

- LEGEND**
- FIB FOUND IRON BAR
 - FCI FOUND CAPPED IRON
 - (M) MEASURED
 - (R) RECORD
 - EX. CONDUIT
 - EX. GAS MAIN
 - EX. GUARD RAIL
 - EX. OVERHEAD LINES
 - EX. SANITARY SEWER
 - EX. STORM SEWER
 - EX. WATER MAIN
 - EX. FENCE
 - EX. BOLLARD
 - EX. CATCH BASIN
 - EX. CLEANOUT
 - EX. ELECTRIC METER
 - EX. END SECTION
 - EX. GAS METER
 - EX. GAS SHUT OFF
 - EX. GATE VALVE
 - EX. GUY ANCHOR
 - EX. HAND HOLE
 - EX. MAILBOX
 - EX. MONITORING WELL
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 - EX. TRAFFIC MANHOLE
 - EX. TRAFFIC SIGNAL
 - EX. TRANSFORMER
 - EX. WATER SHUT OFF
 - EX. WELL
 - EX. UTILITY POLE
 - PRO. SIGN
 - PRO. BOLLARD WITH SIGN
 - # INDICATES NUMBER OF PARKING SPACES

GENERAL NOTES:
 THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.

- ALL DIMENSIONS SHOWN ARE TO FACE OF CURB, FACE OF SIDEWALK, OUTSIDE FACE OF BUILDING PROPERTY LINE, CENTER OF MANHOLE/CATCH BASIN OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED.
- SEE DETAIL SHEET FOR ADDITIONAL SIDEWALK RAMP DETAILS.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF ROCHESTER HILLS AND R.C.O.C. CURRENT STANDARDS AND REGULATIONS.
- THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- ANY WORK WITHIN THE STREET OR HIGHWAY RIGHT-OF-WAYS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION AND SHALL NOT BEGIN UNTIL ALL NECESSARY PERMITS HAVE BEEN ISSUED FOR THE WORK.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ADJUST THE TOP OF ALL EXISTING AND PROPOSED STRUCTURES (MANHOLES, CATCH BASINS, INLETS, GATE WELLS ETC.) WITHIN GRADED AND /OR PAVED AREAS TO FINAL GRADE SHOWN ON THE PLANS. ALL SUCH ADJUSTMENTS SHALL BE INCIDENTAL TO THE JOB AND WILL NOT BE PAID FOR SEPARATELY.
- CONTRACTOR TO PROVIDE ALL REQUIRED TRAFFIC CONTROL DEVICES AND PERSONNEL TO MAINTAIN A SAFE WORK ENVIRONMENT.
- SEE R.C.O.C. STANDARD DETAIL SHEET 1 OF 4 FOR TYPICAL ROADWAY AND PAVEMENT SECTION DETAILS.

SETBACKS:
 ORDINANCE
 FRONT: 25 FEET
 SIDES: 25 FEET ONE SIDE, 50 FEET TOTAL
 REAR: 30 FEET*

*WHEN A NB, CB OR HB DISTRICT ABUTS ANY OTHER NON-RESIDENTIAL DISTRICT, THE REAR YARD FOR THE NB OR CB DISTRICT MAY BE REDUCED TO TEN FEET WITH THE APPROVAL OF THE PLANNING COMMISSION, UPON ITS DETERMINATION THAT THE REQUESTED REDUCTION ALLOW FOR BETTER DEVELOPMENT AND WILL BE COMPATIBLE WITH ADJOINING PROPERTIES.

NOTE: ARCHITECT OR DESIGN INDIVIDUAL TO VERIFY SETBACKS WITH THE CITY OF ROCHESTER HILLS AND/OR ANY ASSOCIATION ORDINANCE PRIOR TO DESIGN.

SURVEY NOTES:

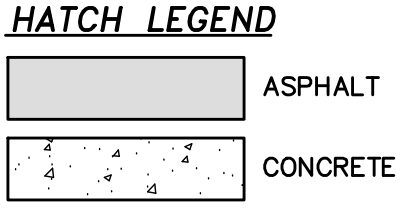
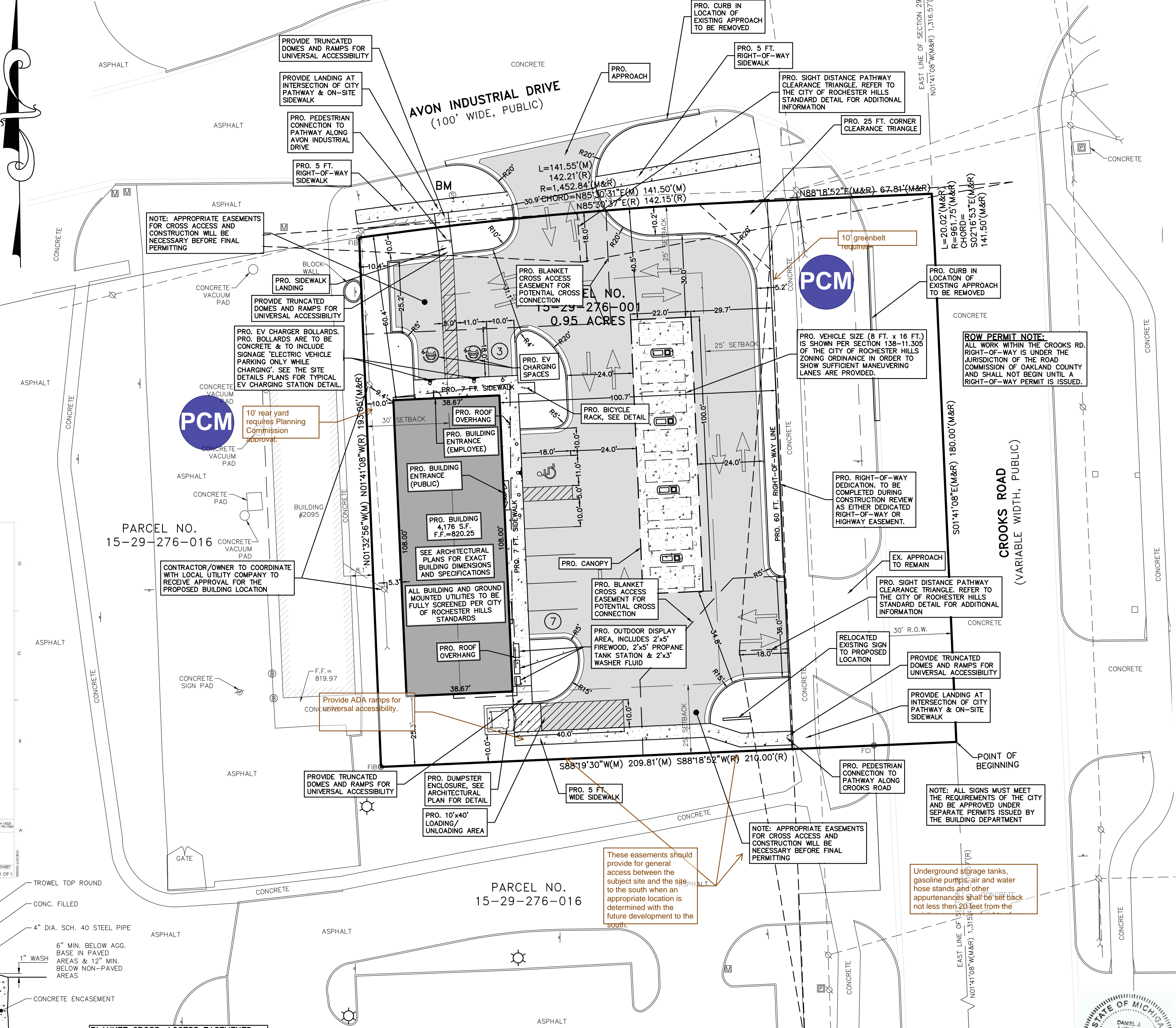
- TITLE WORK WAS NOT PROVIDED. EXISTING EASEMENTS, IF ANY, HAVE NOT BEEN SHOWN.
- A WETLAND AND TREE SURVEY WERE NOT PERFORMED AS PART OF THIS SURVEY.

LEGAL DESCRIPTION (BY OTHERS):
 PART OF THE EAST 1/2 OF THE NORTHEAST 1/4 OF SECTION 29, TOWN 3 NORTH, RANGE 11 EAST, CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS:
 BEGINNING AT A POINT DISTANT N01°41'08"W 1,316.57 FEET FROM THE EAST 1/4 CORNER, THENCE S88°18'52"W 210 FEET, THENCE N01°41'08"W 193.05 FEET, THENCE ALONG A CURVE TO THE RIGHT, RADIUS 1,452.84 FEET, CHORD BEARS N85°30'37"E 142.15 FEET, DISTANCE OF 142.21 FEET, THENCE N88°18'52"E 67.81 FEET, THENCE ALONG A CURVE TO THE RIGHT, RADIUS 961.75 FEET, CHORD BEARS S02°16'53"E 20.02 FEET, DISTANCE OF 20.02 FEET, THENCE S01°41'08"E 180 FEET TO THE POINT OF BEGINNING, 1.00 ACRES.

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) #26125G0393F (COMMUNITY ID NO. 260471 - CITY OF ROCHESTER 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.

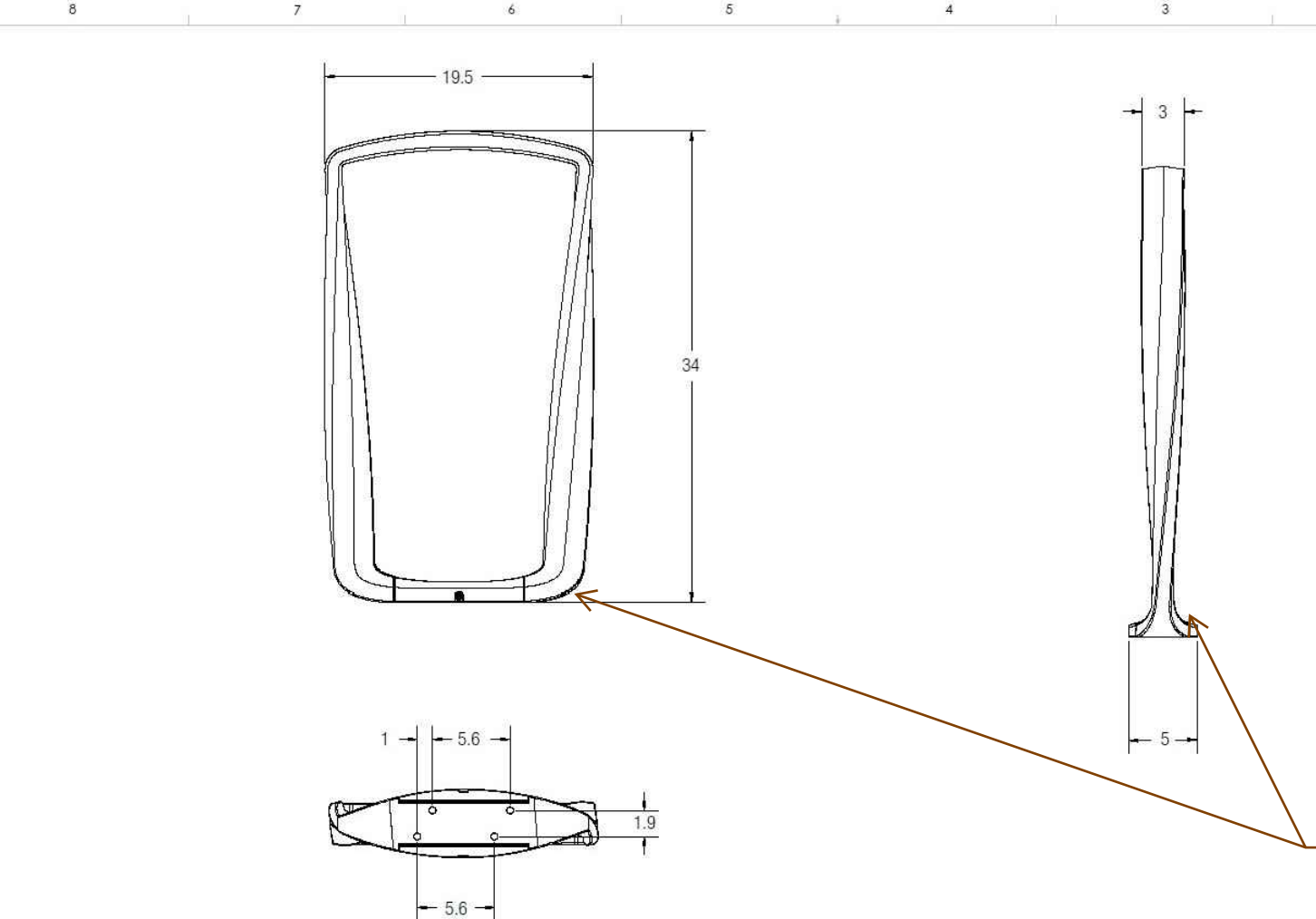
PARKING DATA:
 REQUIRED PARKING:
 RETAIL SALES & SERVICE ESTABLISHMENTS
 ONE (1) SPACE PER MANAGER OR 300 S.F. OF FLOOR AREA
 FLOOR AREA = 4,176 S.F. / 300 S.F. = 14 SPACES

PROPOSED PARKING:
 9 REGULAR SPACES
 1 BARRIER-FREE SPACE
 2 EV CHARGING SPACES
 8 FUEL PUMP SPACES
 TOTAL PARKING PROVIDED: 19 SPACES, 1 BARRIER-FREE SPACE



ZONING:
 HB, HIGHWAY BUSINESS DISTRICT

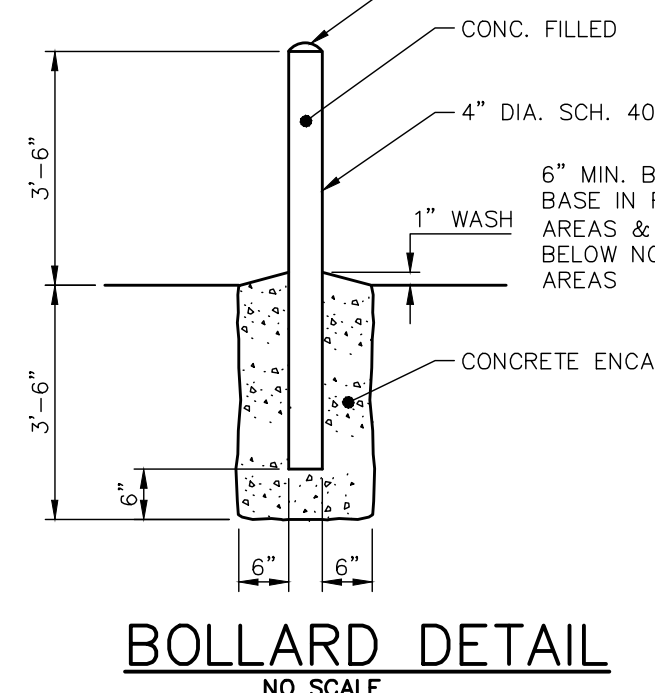
BENCHMARK:
 SANITARY MANHOLE ON THE SOUTH SIDE OF AVON INDUSTRIAL DRIVE NEAR THE NORTHWEST CORNER OF THE SITE LOCATED AT 2260 CROOKS ROAD. ELEVATION: 816.71 N.A.V.D.88



To match RH Gateway and Streetscape Master Plan

CUSTOMER APPROVAL:

DATE:	SCALE:
DATE:	SCALE:



BLANKET CROSS-ACCESS EASEMENTS:
 BLANKET CROSS-ACCESS EASEMENTS ACROSS THE ENTIRE PARKING LOT AREA SHALL BE PROVIDED FOR THE CONNECTED LOTS UNDER SEPARATE OWNERSHIP OR MANAGEMENT. THE CROSS-ACCESS EASEMENT SHALL BE WITHOUT LIMITATION AND SHALL BE RECORDED WITH THE OAKLAND COUNTY REGISTER OF DEEDS.

NOTICE:
 CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME 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.

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.

G.A.V. & ASSOCIATES, INC.
 DIMENSION AND LAYOUT PLAN
 2260 CROOKS ROAD - PARCEL NO. 15-29-276-001
 SECTION: 29
 CITY OF ROCHESTER HILLS
 OAKLAND COUNTY
 MICHIGAN

CLIENT: G.A.V. & ASSOCIATES, INC.

REVISED: 2025-1-7 PER CITY REVIEW

DATE: 10-7-2024
 DRAWN BY: CEH
 CHECKED BY: JPP/DJL

FBK: --
 CHP: RG
 SCALE: HOR 1"=20 FT.
 VER 1"=1 FT.

2

NOT TO BE USED AS CONSTRUCTION DRAWINGS

- LEGEND**
- FIB FOUND IRON BAR
 - FCI FOUND CAPPED IRON
 - (M) MEASURED RECORD
 - (R) RECORD
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 - EX. GAS MAIN
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SOILS MAP:



SOILS LEGEND:

Oakland County, Michigan (MI125)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
50B	Udipsammments, undulating	0.6	100.0%
Totals for Area of Interest		0.6	100.0%

ZONING:
HB, HIGHWAY BUSINESS DISTRICT

SETBACKS:
ORDINANCE
FRONT: 25 FEET
SIDES: 25 FEET ONE SIDE, 50 FEET TOTAL
REAR: 30 FEET*

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BENCHMARK:
SANITARY MANHOLE ON THE SOUTH SIDE OF AVON INDUSTRIAL DRIVE NEAR THE NORTHWEST CORNER OF THE SITE LOCATED AT 2260 CROOKS ROAD. ELEVATION: 816.71 N.A.V.D.88

SURVEY NOTES:
1. TITLE WORK WAS NOT PROVIDED. EXISTING EASEMENTS, IF ANY, HAVE NOT BEEN SHOWN.
2. A WETLAND AND TREE SURVEY WERE NOT PERFORMED AS PART OF THIS SURVEY.

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811
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CLIENT: G.A.V. & ASSOCIATES, INC.
EXISTING CONDITIONS PLAN
2260 CROOKS ROAD - PARCEL NO. 15-29-276-001
SECTION: 29 TOWNSHIP 3 NORTH RANGE: 11 E.
CITY OF ROCHESTER HILLS
OAKLAND COUNTY
MICHIGAN

REVISED
2025-1-7 PER CITY REVIEW

DATE: 10-7-2024
DRAWN BY: CEH
CHECKED BY: JPP/JDL

FBK: --
CHF: RG

SCALE: HOR 1" = 20 FT.
VER 1" = 10 FT.

3

22-460

NOT TO BE USED AS CONSTRUCTION DRAWINGS

LEGEND

- Legend items: FOUND IRON BAR, FOUND CAPPED IRON, MEASURED RECORD, CONDUIT, GAS MAIN, GUARD RAIL, OVERHEAD LINES, SANITARY SEWER, STORM SEWER, WALL, WATER MAIN, FENCE, BOLLARD, CATCH BASIN, CLEANOUT, ELECTRIC METER, END SECTION, GAS METER, GAS SHUT OFF, GATE VALVE, GUY ANCHOR, HAND HOLE, MAILBOX, MONITORING WELL, PEDESTAL, SANITARY MANHOLE, SIGN, STORM MANHOLE, TELEPHONE MANHOLE, TELEPHONE PEDESTAL, TRAFFIC MANHOLE, TRAFFIC SIGNAL, TRANSFORMER, WATER SHUT OFF, WELL, LIGHT POLE, UTILITY POLE.

DEMOLITION LEGEND table with symbols for ITEM TO BE REMOVED, CURB TO BE REMOVED, PAVEMENT TO BE REMOVED, BUILDING/STRUCTURE REMOVAL, and UTILITY REMOVAL.

GENERAL DEMOLITION NOTES:

- 1. ALL WORK TO BE ACCOMPLISHED IN STRICT ACCORDANCE WITH ALL CITY, COUNTY AND STATE REGULATIONS.
2. WITHIN THE SUBJECT PROPERTY, THE INTENT IS TO HAVE A CLEAN, CLEAR SITE, FREE OF ALL EXISTING ITEMS NOTED TO BE REMOVED IN ORDER TO PERMIT THE CONSTRUCTION OF THE NEW PROJECT.
3. ALL ITEMS NOTED TO BE REMOVED SHALL BE DONE SO AS PART OF THE CONTRACT FOR GENERAL CONSTRUCTION.
4. REMOVE AND DISPOSE OF ANY PAVEMENT, SIDEWALK, DEBRIS AND RUBBISH REQUIRING REMOVAL FROM THE WORK AREA IN AN APPROVED OFF SITE LANDFILL.
5. THE CONTRACTOR SHALL SECURE ALL PERMITS FOR HIS DEMOLITION AND DISPOSAL OF HIS DEMOLITION MATERIAL TO BE REMOVED FROM THE SITE. THE CONTRACTOR SHALL POST BONDS AND PAY PERMIT FEES AS REQUIRED.
6. THE DETAILED PLANS MAY NOT REFLECT ALL UTILITIES ON THE SITE OR SURROUNDING STREETS AND PROPERTIES. THE CONTRACTOR SHALL VERIFY LOCATIONS AND EXISTENCE OF UTILITY SERVICES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CALL MISS DIG, A MINIMUM 72 HOURS PRIOR TO CONSTRUCTION.
7. THE CONTRACTOR TO REMOVE ALL UTILITIES TO EXISTING STRUCTURES WHETHER SHOWN OR NOT OR ARRANGE FOR THE APPROPRIATE UTILITY COMPANY TO CUT AND CAP SERVICE PIPING AT THE PROPERTY LINE OR MAIN (AS REQUIRED). ALL SERVICES MAY NOT BE SHOWN ON THIS PLAN.
8. FOR ALL ITEMS NOTED TO BE REMOVED - REMOVE NOT ONLY THE ABOVE GROUND ELEMENTS, BUT ALL UNDERGROUND ELEMENTS AS WELL INCLUDING BUT NOT NECESSARILY LIMITED TO: FOUNDATIONS, GRAVEL FILLS, TREE ROOTS, OLD PIPES, ETC.
9. BACK FILL ALL EXCAVATIONS RESULTING FROM THE DEMOLITION WORK TO MEET THE REQUIREMENTS FOR FILL OUTLINED IN THE GEOTECHNICAL REPORT.
10. THE CONTRACTOR SHALL PROTECT ALL IRON PINS, MONUMENTS AND PROPERTY CORNERS DURING CONSTRUCTION. ANY CONTRACTOR DISTURBED PINS, MONUMENTS, ETC. SHALL BE RESET BY A LICENSED LAND SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.

GENERAL DEMOLITION NOTES (CONTINUED):

- 11. THE CONTRACTOR SHALL RESTORE ANY UTILITY STRUCTURE, PIPES, PAVEMENT, CURBS, SIDEWALKS OR LANDSCAPED AREAS DISTURBED DURING DEMOLITION TO THEIR ORIGINAL CONDITION AND TO THE SATISFACTION OF THE OWNER.
12. 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.
13. STAGING/PHASING OF DEMOLITION AND CONSTRUCTION IS TO BE COORDINATED WITH THE OWNER AND THE CONTRACTOR PRIOR TO CONSTRUCTION.
14. 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 THESE ITEMS. CONTRACTOR SHALL VISIT SITE TO VERIFY EXISTING CONDITIONS AND EXTENTS OF THE DEMOLITION THAT WILL BE REQUIRED PRIOR TO SUBMITTING A BID.
15. REMOVE ALL STRUCTURES DESIGNATED FOR REMOVAL ACCORDING TO THE DEMOLITION PLAN. THIS INCLUDES FOUNDATIONS, UNDERGROUND UTILITIES, CONCRETE, CURB, TREES, ETC.
16. THE CONTRACTOR SHALL, AS A MINIMUM, PROVIDE TREE PROTECTION FENCING AROUND EXISTING TREES TO BE SAVED THAT ARE WITHIN 15' OF CONSTRUCTION ACTIVITIES AND AS INDICATED IN THE PLANS OR PER LOCAL AGENCY REQUIREMENTS.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN UP, NOISE, DUST CONTROL, STREET SWEEPING AND HOURS OF OPERATION IN ACCORDANCE WITH THE LOCAL CODES.
18. 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 CITY OF ANN ARBOR REQUIREMENTS AND IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) LATEST EDITION.
19. THE CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES TO COORDINATE ALL UTILITY WORK.

THERE IS A RESTRICTIVE COVENANT FROM 2004 ON THIS PROPERTY RECORDED AS LIBER 33861 PAGE 300 AS A RESULT OF A UST LEAK. SEVEN (7) MONITORING WELLS WERE INSTALLED WITHIN THE PROPERTY TO MONITOR THE CONTAMINATION. UNLESS DOCUMENTATION CAN BE PROVIDED THAT INDICATES A FULL REMEDIATION OF THE SITE HAS OCCURRED IN ACCORDANCE WITH AN APPROVED CORRECTIVE ACTION PLAN, AND EGLE HAS ALLOWED FOR THE MONITORING WELLS TO BE REMOVED, THE LAND USE AND RESOURCE LIMITATIONS OUTLINED IN THE RESTRICTIVE COVENANT WILL APPLY AND SHALL BE ADHERED TO DURING CONSTRUCTION. A DUE CARE PLAN MAY BE REQUIRED AT TIME OF CONSTRUCTION PLAN REVIEW.

ZONING: HB, HIGHWAY BUSINESS DISTRICT
SETBACKS: ORDINANCE FRONT: 25 FEET SIDES: 25 FEET ONE SIDE, 50 FEET TOTAL REAR: 30 FEET*

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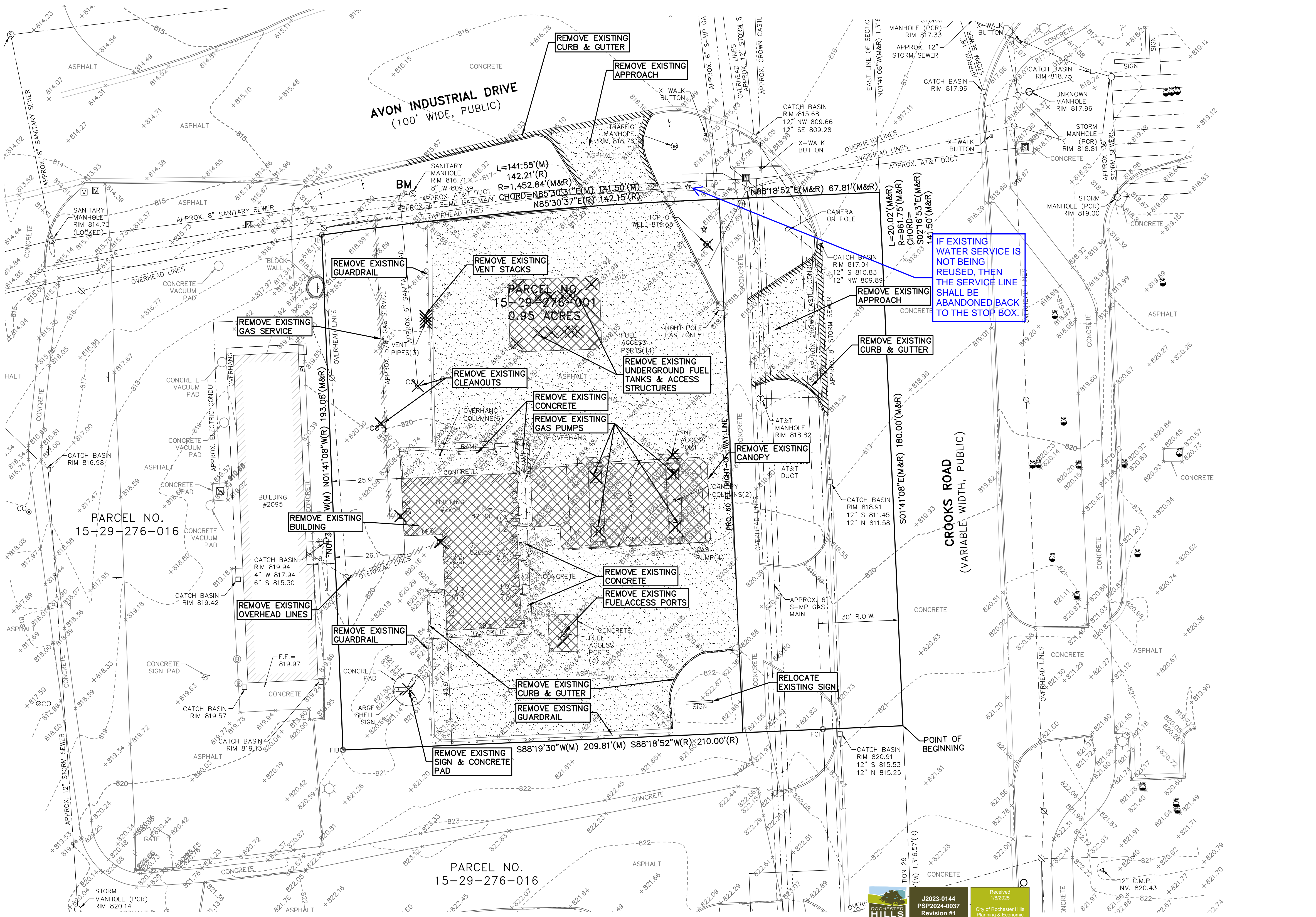
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IF EXISTING WATER SERVICE IS NOT BEING REUSED, THEN THE SERVICE LINE SHALL BE ABANDONED BACK TO THE STOP BOX.

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.

G.A.V. & ASSOCIATES, INC. DEMOLITION PLAN. 2260 CROOKS ROAD - PARCEL NO. 15-29-276-001. SECTION: 29. CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN.

REVISED 2025-1-7 PER CITY REVIEW. DATE: 10-7-2024. DRAWN BY: CEH. CHECKED BY: JPP/DJL. FBK: --. CHF:RG. SCALE: HOR 1"= 20 FT. VER 1"= 40 FT. 4 22-460

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 - ⊙ EX. MAILBOX
 - ⊙ EX. MONITORING WELL
 - ⊙ EX. PEDESTAL
 - ⊙ EX. SANITARY MANHOLE
 - ⊙ EX. SIGN
 - ⊙ EX. STORM MANHOLE
 - ⊙ EX. TELEPHONE MANHOLE
 - ⊙ EX. TELEPHONE PEDESTAL
 - ⊙ EX. TRAFFIC MANHOLE
 - ⊙ EX. TRAFFIC SIGNAL
 - ⊙ EX. TRANSFORMER
 - ⊙ EX. WATER SHUT OFF
 - ⊙ EX. WELL
 - ⊙ EX. LIGHT POLE
 - ⊙ EX. UTILITY POLE
 - ⊙ PRO. SIGN
 - ⊙ PRO. BOLLARD WITH SIGN
 - ⊙ INDICATES NUMBER OF PARKING SPACES
 - PRO. CATCH BASIN
 - PRO. MANHOLE
 - PRO. STORM SEWER
 - PRO. SANITARY SEWER LEAD
 - PRO. WATER LEAD
 - TREE PROTECTION FENCE
 - SILT FENCE

- HATCH LEGEND**
- ASPHALT
 - CONCRETE

- GRADING AND DRAINAGE LEGEND:**
- 820.00 PROPOSED SPOT GRADE ELEVATION
 - TP = TOP OF PAVEMENT
 - TW = TOP OF WALK
 - TC = TOP OF CURB
 - G = GUTTER
 - FG = FINISH GRADE
 - FF = FINISH FLOOR
 - OVERLAND FLOW DIRECTION



ROW PERMIT NOTE:
ALL WORK WITHIN THE AVON INDUSTRIAL DRIVE RIGHT-OF-WAY IS UNDER THE JURISDICTION OF THE CITY OF ROCHESTER HILLS AND SHALL NOT BEGIN UNTIL A RIGHT-OF-WAY PERMIT IS ISSUED.

ROW PERMIT NOTE:
ALL WORK WITHIN THE CROOKS RD. RIGHT-OF-WAY IS UNDER THE JURISDICTION OF THE COMMISSION OF OAKLAND COUNTY AND SHALL NOT BEGIN UNTIL A RIGHT-OF-WAY PERMIT IS ISSUED.

BENCHMARK:
SANITARY MANHOLE ON THE SOUTH SIDE OF AVON INDUSTRIAL DRIVE NEAR THE NORTHWEST CORNER OF THE SITE LOCATED AT 2260 CROOKS ROAD. ELEVATION: 816.71 N.A.V.D.88

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.

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.

NOTICE:
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NOTE:
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GREENTECH ENGINEERING, INC.
CIVIL ENGINEERS & LAND SURVEYORS
51147 Pontiac Trail, Wixom, MI 48393
Phone: (248) 668-0700 Fax: (248) 668-0701

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Know what's below
Call before you dig.

CLIENT: G.A.V. & ASSOCIATES, INC.
GRADING PLAN
2260 CROOKS ROAD - PARCEL NO. 15-29-276-001
SECTION: 29 TOWNSHIP 31 N. RANGE: 11 E.
CITY OF ROCHESTER HILLS
OAKLAND COUNTY MICHIGAN

REVISED
2025-1-7 PER CITY REVIEW

DATE: 10-7-2024
DRAWN BY: CEH
CHECKED BY: JPP/DJL

FBK: --
CHA: RG

5
SCALE: HOR 1" = 20 FT.
VER 1" = 1 FT.

NOT TO BE USED AS CONSTRUCTION DRAWINGS

LEGEND

- FIB FOUND IRON BAR
- FCI FOUND CAPPED IRON MEASURED
- (M) RECORD
- (R) RECORD
- EX. CONDUIT
- EX. GAS MAIN
- EX. GUARD RAIL
- EX. OVERHEAD LINES
- EX. SANITARY SEWER
- EX. STORM SEWER
- EX. WALL
- EX. WATER MAIN
- EX. FENCE
- ⊙ EX. BOLLARD
- ⊙ EX. CATCH BASIN
- ⊙ EX. CLEANOUT
- ⊙ EX. ELECTRIC METER
- ⊙ EX. END SECTION
- ⊙ EX. GAS METER
- ⊙ EX. GAS SHUT OFF
- ⊙ EX. GATE VALVE
- ⊙ EX. GUY ANCHOR
- ⊙ EX. HAND HOLE
- ⊙ EX. MAILBOX
- ⊙ EX. MONITORING WELL
- ⊙ EX. PEDESTAL
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HATCH LEGEND

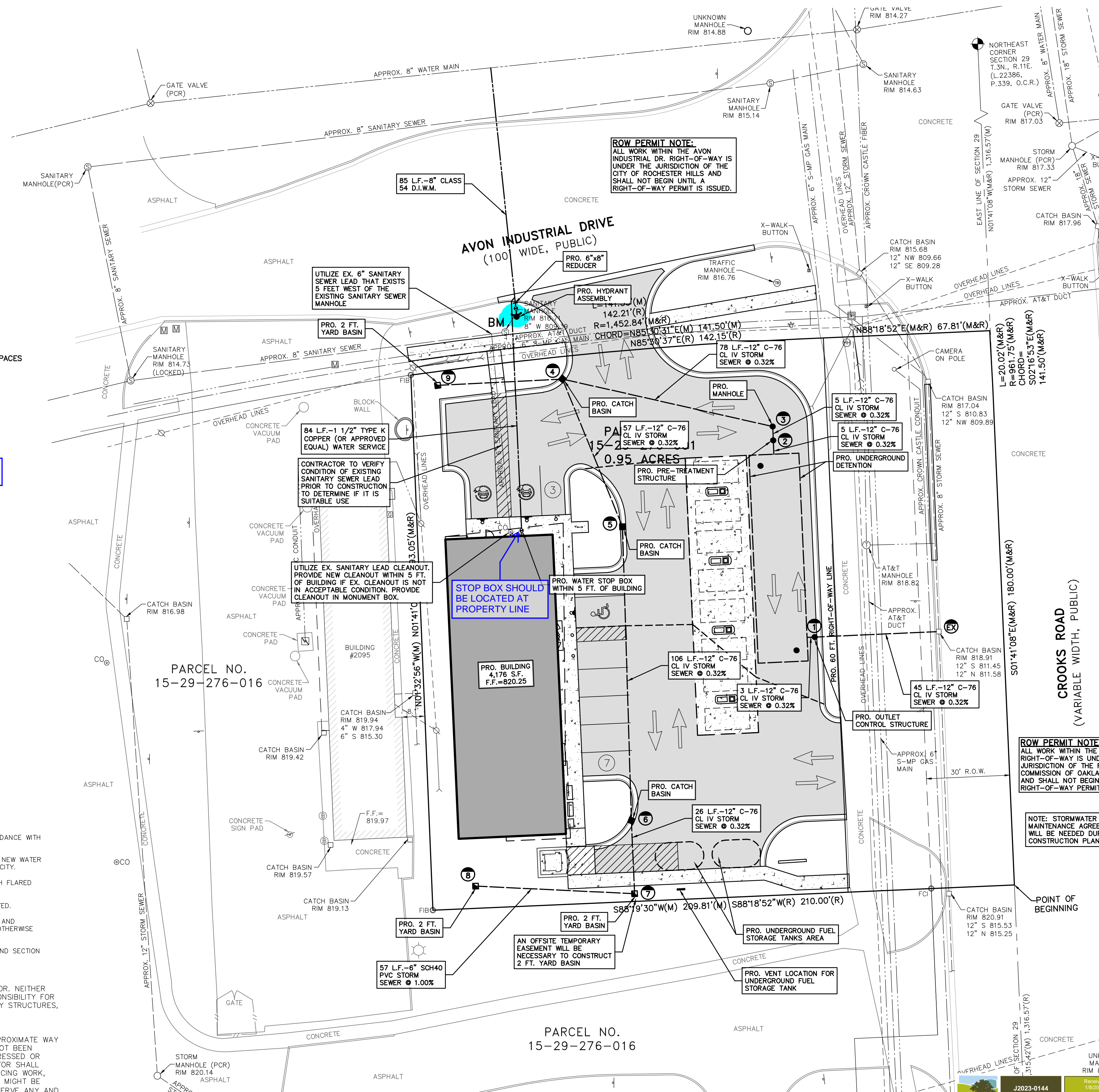
- ASPHALT
- CONCRETE

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).

ROW PERMIT NOTE:
 ALL WORK WITHIN THE AVON INDUSTRIAL DR. RIGHT-OF-WAY IS UNDER THE JURISDICTION OF THE CITY OF ROCHESTER HILLS AND SHALL NOT BEGIN UNTIL A RIGHT-OF-WAY PERMIT IS ISSUED.

ROW PERMIT NOTE:
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NOTE: STORMWATER MAINTENANCE AGREEMENT WILL BE NEEDED DURING CONSTRUCTION PLAN REVIEW



Detention Basin Design for 100-Year Design Storm

Time of Concentration Calculations
 Time of Concentration = For sites less than 2 acres in size, use tc of 10 min.
 (Wayne County Ordinance pg.31)

Rainfall Intensity
 $I_{100} = \frac{101}{(12.33 + T)^{0.88}}$
 $T = 10.0$ min
 $I_{100} = 7.4$ in/hr

Channel Protection Volume Control (CPVC) Required Volume
 $V_{CPVC} = A * C * 3,630$
 $A = 0.68$ acres
 $C = 0.82$
 $V_{CPVC} = 2,015$ cf

Channel Protection Rate Control (CPRC) Required Volume
 $V_{CPRC} = A * C * 6,897$
 $A = 0.68$ acres
 $C = 0.82$
 $V_{CPRC} = 3,828$ cf

100-Year Detention Volume
 $Q_{100} = 100\text{-yr peak allowable release rate (cfs/acre)}$
 *For sites smaller than 2 acres use $Q_{100} = 1.0$ cfs/acre
 $A = 0.68$ acres
 $Q_{100} = 0.68$ cfs

$Q_2 = C * I_{100} * A$
 $Q_2 = 100\text{-yr peak pond inflow (cfs)}$
 $A = 0.68$ acres
 $C = 0.82$
 $I_{100} = 7.4$ in/hr
 $Q_2 = 4.13$ cfs

$V_1 = 18,900 * C * A$
 $V_1 = 100\text{-yr runoff volume (cf)}$
 $A = 0.68$ acres
 $C = 0.82$
 $V_1 = 10,490$ cf

$V_1 / V_2 = 0.206 - 0.15 \ln(Q_2 / Q_1)$
 $V_1 / V_2 = \text{storage ratio}$
 $Q_2 = 100\text{-yr peak allowable discharge (cfs)}$
 $Q_1 = 100\text{-yr peak pond inflow (cfs)}$
 $V_1 / V_2 = 0.48$
 $V_1 = 4,998$ cf

100-yr Required Storage Volume
 $V_1 = V_2 * \text{storage ratio}$
 $V_1 = 100\text{-yr required storage volume (cf)}$
 $V_1 / V_2 = 0.48$
 $V_1 = 4,998$ cf

Flood Control Volume
 $V_{flood} = 4,998$ cf

First Flush Volume & Release Rate
 $V_{ff} = 545 * A * C$
 $V_{ff} = \text{first flush volume (cf)}$
 $A = 0.68$ acres
 $C = 0.82$
 $V_{ff} = 302$ cf

$Q_{avg} = V_{ff} / 86,400$
 $Q_{avg} = 24\text{-hr avg. allowable outflow rate (cfs)}$
 $Q_{avg} = 0.00$ cfs

Land Use Summary

Characteristic	Existing Conditions	Proposed Conditions
Total Development Area (ac)	0.68	0.68
Impervious Area (ac)	0.49	0.54
Total Pervious Area (ac)	0.19	0.14
Pervious Area Breakdown by Cover Type		
Meadow/fallow/natural areas (non-cultivated)	0	0
Predominant NRCS Soil Type (A, B, C, D)	N/A	N/A
Improved area (turf grass, landscape, row crops)	0.19	0.14
Predominant NRCS Soil Type (A, B, C, D)	Type D	Type D
Wooded Areas	0	0
Predominant NRCS Soil Type (A, B, C, D)	N/A	N/A
Calculated CPVC Volume (cubic feet)	N/A	2,015
CPVC Volume Provided (cubic feet)	0	3,828
CPRC Volume Provided (cubic feet)	0	3,828

Runoff Coefficient
 $C = \frac{\sum (A_i * C_i)}{A}$
 $C = 0.82$

Detention Volume Provided
 Detention to be provided in underground storage

Underground Detention System:

Chamber width:	18.0 ft
Chamber depth:	4.00 ft
Area chamber per l.f.:	72.0 s.f.
Length of Storage Chambers:	75.0 l.f.
Storage Volume Provided in System:	5,400 c.f.
Required Detention Volume:	4,998 c.f.

Sanitary Basis of Design

Usage	Unit Factor	Units	Population
Proposed Gas Station	2.44	per person	2.4
TOTAL POPULATION 2.4			

Estimated Average Flow

Total Population:	2	gallons/capita/day	
Average Daily Flow:	100	gallons/day	
Average Flow:	200	gallons/day	= 0.0003 c.f.s.
Peaking Factor:	1.00		
Average Flow:	200	gallons/day	= 0.0003 c.f.s.
			= 0.0002 mg.d

Estimated Peak Flow

Total Population:	2	gallons/capita/day	
Average Daily Flow:	400	gallons/day	
Average Flow:	800	gallons/day	= 0.001 c.f.s.
Peaking Factor:	4.00		
Peak Flow:	3,200	gallons/day	= 0.005 c.f.s.
			= 0.003 mg.d

Estimated Pipe Capacity of 6" Sanitary Sewer

Pipe Size:	6	inch
Minimum Slope:	0.40	%
Area:	0.20	s.f.
n:	0.013	
Capacity of 6" Pipe:	0.36	c.f.s.

Therefore pipe has sufficient capacity

BENCHMARK:
 SANITARY MANHOLE ON THE SOUTH SIDE OF AVON INDUSTRIAL DRIVE NEAR THE NORTHWEST CORNER OF THE SITE LOCATED AT 2260 CROOKS ROAD. ELEVATION: 816.71 N.A.V.D.88

GENERAL UTILITY NOTES:

- ALL UTILITY LINES, STRUCTURES AND TRENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND REQUIREMENTS OF THE CITY OF ROCHESTER HILLS.
- 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.
- WATER MAIN SERVICE LEADS SHALL BE TYPE "K" ANNEALED SEAMLESS COPPER WITH FLARED FITTINGS, UNLESS OTHERWISE NOTED.
- ALL WATER MAIN SHALL BE PROVIDED WITH 5.5' OF COVER UNLESS OTHERWISE NOTED.
- ALL SANITARY SEWER LEADS SHALL BE POLYVINYL CHLORIDE (PVC) SDR 23.5 PIPE AND FITTINGS. ALL JOINTS TO BE ELASTOMERIC GASKET JOINTS PER ASTM D3212 UNLESS OTHERWISE NOTED.
- PIPE LENGTHS ARE GIVEN FROM CENTER OF STRUCTURE AND TO END OF FLARED END SECTION UNLESS NOTED OTHERWISE.

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 Phone: (248) 668-0700 Fax: (248) 668-0701

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 Know what's below
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UTILITY PLAN
 CLIENT: G.A.V. & ASSOCIATES, INC.
 2260 CROOKS ROAD - PARCEL NO. 15-29-276-001
 SECTION: 29
 CITY OF ROCHESTER HILLS
 OKLAHOMA COUNTY
 MICHIGAN

REVISED
 2025-1-7 PER CITY REVIEW

DATE: 10-7-2024
 DRAWN BY: CEH
 CHECKED BY: JPP/JDL

FBK: --
 CHF:RG
 SCALE: HOR 1" = 20 FT.
 VER 1" = 4 FT.

6
 22-460

NOT TO BE USED AS CONSTRUCTION DRAWINGS



FIRE DEPARTMENT NOTES:

1. A KNOX KEY SYSTEM SHALL BE INSTALLED IN A LOCATION APPROVED BY THE FIRE CODE OFFICIAL. ORDERING INFORMATION IS AVAILABLE THROUGH THE KNOX COMPANY AT WWW.KNOXBOX.COM (IFC 2021 SEC. 506)
2. FIRE LANES SHALL BE DESIGNATED BY THE FIRE CODE OFFICIAL, AND SHALL BE CONSPICUOUSLY POSTED ON BOTH SIDES OF THE FIRE LANE, WITH FIRE LANE SIGNS SPACED NOT MORE THAN 100 FEET APART. FIRE LANE SIGNS SHALL READ "NO STOPPING, STANDING, PARKING, FIRE LANE" AND SHALL CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (FIRE PREVENTION ORDINANCE CHAPTER 58, SEC 503)
3. CONSTRUCTION SITES SHALL BE SAFEGUARDED IN ACCORDANCE WITH IFC 2021 CHAPTER 33.
4. OPEN BURNING IS NOT PERMITTED, INCLUDING THE BURNING OF TRASH, DEBRIS, OR LAND CLEARING. OPEN BURNING FOR WARMING OF SAND AND / OR WATER FOR THE PREPARATION OF MORTAR SHALL BE WITHIN THE CITY OF ROCHESTER HILLS BURN PERMIT GUIDELINES. FIRE PREVENTION ORDINANCE CHAPTER 58, SEC 307.6.2 & 307.6.2.3) MORTAR PERMIT CAN BE APPLIED FOR ONLINE AT WWW.ROCHESTERHILLS.ORG/FIRE IN THE "FOR YOUR BUSINESS" SECTION.
5. 1.THIS PROJECT MAY BE REQUIRED TO PERFORM EMERGENCY RADIO SIGNAL STRENGTH TESTING. TESTING FAILURE WILL REQUIRE INSTALLATION OF AN IN-BUILDING TWO-WAY EMERGENCY RESPONDER COMMUNICATION SYSTEM. CONTACT RHD FOR MORE INFORMATION REGARDING THIS REQUIREMENT.

PROVIDE THE FOLLOWING INFORMATION ON THIS SHEET: 1.CONSTRUCTION TYPE AND SQUARE FOOTAGE OF THE BUILDING 2.WIDTH OF PROPOSED DRIVES MEASURED FROM FRONT OF CURB 3.LOCATION OF ALL EXISTING AND PROPOSED FIRE HYDRANTS 4.LOCATION OF EXISTING OR PROPOSED UNDERGROUND WATER DETENTION 5.HEIGHT OF ANY OVERHANGS INTO THE FIRE APPARATUS ACCESS ROAD 6.PROPOSED LOCATION OF DUMPSTERS 7. ~~LAND DRAINAGE - USE THE TURNING RADII BELOW - YOUR VEHICLE IS A MID-MOUNT AERIAL PLATFORM, NOT A REAR MOUNT LADDER~~

Pierce Turning Performance Analysis 03/30/2017

Bid Number: 561
Department: City of Rochester Hills

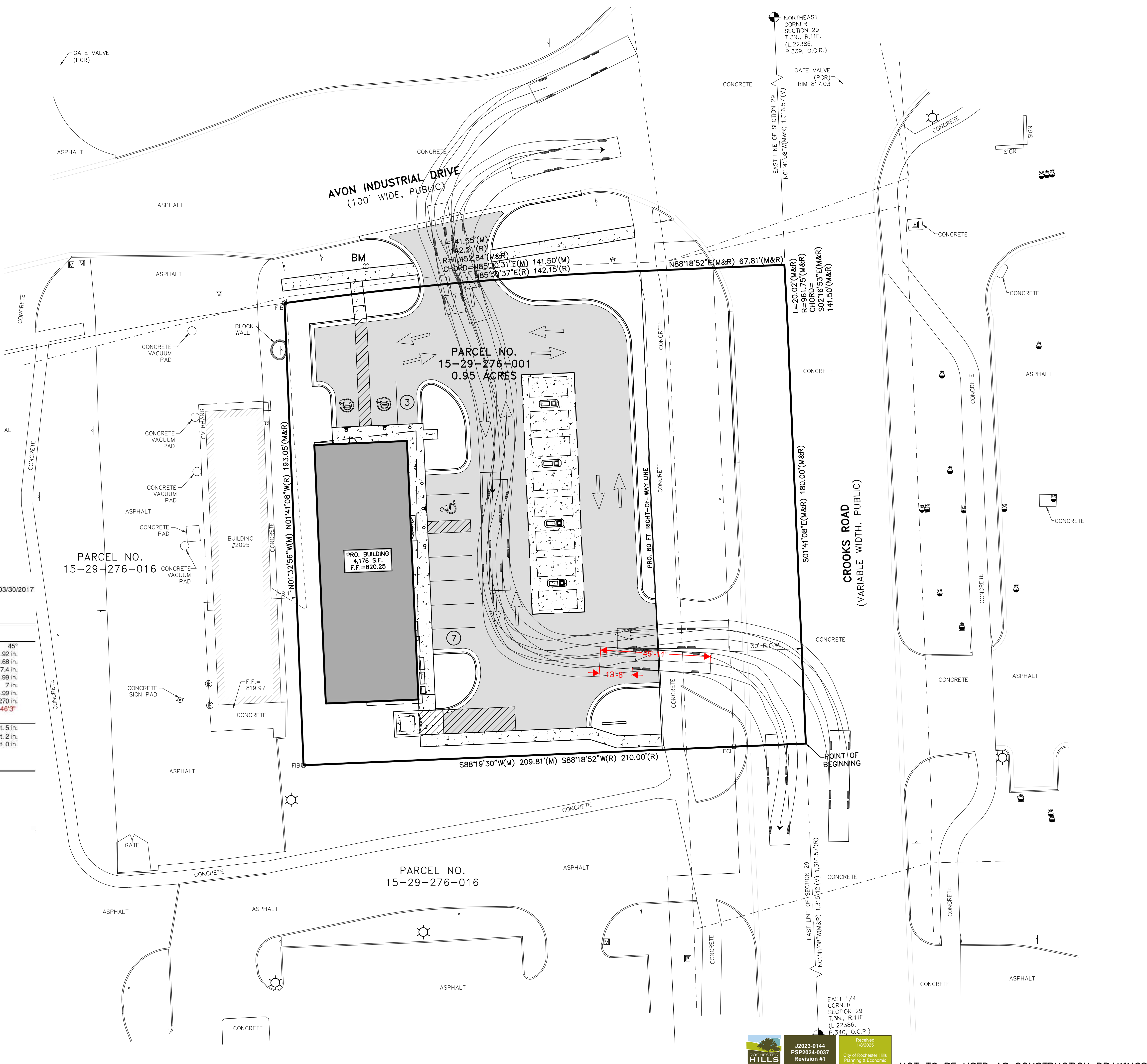
Chassis: Arrow XT Chassis, PAP/Midmount
Body: Aerial, Platform, 95', Mid-Mount, Alum Body

Parameters:	
Inside Cramp Angle:	45°
Axle Track:	82.92 in.
Wheel Offset:	4.68 in.
Tread Width:	17.4 in.
Chassis Overhang:	68.99 in.
Additional Bumper Depth:	7 in.
Front Overhang:	75.99 in.
Wheelbase:	270 in.
Overall Length:	46'3"
Calculated Turning Radii:	
Inside Turn:	21 ft. 5 in.
Curb to curb:	38 ft. 2 in.
Wall to wall:	41 ft. 0 in.

Comments:
95' PAP - City of Rochester Hills
Rear Overhang - 16 feet

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CIVIL ENGINEERS & LAND SURVEYORS

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Phone: (248) 668-0700 Fax: (248) 668-0701

RESIDENTIAL: Subdivisions, Single-Family, Multi-Family
COMMERCIAL: Site Planning, Infrastructure, Land Surveying
SURVEYING: Boundary, Easements, Topographic, Construction Staking

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CLIENT: G.A.V. & ASSOCIATES, INC.

TRUCK TURNING PLAN

2260 CROOKS ROAD - PARCEL NO. 15-29-276-001
SECTION: 29 TOWNSHIP 31 N RANGE: 11 E
CITY OF ROCHESTER HILLS
OAKLAND COUNTY MICHIGAN

REVISED
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DATE: 10-7-2024
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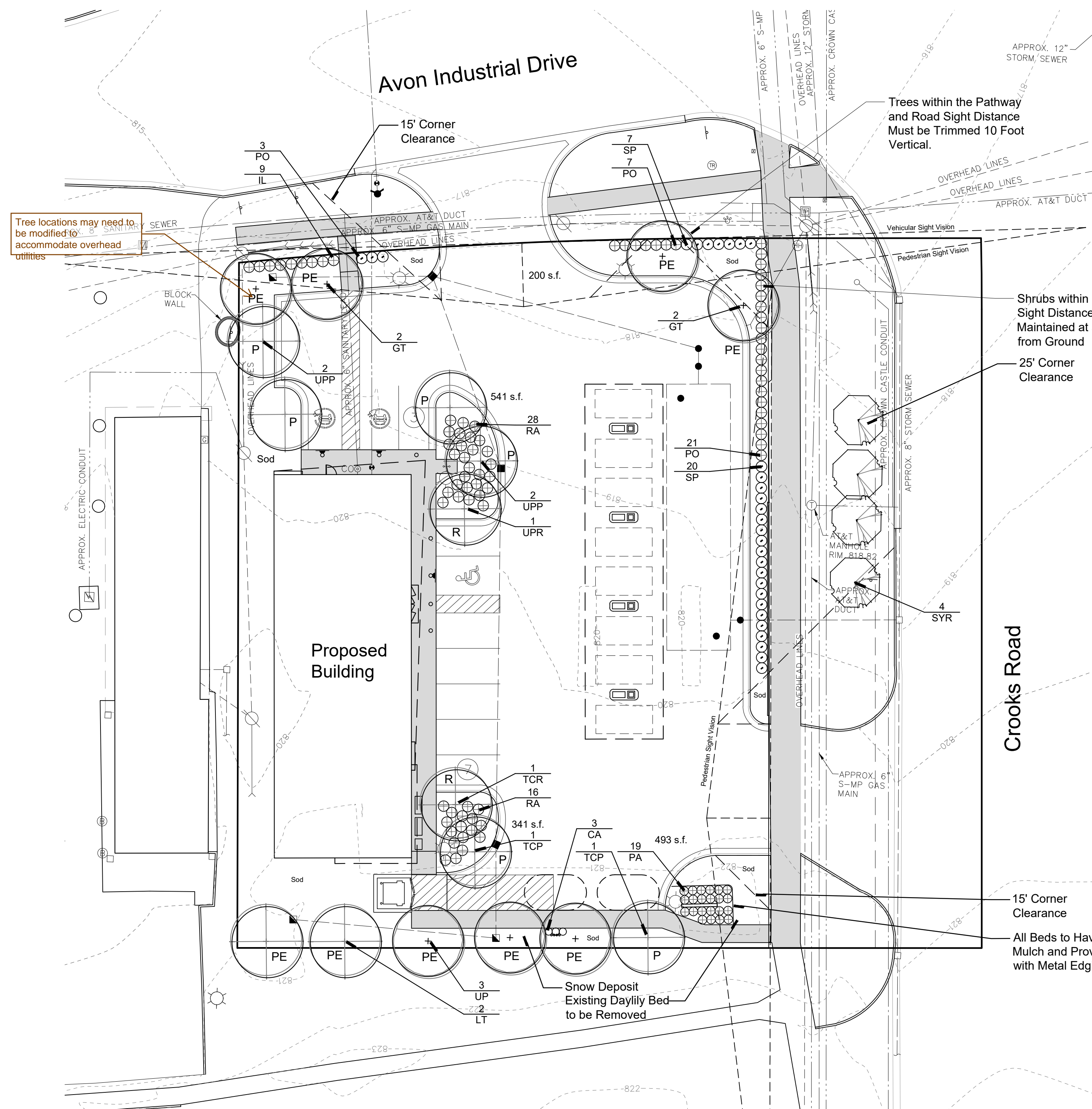
SCALE: HOR 1"=20 FT.
VER 1"=4 FT.

