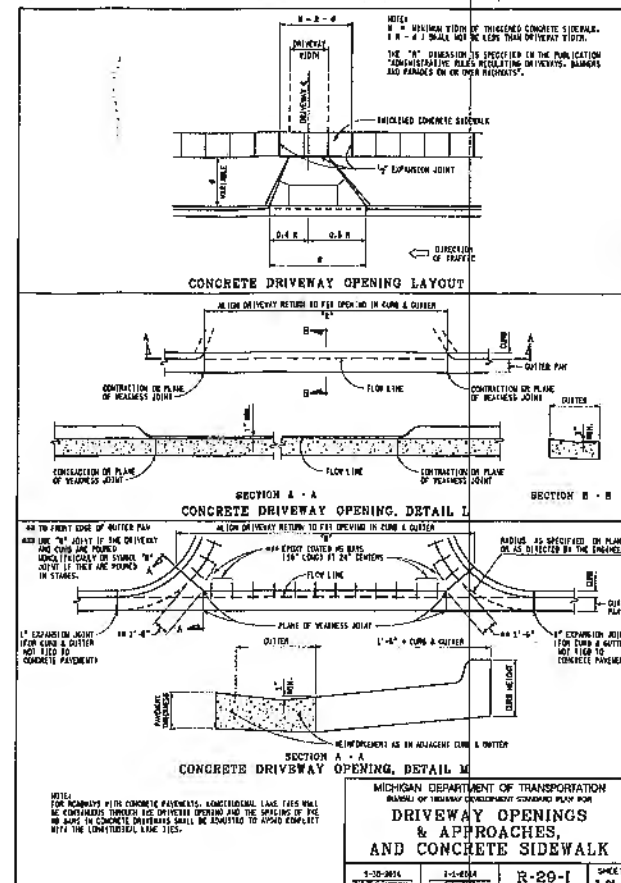
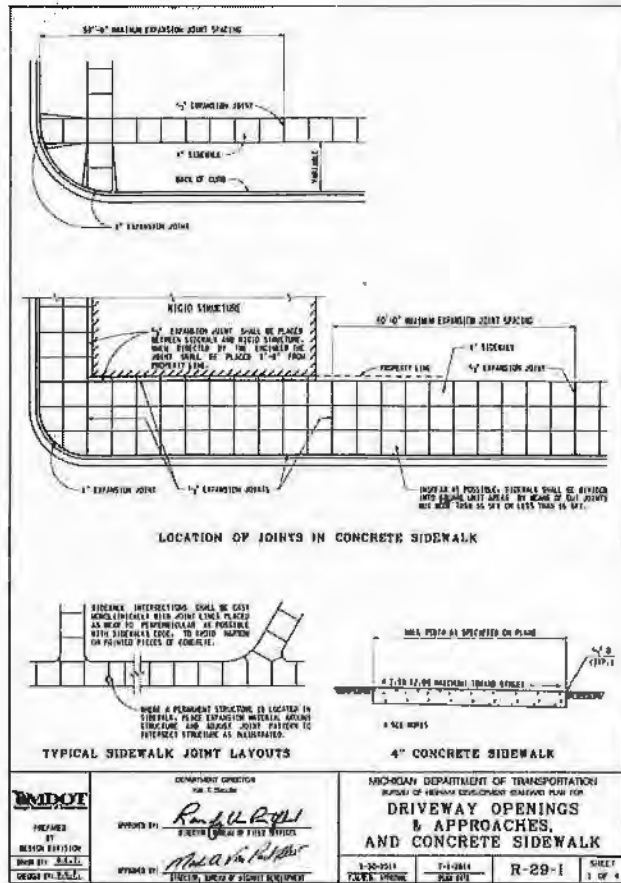
PROPOSED FILLING STATION  
28508 ORCHARD LAKE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN


21080

**TEXT NUMBER**

**C-3**







**VITINS ENGINEERING**  
Civil/Environmental Engineering  
Municipal Consulting  
Software Development

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**PROPOSED FILLING STATION**  
28609 ORCHARD LAKE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN

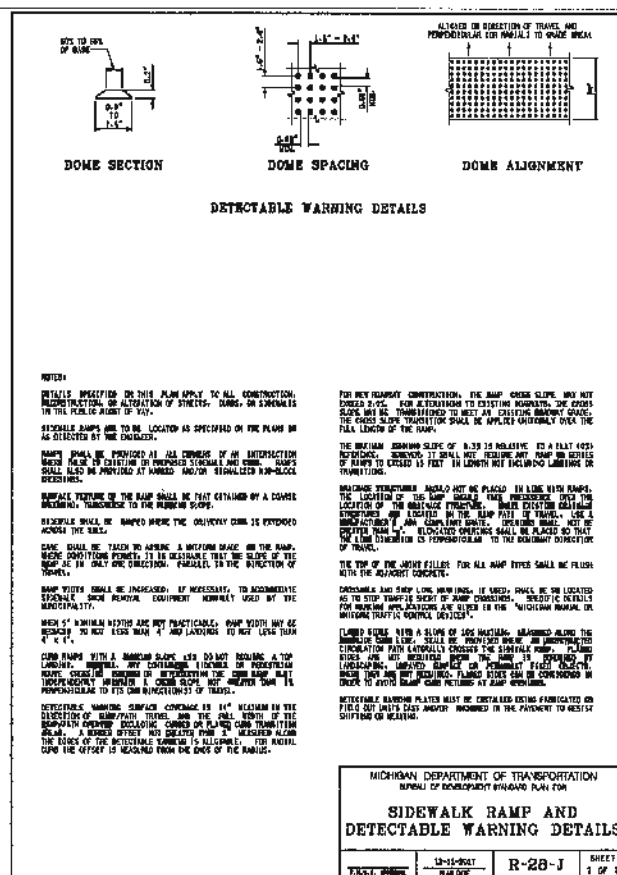
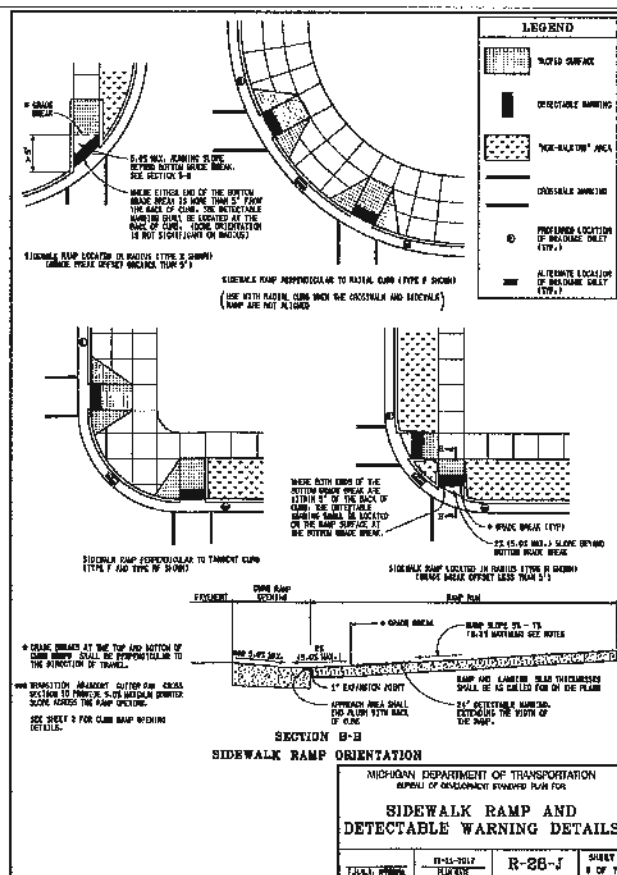
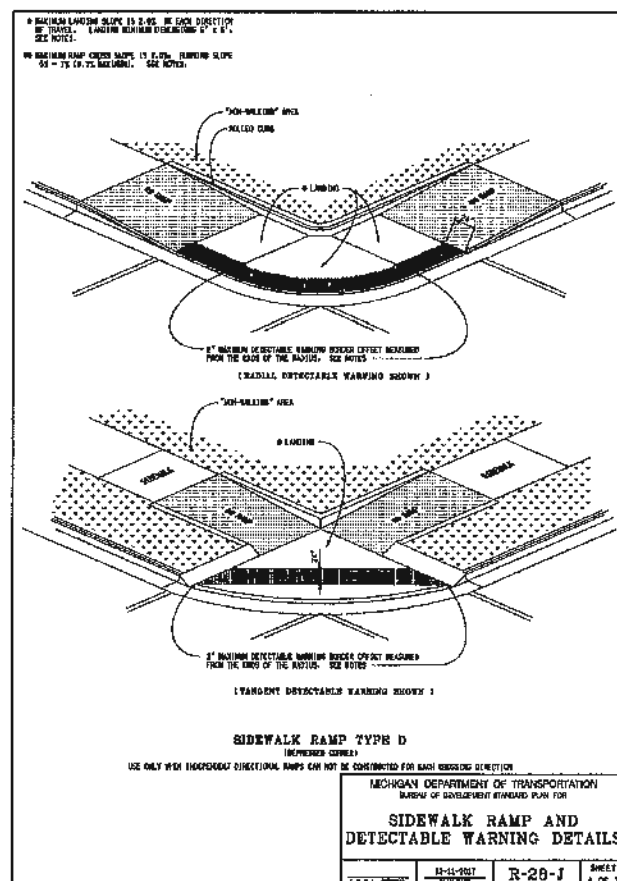
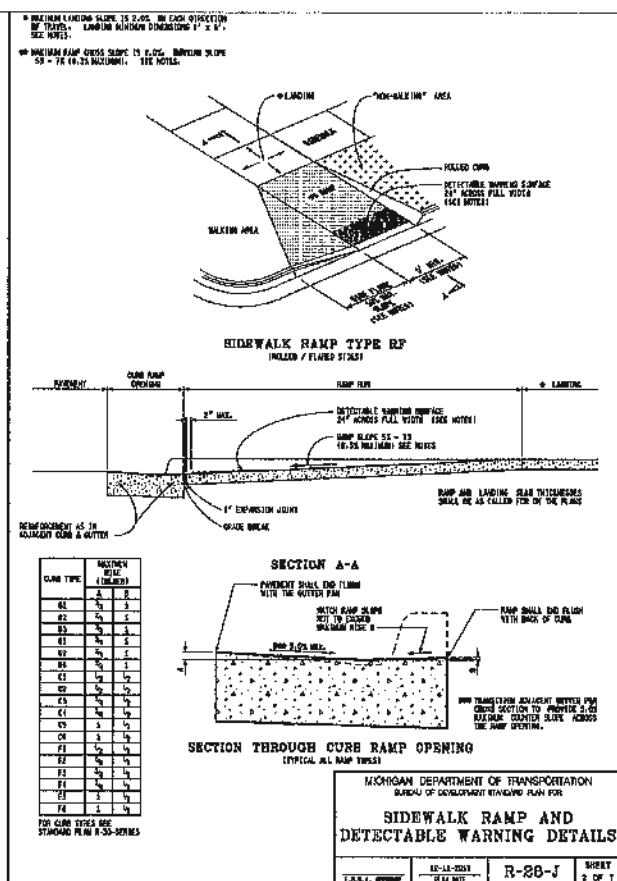
**MIDOT STANDARD DETAILS**

---

**21080**

**C-4**







**HEET NUMBER**  
**L-1**





**NOT TO SCALE**



**Not to scale**



### TREE STAKING DETAIL

Not to scale



**Not to scale**



**LANDSCAPE NOTES:**

- THE DETAILS AND NOTES SHOWN ON THIS PAGE ARE STANDARDS. THESE DETAILS ARE NOT ALL INCLUSIVE AND ARE NOT MEANT TO SUBSTITUTE FOR ANY CITY, MDOT, OR CODE REQUIREMENT.



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Municipal Consulting  
Software Development

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

PROPOSED FILLING STATION  
29609 ORCHARD LAKE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN

LANDSCALE DETAILS

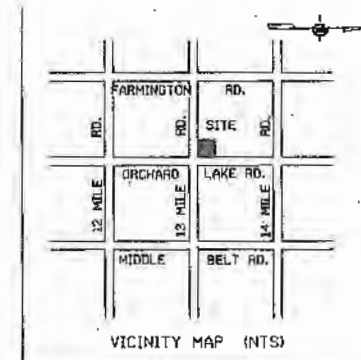
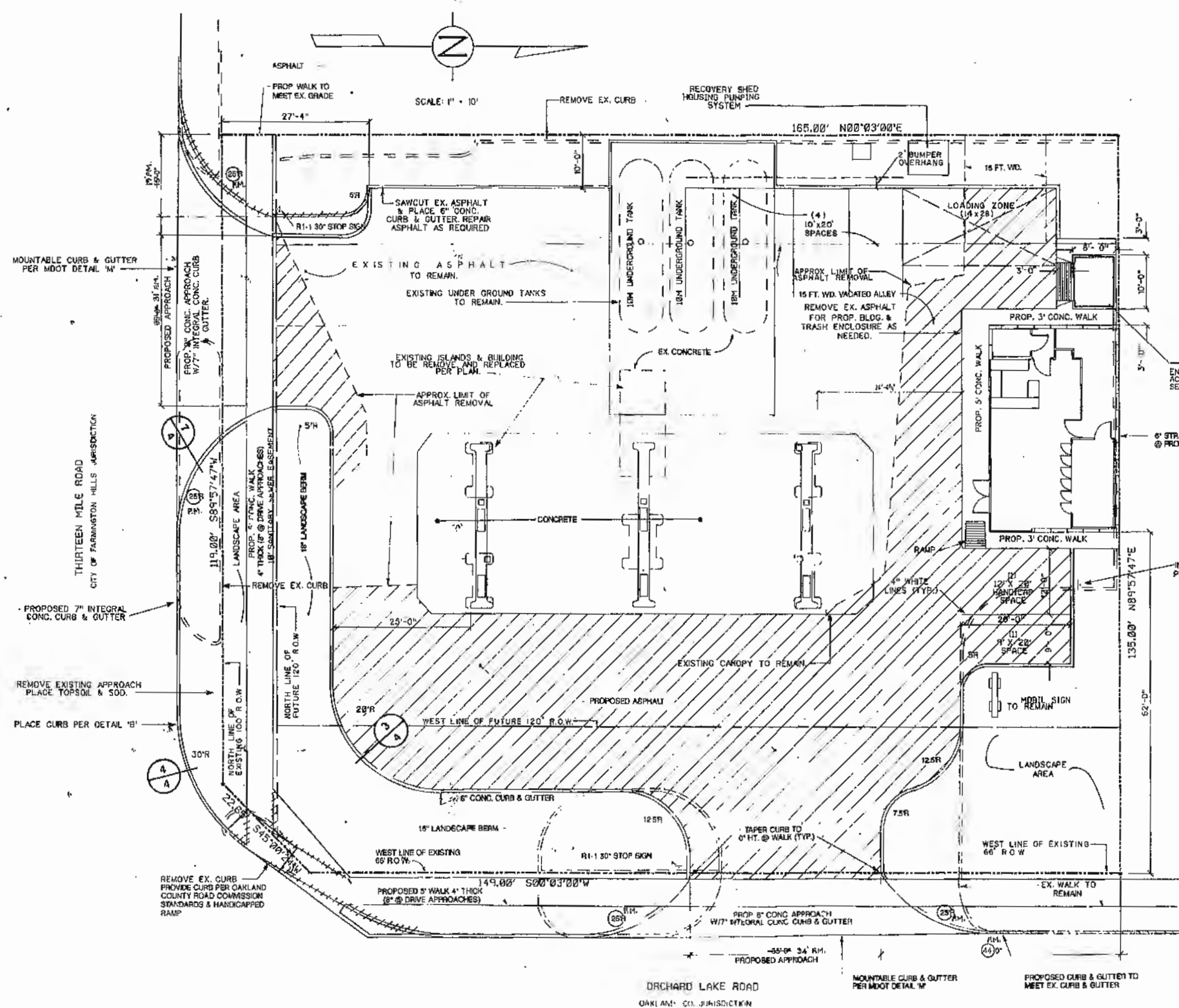
**PROPERTY NAME:**

21080

**EAT RIGHT**

**L-2**





- LEGEND**
- 1. Barrier Free Parking
  - 2. Benchmark
  - 3. Easement
  - 4. Top of Curb
  - 5. Utility
  - 6. Finish Grade
  - 7. Footprint
  - 8. Sanitary Sewer
  - 9. Existing Sanitary Sewer
  - 10. Proposed Sanitary Sewer
  - 11. Existing Storm Sewer
  - 12. Proposed Storm Sewer
  - 13. Existing Watermain
  - 14. Proposed Watermain
  - 15. Existing Spot Elevation
  - 16. Proposed Spot Elevation
  - 17. Existing Centerline
  - 18. Proposed Centerline
  - 19. Existing Utility Pole
  - 20. Existing Overhead Utility
  - 21. Clean Out
  - 22. Centerline
  - 23. Property Line



**UTILITIES NOTE:**  
UNDERGROUND UTILITY LINES AND STRUCTURES SHOWN ARE PER RECORDS MADE AVAILABLE BY UTILITY OR MUNICIPALITY, AND BY FIELD OBSERVATION WHERE POSSIBLE. ALL MUNICIPALITIES AND UTILITY COMPANIES SHOULD BE NOTIFIED BY CONTRACTOR FOR FIELD LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

**NOTE:**  
SEE ARCHITECTURAL DRAWINGS FOR SPECIFIC DIMENSIONS OF THE BUILDING, PUMP ISLANDS, UNDERGROUND TANKS & TRASH ENCLOSURE.

SHEET INDEX	
LAYOUT PLAN	1
GRADING & UTILITIES PLAN	2
LANDSCAPE PLAN	3
DETAILS & NOTES	4
BOUNDARY & TOPO. SURVEY	5
SOIL EROSION PLAN	6

SITE DATA	
Existing Zoning	B-3, General Business
Total Area	0.598 Acres
Required Setbacks	
Front Required	- 25 Ft.
Side Required	- 10 Ft.
Rear Required	- 20 Ft.
Parking Requirements	
Required	- One (1) 2 employee spaces
	- 1 space = 3 spaces
	- 1 space/50 usable sq. ft.
	- 1 space = 3 spaces
	- Total = 6 spaces required
	- 6 spaces provided
	- Includes 1 handicap space
Landscaping Requirements	
Required	- 18 sq. ft. per 1 sq. ft. of bldg
	- 40 x 10 = 400 sq. ft.
	- located in rear yard only
Landscaping Requirements	
Required	- 50% of front setback (Orchard Lk. Rd.)
	- 65 x 25 = 1625 sq. ft.
	- 2 x 1000 sq. ft.
Provided	- 2,127 sq. ft. = 55%
Percentage of Landscaped area to Entire Site	24.45%

F.M. INDICATES FIELD MEASUREMENTS  
TAKEN ON 3/11/01

**CONSTRUCTION RECORD DRAWINGS**

**LAYOUT PLAN**  
13 MILE & ORCHARD LAKE RD FARMINGTON HILLS, MI  
PART OF LOTS 1, 2, 165-166, SE 1/4 SEC. 3, T. 1 N., R. 9 E.  
13 MILE & ORCHARD LAKE RD FARMINGTON HILLS, MI

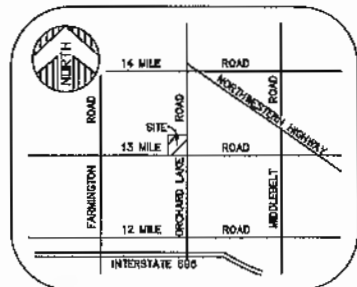
**Mobil Oil Corporation**  
Landscape Architecture  
13000 13 MILE RD  
FARMINGTON HILLS, MI 48334

**DBA DESIGN-BUILD AND ASSOCIATES, P.C.**  
107 South Main Street  
Farmington Hills, Michigan 48334  
4834-4834  
Engineering Planning Surveying Landscape Architecture

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VICINITY MAP  
(NOT TO SCALE)

**PARKING**  
HANDICAP PARKING = 1 STALL  
STANDARD PARKING = 1 STALL

**PARCEL AREA**  
22,147.4 SQUARE FEET = 0.5081 ACRES

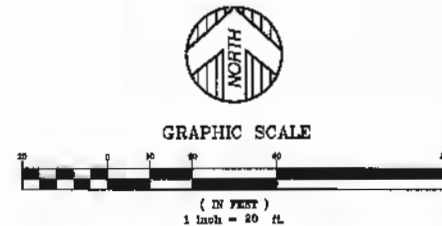
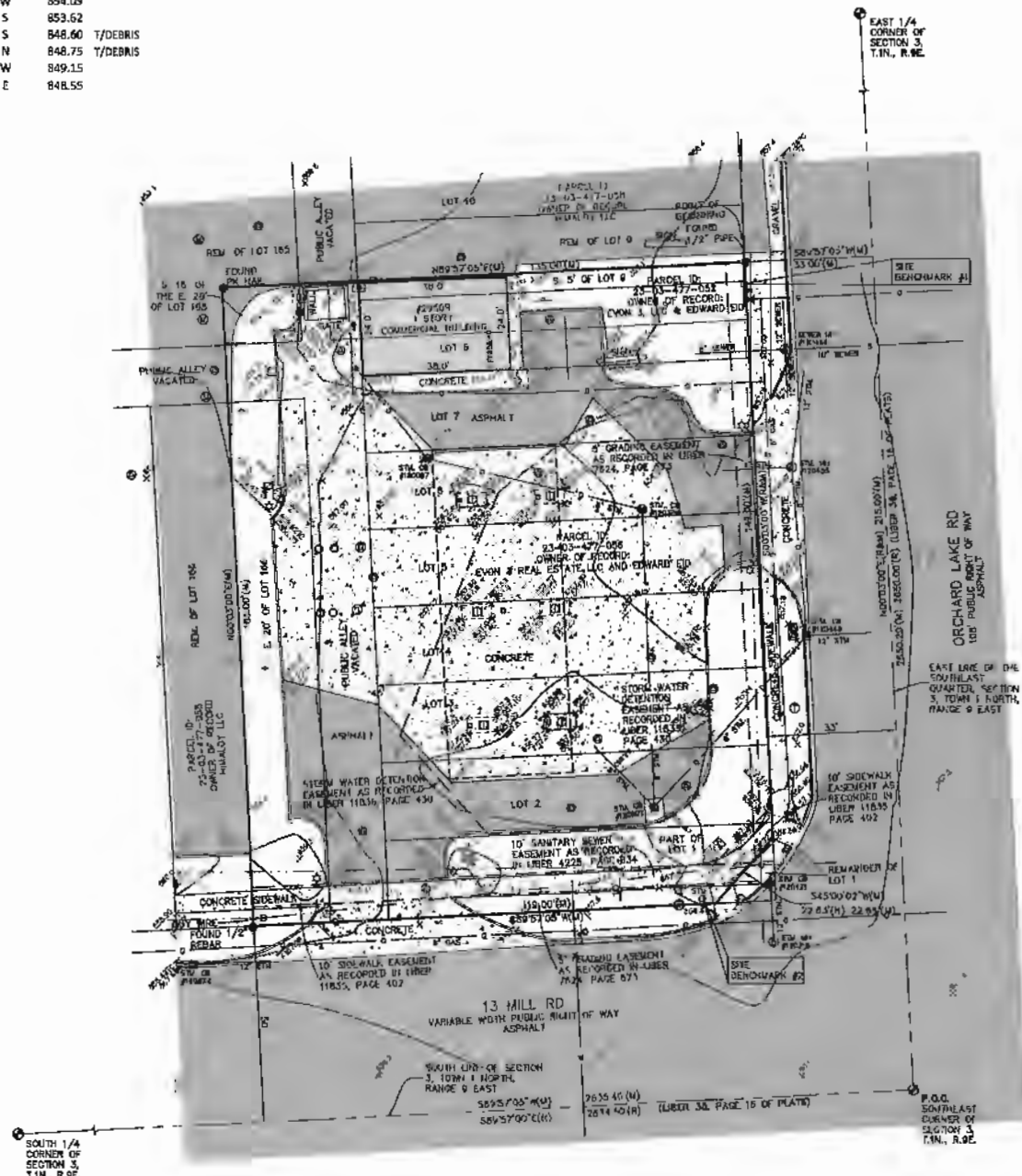
**BASIS OF BEARING**  
NORTH 00°03'00" EAST, BEING THE EAST LINE OF OAKLANDS SUBDIVISION AS RECORDED IN LIBER 36, PAGE 15, WAYNE COUNTY RECORDS. SAME BEING THE EAST LINE OF THE SOUTHEAST QUARTER, SECTION 3, TOWN 1 NORTH, RANGE 9 EAST.

**BENCHMARK**  
SITE BENCHMARK #1  
BOLT IN UTILITY POLE AT NORTHEAST CORNER OF PROPERTY.  
ELEVATION = 858.35' (NAVD 83)  
SITE BENCHMARK #2  
CHISELED "X" AT NW BOLT ON TRAFFIC SIGNAL POLE.  
ELEVATION = 857.94' (NAVD 83)

LEGEND	
(RM)	FOUND MONUMENT (AS NOTED)
(RM)	FOUND SECTION CORNER (AS NOTED)
(RM)	RECORD AND MEASURED DIMENSION
(RM)	RECORD DIMENSION
(RM)	MEASURED DIMENSION
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(RM)	VENT PIPE
(RM)	TELEPHONE MANHOLE
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(RM)	MONITOR WELL
(RM)	UNKNOWN MANHOLE
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(RM)	LIGHTPOST/LAMP POST
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(RM)	DECIDUOUS TREE (AS NOTED)
(RM)	CONIFEROUS TREE (AS NOTED)
(RM)	PARCEL BOUNDARY LINE
(RM)	PLATTED LOT LINE
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(RM)	SECTION LINE
(RM)	EASEMENT (AS NOTED)
(RM)	BUILDING
(RM)	BUILDING OVERHANG
(RM)	CONCRETE CURB
(RM)	RAISED CONCRETE
(RM)	PARKING
(RM)	EDGE OF CONCRETE (CONC)
(RM)	EDGE OF ASPHALT (ASPH)
(RM)	FENCE (AS NOTED)
(RM)	WALL (AS NOTED)
(RM)	OVERHEAD UTILITY LINE
(RM)	GAS LINE
(RM)	SEWER LINE
(RM)	STORM LINE
(RM)	WATER LINE
(RM)	MINOR CONTOUR LINE
(RM)	MAJOR CONTOUR LINE
(RM)	BUILDING AREA
(RM)	ASPHALT
(RM)	CONCRETE

### MANHOLE SCHEDULE

#	TYPE	SUM	SIZE	DIRECTION	INVERT	NOTE
120097	CATCH BASIN	857.20	8	SE	853.95	
120202	CATCH BASIN	856.10	8	N	853.75	
			8	NW	853.75	
120274	CATCH BASIN	857.91	12	E	853.31	
120316	STORM MANHOLE	856.92	UNABLE TO OPEN			
120386	CATCH BASIN	856.40	8	S	853.40	
			8	NW	853.50	
120421	CATCH BASIN	856.47	12	S	852.57	
			12	W	853.12	
120446	CATCH BASIN	856.64	6	N	853.74	
			6	SW	853.49	
			12	E	852.69	
120455	STORM MANHOLE	856.61	12	N	854.21	
			4	W	854.09	
			6	S	853.62	
120466	SEWER MANHOLE	857.15	12	S	848.60	T/DEBRIS
			12	N	848.75	T/DEBRIS
			8	W	849.15	
			10	E	848.55	



**PROPERTY DESCRIPTION (AS PROVIDED)**  
LAND SITUATED IN THE CITY OF FARMINGTON HILLS, OAKLAND COUNTY, MICHIGAN  
LOTS 1 TO 7 INCLUSIVE, EXCEPT BEGINNING AT THE SOUTHEAST CORNER OF LOT 1, THENCE NORTH 89°57'00" WEST 18 FEET, THENCE NORTH 45°03'00" EAST 22.63 FEET, THENCE SOUTH 00°03'00" WEST 15 FEET TO THE BEGINNING; ALSO SOUTH 1/2 OF LOT 8, ALSO SOUTH 15 FEET OF EAST 20 FEET OF LOT 18; ALSO EAST 20 FEET OF LOT 18; ALSO SOUTH 1/2 OF LOT 8 AND THE SOUTH 5 FEET OF LOT 9 AND 1/2 OF THE VACATED ALLEY ADJACENT TO SAME, OAKLANDS, ACCORDING TO THE PLAT THEREOF RECORDED IN LIBER 36 OF PLATS, PAGE 15, OAKLAND COUNTY RECORDS.

**PROPERTY DESCRIPTION (AS SURVEYED)**  
LAND SITUATED IN THE CITY OF FARMINGTON HILLS, OAKLAND COUNTY, MICHIGAN  
LOTS 1 TO 7 INCLUSIVE, EXCEPT BEGINNING AT THE SOUTHEAST CORNER OF LOT 1, THENCE NORTH 89°57'00" WEST 16 FEET, THENCE NORTH 45°03'00" EAST 22.63 FEET, THENCE SOUTH 00°03'00" WEST 15 FEET TO THE BEGINNING; ALSO SOUTH 1/2 OF LOT 8, ALSO SOUTH 15 FEET OF EAST 20 FEET OF LOT 18; ALSO EAST 20 FEET OF LOT 18; ALSO SOUTH 1/2 OF LOT 8 AND THE SOUTH 5 FEET OF LOT 9 AND 1/2 OF THE VACATED ALLEY ADJACENT TO SAME, OAKLANDS, ACCORDING TO THE PLAT THEREOF RECORDED IN LIBER 36 OF PLATS, PAGE 15, OAKLAND COUNTY RECORDS.

ALSO DESCRIBED AS:  
BEING A PART OF THE SOUTHEAST QUARTER OF SECTION 3, TOWNSHIP 1 NORTH, RANGE 9 EAST, CITY OF FARMINGTON HILLS, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS:  
COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 3; THENCE, ALONG THE EAST LINE OF SAID SOUTHEAST QUARTER, NORTH 00 DEGREES 03 MINUTES 00 SECONDS EAST, A DISTANCE OF 212.00 FEET; THENCE, LEAVING SAID EAST LINE, SOUTH 89 DEGREES 57 MINUTES 00 SECONDS WEST, A DISTANCE OF 33.00 FEET TO THE WEST LINE OF ORCHARD LAKE ROAD (108 FOOT RIGHT OF WAY); THENCE, ALONG SAID WEST LINE, SOUTH 00 DEGREES 03 MINUTES 00 SECONDS WEST, A DISTANCE OF 140.00 FEET; THENCE, LEAVING SAID WEST LINE, SOUTH 45 DEGREES 00 MINUTES 02 SECONDS WEST, A DISTANCE OF 22.63 FEET TO THE NORTH LINE OF 13 MILE ROAD (VARIABLE RIGHT OF WAY SAID NORTH LINE BEING 80 FEET NORTH OF AND PARALLEL TO THE SOUTH LINE OF SAID SECTION 3); THENCE, ALONG SAID NORTH LINE, SOUTH 89 DEGREES 07 MINUTES 03 SECONDS WEST, A DISTANCE OF 11.00 FEET; THENCE, LEAVING SAID NORTH LINE, NORTH 00 DEGREES 03 MINUTES 00 SECONDS EAST, A DISTANCE OF 165.00 FEET; THENCE, NORTH 89 DEGREES 57 MINUTES 00 SECONDS EAST, A DISTANCE OF 126.00 FEET TO THE POINT OF BEGINNING, CONTAINING 22,147.4 SQUARE FEET OR 0.5081 ACRES OF LAND.

**TITLE REPORT EXCEPTIONS**  
ONLY THOSE EXCEPTIONS CONTAINED WITHIN THE STEWART TITLE GUARANTEE COMPANY COMMITMENT NO. 04137560, REVISION #1 DATED OCTOBER 8, 2004, AND RELIED UPON WERE CONSIDERED FOR THIS SURVEY. NO OTHER RECORDS RESEARCH WAS PERFORMED BY THE CERTIFYING SURVEYOR.  
6. SANITARY SEWER EASEMENT IN FAVOR OF OAKLAND COUNTY DEPARTMENT OF PUBLIC WORKS RECORDED IN LIBER 4225, PAGE 634. (AS SHOWN)  
7. GRADING PERMIT IN FAVOR OF THE BOARD OF COUNTY ROAD COMMISSIONERS OF THE COUNTY OF OAKLAND, AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 7624, PAGE 676. (AS SHOWN)  
8. BUILDING AND USE RESTRICTIONS AS RECORDED IN LIBER 0606 ON PAGE(S) 789, OAKLAND COUNTY RECORDS, BUT OMITTING ANY COVENANT, CONDITION OR RESTRICTION, IF ANY, BASED ON RACE, COLOR, RELIGION, SEX, DISABILITY, FAMILIAL STATUS, OR NATIONAL ORIGIN UNLESS AND ONLY TO THE EXTENT THAT THE COVENANT, CONDITION OR RESTRICTION (A) IS DEEMED UNDER TITLE 42 OF THE UNITED STATES CODE, OR (B) RELATES TO DISABILITY BUT DOES NOT DISCRIMINATE AGAINST DISABLED PERSONS. (SEE NOTE 2)  
9. EASEMENT GRANTED TO THE CITY OF FARMINGTON HILLS RECORDED IN LIBER 11836, PAGE 402, OAKLAND COUNTY RECORDS. (AS SHOWN)  
10. AGREEMENT FOR STORM WATER RETENTION AND DISCHARGE RESTRICTION SYSTEM BETWEEN MOBIL OIL CORPORATION, A NEW YORK CORPORATION AND THE CITY OF FARMINGTON HILLS RECORDED IN LIBER 11833, PAGE 430, OAKLAND COUNTY RECORDS. (AS SHOWN)

**SURVEYOR'S NOTE**  
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES OTHER THAN THE STRUCTURE INVENTORY SHOWN HEREON.

**SURVEYOR'S CERTIFICATION**  
TO STEWART TITLE GUARANTEE COMPANY, AND BAZZO HOLDINGS  
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2001 MINIMUM STANDARD DETAILED REQUIREMENTS FOR ALTA AND NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 4, 5, 7A, 8, 9, 11A, AND 11B OF TABLE A, THEREOF. THE FIELD WORK WAS COMPLETED ON 07/26/21.

DATE OF PLAT OR MAP: 08/03/21  
ANTHONY T. SYKO, JR., P.E.  
PROFESSIONAL SURVEYOR  
MICHIGAN LICENSE NO. 47476  
22386 GRADY AVE., EASTPOINTE, MI 48021  
(734) 846-1000  
www.kemtec-survey.com



PROFESSIONAL ENGINEERING, SURVEYING & ENVIRONMENTAL SERVICES  
A GROUP OF COMPANIES  
KEM-TEC  
22386 GRADY AVE., EASTPOINTE, MI 48021  
(734) 846-1000  
www.kemtec-survey.com

ALTA / NSPS LAND TITLE SURVEY  
PREPARED FOR: BAZZO HOLDINGS  
29506 ORCHARD LAKE RD., FARMINGTON HILLS, MICHIGAN  
PART OF SECTION 3,  
TOWN 1 NORTH, RANGE 9 EAST

DATE	BY	REVISION
08/03/21	MEJ	1
08/03/21	ATS	
AUGUST 03, 2021		
21-00201		

1  
1 OF 1 SHEETS





**CNY LED Canopy/Ceiling Luminaire**

**Specifications**

CNY LED P50K 150W

Width: 40"

Height: 4.7"

Depth: 4"

Weight: 6.5LBS

**Introduction**

The CNY LED canopy luminaires are energy efficient and budget friendly, perfect for replacing up to 250W metal halide luminaires while saving up to 90% energy costs. Quick mount mechanism significantly reduces the installation time. An LED array and translucent lens create uniform and visually comfortable illumination. CNY LED luminaires are DLC Prequalified and deliver quick payback.

**Ordering Information**

EXAMPLE: CNY LED P50K 150W 150VOLT DDBX

Part No.	Part Description	Part Description	Part Description	Part Description	Part Description
40115	40" x 40" x 4.7" LED Canopy/Ceiling Luminaire	150W LED Array	150VOLT	DDBX	150VOLT DDBX

**Notes:**

1. See Notes on page 10 for additional information.

2. See Notes on page 10 for additional information.

3. See Notes on page 10 for additional information.

**Features & Specifications**

**ATMOSPHERIC**

CNY LED canopy luminaires are designed for use in outdoor environments. They are constructed from high quality materials and are resistant to corrosion, UV radiation, and vandalism.

**COMPLIANCE**

CNY LED canopy luminaires are designed to meet or exceed all applicable regulatory requirements, including UL, ENEC, and CE.

**WARRANTY**

CNY LED canopy luminaires are covered by a 5-year warranty.

**INSTALLATION**

CNY LED canopy luminaires are designed for easy installation. They feature a quick mount mechanism that allows them to be installed in minutes.



**D-Series Size 0 LED Area Luminaire**

**Specifications**

DSKO LED P6 40K 150W

Width: 40"

Height: 4.7"

Depth: 4"

Weight: 6.5LBS

**Introduction**

The modern styling of the D-Series is striking yet sophisticated, making it a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficiency, long life luminaire. The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 400W metal halide with typical energy savings of 70% and expected service life of over 100,000 hours.

**Ordering Information**

EXAMPLE: DSKO LED P6 40K 150VOLT SP/NLTAIRZ PIRIN DDBX

Part No.	Part Description	Part Description	Part Description	Part Description	Part Description
40115	40" x 40" x 4.7" LED Area Luminaire	150W LED Array	150VOLT	SP/NLTAIRZ	150VOLT SP/NLTAIRZ

**Notes:**

1. See Notes on page 10 for additional information.

2. See Notes on page 10 for additional information.

3. See Notes on page 10 for additional information.

**Features & Specifications**

**ATMOSPHERIC**

DSKO LED area luminaires are designed for use in outdoor environments. They are constructed from high quality materials and are resistant to corrosion, UV radiation, and vandalism.

**COMPLIANCE**

DSKO LED area luminaires are designed to meet or exceed all applicable regulatory requirements, including UL, ENEC, and CE.

**WARRANTY**

DSKO LED area luminaires are covered by a 5-year warranty.

**INSTALLATION**

DSKO LED area luminaires are designed for easy installation. They feature a quick mount mechanism that allows them to be installed in minutes.



**D-Series Size 1 LED Wall Luminaire**

**Specifications**

DSKW LED P6 40K 150W

Width: 40"

Height: 4.7"

Depth: 4"

Weight: 6.5LBS

**Introduction**

The D-Series Wall luminaire is a sleek, modern design and is carefully engineered to provide long-lasting, energy-efficient lighting with a variety of optical and control options for customized performance.

With an expected service life of over 100,000 hours of nighttime use and up to 70% in energy savings over comparable 250W metal halide luminaires, the D-Series Wall is a reliable, low maintenance lighting solution that produces sites that are exceptionally illuminated.

**Ordering Information**

EXAMPLE: DSKW LED P6 40K 150VOLT DDBX

Part No.	Part Description	Part Description	Part Description	Part Description	Part Description
40115	40" x 40" x 4.7" LED Wall Luminaire	150W LED Array	150VOLT	DDBX	150VOLT DDBX

**Notes:**

1. See Notes on page 10 for additional information.

2. See Notes on page 10 for additional information.

3. See Notes on page 10 for additional information.

**Features & Specifications**

**ATMOSPHERIC**

DSKW LED wall luminaires are designed for use in outdoor environments. They are constructed from high quality materials and are resistant to corrosion, UV radiation, and vandalism.

**COMPLIANCE**

DSKW LED wall luminaires are designed to meet or exceed all applicable regulatory requirements, including UL, ENEC, and CE.

**WARRANTY**

DSKW LED wall luminaires are covered by a 5-year warranty.

**INSTALLATION**

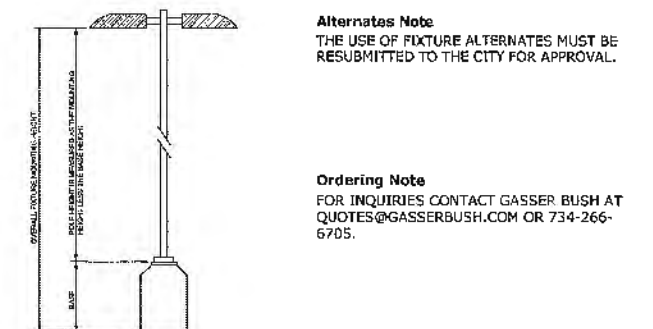
DSKW LED wall luminaires are designed for easy installation. They feature a quick mount mechanism that allows them to be installed in minutes.

**Schedule**

Symbol	Label	Quantity	Manufacturer	Description	Lamp	Mounting Height
A	A	4	Lithonia Lighting	CNY LED Canopy / Ceiling Luminaire, 4000K	LED	15'-0"
B	B	4	Lithonia Lighting	DSKO LED AREA LIGHT, 4000K	LED	16'-0"
C	C	1	Lithonia Lighting	DSKW LED WALL MOUNTED LUMINAIRE, 4000K	LED	10'-0"

**Statistics**

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
PARKING LOT	A	1.3 fc	3.7 fc	0.4 fc	37.0:1	13.0:1	0.4:1
PROPERTY LINE	B	0.2 fc	1.0 fc	0.0 fc	N/A	N/A	0.2:1
UNDER CANOPY	C	3.9 fc	6.8 fc	2.3 fc	3.0:1	1.7:1	0.6:1



**Alternates Note**

THE USE OF FIXTURE ALTERNATES MUST BE RESUBMITTED TO THE CITY FOR APPROVAL.

**Ordering Note**

FOR INQUIRIES CONTACT GASSER BUSH AT QUOTES@GASSERBUSH.COM OR 734-266-6705.

**Mounting Height Note**

MOUNTING HEIGHT IS MEASURED FROM GRADE TO FACE OF FIXTURE. POLE HEIGHT SHOULD BE CALCULATED AS THE MOUNTING HEIGHT LESS BASE HEIGHT.

**Drawing Note**

THIS DRAWING WAS GENERATED FROM AN ELECTRONIC IMAGE FOR ESTIMATION PURPOSE ONLY. LAYOUT TO BE VERIFIED IN FIELD BY OTHERS.

**Plan View**

Scale - 1" = 20ft

**General Note**

1. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.

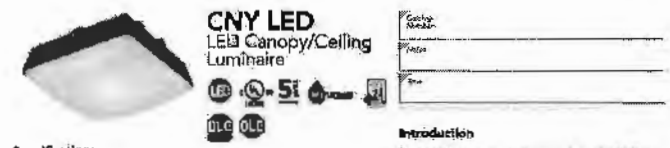
2. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0"

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.

UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIREMENTS DEFINED IN ASHRAE 90.1 2013. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT ASG@GASSERBUSH.COM OR 734-266-6705.





**CNY LED Canopy/Ceiling Luminaire**

**Specifications**

CNY LED P1 50K 120V 400K

Width: 18"

Height: 4.7"

Depth: 10"

Weight: 6.5 lbs

**Ordering Information**

EXAMPLE: CNY LED P1 50K 120V 400K

Label	Description	Quantity	Unit	Notes
1	CNY LED P1 50K 120V 400K	1	EA	

**Features & Specifications**

**INTRODUCTION**

The CNY LED canopy luminaires are energy efficient and budget friendly. Perfect for replacing up to 250W metal halide luminaires while saving up to 80% energy costs. Quick mount mechanism significantly reduces the installation time. An LED array and translucent lens create uniform and visually comfortable illumination. CNY LED luminaires are DLC Premium listed and deliver quick payback.

**COMPATIBILITY**

CNY LED luminaires are compatible with all major LED drivers. For more information, please contact your local distributor.

**INSTALLATION**

Mounting hardware is included. Mounting height is 15'-0" for 120V and 10'-0" for 277V. Mounting distance is 18" between centers. Mounting surface must be flat and level. Mounting surface must be able to support the weight of the luminaire. Mounting surface must be able to support the weight of the luminaire.



**D-Series Size 0 LED Area Luminaire**

**Specifications**

D-Series Size 0 LED P6 40K 120V 400K

Width: 18"

Height: 4.7"

Depth: 10"

Weight: 6.5 lbs

**Ordering Information**

EXAMPLE: D-Series Size 0 LED P6 40K 120V 400K

Label	Description	Quantity	Unit	Notes
1	D-Series Size 0 LED P6 40K 120V 400K	1	EA	

**Features & Specifications**

**INTRODUCTION**

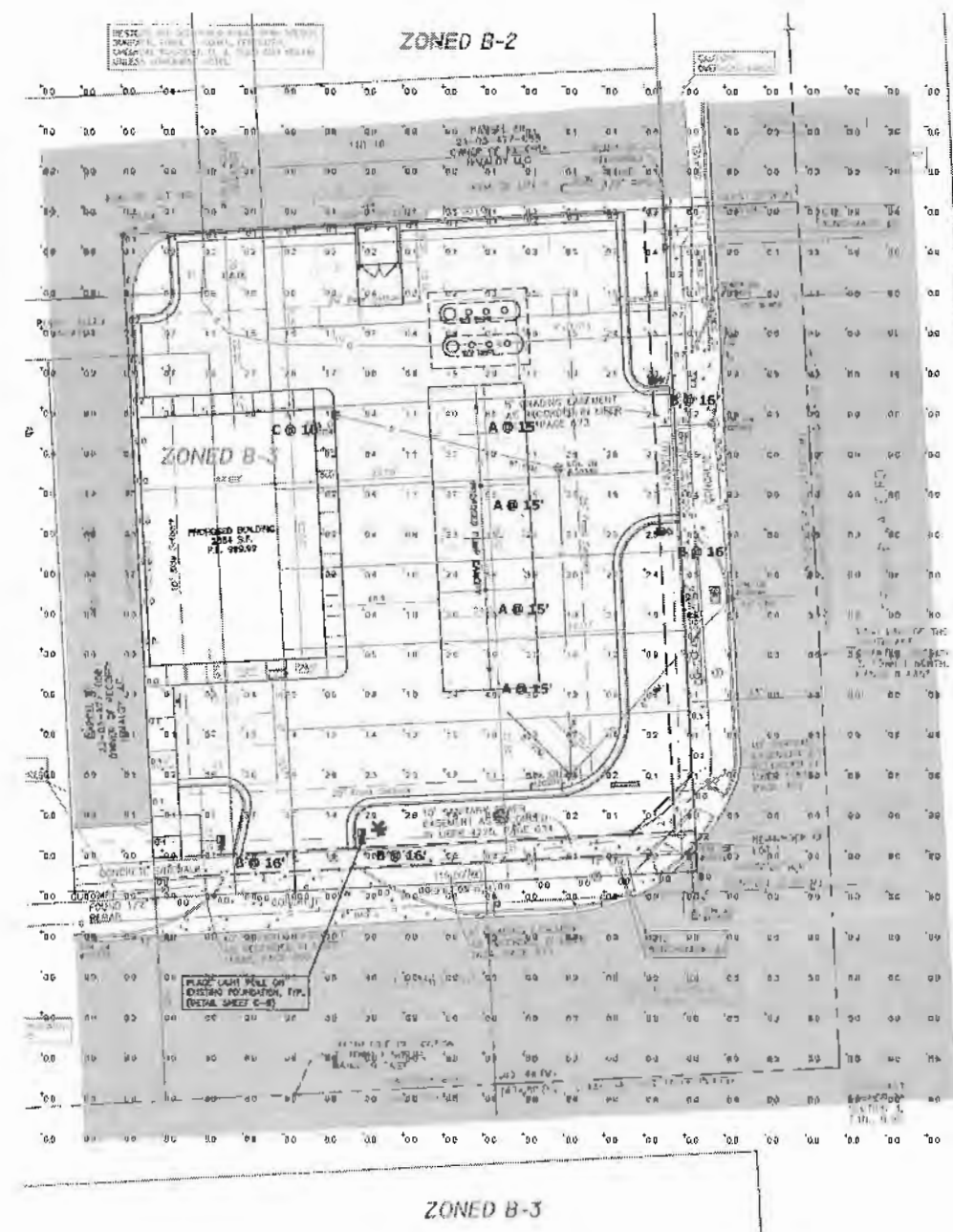
The D-Series Size 0 LED area luminaire is a modern, sleek, and energy-efficient lighting solution. It is designed to replace up to 250W metal halide luminaires while saving up to 80% energy costs. The luminaire features a high-quality LED array and a translucent lens that provides uniform and visually comfortable illumination. The D-Series Size 0 LED area luminaire is DLC Premium listed and delivers a quick payback.

**COMPATIBILITY**

The D-Series Size 0 LED area luminaire is compatible with all major LED drivers. For more information, please contact your local distributor.

**INSTALLATION**

Mounting hardware is included. Mounting height is 15'-0" for 120V and 10'-0" for 277V. Mounting distance is 18" between centers. Mounting surface must be flat and level. Mounting surface must be able to support the weight of the luminaire. Mounting surface must be able to support the weight of the luminaire.



**Plan View**  
Scale - 1" = 20ft



**D-Series Size 1 LED Wall Luminaire**

**Specifications**

D-Series Size 1 LED P6 40K 120V 400K

Width: 18"

Height: 4.7"

Depth: 10"

Weight: 6.5 lbs

**Ordering Information**

EXAMPLE: D-Series Size 1 LED P6 40K 120V 400K

Label	Description	Quantity	Unit	Notes
1	D-Series Size 1 LED P6 40K 120V 400K	1	EA	

**Features & Specifications**

**INTRODUCTION**

The D-Series Size 1 LED wall luminaire is a modern, sleek, and energy-efficient lighting solution. It is designed to replace up to 250W metal halide luminaires while saving up to 80% energy costs. The luminaire features a high-quality LED array and a translucent lens that provides uniform and visually comfortable illumination. The D-Series Size 1 LED wall luminaire is DLC Premium listed and delivers a quick payback.

**COMPATIBILITY**

The D-Series Size 1 LED wall luminaire is compatible with all major LED drivers. For more information, please contact your local distributor.

**INSTALLATION**

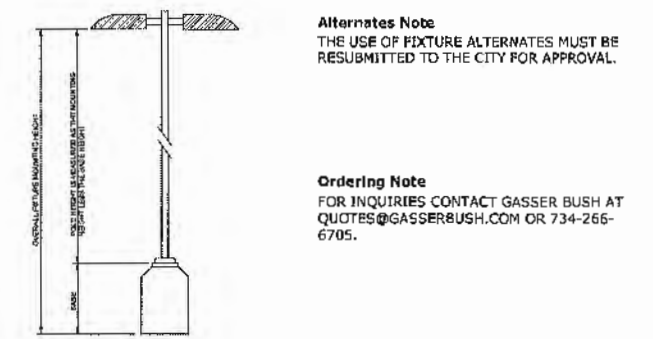
Mounting hardware is included. Mounting height is 15'-0" for 120V and 10'-0" for 277V. Mounting distance is 18" between centers. Mounting surface must be flat and level. Mounting surface must be able to support the weight of the luminaire. Mounting surface must be able to support the weight of the luminaire.

**Schedule**

Symbol	Label	Quantity	Manufacturer	Description	Lamp	Mounting Height
A	A	4	Utopia Lighting	CNY LED Canopy Luminaire, 4000K	LED	15'-0"
B	B	4	Utopia Lighting	D-Series LED Area Light, 4000K	LED	10'-0"
C	C	1	Utopia Lighting	D-Series LED Building Mounted Luminaire, 4000K	LED	10'-0"

**Statistics**

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
PARKING LOT	A	1.3 fc	3.7 fc	0.1 fc	37.0:1	13.0:1	0.4:1
PROPERTY LINE	B	0.2 fc	1.0 fc	0.0 fc	N/A	N/A	0.2:1
UNDER CANOPY	C	3.9 fc	6.8 fc	2.3 fc	3.0:1	1.7:1	0.6:1



**Alternates Note**

THE USE OF PICTURE ALTERNATES MUST BE RESUBMITTED TO THE CITY FOR APPROVAL.

**Ordering Note**

FOR INQUIRIES CONTACT GASSER BUSH AT QUOTES@GASSERBUSH.COM OR 734-266-6705.

**Mounting Height Note**

MOUNTING HEIGHT IS MEASURED FROM GRADE TO FACE OF FIXTURE. POLE HEIGHT SHOULD BE CALCULATED AS THE MOUNTING HEIGHT LESS BASE HEIGHT.

**Drawing Note**

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**General Note**

1. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.  
2. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT 0' - 0"

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.

UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIREMENTS DEFINED IN ASHRAE 90.1 2013. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT ASG@GASSERBUSH.COM OR 734-266-6705.

**SITE PLAN 55-1-2022**

**Approval:**

I move that Site Plan 55-1-2022, dated January 18, 2022, submitted by Bazco Holdings, LLC, be approved because it appears to meet all applicable requirements of the Zoning Chapter. Subject to the following conditions:

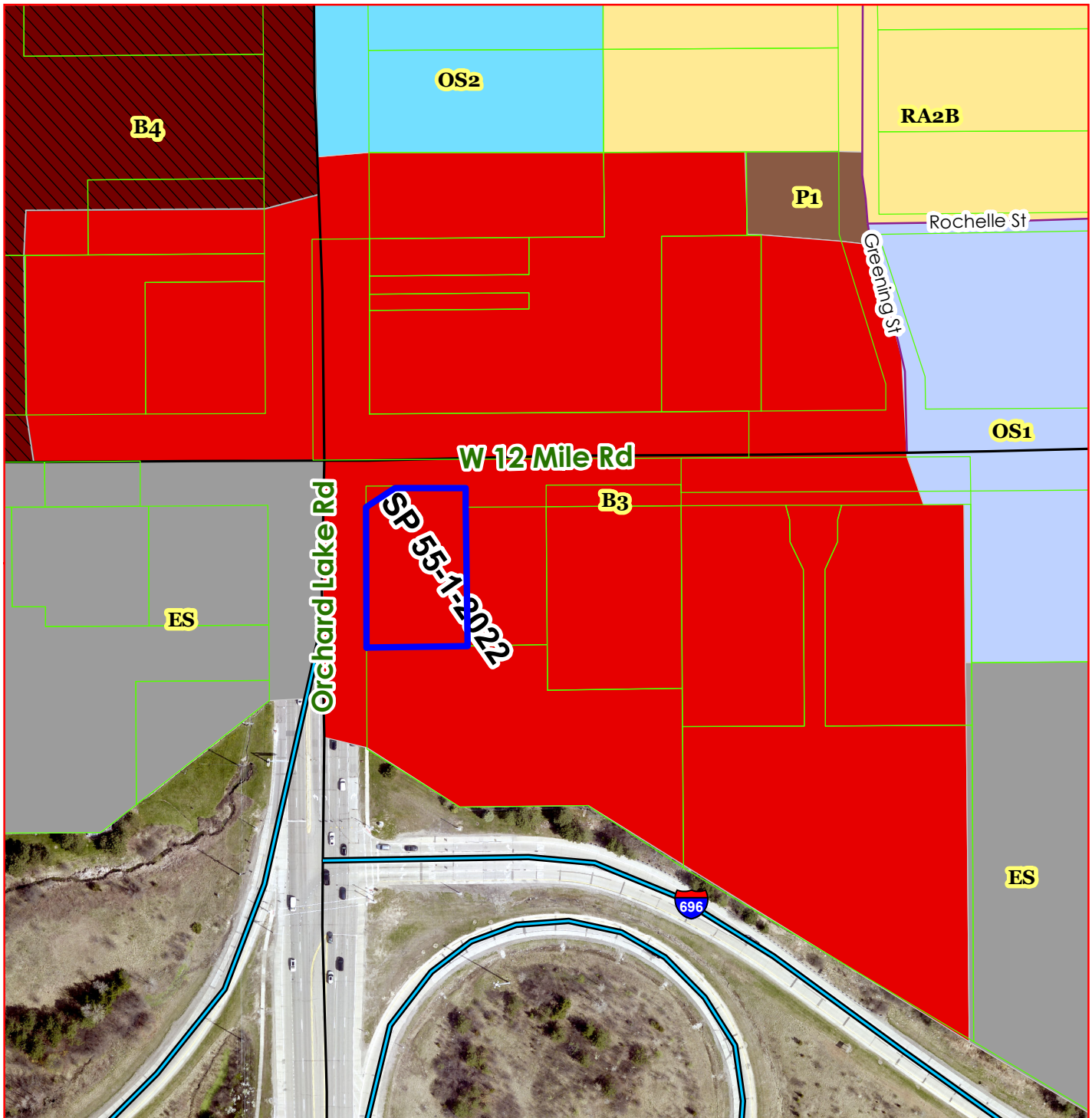
**Denial:**

I move that approval of Site Plan 55-1-2022, dated January 18, 2022, submitted by Bazco Holdings, LLC, be denied for the following reasons:



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SP 55-1-2022, B-3  
 23-14-101-036, 27730 Orchard Lake  
 Gasoline station and convenience store



□ Tax parcel

— Minor roads

### Zoning Districts

### Zoning Districts

■ B-3 General Business District

■ B-4 Planned General Business District

■ ES Expressway Service District

■ OS-1 Office Service District

■ OS-2 Planned Office Service District

■ P-1 Vehicular Parking District

■ RA-2B One Family Residential District



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FEET

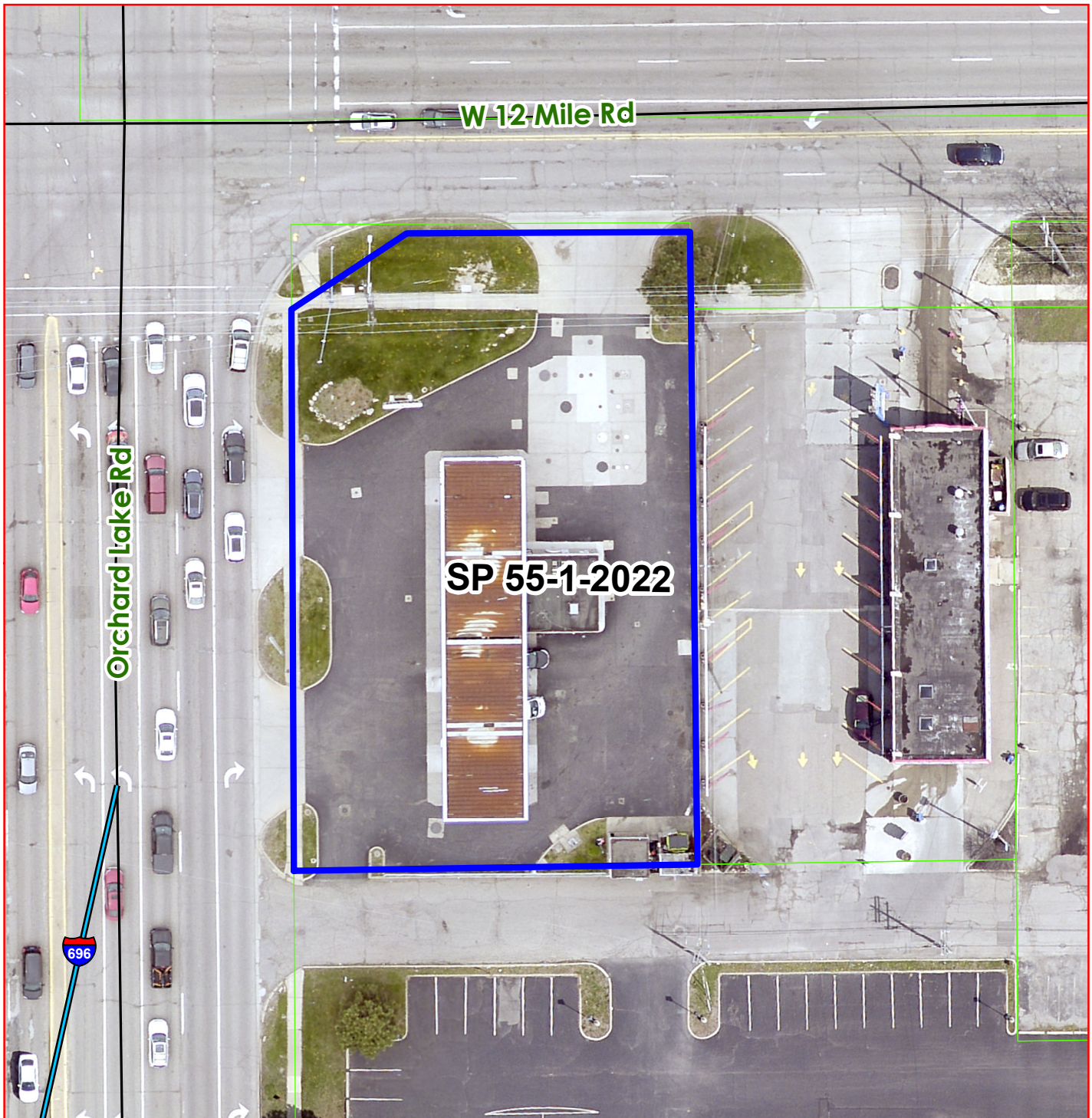


SOURCE: City of Farmington Hills, 2022  
 Oakland County GIS, 2022

190  
 DISCLAIMER: Although the information provided by this map is believed to be reliable, its accuracy is not warranted in any way. The City of Farmington Hills assumes no liability for any claims arising from the use of this map.



**SP 55-1-2022, B-3**  
**23-14-101-036, 27730 Orchard Lake**  
**Gasoline station and convenience store**



## Planning Division



SOURCE: City of Farmington Hills, 2022  
Oakland County GIS, 2022

50  
DISCLAIMER: Although the information provided by this map is believed to be reliable, its accuracy is not warranted in any way. The City of Farmington Hills assumes no liability for any claims arising from the use of this map.



0

FEET

☐ Tax parcel





**INTEROFFICE CORRESPONDENCE**

**DATE:** January 27, 2022  
**TO:** Planning Commission  
**FROM:** Jason Baloga, Fire Marshal  
**SUBJECT:** Site Plan 55-1-2022 27730 Orchard Lake (Mobile Gas Station)

The Fire Department has reviewed the following site plan and made the following notation:

1. The site does not appear to meet Site Access requirements outlined in Chapter 12 Section 12-11(1) of the City Code; sites shall be designed to accommodate fire apparatus with a 50' turning radius.
2. Hydrant coverage does not appear to be adequate according to Chapter 12 Section 12-11(2)d of the City Code; all points on the exterior of the building shall be no further than 250' from a hydrant. Hydrants located on the opposite side of major thoroughfares shall not be considered in computing the 250' distance.

Note: If the Proponent finds it impractical to comply with the minimum Fire Department site plan review and design standards, please contact the Fire Marshal to discuss the Alternate Protection provision outlined in Chapter 12 Section 12-11(4).

Once the above Ordinance requirements have been satisfied, the Fire Department will have no objection to recommending approval contingent upon compliance with the following conditions:

3. Fire lanes shall be posted and strictly enforced.
4. Hazardous materials shall be regulated according to State requirements as well as requirements of Chapter 12 of the City of Farmington Hills Ordinance.
5. Pumps shall only dispense fuel with attendant present.
6. Building shall be maintained in accordance with minimum Fire Prevention Code requirements.
7. The minimum clearance between the finished roadway surface and any overhead obstruction shall be 13'6".

A handwritten signature in blue ink, appearing to read "Jason Baloga".


Jason Baloga, Fire Marshal

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DEPARTMENT OF PUBLIC SERVICES  
KAREN MONDORA, P.E., DIRECTOR

**INTEROFFICE CORRESPONDENCE**

**DATE:** January 26, 2022  
**TO:** Planning Commission  
**FROM:** James Cubera, Engineering   
**SUBJECT:** BP Gas Station  
27730 Orchard Lake Road  
SP#: 55-1-2022 - PJ#: 14-22-46  
22-23-14-101-036

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This office has performed a preliminary review of the above referenced site plan submitted to the Planning Department on January 18th, 2022. Our preliminary comments are as follows:

1. A 16-inch watermain exists along the south side of 12 Mile Road across the frontage of this site. In addition, there appears to be a 6-inch watermain along the east side of Orchard Lake Road across the frontage of this site. Both lines are available for service. It appears that there may be a service line connecting to the 6-inch Orchard Lake Road watermain. If this is the case, the new developer will be required to abandon it and hook into the 16-inch line on 12 Mile Road. This needs to be confirmed. It also needs to be identified whether this service will be extended and used for this new building if tied into the 16-inch watermain.
2. A 10-inch sanitary sewer exists along the service drive just south of this site. In addition, an 8-inch sanitary sewer line exists along the west property line across the Orchard Lake Road frontage. Both lines are available for service. It is unclear from this plan where the existing sewer lead ties into the public sewer. The plans imply that it is extending southward. If such is the case, the proponent will be obligated to provide easements of record to confirm that proper access to the 10-inch public sanitary sewer exists. If not, a new easement for this connection will be required. In addition, the proponent will be obligated to televise the entire length of the sewer lead and provide a video to the City for review. Any infiltration/inflow issues or other deficiencies must be corrected.



3. The proponent shows a curb cut to 12 Mile Road and three curb cuts to Orchard Lake Road. This includes an access drive to a curb cut south of this site. It will be required that the proponent revise the site layout such that the second existing driveway (south of 12 Mile Road) on Orchard Lake Road be removed in its entirety. The site can then operate with the driveway on 12 Mile Road and for Orchard Lake Road use the existing northern curb cut as well as the access drive provided by the site to the south.
4. A 5-foot-wide concrete sidewalk currently exists along both the 12 Mile Road and Orchard Lake frontage of this site. Therefore, no additional walkway requirements will be in effect.
5. Storm water detention in the amount of 2 inches over the gross area of the site must be provided for. Discharge must be restricted to agricultural runoff. The proponent indicates an underground detention system at the north end of the site. This will be reviewed during Engineering site review prior to construction permits being considered for issuance.
6. Storm water quality improvements will be required in accordance with the City of Farmington Hills Engineering standards. Attached are comments from the City's Environmental Engineer Tyler Sonoga. Any question regarding these items can be referred to him at 248-871-2533.
7. The ultimate right-of-way on 12 Mile Road is 60 feet as measured from the section line. It appears that approximately between 33 and 36 feet of right-of-way exists currently. It is suggested that the proponent dedicate the ultimate 60 feet which would necessitate an additional 24 feet in this area.
8. With the reworking of this site, it will be appropriate that the proponent revise and address the grading along the common east and south property lines such that the design of this redevelopment can match existing grades without the use of retaining walls or grade differentials. This needs to be addressed.
9. It is suggested that the proponent and his engineer set up a Zoom or Teams meeting with the City Engineering Division to discuss this site in further detail.



DEPARTMENT OF PUBLIC SERVICES  
KAREN MONDORA, P.E., DIRECTOR

City of Farmington Hills  
Environmental Review

Project Name: BP Gas Station (Previously Mobil)

Address: 27730 Orchard Lake Rd.

Project Job #: 14-22-46

Plan Dated: 1-18-22

Plan Received: 1-19-2022

Review #: 1

Review Date: 1-26-2022

As requested, I have conducted a plan review of the above reference engineering plans. I have the following comments:

1. Provide calculations for the water treatment unit sizing.
2. Provide details for the underground detention system.
3. Provide an inspection and report on the existing stormwater pump to confirm it is working as originally designed.
4. There is opportunity for low impact development best management practices to address storm water quality and quantity. These techniques include: porous pavement, infiltration trenches, and bioretention/rain gardens. The low impact development techniques would minimize the volume of storm water runoff and provide storm water quality treatment.

Respectfully submitted,

Tyler Sonoga  
Civil/Environmental Engineer  
Department of Public Services

cc: City of Farmington Hills, J. Cubera

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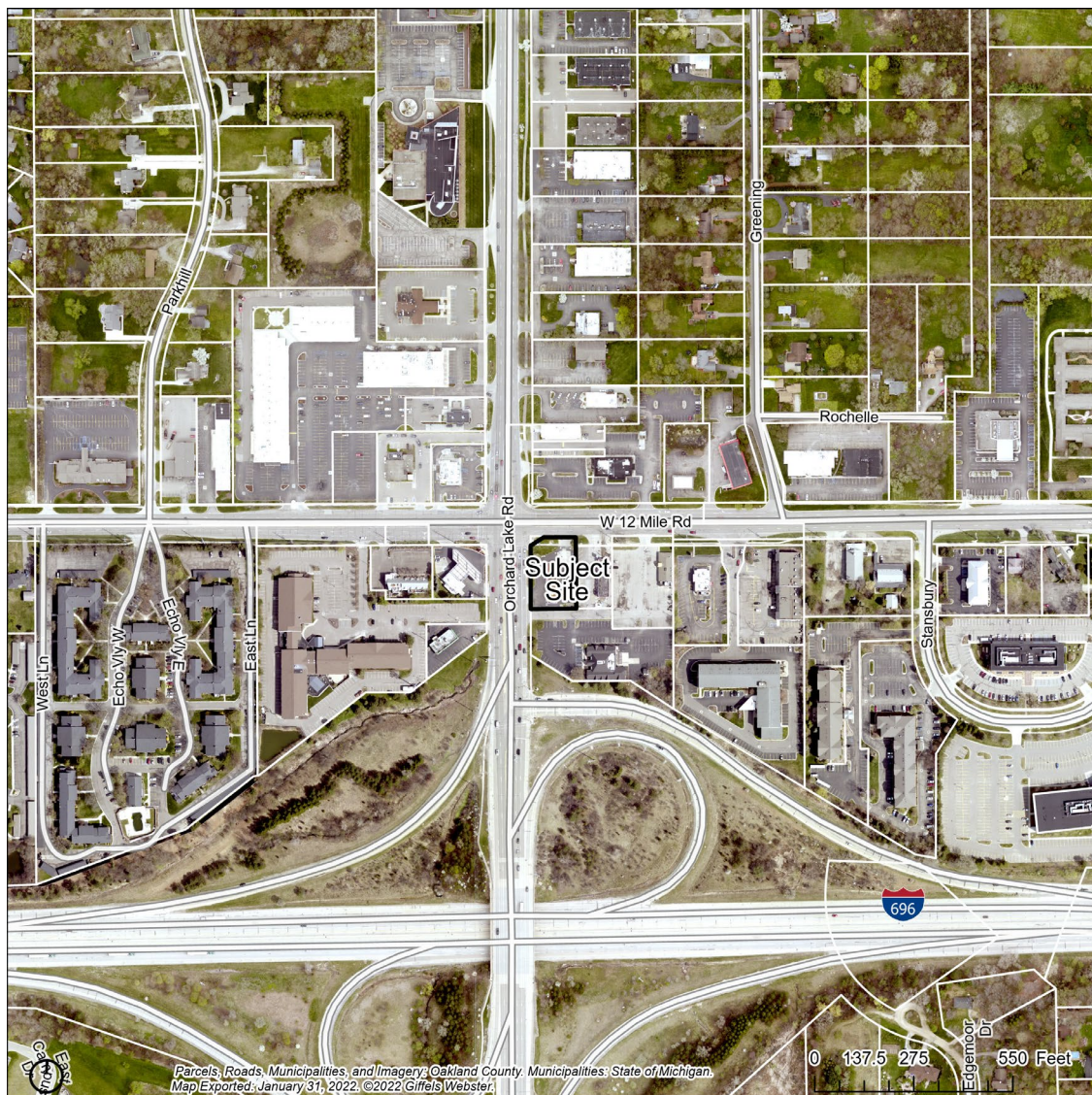
February 4, 2022

Farmington Hills Planning Commission  
31555 W 11 Mile Rd  
Farmington Hills, MI 48336

# Site Plan Review

Case: SP 55-1-2022  
Site: 27730 Orchard Lake Rd (22-23-14-101-036)  
Applicant: Bazco Holdings, Inc.  
Plan Date: 1/18/2022  
Zoning: B-3 General Business

We have completed a review of the application for site plan approval and a summary of our findings is below. Items in **bold** require specific action. Items in *italics* can be addressed administratively.



## SUMMARY OF FINDINGS

**Summary of Proposal.** The applicant proposes to rebuild an existing gas station and convenience store.

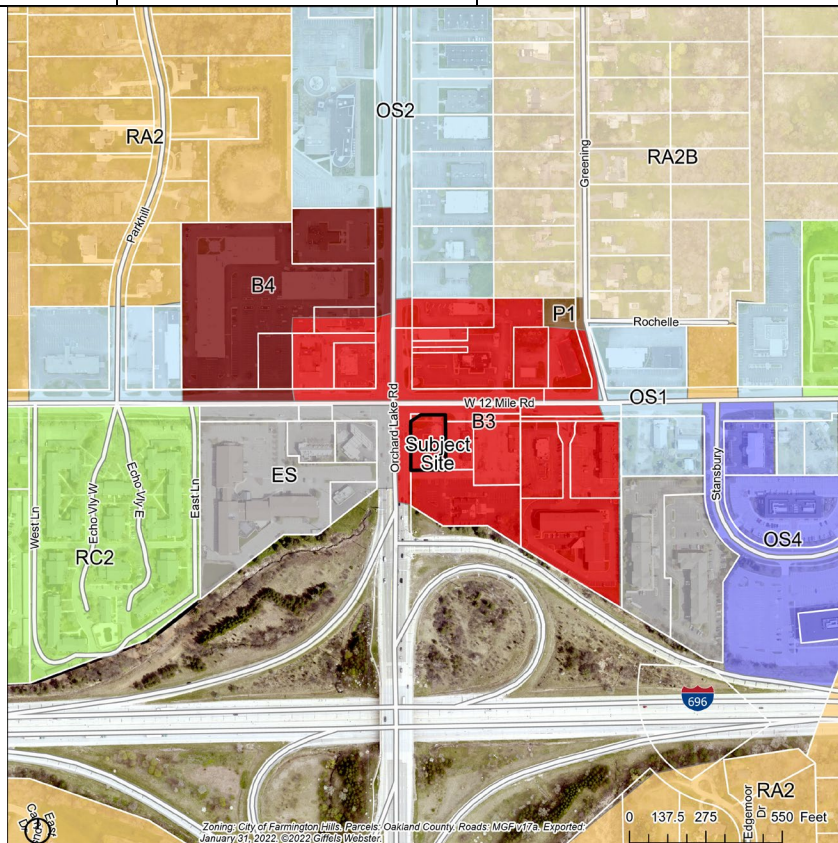
### Summary of Issues.

- Variance required for east side setback.
- Inadequate labeling of setbacks and buffer widths on Sheet C-1.
- Address rooftop and other mechanical equipment.
- Address loading blocked spaces and maneuvering lane width.
- Calculation of paved area needed to determine tree requirement.
- Lighting plan adjustments required.
- No hedge is provided, but the dense shrub arrangements will have a similar effect. **The Planning Commission should review and confirm.**

### Existing Conditions

1. **Zoning.** The site is 0.57 acres and zoned B-3.
2. **Existing site.** The site is currently developed with a gas station and convenience store.
3. **Adjacent properties.**

Direction	Zoning	Land Use
North	B-3	Commercial
South	B-3	Commercial
East	B-3	Commercial
West	ES	Commercial





4. **Site configuration and access.** The site is currently accessed via three driveways: two from Orchard Lake Road, and another from 13 Mile Road. There is also a connection to the driveway immediately south of the site.

**Site Plan & Use:**

1. **Use.** A gas station is a principally permitted use in the B-3 district, subject to PC approval and the standards of Section 4.28 (see below).
2. **Dimensional Standards (B-3 district).** See footnotes after the table for remarks on compliance issues.

Item	Required	Proposed/Comments
<b>Standards of Sec. 34-3.1.25.E</b>		
Min. lot size	None specified	0.57 acres
Min. lot width	None specified	125 ft/202 ft
Front Setback (north)	25 ft (to 12 Mile)	25+ ft to canopy/25+ ft to building <sup>1)</sup>
Rear Setback (south)	20 ft	35 ft to canopy/54 to building
Side Setback (west)	25 ft (to Orchard Lake)	28 ft to canopy
Side Setback (east)	10 ft	6 ft <sup>2)</sup>
Building Height	50 feet	18 feet
Front Yard Open Space	50%	Compliant
<b>Other dimensional standards</b>		
Yard landscaping (34-3.5.2.A)	For all uses except one-family detached residential units, landscaping of all yards abutting a street shall be provided	See landscaping comments below.
Minimum parking setback (34-3.5.2.J)	10 feet	Appears compliant, but needs label <sup>3)</sup>
Loading space (34-3.5.2.N)	10 feet of loading space per front foot of building = 440 sq ft	600 sq ft <sup>4)</sup>
Rooftop equipment (34-3.5.2.U.)	Rooftop equipment shall be screened in accordance with Section 34-5.17.	Rooftop equipment is not addressed on the plans
Landscape area abutting street or freeway (34-3.5.2.V.)	A landscaped area not less than ten (10) feet deep	Varies and appears compliant, but width of each section should be labeled to verify compliance.

- 1) The setback is clearly compliant; however, the actual distance should be labeled on the plan.
- 2) This setback will require a variance.
- 3) When measured, the landscape buffer depth appears to be adequate; however, this should be dimensioned on the plan.
- 4) Because this area blocks access to 5 parking spaces, the applicant should be prepared to address how this will affect daily functioning on the site, such as by designating three of these spaces as employee parking or scheduling deliveries outside of busy hours.

3. **Dumpster (34-5.1.2.D).**

Item	Required	Proposed/Comments
Location	Rear yard or interior side yard	



Screening	Permanent building wall or earth mound not less than 6 feet or 1 foot above the enclosed dumpster whichever is greater	The dumpster enclosure is in the rear yard and compliant.
Setback	20 feet from any residential property	

4. **Mechanical Equipment (34-5.1.4.D).** The plan does not address mechanical equipment.

5. **Minimum parking (34-5.2.11.C.i/x).**

Requirement	Calculations	Provided
i. Retail store: One (1) for each one hundred seventy-five (175) square feet of usable floor area x. Self-service gas station: One (1) space plus one (1) space for each employee on the largest working shift. Additional parking shall be provided for any accessory retail use as required for such use	$2728 \times 0.8 = 2,182.4$ $2,182.4/175 = 12$ $1 + 2 = 3$  Total required = 15 +1 for uses requiring less than 25 spaces = 16	18 spaces (50% of fueling positions may be counted as spaces)
Barrier-Free Spaces	1 space (van accessible)	1 space

6. **Off-street parking dimensions (34-5.3.3.A & B.).**

Item	Required	Proposed/Comments
Maneuvering lane width	20 ft.	15-26.5 ft <sup>1)</sup>
Parking space width	9 ft.	9 ft
Parking space length	20 ft. for minimum required (May include a maximum two-foot unobstructed vehicle overhang area at the front of the parking space.)  17 ft. for additional parking (May include a maximum one-foot unobstructed vehicle overhang area at the front of the parking space)	20 ft

**1) When the southernmost fueling position is occupied, the maneuvering lane for spaces 5-7 will only be about 15 feet. See also: notes about loading space above.**

7. **Acceleration-Deceleration-Passing Lanes (34-5.6.2.)** Driveways providing ingress and egress to all three-lane paved major or secondary thoroughfares shall be provided with paved acceleration and deceleration lanes. If in the opinion of the director of public services no useful purpose would be served or if unusual difficulty would be encountered by reason of grade changes, intersections, bridges, or other land restrictions, the director may waive or modify the requirements of this section. **We defer to engineering to address this issue.**

8. **Standards for gas stations in the B-3 district.** Per Section 34-4.28, gas stations in the B-3 district shall meet the following standards:

In all districts:

- A. Adequate space shall be provided for the ingress, egress, and maneuvering of delivery trucks and emergency vehicles on the site. The analysis shall be based on radii and standards in the latest edition of A Policy of Geometric Design of Highways and Streets by the American Association of State Highway and Transportation Officials. Use of AutoTURN software or the

equivalent is highly recommended for this analysis. This information shall be depicted on a site plan and approved in accordance with Section 34-6.1.

*This standard appears to be met.*

- B. Up to fifty (50) percent of fueling positions may be considered toward fulfilling the parking requirement for the gas station, except that fueling positions shall not be counted as spaces required for service bays.

*The applicant has used this standard to meet the parking requirement.*

In the B-1, B-3 and ES districts, gasoline service stations where no repair work is done, other than incidental service, but not including steam cleaning or undercoating, vehicle body repair, painting, tire recapping, engine rebuilding, auto dismantling, upholstery, auto glass work and such other activities whose external effects could adversely extend beyond the property line, shall be permitted subject further to the following conditions:

*This station has no auto service.*

- B. In the B-1, B-3 and ES districts:

- i. The curbcuts for access to a service station shall not be permitted at such locations that will tend to create traffic hazards in the streets immediately adjacent thereto. Entrances shall be no less than twenty-five (25) feet from a street intersection (measured from the road right-of-way) or from adjacent residential districts.

*This standard is met—there may be an opportunity to remove one of the driveways onto Orchard Lake Road, especially given the availability of access from the south.*

- ii. The minimum lot area shall be fifteen thousand (15,000) square feet, and so arranged that ample space is available for motor vehicles which are required to wait. Gasoline service stations having no facilities for repair or servicing of automobiles (including lubricating facilities) may be permitted on lots of ten thousand (10,000) square feet, subject to all other provisions herein required.

*This standard is met.*

- iii. Gasoline service stations which do not have a property line abutting a residential district shall not have service bay openings facing the public thoroughfare.

*N/A*

- iv. The parking of motor vehicles or the storage of trailers, campers or other such conveyances on the gasoline service station property shall be prohibited, except for those necessary to the operation of a gasoline service station.

*This standard appears to be met, but should be confirmed with a note on the plan.*

- v. Off-street loading and unloading space shall be provided in the ratio of at least ten (10) square feet per front foot of building but may be located in any required yard notwithstanding Section 34-5.4.

*See notes about the loading space above.*

- C. In the B-3 and ES districts, automobile car washes may be permitted as an accessory use.

*N/A*

9. **Circulation.** See notes about Sheet C1-A above.

10. **Corner Clearance (34-5.10).** Corner clearance standards appear to be met, but this should be shown on the plan (preferably on Sheet L-1).

11. Overall site.

Item	Required			Proposed/Comments
Minimum distance from the property line (34-5.14.C.ii)	4 ft from the property line for trees and large shrubs			Compliant
Minimum parking lot island area	Minimum of 180 square feet; 3 feet minimum radius at the trunk of the tree			N/A
Cost estimate	Not required			--
Minimum size and spacing requirements at planting (34-5.14.F)	Size	Center to center distance (max)		
	(Height/width)	groupings	rows	
• Evergreen Trees	8 ft. height	20 ft.	12 ft.	N/A
• Narrow Evergreen Trees	5 ft. height	10 ft.	5 ft.	N/A
• Large Shrubs	30 in. height	10 ft.	5 ft.	Standard is met
• Small Shrubs	24 in. width	4 ft.	4 ft.	Standard is met
• Large Deciduous	3 in. caliper	30 ft.	-	Standard is met
• Small deciduous trees	2 in. caliper	15 ft.	-	Standard is met
• Hedge shrubs	24 in. height	3 ft.	3 ft.	No hedge
Canopy Trees	Shall be large deciduous. PC may permit large evergreens			4 large deciduous trees provided
Minimum number of parking lot trees (34-5.14.4.C)	1 per every 2,800 square feet of paved surface area:			<b>Paved surface quantity not provided; requirement unknown</b>
Parking lot screening from public thoroughfare (34-5.14.5)	A planted hedge of small shrubs, or A masonry wall or berm of 2 feet high			No hedge is provided, but the dense shrub arrangements will have a similar effect. <b>Planning Commission should review and confirm.</b>
Wall or Berm (34-5.15)	Required when abutting a residential district. (See 34-5.15)			Not required
Tree replacement (34-5.18)	0 required			No existing trees will be removed.

12. **Tree Replacement (34-5.18).** The site's two existing trees are not proposed to be removed, and the required affidavit has been provided.

13. **Lighting (Section 34-5.16).**

- i. **Operation hours (34-5.16.3.B.v.).** *The following notes must be added to or addressed on the plan; it is unclear from the existing plans whether these standards are met.*
- ii. Exterior lighting shall not operate during daylight hours.



- iii. Building façade and landscape lighting shall be turned off between midnight or one hour after close of business, whichever is later, and 6:00am or opening, whichever is earlier.
  - iv. All other exterior lighting shall be reduced to no greater than 70% of maximum from midnight or one hour after close of business, whichever is later, and 6:00am or opening, whichever is earlier.
  - v. Use of occupancy sensors to turn off or reduce lighting within 15 minutes of zero occupancy is recommended.
- a. **Illumination Levels.** With the exception of the undetailed sconces, the fixtures appear capable of meeting cutoff requirements.

Item	Required	Proposed/Comments
Maximum height (34-5.16.3.A.)	30 feet maximum	10, 15, 16 ft.
Building Lighting (34-5.16.3.A. iii.)	Relevant building elevation drawings showing all fixtures and the portions of the walls to be illuminated	Decorative sconces proposed on building; <b>details needed</b>
Average to minimum illumination ratio (34-5.16.3.C)	4:1	<b>12:1</b>
Maximum illumination at the property line	0.3 fc	Met <b>except at driveways</b>
Illumination Levels- Hardscape areas (e.g., parking areas, sidewalks)	2.5 lumens per sq ft of hardscape area	<b>Unclear from plan</b>
Illumination Levels Building Entrances – within 20 ft of door	2,000 lumens per door	<b>Unclear from plan</b>

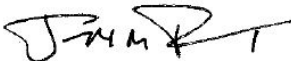
**14. Additional lighting standards for sites abutting a residential district (Sec. 34-5.16.3.B.iii.)**

- a. No direct light source shall be visible at the property line (adjacent to residential) at ground level.  
*This standard appears to be met.*
- b. All fixtures mounted within 50 feet of a residential property line or public right-of-way boundary shall be fitted with a shielding reflector on the side facing the residential property line or public right-of-way. *This standard does not apply to this site.*

**15. Pedestrian Connection (Sec. 34-5.19).** A pedestrian connection to the 12 Mile sidewalk is provided.

We are available to answer questions.

Respectfully,  
**Giffels Webster**



Joe Tangari, AICP  
Senior Planner



Rod Arroyo, AICP  
Secretary | Partner

# Proposed 2,728 square feet mercantel space to replace existing building in an existing filling station site located @ 27730 Orchard Lake Road, Farmington Hills, Michigan

## Governing Codes

1. 2015 Michigan Building Code
2. 2015 International Fire Code
3. 2015 Michigan Plumbing Code
4. 2015 Michigan Mechanical Code
5. 2017 National Electric Codes, with part 8 rules
6. ANSI 117.1-2009 (Accessibility)
7. ASHRAE 90.1 2013 Energy Code
8. City of Farmington Hills Zoning Ordinance

## Jurisdiction

1. City of Farmington Hills Planning, Building and Engineering Departments
2. Oakland County

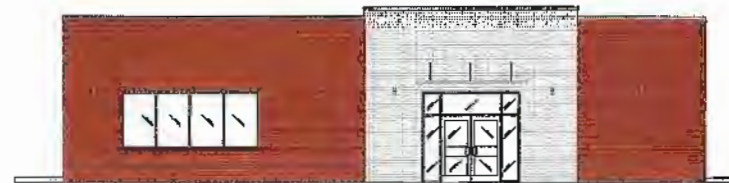
## Design team and consultants

HANNA ENGINEERING AND CONSULTING  
Planners, Architects and Engineers  
31786 Clarita  
Livonia, Michigan 48152  
Tel: (313) 575-0220  
jeand.hec@gmail.com

VITINS ENGINEERING  
44275 Brandywine  
Canton, Michigan 48187  
Tel: (313) 463-3480  
vitins@umich.edu

## APPLICANT:

Basco Oil Company  
30826 Twenty Six Mile Road, New Haven, Michigan 48048  
Tel: (588) 531-8377



PROPOSED FRONT ELEVATION

## Site & Building Data

	CODE SECTION	PROPOSED
PROPOSED USE		Filling Station and C store operation
USE GROUP	508.3	MERCANTILE (M)
BUILDING HEIGHT		VARIES 17' TO 18'
CONSTRUCTION TYPE	IIIB	IIIB
GROSS BUILDING AREA		2,728 SQ. FT
OCCUPANT LOAD		RETAIL AREA ( SQ.FT)/30 = 1228/30 = 41 OCCUPANTS STOCK ROOM SQ.FT/300 = 1503/300 = 5 OCCUPANTS TOTAL OCCUPANT LOAD = 47 OCCUPANTS
EGRESS REQUIREMENT	1004.1	47X.02= .94"
NO. OF EXITS	1005	PROVIDED two @ 36" and 72 "x108"
PARKING CALCULATIONS	155.077	2+ GROSS FLOOR AREA /175 = 2+ 17 = 19
PARKING CALCULATIONS		
TOTAL PARKING REQUIRED	-	15 SPACES
TOTAL PARKING PROVIDED	-	16 SPACES INCLUDING ONE VAN ACCESSIBLE
SPRINKLER SYSTEM	TABLE 506.2	NOT PROVIDED AREA < 12,000 SQ.FT
TRAVEL DISTANCE FROM MOST REMOTE POINT	TABLE 1008.2.1	LESS THAN 75'
HOURS OF OPERATION		24 HOURS
NUMBER OF EMPLOYEES		3 EMPLOYEES PER SHIFT

## Site Data

ZONING	B-3
AREA	25,041 Q.FT =.57 ACRES
DESCRIPTION	EXISTING GAS STATION AND (C) STORE RETAIL RECONSTRUCTION



SITE



VICINITY MAP  
NOT TO SCALE

## Drawing Index

COV	COVER SHEET
C.A.1	PROPOSED SITE PLAN
C.A.2	SITE DETAILS
A-1	PROPOSED FLOOR PLAN
A-2	PROPOSED BUILDING ELEVATIONS
A-3	PROPOSED BUILDING ELEVATIONS

CIVIL BINDER

SP55.1.2022

RECEIVED

JAN 18 2022

CITY OF FARMINGTON HILLS  
PLANNING DEPT.

## ZONING MAP



## Pumps/Canopy & Price Sign

( Price sign require separate permit and approval)

## Permits and Approval Requests

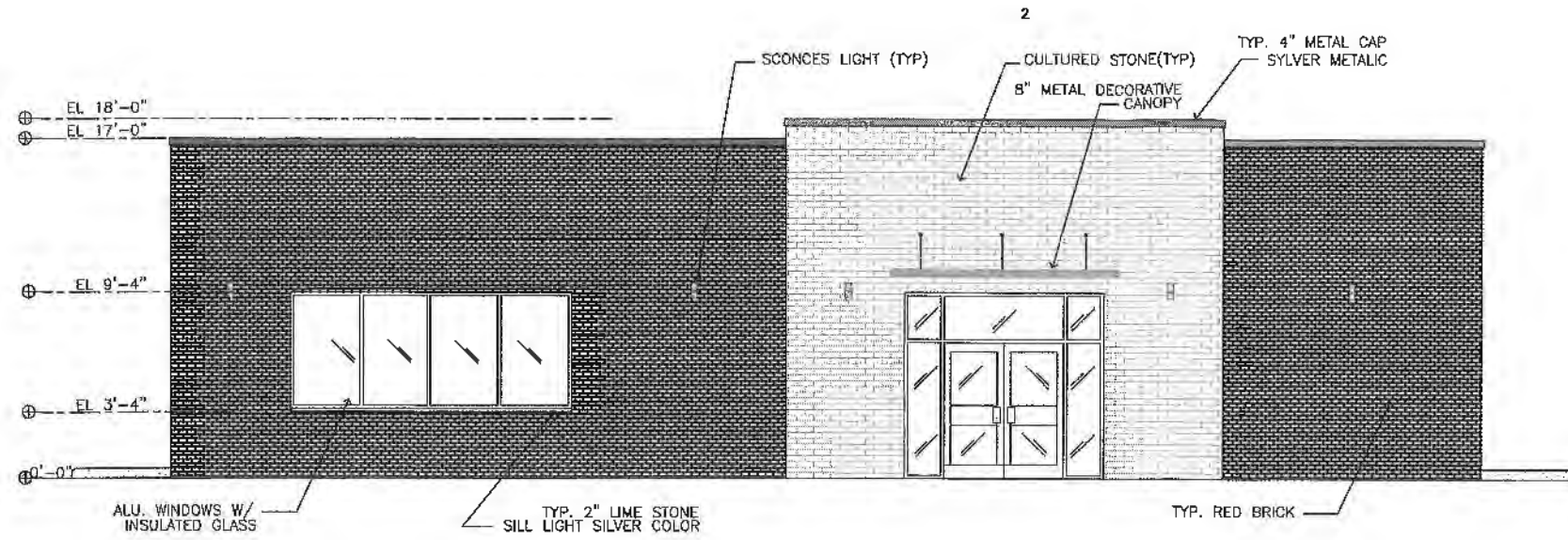
## dates

SITE PLAN APPROVAL	01-17-2022



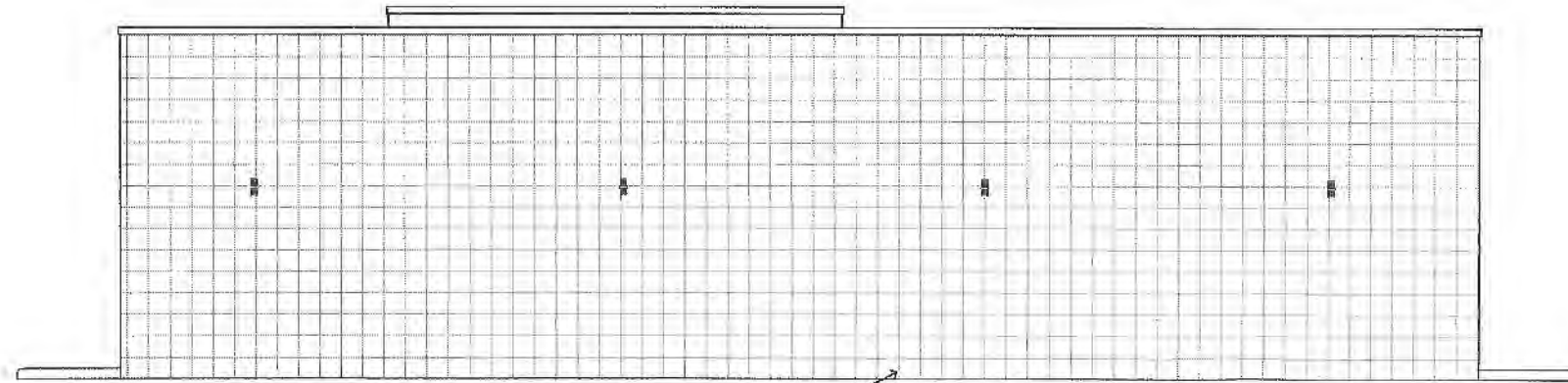






PROPOSED EAST ELEVATION

SCALE: 1/4"=1'-0"



PROPOSED WEST ELEVATION

SCALE: 1/4"=1'-0"

JOB No.

22-21

SHEET No.

A-2

HANNA ENGINEERING AND CONSULTING  
Planners, Architect and Engineers  
31796 Clarita  
Livonia, Michigan 48152  
Tel: (313) 575-0220  
jsaad.hec@gmail.com

PROPOSED BUILDING ELEVATIONS

PROPOSED RENOVATION OF AN EXISTING GAS STATION LOCATED •

27750 ORCHARD LAKE ROAD, FARMINGTON HILLS, MI

APPLICANT: Baco Oil Company

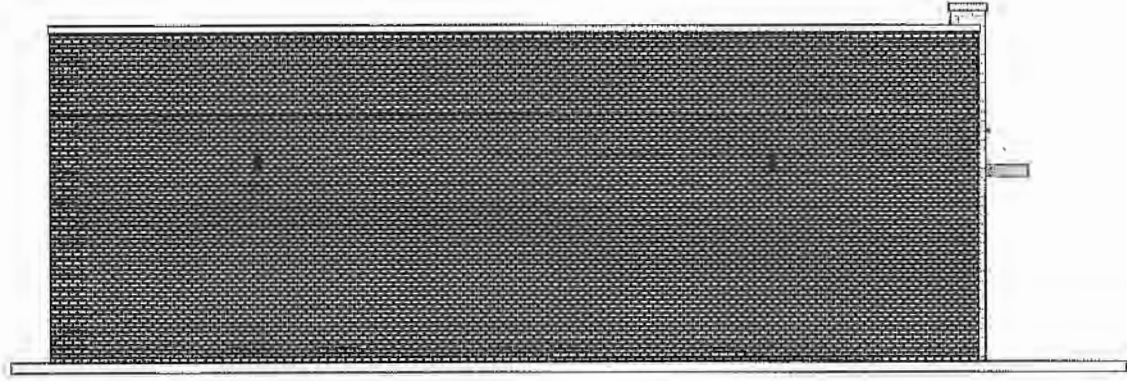
31026 Twenty Six Mile Road, New Haven, Michigan 48048

Tel: (508) 531-6377

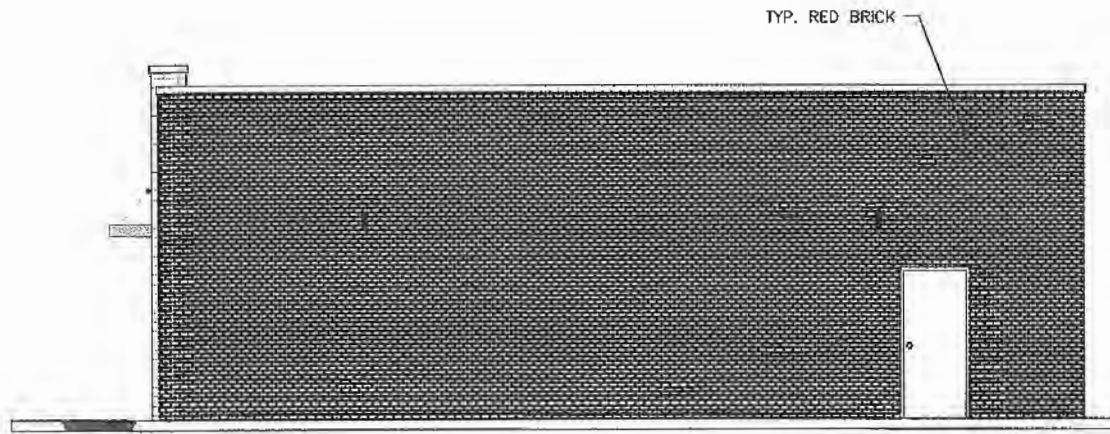
SHEET TITLE



SCALE:	DATE:	DATE:	DATE:	DATE:
AS NOTED	03-12-2020	07-27-2021	07-27-2021	07-27-2021
DRAWN BY	ISSUED FOR	ISSUED FOR	ISSUED FOR	ISSUED FOR
J.S.	SPECIAL LAND USE/SITE PLAN REVIEW	SPECIAL LAND USE/SITE PLAN REVIEW	SPECIAL LAND USE/SITE PLAN REVIEW	SPECIAL LAND USE/SITE PLAN REVIEW
DESIGNED BY				
J.S.				
CHECKED BY				
J.S.				



PROPOSED SOUTH ELEVATION  
SCALE: 1/4"=1'-0"



PROPOSED NORTH ELEVATION  
SCALE: 1/4"=1'-0"

SCALE: AS NOTED		DATE: 03-12-2020	ACAD FILE: 12&0chord		SHEET TITLE <b>PROPOSED BUILDING ELEVATIONS</b> PROPOSED RENOVATION OF AN EXISTING GAS STATION LOCATED @ 27750 ORCHARD LAKE ROAD, FARMINGTON HILLS MI APPLICANT: Benco Oil Company 30028 Twenty Six Mile Road, New Haven, Michigan 48048 Tel: (586) 681-6377	HANNA ENGINEERING AND CONSULTING Planners, Architect and Engineers 31788 Clarita Livonia, Michigan 48152 Tel: (313) 575-0220 jsaad.hec@gmail.com	JOB No. 22-21
DRAWN BY J.S.	DESIGNED BY J.S.	DATE 07-27-2021	ISSUED FOR SPECIAL LAND USE/SITE PLAN REVIEW				SHEET No. A-3
CHECKED BY J.S.							

CITY OF FARMINGTON HILLS NOTES:

1. ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF FARMINGTON HILLS.
2. NOTIFY THE CITY OF FARMINGTON HILLS ENGINEERING DIVISION AT (248) 871-2850 A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
3. 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.
4. UTILITIES SHALL BE UNDERGROUND.
5. REFER TO ARCHITECTS DRAWINGS FOR BUILDING DETAILS AND DIMENSIONS.
6. EXTERIOR SITE LIGHTING SHALL BE DIRECTED DOWNWARD AND SHIELDED AWAY FROM ADJACENT PROPERTIES.
7. NO SIGNS ARE APPROVED AS PART OF THIS SITE PLAN APPROVAL AND PRIOR TO ERRECTING A SIGN, AN APPLICATION AND APPROPRIATE SUBMISSIONS SHALL BE MADE TO THE BUILDING DEPARTMENT FOR REVIEW, APPROVAL AND ISSUANCE OF A SIGN PERMIT.
8. PRIOR TO THE ISSUANCE OF AN OCCUPANCY PERMIT, ENGINEERING SITE INSPECTION IS REQUIRED.

PERMITS:

1. A SOIL EROSION AND SEDIMENTATION CONTROL PERMIT OR WAIVER SHALL BE OBTAINED FROM THE CITY OF FARMINGTON HILLS.
2. CONTRACTOR SHALL OBTAIN A CONSTRUCTION PERMIT FROM THE ROAD COMMISSION FOR OAKLAND COUNTY (RCOC) FOR ALL WORK IN THE ORCHARD LAKE ROAD AND TWELVE MILE ROAD RIGHT-OF-WAYS.

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 3 FEET OF PAVEMENT, EXISTING OR PROPOSED, SHALL BE BACKFILLED WITH SAND (CLASS II MDOT) 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.

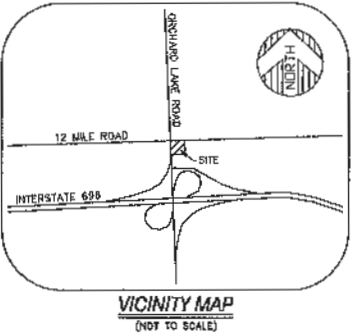
REFERENCES:

1. TOPOGRAPHIC SURVEY AND ALTA/NSPS LAND TITLE SURVEY PREPARED BY KEM-TEC DATED AUGUST 3, 2021.

# FILLING STATION

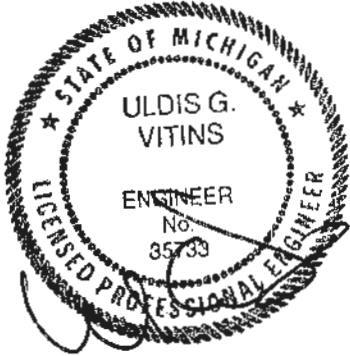
## 27730 ORCHARD LAKE ROAD

PART OF THE NW 1/4 OF SECTION 14, T.1N., R.9E.,  
CITY OF FARMINGTON HILLS, OAKLAND COUNTY, MICHIGAN



VICINITY MAP  
(NOT TO SCALE)

DRAWING INDEX	
SHEET NO.	DESCRIPTION
T-1	CIVIL ENGINEER DRAWINGS:
C-1	COVER SHEET
C-1A	DIMENSIONAL SITE PLAN
C-2	TRUCK TEMPLATE SITE PLAN
C-3	PAVING PLAN
C-4	GRADING & SOIL EROSION CONTROL PLAN
C-5	UTILITY PLAN
C-6	DRAINAGE AREAS & STORMWATER MANAGEMENT CALCULATIONS
C-7	DEMOLITION PLAN
C-8	STORM SEWER PROFILES
C-9	CONSTRUCTION DETAILS
C-10	SECC DETAILS
C-11	MDOT STANDARD DETAILS
C-12	MDOT STANDARD DETAILS
L-1	CONTECH DETAILS
L-2	LANDSCAPE PLAN
L-2	LANDSCAPE DETAILS
A-1 THRU A-7	ARCHITECT/ENGINEER DRAWINGS: FLOOR PLANS, ELEVATIONS, AND BUILDING DETAILS
1 OF 1	SURVEYOR DRAWINGS: TOPOGRAPHIC & ALTA/NSPS SURVEY
1 SHEET	CITY OF FARMINGTON HILLS: STANDARD STORM SEWER DETAILS



OWNER/APPLICANT

BAZCO OIL COMPANY  
30825 26 MILE ROAD  
NEW HAVEN, MI 48048  
(586) 749-7444 (PHONE)

ARCHITECT/ENGINEER

JOHN SAAD, P.E.  
HANNA ENGINEERING AND CONSULTING  
31785 CLARITA  
LYONIA, MI 48152  
(313) 575-0220 (PHONE)  
jsaad.hes@gmail.com

CIVIL ENGINEER

ULDIS G. VITINS, P.E.  
VITINS ENGINEERING  
44275 BRANDYWINE  
CANTON, MICHIGAN 48187  
(734) 453-3460 (PHONE)

PROJECT INFORMATION

LAND AREA GROSS & NET	24,836 S.F. (PARCEL 1 AND 2)
SITE ZONING	B-3 GENERAL BUSINESS DISTRICT
TAX IDENTIFICATION NUMBER	23-14-101-036
PROPOSED BUILDING AREA	2728 S.F.
HEIGHT	60 FEET ALLOWABLE [REFER TO ARCHITECTURAL DRAWINGS]
SETBACKS	
FRONT SETBACK	25 FEET
SIDE SETBACK	10 FEET
REAR SETBACK	20 FEET
PARKING REQUIRED	1 SPACE + 1 SPACE PER EMPLOYEE + 1 SPACE PER 175 S.F. USABLE FLOOR AREA
TOTAL SPACES REQUIRED	1 SPACE +2 EMPLOYEES+ 2728 S.F. x 0.8 / 175 S.F. = 16 SPACES
SPACES PROVIDED	16 SPACES INCLUDING 1 BANNER FREE
LOADING/UNLOADING SPACE	1 SPACE [1,401 S.F. - 20,000 S.F.]



VITINS ENGINEERING  
44275 BRANDYWINE  
CANTON, MICHIGAN 48187  
TELEPHONE: (734) 453-3460  
FAX: (734) 453-3461

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ISSUE NO.	DATE ISSUED	DESCRIPTION	BY	DATE
1				

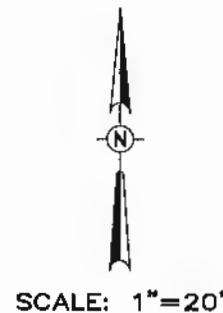
PROPOSED FILLING STATION  
27730 ORCHARD LAKE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN

COVER SHEET

21070

T-1





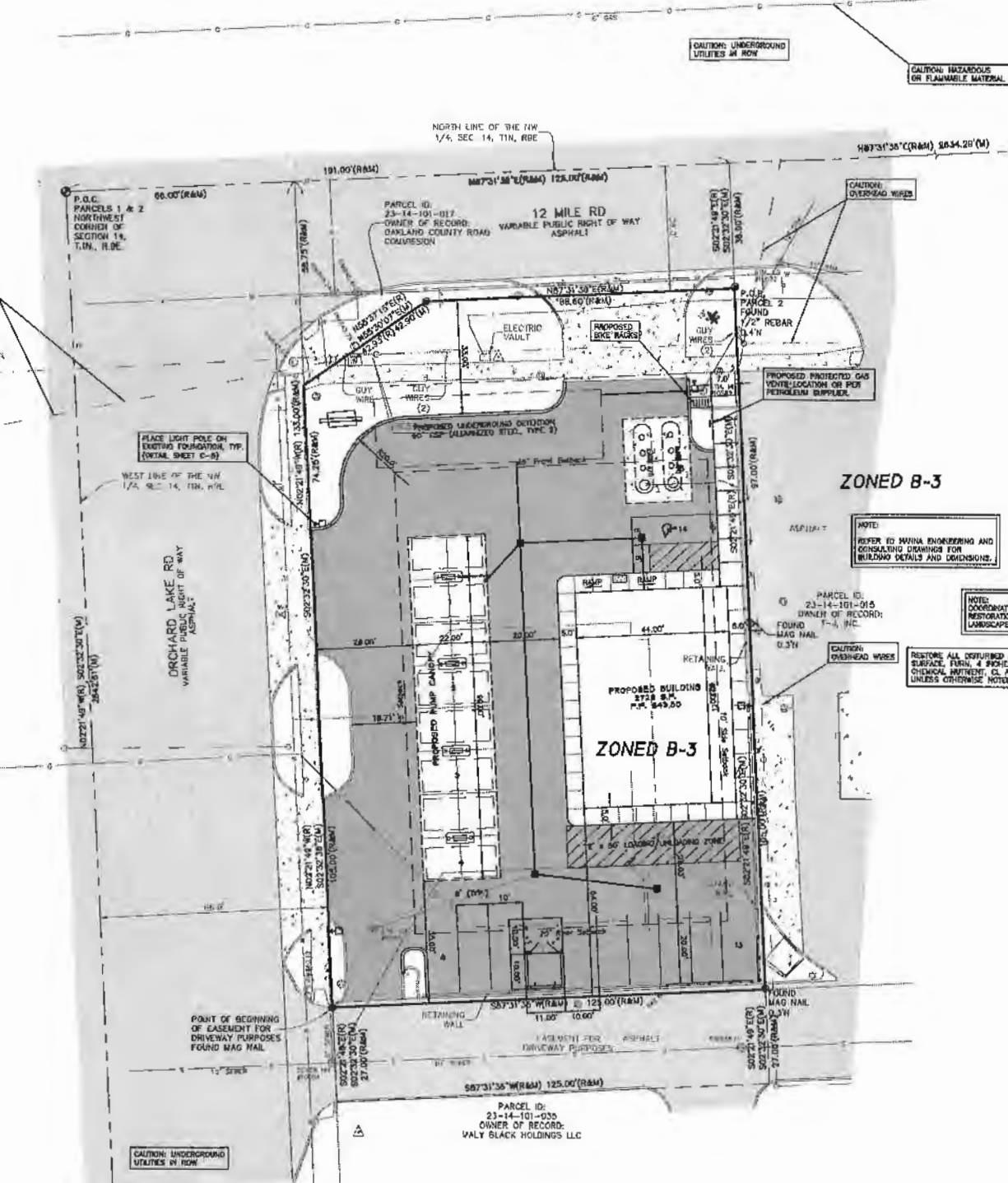
ZONED B-3

ZONED ES

CAUTION: HAZARDOUS OR FLAMMABLE MATERIAL



Know what's below.  
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ZONED B-3

LUMINAIRE SCHEDULE			
SYMBOL	LABEL	QTY	CATALOG NUMBER
☐		4	LITONIA D-SERIES

### ELECTRICAL NOTES

BUILDING MOUNTED LIGHT FIXTURES SHALL BE ON ONE CIRCUIT CONTROLLED BY A PHOTOCELL MOUNTED ON THE ROOF FACING NORTH. IF NEEDED, CONTRACTOR TO PROVIDE CONTRACTOR CONTROL DIAGRAM TO ENGINEER FOR APPROVAL. CONTROL CONTRACTOR SHALL BE IN A NEMA-1 ENCLOSURE.

(2) #0 CONDUCTORS AND (1) #10 GND SHALL BE USED IN EACH CONDUIT RUN.

IF NEEDED, GALVANIZED RIGID CONDUIT SHALL BE USED ON EXTERIOR OF EXISTING BUILDING AND IN THE VERTICAL SECTION GOING UNDERGROUND TO PROTECT IT FROM PHYSICAL DAMAGE. THIN WALL ELECTRICAL METALLIC TUBING (EMT) WITH COMPRESSION FITTINGS CAN BE UTILIZED FOR REMAINING CONDUIT RUN INSIDE PROPOSED BUILDING. ALL OPENINGS IN THE EXTERIOR WALL AND CONDUIT RUNS INSIDE THE PROPOSED BUILDING SHALL BE APPROVED BY HANNA ENGINEERING AND CONSULTING.

### ELECTRICAL SPECIFICATIONS

#### GENERAL REQUIREMENTS:

ALL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL LOCAL AND STATE AUTHORITIES HAVING JURISDICTION THEREOF.

ALL EQUIPMENT SHALL BE SPECIFICATION GRADE AND AND SHALL HAVE U.L. LABEL FOR INTENDED USE.

ELECTRIC SYSTEMS SHALL BE COMPLETE IN EVERY DETAIL, INCLUDING ALL INCIDENTAL ITEMS FOR A PROPER AND FUNCTIONING INSTALLATION SUBJECT TO FINAL APPROVAL OF ENGINEER.

ALL REQUIRED PERMITS AND INSPECTIONS SHALL BE OBTAINED BY CONTRACTOR AND SUCH COSTS SHALL BE INCLUDED IN BID PRICE FOR THIS WORK.

EXAMINATION OF SITE IS MANDATORY. CONTRACTOR IS HEREBY HELD TO HAVE EXAMINED THE SITE AND HAVE INCLUDED IN HIS BID THE PRICE OF ALL COSTS DUE TO SITE AND FIELD CONDITIONS.

COMPLETE IDENTIFICATION OF PROJECT ELECTRICAL COMPONENTS IS REQUIRED. IDENTIFY ALL PANELS, DISCONNECTS, CONTROL DEVICES, ETC., WITH THE IDENTIFICATION REQUIRED USING PLASTIC LABELING. INSTALL TYPEWRITTEN DIRECTIONS OF ALL CIRCUITS ON INSIDE OF PANELS.

GROUND CONTINUITY SHALL BE MAINTAINED THROUGHOUT THE ELECTRICAL SYSTEM. CONSULT N.E.C. 250.94 AND .95. PROVIDE EQUIPMENT GREEN GROUND WIRE WITH EACH CIRCUIT OR HOME RUN.