7
22-460

J2023-0144
PSP2024-0037
Revision #1

Received 1/8/2025
City of Rochester Hills
Planning & Economic Development

NOT TO BE USED AS CONSTRUCTION DRAWINGS



Landscape Summary

Parking Lot Landscaping	
Vehicular Use Area	16,973 s.f.
Landscape Area Required	867 s.f. (16,973 x 5%)
Landscape Area Provided	1,575 s.f.*
Trees Required	5.8 Trees (867 / 150)
Trees Provided	6 Trees
Perimeter Plantings	
Perimeter	231 l.f.
Trees Required	9.2 Trees (231 / 25)
Trees Provided	9 Trees - Clear Zone Conflicts
Ornamental Trees Required	6.6 Trees (231 / 35)
Ornamental Trees Provided	0 Trees - Clear Zone Conflicts
Right of Way Plantings **	
Avon Industrial Drive	
Frontage	150 l.f.
Trees Required	4.3 Trees (150 / 35)
Trees Provided	2 Trees - Clear Vision Conflicts
Ornamental Trees Required	2.5 Trees (150 / 60)
Ornamental Trees Provided	0 Trees - Clear Vision Conflicts
Crooks	
Frontage	200 l.f.
Trees Required	5.7 Trees (200 / 35)
Trees Provided	0 Trees - Overhead Lines
Ornamental Trees Required	3.3 Trees (200 / 60)
Ornamental Trees Provided	4 Trees



Total tree modification request of approximately 18 trees.
 10 ornamental trees
 8 shade trees

To mitigate some of modification request additional low level plantings can be added along rear of building.

* As measured from the back of curb and Excluding Sidewalks.
 ** ROW Plantings will Require a RCOG Permit. If the Permit is Not Granted, the Value of Required Trees Shall be Placed in the City Tree Fund.

Utility Maintenance Statement:

If, in the event, Utility Maintenance Results in the Removal of Landscaping, as Shown on this Plan, It Will be the Owner's Responsibility to Repair and Replace Shrubs and Trees that are Located within the Utility Easements.

Overhead Line Statement:

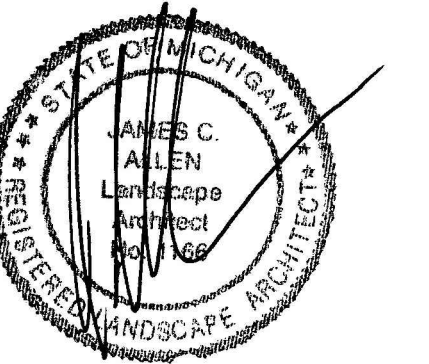
Overhead Lines Exist Along Crooks

Plant List

sym.	qty.	botanical name	common name	caliper	spacing	root	height	price	total
Parking Lot Island Trees									
TCP	2	Tilia tomentosa	Silver Linden	3.0"	as shown	B&B		\$ 425.00	\$ 850.00
UPP	4	Ulmus 'Princeton'	Princeton Elm	3.0"	as shown	B&B		\$ 425.00	\$ 1,700.00
	6		Trees Provided						
Parking Lot Perimeter									
GT	4	Gleditsia triacanthos var. inermis	Honey Locust	3.0"	as shown	B&B		\$ 425.00	\$ 1,700.00
LT	2	Litodendron tulipifera	Tulip Tree	3.0"	as shown	B&B		\$ 425.00	\$ 850.00
UP	3	Ulmus 'Princeton'	Princeton Elm	3.0"	as shown	B&B		\$ 425.00	\$ 1,275.00
	9		Trees Provided						
	0		Ornamental Trees Provided						
Right of Way Trees									
SYR	4	Syringa reticulata 'Ivory Silk'	Ivory Silk Lilac Tree	2.0"	as shown	B&B		\$ 200.00	\$ 800.00
TCR	1	Tilia tomentosa	Silver Linden	3.0"	as shown	B&B		\$ 425.00	\$ 425.00
UPR	1	Ulmus 'Princeton'	Princeton Elm	3.0"	as shown	B&B		\$ 425.00	\$ 425.00
	2		Trees Provided						
	4		Ornamental Trees Provided						
General Plantings									
CA	3	Calamagrostis x acutiflora 'Karl Forester'	Karl Forester's Feather Reed Grass		Full, well rooted	1 gal.		\$ 15.00	\$ 45.00
IL	9	Ilex glabra 'Nordic'	Nordic Inkberry		as shown	cont. 30"		\$ 50.00	\$ 450.00
PA	19	Pennisetum 'Hamelin'	Drawf Fountain Grass		as shown	cont. #2		\$ 15.00	\$ 285.00
PO	31	Physocarpus 'Little Devil'	Little Devil Nhebarb		as shown	cont. 30"		\$ 50.00	\$ 1,550.00
RA	44	Rhus aromatica 'Gro-Low'	Low Grow Sumac		as shown	cont. 30"		\$ 50.00	\$ 2,200.00
SP	27	Spiraea 'Little Princess'	Little Princess Spiraea		as shown	cont. 30"-36"		\$ 50.00	\$ 1,350.00
430		Kentucky Blue Grass, (S.Y.)						\$ 4.00	\$ 1,720.00
		Irrigation System							\$ 15,000.00
									\$ 30,625.00

Are other trees not being provided as noted above also intended to be paid into tree fund.

Seal:



Title:

Landscape Plan

Project:

**2260 Crooks
 Rochester Hills, Michigan**

Prepared for:

Greentech Engineering
 51147 W. Pontiac Trail
 Wixom, Michigan 48393

Revision:

Review
 Revised

Issued:

October 1, 2024
 December 20, 2024

Job Number:

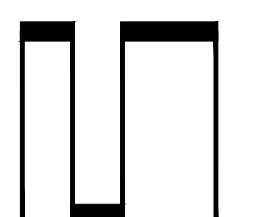
24-064

Drawn By:

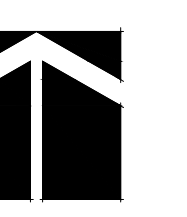
jca

Checked By:

jca



0' 5' 10' 20'

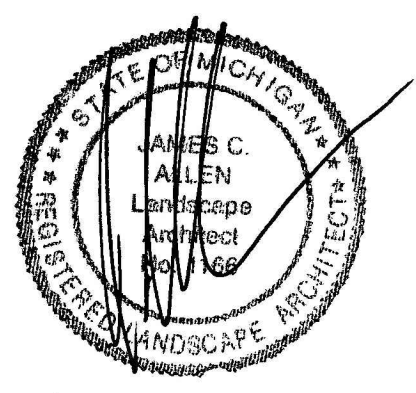


NORTH

1"=20'

Sheet No.

L-1



Seal: _____

Title:
Landscape Plan

Project:
**2260 Crooks
 Rochester Hills, Michigan**

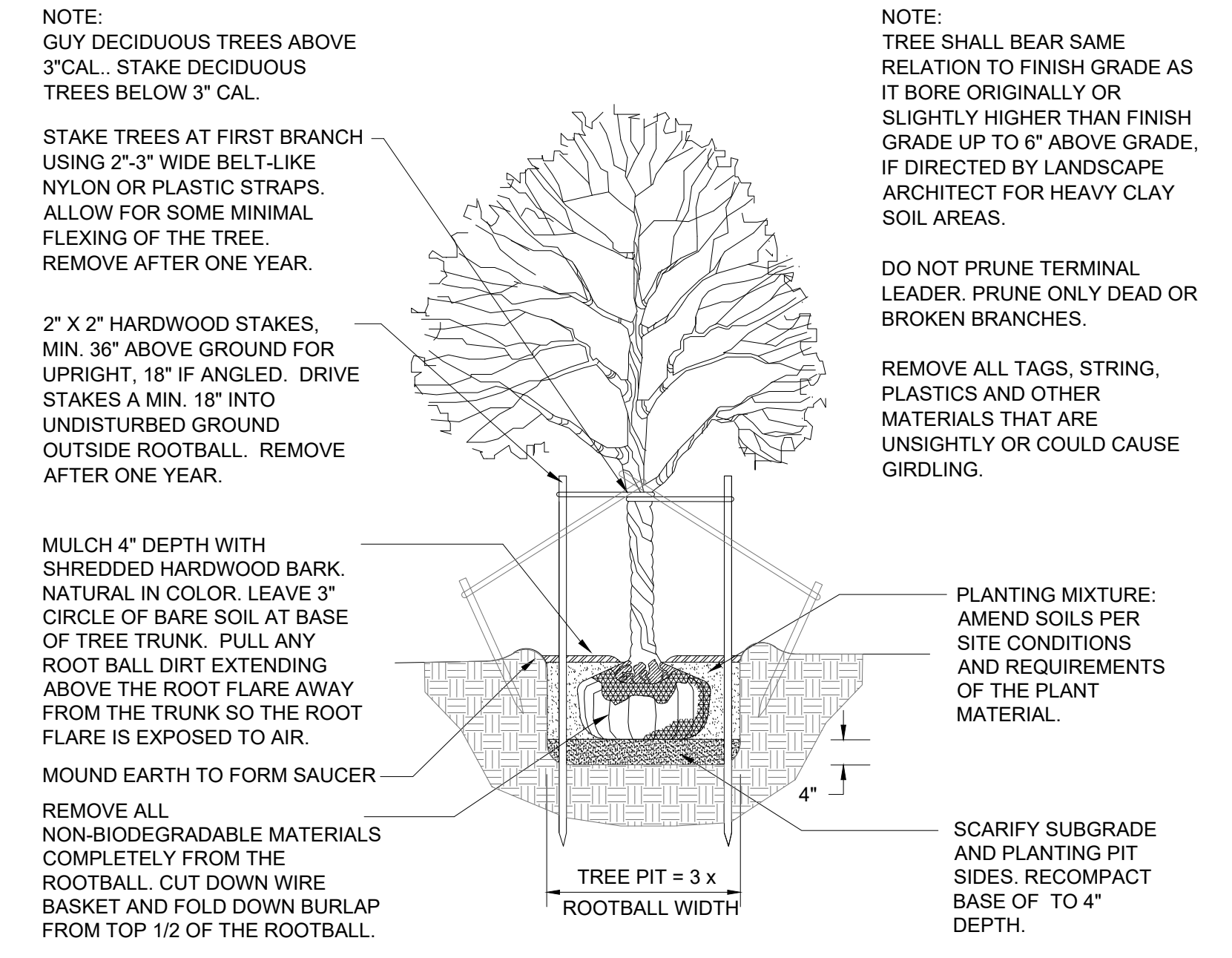
Prepared for:
 Greentech Engineering
 51147 W. Pontiac Trail
 Wixom, Michigan 48393

Revision: _____ Issued: _____
 Review October 1, 2024
 Revised December 20, 2024

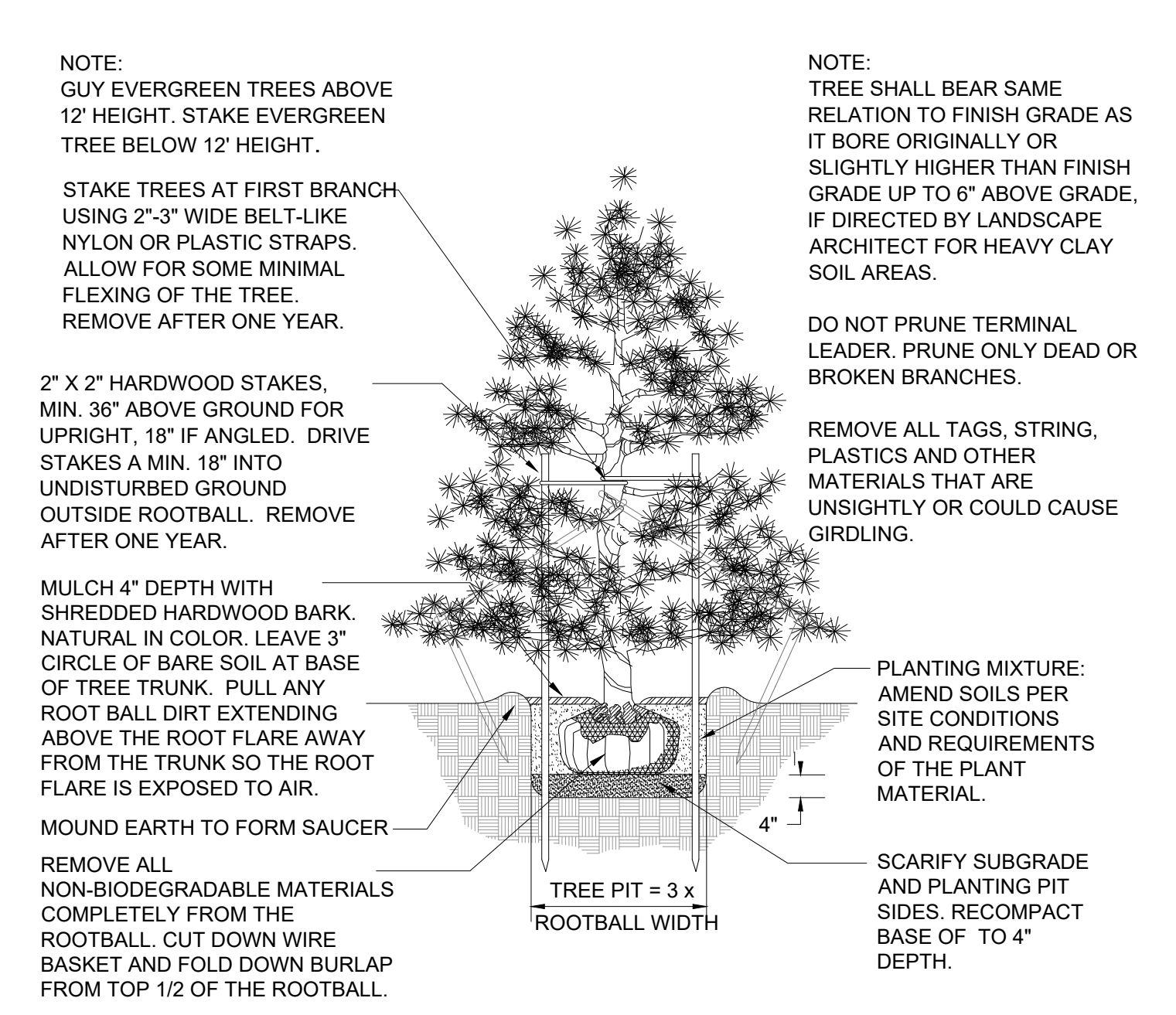
Job Number:
 24-064

Drawn By: _____ Checked By: _____
 jca jca

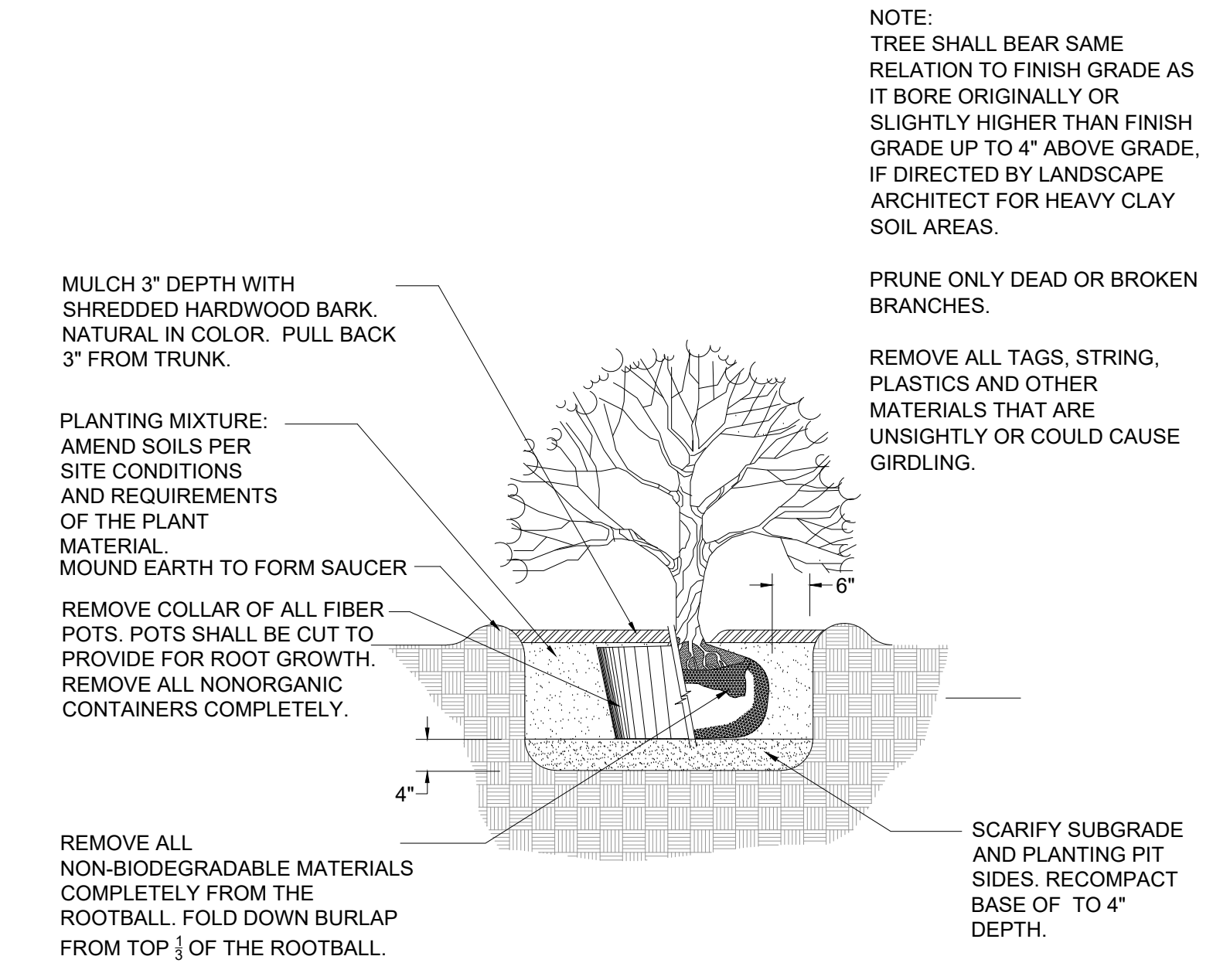
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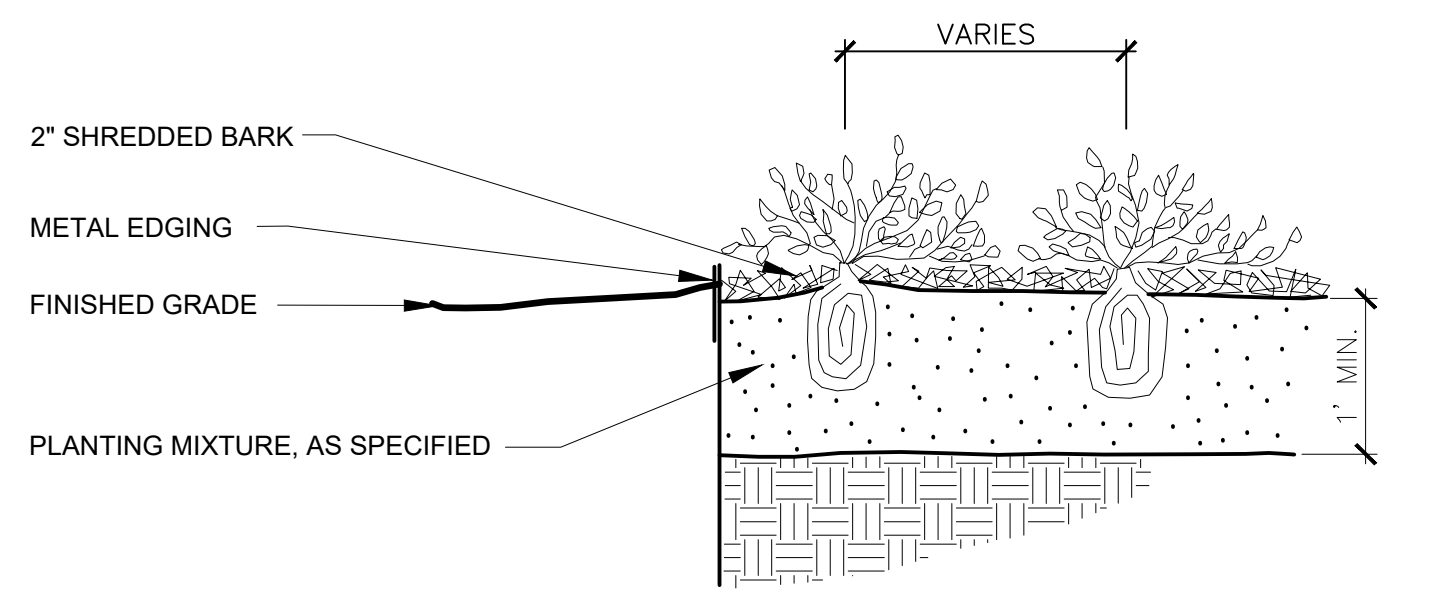
DECIDUOUS TREE PLANTING DETAIL



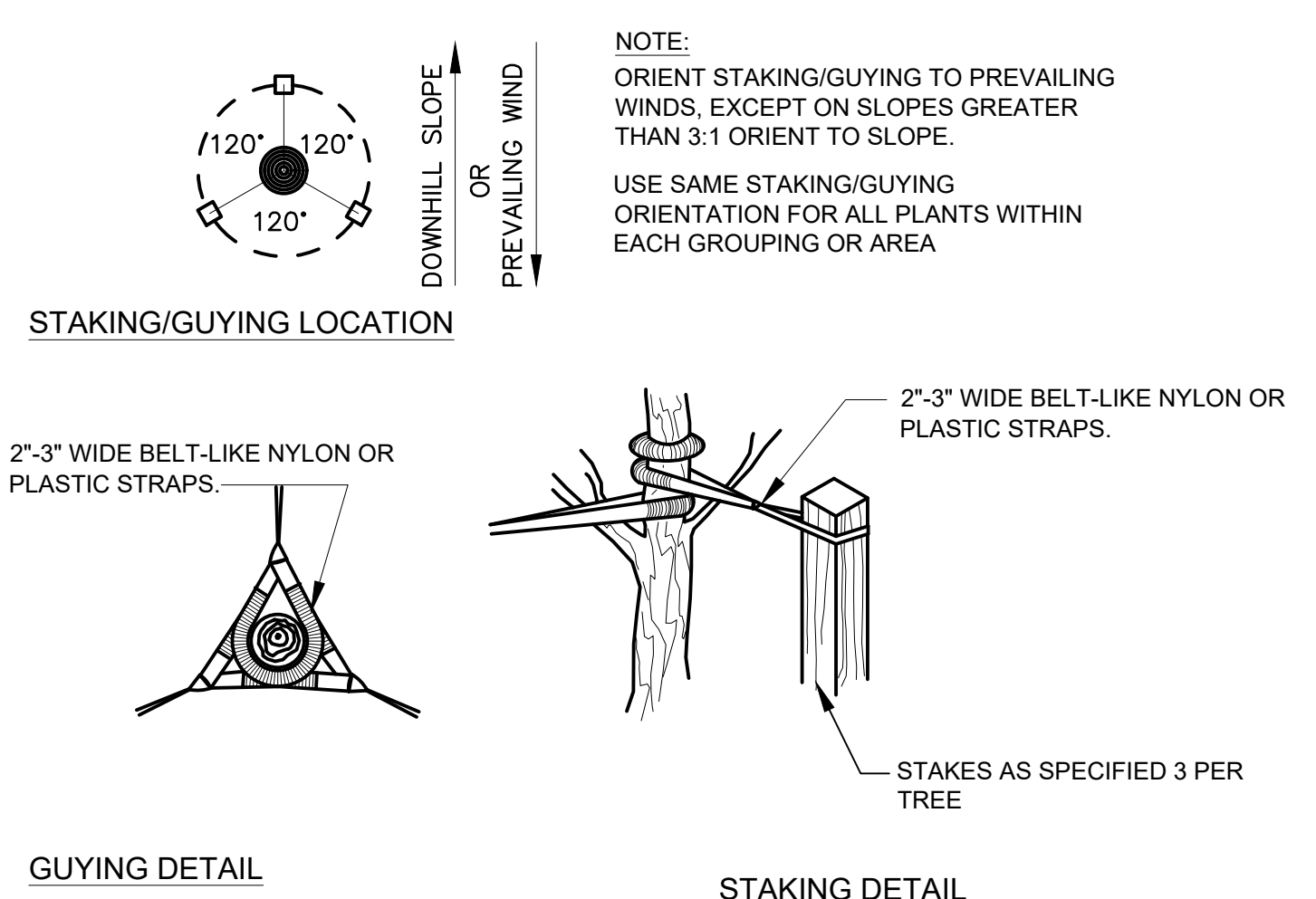
EVERGREEN TREE PLANTING DETAIL



SHRUB PLANTING DETAIL
 NOT TO SCALE



PERENNIAL PLANTING DETAIL
 Not to scale



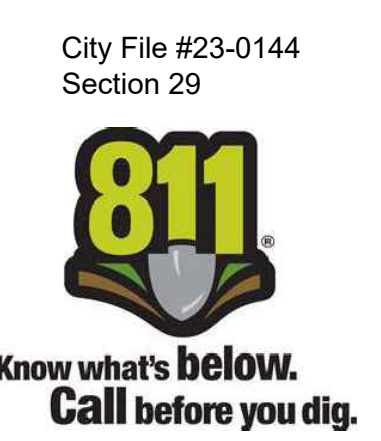
TREE STAKING DETAIL
 Not to scale

LANDSCAPE NOTES

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

ADDITIONAL NOTES

- All Landscaped Areas Shall be Irrigated with an Automatic, Underground System.
- Islands Shall be Sod.
- Owner Shall be Responsible for Replacing Damaged Plant Material Due to Utility Maintenance.
- Prior to the release of the Performance Bond, the City of Rochester Hills Forestry Division needs to inspect all trees, existing or planted, to identify any that pose a hazard to the safe use of the public right-of-way. Forestry may require the developer to remove and possibly replace, any such trees.
- These requirements are incorporated into the plan.
- Prior approval is required to plant any tree or shrub on the public right-of-way. All trees and shrubs must be planted 10' from the edge of the public road. (Trees must be planted at least 15' away from the curb or road edge where the speed limit is more than 35 mph). Shade trees and shrubs must be planted at least 5' from the edge of the public walkway. Evergreen and ornamental trees must be planted at least 10' from the edge of the public walkway. No trees or shrubs may be planted within the triangular area formed at the intersection of any street right-of-way at a distance along each line of 25' from their point intersection. No trees or shrubs may be planted within the triangular area formed at the intersection of any driveway with a public walkway at a distance along each line of 15' from their point of intersection. All trees and shrubs must be planted at least 10' from any fire hydrant. Shade and evergreen trees must be at least 15' away from the nearest overhead wire. Trees must be planted a minimum of 5' from an underground utility, unless the City's Landscape Architect requires a greater distance.
- No substitutions or changes of location or plant types shall be made without the approval of the developer and the City of Rochester Hills Planning and Economic Development Department and has Final Right of Approval for the Release of the Performance and Maintenance Bonds.
- The developer and/or the City of Rochester Hills Landscape Architect shall have the right, at any stage of the installation, to reject any work or material that does not meet the requirements of the plans or specifications.
- Replacement trees may not be planted within the drip line of existing trees.
- Trees may not be planted within 4' of any property line.
- Irrigation Shall Only Occur Between the Hours of 12am and 5 am in Accordance with the City's Watering Ordinances.



Seal: _____

Title:
Irrigation Plan

Project:
**2260 Crooks
 Rochester Hills, Michigan**

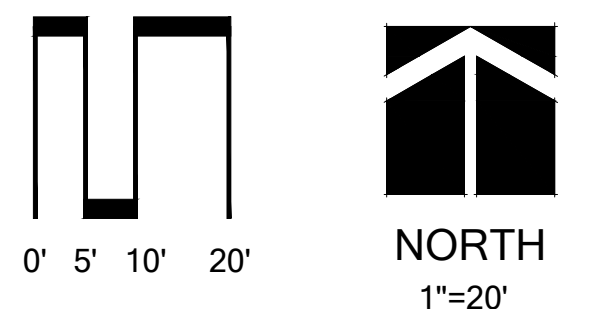
Prepared for:

Greentech Engineering
 51147 W. Pontiac Trail
 Wixom, Michigan 48393

Revision: Issued:
 Review October 1, 2024
 Revised December 20, 2024

Job Number:
 24-064

Drawn By: Checked By:
 ajb jca



Sheet No.

IR-1

NOTES:

1. Refer to the specifications for installation details and descriptions, as well as, construction methods which will be accepted.
2. All work shall be in compliance with all local, state, and federal codes and ordinances.
3. All electrical connections shall be made using 3m DBYR-6 splice kits.
4. All control wiring downstream of the controller shall be HUNTER ID WIRE dual strand copper ID Wire ID! Red UL approved for direct bury.
5. All lateral PVC fitting clamps shall be stainless steel worm gear type clamps. Pipes 1-1/2" or larger shall be double clamped.
6. Pipe routing is schematic. All heads are to be field adjusted to within 2' to take into consideration any obstruction. Final head placements are subject to the landscape architects approval.
7. All sprinkler heads shall be mounted on 2 elbow pvc marlex swing joints as specified.
8. Contractor to verify existing controller location with owner's authorized representative prior to installation.
9. All pipe not sized downstream of control valve is 1".
10. Irrigation contractor's point of connection to water source shall be as noted on this sheet.
11. Irrigation contractor shall be responsible for determining and maintaining the irrigation schedule during the project construction and throughout the length of the warranty period.
12. The irrigation schedule shall deliver 1" of precipitation per week +/- natural rainfall quantities for turf grass.
13. Landscape material shall receive adjusted amounts of precipitation to maintain proper plant health.
14. Landscape and turf grass shall be irrigated separately.
15. Rotors and spray zones may not be combined to operate at the same time.
16. When specified, follow manufacturer's product recommendations concerning proper installation of water flow sensors. Allow proper straight pipe distances before and after flow sensors.
17. Follow manufacturers requirements to program irrigation controller for flow monitoring and Hydrowise enabled systems.

IRRIGATION LEGEND:

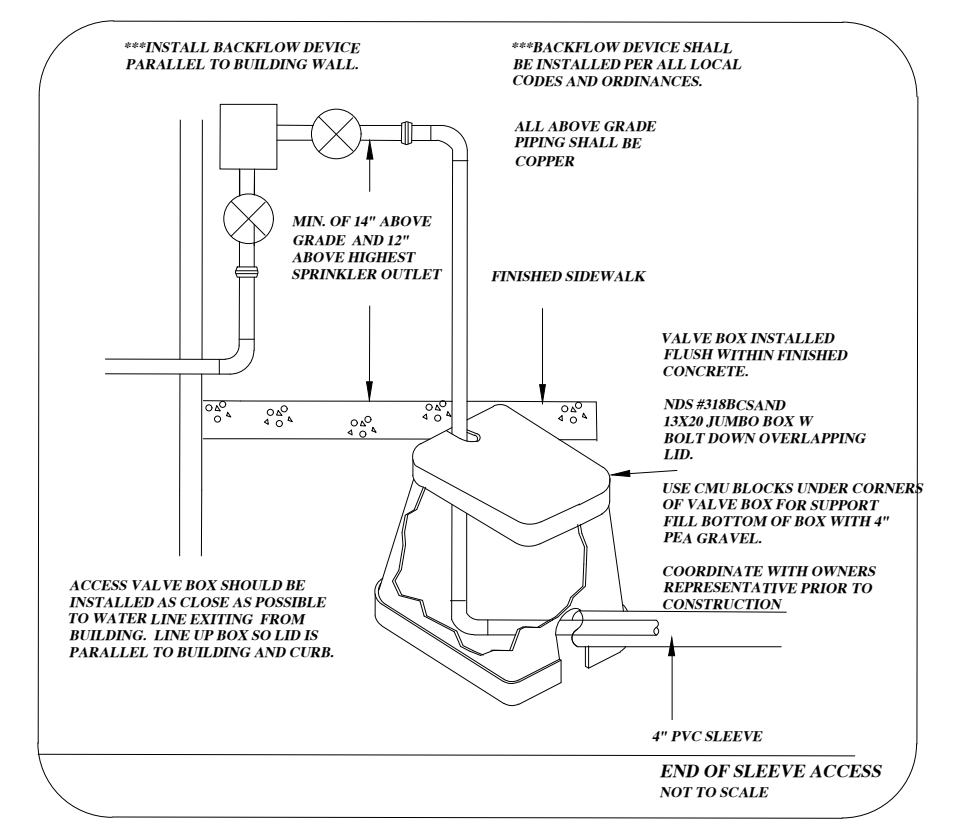
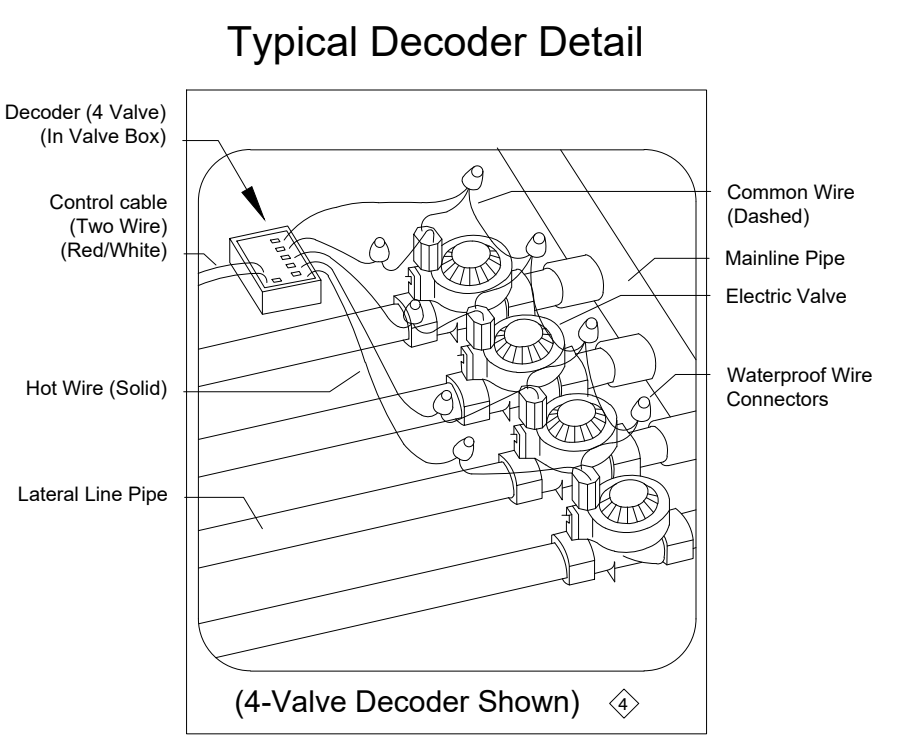
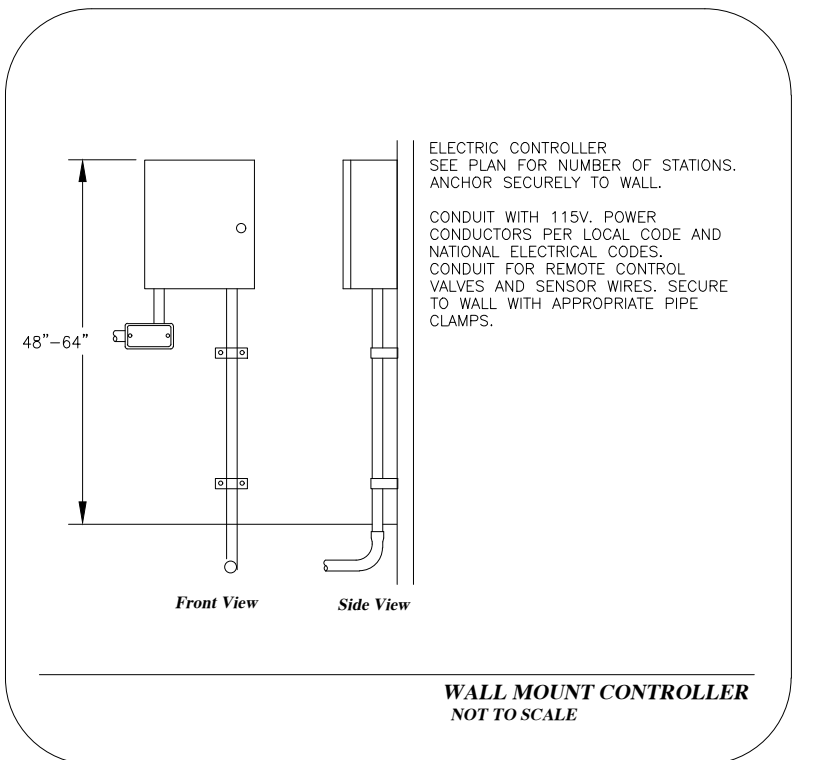
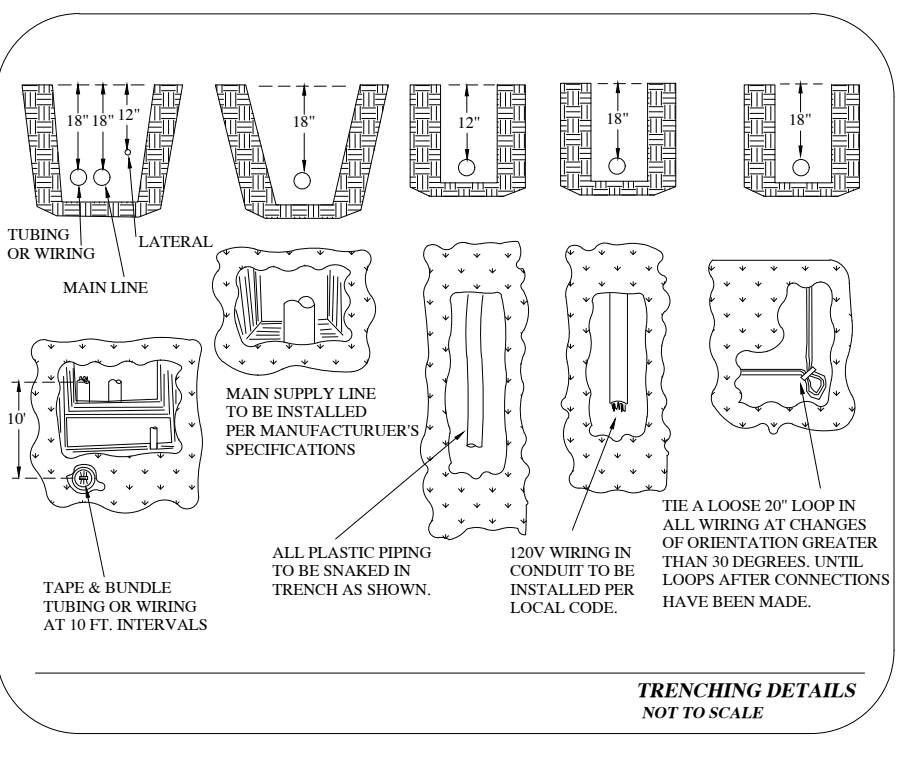
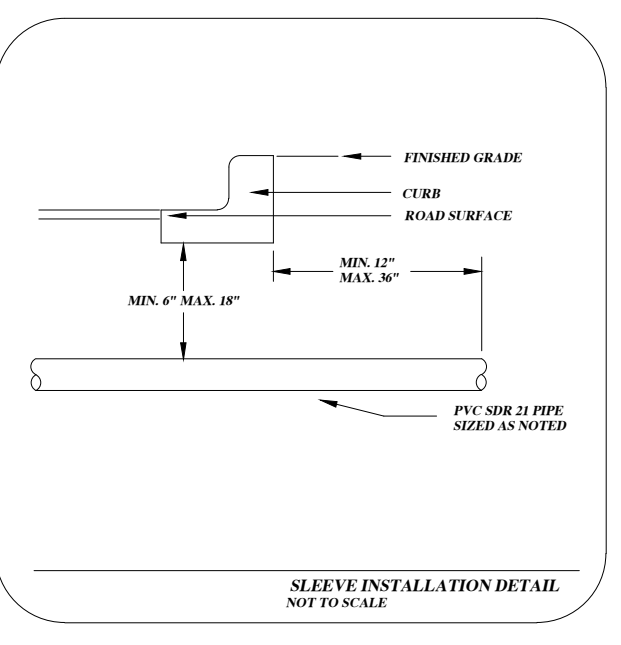
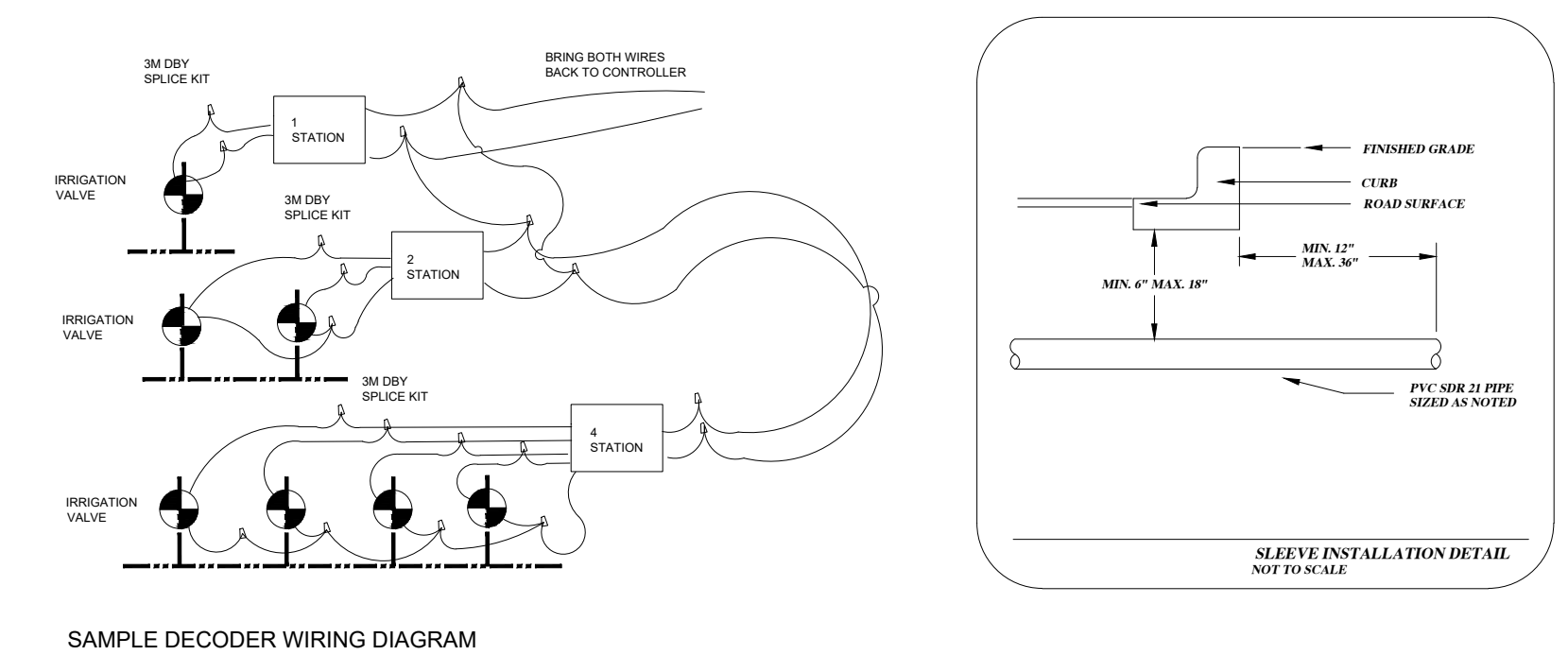
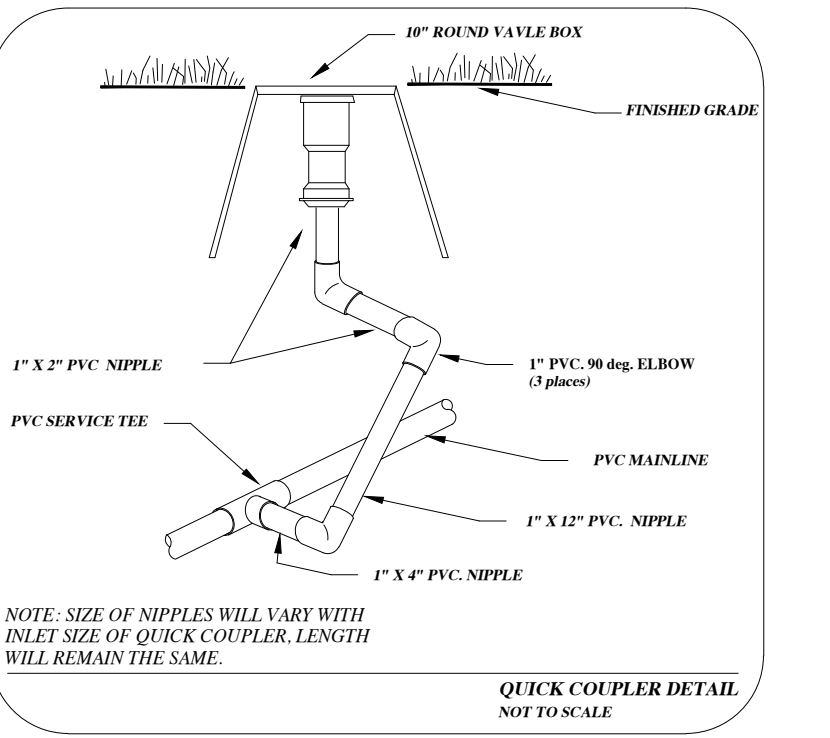
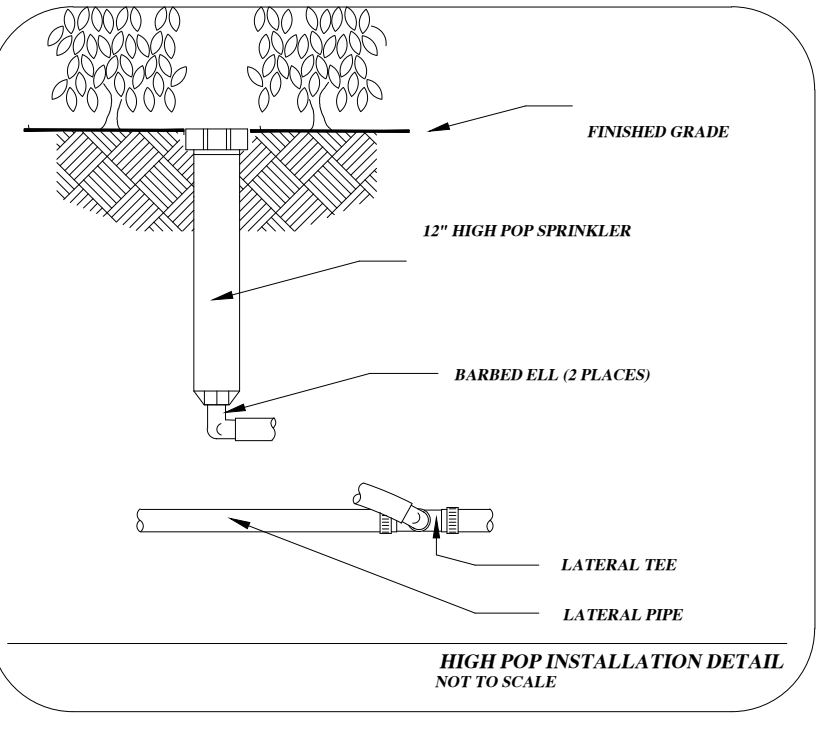
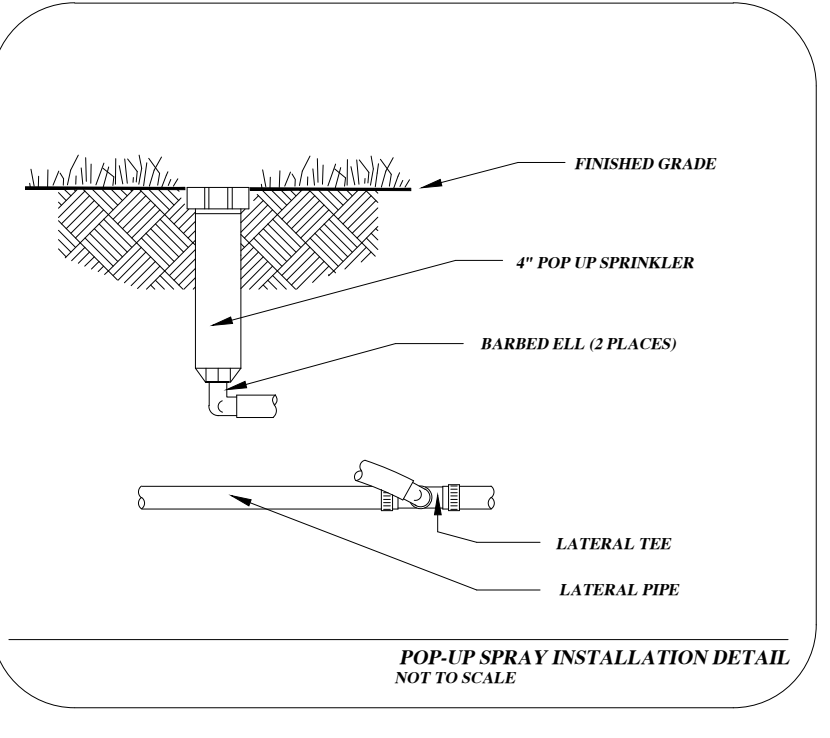
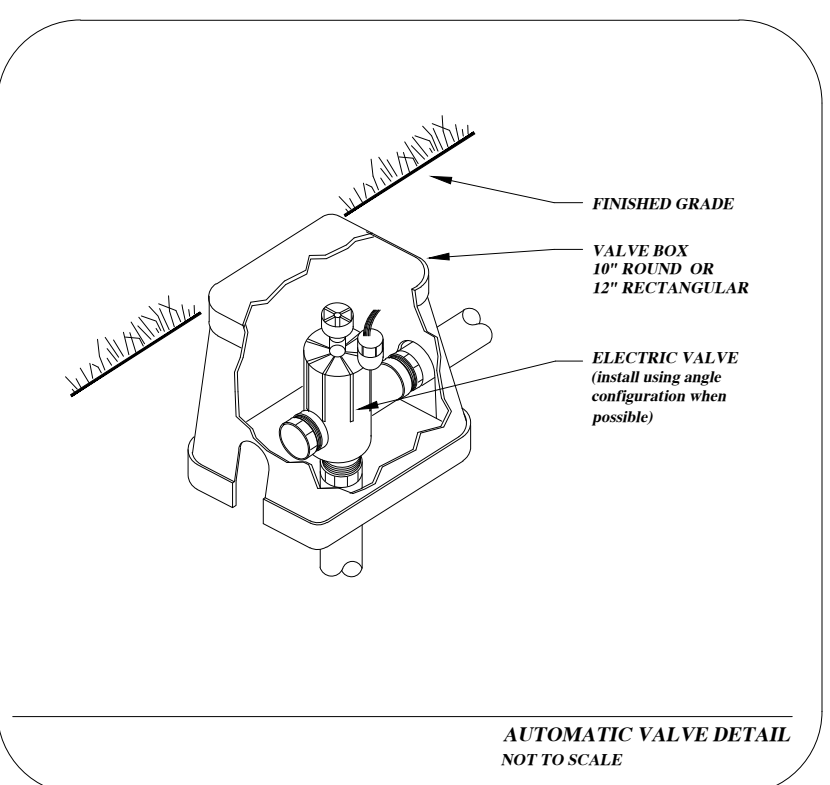
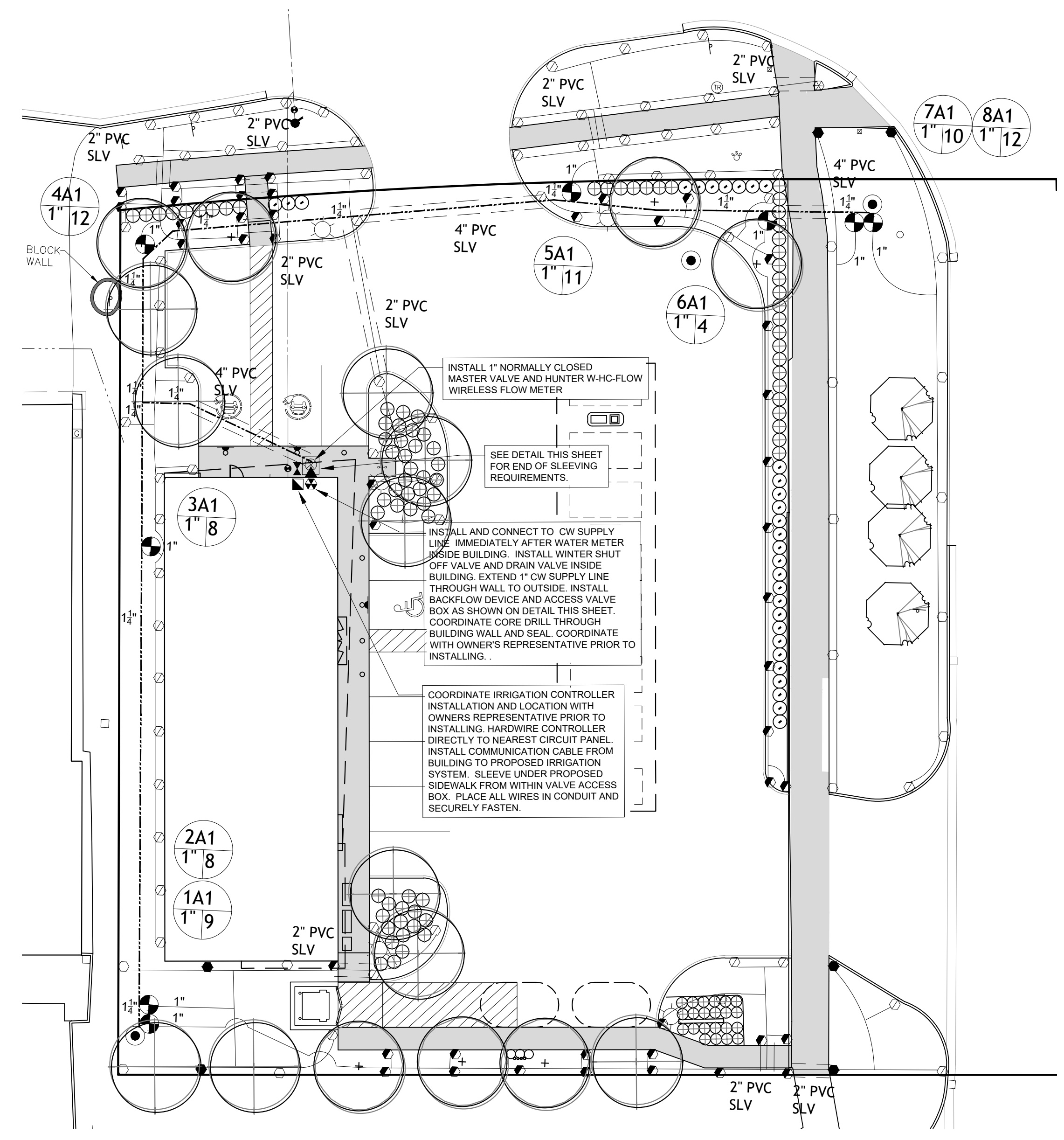
FIXED SPRAY POP-UP (12") w/ 2' or 4' radius nozzle ▲ 2' or ● 4' Radius Nozzle	PROS-12-PRS30 CV
FIXED SPRAY POP-UP (4") w/ MPR nozzle ○ MP1000 ● MP2000 ○ MP3000 ● MPSS530/MPLC(R)15 ○ MP800	PROS-04 PRS40-CV
⊕ MASTER VALVE W/ EZDS decoder	ICV-Series
⊖ ELECTRIC VALVE w/ EZDS decoders	ICV-AS-ADJ Series
⊙ QUICK COUPLER VALVE	HQ44-RC
⊕ ELECTRIC CONTROLLER HCC EZ DECODER WALL MOUNT	HPC-PCDM-EZDS
⊖ PRESSURE VACUUM BREAKER	FEBCO 765P100
⊖ RAIN SENSOR DEVICE (wireless)	WR CLIK
⊖ POINT OF CONNECTION TO IRRIGATION WATER SOURCE	
— PVC MAINLINE, SDR 26, BE,	
— POLYETHYLENE LATERALS, 100 PSI NSF APPROVED, Size as shown	
— PVC SLEEVING SIZE AS SHOWN	

WATER REQUIREMENTS: 12 GPM @ 55 PSI.
 (CONTRACTOR TO VERIFY PSI PUMP AVAILABILITY ON SITE PRIOR TO SYSTEM INSTALLATION)

Controller and Station Number
 Gallons Per Minute
 Valve Size

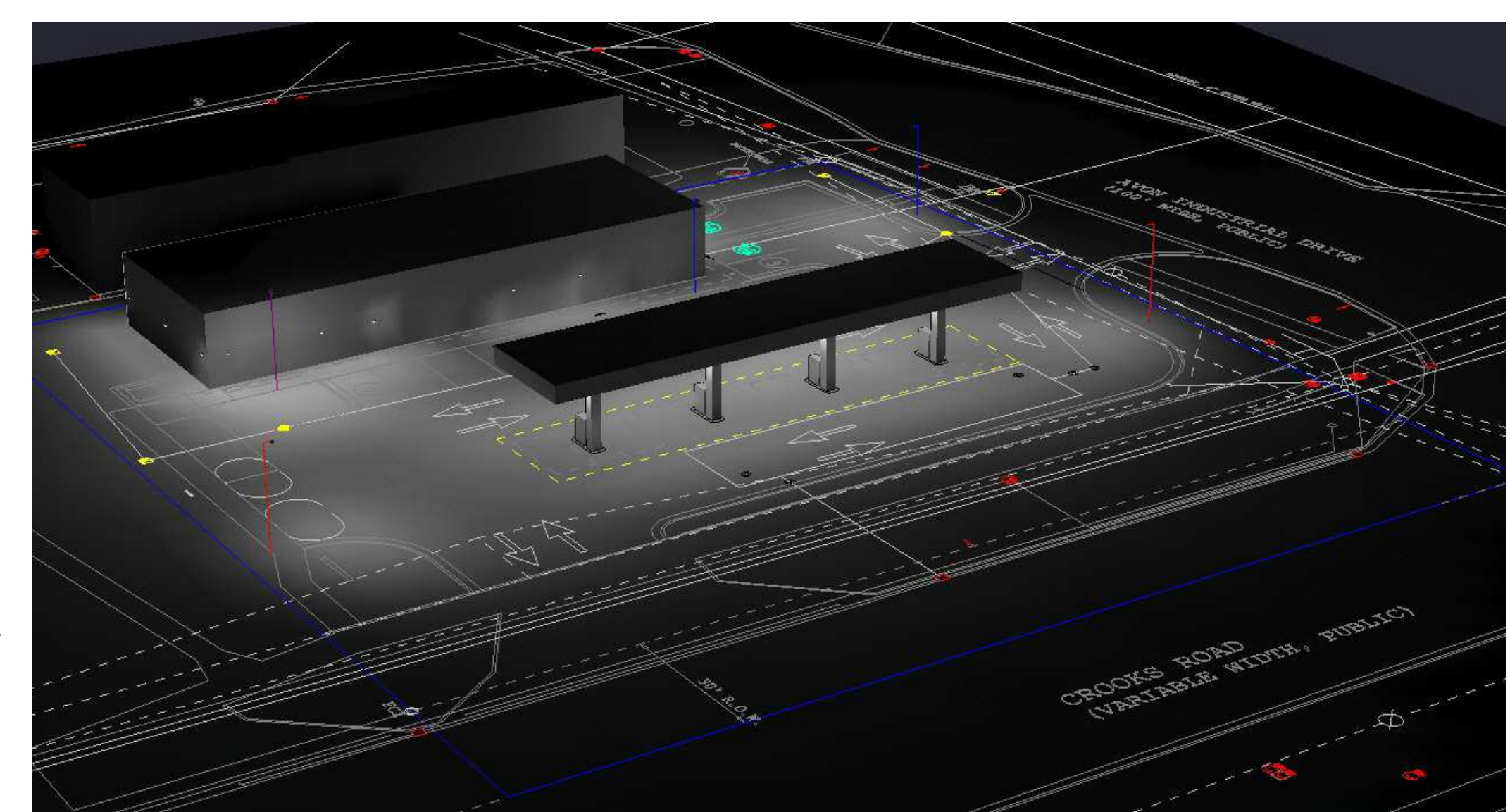
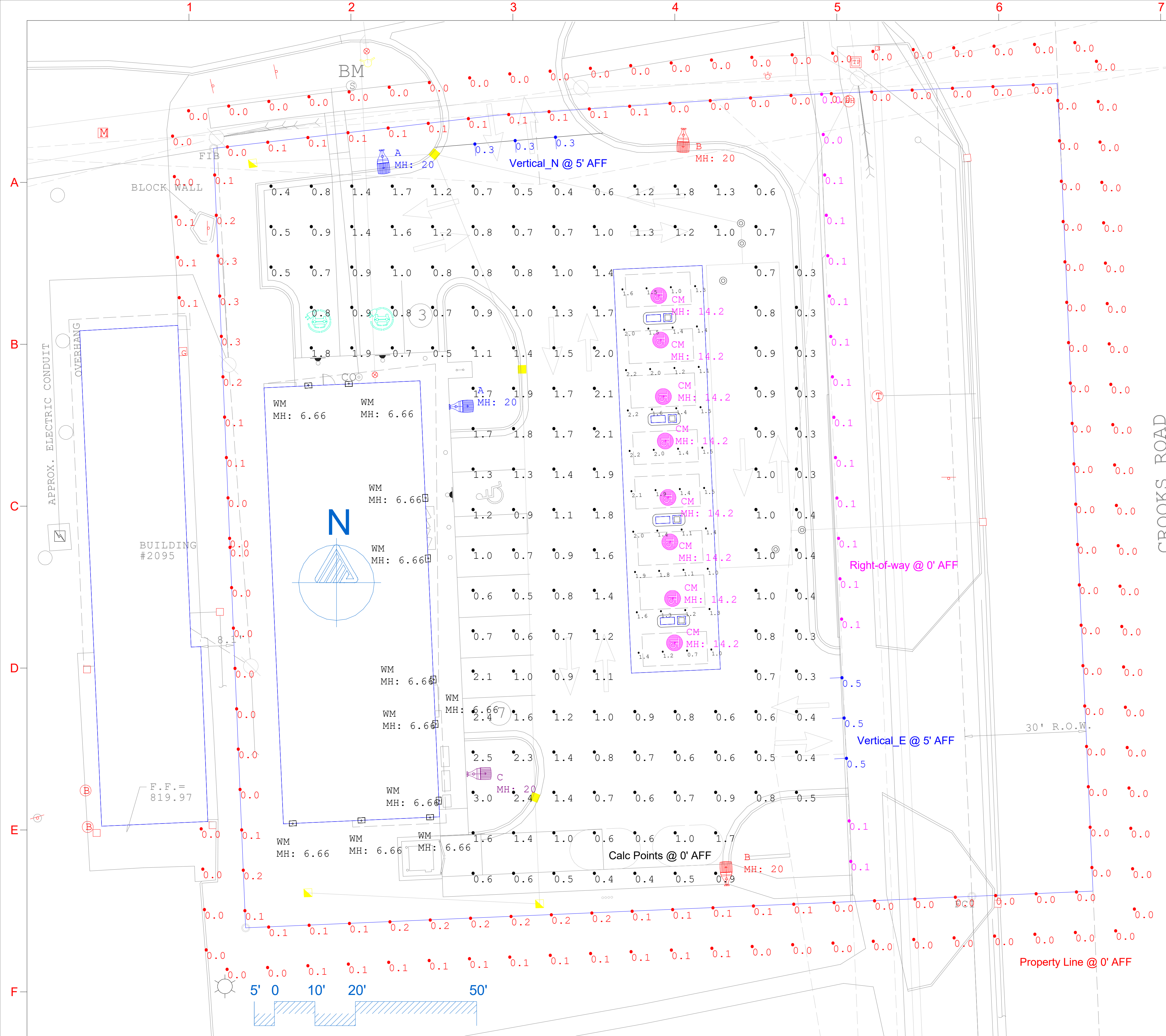
PIPE SIZE CHART

0-12 GPM = 1" DIAMETER POLYETHYLENE PIPE
12-24 GPM = 1 1/4" DIAMETER POLYETHYLENE PIPE
24-30 GPM = 1 1/2" DIAMETER POLYETHYLENE PIPE
30-60 GPM = 2" DIAMETER POLYETHYLENE PIPE



IRRIGATION NOTE:
 ALL LANDSCAPE AREAS, INCLUDING THOSE WITHIN THE R.O.W. SHALL BE IRRIGATED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM. THE SYSTEM SHALL OPERATE IN COMPLIANCE WITH LOCAL STANDARDS AND SEASONAL RESTRICTIONS. SEPARATE ZONES SHALL BE PROVIDED FOR LAWN AREAS AND PLANTING BEDS. IRRIGATION SHALL BE DESIGNED IN THE MOST EFFICIENT MANNER NECESSARY TO FULLY IRRIGATE ALL PLANTING AREAS.

***COMMUNICATION CABLE TO BE 14 AWG HUNTER ID WIRE. DO NOT LOOP WIRE RUNS BACK TO IRRIGATION CONTROLLER OR IN FIELD. DO NOT EXCEED A MAXIMUM RUN LENGTH OF 1500 FEET.



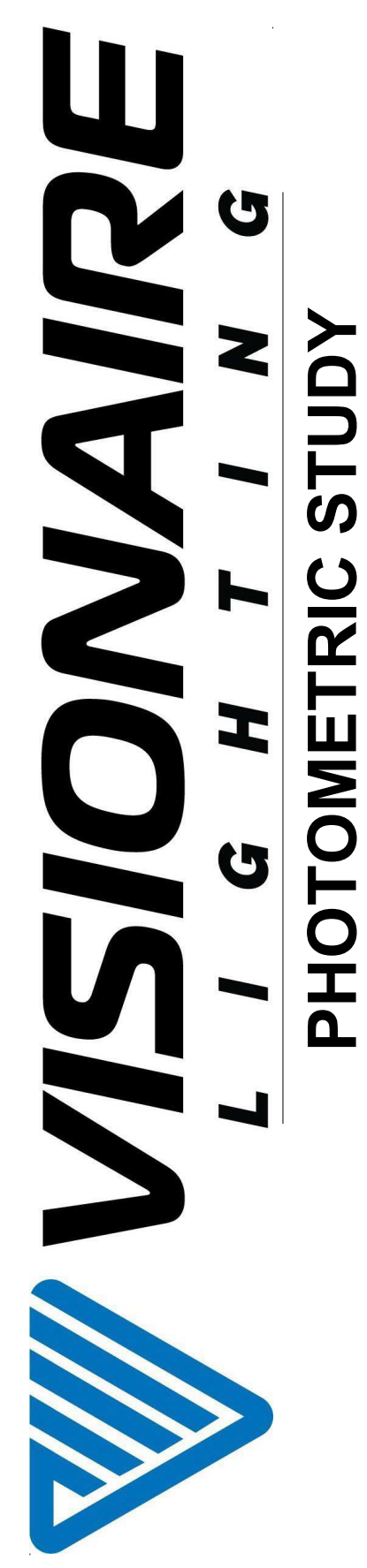
NOTES:
 LED LIGHT SOURCES SHALL HAVE A CORRELATED COLOR TEMPERATURE THAT DOES NOT EXCEED 3,000K
 EXTERIOR LIGHTING SHALL BE FULLY SHIELDED AND DIRECTED DOWNWARD AT A 90° ANGLE

Luminaire Schedule									
Symbol	Qty	Label	Arrangement	LLF	Description	Arr. Lum. Lumens	BUG Rating	Lum. Watts	Total Watts
	8	CM	Single	0.400	VISIONAIRE PGR-1-T5-16LC-3-3K-VOLT CM @ 14' MG. HT.	2277	B1-U0-G0	18	144
	2	A	Single	0.950	VISIONAIRE VSX-II_T4L_15L_3K_VOLT_HS SINGLE @ 20' MTG. HT.	4190	B0-U3-G3	102	204
	2	B	Single	0.950	VISIONAIRE VSX-II_T4_5L_3K_VOLT_HS_SINGLE @ 20' MTG. HT.	1704	B0-U0-G1	34	68
	1	C	Single	0.950	VISIONAIRE VSX-II_T4_5L_3K_VOLT_CLS SINGLE @ 20' MTG. HT.	3463	B1-U2-G2	34	34
	11	WM	Single	0.950	ALVA NATALIE-28 INCH-X-3K @ 6' 8 INCH MTG. HT.	1298	B0-U4-G1	22.01	242.11

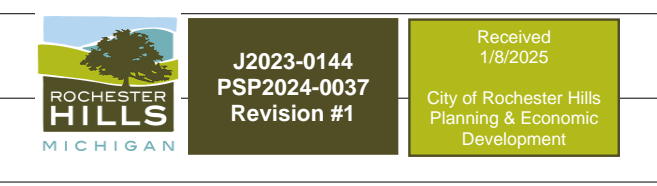
Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Calc Points @ 0' AFF	Illuminance	Fc	1.02	3.0	0.3	3.40	10.00
Property Line @ 0' AFF	Illuminance	Fc	0.04	0.3	0.0	N.A.	N.A.
Right-of-way @ 0' AFF	Illuminance	Fc	0.09	0.1	0.0	N.A.	N.A.
Under Canopy @ 0' AFF	Illuminance	Fc	1.51	2.2	0.7	2.16	3.14
Vertical_E @ 5' AFF	Illuminance	Fc	0.50	0.5	0.5	1.00	1.00
Vertical_N @ 5' AFF	Illuminance	Fc	0.30	0.3	0.3	1.00	1.00

DRAWING NUMBER : **LS091724CL-PROPOSED GAS STATION 2260 CROOKS RD-04**
 LAYOUT DESIGNER : **LS**
 DESIGNER EMAIL : **Lsalgado@visionairelighting.com**
 PROJECT DATE : **09/18/24**
 REVISION DATE : **12/18/24**
 REP : **CLARUS LIGHTING**
 NOTE/S: **CANOPY LIGHTS AT 100%**

www.visionairelighting.com
 Phone: (310) 512-6480 Fax: (310) 512-6486
 19645 Rancho Way-Rancho Dominguez, CA. 90220
 POINT-BY-POINT CALCULATION
 Illuminance at Grade (Footcandles), unless otherwise specified.



DISCLAIMER
 BASED ON THE INFORMATION PROVIDED, ALL DIMENSIONS AND LUMINAIRE LOCATIONS SHOWN REPRESENT RECOMMENDED POSITIONS. THE PROJECT ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING OR FUTURE FIELD CONDITIONS. THE LIGHTING DATA REPRESENTS ILLUMINATION LEVELS TAKEN FROM A LABORATORY SETTING UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH THE ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA) APPROVED METHODS. ACTUAL PERFORMANCE MAY VARY DUE TO VARIATIONS IN ELECTRICAL VOLTAGE, INSTALLATION, TOLERANCE LEVELS, BUILDINGS, OTHER LIGHTING, AND OTHER VARIABLES THAT WERE NOT CONSIDERED WHEN THIS PHOTOMETRIC REPORT WAS CREATED. IT IS THE RESPONSIBILITY OF THE OWNER OR PROJECT ENGINEER TO ENSURE COMPLIANCE OF ALL STANDARDS IN EFFECT. THIS PHOTOMETRIC LAYOUT IS THE PROPERTY OF VISIONAIRE LIGHTING AND IT CANNOT BE USED FOR INSTALLATION OF PRODUCTS OTHER THAN SPECIFIED.
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VSX-II Array LED Specifications

Control Number: AREA-VSX-II-ARR-04_19_2022



Project Name: _____
 Catalog Number: _____
 Type: _____

The new VSX-II Array LED Series offers clean, functional styling that is defined by its sleek low profile design and rugged construction. It combines the latest LED Array technology, advanced LED thermal management and provides outdoor lighting that is both energy efficient and aesthetically pleasing. The LED's performance and the driver's life are maximized by enclosing them in two separate die cast aluminum housings.

The VSX-II Array LED fixture is offered with lumen packages ranging from 5,000 - 25,000. Ten optical distribution patterns are available. Choose between 3000, 4000 or 5000 Kelvin temperature of the LEDs.

A durable polyester powder coat finish is guaranteed for five years and is available in standard or custom colors.

The VSX-II Array LED series is an exceptional choice for commercial parking lots, office complexes, institutional projects, and other general lighting projects.

Ordering Information

MODEL	OPTICS	LUMENS	KELVIN	VOLTAGE	MOUNTING	FINISH	OPTIONS	OPTIONS	OPTIONS
VSX-II	T1 Type 1	5L	3K 3000K	120-277V	AM Arm Mount	BZ Bronze	PCR-120 Motion Sensor 5' Mounting Height	WSC-6 Universal Square Pole Mount Adaptor	UPMA-8 Universal Square Pole Mount Adaptor
	T2 Type 2	10L	4K 4000K	S 347V	SAM Straight Arm Mount W/ Terminal Block (New Construction)	SK Black	PCR-240 Motion Sensor 4' Mounting Height	WSC-20 Universal Round Pole Mount Adaptor	UPMA-R Universal Round Pole Mount Adaptor
	T3 Type 3	15L	5K 5000K	S 480V	SBK Smooth Block Mount (Recess)	SBK Smooth Black	PCR-347 Motion Sensor 3' Mounting Height	WSC-40 Motion Sensor 21-47' Mounting Height	UPMA-R Universal Round Pole Mount Adaptor
	T3L Type 3 Long	20L	5K 5000K	S 480V	UAM Universal Arm/W Terminal Block Mount (Recess)	WH White	PCR-490 Motion Sensor 4' Mounting Height	WSC-40 Motion Sensor 21-47' Mounting Height	UPMA-R Universal Round Pole Mount Adaptor
	T4 Type 4	25L			MAF Mini Arm Filter	SWH Smooth White	SPINPER 5, 6, or 7 Pin Recessed w/spacing cap Requires Dimming Driver	ROT-R Rotated Optics Right Side	ROT-L Rotated Optics Left Side
	T4L Type 4 Long				KM Knuckle Mount	GP Graphite	UMAP Universal Mount with Filter	CLS Backside cutoff shield *Not to be used with UAM	RCLS Right Side cutoff shield *Not to be used with UAM
	T4A Type 4 Automotive				WM Wall Mount *Requires BAWP	GY Gray	RPP-3* RPP-4* RPP-5* Round Pole Pole Adaptor	ADJLS Adjustable Lower Light Shield	LCLS Left Side cutoff shield *Not to be used with UAM
	T5BR Type 5 Short Round				AWM Adjustable Wall Mount	SL Silver Metallic	WVC Visionaire Wireless Controls *Consult Factory	BD Barn Door Shield	HS House shield
	T5LR Type 5 Long Round								
	T5LS Type 5 Long Square								



VI-PA-ING-001-F17 REV. 0 CRC49R22-01

PGR-1 CM LED Specifications

Control Number: WALL_CBLLWG-PGR-1-CM-08_22_2022



Project Name: _____
 Catalog Number: _____
 Type: _____

The PGR-1 CM is a modern, minimalist design with a sleek, low profile design and rugged construction. It combines the latest LED Array technology, advanced LED thermal management and provides outdoor lighting that is both energy efficient and aesthetically pleasing. The LED's performance and the driver's life are maximized by enclosing them in two separate die cast aluminum housings.

The PGR-1 CM fixture is offered with lumen packages ranging from 5,000 - 25,000. Ten optical distribution patterns are available. Choose between 3000, 4000 or 5000 Kelvin temperature of the LEDs.

A durable polyester powder coat finish is guaranteed for five years and is available in standard or custom colors.

The PGR-1 CM series is an exceptional choice for commercial parking lots, office complexes, institutional projects, and other general lighting projects.

Ordering Information

MODEL	OPTICS	SOURCE	CURRENT	KELVIN	VOLTAGE	MOUNTING	FINISH	OPTIONS
PGR-1	T1	16LC	3	3K	120-277V	LPM	BZ	WSC-6
	T2	32LC	5	4K	347V	PM12	SK	WSC-20
	T3	48LC	7	5K	480V	PM24	WH	WSC-40
	T4					PM36	SWH	WSC-40
	T5					CM	GY	WSC-40
	T5BR						SL	WSC-40
	T5LR						CC	WSC-40
	T5LS							WSC-40



VI-PA-ING-001-F17 REV. 0 CRC49R22-01

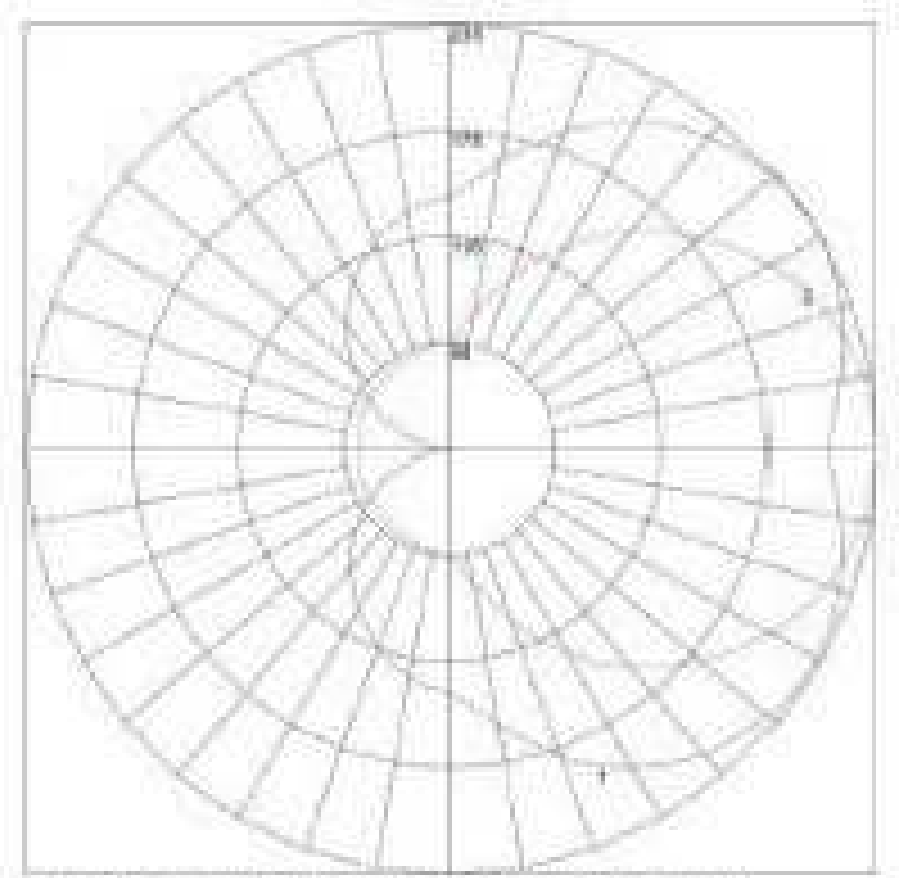
LED light sources shall have a correlated color temperature that does not exceed 3,000K.

NATALIE

ARCHITECTURAL SCALE, WET-LISTED EXTERIOR WALL SCENCE



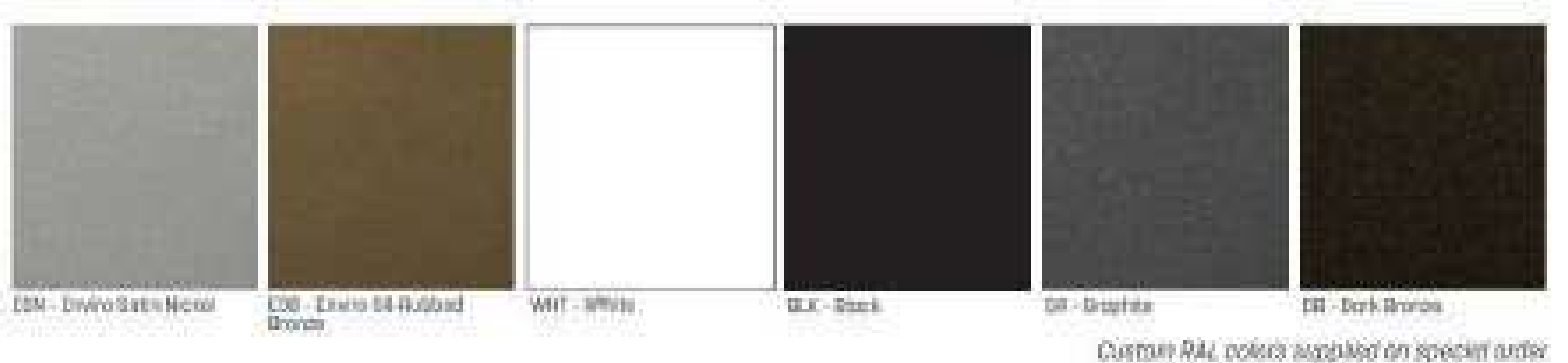
PHOTOMETRIC REPORT



Main Beam Cutoff = 20° Tilt, Luminous Horizontal Angle = 0° Vertical Angle = 120°
 #1 - Vertical Plane Through Horizontal Angle (0° - 100° Through Max. Cd)
 #2 - Horizontal Plane Through Vertical Angle (120° Through Max. Cd)



METAL POWDER COAT FINISH OPTIONS



ORDER CODE:

MODEL	LENGTH	HEIGHT	DEPTH	WATTAGE
NATALIE	38" 31"	43" 42"	38" 58"	30W - 300W
VERIFY				30W - 300W
				400W - 400W

Luminaire Schedule

Symbol	Qty	Label	Arrangement	LLF	Description	Arr. Lum. Lumens	BUG Rating	Lum. Watts	Total Watts
	8	CM	Single	0.400	VISIONAIRE PGR-1-T5-16LC-3-3K-VOLT CM @ 14' MG. HT.	2277	B1-U0-G0	18	144
	2	A	Single	0.950	VISIONAIRE VSX-II_T4L_15L_3K_VOLT_HS SINGLE @ 20' MTG. HT.	4190	B0-U3-G3	102	204
	2	B	Single	0.950	VISIONAIRE VSX-II_T4_5L_3K_VOLT_HS_SINGLE @ 20' MTG. HT.	1704	B0-U0-G1	34	68
	1	C	Single	0.950	VISIONAIRE VSX-II_T4_5L_3K_VOLT_CLS_SINGLE @ 20' MTG. HT.	3463	B1-U2-G2	34	34
	11	WM	Single	0.950	ALVA NATALIE 28 INCH X 3K @ 6' 8 INCH MTG. HT.	1298	B0-U4-G1	22.01	242.11

DRAWING NUMBER : **LS091724CL-PROPOSED GAS STATION 2260 CROOKS RD-04**

LAYOUT DESIGNER : **LS**

DESIGNER EMAIL : **Lsalgado@visionairelighting.com**

PROJECT DATE : **09/18/24**

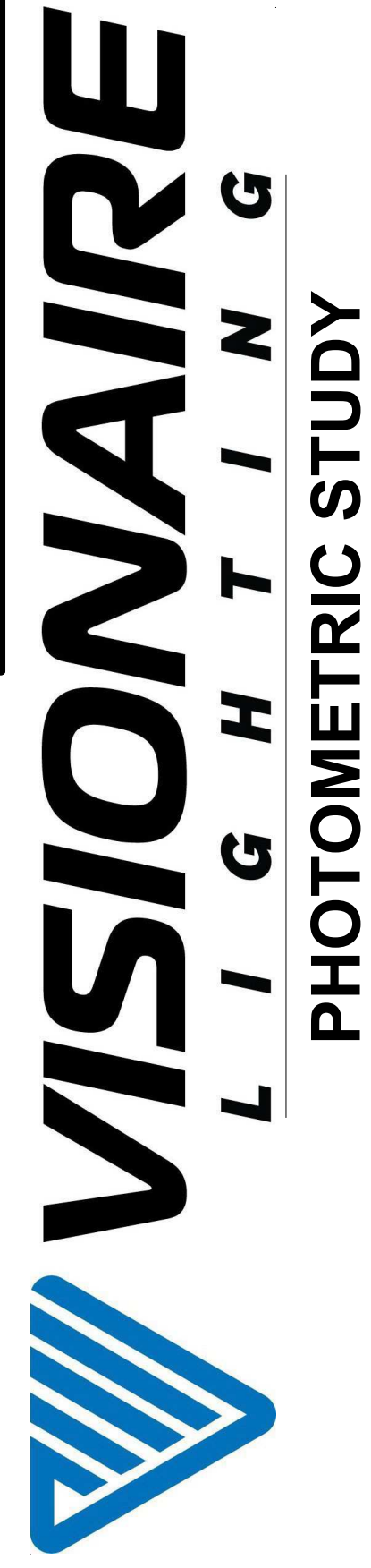
REVISION DATE : **-**

REP : **CLARUS LIGHTING**

NOTE/S: **-**

DISCLAIMER: BASED ON THE INFORMATION PROVIDED, ALL DIMENSIONS AND LUMINAIRE LOCATIONS SHOWN REPRESENT RECOMMENDED POSITIONS. THE PROJECT ENGINEER HAS NOT DETERMINED THE APPLICABILITY OF THE LAYOUT TO EXISTING OR FUTURE FIELD CONDITIONS. THE LIGHTING DATA REPRESENTS ILLUMINATION LEVELS TAKEN FROM A LABORATORY SETTING UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH THE ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA) APPROVED METHODS. ACTUAL PERFORMANCE MAY VARY DUE TO VARIATIONS IN ELECTRICAL VOLTAGE, INSTALLATION, TOLERANCE LEVELS, BUILDINGS, OTHER LIGHTING, AND OTHER VARIABLES THAT WERE NOT CONSIDERED WHEN THIS PHOTOMETRIC REPORT WAS CREATED. IT IS THE RESPONSIBILITY OF THE OWNER OR PROJECT ENGINEER TO ENSURE COMPLIANCE OF ALL STANDARDS IN EFFECT. THIS PHOTOMETRIC LAYOUT IS THE PROPERTY OF VISIONAIRE LIGHTING AND IT CANNOT BE USED FOR INSTALLATION OF PRODUCTS OTHER THAN SPECIFIED. CALL PHOTOMETRIC LAYOUTS, SUBMITTALS, AND QUOTES BY VISIONAIRE AND OTHERS MUST BE PROVIDED AT THE TIME OF PURCHASE ORDER ENTRY. VISIONAIRE IS NOT RESPONSIBLE FOR ANY DISCREPANCIES IN PROVIDED PRODUCT DOCUMENTS ARE NOT SUPPLIED. COPYRIGHT © 2015 VISIONAIRE LIGHTING LLC. THIS DOCUMENT AND THE IDEAS AND DESIGN CONCEPTS INCORPORATED HEREIN CANNOT BE USED IN WHOLE OR IN PART FOR THIS OR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF VISIONAIRE LIGHTING.

www.visionairelighting.com
 Phone: (310) 512-6480 Fax: (310) 512-6486
 19645 Rancho Way-Rancho Dominguez, CA. 90220
 POINT-BY-POINT CALCULATION
 Illuminance at Grade (Footcandles), unless otherwise specified.



PHOTOMETRIC STUDY

J2023-0144
 PSP2024-0037
 Revision #1

Received
 Project
 City of Rochester Hills
 Planning & Economic
 Development

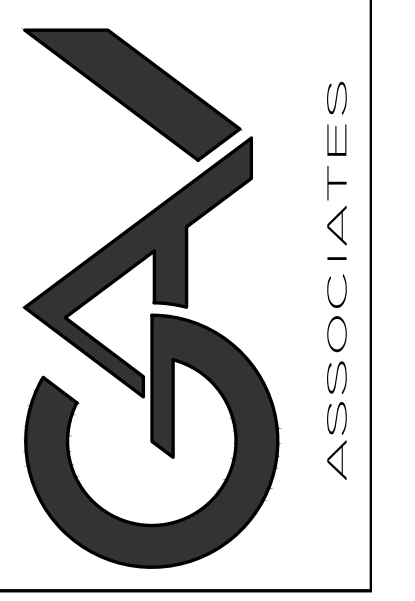


ISSUED FOR	DATE
SPA	10/08/24

ARCHITECTURAL DESIGN

RESIDENTIAL
COMMERCIAL
INDUSTRIAL

G.A.V. ASSOCIATES, INC
2401 ORCHARD LAKE RD. STE. 180A
FARMINGTON, MICHIGAN 48338
PH: (248) 986-9101
WEB: WWW.GAVASSOCIATES.COM



PROPOSED GASOLINE STATION
NEW CONSTRUCTION DRAWINGS
2260 CROOKS ROAD
ROCHESTER HILLS, MI 48309

DRAWN:	DESIGNED:	CHECKED:
AD	SA	SA

SCALE : NOTED

FILE NAME :

JOB # : 23051

SHEET TITLE

RENDERINGS

SHEET #

A.100

J2023-0144
PSP2024-0037
Revision #1

Received
11/20/2023
City of Rochester Hills
Planning & Economic
Development

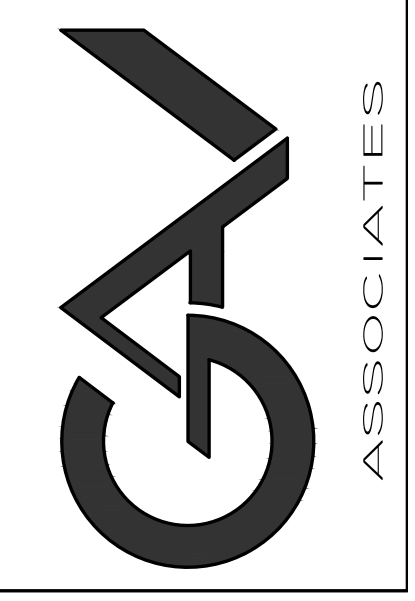


ISSUED FOR	DATE
SPA	10/08/24

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Additional column similar to those along main portion of rear facade.

PROPOSED GASOLINE STATION
NEW CONSTRUCTION DRAWINGS
2260 CROOKS ROAD
ROCHESTER HILLS, MI 48309

DRAWN:	DESIGNED:	CHECKED:
AD	SA	SA

SCALE : NOTED

FILE NAME :

JOB # 23051

SHEET TITLE

RENDERINGS

SHEET #

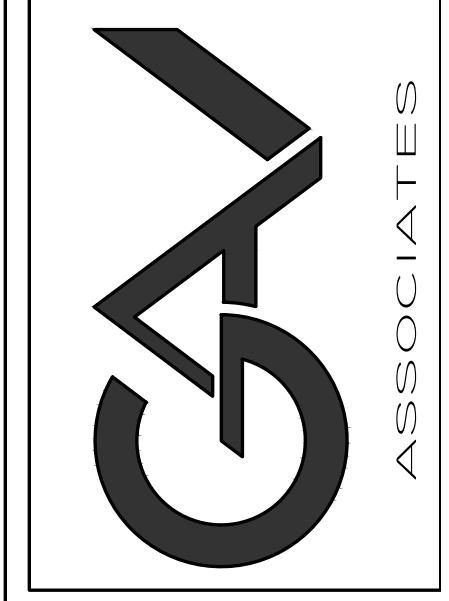
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J2023-0144
 PSP2024-0037
 Revision #1
 Received 1/8/2025
 City of Rochester Hills
 Planning & Economic
 Development



ISSUED FOR	DATE
SPA	10/08/24

ARCHITECTURAL DESIGN
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 G.A.V. ASSOCIATES, INC
 2401 ORCHARD LAKE RD. STE. 100A
 FARMINGTON, MICHIGAN 48338
 PH: (248) 985-9101
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GENERAL NOTES & CODE REVIEW:

- GENERAL CONTR. TO COMPLY W/ ALL FEDERAL, STATE, CITY AND LOCAL CODES WHERE APPLICABLE
- * MICHIGAN BUILDING CODE 2015
 - * ICC/ANSI A117.1, 2009 & MICHIGAN BARRIER FREE DESIGN LAW OF PUBLIC ACT 1 OF 1966 AS AMENDED.
 - * MICHIGAN MECHANICAL CODE 2021 (M.M.C.)
 - * MICHIGAN PLUMBING CODE 2021 (M.P.C.)
 - * INTERNATIONAL FUEL GAS CODE 2015 (I.F.G.C.)
 - * FIRE CODE: IFC 2015 (INTERNATIONAL FIRE CODE 2015), AS REFERENCED IN THE 2015 MICHIGAN BUILDING CODE
 - * FIRE SUPPRESSION: NFPA 13 (2013)
 - * FIRE ALARM: NFPA 72 (2013)
 - * ENERGY CODE: MEC 2015 (MICHIGAN BUILDING CODE 2015) - CHAPTER 13 & MEC 2015 (MICHIGAN ENERGY CODE 2015) - CHAPTER 4 & MICHIGAN ENERGY CODE PART 10a, RULES (ANSI/ASHRAE 90.1-2013)
 - * MICHIGAN ELECTRICAL CODE BASED ON 2023 N.E.C. W/ PART B AMENDMENTS
 - * PROJECT SHALL COMPLY W/ MEC 2015 CHP. 35 REFERENCE STANDARDS

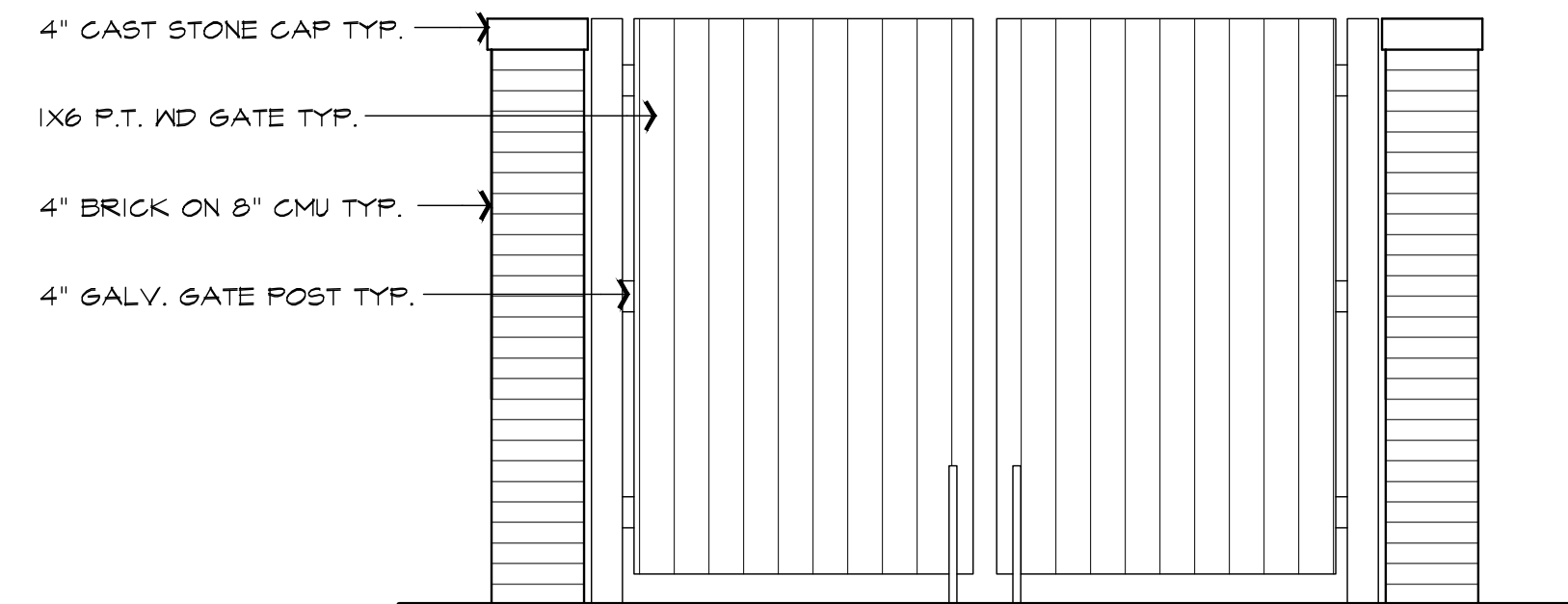
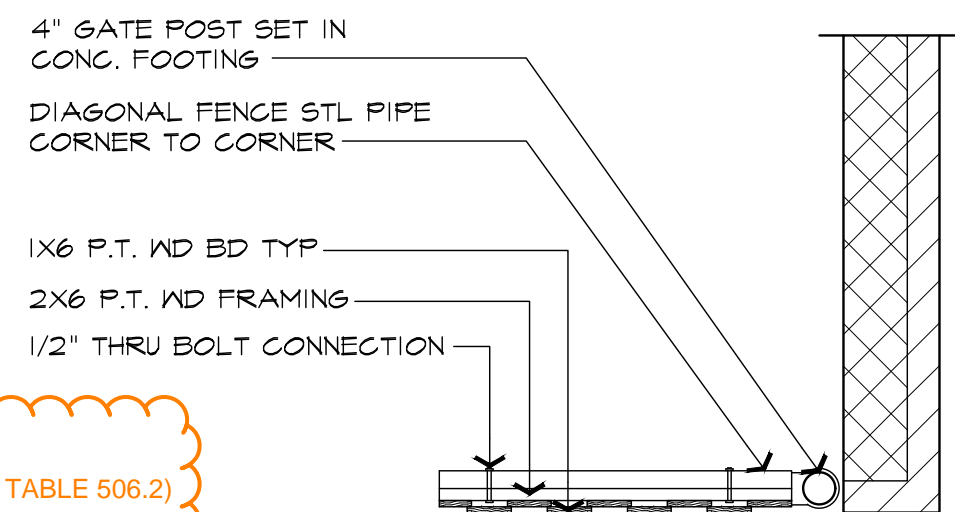
PROJECT DATA:

USE GROUP: M - MERCANTILE ALLOWABLE SF: 12,500 SF (NON-SPRINKLERED PER TABLE 506.2)
 CONSTRUCTION TYPE: 2B PROPOSED SF: 4,488 SF

PROJECT DESCRIPTION

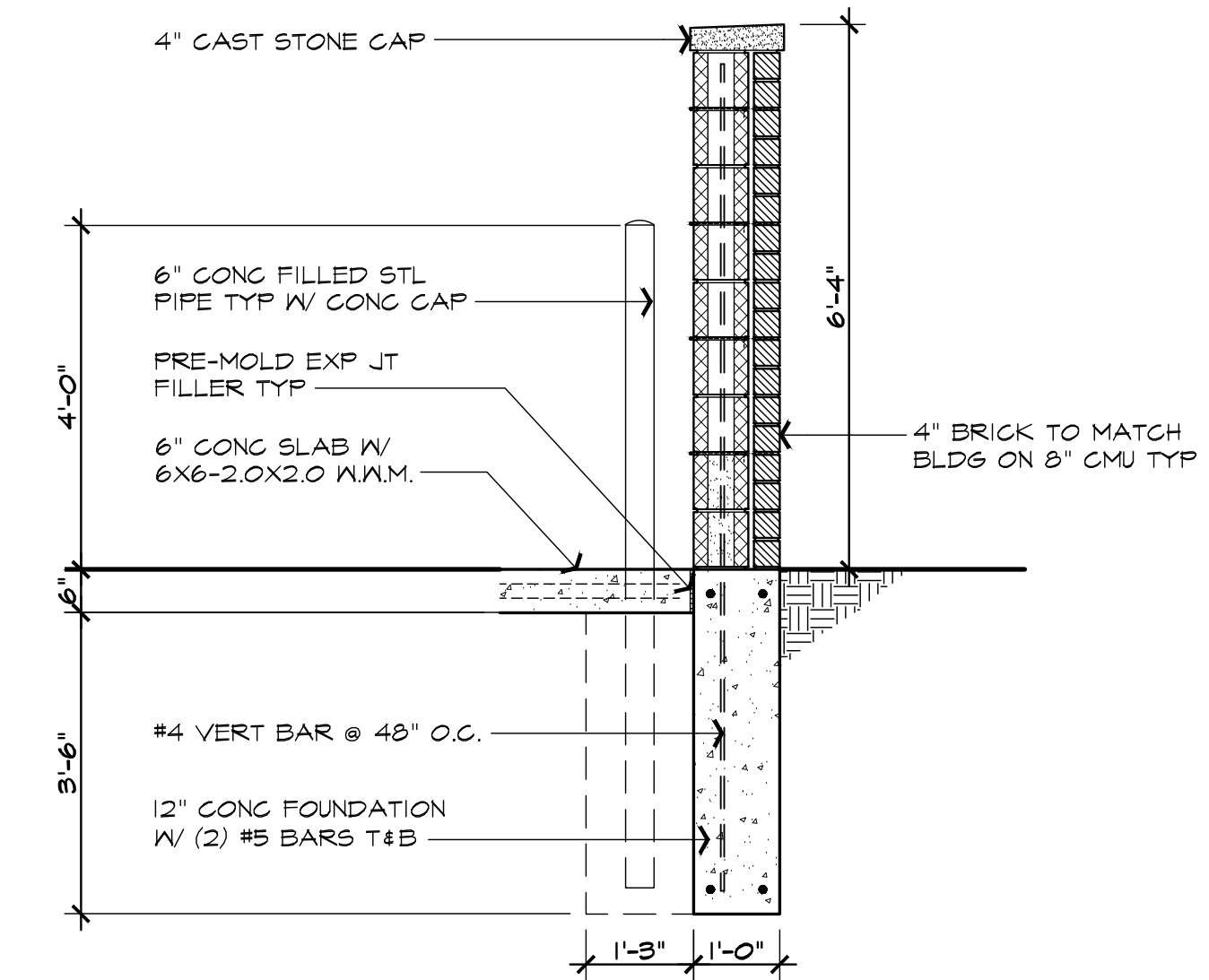
PROPOSED 1 STORY COMMERCIAL BUILDING, THE INTERIOR TO BE BUILT OUT INTO GAS STATION (CONVENIENCE/ RETAIL STORE) & TENANT.

For building permit application, indicate a full building code analysis including area, height and number of stories. Indicate if the building will be equipped with a fire suppression and/or a fire alarm system.



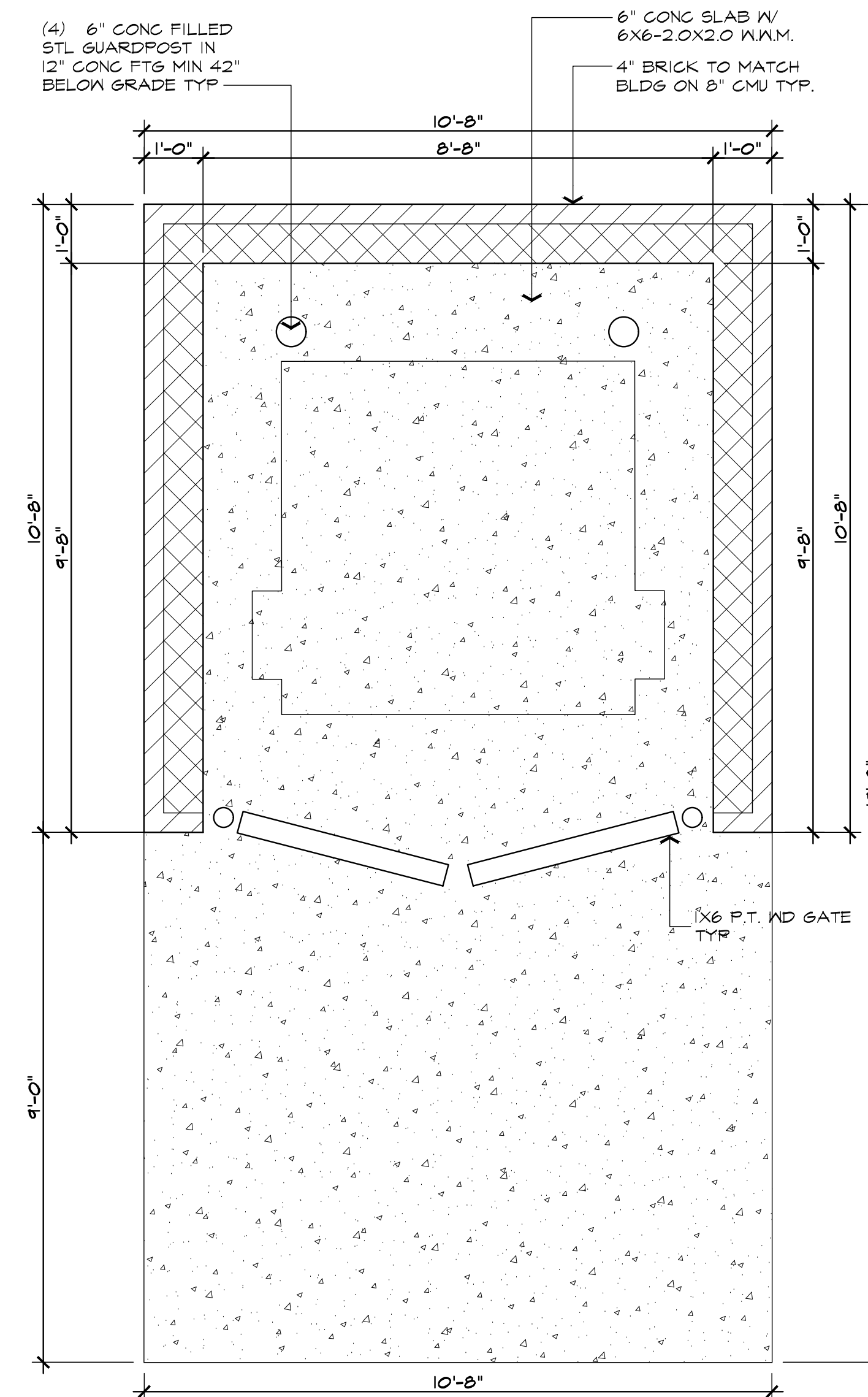
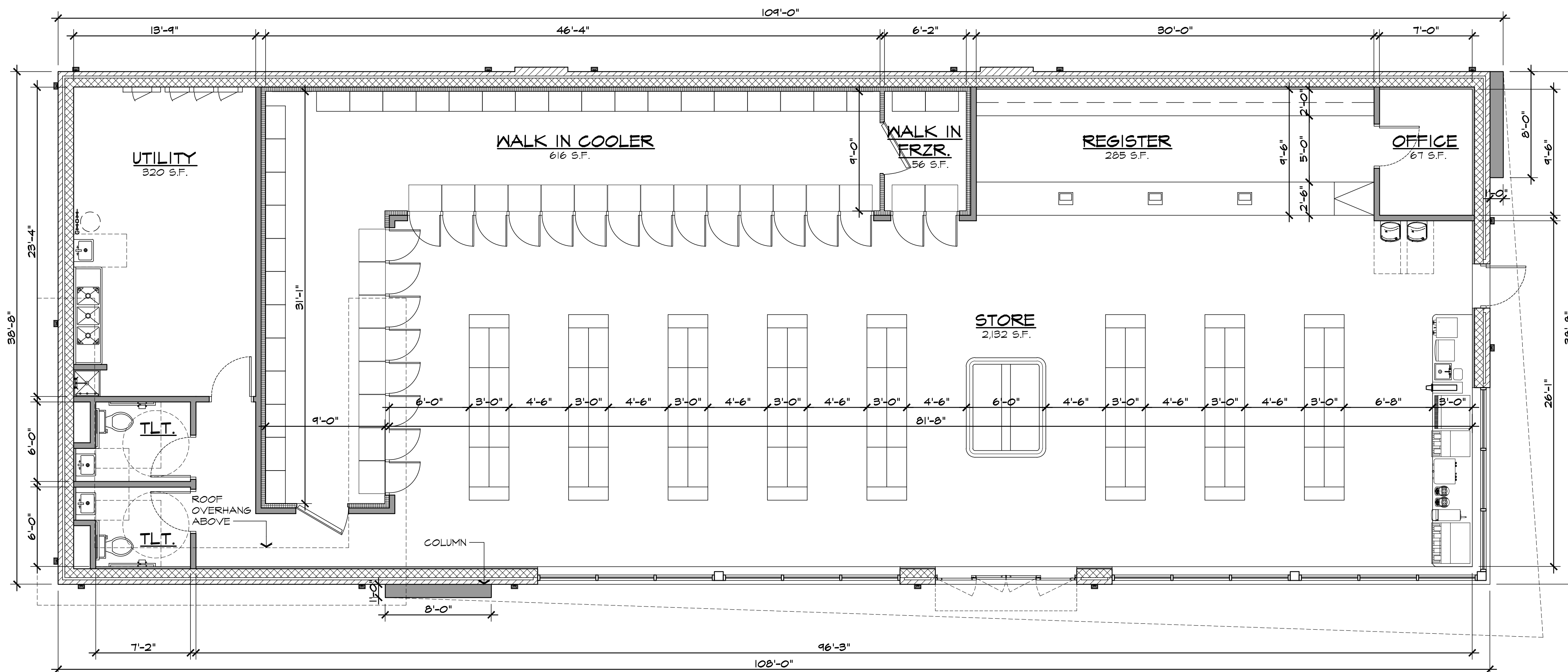
DUMPSTER ENCLOSURE GATE DETAIL & ELEVATION

SCALE: 1/2" = 1'-0"



DUMPSTER ENCLOSURE WALL SECTION

SCALE: 1/2" = 1'-0"



DUMPSTER ENCLOSURE PLAN

SCALE: 1/2" = 1'-0"

FLOOR PLAN
 SCALE: 3/16" = 1'-0"

4,487.67 GROSS S.F.