PROVIDE ALL LIGHTING CONTROL DEVICES AND WIRING INCLUDING TESTING AND ADJUSTMENT AS REQUIRED FOR FULL COMPLIANCE WITH THE MICHIGAN UNIFORM ENERGY CODE (ASHRAE 90.1, 1999 AND RELATED AMENDMENTS)

#### ELECTRICAL EQUIPMENT AND DEVICES:

RECEPTACLES DESIGNATED "GFN" SHALL BE GROUND FAULT RECEPTACLES. FOR OUTDOOR OR WET LOCATIONS, PROVIDE WEATHERPROOF BOX AND GASKETED COVER PLATE.

#### CONDUCTORS:

ALL CONDUCTOR SHALL BE SOFT-DRAWN COPPER OF SIZES INDICATED ON THE DRAWINGS. ALL CONDUCTORS SHALL BE INSULATED FOR 600 VOLTS AND WITH THIN WALL 75 DEGREES (CONTOUR) CODE GRADE INSULATION.

ALL CONDUCTORS SHALL BE COPPER CONDUCTOR AND SHALL HAVE THIN OR THIN INSULATION AS APPLICABLE. CONDUCTORS NO. 8 AND LARGER SHALL BE STRANDED.

#### DISCONNECT SWITCHES:

DISCONNECT SWITCH SHALL BE HEAVY DUTY NEMA-1 ENCLOSURE AND SERVICE RATED.

#### FUSES:

ALL FUSES SHALL BE CURRENT LIMITING TYPE, DUAL ELEMENT TYPE.

#### INSTALLATION AND METHODS OF EXECUTION:

ALL BURIED EXTERIOR WIRING SHALL BE IN PVC CONDUIT. ALL OTHER WIRING SHALL BE IN METALLIC CONDUIT. FLEXIBLE CONDUIT SHALL BE USED FOR SHORT CONNECTION TO MOTORS, RECESSED LIGHTING FIXTURES, VIBRATING EQUIPMENT, ETC., BUT NEVER LONGER THAN 8 FEET.

CONDUIT CONCEALED IN CEILING, WALLS OR FURRED SPACES OR EXPOSED IN DRY LOCATIONS SHALL BE EMT, THIN WALL ELECTRICAL METALLIC TUBING, CONDUIT EXPOSED TO WEATHER, IN CONTACT WITH CONCRETE, BURIED IN SLAB, OR IN HAZARDOUS AREAS, SHALL BE HEAVY WALL, RIGID NOT DIPPED GALVANIZED STEEL.

ALL WORK IN HAZARDOUS LOCATIONS SHALL BE DONE IN STRICT CONFORMANCE WITH WITH NEC ARTICLE 500.

CONDUIT RUNS SHOWN ON DRAWINGS ARE DIAGRAMMATIC. EXACT ROUTING ON CONDUIT RUNS SHALL SUIT JOB CONDITIONS. EXPOSED CONDUIT SHALL BE RUN ONLY IN UNFINISHED AREAS SUBJECT TO FINAL APPROVAL OF ENGINEER AND SHALL RUN PARALLEL TO BUILDING LINES, NEVER DIAGONALLY.

CONNECTION TO EQUIPMENT SHALL BE DONE IN ACCORDANCE WITH MANUFACTURER'S SHOP AND INSTALLATION DRAWINGS. REQUIREMENTS GENERALLY VARY FROM ONE MANUFACTURER TO ANOTHER AND CONTRACTOR IS BOUND TO COMPLY AND PROVIDE ALL WORK AS REQUIRED ALTHOUGH CERTAIN DISCREPANCIES MAY EXIST REGARDING THE REQUIREMENT FROM ONE MANUFACTURER TO ANOTHER.

ALL CONDUITS SHALL RUN BACK TO THEIR RESPECTIVE PANEL.

NO CONDUITS SHALL BE TERMINATED ABOVE THE CEILING.

### LEGEND

⊙	FOUND MONUMENT (AS NOTED)
⊙	FOUND SECTION CORNER (AS NOTED)
(R&M)	RECORD AND MEASURED DIMENSION
(R)	RECORD DIMENSION
(M)	MEASURED DIMENSION
0.00	GROUND ELEVATION
⊙	ELECTRIC MANHOLE
⊙	UTILITY POLE
⊙	TRAFFIC SIGNAL
⊙	TRAFFIC SIGNAL CONTROL BOX
⊙	CLEANOUT
⊙	SEWER MANHOLE
⊙	ROUND CATCH BASIN
⊙	SQUARE CATCH BASIN
⊙	STORM DRAIN MANHOLE
⊙	POST INDICATOR VALVE
⊙	WATER GATE MANHOLE
⊙	AIR PUMP
⊙	WATER VALVE
⊙	GAS PUMP
⊙	WATER WELL
⊙	BOLLARD
⊙	LIGHT-POST/LAMP POST
⊙	VACUUM
⊙	SINGLE POST SIGN
⊙	CONFERRED TREE (AS NOTED)
---	PARCEL BOUNDARY LINE
---	PLATTED LOT LINE
---	ADJOINER PARCEL LINE
---	SECTION LINE
---	EASEMENT (AS NOTED)
---	BUILDING
---	BUILDING OVERHANG
---	CONCRETE CURB
---	RAISED CONCRETE
---	EDGE OF CONCRETE (CONC.)
---	FENCE (AS NOTED)
---	WALL (AS NOTED)
---	OVERHEAD UTILITY LINE
---	COMMUNICATION LINE
---	GAS LINE
---	SEWER LINE
---	STORM LINE
---	WATER LINE
---	MINOR CONTOUR LINE
---	MAJOR CONTOUR LINE
---	BUILDING AREA

### SITE LIGHTING LEGEND

☐ LIGHT POLE - 1 HEAD

☐ LIGHT POLE - 2 HEAD (180°)

☐ LIGHT POLE - 2 HEAD (90°)

☐ LIGHT POLE - 4 HEAD

☐ BUILDING YARD LIGHT

**VE**

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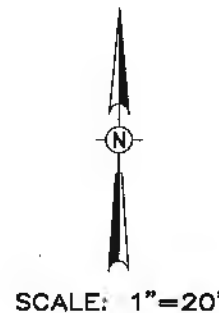
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SCALE: 1"=20'

ZONED ES

CAUTION: HAZARDOUS  
ON FLAMMABLE MATERIAL



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ZONED B-3

#### VEHICLE TURNING TEMPLATE NOTES:

1. SINGLE UNIT (SU) DESIGN VEHICLE HAS AN OVERALL LENGTH OF 30 FEET, WHEELBASE OF 20 FEET, FRONT OVERHANG OF 4 FEET, REAR OVERHANG OF 6 FEET, OVERALL WIDTH OF 8.5 FEET AND A HEIGHT OF 13.5 FEET. SINGLE UNIT TRUCK HAS A 42 FOOT MINIMUM TURNING RADIUS. 90 DEGREE TURNS ARE ILLUSTRATED. OTHER TURNS WOULD CONTINUE AT THE SAME RADIUS.
2. SEMITRAILER COMBINATION (WB-40) DESIGN VEHICLE HAS AN OVERALL LENGTH OF 45.5 FEET, WHEELBASE OF 40 FEET, FRONT OVERHANG OF 3 FEET, REAR OVERHANG OF 2.5 FEET, OVERALL WIDTH OF 8 FEET AND A HEIGHT OF 13.5 FEET. SEMITRAILER TRUCK HAS A 40 FOOT MINIMUM TURNING RADIUS. 90 DEGREE TURNS ARE ILLUSTRATED. OTHER TURNS WOULD CONTINUE AT THE SAME RADIUS.
3. FUEL TRUCKS WOULD HAVE A SIMILAR OR SMALLER MINIMUM TURNING RADIUS THAN THE WB-40 DESIGN VEHICLE. OWNER SHALL CONTACT DELIVERY COMPANY FOR CONFIRMATION.
4. GARBAGE TRUCKS WOULD HAVE A SIMILAR OR SMALLER MINIMUM TURNING RADIUS THAN THE SU DESIGN VEHICLE. OWNER SHALL CONTACT WASTE HAULING COMPANY FOR CONFIRMATION.

#### LEGEND

●	FOUND MONUMENT (AS NOTED)
○	FOUND SECTION CORNER (AS NOTED)
(R&M)	RECORD AND MEASURED DIMENSION
(R)	RECORD DIMENSION
(M)	MEASURED DIMENSION
○	GROUND ELEVATION
○	ELECTRIC MANHOLE
○	UTILITY POLE
○	TRAFFIC SIGNAL
○	TRAFFIC SIGNAL CONTROL BOX
○	CLEANOUT
○	SEWER MANHOLE
○	ROUND CATCH BASIN
○	SQUARE CATCH BASIN
○	STORM DRAIN MANHOLE
○	POST INDICATOR VALVE
○	WATER GATE MANHOLE
○	AIR PUMP
○	WATER VALVE
○	GAS PUMP
○	MONITOR WELL
○	BOLLARD
○	LIGHTPOST/LAMP POST
○	VACUUM
○	SINGLE POST SIGN
○	CONIFEROUS TREE (AS NOTED)
---	PARCEL BOUNDARY LINE
---	PLATTED LOT LINE
---	ADJOINER PARCEL LINE
---	SECTION LINE
---	EASEMENT (AS NOTED)
---	BUILDING
---	BUILDING OVERHANG
---	CONCRETE CURB
---	RAISED CONCRETE
---	EDGE OF CONCRETE (CONC.)
---	FENCE (AS NOTED)
---	WALL (AS NOTED)
---	OVERHEAD UTILITY LINE
---	COMMUNICATION LINE
---	GAS LINE
---	SEWER LINE
---	WATER LINE
---	MINOR CONTOUR LINE
---	MAJOR CONTOUR LINE
---	BUILDING AREA
---	ASPHALT
---	CONCRETE



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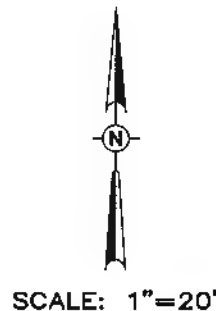
DATE	DATE REVISION	DESCRIPTION
1	7/14/2010	SITE PLAN

DO NOT SCALE DIMENSIONS. CHECK ONLY DIMENSIONS MARKED "CHECKED BY THE CONSULTANT".  
THIS PLAN CONTAINS NO DIMENSIONS OR MARKINGS ON THE INTERIOR. REVISIONS TO THE PLAN  
SHOULD BE MADE BY THE CONSULTANT. REVISIONS TO THE PLAN SHOULD BE MADE BY THE CONSULTANT.

PROPOSED FILLING STATION  
27790 ORCHARD LAKE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN

DIMENSIONAL SITE PLAN &  
LIGHTING PLAN

PROJECT NUMBER  
**21070**  
SHEET NUMBER  
**C-1A**



# ZONED B-3

ZONED ES

CAUTION: HAZARDOUS OR FLAMMABLE MATERIAL

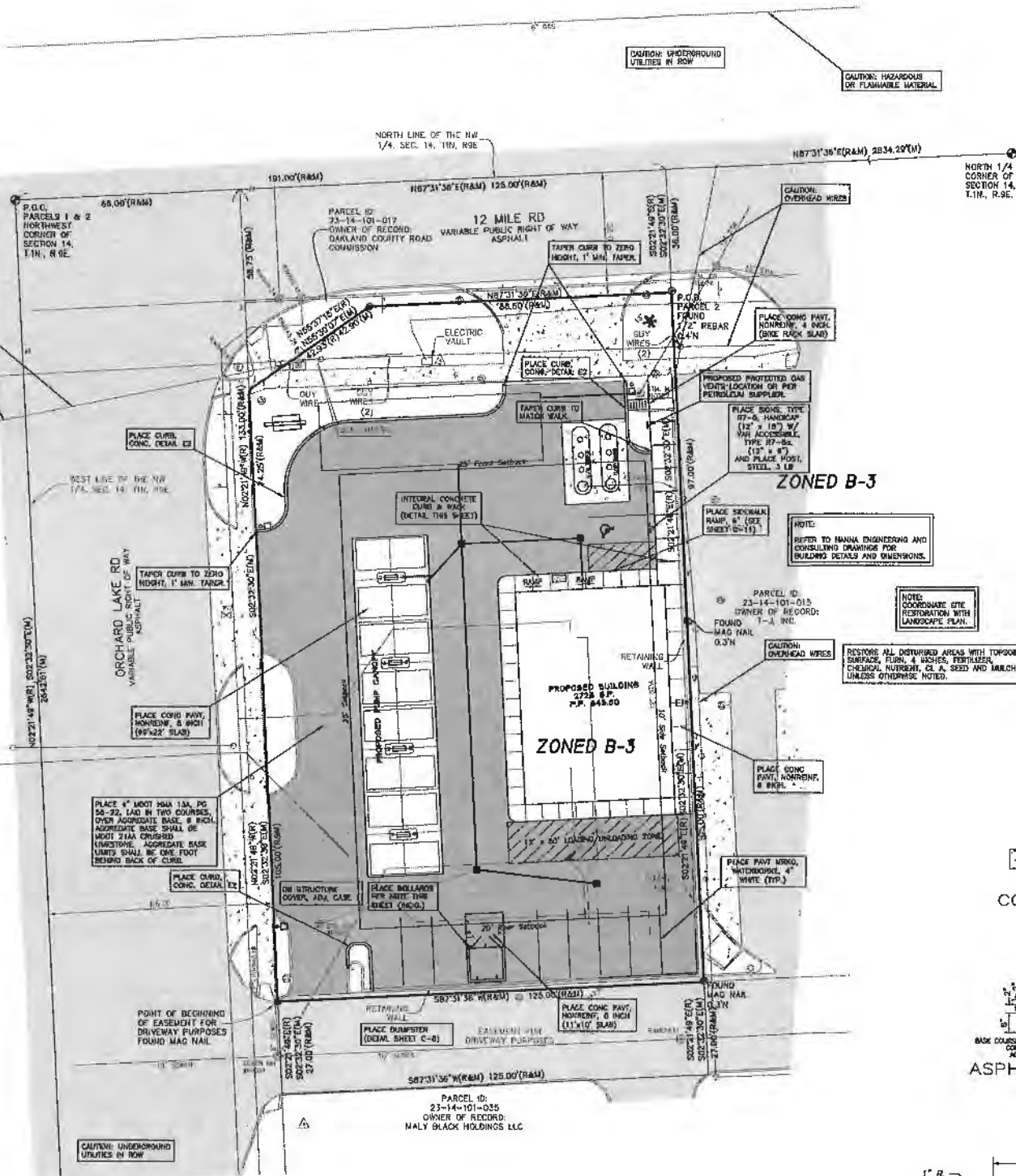
NOTE: ORCHARD LAKE ROAD TRAFFIC SHALL BE MAINTAINED AT ALL TIMES



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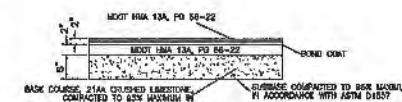
NOTE: UTILITY INFORMATION ON THIS DRAWING MAY BE FROM INFORMATION DISCLOSED TO THE PUBLIC BY THE VARIOUS UTILITY COMPANIES. NO GUARANTEE IS GIVEN AS TO THE COMPLETENESS OR ACCURACY THEREOF.  
PRIOR TO CONSTRUCTION, ALL LOCATIONS AND DEPTHS OF EXISTING UTILITIES OR CONFLICTS WITH PROPOSED IMPROVEMENTS SHALL BE VERIFIED IN THE FIELD.  
ANY INFORMATION OR DATA ON THIS DRAWING IS NOT BEING PROVIDED TO BE SUFFICIENT FOR THE DESIGN OF ANY STRUCTURE OR FOR ANY OTHER USE. THE USER OF THIS DRAWING SHALL BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND FOR OBTAINING ANY NECESSARY INFORMATION FROM THE APPROPRIATE AGENCIES. THE USER OF THIS DRAWING SHALL BE RESPONSIBLE FOR OBTAINING ANY NECESSARY INFORMATION FROM THE APPROPRIATE AGENCIES. THE USER OF THIS DRAWING SHALL BE RESPONSIBLE FOR OBTAINING ANY NECESSARY INFORMATION FROM THE APPROPRIATE AGENCIES.

APPROVED BY: 8/20/21 VITINS ENGINEERING  
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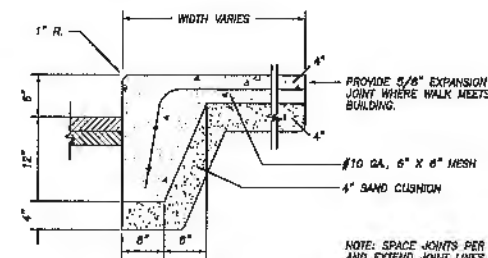
## CONCRETE SECTION

NOT TO SCALE



## ASPHALT PAVEMENT SECTION

NOT TO SCALE



## INTERGRAL CONCRETE CURB & WALK

NOT TO SCALE

### PAVING NOTES:

- CONTRACTOR TO PROVIDE TEMPORARY PAVEMENT STRIPPING AND ALL TEMPORARY TRAFFIC CONTROL DEVICES DURING CONSTRUCTION INCIDENTAL TO THE CONTRACT.
- COMPLETE UNDERDRAIN INSTALLATION INCLUDING CAP OR PLUG, TEES, FEA GRAVEL, TRENCH, TAP TO DRAINAGE STRUCTURE AND FILTRATION FABRIC SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE STORM DRAINAGE STRUCTURE.
- STEEL BOLLARDS SHALL BE 6" DIAMETER, SCHEDULE 40 STEEL PIPE WITH CONCRETE FILL. BOLLARDS SHALL BE EMBEDDED IN AN 18" DIAMETER BY 36" DEEP MINIMUM CONCRETE FOOTING. UNLESS OTHERWISE NOTED, BOLLARDS SHALL BE 18" ABOVE FINISH GROUND AND SHALL BE PAINTED SAFETY YELLOW.
- SIGNS POSTS IN PAVEMENT AREAS SHALL BE PLACED IN A STEEL BOLLARD. BOLLARDS FOR SIGNS SHALL BE 30" ABOVE FINISH GROUND AND SHALL BE PAINTED SAFETY YELLOW.
- INCIDENTAL TO THE UNIT PRICE BID FOR TRASH DUMPSTER, PROVIDE 3/4" DIAMETER BY 1 1/2" DEEP RECESS FOR CANE BOLTS AT GATE IN CLOSED AND OPEN POSITIONS. FIELD VERIFY EXACT LOCATIONS.

### SITE GRADING NOTES:

- REMOVING AND SALVAGING TOPSOIL FROM THE SITE AND INSIDE INFLUENCE OF PROPOSED PAVEMENT AND BUILDING PER MDT 205.03A SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR OTHER ITEMS. TOPSOIL SHALL BE STOCKPILED IN UPLAND AREAS.
- PREPARATION OF EARTH GRADE, EXCEPT FOR SUBGRADE UNDERCUTTING, INSIDE INFLUENCE OF PROPOSED PAVEMENT SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR OTHER PAVEMENT ITEMS.
- DISTURBED AREAS SHALL BE RESTORED WITH TOPSOIL, SURFACE, FURN, 4" FERTILIZER, CHEMICAL NUTRIENT, CL A, SEED AND MULCH INCIDENTAL TO THE CONTRACT.
- DEVELOPER IS RESPONSIBLE FOR RESOLVING ANY DRAINAGE PROBLEMS ON ADJACENT PARCELS WHICH ARE THE RESULT OF THE DEVELOPER'S ACTIVITIES.

### LEGEND

(R&M)	FOUND MONUMENT (AS NOTED)
(R)	FOUND SECTION CORNER (AS NOTED)
(M)	RECORD AND MEASURED DIMENSION
(D)	RECORD DIMENSION
(E)	MEASURED DIMENSION
(G)	GROUND ELEVATION
(H)	ELECTRIC MANHOLE
(U)	UTILITY POLE
(T)	TRAFFIC SIGNAL
(C)	TRAFFIC SIGNAL CONTROL BOX
(O)	OLEAHOUT
(S)	SEWER MANHOLE
(R)	ROUND CATCH BASIN
(S)	SQUARE CATCH BASIN
(S)	STORM DRAIN MANHOLE
(P)	POST INDICATOR VALVE
(W)	WATER GATE MANHOLE
(A)	AIR PUMP
(V)	WATER VALVE
(G)	GAS PUMP
(M)	MONITOR WELL
(B)	BOLLARD
(L)	LIGHTPOST/LAMP POST
(V)	VACUUM
(S)	SINGLE POST SIGN
(T)	CONIFEROUS TREE (AS NOTED)
(P)	PARCEL BOUNDARY LINE
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(A)	ADJONER PARCEL LINE
(S)	SECTION LINE
(E)	EASEMENT (AS NOTED)
(B)	BUILDING
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(C)	CONCRETE CURB
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(M)	MINOR CONTOUR LINE
(M)	MAJOR CONTOUR LINE
(B)	BUILDING AREA
(A)	ASPHALT
(C)	CONCRETE



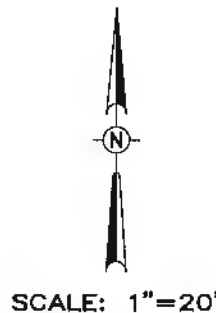
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PROPOSED FILLING STATION  
27730 ORCHARD LAKE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN

PAVING PLAN

21070  
C-2





SCALE: 1"=20'

ZONED B-3

ZONED ES

ZONED B-3

### MAINTENANCE TASKS AND SCHEDULE DURING CONSTRUCTION

TASKS:	CONCRETE	ASPHALT	PAVEMENT	SEWER	WATER	UTILITY	LANDSCAPE	EROSION	SOIL	VEGETATION	SCHEDULE:
Asphalt for sidewalk construction	X										Daily and within 24 hours of a storm
Removal of sidewalk construction		X									As needed
Asphalt for driveway and curb			X								Monthly
Grading of driveway and curb				X							Monthly
Support for erosion					X						Daily and within 24 hours of a storm
Reestablish vegetation on eroded slopes						X					Daily and within 24 hours of a storm
Clean parking areas and access drives							X				Refer to schedule for details
Watering								X			As needed

### SITE GRADING NOTES:

- REMOVING REMOVED AND SALVAGING TOPSOIL PER MDT 208.03A SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR OTHER ITEMS. TOPSOIL SHALL BE STOCKPILED IN UPLAND AREAS.
- PREPARATION OF EARTH GRADE, EXCEPT FOR SUBGRADE UNDERCUTTING, INSIDE INFLUENCE OF PROPOSED PAVEMENT SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR OTHER PAVEMENT ITEMS.
- DISTURBED AREAS SHALL BE RESTORED WITH TOPSOIL, SURFACE, FURF, 4", FERTILIZER, CHEMICAL NUTRIENT, CL, A, SEED AND MULCH INCIDENTAL TO THE CONTRACT.
- DEVELOPER IS RESPONSIBLE FOR RESOLVING ANY DRAINAGE PROBLEMS ON ADJACENT PARCELS WHICH ARE THE RESULT OF THE DEVELOPER'S ACTIVITIES.

### SEDC NOTES:

- PROPERTY OWNER IS RESPONSIBLE FOR MAINTAINING TEMPORARY AND PERMANENT SOIL EROSION CONTROL MEASURES.
- THE OWNER/CONTRACTOR IS RESPONSIBLE FOR KEEPING ORCHARD LAKE ROAD AND TWELVE MILE ROAD FREE OF MUD AND DIRT AT ALL TIMES DURING CONSTRUCTION ACTIVITIES FOR THIS PROJECT.

### SOIL EROSION CONTROL SEQUENCE OF CONSTRUCTION

- | 1.                                                          | 2.                                                                                              | 3.                                                                                                                                                                    | 4.                                                                                                                                                                                                  | 5.                                                                                                                   | 6.                                                                                               | 7.                                                                                             |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Install all erosion control measures prior to construction. | Install geotextile filter fabric on existing catch basins and catch basins on new construction. | Stitch and establish topsoil, grade and surface on required, existing catch basins, and other areas that will channel concentrated flow within 5 days of final grade. | Install storm water management system. Road right of way shall be stabilized within 5 days of completion work in the right of way. Install geotextile filter fabric on all catch basins and inlets. | Construct building, fuel tanks, canopy, and underground water. Place curb and gutter, and install pavement complete. | Install landscape. Stabilize all exposed earth with seed and mulch within 5 days of final grade. | Remove all traps and catch basins and inlet filters following City of Farmington 100 approval. |
| Spring, 2022 (Day 1)                                        | Summer, 2022 (Day 1)                                                                            | Summer, 2022                                                                                                                                                          | Summer, 2022                                                                                                                                                                                        | Summer, 2022                                                                                                         | Fall, 2022                                                                                       | Fall, 2022                                                                                     |

### LEGEND

(M)	FOUND MONUMENT (AS NOTED)
(R)	FOUND SECTION CORNER (AS NOTED)
(M)	RECORD AND MEASURED DIMENSION
(M)	RECORD DIMENSION
(M)	MEASURED DIMENSION
(M)	GROUND ELEVATION
(M)	ELECTRIC MANHOLE
(M)	UTILITY POLE
(M)	TRAFFIC SIGNAL
(M)	TRAFFIC SIGNAL CONTROL BOX
(M)	CLEANOUT
(M)	SEWER MANHOLE
(M)	ROUND CATCH BASIN
(M)	SQUARE CATCH BASIN
(M)	STORM DRAIN MANHOLE
(M)	POST INDICATOR VALVE
(M)	WATER GATE MANHOLE
(M)	AIR PUMP
(M)	WATER VALVE
(M)	GAS PUMP
(M)	MONITOR WELL
(M)	BOLLARD
(M)	LIGHTPOST/LAMP POST
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(M)	CONCRETE CURB
(M)	RAISED CONCRETE
(M)	EDGE OF CONCRETE (CONC.)
(M)	FENCE (AS NOTED)
(M)	WALL (AS NOTED)
(M)	OVERHEAD UTILITY LINE
(M)	COMMUNICATION LINE
(M)	GAS LINE
(M)	SEWER LINE
(M)	STORM LINE
(M)	WATER LINE
(M)	MINOR CONTOUR LINE
(M)	MAJOR CONTOUR LINE
(M)	BUILDING AREA

### LEGEND

000.00	= EXISTING ELEV.
000.00	= PROPOSED ELEV.
.....	= PROPOSED SILT FENCE
.....	= PROPOSED INLET FILTER

### Soils:

Aquatic, sandy, loamy, undulating (41B).  
0 to 2 percent slopes, Hydrologic Soil Group A/D



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Civil/Environmental Engineering  
Capital Consulting  
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DATE	REVISION	DESCRIPTION
1 Jul 2022	1	SITE PLAN

PROPOSED FILLING STATION  
27730 ORCHARD LAKE ROAD  
CITY OF FARMINGTON, HILLS  
OAKLAND COUNTY, MICHIGAN

GRADING & SOIL EROSION  
CONTROL PLAN

21070

C-3

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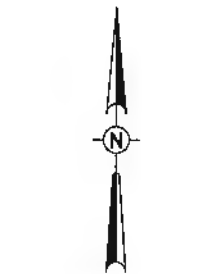
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STREET SWEEPING SCHEDULE							
	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
SCRAPE STREETS		X	X	X	X	X	X
SWEET STREETS				X			



SCALE: 1"=20'

ZONED B-3

ZONED ES

ZONED B-3

#### LEGEND

WATER MAIN (SIZE AS NOTED)  
STORM SEWER (SIZE AS NOTED)  
SANITARY SEWER (SIZE AS NOTED)

WATER VALVE  
HYDRANT  
CB  
LEAD

#### STORM STRUCTURE TABLE

STRUCTURE	TYPE	RIM ELEVATION	FRAME AND COVER	INVERT ELEVATION
R1	EXISTING INLET	840.70 (PROPOSED) (840.55 EX)		8" NE 838.05 (EXISTING)
R2	INLET WITH 2' SUMP	842.00	FH EJIW 5105 TYPE M2	12" NW 837.85
R3	CATCH BASIN	842.40	FH EJIW 5105 TYPE M2	8" SW 837.56 +/- 12" SE 837.55 12" N 837.40
R4	INLET WITH 2' SUMP	842.65	FH EJIW 5105 TYPE M2	12" W 837.21
R5	CONTECH CDS2015-4-C	843.00	CONTECH FRAME AND COVER	12" S 837.10 12" E 837.10 12" N 837.00
	UNDERGROUND DETENTION			12" S 836.88 12" E 836.65 60" W 836.75 60" E 836.85
R6	CONTROL MH (EXISTING PUMP)	844.87 EX.		12" W 836.35

#### STORM SEWER NOTES:

- REINFORCED CONCRETE STORM SEWER PIPE SHALL BE ASTM C76, CLASS IV PIPE. STORM SEWER PIPE JOINTS SHALL BE MOVED TONGUE AND GROOVE WITH RUBBER GASKET PER ASTM C433.
- ALL STORM DRAINAGE STRUCTURES SHALL BE CONSTRUCTED PER CITY OF FARMINGTON HILLS STANDARD DETAIL SHEET. ALL INLETS AND YARD DRAIN STRUCTURES SHALL BE CONSTRUCTED WITH A 2 FOOT SUMP.
- ALL STORM SEWER INLET AND YARD DRAIN STRUCTURES SHALL BE 2' DIAMETER. ALL CATCH BASIN AND MANHOLE STRUCTURES SHALL BE 4' DIAMETER.
- ALL UTILITY TRENCHES UNDER OR WITHIN 5 FEET OF PAVEMENT, EXISTING OR PROPOSED, SHALL BE BACKFILLED WITH SAND (MOT CLASS #1) COMPACTED TO 95% MODIFIED PROCTOR DENSITY. COMPACTED SAND BACKFILL SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR STORM SEWER. (REFER TO LATEST EDITION OF MDT STANDARD PLAN R-63, UTILITY TRENCHES)
- FLEXIBLE PIPE BEDDING (ONE FOOT MINIMUM DEPTH ABOVE PIPE) IS MAXIMUM 3/4 INCH DIAMETER CRUSHED STONE MEETING MDT 8A ANGULAR MATERIAL SPECIFICATIONS. PIPE BEDDING SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR STORM SEWER. (REFER TO LATEST EDITION OF MDT STANDARD PLAN R-63, UTILITY TRENCHES)
- PROVIDE 12" MINIMUM VERTICAL CLEARANCE BETWEEN STORM SEWERS AND ANY OTHER EXISTING/PROPOSED UTILITIES.
- ROOF AND CANOPY DRAIN AND CLEANOUTS SHALL BE PVC SCH 80 PIPE CONSTRUCTED PER CITY OF FARMINGTON HILLS STANDARDS.

#### LEGEND

FOUND MONUMENT (AS NOTED)  
FOUND SECTION CORNER (AS NOTED)  
RECORD AND MEASURED DIMENSION  
RECORD DIMENSION  
MEASURED DIMENSION  
GROUND ELEVATION  
ELECTRIC MANHOLE  
UTILITY POLE  
TRAFFIC SIGNAL  
TRAFFIC SIGNAL CONTROL BOX  
CLEANOUT  
SEWER MANHOLE  
ROUND CATCH BASIN  
SQUARE CATCH BASIN  
STORM DRAIN MANHOLE  
POST INDICATOR VALVE  
WATER GATE MANHOLE  
AIR PUMP  
WATER VALVE  
GAS PUMP  
MONITOR WELL  
BOLLARD  
LIGHTPOST/LAMP POST  
VACUUM  
SINGLE POST SIGN  
CONFEROUS WOOD (AS NOTED)  
PARCEL BOUNDARY LINE  
PLATTED LOT LINE  
ADJOINER PARCEL LINE  
SECTION LINE  
EASEMENT (AS NOTED)  
BUILDING  
BUILDING OVERHANG  
CONCRETE CURB  
RAISED CONCRETE  
EDGE OF CONCRETE (CONC.)  
FENCE (AS NOTED)  
WALL (AS NOTED)  
OVERHEAD UTILITY LINE  
COMMUNICATION LINE  
GAS LINE  
SEWER LINE  
STORM LINE  
WATER LINE  
MINOR CONTOUR LINE  
MAJOR CONTOUR LINE  
BUILDING AREA

ASPHALT  
CONCRETE

#### STORM WATER MANAGEMENT SYSTEM NOTES:

- CONTRACTOR TO PROVIDE FABRICATION (SMU) DRAWING FOR UNDERGROUND DETENTION SYSTEM AND PRETREATMENT UNIT.
- CONTRACTOR TO VERIFY THAT GROUNDWATER ELEVATION IS AT, OR BELOW THE UNDERGROUND DETENTION OUTLET PIPE INVERT ELEVATION.
- REFER TO SHEET C-7, STORM SEWER PROFILES & CONSTRUCTION NOTES, FOR UNDERGROUND DETENTION SYSTEM NOTES.

#### WATER AND SANITARY LEAD NOTES:

- SANITARY SEWER SERVICE LEAD SHALL BE CONSTRUCTED PER CITY OF FARMINGTON HILLS STANDARDS. CONTRACTOR SHALL CONNECT EXISTING SANITARY LEAD TO PROPOSED BUILDING. COORDINATE WITH PLUMBING PLANS.
- CONTRACTOR SHALL CLEAN AND VIDEO-INSPECT EXISTING SANITARY LEAD. EXISTING SANITARY LEADS IN POOR CONDITION SHALL BE REPLACED WITH A NEW SANITARY LEAD PER OAKLAND COUNTY STANDARD DETAIL SHEETS. CITY ENGINEER MAY REQUIRE DEVELOPER/OWNER TO PROVIDE ENGINEERING DRAWINGS FOR REPAIR AND/OR REPLACEMENT OF THE SANITARY LEAD. CLEANING AND VIDEO-INSPECTION SHALL BE INCLUDED IN UNIT PRICE BID FOR SANITARY LEAD.
- ALL SANITARY LEAD 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 SANITARY LEAD.
- CONTRACTOR SHALL REPLACE EXISTING WATER SERVICE LEAD FROM STOP BOX TO THE PROPOSED BUILDING. WATER SERVICE LEAD SHALL TYPE K COPPER. WATER SERVICE LEAD TO BE CONSTRUCTED PER OAKLAND COUNTY STANDARD DETAIL SHEETS AND REPLACEMENT SHALL BE COORDINATED WITH CITY OF FARMINGTON HILLS INSPECTOR AND PLUMBING PLANS.



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Civil/Environmental Engineering  
Municipal Consulting  
Software Development

SHEET NO.	DATE REVISION	DESCRIPTION	SHEET PLAN
1	1/11/2025		

PROPOSED FILLING STATION  
27730 ORCHARD LAKE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN

UTILITY PLAN

PROJECT NAME  
21070  
SHEET NUMBER  
C-4

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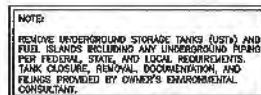
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SCALE: 1"=20'

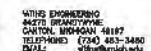


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1. CONTRACTOR SHALL REMOVE ALL EXISTING BUILDINGS AND ASSOCIATED SITE IMPROVEMENTS AS NOTED ON THE DRAWINGS. DEMOLITION INCLUDES, BUT IS NOT LIMITED TO, BUILDING FOUNDATIONS, CURBS, ASPHALT, EXISTING UTILITY SERVICE LEADS, AND ALL OTHER UTILITIES TO BE ABANDONED.
2. CONTRACTOR SHALL REMOVE OR ABANDON IN PLACE ALL ON-SITE MONITORING WELLS PER PER FEDERAL, STATE, AND LOCAL REQUIREMENTS.

[illegible]

DEMOLITION PLAN

**C-6**



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VITINS ENGINEERING

Civil/Environmental Engineering  
Land Use Planning  
Construction Management  
Software Development

DATE	DESCRIPTION	BY	DATE	DESCRIPTION	BY
1/11/2002	1/11/2002	1/11/2002	1/11/2002	1/11/2002	1/11/2002

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PROPOSED FILLING STATION  
27730 ORCHARD LAKE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN

STORM SEWER PROFILES  
& CONSTRUCTION NOTES

PROJECT NUMBER  
21070

SHEET NUMBER  
C-7

#### STORM SEWER NOTES:

1. 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 C433.
2. ALL STORM DRAINAGE STRUCTURES SHALL BE CONSTRUCTED PER CITY OF FARMINGTON HILLS STANDARD DETAIL SHEET. ALL WELLS AND YARD DRAIN STRUCTURES SHALL BE CONSTRUCTED WITH A 2' FOOT SLUMP.
3. ALL STORM SEWER INLET AND YARD DRAIN STRUCTURES SHALL BE 2' DIAMETER. ALL CATCH BASIN AND MANHOLE STRUCTURES SHALL BE 4' DIAMETER.
4. ALL UTILITY TRENCHES UNDER OR WITHIN 5 FEET OF PAVEMENT, EXISTING OR PROPOSED, SHALL BE BACKFILLED WITH SAND (MOOT CLASS 1) COMPACTED TO 95% MODIFIED PROCTOR DENSITY. COMPACTED SAND BACKFILL SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR STORM SEWER. (REFER TO LATEST EDITION OF MDOT STANDARD PLAN R-83, UTILITY TRENCHES)
5. FLEXIBLE PIPE BEDDING (ONE FOOT MINIMUM DEPTH ABOVE PIPE) IS MAXIMUM 3/4 INCH DIAMETER CRUSHED STONE MEETING MDOT 84 ANGULAR MATERIAL SPECIFICATIONS. PIPE BEDDING SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR STORM SEWER. (REFER TO LATEST EDITION OF MDOT STANDARD PLAN R-83, UTILITY TRENCHES)
6. PROVIDE 12" MINIMUM VERTICAL CLEARANCE BETWEEN STORM SEWERS AND ANY OTHER EXISTING/PROPOSED UTILITIES.
7. ROOF AND CANOPY DRAIN AND CLEANOUTS SHALL BE PVC SCH 80 PIPE CONSTRUCTED PER CITY OF FARMINGTON HILLS STANDARDS.

#### Underground Detention Systems

All construction components and materials used from the pre-treatment structure through the underground detention system out to the point of discharge must be approved by the City of Farmington Hills. The pretreatment system includes the lost structure in the collection system leading into the treatment system.

#### Access

All underground detention systems should have a means to inspect and maintain the entire system. For underground detention systems made of pipe, access risers (minimum of 24-inch diameter) and clean outs (size as recommended by manufacturer) are required.

It is the responsibility of the system manufacturer to detail the access to the system. For systems made of corrugated metal pipe and polymer-coated corrugated steel pipe, the gauge of the material used for the risers should follow the same requirements as listed for the detention system pipe materials.

#### Materials

Unless otherwise indicated, materials used for underground detention systems should meet the requirements of the current MDOT Standard Specification for Construction.

Circular CMP should conform to AASHTO M136 (ASTM A780) and should be made from aluminum coated sheet conforming to AASHTO M274. The use of the continuous welded seam process in the fabricating of pipe is not permitted. Unless otherwise approved by the Farmington Hills Engineer, CMP is limited to a maximum diameter of 60-inches. See Table B.2.3-1 for additional information.

All welds for aluminum pipe should be coated with a paint containing zinc dust as described in the Materials Section of ASTM A 780 and should be applied to a dry film thickness of at least 0.005 inch. Any repair to damaged aluminum coatings should be in accordance with ASTM A 780 Section 11.

Polymer coated corrugated steel pipe (PCCSP) should conform to AASHTO M245 (ASTM A782) using AASHTO M448 (ASTM A742) Grade 250/280 polymer on zinc coated steel meeting AASHTO M216. The use of the continuous welded seam process in the fabricating of pipe is not permitted. Unless otherwise approved by the Farmington Hills Engineer, PCCSP is limited to a maximum diameter of 60-inches. See Table B.1.3-1 for additional information.

All welds for polymer pre-coated pipe (PCCSP) should first be coated with a zinc dust paint as described above followed by a polymer coating similar and compatible to the original polymer coating or a protective coating meeting ASTM A 549. Repairs to damaged PCCSP should be in accordance with ASTM A 782.

Welding on site is not permitted unless approved by the City of Farmington Hills Engineer.

Eccentric CMP or PCCSP is not permitted.

CMP and PCCSP connections should be per the manufacturer's recommendations.

Larger size CMP or PCCSP will be as approved by the City of Farmington Hills Engineer.

Smooth-lined corrugated plastic pipe should conform to AASHTO M294, Type S and should be limited to a maximum size of 60-inches. In areas where the CPE pipe will be under the influence of pavement, the cover should be a minimum of 24-inches measured from the top of pipe to the top of a concrete (rigid) pavement or 24-inches from the top of pipe to the bottom of asphalt (flexible) pavement.

#### Testing

The manufacturer shall test the product per applicable AASHTO or ASTM standards. Testing of pipe materials should occur at the following frequencies:

- CMP and PCCSP should be tested at a frequency of one test per 2,500 lineal feet per heat number.
- CPE should be tested at a frequency of one test per 1,000 straight length of pipe per diameter per lot number.

Testing of end caps should occur at a frequency of one test per 200 pieces (chambers or end caps) or per shift, whichever is less.

#### Installation

Farmington Hills may restrict the methods used to construct underground detention systems. At a minimum, unless otherwise directed by the City, installation of underground detention systems constructed of pipe should conform to the current MDOT specification(s) for installation of the specific pipe material used. Based on soil conditions, the Farmington Hills Engineer may require the entire underground detention system to be encased with geotextile fabric conforming to MDOT Section 510.

For underground detention systems consisting of pipes, a stable foundation is necessary to insure that the proper fits and grades in installation may be maintained and replaced with MDOT Class 1 granular bedding material placed in 6 inch lifts and compacted to 95% of its maximum unit weight. Other methods of stabilization can be used if approved by the City of Farmington Hills Engineer.

For underground detention systems consisting of CPE, CMP, and PCCSP, embedment materials should be worked under the banchuses by hand for pipes 30-inches and larger.

When installing underground pipe as part of a underground detention system, backfill should be as follows:

- **CPE, CMP, or PCCSP:** the dimensions of the trench backfill are the same as Trench 'A' and 'B'; however, 20, 34, 64 or 21AA stone or gravel should be used as backfill to a minimum of 6-in above the pipe. In the event that a different backfill is used above the 20, 34, 64 or 21AA stone or gravel, a geotextile separation fabric shall be used between the two different materials. A minimum cover from the bottom of the pavement to the top of the pipe should be 12 inches except for CPE pipe under the influence of pavement, in which case the cover shall be a minimum of 24-inches measured from the top of pipe to the top of a concrete (rigid) pavement or 24-inches from the top of pipe to the bottom of asphalt (flexible) pavement.

- **CMP and PCCSP:** the minimum cover (including the 21AA or 22A backfill from the top of pipe) from the top of the pipe to the bottom of the pavement is 12-inches, plus the pavement thickness.

Backfill for all types of underground detention system should be installed as follows:

- All backfill materials should be placed in a balanced manner making sure that no more than a 2 lift differential is present from one side of the pipe to the other. Balanced lifts should be advanced across the width of the system, evenly along the length of the system throughout the backfilling process.
- All backfill materials should be placed in lifts of maximum 10-inches.
- For each backfill lift, all materials should be compacted to a minimum of 95% (90% minimum required for 6A and 21AA) of the backfill material's maximum unit weight at moisture content not greater than optimum. The maximum unit weight of the backfill materials should be determined by the AASHTO T 160 or Michigan Cone Method. The frequency of the compaction testing should be one test per lift of backfill per 200 lineal feet or less of trench.

A Farmington Hills Inspector and/or Engineer must observe the installation of all underground detention systems. Contact the Farmington Hills Engineering Office at least 72 hours prior to installation to schedule inspection during installation. Farmington Hills will not accept any underground detention systems installed when a Farmington Hills Inspector and/or Engineer is not present; permits and financial assurances will not be released at the conclusion of construction for such systems.

Documentation of the following items relative to the installation of underground detention systems is required to be submitted to the Farmington Hills Engineer before permits and financial assurances are released:

- All backfill materials comply with MDOT standards.
- All backfill materials were placed in lifts of maximum 10-inches.
- For each backfill lift, all materials were compacted to a minimum of 95% of the backfill material's maximum unit weight at moisture content not greater than optimum. If 6A and 21AA backfill was used, materials were compacted to 90% of the backfill material's maximum unit weight at moisture content not greater than optimum.
- The maximum unit weight of the backfill material was determined by the AASHTO T 160 or Michigan Cone Method.
- The compaction was tested a minimum of one test per lift of backfill per 200 lineal feet or less of trench.

#### Maintenance

Underground detention systems should be inspected every 6 months to verify proper operation, and to identify and perform any necessary maintenance. As a general rule, the detention system requires cleaning if its volume is reduced by more than 10 percent due to the accumulation of silt and sediment.

PROFILE SCALE  
HORIZONTAL 1"=20'  
VERTICAL 1"=5'



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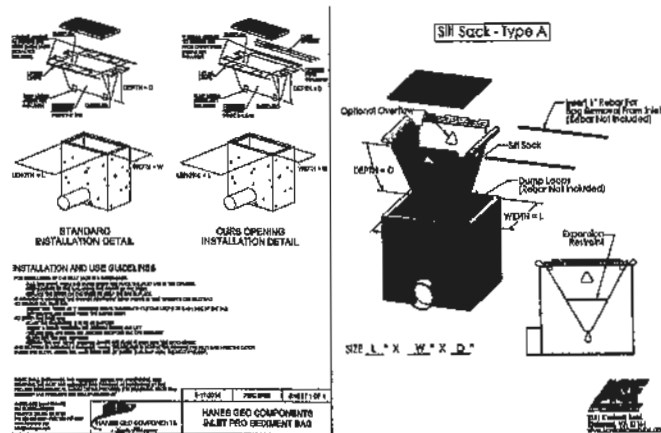
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## CSIGeoturf

Down to Earth Solutions  
Professional Construction, Turf, and Landscape Supplies  
• CIVIL SITE IMPROVEMENTS • EROSION & SEDIMENT CONTROL • STORMWATER MANAGEMENT • LANDSCAPE ENVIRONMENTAL

### Geoturf® Filter Bag

Whenever accumulated water on a construction site must be pumped, utilize filter bags to ensure the water is properly filtered of silt and sediment prior to discharge into receiving bodies. Filter bags are constructed of strong, high quality nonwoven geotextile filter fabric with a fill port to accommodate a pump discharge hose. The filter bags permit a controlled outflow of water, while retaining harmful pollutants.

Size 16' x 20' x 8'  
Shout Size 8'  
Holding Capacity 15 Cubic Yds.

Meets the requirements of MDOT Item 208  
Erosion Control Filter Bag

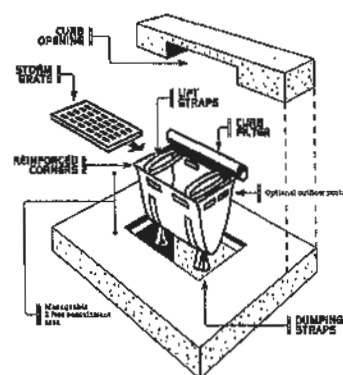


## Catch-All Inlet Protector

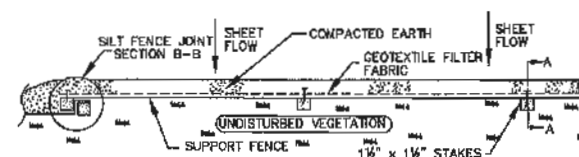
**Catch-All** is an inlet and catch basin filtration device designed to significantly reduce the ingress of sediment into stormwater systems, and thereby, improve water quality. Designs are available for a custom fit in virtually any drainage structure or casting.

- Helps to prevent sedimentation of lakes, rivers, and streams
- Custom fitted to virtually any drainage structure or casting
- Rugged, rousable, welded steel frames
- Durable, replaceable, reinforced sediment bags
- Standard overflow feature - No ponding during heavy storms

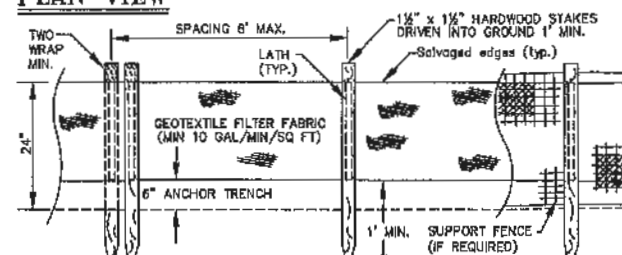
### DANDY CURB SACK



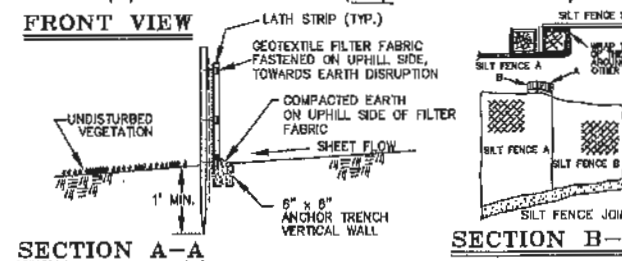
## SILT FENCE (SP-2) (MATERIAL: AMOCO PRO PEX 2130 OR APPROVED EQUIVALENT)



### PLAN VIEW



### FRONT VIEW



### SECTION A-A

### SECTION B-B



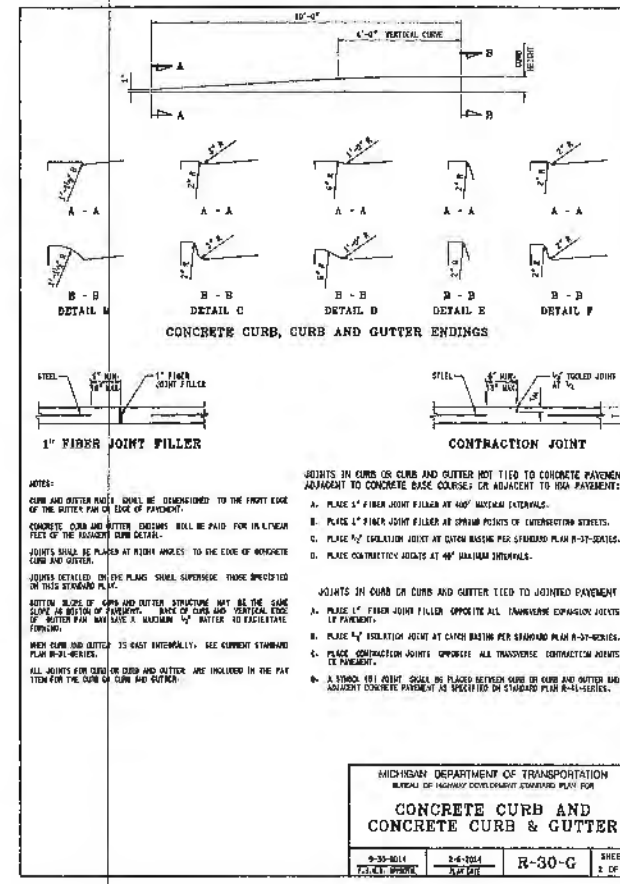
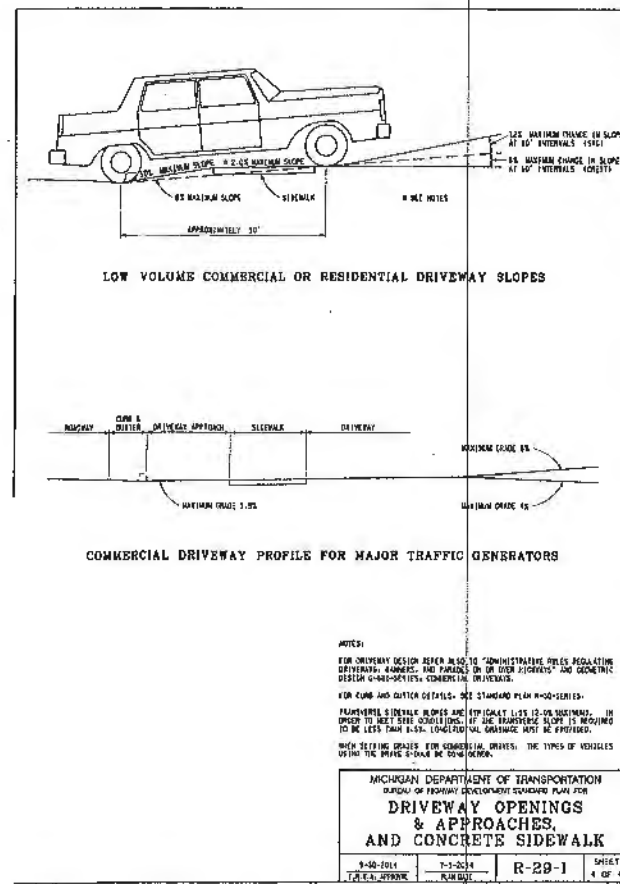
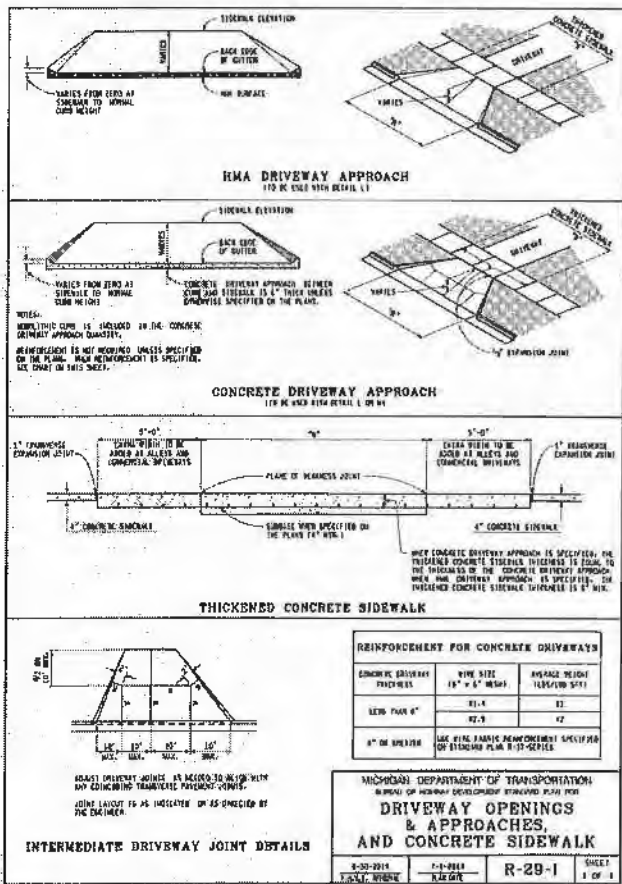
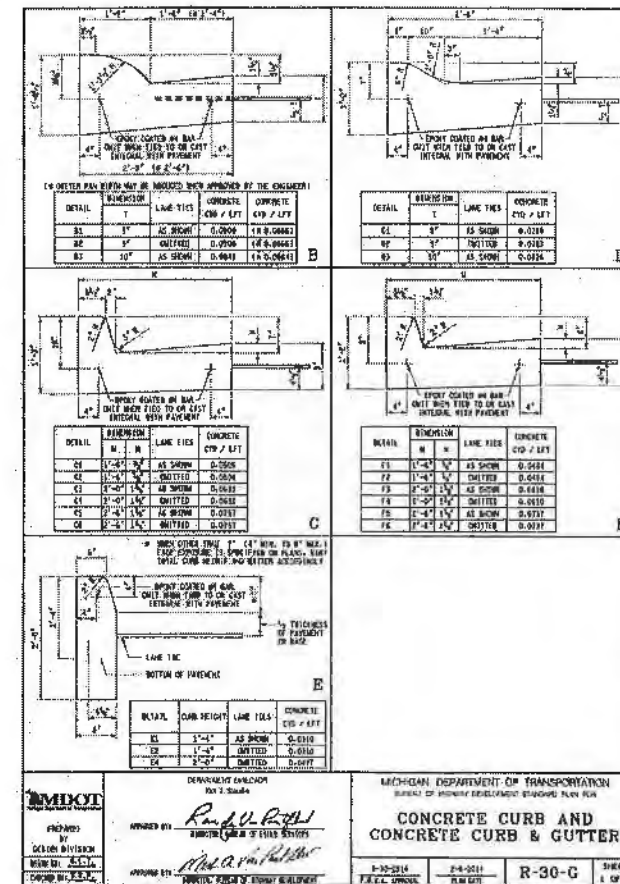
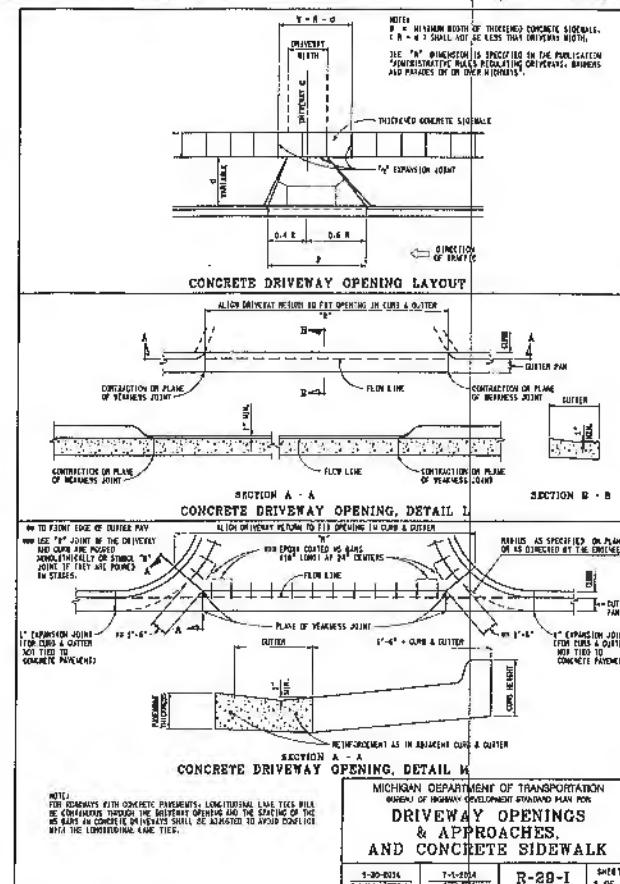
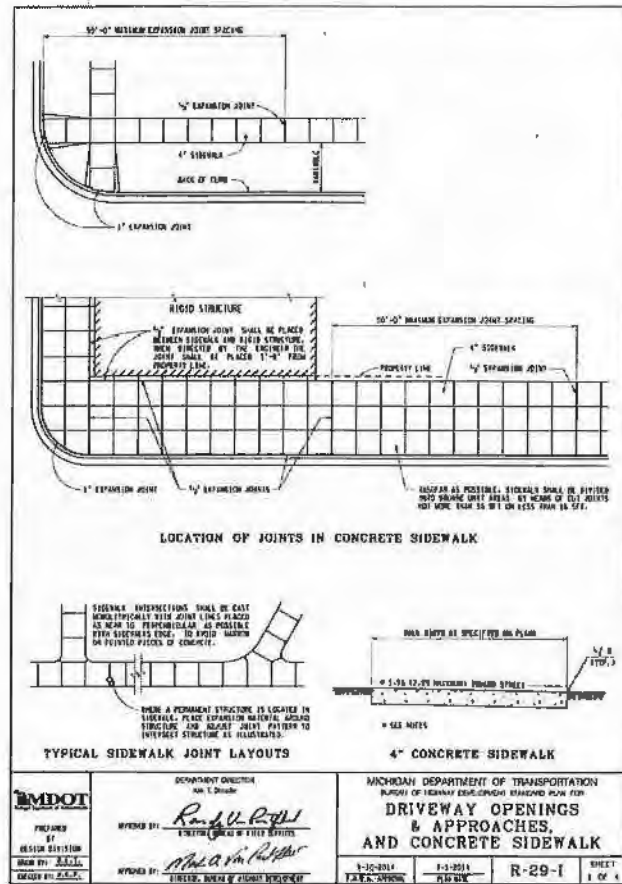
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CANTON, MICHIGAN 48107  
TELEPHONE: 734-652-3460  
FAX: 734-652-3461

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Civil/Environmental Engineering  
Municipal Consulting  
Software Development

DATE	ISSUED	DESCRIPTION	SHEET NO.
1/1/2024	1	1	1

PROPOSED FILLING STATION  
27780 ORCHARD LAKE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN  
SHEET NAME  
SESC STANDARD DETAILS

PROJECT NUMBER  
**21070**  
SHEET NUMBER  
**C-9**



**VE**

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FAX: (734) 455-5680

**VITINS ENGINEERING**

Civil/Environmental Engineering  
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Software Development

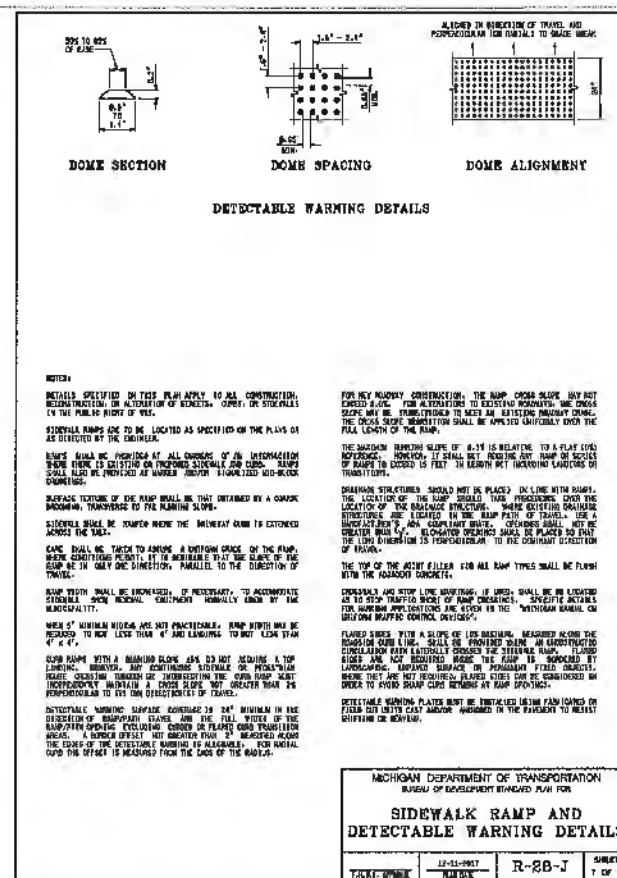
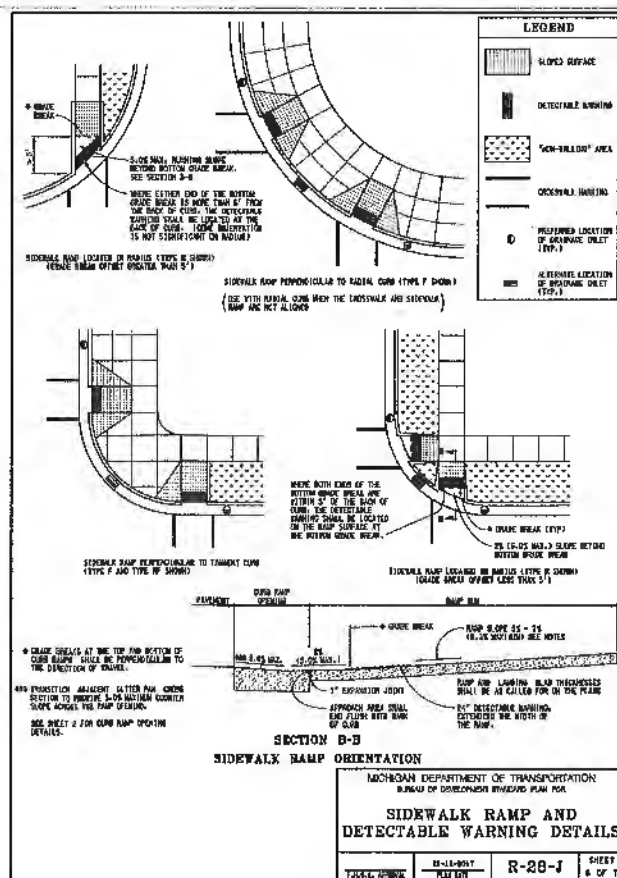
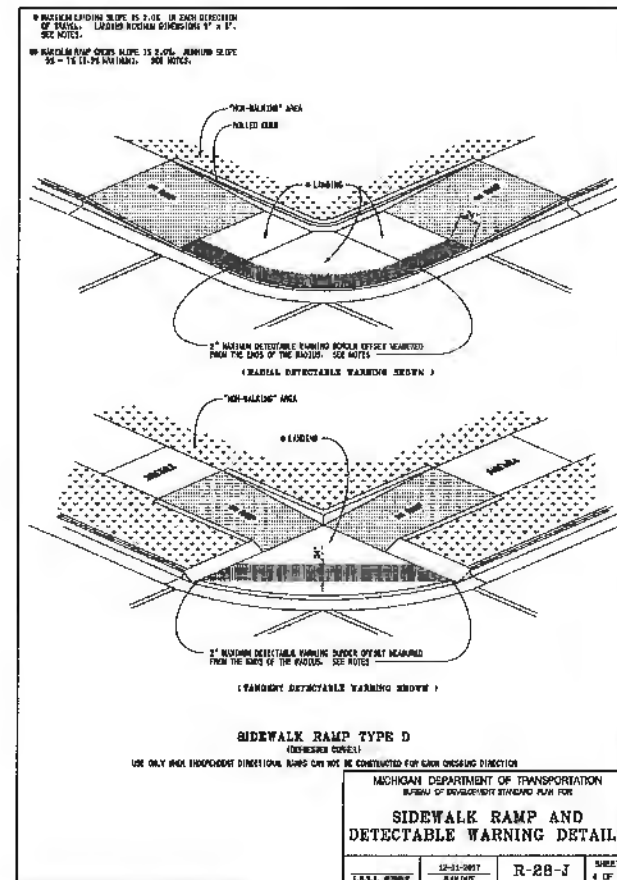
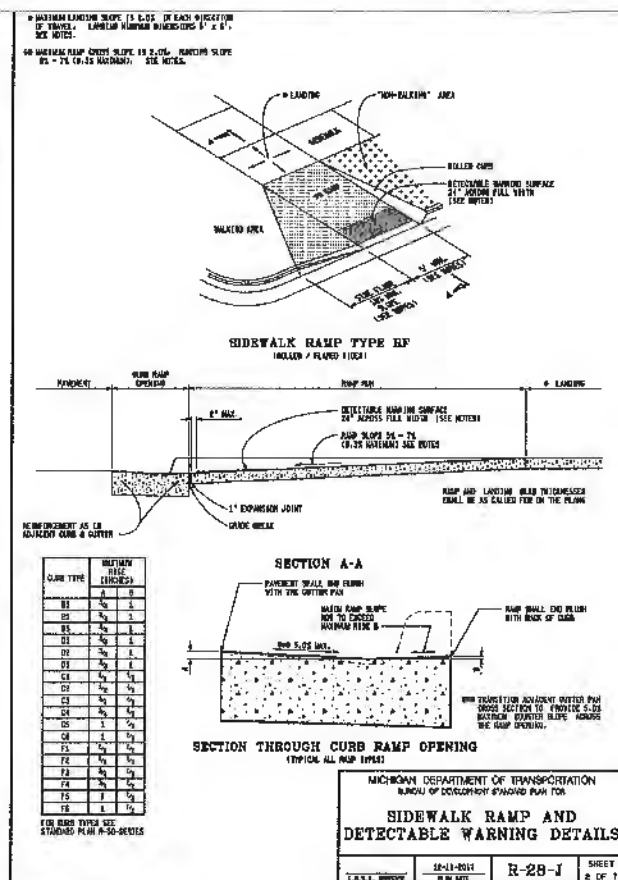
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1/1/2011	REVISED	VE	VE
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1/1/2011	REVISED	VE	VE
1/1/2011	REVISED	VE	VE
1/1/2011	REVISED	VE	VE
1/1/2011	REVISED	VE	VE
1/1/2011	REVISED	VE	VE
1/1/2011	REVISED	VE	VE

**PROPOSED FILLING STATION**  
2730 ORCHARD LAKE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN

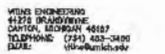
**MDOT STANDARD DETAILS**

**21070**

**C-10**







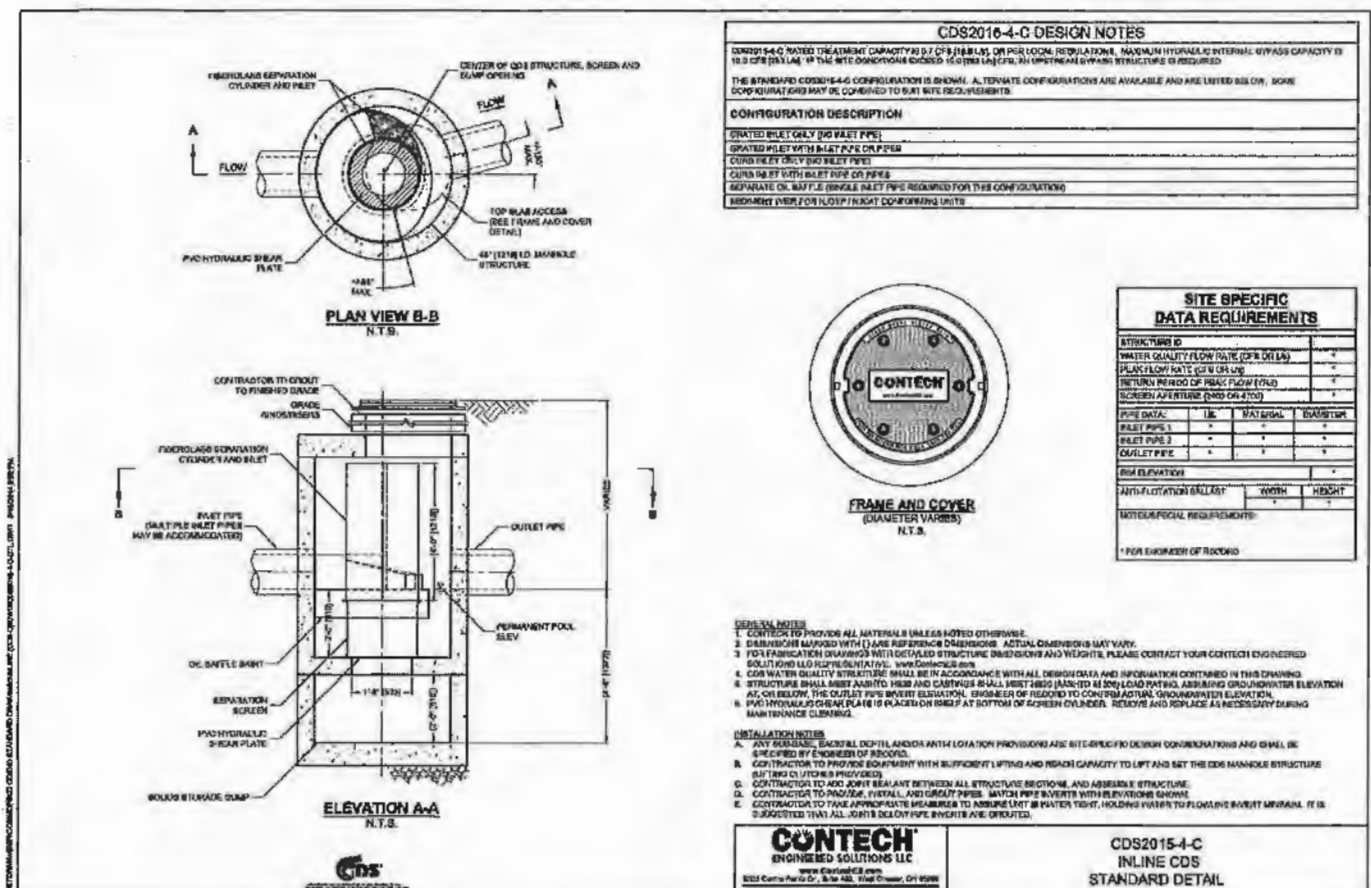
**VITINS ENGINEERING**  
Civil/Environmental Engineering  
Municipal Consulting  
Software Development

[illegible]

**PROPOSED FILLING STATION  
27730 ORCHARD LAKE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN**

21070

# C-12



ZONED B-3

ZONED ES

ZONED B-3

ZONED B-3

ZONED B-3

LANDSCAPE PLAN

SCALE: 1" = 20'-0"



### Plant List:

CODE	QTY.	MATERIAL & SIZE	COMMENTS
OM	1	Acer x freemanii 'Colman' Celebration Maple, 5" cal.	B&B, single straight trunk
GO	1	Gallia Oxidantifolia Common Hackberry, 5" Cal.	B&B, single straight trunk
SS	1	Amelanchier canadensis Shadblow Serviceberry, 7" ht.	B&B
WM	1	Morus alba 'Pendula' Weeping Mulberry, 2" cal.	B&B, single straight trunk
VT	3	Viburnum l. 'Compactum' Compact American Cranberry Bush, 3 gal./34" ht.	Plant 30" o.c.
TA	4	Taxus cuspidata 'Aureaens' Golden Japanese Yew, 3 gal./24" ht.	Plant 28" o.c.
HS	47	Hemerocallis x 'Stella de Oro' Stella De Oro Daylily, 1 gal.	Plant 15" o.c.
GB	39	Gallardia x grandiflora Gallin Blanket Flower, 8" pot.	Plant 15" o.c.
GVB	11	Buxus koronae x sempervirens Green Velvet Boxwood, 3 gal./30" ht.	Plant 35" o.c.

### Landscape Notes

All landscape areas are to be provided with an underground irrigation system.

Furnishing and placing landscape fabric in planting beds shall be incidental to the work of Site Preparation. Landscape fabric/mulch barrier shall be Dupont™ Professional Landscape Fabric, or equal.

Shredded bark mulch shall be furnished per MDOT 2012 Standard Specifications for Construction (S17.14). Shredded Bark Mulch Surface, Form, 4" will be measured in place and trucked onto the jobsite. Work includes preparation of the foundation, furnishing, placing, and spreading.

### General Notes

Conform to size and description set forth in the current edition of 'American Standard for Nursery Stock' sponsored by the American Association of Nurserymen, Inc., and approved by the American National Standards Institute, Inc.

Be true to name in conformance to the current edition of 'Standardized Plant Names', established by the American Joint Committee on Horticultural Nomenclature.

Be typical of their species or variety, with normal growth habits and be well-branched and densely foliated when in leaf.

Be of sound health, vigorous and uniform in appearance with a well developed root system, and free from disease, insect pests, eggs or larvae.

Be freshly dug and nursery grown.

Be chosen according to soil, climatic conditions and environmental factors for the proposed development.

Trees shall have straight trunks with leaders intact, undamaged and uncut.



VITINS ENGINEERING  
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CANTON, MICHIGAN 48107  
TELEPHONE: (734) 453-3460  
FAX: (734) 453-3460



VITINS ENGINEERING  
Civil/Environmental Engineering  
Landscape Consulting  
Site Planning  
Software Development

1	1/1/2022	SEE PLAN

PROPOSED FILLING STATION  
27730 ORCHARD LAKE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN

LANDSCAPE PLAN

SHEET NAME

PROJECT NUMBER  
21070

SHEET NUMBER  
L-1

NOTES: 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.

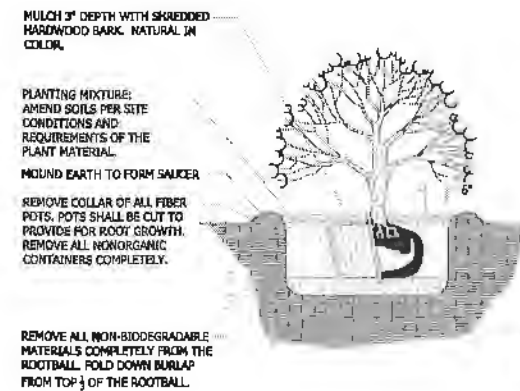
PRIOR TO CONSTRUCTION, ALL LOCATIONS AND DEPTHS OF EXISTING UTILITIES IN CONFLICT WITH PROPOSED IMPROVEMENTS SHALL BE VERIFIED IN THE FIELD.

ANY INFORMATION OR DATA ON THIS DRAWING IS NOT INTENDED TO BE RELIED UPON FOR DESIGN BY ANY PERSON, FIRM OR CORPORATION OR ANY OTHERS ON EXISTENCE OF THIS PROJECT OR FOR ANY USE OR ANY OTHER PROJECT, ANY REUSE WITHOUT WRITTEN PERMISSION AND ADAPTATION OF THE DESIGNER OR ENGINEER FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY OF LEGAL EXPOSURE TO THE SURVIVOR OR ENGINEER.



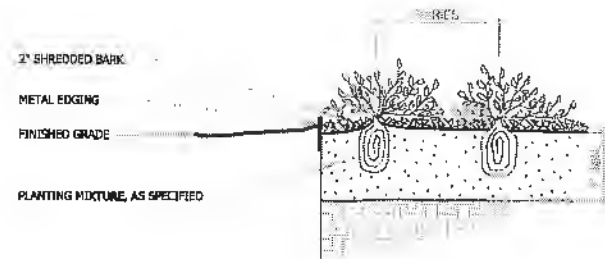
Know what's below.  
Call before you dig.

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### SHRUB PLANTING DETAIL

NOT TO SCALE



### PERENNIAL PLANTING DETAIL

Not to scale

NOTE: PLANTS 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 UNSIGHTLY OR COULD CAUSE GIRDLING.

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

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

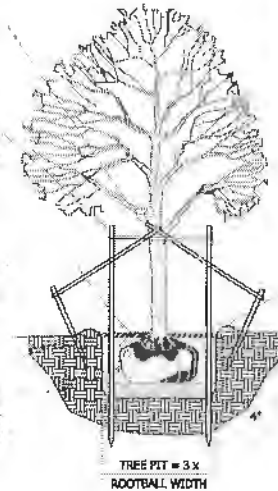
STAKE TREES AT FIRST BRANCH USING BELT-LIKE FABRIC STRAPS. ALLOW FOR SOME MINIMAL FLEXING OF THE TREE. REMOVE AFTER ONE YEAR.

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.

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 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 UNSIGHTLY 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.

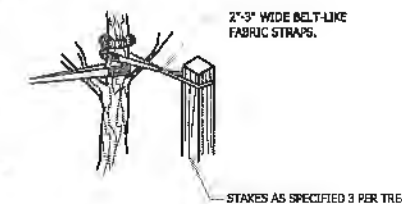
### DECIDUOUS TREE PLANTING DETAIL



#### GUYING DETAIL

### TREE STAKING DETAIL

Not to scale



#### STAKING DETAIL

NOTES: PRUNE AS SPECIFIED STAKE 3 LARGEST STEMS, IF TREE HAS MORE THAN 3 LEADERS SET TREE STAKES VERTICAL AND AT SAME HEIGHT.

MOUND TO FORM SAUCER

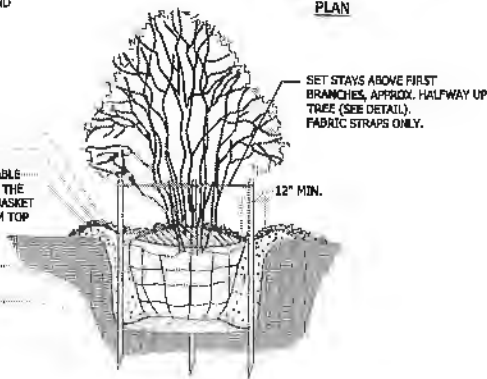
4" OF MULCH

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

PLANT MIXTURE AS SPECIFIED

SCARIFY TO 4" DEPTH AND RECOMPACT

STAKES TO EXTEND 12" BELOW TREE PIT IN UNDISTURBED GROUND



### MULTI-STEM TREE PLANTING DETAIL

Not to scale

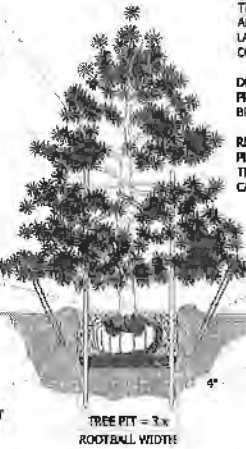
NOTE: GUY EVERGREEN TREES ABOVE 12' HEIGHT. STAKE EVERGREEN TREE BELOW 12' HEIGHT.

STAKE TREES AT FIRST BRANCH USING 2" X 3" WIDE BELT-LIKE FABRIC 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.

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 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 UNSIGHTLY 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.

### EVERGREEN TREE PLANTING DETAIL

#### LANDSCAPE NOTES:

1. ALL PLANT MATERIALS ARE TO BE INSTALLED IN A SOUND, WORKMAN-LIKE MANNER AND IN ACCORDANCE WITH THE CURRENT MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. ALL PLANT MATERIALS SHALL BE INSTALLED BETWEEN MARCH 15th AND NOVEMBER 15th.
3. ALL PLANT MATERIALS ARE TO BE NORTHERN NURSERY GROWN NO.1 GRADE AND INSTALLED ACCORDING TO ACCEPTED PLANTING PROCEDURES. ALL PLANT MATERIALS SHALL CONFORM TO THE CURRENT AAN STANDARDS FOR NURSERY STOCK. THEY SHALL BE PLANTED ACCORDING TO THE STANDARD LANDSCAPE DETAILS AND SPECIFICATIONS. THE CITY SHALL HAVE THE RIGHT TO INSPECT THE PLANT MATERIALS PRIOR TO PLANTING AND TO REJECT ANY PLANT MATERIALS DEEMED NOT TO MEET AAN AND MDOT STANDARDS.
4. ALL TREES SHALL HAVE A CENTRAL LEADER AND A RADIAL BRANCHING STRUCTURE. PARK GRADE TREES ARE NOT ACCEPTABLE. ALL TREES SHALL BE BALLED AND BURLAPPED (BAB).
5. ANY DECIDUOUS CANOPY TREES WITH BRANCHES THAT MIGHT TEND TO DEVELOP INTO "V" CROTCHES SHALL BE SUBORDINATED SO AS NOT TO BECOME DOMINANT BRANCHES.
6. MULCH SHALL BE NATURAL COLOR, FINELY SHREDDED HARDWOOD BARK FOR ALL PLANTINGS. 4" THICK FOR TREES IN 4-FOOT DIAMETER CIRCLE WITH 3" PULLED AWAY FROM TRUNK. 3" THICK FOR SHRUBS AND SHRUB BEDS AND 2" THICK BARK FOR PERENNIALS.
7. ALL PLANT MATERIAL SHALL BE WARRANTED FOR TWO (2) FULL YEARS AFTER DATE OF ACCEPTANCE BY THE OWNER. ALL UNHEALTHY AND DEAD MATERIAL SHALL BE REPLACED WITHIN ONE (1) YEAR OR THE NEXT APPROPRIATE PLANTING PERIOD WHICH EVER COMES FIRST.
8. ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION, INCLUDING WATERING, CULTIVATION, WEED CONTROL AND SOIL ENRICHMENTS AS MAY BE NECESSARY.
9. A MINIMUM OF ONE WEED CONTROL CULTIVATION PER MONTH OCCURRING IN JUNE, JULY AND AUGUST SHALL BE PERFORMED DURING THE TWO-YEAR ESTABLISHMENT PERIOD.
10. ANY SUBSTITUTIONS OR DEVIATIONS FROM THE LANDSCAPE PLAN MUST BE APPROVED IN WRITING BY OWNER PRIOR TO INSTALLATION.
11. ALL TREE WRAP, STAKES, AND GUYS MUST BE REMOVED BY JULY 1ST FOLLOWING THE FIRST WINTER SEASON AFTER INSTALLATION.
12. ALL LANDSCAPE AREAS ARE TO BE MAINTAINED IN HEALTHY GROWING CONDITION FREE OF DEBRIS AND REFUSE AND IN CONFORMANCE WITH THE APPROVED LANDSCAPE PLAN.
13. CONTRACTOR TO REMOVE ALL CONSTRUCTION DEBRIS AND EXCESS MATERIALS FROM THE SITE PRIOR TO FINAL ACCEPTANCE.
14. PLANT MATERIALS, EXCEPT SOD, GROUND COVERS, AND CREEPING VINE TYPE PLANTINGS, SHALL NOT BE LOCATED WITHIN FOUR (4) FEET OF THE PROPERTY LINE.
15. ALL BERMS MUST BE PLANTED WITH A COMBINATION OF TREES, SHRUBS, SOD OR OTHER EVERGREEN GROUND COVERS.
16. THE CONTRACTOR IS RESPONSIBLE FOR REQUEST OF FINAL INSPECTION AND ACCEPTANCE OF THE LANDSCAPE AT THE END OF THE 2-YEAR GUARANTEE PERIOD.

THE DETAILS AND NOTES SHOWN ON THIS PAGE ARE STANDARDS. THESE DETAILS ARE NOT ALL INCLUSIVE AND ARE NOT MEANT TO SUBSTITUTE FOR ANY CITY, MDOT, OR CODE REQUIREMENT.



**VITINS ENGINEERING**  
Civil/Environmental Engineering  
Municipal Consulting  
Software Development

DATE	REVISION	BY	CHK
1/1/2024	1	JD	JD

PROPOSED FILLING STATION  
27730 ORCHARD LAKE ROAD  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY, MICHIGAN

LANDSCAPE DETAILS

21070

L-2





NO MARKED PARKING ON SITE

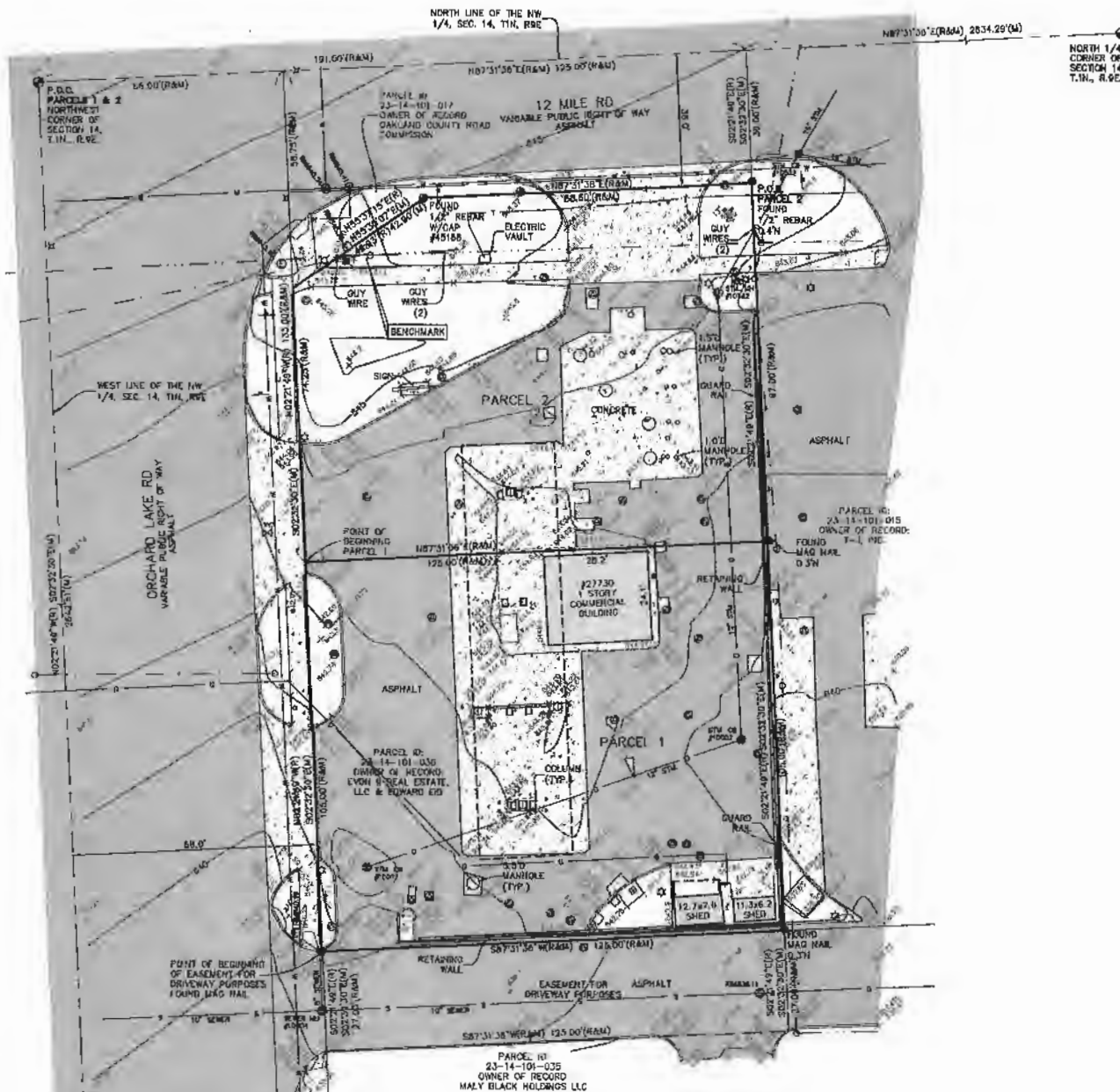
PARCEL 1  
13,124± SQUARE FEET = 0.301± ACRES  
PARCEL 2  
11,707± SQUARE FEET = 0.269± ACRES  
TOTAL  
24,831± SQUARE FEET = 0.570± ACRES

NORTH 87°31'36" EAST, BEING THE NORTH LINE OF THE  
NORTHWEST 1/4 OF SECTION 14, TOWNSHIP 1 NORTH,  
RANGE 9 EAST, CITY OF FARMINGTON HILLS, OAKLAND  
COUNTY, MICHIGAN.

MAQ NAIL IN SOUTH FACE OF UTILITY POLE, SE  
CORNER OF 12 MILE AND ORCHARD LAKE RD.  
ELEVATION = 848.97' (NAVD 88)

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED NEARLY AS SHOWN. THE SURVEYOR MAKES NO GUARANTEE THAT THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES OTHER THAN THE STRUCTURE INVENTORY SHOWN HEREON.

●	FOUND MONUMENT (AS NOTED)
○	FOUND SECTION CORNER (AS NOTED)
(RAIN)	RECORD AND MEASURED DIMENSION
(H)	RECORD DIMENSION
(H)	MEASURED DIMENSION
△	GROUND ELEVATION
○	ELECTRIC MANHOLE
○	UTILITY POLE
⌋	TRAFFIC SIGNAL
■	TRAFFIC SIGNAL CONTROL BOX
●	CLEANOUT
○	SEWER MANHOLE
○	ROUND CATCH BASIN
○	SQUARE CATCH BASIN
○	STORM DRAIN MANHOLE
○	POST INDICATOR VALVE
○	WATCH DATE MANHOLE
○	AIR PUMP
○	WATER VALVE
○	GAS PUMP
○	MONITOR WELL
●	BOLLARD
☆	LIGHTPOST/LAMP POST
○	VACUUM
⌋	SINGLE POST SIGN
⌋	CONIFEROUS TREE (AS NOTED)
—	PARCEL BOUNDARY LINE
—	PLATTED LOT LINE
—	ADJACENT PARCEL LINE
—	SECTION LINE
—	EASEMENT (AS NOTED)
—	BUILDING
—	BUILDING OVERHANG
—	CONCRETE CURB
—	RAISED CONCRETE
—	EDGE OF CONCRETE (CONC.)
—	FENCE (AS NOTED)
—	WALL (AS NOTED)
—	OVERHEAD UTILITY LINE
—	COMMUNICATION LINE
—	GAS LINE
—	SEWER LINE
—	STORM LINE
—	WATER LINE
—	MINOR CONTOUR LINE
—	MAJOR CONTOUR LINE
—	BUILDING AREA
—	ASPHALT
—	CONCRETE



#	TYPE	RIM	SIZE	DIRECTION	INVERT
10001	CATCH BASIN	840.55	12	NE	838.05
			T/WATER		838.85
			B/STRUCTURE		838.05
10002	CATCH BASIN	841.34	12	N	837.04
			12	SW	836.99
10004	SEWER MANHOLE	839.61	8	N	834.96
			10	W	830.29
			10	E	830.35
10582	STORM MANHOLE	844.87	T/WATER		840.07
			B/STRUCTURE		834.27
10632	CATCH BASIN	844.01	15	NE	840.03
			12	SE	840.29

ONLY THOSE EXCEPTIONS CONTAINED WITHIN THE STEWART TITLE GUARANTY COMPANY COMMITMENT NO. 04137545 DATED OCTOBER 8, 2004 WERE CONSIDERED FOR THIS SURVEY. NO OTHER RECORDS RESEARCH WAS PERFORMED BY THE CERTIFYING SURVEYOR.

TO STEWART TITLE GUARANTY COMPANY; STEWART MICHIGAN TITLE AGENCY;  
AND BAZCO HOLDINGS;

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 4, 5, 7A, 2, 8, 11A, AND 11B OF TABLE A, THEREOF. THE FIELD WORK WAS COMPLETED ON 07/28/21.

DATE OF PLAT OR MAP: 08/03/21

ANTHONY T. SYCKO, JR., P.S.  
PROFESSIONAL SURVEYOR  
MICHIGAN LICENSE NO. 47978  
22568 GRATIOT AVE., EASTPOINTE, MI 48021  
TSycko@kentpc-survey.com



( IN FEET )  
1 inch = 80 ft

LAND SITUATED IN THE CITY OF FARMINGTON HILLS, OAKLAND COUNTY,  
MICHIGAN

PARCEL 14, PART OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF SECTION 14, TOWN 1 NORTH, RANGE 2 EAST, BEGINNING AT A POINT DISTANT NORTH 87 DEGREES 31 MINUTES 38 SECONDS EAST 64.00 FEET AND NORTH 02 DEGREES 21 MINUTES 49 SECONDS EAST 133.00 FEET FROM THE NORTHWEST SECTION CORNER; THENCE NORTH 87 DEGREES 31 MINUTES 38 SECONDS EAST 125.00 FEET; THENCE SOUTH 02 DEGREES 21 MINUTES 49 SECONDS EAST 103.00 FEET; THENCE SOUTH 87 DEGREES 31 MINUTES 38 SECONDS WEST 126.00 FEET; THENCE NORTH 02 DEGREES 21 MINUTES 49 SECONDS WEST 103.00 FEET TO THE POINT OF BEGINNING.

ALSO INCLUDING AN EASEMENT FOR DRIVEWAY PURPOSES OVER THE FOLLOWING DESCRIBED PROPERTY:

A PARCEL OF LAND BEING A PORTION OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF SECTION 14, TOWN 4 NORTH, RANGE 8 EAST, PARISHOSHTA TOWNSHIP, OAKLAND COUNTY, MICHIGAN, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE EAST LINE OF ORCHARD LAKE ROAD (126 FEET WEST, SAID POINT BEING NORTH 87 DEGREES 31 MINUTES 36 SECONDS EAST, 60.00 FEET; AND BEING 60.00 FEET NORTH 87 DEGREES 31 MINUTES 40 SECONDS EAST 238.00 FEET FROM THE NORTHWEST CORNER OF THE EAST 1/2 OF THE NORTHWEST 1/4 OF DEGREES 31 MINUTES 36 SECONDS EAST 126.00 FEET; THENCE SOUTH 82 DEGREES 21 MINUTES 49 SECONDS EAST 27.00 FEET; THENCE SOUTH 82 DEGREES 21 MINUTES 36 SECONDS EAST 108.00 FEET TO THE EAST LINE OF ORCHARD LAKE ROAD; THENCE SOUTH 82 DEGREES 21 MINUTES 36 SECONDS EAST 40 SECONDS WEST, 27.00 FEET TO THE POINT OF BEGINNING

**PANEL 2:** BEGINNING AT A POINT DISTANT NORTH BY DEGREES 31 MINUTES 36 SECONDS EAST, RECORDED AS EAST, 191 FEET AND SOUTH 02 DEGREES 21 MINUTES 40 SECONDS EAST, RECORDED AS SOUTH, 36 FEET FROM THE NORTHWEST CORNER OF SECTION 14, TOWN 1 NORTH, RANGE 9 EAST, FARGUENTON TOWNSHIP, OSLAND COUNTY, MICHIGAN; THENCE SOUTH 02 DEGREES 42 MINUTES 42 SECONDS EAST, RECORDED AS EAST, 120 FEET; THENCE SOUTH 87 DEGREES 31 MINUTES 36 SECONDS WEST, RECORDED AS WEST, 120 FEET; THENCE NORTH 02 DEGREES 21 MINUTES 49 SECONDS WEST, RECORDED AS NORTH, 74.25 FEET; THENCE NORTH AS DEGREES 37 MINUTES 4 SECONDS EAST, RECORDED AS NORTH, 57 DEGREES 59 MINUTES 48 SECONDS EAST, 42.83 FEET; THENCE NORTH AS DEGREES 30 DEGREES 30 SECONDS EAST, RECORDED AS EAST, 88.81 FEET TO THE POINT OF BEGINNING.

LAND SITUATED IN THE CITY OF FARMINGTON HILLS, OAKLAND COUNTY,  
MICHIGAN

BEING A PART OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 14,  
TOWNSHIP 1 NORTH, RANGE 8 EAST, CITY OF FARMINGTON HILLS, OAKLAND  
COUNTY, MICHIGAN DESCRIBED AS:  
COMMENCING AT THE NORTHWEST QUARTER CORNER OF SAID SECTION 14;

[illegible]

TOGETHER WITH AND SUBJECT TO AN EASEMENT FOR DRIVEWAY PURPOSES  
OVER THE FOLLOWING DESCRIBED PROPERTY:

BEING A PART OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 14,  
TOWNSHIP 1 NORTH, RANGE 5 EAST, CITY OF FARMINGTON HILLS, OKLAHOMA  
COUNTY, OKLAHOMA, DESCRIBED AS COMMENCING AT THE NORTHWEST QUARTER  
CORNER OF SAID SECTION 14, AND PROCEEDING IN THE FOLLOWING ORDER:  
NORTHWEST QUARTER, NORTH 87 DEGREES 31 MINUTES 30 SECONDS EAST, A  
DISTANCE OF 88.00 FEET; THENCE, ALONG THE LINE BEING 88.00 FEET EAST OF  
THE POINT OF BEGINNING, SOUTH 87 DEGREES 31 MINUTES 30 SECONDS EAST,  
A DISTANCE OF 22.00 FEET; THENCE, ALONG THE LINE BEING 22.00 FEET  
EAST OF THE POINT OF BEGINNING, SOUTH 87 DEGREES 31 MINUTES 30  
SECONDS EAST, A DISTANCE OF 22.00 FEET; THENCE, SOUTH 87 DEGREES 31  
MINUTES 30 SECONDS EAST, A DISTANCE OF 22.00 FEET; THENCE, SOUTH  
87 DEGREES 31 MINUTES 30 SECONDS EAST, A DISTANCE OF 22.00 FEET; THENCE,  
SOUTH 87 DEGREES 31 MINUTES 30 SECONDS EAST, A DISTANCE OF 22.00 FEET;  
THENCE, SOUTH 87 DEGREES 31 MINUTES 30 SECONDS EAST, A DISTANCE OF  
22.00 FEET TO THE EAST LINE OF ORCHARD LAKE ROAD (VARIABLE RIGHT OF WAY);  
SAY EAST LINE BEING 88.00 FEET EAST OF AND PARALLEL TO THE WEST LINE  
OF SAID SECTION 14, AND PROCEEDING IN THE FOLLOWING ORDER: NORTH 87  
DEGREES 31 MINUTES 30 SECONDS EAST, A DISTANCE OF 22.00 FEET;  
THENCE, NORTH 87 DEGREES 31 MINUTES 30 SECONDS EAST, A DISTANCE OF  
22.00 FEET TO THE POINT OF BEGINNING, CONTAINING 3.3125 SQUARE FEET OF

ONLY THOSE EXCEPTIONS CONTAINED WITHIN THE STEWART TITLE GUARANTY COMPANY COMMITMENT NO. 04137545 DATED OCTOBER 8, 2004 WERE CONSIDERED FOR THIS SURVEY. NO OTHER RECORDS RESEARCH WAS PERFORMED BY THE CERTIFYING SURVEYOR.

TO STEWART TITLE GUARANTY COMPANY; STEWART MICHIGAN TITLE AGENCY;  
AND BAZCO HOLDINGS;

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 4, 5, 7A, 8, 9, 11A, AND 11B OF TABLE A, THEREOF. THE FIELD WORK WAS COMPLETED ON 07/28/21.

DATE OF PLAT OR MAP: 08/03/21

ANTHONY T. SYCKO, JR., P.S.  
PROFESSIONAL SURVEYOR  
MICHIGAN LICENSE NO. 47978  
22568 GRATIOT AVE., EASTPOINTE, MI 48021  
TSycko@kentpc-survey.com



**KEM-TEC**  
A GROUP OF COMPANIES

PROFESSIONAL ENGINEERING,  
SURVEYING & ENVIRONMENTAL  
SERVICES

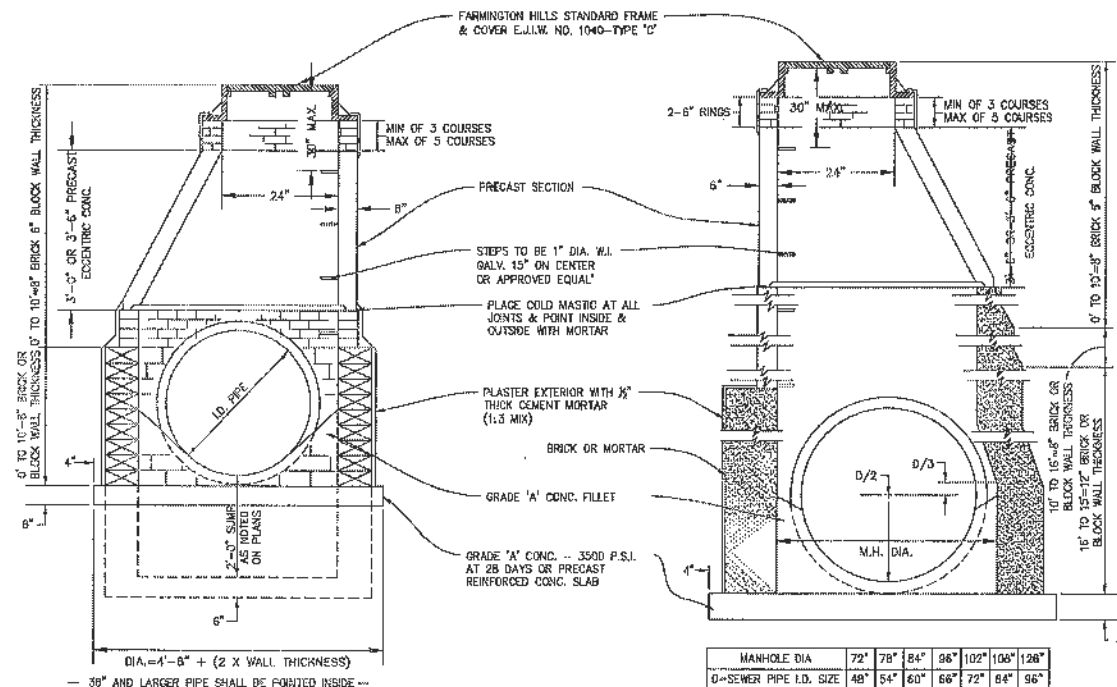
Easton (401) 221-7222	Detroit (313) 753-0677	New York (914) 661-0500	Grand Blanc (313) 641-0407
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[www.kemtecusa.com/groupofcompanies.htm](http://www.kemtecusa.com/groupofcompanies.htm)

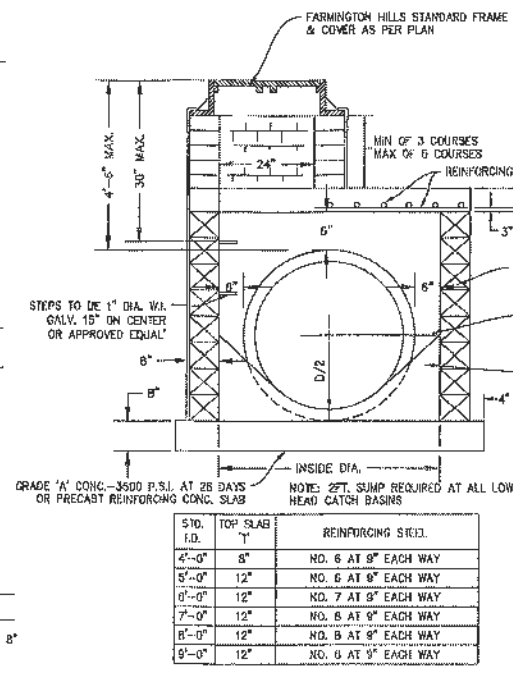
ALTA / NSPS LAND TITLE SURVEY  
PREPARED FOR: DAZCO MINING

27730 ORCHARD LAKE RD, FARMINGTON HILLS, MICHIGAN,  
PART OF SECTION 14,  
TOWN 1 NORTH, RANGE 9 EAST

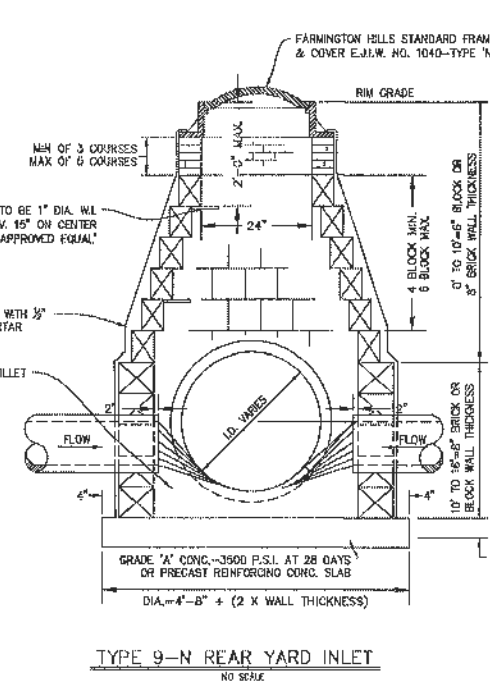
1	1 OF 1 SHEETS
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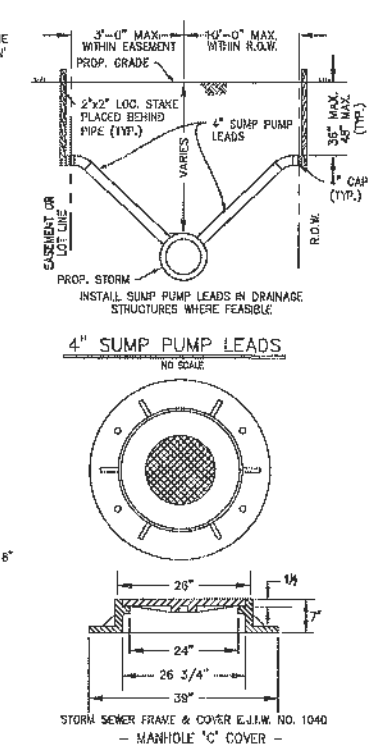
STORM MANHOLE FOR PIPE 42" AND UNDER



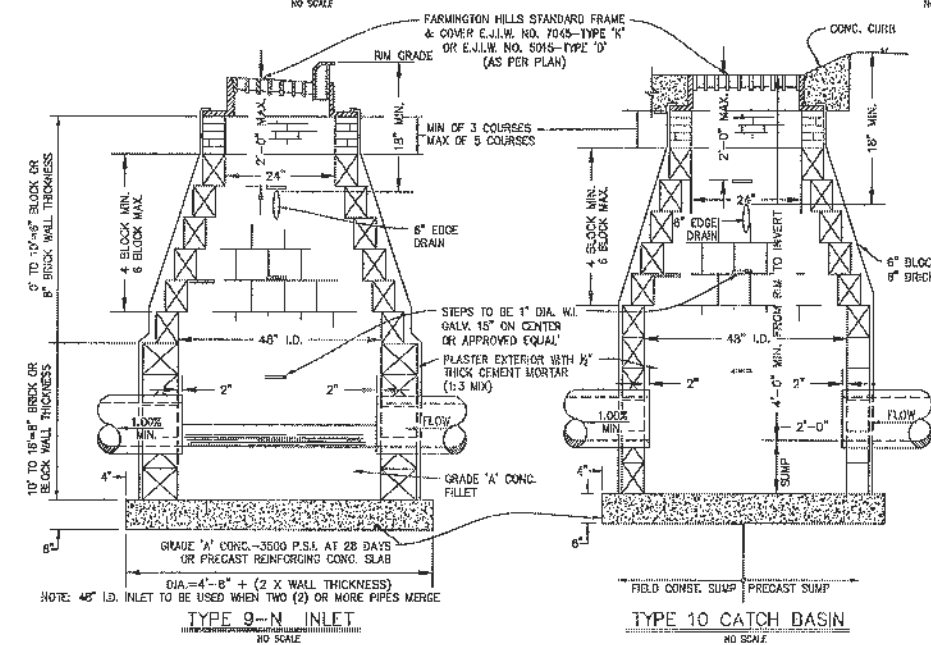
LOW HEAD STORM SEWER STRUCTURE



TYPE 9-N REAR YARD INLET

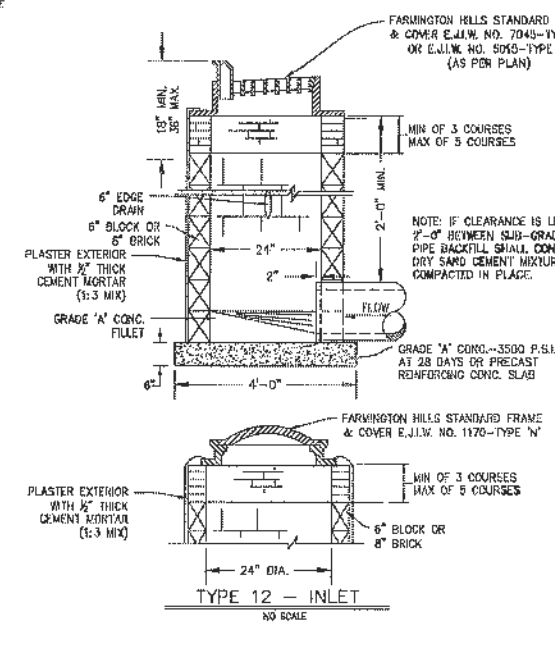


STORM SEWER FRAME & COVER E.J.I.W. NO. 1040 - MANHOLE "C" COVER

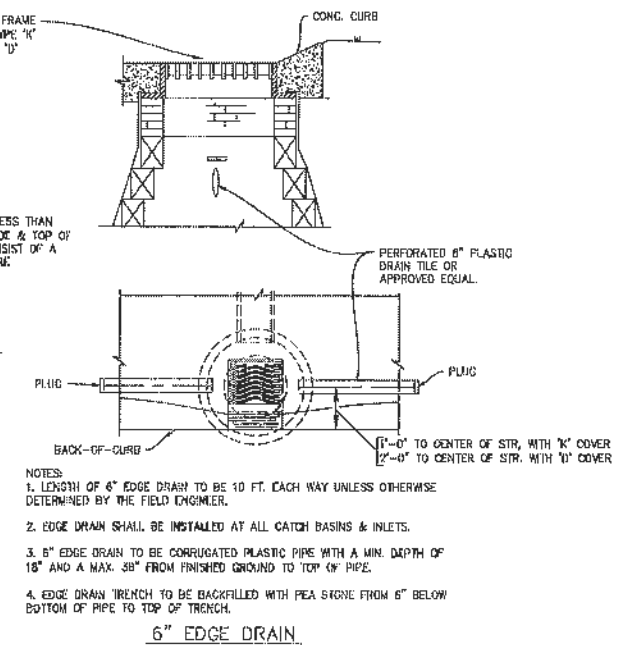


TYPE 9-N INLET

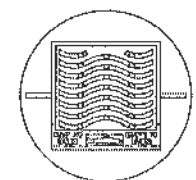
TYPE 10 CATCH BASIN



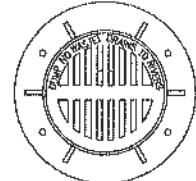
TYPE 12 - INLET



6" EDGE DRAIN



CATCH BASIN & INLET FRAME & COVER E.J.I.W. NO. 7045 AS PER PLAN - "K" COVER -



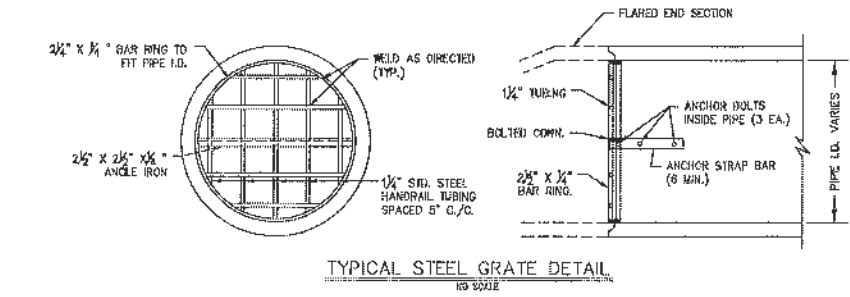
REAR YARD FRAME & COVER FOR 48" DIA. STR. E.J.I.W. NO. 1140 - "N" COVER -



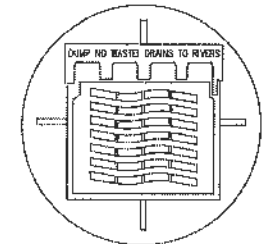
REAR YARD FRAME & COVER FOR 24" DIA. STR. E.J.I.W. NO. 1170 - "D" COVER -

STORM STRUCTURE FRAME & COVER

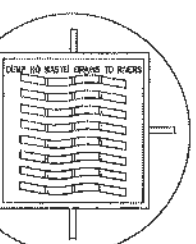
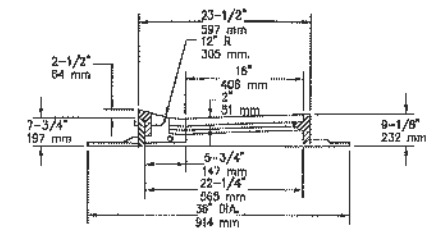
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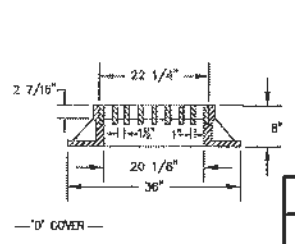
TYPICAL STEEL GRATE DETAIL



CATCH BASIN CURB INLET FRAME & COVER E.J.I.W. NO. 7065 ONLY AS PER PLAN



FARMINGTON HILLS STANDARD CATCH BASIN & INLET FRAME & COVER E.J.I.W. NO. 5105



"D" COVER

NOTE: FOR TRENCH REQUIREMENTS SEE GENERAL STANDARD SHEET

CITY OF FARMINGTON HILLS OAKLAND COUNTY, MI		ENGINEERING DIVISION	
STANDARD DETAIL DRAWINGS	SCALE: HORIZ. 1"=10'	JOB NO.	DATE
	SCALE: VERT. 1"=4'	SCALE: HORIZ. 1"=10'	DATE
	DESIGNED BY: JFH	DATE: 1/13	DATE
	CHECKED BY: JFH	DATE	DATE
	APPROVED BY: JFH	DATE	DATE
STORM SEWER STANDARDS		DIRECTOR, PUBLIC SERVICES DEPT.	
SHEET 1 OF 1			



### CNY LED Canopy/Ceiling Luminaire



#### Specifications

Model	CNY LED P4 10'x12'
Width	10'
Height	4.3"
Depth	10"
Weight	6.5lb

#### Introduction

The CNY LED canopy luminaires are energy efficient and rugged, designed for replacing up to 250W metal halide luminaires with the following up to 100% energy savings. Quick mount mechanism significantly reduces the installation time. An LED array and heat sink provide uniform and visually comfortable illumination. CNY LED luminaires are DUC Prescribed and deliver quick payback.