PROPOSED GASOLINE STATION
 NEW CONSTRUCTION DRAWINGS
 2260 CROOKS ROAD
 ROCHESTER HILLS, MI 48304

DRAWN:	DESIGNED:	CHECKED:
AD	SA	GA

SCALE: 3/16" = 1'-0"

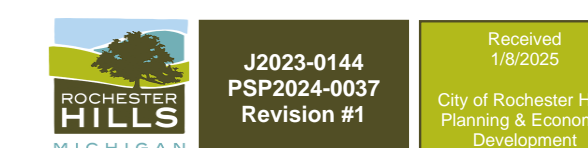
FILE NAME:

JOB #: 23057

SHEET TITLE
 FLOOR PLAN

SHEET #

A.101

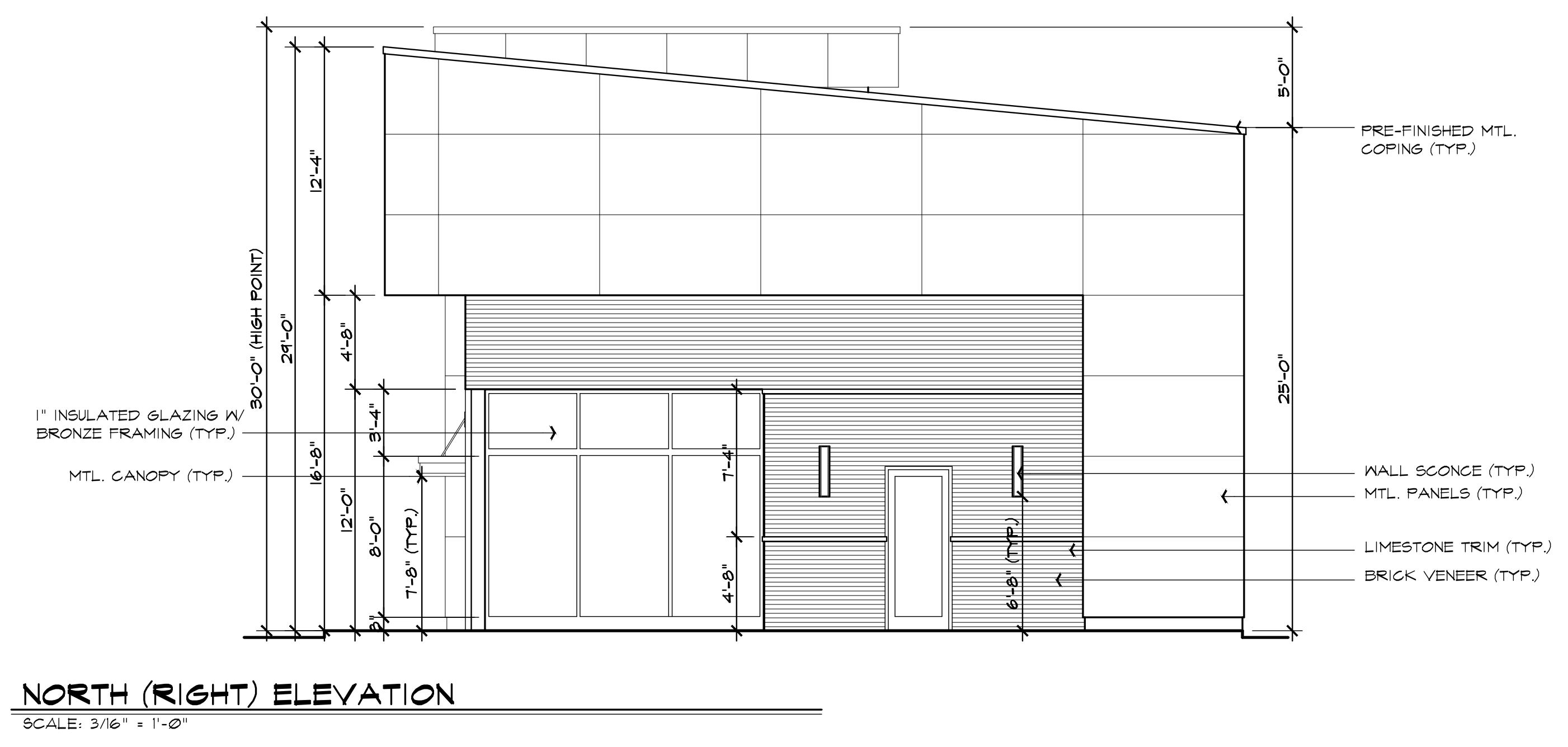
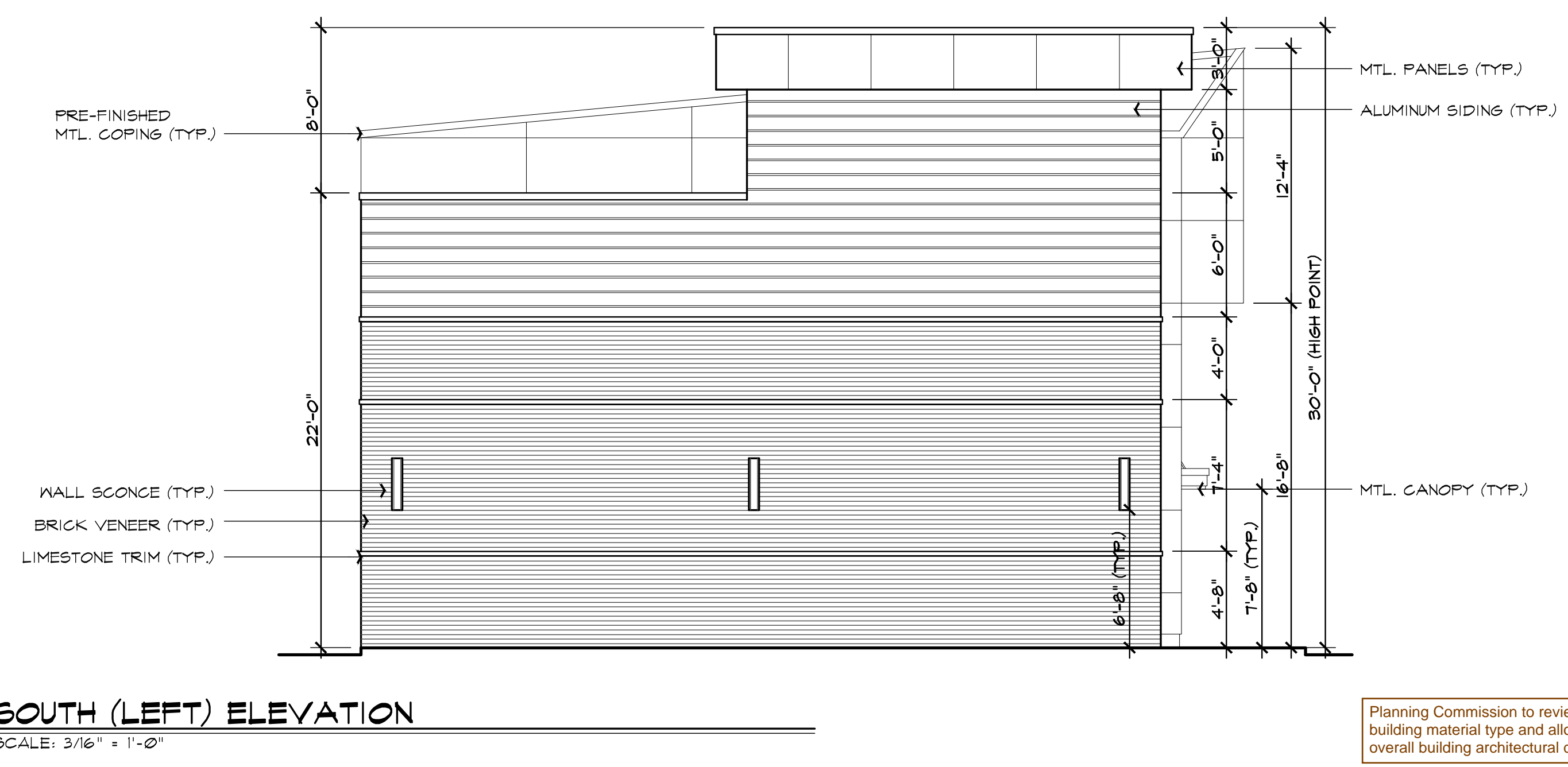
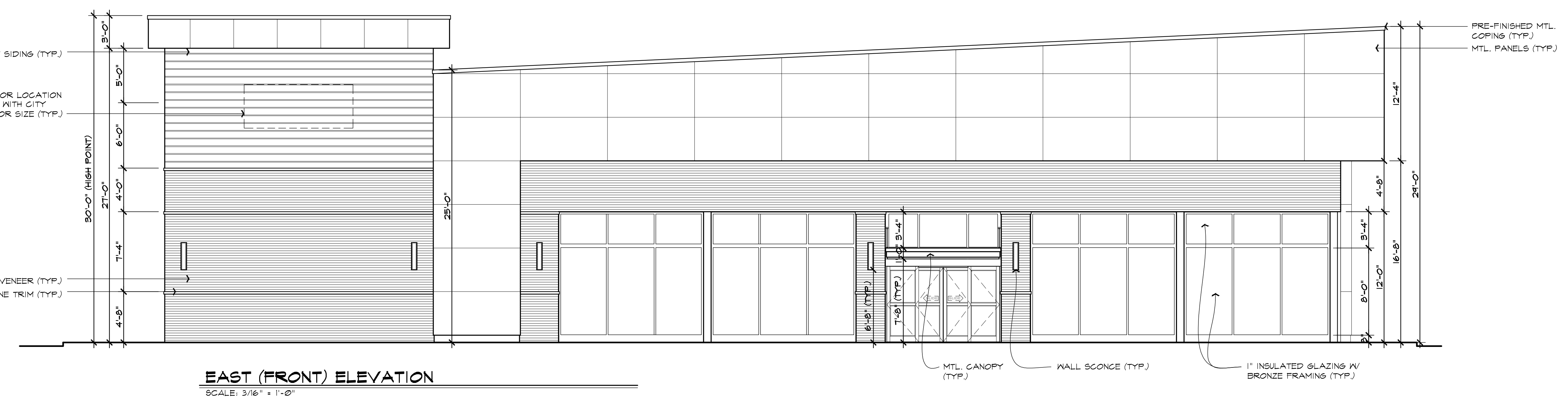


ISSUED FOR	DATE
SPA	10/08/24

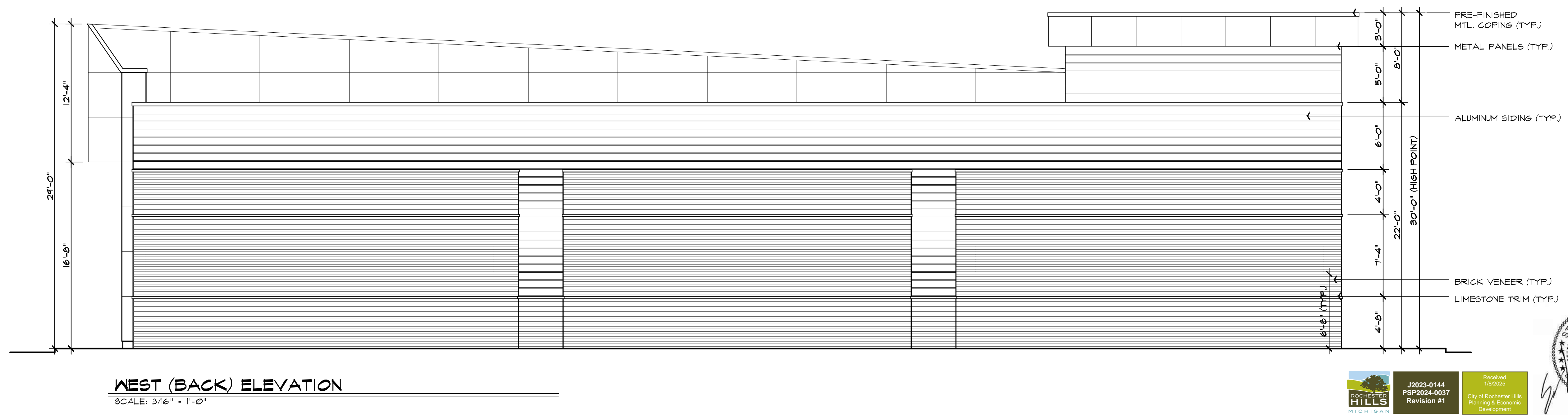
ARCHITECTURAL DESIGN

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INDUSTRIAL

G.A.V. ASSOCIATES, INC
2401 ORCHARD LAKE RD. STE. 100A
FARMINGTON, MICHIGAN 48338
PH: (248) 985-9101
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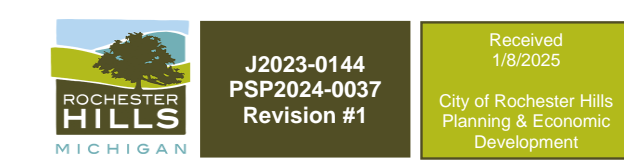
Planning Commission to review proposed building material type and allocation along with overall building architectural design.



NOTE:
ALL BUILDING MECHANICAL EQUIPMENT SHALL BE SCREENED FROM VIEW WITH PARAPET
ALL SIGNS MUST MEET THE REQUIREMENTS OF THE CITY AND BE APPROVED UNDER SEPARATE PERMITS ISSUED BY THE BUILDING DEPARTMENT.

PROPOSED GASOLINE STATION
NEW CONSTRUCTION DRAWINGS
2260 CROOKS ROAD
ROCHESTER HILLS, MI 48304

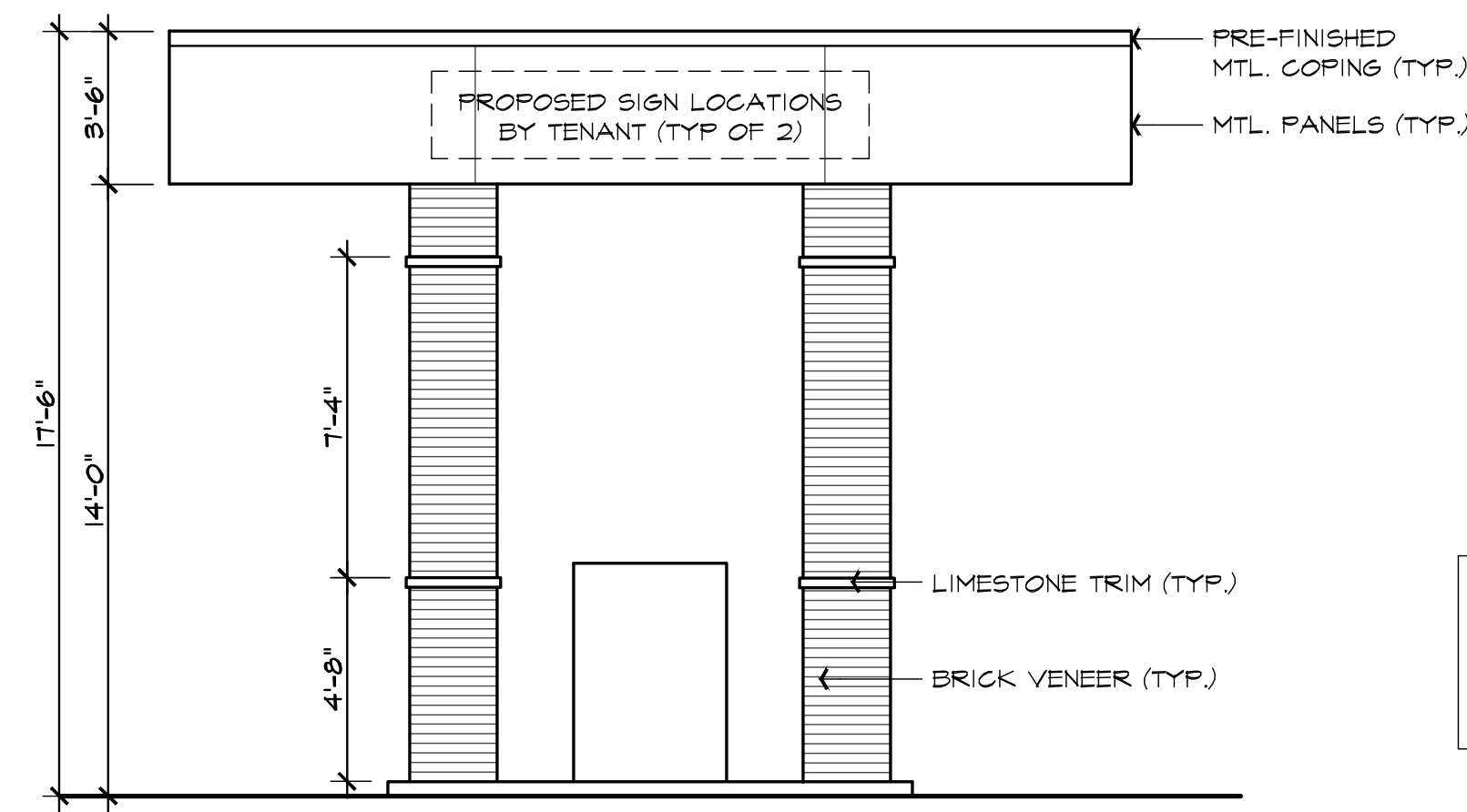
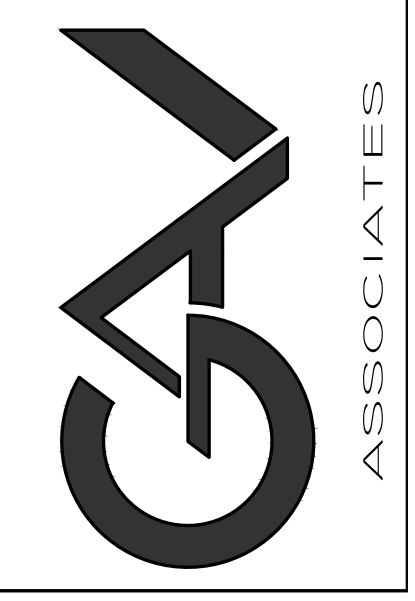
DRAWN:	DESIGNED:	CHECKED:
AD	GA	GA
SCALE: 3/16" = 1'-0"		
FILE NAME:		
JOB #: 23051		
SHEET TITLE ELEVATIONS		
SHEET # A.201		



ISSUED FOR	DATE
SPA	10/08/24

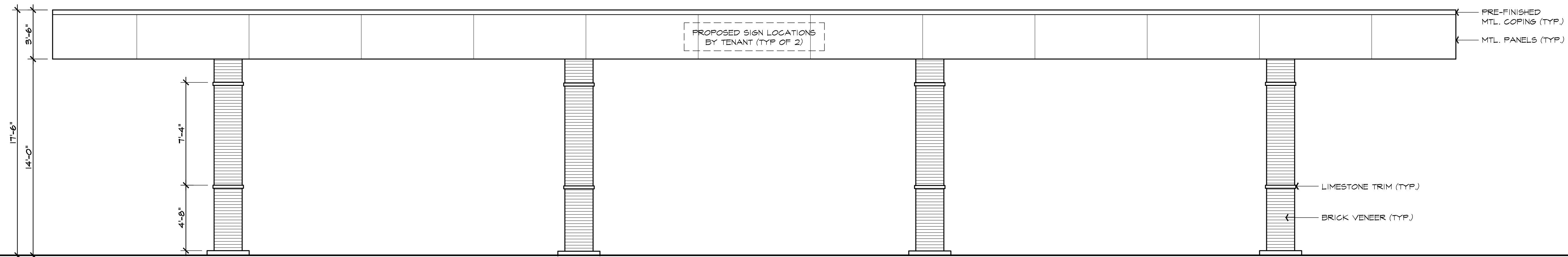
ARCHITECTURAL DESIGN
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 PH: (248) 985-9101
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NOTE:
 ALL SIGNS MUST MEET THE REQUIREMENTS OF THE CITY AND BE APPROVED UNDER SEPARATE PERMITS ISSUED BY THE BUILDING DEPARTMENT

CANOPY (SIDE) ELEVATION
 SCALE: 1/4" = 1'-0"



CANOPY (FRONT) ELEVATION
 SCALE: 1/4" = 1'-0"

PROPOSED GASOLINE STATION
 NEW CONSTRUCTION DRAWINGS
 2260 CROOKS ROAD
 ROCHESTER HILLS, MI 48309

DRAWN:	DESIGNED:	CHECKED:
AD	GA	GA

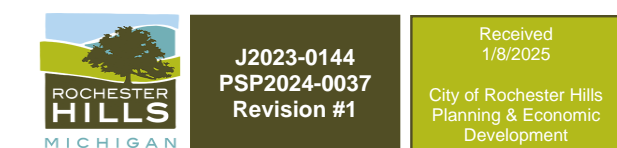
SCALE : 1/4" = 1'-0"

FILE NAME :

JOB # : 23051

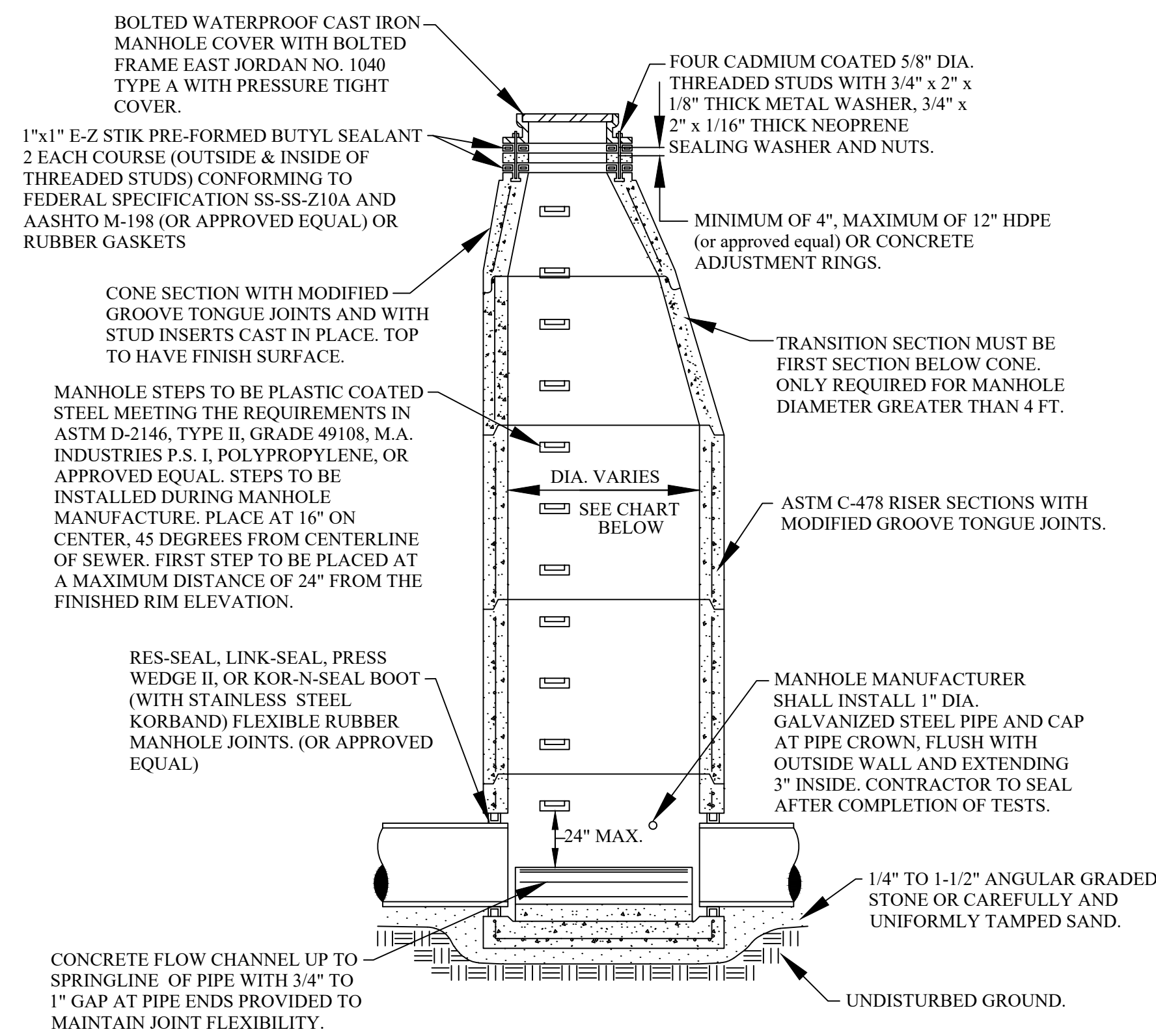
SHEET TITLE
 CANOPY ELEVATIONS

SHEET #
 A.202



SANITARY SEWER CONSTRUCTION NOTES

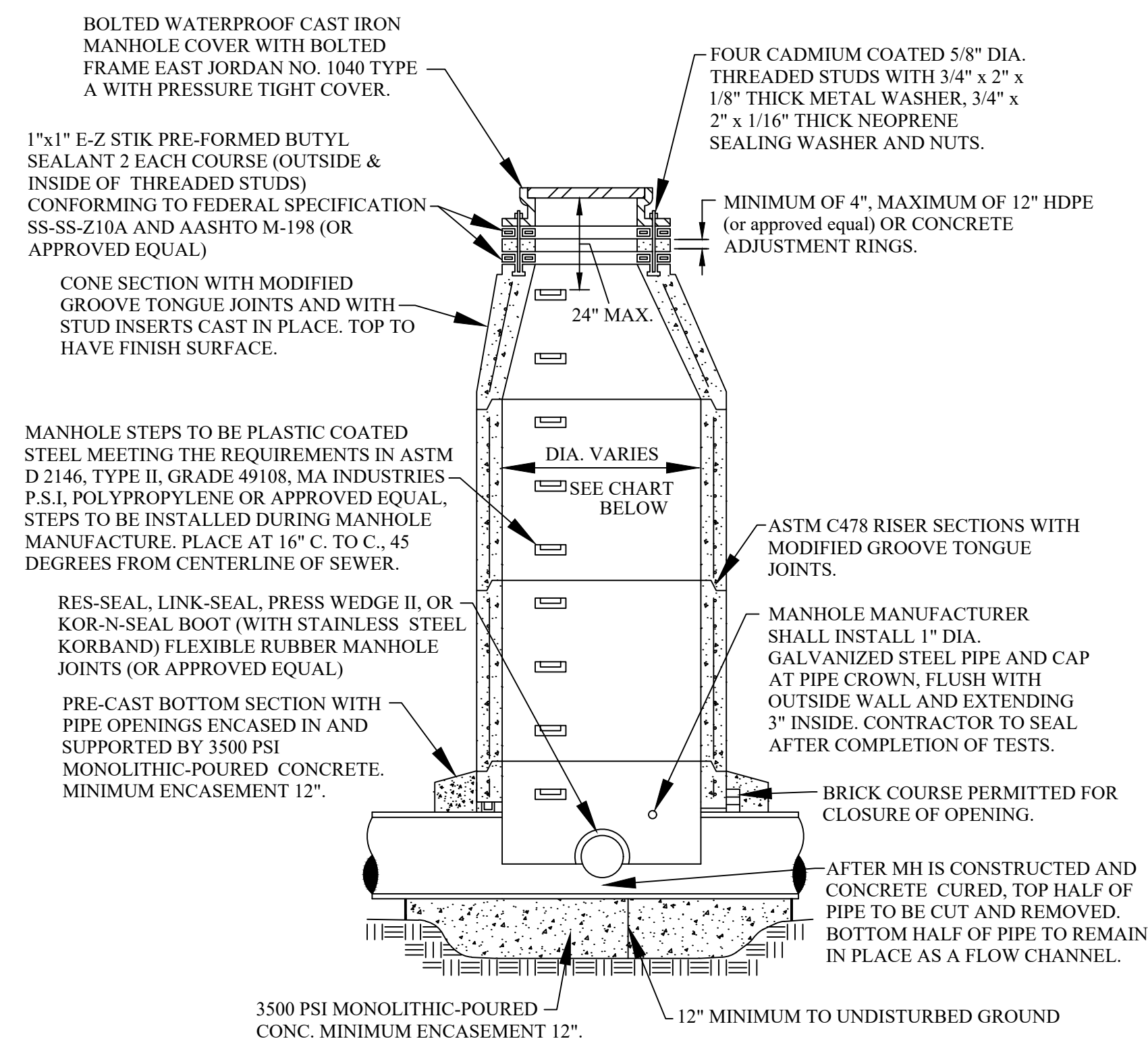
- ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS AND THE OAKLAND COUNTY WATER RESOURCES COMMISSIONER (OCWRC). ALL SANITARY SEWER CONSTRUCTION SHALL HAVE FULL-TIME INSPECTION SUPERVISED BY THE CITY OF ROCHESTER HILLS INSPECTION SERVICES.
- NO 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. AIR TESTS IN LIEU OF INFILTRATION TESTS SHALL BE AS SPECIFIED IN THE OAKLAND COUNTY WATER RESOURCES COMMISSIONER STANDARDS. PRELIMINARY-AIR TESTS ARE WITNESSED BY THE CITY AND FINAL AIR TESTS ARE WITNESSED BY BOTH THE CITY AND THE OCWRC. ONLY PIPE AND PIPE JOINTS APPROVED BY THE CITY MAY BE USED FOR SANITARY SEWER CONSTRUCTION.
- LOCATED IN THE FIRST MANHOLE UPSTREAM FROM THE POINT OF ALL CONNECTIONS TO AN EXISTING SEWER, OR EXTENSION, A TEMPORARY 12-INCH DEEP SUMP 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 STANDARD FILLET PROVIDED FOR THE FLOW CHANNEL. A WATERTIGHT BULKHEAD SHALL BE PROVIDED ON THE DOWNSTREAM SIDE OF THE SUMP 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 WATERTIGHT 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 ENTERING THE PIPE HAS PASSED. ALL MAIN LINE PIPE SHALL BE LAID WITH A PIPE LASER BEAM FOR LINE AND GRADE. A TARGET MUST BE INSTALLED AT THE END OF THE PIPE BEING LAID.
- SELF-LEVELING ACCESS ASSEMBLY STRUCTURES SHALL BE USED FOR ADJUSTING STRUCTURES WITHIN ASPHALT AND CONCRETE PAVEMENT.
- ALL SEWER PIPE SHALL BE INSTALLED IN CLASS "B" BEDDING OR BETTER.
- ALL NEW MANHOLES SHALL HAVE CITY APPROVED FLEXIBLE, WATERTIGHT SEALS WHERE PIPES PASS THROUGH WALLS. MANHOLES SHALL BE OF PRE CAST SECTIONS WITH MODIFIED GROOVE TONGUE AND BUTYL TYPE JOINTS. PRE CAST MANHOLE CONE SECTIONS SHALL BE CITY APPROVED MODIFIED ECCENTRIC CONE TYPE. ALL MANHOLES SHALL BE PROVIDED WITH BOLTED, WATERTIGHT COVERS.
- AT ALL CONNECTIONS TO MANHOLES IN ALL SEWERS, OR EXTENSIONS, DROP CONNECTIONS WILL BE REQUIRED WHEN THE DIFFERENCE IN INVERT ELEVATIONS EXCEEDS 18 INCHES.
- GROUND WATER, STORM WATER, CONSTRUCTION WATER, DOWN SPOUT DRAINAGE OR WEEP TILE DRAINAGE SHALL NOT BE ALLOWED TO ENTER ANY SANITARY SEWER INSTALLATION.
- PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT MISS DIG THREE (3) DAYS IN ADVANCE (811) 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 ALL OTHER UTILITIES.
- AS A MEANS OF INSURING PROPER INSTALLATION OF THE SANITARY SEWER PIPE, THE CONTRACTOR SHALL VIDEO INSPECT, ACCORDING TO THE CITY OF ROCHESTER HILLS VIDEO INSPECTION STANDARDS, 100% OF THE SANITARY SEWER PIPE. THE CONTRACTOR SHALL PROVIDE 24 HOURS NOTICE TO THE CITY OF ROCHESTER HILLS PRIOR TO VIDEO INSPECTION, SO A REPRESENTATIVE MAY BE PRESENT. ROCHESTER HILLS WILL BE PROVIDED WITH A DIGITAL COPY OF THE VIDEO INSPECTION AND LOG IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS INSPECTION STANDARDS.



STANDARD MANHOLE

MANHOLE SIZING CHART

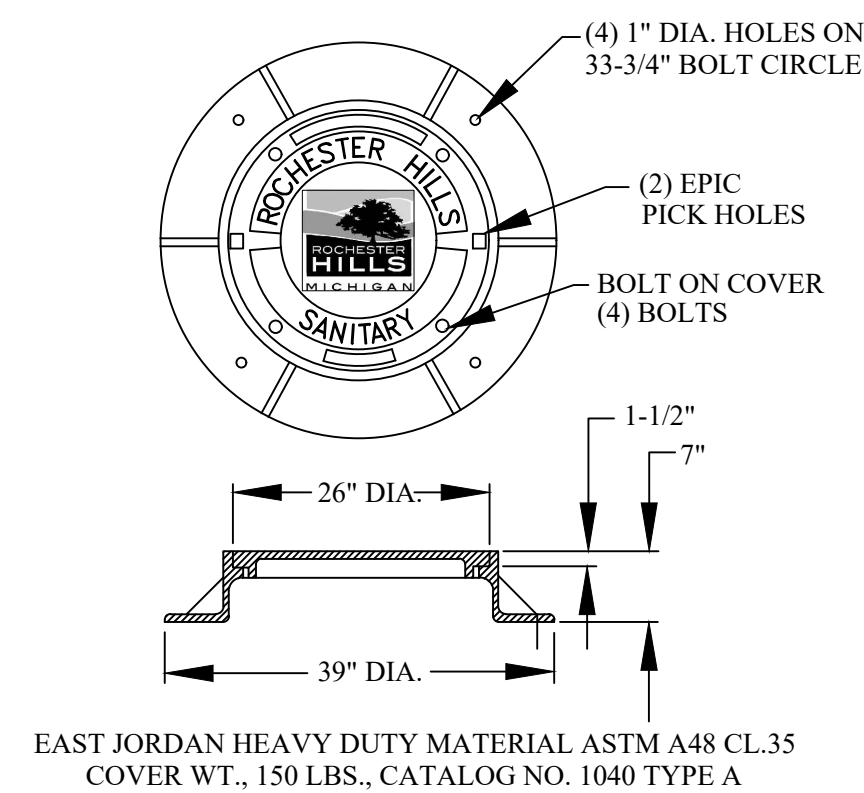
MANHOLE DIAMETER	MAX. PIPE SIZE FOR STRAIGHT THRU INST.	MAX. PIPE SIZE FOR RIGHT ANGLE INST.
4'	24"	18"
5'	36"	24"
6'	42"	36"
7'	60"	42"



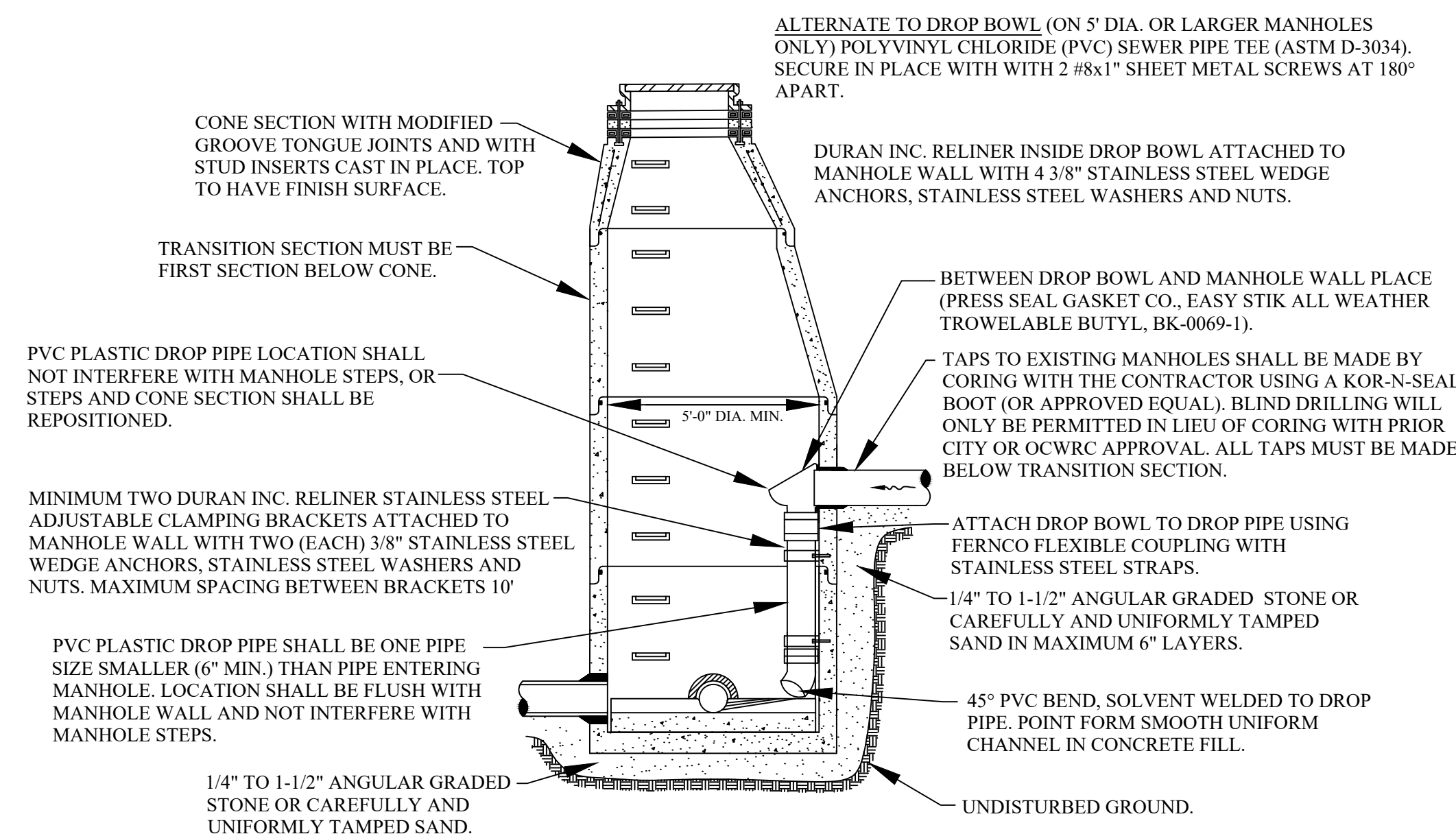
MANHOLE CONSTRUCTED OVER EXISTING SEWER

MANHOLE SIZING CHART

MANHOLE DIAMETER	MAX. PIPE SIZE FOR STRAIGHT THRU INST.
4'	24"
5'	36"
6'	42"
7'	60"



ROCHESTER HILLS MANHOLE COVER



INTERIOR DROP CONNECTION

NOTE: INTERIOR DROP CONNECTION PERMITTED ONLY WHEN APPROVED BY CITY ENGINEER.

SANITARY SEWER STANDARD DETAILS

NOT TO SCALE DATE: 1/10/2019
SHEET 1 OF 2

City of Rochester Hills
1000 Rochester Hills Drive, Rochester Hills, Michigan 48309

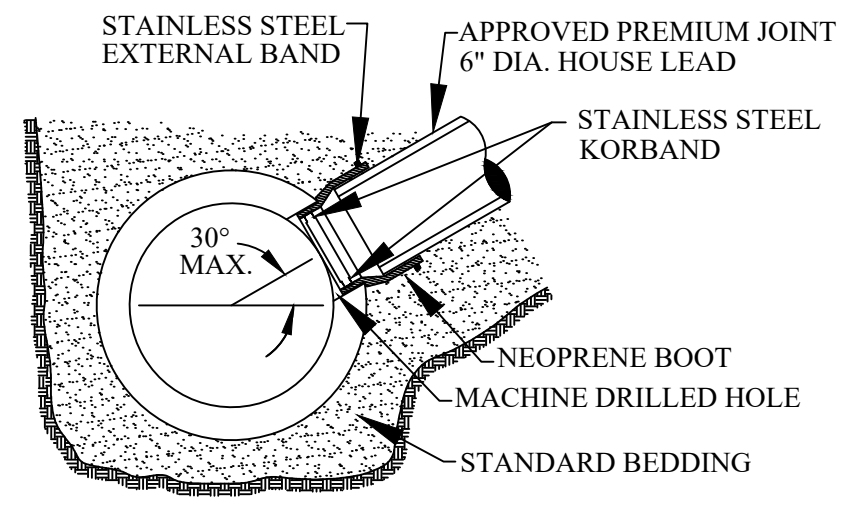


REVISIONS DATE APPROVED BY CITY COUNCIL, DATE: _____
PREPARED BY ENGINEERING DIVISION DEPARTMENT OF PUBLIC SERVICES

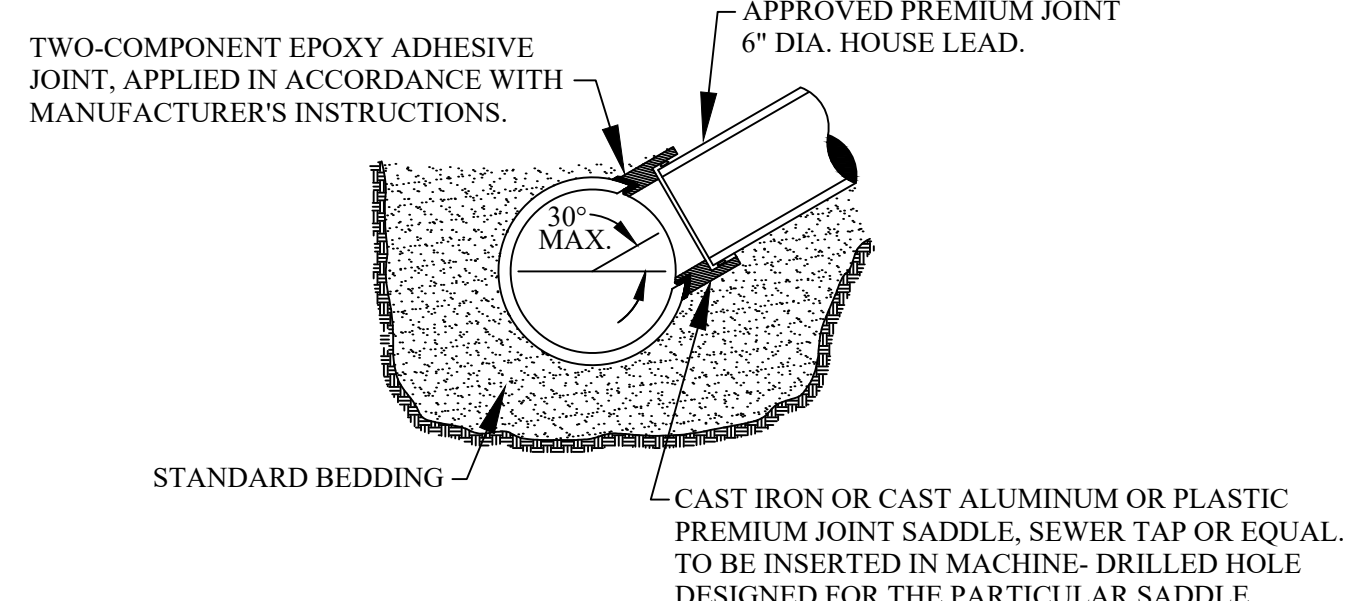
NOTIFY ROCHESTER HILLS ENGINEERING DIVISION @ 248-841-2510 48 HRS. PRIOR TO START OF CONSTRUCTION

CITY OF ROCHESTER HILLS GRAVITY BUILDING LEAD REQUIREMENTS AND DETAILS

- ALL BUILDING LEAD WORK MUST BE PERFORMED UNDER THE CITY OF ROCHESTER HILLS INSPECTION.
- FOR ALL CITY OF ROCHESTER HILLS SYSTEMS CALL 248-841-2510 48-HOURS PRIOR TO SCHEDULING INSPECTION.
FOR ALL OCWR-C OPERATED SYSTEMS, CALL 248-858-1110 48-HOURS IN ADVANCE PRIOR TO SCHEDULING INSPECTION.
- SANITARY SEWER MAY NOT BE USED AS A DE-WATERING OUTLET.
- FITTINGS SHALL BE OF THE SAME MATERIAL AS THE PIPE. FERNCO STRONGBACK COUPLING (OR APPROVED EQUAL) IF DISSIMILAR PIPES ARE CONNECTED. IF DISSIMILAR FITTINGS MUST BE USED, TRANSITION CEMENT/GLUE IS REQUIRED.
- APPROVED BUILDING LEAD PIPE FOR GRAVITY SEWER LEADS:
 - PVC PLASTIC, ASTM D3034, SDR 23.5
 - SOLID WALL PVC SCHEDULE 40, ASTM D-2665
 - ANY DEVIATIONS FROM ABOVE SPECIFICATIONS REQUIRES APPROVAL BY CITY ENGINEER.
- FOR 6" LEADS A CLEANOUT MUST BE INSTALLED EVERY 100 FT. FOR 4" LEADS A CLEANOUT MUST BE INSTALLED EVERY 50 FT. 90° BENDS NOT ALLOWED EXCEPT FROM THE HORIZONTAL TO THE VERTICAL WITHIN 5 FEET OF THE BUILDING.

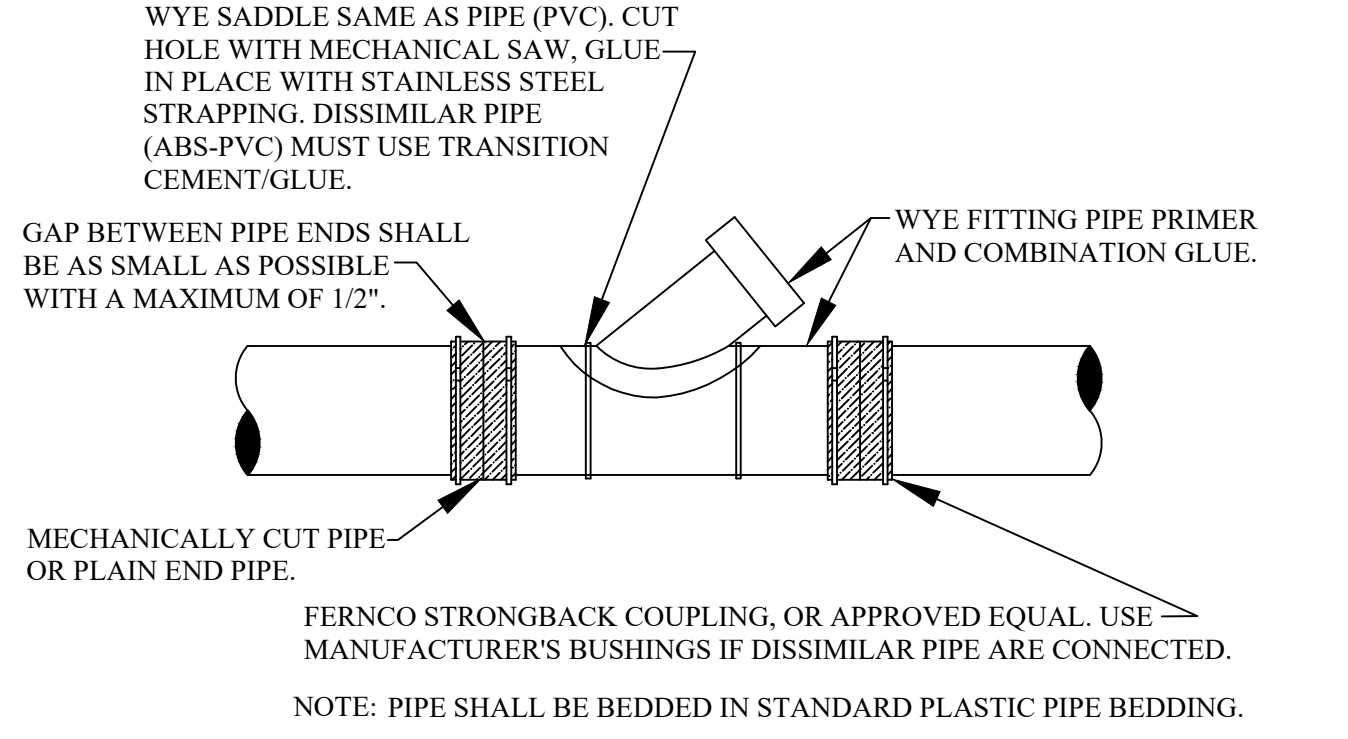


KOR-N-TEE TAP FOR CONCRETE PIPE



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-OVER 12" MAIN SEWER PIPES VITRIFIED CLAY



WYE SADDLE OR WYE PIPE INSERTION WITH FLEXIBLE COUPLINGS (RIGID PIPE)

CITY OF ROCHESTER HILLS SANITARY SEWER SYSTEM AS-BUILT DRAWING SPECIFICATIONS

IN AREAS WHERE SANITARY SEWER SYSTEMS ARE OPERATED AND MAINTAINED BY THE CITY OF ROCHESTER HILLS DEPARTMENT OF PUBLIC SERVICES, PRELIMINARY ACCEPTANCE OF THE SANITARY SEWER SYSTEM MUST BE RENDERED BY THE DEPARTMENT OF PUBLIC SERVICES, BEFORE THE SYSTEM CAN BE USED FOR THE SERVICE INTENDED.

ONE ITEM REQUIRED FOR PRELIMINARY ACCEPTANCE SHALL BE THE SUBMISSION OF AS-BUILT DRAWINGS TO THE CITY OF ROCHESTER HILLS ENGINEERING DIVISION, BY THE DESIGN ENGINEER. AS-BUILT DRAWINGS SHALL BE DEFINED AS AND CONTAIN THE FOLLOWING INFORMATION:

- FINAL AS-BUILT DRAWINGS SHALL BE PROVIDED IN REPRODUCIBLE PDF FORMAT VIA DIGITAL STORAGE MEDIA. XEROX OR ANY HEAT PROCESS REPRODUCTIONS WILL NOT BE ACCEPTED.
- ALONG WITH THE PDF PLAN SET PROVIDE TWO (2) SETS OF BLACK-LINED DRAWINGS AND THE PLANS ON ELECTRONIC MEDIA IN AUTOCAD FORMAT (LATEST VERSION).
- THE COVER SHEET SHALL BE SEALED BY THE PROJECT DESIGN ENGINEER, ALONG WITH THE FOLLOWING CERTIFICATION STATEMENT.

I HEREBY CERTIFY THAT OUR FIRM HAS PREPARED THESE AS-BUILT DRAWINGS OF THE IMPROVEMENTS AS CONSTRUCTED, AND THAT TO THE BEST OF MY KNOWLEDGE THOSE IMPROVEMENTS NOTED AS "AS BUILT" WERE CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED CONSTRUCTION PLANS, AND ALSO THAT THE SANITARY SEWER AND STRUCTURES, AS CONSTRUCTED, LIE WITHIN THE EASEMENT DESCRIPTIONS REQUIRED BY THE CITY OF ROCHESTER HILLS.

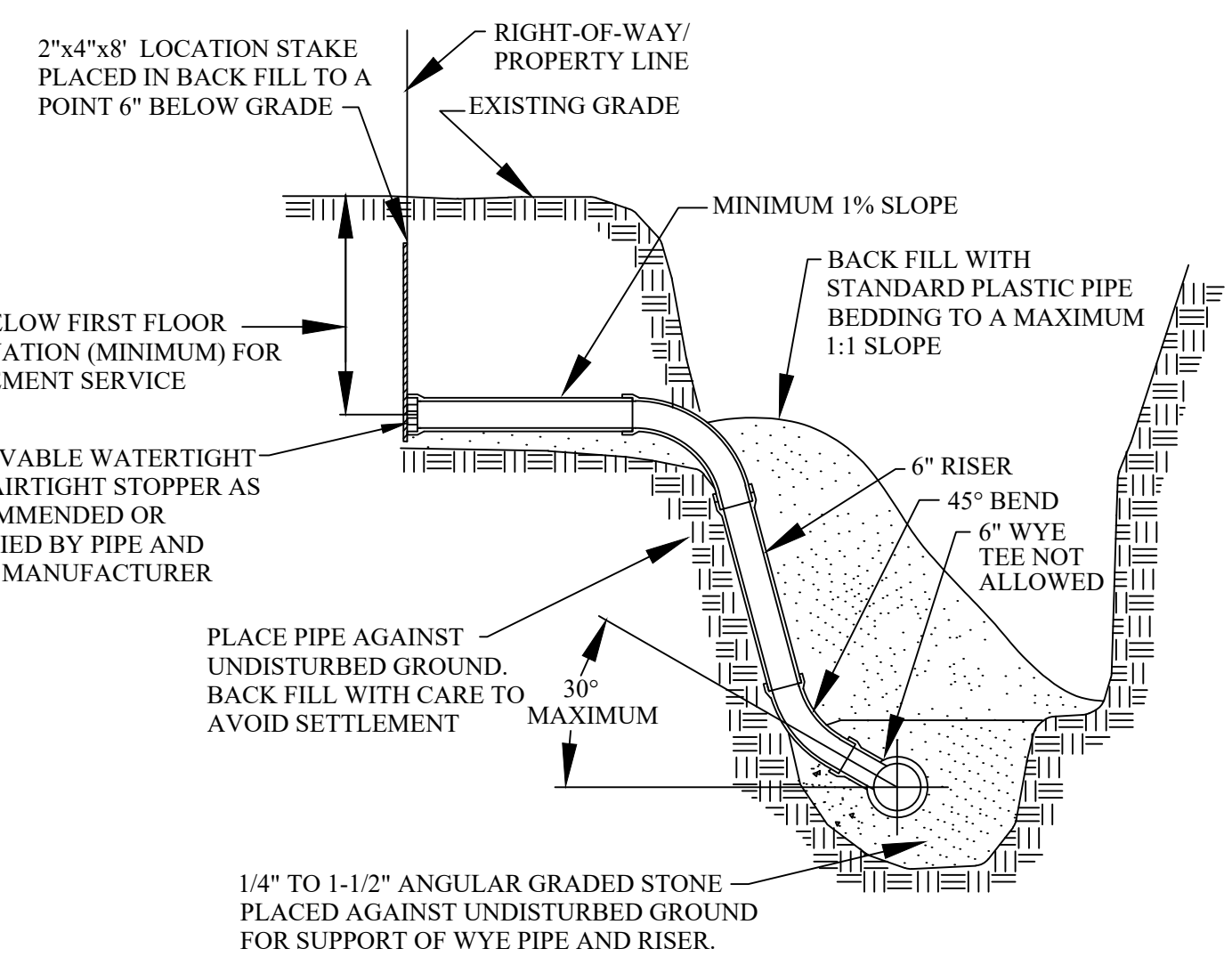
(COMPANY NAME)

(ENGINEER'S SIGNATURE)

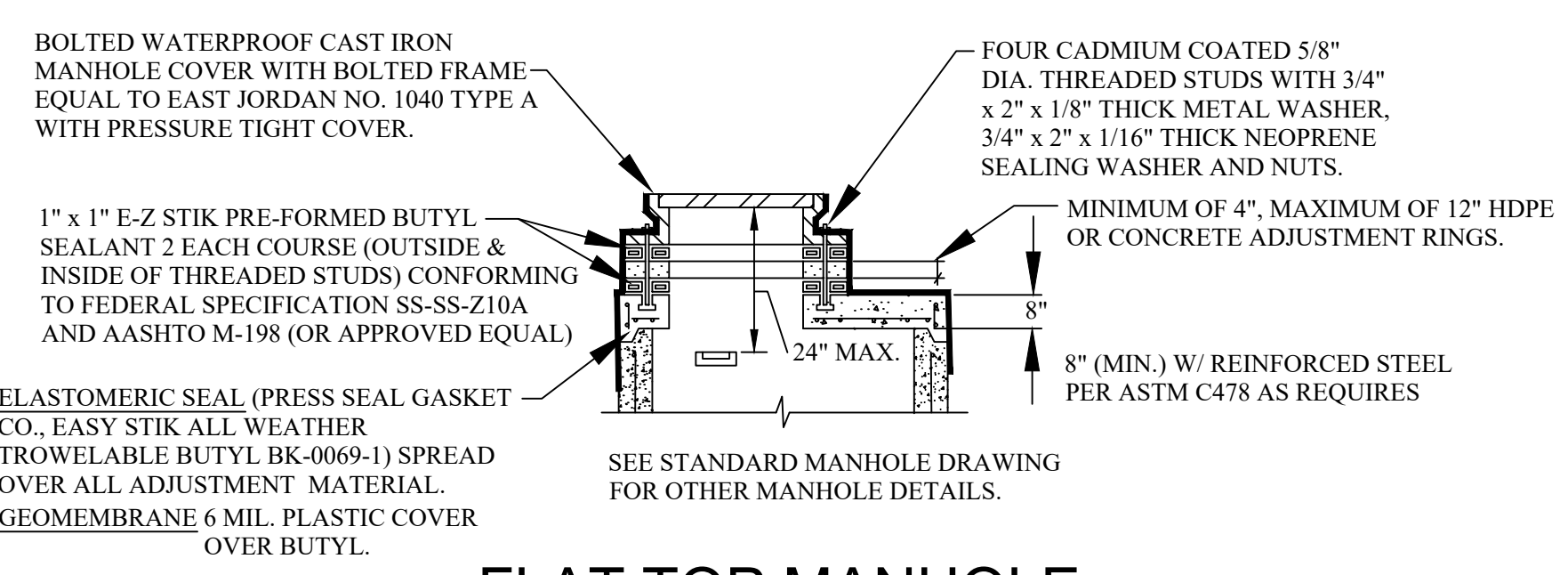
PROFESSIONAL ENGINEER NO. _____

ENGINEER SEAL

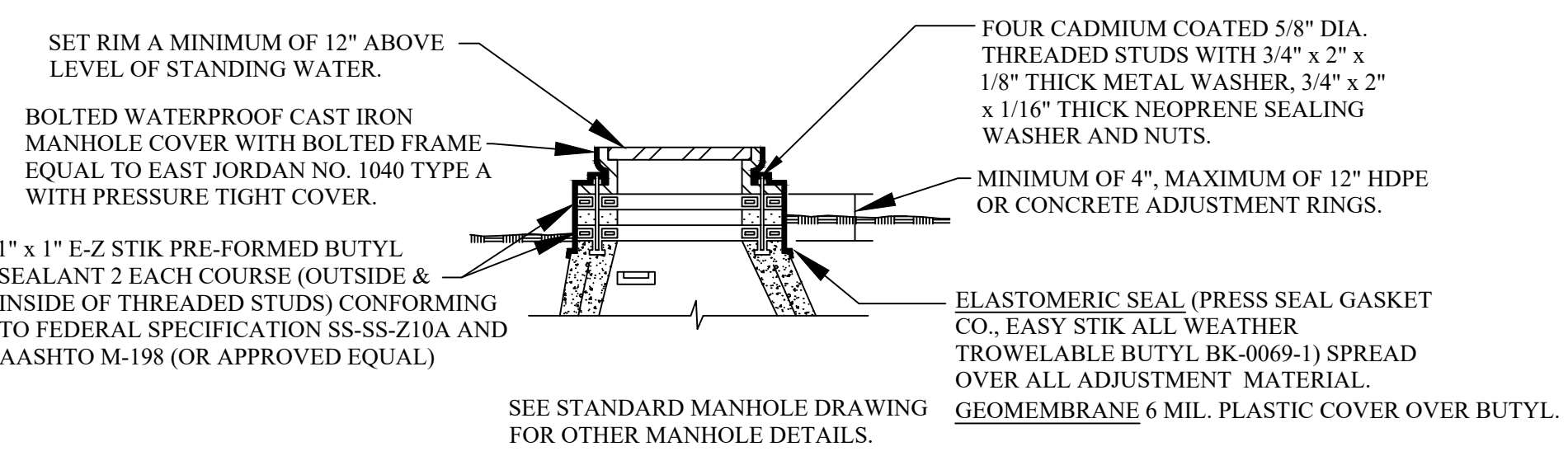
- THE MAXIMUM SCALE SHALL BE ONE (1) INCH EQUALS FIFTY (50) FEET.
- THE SIZE, LENGTH, CLASS AND MANUFACTURER OF PIPE INSTALLED SHALL BE INDICATED.
- THE SIZE, MANUFACTURER AND MODEL NUMBERS OF ALL VALVES AND PUMPS INSTALLED SHALL BE INDICATED.
- A TOTAL AS-BUILT DRAWING QUANTITY LIST SHALL BE INCLUDED.
- THE LOCATIONS SHALL BE SHOWN ON THE PLANS WITH AN ACCURACY OF ONE (1) FOOT.
- THE OFFSET OF THE SANITARY MAIN FROM PROPERTY LINES SHALL BE INDICATED.
- ALL MANHOLES, VALVE WELLS, PUMPS AND ALL SANITARY SYSTEM APPURTENANCES SHALL BE LOCATED FROM TWO FIXED OBJECTS (MANHOLES, BUILDING CORNERS ETC.).
- ALL UNDERGROUND APPURTENANCES, SUCH AS TFC/ARV WELLS, METER PITS, GRINDER PUMPS AND PUMP STATION PITS, ETC. SHALL BE LOCATED FROM THE NEAREST MANHOLE THAT IS CONNECTED TO THE SAME SANITARY MAIN AS THE APPURTENANCE.
- THE ACCURATE LOCATION OF ALL UTILITY CROSSINGS WHERE THE VERTICAL SEPARATION IS LESS THAN 18" SHALL BE NOTED.
- AS-BUILTS SHALL BE PREPARED IN ACCORDANCE WITH CITY OF ROCHESTER HILLS AS-BUILT GUIDELINES AS PROVIDED AT THE PRE-CONSTRUCTION MEETING.



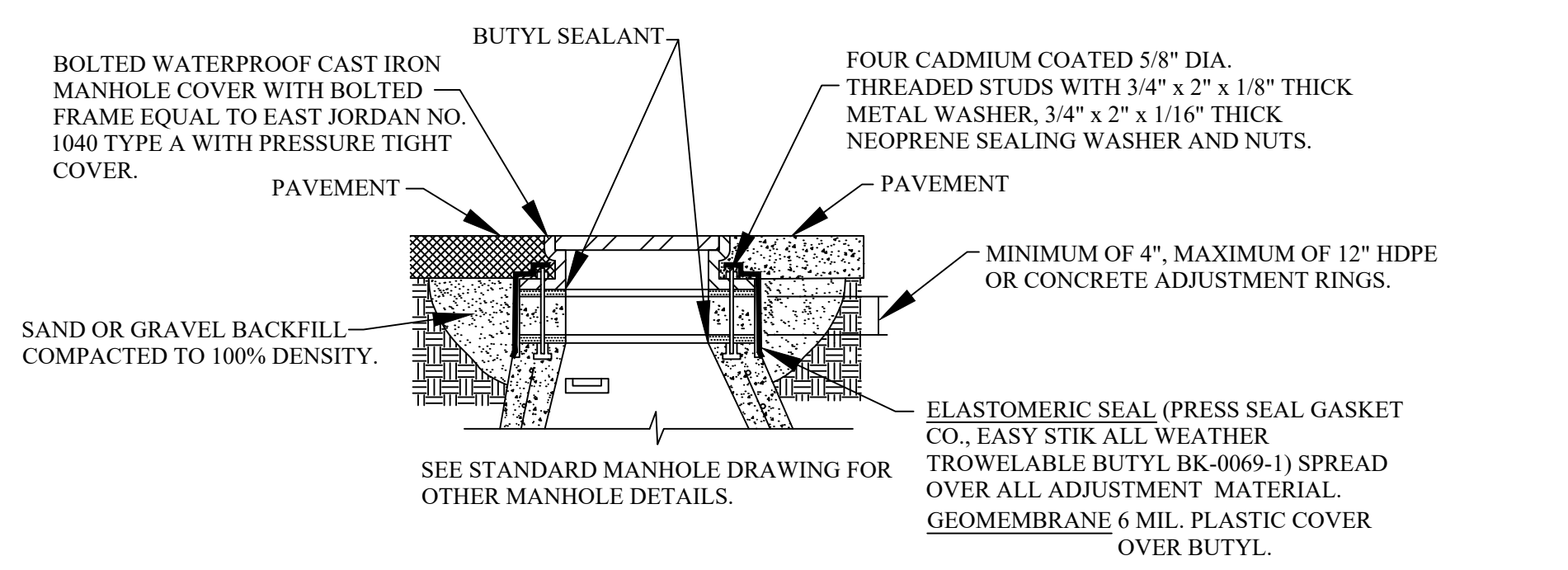
HOUSE LEAD DETAIL



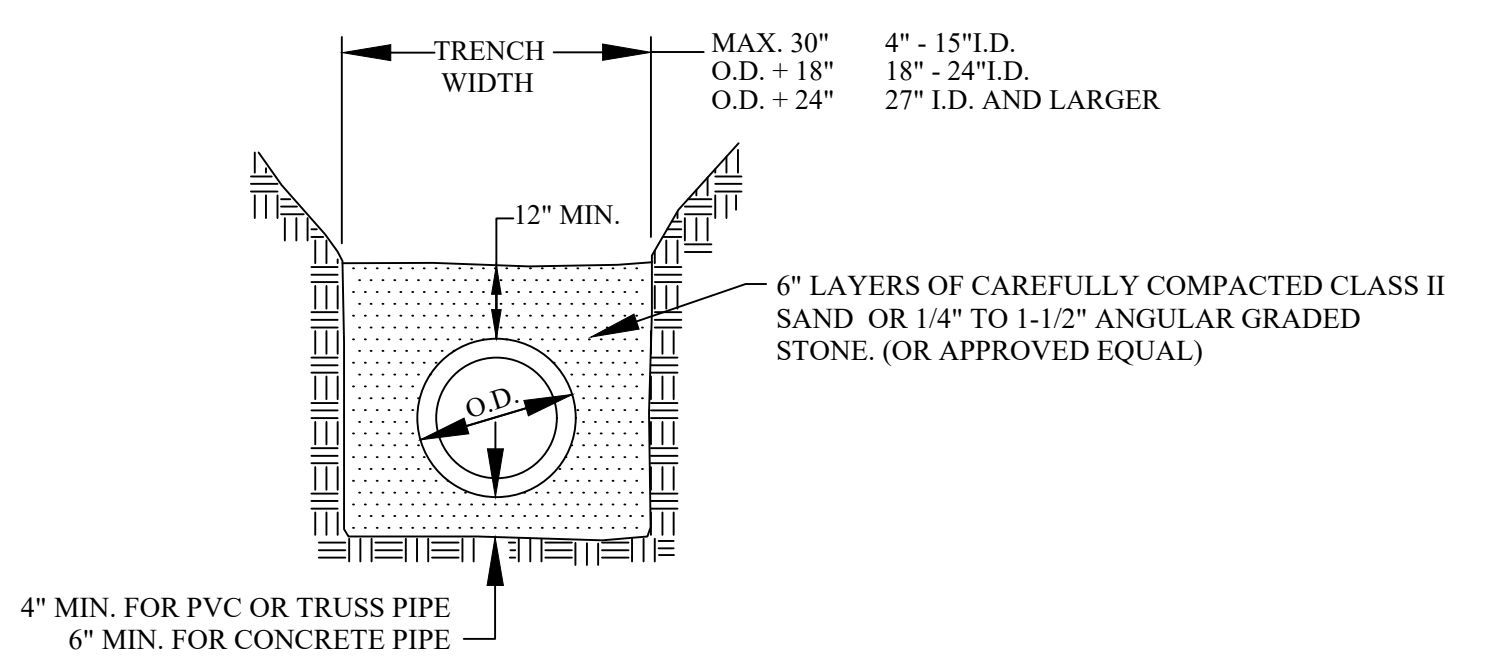
FLAT TOP MANHOLE



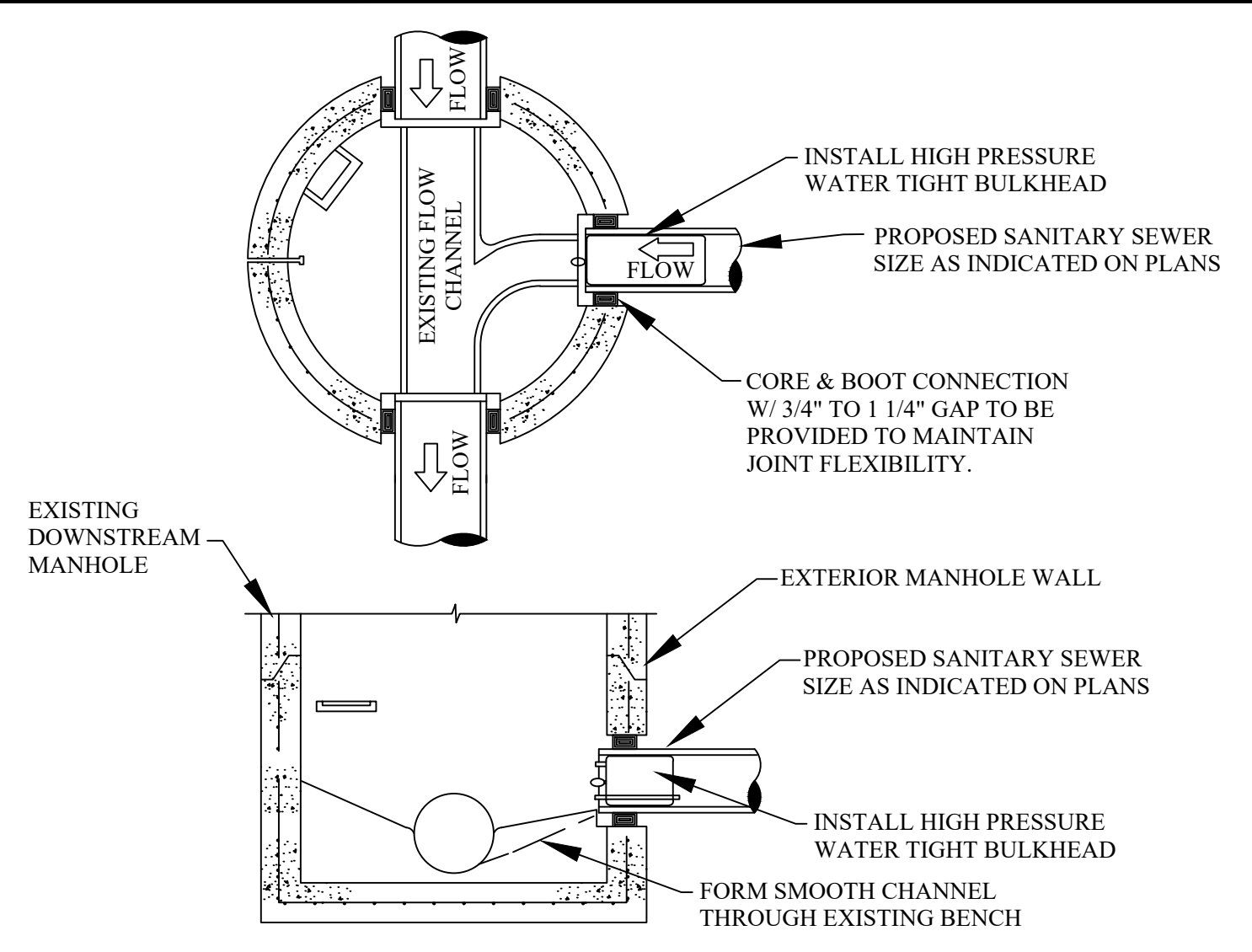
ADJUSTMENT DETAIL FOR MANHOLE TOPS WITHIN FLOOD PRONE AREAS



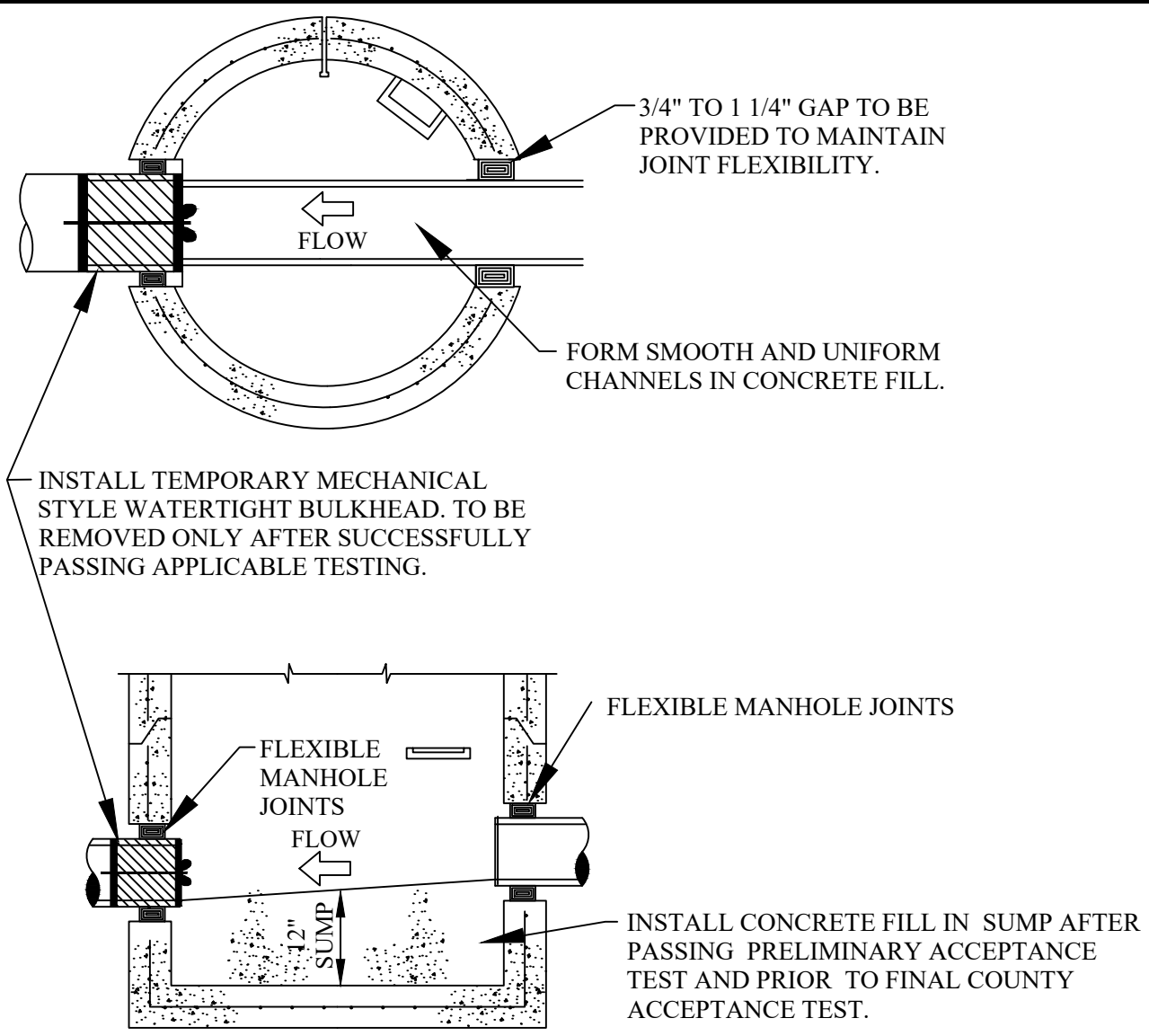
ADJUSTMENT DETAIL MANHOLE TOPS WITHIN PAVEMENT AREAS



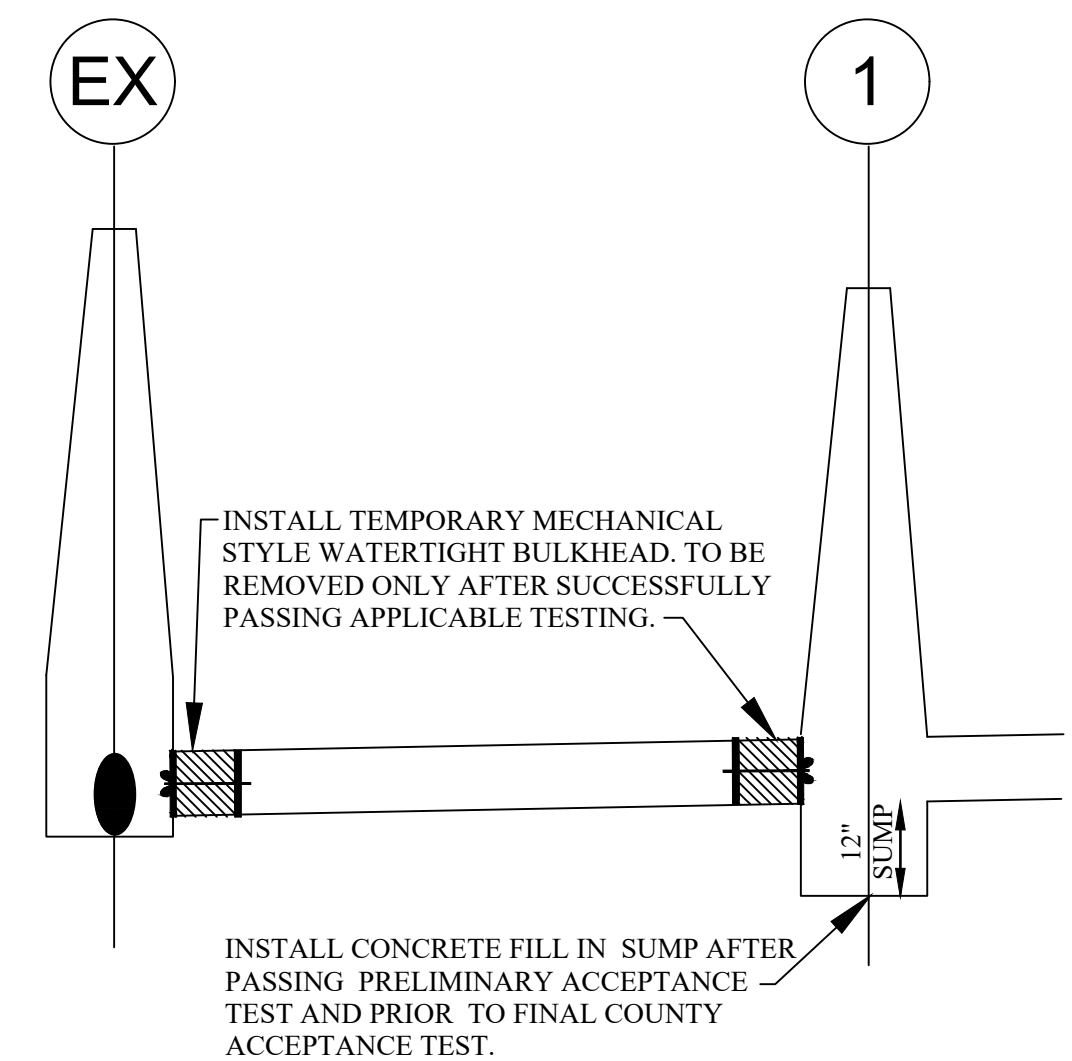
STANDARD BEDDING (CLASS B)



TESTING BULKHEAD IN EXISTING MANHOLE



FIRST MANHOLE UPSTREAM FROM SANITARY TAP



PROFILE OF BULKHEADS AND ONE FOOT SUMP

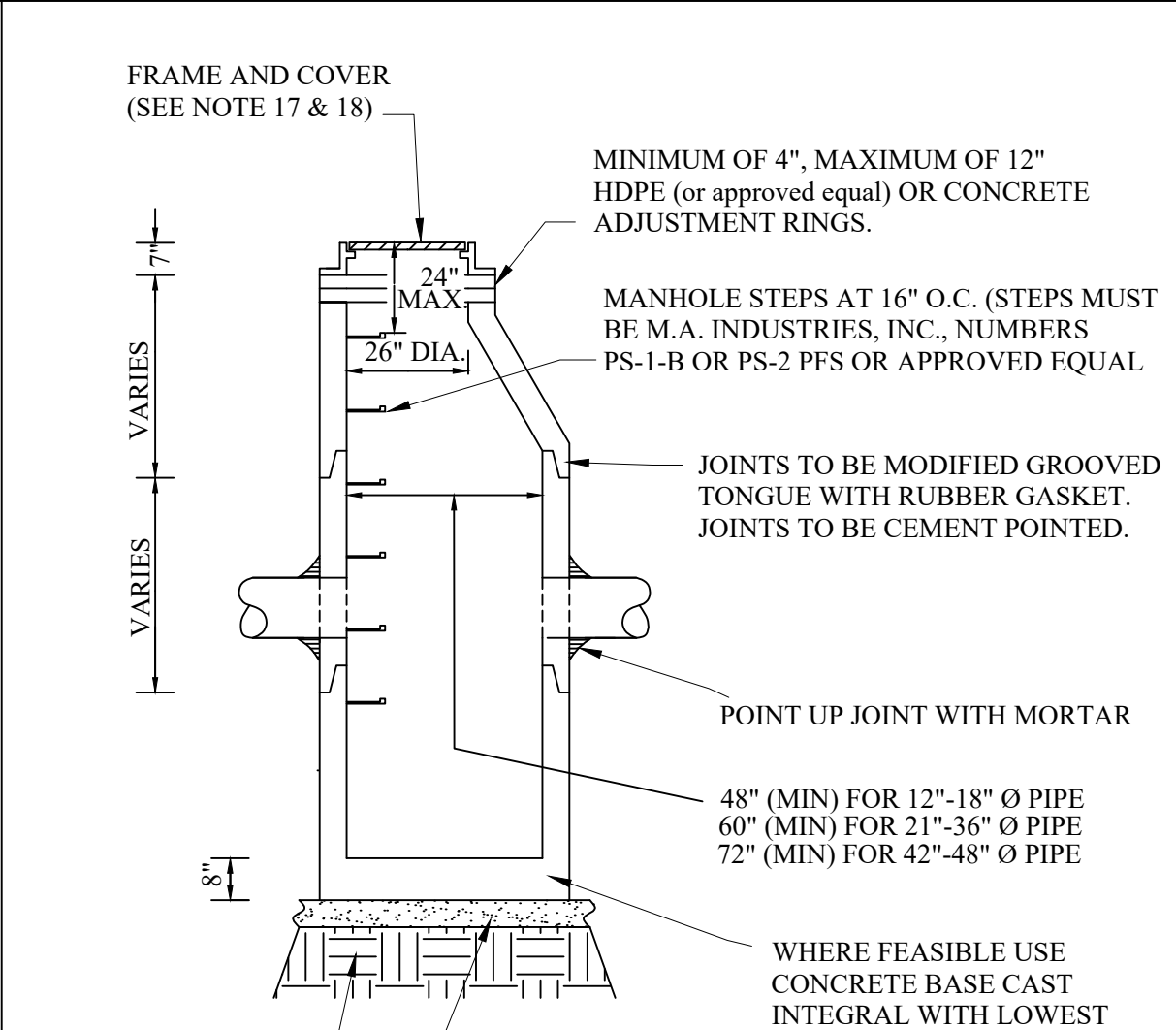
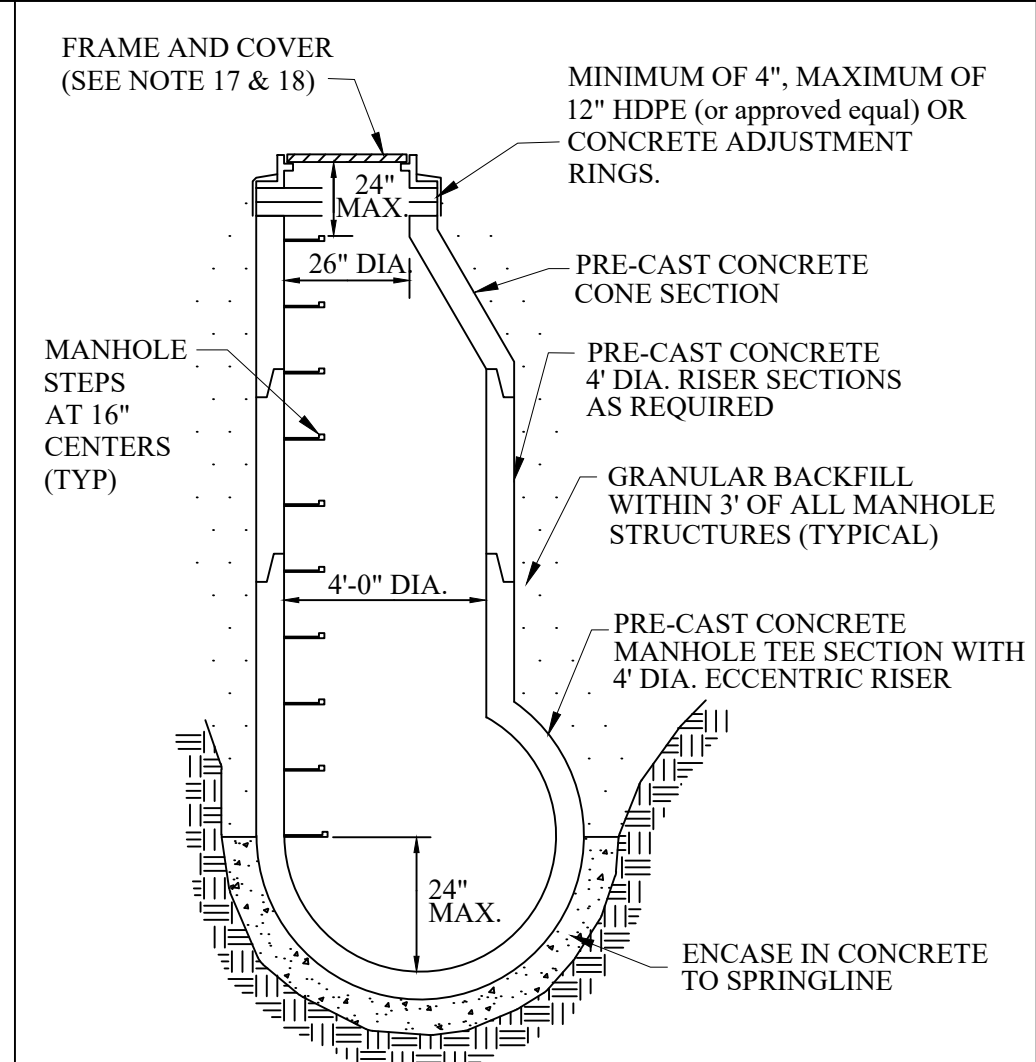
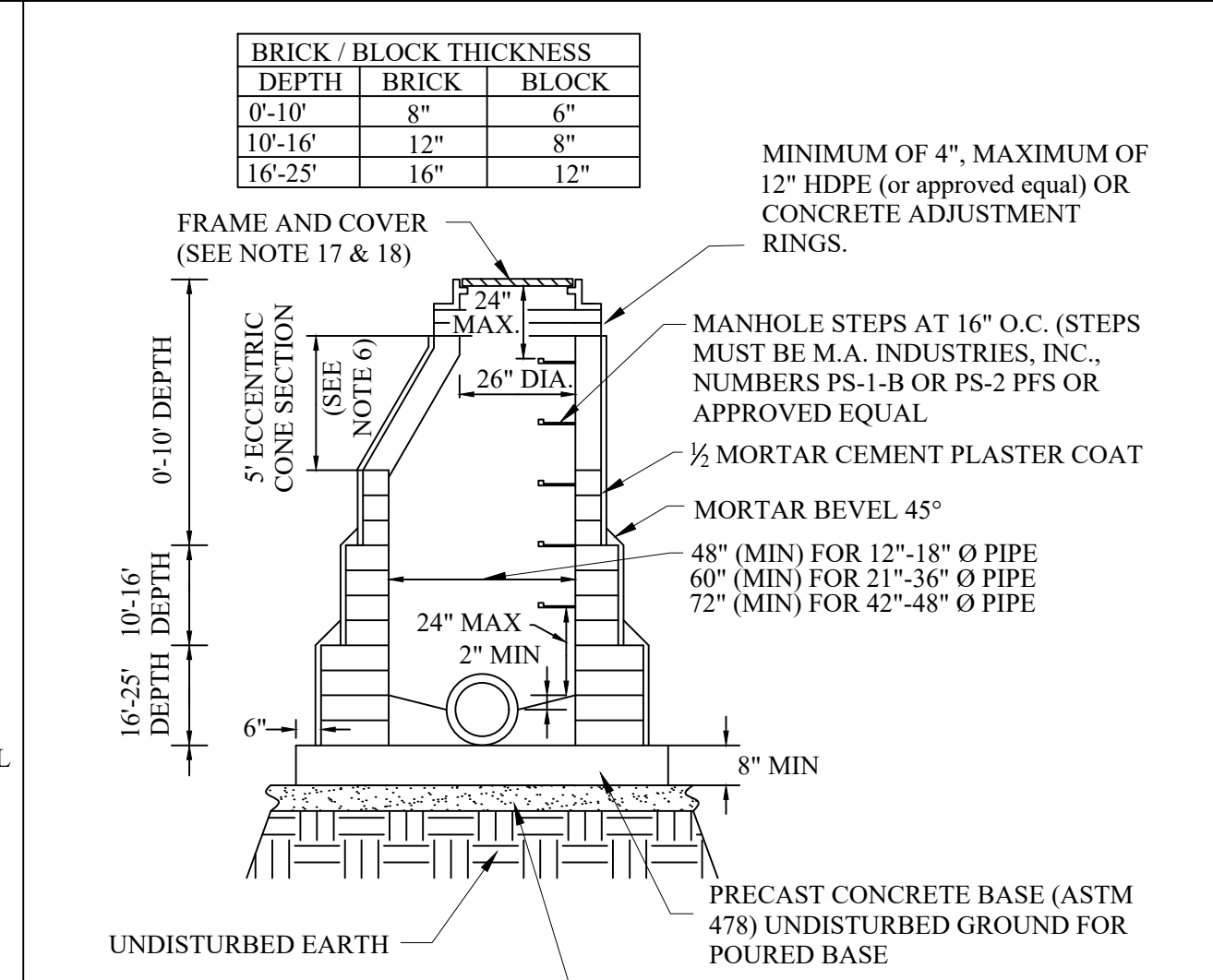
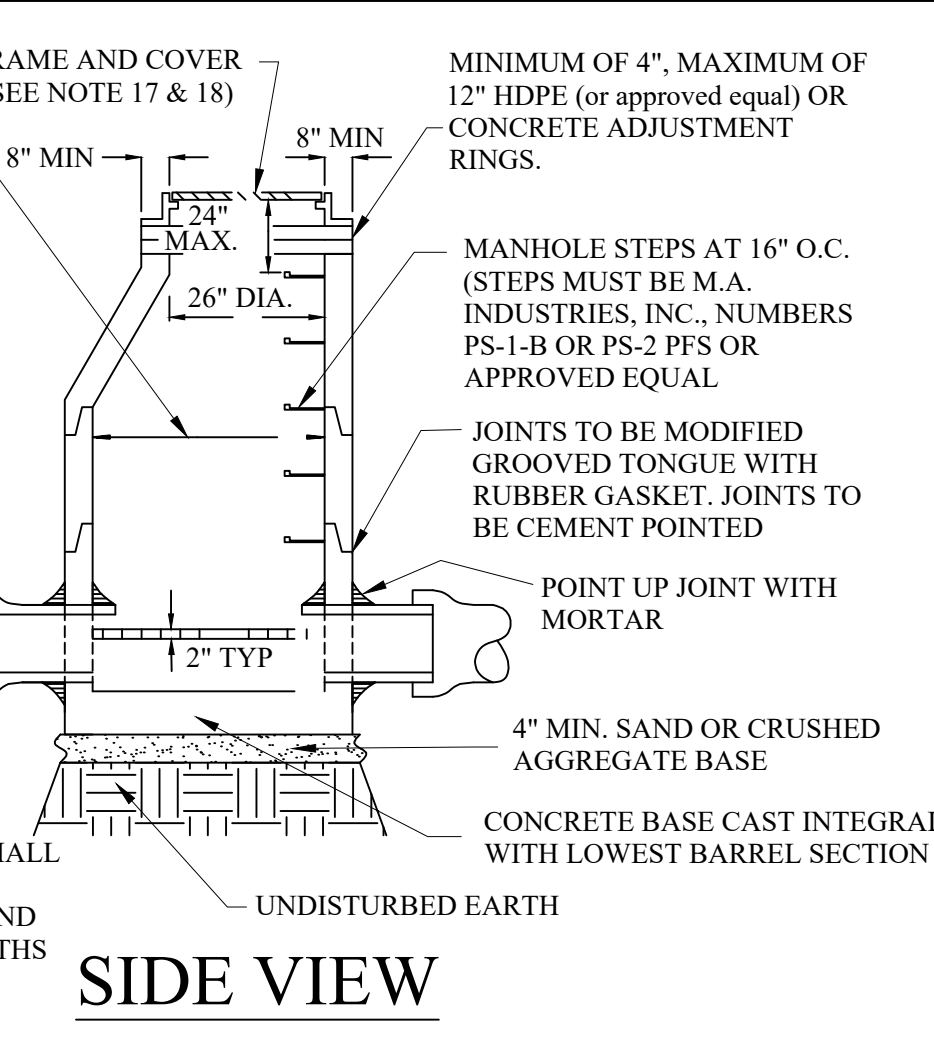
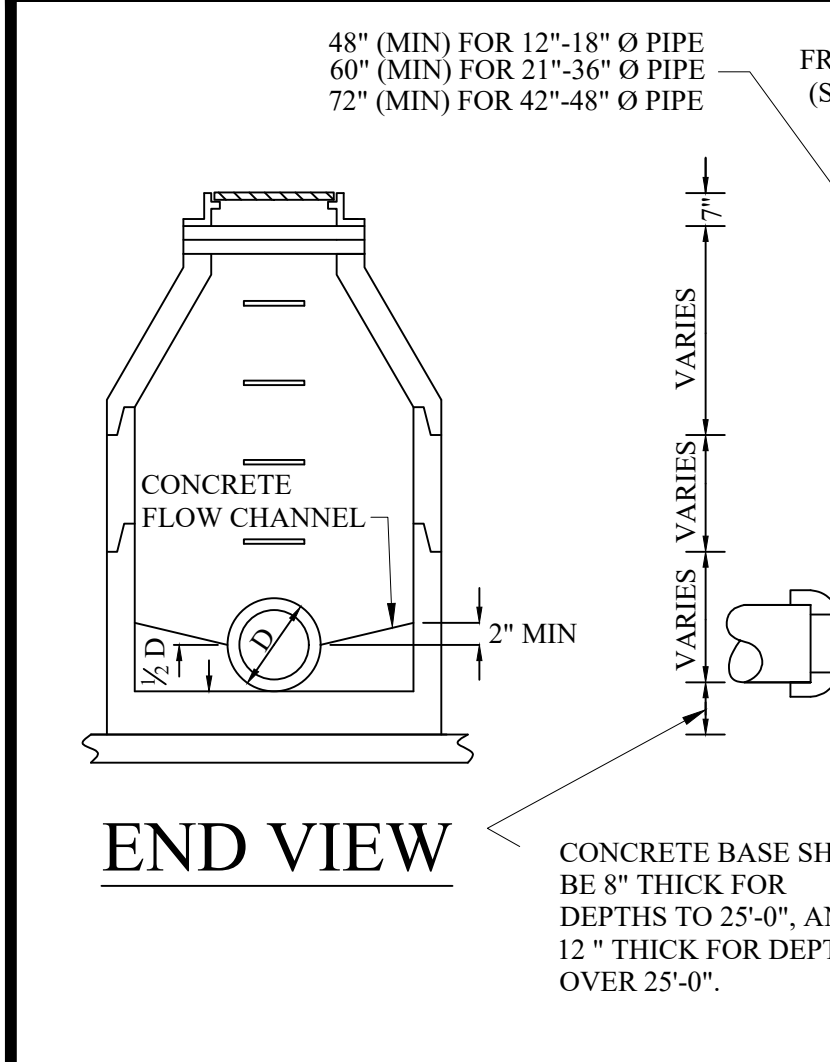
REVISIONS	DATE	APPROVED BY
WYE SADDLE REVISION	12-22-22	CITY COUNCIL, DATE: SEPTEMBER 23, 2019
PREPARED BY ENGINEERING DIVISION DEPARTMENT OF PUBLIC SERVICES		

NOTIFY ROCHESTER HILLS ENGINEERING DIVISION @ 248-841-2510 48 HRS. PRIOR TO START OF CONSTRUCTION

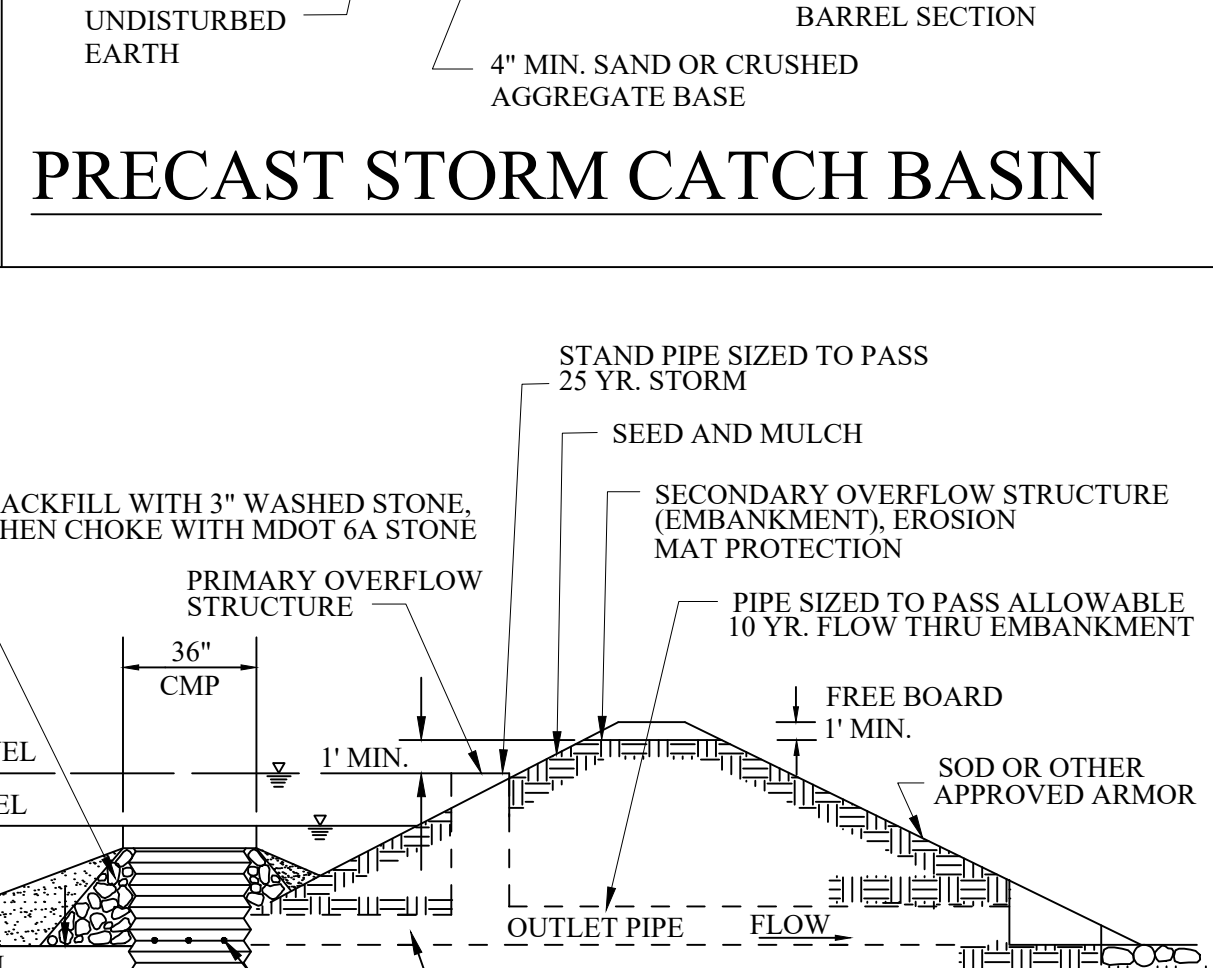
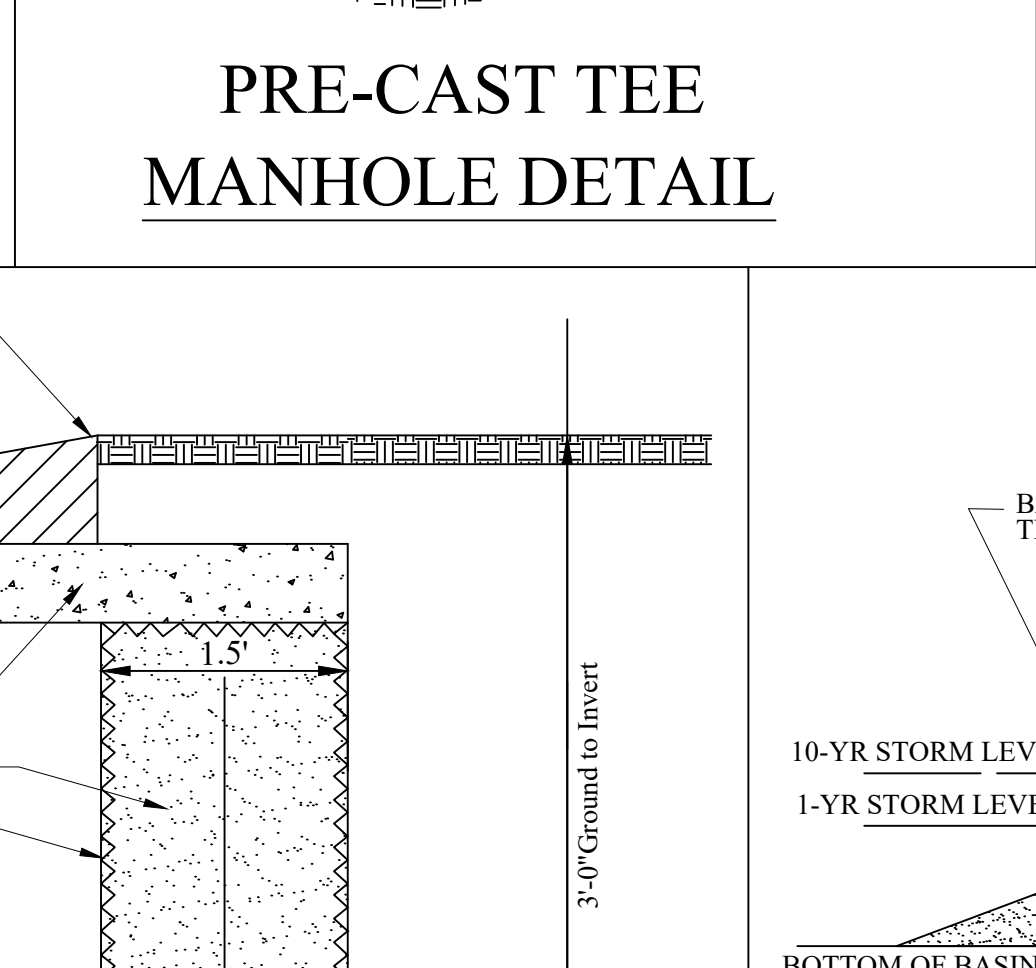
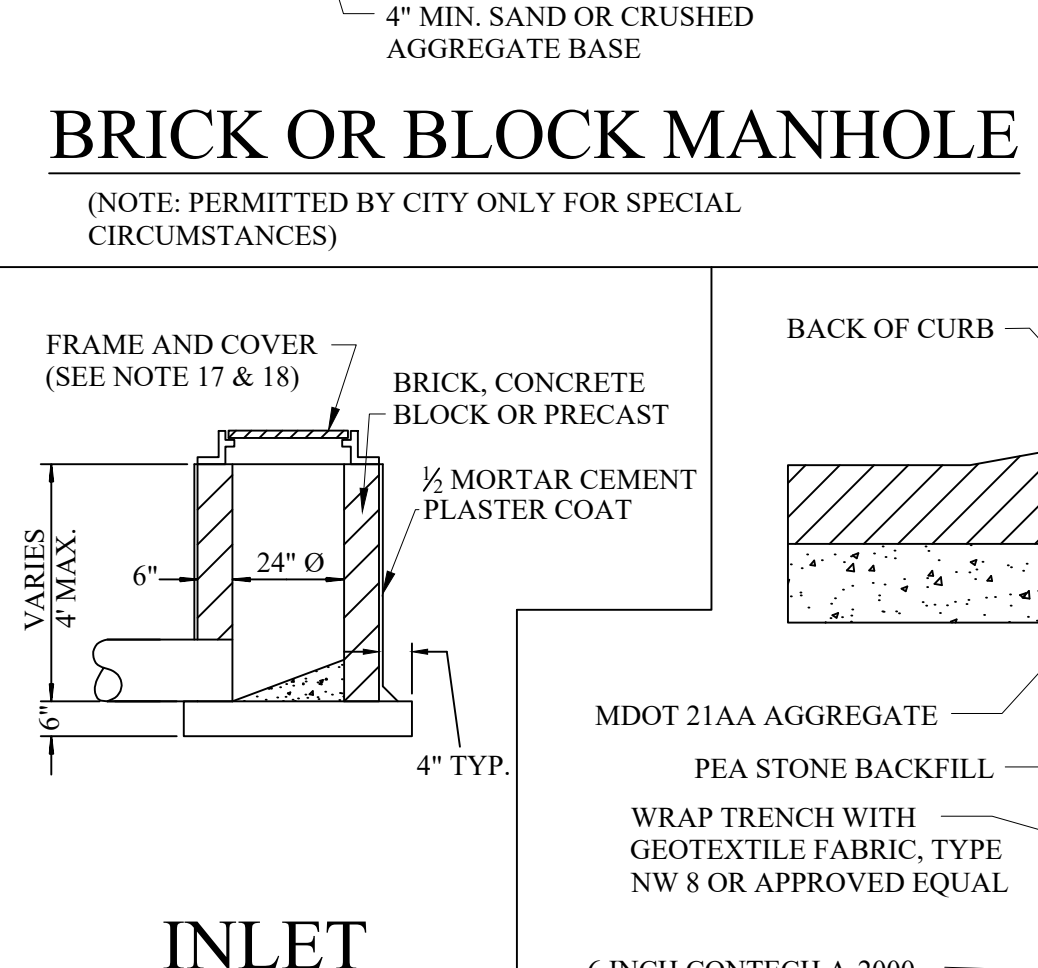
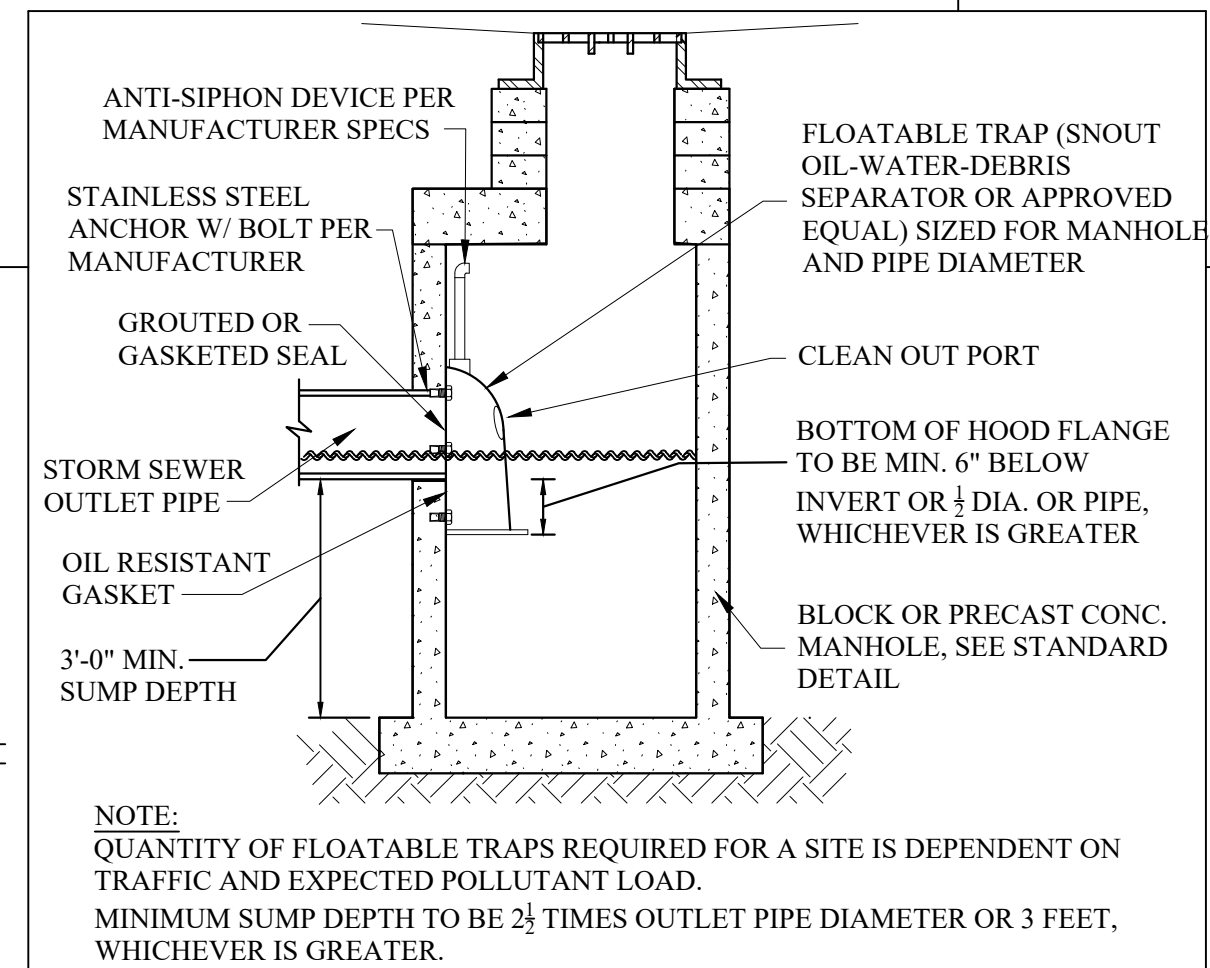
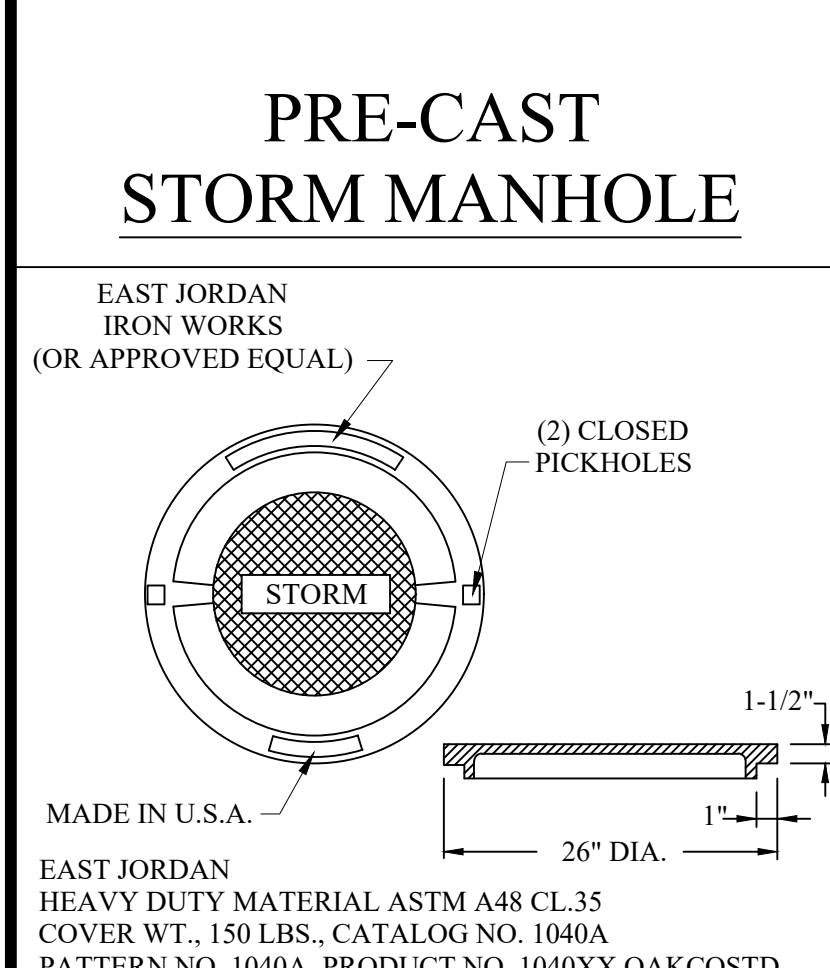
City of Rochester Hills
1000 Rochester Hills Drive, Rochester Hills, Michigan 48309