#### Ordering Information

EXAMPLE: CNY LED P4 10'x12' MOUNT 005

Order	Part Number	Part Name	Part Description	Part Quantity	Part Unit
CNY LED	10'x12'	10'x12'	10'x12'	1	10'x12'

#### Features & Specifications

**DESCRIPTION:** CNY LED canopy luminaire is a rugged, energy efficient, and quick mount luminaire. It is designed for replacing up to 250W metal halide luminaires with the following up to 100% energy savings. Quick mount mechanism significantly reduces the installation time. An LED array and heat sink provide uniform and visually comfortable illumination. CNY LED luminaires are DUC Prescribed and deliver quick payback.

**FEATURES:** Energy efficient, rugged, quick mount, uniform and visually comfortable illumination, DUC Prescribed, quick payback.

**INSTALLATION:** Quick mount mechanism significantly reduces the installation time. An LED array and heat sink provide uniform and visually comfortable illumination. CNY LED luminaires are DUC Prescribed and deliver quick payback.



27730 Orchard Lake Road, Farmington Hills, MI 48334-1400  
Phone: 248-465-2773, Fax: 248-465-2774, Email: sales@gasserbush.com



### D-Series Size 1 LED Wall Luminaire



#### Specifications

Model	DSW1 LED 20'x20'
Width	20'
Height	12.5"
Depth	12.5"
Weight	10.5lb

#### Introduction

The D-Series Wall luminaire is a stylish, fully integrated LED solution for building renovation applications. It features a sleek, modern design and is carefully engineered to provide long lasting energy efficient lighting with a variety of optical and control options for customized performance. With an expected service life of over 20 years of nighttime use and up to 74% less energy usage over comparable 350W metal halide luminaires, the D-Series Wall is a reliable, low-maintenance lighting solution that produces stop-there-and-exceptionally-luminous.

#### Ordering Information

EXAMPLE: DSW1 LED 20'x20' 4000K 400 TBM MOUNT 005

Order	Part Number	Part Name	Part Description	Part Quantity	Part Unit
DSW1 LED	20'x20'	20'x20'	20'x20'	1	20'x20'

#### Features & Specifications

**DESCRIPTION:** D-Series wall luminaire is a stylish, fully integrated LED solution for building renovation applications. It features a sleek, modern design and is carefully engineered to provide long lasting energy efficient lighting with a variety of optical and control options for customized performance. With an expected service life of over 20 years of nighttime use and up to 74% less energy usage over comparable 350W metal halide luminaires, the D-Series Wall is a reliable, low-maintenance lighting solution that produces stop-there-and-exceptionally-luminous.

**FEATURES:** Energy efficient, rugged, quick mount, uniform and visually comfortable illumination, DUC Prescribed, quick payback.

**INSTALLATION:** Quick mount mechanism significantly reduces the installation time. An LED array and heat sink provide uniform and visually comfortable illumination. CNY LED luminaires are DUC Prescribed and deliver quick payback.

#### Ordering Information

EXAMPLE: DSW1 LED 20'x20' 4000K 400 TBM MOUNT 005

27730 Orchard Lake Road, Farmington Hills, MI 48334-1400  
Phone: 248-465-2773, Fax: 248-465-2774, Email: sales@gasserbush.com



### D-Series Size 0 LED Area Luminaire



#### Specifications

Model	DSO LED P4 4'x4'
Width	4'
Height	4.3"
Depth	4.3"
Weight	1.5lb

#### Introduction

The modern styling of the D-Series is striking yet understated - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficiency, long life luminaire. The outstanding photometric performance results in step with excellent uniformity, greater pole loading and lower power density. It is ideal for replacing up to 60W metal halide with typical energy savings of 70% and expected service life of over 100,000 hours.

#### Ordering Information

EXAMPLE: DSO LED P4 4'x4' 4000K 400 TBM MOUNT 005

Order	Part Number	Part Name	Part Description	Part Quantity	Part Unit
DSO LED	4'x4'	4'x4'	4'x4'	1	4'x4'

#### Features & Specifications

**DESCRIPTION:** D-Series area luminaire is a stylish, fully integrated LED solution for building renovation applications. It features a sleek, modern design and is carefully engineered to provide long lasting energy efficient lighting with a variety of optical and control options for customized performance. With an expected service life of over 20 years of nighttime use and up to 74% less energy usage over comparable 60W metal halide luminaires, the D-Series Area is a reliable, low-maintenance lighting solution that produces stop-there-and-exceptionally-luminous.

**FEATURES:** Energy efficient, rugged, quick mount, uniform and visually comfortable illumination, DUC Prescribed, quick payback.

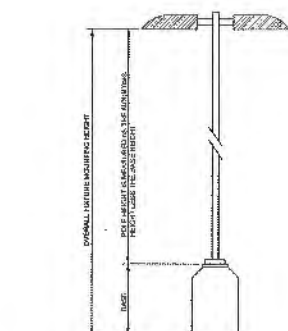
**INSTALLATION:** Quick mount mechanism significantly reduces the installation time. An LED array and heat sink provide uniform and visually comfortable illumination. CNY LED luminaires are DUC Prescribed and deliver quick payback.



27730 Orchard Lake Road, Farmington Hills, MI 48334-1400  
Phone: 248-465-2773, Fax: 248-465-2774, Email: sales@gasserbush.com

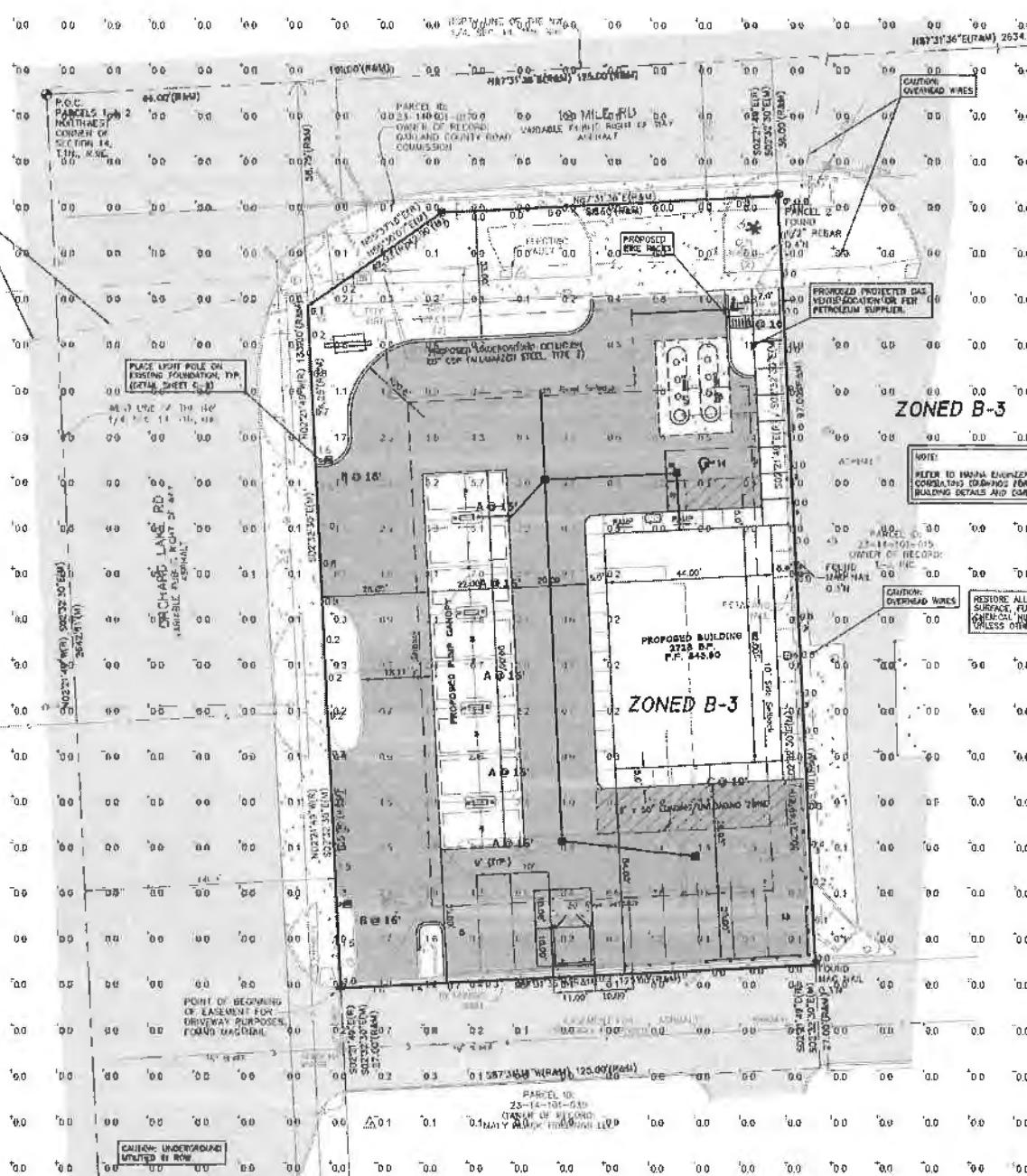
Symbol	Label	Quantity	Manufacturer	Description	Lamp	Mounting Height
A	A	3	Lithonia Lighting	CNY LED Canopy Luminaire, 4000K	LED	15'-0"
B	B	3	Lithonia Lighting	DSO LED AREA LIGHT, 4000K	LED	16'-0"
C	C	1	Lithonia Lighting	DSW1 LED BUILDING MOUNTED LUMINAIRE, 4000K	LED	10'-0"

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
PARKING LOT	+	1.2 fc	3.3 fc	0.1 fc	33.0:1	12.0:1	0.4:1
PROPERTY LINE	+	0.3 fc	1.6 fc	0.0 fc	N/A	N/A	0.2:1
UNDER CANOPY	+	4.5 fc	7.0 fc	2.2 fc	3.2:1	2.0:1	0.5:1



**Alternates Note**  
THE USE OF FIXTURE ALTERNATES MUST BE RESUBMITTED TO THE CITY FOR APPROVAL.

**Ordering Note**  
FOR INQUIRIES CONTACT GASSER BUSH AT QUOTES@GASSERBUSH.COM OR 734-266-6705.



Plan View  
Scale - 1" = 20ft

**General Note**  
1. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.  
2. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0"

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.

UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIREMENTS DEFINED IN ASHRAE 90.1 2013. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT ASG@GASSERBUSH.COM OR 734-266-6705.



27730 ORCHARD LAKE ROAD  
PHOTOMETRIC SITE PLAN  
GASSER BUSH ASSOCIATES  
WWW.GASSERBUSH.COM

Designer:  
CB/KS  
Date:  
01/25/2022  
Scale:  
Not to Scale  
Drawing No.  
#21-70726-V1  
1 of 1



**SITE PLAN 66-12-2021**

**Approval:**

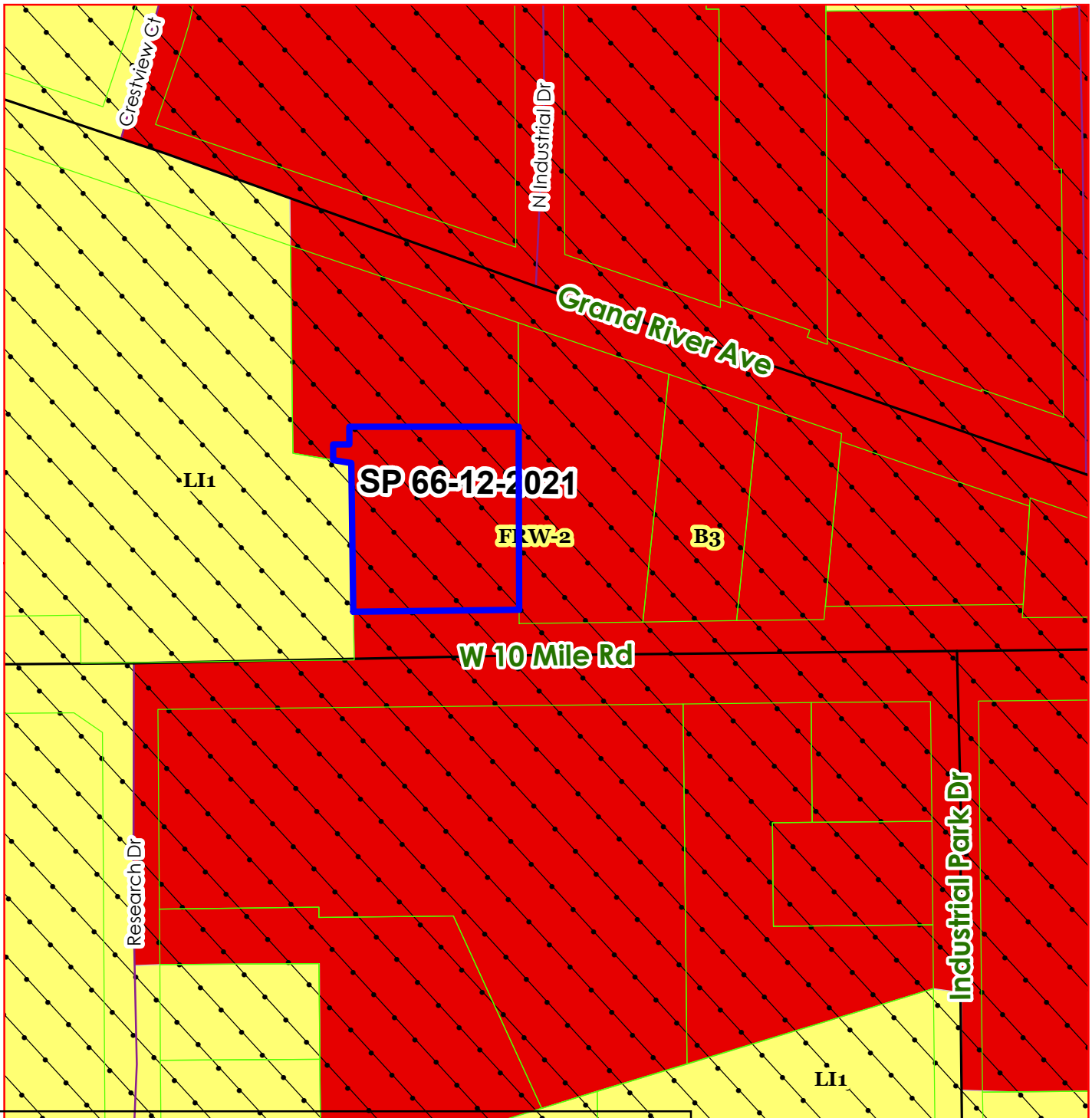
I move that Site Plan 66-12-2021, dated January 14, 2022, submitted by Mustafa Gardi, be approved because it appears to meet all applicable requirements of the Zoning Chapter. Subject to the following conditions:

**Denial:**

I move that approval of Site Plan 66-12-2021, dated January 14, 2022, submitted by Mustafa Gardi, be denied for the following reasons:

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SP 66-12-2021 B-3  
 23-19-351-012, 38400 Ten Mile Rd.  
 Renovation of existing building for car wah



☐ Tax parcel ☐ LI-1 Light Industrial District

☐ Minor roads

## Zoning Districts

## Zoning Districts

- ☒ B-3 General Business District
- ☐ FRW-2 Freeway Overlay District



0  
 FEET

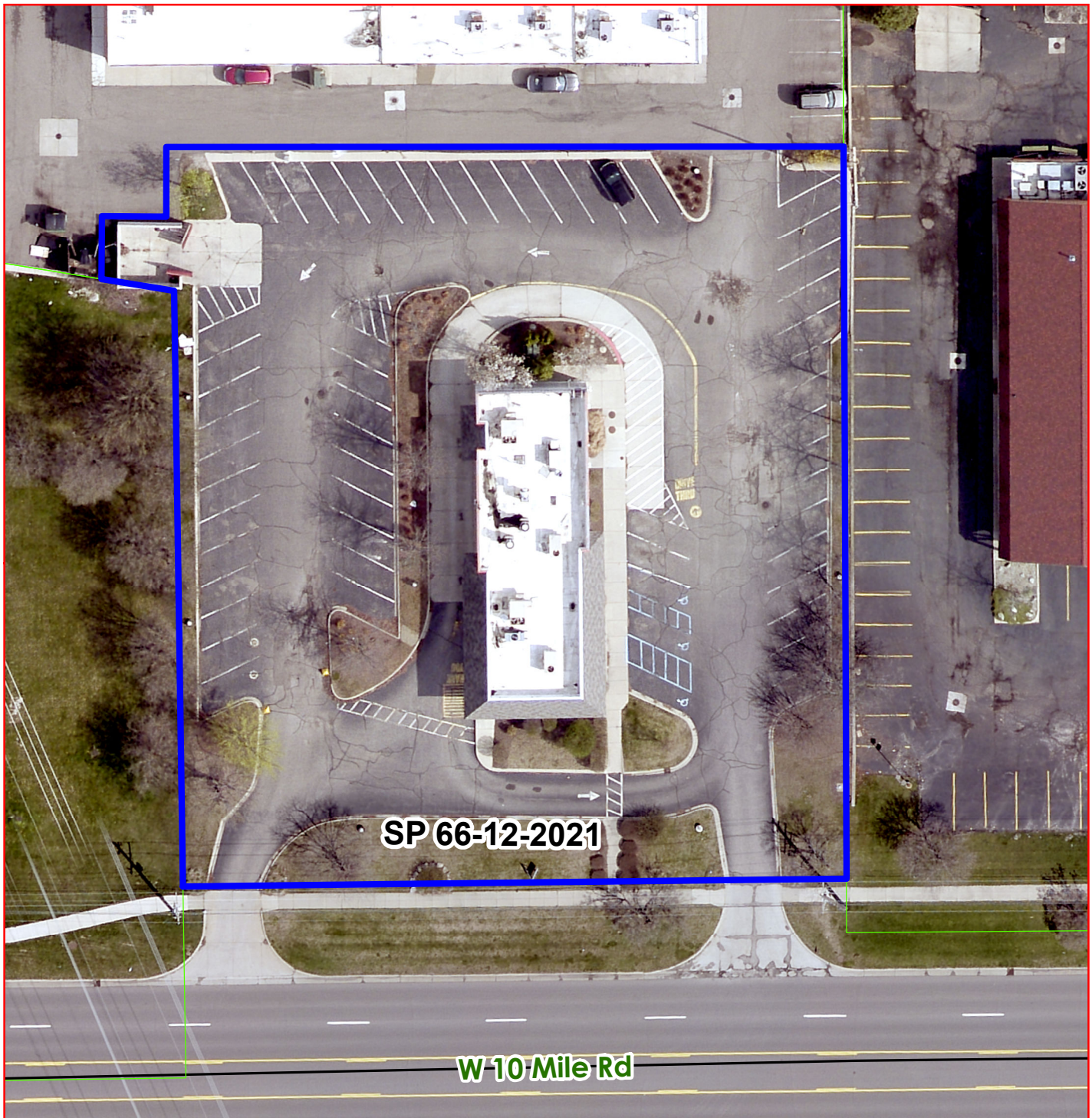


SOURCE: City of Farmington Hills, 2022  
 Oakland County GIS, 2022

190  
 DISCLAIMER: Although the information provided by this map is believed to be reliable, its accuracy is not warranted in any way. The City of Farmington Hills assumes no liability for any claims arising from the use of this map.

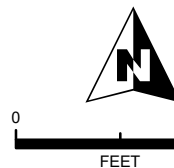


SP 66-12-2021 B-3  
23-19-351-012, 38400 Ten Mile Rd.  
Renovation of existing building for car wash



Planning Division

☐ Tax parcel



SOURCE: City of Farmington Hills, 2022  
Oakland County GIS, 2022

DISCLAIMER: Although the information provided by this map is believed to be reliable, its accuracy is not warranted in any way. The City of Farmington Hills assumes no liability for any claims arising from the use of this map.



INTEROFFICE CORRESPONDENCE

**DATE:** January 27, 2022  
**TO:** Planning Commission  
**FROM:** Jason Baloga, Fire Marshal  
**SUBJECT:** Site Plan 66-12-2021, 38400 Ten Mile (Car Wash)

The Fire Department has reviewed the plan related to the existing site and has made the following notations:

It was noted that the proposed site does not meet the following ordinance requirements:

1. The site does not appear to meet Site Access requirements outlined in Chapter 12 Section 12-11(1) of the City Code; sites shall be designed to accommodate fire apparatus with a 50' turning radius.
2. Hydrant coverage does not appear to be adequate according to Chapter 12 Section 12-11(2)d of the City Code; all points on the exterior of the building shall be no further than 250' from a hydrant. Hydrants located on the opposite side of major thoroughfares shall not be considered in computing the 250' distance.

If the Proponent finds it impractical to comply with the minimum Fire Department site plan review and design standards, please contact the Fire Marshal to discuss the Alternate Protection provision outlined in Chapter 12 Section 12-11(4).

3. Building shall be maintained in accordance with minimum Fire Prevention Code requirements.

A handwritten signature in blue ink, appearing to read "Jason Baloga".

Jason Baloga, Fire Marshal

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DEPARTMENT OF PUBLIC SERVICES  
KAREN MONDORA, P.E., DIRECTOR

**INTEROFFICE CORRESPONDENCE**

**DATE:** January 26, 2022  
**TO:** Planning Commission  
**FROM:** James Cubera, Engineering *JC*  
**SUBJECT:** Car Wash  
38400 10 Mile Rd.  
SP#: 66-12-2021 – PJ#: 19-21-161  
22-23-19-351-012

---

This office has performed a preliminary review of the above referenced site plan submitted to the Planning Department on December 1st, 2021. Our preliminary comments are as follows:

1. A 20-inch watermain as well as a 12-inch watermain exists on the south side of 10 Mile Road across the frontage of this site. The plans identify an existing 2-inch water service. It is unclear where this service ties in to. This needs to be confirmed by the designer. In addition, it is unclear whether this 2-inch service will be utilized for this particular new development. This needs to be identified.
2. A public sanitary sewer exists in the northeast corner of the site wherein a public manhole exists. It is our understanding that the proponent has a sewer lead tied into this system. The plans need to identify the route that this line takes to get into the system and confirm if it is to be utilized. We question if it will be in conflict with any of the other pipe networks of the site. Note that if it is to be utilized, the line must be televised, and any infiltration and inflow issues addressed as well as any other deficiencies corrected. It will be required that the proponent submit to the City a video of this line in order for us to review it to determine what corrective actions if any need to be provided for.
3. The proponent has identified utilizing the two curb cuts on 10 Mile Road such that the east one is listed as inbound and the west one is listed as outbound. In addition, there is access to the northeast through an easement.

The proponent will be obligated to submit to the Engineering Division a traffic impact statement identifying if taper improvements are necessary on 10 Mile Road and it must provide an analysis of the onsite traffic pattern as to if it functions efficiently. The study needs to address vehicle stacking on site and verify the vehicle que will not extend into the right-of-way.

4. Provide documentation of the 20-foot-wide ingress/egress easement called out at the northeast corner of the site that provides access to the parcel to the north. Identify if the agreement allows for no inbound access to the north property and provide any details or requirements pertaining to the easement/agreement. Of particular concern is how two-way traffic will be maintained with the access easement to the northeast as well as the functionality of the 45-foot-wide ingress/egress easement at the south end parallel to 10 Mile Road and whether it needs to be maintained.
5. A five-foot-wide sidewalk currently exists along the 10 Mile Road frontage of this site. Therefore, no additional sidewalk requirements will be in effect.
6. Storm water detention in the amount of 2 inches over the gross area of the site must be provided for and discharge must be restricted to an agricultural rate of .2 cfs per acre. Our office notes that the plan identified an underground detention system along the east property line. This is acceptable and will be reviewed during construction Engineering review prior to the consideration of Building permits.
7. Storm water quality improvements will be required in accordance with the City of Farmington Hills Engineering standards. Attached are comments from the City's Environmental Engineer Tyler Sonoga. Any question regarding these items can be referred to him at 248-871-2533.
8. Of particular concern on this site is that the proponent provides property line grades along the east, west, and north properties and that they be accommodated without a grade differential. The plan must identify how this will be accommodated.
9. The plans identify an existing 60-foot right-of-way yet the property is described to the centerline of the section line on 10 Mile Road. If the 60-foot ultimate right-of-way does not currently exist, it is suggested that the proponent dedicate the ultimate right-of-way at this time. This needs to be clarified prior to submittal for construction review.
10. It is suggested that the proponent and his engineer set up a Zoom or Microsoft Teams meeting with the City Engineering Division to discuss this site in further detail.



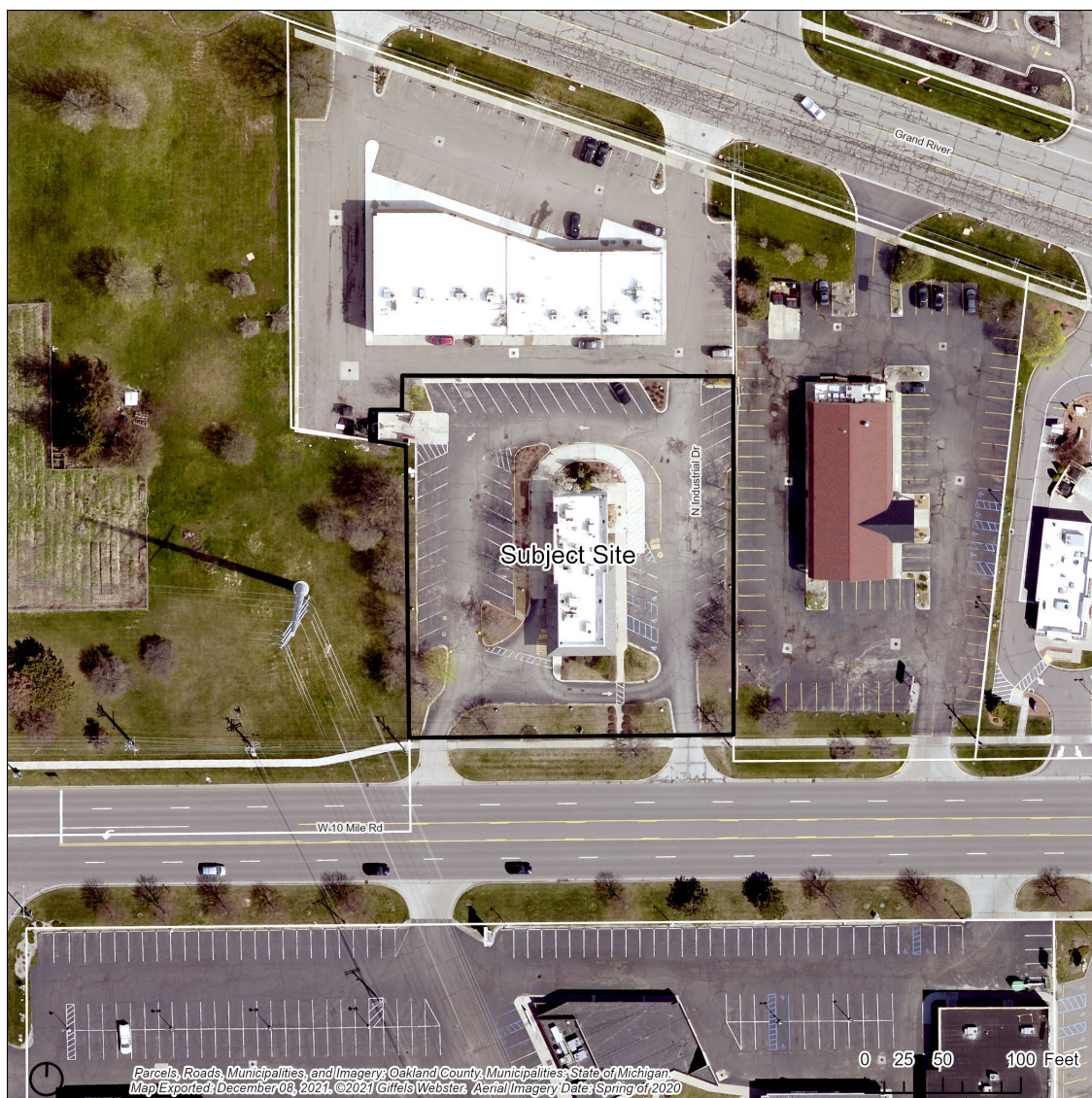
February 8, 2022

Farmington Hills Planning Commission  
31555 W 11 Mile Rd  
Farmington Hills, MI 48336

# Site Plan Review

Case: SP 66-12-2021  
Site: 38400 W 10 Mile Rd (22-23-19-351-012)  
Applicant: Mustafa Gardi  
Plan Date: 12/23/2021  
Zoning: B-3 General Business

We have completed a review of the application for site plan approval and a summary of our findings is below. Items in **bold** require specific action. Items in *italics* can be addressed administratively.



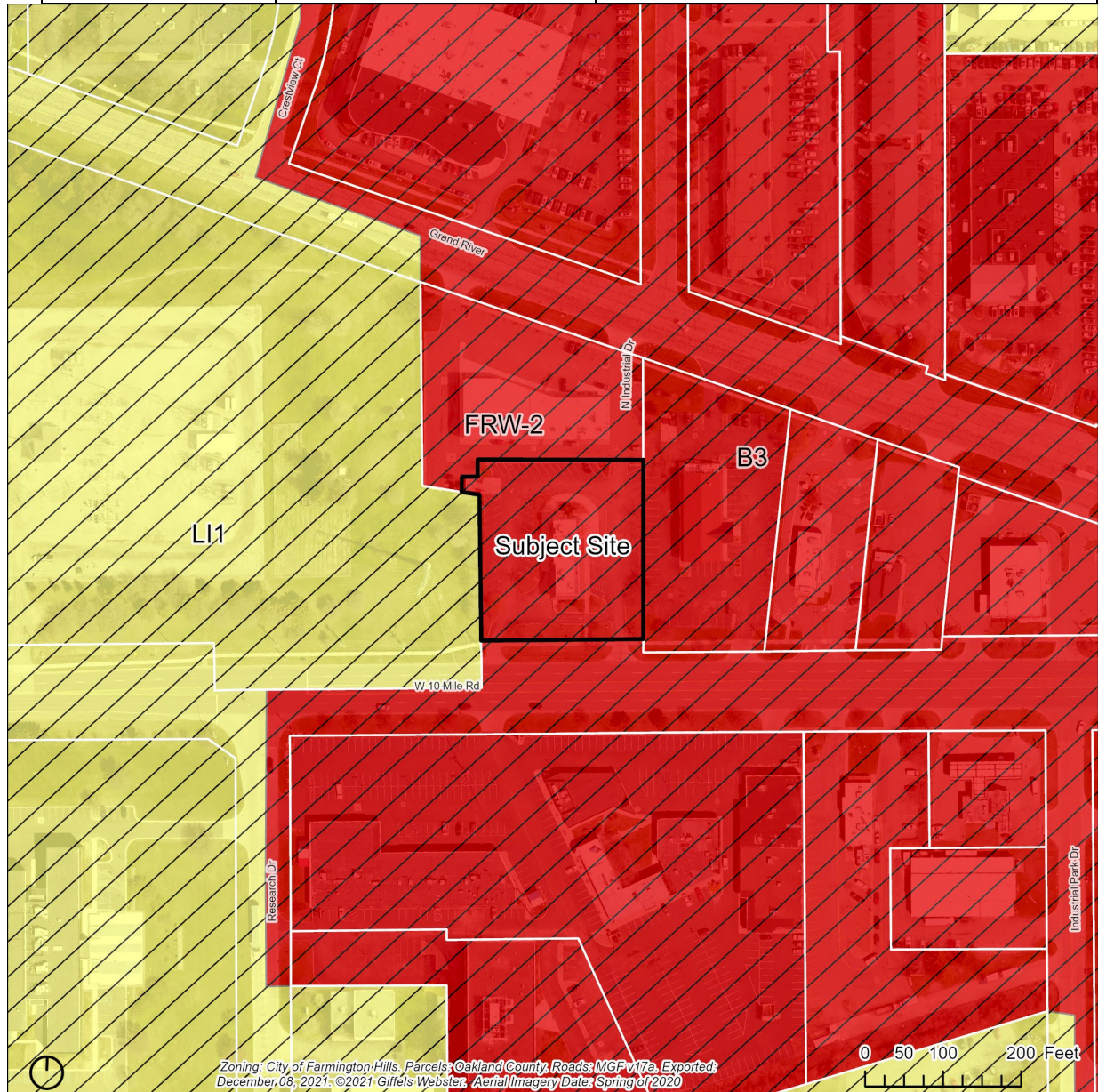


## SUMMARY OF FINDINGS

### Existing Conditions

1. **Zoning.** The site is 1.12 acres and zoned B-3.
2. **Existing site.** The site is currently developed with a former McDonald's restaurant with drive-through.
3. **Adjacent properties.** This and all surrounding properties have the FRW-2 overlay.

Direction	Zoning	Land Use
North	B-3	Commercial
South	B-3	Commercial
East	B-3	Commercial
West	LI-1	Transformer Station



4. **Site configuration and access.** The site is accessed via two driveways from 10 Mile Road, and also has a connection the parking lot the strip mall to the north.

**Summary of Issues:**

- A pedestrian connection to the 10 Mile sidewalk is not provided. Planning Commission to review and provide direction to applicant.
- The last three stacking spaces could conflict with the southbound maneuvering lane that runs along the property's east side. The Planning Commission should determine if this is acceptable.

**Site Plan & Use:**

1. **Summary of Proposal.** The applicant is proposing a new car wash. A vehicle wash is a principally permitted use in the B-3 district, subject to PC approval and the standards of Section 4.40 (see below).
2. **Dimensional Standards (B-3 district).**

Item	Required	Proposed/Comments
Standards of Sec. 34-3.1.25.E		
Min. lot size	None specified	1.12 acres
Min. lot width	None specified	208 ft
Front Setback (south)	25 ft*	62.4 ft
Rear Setback (north)	20 ft	45.8 ft
Side Setback (east)	10 ft	82.4 ft
Side Setback (west)	10 ft*	84 ft
Building Height	50 feet	30.25 feet
Front Yard Open Space	50%	Compliant
Yard landscaping (34-3.5.2.A)	For all uses except one-family detached residential units, landscaping of all yards abutting a street shall be provided	See landscaping comments below.
Minimum parking setback (34-3.5.2.J)	10 feet	Compliant
Loading space (34-3.5.2.N)	10 feet of loading space per front foot of building = 230 sq ft	247 sq ft
Rooftop equipment (34-3.5.2.U.)	Rooftop equipment shall be screened in accordance with Section 34-5.17.	No rooftop equipment proposed
Landscape area abutting street or freeway (34-3.5.2.V.)	A landscaped area not less than ten (10) feet deep	22 feet provided. See details below.

3. **Dumpster (34-5.1.2.D).**

Item	Required	Proposed/Comments
Location	Rear yard or interior side yard	The dumpster enclosure is in the rear yard and compliant.
Screening	Permanent building wall or earth mound not less than 6 feet or 1 foot above the enclosed dumpster whichever is greater	
Setback	20 feet from any residential property	

4. **Mechanical Equipment (34-5.1.4.D).** Mechanical equipment will be located indoors.
5. **Minimum parking (34-5.2.11.E.i).** 1 space is required per employee. The applicant states that the car wash has two employees, and five spaces are provided.
6. **Off-street parking dimensions (34-5.3.3.A & B.).** The spaces meet the minimum requirements for parking spaces.

Item	Required	Proposed/Comments
Maneuvering lane width	20 ft.	20-30 ft
Parking space width	9 ft.	9 ft (14 for vacuum spaces)
Parking space length	20 ft. for minimum required (May include a maximum two-foot unobstructed vehicle overhang area at the front of the parking space.)  17 ft. for additional parking (May include a maximum one-foot unobstructed vehicle overhang area at the front of the parking space)	21 ft

7. **Barrier Free Parking.** One van accessible ADA space is proposed.
8. **Acceleration-Deceleration-Passing Lanes (34-5.6.2.)** Driveways providing ingress and egress to all three-lane paved major or secondary thoroughfares shall be provided with paved acceleration and deceleration lanes. If in the opinion of the director of public services no useful purpose would be served or if unusual difficulty would be encountered by reason of grade changes, intersections, bridges, or other land restrictions, the director may waive or modify the requirements of this section.  
**We defer to engineering to address this issue.**
9. **Standards for vehicle washes.** Per Section 34-4.40, car washes shall meet the following standards:
  1. All washing facilities shall be within a completely enclosed building.  
*This standard is met.*
  2. Vacuuming and drying areas may be located outside the building but shall not be in the required front yard.  
*This standard is met. Details of the vacuum units are not provided.*
  3. All cars required to wait for access to the facilities shall be provided space off the street right-of-way.  
*Per Section 34-5.2.12.L, tunnel-style vehicle washes require stacking spaces as follows: "Stacking spaces equal in number to five (5) times the capacity of the vehicle wash. Maximum capacity of the vehicle wash shall be determined by dividing the length in feet of each wash line by twenty (20) and three (3) vehicles beyond the tunnel for drying." The wash line is 120 feet. The capacity, per ordinance, is six vehicles (6x5=30). 30 stacking spaces are shown.*
  4. Access points shall be located at least two hundred (200) feet from the intersection of any two (2) streets.  
*This standard is met.*
  5. All off-street parking and waiting areas shall be hard surfaced and dust free.  
*This standard is met.*



6. One traffic lane shall be provided as means of exiting the facility without having to enter the car wash building; such lane shall be in addition to those which would be used by customers obtaining gasoline and waiting in line for the carwash. Such lane shall not be counted as part of the required reservoir parking space.  
*This standard is met.*
7. All buildings, vehicular stacking space, vacuuming or other outside use area, except employee parking, shall have a minimum setback of one hundred (100) feet from a residential district, unless the district is separated by a major or secondary thoroughfare.  
*This standard is met.*
8. In the LI district, vehicle wash is permitted as a special approval use when it is the principal use (e.g., it is not connected to or accessory to a gasoline service station or automobile salesroom, showroom or office).  
*This standard does not apply to this property.*
10. **Circulation.** *The last three stacking spaces could conflict with the southbound maneuvering lane that runs along the property's east side. Minor delays may result, but stacking would be internal to the site. **The Planning Commission should determine if this is acceptable.***
11. **Corner Clearance (34-5.10).** Corner clearance standards are met.
12. **Overall site.** The landscaping plan is compliant with the ordinance. *We note that there appears to have been some sort of printing error which caused certain letters to be dropped from some headers and table content.*

Item	Required			Proposed/Comments
Minimum distance from the property line (34-5.14.C.ii)	4 ft from the property line for trees and large shrubs			Compliant
Minimum parking lot island area	Minimum of 180 square feet; 3 feet minimum radius at the trunk of the tree			Compliant
Cost estimate	Not required			--
Minimum size and spacing requirements at planting (34-5.14.F)	Size	Center to center distance (max)		
	(Height/width)	groupings	rows	
• Evergreen Trees	8 ft. height	20 ft.	12 ft.	N/A
• Narrow Evergreen Trees	5 ft. height	10 ft.	5 ft.	N/A
• Large Shrubs	30 in. height	10 ft.	5 ft.	Standard is met
• Small Shrubs	24 in. width	4 ft.	4 ft.	Standard is met
• Large Deciduous	3 in. caliper	30 ft.	-	Standard is met
• Small deciduous trees	2 in. caliper	15 ft.	-	Standard is met
• Hedge shrubs	24 in. height	3 ft.	3 ft.	Standard is met
Canopy Trees	Shall be large deciduous. PC may permit large evergreens			Standard is met

Item	Required	Proposed/Comments
Minimum number of parking lot trees (34-5.14.4.C)	1 per every 2,800 square feet of paved surface area: 29,380 sq ft of paved area = 11 required trees.	10 new trees provided, plus 12 existing
Parking lot screening from public thoroughfare (34-5.14.5)	A planted hedge of small shrubs, or A masonry wall or berm of 2 feet high	Provided along W 10 Mile
Wall or Berm (34-5.15)	Required when abutting a residential district. (See 34-5.15)	Not required
Tree replacement (34-5.18)	6 regulated trees removed 0 landmark trees removed 6 total replacements required.	6 replacements provided

13. **Tree Replacement (34-5.18).** The tree survey appears to be accurate and without issues.

14. **Lighting (Section 34-5.16).**

a. **Operation hours (34-5.16.3.B.v.).** *The following notes must be added to or addressed on the plan; it is unclear from the existing plans whether these standards are met. The applicant should clarify how these standards are met.*

- i. Exterior lighting shall not operate during daylight hours.
- ii. Building façade and landscape lighting shall be turned off between midnight or one hour after close of business, whichever is later, and 6:00am or opening, whichever is earlier.
- iii. All other exterior lighting shall be reduced to no greater than 70% of maximum from midnight or one hour after close of business, whichever is later, and 6:00am or opening, whichever is earlier.
- iv. Use of occupancy sensors to turn off or reduce lighting within 15 minutes of zero occupancy is recommended.

b. **Illumination Levels**

Item	Required	Proposed/Comments
Maximum height (34-5.16.3.A.)	30 feet maximum	15, 20 and 22 ft.
Building Lighting (34-5.16.3.A. iii.)	Relevant building elevation drawings showing all fixtures and the portions of the walls to be illuminated	Decorative sconces proposed on building; <b>details needed</b>
Average to minimum illumination ratio (34-5.16.3.C)	4:1	<b>4.3:1</b>
Maximum illumination at the property line	0.3 fc	Compliant
Illumination Levels- Hardscape areas (e.g., parking areas, sidewalks)	2.5 lumens per sq ft of hardscape area	<b>Unclear from plan</b>

Item	Required	Proposed/Comments
Illumination Levels Building Entrances – within 20 ft of door	2,000 lumens per door	Unclear from plan

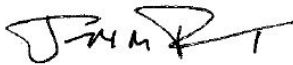
15. **Additional lighting standards for sites abutting a residential district (Sec. 34-5.16.3.B.iii.)**

- a. No direct light source shall be visible at the property line (adjacent to residential) at ground level.  
*This standard appears to be met.*
- b. All fixtures mounted within 50 feet of a residential property line or public right-of-way boundary shall be fitted with a shielding reflector on the side facing the residential property line or public right-of-way. *This standard does not apply to this site.*

16. **Pedestrian Connection (Sec. 34-5.19). A pedestrian connection to the 10 Mile sidewalk is not provided. Planning Commission to review and provide direction to applicant.**

We are available to answer questions.

Respectfully,  
**Giffels Webster**



Joe Tangari, AICP  
Senior Planner



Rod Arroyo, AICP  
Secretary | Partner





DEPARTMENT OF PUBLIC SERVICES  
KAREN MONDORA, P.E., DIRECTOR

City of Farmington Hills  
Environmental Review

Project Name: Car Wash

Address: 38400 10 Mile Rd.

Project Job #: 3-22-74

Plan Dated: 12-23-2021

Plan Received: 1-19-2022

Review #: 1

Review Date: 1-26-2022

As requested, I have conducted a plan review of the above reference engineering plans. I have the following comments:

1. Provide calculations and details for the underground detention system and the storm water treatment unit.
2. Provide calculations for how the underground detention system will work with the existing overflow structure.
3. There is opportunity for low impact development best management practices to address storm water quality and quantity. These techniques include: porous pavement, infiltration trenches, and bioretention/rain gardens. The low impact development techniques would minimize the volume of storm water runoff and provide storm water quality treatment.

Respectfully submitted,

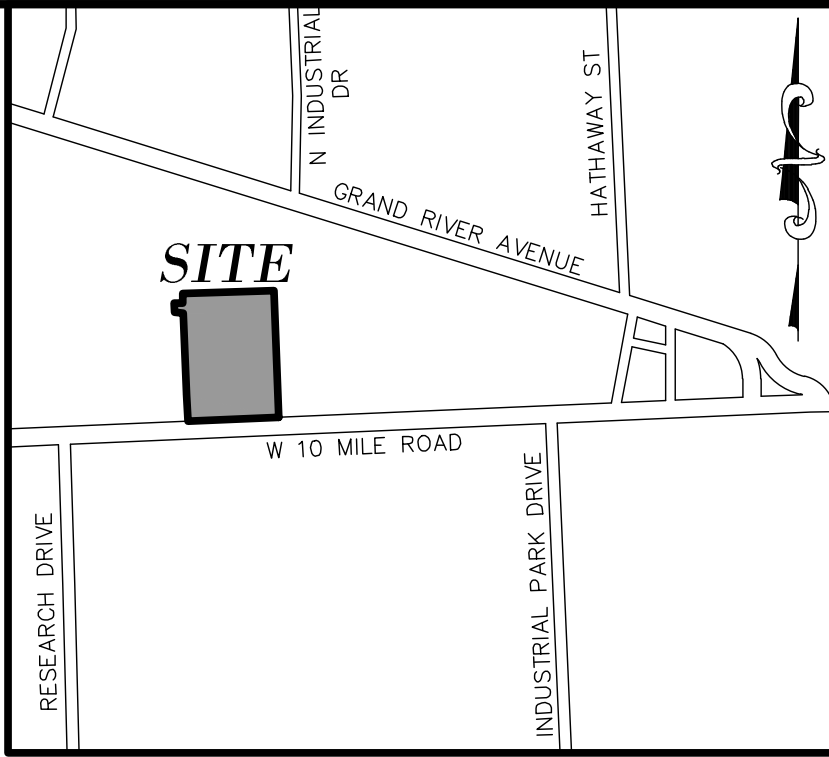
Tyler Sonoga  
Civil/Environmental Engineer  
Department of Public Services

cc: City of Farmington Hills, J. Cubera

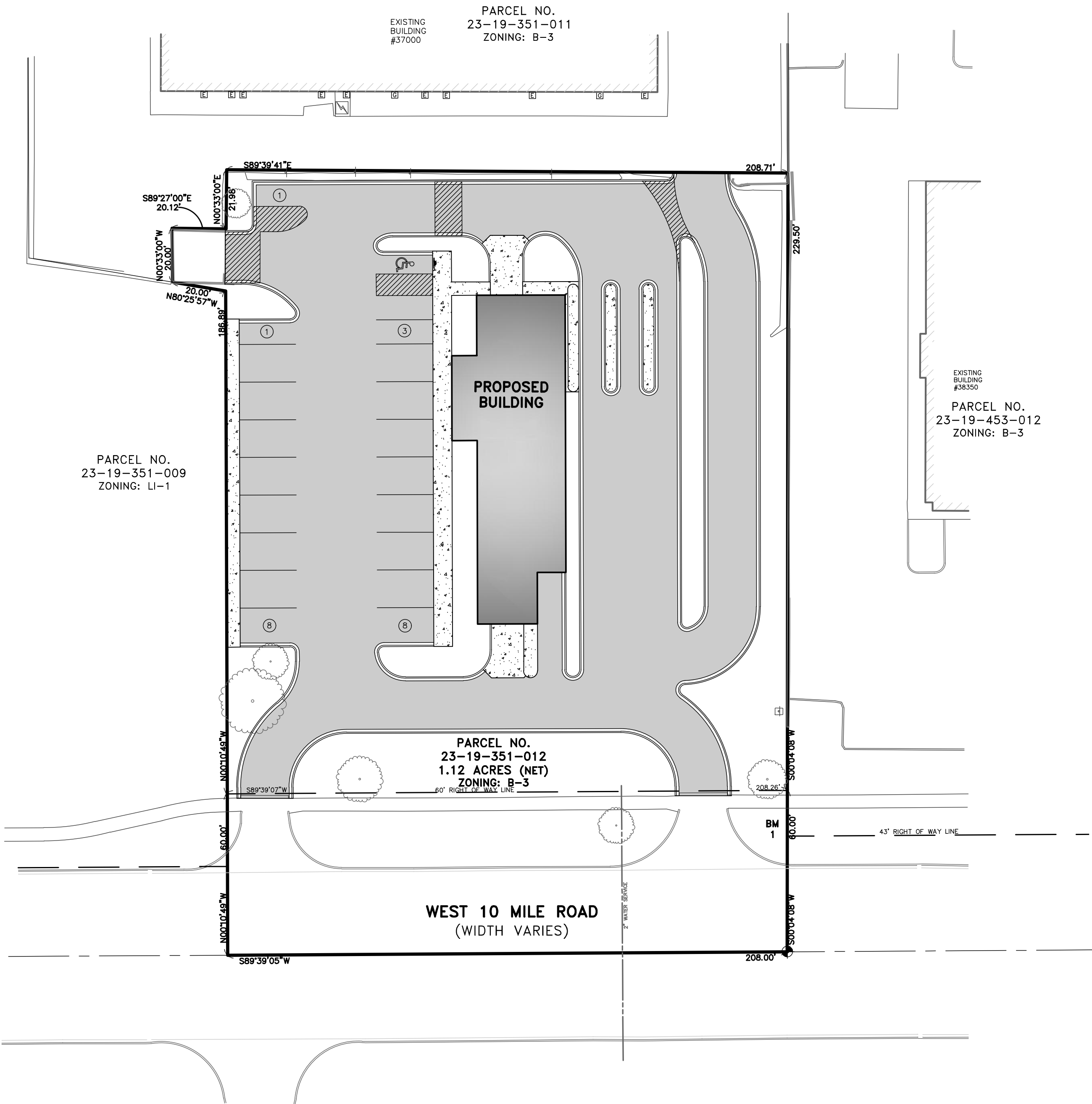
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SITE PLAN  
for  
CAR WASH

38400 W 10 MILE ROAD - PARCEL 23-19-351-012  
CITY OF FARMINGTON HILLS, OAKLAND COUNTY, MICHIGAN



LOCATION MAP N.T.S.



SHEET INDEX:

- 1 COVER SHEET  
2 DIMENSION AND PAVING PLAN  
3 TOPOGRAPHIC SURVEY  
4 GRADING AND SESC PLAN  
5 UTILITY PLAN  
6 DEMOLITION PLAN

- L-1 LANDSCAPE PLAN  
L-2 LANDSCAPE DETAILS  
L-3 WOODLAND PLAN

- 1 OF 1 PHOTOMETRIC SITE PLAN

- A.101 PROPOSED FLOOR PLAN  
A.201 PROPOSED EXTERIOR ELEVATIONS

- 1 OF 4 RCOC STANDARDS DETAILS  
2 OF 4 RCOC STANDARDS DETAILS  
3 OF 4 RCOC STANDARDS DETAILS  
4 OF 4 RCOC STANDARDS DETAILS  
1 OF 5 WATER MAIN STANDARD DETAILS  
2 OF 5 WATER MAIN STANDARD DETAILS  
3 OF 5 WATER MAIN STANDARD DETAILS  
1 OF 2 SANITARY SEWER DETAILS AND NOTES  
2 OF 2 SANITARY SEWER DETAILS AND NOTES  
1 OF 1 OAKLAND COUNTY SOIL EROSION AND SEDIMENTATION CONTROL DETAILS

- CITY OF FARMINGTON HILLS  
ST-1 GENERAL STANDARDS  
STORM SEWER STANDARDS

OWNER/APPLICANT:

38400 W 10 MILE ROAD LLC  
40261 VILLAGE WOOD ROAD  
NOVI, MI 48375  
CONTACT: MUSTAFA GARDI

SURVEYOR/ENGINEER:

GREENTECH ENGINEERING, INC.  
51147 W. PONTIAC TRAIL  
WIXOM, MI 48393  
PHONE: (248) 668-0700  
FAX: (248) 668-0701  
CONTACT: DAN LECLAIR, P.E.

LANDSCAPE ARCHITECT:

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

BENCHMARKS:

BM1  
NAIL IN NORTH FACE OF UTILITY POLE, 52'± NORTH OF  
CENTERLINE OF WEST 10 MILE ROAD, 29'± EAST OF CENTERLINE  
OF EASTERLY DRIVE FOR #38400 W, 10 MILE ROAD.  
ELEVATION: 835.55 N.A.V.D.88 DATUM

BM2  
SANITARY MANHOLE RIM NEAR THE NORTHEAST PROPERTY CORNER  
OF #38400 W, 10 MILE ROAD.  
ELEVATION: 837.46 N.A.V.D.88 DATUM

LEGAL DESCRIPTION (BY OTHERS):

PART OF THE SOUTHWEST 1/4 OF SECTION 19, TOWN 1 NORTH, RANGE 9 EAST, CITY OF FARMINGTON HILLS, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS:  
BEGINNING AT THE SOUTH 1/4 CORNER OF SECTION 19, TOWN 1 NORTH, RANGE 9 EAST, PROCEEDING THENCE S89°39'05"W 208.00 FEET ALONG THE SOUTH LINE OF SECTION 19; THENCE N00°10'09"W 246.86 FEET; THENCE N80°07'00"W 20.00 FEET; THENCE S89°27'00"E 20.12 FEET; THENCE N00°33'00"E 21.91 FEET; THENCE S89°30'41"E 210.01 FEET; THENCE S00°20'19"W 289.50 FEET ALONG THE NORTH AND SOUTH 1/4 LINE OF SECTION 19 TO THE POINT OF BEGINNING. SUBJECT TO THE RIGHTS OF THE PUBLIC FOR ROAD PURPOSES OVER THE SOUTH 33.0 FEET THEREOF IN TEN MILE ROAD.

A NON-EXCLUSIVE PERPETUAL EASEMENT APPURTENANT TO PARCEL FOR INGRESS AND EGRESS IN PART OF THE SOUTHWEST 1/4 OF SECTION 19, TOWN 1 NORTH, RANGE 9 EASE, CITY OF FARMINGTON HILLS, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS:

BEGINNING AT A POINT DISTANT N00°20'19"E 289.50 FEET ALONG THE NORTH AND SOUTH 1/4 LINE OF SECTION 19, AND N89°39'41"W 21.00 FEET FROM THE SOUTH 1/4 CORNER OF SECTION 19, TOWN 1 NORTH, RANGE 9 EAST; PROCEEDING THENCE N89°39'41"W 20.00 FEET; THENCE N00°20'19"E 145.11 FEET; THENCE S70°40'29"E 21.15 FEET ALONG THE SOUTH LINE OF GRAND RIVER AVENUE (100 FEET WIDE); THENCE S00°20'19"W 138.23 FEET TO THE POINT OF BEGINNING.

GENERAL NOTES:

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF FARMINGTON HILLS AND/OR OAKLAND COUNTY.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND/OR OBTAIN ANY INFORMATION NECESSARY REGARDING THE PRESENCE OF UNDERGROUND UTILITIES WHICH MIGHT EFFECT THIS JOB.
3. TITLE WORK WAS NOT PROVIDED. EXISTING EASEMENTS, IF ANY, HAVE NOT BEEN SHOWN.
4. ALL GROUND, BUILDING, AND ROOF MOUNTED MECHANICAL EQUIPMENT SHALL BE SCREENED FROM PUBLIC VIEW IN A MANNER PRACTICAL OF THE SITE.
5. STATE REQUIREMENTS FOR BARRIER FREE PARKING SPACES SUPERSEDE ANY CITY REQUIREMENTS.
6. THERE WILL BE NO CHANGES TO THE SITE IN TERMS OF DUST, ODOR, SMOKE, FUMES, NOISE OR LIGHT.
7. THERE WILL BE NO CHANGES TO THE SITE IN TERMS OF HOW THE SITE WILL BE SERVICED WITH UTILITIES (SANITARY SEWER, STORM SEWER AND WATER).
8. PROPOSED IMPROVEMENTS WILL NOT RESULT IN AN INCREASE IN THE IMPERVIOUS AREA OF THE SITE.

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.

RESIDENTIAL  
Site Condominium  
Boundary  
Plat Plans

COMMERCIAL  
Site Planning  
Grading & Mail-Unit  
Industrial & Mail-Unit  
Land Sweeping

EXISTING  
ALTIMETER  
Boundary Surveys  
Topographic Surveys  
Parcel Maps  
Construction Staking

GREENTECH  
ENGINEERING, INC.

CIVIL ENGINEERS & LAND SURVEYORS

51147 Pontiac Trail, Wixom, MI 48393  
Phone: (248) 668-0700 Fax: (248) 668-0701

811  
Know what's below  
Call before you dig.

CLIENT: RSP CONSTRUCTION, INC.

COVER SHEET

38400 W. 10 MILE ROAD - PARCEL NO. 23-19-351-012  
SECTION: 19 TOWNSHIP: 1 N. RANGE: 9 E.  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY  
MICHIGAN

REVISED  
2021-12-23 PER CITY PRELIM. REV.

DATE: 12-1-2021

DRAWN BY: CEH

CHECKED BY: JPP/DJL

FBK: --

CHF: --

SCALE: HOR 1"= 30 FT.  
VER 1"= -- FT.

1  
20-166



BM1  
NAIL IN NORTH FACE OF UTILITY POLE, 52'± NORTH OF  
CENTERLINE OF WEST 10 MILE ROAD, 29'± EAST OF CENTERLINE  
OF EASTERLY DRIVE FOR #38400 W. 10 MILE ROAD.  
ELEVATION: 835.55 N.A.V.D.88 DATUM

BM2  
SANITARY MANHOLE RIM NEAR THE NORTHEAST PROPERTY CORNER  
OF #38400 W. 10 MILE ROAD.  
ELEVATION: 837.46 N.A.V.D.88 DATUM

- 1) ALL CONSTRUCTION SHALL BE CONFORMING TO THE CURRENT STANDARDS AND SPECIFICATIONS ADOPTED BY CITY OF FARMINGTON HILLS AND OAKLAND COUNTY.
- 2) ALL SIDEWALK, RAMPS, LANDINGS, AND RAILINGS MUST MEET THE AMERIBILITY WITH DISABILITY ACT (ADA) REQUIREMENTS.
- 3) THE CONTRACTOR SHALL PAY FOR, OBTAIN AND COMPLY WITH ALL PERMITS NECESSARY FROM PUBLIC AGENCIES INCLUDING BUT NOT LIMITED TO THE CITY OF FARMINGTON HILLS, OAKLAND COUNTY, AND THE MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY.
- 4) ALL PAVEMENT, DRIVEWAYS, SHOULDERS, LANDSCAPING, DRAINAGE PIPES, MANHOLES, SIGNS, ETC. DAMAGED DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR TO EQUAL OR BETTER CONDITION.
- 5) EXISTING MONUMENTS AND PROPERTY CORNERS SHALL BE PRESERVED AND PROTECTED, AND RESTORED IF DISTURBED, AT CONTRACTORS EXPENSE.
- 6) DURING THE CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE WATCHMAN AND FLAGMEN AS MAY BE REQUIRED FOR THE SAFETY AND CONVENIENCE OF THE PUBLIC. THE CONTRACTOR SHALL FURNISH BARRICADES, SIGNS AND LIGHTS NECESSARY TO PROTECT ALL PUBLIC TRAFFIC SHALL BE MAINTAINED AT ALL TIMES UNLESS OTHERWISE AUTHORIZED BY THE CITY OF FARMINGTON HILLS OR OAKLAND COUNTY. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC DEVICES, LATEST EDITION, BY THE MICHIGAN DEPARTMENT OF STATE HIGHWAYS.
- 7) IN THE EVENT OF ANY DISCREPANCY OR DUAL STANDARD SET FORTH IN THE SPECIFICATIONS CONTAINED IN THESE PLANS, THE STRICTER SHALL APPLY.
- 8) ALL GROUND, BUILDING, AND ROOF MOUNTED MECHANICAL EQUIPMENT SHALL BE SCREENED FROM PUBLIC VIEW IN A MANNER PRACTICAL OF THE SITE.
- 9) "NO SIGNAGE WILL BE APPROVED AS PART OF THIS SITE PLAN APPROVAL, AND PRIOR TO ERECTING A SIGN AN APPLICATION AND APPROPRIATE SUBMISSIONS SHALL BE MADE TO THE BUILDING DEPARTMENT FOR REVIEW, APPROVAL AND ISSUANCE OF A SIGN PERMIT." ALL SIGNS SHALL CONFORM TO THE CITY'S SIGN ORDINANCE.
- 10) STATE REQUIREMENTS FOR BARRIER FREE PARKING SPACES SUPERSEDE CITY REQUIREMENTS.
- 11) ALL DIMENSIONS SHOWN ARE TO EDGE OF PAVEMENT, FACE OF SIDEWALK, OUTSIDE FACE OF BUILDING, PROPERTY LINE, CENTER OF MANHOLE/CATCH BASIN OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED.
- 12) ALL WORK SHALL BE COMPLETED IN ONE PHASE.

1. NOTIFY THE CITY OF FARMINGTON HILLS ENGINEERING DIVISION (248) 871-2560 A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
2. ALL CONSTRUCTION MUST BE CONFORMING TO THE CURRENT STANDARDS AND SPECIFICATIONS ADOPTED BY THE CITY OF FARMINGTON HILLS.
3. UTILITIES TO BE UNDERGROUND.
4. CALL MISS DIG (1-800-647-7344 / 1-800-MISS DIG) A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
5. ALL SOIL EROSION AND SILT MUST BE CONTROLLED AND CONTAINED ON SITE.
6. ALL EXCAVATION UNDER OR WITHIN 3 FEET OF PUBLIC PAVEMENT, EXISTING OR PROPOSED, SHALL BE BACKFILLED AND COMPACTED WITH SAND (CLASS II MDOT).
7. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.
8. PRIOR TO THE ISSUANCE OF AN OCCUPANCY PERMIT, ENGINEERING SITE INSPECTION IS REQUIRED.

1. GRAVEL SHOULDERS SHALL CONSIST OF 8 INCHES OF MDOT 23A COMPACTED AGGREGATE.
2. RELOCATE ALL FIXED OBJECTS PRIOR TO EXCAVATION. FIXED OBJECTS SHALL BE NO NEARER THAN 6 FEET FROM BACK OF CURB.
3. ANY PEDESTRIAN FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT AMERICANS WITH DISABILITIES ACT(ADA) GUIDELINES.
4. ADJUST/RECONSTRUCT EXISTING STRUCTURE AS WARRANTED.

REQUIRED:  
STACKING SPACES = 5 TIMES VEHICLE CAPACITY OF WASH\*

\*VEHICLE CAPACITY OF WASH IS DETERMINED BY DIVIDING THE LENGTH IN FEET OF EACH WASH LINE BY TWENTY (20) & \*\*ADD THREE (3) VEHICLES BEYOND TUNNEL FOR DRYING.

\*\*OUTSIDE DRYING WILL NOT BE NEEDED AS THE TUNNEL IS DESIGNED TO DRY THE CARS COMPLETELY. THUS, IT HAS BEEN REMOVED FROM THE PROPOSED STACKING SPACES CALCULATION.

LENGTH OF BUILDING = 122.23 FT.  
NUMBER OF WASH LINES = ONE (1)

VEHICLE CAPACITY = (122.23 FT. / 20) = 6.1 PER WASH LINE

STACKING SPACES =  $5 \times 6.1 = 30.5 = 30$  STACKING SPACES

PROPOSED:  
LENGTH OF BUILDING = 122.23 FT.  
NUMBER OF WASH LINES = ONE (1)

VEHICLE CAPACITY = (122.23 FT. / 20) = 6.1 PER WASH LINE

STACKING SPACES =  $5 \times 6.1 = 30.5 = 30$  STACKING SPACES

REQUIRED:  
 AUTO WASH (AUTOMATIC) = ONE (1) SPACE FOR EACH EMPLOYEE  
 NUMBER OF EMPLOYEES = TWO (2)

REQUIRED PARKING SPACES = 2 SPACES

**PROPOSED PARKING SPACES:**  
FOUR (4) SPACES  
ONE (1) HANDICAP SPACE

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 COMMENSING 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.

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.

[illegible]

## B-3 - GENERAL BUSINESS DISTRICT

FRONT: 25 FEET  
REAR: 20 FEET  
SIDES: 10 FEET  
PER CITY OF FARMINGTON HILLS ORDINANCE

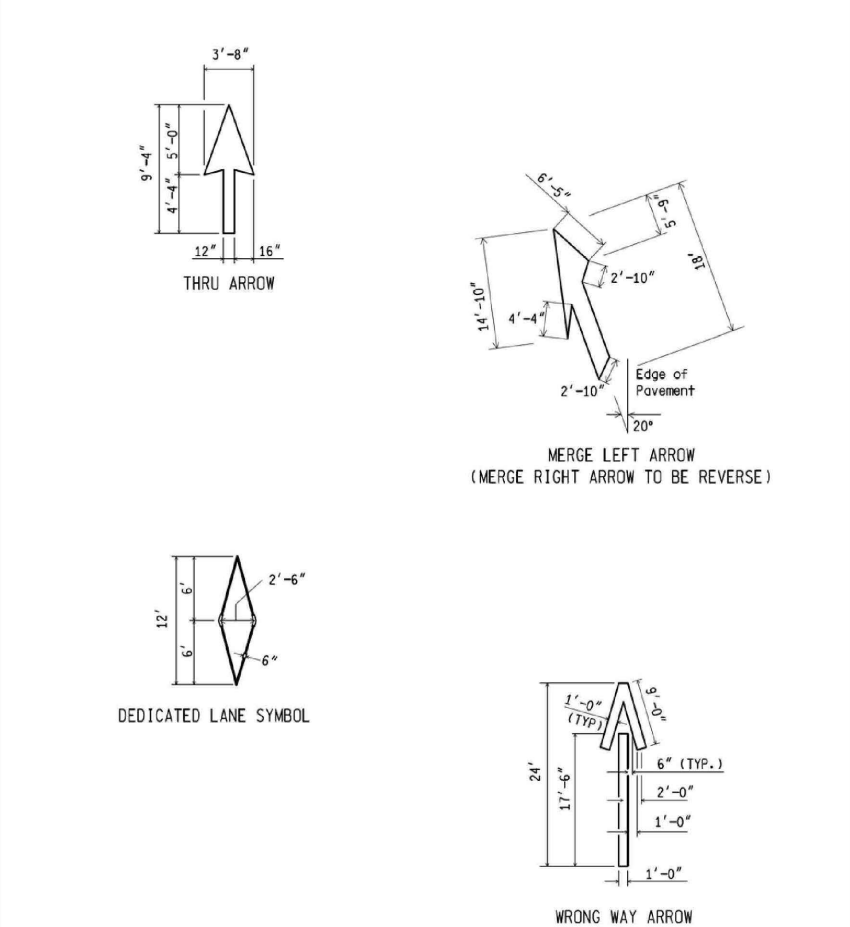
PARCEL 23-25-301-022: 1.12 ACRES (NET)

ALL PAVING AND GRADING IMPROVEMENTS SHALL CONFORM TO THE CITY OF FARMINGTON HILLS ENGINEERING DESIGN STANDARDS.

LIGHTING WILL BE SET TO A TIMER AND DIMMED OR SHUT OFF COMPLETELY DURING NON-OPERATIONAL HOURS

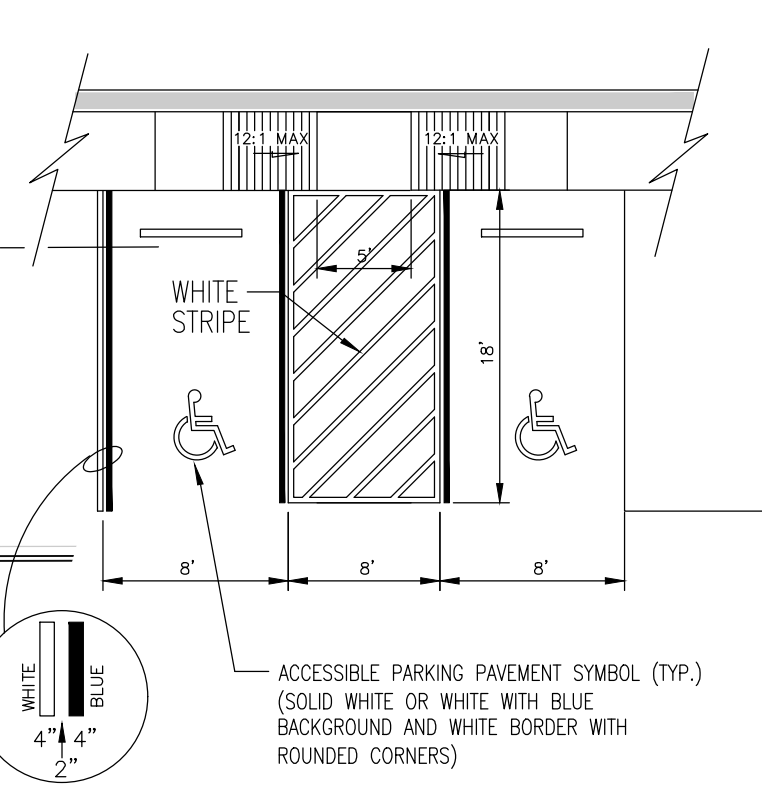
NOTE: 1. Templates for liquid applied materials on this sheet do not allow gaps.

2. When placed on a shared-use path, reduce all dimensions by half.

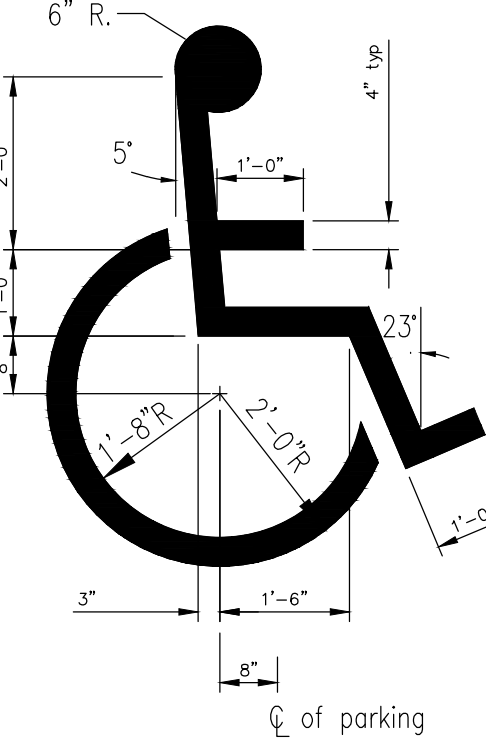


### PAVEMENT ARROW/SYMBOL DETAILS

NOT TO SCALE				
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN	06/23/17 F.B.R.S. APPROVAL	01/22/17 PLAN DATE	PAVE-900-F	SHEET 6 OF 8



NOT TO SCALE



NOT TO SCALE



**ZONING:**

B-3 GENERAL BUSINESS DISTRICT

**SETBACKS:**

FRONT: 25 FEET  
REAR: 20 FEET  
SIDE: 10 FEET

**LEGEND**

- FTI FOUND "T" IRON
- FIB FOUND CAPPED IRON
- FPK FOUND NAIL
- EX. LIGHTPOLE
- EX. UTILITY POLE
- EX. OVERHEAD LINES
- EX. GUARDRAIL
- EX. FENCE
- EX. CATCH BASIN
- EX. SANITARY MANHOLE
- EX. CLEANOUT
- EX. STORM MANHOLE
- EX. GATE VALVE
- EX. HYDRANT
- EX. WATER SHUT-OFF
- EX. SIGN
- EX. BOLLARD
- EX. POST
- EX. ELECTRIC METER
- EX. ELECTRIC TRANSFORMER
- EX. GAS METER
- EX. ELECTRIC PANEL
- EX. AIR CONDITIONER
- EX. IRRIGATION CONTROL BOX
- EX. WELL
- EX. DECIDUOUS TREE

**BENCHMARKS:**

BM1  
NAIL IN NORTH FACE OF UTILITY POLE, 52'± NORTH OF  
CENTERLINE OF WEST 10 MILE ROAD, 29'± EAST OF CENTERLINE  
OF EASTERLY DRIVE FOR #38400 W. 10 MILE ROAD.  
ELEVATION: 835.55 N.A.V.D.88 DATUM

BM2  
SANITARY MANHOLE RIM NEAR THE NORTHEAST PROPERTY CORNER  
OF #38400 W. 10 MILE ROAD.  
ELEVATION: 837.46 N.A.V.D.88 DATUM

**SURVEY NOTES:**

- TITLE WORK WAS NOT PROVIDED. EXISTING EASEMENTS, IF ANY, HAVE NOT BEEN SHOWN.
- A WETLAND AND TREE SURVEY WERE NOT PERFORMED AS PART OF THIS SURVEY.

**LEGAL DESCRIPTION (BY OTHERS):**

PART OF THE SOUTHWEST 1/4 OF SECTION 19, TOWN 1 NORTH, RANGE 9 EAST, CITY OF FARMINGTON HILLS, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS:  
**BEGINNING** AT THE SOUTH 1/4 CORNER OF SECTION 19, TOWN 1 NORTH, RANGE 9 EAST, PROCEEDING THENCE S89°39'05"W 208.00 FEET ALONG THE SOUTH LINE OF SECTION 19; THENCE N00°10'09"W 246.86 FEET; THENCE N80°07'00"W 20.00 FEET; THENCE S89°27'00"E 20.12 FEET; THENCE N00°33'00"E 21.91 FEET; THENCE S89°30'41"E 210.01 FEET; THENCE S00°20'19"W 289.50 FEET ALONG THE NORTH AND SOUTH 1/4 LINE OF SECTION 19 TO THE **POINT OF BEGINNING**. SUBJECT TO THE RIGHTS OF THE PUBLIC FOR ROAD PURPOSES OVER THE SOUTH 33.0 FEET THEREOF IN TEN MILE ROAD.

A NON-EXCLUSIVE PERPETUAL EASEMENT APPURTENANT TO PARCEL FOR INGRESS AND EGRESS IN PART OF THE SOUTHWEST 1/4 OF SECTION 19, TOWN 1 NORTH, RANGE 9 EASE, CITY OF FARMINGTON HILLS, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS:

**BEGINNING** AT A POINT DISTANT N00°20'18"E 289.50 FEET ALONG THE NORTH AND SOUTH 1/4 LINE OF SECTION 19, AND N89°39'41"W 21.00 FEET FROM THE SOUTH 1/4 CORNER OF SECTION 19, TOWN 1 NORTH, RANGE 9 EAST; PROCEEDING THENCE N89°39'41"W 20.00 FEET; THENCE N00°20'19"E 145.11 FEET; THENCE S70°40'29"E 21.15 FEET ALONG THE SOUTH LINE OF GRAND RIVER AVENUE (100 FEET WIDE); THENCE S00°20'19"W 138.23 FEET TO THE **POINT OF BEGINNING**.

**FLOOD HAZARD STATEMENT:**

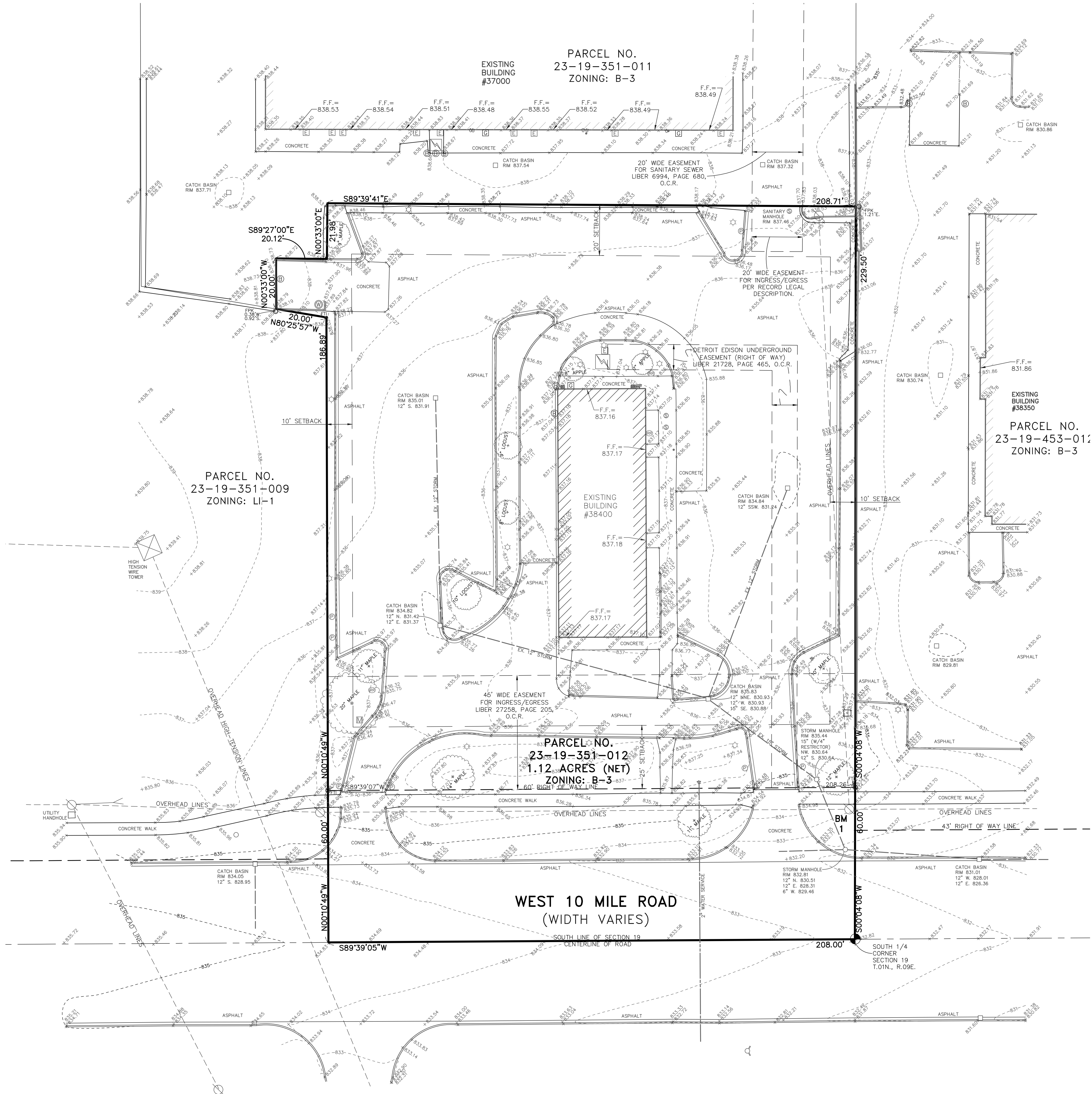
THIS PROPERTY IS LOCATED WITHIN A FEMA DESIGNATED ZONE X FLOOD HAZARD AREA AS SHOWN ON NATIONAL FLOOD INSURANCE PROGRAM (NFIP) FOR MICHIGAN FLOOD INSURANCE RATE MAP (FIRM) #26125C0633F (COMMUNITY ID NO. 260172 - CITY OF FARMINGTON HILLS, MI) WITH AN EFFECTIVE DATE OF SEPTEMBER 29, 2006. THIS STATEMENT IS BASED ON THE RESULTS OF GRAPHIC PLOTTING ONTO THE ABOVE NAMED MAP AND PANEL, WHICH IS THE CURRENT MAP FOR THE COMMUNITY IN WHICH THE PROPERTY IS LOCATED. ZONE X INDICATES AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN.

**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.



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**TOPOGRAPHIC SURVEY**

#38400 W. 10 MILE ROAD - PARCEL NO. 23-19-351-012  
SECTION: 19 TOWNSHIP: 01N. RANGE: 09E.  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY  
MICHIGAN

REVISED  
2021-12-23 PER CITY PRELIM. REV.

DATE: 12-1-2021

DRAWN BY: PWK/CEH

CHECKED BY: JPP/DJL

FBK: --

CHF: MM

SCALE HOR 1"=20 FT.  
VER 1"=-- FT.

3

20-166



**BENCHMARKS:**

BM1  
NAIL IN NORTH FACE OF UTILITY POLE, 52'± NORTH OF  
CENTERLINE OF WEST 10 MILE ROAD, 29'± EAST OF CENTERLINE  
OF EASTERLY DRIVE FOR #38400 W. 10 MILE ROAD.  
ELEVATION: 835.55 N.A.V.D.88 DATUM

BM2  
SANITARY MANHOLE RIM NEAR THE NORTHEAST PROPERTY CORNER  
OF #38400 W. 10 MILE ROAD.  
ELEVATION: 837.46 N.A.V.D.88 DATUM

**GENERAL GRADING & EARTHWORK NOTES:**

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING TREES AND BRUSH AND REMOVE ALL THAT ARE NECESSARY TO GRADE SITE.
2. ALL GRADES ARE PROPOSED SPOT GRADE ELEVATION UNLESS OTHERWISE NOTED.
3. THE STAGING OF CONSTRUCTION ACTIVITIES SHALL OCCUR ONLY WITHIN THE SITE BOUNDARIES. ANY CONSTRUCTION ACTIVITIES OUTSIDE OF THE SITE BOUNDARIES SHALL BE AT THE SOLE RESPONSIBILITY AND RISK OF THE CONTRACTOR.
4. ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL MEET THE REQUIREMENTS OF CITY OF FARMINGTON HILLS AND OAKLAND COUNTY. AN EROSION CONTROL PERMIT MUST BE SECURED FROM THE CITY PRIOR TO CONSTRUCTION.
5. REFER TO THIS SHEET FOR ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND NOTES.
6. THE DETENTION BASIN SIDE SLOPES AND ALL SLOPE EXCEEDING 1:6 MUST BE STABILIZED BY SODDING OR BY PLACING A MULCH BLANKET PEGGED IN PLACE OVER SEED.
7. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED OR SODDED IN ACCORDANCE WITH THE CITY OF FARMINGTON HILLS, OAKLAND COUNTY AND LANDSCAPE PLANS. PROVIDE A MINIMUM OF 4" OF TOPSOIL IN THESE AREAS UNLESS OTHERWISE NOTED.
8. THE CONTRACTOR SHALL NOTE EXISTING UNDERGROUND UTILITIES WITHIN AND ADJACENT TO THE SITE. BACKFILL FOR EXISTING UTILITY TRENCHES SHALL BE EXAMINED CRITICALLY. ANY TRENCHES FOUND TO HAVE SOFT, UNSTABLE OR UNSUITABLE BACKFILL MATERIAL, IN THE OPINION OF THE GEOTECHNICAL ENGINEER, THAT ARE TO BE WITHIN THE ZONE OF INFLUENCE OF PROPOSED BUILDINGS OR PAVEMENT SHALL BE COMPLETELY EXCAVATED AND BACKFILLED WITH SUITABLE MATERIAL.

**GRADING NOTES:**

1. SUBGRADE PREPARATION FOR PAVEMENT AND UTILITIES SHALL BE MONITORED BY A GEOTECHNICAL ENGINEER.
2. ACCEPTABLE MATERIAL FROM UNDERCUTTING MAY BE USED AS ENGINEERED FILL AS APPROVED BY SOILS ENGINEER.
3. CONTRACTOR SHALL TEMPORARILY STOCKPILE TOP SOIL TO BE USED FOR FINAL GRADING.
4. REMOVE ANY EXISTING TOPSOIL, ORGANIC SOILS, VEGETATION, TREES AND OTHER DELETERIOUS MATERIALS TO EXPOSE THE SUBGRADE SOIL. TREES SHOULD BE COMPLETELY REMOVED.
5. THE TOP 12 INCHES OF THE EXPOSED SUBGRADE AS WELL AS INDIVIDUAL FILL LAYERS SHOULD BE COMPACTED TO ACHIEVE A 95% COMPACTION LEVEL. (MODIFIED PROCTOR - ASTM D1557).
6. THE FINAL SUBGRADE SHOULD BE THOROUGHLY PROFFEROLLED USING A FULLY LOADED TANDEM AXLE TRUCK UNDER THE OBSERVATION OF A GEOTECHNICAL/PAVEMENT ENGINEER. LOOSE OR YIELDING AREAS THAT CAN NOT BE MECHANICALLY STABILIZED SHOULD BE REMOVED AND REPLACED WITH ENGINEERED FILL.
7. THE AGGREGATE BASE SHOULD BE COMPACTED TO ACHIEVE A 95 PERCENT COMPACTION LEVEL (MODIFIED PROCTOR - ASTM D1557). THE BASE AND SUBGRADE COMPACTION SHOULD EXTEND A MINIMUM OF 1 FOOT BEYOND THE PAVED EDGE.
8. ALL BITUMINOUS MATERIAL SHOULD BE COMPACTED TO A DENSITY OF 97% OF THE MAXIMUM DENSITY AS DETERMINED BY THE MARSHALL METHOD.

**NOTE:**

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**GENERAL NOTES:**

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF CITY OF FARMINGTON HILLS.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND/OR OBTAIN ANY INFORMATION NECESSARY REGARDING THE PRESENCE OF UNDERGROUND UTILITIES WHICH MIGHT AFFECT THIS JOB.

**HATCH LEGEND**

- ASPHALT
- CONCRETE
- PROPOSED BUILDING
- EXISTING BUILDING

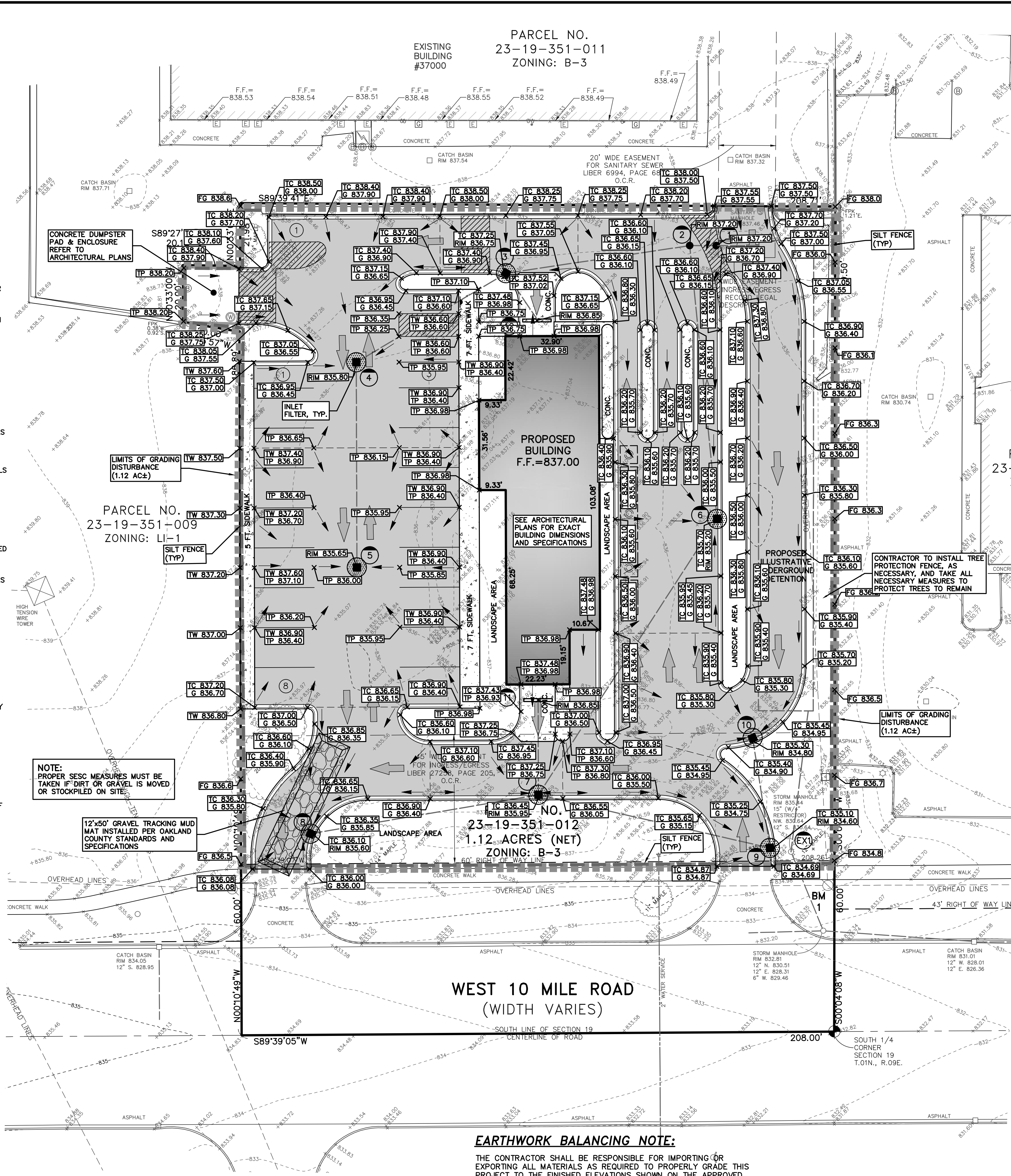
**GRADING AND DRAINAGE LEGEND:**

PROPOSED SPOT GRADE ELEVATION

- TP = TOP OF PAVEMENT
- TW = TOP OF WALK
- TC = TOP OF CURB
- G = GUTTER
- FG = FINISH GRADE
- FF = FINISH FLOOR

**LIMITS OF DISTURBANCE**

TOTAL AREA OF DISTURBANCE = 1.12 AC±

**EARTHWORK BALANCING NOTE:**

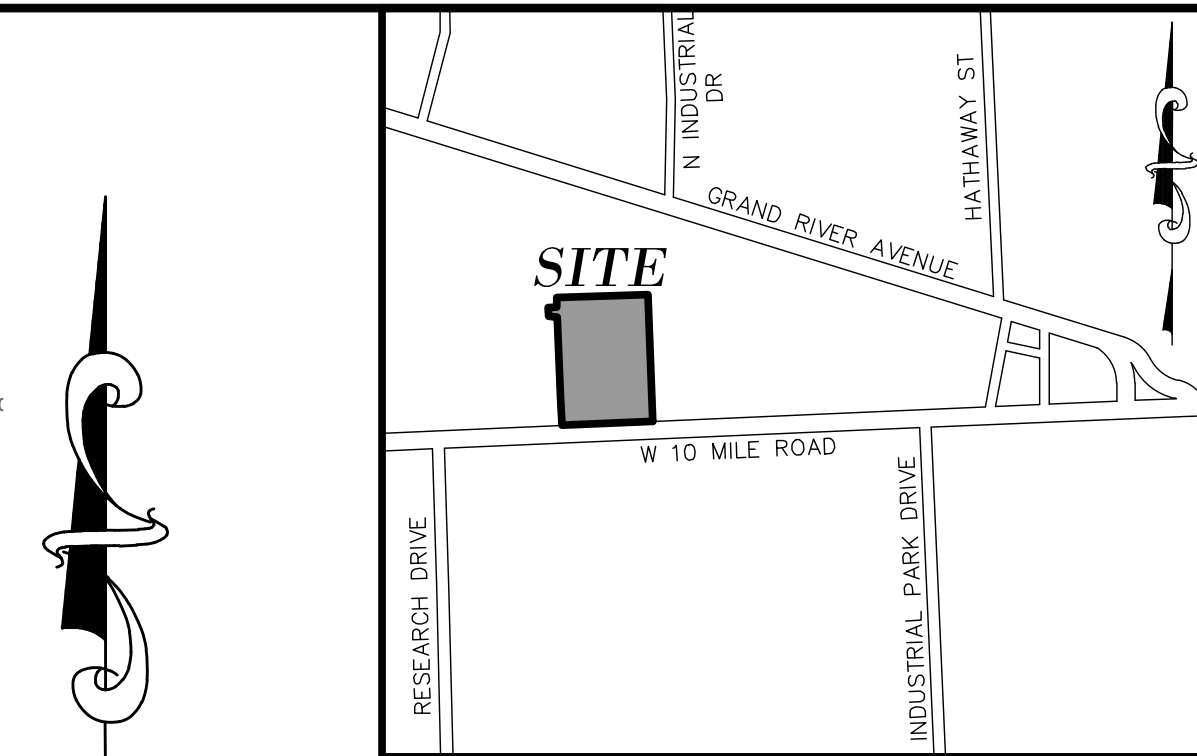
THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING OR EXPORTING ALL MATERIALS AS REQUIRED TO PROPERLY GRADE THIS PROJECT TO THE FINISHED ELEVATIONS SHOWN ON THE APPROVED PLANS. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF CUT AND FILL QUANTITIES AND ALLOW FOR REMOVAL OF EXCESS OR IMPORTATION OF ADDITIONAL MATERIAL AT NO ADDITIONAL COST TO THE OWNER.

**RESTORATION NOTE:**

THE CONTRACTOR SHALL RESTORE AREAS DISTURBED FROM HIS CONSTRUCTION OPERATIONS TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER, AND TO THE SATISFACTION OF THE OWNER. LANDSCAPE AREAS REQUIRING RESTORATION SHALL INCLUDE MIN. 3" TOPSOIL AND SOD. PAVEMENT AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION, WITH THE APPLICABLE CROSS-SECTION TO MATCH EXISTING.

**NOTES:**

1. NO GRADING TO TAKE PLACE ON ADJACENT PROPERTIES
2. ALL SIDEWALKS TO BE ADA COMPLIANT.
3. ALL SPOT GRADES SHOWN ON THIS PLANS ARE PROPOSED TOP OF PAVEMENT UNLESS OTHERWISE NOTED.
4. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES MUST BE SHOWN AND MAINTAINED DURING GRADING AND CONSTRUCTION OPERATIONS OR UNTIL A PERMANENT GROUND COVER IS ESTABLISHED.

**LOCATION MAP N.T.S.****SOIL EROSION LEGEND**

- INLET FILTER
- LIMITS OF DISTURBANCE
- SILT FENCE

**DISTURBED AREA NOTE:**

ALL DISTURBED AREAS WILL BE STABILIZED WITHIN 30 DAYS OF GRADING

**GENERAL NOTES (EROSION CONTROL)**

1. THE SOIL FOR THIS SITE IS CLASSIFIED AS A WELL-DRAINED LOAM. THEREFORE, THE TYPE OF SEED TO BE USED WILL BE A MIXTURE OF 50% CREEPING RED FESCUE AND 50% KENTUCKY BLUE GRASS. THE RATE THIS SEED MIXTURE SHOULD BE APPLIED IS ONE POUND PER 1,000 SQUARE FEET. EXCEPT AS NOTED ON THE LANDSCAPE PLAN.
2. IMMEDIATELY AFTER SEEDING, MULCH ALL SEEDING AREAS WITH UNWEATHERED SMALL GRAIN STRAW (PREFERABLY WHEAT) OR HAY SPREAD UNIFORMLY AT THE RATE OF 1 1/2 TO 2 TONS PER ACRE OR 100 POUNDS (2 TO 3 BALES) PER 1,000 SQUARE FEET. THIS MULCH SHOULD BE ANCHORED WITH A DISC-TYPE MULCH ANCHORING TOOL.
3. ANY DISTURBED AREA NOT PAVED, SEEDING AND MULCHED, SODDED OR BUILT UPON BY NOVEMBER 15, IS TO BE MULCHED IN THE MANNER SPECIFIED IN GENERAL NOTES #2 ABOVE, IN ORDER TO PROVIDE SOIL EROSION PROTECTION DURING THE WINTER AND EARLY SPRING.
4. ALL SOIL EROSION AND SEDIMENTATION CONTROL PREVENTION PROCEDURES AND STRUCTURES ARE TO COMPLY WITH THE MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY, SURFACE WATER QUALITY DIVISION "GUIDEBOOK OF BEST MANAGEMENT PRACTICES FOR MICHIGAN WATERSHEDS."

**GENERAL CONDITIONS (EROSION CONTROL)**

1. DESIGN, CONSTRUCT, AND COMPLETE THE EARTH CHANGE IN A MANNER THAT LIMITS THE EXPOSED AREA OF DISTURBED LAND FOR THE SHORTEST PERIOD OF TIME.
2. REMOVE SEDIMENT CAUSED BY ACCELERATED SOIL EROSION FROM RUNOFF WATER BEFORE IT LEAVES THE SITE OF THE EARTH CHANGE.
3. TEMPORARY OR PERMANENT CONTROL MEASURES SHALL BE DESIGNED AND INSTALLED TO CONVEY WATER AROUND, THROUGH, OR FROM THE EARTH CHANGE AT A NON-EROSIVE VELOCITY.
4. INSTALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES BEFORE OR UPON COMMENCEMENT OF THE EARTH CHANGE ACTIVITY AND MAINTAIN THE MEASURES ON A DAILY BASIS. REMOVE TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AFTER PERMANENT SOIL EROSION MEASURES ARE IN PLACE AND THE AREA IS STABILIZED. ("STABILIZED" MEANS THE ESTABLISHMENT OF VEGETATION OR THE PROPER PLACEMENT, GRADING, OR COVERING OF SOIL TO ENSURE ITS RESISTANCE TO SOIL EROSION, SLIDING OR OTHER EARTH MOVEMENT.)
5. COMPLETE PERMANENT SOIL EROSION CONTROL MEASURES FOR THE EARTH CHANGE WITHIN FIVE CALENDAR DAYS AFTER FINAL GRADING OR UPON COMPLETION OF THE FINAL EARTH CHANGE. IF IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE THE EARTH CHANGE, THEN MAINTAIN TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IN PLACE AND THE AREA IS STABILIZED.

**MAINTENANCE REQUIREMENTS:**

MAINTENANCE OF SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

1. ALL SILT FENCE SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. IF AT ANY TIME THE DEPTH OF SILT AND SEDIMENT COMES TO WITHIN 12" OF THE TOP OF ANY SILT FENCE, ALL SILT AND SEDIMENT SHALL BE REMOVED TO ORIGINAL GRADE.
2. ALL TEMPORARY GRAVEL FILTERS SHOULD BE ADJUSTED AS TO LOCATION PER ACTUAL FIELD CONDITIONS. THE REMOVAL OF TRAPPED SEDIMENT AND THE CLEANOUT OR REPLACEMENT OF CLOGGED STONE MAY BE NECESSARY AFTER EACH STORM EVENT DURING THE PROJECT.
3. ONLY UPON STABILIZATION OF ALL DISTURBED AREAS MAY THE SILT FENCE AND TEMPORARY GRAVEL OR FABRIC INLET FILTERS BE REMOVED. ALL STORM SEWERS MUST ALSO BE CLEANED OF ALL SEDIMENT.
4. SEEDING, SODDING OR MULCHED AREAS SHOULD BE CHECKED FOLLOWING EACH RAIN TO ENSURE THE MATERIAL IS STAYING IN PLACE. ADDITIONAL TACKLING 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.
5. IMMEDIATELY REMOVE CONSTRUCTION DEBRIS AND SEDIMENT THAT IS PLACED ON ELDON STREET.

**SEQUENCE CONSTRUCTION:**

1. SOIL EROSION AND SEDIMENTATION CONTROL PRE-GRADING MEETING.
2. STAKE TREE CLEARING LIMITS AND INSTALL NATURAL FEATURES PROTECTION FENCING.
3. REMOVE TREE STEMS (NOT ROOT SYSTEMS).
4. INSTALL ALL PERIMETER SOIL EROSION AND SEDIMENTATION CONTROL MEASURES INCLUDING MUD TRACKING SURFACES.
5. GRUB (REMOVE TREE ROOT SYSTEMS) AND ROUGH GRADE SITE, STOCKPILE TOPSOIL (INSTALL TEMPORARY EROSION CONTROLS AROUND STOCKPILE PILES), INSTALL SWALE AND/OR CHANNEL EROSION CONTROLS.
6. INSTALL DETENTION PONDS WITH INLET AND OUTLET CONTROL STRUCTURES, RIP-RAP, AND REINFORCED OVERFLOW.
7. STABILIZE THE ENTIRE DETENTION PONDS INCLUDING THE BOTTOM, SIDE SLOPES, AND BERMS WITH PERMANENT VEGETATION.
8. INSTALL ADDITIONAL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES TO PROTECT STABILIZED AREAS FROM SEDIMENTATION.
9. INSTALL STORM SEWER SYSTEM WITH INLET FILTER CONTROLS.
10. INSTALL WATER MAIN, FIRE HYDRANTS AND OTHER UTILITIES.
11. INSTALL CURB & GUTTER AND SUB-BASE OF AREAS TO BE PAVED, THEN INSTALL WEAR COAT OF ASPHALT.
12. FINAL GRADE SITE AND REDISTRIBUTE TOPSOIL. STABILIZE ALL DISTURBED WITH SOD, HYDROSEED APPLICATION, OR SEEDING UNDER A CRIMPED STRAW MULCH.
13. MONITOR AND MAINTAIN ALL EROSION CONTROLS THROUGH CONSTRUCTION SEQUENCE.
14. REMOVE AND REPLACE GRAVEL FILTERS SURROUNDING STANDPIPES IN DETENTION AREAS. CLEAN OUT WATER QUALITY DEVICES. REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROLS AFTER VEGETATION HAS ROOTED TO THE POINT OF PERMANENTLY STABILIZING THE SOILS.

NOTE: SCHEDULE SUBJECT TO CITY OF FARMINGTON HILLS APPROVAL AND WEATHER.

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CHECKED BY: JPP/DJL

FBK: ---

CHF: ---

SCALE: HOR 1"= 20 FT.  
VER 1"= -- FT.

20-166

GRADING AND SESC PLAN

38400 W. 10 MILE ROAD - PARCEL NO. 23-19-351-012  
SECTION: 19 TOWNSHIP: 1 N.  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY  
MICHIGAN

RANGE: 9 E.



**BENCHMARKS:**

BM1  
NAIL IN NORTH FACE OF UTILITY POLE, 52'± NORTH OF  
CENTERLINE OF WEST 10 MILE ROAD, 29'± EAST OF CENTERLINE  
OF EASTERLY DRIVE FOR #38400 W. 10 MILE ROAD.  
ELEVATION: 835.55 N.A.V.D.88 DATUM

BM2  
SANITARY MANHOLE RIM NEAR THE NORTHEAST PROPERTY CORNER  
OF #38400 W. 10 MILE ROAD.  
ELEVATION: 837.46 N.A.V.D.88 DATUM

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**EARTHWORK BALANCING NOTE:**

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**HATCH LEGEND**

- ASPHALT
- BALCONY/PORCH AREA
- CONCRETE
- PROPOSED BUILDING
- EXISTING BUILDING

NOTE:  
PROPER SEC. MEASURES MUST BE  
TAKEN IF DIRT OR GRAVEL IS MOVED  
OR STOCKPILED ON SITE.

PARCEL NO.  
23-19-351-011  
ZONING: B-3

EXISTING  
BUILDING  
#37000

PARCEL NO.  
23-19-453-012  
ZONING: B-3

PARCEL NO.  
23-19-351-012  
1.12 ACRES (NET)  
ZONING: B-3

WEST 10 MILE ROAD  
(WIDTH VARIES)

SITE

LOCATION MAP N.T.S.

**UTILITY NOTES**

CITY STANDARD EASEMENTS ARE TO BE PROVIDED FOR PUBLIC WATER AND SANITARY SEWER.

ALL PROPOSED FIRE SERVICE WATER LEAD IS CLASS 54 DUCTILE IRON PIPE.

REVIEWS AND APPROVAL OF THE STORM SEWER SYSTEM BY THE OAKLAND COUNTY DRAIN COMMISSIONER AND THE CITY OF FARMINGTON HILLS.

MAINTENANCE OF THE STORMWATER DETENTION FACILITIES WILL BE THE RESPONSIBILITY OF THE OWNER.

CALL MISS DIG 72 HOURS PRIOR TO ANY EXCAVATION ON THE SITE.

ALL FOOTING LEADS TO BE CONNECTED TO THE ON-SITE STORM SYSTEM.

ALL END SECTIONS TO HAVE A SAFETY GRATE.

FRANCHISE EASEMENTS WILL BE INDICATED ON THE FINAL SITE PLAN AS DETERMINED BY DTE ENERGY DURING THEIR SERVICE PLANNING DESIGN.

THE PROPOSED BUILDINGS SHALL HAVE FIRE SUPPRESSION SYSTEM INSTALLED.

**GENERAL UTILITY NOTES**

1. ALL UTILITY LINES, STRUCTURES AND TRENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND REQUIREMENTS OF THE CITY OF FARMINGTON HILLS.

2. NO PHYSICAL CONNECTION TO THE EXISTING WATER MAIN CAN BE MADE UNTIL ALL NEW WATER MAIN PASSES PRESSURE AND BACTERIOLOGICAL TESTS TO THE SATISFACTION OF THE CITY.

3. WATER MAIN SERVICE LEADS SHALL BE TYPE "K" ANNEALED SEAMLESS COPPER WITH COMPRESSION FITTINGS, UNLESS OTHERWISE NOTED.

4. ALL WATER MAIN SHALL BE PROVIDED WITH 5.5' OF COVER UNLESS OTHERWISE NOTED.

5. ALL SANITARY SEWER LEADS SHALL BE POLYVNYL CHLORIDE (PVC) SDR 23.5 PIPE AND FITTINGS. ALL JOINTS TO BE ELASTOMERIC GASKET JOINTS PER ASTM D3212 UNLESS OTHERWISE NOTED.

6. PIPE LENGTHS ARE GIVEN FROM CENTER OF STRUCTURE AND TO END OF FLARED END SECTION UNLESS NOTED OTHERWISE.

7. REFER TO MECHANICAL PLANS FOR EXACT LOCATION AND DETAIL OF WATER AND FIRE LEAD RISER INTO BUILDING.

8. FIRE DEPARTMENT CONNECTION (FDC) WILL BE REQUIRED TO BE A 5" STORZ WITH A 30 DEGREE DOWN ANGLE. REFER TO MECHANICAL PLANS.

SAND BACKFILL NOTE:  
ALL UTILITIES UNDER PAVEMENT OR WITHIN 3' OF THE EDGE OF PAVEMENT (OR WITHIN THE 45' LINE OF INFLUENCE OF PAVEMENT) SHALL HAVE M.D.O.T. CLASS II GRANULAR BACKFILL COMPACTED TO 95% MAX. DRY DENSITY (ASTM D-1557).

NOTE:  
IF 12" C-76 CL-III PIPE IS NOT AVAILABLE,  
12" C-76 CL-IV SHALL BE USED.

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**UTILITY PLAN**

38400 W. 10 MILE ROAD - PARCEL NO. 23-19-351-012  
SECTION: 19 TOWNSHIP: 1 N. RANGE: 3 E.  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY  
MICHIGAN

REVISED

2021-12-23 PER CITY PRELIM. REV.

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SCALE: HOR 1"= 20 FT.  
VER 1"= -- FT.

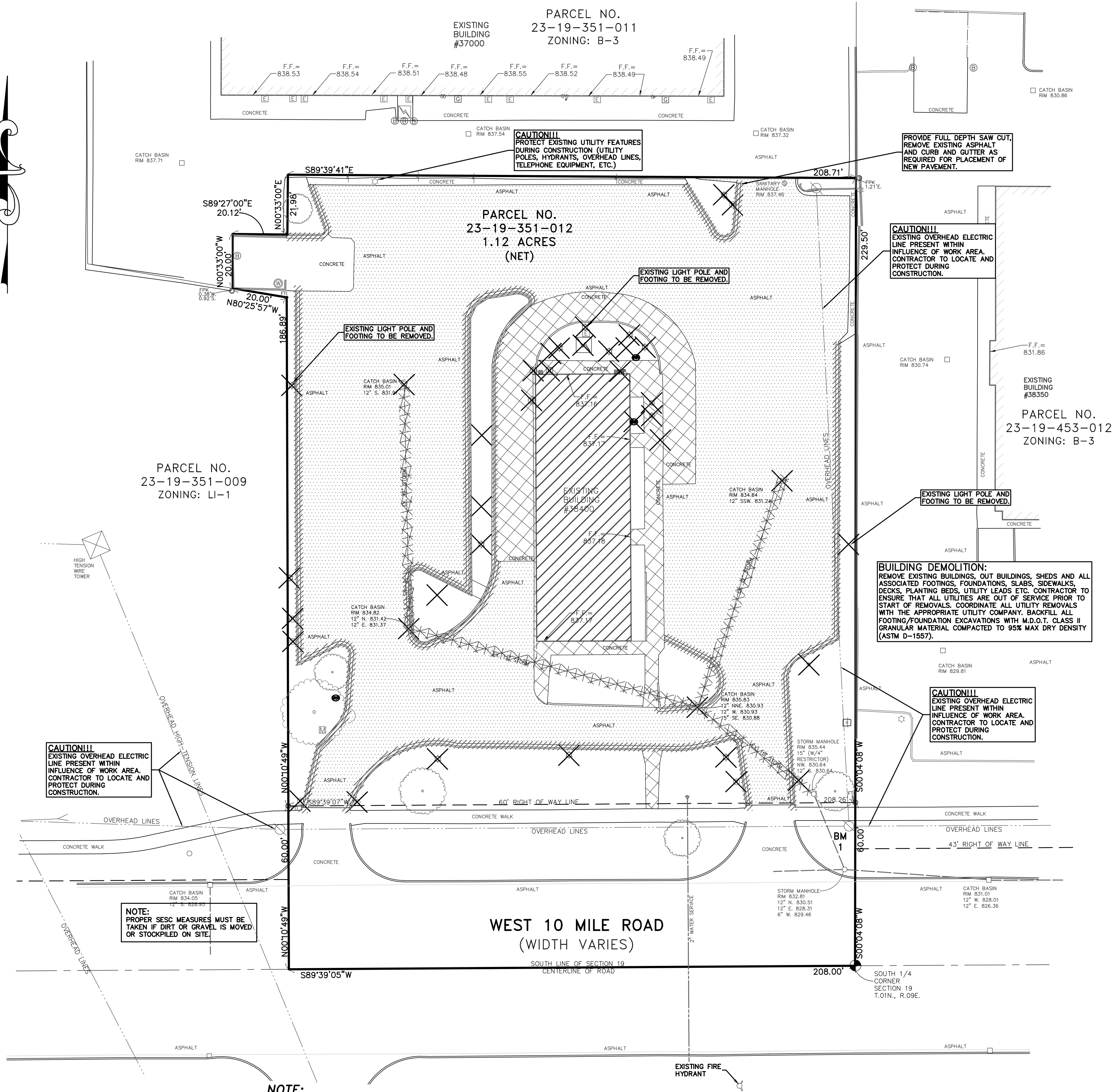
5

20-166



BM1  
NAIL IN NORTH FACE OF UTILITY POLE, 52'± NORTH OF  
CENTERLINE OF WEST 10 MILE ROAD, 29'± EAST OF CENTERLINE  
OF EASTERLY DRIVE FOR #38400 W. 10 MILE ROAD.  
ELEVATION: 835.55 N.A.V.D.88 DATUM

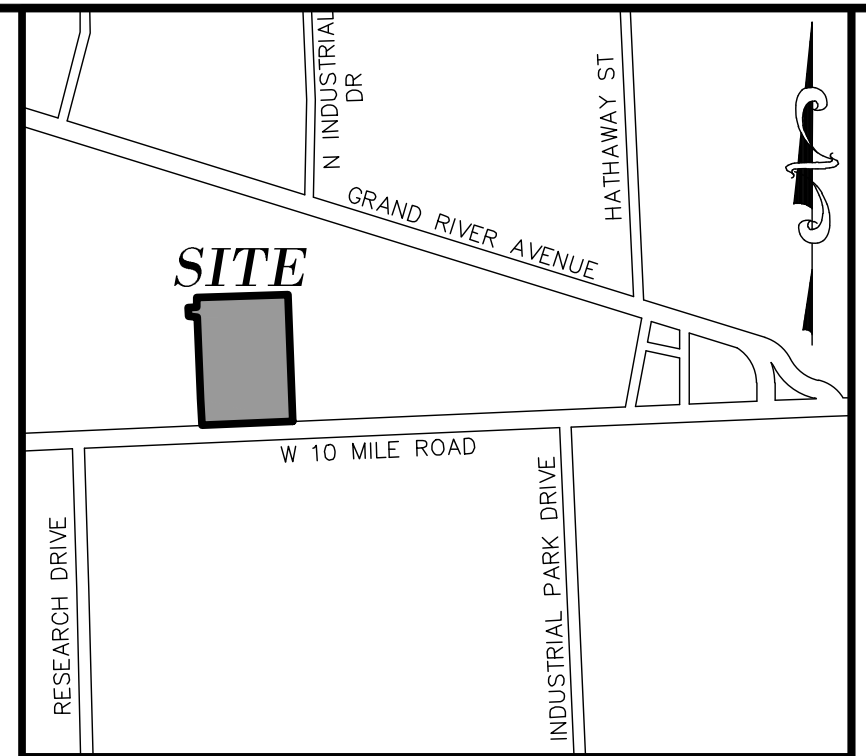
BM2  
SANITARY MANHOLE RIM NEAR THE NORTHEAST PROPERTY CORNER  
OF #38400 W. 10 MILE ROAD.  
ELEVATION: 837.46 N.A.V.D.88 DATUM



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.

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.

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF FARMINGTON HILLS AND/OR OAKLAND COUNTY.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND/OR OBTAIN ANY INFORMATION NECESSARY REGARDING THE PRESENCE OF ANY OF THE FOLLOWING:
3. EXISTING EASEMENTS ARE SHOWN PER FIRST AMERICAN TITLE INSURANCE COMPANY COMMITMENT NO. 40042, COMMITMENT DATE DECEMBER 19, 2018.
4. BASED ON THE INFORMATION OF SECTION 25, "SUPERVISOR'S NOBLE BROOK FARMS PLAT NO. 2", AS RECORDED IN LIBER 56 OF PLATS, PAGE 46, OAKLAND COUNTY RECORDS, OAKLAND COUNTY, MICHIGAN.
5. THERE ARE NO REGULATED WETLANDS IN THE DEVELOPMENT AREA PER GIFFELS WEBSTER SITE PLAN REVIEW LETTER DATED 10/20/2018.
6. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO THE START OF CONSTRUCTION.



1. ALL MATERIAL TO BE REMOVED, WHETHER SPECIFICALLY NOTED IN THE PLANS OR NOT, SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND DISPOSED OF OFF-SITE IN A LEGAL MANNER. NO ON-SITE BURY OR BURN PITS SHALL BE ALLOWED.
2. ALL DEMOLITION WORK SHALL CONFORM WITH ALL LOCAL CODES AND ORDINANCES.
3. STAGING/PHASING OF DEMOLITION AND CONSTRUCTION IS TO BE COORDINATED WITH THE OWNER AND THE CONTRACTOR PRIOR TO CONSTRUCTION.
4. SPECIFIC DEMOLITION ITEMS HAVE BEEN INDICATED ON THE PLANS AS A GUIDE TO THE GENERAL SCOPE OF THE WORK. IT IS THE INTENT THAT THESE ITEMS SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR ABOVE AND BELOW GROUND, UNLESS SPECIFICALLY NOTED OTHERWISE, AND THAT DEMOLITION WILL INCLUDE BUT WILL NOT NECESSARILY BE LIMITED TO THOSE ITEMS. CONTRACTOR SHALL VISIT SITE TO VERIFY EXISTING CONDITIONS AND EXTENTS OF THE DEMOLITION THAT WILL BE REQUIRED PRIOR TO SUBMITTING A BID.
5. REMOVE ALL STRUCTURES DESIGNATED FOR REMOVAL ACCORDING TO THE DEMOLITION PLAN. THIS INCLUDES FOUNDATIONS, FOOTINGS, FOUNDATION WALLS, FLOOR SLABS, UNDERGROUND UTILITIES, CONCRETE, ASPHALT, TREES, ETC.
6. REFER TO TREE INVENTORY PLAN OR LANDSCAPE PLANS FOR TREE PROTECTION DETAILS.
7. THE CONTRACTOR SHALL, AS A MINIMUM, PROVIDE TREE PROTECTION FENCING AROUND EXISTING TREES TO BE SAVED THAT ARE WITHIN 15' OF THE CONSTRUCTION AREA AS INDICATED IN THE PLANS OR PER LOCAL AGENCY REQUIREMENTS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN UP, NOISE, DUST CONTROL, STREET SWEEPING AND HOURS OF OPERATION IN ACCORDANCE WITH THE LOCAL CODES.
9. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADES, SIGNAGE, MARKINGS, LIGHTS AND OTHER TRAFFIC CONTROL DEVICES TO PROTECT THE WORK ZONE AND SAFELY MAINTAIN TRAFFIC PER AGENCY REQUIREMENTS AND ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUCD) LATEST EDITION.
10. THE CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES TO DETERMINE THE LOCATION OF ALL UTILITY LEADS HAVE BEEN TAKEN OUT OF SERVICE PRIOR TO DEMOLITION.
11. ALL BUILDING GAS LEADS, METERS AND ASSOCIATED EQUIPMENT SHALL BE REMOVED AS SHOWN ON THE PLANS, COORDINATE ALL ASSOCIATED WORK WITH THE APPROPRIATE UTILITY COMPANY.
12. REMOVE ALL OVERHEAD AND UNDERGROUND ELECTRICAL LINES WITHIN THE AREA OF CONSTRUCTION AS SHOWN ON THE PLANS. COORDINATE SHUTDOWNS AND REMOVALS WITH DETROIT EDISON OR THE APPROPRIATE UTILITY COMPANY. (NOTE: PHONE AND CABLE T.V. SERVICES MAY ALSO BE LOCATED ON OVERHEAD LINES.)
13. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF SIGNS AND SUPPORTS WITHIN THE WORK AREA, AS NECESSARY TO FACILITATE CONSTRUCTION. SIGNS SHALL BE PROTECTED OR STOCKPILED FOR REUSE AS SPECIFIED IN THE PLANS OR AS REQUIRED BY THE AGENCY OF JURISDICTION. THE CONTRACTOR SHALL REPLACE ANY DAMAGED SIGNS AND SUPPORTS AT NO ADDITIONAL COST TO THE OWNER.
14. THE CONTRACTOR SHALL NOTIFY MISS DII, CITY OF FARMINGTON HILLS ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

TREES TO BE PROTECTED PER CITY OF FARMINGTON HILLS REQUIREMENTS.

Subdivisions  
Site Condominium  
Multi-Family  
Plot Plans

**COMMERCIAL**

Site Planning  
Site Engineering  
Industrial & Multi-Unit  
Land Surveying

**SURVEYING**

ALTA Surveys  
Boundary Surveys  
Topographic Surveys  
Parcel Splits  
Construction Staking

**GREEN TECH**  
**ENGINEERING, INC.**  
**CIVIL ENGINEERS & LAND SURVEYORS**



now what's **below**  
**Call** before you dig.

Journal of Management Inquiry 22(4) 399-414

# DEMOLITION PLAN

38400 W. 10 MILE ROAD = PARCEL NO. 23-19-351-012  
SECTION: 19 TOWNSHIP: 1 N. RANGE: 9 E.  
CITY OF FARMINGTON HILLS

**ROAD - PARCEL NO**  
TOWNSHIP: 1 N.  
CITY OF FARMINGTON HILLS  
OAKLAND COUNTY  
MICHIGAN

REVISED  
1-12-23 PER CITY PRE

DATE: 12-1-2021

DRAWN BY: CEH

CHECKED BY: JPP/DJL

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
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R. --

1" = 20 FT

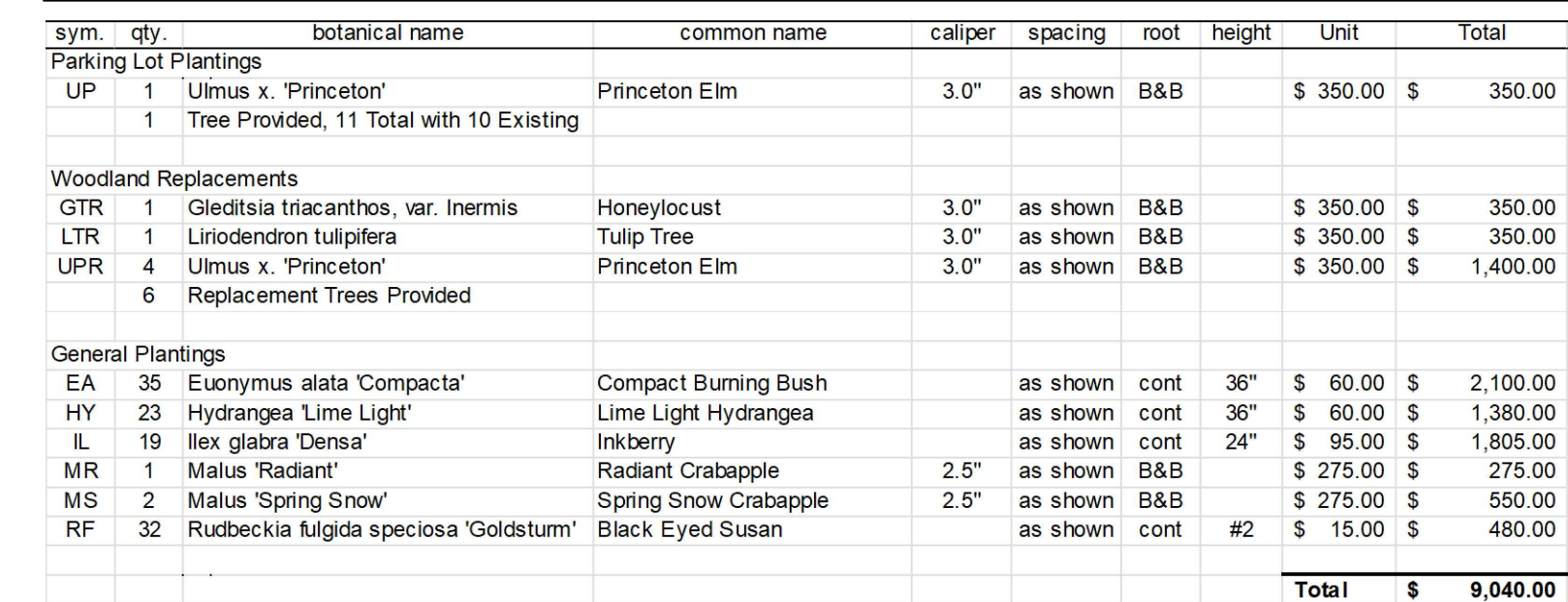
VER 1" = -- FT. 20

6

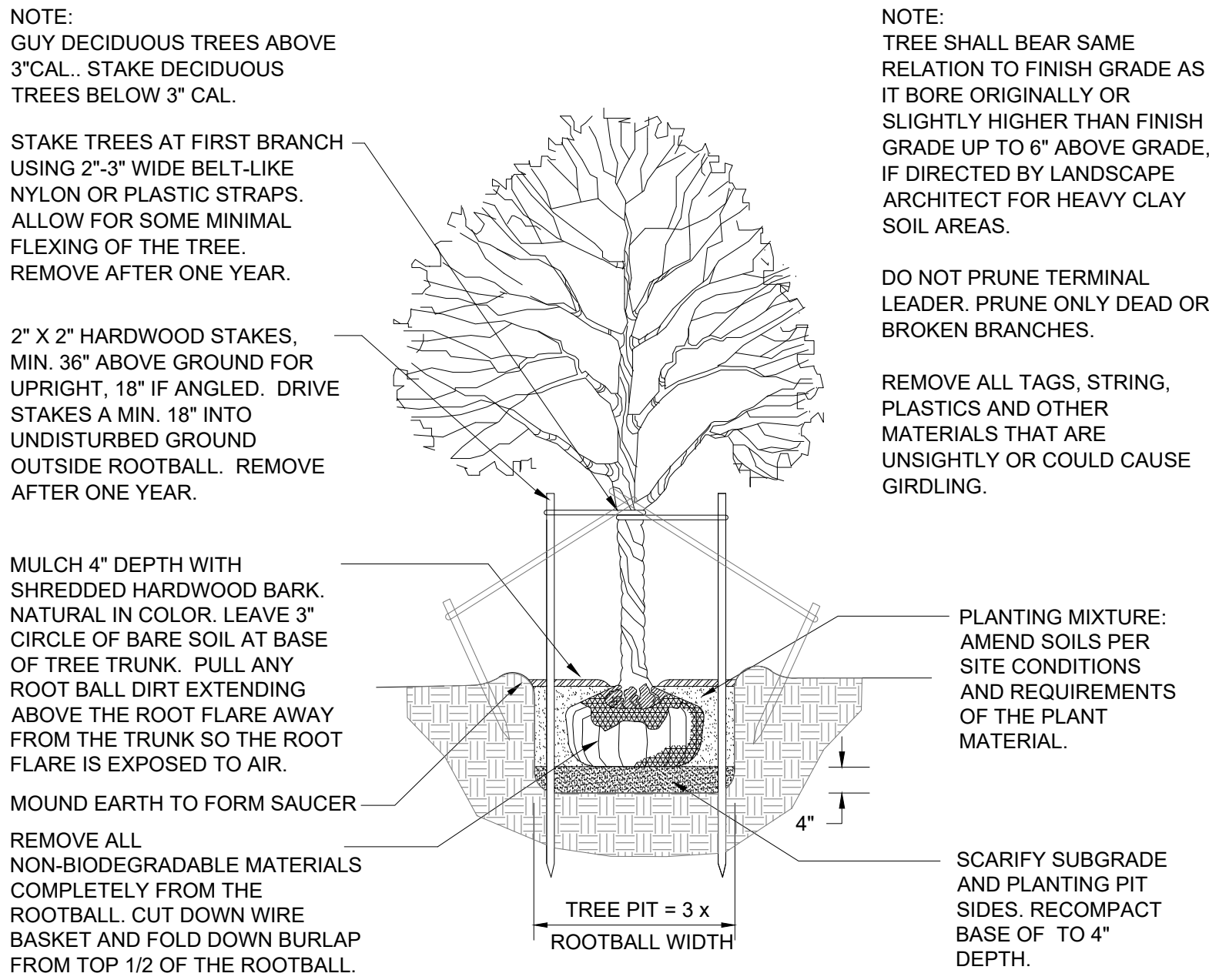
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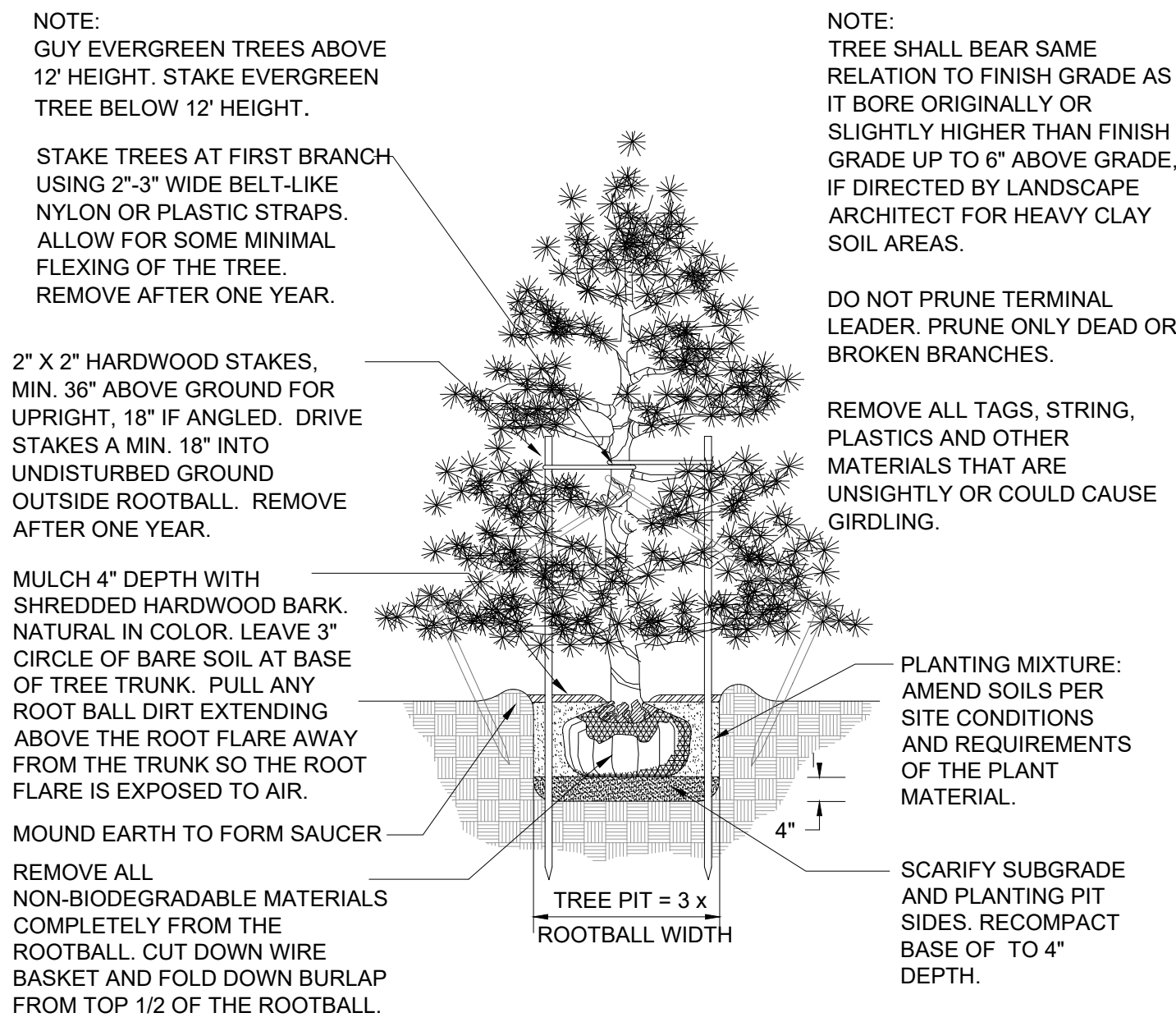
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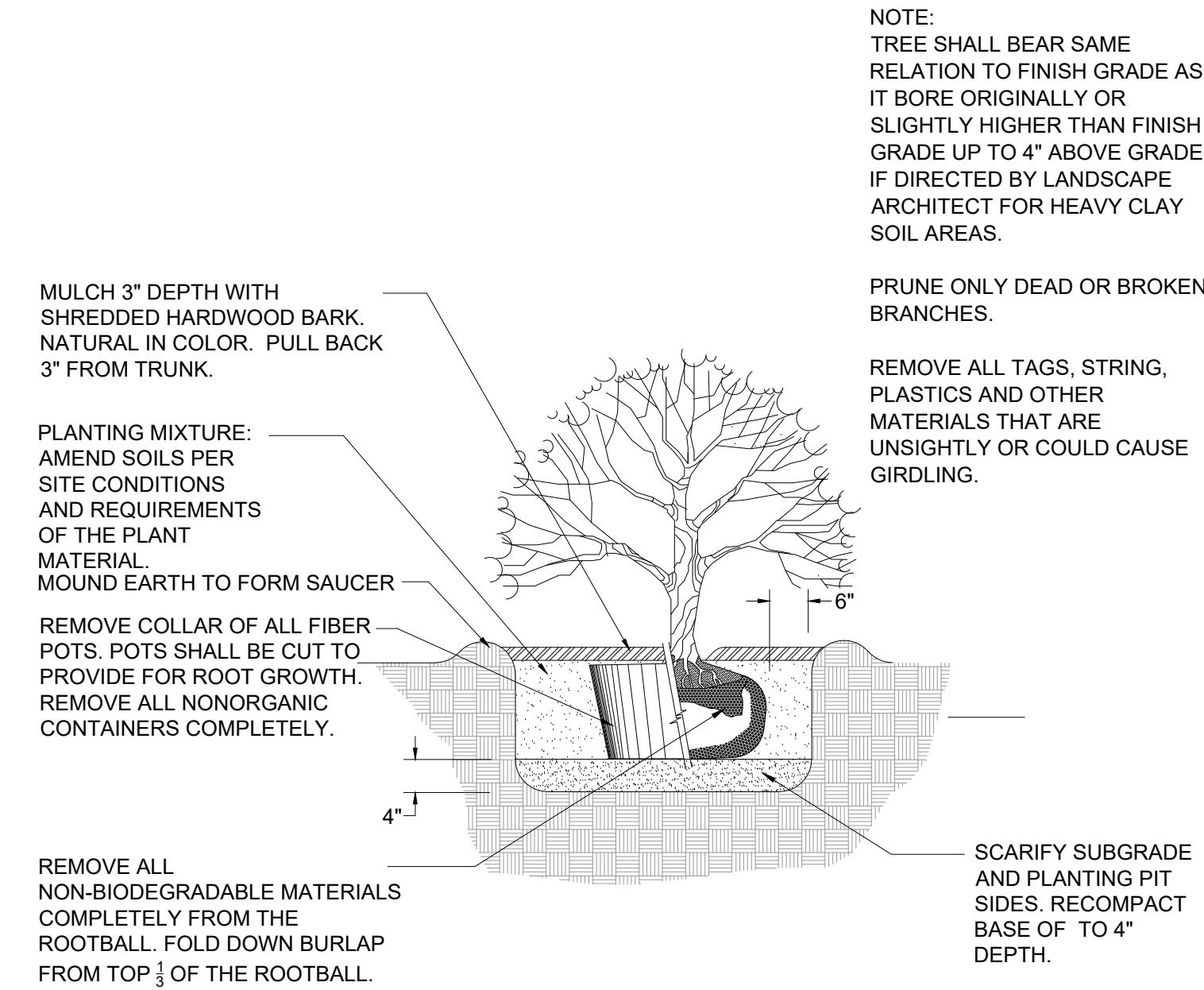




## DECIDUOUS TREE PLANTING DETAIL



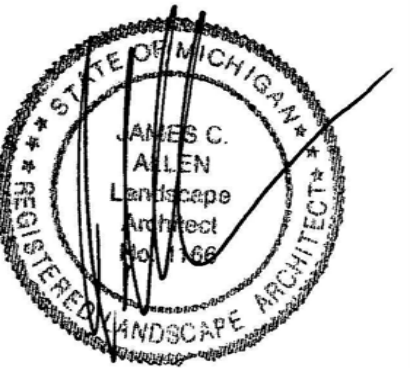
## EVERGREEN TREE PLANTING DETAIL



## SHRUB PLANTING DETAIL

NOT TO SCALE

Seal:



Title:

## Landscape Details

Project:

Car Wash  
Farmington Hills, Michigan

Prepared for:

Greentech Engineering  
51147 Pontiac Trail  
Vixom, Michigan 48393  
248.668.0700

Revision:

Submission

Issued:

December 1, 2021

Job Number:

21-086

Drawn By:

jca

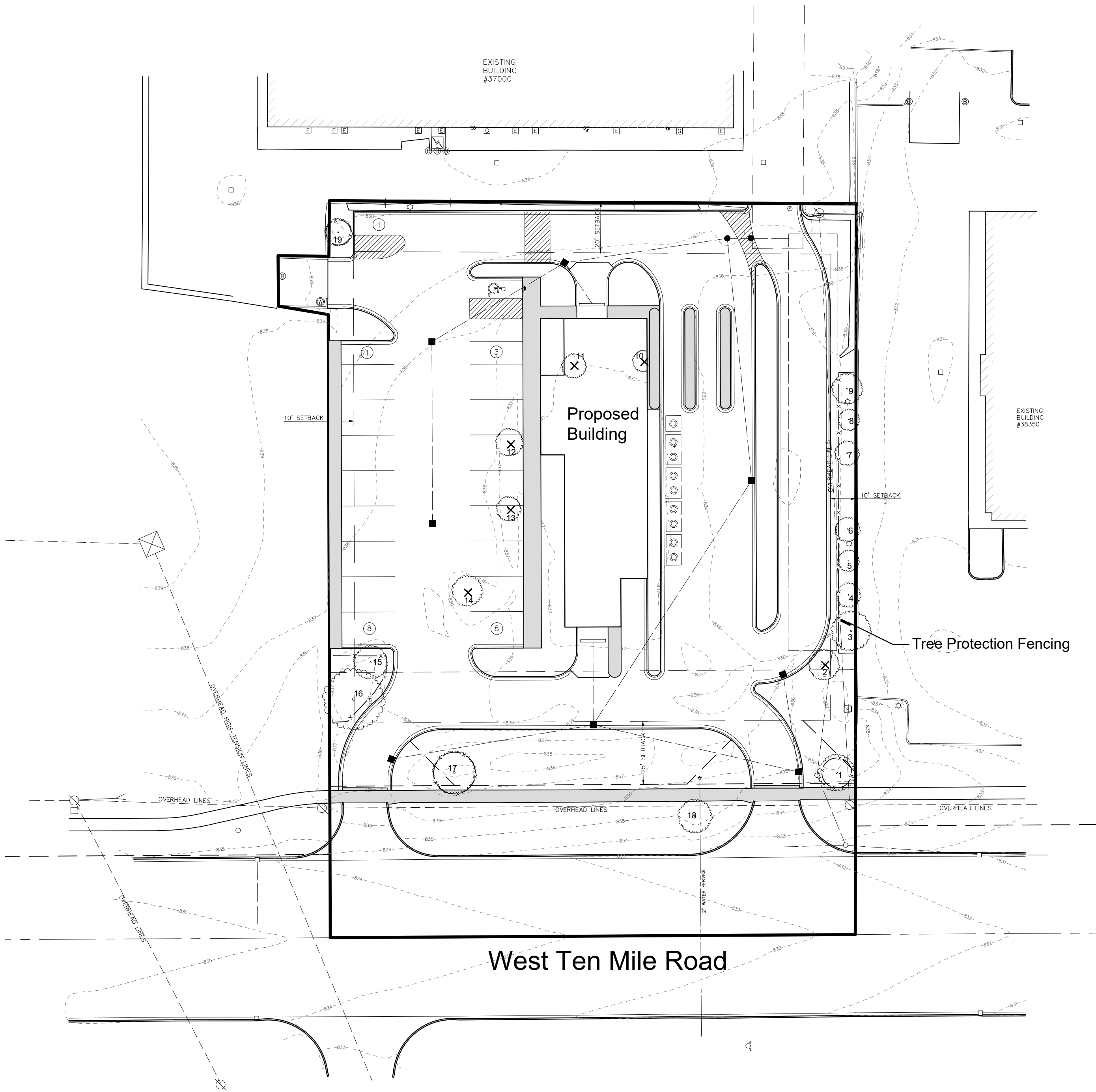
Checked By:

jca

Sheet No.







Tree Summary

Total Trees	19 Trees
Trees Removed	6 Trees
Trees Preserved	13 Trees (68.4%)
Regulated Trees Removed	6 Trees
Replacement Required	6 Trees

" X " Denotes Removed Tree

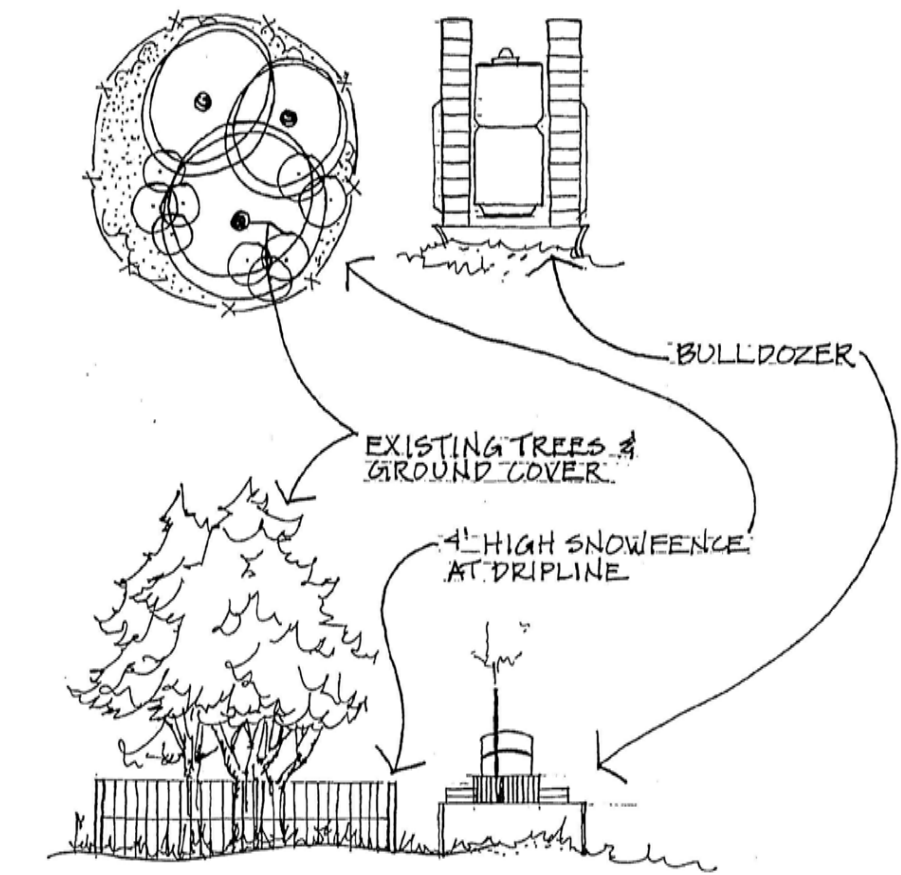
Tree List

Tag #	Diameter	Common Name	Botanical Name	Condition	Status	Replacement Required
1	12	Norway Maple	Acer platanoides	Good	Save	
2	10	Norway Maple	Acer platanoides	Good	Remove	1
3	13	Honey Locust	Gleditsia tricanthos var. inermis	Good	Save	
4	8	Honey Locust	Gleditsia tricanthos var. inermis	Good	Save	
5	7	Honey Locust	Gleditsia tricanthos var. inermis	Good	Save	
6	8	Honey Locust	Gleditsia tricanthos var. inermis	Good	Save	
7	8	Honey Locust	Gleditsia tricanthos var. inermis	Good	Save	
8	7	Honey Locust	Gleditsia tricanthos var. inermis	Good	Save	
9	10	Honey Locust	Gleditsia tricanthos var. inermis	Good	Save	
10	7	Bradford Pear	Pyrus calleryana	Good	Remove	1
11	8	Bradford Pear	Pyrus calleryana	Good	Remove	1
12	9	Honey Locust	Gleditsia tricanthos var. inermis	Good	Remove	1
13	8	Honey Locust	Gleditsia tricanthos var. inermis	Good	Remove	1
14	10	Honey Locust	Gleditsia tricanthos var. inermis	Good	Remove	1
15	11	Norway Maple	Acer platanoides	Good	Save	
16	20	Crimson King Maple	Acer platanoides 'Crimson King'	Good	Save	
17	14	Crimson King Maple	Acer platanoides 'Crimson King'	Good	Save	
18	11	Norway Maple	Acer platanoides	Good	Save	
19	9	Norway Maple	Acer platanoides	Fair	Save	
Required Replacement						6

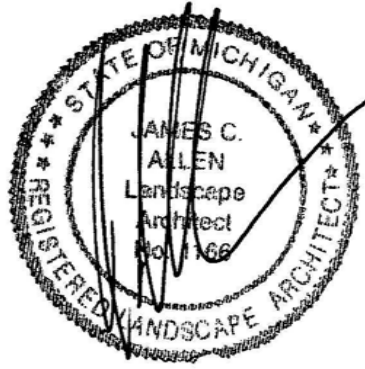
Tree Protection Fencing

TYPICAL SNOWFENCE INSTALLATION

city of Farmington Hills Ordinance 34-559 requires that protective fencing be installed at the dripline of all protected trees to remain on site during construction. The snowfence must be 1" x 1" wooden fence or similar sturdy stock and must be installed prior to the issuance of a Tree Permit. This fencing must remain in place during the entire construction process. The area inside the fence must remain free of all dirt, fill, construction equipment and debris.



Seal:



Title:

Woodland Plan

Project:

Car Wash  
Farmington Hills, Michigan

Prepared for:

Greentech Engineering  
51147 Pontiac Trail  
Wixom, Michigan 48393  
248.668.0700

Revision:

Submission

Issued:

December 1, 2021

Job Number:

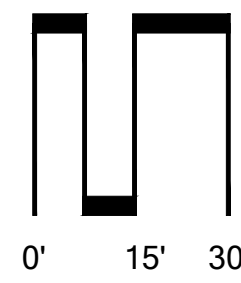
21-086

Drawn By:

jca

Checked By:

jca



Sheet No.

L-3







## D-Series Size 0 LED Area Luminaire



### Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire. The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 400W metal halide with typical energy savings of 70% and expected service life of over 100,000 hours.

### Specifications

EPA:	0.95 ft <sup>2</sup> (0.09 m <sup>2</sup> )
Length:	26" (660 mm)
Width:	13" (330 mm)
Height:	5" (127 mm)
Height:	7" (178 mm)
Weight (max):	16 lbs (7.3 kg)

### Ordering Information

EXAMPLE: DSX0 LED P6 40K T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX0 LED							
Series	LEDs	Color Temperature	Beam Spread		Voltage	Mounting	
DSX0 LED	Forward optics		30K 3500K	T1S Type I short (Auto-aim)	T2S Type I short	MVOLT 120V-277V	Shipped included
	P1 P5	40K 4500K	T2S Type II short	T2M Type II medium	XVOLT 277V-480V	SPA	Square pole mounting
	P2 P6	50K 5500K	T3S Type III short	T3M Type III medium		WBA	Round pole mounting
	P3 P7		T4M Type IV short	BKLC Backlight control	208	WBA	Wall bracket
	P4		T4M Type IV medium	LCO Left corner control	240	SPINBA	Square pole universal mounting adapter
			T4M Type IV medium	RCO Right corner control	277	SPINBA	Round pole universal mounting adapter
	P10 P12		TFM Forward beam (medium)		347	Shipped separately	
	P11 P13		T5VS Type V very short		480	KMAA 3000D U Must arm mounting bracket adapter (specify finish)	

Custom options	Shipped installed	Shipped separately	Shipped installed	Shipped separately
NLTAIR2 at night All generations 2 installed	PIR high-flow motion/ambient sensor 0-15' mounting height, ambient sensor enabled at 36" ft	PIR high-flow motion/ambient sensor 0-15' mounting height, ambient sensor enabled at 36" ft	PIR high-flow motion/ambient sensor 0-15' mounting height, ambient sensor enabled at 36" ft	PIR high-flow motion/ambient sensor 0-15' mounting height, ambient sensor enabled at 36" ft
PIRHN forward, high-flow motion/ambient sensor	PIR high-flow motion/ambient sensor 0-15' mounting height, ambient sensor enabled at 36" ft	PIR high-flow motion/ambient sensor 0-15' mounting height, ambient sensor enabled at 36" ft	PIR high-flow motion/ambient sensor 0-15' mounting height, ambient sensor enabled at 36" ft	PIR high-flow motion/ambient sensor 0-15' mounting height, ambient sensor enabled at 36" ft
PER MHA (pole-top) receptacle only (control ordered separately)	PER MHA (pole-top) receptacle only (control ordered separately)	PER MHA (pole-top) receptacle only (control ordered separately)	PER MHA (pole-top) receptacle only (control ordered separately)	PER MHA (pole-top) receptacle only (control ordered separately)
PER5 The pole receptacle only (control ordered separately)	PER5 The pole receptacle only (control ordered separately)	PER5 The pole receptacle only (control ordered separately)	PER5 The pole receptacle only (control ordered separately)	PER5 The pole receptacle only (control ordered separately)
PER7 Seven pole receptacle only (control ordered separately)	PER7 Seven pole receptacle only (control ordered separately)	PER7 Seven pole receptacle only (control ordered separately)	PER7 Seven pole receptacle only (control ordered separately)	PER7 Seven pole receptacle only (control ordered separately)
DMG 0-10V dimming system (back of housing for external control) (control ordered separately)	DMG 0-10V dimming system (back of housing for external control) (control ordered separately)	DMG 0-10V dimming system (back of housing for external control) (control ordered separately)	DMG 0-10V dimming system (back of housing for external control) (control ordered separately)	DMG 0-10V dimming system (back of housing for external control) (control ordered separately)

Symbol	Label	Quantity	Manufacturer	Catalog Number	Lamp	Light Loss Factor
	A	7	Lithonia Lighting	DSX0 LED P4 40K TFTM MVOLT	LED	0.9
	B	1	Lithonia Lighting	DSX0 LED 40K MVOLT	LED	0.9
	C	2	Lithonia Lighting	DSX0 LED 40K MVOLT	LED	0.9
	D	2	Lithonia Lighting	DSX0 LED P1 40K T2M MVOLT	LED	0.9
	E	1	Lithonia Lighting	DSX0 LED P1 40K BLC MVOLT	LED	0.9

### General Note

- SEE DRAWING FOR LUMINAIRE MOUNTING HEIGHT.
- CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0"
- LIGHTING ALTERNATES REQUIRE NEW PHOTOMETRIC CALCULATION AND RESUBMISSION TO CITY FOR APPROVAL.

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.

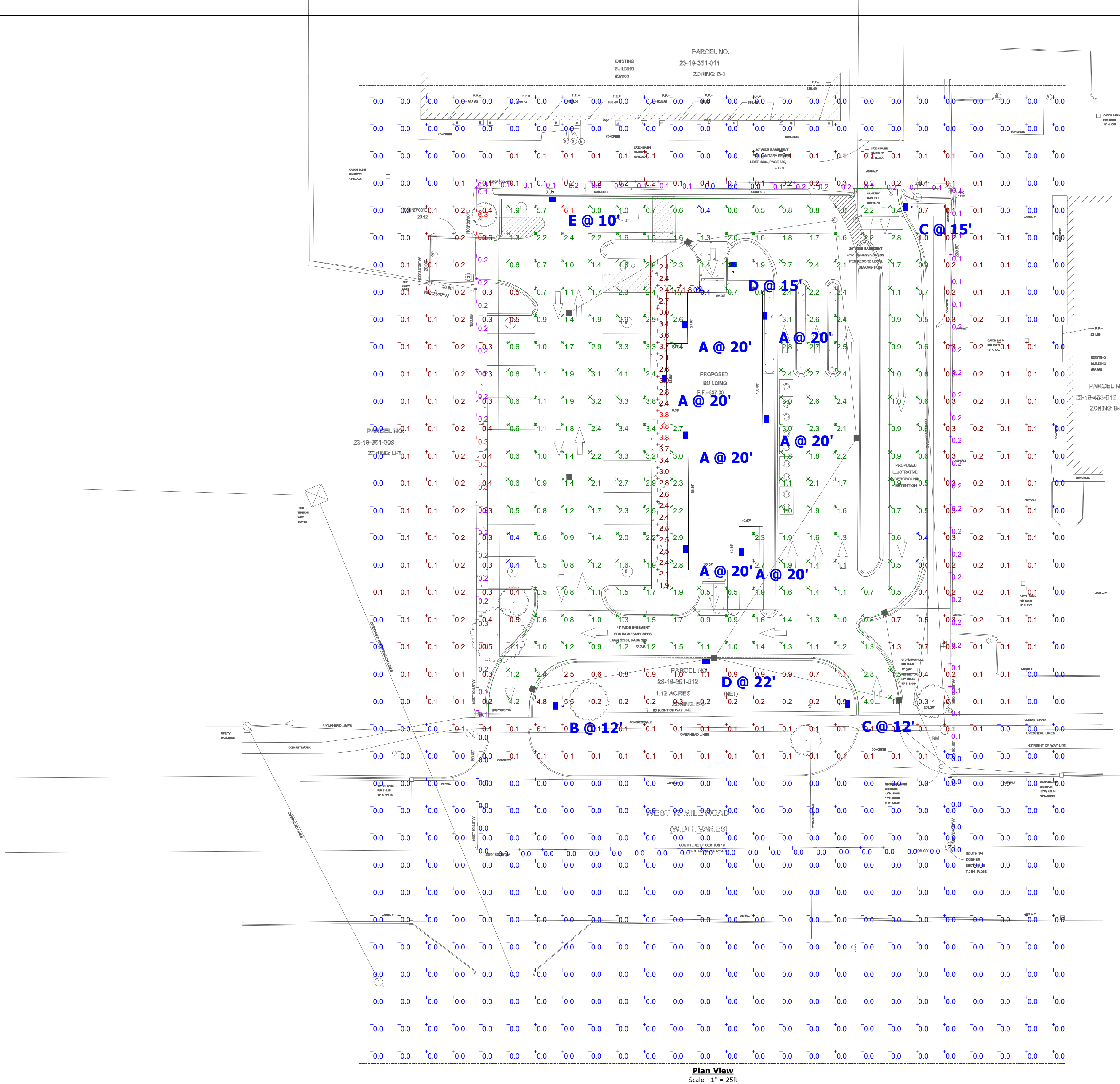
THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIRMENTS DEFINED IN ASHRAE 90.1 2013. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT [ASG@GASSERBUSH.COM](mailto:ASG@GASSERBUSH.COM) OR 734-266-6705.

FOR ORDERING INQUIRIES CONTACT GASSER BUSH AT [QUOTES@GASSERBUSH.COM](mailto:QUOTES@GASSERBUSH.COM) OR 734-266-6705.

THIS DRAWING WAS GENERATED FROM AN ELECTRONIC IMAGE FOR ESTIMATION PURPOSE ONLY. LAYOUT TO BE VERIFIED IN FIELD BY OTHERS.

MOUNTING HEIGHT IS MEASURED FROM GRADE TO FACE OF FIXTURE. POLE HEIGHT SHOULD BE CALCULATED AS THE MOUNTING HEIGHT LESS BASE HEIGHT.



## Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
Grade @ 0'	+	0.5 fc	6.1 fc	0.0 fc	N/A	N/A	0.1:1
Parking and Drives	✖	1.7 fc	6.1 fc	0.4 fc	15.3:1	4.3:1	0.3:1
Property Line	+	0.1 fc	0.3 fc	0.0 fc	N/A	N/A	0.3:1
Sidewalk	+	2.7 fc	3.8 fc	0.4 fc	9.5:1	6.8:1	0.7:1



38400 W. 10 MILE RD.  
PHOTOMETRIC PLAN  
PREPARED FOR: GREENTECH ENGINEERING  
GASSER BUSH ASSOCIATES  
[WWW.GASSERBUSH.COM](http://WWW.GASSERBUSH.COM)

Designer  
DS  
Date  
11/29/2021  
rev. 12/22/2021  
Scale  
Not to Scale  
Drawing No.  
#21-69319 V3



PROJECT SCOPE

CONSTRUCT NEW CAR WASH BUILDING ON 1.40 GROSS ACRE SITE. CAR WASH TO HAVE WASH TUNNEL WITH OFFICE, RESTROOMS, VENDING AND MECHANICAL/EQUIPMENT ROOM. SITE TO HAVE APPLICABLE VEHICLE STACKING AND PARKING. THERE WILL ALSO BE ON-SITE VACUUMING FACILITIES.

PROJECT DATA:

ZONING	B-3 GENERAL BUSINESS DISTRICT
TOTAL SITE AREA	1.40 ACRES GROSS AREA
TOTAL SITE AREA	1.12 ACRES NET AREA
USE GROUP	B - BUSINESS (PERMITTED USE)
CONSTRUCTION TYPE	2B (NON SPRINKLED)

SITE REQUIREMENTS:

MINIMUM LOT	N/A	100 FT.
MIN. YARD SETBACKS (BUILDING):		
FRONT (10 MILE ROAD):	25'-0"	62.4'
PROVIDED:		
REAR:	20'-0"	45.8'
PROVIDED:		
SIDE (EAST):	10'-0"	82.4'
PROVIDED:		
SIDE (WEST):	10'-0"	84.0'
PROVIDED:		
FRONT YARD OPEN SPACE REQUIRED:	50%	

BUILDING DATA	GROSS AREA	NET AREA
NEW BUILDING AREA	4,111 GROSS S.F.	3,760 NET S.F.
MAXIMUM BUILDING HEIGHT	40'-0"	
PROPOSED BUILDING HEIGHT	30'-3"	

SIGNAGE

SIGN DRAWINGS SUBMITTAL TO BE SUBMITTED AS A DEFERRED SUBMITTAL BY SIGN CONTRACTOR

TOTAL FRONT BUILDING FACADE: 3,422 SQ. FT.; 10% OF BUILDING FACADE: 342.2 SQ.FT.

PER ZONING ORDINANCE TABLE: 34-5.5.3.A.iv:

- FREESTANDING SIGNS:
- FREESTANDING SIGN: MAXIMUM HEIGHT: 8'-0"
  - MAXIMUM AREA OF FREESTANDING SIGN: 64 SQ. FT.
- WALL SIGNS:
- WALL SIGN: MAXIMUM AREA: 10% OF ESTABLISHMENT FACADE
  - WALL SIGNS PERMITTED ON UP TO (2) TWO FACADES NOT BORDERING A RESIDENTIAL DISTRICT
  - MAXIMUM WALL SIGNS PER FACADE (2)

PARKING REQUIREMENTS

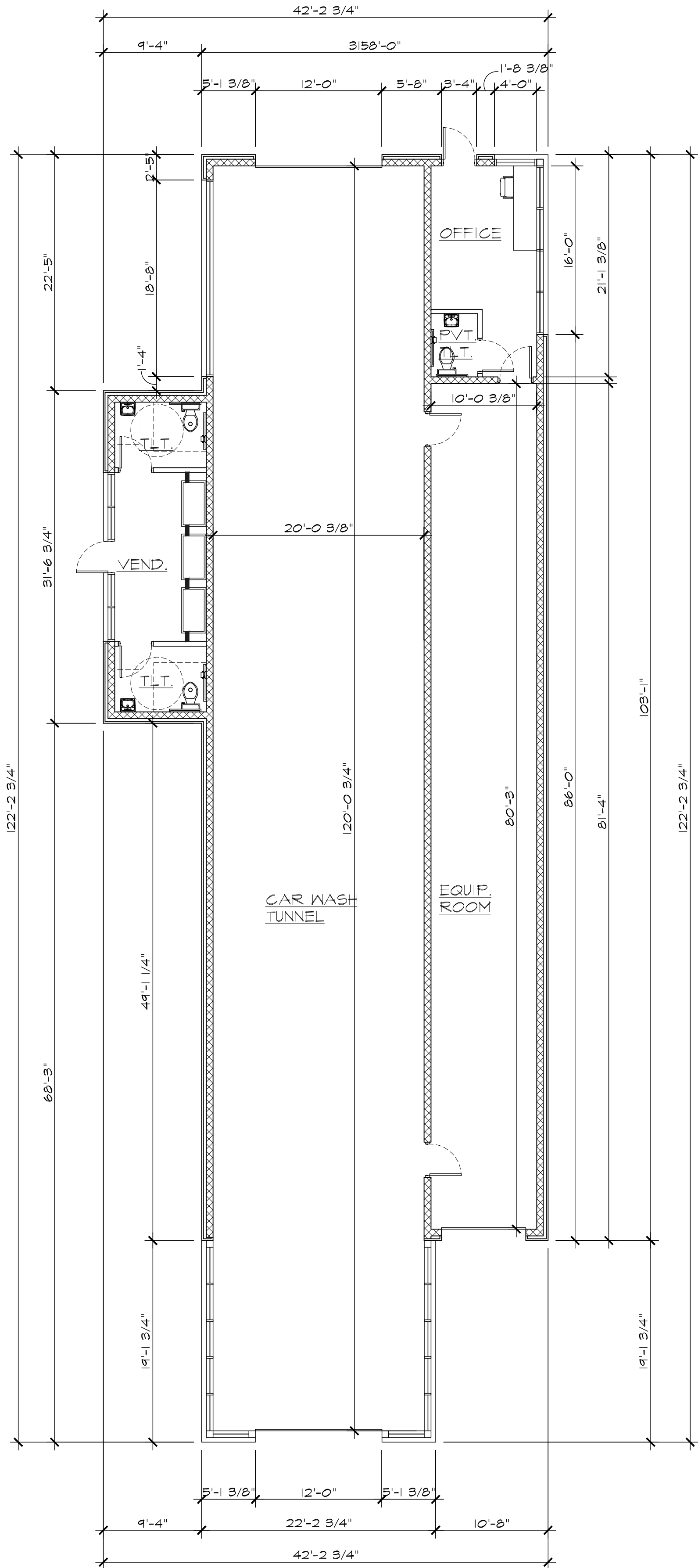
SEE CIVIL SHEETS FOR ALL VEHICLE PARKING AND VEHICLE STACKING REQUIREMENTS. HANDICAP PARKING SHALL COMPLY WITH 2015 MICHIGAN BUILDING CODE, CHAPTER 11 AND ICC A117.1-2009.

WORK SEQUENCE -

- SILT FENCE SHALL BE INSTALLED PRIOR TO EXCAVATION
- EXCAVATED MATERIALS WILL BE STOCKPILED BETWEEN THE EXCAVATING AND SILT FENCE
- THE SEDIMENT CONTROL MEASURES WILL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE & THE DISTURBED AREAS ARE STABILIZED WITH VEGETATION

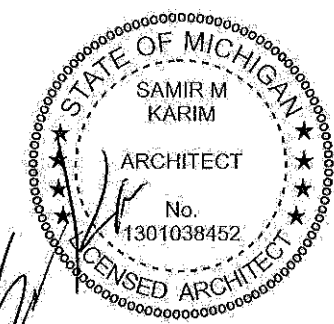
GENERAL NOTES

- OWNER AGREES TO SEASONAL MAINTENANCE PROGRAM AND WILL REPLACE ALL DISEASED, DEAD OR DAMAGED PLANTS, REPLENISH MULCH, CONTROL WEEDS, FERTILIZE AND PRUNE, BEGINNING UPON COMPLETION OF CONSTRUCTION OF LANDSCAPING."
- "ANY HAZARDOUS MATERIALS PRODUCED, STORED OR OTHERWISE ON PREMISE WILL BE HANDLED PER APPLICABLE RULES AND REGULATIONS.
- OWNER AGREES TO PICK-UP DEBRIS WITHIN PROPERTY LIMITS WEEKLY OR AS NEEDED.
- PAVED SURFACES, WALK WAYS, SIGNS, LIGHTING AND OTHER STRUCTURES AND SURFACES SHALL BE MAINTAINED IN A SAFE ATTRACTIVE CONDITION AS ORIGINALLY DESIGNED AND CONSTRUCTED. PARKING LOT STRIPING AND MARKINGS SHALL BE MAINTAINED IN A CLEARLY VISIBLE MANNER.
- THERE WILL BE NO OUTDOOR STORAGE.
- NO OVERNIGHT PARKING WILL BE ALLOWED.
- THERE ARE NO EXISTING WETLANDS ON-SITE.
- ALL LIGHTING SHALL BE DIRECTED AWAY FROM ADJACENT PROPERTIES AND RIGHTS-OF-WAY. WALL MOUNTED LIGHTING TO BE SELECTED BY OWNER / ARCHITECT
- SOILS - TOPSOIL TO A DEPTH OF 4" - 10" OR ASPHALT AND/OR CRUSHED STONE TO A DEPTH OF 4" - 9". GRANULAR SOILS WERE ENCOUNTERED TO DEPTHS RANGING TO 6.5 FEET TO 14.5 FEET TYPICALLY TO DEPTHS GREATER THAN 10 FEET. THE GRANULAR SOILS CONSISTED OF LOOSE TO MEDIUM DENSE POORLY GRADED SAND, SAND AND GRAVEL, AND SILTY SAND. UNDERLYING THE GRANULAR MATERIAL SOILS, MEDIUM STIFF TO VERY STIFF TO GRAY LEAN AND SANDY LEAN GRAY WERE ENCOUNTERED.
- ALL ROOFTOP EQUIPMENT TO BE SCREENED IN ACCORDANCE WITH SECTION 34-5.17



PROPOSED FLOOR PLAN  
SCALE: 1/8" = 1'-0"

PRELIMINARY  
NOT FOR  
CONSTRUCTION



ISSUED FOR	DATE
REVIEW	11-14-2021
SPA	12-1-2021
SPA REV5	12-23-2021

ARCHITECTURAL  
DESIGN  
RESIDENTIAL  
COMMERCIAL  
INDUSTRIAL

G.A.V. ASSOCIATES, INC.  
24001 ORCHARD LAKE RD., STE. 100A  
FARMINGTON, MICHIGAN 48336  
PH: (248) 985-9101  
WEB: WWW.GAVASSOCIATES.COM



PROPOSED NEW CAR WASH FOR:  
FARMINGTON HILLS CAR WASH  
38400 WEST 10 MILE ROAD  
FARMINGTON HILLS, MI

DRAWN:	DESIGNED:	CHECKED:
DS	GA	GA

SCALE : 1/8" = 1'-0"

FILE NAME : 20057\_A101

JOB # : 20057

SHEET TITLE  
PROPOSED FLOOR  
PLAN AND  
PROPOSED ELEVATIONS  
SHEET #

A.101

ISSUED FOR	DATE
REVIEW	11-14-2021
SPA	12-1-2021
SPA REV5	12-23-2021

ARCHITECTURAL  
DESIGN

RESIDENTIAL  
COMMERCIAL  
INDUSTRIAL

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PROPOSED NEW CAR WASH FOR:  
FARMINGTON HILLS CAR WASH  
38400 WEST 10 MILE ROAD  
FARMINGTON HILLS, MI

DRAWN:	DESIGNED:	CHECKED:
DS	GA	GA

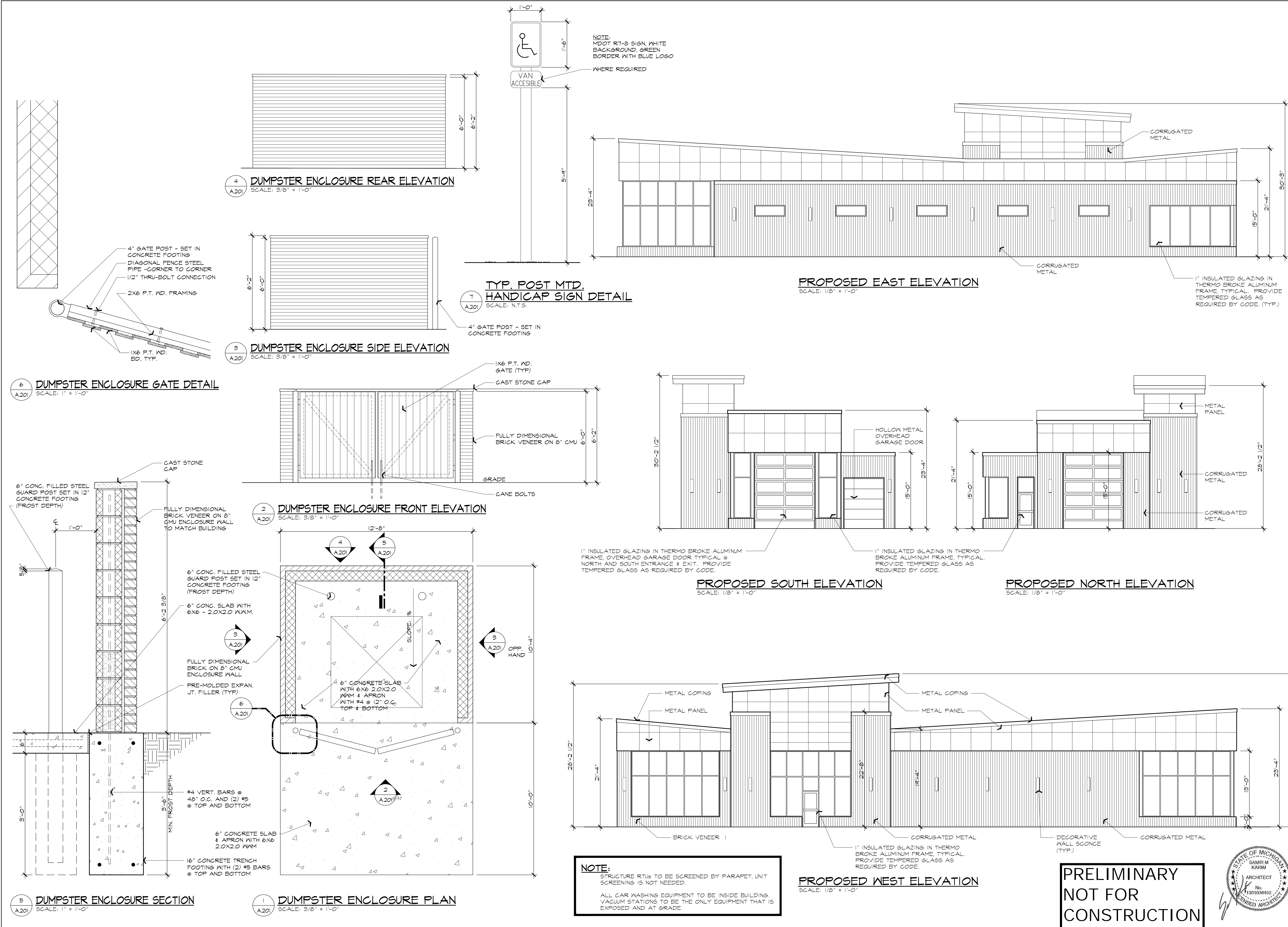
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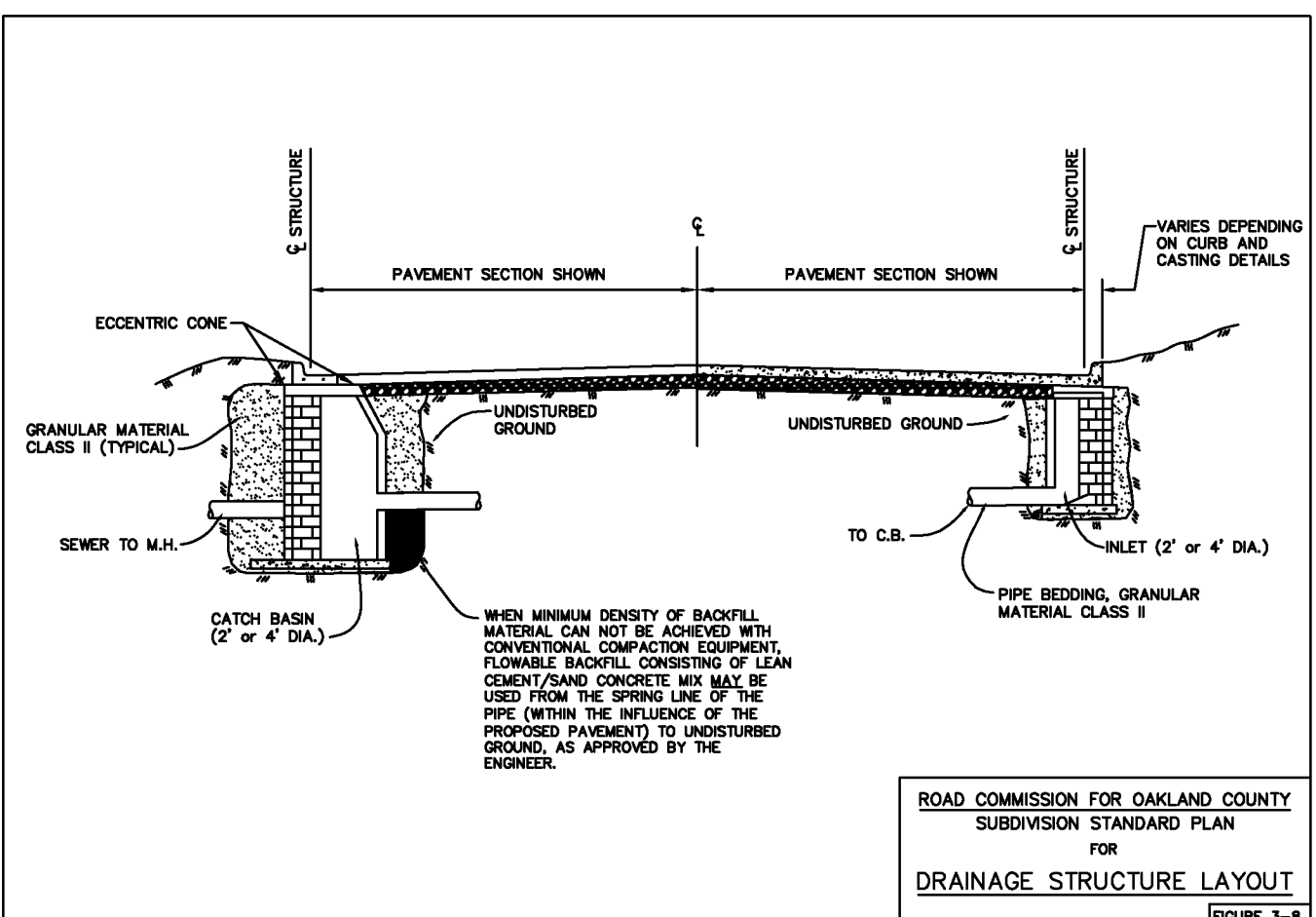
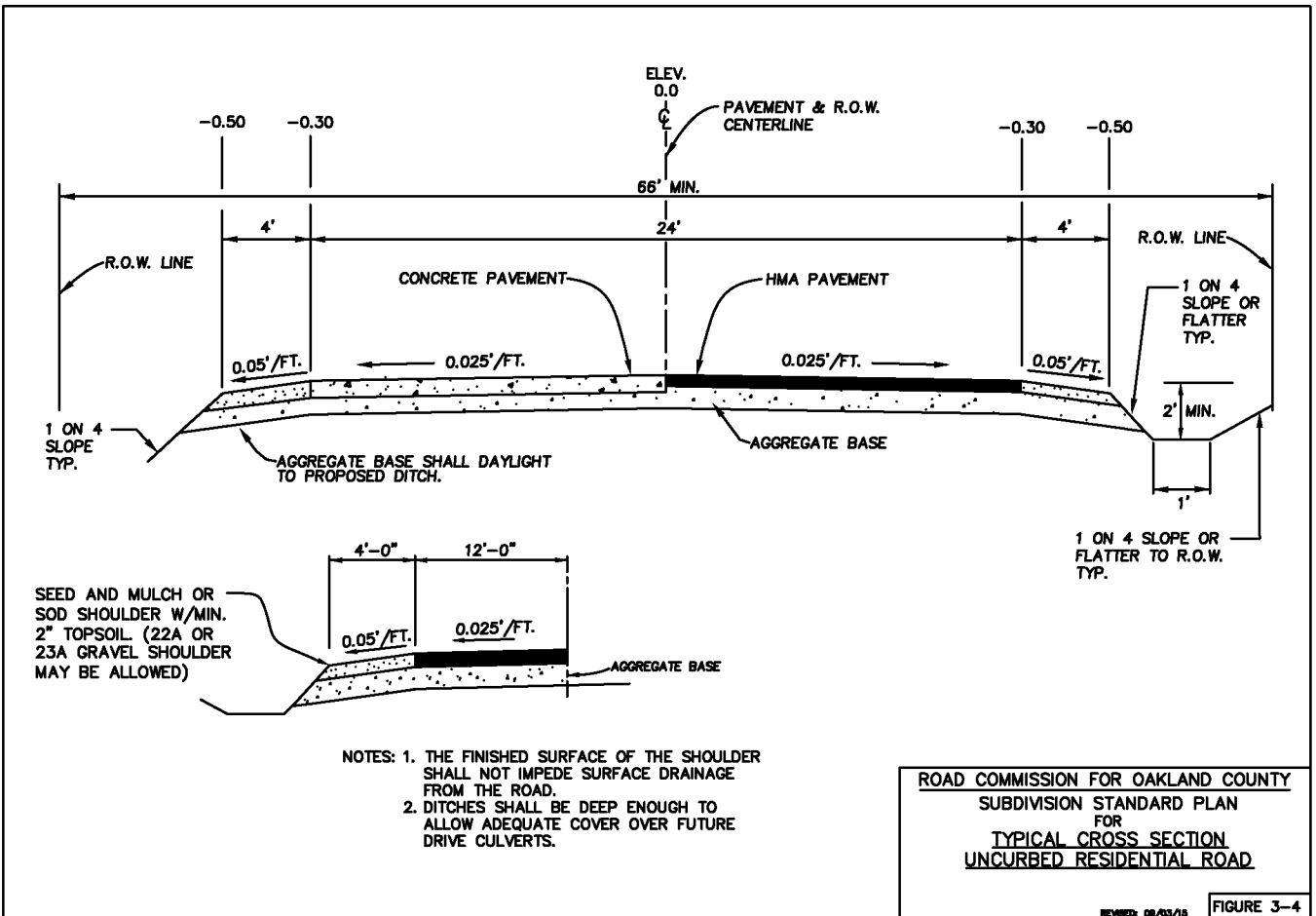
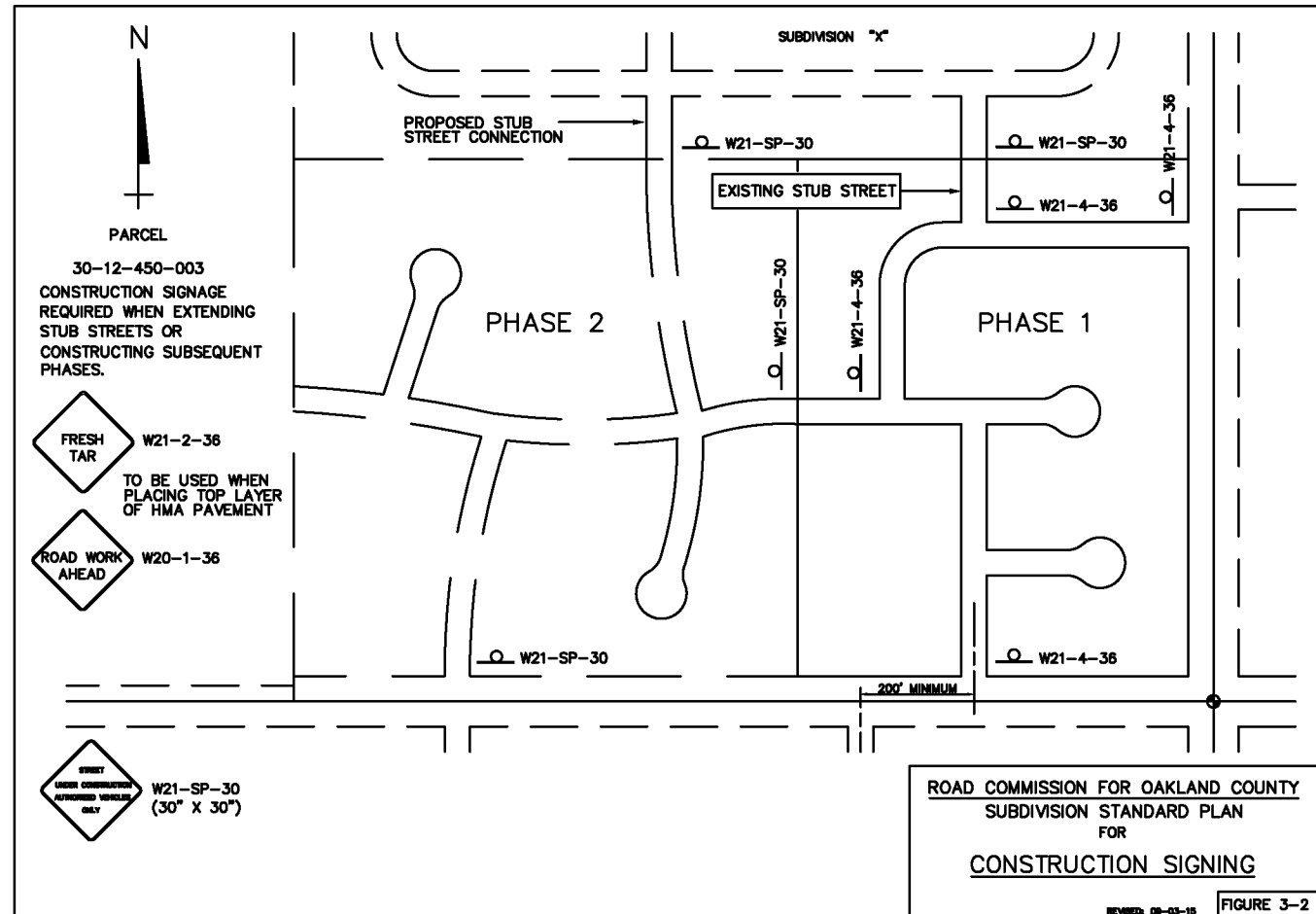
FILE NAME: 2005T\_A201

JOB #: 2005T

SHEET TITLE  
PROPOSED  
EXTERIOR  
ELEVATIONS  
SHEET #

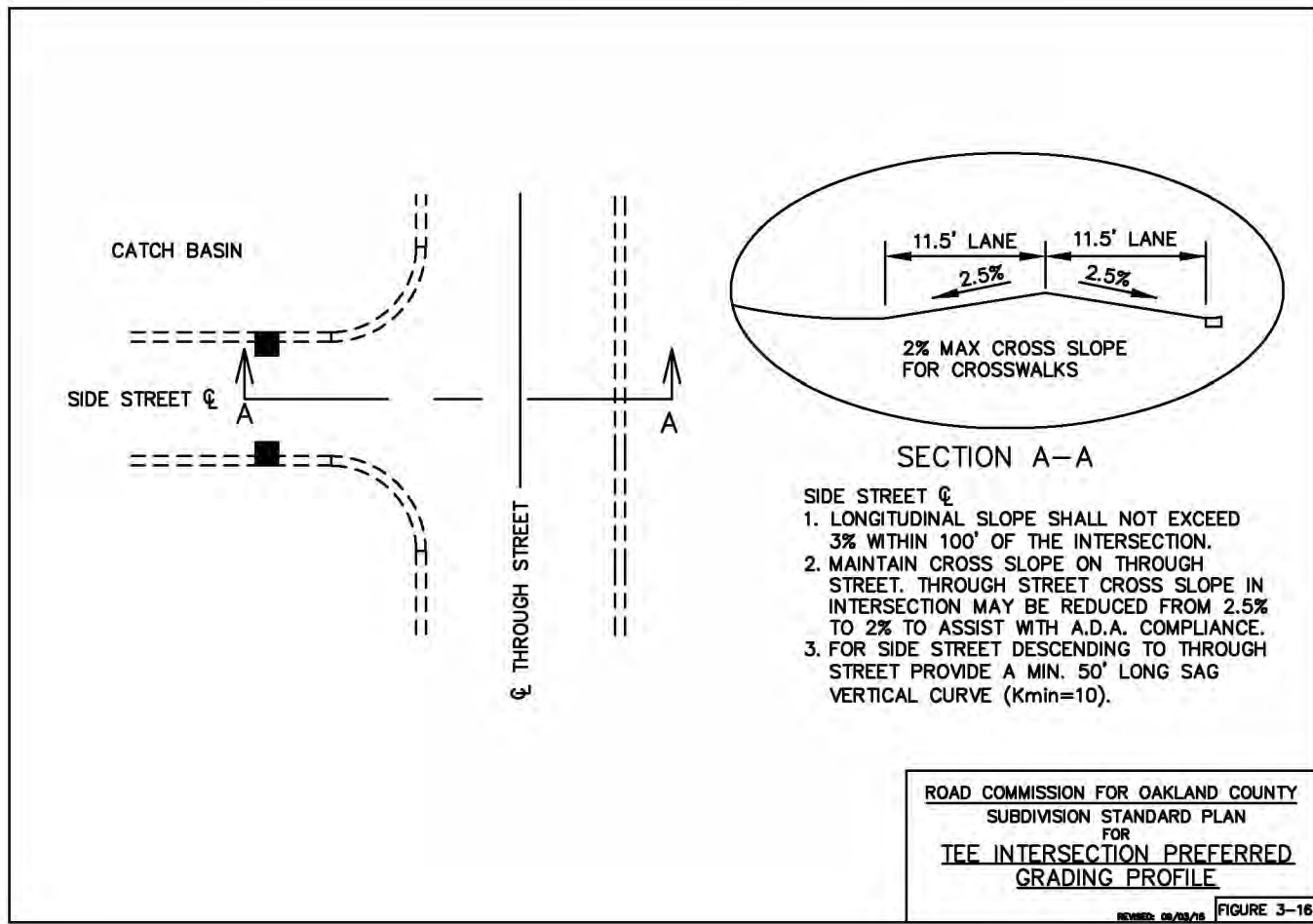
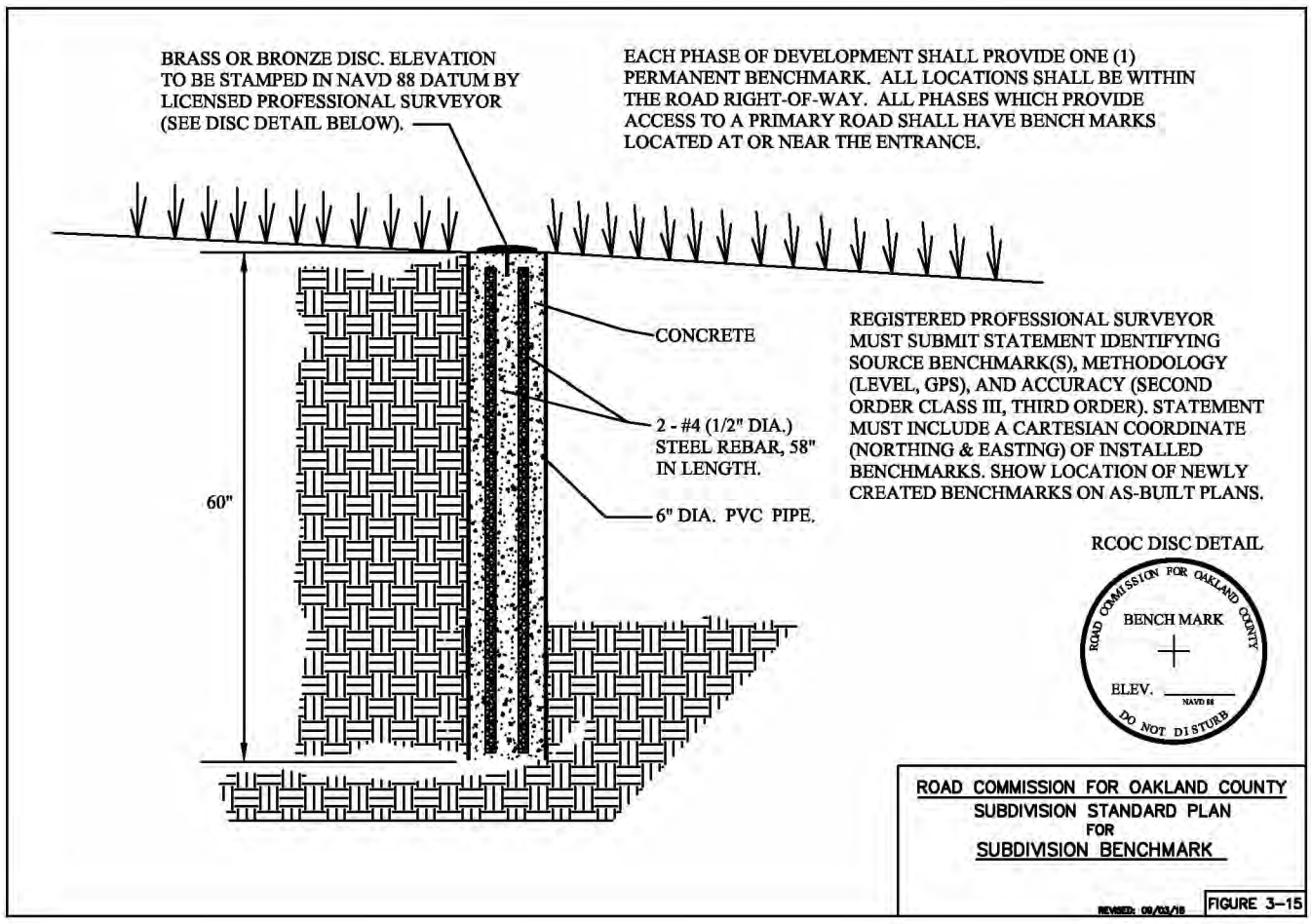
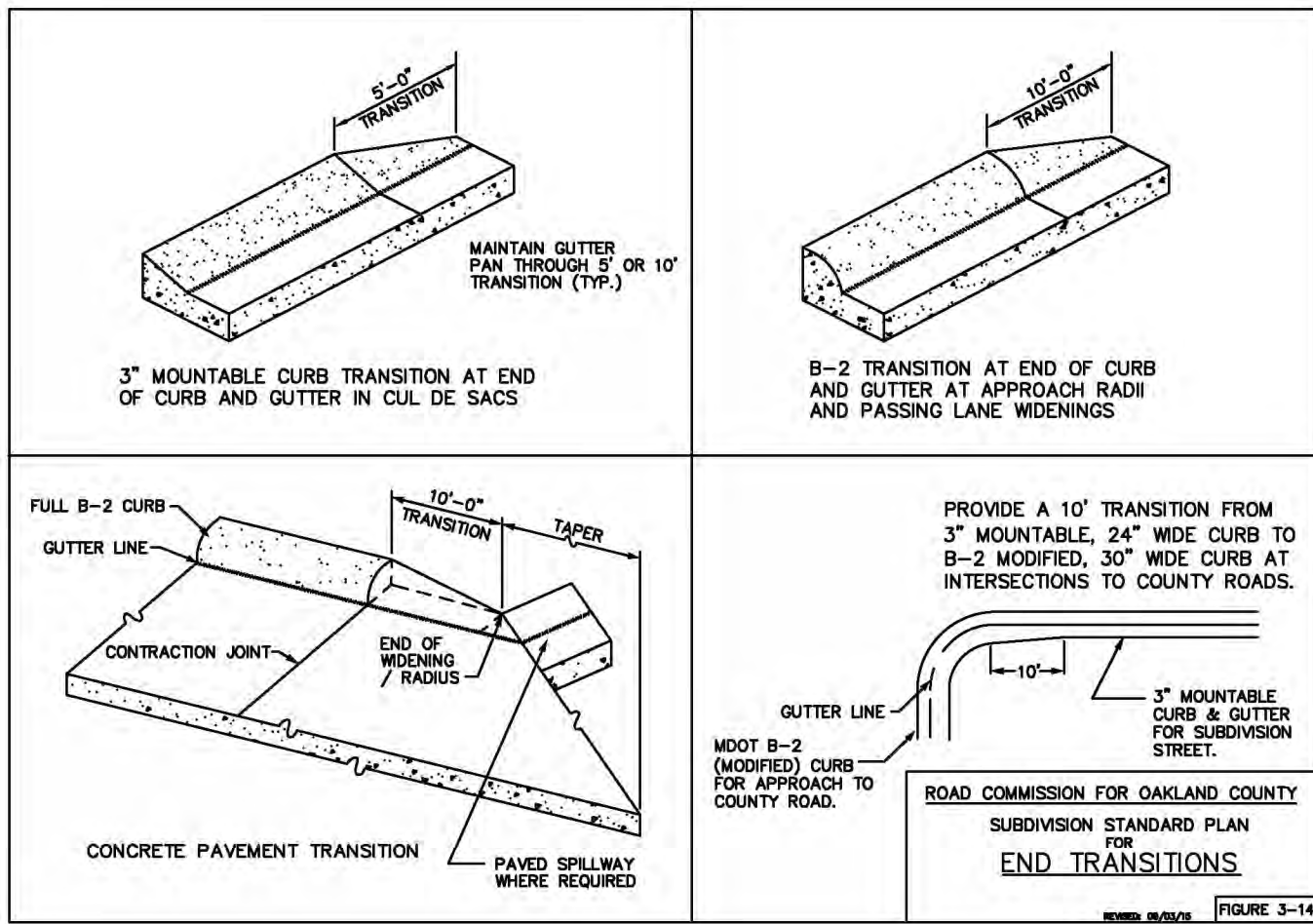
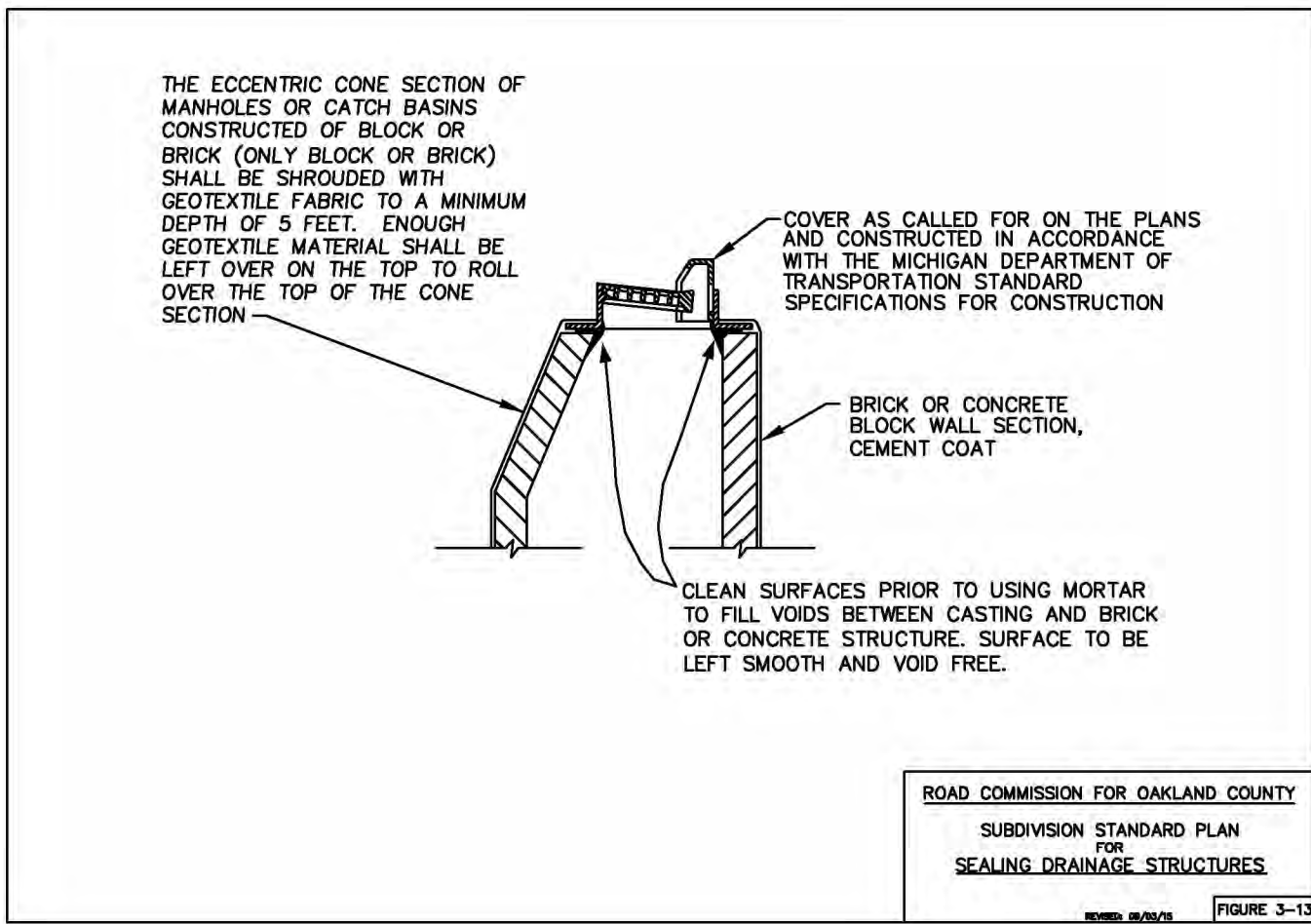
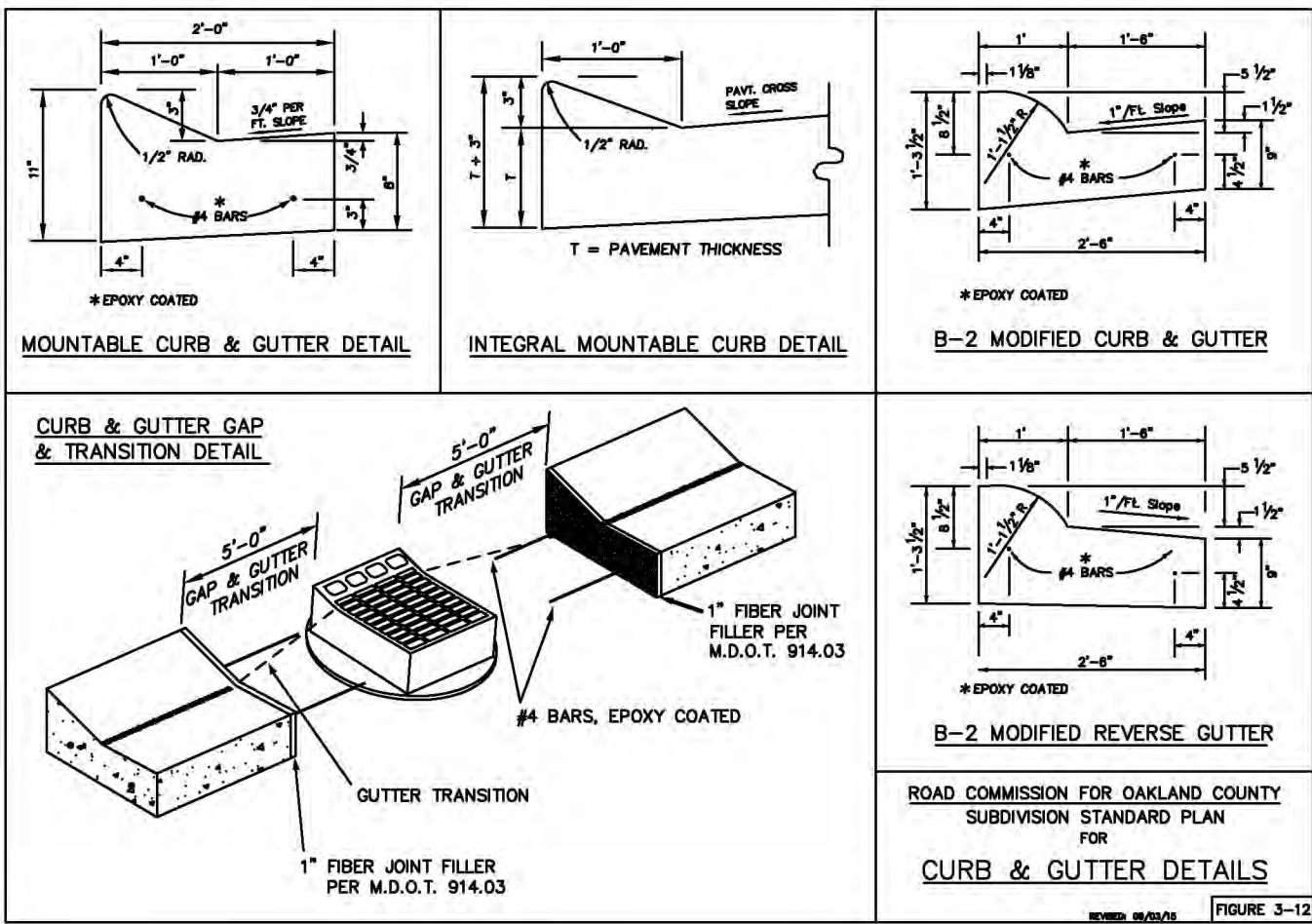
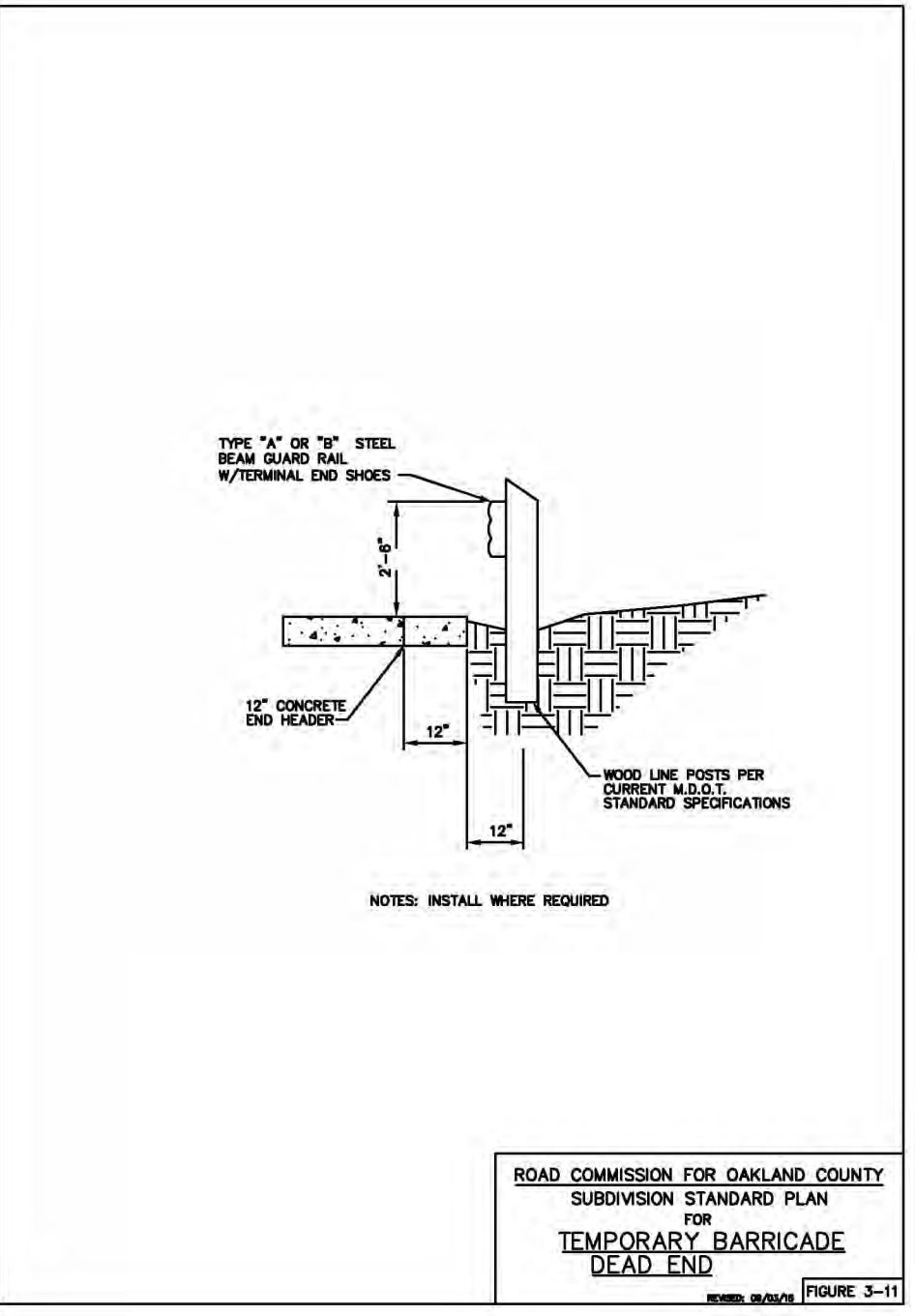
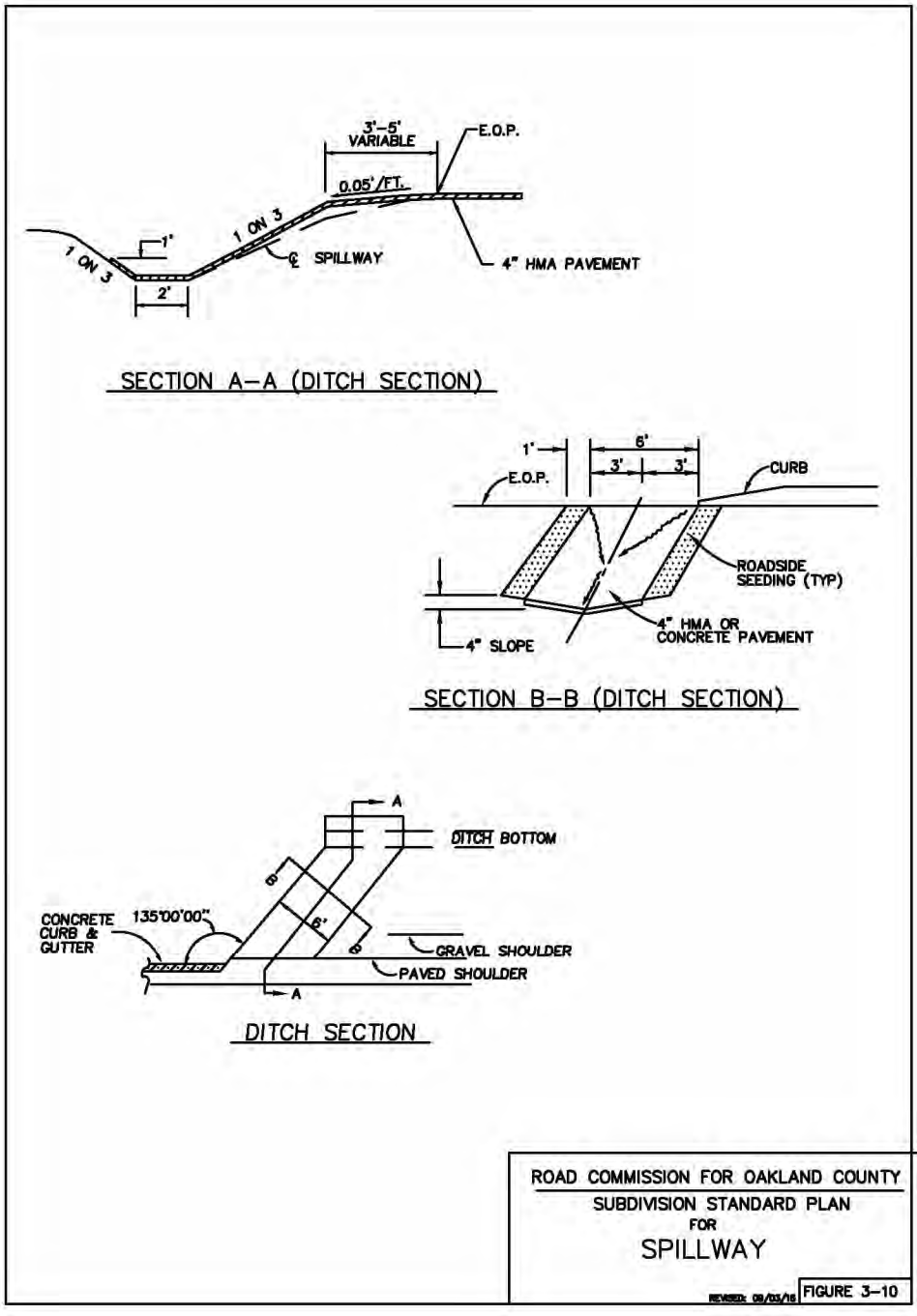
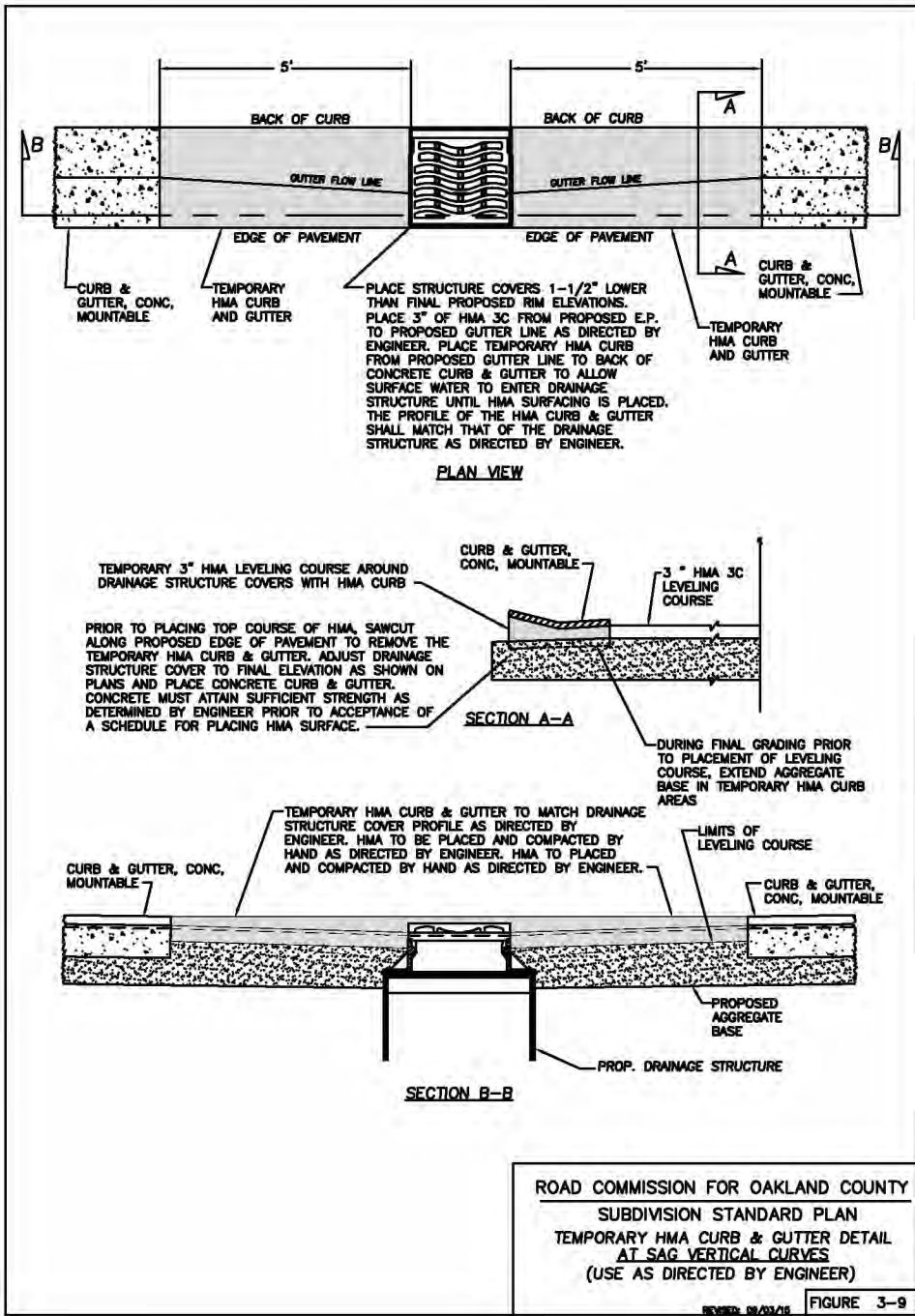
A.201





**SHEET NO.**  
1 OF 4





NOTE: CONSTRUCTION SHALL BE PER M.D.O.T. SPECIFICATIONS & PLANS AND AS MODIFIED BY THE R.C.O.C.



T:\SID\DEVELOPMENT\NEW SUBDIVISIONS\DESIGN\_GUIDES\RULES AND REGULATIONS FOR STREET DEVELOPMENT\INFO\DRAWING FIGURES SUPPORTING INFO\2014 RCOC STANDARD PLAN SHEETS FOR PLAT DEVELOPMENT Sep. 24, 15 -- 7:50 AM



PRIVATELY CONTRACTED CONSTRUCTION

1. A pre–construction meeting shall be held between the developer, their engineer, contractors, utility companies, representatives of the governing body and the R.C.O.C. staff. The meeting is intended to delineate the proposed construction and construction materials, testing requirements, progress inspections, sequence of construction and construction schedule.
2. A permit must be obtained from the R.C.O.C. Permit Division prior to any work being done in existing county road right–of–way. Permits will also be required for residential driveways.
3. 72 hour notice to the R.C.O.C. Subdivision Improvement and Development Division is required prior to the start of each phase of construction.
4. Materials and density testing and inspection will be utilized by the R.C.O.C. at their discretion as a part of the R.C.O.C. acceptance requirements. Contractors shall be responsible for quality control of their work. Failure of the developer/contractor to meet requirements or to provide the R.C.O.C. the required notification to allow scheduling of testing or inspection could result in the rejection of the work by the R.C.O.C.
5. The R.C.O.C. inspection and administration fee must be submitted prior to placement of the aggregate base for the streets.
6. Concrete curbs shall be backfilled prior to placement of aggregate base against the inside edge of the gutter.
7. Verification of Township approval for Sanitary Sewer and Watermain tests must be submitted and found acceptable by R.C.O.C., prior to any concrete paving or surface course of asphalt being placed.
8. A minimum of 1,000’ of road and/or curb subgrade/granular base shall be ready for grade check the day prior to placement of aggregate base/scheduled paving.
9. Permanent signs and pavement markings will be installed by the R.C.O.C. or their agents unless otherwise indicated by the R.C.O.C.
10. The required sight distance shall be provided. The actual sight distance provided will be reviewed in the field during construction. Work that may be needed to demonstrate adequate sight distance during construction shall be performed and the necessary sight distance shall be demonstrated to the satisfaction of the R.C.O.C.’s Traffic and Engineering requirements.
11. Construction plan omissions and errors or changed site conditions identified during construction do not relieve the developer of the requirement to meet design and construction standards.
12. Unacceptable work products shall be removed and replaced.

TRAFFIC

1. All construction signing shall be provided in accordance with the requirements of the current edition of the Michigan Manual of Uniform Traffic Control Devices. All required signs shall be installed prior to the start of any construction activity along existing streets and all costs incurred shall be borne by the developer and/or contractor. The developer shall install the "streets under construction authorized vehicles only" (WP21–SP–30) sign prior to the installation of aggregate base. Where construction of a proposed local road connects to an existing R.C.O.C. local or primary road, the required construction signs as shown in the part 6 of the current MMUTCD shall be mounted on driven posts and shall be maintained by the permit holder until construction along the primary or local road is complete. The construction signs may be temporarily covered if there is no work occurring and no hazards present in the county local primary road right–of–way as directed by the engineer. Where an internal sub local street connection is proposed, required construction signs shall be as shown in the typical signing figures.
2. Through traffic must be maintained at the times and two way traffic restored prior to work end each day.
3. Streets under construction are a work zone. Maintenance of traffic, constructed facilities, and the entire work zone are the responsibility of the developer/contractor.
4. The temporary closure of a public street for construction activities requires approval of the Board of County Road Commissioners.
5. Stumps, brush, fences and other obstructions within the proposed street rights–of–way and along existing county roads shall be removed. All trees shall be removed which are located within 6 feet of the back of curbs or to centerline of ditch along proposed subdivision streets and as directed by the Road Commission along existing county roads for sight distance or other safety concerns

EARTH WORK

1. Soil boring logs shall be shown in the plans.
2. Excavation and embankment under the influence of the roads will require inspection by the R.C.O.C.
3. The R.C.O.C. will determine if soil is suitable for the road foundation. Unsuitable material shall be removed. The subgrade shall be satisfactorily compacted and proof rolled.
4. Embankment material under the influence of the road must be approved by the R.C.O.C. prior to placement.
5. The finished subgrade shall be free of all topsoil, stumps, organic matter, peat, muck, frost heave material, or any other material unstable in nature. During subgrade preparation the Road Commission will make spot inspections to determine the suitability of the subgrade. Upon completion of subgrade preparation, an inspection will be made by the Road Commission for determination of its acceptability. Approval of the subgrade for vertical and horizontal alignment shall be by the proprietor’s engineer.

AGGREGATE BASE

1. Aggregate base course placement shall not commence until the subbase/subgrade has been approved by the Road Commission.
2. Aggregate base course material shall meet the special requirements of the R.C.O.C.’s special provision(s) for aggregate base.

STORM DRAINAGE

1. Corrugated steel pipe, where allowed, shall be from aluminum coated sheets per the M.D.O.T. standard specifications for construction.
2. Storm sewer and cross road culvert pipe shall be reinforced concrete pipe of the appropriate class unless determined that an alternate material would be in the best interest of the R.C.O.C. in a specific situation.
3. Minimum size for cross road culverts shall be 15 inches in diameter to facilitate maintenance.
4. Cross road culverts other than standard pipe classifications shall be designed to carry an HS 20/HL 93 live load as applicable.
5. Cross road culvert pipe shall have end sections.
6. Drainage structures and covers:

Usage	Frame & Cover
Manhole	M.D.O.T. cover "B"
R.C.O.C. mountable curb and gutter	1. EJIW 7065/Neenah R–3034–B or approved equal (M.D.O.T. "K" frame with a "C" curb box) 2. EJIW 7300/Neenah R–3508–A2 or approved equal
M.D.O.T. curb and gutter detail F	M.D.O.T. cover "K"
M.D.O.T. curb and gutter detail B	M.D.O.T. cover "J"
Catch basin/inlet for non–paved areas	M.D.O.T. cover "E" or "G"

- All manholes, catch basins and inlet castings shall have complete bearing on their respective structures and shall be placed so as to ensure full accessibility to the structure. Drainage structures shall have eccentric cones and appurtenances to allow for a 12 inch adjustment.
7. Open discharge of sump pumps into the road right–of–way will not be allowed. Sump pump discharge pipes can be connected to drainage structures and shall utilize an approved prefabricated connection device. Sump pump discharge pipes shall not be connected directly to storm sewer pipes, and should not cross streets.
  8. R.C.O.C. inspection of all connections to existing drainage facilities will be required before they are backfilled.

TRENCH BACKFILL

1. Storm sewer, utility trenches and cross road culverts, along with their related structures (manholes, catch basins, inlets, headwalls and/or end sections), installed in the area between lines projected down from the top of a curb on a 1 on 1 slope shall be backfilled with a granular material meeting M.D.O.T. granular class II requirements as approved by the Road Commission.
2. Granular trench backfill materials, installed in the area between lines projected down from the top of curb on a 1 on 1 slope shall be placed and compacted in accordance with the current M.D.O.T. standard specifications for construction.
3. Backfill outside the limits of road influence, can be suitable excavated material as determined by the engineer. Backfill shall be placed and compacted in layers in accordance with M.D.O.T. specifications.

NOTE: CONSTRUCTION SHALL BE PER M.D.O.T. SPECIFICATIONS & PLANS AND AS MODIFIED BY THE R.C.O.C.



RICHARD J. SAPORSKY  
SUBDIVISION IMPROVEMENT  
AND DEVELOPMENT

THOMAS G. BLUST  
DIRECTOR OF ENGINEERING

DRAWN DATE:  
09/03/15  
REVISED DATE:

DETAIL SHEETS  
NEW DEVELOPMENT

SHEET NO.  
3 OF 4

T: \SID\DEVELOPMENT\NEW SUBDIVISIONS\DESIGN\_GUIDES\RULES AND REGULATIONS FOR STREET DEVELOPMENT\2015\SUPPORTING INFO\DRAWING FIGURES SUPPORTING INFO\2014 ROCOC STANDARD PLAN SHEETS FOR PLAT DEVELOPMENT Sep. 24, 15 – 7:50 AM



HMA

- HMA work shall be in accordance with R.C.O.C. special requirements.
- Before succeeding courses of asphalt pavement are placed, the preceding course shall be swept clean of all dust, dirt, or other loose material by the use of a mechanical sweeper and/or compressed air or other approved method. The contractor shall then apply an approved bond coat to the HMA surface at the rate of 0.10 gallons per square yard. HMA bond coat shall be applied to the area expected to be paved on the same day as HMA application. HMA bond coat shall not be applied the day prior to paving. The construction of the second and succeeding HMA courses may have to be delayed, as directed by the Road Commission, until the previously placed HMA course has sufficiently cooled. Butt joints shall be provided at connections to existing paved roads and at overnight construction joints, when the final course of HMA surface mixture is being placed. during all other paving operations, joint treatment shall be as directed by the Road Commission.
- Longitudinal pavement joints (e.g. centerline pavement joint) shall be hot joints whenever possible, created while the adjacent mat is still hot. Joints shall not have a tapered edge unless approved for a special scenario by the R.C.O.C.
- No HMA shall be produced or placed in rain or threatening weather. When rain appears imminent, the contractor shall suspend HMA production to prevent placing pavement in wet weather.

CONCRETE

- Concrete work shall be in accordance with R.C.O.C. special requirements including mitigation of potential Alkali–Silica reactivity.
- MATERIALS:  
The mix design, materials, quality assurance and quality control used in producing and placing concrete shall be in accordance with the current standards of the R.C.O.C. construction/testing division.
- JOINTS:
  - Typical longitudinal joints will be M.D.O.T. symbol D or B with lane ties.
  - Typical transverse joints will be plane of weakness joints M.D.O.T. symbol W, without load transfer assemblies.
  - "Cold" joints or "end of pour" joints will be tied to the successive pavement placed. Non–integral curb and gutter shall be tied to concrete pavements.
  - Single pass sawing is allowed to create  $\frac{1}{4}$  inch wide sawed joints to a depth of 2.25" for a 7" thick slab and 2.5" for an 8" thick slab, ( $\frac{1}{4}$  to  $\frac{1}{3}$  of the concrete slab thickness).
  - Transverse pavement joints shall be spaced at intervals no greater than 12.25' for 7" thick slabs and 14' for 8" thick slabs, and no greater than 1.5 times the longitudinal joint spacing.
  - Longitudinal pavement joints shall be spaced as follows:  
–22' & 23' wide pavements – at pavement centerline.  
–24' & 27' wide pavements – at  $\frac{1}{3}$  points.  
–36' wide pavements – at  $\frac{1}{4}$  points.  
For integral curb the dimensions are measured to the back of the curb. A joint is not required at the edge of integral curb.

CONCRETE (CONTINUED)

- JOINTS (CONTINUED):
  - Intersection side streets will be poured separately from through streets with a "cold" joint. The joint will be parallel to the through street in line with the edge of the lane (inside edge of non–integral curb and gutter)./ For integral curb and gutter the joint offset will be dimensionally equivalent. The ends of (sawed and "cold") joints will be perpendicular to the outside edge of the pavement and back of curb. Intersection jointing will be per approved standard guidelines.
  - Prior to sealing, all joints shall be cleaned with a jet of compressed air supplied at a working pressure of not less than 90 psi in addition to any other cleaning which may be required to insure a thoroughly clean joint. The use of a "heat lance" to dry the joints prior to application of the joint sealant will not be allowed.
  - Pavement joints shall be filled and sealed with a hot poured rubber–asphalt type compound with backer rod per the MDOT standard plans.
- LANE TIE BARS  
  
Number 5 bars, epoxy coated, 30 inches long shall be placed along all longitudinal joints, at a right angle to the joint and at 30 inch intervals. Tie bars shall be supported by chairs sufficiently rigid to support the bar during concrete placement.

CURB END TRANSITIONS

Curb end transitions shall be provided as directed by the Road Commission for Oakland county and standard plans.

CONSTRUCTION

- All forms or slip form control line shall be set on a true line and on grade with approximately 1,000 lined feet set prior to and maintained during paving operations.
- A minimum of 1,000 feet of road and/or curb subgrade/granular base (as determined by the R.C.O.C.) shall be ready for grade check the day prior to placement of aggregate base/scheduled paving.
- No concrete shall be produced or placed in rain or threatening weather. When rain appears imminent, the contractor shall take such precautions as are necessary to protect the concrete from damage.
- All manholes, catch basins, inlets and any other utility castings shall be adjusted to line and grade and shall have complete bearing on their respective structures or approved adjustor. A minimum of one (1) day cure time prior to paving shall be provided to ensure mortar has attained sufficient strength.
- Cold weather paving: refer to the M.D.O.T. standard specifications.
- The contractor shall provide cold weather protection as needed to protect the concrete from freezing. Any concrete damaged by freezing or frost action shall be removed and replaced as directed by the road commission.

MISCELLANEOUS

- Overhead wires shall be adjusted as necessary to provide adequate clearance as required by the utility owners, typically 16.5' minimum for telecommunications.
- Hydrants shall have a minimum clear distance of five feet from the back of curb. Hydrants shall be located behind the roadside ditches on uncurbed streets.
- Utility connection tees and manholes should not be under the road.
- All existing Utility Structure Covers within a paved area shall be adjusted to grade and backfilled with approved material prior to laying the pavement surface course.
- All mail boxes are to be temporarily relocated and mail service maintained during construction. Mail boxes are to be permanently reset in accordance with local postal requirements after construction.
- Restore all disturbed areas, driveways, lawns, etc., to a condition at least equal to existing.
- A wood disposal agreement will be required for any tree removal outside the limits of this development. It may be necessary for these trees to be cut in lengths desired by the property owners (5' or longer), and be placed on the property adjacent to the removal location.

SOIL EROSION AND SEDIMENTATION CONTROL

Prior to the start of any construction activity, a soil erosion control permit must be obtained from the O.C.W.R.C. or local municipal enforcement agency (MEA) in accordance with the provisions of public Act 451, Part 91. During all phases of construction, proper soil erosion controls must be installed and maintain by the contractor and/or developer. Acceptable vegetation must be established and all temporary soil erosion controls removed from the road rights–of–way prior to Road Commission acceptance of the streets for maintenance.

ADA

All sidewalks, curb ramps and curb openings shall be in accordance with M.D.O.T. Standard Plan R–28 and A.D.A. requirements. Crosswalks shall have a transverse slope no greater than 2% where they cross streets. Sidewalks that cross driveways shall maintain cross slopes no greater than 2% where they cross a driveway in addition to other areas. Sidewalk curb ramps, curb openings, landings and truncated domes (detectable warning strips) will be inspected by the R.C.O.C. Facilities that are not in compliance with A.D.A. requirements shall be removed and replaced.

NOTE: CONSTRUCTION SHALL BE PER M.D.O.T. SPECIFICATIONS & PLANS AND AS MODIFIED BY THE R.C.O.C.