SANITARY SEWER STANDARD DETAILS

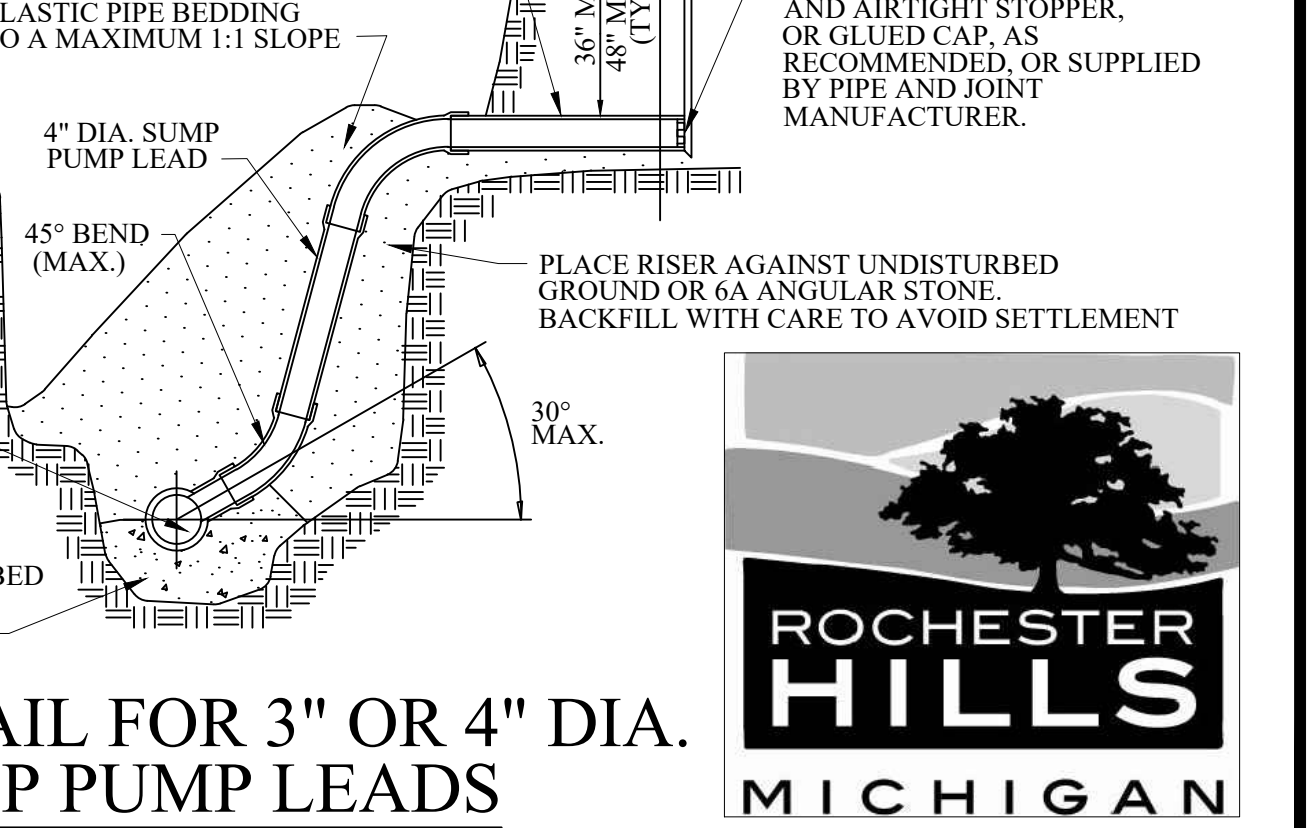
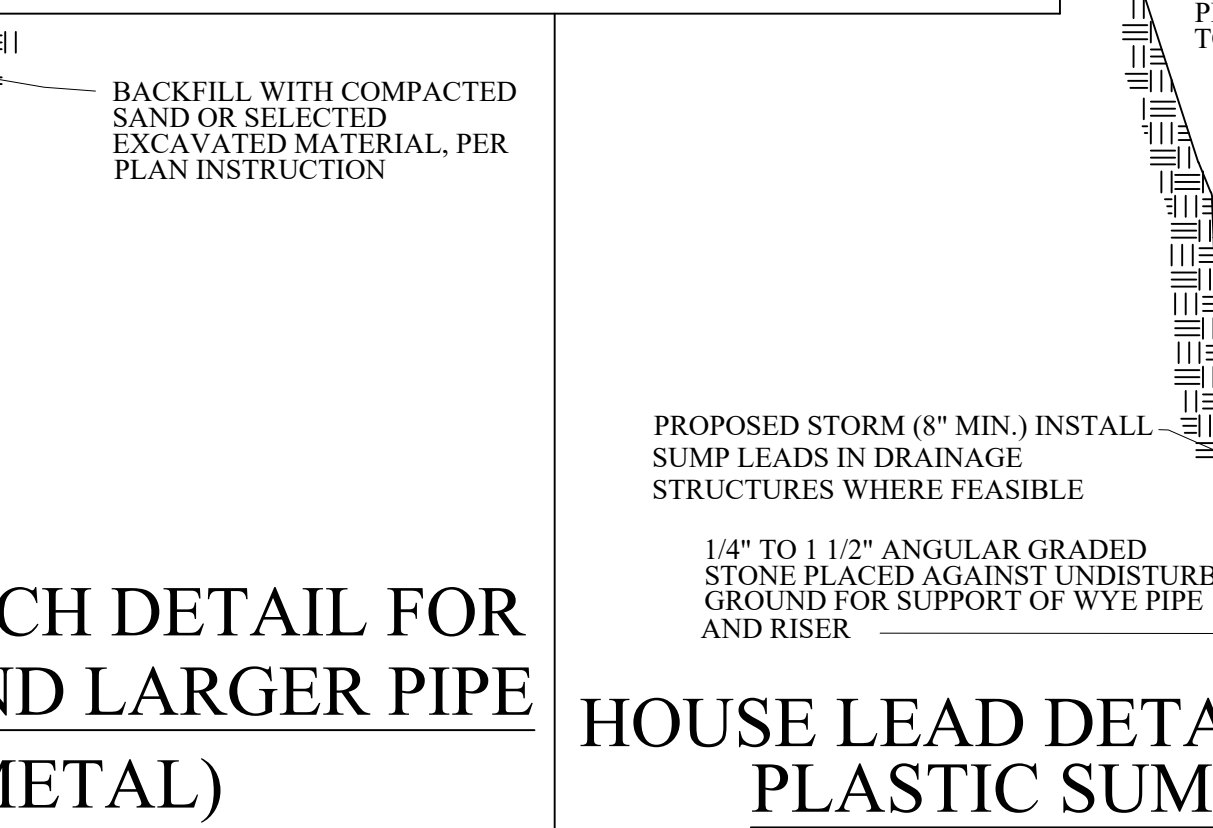
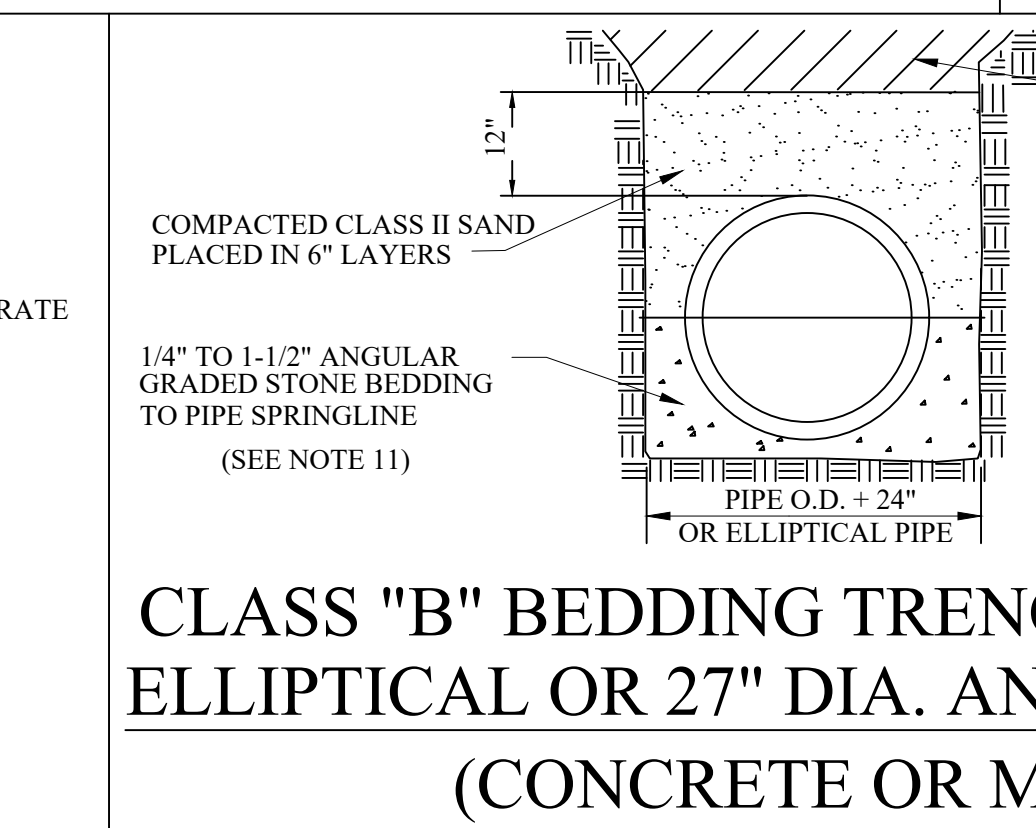
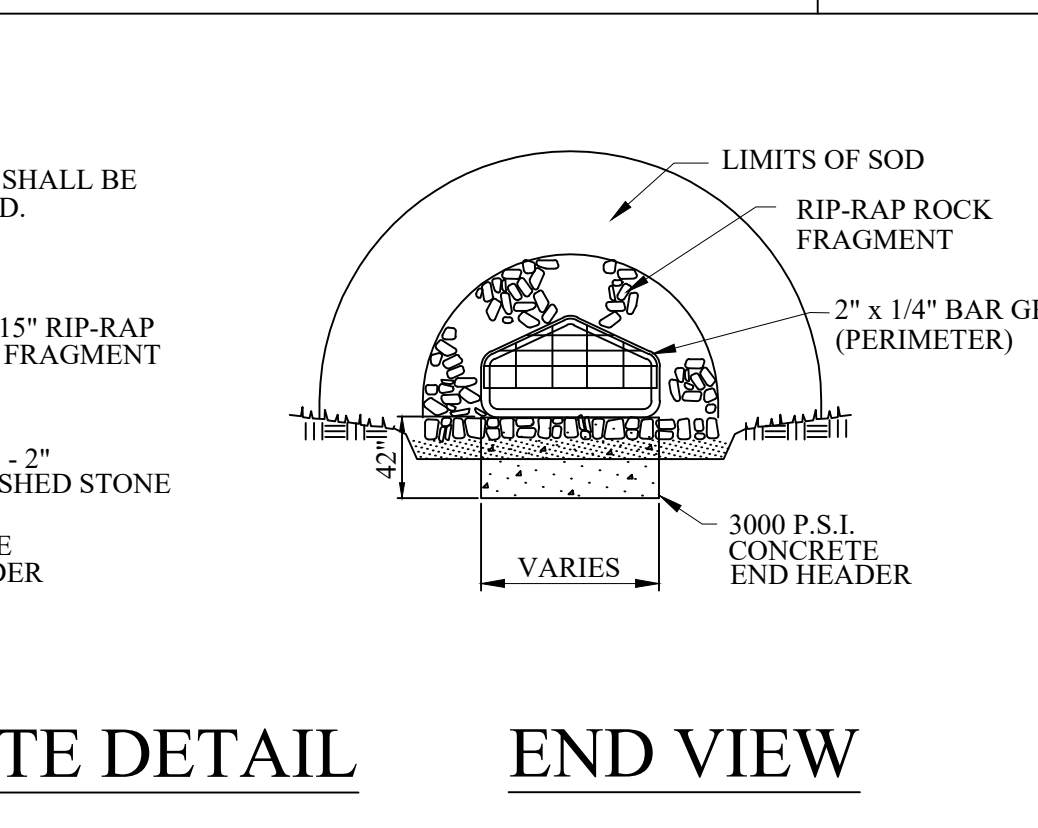
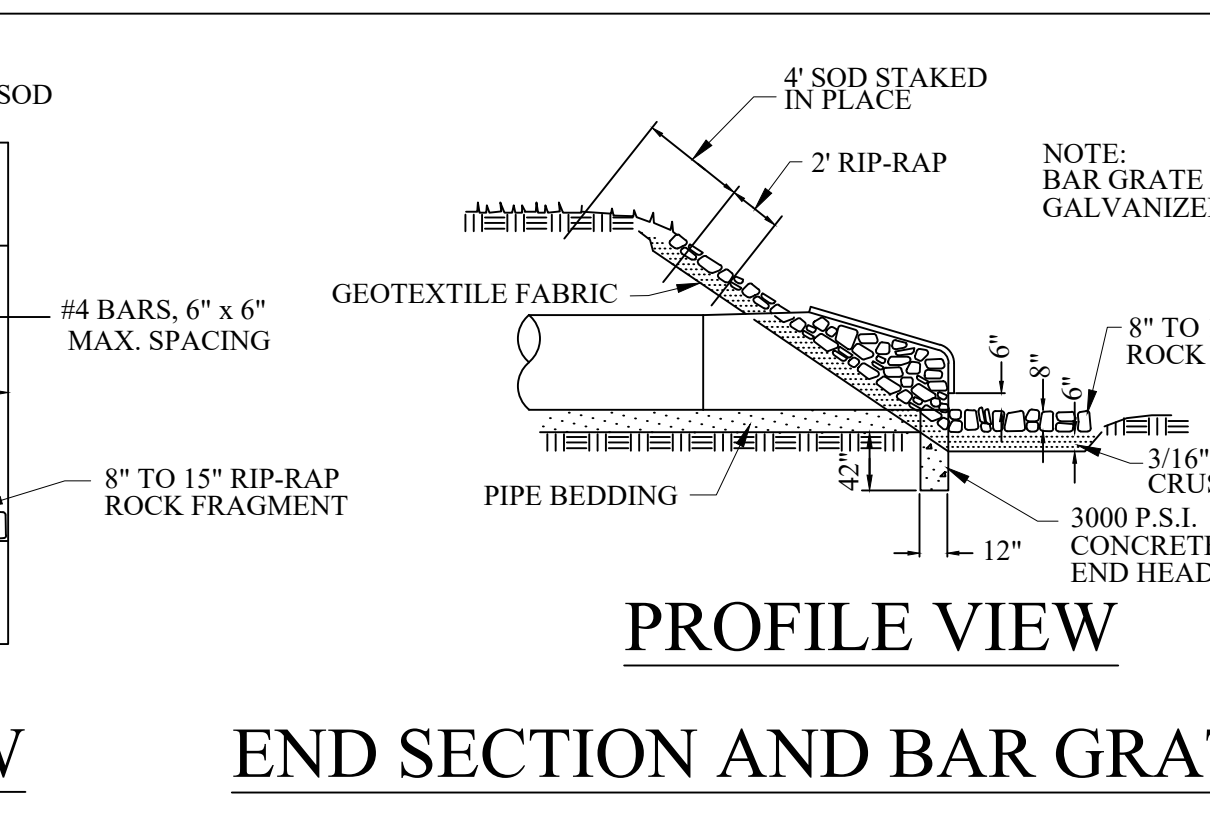
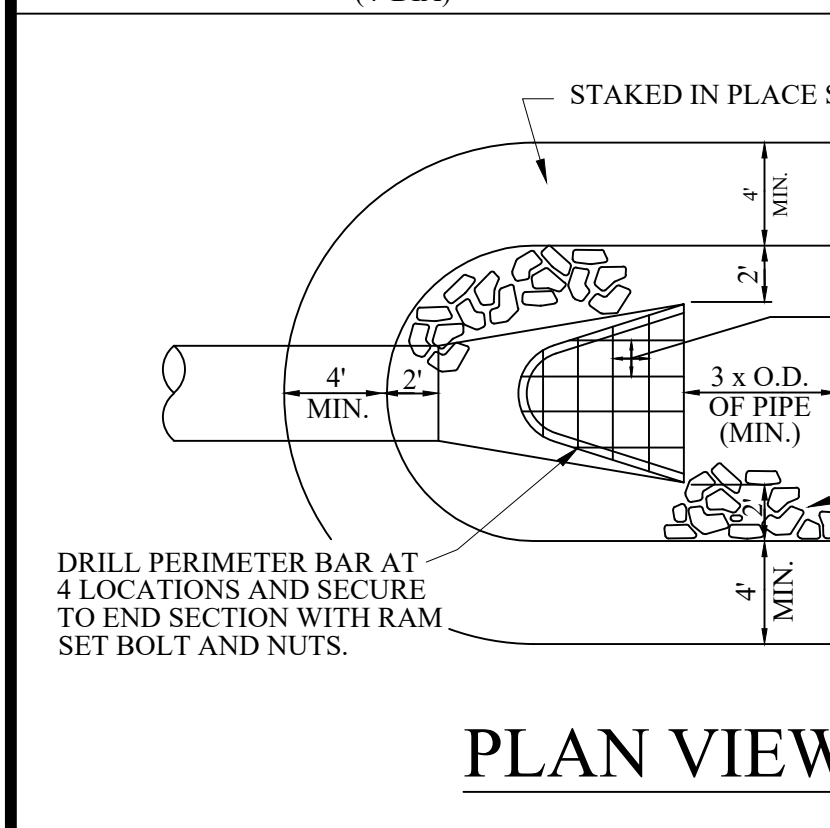
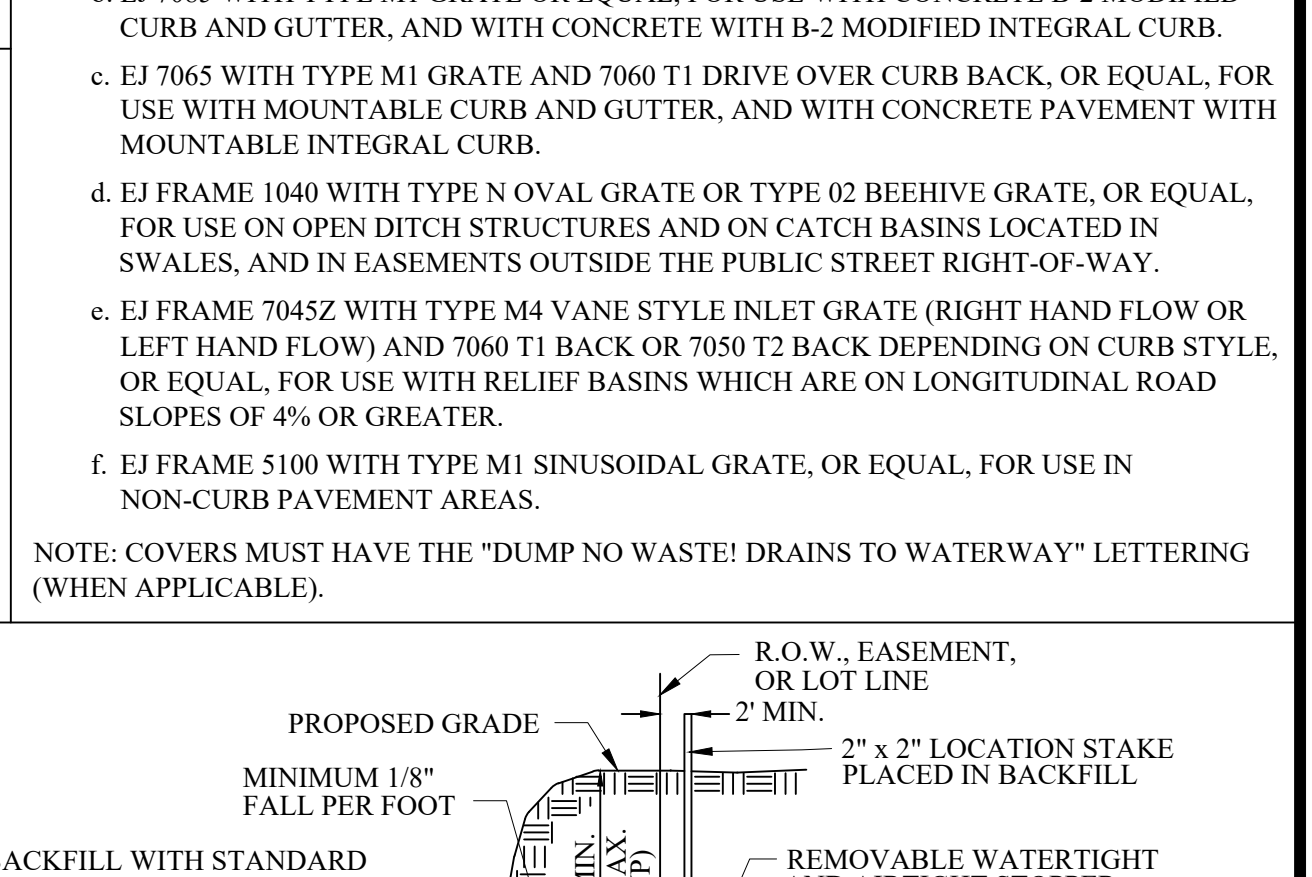
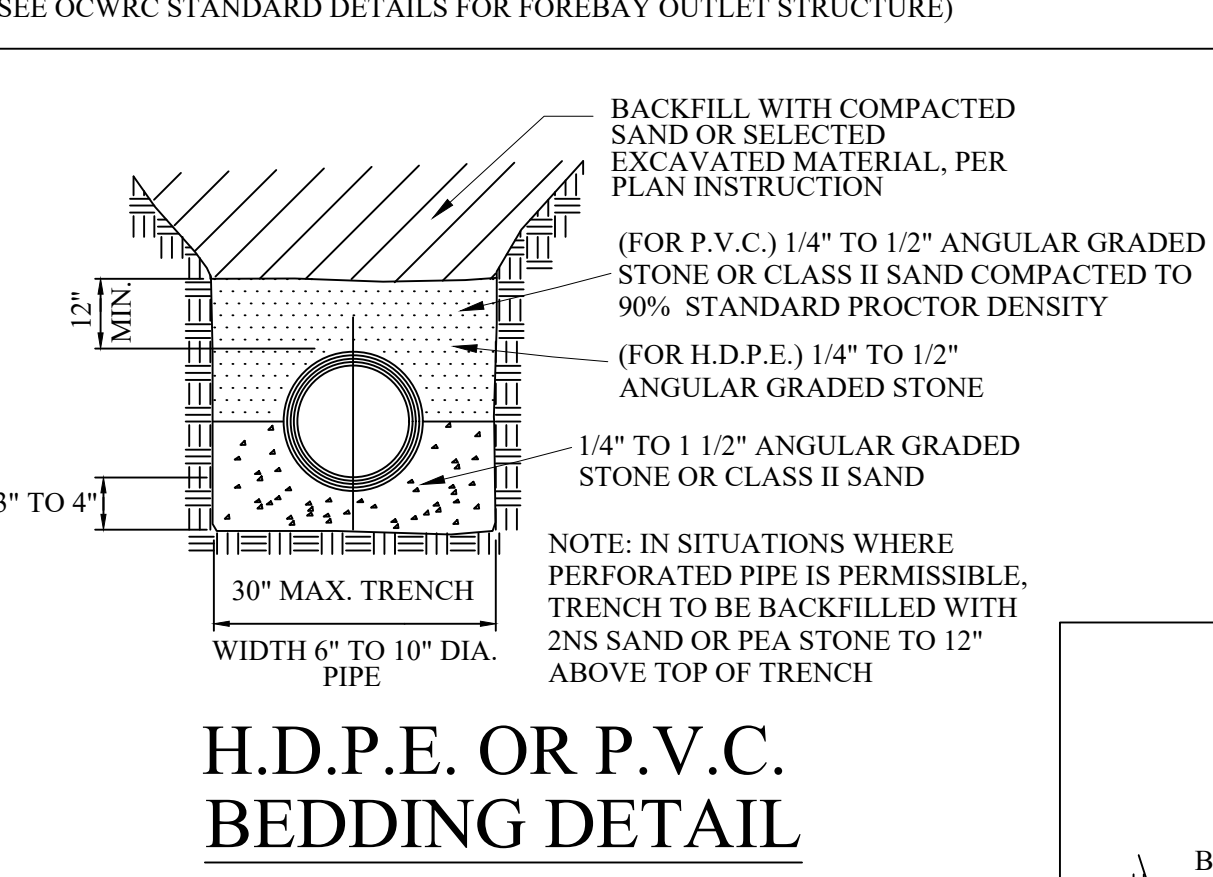
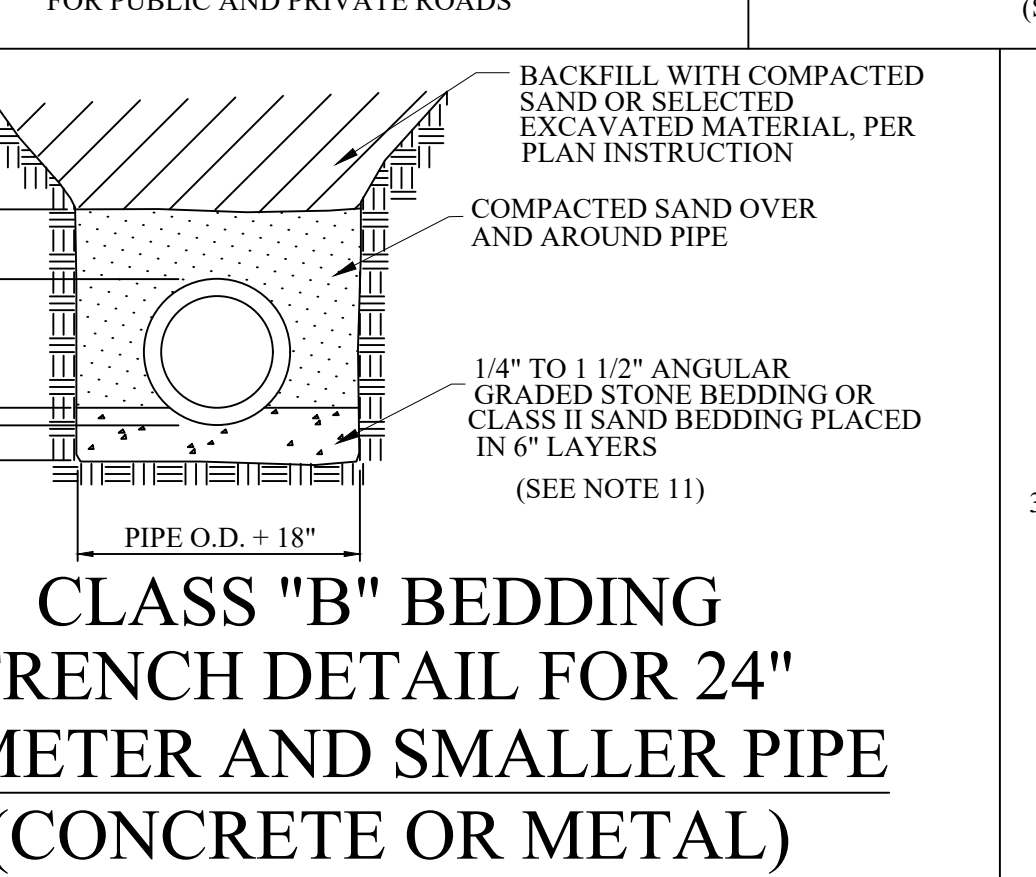
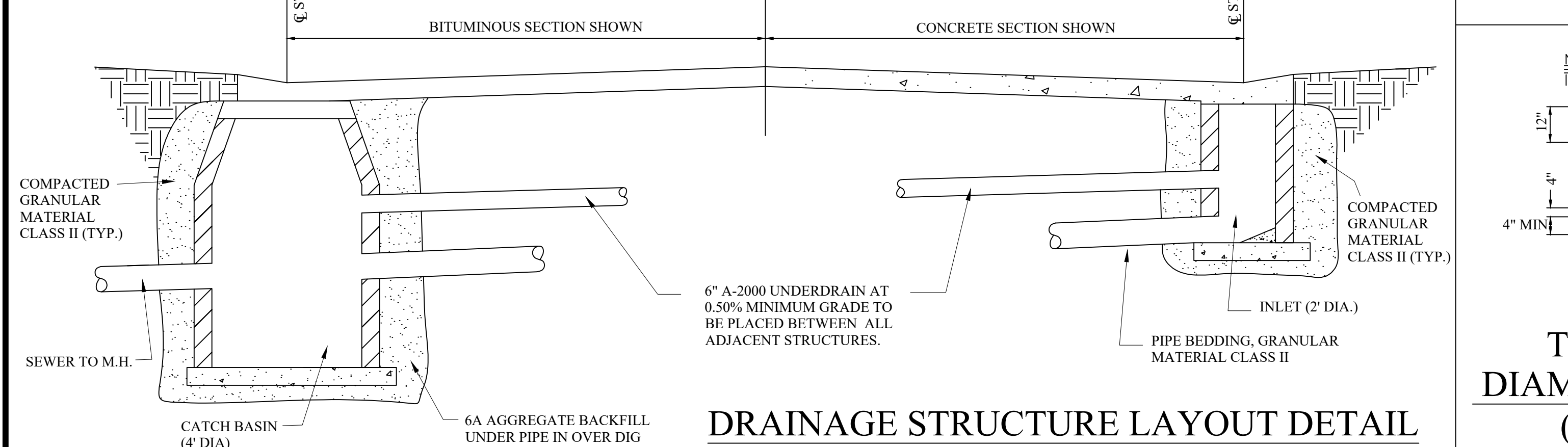
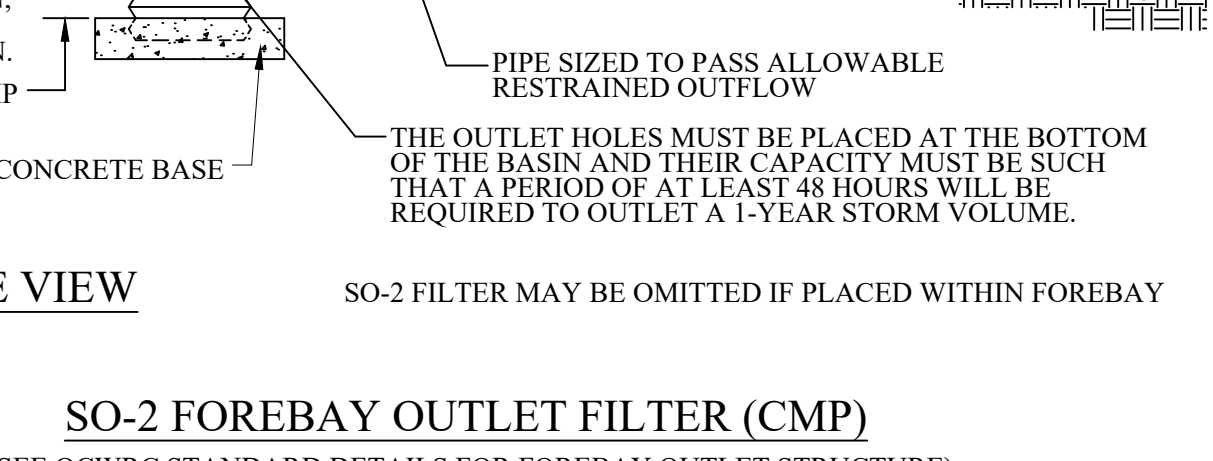
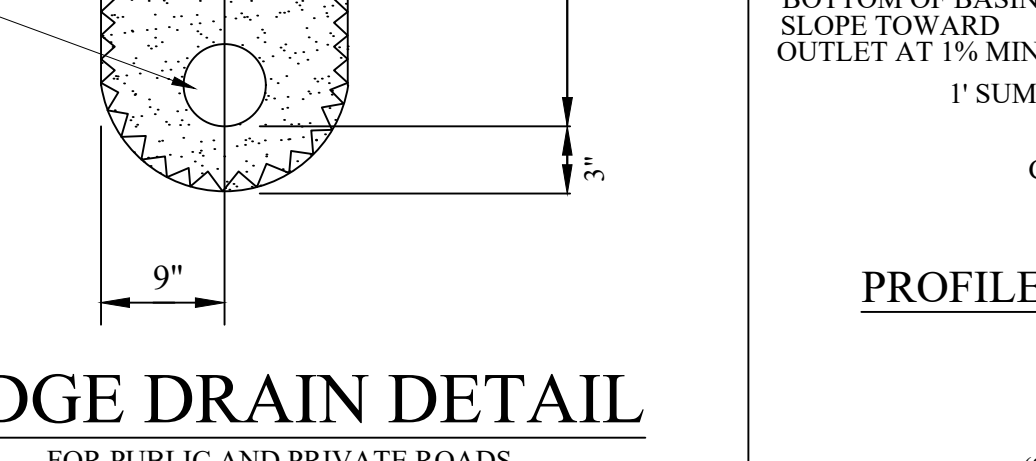
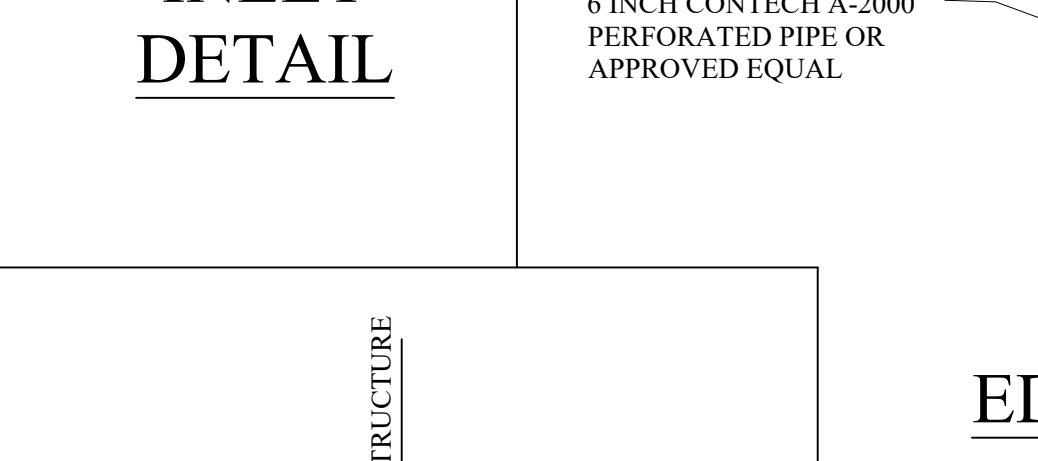
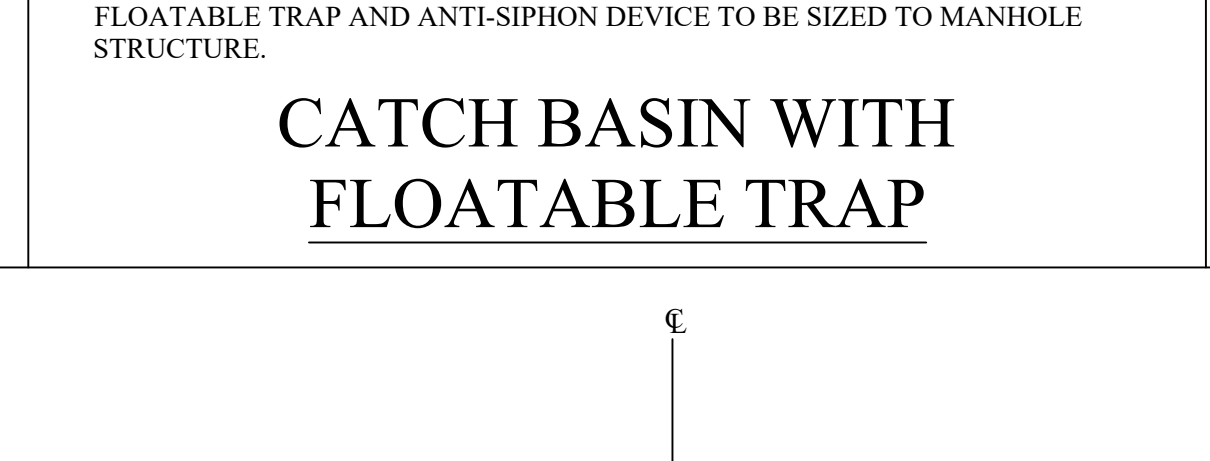
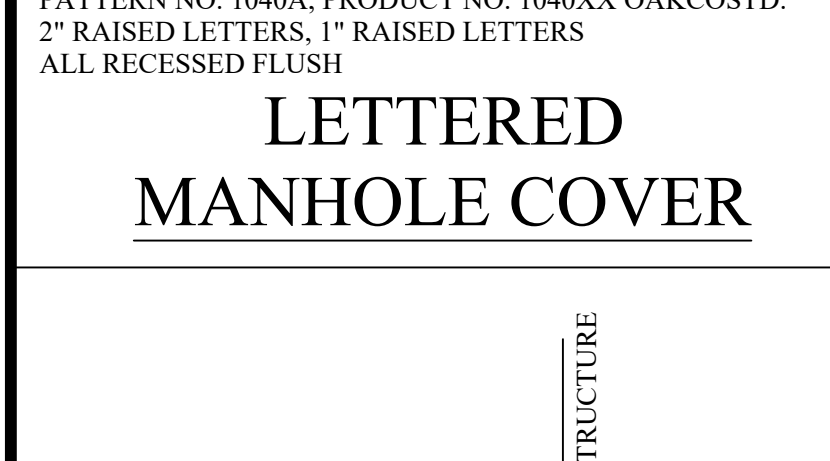
NOT TO SCALE	DATE: 1/10/2019
SHEET 2 OF 2	



- ### GENERAL NOTES:
- ALL EXISTING AND NEW STORM SYSTEMS SHALL BE CLEANED AND FLUSHED ONCE SITE IS 90% BUILT OUT AND VEGETATED. SEDIMENT, ROCK, AND OTHER DEBRIS SHALL BE COLLECTED AND DISPOSED OF IN A PROPER MANNER. IN NO CASE SHALL DEBRIS BE FLUSHED DOWN A STORM OR SANITARY SEWER FOR DISPOSAL. ALL DAMAGED IRRIGATION AND HOUSE DRAINAGE PIPE, DRAIN TILES, SEWER LATERALS AND CULVERTS SHALL BE REPAIRED EXPEDITIOUSLY. DEBRIS COLLECTED SHALL BE DISPOSED IN A COMMERCIAL LANDFILL OR OTHER APPROVED LOCATION.
 - STORM SEWER PIPE SHALL BE OF SIZE AND TYPE NOTED ON THE APPROVED PLANS.
 - REINFORCED CONCRETE PIPE (RCP) SHALL BE MODIFIED GROOVED TONGUE JOINTS WITH O-RING TYPE RUBBER GASKET, PER ASTM C443.
 - ALL CATCH BASIN LEADS AND INLET LEADS SHALL BE ASTM C76-CLASS IV PIPE.
 - MINIMUM PIPE SIZE FOR SEWERS, CATCH BASIN LEADS, AND INLET LEADS SHALL BE 12" NOMINAL INTERNAL DIAMETER.
 - ECCENTRIC CONES SHALL BE PROVIDED ON ALL STRUCTURES, REGARDLESS OF THE MATERIAL USED. PRECAST REINFORCED CONCRETE MANHOLE, BLOCK, OR BRICK TO PROVIDE A TRUE VERTICAL FACE FOR PLACEMENT OF MANHOLE STEPS.
 - THE INSIDE JOINTS OF PIPES SIZES 42" AND LARGER DIAMETER SHALL BE POINTED UP WITH MORTAR UPON COMPLETION OF BACKFILLING OPERATIONS.
 - ALL PIPES SHALL HAVE CLASS, LOT NUMBER, AND DATE OF MANUFACTURE CONSPICUOUSLY MARKED ON EACH LENGTH BY MANUFACTURER.
 - ALL END SECTIONS 18" AND LARGER SHALL BE PROVIDED WITH A GALVANIZED BAR SCREEN.
 - PRECAST REINFORCED CONCRETE SECTIONS SHALL CONFORM TO ASTM 2478.
 - IN DRY, STABLE SOILS, PEASTONE (EQUIVALENT TO M.D.O.T. 34R SPECIFICATIONS) MAY BE SUBSTITUTED FOR THE STANDARD BEDDING. IF THE TRENCH IS WET OR UNSTABLE A GEOTEXTILE FABRIC MUST BE USED TO LINE THE TRENCH PRIOR TO THE PLACEMENT OF THE 2NS SAND, PEASTONE, OR 1/4" - 1-1/2" ANGULAR GRADED STONE.
 - SCHEDULE INSPECTIONS 48 HOURS PRIOR TO START OF CONSTRUCTION BY CALLING THE CITY'S INSPECTION LINE AT 248-841-2510. FULL TIME INSPECTION SHALL BE REQUIRED FOR ALL UNDERGROUND STORM SEWER CONSTRUCTION.
 - THE CONTRACTOR SHALL CONTACT MISS DIG 72 HOURS BEFORE CONSTRUCTION AT (811) TO LOCATE EXISTING UNDERGROUND UTILITIES.
 - PRIOR TO START OF CONSTRUCTION CONTRACTOR SHALL HAVE IN HIS POSSESSION A CURRENT SOIL EROSION CONTROL PERMIT AS ISSUED BY THE OCWRC.
 - MINIMUM SUMP DEPTH IS 2' FOR CATCH BASINS, MINIMUM SUMP DEPTH IS 3' FOR CATCH BASINS WITH FLOATABLE TRAP INSTALLATIONS.
 - AS A MEANS OF INSURING PROPER INSTALLATION OF THE STORM SEWER PIPE, AT THE DISCRETION OF THE CITY ENGINEER, THE CONTRACTOR SHALL VIDEO INSPECT, ACCORDING TO THE CITY OF ROCHESTER HILLS VIDEO INSPECTION STANDARDS, 100% OF THE STORM SEWER PIPE 12" AND LARGER IN DIAMETER. IF VIDEO INSPECTION IS REQUIRED BY THE CITY ENGINEER THE CONTRACTOR SHALL PROVIDE 24 HOURS NOTICE TO THE CITY OF ROCHESTER HILLS PRIOR TO VIDEO INSPECTION, SO A REPRESENTATIVE MAY BE PRESENT. ROCHESTER HILLS WILL BE PROVIDED WITH A DIGITAL COPY OF THE VIDEO INSPECTION AND LOG IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS VIDEO INSPECTION STANDARDS.
- PROJECTS THAT THE CITY ENGINEER MAY IMPOSE THESE REQUIREMENTS ARE:
- ALL PUBLIC PROJECTS OR PROJECTS BEING CONSTRUCTED ON PUBLIC PROPERTY.
 - ANY PROJECT INVOLVING A DEVELOPMENT, SUBDIVISION, SITE CONDOMINIUM, CONDOMINIUM, OR ASSOCIATION.
 - ANY PROJECT THAT WILL RESULT IN MORE THAN ONE OWNER RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE COMPLETE STORM DRAINAGE SYSTEM.



- ### COVERS FOR MANHOLES, CATCH BASINS, AND INLETS
- MANHOLE FRAME AND COVER SHALL BE EJ 1040, TYPE A COVER OR EQUIVALENT.
 - CATCH BASINS AND INLET FRAME AND COVER SHALL BE AS FOLLOWS:
 - EJ 7045 WITH TYPE M1 GRATE AND 7050 T2 ADJUSTABLE BACK, OR EQUAL, FOR USE WITH CONCRETE CURB AND GUTTER, (STRAIGHT CURB/M.D.O.T. F CURB) AND WITH CONCRETE PAVEMENT WITH INTEGRAL CURB.
 - EJ 7085 WITH TYPE M1 GRATE OR EQUAL, FOR USE WITH CONCRETE B-2 MODIFIED CURB AND GUTTER, AND WITH CONCRETE WITH B-2 MODIFIED INTEGRAL CURB.
 - EJ 7065 WITH TYPE M1 GRATE AND 7060 T1 DRIVE OVER CURB BACK, OR EQUAL, FOR USE WITH MOUNTABLE CURB AND GUTTER, AND WITH CONCRETE PAVEMENT WITH MOUNTABLE INTEGRAL CURB.
 - EJ FRAME 1040 WITH TYPE N OVAL GRATE OR TYPE O2 BEEHIVE GRATE, OR EQUAL, FOR USE ON OPEN DITCH STRUCTURES AND ON CATCH BASINS LOCATED IN SWALES, AND IN EASEMENTS OUTSIDE THE PUBLIC STREET RIGHT-OF-WAY.
 - EJ FRAME 7045Z WITH TYPE M4 VANE STYLE INLET GRATE (RIGHT HAND FLOW OR LEFT HAND FLOW) AND 7060 T1 BACK OR 7050 T2 BACK DEPENDING ON CURB STYLE, OR EQUAL, FOR USE WITH RELIEF BASINS WHICH ARE ON LONGITUDINAL ROAD SLOPES OF 4% OR GREATER.
 - EJ FRAME 5100 WITH TYPE M1 SINUSOIDAL GRATE, OR EQUAL, FOR USE IN NON-CURB PAVEMENT AREAS.
- NOTE: COVERS MUST HAVE THE "DUMP NO WASTE! DRAINS TO WATERWAY" LETTERING (WHEN APPLICABLE).



REVISIONS	DATE	APPROVED BY

DATE: _____
 CITY COUNCIL, DATE: _____
 PREPARED BY ENGINEERING DIVISION
 DEPARTMENT OF PUBLIC SERVICES

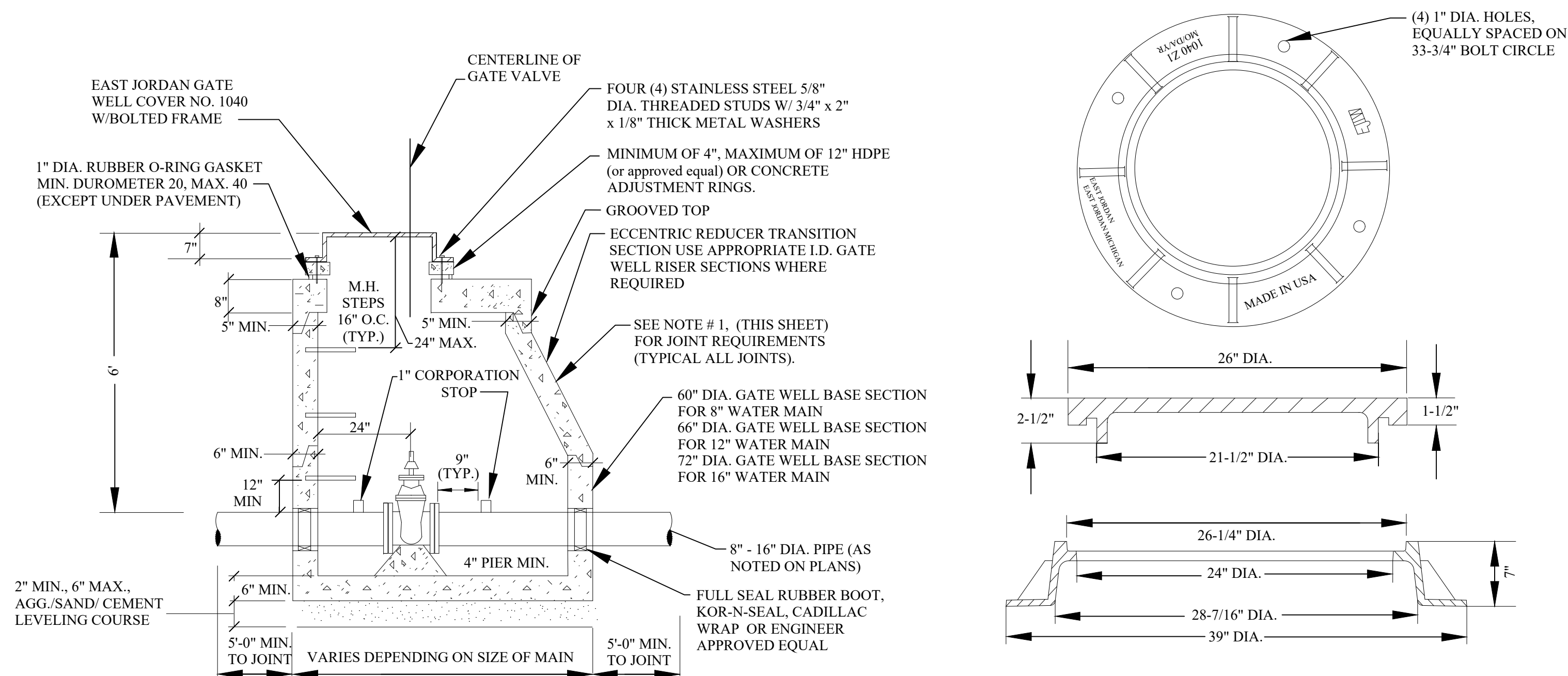
NOTIFY ROCHESTER HILLS
 ENGINEERING DEPARTMENT
 @ 248-841-2510 48 HRS. PRIOR
 TO START OF
 CONSTRUCTION

City of Rochester Hills
 1000 Rochester Hills Drive, Rochester Hills, Michigan 48309

**STORM SYSTEM
 STANDARD DETAILS**

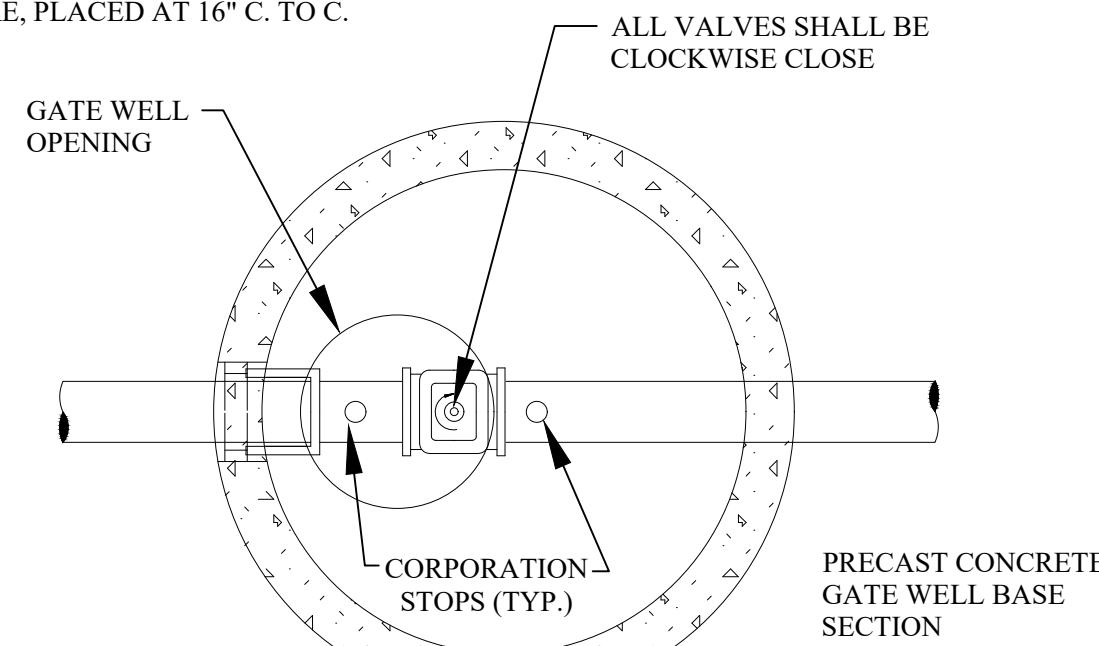
NOT TO SCALE
 DATE: 1/10/2019
 SHEET 1 OF 1



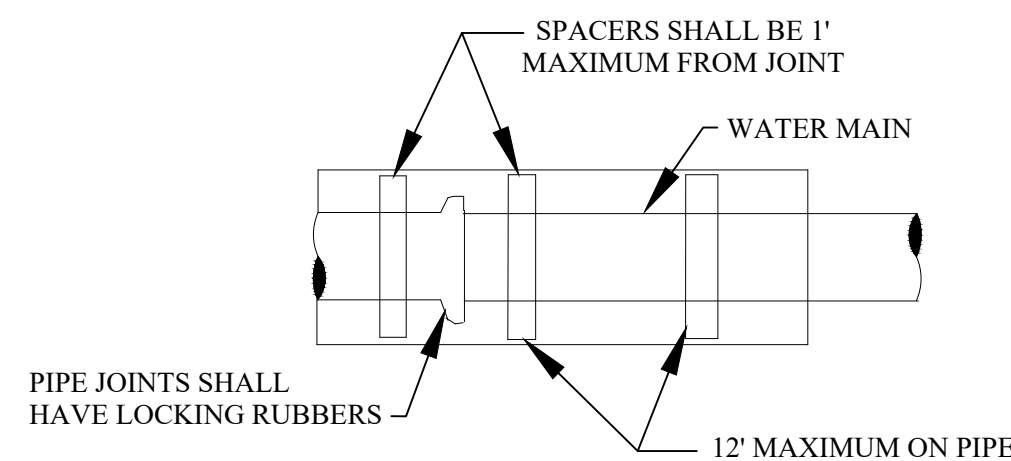


ALL GATE WELLS

MANHOLE STEPS TO BE PLASTIC COATED STEEL MEETING THE REQUIREMENTS IN ASTM D 2146, TYPE II, GRADE 49108. M.A. INDUSTRIES P.S.I. POLYPROPYLENE OR APPROVED EQUAL. STEPS TO BE INSTALLED DURING MANHOLE MANUFACTURE, PLACED AT 16\"/>



GATE WELL (TYPICAL)



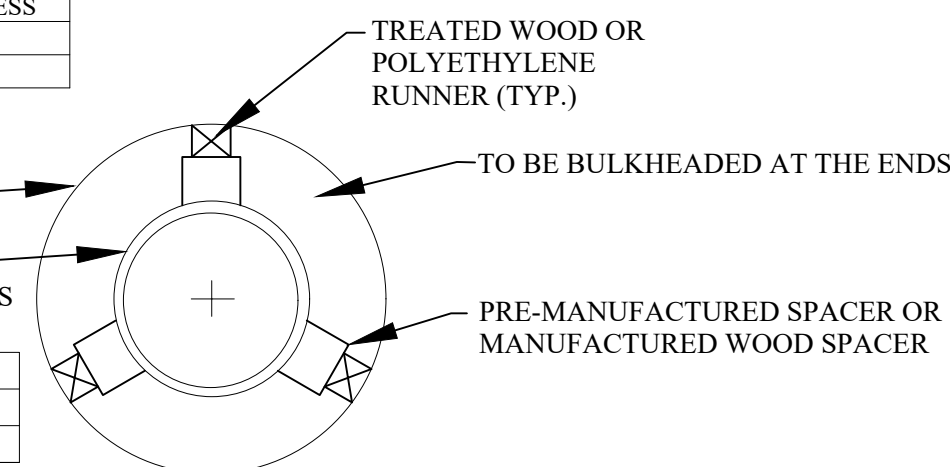
WATER MAIN IN CASING SECTION

UNLESS OTHERWISE SPECIFIED, MINIMUM CASING PIPE SHALL BE ASTM A-139 GRADE B, WALL THICKNESS AS FOLLOWS:

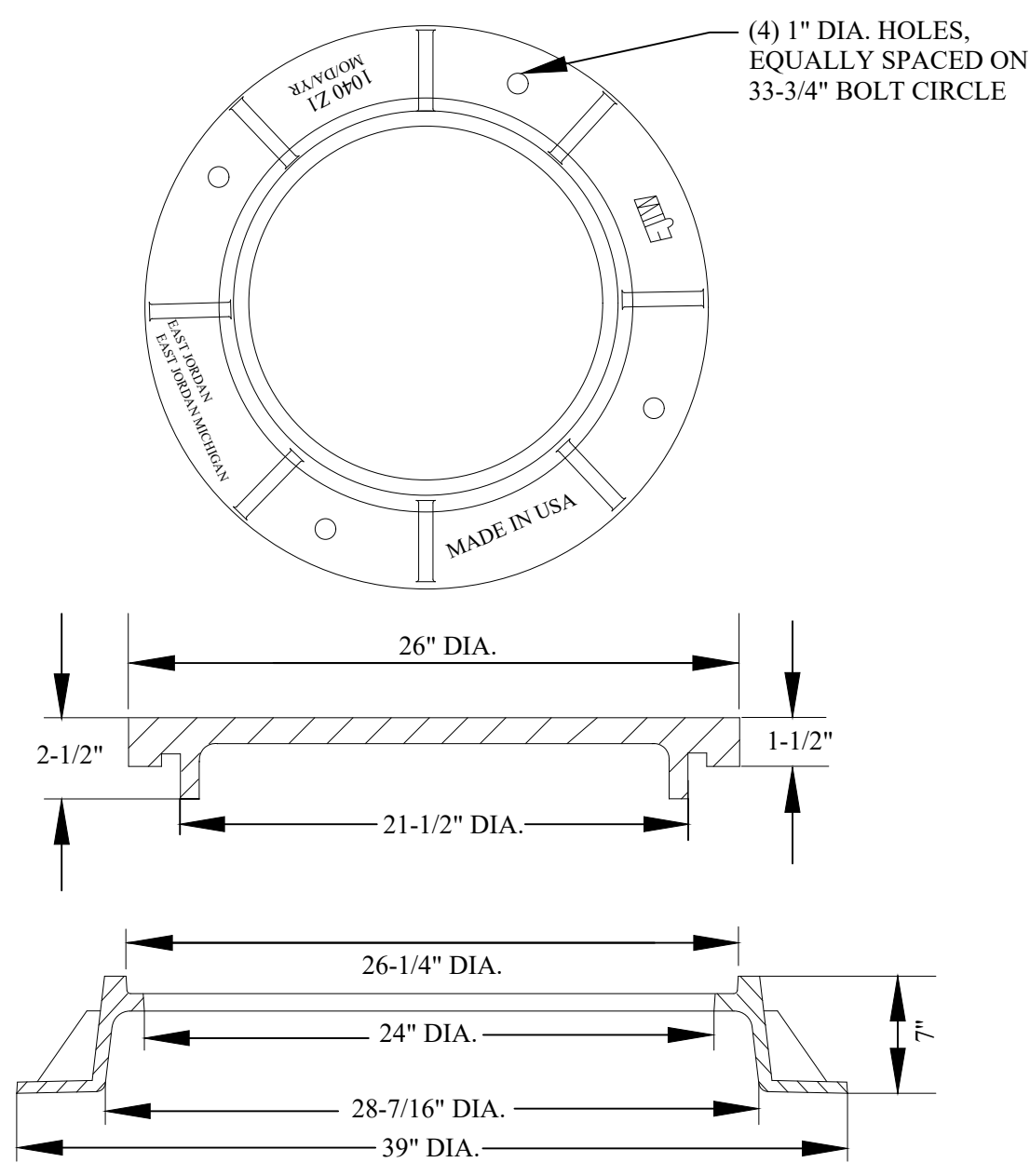
NOMINAL SIZE	MINIMUM WALL THICKNESS
8\"/>	