RICHARD J. SAPORSKY  
SUBDIVISION IMPROVEMENT  
AND DEVELOPMENT

THOMAS G. BLUST  
DIRECTOR OF ENGINEERING

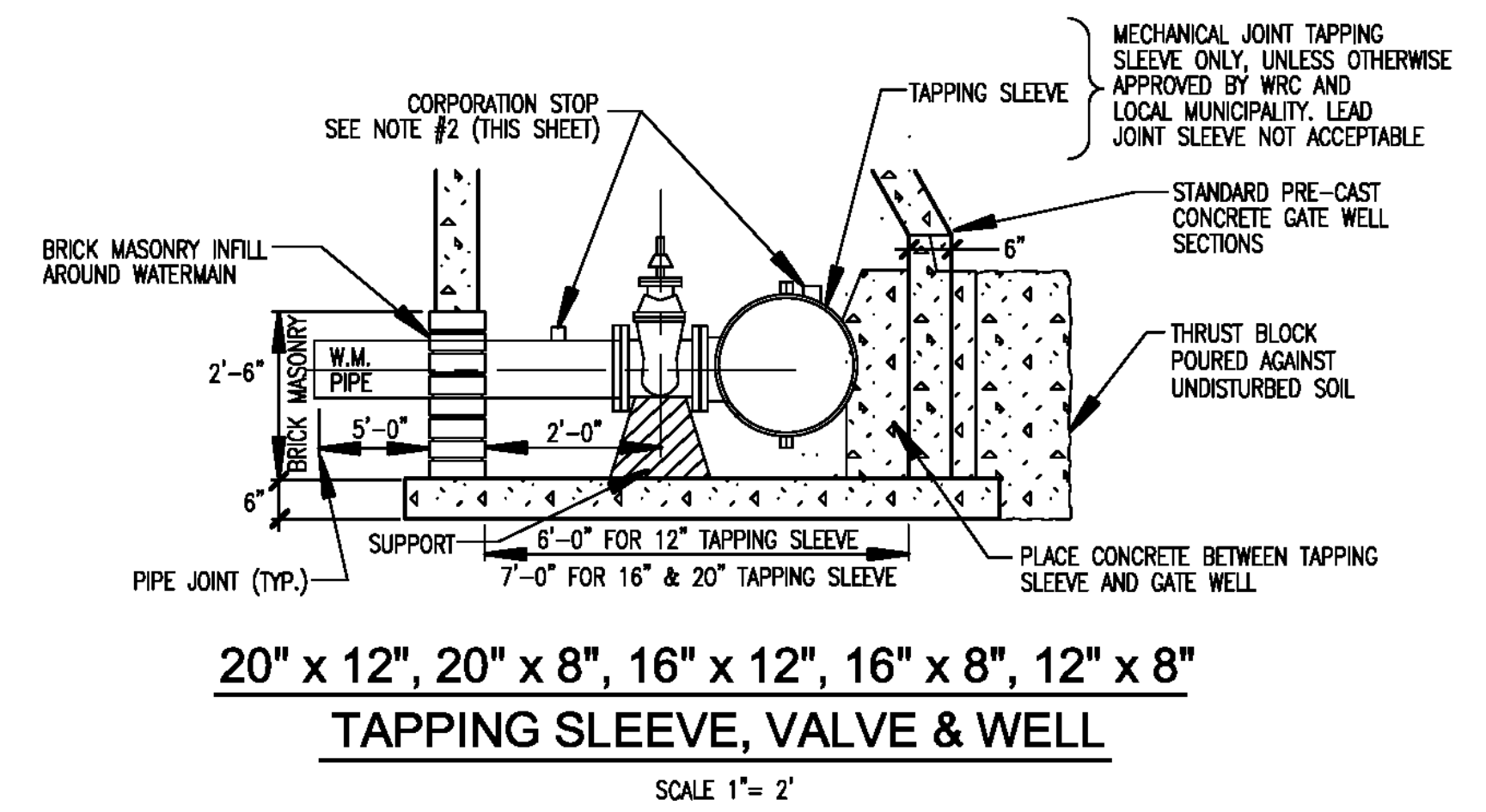
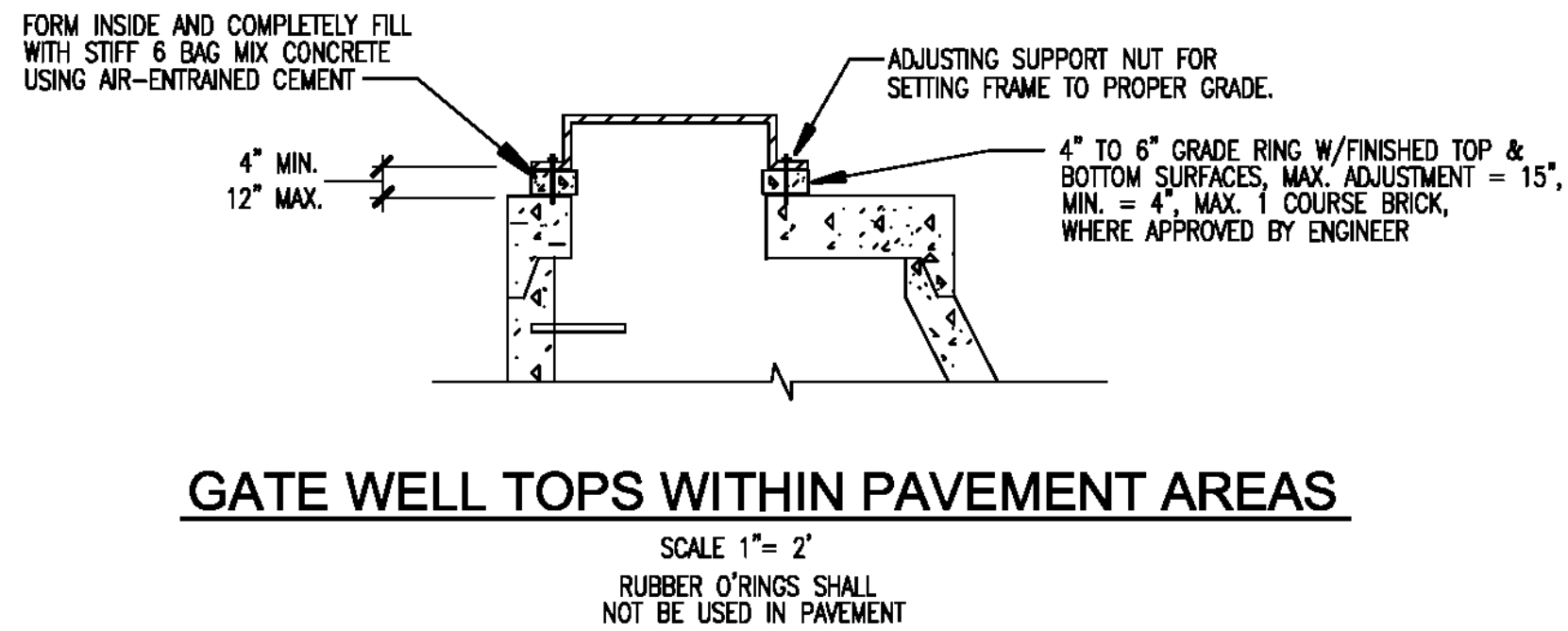
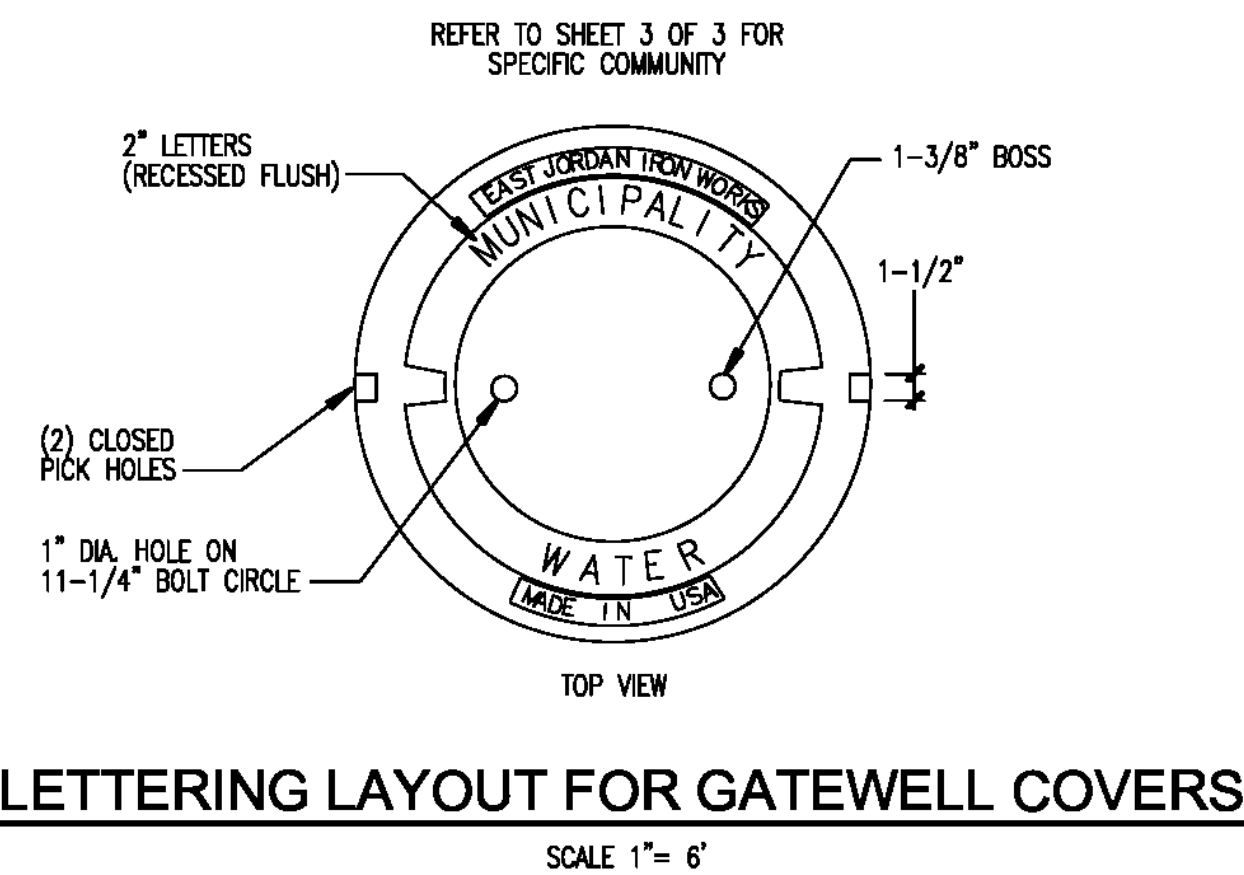
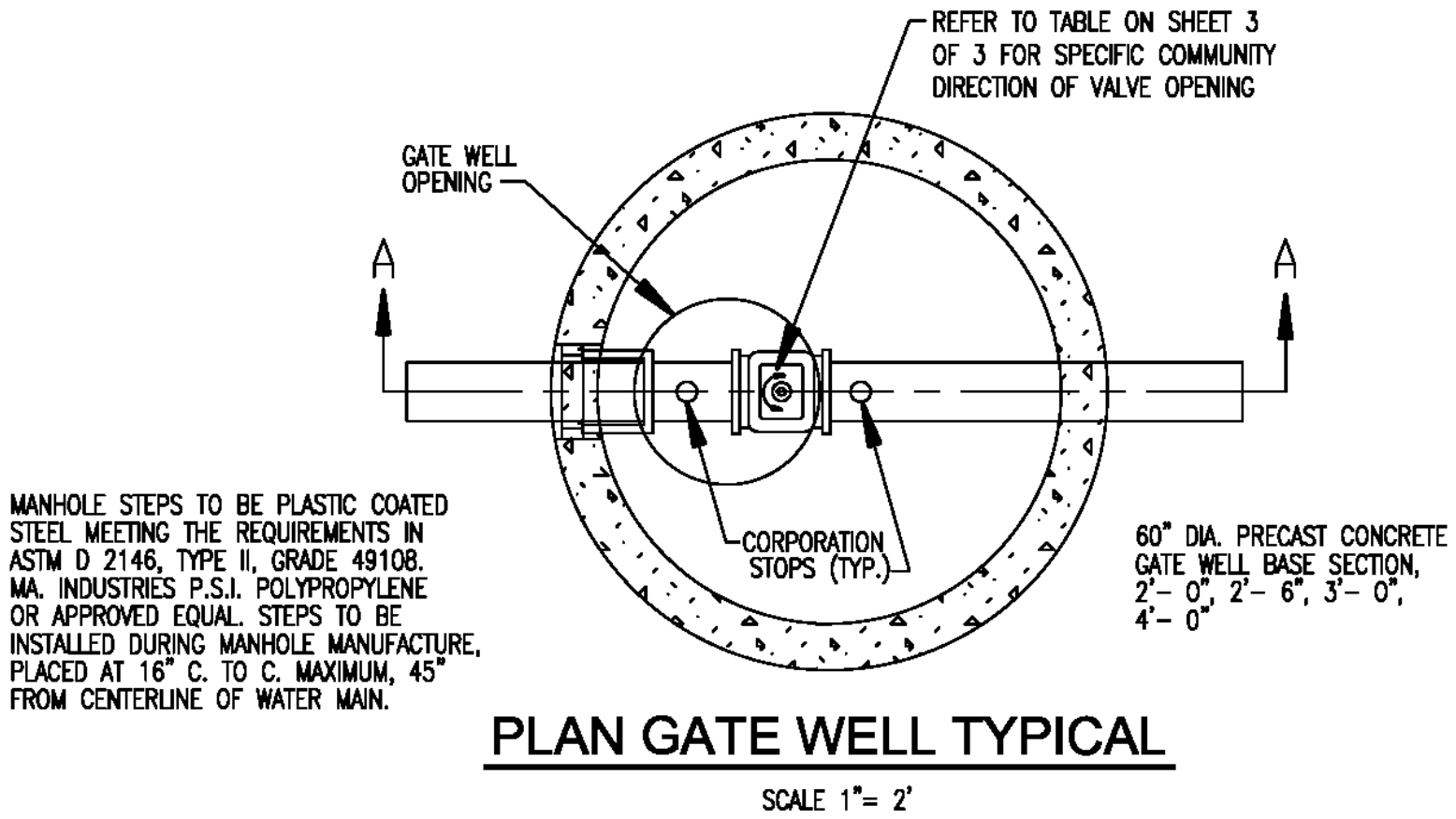
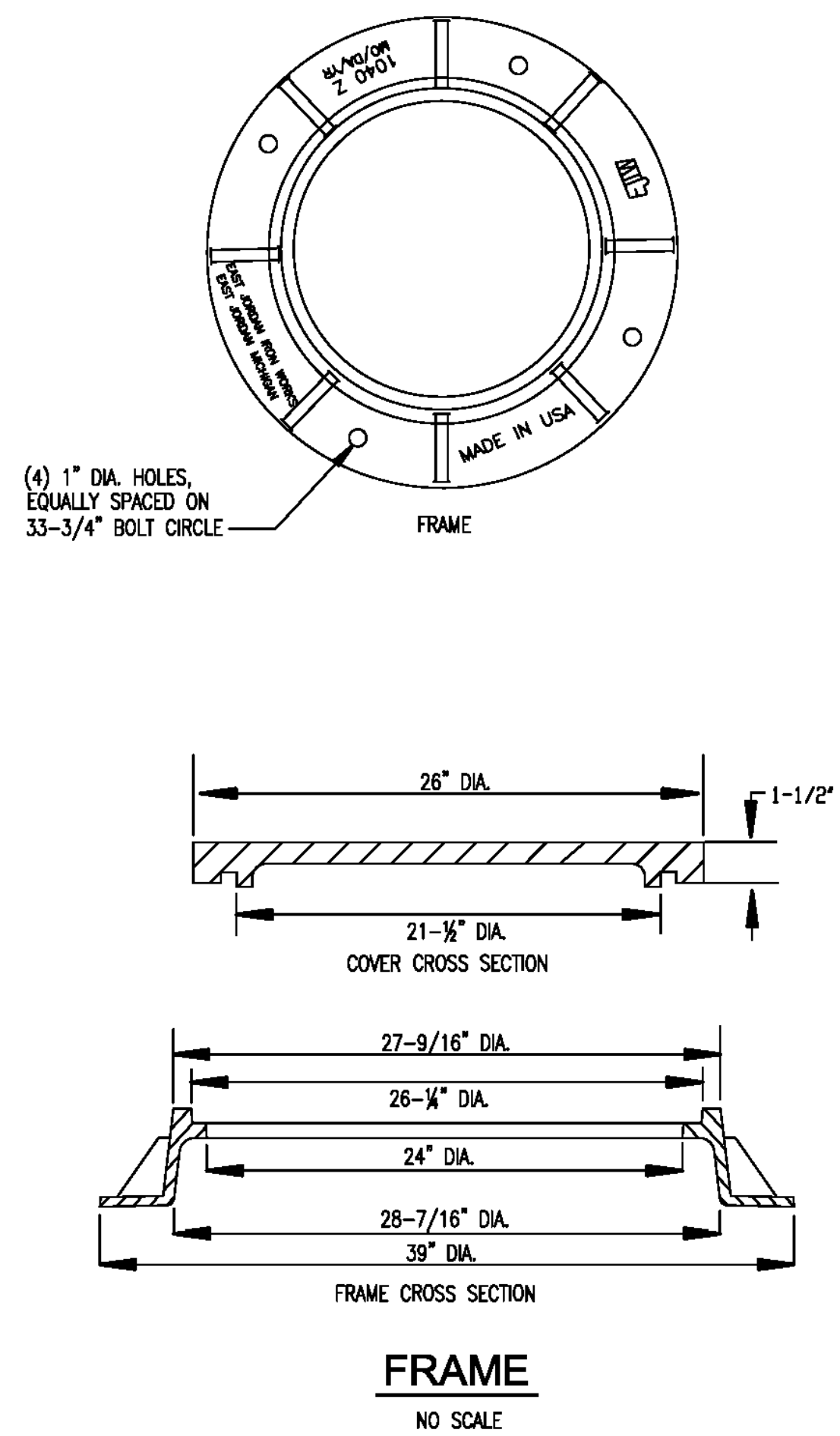
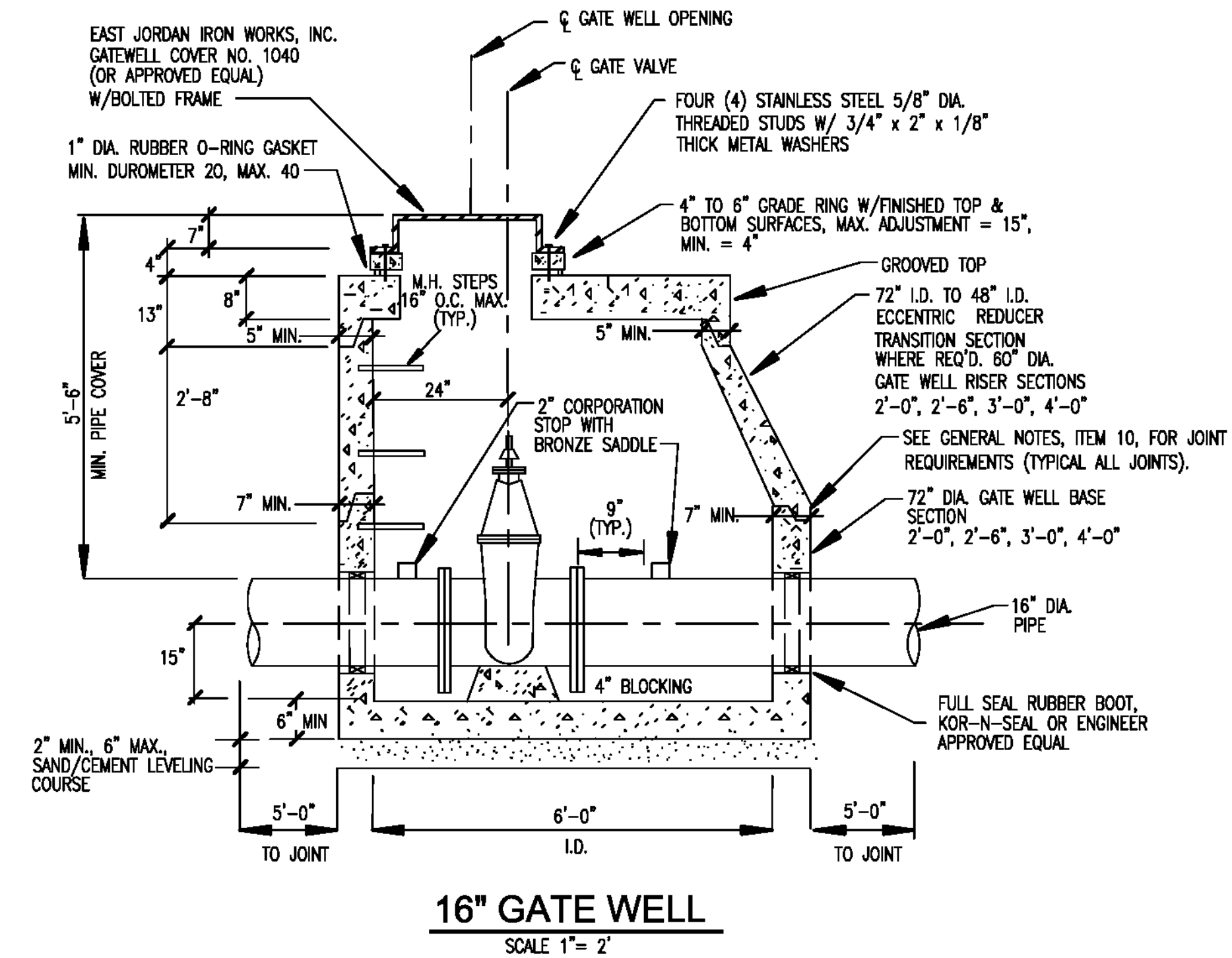
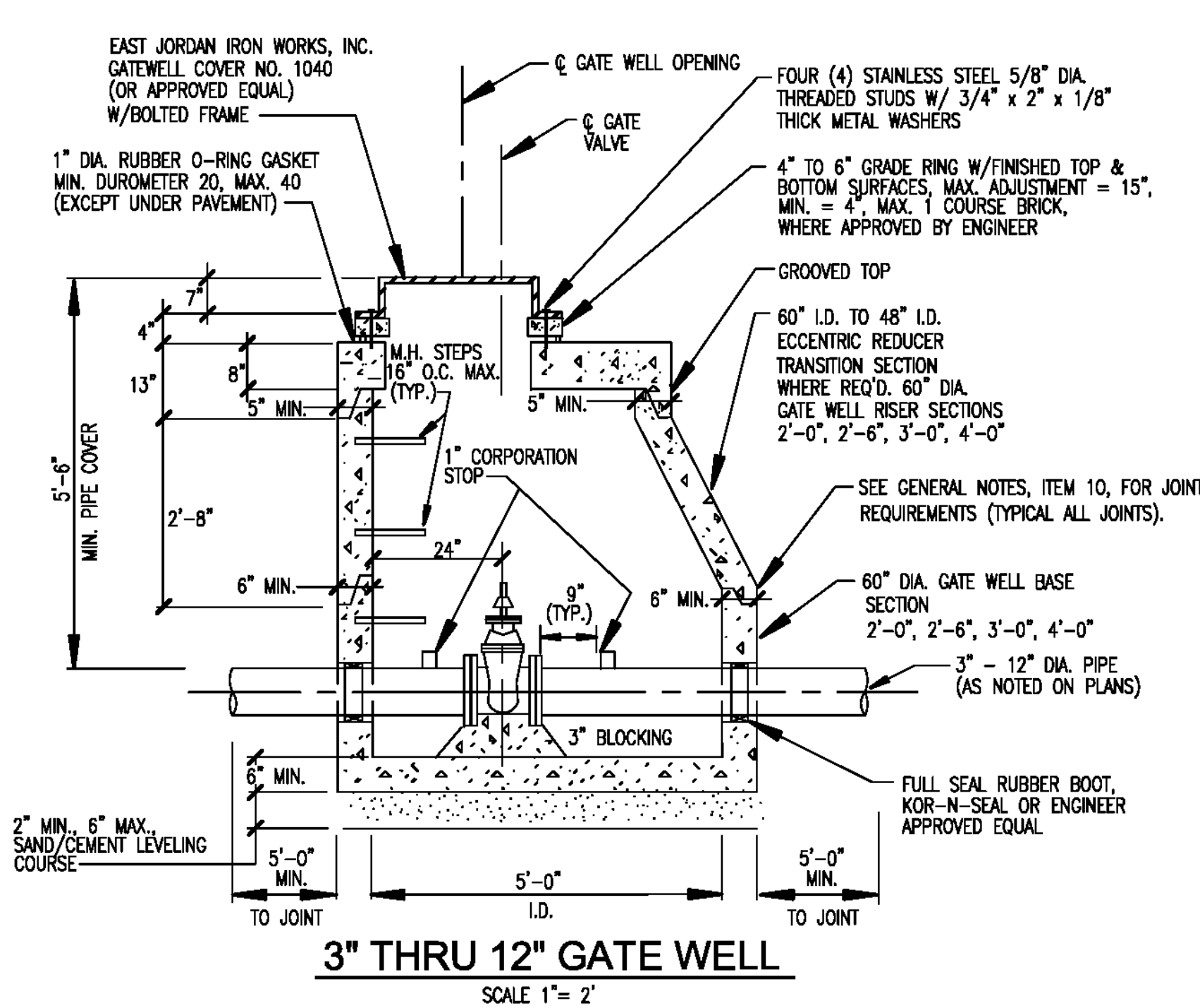
DRAWN DATE:  
09/03/15  
REVISED DATE:

DETAIL SHEETS  
NEW DEVELOPMENT

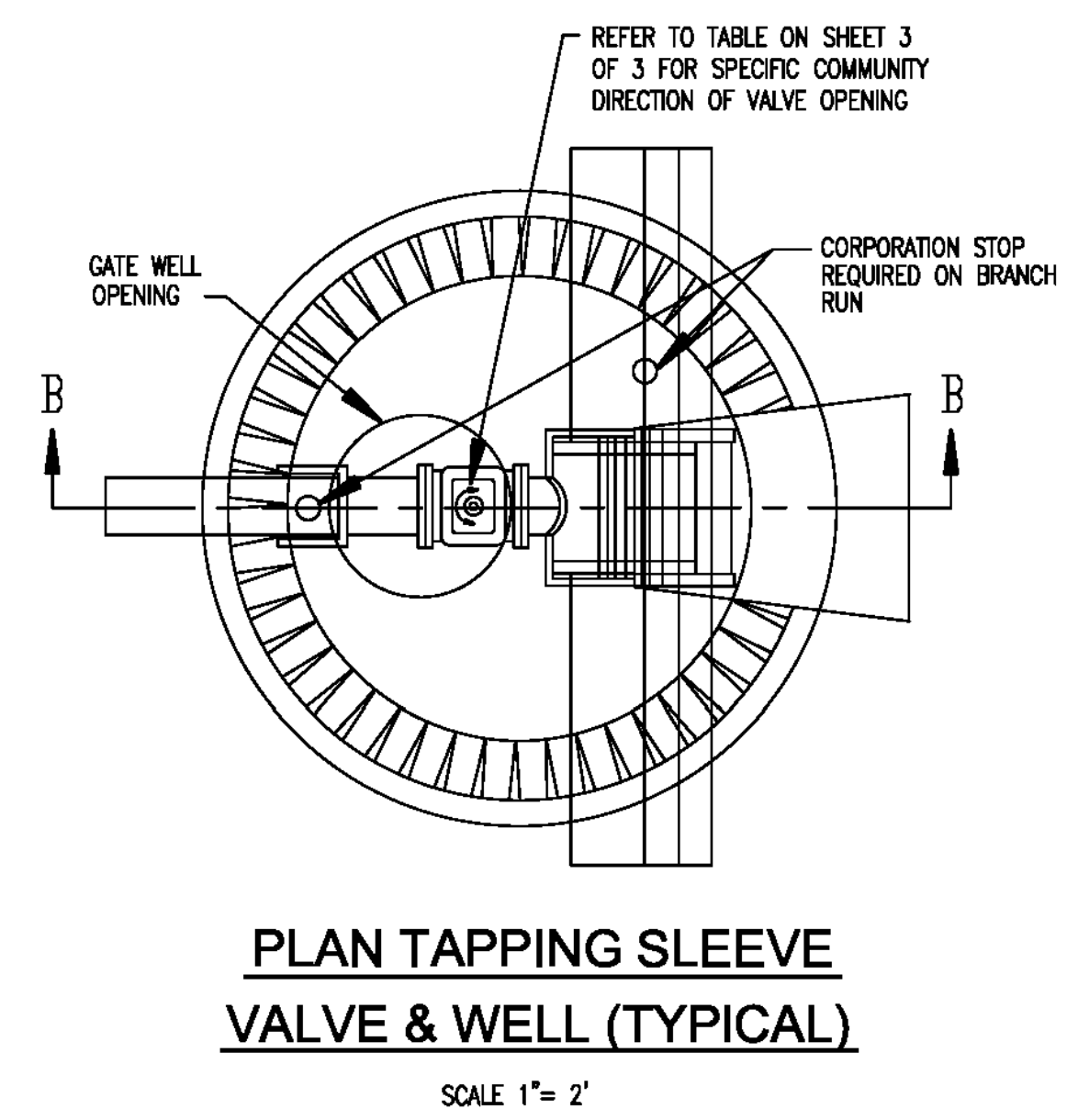
SHEET NO.  
4 OF 4



GATE VALVE & WELL DETAILS



- NOTES:
1. REFER TO NOTE 7 OF "VALVE AND SLEEVE NOTES" ON SHEET 3 OF 3.
  2. FOR PIPE SMALLER THAN 16" USE 1" CORPORATION STOP. FOR 16" PIPE OR LARGER USE 2" CORPORATION STOP WITH BRONZE SADDLE.
  3. REFER TO NOTE 11 OF "GENERAL NOTES" ON SHEET 3 OF 3.
  4. WRC DOES NOT RECOMMEND SIZE ON SIZE TAPPING.



WATER MAIN

STANDARD DETAILS

REVISION BLOCK

Rev.	Rev.	Date	Description
1	DB	03/19/13	UPDATE TITLE BLOCK AND ARROWS
2	DB	07/08/14	PROPOSED REVISIONS
3	DB	11/01/14	PROPOSED CHANGE TO DELETE HOLE FROM GATEWELL COVERS
4	DB	03/19/16	MANUSCRIPT FOR G. APPS.

ORIG. DATE:

01/01/01

SCALE:

NONE

DESIGNED BY:

WRC

DRAWN BY:

WRC Mapping

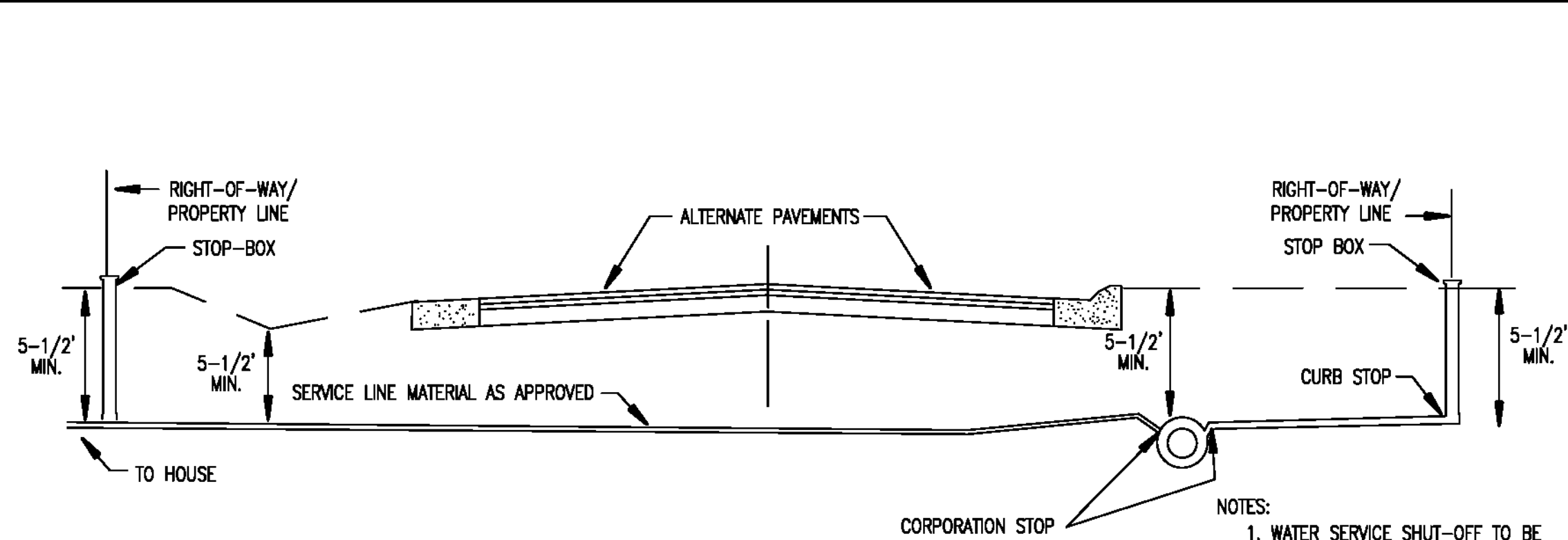
WATER RESOURCES COMMISSIONER  
Jim Nash

ONE PUBLIC WORKS DRIVE, BLDG 86 WEST  
WATERFORD, MICHIGAN  
48326-1907

SHEET NO:

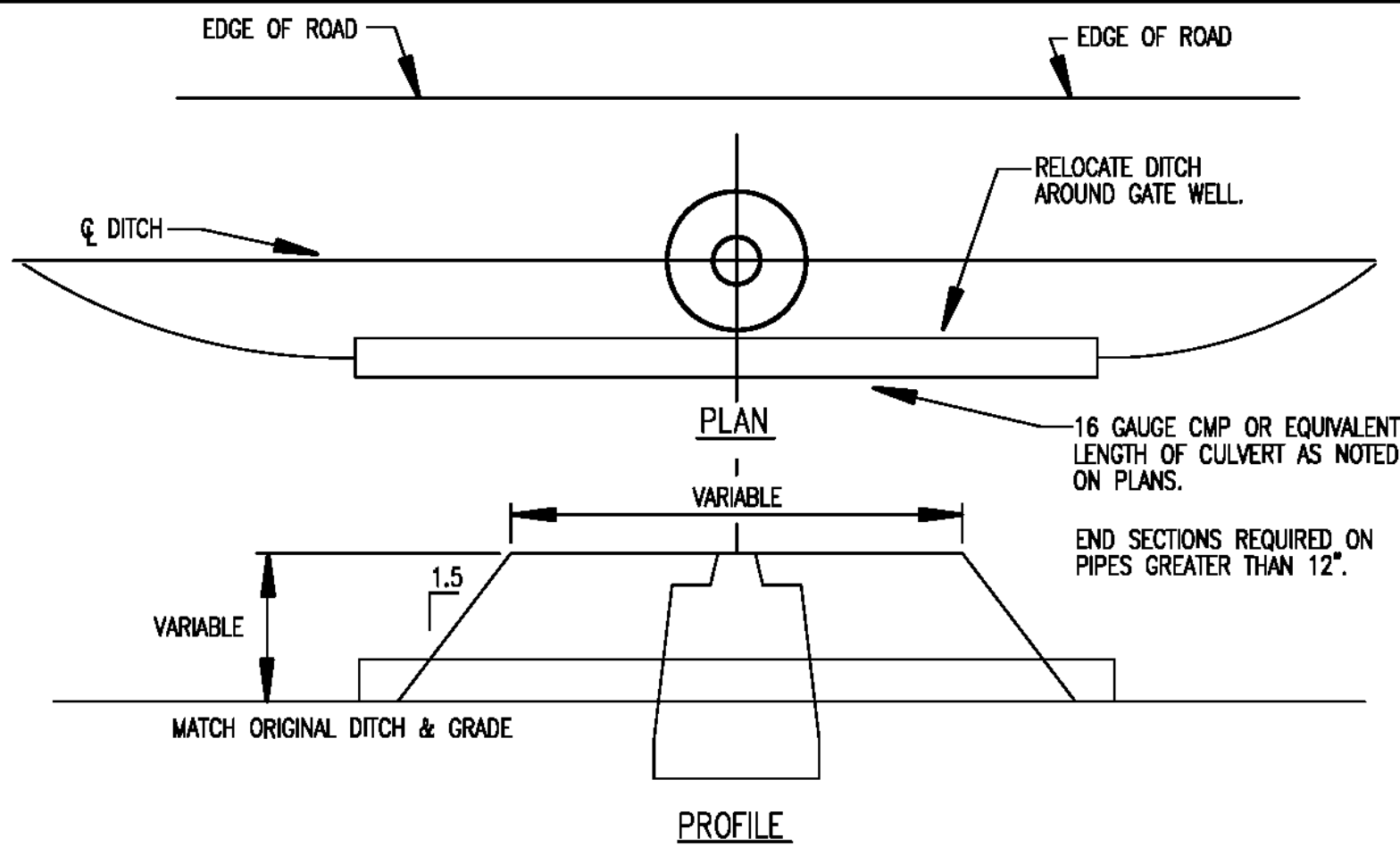
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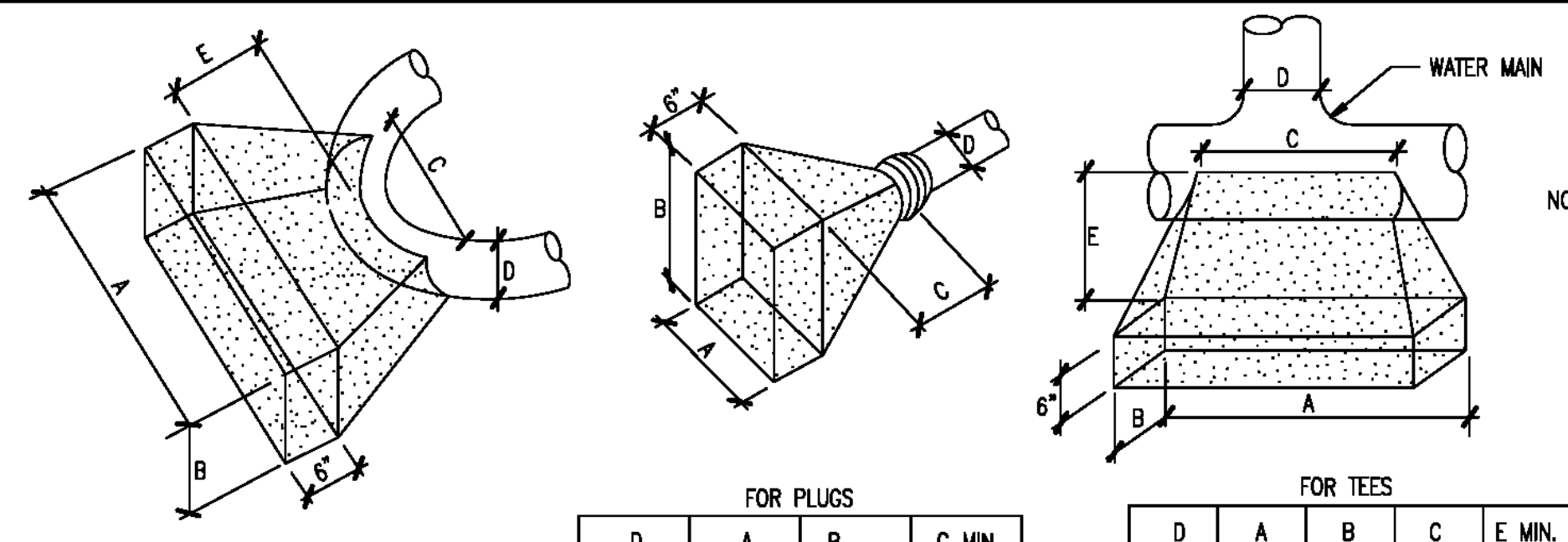
### TYPICAL PUBLIC ROAD WATER SERVICE CONNECTION

NO SCALE



### DITCH ENCLOSURE AT GATE WELL

NO SCALE



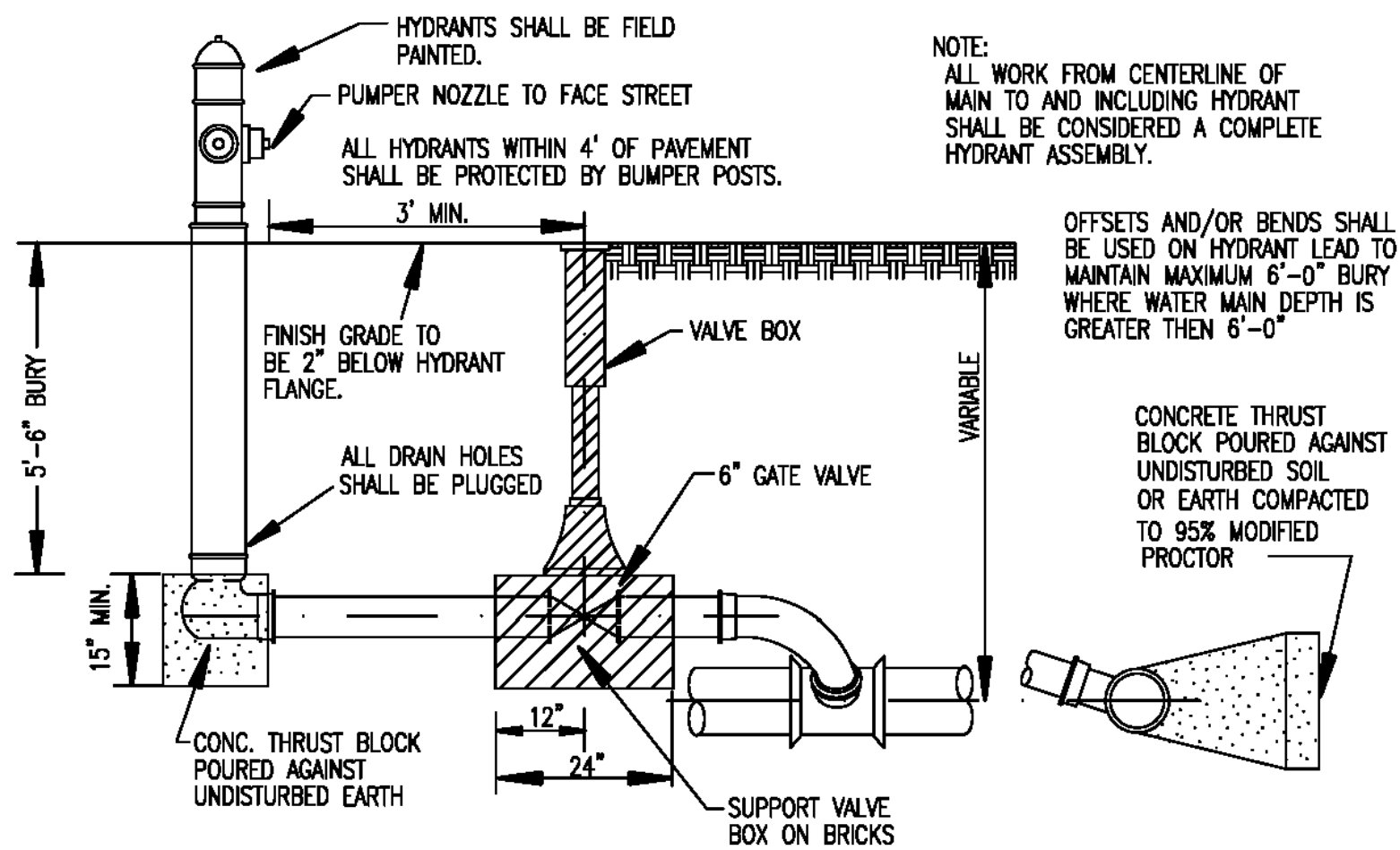
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20"	8'	6.5'	3.5'	2.5'
16"	6'	4'	2.5'	2'
12"	4'	3'	2'	1.75'
10"	3'	3'	2'	1.75'
8"	3'	2'	2'	1.5'
6"	2'	1.5'	2'	1.25'

D	A	B	C	E MIN.
20"	7'	5'	2.5'	
16"	4'-10"	4'-10"	2'	
12"	4'-4"	3'	1'-9"	
10"	3'	2'	1'-6"	
8"	2'-10"	2'-6"	1'-6"	
6"	1'-6"	1'-6"	3'	

D	A	B	C	E MIN.
20"	6.5'	4.5'	3.5'	3'
16"	4'-8"	4'-8"	2.5'	2.75'
12"	4'	3'	2.5'	2.5'
10"	3'	2'	2'	2.25'
8"	2'-6"	2'	2'	2.25'
6"	2'	2'	2'	2.25'

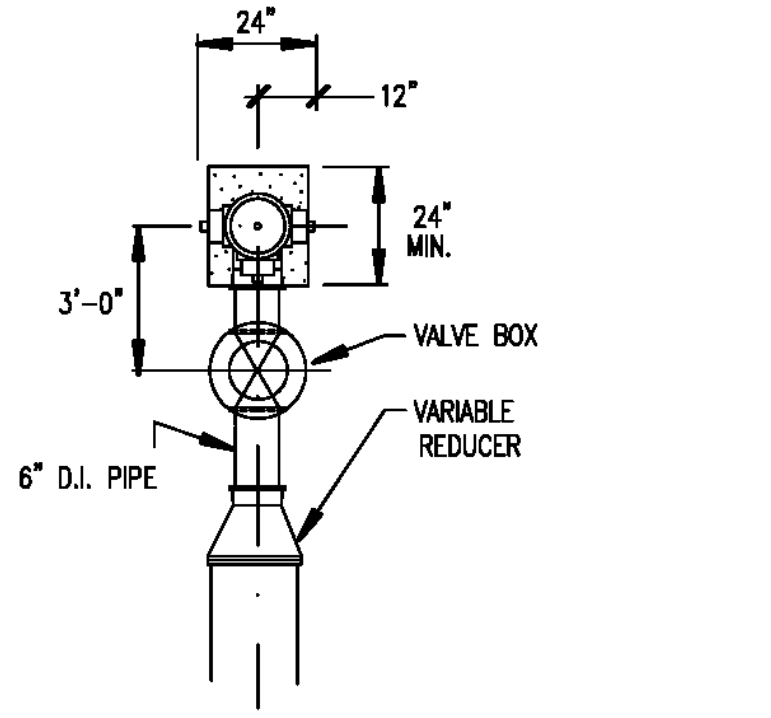
NOTE:  
3000 PSI CONCRETE TO BE USED.  
THRUST BLOCK TO ABUT & REST  
AGAINST UNDISTURBED SOIL OR  
EARTH COMPACTED TO 95%  
MODIFIED PROCTER.

### THRUST BLOCK DETAILS



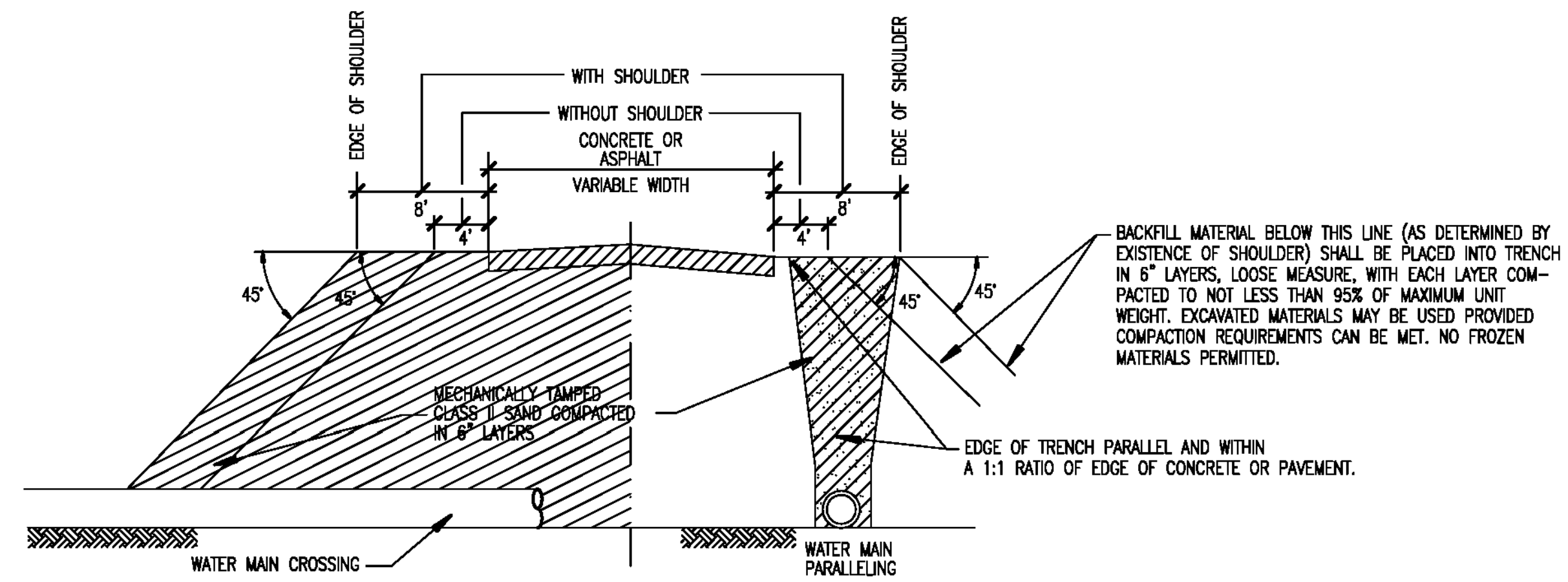
### SECTION 6" HYDRANT SIDE OUTLET

SCALE 1" = 2'



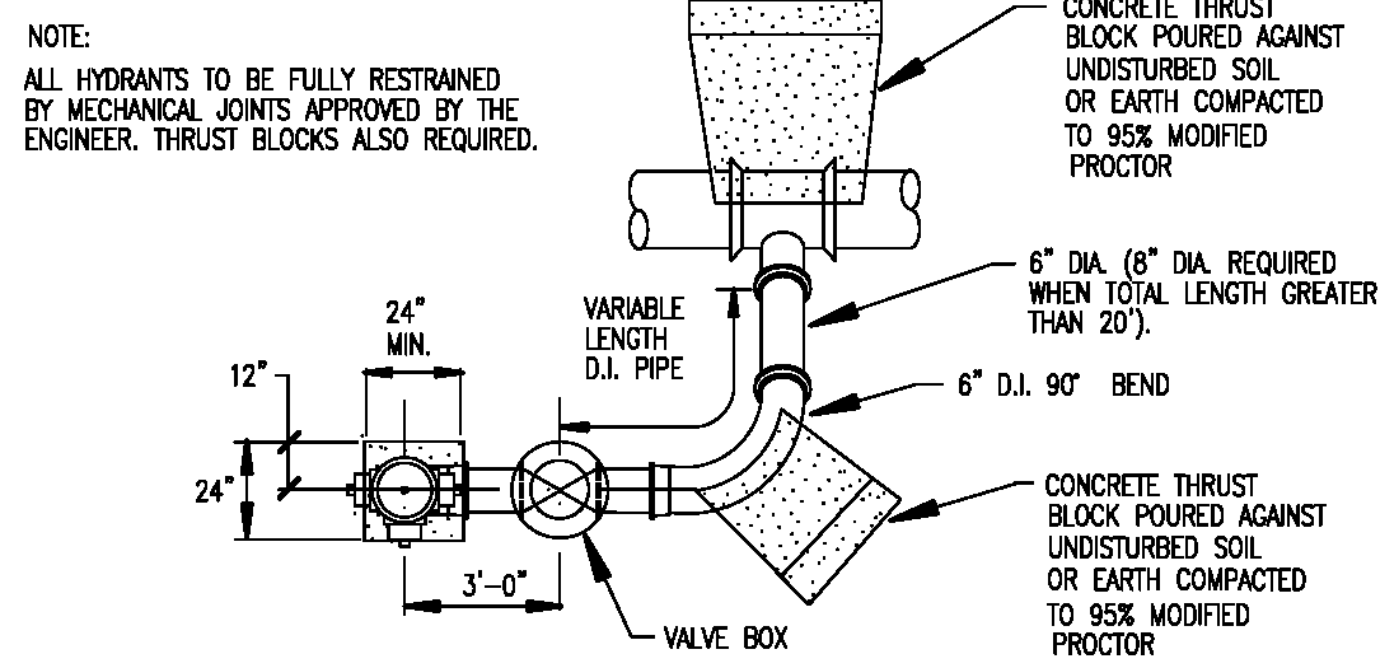
### PLAN 6" HYDRANT WATER MAIN END

SCALE 1" = 1'



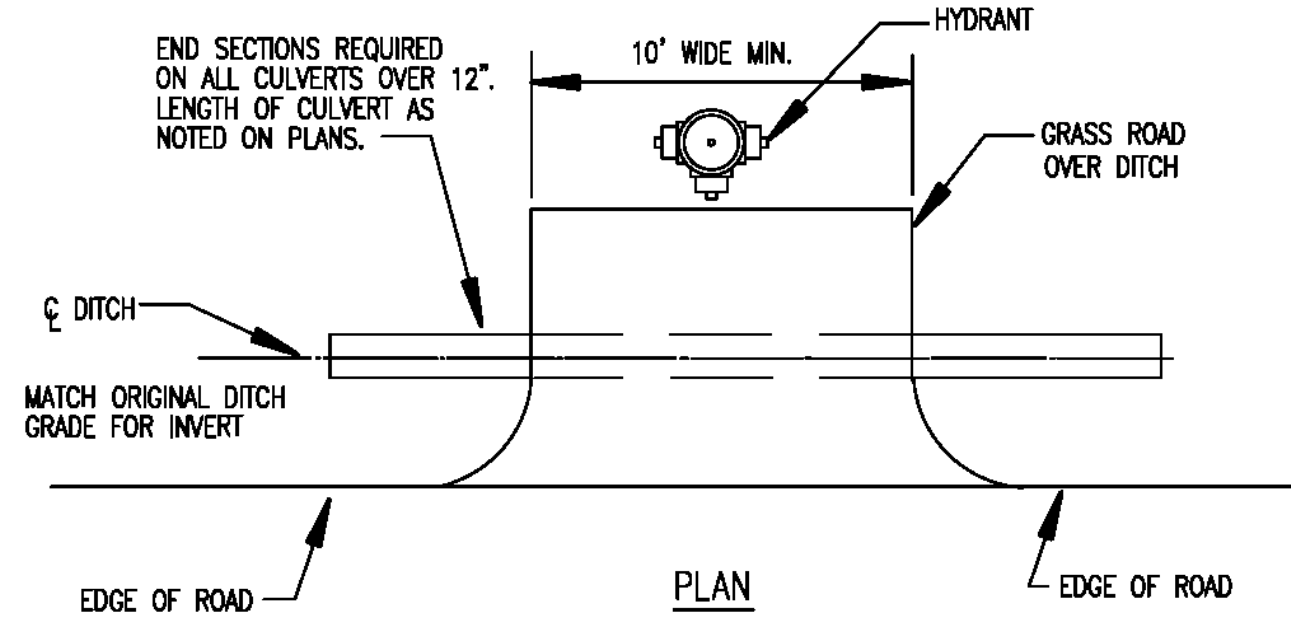
### MINIMUM BACKFILL UNDER OR NEAR PAVEMENT

SCALE 1" = 6'



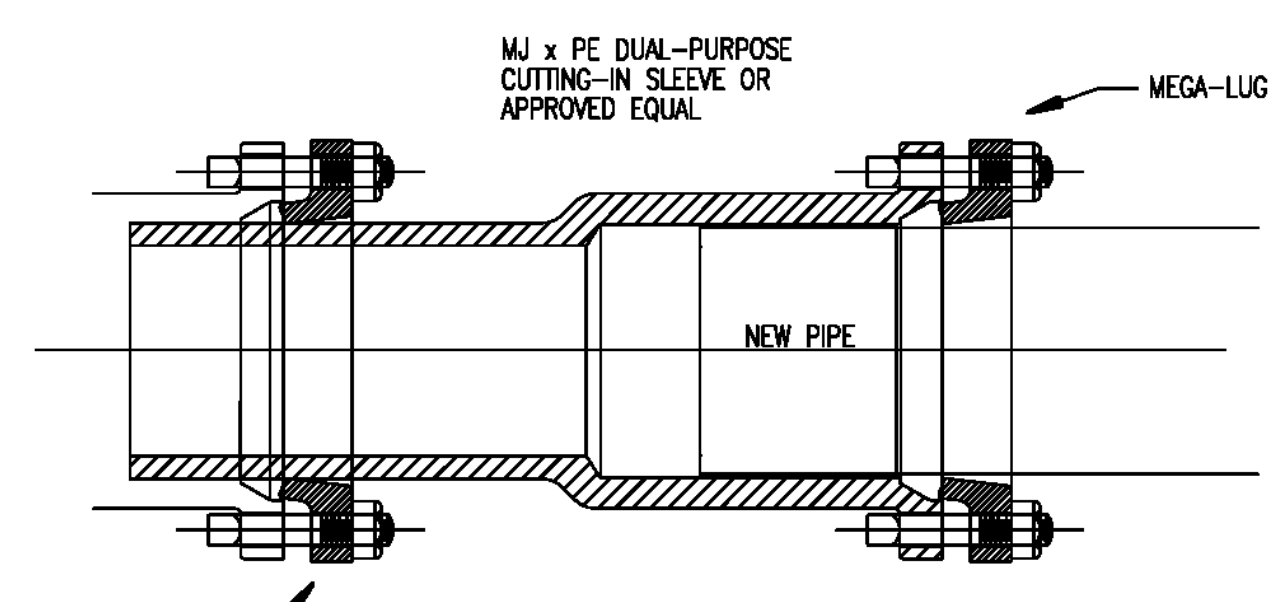
### PLAN 6" HYDRANT SIDE OUTLET

SCALE 1" = 1'

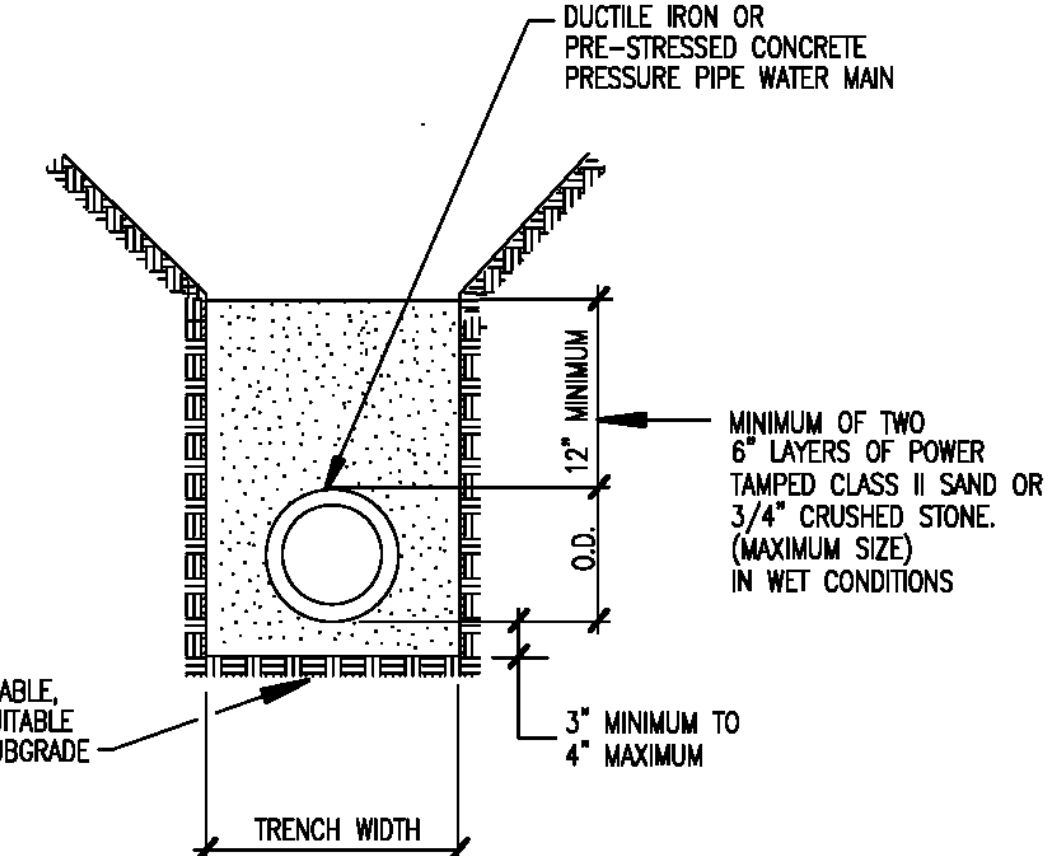


### DITCH ENCLOSURE AT HYDRANT

NO SCALE

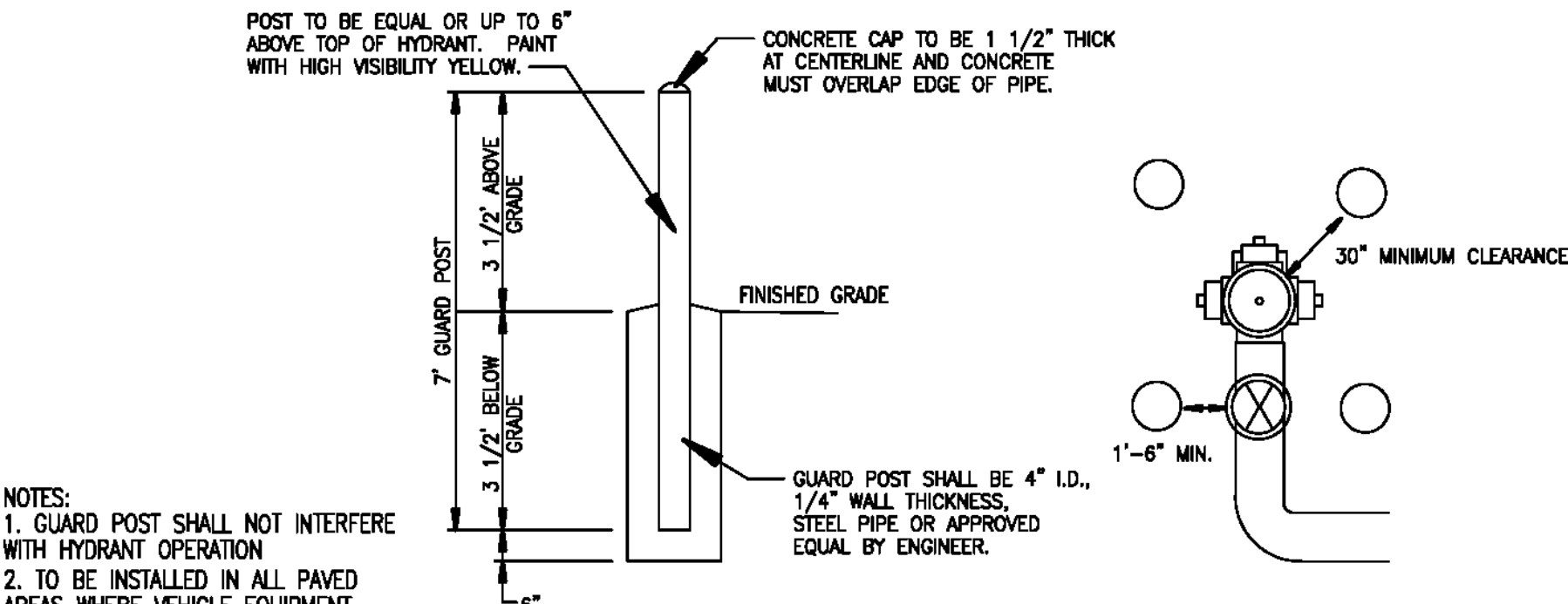


### BOTTLE SLEEVE



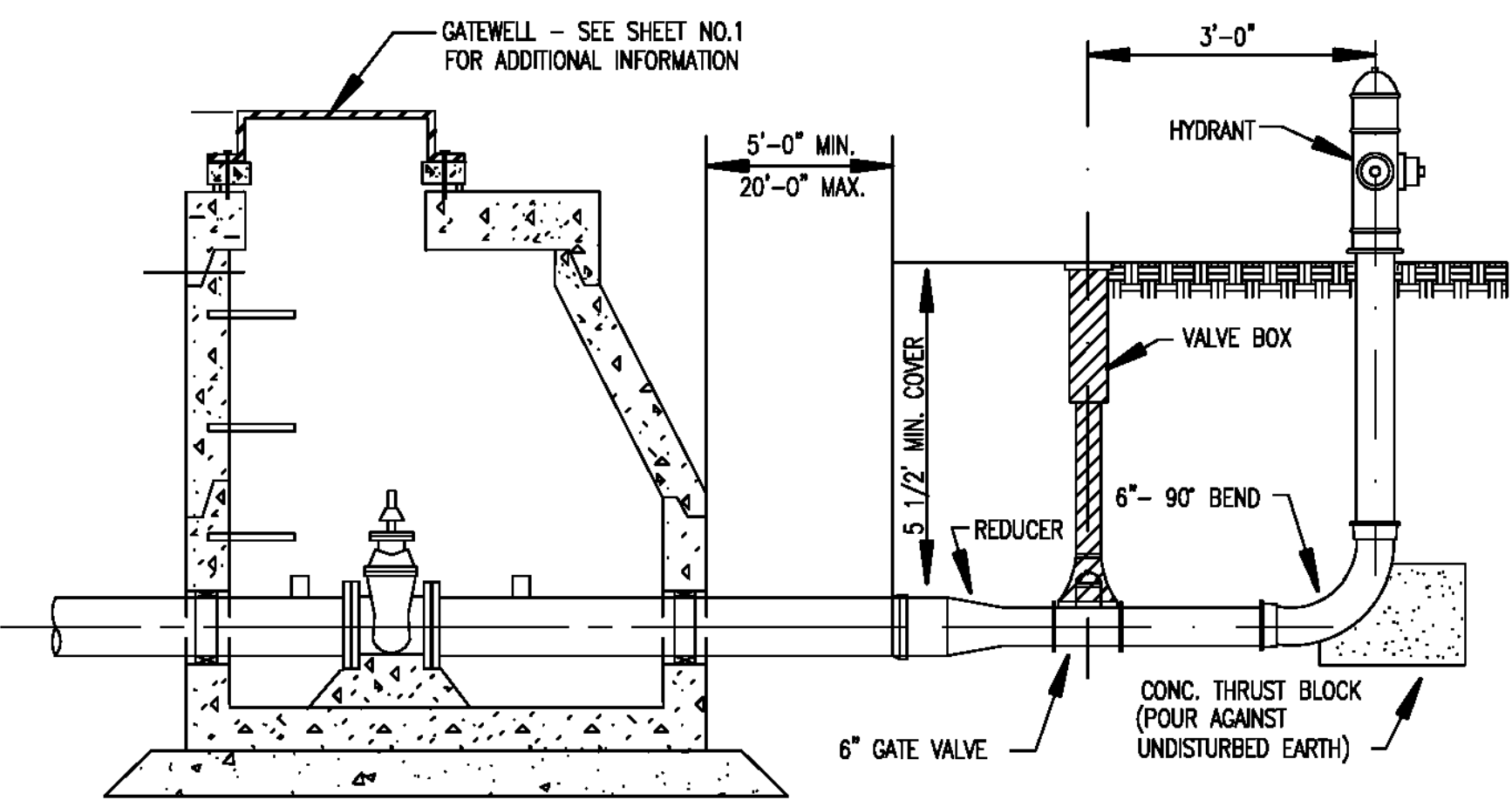
### STANDARD BEDDING FOR WATER MAIN

SCALE 1" = 4'



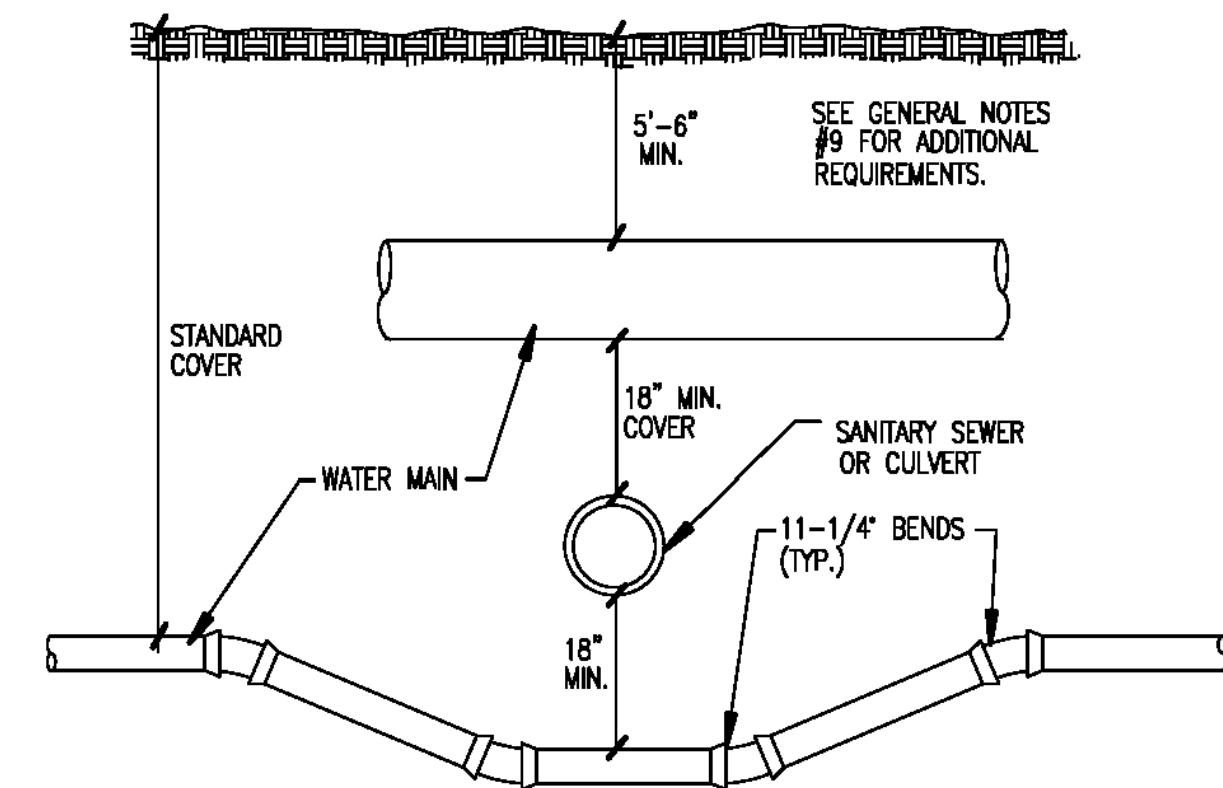
### GUARD POST

SCALE 1" = 3'



### DEAD END BLOWOFF CONNECTION

SCALE 1" = 1'



### SEWER OR CULVERT CROSSING

SCALE 1" = 2'

### WATER MAIN STANDARD DETAILS

REVISION BLOCK	DATE	BY	DATE	DESCRIPTION
1	01/01/14	WRC	01/01/14	PROPOSED REVISIONS
2	01/01/14	WRC	01/01/14	PROPOSED CHANGE TO DELETE REFERENCE TO BOTTLE SLEEVE MANUFACTURER
3	01/01/14	WRC	01/01/14	FINAL CHANGE TO DELETE REFERENCE TO BOTTLE SLEEVE MANUFACTURER
4	01/01/14	WRC	01/01/14	MANUFG. PER IS APPL.
ORIG. DATE: 01/01/01				
SCALE: NONE				
DESIGNED BY: WRC				
DRAWN BY: WRC Mapping				

ONE PUBLIC WORKS DRIVE, BLDG 96 WEST  
WATERFORD, MICHIGAN  
48326-1907

SHEET NO.: 2 of 5



## GENERAL NOTES

- ALL CONSTRUCTION PROCEDURES AND MATERIALS SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE WATER RESOURCES COMMISSIONER AND/OR THE LOCAL MUNICIPALITY.
- THE CONTRACTOR SHALL OBTAIN AN WATER RESOURCES COMMISSIONER WATER INSPECTION PERMIT PRIOR TO THE START OF CONSTR. SEE CORRESPONDING WATER MAIN CONSTRUCTION PERMIT REQUEST LETTER FOR COST OF THE PERMIT.
- A PRE-CONSTRUCTION MEETING SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION AND SHALL BE SCHEDULED BY THE LOCAL MUNICIPAL ENGINEER. THOSE IN ATTENDANCE SHALL INCLUDE 1) LOCAL MUNICIPAL ENGINEER, 2) DESIGN ENGINEER, 3) OWNER/DEVELOPER, 4) ROAD COMMISSION FOR OAKLAND COUNTY, 5) OAKLAND COUNTY DRAIN COMMISSIONER (WATER, SEWER AND STORM DIVISIONS) AND 6) ALL UTILITY COMPANIES. CONTRACTOR SHALL PROVIDE MATERIALS LISTING FOR APPROVAL BY MUNICIPAL ENGINEER AND O.C.D.C.
- CONTRACTOR MUST CONTACT MISS DIG (1-800-482-7171) THREE WORKING DAYS BEFORE THE START OF CONSTRUCTION FOR UNDERGROUND UTILITY LOCATIONS. ALL UTILITIES SHALL BE STAKED BEFORE CONSTRUCTION STARTS.
- ALL NECESSARY EASEMENTS FOR WATER MAINS SHALL BE PROVIDED IN THE NAME OF THE OWNER OF THE WATER MAIN PRIOR TO CONSTRUCTION AND ACCEPTANCE OF THE WATER DISTRIBUTION SYSTEM FOR OPERATION.
- ALL WATER MAINS SHALL BE CONSTRUCTED WITH A MINIMUM COVER OF FIVE AND ONE-HALF (5-1/2) FEET BELOW FINISHED GRADES INCLUDING OPEN DRAINAGE COURSES.
- ALL TRENCHES UNDER OR WITHIN A 1:1 RATIO OF EXISTING OR PROPOSED PAVEMENT OR DRIVEWAYS SHALL BE BACKFILLED WITH THOROUGHLY COMPACTED CLASS II SAND TO GRADE (95% MAXIMUM UNIT DENSITY).
- WHERE TWO UTILITIES CROSS, PROVIDE CLASS II BACKFILL MATERIAL IN TWELVE (12) INCH COMPACTED LAYERS TO THE UNDERSIDE OF THE HIGHER UTILITY.
- WHERE WATER MAINS MUST DIP TO PASS UNDER OTHER UTILITIES, THE SECTIONS WHICH ARE DEEPER THAN NORMAL SHALL BE KEPT TO A MINIMUM LENGTH AND SHALL BE CONSTRUCTED WITH ELEVEN AND ONE-QUARTER (11-1/4) DEGREE VERTICAL BENDS, PROPERLY ANCHORED. BENDS GREATER THAN 11-1/2° MUST HAVE ROD RESTRAINTS.
- ALL PRECAST CONCRETE GATE WELL SECTIONS SHALL BE MANUFACTURED TO CONFORM WITH A.S.T.M. C478, STANDARD SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS. EXCEPT WALL THICKNESS SHALL BE AS SHOWN ON THESE DETAILS. ALL JOINTS FOR PRECAST CONCRETE GATE WELL SECTIONS SHALL BE "MODIFIED GROOVE TONGUE" WITH GASKET MANUFACTURED TO CONFORM WITH A.S.T.M. C 443, STANDARD SPECIFICATION FOR JOINTS FOR CIRCULAR CONCRETE SEWER AND CULVERT PIPE USING RUBBER GASKETS.
- CONTRACTOR SHALL INSTALL VALVES, TAPPING SLEEVES AND GATE WELL STRUCTURES IN STRICT COMPLIANCE WITH MEASUREMENTS PROVIDED ON DRAWING BETWEEN GATE WELL WALL & CENTERLINE OF OPERATING NUT TO ALLOW PROPER OPERATION OF VALVE THROUGH GATEWELL OPENING. FAILURE TO DO SO WILL REQUIRE CONTRACTOR TO CORRECT AT HIS EXPENSE.
- ALL CROSS-CONNECTION CONTROL DEVICES SHALL BE INSTALLED AS REQUIRED BY THE LOCAL PLUMBING INSPECTOR AND IN ACCORDANCE WITH THE STANDARDS OF THE WATER RESOURCES COMMISSIONER OPERATION AND MAINTENANCE DIVISION AND THE MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF DRINKING WATER AND RADIOLOGICAL PROTECTION.
- ALL WATER SERVICE CONNECTIONS TWO (2) INCHES AND SMALLER SHALL BE MADE BY THE WATER RESOURCES COMMISSIONER, OPERATIONS AND MAINTENANCE DIVISION AFTER WATER MAIN ACCEPTANCE AND APPLICABLE TAP PERMITS ARE OBTAINED.
- ALL FITTINGS AND BENDS SHOULD BE BLOCKED IN ACCORDANCE WITH THRUST BLOCK DETAILS, UNLESS ALTERNATE THRUST RESTRAINT SYSTEM, AS INDICATED IN PLANS AND SPECIFICATIONS, IS APPROVED BY WATER RESOURCES COMMISSIONER AND THE LOCAL MUNICIPALITY.

## WATER MAIN MATERIALS NOTES

- TEMPORARY CONNECTIONS, WHICH MAY BE MADE FOR CHLORINATING AND FLUSHING PURPOSES, SHALL INCLUDE A TESTABLE DOUBLE CHECK VALVE BACKFLOW PREVENTER WITH CURRENT CERTIFICATION.
- CORPORATION STOPS USED FOR INSERTION INTO MAINS SHALL BE MUELLER TYPE H-15000. ALL STOPS SHALL HAVE BRONZE CAST BODIES, KEYS, STEM WASHERS AND NUTS. INLET THREADS SHALL CONFORM TO THE LATEST VERSION OF AWWA C800.
- ALL DUCTILE IRON PIPE (D.I.P.) WATER MAINS SHALL BE DESIGNED FOR 150 PSI MINIMUM WORKING PRESSURE.
- THE DUCTILE IRON PIPE TO BE FURNISHED AND DELIVERED UNDER THIS SPECIFICATION SHALL MEET ALL THE REQUIREMENTS OF THE CURRENT AWWA C151 (ANSI A21.5), EXCEPT AS OTHERWISE SPECIFIED HEREIN. PIPE SHALL BE DOUBLE COATED AND SEAL COATED WITH AN APPROVED BITUMINOUS SEAL COAT IN ACCORDANCE WITH AWWA C104 (ANSI A21.4).
- DUCTILE IRON PIPE SHALL BE CLASS 54 FOR SIZES THREE (3) INCH THROUGH EIGHTEEN (18) INCH, CLASS 55 FOR TWENTY (20) INCH, AND CLASS 56 FOR TWENTY-FOUR (24) INCH AND LARGER. (ABBREVIATED "D.I." IN DETAILS AND ON THIS SHEET).
- PIPES OF SIZES LARGER THAN TWENTY-FOUR (24) INCHES IN NOMINAL DIAMETER SHALL MEET ALL THE REQUIREMENTS OF THE CURRENT AWWA C100 FOR DUCTILE IRON WATER PIPE.
- MECHANICAL AND SLIP-ON JOINTS FOR DUCTILE IRON WATER MAIN SHALL BE IN ACCORDANCE WITH AWWA C111 (ANSI A21.11).
- FLANGE JOINTS FOR DUCTILE IRON WATER MAIN SHALL BE IN ACCORDANCE WITH AWWA C110 (ANSI A21.10).
- FITTINGS FOR DUCTILE IRON PIPE SHALL BE DUCTILE IRON OR CAST IRON AND SHALL MEET REQUIREMENTS OF AWWA C110 (ANSI A21.10) OR AWWA C153 (ANSI A21.5.3). DUCTILE IRON FITTINGS SHALL BE RATED FOR 350 PSI. PIPE SIZES TWENTY-FOUR (24) INCH DIAMETER AND LESS AND 250 PSI FOR PIPE SIZES OVER TWENTY-FOUR (24) INCH DIAMETER. DUCTILE IRON FLANGE FITTINGS SHALL BE RATED FOR 250 PSI FOR ALL PIPE DIAMETERS.
- ALL BURIED BOLTS, NUTS, AND WASHERS SHALL BE CORTEN OR EQUIVALENT AND POLY-WRAPPED WHEN SPECIFIED.

## VALVE AND SLEEVE NOTES

- GATE VALVES, SIZES THREE (3) INCH THROUGH SIXTEEN (16) INCH AND TAPPING VALVES SHALL BE LOCAL MUNICIPAL STANDARD AS DETAILED WITH NON-RISEING STEM.
- ALL IN LINE GATE VALVES THREE (3) INCH AND LARGER SHALL BE IN WELLS AS DETAILED. SPECIFICATIONS SHALL INCLUDE THE DIRECTION OF OPERATION OF ALL VALVES.
- ALL GATE WELL COVERS SHALL BE LOCAL MUNICIPAL STANDARD AS DETAILED.
- ALL GATE VALVES WITH OPERATING NUTS AT A DISTANCE GREATER THAN FIVE (5) FEET BELOW GROUND SURFACE SHALL BE PROVIDED WITH AN EXTENSION STEM. THE LENGTH OF THE EXTENSION STEM SHALL REACH WITHIN FIVE (5) FEET FROM THE GROUND SURFACE. WHEN AN EXTENSION STEM IS USED, IT SHALL BE HELD IN PLACE BY AN EXTENSION STEM GUIDE SUITABLY FASTENED TO THE WALL OF THE GATE WELL. THE EXTENSION STEM SHALL BE MECHANICALLY ATTACHED TO THE OPERATING NUT. DETAILS OF THE EXTENSION SYSTEM AND THE METHOD OF INSTALLATION SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
- BUTTERFLY VALVES MAY BE USED FOR VALVES GREATER THAN 16-INCH DIAMETER AND SHALL BE MODEL 2F11 AS MANUFACTURED BY HENRY PRATT COMPANY OR APPROVED EQUAL.
- TAPPING VALVES SHALL BE C515 AS MANUFACTURED BY EAST JORDAN IRON WORKS WITH RESILIENT SEATED GATE VALVES AS APPROVED BY LOCAL MUNICIPALITY.
- TAPPING SLEEVES SHALL BE MANUFACTURED BY ROMAC INDUSTRIES; JCM 432; SMITH-BLAIR OR APPROVED EQUAL AND APPROVED BY WATER RESOURCES COMMISSIONER.

## HYDRANT REQUIREMENTS

- ALL HYDRANTS SHALL BE CONSTRUCTED WITH A SIX (6) INCH COMPANION GATE VALVE IN A THREE (3) PIECE, ADJUSTABLE DUCTILE IRON VALVE BOX, WHICH SHALL INCLUDE A FIVE AND ONE-QUARTER (5-1/4) INCH SCREW SHAFT. VALVE BOXES SHALL BE SERIES 6860 AS MANUFACTURED BY TYLER PIPE OR APPROVED EQUAL.
- ALL HYDRANTS SHALL BE EAST JORDAN IRON WORKS SBR250 TRAFFIC MODEL, OR APPROVED EQUAL. SELF-DRAINING HYDRANTS SHALL NOT BE USED. ALL HYDRANTS SHALL BE LOCAL MUNICIPAL STANDARD AS DETAILED. HYDRANTS SHALL HAVE BREAKAWAY FLANGE.
- ALL HYDRANTS SHALL BE PAINTED RED ABOVE GROUND AND BLACK BELOW GROUND WITH A FINISH COAT OF GLAMORTX 501 ENAMEL, COLOR 314 VERMILION OR APPROVED EQUAL. HYDRANT CAP SHALL BE PAINTED SAME COLOR AS THE HYDRANT. FOR PONTIAC: YELLOW RUST-OLEUM #7543 SAFETY YELLOW.
- ALL FIRE HYDRANT JOINTS SHALL BE TOTALLY RESTRAINED BY THE USE OF MEG-A-LUGS OR OTHER RESTRAINED JOINT. THRUST BLOCKS ARE ALSO REQUIRED.

## ACCEPTANCE OF NEW WATER MAINS

- PRIOR TO WATER MAIN ACCEPTANCE THE FOLLOWING CONDITIONS MUST BE MET: 1) PRESSURE TESTING AND BACTERIA TESTING MUST BE COMPLETED IN ACCORDANCE WITH THE WATER RESOURCES COMMISSIONER'S REQUIREMENTS.  
2) ALL EASEMENT AND RIGHT-OF-WAY ACQUISITION MUST BE ACCEPTED BY THE WATER RESOURCES COMMISSIONER, RIGHT-OF-WAY DIVISION 3) THE LOCAL MUNICIPALITY MUST BE PROVIDED WITH THE BILL OF SALE AND 4) ALL MYLAR "RECORD DRAWINGS" MUST BE ACCEPTED AND APPROVED BY THE WATER RESOURCES COMMISSIONER, OPERATIONS AND MAINTENANCE DIVISION. THE WATER RESOURCES COMMISSIONER AND LOCAL ENGINEER MUST WITNESS THE CONNECTION OF THE WATER MAIN TO THE EXISTING WATER MAIN, AFTER WHICH RESIDENTIAL AND COMMERCIAL TAPS WILL BE ALLOWED.
- THE CONTRACTOR SHALL NOTIFY THE WATER RESOURCES COMMISSIONER, OPERATIONS AND MAINTENANCE DIVISION THROUGH THE LOCAL ENGINEER FOR NEW CONSTRUCTION TAP. PRESSURE TESTING, BACTERIOLOGICAL SAMPLING, CONNECTIONS TO EXISTING WATER MAIN AND FINAL FIELD REVIEW. A SEVENTY-TWO (72) HOUR ADVANCE NOTICE IS REQUIRED.
- THE CONTRACTOR SHALL DISINFECT AND PRESSURE TEST ALL NEW WATER MAIN CONSTRUCTION PURSUANT TO THE CURRENT STANDARDS SPECIFIED BY THE WATER RESOURCES COMMISSIONER. THE WATER MAIN SHALL PASS A TEST OF 150 PSI FOR A TWO (2) HOUR PERIOD. WATER LOSS SHALL NOT EXCEED A RATE OF 11.65 U.S. GALLONS PER INCH DIAMETER PER MILE OF WATERLINE IN TWENTY-FOUR (24) HOURS.
- WHERE CONTRACTOR SUPPLIED GAUGES ARE REQUIRED, MINIMUM SIZE SHALL BE 3/4" DIAMETER OR LARGER GRADUATED IN ONE (1) OR TWO (2) POUND INCREMENTS FROM 1 TO 160 P.S.I. OR HIGHER.
- PRESSURE TESTING AND BACTERIA TESTING MUST BE COMPLETED PRIOR TO CONNECTING TO THE EXISTING WATER MAIN.

## WATER RESOURCES COMMISSIONER WATER SYSTEM STANDARDS - GATE VALVES

COMMUNITY	DIRECTION TO OPEN	VALVE TYPE	
		STD. GATE VALVE	TAPPING VALVE
BINGHAM FARMS	RIGHT	C515	C515
BLOOMFIELD HILLS	RIGHT	C515	C515
COMMERCE TOWNSHIP	LEFT	C515	C515
FARMINGTON HILLS	RIGHT	C515	C515
HIGHLAND TOWNSHIP	LEFT	C515	C515
KEEGO HARBOR	RIGHT	C515	C515
LYON TOWNSHIP	LEFT	C515	C515
OAKLAND TOWNSHIP	LEFT	C515	C515
ORCHARD LAKE VILLAGE	LEFT	C515	C515
OXFORD TOWNSHIP	LEFT	C515	C515
PONTIAC	LEFT	C515	C515
ROYAL OAK TOWNSHIP	RIGHT	C515	C515
SPRINGFIELD TOWNSHIP	LEFT	C515	C515

1.) C515 RESILIENT SEATED GATE VALVE -- MANUFACTURED BY U.S. PIPE, MUELLER, EAST JORDAN IRON WORKS, AMERICAN FLOW CONTROL OR APPROVED EQUAL.

## FIRE HYDRANT NOZZLE SIZE AND THREAD SPECIFICATIONS

LOCATION	PUMPER NOZZLE	HOSE NOZZLE	OPERATING NUT	STYLE
BINGHAM FARMS	(1) - 3-3/4" - D.F.D.	(2) - 2-1/2" - D.F.D.	1-1/8"	SBR250
BLOOMFIELD HILLS	(1) - 3-3/4" - D.F.D.	(2) - 2-1/2" - D.F.D.	1-1/8"	SBR250
COMMERCE TWP/ WOLVERINE LAKE VILLAGE	(1) - 5" STORZ	(2) - 2-1/2" - N.S.T.	1-1/2"	SBR250
FARMINGTON HILLS	(1) - 3-3/4" - D.F.D.	(2) - 2-1/2" - N.S.T.	1-1/8"	SBR250
HIGHLAND TOWNSHIP	(1) - 5" STORZ	(2) - 2-1/2" - N.S.T.	1-1/2"	SBR250
KEEGO HARBOR	(1) - 3-3/4" - D.F.D.	(2) - 2-1/2" - D.F.D.	1-1/8"	SBR250
LYON TOWNSHIP	(2) - 5" - STORZ		1-1/2"	SBR250
OAKLAND TOWNSHIP	(1) - 4" - STORZ	(2) - 2-1/2" - D.F.D.	1-1/2"	SBR250
ORCHARD LAKE VILLAGE	(1) - 3-3/4" - D.F.D.	(2) - 2-1/2" - D.F.D.	1-1/8"	SBR250
OXFORD TOWNSHIP	(1) - 5" STORZ	(2) - 2-1/2" - N.S.T.	1-1/2"	SBR250
PONTIAC	(1) - 3-3/4" - D.F.D.	(2) - 2-1/2" - D.F.D.	1-1/2"	SBR250
ROYAL OAK TOWNSHIP	(1) - 3-3/4" - D.F.D.	(2) - 2-1/2" - D.F.D.	1-1/8"	SBR250
SPRINGFIELD TOWNSHIP	(1) - 4-1/2" - N.S.T.	(2) - 2-1/2" - N.S.T.	1-1/2"	SBR250

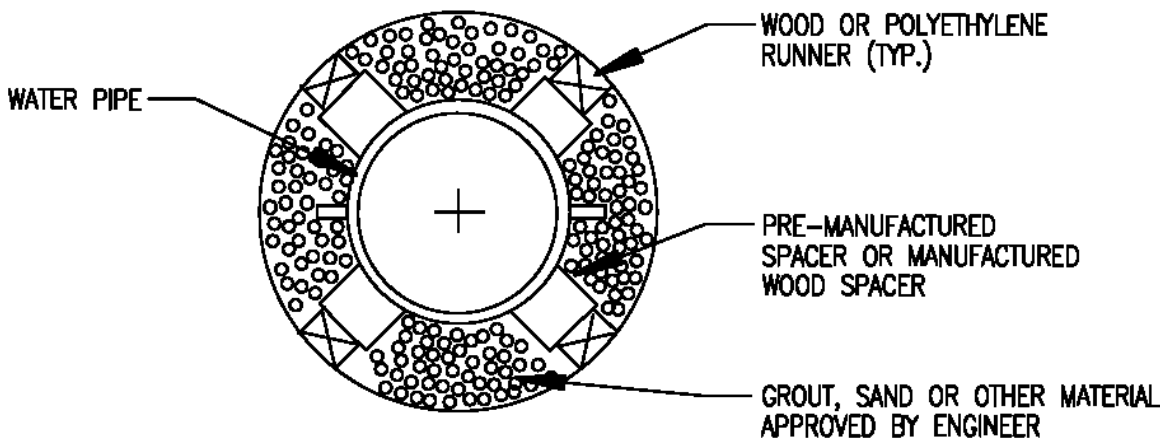
- D.F.D. - DETROIT FIRE DEPARTMENT THREAD
- N.S.T. - NATIONAL STANDARD THREAD
- STORZ NOZZLES SHALL BE COMPATIBLE WITH STORZ COUPLED LARGE DIAMETER FIRE HOSE. NOZZLES SHOULD BE MADE OF "LEAD FREE" BRASS OR ALUMINUM, AS APPROVED BY LOCAL CITY, VILLAGE OR TOWNSHIP. THE NOZZLE SHALL BE AN INTEGRAL PART OF THE HYDRANT, RESISTANT TO TAMPER AND REMOVAL. ENGAGEMENT LUGS SHALL BE ON THE NOZZLE AND CAP TO PREVENT FAILURE UNDER HIGH PRESSURE. NOZZLE AND CAP SHALL MEET AWWA C502 SPECIFICATIONS. NOZZLE SHALL BE COMPATIBLE WITH HOSE LOCK TO PREVENT HOSE FROM DISCONNECTING WHILE IN USE.

UNLESS OTHERWISE SPECIFIED, MINIMUM CASING PIPE SHALL BE ASTM A-139 GRADE B, WALL THICKNESS AS FOLLOWS:

NOMINAL SIZE	MINIMUM WALL THICKNESS
8" - 42"	0.375
48" - 60"	0.500

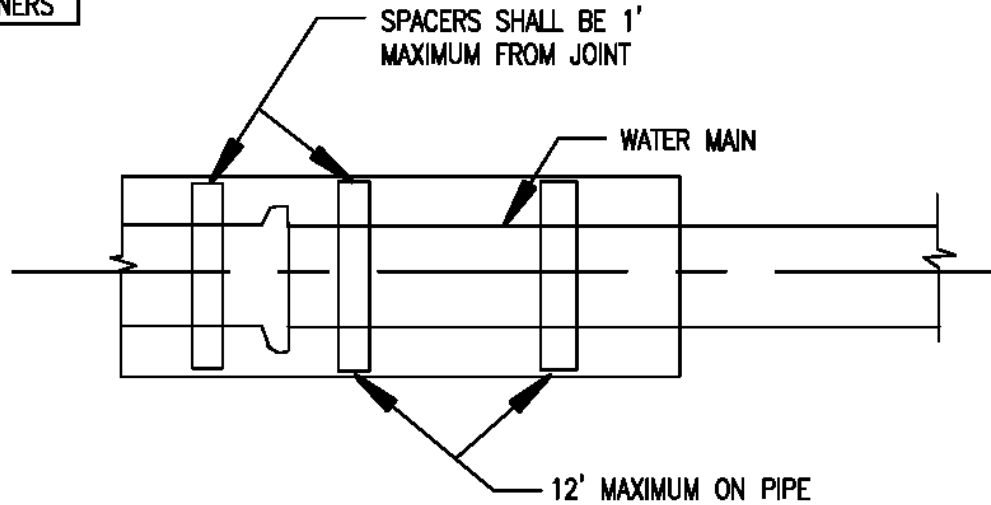
REQUIRED QUANTITY OF RUNNERS IN ACCORDANCE WITH SIZE

TO 14" DIA.	4 RUNNERS
16" TO 36" DIA.	6 RUNNERS
38" TO 48" DIA.	8 RUNNERS



## SUPPORT FOR WATER MAIN CONSTRUCTED IN CASING PIPE

SCALE 1"= 4'



## WATER MAIN IN CASING SECTION

SCALE 1"= 2'

## WATER RESOURCES COMMISSIONER OPERATIONS AND MAINTENANCE DIVISION WATER SYSTEMS RECORD DRAWING SPECIFICATIONS

IN AREAS WHERE WATER SYSTEMS ARE OPERATED AND MAINTAINED BY THE WATER RESOURCES COMMISSIONER, OPERATIONS AND MAINTENANCE DIVISION, FINAL ACCEPTANCE OF THE WATER SYSTEM MUST BE RENDERED BY THE WATER RESOURCES COMMISSIONER, OPERATIONS AND MAINTENANCE DIVISION, BEFORE THE SYSTEM CAN BE USED FOR THE SERVICE INTENDED.

ONE ITEM REQUIRED FOR FINAL ACCEPTANCE SHALL BE THE SUBMISSION OF RECORD DRAWINGS TO THE WATER RESOURCES COMMISSIONER, OPERATIONS AND MAINTENANCE DIVISION, BY THE DESIGN ENGINEER. RECORD DRAWINGS SHALL BE DEFINED AS AND CONTAIN THE FOLLOWING INFORMATION:

- THE DESIGN ENGINEER SHALL FURNISH "RECORD DRAWINGS" WATER MAIN PLANS UPON JOB COMPLETION. "RECORD DRAWINGS" SHALL BE FORWARDED TO THE WATER RESOURCES COMMISSIONER BY THE LOCAL MUNICIPAL ENGINEER AFTER THEIR REVIEW AND APPROVAL.
- RECORD DRAWINGS SHALL BE PROVIDED ON THREE (3) MIL. MYLAR. XEROX OR ANY HEAT PROCESS REPRODUCTIONS WILL NOT BE ACCEPTED.
- ALONG WITH THE MYLAR PLAN SET, PROVIDE TWO (2) SETS OF BLUEPRINTS, PRODUCED FROM THE MYLARS AND THE PLANS ON ELECTRONIC MEDIA IN AUTOCAD FORMAT (LATEST VERSION).
- EACH AND EVERY SHEET SHALL BE SEALED BY THE PROJECT DESIGN ENGINEER, ALONG WITH THE FOLLOWING CERTIFICATION STATEMENT ON THE COVER SHEET:

I HEREBY CERTIFY THAT OUR FIRM HAS PREPARED THESE RECORD DRAWINGS OF THE IMPROVEMENTS AS CONSTRUCTED, AND THAT TO THE BEST OF MY KNOWLEDGE THOSE IMPROVEMENTS NOTED AS "RECORD DRAWINGS" WERE CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED CONSTRUCTION PLANS; AND ALSO THAT THE WATER MAIN AND STRUCTURES, AS CONSTRUCTED, LIE WITHIN THE EASEMENT DESCRIPTIONS REQUIRED BY THE WATER RESOURCES COMMISSIONER'S OFFICE.	
_____ (COMPANY NAME)	
_____ (ENGINEER'S SIGNATURE)	
PROFESSIONAL ENGINEER NO. _____	ENGINEER SEAL

- THE MINIMUM SCALE SHALL BE ONE (1) INCH EQUALS ONE HUNDRED (100) FEET.
- THE SIZE, LENGTH, CLASS AND MANUFACTURER OF PIPE INSTALLED SHALL BE INDICATED.
- THE SIZE, BRAND AND MODEL NUMBERS OF ALL VALVES AND HYDRANTS INSTALLED SHALL BE INDICATED.
- A TOTAL RECORD DRAWING QUANTITY LIST SHALL BE INCLUDED, AS WELL AS A RECORD DRAWING QUANTITY LIST ON EACH INDIVIDUAL SHEET.
- THE LOCATIONS SHALL BE SHOWN ON THE PLANS WITH AN ACCURACY OF ONE (1) FOOT.
- THE OFFSET OF THE WATER MAIN FROM PROPERTY LINES SHALL BE INDICATED.
- ALL GATE VALVE WELLS, HYDRANTS AND ALL WATER SYSTEM APPURTENANCES SHALL BE LOCATED FROM THE NEAREST PROPERTY CORNER.
- ALL UNDERGROUND APPURTENANCES, SUCH AS GATE VALVE WELLS, METER PITS, PRESSURE REDUCING VALVE PITS, ETC. SHALL BE LOCATED FROM THE NEAREST HYDRANT THAT IS CONNECTED TO THE SAME WATER MAIN AS THE APPURTENANCE.
- THE LOCATION, SIZE, BRAND AND MODEL NUMBER OF EVERY RESTRAINED JOINT SHALL BE NOTED.
- THE ACCURATE LOCATION OF ALL UTILITY CROSSINGS WHERE THE RECOMMENDED SEPARATION, VERTICALLY OR HORIZONTALLY, IS LESS THAN THE TEN STATE STANDARDS SHALL BE NOTED.
- WATER MAINS LARGER THAN 8" DIAMETER SHALL BE DRAWN ON PROFILE VIEW IN ADDITION TO PLAN VIEW ON THE CONSTRUCTION PLANS.

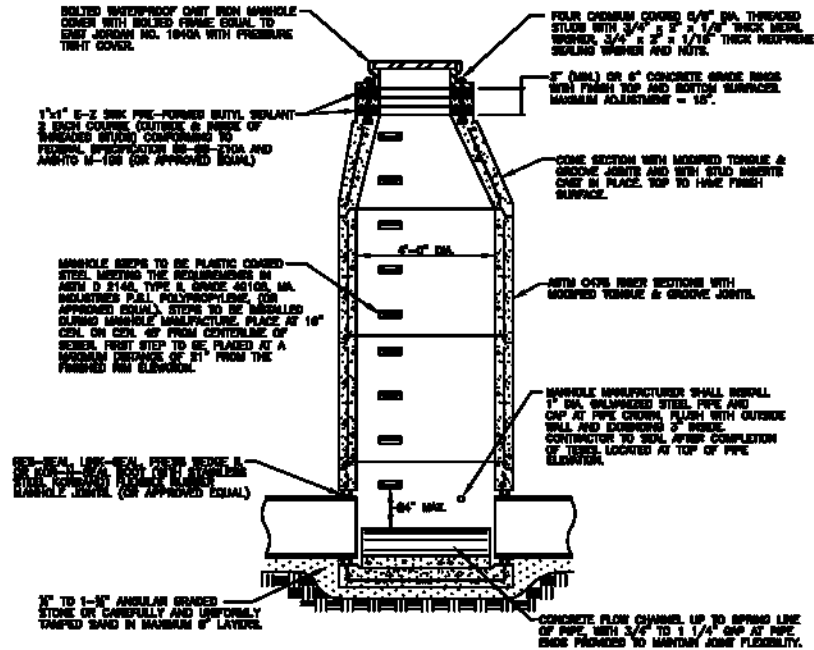
## WATER MAIN STANDARD DETAILS

REVISION BLOCK			
Date Revison / Sources Date:		Rev. / Rev. / Rev. / Date:	
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
ORIG. DATE: 01/01/01			
SCALE: NONE			
DESIGNED BY: WRC			
DRAWN BY: WRC Mapping			
ONE PUBLIC WORKS DRIVE, BLDG 96 WEST WATERFORD, MICHIGAN 48326-1907			SHEET NO.: 3 of 5



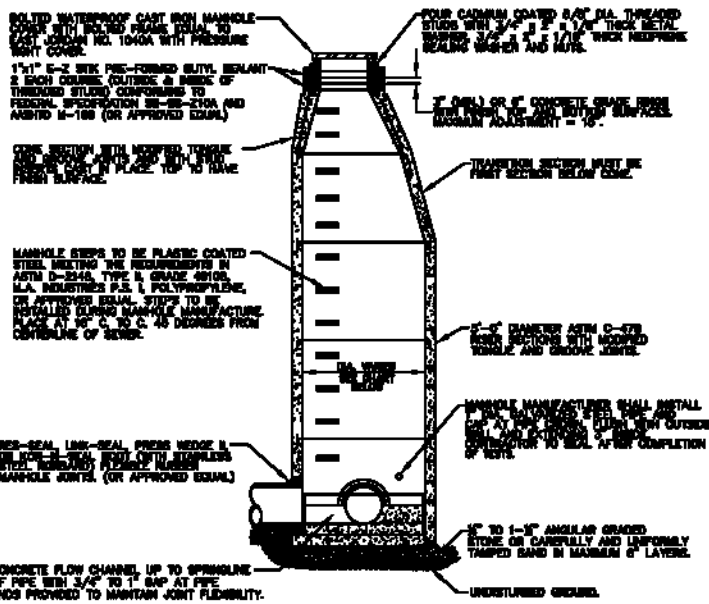
SANITARY SEWER CONSTRUCTION NOTES

- ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE LOCAL UNIT OF GOVERNMENT AND THE WATER RESOURCES COMMISSIONER (WRC). ALL SANITARY SEWER CONSTRUCTION SHALL HAVE FULL-TIME INSPECTION SUPERVISED BY A STATE OF MICHIGAN LICENSED PROFESSIONAL ENGINEER PROVIDED BY, OR CHARGED TO BE PROVIDED BY, THE LOCAL UNIT OF GOVERNMENT.
- AT ALL CONNECTIONS TO WRC SEWERS OF DITCHES, AND BEFORE START OF CONSTRUCTION, THE CONTRACTOR MUST OBTAIN A SEWER INSPECTION PERMIT ISSUED BY WRC. GRAVITY SEWER PERMIT CHARGES ARE \$300 FOR EACH CONNECTION PLUS \$55 FOR EACH MANHOLE CONSTRUCTED. PRESSURE SEWER PERMIT CHARGES ARE \$500 PER 2,480 L.F. OF FORCE MAIN WITH A MINIMUM PERMIT FEE OF \$500. FAILURE TO PASS ANY TEST SEGMENT WILL RESULT IN AN ADDITIONAL CHARGE TO THE CONTRACTOR FOR EACH RE-TEST, IN ACCORDANCE WITH THE ABOVE PRICE SCHEDULE. THE CONTRACTOR SHALL ALSO HAVE POSTED WITH WRC A SURETY BOND AND \$500 CASH DEPOSIT. THE CONTRACTOR SHALL NOTIFY THE LOCAL UNIT OF GOVERNMENT AND WRC (248-688-1100) 24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. FINAL ACCEPTANCE TESTS MUST BE WITNESSED BY COUNTY PERSONNEL, AND MUST BE SCHEDULED BY MUNICIPALITY OR ITS CONSULTANT IN ADVANCE WITH 24 HOUR NOTICE AT 248-688-1100.
- NO SEWER INSTALLATION SHALL HAVE AN INFILTRATION EXCEEDING 100 GALLONS PER INCH DIAMETER PER MILE OF PIPE IN A 24 HOUR PERIOD, AND NO SINGLE RUN OF SEWER BETWEEN MANHOLES SHALL EXCEED 100 GALLONS PER INCH DIAMETER PER MILE. ALL TESTS IN LIEU OF INFILTRATION TESTS SHALL BE AS SPECIFIED IN THE WATER RESOURCES COMMISSIONER STANDARDS. ONLY PIPE AND PIPE JOINTS APPROVED BY WRC MAY BE USED FOR SANITARY SEWER CONSTRUCTION.
- LOCATED IN THE FIRST MANHOLE UPSTREAM FROM THE POINT OF ALL CONNECTIONS TO AN EXISTING WRC SEWER, OR EXTENSION THEREOF, A TEMPORARY 12-INCH DEEP BUMP SHALL BE PROVIDED IN THE FIRST MANHOLE ABOVE THE CONNECTION WHICH WILL BE FILLED IN AFTER SUCCESSFUL COMPLETION OF ANY ACCEPTANCE TEST UP TO THE EXISTING FILL PROVIDED FOR THE FLOW CHANNEL. A WATER-TIGHT BULKHEAD SHALL BE PROVIDED ON THE DOWNSTREAM SIDE OF THE BUMP MANHOLE.
- AT ALL TIMES WHEN LAYING OF NEW PIPE IS NOT ACTUALLY IN PROGRESS, THE UPSTREAM OPEN END OF THE PIPE SHALL BE CLOSED BY TEMPORARY WATER-TIGHT PLUGS OR BY OTHER APPROVED MEANS. IF WATER IS IN THE TRENCH WHEN WORK IS RESUMED, THE PLUG SHALL NOT BE REMOVED UNTIL THE DANGER OF WATER CHOKING THE PIPE HAS PASSED.
- ALL BUILDING LEADS AND RISERS SHALL BE SIX INCH FOR 2.5 S AND PIPE WITH CHEMICALLY FUSED JOINTS OR AN APPROVED EQUAL. PIPE AND JOINTS, BUILDING LEADS TO BE FURNISHED WITH REMOVED AIR-TIGHT AND WATER-TIGHT STOPPERS.
- ALL SEWER PIPE SHALL BE INSTALLED IN CLASS "B" SECTIONS OR BETTER. ALL FLEXIBLE, SEMI-FLEXIBLE, OR COMPOSITE SEWER PIPE SHALL BE INSTALLED IN CONFORMANCE TO WRC SPECIFICATIONS.
- ALL NEW MANHOLES SHALL HAVE WRC APPROVED FLEXIBLE, WATER-TIGHT SEALS WHERE PIPES PASS THROUGH WALLS. MANHOLES SHALL BE OF THE CAST IRON OR PRECAST CONCRETE TYPE. ALL MANHOLES SHALL BE PROVIDED WITH SOLID, WATER-TIGHT COVERS.
- AT ALL CONNECTIONS TO MANHOLES ON WRC SEWERS, OR EXTENSIONS THEREOF, DROP CONNECTIONS WILL BE REQUIRED WHEN THE DIFFERENCE IN INVERT ELEVATIONS EXCEEDS 16 INCHES.
- TO EXISTING MANHOLES SHALL BE MADE BY CORING. THE CONTRACTOR SHALL PLACE A 108-IN-ØØL BOOT (OR WRC APPROVED EQUAL) AFTER CORING IS COMPLETED. BUMP CHOKING WILL ONLY BE PERMITTED IN LIEU OF CORING WITH PRIOR WRC APPROVAL.
- MANHOLES CONSTRUCTED DIRECTLY ON WRC SEWERS SHALL BE PROVIDED WITH CONCRETE RINGERS "UNDER RESURFACED COMMISSIONER-SANITARY" IN PAVED LATTERS.
- NO GROUND WATER, STORM WATER, CONDENSATION WATER, DRAIN SPOUT DRAINAGE OR WEEP TALE DRAINAGE SHALL BE ALLOWED TO ENTER ANY SANITARY SEWER INSTALLATION.
- PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL TELEPHONE WRC (248-688-7171) FOR THE LOCATION OF UNDERGROUND PIPELINE AND CABLE FACILITIES AND SHALL ALSO NOTIFY REPRESENTATIVES OF OTHER UTILITIES LOCATED IN THE VICINITY OF THE WORK.
- AN 18 INCH MINIMUM VERTICAL SEPARATION AND A 10 FOOT MINIMUM HORIZONTAL SEPARATION MUST BE MAINTAINED BETWEEN SANITARY SEWER AND WATER MAIN.
- NEW MANHOLES BUILT OVER AN EXISTING SANITARY SEWER SHALL HAVE NEGATIVE FORCED BOTTOMS.
- IF THE STRUCTURE FALLS WITHIN THE REACHED OF A CROWN ROAD OR WITHIN THE UNPAVED SHOULDER OF A PAVED ROAD, THE COVER SHALL BE SIX (6") INCHES BELOW THE FINISHED GROUND SURFACE.