CASING SHOULD BE A MINIMUM OF 1 1/2 TIMES THE PIPE SIZE

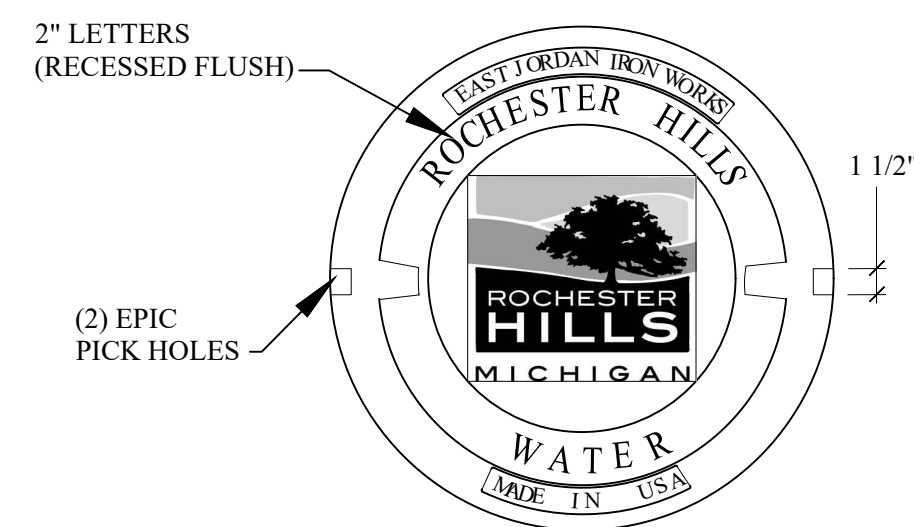
WATER PIPE	REQUIRED QUANTITY OF RUNNERS IN ACCORDANCE WITH SIZE
TO 14\"/>	



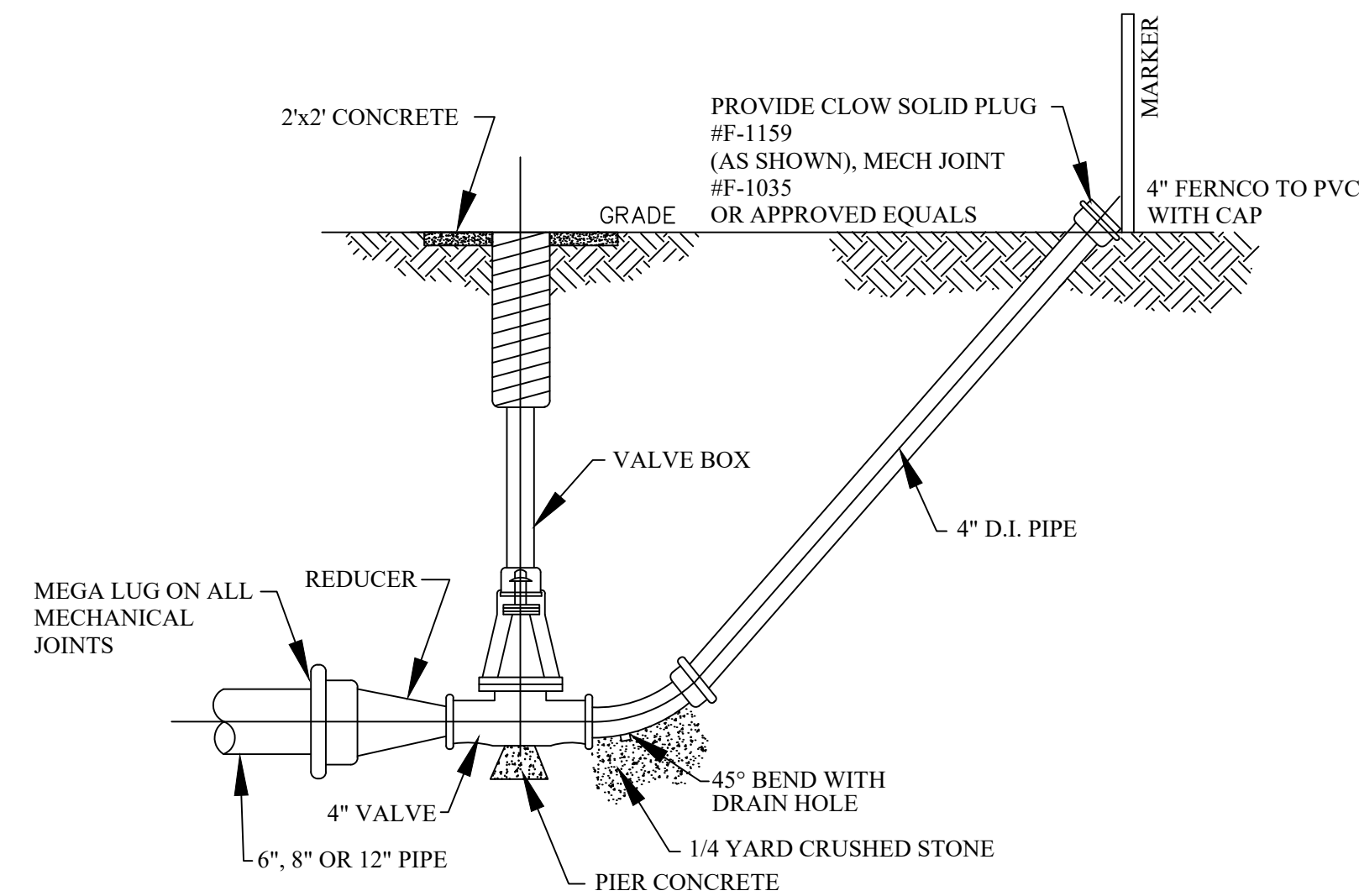
SUPPORT FOR WATER MAIN CONSTRUCTED IN CASING PIPE



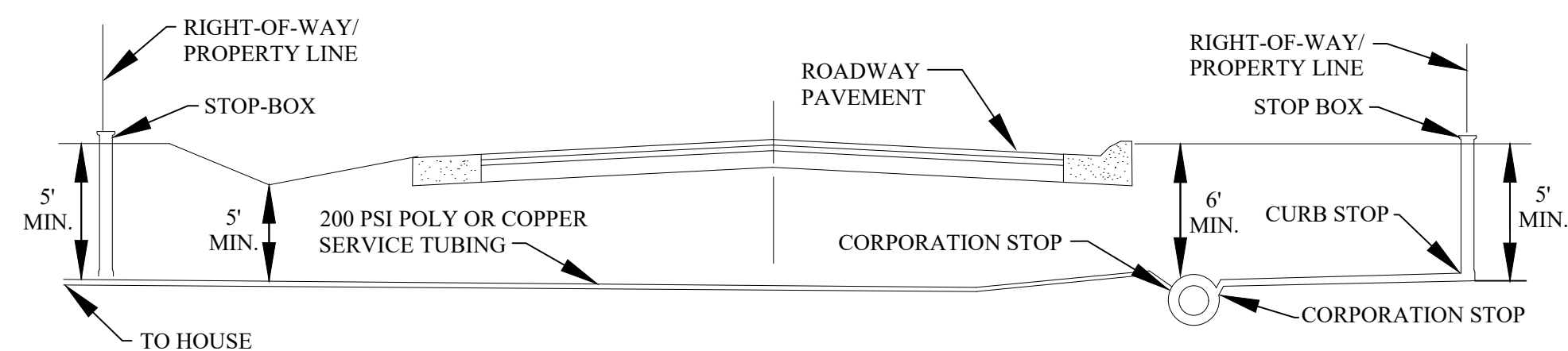
FRAME



LETTERING LAYOUT FOR GATE WELL COVERS

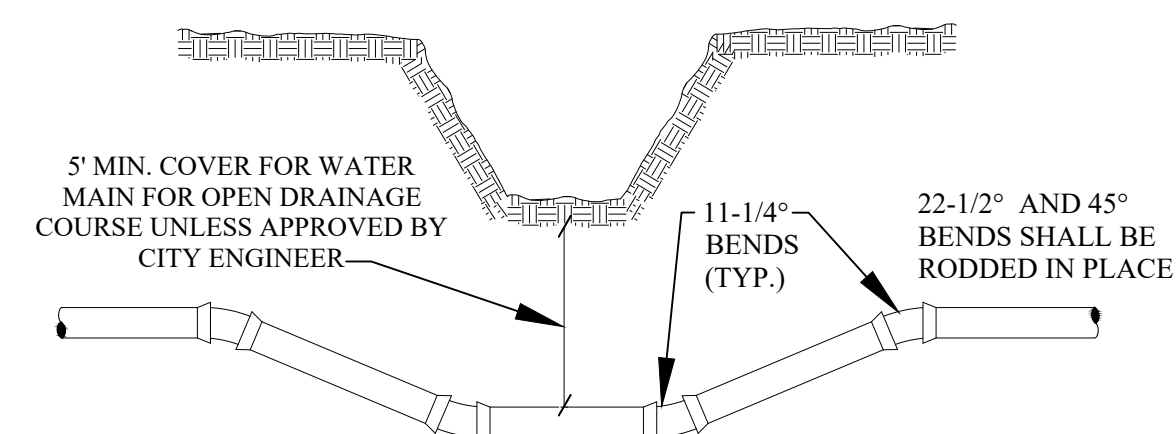


DETAIL OF 4\"/>

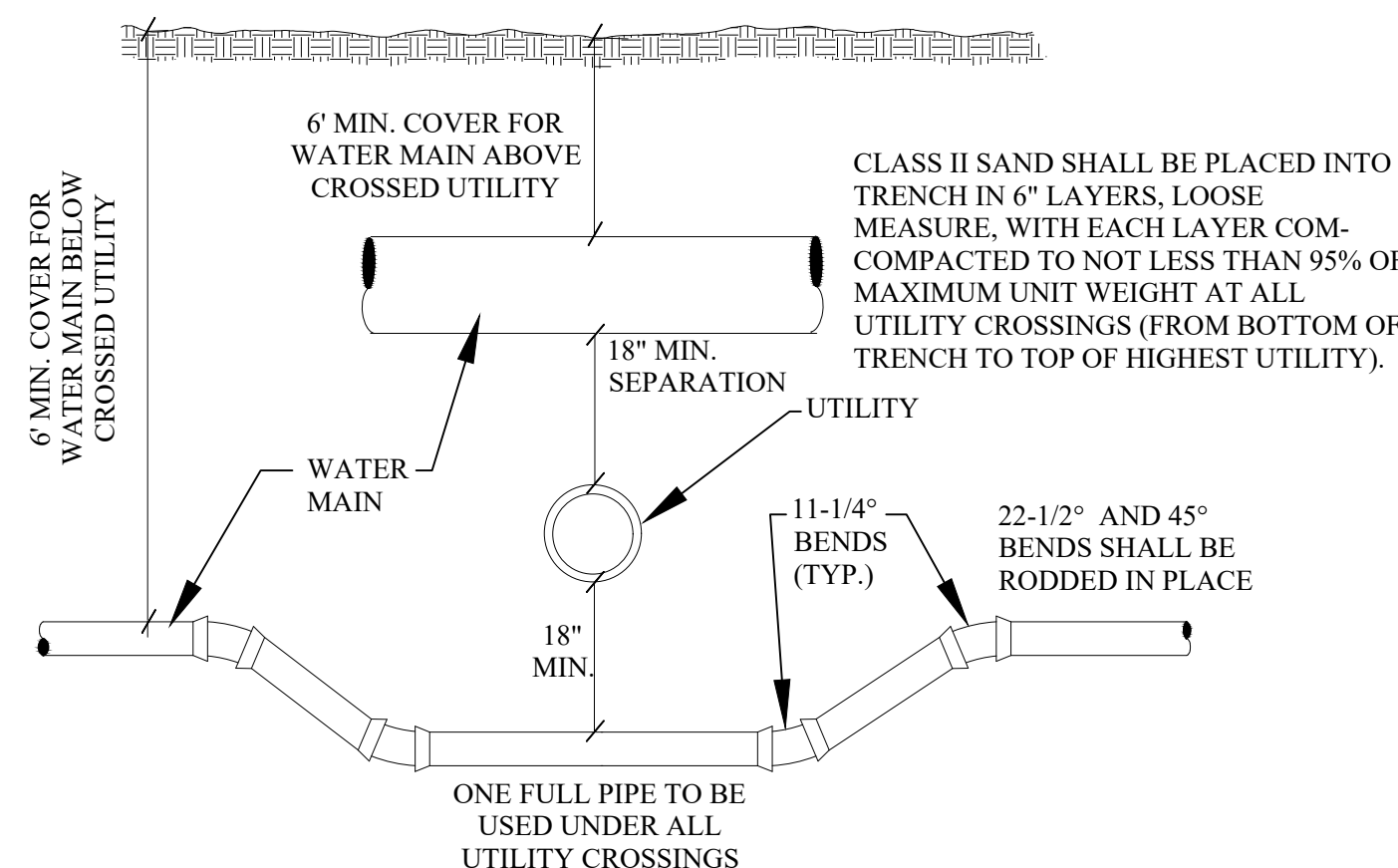


TYPICAL PUBLIC ROAD WATER SERVICE CONNECTION

NOTES:
 1. WATER SERVICE SHUT-OFF TO BE PLACED AT PROPERTY LINE.
 2. LATERAL LOCATION SHALL BE AS REQUESTED BY THE ABUTTING PROPERTY OWNER.
 3. ROCHESTER HILLS DPS PERFORMS SERVICE LEAD TAPS UP TO 2\"/>

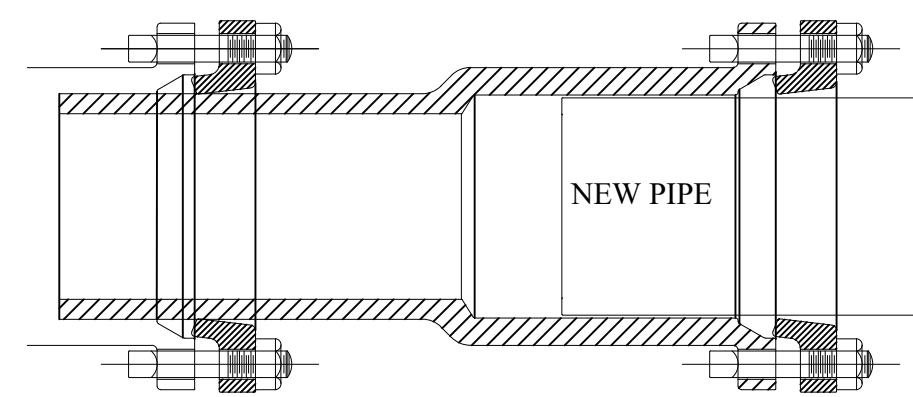


DITCH CROSSING

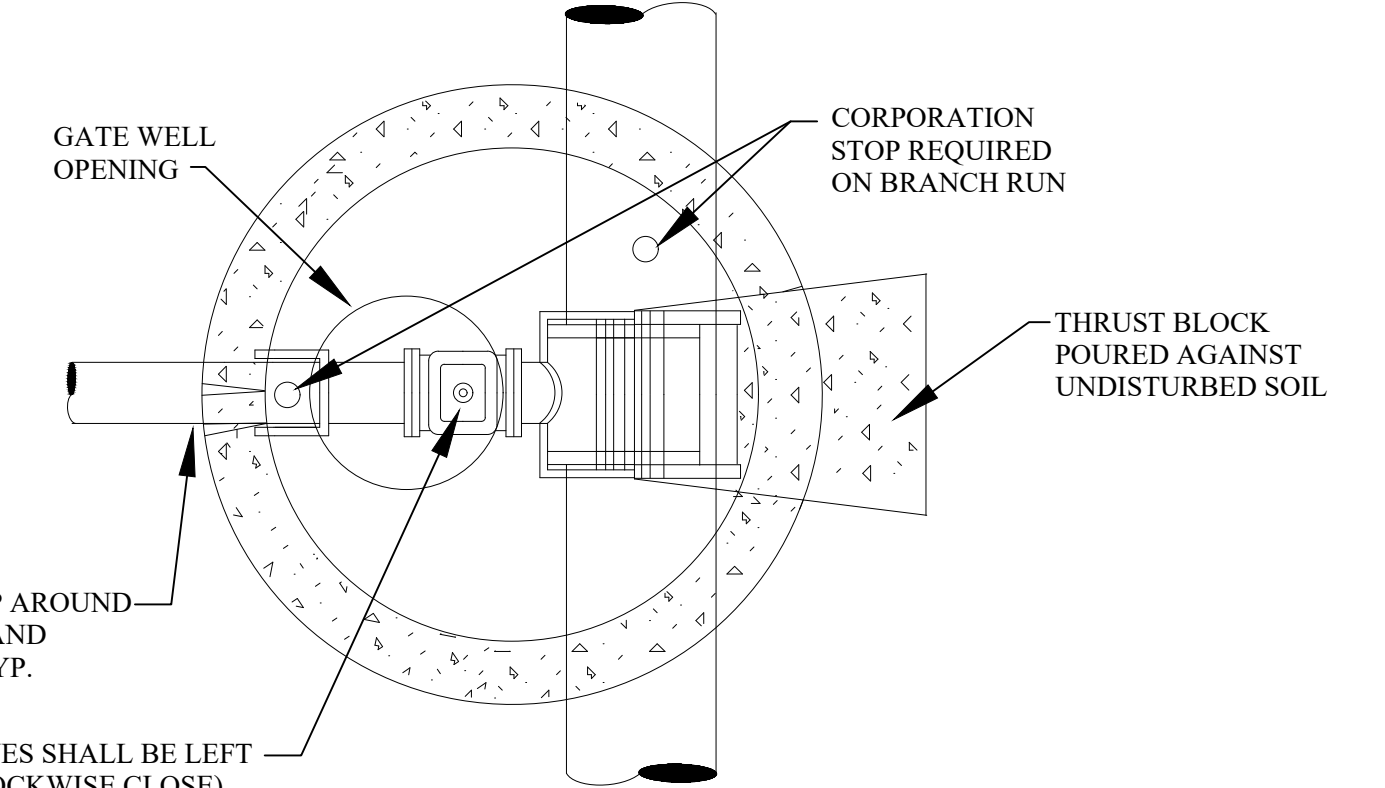


UTILITY CROSSING

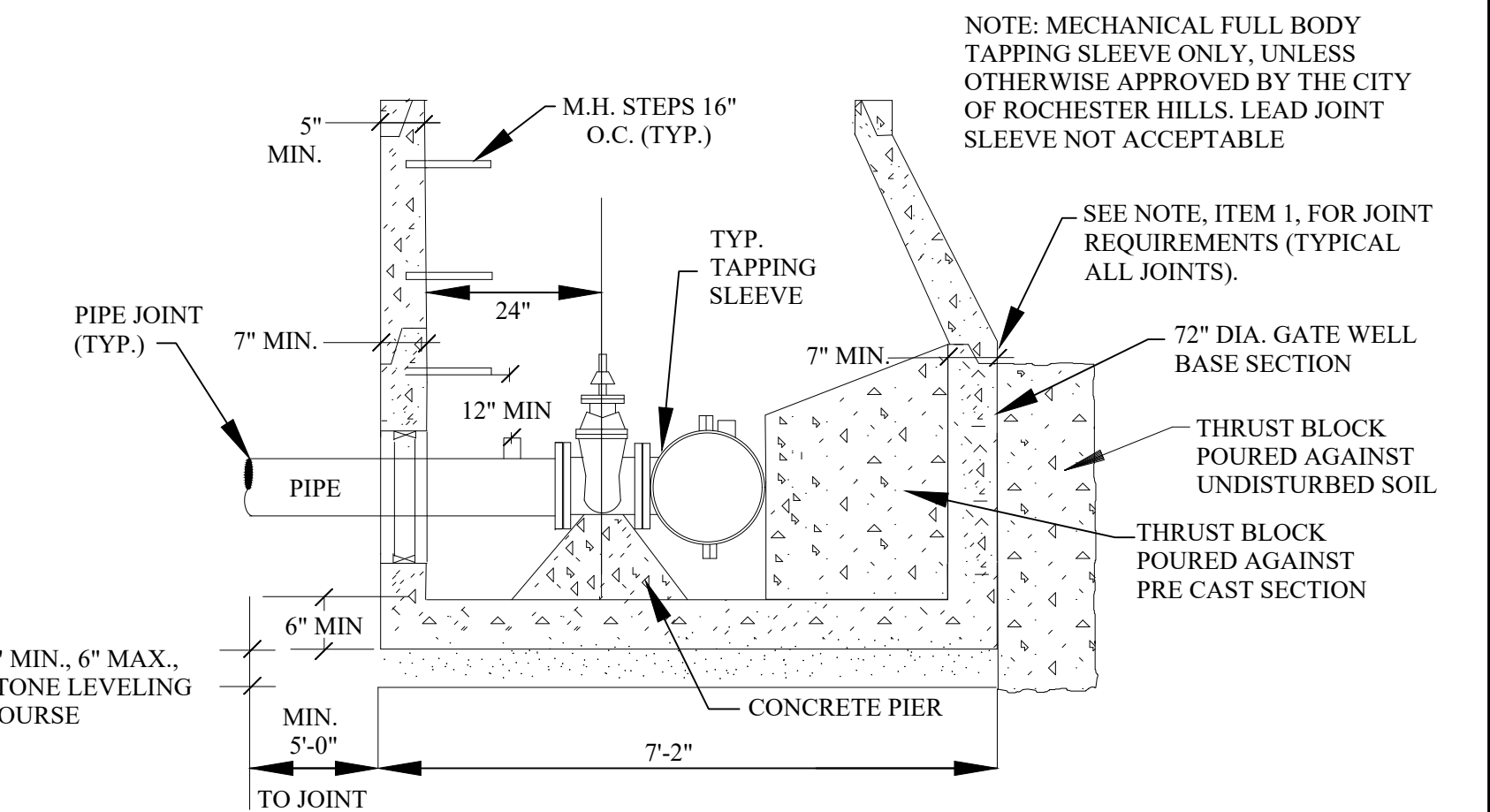
EAST JORDAN MJ x PE DUAL-PURPOSE CUTTING-IN SLEEVE OR APPROVED EQUAL



BOTTLE SLEEVE



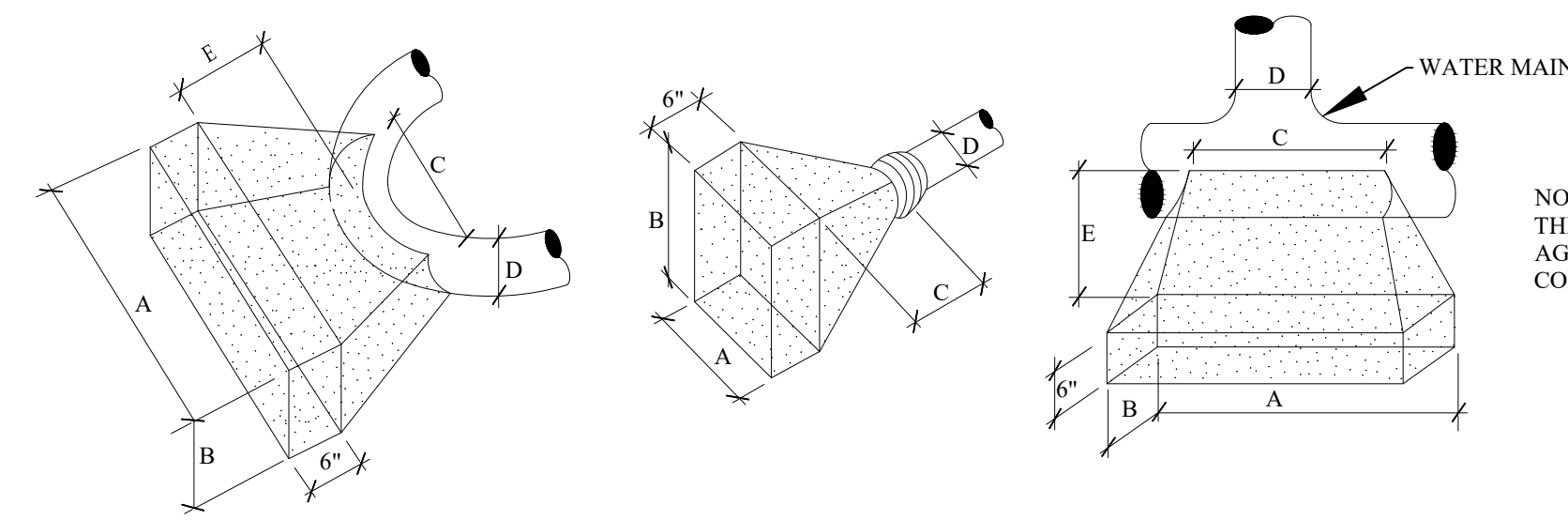
PLAN TAPPING SLEEVE VALVE & WELL (TYPICAL)



TAPPING SLEEVE, VALVE AND WELL (TYPICAL)

NOTES:

- 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 SHEET 16.c. 2-4\"/>
- TAPPING SLEEVES SHALL BE MANUFACTURED BY ROMAC INDUSTRIES; MUELLER; EAST JORDAN; SMITH-BLAIR OR APPROVED EQUAL AND APPROVED BY THE CITY OF ROCHESTER HILLS. FULL BODY SLEEVES MUST BE USED EXCEPT FOR REINFORCED CONCRETE PRESSURE PIPE OR A.C. PIPE.
- FOR ALL PIPE USE A 1\"/>
- RUBBER O-RINGS SHALL NOT BE USED IN PAVEMENT.



FOR 90° BENDS OR SMALLER

D	A	B	C	E MIN.
20\"/>				

FOR PLUGS

D	A	B	C MIN.
20\"/>			

FOR TEES

D	A	B	C	E MIN.
20\"/>				

NOTE: 3000 PSI CONCRETE TO BE USED. THRUST BLOCK TO ABUT & REST AGAINST UNDISTURBED SOIL OR EARTH COMPACTED TO 95% MODIFIED PROCTOR.

THRUST BLOCK DETAILS



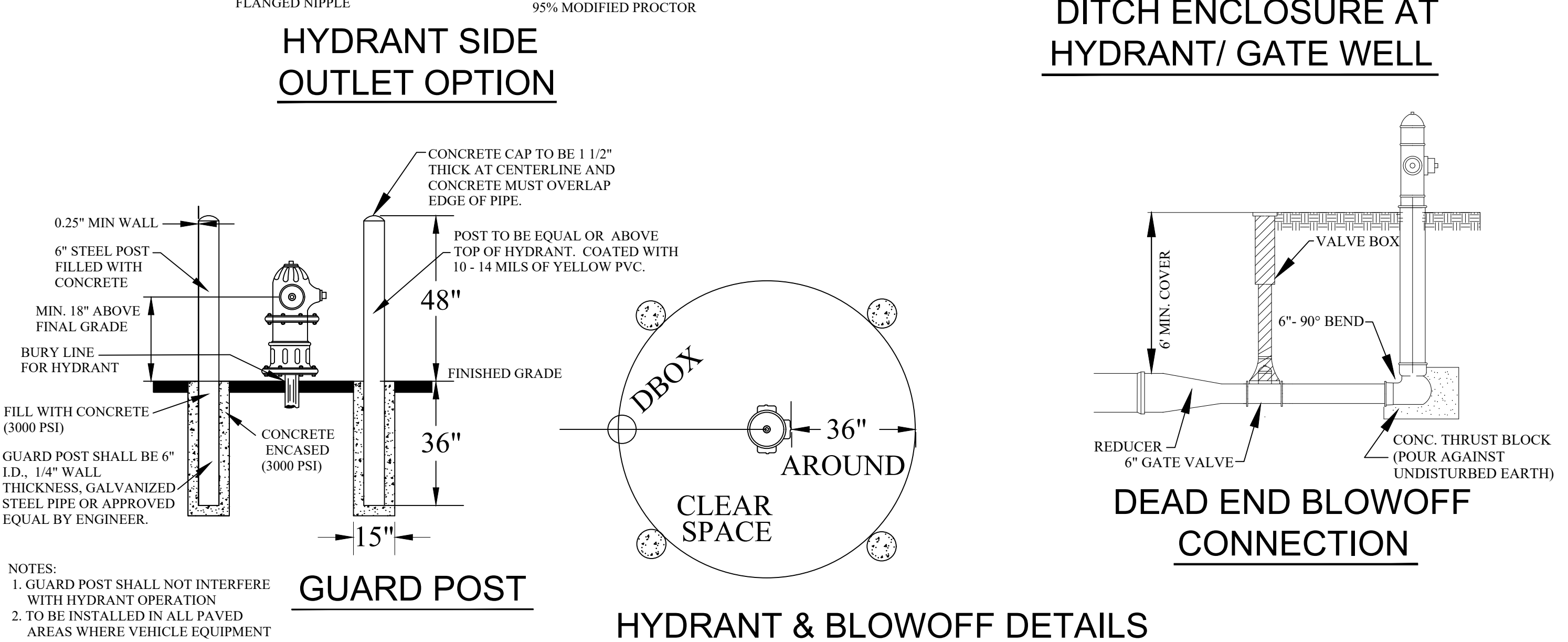
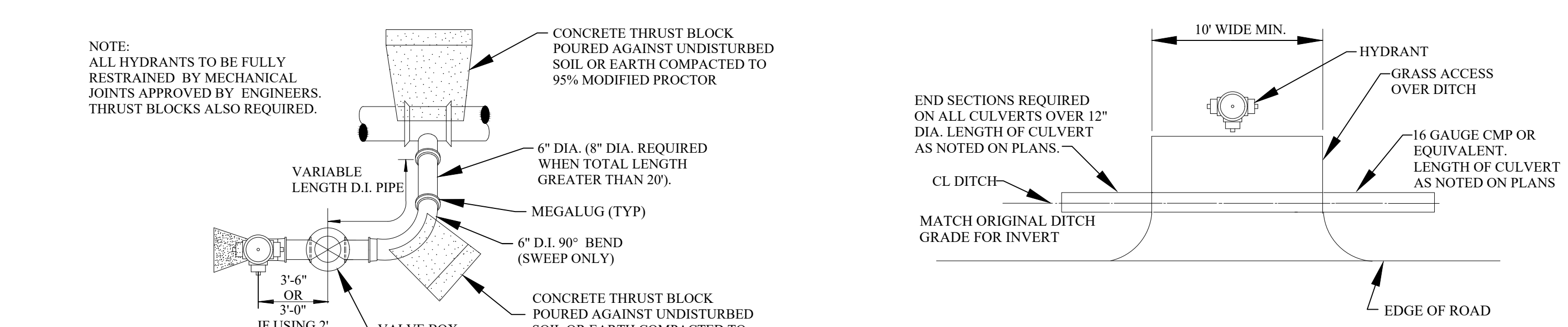
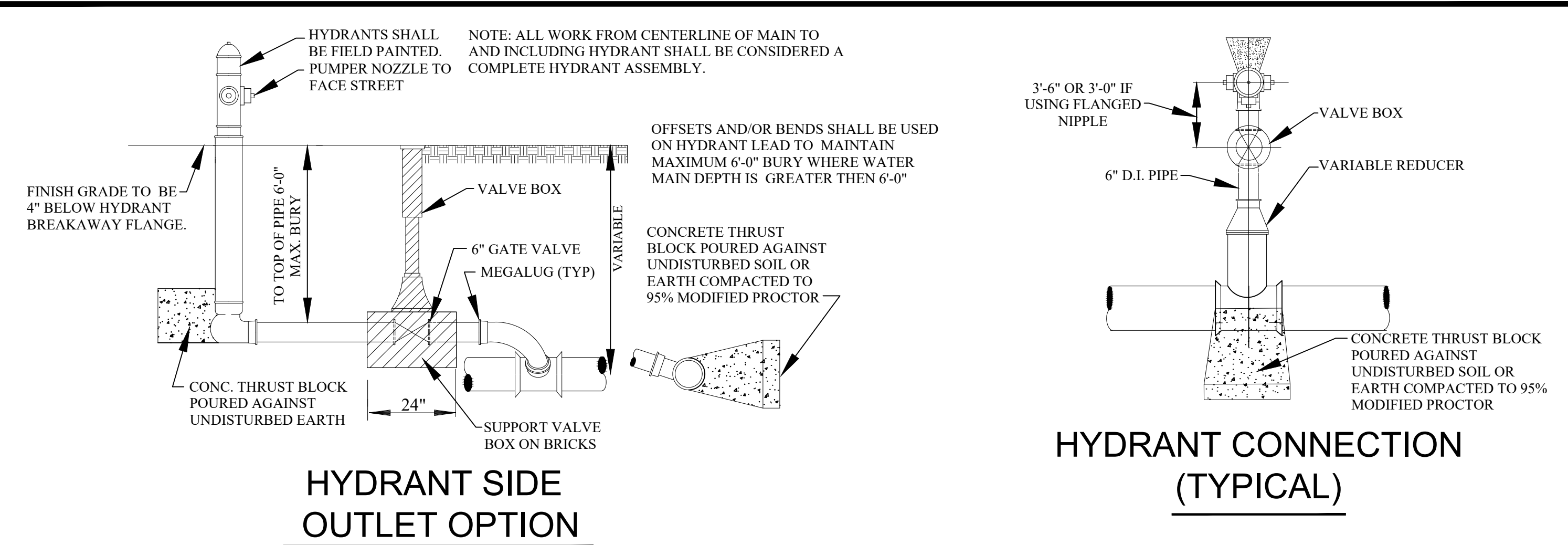
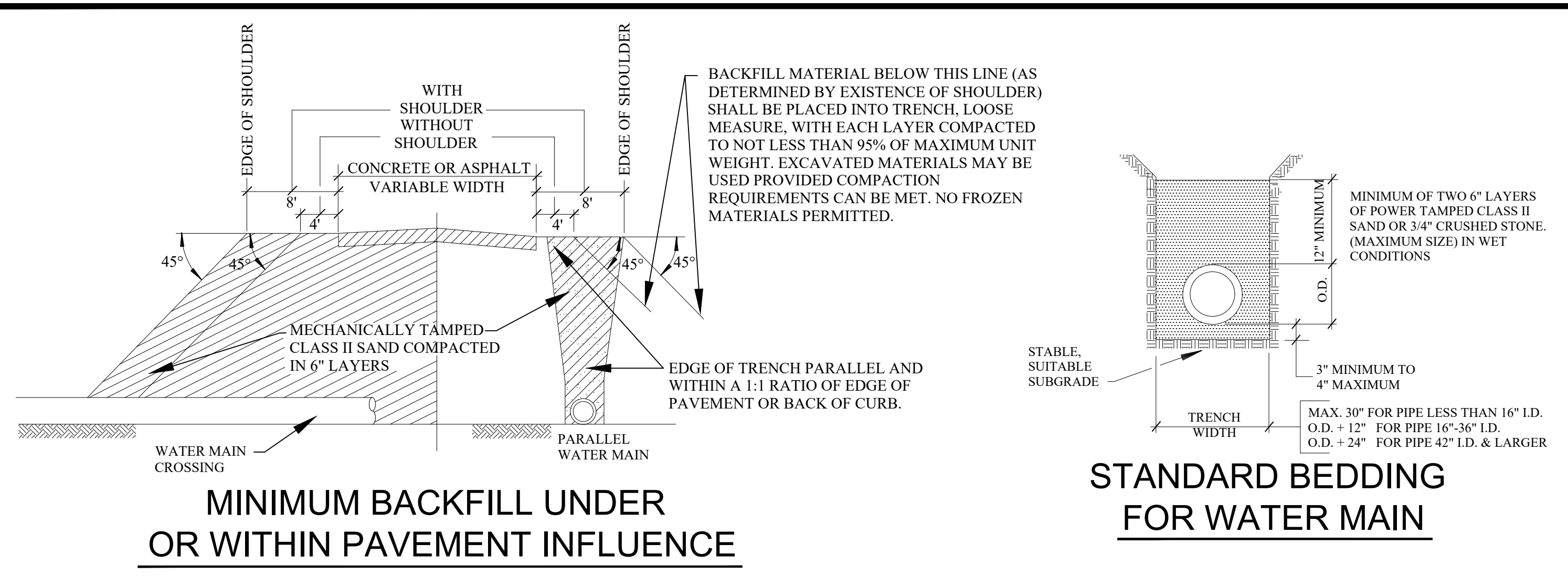
REVISIONS	DATE	APPROVED BY
		CITY COUNCIL, DATE: SEPTEMBER 23, 2019
		PREPARED BY ENGINEERING DIVISION DEPARTMENT OF PUBLIC SERVICES

NOTIFY ROCHESTER HILLS ENGINEERING DIVISION @ 248-841-2510 48 HRS. PRIOR TO START OF CONSTRUCTION

City of Rochester Hills
 1000 Rochester Hills Drive, Rochester Hills, Michigan 48309

WATER MAIN STANDARD DETAILS

NOT TO SCALE	DATE: 1/10/2018
SHEET 1 OF 2	REV 04/22/2022



GENERAL NOTES

- ALL CONSTRUCTION PROCEDURES AND MATERIALS SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS.
- A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED BY THE CITY OF ROCHESTER HILLS AND HELD PRIOR TO THE START OF CONSTRUCTION.
- CONTRACTOR MUST CONTACT MISS DIG (811) AT LEAST THREE WORKING DAYS PRIOR TO THE START OF CONSTRUCTION FOR UNDERGROUND UTILITY LOCATIONS. ALL UTILITIES SHALL BE STAKED BEFORE CONSTRUCTION BEGINS.
- ALL WATER MAIN EASEMENTS SHALL BE PROVIDED PRIOR TO CONSTRUCTION AND ACCEPTANCE OF THE WATER DISTRIBUTION SYSTEM.
- WATER MAINS SHALL BE CONSTRUCTED WITH A MINIMUM COVER OF 6 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 COMPACTED CLASS II SAND TO GRADE (95% MAXIMUM UNIT DENSITY).
- WHERE TWO UTILITIES CROSS, PROVIDE CLASS II BACKFILL MATERIAL IN SIX (6) INCH COMPACTED LAYERS TO TOP OF HIGHEST UTILITY.
- WHERE WATER MAINS DIP UNDER OTHER UTILITIES, THE SECTIONS WHICH ARE DEEPER THAN NORMAL SHALL BE CONSTRUCTED WITH 11-1/4" VERTICAL BENDS, 22 1/2° OR 45° BENDS MUST BE RODDED AND PROPERLY ANCHORED.
- ALL PRECAST CONCRETE GATE WELL SECTIONS SHALL BE IN ACCORDANCE WITH A.S.T.M. C478, STANDARD SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS. 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 SHEET 1 (2'-0" BETWEEN GATE WELL WALL & CENTERLINE OF OPERATING NUT) TO ALLOW PROPER OPERATION OF VALVE THROUGH GATE WELL OPENING.
- ALL CROSS-CONNECTION CONTROL DEVICES SHALL BE INSTALLED AS REQUIRED BY THE ROCHESTER HILLS PLUMBING INSPECTOR AND IN ACCORDANCE WITH THE STANDARDS OF THE OAKLAND COUNTY WATER RESOURCE 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 CITY OF ROCHESTER HILLS, DEPARTMENT OF PUBLIC SERVICES AFTER WATER MAIN ACCEPTANCE AND APPLICABLE PERMITS ARE OBTAINED.
- ALL FITTINGS AND BENDS SHOULD BE BLOCKED IN ACCORDANCE WITH THRUST BLOCK DETAILS, UNLESS ALTERNATE THRUST RESTRAINT SYSTEM, AS INDICATED PLANS AND SPECIFICATIONS, IS APPROVED BY THE CITY OF ROCHESTER HILLS DEPARTMENT OF PUBLIC SERVICE.
- FOR ANY DIRECT TAPPING OF ASBESTOS CEMENT WATER MAIN, THE CLOSEST DOWNSTREAM HYDRANT SHALL BE FLUSHED DURING THE TAPPING PROCEDURE.

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 FORD TYPE B-44. 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 MAIN SHALL BE DESIGNED FOR 150 PSI MINIMUM WORKING PRESSURE. A ZINC COATING WITH CLASS 52 MAY BE PROPOSED AND IS SUBJECT TO FINAL DECISION FOR APPROVAL BY THE CITY ENGINEER.
- 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 CEMENT-LINED 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 TWENTY (20) INCHES SIZE. TWENTY-FOUR (24) INCH AND LARGER SHALL BE CLASS 55 DUCTILE IRON PIPE.
- PIPES TWENTY-FOUR (24) INCHES AND LARGER IN NOMINAL DIAMETER SHALL MEET ALL THE REQUIREMENTS OF THE CURRENT AWWA C100 FOR DUCTILE IRON WATER PIPE.
- MECHANICAL 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 AND SHALL MEET REQUIREMENTS OF AWWA C110 (ANSI A21.10) OR AWWA C153 (ANSI A21.53). 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 DUCTILE IRON PIPE, FITTINGS AND HYDRANTS SHALL BE ENCASED WITH POLYETHYLENE ENCASEMENT IN ACCORDANCE WITH THE REQUIREMENTS OF A.N.S.I./A.W.W.A. STANDARD SPECIFICATION D1248 AND AWWA C105. POLYETHYLENE TUBE MATERIAL SHALL HAVE A THICKNESS OF .008" (8-MILS). ADHESIVE TAPE SHALL BE A GENERAL PURPOSE ADHESIVE TAPE 2" WIDE AND APPROXIMATELY 10-MILS THICK, SUCH AS SCOTCHRAP. NO.50, POLYKEN NO. 900, OR TAPECOAT CT.

VALVE AND SLEEVE NOTES

- GATE VALVES, SIZES THREE (3) INCH THROUGH SIXTEEN (16) INCH AND TAPPING VALVES SHALL MEET THE CITY OF ROCHESTER HILLS STANDARD AS DETAILED WITH NON-RISING STEM. (EAST JORDAN, AMERICAN FLOW CONTROL, MUELLER)
- ALL IN LINE GATE VALVES EIGHT (8) INCH AND LARGER SHALL BE IN WELLS. SPECIFICATIONS SHALL INCLUDE THE DIRECTION OF OPERATION OF ALL VALVES (CLOCKWISE CLOSURE). VALVE BOX USE TO BE APPROVED BY ENGINEERING DIVISION.
- ALL GATE WELL COVERS SHALL BE CITY OF ROCHESTER HILLS 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 SHALL 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 SERIES "A" AS MANUFACTURED BY EAST JORDAN OR RESILIENT SEATED GATE VALVES AS APPROVED BY THE CITY OF ROCHESTER HILLS ENGINEERING SERVICES.
- TAPPING SLEEVES SHALL BE MANUFACTURED BY ROMAC INDUSTRIES; MUELLER; EAST JORDAN; SMITH-BLAIR OR APPROVED EQUAL AND APPROVED BY THE CITY OF ROCHESTER HILLS. FULL BODY SLEEVES MUST BE USED EXCEPT FOR REINFORCED CONCRETE PRESSURE PIPE OR A.C. PIPE.

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 NO. 4-BR-250 TRAFFIC MODEL, OR CITY APPROVED EQUAL. SELF-DRAINING HYDRANTS SHALL NOT BE USED. HYDRANTS SHALL HAVE BREAKAWAY FLANGE.
- ALL HYDRANTS SHALL BE PAINTED RED ABOVE GROUND WITH A FINISH COAT OF RUST-OLEUM SAFETY RED OR APPROVED EQUAL. HYDRANT CAPS SHALL BE PAINTED SAME COLOR AS THE HYDRANT.
- ALL FIRE HYDRANT JOINTS SHALL BE TOTALLY RESTRAINED BY THE USE OF RESTRAINED JOINT. THRUST BLOCKS ARE ALSO REQUIRED.
- REFER TO AWWA C502 FOR ALL PROPOSED FIRE HYDRANTS.

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 CITY OF ROCHESTER HILLS 2) ALL EASEMENT AND RIGHT-OF-WAY ACQUISITION MUST BE ACCEPTED BY THE CITY OF ROCHESTER HILLS ENGINEERING SERVICES 3) THE CITY OF ROCHESTER HILLS MUST BE PROVIDED WITH THE BILL OF SALE AND 4) ALL MYLAR "AS-BUILT DRAWINGS" MUST BE ACCEPTED AND APPROVED BY THE CITY OF ROCHESTER HILLS, ENGINEERING SERVICES. THE CITY OF ROCHESTER HILLS INSPECTION DIVISION 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 CITY OF ROCHESTER HILLS, INSPECTION DEPARTMENT (248.841.2510) FOR PRESSURE TESTING, BACTERIOLOGICAL SAMPLING, CONNECTIONS TO EXISTING WATER MAIN AND FINAL FIELD REVIEW. A FORTY-EIGHT (48) HOUR ADVANCE NOTICE IS REQUIRED.
- THE CONTRACTOR SHALL DISINFECT AND PRESSURE TEST ALL NEW WATER MAIN IN ACCORDANCE WITH ROCHESTER HILLS STANDARDS. THE WATER MAIN SHALL PASS A 150 PSI PRESSURE TEST 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 WATER MAIN IN TWENTY-FOUR (24) HOURS.
- WHERE CONTRACTOR SUPPLIED GAUGES ARE REQUIRED, MINIMUM SIZE SHALL BE 3 1/2" DIAMETER OR LARGER GRADUATED IN ONE (1) OR TWO (2) POUND INCREMENTS FROM 1 TO 160 P.S.I. OR HIGHER AND HAVE CURRENT CERTIFICATION.
- PRESSURE TESTING AND BACTERIA TESTING MUST BE COMPLETED AND APPROVED PRIOR TO CONNECTING TO THE EXISTING WATER MAIN.

CITY OF ROCHESTER HILLS WATER SYSTEMS AS-BUILT DRAWING SPECIFICATIONS

IN AREAS WHERE WATER SYSTEMS ARE OPERATED AND MAINTAINED BY THE CITY OF ROCHESTER HILLS DEPARTMENT OF PUBLIC SERVICES, FINAL ACCEPTANCE OF THE WATER SYSTEM MUST BE RENDERED BY THE DEPARTMENT OF PUBLIC SERVICES, BEFORE THE SYSTEM CAN BE USED FOR THE SERVICE INTENDED.

ONE ITEM REQUIRED FOR FINAL ACCEPTANCE SHALL BE THE SUBMISSION OF AS-BUILT DRAWINGS TO THE CITY OF ROCHESTER HILLS, DPS, BY THE DESIGN ENGINEER. AS-BUILT DRAWINGS SHALL BE DEFINED AS AND CONTAIN THE FOLLOWING INFORMATION:

- FINAL AS-BUILT DRAWINGS SHALL BE PROVIDED IN REPRODUCIBLE PDF FORMAT VIA DIGITAL STORAGE MEDIA. XEROX OR ANY HEAT PROCESS REPRODUCTIONS WILL NOT BE ACCEPTED.
- ALONG WITH THE PDF PLAN SET PROVIDE TWO (2) SETS OF BLACK-LINED DRAWINGS AND THE PLANS ON ELECTRONIC MEDIA IN AUTOCAD FORMAT (LATEST VERSION).
- EACH AND EVERY SHEET SHALL BE SEALED BY THE DESIGN ENGINEER, ALONG WITH THE FOLLOWING CERTIFICATION STATEMENT ON THE COVER SHEET:

I HEREBY CERTIFY THAT OUR FIRM HAS PREPARED THESE AS-BUILT DRAWINGS OF THE IMPROVEMENTS AS CONSTRUCTED, AND THAT TO THE BEST OF MY KNOWLEDGE THOSE IMPROVEMENTS NOTED AS "AS BUILT" 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 CITY OF ROCHESTER HILLS.