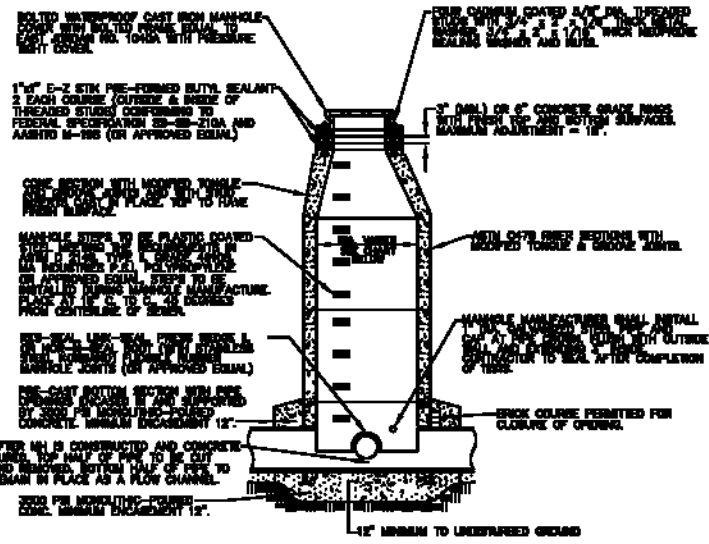
STANDARD MANHOLE

MANHOLE SIZE	PIPE SIZE
36"	18"



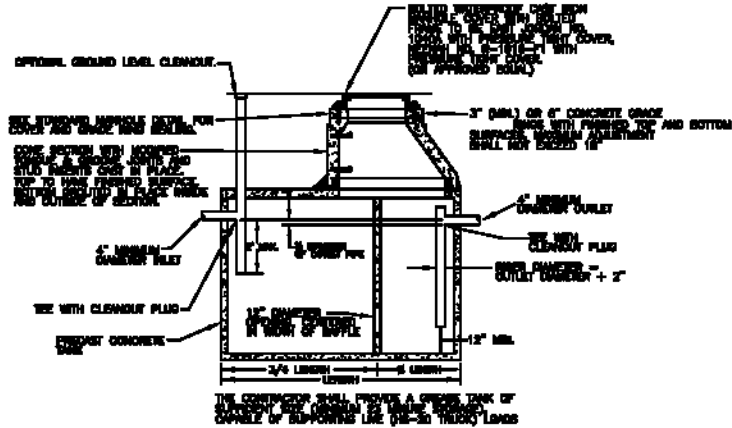
STANDARD OVERSIZED MANHOLE

MANHOLE SIZE	PIPE SIZE
36"	18"
48"	24"
60"	30"

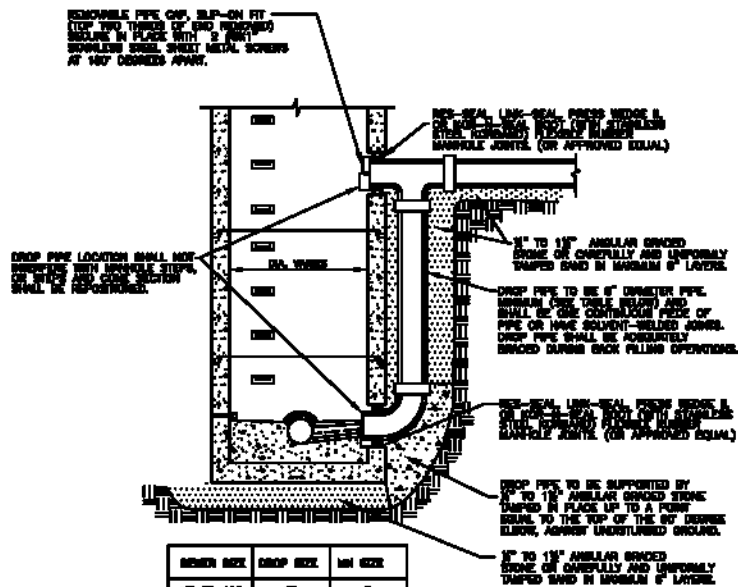


MANHOLE CONSTRUCTED OVER EXISTING SEWER

MANHOLE SIZE	PIPE SIZE
36"	18"
48"	24"
60"	30"

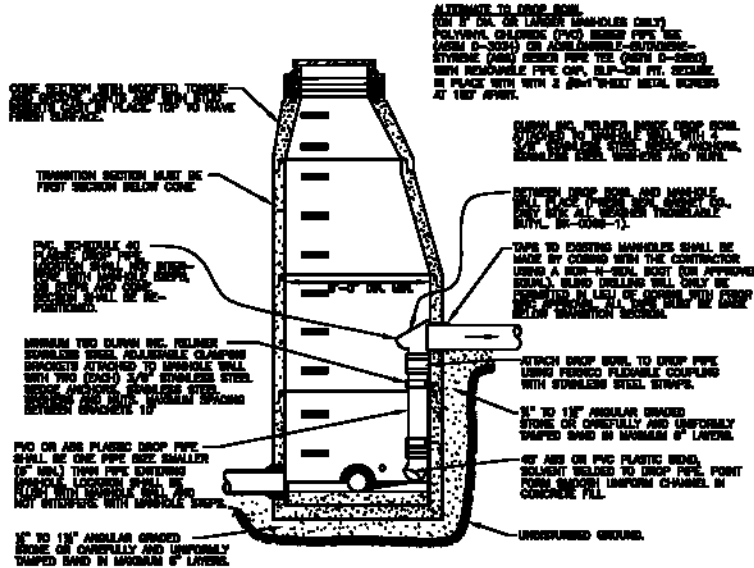


DOUBLE-COMPARTMENT GREASE INTERCEPTOR TANK FOR OUTLET PIPE BURIAL 42" AND DEEPER



EXTERIOR DROP CONNECTION (REQUIRES ADVANCED APPROVAL BY WRC)

SEWER SIZE	DROP SIZE	MIN SIZE
UP TO 12"	6"	6"
UP TO 18"	10"	6"
UP TO 24"	14"	6"



INTERIOR DROP CONNECTION

REV.	DATE	DESCRIPTION
1	10/1/00	STANDARD COMMITTEE APPROVAL OF PROPOSED CHANGES
2	10/1/00	FIXED METER THAT HAD "BROKEN TONGUE" TO READ "LARGE AND BROKEN"
3	10/1/00	REMOVED STANDARD MONITORING MANHOLE
4	10/1/00	ADDED HOUSING FOR ADVANCED APPROVAL BY WRC AND UPON COMPLETION OF REVIEW

SANITARY SEWER DETAILS AND NOTES

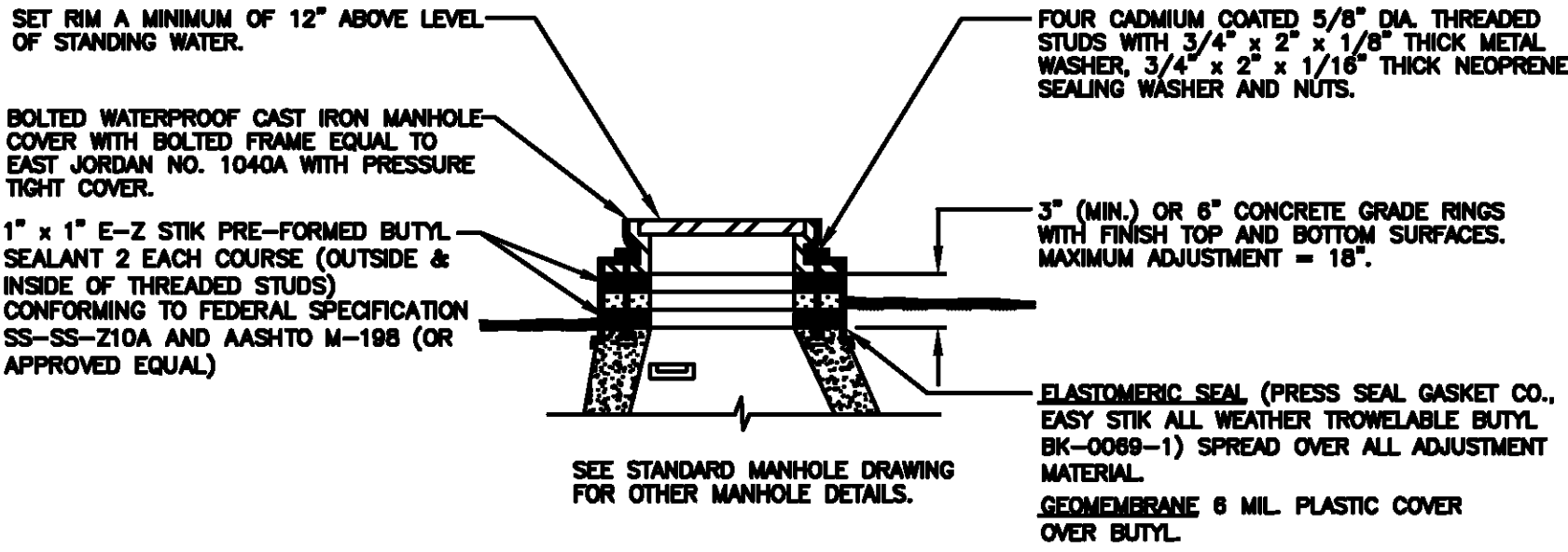
ORIG. DATE:	09/21/02
SCALE:	NO SCALE
DESIGNED BY:	WRC
DRAWN BY:	WRC Mapping



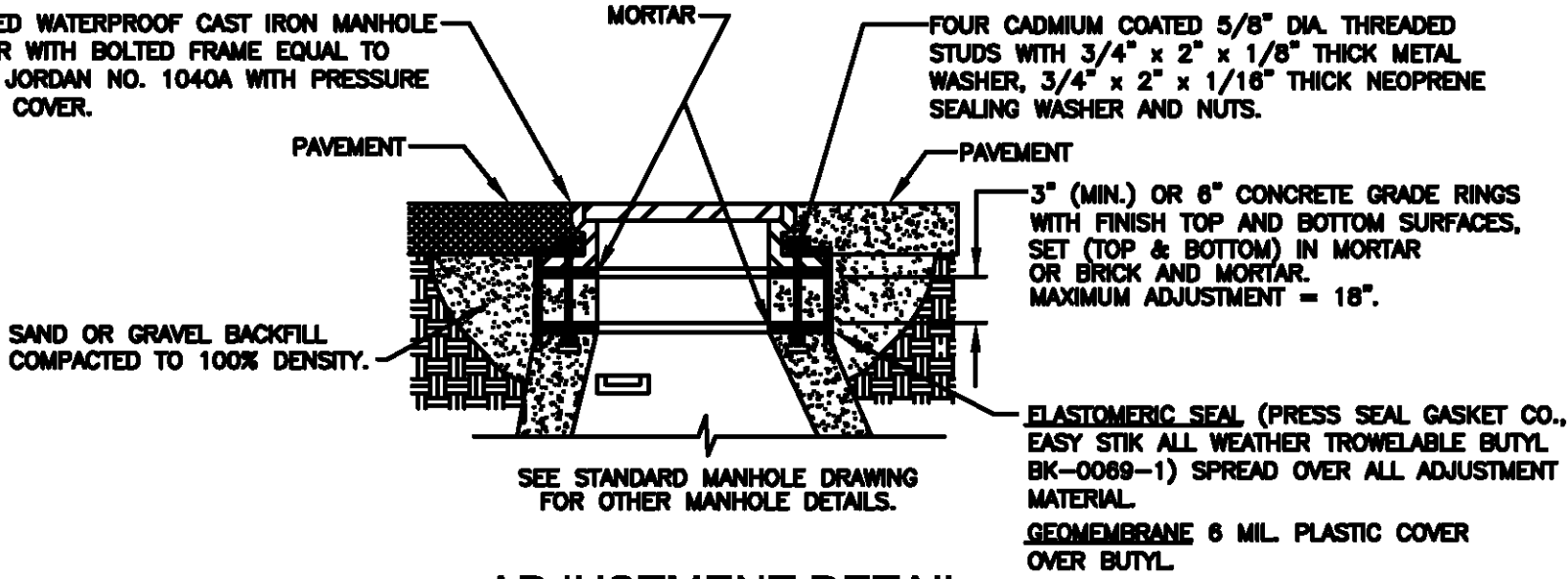
ONE PUBLIC WORKS DRIVE, BLDG 25 WEST WATERFORD, MICHIGAN 48329-1807
SHEET NO.: 1 of 2



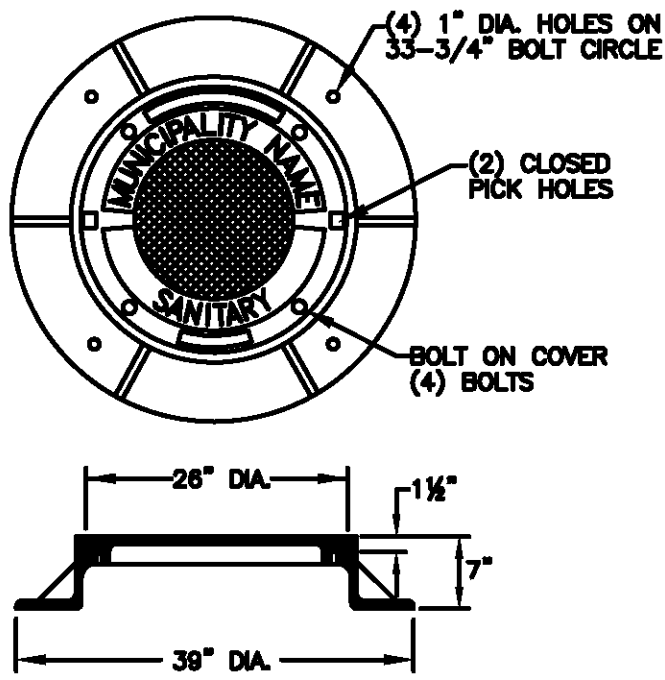
MANHOLE RIM ADJUSTMENT CHART	
MANHOLE LOCATION	SET RIM ELEVATION
DITCH	12" ABOVE FINISH GRADE
FLOOD PLAIN	12" ABOVE STANDING WATER
GRAVEL ROAD / SHOULDER	6" BELOW FINISH GRADE
PAVEMENT / GREENBELT	FLUSH WITH FINISH GRADE



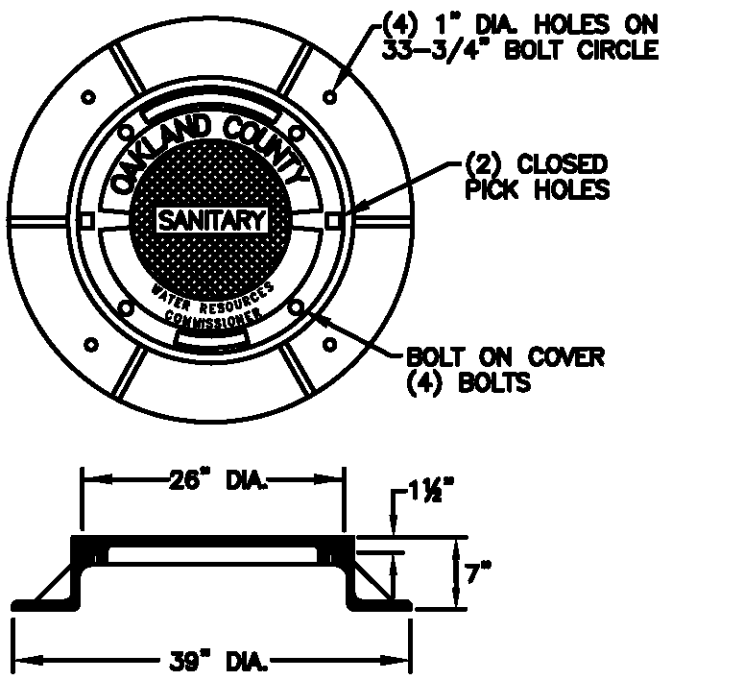
ADJUSTMENT DETAIL FOR  
MANHOLE TOPS WITHIN FLOOD PRONE AREAS



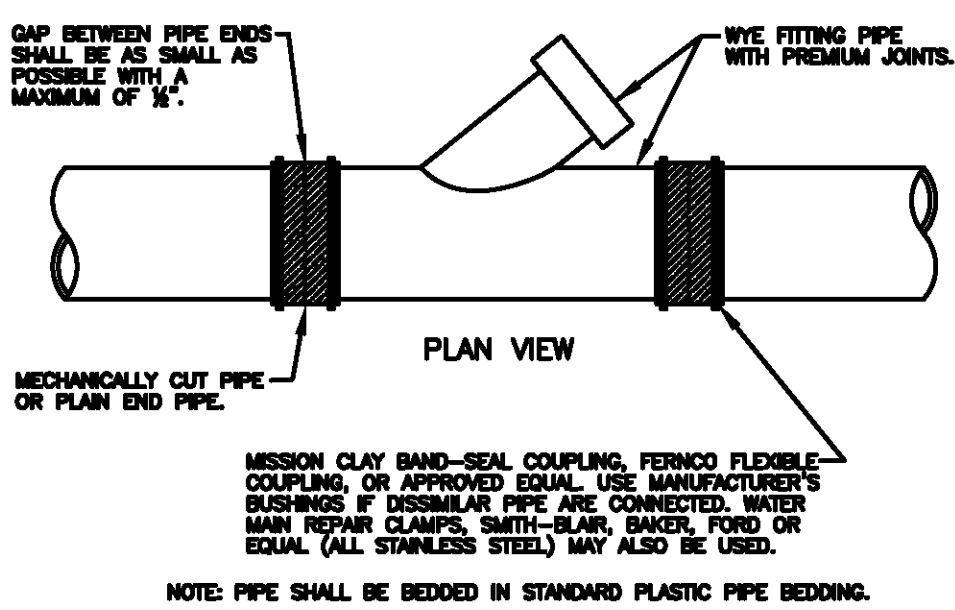
ADJUSTMENT DETAIL  
MANHOLE TOPS WITHIN PAVEMENT AREAS



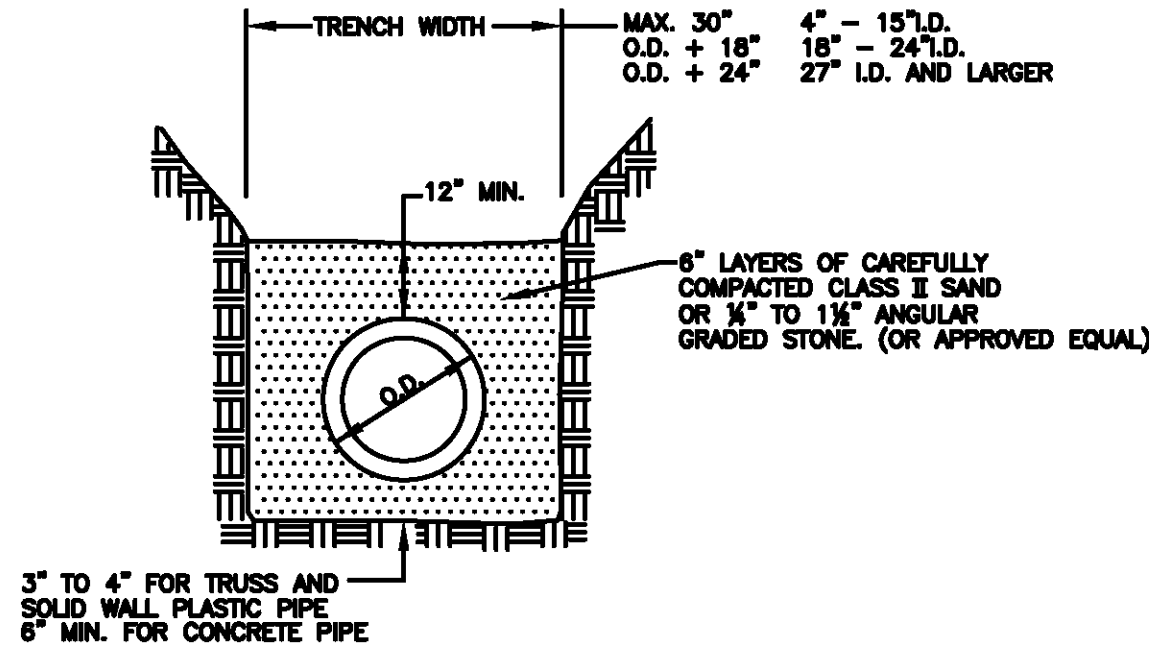
LOCAL MUNICIPALITIES MANHOLE COVER



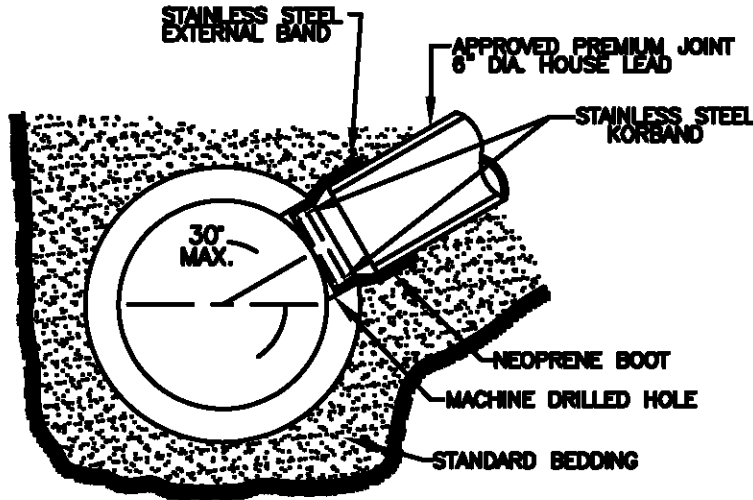
W.R.C. LETTERED MANHOLE COVER



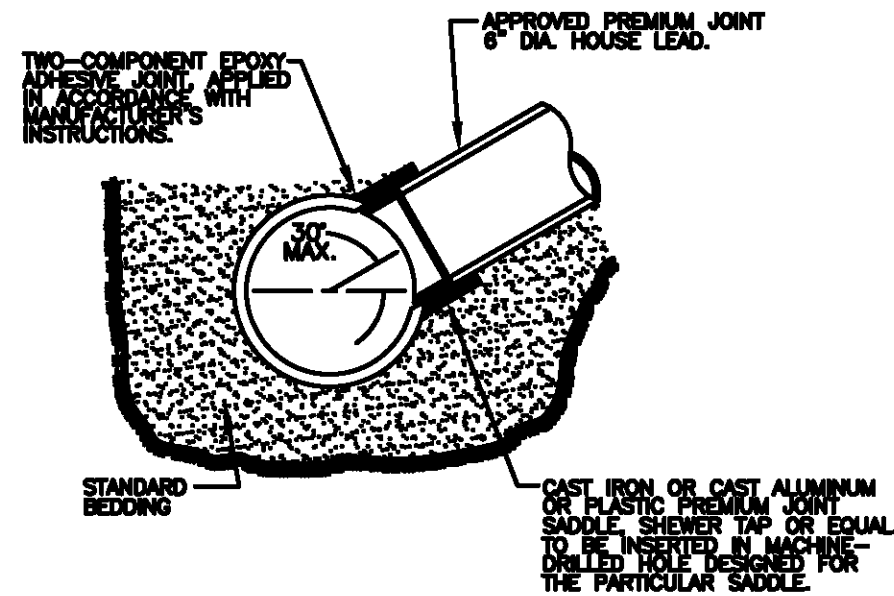
WYE PIPE INSERTION WITH FLEXIBLE COUPLINGS  
(RIGID PIPE)



STANDARD BEDDING  
(CLASS B)

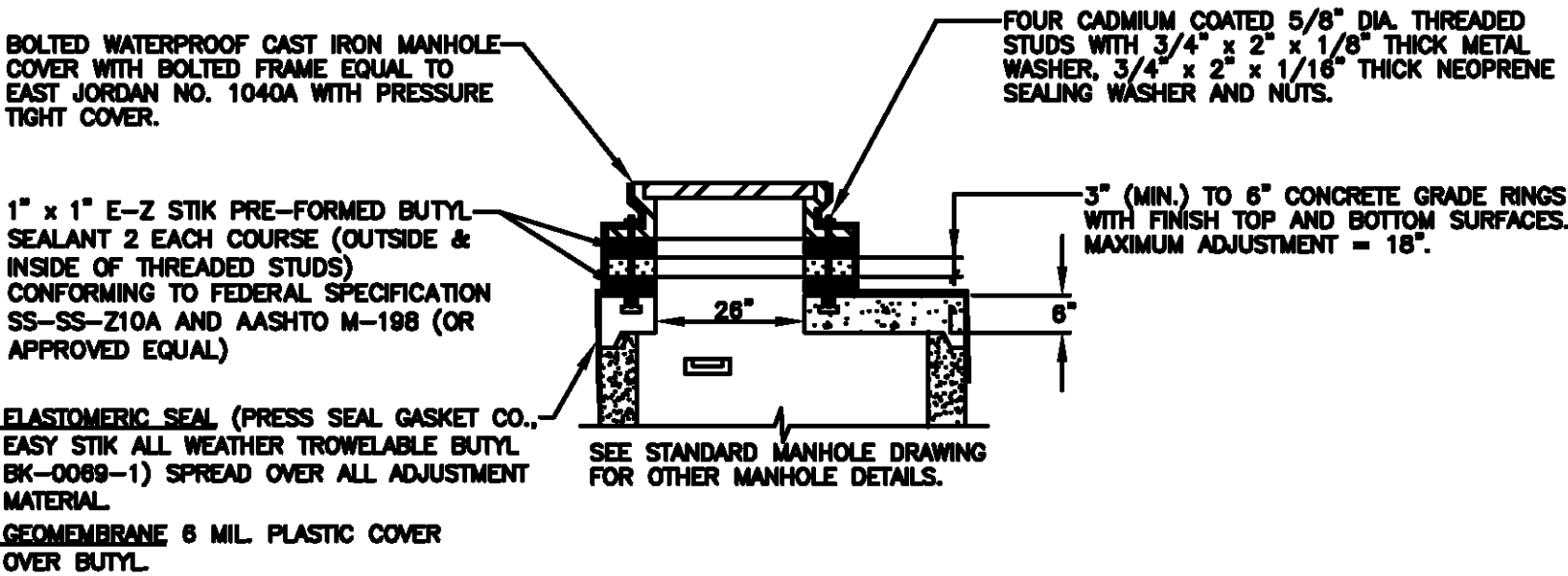


KOR-N-TEE TAP FOR CONCRETE PIPE

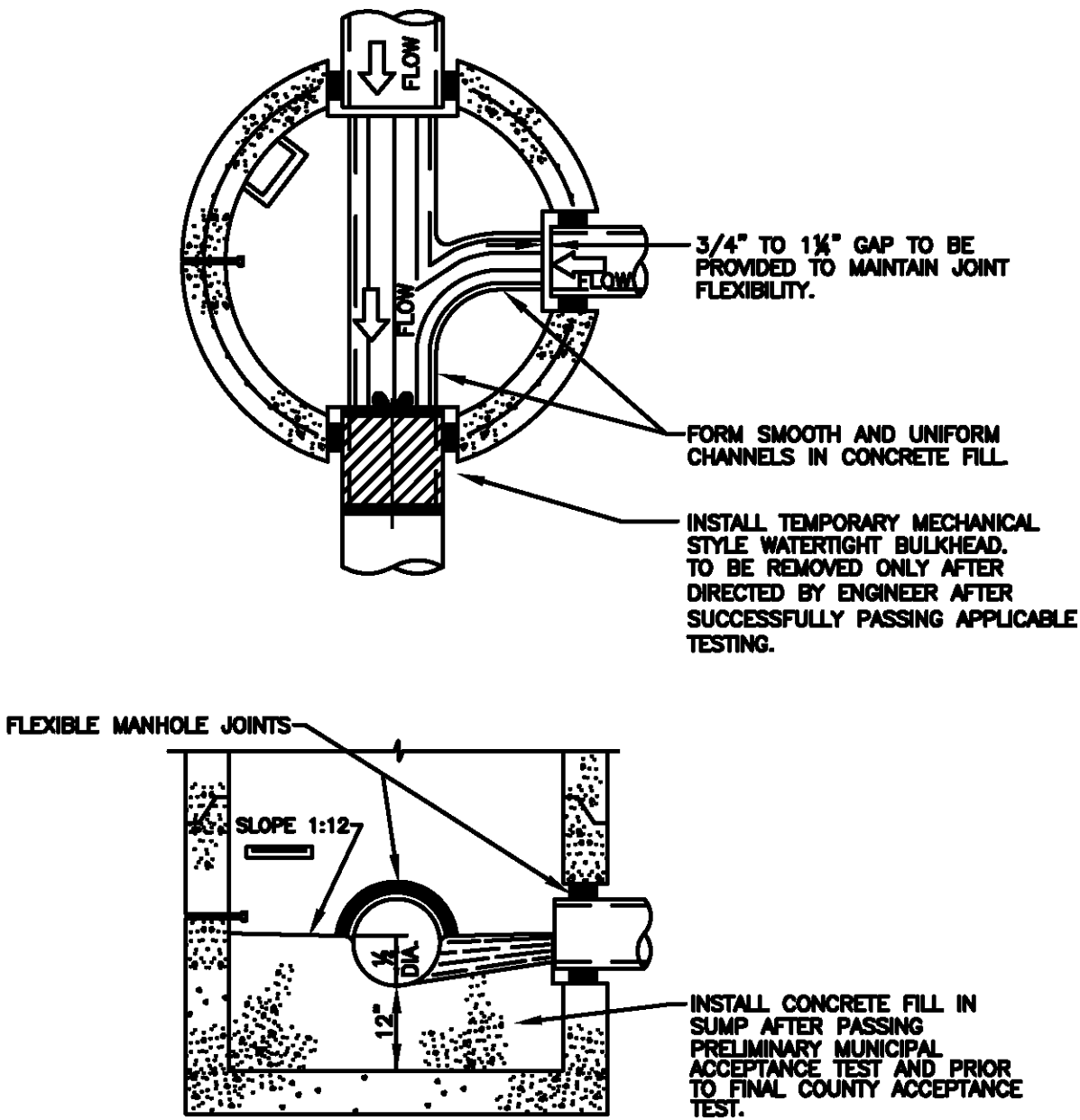


NOTE: SURFACE OF MAIN SEWER SHALL BE CLEANED WITH AN ABRASIVE GRINDER PRIOR TO EPOXY APPLICATION. DUE TO VARIATION OF SET-UP TIME OF EPOXY ADHESIVE WITH TEMPERATURE, ANCHOR STRAPS SHALL BE USED TO SECURE SADDLE IN POSITION IN COLD WEATHER OR WHENEVER WORK IS TO PROCEED PRIOR TO COMPLETE CURE OF EPOXY.

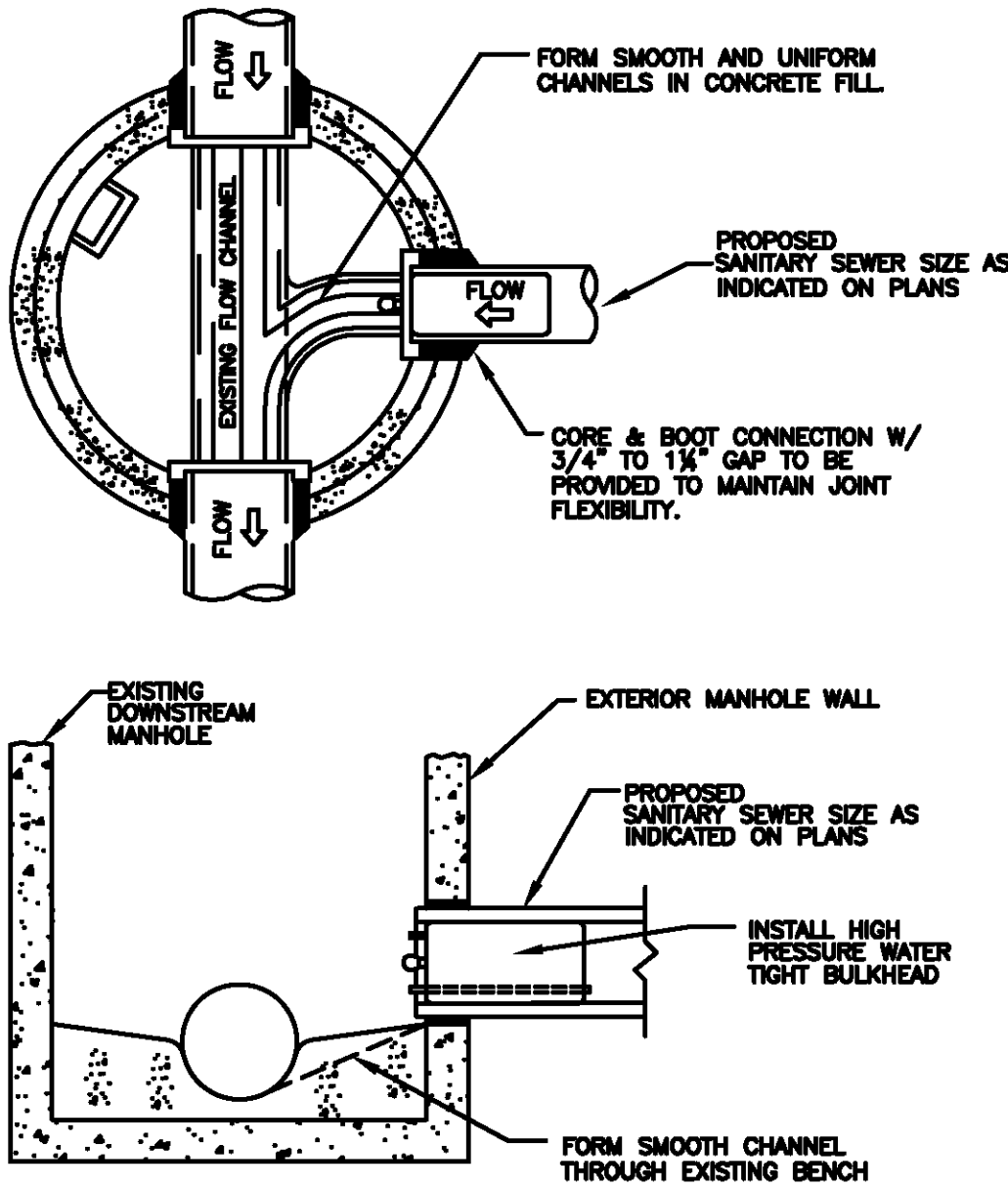
SEWER TAP-ALL SIZES OF MAIN SEWER PIPES  
VITRIFIED CLAY



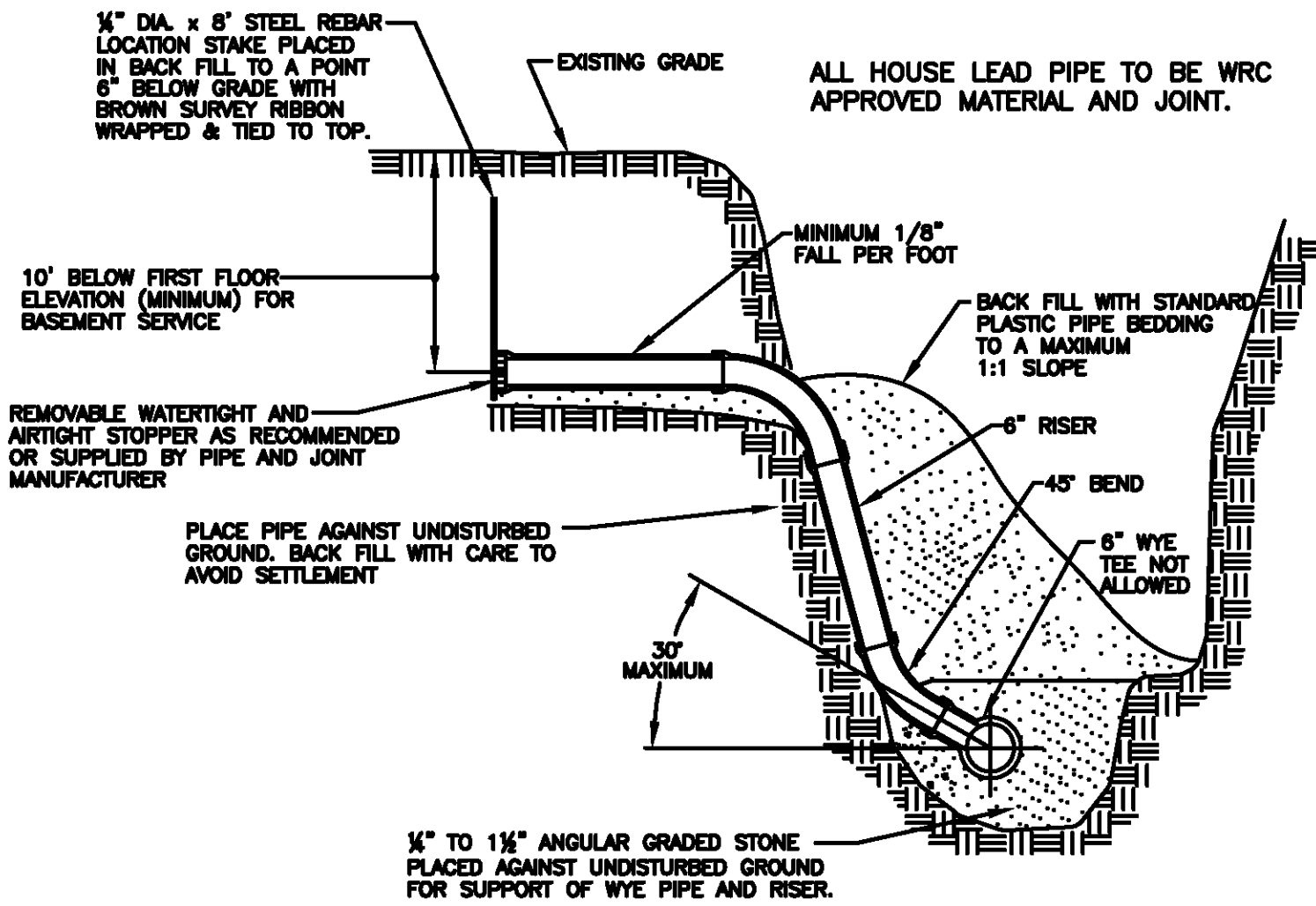
FLAT TOP MANHOLE



SUMP MANHOLE FOR TESTING,  
CLEANING AND DEWATERING



TESTING BULKHEAD WITH PIPE TAP

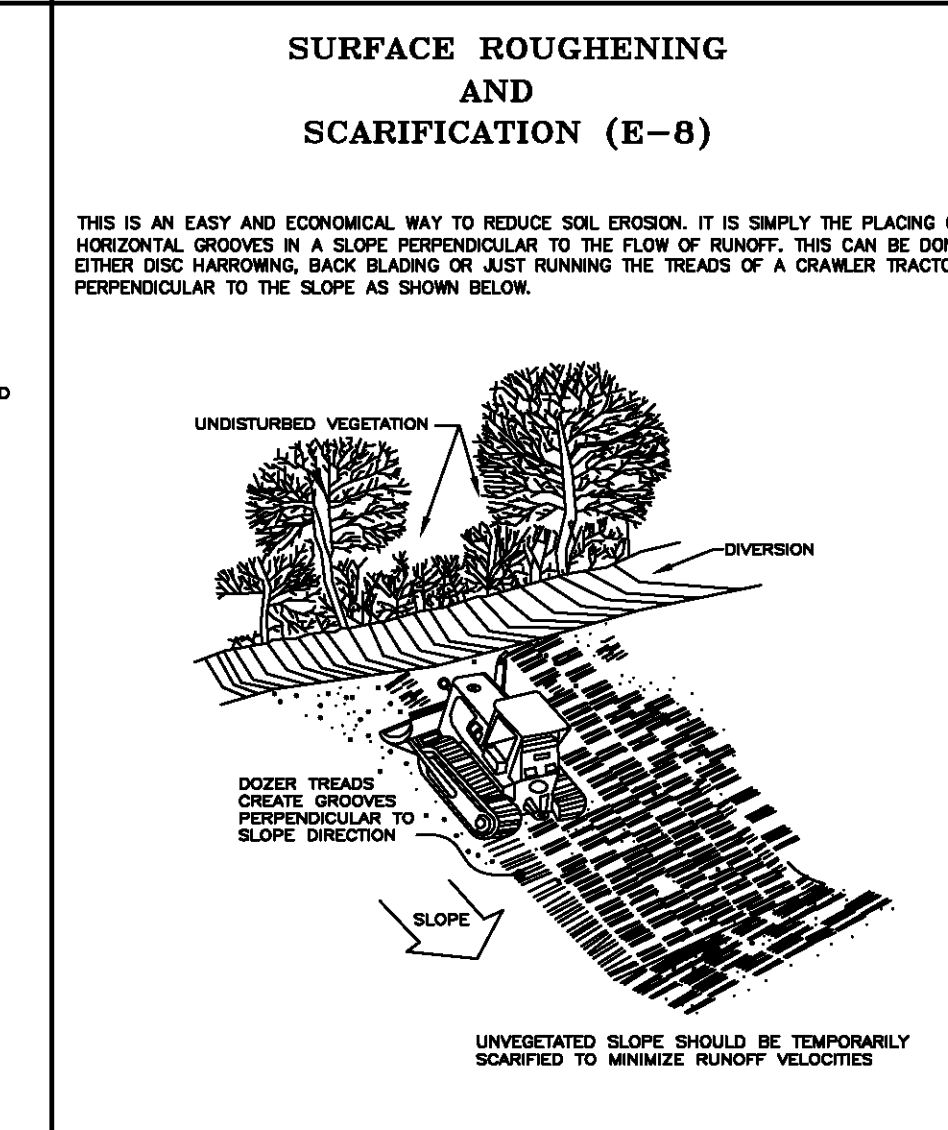
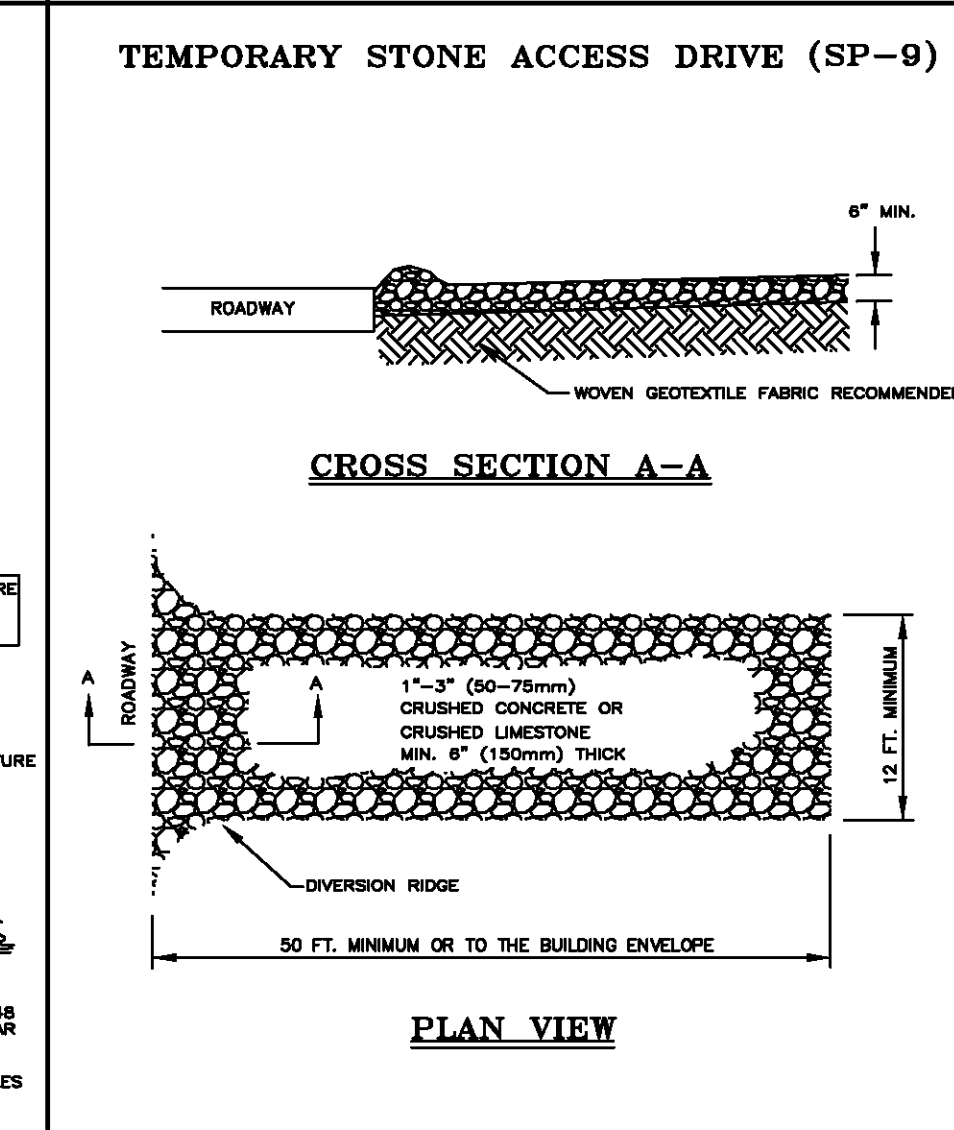
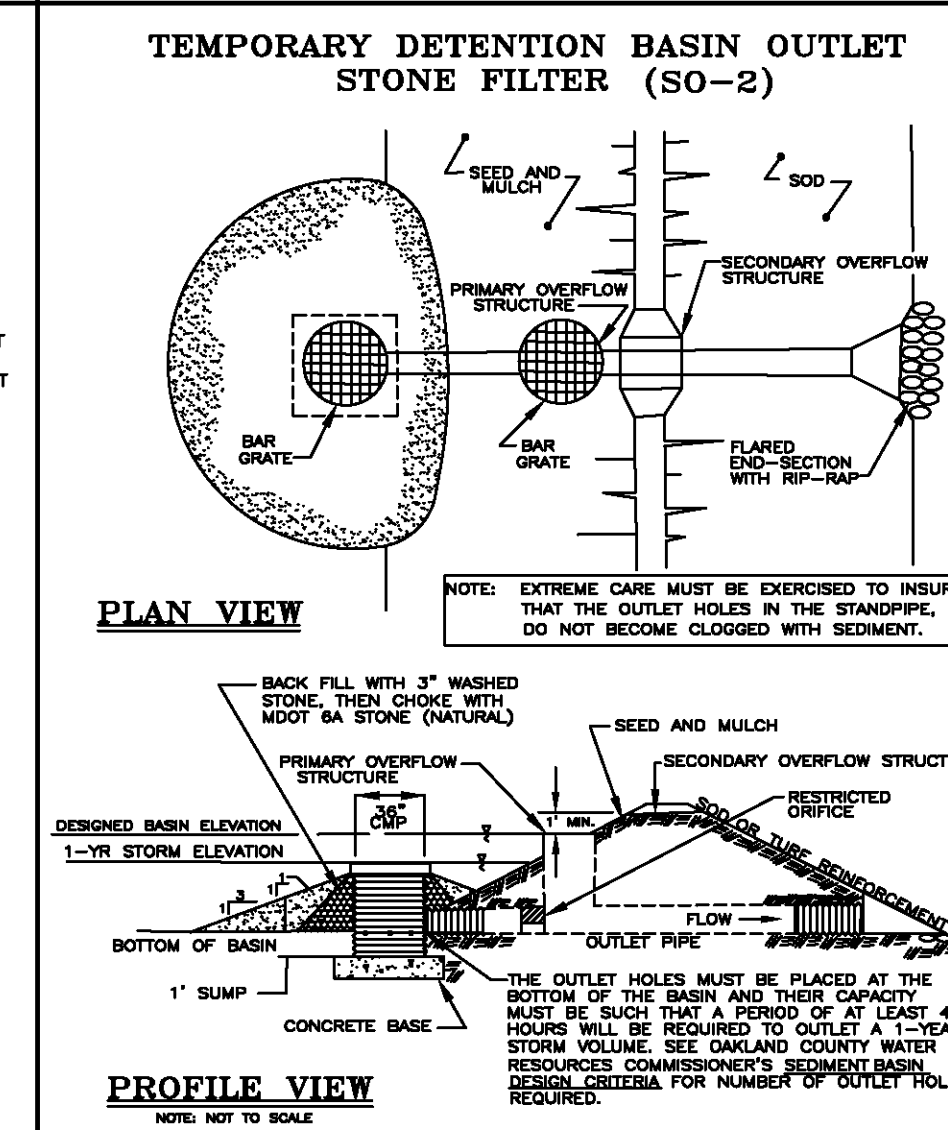
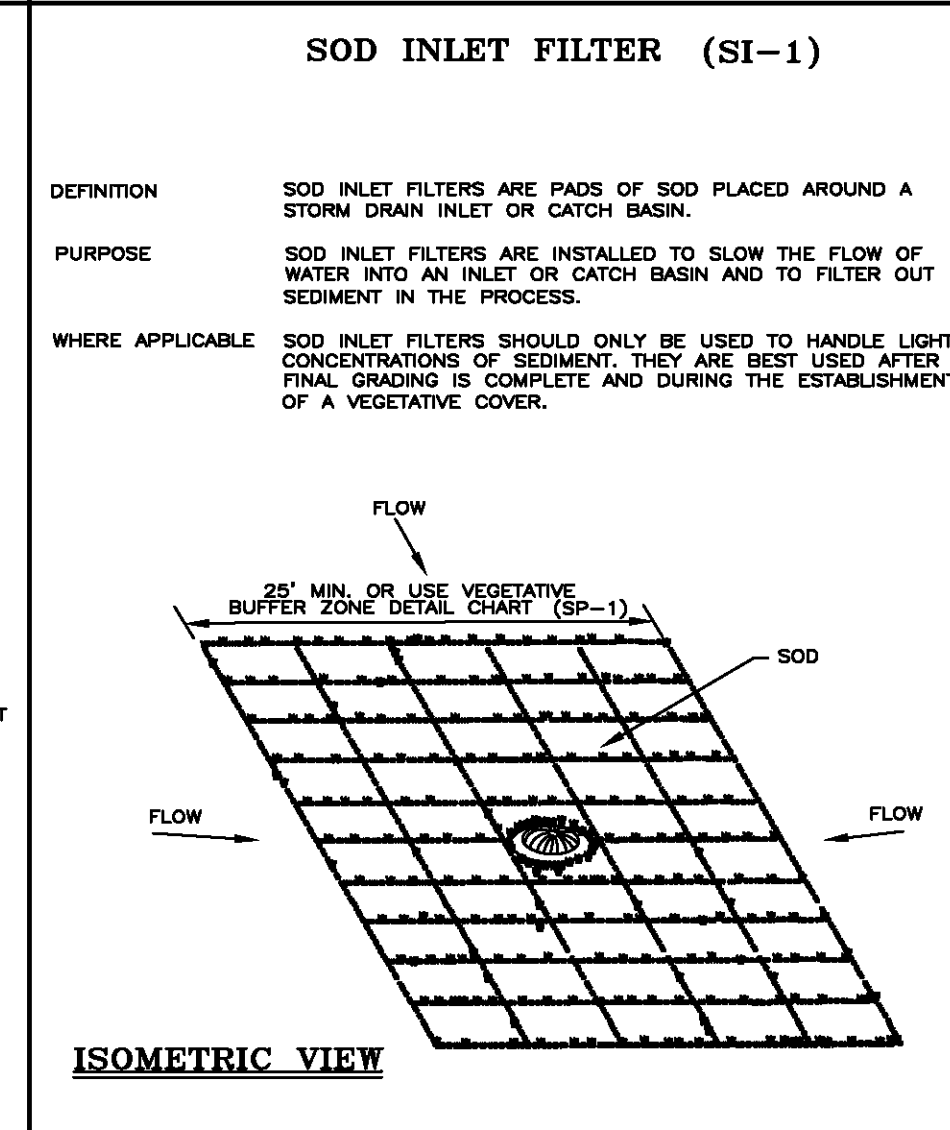
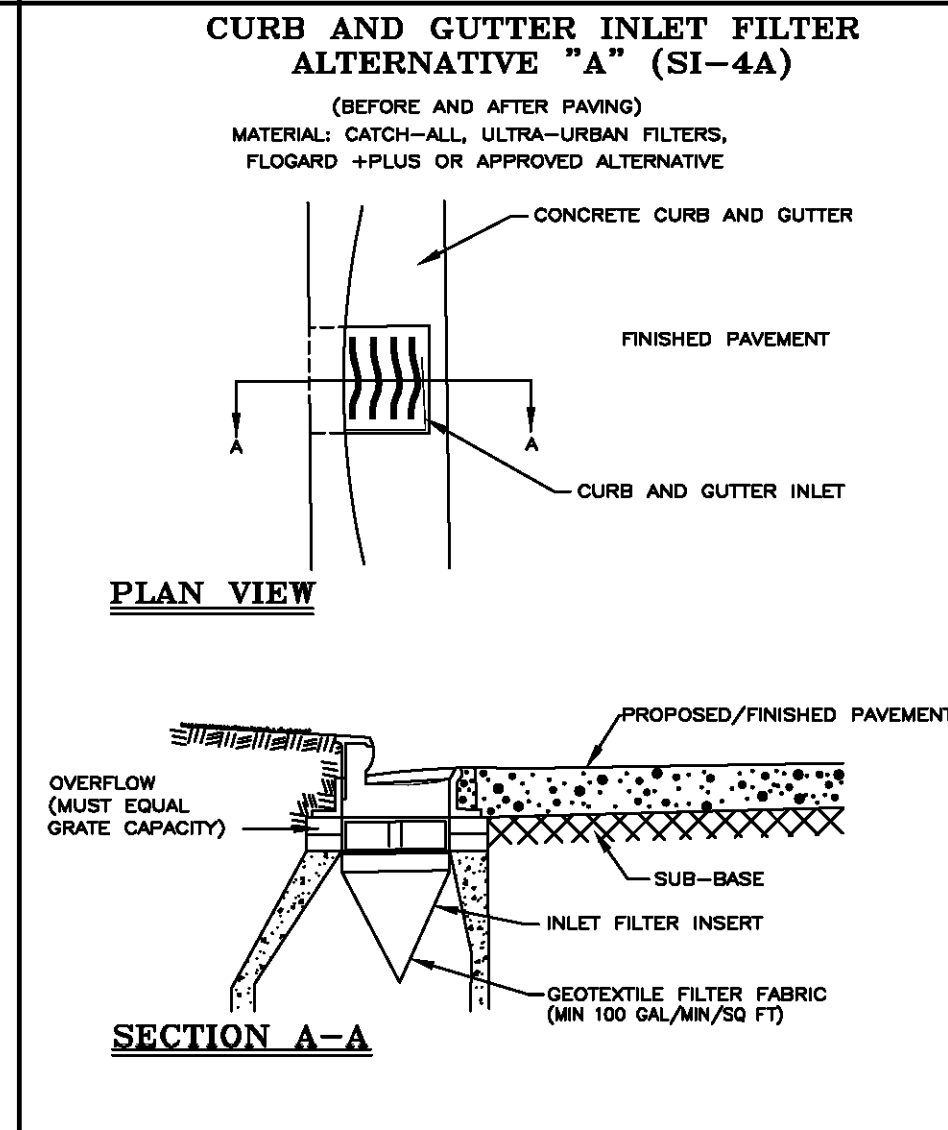
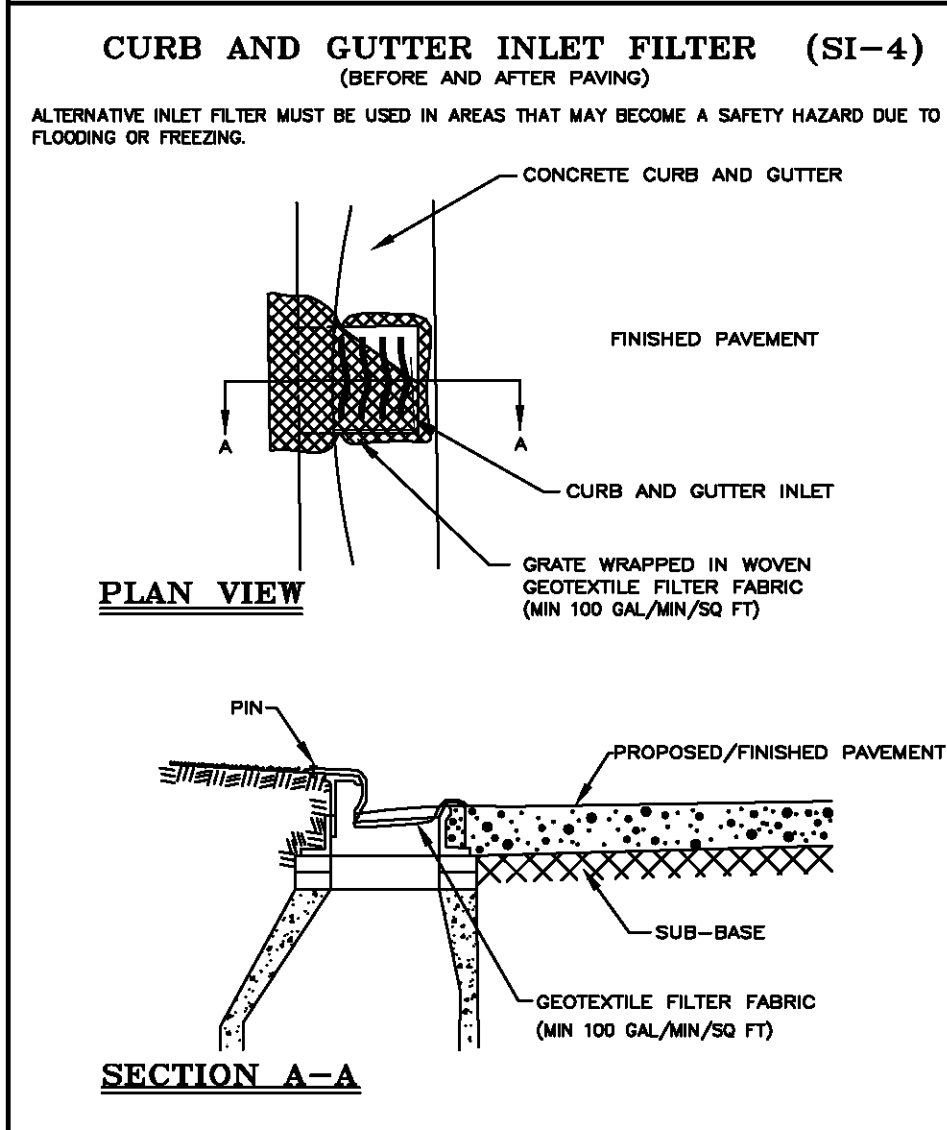
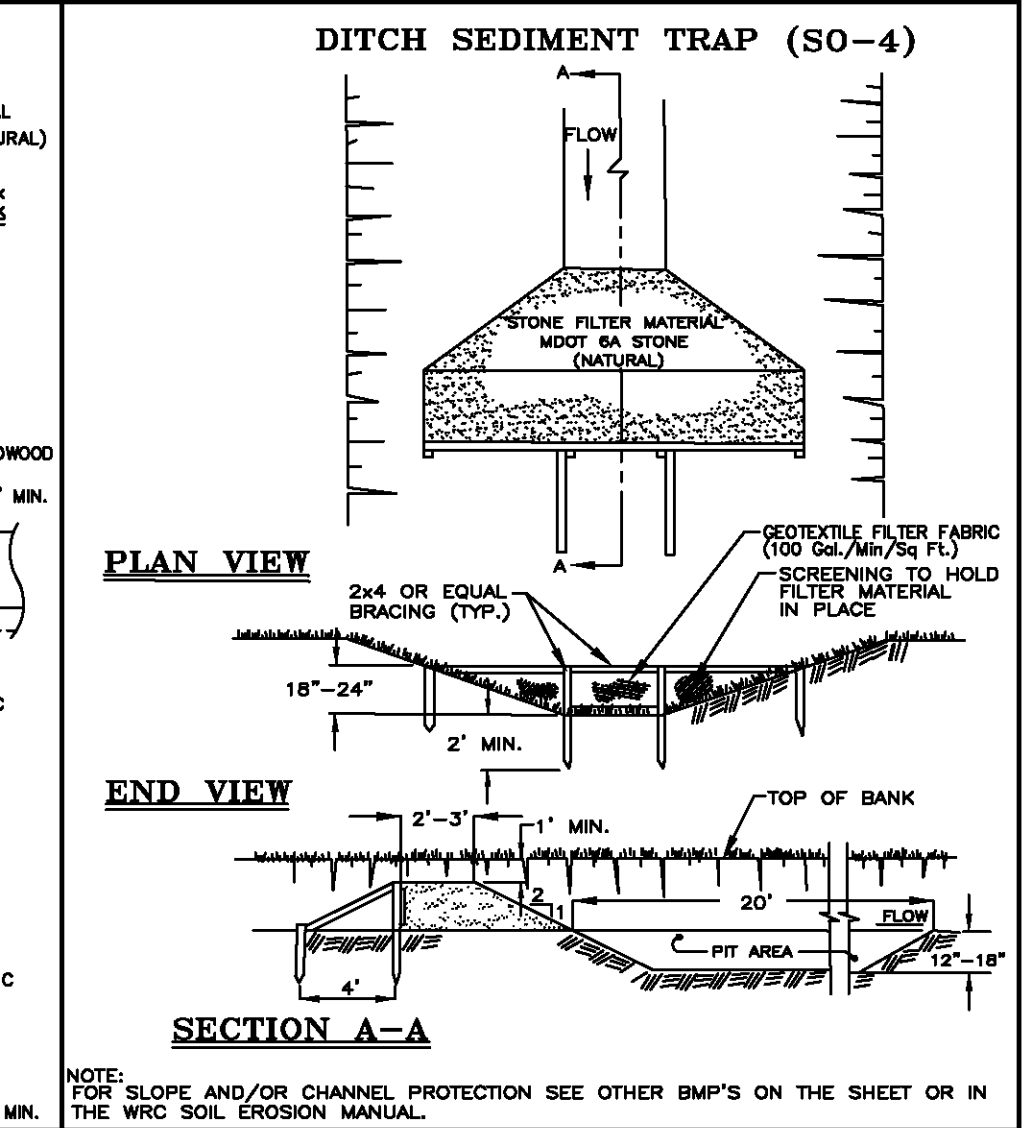
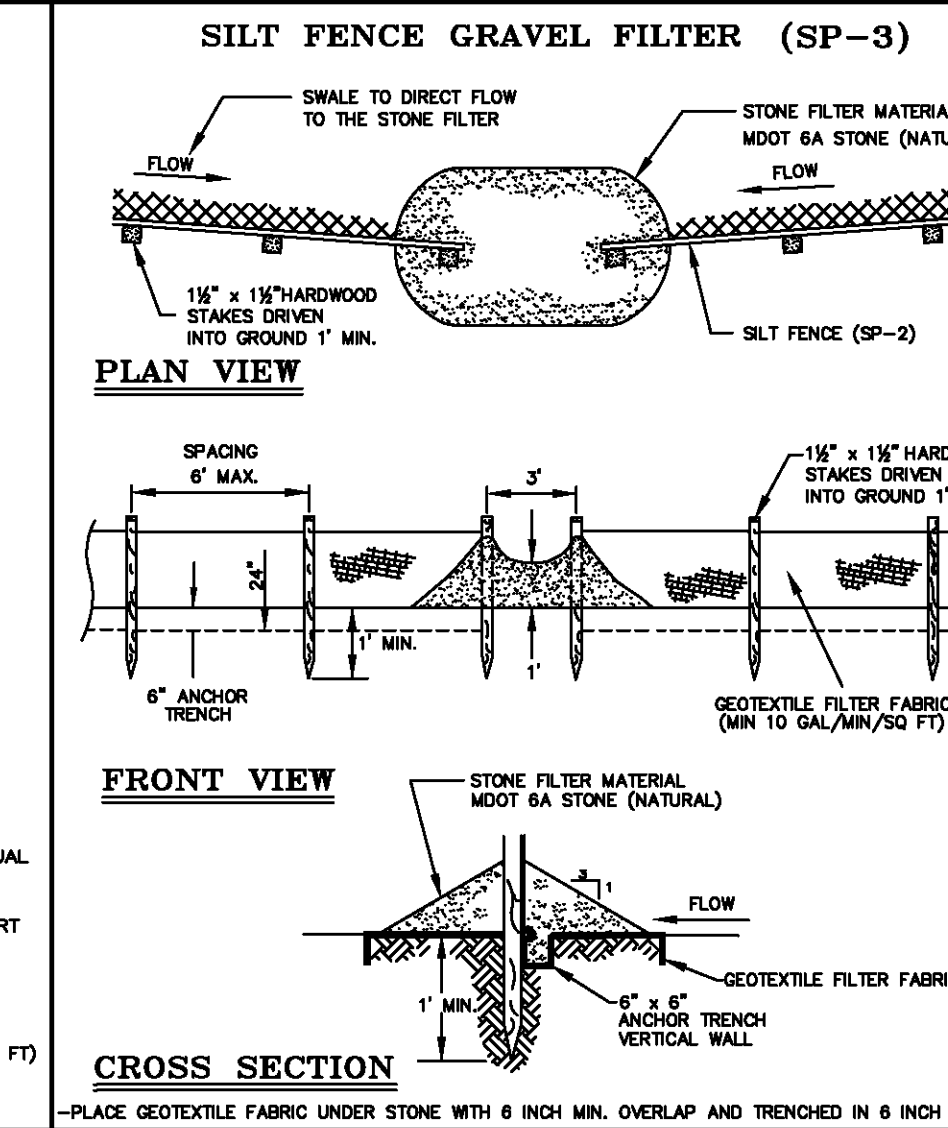
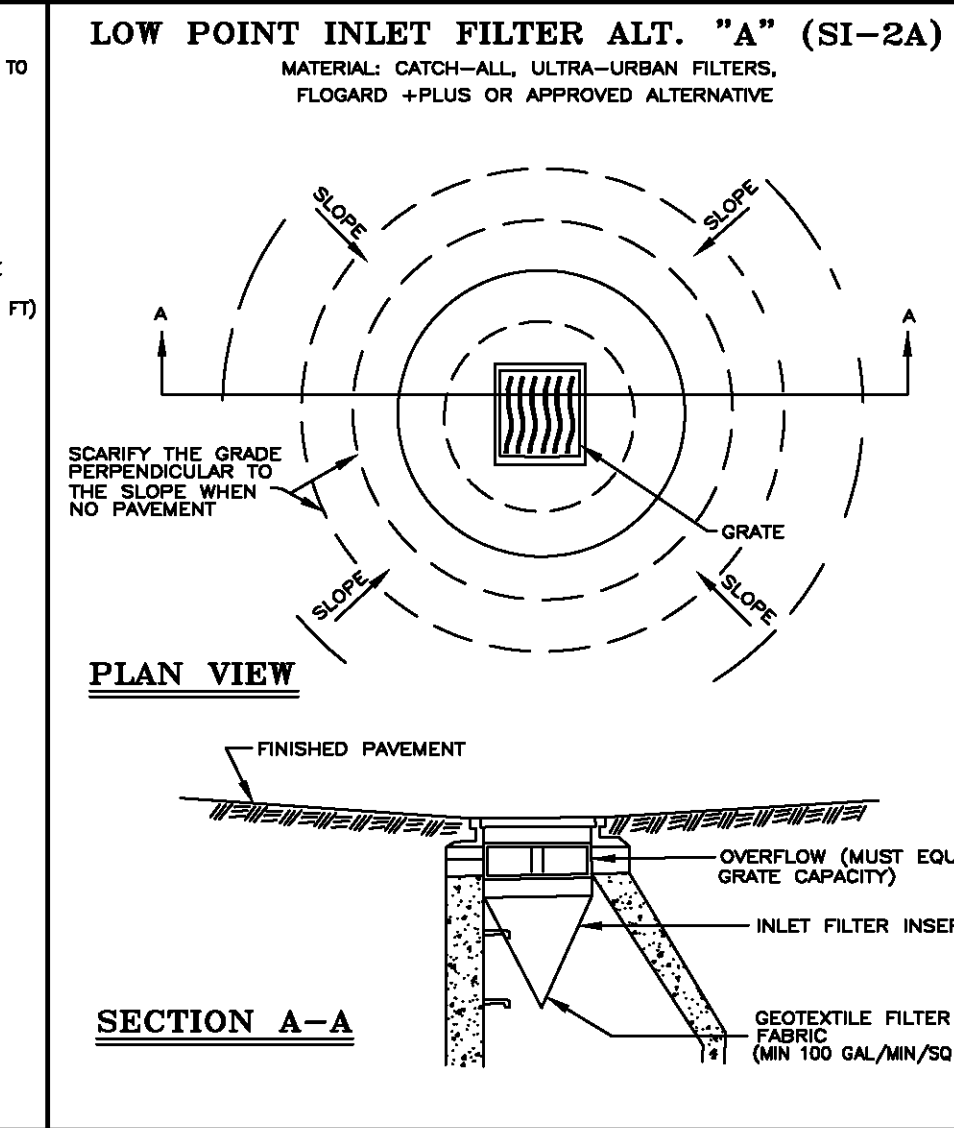
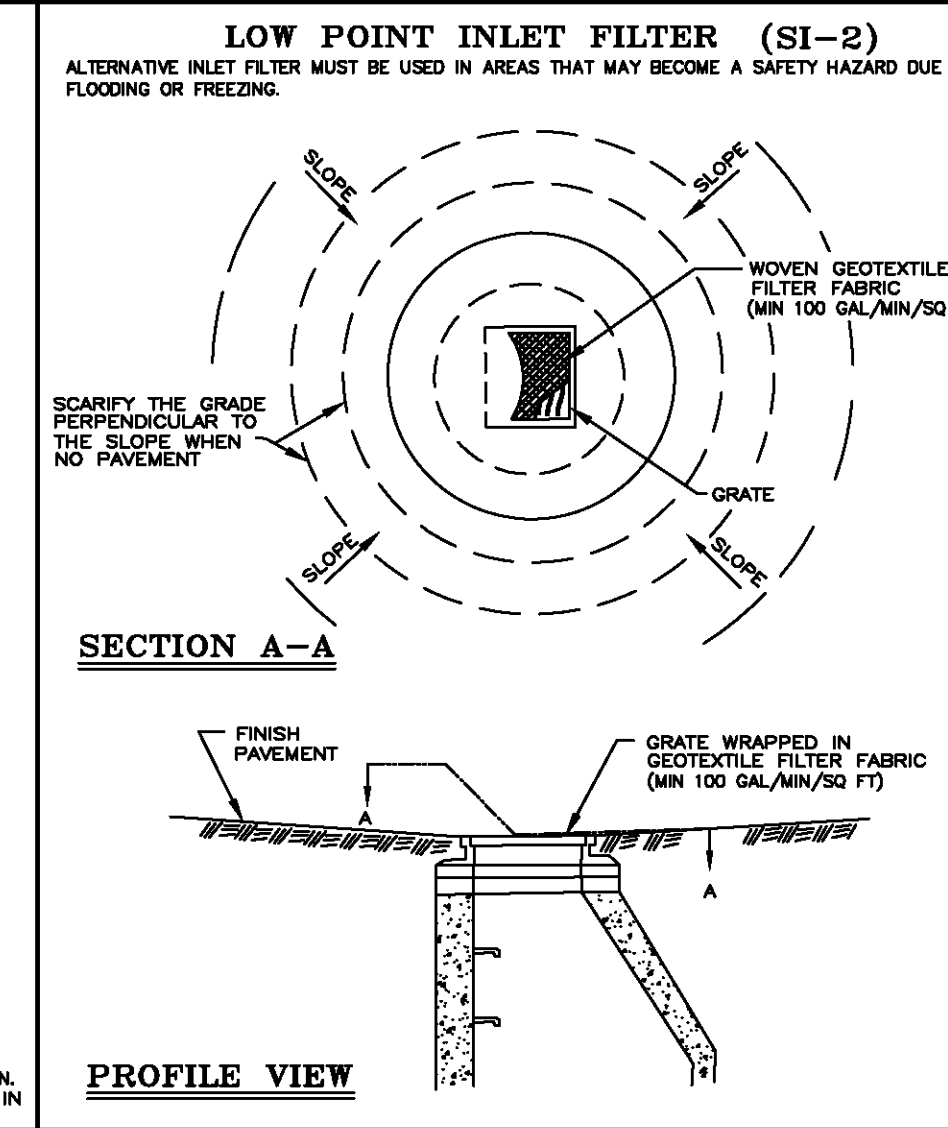
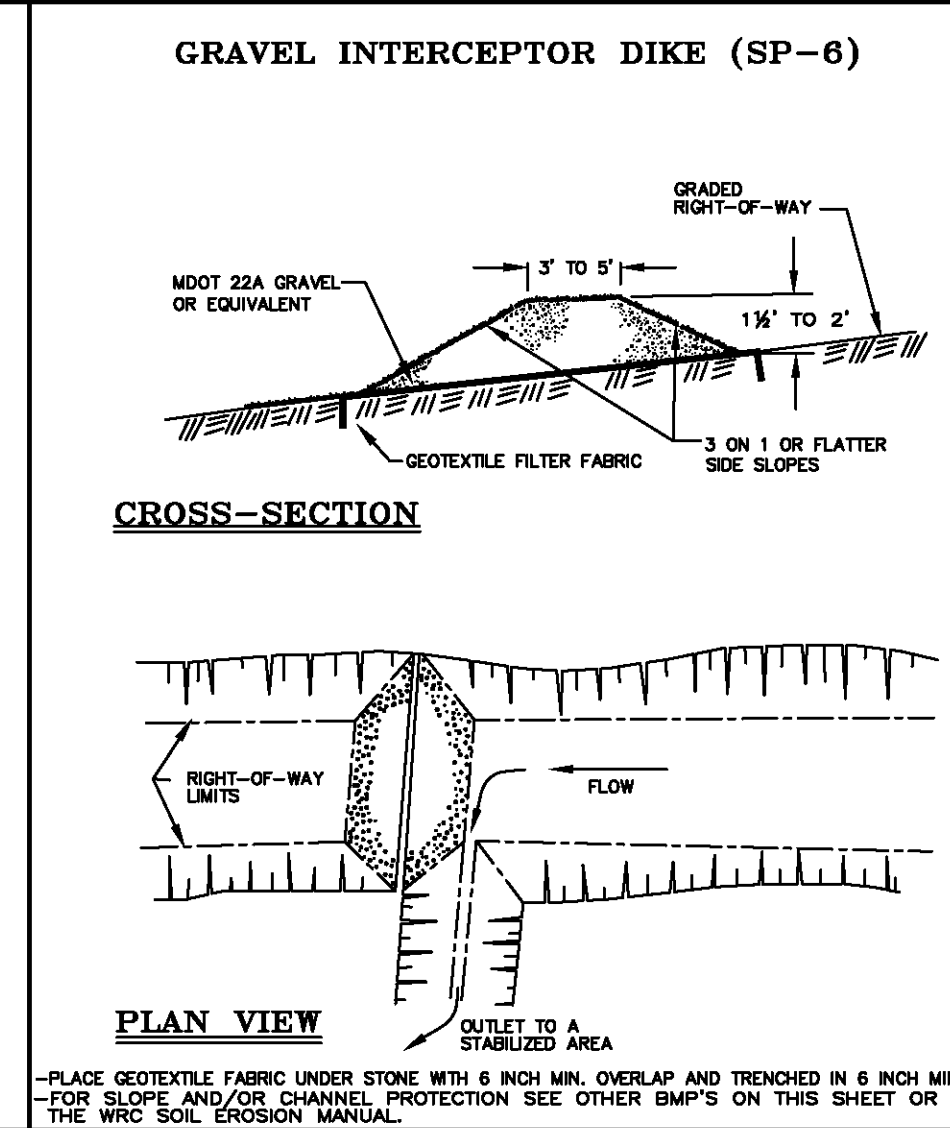
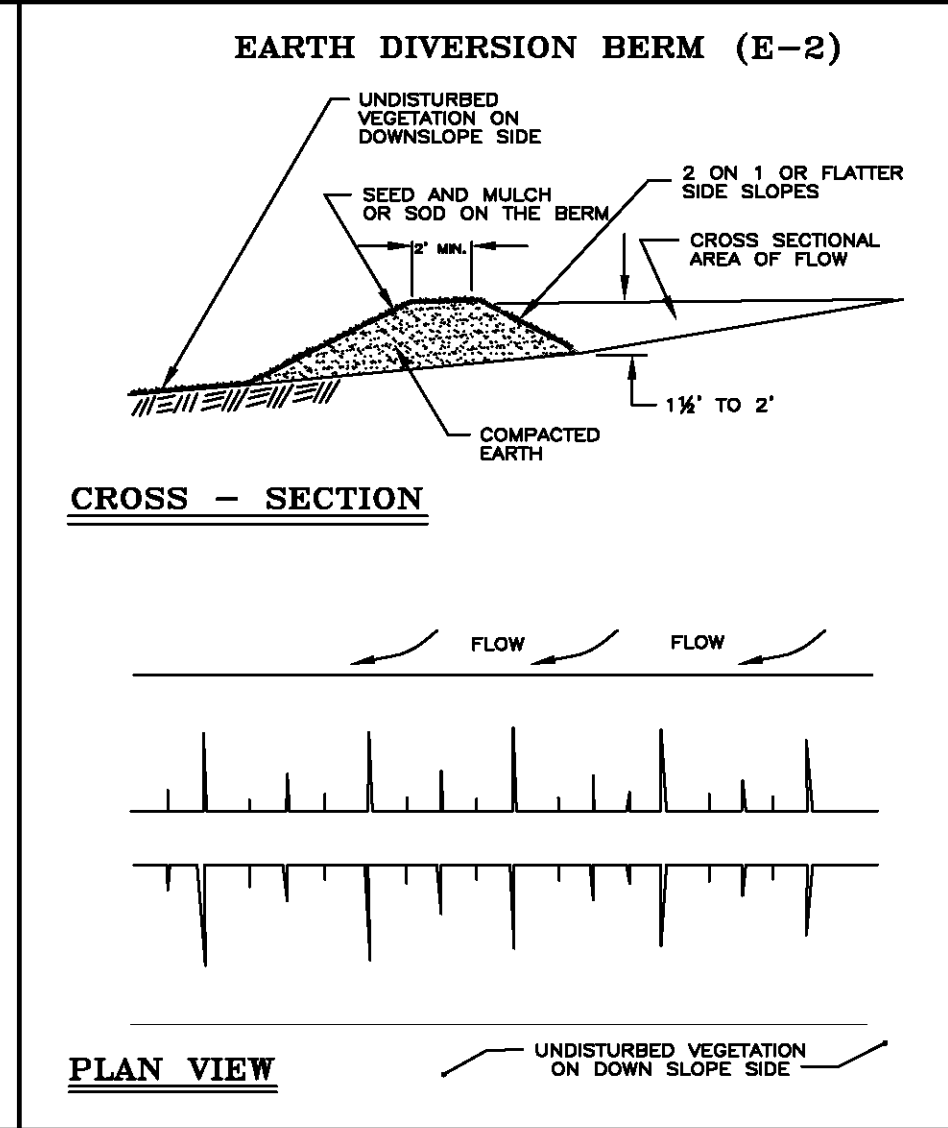
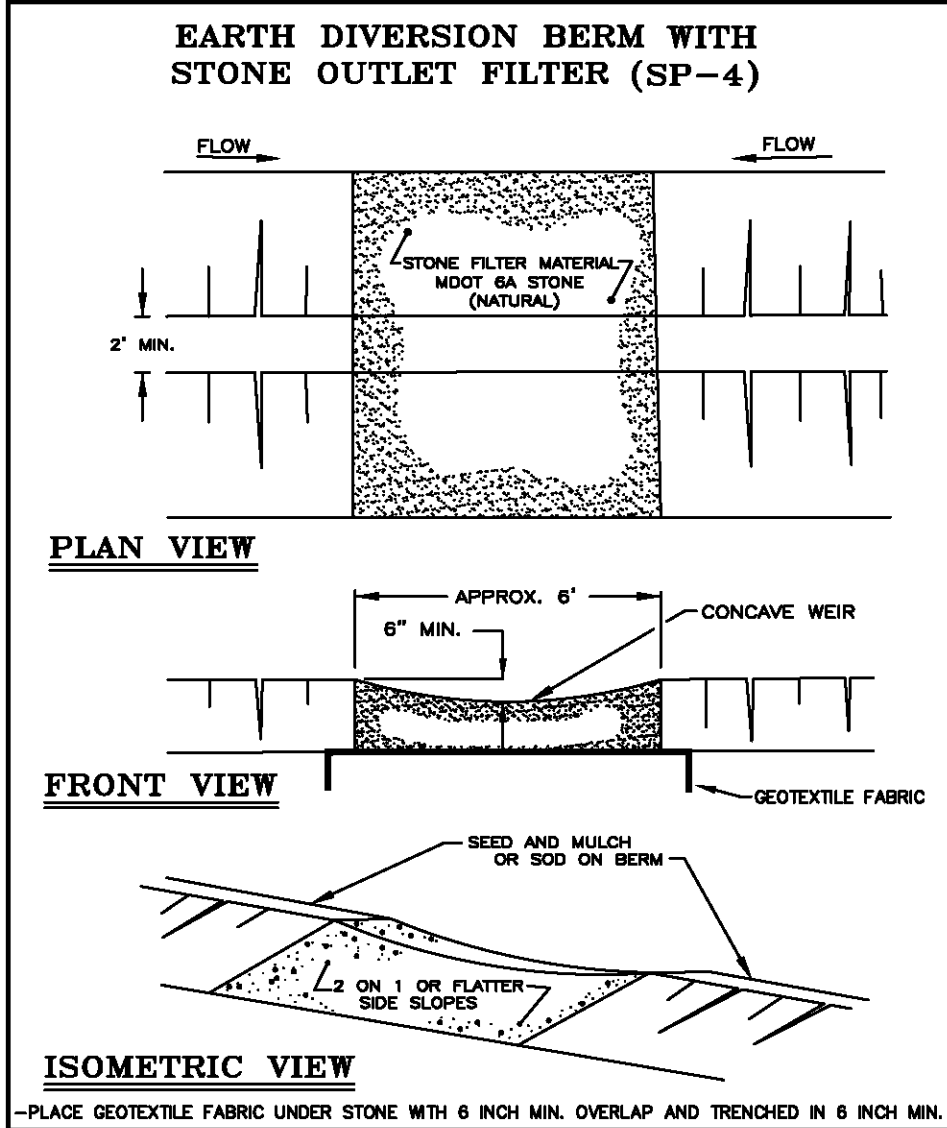
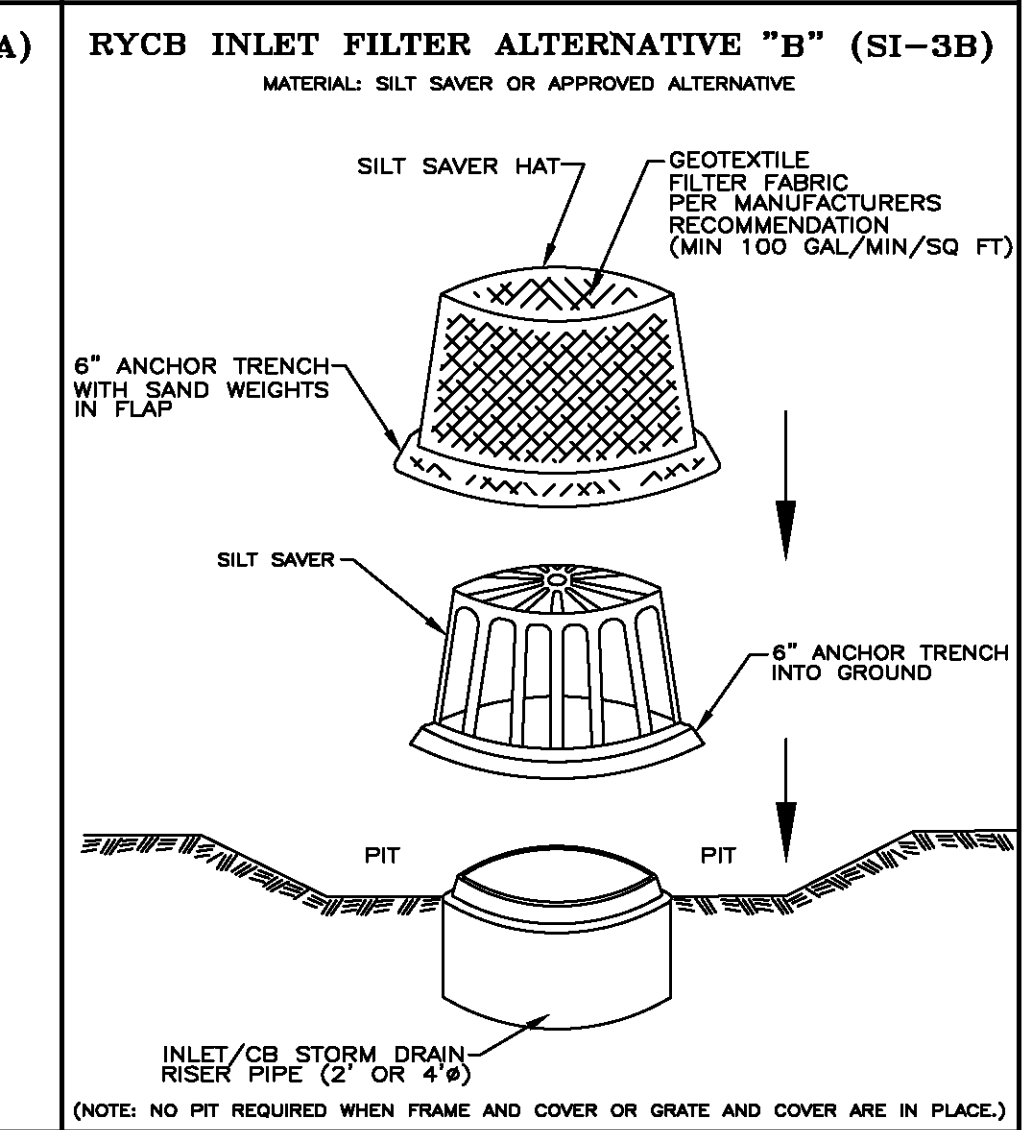
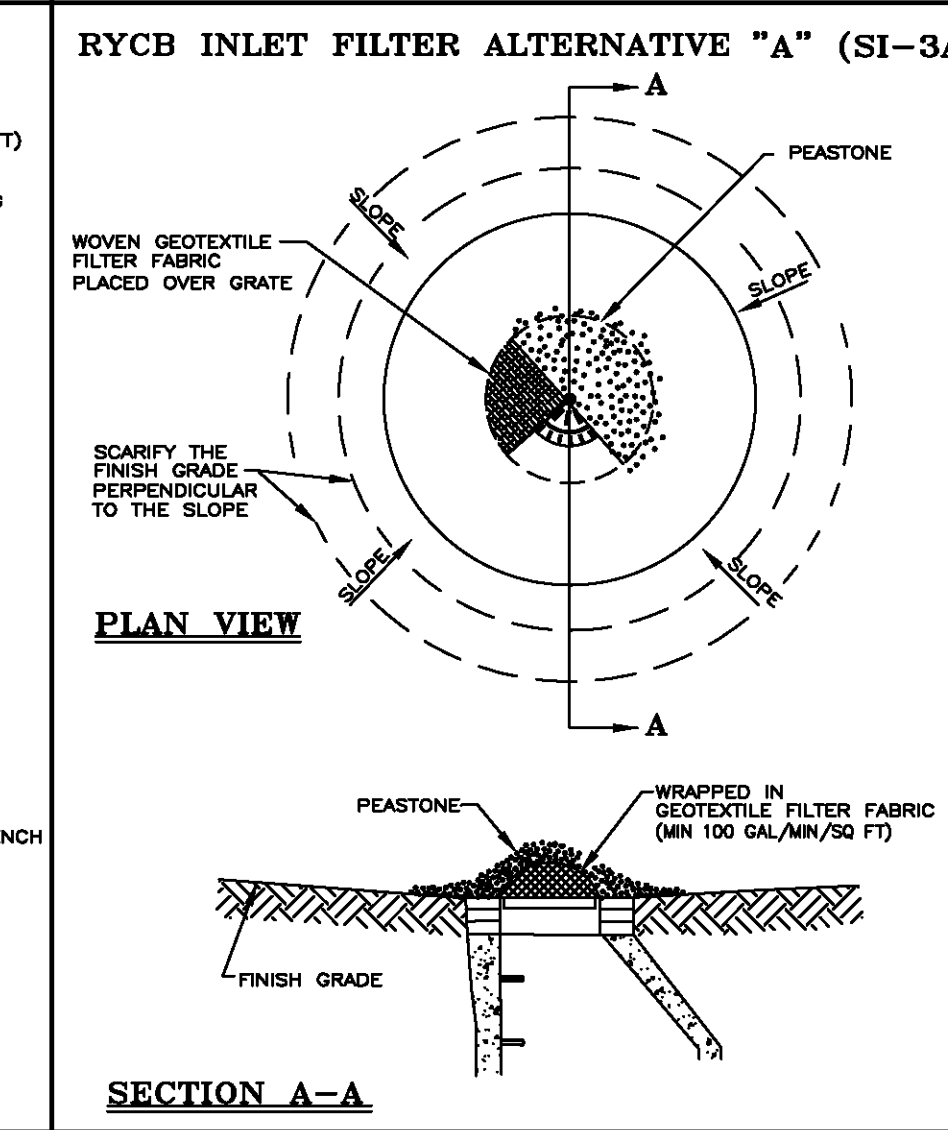
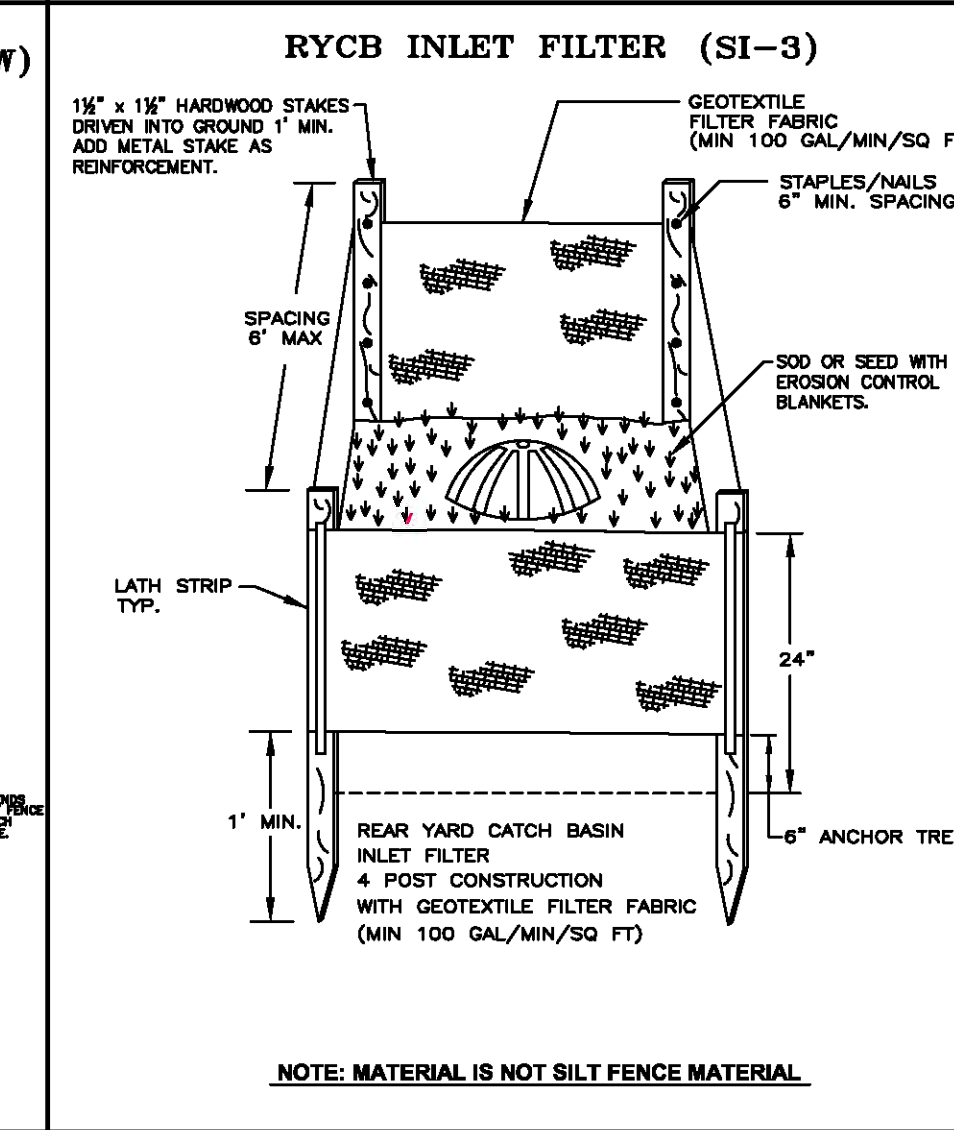
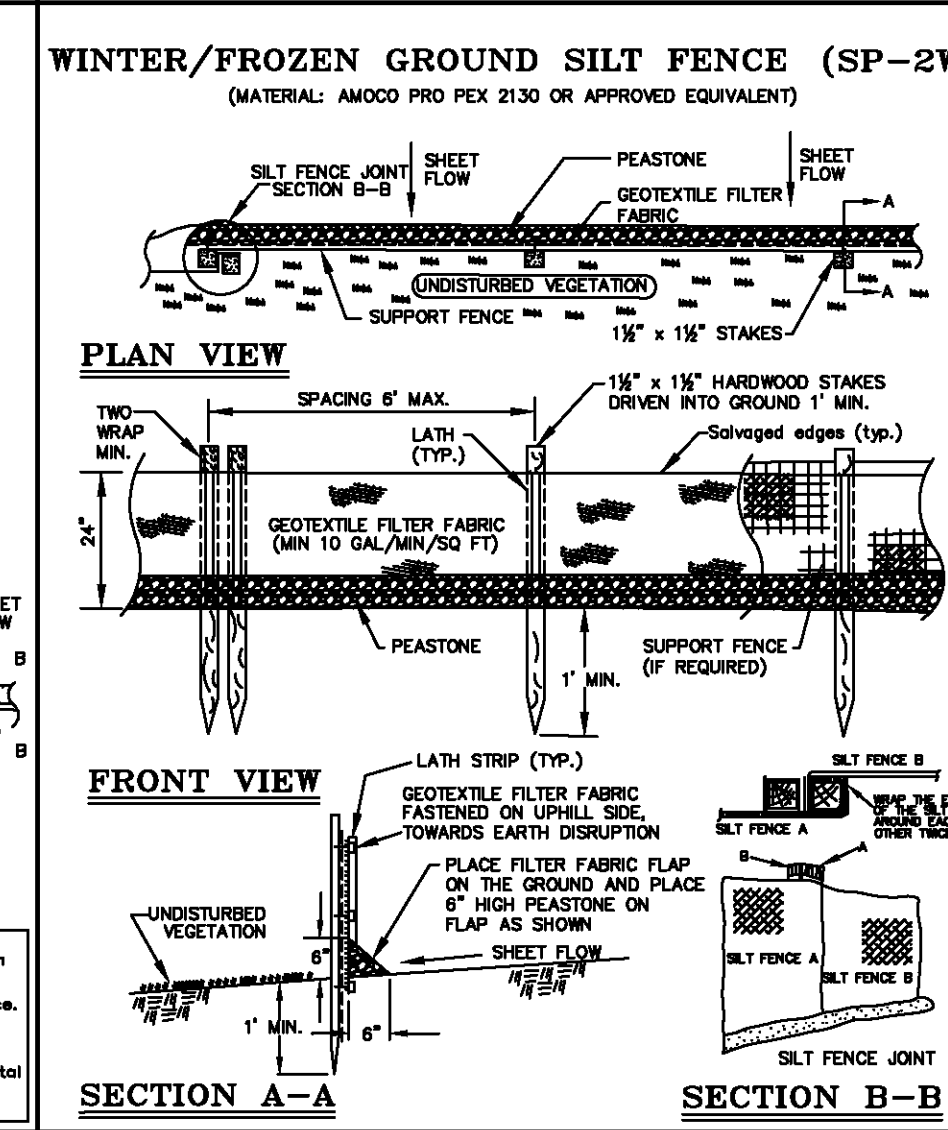
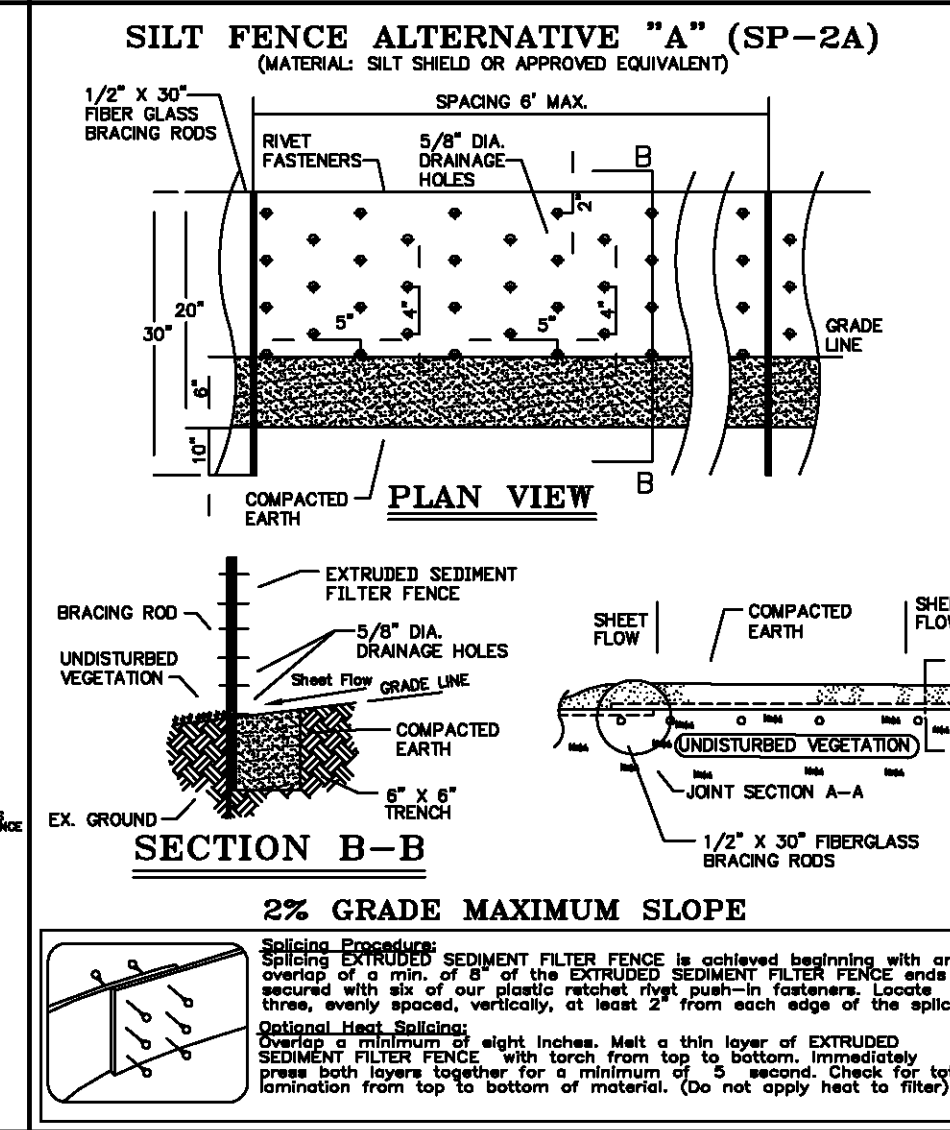
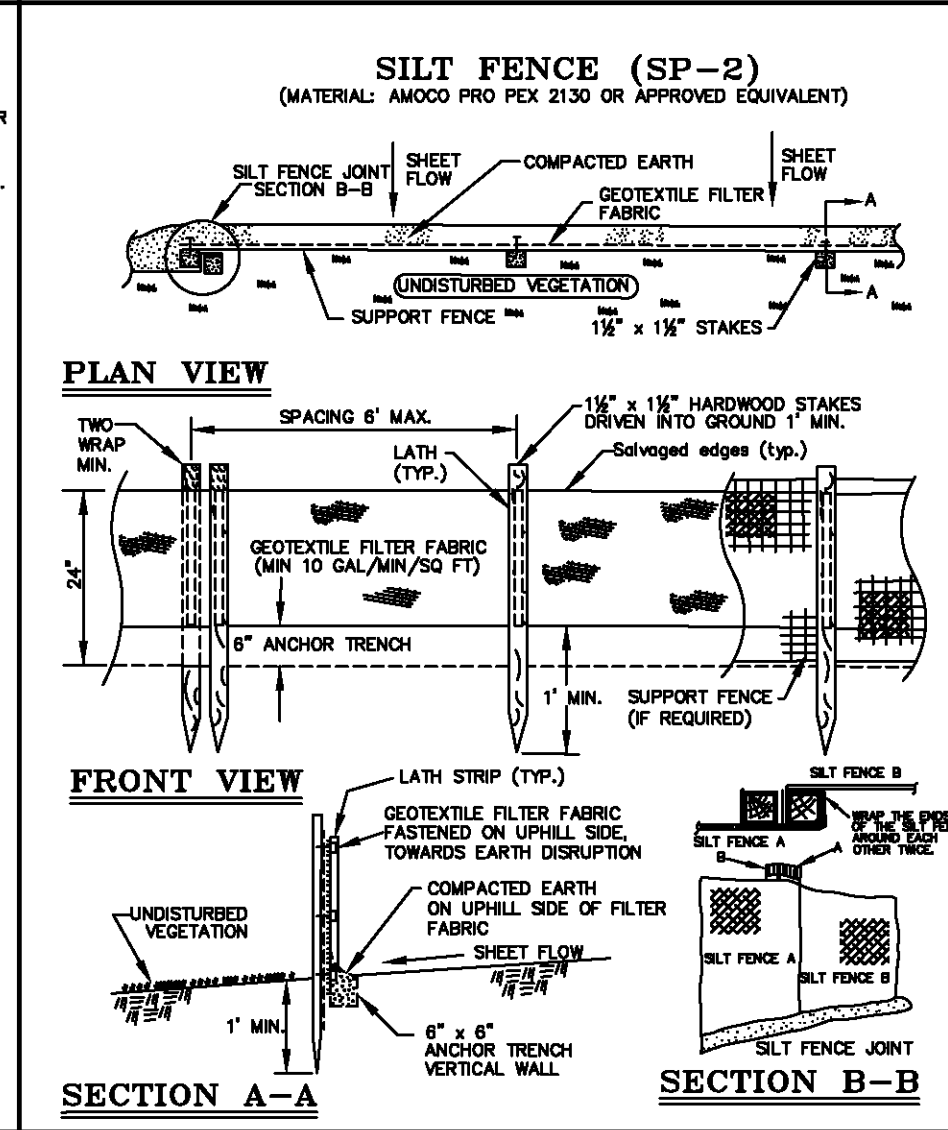
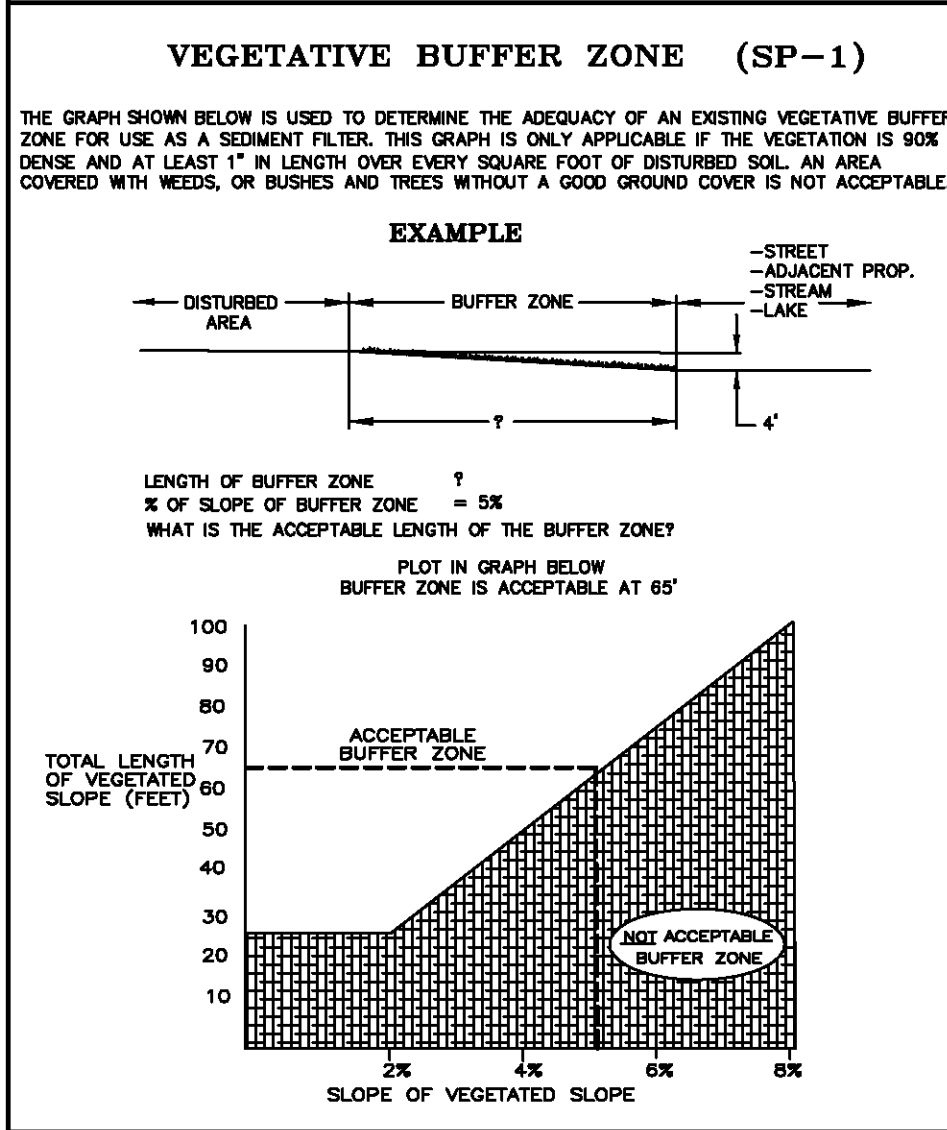
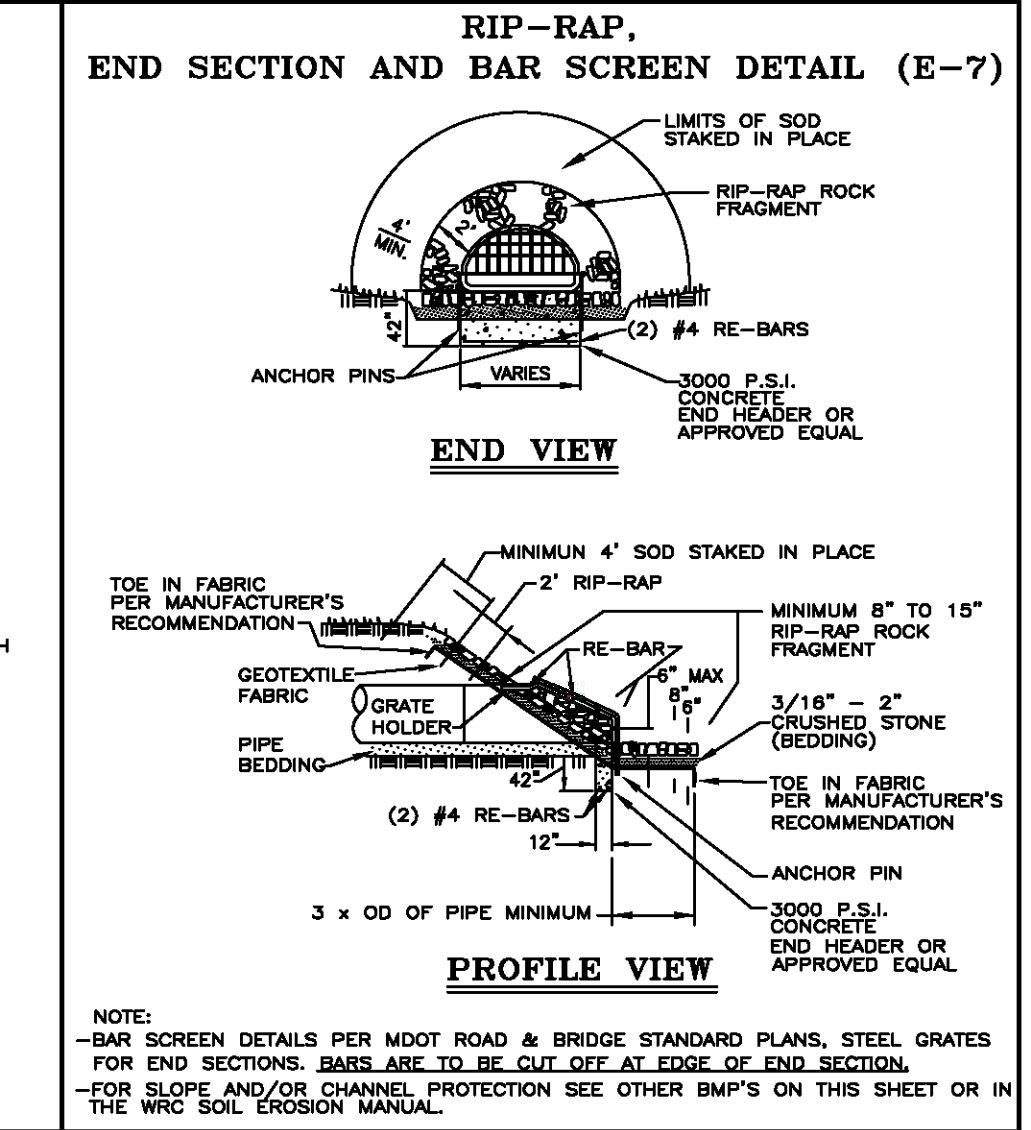
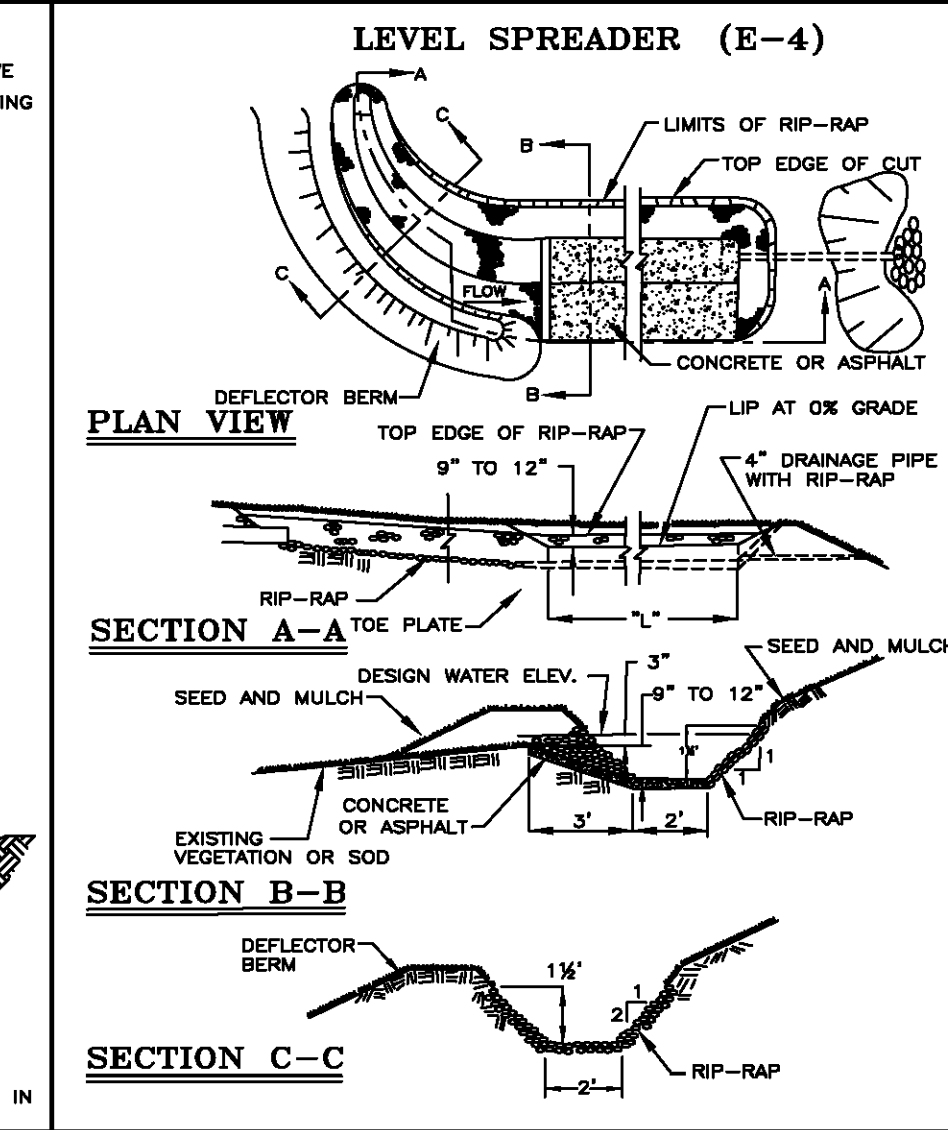
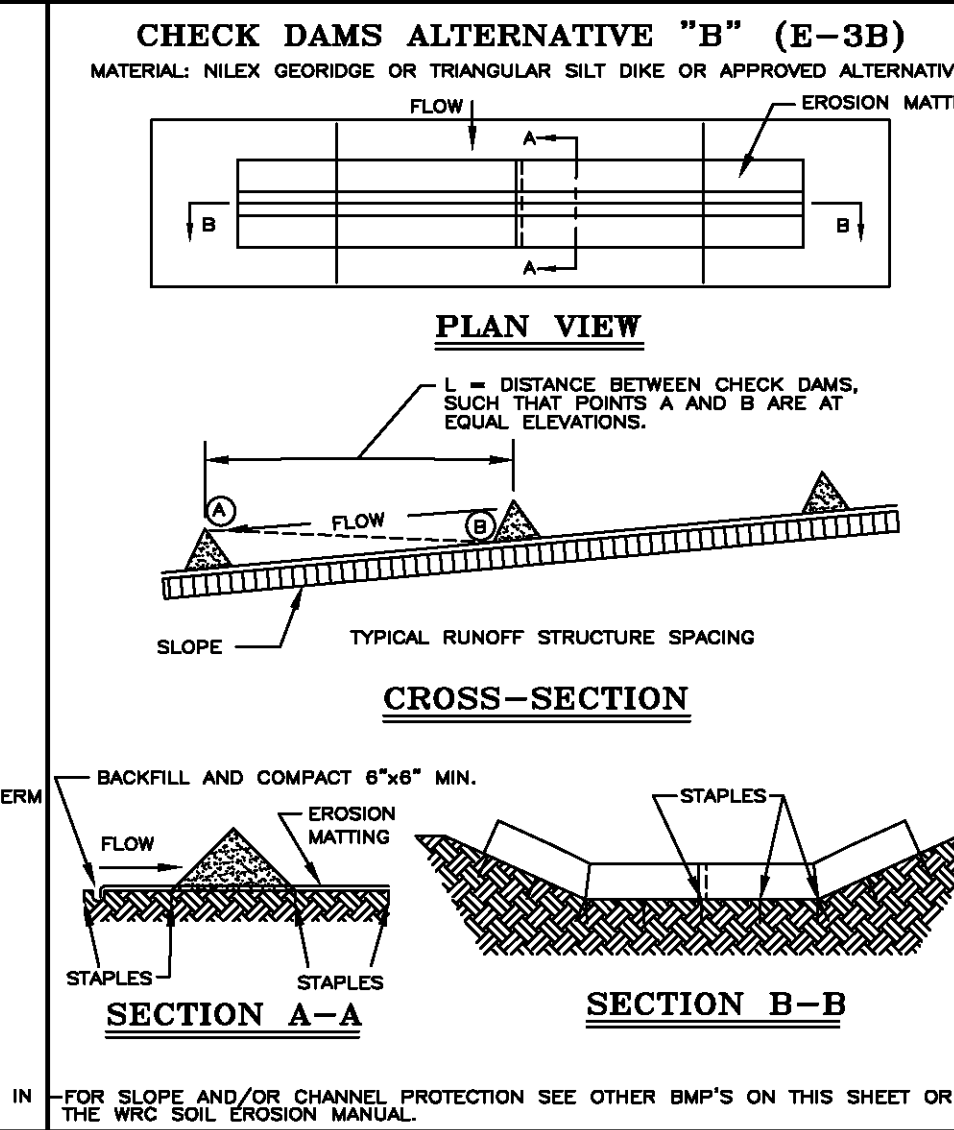
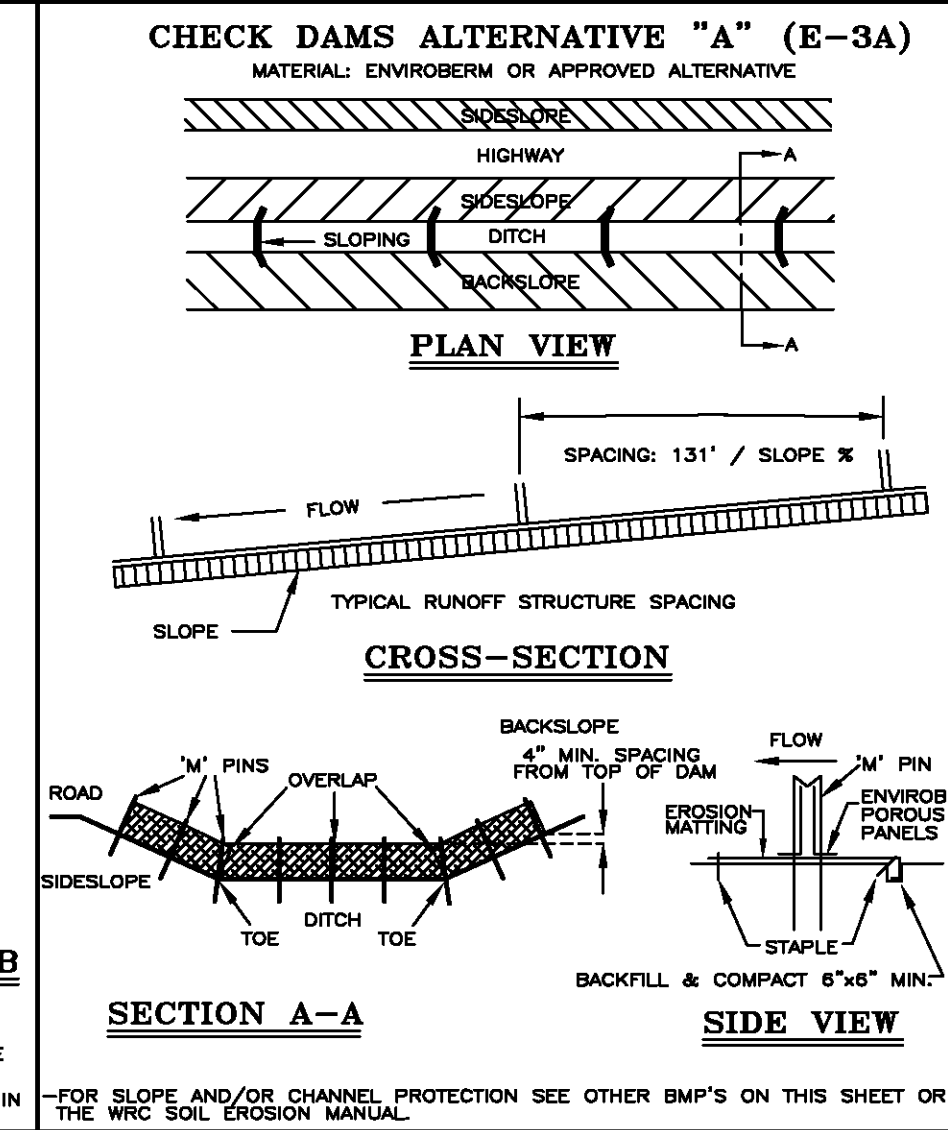
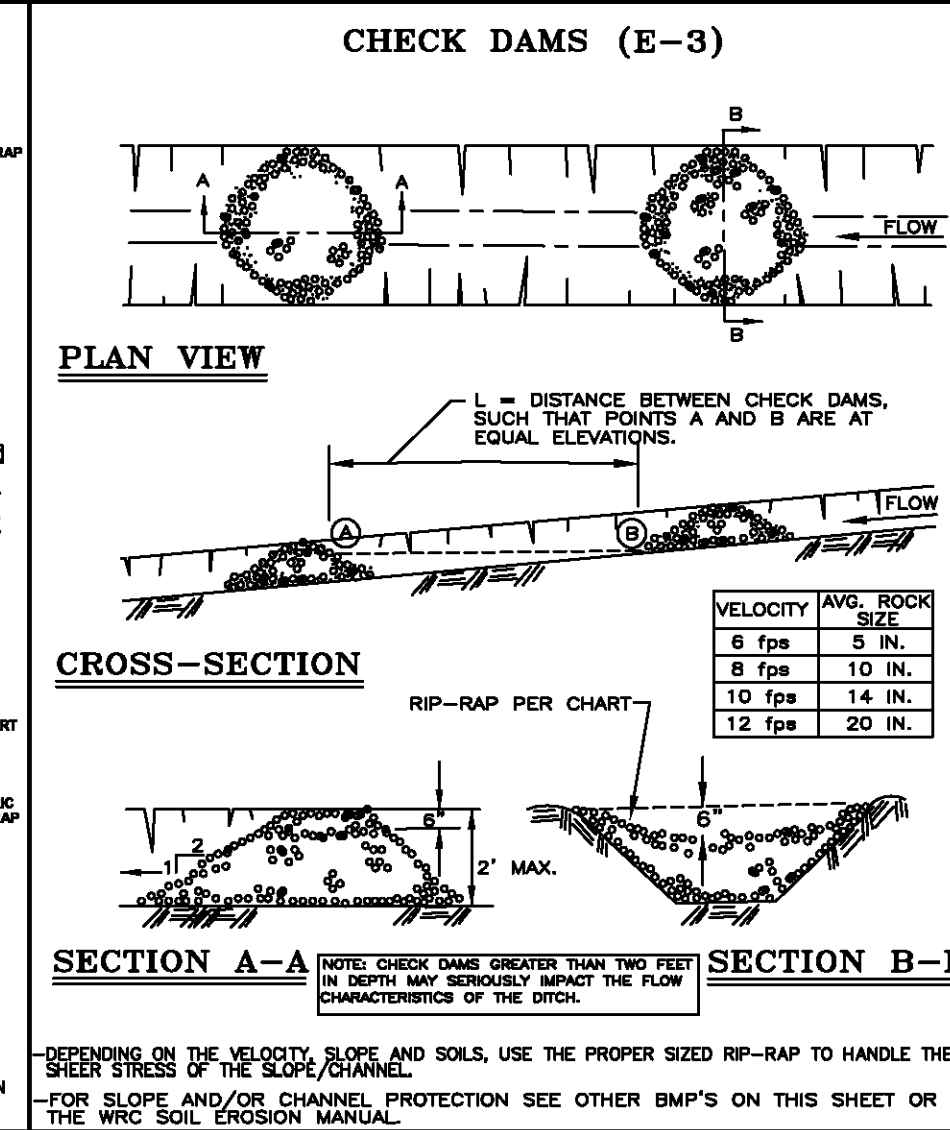
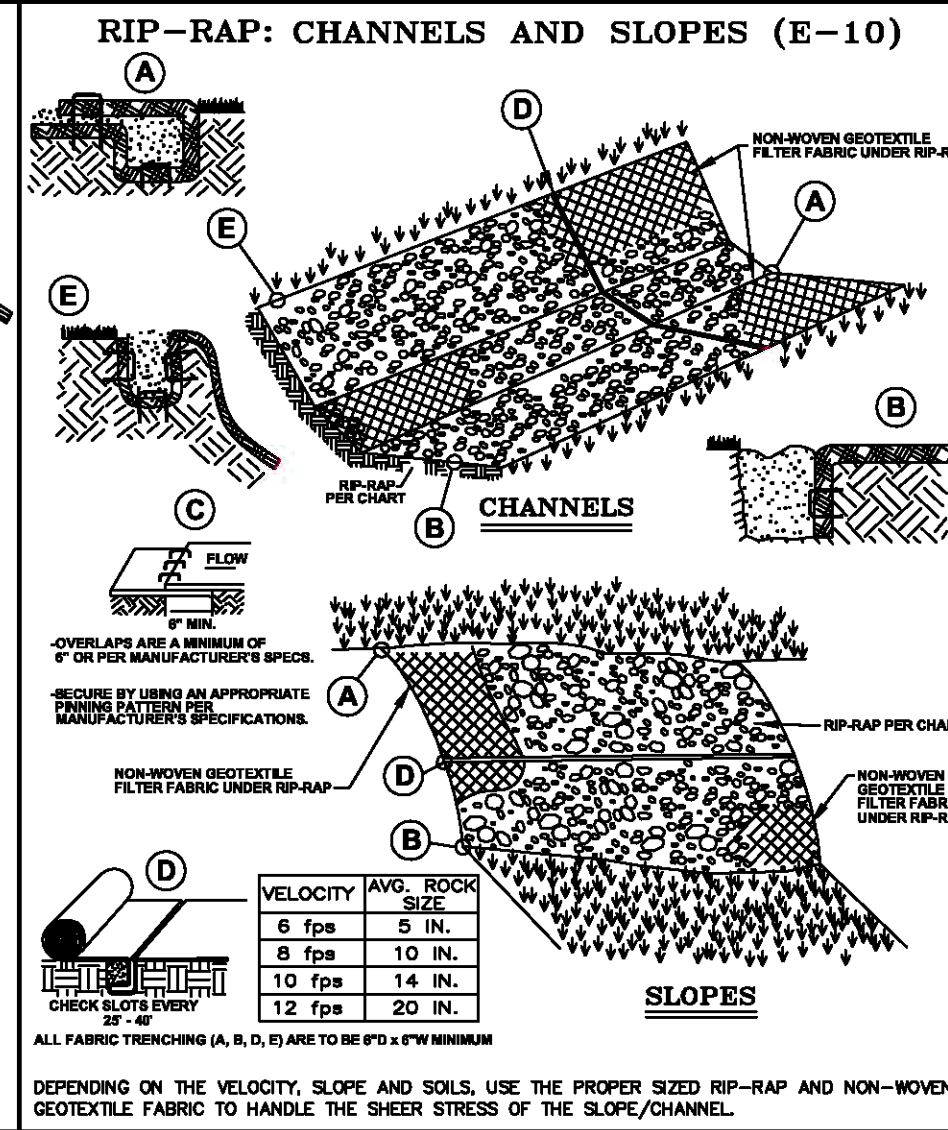
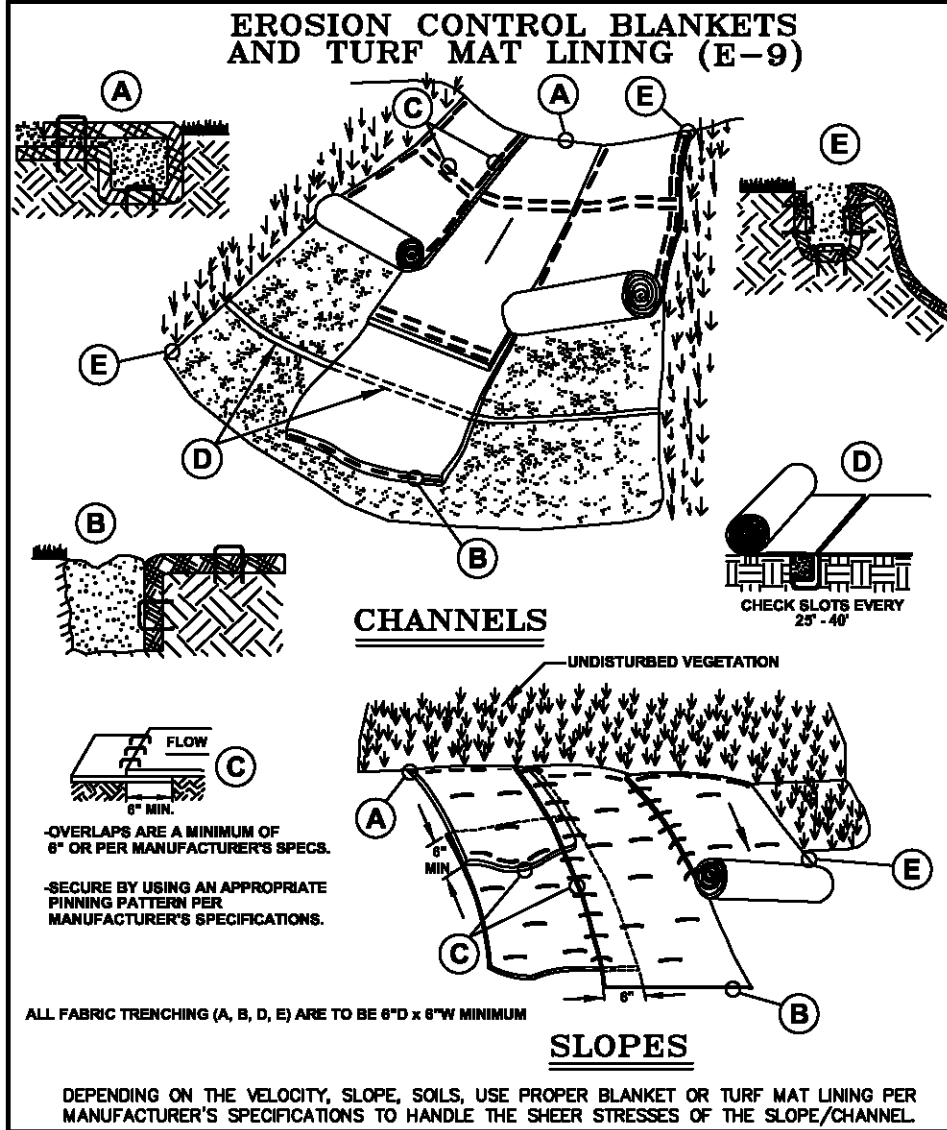


HOUSE LEAD DETAIL

REVISION BLOCK			
Parcel Base / Source Data: N/A			
Rev.	Rev.	Date:	Description:
1	DS	05/28/08	ADDED TESTING BULKHEAD WITH PIPE TAP DETAIL.
2	IZ	05/28/09	MOVED DETAILS FROM SHEET 1 ONTO SHEET 2
3	IZ	07/14/09	STANDARDS COMMITTEE APPROVAL FOR DETAIL CHANGES
4	DS	02/03/14	REPLACE/UPDATE CDDC WITH WRC FOR THE MANHOLE COVER DETAIL.

ORIG. DATE:	05-09-03	 <b>WRC</b> WATER RESOURCES COMMISSIONER <i>Jim Nash</i>	ONE PUBLIC WORKS DRIVE, BLDG 95 WEST
SCALE:	NO SCALE		WATERFORD, MICHIGAN
DESIGNED BY:	MWD		48328-1907
DRAWN BY:	Mapping Staff		
			SHEET NO.:
			2 of 2





**NOTE:**

WHILE PERFORMING WORK INVOLVING GROUNDS MAINTENANCE AND/OR THE CONSTRUCTION/MAINTENANCE OF ANY INFRASTRUCTURE, INCLUDING ROADS, WATER MAINS, SANITARY SEWERS, STORM DRAINS AND STORM WATER BEST MANAGEMENT PRACTICES (BMPs), CONTRACTORS SHALL MINIMIZE POLLUTION FROM STORM WATER RUNOFF THAT CAN AFFECT WATER QUALITY RELATED TO WORK ACTIVITIES. POLLUTANTS THAT COULD IMPAIR WATER QUALITY MAY INCLUDE FUEL, GREASE AND OIL, NUTRIENTS, BACTERIA AND PATHOGENS, LITTER AND DEBRIS, AND SOIL EROSION AND SEDIMENTATION. APPLICABLE BMPs SHALL BE IMPLEMENTED BY THE CONTRACTOR TO THE MAXIMUM EXTENT PRACTICABLE TO PROTECT WATER QUALITY AND WILDLIFE HABITAT.

**SOIL EROSION AND SEDIMENTATION CONTROL DETAILS**

REVISION BLOCK

Rev.	By	Date	Description
1	WRC	01/01/01	PROPOSED DETAIL
2	WRC	01/01/01	STANDARD DETAIL
3	WRC	01/01/01	STANDARD DETAIL
4	WRC	01/01/01	STANDARD DETAIL
5	WRC	01/01/01	STANDARD DETAIL

ORIG. DATE: 01/01/01

SCALE: NONE

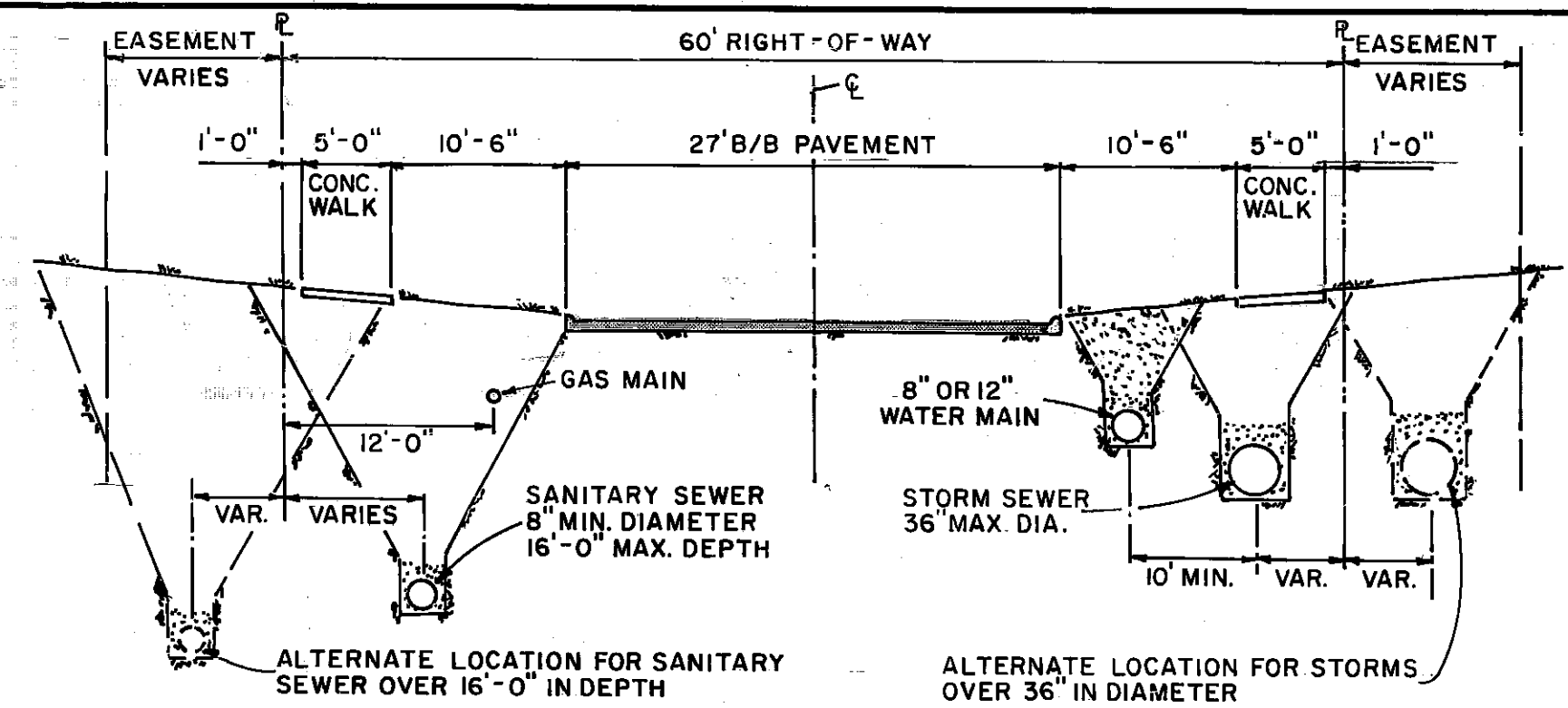
DESIGNED BY: WRC

DRAWN BY: Mapping

ONE PUBLIC WORKS DRIVE, SUITE 100 WEST WATERSFORD, MICHIGAN 48382-1907

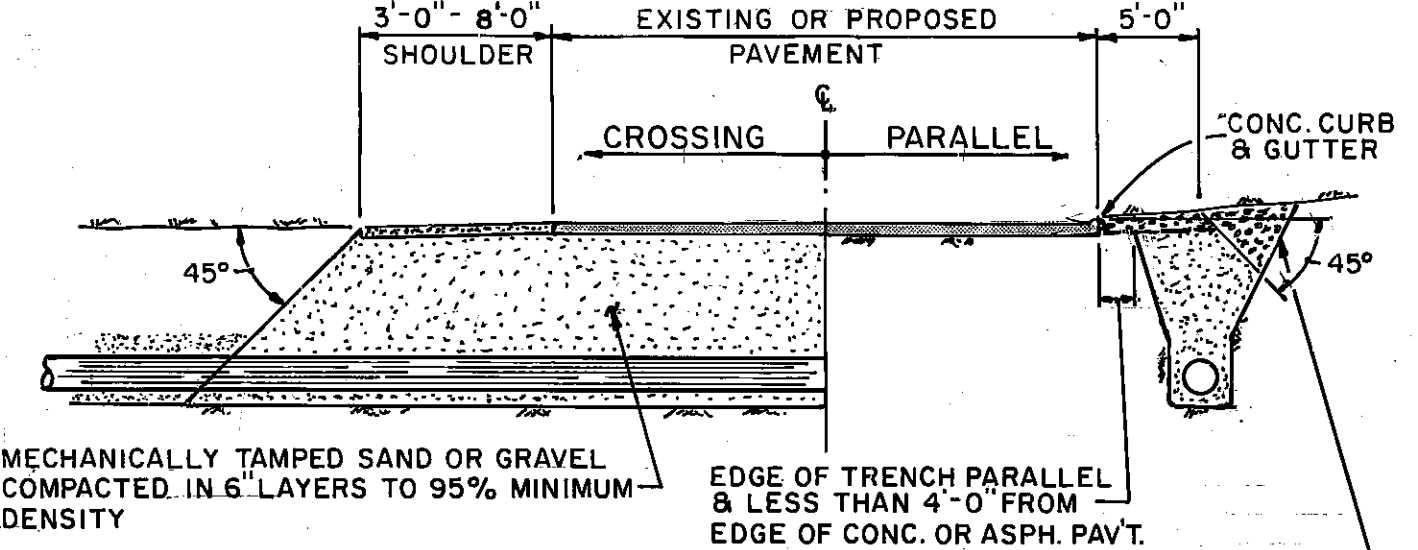
SHEET NO: 1 of 1



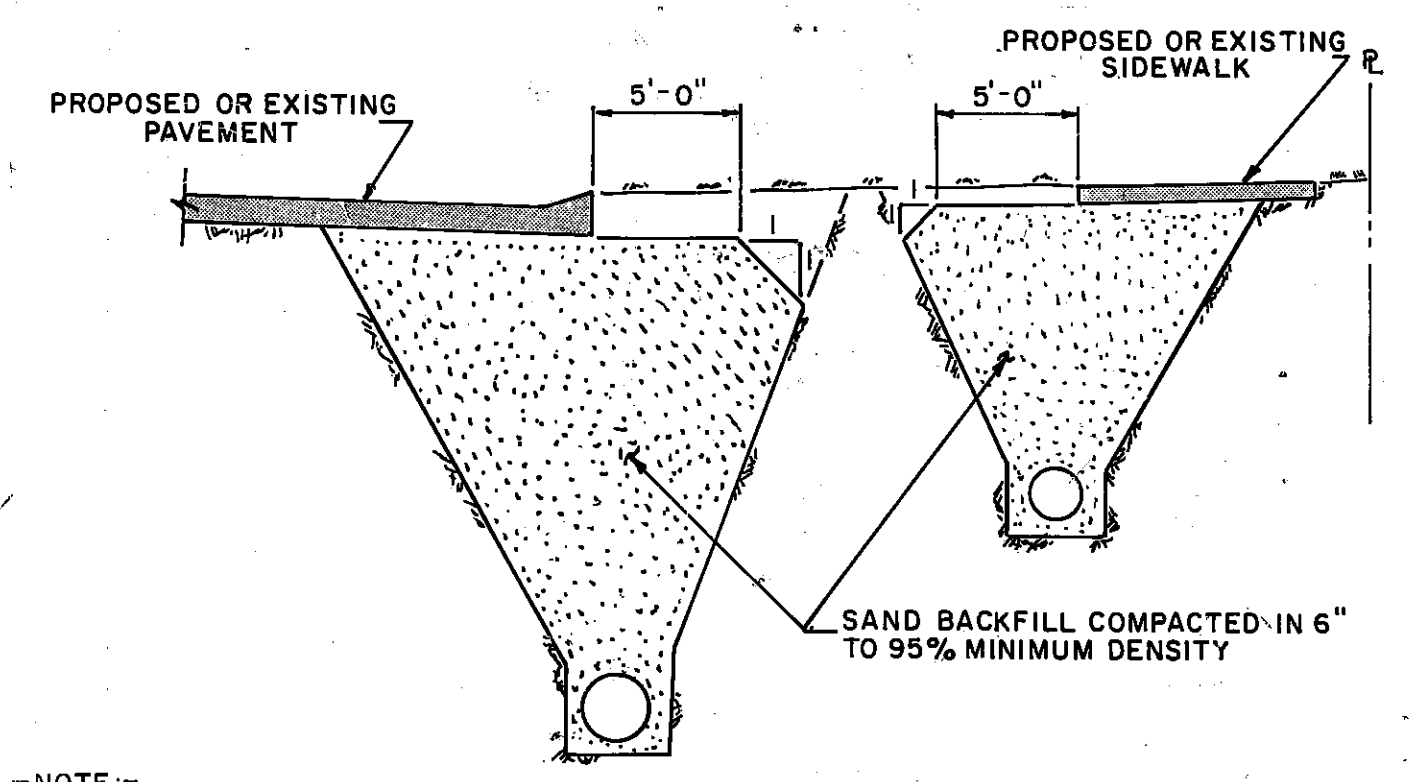


### TYPICAL SECTION FOR SUBDIVISION LOCAL RD. R.O.W.

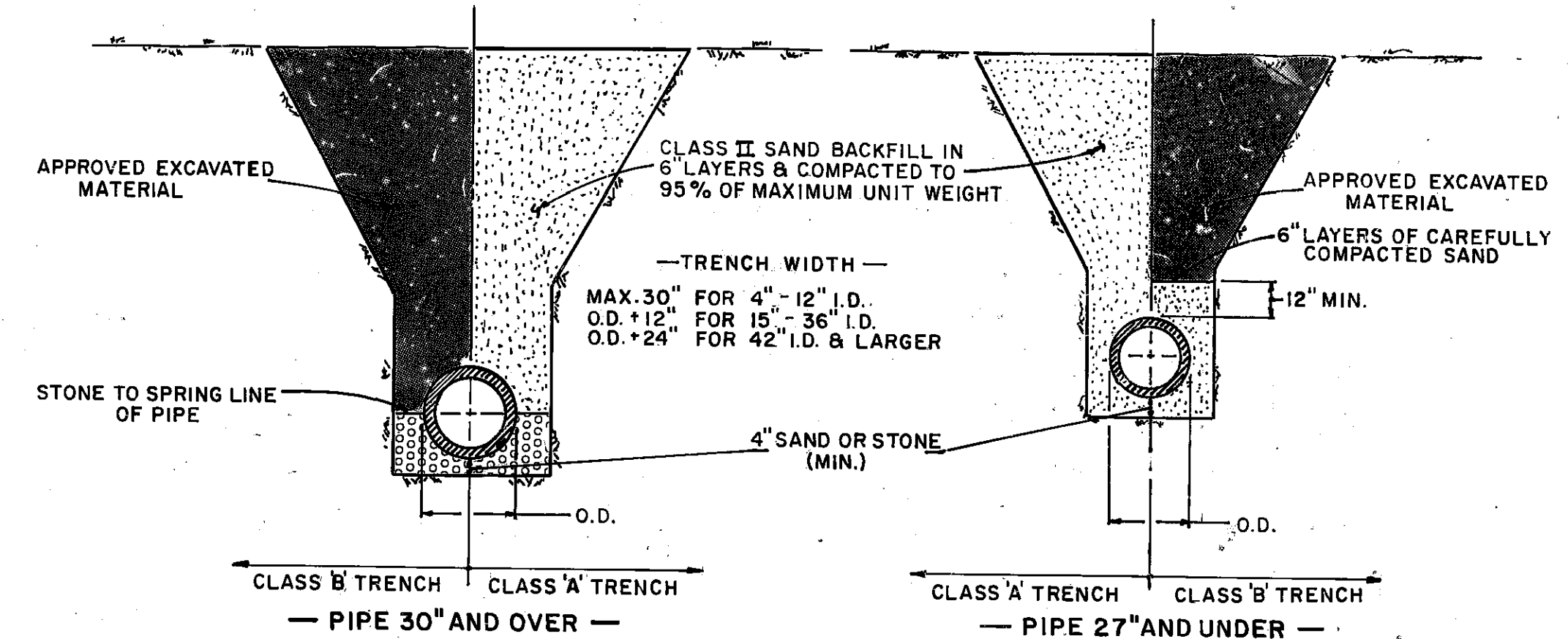
MINIMUM SAND OR GRAVEL BACKFILL UNDER EX. OR PROP. PAVEMENTS, SIDEWALKS, DRIVEWAYS AND PARKING LOTS



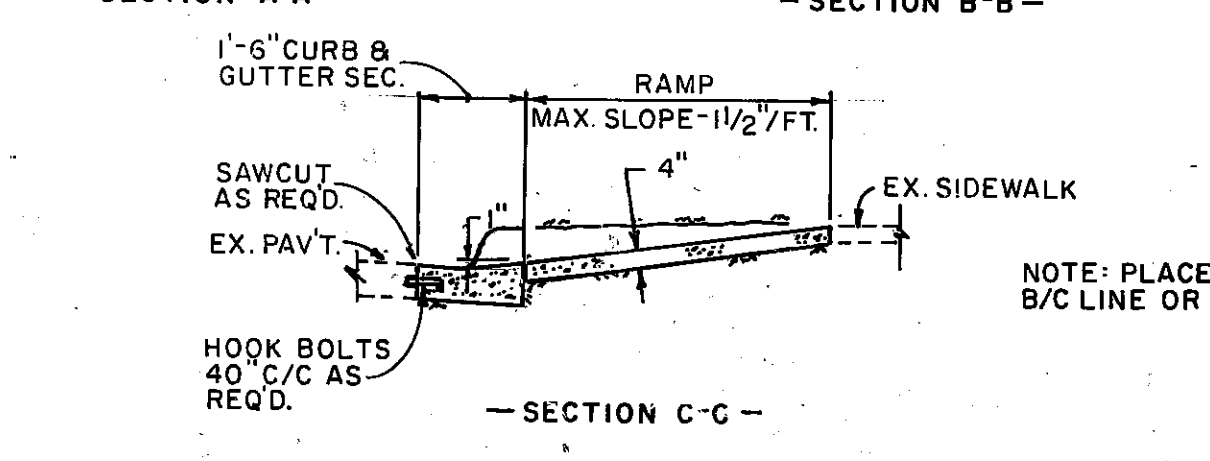
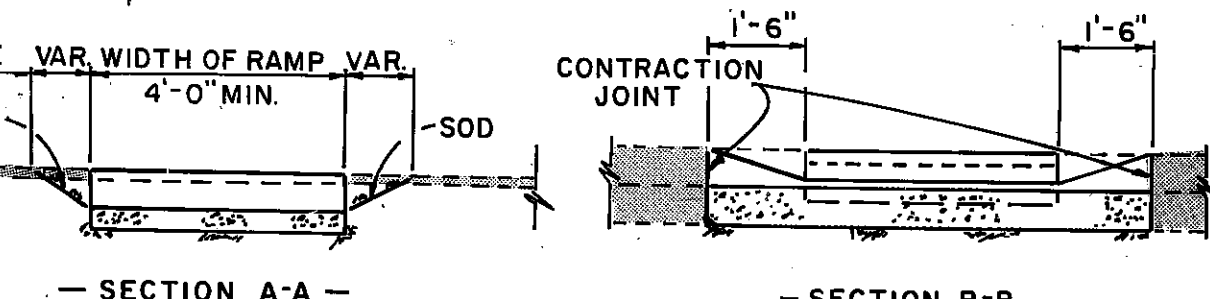
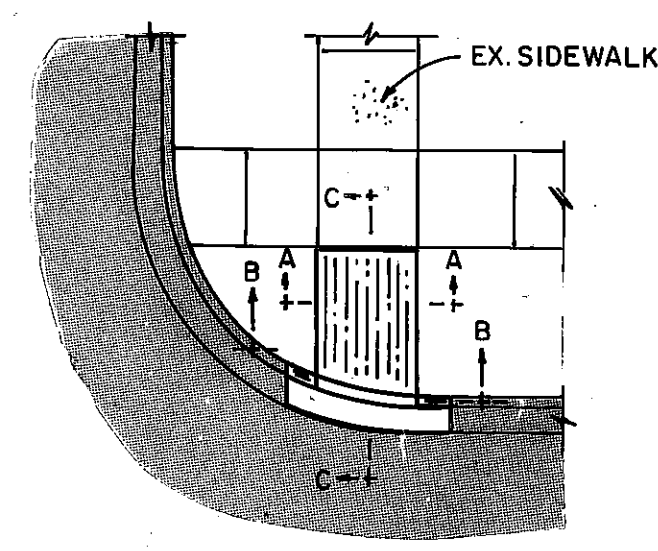
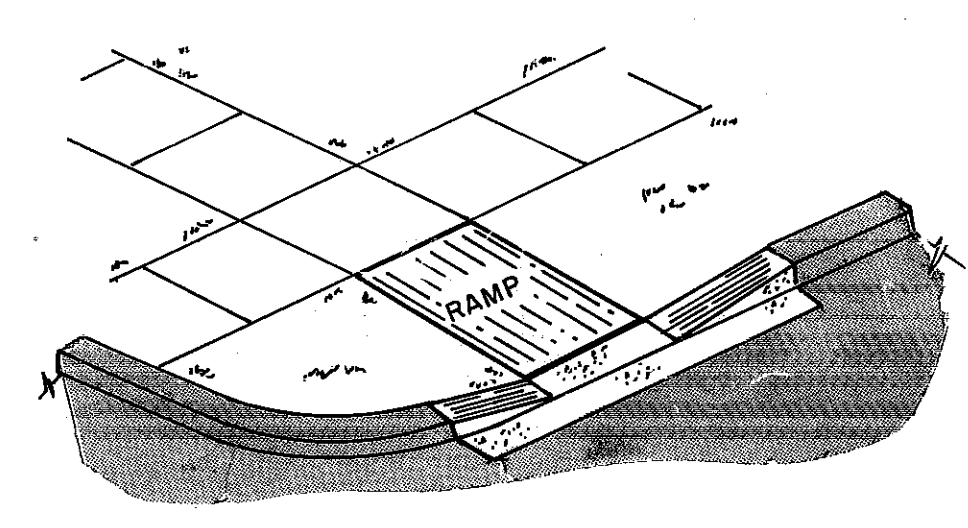
### SAND BACKFILL DETAIL



### SAND BACKFILL UNDER PAVED AREAS

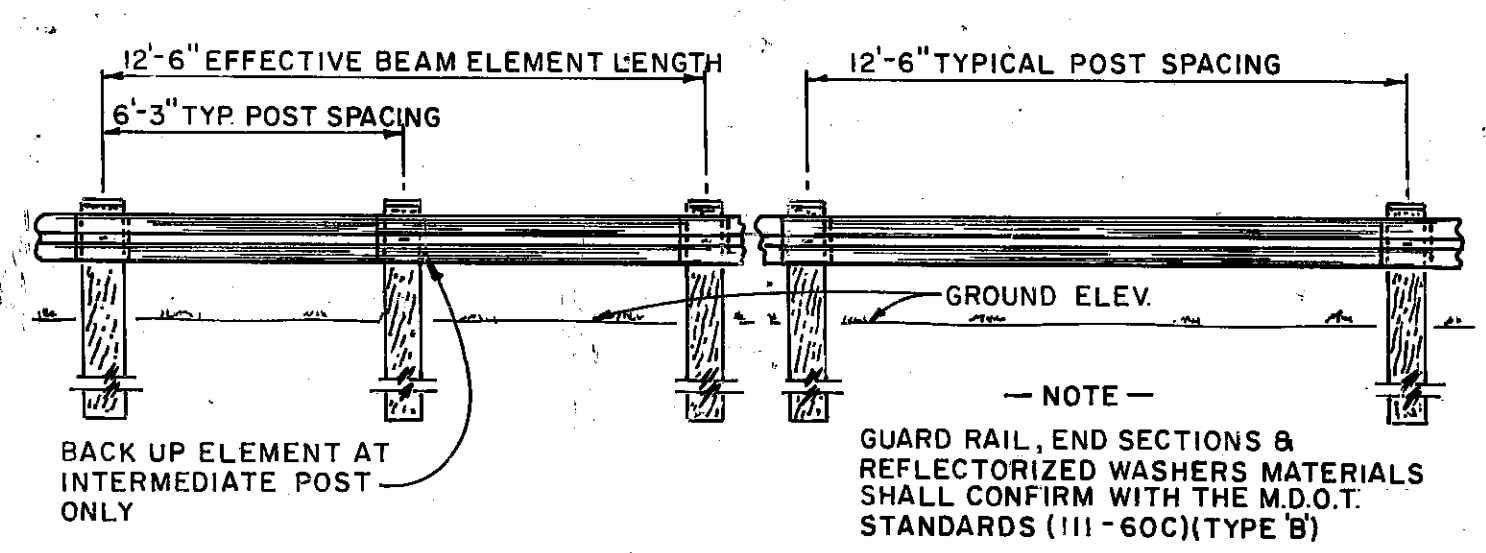


### SEWER PIPE TRENCH DETAILS

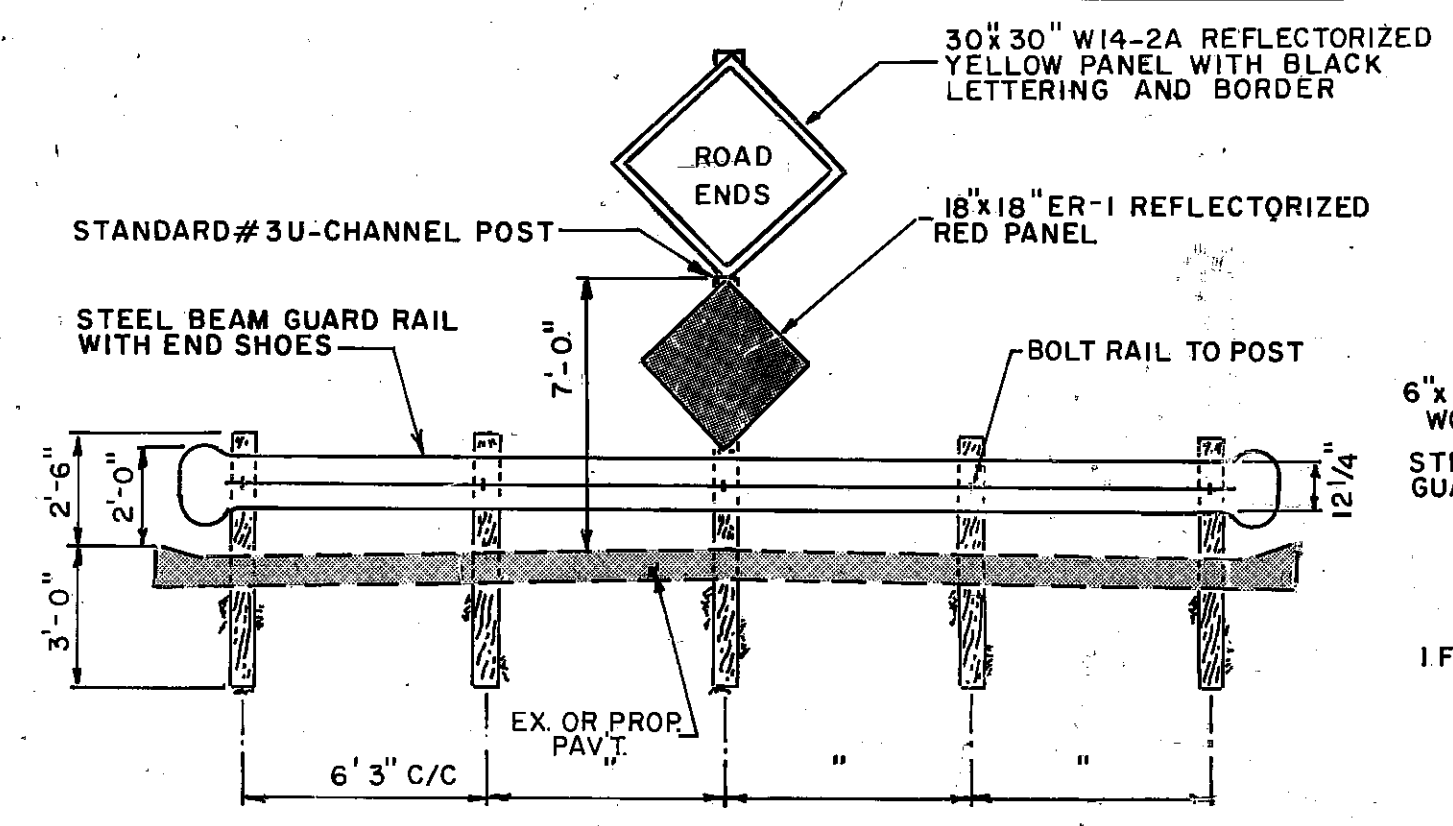


### TYPE 1-A

### SIDEWALK RAMPS

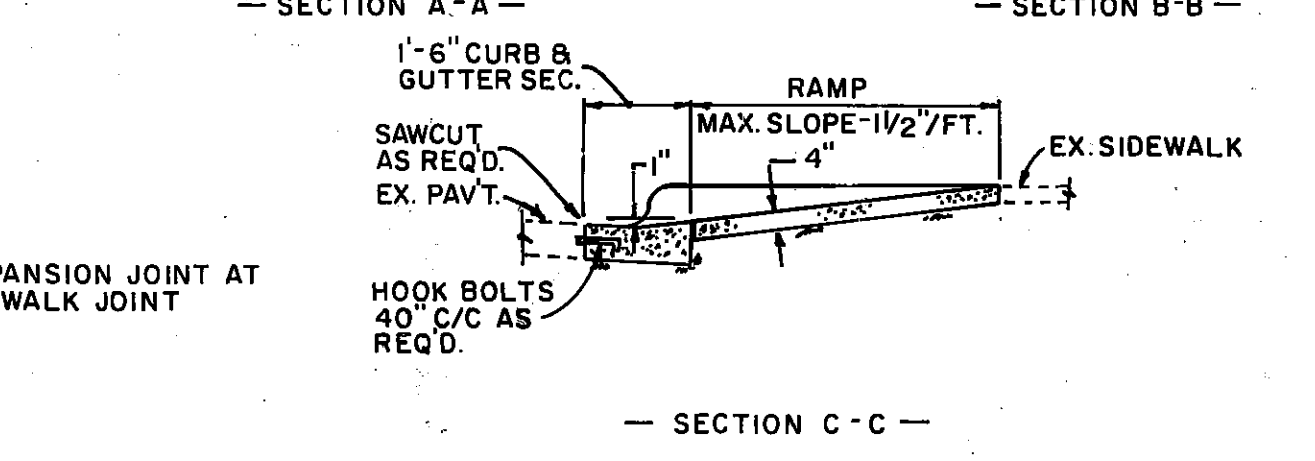
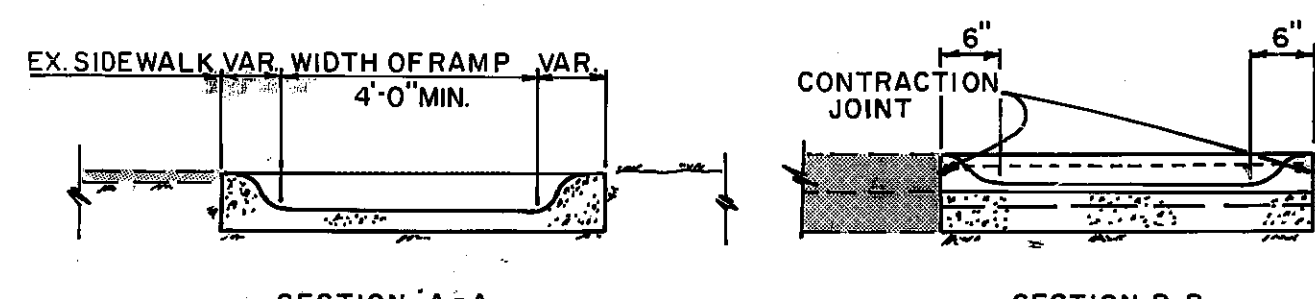
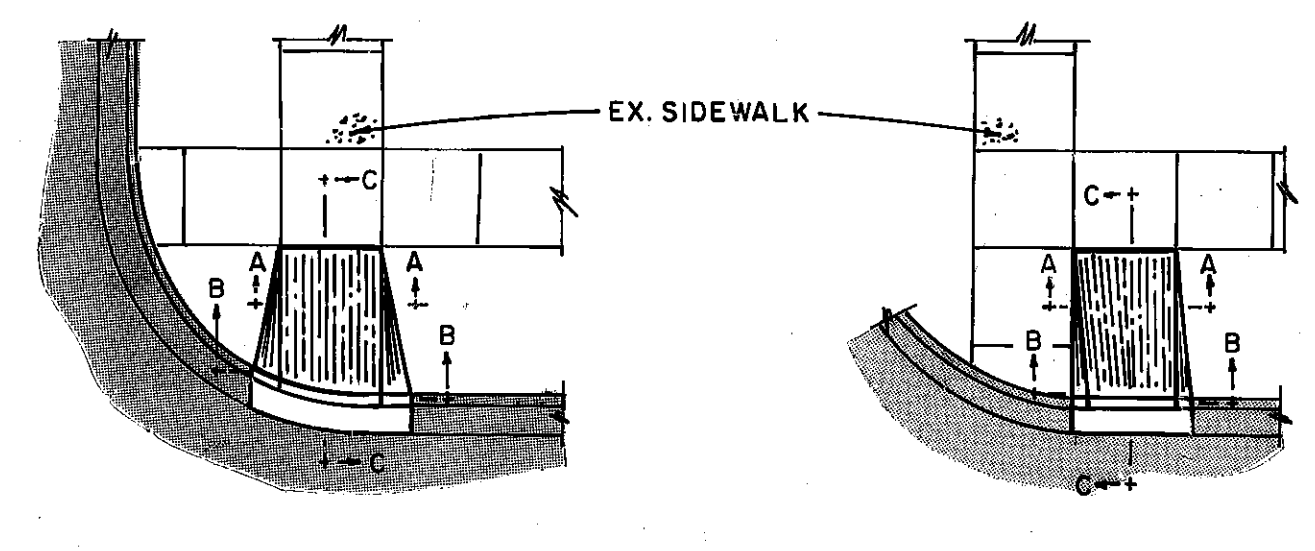
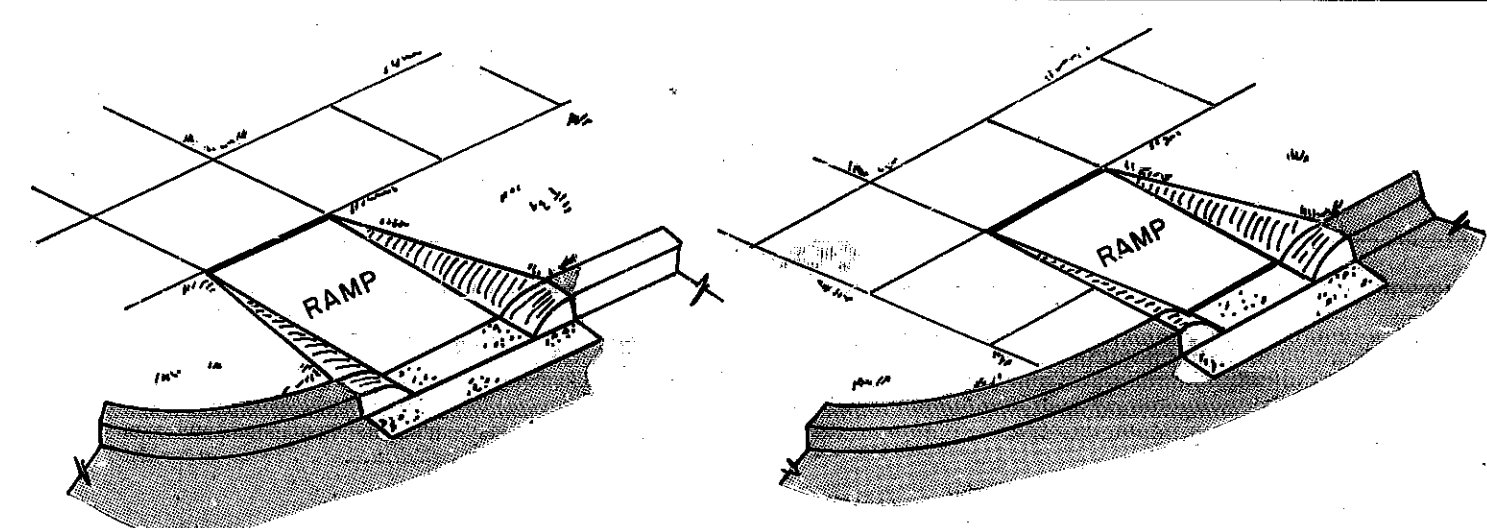


### BEAM GUARD RAIL - TYPE 'B'



- NOTE-  
1. W6x9 STEEL POST MAY REPLACE WOOD POSTS  
2. CHANNEL TO BE BOLTED TO POSTS  
3. GUARD RAIL AND FITTINGS TO CONFORM TO M.D.O.T. STANDARDS

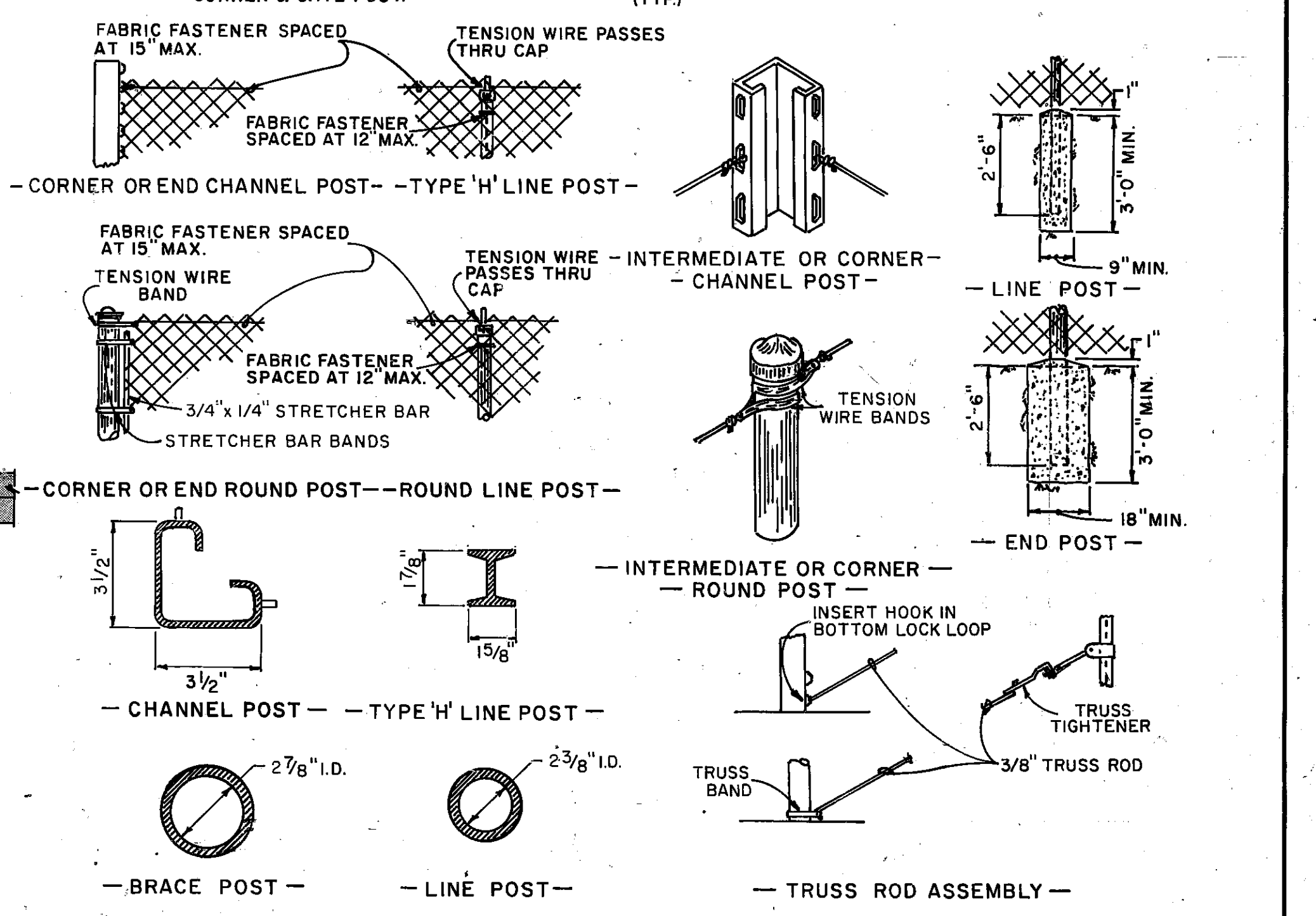
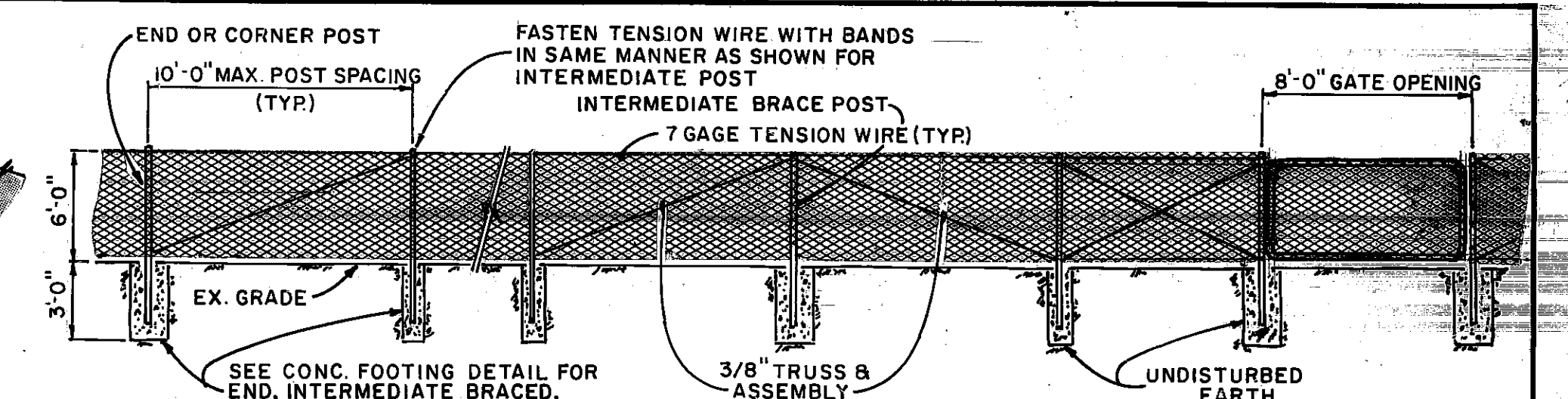
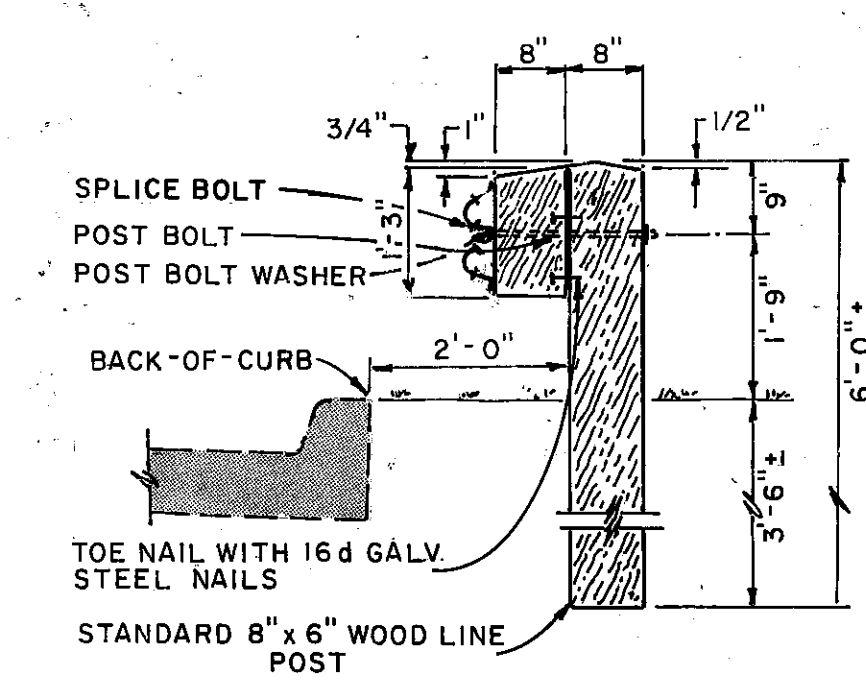
### ROAD END STEEL BEAM GUARD RAIL & SIGNING



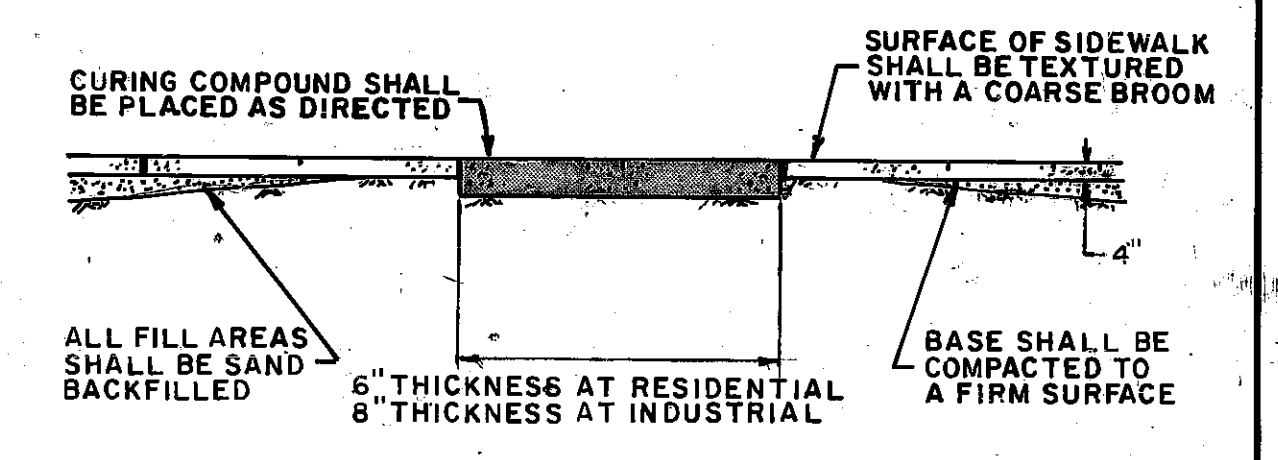
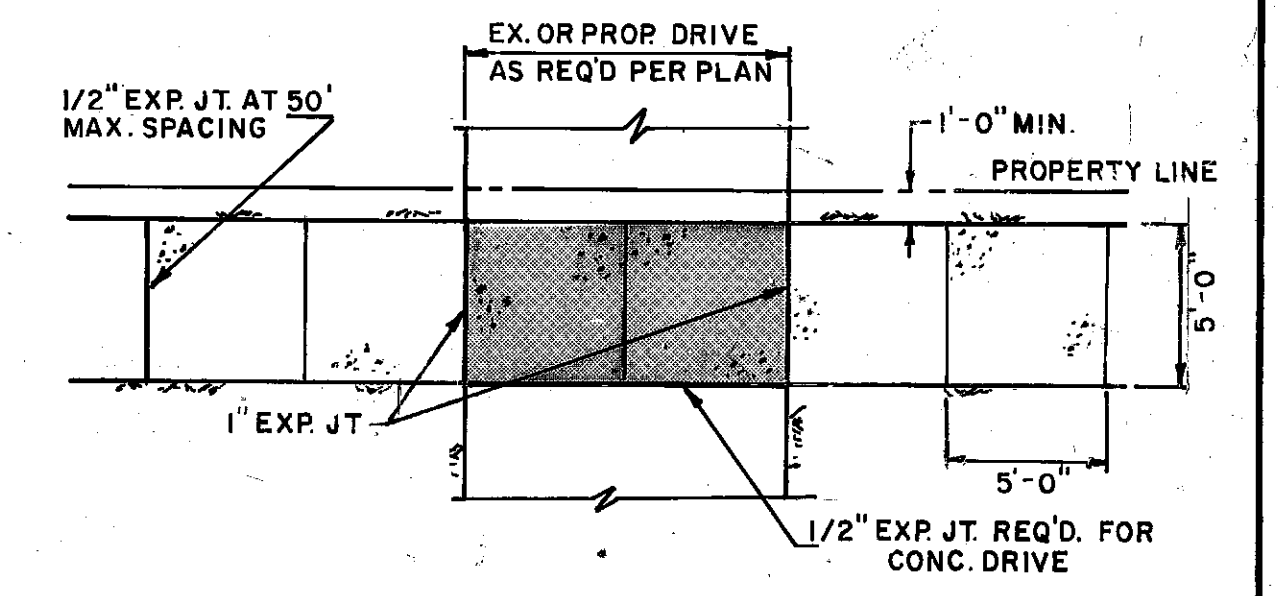
### SECTION C-C

### TYPE 1

### TYPE 2

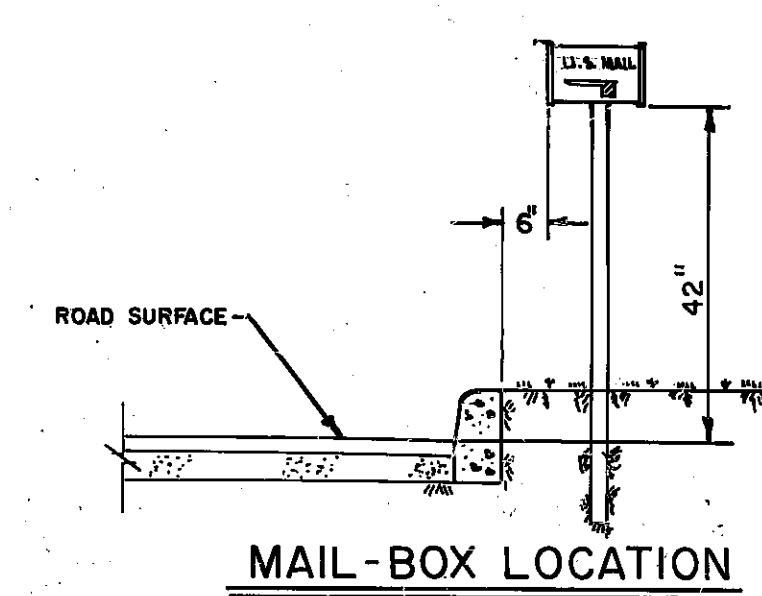


### CHAIN LINK FENCE AND POST CONSTRUCTION



### SIDEWALK PLACEMENT DETAIL

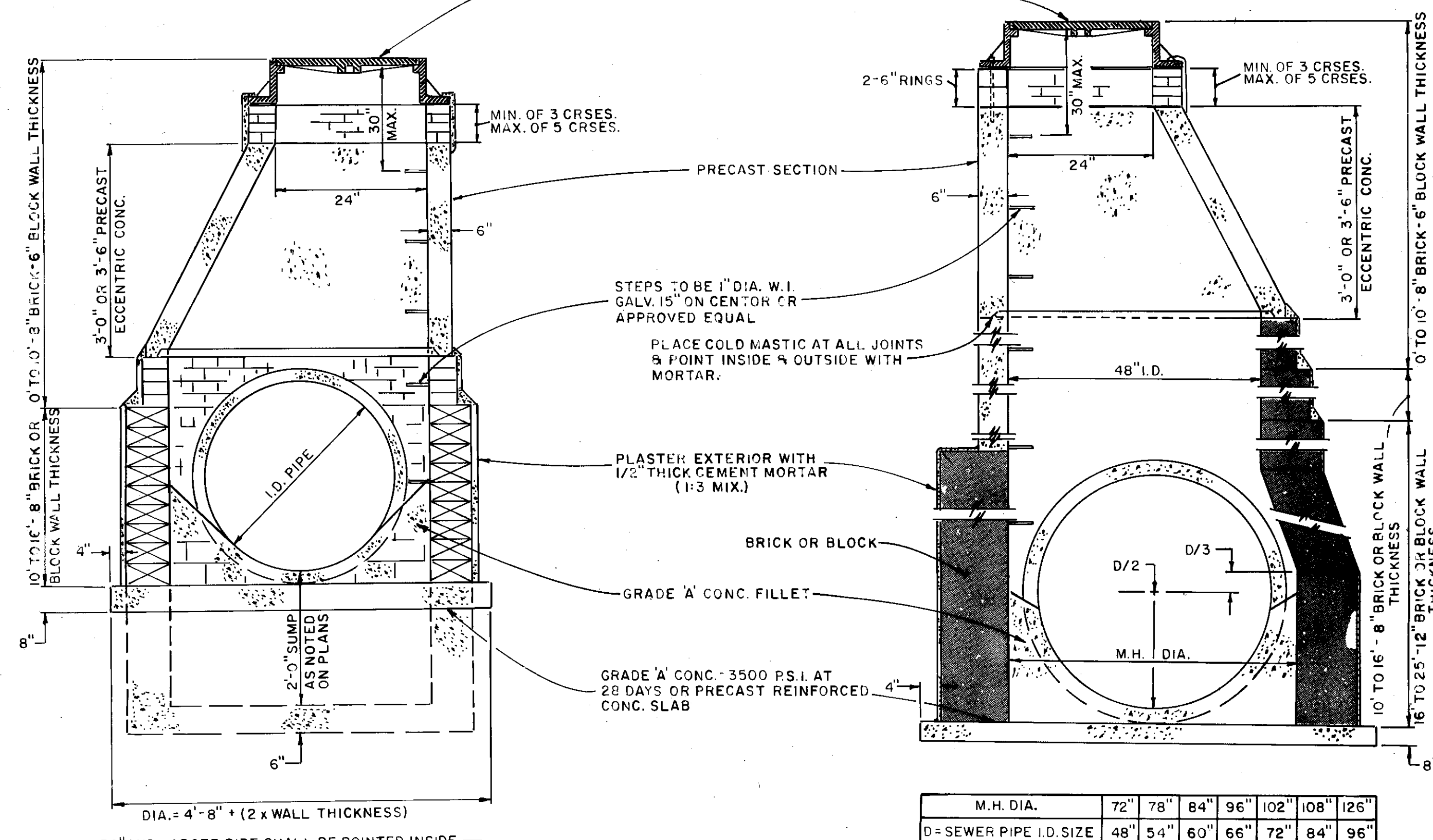
### PAVEMENT REPLACEMENT



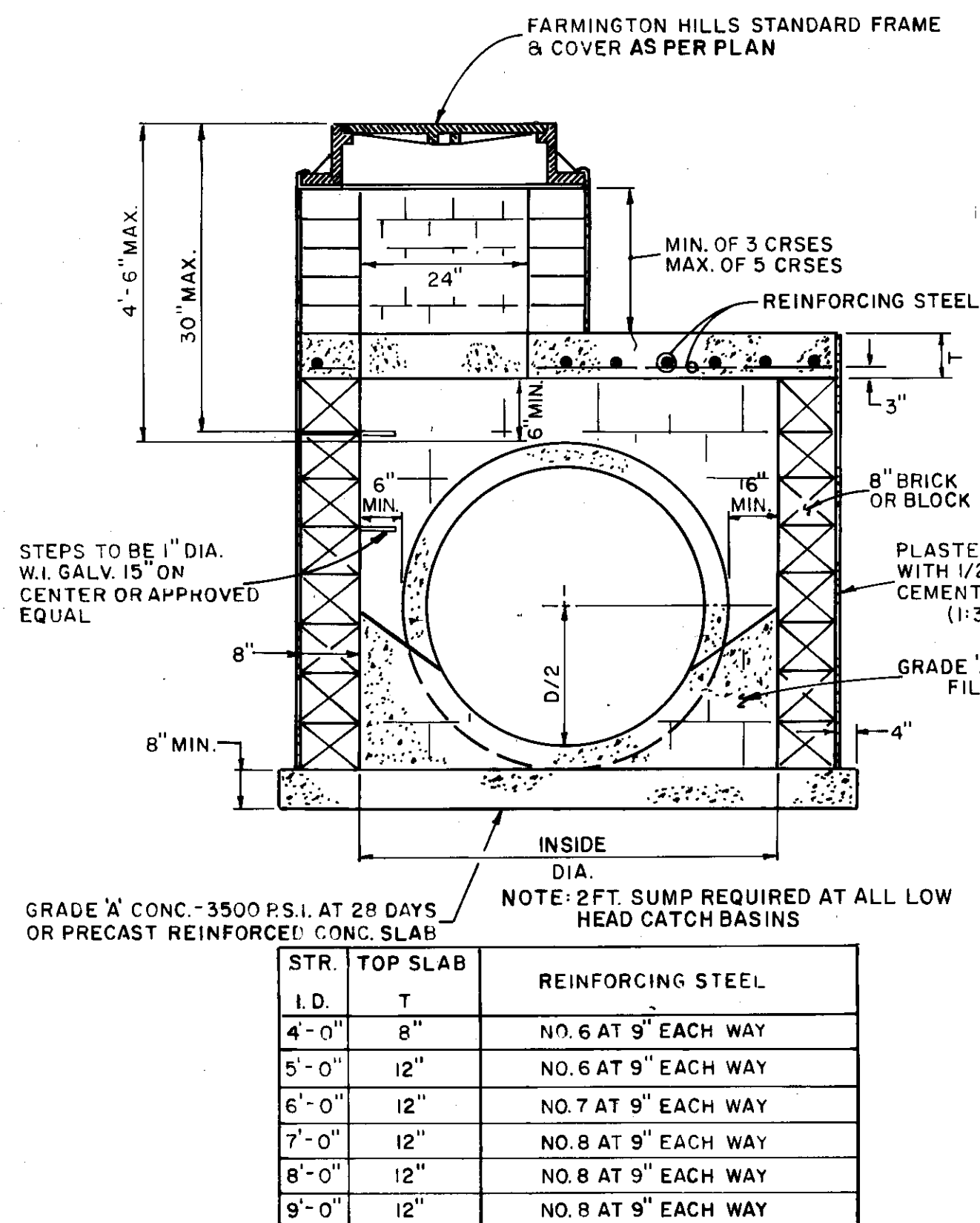
- NOTE-  
1. HEIGHT OF MAILBOX IS 42" FROM SURFACE OF ROAD.  
2. ON ROADS WITH GRAVEL SHOULDERS LOCATE FACE OF MAILBOX 6" FROM EDGE OF SHOULDER.  
3. ON ROADS WITH SOD SHOULDERS LOCATE FACE OF MAILBOX 6" FROM EDGE OF PAVEMENT  
4. ROADS WITH CURBS, LOCATE FACE OF MAILBOX 6" FROM BACK OF CURB.

DATE		REVISION	
CITY OF FARMINGTON HILLS OAKLAND COUNTY, MICHIGAN <b>GENERAL STANDARDS</b>			
MISCELLANEOUS		JOB NO.	
ENGINEERING DIVISION		STATE OF MICHIGAN	
SCALE: HORIZ. NONE	VERT. NONE	JAMES CUBERA ENGINEER No. 26435	
FIELD BOOK:	PAGE:	APPROVED: DATE:	
DRAWN: RUSSIK	DATE: MAR 80	DIRECTOR OF PUBLIC SERVICES	
CHECKED:	DATE:	SHEET 1 OF 1	



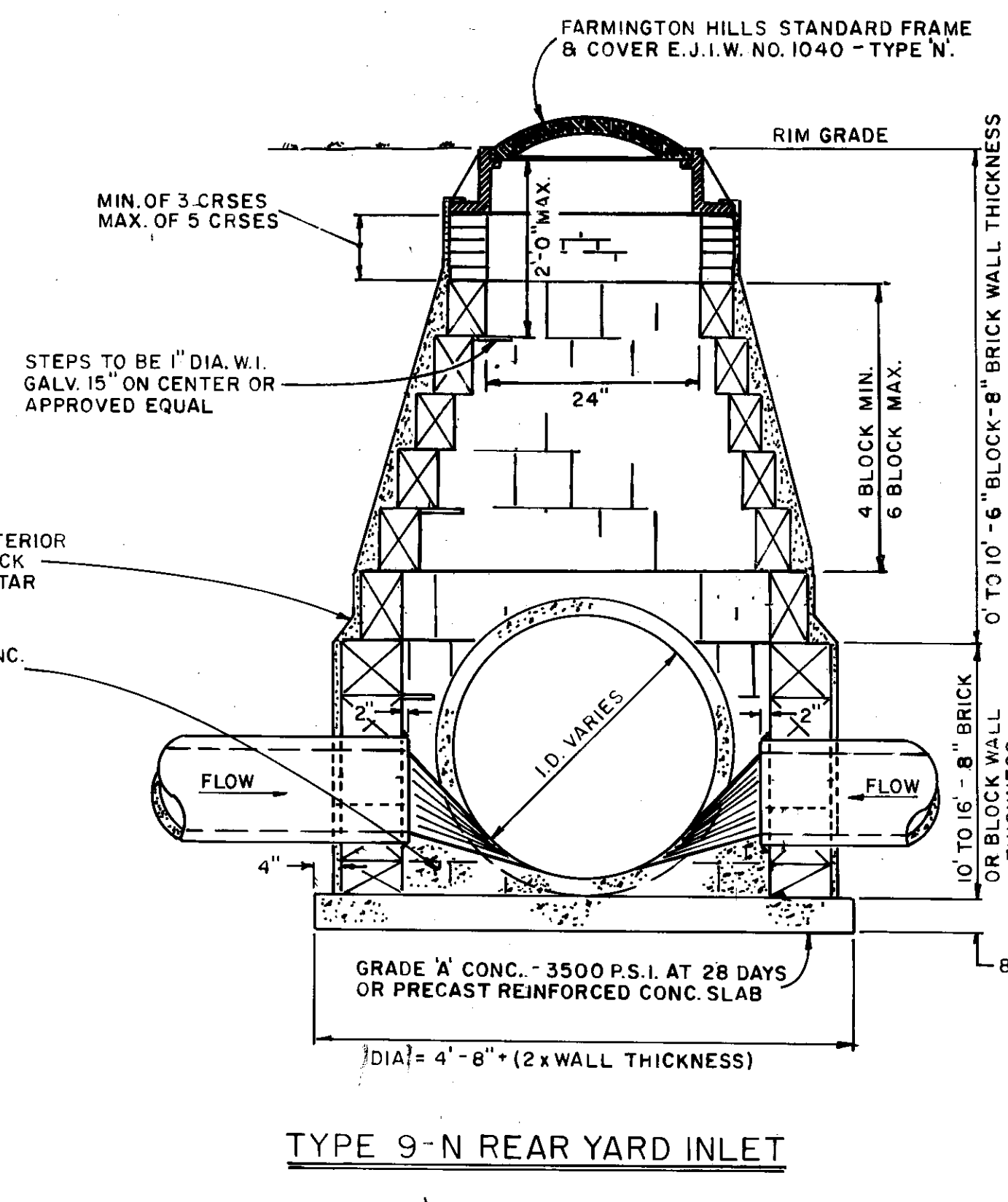


STORM MANHOLE FOR 42" PIPE AND UNDER

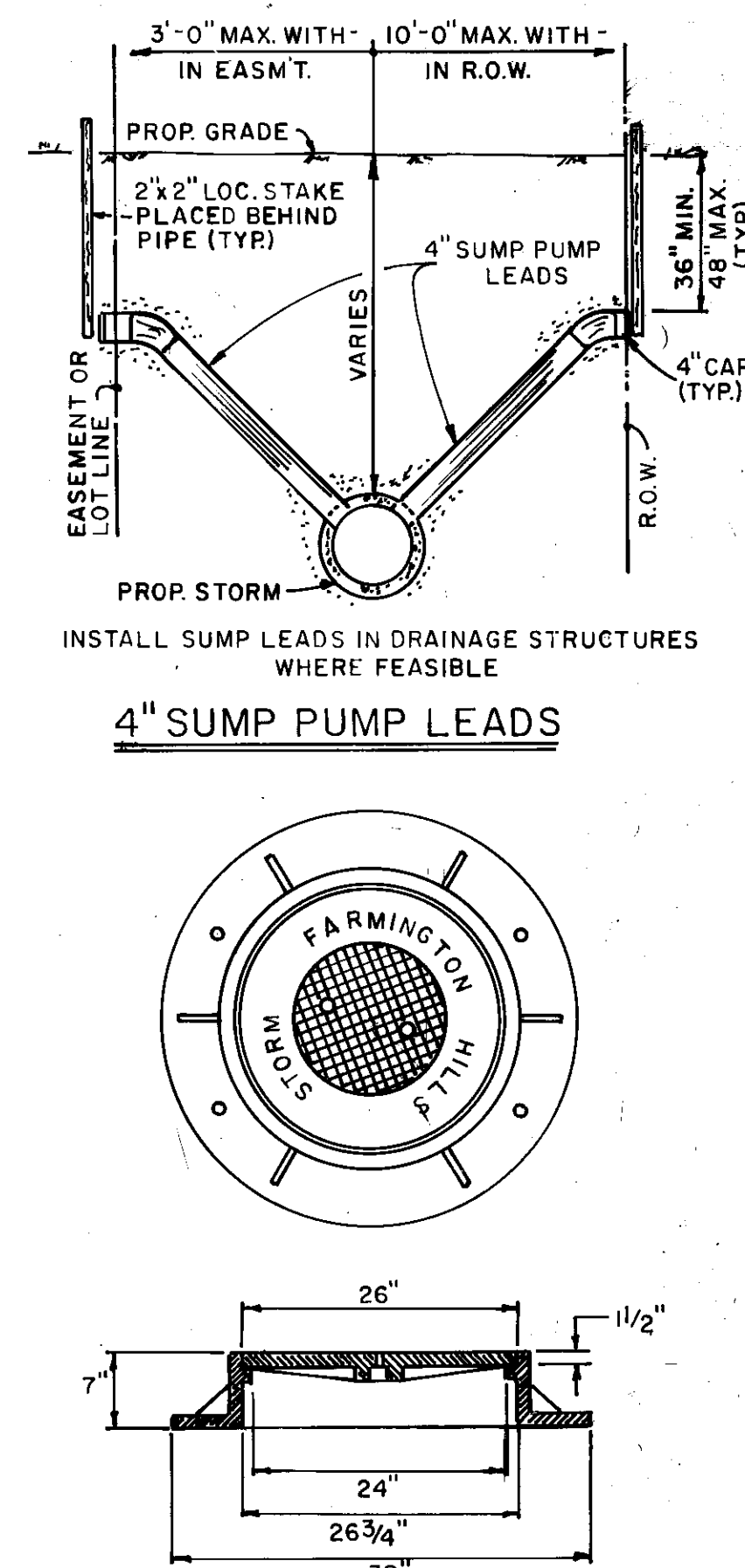


## LOW HEAD STORM SEWER STRUCTURE

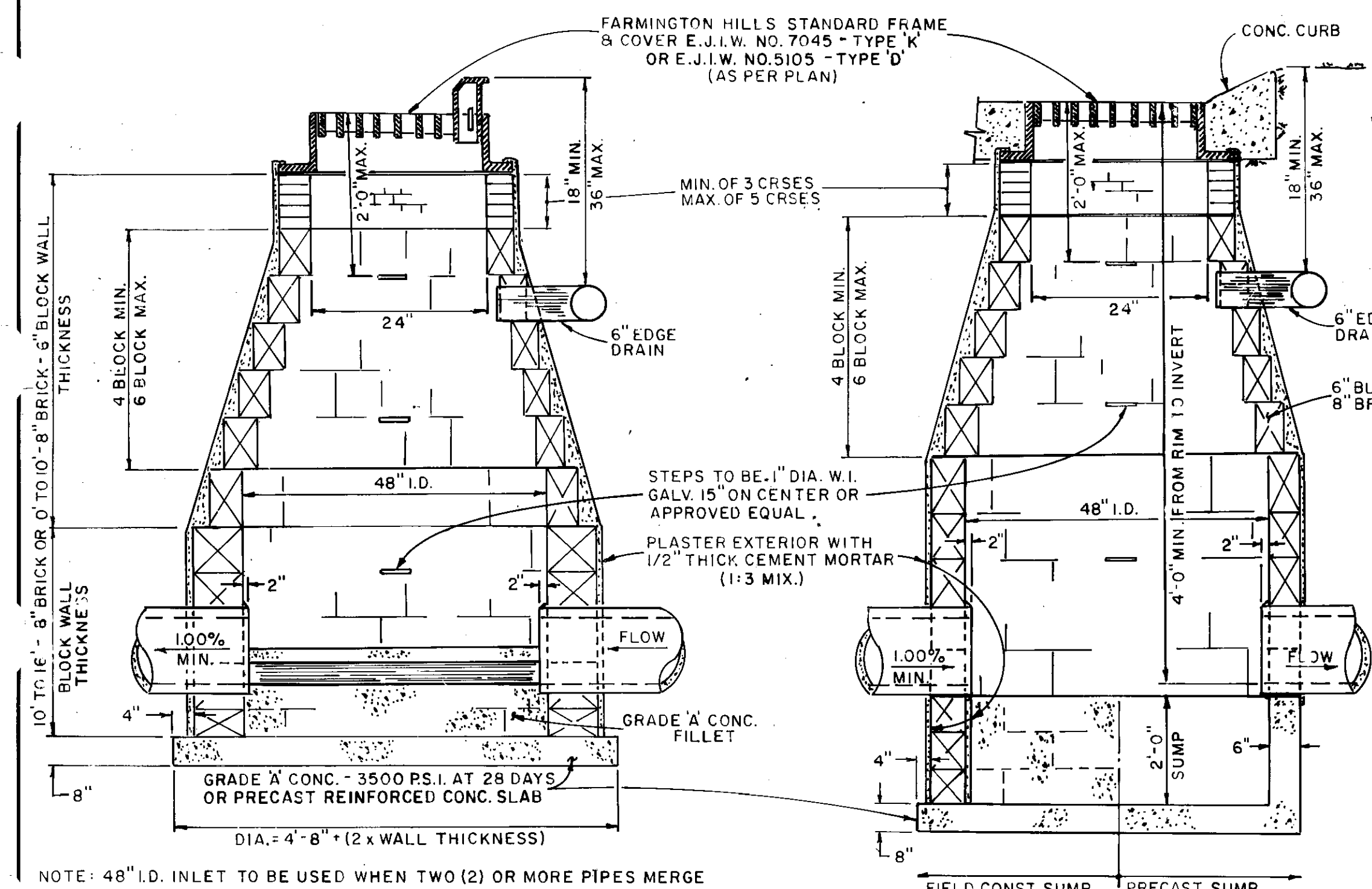
STR.	TOP SLAB	REINFORCING STEEL
I.D.	T	
4'-0"	8"	NO. 6 AT 9" EACH WAY
5'-0"	12"	NO. 6 AT 9" EACH WAY
6'-0"	12"	NO. 7 AT 9" EACH WAY
7'-0"	12"	NO. 8 AT 9" EACH WAY
8'-0"	12"	NO. 8 AT 9" EACH WAY
9'-0"	12"	NO. 8 AT 9" EACH WAY



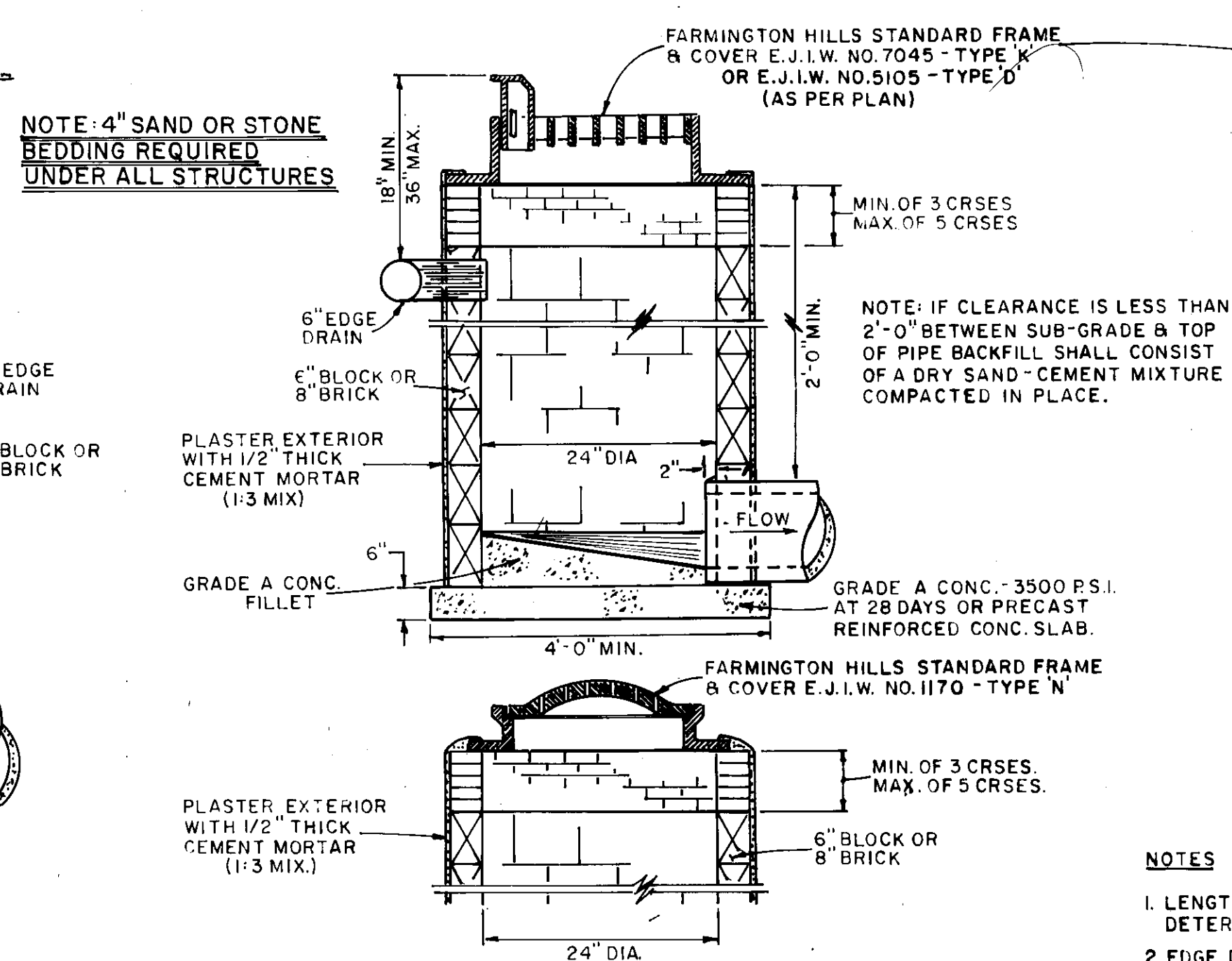
TYPE 9-N REAR YARD INLET



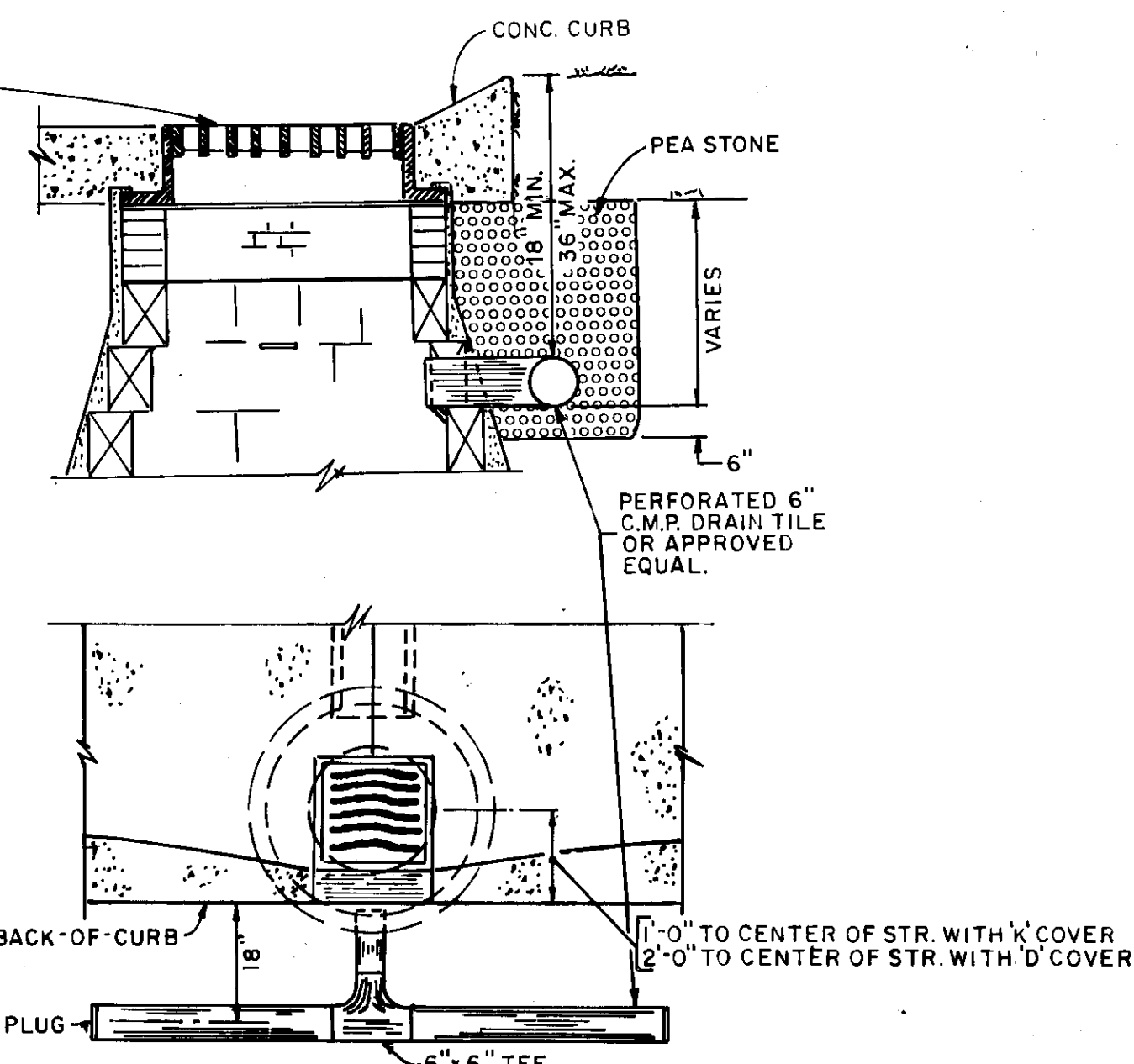
STORM SEWER FRAME & COVER E.J.I.W. NO. 1040  
— MANHOLE 'C' COVER —



TYPE 9 — INLET

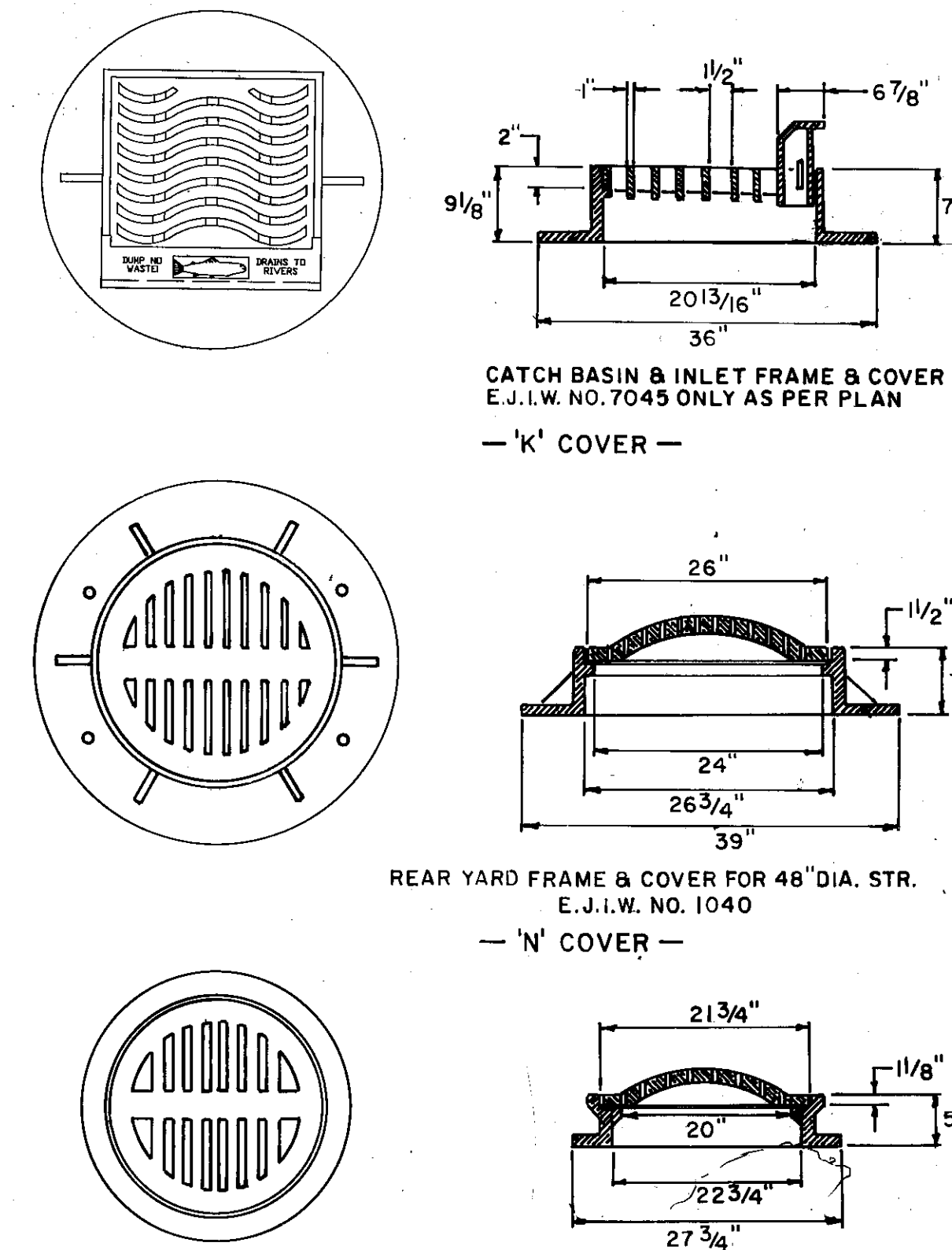


TYPE 12 - INLET

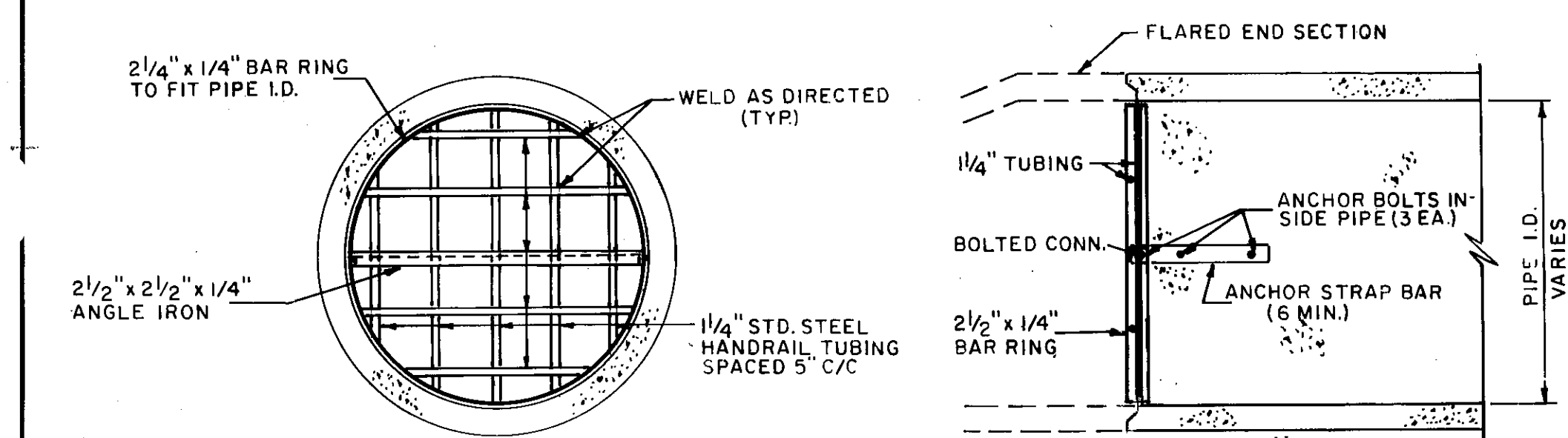


6" EDGE DRAIN

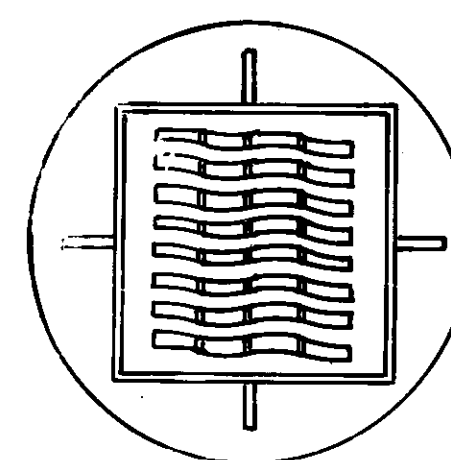
- NOTES**
1. LENGTH OF 6" EDGE DRAIN TO BE 10 FT. EA. WAY UNLESS OTHERWISE DETERMINED BY THE FIELD ENGINEER.
  2. EDGE DRAIN SHALL BE INSTALLED AT ALL CATCH BASINS & INLETS
  3. 6" EDGE DRAIN TO BE CORRUGATED METAL PIPE WITH FOUR ROWS OF 5/16 DIA. PERFORATIONS, OR APPROVED EQUIV.



REAR YARD FRAME & COVER FOR 24" DIA. STR.  
E.J.I.W. NO. 1170  
— 'N' COVER —



TYPICAL STEEL GRATE DETAIL



FARMINGTON HILLS STANDARD CATCH BASIN &  
INLET FRAME & COVER E.J.I.W. NO. 5105

—'D' COVER—

NOTE: FOR TRENCH REQUIREMENTS SEE

DATE		REVISION	CITY OF FARMINGTON HILLS OAKLAND COUNTY, MICHIGAN	
21/5/81	ADD 'C' COVER		<u>STORM SEWER</u> <u>STANDARDS</u>	
27/10/81	DELETE 'C' COVER & ADD 'D' COVER			
12/6/83	LOW HEAD DETAIL			
			STRUCTURES	JOB NO.
			ENGINEERING DIVISION	
			SCALE	HORIZ. NONE VERT. NONE
			FIELD BOOK:	PAGE:
			DRAWN: RUSSIK	DATE: MAR. 80
			CHECKED:	DATE:
			APPROVED:	DATE:

**SITE PLAN 51-1-2022**

**Approval:**

I move that Site Plan 51-1-2022, dated January 13, 2022, submitted by Mike Hall of RCI Contracting Services, be approved because it appears to meet all applicable requirements of the Zoning Chapter. Subject to the following conditions:

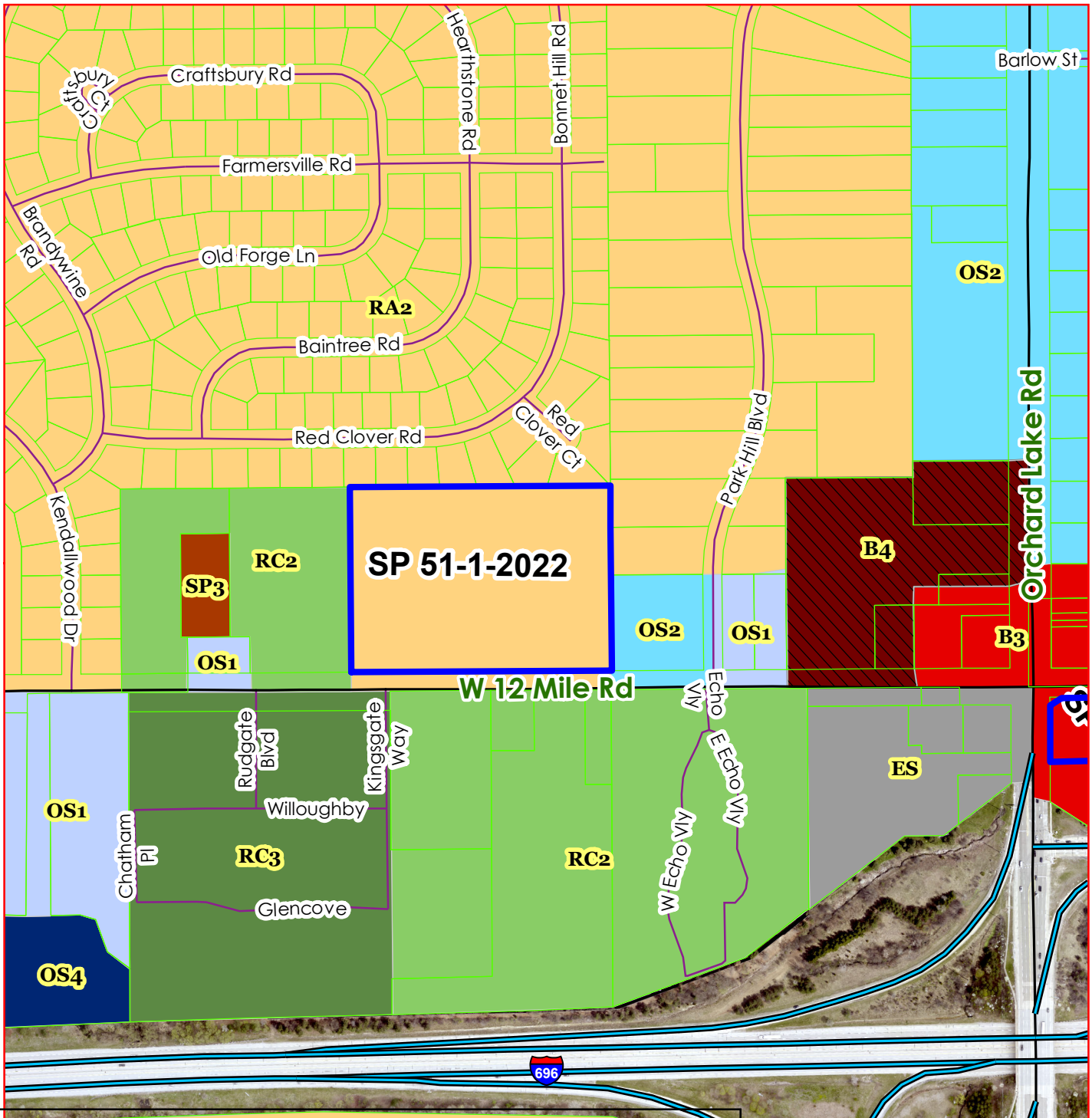
**Denial:**

I move that approval of Site Plan 51-1-2022, dated January 13, 2022, submitted by Mike Hall of RCI Contracting Services, be denied for the following reasons:



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**SP 51-1-2022      RA-2**  
**23-10-454-003, 32200 Twelve Mile**  
**Parking addition to existing place of worship**



- Tax parcel
- Minor roads
- Zoning Districts**
- B-3 General Business District
- B-4 Planned General Business District
- ES Expressway Service District
- OS-1 Office Service District
- OS-2 Planned Office Service District
- OS-4 Office Research District
- RA-2 One Family Residential District
- RC-2 Multiple Family Residential
- RC-3 Multiple Family Residential
- SP-3 Special Purpose District



0  
FEET

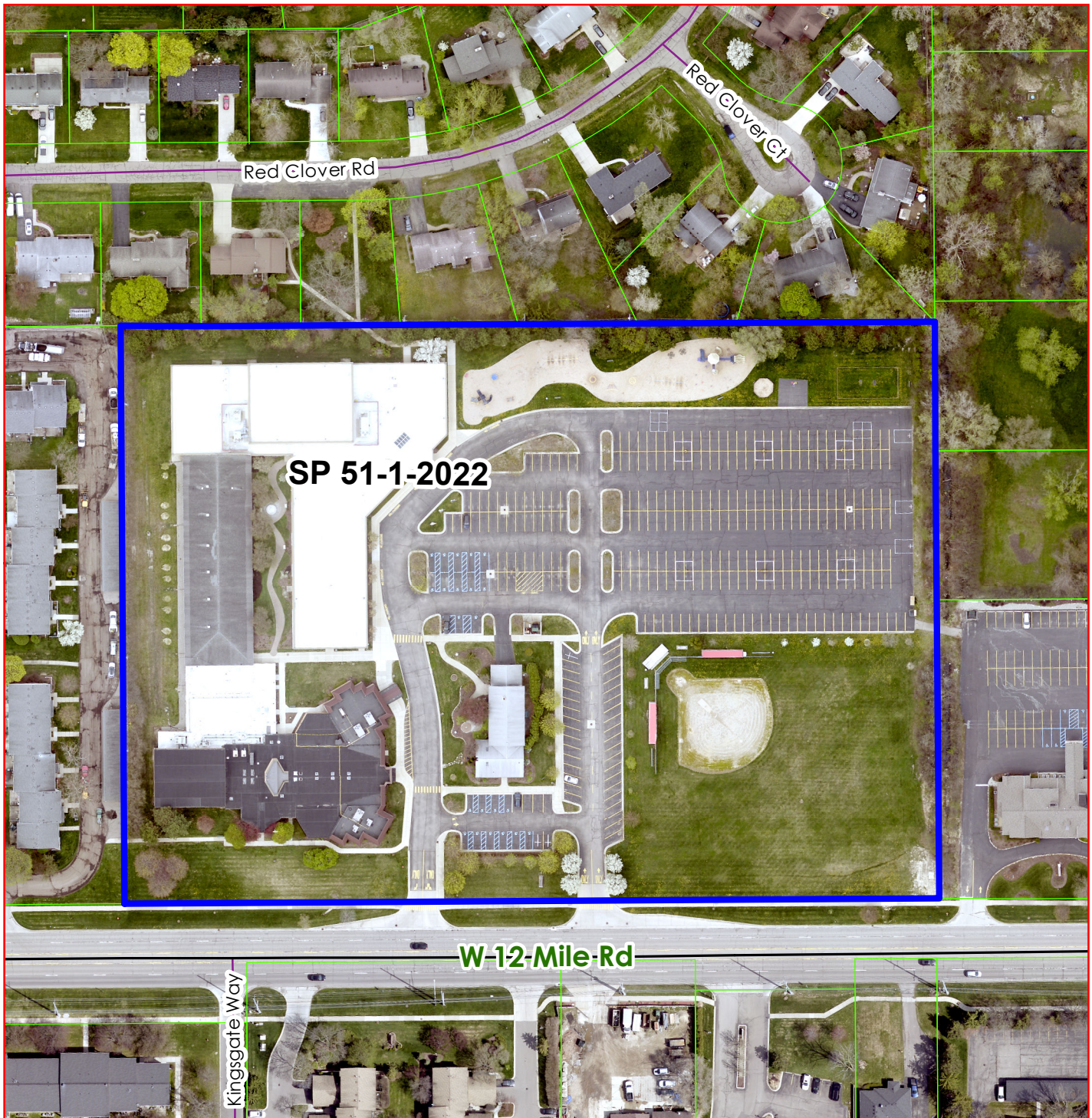


SOURCE: City of Farmington Hills, 2022  
 Oakland County GIS, 2022

DISCLAIMER: Although the information provided by this map is believed to be reliable, its accuracy is not warranted in any way. The City of Farmington Hills assumes no liability for any claims arising from the use of this map.

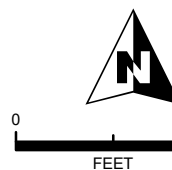


**SP 51-1-2022      RA-2**  
**23-10-454-003, 32200 Twelve Mile**  
**Parking addition to existing place of worship**



## Planning Division

- Tax parcel
- Minor roads



SOURCE: City of Farmington Hills, 2022  
Oakland County GIS, 2022

DISCLAIMER: Although the information provided by this map is believed to be reliable, its accuracy is not warranted in any way. The City of Farmington Hills assumes no liability for any claims arising from the use of this map.



INTEROFFICE CORRESPONDENCE

**DATE:** January 28, 2022  
**TO:** Planning Commission  
**FROM:** Jason Baloga, Fire Marshal  
**SUBJECT:** Site Plan 51-1-2022 (32200 Twelve Mile)  
St. Fabian Church Parking Addition

The Fire Department has no objection to approval of this plan as submitted.

A handwritten signature in blue ink, appearing to read "Jason Baloga".

Jason Baloga, Fire Marshal

JB/al



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DEPARTMENT OF PUBLIC SERVICES  
KAREN MONDORA, P.E., DIRECTOR

INTEROFFICE CORRESPONDENCE

**DATE:** February 2, 2022  
**TO:** Planning Commission  
**FROM:** James Cubera, Engineering *JC*  
**SUBJECT:** St. Fabian Parking Lot Addition  
32200 12 Mile Rd.  
SP#: 51-1-2022 – PJ#: 10-22-73  
22-23-10-454-003

---

This office has performed a preliminary review of the above referenced site plan submitted to the Planning Department on January 13, 2022. Our preliminary comments are as follows:

1. The plan appears to be an architectural plan which does not include any topo, easements of records, or any Engineering information. This needs to be provided for us to perform a detailed review.
2. A 10-inch sanitary sewer exists along the north side of 12 Mile Road across the frontage of this site. With this being a parking lot, we do not anticipate a need to use this. However, it needs to be identified.
3. An 8-inch watermain exists along the north side of 12 Mile Road across the frontage of this site. It needs to be identified on the plan.
4. This new driveway is utilizing the private service road that ultimately ties into 12 Mile Road. This is acceptable.
5. A sidewalk currently exists along the 12 Mile Road frontage. Therefore, no additional sidewalk requirements are in effect.
6. Storm water detention over the area being developed must be provided for. Discharge must be restricted to an agricultural rate. This must be addressed.



7. Storm water quality improvements will be required in accordance with City of Farmington Hills Engineering Standards. Attached are comments from the City's Environmental Engineer, Tyler Sonoga. He can be reached at 248-841-2533.
8. If there are any outstanding issues from previous expansions, they need to be addressed before approval can be considered for this new proposal.
9. It is suggested that the proponent and his engineer meet with the Engineering Division via Zoom or Microsoft Teams to discuss this site in further detail.



DEPARTMENT OF PUBLIC SERVICES  
KAREN MONDORA, P.E., DIRECTOR

City of Farmington Hills  
Environmental Review

Project Name: St. Fabian Parking Lot Addition

Address: 32200 12 Mile Rd.

Project Job #: 10-22-73

Plan Dated: 1-11-22

Plan Received: 1-19-2022

Review #: 1

Review Date: 1-26-2022

As requested, I have conducted a plan review of the above reference engineering plans. I have the following comments:

1. Storm water quality and quantity **management** must be provided for the site in accordance with the City of Farmington Hills Engineering Design Standards.
2. Detention must be provided to store a volume equivalent to 2 inches of water over the developed area of the site.
3. There is opportunity for low impact development best management practices to address storm water quality and quantity. These techniques include: porous pavement, infiltration trenches, and bioretention/rain gardens. The low impact development techniques would minimize the volume of storm water runoff and provide storm water quality treatment.

Respectfully submitted,

Tyler Sonoga  
Civil/Environmental Engineer  
Department of Public Services

cc: City of Farmington Hills, J. Cubera



February 3, 2022

Farmington Hills Planning Commission  
31555 W 11 Mile Rd  
Farmington Hills, MI 48336

# Site Plan Pre-Review

Case: SP 51-1-2022  
Site: 32200 W 12 Mile Rd (22-23-10-454-003)  
Applicant: RCI Contracting Services  
Plan Date: 12/1/2021  
Zoning: RA-2 Single Family

We have completed a review of the application for site plan approval and a summary of our findings is below. Items in **bold** require specific action. Items in *italics* can be addressed administratively.





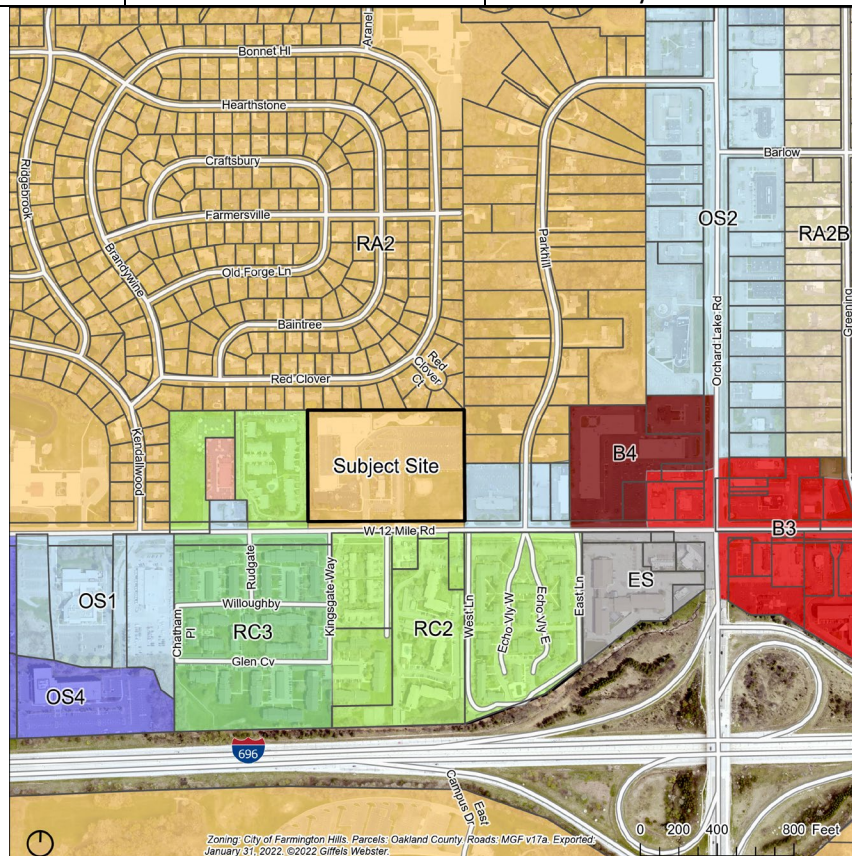
## SUMMARY OF FINDINGS

1. **Summary of Proposal.** The applicant is proposing a 13-space addition to the parking lot. 8 of the spaces are barrier-free. The new parking area is in the front yard of the church.
2. **Summary of Issues:** See items in **green bold** below for details.
  - **Parking within required front yard setback of 35 feet is not permitted.**
  - **Parking space widths need to be labeled.**
  - **Landscaping plan is informationally deficient.**
  - **Tree replacement plan is required.**
  - **Not clear whether lighting is proposed; if it is, a photometric plan is required.**

## Existing Conditions

1. **Zoning.** The site is 2 acres and zoned RA-2. Places of worship are a permitted use in the RA-2 district
2. **Existing site.** The site is currently developed with St. Fabian's Catholic Church.
3. **Adjacent properties.**

Direction	Zoning	Land Use
North	RA-2	Single-Family
South	RC-2	Multi-Family
East	OS-1/RA-2	Funeral Home/Single-Family
West	RC-2	Multi-Family



4. **Site configuration and access.** The site is accessed via two driveways from 12 Mile Road, with pedestrian connections to the development to the north, the funeral home to the east, and the condos to the west.

### Site Plan & Use

1. **Dimensional Standards (RA-2 district).** Many of the standards typically reviewed for site plans do not apply to this application, as the buildings on site are not proposed to be modified. These standards have been omitted from the table

Item	Required	Proposed/Comments
Yard landscaping (34-3.5.2.A)	For all uses except one-family detached residential units, landscaping of all yards abutting a street shall be provided	See landscaping comments below.
Minimum parking setback (34-3.5.2.E)	The minimum yard abutting a street shall be ten (10) feet and off-street parking shall not be permitted. When a rear yard is abutting a side yard, the setback abutting a street shall not be less than the minimum front yard setback of the district and all regulations applicable to a front yard shall apply	29.75 feet/Compliant See Section 34-5.5.1)
Landscape area abutting street or freeway (34-3.5.2.V.)	A landscaped area not less than ten (10) feet deep	29.75 feet provided at narrowest point. See details below.
Front yard parking setback (34-5.2.1)	Off-street parking shall not be permitted within a minimum front yard setback (35 feet) unless otherwise provided in this chapter.	<b>29.75 feet. Not Compliant</b>

2. **Minimum parking (34-5.2.11.E.i).** The site hosts a church and school. The plans provide no data on the church and school that would indicate a parking requirement for the site, and whether the site is currently over-parked, under-parked, or in compliance. As noted above, the proposal is to add 13 parking spaces, 8 of which are barrier-free. There is no indication of adjustments to be made elsewhere on the site.
3. **Off-street parking dimensions (34-5.3.3.A & B.).** The spaces meet the minimum requirements for parking spaces.

Item	Required	Proposed/Comments
Maneuvering lane width	20 ft.	22 ft
Parking space width	9 ft.	<b>Not labeled</b>



Parking space length	20 ft. for minimum required (May include a maximum two-foot unobstructed vehicle overhang area at the front of the parking space.)  17 ft. for additional parking (May include a maximum one-foot unobstructed vehicle overhang area at the front of the parking space)	18 ft w/ 2-foot overhang (7-foot sidewalk provided)
----------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------

4. **Barrier Free Parking.** The majority of new spaces are proposed to be barrier-free; the site already has 22 barrier-free spaces.
5. **Circulation.** The plan adds a new 20-foot driveway to access the new spaces; this comes off the western access drive, which is signed and marked exit-only. Connecting to the exit-only drive reduces the chance of conflicts with vehicles entering the site, though it could pose some difficulty if a driver were to wish to turn left to go further into the site from the new drive.
6. **Corner Clearance (34-5.10).** Corner clearance standards are met for the new driveway.
7. **Landscaping.** The landscaping plan proposes 3-foot berms topped with hedges, and a low hedge between two of the berms to screen the parking lot. **In general, the landscaping plan appears to show primarily ornamental trees, and it is not clear from the information provided how many trees are truly required. Plantings should be listed in a table with common and scientific names, quantities, and sizes; the labels on the plan do not appear to account for two proposed trees.**

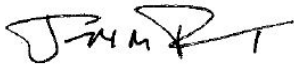
Item	Required			Proposed/Comments
Minimum distance from the property line (34-5.14.C.ii)	4 ft from the property line for trees and large shrubs			Compliant
Minimum parking lot island area	Minimum of 180 square feet; 3 feet minimum radius at the trunk of the tree			N/A
Cost estimate	Not required			--
Minimum size and spacing requirements at planting (34-5.14.F)	Size	Center to center distance (max)		
	(Height/width)	groupings	rows	
• Evergreen Trees	8 ft. height	20 ft.	12 ft.	N/A
• Narrow Evergreen Trees	5 ft. height	10 ft.	5 ft.	N/A
• Large Shrubs	30 in. height	10 ft.	5 ft.	Standard is met
• Small Shrubs	24 in. width	4 ft.	4 ft.	N/A
• Large Deciduous	3 in. caliper	30 ft.	-	Standard is met
• Small deciduous trees	2 in. caliper	15 ft.	-	Standard is met
• Hedge shrubs	24 in. height	3 ft.	3 ft.	Standard is met

Item	Required	Proposed/Comments
Canopy Trees	Shall be large deciduous. PC may permit large evergreens	Most proposed trees are ornamental
Minimum number of parking lot trees (34-5.14.4.C)	1 per every 2,800 square feet of paved surface area	Square footage of new pavement is not provided
Parking lot screening from public thoroughfare (34-5.14.5)	A planted hedge of small shrubs, or A masonry wall or berm of 2 feet high	3-foot berms and 30-inch shrubs
Wall or Berm (34-5.15)	Required when abutting a residential district. (See 34-5.15)	Berm provided
Tree replacement (34-5.18)	No inventory provided	6 replacements provided

8. **Tree Replacement (34-5.18).** It appears that 6-7 existing trees will be removed, but no tree survey or replacement plan was provided. This is required.
9. **Lighting (Section 34-5.16).** No lighting plan was provided, and it is not clear whether new outdoor lighting is proposed.
10. **Pedestrian Connection (Sec. 34-5.19).** A pedestrian connection to the 12 Mile sidewalk is already provided on the site.

We are available to answer questions.

Respectfully,  
Giffels Webster



Joe Tangari, AICP  
Senior Planner



Rod Arroyo, AICP  
Secretary | Partner





Area of proposed work



320 Martin Street Suite 10  
Birmingham, MI 48009  
t:248.554.9500  
Contact Person: Kevin Biddison  
e.mail: kb@biddison-ad.com

PROPOSED BUILDING RENOVATION FOR:

# St.Fabian Church

## CONDITIONS OF WORK

CONSTRUCTION COORDINATION:

1. ALL CONTRACTORS SHALL REVIEW ALL DRAWINGS & ARE RESPONSIBLE FOR A COMPLETE REVIEW & SITE VISIT. ITEMS AFFECTING ALL TRADES ARE PLACED THROUGHOUT SET & NO "EXTRAS" FOR MISSED ITEMS IN OTHER SECTIONS WILL BE PERMITTED. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY ARCHITECT OF ANY AMBIGUITY, INCONSISTENCY OR ERRORS WHICH THEY DISCOVER UPON EXAMINATION OF DOCUMENTS, THE SITE OR LOCAL CONDITIONS.
2. ANY CONTRACTOR OR SUBCONTRACTOR BY SUBMITTING A BID WARRANTS THAT HE HAS VISITED THE SITE AND IS AWARE OF ANY AND ALL SITE CONDITIONS AFFECTING HIS BID.
3. THE CONTRACTOR BY COMMENCING WORK ACCEPTS THE CONDITIONS OF THE SITE & THE COMPLETENESS OF CONTRACT DOCUMENTS.
4. FIELD VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ARCHITECT. DO NOT SCALE DRAWINGS USE FIGURED DIMENSIONS ONLY.
5. ANY MATERIAL OR LABOR NEITHER SHOWN ON THE DRAWINGS NOR SPECIFIED, BUT WHICH IS OBVIOUSLY NECESSARY TO COMPLETE THE WORK IN A WORKMANLIKE MANNER SHALL BE FURNISHED WITHOUT COST TO THE OWNER.
6. ALL MATERIALS FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR SHALL BE FREE FROM DEFECTS. ALL WORK SHALL BE GUARANTEED FOR A PERIOD OF (1) YEAR FROM DATE OF ACCEPTANCE OF WORK. DURING THIS PERIOD THE GENERAL CONTRACTOR SHALL CORRECT ANY PROBLEMS DUE TO DEFECTIVE MATERIALS OR FAULTY WORKMANSHIP AT NO COST TO THE OWNER. ANY PROBLEM THAT OCCURS DURING CONSTRUCTION SHALL IMMEDIATELY BE CORRECTED TO THE SATISFACTION OF THE OWNER.
7. NO SUBSTITUTIONS OF SPECIFIED MATERIAL OR EQUIPMENT WILL BE ACCEPTED UNLESS WRITTEN REQUEST FOR APPROVAL HAS BEEN RECEIVED BY THE ARCHITECT AND CONTRACTOR HAS RECEIVED WRITTEN APPROVAL FROM ARCHITECT.
8. DURING AND AT THE COMPLETION OF THE CONTRACTOR'S DAILY WORK, CONTRACTOR IS RESPONSIBLE FOR THE CLEANING UP AND REMOVAL OF ALL RUBBISH AND DEBRIS BEFORE LEAVING THE PROJECT JOB SITE.
- PERMITS & SAFETY:
1. GENERAL CONTRACTOR SHALL APPLY & SUBMIT FOR BUILDING PERMIT.
2. GENERAL CONTRACTOR SHALL OBTAIN "ALL RISK" INSURANCE AND ALL CUSTOMARY STATUTORY INSURANCE FOR COMPREHENSIVE GENERAL LIABILITY, ETC. AS REQUIRED BY OWNER/LANDLORD.
3. GENERAL CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION OF WORK, MATERIALS, FIXTURES, ETC. IN LEASED SPACE FROM LOSS OR DAMAGE FROM FIRE, THEFT OR VANDALISM.
4. ALL WORK SHALL BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA). THE FOLLOWING ARE STRICTLY PROHIBITED WORK PRACTICES.

A. ANY COMBUSTIBLE MATERIALS ABOVE FINISHED CEILING OR IN ANY NON-SPRINKLED LOCATIONS.

B. IMPOSING ANY STRUCTURAL LOAD, TEMPORARY OR PERMANENT ON ANY PART OF THE LANDLORD'S WORK OR STRUCTURE WITHOUT PRIOR WRITTEN APPROVAL.

C. CUTTING ANY HOLES IN LANDLORD'S EXISTING FLOOR SLABS, WALLS OR ROOF WITHOUT PROPER APPROVAL'S PROPER APPROVALS FROM LANDLORD. BEFORE STARTING ANY UNDERSLAB WORK CONTRACTORS MUST CHECK WITH THE LANDLORD OR SUPERINTENDENT OF THE LANDLORD'S GENERAL CONTRACTOR TO DETERMINE IF ANY COMMON UTILITY OR OTHER TENANT UTILITY LINES EXIST WITHIN THE SPACE.

CODE COMPLIANCE:

1. WORK INDICATED IS TO BE EXECUTED IN ACCORDANCE WITH THE LATEST EDITIONS OF ALL APPLICABLE CODES.
2. FIRE EXTINGUISHERS SHALL BE PROVIDED BY G.C. AND INSTALLED PER THE FIRE MARSHALL'S INSTRUCTIONS.
3. ALL WALL FINISHES TO MEET CLASS III FLAME SPREAD RATINGS IN ACCORDANCE WITH MBC-2012 CHAPTER 8.
4. INTERIOR FINISHES IN EXIT ACCESS CORRIDORS, OTHER EXIT WAYS, ROOMS, AND ENCLOSED SPACES IN USE GROUPS "B" AND "S" IN SPRINKLED BUILDINGS ARE REQUIRED TO HAVE AT LEAST A CLASS C, FLAME SPREAD 76-200; SMOKE DEVELOPED 0-450; RATING AS LISTED IN THE 2015 MICHIGAN BUILDING CODE.
5. SAFETY GLAZING MUST HAVE PERMANENT IDENTIFICATION IN ACCORDANCE WITH THE 2015 MICHIGAN BUILDING CODE.
6. ALL REQUIREMENTS OF THE MICHIGAN BARRIER FREE ACT & THE AMERICAN'S WITH DISABILITIES ACT SHALL BE MAINTAINED TO COMPLY WITH ICC/A117.1-2009.
7. ALL OFFICE FURNITURE & EQUIPMENT TO BE PROVIDED BY TENANT- SHOWN FOR LAYOUT PURPOSES ONLY. TO COMPLY WITH ADA- ICC/A117.1-2009 (TYP.) REQUIREMENTS, A MINIMUM OF 5%, BUT NOT LESS THAN (1) OF THE LUNCHROOM TABLES AND EMPLOYEE WORKSTATIONS (CUBICLES) SHALL BE ACCESSIBLE. ACCESSIBLE TABLE AND WORKSTATION TOPS SHALL BE 28" MIN. TO 34" MAX. A.F.F. KNEE AND TOE CLEARANCES AS FOLLOWS SHALL ALSO APPLY- TOE: 4" MIN. HIGH, 17" MIN. TO 25" MAX. DEPTH, AND 30" MIN. WIDE. KNEE: 27" MIN. HIGH, 11" DEEP @ 9" HIGH TO 8" DEEP @ 27" HIGH, AND 30" MIN. WIDE.
8. ALL ENTRANCE AND EXIT DOORS SHALL HAVE BARRIER FREE ACCESSIBILITY TO COMPLY WITH ICC/A117.1-2009.
9. TO COMPLY WITH ADA - ICC/A117.1-2009 (TYP.) REQUIREMENTS, CHANGES IN LEVEL GREATER THAN 1/2" SHALL BE RAMPED AND CHANGES IN LEVEL BETWEEN 1/4" AND 1/2" SHALL BE BEVELED A MAXIMUM OF 1:2.
10. ALL LUNCHROOM APPLIANCES TO BE PROVIDED BY TENANT. TO COMPLY WITH ADA-ICC/A117.1-2009 (TYP.) REQUIREMENTS, DISHWASHERS MUST FIT UNDER A 34" HIGH (32 1/4" CLEAR UNDER) COUNTERTOP. THE REFRIGERATOR MUST BE A SIDE-BY-SIDE OR BOTTOM FREEZER UNIT, AND ALL MICROWAVE CONTROLS TO BE NO HIGHER THAN 48" A.F.F. TO MEET OBSTRUCTED HIGH SIDE REACH REQUIREMENTS.
11. SIGNAGE INDICATING ACCESSIBILITY PROVISIONS SHALL BE PROVIDED AT EACH DOOR TO AN EXIT DISCHARGE. A TACTILE SIGN STATING EXIT AND COMPLYING WITH ICC/ANSI A117.1-2009 SHALL BE PLACED ADJACENT TO THE DOOR. PLEASE REFER TO SHEET A. 601 FOR ADDITIONAL INFORMATION AND LOCATION.

FIRE SUPPRESSION NOTE:

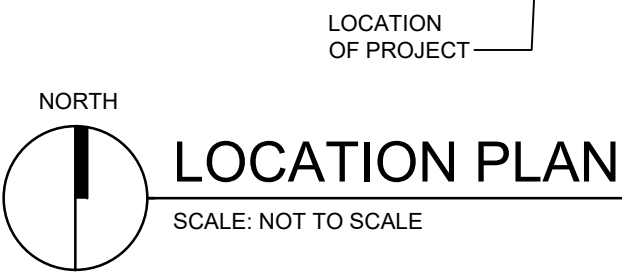
THE BUILDING IS PROVIDED WITH A FULL AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM (FIRE SUPPRESSION SYSTEM) WHICH WILL BE DESIGNED TO MEET M.B.C. REQUIREMENTS AND CITY OF FARMINGTON HILLS INSPECTION AND PERMIT APPROVAL. SPRINKLER CONTRACTOR SHALL BE FULLY LICENSED AND BE RESPONSIBLE FOR PREPARATION OF ENGINEERING DRAWING, SUBMISSION OF DRAWINGS TO ALL LOCAL AND STATE AGENCIES FOR APPROVAL, AND FOR COORDINATION OF REQUIREMENTS WITH OWNERS AND TENANTS INSURANCE CARRIER.

NOTE:

FIRE PROTECTION SYSTEM FOR THE BUILDING EQUAL TO ORDINARY HAZARD N.F.P.A. NO. 13 CRITERIA WITH ONE (1) 6" D.I. BUILDING SERVICE PROVIDED. PROTECTION BASED ON TENANT WAREHOUSING 12-0" A.F.F.

BUILDING TO BE EQUIPPED WITH A FIRE ALARM SYSTEM (PER SPECIFICATIONS PAID FOR BY TENANT) AS REQUIRED PER N.F.P.A. 72-2015 BASED ON BUILDING OCCUPANCY.

TYPE 2A FIRE EXTINGUISHERS SHALL BE PROVIDED AND SPACED A MAX. OF 75' APART PER SECTION 908.1 OF THE 2013 INTERNATIONAL FIRE CODE AND / OR BY THE DIRECTION OF THE FIRE MARSHAL.



## PROJECT ADDRESS

32200 W 12 MILE ROAD  
FARMINGTON HILLS, MICHIGAN 48334

## APPLICANT INFORMATION

### CONTACT PERSON:

Paul Pyrkosy  
32200 W.12 Mile Drive  
Farmington Hills, Michigan 48334  
-.-  
PPYRKOSY@stfabian.org

## SHEET INDEX

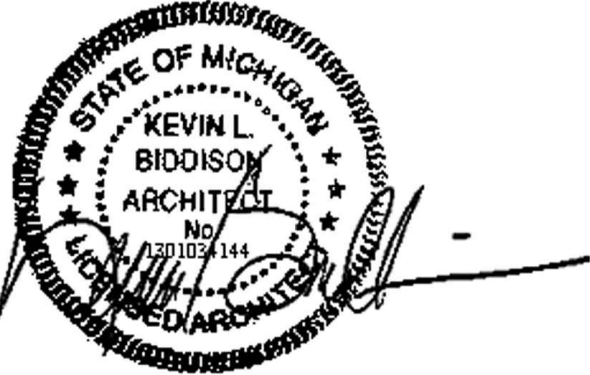
T.101	TITLE SHEET
SP.101	SITE PLAN
LP.101	LANDSCAPE PLAN

### Consultants

### Project data

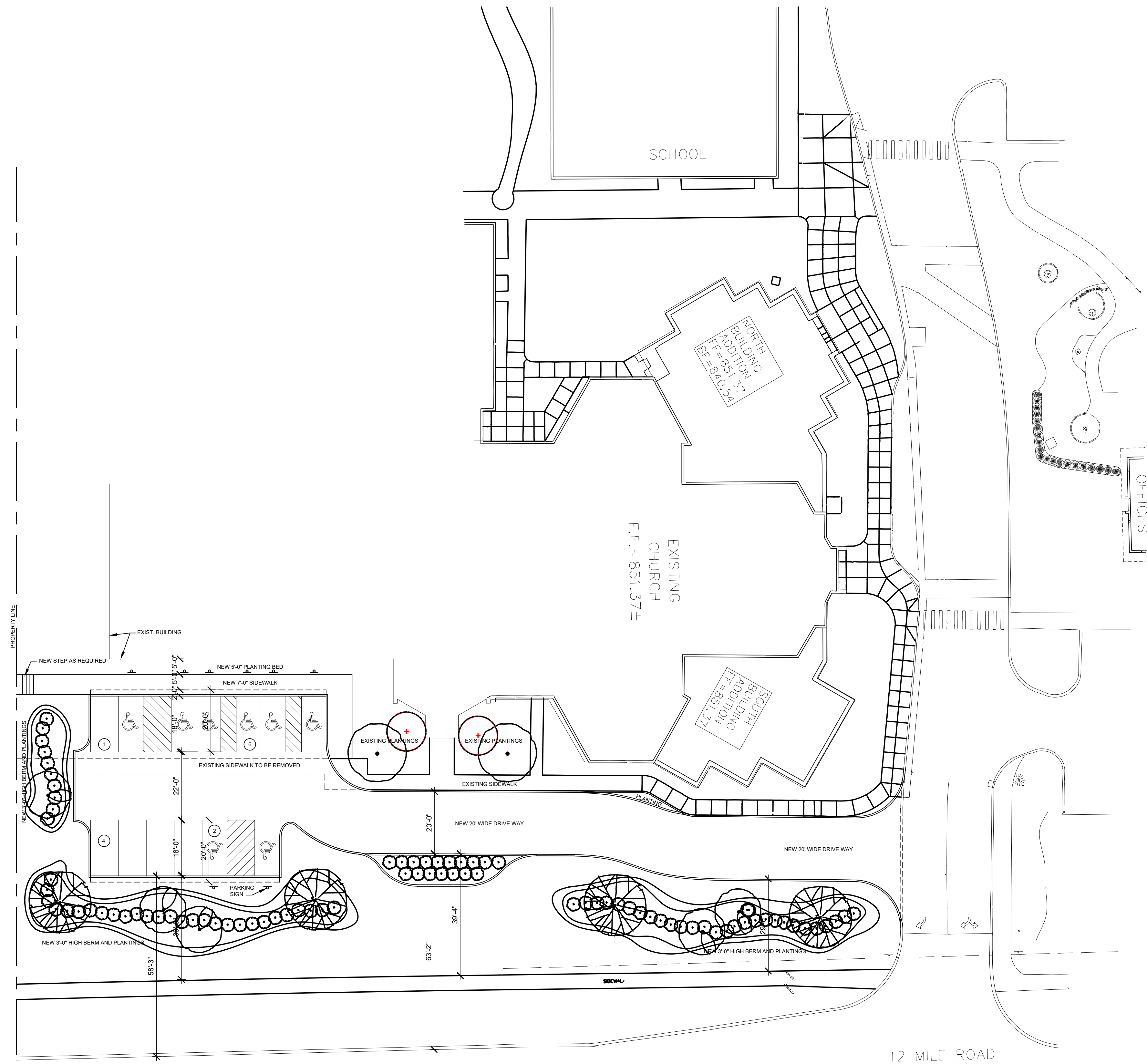
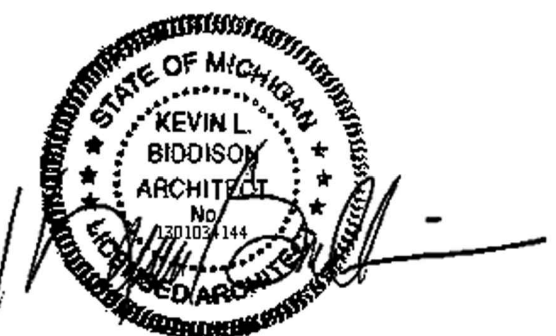
GOVERNING CODES:	2015 MICHIGAN BUILDING CODE 2015 MICHIGAN PLUMBING CODE 2015 MICHIGAN MECHANICAL CODE 2012 MICHIGAN REHABILITATION CODE 2012 INTERNATIONAL FUEL GAS CODE MICHIGAN ELECTRICAL CODE, 2014 N.E.C. W/ PART 8 STATE AMENDMENTS ICC/ANSI A117.1-2015 AND MICHIGAN BARRIER FREE DESIGN LAW OF PUBLIC ACT 1 OF 1966 AS AMENDED. MICHIGAN UNIFORM ENERGY CODE RULES PART 10 WITH ANSI/ASHRAE/ESNA STANDARD 90.1-2015 2013 INTERNATIONAL FIRE CODE NFPA 13 - 2010 NFPA 72 - 2010
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BUILDING USE GROUP(S): BUSINESS: B

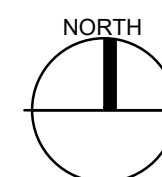


SITE PLAN REVIEW	Issued for 01.11.22
2083-21	Project no.
	Sheet no.
	T.101





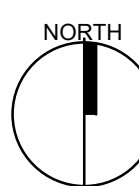
NOTE:  
ALL EXISTING DIMENSIONS  
TO BE VERIFIED IN FIELD



## SITE PLAN

SCALE: 1"=20'-0"





SCALE: N.T.S.



LP-101

**NOTE:**

SHRUB SHALL BEAR SAME  
RELATIONSHIP TO FINISH GRADE  
AS BEFORE TRANSPLANTING  
( @ STEM ROOT FLARE SHOULD  
BE AT GRADE OR SLIGHTLY  
HIGHER )

**NOTE:**

REMOVE BURLAP AND WIRE CAGE FROM ROOT BALL.

TREE SHALL BEAR SAME RELATIONSHIP TO FINISH GRADE AS BEFORE TRANSPLANTING.

REMOVE ALL DEAD & INJURED TWIGS AND BRANCHES (PAINT ALL CUTS  $\frac{3}{4}$ " DIA. +

FERTILIZE WITH 10-6-1 @ 2 LB. PER INCH OF CALIPER

THOROUGHLY SOAK WITH WATER AFTER PLANTING.

- PROVIDE BIO-DEGRADABLE WEAVING
- STAKE TREES 2 1/2" CAL. OR STAKE WITH 3"x4"x8" CEDAR STAKES (2 REQ'D)
- 6" GALVANIZED TURNBUCKLE
- #12 GALV. WIRE - 3 STRAND
- 4" MULCH
- MOUND TO FORM SAUCER WITH SOIL
- GUY TREE WITH 3" CAL. OR LARGER WITH 2"x4"x30" CEDAR GUYING STAKES (3 REQ'D - EQUAL SPACING.)
- HOLE TO BE 1.5 - 2 x THE WIDTH OF THE ROOTBALL - BACKFILL WITH BLENDING EXISTING SOILS WHERE POSSIBLE

SCALE: 1"=20'-0"

- ## Consultants

Project title

PROPOSED BUILDING ADDITION FOR

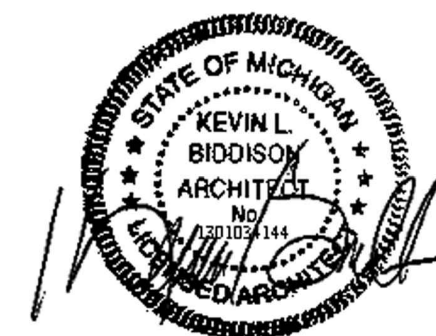
32200 W 12 MILE RD  
Farmington Hills, MI 48334

Issued dr/ch

SITE PLAN REVIEW 01.11.22

Sheet title

LANDSCAPE PLAN



Project no. \_\_\_\_\_

2083-21

Sheet no. \_\_\_\_\_

LP.101



**SITE PLAN 52-1-2022**

**Approval:**

I move that Site Plan 52-1-2022, dated January 18, 2022, submitted by Jim Seba, be approved because it appears to meet all applicable requirements of the Zoning Chapter. Subject to the following conditions:

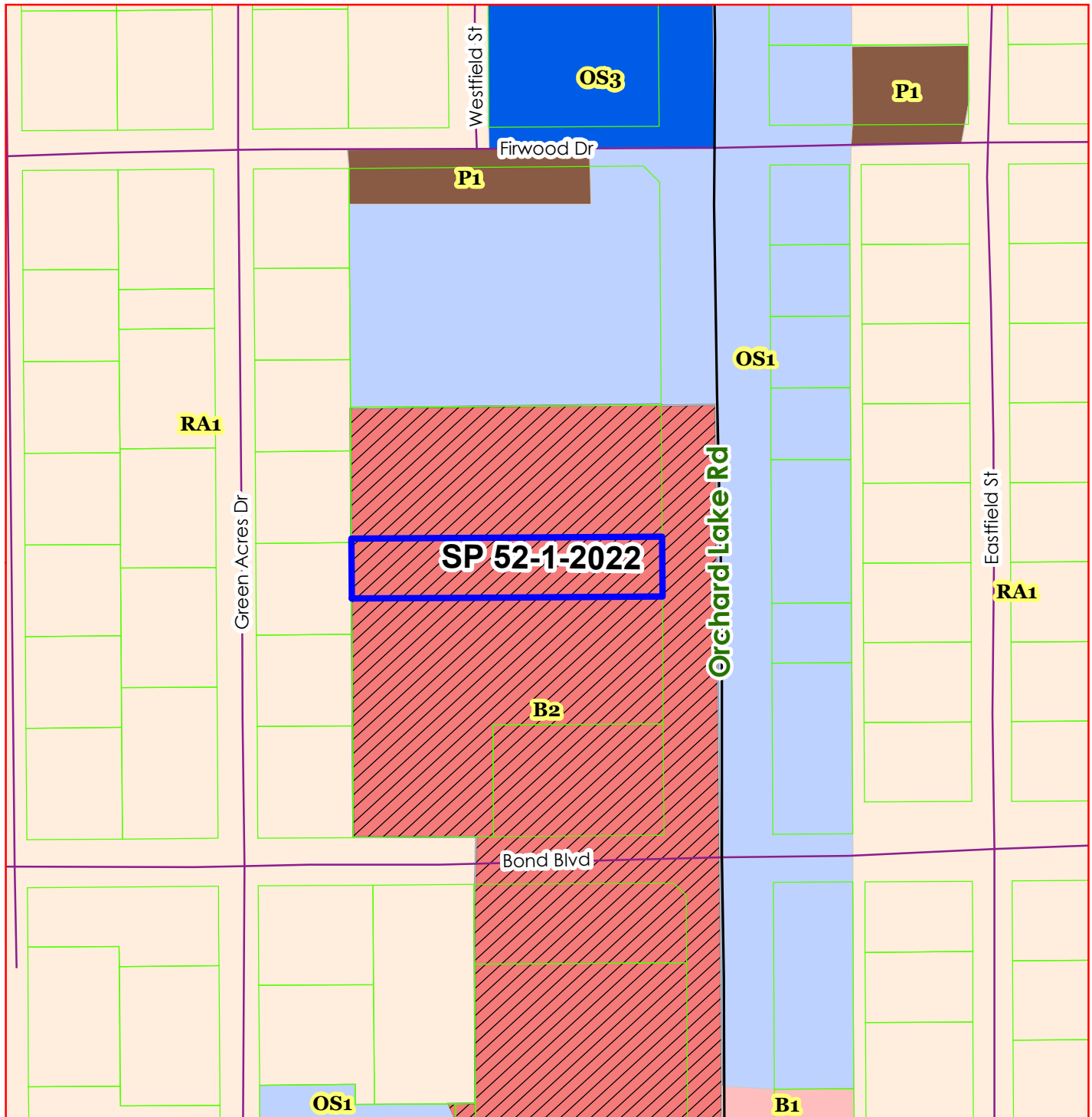
**Denial:**

I move that approval of Site Plan 52-1-2022, dated January 18, 2022, submitted by Jim Seba, be denied for the following reasons:



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**SP 52-1-2022 B-2**  
**23-23-433-045, 29975 Orchard Lake**  
**Rear addition to an existing retail store**



- |                             |                                      |
|-----------------------------|--------------------------------------|
| Tax parcel                  | B-2 Community Business District      |
| Minor roads                 | OS-1 Office Service District         |
| <b>Zoning Districts</b>     | OS-3 Special Office District         |
| <b>Zoning Districts</b>     | P-1 Vehicular Parking District       |
| B-1 Local Business District | RA-1 One Family Residential District |



0  
FEET



SOURCE: City of Farmington Hills, 2022  
 Oakland County GIS, 2022

190  
 DISCLAIMER: Although the information provided by this map is believed to be reliable, its accuracy is not warranted in any way. The City of Farmington Hills assumes no liability for any claims arising from the use of this map.

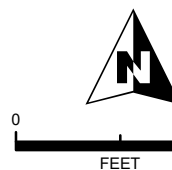


SP 52-1-2022 B-2  
23-23-433-045, 29975 Orchard Lake  
Rear addition to an existing retail store



Planning Division

☐ Tax parcel



SOURCE: City of Farmington Hills, 2022  
Oakland County GIS, 2022

DISCLAIMER: Although the information provided by this map is believed to be reliable, its accuracy is not warranted in any way. The City of Farmington Hills assumes no liability for any claims arising from the use of this map.



**INTEROFFICE CORRESPONDENCE**

**DATE:** January 28, 2022  
**TO:** Planning Commission  
**FROM:** Jason Baloga, Fire Marshal  
**SUBJECT:** Site Plan 52-1-2022, 29975/29977 Orchard Lake

The Fire Department has reviewed the plan related to the site plan and has made the following notations:

The existing site currently does not meet the following Fire Department Site Plan Review and Design Standards:

1. Chapter 12 Section 12-11(1) of the City Code; sites shall be designed to accommodate fire apparatus with a 50' turning radius.
2. Hydrant coverage does not appear to be adequate according to Chapter 12 Section 12-11(2) of the City Code.
3. In the Site Plan Review letter dated May 7, 2015, it was noted that two vehicles were parked along the side of the building. Fire lane signs shall be posted and strictly enforced.
4. If the Proponent finds it impractical to comply with the minimum Fire Department Site Plan Review and Design Standards, please contact the Fire Marshal to discuss the Alternate Protection provision outlined in Chapter 12 Section 12-11(4) and how the site will be improved to allow the proposed addition.

A blue ink signature of Jason Baloga, Fire Marshal, written in a cursive style.

Jason Baloga, Fire Marshal




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DEPARTMENT OF PUBLIC SERVICES  
KAREN MONDORA, P.E., DIRECTOR

**INTEROFFICE CORRESPONDENCE**

**DATE:** February 2, 2022  
**TO:** Planning Commission  
**FROM:** James Cubera, Engineering   
**SUBJECT:** Regal Building Addition  
29975/29977 Orchard Lake Road  
SP#: 52-1-2022 PJ#: 3-22-75  
22-23-03-433-045

---

This office has performed a preliminary review of the above referenced site plan submitted to the Planning Department on January 18, 2022. Our preliminary comments are as follows:

1. A 12-inch sanitary sewer exists along the east side of Orchard Lake Road across the frontage of this site. It appears that a service lead from this line is used for the existing facility. There also appears to be an 8-inch public sewer to the west of the building onsite. The easement for it must be confirmed. The plans need to identify if the addition will utilize the existing service lead and confirm which public line it ties into. With this in mind, the proponent will be obligated to televise the entire service line and address if infiltration/inflow issues or corrective actions need to be attended to.
2. A 12-inch watermain exists along the west side of Orchard Lake Road across the frontage of this site. It is available for service.
3. An approach to Orchard Lake Road currently exists and tapers are in existence today. No additional lane improvements appear warranted. However, approval from RCOC will be required.
4. A 5-foot-wide sidewalk currently exists along the entire Orchard Lake Road frontage, therefore additional walkway requirements will not be in effect.
5. A private storm sewer is identified onsite. It must be televised, and a condition assessment provided. Any deficiencies must be corrected.



6. Storm water detention must be provided for in the amount of 2 inches over the gross area of the site. Discharge must be restricted to an agricultural rate of 2 cfs per acre. The proponent needs to identify how this will be accommodated.
7. Storm water quality improvement will be required in accordance with the City of Farmington Hills Engineering Standards. Attached are comments from the City's Environmental Engineer, Tyler Sonoga. He can be reached at 248-871-2533 if there are any questions regarding these comments.
8. It is suggested that the proponent and his engineering set up a Zoom or Microsoft Teams meeting with the City Engineering Division to discuss this site in further detail.



DEPARTMENT OF PUBLIC SERVICES  
KAREN MONDORA, P.E., DIRECTOR

City of Farmington Hills  
Environmental Review

Project Name: Regal Building Addition

Address: 29975/29977 Orchard Lake Road

Project Job #: 14-22-45

Plan Dated: 12-28-21

Plan Received: 2-2-2022

Review #: 1

Review Date: 2-7-2022

As requested, I have conducted a plan review of the above reference engineering plans. I have the following comments:

- I. Storm water quality and quantity management must be provided for the whole site in accordance with the City of Farmington Hills Engineering Design Standards.

Respectfully submitted,

Tyler Sonoga  
Civil/Environmental Engineer  
Department of Public Services

cc: City of Farmington Hills, J. Cubera



Intentionally left blank

February 8, 2022

# Site Plan Review

Case: 52-1-2022  
Site: 29975 Orchard Lake Road  
Applicant: Jim Seba  
Plan Date: 12/28/2021  
Zoning: B-2 Community Business  
Parcel ID's: 22-23-03-433-045

Dear Planning Commission Members:

We have completed a review of the application and site plan referenced above and a summary of our findings is below. Items in **bold** require specific action by the Applicant. Items in *italics* can be addressed administratively.



## SUMMARY OF FINDINGS

**Summary of Proposal.** The applicant is proposing a 1,400-square-foot addition to rear of the existing 5,000-square-foot building. The purpose of the addition is storage.

**Summary of Issues.** See items in **green bold** below for details.

- **The proposed addition does not meet the required side setback.**
- **Parking spaces should be dimensioned**
- **Photometric plan is required**
- **Landscape plan is required**
- **Pedestrian connection to public sidewalk not provided.**

### Existing Conditions

1. **Zoning.** The site is zoned B-2 Community Business.
2. **Existing site.** The site is currently a mixed retail center.
3. **Adjacent Properties.** The table below describes the land uses and zoning on adjacent parcels.

Direction	Zoning	Land Use
North	B-2 Community Business	Restaurant
East (across Orchard Lake)	OS-1 Office	Office building
South	B-2 Community Business	Carpet Store
West	RA-1	Single-Family Home

4. **Site configuration and access.** This site is directly accessible from Orchard Lake via a driveway.

### Proposed

5. **Summary of proposal.** The applicant is proposing a 1,400-square-foot addition to the existing 5,000-square-foot building. The purpose of the addition is to add storage space.
6. **Dimensional requirements of the B-2 district.** The side setback of the district is not met; an adjustment to the plan or a variance is required.

Standard	Required	Proposed/Comments
Section 34-3.1.24.E		
Front setback	75 ft	63.39 ft
Rear Setback	20 ft	165 ft
Side Setback (south)	20 ft	21.9 ft
Side Setback (north)	20 ft	<b>13.1 ft to addition; addition does not meet 20-ft setback</b>
Residential District Setback	75 ft	165 ft
Building height	50 ft	20.79 ft (addition)
Other Sections		



Yard landscaping (34-3.5.2.A)	For all uses except one-family detached residential units, landscaping of all yards abutting a street shall be provided	Hedge provided; no changes proposed
Minimum parking setback (34-3.5.2.J)	10 feet	Compliant
Loading space (34-3.5.2.N)	10 feet of loading space per front foot of building = 499 sq ft	500 square feet provided in rear yard
Rooftop equipment (34-3.5.2.U.)	Rooftop equipment shall be screened in accordance with Section 34-5.17.	Equipment is screened
Landscape area abutting street or freeway (34-3.5.2.V.)	A landscaped area not less than ten (10) feet deep	Compliant

**7. Dumpster (34-5.1.2.D).**

Item	Required	Proposed/Comments
Location	Rear yard or interior side yard	The existing dumpster enclosure is in the rear yard and compliant.
Screening	Permanent building wall or earth mound not less than 6 feet or 1 foot above the enclosed dumpster whichever is greater	
Setback	20 feet from any residential property	

**8. Mechanical Equipment (34-5.1.4.D).** Mechanical equipment is located in the rear yard.

**9. Parking.** One space per 175 square feet of usable floor area is required for retail operations. The site has 40 spaces currently and 10 will be eliminated, leaving 30 spaces; 23 spaces are required. The storage area being added to the building does not appear to affect the usable floor area of the building; parking requirements are met.

**10. Off-street parking dimensions (34-5.3.3.A & B.).** The spaces meet the minimum requirements for parking spaces.

Item	Required	Proposed/Comments
Maneuvering lane width	20 ft.	Existing; exceeds 20 feet
Parking space width	9 ft.	Existing; appears to be 9 ft; <b>should be labeled</b>

Parking space length	20 ft. for minimum required (May include a maximum two-foot unobstructed vehicle overhang area at the front of the parking space.)  17 ft. for additional parking (May include a maximum one-foot unobstructed vehicle overhang area at the front of the parking space)	20 ft
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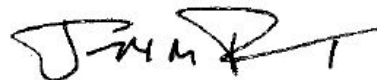
11. **Barrier Free Parking.** Two barrier-free spaces are labeled on the plans.
12. **Circulation.** The dead-end parking aisle at the rear of the site is more than 8 spaces deep, but this is an existing condition, and this cannot be avoided due to the shape of the lot.
13. **Corner Clearance (34-5.10).** Corner clearance standards are met.
14. **Exterior Lighting.** **The applicant has not provided a lighting plan. The plans show one relocated wall pack, but a lighting plan is a required element of site plan approval.**
15. **Landscaping.** **A landscaping plan was not provided.** Existing landscaping should be accurately depicted on the plan. The site does not appear to have the required parking lot trees; this was accepted as an existing condition by the planning commission in 2015. **The planning commission may determine that additional landscaping is required; if so, it may require a landscape plan.**
16. **Walls & screening.** A seven-foot masonry wall exists at the rear of the property currently; it's location away from the property line was approved by the ZBA in 1984.
17. **Tree Replacement.** The plan does not propose to remove any trees.
18. **Pedestrian connections.** A pedestrian connection to the Orchard Lake sidewalk is not provided—this is an existing condition of the site. **Planning Commission may wish to discuss.**

We are available to answer questions.

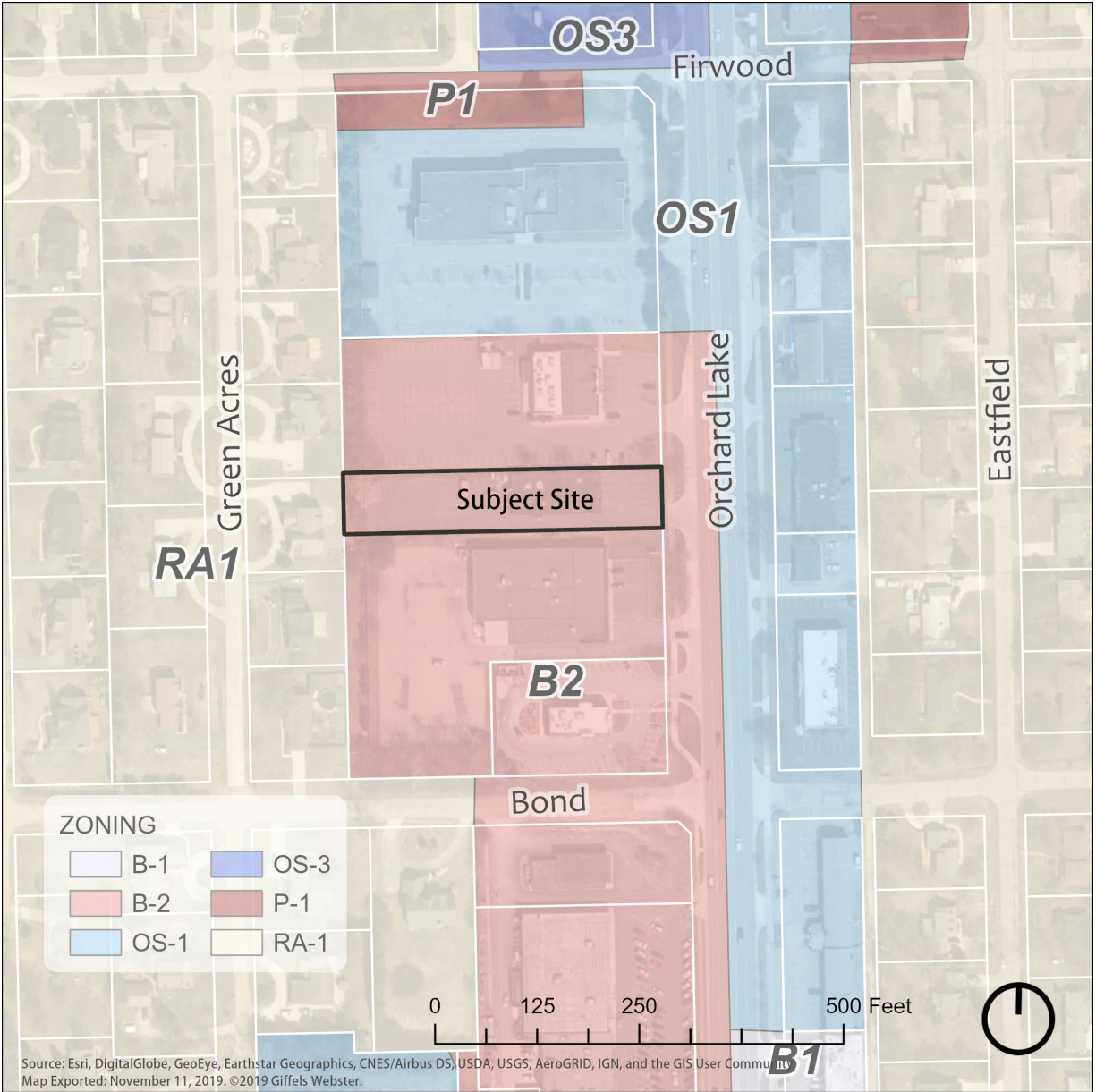
Respectfully,  
**Giffels Webster**



Rod Arroyo, AICP  
Partner



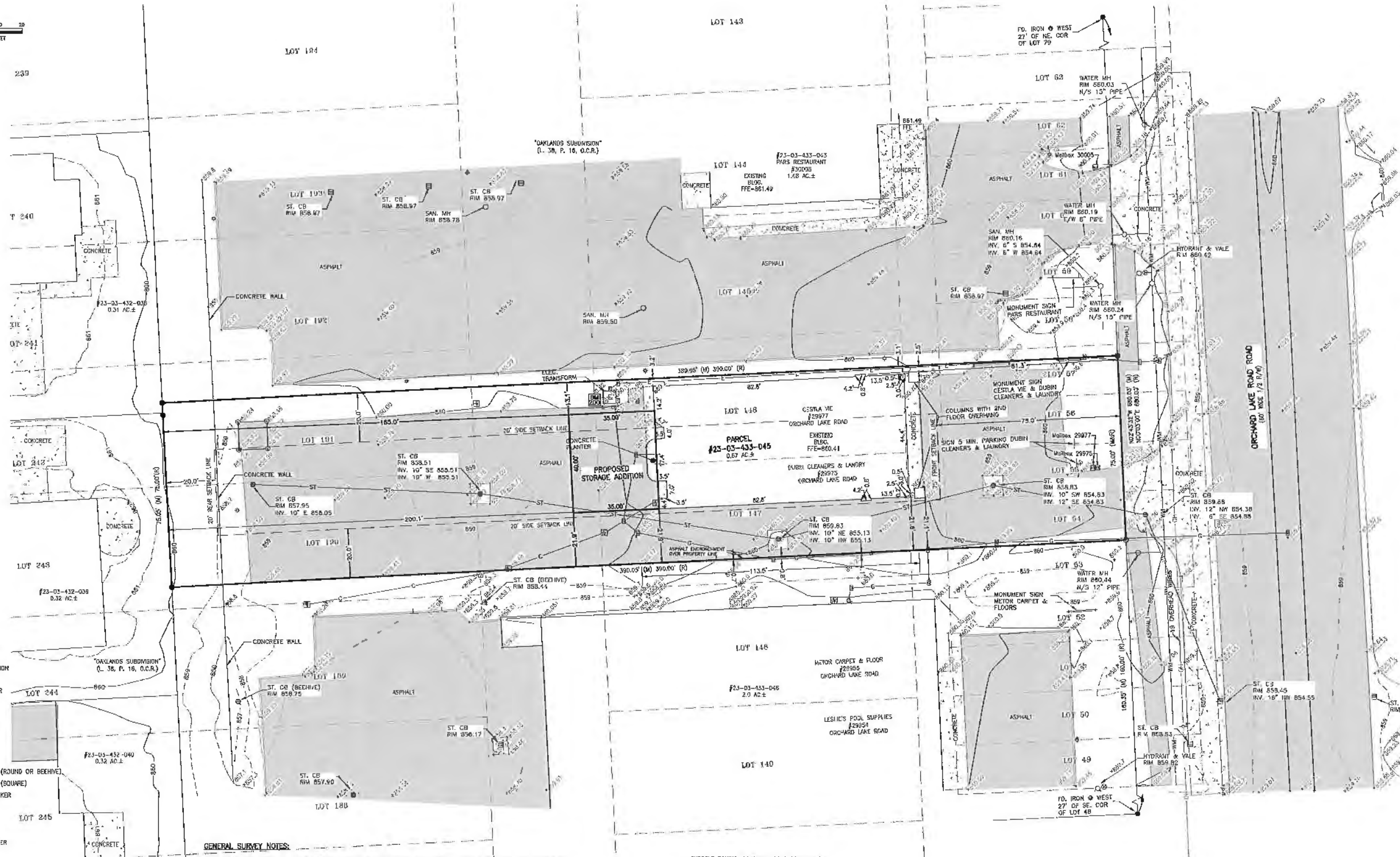
Joe Tangari, AICP  
Senior Planner







# BOUNDARY & TOPOGRAPHICAL SURVEY



## LEGEND

- EXISTING CONDUIT
- EXISTING SPOT ELEVATION
- POWER POLE
- U.G. ELECTRIC MARKER
- ELECTRICAL METER
- LIGHT POLE
- HYDRANT
- WATER GATE VALVE
- WATER MANHOLE
- MANHOLE
- STORM CATCH BASIN (ROUND OR BEEHIVE)
- STORM CATCH BASIN (SQUARE)
- U.G. TELEPHONE MARKER
- GAS METER
- U.G. GAS MARKER
- CABLE TV RISER
- U.G. CABLE TV MARKER
- MAILBOX
- SIGN
- STEEL ROD SET
- STEEL ROD OR PIPE FOUND
- SANITARY SEWER
- WATER MAIN
- STORM SEWER
- GAS MAIN
- ELECTRIC
- OVERHEAD WIRES

## GENERAL SURVEY NOTES:

- BEARINGS ARE BASED ON MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE. RECORD BEARINGS WERE ESTABLISHED FROM "OAKLANDS", AS RECORDED IN LIBER 3A, PAGE 36, OAKLAND COUNTY RECORDS.
- SUBSURFACE UTILITIES NOT LOCATED FOR THIS SURVEY MAY EXIST. IT IS THE RESPONSIBILITY OF THE OWNER OF THE RESPECTIVE UTILITY TO ACCURATELY LOCATE SUCH UTILITIES.
- EASEMENTS OR RESTRICTIONS OF RECORD NOT DEPICTED ON THIS DRAWING MAY EXIST.
- ELEVATIONS WERE ESTABLISHED FROM GPS OBSERVATION, AND USING OPUS POST-PROCESS SYSTEM (NAVSTAR DATUM).
- CONTOURS ARE SHOWN AT 1 FOOT INTERVALS.
- THE LOCATIONS OF STORM SEWER, SANITARY SEWER & WATERMAIN, AS SHOWN ON THIS DRAWING ARE APPROXIMATE. THE LOCATIONS ARE BASED ON PHYSICAL FIELD LOCATIONS OF STRUCTURES.
- ALL WORK SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE MUNICIPALITY, THE COUNTY, AND THE STATE OF MICHIGAN.
- ALLOW THREE WORKING DAYS BEFORE YOU DIG, CALL MISS DIG TOLL FREE 1-800-482-7171.

CURRENT ZONING: B2 (COMMERCIAL BUSINESS)  
MINIMUM SETBACK REQUIREMENTS:  
FRONT - 75 FEET  
SIDES - 10 FEET  
REAR - 20 FEET  
MAXIMUM BUILDING HT. - 40 FEET

## SITE BENCHMARKS (NAVSTAR DATUM):

- BM #200 = "X" ON SW CORNER OF CONCRETE PAD FOR THE TRANSFORMER AT NW CORNER OF BLDG. 29977. ELEV.=880.16
- BM #201 = NW/4TH N/S 30" OAK TREE, ON EAST SIDE OF ORCHARD LAKE ROAD IN FRONT OF HOUSE NO. 2995. ELEV.=861.84

## PROPERTY DESCRIPTION PER #23-03-433-045 PER OAKLAND COUNTY TAX ROLL:

TH. PPE, SEC. 3, OAKLANDS TWP 75 FT OF PARCEL DESC AS LOTS 48 TO 58 INCL. & S 15 FT OF LOT 57 EXC E 27 FT THEREOF, ALSO S 35 FT OF LOT 148, ALL OF LOTS 147 TO 150 INCL. LOTS 158 TO 160 INCL. & S 35 FT OF LOT 161, ALSO ALL OF WESTFIELD DR. & ALLEY ADJ. TO SAME, ALSO VAC N 40 FT OF BOND BLVD ADJ. TO BOTH LOT 165 & VAC WESTFIELD DR.

PARCEL NO. 23-03-433-045

CLY ORCHARD L.L.C.  
29877 ORCHARD LAKE ROAD  
FARMINGTON HILLS, MI 48334  
(248) 640-4314

BOUNDARY & TOPOGRAPHICAL SURVEY

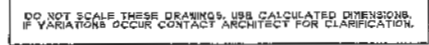
**BEBOSS**  
Engineering  
Engineers Surveyors Planners Landscape Architects

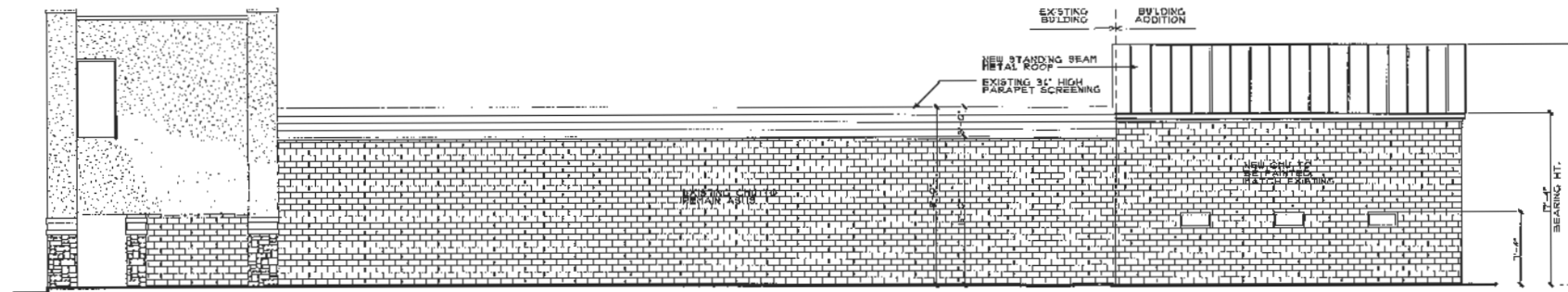
3121 E. GRAND RIVER AVE.  
HOWELL, MI 48843  
517.546.4836 FAX 517.548.1670

DESIGNED BY:	KL
DRAWN BY:	KJ
CHECKED BY:	
SCALE:	1" = 20'
JOB NO.	20-019
DATE	02-12-20
SHEET NO.	1 of 1



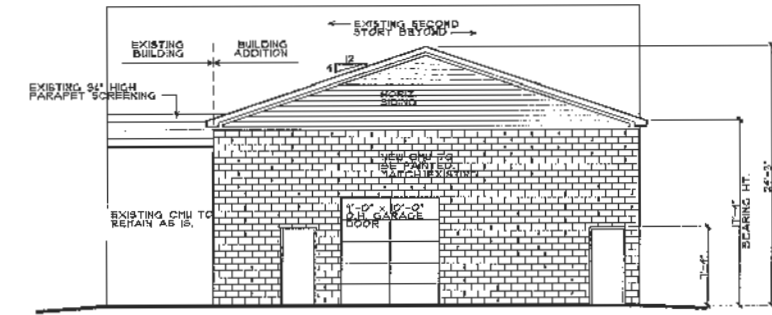






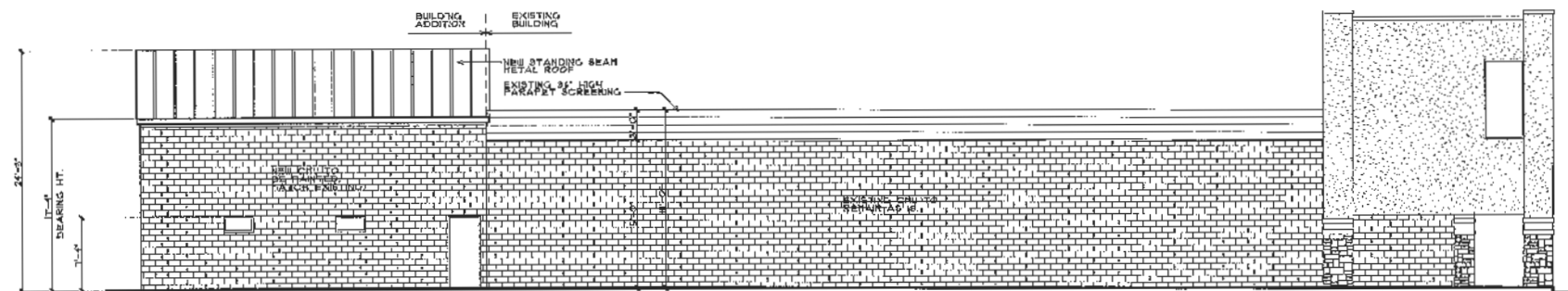
4 RIGHT SIDE ELEVATION (NORTH)

SCALE: 1/8" = 1'-0"



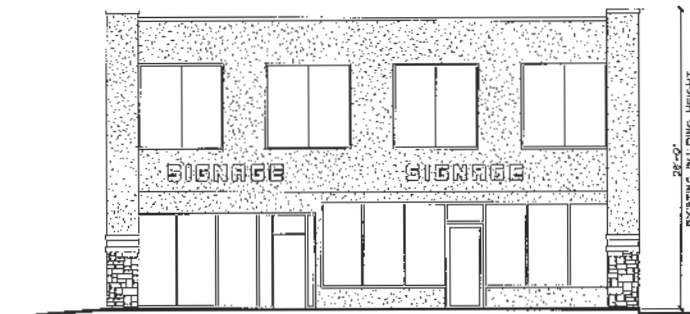
3 REAR ELEVATION (WEST)

SCALE: 1/8" = 1'-0"



2 LEFT SIDE ELEVATION (SOUTH)

SCALE: 1/8" = 1'-0"



1 EXISTING FRONT ELEVATION (EAST)

SCALE: 1/8" = 1'-0"

DAZ DESIGN GROUP

COPYRIGHT DATE 2021

PROPOSED STORAGE ADDITION  
2997 S-29877 ORCHARD LAKE ROAD  
FARMINGTON HILLS, MICHIGAN

DRAWN BY: JZ/DE  
CHECKED BY: JZ/DE

ELEVATIONS

CAD FILE: QLV\_STORAGE.dwg

1-00-21

SITE PLAN PRE-REVIEW: [ ] [ ] [ ] [ ]

PERMIT SET: [ ] [ ] [ ] [ ]

NO SET: [ ] [ ] [ ] [ ]

AS-BUILT SET: [ ] [ ] [ ] [ ]

REVISIONS:

JOB NO: 211008

SHEET NO: A-201

**Adoption of Planning Commission 2021 Annual Report**

**Motion to adopt:**

I move to adopt the Planning Commission 2021 Annual Report as presented.



# *City of Farmington Hills Planning Commission 2021 Annual Report*

The Farmington Hills Planning Commission is charged with promoting the public health, safety, and welfare of Farmington Hills through sound land use planning. This nine-member commission is comprised of residents of the City of Farmington Hills who have worked diligently over the past year to further this goal. This report documents their efforts during calendar year 2021.

## **Commission Members**

Steven Stimson, Chair  
Dale Countegan, Vice Chair  
John Trafelet, Secretary

Barry Brickner

James Orr (resigned as Commissioner November 18, 2021)

Joseph Mantey  
Robert Turner  
Steven Schwartz  
Marisa Varga

## **Major Initiatives**

### **2022/2023 – 2027/2028 Capital Improvements Plan**

Act 33 of the Public Acts of 2008, the Michigan Planning Enabling Act, provides that the Planning Commission annually prepare a Capital Improvements Plan. Further, Sections 3.07 and 6.08 of the City Charter require the submission of a Capital Improvements Plan to City Council. The Planning Commission held a study session on January 28, 2021, to prepare this document for public review and adopted the plan after holding a public hearing at their March 18, 2021, meeting.

## **Activity Highlights**

### ***“The Emerson” Planned Unit Development***

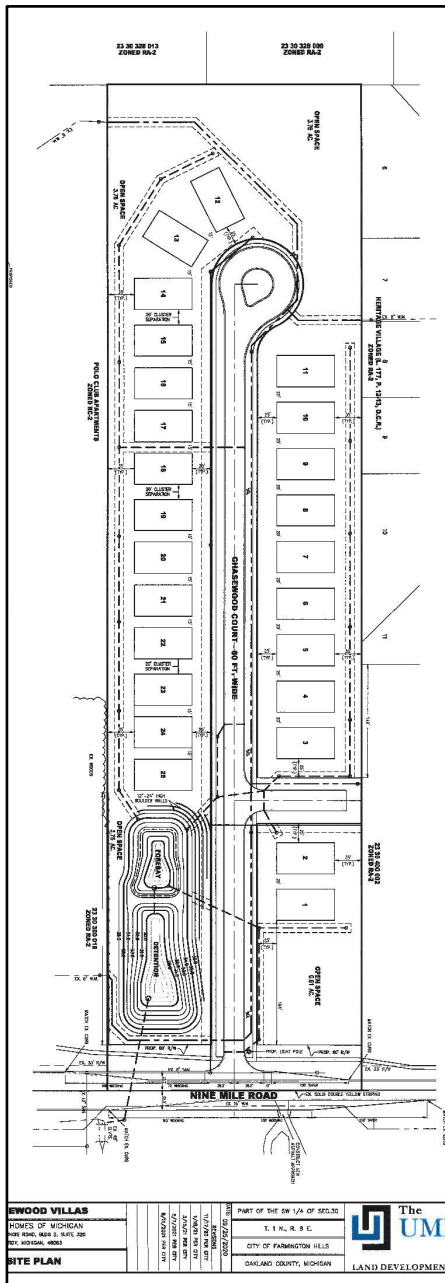
In December 2021, the Planning Commission reviewed and recommended that City Council approve a Planned Unit Development for a 316-unit apartment development on the south side of Northwestern Highway, between Greening Street and Highview Avenue. Council approved the Planned Unit Development plan in January 2022.

The applicant proposes to use the site for two (2) multiple-family residential apartment buildings; a four (4)-story, 250-unit building with a parking deck on the northern portion of the site, and a three (3)-story, 66-unit building on the southern portion of the site. A wide range of both interior and exterior onsite amenities for the residents are proposed, as well as streetscape, infrastructure, and access management improvements.

## ***Sarah Fisher House (Historic District Site No. 507) Redevelopment***

In April 2021, the Planning Commission reviewed and recommended that City Council approve a Planned Unit Development for a mixed-use development at the northwest corner of West Twelve Mile and Inkster Roads, the site of the Sarah Fisher House. The Planned Unit Development plan has since been revised in response to Council's concerns, and the applicant has expressed the intent to proceed with the planning approval process with the revised plans.

The applicant proposed to use the site for a two (2)-story, 140-bed skilled nursing facility and 144 apartment units, split between three (3) three (3)-story (38-foot tall) apartment buildings. The Planned Unit Development plan approved by the Planning Commission also included the preservation of the historic administrative building, one (1) cottage, and the entrance wall/gate structure.



### ***“Chasewood Villas”***

In August 2021, the Planning Commission reviewed and recommended that City Council approve a Cluster Option Site Plan for a single-family residential subdivision on the north side of West Nine Mile Road, between Polo Club and Baywood Drives. Council approved the Cluster Option Site Plan in September 2021.

The applicant proposes to use the site for 28 cluster units arranged along a cul de sac street, with 3.95 acres of open space.

***(Chasewood Villa Site Plan, Cluster Site Plan 60-10-2020, September 27, 2021, City Council approval)***

***Next page is the Application Activity*** The following tables illustrate all application generated Planning Commission activity, including the number of meetings held, site and landscape plans, zoning map and text amendments and other land use applications reviewed by the Commission in 2021

# 2021

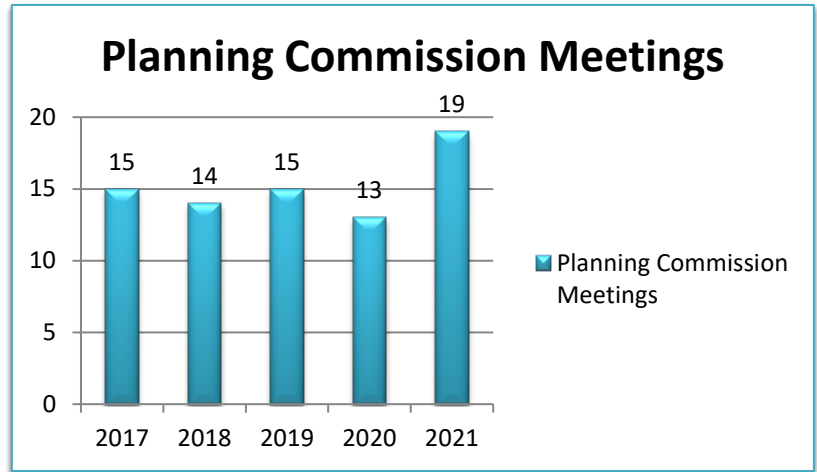
## City of Farmington Hills

### Planning Commission Activity

#### 2021 Planning Commission Meetings:

Regular Meetings, includes Study Sessions and Joint meetings	8
Regular/ Public Hearing	7
Public Hearing	4
Total	19

(10 meetings via Zoom and 9 in person)



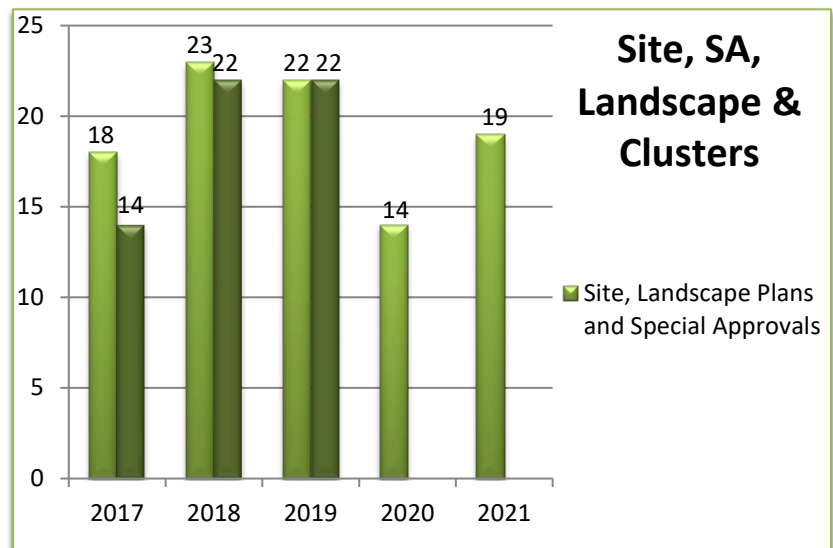
Comparative graph for previous years

#### 2021 Site Plans (SP and Clusters)

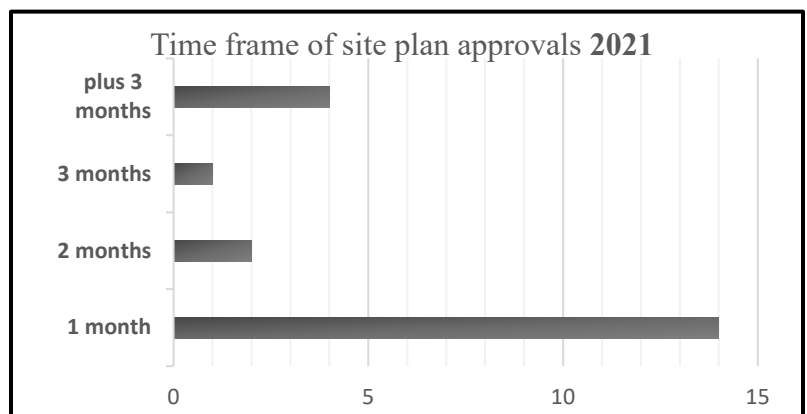
Approved	14
Postponed	2
On next year's Agenda	3
Total	19

#### 2021 Special Approvals (SA)

Approved	2
Total	2



Average time it takes from application to Planning Commission for approvals in 2021. Most that are approved are subject to administrative approvals of revisions. (4 postponed by applicant, counted in plus 3 months)





Planning Commission Activity continued:

### **2021 Lot Splits**

Approved	7
Total	7

### **2021 Rezoning**

Approved	1
Denied	1
Total	2

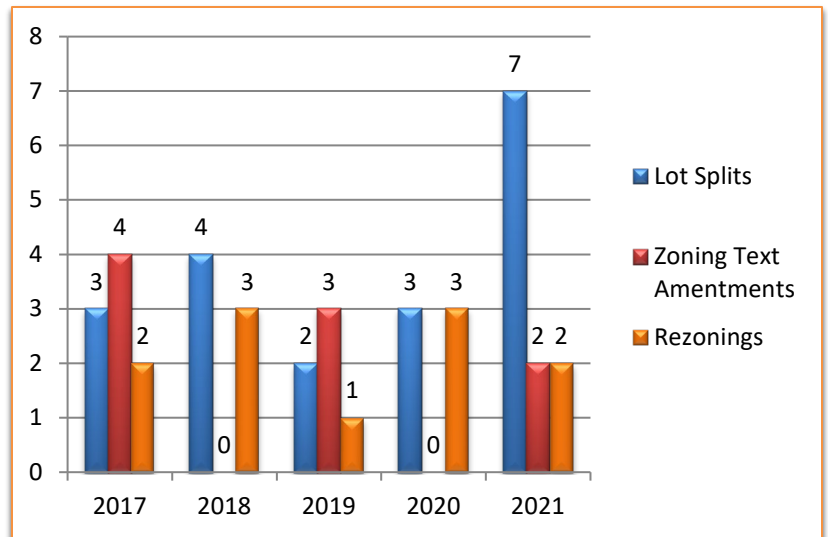
### **2021 Zoning Text Amendments**

Approved	1
Set for Public Hearing (PH)	1
Total	2

### **2021 Cluster Options**

Preliminary Approved	1
Total	1

Comparative Graph from previous years:



Comparative Graph from previous years:

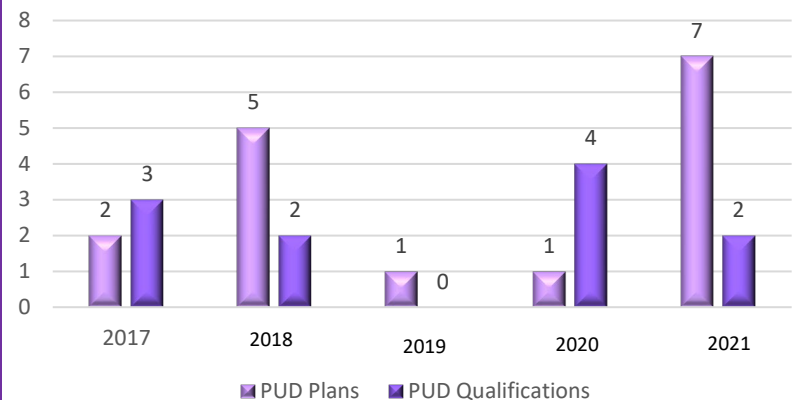
### **2021 P.U.D. Qualifications**

Approved	2
Total	2

### **2021 P.U.D. Plans**

Approved, includes Revised	7
Total	7

**Planned Unit Developments and Qualifications**



## Site and Special Approval Plans

ITEM	SECTION	DESCRIPTION	APPROVED/DENIED	PROPONENT
<b>SP 51-1-2021</b>	20-300-019	24360 Independence Dr., Independence Green Clubhouse In RC-3	Approved by PC 2-18-2021	IGA Property Owner LLC, M Fontaine
<b>SP 52-1-2021</b>	15-201-015	27745 Orchard Lake, Gas Station renovation	Approved by PC 2-18-2021	Faiz Simon, Island Land Capital
<b>SP 53-1-2021</b>	11-351-049	31066 Twelve Mile Rd., Building Renovation Self-Service Fuel Facilities.	Postponed by applicant	Eric Williams, Stonefield
<b>SP 54-2-2021 (PUD Plan 1, 2021)</b>	15-201-270	31525 Twelve Mile, Convert existing hotel into a senior living complex in ES	Set for PH 3-18-2021	Manor Senior Living LLC
<b>SA 55-2-2021</b>	30-251-014	23955 Freeway Park Drive, Indoor Athlete Training in LI-1	Approved 3-18-2021	Tom Anastos
<b>SP 56-2-2021</b>	35-23-201-013, 002, 003, 004 & 005	30250 Grand River Ave., Automobile detailing business in support of internet sales, B-3	Approved 3-18-2021	Ari El, 30250 Grand River Ave.
<b>SA 57-3-2021</b>	02-102-003 to 005	32905 Northwestern Hwy, retail garden center and produce, multiple zonings	Approved 4-22-2021	Ray Hesano
<b>SP 58-3-2021 (also see SP 67-12-2021)</b>	23-351-036	31140 & 31130 Ten Mile, New building in B-3	4-22-21, Postponed by applicant prior to going to Planning Commission	Nikolin Nokaj
<b>SP 59-4-2021</b>	30-101-021	23400 Haggerty, Addition to existing building in LI-1	Approved by PC 6-17-2021	Glenn Pavey
<b>SP 60-5-2021</b>	25-301-019 thru 021	29300 Grayfield Dr. & vacant easterly and westerly adjoining parcels. Multiple family Apartments in RC-2	Approved 6-17-2021	Djon Stanaj
<b>Revised Landscape SP 61-4-2019 (PUD 5, 1993)</b>	17-201-013	S. side of 12 Mile Rd., W. of Drake, Construct staging area for new office building in OS-4	Approved 7-15-021	JST Corporation
<b>SP 61-8-2021</b>	02-226-027	33000 Covington Club Dr., RA-2, Garage and Sales Office at existing Apartment Community	Approved 9-23-2021	Jeffrey Kaftan
<b>Revised SP 62-5-2019</b>	11-477-109, 014 & 013	NW. Corner of 12 Mile Rd. & Middlebelt Rd. Assisted living facility in RC-2	Approved 11-18-2021	Harbor Retirement Development
<b>SP 62-8-2021</b>	26-482-001	29820 Nine Mile, LI-1, parking improvement (grow facility)	Approved 9-23-2021	David Jappaya
<b>Landscape SP 63-9-2021</b>	12-126-037	30955 Northwestern Hwy. OS-1 (CJ 85), Landscape revision	Approved 10-21-2021	Sapphire Landscaping
<b>SP 64-10-2021</b>	26-277-014	Middlebelt Rd. RA-3 major frontage option, one duplex.	11-18-2021 set for PH Approved 12-16-2021	Ramiz Naman

<b>SP 65-10-2021, (Amend PUD 5, 1993)</b>	17-201-013 part of	S. side of Twelve Mile and west side of Investment Dr. Commercial Retail & Restaurant, in OS-4	Approved 11-18- 2021	Michael Lawrence, Yamasaki, Inc
<b>Revised SP 62-5- 2019</b>	11-477-109, 014, 013	27815 Middlebelt Rd., Assisted Living facility., RC-2	Approved 11-18- 2021	C. Jennings Harbor Retirement Development
<b>SP 66-12-2021</b>	19-351-012	38400 Ten Mile Rd. Convert existing fast-food building to Car Wash, B-3	On 2-17-2022 PC agenda	Mustafa Gardi Chad Greentech Engineering
<b>SP 67-12-2021 (also see SP 58-3-2021)</b>	23-351-036	31140 West Ten Mile New Commercial, Building Supply, B-3	1-20-2022 Postponed by applicant	Nikolin Nokaj
<b>SP 68-12-2021</b>	21-376-020	34700 Grand River Ave. New Commercial Building, LI- 1	Not on agenda 12- 16, 2021, postponed by applicant for a future meeting	Billy Gongora Jing-Jin

## Cluster Site Plans 2021

ITEM	SECTION	DESCRIPTION	PETITIONER	PC APPROVAL DATE
Cluster Site Plan 60-10- 2020	30-300-019	38500 Nine Mile Rd., RA-2, 28-30 Single Family homes	Pulte Homes of Michigan, LLC Paul Schuck	PC Recommended to City Council 2-18-2021



## Lot Splits 2021

LOT SPLIT #	SECTION	DESCRIPTION	PETITIONER	PC APPROVAL DATE
<b>Lot Split 1, 2021 final (PUD 5, 1993)</b>	17-201-013 (now 014 & 015)	S. side of Twelve Mile, W. of Drake Rd. Split parent parcel into two lots OS-4, (JST)	Perimo USA Corporation Farmington Hills Corp Investors	Approved 3 18, 2021
<b>Lot Split 2, 2021 final</b>	03-226-026	30825 Orchard Lake Rd. Split parent parcel into two lots in B-2, (Hunters Sq)	PPT Realty, LP, Timothy Collier	Approved 4 22, 2021
<b>Lot Split 3, 2021 Final</b>	32-301-034	21120 Halsted Rd. Split parent parcel into 4, in RA-1	Terry Sever	Approved 5-20- 2021
<b>Lot Split 4, 2021 Rec'd 5-12-2021</b>	33-226-018	33777 Nine Mile, Split parent parcel into 4, in RA-4	Terry Sever	Approved 6-17- 2021
<b>Lot Split 5, 2021 Rec'd 8-18-21</b>	23-376-085	20893 Gill Rd. Split parent parcel into 2, RA-3	Mohammad Usman	Approved 9-23- 2021
<b>Administrative Lot Split 6, 2021 Rec'd 10/28/2021</b>	Part of 13-351- 005 PUD	29000 Eleven Mile, Sisters of Mercy, Edward Rose, assisted senior living, per previous plans approved	Mark Perkoski	Approved 11-30- 2021
<b>Lot Split 7, 2021 Rec'd 12-17-21</b>	34-404-018	31770 Junction St. One parcel into 3	Carol Kujala	Approved 1-20- 2022

## Rezoning Requests 2021

REQUEST	LOCATION	SIDWELL#	FROM / TO	PROPONENT
<b>ZR 1-2-2021</b> <b>(3-18-21 set for PH)</b> <b>(4-22-2021, Postponed by applicant)</b> <b>6-17-2021 recommend denial to CC,</b>	23700 Orchard Lake, Westhill Woods	26-151-025	OS-2 to RC-3	Jefrey Fishman  Did not go to CC
<b>ZR 2-3-2021</b> <b>(4-22-2021 set of PH)</b> <b>6-17-2021 recommend approval to CC</b>	Parcel south of 34700 Grand River Ave., B-3 to LI-1	21-376-021	B-3 to LI-1	Jing-Jin Electric  CC approved rezoning

## Zoning Text Amendments 2021

Z.T.A. #	RESULTS	PROPOSED AMENDMENT
ZTA 1, 2021	PC PH March 25, 2021 Amended April 22, 2021 recommended approval to City Council	<b>Zoning Text Amendment 1, 2021</b> Reconsideration of locational requirements for medical marijuana caregivers in proximity to schools, nursery schools, day nurseries, day care centers, and state-licensed day care homes contained in a proposed amendment to the Zoning Ordinance to add a new definition of "Cannabis"; amend the definitions of "Medical Marihuana", "Primary Caregiver", and "Medical Use"; and to amend use standards and location requirements related to the cultivation of medical marihuana by primary caregivers
ZTA 2, 2021	PC regular meeting October 21, 2021, set for PC PH	<b>Zoning Text Amendment 2 2021</b> Amend the definition of "Family" and various sections of Chapter 34, Zoning to provide equal housing opportunities particularly suited to the needs of persons entitled to reasonable accommodation under state or federal law within One Family and Planned Residential zoning districts
		•

## P.U.D. Plans 2021

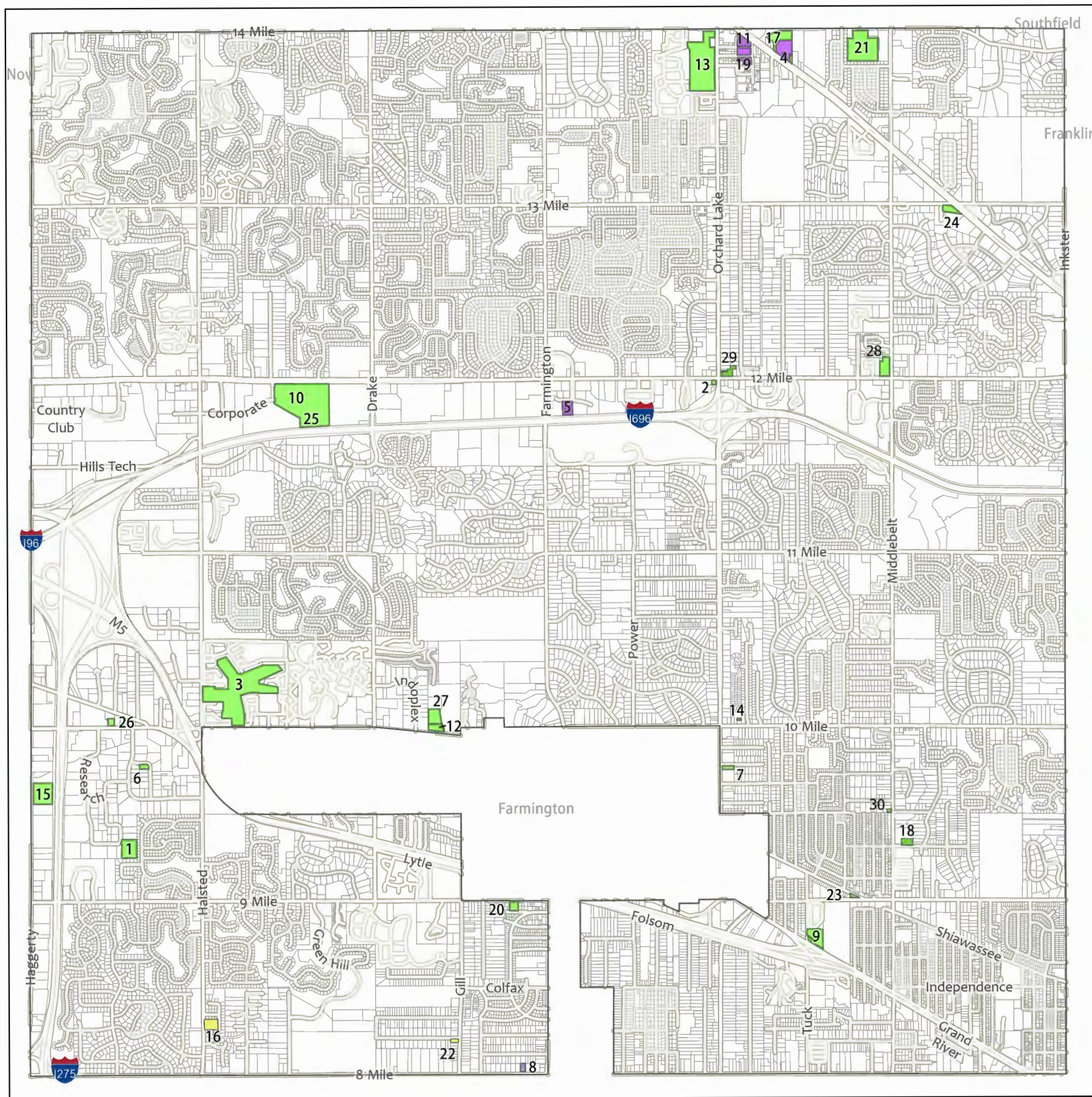
P.U.D. PLAN#	SECTION	DESCRIPTION	ZONING	APPROVED / DENIED	PROPONENT
<b>Amendment to PUD Plan 1-2014</b>	15-101-038	33103 Hamilton Ct. Amend PUD to allow conversion of hotel to senior living center	OS-4	Set for PH 2-18-2021, Postponed by applicant 3-18-202	Sean Koza
<b>PUD Plan 1, 2021 (SP 54-2-2021)</b>	15-201-270	31525 Twelve Mile, Manor Senior Living, Convert hotel into senior living.	ES	Recommend to CC 5-27-2021	Manor Senior Living, LLC
<b>PUD Plan 2, 2021</b>	12-476-008	27400 Twelve Mile Rd. (Sara Fisher), Skilled Nursing Facility and Multi-Family Apartments	RA-1B	Set for PH 4-22-2021 Recommended to CC	Optalis Healthcare
<b>Amendment to PUD Plan 3, 2017 (See PUD 3, 2021)</b>	02-126-130	Stonefield of FH, 14 Mile & NW Hwy. Luxury Apartments Amend existing PUD to include a 5 story, 202-unit multiple family apartment	B-2, B-3	(Set for PH 4-22-2021) 7-15-2021 Postponed	NWH Holdings LLC, Robert Asmar
<b>PUD 3, 2021 (Not amending old from 2017,</b>	02-126-130	Stonefield of FH, 14 Mile & NW Hwy. Luxury Apartments Amend existing PUD to include a 5 story, 202-unit multiple family apartment	B-2, B-3	7-15-2021 PC PH postponed 8-19-2021 PC Tabled	NWH Holdings LLC, Robert Asmar
<b>Amendment to PUD 5, 1993 (SP 65-10-2021)</b>	17-201-013	S. side of 12 Mile Rd., W. of Drake Rd. Amend PUD to permit retail & restaurant	OS-4	Recommend to CC 12-16-2021	Farmington Hills Corp, LLC
<b>PUD 4, 2021</b>	23-02-106-001, 002, 003, 005, 006, 007, 012, 013, 015, 016; 23-02-104-001, 004, 005; 23-02-102-002, 003, 004, 005, 013	South side of Northwestern Hwy, between Greening and Highview One 4-story, 250-unit apartment building and one 3-story 66-unit walk-up multiple family building	B-3, RA-4, OS-1 & P-1	11-18-2021 set for PH 12-16-2021 Recommend to CC	Farmington Hills Lofts LLC Matt Shiffman



## P.U.D. Qualifications 2021

P.U.D. OPTION #	SECTION	DESCRIPTION	ZONING	APPROVED / DENIED	PROPONENT
<b>PUD Qual 1, 2021</b> <b>Rec'd Jan 19, 2021</b>	02-126-130	32680 Northwestern Highway, Five story, 200-unit multiple family apartment development	B-2, B-3	Qualified 2-18-2021	Robert Asmar, NWH Holdings, LLC
<b>PUD Qual 2, 2021</b> <b>Rec'd 5-12-2021</b>	02-106-012, 013; 02-106-001, 002; 02-106-003, 016; 02-106-015, 005, 006, 007; 02-104-005, 001, 004; 02-102-005, 013; 02-102-002, 003 & 004	Upscale residential development fronting NW with access to Greening. 316 rental loft units in 2 buildings; 250-unit, 4 story bldg., 4 story garage; 66-unit, 3 story loft	<i>B-3, RA-4, OS-1 &amp; P-1</i>	Qualified 6-17-2021	Farmington Hills Lofts, LLC, Matt Shiffman





#	Name	Type	CaseNo
1	Orchid Orthopedic Parking Expansion	Site Plan Review	63-12-2020
2	Gas Station Addition	Site Plan Review	52-1-2021
3	Independence Green Club House	Site Plan Review	51-1-2021
4	Stonefield Apartments	Planned Unit Development	PUD 1, 2021
5	Hamilton Court Senior Assisted Living	Planned Unit Development	PUD 1, 2014
6	Athlete Lab	Site Plan Review	55-2-2021
7	Fishman Rezoning	Site Plan Review	ZR-2-2021
8	Daneshvar Rezoning	Rezoning	ZR 2-7-2020
9	Car Detailing	Site Plan Review	56-2-2021
10	JST Lot Split	Lot Split	Lot Split 1, 2021
11	Ray's Plants and Flowers	Special Land Use	57-3-2021
12	Jing-Jin Electric	Site Plan Review	ZR 2-3-2021
13	Collier Lot Split	Site Plan Review	Lot Split 2, 2021
14	Nokaj Site Plan	Site Plan Review	58-3-2021
15	DCP Warehouse Addition	Site Plan Review	59-4-2021
16	Sever Lot Split	Lot Split	Lot Split 3, 2021
17	NorthPoint PUD	Site Plan Review	PUD 3, 2017
18	Phoenix Luxury Apartments	Site Plan Review	60-5-2021
19	The Emerson	Planned Unit Development	
20	Server Lot Split 2	Site Plan Review	Lot Split 4, 2021
21	Covington Club Sales Office	Site Plan Review	61-8-2021
22	Usman Lot Split	Lot Split	Lot Split 5, 2021
23	Jappaya Grow Facility	Site Plan Review	62-8-2021
24	Blackstone 13 Landscape Plan/Consent Judgement	Site Plan Review	
25	Farmington Hills Corp PUD Amendment	Site Plan Review	65-10-2021
26	Gardi Car Wash	Site Plan Review	66-12-2021
27	Jing Jin Addition	Site Plan Review	68-7-2021
28	Harbor Retirement	Site Plan Review	62-5-2019
29	Orchard Ridge Plaza	Site Plan Review	53-1-2021
30	Naman Duplex	Site Plan Review	64-10-2021

## 2021 Development Reviews City of Farmington Hills



0 0.25 0.5 1 Mile



**MINUTES  
CITY OF FARMINGTON HILLS  
PLANNING COMMISSION PUBLIC HEARING  
31555 W ELEVEN MILE ROAD  
FARMINGTON HILLS, MICHIGAN  
JANUARY 20, 2022, 7:30 P.M.**

**CALL MEETING TO ORDER**

The Planning Commission Regular Meeting was called to order by Chair Stimson at 7:37 p.m.

**ROLL CALL**

Commissioners Present: Countegan, Mantey, Schwartz, Stimson, Trafelet, Turner, Varga

Commissioners Absent: Brickner  
(one vacancy)

Others Present: Staff Planner Perdonik, City Attorney Schultz, Planning Consultant Tangari, Economic Development Director Brockway, Staff Engineer Dawkins

**APPROVAL OF AGENDA**

**MOTION by Countegan, support by Turner,** to amend and approve the agenda as follows:

- Remove Item B. Site Plan 67-12-2021, because the application is not complete, and the applicant has been so notified.

**MOTION carried unanimously by voice vote.**

**REGULAR MEETING**

**A. LOT SPLIT 7, 2021 (Final)**

LOCATION: 31770 Junction St.  
PARCEL I.D.: 23-34-404-018  
PROPOSAL: Split parent parcel into two parcels in RA-3, One-Family Residential District  
ACTION REQUESTED: Lot Split approval  
APPLICANT: Carol Kujala  
OWNER: Arthur H. Ryan (estate)

Referencing his January 10, 2022 review letter, Planning Consultant Tangari gave the background and review for the request to split a parent parcel at 31770 Junction Street into two additional parcels (3 parcels total), in the RA-3 One-Family Residential District.

The property had one house and two sheds. The house was on proposed parcel C and oriented toward Junction Street. One of the sheds was on this lot, and the other was on proposed Parcel B. Both sheds were proposed to be removed; this should occur prior to finalization of the split to avoid the creation of nonconformities.



The proposed parcels would meet the dimensional standards of the zoning ordinance. One existing nonconformity – that the existing house has the street side setback to Robinson – would not be affected by the split.

The two new parcels would have frontage on Fendt, and the parcel width and general size of all three parcels matched the abutting parcels that front on the other side of the block (Osmus St), as well as the lots directly across Robinson. The configuration and size of the proposed parcels were consistent with the surrounding neighborhood, and met the criteria in 27-110(2)(e)c., regarding compatibility with existing parcels.

Planning Consultant Tangari completed his review.

Commissioner Schwartz noted for the record that parcels A and B lined up with the parcels to the east and west of this site, and that the motion should require the removal of the sheds before the lot splits were recorded.

Commissioner Mantey pointed out that the sheds appeared to be in different locations as shown on the aerial vs. the certified survey. In any event, the sheds were to be removed.

Chair Stimson invited the applicant to speak.

Carol Kujala was present on behalf of this application for a lot split at 31770 Junction Street. She explained that the shed on Parcel C had already been removed and the shed on Parcel B would be removed in the next few days.

**MOTION by Schwartz, support by Trafelet**, that Final Lot Split 7, 2021, submitted by Carol Kujala, be approved because it appears to meet applicable provisions of Chapter 34 “Zoning” and of Chapter 27, “Subdivision of Land” of the City Code and will result in land parcels which are generally compatible with surrounding lots in the area; and that the City Assessor be so notified, with the following condition:

- The two existing sheds shown on the survey submitted by the applicant be demolished prior to recording of the lot split.

**Motion carried unanimously by voice vote.**

**B. SITE PLAN 67-12-2021**

LOCATION:	31140 Ten Mile Rd.
PARCEL I.D.:	23-23-351-036
PROPOSAL:	New building on vacant parcel for Building Supply Company in B-3, General Business District
ACTION REQUESTED:	Site Plan Approval by Planning Commission
APPLICANT:	Nikolin Nokaj
OWNER:	Nikolin Nokaj

This item was removed from the agenda, as noted above.

**C. Grand River Corridor Plan Update**

Economic Development Director Brockway introduced herself and provided a brief overview of the update of the Grand River Corridor Master Plan, and solicited feedback on the Draft Plan from the Commission.

Commissioner Schwartz offered the following comments:

- The Grand River Corridor Master Plan as presented would not result in the Corridor looking different 10 years from now than it did today. While well intentioned, the Master Plan update lacked context, and did not address the core problems of the area.
- The original concept of the Grand River Corridor Authority was that it would be similar to a DDA, with the ability to use a special tax capture such as a tax increment financing authority (TIFA). This had not borne fruit so far, as for the first few years of the Grand River Corridor Authority property values did not rise, new regulations did not result in new development, and there was no tax capture to put back into the area.
- ARPA (American Rescue Plan Act) funds should be considered for use in the Grand River Corridor area.
- Ultimately, redevelopment of the area would need public seed money from both the City of Farmington and Farmington Hills, such as a revolving loan fund. Again, perhaps this could be funded by ARPA.

Economic Development Director Brockway thanked Commissioner Schwartz for his comments, and Chair Stimson closed discussion on this item.

#### **APPROVAL OF MINUTES** November 18, 2021

**MOTION by Countegan, support by Mantey**, to approve the November 18, 2021 Planning Commission meeting minutes with the following correction:

- Under ROLL CALL, Commissioners Present: remove Commissioner Trafelet and add Commissioner Mantey.

**Motion carried unanimously by voice vote.**

#### **PUBLIC COMMENT**

None.

#### **COMMISSIONERS' COMMENTS**

Noting that the next meeting will be Commissioner Turner's last, Commissioners thanked Commissioner Turner for his service, his insightful comments, and the depth of experience he had brought to the Commission.

Planning Commission CIP (Capital Improvements Plan) meeting will be January 27 in the Community Room, with dinner served at 6:00 and meeting to start at 6:30 pm.

February meeting is scheduled for February 17; Commissioners should let the Planning Office know if they plan to be there, in order to ensure a quorum.

#### **ADJOURNMENT**

**MOTION by Trafelet, support by Turner,** to adjourn the meeting at 8:00 p.m.

**MOTION carried unanimously by voice vote.**

Respectfully Submitted,  
John Trafelet  
Planning Commission Secretary

/cem



**MINUTES  
CITY OF FARMINGTON HILLS  
PLANNING COMMISSION REGULAR MEETING  
31555 W ELEVEN MILE ROAD  
FARMINGTON HILLS, MICHIGAN  
JANUARY 27, 2022, 6:30 P.M.**

**CALL MEETING TO ORDER**

Chair Stimson called the meeting to order at 6:30 p.m.

**ROLL CALL**

Commissioners Present: Countegan, Mantey, Schwartz, Stimson, Trafelet, Turner

Commissioners Absent: Brickner, Varga  
(one vacancy)

Others Present: Staff Planner Perdonik; Central Services Director Monico; Police Chief King; Fire Chief Unruh, Deputy Fire Chief Olszewski and Fire Marshal Baloga; Special Services Director Schnackel; Public Services Director Mondora and DPW Superintendent McCarthy; Planning Department Secretary LaBelle

**APPROVAL OF AGENDA**

**MOTION by Countegan, support by Trafelet, to approve the agenda as submitted.**

**Motion carried unanimously by voice vote.**

**REGULAR MEETING:**

**A. CAPITAL IMPROVEMENTS PLAN 2022 – 2023 THROUGH 2027 – 2028**

The Capital Improvements Plan is a strategic planning tool for the City's capital needs over a 5 year period. It is not a budget, but rather is a comprehensive document that includes the major programs and projects the various departments would like to accomplish over the next five years. The CIP is updated annually and is provided to City Council to use as a guide during the budget process.

**TECHNOLOGY/CENTRAL SERVICES**

Director of Central Services Director Monico was present on behalf of the Central Services Department.

2021/2022 Accomplishments included:

- Miscellaneous PC and notebook replacements
- Continued roll-out of Virtual Desktop Interface (VDI) devices
- Improved and secured connectivity building to building with new fiber between City Hall and the Police Department
- Upgraded security of network and performed cyber security testing and scanning
- Completed an IT Disaster Recovery Plan
- Installing new network storage and computing hardware
- Installing LTE back up for internet connectivity

- Updated City web and intranet to improve communication to residents and staff
- Ongoing updates to audio, video and streaming capabilities in City Hall
- Added video surveillance equipment

#### 2022/2023 Capital Requests

##### Technology Fund and Unified Communications Fund

- Implement Cloud based disaster recovery solution
- Implement Windows 11 Upgrade
- Implement encryption software and hardware for data encryption and FIPS (Federal Information Processing Standard) compliance
- Implement various Smart Cities projects
- Continue to transition from PC's to VDI and VPN (Virtual Private Network) tech and device replacement
- Continue to expand GIS (Geographic Information System) access to City Staff and general public
- Continue to upgrade video surveillance equipment
- Enterprise Resource Planning (ERP) System/Financial Software – future enhancement

#### Planning Commission Discussion:

- Page 22, Video Surveillance Equipment, line 5: As there is no set completion time for the video surveillance equipment because the technology is always changing, and the City is continually adding to this security platform, the sentence that begins “When complete” should be reframed.
- Cameras will be installed over cash acceptance areas, and potentially there will be enhanced camera use (and long-term storage) around ballot drop off boxes and voting locations, depending upon future legislative requirements.

#### **POLICE DEPARTMENT**

Police Chief King was present on behalf of the Police Department.

#### 2022/2023 – Requests:

- Replacement Body Armor: \$30,000 for additional 30 pieces of body armor.
- New Mobile Command Post Vehicle: \$300,000.00. Current vehicle is functionally obsolete. New vehicle will be used by Fire Department as well as Police Department.
- Replace fitness equipment: \$35,000 for three new treadmills and a Stairmaster machine.
- Forensic Investigation of Mobile Devices Program and Equipment: \$55,000 for training investigative staff and obtain computers, hardware and software which will allow for the retrieval of important information.
- Patrol Motorcycles: \$50,000 to replace two police motorcycles originally purchased in 2012.
- Vantage Robot: \$30,000 to purchase tactical robot, enhancing the Department's ability to respond to emergency situations.

#### Planning Commission Discussion:

- Police Chief King and the Commission discussed when and how forfeiture funds could be used for capital improvement purchases.
- West parking lot security is now integrated with the Public Service's underground fuel tank project (p. 14).

#### **FIRE DEPARTMENT**

Fire Chief Unruh, Deputy Fire Chief Olszewski, and Fire Marshal Baloga were present on behalf of the

Fire Department.

Accomplishments of the 2021-2022 fiscal year:

- Ladder truck (109' tall ladder) being built for late May/early June delivery.
- Installation of two power load stretchers
- Took delivery of fire engine as listed on previous CIP

2022/2023 – Requests:

- Purchase replacement for Squad #5: \$275,000
- Purchase replacement for Medic #3: \$275,000
- Purchase turnout gear for end of service life personal protective equipment: \$440,000
- Purchase three power stretchers with power load units: \$175,000
- Purchase one utility vehicle to replace fleet vehicle: \$50,000

Planning Commission Discussion:

- Three projects underway in cooperation with Public Services to address the need for fire hydrants in “dry” areas; this was a City priority.
- Commissioner Schwartz strongly emphasized that hydrant coverage in dry areas would be appropriate use of ARPA (American Rescue Plan Act) funds.
- ARPA funds should be integrated into the current Capital Improvements Plan.
- The City had improved from a protection class 4 rating to a class 2 rating, which means this is an area with superior fire protection. This status can result in improved home insurance rates for residents.

**PARKS AND RECREATION**

Special Services Director Schnackel was present on behalf of the Parks and Recreation division.

Accomplishments of the 2021-2022 year included:

- Completed and opened the new Farmington Hills Community Center, The HAWK (June ‘21)
- Replaced Stadium Turf & Track (Spring ‘22)
- Completed a comprehensive facilities condition assessment at The Hawk.
- Replaced River Bridge at Heritage Park
- Purchased new Zamboni for Ice Arena (in build process)
- Increased accessibility to the new Pickleball Courts
- Purchased driving range mats, bunker rake, and fairway aerifier for Farmington Hills Golf Course
- Added/replaced signage at parks and facilities
- Trail improvements, including resurfacing near Nature Center
- Purchased ¾ ton pickup truck and Kubota utility cart
- Replaced fire alarm panel, wiring, pull stations and strobe lights at Ice Arena
- Completed repairs at Spicer House and replaced roof (Spring ‘22)
- Opened the Hills 275 Bike Trailhead

Requests for 2022-2023:

Vehicles and Equipment

- ¾ Ton 4 x 4 pickup with plow
- Mowers
- Utility Tractor



#### Golf requests

- Utility Mower
- Triplexes (2)
- Utility Cart
- Sprayer

#### Department

- Trail work and wayfinding signs
- Park facility safety modifications
- Spicer House renovations
- Longacre House wall repair
- Playground equipment (adaptive)
- Roof replacements – Pioneer, Founders, & Heritage Parks
- Concrete replacement around shelters and concession stands
- Complete Recreation Master Plan per Department of Natural Resources

#### Hawk Items

- Sound system/management for Harrison Hall
- Shade system for Administration Suite windows
- Sound system for Blackbox Theatre
- Gym divider curtains
- Replace practice field turf/add dome

#### Of Note

The City commissioned facilities experts, Accruent, to complete a study of all City buildings. The study indicated that major repairs are needed at the Costick Center and The Hawk.

<u>5 Year Outlook</u>	<u>Total/Priority</u>
Costick	\$20M needed/\$9M prioritized
The Hawk	\$16M needed/\$3M prioritized
	\$7M for 3 <sup>rd</sup> Floor Renovation (100,000 sf)

The City is currently in the process of hiring a consultant to evaluate the situation and make recommendations for a sustainable future including operations and programming, facility utilization and optimization, facility repairs/replacement and financing.

#### Planning Commission Discussion:

- Directional signage to the elevator at the Hawk should be improved; its location is not obvious.
- The CIP document is confusing when certain capital improvements, such as security cameras, are listed by different departments. Was this a combined expense or a separate expense for each department?
- Golf course paths need maintenance.
- Add footnotes to describe funding sources, such as PM (Parks Millage)
- While acknowledging the planning nature of the CIP, there was concern regarding prioritizing large sums for improving the Hawk and Costick Center, when there were significant infrastructure needs throughout the City. Perhaps the amounts could be reduced in the 1<sup>st</sup> year for the CIP, with the needed remainder spread out over later years.
- Special Services Director Schnackel noted that all maintenance work being done at the Costick

Center was scheduled on a crisis basis.

### **PUBLIC SERVICES**

Public Services Director Mondora and DPW Superintendent McCarthy were present on behalf of the Public Services Department.

#### Accomplishments of the 2021-2022 year included:

- \$1 million budget for city wide facilities improvements
  - sidewalk, security system CCTV cameras, interior lighting fixture replacement, fire alarm system replacement
- DPW interior garage painting
- DPW fuel panel monitoring upgrade
- Reconstruction/rehabilitation of south parking lot of City Hall campus

#### Water Main – Currently Ongoing (\$4.7 Million)

- Quaker Valley Subdivision extension(\$1.53 M)
- Normandy Hills extension (\$2.26 M)
- Salvador Street watermain (\$160,000)
- 2 pressure reducing valves (\$720,000)
- Pasadena Park fire hydrant extensions (CDBG)

#### Sanitary Sewer (\$150,000)

- Salvador Street

#### Sidewalks

- 14 Mile south side, Pear Ridge to Clubhouse (currently ongoing)
- 11 Mile south side, Lyncroft to Inkster Rd.
- Major road sidewalk replacement program, \$150,000
- Local neighborhood sidewalk SAD program, \$150,000

#### 2021 Major Roads (\$3.6M)

- 11 Mile: Middlebelt to Inkster

#### 2022 Major Roads (\$10.5M)

- 14 Mile: Farmington to Orchard Lake Road
- Shiawassee (Hawthorn to 9 Mile)
- Commerce Court
- Interchange Drive

#### 2021 Local Roads (\$12 Million)

- Stone Creek and Westlake Estates (Phase 2)
- Heritage Hills/Wedgwood Commons (Phase 1)
- Parkhill Blvd gravel road conversion
- Local road resurfacing program

#### 2022 Local Roads (\$12 Million)

- Heritage Hills/Wedgwood Commons (Phase 2)

- Whitlock St gravel road conversion
- Local road resurfacing program

#### 2022/2023 Public Facilities

- \$1 Million budget for City wide facilities improvements
  - Sidewalk, security system CCTV cameras, interior lighting fixture replacement, fire alarm system replacement
- City Hall / Police Department underground fuel tank replacement
- Reconstruction/rehabilitation of west parking lot of City Hall Campus

#### 2022/2023 DPW Equipment Purchases

- Rubber tire front loader (\$255,000)
- Forestry truck (\$270,000)
- 2 forestry chippers (\$190,000)
- 2 riding landscape mowers and trailer (\$65,000)
- Tool-Cat utility vehicle (\$100,000)

#### 2022/2023 Drainage Projects

- Quaker Valley Road culvert replacement
- Woodcreek Hills Subdivision drainage
- Farmington Freeway Industrial Park storm sewer
- Commerce Drive storm sewer

#### 2022/2023 Watermain Projects

- Kimberley Subdivision replacement
- Kendallwood Subdivision No. 1 replacement
- Fire protection lines in dry areas
  - Pasadena Park fire hydrant extensions (CDBG)

#### 2022/2023 Sidewalk Projects

- Sidewalk replacement along major roads, including brick paver repair/replace, \$150K
- Neighborhood sidewalk replacement program SAD, \$60K
- 9 Mile south side, across 38505 frontage
- Inkster Road west side, Scottsdale North to 150' North
- Inkster Road, 11 Mile to Hystone Dr.

#### PASER Update (Pavement Surface Evaluation and Rating)

- Overall PASER score
  - 2014: 4.2
  - 2017: 4.7
  - 2019: 5.1
  - 2021: 5.2
- PASER is used to drive the CIP schedule
- 38 Miles of local roads reconstructed since the adoption of the 2018 millage. \$12M is budgeted every year.

#### 2022/2023 Local Road Reconstruction Projects (summer 2023)



- Candidate projects
  - Heritage Hills/Wedgewood Commons, Phase 3
  - Supervisor's Plat #12 & Fendt Farms (Rhonswood, Fendt St.)
  - Hull Road gravel road conversion
  - Local road resurfacing program

2022/2023 Major Road Projects (summer 2023)

- 14 Mile: Drake to Farmington Road
  - \$3.8 Million, \$1.2 Million in Federal Funding
- Farmington Rd: 12 Mile to 13 Mile
  - \$5 Million, \$1.54 Million Federal Funds

Planning Commission Discussion:

- In response to questions, Department of Public Works Mondora gave the following information:
  - The new fire hydrants would address 3 of the 10 prioritized areas where fire suppression was an issue. To complete all the areas would take approximately 10 years.
  - Fuel tank replacement – if fuel tanks are replaced, “something smaller” will be installed. Right now existing fuel tank capacity at City Hall west lot is 20,000 gallons; this was installed in 1986.
  - Citygate signage (#8, p. 15) represented an opportunity, in conjunction with MDOT, to install gateway signage on the Orchard Lake Road bridge. Total cost in the CIP: \$1M
  - Culverts in the ROW are cleaned by the City.
  - The detention basin at 13 Mile and Farmington Road did fill up during last summer's storms.
  - Due to the Michigan climate, City Hall's solar panels had no return on investment, and solar panels were not being considered for The Hawk.
- Regarding the \$36,000 in the CIP for charging stations (#7, page 15), Commissioner Schwartz noted that some other municipalities used a local company to install and maintain charging stations, at no cost to the municipality. The EV user is charged and the fees are split between the company and the municipality. A similar arrangement has been used to install new LED lighting, where the installer receives a portion of the realized savings in future years. In any case, the CIP narrative should indicate that funding is being sought for these improvements, and that the EV charging stations will be for public use.
- Public Works Director Mondora agreed, saying that currently grant funding was being pursued with the City of Farmington for ChargePoint EV stations. The \$36,000 was a placeholder amount for design costs.
- Commissioner Mantey noted that during recent meetings with City Council, Mayor Barnett instructed the Commission regarding two goals: 1) help make the City more appealing to millennials and Gen Z, and 2) lower the City's carbon footprint. Commissioner Mantey gave two examples of people in the stated demographic who bicycled to work in the coldest weather, thus showing their lack of automobile dependence and their participation in lowering the carbon footprint. Yet the City discouraged this when it did not clean snow from the sidewalks. Because the CIP was a planning document, it should include the cost of at least one piece of snow removal equipment for sidewalks.
- Discussion followed. DPW Superintendent McCarthy noted that the City had close to 750,000 lineal feet of sidewalk. The City did contract out sidewalk clearing of the non-commercial properties on the north side of 12 Mile Road from Orchard Lake Road to Haggerty.
- Commissioners Mantey and Schwartz suggested prioritizing 12 Mile and Grand River Avenue for snow clearing, especially highlighting bus stop areas. The Grand River Corridor Authority also had a goal of making Grand River more pedestrian friendly; clearing the sidewalks conformed to that goal.
- Commissioner Countegan suggested including a summary sheet after the CIP public hearing, listing

the Commission's priorities, and perhaps including sidewalk clearing in the motion that would ultimately approve the CIP.

- Commissioner Mantey pointed that page 63 of the CIP said: *The following Bike Path System Map identifies all existing sidewalk infrastructure and includes a proposed bike path system for the City.* However, as in past years there was no proposed bike path system map. Either the sentence should be deleted or the sidewalk path system map added.
- In response to further questions, Staff Planner Perdonik said that the planned non-motorized Master Plan was being combined with the Master Plan Update anticipated to begin this year.

**MOTION by Trafelet, support by Countegan, to set the Capital Improvements Plan 2022/2023 through 2027/2028 for Public Hearing on March 17, 2022.**

**MOTION carried unanimously by voice vote.**

**PUBLIC COMMENT:** None

**COMMISSIONER'S COMMENTS:**

As this was Commissioner Turner's last meeting, Commissioners thanked Bob Turner for his excellent service and commitment to the Planning Commission.

Commissioner Schwartz said that as discussed at the October 21, 2021 Planning Commission meeting, following the second joint meeting with City Council he had developed a PowerPoint presentation to share with City Council regarding past Planning Commission initiatives. The Commission had supported this effort and by motion had requested another joint meeting with City Council to present the PowerPoint document. However, if another joint meeting with Council was not scheduled, as discussed in October perhaps the PowerPoint could be presented as a regular agenda item at an upcoming Council meeting, with several Commissioners (but not a quorum) present.

The Commission thanked Planning Department Secretary Jeri Labelle for tonight's pre-meeting dinner.

The next meeting will be February 17, 2022.

**ADJOURNMENT:**

**MOTION by Turner, support by Mantey, to adjourn the meeting at 9:06 pm**

**Motion carried unanimously by voice vote.**

Respectfully submitted,  
John Trafelet  
Planning Commission Secretary

/cem