(COMPANY NAME)

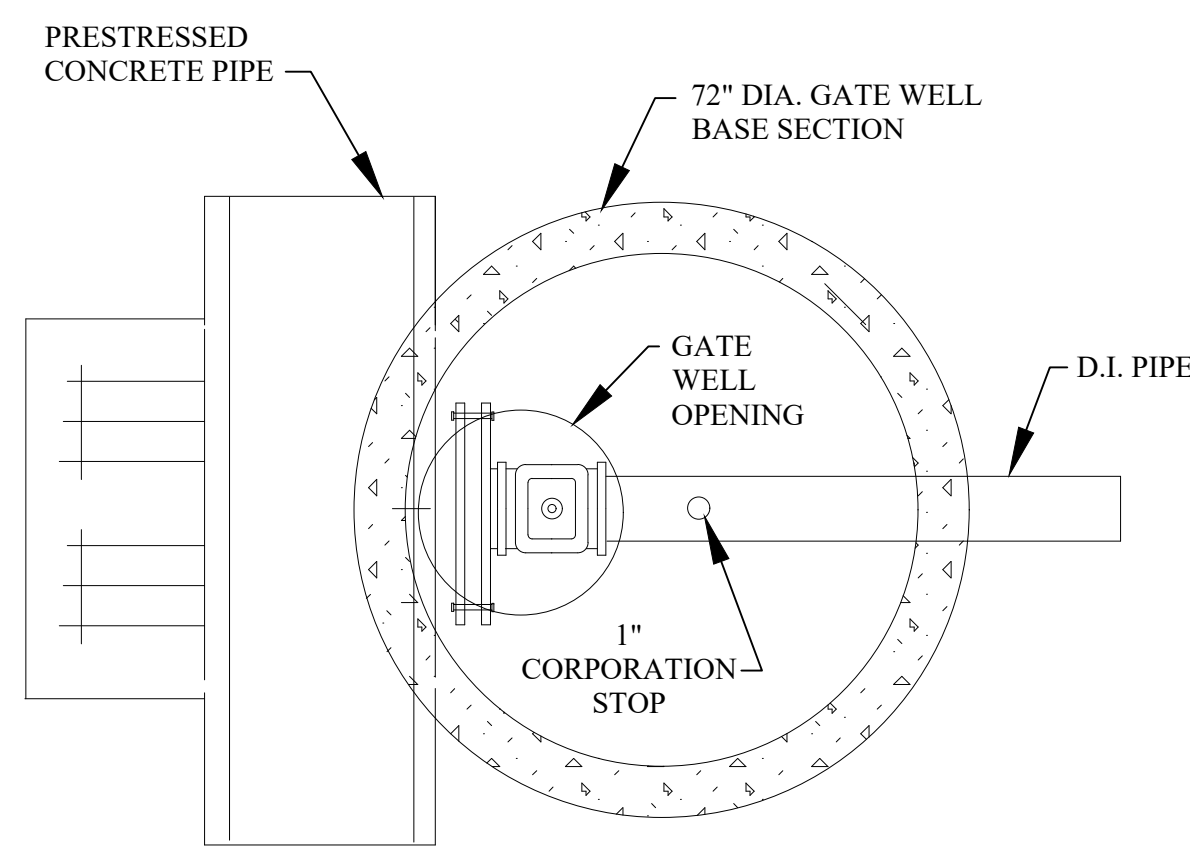
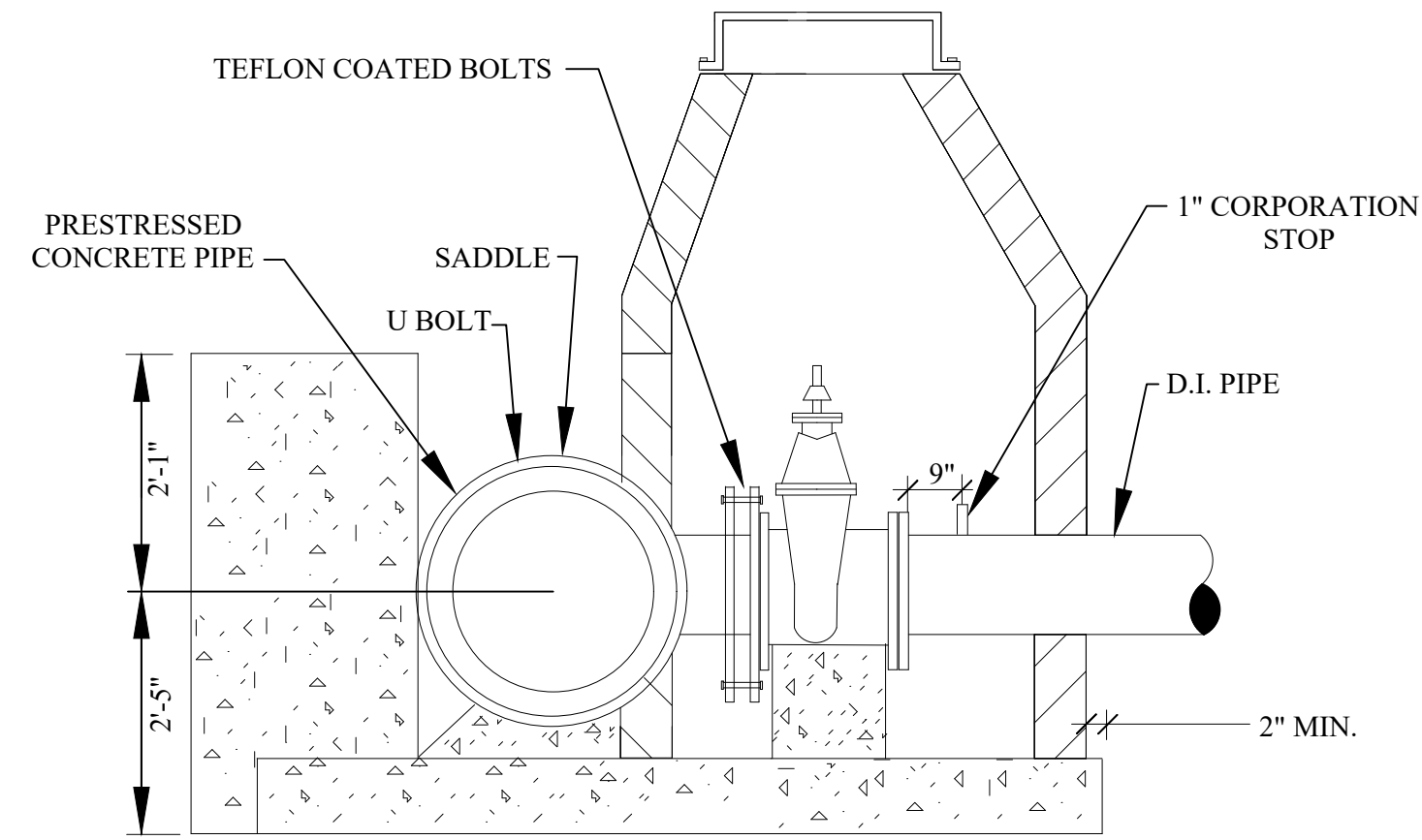
(ENGINEER'S SIGNATURE)

PROFESSIONAL ENGINEER NO. _____

ENGINEER SEAL

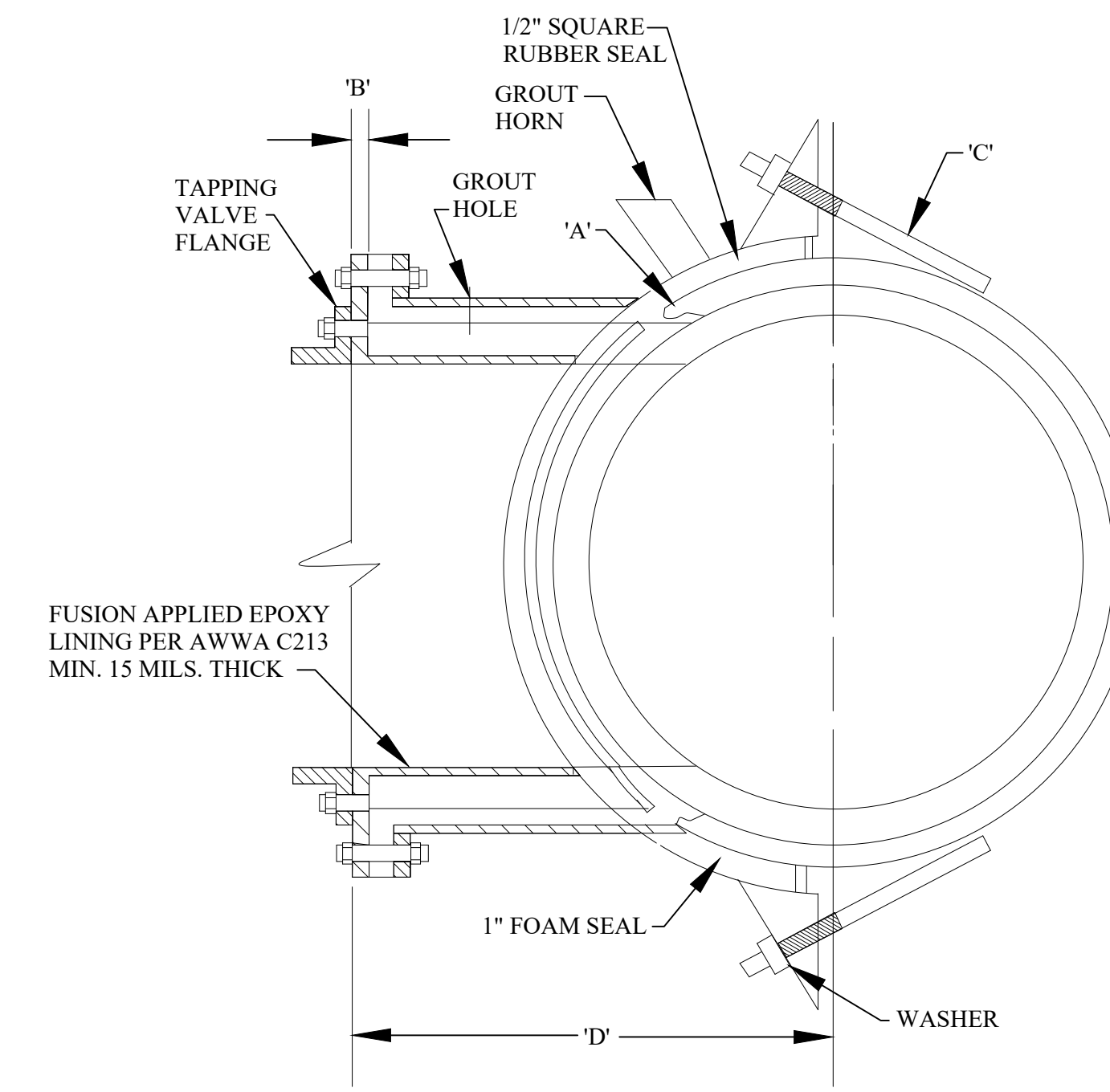
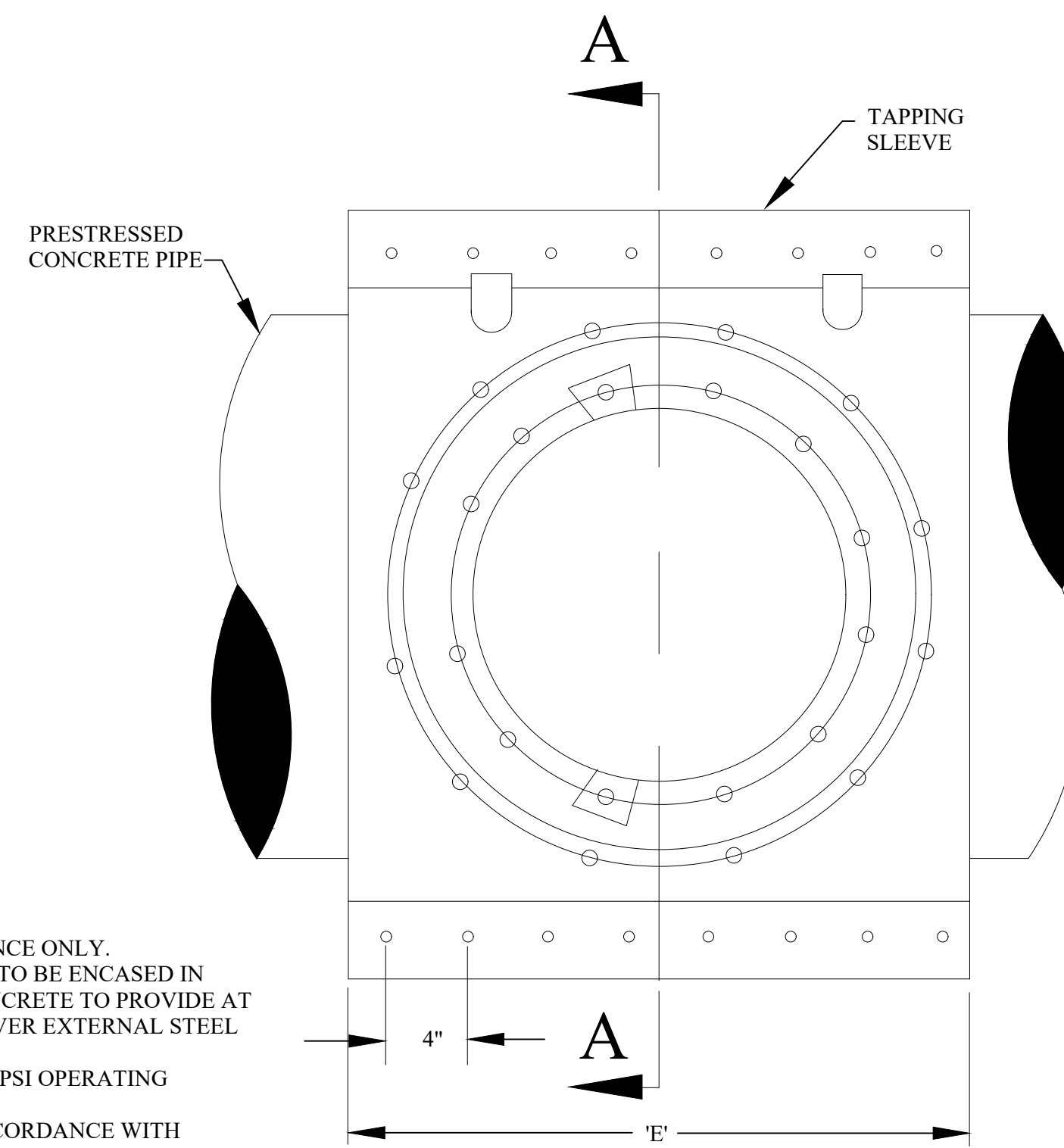
- THE MAXIMUM SCALE SHALL BE ONE (1) INCH EQUALS FIFTY (50) FEET.
- THE SIZE, LENGTH, CLASS AND MANUFACTURER OF PIPE INSTALLED SHALL BE INDICATED.
- THE SIZE, BRAND AND MODEL NUMBERS OF ALL VALVES AND HYDRANTS INSTALLED SHALL BE INDICATED.
- A TOTAL AS-BUILT DRAWING QUANTITY LIST SHALL BE INCLUDED, AS WELL AS AN AS-BUILT 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 TWO FIXED OBJECTS (MANHOLES, BUILDING CORNERS ECT.).
- 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 AND SIZE OF EVERY RESTRAINED JOINT SHALL BE NOTED.
- THE ACCURATE LOCATION OF ALL UTILITY CROSSINGS WHERE THE VERTICAL SEPARATION, IS LESS THAN 18" SHALL BE NOTED.
- AS-BUILT SHALL BE PREPARED IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS AS-BUILT GUIDELINES AS PROVIDED AT THE PRE-CONSTRUCTION MEETING.





- NOTES: 1) THESE DIMENSIONS ARE FOR REFERENCE ONLY.
 2) ENTIRE SADDLE, INCLUDING STRAPS, TO BE ENCASED IN PORTLAND CEMENT MORTAR OR CONCRETE TO PROVIDE AT LEAST ONE (1) INCH OF THICKNESS OVER EXTERNAL STEEL SURFACES PRIOR TO BACKFILLING.
 3) TAP SADDLES ARE DESIGNED FOR 150 PSI OPERATING PRESSURE.
 4) FLANGE DRILLED AND TAPPED IN ACCORDANCE WITH AWWA C207 CLASS D, CENTERING RING CONFORMS TO MSS-SP 60.
 5) GROUT SHALL SET A MINIMUM OF TWENTY-FOUR (24) HOURS PRIOR TO PRESSURE TESTING.

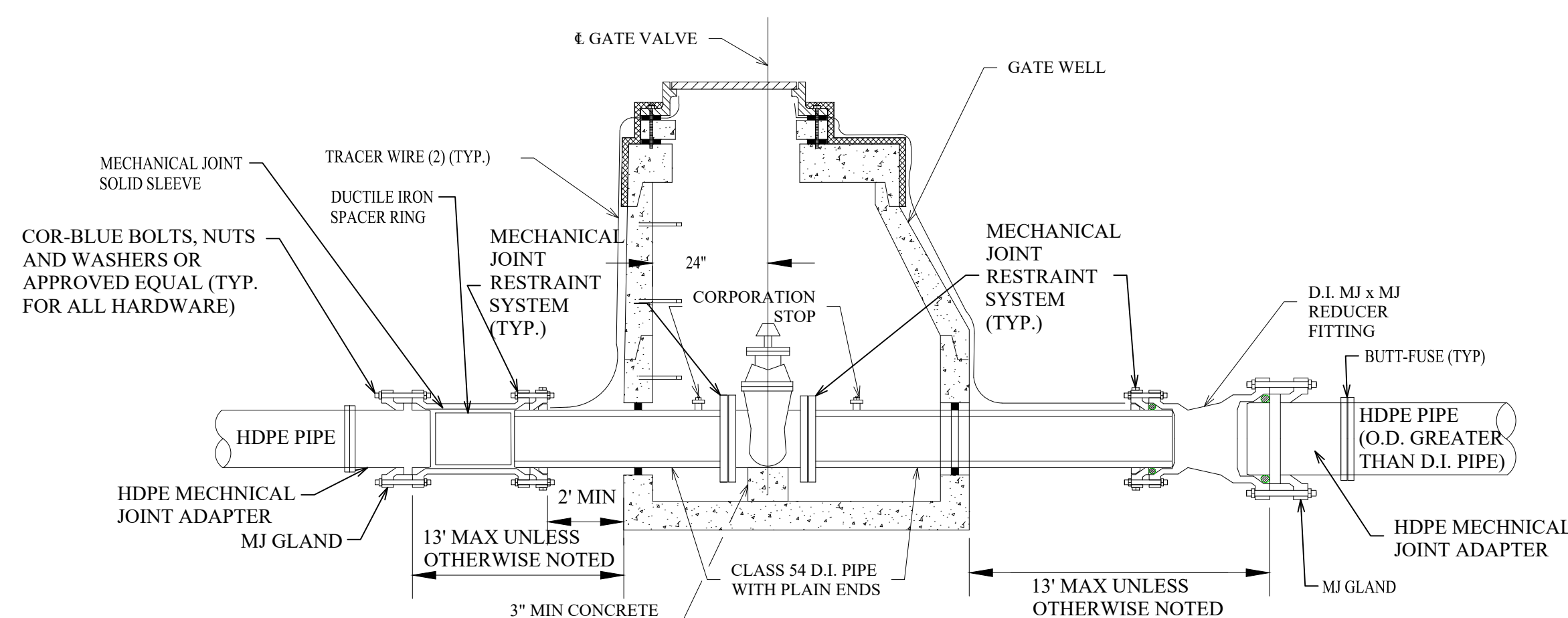
CONCRETE PRESSURE TAP VALVE & WELL ASSEMBLY W/ CONCRETE ENCASEMENT



SECTION A-A

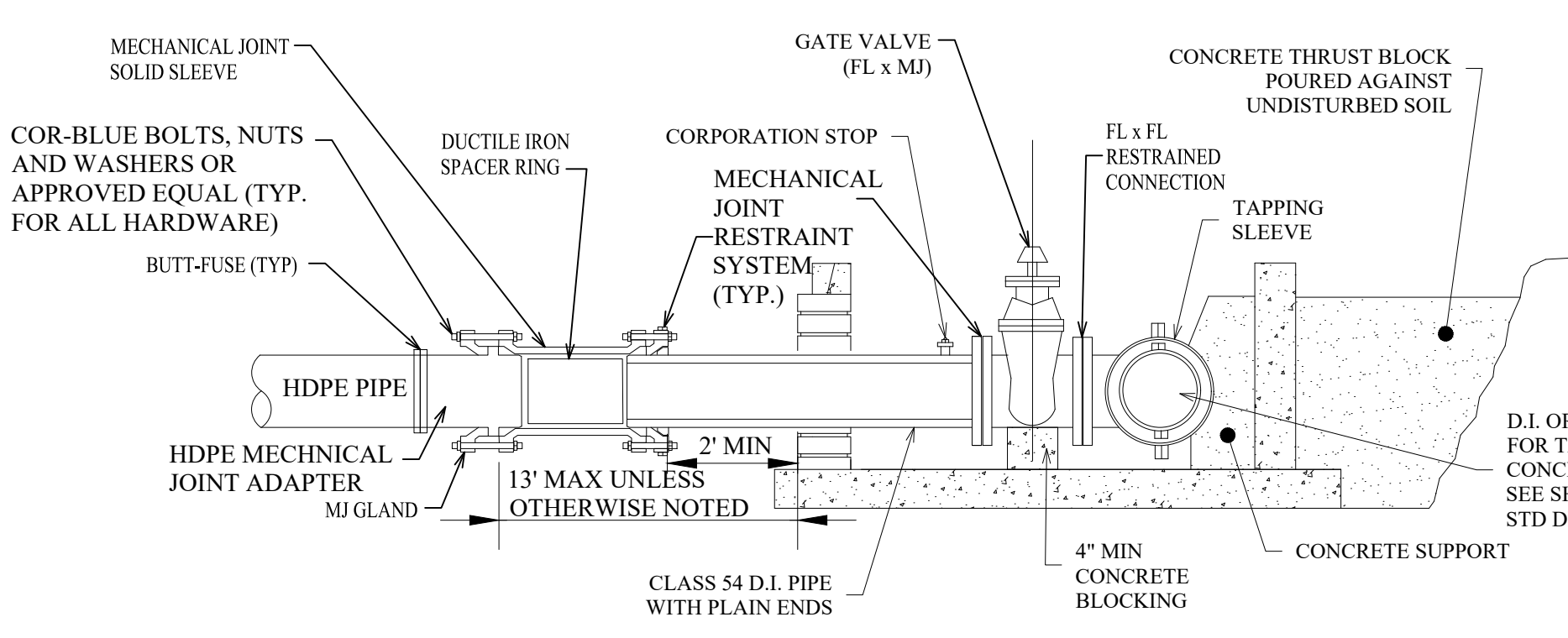
PIPE SIZE X TAP SIZE	A	B	C	D	E
16" X 4"	1/4"	7/8"	6	14-1/16"	24"
16" X 6"	1/4"	1-1/8"	6	14-5/16"	24"
16" X 8"	1/4"	1-1/8"	6	14-5/16"	24"
16" X 10"	1/4"	1-3/8"	7	14-9/16"	28"
16" X 12"	1/4"	1-3/8"	8	14-9/16"	32"
20" X 4"	1/4"	7/8"	6	16-1/2"	24"
20" X 6"	1/4"	1-1/8"	6	16-1/2"	24"
20" X 8"	1/4"	1-1/8"	6	16-1/2"	24"
20" X 10"	1/4"	1-3/8"	7	17"	28"
20" X 12"	1/4"	1-3/8"	8	17"	32"
24" X 4"	1/4"	7/8"	6	18-3/4"	24"
24" X 6"	1/4"	1-1/8"	6	19"	24"
24" X 8"	1/4"	1-1/8"	6	19"	24"
24" X 10"	1/4"	1-3/8"	7	19-1/4"	28"
24" X 12"	1/4"	1-3/8"	8	19-1/4"	32"
30" X 4"	1/4"	7/8"	6	22-1/8"	24"
30" X 6"	1/4"	1-1/8"	6	22-3/8"	24"
30" X 8"	1/4"	1-1/8"	6	22-3/8"	24"
30" X 10"	1/4"	1-3/8"	7	22-5/8"	28"
30" X 12"	1/4"	1-3/8"	8	22-5/8"	32"
36" X 4"	1/4"	7/8"	6	25-1/2"	24"
36" X 6"	1/4"	1-1/8"	6	25-3/4"	24"
36" X 8"	1/4"	1-1/8"	7	25-3/4"	28"
36" X 10"	1/4"	1-3/8"	8	26"	32"
36" X 12"	1/4"	1-3/8"	9	26"	36"
42" X 4"	1/4"	7/8"	6	28-7/8"	24"
42" X 6"	1/4"	1-1/8"	7	29-1/8"	28"
42" X 8"	1/4"	1-1/8"	8	29-1/8"	32"
42" X 10"	3/8"	1-3/8"	9	29-3/8"	36"
42" X 12"	3/8"	1-3/8"	10	29-3/8"	40"
48" X 4"	3/8"	7/8"	7	32-1/4"	28"
48" X 6"	3/8"	1-1/8"	7	32-1/2"	28"
48" X 8"	3/8"	1-1/8"	7	32-1/2"	28"
48" X 10"	3/8"	1-3/8"	7	32-3/4"	28"
48" X 12"	3/8"	1-3/8"	9	32-3/4"	36"

CONCRETE TAPPING SLEEVE DETAILS



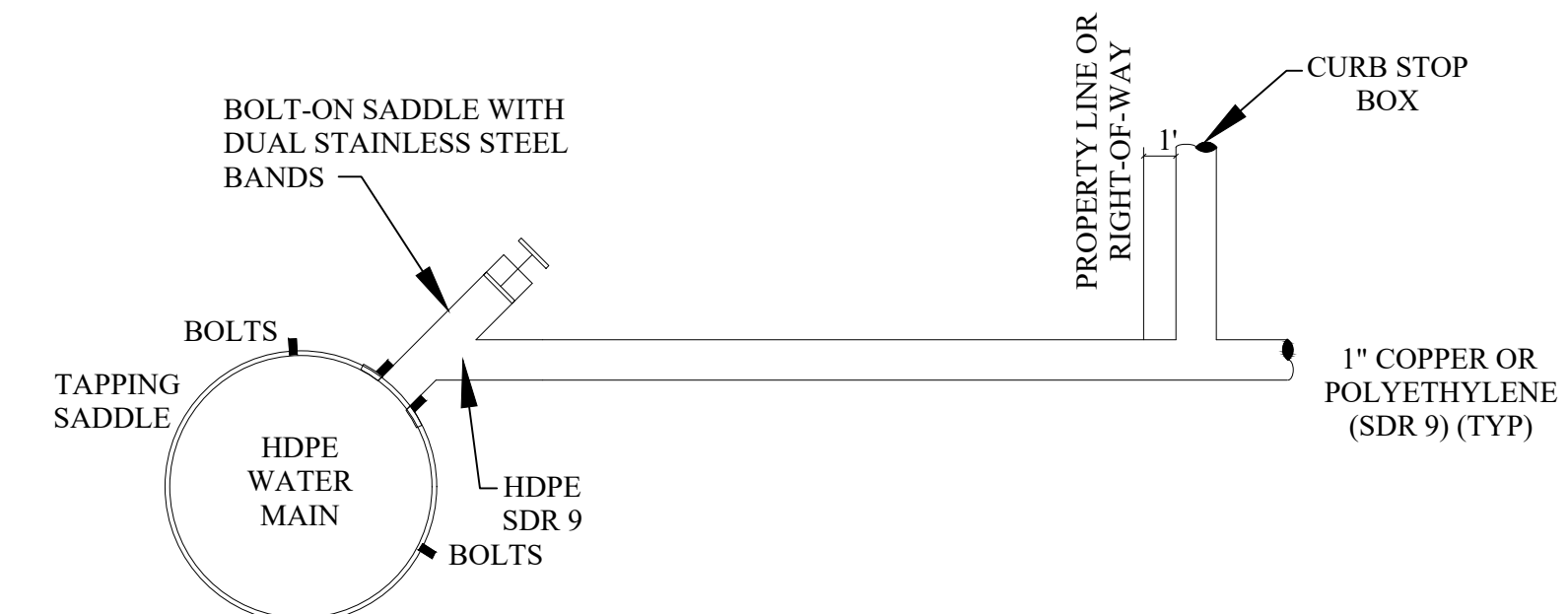
TYPICAL HDPE CONNECTION TO GATE VALVE

- NOTES:
 1. WHERE GATE VALVE IS IN LINE WITH THE HDPE WATER MAIN, INSTALL D.I. PIPE THROUGH GATE WELL MAKING CONNECTION TO HDPE PIPE OUTSIDE OF GATE WELL AS SHOWN.
 2. TRACER WIRES SHALL BE INSTALLED ALONG THE OUTSIDE OF THE GATE WELL AND BENEATH THE FRAME AND COVER.

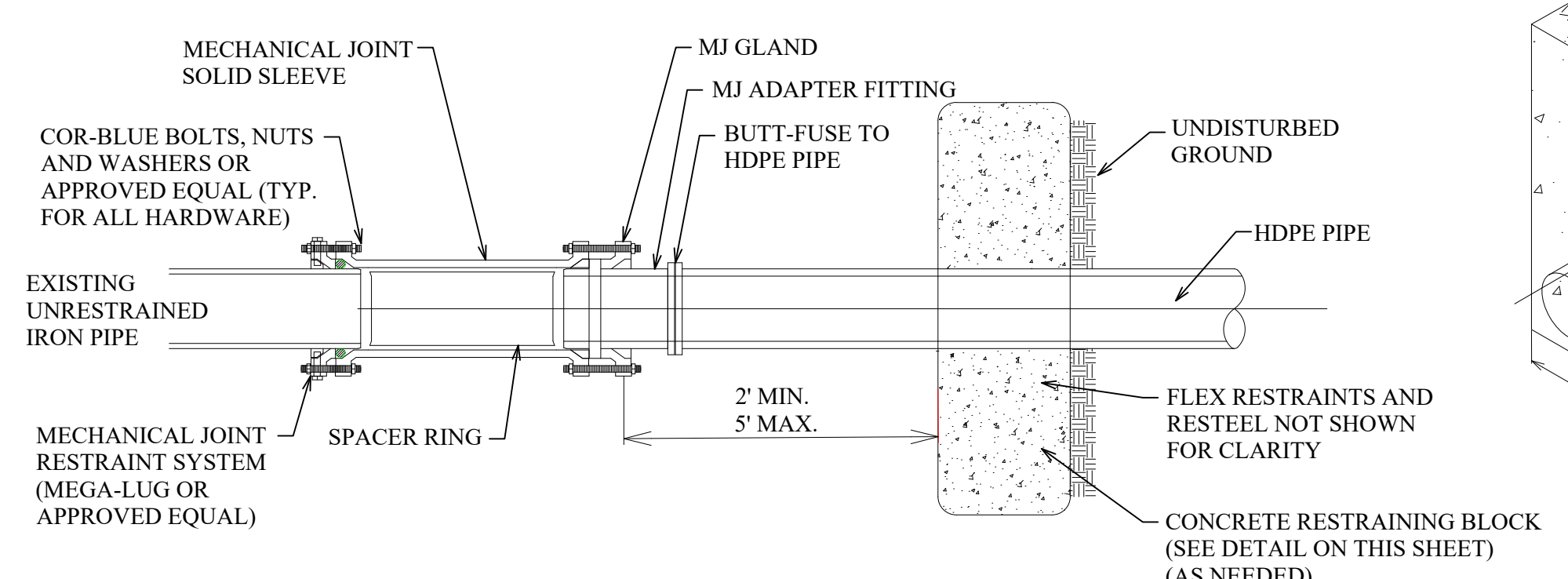


HDPE TAPPING SLEEVE, VALVE & WELL

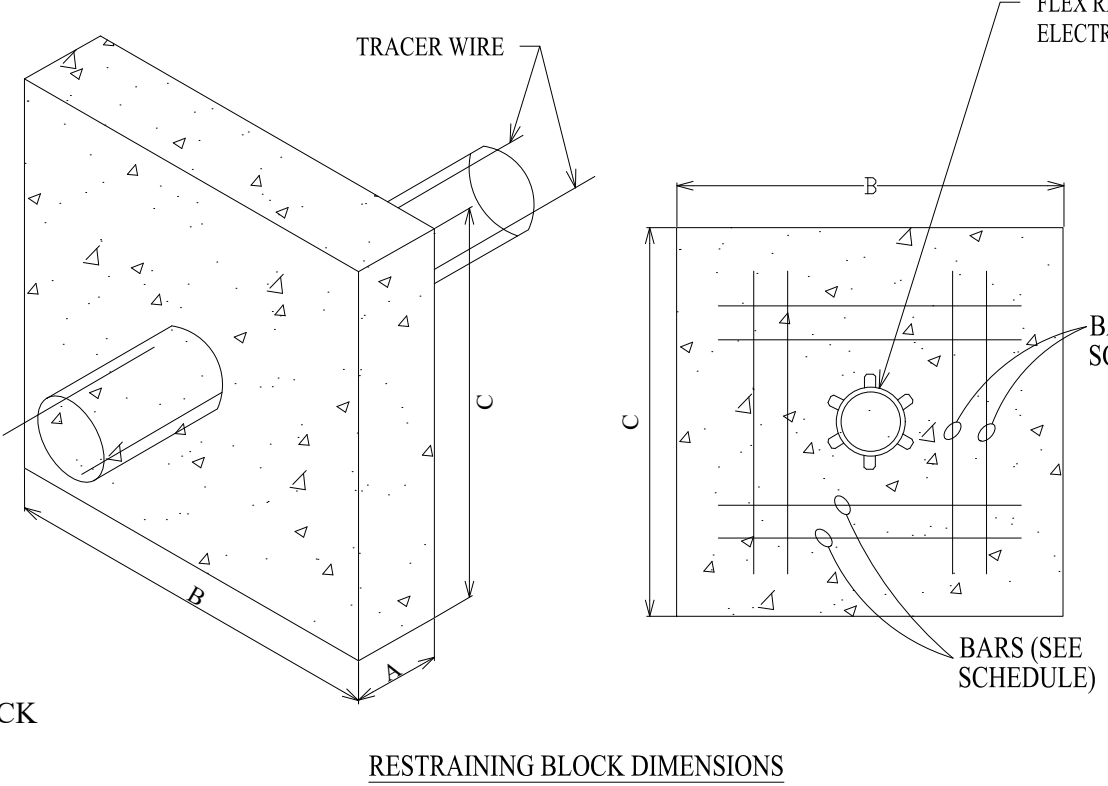
- NOTES:
 1. SEE SHEET 1 OF THE WATER MAIN STANDARD DETAIL SHEETS FOR GENERAL TAPPING SLEEVE VALVE AND WELL DETAILS.
 2. TAPPING SLEEVES FOR HDPE PIPE REQUIRE AN OUTLET SEAL GASKET AND SPRING WASHERS IN ADDITION TO THE REQUIREMENTS DETAILED IN SHEET 2 (JCM 452, ROMAC S8TH OR APPROVE EQUAL).



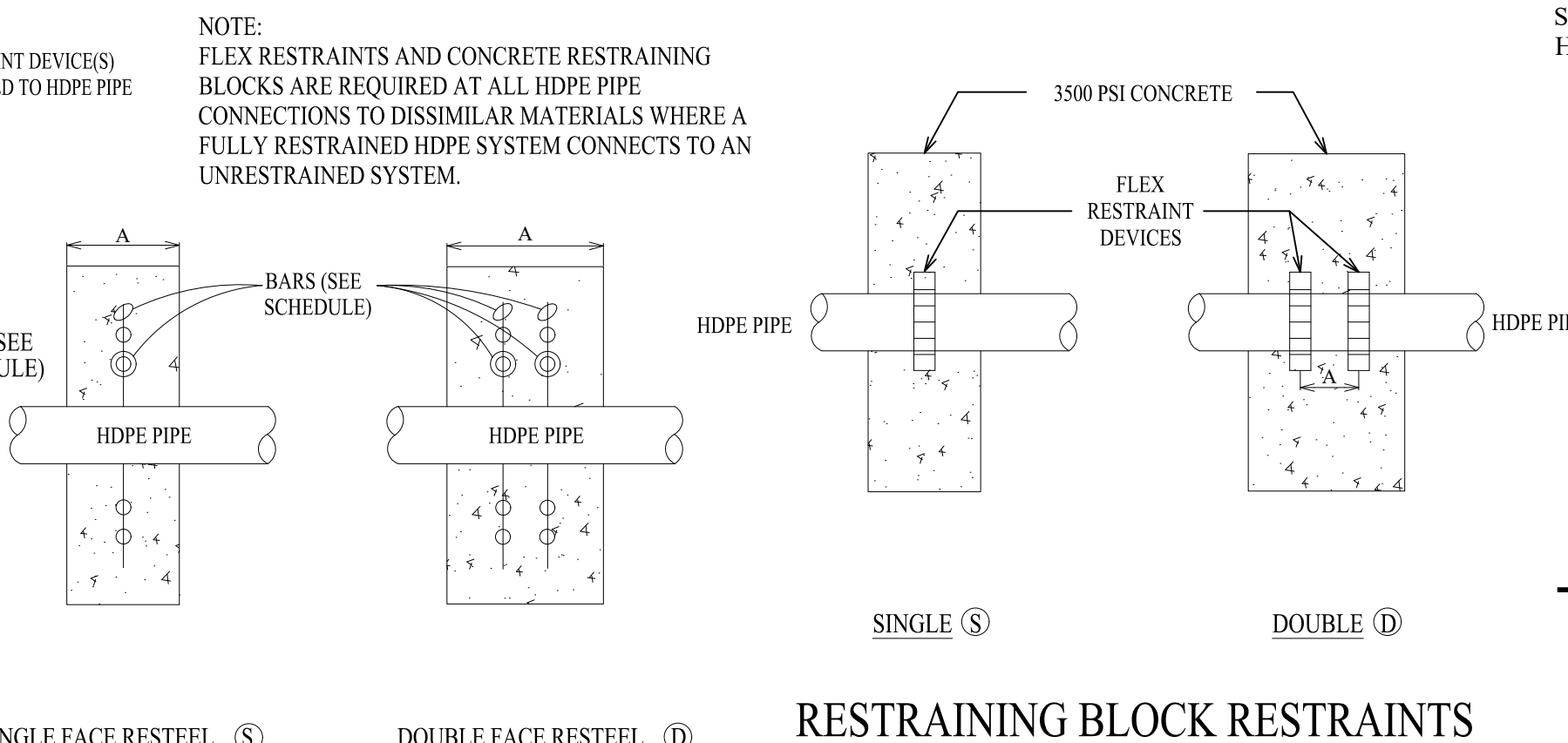
HOUSE LEAD DETAIL HDPE TO COPPER OR POLYETHYLENE (SDR 9)



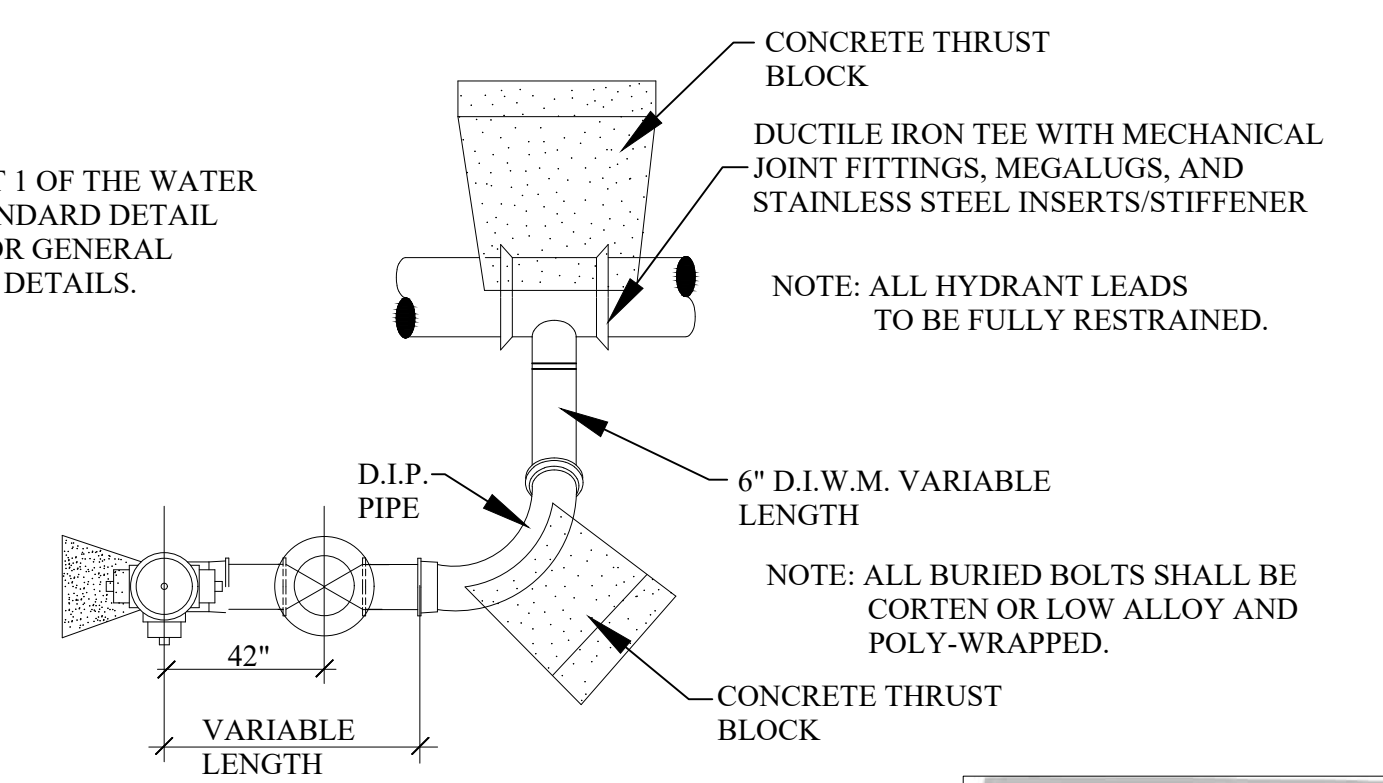
HDPE TO EXISTING WATER MAIN TRANSITION



RESTRAINING BLOCK RESTEEL



RESTRAINING BLOCK RESTRAINTS



PLAN HYDRANT SIDE OUTLET

- NOTE: SEE SHEET 1 OF THE WATER MAIN STANDARD DETAIL SHEETS FOR GENERAL HYDRANT DETAILS.
 NOTE: ALL HYDRANT LEADS TO BE FULLY RESTRAINED.
 NOTE: ALL BURIED BOLTS SHALL BE CORTEN OR LOW ALLOY AND POLY-WRAPPED.

REVISIONS	DATE
REVISED HDPE TO EX. WM TRANSITION	3/28/2023

APPROVED BY
 CITY COUNCIL, DATE: SEPTEMBER 23, 2019
 PREPARED BY ENGINEERING DIVISION
 DEPARTMENT OF PUBLIC SERVICES

NOTIFY ROCHESTER HILLS
 ENGINEERING DIVISION @
 248-841-2510 48 HRS. PRIOR
 TO START OF
 CONSTRUCTION

City of Rochester Hills
 1000 Rochester Hills Drive, Rochester Hills, Michigan 48309

**WATER MAIN
 SPECIAL DETAILS**

NOT TO SCALE	DATE: 1/10/2019
SHEET 1 OF 1	REV 12/10/2021



site plan.pdf Markup Summary

0 Trees - Clear Vision Conflicts (1)

150 I.F.
4.3 Trees (150 / 35)
2 Trees - Clear Vision Conflicts
joined 2.5 Trees (150 / 60)
vised 0 Trees - Clear Vision Conflicts

200 I.F.
5.7 Trees (200 / 35)
0 Trees - Overhead Lines
joined 3.3 Trees (200 / 60)

Subject: Contractor
Author: C.McLeod
Date: 1/23/2025 9:21:44 AM
Status:

0 Trees - Clear Vision Conflicts

0 Trees - Clear Zone Conflicts (1)

231 I.F.
9.2 Trees (231 / 25)
9 Trees - Clear Zone Conflicts
joined 6.6 Trees (231 / 35)
vised 0 Trees - Clear Zone Conflicts

150 I.F.
4.3 Trees (150 / 35)
2 Trees - Clear Vision Conflicts

Subject: Contractor
Author: C.McLeod
Date: 1/23/2025 9:21:39 AM
Status:

0 Trees - Clear Zone Conflicts

0 Trees - Overhead Lines (1)

vised 0 Trees - Clear Vision Conflicts

200 I.F.
5.7 Trees (200 / 35)
0 Trees - Overhead Lines
joined 3.3 Trees (200 / 60)
vised 4 Trees

back of curb and Excluding Sidewalks

Subject: Contractor
Author: C.McLeod
Date: 1/23/2025 9:22:10 AM
Status:

0 Trees - Overhead Lines

2 Trees - Clear Vision Conflicts (1)

vised 0 Trees - Clear Zone Conflicts

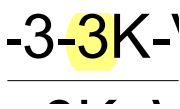
150 I.F.
4.3 Trees (150 / 35)
2 Trees - Clear Vision Conflicts
joined 2.5 Trees (150 / 60)
vised 0 Trees - Clear Vision Conflicts

200 I.F.
5.7 Trees (200 / 35)

Subject: Contractor
Author: C.McLeod
Date: 1/23/2025 9:21:47 AM
Status:

2 Trees - Clear Vision Conflicts

3 (1)



Subject: Contractor
Author: C.McLeod
Date: 1/22/2025 12:56:16 PM
Status:

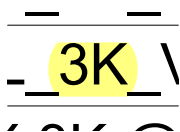
3

3K (3)



Subject: Contractor
Author: C.McLeod
Date: 1/22/2025 12:56:17 PM
Status:

3K



Subject: Contractor
Author: C.McLeod
Date: 1/22/2025 12:56:22 PM
Status:

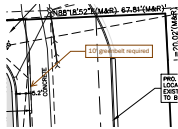
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Subject: Contractor
Author: C.McLeod
Date: 1/22/2025 12:56:24 PM
Status:

3K

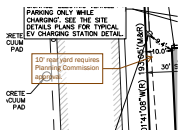
10' greenbelt required (1)



Subject: Planning Department
Author: C.McLeod
Date: 1/22/2025 12:46:07 PM
Status:

10' greenbelt required

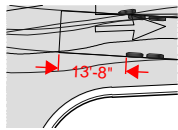
10' rear yard requires Planning Commission approval. (1)



Subject: Planning Department
Author: C.McLeod
Date: 1/22/2025 12:45:33 PM
Status:

10' rear yard requires Planning Commission approval.

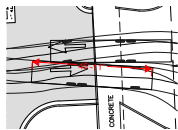
13'-8" (1)



Subject: Fire Department
Author: Ann Echols
Date: 1/10/2025 10:48:23 AM
Status:

13'-8"

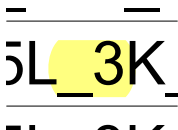
45'-11" (1)



Subject: Fire Department
Author: Ann Echols
Date: 1/10/2025 10:48:17 AM
Status:

45'-11"

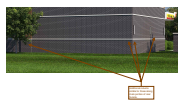
_3 (1)



Subject: Contractor
Author: C.McLeod
Date: 1/22/2025 12:56:20 PM
Status:

_3

Additional column similar to those along main portion of rear facade. (1)



Subject: Planning Department
Author: C.McLeod
Date: 1/22/2025 12:54:45 PM
Status:

Additional column similar to those along main portion of rear facade.

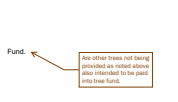
ALLOWABLE SF: 12,500 SF (NON-SPRINKLERED PER TABLE 506.2) PROPOSED SF: 4,488 SF (1)



Subject: Building Department
Author: Mark Artinian
Date: 1/21/2025 10:28:05 AM
Status:

ALLOWABLE SF: 12,500 SF
(NON-SPRINKLERED PER TABLE 506.2)
PROPOSED SF: 4,488 SF

Are other trees not being provided as noted above also intended to be paid into tree fund. (1)



Subject: Planning Department
Author: C.McLeod
Date: 1/23/2025 9:23:24 AM
Status:

Are other trees not being provided as noted above also intended to be paid into tree fund.

Assessing Yes (1)



Subject: Planning Department
Author: C.McLeod
Date: 1/22/2025 3:12:24 PM
Status:

Assessing

Yes

BP (1)



Subject: Group
Author: C.McLeod
Date: 1/23/2025 9:14:19 AM
Status:

BP

City File #23-0144 Section #29 in the lower right hand corner of each sheet (1)



Subject: Engineering Department
Author: Jason Boughton
Date: 1/8/2025 2:30:03 PM
Status:

City File #23-0144 Section #29 in the lower right hand corner of each sheet

City of Rochester Hills Planning & Economic Development (1)



Subject: Group
Author: macdonaldj
Date: 1/8/2025 10:42:11 AM
Status:

City of Rochester Hills Planning & Economic Development

CONDITIONAL (1)



Subject: Fire Department
Author: Ann Echols
Date: 1/10/2025 10:50:39 AM
Status:

CONDITIONAL

For building permit application, indicate a full building code analysis including area, height and number of stories. Indicate if the building will be equipped with a fire suppression and/or a fire alarm system.



Subject: Building Department
Author: Mark Artinian
Date: 1/21/2025 11:01:05 AM
Status:

For building permit application, indicate a full building code analysis including area, height and number of stories. Indicate if the building will be equipped with a fire suppression and/or a fire alarm system.

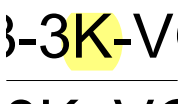
IF EXISTING WATER SERVICE IS NOT BEING REUSED, THEN THE SERVICE LINE SHALL BE ABANDONED BACK TO THE STOP BOX.



Subject: Underground Utilities
Author: Angie
Date: 1/9/2025 2:08:34 PM
Status:

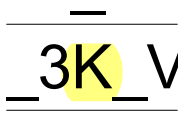
IF EXISTING WATER SERVICE IS NOT BEING REUSED, THEN THE SERVICE LINE SHALL BE ABANDONED BACK TO THE STOP BOX.

K (2)



Subject: Contractor
Author: C.McLeod
Date: 1/22/2025 12:56:03 PM
Status:

K



Subject: Contractor
Author: C.McLeod
Date: 1/22/2025 12:56:19 PM
Status:

K

LED light sources shall have a correlated color temperature that does not exceed 3,000K. (1)

LED light sources shall have a correlated color temperature that does not exceed 3,000K.

Subject: Planning Department
Author: C.McLeod
Date: 1/22/2025 12:55:32 PM
Status:

LED light sources shall have a correlated color temperature that does not exceed 3,000K.

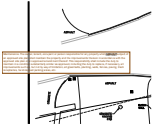
LIP (1)



Subject: Group
Author: C.McLeod
Date: 1/23/2025 9:14:14 AM
Status:

LIP

Maintenance. The owner, tenant, occupant or person responsible for any property which was the subject of an approved site plan s



Subject: Planning Department
Author: C.McLeod
Date: 1/22/2025 12:23:08 PM
Status:

Maintenance. The owner, tenant, occupant or person responsible for any property which was the subject of an approved site plan shall maintain the property and the improvements thereon in accordance with the approved site plan or an approved amendment thereof. This responsibility shall include the duty to maintain in a condition substantially similar as approved, including the duty to replace, if necessary, all improvements such as, but not by way of limitation, all greenbelts, planting, walls, fences, paving, trash receptacles, handicapped parking areas, etc.

Mark Artinian 248-841-2446 ArtinianM@RochesterHills.org (1)

Mark Artinian 248-841-2446 ArtinianM@RochesterHills.org

Subject: Building Department
Author: Mark Artinian
Date: 1/21/2025 11:16:48 AM
Status:

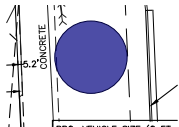
Mark Artinian 248-841-2446 ArtinianM@RochesterHills.org

PCM (6)



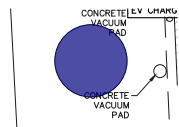
Subject: Group
Author: C.McLeod
Date: 1/23/2025 10:08:02 AM
Status:

PCM



Subject: Group
Author: C.McLeod
Date: 1/22/2025 12:44:10 PM
Status:

PCM



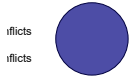
Subject: Group
Author: C.McLeod
Date: 1/22/2025 12:45:36 PM
Status:

PCM



Subject: Group
Author: C.McLeod
Date: 1/23/2025 9:21:29 AM
Status:

PCM



Subject: Group
Author: C.McLeod
Date: 1/23/2025 9:21:52 AM
Status:

PCM



sidewalks.

Subject: Group
Author: C.McLeod
Date: 1/23/2025 9:22:04 AM
Status:

PCM

Planning Commission (1)

Planning Commission



Subject: Planning Department
Author: C.McLeod
Date: 1/23/2025 10:08:51 AM
Status:

Planning Commission

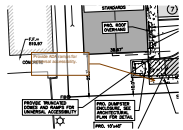
Planning Commission to review proposed building material type and allocation along with overall building architectural design. (1)



Subject: Planning Department
Author: C.McLeod
Date: 1/22/2025 12:51:06 PM
Status:

Planning Commission to review proposed building material type and allocation along with overall building architectural design.

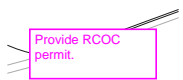
Provide ADA ramps for universal accessibility. (1)



Subject: Planning Department
Author: C.McLeod
Date: 1/22/2025 12:37:53 PM
Status:

Provide ADA ramps for universal accessibility.

Provide RCOC permit. (1)



Subject: Traffic, Pathways, Sidewalks
Author: Keith
Date: 1/21/2025 11:51:29 AM
Status:

Provide RCOC permit.

Provided this information on this sheet. (1)



Subject: Cloud+
Author: Ann Echols
Date: 1/10/2025 10:49:23 AM
Status:

Provided this information on this sheet.

Received 1/8/2025 City of Rochester Hills Planning & Economic Development (17)



Subject: Group
Author: C.McLeod
Date: 1/23/2025 10:05:36 AM
Status:

Received
1/8/2025

City of Rochester Hills Planning & Economic Development



Subject: Group
Author: C.McLeod
Date: 1/23/2025 10:05:43 AM
Status:

Received
1/8/2025

City of Rochester Hills Planning & Economic Development



Subject: Group
Author: C.McLeod
Date: 1/23/2025 10:05:47 AM
Status:

Received
1/8/2025

City of Rochester Hills Planning & Economic
Development



Subject: Group
Author: C.McLeod
Date: 1/23/2025 10:05:51 AM
Status:

Received
1/8/2025

City of Rochester Hills Planning & Economic
Development



Subject: Group
Author: C.McLeod
Date: 1/23/2025 10:05:55 AM
Status:

Received
1/8/2025

City of Rochester Hills Planning & Economic
Development



Subject: Group
Author: C.McLeod
Date: 1/23/2025 10:05:59 AM
Status:

Received
1/8/2025

City of Rochester Hills Planning & Economic
Development



Subject: Group
Author: C.McLeod
Date: 1/23/2025 10:06:05 AM
Status:

Received
1/8/2025

City of Rochester Hills Planning & Economic
Development



Subject: Group
Author: C.McLeod
Date: 1/23/2025 10:06:09 AM
Status:

Received
1/8/2025

City of Rochester Hills Planning & Economic
Development



Subject: Group
Author: C.McLeod
Date: 1/23/2025 10:06:14 AM
Status:

Received
1/8/2025

City of Rochester Hills Planning & Economic
Development



Subject: Group
Author: C.McLeod
Date: 1/23/2025 10:06:18 AM
Status:

Received
1/8/2025

City of Rochester Hills Planning & Economic
Development



Subject: Group
Author: C.McLeod
Date: 1/23/2025 10:06:23 AM
Status:

Received
1/8/2025






City of Rochester Hills Planning & Economic
Development



Subject: Group
Author: C.McLeod
Date: 1/23/2025 10:06:31 AM
Status:

Received
1/8/2025

City of Rochester Hills Planning & Economic
Development

	Subject: Group Author: C.McLeod Date: 1/23/2025 10:06:36 AM Status:	Received 1/8/2025
City of Rochester Hills Planning & Economic Development		
	Subject: Group Author: C.McLeod Date: 1/23/2025 10:06:40 AM Status:	Received 1/8/2025
City of Rochester Hills Planning & Economic Development		
	Subject: Group Author: C.McLeod Date: 1/23/2025 10:06:46 AM Status:	Received 1/8/2025
City of Rochester Hills Planning & Economic Development		
	Subject: Group Author: C.McLeod Date: 1/23/2025 10:06:49 AM Status:	Received 1/8/2025
City of Rochester Hills Planning & Economic Development		
	Subject: Group Author: C.McLeod Date: 1/23/2025 10:06:59 AM Status:	Received 1/8/2025
City of Rochester Hills Planning & Economic Development		

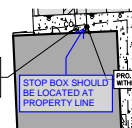
Revise to 0.21REU per Pump (1)

	Subject: Underground Utilities Author: Jason Boughton Date: 1/8/2025 2:35:04 PM Status:	Revise to 0.21REU per Pump
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SP (1)

	Subject: Group Author: C.McLeod Date: 1/23/2025 9:14:04 AM Status:	SP
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STOP BOX SHOULD BE LOCATED AT PROPERTY LINE (1)

	Subject: Underground Utilities Author: Angie Date: 1/9/2025 2:05:54 PM Status:	STOP BOX SHOULD BE LOCATED AT PROPERTY LINE
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The applicant will need to submit a Land Improvement Permit (LIP) application with engineer's estimate, fee and construction plans

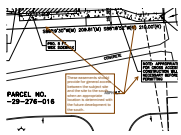
	Subject: Engineering Department Author: Jason Boughton Date: 1/8/2025 2:29:43 PM Status:	The applicant will need to submit a Land Improvement Permit (LIP) application with engineer's estimate, fee and construction plans to proceed with the construction plan review process.
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Subject: Underground Utilities
Author: Angie
Date: 1/10/2025 1:48:41 PM
Status:

THERE IS A RESTRICTIVE COVENANT FROM 2004 ON THIS PROPERTY RECORDED AS LIBER 33861 PAGE 300 AS A RESULT OF A UST LEAK. SEVEN (7) MONITORING WELLS WERE INSTALLED WITHIN THE PROPERTY TO MONITOR THE CONTAMINATION. UNLESS DOCUMENTATION CAN BE PROVIDED THAT INDICATES A FULL REMEDIATION OF THE SITE HAS OCCURED IN ACCORDANCE WITH AN APPROVED CORRECTIVE ACTION PLAN, AND EGLE HAS ALLOWED FOR THE MONITORING WELLS TO BE REMOVED, THE LAND USE AND RESOURCE LIMITATIONS OUTLINED IN THE RESTRICTIVE COVENANT WILL APPLY AND SHALL BE ADHERED TO DURING CONSTRUCTION. A DUE CARE PLAN MAY BE REQUIRED AT TIME OF CONSTRUCTION PLAN REVIEW.

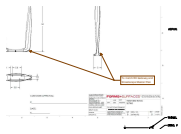
These easements should provide for general access between the subject site and the site to the south when an appropriate location is determined with the future development to the south.



Subject: Planning Department
Author: C.McLeod
Date: 1/22/2025 12:35:38 PM
Status:

These easements should provide for general access between the subject site and the site to the south when an appropriate location is determined with the future development to the south.

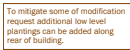
To match RH Gateway and Streetscape Master Plan (1)



Subject: Planning Department
Author: C.McLeod
Date: 1/22/2025 12:24:31 PM
Status:

To match RH Gateway and Streetscape Master Plan

To mitigate some of modification request additional low level plantings can be added along rear of building. (1)



Subject: Planning Department
Author: C.McLeod
Date: 1/23/2025 10:04:07 AM
Status:

To mitigate some of modification request additional low level plantings can be added along rear of building.

Total tree modification request of approximately 18 trees. 10 ornamental trees 8 shade trees (1)

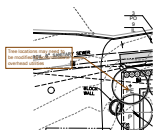


Subject: Planning Department
Author: C.McLeod
Date: 1/23/2025 9:25:53 AM
Status:

Total tree modification request of approximately 18 trees.

10 ornamental trees
8 shade trees

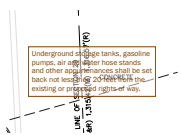
Tree locations may need to be modified to accommodate overhead utilities (1)



Subject: Planning Department
Author: C.McLeod
Date: 1/23/2025 9:19:22 AM
Status:

Tree locations may need to be modified to accommodate overhead utilities

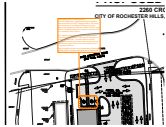
Underground storage tanks, gasoline pumps, air and water hose stands and other appurtenances shall be set back not less then 20 feet from the existing or proposed rights of way.



Subject: Planning Department
Author: C.McLeod
Date: 1/23/2025 11:06:54 AM
Status:

Underground storage tanks, gasoline pumps, air and water hose stands and other appurtenances shall be set back not less then 20 feet from the existing or proposed rights of way.

When applying for a building permit: Provide a letter from a registered electrical engineer that the location of the EV charging station



Subject: Building Department
Author: Mark Artinian
Date: 1/21/2025 9:51:48 AM
Status:

When applying for a building permit:
Provide a letter from a registered electrical engineer that the location of the EV charging station will comply with Article 514 of the National Electrical Code for Motor Fuel Dispensing Facilities, Articles 500, 501 and 502 for Classified Hazardous Locations and Article 504 for Intrinsically Safe Systems.

EV charging parking spaces, per ADA requirements, should be a minimum of 11' wide and 20' long with a 5' wide accessible path. Concrete bollards or other acceptable means of protection determined by the city should be provided. Below is the web address for EV Charging Guidelines.

<https://cms9files.revize.com/rochesterhillsmi/Building/Guidebooks/ElectricVehicleChargingStationGuideline.pdf>

Yes (1)

Yes

Subject: Building Department
Author: Mark Artinian
Date: 1/21/2025 11:17:25 AM
Status:

Yes

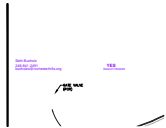
(11)



Subject: Engineering Department
Author: Jason Boughton
Date: 1/8/2025 2:47:22 PM
Status:



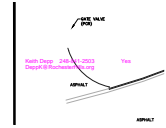
Subject: Fire Department
Author: Ann Echols
Date: 1/10/2025 10:50:18 AM
Status:



Subject: Jenny McGuckin - YES
Author: Seth Bucholz
Date: 1/16/2025 8:08:39 AM
Status:



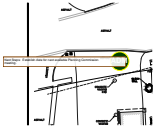
Subject: Natural Resources
Author: Matt Einheuser
Date: 1/21/2025 8:18:16 AM
Status:



Subject: Traffic
Author: Keith
Date: 1/21/2025 11:42:33 AM
Status:



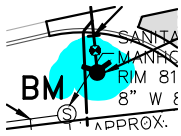
Subject: Group
Author: C.McLeod
Date: 1/23/2025 9:14:33 AM
Status:



Subject: Group
Author: C.McLeod
Date: 1/23/2025 9:14:39 AM
Status:



Subject: Planning Department
Author: C.McLeod
Date: 1/23/2025 11:05:24 AM
Status:



Subject: Highlight
Author: Ann Echols
Date: 1/10/2025 10:49:38 AM
Status:

I	\$	1,350.00
I	\$	1,720.00
\$		15,000.00
\$		30,625.00

Subject: Contractor
Author: C.McLeod
Date: 1/23/2025 9:26:30 AM
Status:



Subject: Contractor
Author: C.McLeod
Date: 1/22/2025 3:11:42 PM
Status: